



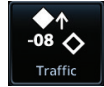
# GTN 625/635/650

Pilot's Guide

Map



Traffic



Terrain



Weather



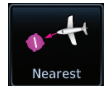
Flight Plan



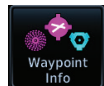
Procedures



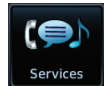
Nearest



Waypoint Info



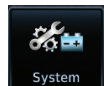
Services



Utilities



System



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This manual reflects the operation of System Software version 6.30, or later. Some differences in operation may be observed when comparing the information in this manual to later software versions.

At Garmin, we value your opinion. For comments about this guide, please e-mail:  
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[www.flyGarmin.com](http://www.flyGarmin.com)

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All Garmin avionics products are warranted to be free from defects in materials or workmanship for: two years from the date of purchase for new Remote-Mount and Panel-Mount products; one year from the date of purchase for new portable products and any purchased newly-overhauled products; six months for newly-overhauled products exchanged through a Garmin Authorized Service Center; and 90 days for factory repaired or newly-overhauled products exchanged at Garmin in lieu of repair. Within the applicable 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 apply to: (i) cosmetic damage, such as scratches, nicks and dents; (ii) consumable parts, such as batteries, unless product damage has occurred due to a defect in materials or workmanship; (iii) damage caused by accident, abuse, misuse, water, flood, fire, or other acts of nature or external causes; (iv) damage caused by service performed by anyone who is not an authorized service provider of Garmin; or (v) damage to a product that has been modified or altered without the written permission of Garmin. In addition, Garmin reserves the right to refuse warranty claims against products or services that are obtained and/or used in contravention of the laws of any country.

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**Online Auction Purchases:** Products purchased through online auctions are not eligible for warranty coverage. 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.

**International Purchases:** A separate warranty may be provided by international distributors for devices purchased outside the United States depending on the country. If applicable, this warranty is provided by the local in-country distributor and this distributor provides local service for your device. Distributor warranties are only valid in the area of intended distribution. Devices purchased in the United States or Canada must be returned to the Garmin service center in the United Kingdom, the United States, Canada, or Taiwan for service.

To obtain warranty service, contact your local Garmin Authorized Service Center. For assistance in locating a Service Center near you, visit [www.flyGarmin.com](http://www.flyGarmin.com).



**WARNING:** Navigation and terrain separation must NOT be predicated upon the use of the terrain function. The GTN 6XX Terrain Proximity feature is NOT intended to be used as a primary reference for terrain avoidance and does not relieve the pilot from the responsibility of being aware of surroundings during flight. Terrain Proximity is only to be used as an aid for terrain avoidance and is not certified for use in applications requiring a certified terrain awareness system. Terrain data is obtained from third party sources. Garmin is not able to independently verify the accuracy of the terrain data.



**WARNING:** The displayed minimum safe altitudes (MSAs) are only advisory in nature and should not be relied upon as the sole source of obstacle and terrain avoidance information. Always refer to current aeronautical charts for appropriate minimum clearance altitudes.



**WARNING:** The GTN 6XX has a very high degree of functional integrity. However, the pilot must recognize that providing monitoring and/or self-test capability for all conceivable system failures is not practical. Although unlikely, it may be possible for erroneous operation to occur without a fault indication shown by the GTN 6XX. It is thus the responsibility of the pilot to detect such an occurrence by means of cross-checking with all redundant or correlated information available in the cockpit.



**WARNING:** The altitude calculated by GPS receivers is geometric height above Mean Sea Level and could vary significantly from the altitude displayed by pressure altimeters, such as the output from the GDC 74A/B Air Data Computer, or other altimeters in aircraft. GPS altitude should never be used for vertical navigation. Always use pressure altitude displayed by pressure altimeters in the aircraft.



**WARNING:** Do not use outdated database information. Databases used in the GTN 6XX system must be updated regularly in order to ensure that the information remains current. Pilots using an outdated database do so entirely at their own risk.



**WARNING:** Do not use basemap (land and water data) information for primary navigation. Basemap data is intended only to supplement other approved navigation data sources and should be considered as an aid to enhance situational awareness.



**WARNING:** Traffic information shown on the GTN 6XX is provided as an aid in visually acquiring traffic. Pilots must maneuver the aircraft based only upon ATC guidance or positive visual acquisition of conflicting traffic.



**WARNING:** Do not use data link weather information for maneuvering in, near, or around areas of hazardous weather. Information contained within data link weather products may not accurately depict current weather conditions.



**WARNING:** Do not use the indicated data link weather product age to determine the age of the weather information shown by the data link weather product. Due to time delays inherent in gathering and processing weather data for data link transmission, the weather information shown by the data link weather product may be significantly older than the indicated weather product age.



**WARNING:** Never use datalinked weather to attempt to penetrate a thunderstorm. Both the FAA Advisory Circular, Subject: Thunderstorms, and the Airman's Information Manual (AIM) recommend avoiding "by at least 20 miles any thunderstorm identified as severe or giving an intense radio echo.



**WARNING:** For safety reasons, GTN 6XX operational procedures must be learned on the ground.



**WARNING:** To reduce the risk of unsafe operation, carefully review and understand all aspects of the GTN 625/635/650 Pilot's Guide. Thoroughly practice basic operation prior to actual use. During flight operations, carefully compare indications from the GTN 6XX to all available navigation sources, including the information from other NAVAIDS, visual sightings, charts, etc. For safety purposes, always resolve any discrepancies before continuing navigation.

Foreword



**CAUTION:** The United States government operates the Global Positioning System and is solely responsible for its accuracy and maintenance. The GPS system is subject to changes which could affect the accuracy and performance of all GPS equipment. Portions of the GTN 6XX utilize GPS as a precision electronic NAVigation AID (NAVAID). Therefore, as with all NAVAIDs, information presented by the GTN 6XX can be misused or misinterpreted and, therefore, become unsafe.

Getting Started

Audio & Xpdr Ctrl

Com/Nav



**CAUTION:** The GTN 6XX does not contain any user-serviceable parts. Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could void both the warranty and the pilot's authority to operate this device under FAA/FCC regulations.

FPL

Direct-To

Proc



**CAUTION:** The display lens has a special anti-reflective coating that is very sensitive to skin oils, waxes, and abrasive cleaners. CLEANERS CONTAINING AMMONIA WILL HARM THE ANTI-REFLECTIVE COATING. It is very important to clean the lens using a clean, lint-free cloth and an eyeglass lens cleaner that is specified as safe for anti-reflective coatings.

Wpt Info

Map



**CAUTION:** TFRs provided by datalink weather sources (i.e., FIS-B and SiriusXM) are only advisory and do not replace a thorough preflight briefing on TFR times and locations. Not all TFRs may be shown. To determine accurate TFR information, verify with official sources, i.e., preflight planning or flight service center.

Traffic

Terrain

Weather



**NOTE:** All visual depictions contained within this document, including screen images of the GTN bezel and displays, are subject to change and may not reflect the most current GTN software. Depictions of equipment may differ slightly from the actual equipment.

Nearest

Services/  
Music



**NOTE:** This device complies with part 15 of the FCC Rules. Operation is subject to the following two 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.

Utilities

System

Messages



**NOTE:** 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 website at [www.garmin.com/prop65](http://www.garmin.com/prop65).

Symbols

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**NOTE:** *Canadian installations: In accordance with Canadian Radio Specifications Standard 102 (RSS 102), RF field strength exposure to persons from an antenna connected to this device should be limited to 60 V/m for controlled environment and 28 V/m for uncontrolled environment.*



**NOTE:** *Do not use SafeTaxi functions as the basis for ground maneuvering. SafeTaxi functions do not comply with the requirements of AC 120-76C and are not qualified to be used as an airport moving map display (AMMD). SafeTaxi is to be used by the flight crew to orient themselves on the airport surface.*



**NOTE:** *The FAA has asked Garmin to remind pilots who fly with Garmin database-dependent avionics of the following:*

- *It is the pilot's responsibility to remain familiar with all FAA regulatory and advisory guidance and information related to the use of databases in the National Airspace System.*
- *Garmin equipment will only recognize and use databases that are obtained from Garmin or Jeppesen. Databases obtained from Garmin or Jeppesen are assured compliance with all data quality requirements (DQRs) by virtue of a Type 2 Letter of Authorization (LOA) from the FAA. A copy of the Type 2 LOA is available for each database at [www.flyGarmin.com](http://www.flyGarmin.com).*
- *Use of a current Garmin or Jeppesen database in your Garmin equipment is required for compliance with established FAA regulatory guidance, but does not constitute authorization to fly any and all terminal procedures that may be presented by the system. It is the pilot's responsibility to operate in accordance with established AFM(S) and regulatory guidance or limitations as applicable to the pilot, the aircraft, and installed equipment.*



**NOTE:** *The pilot/operator must review and be familiar with Garmin's database exclusion list as discussed in SAIB CE-14-04 to determine what data may be incomplete. To see if an exclusion report exists for a specific database, visit [www.flyGarmin.com](http://www.flyGarmin.com).*

Foreword



**NOTE:** The pilot/operator must have access to Garmin and Jeppesen database alerts and consider their impact on the intended aircraft operation. For a current list of aviation database alerts, visit [www.flyGarmin.com](http://www.flyGarmin.com).

Getting Started

Audio & Xpdr Ctrl



**NOTE:** If the pilot/operator wants or needs to adjust the database, visit [www.flyGarmin.com](http://www.flyGarmin.com).

Com/Nav



**NOTE:** Garmin requests the flight crew report any observed discrepancies related to database information. These discrepancies could come in the form of an incorrect procedure; incorrectly identified terrain, obstacles and fixes; or any other displayed item used for navigation or communication in the air or on the ground. To report an aviation database error, visit [www.flyGarmin.com](http://www.flyGarmin.com).

FPL

Direct-To

Proc



**NOTE:** The GTN touchscreen may not respond to touch commands if condensation or moisture accumulates on the touchscreen.

Wpt Info

Map



**NOTE:** Depending on software version and configuration, GTN features and screen images may differ from those shown in this manual.

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NOTE: This device complies with Part 15 of the FCC limits for Class B digital devices. 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. Furthermore, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference, the user is encouraged to try to correct the interference by relocating the equipment or connecting the equipment to a different circuit than the affected equipment. Consult an authorized dealer or other qualified avionics technician for additional help if these remedies do not correct the problem.

Operation of this device is subject 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.

To obtain accessories for your unit, please contact your Garmin dealer.

The display surface is coated with a special anti-reflective coating which is very sensitive to skin oils, waxes and abrasive cleaners. It is very important to clean the lens using an eyeglass lens cleaner which is specified as safe for anti-reflective coatings and a clean, lint-free cloth.

AC 90-100A Statement of Compliance.  
The Garmin navigational unit meets the performance and functional requirements of FAA Advisory Circular (AC) 90-100A, U.S. *Terminal and En Route Area Navigation (RNAV) Operations.*

# Product Registration and Support

Help us better support you by completing your online registration today! Have the serial number of your product handy and visit [www.flyGarmin.com](http://www.flyGarmin.com).

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Part Number	Revision	Date	Description
190-01004-03	A	02/04/11	Initial release
	B	03/16/11	Update information
	C	11/29/12	Updates for software v3.0
	D	02/28/13	Updates for software v4.0
	E	03/25/13	Updates for software v4.10
	F	08/26/13	Updates for software v5.0
	G	08/01/14	Updates for software v5.10
	H	10/17/14	Updates for software v5.12
	J	07/2015	Updates for software v6.00
	K	01/2016	Updates for software v6.10
	L	09/2016	Updates for software v6.20
	M	08/2017	Updates for software v6.30

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Welcome to the GTN era of navigation. The Garmin Touchscreen Navigator (GTN) supports airway navigation and flexible flight planning, including arrival and departure procedures and precision approaches. All of these advanced features are easily accessed with an easy-to-use touchscreen display, another first for general aviation. You can be confident in knowing that this product has been designed to meet or exceed industry performance standards and is supported through a global network of Garmin Aviation Distributors.

## About This Guide

Take a little time to review the various sections of this guide to familiarize yourself with it. First, read this section and the Getting Started section as an introduction to quickly get you started with the GTN. The other sections are not meant to necessarily be read in order, but provide detailed information on the subject they contain as you need them. Do take the time to review the information before using the product to assist you in getting the most out of your avionics.

Generally, a feature will be described in a section that provides a brief description, a graphic functional diagram, and step-by-step procedures. If read cover-to-cover sequentially, the information may seem repetitive. The guide is designed as a reference and learning tool where you will generally skip around the document learning about a particular feature or function after becoming familiar with the unit.

## Electronic Document Features

Versions of this guide are saved in the Adobe Portable Document Format (PDF) and have features that help the user navigate more easily through the document. The cover icons, table of contents, and index are hyperlinks that will take you directly to the selected item.

Versions of aviation products in PDF format are available at [www.flyGarmin.com](http://www.flyGarmin.com).

# Conventions

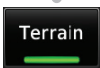
The GTN display dynamically tailors the number and position of the controls for each function and are engaged by merely touching them.

- Touch** Touch the key with your finger.
- Drag** Touch the list or location on the map with your finger. Continue lightly holding your finger to the display surface and drag your finger in the intended direction to scroll through the list or move the location on the map.

In this pilot's guide, key titles are noted by bold text. An image of the key used will be shown to the left of a procedure. Keys are outlined areas on the display. Figures in the guide will identify the available controls. A key may have a name of a control, such as **Enter**, **Terrain**, or **Back**. A key may also be an information field, such as a numeric value that can be changed.

*Graphic Of Key*

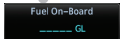
*Text Description Of Key Operation*



While viewing the Map Menu, touch the **Terrain** Map Overlay key to toggle the view of Terrain data.

*Graphic Of Key With Numeric Value*

*Text Description Of Key Operation*



When the Fuel on Board value is selected, touch the **Fuel on Board** key to display the Fuel on Board values.

*List "Keys." Touch To Select.*



*Scroll Bar Indicates More Selections Available. Touch Finger To An Item In The List And Drag Your Finger To View More Selections.*

*Selected Field Type*



Touching the **Back** key returns to the previous display. The **Cancel** key cancels any information selected or entered and returns to the previous display.