

GBM Mobile for ike

Overview

From V3.51.0039, the standard GBM Mobile software release, when loaded on ike hardware, takes advantage of the special hardware functions of that device. In particular, it interfaces directly with the GPS, Camera, Compass, Laser Range finder and Inclinometer.

GBM Mobile delivers a complete data collection and field mapping solution based on MapInfo GIS technology. It features custom data entry forms and support systems (operating on either a local PCs or web servers) to integrate data collected in the field with corporate databases or mapping systems. Visit www.geobasemap.com for further information on GBM Mobile.

This document provides a summary of software upgrades between the GBM Mobile V3.50 general release and the current ike release (V3.51.0041). It is directed towards ike users and should be read as an addendum to the GBM Mobile V3.50 user manual and tutorials. The standard user manual and tutorials are included with the installation media and will be upgraded to include this information prior to general customer release of V3.51.

GBM Mobile V5.51.0041 is available immediately for ike customers and has successfully completed production assignment on ike 300 hardware. A formal ike production release will be made available in late 2005 following testing on ike 304 hardware.

GBM Mobile for ike requires version 2 of the ike software. This version normally ships with ike 304. Customers with older ike 300 equipment should download and install the V2 software upgrade from www.survey-lab.com before installing GBM Mobile.

What is ike

In the one hand-held unit, **ike** integrates the capabilities of:

- GPS receiver (RTK and Post Processing extensions available first quarter 2005)
- Laser distance meter
- Inclinometer and Digital compass
- Digital camera
- iPAQ PDA



ike delivers an especially productive asset capture environment as an operator can locate an asset by laser offset without needing to move to the actual asset location. This is particularly important for assets that are in inaccessible or dangerous locations. For example:

- An inspector can locate traffic signs from within a vehicle, without having to park the car and cross the road to get a GPS location.
- An arborist can locate a tree or map the limits of a weed infestation without needing permission to enter the property.

ike automatically collects a photograph when an asset is located by laser offset, providing an evidentiary record of the inspection and the condition of the asset at that time.

ike is manufactured in Wellington New Zealand by SurveyLab. Visit www.survey-lab.com for further information.

ike specific features

When installed on **ike**, GBM Mobile delivers all the standard software features including MapInfo powered GIS. GBM Mobile also recognizes all the **ike** special devices to deliver the following additional services:

- **Drawing of new map features at the laser target location**

Locations are automatically computed by distance bearing offset from the current GPS location or from the location of an existing map object

- **Recording of photo locations**

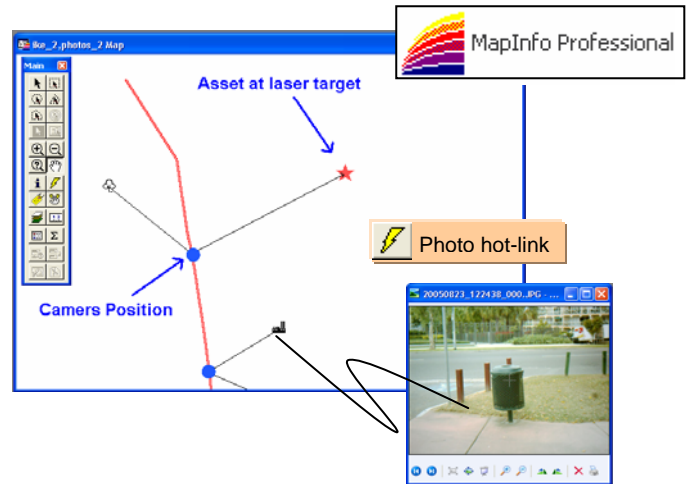
Photo ID is attached to a line object that connects the Camera and photo target locations

- **Photo hot-linking on the PDA**

Photo ID can be automatically populated into a custom form. Click on the map feature with the hot-link tool to open the photo

- **Photo hot-linking in MapInfo Professional**

Click on a map feature or the line connecting the camera and photo target with the MapInfo hot-link tool in MapInfo Professional to open the photo



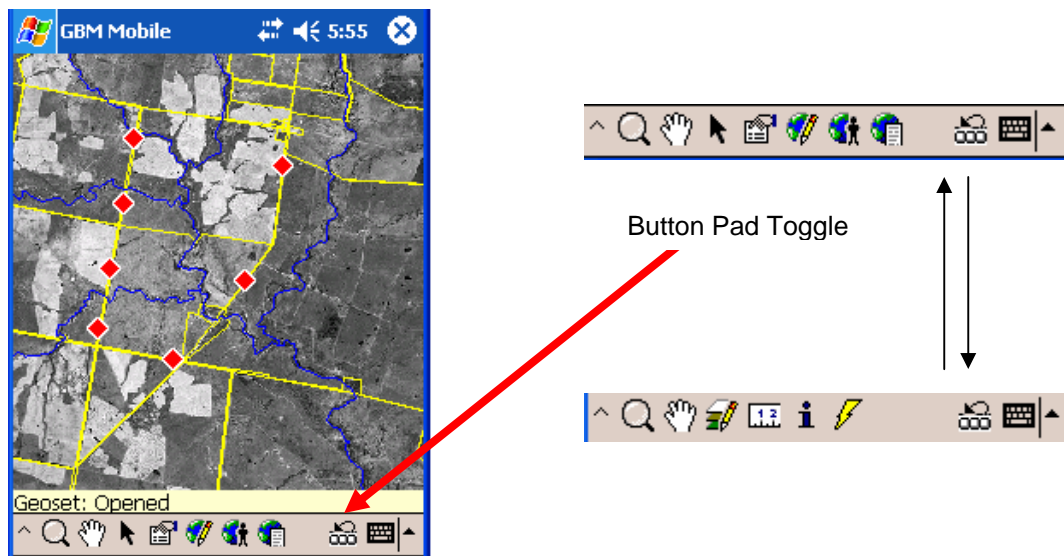
To install GBM Mobile on **ike** hardware, follow the standard installation prompts, The software will auto-detect the hardware device and automatically activate the additional features.

Operational Changes

Key differences between GBM Mobile V3.50 and V3.51 (**ike**) are listed below:
























Button Pad Toggle

To provide access to the additional **ike** features, a new multimode button pad has been developed. Toggle between button pads via the icon on the far right of the button pad.



Buttons and Menus

The new button pads rearrange tools from the V3.50 button pad, and add new tools.

Old Button	New Button	Changes
		File - Functionality extended - New menu item added to allows setting of the folder for storing photographs
		Zoom - Functionality unchanged
		Pan - Functionality unchanged
	 Standard drawing  Draw via custom forms	Drawing - Functionality has been split between two buttons.
		Measure - Functionality unchanged
		Info - Functionality unchanged
		Hotlink - New function Displays image associated with the map object at the click point
		Toggle tool buttons - New Function Toggle between button pads
		Select - Functionality unchanged
		Attributes – Functionality unchanged
		Create at Target – New ike specific function
		Draw with GPS – Functionality largely unchanged.
		GPS and ike settings – functionality extended with ike specific settings

Special Operations

This section describes how software features unique to ike hardware.

Drawing an object at the target location

In this mode, a new map object is created at the target location of the laser beam. The targeting photograph is stored in the photo folder.

GBM Mobile will calculate the map position for the new object by using distance bearing offset from the current location. There are two modes for specifying the current location.

In most situations GBM Mobile will read the current location from the GPS and calculate the new position by distance / bearing offset from the GPS location.

The alternative is to set the current location as that of a selected map object and calculate the new position by distance/bearing offset from that object. This is especially useful where there is no GPS signal (eg indoors) or when the current location is known accurately (eg where the operator is standing at a surveyed trig point).



Location

► The current location is defined through the Location menu item accessed from the GPS settings dialog.

Ike controls are integrated in the standard GBM Mobile custom forms environment. First define a custom form to describe the graphical style and attribute editing method for the new object, and ensure the GIS layer targeted by that form is open on the current map.



Once these requirements are met, a new menu item will then be added to the GPS targets menu for each active custom form. Select an item on that menu to open the photo viewer.

Move the ike so that the target is under the cross-hairs on the video display. Click the right hand hardware button to take a photograph. Click the left hand button to cancel.



If no cross-hairs are visible, they can be enabled through the ike setting menu available through the settings tool button.

Once the right-hand button has been clicked, the new map object will be drawn at the target location, with the graphical style (color, symbol, line type etc) specified in the custom form. The photograph will be stored and hot linked both the target object and to a targeting line that joins the current location to the target location.

If specified in the form definition, an attribute edit form will open to for entry of field observations about the target object.

Taking a photograph



The above procedures take a photograph as part of the map drawing operation. A separate menu item under the same tool button is available for taking a photograph without using a custom form or creating a new map object.

Viewing photographs



With the hot-link tool, click on either the photo targeting line or a map object create at the target location (see above). The photograph will open on the ike screen. Close the photo with the close command (accessed from the software button on the bottom left of the photo display).

Ike Settings



ike Settings... GBM Mobile is automatically configured for the inbuilt GPS. Other settings, including those for camera contrast and brightness, are accessed through the ike settings item on the settings tool button.

Retrieving photographs



The folder for storing photographs on ike can be set through the file menu.

In this release, photographs are retrieved from ike by copying the image files through Windows Explorer. In future releases, automated photo download will be integrated into the retrieve data utility provided in the accompanying GBM Mobile Manager for Windows software and GBM Enterprise Manager (web server edition).

To have the photographs available for hot-linking in MapInfo Professional, copy them to the same folder as the MapInfo .tab files retrieved from the ike. Set the hot-linking field (using the MapInfo Professional layer control) to the data field containing the photo names.