Omni
RP50
Repeater

Owner’s Manual

Contains:

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

Standard Communications
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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. _____________________
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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 auxiliary 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).
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
INSTALLATION

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 possible.
   - 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 management 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
NOTES:

- The HS50 is used to extend the distance between two 50 series instruments.
- The order of connection is not important.

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 \text{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 \text{DEPTH} button. The unit of measure (feet, fathoms or metres) will depend on the DS50 setting.

![Diagram of Depth Reading and Alarm On and Off](image)

\textbf{Figure 6. Depth Reading and Alarm On and Off}
5.2.2 Alarm On/Off

With the current depth displayed, press the \textbf{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 \textbf{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 \textbf{DEPTH} and \textbf{SPEED} for three seconds. The display will alternately flash "SHALLOW V" and "DEEP ^".

5.2.3.1 Shallow Alarm

Press the \textbf{COMP} button to set the shallow alarm. Press either the \textbf{SPEED} or \textbf{COMP} button to change the setting. Press the \textbf{DEPTH} button to exit.

Figure 7. Shallow Alarm Setting
5.2.3.2 Deep Alarm

Press the \text{SPEED} button to set the deep alarm. Press either the \text{SPEED} or \text{COMP} button to change the setting. Press the \text{AUX} or button to exit.

![Diagram of Deep Alarm Setting]

Figure 8. Deep Alarm Setting
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.
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 \( \text{COMP} \) button.

5.4.2 Off Course

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

5.4.3 CMG (Course Made Good)

With the off course reading displayed, press the \( \text{COMP} \) button to display CMG.

![Figure 11. Compass Mode Settings](image-url)

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°](image-url)
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 \( \text{AUX} \) button to display 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 \( \text{AUX} \) button.

5.5.3.2 Fuel Flow

With the boat's fuel economy displayed, press the \( \text{AUX} \) button to display the fuel flow.

5.6 LAMP INTENSITY

Press and hold the \( \text{SPEED} \) and \( \text{COMP} \) buttons for three seconds. To change the lamp intensity (0 to 3), press the \( \text{SPEED} \) or \( \text{COMP} \) button. Press \( \text{DEPTH} \) and \( \text{AUX} \) 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](image)
MAINTENANCE

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
SPECIFICATIONS

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-volatile
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°
## 8.1 TROUBLESHOOTING CHART

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<th>PROBLEM</th>
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<td>No Display</td>
<td>Check DC power connections with voltmeter.</td>
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