

Editorial Backgrounder
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BI ExacuTrack™
A GPS Offender Monitoring System

BI Incorporated continues to develop important technical innovations that are substantially changing community-based offender supervision. These innovations in technology are helping local, state, and federal law enforcement to improve offender supervision, assist with public safety, and increase productivity of supervising agencies. BI's latest supervision technology, BI ExacuTrack, represents a significant breakthrough in community supervision for criminal offenders. ExacuTrack combines electronic monitoring know-how with Global Positioning System (GPS) technology and user friendly web-based monitoring software to make offender supervision with technology simpler, faster, and more efficient for law enforcement.

ExacuTrack monitoring provides community corrections agencies with an additional tool to reliably supervise and manage parolees, probationers, or pretrial release defendants. ExacuTrack provides detailed information regarding the whereabouts of the offender – information that was previously unavailable to community corrections officers. Specifically, ExacuTrack GPS supervision provides:

- Verifiable GPS data that logs an offender's movement in the community
- Detailed evidence that an offender has remained within certain geographic areas (inclusion zones) or has gone into prohibited geographic areas (exclusion zones) of the community
- Easy to use software that allows officers to maximize the system's capabilities

Brief History of GPS

Launched and owned by the U.S. Department of Defense, GPS is a worldwide radio-navigation system formed by a constellation of 29 satellites that orbit 11,000 miles above the earth. These satellites provide timing signals to receivers that use triangulation to accurately calculate positions (within meters) GPS is available for navigation services to any user 24 hours a day from anywhere in the world. Using GPS technology, users can identify a three-dimensional position (latitude, longitude and altitude). A clear view of four satellites is needed to determine an accurate position. ExacuTrack takes full advantage of this valuable military system.

BI ExacuTrack Components

The ExacuTrack monitoring system includes four components:

- Waterproof, tamper-resistant ankle transmitter
- 9-ounce GPS tracking device
- Charging base station with RF receiver
- A central computer and web-based monitoring software for officers

To begin the process, an officer installs a waterproof, tamper-resistant ankle transmitter on the offender and a charging base station in the offender's home. These two components perform as a traditional electronic monitoring system while the offender is present at home. The offender is also outfitted with an ExacuTrack GPS tracking unit, which he or she must carry (e.g. belt-mounted or via carrying case with a shoulder strap) when away from home.

At configurable intervals, from one to ten minutes, the GPS tracking unit gathers GPS data points while the offender is away from home. The GPS tracking unit forms an electronic bond with the ankle transmitter. These two devices must not become separated from the offender when he or she is away from home. Once the offender returns home, the GPS tracking unit is placed in the base station. At that point, GPS tracking data is automatically transmitted via a toll-free number to BI's national monitoring center to verify the offender is in compliance with a prescribed schedule. While the offender is home, ExacuTrack acts like a traditional electronic monitoring system that monitors the absence or presence of the offender at home.

When the GPS tracking unit is placed in the base station and a violation alert is issued, alerts are transmitted to the supervising agency via pager, email, email-enabled cell phone or a combination of these methods from a central monitoring computer. An offender's schedule may be very detailed to include "exclusion" or "inclusion" zones – locations for which a person is not allowed to enter or specific areas within which the person must remain.

When the system is installed on an offender, the installing officer specifies one of four zone types, sets a date range, selects maps to be used, and outlines the person's schedule details. The maps are generated through Microsoft® MapPoint® location technology, which translates the GPS data into easy to read geographical maps.

ExacuTrack provides significant productivity improvements for community corrections officers through unique features:

- Easy to use web-based software to access and update offender data or view alerts
- A lightweight, water-resistant GPS tracking unit that is only 9 ounces, has dimensions of 5" x 3.5" x 1", and includes a rechargeable battery life of up to 20 hours
- An ankle bracelet transmitter with 12-month batteries that are replaceable in the field, reducing the work of the officers to keep these units operational
- Multiple tamper-resistant capabilities, dual antennas, and a non-commercial frequency to prevent potential interference
- A base station with variable radio frequency settings

Offender-related technical issues

Offender education is required for optimal use of a GPS system. Typically, a GPS tracking unit will be visible by up to eight satellites at any one time. Certain geographical issues exist, including terrain, weather, and locations that can cause poor GPS signal reception – these are clearly communicated to the offenders to avoid interference or loss of the GPS signal.

Using a GPS monitoring system cannot prevent criminal behavior, but instead, can provide a verifiable, accurate record of an offender's patterns of movement throughout the day. As a result, monitoring with ExacuTrack can act as a deterrent to certain offenders or as a record of proximity to criminal activity for others.

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