ST60 Club House Wind Instrument
Owner's Handbook

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Introduction

Thank you for purchasing a Raytheon product. We are sure your ST60 instrument will give you many years of trouble-free operation.

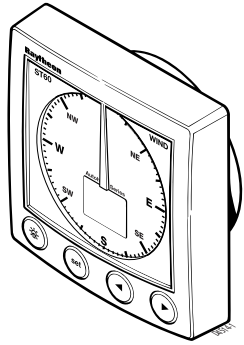
This handbook describes how to install and use the Raytheon ST60 Club House Wind instrument, which is intended for use ashore (e.g. in clubhouses or homes) to show local wind conditions. The instrument is constructed in a rugged weather proofed case and uses a sensitive and stable, combined analogue and digital display, to display the wind information.

Note: *The ST60 Club House Wind instrument is not suitable for use on boats.*

The ST60 Club House Wind instrument gives:

- Wind speed.
- Wind Angle.
- Maximum wind speed.

The ST60 Club House Wind instrument also gives high and low wind speed alarm indications.



EMC conformance

All Raytheon 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 correct installation is required to ensure that performance is not compromised.

Mounting options

If you do not want to surface mount your ST60 instrument, options are available for:

- Flush mounting. If you have ordered the flush mounting option a low-profile bezel and four fixing screws are also provided.
- Bracket mounting.

Parts supplied

Unpack your ST60 instrument and check that the following items are present:

- Item 1, ST60 Club House Wind instrument, fitted with standard bezel for surface mounting.
- Item 2, Fixing studs (2).
- Item 3, Thumb nuts (2).
- Item 4, Gasket.
- Item 5, Wind Vane.
- Item 6, Power cable.
- Item 7, Instrument Cover.
- Item 8, Junction Box.
- Item 9, Owner's Handbook. A Warranty document and fitting templates are included in this Handbook.
- Item 10, Worldwide Service Centre Handbook.

Spare spade terminals are also provided, to re-terminate transducer cables if they have to be cut to facilitate installation.

Note: *The above packing list is for an ST60 Wind system.*

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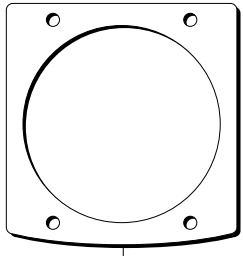

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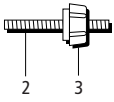

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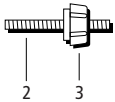

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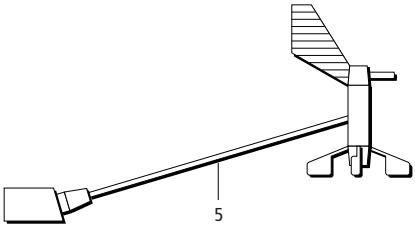

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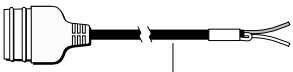

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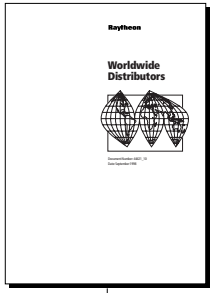

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Chapter 1: Operation & Maintenance

1.1 Getting started

This handbook describes how to operate, maintain and install the Raytheon ST60 Club House Wind instrument. This instrument shows the wind speed and direction.

Calibration requirements

Your ST60 instrument is calibrated to factory (default) settings when first installed and must therefore be calibrated before use, in accordance with the procedures in *Chapter 3, Calibration*.

1.2 Normal operation

The information on the ST60 Club House Wind instrument is presented by a pointer and a digital display.

Pointer

The pointer shows the wind direction.

Digital display

The digital display normally shows the wind speed in either knots or metres per second. You can use the key to select other information (see the *Normal operation* flow chart), displayed as follows:

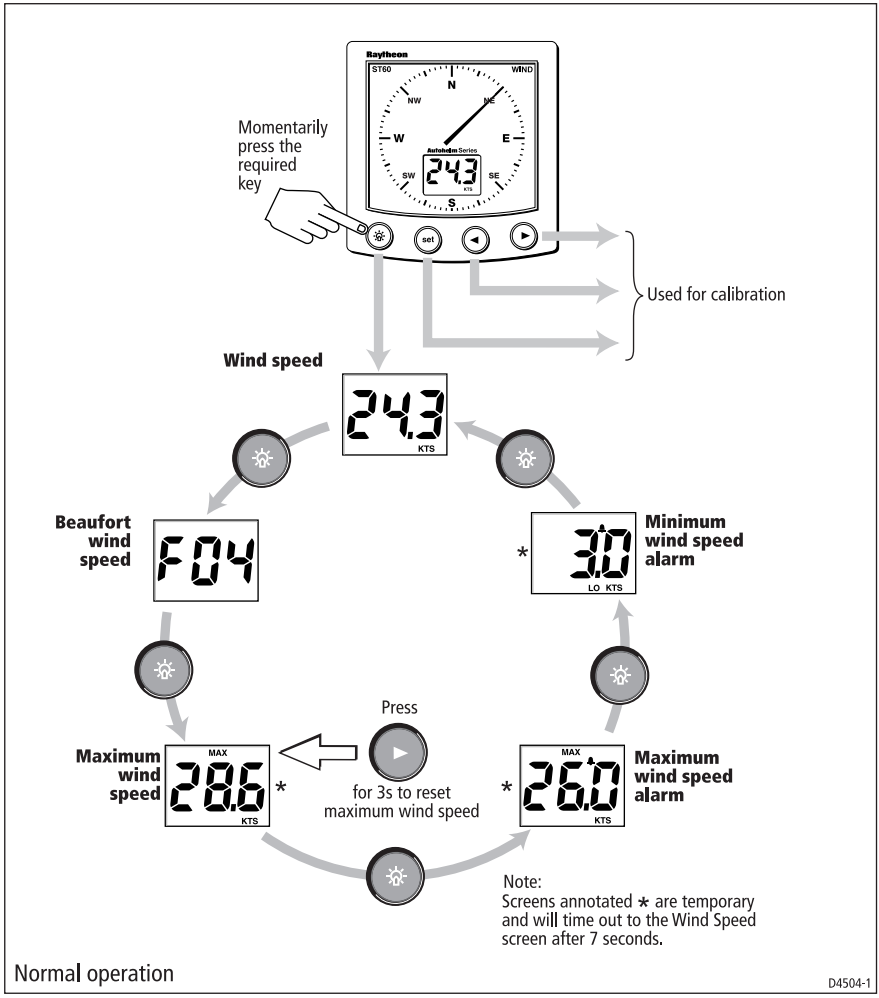
- Beaufort wind speed.
- Maximum wind speed.
- Maximum wind speed alarm.
- Minimum wind speed alarm.

Beaufort wind speed

The appropriate Beaufort wind 'force' number, up to F12.

Maximum wind speed

The maximum wind speed is reset at power up and can also be reset manually by pressing the **>** key for 3 seconds.



Wind speed alarms

An alarm condition occurs when the wind speed either exceeds the maximum wind speed alarm threshold or falls below the minimum wind speed alarm threshold. An alarm condition is indicated by a flashing alarm icon on the digital display and an audible alarm at the instrument.

Pressing any key will cancel an alarm.

Switching alarms on and off

Use the ☼ key to select either the maximum or minimum wind speed alarm screen as required, then press the **>**key for approximately one-second, to toggle the alarm either on (i.e. so the alarm threshold value is displayed) or OFF, as required.

Setting alarm thresholds

To set a wind speed alarm threshold:

1. Use the ☼ key to select either the maximum or minimum wind speed alarm screen, as required.
2. Momentarily press both the **<** and**>** keys to enter the threshold adjust mode (indicated by the displayed value flashing).
3. Press either the **<** key or the **>** key to set the required wind speed.
4. Momentarily press both the **<** and**>** keys to leave the threshold adjust mode (indicated by the displayed value flashing).

Display illumination

When the instrument is first powered up, the display illumination is set to its lowest (courtesy) level, to facilitate initial access to the keys.

To adjust the level of display illumination:

1. Hold down the ☼ key for approximately one second, to enter the illumination-adjust mode.
2. There are four preset illumination levels. Momentarily press the ☼ key to cycle through the these levels until you reach the level you want.
3. Press any other key to leave the illumination-adjust mode.

Note: *The digital display will return to normal operation 7 seconds after the last key press.*

1.3 Maintenance

Servicing and safety

- Raytheon equipment should be serviced only by authorised Raytheon service engineers. There are no user-serviceable parts in any Raytheon product.

- Some products generate high voltages, and so never handle the cables/connectors when power is being applied to the equipment.
- Always report any EMC related problem to your nearest Raytheon dealer. We will use any such information to improve our quality standards.

When requesting service, please quote equipment Type, Model Number and, if possible, Software Release Issue. The Software Release Issue can be ascertained by means of the Intermediate Calibration facility, see *Chapter 4, Calibration*.

Instrument

Certain atmospheric conditions may cause condensation to form on the instrument window. This will not harm the instrument and can be cleared by increasing the illumination setting to Level 3.

Periodically clean your ST60 instrument with a soft damp cloth. Do NOT use chemical and abrasive materials to clean the instrument.

Transducer

If the windvane is removed from its mounting block for any reason, fit the blanking cover (supplied) to the windvane mounting block connector.

Cabling

Examine all cables for chafing or other damage to the outer shield and, where necessary, replace and re-secure.

1.5 Fault finding

Preliminary procedures

Changes in the electronic environment may adversely affect the operation of your ST60 equipment. If a you appear to have a problem, first ensure that the EMC requirements (see *Chapter 2, Installation & Calibration*) are still being met before further investigating the problem.

Fixing faults

All Raytheon products are subjected to comprehensive test and quality assurance programmes prior to packing and shipping. However, if the instrument display is blank due to an apparent fault, check:

- The power supply.
- The security of cables and connectors
- The fuse or circuit breaker

If you are unable to rectify a problem, contact the Raytheon Product Support Department or your own National Distributor, for assistance.

Chapter 2: Installation

This chapter describes how to install and calibrate the ST60 Club House Wind instrument, and associated Wind Vane transducer.

The transducer is connected to the rear of the instrument.

For advice, or further information regarding the installation of this equipment, please contact the Raytheon Product Support Department or your own National Distributor.

2.1 Planning your installation

Before starting the installation, spend some time considering the best positions for both transducer and instrument, such that the *Site requirements* and the *EMC Guidelines* are satisfied.

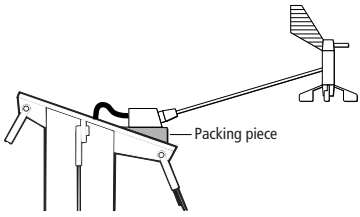
Site requirements

Wind Vane

The Wind Vane has a cable connected, and is supplied with a junction box and a set of spade terminals.

The location for the Wind Vane must:

- Allow reasonable access for installation and servicing.
- Be as high as possible and away from any object which may shield the Wind Vane or otherwise disturb the air flow.
- Provide a horizontal mounting surface. If a surface (e.g. mast top) is otherwise suitable but not horizontal, make up a suitable wedged packing piece to provide the necessary horizontal surface.



Typical Wind Vane mounting D4505-1

There must also be a viable route for the transducer cable to be routed to the instrument.

Note: *As you will need to manually rotate the Wine Vane as part of the linearisation procedure, do not actually fit it in position yet.*

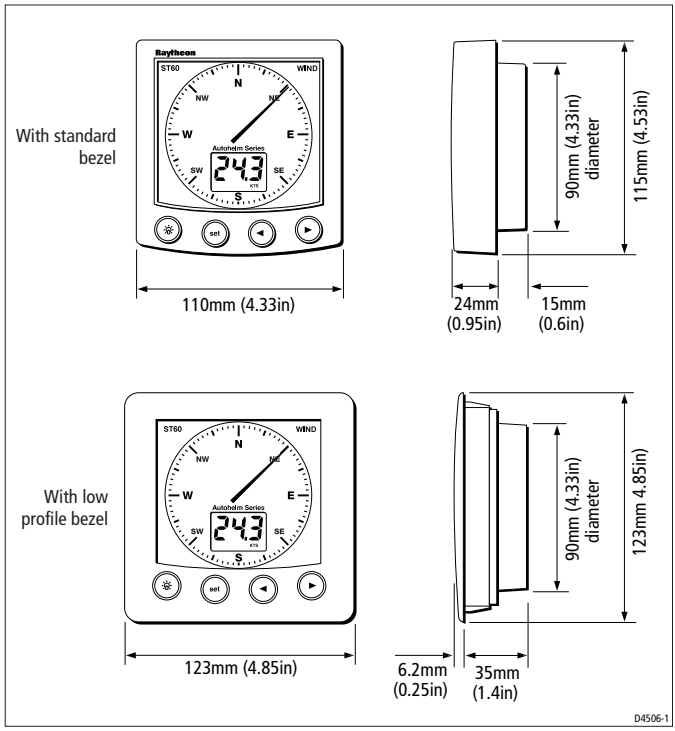
Instrument

CAUTION:

The presence of moisture at the rear of the instrument could cause damage either by entering the instrument through the breathing hole or by coming into contact with the electrical connectors.

Each instrument must be positioned where:

- It is protected against physical damage.
- It is at least 500 mm (20 in) from radio receiving equipment.
- There is reasonable rear access for installation and servicing.



EMC guidelines

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

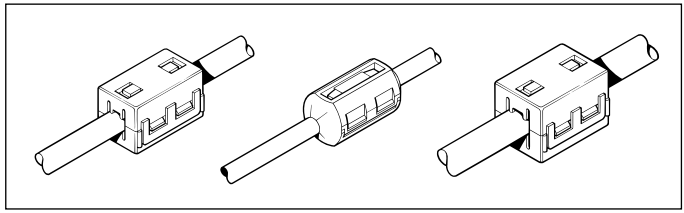
Their design and manufacture conforms to the appropriate Electromagnetic Compatibility (EMC) standards, but correct installation is required to ensure that EMC performance is not compromised. Although every effort has been taken to ensure that they will perform under all conditions, it is important to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

To minimise the risk of operating problems:

- All Raytheon equipment and cables connected to it should be:
  - At least 1 m (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 2 m (7 ft).
  - More than 2 m (6 ft) from the path of a radar beam. A radar beam can normally be assumed to spread 20° above and below the radiating element.
- Voltage drops below 10 V 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 Raytheon 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.

Suppression ferrites

The following illustration shows the typical range of suppression ferrites fitted to Raytheon equipment. Always use the ferrites specified by Raytheon.



Connections to other equipment

If your Raytheon equipment is going to be connected to other equipment using a cable not supplied by Raytheon, a suppression ferrite MUST always be fitted to the cable close to the Raytheon unit.

2.2 Installation procedure

As it is not possible to describe procedures for all possible installation scenarios, the procedures given here describe the broad requirements for installing a Wind Vane and ST60 Club House Wind instrument. Adapt these procedures as appropriate, to suit your individual requirement.

CAUTION:
Where it is necessary to cut holes (e.g. for cable routing and instrument mounting), ensure that these will not cause a hazard by weakening critical parts of any structure.

Unpacking

Unpack your ST60 instrument and check that the items described in the *Introduction* are present.

Each ST60 instrument is supplied with a standard bezel for surface mounting. Optional mounting kits are available for flush mounting and bracket mounting the instrument. If you have ordered the flush mounting option a low-profile bezel and four fixing screws are also provided.

Fitting the instruments

The ST60 Club House Wind instrument can be installed using one of a number of different mounting options:

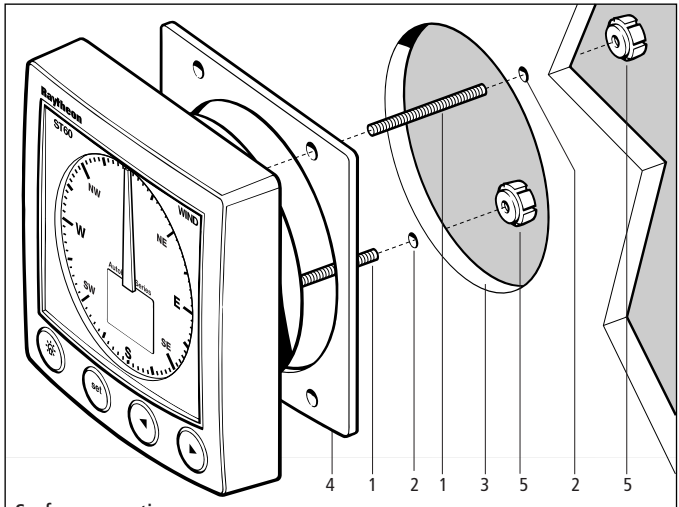
- Surface mounting. Gives a profile of approximately 24 mm.
- Flush mounting. Gives a profile of approximately 6 mm.
- Bracket mounting.

ST60 instruments can also be mounted behind a suitably prepared panel, so that just the instrument dial and keys are visible.

Surface mounting

To surface mount your ST60 instrument (see the *Surface mounting* illustration):

1. Ensure that:
   - The selected location is clean, smooth and flat.
   - There is sufficient space behind the location to accommodate the rear of the instrument and connectors.
2. Apply the surface mount template (supplied at the rear of this handbook) to the selected location and mark the centres for the fixing studs (1) and the aperture (3) that will take the rear casing of the instrument.
3. Drill out the two 5 mm fixing stud clearance holes (2).
4. Cut out the clearance hole (3) then remove the template.
5. Peel off the protective sheet from the self-adhesive gasket (4) then stick the gasket into position on the rear of the instrument.
6. Screw the two fixing studs into the threaded sockets on the rear of the instrument.
7. Mount the assembled instrument, studs, bezel and gasket into the panel. Secure from behind with the thumb nuts (5).



Surface mounting

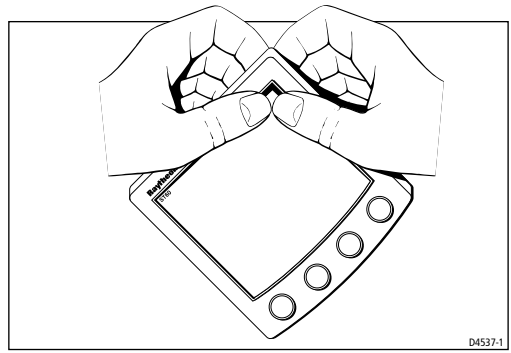
Flush Mounting

The Flush Mounting Kit uses a low-profile bezel to reduce the fitted profile of the instrument, to approximately 6 mm above the panel fascia.

Fitting the low-profile bezel

In order to flush-mount your ST60 instrument, you must first replace the standard bezel with the low-profile bezel as follows:

1. Hold the instrument in both hands with the display towards you.

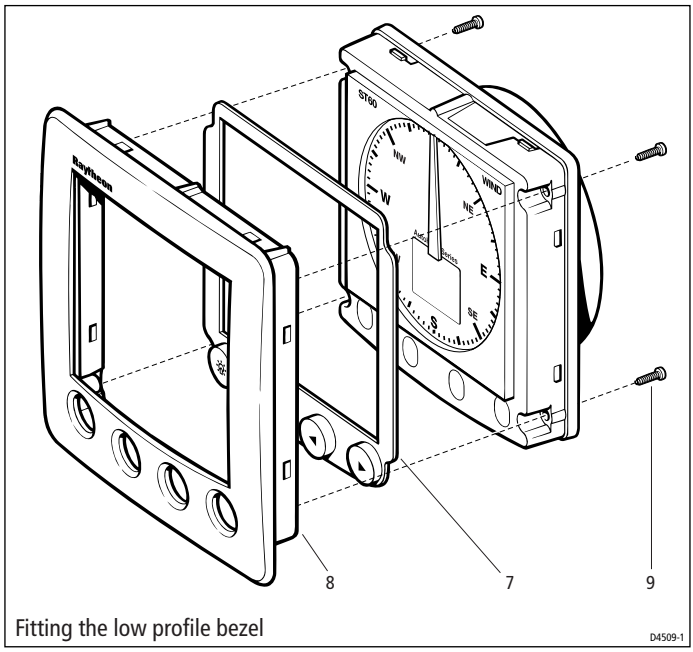


2. Using both thumbs, gently press an upper corner of the instrument from the bezel, then remove the bezel from the instrument. Retain the rubber keypad which is released when the bezel is removed.
3. Place the instrument face upwards on a flat surface and place the rubber keypad (7) in position around the display window (i.e. so that each key outline is located over its associated key on the instrument).
4. Snap the low-profile bezel (8) in position over the instrument, so that the rubber keys are correctly located in the holes on the bezel.

CAUTION:

It is essential that only screws of the correct size are used to secure the instrument to the bezel. Failure to observe this caution could result in damage to both the instrument and the bezel.

5. Using the four, self-tapping screws (9) provided, secure the instrument and bezel together. Fit the screws from the rear of the instrument and tighten them sufficiently to secure the instrument and bezel together. DO NOT OVERTIGHTEN.

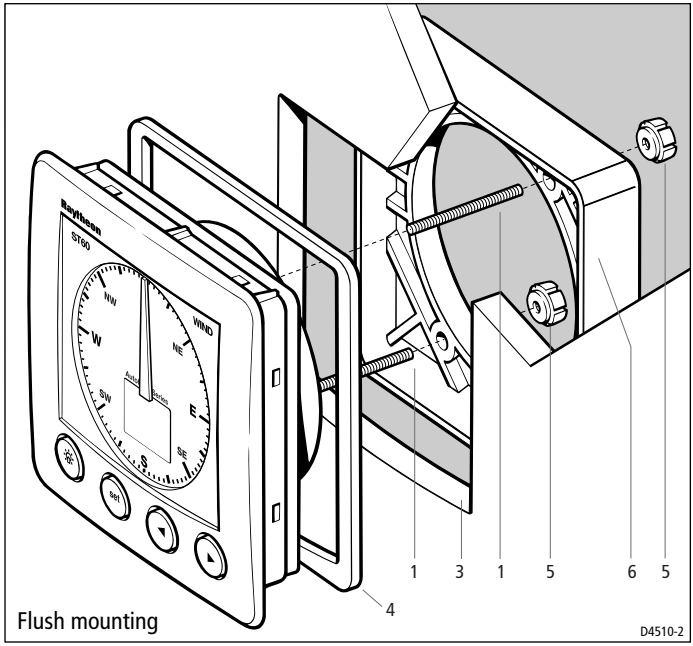


Fitting the low profile bezel

Flush mounting procedure

Flush mount your instrument (see the *Flush mounting* illustration) as follows:

1. Assemble the ST60 instrument and low-profile bezel as described under *Fitting the low-profile bezel*.
2. Ensure that:
   - The panel on which you intend to mount the instrument is between 3 mm and 20 mm thickness.
   - The selected location is clean, smooth and flat.
   - There is sufficient space behind the location to accommodate the rear of the instrument and connectors.
3. Apply the flush mount template (supplied at the rear of this handbook) to the selected location and mark out the aperture into which the assembled instrument and bezel will sit.
4. Cut out the aperture (3) for the assembled instrument and bezel and remove the template.
5. Peel off the protective sheet from the self-adhesive gasket (4) then stick the gasket into position on the rear of the bezel.



Flush mounting

6. Screw the two fixing studs (1) into the threaded sockets on the rear of the instrument.
7. Mount the assembled instrument, studs, bezel and gasket into the panel.
8. Locate the flush mount bracket (6) onto the fixing studs and secure the assembly to the panel with the thumb-nuts (5).

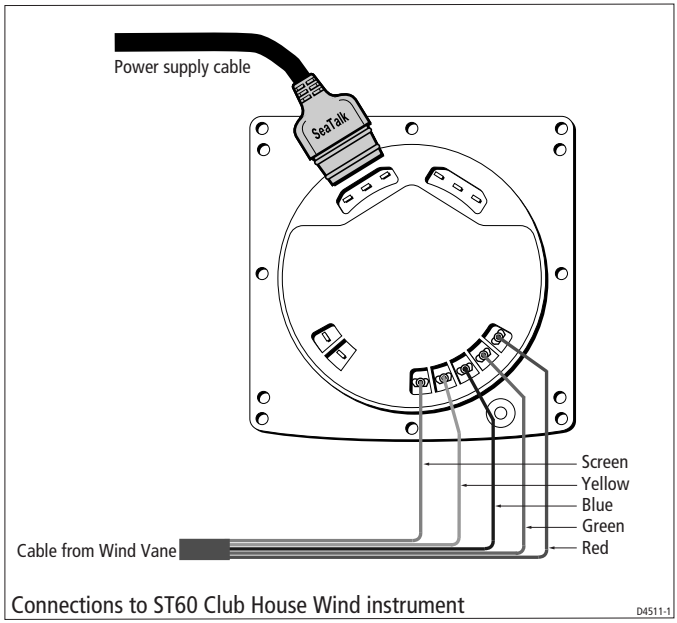
Bracket Mounting Kit

A Control Unit Mounting Bracket (Part No. E25009) enables you to mount your ST60 instrument in locations where other forms of mounting are impractical. Although this provides a useful alternative method for securing your instrument, it is only suitable for use in positions where the instrument will not be exposed to water.

To bracket mount your ST60 instrument, do so in accordance with the Control Unit Mounting Bracket *Instruction Sheet*.

Connections at the instrument

The connections to the ST60 Club House Wind instrument are shown in the following illustration.



Connections to ST60 Club House Wind instrument D4511-1

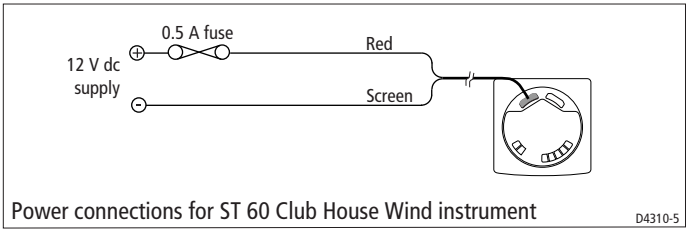
Power supply connections

The ST60 Club House Wind instrument requires a 12 V dc power supply capable of providing at least 2 A and protected by a 0.5 A fuse.

Power cables are available in 2 m and 9 m lengths.

To fit a power cable:

1. Run the cable from the instrument to a suitable 12 V dc power source.
2. If the cable has not already been trimmed at the power supply end:
   a. Cut the cable to length and trim back an appropriate amount of the outer sheath.
   b. Cut back and insulate the yellow wire.



Power connections for ST 60 Club House Wind instrument D4310-5

3. Connect the screen to the power supply 0 v terminal.
4. Connect the red wire via a 0.5 A fuse to the power supply +12 V terminal.

Linearisation

This procedure ensures that the sensors in the Wind Vane are correctly calibrated to record rotation of the Wind Vane, then compensates for any small errors which may exist in the alignment of the wind transducer. As this procedure necessitates manual rotation of the Wind Vane, carry out this procedure, before fitting the Wind Vane in its operational location.

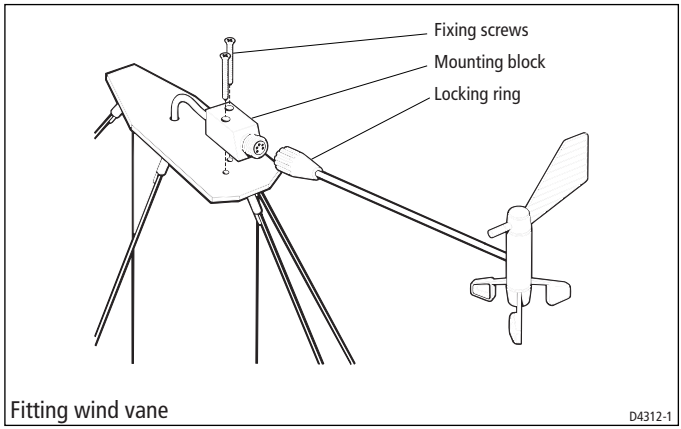
To carry out the linearisation and alignment procedure:

1. Referring to the *Connections to ST60 Club House Wind instrument* illustration, temporarily connect the Wind Vane to the instrument.
2. Power-up the ST60 Club House Wind instrument.
3. Manually rotate the vane for two rotations, so that each rotation takes approximately 15 seconds. This procedure automatically linearises the windvane. A successful linearisation is indicated by the digital display flashing and the buzzer sounding three beeps.

Fitting the Wind Vane

A Wind Vane is typically mounted on a mast top, as follows:

1. With the threaded end of the windvane mounting block facing forwards, mark the position of the two self-tapping screws.
2. Drill two holes using the 4 mm (5/32 in) drill bit (supplied).
3. Apply sealing compound to the bottom of the mounting block.
4. Secure the mounting block to the mast top using the two fixing screws.
5. Insert the windvane into the mounting block connector and tighten the locking ring securely by hand.

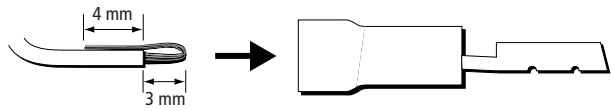


Fitting wind vane D4312-1

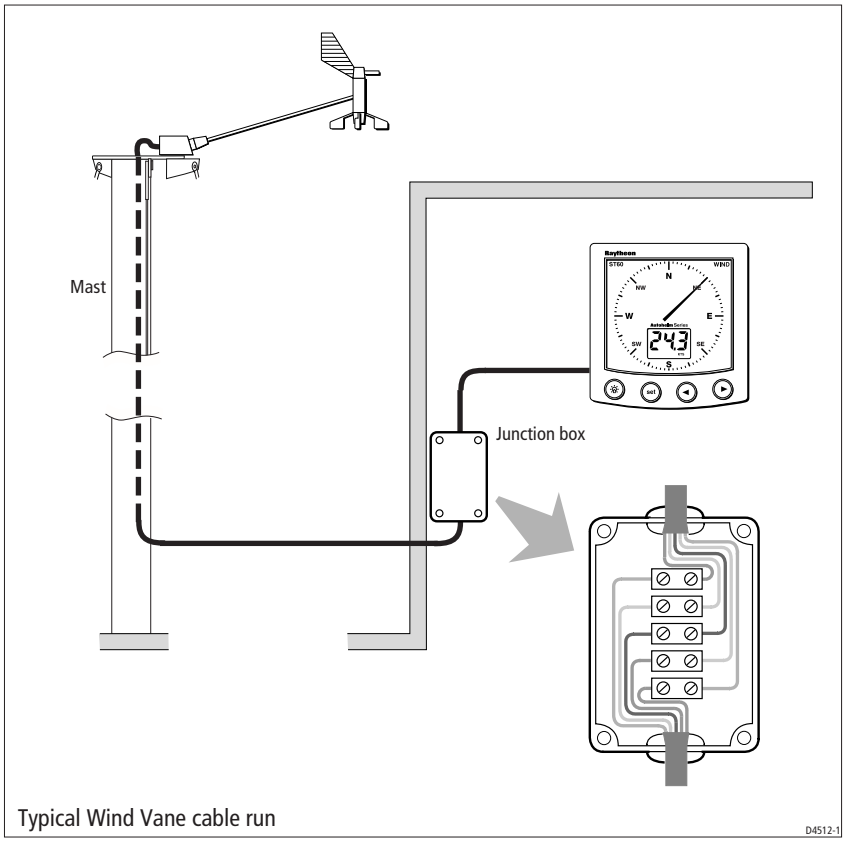
Running transducer cable

The Wind Vane is supplied with sufficient cable already connected, to run from the mounted position to the ST60 Club House Wind instrument. The manner in which you run the cable will depend on the locations of the transducer and instrument. The following guidelines are provided:

- Where cables are fed through holes, always use grommets to prevent chafing.
- Secure long cable runs so they do not present a hazard.
- The transducer cable is fitted with spade connectors for direct connection to the rear of the instrument. However, it may be necessary to remove these to facilitate installation, e.g. if you want incorporate a junction box in the cable run or if the cable has to be routed through narrow apertures. Extra spade connectors are provided, to replace any that are removed when running the cable. In order to ensure a secure connection when fitting spade connectors, fold back the wire strands as shown in the following illustration, before inserting the wire in the spade connector. Ensure the wire strands do not extend beyond the rear of the spade connector insulation.



Preparing wire for connection D4467-2



Typical Wind Vane cable run

Referring to the *Connections to ST60 Club House Wind instrument* illustration, connect the Wind Vane cable to the instrument.

Chapter 3: Calibration

3.1 Introduction

The ST60 Club House Wind instrument is set up with factory-programmed default settings, so in order to optimise performance at a particular installation, the procedures in this Chapter must be carried out immediately after the completion of installation.

Where practicable, the calibration procedures are presented diagrammatically to show the sequence of key presses and the resulting displays. Adjustment instructions are given as applicable.

EMC conformance

Always check the installation before use to make sure that it is not affected by radio transmissions or other external electro-magnetic influences.

In some installations, it may not be possible to prevent the equipment from being affected by external electro-magnetic influences. Although this will not damage the equipment, it can lead to spurious resetting action, or momentarily may result in faulty operation.

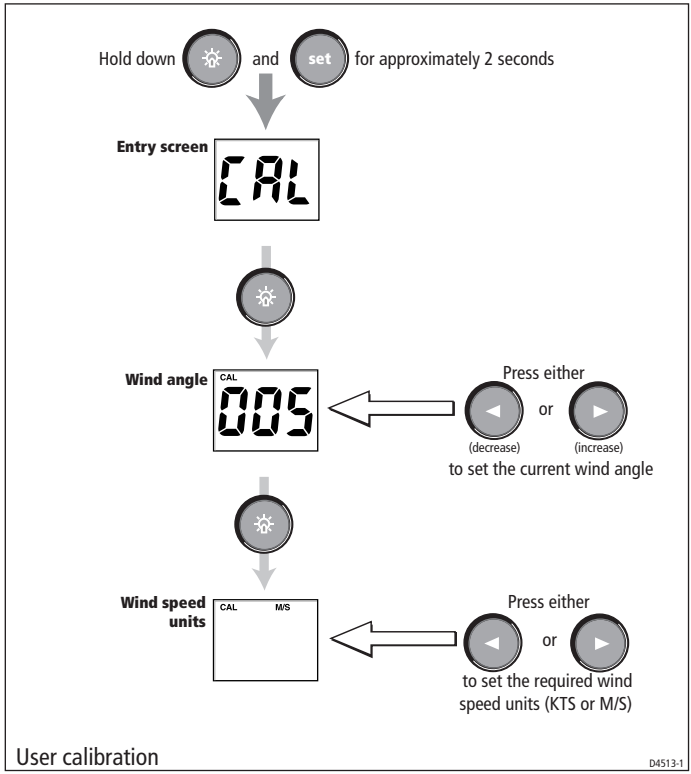
3.2 User calibration

The User calibration procedure enables you to align the wind transducer and select the required wind speed units.

To calibrate your system, hold down the ☼ and **set** keys for approximately 2 seconds to enter the calibration mode, then press the ☼ key to select the wind angle screen. This initially shows zero.

Referring to the *User calibration* flow diagram, proceed as follows:

1. Observe the wind vane to determine the wind direction.
2. At the instrument, use the **<** and **>** keys to set the pointer to the current wind direction, As you do this, the wind angle screen (on the digital display) shows the wind vane offset angle.
3. Press the ☼ key to select the wind speed units screen.
4. Use the **<** and **>** keys to select the units you want, either knots (KTS) or metres per second (M/S).



Leaving User calibration

Hold down the ☼ and **set** keys for 2 seconds to save your settings, exit calibration and resume normal operation.

3.3 Intermediate calibration

The intermediate calibration screen enables you to check the instrument software version number. This information is normally required if you request parts or repairs

To check the instrument software version number, hold down the ☼ and **set** keys for approximately 4 seconds.

Hold down the ☼ and **set** keys for 2 seconds to resume normal operation.

3.4 Dealer calibration

The Dealer calibration procedures enable the following parameters to be set:

- Wind angle and speed response.
- Wind speed calibration.
- Boat show mode on/off.

Dealer calibration also gives access to the Factory defaults screen. This enables you to re-apply the factory settings if you want to reset the instrument to a known operating condition.

To commence Dealer calibration, hold down the ☼ and **set** keys together for approximately 12 seconds, to select the Dealer calibration entry page (see *Dealer calibration* diagram, sheets 1 and 2). Then momentarily press the **<** and **>** keys to proceed with the calibration. As the calibration progresses, use the ☼ key to move from screen to screen.

Response settings

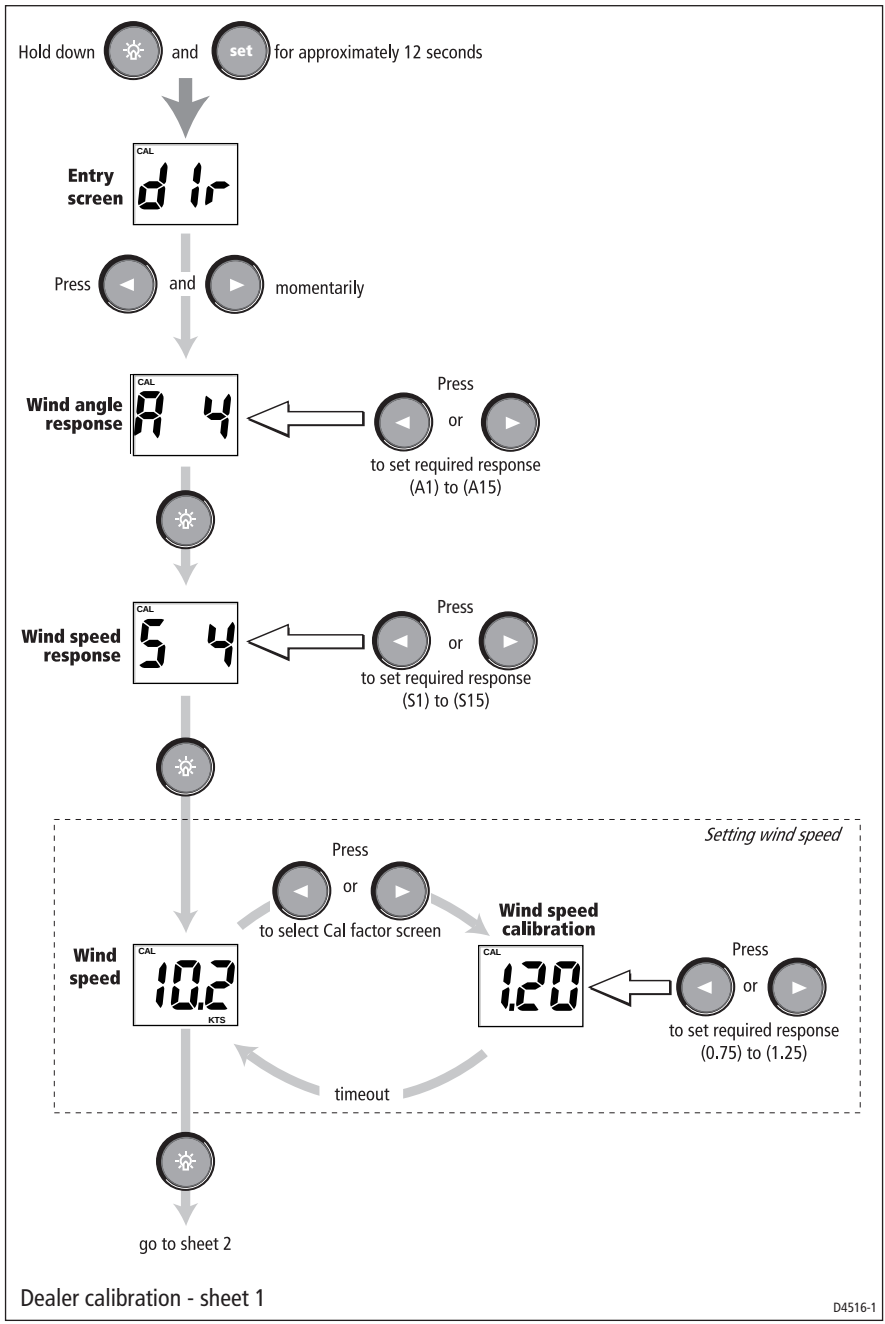
The response values for wind speed and angle, determine the frequency at which information is updated. A low number provides a smooth response and a high number a much livelier response with rapid pointer movement.

Use the **<** (decrement) and **>** (increment) keys to set the required value. Response values are from 1 to 15.

Wind speed

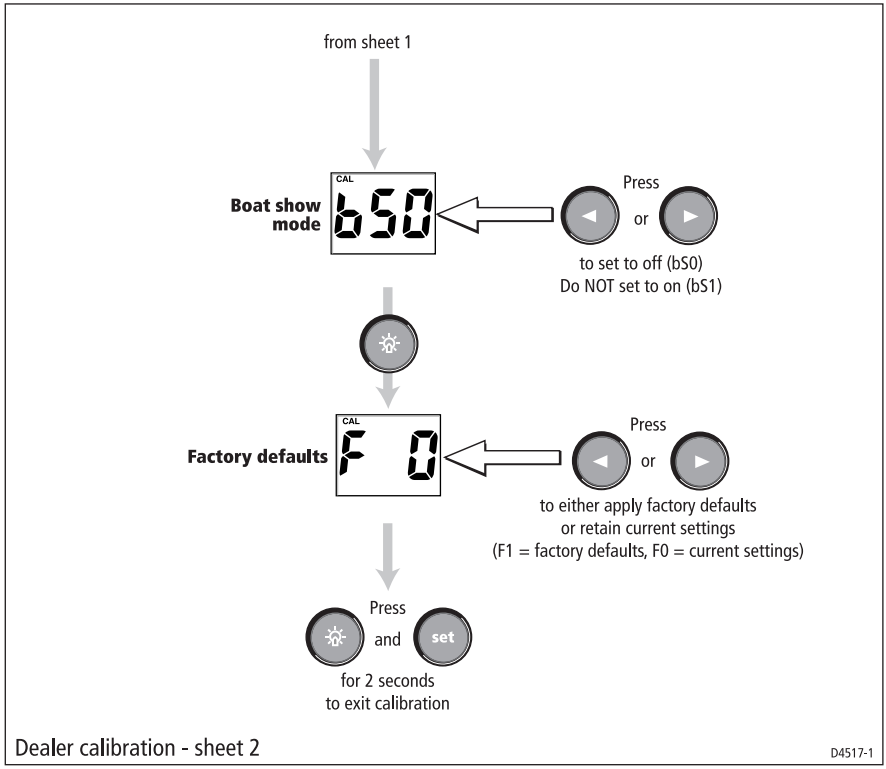
The Wind speed and Wind speed calibration screens are used to set the correct value for the wind speed. On entry (from the Wind speed response screen), the current value for wind speed is displayed. Set the correct wind speed value, by applying a calibration factor as follows:

1. Use the **<** (decrement) and **>** (increment) keys to switch from the Wind speed screen to the Wind speed calibration screen.
2. Use the **<** (decrement) and **>** (increment) keys to set the wind speed calibration factor. Calibration factor values range from 0.75 to 1.25 in 0.01 steps.
3. Timeout to the Wind Speed screen, and if further adjustment is necessary, repeat steps 1 and 2.



Dealer calibration - sheet 1

D4516-1



Boat show mode (bS0)

CAUTION:

Do NOT enable this mode. It must only be used for demonstration purposes.

Ensure that the Boatshow Mode is set to bS0 (disabled). If necessary, press the **<** or **>** key to achieve this.

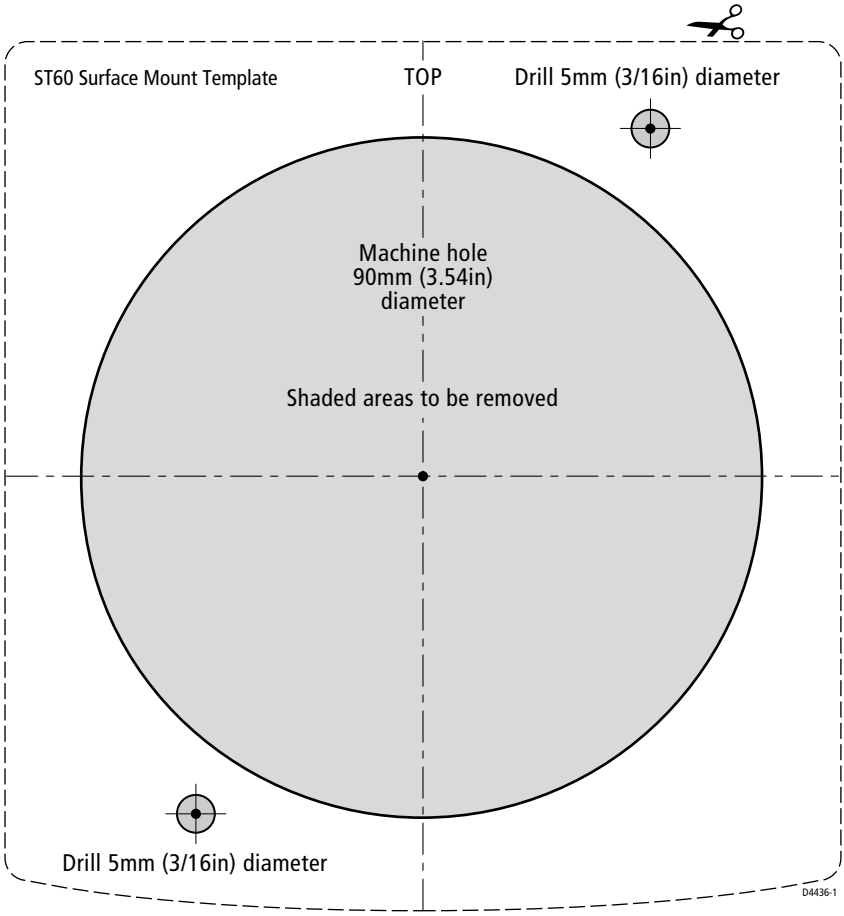
Factory reset (F0)

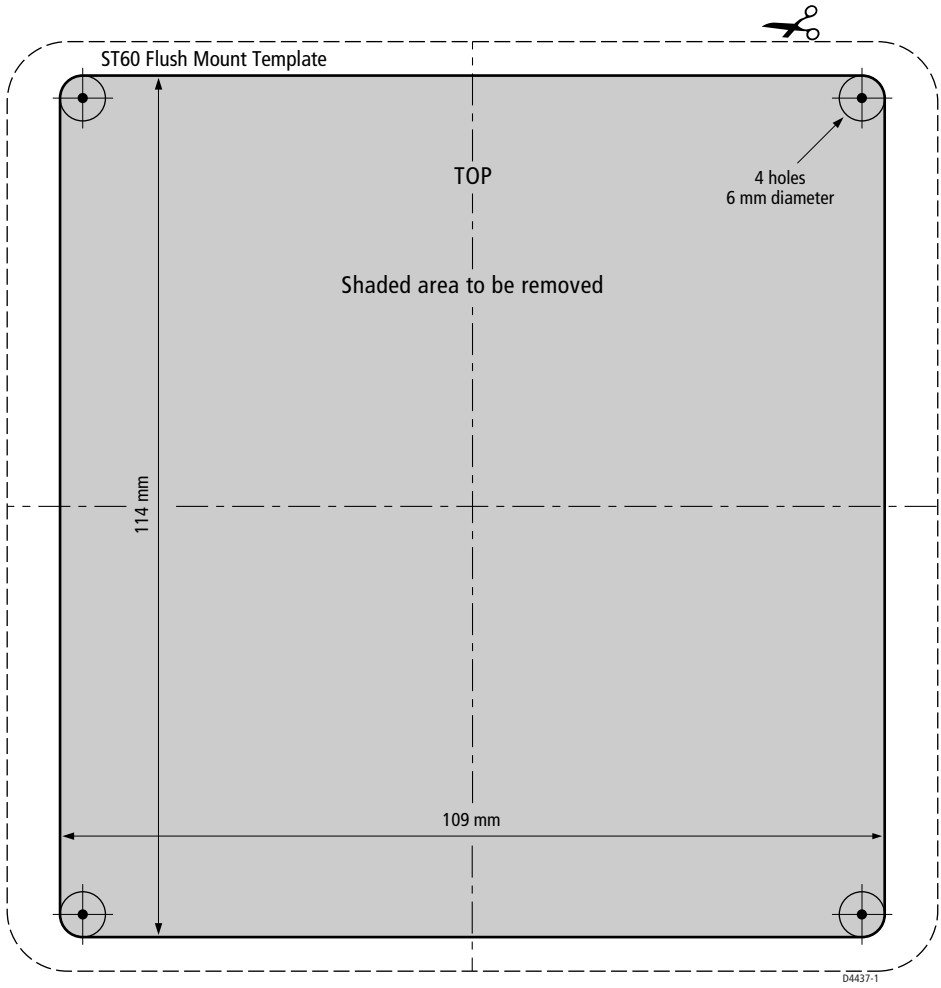
You can use this screen to reset the operating parameters to the factory default values. If you want to apply the factory defaults, ensure the display shows F1. If you want to retain the values you have set up, ensure that the display shows F0. Use the **<** and **>** keys to make the required selection.

The values you have selected will be applied when you exit this screen.

Leaving Dealer calibration

Hold down the ☼ and **set** keys for 2 seconds to save your changes, exit Dealer calibration and resume normal operation.


ST60 Surface Mount Template
TOP
Drill 5mm (3/16in) diameter
Machine hole
90mm (3.54in)
diameter
Shaded areas to be removed
Drill 5mm (3/16in) diameter
D4436-1


ST60 Flush Mount Template
TOP
4 holes
6 mm diameter
Shaded area to be removed
114 mm
109 mm
D4437-1

Limited Warranty Certificate

Raytheon Marine Company warrants each new Light Marine/Dealer Distributor Product to be of good materials and workmanship, and will repair or exchange any parts proven to be defective in material and workmanship under normal use for a period of 2 years/24 months from date of sale to end user, except as provided below.

Defects will be corrected by Raytheon Marine Company or an authorized Raytheon dealer. Raytheon Marine Company will, except as provided below, accept labor cost for a period of 2 years/24 months from the date of sale to end user. During this period, except for certain products, travel costs (auto mileage and tolls) up to 100 round trip highway miles and travel time of 2 hours, will be assumed by Raytheon Marine Company only on products where proof of installation or commission by authorised service agents, can be shown.

Warranty Limitations

Raytheon Marine Company Warranty policy does not apply to equipment which has been subjected to accident, abuse or misuse, shipping damage, alterations, corrosion, incorrect and/or non-authorized service, or equipment on which the serial number has been altered, mutilated or removed.

Except where Raytheon Marine Company or its authorized dealer has performed the installation, it assumes no responsibility for damage incurred during installation.

This Warranty does not cover routine system checkouts or alignment/calibration, unless required by replacement of part(s) in the area being aligned.

A suitable proof of purchase, showing date, place, and serial number must be made available to Raytheon Marine Company or authorized service agent at the time of request for Warranty service.

Consumable items, (such as: Chart paper, lamps, fuses, batteries, styli, stylus/drive belts, radar mixer crystals/ diodes, snap-in impeller carriers, impellers, impeller bearings, and impeller shaft) are specifically excluded from this Warranty.

Magnetrons, Cathode Ray Tubes (CRT), hailer horns and transducers are warranted for 1 year/12 months from date of sale. These items must be returned to a Raytheon Marine Company facility.

All costs associated with transducer replacement, other than the cost of the transducer itself, are specifically excluded from this Warranty.

Overtime premium labor portion of services outside of normal working hours is not covered by this Warranty.

Travel cost allowance on certain products with a suggested retail price below $2500.00 is not authorized. When/ or if repairs are necessary, these products must be forwarded to a Raytheon Marine Company facility or an authorized dealer at owner's expense will be returned via surface carrier at no cost to the owner.

Travel costs other than auto mileage, tolls and two (2) hours travel time, are specifically excluded on all products. Travel costs which are excluded from the coverage of this Warranty include but are not limited to: taxi, launch fees, aircraft rental, subsistence, customs, shipping and communication charges etc..

Travel costs, mileage and time, in excess to that allowed must have prior approval in writing.

TO THE EXTENT CONSISTENT WITH STATE AND FEDERAL LAW:

(1) THIS WARRANTY IS STRICTLY LIMITED TO THE TERMS INDICATED HEREIN, AND NO OTHER WARRANTIES OR REMEDIES SHALL BE BINDING ON RAYTHEON MARINE COMPANY INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABLE OR FITNESS FOR A PARTICULAR PURPOSE.

(2) Raytheon Marine Company shall not be liable for any incidental, consequential or special (including punitive or multiple) damages.

All Raytheon Marine Company products sold or provided hereunder are merely aids to navigation. It is the responsibility of the user to exercise discretion and proper navigational skill independent of any Raytheon equipment.

United States of America
Raytheon Marine Company
Recreational Products
676 Island Pond Road
Manchester, NH 03109-5420
U.S.A.

Tel 603-647-7530
Fax 603-634-4756

UK, Europe, Middle East, Far East
Raytheon Marine Company
Recreational Products
Anchorage Park, Portsmouth
PO3 5TD, England

Tel (44) 1705 693611
Fax (44) 1705 694642
Fax Customer support (44) 1705 661228

Raytheon

Factory Service Centers

United States of America
Raytheon Marine Company
address as above

UK, Europe, Middle East, Far East
Raytheon Marine Company
address as above

Stick barcode label here

Purchased from _____ Purchase date _____

Dealer Address _____

_____

Installed by _____ Installation date _____

Commissioned by _____

_____ Commissioning date _____

Owner's name _____

Mailing address _____

_____

This portion of card should be completed and retained by the owner.