BridgeMaster E
ATA and ARPA Series of Marine Radars

Sperry Marine
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.
• 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/CPA 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.
Sperry Marine

www.sperrymarine.northropgrumman.com

For more information, please contact:

**AMERICAS**

**Charlottesville, VA USA**
Tel: +1 434-974-2000
Fax: +1 434-974-2259

**Melville, NY USA**
Tel: +1 631-719-4736
Fax: +1 631-719-4630

**ASIA**

**China, Shanghai**
Tel: +86-21-5836-9978
Fax: +86-21-5836-9979

**Hong Kong, Sheung Wan**
Tel: +852-2581-9122
Fax: +852-2581-9167

**Japan, Tokyo**
Ph: +81 (0)-3-3863-7401
Fax: +81 (0)-3-3863-7455

**Singapore**
Tel: +65-6213-3332
Fax: +65-6213-3339

**South Korea, Busan**
Tel: +82-51-247-7455
Fax: +82-51-247-7454

**Taiwan, Kaohsiung**
Tel: +886-7-321-7780
Fax: +886-7-321-7924

**CANADA**

**Nova Scotia, Halifax**
Tel: +1 902-468-9479
Fax: +1 902-468-9480

**EUROPE**

**Belgium, Antwerp**
Tel: +32-3-233-14-33
Fax: +32-3-235-05-53

**Denmark, Copenhagen**
Tel: +45-77-33-66-33
Fax: +45-77-33-66-11

**Germany, Hamburg**
Tel: +49 (0)40 299 00-0
Fax: +49 (0)40 299 00-136

**Holland, Vlaardingen**
Tel: +31(0)10-4451600
Fax: +31(0)10-445016

**Norway, Bergen**
Tel: +47-55-94-94-94
Fax: +47-55-34-52-27

**United Kingdom, New Malden**
Tel: +44(0)20 8329 2000
Fax: +44(0)20 8329 2415

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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**

<table>
<thead>
<tr>
<th>BME 340 (16&quot;)</th>
<th>BME 250 (12&quot;)</th>
<th>BME 180 (9&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display Type</strong></td>
<td>23&quot; Flat Panel</td>
<td>19&quot; Flat Panel</td>
</tr>
<tr>
<td><strong>Radar Type</strong></td>
<td>ARPA/ATA</td>
<td>ARPA/ATA</td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td>Deckstand</td>
<td>Deckstand</td>
</tr>
<tr>
<td><strong>Dedicated Control Panel</strong></td>
<td>YES</td>
<td>Optional</td>
</tr>
<tr>
<td><strong>“Vision” Clutter Suppression</strong></td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td><strong>VDR Interface</strong></td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td><strong>AIS Interface</strong></td>
<td>YES</td>
<td>Optional</td>
</tr>
<tr>
<td><strong>Dual Channel Processor</strong></td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>

* “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.