

MAX FUNCTIONS DESCRIPTION

Addendum



Copyright 2005. **STANDARD HORIZON** All rights reserved. *Printed in Italy.*No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without prior written permission of the publisher.

CODE: IssueB - 010305

TABLE OF CONTENTS

1.	ABC	OUT TH	IIS ADDENDUM	5
	1.0	KEY C	PERATION	5
	1.1	HOW 7	THIS ADDENDUM IS ORGANIZED	5
2.	MAX	OVE	RVIEW	6
	2.0	HOW ⁻	TO UPDATE THE SOFTWARE TO MAX FUNCTIONS	6
3.	MA	P FUN	CTIONS	8
	3.0	NEW	MAX FUNCTIONS MENU	8
		3.0.0	Zoom Type	8
		3.0.1	71	
		3.0.2		
		303	Dynamic Nav-Aids	
		3.0.4	•	
		305	Currents Prediction	
	3 1		CONFIGURATIONS MENU	
	• • •	3.1.0	Display Mode	
		3.1.1	• •	
			Depth Settings	
			Land Settings	
			Chart Settings	
	32		SETTINGS IN GENERAL SETUP MENU	
	٠			
4	DΔΤ	ΓΔFFΔ	TURES	15
			JRES & DIAGRAMS	15
	0		How to show the pictures or diagrams of a Multimedia Object	
			How to show the pictures or diagrams of a material object	
	41		NCFD PORT INFO	

1. ABOUT THIS ADDENDUM

This document gives you an explanation of MAX (a major evolution of the NT product technology) and the competitive advantages your products gain by supporting this new standard.

1.0 KEY OPERATION

Legend:

[MENU] If you see brackets around a bold and capital letter word this refers to a key press.

[CHART] If you see brackets around a bold and small capital letter word this refers to a Soft Key press.

GENERAL SETUP When a word(s) is bold capital letters and underlined, this refers to a menu selection item.

Any menu operation and function activation in this Addendum is related to all GPS chartplotter models (see the following table). Whenever it is necessary, a note has been inserted for those models with differences.

GPS Chart Plotter Name	Description		
CP155C	5" Sunlight Readable Color Display, External Smart GPS Receiver		
CP175C	5.6" Sunlight Readable Color Display, External Smart GPS Receiver		
CP1000C	11" Sunlight Readable Color Display, External Smart GPS Receiver		

1.1 HOW THIS ADDENDUM IS ORGANIZED

- CHAPTER 2: MAX Overview
 Introduction to the basic information on MAX, its features and use. General changes on the existing Owner's Manual.
- **CHAPTER 3: MAX Functions**Features related to the presentation of objects on screen.
- CHAPTER 4: MAX Data Features
 Features related to the map data files (i.e.: cartography and related data).

2. MAX OVERVIEW

MAX is a major evolution of the NT/NT⁺ product technology. Key points are:

New Data Features

- Tides and Currents (intuitive arrows show direction and strength)
- · World Background Charts with terrestrial data
- · Value Added Data (Pictures and Diagrams, Land Data)
- · Enhanced Port Info

New Presentation Features

- Clear Info (sophisticated "Human Dictionary" to translate Nav-Aid abbreviations found on paper charts)
- · Dynamic Nav-Aids (an innovative and dynamic presentation mode)
- Flexi-Zoom (increased Under and Over Zoom between chart levels, resulting in optimal scale display for any situation)
- Dynamic Elevation Data (optimized palettes for chart plotters; includes new NOAA palette)
- Perspective View ("Real World" perspective view of the chart, updated realtime during navigation)

MAX and NT/NT+ C-CARD coexistence

- When NT⁺ data and MAX data cover different areas, the chart plotter gets data from both charts (depending on the current position).
- When NT⁺ data and MAX data cover the same area, the chart plotter gets data only from MAX chart

2.0 HOW TO UPDATE THE SOFTWARE TO MAX FUNCTIONS

To confirm your plotter has been upgraded to C-Map MAX operating system, from the chart page press [MENU]. In the menu below User Points, MAX Features selection will be shown. If MAX Features is shown the plotter does not need to be updated.

NOTE

NT* and new MAX cards may be used to show marine cartograpy. However if NT* cards are used the following MAX functions will not operate: Currents Prediction, Depth and land elevation, Pictures & Diagrams, Enhanced port info.

If MAX functions is not shown contact C-Map directly at (800)424-2627 to arrange for the software update card to be sent (refundable credit card deposit required). This card contains the new MAX operating system and also the improved North America base map.

After the card is received perform the following procedure:

- 1. Turn off the Standard Horizon GPS Chart Plotter
- 2. Remove the C-Map cartography card.
- 3. Insert the C-Map MAX upgrade card
- 4. Press [PWR] until a beep is heard

CAUTION

Do not remove the C-Map MAX software update card until step 7 is completed.

NOTE

The screen will be blank for about 40 seconds then a Internal WWB chart upload status screen will be shown. On this screen you will notice the GPS chartplotter will erase the old WWB ground area, write the new background to the GPS chartplotter, and verify the data has been loaded correctly.

- After the software upgrade is finished the GPS chartplotter will show a message "Press ENTER key to continue". Press [ENTER] and the GPS chartplotter will restart by showing the startup screen.
- 6. Remove the C-Map MAX software update card and replace with C-Map data card.
- 7. Select the Chart page, press [MENU] and confirm MAX Functions is shown in the menu.

NOTE

DURING NORMAL OPERATIONS THE C-CARD SHOULD NOT BE REMOVED SINCE THE UNIT MAY LOCK UP

3. MAP FUNCTIONS

A new menu item, the MAX FUNCTIONS menu, has been added into the MAIN MENU and a new MAP CONFIGURATIONS Menu has been added to the Setup Menu.

3.0 NEW MAX FUNCTIONS MENU

 Press [MENU]. Move the ShuttlePoint knob to highlight MAX FUNCTIONS and press [ENTER] or move the ShuttlePoint knob to the right. The new MAX Functions menu appears on the screen:

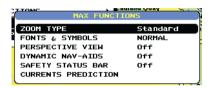


Figure 3.0 - Map Functions Menu

The available Functions are described in the following.

3.0.0 Zoom Type

Allows more expansions or compression of the chart scale while zooming in or out. Zoom Mode has two options; STANDARD (default) or FLEXI-ZOOM. When in FLEXI-ZOOM mode, a short [ZOOM...] push causes a change of chart, whilst a long [ZOOM...] push (press and hold) causes a pop-up window to be displayed on a corner of the screen. The window shows the current Zoom Factor. By pressing [ZOOM IN]/[ZOOM OUT] the map is expanded or compressed according to the zoom factor selected. The Window is automatically closed if [ZOOM...] is not pressed for 2 seconds and the selected zoom factor will be used at the next zoom in/out.

To activate this function follow the procedure:

- Press [MENU]. Move the ShuttlePoint knob to highlight MAX FUNCTIONS and press [ENTER] or move the ShuttlePoint knob to the right.
- Move the ShuttlePoint knob to highlight <u>ZOOM TYPE</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- 3. The menu now shows two selections, **STANDARD** or **FLEXI-ZOOM**.
- 4. Move the ShuttlePoint knob to select the selection and press [ENTER].
- Press [CLEAR] until the menu disappears or an easier method is to press the ShuttlePoint knob to the left a few times.

3.0.1 Fonts & Symbols (for CP1000C only)

On MAX charts it is possible to set the size of all names and symbols drawn on the charts, selecting between Normal size (the regular characters size) and Large size.

To activate this function follow the procedure:

- 1. Press [MENU]. Move the ShuttlePoint knob to highlight MAX FUNCTIONS and press [ENTER] or move the ShuttlePoint knob to the right.
- Move the ShuttlePoint knob to highlight <u>FONTS & SYMBOLS</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- 3. The menu now shows two selections, NORMAL or LARGE.
- 4. Move the ShuttlePoint knob to select the selection and press [ENTER].
- 5. Press [CLEAR] until the menu disappears or an easier method is to press the ShuttlePoint knob to the left a few times

NORMAL size



LARGE size



Figure 3.0.1 - Example of Normal size (on the left side) and Large side (on the right side) settings

3.0.2 Perspective View

Chart data may be projected in perspective mode during navigation. This function allows setting the panoramic View of the chart. As the upper side of the map is more compressed than the lower side, a wider map area is visible. The perspective view allows showing more chart information immediately ahead and around the cursor.

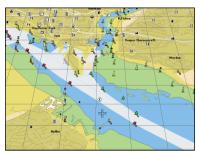


Figure 3.0.2 - Perspective View

To activate this function follow the procedure:

- 1. Press [MENU]. Move the ShuttlePoint knob to highlight MAX FUNCTIONS and press [ENTER] or move the ShuttlePoint knob to the right.
- Move the ShuttlePoint knob to highlight <u>PERSPECTIVE VIEW</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- 3. The menu now shows two selections, **ON** or **OFF**.
- 4. Move the ShuttlePoint knob to select the selection and press [ENTER].
- 5. Press [CLEAR] until the menu disappears or an easier method is to move the Shuttlepoint knob to the left until the chart page is shown.

3.0.3 Dynamic Nav-Aids

This function allows settings blinking lights on Nav-Aids. The blink period and color of each Nav-aid is read from the Nav-Aid attributes available on the data cartridge. When the ship is inside the Nav-Aid nominal range, the light of the Nav-Aid will start blinking.

To activate this function follow the procedure:

- 1. Press [MENU]. Move the ShuttlePoint knob to highlight MAX FUNCTIONS and press [ENTER] or move the ShuttlePoint knob to the right.
- Move the ShuttlePoint knob to highlight <u>DYNAMIC NAV-AIDS</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- 3. The menu now shows two selections. **ON** or **OFF**.
- 4. Move the ShuttlePoint knob to select the selection and press [ENTER].
- 5. Press [CLEAR] until the menu disappears or an easier method is to move the Shuttlepoint knob to the left until the chart page is shown.

3.0.4 Safety Status Bar

This feature displays a status bar with six boxes showing the status of certain functions. Any warning or alarm condition is identified by the red color to indicate possible risk.

- 1. Press [MENU]. Move the ShuttlePoint knob to highlight MAX FUNCTIONS and press [ENTER] or move the ShuttlePoint knob to the right.
- Move the ShuttlePoint knob to highlight <u>SAFETY STATUS BAR</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- 3. The menu now shows two selections, **ON** or **OFF**.
- 4. Move the ShuttlePoint knob to select the selection and press [ENTER].
- Press [CLEAR] until the menu disappears or an easier method is to press the ShuttlePoint knob to the left a few times.



Figure 3.0.4 - Safety Status Bar

Boxes definition is as follows:

1 Zoom

- Normal: when the chart is displayed at normal scale.
- U. Zoom: red when the chart is under-zoomed out more than twice normal scale, gray otherwise.
- O. Zoom: red when the chart is over-zoomed in more than twice normal scale, gray otherwise.
- Chart Lock: red when the chart is zoomed in more than twice normal scale, gray otherwise.

3 - 7
NOTE
U. Zoom, O. Zoom and chart lock are used with Flexizoom selected.

2 Best Scale

Red when a more detailed chart is available under the cursor position.

(3) Data Off

Red when at least one of the following objects or layers is turned off (by the user): Depths/soundings; Wrecks/obstructions; Tracks/routes; Attention areas; Nav-Aids.

(4) Declutter

Displays red when clearing overlapping objects.

5 Dangers

Red when "Guardian Technology" detects one of the following objects: Land, Intertidal, Depth Area, Rocks, Obstructions, Shoreline Constructions, Fishing Facility, Wrecks, Dragged area, Diffusion area, Mooring facilities, Pingos and Production installations.

6 Caution

Red when "Guardian Technology" detects cautionary or restricted area.

3.0.5 Currents Prediction

It is possible to see the variation of the Tidal arrows on the selected area at any given time.

To activate this function follow the procedure:

- 1. Press [MENU]. Move the ShuttlePoint knob to highlight MAX FUNCTIONS and press [ENTER] or move the ShuttlePoint knob to the right.
- 2. Move the ShuttlePoint knob to highlight <u>CURRENTS PREDICTION</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- A window is shown on the low-left side of the chart. On the CP175C and CP1000C, press
 [Set Time] to set the date and time manually, and [INCR. Time]/[Decr. Time] to decrease/
 increase time; press [Exit] to exit. On the CP155C press [ENTER] to set the date and
 time manually, and [GOTO]/[MENU] to decrease/increase time; press [CLEAR] to exit.

3.1 MAP CONFIGURATIONS MENU

In the Manual for Standard Horizon CP155C, CP175C and CP1000C, the Paragraph 10.0.3 "Setting up the Chart page using the Map Setup Selection" and the Par. 10.0.4, "Advanced Chart SetUp" (with the sub-paragraphs) are to be substitued by the following.

3.1.0 Display Mode

Selects from a pre-defined table what cartographic objects are displayed and which display options are set. Pre-programmed settings are user selectable from Full, Medium, Low, Radar (reduces the information on the display to simulate items that would be shown on a RADAR display) Pls note this function is not actually showning RADAR information it is only showning what typically would be shown by a separate dedicated RADAR display), Tides, Custom (default mode). The table below shows the selections for each mode.

- To change to one of the pre-programmed settings, press [MENU]. Move the Shuttle-Point knob to highlight <u>SETUP</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- Move the ShuttlePoint knob to highlight <u>MAP CONFIGURATIONS</u> and press [ENTER] or move the ShuttlePoint knob to the right.
- Move the ShuttlePoint knob to highlight <u>DISPLAY MODE</u> and press [ENTER] or move the ShuttlePoint knob to the right.

- 4. Move the ShuttlePoint knob up or down to select the preset and press [ENTER].
- 5. Press [CLEAR] or move the ShuttlePoint knob to the right until the Chart page is shown.

Setting	Full	Medium	Low	RADAR	Tides	Custom (Default values)
Names	On	On	On	On	On	On
Buoys ID	On	Off	Off	Off	Off	On
Nav-Aids	On	On	On	On	Off	On
Light Sectors	On	Off	Off	Off	Off	On
Attention Areas	On	On	Off	Off	Off	On
Tides & Currents	On	Off	Off	Off	On	On
Seabed Type	On	Off	Off	Off	Off	On
Ports & Services	On	On	Off	On	Off	On
Tracks & Routes	On	Off	Off	Off	Off	On
Underwater Objects	On	On	Off	Off	Off	On
Depth Range	On	On	On	Off	On	On
Depth Range Min	0 Ft					
Depth Range Max	1000 Ft					
Rocks Min	0 Ft					
Rocks Max	1000 Ft	1000Ft				
Land Elevation Data	On	Off	Off	Off	Off	On
Roads	On	Off	Off	Off	Off	On
Points Of Interest	On	Off	Off	Off	Off	On
Lat/Lon Grid	On	Off	Off	Off	Off	On
Chart Boundaries	On	Auto	Off	Off	Off	On
Mixing Levels	On	Off	Off	Off	Off	On
Value Added Data	On	Off	Off	Off	Off	On

3.1.1 Marine Settings

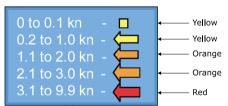
To control the display on the map of the marine features.

Names	: Turns the Local area names On or Off.
Buoys ID	: Turns the Buoy number On or Off.
Nav-Aids	: Turns the presentation of Lights, Signals, Buoys and Beacons On or Off. When Off the Dynamic Nav-Aids will be set to Off.
Light Sectors	: Turns the light sectors of all fixed lights, buoys and light houses On or Off.
Attention Areas	: Turns the displaying of Attention Areas (areas in which special attention by the mariner is required because of natural or man-made hazards sailing regulations and restrictions) On or Off

Tides + Currents

: Turns the displaying of Tides and Currents On or Off.

When data/time is available, Tidal stream arrows are shown on the charts, indicating the direction and strength of the Tide. If no data/time is available from the GPS or the chart plotter is not in Simulation mode, the icon on the map is generic one. The color of the arrow denotes the strength of the current as follows:



When the chart plotter receives a valid position fix, the Tide icons are shown on the charts on the basis of the current date and time: the screen displays and changes arrows as date/time changes.

	changes.
Seabed Type	: Turns the displaying of the Seabed type On or Off.
Ports + Services	: Turns the displaying of Ports and serice icons On of Off. Areas along the shore with facilities for mooring, downloading and uploading of ships, generally sheltered from waves and winds. Port installations are piers, wharves, pontoons, dry docks, cranes).
Tracks + Routes	: Turns displaying of underwater objects On or Off. Objects are obstructions, wrecks, cable etc.)
Underwater Objects	: Turns displaying of underwater objects On or Off. Objects are obstructions, wrecks, cable etc.)

3.1.2 Depth Settings

To control the display on the map of the depth informations.

Depth Range	: Turns the displaying of the Depth Sounding, Bathymetric Lines and Depth Area (the sea areas included in the user selectable range of minimum and maximum depth limits).
Depth Range Min	: Sets the minimum depth limit to show Depth Sounding, Bathymetric Lines and Depth Area.
Depth Range Max	: Sets the max depth limit to show Depth Sounding, Bathymetric Lines and Depth Area.
Rocks Min	: Sets a min reference rocks value.
Rocks Max	: Sets a max reference rocks value.

3.1.3 Land Settings

To control the display on the map of the terrestrial features.

Land Elevation Values	s: The Land Elevation areas are always shown, but it is possible to to turn the displaying of Land Elevation On or Off
Roads	: Turns the displaying to roads On or Off.
Points of interest	: Turns the displaying of Points of Information On or Off.

3.1.4 Chart Settings

Lat/Lon Grid :	Turns the displaying of the Lattitude and Longitude grid lines on or off on the chart page.
Chart Boundaries :	Turns the displaying of Chart Boundaries on, off or auto mode which shows the chart boundaries of the the two charts below the current scale. The chart boundaries are only show when a C-Map NT, NT* or MAX card is inserted into the GPS chartplotter.
Value Added Data :	Turns the dislaying of Value added data On or Off. The Value Added Data (VAD) is a collection of additional cartographic objects which are not present on the original paper chart (from which the electronic chart derives). These objects have been obtained from other sources (that C-MAP believes to be reliable) and then merged to the electronic charts in order to provide more information useful for the navigation.VAD object can be any cartographic objects and it can be distinguished from the official-chart-objects from the Quick Info. A dedicated icon is shown on the Quick Info window to indicate that the object queried is a VAD. The same icon is also shown on the Full Info page and in addition the extended text Value Added Data is shown on the details of the VAD object.
Mixing Levels :	When the map coverage at the current chart scale does not fill the entire display, the GPS chartplotter draws the rest of the map using charts from above and below the current scale. When

this function is turned on you will notice the display may redraw 2 to 3 times to show all the details.

NEW SETTINGS IN GENERAL SETUP MENU 3.2

In the **GENERAL SETUP** menu there is a new NAV AIDS PRESENTATION item and the DISPLAY COLOR item has been modified. The whole menu is the following:

TIME SETUP	Selects a sub-menu to allow the time setup. it is possible to set the GPS Time Offset, choosing the UTC or Local Time display, and the Time Format, switching 12 or 24 hours time format.
DATE FORMAT	Allows choosing date format MM-DD-YY or DD-MM-YY.
COURSE UP/NORTH UP	Selections are:
	North Up : The Top of the page is fixed to North
	Course Up : The top of the page is orientated to the direction the vessel is heading.
KEYPAD BEEP	Allows the beep produced when a key is pressed to be turned on or off.
UNITS OF MEASURE	Units of Measure can be selected for Distance, Speed, Depth, Altitude and Temperature.
NAV AIDS PRESENTATION	Allows the Nav Aids presentation to drawn using NOAA symbology when US is selected or International symbols will be used when International is selected. When selected these functions affects how the icons for Lights, Signals, Buoys and beacons are displayed.

DISPLAY COLOR	Changes the background colors of the chart page to enhance the visiblity of the screen depending on the surrounding light conditions. Normal is recommended when the GPS chartplotter is not exposed to the direct sunlight. When this mode is set the maps are displayed in order to use colors as similar as possible to ones used in the original paper charts. Classic uses vivid chart colors presentation. NOAA allows setting NOAA paper chart colors presentation. Night is recommended when the environment is dark in order to reduce the glare of the display. The GPS chartplotter displays maps and screen in darker colors. Sunlight (default) is designed to enhance the visibility of the screen when the GPS chartplotter is exoposed to sunlight. The maps are much brighter than in the other modes and the depth areas are filled with the white color so different depth areas not easily distinguishable.
SHIP ICON	Allows selection of one of 5 choices of ship icons that represent you vessels position shown on the chart page.
SHIP POSITION	Allows selection of CENTER or BOTTOM for your vessel position on the chart page.
CURSOR SPEED	Selects the prefered speed among Low, Medium and High for the cursor in the Chart page and within the menu.
MEASURE DISTANCE	When this function is turned on allows a distance to be measured between two points using the Shuttlepoint knob and [ENTER] key
WINDOWS SETUP	This menu selection allows the data windows to be customized on the Chart and Navigation pages.
LANGUAGE	Allows changing the language for menus and data screens.
AUTO INFO	By default when the cursor is moved over a buoy, Mark or other item a popup window will show information of the item. This menu item allows the window to be turned on or off.
CURSOR WINDOW	By default when the cursor is moved a window is shown with the lat/lon Distance and bearing from the vessels location to the cursor. This selection allows the window to be turned off.
COG TIME LINE	Is a line projected from the vessel icon which indicates the distance your vessel will travel at the current speed. Selections are 2, 10, 30 minutes, 1, 2 hours and infinite.

4. DATA FEATURES

This chapter contains new features related to the MAX map data files (ie: cartography and related data) that have been added.

4.0 PICTURES & DIAGRAMS

Using C-Map MAX data cards allows you to show pictures or diagrams on the chart plotter display. These *Pictures* are typically used to facilitate the identification of cartographic objects or places around the map: they can be the landscape layout nearby a harbor, the shape of a bridge or of a buoy etc.

On some objects, such as bridges, the image associated can represent the *Diagram* representing the shape of the objects and the various characteristics (length, heigh, type of bridge etc.).



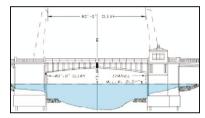


Figure 4.1 - Pictures and Diagrams

The pictures or diagrams can be a MULTIMEDIA OBJECT or they can be associated to a generic cartographic object, like a port marina.

4.0.0 How to show the pictures or diagrams of a Multimedia Object

They are shown on the chart page with the camera icon

Move the cursor over the camera icon. You will get the quick info on the object and there will be the camera icon on the top bar of the window:



Figure 4.0.0a - Example of Quick Info on MULTIMEDIA object

Press [MAGE] or [ENTER] for 1second to display the image on the screen or press [EXPAND] or [ENTER] to open the Full Info on the object:

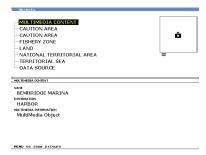


Figure 4.0.0b - Example of Full Info on MULTIMEDIA object

On the Full Info, there will be the small camera icon on a corner of the square containing the object icon.

To see the picture press [MENU] when the object with a picture is highlighted.

When the picture is shown, it is possible to fit it to screen by pressing [ENTER].

When the picture is shown, it is possible to change the contrast by pressing **[ZOOM IN] or [ZOOM OUT]**.

When the picture is shown, it is possible to display the next picture associated, if any, by pressing the ShuttlePoint knob left or right.

4.0.1 How to show the pictures or diagrams of a cartographic object

Move the cursor over the cartographic object icon. If the object has a pictures or diagrams associated, the quick info will show a camera icon on the top bar of the window:

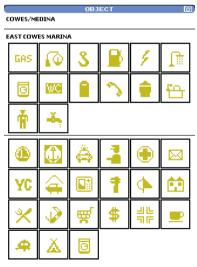


Figure 4.0.1a - Example of Quick Info on object with picture

Press [IMAGE] or [ENTER] for 1second to display the image on the screen or press [EXPAND] or [ENTER] to open the Full Info on the object:



Figure 4.0.1b - Example of Full Info on object with picture

On the Full Info, there will be the small camera icon on a corner of the square containing the object icon.

To see the picture press [MENU].

When the picture is shown, it is possible to fit it to screen by pressing [ENTER].

When the picture is shown, it is possible to change the contrast by pressing **[ZOOM IN]** or **[ZOOM OUT]**.

When the picture is shown, it is possible to display the next picture associated, if any, by pressing the ShuttlePoint knob left or right.

4.1 ENHANCED PORT INFO

MAX charts include additional port services that were not present before. Additional attributes of Port Areas and Port Marinas have been included (Location, Country, Region, State, Harbor master telephone number etc).

STANDARD HORIZON LIMITED WARRANTY

STANDARD HORIZON (a division of Vertex Standard USA) warrants, to the original purchaser only, each new Marine Product ("Product") manufactured and/or supplied by STANDARD HORIZON against defects in materials and workmanship under normal use and service for a period of 3 years from the date of purchase.

In the event of a defect, malfunction or failure of the Product during the warranty period, Standard Horizon's liability for any breach of contract or any breach of express or implied warranties in connection with the sale of Products shall be limited solely to repair or replacement, at its option, of the Product or part(s) therein which, upon examination by STANDARD HORIZON, appear to be defective or not up to factory specifications. STANDARD HORIZON may, at its option, repair or replace parts or subassemblies with or reconditioned parts and subassemblies.

To receive warranty service, the purchaser must deliver the Product, transportation and Insurance prepaid, to STANDARD HORIZON (Marine Division of Vertex Standard) - Attention Factory Service - 10900 Walker Street - Cypress, CA 90630, include proof of purchase indicating model, serial number and date of purchase. STANDARD HORIZON will return the Product to the purchaser freight prepaid.

STANDARD HORIZON will not warrant installation, maintenance or service of the Products. In all instances, STANDARD HORIZON's liability for damages shall not exceed the purchase price of the defective Product. This warranty only extends to Products sold within the 50 States of the United Stated of America and the District of Columbia.

STANDARD HORIZON will pay all labor and replacement parts charges incurred in providing the warranty repair service except where purchaser abuse or other qualifying exceptions exist. The purchaser must pay any transportation expenses incurred in returning the Product to STANDARD HORIZON for service.

This limited warranty does not extend to any Product which has been subjected to misuse, neglect, accident, incorrect wiring by anyone other than STANDARD HORIZON, improper installation, or subjected to use in violation of instructions furnished by STANDARD HORIZON, nor does this warranty extend to Products on which the serial number has been removed, defaced, or changed. STANDARD HORIZON cannot be responsible in any way for ancillary equipment not furnished by STANDARD HORIZON which is attached to or used in connection with Products, or for the operation of the Product with any ancillary equipment, and all such equipment is expressly excluded from this warranty. STANDARD HORIZON disclaims liability for range, coverage, or operation of the Product and ancillary equipment as a whole under this warranty.

STANDARD HORIZON reserves the right to make changes or improvements in Products, during subsequent production, without incurring the obligation to install such changes or improvements on previously manufactured Products. The implied warranties which the law imposes on the sale of this Product are expressly LIMITED, in duration, to the time period specified above. STANDARD HORIZON shall not be liable under any circumstances for consequential damages resulting from the use and operation of this Product, or from the breach of this LIMITED WARRANTY, any implied warranties, or any contract with STANDARD HORIZON. IN CONNECTION WITH THE SALE OF ITS PRODUCTS, STANDARD HORIZON MAKES NO WARRANTIES, EXPRESS OR IMPLIED AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE. EXCEPT AS EXPRESSLY SET FORTH HEREIN.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitation on how an implied warranty lasts, so the above limitation or exclusions may not apply. This warranty gives specific legal right, and there may be other right which may vary from state to state.