Security Escort

System Overview



Personnel and asset tracking for all industrial, commercial, and institutional applications.

Features

- Unique multiple user help call and asset tracking system.
- Identifies name and location, optional photo ID.
- Easy to carry Transmitters encourage testing, eliminate false alarms.
- Indoor/outdoor protection for 50 to 50,000 or more users or assets, 1 to 100 buildings.
- Post-alarm tracking, alarm map recall, and more.
- Field proven throughout the world.
- Turnkey system from a security industry leader.
- Executive and VIP protection.
- Man-down alarm and officer tracking in security installations.

Description

The Security Escort System consists of five basic components: Transmitters, Receivers, Alert Units, Transponders, and the Central Console.

The <u>Transmitter</u> is a miniature radio transmitter, used to transmit either a distress, alarm, or test signals. The <u>Receivers</u> are located throughout a protected area and detect the radio transmissions from Transmitters. <u>Alert</u> <u>Units</u> are output modules activated in an alarm that drive third-party signaling devices, such as Siren/Strobe units. <u>Transponders</u> are devices that control groups of Receiv-

ers and Alert Units connected to them. Each Transponder relays alarm and test signals from its Receivers to the Central Console. In addition, the Transponder tests for device and wiring faults, and transmits problem conditions to the Central Console. The <u>Central Console</u> consists of a computer (and optionally a backup computer) which receives alarm and trouble signals from the Transponders, analyzes the signals, activates Strobes and Sirens connected to the Alert Units, and produces a display for the Security Dispatcher.

Function During an Alarm

In an emergency, the Transmitter transmits a signal identifying the user or asset which is detected by the Receivers. The Receivers forward this information to the Transponder, which interprets the information from all the Receivers that detected the signal. This information is then forwarded by the Transponder to the Central Console where the user's or asset's name and description and current location are graphically displayed on the alarm map along with a picture of the user or asset and any additional information. Security personnel can then be immediately dispatched to the location of the alarm. Once an alarm has been initiated, the Transmitter retransmits every few seconds, constantly updating the Central Console of its location.

> 30251C 1/99 Security Escort System Overview





Indoor Receiver

- Receives alarm information and ٠ relays it to Transponder
- Provides local sounders and ٠ visual test confirmation
- Up to 64 per Transponder •

Outdoor Receiver

- Receives alarm information and relays it to Transponder
- Fully weather-resistant enclosure
- Up to 64 per Transponder •





- Provides alarm annunciation
- Provides test confirmation
- through attached Siren/Strobe
- Up to 64 per Transponder

Transponder

- **Controls Receivers and Alert** Units
- Provides communication link between Receivers and Alert Units and Central Console
- Up to 255 per system



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Central Console Software

Features

- · Standard Windows-based interface.
- Area map graphically displays protected area and pinpoints alarm locations.
- Several databases available to record subscribers or assets, system events, component addresses and more.
- During an alarm event, the subscriber's or asset's name, picture, and any additional information (such as medical conditions) are displayed on the screen.
- Multiple password-protected security levels; only authorized personnel may view the program or make changes.
- Printer and pager support.

Description

The Central Console is the control center for the Security Escort system. It consists of one or two IBMcompatible personal computers, one of which is an instantly available back up. The System software is Windows[™] based and designed to require little or no computer literacy on the part of the dispatcher.

The Central Console is responsible for receiving alarm and test data from the Transponders and calculating the location of the Transmitter that produces the alarm or test. It also identifies the individual or asset to which the Transmitter has been issued, and presents the location and identity information on the computer screen during an alarm.

System Monitoring

The Central Console also monitors the entire system and reports component or system faults by displaying alert messages on the screen. The messages provide instructions for the dispatcher or key operator. All alarms and trouble messages are logged in memory and may be printed on a paper record.

The Central Console contains all of the operating software and all of the databases required by the Security Escort System.

Security

All operations on the Central Console computers are password access controlled. Passwords may have different authority levels assigned by installing company personnel or the Security Department's key operator.



Central Console Software providing single point of control for a Security Escort System.

Installation and Maintenance

The installation and maintenance portion of the Security Escort Software is designed to facilitate set-up and modification of the system and to provide rapid diagnosis of system problems, usually with only one person being required. The Central Console automatically scans all devices for their current status. Devices can be enabled or disabled from the Console. An on-board transmitter on all Receivers can be activated to test adjacent Receivers in order to confirm that its radio receiver section is operating properly (Buddy Check).

The System Software also continually monitors the status of the system to ensure it is functioning correctly.



Specifications

- Alarm Screens: Displays the identity and location of the user (or item in asset-tracking installations).
- Databases:

Subscriber Database: Subscriber data and current status, low battery and last test date and time.

Alarm Reports: Each alarm is saved as a record. The alarm map can be reproduced and the location text displayed.

History: A complete chronological history of all service actions, tests, and alarms is recorded.

Transponders: System configuration containing all installed equipment and system interrelationships.

Operators: File of those authorized to use the Security Escort system.

 Versions: The version of the Central Console Software required depends on the number of subscribers to be protected.

SE2005: 500 users SE2010: 1,000 users SE2050: 5,000 users SE2100: 10,000 users **Minimum System Requirements:** See the Security Escort Installation and Setup Manual (PN 33831).



Alarm Screen



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Features

- Relays alarm and test signals from the Receiver to the Central Console.
- Can support a combined total of 64 Receivers and Alert Units.
- AC powered with battery backup for all Receivers.
- Can provide power to SE485 Interface and/or Spread Spectrum Radio.
- Available in a large or small indoor enclosure.
- Monitors Receivers and Alert Units 10 times per second for alarms, tests, tamper notification, and power loss.

Description

The Transponder is a device controller for up to 64 devices -- any combination of Receivers and Alert Units. Its primary function is to monitor the Receivers and Alert Units and report conditions and events to the Central Console via either wire or ProxLink radios. It also provides power output to certain devices.

Installation

The Transponder can be mounted in one of two different sized enclosures. It is always mounted indoors. The devices are connected to the Transponder by means of eight four-wire Multiplex Busses, two wires for power and two wires for data. Each bus is capable of supporting up to eight devices. A Security Escort System supports up to 255 Transponders.

Configuration

Each Receiver and Alert Unit is identified to its Transponder by a Multiplex Address which is set during system installation using a multi-position switch on the Receiver or Alert Unit circuit board. Transponders communicate on the data bus with individual Multiplex devices by issuing commands, which contain the Receiver or Alert Unit's Multiplex Address.

Setup and Testing

Each Transponder and the devices connected to it are set up and can be tested remotely from the Central Console. Also, each Transponder reports any problems, such as low battery, immediately upon detecting them.



System Transponder controlling communications between the Central Console and Receivers and Alert Units.

Function During an Alarm

When a Receiver or Alert Unit detects an alarm, it goes into an "Off Normal" state. To quickly locate any devices which might be in the "Off Normal" state, the Transponder issues global commands (which are interpreted simultaneously by all of its devices) approximately 10 times per second. These global commands are followed by commands to specific devices to determine the nature of the "Off Normal" condition and, in the case of an alarm (or test), to obtain the Transmitter Identification Number, Transmitter battery condition, and received signal strength. This information is then sent to the Central Console, by either wire or through ProxLink radios, where it is used to graphically display the identity of the subscriber transmitting the alarm and to determine the subscriber's location.



Specifications

- Enclosures: Large or small indoor enclosures.
- Temperature Range: -40° to +149°F (-40° to +65°C).
- Primary Power Source: 18 VAC, 50 VA.
- Battery Backup: 12 VDC Lead Acid Battery.
- **Power Output:** 9VDC output for SE485 and/or for ProxLink Radio Module power.
- **Driver Outputs** (2, one each for Strobe and Sounder): 500mA solid state sink, terminal switches to ground in an alarm condition.
- **Multiplex Buses:** 8 multiplex driver busses for power and communication to Receivers or Alert Units (each bus supports 8 devices for a combined total of 64 devices).
- Communication Interface to Central Console: Selectable (pseudo) SE485 or RS-232.
- Keyswitch Input: Optional 47K EOL resistor, supervised loop.
- **Reports:** Alarms, tests, tamper notification, AC power loss, and backup battery status.





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Features

- Receives Transmitter alarms and tests, and relays the information to the Transponder.
- Built-in self testing through Buddy Check feature.
- · Indoor and outdoor security enclosures available.
- Indoor enclosure provides confirmation of successful Transmitter test. (Outdoor enclosures use other type of signaling device, such as a Horn/Strobe.)
- Indoor Receivers provide local sounders in alarm events.

Description

The Receivers are located throughout the protected area, including building interiors.

Each Receiver contains a radio receiver to detect the transmissions from Transmitters, and a microcomputer to decode and interpret the received test and alarm messages. In addition, the microcomputer monitors tampering and other problems, and reports such conditions to the Transponder.

Each Receiver contains an internal self-contained sounder. These sounders are optionally activated if the Receiver has detected an alarm transmission.

Indoor Receivers are typically mounted on inside walls and are housed in small beige, rectangular units. Indoor Receivers have one red and one green light. The green light is used to indicate a successful test of a Transmitter; the red light is only illuminated during certain system tests and during alarms.

Outdoor Receivers are contained in small weatherproof enclosures typically mounted on the sides of buildings and on light posts. Outdoor Receivers do not have the visible red and green LED's. Outdoors, the strobe lights connected to the Alert Units flash to acknowledge a successful test.

Function During an Alarm

In the event of an alarm, the Receivers detect an alarm signal from a Transmitter and send this information to the Transponder. The Transponder forwards this information the Central Console where, using the reported information from all the Receivers that detected the signal, the location of the transmission is graphically displayed on the Alarm Map.

Buddy Check

In addition to its radio receiver, each Receiver also contains a transmitter functionally similar to the hand held Transmitters. This transmitter can be commanded by the Central Console to transmit a test message to other nearby Receivers. This Buddy Checking is



Indoor/Outdoor Receiver with test confirmation and Buddy Check self-testing features.

performed periodically to verify that the Receivers are functioning satisfactorily. Results of the Buddy Check are compared with the results of earlier Buddy Checks, and any changes in a Receiver's sensitivity are reported to the Central Console where this information is stored in a system database.

Estimating Number of Receivers Required for an Installation

To estimate the required number of indoor Receivers, assume a spacing of no more than 80 feet between Receivers for standard construction. In multi-floor applications, the Receivers on each floor must be placed directly above the Receivers on the floor below them.

To estimate the required number of outdoor Receivers, assume a Receiver spacing of no more than 300 feet between Receivers, in both directions, for Receivers that are not within 100 feet of a building with inside coverage. Receivers within 100 feet of a building should be spaced at the spacing interval of Receivers inside the building.

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EA102	Specifications



Specifications

- Enclosure: Available indoor and weatherproof outdoor enclosures.
 - Indoor Enclosure: Vandal resistant. Horn sound pressure level 80dB at three feet. Red LED indicates alarm event. Green LED indicates successful Transmitter test.
 - Outdoor Enclosure: Weather resistant (same as enclosure used for Alert Unit). No lights or sounders.
- Temperature Range: -40° to +149° F (-40° to +65°C).
- **Power:** 12VDC, 30 mA typical, 60 mA with horn sounding.
- Sensitivity: -100 dBM minimum.
- RF Input Frequency: 304 MHz (EA102A-304).
- Signal Strength: Measured in 255 steps.
- Antenna: Internal diversity antennas (2).
- Tamper Switch.





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Alert Unit / Output Control Module

Features

- Provides output for alarm annunciation through the Siren/Strobe or other third party switched device.
- Provides output to Siren/Strobe to indicate a successful Transmitter test.
- Indoor and Outdoor enclosures available.
- AC powered with battery backup.
- Activated on command from the Central Station through the Transponder.
- Reports tampering, AC power loss, backup battery power to the Transponder, and output status.

Description

An Alert Unit is a control module that communicates with the Transponder on the MUX Bus. In most installations, it is used to activate Siren/Strobe units or other switched devices in the event of an alarm. The Alert Unit also reports tampering, AC power loss, and backup battery level to the Transponder.

Installation

The Alert Unit may be housed in either a metal indoor enclosure or an outdoor enclosure (similar to the Outdoor Receiver enclosure), depending on the application. The Strobe/Siren units are always mounted in outdoor locations.



Optional Accessory: Siren/Strobe



All-weather Alert Unit controlling Sounder and Strobe output.

Function

The Alert Unit has backup battery power in addition to AC power. The Alert Unit Driver contains a microprocessor that communicates with the Transponder for Strobe and Siren commands, status reports, and trouble indications. The troubles monitored are "Tamper," "Loss of AC Power," and "Low Battery."

Test Acknowledgment

In addition to the function of attracting attention in the event of an emergency, the Strobe unit is used to acknowledge a successful test of a Transmitter. The Alert Unit can be configured to cause a Siren to emit a short tone and the strobe to flash for a successful Transmitter test.

Function During an Alarm

In the event of an alarm, the Alert Unit receives a signal from the Transponder and begins powering the Siren/ Strobe (or other switched device). The Siren/Strobe will be active until the alarm is restored at the Central Console.



Specifications

- Enclosure: Indoor and weatherproof outdoor enclosures available.
- **Temperature Range:** -40° to +149° F (-40° to +60°C).
- Primary Power: 18VAC, 50VA.
- Battery Backup: 12VDC 14AH maximum (3AH max. in outdoor enclosure).
- Driver Outputs:

Power: 1 Amp maximum, intended as the supply source for the Strobe and Siren.

Strobe: 500mA solid state sink, terminal switches to ground in alarm condition.

Siren: 500mA solid state sink, terminal switches to ground in an alarm condition.

- Optional Accessories: E28000B Siren/Strobe.
- Optional output.





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SE2

Personnel Transmitter

Features

- Personal Duress Alarm Transmitter.
- Man-Down alarm.
- Lanyard Pull alarm (optional).
- Allows user to test from anywhere within the protected area.
- Notifies Central Console of user's name and location immediately on alarm.
- Post-alarm and supervision tracking, alarm map recall, and more.
- Internal antenna.
- User replaceable battery with four-year life.
- · Belt clip attachment.
- Optional silent manual alarm.
- · Low battery indication.
- Optional holster for common security belt sizes.

Description

The SE2 Personnel Transmitter contains a unique code which is associated with the user at the time the Transmitter is assigned. When the user generates an alarm, this code is sent to the Central Console. The Central Console graphically displays the user's location on a map along with the user's picture, and his or her name, and any other necessary information.

Transmitting an Alarm

There are three ways in which an alarm may be generated, depending on the features enabled on the Transmitter. The types of alarms are as follows:

- Manual Duress Alarm: An alarm can be initiated by pressing the large button on the Transmitter.
- Man-Down Alarm: The Transmitter will transmit an alarm to the Central Console if it is tipped 60° from upright.
- Lanyard Pull: A cord connected to the pin inserted in the base of the Transmitter can be looped around a utility belt and if the pin is removed from the Transmitter (such as when the Transmitter is pulled away from the belt) the Transmitter will immediately go into alarm.

Auto-Tracking Feature

During an alarm, the Transmitter automatically resends the alarm signal every few seconds constantly updating the Central Console of the user's location.

Supervision Tracking

With Supervision Tracking enabled, the Transmitter will send a tracking signal to the Central Console constantly updating the user's location.



Personnel Transmitter with available Man-Down, Lanyard Pull and Auto-Tracking features.

Testing

The Test Mode allows a user to test their Transmitter anywhere in the protected area. When the user is indoors, in sight of an Indoor Receiver, or outdoors, in sight of a Strobe, pressing the manual test button performs a test. If the test is successful, a small green light will flash on the indoor Receiver, or the Strobe will flash briefly. There will be no response at all if the test fails. If the test fails, the user should contact the Security Office as soon as possible. When the Transmitter is tested, a special "low battery" message is included in the transmission to Central Console if the Transmitter's battery is in need of replacing. Every successful test is recorded in the Subscriber Database in the Central Console Software and optionally printed on the hardcopy printer. The Subscriber Database contains all of the information relating to each subscriber, including the date and time of the most recent test transmission. It is possible to search the Subscriber Database for individuals who have not performed tests for a specified period of time.

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SE2	Specifications



Specifications

• Available Models: Available SE2 models are listed in the chart below:

			Mod	el	
Feature	SE2S	SE2U	SE2M*	SE2S-SN	SE2U-SN
Manual Duress Alarm	✓	✓	✓	✓	✓
Manual Test	✓	✓	✓	✓	✓
Man-Down	✓	✓	✓	✓	✓
Supervision Tracking	✓	✓	✓	✓	✓
Lanyard Pull			✓	✓	✓
Auto-Tracking	✓	✓		✓	✓
Silent Manual Alarm	✓			✓	
Low Battery Indication	✓	✓	✓	✓	✓

- * The SE2M is used for testing a Security Escort system only and will not generate a system alarm.
- Battery: User replaceable 3 volt lithium.
- Temperature Range: -22°F to +149°F (-30°C to +65°C)
- Accessories: 2 1/4 inch belt loop holster (HOLST-LGB-SE2) or 1 3/4 inch belt loop holster (HOLSTER-SE2)
- Frequency: 304 MHz (SE2x-304)





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Point Tracking Transmitter

Features

- Alerts Central Console of Transmitter's ID and location immediately on alarm.
- Available post-alarm tracking, alarm map recall, and more.
- Internal antenna.
- Two-year battery life.
- Can be mounted virtually anywhere on virtually anything.
- Low battery indication at Central Console.
- Includes mounting plate.

Description

The SE3401 Point Tracking Transmitter contains a unique code which is associated with an asset at the time the Transmitter is assigned. When an alarm is generated, this code is sent to the Central Console, which graphically displays the asset's location on a map along with a picture of the asset and any other necessary information.

Installation

The SE3401 can be configured to monitor magnetic or dry external contacts. When mounted with an external magnet, the SE3401 is mounted on the asset and the magnet is mounted on an opposite surface (such as a wall). When mounted with external contacts, the SE3401 can be mounted anywhere on the asset and connects to the contact by two wires connected to the terminals inside the Transmitter and an end-of-line resistor.

Transmitting an Alarm

Depending on the installed options, when an alarm is generated within approximately two seconds, the sounders in any nearby Receivers could be activated as well as the Strobes and Sirens connected to nearby Alert Units. The alarm signal is transmitted to the Receivers which in turn relay the alarm signal to the Transponder and along to the Central Console. The Central Console graphically displays the Transmitter's location along with the asset's description and a picture of the asset. Also, once an alarm is initiated, the Transmitter commences its Auto-Tracking feature.



Point Tracking Transmitter with available Auto-Tracking, supervision, and low battery indication features.

Auto Tracking Feature

Once an alarm has been initiated (such as when the Transmitter has been moved away from the magnet) the Auto-Tracking feature will begin. The Transmitter will send a signal back to the Central Console every few seconds updating its location for several minutes. To reset the Transmitter after an alarm has been initiated, all device conditions (e.g., tamper, loop, magnet) must be reset to normal.

Supervision Feature

The SE3401 Point Tracking Transmitter can also be configured to transmit periodically when there is no other activity to report its status and location to the Central Console.

Low Battery Reporting

When the Transmitter is tested, a special "low battery" message is included in the transmission to the Central Console if the Transmitter's battery is in need of replacing. These low battery alerts are logged at the Central Console.



Specifications

- Dimensions:
 - Without Mounting Plate: 3.25 w x 1.4 h x .75 d (76.5 x 35 x 19 mm).
 - With Mounting Plate: 3.25 w x 1.4 h x .125 d (76.5 x 35 x 3.2 mm).
- Operating Temperature: -4°F to +150°F (-20°C to +65°C).
- **Operating Voltage**: Supplied by a 3 VDC lithium battery.
- **Battery:** Customer replaceable with approximately 5 year battery life under normal operating conditions with the recommended battery types. Heavy usage will shorten life.
- Recommended Battery Types: Duracell DL123A, Energizer EL123AP, or Panasonic CR123A.
- Includes: Mounting plate and end-of-line resistor.
- Options: Magnet-RF-10 Assembly (supplied in packages of 10).





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SE3

Subscriber Transmitter

Features

- Alerts Central Console of user's name and location immediately on alarm.
- Post-alarm tracking, alarm map recall, and more.
- Allows user to test from anywhere within the protected area.
- Internal antenna.
- Four-year battery life, field replaceable.
- · Key-chain attachment.
- Low battery indication at Central Console.
- Optional silent alarm.

Description

The SE3 Subscriber Transmitter contains a unique code which is associated with the subscriber at the time the Transmitter is assigned. When the subscriber generates an alarm, this code is sent to the Central Console. The Central Console graphically displays the subscriber's location on a map along with the subscriber's picture, his or her name, and address.

Transmitting an Alarm

In the event of an emergency, the user simply presses and holds the alarm buttons to produce an alarm. Depending on the installed options, when an alarm is generated within approximately two seconds, the sounders in any nearby Receivers will be activated as well as the Strobes and Sirens connected to nearby Alert Units. The alarm signal is transmitted to the Receivers which in turn relay the alarm signal to the Transponder and along to the Central Console. The Central Console then graphically displays the subscriber's location along with the subscriber's name, vital information (such as a medical condition or disability) and a picture of the subscriber. Also, once an alarm is initiated, the Transmitter commences its Auto-Tracking feature.

Auto-Tracking

During an alarm, the Transmitter automatically resends the alarm signal every few seconds, constantly updating the Central Console of the subscriber's location.

Testing

The Test Mode allows a subscriber to test their Transmitter anywhere in the protected area. When the user is indoors in sight of an Indoor Receiver, or outdoors in sight of a Strobe, pressing the buttons in sequence performs a test. If the test is successful, a small green light will flash on the Indoor Receiver, or the Strobe will flash briefly. There will be no response at all if the test fails. If the test fails, the user should contact the Security Office as soon as possible.



Hand-held Subscriber Transmitter with Auto-Tracking, manual testing, and low battery indication features.

Every successful test is recorded in the Subscriber Database in the Central Console Software and optionally printed on the hardcopy printer. The Subscriber Database contains all of the information relating to each subscriber, including the date and time of the most recent test transmission. It is possible to search the Subscriber Database for individuals who have not performed tests for a specified period of time.

Low Battery Reporting

When the Transmitter is tested, a special "low battery" message is included in the transmission to the Central Console if the Transmitter's battery is in need of replacing. Also, the system will not give a visual or audible response during a test, indicating that the Transmitter requires service. Low battery alerts are logged at the Central Console.

Available Models

There are two SE3 models available:

- User Transmitter: This is the standard Transmitter used by all system subscribers.
- Security Transmitter: This is the same as the standard Transmitter except the Transmitter does not emit an audible tone when activated. This Transmitter is normally distributed to Security Personnel.

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SE3	Specifications



Specifications

- Transmission Protocol: Each transmission...
 - Consists of redundant packets of information.
 - Is sent at maximum power allowed by FCC.
 - Contains a unique 24-bit "Transmitter ID" (16,000,000 different IDs)
 - Uses 304 MHz carrier frequency (SE3x-304)
- **Battery:** Lithium battery with 4 years typical battery life; field replaceable.
- Antenna: Internal.
- Operating Temperature Range: -22° F to +149° F (-30° C to +65° C)





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