

VisionMaster FT

Series of Naval Radars

Navalised features

600 knot tracker

Additional Military Layer (AML)

CTV Interface

Dual Channel mode

Freeze Frame



**NORTHROP
GRUMMAN**

VisionMaster FT Marine Navigation Radars

The VisionMaster FT series of radars has been developed using the latest technology, while building on the success of the BridgeMaster E series. Its unparalleled choice of configurations and options gives it the flexibility needed for any type, size and class of vessel. Its versatility extends to high-speed and static site applications. Since its introduction, VisionMaster FT has seen great success. It has been chosen as the preferred system of choice by major navies and coast guards around the world.

Specially Developed for the Military and Paramilitary Markets

Recognizing the needs of military and paramilitary customers, the VisionMaster FT series of Naval Radars has been specially developed to provide advanced navigational support for the toughest military assignments. By combining the navigational features and functions found in the VisionMaster FT standard ARPA with enhanced features and high performance configuration, VisionMaster FT Naval Radars offer exceptional

military capabilities without the high cost associated with most Naval Radars.

Main Features

Range in Yards

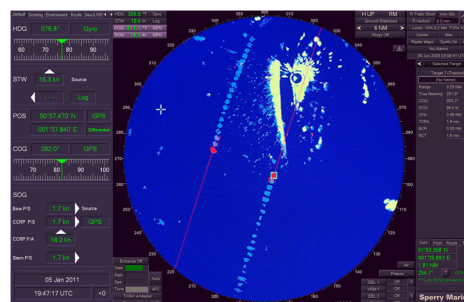
In addition to the standard radar distance units, the VisionMaster FT Navalized Radar display also offers the operator the choice of displaying ranges in yards. This is selected during commissioning.

Red First Strike

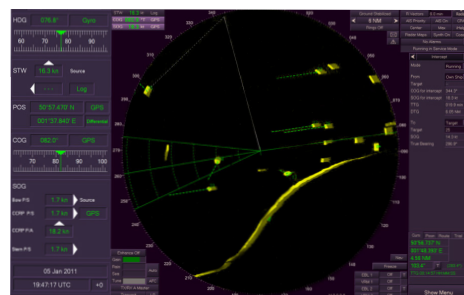
Red First Strike provides an immediate indication of fast moving targets, such as fixed and rotary wing aircraft and fast attack craft, by highlighting them in red. This feature improves the operator's reaction time by simplifying the identification of any potential threat.

Target Intercept

The Target Intercept feature allows the operator to plan and execute intercept maneuvers between one vessel and another. These interceptions can be to and from ownship, or from one tracked target or AIS target to another. The course to achieve the interception is calculated and displayed on the screen. Graphical intercept vectors are



Red First Strike



Target Intercept

displayed in the video circle to indicate where the interception will take place.

Helicopter Approach

The ability to display a helicopter approach sector on screen is of great value in assisting with helicopter operations, especially in poor visibility. At a glance, the radar operator is able to check the status of the helicopter's approach and provide guidance to the pilot.

The approach sector may be set up on ownship or on any tracked target or AIS target.

Freeze Frame

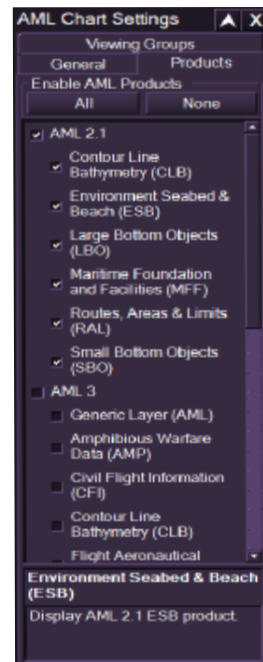
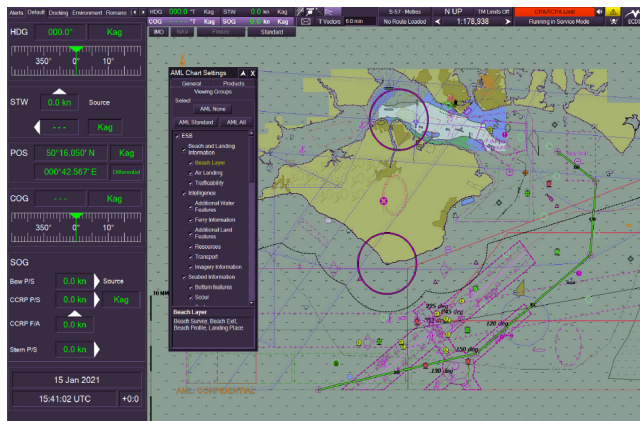
In any naval operation there may be times when it is necessary to impose radar silence. During these times the operator can be provided with a frozen picture of the radar situation immediately before the radar silence was imposed by using the 'Freeze Frame' function. The operator can freeze the picture locally or the display can be integrated with the vessel's radar silence capability.



Queen Elizabeth Class (QEC) Aircraft Carrier. Photo courtesy of Aircraft Carrier Alliance

Station Keeping

In bad weather conditions and at night, it is often difficult to maintain station on other surrounding vessels. By using the station keeping feature, the operator is able to set up a sector for each vessel nearby which will allow him to see at a glance if any vessel has moved out of its correct position. Targets can also be assigned for automatic monitoring with respect to the defined station. The distance off station is displayed and an alarm will be raised if the target exits the station. Multiple targets can be monitored simultaneously.

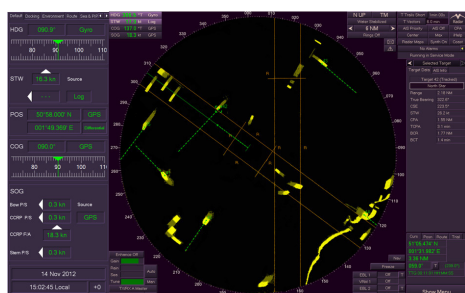


Low Scanner Rotation Speeds

The VisionMaster FT Navalized Radar display has been developed to support integration with scanner systems operating at low rotating speed rates, down to 5rpm.

Advanced Index Lines

Advanced index lines are used by the military for blind pilotage operations. Sperry Marine's Navalized display allows up to 15 index lines to be displayed simultaneously in groups of five. In order to minimize the cluttering effect of these lines, the operator is able to 'clip' the lines to the exact length required. Multiple sets of lines can be prepared in advance and saved internally in individual files for later use. Index lines are automatically synchronized between other VisionMaster FT systems on the same network, ensuring that all systems have the most up-to-date data available. Lines can also be saved to a USB memory device as a back-up or for transfer to other vessels.



Advanced Index Lines

Target Repair

Target repair allows the operator to reposition the tracked target synthetics when they become separated from the target video. This is done by moving the tracked target origin to its new position while maintaining the following target data:

- Target ID number
- Target Name
- Existing past position dots
- Velocity

Drop Line

The Drop Line can be used to manage targets of interest and reduce screen clutter and unwanted target alarms. The line is drawn perpendicular to the ship's course at an operator adjustable distance astern of ownship. Tracked targets crossing the line and moving away from ownship are automatically dropped unless being used for echo reference.

Optional Features

- 600 Knot Tracking
- CCTV Interface
- Velocity Asynchronous Secondary Radar Input

Additional Military Layer (AML)

Support for v2.1 and v3 AML charts.

Display of the charts without the ENC charts, or along with the ENC charts.

Display filtering options for both the defined AML Viewing Groups and the AML Products.

The AML charts are also available in Chart Radar watch mode.

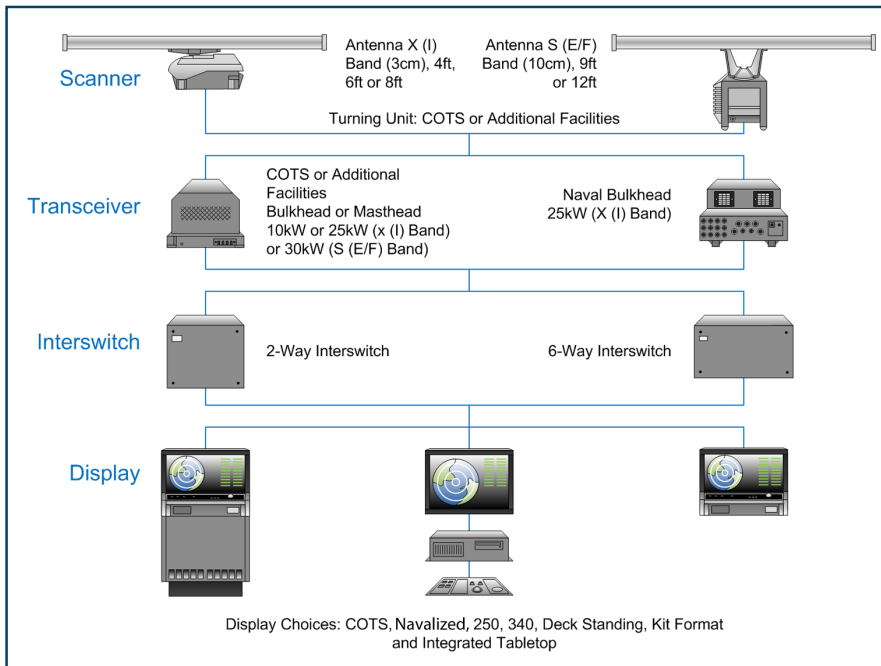
The following AML products are available:

- AML Generic Layer
- Contour Line Bathymetry (CLB)
- Environmental Seabed and Beach (ESB)
- Large Bottom Objects (LBO)
- Maritime Foundation & Facilities (MFF)
- Routes Areas and Limits (RAL)
- Small Bottom Objects (SBO)
- Amphibious Warfare data (AMP)
- Territorial Sea Boundaries (TSB)
- Flight Aeronautical Information (FAI)
- Secure AIS interface (W-AIS)

Support for display of secure AIS targets

The secure targets will be displayed in accordance with the MIL-STD-2525D

Typical System Configuration

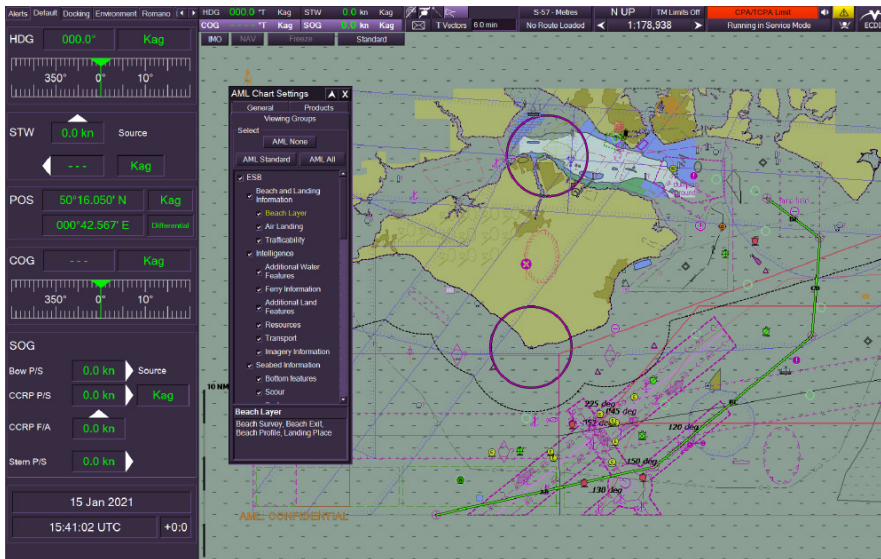


Naval Transceiver

Using enhancements in technology, the VisionMaster FT X-(I)-band naval transceiver has been developed to act as a centralized distribution unit for radar synchronization. It accepts an external trigger input (200Hz-10KHz) that will allow its transmission to be synchronized with other systems and three independent adjustable pretrigger signals outputs, which may be used by ownship's EW systems to avoid damage when a radar pulse is being transmitted.

In addition, the VisionMaster FT naval transceiver has two positive and two negative radar video outputs, so that the video is available for other systems without the need for additional signal inversion circuitry. In the same way there are two sets of bearing data output in serial format (heading marker and incremental azimuth information).

The availability of a wide range of inputs and outputs allows the VisionMaster FT radars to interface quickly and easily with other onboard systems without using multiple interfacing units thus reducing the complexity of the system and associated costs.



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