NORTHROP GRUMMAN

BridgeMaster E

ATA and ARPA Series of Marine Radars

Sperry Marine

BridgeMaster E ATA & ARPA Series of Marine Radars

BridgeMaster E Key Highlights

- Proven BridgeMaster E Technology
- Fully type approved and wheelmarked for standard and high speed craft
- All based on high resolution flat panel technology
- AIS display capability fitted as standard
- VDR interface fitted as standard
- Wide choice of radar configurations
- "Vision"- A unique, hands-off clutter and gain optimization option
- Simple, straightforward operation
- Choice of control configuration
- Fast, easy installation and commissioning
- ARPA 60-target tracking
- Multi-layer radar maps
- Full IBS interfacing to DNV Watch-1
- Interswitching of up to six displays with up to six transceivers
- Comprehensive range of on-screen features and radar tools

Front Cover:
BridgeMaster E 340 Flat Screen with optional keyboard

BridgeMaster E 340

BridgeMaster E 340 Desktop

BridgeMaster E 250

BridgeMaster E 180

A Tradition of Innovation…

The BridgeMaster E series of Type Approved marine radars continues the tradition of innovation well established by Decca over more than fifty years. The BridgeMaster E Series offers an unparalleled choice of configurations and options to meet the demanding and varied needs of every type, size and class of ship including high-speed craft, whether it is a new build or retrofit.

… And Reliability

The BridgeMaster E has a solid track record of "at sea" reliability. Since its introduction in 1999 many thousands of BridgeMaster E systems have been successfully installed on all types of vessel worldwide.

Unique Clutter Suppression

The standard BridgeMaster models include clutter suppression capabilities unequalled in other marine radars, and with BridgeMaster E there is the option of fitting "Vision", a revolutionary new clutter suppression system. This provides the first true hands-off clutter and gain control capability.

"Vision" allows the operator to leave the radar in automatic clutter suppression mode even when close to land and totally eliminates the need to adjust radar gain as the operator changes range or pulse length. The operator is left free to concentrate on important navigation activities without the distraction of optimizing radar settings.

Features & Configurations

As you would expect from a world-class Radar, the BridgeMaster E comes with a comprehensive array of features to enhance situation awareness and tools to enable the operator to perform navigation functions effectively and efficiently.

Operation is simplicity itself – for key tasks there is no searching through menus - simply point and click and, if there is still any doubt, a number of on-screen prompts provide valuable help when it is needed.

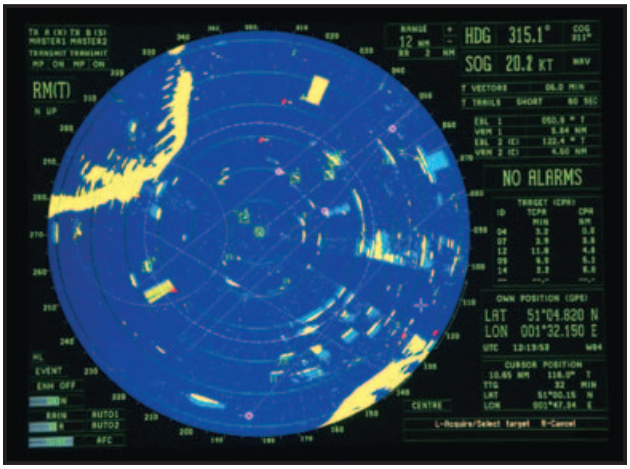
The BridgeMaster E offers a choice of Man Machine Interface (MMI) to suit all user preferences. All the radars in the BridgeMaster E series may be fitted with either a joystick or a trackball control and there is an optional dedicated keyboard incorporating the fundamental radar controls.

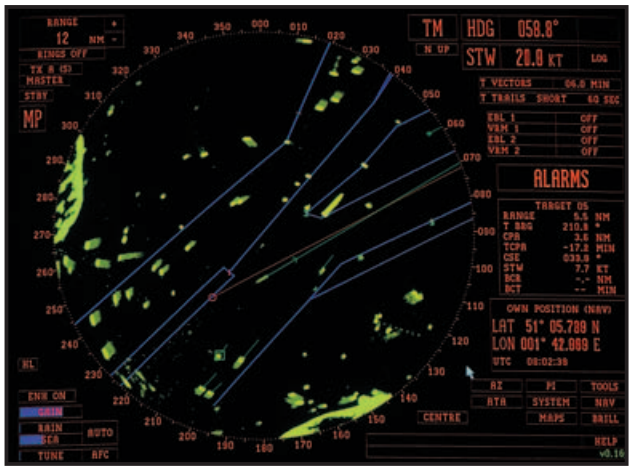
For integrated bridge applications or where space is limited the kit format variants of the BridgeMaster E allow the customer to integrate the radar display, keyboard, memory storage and user controls independently into their own console design. In the kit format radars the control panel may also be mounted remotely to assist with installations.

For further flexibility an additional remote joystick or trackball may be connected to the radar, for example in the arm of a wheelhouse chair.

Dual Channel Option

The Sperry Marine dual channel BridgeMaster E radar system incorporates a unique design that permits radar video from two different transceivers to be mixed and displayed simultaneously, presenting a seamless single integrated picture to the radar operator.





Sperry Marine BridgeMaster E with Vision provides a clear at-a-glance situation awareness in all weather conditions.

- Combining the best qualities of S & X Band on the same radar picture
- The system could similarly be used to combine the picture from a docking radar to watch for small fast vessels approaching from astern

Elimination of Blind Arcs and Sectors

By combining inputs from two separate radar transceivers, the BridgeMaster E Dual Channel system can eliminate the effects blind arcs cause by blockages from the ship's or platform's superstructure, and can provide 360-degree visibility of the surrounding area.

Target Tracking

ARPA and ATA (Automatic Tracking Aid) have the ability to track 60 & 40 targets respectively at relative speeds of up to 150 knots. Tracked target data is output to other shipborne systems such as electronic chart systems (ECS).

Targets may be acquired manually or by using the annular and polygonal automatic acquisition zones. The two conventional annular zones are of variable depth and provide protection over any arc up to and including a full circle around own ship. The polygonal zones can be drawn to virtually any shape and are particularly useful for shore based or other static site applications.

When target tracking, the operator is able to display full target data on any chosen target or CPA/TCPA data on six selected targets. The six targets may be selected manually by the operator or automatically by CPA or range.

Radar Maps

The radar maps used with all Sperry Marine BridgeMaster E radars are constructed by the operator in a multi-layer format allowing the operator to select the information to be displayed on the radar screen. In addition, the colours and symbols, which are standard ECDIS symbols, comply with the requirements of the IEC specification for mapping radars. Map data is automatically aligned using the navigation input.

The maps can be used alone or built into folios enabling the maps for whole voyages to be pre-selected so that the operator knows that the correct map will always be on-screen without the need to make any changes. The maps and folios are stored on memory cards thus providing essentially unlimited storage.

Maps can be constructed using the radar's own controls or by accepting maps constructed within an ECS. The ECS and radar can either be part of a complete integrated bridge system or simply interfaced with one another.

Navigation Data

The Sperry Marine BridgeMaster E radars accept navigation data directly from compatible navigation sensors or from an electronic chart system. In addition to own ship's position and cursor latitude and longitude, the radar is able to display a voyage plan thus providing an immediate indication of whether own ship is on track or not. This feature is particularly valuable for stand-alone radar installations where an ECS is not available.

With a navigation sensor supplied by Sperry Marine, the radar will display the last waypoint and the next nine waypoints thus showing the current leg, the next eight legs, time and distance to go to the next waypoint and off-track distance.

Up to 6-Way Interswitching

The Sperry Marine BridgeMaster E Interswitch units provide the operator with total flexibility as to what is shown on each radar display. The 2x4 interswitch allows two transceivers and up to four display channels to be switched while the 6x6 way allows switching of up to six transceivers and six display channels. Both interswitches will handle any combination of X & S band transceivers with any combination of ARPA/ATA displays. In the case of the dual-channel displays, any two transceivers channels can be controlled and displayed on a single screen.

Simple Installation and Commissioning

An important factor in the design of these radars is ease of installation and commissioning.

A serial data format is used to communicate between the transceiver and display which minimizes the amount of cabling needed. When the optional performance monitor is fitted, it is built into the turning unit eliminating the need for separate installation and cabling.

Commissioning is a very straightforward process using a series of full screen menus which take the commissioning technician through the process step by step. This ensures that everything is done quickly and correctly thus saving time and reducing cost.

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System Configurations

X Band (3 cm) Scanner (Comprising antenna and turning unit)
Antenna Sizes: 4, 6 or 8 ft. (1.2, 1.8 or 2.4 m)
Transceiver Configurations: Bulkhead or masthead mounted
Power: 10 kW or 25 kW
Factory Fitted Options: Performance Monitor (required for IMO SOLAS vessels)

S Band (10 cm) Scanner (Comprising antenna and turning unit)
Antenna Sizes: 9ft* or 12 ft. (2.7 or 3.6 m)
Transceiver Configurations: Bulkhead or masthead mounted
Power: 30kW
Factory Fitted Options: Performance Monitor (required for IMO SOLAS vessels)

* The 9 ft antenna is type approved for high speed craft only

Displays

	BME 340 (16")	BME 250 (12")	BME 180 (9")
Display Type	23" Flat Panel	19" Flat Panel	15" Flat Panel
Radar Type	ARPA/ATA	ARPA/ATA	ATA
Configuration	Deckstand	Deckstand	—
	Desktop	Desktop	Desktop
	Kit Format	Kit Format	—
Dedicated Control Panel	YES	Optional	Optional
"Vision" Clutter Suppression*	Optional	Optional	Optional
VDR Interface	YES	YES	YES
AIS Interface	YES	Optional	Optional
Dual Channel Processor	Optional	Optional	—

* "Vision" not available with Dual Channel Processor

Type Approvals

IEC 60945 (Environmental)
IEC 60872-1 (ARPA Performance)
IEC 60872-2 (ATA Performance)
IEC 60936-1 (Radar Performance)
IEC 60936-2 (HSC Radar Performance)

The product is wheelmarked in accordance with the Marine Equipment Directive (MED) 96/98/EC

EPA Radars

A complementary range of EPA radars based upon the same radar technology (The BridgeMaster E EPA(L) Series) is also available and featured in a separate brochure.

Sperry Marine, with worldwide headquarters in Charlottesville, VA, USA and major engineering and support offices in Melville, NY, USA, New Malden, England and Hamburg, Germany, is part of the Northrop Grumman **Electronic Systems** sector.

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