

PRODUCT DATA SHEET

The EuroNav III is a sophisticated moving map system designed to ease observer workload whilst being able to interact with other on-board mission equipment, such as FLIR cameras, to enhance the operational capabilities of surveillance aircraft.

EuroNav III is centred around a comprehensive mapping database which can hold both digital and scanned paper maps of large geographical areas. Linked to this mapping information is a multi-mode database which can hold and show various levels of operational information as and when it is required.

When the EuroNav is linked to on-board mission equipment it becomes an unparalleled tool, offering valuable information such as naming the road or house that the camera system is pointing at.



Key features include:

***Up to 16 Gigabytes of force mapping data enabling every single house, building, village, hamlet, town and road to be implanted in full detail allowing the airborne observer to pass accurate information to ground based colleagues:**

‘The suspect is in the back garden of 8 North Street....he is climbing over the fence into the garden backing on to this.....27 Castle Close’

‘The car has turned left into Guildford Road..... he has now taken the second right into West End Road’

*** Flight plan instantly to a road name or even a house name. Then view road layout with house boundaries and house numbers/names shown on map.**

*** Link FLIR/Daylight video camera system to map to identify area being observed**

*** Implant task information into map using flag features.**

*** Set up ground search patterns with aircraft position track point history OR Camera Pointing history to ensure full coverage.**

*** Automatic powerline proximity warning**

*** Instant start up even in freezing temperatures**

*** Flight plan to postcode**





EuroNav Features List

- Display digital data over paper maps. This feature enables the observer to keep the familiar 1:50,000 Ordnance Survey map on the screen but use the digital mapping underneath to highlight and name roads. If the Observer wants the name of a road he just moves the cursor to that point and the road name is automatically displayed.

In Camera Pointing mode, the road name in the centre of the observers [camera] video screen is named automatically

- When linked to an on board video camera the system can display a marker on the map showing where the camera is pointing. This is achieved by correlation of data emanating from the DGPS, gyrostabilised camera system and the EuroNav's digital compass & pitch & roll sensor.
- Digital pictures can be captured from the on board camera system and stored as waypoints or attached to operational task data. Pictures can also be stored in higher resolution for down loading on return to base and printing on a colour printer.
- Text messages can be sent via existing microwave equipment or optionally via the Eurolocator product over VHF or AM radios. With the Eurolocator fitted two way secure messages can be transmitted.



- **Flight plan directly to:**

Address

Waypoint

OS National Grid Reference

Postcode

House or Farm name

- **Search patterns linked to FLIR field of view to ensure area covered.**
- **Records all flights**
- **Customisation by user to remove/add functions as required**
- **Set up user macro keys for commonly used features**
- **Store photos with waypoints or task operational data.**
- **Emergency flight plans to approved landing sites or hospitals**
- **Fully removable hard drives (100g shock proof) contain all data**
- **Run same programme on office based PC. Update files on actual hard drive and replace in aircraft.**
- **Both Paper and Digital maps turn Track up or North up. Aircraft can be placed at bottom or centre of screen.**
- **Moving map or moving aircraft symbol designed for use in orbit and slow hover.**
- **Digital compass can take over from GPS in slow flying situations when GPS loses track information.**
- **Observer can orientate maps manually in hover situation.**

Skyquest Aviation Ltd. Tel: +44 (0)1628 785143 Fax: +44 (0)1628 637446.

email: info@skyquest.co.uk www.skyquest.co.uk

Specifications subject to change without notice.



Constant Position Information

Just switch the system on and your current position is shown on the map display overlaid onto a colour 1:50,000 Ordnance Survey map (or any other map you select as default).

As the aircraft moves so does the map, allowing the observer to report his position or to plan a route ahead immediately. *As the system is also linked to a digital map (such as the Ordnance Survey Land-Line map) a small box in the left hand corner of the screen shows the village or town you are currently overflying and the next road you will cross.* This information box is constantly and automatically updated as the aircraft moves. Take a night time environment in an area without street lighting - the observer knows exactly which road he is overflying at all times. This feature is called 'Near To'

This continuous, accurate and constantly updated position information is achieved simply by switching the EuroNav on and is a basic function of the system.

Flight Planning Capabilities

The system offers a whole host of other features which the observer can select. He can decide to use the navigational capabilities at any time - in flight and even during another flight plan if he is being diverted by a more urgent task.

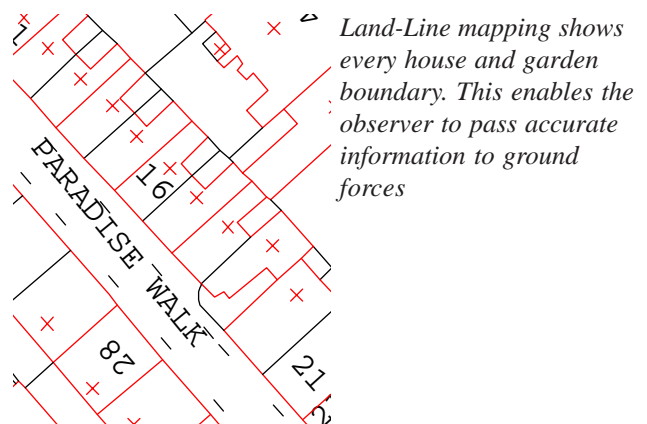
If the flight is to an area unknown in detail to the observer he can set up a flight plan within a matter of seconds. The system allows input of several forms of data including National Grid, Lat/Long, stored user waypoints, navigational aids or even road names, pub names and house names depending on the mapping information available (in the UK all information is available)

Once set up the system displays the flight plan on the screen and enables the observer to pass precise navigational data to the pilot.

Forward Viewing Capabilities - Advanced Area Familiarisation

In order to familiarise himself with the scene he is flying to the observer now has the ability, even as the system is displaying the current flight plan and position, to zoom ahead and look at the area in as much detail as he requires. Using the Ordnance Survey Land-Line maps he has the ability to zoom down to house boundary level and see house numbers or names and street layouts.

Another feature of the system allows the observer to select an area of interest which he knows he will be called to during a flight. Perhaps a planned event where the aircraft is airborne and ready. The observer simply does a flight plan in the normal manner and activates whenever he is ready - even during flight from any position and receives direct and instant navigational data.





Recording Points of Interest

At any point in the flight the observer can select an event flag marker by simply pressing one button on the panel. This will place a marker on the map which can later be reviewed or navigated to.

Digital Information on Paper Maps

An important and unique feature of the EuroNav III is its capability to use the digital vector map data and overlay this 'intelligent' mapping data on top of the scanned paper maps. Even if a road is not shown on the scanned paper map its exact position will be drawn onto the map digitally to enable the observer to have an instant view of its position in relation to ground features familiar to him on the paper map.

Other Planning and Database Features

Flag Markers. The EuroNav III has the ability to mark several areas with different coloured flags which you can tag with a name or identification number. For example you may wish to put Red Flags close to areas where noise complaints are common - just to remind you.

You could put green flags where you have photographic requests. This way, as you fly back to base from an event you can easily view where you have photographic tasks to complete and if they are close to your track back - navigate to them and complete the task.

Alternatively you could plan a photographic task flight and see visually which requests are close and draw your flight plan on the screen which is automatically converted to lat/long GPS positions giving you a well planned, economical mission plan.

You could put blue flags when there is a particular event or ground operation that you do not want to overfly etc.

Jeppesen Aeronautical Information

Jeppesen flight data is included in the system anyway and you can display the amount of Jeppesen information you require from none to full IFR information. This would depend on your force area and normal mode of operation.

What about Flight Records ?

The EuroNav III records every flight in both vertical and plan view. You are able to go back to any saved flight and revisit any area of the flight and get all the navigational data i.e. what height you were at at any point in the flight.

Emergency Mode

The EuroNav III offers a fast response to emergency aircraft situations. By pressing the illuminated red Emergency button the operator is instantly presented with a number of the closest landing sites and airports. The nearest landing site is at the top of the list and already highlighted. To confirm that is the best option the operator presses enter on the keypad and is presented with an instant flight plan direct to the site.

A number of user landing sites can be programmed into the system and this is particularly useful for aircraft which operate over cities and other built up areas where it is difficult to land - especially at night.

Customised sites can be added to the Emergency list. For example if the aircraft is used in the medical role - a full list of hospitals can be entered. On pressing the Emergency button a flight plan to the nearest hospital is presented.

It would also be common for users to store photographs in the system showing the approved landing site and this information is stored as a link to the hospital and easily viewed by observer or pilot along with any other special information.

What if the location of the incident changes - i.e. there is a pursuit ?

Easy - any time during the flight you can type in a new location - you don't have to use street names - you may store up to 6000 user waypoints, you can use lat/long or virtually any other list of coordinates. You can even move the cursor on the screen and navigate that way !.

What is the EuroLocator product ?

This is a GPS transmitter which is fitted inside a police vehicle on the ground. The locator sends a signal to the aircraft using standard VHF radios or GSM data links - the position of the police car is shown on the map in the aircraft enabling the aircraft to make an easy direct flight plan in seconds

How Accurate is the Moving Map ?

Being linked to GPS it is as accurate as the signals you receive. In the UK this is generally about 30 meters but can be as much as 200 metres or more inaccurate.

However if you want to be more accurate you will need Differential GPS . Differential GPS offers a more accurate analysis of the Satellite information. DGPS can be obtained either via your own or a local DGPS transmitter, or as a subcarrier on FM radio.

Skyquest offer a DGPS package utilizing the DGPS signal from FM radio. This offers accuracy down to 1 metre.

With DGPS What Can I Achieve ?

Apart from the benefits of better accuracy you may be able to link your DGPS based moving map to your FLIR camera system if you have one fitted. Depending on the type you have installed you may be able to have a cross hatch showing on the map pointing to where you are looking .

How Does the Moving Map fit into an already crowded aircraft cockpit ?

The EuroNav III is screen independent. The system will work with any screen. Many operators choose to have the EuroNav output showing on 2 screens, often one for the pilot.

Skyquest are able to offer a wide range of LCD displays in several sizes. Please contact us for full details.

System Components



A variety of monitors are available in both CRT and LCD types. Typically the map picture is sent to two monitors, usually the monitor used for viewing FLIR pictures, and an LCD for secondary viewing.



The controller gives full access to all modes and controls



The monitor switch panels allows control over picture brightness and also enables a second monitor to be plugged in as a temporary measure.



The CPU houses the computer, GPS and mapping information. Also built in is a 3" floppy drive for downloading flight info etc.

New map examples



Installation examples



Skyquest Aviation Ltd. Tel: +44 (0)1628 785143 Fax: +44 (0)1628 637446.

email: info@skyquest.co.uk www.skyquest.co.uk

Specifications subject to change without notice.