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1 Introduction

1.1 Installation

MapExplorer is designed for WIN 2000, XP, Windows Vista and Windows 7.

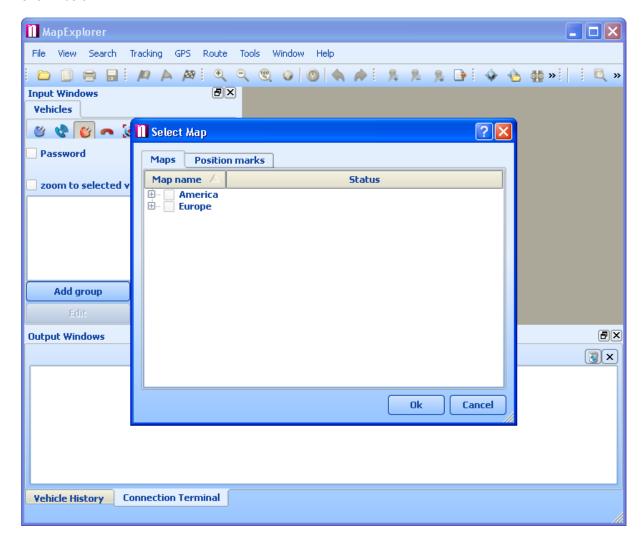
Run SETUP.EXE from the installation CD and follow the on-screen instructions.

Select to install MapExplorer.

The default language is selected according to settings in Windows (Start/Settings/Control Panel/Regional and language options). You can change the language in Settings.

1.2 Running MapExplorer for the first time

To start MapExplorer click the Start button, point to Programs, point to Navigator 10 then MapExplorer and click on MapExplorer. The main MapExplorer window, with a toolbar in the top part, will appear as shown below.

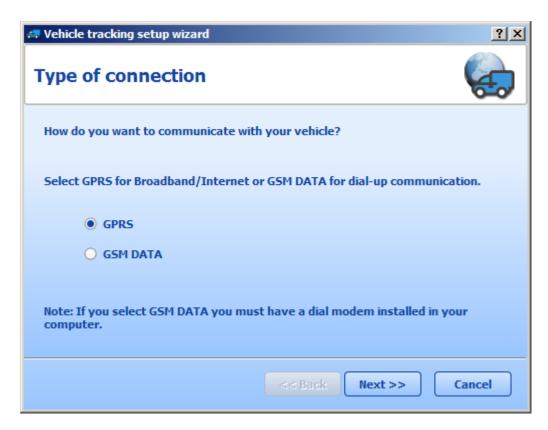


You will now be prompted to open a map.

If you have received MapExplorer with a tracking device you will see a Tracking Setup Wizard.



Next select how your box communicates with the software. The most common usage is GPRS (Internet connection).



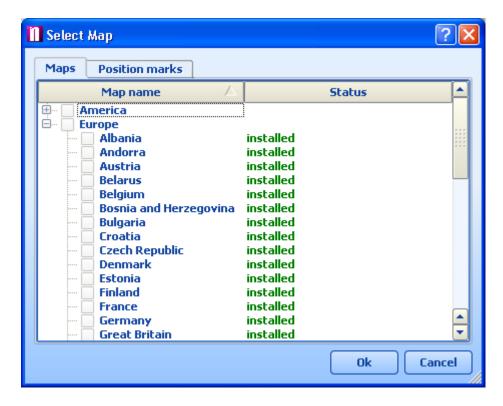
Now you need to register on the tracking server. Select a username and password (try to pick one which you will easily remember) and add an email address.



Now you are ready to add a vehicle. For this you need to have the serial number of the tracker at hand.

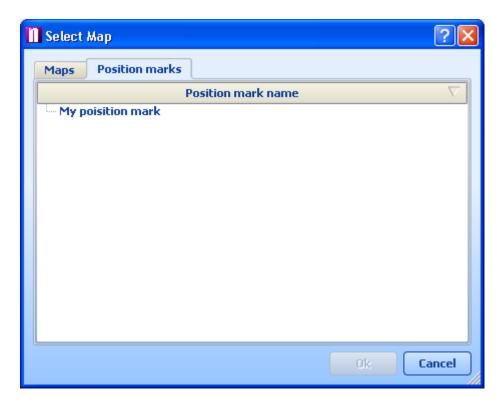
1.3 Opening a map

To display a new map click the button on the left of the toolbar. This brings up the *Select Map* dialog box.



In the *Select Map* dialog box click to choose the map you want. You can select any combination of countries in the list but only those that are installed. To select all the countries in a region select *Europe* or *America* at the top. Now click *OK* to confirm your selection. This will bring up a window containing the map you selected. To see it across the whole screen click the maximize button in the top right corner of the map window.

If you have previously saved any Position Marks then can select to open a map at the saved position.



Notice that once a map is opened all the buttons on the toolbar become active.

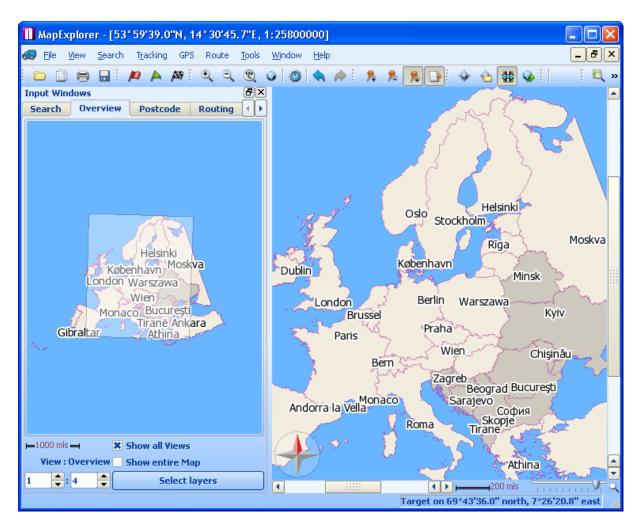
1.4 Exiting MapExplorer

From the menu select File/Exit to quit MapExplorer. If *Open last active map on startup* is ticked in Settings/Application then MapExplorer will save your map position before closing.

2 Using MapExplorer

2.1 MapExplorer Overview

Once a map is loaded you will see something like this:



If you leave the mouse pointer over a toolbar button for more than 1 second a help bubble will pop up with a brief description of what the button does. Note that if a button is greyed out it cannot be used.

As you can see the window is divided into two panes, the input pane on the left and the map view on the right. The input pane is where you can search for locations, postcodes, routes as well as navigate and customise the map. A third pane, the results or output pane, is not visible initially and will only appear after some search, route or GPS connection is initiated.

Before we examine the input pane lets first see what we can do with the map view.

2.2 The Map View

2.2.1 The map menu

Right click on the map and the following menu will appear,



Lets go through these items one by one.

Back

Undo the last map operation - zoom, move, rotate etc..

Forward

This item is only available after an *Back*. It repeats the previous map operation - zoom, move, rotate etc..

Open another view

Open another view of the current map.

Fullscreen

Show the map across the whole screen. To get out of full screen mode right click on the map and select this item again.

Show map highlights

Show/hide any existing map highlights. This option only appears after you have selected to show route or search results on the map.

Centralise position

Centre the map on the point where you clicked.

Find nearest

Search all map databases for the nearest object to where you clicked. One record will be returned for each searchable map layer.

Cursor modes

Moving the cursor over this item will show the following submenu.



Select one of the following:

Zoom in/out

Change the cursor mode to zoom mode. Use this mode to zoom in or out of user selected rectangles.

Grabber hand

Change the cursor mode to grabber hand. Use this mode to move the map using click and drag operations.

Rotate

Change the cursor mode to rotate. Use this mode to change the rotation of the map.

Routing

Moving the cursor over this item will show the following submenu.



Set departure

Make the point on the map where you clicked the start of your route. A route departure icon will be added to the map and the input pane will automatically change to the routing tab.

Add waypoint

Make the point on the map where you clicked a stop on your route. A route waypoint icon will be added to the map and the input pane will automatically change to the routing tab.

Set destination

Make the point on the map where you clicked the end of your route. A route destination icon will be added to the map and the input pane will automatically change to the routing tab.

Set home point

Make the point on the map where you clicked the end of your *Home Point*, a feature designed to save you time. This point will automatically add as the opposite end of the journey. So, if you have selected a departure then the home point will be added as a destination and vice versa. It even enables you to start navigation home without setting any route points.

Close for routing

If you right click over a street you can prohibit routing through it. To enable it again got the <u>user object list</u>. In the <u>closed roads</u> sections you will see a list of all prohibit roads. To reenable it for use in routing right click on it and select <u>Delete</u>.

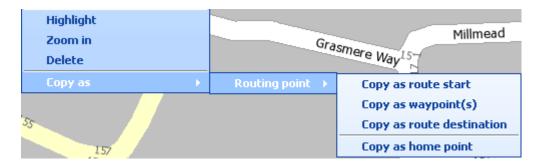
Route here

Calculate a route to the point under the cursor. If the departure has not been selected then routing will begin/end the route at the *home point*.

Add pushpin

Click this item if you want to place a user pushpin at the spot on the map where you clicked.

If you have right clicked over a pushpin or a route point you will additionally see the following items.



Highlight

Zoom in on the object and highlighted with a flashing effect in the colour defined in <u>settings</u>.

Zoom in

Zoom in on the object to greater map detail.

Delete

Remove the object from the map and the user object list.

Copy as

If you have right clicked over a pushpin the following options will be visible:

Copy as route start

Make the pushpin the beginning of a route

Copy as waypoint(s)

Make the pushpin a waypoint on a route

Copy as route start

Make the pushpin the end of a route

Copy as home point

Make the pushpin the Home Point

If you have clicked over a route point then the following option will be visible:

Copy as pushpin

Add a <u>pushpin</u> at the coordinates of the waypoint.

2.2.2 Zooming

There are several ways to zoom in and out of the map. Lets go through each of them.

Zoom bar

In the bottom right corner of the MapExplorer window the current scale is shown, with the zoom bar next to it.



Moving the slider changes the magnification of the map. Move the slider to the left to zoom in on the map and to the right to zoom out. The scale bar will automatically adjust to give a correct reading. This method zooms in/out of the centre point of the map view.

Toolbar zoom buttons



Clicking the first two of the above buttons in the toolbar will zoom out (increasing area shown on the map by one third) or zoom in (decreasing the area shown by one third). Click the third button to zoom to maximum detail the last button to display the whole map.

Click and drag

First you must change the cursor mode to *Zoom in/out*. Now you can 'click and drag' anywhere on the map. As you drag across the map you will see that a rectangular region is shown on the map and that the cursor has changed.



This signifies the zoom area. Once you have released the mouse button you have two options. Click inside this rectangle to zoom in to it, or click outside it to zoom out. The smaller the region the larger the factor of zoom will be.

Key shortcuts

The + and - keys can be used to zoom in and out of the map quickly. Press + to zoom in and - to zoom out.

2.2.3 Moving the map

There are several ways of moving the map around. Lets go through each of them.

Scroll bars

This is the most obvious way of moving the map about. The square slider between the arrows relates to the horizontal/vertical position of the displayed area relative to the whole map. By clicking on the left arrow the display area will shift to the left. To move the map further you can click the square and slide it as far as necessary.

Pannina

If you move the mouse pointer near the edge of the map you will notice it change to a chevron symbol.



Now click the left mouse button to move the map in the direction of the chevrons. This way you can move in eight directions, move the mouse pointer near the corners of the map to move diagonally.

Grabber hand

To move the map more precisely it is often better to use the grabber hand. First change the cursor mode to Grabber hand. Use this to 'grab and slide' the map around in its window. Click any point on the map, hold down the left mouse button, and move the mouse. The mouse pointer will change to a hand symbol.



The blank areas will be redrawn in when you release the button.

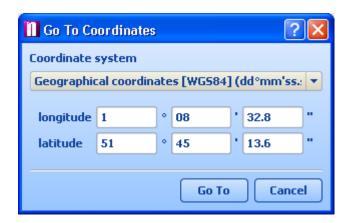
You can also switch between the grabber hand and the zoom cursor by pressing the space bar.

Map overview

From the input pane select <u>Overview</u>. The current map view is shown as the purple rectangle in the map overview. Click and drag this rectangle to move the map to a new position.

Goto to coordinates

If you know the coordinates of the location you want see on the map then you go there directly. From the menu select *Search/Go to coordinates* to bring up the *Go to position* dialog.



The dialog already contains a set of coordinates. These signify the position at the centre of current map view. Use the *Coordinate system* drop down menu to select which type of geographical coordinates you wish to input. Now enter the coordinates and click the *Go To* button to see the location on the map.

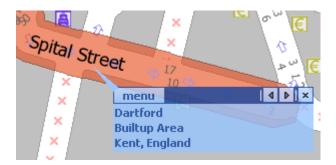
2.2.4 Bubble



When you click on an object on the map an information bubble should appear as shown above.

The bubble shows details of the object you clicked on - in this case Spital Street in Dartford. Because the map is made up of layers, you may have clicked over several objects. In this case there are five.

To see the other information on the other layers click the small arrows in the top right corner of the bubble.



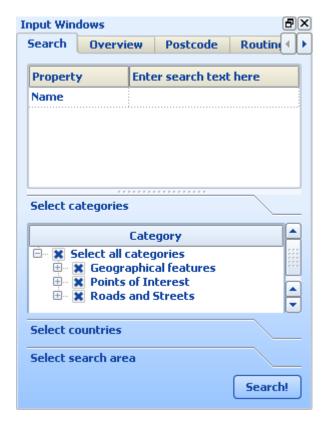
To exit the bubble click the cross in the top right corner. Click *menu* to see the <u>map menu</u>.

2.3 The Input Pane

See Settings/Application to find out how to enable/disable components on the input pane.

2.3.1 Search

The search tab allows you to search all map databases, except postcodes (<u>see postcode tab</u>). By initial Search tab looks like this.



This allows you to search all databases for name of the location you are looking for. To find Abbey Road type 'Abbey Road' and click the *Search!* button. You do not have to type the full name. For example typing just 'Abbey' will find Abbey Road but it will also find Abbey Street, Abbey Lane and so on. The more you type the more precise the result will be.

Select categories

By default MapExplorer searches through all databases. So typing 'Abbey' will not only search for all streets containing the word 'Abbey' but also all other points of interest. For example, this search will also find the Abbey Visitor Centre in Bury St Edmunds, the Abbey Hill Golf Club in Milton Keynes and many more. To narrow the search to one or more databases click the *Select categories* label.

A list now appears with three option.

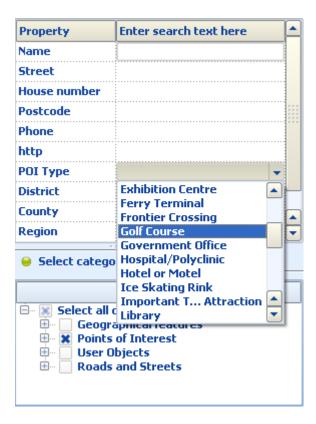


All databases in MapExplorer are divided into three master categories - *Geographical features*, *Points of interest* and *Roads and Streets*. To exclude an entire category from the search make sure to uncheck it. To speed up the search for Abbey Road uncheck *Geographical features* and *Points of Interest* in the list. Now MapExplorer will only look up the streets databases.

Notice that the amount of fields you can search has increased. You can now specify even the town in which the street is located.



If, instead, you wanted to search for all golf clubs beginning with 'Abbey' then first uncheck all categories. Now select the *Points of Interest* category by clicking the plus symbol next to it. This will change the search fields above. Scroll down until you see Golf Course and select it.



Now you have narrowed the search to only look up the Golf Course database, and only Golf course results will be shown.

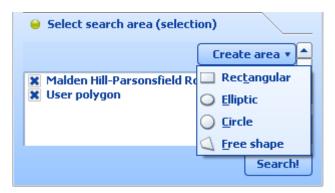
Select countries

If you have several countries installed it is possible to restrict a search to particular countries. Click this label and select which countries should be searched.

Select search area

Click this section if you want to limit the search by area. If you have previously planned a route it will be shown in the list below. Check it to search for locations along it. To set the width of the search corridor see Settings/Search.

The list will also show any search area that you have created on the map. To create a search area click the button Create area button and select a type: Rectangular, Elliptic or Free shape. If you are in rectangular or elliptic mode just click and drag out the area on the map. In free shape mode you just click around the border of the region you want to search in.



Check the option you want to limit the search to.

Searching for an address

If you want to search for an address select only Roads and Street in the category selection. You will now be able to input exact details like house numbers.

2.3.2 Overview

The overview tab shows the an overview of the current map location. The map view corresponds to the purple bounding box visible on the overview.



You can click and drag the bounding box to move the map around.

If you have rotated the map or have map rotation set through GPS the bounding box will automatically rotate to in sync with the map view. The brighter edge of the bounding box signifies the top of the map view.

Show entire map

Check this option if you want to force the overview to always display the whole map. If not selected you can choose the scale of the overview in relation to the current map view. On the bottom right of the tab you can the current overview scale.

Show all views

If you have more than one map view open you can check this option to display the bounding boxes of all of them. Note that the *View:Overview* will be in relation to the map view with the highest zoom.

Select layers

If you find the overview too cluttered then you can use this feature to remove some of the map layers. Once you have clicked the *Select Layers* button the following dialog should appear.



Click the + next to a layer to see all its sub-layers. Simply select which layers to show/hide by toggling the check box next to them. Click *OK* to exit and keep the changes.

2.3.3 Postcode

Click on the postcode tab if you want to search the postcode database.

First select which country you want to search in. Bear in mind that postcodes are not available in all countries and that they can cover large areas outside of Great Britain.



Type the postcode you are looking for in the postcode field. Remember to delimit the two part of a postcode with a space - e.g. TN13 1WY. You do not have to fill in the postcode in its entirety. To find

all postcodes in TN13, just type in TN13 and click the Find button.

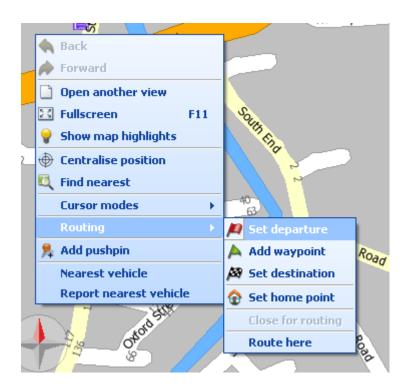
You can use the other search fields also. To find all postcodes in Sevenoaks type Sevenoaks in the Post Town field. Notice that as you type the nearest match is automatically found. So for Sevenoaks it is only necessary to type 'Sev'.

2.3.4 Routing

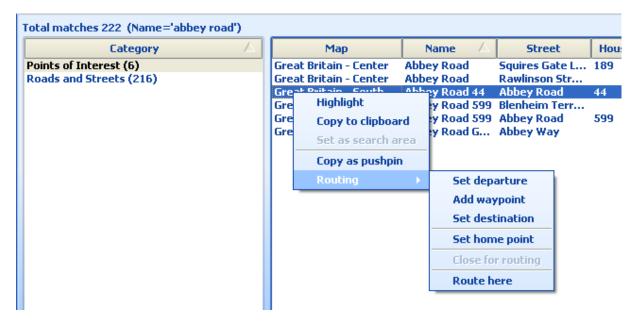
The route tab is where you set out your journey.



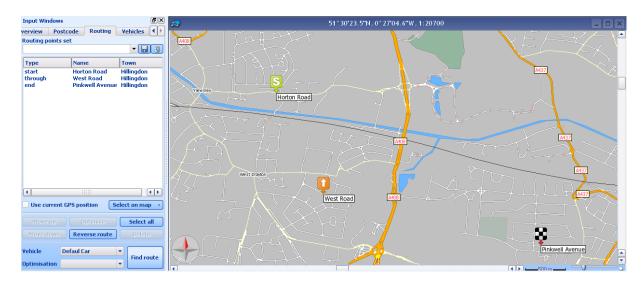
To add points to your route you can select them directly from the map. Simply right click on the map where you want to add the routing point. From the menu go to routing and select a waypoint type.



Or perform a search and add them from the output pane. Simply select the entry you want to route to and right click on it. From the menu go to routing and select a waypoint type.



Once a route point has been selected it will appear in the list as well as on the map.



Different route point are denoted by different icons on the map.



To change the order of a route point select it in the list and use the *Move Up* and *Move Down* buttons. Move a point to the top of the list to make it the departure and to the bottom to make it the destination of your route.

If you want to reverse the order of the route points click the *Reverse* button. This will plan your route back from your destination.

To remove a route point from the list select it and click the Delete button. To remove all route points, click *Select all* and the *Delete*. Note that deleting a route point will also remove it from the map.

If you have selected more than one waypoint you can get MapExplorer to automatically sort them to make your route faster. To do this click the *Optimise* button.

If you have not yet selected all your route points you can do so now. From the *Select on map* drop down menu choose which type of point you want to add and click the *Select* button. The mouse pointer will change to a target. Click a point on the map to locate the route point there.

To change the type of vehicle you are using change the type drop down menu.

Once you're happy that you have setup your route correctly you are ready to calculate it. From the *Choose route optimisation type* drop down menu select whether you want to see the fastest, shortest or cheapest route. Click *Find Route* to proceed.

When a route is calculated it will be highlighted on the map, and the <u>itinerary</u> displayed in the output pane.

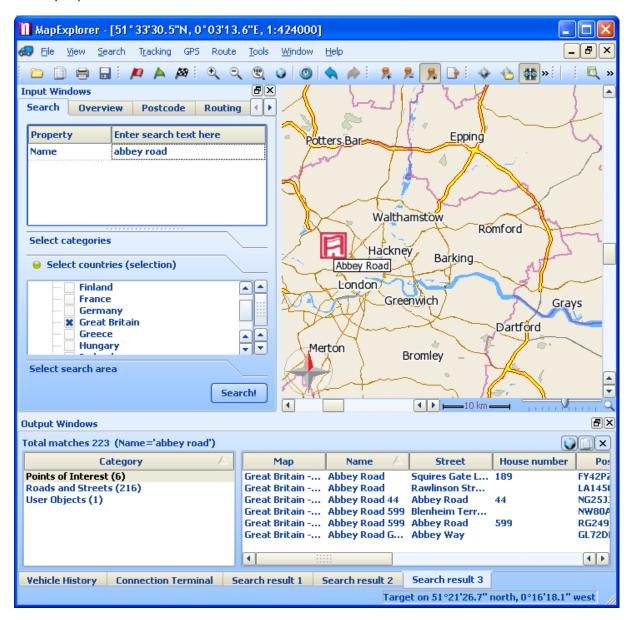
Routing in restricted access roads

If you select a routing point in a pedestrian street you will be warned with a message to let you know that the street may be inaccessible to vehicles. Routing points in private and restricted roads will not give a warning message but will appear in red in the route itinerary.

2.4 The Output Pane

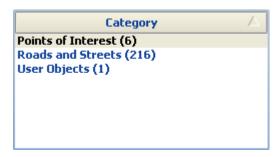
2.4.1 Search Results

After performing a search the result will be shown in the output pane, which will appear at the bottom of the MapExplorer window.

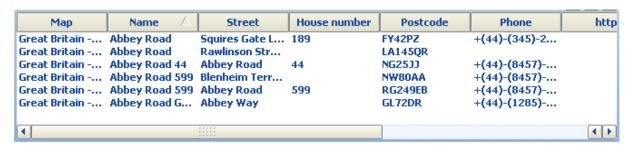


Each result appears as a new tab in the output window. Here we can see three searches have been performed.

Each result tab is divided into two lists. On the left is a category list.



This list shows all the databases had records beginning with 'Abbey'. The number in brackets after shows the number of records found in that category. If there is a '>' symbol before the number then this indicates that not all records are listed. In the interests of speed MapExplorer only searches for a limited number of records in a databases. To increase or decrease this maximum limit see Settings/Search. Click a category in the list to see its matching records.



The list on the rights displays all records that match the search criteria for the category you selected. The columns listed may vary from category to category. For example, the Roads and Streets category has *Name*, *Type* and *Details* columns but Museums will contain *Street*, *House Number*, *City* and *Phone* columns.

Right click a record to bring up a pop up menu.



Highlight

Click this to show the selected record on the map. It will be highlighted on the screen. If you have selected more then one record, they will all be highlighted on the screen and the map will automatically adjust to show them all Note that this performs the same function as clicking the following button in the top right corner of the Output pane.



Copy to clipboard

If you want to past the selected record in to another application the use this to copy it to clipboard first.

Set as search area

This option will be greyed out for all records that are not regions. If you want to search for 'Abbey' in Kent then search for Kent first. Go to County in the Result Category list and right click on Kent in the right hand list. Now select *Set as search area*. Kent will automatically be added to the *Select search area* list box and can be selected for area search.

Routing

Moving the mouse pointer over the Routing entry brings up the routing submenu.

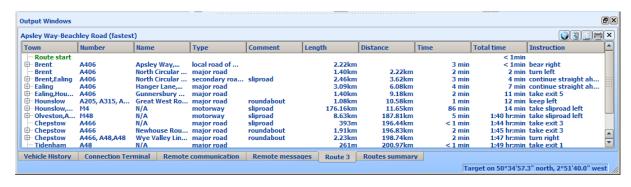


To add the selected record as a point on your route select one of the options from this menu. You can also make it the *home point*, a feature designed to save you time. This point will automatically add as the opposite end of the journey. So, if you have selected a departure then the home point will be added as a destination and vice versa.

If you have selected your departure point the you can use this menu to <u>calculate the route</u> by clicking *Route here*.

2.4.2 Route Results

When a route is calculated it is highlighted on the map and the itinerary displayed in the output pane.



The itinerary is shown in several columns.

Town - The town in which the street is located

Number - The road number is there is one for that street.

Name - the name of each street on the route

Type - the road type of each street on the route. See <u>Routing settings</u> for a further explanation of these types.

Comment - other information about the maneuver (e.g. roundabout, slip road)

Length - the distance you will travel before the next manoeuvre

Distance - the total distance traveled on the journey so far

Time - the length in time before the next manoeuvre

Total time - the total time traveled on the journey so far

Instruction - the manoeuvre to execute at the end of each item in the itinerary

Right click any item in the list to bring up the following dialog.



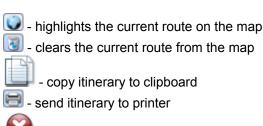
Highlight - displays the selected item on the map

Copy to clipboard - copies the selected line to the clipboard for use in other applications

Set as closed - this will set the road you clicked on as closed. If you now recalculate the route the routing engine will avoid it. This is particularly useful when you want to avoid traffic jams and so on. All closed roads appear in the user object list. Deleting them from the list will enable them in routing again.

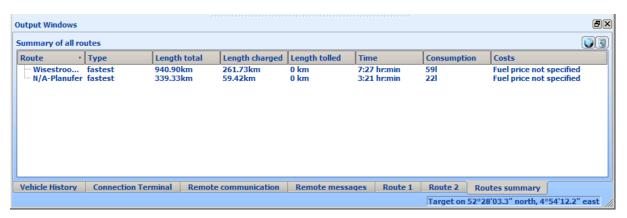
The top right corner of the output pane shows several buttons.





- close the current route itinerary

A summary is also added to the Route summary tab.



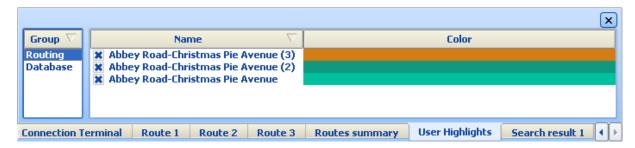
This shows you the total distance, time, consumption, cost of the journey and even the length travelled on toll and charge roads. To calculate costs properly you must fill in the correct fuel price in Routing settings

2.4.3 Highlights

To bring up the Highlights tab in the Output Pane click the following button in the toolbar.



Alternatively, select Window/Show map highlights from the menu.



Each time you select to show an object on the map it will be listed here.

The list is broken into two categories: Database and Routing. Routing contains a list of all current routes and Database contains a list of all object highlighted through searches.

If you find that your map view is cluttered with too many highlights then this is the place to remove them. To de-highlight an object temporarily untick the check box next to it.

Right click an item to bring up the following menu.



Zoom in - show the selected item on the map and zoom in on it.

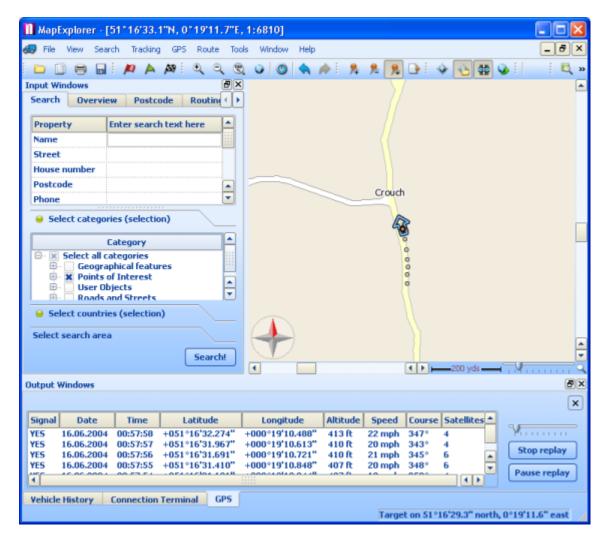
Change colour - This option is only available if the Colour/Icon column is not an icon. It will bring up the Select color dialog which lets you choose a different highlight colour.

Delete - deletes the highlight permanently so it cannot be show again without re initiating the search or route.

2.5 **GPS**

2.5.1 GPS tracking

If you own a GPS receiver you can connect it to your computer and display your position on MapExplorer. To start the GPS interface select *GPS/GPS Tracking* from the menu. Before you do this you must set your unit up in <u>Settings/GPS</u>.



If your unit is recognised then GPS tracking will start straight away. Your position is represented by an arrow on the map and the output window shows the data coming from your receiver.

To keep your position always on screen select GPS/Centre GPS from the menu.

One unique feature that MapExplorer has, is the ability to rotate the map as you drive. This way your driving direction is always towards the top of the screen which makes the map easier to read. To enable/disable this feature select *GPS/Rotate map* from the menu.

To reset the map to north up select View/Reset map rotation to north up from the menu.

If you have selected to display GPS information and snail trail on the map (see <u>Settings/GPS</u>) you will also see a history of your most recent positions as well as your speed, direction, altitude etc..

2.5.2 Replay

To replay a previously recorded journey select *GPS/Replay GPS* from the menu. The Open File dialog will pop up which will let you select a file containing a recorded journey.

The replay will begin immediately. The replay controls appear on the right of the output pane.



The slider at the top controls the replay position, the left being the beginning and the end on the right. You can move to jump to positions in the replay.

Click the two buttons below the slider to pause or end the replay.

To change the replay speed go to Settings/GPS/Replay.

2.6 Toolbar

2.6.1 Toolbar buttons

Map



- Open a map







- Print map



- Save map as image

Routing and navigation



- Set route departure on the map



- Set route waypoint on the map



Set route destination on the map

Tools



- Search for an object



- Find the nearest object in each layer to the selected point on the map



- Goto coordinates



- Measure distance on the map



- Measure area on the map



- Measure bearing



 ${}^{\sqrt{1}}\!\lambda$ - Display pointer co-ordinates in status bar

Pushpins



+ - Add a new pushpin on the map



- Delete a pushpin from the map



- Display/Hide pushpins on the map

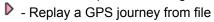


Show pushpin list

GPS



- Start/Stop GPS tracking





- Centre map on GPS position



Automatically rotate map with direction of travel

View



- View input pane



- View output pane



- Open a new map window



- Close active map window



Switch to fullscreen mode



Tile map windows



Cascade map windows

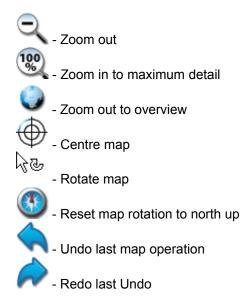
Settings



- Configure MapExplorer

Map Controls





2.6.2 Customising the toolbar

Right click on the toolbar and the following menu will appear.

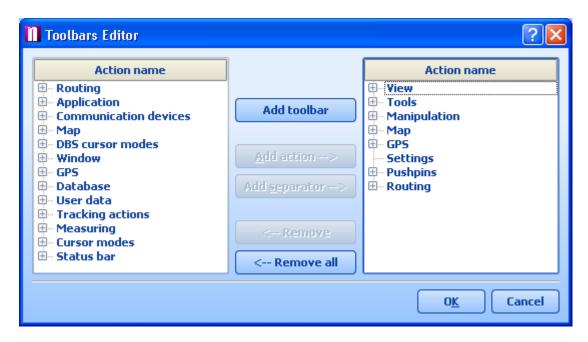


The first item toggles the visibility of the menu.

The next two entries toggle the visibility of the input and output windows.

The next set of entries show the defined tool groups. Each group is a collection of buttons on the toolbar whose visibility can be toggled using the check box on the left of it. To edit the groups and the buttons they contain click *Edit toolbars*.

This will bring up the Toolbar editor.



This dialog is divided into two sections. The list on the left contains all available tools and groups and the list on the right the currently selected groups and the tools they contain.

To see the tools in a group click the '+' next to it.

You can add/remove groups and tools using the buttons in the centre of the dialog. If a group contains many buttons you can additional subdivide them using separators. These are thin vertical lines between buttons.

Lets try to make a new group.

Click the *Add Toolbar* button. This will add a new entry in the list. Simply type in a new name, 'My tools' for example, and hit enter.



Now, from the list on the left expand one of the groups to reveal all the tool buttons it contains. Lets expand *Cursor modes*.



Select the Grabber hand tool and click Add action. This will add the grabber hand tool to the My Tools

group. Perform the same operation again, but this time with the Zoom in/out tool.

Now click OK. This will add a new tool group to the toolbar. You can move it by clicking and dragging the vertical double lines to the left of the group.

2.7 Pushpins

2.7.1 Adding a pushpin

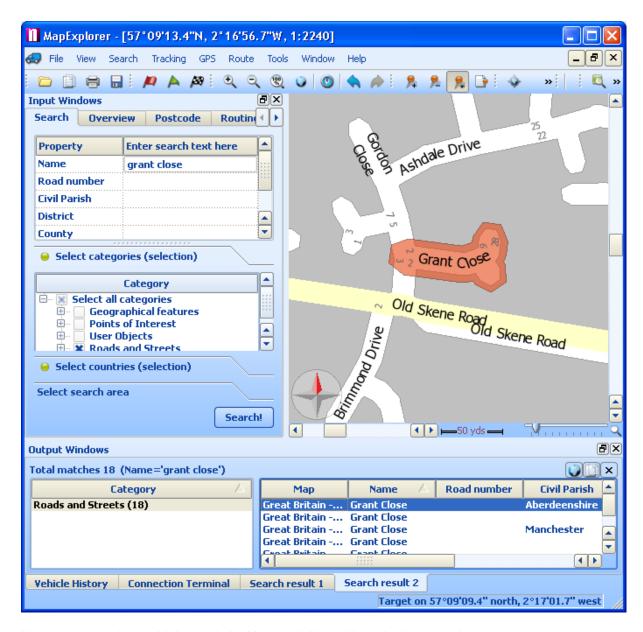
There are two ways to add a pushpin on the map.

From the map

The first thing you must do before you add a pushpin is to move the map to the correct position.

As an example, lets say that we want to add a pushpin on the map to show the position of "John Smith" from Grant Close in Westhill, Aberdeenshire.

First, we must <u>search</u> for Grant Close and highlight it on the map.



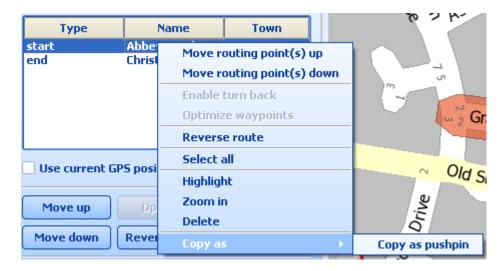
Now we are ready to add the pushpin. You can initiate this action in several ways:

- from the menu Tools/Pushpins/Add Pushpin
- click on the add pushpin button in the toolbar
- right click on the map and select Add Pushpin from the menu

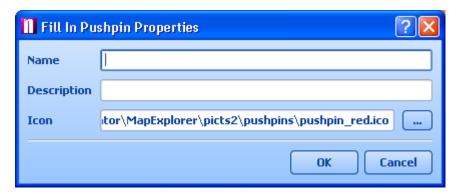
When you move your mouse pointer over the map it will change to a target symbol . Centre the target on where you want to position your pushpin and click the left mouse button.

From the route point list

In the routing tab you can right click on any point in the list and select Copy as.

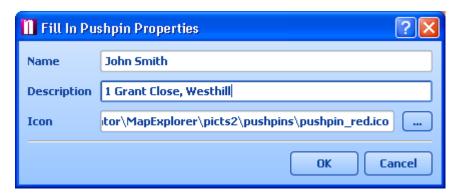


Both methods will bring up the following dialog.

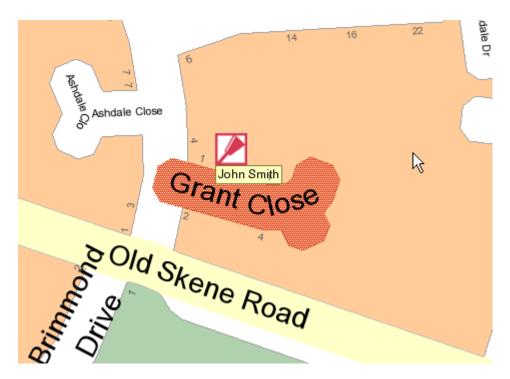


There are two text boxes to fill in here. The pushpin *name* is the name that will appear in the list of user object and as label on the map. You can also add a short *Description* with further details about the pushpin.

Although an icon is automatically suggested, you can select a different one by clicking the '...' button.



Now click *OK* and the pushpin will appear on the map.



2.7.2 User Object List

To display the User Object list click in the toolbar or select *Window/Show user object list* from the menu.

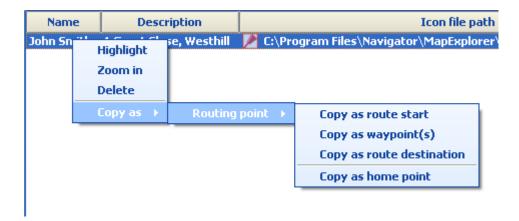
The list will appear in the Output Pane.

The type column list the different user objects categories. Categories are only visible if there are user objects defined in them. For example, if you have yet not defined any route points then the Routing points category will not be shown. Possible categories are pushpins, routing points, closed roads and search areas.

Pushpins



Select Pushpins from the left hand column and all your pushpins will be shown on the right. Right click on the name of a pushpin to bring up the following drop down menu.



Click Highlight to zoom in on the pushpin and highlight it.

Click Zoom in to show the pushpin on the map.

Click *Delete* to remove the pushpin from the list and the map.

Moving the mouse pointer over *Copy as* will reveal a *Routing point* sub menu, which in turn reveals options to set the current user pushpin as a point in a route or a home point.

To change a pushpin name or description double click it in the list. One you have amended the text press Enter.

To select a different icon for the pushpin simply click the entry in the *Icon file path* column. This will bring the standard Windows *Open* dialog where you can select an alternative icon.

The last two columns let you toggle visibility on the map. Only two settings are possible here - yes and no.

Label contains name - show/hide the name in a text label under the pushpin.

Label contains description - show/hide the description in a text label under the pushpin.

Routing points



All routing points are listed here.

Right click on a point in the list to see the a menu with the following options.

Click Highlight to zoom in on the route point and highlight it.

Click Zoom in to show the route point on the map.

Click *Delete* to remove the route point from the list and the map.

Moving the mouse pointer over *Copy as* will reveal a *Copy as pushpin* item which lets you add a <u>pushpin</u> at the coordinates of the waypoint.

The list has the following columns:

Name - Name of the street on which the route point is located.

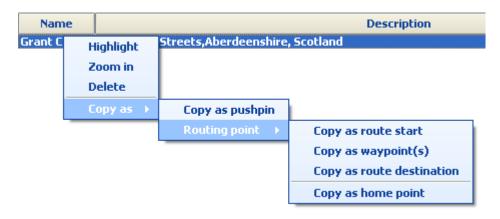
Description - If you want to add a short note to a route point click the description column and modify it. *Icon file path* - You cannot change the icons representing route points.

Label contains name - show/hide the name in a text label under the pushpin.

Label contains description - show/hide the description in a text label under the pushpin.

Type - the route point type (departure, destination, waypoint, home point)

Closed roads



If you have prohibited any roads from being route on then they will appear in the list here.

Right clicking on a road reveals the following options:

Click Highlight to zoom in on the route point and highlight it.

Click Zoom in to show the route point on the map.

Click Delete to remove the route point from the list and permit routes to go through it.

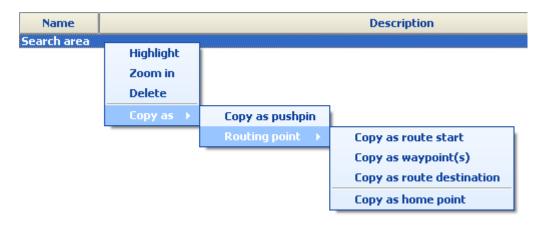
Moving the mouse pointer over *Copy as* will reveal a *Copy as pushpin* item which lets you add a <u>pushpin</u> at the coordinates of the waypoint.

The list has the following columns:

Name - Name of the street on which the route point is located.

Description - The type of road and its location (town, county, country)

Search areas



If you have set a search area it will appear here.

Right clicking on a road reveals the following options:

Click Highlight to zoom in on the area and highlight it.

Click Zoom in to show the area on the map.

Click Delete to remove the area from the list and the map.

Moving the mouse pointer over *Copy as* will reveal a *Copy as pushpin* item which lets you add a <u>pushpin</u> at the centre of the area. It also reveals the *Routing point* sub menu, which in turn reveals options to set the current area as a point in a route or a home point. The route point will be added to the street nearest the centre of the area.

The list has the following columns:

Name - Name of the search area which is also used in Search/Search in area.

Description - If you want to add a short note to a search area click the description column and modify it.

2.7.3 Removing a pushpin

If you want to hide all pushpins from the map without deleting them click the *Display/Hide pushpins* on the toolbar,

To delete a pushpin permanently you can use one of the following two methods:

1) From the User Object List

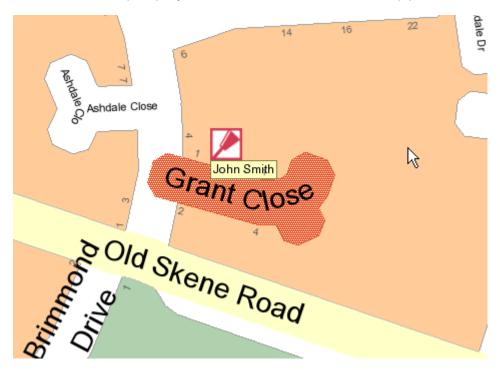
Right click on the name of a pushpin to bring up the following drop down menu.



Click *Delete* to remove the pushpin from the list and the map.

2) From the map

Make sure that the pushpin you want to delete is shown in the map pane.



Right click over the pushpin and select *Delete*.

Alternatively, click the *Delete a pushpin from the map* button from the toolbar . As you move the

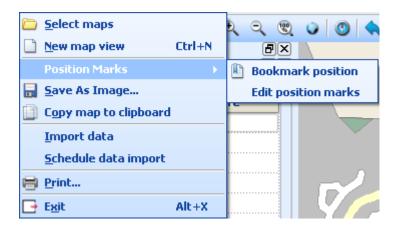
mouse pointer over the map it will change to a target symbol $\sqrt[1]{3}$. Move the target over the pushpin you want to remove and click the left mouse button.

2.8 Position marks

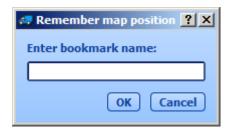
Position marks are a tool to save your favorite views, so that you can return to them quickly at a later date.

Position marks store the current position and zoom level of a map window. If you open a position mark MapExplorer will restore the map window to that position. Position marks also appear in the <u>Select Map</u> dialog. This way you can open maps at the bookmarked position.

Position marks can be accessed from the main File menu.

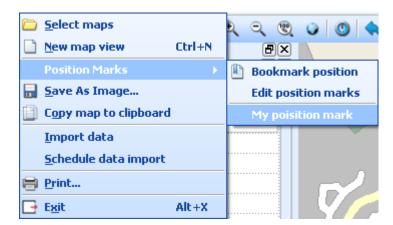


If you want to bookmark the current view select *Bookmark position* from the list. You will now see the *Remember your map position* dialog.



In the textbox enter the name for the position mark and click OK.

It will now appear in the File menu under Position marks.



To go to the saved position simply click on it in the list. To amend your position marks click *Edit*. The following dialog will appear.



If you want to save the current view click *Save current position*. To edit a current position mark, select it from the drop down menu.



You can now do one of three things:

Show position - go to the saved position on the map.

Save current position - change the saved position for the current map view.

Delete position - delete the position mark from the list.

2.9 Points of Interest





- Camping Ground

- Park and Recreation Area



- Car Dealer



- Rent-a-Car Facility



- Casino





. Convention Centre



- Cultural Centre



- Theatre



- Courthouse



- Government Office

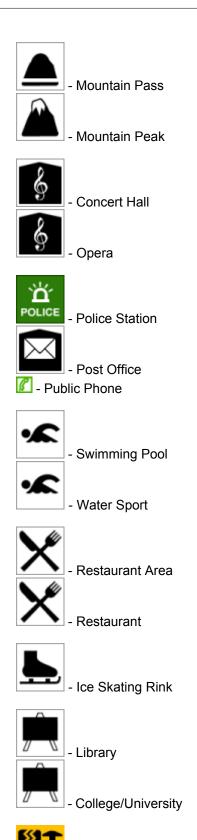




- Exhibition Centre







Car Repair Facility



3 Importing Data

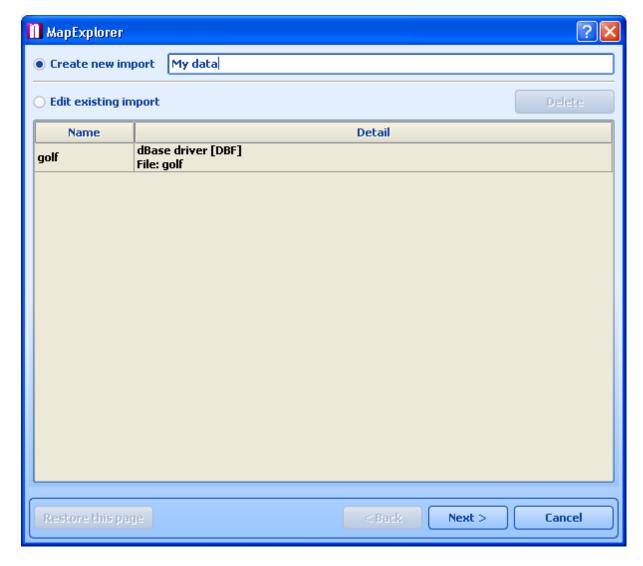
3.1 Importing your database

To initiate the import procedure select *File/Import data* from the MapExplorer menu.

The first import wizard screen will now appear.

Select import

You have two choices:

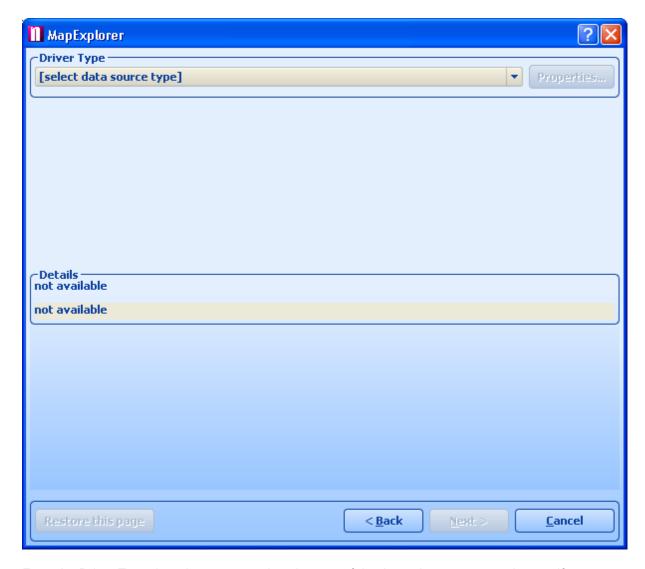


Create a new import - select this option if you have never imported this database before. Select existing imported - lets you amend the settings of an existing import.

If you are creating a new import you must give it a name under *import name*. If you are amending an existing import please select it from the list.

Now click Next>

Specify data source



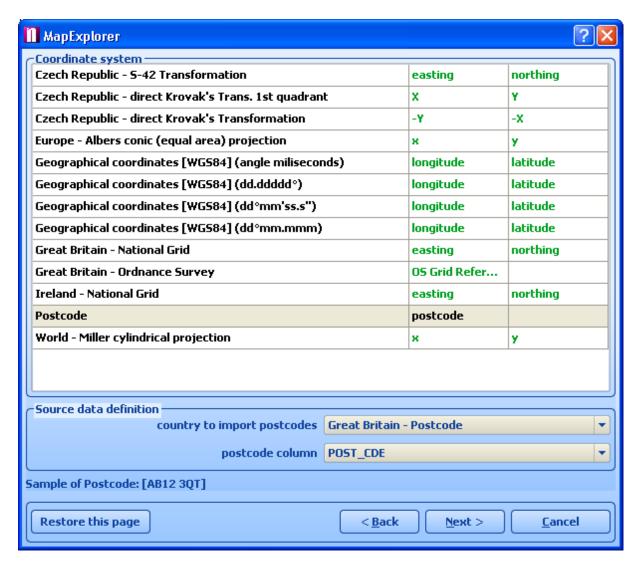
From the Driver Type drop down menu select the type of database that you want to import. If your database type is not listed you can try to import through an ODBC connection. You can import from most commonly used applications including Microsoft Access and Excel.

After selecting an Open File dialog will appear where you can select a database or ODBC Driver to connect to. Once you have selected a database the lower part of this dialog will give you details about the connection status, including the database table name, driver type and if a MapExplorer has successfully connected to it.

Click the *Properties* button to select a different database or edit your ODBC connection.

Click Next> to continue.

Geocoding

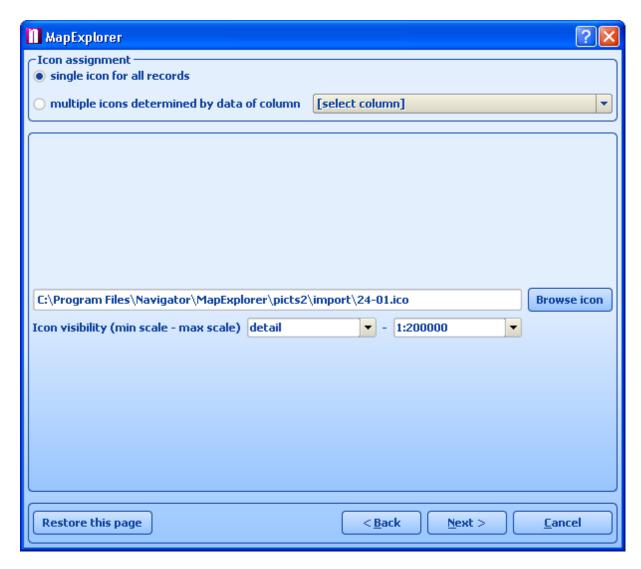


In order to import data to the right locations on the map it is necessary to tell MapExplorer how to geocode it. From the Coordinate System list select what type of information your database contains. If your data already contains geographical coordinates select the type you are using. If you have address data with postcodes you can choose to geocode data by postcode. In this case you must first select which country the data refers to from the *country to import postcodes* drop down menu.

Once you have selected a coordinate system you must specify which column (field) in the database contains this information. In some instances, like British National Grid or Latitude/Longitude, two fields must be selected. In other cases, like postcodes and Ordnance Survey, only one field is necessary.

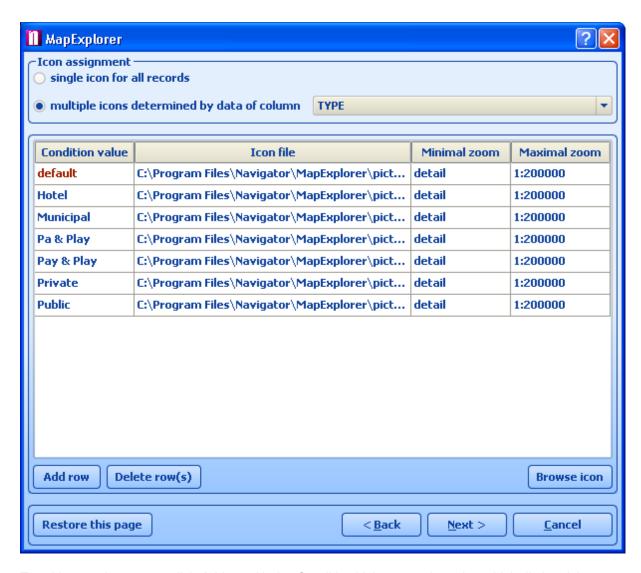
Click Next> to continue.

Select icon(s)



This dialog lets you specify how to your data should be represented on the map. If you are happy for all records to be represented by a single icon leave the *Icon assignment* as *single icon for all records*. An icon is automatically selected for you, to change it click the *Browse icon* button. Many icons can be found in the MapExplorer installation folder (typically C:\Program Files\Navigator8\MapExplorer\picts\24x24\).

If you want to break down records into several icon groups then click multiple icons determined by data column and select a column from the drop down menu. Once you have done this the dialog will change. MapExplorer will automatically add all unique values in the list.



To add a new icon group click *Add row*. Under *Condition Value* enter the value which distinguishes one group from the next. Under Icon file select an icon to represent that group. Ideally each group should be represented be a different icon.

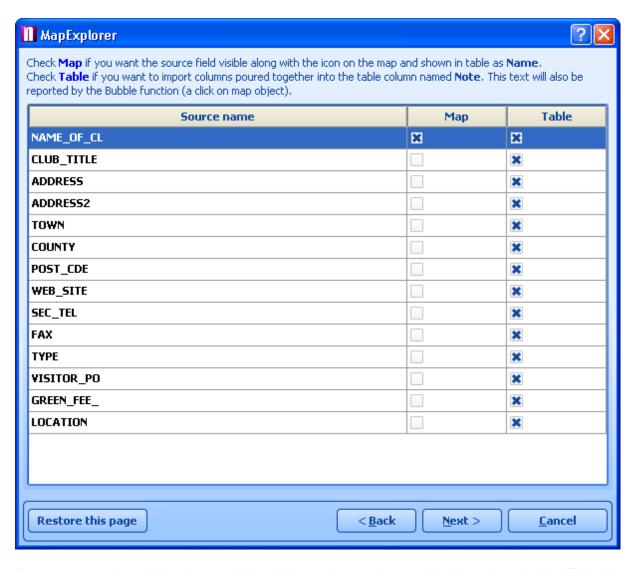
To remove a row click Delete row(s).

Whether you are importing one icon or many you can limit their visibility. Select the zoom levels between which you want your icons to be visible by setting *minimal zoom* and *maximal zoom*.

Note that if you are importing many records then it is important to limit the *Maximal Zoom* to prevent MapExplorer from slowing down when displaying the whole map.

Click Next> to continue.

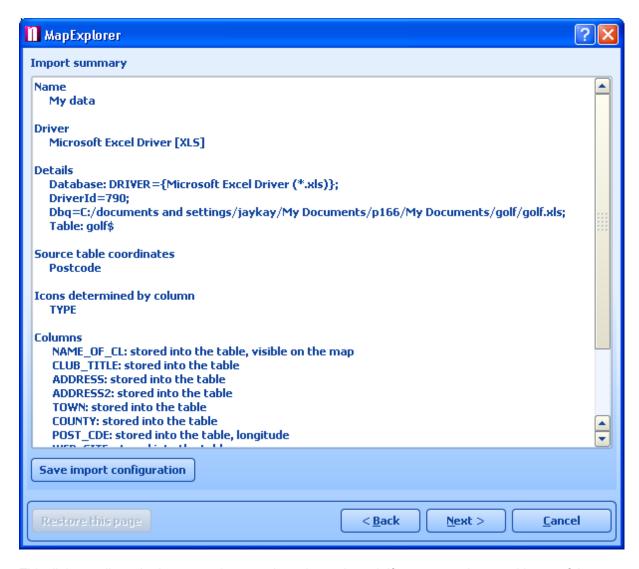
Database columns



Here you can select which columns will be visible on the map (as text labels) and searchable (Table) in the Search tab.

Click Next> to continue.

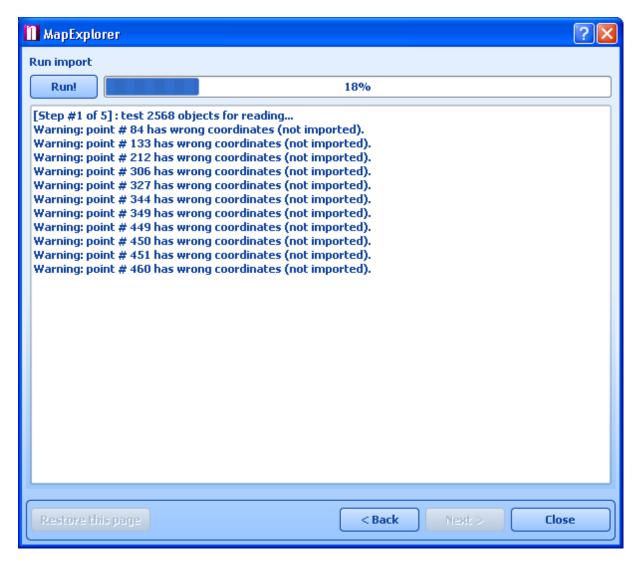
Import summary



This dialog outlines the import settings you have just selected. If you are not happy with any of the values click < *Back* and ammend them.

Click Save import configration to save you import so that you can run it in the future without the Import Wizzard.

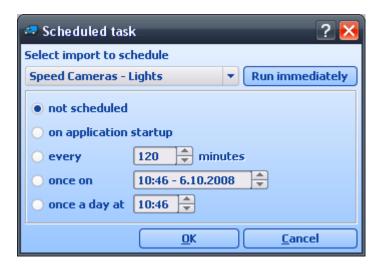
Click *Next* > to continue, if you have not saved your import you will be prompted now.



Now you should see the *Run Import* dialog. To begin the import click the *Run!* button. Any unplaced records will be listed. To terminate the import process click *Close*.

3.2 Schedule import updates

To schedule a saved import go to File/Schedule data import in the menu.

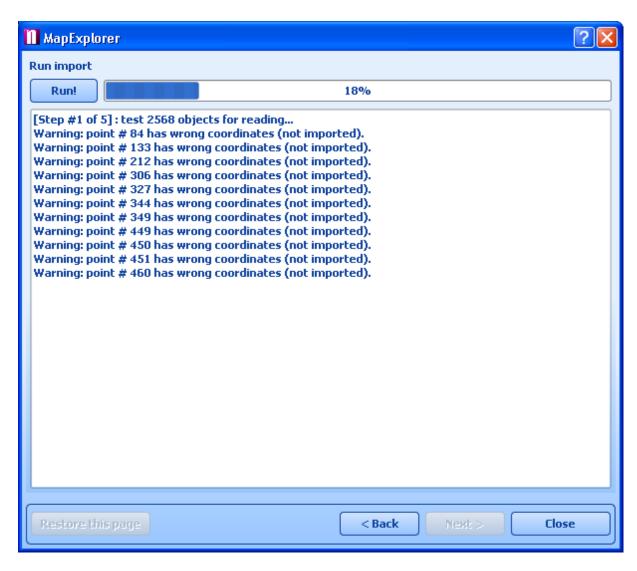


There are three option here.

not scheduled - MapExplorer will not automatically update. Update can still be performed manually. on application startup - MapExplorer will update from the source database every time it starts Every - MapExplorer will update from the source database at user defined intervals

Click *Next>* to continue.

Click Run immediately to run the import straight away



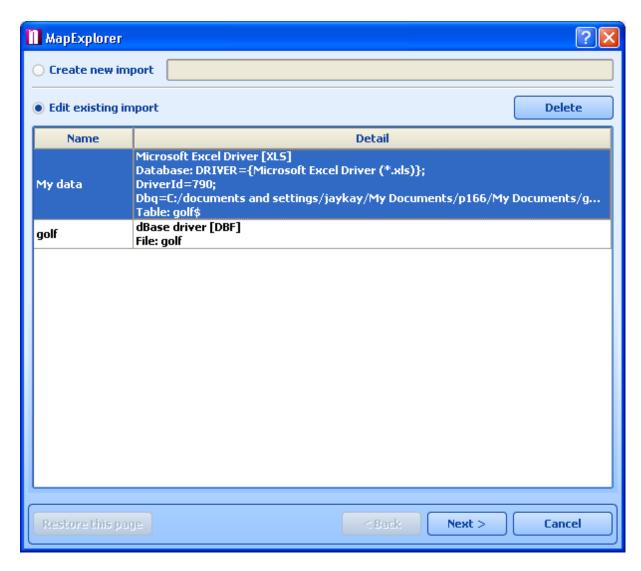
From the drop down menu select which database you want to update and click Run import.

3.3 Deleting your database

There are two ways to remove imported data from MapExplorer.

You can hide the import from the map from the menu File/Select maps. Toggling the check box /hides or shows the import on the map but does not delete it.

To delete the import and all data select File/Import data from the MapExplorer menu.



Now select Edit existing import and highlight the database you want to delete. Click Delete.

4 Configuring MapExplorer

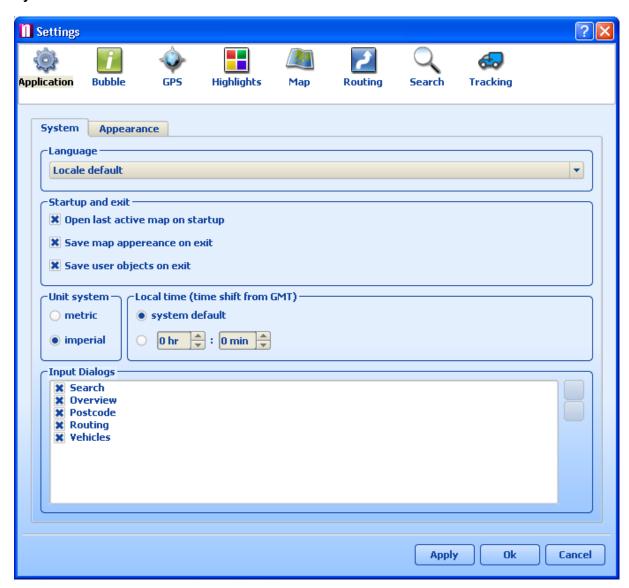
To customise MapExplorer to your needs use the *Settings* dialog. Bring up this dialog by selecting *Tools/Settings* from the menu.

This dialog is made of two parts. On the left an icon list, where you can select which part of MapExplorer you want to customise. Use the scroll bar to display other options.

On the right side of the dialog you can see the settings for that section.

4.1 Application

System



Here you can configure general application behaviour.

Language

If you had chosen to install several languages you can switch between here. *Locale default* will set the language the same as your operating system.

Startup and exit

Open last active map on startup - select this option if you want MapExplorer to open the map on startup at the same point at which you exited.

Save map appearance on exit - select this option if you have changed map appearance and want to keep them for future MapExplorer use.

Save user objects on exit - select this option if you want to keep any pushpins, you added to map, for future MapExplorer use.

Unit system

Toggles the use of metric (kilometres, metres and litres) or imperial units (miles, yards and gallons). This is of particular interest when measuring map distances or areas and routing.

Local Time (time shift from GMT)

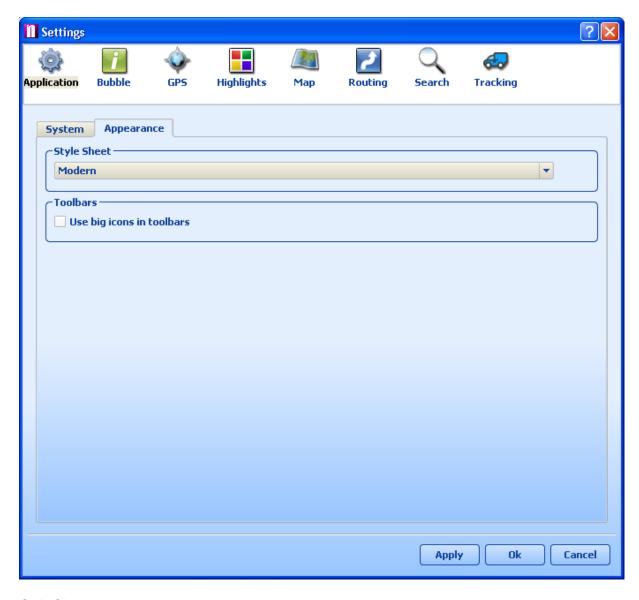
GPS devices usually communicate Greenwich Mean Time (GMT). If you are in a different time zone or in the UK when clocks have changed to British Summer Time (BST) then you can adjust the time displayed and recorded with the *Time offset* spinner. As an indication, BST is set as 1 hour ahead of GMT.

In most cases it is enough to select *system default* and let MapExplorer adjust it according to the settings in your operating system (Windows XP etc.)

Input dialogs

From this list you can control which tabs appear on the input pane.

Appearance



Style Sheet

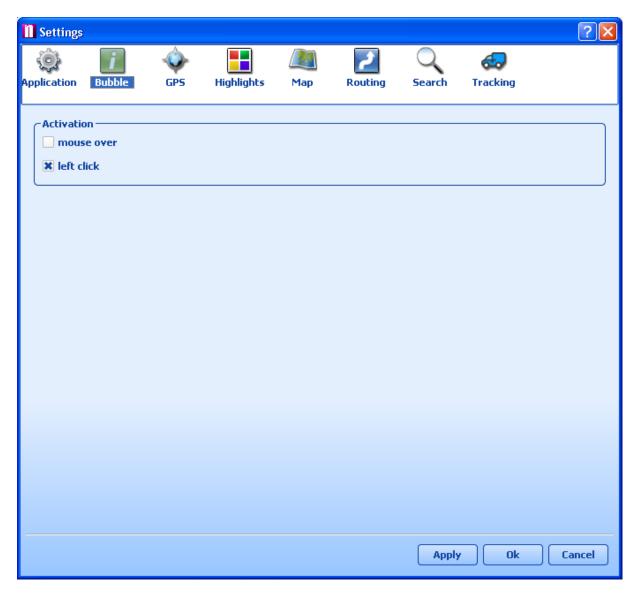
Select the type of skin you want MapExplorer to run. The Choice is Modern or Classic. There is no functional difference between the styles and your choice comes down to personal preference.

Toolbars

select whether to show large or small buttons on the toolbar.

4.2 Bubble

Here you can select if and how a bubble containing information about map objects appears.



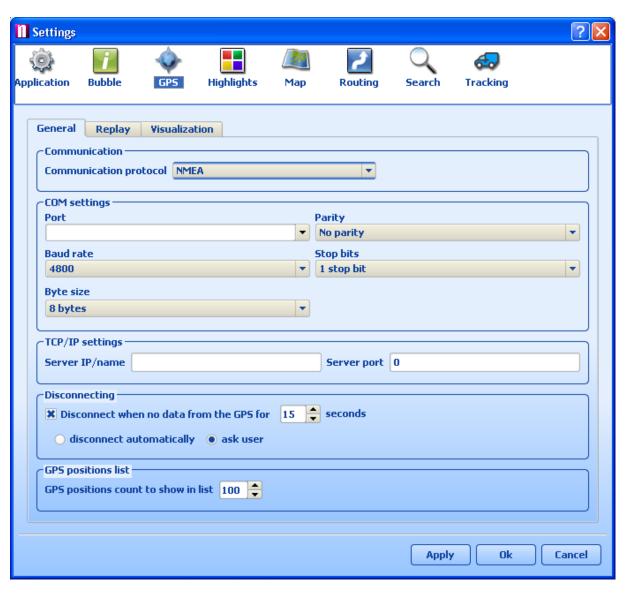
Activation

mouse over - bubble appears if you leave the mouse pointer over a map object for more than 1 second.

left click - bubble appears if you left click over a map object

4.3 **GPS**

There are three tabs available here, one for setting up communication with a GPS device and one for setting up replay of previously recorded journeys.



General

Communication

Communication protocol - Select the data output protocol of your device. In the vast majority of cases this means NMEA

COM settings

Port - Select which port your device is attached to. Note that if you have a USB receiver, a COM is still created by the USB driver. In windows go to Control Panel/System/Hardware/Device Manager/Ports (COM&LPT) to find out which port your device is using.

Set the speed etc. at which your GPS unit communicates. Make sure that *Baud rate, Byte size, Parity* and *Stop bits* match the settings of your COM Port.

TCP/IP Settings

In the Professional version MapExplorer can receive data over a TCP/IP network.

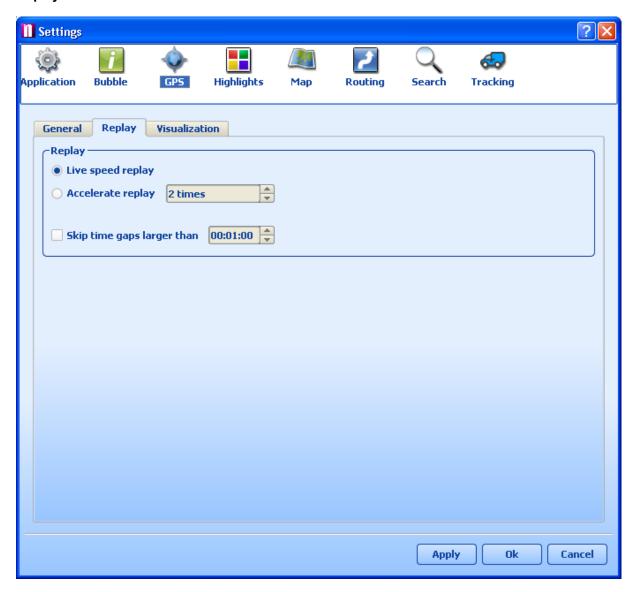
Disconnecting

this is the timeout after which MapExplorer should stop waiting for GPS data from a COM port if there is none coming. Normally, GPS devices will send data automatically and the position updated every second. If you want to be notified before disconnection select the *ask user* option.

GPS positions list

Set the maximum number of position shown in the GPS output pane.

Replay

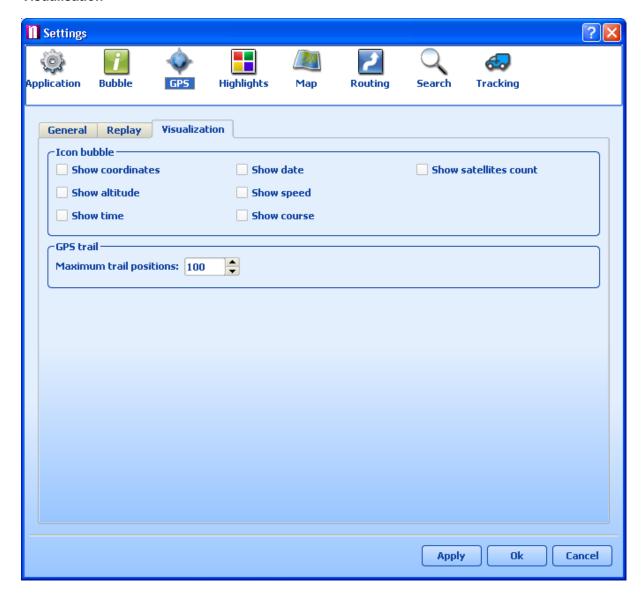


Live speed replay - select this option to replay a file at the same speed at which it was recorded.

Accelerate replay - select this option to replay a file at a higher speed than that at which it was recorded. Use the spinner on the right to set the replay acceleration.

Skip time gaps larger than - this is a useful feature which lets you skip parts of the file where the position is stationary. Use the spinner on the right to select what sized gaps to skip.

Visualisation



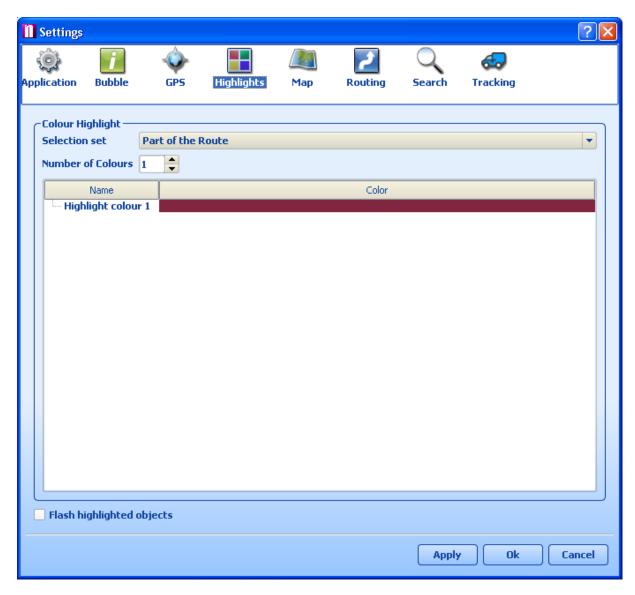
Here you can set which information to display on the map along with the current GPS Position.

Icon Bubble - tick which information you want to see in a label on the map next to the GPS position icon. If you do not select any option then no label will be shown.

GPS Trail - If you want to see a 'snail trail' of where you have been then select how long it will be. The number represents historical positions (if your GPS updates every second then the number of seconds). The higher the number the longer the trail. If you want to see a trail over the last 2 minutes then enter 120. If you select 0 then no trail will be shown.

4.4 Highlights

Set the properties of map highlights.



Selection set

Select the type of highlight you wish to amend.

Number of colours

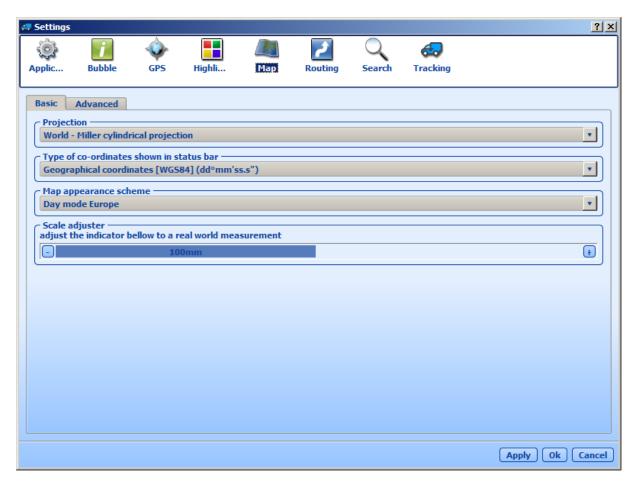
Set the maximum number of colours for the selected highlight type. If you display more highlighted objects than the number of colours selected the first colour will be used again.

Click the Colour column in the list to change to another colour.

4.5 Map

Here you can adjust map attributes to your liking.

Basic



Projection

Changing the projection of a map will change its shape on screen.

Type of co-ordinates shown in status bar

Change the coordinates displayed in the status bar as you move the mouse pointer over the map.

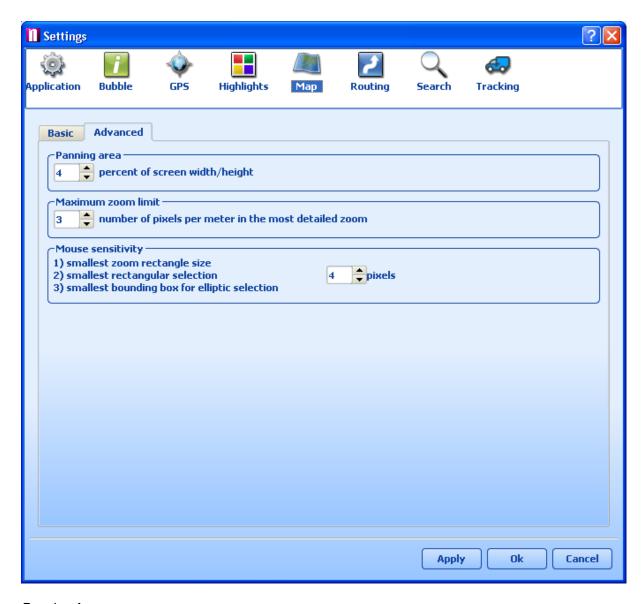
Scale adjuster

In order for MapExplorer to be able to work out map scale accurately it must know how your the size of your screen. Use a normal plastic/wooden ruler to match the distance shown in the slider to that on the ruler.

Size of map icons

If you find map icons too small you can switch to a larger set (24x24). Change down to 16x16 to reduce the size.

Advanced



Panning Area

Set how far from the edge of the map pane the panning chevrons appear, as a percentage of the total window. A higher value means that the chevrons appear further away from the edge. Set this value to zero to removing panning entirely.

Maximum zoom limit

Use this to adjust the scale at the most detailed level. The higher the number the further you can zoom in to the map. The number in the spinner corresponds to the number of screen pixels that will represent one metre on the map.

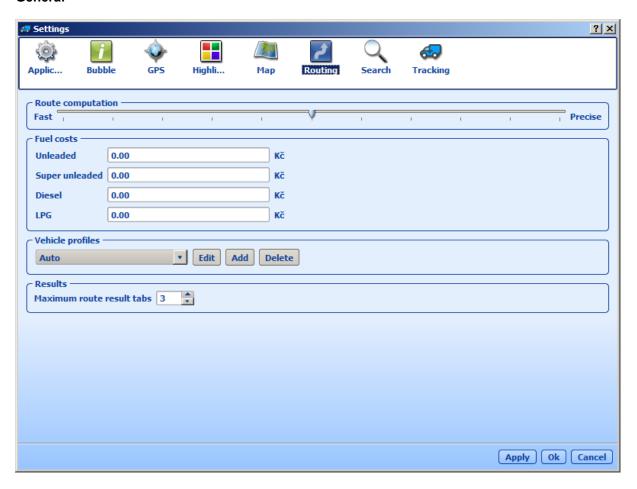
Mouse sensitivity

This feature to remove annoying mouse over sensitivity when operating on the map view. For example, if you find that clicking on the map results in unwanted selection or zoom boxes appearing then increase the number in the spinner.

4.6 Routing

Here you can customise routing behaviour and set the correct parameters for your car.

General



Route computation

Adjust the slider between *Fast* and *Precise*. The more precise the setting the more roads get taken into account when the route is calculated. In most cases this has no effect on the <u>fastest route optimisation</u>, but can make a difference for shortest routes.

Fuel consumption

Set the fuel consumption parameters for your car. If you have set MapExplorer to imperial measurements then consumption is displayed in miles per gallon, otherwise, when set to metric units it is shown in litres per kilometre.

Fuel cost

Enter the average price per litre of petrol in your car.

Vehicle Profiles

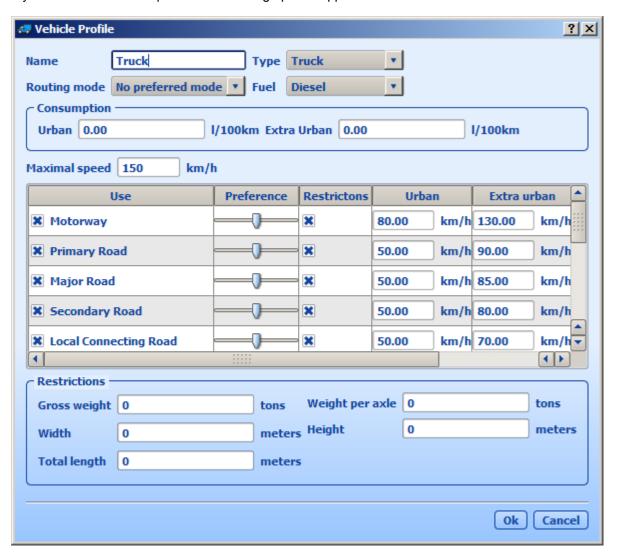
Here you can add and edit custom vehicles, each with their own road preferences, speeds and fuel costs. If you have the TRUCK version you can add exact dimensions and weight of you vehicle. These will be taken into account to avoid low bridges and width and height restrictions.

Results

Set the maximum number of routing results you want to see in the output pane at any one time.

Add/Edit Vehicle

If you Add/Edit a vehicle profile the following options appear.



Firstly, enter a name for you vehicle. then set the type of vehicle, routing mode and fuel type.

Fuel cost

Enter the average price per litre of petrol in your car.

Speed

This section defines the average speed your vehicle is likely to travel along different type of road (note this is NOT the maximum speed). To change the road type click the drop down menu. You can also set the average speeds in and out of urban areas.

Road preferences

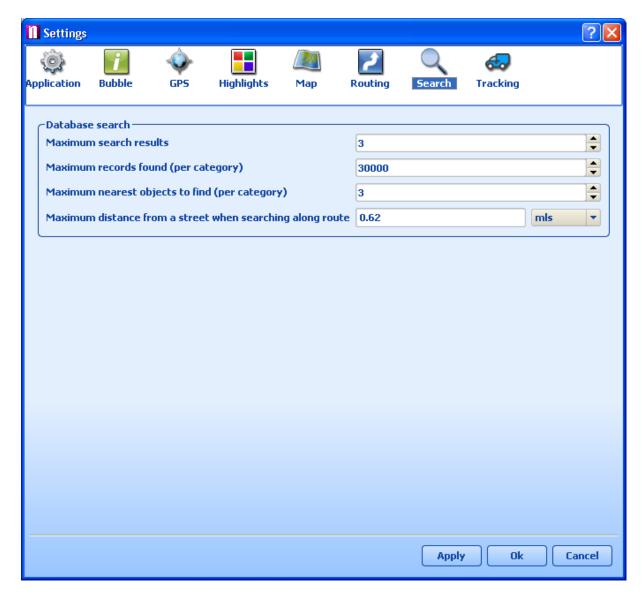
Use this to change preferences for route calculations. From the drop down menu select a road type to

amend. Move the *Preference* slider to the right to increase preference and make MapExplorer favour that type of road in your route calculations.

Restrictions (only TRUCK version)

Set the dimension and weight of your large vehicle. The TRUCK version of Navigator will take these settings into account to avoid low bridges and width and height restrictions.

4.7 Search



Maximum search results

Set the maximum number of search results you want to see in the output pane at any one time.

Maximum records found (per category)

To speed up MapExplorer searches you can limit the maximum number of records it will look for in each category. The smaller the number the faster the search, but there is also more chance of missing the record you are looking for.

Maximum nearest objects to find per category

This sets how many records will be returned for each searchable map layer when you perform the find nearest

Maximum distance from a street when searching along route

If you want to look for objects along a route, you can set the size of the search corridor. In the above example MapExplorer will look for objects up to 999 metres both sides from each road you travel on - i.e. the corridor is 1998 metres wide. Use the drop down menu to change between imperial and metric units.

4.8 Tracking

See the vehicle tracking chapter.

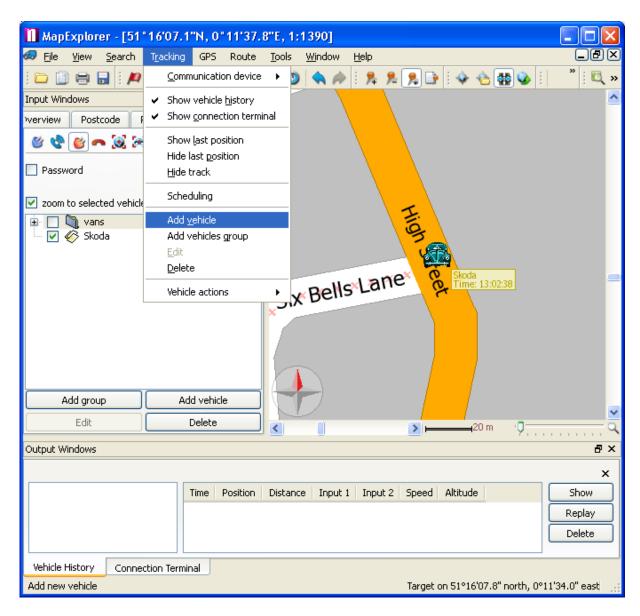
5 Vehicle Tracking

This section applies only to customers who have purchased the VTU vehicle tracking system. The Vehicle Tracking software can be used for on-line and off-line communication with vehicle tracking devices. It enables you to set your vehicles, track in real time on street level maps of Europe, and download history.

Vehicle Tracking is designed for WIN 2000, XP and Windows Vista.

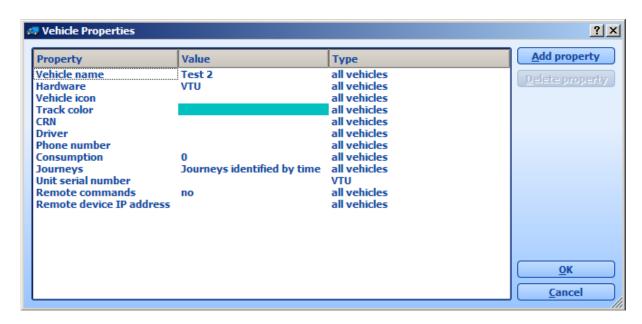
5.1 Adding a new Vehicle or Group

From the menu select Tracking / Add vehicle or Add group. Alternatively, you can right click on a group in the list and select Vehicles / Edit /Add vehicle to add a vehicle into that group.



You can also manage your vehicles using the buttons located at the bottom of the Vehicles tab.

When you add a new vehicle will see the Vehicle properties dialog:



Make sure that you enter the correct parameters here.

Name - a label under which the vehicle will be shown on screen.

Hardware - Select which hardware unit you are using, for VTU009 and VTU010 select VTU. lcon - You must enter a valid icon which will be used to represent the vehicle on the map. Some icons a available in the application folder (usually c:\Program

files\Navigator8\MapExlorer\picts2\car icons)

Track color - the colour that the vehicle journeys will be represented in on the map. To make different easily distinguishable you can select different track colours for different vehicles.

CRN - Vehicle registration number

Driver - name of the driver.

Unit serial number - the serial number of the vehicle tracking unit. This part must be entered correctly for GPRS communication.

Phone number - Enter the phone number of the unit. Please remember that your SIM card must be data enabled and the PIN removed or set to 0000. This number is the data number for the SIM card not the voice number. If the unit came with a SIM card the number will be included for you. Consumption - for accurate reports enter the fuel consumption of your vehicle.

Journeys - lets you select how individual journeys are separated from each other.

Journeys identified by time - a new journey starts if the vehicle remains stationary longer than is set in Tools/Settings/Tracking/History.

Journeys identified by input - if you have connected one of the binary inputs to the ignition the journeys can be identified by ignition status (on/off).

Journeys identified manually - start and end of journeys will be identified manually in the history table.

Remote commands - allows remote communication with a terminal running Pocket Navigator Remote device IP address - if you are not using a VTU tracking unit then you can set your own IP address for direct communication.

When you enter a second vehicle some of the fields will be automatically filled in for you to save time.

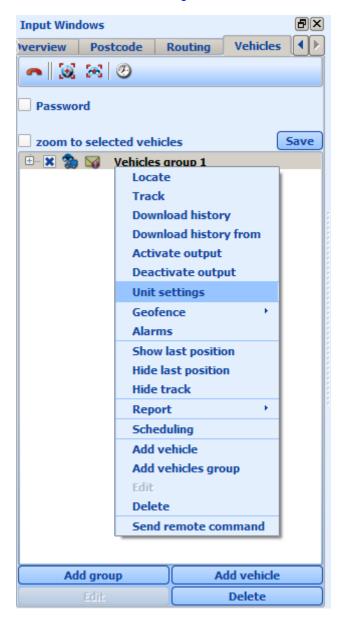
You can always edit Vehicle Properties by highlighting a vehicle from the list and selecting Tracking / Edit from the menu or clicking the Edit button underneath.

Next to each vehicle in the list is a check box. If you have enabled zoom to selected vehicles at the top of the vehicle list then MapExplorer will automatically zoom the map to fit all vehicles that you have checked.

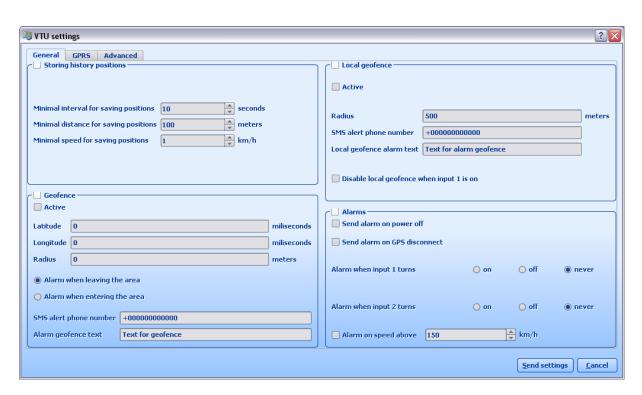
5.2 Setting up a tracking unit VTU008

Caution! Setting up a tracking unit incorrectly can substantially change its behaviour. We recommend that you download the original settings using the Fetch unit settings command from the context menu (which can be brought up by a right click on a vehicle in the list).

Now select Send unit settings from the context menu.



General



Storing history positions - here you enter the conditions for saving history on the unit

Min. interval for saving GPS [s] - save GPS position at 5 second intervals only when the vehicle has moved more than Min. distance for saving GPS [s].

Min. dist. for saving GPS [m] - if the vehicle has not moved more that this number of meters do not save a position

Min. speed for saving GPS [km/h] - if the vehicle if moving at less than this amount of km/h do not save positions.

Geofence - also see the chapter on Geofencing

Active - enable the geofence

Latitude - the latitude of the centre point of the geofence in milliseconds Longitude - the latitude of the centre point of the geofence in milliseconds Radius - radius of the geofence in meters

Alarm when leaving the area - will trigger an alarm when a vehicle leaves the geofence Alarm when entering the area - will trigger an alarm when a vehicle enters the geofence SMS Alert phone number - An alarm SMS will be sent to this phone number when the geofence is triggered. Note that all other alarms (GPS disconnection etc. will also be send to this number) Alarm geofence text - set your own custom SMS alert message in the text box. Please note that coordinates are automatically sent with the message.

Local geofence - a local geofence is a alarm fence X m around the car. It can be activated through this program or by calling the unit from the phone set in SMS Alert phone number. To deactivate the geofence you must call it again from that phone. If the car moves without deactivation it will send you an alarm SMS message.

Active - enable the alarm geofence

Radius - the distance that vehicle has to move from the position where the alarm was set before it triggers the alarm SMS message.

SMS Alert phone number - An alarm SMS will be sent to this phone number when the alarm is

triggered. This phone with this number can also be used to activate/deactivate the alarm (4 rings indicates activation, 1 ring deactivation).

Alarm geofence text - set your own custom SMS alert message in the text box. Please note that coordinates are automatically sent with the message.

Alarms - the unit can also send alarm SMS messages to the Alarm SMS Alert phone number on the following criteria:

Power off - send an alarm SMS if the unit is disconnected from the power supply (the internal battery must be charged which may take up to 3 days)

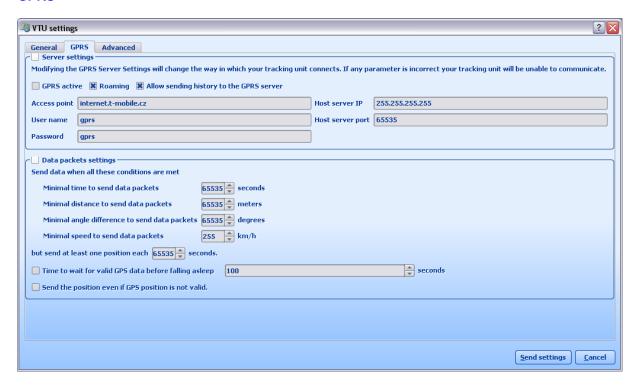
GPS disconnect - send an alarm if the GPS antenna is disconnected from the unit

Alarm when input 1 turns - trigger an alarm when the binary input 1 changes state to on or off. Select never if you do not want to send alarms on input 1.

Alarm when input 2 turns - trigger an alarm when the binary input 2 changes state to on or off. Select never if you do not want to send alarms on input 2.

Speed above - send an alarm when the vehicle exceeds the stated limit in km/h.

GPRS



Server settings - this need to be set to ensure correct communication through GPRS.

GPRS active - enable VTU to communicate through GPRS

Roaming - Allow roaming when abroad. Please note that this can be expensive.

Allow sending history to the GPRS server - If you enable this option then history will also be sent, as well as live information. This option is useful if you want to fill in the gaps when GPRS connection was not available.

Access point - the APN for the network provider (e.g. pp.vodafone.co.uk for Vodafone, internet for O2, orangeinternet for Orange)

User name - user name for access to the network APN (wap for Vodafone, username for O2, leave blank for Orange)

Password - password for access to the network APN (wap for Vodafone, password for O2, leave

blank for Orange)

Host server IP - the server where information is sent (usually 82.208.39.161 for the gprs.mapfactor.com server)

Host server port - the server port (typically 5555)

Data packets settings - this controls how often live positions are sent to the server from the VTU.

Minimal time to send data packets - live positions live not be sent more often than this number of seconds

Minimal distance to send data packets - do not send live data if the vehicle has not moved more than thin amount of metres

Minimal angle difference to send data packets - if the bearing changes by an angle greater than this value and the current vehicle speed is 5x greater than the minimal speed then a position will be sent

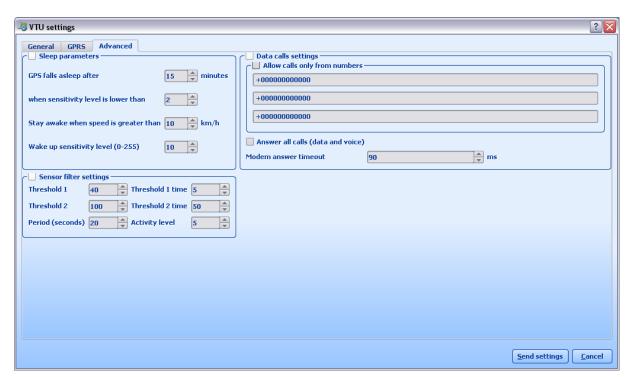
Minimal speed to send data packets - if the vehicle if moving at less than this amount of km/h do not send positions

but send at least one position each - send a position every X seconds even if the above conditions are not met.

Time to wait for valid GPS data - if the VTU is in sleep mode and wakes to send a position as set in but send at least one position each, then it should go back to sleep after X number of seconds

Send position even if GPS position is not valid - send position even if there is no signal from the GPS antenna. This is only useful if you need information about a vehicle even if you do not have a position (for example inputs)

Advanced



Sleep parameters - we recommend that you only change the GPS falls asleep after parameter

GPS falls asleep after - unit will switch to sleep mode if stationary for more that this number of

minutes (1440 minutes is 1 day)

when sensitivity level is lower than (0-255) - unit will wake up when the vibration sensor reports a value greater that this.

Stay awake when speed is greater than (km/h) - do not switch to sleep mode if the GPS reports above this speed even if the vibration sensor is below Level for Sleep.

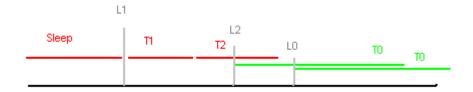
Wake up sensitivity level (0-255) - indicates the vibration sensor level below which the vehicle is considered stationary.

Sensor filter settings - This feature is designed to stop GPS drifting when the vehicle is parked for several hours. Keep a note of the original settings before modifying these values.

Thresholds and Threshold times - see below

Period [seconds] - do not record position after the vehicle has been stationary for more that this amount of time.

Activity level - indicates the vibration sensor level below which the vehicle is considered stationary.



Sleep – sensor was quiet and positions was not stored

L1 (Treshold1) - level from motion sensor which will activate the VTU - level of actual sensor signal must be higher than L1

T1 (TrTime1) - ignore time (positions are not stored)

L2 (Treshold2) / T2 (TrTime2) - The sensor level must increase to L2 in time T2 to reactivate position recording, else the VTU goes back to Sleep.

L0 (Activity level) / T0 (Period) - After an increase to the L2 threshold starts time T0. In this period the level of signal from the sensor must be higher than L0 for VTU to store positions. If it's not reactivated in time T0 VTU goes to Sleep state.

Units: All thresholds are in range (0- 255)
All times are in seconds (s)

Data calls settings - if this is enabled the unit will not answer calls from any other numbers than the three listed here. This security feature is useful if you want to make sure that nobody can dial into your unit from another location. But be careful to set the right numbers otherwise you will not be able to dial in yourself. Enter numbers in international format, e.g. for Britain enter something like +447777123456.

Answer all calls (data and voice) - this turns the number filtering off completely. It is only necessary if you want to dial the VTU from a line that has the "number withheld" service enabled. In most other cases it is best not to enable this setting as it also disables the local geofence function.

Modem answer timeout - modifying this value can sometimes increase reliability with certain

network operators. Only change with caution. In most cases it should be left as set by the manufacturer.

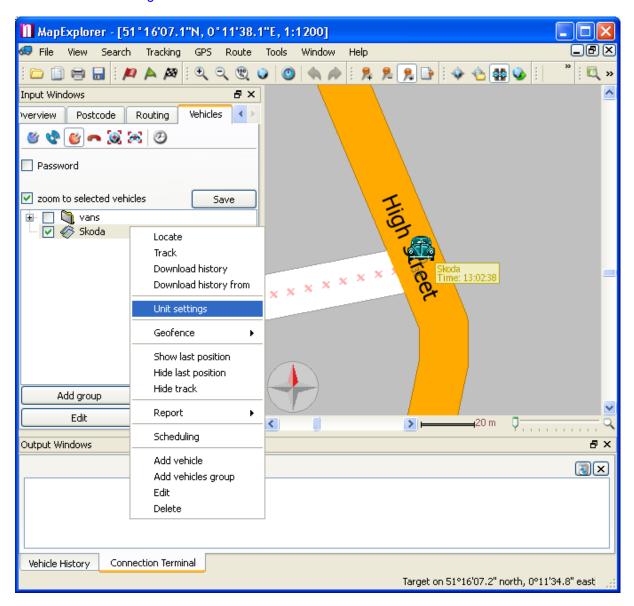
Once you have set the parameters as you want then click the Send settings button to transfer them to the unit.

5.3 Setting up a tracking unit VTU009/VTU010

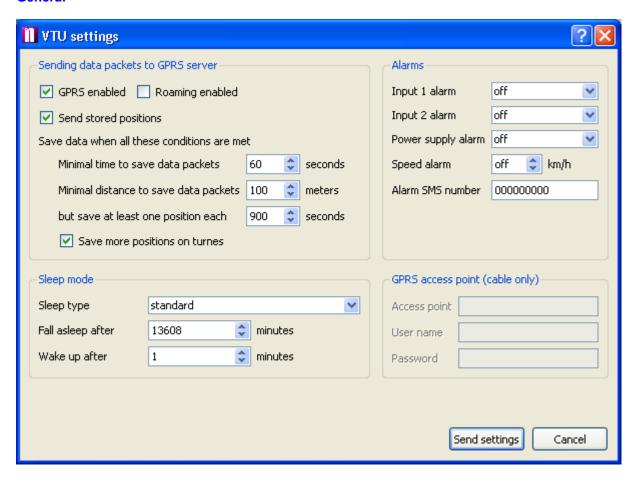
Caution! Setting up a tracking unit incorrectly can substantially change its behaviour. We recommend that you take a note of the original settings before changing them.

Note: settings cannot be changed when using track4rent or prepaid devices.

Now select Unit settings from the context menu.



General



Sending data packets to GPRS server - this controls how often live positions are sent to the server from the VTU.

GPRS enabled - enable VTU to communicate through GPRS

Roaming enabled - Allow roaming when abroad. Please note that this can be expensive. send stored positions - If you enable this option then history will also be sent, as well as live information. This option is useful if you want to fill in the gaps when GPRS connection was not available.

Minimal time to save data packets - live positions live not be sent more often than this number of seconds

Minimal distance to save data packets - do not send live data if the vehicle has not moved more than thin amount of metres

but send at least one position each - send a position every X seconds even if the above conditions are not met.

Save more positions on turns - this gives a better trail especially around features like roundabouts.

Alarms - the unit can also send alarm SMS messages to the Alarm SMS Alert phone number on the following criteria:

Power supply alarm - send an alarm SMS if the unit is disconnected from the power supply (the internal battery must be charged which may take up to 3 days)

Input 1 alarm - trigger an alarm when the binary input 1 changes state to on or off. Select off if you do not want to send alarms on input 1.

Input 2 alarm - trigger an alarm when the binary input 2 changes state to on or off. Select off if you

do not want to send alarms on input 2.

Speed alarm - send an alarm when the vehicle exceeds the stated limit in km/h.

Alarm SMS number - the phone number that SMS alarms will be sent to. Enter numbers in international format, e.g. for Britain enter something like +447777123456.

GPRS access point (cable only) - this setting ensures correct communication through GPRS and can only be set via a cable connection.

Access point - the APN for the network provider (e.g. pp.vodafone.co.uk for Vodafone, internet for O2, orangeinternet for Orange)

User name - user name for access to the network APN (wap for Vodafone, username for O2, leave blank for Orange)

Password - password for access to the network APN (wap for Vodafone, password for O2, leave blank for Orange)

Sleep mode - sleep mode lower the power requirement of the unit.

Sleep type - there are two sleep types, Standard and Deep. The Standard setting only turns of the GPS but keeps the modem alive. Deep sleep turns off the modem and GPS leading to very low power draw (>2mA). In deep sleep you cannot communicate with the unit unstill it is woken by the internal vibration sensor (the vehicle starts moving).

Fall asleep after - unit will switch to sleep mode if stationary for more that this number of minutes (1440 minutes is 1 day)

Wake up after - unit will wake up and check its position after it has been asleep for this many minutes.

When you are ready to change the settings click the Send settings button.

Password protection against unit setting changes

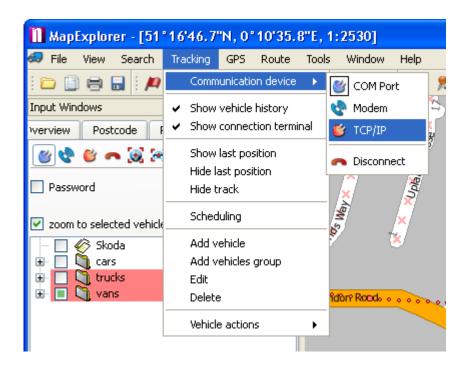
Above the vehicle list tick the Password checkbox. The first time you will be asked to enter a password and to confirm it.

To ammend unit settings you will now have tick the Password checkbox and enter your password. To set what functionality you want to protect go to Tools/Settings/Tracking/Protection

5.4 Downloading data from a unit

From the toolbar select a method of connecting to the tracking unit.

You can also switch communication type from the main program menu Tracking / Communication device.

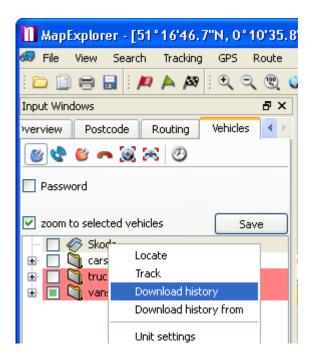


For offline download select Connect using COM . The unit must be connected to a PC using a serial cable.

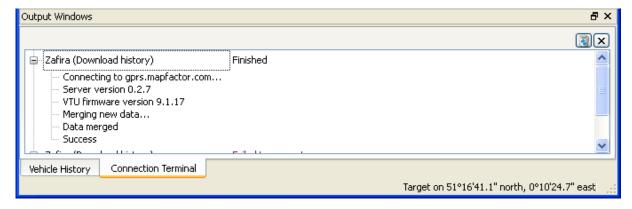
For online download select Connect using modem . The unit will communicate through its GSM modem.

For Internet download select Connect using GPRS . The unit will communicate through a GPRS connection.

Now, right click a vehicle in the list and from the context menu select History / Download



The Connection terminal should now appear in the bottom pane, where you can see the progress of your download. Once the download is finished MapExplorer will disconnect automatically.

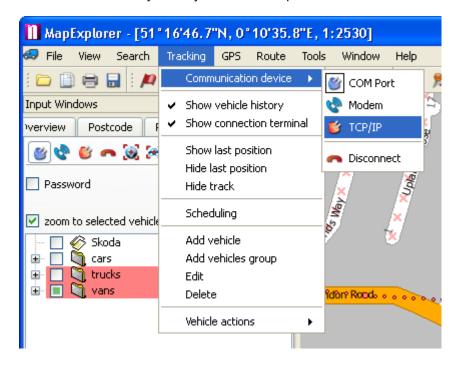


When you download history MapExplorer will only download new data (that has not been downloaded before). This enables you to track vehicles from several computers.

5.5 Tracking your vehicles

You can track your vehicles using a GSM or GPRS connection.

You can switch communication type from the main program menu Tracking / Communication device. But it is usually already set in the setup wizard at first start.



For GSM tracking select Connect using modem



For GPRS (Internet) tracking select Connect using GPRS .

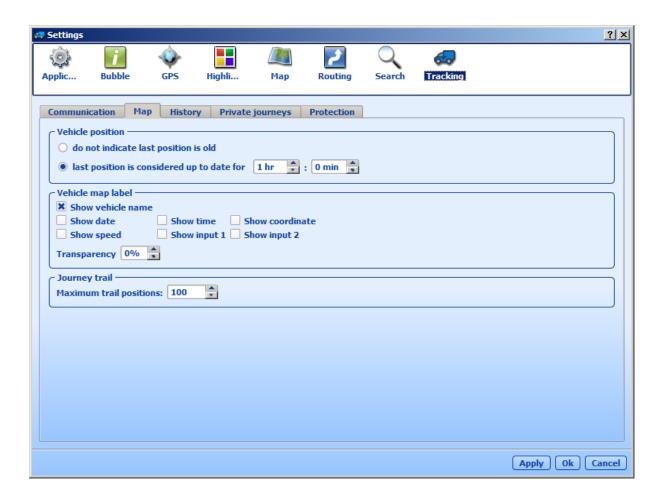


Once you connect with a vehicle you should be able to see it "live" on the map. If you are connecting through GSM don't forget to disconnect. You can do this from the menu Tracking / Communication device / Disconnect.

In the vehicle list you can see which vehicles you are currently tracking when they have the icon next to them.



The vehicle icon on the map changes to grey if there has not been an up to date position from the vehicle. The most likely cause is if the vehicle is stationary or parked out of signal range (e.g. underground car park). The time it takes to turn grey can be set in Settings/Tracking/Map.



5.6 Replaying a journey

Showing a journey on the map.

Select a vehicle from the list and then switch to the History tab at the bottom of the screen. If the History tab is not visible then you can opened it from the main menu Tracking / Show vehicle history. Here you can see the date and time at which the vehicle was moving. You can select one or more days, months, or part of a day and show it on the map by clicking Show. Click Replay to replay a journey a point by point. Replay speed is set in Tools / Settings / Tracking / History.



If you select to replay/show history from another day then the previous track will be removed from

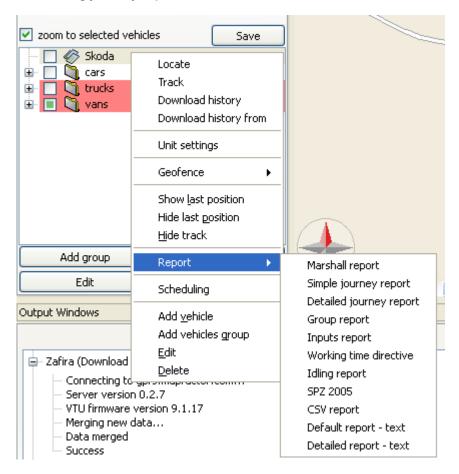
the map. If you display journeys for several vehicles then tracks for all the selected vehicles will be displayed. For this reason it is important to select different colour for different vehicles in order to make journeys easily distinguishable.

To remove a journey from the map, right click on a vehicle and from the context menu select Hide track.

Manage Journeys

Here you can manually select the start and end points of journeys. These will then show up in reports as you marked them rather than the automatic journeys that MapExplorer generates.

Generating journey reports.



There are many types of report.

Some important reports are:

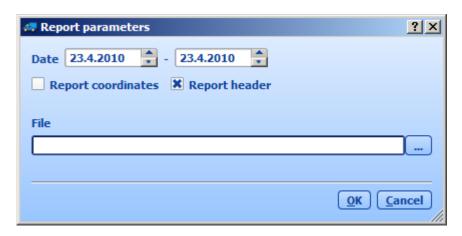
Simple journey report - Give an overview of journey made within the selected timeframe. This report can be saved to file as an HTML document or even exported to PDF.

Export to KML - allows export to Google Maps and Google Earth.

The CSV report creates a (semicolon) delimited text file which can easily be imported into a spreadsheet application like MS Excel.

The first row contains the name of the vehicle, driver and CRN. The following rows contain each trip in the selected period:

- journey start (date, time, street), journey end (date, time and street), distance travelled, time taken.



From the vehicle list select one or more vehicles. With a right click bring up the context menu and select Report and the type of report you want.

You will be prompted for the time period for which to generate the report where to save it.

5.7 History Table

The vehicle history table contains the following columns:



- date
- time
- position (street name or geographical coordinates)
- distance travelled
- Input state (1 and 2)
- speed
- altitude

If you have Actis 7 connected to your VTU tracking unit the driver can add additional information like:

- driver's name
- journey purpose
- journey status

To see individual records in a journey click the plus icon next to it.

The coloured arrows in the date column mean:

A green arrow indicates a journey start.

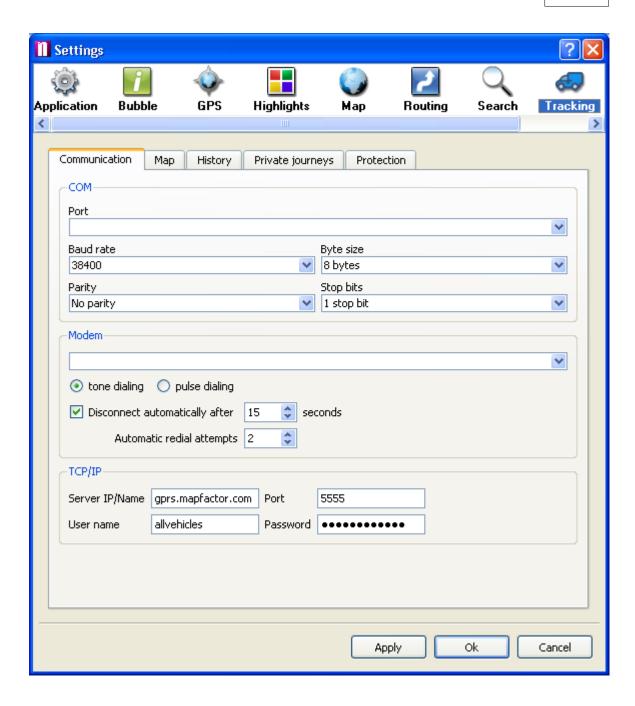
A red arrow indicates a journey end.

To show any position a journey or a whole day on the map, select it and click the Show button.

5.8 Configuring Vehicle Tracking

From the main menu select Tools / Settings / Tracking to modify MapExplorer tracking settings.

Communication tab:



Here you specify how the VTU will communicate with the MapExplorer software. There are three way - serial cable (COM), GSM (modem), GPRS (TCP/IP).

COM

Select the Port to which the VTU is connected. If you have VTU009 leave the Baud rate at 4800. It is best to leave Byte size, Parity and Stop bits unchanged at 8/No parity/1 stop bit.

Modem

From the drop down menu select which dial-up modem you want to use, and the type of dialing (generally tone).

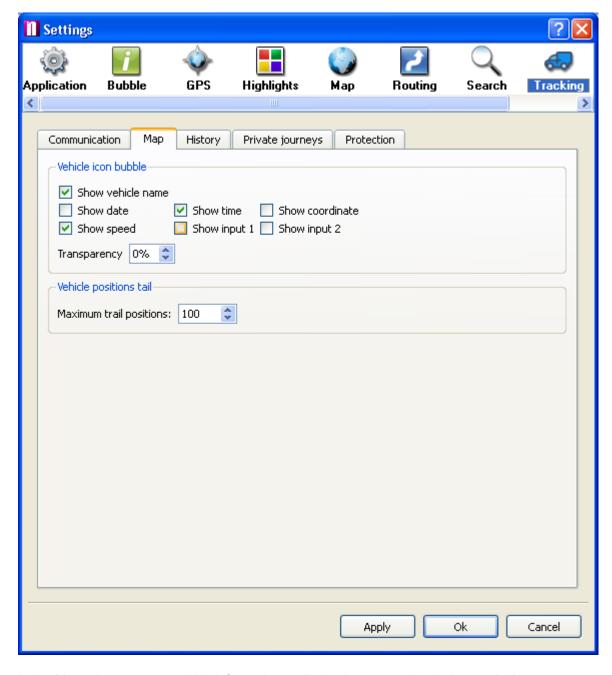
You can also set to Disconnect automatically after a set time in case MapExplorer and the VTU connect but fail to communicate, and Automatic redial attempts to retry dialing in if connection was

unsuccessful.

TCP/IP

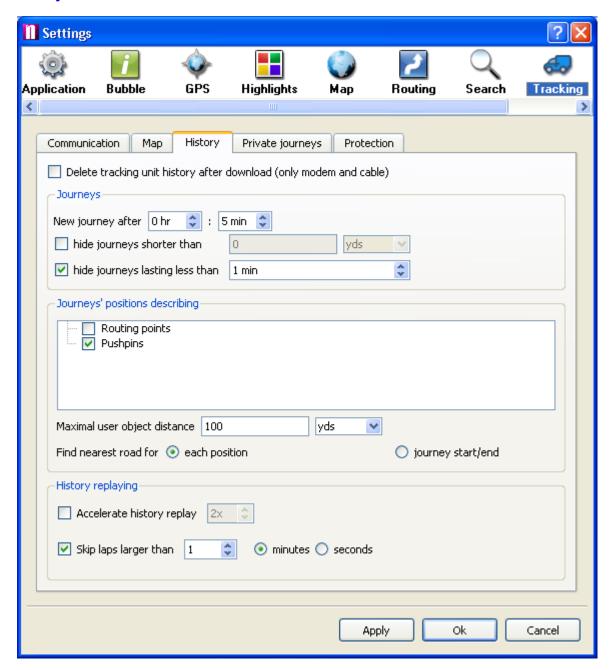
Here you must enter the address (Server IP/Name), port, user name and password for communication via the Internet (GPRS). These will be registered during the first run wizard. Alternatively, you can go to https://gprs.mapfactor.com to register a username and password online.

Map tab:



In the Map tab you can set which information to display in the map label when replaying or showing vehicle journeys. You can also set the transparency of the labels that appear next to the vehicles on the map.

History tab:



Delete tracking unit history after download - deletes all position stored in the VTU9. This does not work with GPRS connections.

Journeys

New journey after - if a vehicle is stationary for a longer period than given here then a new journey will be created when it moves again.

hide journeys shorter than - GPS position are not identical even if a vehicle is stationary. When GPS signal is poor (e.g. when a vehicle is parked indoors) the GPS positions may drift and report a short journey. This setting removes journeys such as these.

hide journey lasting less than - this is a similar method of removing ghost journeys, except it is

filtered on time.

Journey's positions describing - from the list select which user objects you would like to see in journey reports. For example, you can add pushpins where your customers are located and have their names come up in reports.

Maximal user object distance - the radius within which a vehicle has to be to a user object for it to be added to the history table.

Find nearest road for each position or journey start/end – a nearest street will be displayed for each record in the table or only the start and end points.

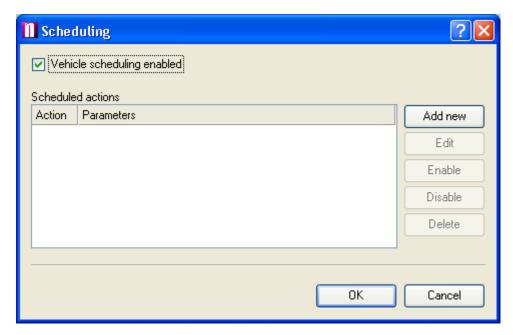
History Replaying

Accelerate history replay – the journey is replayed a number of times faster than the recorded speed. If you leave it unchecked MapExplorer will replay at the recorded speed. Skip lags greater than – skips time gaps in history greater than the given time.

5.9 Scheduling

If you want to look are where your vehicles are or have been on a regular basis it could become tedious having to look them all up manually. For this reason it is possible to set scheduled automatic downloads, locates and reports.

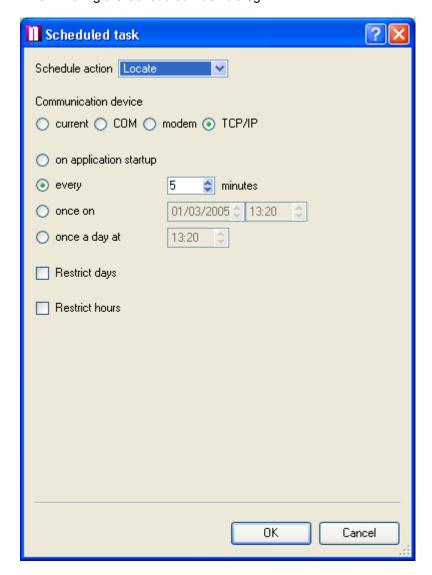
To schedule a vehicle right click on it in the list and from the context menu select Scheduling. Alternatively, from the main menu select Tracking / Scheduling.



Make sure that Vehicle scheduling enabled is checked.

To set up a new schedule click the Add new button.

This will bring the Scheduled Task dialog.



Vehicle action tab

Schedule action - select if you want to periodically locate the vehicle or download its history. Communication device - select how you want to communicate with the unit. You can use the current method (as set in Tracking / Communication device) or override it to always use COM / modem or TCP/IP (serial cable, GSM or GPRS).

Report tab

report - select the type of report you want to schedule. Now follow the wizzard and setup tour report. At the end select if it should be saved to file or sent by email.

Now you must select connection interval:

on application startup - only connect when you start MapExplorer.

every - connect ever X minutes.

every - connect every X days.

once on - connect only once on a certain date at a defined time.

once a day at - connect every day at a given time.

You can also set up exceptions to the schedule if you want to avoid connecting during certain

periods. This is especially useful if you are using a GSM (modem) connection to download history and want to only dial in during the evenings or weekends to get cheaper call rates.

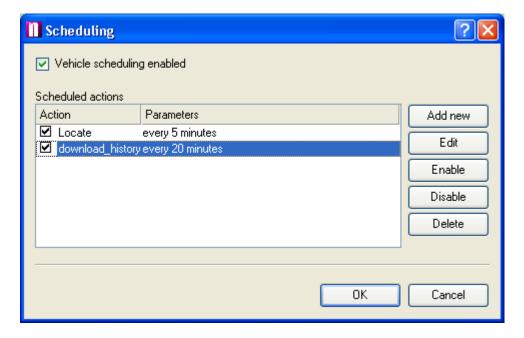


Restrict days - the scheduler will only connect on the selected days.

Restrict hours - the scheduler will only connect during the selected hours.

If you are happy with the schedule click OK.

It will now appear in the list.



You can modify an existing schedule by clicking the Edit button.

You also have the option to disable some schedules while leaving others running. To disable a schedule select it from the list and click the Disable button. Conversely, use the Enable button to start it up again. You can also do this by checking and un-checking the check box next it in the list. To remove a schedule permanently click Delete.

5.10 Geofencing

If you want to be notified of when a vehicle has entered or left a certain area then you can use the geofencing function.

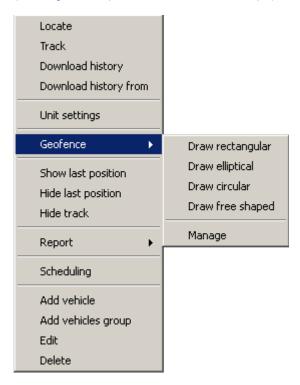
There are two types of geofencing alarms:

- 1) Alarm geofence which locks the car around its current position and can be set with an SMS from your phone. Note this may not be possible with track4rent and prepaid units.
- 2) Freeform geofences in MapExplorer. Each vehicle can have several geofences, anywhere on the map. Warnings will be displayed in Map Explorer when a vehicle leaves or enters the selected area.

5.10.1 Setting up a geofence

Set up the geofence

Right click on a vehicle in the list and from the context menu select Geofencing / Draw (rectangular, elliptical, circular or free shape).



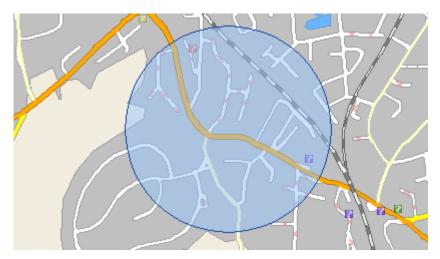
Circular - left-click on the map where you want the centre point of the geofence to be. Keep your

mouse button pressed and move the mouse to change the perimeter of the geofence. Once you are happy with the size of the geofence click the left mouse button again. A circular geofence is the only one that can be sent to a VTU for geofencing directly on the treacking unit. If you want to send it to the VTU tick the VTU inner geofence checkbox.

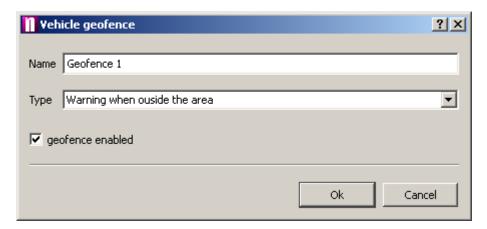
Rectangular/Elliptical - left-click on the map and drag out the geofence from the top left corner to the bottom right corner. Click the left mouse button again once you are happy with the size of the area.

Free shaped - draw the geofence on the map by clicking on the map where the vertices of the geofence should be. Once you are happy with it click the right mouse button.

Create from route - if you have calculated a route in MapExplorer then you can set a geofence along it. This feature idusefull if you do not want your vehicles to stray form a route.



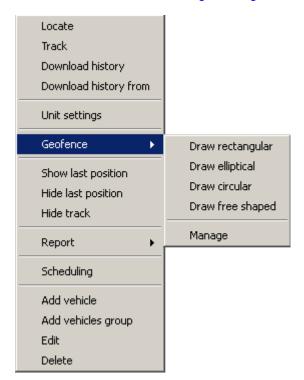
A Vehicle geofence dialog will appear. Enter a name for this geofence and set if it should be triggered when the vehicle leaves/enters the area drawn.



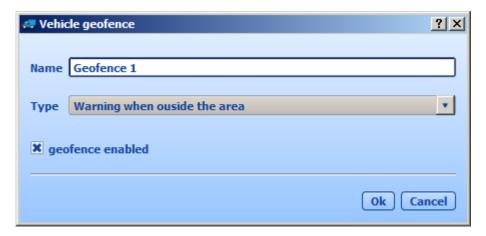
If you want to add another geofence just repeat the process over again.

5.10.2 Managing geofences

To manage the geofence you have added for a vehicle right click on it in the list and from the context menu select Geofencing / Manage



The Vehicle geofence dialog will appear.



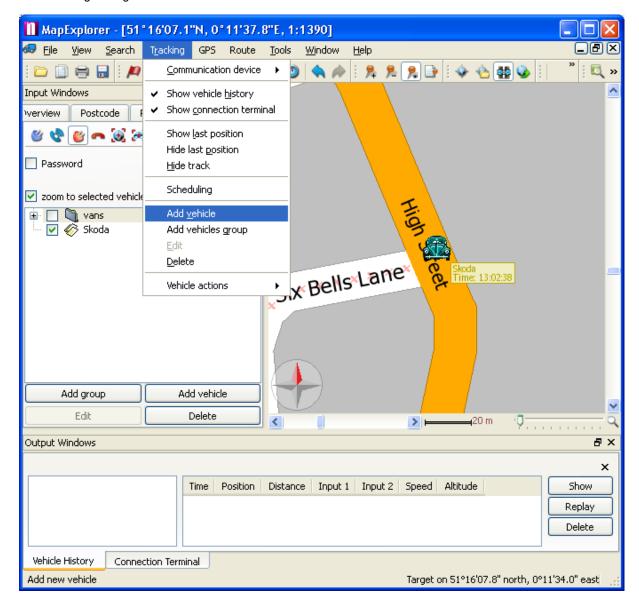
The Geofences drop-down menu lists all the geofences you have added for the vehicle. Here you can change the name or the type of any geofence listed. If you want to switch of the geofence temporarily uncheck the geofence enabled checkbox. To remove a geofence permanently click the Delete button.

To finish click OK.

6 Remote TCP/IP communication

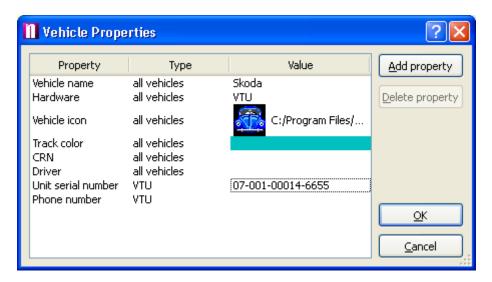
MapExplorer and Navigator have the possibility of remote network communication, either directly (through GPRS or other network connection) or using the VTU009 tracking device.

When adding/editing a vehicle....



In the table select yes next to remote commands.

If you want to communicate with Navigator directly enter the IP address of the device on which it is running. If you are communicating using the VTU009 tracking do not fill this value in.

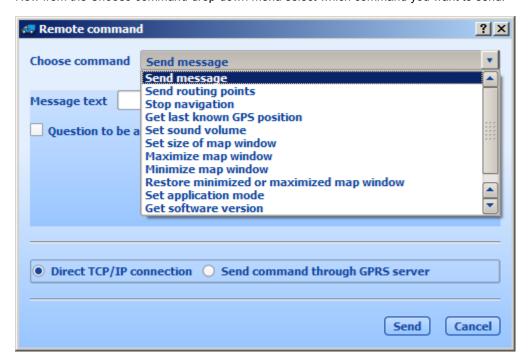


Sending messages and commands

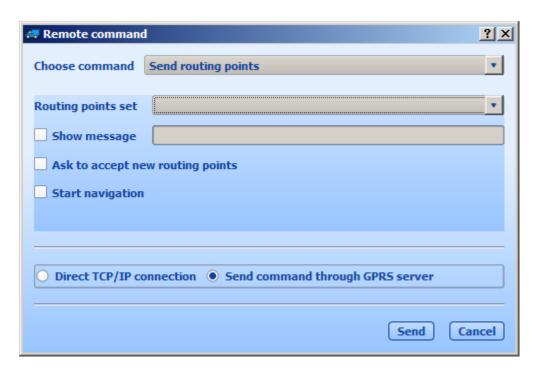
From the vehicle list right click on a vehicle (or group of vehicles) to which you want to send a remote command. From the menu select *Send remote command*.

Before sending any command select how you want to connect to the remote device: Direct TCP/IP connection - Communicate directly with Navigator running on a device with a fixed IP address. through GPRS server - send commands via a VTU tracking unit (which must be attached to a navigation device with a serial cable)

Now from the Choose command drop-down menu select which command you want to send.



If you are sending a message you can request a reply by selecting Question to be answered check box.



Click Send to send the command.

Two-way Communication

From the Remote messages tab you can chat directly which drivers. In the bottom-right corner select if you are communicating through a tracking unit (GPRS Server) or directly to a given TCP/IP address.



7 FAQ's

Will MapExplorer work with my GPS device?

When I connect my GPS device the mouse starts jumping around uncontrollably. What can be done? When I start GPS tracking I get a message 'GPS data out of map boundaries'. What is wrong? How can I tell which COM port my GPS device is connected to?

Q: Will MapExplorer work with my GPS device?

A: MapExplorer will work with any GPS device that can output NMEA data. This is the standard output format that is support by 99% of all GPS manufacturers, including Garmin, Magellan, Haicom, Saphire etc.

Q: When I connect my GPS device the mouse starts jumping around uncontrollably. What can be done?

A: This problem is caused because Windows sometimes incorrectly recognises the GPS as a pointing device. In most cases the quickest solution is to unplug the GPS and plug it back in.

If you have a detachable USB cable (like on a Haicom 204) then simply detach the unit from the cable. The mouse should stop jumping immediately. Now go to *My Computer/Control*

Panel/System/Hardware/Device Manager. Here you will see a list of all the hardware devices in your system. Expand the *Mice and other pointing devices* item. You should see at least two devices listed here, one being Microsoft Serial Ballpoint. Right click on it and select *Disable*.

This should prevent another occurrence of this problem.

Q: When I start GPS tracking I get a message 'GPS data out of map boundaries'. What is wrong? A: There is nothing wrong in this instance. In fact, if you see this message, it means that the GPS is connected and communicating with MapExplorer. The message is simply a warning that a position cannot be displayed because the coordinates being sent by the GPS are outside the currently opened map.

There are two reasons for this.

- 1. If you have an older version of MapExplorer Europe, make sure that you have the correct map opened.
- 2. The GPS has no signal. This is generally a problem with brand new units which have never acquired a signal in your country. Most devices remember their last position and transmit it when they have no signal. The GPS is probably reporting a position from the country of manufacture. The problem will disappear as soon as your GPS acquires a signal in your country.

Q: How can I tell which COM port my GPS device is connected to?
A: Go to My Computer/Control Panel/System/Hardware/Device Manager. In the list expand Ports (COM & LPT). Your device should be listed here.