



ON TRACK ON TARGET ON TIME

Task management system

Observer MkIII System

- Supports Multiple Workstations
- Multiple Controller & Display Options
- High Resolution Aviation & Mission Mapping
- Interface & Control of Airborne Imaging Cameras
- Interface & Control of DF/Tracker & Transponders
- Stores Mission Data & allows a Paperless Cockpit
- Systems tailored to meet customer's needs



Observer MkIII is a Task Management Mapping System that provides highly detailed mapping for the Police, corporate and paramilitary user in the VFR environment. It is the third generation of a system that utilizes the experience and design expertise that has made Observer the benchmark standard for airborne mapping in both civil and military applications alike.

As a Task Management System, Observer can create a paperless cockpit through the use of user defined databases that allow text and picture images to be stored and retrieved at the touch of a button, whether the information is details of helicopter landing sites, daily orders or operational procedures. This is further enhanced by a built in flight logging capability that can be used for post flight analysis, making the Observer a management tool that can be used to ensure the cost efficient use of an aircraft resource.

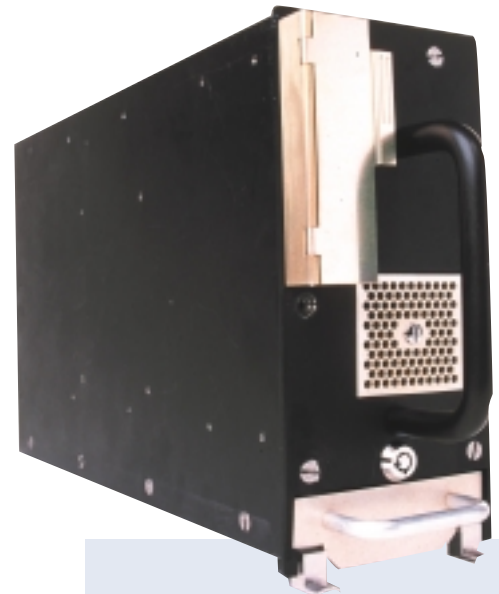
In addition Observer has been designed to become an integral part of the aircraft systems and is capable of interfacing with multiple additional on board displays, cameras, direction finding (DF) equipment, vehicle tracker, shipping transponders and downlink equipment.

The core capability of Observer is its intuitive mapping and navigation function, which displays highly detailed vectored (digital) and raster (scanned) area maps. Although the mapping data is multi-layered, any vectored data (such as controlled airspace, obstacles, user defined database items etc.) can be overlaid onto the raster charts, effectively giving a raster topographical chart an aviation capability.

Modular System

Architecture

The complete Observer System comprises a Processor, a Control Panel, a Display/Control Head and various controlling devices which can be configured to meet each customer's operational need. The modular nature of the Observer System gives the customer the flexibility when deciding the number and choice of displays and controlling devices to meet a specific installation.



Processor

The Processor is mounted in a 3/8 ATR Rack and forms the core of the system; operating software is run from removable solid-state PCMCIA memory and any memory intensive data, such as raster charts are loaded into a custom removable data cartridge. The processor is environmentally isolated and cooled and has an ARINC 404 connector at the rear to allow for multiple input & outputs options to be configured to the customer's application.



Control Panel

The Control Panel, which is Dzus mounted, typically in the central console, provides a smart distribution point for up to 7 controlling devices for the system. It is also an access point for the up/down loading of mission/flight log data. It can be configured for NVG applications as part of an integrated NVG cockpit.

Controllers

The choice of controlling devices include a Hand Remote Controller, a Dzus Remote Controller, a Mini Keyboard or 5 soft keys and joystick that are an integral part of any additional display monitor.



Observer MKIII Task Management



System Features

Mapping

The base map is in vectored format and provides Jeppesen Aeronautical data (airports, VORs, NDBs, controlled airspace etc), which has been merged with a geographic database of political boundaries, terrain, obstacles, major roads, bodies of water and urban conurbations.

Additional mapping levels are typically raster aviation charts at 1:500,000 and 1:250,000 scales. These are then typically followed by 1:100,000 and 1:50,000 topographical charts and dependant upon configuration, street mapping and vectored street/house database information for individual address searching, street naming and road overflow functions.

Navigation

Navigation can either take the form of a direct to, a flight plan, or a search pattern. Basic navigation is however, as simple as moving the on screen pointer using the joystick to the desired location and pressing the "Direct to PTR" key. Alternatively selecting the "SEARCH" key will access the internal database (which can include airports, VORs, NDBs, address data, user defined databases, etc.) and allow the operator to select a specific navigation point. While en route to the target, one press of the "Target POSN" key will switch the operator to the destination location allowing situational awareness of that area.

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Camera Interface

The Observer system is capable of interfacing with Wescam & FLIR airborne gyro stabilized camera systems and displaying the viewed footprint or point of impact on the map. Feeding the processor with ARINC 429 heading, pitch, roll and radar altimeter data, will increase the accuracy of this footprint. If the correct communication protocol is available between sensor turret and Observer, the system will allow a one key press slew of the turret to the desired position with an accuracy of normally better than 10m. Additionally in some installations Observer is able to calculate camera point of impact speed.

Data Link

Data-linking is a developing area which Observer has been designed to support, allowing secure messages or even next mission information to be sent while airborne and additional when suitably equipped to be able to display other airborne and ground assets.

Mission Plans & Reports

Observer is designed to interface directly with the Aerotech Easytask software to create flight plans and user waypoint information that can be transferred to Observer via the control panel. Observer also has a flight logging function, storing information such as date, position, track, on & off task, plus ground speed. This information can be retrieved via the control panel and transferred to an Aerotech ground-based station for post flight analysis.

NOTE
FLIR is a brand name; we interface with Wescam as well.

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Features

- Up to 80GB Hard Drive Memory
- NVG Controller & Control Panel Options
- AHRS/FMS & IFR NAV In/Out
- SATCOM & LAN data In/Out
- Vector Maps & Relative Terrain
- Raster Charts, Images & Plates*
- Aerotech Ground Station Interface

Support

- 2 year warranty from Install
- Honeywell SPEX Availability
- Global Field Service Support

Mapping

- Vector Graphics 1:500K Standard
- Vectored Terrain Model
- Sectional's 1:500K
- Jeppesen, TPC's, CAA etc

Data Options

- Vectored Terrain & Streets
- Raster Road & Streets
- Imaging Views & Marine Charts

Interfaces

- 1 Aircraft DC Power 10-32V
- 1 Ethernet
- 3 RS232 COM channels
- 2 RS232/RS422 ports, software selectable
- 4 receive and 2 transmit ARINC 429 ports
- 1 CAN 2.0b Port
- 4 composite video outputs either NTSC or PAL
- 1 VGA output
- 1 RGB output
- 1 video output configurable as either VGA or RGB
- 1 0-20V analogue input
- 2 discrete inputs
- 1 GPS Antenna connection
- 1.4.6 CERTIFICATION
- ETSO C113 Multi Function Display
- RTCA DO 178 Level D Code
- RTCA DO 160 Environmental

Note

* Plates planned in Release 3 of V4. Q1/08

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