

# **GMR 20/40**

*marine radar*

*installation and operation  
guide*



# GMR 20/40 Installation and Operation Guide

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# GMR 20/40 Installation and Operation Guide

## **Welcome**

Thank you for choosing the Garmin GMR 20/40. The GMR 20/40 utilizes the performance of Garmin radar and provides overlay and color information when combined with a marine Multi-Function Display (MFD). Please take a moment now to compare the contents of this package with the packing list on page x of this manual. If any pieces are missing, please contact your Garmin dealer immediately.

## **About This Manual**

To get the most out of your new navigation system, take time to read this manual and learn the operating procedures for your unit in detail.

## **Customer Service Product Registration**

Help us better support you by completing our on-line registration today!

Have the serial number of your GMR 20/40 handy and connect to our Web site ([www.garmin.com](http://www.garmin.com)). Look for the Product Registration link on the Home page. Also, be sure to record your serial number in the area provided on this page.

## **Serial Number**

Use this area to record the serial number (8-digit number located in the back of the unit) in case it is lost, stolen, needs service, or if you need to contact Technical Support. Be sure to keep your original sales receipt in a safe place or attach a photocopy inside the manual.

Serial Number:

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*The Garmin GMR 20/40 has no user-serviceable parts. Should you ever encounter a problem with your unit, please take it to an authorized Garmin dealer or contact Garmin Customer Service for repairs.*

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# GMR 20/40 Installation and Operation Guide



## **Warning and Cautions**

**CAUTION:** Use the GMR 20/40 at your own risk. To reduce the risk of unsafe operation, carefully review and understand all aspects of this Owner's Manual, and thoroughly practice operation using the simulator mode prior to actual use. When in actual use, carefully compare indications from the GMR 20/40 to all available navigation sources, including the information from other NAVAIDS, visual sightings, charts, etc. For safety, always resolve any discrepancies before continuing navigation.

**CAUTION:** IT IS THE USER'S RESPONSIBILITY TO USE THIS PRODUCT PRUDENTLY. THIS PRODUCT IS INTENDED TO BE USED ONLY AS A NAVIGATIONAL AID AND MUST NOT BE USED FOR ANY PURPOSE REQUIRING PRECISE MEASUREMENT OF DIRECTION, DISTANCE, LOCATION, OR TOPOGRAPHY.

**WARNING:** This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our web site at <http://www.garmin.com/prop65>.

**WARNING:** The radar scanner transmits electromagnetic energy. Ensure that the scanner has been installed according to the recommendations given in this guide, and that all personnel are clear of the scanner, before switching to transmit mode.

## **Installation Guidelines**

The guidelines given here describe the conditions for optimum EMC performance, but it is recognized that it may not be possible to meet all of these conditions in all situations. To ensure the best possible conditions for EMC performance within the constraints imposed by any location, always ensure the maximum separation possible between different items of electrical equipment. For optimum EMC performance, it is recommended that wherever possible:

- IEC 60936-1 clause 3-27.1 maximum distances from the antenna at which RF (Radio Frequency) levels can be expected.  
GMR20 (100W/m squared = 40cm [15.75"]) (10W/m squared = 120cm [47.24"])  
GMR40 (100W/m squared = 60cm [23.62"]) (10W/m squared = 175cm [68.90"])
- Mount at least 1 m (3 ft) 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).
- Mount other electronics and cables more than 2 m (7 ft) from the path of a radar beam. A radar beam can normally be assumed to spread 20 degrees above and below the radiating element.
- Electromagnetic Energy. The radar scanner transmits electromagnetic energy. It is important that the radar is turned off and/or DC power input be disconnected whenever personnel are required to come close to the scanner to perform work on the scanner assembly or associated equipment.
- It is recommended that the radar scanner is mounted out of range of personnel (above head height). Do not look directly at the antenna at close range as your eyes are the most sensitive part of the body to electromagnetic energy. When properly installed and operated, the use of this radar will conform to the requirements of ANSI/IEEE C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields.
- Magnetic compass: Mount the scanner unit at least x (TBD) m away from a magnetic compass.

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## **FCC Compliance**

The GMR 20/40 complies with Parts 15 and 80 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE. These limits are designed to provide more reasonable protection against harmful interference in a residential installation, and are more stringent than “outdoor” requirements.

Operation of this device is subject to FCC part 15 to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The GMR 20/40 does not contain any user-serviceable parts. Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could result in permanent damage to the equipment, and void your warranty and your authority to operate this device under Part 15 and 80 regulations.

# GMR 20/40 Installation and Operation Guide

## **Packing List**

Before installing and getting started with your unit, please check to see that your package includes the following items. **If any parts are missing, please contact your Garmin dealer immediately.**

### **Standard Package:**

- GMR 20 or 40 Unit
- Power Cable
- Marine Network Cable
- Owner's Manual
- Installation/Operation Manual
- Mount Kit Hardware
- Grommet for Marine Cable

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**GUIDE TEXT**



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# GMR 20/40 Installation and Operation Guide

## **Software License Agreement**

BY USING THE GMR 20/40, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

Garmin grants you a limited license to use the software embedded in this device (the “Software”) in binary executable form in the normal operation of the product. Title, ownership rights and intellectual property rights in and to the Software remain in Garmin.

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## **LIMITED WARRANTY**

This Garmin product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, Garmin will at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you.

Garmin retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local Garmin authorized dealer. Or call Garmin Customer Service at one of the numbers shown below, for shipping instructions and an RMA tracking number. The unit should be securely packed with the tracking number clearly written on the outside of the package. The unit should then be sent, freight charges prepaid, to any Garmin warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs.

Products sold through online auctions are not eligible for rebates or other special offers from Garmin. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. Garmin will not replace missing components from any package purchased through an online auction.

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## DECLARATION of CONFORMITY

Application of Council Directive: 1995/5/EC

Standard to which Conformity is Declared: EN 60945: 1997 Marine Navigational Equipment – General Requirements

Manufactured by: GARMIN International & GARMIN Corporation  
Manufacture's Address: 1200 E. 151<sup>st</sup> Street No.68, Jangshu 2<sup>nd</sup> Rd.,  
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Authorised Representative: GARMIN (Europe) Ltd, The Quadrangle,  
Abbey Park Ind. Estate, Romsey, Hampshire,  
SO51 9DL, U.K.

Type of Equipment: Marine Radar

Model Number(s): GMR20/40

The undersigned does hereby declare that the equipment complies to the above Directives

Paul Morrow  
Quality Manager  
GARMIN (Europe) Ltd

Date: 19<sup>th</sup> April 2004

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