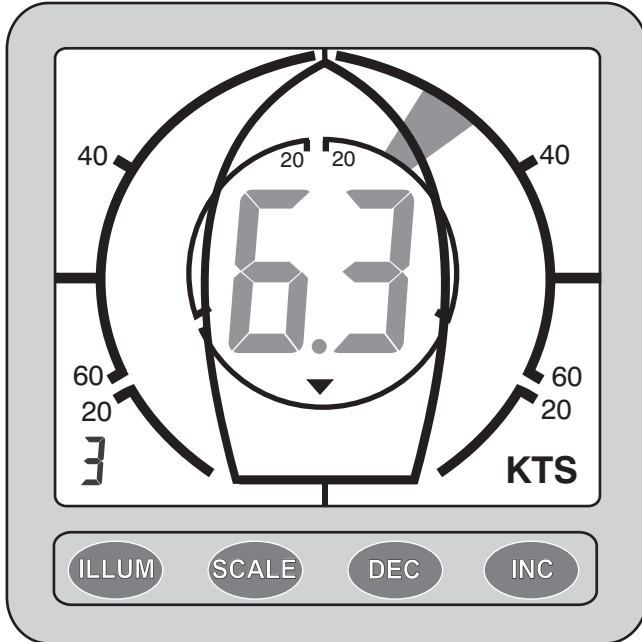




DESIGNED AND  
MANUFACTURED  
IN ENGLAND



# *CLIPPER* **REPEATERS**

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## **INTRODUCTION**

Clipper Repeater units are supplied with a standard mounting kit. They are also supplied with attached 5 or 10 metre leads which plugs into the rear socket on the master units. They require no other connections, because they get their power and signals from the master units, which are in turn powered by the vessel's power supply. Clipper Repeater units must be matched to the master units they are connected to.

The Clipper range of repeaters offers intelligent operation so the repeater can be configured to operate in different modes to the master. For example, the backlight setting is independently controllable on all types. The Log can display any of the three options (speed, total distance, and Trip distance) whatever is being displayed on the master. The Wind speed and Direction repeater can display any speed and pointer type, and the Compass can offer assisted steering commands and alarms which are fully independent of the master unit.

## **PRE-TEST OF INSTRUMENT**

Before mounting any repeater unit, check that the instrument is complete and undamaged. Plug the lead from the repeater into the back of the master unit and apply 12 volts. Confirm that a reading is shown on both the displays.

## **INSTALLING THE REPEATER UNIT**

Select a convenient position for the repeater on a panel or bulk-head. The site must be flat and the cavity behind the panel must remain dry at all times. (The cable entry is deliberately not sealed to ensure adequate ventilation. This prevents misting of the display).

Cut a hole in the panel 67mm high and 87mm wide. Pass the attached cable through the hole ready for routing to the master unit.

Unscrew and remove the wing nut from the rear of the instrument and remove the stainless steel clamping bracket. Fit the "O" ring seal into the groove in the panel mounting face of the instrument. Ensure that it is correctly lying in its groove before fitting the instrument to the panel, which provides the watertight seal for the display.

Fit the instrument into the panel, fit the stainless clamp over the stud, fit and tighten the wing nut finger tight only.

It is important that the O-ring rubber seal makes good contact with the panel to prevent water getting behind the unit and entering the cavity behind the panel.

It is good practice to run the cables vertically downwards from the unit, even if they later have to rise to connect to the master unit. Doing so prevents any water that might get onto the cables from running back along the cables and into the unit.

## **NORMAL OPERATION - ALL UNITS**

When power is applied to the master unit, the repeater unit runs its own self-test procedures, and commences repeating the master's display when the master unit's self tests are complete. If Engineering is being done on the Wind or Compass master units, the repeater does not display the progress, but shows "On" to show that it is waiting for normal operation to begin in the master unit.

## **CHANGING THE BACKLIGHT SETTING**

Backlighting is provided to allow the unit to be seen at night. In the same way as for the master units, the backlit area is restricted in the top corners of the display to concentrate the lighting in the areas of interest. The brightness of the backlighting can be adjusted at any time independently of the backlight setting of the master unit. The brightness is adjusted by pressing the ILLUM button. Each press of the button increases the brightness by one in the range 0 to 7, shown by the backlight indicator in the bottom left of the Repeater display.

A setting of zero switches the backlighting off. In common with all the other settings in the unit, the backlight setting is stored even when the unit is off, so that it returns to the chosen setting whenever the unit is powered up again.

## **ENGINEERING - ALL UNITS**

Engineering settings means those adjustments which seldom need changing, but which affect how the unit operates. The settings (as are all those which can be selected in normal operation too) are stored even when the power is disconnected. The available Engineering settings depend on the Repeater unit, as follows.

In the Clipper Echosounder repeater, no Engineering settings can be done, so that there can be no confusion between the master and repeater. The settings of the gain delay, feet or metres, and the choice of keel or surface depth display can be selected only by the master unit.

In the Clipper Log repeater, no Engineering settings can be done, to prevent errors confusion between the two units.

In the Clipper Wind Repeater, no Engineering functions are available, because the dead-ahead position should be set from the master unit alone. Alteration of the pointer style is available at the repeater because it is not an Engineering setting.

In the Clipper Close-Hauled Display no Engineering settings are available.

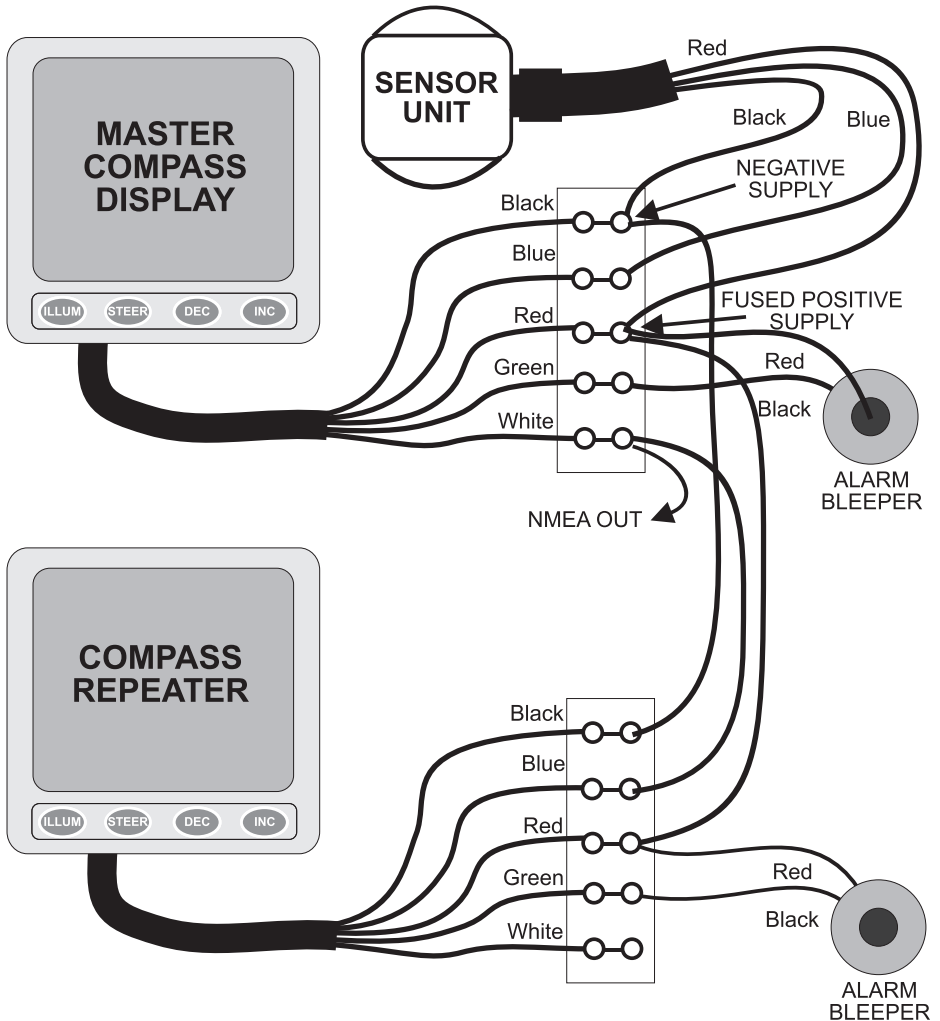
In the Clipper Compass Repeater, all of the Engineering functions are available. Magnetic or True variation is not available. This restriction is to ensure that the master and Repeater cannot be at odds in their heading indication.

For full details of Engineering functions refer to the Clipper Compass Manual.

## COMPASS REPEATER OPERATION

The Clipper Compass Repeater is a fully independent display with all of the functions of the master unit.

Connect the repeater as per the wiring diagram below. Note - if a magnetic variation value is programmed in the master unit, ensure the repeater is set to the same value. Follow the Clipper Compass instructions to complete this function.



## WIND SPEED AND DIRECTION REPEATER OPERATION

The operation of the Wind master unit is fully described in its Instruction Handbook. Most of the facilities available in the master unit are available in the repeater, as described below. However, it is not possible to perform any Engineering adjustments (such as vane alignment and damping factor) to the system from the Repeater. No Engineering facility is offered in the Wind Repeater.

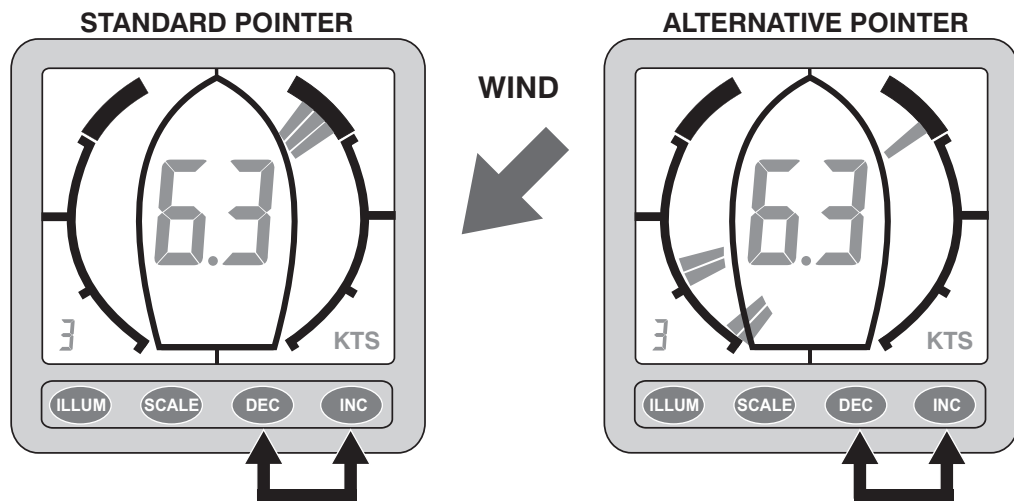
### CHANGING THE POINTER SIZE

The width of the wind direction pointer can be selected by the user. Press the INC button to increase the pointer width. Press the DEC button to reduce the pointer width.

### CHANGING THE POINTER STYLE

An alternative pointer is available which resembles a mast head indicator. Press the DEC and INC buttons simultaneously to change to the alternative pointer style at any time. Press the DEC and INC buttons again to change back to the standard pointer.

Note that no width adjustment of the standard pointer is available when the alternative pointer is selected.

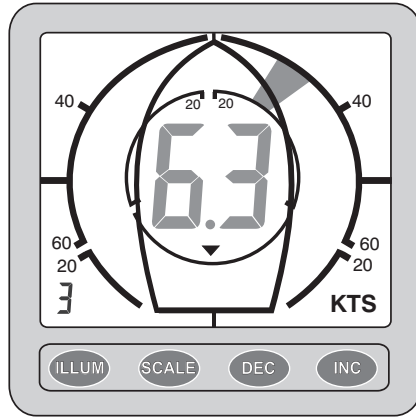


**Setting the Arrow pointer style**

### CHANGING THE SPEED SETTING

The Clipper Wind Repeater can display wind speed measurements in miles per hour (MPH), nautical miles per hour (knots, shown as KTS), and metres per second (m/s). Pressing SCALE switches between knots, miles per hour, and metres per second. The choice is always saved so the unit operates as set whenever it is powered up again, and is not dependent on the setting of the master unit.

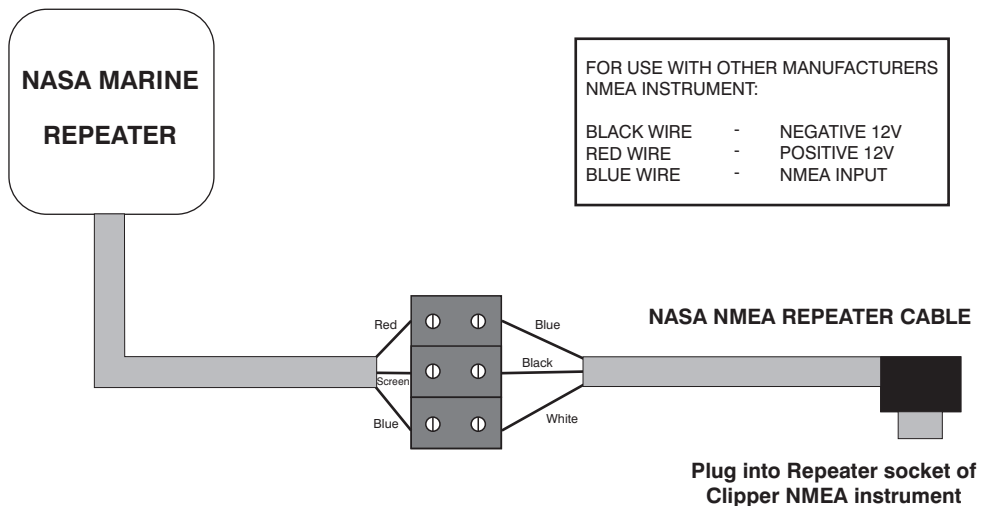
## CLOSE HAULED REPEATER OPERATION



The Close-Hauled Repeater has a non-linear scaling. Between 20 degrees relative wind to Port and Starboard, the repeater pointer is parked dead ahead. Between 20 degrees and 60 degrees to Port and Starboard, the pointer moves in 2-degree steps (while the master always moves in 6-degree steps). Between 60 and 150 degrees to Port and Starboard, the pointer is parked at the appropriate 120 degree Port or Starboard position. Between 30 degrees to Port and Starboard of dead astern, the pointer again moves in 2 degree steps. The parking positions are marked by breaks in the coloured bands.

The pointer size, pointer style and speed settings can be selected as per wind repeater instructions in previous chapters.

## CLOSE HAULED AND WIND SPEED AND DIRECTION REPEATER CONNECTIONS



## *LOG REPEATER OPERATION*

### **GETTING STARTED**

When the Clipper Log is first turned on with the Repeater connected, it automatically performs a number of self-test processes, and after a brief delay switches on the backlight illumination at the factory pre-set level. The Repeater then displays the word "on" until it acquires data from the master unit.

### **SETTING A SPEED ALARM**

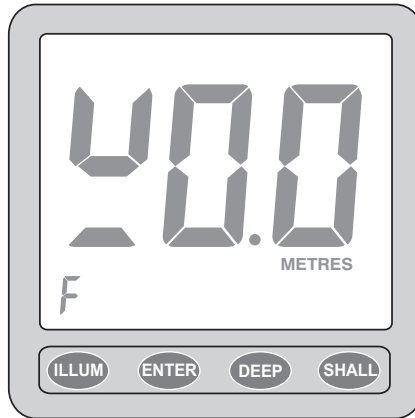
At any time during normal operation of the unit it is a simple matter to set an alarm to sound when the vessel's speed reaches or exceeds the selected speed.

Press the SET key to enter speed alarm setting mode. The present setting is shown. If no alarm is set, the word "off" is displayed. If an alarm is set, the display shows the speed at which it will sound. Press INC to increase the setting, and DEC to reduce it. Keeping either key pressed continues to increase or decrease the setting until it is released. If the setting falls to zero, "off" is shown. The maximum setting is 99.9.

## *ECHOSOUNDER REPEATER OPERATION*

### **GETTING STARTED**

When the Clipper Echosounder Repeater is first turned on, it automatically performs a number of self-test processes, and after a brief delay switches on the backlight illumination at the factory pre-set level. It then displays a symbol representing the master unit's keel offset for about a second.



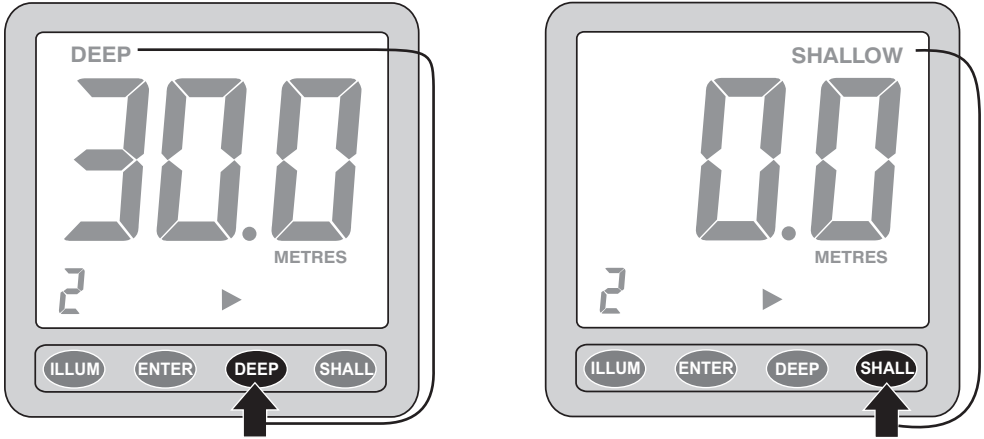
Under all normal circumstances the repeater shows the same as the master unit. If Engineering is being done on the master unit, the repeater displays the progress. No Engineering settings are available on the Echosounder Repeater.



## CHANGING DEPTH ALARM SETTINGS

At any time during normal operation of the unit, it is a simple matter to set an alarm for too shallow and another alarm for too deep. The alarm settings can be different from the setting of the master's alarm setting.

To set up the deep alarm depth (below which an alarm will sound), press the DEEP button to show the present deep alarm setting. The display shows the word DEEP, and the present deep alarm depth. The factory pre-set deep alarm setting is 50 metres. Press the DEEP button to make the deep alarm depth deeper, and the SHALL button to make the deep alarm depth shallower.



### **Selecting Deep or Shallow Alarm Setting**

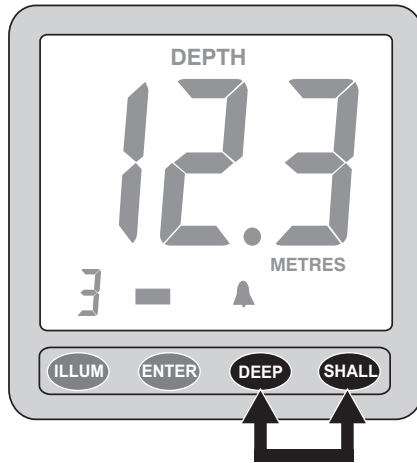
If the SHALLOW button is pressed steadily, the setting reduces continually in 1.5 foot or 0.5 metre steps. If the DEEP button is pressed steadily, the setting increases in 1.5 foot or 0.5 metre steps. The step size depends on whether the master unit is set to measure feet or metres.

If the deep alarm depth setting reaches 99.5m, or attempts to pass the shallow alarm setting, it stops changing. When the desired alarm depth is set, press ENTER to store the deep alarm depth setting. The display returns to measuring depth.

In the same way, pressing the SHALL button during echo-sounding switches to setting the shallow alarm depth. The word SHALLOW is shown, and the shallow alarm setting depth is displayed. The factory pre-set shallow alarm depth is zero. Pressing the DEEP button makes the alarm depth setting deeper, and pressing the SHALL button makes the setting shallower. If an attempt is made to increase the shallow setting below the deep alarm setting, or to reduce it to less than zero, the settings no longer change. Press ENTER to store the shallow alarm depth setting, whereupon the display returns to displaying the depth measurement from the master unit.

## ACTIVATING DEPTH ALARMS

At any time, the deep and shallow alarms may be activated or de-activated together at the set levels by pressing the DEEP and SHALL buttons together. When alarms are active, a bell symbol is displayed, but is absent when alarms are de-activated. Whenever the measured (and averaged) depth is at, or shallower than, the shallow alarm setting, the alarm sounds, and the word SHALLOW is shown. Whenever the measured (and averaged) depth is at, or deeper than, the deep alarm setting, the alarm sounds, and the word DEEP is shown.



### ***Activating and de-Activating the Alarms***

The alarm can be stopped either by moving the vessel so the depth is between the settings, by altering the alarm settings themselves, or by de-activating alarms by pressing DEEP and SHALL together again. Each press of DEEP and SHALL together switches the alarm on or off.

## IMPORTANT READ THIS BEFORE UNPACKING INSTRUMENT

Prior to unpacking this instrument read and fully understand the installation instructions. Only proceed with the installation if you are competent to do so. Nasa Marine Ltd. will not accept any responsibility for injury or damage caused by, during or as a result of the installation of this product. Any piece of equipment can fail due to a number of causes. Do not install this equipment if it is the only source of information and its failure could result in injury or death. Instead return the instrument to your retailer for full credit. Remember this equipment is an aid to navigation and not a substitute for proper seamanship. This instrument is used at your own risk, use it prudently and check its operation from time to time against other data. Inspect the installation from time to time and seek advice if any part thereof is not fully seaworthy.

### LIMITED WARRANTY

Nasa Marine Ltd. warrants this instrument to be substantially free of defects in both materials and workmanship for a period of one year from the date of purchase. Nasa Marine Ltd. will at its discretion repair or replace any components which fail in normal use within the warranty period. Such repairs or replacements will be made at no charge to the customer for parts and labour. The customer is however responsible for transport costs. This warranty excludes failures resulting from abuse, misuse, accident or unauthorised modifications or repairs. In no event shall Nasa Marine Ltd. be liable for incidental, special, indirect or consequential damages, whether resulting from the use, misuse, the inability to correctly use the instrument or from defects in the instrument. If any of the above terms are unacceptable to you then return the instrument unopened and unused to your retailer for full credit.

Name \_\_\_\_\_

Address \_\_\_\_\_

Dealer Name \_\_\_\_\_

Address \_\_\_\_\_

Date of Purchase \_\_\_\_\_

**Proof of purchase may be required for warranty claims.**

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