Introduction to OziExplorerCE

OziExplorerCE is moving map software for **PocketPC** and **Window CE devices (PDA's)**, it uses raster map images which are either scanned or purchased in digital format. It allows you to track your position received from a GPS on a map.

OziExplorerCE is not route planning software, you cannot request the best way to get from point A to point B, the types of maps OziExplorerCE uses do not allow this. However OziExplorerCE will allow you to create your own routes on the map and navigate along those.

The screens displayed by OziExplorerCE are designed on a PC using the "OziExplorerCE Screen Designer". With this you can design pages which display a map and/or parameters which give the information you want to see. A standard set of pages is provided.

The design philosophy is you plan your trip using the full PC OziExplorer on you PC and then transfer your waypoints and other data to your CE device for use by OziExplorerCE. After your trip you can transfer any collected data back to the PC OziExplorer for analysis.

OziExplorerCE runs on PocketPC and Windows CE devices but it relies on map calibrations etc to be provided by the full PC version of OziExplorer, in the respect OziExplorerCE can be considered an add-on to the full Oziexplorer software, you also need the full OziExplorer to calibrate maps, plan trips by adding waypoints etc.

The unregistered OziExplorerCE will work with the unregistered OziExplorer but the limitations of both packages will apply.

To get the full use of OziExplorerCE you must have a registered copy of OziExplorerCE and a registered copy of the full PC OziExplorer.

OziExplorer*CE* History

Release Version 2.31 (April 2009)

Changes

- Added the ability to sort the waypoint list by Name or Distance from present position.

Development Version 2.30d.1/2.30d.2/2.30d.3 (April 2009)

Changes

- 2.30d.3 - added new parameters to the screen designer
  - Display Total storage space for the main storage partition (file space).
  - Display Free storage space for the main storage partition.
  - Display Total storage space for the partition where OziExplorerCE is installed.
  - Display Free storage space for the partition where OziExplorerCE is installed.
  - Display Total storage for partition where the Datapath folder is located.
  - Display Free storage for partition where the Datapath folder is located.

    - Use a Button to execute an external program (located at the bottom of the parameter list in "Other Command") - limited to 50 characters - include full path to exe file, parameters are ok.
- 2.30d.3 - fixed logbook image creation when in perspective 3D mode.
- 2.30d.3 - fixed issue with nearest waypoint list when selecting waypoints on blank entry and clicking on the "Map" or "Goto" button.
- 2.30d.3 - fixed issue where incorrect waypoint could be selected in a route if gps did not have a valid fix when route navigation is started.
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- 2.30d.2 - added mapview for png, jpg and bmp map image types.
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- If you have 10,000 waypoints loaded the calculation of nearest waypoints can take 500 - 700 milliseconds and this must be done every time the position changes (only when the nearest waypoint list is on the page of course). A new method has been developed which reduces this to about 50 milliseconds for most screen updates with a full update only needed occasionally.
- jpg, png and bmp image files can now be used as map images. Only 8bit and 24bit color formats are supported. The images must be small as they must be fully loaded into memory. This is experimental at this stage.
- Fixed an unusual issue with closing OziCE on some devices (OziCE may hang or the desktop not refresh after closing).
- When resuming the pda from suspend mode the "GPS disconnected message" may display when not necessary, the check for NMEA data is now delayed.
- Fixed some other issues.

Development Version 2.29d/2.29d.1/2.29d.2/2.29d.3/2.29d.4 (March 2009)

Changes

- 2.29d.4 - Changes done to screen redraw thread methodology.
- 2.29d.4 - Removed bugs which caused almost 100% cpu load under certain circumstances.
- 2.29d.4 - Please test previous problems with 2.29d.2/2.29d.3 with this version too see if they still exist.
- 2.29d.4 - When the OziCE application is put in the background it will now do the following to reduce its resource use.
    - Screen redraw is suspended (track logging and so on still occurs).
    - The memory for cached parameter fields for all but the current page is released.
    - If an ECW map image is loaded it is closed (automatically reopened when needed) - ECW is by far the biggest memory user needing about 14MBytes.
- 2.29d.4 - ipaq 312/314 users
    - "parkinson" also exists on other pnd's and I have previously adjusted the mousemove threshold in OziCE up to eliminate the affect, the 312/314 seems to be worse.
    - The threshold is currently set to 8 pixels (or 16 if using hires.dat) - what should the threshold be???
    - The unlock slider reappearing - OziCE will show the slider on a mousedown or mousemove event, the mousemove event isn't really needed so I have removed it, not sure if this will help.
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- 2.29d.3 - Screen draw function using a separate thread has been reinstated.
    - the known issues with this have been fixed.
    - there may be other issues so please report anything unusual.
- 2.29d.3 - some minor cosmetic issues have been fixed.
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- 2.29d.2 - Removed screen draw function from separate thread back to the old method, it was causing a few issues.
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- 2.29d.1 - Fixed problem where map would not respond to gps position change after selecting goto from popup menu.
- 2.29d.1 - Fixed problem where map would not refresh to gps position when changing maps.
- 2.29d.1 - When editing waypoints which have a non-standard color (a PC OziExplorer color for example) the color will be specified as "custom". The waypoint can be edited (the name for example) and saved without destroying the waypoint color.
- 2.29d.1 - When OziExplorerCE is locked the **Unlock slider** now disappears after 10 seconds, a press

on the screen will bring it back (for 10 seconds). The unlock slider is no longer a modal window so pressing on the screen does not generate the annoying beep.
- 2.29d.1 - Added the ability to split the track log file into different file names based on the following options - **daily**, **weekly**, **monthly** and **never**.
  - The **New Track Log File** option is specified in **Track configuration**.
  - The Menu options **Copy Track Log File** and **Delete Track Log File** apply to the track log file name currently being used.
  - If the **New Track Log File** option **Never** is selected then the track log is stored in the **ceTrack.plt** file.
  - The default is **Daily**.
- 2.29d.1 - Added a **% CPU** load parameter to the version 2.29 Screen Designer, this gives the total cpu load of the device (not just the load generated by OziExplorerCE).
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- Put screen redraw function into separate thread
  - This is the biggest change for this version and has potential to cause other issues (none noticed in testing).
  - It allows the gps reading thread to continue while the screen is being redrawn.
  - Also allows finer control so time is always allocated for other functions when screen redraw is slow.
- Tidying up of some screen handling issues when stopping moving map or gps tracking.
- Fixed issue with gps port reading (broken in previous version) causing lag in some systems.
- Added a button for turning on/off NMEA sentence Logging to the Screen Designer.
- If NMEA Logging is active a message is displayed when the GPS is first connected.
- Other minor cosmetic changes.

Development Version 2.28d/2.28d.1 (March 2009)

Changes

- 2.28d.1 - Changes have been made to the use of the internal keyboard.
  - This information does not apply to Pocket PC's (which always have a keyboard).
  - The parameter to specify the use of the internal keyboard in configuration has been removed.
  - The first time the keyboard is used the windows system keyboard will be activated and you will be asked if you can see the keyboard.
  - If the keyboard is not visible the internal keyboard will be activated.
  - The keyboard configuration is stored in the file keyboard.cfg - delete this file and you will be asked again if you can see a keyboard.
  - Checks are made to see if the PND has a keyboard - in some cases it can be determined that the PND definitely does not have a keyboard and in these cases the internal keyboard is used by default (no question is asked).
  - However it is difficult to determine programmatically if a PND has a keyboard or not, there are so many variations to what is configured in the operating system. In some cases the API functions for using the keyboard or checking if it available are not included in the system dll's.
- 2.28d.1 - Minor cosmetic fixes have been made.
- 2.28d.1 - Fixed proximity alert for 375 and 500 meters which were not being set correctly.
- Fixed the zooming of ecw maps when in 3D perspective mode.
- The waypoint color can now be changed in the Waypoint editing dialog.
- The default color used when creating waypoints can now be specified in the Waypoints configuration dialog.
- The display of total route distance now displays when using a reversed route.
- Added new waypoint alert distances for 375 and 500 meters (on Waypoint set List).
- The proximity distance of an individual waypoint can now be changed in the waypoint editing dialog (set in meters).
- The wp_alert.wav file is played when the proximity is entered and the waypoint is changed to an alert symbol on screen until the proximity is left.
- Course up and 3D perspective modes now use a fixed position for the GPS position about 3/4 of the way down the screen (this gives look ahead). This was done so the "Screen Position" setting in configuration (now called "Look Ahead") can now be set to zero when it is not required for a particular activity (such as hiking).

- The nmea log file is now stored in the "Data Path" (if activated), it used to be stored with the exe file where file space may be limited.

Changes

Development Version 2.26d/2.27d (February 2009)

Changes

- 2.27d - fixed slow page changing when gps connected.
- New GPS connection options have been added for the GPS. The options are available on the Connect tab on the NMEA (GPS) configuration dialog. The options are:
  - Close the GPS port when the PDA is turned off - this may reduce battery use if the serial port is not active when suspended.
  - Reopen the GPS port when the PDA is turned on (if it was on when the PDA was suspended).
  - To reconnect to the GPS if the connection is lost when it is in use.
- Incorrect magenta backgrounds on gauges fixed.
- Red shift night vision now now shifts 75% to the red instead of 100% - this allows for better differentiation of colors on the screen when they are shifted to red.
- New buttons added to the screen designer for "Screen Brightness + red shift".
- Added buttons to move the active page back 1,2,3,4 or 5 pages.
- A program called NoniMapView which can make OziExplorer maps from Google Earth does not write out the .map file correctly, it leaves out the calibration points which are not used, however OziExplorerCE expected those points to be included in the .map file. This results in the corner markers and map scale parameters not being loaded when NoniMapView created maps are used. OziExplorerCE has been modified to load .map files which do not have the unused calibration points and these map files now load ok.
- For people using the hires.dat file option for high resolution devices and using a language other than English - a fix has been done so the dialogs will display the full text for labels and not truncate them.
- The saved map image for the log book should now center around the gps position.
- A new menu option has been added for the 3D view to turn it on/off.
- The anchor_alarm.wav file not being used has been fixed.
- A simple software keyboard has been added. It will be used if OziExplorerCE detects the OS does not have a software keyboard installed.

Development Version 2.25d (January 2009)

Changes

- Magenta backgrounds on parameters should now be fixed.
- Fixed Anchor alarm +50 button only doing +10.

Development Version 2.24d (January 2009)

Changes

- Red night vision is now available
  - Added button to Screen Designer version 2.24 to activate red night vision.
  - The button will need to be added manually to an OziExplorerCE screen if you want to use it.
  - The Red shift works with the intensity and will only happen at intensities less than 100%.
- The anchor alarm circles will only be drawn on the map if the anchor alarm is active.
- Made code changes to try and prevent transparent buttons from showing with a magenta background under some circumstances. This only happens on a few devices and I do not know the cause as I cannot duplicate it.
- If you do not want the gps to be automatically reconnected if the NMEA data stream is lost then put a file called "no_port_reconnect.dat" in the folder with OziExplorerCE. When OziExplorerCE is started it will detect the presence of this file - OziExplorerCE will then only alert the fact that NMEA has been lost but will not attempt to reconnect the gps.

Development Version 2.23d (December 2008)



Standard View	3D Perspective View	Analogue Gauge

Changes

- This version should be more stable than version 2.22
- Added 3D perspective view - this rotates the top of the map down using a true perspective view and provides for more map view ahead.
  - This is just a display feature, the map cannot be manipulated in this mode.
  - For the 3D perspective to be displayed the gps must be connected and tracking, OziExplorerCE must be in "Course Up" mode and the zoom level greater than 70%.
  - The options for this are on the View / Map Display menu and buttons are available in the Screen Designer.
  - 3 look ahead modes are provided 1.5, 1.75 and 2, The larger the look ahead more resources are need to render the image.
  - The page files provided for download have a 3D button added to page 1.
- Added analogue gauges - most parameters can be displayed as either a digital read out (normal) or as an analogue gauge.
  - Version 2.23 of the Screen Designer can design analogue gauges.
  - The page files provided for download have a page showing some example analogue gauges.
- Faster map indexing - at least 10 times faster when tested on my PDA's.
- Faster startup - OziExplorerCE loads up quicker.
- Faster track loading from file.
- Faster route loading from file.
- Faster screen rotation - when changing from landscape to portrait mode or back again OziExplorerCE changes much quicker.
- Fixed gps connection issues with Samsung Omnia i900 - now works very well with this phone/pda.
- The last route used is now loaded from file (assuming it was saved to a file) - the setting for this is in "General Settings" configuration.
- Fixed bug in loading of large waypoint files.
- The double click time when double clicking on waypoints (and other objects) to open the menu has been extended to 0.3 seconds (from 0.2 seconds) - you don't have to click so fast.
- Anchor alarm components have been added - these are not included on the standard screens but can be added using the Screen Designer.
  - The anchor alarm units are only set in meters at this stage.
  - The anchor alarm position and zone are drawn on the map.

    - The alarm is sounded by playing the sound file "Anchor_Alarm.wav" (not supplied) (or default.wav if it does not exist).
- New Screen Designer (version 2.23) is available.

Development Version 2.22d (November 2008)

Changes

- Fixed problem with map searching only working on the 1st map file path.
- The "back" button on the help viewer will now exit back to the map if you are at the top help level.

Development Version 2.21d (November 2008)

Changes

- Fixed problem with help locking up
- Fixed problem with log book images not being created
- Fixed problem with map having 1 or 2 rows of pixels missing along the edge of the map.
- Fixed problem where map images with international characters would not be found. However you are still required to have your PDA configured to the regional settings for the language being used for the map files.
- Map Searching now will also look into the sub-folders of the configured "Map File Paths", this will provide for better organisation of maps into different sub-folders for any of the "Map File Paths".
    - As an example - it would now possible to set a "Map File Path" to the root of an SD card (**\SD Card**) and OziExplorerCE will scan the full SD Card for maps. However setting the path to the root of an SD Card is not recommended as map searching performance will suffer as all folders need to be scanned, even those without maps in them.
    - For best performance "Map File Paths" should contain sub-folders with only maps (and map images) in them.
    - Setting the "Map File Path" to the root of the PDA (\) will not work, it will be ignored.
- Another experiment with opening the context menu for waypoints, route waypoints and track points.
    - A very quick double click on a waypoint will open the menu
    - A single click on a waypoint will move the map (same as version 2.19)
    - Holding the stylus on the waypoint for longer than 1 second will also open the menu (same as version 2.19)
- Fixed other minor problems.

Development Version 2.20d (November 2008)

Changes

- OziExplorerCE can now rotate the map to "Course Up" when in moving map.
    - There is an option on the View menu for "Course Up".
    - Direction of travel will be within roughly 45 degrees of vertical as the map is only rotated in 90 degree increments to keep performance reasonable.
    - There is a new button available in the screen designer to display a North arrow, it also works as a button to turn "Course Up" off and on.
    - New page files (*.par1) have been provided with the North arrow on page 1.
- To open up the menu for objects (waypoints, route waypoints and track points) you now only have to click on the object. Holding the stylus down on the object for half a second will show the red circle and when released will show details about the object.
- Map zooming has been improved and is much quicker.
- A warning will be given if GPS NMEA data is lost and the software will try to reconnect to the GPS.
- There is now an option in General Settings to **turn off automatic map indexing** (not recommended however).
    - If you do this you must manually index the maps whenever a map is added deleted or modified.
    - If you do not manually index new maps will not be found and the software will still attempt to open deleted maps.
    - The "Index Maps" option is on the map Menu.

- The ability to use SRTM height data has been added (this was in version 2.19 but not announced).
  - Only SRTM data (SRTM30 (.dem), SRTM3 and SRTM1 (.hgt)) can be used, they must be placed in the "Data File path".
  - **No other types of height data files can be used**.
  - There are parameters available in the Screen Designer to display the height data.
- A bug in the scale display when using the Nautical Miles / Feet units has been fixed.
- Clear routes command has been added to the screen designer.
- The OziExplorerCE open file dialog is now used for all platforms not just PocketPC. This means a KB button will now be available on Wince core devices.
- If the Scale Bar is accidentally dragged off screen it will now be pulled back onto the screen.
- Help is now provided in one .chm file.
- OziExplorerCE help engine is now used for all platforms not just for wince devices.

Release Version 2.19 (June 2008)

- The close button (and perhaps other buttons) on the main toolbar disabled the hardware buttons - now fixed.
- The scale can now be moved by dragging directly on the scale window instead of have to click on the window to show the window caption first.
- The Track Toolbar now remembers which track was last in use (the active track) when it is activated.

Release Version 2.17 and 2.18 (June 2008)

- 2.18 - no changes, version 2.17 release did not build correctly (caused a waypoint number problem) and required a new build and release.
- The hardware button code has been changed.
  - If using a PocketPC with a phone and you want to capture the green and red phone buttons OziExplorerCE will use gapi (gx.dll) to capture the buttons. The gx.dll should already be on the PDA, if not it can be downloaded from microsoft. If the phone buttons are captured by normal means (no gapi) the PDA must be reset before the buttons can again be used by the phone, gapi captures the buttons in a different way which avoids this problem.
  - If not capturing phone buttons the normal code is used to capture the buttons (gapi is not used).
- Pressing the "Start Menu" button on the options menu would lock the hardware keys - now fixed.
- Some more tweaking to sunrise, sunset and twilight parameters.

Release Version 2.16 (June 2008)

- The hardware buttons would stop working after pressing buttons on the menubar this has been fixed.
- Fixed display of sunrise, sunset and twilight times, in some cases they did not work depending on the time zone.
- Fixed close down issue if a reverse route was started without a route loaded.

Release Version 2.15 (May 2008)

- Changes have been made to the code that handles the hardware buttons to fix some of the issues that have been reported. The green phone button (code 114) and red phone button (code 115) on pocket pc phones can now be captured.
- Added parameters for Sunset time at next waypoint and "end of route" waypoint.
- A bug where the scale display was cut in half when initially displayed after loading has been fixed.
- Some users desire the binary waypoint and track file still be placed in the "Data File Path" even if this is located on a SD card. If you put a file called **wpdatapath.dat** into the OziExplorer 2 folder (the file can be empty) OziExplorerCE will detect the file and change the path for storing the binary waypoint file and binary track file to the "Data File Path".

Release Version 2.13 and 2.14 (May 2008)

- **2.14 - IMPORTANT CHANGE** - The binary waypoint file and track tail file are now **always** stored in the "Data" folder immediately attached to the "OziExplorer 2" folder. In previous versions they were

stored in the "Data File Path" which is a folder specified by the user in configuration. This is necessary to ensure the waypoint and track tail file are always available to OziExplorerCE. If the user specified a "Data File Path" on a memory card and then changed the memory card the waypoints were no longer available which is not desirable. If you have the ceWaypoints.wpb and ceTrack.trb files in a different folder manually copy them into the Data folder.

- A small number of PDA's are slow when saving data to SD Cards, this version should fix that issue, an added bonus is for PDA's that were not slow should also see some speed increase.
- When deleting waypoint sets from the Waypoint List the deletion is done immediately, now you do not have to exit the list.
- When OziExplorerCE is loading it loads the waypoint file, this was slow if the file only had a few waypoints but there had been many deleted. The way the deleted files are handled has been changed so deleted waypoints no longer influence the loading time and the waypoint file will load quicker. The speed increase only applies to deleted waypoints from now on, files with waypoints deleted from the older version will not have the full speed increase until the waypoints have been used.
- The nearest Waypoint List now shows the waypoints that you are getting closer to in green and the waypoints you are going away from in white.
- Added a new button in the Screen Designer to copy the current position to the clipboard.
- Added a new button in the Screen designer to Show/Hide the Waypoint names.

Release Version 2.12 (May 2008)

- Fixed bug put into version 2.11 where buttons would repeat if held down.
- Fixed minor issue refreshing nearest waypoint list when map is opened.

Release Version 2.11 (May 2008)

- Fixed Save track file name
- Added repetition to nearest waypoint list scroll buttons
- Waypoint attachments now look in the folder stored with the attachment name, in the data file path and folders immediately below the data file path.
- Manually loading the Button file has been fixed.
- Speed monitor now has wav files added which are played when speed points are reached.
- Fixed the route ETA display for the UTC time version.
- Nearest waypoint calculation times have been improved by a factor of 5 to 6.

Release Version 2.10 (April 2008)

First release of version 2.

Development Version 2.03e (April 2008)

Changes

- 2.03e - "trip odometer" and "odometer 1" storing have been fixed.
- 2.03e - Parameters are now refreshed when map is moved by doing a single click on the map.
- 2.03e - When saving single wp's from the wp list extras wp's may have been also saved - fixed.
- 2.03e - Fixed Previous button on Navigation toolbar.
- 2.03e - Small toolbars now dim when screen is dimmed.
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- 2.03d - Fixed Nav arrow symbol placement
- 2.03d - Nearest wp list refreshed on "Wp Import" and "Delete All".
- 2.03d - Wp Load button added to settings manager.
- 2.03d - Added UTC time parameters for ETA to settings manager.
- 2.03d - Message now displayed if the Max number of parameters is exceeded.
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- 2.03c - Fixed lock-up problem when saving configuration.
- 2.03c - Added speed, heading and altitude to track replay.
- 2.03c - Added UTC option for all times.
- 2.03c - Fixed scale for Pocket PC VGA pda's.

- 2.03c - Fixed Edit Position "position format" selection.
- 2.03c - Edit box focus is not lost when keyboard is activated.
- 2.03c - Added missing keyboard button to Project Wp dialog.
- 2.03c - Fixed disappearing keyboard button when new name search file loaded.
- 2.03c - Increased font size on toolbars for Pocket PC's.
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- 2.03b - Fixed settings manager when designing for large screens.
- 2.03b - Fixed keyboard disappearing when editing waypoints.
- 2.03b - Faster loading of gpx geocaching files.
- 2.03b - Parameters on map now realign themselves when map is "Expanded".
- 2.03b - added check for valid "Data File Path" folder, if it is not valid a message is shown.
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- 2.03a - Fixed issue with reading old version registration codes.
- 2.03a - Fixed issue with crashing when going to altitude or speed profile page (please let me know if it still crashes).
- 2.03a - Fixed problem with the settings manager reading the .key2 file.
- 2.03a - Added ability to load .loc and .gpx geocaching file formats as waypoints.
- Please note that if you have used a previous OziExplorerCE development version it is advisable to delete the OziExplorer2.cfg file as this may activate toolbars, task bars etc which are no longer part of the standard supplied interface so there may be no way to deactivate them.
- A new version of Settings Manager is available.
- If you are using you own page file it is suggested you try the supplied page file to see the new features.
- Note - if you have created your own page files they will need to be edited as the size of the editing area has been increased, a map needs to be added to page 1, a GPS satellite page and option menu needs to be added.
- The satellite page is gone and is now designed via the settings manager.
- The Option menu page is gone and is now designed via the settings manager.
- number of waypoints has been increased to 10000 - to handle this many waypoints the drawing of waypoints has been changed. Please note that all of the 10000 waypoints will still be processed and displayed, the limitations below apply per screen and don't affect the usability of the waypoints for normal use.
    - only 1000 waypoints can be displayed on the screen at the same time so if you have say 5000 waypoints loaded and you use say the small world map only 1000 of the waypoints will be drawn. This is done to make the screen refresh times acceptable.
    - If the number of waypoints to be drawn on a screen will exceed 100 then the waypoint names will not be drawn to reduce clutter.
    - If the number of waypoints to be drawn on a screen will exceed 250 then the waypoints are drawn as a small dot to reduce clutter.
- Page 1 is now no different to any other page and now a map must be added to page 1 using the settings manager, in previous versions it was added automatically.
- New button styles are available
    - glyphs can be added to buttons
    - translucent buttons
    - round buttons
- A new menubar has been added, this is the main interface for OziExplorerCE and replaces the menu and toolbar.
- The main toolbar is now available as a larger popup toolbar. The small main toolbar is now not displayed at all. It can be activated by adding a button in settings manager but is generally not used.
- A popup toolbar for Route Navigation is also available by adding the command to a settings manager button.
- The program menu bar is hidden by default . This has been replaced by the new menubar which can also display the menus. A button can be added by the settings manager to display the normal program menu if desired.
- The menubar, main toolbar and navigation toolbar configurations are stored in text files in the "System Data" folder. These files can be manually edited to change the commands for each button. New glyphs for the buttons will need to be created as well.
- The task bar is now hidden by default, a button command can be added by the settings manager to display it. A button can also be added just to display the Windows "Start" menu.
- The status line (position and gps details) has been removed - these parameters must now be added via the settings manager.

- The file which stores the hardware button assignments and screen control button assignments is now called "OziExplorer.key2", you will need to create a new file with the settings manager to set the hardware button and screen control commands.
- The hardware button assignments in the settings manager now allow the ID number of the hardware button to be changed.
- Tomtom .ov2 poi files can be loaded.
- Proximity Alerts can be added to waypoint sets, button available on wp set list.
- Max and min parameters are now stored when program is closed.
- Odometer state is stored when program is closed and reinstated when program is started.
- The last active page is stored when program is closed.
- When a waypoint is added and auto properties is set on the wp creation can be cancelled by clicking on the dialog X.
- Fonts can now be added direct into the OziExplorer folder, when OziCE is started the fonts are read and can be selected using the "General Settings" configuration dialog.
- The System toolbar is gone.
- Bug in KB (keyboard) button has been fixed.
- Screen brightness can now be set, buttons are available in the settings manager.
- The screen can be locked (Slide to unlock).
- On PocketPC's the display can be turned off, press any button to turn on.
- Fixed bug in track datum on logged tracks.
- For **High Resolution PDA's** such as the HP 310/312 or VGA Pocket PC's running in "**true VGA**" mode where the toolbars and dialogs appear too small, if you put a file called **hires.dat** in the folder where OziExplorer is installed, OziExplorerCE will detect the file and change the size of its dialogs and other windows to suit devices with high resolution screens. Please note - this does not necessarily apply to Pocket PC's with VGA screens, OziExplorerCE already recognizes these PDA's and automatically adjusts. If you have loaded a utility to change the Pocket PC VGA to "true VGA" then adding the hires.dat file may help. OziExplorerCE cannot fix all the size issues because many are controlled by the operating system.
- many, many other changes and fixes.

Development Version 2.02 (January 2008)

Changes

- New version of Settings Manager is available.
- All the issues of buttons not working / being drawn at the wrong locations should now be fixed.
- Fixed bug where transparent parameters were not drawn at the correct location.
- Added sound when waypoint created - "wp_create.wav" in the Sound Files folder. The sound can be changed by using a different wav file renamed. The sound can be removed by deleting the sound file.
- Added additional buttons to the Settings Manager to reset Odometers without a confirmation dialog - sound is played when reset - "odometer_reset.wav" in the Sound Files folder. The page files we provide use the buttons which require a confirmation, you will need to copy and modify the supplied page files to change the buttons to have no confirmation.
- The "Satellite" page can now be turned off on the "Page Selection" dialog - however it will always show until the GPS has a valid fix.
- Management of waypoints has been significantly changed, **see the help section below for details**.
- Management of the track displayed on the map (now called "Track Tail") has changed, **see help section below for details**.
- MGRS position display format has been added.
- Display of the current Position in various ways has been added to the Settings Manager.
- The ability to "project" a waypoint from current position or another waypoint has been added. "File / Waypoints / Project New Wp" menu option.
- New options have been added to the "Map / Screen / Screen Control" menu as follows:
  - **Hide Toolbars** - If ticked when the Screen Control is activated the Toolbars will hide, when unticked any toolbars which are visible will stay visible.
  - **Has Priority** - If ticked the Screen Control buttons will have priority over any option buttons under it, when unticked the option buttons will have priority.
- Added the ability to move to specific page numbers as commands for the settings manager.
- Added a "**Nearest Waypoint List**" as a parameter to the Settings Manager. This can be placed on any

page and shows the waypoints in a scrollable list in order of distance from current position. Buttons are provided to show a selected waypoint on the map and to "Go to" the waypoint. The Nearest Waypoint List has been added to our standard page files.
- Many other minor issues have been fixed.

Development Version 2.01 (December 2007)

Changes

- For Pocket PC's, full screen mode now works on all pages which have a map on the page.
- Screen Control now works on all pages except the options and satellite view pages.
- If a page file is loaded which is meant for a PDA with a smaller screen, any map windows on the page are expanded until the parameters fill the available area. If there is no map window on the page the parameters are centered on the screen. While this does help the best option still is to design a set of pages to suit the screen size of your PDA using the Settings Manager. This only works with page files created with Version 2.01 of the Settings Manager, if you load them into the Settings Manager and resave they will be ok.
- When put into full screen mode (Pocket PC's only) or the Main Toolbar is turned off the pages are also resized if there is a map window on the page.
- The OziExplorer.key1 file has been fixed and now contains button defaults for the screen control.
- This was in the previous version and wasn't mentioned - the number of loaded waypoints has been increased to 2000 and you can keep loading waypoint files until the limit is reached.
- Changes have also been made to the Settings Manager and a new version is available for download.
- Many other smaller issues have been fixed.

Development Version 2.00 (December 2007)

Changes

There have been numerous changes, below is a list of just some of the major ones.

- Multi page support with screens that can be designed by the user using a program which runs on a PC.
- More than 50 new parameters have been added.
- Profiles for altitude and speed.
- If the Communication Port is set to "Auto" it will search all serial ports at all baud rates for a GPS which is outputting NMEA.
- Compass for navigation to next waypoint.
- 3 Odometers are available for measuring distance.

Beta Version 1.12.3 (August 2005)

Fixes

- Made changes to the loading of large ozfx3 map images, they now load much quicker.
- Fixed problem where the log book distance setting could not be saved.

Changes

- nil

Beta Version 1.12.2 (July 2005)

Fixes

- Fixed problem where the time for track points was not being collected (since version 1.12.0).
- Fixed problem with moving map on certain Handheld PC's.

- other minor fixes.

Changes

- nil

Beta Version 1.12.1 (July 2005)

Fixes

- minor

Changes

- Added the ability to calculate the geoidal separation value so the correct altitude from mean sea level can be calculated (this is useful for some SIRF based gps receivers which do not send this value).

Beta Version 1.12.0 (June 2005)

Fixes

- Fixed the problem with automatic map changing when using ecw map images.
- Fixed a problem with loading ecw images, after loading a few maps the load would eventually give problems.
- Fixed the problem with elapsed time logging of a log book entry.

Changes

- Versions of OziExplorer are available for PDA's using WinCE version 2.0 onwards, however WinCE versions less than version 3 have some restrictions because the compilers for these versions do not have the necessary functions.
    - the log book does not support creation of the image.
- Log Book entries now record the altitude.
- Added additional options to the General Settings Configuration to change the font size of the Zoom Number and the Map Name displayed on the map. The option also gives the ability not to display these items.

Development Version 1.11.6h (May 2005)

Fixes

- Fixed the full screen problem and screen rotation problem (for those PDA's with screen rotation ability) when using ecw map images.
- Fixed problem where zoom levels on ECW images can fail and close the file. This only happens with ecw images on PDA's with VGA resolution screens because of the large amount of memory needed to load the required image section. The ecw dll's also need quite a large chunk of memory making the problem worse.

Changes

- nil

Development Version 1.11.6g

Fixes

- Fixed many of the screen display problems associated with the full screen feature.
- Name Search display on map functions will now work when the GPS is connected but GPS Tracking is

disabled (if not already disabled GPS tracking will be automatically disabled when using these functions).

Changes

- To disable GPS Tracking the map must now be dragged 20 pixels (instead of 3 in previous version). This is to avoid accidentally disabling tracking just by touching the screen.

Development Version 1.11.6f

My apologies for not including user configurable display parameters in this version, they are close to being finished but I needed to release a version to make some of the changes below available.

Fixes

- Fixed waypoint selection from route list
- Fixed overlaying text on Page button on Screen Control
- Fixed the problem where the screen control page button always returned to the same page.

Changes

- Added support for Kompass maps in the ozfx3 image format. The new version of img2ozf (3.00 or later) is required to convert Kompass maps.
- Added support for BSB4 maps in the ozfx3 image format. The new version of img2ozf (3.00 or later) is required to convert BSB4 maps.
- Added a user configurable datum for position display and edit.
- Added the ability to apply the altitude correction for SIRF based gps receivers. This option can be found on the SIRF tab of the NMEA (GPS) configuration dialog. This can only work if the GPS is also outputting the Geoidal separation value. Recent models do output this value, older models do not.
- Added the ability to check for the $GPGGA and $GPGSV NMEA sentences and turn them back on if they are missing. This is only for SIRF based gps receivers and is only necessary because some other software programs turn them off and do not turn them back on when they exit. This option can be found on the SIRF tab of the NMEA (GPS) configuration dialog in OziExplorerCE.
- Made the main window of OziExplorer keep the focus so the hardware buttons always work.
- Added a new Toolbar (called the System Toolbar) for the Full Screen and GPS Tracking buttons.
- Added a full screen mode, this is accessed from the System Toolbar or by holding the stylus on the map until the menu appears, the Full Screen option is on the menu. The Full Screen option can also be assigned to a hardware button.
- GPS Tracking can now be turned on and off (the gps is still connected but will not automatically center the map). This is accessed from the System Toolbar or by holding the stylus on the map until the menu appears, the Track GPS option is on the menu. The Track GPS option can also be assigned to a hardware button.
- When the PDA time is set from the NMEA message I wait until valid NMEA data is being received, this should avoid an incorrect time being set.
- Added the Vicgrid94 map grid (for Victoria Australia).
- Many other minor changes.

Development Version 1.11.6e

Fixes

- Fixed the problem with the speed not displaying.
- Fixed the problem where the Altitude display was too long for the screen.

Development Version 1.11.6d

Fixes

- Fixed the moving map pointer.
- Fixed many other minor items.

Development Version 1.11.6c

Fixes

- Fixed the buttons on the Waypoint List dialog which were not working.

Changes

- Added support for high resolution VGA displays for PDA's (running Pocket PC 2003 Second Edition). This required numerous changes to the code (many hundreds) to make OziCE high resolution aware. No doubt I have missed making some changes and have done others wrong. Please not that I have not tried this on an actual PDA (waiting for a new VGA capable PDA to arrive) but have used it on the development emulator.

Development Version 1.11.6b

Changes

- Changed the way OziExplorerCE uses the serial port. Previous versions of OziExplorerCE (for the last 6 years) used the event interface of the serial port API. The event interface gives the most efficient control of the serial port. However some of the device drivers written recently for new devices such as SDIO GPS receivers and Bluetooth serial ports on some PDA's seem to have problems with the event interface to the serial port (it does not work). OziExplorerCE now uses polling of the serial port from within a thread to overcome these problems with certain device drivers.
- Added support for variation to the ozfx3 image format which the next versions of Map Merge and Img2ozf will create. This variation of the ozfx3 format will be quicker to load and change zooms.

Development Version 1.11.6a

Fixes

- On PDA's with PocketPC 2003 using the Widcomm Bluetooth drivers the map could become corrupted as it scrolled. This was not the fault of OziExplorerCE but some sort of interaction with the bluetooth drivers causing threaded code not to execute correctly. A workaround to mask the problem has been done.

Changes

- Added support for ozfx3 image files
- Added support for ECW map images. Because the code libraries available only suit the ARM cpu the ECW support is only available for PDA's with ARM cpu's. The speed of ECW scrolling will be slower than ozf2/ozfx3 maps so if speed is important convert the images to ozf2 if possible.
- The buttons on the PDA can now be configured by the user to do tasks selected from a list. The Screen Control buttons can also be configured. This is done from a separate program which runs on the PC and is available for download.
- There is now a logbook function which can be configured to automatically log position, date/time, and other parameters when the configured conditions are met. A snapshot of a small portion of the map can also be taken. The Log Book configuration is on the File/Configuration menu, the other Log Book functions are on the Map/Navigation menu. You must have an entry in the Log Book before it can be viewed. To make a manual Log Book entry use the Map/Navigation/Log Book Entry option.

Beta Version 1.11.4

Fixes

- nil

Changes

- Changed the way OziExplorerCE writes its configuration files. They were being written as 8 bit ASCII characters, this caused problems with the language versions of Windows which use 16 bit characters (wide characters), the text in the configuration files was scrambled. OziExplorerCE now writes all its configuration files using wide characters.
    - What does this mean
        - People with these versions of Windows can now use OziExplorerCE
        - All configuration files have been changed in name (from .ini to .cfg), this means some minor configuration parameters will be lost. The main configuration file OziExplorer1.ini will be used until the new OziExplorer1.cfg file is created (by pressing the OK button on a configuration dialog). After the OziExplorer1.cfg file is created the OziExplorer1.ini file can be deleted.
        - It is suggested that you check the configuration parameters to make sure they are ok.
        - Map Search indexes have also changed so indexing will be automatically redone (the .fdx1 and .ndx1 files are no longer used and can be deleted).
- When turning the PDA off sometimes the communication with GPS devices is lost, OziExplorerCE now attempts to re-establish the communication. Communication cannot always be re-established as it may be caused by bugs in the device drivers or the OS, this seems more likely to happen with PocketPC 2003 PDA's. Bluetooth on PocketPC 2003 PDA's seems to be a major problem.
- The Configuration option for the communication port now only shows the actual ports which the PDA has installed and a description of each port is shown. Note - the PDA does not always give a meaningful description of its ports and also shows ports which are reserved for its own internal use.
- Added a new configuration option to allow the user to specify if Communication with the GPS is automatically turned on OziExplorerCE is started. The option is on a tab on the "General Settings" configuration dialog.
- Added a new configuration option to allow the user to specify if the "Screen Control" is automatically turned on when communication with the GPS is started. The option is on a tab on the "General Settings" configuration dialog.
- Added a new configuration option to allow the user to see the Pixel x,y coordinates of the map when the stylus is pressed on the map and released (before the menu pops up). The option is on a tab on the "General Settings" configuration dialog.
- Added a "PDA reset" option to the Help menu, choosing this option is the same as pressing the reset button of the PDA.

Beta Version 1.11.3

Fixes

- Have written a work around for what appears to be a problem in Pocket PC 2003 - this caused OziCE to lockup if using maps on a CF card and the PDA was turned off and on while OziCE was running and the map is then scrolled. Pocket PC 2003 seems to loose the handle to any files which are open on a CF card when the device is turned off and on again which means any attempt to read the image file after that will fail.
    - If using maps on a CF card the lockup occurred.
    - If using maps on a CF card but also have a SD card inserted in a SD card slot the lockup did not occur (the presence of the SD card seems to make things work ok).
    - If using maps on a SD card there is no problem.
    - If using maps in main memory there is no problem.

Changes

- some internal changes to code.

Beta Version 1.11.2

Fixes

- Fixed some minor memory buffer overflows in the Grid position display, the problem only happened when the position went out of the legal values for the grid numbers. This could cause problems on all Operating Systems but seemed to be particularly severe on PocketPC 2003.

Changes

- When using the GGA or GLL sentence and there was not also a VTG sentence the map position updated ok but the position at the top of the screen did not update.

Beta Version 1.11.1

Some users still think that you need to place map and data files in the "My Documents" folder, this has not been necessary for quite a few versions now, any folder can be used. To put it another way - **You no longer "need" to use the "My Documents" folder for anything unless you want to**.

Fixes

- Fixed a problem where when certain maps were loaded they caused erratic behavior because of a memory buffer overrun, this problem only affected a small percentage of maps at a particular aspect ratio so most users of OziExplorerCE did not experience the problem.
- The create Waypoint button on page 2 of the Screen Control was not working, fixed.

Changes

- Made a change to the map open function, if the map cannot be opened OziExplorer will now do a few retries, this is to try and allow for Flash card startup times when OziExplorerCE is being started using a hardware button and the "last map" is being loaded..

Development Version 1.11.0

For all the changes since beta version **1.10.9** see the sections below for **1.10.9d** and **1.10.9e** as well.

Fixes

- The editing of positions using certain grids still did not work (example NZG), now fixed.
- The "Navigation Info" bar now appears (if turned on) when navigation to a Name Search record is activated.
- There have also been some other minor fixes.

Changes

- The number on the screen for the map zoom level has been made slightly larger.
- The map name has been removed from the caption (previous development version) and now appears at the bottom of the map screen.
- Changes to waypoints are now checked and you are notified if you attempt to close OziExplorerCE or load a new file without saving the changes.
- The "Direction to Steer" arrow now also works for navigation to a waypoint.
- Added new commands to the OziCE API to send NMEA strings to OziCE, see the API documentation for details.

Development Version 1.10.9e

Fixes

- More problems with track replay relating to datums fixed.

Changes

- Some fine tuning of the new map searching.

Development Version 1.10.9d

Fixes

- Track replay would position the track incorrectly if the GPS NMEA Output Datum setting in OziCE was not WGS84.
- Fixed a bug when editing position formats for some grids.
- Waypoint names longer than 20 characters could cause problems - now fixed.

Changes

- Faster map searching - the map files are now indexed and the indexes are stored in the "System Files" folder attached to the main "OziExplorer" folder. Many hundreds of maps can now be searched in a couple of seconds.
- The "Screen Control" has been modified and now includes
    - The ability to display the screen control buttons (top left of screen turns this on and off) - screen buttons are shown as transparent over the top of the map.
    - 2 pages of screen control buttons - top middle button cycles the screens
    - Added buttons to the screen control to find next "more detailed map" and "less detailed map"
- New options on the Map menu / Find Maps to find more and Less detailed maps (same function as the new screen control buttons).
- Added support for the Vertical Near-Sided Perspective Map projection
- The Map name of the loaded map is now placed on the window caption (may be truncated for PocketPC devices). Palm PC's do not have a caption bar so this doesn't apply.

Beta 1.10.9

Some users still think that you need to place map and data files in the "My Documents" folder, this has not been necessary for quite a few versions now, any folder can be used.

To put it another way - **You no longer "need" to use the "My Documents" folder for anything unless you want to**.

Fixes

- Some minor issues with the file open and path selection dialogs have been fixed - mostly to do with display of the icon for rt2 files.
- The user pointer file was not being read properly if there were blank lines in the file, now fixed.

Changes

- The ability to make a route waypoint silent has been added to the popup menu when you press on a route waypoint on the map, this allows silent waypoints to be created easily.
- The ability to add a normal waypoint to the end of a route has been added to the popup menu when you press on a normal waypoint on the map.
- Normal Waypoints can now be added/inserted into a route from the Route Properties dialog.
- Waypoint and Route Waypoint positions can now be edited.
- There is now an auto-zoom function, when you enter a route waypoint proximity zone the map will zoom to the value specified in Route configuration. Example you may have the map at 50% zoom for normal travel so you can see more area but specify 100% zoom as the zoom to use when a proximity is entered. There are new options on the Route configuration dialog to control this.
- The playing of the distance to the next turn (when you enter a route proximity zone) is now linked to distance travelled, it will no longer keep repeating the distance if you are stopped.
- Added special UTM zone handling for zones 31V, 31X,33X,35X and 37X.
- The moving map user pointers now work differently. You can now have many different pointers, the files must have a **.mmp** file extension and the file names will appear in the list of pointers you can select on the Moving map Configuration dialog. In the last version the user pointer file was called

"userpointer1.dat" you must rename this file to a different name but with an extension of **.mmp** example **aeroplane.mmp**
- There is now a simple API available for OziCE to allow programs to be written to place multiple symbols on the map, useful for displaying multiple vehicles on the map at the same time.

Beta 1.10.8a

Fixes

- In some circumstances the new OZF2 images showed extra garbled map on the right and bottom of the image, now fixed.
- Distances in the route list and the list of tracks did not display correctly when the units were nautical miles, now fixed.
- An incorrect message was displayed if the Com port could not be opened, now fixed.

Changes

- For "Air" mode the speed now displays as a whole number for speeds greater than 10 and 1 decimal for speeds less than 10.
- For "Air" mode the bearings now display as whole number with leading zeros - example 23.6 degrees now displays as **024**.

Beta 1.10.8

Fixes

- Fixed some tooltip text.
- Fine tuned the scale window some more, should be ok now.

Changes

There have been numerous internal changes to OziExplorerCE code to allow the changes below to be added. I have no doubt that we will also have added some bugs, if you find any let us know and they will be fixed quickly.

Waypoints

- Added a Waypoint Toolbar
- Create Waypoints on screen with the stylus.
- Turn On/Off automatic waypoint logging - defaults to On - option is on the "File > Waypoints > Log Waypoints to File" option

Tracks

- Added a Track Toolbar.
- 5 additional tracks are now available - accessed from the Track Toolbar - a total of 20000 track points can be loaded (the total sum of all points in the 5 tracks).
- The track in the previous version is still available and still has the previous limit of 1000 points (keeps the last 1000) - this track is exclusively used for logging the track from the Gps for display on screen (the Memory Track Log). Remember the Gps track can still be logged to the Track Log file (ceTrack.plt) with an unlimited number of points.
- The logged track (if large) now loads much faster at program Startup (if you have the "Load Track Log" ticked in General Settings configuration). Remember it only loads the last 1000 track points into the Memory Log Track.
- Turn On/Off automatic track point logging - defaults to On - option is on the "File > Track Log > Log Track to File" option - in the previous version you had to set the log distance to 0.
- Create track points on screen with the stylus.
- The Track Configuration dialog has options for the 5 new tracks.
- There is a dialog which shows the details of each track - description, number of points, length of the

track.
- The track detail dialog is useful for measuring distances - draw a track from point A to point B - open the list of tracks and the distance is shown.

Routes

- Removed the Delete button from the Route Create Toolbar - deleting is now done by holding the stylus on the object for 1 second to get a menu and then select the Delete option on the menu.
- The Delete button has been replaced by a button to Show/Hide the Waypoint names.

Map

- Extra levels of zoom have been added - 90%, 80%, 70%, 60% and 40%". These additional zooms can be selected in the "General Settings" configuration.
- The zoom levels 90%, 80%, 75%, 70%, 60%, 50% and 40% are created "on the fly". Currently the 75% and 50% zooms can be included in the ozf2 file, there is now no need to include them, this reduces the size of the file considerably. However if the zooms are in the ozf2 file they will be used in preference to the ones created "on the fly".
- To make these zoom levels look ok they are smoothed using a bilinear filter. Slow PDA's may not be able to handle the smooth zoom option. The Smooth Zoom can be turned off in the "General Settings" configuration.

Other

- Drag objects (waypoints and track points) on screen with the stylus.
- There is a new button on the toolbar and an option on the Map menu to Lock/Unlock the dragging of objects.
- The "Drag Map" button on the toolbar and the "Drag Map" menu option have been removed as they are no longer needed, the map can now be dragged at any time using the stylus.
- Press the stylus on an object for 0.5 seconds and release to see a "hint" about the object.
- Pressing the stylus on the map for 0.5 seconds and release gives the position of the point pressed.
- Press the stylus on an object or the map for 1 second to activate a popup menu.
- Added extra buttons to the handheld toolbar (the PocketPC version already had these buttons).
- Generally the operation has been fine tuned and you should find that windows refresh quicker and so on.

Beta 1.10.7

Bugs

- Locking up on the HP620 (and similar devices) has been fixed, this was caused by a bug in the compiler for these devices.
- Loading waypoints on the HPC 2.00 and PPC 2.11 platform has been fixed, same cause as above.
- Hiding the OziExplorerCE toolbar (on PocketPC) would cause the map not to draw all the way down the screen.
- The waypoint file was being written incorrectly and could not be read properly by PC OziExplorer.
- When reading the user datums file "datums.dat" it would not read the last line from the file unless it had a "carriage return/line feed" at the end of it - now fixed.

Changes

- Tooltips (hints) are now provided for most toolbar and dialog buttons. This is for PalmPC and PocketPC only (handhelds do not have the ability). Hold a button down and the tooltip will appear, slide the stylus off the button and the option will not be activated.
- The ability to select a "Mode" of operation is now available on the Moving map configuration - the Modes are **Air**, **Land**, **Marine**. This results in a change in some of the terminology and also the way route auto-prompting works, see the help for details.
- A window which displays a "Direction to Steer" arrow has been added, this is for Marine and Air use, the option is on the Route Navigation toolbar.

- Waypoint names and descriptions can be edited via a properties dialog, the option is on the waypoint list.
- The waypoint properties dialog can be configured to open automatically when a new waypoint is created. This option is on the View / Waypoints menu.
- Route Waypoint names can be edited the option is on the route properties window.
- The distance and bearing between waypoints is now included in the Route properties window.
- The route waypoint properties dialog can be configured to open automatically when a new waypoint is created. This option is on the View / Route menu.
- Map Features and Map Comments are now displayed on the map.
- When adding or inserting route waypoints the screen is no longer centered on the position, this makes adding/inserting new route waypoints much smoother.
- The map can be dragged without having to have the "Drag Map" option/button activated. If you click on the map it is re-centered to the position clicked, if you drag the stylus the map is dragged. If you are adding/insert a route waypoint a click on the map will add the waypoint but if you drag the stylus the map is dragged and a waypoint is not added - makes creating a route much easier.
- The Satellite View dialog can now be set to automatically display when Communication is started and automatically hide when the GPS obtains a fix. See the "Auto" checkbox on the Satellite View dialog.
- If the GPS does not have a fix the letters NF are now displayed in Red on the status line.
- If the software is "Busy" still refreshing the screen and another NMEA sentence is received the words "Busy" on a blue or green background is displayed on the status line - this will only occur on slower devices. Basically it means the incoming sentence is not processed.
- In Name Search, if the record in the database is marked as "Deleted" then OziExplorerCE will put an "*" at the start of the record display.
- Moving Map pointer can now be set to show more of the map ahead in the direction of travel. There are 5 levels, 0 = screen center, 1..5 shows more map ahead. This option is called "Screen Position" and is on the Moving Map configuration.
- When the GPS looses fix the voice prompt will not be said unless the fix is lost for longer than 5 to 10 secs.
- OziExplorerCE can now calculate the Magnetic Variation for any location and use it if the magnetic variation is not available from the user entry on the map or from the GPS.
- Added a special port for the Navman GPS sleeve, OziExplorer can now automatically determine which com port the Navman is using.
- Added the Lambert Azmithual Equal Area map projection.
- Added the VICGRID grid (for Victoria Australia).
- Added support for polynomial calibration.
- "Search for more Detailed Map" option On/Off is now available on the Screen Control.

For changes we are considering for future versions of OziExplorerCE have a look at the "Future Changes" page on our web site (select from the menu). Scroll down to the OziExplorerCE section.

Beta 1.10.6

Bugs

- Under some circumstances the use of silent waypoints in route navigation could cause the program crash, now fixed.
- Waypoint and Route waypoint proximities were always being displayed as though the unit was meters even though the unit setting in OziCE was an imperial unit.

Changes

- Changed the "scan for more detailed map" interval from 30 to 60 seconds, as people are keeping more maps on larger flash cards they are taking longer to scan so it is important not to tie up the device scanning maps all the time. We will make this a configurable option in a future version.
- The "insert waypoint in a route" function would not always insert a waypoint, this has been altered so a waypoint is inserted even if the absolute correct location in the route cannot be determined, use the move buttons in the Route Properties dialog to move the waypoint to the correct location.
- Turning on communication now turns off the route waypoint add/insert buttons.
- Turning on "Drag Map" now turns off the route waypoint add/insert buttons.

- Turning on the route waypoint add/insert buttons turns off the "Drag Map" mode.

Beta 1.10.5

Bugs

- Fixed proximity waypoints causing a crash if they do not have files attached.
- Fixed a couple of very minor memory leaks..

Changes

Note : The new Route auto-prompting, the new type of Route, and the faster screen drawing techniques will be added to PC OziExplorer as time permits.

- The Help has been modified to include the new features.
- The ability to do auto-prompting along a route has been added. OziCE will automatically tell you to turn right and left and so on as each route waypoint is approached. OziCE works out the turn angle and direction itself and selects the appropriate symbol and wav file(s) and even says the distance to go. Check out the tutorial help section and run a demo of what it can do. Note this is not auto-routing, you must define the route manually, but you do not have to define the wav files played or the symbols shown. Please note this new feature is completely separate from the proximity setting and file attachments used in normal waypoints.
- You can create a route within OziCE by point and click, check out the route creation toolbar.
- The route in OziCE has completely changed * only one route can be loaded at a time * it is a new type of route * a route file from PC OziExplorer can be loaded , if there is more than 1 route defined in the file a selection dialog will allow the selection of 1 of the routes * any routes saved will be saved in the rt2 format, PC OziExplorer cannot read this format yet.
- There is now a dialog to show the waypoints in a route (editing ability will be added in future).
- The Route configuration dialog now includes a new tab to allow the navigation parameters to be entered (such as route proximity).
- New Toolbars have been added for "Route Creation" and "Route Navigation".
- The screen is now redrawn without flickering (there is an option to use the old drawing method in configuration (General Settings) if you like to see everything being drawn).
- The Text status lines now redraw without flickering.
- The drawing of objects (tracks, waypoints and so on) on the screen has been speeded up considerable by using new techniques.
- Added a button for "Search for more detailed Map" to toolbar (pocket PC only)
- Removed Wp list button from the PocketPC toolbar - this will be added to a separate waypoint toolbar in future.
- The Speed panel now automatically hides itself when not communicating with the GPS.
- The Navigation panel now automatically hides itself when not in Navigation mode (along a Route or to a Waypoint).
- Added an option on the NMEA (GPS) configuration dialog to ignore NMEA strings if the Invalid Fix flag is set to Invalid.
- Now Displays "NF" (No Fix) on the status line (instead of "ON") if the GPS does not have a valid fix.
- There is a Voice prompt when the GPS loses and gains a Fix
- The incoming data is filtered to stop the moving map pointer (the arrow) from flickering around when standing still.
- Faster track loading of very large track files - the bigger the file the more the saving (note that only the last 1000 track points in the file are retained, the same as it has always been).
- The bearing displayed on the Navigation Panel will display in the configured unit (true or Magnetic) - if the unit is set to Magnetic but the magnetic Variation cannot be found the bearing is displayed as True but will have a "t" appended to it.

Beta 1.10.4

Bugs

- Fixed major memory leak when opening new maps.

- Fixed a couple of other minor memory leaks.
- Fixed Scale window bug not drawing correctly when scale changed.

Changes

- Added support for the Montana SP grid.

Beta 1.10.3

Bugs

- 125% zoom selection from the menu fixed

Changes

- Waypoint file loaded now faster by a factor of 4.
- Track loading faster by about 20%.
- NameSearch will now work with names databases that are not exactly in our published format - as long as the field names are the same they can be used. The MAJOR_CODE field need not be in the database.

Beta 1.10.2

Bugs

- many, many, minor fixes.

Changes

- The **com port number can now be configured**. This allows use of plug in GPS cards which configure themselves as a serial port (typically com port 4 or com port 5).
- A special port called "**GPS1**" has been created for use with the NAVMAN GPS sleeve (at least some versions of it). Other versions use COM4 or COM5 or similar. The baud rate may need to be set to 57600 for these units
- A **PVT mode** has been added for Garmin GPS Receivers.
- For PalmPC and PocketPC an **"Open File" dialog** has been written to replace the standard Open File dialog provided by the System, this means any files which need to be opened in OziExplorerCE can be opened from any folder not just "My Documents". If you liked the "normal" Palm/Pocket PC behavior where files can only be opened from the "My Documents" folder there is a check box in OziCE System configuration to enable it.
- When **saving files a new dialog** has been added which allows the filename to be entered/edited/selected and the folder to be chosen.
- All configuration options which require a Path now allow the path to be selected from an "**explorer**" type interface.
- An "**Open Recent Maps**" option has been added to the File menu - keeps the last 10 maps in the list.
- **Name Search** has been added - uses the same name search databases as the PC OziExplorer.
- The NMEA sentences being received can now be displayed - Map menu / **Display NMEA Input**.
- The Satellites being tracked by the GPS can now be viewed on screen. The GPS must output the NMEA GSV sentence for this function - Map Menu / **View Satellites**.
- Can now read the **user datum file** "datums.dat", see the PC OziExplorer help for details on how to create this file.
- A simple **Waypoint list** (more to be done) is available. It allows you to locate a waypoint on a map, delete a waypoint, and start navigation (**go to**) to a waypoint.
- The ability to **navigate to a waypoint** has been added, there is an option on the View Menu to show the Navigation Information. Navigation along a route will be added soon. Navigation to a Waypoint is specified from the Waypoint List. Cancel Navigation is on the Map menu.
- **Entering a Waypoint Proximity** can now trigger the display of a Symbol (see PSymbols folder) and play a sound file (.wav) (or any other type of file actually). These have to be set up in PC OziExplorer which also has this functionality. In PC OziExplorer a waypoint proximity zone needs to be specified in

waypoint properties (the distance) and the various files attached to the waypoint (see the OziCE help for details).
- A **user defined moving map pointer** has been added, see the file **userPointer.dat**, instructions are in the file.
- **More datums** have been added
- **More Map Projections and Grid systems** have been added
- **125% Zoom** added
- More buttons have been added to the **small toolbar** for PocketPC's (for Name Search, the Waypoint List and Map View).

- **OziCEgps** - support for the D109 waypoint format for new model Garmins
- **OziCEgps** - support for Magellans with the time included in downloaded tracks, the time is now read from the track.

Beta 1.09.2

Bugs

- **OziCEgps (Beta 1.01)** - Fixed the problem with downloading on HP (SH3 cpu) devices. The previous version would freeze at the "Getting GPS Id" stage. This took some time to solve and eventually I purchased a HP 680 for testing. It turned out to be the SH3 compiler interpreting a line of code differently to the other compilers.
- **OziCEgps (Beta 1.01)** - Added error message if download file could not be created.
- Fixed map find function, if there were more than 4 corner markers the maps may not be found.
- When a map was first loaded it would position itself incorrectly, if waypoints and/or a track were then loaded onto the map they would be positioned incorrectly. Everything would correct itself when the map was repositioned. This has now been fixed.
- Fixed a datum problem, this mainly affected the Ireland 1965 datum.
- Fixed a position display problem, in the Degree Minute display positions close to a even degree (just below) would show as the full degree instead of the correct value. -152 59.812 would display as -153 0.000 .

Changes

- Added support for Tripmate GPS, untested so far.
- Added versions for the new HPC 2000 (HP 720), this is totally untested.

Beta 1.09.1

Bugs

- Fixed bug in Checksum for NMEA string, this should reduce the bad data getting through.
- Fixed resource leak of a created font which would cause problems when OziCE was run continuously for many hours.
- some minor fixes

Changes

- Versions developed for the PocketPC's.
- A new file format called OZF2 has been developed which allows compression to be used in real time, see the Img2Ozf help in the OziCE help.
- Download has been done for the GPS, upload will be done later.
- Waypoints can now be saved to a file.
- Routes can be loaded and displayed on screen, this is just the start, much more to be done here.
- The track logging now uses an auto method to collect the points, you may need to change the track logging distance in configuration to suit the new system, see the configuration help for details.
- Cosmetic changes to some fonts.

Beta 1.08.1

Bugs

- Fixed bug in Transverse Mercator projection maps.
- Track loading from file assumed a Data File Datum of WGS84, now fixed to use the datum stored in the data file.
- Fixed datum bug when loading maps in a new datum, the loaded track and waypoints were still referenced to the old map datum.

Changes

- Added Swiss grid
- Added New Zealand grid
- Added Altitude to screen and track logging etc.
- Added more Map File paths (now 6 available)
- The map image file will now be searched for in the 2 image file paths and also in the same path as the .map file and it will be also searched for using the same name as the .map file but with the ozf extension.

Beta 1.06

Bugs

- **Major** - The problem with the comms has probably been fixed. I have been using threads (concurrent processing) to handle the comms and process the sentences, found I was overwriting the data I was working on with the data from the next sentence, hence random bad positions and bearings were occurring.

Beta 1.05

Bugs

- Fixed a problem where the NMEA sentence type was not being saved.

Changes

- The pointer (position) on the HPC screen was lower on the screen than it should have been, this has now been adjusted.
- Changed the "No Shutdown" feature so it only works when the device is communicating with the GPS. If the device is not communicating then shutdown will happen as normal depending on your device configuration.

Beta 1.04

Info

- Made some changes to the color palette code, this looks like it has fixed the OziCE color problems on the Phillip Nino so may fix it on other devices as well. If you device still has color problems with OziCE please let me know and also let me know the parameters that are reported when you select the **Developer Info** option on the **Help** menu.

Bugs

- Color palette handling changes have been made.

Changes

- Added new option on help menu which details the color parameters of the device, this is an aid to debugging color problems.

Beta 1.03

Info

- Still no luck sorting out the colors on 256 color devices but will keep trying

Bugs

- Serial port input of NMEA has been modified to fix loss of characters on some devices.
- Bug in Irish Grid fixed
- British and Irish Grid now have the coordinates fixed to 5 digits

Changes

- A new option in System configuration has been added to stop the CE device from automatically shutting down (suspending) when operating on battery only.

Beta 1.00

- Initial release

CE Devices Supported

These are the types of devices supported.

- **PocketPC** - Windows Mobile 5
- **PocketPC** - Windows Mobile 6 Classic and Professional
- **PocketPC** - PC2000 (CE version 3.0+) , PC2002 (CE version 3.0+) , PC2003 (CE version 4.2+)
- **Handheld** - HPC 2000 (CE version 3.0+)
- **PDA's**, **PNA's** and **PND's** using Win CE core versions 4.2, 5 and 6+

Many PNA's and PND's sold use the Windows CE operating system and can be unlocked to give access to the operating system so other software can be used. An internet search may give details on how to do this.

Smartphones (any device with non-touch screen are not supported)

ARM , MIPS , SH3 and SH4 cpu's are supported.

Installation

Download

From the table on the web page download the appropriate install file which suites your PDA.

The options are

- Windows Mobile 5, Windows Mobile 6 (Windows Mobile Classic and Professional) for Pocket PC, all Makes and Models
- Pocket PC 2000, Pocket PC 2002 and Pocket PC 2003, all Makes and Models.
- PDA's running Windows CE OS 3, 4 or 5 Core and Handheld PC 2000 all makes and Models.
  See the PDA Faq on our website OziExplorerCE support page for information on PND's.

  Not supported : Windows Mobile 6 Standard (for phones with small non-touch screens)

The installation program will install the correct version of the software to suit the cpu type and Windows CE version of your PDA.

The install file is a self extracting exe program which when run on your PC will install OziExplorer onto your PDA. **If you use the wrong install file you will receive a message that the program does not support the connected device type.**

Suggested Folders

By default OziExplorerCE will be installed into a folder called OziExplorer on the "root" of the file system ("\OziExplorer 2").

It is suggested that you use the default to keep the file path names to a manageable length during operation of OziExplorerCE.

All the additional "common" files will be installed in folders attached to the OziExplorer 2 folder.

Installation Steps

PDA's which use ActiveSync

1. Download the installation file to suit your PDA type.
2. Connect your PDA to the PC using ActiveSync.
3. Run the installation on the PC and you will be prompted to install OziExplorerCE file to your PDA.
4. Read the OziExplorerCE help available on the web site.
5. Read the Tutorial in the help file. This is in the help available on the web site and also available in the subset of the full help available in OziExplorerCE on the CE device.
6. Select the map(s) you already have created in the full OziExplorer you want to use.
7. If the maps are in a format other than one of the supported formats - **ozf2, ozfx3, ecw, jpg, png and bmp** they must be converted to the special OziExplorer **ozfx3** format using the **Img2ozf** program. This program is available from the web site www.oziexplorer.com (Note: Because the code libraries available only suit the ARM cpu the ECW support is only available for PDA's with ARM cpu's.) The image formats jpg, png and bmp are fully loaded into memory so the images must be small**. It is highly recommended maps in jpg, png and bmp format are converted to OZFx3 using the Img2Ozf conversion software.**
8. Copy the image files and (.map) files to your PDA. Note the **.map** files will work with the converted image without change, the Image file path and extension are adjusted by OziExplorerCE.
9. Run OziExplorerCE and configure, making sure you set the Image File Path(s) and Map File Path(s) & Data File Path. Set other configuration options as required.

PDA's which DO NOT use ActiveSync

If your PDA does not use ActiveSync (it is a WinCE core device) then you can use the runtime download of OziExplorerCE. The runtime download must be unzipped and then copied to a memory card which is used in your PDA.

Gps Requirements

Data Output Types

Most GPS receivers output standard NMEA data but a small number may output other formats.

- Any GPS receiver with the standard NMEA 0183 output of the GPRMC or GGA or GLL sentence will work with OziExplorerCE
- Any Garmin GPS which outputs garmin PVT data can be used with OziExplorerCE
- SIRF Binary data output can also be read by OziExplorerCE (this is rare as SIRF based gps receivers can also be set to output NMEA).

Internal GPS Receiver

Many PDA's also have an inbuilt GPS receiver, these can be used by OziExplorerCE. In OziExplorerCE configuration you must specify the port the GPS uses.The baud rate must be set to the rate the gps uses (normally (but not always) 4800).

External GPS Receiver

A cable to connect the standard CE device serial cable to the standard GPS serial cable is required. A diagram of how to wire this cable is in this document.

Compact Flash GPS

Compact Flash GPS receivers that plug into the compact flash slot of your CE device.

Bluetooth GPS Receiver

All Bluetooth connected GPS receivers can be used with OziExplorerCE. The GPS must be "paired" to the PDA using a serial port. In OziExplorerCE configuration you must specify the port your PDA is using for bluetooth communication. The baud rate must be set to the rate your gps uses (normally (but not always) 4800).

Map Requirements

- Maps of your particular area of the world which you can scan or purchased digital maps in the correct format.
- These image formats are supported - **ozfx3, ozf2, ecw, .jpg, .png and .bmp.** (Note : Because the code libraries available only suit the ARM cpu the ECW support is only available for PDA's with ARM cpu's.)
- These **ozf** formats are special formats developed for use in OziExplorerCE (details are in this help). Maps can be converted to the **ozfx3** format, a conversion utility is available on the web site.
- Both formats allow paging of the image from disk and therefore require little memory for image display.
- Due to its high compression, the **ecw** format is a slower format to load on a PDA.
- The image formats jpg, png and bmp are fully loaded into memory so the images must be small and only 8bit and 24bit color formats are supported. **It is highly recommended maps in jpg, png and bmp format are converted to OZFx3 using the Img2Ozf conversion software.**

- Almost any map that can be used in the PC OziExplorer can be used in OziExplorerCE provided it can be converted to the ozfx3 format.
- **Note -** No useable maps are provided with this package only example maps.

OziExplorerCE Tutorial

It is assumed that OziExplorerCE has been installed on your PDA.

Note: The instructions in this tutorial apply to the menu screens which are supplied in the download. If the standard menus have been altered in the Screen Designer the instructions may not apply.

Configuration settings to enable communication with the GPS

Configuration of the Map and Data storage locations

Moving Map

Track Logging (logging the moving map track to a stored file)

Limitations

- Maximum Waypoints loaded = **10,000**
  - all 10,000 waypoints will be processed but only 1,000 waypoints can be displayed on the screen at the same time so if you have say 5,000 waypoints loaded and you use say the small world map only 1,000 of the waypoints will be drawn per screen. This needs to be done to make the screen refresh times acceptable.
  - If the number of waypoints to be drawn on a screen will exceed 100 then the waypoint names will not be drawn to reduce clutter.
  - If the number of waypoints to be drawn on a screen will exceed 250 then the waypoints are drawn as a small dot to reduce clutter.
- Maximum Tracks loaded = **5 user tracks + 1 track tail log** (for moving map)
- Maximum Trackpoints loaded = **20,000** in total for the 5 user tracks ; **1,000** points for the track tail log
- Maximum Trackpoints logged to File = **unlimited** (limited only by file system memory)
- Maximum number of routes loaded = **1**
- Maximum number of waypoints per route = **500**
- Some Map Projections provided in the PC OziExplorer are not supported (almost all are).

The limitations for Tracks applies to those loaded at the same time. It is possible to have an unlimited number by storing tracks in separate files and loading the track as required.

An unlimited number of Routes are available as each Route is stored in a separate file and can be loaded as required.

Connecting your PDA to your GPS

PDA's with internal GPS Receivers

Many PDA's have internal GPS's. OziExplorerCE configuration default settings will attempt to auto find the GPS. If the internal GPS is not found it may be necessary to configure the settings manually. See the Configuration / NMEA (GPS) section of this help for details.

Bluetooth GPS Receiver

Bluetooth GPS receivers eliminate the need for cables between the GPS and the PDA but a serial port still is required to be configured in OziExplorerCE. Bluetooth uses a serial port for communication.

Use the Bluetooth Manager on the PDA to set up the connection and obtain information such as com port number being used.

Do not have any other software connected to the Bluetooth device at the same time as you are connecting OziExplorerCE, only 1 program can be connected at a time.

Configuration of OziExplorerCE is done from the **Configuration** / **NMEA (GPS)** option on the File Menu.

Communication Port - This drop-down list shows the actual ports which the PDA has installed and a description of each port is shown. Many ports are reserved for use by Bluetooth and it is difficult to know which one to choose. As a guide, PDA's with PocketPC 2002 usually uses COM8 and PDA's with PocketPC 2003 usually uses COM5.

Baud - The must be **set to the same Baud rate the GPS is using**. If this is selectable in your gps then use as high a Baud rate that is possible. Baud Rates from 1200 to 115200 can be selected in OziExplorerCE. **The default is 4800.** If you do not know the Baud rate of the GPS you are using try **4800** first as this is the standard for NMEA output.

Sentence - Communications for Moving Map operation, to get the position from the GPS, are made via standard NMEA sentences. Other sentences may also be used to obtain additional information not contained in the selected sentence.

If your GPS outputs the GPRMC sentence then this is the preferred sentence to select.

The selectable sentences are :

- GPRMC
- GPGGA
- GPGLL

GPS NMEA Output Datum - The datum your GPS uses to Output the position in the NMEA data (normally WGS 84).

Show GPS Fix Data - Shows the type of Fix and the Number of satellites being tracked in the top status line.

External GPS Receivers connected to the serial port

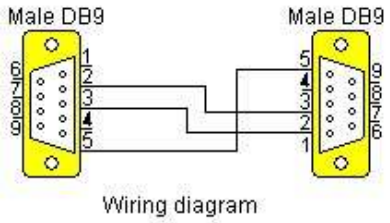
Cables to connect the PDA direct to a GPS can be difficult to obtain.

You can use the standard PDA cable and the GPS cable which you use with a PC. Since both cables are designed to connect to a PC you need to purchase or make a short cable to join the 2, this is sometimes called a NULL modem cable and simply swaps pins 2 and 3 over.

Below is a wiring diagram for 9 pin connectors

- Pin 5 (Gnd) is connected through.
- Pin 2 and Pin 3 cross-over.

For the standard 9 pin connector (DB9) these are the pins.



Configuration

- Configuration of OziExplorerCE is done from the **"Configuration** / **NMEA (GPS)"** option on the File Menu.
- **Baud -** The must be set to the same Baud rate you are using in the GPS. Use as high a Baud rate that is possible. Baud Rates from 1200 to 115200 can be selected in OziExplorerCE. **The default is 4800.** If you do not know the Baud rate of the GPS you are using try **4800** as this is the standard for NMEA output.
- **COM Port -** Select the COM Port you have your GPS connected on. Normally you will be connecting the external GPS to the standard serial port provided
- **Sentence -** Communications for Moving Map operation, to get the position from the GPS, are made via standard NMEA sentences. Other sentences may also be used to obtain additional information not contained in the selected sentence.

If your GPS outputs the GPRMC sentence then this is the preferred sentence to select.

Read the "GPS Receivers" section of the PC OziExplorer Help for more information.

Compact Flash GPS or SD GPS

1. For SD GPS's, install the Drivers which were supplied with your GPS. Most Compact Flash GPS's do not require drivers to be installed, they are supported by the operating system.

The driver creates a serial port which OziExplorerCE uses to communicate with the GPS

2. Configure OziExplorerCE

Configure OziExplorerCE - using the menu option **File** / **Configuration** / **NMEA (GPS)**

- **Port** - can vary but may be COM4 or COM5 depending on the brand/model.
- **Baud Rate** - most likely set to 4800 (it must match the baud rate the GPS is using).
- **Sentence** - most likely GPRMC (must be a sentence the GPS outputs).
- **GPS NMEA Output Datum** - WGS84
- **Use Check Sum** - set to ON (ticked)
- **Check Valid** - can be set either way but be aware of the difference of operation you can expect. **If ON** - the Valid flag in the sentence from the GPS will be checked and if the GPS indicates that it does not

have a valid fix, OziExplorerCE will NOT process the sentence. **If OFF** - the sentence will be processed, although the GPS may not have a valid fix.

Navman GPS Sleeve

1. Install the SmartPath drivers

Install the SmartPath GPS software which comes with the Navman sleeve. This will install the driver to configure the port the Navman GPS uses. The driver creates a serial port which OziExplorerCE uses to communicate with the Navman.

You should also download and install the latest drivers from NAVMAN's website.

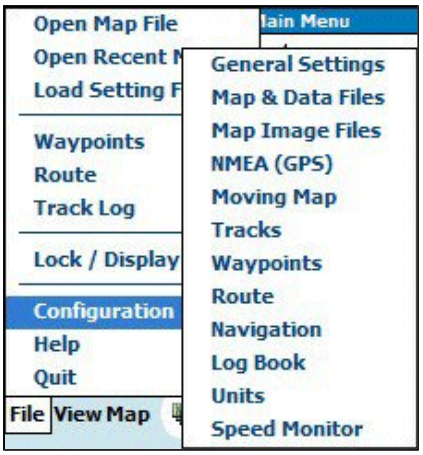
2. Configure OziExplorerCE

Configure OziExplorerCE - using the menu options File / Configuration / NMEA (GPS)

- **Port** - The Navman GPS sleeve can set itself as COM4 or COM5 but there is a also port called **"Navman"**, if you are using a Navman and select this port OziExplorerCE will determine the correct com port automatically.
- **Baud Rate** - set to 57600
- **Sentence** - GPRMC
- **GPS NMEA Output Datum** - WGS84
- **Use Check Sum** - set to ON (ticked)
- **Check Valid** - can be set either way but be aware of the difference of operation you can expect. If ON - the Valid flag in the sentence from the GPS will be checked and if the GPS indicates that it does not have a valid fix, OziExplorerCE will NOT process the sentence. If OFF - the sentence will be processed, although the GPS may not have a valid fix.

Configuration

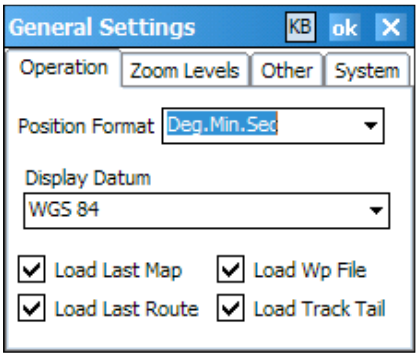
Configuration Menu Options



These are the options available to configure OziExplorerCE.

General Settings

Operation Settings



Position Format - How you want the geographic position displayed on the status line and in other lists. This allows you to select from a list of coordinate formats and grids.

Display Datum - The datum used for position display and editing. This can be different to the datum of the loaded map and/or the datum the gps is set to.

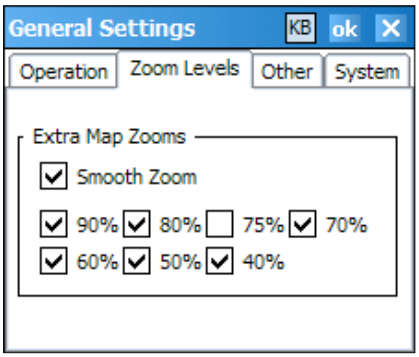
Load Last Map - If this is ticked the last map being used will be loaded when the software loads.

Load Last Route - If this is ticked the last route being used will be loaded when the software loads.

Load Wp File - (recommended) This will automatically load the waypoint file (**ceWaypoints.wpb**) on program start. When creating waypoints in the software they are automatically logged to the **ceWaypoints.wpb** file.

Load Track Tail - (recommended) This will automatically load the track tail on program start. When in moving map mode (real time tracking) the track tail points are automatically logged to the **ceTrackTail.trb** file.

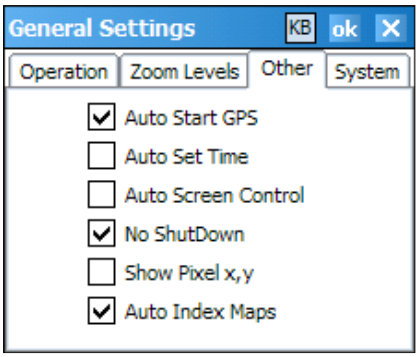
Zoom Levels



Extra Map Zooms - These settings allow you to use ozf2, ozfx3 files at various zoom levels without including the 75% and 50% zoom levels, this reduces the size of the file considerably.

- **Smooth Zoom** - If selected, bilinear filtering used for smoothing. Slow PDA's may not be able to handle the smooth zoom option.
- **Zoom Levels** - If selected, the zoom levels 90%, 80%, 75%, 70%, 60%, 50% and 40% are created "on the fly" (they do not have to be included in the ozfx3 file).
- If the 75% and 50% zooms are included in the ozfx3 file they will be used in preference to the ones created "on the fly".

Other Settings



Auto Start GPS Coms - Communication with the GPS will be started automatically when OziExplorerCE is run.

Auto Set Time - The PDA time is set from the NMEA sentence.

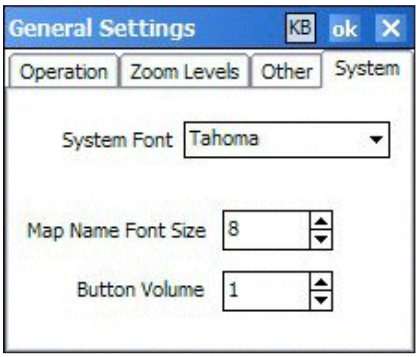
Auto Screen Control - When ticked the Screen Control feature is automatically activated when communication with the GPS is started.

No ShutDown - Stops the device from shutting down (suspending) when running on battery power and communicating with the GPS. This option causes OziExplorerCE to send a keystroke every 30 seconds which makes the operating system think it is being used. This does not stop the screen from auto dimming - this must be set in the CE device System configuration.

Show Pixel x,y - When ticked the x, y pixel location of the map image is displayed in the hint when the stylus is pressed on the map and released before the popup menu is displayed.

Auto Index Maps - When ticked (recommended), maps added to folders under the Map File Paths will be indexed automatically. If un-ticked, it is important the map index is keep up to date, maps that are not in the index will not be found during moving map. To manually re-index use the option on the Map Menu.

System Settings

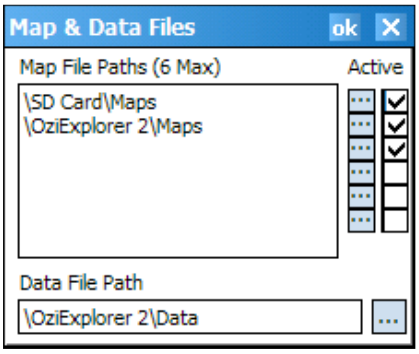


System Font - The font type used in the program.

Map Name Font Size - The size of the font used to draw the Map Name on the map. Set to zero (0) to disable the drawing of the Map Name on the map.

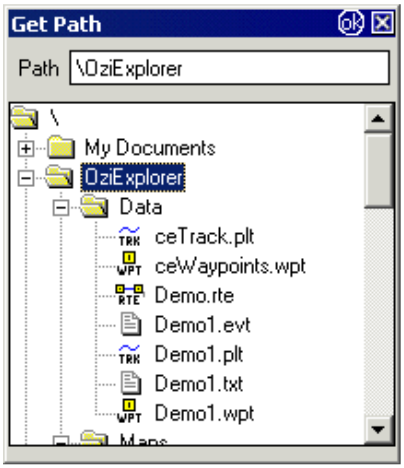
Button Volume - The volume of the sound when a button is pressed.

Map & Data Files Configuration



Map File Paths (6 Max) - The path to the folders where the maps files are stored. The first path in the list is used in the Open Map File dialog. All paths are used when when searching for maps if they are ticked as active. The search for a map is recursive, all sub folders to the paths will also be searched.

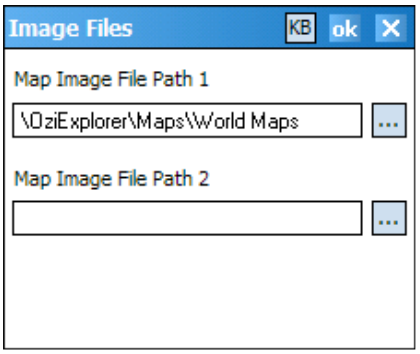
... - Displays the Get Path Dialog to select your Map or Data file path. Note: OziExplorer file types (map, wpt, plt, rte) will display icons. An example of the dialog in use is shown below.



Active - Specifies which Map File Paths are active, only active paths are used to find maps when using the Map Find function or changing maps in moving map mode.

Data File Path - The path (directory/folder) where data files are stored. This is the default path used when opening and saving data files (waypoints, tracks etc). Any files which OziExplorer automatically saves are placed in this folder. If no folder is specified the files are placed in the "root" folder (\ ).

Map Image Files Configuration

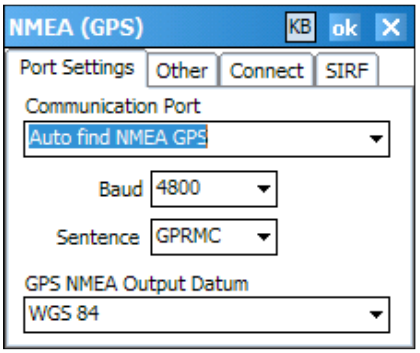


Map Image File Path 1 & 2 - The path to the folder where the map image files are stored. There are 2 directories and both are checked when a map image is required. The link to the image path contained within the **.map** file is totally ignored. 2 paths are allowed so you can have 1 path on the device and 1 path on a Flash RAM card (or anywhere else). Set these path(s) to match the path(s) where you have copied the map images. Only 1 path need be entered if you are not using both.

 - Displays the Get Path Dialog to select your Map Image file path.

NMEA (GPS) Configuration

Port Settings



Communication Port - The COM Port number your CE device is using for communication with the GPS. This drop-down list shows the actual ports which the PDA has installed and a description of each port is shown. There is also an Auto Find NMEA GPS option.

- **Auto Find NMEA GPS** - the correct settings will be determined when communication with the GPS is started (**Recommended setting**).
- The standard external serial port on the PDA is COM1. Internal GPS receivers can output data to any com port number.
- **Compact Flash GPS cards** add a new serial port to the PDA. The description of the port may not mention GPS but may have CF or something similar in the description.
- **Bluetooth GPS** - many ports are reserved for use by Bluetooth and it is difficult to know which one to choose.

Note - the PDA does not always give a meaningful description of its ports and also shows ports which are

reserved for its own internal use.

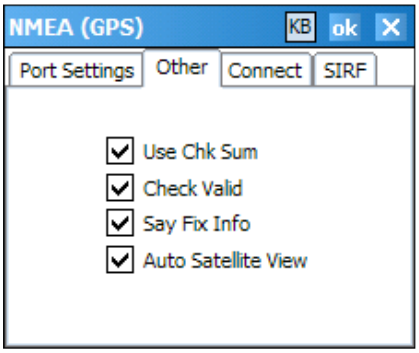
Baud - The Baud rate you are using in the GPS. Use as high a Baud rate that your GPS supports. Most use 4800 only.

Sentence - The format of the data being sent to OziExplorerCE from the GPS or other type of device.

> **GPRMC or GPGGA or GPGLL** - This is the NMEA sentence which is used to get the position from the GPS. Other sentences may also be used to obtain additional information not contained in the selected sentence. If your GPS outputs the GPRMC sentence then this is the preferred sentence to select. **Note** : Talker ID's other than GP can be used, example - the sentence IIRMC would also be accepted if GPRMC was selected as the sentence type.
>
> **PVT Garmin** - which allows OziExplorerCE to communicate with Garmin GPS Receivers using PVT mode. To use PVT mode the following conditions must be met
>
> - Your Garmin must support the PVT mode (not all do)
> - The GPS interface must be set to **Garmin** mode (or GRMN/GRMN)
> - The Baud rate in OziExplorerCE must be set to 9600
> - The GPS must be connected and turned on before communication is started from OziExplorerCE as commands are sent to the GPS.
>
> **Sirf** - If your GPS outputs data in Sirf binary mode then use this option. Note the OziExplorerCE will not change your GPS into Sirf mode (if you have a GPS using the Sirf chipset).

GPS NMEA Output Datum - The datum your GPS uses to Output the position in the NMEA data. Garmins always output in the datum the GPS is set to, Some Magellans (315/320) also output in the datum the GPS is set to, most other GPS output in WGS 84, you need to find out how your particular GPS does this. If you see you position on the map is not exactly in the correct place then this setting may be the cause.

Other Settings



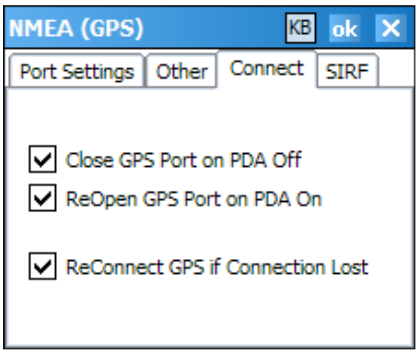
Use Chk Sum - The checksum contained in the sentence from your GPS will be checked. If the checksum is not correct then the sentence is discarded. It is recommended that this option always be ticked.

Check Valid - If selected, the valid flag contained in the sentence from your GPS will be checked and if the reading is not valid it will be discarded.

Say Fix Info - Information on the GPS satellite fix status will be voiced.

Auto Satellite View - Displays the Satellite View screen when communication with the GPS is started. Once a fix is obtained by the GPS, the screen returns to the current screen.

Connect

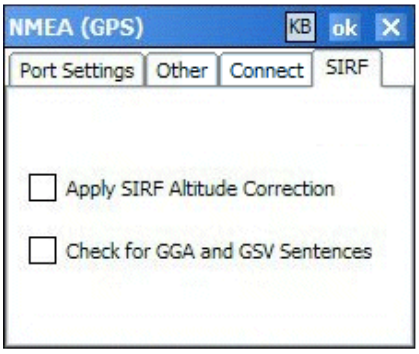


Close GPS Port on PDA Off - If ticked, the GPS port will be closed when the PDA is turned off - this may reduce battery use if the serial port is not active when suspended.

ReOpen GPS Port on PDA On - If ticked, the GPS port will be reopened when the PDA is turned on (if it was on when the PDA was suspended).

ReConnect GPS if Connection Lost - If ticked, the GPS will be reconnected if the connection is lost when it is in use.

SIRF

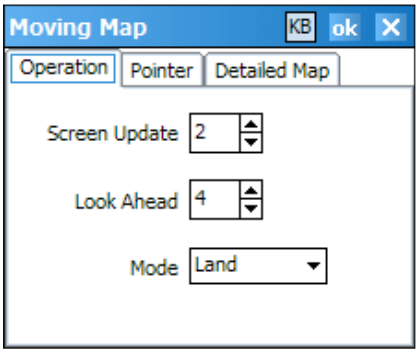


Apply SIRF Altitude Correction - Corrects for altitude reported from the SIRF GPS. SIRF GPS Receivers output the height above the geoid not the height above mean sea level. Ticking this option corrects for this.

Check for GGA and GSV Sentences - Some other GPS programs can turn off these sentences. If ticked, the OziExplorerCE will check for these sentences and if they are not output from the GPS they will be turned back on.

Moving Map Configuration

Operation

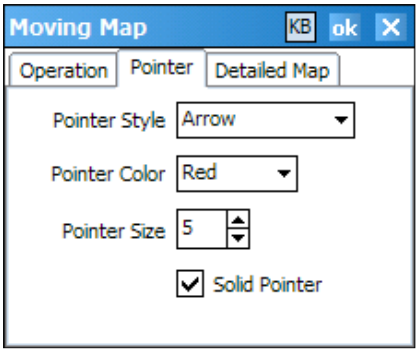


Screen Update - How often the screen is updated. Example - A setting of 1 updates on every NMEA sentence, a setting of 2 updates on every 2nd NMEA sentence. **CAUTION** - The power of most CE devices is very low and they cannot process the NMEA sentence, move the map, draw the track etc in the time between sentences so they lag behind. If this happens set the Update to 2 or 3 or more to allow more time - this is **IMPORTANT**.

Look Ahead - Sets the position of the "look ahead" distance in moving map mode. This setting can be set to zero when look ahead is not required for a particular activity (such as hiking). **Note :** This setting does not apply to Course up and 3D perspective modes which use a fixed look ahead position for the GPS position about 3/4 of the way down the screen.

Mode - Select the mode of operation to **Air**, **Marine** or **Land**. Changes the terminology used in the software and the style and method of the direction prompting when navigating along a route.

Pointer



Pointer Style - The moving map pointer.

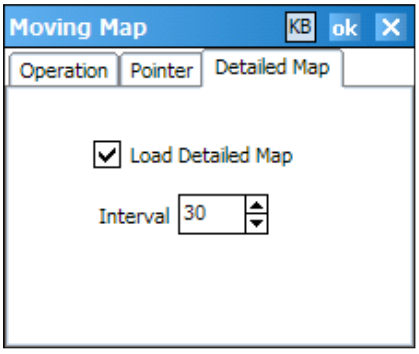
- **Circle** - Draws 2 circles and a cross at your position.
- **Arrow** - Draws an arrow showing the direction of travel.
- **Additional Pointers** - reads files with a .mmp extension and adds the name to the list. Additional mmp files can be created. These files must be placed in the folder where the OziExplorerCE.exe file has been installed. Use the supplied glider.mmp and aeroplane.mmp files as templates. Instructions are contained at the top of each file.

Pointer Color - The color of the pointer, if a circle the color is the color of the lines, if an Arrow the color is the fill color.

Pointer Size - The size of the pointer.

Solid Pointer - If ticked the Arrow pointer is filled with the selected color otherwise it is transparent.

Detailed Map

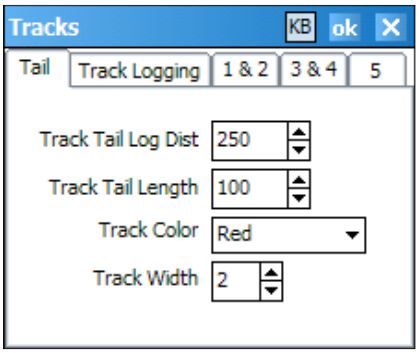


Load Detailed Map - If ticked a more detailed map (better scale) will be searched for at the specified interval when running in moving map mode. If a better map is found it will be loaded automatically.

Interval - Specify the interval in seconds to search for a more detailed map.

Track Configuration

Track Log



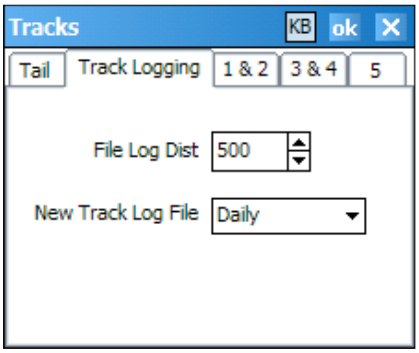
Track Tail Log Dist - this specifies the max distance before a track tail point is logged. If you have specified units as Kilometers (in unit configuration) then this entry is in meters else it is in feet. This should be set to a reasonably high distance, perhaps about 500M (1500ft). Setting this distance too low will cause too many track points to be collected and slow performance.

Automatic track point collection is also used for the track tail log using the same filter as above.

Track Tail Length - This is the length (number of track points) of the track logged to memory which is displayed on screen behind the position marker. This has no effect on the track points which are logged to disk when the "Log Track to File" option is turned on. A track point is taken every time the Track Distance between points is exceeded and stored in a circular buffer, a maximum of 1000 points is kept in memory so the Track Tail cannot be set above this value. The track is then drawn on the screen each time the GPS position is processed. If you set this value too high there may not be enough time to draw the track on the screen before the next position update is received, if this happens position updates will be lost. Keep the track tail as short as you need. The track tail is only used when in moving map mode, otherwise the full track tail log (max 1,000 points) is displayed.

Track Color - Select the color for the track logged to memory and displayed on the map

Track Width - Select the width for the track logged to memory and displayed on the map, for performance reasons do not make it too wide, a width of 2 is preferred.



File Log Dist - File Log Distance - this specifies the max distance before a track point is logged to disk. If you have specified units as Kilometers (in unit configuration) then this entry is in meters else it is in feet. If set to zero the track is not logged. This should be set to a reasonably high distance, perhaps about 500M (1500ft). Setting this distance too low will cause too many track points to be collected.

Track Logging can be turned **On or Off** using the **File / Track Log / Log Track to File** menu option.

Track logging uses an automatic method of collecting the points using the following filter.

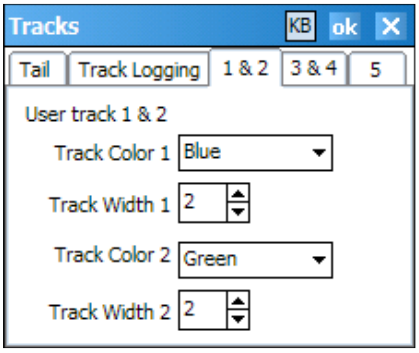
A new track point is collected if:

- The specified "Log Distance" is exceeded
- The Heading changes by more than 7.5 degrees
- The speed changes by 5 KPH or 15% whichever is the greater

New Track Log File - Select the frequency a new track file is to be created. A daily track log file will be named "Tracklog {date} daily.plt".

User Tracks

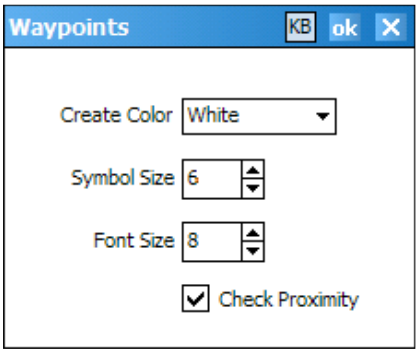
There are 5 tracks available for the user to load tracks into, these are the configuration options for each track.



Track Color (Tracks 1-5) - Select the color to display the track. Five tracks can be loaded and displayed.

Track Width (Tracks 1-5) - Select the width to display the track, for performance reasons do not make it too wide, a width of 2 is preferred.

Waypoints Configuration



Create Color - The default color used when creating waypoints.

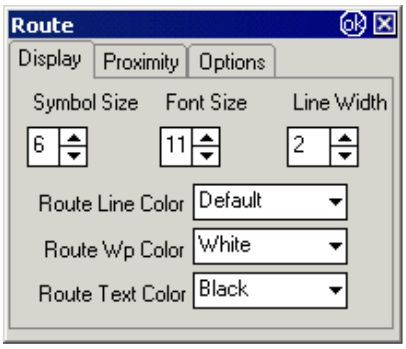
Symbol Size - The size of the circle drawn to mark a waypoint position.

Font Size - The size of the font used to draw the waypoint name.

Check Proximity - If checked, the distance to the waypoints are checked to see if your position is within the specified waypoint proximity distance. If so a sequence of 4 beeps is issued.

Routes Configuration

Display Properties



Symbol Size - The size of the symbol used to draw the waypoints in the route.

Font Size - The size of the font used to draw text, the waypoint and routes names.

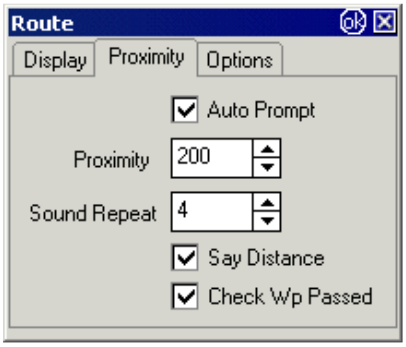
Line Width - The width of the line used to draw the routes.

Route Line Color - The color of the line for the routes, if set to **default** the route line color contained in the route file is used.

Route Wp Color - The color used to fill the waypoint symbols.

Route Text Color - The color used for text and the outline of the waypoint symbols.

Proximity Properties



Auto Prompt - Automatically prompt on entering the route proximity. An image will be displayed and a sound file will be played providing an indication of the direction to be taken.

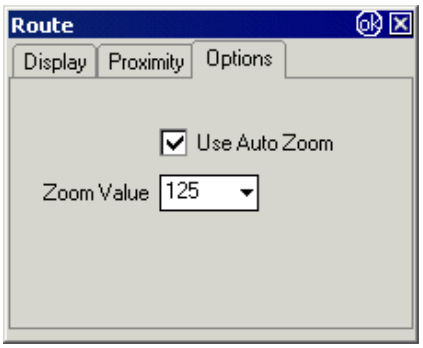
Proximity - The distance from the route waypoint the auto prompt will be activated. (The proximity is a circular zone around the route waypoint.)

Sound Repeat - The number of repeats of the sound prompt.

Say Distance - The distance from the route waypoint will be voiced.

Check Wp Passed - The proximity will be activated if the waypoint is passed without the proximity being entered. (For example, a boat may pass a waypoint without actually entering the proximity for that waypoint. If selected, this option will make sure the proximity is triggered.)

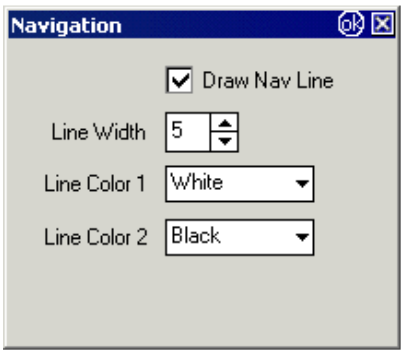
Options Properties



Use Auto Zoom - The map zoom will be changed to the Zoom value set below when a Route waypoint proximity is entered.

Zoom Value - Specify the Zoom value the map changes to when the Route waypoint proximity is entered. The map zoom will change back to the normal setting when the waypoint is reached. Example - you can set the map to a zoom of say 50% for normal travel so you can see more of the map and specify a zoom value of 100% (or any other value) when the proximity is entered so the turn you need to make is more visible.

Navigation Configuration



Draw Nav Line - Activate the display of the navigation line, a line from your current position to your "goto" position.

Line Width - The width of the navigation line drawn.

Line Color 1 - The color used to fill the navigation line.

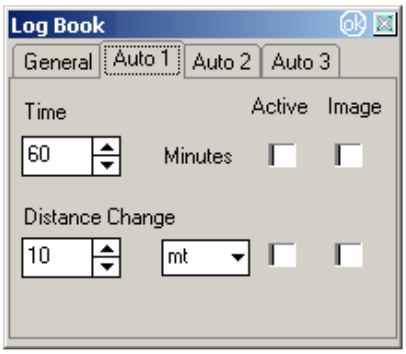
Line Color 2 - The color used to outline (border) the navigation line.

Log Book

General Tab

Log Book File Path - path to the folder where the log book files are stored.

Auto 1

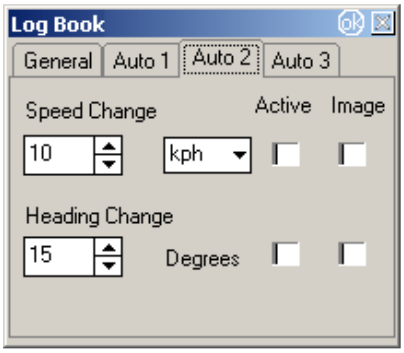


Time / Distance Change - Automatically log position, date/time, and other parameters when the configured conditions are met.

Active - Tick to make these options active.

Image - If ticked, a snapshot of a small portion of the map is stored in the log.

Auto 2

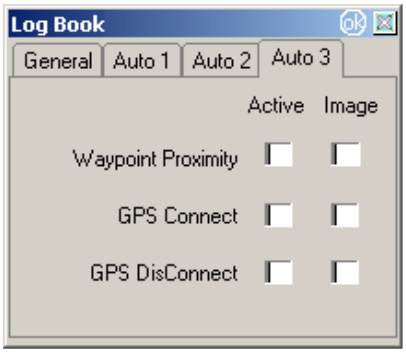


Speed Change / Heading Change - Automatically log position, date/time, and other parameters when the configured conditions are met.

Active - Tick to make these options active.

Image - If ticked, a snapshot of a small portion of the map is stored in the log.

Auto 3

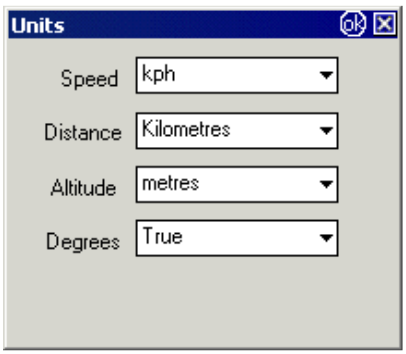


Automatically log position, date/time, and other parameters when the **Waypoint Proximity is entered** or the **GPS is Connected** or **Disconnected**.

Active - Tick to make these options active.

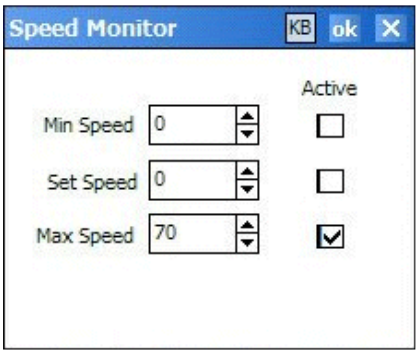
Image - If ticked, a snapshot of a small portion of the map is stored in the log.

Units Configuration



Various units can be set for **Speed** , **Distance** , **Altitude** and **Degrees.**

Speed Monitor Configuration



Min Speed - The **minspeed.wav** file is played when the speed goes below the specified min speed. The sound will not play again until you go above the set speed and then below the min speed again.

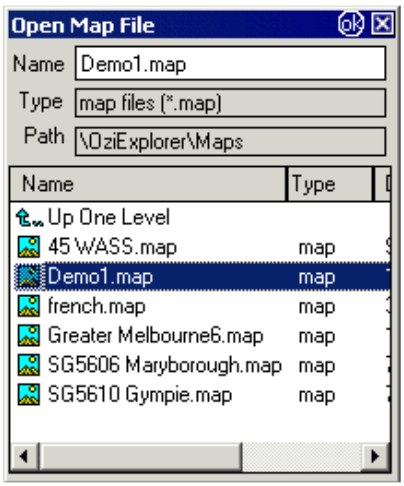
Set Speed - The **setspeed.wav** file is played when your speed goes above the specified set speed.

Max Speed - The **maxspeed.wav** file is played when your speed goes above the specified max speed.

Active - The speeds can be activated independently by ticking the active check boxes.

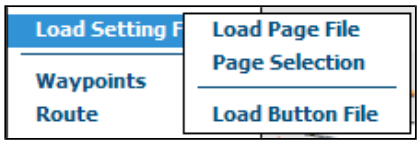
File Menu Options

Open Map File - Shows the "Open dialog" to allow you to select a map. The First Map File path in configuration is used as the default folder. You can navigate to any folder to select a map to open.



Open Recent Maps - Shows the 10 Most Recently Used Maps to allow you to select.

Load Setting Files



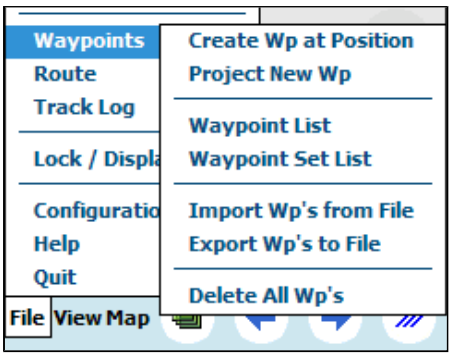
Setting Files **/ Load Page File -** Loads a page file. Page files contain the screens which are created in the Screen Designer utility on the PC, sent to the PDA and loaded in OziExplorerCE using this option.

Setting Files **/ Page Selection -** Shows a list of the screens in the page file. Use the checkbox to tick the screens which are to be displayed. Unticked pages will not be displayed.

Setting Files **/ Load Button File -** Loads a button file. Button files configure the actions for the PDA hardware buttons and are created in the Screen Designer utility on the PC, sent to the PDA and loaded in

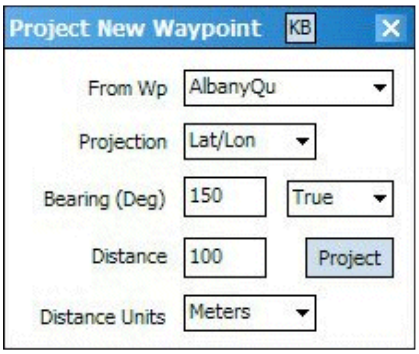
OziExplorerCE using this option.

Waypoints Menu Options



Waypoints / Create Wp at Position - Creates a waypoint at the current position (center of screen).

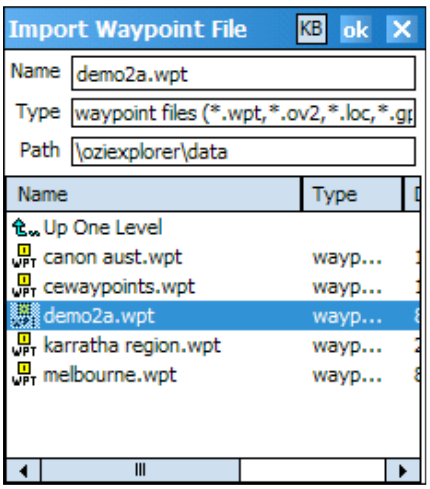
Waypoints / Project New Wp - Creates a new waypoint at a bearing and distance from the selected waypoint. The distance and bearing are entered in the units selected. The Project button creates the new waypoint.



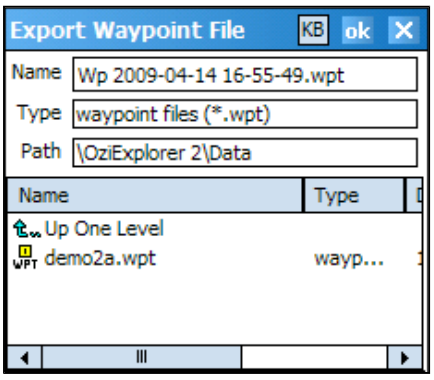
Waypoints / Waypoint List - List of all waypoints. See Waypoint List / Set List help.

Waypoints / Waypoint Set List - List of all waypoint sets. See Waypoint List / Set List help.

Waypoints / Import Waypoints from File - Imports waypoints from an OziExplorer .wpt file. Other file formats which can be imported are .gpx, .loc and .ov2. The file is added to the Waypoint Set List and the waypoints are added to the Waypoint List.

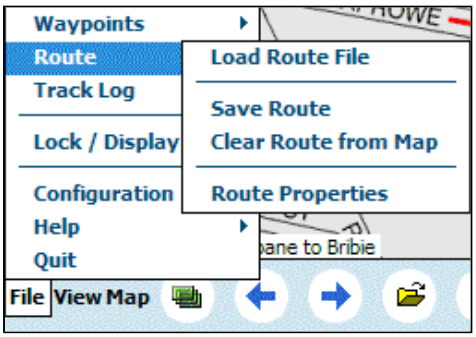


Waypoints / Export Waypoints to File - Saves all the waypoints in the Waypoint List to a new or selected file.

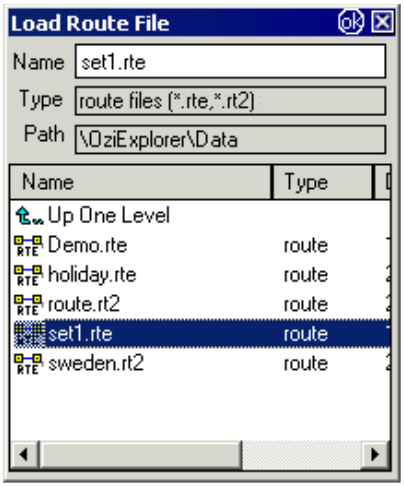


Waypoints / Delete All Waypoints - Deletes all waypoints from the map and clears the Waypoint Log file "**ceWaypoint.wpb**". A new file will be created automatically when new waypoints are logged.

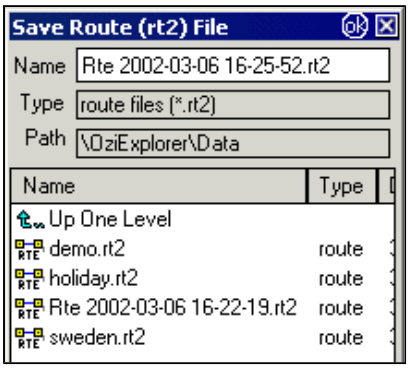
Routes Menu Options



Routes / Load Route File - Loads a route file that has been created in the OziExplorerCE, the PC Oziexplorer or downloaded from the GPS. If the route file has more than one route with attached waypoints, a dialog will be displayed so the required route can be selected. (See Working with Routes)

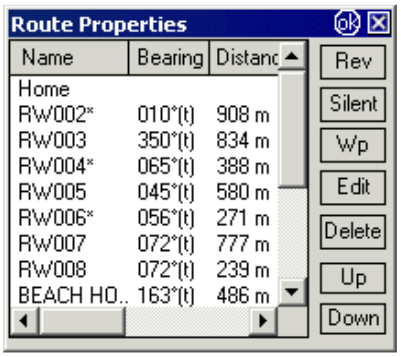


Routes / Save Route File - Saves a route that has been created or modified (ie. the route currently displayed). The Save File dialog allows you to select a path and filename. A default filename based on date and time is displayed or enter your own.



Routes / Clear Route from Map - Clears the route currently loaded and displayed.

Routes / Route Properties - Display the properties of the route and route waypoints. The route waypoints are displayed in a list, the positions are in the datum of the currently loaded map. Several buttons allow the properties to be changed.



Rev Reverse the waypoints within the route. This is useful if the reverse direction of the route is not exactly the same as in the forward direction. You can reverse the route, make changes to the waypoints and then save it as a new route file. It is not intended that this be used to reverse a route for a return trip along the same route. For this case, the route can be reversed using the Reverse Route option on the Map Menu - Navigation.

Silent Will change the properties of the selected route waypoint to silent. Waypoints with the silent property will not have a proximity and therefore will not display an image or play a sound.

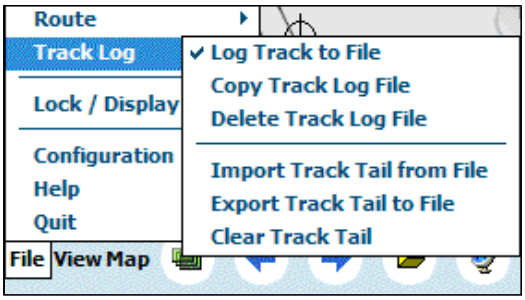
Wp A normal waypoint can be selected from a waypoint list and inserted after the waypoint selected in the Route list. The normal waypoint is copied into the Route, changing the actual normal waypoint later will not change the waypoint stored in the Route.

Edit Open the waypoint properties for editing.

Delete Mark the waypoint to be Deleted, press again to unmark the waypoint. When the Dialog is closed by pressing the **OK** button the marked waypoints are Deleted. If the Dialog is closed by pressing the **X** button the marked waypoints are not deleted.

Up Will move the selected waypoint up the list, repositioning the waypoint within the route.

Down Will move the selected waypoint down the list, repositioning the waypoint within the route.



Track Log / Log Track to File - If selected, the track will be logged to file (appended to the file and automatically saved) when in moving map mode. The file "**ceTrack.plt**" will continue to grow in size so should be cleaned up from time to time.

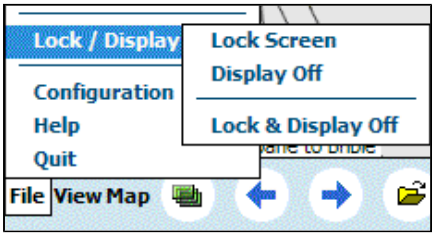
Track Log / Copy Track Log File - Copies the track log file **ceTrack.plt** to another file whose name is derived from the date. The dialog allows you to select a path and filename. A default filename based on date and time is displayed or enter your own.

Track Log / Delete Track Log File - Deletes the Track Log file **ceTrack.plt**. A new file will be created automatically when track logging is required.

Track Log / Import Track Tail from File - Loads a Track file into the track tail log. Because the track tail log can only store 1000 points, only the last 1000 points in the file are loaded.

Track Log / Export Track Tail to File - Saves the track tail log (the track tail log can only be 1000 points). If you want to save your complete track log history for your trip, you should use the "Log Track to File" option otherwise you will only capture the last 1000 points. The dialog allows you to select a path and filename. A default filename based on date and time is displayed or enter your own.

Track Log / Clear Track Tail - Clears the track tail currently loaded and displayed, does not affect the track stored in the track log file on the disk.



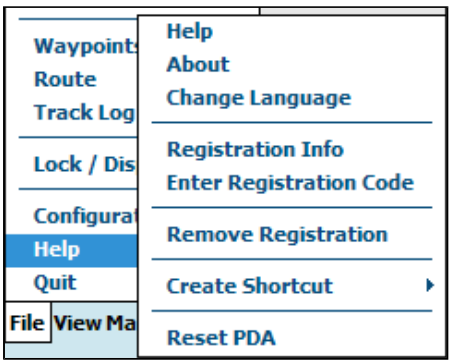
Lock / Display / Lock Screen - Locks the screen. To unlock the screen drag the button on the "Slide to Unlock" bar to the right.

Lock / Display / Display Off - (Pocket PC's only). Turns off the display. Press any button to turn on.

Lock / Display / Lock & Display Off - Locks the screen and turns off the display. Press any button to turn on. To unlock the screen drag the button on the "Slide to Unlock" bar to the right.

Configuration - see Configuration help.

Help Menu Options



Help / Help - Displays the help.

Help / About - Copyright and version information.

Help / Change Language - Change the language. Requires the software to be restarted to select the language.

Help / Registration Info - The Registered Users name or serial number.

Help / Enter Registration Code - Enter the Registered Users name (or serial number) and Code and press the OK button.

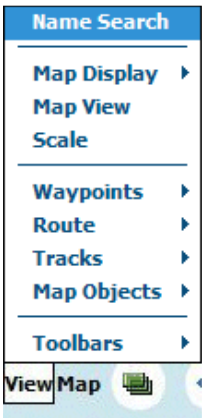
Help / Remove Registration - Removes the current OziExplorerCE registration information.

Help / Create Shortcut - Creates a windows shortcut to run OziExplorerCE. A shortcut can be created in the Programs Group or in a selected folder.

Help / Reset PDA - Choosing this option is the same as pressing the reset button of the PDA.

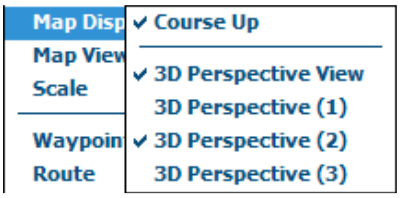
Quit - Close the software.

View Menu Options



Name Search - Shows the Name Search dialog - see the Name Search help for details.

Map Display - Options to change the map display mode.



Course Up - If ticked, when GPS tracking is on, the map will rotate so the direction of travel will be within roughly 45 degrees of vertical as the map is only rotated in 90 degree increments to keep performance reasonable.

3D Perspective View - If ticked, this rotates the top of the map down using a true perspective view and provides for more map view ahead.

- This is just a display feature, the map cannot be manipulated in this mode.
- For the 3D perspective to be displayed the GPS must be connected and tracking, OziExplorerCE must be in "Course Up" mode and the zoom level greater than 70%.
- 3 look ahead modes are provided, the larger the look ahead more resources are needed to render the image.

Map View - Shows/hides the map view window which displays the full map.

Use the buttons to change the map view window size.

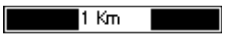
Show/Hide the display of objects (Waypoints, Routes, Tracks and Map features) on the MapView.

Clicking on the Map View map will scroll the main map to the same position.

Waypoints, Routes, Tracks and Map Features are displayed.

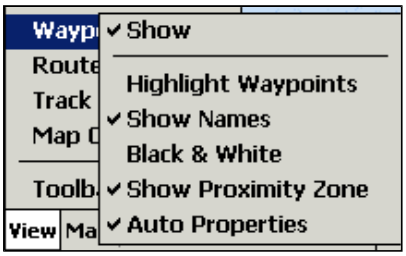
Click on the colored border around the map to display a list of the available maps at that position.

Scale - Shows/hides the Scale bar.



Click and hold on the scale to drag the scale window to a new position.

Waypoints



Waypoints / Show - Turn the waypoint display on and off.

Waypoints / Highlight Waypoints - Shows/hides the waypoint highlight which is a large bold circle drawn around each waypoint.

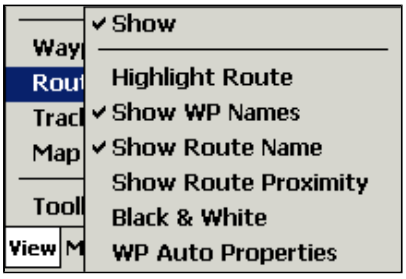
Waypoints / Show Names - Shows/hides the waypoint names.

Waypoints / Black & White - The waypoints will always be drawn in Black & White.

Waypoints / Show Proximity Zone - Show the proximity zone which has been specified (in PC OziExplorer) for the waypoint.

Waypoints / Auto Properties - When a new Waypoint is created the properties dialog will automatically display to allow editing.

Routes



Routes / Show - Turn the route display on and off.

Routes / Highlight Route - Shows/hides the route waypoint highlight which is a large bold circle drawn around each waypoint.

Routes / Show WP Names - Shows/hides the route waypoint names.

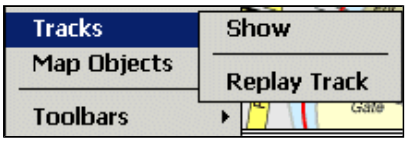
Routes / Show Route Name - Shows/hides the route name.

Routes / Show Route Proximity - Shows/hides the proximity zone around a route waypoint. The proximity zone properties are set up in Configuration / Route.

Routes / Black & White - The route and route waypoints will always be drawn in Black & White.

Routes / WP Auto Properties - When a new Route Waypoint is created the properties dialog will automatically display to allow editing.

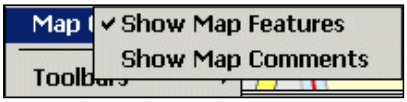
Track



Track / **Show** - Shows/Hides the display of the Tracks on the map.

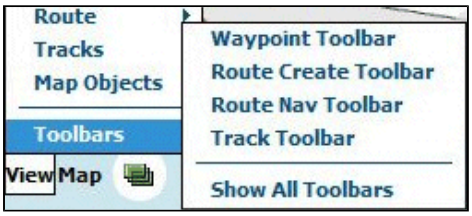
Track / **Replay Track** - Loads a Track file but does not display it immediately. Replay it using the Start NMEA communication button. I actually coded this as a sort of NMEA simulator.

Map Objects



Map Objects - Shows/Hides the display of Map Features and Map Comments on the map.

Toolbars



Waypoint Toolbar - Shows or removes the toolbar for creating or modifying waypoints. (view)

Route Create Toolbar - Shows or removes the toolbar for creating or modifying routes. (view)

Route Navigation Toolbar - Shows or removes the toolbar for route navigation. (view)

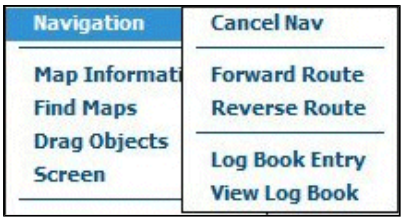
Track Toolbar - Shows or removes the toolbar for creating or modifying tracks. (view)

Map Menu Options

Connect to GPS - Start Communication with the GPS for moving map mode.

Display NMEA Input - The strings, as they are received from your GPS, are placed sequentially in a list.

Navigation - For control of navigation.



Navigation / Cancel Nav - Turns off route navigation.

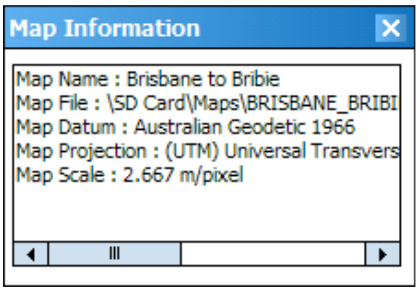
Navigation / Forward Route - Turns on route navigation. The navigation line from your current position to the first route waypoint will be displayed if "Draw Nav Line" is selected in Configuration.

Navigation / Reverse Route - This is used to reverse a route for a return trip along the same route. If the return route is different from the forward route, use the Route Toolbar and Route Properties dialog to make changes to your route.

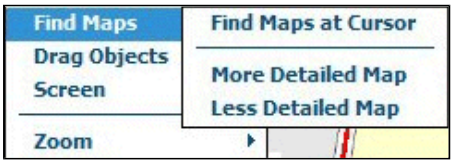
Navigation / Log Book Entry - Opens the dialog to add additional notes to a log book entry. Type in the text to include in the entry. The entry will log the position, date/time, and other parameters. A snapshot of the map can be included.

Navigation / View Log Book - View the log book entries in the web browser installed on your PDA, if you do not have a web browser installed then they cannot be viewed.. The files are in (.html) format which can be copied to a PC and viewed in a web browser.

Map Information - Displays information about the currently loaded map.



Find Maps - Several map find options.



Find Maps / Find Maps at Cursor - Scans the Map File paths and displays the names of the maps which cover the position at the cursor (center of screen).

Find Maps / More Detailed Map - Scans the Map File paths for a **more** detailed map at the current position.

Find Maps / Less Detailed Map - Scans the Map File paths for a **less** detailed map at the current position.

Drag Objects - Activates the drag objects mode. In this mode, track points, waypoints and route waypoints can be moved by dragging with the stylus. Press on the object and drag to a new position. (Note : If held down for 1 second before starting the drag a popup menu will appear.)

Screen

Screen Control - Activates screen control where the screen is divided into a 9 segment grid where each segment acts as a button.

more details

Hide Toolbars - If ticked, hides the Waypoint, Route, Route Nav, Track toolbars when Screen Control is turned ON.

Has Priority - If ticked and Screen Control is ON, Screen Control has priority over parameter buttons when the screen is pressed.

Brightness - Sets the screen brightness for night viewing.

Index Maps - Select to re-index the maps in the Map File Paths. The map index is used by the program to find maps. The auto map index function can be turned on/off in Configuration / General Settings / Other.

Zoom / Full Map - Selects a zoom level from those available so the map is roughly the same size as the screen.

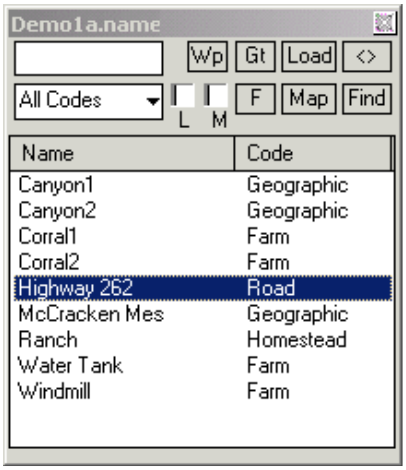
Zoom / (zoom levels) - All the zoom levels are available.

Goto Map Position - Positions you at points on the current map.

Toolbars

- Program Menubar
- Main Toolbar
- Waypoint Toolbar
- Route Create Toolbar
- Route Navigation Toolbar
- Tracks Toolbar

Name Search



The PC OziExplorer and OziExplorerCE name search databases are identical and databases created for PC OziExplorer can be used. See the Name Search web page in the Utilities section of the

"www.oziexplorer.com" web site for details on how to create these databases.

To use a Name Search database -

- Copy a name search database file (*.names) and the corresponding types file (*.types) to your CE device (usually to the "Name Search" folder under the OziExplorer folder).
- Select name search from the View menu or the toolbar button.
- Load a Names database.

Other options are -

- "Find" - will scan the **active Map File paths** and find all the maps which have the current cursor position contained within them.
- "Wp" - a new waypoint can be added at the current position.
- "Gt" - navigate to the selected location.
- "Map" - position the location in the center of the screen. If the position is not on the current map, the active Map File paths will be scanned for a map.

Filtering (Searching)

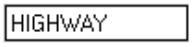
The database can be filtered using the following conditions

- enter characters into the name Search field from the locations name you want to find
- for a specific code type, select the code type
- from left most text only, tick the "L" checkbox (default is ticked)
- locations only on the currently loaded map, tick the "M" checkbox.

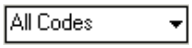
When the Filter conditions have been set press the **F** button to commence.

Special Note: Ticking the "Left" checkbox and entering characters the Search Name field is the **fastest method of searching**. The software does a binary search to locate the first record quickly. This assumes the database is sorted in alphabetically order. If the "Left" box is not ticked (or no search name characters are entered) then every record must be scanned to see if it meets the filter conditions. This is very slow.

The maximum number of records which can be found in a filter is 5000, scanning stops after this.



Search Name Entry box - Find records which match this entry. Any number of characters can be entered.



Code Selection - Find records where the record code matches this code.

Load a Name Search database file (*.names).

Displays the position on the currently loaded map of the item selected in the list. (You can also double click on the item in the list.) - If the position is not on the current map, the active Map File paths will be scanned for a map.

Roll the Name Search window up out of the way so the map can be viewed.

Will scan the **active Map File paths** and find all the maps which have the position of the selected item contained within them.

Creates a waypoint at the location of the selected item. The 1st 6 characters of the name are used as the waypoint name.

Goto - Navigate to the location of the selected item.

Filter database to display records that match the conditions entered. The dialog caption has the text (Filtered) added to indicated a filtered result.

Find records where name matches the left most characters of the name.

 Find records which are positioned on the current map.

Note: It is not possible to apply a new filter to a current filter - once a filter is complete, any new filter selection immediately turns off the current filter before appying the new filter.

Note: The name search dialog will "rollup" after an option is clicked where you may want to view the map.

Note: Any records which are marked as deleted in the database will have an " * " next to the name. To remove these records the names database must be loaded into a database editor (for dbase 4 files) and the records permanently deleted (packed) and the file resaved.

Operation

What is a Map

A map in OziExplorer is an image of a map which has been calibrated (georeferenced) so OziExplorer can use any pixel position on the map to determine the true geographic position.

When you calibrate a map in **PC** OziExplorer **a map file with a .map extension** is created which contains the calibration information and a link to the image of the map you are using.

A **Map** file therefore contains at least this information

- A link to the image of the map
- The datum of the map
- The map projection used for the map
- The calibration (georeferencing) information for the map

Map Calibration and the creation of the .map file must be done in **PC** OziExplorer and then copied to the

PDA.

When you want to use a Map in OziExplorerCE you must open a Map file which has a **.map** extension (example name : World.map).

OziExplorerCE then reads from the Map file

- The name of the **map image file** from the **.map** file and opens the image.
- The map datum and map projection are read.
- The calibration information from the **.map** file and calculates the factors necessary to convert the map image pixel coordinates to geographic coordinates.

A map consists of 2 files

1. The (.map) file which contains the information detailed above
2. The image file (.ozf2, .ozfx3, .ecw, .jpg, .png and .bmp) which is the image of the map

Before map images can be used in OziExplorerCE they must be in one of the supported formats - **ozf2, ozfx3, ecw, .jpg, .png or .bmp.** Maps in other formats must be converted to the special OziExplorer ozfx3 format using the Img2Ozf program. This program is available from the web site www.oziexplorer.com

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Opening a Map

Use the Open Map File option on the File menu or the button on the Toolbar.

Maps (the .map file) must be created in the full OziExplorer on a PC and then copied to the CE device, OziExplorerCE does not have the capability to create maps.

Select a map to load from the list in the Open Map File dialog. (You can navigate through the folders on your system to find a map path.)

How a Map Image is Located

When a .map file is opened OziExplorerCE searches for map images in this order.

The map image name is read from the .map file and the path and file extension removed.

The .ozf2, .ozfx3, .ecw, .jpg, .png and .bmp extensions are added to the file name to search for maps in any of these formats.

- The **Image File Path 1** is searched for the name.
- If not found **Image File path 2** is searched.

If not found

- The **path where the .map file was loaded from** is searched.

If not found then the name of the **map file name** is used for the image name and the above process repeated.

If all this searching fails the message "**Image File not Found**" will be displayed.

Index Files for Faster Map Searching

For faster map searching, the map files are indexed and the indexes are stored in the "System Files" folder attached to the main "OziExplorer" folder.

These index files are created the first time a map search is initiated. The time it takes to create the indexes for the first time will vary depending on the number of map files in each of the active Map File Paths (see Configuration / Map & Data Files).

The indexes are used to find maps when -

- looking for a map during moving map operation if the "More Detailed Map" option is turned on
- using the Map Menu or Screen Control options
  - Find Maps at Cursor
  - More Detailed Map
  - Less Detailed Map

Scrolling the map - There are 3 ways to scroll the map.

1. Tapping the screen with the finger or stylus moves the point you tap to the center of the screen. Tapping near the edge of the screen scrolls quicker than tapping near the center.
2. Moving the stylus across the map will drag the map. If "Drag Object" is selected, do not press on an object at the start of the drag motion or the object will be moved.
3. Using the arrow or cursor keys if available.

You cannot scroll when the screen control is activated.

In moving map (real time tracking) mode and if the Track GPS Position option is ON, the map can be scrolled but **Track GPS Position will be turned OFF**. (Note: all GPS functions remain active but the map is not moved to track the position). To turn Track GPS Position ON, use the option  on the Program Menubar.

Map Objects, Popup Information and Menu

Popup Information - Press and hold the stylus on the map or any map object (waypoint, route waypoint or active track point) until a red circle appears (approximately 0.5 seconds), release the stylus to show a window with information about the map or map object. (The circle color may change depending on the underlying map color.)

The window will display for 10 seconds, to hide it immediately tap the stylus on the window.

Popup Menu - Press and hold the stylus on the map or any map object (waypoint, route waypoint or active track point) for at least 1 second to show a popup menu with several menu options. The map popup menu has zoom selections, Full Map or 100% Zoom, Create Wp and Track GPS. Map Object popup menus are different for each object type.

Moving Map (Real Time Tracking)

For Moving Map operation you need a GPS which can output the NMEA sentence $GPRMC, $GPGGA, $GPGLL, the $GPVTG sentence is also use to obtain additional information if required.

You need to configure OziCE and select the sentence type your GPS outputs, **if your GPS outputs $GPRMC always select this one** as it contains most information, the next best is $GPGGA and then $GPGLL.

Select the highest baud rate you can for communication, **make sure OziCE and the GPS are both using the same baud rate**.

Configuration options to improve performance :

1. Increase the time between screen updates to 2 or 3 or more, position data is still collected, speed is still updated on screen, proximity waypoints are still checked but the screen is only refreshed each update interval. This is the **BEST** and preferred method to prevent these problems.

2. Have "Use Chk Sum" (Use Check Sum for NMEA sentences) turned on in NMEA (GPS) configuration. The checksum will be calculated and compared to the checksum in the sentence, if they do not agree the sentence will be rejected. This prevents bad data from being processed but does not prevent the NMEA position from lagging behind your actual position.

3. Reduce the Track Tail length set up in configuration, there is a limit of 1000 points. If set to zero, up to 1000 points will be shown. Turn the screen track tail off if necessary.

4. Reduce the Track Tail width as narrow as possible, no more than 2 pixels.

5. Set the Screen Track Tail Log interval to a reasonably high number so fewer track points are collected for on screen display, this has the advantage that a shorter track tail can be used. This will not affect the logging of track points to disk.

Changing maps

- A new map will be searched for when the neat line (corner markers) are crossed. The most detailed map will be selected.
- If activated in configuration a more detailed map will be searched for at the set interval.
- Manually activating the Search for More / Less Detailed Map options will turn off the automatic Search for More Detailed Map option. This means a particular map can be displayed and the program will not automatically change the map at the set interval. To turn ON automatic searching, use the Detailed Map option on the Main Toolbar.
- The maps are searched for in the **Active** Map File paths only (marked as active in configuration). This **Active** option allows you to separate your maps into different categories, I keep my touring maps separate from my marine maps etc.

Starting Moving Map - Select the Connect to GPS option on the Map menu or press the button on the Program Menubar.

Track GPS Position - The Track GPS Position option  on the Program Menubar will turn GPS Tracking on and off. When tracking is turned on the map will be automatically centered. When turned off, the gps is still connected but will not automatically center the map, so the map can be dragged to view other sections of the map.

Finding Maps

Selecting the **Find Maps at Cursor** option on the Map menu will scan the **folder where the current Map was loaded from** and the **active Map File Paths** and find all the maps which will have the current cursor position contained within them.

A map in the list can be opened -

- by double clicking on it (Map Find dialog will remain), this allows additional maps to be viewed quickly if desired.
- **or** highlighting it and pressing the OK button (dialog will disappear)

Map Scale

Selecting the Scale option on the View menu will display a scale bar on the map. The number shown on the bar is the distance covered by each segment of the bar (in other words the number represents the distance covered by the white segment, all segments are the same size.

The scale bar can be moved by dragging the scale to a new location with the stylus. The scale bar cannot be rotated.

Map Zoom

The map can be zoomed by selecting a zoom option on the view menu or (if shown on the map) clicking on the magnifying glass buttons. Configure the zoom levels above 40% you require in **File / Configuration / General Settings / System** menu. Zoom levels below 40% are always available.

The Full Zoom option means a zoom level will be chosen for the map so it just roughly fills the screen, the zoom level chosen automatically must be one of those in the zoom list so the map may just exceed the screen size or be smaller than but it will be close.

The Full Zoom option is available on the Main Toolbar as a button and on the popup menu which can be activated by pressing and holding on the map, the 100% zoom level is also available so you can quickly return to normal zoom. The Full zoom can be used a little like MapView.

Please Note - Infinite zoom levels will not be made available (technical reasons), zooming by dragging on the map is not available.

Map View

The map view window displays the full map. Show the Map View window using the option on the View Menu and on the Main Toolbar.

- Clicking on the Map View map will scroll the main map to the same position.
- Click on the colored border around the map to display a list of the available maps at that position.
- Use the + / - buttons on the MapView window to change the size of the Map View window.
- Use the button with the red dot to turn On/Off the display of Waypoints, Map Features and Map Comments.

Replay Track

To replay a track select the "Replay Track" option on the View / Tracks menu option. Load the track you want to replay. Select the "Connect to GPS" option on the Map menu or press the  button on the Program Menubar. The track will be replayed using the same configuration settings used for normal moving map operations. To cancel track replay mode you must select the "Replay Track" menu option again.

The CE track replay option can use track files produced by the full OziExplorer.

Navigation

Navigation can be set up by -

- select a waypoint in the Waypoint List and click the GoTo button.
- pressing on a waypoint on the map for more than 1 second to display a popup menu and selecting the GoTo Wp option.
- create and/or load a route and turn on navigation along the route. Note: this is not auto-routing, you must define the route manually. See the "Working with Routes" section for details.
- select a location in the Name Search dialog and click the Gt button.

Speed Monitor

The Configuration / Speed Monitor will play wav files when the speed thresholds are crossed. If the wav files are not found the standard beeps are used.

- Min Speed - The **minspeed.wav** file is played when the speed goes below the specified min speed. The sound will not play again until you go above the set speed and then below the min speed again.
- Set Speed - The **setspeed.wav** file is played when your speed goes above the specified set speed.
- Max Speed - The **maxspeed.wav** file is played when your speed goes above the specified max speed.

The speeds can be activated independently by ticking the active check boxes.

Using SRTM Elevation Data

The OziExplorerCE Screen Designer is used to add parameters to a screen which can display SRTM Elevation data.

In conjunction with SRTM data, some of the parameters in the "Map" category can display data calculated from SRTM data (eg. "Height Above Ground"). To use SRTM data, the files (.hgt) should be placed in the "Data File Path" folder.

Hints and Tips

Track Logging

Track logging parameters are specified in the Tracks Configuration option on the **File / Configuration / Tracks** Menu.

The Track Log can be turned On or Off using the option on the **File / Track Log** menu.

In Track logging configuration set the File Log Dist to at least 500 meters to make sure too many points are

not logged. The log distance is a filter condition setting it to too low a value does not allow the filtering to work efficiently (long straight sections of track will have too many points).

Keep the track tail as short as possible - otherwise it may take too long to redraw the track for each position change causing position updates to be missed.

Distance Measurement

It is possible to use a track to measure a distance between any 2 points.

- Show the Track toolbar (**View / Toolbars** menu)
- Click on the Track number button  until you have an empty track active.
- Use the add  or insert  button to add track points between the 2 points.
- Click on the Track List button  and obtain the measured distance from the Distance column for the track.

Creating Maps (ozfx3 files)

These are some techniques I use with my maps.

- Don't use a smaller scale map when I larger scale one will suffice, that is, use a 1:100,000 map instead of a 1:50,000 or 1:25,000 if it has the information you require in enough detail.
- Some maps have been created (or scanned) at a larger dots per inch than is needed to see all the detail on the map, for these maps use the Initial Resize option in the Img2Ozf converter program to reduce the size of the map to an acceptable size. This may require some trial and error until you establish what is acceptable.

Map Scale and Proximity Distances

When setting the proximity distances you must consider the scale of the map you are using. For large scale maps (say 1:100K or greater) you may need to use proximity distance greater (say 1000m) than you would for a small scale map (say 1:25K) where a 200m proximity may be suitable.

Map Scale and Placing a Waypoint

It is unlikely a waypoint placed on a large scale map will be placed in the exact position you expect if the map is at 100% zoom. If the position is one or two pixels from the correct position at 100% zoom (which appears on the screen like the position is correct), when you zoom in, this error in position will be more noticable.

On large scale maps, where you have set small proximity distances, you must ensure that the position of the waypoint is accurate for accurate auto-prompting, by placing the waypoint at a zoom greater than 100%.

Hints for Toolbar Buttons (Tooltips)

PocketPC only.

Press and hold on any toolbar button to display a hint for the button. To release without activating the button,

drag the stylus off the button before releasing the stylus.

Popup Information for Map Objects

Press and hold the stylus on the map or any waypoint, route waypoint or active track point until a red circle appears (approximately 0.5 seconds), release the stylus to show a window with information about the object.

Popup Menus for Map Objects

Press and hold the stylus on the map or any waypoint, route waypoint or active track point for at least 1 second to show a popup menu with several menu options.

Image Formats Supported

OziExplorerCE only supports the image formats **ozfx3, ozf2, ecw, .jpg, .png and .bmp.** Ozfx3 and ozf2 were especially developed for use in OziExplorerCE.

The image formats jpg, png and bmp are fully loaded into memory so the images must be small and only 8bit and 24bit color formats are supported.

A conversion program is provided to convert map images into **ozfx3** format. Most of the file formats supported by PC OziExplorer can be converted. **It is highly recommended maps in jpg, png and bmp format are converted to OZFx3 using the Img2Ozf conversion software.**

(Note: Because the code libraries available only suit the ARM cpu the ECW support is only available for PDA's with ARM cpu's.)

The ECW format is highly compressed and therefore it takes longer to uncompress the piece of image required and this makes it slower to use than the ozfx3 format.

The OZF2 format has been superseded by the OZFx3 format and can no longer be created by the Img2ozf conversion software.

Why a New Format?

The PocketPC and CE devices with limited RAM require an image format which can be read from disk as required, that is, just the portion needed to be displayed on the screen can be read from the file (this is called paging), this keeps the memory requirements of the software very low. The OZFx3 format was developed to allow very fast paging from disk. ECW is also a paging format but due to its high compression, the ECW format is a slower format to load on a PDA than OZFx3.

The BMP, JPG and PNG formats cannot be "paged" from disk (generally) so the entire image must be read and stored in memory. This means 2 copies of the image are needed when the image is loaded, 1 on file and 1 in memory. CE devices usually do not have enough memory to allow this for reasonable sized maps. To use these formats, the map images must be small. **It is highly recommended maps in jpg, png and bmp**

format are converted to OZFx3 using the Img2Ozf conversion software.

In some cases the size of the image stored on a plug in memory card may exceed the device's program memory, because the ozfx3 format is paged from disk the software can still load and use the large image.

There is no upper limit on the size of an ozfx3 image file, the limit is the ability to convert the image

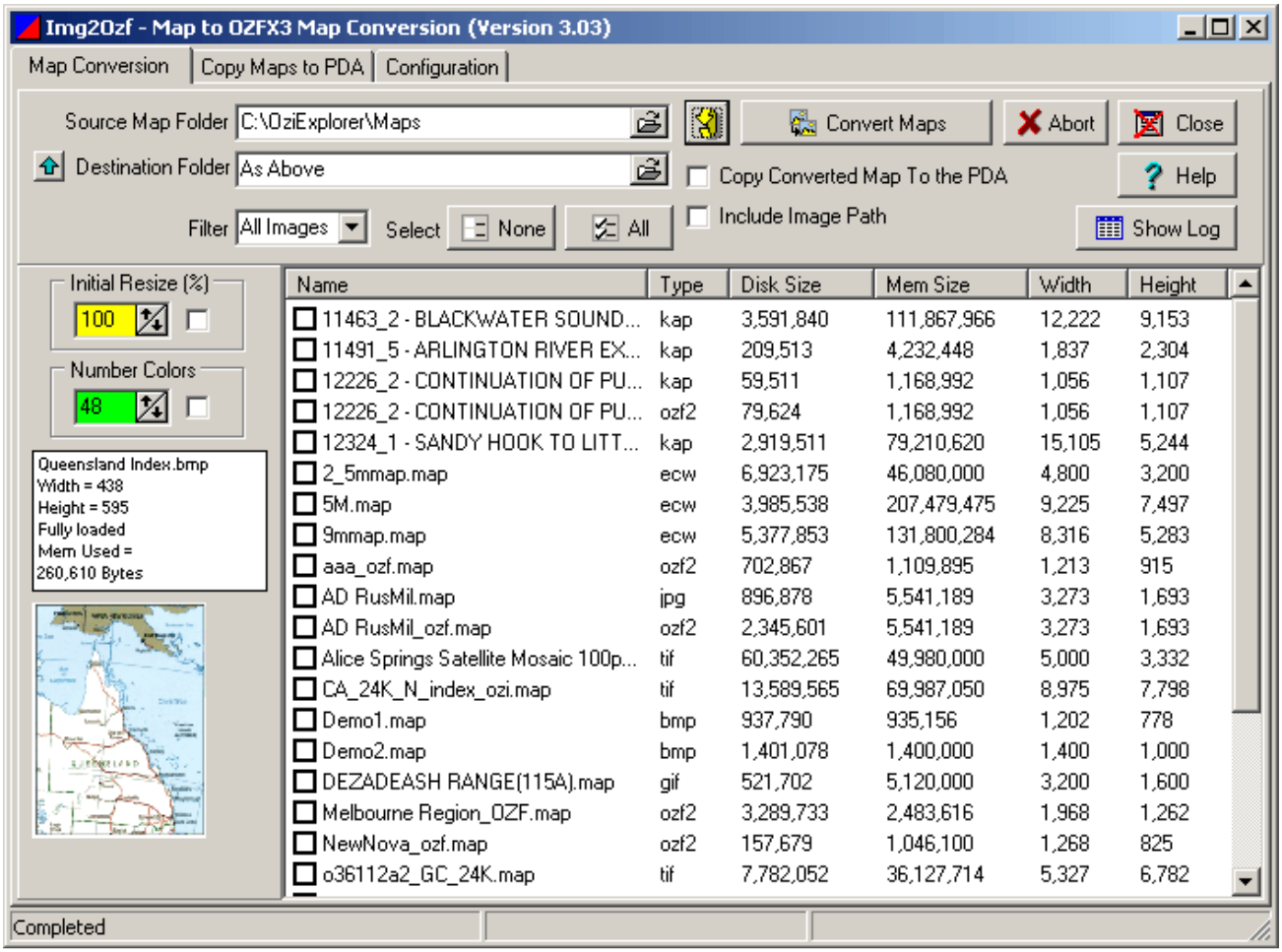
OZF Conversion Software

- A program to convert image files to the ozfx3 format (**img2ozf.exe**) is available from the OziExplorer website (includes additional Help on using the Img2ozf program).

Img2ozf

Description of Img2Ozf program Fields and Buttons

"Map Conversion" Tab



Fields

Source Map Folder - Use the button on the right hand end of the field to select the folder where the map(s) to be converted are located. The (.map) files will be listed. If the corresponding image cannot be found, the map file will not be listed.

Destination Folder - The folder where the converted images are saved. The button with the Up arrow will make the folder the same as the Source folder.

Include Image Path - If selected, the full path to the converted image will be included in the map file.

Copy Converted Map To The PDA - If selected, after converting the maps the new map(s) will be transferred to the PDA. (Both the map file and image file will be copied, the original will not be deleted from the PC.)

Note : The PDA must be connected via Activesync to be able to copy maps to the PDA.

Initial Resize - Set the new image size as a percentage of the original image if the checkbox is selected. The resized image will become the 100% image in the OZFx3 file. The last resize setting used will be saved but you must always tick the checkbox if you want the initial resize done. Note: Unless you have a specific requirement to have the image resized the value should be left at 100% for most conversions.

Number Colors - This specifies the number of colors to use in the converted image. You must always make sure the checkbox is ticked if you want the color reduction done.

- Reducing the number of colors gives smaller files as compression is improved.
- If the number of colors specified is too small the image quality will be reduced.
- The minimum number of colors which can be specified is 8.
- Images which have 256 colors or less will take longer to convert as the color reduction function needs to be done. Images which have 16 million colors will take no longer as a color reduction is performed anyway.

In general

- 48 colors will show no significant reduction in image quality (this is the default).
- Less than 48 colors will gradually reduce the image quality until at 8 colors the image quality will be very poor.
- 32 colors seems to be a good compromise if a reduced image size is a requirement.

Note : Some images (especially dedicated mapping formats) already use a small number of colors, so specifying color reduction will have minimal affect on image size or quality, but it will take longer to convert the images as the color reduction function will still be performed.

USGS DRG maps are an example of maps which use few colors.

Map File List - The list of files in the Source Image Folder that can be converted. You can select as many files in the list as required using the "Shift" or "Ctrl" keys while clicking on the image name. The list can be sorted on a column by clicking on the column title. (eg to sort on Image Type, click Type). The list can be filtered using the "Filter" box.

Filter - The list of images can be filtered. Select the image type from the dropdown box.

Select (None/All) - To deselect current selections or to select all of the images in the list.

Buttons

 **Refresh** - Forces a refresh of the image list. Useful if you have added additional images into the folder while Img2Ozf is running.

Convert Maps - Starts converting the images.

Abort - Aborts the process. The abort may not be immediate as some parts of the process cannot be interrupted.

Show Log - Displays a window which lists the images converted and their status.

Help - Runs the Img2ozf Help.

Close - Closes the program.

Progress Information

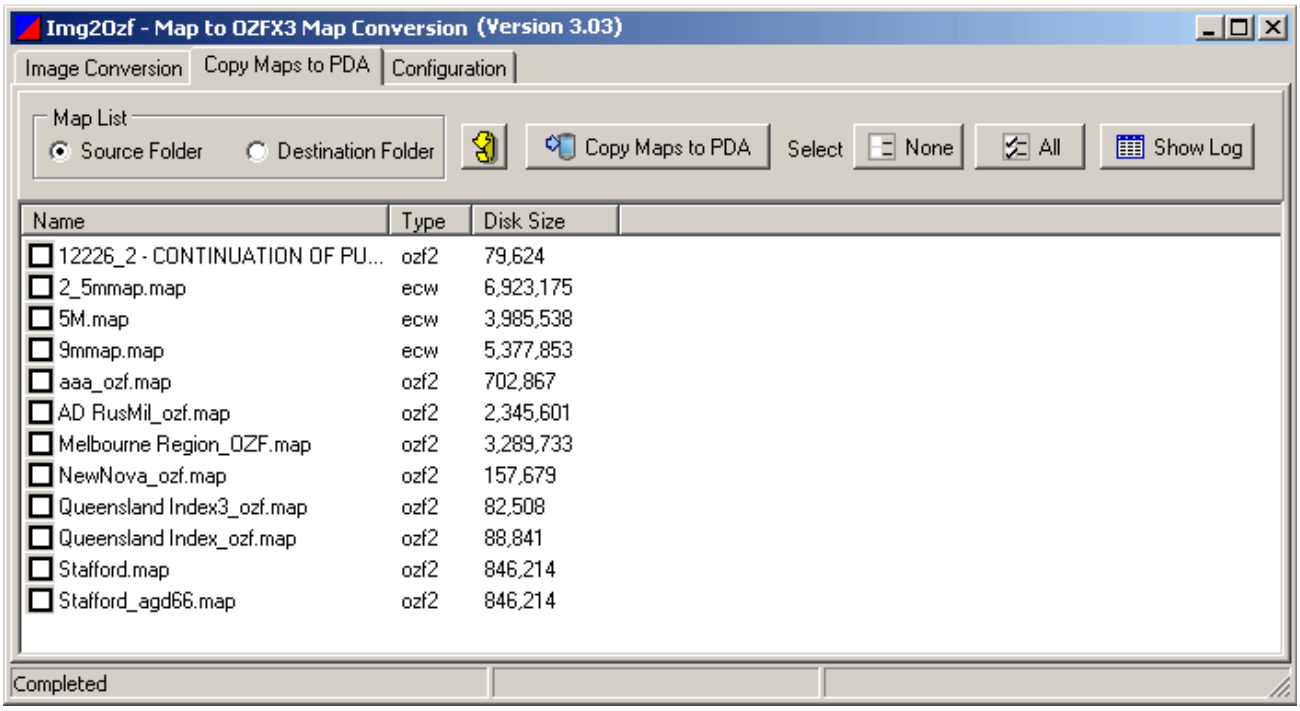
Image Details Box - The box will display information about the image which is being converted. The information shown is the image file name, image size, whether the image is fully loaded or paged and the memory required.

Image Thumbnail - A thumbnail of the image will be shown during the conversion process.

Status Bar - The Status Bar at the bottom of the window will display information during the conversion process.

"Copy Maps to PDA" Tab

This page is designed to help transfer maps suitable for using in OziExplorerCE to a PDA. Only maps that can be loaded in OziExplorerCE will be listed in the Map List.



Options/Buttons

Map List display option - Us this option to select the Source or Destination folder and to list the maps which are suitable to copy to the PDA. Valid formats are (.ozf2), (.ozfx3) and (.ecw). Maps which do not have both a map file and the corresponding image will not be listed.

Refresh - To refresh the list.

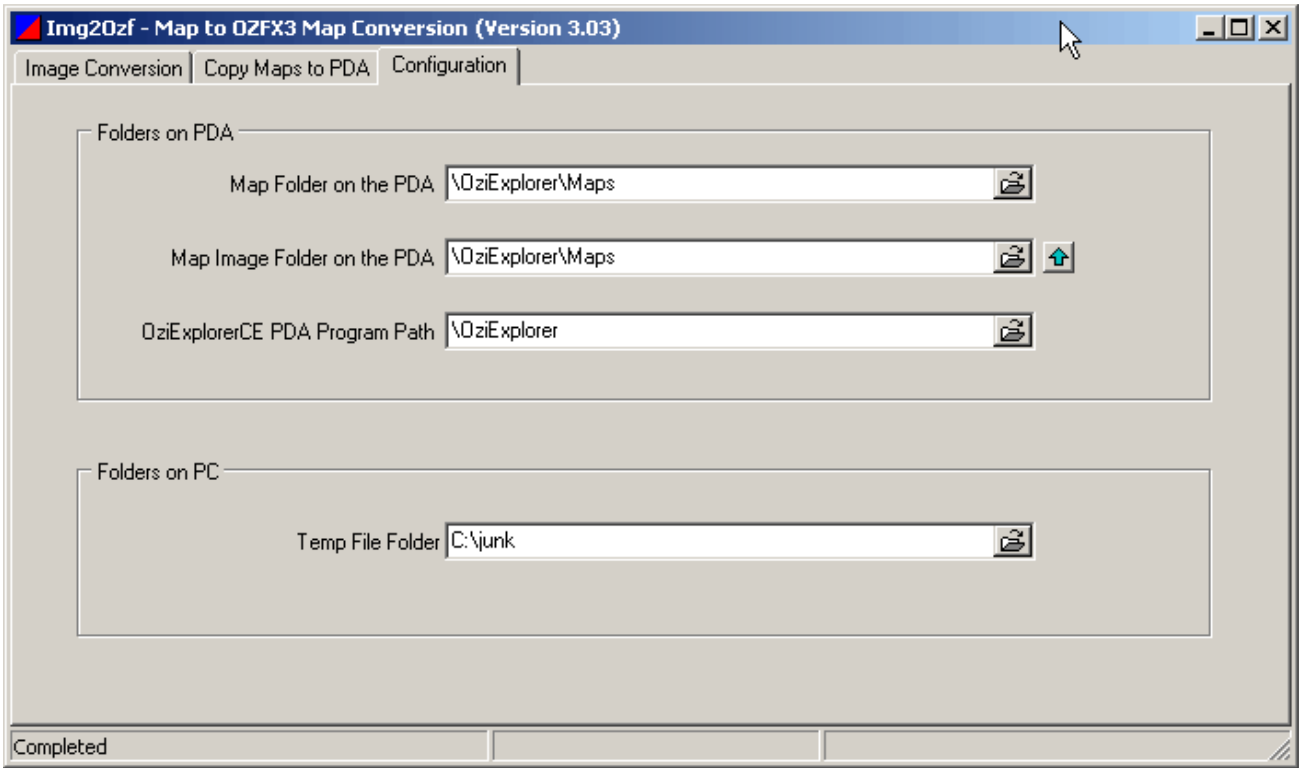
Copy Maps to PDA - Start the copy process. The two files (map and image file) for the selected maps will be copied to the PDA.

Note : The PDA must be connected via Activesync to be able to copy maps to the PDA.

Select (None/All) - To deselect current selections or to select all of the images in the list.

Show Log - Displays a window which lists the images transferred and their status.

"Configuration" Tab



Folders on the PDA

Map Folder on the PDA - Use the button on the right hand end of the field to Browse and select the folder where the maps (.map files) will be copied to. The PDA must be connected to the PC to use this Browse dialog to select a folder.

Map Image Folder on the PDA - Use the button on the right hand end of the field to Browse and select the folder where the maps images (.OZFx3 files) will be copied to. The PDA must be connected to the PC to use this Browse dialog to select a folder. The button with the Up arrow will make the folder the same as the Map Folder on the PDA.

OziExplorerCE PDA Program Path - Use the button on the right hand end of the field to Browse and select the folder where the OziExplorerCE program is installed (The path is normally "\oziexplorer"). The PDA must be connected to the PC to use this Browse dialog to select a folder.

Folders on PC

Temp File Folder - The conversion process may need to create some temporary files, this specifies the folder where the temporary files are placed. Temporary files are removed after the conversion process.

Registered/Unregistered Features

These are the restrictions placed in the Demonstration version of OziExplorerCE

- Moving map mode (communication with the GPS) will only remain active for 20 mins each time OziExplorerCE is run and then 10 mins after that (until restarted). At the end of these times a dialog will be displayed and communication will be deactivated.
- A watermark using the text "Demo Version" will be drawn onto the map.

Other than for the restrictions mentioned above, the evaluation version works exactly the same as the purchased version.

Conditions of Use

OziExplorerCE is provided for entertainment and experimentation purposes only, it is not intended as a primary source of navigation or as the primary means of piloting and guiding of vehicles. Always rely on your own navigational skills and official maps or charts before making a decision on any actions you take.

Warranty

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