DESIGNED AND MANUFACTURED IN ENGLAND

YACHT REPEATER

INSTALLATION AND USER INSTRUCTIONS

NASA MARINE INSTRUMENTS

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NASA YACHT REPEATER

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NASA MARINE YACHT REPEATER

INTRODUCTION.

The NASA Marine Yacht Repeater displays essential navigation information from a range of NMEA-0183 enabled devices. The large LCD display is easy to read at a distance and over a wide viewing angle. For night viewing the characters glow red on a black background producing a very sharp image without compromising the crew's night vision.

Selection of data and back-light intensity are performed using a waterproof wireless remote control unit. The weatherproof display is designed to mount on a mast or other structure on a vessel and connects, via a three way screened cable, to the data control box which is sited below deck. The data control box connects to the vessel's 12 volt supply and has inputs for up to six NMEA instruments.

INSTALLATION.

After selecting a position where the display can be easily seen, the unit is attached to the mast by means of two stainless steel mounting brackets. The brackets can be shaped as required before being screwed to the rear of the instrument with the six M4 stainless screws.

For a wide mast the brackets should be fitted as shown in Fig 1a and for a narrower mast fitted as in Fig 1b. To fit to a bulkhead the brackets can be shaped as Fig 1c.
Do not attempt to bend the brackets using the instrument as a lever but fully shape the bracket before attaching the display. When attaching the brackets to the mast be sure to use appropriate screws or rivets that do not foul other mast hardware. It is recommended that a sealant is used between the brackets and mast to prevent corrosion.

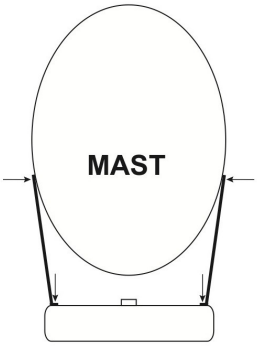

FIG 1a

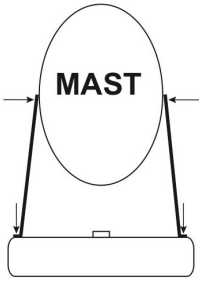

FIG 1b

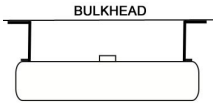

FIG 1c

Run the cable down the mast and through a waterproof gland to the data control box. The data control box is not waterproof and must be mounted in a position that is dry at all times.

Connect the display cable and the power cable to the data control box as shown in Fig-2.

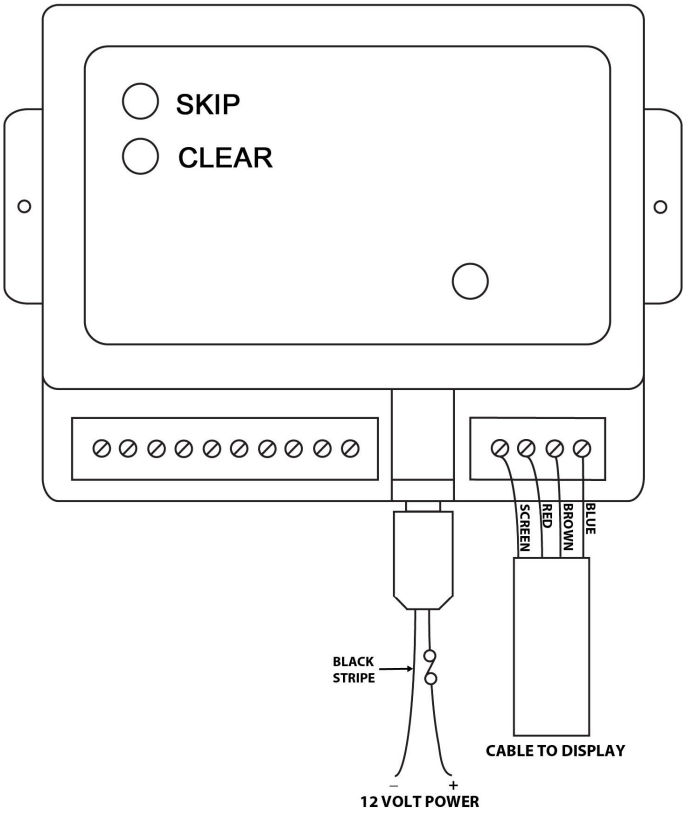

FIG 2

CONNECTING THE NMEA INPUTS

The data control box has six NMEA-0183 inputs. Four are single wire inputs which are referenced to ground (supply negative). Two are two wire inputs and have separate reference inputs which can be connected to ground if desired.

For NMEA enabled instruments with a single output (i.e. With no reference output) then connect a single wire from the NMEA OUTPUT to any of the four NMEA inputs of the data box. If the instrument has an NMEA OUTPUT + and an NMEA OUTPUT-(ref) then use two wires to connect the outputs to the corresponding two wire input of the data control box. A typical setup is shown in Fig-3. (note, one of the two wire inputs is shown with its reference connected to ground, converting it into a single wire input.)

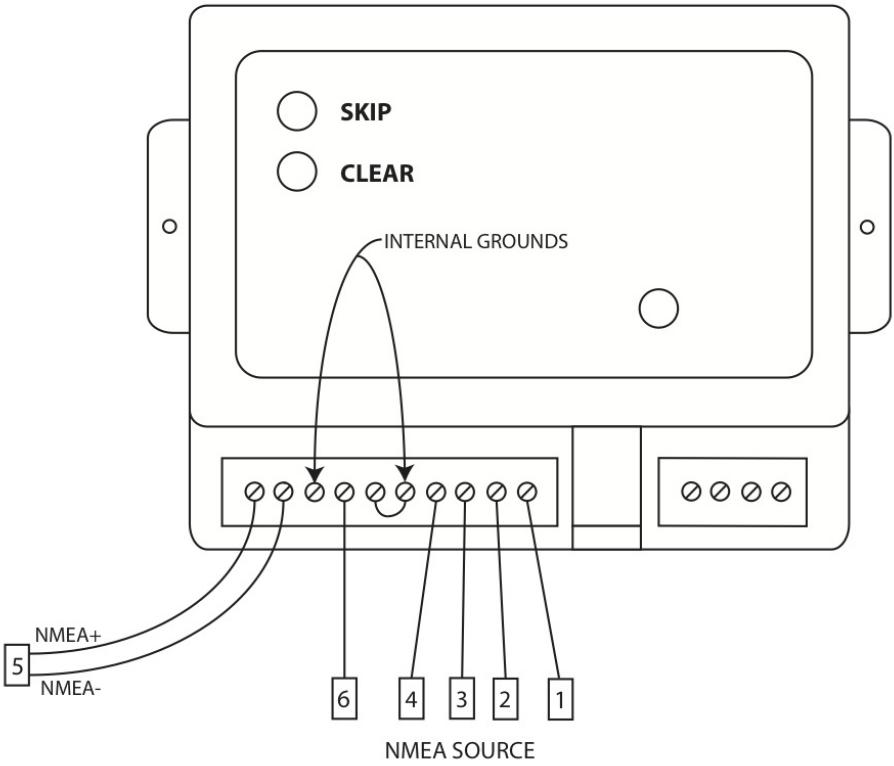

FIG 3

When power is turned on the unit will first display information from input 1. Subsequent presses of the CH+ key will step through all the available data on that input channel then move to the next input channel.

THE REMOTE CONTROL

The remote control is powered by three AAA batteries. These can be zinc carbon, alkaline, nickel metal hydride or nicad, though different batteries should not be mixed.

To install the batteries, first carefully unscrew the four screws and remove the back cover. Fit the batteries with the polarity as indicated on the battery holder and replace the back cover. When replacing the back cover ensure that the "O" ring seal is in place (With its overlap at the bottom.) and the four screws are fitted with sealing rings and properly tightened. To prevent battery deterioration or leakage it is recommended that the batteries are replaced at intervals no greater than two years.

The remote is an infra red device and must be directed at the display when in use. Use the ✹+ or ✹− keys to increase or decrease the backlight intensity and use the CH + or CH− keys to cycle up or down through the data fields. The red LED on the remote will flash to confirm each key press.
Pressing ✹− and CH− simultaneously will switch to the test mode where the display unit will show the NMEA sentence headers it is receiving.

USING THE TEST FACILITY.

To determine which NMEA messages are available on the input channels, first put the unit into test mode by simultaneously pressing ✹− and CH− . The unit will now display the current channel number and the first NMEA message type. (Note The large digits are made up of seven elements and cannot display some characters. Refer to table 1 for substitution characters.) Pressing CH− and CH+ allows you to scroll through all message types on all input channels. Simultaneously pressing ✹− and CH− again returns to normal operation.

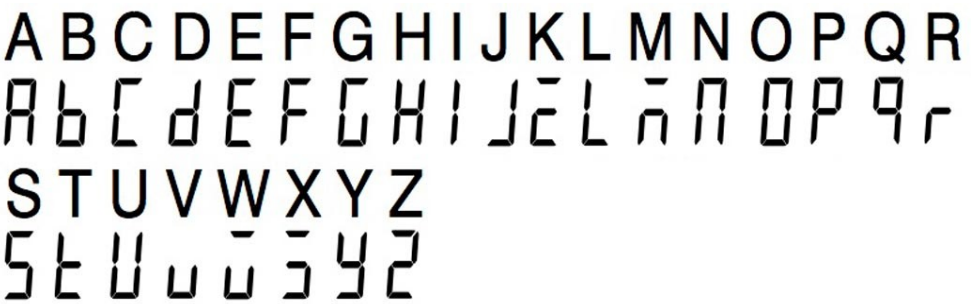

TABLE 1

SKIPPING UNWANTED DATA SCREENS.

Any data screen that is not required can be deleted. First select the unwanted screen then press SKIP on the data control box. That screen will not be displayed in future presses of the channel selection keys. To reset all deleted screens press CLEAR on the data control box.

SOFTWARE UPDATES.

Additional NMEA sentences will be made available by popular demand. The latest list (issue number ???.) is available on the NASA Marine website. To determine the software issue number simultaneously press both keys on the data control box.

QUESTIONS AND ANSWERS.

Q The display is blank and there is no red light on the data control box.
A Check you have a 12 vote supply with correct polarity. (Positive to the centre pin of the power plug.) Check the fuse (One amp.)

Q The red light glows on the data control box but the display is totally blank.
A Check the connections between the display and the data control box.

Q The red light glows and the display shows only a letter phi (A circle with a line through it.) at the top right of the screen.
A The data control box is waiting for NMEA at the selected input channel.

Q I cannot get data from one or more of the input channels.
A Put the unit into test mode and read the sentences received on that channel. If no sentence is shown the the unit is not receiving NMEA data on that input. Check the wiring and check the sender is set up to send the NMEA sentence you desire.

Q I can read NMEA sentences on an input channel but cannot get that channel to display NMEA data.
A Check that at least one of the available sentences is capable of being displayed by the Yacht Repeater. If the available sentences are not compatible then e-mail NASA Marine with ALL the following information;-

(1) The manufacturers name and type number of the sending instrument.
(2) A list of all the NMEA message types shown on the problem channel.
(3) The software issue number of the Yacht Repeater.

Q The LED on the remote control does not flash when a key is pressed.
A Check the state of the batteries and check they are correctly installed. (Note the centre battery is the opposite way round to the outer pair.)

Q Why is there a delay in receiving some data displays.
A NMEA data is generally updated every second so any delay should not be more than two seconds. Some senders have a power saving mode which send our data less often. If this is troublesome then set the sender to normal operation.

For the latest list of enabled NMEA sentences refer to the NASA Marine website or scan this QR code:

NOTES:

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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