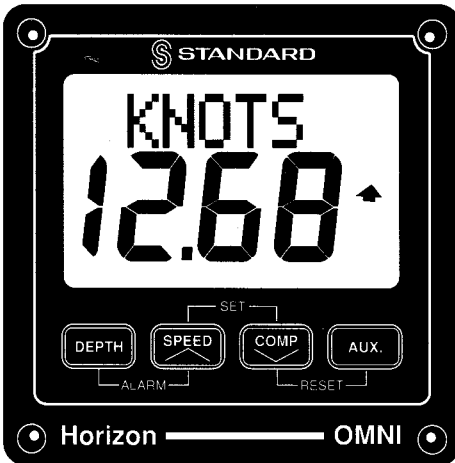# Omni RP50
Repeater

Owner's Manual

Contains:

- ☐ General Information
- ☐ Accessories
- ☐ Installation
- ☐ Operation
- ☐ Maintenance
- ☐ Specifications
- ☐ Troubleshooting
- ☐ Schematic

⑥ Standard
® Communications

Standard Communications ®

MARINE PRODUCTS LIMITED WARRANTY

Standard Communications Corp. (SCC) warrants to the original consumer purchaser (the Purchaser) only that each new Marine Product will be free from defects in materials and workmanship under conditions of normal use and service for a period of one (1) year from the date of delivery to the Purchaser. SCC's liability under this warranty shall be limited to repair or replacement of the defective product, at SCC's option, and under no circumstances shall SCC be liable for consequential, incidental, or other damages arising out of or in any way connected with a failure of the product to perform as set forth herein.

THIS LIMITED WARRANTY EXTENDS ONLY TO THE PURCHASER AND IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In the event of a defect, malfunction, or failure of the product to conform to specifications during the one-year warranty period, SCC will repair or replace, at its option and without charge to the Purchaser, the product which upon examination by SCC shall appear to be defective or not up to factory specifications. SCC will pay all labor charges incurred in providing such warranty service. To obtain warranty service, the defective product must be returned to SCC together with proof of the date of purchase. The Purchaser must pay any transportation expenses in returning the product to SCC. SCC will examine the product and respond to the Purchaser in approximately four (4) weeks from date of receipt of the product claimed to be defective.

This limited warranty does not extend to any product which has been subjected to misuse, neglect, accident, improper installation, or subject to use in violation of the maintenance or operating instructions, if any, furnished by SCC; nor does this warranty extend to products on which the serial number has been removed, defaced, or changed. SCC reserves the right to make changes or improvements to its products during subsequent production without incurring the obligation to install such changes or improvements on previously manufactured or sold products.

Some states do not allow limitations on the duration of the warranty or exclusions or limitations of incidental or consequential damages so these limitations or exclusions may not apply to you. This warranty gives you specified legal rights which vary from state to state.

CUSTOMER RECORD

Purchase Date _____

Purchased From _____

_____

Equipment Model No. _____

Equipment Serial No. _____

Table of Contents

1   GENERAL INFORMATION

1.1   INTRODUCTION

The RP50 OMNI is a high-quality digital remote instrument. It is multi-functional and provides display of information from speed, depth, compass and auxilliary instruments.

The RP50 OMNI is capable of displaying permanent log, trip log, trip hours, temperature, VMG (velocity made good), depth, alarm, direction, off course reading, CMG (course made good), DMG (distance made good), apparent wind speed and direction, true wind speed and direction, fuel economy, and fuel flow depending on the 50 series instruments connected to it.

1.2   FRONT PANEL

The front panel includes a super-twist pneumatic display with green background. It includes an 8-character alphanumeric and 3 1/2-digit numeric display. The keypad has four buttons which control all functions. The front panel will withstand direct water spray without damage.

1.3   REAR PANEL

The rear panel contains 2 Fuji 5-pin connectors and 1 Fuji 4-pin connector. The 5-pin Fuji connectors are used for connection to other 50 series instruments. The 4-pin connector is used for connection to a CS50 compass sensor (optional).
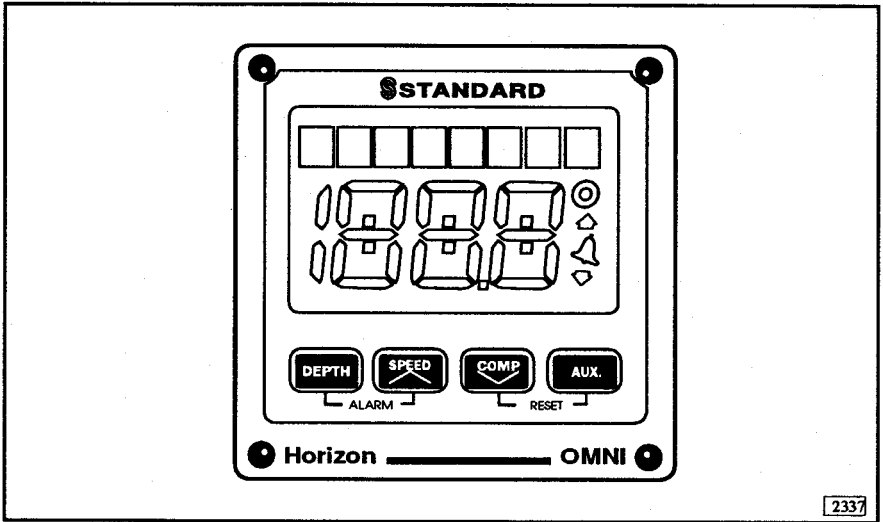
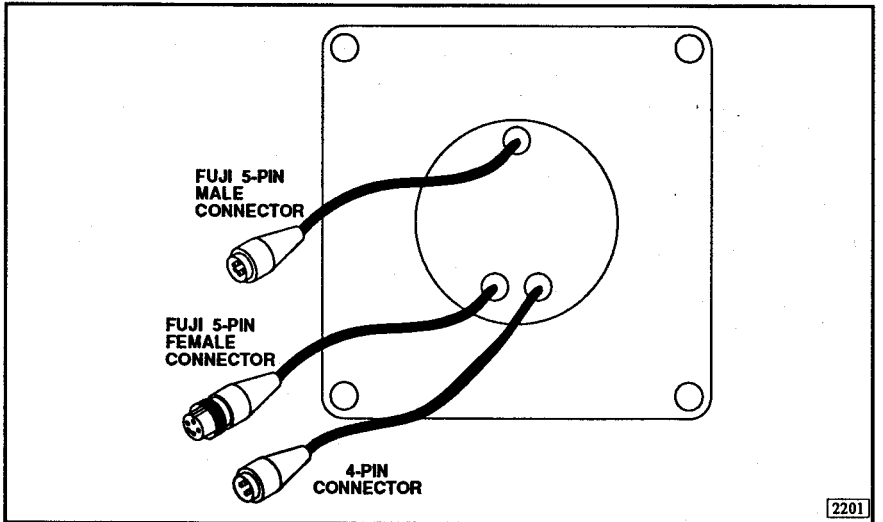# 2 CONTROLS AND CONNECTORS

Figure 1. Front Panel

Figure 2. Rear Panel

3.1   PROVIDED WITH INSTRUMENT

- Power Cable
- Panel Gasket
- Mounting Screws Kit
- Dust Cover
- Trim Caps

3.2   OPTIONAL

BB50 . . . . NMEA0183 System Interface
CS50. . . . . Compass Sensor
HS50. . . . . 15-Foot Power/Data Extension Cable

3.3   REPLACEMENT PARTS

The following parts may be ordered from the SCC Parts Department. To order, call
Toll-free Number: 1-800-487-2788.

Power Cable. . . . . SCC Part Number 250005017A
Panel Gasket. . . . . SCC Part Number 108001023A
Mounting Screws Kit. SCC Part Number 602001011A
Trim Caps. . . . . SCC Part Number 067001019A
Dust Cover . . . . SCC Model DC50

The RP50 can be easily installed in different types of instrument panels. To install, refer to Figures 3 and 4 and perform the following steps:

1. Select a suitable location for the instrument. When selecting the location for mounting, the following are recommended:

   • Controls of the instrument must be accessible to the user.
   • Location should provide as much protection from the elements as possble.
   • The space behind the instrument panel must have a depth of at least 1 1/2 inches for mounting and access to wires. See Figure 3 for mounting dimensions of the instrument.

2. Drill a 2.5-inch hole on the instrument panel in the selected location. See Figure 4.

3. Using the panel gasket as a guide, mark the location of the screws and drill the holes for the screws.

4. Install the rubber gasket provided between the rear of the instrument and the wall. Insert the instrument into the hole until the back of the face is flush with the outside mounting wall.

5. Fasten the instrument with the screws lock washers, and nuts. Wood screws are also supplied.

6. Install trim caps to cover the screws on the front panel of the instrument.

7. Use the 5-pin Fuji connectors to connect to other 50 series instruments desired such as speed log, depth sounder, compass, wind, and fuel mangement instruments. The instruments are connected in series. See Figure 5 for connections.

8. Connect the 4-pin connector to the CS50 Compass Sensor (Optional) if RP50 is to be used as a compass and an EC50 Electronic compass is not connected.
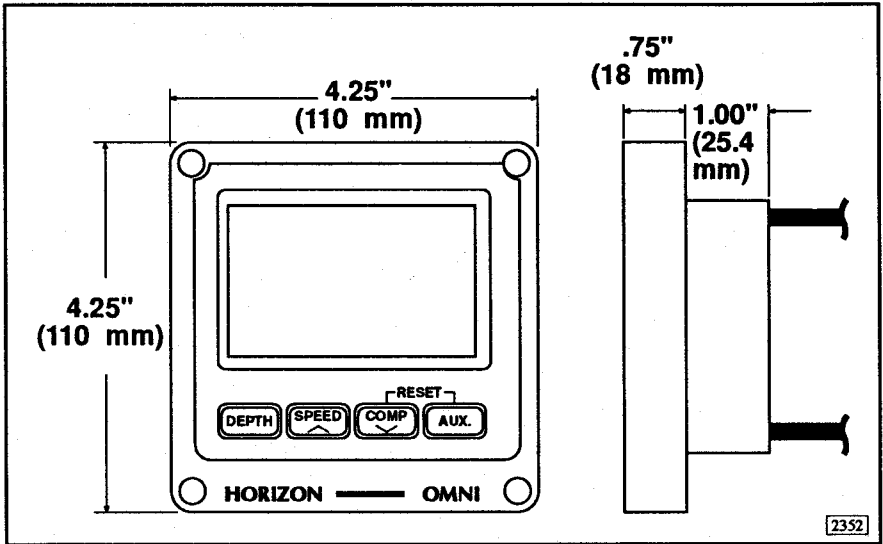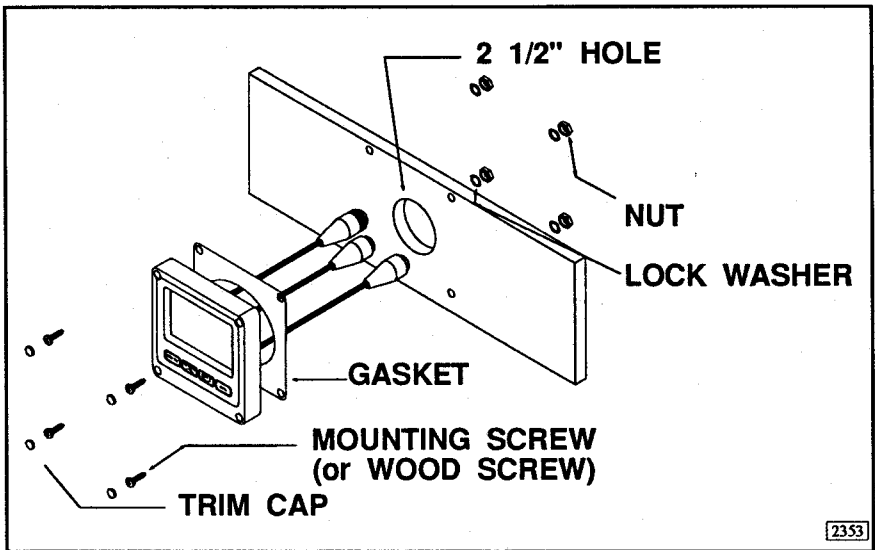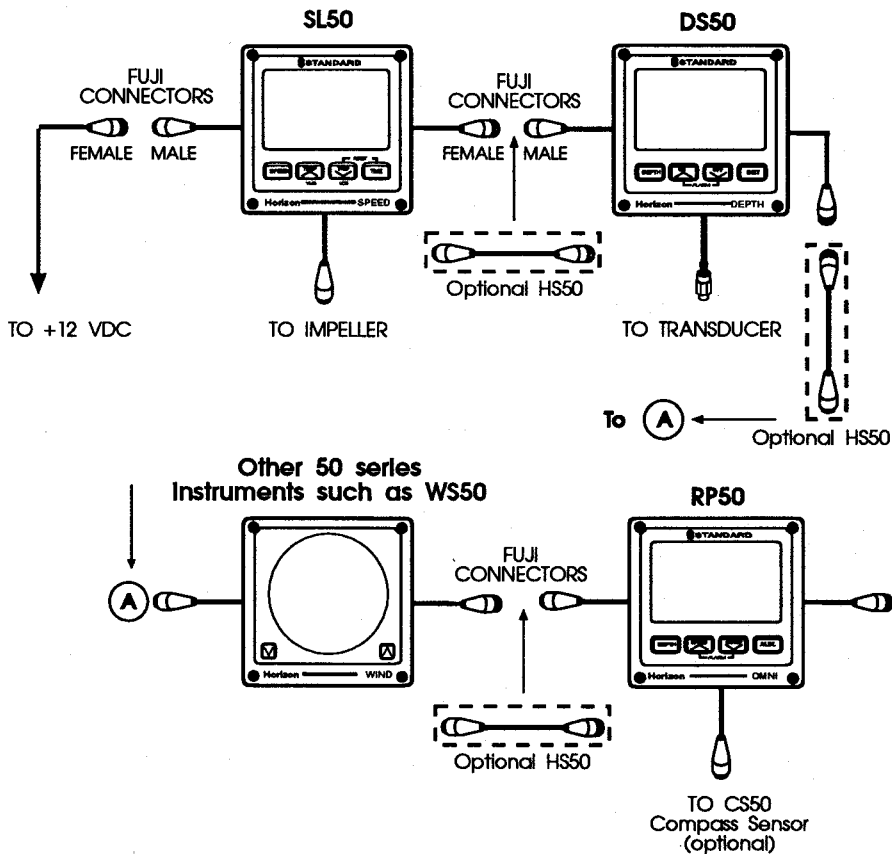
Figure 3. Mounting Dimensions

Figure 4. Installation

Figure 5. Connections to Other 50 Series Instruments

If a particular 50 series instrument is not connected, then the RP50 will display "--" when that function is selected on the RP50 keypad.

5.1   POWERBOAT OR SAILBOAT SELECTION

During power-up, press and hold the [DEPTH] button to change from powerboat to sailboat mode. This step need only to be performed once.

5.2   DEPTH SOUNDER MODE

If a DS50 Depth Sounder is connected to the RP50 (see Installation section), it will operate as follows.

5.2.1   Depth Reading

To display current depth, press the [DEPTH] button. The unit of measure (feet, fathoms or metres) will depend on the DS50 setting.
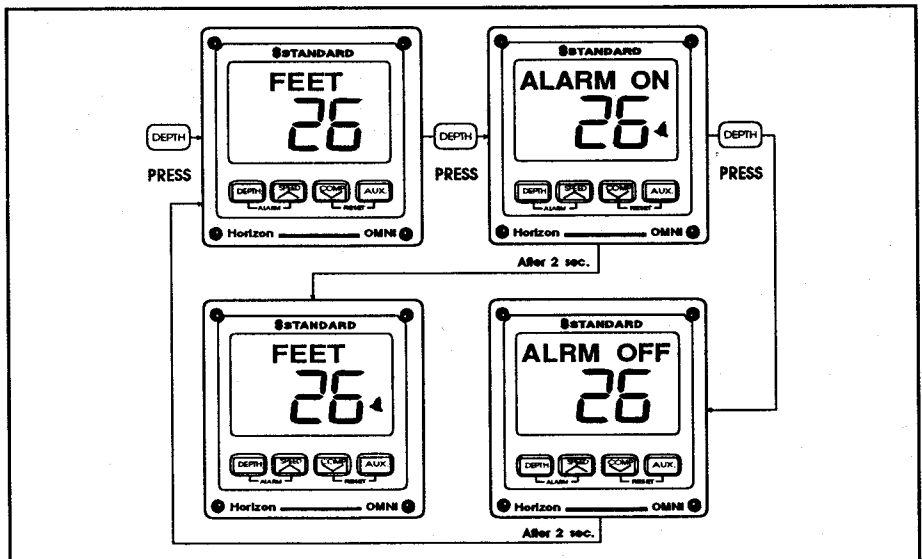

Figure 6. Depth Reading and Alarm On and Off

5.2.2 Alarm On/Off

With the current depth displayed, press the [DEPTH] button to turn the alarm on. The alpha section of the display will indicate "ALRM ON" and the bell symbol will appear. The display will revert to the current depth reading after two seconds with the bell symbol displayed.

To turn the alarm off, press the [DEPTH] button again. The alpha section of the display will indicate "ALRM OFF" and the bell symbol will disappear. The display will revert to the current depth reading after two seconds with the bell symbol gone.

5.2.3 Setting Shallow and Deep Alarms

To set shallow and deep alarms, press and hold the [DEPTH] and [SPEED] for three seconds. The display will alternately flash "SHALOW V" and "DEEP ∧".

5.2.3.1 Shallow Alarm

Press the [COMP] button to set the shallow alarm. Press either the [SPEED] or [COMP] button to change the setting. Press the [DEPTH] button to exit.
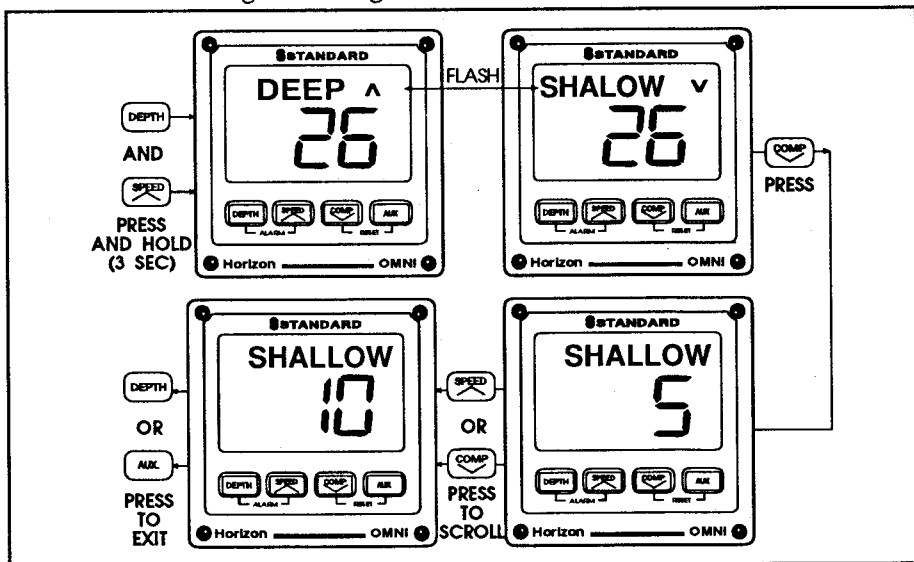

Figure 7. Shallow Alarm Setting

5.2.3.2 Deep Alarm

Press the [SPEED] button to set the deep alarm. Press either the [SPEED] or [COMP] button to change the setting. Press [DEPTH] the [AUX] or button to exit.
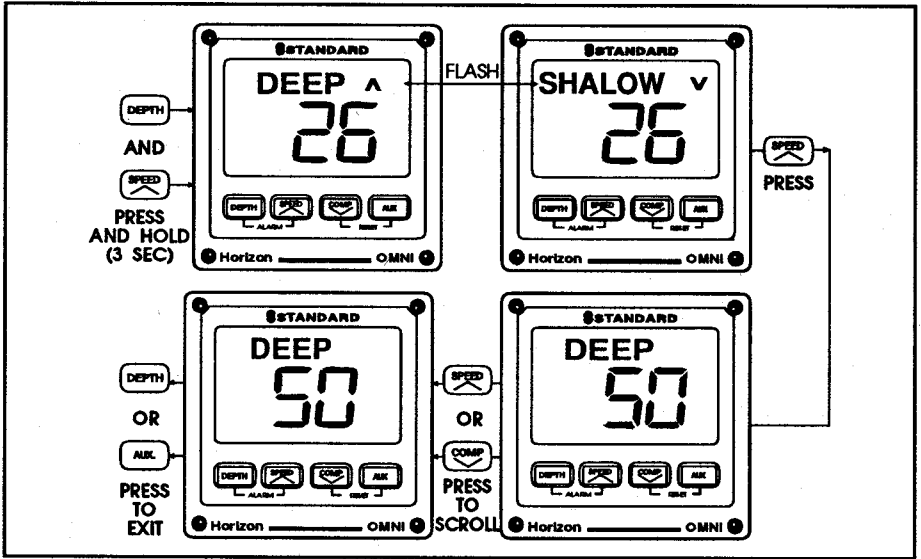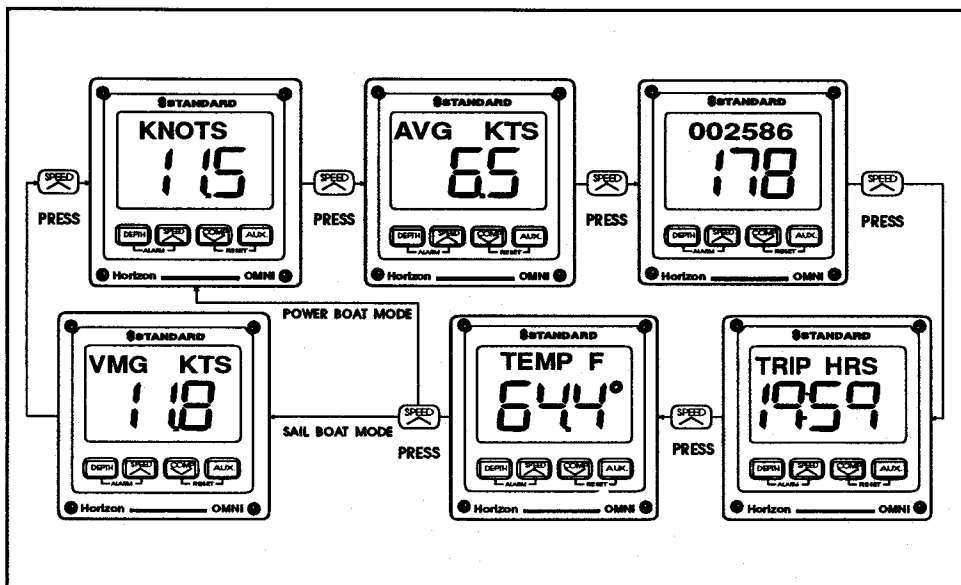

Figure 8. Deep Alarm Setting

Figure 9. Speed Log Mode Settings

5.3 SPEED LOG MODE

If an SL50 Depth Sounder is connected to the RP50 (see Installation section), it will operate as follows.

5.3.1 Current and Average Speed Reading

To display current speed, press the [SPEED] button. The unit of measure (knots or mph) will depend on the SL50 setting. Press the [SPEED] button again to display the average speed.

5.3.2 Permanent and Trip Log

With the average speed displayed, press the [SPEED] button to display the permanent and trip log. The permanent log will be shown in the upper portion of the display and the trip log will be shown in the center.
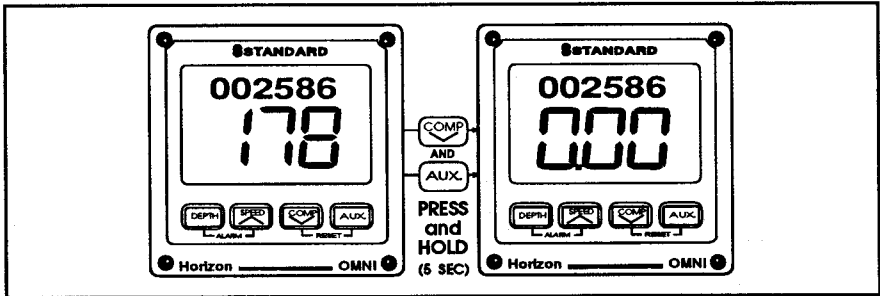
Figure 10. Resetting Trip Log

5.3.2.1 Resetting Trip Log

With the trip log displayed, press and hold the [COMP] and [AUX] button to reset the trip log to zero.

5.3.3 Trip Hours

With the permanent/trip log displayed, press the [SPEED] button to display the trip hours.

5.3.3.1 Resetting Trip Hours

With the trip hours displayed, press and hold the [COMP] and [AUX] buttons to reset it to zero. Procedure is similar to resetting trip log. See Figure 10.

5.3.4 Temperature Reading

With the trip hours displayed, press the [SPEED] button to display the temperature. The unit of measure (Fahrenheit or Celsius) will depend on the SL50 setting.

5.3.5 Velocity Made Good (VMG)

With the temperature displayed, press the [SPEED] button to display VMG.

NOTE

This reading only shows if the instrument is in the sailboat mode and a WS50 and SL50 are connected.

5.4 COMPASS MODE

If an EC50 Electronic Compass or a CS50 Compass Sensor is connected to the RP50 (see Installation section), it will operate as follows. For CMG and DMG readings, an SL50 needs to be connected also.

5.4.1 Heading

To display the magnetic heading, press the (COMP) button.

5.4.2 Off Course

With heading displayed, press the (COMP) button to display how many degrees off course the boat is headed. Each small bar is 1° and the total is ±20° from set course.

5.4.3 CMG (Course Made Good)

With the off course reading displayed, press the (COMP) button to display CMG.
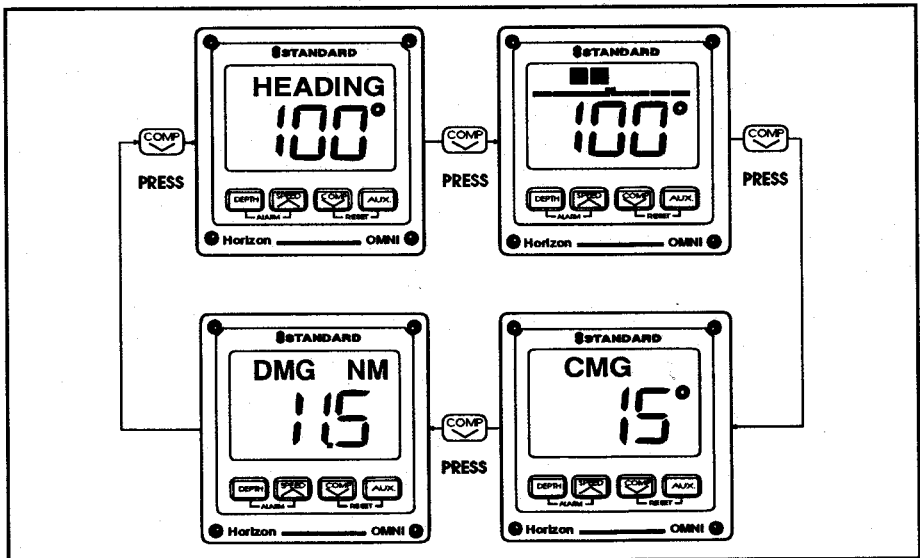
Figure 11. Compass Mode Settings

5.4.4 DMG (Distance made Good)

With CMG displayed, press the [COMP] button to display DMG.

5.4.4.1 Resetting DMG

With DMG displayed, press and hold the [COMP] and [AUX] buttons to reset it to zero. Procedure is similar to resetting trip log. See Figure 10.

5.4.5 Setting Course

With heading displayed, press and hold the [COMP] button for two seconds to set the course. The display will alternately show "SET" and "COURSE". Press the [SPEED] or [COMP] button to set the course. Press the [DEPTH] or [AUX] button to enter the Off Course mode.
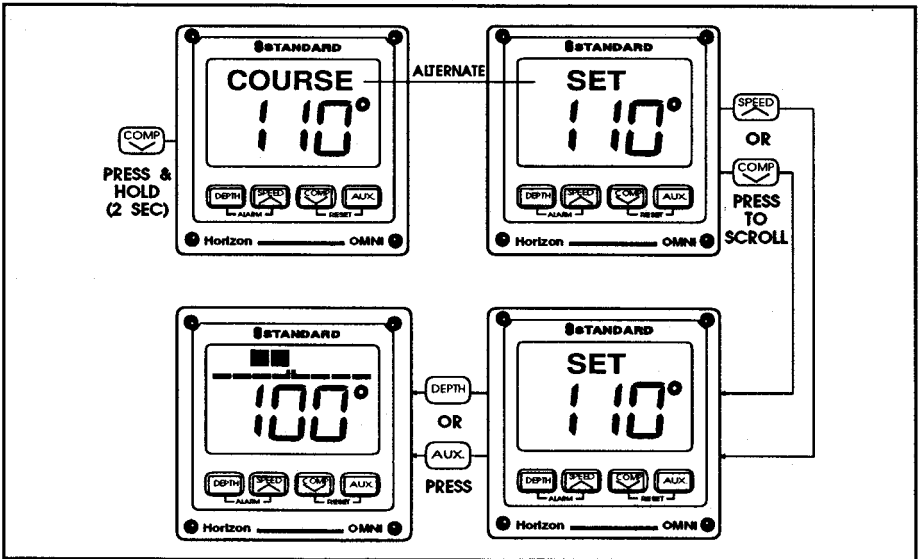
Figure 12. Setting Course to 110°
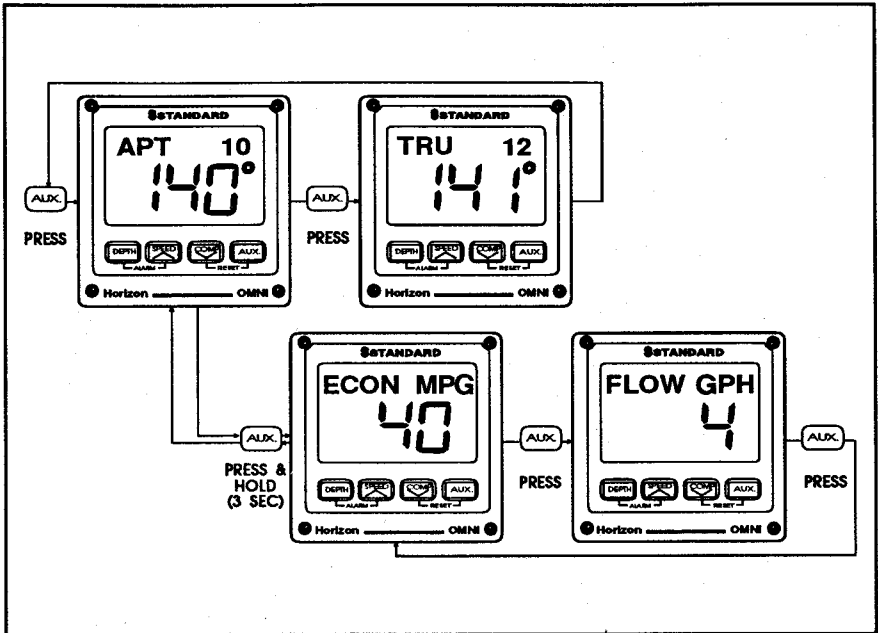
Figure 13.Wind Instrument and Fuel Mangement Modes Setting

5.5 WIND INSTRUMENT AND FUEL MANAGEMENT MODE

To switch between Wind Instrument (for sailboat) and Fuel Management (for powerboat mode, press and hold the (AUX) button for three seconds

5.5.1 Wind Instrument Mode

If a WS50 Wind Instrument is connected to the RP50, it will operate as follows.

5.5.1.1 Apparent Wind Speed and Direction

To display the apparent speed and direction, press the (AUX) button.

5.5.2   True Wind Speed and Direction

With the apparent speed and direction displayed, press the (AUX.) button to display the the true speed and direction.

5.5.3   Fuel Management

If a Fuel Economy Instrument is connected to the RP50, it will operate as follows.

5.5.3.1   Fuel Economy

To display the boat's fuel economy (gallons/hour), press the (AUX.) button.

5.5.3.2   Fuel Flow

With the boat's fuel economy displayed, press the (AUX.) buton to diplay the fuel flow.

5.6   LAMP INTENSITY

Press and hold the (SPEED) and (COMP) buttons for three seconds. To change the lamp intensity (0 to 3), press the (SPEED) or (COMP) button. Press (DEPTH) . and (AUX.) to exit.

NOTE

When other 50 series instruments are connected, the adjustment of the lamp intensity on one instrument will simultaneously adjust the lamp intensity of interconnected instruments after exiting the lamp intensity mode.
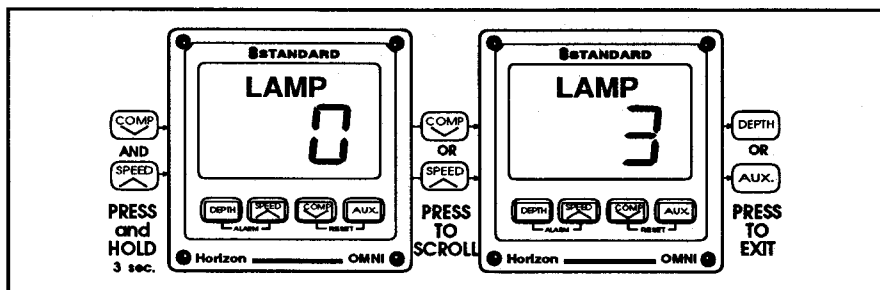
Figure 14. Lamp Intensity Setting

Your instrument is designed for years of trouble-free operation assuming proper installation and care of the unit are provided. Following the installation and operation guidelines in this manual should ensure optimum performance of the instrument.

In the unlikely event that the instrument shall fail to perform or shall need servicing, please contact the following:

Factory Repair Facility
SCC- Standard Communications Corp.
4876 W. North Temple St.
Salt Lake City, Utah 84116
Telephone No. 1-800-366-4566
FAX No. 1-801-359-4122

Size

    Dimensions . . . . 4.33 x 4.33 x 0.71 inches
    110 x 110 x 18 mm

    Mounting Hole Required . . . . 2.5-inch (63.5 mm) diameter

    Depth behind panel . . . . 1 inch (25.4 mm)

Display . . . . super-twist, pneumatic, green background
    8-character alphanumeric (0.5 in. high)
    3 1/2 digit numeric (1-in. high)

Water Integrity . . . . Front will withstand direct water spray

Speed Range. . . . . 0 to 50 knots or 58 mph*
    (0.0 to 19.9 in tenths,
    0.00 to 19.99 in hundredths, 20 and up in units)

Trip Log Range . . . . 0.00 to 19.99, 20.0 to 99.9, 100 to 1999
    statute or nautical miles, non-volatile, resetable

P-LOG Range. . . . . 0 to 999,999 statute or nautical miles,
    non-volatile, resetable

VMG . . . . 0.0 to 19.9 in tenths,
    0.00 to 19.99 in hundredths, 20 and up in units
    (when integrated with the WS50 wind instrument)

Trip Timer . . . . 0 to 19:59 hours, non-volatile, resetable

Countdown Timer . . . . 5 or 10 minutes, audible each minute and last 10 seconds

Sea Temperature Range. . . . . 32.0° to 99.9° F (0.0° to 37.7° C)

Depth Display . . . . 3 -19.9, 20 - 600 feet
    1 - 9.9, 10 - 183 metres
    0.5 - 9.9, 10 - 100 fathoms

Accuracy . . . . ± 2 %

Alarms . . . . Depth: Shallow and Deep, setable, non-voltatile

Operating Voltage . . . . 13.8 VDC ± 20%

Operating Temperature . . . . 32° to 122° F (0° to 50° C)

Current Drain . . . . 80 mA nominal

RF Interference . . . . < 6 dB Quieting on any marine radio channel
    (with 3 dB gain antenna) within 1 meter of the RP50.

*limited only by the mounting position and characteristics of impellers .*

Illumination 3-step
Heading . . . . 0 to 359°
CMG. . . . . 0 to 359°
DMG . . . . autoranging at 99.9
Off Course, bar graph . . . . ± 20° in 1° steps
Apparent/True wind Speed . . . . whole numbers
Apparent/True wind Direction. . . . . 0 to 359°

8　TROUBLESHOOTING

8.1　TROUBLESHOOTING CHART

PROBLEM	SOLUTION
No Display	Check DC power connections with voltmeter.

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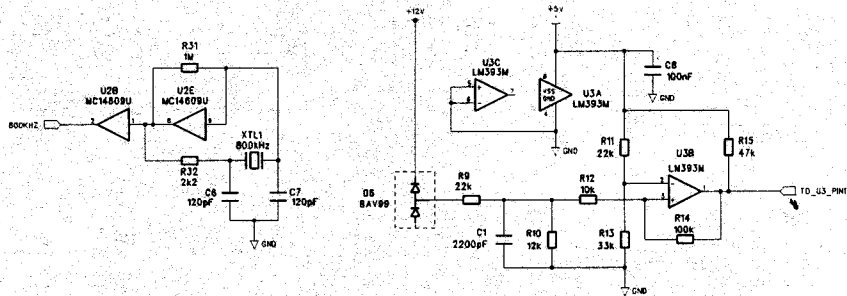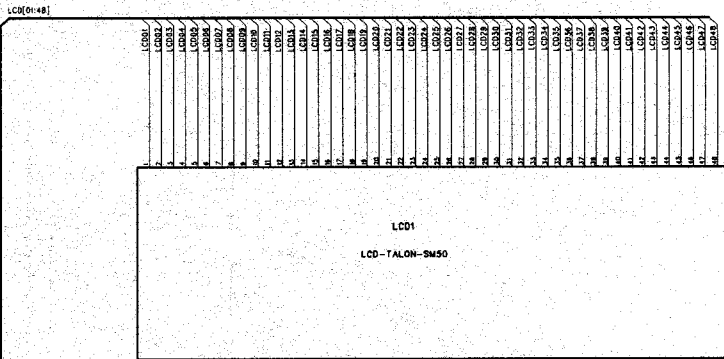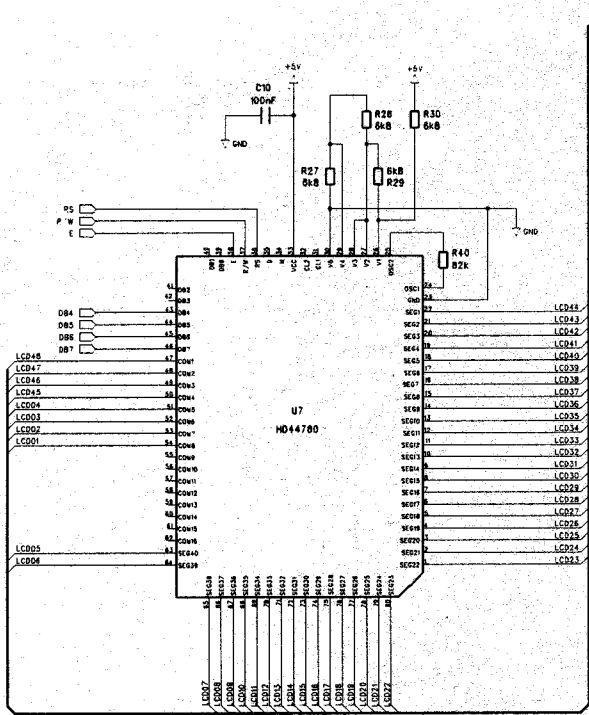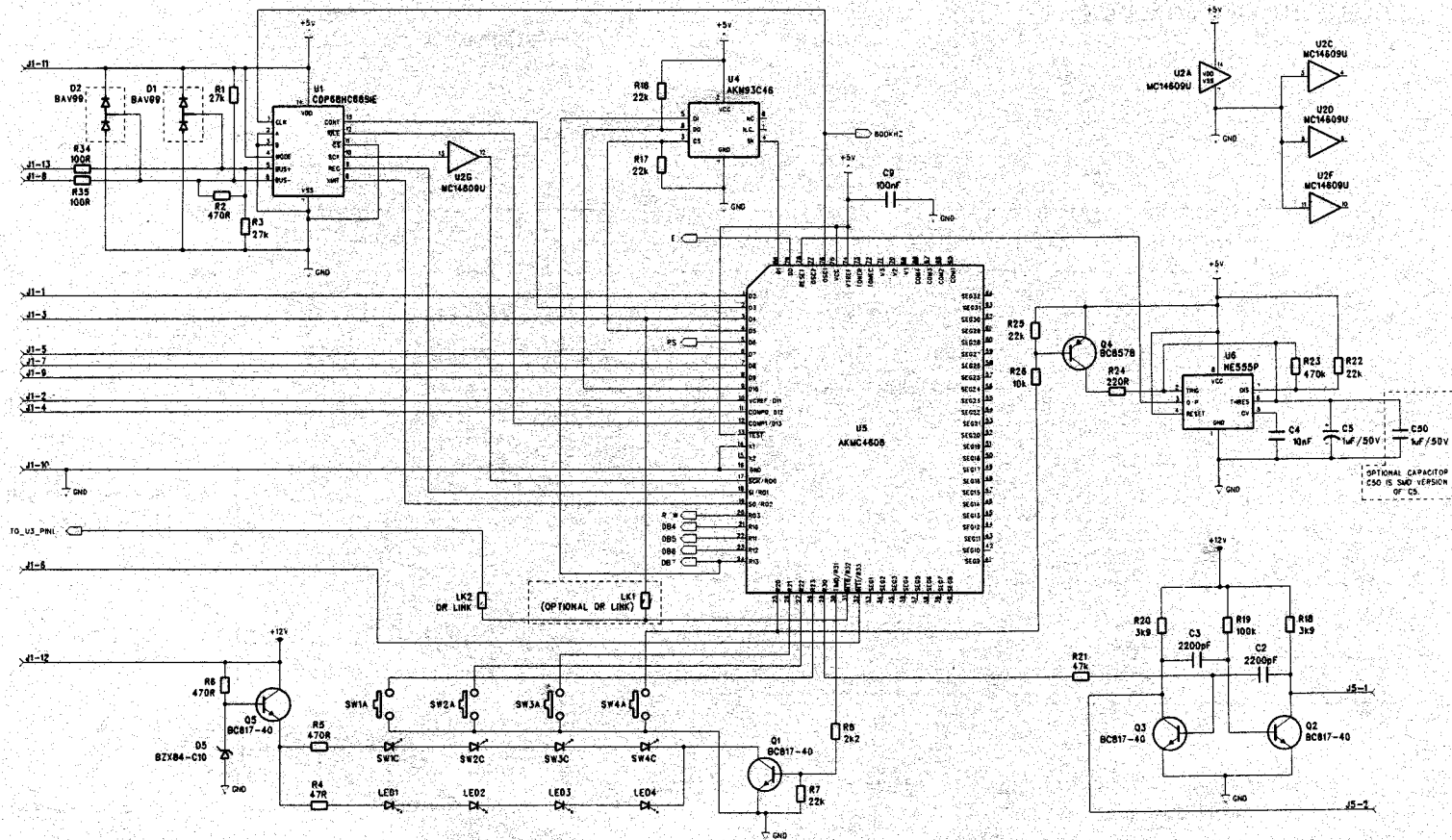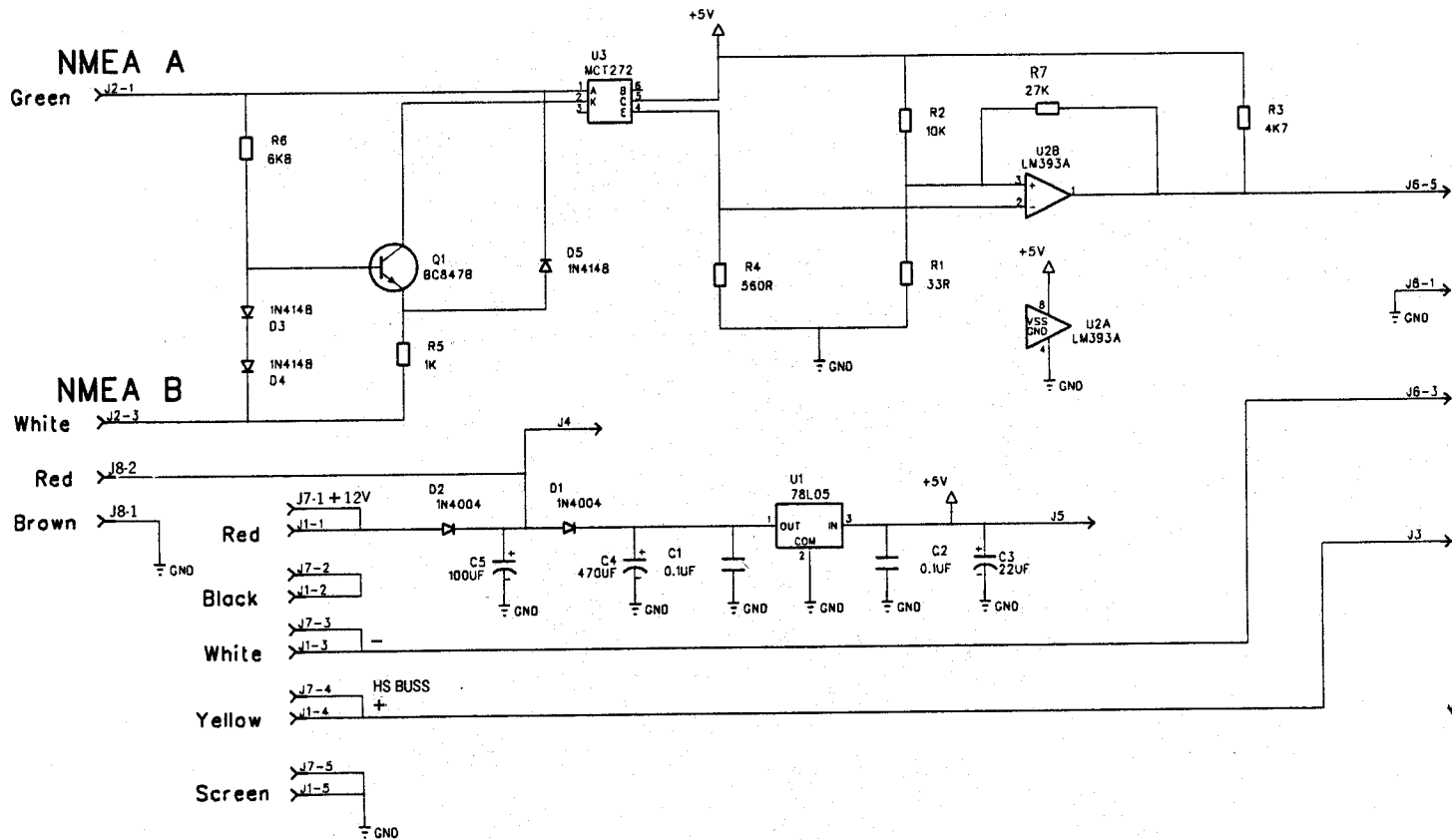
OMNI RP50 DAUGHTER PCB

OMNI RP50 COMPONENT OVERLAY

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