STANDARD HORIZON

CPV350

GPS Chart Plotter
with VHF FM Marine Transceiver

OWNER'S MANUAL

WARNING!!!

Electronic charts displayed by the CPV350 are believed to be accurate and reliable, but that are not intended to be a substitute for the official charts, which should remain your main reference for all matters related to the execution of safe navigation. For this reason we would like to remind you that you should carry on board and use the official published and approved nautical charts.

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTICE

Unauthorized changes or modifications to this equipment may void compliance with FCC Rules. Any change or modification must be approved in writing by Marine Division of Vertex Standard.

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Congratulations on you purchase of the CPV350C GPS Chart Plotter with VHF FM Marine Transceiver!

Whether this is your first GPS chartplotter, or if you have other STANDARD HORIZON equipment, the STANDARD HORIZON organization is committed to ensuring your enjoyment of this GPS chartplotter. STANDARD HORIZON technical support personnel stand behind every product we sell, and our Product Support team invites you to contact us should you require technical advice or assistance, at 800/767-2450.

CAUTION

- The GPS chartplotter is designed for maritime use. Please give attention to avoid water intrusion into the C-MAP NT+/MAX C-CARD cartridge holder.
- Extensive exposure to heat may result in damage to the GPS chartplotter.
- The GPS chartplotter contains dangerous high voltage circuits which only experienced technicians can handle.
- STANDARD HORIZON will not be liable for errors contained herein, or for incidental or consequential damages in connection with the performance or use of this material.

CLEANING PROCEDURE FOR THE CHARTPLOTTER SCREEN

Cleaning of the chartplotter screen is a very important and must be done carefully. Since the surface is covered by a antireflective coating, the procedure for cleaning all the surfaces can be performed using the following procedure: You need a soft tissue or towel and a cleaning spray (Windex) containing Isopropanol (a normal spray cleaner sold for a PC screen, for example PolaClear by Polaroid). Fold the tissue or lens tissue into a triangular shape, moisten the tip and use the index finger behind a corner to move the tissue across the surface, in overlapping side to side strokes. If the tissue is too wet, a noticeable wet film will be left in its path and you will need to repeat the process. If too dry, the tissue won't glide easily, and may damage the surface.

TABLE OF CONTENTS

1. INTRODUCTION

1.0   GENERAL INFORMATION

The CPV350 is a WAAS GPS chart plotter, Class D DSC 25 W VHF with a powerful 30 W loud hailer capable of listen-back, fog signaling, bells, whistles integrated one box. The CPV350 has 2 connections for CMP25 RAM+ or VH-310 telephone style handset second stations. Connect the optional FF520, and the CPV350 becomes a full function 50/200 kHz fish finder shown on the high-resolution sunlight viewable 16:9 aspect ratio Wide Screen display in a full page or a split Chart/fish screen. Rotary knobs make features easy to access along with the unique ergonomically designed handgrip for sure control. Featuring Class D Additional features include, dual watch, programmable scan, priority scan dedicated 16/9 and WX key, noise-canceling microphone with channel selection, back lit front panel keys and LCD and a optional voice scrambler.

GPS chart plotter features include:
- 7-inch 256-Color TFT sunlight viewable LCD display (Screen Resolution: 800x480)
- 12 Channel GPS WAAS smart antenna
- Cartography: C-Map NT+, C-Map MAX capable
- Customizable display windows
- Dual frequency fish finder capable (FF520 required)
- Split screen capability
- Worldwide background map showing detail up to 2.0 NM included
- Stores 1000 user waypoints
- NMEA data pages

Marine VHF features include:
- Commercial grade ITU Class D VHF transceiver
- Complete Digital Selective Calling (DSC).
- Full position request and send functions
- CLEAR VOICE noise reduction microphone with 16/9 key and channel selection
- Tri-station capability (RAM+ and/or VH-310 required)
- 30W loud hailer with listen back, 4 foghorns, bells, and whistles
- Oversized rotary channel selector
- Channel name capability
- Display repeats GPS information (when attached to GPS)
- User Programmable Scan, Priority Scan, and Dual Watch
- Fully adjustable backlighting and LCD contrast
- Voice scrambler (optional)

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1.1 PACKING LIST

When the package containing the GPS chartplotter is first opened, please check for the following contents.
If any parts are missing contact the dealer this GPS chartplotter was purchased from.
Accessories and replacement parts may be ordered from STANDARD HORIZON's Parts Department at 562/404-2700 Ext. 351 or via the web at **www.standardhorizon.com**.

1.1.0 Packing List

- ❏ CPV350   GPS Chart Plotter with VHF FM Marine Transceiver
- ❏ GPS WAAS Smart antenna
- ❏ Microphone
- ❏ Dust Cover
- ❏ DC Power Cable
- ❏ Accessory Cable
- ❏ Flush Mount hardware, Mounting Bracket, and mounting hardware
- ❏ Owner's Manual

1.2 OPTIONAL ACCESSORIES

Black Box Fish Finder
FF520 - Dual Frequency Black Box Fish Finder
        (500W or 1000W depending on transducer connected)
   500W Transducers
      DST520 - Nylon depth temp
      DST521 - Transom mount depth, temp speed
      DST523 - Bronze depth temp
      DST525 - In-hull depth only
      DST526 - Thruhull Depth, speed, temp with fairing block
   1000W Transducers
      DST527 - In-hull depth only
      DST528 - Bronze thru-hull depth temp

Hailing horns
   220SW - 5 inch round horn (small)
   240SW - 5x7 horn

External Speakers
   MLS-300 - VHF Extension speaker
   MLS-310 - VHF Extension 10W amplified speaker

Second Station Remote Microphones
   CMP25 - RAM+ Microphone
   VH-310 - Telephone Style Handset
   CT-100 - 23-feet Extension Cable for Second Station Remote Microphone

Scrambler
   CVS2500

1.3   SAFETY / WARNING INFORMATION

This radio is restricted to occupational use, work related operations only where the radio operator must have the knowledge to control the exposure conditions of its passengers and bystanders by maintaining the minimum separation distance of 0.6 m (2 feet). Failure to observe these restrictions will result in exceeding the FCC RF exposure limits.

1.3.0   VHF Marine Antenna Installation

The antenna must be located at least 0.6 m (2 feet) away from passengers in order to comply with the FCC RF exposure requirements.

1.3.1   On-Line Wattanty Registration

Please visit www.standardhorizon.com to register the CPV350 Marine VHF. It should be noted that visiting the Web site from time to time may be beneficial to you, as new products are released they will appear on the Marine Division of Vertex Standard Web site.

1.3.2   Product Support Inquiries

If you have any questions or comments regarding the use of the CPV350, you can visit the Marine Division of Vertex Standard Web site to send an E-Mail or contact the Product Support team at 800-767-2450 M-F 7:00- 5:00PST.

STANDARD HORIZON

1.4 FCC RADIO LICENSE INFORMATION

Vertex Standard radios comply with the Federal Communication Commission (FCC) requirements that regulate the Maritime Radio Service.

1.4.0 Station License

An FCC ship station license is no longer required for any vessel traveling in U.S. waters (except Hawaii) which is under 20 meters in length. However, any vessel required carrying a marine radio on an international voyage, carrying a HF single side band radiotelephone or marine satellite terminal is required to have a ship station license. FCC license forms, including applications for ship (506) and land station licenses can be downloaded via the Internet at www.fcc.gov/forms. To obtain a form from the FCC, call (888) 225-5322.

1.4.1 Radio Call Sign

Currently the FCC does not require recreational boaters to have a Ship Radio Station License. The USCG recommends the boats registration number and the state to be used.

1.4.2 Canadian Ship Station Licensing

You may need a license when traveling in Canada. If you do need a license contact the nearest field office or regional office or write:

Industry Canada
Radio Regulatory Branch
Attn: DOSP
300 Slater Street
Ottawa, Ontario
Canada, KIA 0C8

1.4.3 FCC / Industry Canada Information

The following data pertaining to the transceiver is necessary to fill out the license application.

Type Acceptance .... FCC Part 80
Output Power .... 1 Watt (low) and 25 Watts (high)
Emission 16K0G3E, 16K0G2B
Frequency Range .... 156.025 to 163.275 MHz
FCC Type Number K6630163X3S
Industry Canada Type Approval 511B-30163X3S

2. GETTING STARTED

2.0   MOUNTING THE GPS CHARTPLOTTER

The CPV350 is supplied with hardware for bracket or flush mounting. Below are pictures showing actual examples of the two types of installation.

2.1   BRACKET MOUNTING

The CPV350 can be mounted using the supplied bracket. Before installing ensure the area the CPV350's bracket is mounted to is strong enough to support the weight of the CPV350 especially while under way.
After the location is found, attach the mounting base to the area using the supplied hardware.
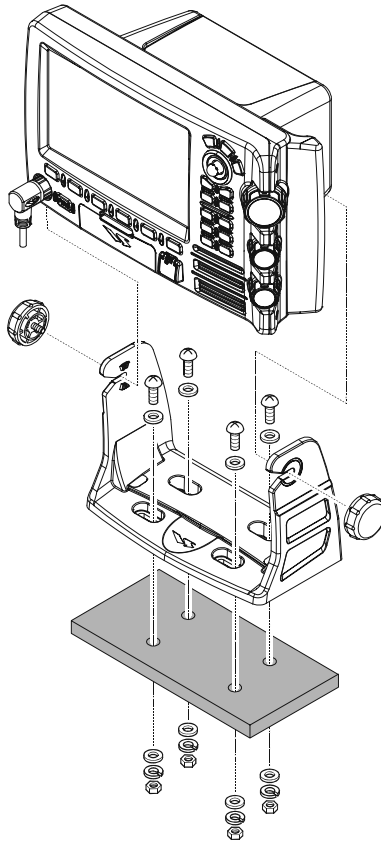
Figure 2.1 -   Installing CPV350 (Bracket)

STANDARD HORIZON

2.2   FLUSH MOUNTING

The CPV350 is supplied with a flush mount template for the cutout hole and screw holes required to install the CPV350.

NOTE

Before drilling holes ensure there are no obstructions behind the location that could interfere with the mounting and there is physically enough room to mount the CPV350.

1. After a location is found, peal the template label from the backing and apply the label to the mounting area.
2. Drill a hole in one area of the cut area that will allow the blade of a jig saw to be inserted. Insert and cut out the area on the panel using the jig saw.
3. Remove the three screws affiex the grip and remove the grip from the CPV350.
4. Next drill the four holes required to insert the CPV350 with the mounting studs.
5. Install the mounting studs on the CPV350 and insert into the mounting hole.
6. Attach the CPV350 to the mounting location by attaching the supplied hardware to the mounting studs.
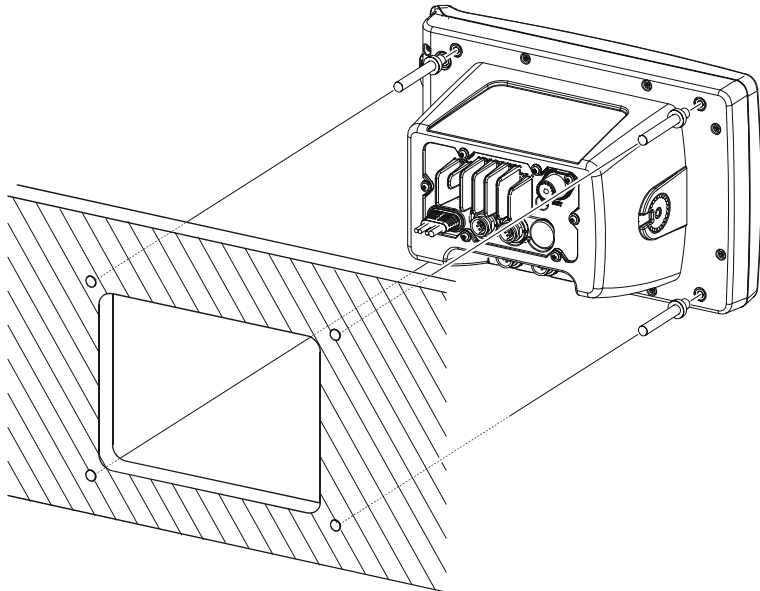
Figure 2.2 -   Installing CPV350 (Flush)

2.3   CONNECTIONS

The CPV350 has a cable or connectors that are used to connect the CPV350 to Power Supply, to the GPS WAAS Smart antenna, optional FF520 50/200kHz BLACK BOX FISH FINDER and to NMEA devices such as VHF's, digital instruments and autopilots as shown in the image below:
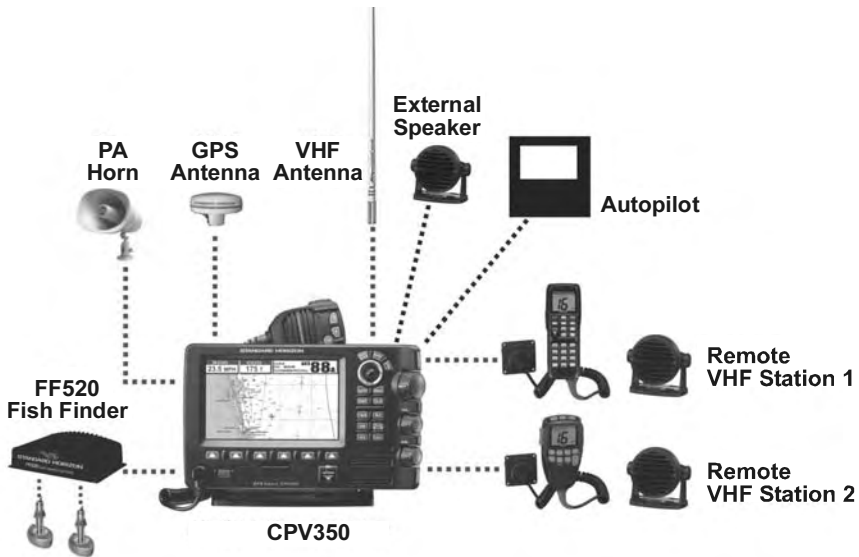
Figure 2.4 Installing the GPS WAAS Smart antenna

2.3.0   Rear Panel Connections

1. **VHF ANTENNA JACK**
   Connects an antenna to the transceiver. Use a marine VHF antenna with impedance of 50 ohms.
2. **REMOTE MIC CONNECTORS**
   Connects to the enhanced RAM+ MIC (Remote Access Microphone) or the VH-310 Handset.
3. **ACCESSORY CONNECTION**
   Allows connection of optional FF520 fish finder module and connections for AIS receiver and other NMEA devices.
4. **GPS Antenna**
   Connects the GPS antenna to the CPV350. Only use the GPS Smart antenna supplied with the CPV350
5. **External speaker**
   Connects to the MLS-300, MLS-310 or any 8 Ohm 6Watt external speaker
6. **PA Horn**
   Connects to 220SW, 240SW or any 4 Ohm 30W PA Speaker
7. **DC INPUT CABLE**
   Connects the radio to a DC power supply capable of delivering 12V DC.
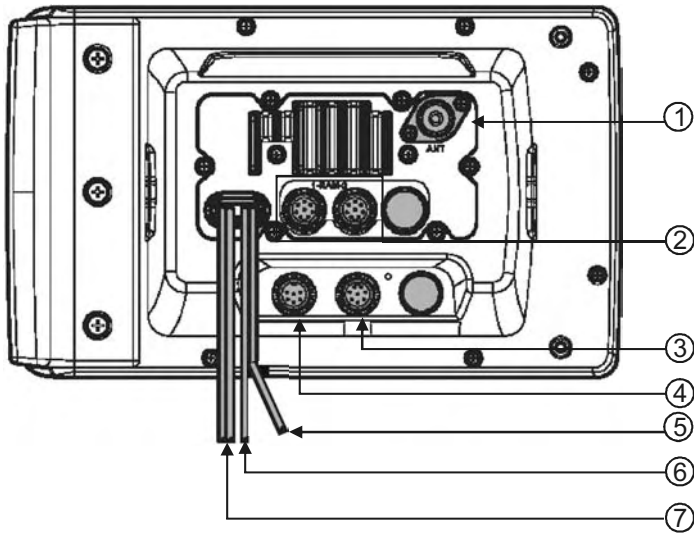
Figure 2.5 CPV350 Rear Panel

2.3.1 VHF Antenna

ABOUT VHF RADIO

The radio frequencies used in the VHF marine band lie between 156 and 158 MHz with some shore stations available between 161 and 163 MHz. The marine VHF band provides communications over distances that are essentially "line of sight" (VHF signals do not travel well through objects such as buildings, hills or trees). Actual transmission range depends much more on antenna type, gain and height than on the power output of the transmitter. On a fixed mount 25W radio transmission expected distances could be greater than 15 miles.

2.3.2 Selecting a Marine VHF Antenna

Marine antennas are made to radiate signals equally in all horizontal directions, but not straight up. The objective of a marine antenna is to enhance the signal toward the horizon. The degree to which this is accomplished is called the antenna's gain. It is measured in decibels (dB) and is one of the major factors in choosing an antenna. In terms of effective radiated power (ERP), antennas are rated on the basis of how much gain they have over a theoretical antenna with zero gain. A 3-foot, 3dB gain antenna represents twice as much gain over the imaginary antenna. Typically a 3-foot 3dB gain stainless steel whip is used on a sailboat mast. The longer 8-foot 6dB fiberglass whip is primarily used on powerboats that require the additional gain.

2.3.3 Coaxial Cable

VHF antennas are connected to the transceiver by means of a coaxial cable - a shielded transmission line. Coaxial cable is specified by its diameter and construction. For runs less than 20 feet, RG-58/U, about 1/4 inch in diameter is a good choice. For runs over 20 feet but less than 50 feet, the larger RG-8X should be used for cable runs over 50 feet RG213 should be used. For installation of the connector onto the coaxial cable refer to the figure below. Figure 2.4.0 Installing the VHF antenna To get your coax cable through a fitting and into your boat's interior, you may have to cut off the end plug and reattach it later. You can do this if you follow the directions that come with the connector. Be sure to make good soldered connections.

Figure 2.4.0 Installing the VHF antenna

To get your coax cable through a fitting and into your boat's interior, you may have to cut off the end plug and reattach it later. You can do this if you follow the directions that come with the connector. Be sure to make good soldered connections.

STANDARD HORIZON
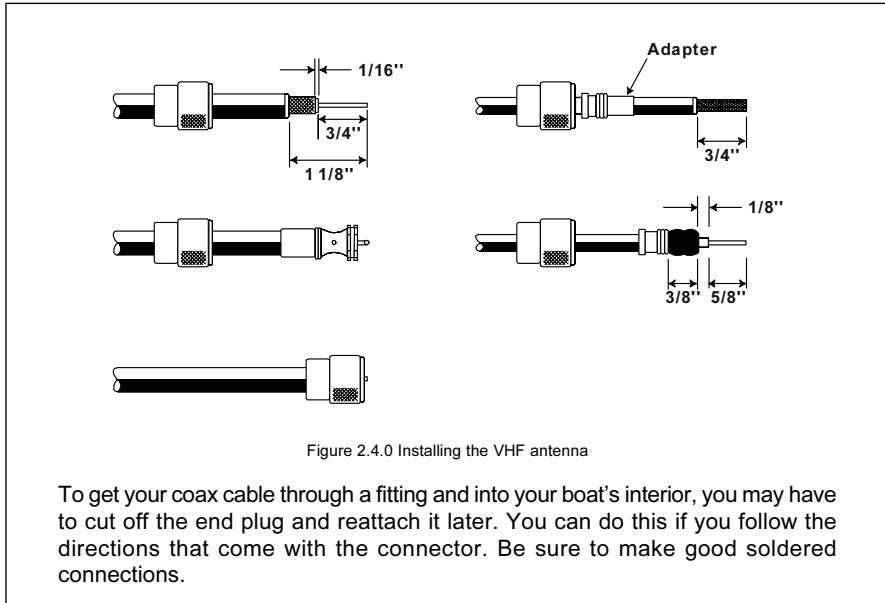
2.3.4   Optional Enhanced Second VHF/PA Station

INSTALLATION

The CPV350 is capable of using up to 2 Enhanced RAM+ mics or VH-310 Handset to remotely control the Radio, DSC, and Distress functions. In addition the CPV350 can operate as a full function intercom system.

1.   Connect the Routing Cable to the one of the Remote Mic eight pin connector on the rear panel, then tighten the Cable Nut.
2.   Referring to Figure 3, make a 1.2" (30 mm) hole in the wall, then insert the Routing Cable into this hole. Connect the Gasket and Mount Base to the Routing Cable Connector using the Nut.
3.   Drill the four Screw holes (approx. 2 mm) on the wall then install the Mounting Base to the wall using four screws.
4.   Put the Rubber Cap on to the Nut. The installation is now complete.
5.   Wires for an external speaker are provided on the Routing Cable. Connect any 8 Ohm external speaker. When connected the RAM+ (or VH-310 Handset) controls the volume level of this speaker.

External Speaker Connections

Gasket

Cap

Wall

Routing Cable

Mounting Bracket

Nut
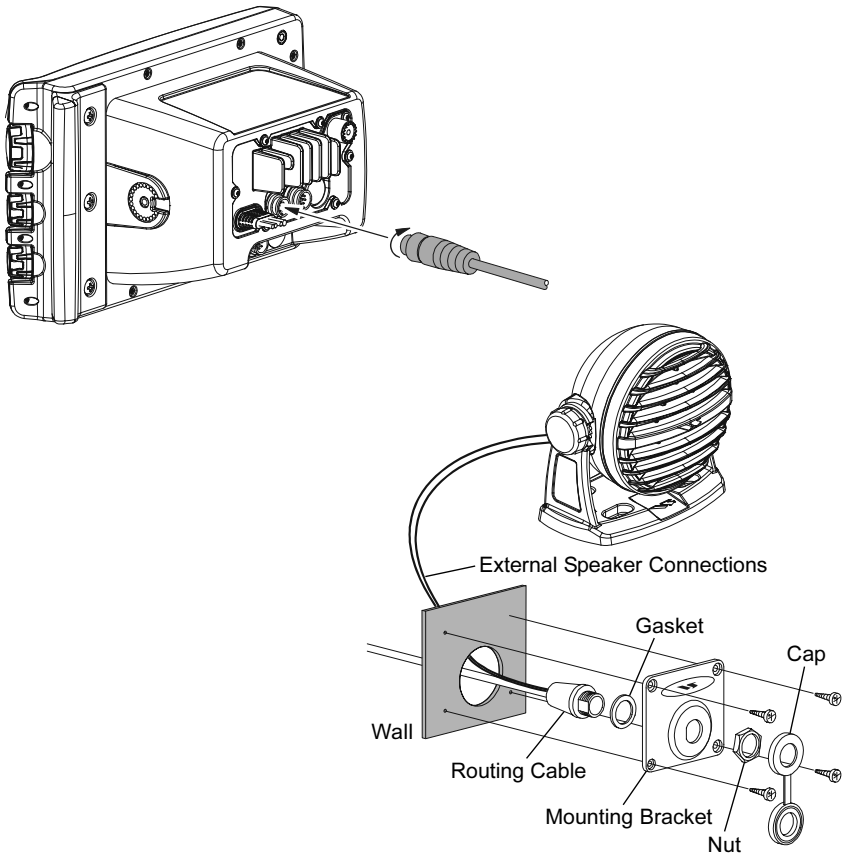
Remote Mic or External Speaker Selection
By default the RAM+ or VH-310 Handset internal speaker is turned on, however using the RAM+ mic (or VH-310 Handset) this speaker can be turned off so the external speaker can be used.

RAM+ mic procedure
1. Press and hold the **[CALL/SET]** key.
2. Press the **[▲]** or **[▼]** key to select **RADIO SETUP**.
3. Press the **[CALL/SET]** key.
4. Press the **[▲]** key to until **EXT SPK** is shown and press the **[CALL/SET]** key.
5. Press the **[▲]** or **[▼]** key to select **oF** (External speaker off) or **on** (External speaker on).
6. Press the **[CALL/SET]** key to save the selection.
7. Press the **[16/9]** key to exit this mode.
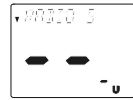
VH-310 Procedure
1. Press and hold the **[CALL(MENU)]** key.
2. Press the **[▲]** or **[▼]** key to select **RADIO SETUP**.
3. Press the **[ENT]** key
4. Press the **[▲]** key to until **EXT SPK** is shown and press the **[ENT]** key.
5. Press the **[▲]** or **[▼]** key to select **oF** (External speaker off) or **on** (External speaker on).
6. Press the **[ENT]** key to save the selection.
7. Press the **[16/9]** key to exit this mode.

STANDARD HORIZON

2.3.5   NMEA Connections

NOTE

The CPV350 can send many sentences to external NMEA devices. The NMEA output wires are Brown and White and the NMEA Common is Green. If you have connected devices as shown in the below table and need to feed NMEA to other devices (Autopilot, Radar ....) you can parallel wires from the Brown or White wires.

Pin	Wire Color	Description	Connection Example	Additional Information
1	Black	---	No Connection	
2	Red	---	No Connection	
3	Green	NMEA Common	Common for NMEA devices	
4	Blue	NMEA Input Port 1	Conncect to output of NMEA device	Default is NMEA0183
5	Brown	NMEA Output Port 1	Conncect to intput of NMEA device	Default is NMEA0183 with GLL. RMB, RMC, and XTE sentences
6	Gray	NMEA Input Port 2	Conncect to output of NMEA device	Default is NMEA0183※
7	White	NMEA Output Port 2	Conncect to intput of NMEA device	Default is NMEA0183 with GLL. RMB, RMC, and XTE sentences
8	Yellow	NMEA Output Port 4	Connect autopilot	Default is NMEA0183 with APA. APB, XTE, COG, and BOD sentences

※: When the FF520 is connected, port 2 input must be changed to "FF520." To do this, press **[MENU]** two times, move the ShuttlePoint konb to highlight **ADVANCED SETUP**, **IN/OUT CONNECTIONS**, **PORT2 INPUT**, **FF520**.
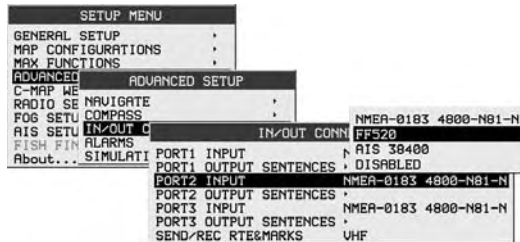
Figure 2.3.5 IN/OUT CONNECTION menu

2.3.6   Outputting NMEA to a Personal Computer

The CPV350 can be connected to output Marks, Routes, and tracks to many PC programs available in the aftermarket. To send or receive User Points the PC Program must be able to receive NMEA WPL and RTE sentences.

2.3.7   Serial PC Connection

Outputting Waypoints and Routes
The CPV350 can be connected to output Marks, Routes and tracks to many PC programs available in the aftermarket. To send or receive User Points the PC Program must be able to receive NMEA WPL and RTE sentences.

PC DB9 Connection	CPV350 Connection
Pin 2	Brown wire
Pin 3	Blue
Pin 4	Green

2.3.8   Outputting GPS Coordinates

Some PC programs use NMEA sentences from a GPS to show position. The CPV350 outputs GLL, RMB and RMC.

PC DB9 Connection	CPV350 Connection
Pin 2	Brown wire
Pin 4	Green

2.3.9   NMEA Data Page

The NMEA Data Page is very useful to see if an External device (example: Depth Sounder) is transmitting NMEA sentences to the GPS chart plotter. This page can also be used to see if the GPS chart plotter NMEA output is being loaded down by an external NMEA device

Example:
Autopilot connected but the CPV350 but is not receiving NMEA data.
Usually the Autopilot will be connected to the yellow wire.

To check to see if the GPS chart plotter is transmitting the Autopilot sentences:
1. Press **[MENU]**. Move the ShuttlePoint knob to highlight **NMEA DISPLAY** and press **[ENT]**.
2. Move the ShuttlePoint knob to highlight **DATA** and press **[ENT]**.
3. The **NMEA DATA** page is shown.
4. Connect the Blue Wire on the GPS chartplotter to the junction of the yellow wire and the autopilot. The display should look similar to the picture below.
5. If no data is shown press the **[ZOOM]** and move the knob on right side up to change port.

2.4 GPS ANTENNA

2.4.0   Mounting the GPS WAAS Smart Antenna

The CPV350 is supplied with a 12 Channel GPS WAAS Smart antenna. This antenna is designed to be mounted on a base, installed on an extension or even flush mounted. Choose a location for the antenna that has a clear view of the sky and is not located within 3 FT of Radar or other transmitting antenna. Ensure there are no major obstructions or fixtures in the immediate proximity to the antenna. The antenna relies on direct "line of sight" satellite reception. If you are unsure of the chosen location, temporarily mount the antenna in the desired location to verify correct operation. If mounted close to Radar, and after the GPS chartplotter has a fix, turn on the Caps on RADAR to ensure the GPS chartplotter holds the fix (use the GPS Status Page).

2.4.1   Mounting on a Pole

The thread used on the antenna is an industry standard (1 inch 14TPI) used on a wide range of mounting brackets. Due to the manufacturing process of these mounting brackets you may see some slop when tightening down the antenna to the bracket. This is no concern however as the antenna must be tightened until the antenna stops rotating.

<div align="center">NOTE</div>

The antenna cable can be cut and spliced to ease installation. Care must be taken when reconnecting the antenna cable to protect from water and corrosion.

2.4.2   Flush Mounting

<div align="center">NOTE</div>

Before drilling holes, it is recommended the antenna be positioned where the location is planned to be drilled, cable connected to the CPV350 and the CPV350 turned on to ensure a GPS fix is received.

1. Remove the threaded base from the antenna dome.
2. To ease installation a flush mounting template for the antenna has been included.
3. Apply the mounting template sticker to the area that was verified for GPS reception.
4. Then, drill out the 0.63" (16 mm) and 0.16" (4 mm) holes, and remove the template.
5. Insert the cable into the 0.63" (16 mm) hole and route to the CPV350.
6. Apply a small amount or RTV to the under side of the antenna.
7. Place the antenna and then screw it into place using the screws. In some cases the screw may not be long enough, if this happens simply apply more RTV to the underside of the antenna to glue it into place.
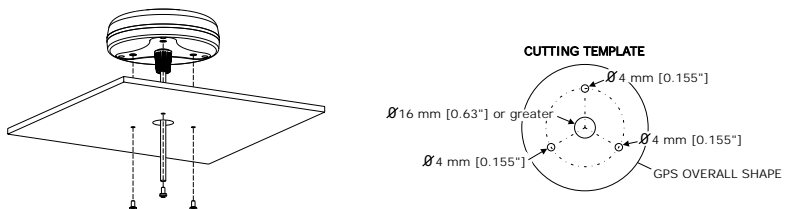
Figure 2.4.2 Installing the GPS WAAS Smart antenna

2.4.3 PA Horn Connections

The CPV350 can be connected to the 220SW or 240SW PA horn to hail other vessels or send FOG, bells or whistles.

2.5 SMART GPS CONNECTOR TABLE

Pin	Wire Color	Description	Connection Example
1	Red	Battery Positive	Connect to Battery Positive and Red wire of GPS Antenna
2	Green	Smart GPS NMEA Input	Connect to Smart GPS Input
3	Brown	Smart GPS NMEA Output	Connect to Smart GPS Output
4	NC	—	—
5	NC	—	—
6	Black/Yellow	Battery Ground	Connect to battery ground and Black wire of GPS Antenna

2.6 BATTERY CONNECTIONS

CAUTION
Reverse polarity connections will damage the radio!

1. Connect the red power wire to a 13.8 VDC ±20% power source. Connect the black power wire to a negative ground.
2. If an optional remote extension speaker is to be used, refer to next section for connections.
3. It is advisable to have a Certified Marine Technician check the power output and the standing wave ratio of the antenna after installation.

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2.7 OPTIONAL BLACK BOX FISH FINDER

STANDARD HORIZON offers an optional BLACK BOX FISH FINDER called FF520. Please refer to the Owner's Manual supplied with the Fish Finder for connections and operation.

When the FF520 is connected, port 2 input must be changed to "FF520." To do this, press **[MENU]** two times, move the ShuttlePoint konb to highlight **ADVANCED SETUP**, **IN/OUT CONNECTIONS**, **PORT2 INPUT**, **FF520**.
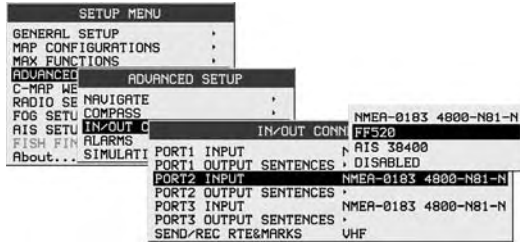
Figure 2.7 IN/OUT CONNECTION menu

2.8 OPTIONAL VHF EXTERNAL SPEAKER

THE CPV350 has connections for an external VHF speaker for louder audio. Use Standard Horizon MLS-300 or MLS-310 for best performance.
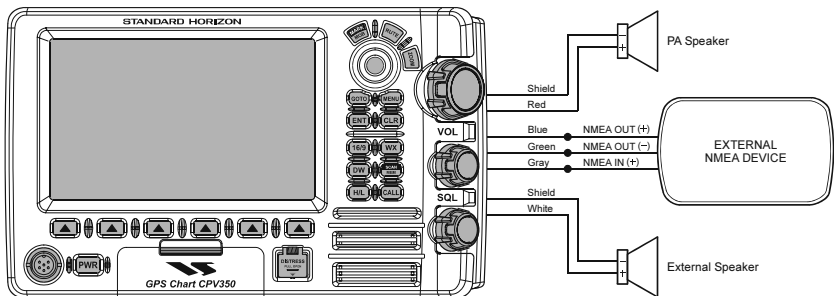
3. C-MAP MAX OVERVIEW

3.0   INTRODUCTION

C-MAP 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 GPS chartplotters; includes new NOAA palette)
- Perspective View ("Real World" perspective view of the chart, updated real-time during navigation)

MAX and NT/NT⁺ C-CARD coexistence
- When NT⁺ data and MAX data cover different areas, the GPS chartplotter gets data from both charts (depending on the current position).
- When NT⁺ data and MAX data cover the same area, the GPS chartplotter gets data only from MAX chart.

3.1   INSERTING THE C-CARD

Hold the C-CARD by the long inclined side so that you can see the C-MAP label.
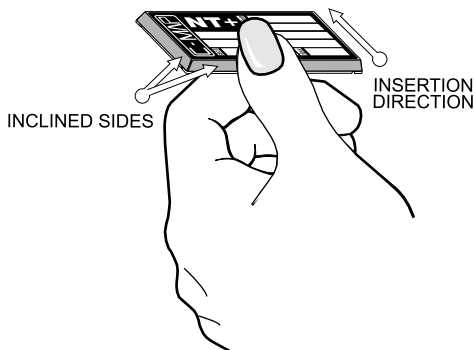
Figure 3.1 - Inserting C-CARD

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Open the door, gently push the C-CARD into the slot: push the C-CARD in as far as it will go, then close the door.
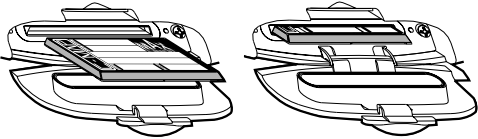
Figure 3.1a - Inserting C-CARD (Details)

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4. MAP FUNCTIONS

4.0 NEW MAX FUNCTIONS MENU

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **MAX FUNCTIONS** and press **[ENT]** or move the ShuttlePoint knob to the right. The MAX Functions menu appears on the screen:

```
         MAX FUNCTIONS
ZOOM TYPE            Standard
FONTS & SYMBOLS      NORMAL
PERSPECTIVE VIEW     Off
DYNAMIC NAV-AIDS     Off
SAFETY STATUS BAR    Off
CURRENTS PREDICTION
```

Figure 4.0 - Map Functions Menu

The available Functions are described in the following.

4.0.0 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, while a long zoom push causes a pop-up window to be displayed on a corner of the screen. The window shows the current Zoom factor. By pressing **[ZOOM]** and moving the knob up/down 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:
1. Press **[MENU]** for two times. Move the ShuttlePoint knob to highlight **MAX FUNCTIONS** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **ZOOM TYPE** and press **[ENT]** 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 **[ENT]**.
5. Press **[CLR]** until the menu disappears or an easier method is to move the ShuttlePoint knob to the left a few times.

4.0.1 Fonts & Symbols

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]** two times. Move the ShuttlePoint knob to highlight **MAX FUNCTIONS** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **FONTS & SYMBOLS** and press **[ENT]** or move the ShuttlePoint knob to the right.

STANDARD HORIZON

3. The menu now shows two selections, **NORMAL** or **LARGE**.
4. Move the ShuttlePoint knob to select the selection and press **[ENT]**.
5. Press **[CLR]** until the menu disappears or an easier method is to move the ShuttlePoint knob to the left a few times.
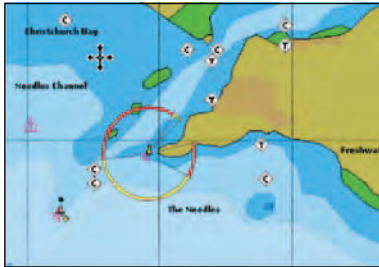
NORMAL size   LARGE size

Figure 4.0.1 - Example of Normal size (on the left side) and Large side (on the right side) settings

4.0.2   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 4.0.2 - Perspective View

To activate this function follow the procedure:
1. Press **[MENU]** for two times. Move the ShuttlePoint knob to highlight **MAX FUNCTIONS**

and press **[ENT]** or move the ShuttlePoint knob to the right.
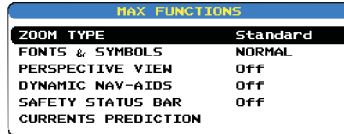2. Move the ShuttlePoint knob to highlight **PERSPECTIVE VIEW** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. The menu now shows two selections, **ON** or **OFF**.
4. Move the ShuttlePoint knob to select the selection and press **[ENT]**.
5. Press **[CLR]** until the menu disappears or an easier method is to move the ShuttlePoint knob to the left until the chart page is shown.

4.0.3   Dynamic Nav-Aids

This function enables the blinking of lights of the 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.
When Dynamic Nav-Aids option is set to On, when the flashing light is Off, or when fix position is out of the sector, the light color is displayed by using a faint light color.

To activate this function follow the procedure:
1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **MAX FUNCTIONS** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **DYNAMIC NAV-AIDS** and press **[ENT]** 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 **[ENT]**.
5. Press **[CLR]** until the menu disappears or an easier method is to move the ShuttlePoint knob to the left until the chart page is shown.

## 4.0.4 Safety Status Bar (DSI - **D**ata **S**afety **I**ndicator)
When Safety Status Bar is On, a status bar with six boxes showing the status of certain functions is displayed. Any warning or alarm condition is identified by the red color to indicate possible risk.
To activate this function follow the procedure:

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **MAX FUNCTIONS** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **SAFETY STATUS BAR** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. The menu now shows the following selections: **ON** (Safety Status Bar is shown), **OFF** (Safety Status Bar is not shown), **ICON** (Safety Status Bar is not shown, but a Warning alarm Icon is shown on the corner of the map screen as soon as any item controlled by the DSI function returns an alarm condition. The Warning Icon remains displayed until the alarm condition persists. Placing the cursor over this Icon, a quick help message is shown next to the Icon, allowing to show the Safety Status Bar. In this case - when the Safety Status Bar is opened via Warning alarm Icon - it is allowed to obtain information about each "active" Safety Status box (the red ones): it is possible to select them by ShuttlePoint knob movement left/right, and a list of active alarms is shown underneath the selected box. By pressing **[CLR]**, the Safety Status Bar is removed from the screen)
4. Move the ShuttlePoint knob to select the selection and press **[ENT]**.
5. Press **[CLR]** until the menu disappears or an easier method is to press the ShuttlePoint knob to the left a few times.

STANDARD HORIZON

①	②	③	④	⑤	⑥
NORMAL	BEST MAP	DATA OFF	DECLUT.	DANGERS	CAUTIONS

Figure 4.0.4 - Safety Status Bar

The boxes are defined 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.

NOTE

U. Zoom, O. Zoom and chart lock are used with Flexi-zoom 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, Inter-tidal, 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.

4.0.5 Currents Prediction
When enabled shows the variation of the tidal arrows on the selected area at any given time.

To activate this function follow the procedure:
1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **MAX FUNCTIONS** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **CURRENTS PREDICTION** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. A window is shown on the low-left side of the chart. Press **[SET TIME]** to set the date and time manually, and **[INCR. TIME]**/**[DECR. TIME]** to decrease/increase time; press **[EXIT]** to exit.

5. DATA FEATURES

This chapter contains the new features related to the MAX map data files (i.e.: cartography and related data).

5.0 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, height, type of bridge etc.).
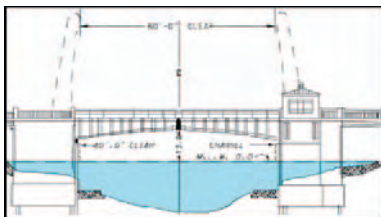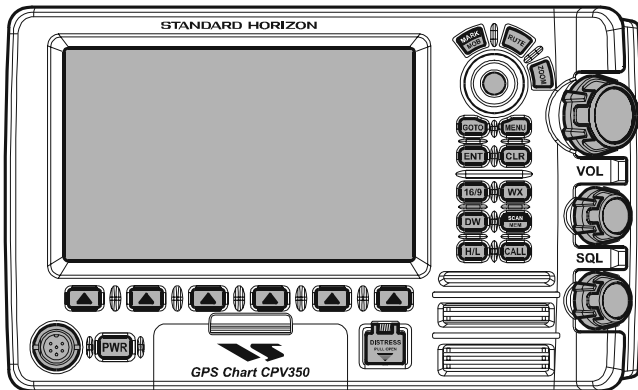

Figure 5.0 - Pictures and Diagrams

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

5.0.0 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:
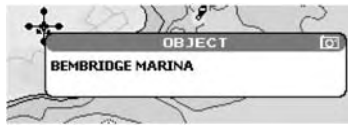
Figure 5.0.0a - Example of Quick Info on MULTIMEDIA object

Press **[IMAGE]** for 1 second to display the image on the screen or press **[EXPAND]** to open the Full info on the object:
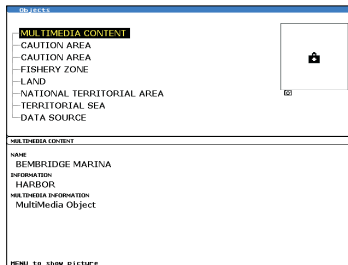
Figure 5.0.0b - Example of Full Info on MULTIMEDIA object

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 **[ENT]**.

When the picture is shown, it is possible to change the contrast by pressing **[ZOOM]** and moving the knob.

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

5.1   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.).

6. CONTROLS AND INDICATORS

6.0   CONTROLS AND CONNECTIONS

The GPS Chart plotter, VHF radio, PA and optional FF520 fish finder are controlled using the keys located on the front panel. These labeled keys are dedicated to specific functions. As you press a key, a single audio beep confirms the key action; every time a key press is not valid, three rapid beeps sound to indicate that the key action is not valid. There is also a ShuttlePoint knob to move the cursor across the screen.

The ZOOM key
Pressing this key enables or disables the chart plotter zoom function or VHF channel selection.
Press the **[ZOOM]** key and a zoom icon will appear on the top left of the display as shown below. When this icon is shown the zoom function is enabled and the channel selector knob is used to change the zoom levels. When the icon is not shown turning the knob changes the VHF channels.
To zoom in rotate the channel selector knob Clockwise (up) or to zoom out rotate the channel knob counter clockwise (down). When finished zooming press the [ZOOM] key. Rotating the channel knob.

NOTE

The GPS chartplotter contains a Worldwide background that allows you to zoom into 2 NM. For more detail, a C-MAP NT+/MAX C-CARD must be purchased and installed.

The ShuttlePoint knob
The ShuttlePoint knob moves the cursor about on the display screen, quickly and accurately. It also scrolls the desired option in the menu page(s). It allows to exit from Home mode to Cursor mode. when the setup menu is selected, moving the knob to the right selects the desired option, as **[ENT]**, moving it to the left exits from menu, as **[CLR].** For a detailed explanation of Cursor VS Home mode refer to section 6.1.1.

The ENT key
Press **[ENT]** to select the desired option or to confirm selection.

The CLR key
Press **[CLR]** to set Home mode. Also press **[CLR]** to exit from menu or data windows or to leave a menu without making changes, to abort selected function or to step backward from a selection made in the menu.

The MENU key
Pressing **[MENU]** one time selects the Main Menu. While the Main Menu is shown, move the ShuttlePoint knob up or down or left or right to highlight a selection. Press the [ENTER] to choose the selection.
Pressing **[MENU]** two times selects the Setup Menu.

Press and hold the **[MENU]** key for about 3 seconds allows the fields in the data windows to be customized on the Chart, Navigation, Highway, GPS Status or NMEA display pages.

The GOTO key

This key is very useful when you desire to start navigating (goto) to a destination point. When pressed shows a popup window that allows you to select to start navigating to the position of the cursor, Mark or Route.

The MARK/MOB key

Pressing **[MARK/MOB]** and immediately releasing places Mark under the ship's position when in Home Mode (in Cursor Mode under the cursor).

Press and holding **[MARK/MOB]** for about 3 seconds automatically places a MOB on the Chart page and all navigation is towards the position of the MOB Mark.

The RTE key

When pressed places a Waypoint. Succeeding presses place more Waypoints to form a Route.

The PWR key and Lamp/Contrast

Press and hold **[PWR]** to turn the GPS chartplotter On or Off. When the CPV350 is on, press the **[PWR]** key to shown the contrast and Lamp popup window. Move the ShuttlePoint knob left/right to adjust the backlight and up/down to adjust contrast.

The Soft Keys

The 6 keys in the bottom part of the front panel (hereinafter named Soft Keys) have different functions associated depending on the page selected: their labels are shown on the screen immediately above the keys (the user can customize the function associated).

These keys allow quick selection to the many pages the GPS chartplotter has. These keys can be customized to your preference, however from the factory the keys are preprogrammed with the following pages. From left to right CHART, NAV, HIGHWAY, CELESTIAL, NMEA DISPLAY, LIST. Press any of the keys and you will see popup windows above the keys. To goto a specific page press the key with the desired popup window. The popup windows will automatically disappear if a key is not pressed or can be removed by pressing **[CLR]**.

6.1   GETTING STARTED

The Getting Started section will take you through the frequently used operations and assist you to customize the look of the GPS chartplotter.

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.

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

6.1.0   Power On, Off and ShuttlePoint knob operation

1. Press and hold **[PWR]** until the display shows the start-up page. To turn off, press and hold **[PWR]** until the display turns off.
2. When the power is first turned on two pages (the start-up page, see the following picture, and the Caution page) are briefly shown before the GPS Status page.

Figure 6.1.0 - Start-Up page

3. When the GPS chartplotter is first turned on it will take some time for the GPS to acquire a fix of your position. Look closely at the GPS Status page and you will see satellites and relative signal strengths. After a fixed is received the GPS chartplotter will automatically switch to the Chart page with a ships icon centered on the screen.
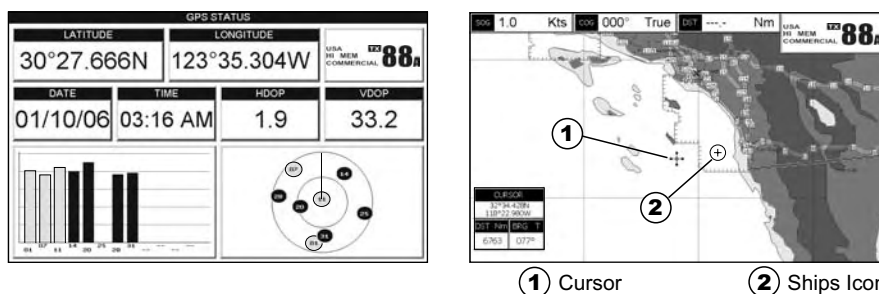

① Cursor   ② Ships Icon

Figure 6.1.0a - GPS Status and Chart pages

4. On the Chart page the ShuttlePoint knob is used to pan around the chart. Move the ShuttlePoint knob to the left and you will notice a cross hair ✛ appears, this is called the cursor.
5. When you move the ShuttlePoint knob you will notice DST and BRG values in the Data window change. This shows the Distance and Bearing from the GPS Fix of your vessel to the position of the Cursor.
6. If the cursor is moved to the edge of the screen the GPS chartplotter will automatically pan in the desired direction.

6.1.1   Cursor Vs. Home Mode

Cursor Mode
When the ✛ cursor is shown on the Chart page, this is called Cursor mode.
In Cursor mode the position of the vessel will not stay in the center of the page and will move right off the edge of the screen (as your boat moves) Cursor mode allows you to pan around and look at areas on the map. In this mode your can also measure distance and bearings from your current position.

NOTE
To change from Cursor mode to Home mode press **[CLR]**.

Home mode
When the ⊕ ships icon is only shown on the Chart page (cursor is not shown) you are in

Home mode. Now as the ship moves through the water the vessels position will be kept in the center of the display.

6.1.2   Cursor and Menu selection speed

The GPS chartplotter allows you to control the speed the Cursor moves when the ShuttlePoint knob is pressed. To change the speed:
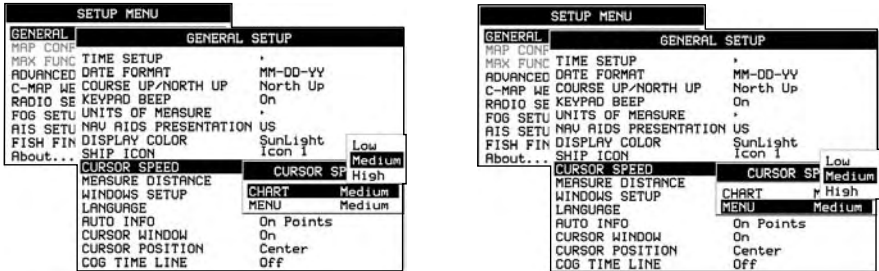

Figure 6.1.2 - Cursor Speed menu

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **GENERAL SETUP** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **CURSOR SPEED** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. The menu now shows two selections, CHART and MENU which allows the Cursor Speed to be selected to High, Medium or Low on Chart page or within the menus.
4. With **CHART** or **MENU** selected, press **[ENT]** or move the ShuttlePoint knob to the right. Move the ShuttlePoint knob to the desired setting and press **[ENT]** or move the ShuttlePoint knob to the right.
5. Press **[CLR]** until the menu disappears or an easier method is to press the ShuttlePoint knob to the left a few times.
6. Move the cursor on the Chart page and see if the speed is to your liking.

6.1.3   Changing the Ships Icon

The cursor may be changed to any of the following:

Figure 6.1.3 - Ship icons

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **GENERAL SETUP** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **SHIP ICON** and press **[ENT]** or move the ShuttlePoint knob to the right to show the popup window with ship icons.
3. Move the ShuttlePoint knob to select the desired icon and press **[ENT]** or move the ShuttlePoint knob to the right to select a new icon.
4. Press **[CLR]** or move the ShuttlePoint knob to the left to exit the menu and show the Chart page.

6.1.4 Changing the backlight and contrast

With the GPS chartplotter turned On, briefly press **[PWR]** to show the light and contrast popup window. Move the ShuttlePoint knob to the left or right to adjust the LCD backlight intensity or up or down to change the LCD contrast. Press **[ENT]** to set.

Figure 6.1.4 - Backlight and Contrast adjustment

6.1.5 Selecting North Up or Course Up

You may select the Chart page between **NORTH UP** and **COURSE UP** which the top of the Chart page oriented so it will always show the area ahead of the direction your vessel is traveling.
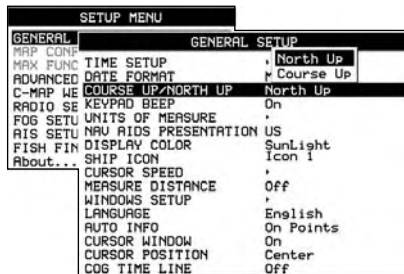
Figure 6.1.5 - Course Up/North Up menu
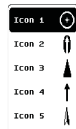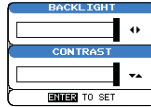
1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **GENERAL SETUP** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **COURSE UP/NORTH UP** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. Another popup window will be shown with **NORTH UP** and **COURSE UP**, move the ShuttlePoint knob to the desired selection and press **[ENT]** or move the ShuttlePoint knob to the right.
4. Press **[CLR]** or move the ShuttlePoint knob to the left to exit the menu and show the Chart page.

NOTE

When the GPS chartplotter is in COURSE UP mode a small arrow icon ⌂ will be shown on the Chart page indicating the direction of North.

6.2 ADJUSTING THE TIME

The time information supplied by the GPS satellites is in Universal Time Coordinates (UTC or Greenwich England Mean Time). To change the GPS chartplotter to read the correct time, first you must figure out the offset and if it is daylight savings time. For example on the West coast of the United States or Pacific Standard Time the offset needed would be –08:00 or –07:00 for daylight savings time, Eastern Standard Time –05:00 or –04:00 for daylight savings time.
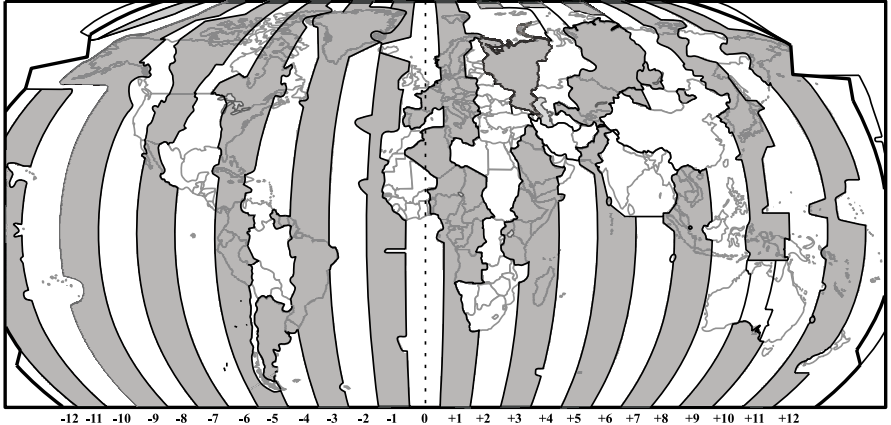
Figure 6.2 - Adjusting Time

NOTE

This map shows offset for standard time. For daylight saving time, subtract one hour from the offset time.

Figure 6.2a - Time Setup menu

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **GENERAL SETUP** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **TIME SETUP** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. Move the ShuttlePoint knob to highlight **GPS TIME OFFSET** and press **[ENT]** or move the ShuttlePoint knob to the right.
4. Move the ShuttlePoint knob down to select **+00:00,** press **[ENT]** and move the ShuttlePoint knob to the right to edit the number.
5. Look at the table and find the offset for your area. You will need to enter this offset to make the GPS chartplotter shows the correct time.

6. Move the ShuttlePoint knob to the "**+**". Move the ShuttlePoint knob up or down to change to the desired offset.
7. Next move the ShuttlePoint knob to the right to select Hours and move the ShuttlePoint knob up or down to change the hour.
8. Repeat this method to change the minutes, if necessary.
9. Once you have the correct GPS time offset, press **[ENT]** to set.

6.3   SELECTING LORAN TD OR OTHER COORDINATE SYSTEM

The GPS Fix coordinates can be changed to show Latitude/Longitude, Loran TD's or UTM. Below is the window that will appear when customizing the Coordinate System.
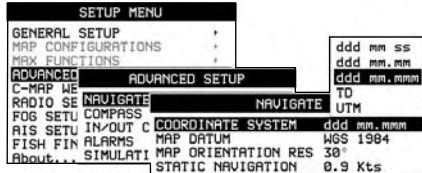

Figure 6.3 - Coordinate System menu

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **ADVANCED SETUP** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **NAVIGATE** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. Move the ShuttlePoint knob to highlight **COORDINATE SYSTEM** and press **[ENT]** or move the ShuttlePoint knob to the right.
4. Move the ShuttlePoint knob to highlight the desired coordinate type and press **[ENT]** or move the ShuttlePoint knob to the right.
5. Press **[CLR]** or move the ShuttlePoint knob to the left until the Chart page is shown.

NOTE

If the TD is selected, you should set the Chain, Pair, ASF1, ASF2 and Alter. If the TD numbers are not correct the Pair letters may be backwards. Reversing the two letters usually solves this issue. Example Y/Z change to Z/Y.

STANDARD HORIZON

6.4 CHANGING THE CHART COLOR

The GPS chartplotter has preprogrammed settings allowing you to customize the look of the Chart page. The default is "Sunlight" however there are other settings: Normal, Classic, NOAA and Night. Night is very useful during evening hours so not to impair night vision.
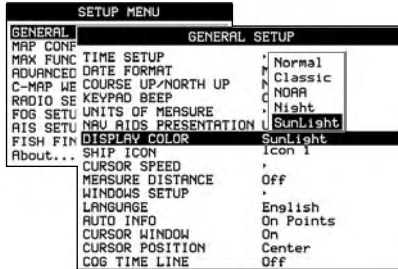

Figure 6.4 - Display Color menu

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **GENERAL SETUP** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. Move the ShuttlePoint knob to highlight **DISPLAY COLOR** and press **[ENT]** or move the ShuttlePoint knob to the right.
3. A popup window will be shown with Normal, Classic, NOAA, Night and Sunlight. Move the ShuttlePoint knob to the desired selection and press **[ENT]** or move the ShuttlePoint knob to the right.
4. Press **[CLR]** or move the ShuttlePoint knob to the left to exit the menu and show the Chart page.

6.5 SELECTING PAGES USING SOFT KEYS

The Soft Keys located under the LCD are used to select the pages quickly without the need to go into the menu. The default pages are CHART, NAV, HIGHWAY, CELESTIAL, NMEA DISPLAY and LIST.

When one of the Soft Keys is pressed popup windows above each Soft Key are shown with the key description. Press the Soft Key with the desired page description and the GPS chartplotter will change to that page.
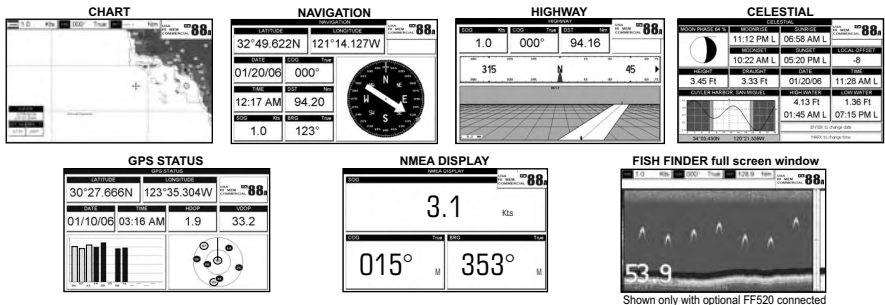

Figure 6.5 - Screen display pages

6.6 CUSTOMIZING THE SOFT KEYS

The Soft Keys can be individually customized from the default pages (discussed above) to the following: CHART, CHART/COMPASS, CHART/HIGHWAY, NAVIGATION, HIGH-WAY, CELESTIAL, GPS STATUS, DSC LOG*, DSC DIRECTORY*, NMEA DISPLAY, NMEA DATA, DEPTH TREND, WIND SPEED TREND, TEMP TREND, SOG TREND, MARKS/WAYPOINTS and USER C-CARD.

When the Optional FF520 50/200kHz BLACK BOX FISH FINDER is connected, any Soft Key can be customized to show 50 or 200kHz full page, 50 or 200kHz Chart/Fish split screen and zoom screens.
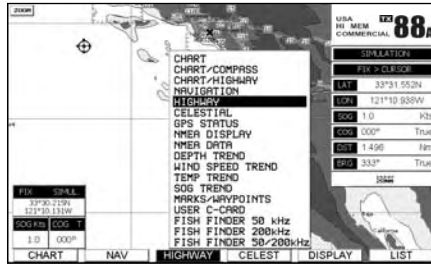

Figure 6.6 - Window options of the selected Soft Key

1. To change, momentarily press any of the Soft Keys, then press and hold the Soft Key you want to customize.
2. A popup window will be shown with the above settings.
3. Move the ShuttlePoint knob up or down to select the desired page.
4. Press **[ENT]** or move the ShuttlePoint knob to the right to save the page to the selected Soft Key.

6.7 OTHER SETTINGS IN GENERAL SETUP MENU

You will notice the **GENERAL SETUP** menu has other selections that allow you to customize:

TIME SETUP	Selects a submenu 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 visibility 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 exposed 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.
CURSOR SPEED	Selects the preferred 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.
CURSOR POSITION	The position of the cursor (vessels location) can be customized so it centered in the middle or centered on the bottom of the chart page. The default is "Bottom".
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.

6.8   INFORMATION PAGE

From Setup Menu page it is possible to select an Information page containing Software, Chart and Optional devices information.

① Software System Information

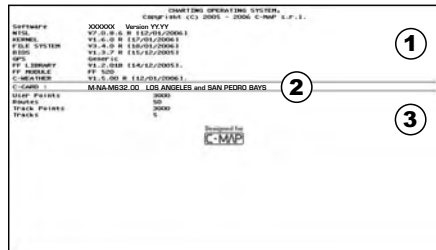② Cartography Information

③ Storage Capacity

Figure 6.8 - Information page

1. Press **[MENU]** two times. Move the ShuttlePoint knob to highlight **About...** and press **[ENT]** or move the ShuttlePoint knob to the right.
2. The Information page appears on the screen (see the previous Figure).
3. Press **[CLR]** or move the ShuttlePoint knob to the left to exit and show the Chart page.