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Autohelm

ST80 Maxiview

Operation & Setup



Package Contents

- 1. Maxiview display head
- 2. Thumb nuts (2)
- 3. Threaded fixing studs (2)
- 4. White sun cover
- 5. SeaTalk cable
- 6. Installation template
- 7. Operation manual
- 8. Warranty card
- 9. Operation cue card
- 10. Display head installation guide

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Chapter 1: Introduction



The Maxiview is a large-screen LCD repeater capable of displaying single or multiple lines of alphanumeric SeaTalk data.

With a display area measuring 126 x 70mm (5 x 2.7in), the Maxiview provides a clear and unambiguous display wherever you are on your boat.

Unlike the other ST80 display heads, the Maxiview has a key-less facia. All user functions are controlled from the ST80 Remote Keypad or, alternatively, a Masterview with the "Maxiview remote control mode" chapter enabled.

Quick Reference Guide

The illustration on the following two pages provides a quick reference guide to the complete range (Sail configuration) of the Maxiview chapters and pages.

The Maxiview can be set to ignore the sail/power chapter and page selections and display user-defined custom selections. For further information on making custom selections, please refer to the Sail and Power Selection Page.

Quick Reference Guide



maxiview

KNOTS

12.5 FT

120°M

SPEED

DEPTH

HEADING

Press this key momentarily to cycle the available chapters.

Press and hold for 1 second to select illumination adjustment. Additional key presses change the illumination setting.

Press this key momentarily to cycle pages within the currently selected chapter.

Press and hold for 1 second to return to the previous page.



MAXIVIEW . MAXIVIEW REMOTE REMOTE $\overline{\mathbf{v}}$ $\overline{\bullet}$ (▲) 6 8. R ٩ Ð \mathcal{O} Δ V \mathcal{O} \bigcirc \odot \bigcirc \bigcirc \bigcirc \odot

Use the arrow keys to select another Maxiview display.

Note:

The selected Maxiview display head changes to reverse video.

The Maxiview can also be operated from a Masterview display.

Use the middle two keys to cycle chapters and pages and select another Maxiview. The 🖸 key changes the key functions from chapter/page to select.

CHAPTERS PAGES



NP: Page not available if the power option has been selected

Maximum Speed & Minimum Depth

The maximum speed and minimum depth displays can be reset by pressing and holding the O & O keys together for 4 seconds - the display flashes during this period.

Chapter 2: Operation

2.1 General

The Maxiview operates around a chapter and page principle – chapters are independent sections: speed, depth, wind, etc., and pages data related to that chapter.

When the Maxiview is powered up for the first time, the unit defaults to the SAIL configuration, unless a POWER configuration is received via SeaTalk (refer to the Masterview setup chapter).

Operating the Maxiview using the Remote Keypad

To operate the Maxiview using the Remote Keypad, you must first carry out the setup procedures covered in the ST80 Remote Keypad setup chapter.

Note: SeaTalk data must be available for a chapter to function. For example, if speed data is lost for 8 seconds, the speed chapter is replaced by a warning screen.

Keypad Beeps

- The keypad beeps once every time a key is pressed.
- An incorrect key sequence causes the Maxiview to beep a further 2 times.

Gaining Control of the Maxiview

- In order to make changes to the Maxiview displays, you must gain control of the required Maxiview.
- Control is confirmed by the display changing to reverse video.

2.2 Speed Chapter

Boat Speed Page

This page displays your actual boat speed.



- The speed units are the units currently on SeaTalk: KNOTS, MPH or KM/H.
- Trend indicators ▲ or ▼ are displayed if the boat speed is generally decreasing or increasing at a rate greater than the value set in setup.
- The indicators are, by default, turned off.

Speed Over Ground (SOG) Page

This page displays your current speed over the ground from GPS.



• The speed units can be: KNOTS, MPH or KM/H.

Velocity Made Good (VMG) to Wind Page

VMG to wind displays your boat speed through the water in the direction of true wind.



- The units are those currently on SeaTalk: KNOTS, MPH or KM/H.
- Trend indicators ▲ or ▼ are displayed if the VMG is generally decreasing or increasing at a rate greater than the value set during calibration. The indicators are, by default, turned off.
- This page is not available if the unit is operating in POWER mode.

Log/Trip Page

The Log/Trip page displays the total distance logged and a list of trips and their current status.



- The units are those currently on SeaTalk: NM, SM or KM.
- The trip list and the log cannot be controlled from the Maxiview. Please refer to the Masterview handbook for trip control information.

Average Speed

This page displays the average boat speed for your current journey.



- The units are those currently on SeaTalk: KNOTS, MPH or KM/H.
- The word STOPPED is displayed if this feature is not running.
- The maximum averaging period is 24 hours.

Maximum Speed Page

This displays the maximum speed achieved during the current voyage.

SPEED r 8		ew
Press momentarily to advance to the next chapter.	Press momentarily to advance to the next page.	Press for 1 second to return to the previous page. Press and hold these keys for 4 seconds to reset the maximum speed.
		D2474-1

- The units are those currently on SeaTalk: KNOTS, MPH or KM/H.
- The display flashes for 4 seconds when the maximum speed is reset.

2.3 Depth Chapter

Depth Page

The depth page displays the current depth available on SeaTalk.



- The displayed units are those currently on SeaTalk: FEET, FATHOMS or METRES.
- Trend indicators ▲ or ▼ are displayed if the trend is generally towards decreasing or increasing depth at a rate greater than that set during calibration.
- The indicators are, by default, turned off.
- If the depth echo is lost the last valid echo is displayed together with the caption "LAST ECHO". Also, the current units are abbreviated to FT, FA or M.



Minimum Depth Page

- The units are: FEET, FATHOMS or METRES.
- The time of the last echo is displayed in the 12 or 24 hour clock. This field is deactivated if time is not available.
- The display flashes for 4 seconds when the minimum depth is reset.

Depth Offset Page

This page displays the depth transducer offset.



- The units are FEET (FT), FATHOMS (FA) or METRES (M).
- The offset can be keel, transducer or waterline no adjustment is possible from the Maxiview.

2.4 Wind Chapter

Apparent Wind Speed page



• The units can be : KNOTS or M/SEC.

Apparent Wind Angle Page



• The direction indicator is displayed as PORT or STBD.



True Wind Speed Page (Relative to the Vessel)

- The true wind units can be either: KNOTS or M/S.
- This page is not available in POWER mode.

True Wind Angle (Relative to the Vessel)



- The direction indicator is displayed as PORT or STBD.
- This page is not available in POWER mode.



True Wind Angle (Referenced to the Compass)

- This page is not available in POWER mode.
- The angle can be either true (T) or magnetic (M).
- An inter-cardinal/cardinal representation is also shown at the top right of the screen (e.g., WNW).

2.5 Heading Chapter

Heading Page



• The heading can be true or magnetic.

Steering Page

The steering page displays the current compass heading (unlocked mode) or the locked compass heading (locked mode).

Note: For a detailed description of locked mode, please refer to a Masterview handbook.



• The displayed value can be true (T) or magnetic (M).

Course Over Ground (COG) Page

This page displays your true or magnetic course over the ground.

Cog 2	TRUE 36°	
Press momentarily to advance to the next chapter.	Press momentarily to advance to the next page.	Press for 1 second to return to the previous page.
		D2485

• Whether the course is true or magnetic is dependant on the units currently on SeaTalk.

Bearing to Waypoint (BTW) Page

This page shows the magnetic or true bearing to a target waypoint.



Tack Course Page

This page displays the course for the next (opposite) tack in degrees true or magnetic.



- This page is not available in POWER mode.
- The tack course is based on sailing true wind.

2.6 Navigate Chapter

Position Page



• If position data is not available the fields are filled with dashes.

Course Over Ground (COG) & Bearing to Waypoint (BTW)

This page displays both your course over ground and the bearing to a target waypoint in degrees true or magnetic.



Cross Track Error

The cross track error (XTE) page shows how far, in nautical miles (NM), statute miles (SM) or kilometres (KM), your vessel is from a planned route.



• The arrows indicate the direction to steer to correct any error.

Velocity Made Good (VMG) to Waypoint Page

This page displays your boat speed over the ground in the direction of a target waypoint.



• Trend indicators ▲ or ▼ are displayed if the trend is generally towards decreasing or increasing VMG. The indicators are, by default, turned off.

Waypoint Data Page

This page displays any cross track error, the distance to a target waypoint (DTW), estimated time to arrival (ETA) and waypoint number.



- The arrows to the right or left of the XTE value indicate the direction to steer.
- The distance to waypoint can be nautical miles (NM), statute miles (SM) or kilometres (KM).
- The ETA value is the time to go in hours, minutes and seconds.

Date/Time/Tide Page

This page displays the speed and direction of the tide and the local time.



- Local time is a calculation based on a global offset . Please refer to the Masterview handbook for details.
- The time and date format is taken from data on SeaTalk.
- Tide and speed units can be KNOTS, MPH or KM/H.
- The tide can be magnetic or true.

2.7 Race Timer Chapter

Race Start Page

This page duplicates race timer data from a Masterview instrument. There are just two operating modes: STOPPED and COUNTING DOWN/UP.



- The display shows minutes and seconds only.
- When the timer reaches 00:00 the timer enters race mode (see below).



• In race mode the timer shows the elapsed time in minutes and seconds up to 1 hour, and hours and minutes thereafter (seconds are displayed in small characters).

2.8 Multi-Line

Multi-line chapters consist of up to 8 pages of user-defined pages.



• The multi-line page number is shown at the top-right of the screen.

Help/Setup Page

Autoh	eim	maxivi	ew II O O	
CH4 CH4 PAC CH2 PAC CH2 CH2	.P PRESS AN NP+▲ NP+▼ iiE iiE NP IiE+▲ NP+PAGE	NY KEY INSERT PAGI DELETE PAGI NEXT DAT, PREV. DAT, NEXT LINI 12 LINE EXI)) j remote
Advance Multiline setup pa	e to) Adv Mul age. set	vance to 🔊 Itiline up page. 🎦	Press these keys together momentar to exit multiline setu	ily p.

- Multi-line setup/help is only available if "EDIT ALL" or "EDIT PAGES" has been selected in setup.
- When you exit Multi-line edit, the display returns to the previous Multi-line page.
- The display returns to the previous Multi-line page after 8 seconds of keypad inactivity.

Multi-line Setup



- The currently selected line appears in reverse video.
- The current page appears in the top right hand corner of the display.
- The display flashes for 4 seconds when a page is deleted. After 4 seconds, "PAGE DELETED" is displayed along with the deleted page number.
- The next page is displayed when a page is deleted.
- The display flashes for 4 seconds when a page is inserted. After 4 seconds, "PAGE INSERTED" is displayed.
- A single line at the bottom of the display cannot be changed for a two-line entry.
- New pages always consist of 4 lines. Each line displays speed data until it is changed.
- Page numbers are automatically renumbered when pages are inserted or deleted.

List of Multi-line Selections

The lines of data that can be selected are as follows:

Line	Data	Line	Data
1	Speed	17	Steer
2	Speed over ground	18	Course over ground
3	Velocity made good to wind	19	Tack course
4	Velocity made good over ground	20	Vessel latitude
5	Log	21	Vessel longitude
6	Trip 1	22	Cross track error
7	Average speed	23	Velocity made good to wayp't
8	Depth	24	Waypoint number
9	Water temperature	25	Distance to waypoint
10	Apparent wind speed	26	Bearing to waypoint
11	Apparent wind angle	27	Estimated time to arrival
12	True wind speed	28	Date
13	True wind angle relative	29	Time
14	True wind angle absolute	30	Tide set
15	Beaufort	31	Tide drift
16	Heading		

Multi-line Factory Defaults

The factory defaults for the Multi-line pages are:

Page	Line	Content
1	1	Speed
	2	Average speed
	3	Speed over ground
	4	Velocity made good to waypoint
2	1	Depth
	2	Water temperature
3	1	Heading
	2	Steer
	3	Course over ground
	4	Bearing to waypoint
4	1	True wind angle
	2	True wind speed
	3	Tack course
	4	Beaufort
5	1	Waypoint number
	2	Cross track error
	3	Distance to waypoint
	4	Estimated time to arrival
6	1	Speed
	2	Depth
7	1	Speed
	2	Depth
	3	Apparent wind angle
	4	Apparent wind speed
8	1	Course over ground
	2	Speed over ground
	3	Tide set
	4	Tide drift

2.9 Illumination

There are two modes: local and system. Each of these modes has four possible settings: level 3 (brightest), level 2, level 1 and off.

Local illumination is used to adjust the lighting of individual display heads — adjustments will not affect other display heads.

System illumination controls the lighting of all display heads in system mode.



- Local mode remains active until the power supply is switched off, or the mode is changed to system.
- If the LCD illumination is off when adjustment mode is entered, the unit automatically defaults to level 3.
- If the LCD is already illuminated the current level is displayed upon entry into adjustment mode.
- The display returns to normal operation if there are no further key presses within 8 seconds.

Resetting the Contrast

The display contrast can, during local or system illumination adjustment, be reset to the factory default by pressing the page key for 1 second.

2.10 Data Lost

If a chapter that is dependent on a given quantity, e.g., speed, wind, depth, and this data is lost for more than 8 seconds, a warning screen is displayed until the data is restored.



2.11 Man Overboard and Alarms

Man Overboard

Man overboard displays are triggered when a man overboard condition exists on SeaTalk. These displays replace the current display until the condition no longer exists.

Dead Reckoned MOB



- The dead reckoned screen is displayed providing data is available.
- Fields where data is not available appear as dashes.
- The elapsed time is displayed in minutes and seconds.
- The displayed bearing and range is to the man in the water.

Lat/Lon MOB



- This screen is displayed upon entry to MOB if dead reckoned information is not available.
- Time data may not be shown if the man-overboard data is not sourced from ST80.

Incomplete MOB Data

If there is insufficient data to provide range, bearing and elapsed time, the following screen is displayed during an MOB condition.



MOB Audible Alarm

During an MOB condition, an audible alarm beeps 3 times every thirty seconds.

Alarms

The Maxiview can be set to respond to all the alarms in the following table or, alternatively, only those identified as specific.

Alarm	Pop-Up Displayed	Response
Shallow depth	SHALLOW WATER	All
Deep depth	DEEP WATER	All
Anchor	ANCHOR ALARM	All
True wind high speed	TRUE WIND SPEED HIGH	All
True wind low speed	TRUE WIND SPEED LOW	All
True wind high angle	TRUE WIND ANGLE HIGH	All
True wind low angle	TRUE WIND ANGLE LOW	All
Apparent wind high speed	APPARENT WIND SPEED HIGH	All
Apparent wind low speed	APPARENT WIND SPEED LOW	All
Apparent wind high angle	APPARENT WIND ANGLE HIGH	All
Apparent wind low angle	APPARENT WIND LOW ANGLE	All
Manual off-course	OFFCOURSE	All
ST80 full watch	WATCH PERIOD EXPIRED	Specific

The following display is activated when an alarm is received. This display flashes continuously until silenced/turned off or the alarm description page is selected.



Alarm	Silenced	Turned Off
Shallow depth	Yes	No
Deep depth	No	Yes
Anchor	Yes	No
True wind high speed	No	Yes
True wind low speed	No	Yes
True wind high angle	No	Yes
True wind low angle	No	Yes
Apparent wind high speed	No	Yes
Apparent wind low speed	No	Yes
Apparent wind high angle	No	Yes
Apparent wind low angle	No	Yes
Manual off-course	Yes	No
Full ST80 watch	Yes	No

The following table lists the alarm status once a silence/turn off key- sequence is performed.

- If an alarm is currently active and an alarm of greater importance is received, the current alarm is replaced with the new alarm.
- Replaced alarms are not stored by the Maxiview. However, the alarm remains on SeaTalk and, if the condition still exists once the current alarm has cleared, will be reinstated.
- Silenced alarms will repeat after 30 seconds if the condition persists.

Audible Alarms

There are basically two types of audible alarm: high priority and low priority.

High priority alarms beep continuously while low priority alarms consist of three beeps followed by a 5 second break.

- High priority alarms will always override low priority alarms.
- Once a high priority alarm has cleared, the previous alarm, if it is still current, will be reactivated.

Chapter 3: Setup

This chapter describes how to set and adjust features in the setup menu. These include display formats, response levels for controlling the frequency of screen updates and the thresholds for trend indicators.

maxiview Autobolim DFPTH FEET utoheim remote Press and hold these keys together for 2 seconds to display the user set-up screen. Autohelm maxiview PRESS PAGE то CONTINUE ... remote Press this key (ð) momentarily to advance to user setup. D2499-1

3.1 Entering Setup

- The Maxiview returns to normal operation after 4 seconds of keypad inactivity.
- "SET-UP OFF" replaces the above screen if user setup has been turned off in dealer setup.
- Setup can be entered from any normal operating display.

Speed Chapter

The following screen is displayed for 2 seconds when entering speed setup. The key sequences shown are only available during this period.



Response Pages

Response is used to control the speed at which screens are updated. The response range is from 0 to 15. A high number results in rapid changes of the displayed data while a low number gives a slow but smooth update. There are two response pages: speed and VMG to wind. Speed response covers boat speed, speed over ground, velocity made good to waypoint and velocity made good over ground to waypoint.



- The current boat speed/VMG to wind is always displayed.
- The current response level is shown below the adjustment bar.
- Response applies only to the unit on which it is adjusted it is not a global change.

Trend Indicator Thresholds

The trend arrows (\blacktriangle or \bigtriangledown) indicate the whether the general trend is towards a higher or lower boat speed, SOG or VMG to wind. The trend, whether its higher or lower, is determined by the threshold setting.



- The threshold is displayed in units (e.g., knots) per second.
- The threshold setting applies to the unit on which it is adjusted only.

Display Format

The display format can be set to either 1 or 2 decimal places.



• Values are limited to 3 significant figures. Values over 9.99 with X.XX selected will be rounded up and truncated, e.g., 10.0.

Depth Chapter

The following screen is displayed for 2 seconds when entering depth setup. The key sequences shown are only available during this period.



Autohejm maxiview . SET-UP DEPTH FEET Ű.5 RESPONSE S 07 F olm remote Press this key Press this key Press this key Ð Ð momentarily to momentarily to for 1 second to advance to the advance to the return to the next chapter. next page. previous page. Press these Press these keys together keys together momentarily to (8) momentarily to decrease value increase value by 1. by 1. D2505-1

Depth Response

Trend Indicator Thresholds





Depth Display Format

Wind Chapter

The following screen is displayed for 2 seconds when entering wind setup. The key sequences shown are only available during this period.





Wind Speed Response

Wind Angle Response



Display Format



Multiline Chapter

The following screen is displayed for 2 seconds when entering multiline setup. The key sequences shown are only available during this period.



Editing Rights

The editing rights chapter allows you to control the level of multiline page editing. The options are: edit all, edit pages and no editing.



• Edit all allows you to edit chapters and pages. Edit pages allows editing of the page contents only .



3.2 Instrument Setup

Transducers Page

This page lists all the transducers connected to SeaTalk.

Autoheim TRANS SPEED DEPTH WIND	maxiview T-UP SDUCERS / / /	Image: Constraint of the second se	
Press this key momentarily to advance to the next chapter.	Press this key momentarily to advance to the next page.	Press this key for 1 second to return to the previous page.	
 Press these keys together momentarily to scroll down list 	 Press these keys together momentarily to scroll up list. 		
		D2515	i-1

- The complete transducer list is: speed, depth, wind, compass, pilot and GPS.
- Detected transducers are identified by a ✓. Transducers not detected appear in name only.

Sail/Power/Custom Selection

This page allows you to select whether chapters are custom selections or, alternatively, dictated by the sail or power boat settings.



- If a selection has not been previously made, the SYSTEM option is automatically tagged and SAIL mode is selected as the default chapter and page mode.
- CUSTOM mode does not affect and is not affected by system settings.

Custom

This mode allows you to select any of the chapters from the following list:

No.	Chapter	No.	Chapter
1	Speed	5	Navigate
2	Depth	6	Timers
3	Wind	7	Multiline

4 Heading



- Enabled chapters are identified by a ✓. A ✗ indicates that a chapter is switched OFF or does not have any pages enabled.
- This chapter appears in name only if a chapter is active but fundamental information is missing.

Contents Setup

In custom setup, contents setup is used to select or de-select pages within the highlighted chapter.



- At least one page must be selected. The last page in a chapter cannot be deleted.
- All pages are de-selected if $OFF(\checkmark)$ is chosen.
- De-selecting OFF automatically reselects the previously active pages.

Title Control

This is used to turn the chapter title pages, displayed for 2 seconds upon entry to a chapter, ON or OFF.



Variation

This page is used to enter the local variation to the nearest whole degree.



- The maximum variation that can be entered is 30°.
- If dashes are currently displayed, the first combination key press will change the display to "000".
- Variation is transmitted on SeaTalk.

True/Magnetic Heading

The true/magnetic heading page is used to select one of four options: local true, local magnetic, global true or global magnetic.



- Upon exiting setup, the local true and local magnetic settings prevent any response to incoming true or magnetic data.
- If variation is not available, the local and global true options cannot be selected.

Lamp Offset Adjustment

This feature allows you to adjust the brightness of individual illumination levels to obtain the best setting for a particular location.



- Lamp adjustment is not available if the current setting is OFF.
- The adjustment range is from 1 to 100%.
- If the current mode is "local", changes will not be transmitted on SeaTalk. However, changes will occur if the mode is "global".



Contrast Adjustment

LCD Inversion

LCD inversion allows you to change the display to:

- · display black numbers and characters on a light background
- or display light numbers and characters on a black background



Alarm Control

This page is used to define whether all or just specific alarms will be recognised by the Maxiview.



3.3 Quitting User Setup

To quit setup, simply press the Chapter and Page keys together momentarily to display the following screen.



Chapter 4: CodeLock Security

4.1 What is CodeLock?

- CodeLock is a personal four digit security code designed to protect your valuable equipment against theft.
- CodeLock does not have to be switched on, but it's there if you decide that you need it.
- When CodeLock is switched on, the code number is stored in the memory of all CodeLock compatible equipment on the same bus.
- A CodeLocked piece of equipment, if stolen, cannot be used without the correct code number.
- There are basically two types of CodeLock compatible equipment: masters and slaves.

Master's

- Are used to create and enter a CodeLock code number.
- The ST80 Masterview is a master display head.

Slave's

- Cannot be used to create a CodeLock code number.
- Can be used to enter a code number to unlock a system.
- Receive and transmit your chosen code number only.
- ST80 slave's consist of the: Analogue Wind, Analogue Close Hauled Wind, Analogue Compass, Maxiview and the Analogue Multitrim.

Code creation is usually a once-off procedure carried out on a master display head, which, ideally, is situated in a secure location below deck. Once entered, the code is automatically sent to all CodeLock compatible SeaTalk equipment without further intervention.

If you require a higher degree of security, perhaps all your instruments are mounted in exposed locations, CodeLock can demand that you enter your personal code every time the system is switched on. In this configuration, the code can be entered into any convenient master display head.

4.2 Analogue Display Heads

Automatic CodeLock Systems

In an automatically transmitted CodeLock system, the Maxiview reads the code number and starts-up automatically without any user input.

Manual CodeLock System

In a manually transmitted CodeLock system, the code number is entered via the keypad of any master display head. This code is then sent to all compatible equipment on the same SeaTalk bus. Once this code has been received, the equipment operates in the normal way.

4.3 Enabling CodeLock

The CodeLock security feature can only be switched on from a Masterview display head. Therefore, please refer to the Masterview Operation & Setup manual for details.

Chapter 5: Problem Solving

5.1 Problem Solving

Display is blank

- Make sure that the power supply is connected.
- Check the fuse or circuit breaker.
- Make sure that the SeaTalk cables are not damaged.
- Check the contrast and illumination settings
- Faulty LCD module.

No exchange of information between SeaTalk instruments

- Make sure that the cables are attached securely.
- If the problem persists, disconnect your instruments one by one to isolate the faulty unit.

Failure of a group of SeaTalk instruments

• Make sure that the SeaTalk connections to non-functioning instruments are secure.

LCD shows "Code ON" when the power supply is switched on

• The CodeLock anti-theft system is operational.

Poor character definition

• Adjust the contrast.

Chapter 6: EMC and Servicing Guidelines

6.1 Important information

All Autohelm equipment and accessories are designed to the best industry standards for use in the leisure marine environment.

Their design and manufacture conforms to the appropriate Electromagnetic Compatibility (EMC) standards, but good installation is required to ensure that performance is not compromised. Although every effort has been taken to ensure that they will perform under all conditions, it is important to understand what factors could affect the operation of the product.

6.2 Installation

To avoid the risk of operating problems, all Autohelm equipment and cables connected to it should be;

- At least 1m (3 feet) from any equipment transmitting or cables carrying radio signals, e.g., VHF radios, cables and antennas. In the case of SSB radios, the distance should be increased to 2m (7ft).
- More than 2m (6ft) from the path of a radar beam. A radar beam can normally be assumed to spread 20 degrees above and below the radiating element.
- The equipment should be supplied from a different battery than the one used for engine start. Voltage drops below 10V in the power supply to our products can cause the equipment to reset. This will not damage the equipment, but will cause the loss of some information and can change the operating mode.
- Genuine Autohelm cables should be used at all times. Cutting and rejoining these cables can compromise EMC performance and so should be avoided unless doing so is detailed in the installation manual.
- If a suppression ferrite is attached to a cable, this ferrite should not be removed. If the ferrite has to be removed during installation it must be reassembled in the same position.

6.3 Check Before Going to Sea

- Always check the installation before going to sea to make sure that it is not affected by radio transmissions, engine starting etc.
- In some installations, it may not be possible to prevent the equipment from being affected by external influences. In general this will not damage the equipment but can lead to it resetting, or momentarily may result in faulty operation.

6.4 Servicing and Safety

- Autohelm equipment should be serviced only by authorised Autohelm service engineers. They will ensure that service procedures and replacement parts used will not affect performance. There are no user serviceable parts in any Autohelm product.
- Some products generate high voltages, and so never handle the cables/connectors when power is being supplied to the equipment.
- Always report any EMC related problem to your nearest Autohelm dealer. We will use any such information to improve our quality standards.

Chapter 7: Specification

Dimensions:	110 x 114.5 x 18.25mm (4.33 x 4.5 x 0.71in)	
Power supply:	10 to 16 V DC	
Current consumption:	50 mA with illumination off 250mA with illumination full on	
Operating temperature:	-10 to $+70^{\circ}C$ (14°F to 158°F)	
Illumination:	3 level illuminated dial and LCD keypad permanently illuminated	

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