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Project:	ike
Title:	ikeOS v2.5.0_Beta4 Release Notes
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Summarises new features, bugs fixed, and known issues in the ike software version 2.5.0_Beta4, and Software Development Kit (SDK).

The ike software is created using the SDK so all details that are applicable to the software are also applicable to the SDK.

For the most up to date information about this release, please see http://www.surveylab.com/downloads/LatestIkeV250_Beta4ReleaseNotes.pdf

Version	Date	By	Comments
0.2	07/01/08	GVM	Clarified section on ROM upgrades
0.1	05/01/08	WS	Document created

1 Introduction

The present document summarises the new features, bugs fixed, and known issues for version 2.5.0_Beta4 of the ike software and SDK. The ike software must be used with the ike product, and is not compatible with previous models of ike (ike300).

The standard software provided with ike is based on the SDK so all items applicable to the software are also applicable to the SDK.

Each clause in these release notes is split into two sections as follows:

1. 'ike software items' are items applicable to both the standard ike software, and the SDK
2. 'SDK specific items' are items specific to the SDK that do not affect users who have not purchased the SDK.

The ike software is based on the ike300 software version 2.0.0. For details of prior history of the software, please refer to the ike300 software version 2.0.0.release notes at <http://www.surveylab.com/downloads/Latest200ReleaseNotes.pdf>.

2 System Requirements

- This version of the ike software has been tested on Windows Mobile 5 version 1.00.01H ENG with Service Pack SP33752 applied and Windows Mobile 5 version 1.02.00H ENG with Service Pack SP33003 applied.
- SP33752 is available on the Software CD.
- SP33003 is available from http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodTypeId=215348&prodSeriesId=421399&swItem=PSG_I23561-108719&prodNameId=3378425&swEnvOID=2067&swLang=8&taskId=135&mode=4&idx=2.
- Please see section 6.2 of the ike User Manual for instructions on how to verify that the Service Pack SP33752 has been installed, and install it if necessary.
- The appropriate Service Pack should be applied before installing ike OS.

3 Features Included

3.1 ike software items

This release is designed for the Windows Mobile 5 operating system, and includes the following:

- Two example Data Capture Applications (DCAs):
 - The 'Standard DCA', which allows data to be captured, and stored in a CSV file.
 - The 'ArcPad Application Builder DCA (AABDCA), which can be launched from ArcPad, and allows the user to capture a point in a specified shapefile within ArcPad using ike, and then use ArcPad Application Builder Scripts to prompt the user for additional information.
 - Both DCAs support creation of GPS log files for DGPS post processing.
 - Both DCAs support RTCM and SBAS for real time DGPS corrections.
 - The default shapefiles provided with the AABDCA include support for a voice recording associated with each feature. Requires purchase and installation of Resco Audio Recorder available from http://www.pocketgear.com/en_US/html/display_product.jsp?id=prod5701198
A bluetooth headset is also recommended.

- An installation file to install ike OS, including the Standard DCA, the AABDCA, an evaluation version of ArcPad with example layers for the AABDCA, and relevant calibration tools.
- A Desktop Synchronisation application (DSA) called ike Sync. ike Sync is used for transferring data from ike to a desktop PC, and vice versa. ike Sync also supports DGPS post processing in conjunction with the software package GrafNav Lite from Waypoint.
- A data folder application that runs on ike allowing configuration of the folder to be used for data files.
- Applications allowing diagnostic testing of the Camera, Laser, Compass and GPS.
- A Zeroize application that can be used to delete all data and applications on ike.
- A Job Manager application that creates a default set of ArcPad shapefiles in the Data Folder if they are not already present.
- A Battery manager application for monitoring the internal batteries within ike and recalibrating the expansion battery to ensure that battery lifetime information is as accurate as possible.
- Documentation describing installation instructions, the example DCAs, configuration and calibration procedures for ike, instructions for using ike Sync, and performing DGPS post processing.
- Software support for 1.3 and 3.2 mega pixel camera (depending on hardware purchased).
- Software support for the ike105, ike205 and ike305 products.

3.2 SDK specific items

- Source code is provided for both of the DCAs.
- Source code is provided for ike Sync.
- Source code is provided for the User Port loopback sample application.
- Documentation describing installation instructions for the SDK, along with details of the Interface Components provided by the DLLs in the Embedded Framework, and the Desktop Framework.

4 Known issues

The following issues are outstanding in this release:

4.1 ike software items

- ArcPad 7 stores toolbar visibility in the .apm file (map file). This can result in toolbars 'going missing' on the desktop version of ArcPad. For further information and a solution, consult the following whitepaper: <http://www.surveylab.com/downloads/ArcPad7Whitepaper.pdf>.
- Either ArcPad 7 or ArcPad 6 can be installed on the desktop/ike, not both.
- Video preview sometimes shows a black screen, tapping Back and Capture Data will resolve this.
- Laser meter can intermittently freeze raising a Laser timeout error message when the user attempts to capture a point. This can be resolved by tapping Back and Capture Data in the AABDCA.
- Powering up the unit may take as long as 5 seconds. Please be patient when turning the unit on.
- If multiple ikes are connected consecutively in the same session of ikeSync an error message may be displayed indicating that the ike data folder can not be found. Closing and restarting ikeSync will resolve this.

- If the camera is in streaming video mode and the ike is powered off, and back on, sometimes the camera does not restart correctly. Please go back to the initial screen in the DCA being used, and then return to the capture screen to reinitialise the camera.
- When using the AABDCA and DGPS post processing, an error message is displayed indicating “Failed to close static / kinematic file”. This error occurs if ArcPad is closed before closing the AABDCA. The current workaround is to close the AABDCA before closing ArcPad. DGPS post processing will still be possible.
- ArcPad on the desktop intermittently provides an empty dialog box with the options ‘Retry’ and ‘Abort’ repetitively after DGPS post processing. Please use the Windows Task manager to End the ArcPad application if this occurs.
- Special fields are not populated correctly in the *_Corrected.* files. (e.g. attributes ikeTrueBrg etc are not copied to the corrected version of the shapefile)
- The True Bearing is not converted to a value between 0 and 360 in the Raw Data tab in the ArcPad form for the GenericPolygon shapefile.
- Adobe Reader is required to view the provided documentation. This is available from <http://www.adobe.com/products/acrobat/readstep2.html>.
- WinZip is required to extract the Pocket PC 2002 SDK. WinZip is available from <http://www.winzip.com/>.
- ArcPad is not provided on the ike 304 software CD. ArcPad can be downloaded and purchased from <http://support.esri.com/index.cfm?fa=downloads.samplesUtilities.viewSample&PID=26&MetaID=709>
- ArcPad documentation is not provided on the ike 304 software CD. This can also be downloaded from <http://support.esri.com/index.cfm?fa=downloads.samplesUtilities.viewSample&PID=26&MetaID=709>
- Black lines appear on the captured image occasionally. If this occurs, please retry, and capture the image again.
- ike Sync crashes if ArcPad is installed, but not registered on the desktop PC. Please ensure that ArcPad is registered on the desktop PC before attempting to use ike sync to work with any shapefiles.
- There is no un-installation option for ike Sync. If you already have a previous version of ike Sync installed, this will be replaced without warning when you install the new version. If you wish to use a previous version of ike Sync on the same PC, you can rename the folder containing the old version, and then install the new version.
- ike ‘locks up’ occasionally. If this occurs, please soft reset ike by inserting the stylus in the hole at the base of ike.
- Corrected shapefiles are not linked with any corresponding .vbs and .apl files, so the ArcPad forms do not work for the corrected data after it has been transferred to the desktop. Please update the relevant .vbs and .apl files manually.
- Read-only files on the SD Card will not be deleted during the zeroisation process.

4.2 SDK specific items

- There are no known issues specific to the SDK.

5 Key differences since ike software version 2.4.0

This ike software version was developed based on the ike software version 2.4.0. The following items describe the key differences for the ike software.

5.1 ike software items

- Updated ikeOS to support GrafNav Lite 7.8
- Upgraded to ActiveSync 4.5
- Updated installation system to check if a clean reset is required before installing.
- Improved Battery Management to avoid putting instrument batteries onto hardware protection mode.
- Renamed toggle toolbar to First so that when installed on the desktop it will be displayed in ArcPad
- Updated the Compass in the AABDCA to display current Magnetic Declination
- Fixed fault which sometimes meant the Magnetic Declination in the Shapefile was not recorded
- Updated Zeroise application to remove 0 file after zeroise process is complete.
- Added Battery Level Manual Override to BatteryManager Calibration screen.
- Updated ROM upgrade to SP33752 for hx2790 based ikes.
- Added Voice recording capability to default shapefiles.
- Update SD Card installer to check if clean reset is required before installing
- Fix negative magnetic declination in AABDCA issue
- Improved GPS Diagnostics refresh rate and resolved two errors
- Investigate and resolve the intermittent problem that causes the Startup screen to hang at the end of the progress bar.
- Included Daylight Savings Patch DST2007FallUpdate
- Included the WirelessRecoveryTool with the WirelessConfigTool

5.2 SDK specific items

- There are no differences that are only applicable to the SDK

6 Key differences since ike software version 2.3.0

This ike software version was developed based on the ike software version 2.3.0. The following items describe the key differences for the ike software.

6.1 ike software items

- Improved reliability of communication between instruments.

6.2 SDK specific items

- There are no differences that are only applicable to the SDK

7 Key differences since ike software version 2.2.0

This ike software version was developed based on the ike software version 2.2.0. The following items describe the key differences for the ike software.

7.1 ike software items

- Added support for ike105, ike205 and ike305 product range.
- Resolved issue where battery levels are not reported correctly if the battery has not been calibrated.
- Camera preview sharpness has been improved for the 3MP camera.

7.2 SDK specific items

- There are no differences that are only applicable to the SDK

8 Key differences since ike software version 2.1.2

This ike software version was developed based on the ike software version 2.1.2. The following items describe the key differences for the ike software.

8.1 ike software items

- A new suite of icons has been used for all Surveylab made applications
- The Generic and sd_Citytrees shapefiles have been replaced with GenericPoint and GenericPolyline shapefiles.
- Created a Diagnostics folder in IkeUtilities with the following diagnostic tools:
 - GPS (renamed from GPSTester and updated code)
 - Comms (renamed from IkeTester and updated command list)
 - Camera (renamed from IkeFocus)
- Removed the Following Programs from IkeUtilities
 - BattMon
 - BattCal
 - HardwareTester
 - ikeCal
 - ikeCallib
 - LoopBack Sample
 - QuickTest
 - HardReset
 - ikeConfig
- Added the following programs to IkeUtilities
 - Zeroize - which performs a clean reset and optionally fills the SD card with a file full of zeros
 - DataFolder - which allows the user to configure the data folder
 - BatteryManager – which provides information on Battery levels and allows battery calibration
- Updated Default AABDCA Settings
 - Default values for max PDOP, HDOP, and VDOP are 6.0
 - The Crosshair is saved in images by default.
 - AABDCA Video mode is set to outdoors by default
- Added support for hx2790b iPAQ.
- Added a Force Cold Start entry to the GPS tab in Comms.
- Updated IkeCommunicator to optimise transfer times, and support an additional progress indicator for individual files.
- Upgraded to ActiveSync 4.2
- Updated 3MP camera drivers to improve switching speed between ArcPad and AABDCA.
- Added Automatic magnetic declination option to AABDCA Settings. If the automatic declination checkbox has been selected then a new declination will be calculated each time a new GPS fix is obtained.

8.2 SDK specific items

- The sd_Citytrees shapefile has been added to the SDK as an example
- The LoopBack sample application has also been added
- The User Manual now includes an example of how to use the SDK with EVC++4
- Added support for Automatic Magnetic Declination calculation to the Compass control

9 Key differences since ike software version 2.1.0

This ike software version was developed based on the ike software version 2.1.0. The following items describe the key differences for the ike software.

9.1 ike software items

- Added version numbers to EmbeddedFramework DLLs.
- ikeOS now compatible with ArcPad 7.0.1
- ikeSync can be used with ArcPad 7.0.1

9.2 SDK specific items

- There are no differences that are only applicable to the SDK.

10 Key differences since ike software version 2.0.3

The ike software was developed based on the ike software version 2.0.3. The following items describe the key differences for the ike software.

10.1 ike software items

- Improved GPS parsing capability.
- Added support for 3MP Camera. Set default jpeg image quality to 80 in AABDCA.
- Updated camera module to ensure that crosshair in saved images is in the same location as for the video preview.
- Improved compass parsing accuracy. Resolved intermittent bug that resulted in 0 being returned if a reading was requested too quickly after initialising.
- Updated Camera drivers to manage exposure settings correctly for full size images when using a 1.3 mega pixel camera.

10.2 SDK specific items

- Added a new property called CameraResolution. This is used to determine whether a 1.3 or 3.1 mega pixel camera is installed.
- The CameraDll IMAGESIZE enumeration has been updated to support the following image resolutions: 1600x1200, 2048x1536.

11 Key differences since ike software version 2.0.2

This ike software version was developed based on the ike software version 2.0.2. The following items describe the key differences for the ike software.

11.1 ike software items

- Updated camera drivers to avoid intermittent overexposure problems after turning ike off and back on several times in Windows Mobile 5.

- Also updated AABDCA exposure management code to manage settings correctly with the new camera drivers.
- Updated user manual to include detailed trouble shooting guide for ActiveSync 4.1, which is more prone to problems due to virus checkers and firewalls.
- Resolved intermittent connection issues when using ikeSync.
- Added a new link to the Soft Reset application in the Start Menu.
- Updated drivers to resolve problems with RTCM reception after using RTC1: port
- Updated IkeCallib application to include a compass bearing indication.
- Provided a mechanism to disable WiFi and Bluetooth drivers for specific ike units. A separate application is required to configure this option. Please contact Surveylab support for further information.

12 Key differences since ike software version 2.0.1

The ike software was developed based on the ike software version 2.0.1. The following items describe the key differences for the ike software.

12.1 ike software items

- Upgraded to ActiveSync 4.1 (required for Windows Mobile 5 support).
- Upgraded ikeOS installation to install ArcPad 6.0.3.30 QFE patch after installing ArcPad.
- Added updated Battery Calibration Utility to ensure that the information provided in the Battery monitor is as accurate as possible.
- Removed Today panel in standard image, in favour of a link to the custom ike Battery monitor in the Start menu, to avoid confusion with the iPAQ Power application, which doesn't show readings for the expansion battery.
- A User Port sample application has been provided to demonstrate basic communications over the User Port, and internal RTCM port.
- Improved support for turning ike off and back on when instruments are active.

12.2 SDK specific items

- Added User Port Loopback sample source code to the SDK.

13 Key differences since ike300 software version 2.0.0

The ike software was developed based on the ike300 software version 2.0.0. The following items describe the key differences for the ike software.

13.1 ike software items

- Replaced use of Sprite Clone images with an installation application to install the core ike software, "ikeOS".
- Added a Soft Reset application in the IkeUtilities folder.
- Added a Battery Monitor application in the IkeUtilities folder.
- Added new drivers required to support the ike hardware.

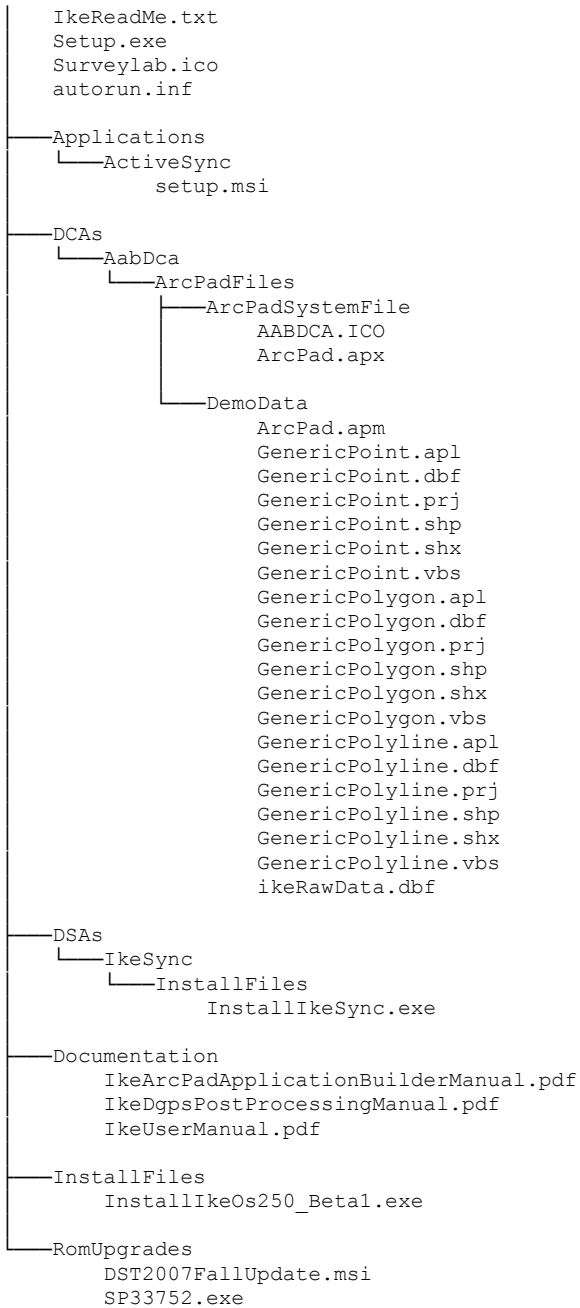
13.2 SDK specific items

- There are no differences that are only applicable to the SDK.

14 File structure

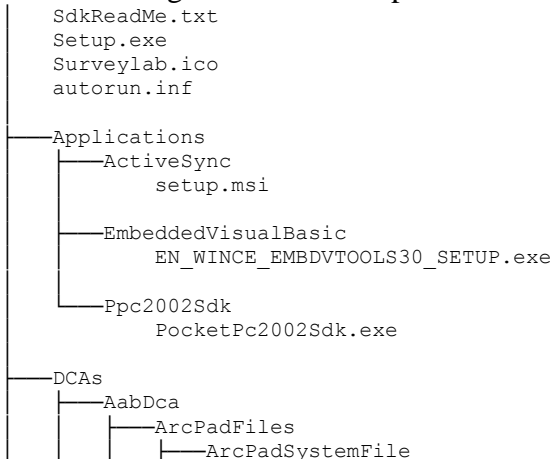
14.1 ike software file structure

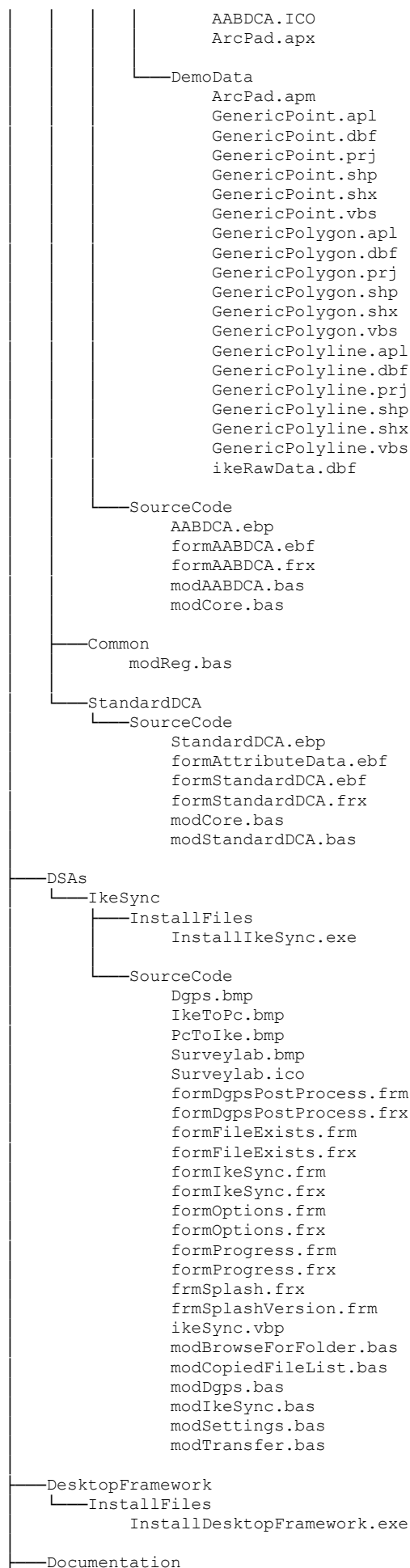
The following file structure is provided on the CD for this version of the ike software:

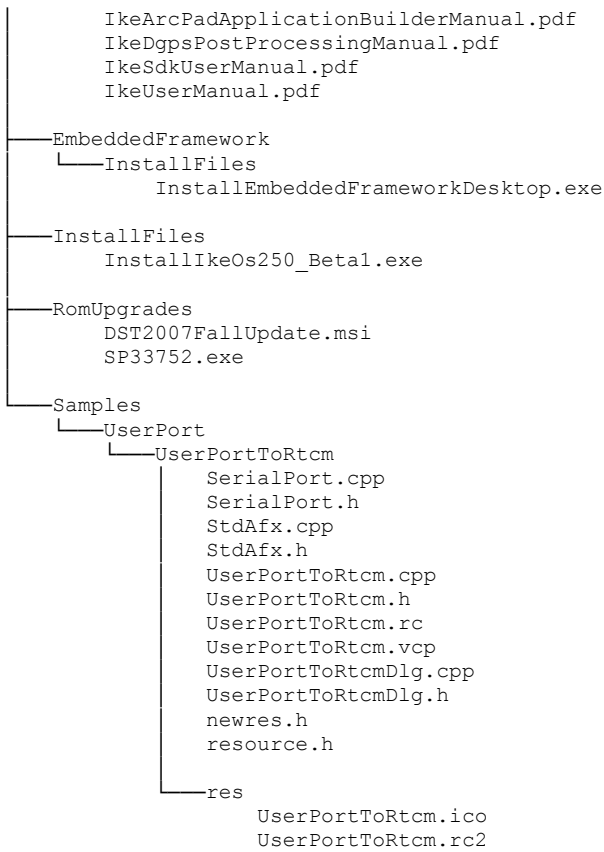


14.2 SDK file structure

The following file structure is provided on the SDK CD for this version of the ike software:







15 Contact information

For any questions or comments, please contact the Surveylab support desk:

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