

Doc Number:	X127697	Issue:	4	iTAG X-Range and ELE
Customer:	Extronics	For release status refer to Extronics DDM		

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Acronyms/Definitions

IS	Intrinsically Safe
iTAG X-Range	Series of products within the iTAG X Range design for worker safety
iTAG X40	Personnel location tag with Hybrid GPS technology and Man down, LoRaWAN connectivity
iTAG X30	Personnel location tag with Hybrid technology including GPS and Man down
iTAG X20	Personnel location tag with Hybrid technology and Man down
iTAG X10	Personnel location tag with Hybrid technology
iTAG XM	Android application for smartphones, provides hybrid location and emergency call button
MV	MobileView
ELE	Extronics Location Engine Software
EDM	Extronics Device Manager
GPS	Global Positioning System
BLE	Bluetooth low energy
BLE Trilateration	Method of calculating location using RSSI of BLE beacons positioned on ELS map
BLE Beacon	Can be used to determine the relative location of the device in relation to the beacon.
Man Down	Functionality within the device to determine if the wearer has fallen.
Muster Point	A designated place or an area where all employees, visitors, or a large crowd assemble in case of an emergency.
SD&CT	Social distancing and contact tracing

1 Introduction

Extronics is committed to continually improving its suite of Software, Firmware and Hardware by introducing new products, new features and resolving bugs to ensure your RTLS is helping to improve safety, productivity and efficiency.

In this document you will find the latest product introductions, changes to existing products and any bug fixes which have taken place for this release. The following are covered where applicable

- ELE – Extronics Location Engine
- iTAG X-Range Firmware
- iTAG XM application
- EDM - Extronics Device Manager
 - iTAG X Configurator

Table 1 describes the release history for this document.

Release	Version	Date
Initial release	X127697(2)	October 2023
Revision	X127697(3)	May 2024
Revision	X127697(4)	November 2024

Table 1.

2 ELE – Extronics Location Engine – Version 1.2.1

Extronics’ Location Engine determines the tag location using a proprietary algorithm which includes GPS, RSSI trilateration (Wi-Fi sniffing and BLE) location data. The ELE can gather the tag data from various connectivity technologies such as Wi-Fi, LoRa, Cellular or Bluetooth to suit the clients infrastructure requirements. The Extronics Location Engine replaces the Extronics Location Selector (ELS).

2.1 Latest update

- iTAG XM integration:
 - Extronics location engine now provides positional data for smartphones running the iTAG XM application
- Configurable GPS thresholds for hybrid zones:
 - A HSD threshold value can be assigned to a hybrid zone to give user greater control over which technologies are being using in a given area.
- Fixes:
 - iTAGX40 LNS join sequence no longer affects tag positioning
 - Fixed visual error in ELE Web user configuration page
 - Fixed an issue where database upgrader would hang during install

2.2 ELE supported upgrades

Table 2 shows previous ELE version history.

Location Engine	Version	Date
Initial release	1.2.0	June 2023
Revision	1.2.1	May 2024

Table 2

2.3 Related documents

Table 3 documents are available at [Hazardous Area Solutions | Process Industries | Extronics](#)

Documents	Version
ELE Quick Start Guide	X130159 (1)
ELE User Manual	X131488 (2)
ELE API Integration Guide	X126797 (5)

Table 3.

2.4 Software downloads

To enable this upgrade to your software, please contact our Technical Services team to help you with installing the latest version of the location engine.

[Support - advice, help, technical support, warranties - Extronics](#)

3 iTAG XM Android application Version 1.0

iTAG XM was developed to seamlessly integrate with ELE, allowing customers to leverage their existing fleet of smartphones for on-site worker monitoring and emergency response instead of issuing dedicated safety tags. By eliminating the need for separate hardware tags, iTAG XM offers a cost-effective solution that ensures worker accountability and safety across work sites.

3.1 Latest update

- Location Tracking: Uses Wi-Fi/BLE RSSI trilateration for precise indoor positioning and GNSS outdoors.
- Emergency Alert: Workers can trigger an emergency call to alert that help is required. This is done by using the button on-screen within the app, or by a dedicated button on the phone if the device supports this.
- Uses the phones Wi-Fi or cellular connection to send data to the ELE
- Future Updates: Direct messaging to workers and automatic fall detection alerts planned.
- Only track the location of a worker within a defined area, specified in the EDM

3.2 iTAG XM supported upgrades

Table 4 shows previous iTAG XM version history.

Location Engine	Version	Date
Initial release	1.0	May 2024

Table 4

3.3 Related documents

Table 5 details the documents which are available at [Hazardous Area Solutions | Process Industries | Extronics](#)

Documents	Version
iTAG XM User Guide	X133662(1)

Table 5.

4 iTAG X-Range Firmware version 1.22.4.7504

Extronics provide new releases of the iTAG X-Range firmware to improve product performance and user experience. These updates enable new features and fix known bugs ensuring our customers always have access to the best possible version of our product.

4.1 Latest update

- Bug fixes
 - Fixed an intermittent issue where the processor on some tags would time out causing the tag to reset
 - Fixed an intermittent issue where some tags kept flashing red LED whilst fully charged
 - Fixed an intermittent issue where some tags would stop transmitting via Wi-Fi.
 - Fixed an intermittent issue where some tags would stop transmitting via Wi-Fi after a very short press of the call button.
 - Fixed an issue where tags LEDs behaviour would appear erratic when in proximity of an LF exciter.

4.2 Hardware supported upgrades

Table 6 provides tag type and FW version history which can be upgraded to 1.22.4.7500

Tag Type	Firmware versions	Date
iTAG X30	1.22.4.7420*	February 2021
iTAG X30	1.22.4.7421	November 2021
iTAG X30	1.22.4.7422	February 2022
iTAG X-Range	1.22.4.7503	July 2023
iTAG X-Range	1.22.4.7504	November 2024

Table 6

***Firmware 1.22.4.7420 will not upgrade to 1.22.4.7504 directly. Tags must first be upgraded to firmware version 1.22.4.7421 before upgrading to 1.22.4.7504 can be successful.**

4.3 Firmware upgrades

Firmware upgrades are available through the EDM.

Please contact our Technical Services team to help you with installing the latest version of firmware.

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5 Extronics Device Manager version 1.2.1

As part of the EDM suite of software, the iTAG X Configurator is used to configure the iTAG X-Range of products. Refer to document X129265 for instructions on how to use this software.

5.1 Latest update

- Select between configuring tags using TED1000 (LF), Bluetooth or MQTT service. Functionality depends on tag type.
- iTAG X40 configuration
 - Ability to activate and configure iTAG X40 LoRaWAN tags using Bluetooth
- iTAG XM configuration
 - Add MQTT service in order to remotely configure iTAG XM running on android smart phones
 - Add GPS coordinates for inclusion zones. Location data outside of these defined areas will not be transmitted by the iTAG XM

5.2 iTAG X Configurator supported upgrades

Table 7 describes the iTAG X-Range tag types which can be programmed with this software:

Release	Version	Supported Tag Types	Date
Initial release	1.2.0.14	iTAG X30, iTAG X20, iTAG X10	July 2022
Revision	1.2.1	iTAG X40, iTAG X30, iTAG X20, iTAG X10, iTAG XM	May 2024

Table 7.

5.3 Related documents

Table 8 details the documents which are available at [Hazardous Area Solutions | Process Industries | Extronics](#)

Documents	Version
Extronics Device Manager User Guide	X129265(2)

Table 8.

5.4 Software downloads

Please contact our Technical Services team to help you with installing the latest version of the iTAG-X-Configurator

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6 Known Issues/Feature Requests

Table 9 lists issues and associated workarounds.

Reference	Description	Request Type	Outcome
NC - 10482	Haptic response is too slow when the call button is pressed.	Tag Performance	Resolved in FW version - 1.22.4.7422.
FD - 8829	GPS co-ordinates to be available through the API	Feature Request	Implemented in ELE SW version 1.2.0

Table 9.

7 Reporting an Issue or Feature request

Extronics' values your feedback. If you encounter an issue or would like to share a suggestion please follow this link:

[Support - advice, help, technical support, warranties - Extronics](#)