

Memory-Map **TECH SUPPORT** **Bulletin #3**

HOW TO USE MEMORY-MAP TEXT FILE IMPORT/EXPORT FORMATS

Overview: This document outlines the file formats used for importing / exporting text based data from Memory-Map Navigator using the Overlay Import / Export commands.

Note: All positions are Latitude/Longitude and should be calculated using the WGS84 datum. For help in converting OS Grid References, including a web based batch file conversion utility please visit www.gps.gov.uk

Data import / export

File Formats

MMO - Memory-Map's proprietary overlay object format.

CSV - Memory-Map's Comma Separated Value file. Data can be viewed and manipulated in Microsoft Excel, or other custom applications.

SHP - ESRI Shapefiles. Only points, polygons and polylines are supported, without any M or Z data.

GPX - GPS eXchange

LOC - Standard format used for Geocaching

MXF, RXF, TXF - Maptech's mark, route and track formats for use with Terrain navigator.

TXT - Maptech Chart Navigator / Offshore Navigator formats. The file must be named **Marks32.txt**, **Routes32.txt** or **TlogN.txt** (where *N* is a number, eg Tlog1.txt).

CSV Format

The CSV (Comma Separated Value) format supports Marks/Waypoints, Routes, Tracks, Text and Icons. Each line starts with a two letter code identifying the type of object described, followed by two numbers that represent the format version of the line.

Each icon line of the file is in the form:

IC01,Symbol,Name.bmp

Symbol is an integer indicating the symbol type. It must be an integer larger than 100. Use the same number in the WP lines to create marks using your defined symbols. The line describing the icon must precede any marks that use that icon.

Name.bmp is the name of a bitmap file. It can be the full path, or path relative to the folder containing the CSV file. The bitmap must be 32 by 32 pixels, 16-color, and saved without compression.

Each mark / waypoint line of the file is in the form:

WP04,Lat,Lon,Symbol,Name,Comment,File,Radius,Display,Unique,Visible,Locked,Category,Circle

Lat & Lon are in decimal degrees, on the WGS84 datum, N and E are positive, S and W are negative.

Symbol is an integer indicating the symbol type. Experiment with exporting some samples to get the values. -1 means use the icon of the linked file.

Name is the text name, which may be shown on the map (use quotes if the name contains a comma)

Comment is the comment shown in the properties, in escaped form to allow line-breaks

File is the full path of the linked HotSpot filename

Radius is the alarm/circle radius in meters. Enter 0 for no circle.

Display is an integer that controls the "Show label" flag. A value of 1 does not show the name, a value of 0 does. (The logic got inverted, somehow)

Unique is the unique name used when programming a GPS. Each waypoint must have a different unique name. No punctuation, etc, allowed. This may be left empty.

Visible is 1 to show the mark, 0 to hide it

Locked is 1 to lock the mark, 0 to unlock it.

Category is the category for the mark. Objects are organized by category in the Overlay Properties dialog, and you can hide or show all marks in a particular category using the Overlay -> Show All / Hide All menu commands.

Circle is the circle or alarm type:

0 - no circle, 1 - passive circle (no alarm), 2 - Proximity alarm, 3 - Anchor alarm

Each Track line of the file is in the form:

TK01,Name,Category,visible,locked,n_points,closed_loop,color,partition_time,tick_interval,update_distance,update_interval

Name is the name of the track.

Category is the object category

Visible is 1 to show the mark, 0 to hide it

Locked is 1 to lock the mark, 0 to unlock it.

n_points is the number of trackpoints following (each trackpoint is on a separate line of the CSV file, starting with "TP")

closed_loop is 1 to indicate the track represents an enclosed area, otherwise 0

color is a decimal RGB value. (experiment with exports to find what values correspond with desired colors)

partition_time sets the maximum time between trackpoints (used when adding to the track)

tick_interval is the time interval in seconds between arrows drawn on the track.

update_distance sets the minimum distance between points when adding to the track.

update_interval sets the minimum time between points when adding to the track

Each track is immediately followed by the required number of track points:

TP01,Lat,Long,Altitude,Time,Speed,Course

Lat and *Long* give the position of the point.

Altitude is the height above the Geoid given by the GPS

Time is the number of seconds since 00:00hrs GMT, Jan 1st, 1970

Speed is the speed in Knots (this field is computed from adjacent points, and is output as a convenience. It is ignored on input)

Course is the true direction of the track in degrees (this field is output as a convenience and is ignored on input)

Each Route line of the file is in the form:

RT01,*Name,Category,visible, locked, label_legs*

Name is the name of the track.

Category is the object category

Visible is 1 to show the mark, 0 to hide it

Locked is 1 to lock the mark, 0 to unlock it.

Label_legs is 1 to show the bearing and distance of each leg, otherwise 0.

Each route is immediately followed by the required number of waypoints:

RP01,*Uniq*

Uniq is the unique name of the waypoint. (All waypoints must have been defined in the file before the routes that use them).

Each Text object is in the form:

TX01,*Name,Category,visible, locked, lat, long, Text, FaceName, Height, Weight,Italic, Underline, text_color, bg_color, solid_bg, box_width, dt_flags*

Name is the name of the track.

Category is the object category

Visible is 1 to show the mark, 0 to hide it

Locked is 1 to lock the mark, 0 to unlock it.

Lat and *Long* give the position of the point.

Text is the displayed text, in escaped form to allow line-breaks

FaceName is the name of the font

Height is the height of the font in pixels

Weight is 400 for normal, 700 for bold

Italic is 1 for Italic, 0 for normal

Underline is 1 for underlined, 0 for normal

text_color is a decimal RGB value for the text

bg_color is a decimal RGB value for the background

solid_bg is 1 to fill the box with the background color, 0 to leave it transparent

box_width is the maximum width of the box in pixels, if the multi-line option is enabled

dt_flags is a bit mask containing flags for the alignment and multi-line option

Maptech Text formats

Memory-Map Navigator can import routes and marks from Maptech's **Chart Navigator** or **Offshore Navigator**, as follows:

In Chart Navigator or Offshore Navigator, select the File > Export Data... command from the menu,

Note the "export target path" of the folder where the output files are created.

Click Export, select the routes you want to export and click Export. Then select the marks and click Export again.

In Memory-Map Navigator, select Overlay > Import...

Select the file type "Maptech Marine Files (*.txt)"

Browse to the data transfer folder where the Maptech files were placed, and select the file called Routes32.txt. When you click OK, the routes will appear in Memory-Map Navigator.

Repeat with the **Overlay > Import...** command, this time selecting a file called Marks32.txt.

You can export data from Memory-Map Navigator back to the Maptech packages using the **Overlay > Export...** command, then the File > Import Data command.

You can import and export marks, routes and tracks from and to **Maptech Terrain Navigator** in a similar way.