



EuroNav III Base Station

PRODUCT DATA SHEET

The EuroAvionics Base Station provides a comprehensive ground support system which complements and enhances the airborne EuroNav Moving Map System, handling its databases, flight plans, flight records, maps and enabling real time communication from ground to air or air to ground.

Base Station Features

- Track and identify aircraft position(s)
- Send aircraft emergency text messages or flight plans
- Move and zoom of all map types
- Display of flight plans, waypoints, missions, objects, search patterns etc.
- Display of comprehensive flight records
- Compatibility of all maps with the EuroNav System
- Named map-markers
- Display of the geographic cursor position in lat/long or grid pos.
- Editing functions for map overlays (together with the map module)
- Editing and printing of flight records
- Flight records as text list protocol
- NATO military symbol generator
- Search pattern generator supporting five different types of patterns
- Configurable database view
- 'Search' and 'filter' functions
- 'View in map' function
- 'Find nearest' function
- Picture assignment and display
- Flexible print report tool functions
- Input support functions
- Town list
- Waypoint list with corresponding photos/images
- Mission list
- Object list
- Data communication support for GSM and Transponder
- (in development) direct link to video tape and correlated timecode for court evidence



This screenshot shows a combination of two map modules, one database module and a communication module. All modules interact and show changes made in any one module in all the other modules. The modules also can be placed on different computers in a network.

Several maps can be displayed simultaneously, which can in turn be synchronized on the same position and can display multiple zoom levels, at the same time. Named markers can be set and objects like streets or individual houses can be searched. The cursor indicating the position of the mouse is permanently displayed.

All pictures assigned to a database item, i.e. a waypoint, can be displayed. With the print button the pictures can be printed in greyscale or colour. The picture load function enables easy allocation of pictures to waypoints. You can assign upto 10 photos to each waypoint.



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Specifications subject to change without notice.

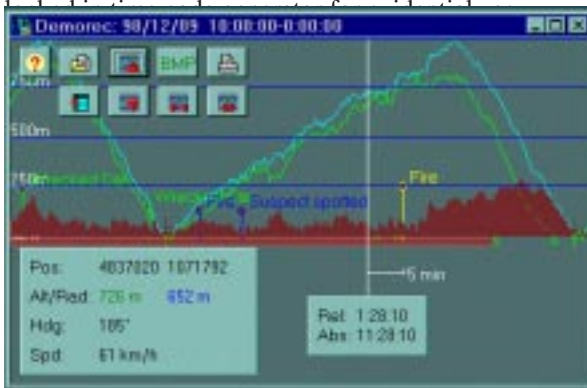
Comprehensive flight records are recorded and are available for instant recall and playback.

Flight Records can be viewed in horizontal and vertical.

Displayed Information:

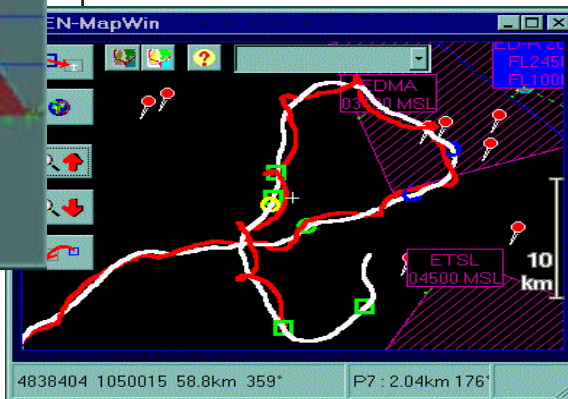
- Time
- Position
- Altitude
- Heading
- Altitude over GND
- Events
- Camera Use (identify where it was pointing)
- Trigger pulses
- Screenshots

(In development) Correlated link to video tape and



Above: vertical flight records, time shown along the x-axis, height along the y-axis.

Right: horizontal flight records - for details see below.



Visible elements:

- Jeppesen(R) Map
- User Flags (red Pins)
- ACFT Track (white line)
- Camera Track (red line)
- Events marks (yellow circle)
- Screenshot positions

The Base Station consists of three different modules:

- Maps - can handle virtually any map(s) types
- Databases
- Communications - to and from the aircraft

And features a handy training facility:

- EuroNav Trainer

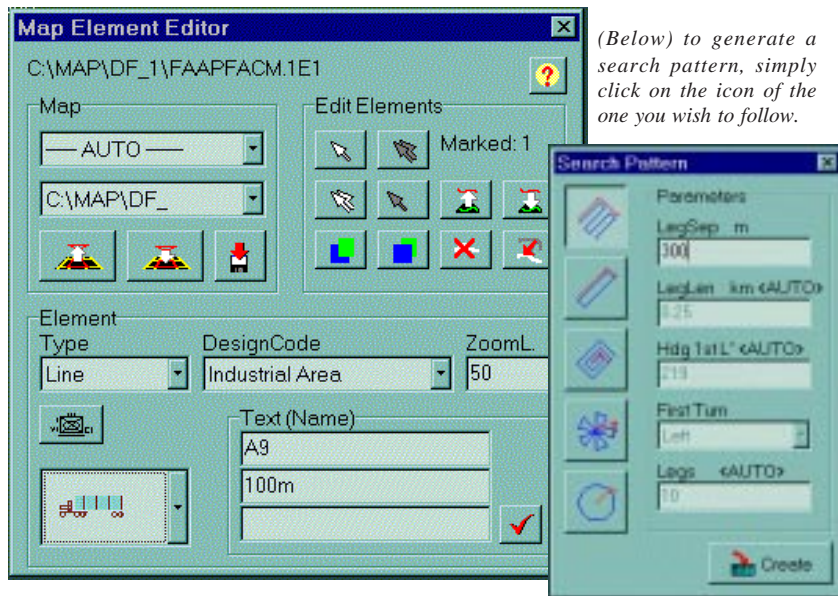
The Base Station uses the same maps as the EuroNav System fitted in your aircraft and all map overlay items that can be displayed on the EuroNav are also available on the Base Station. This allows data and missions to be easily transferred to the EuroNav System, without format conversion problems. It also means that what you see on the ground is what the observer can see when he is airborne.

The Map Module handles all map display functions.

Map Module

From the map module the following functions can be accessed:

- Editline (Position in put for other modules)
- Map Display options
- Street Search
- Flight Plans
- Flight Records
- Map Editor
- Search Pattern Generator
- NATO Military Symbol Editor (for placing user waypoints, photo missions etc.)



(Below) to generate a search pattern, simply click on the icon of the one you wish to follow.

The search pattern generator allows the user to input the following types of patterns:

- Rising Ladder
- Race Track
- Expanding Square
- Sector Search
- Orbit

All patterns can be set up by selecting an area in the map module using the red edit line (see red line in the Icons)

Most parameters then will be set to AUTO. Setting up a pattern takes about 30 sec.

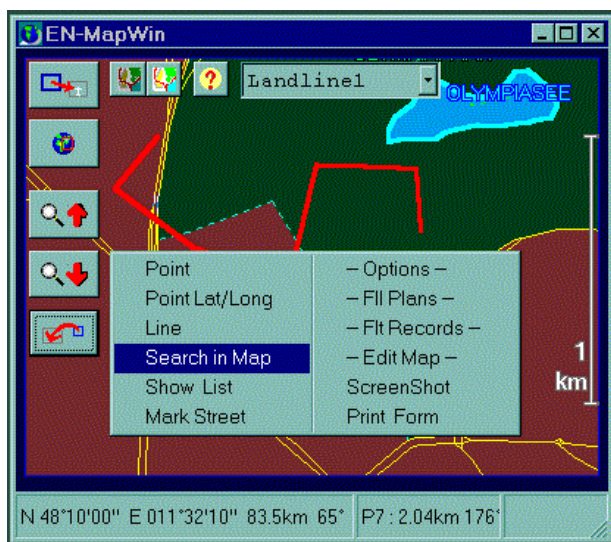
Database Module:

How the databases are used depends on the needs of the customer. Examples are:

- Airfields, NDB, VOR
- Refuelling points
- Town list
- Hospitals
- Landing sites
- Drill Platforms
- Helipads
- Danger Points/Obstacles
- Farms

The Map Editor enables you to set up your customized vector map layers. In this way a map layer for danger areas or power lines can be set up, should you desire. In addition, the existing vector map can be modified and the military symbol editor can be accessed.

Military symbols can be defined using the editor incorporated in the map editor facility. There is no limit to the number of symbols that can be used. A symbol can be defined from four sub-symbols and overlaid with an overprint symbol, rendering a wide collection of variations. The defined symbols are then displayed in both the EuroNav and the Base Station.

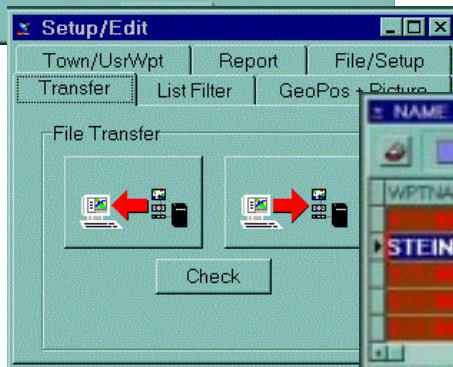
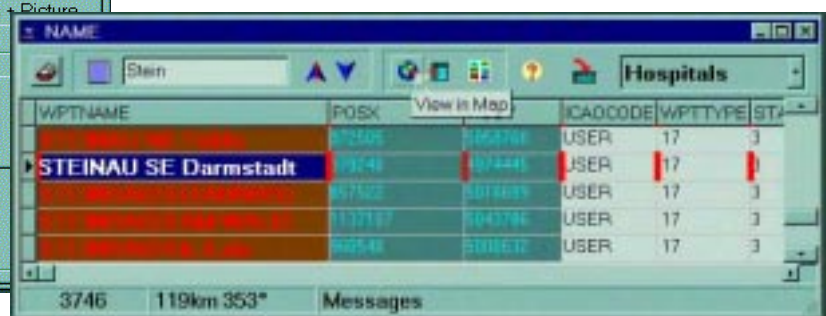


The Database module houses all lists of 'user waypoints' which extend easily beyond those actually used in flight plans. The databases have the same standard format as the databases on the EuroNav System which can effortlessly be exchanged with other computer applications i.e. MS Excel.



- In the Database Module every column can be moved and coloured as needed.
- Reports can be created.
- Information can be searched and filtered.
- The position of every item in the database can be viewed in the map module.
- An item can be searched using the position of the map module.

Using the file transfer option, data can be up- or downloaded to/from the EuroNav system via Floppy Disk or PCMCIA Card.

WPTNAME	POSX	POSY	ICAO CODE	WPTTYPE	STA
STEINAU SE Darmstadt	19.41	49.444	USER	17	3
	19.752	49.168	USER	17	3
	19.217	49.478	USER	17	3
	19.43	49.063	USER	17	3

Every item in the database can have a maximum of ten photographs assigned to it. They can be viewed using the database module.

Communications Module

The communications module handles the Ground to Air communication enabling messages to be written and sent to the airborne EuroNav System(s). Depending on the Communication media, different options are available.

A 'Direct to' flight plan can be attached to the message, the position of which comes directly from the map module.

The flight plan is activated in the EuroNav System and in using this method, can be issued without entering a numerical grid position.

If GSM is used as communication media, the Base Station as well as the EuroNav System is able to issue voice calls.



Every position of an ACFT can be viewed in the map module.

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The flight plan is activated in the EuroNav System and in using this method, can be issued without entering a numerical grid position.

If GSM is used as communication media, the Base Station as well as the EuroNav System is able to issue voice calls.

EuroNav Trainer

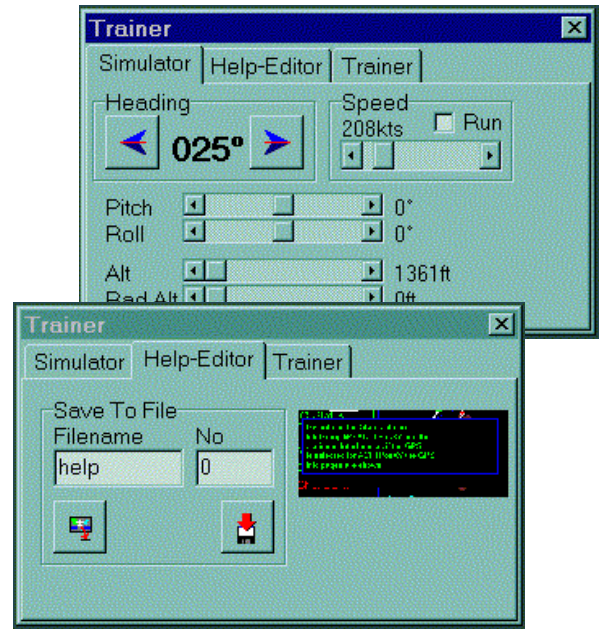
The EuroNav Trainer is a program that simulates the EuroNav System on the Base Station Computer. This enables training on the ground to take place either prior to receipt of the airborne system or whilst the airborne system is in operation, allowing the prospective user to practice most of the system functions

These functions can be practiced by using the full QWERTY-keyboard or the 14-button keypad, which is simulated on the screen. The buttons can be 'pressed' with the mouse.



For writing a customized document, the Help Editor is useful. Parts of the main Trainer screen can be saved to a file after marking them with the mouse.

With the simulator, the ACFT movement can be replicated for the main trainer screen. This is useful for pre or post mission briefings.



In summary, the Base Station gives you:

- * Complete mapping system with entire area covered in several map formats, scales and types including aerial photographs.
- * Plan flights, missions and landing areas before flight.
- * Play back actual previous flights on ground, review entire flight including position shown on map, with height and speed data. Store all flights for later recall.
- * See exactly where the FLIR or daylight camera has been pointing/searching during a flight.
- * Log all flight parameters including take off time, time of scene, incident number, people on board, video tape number etc.
- * Edit waypoints, add photographs to waypoints, mark avoid areas.
- * Send flight plans direct to aircraft so that EuroNav automatically accepts new flight plan
- * Send text messages to aircraft