

# 400W / 500W Series



User Guide for the  
Training CD with  
Simulator and FDE  
Prediction Software



## Trainer CD Instructions



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## Introduction

Thank you for using the Garmin 400W/500W Windows Trainer ("400W/500W Series Trainer"). The 400W/500W Series Trainer operates just like the actual unit, providing a safe, on-the-ground environment to learn the basic operation of an actual 400W/500W series product.

The 400W/500W Series Trainer includes complete Jeppesen Worldwide database. You can use this trainer to perform the examples in the Pilot's Guides. Feel free to explore other areas, other airports, and some approaches more familiar to you.

## Installation

### Minimum System Requirements

IBM-Compatible PC with Pentium processor, CD-ROM drive, Mouse or other pointing device, Acrobat Reader, and 300 Megabytes of free hard drive space. The 400W/500W Series Trainer requires a Windows 2000, Windows XP, or later Windows version operating system. An active internet connection is required for periodic FDE program updates.

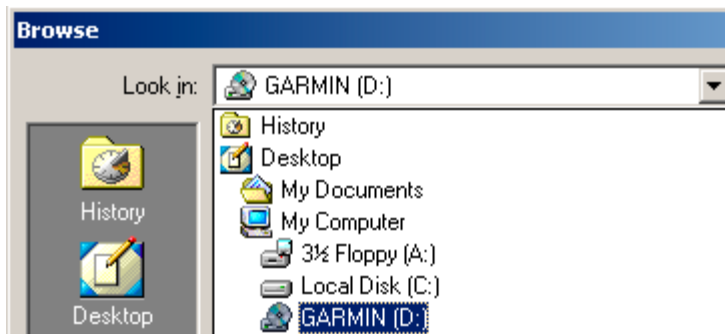
### To install the 400W/500W Series Trainer:

1. Insert the CD-ROM into your computer's CD-ROM drive.
2. Your computer should automatically run the startup file and display a welcome screen. Click on the "Install Trainer" line and follow the on-screen directions.

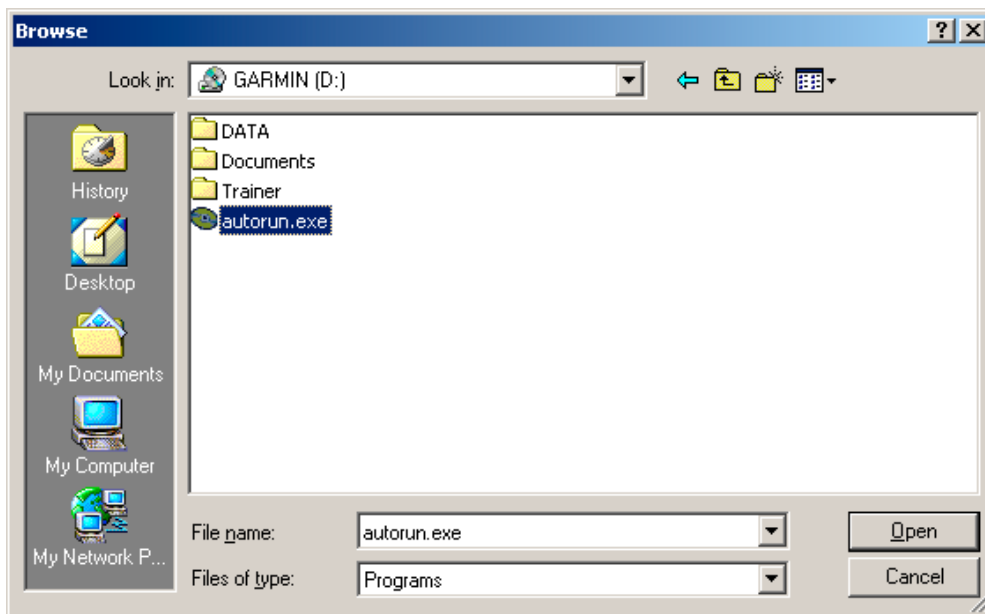


**NOTE:** Clicking on the "Trainer User Guide" or one of the "Reference Documents" will open the selected document using Adobe Acrobat™. If you don't have Acrobat, you will need to install it. Follow the directions on the screen or go to [www.adobe.com](http://www.adobe.com).

3. If for some reason it doesn't run automatically, click the **Start** button and select **Run**, then click on **Browse**. Double-click on the drive letter of your CD-ROM drive, and press **ENTER**.



4. Double-click on "Autorun.exe" to bring up the on-screen directions.



## **Running the 400W/500W Series Trainer**

Once the installation is complete, the 400W/500W Series Trainer will be added to the "Programs" group on your **Start**-button menu in the "Garmin" group.

### **To start the 400W/500W Series Trainer program:**

1. Click on **Start**.
2. Highlight **Garmin** followed by **400W/500W Trainer**.
3. Then, click on **GNS 400W/500W Trainer** to start the program.
4. Click on **Options** and then click on the desired unit.
5. Click on the **Power/Com Volume** knob to turn power on to the unit.
6. Read the information on the following pages to learn about the 400W/500W Series Trainer.

## Trainer Controls

The controls of the 400W/500W Series Trainer work like the actual unit. For example, to use the **direct-to** key on the unit, place the mouse pointer on the **direct-to** key and click the left mouse button once. (See the 400W or 500W Series Pilot's Guides for descriptions of key and knob functions.)

To use the **large** and **small** knobs, click on an arrow adjacent to the desired knob—based upon the desired direction of rotation. The **small** knobs may also be pressed to activate, move or remove a cursor on the unit screen. This is accomplished by pointing and clicking at the center of the desired **small** knob.



The **OBS** knob on the HSI allows you to choose a desired course angle as you would choose the CDI or HSI course in an airplane with an autopilot. To change this course value, select the knob with the mouse and drag left to rotate the yellow-colored course pointer counter-clockwise or right to rotate clockwise.

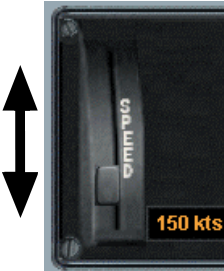


**NOTE:** This knob does not affect navigation in the simulator unless OBS mode is active on the unit.





The **heading bug** knob on the HSI allows you to choose the desired heading angle as you would choose the desired heading in an airplane with an autopilot. To change this heading value, select the knob with the mouse and drag left to rotate the amber-colored heading pointer counter-clockwise or right to rotate clockwise.



Simulator ground speed can be changed by clicking and dragging the **ground speed control** lever up for higher speeds and down for lower speeds. Speeds from zero to 600 knots may be selected.



Simulator altitude may be controlled by pressing and holding the **altitude control UP/DN** rocker switch until the desired altitude is selected. Altitudes from zero to 40,000 feet may be selected.



**NOTE:** If the ALT mode on the autopilot is active, the altitude selection is disabled.



The autopilot allows you to select a mode that will automatically fly most navigation paths (such as direct-to legs, flight plan legs, turn anticipation, etc.) or fly in the direction specified by the heading bug. Press the **NAV** button on the autopilot to activate the NAV-coupled mode and de-activate the HDG mode. When the autopilot is in NAV mode, the system will fly the course-to-steer provided by the 400W/500W series units. In this mode, the system will automatically make course corrections to keep the course deviation needle centered while in flight.



Press the **HDG** button on the autopilot to enable HDG-coupled mode and disable NAV-coupled mode. You can select a desired heading on the HSI's heading bug, and the system will automatically turn and fly in the direction you specify.



Press the **ALT** button on the autopilot to automate climbs and descents according to the vertical guidance provided by the 400W/500W series units during a precision approach. The ALT mode can only be engaged after vertical guidance in a precision approach is provided. When the ALT mode is active, the altitude select rocker switch is disabled since the altitude is being driven by the unit.

## Pull-down Menus

The 400W/500W Series Trainer contains pull-down menu selections for: **File**, **Options**, and **Help** Menus.



### Exit Program

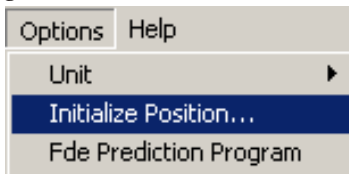
Clicking on the "Exit" selection exits the 400W/500W Series Trainer program.



**NOTE:** The "X"  in the upper right corner of the 400W/500W Series Trainer window will also exit the program.

## Options Menu

The "Options" menu provides selections for choosing the 400W/500W unit, initializing your starting position, setting the HSI Course Pointer to the desired heading, and launching the Fde Prediction Program.



### Unit

Selects between 400W/500W series units. Unit selection can only be performed when the unit is turned off.

### Initialize Position

Allows you to select a starting position for the simulator. A page will appear on the unit screen, allowing the position to be moved by electing a waypoint identifier or by entering a latitude and longitude. Use the **large** and **small right** knobs to make your selections.

#### To initialize your starting position:

1. Select the *Options* menu in the upper left corner.
2. Select *Initialize Position*. An Initialize Position window will appear on the unit screen.



3. Use the **small** and **large right** knobs on the unit to enter the identifier of the starting position.

or,

Turn the **large right** knob clockwise to highlight the latitude/longitude position. Use the **small** and **large right** knobs on the unit to enter a new starting position.

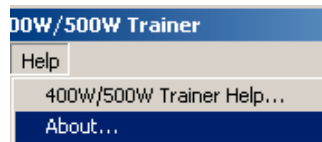
4. Click on the **ENT** key to accept the position.
5. Click on the **small right** knob to remove the Initialize Position window.

### FDE Prediction

Allows you to initiate the FDE Prediction Program for the currently active flight plan.

### Help Menu

The Help menu option provides access to on-line help and the version of Trainer software.



### 400W/500W Trainer Help...

Activates the main on-line help.

### About...

Displays the version number and a brief summary of information about the 400W/500W Series Trainer.

## Un-installing the 400W/500W Series Trainer

If you wish to remove the 400W/500W Series Trainer and supporting files from your hard drive, follow the steps below:

1. Click on the **Start** button and select **Settings**.
2. Click on the **Control Panel** folder to open it.
3. Double-click on **Add/Remove Programs**. A window will appear listing all installed programs.
4. Click on **GNS 400W/500W Trainer** from the list of programs and click on the **Change/Remove...** button. Follow the on-screen prompts to remove the program files.

### More Information...

Additional information is provided on the 400W/500W Series Trainer CD. Copies of the GPS 400W/500W Series Pilot's Guides are provided in Adobe Acrobat (\*.PDF) format. Should you need even more information about our products, visit our website at: [www.garmin.com](http://www.garmin.com). Check the web site for the latest versions of the pilot's guides and FDE prediction program instructions.



## **FDE Prediction Program**

Your 400W/500W Series Trainer software includes an FDE (Fault Detection and Exclusion) Prediction Program to meet the requirements for GPS as a primary means of navigation for Oceanic/Remote operations (reference FAA Notice 8110.60). The Oceanic flight phase occurs on your 400W/500W series unit when you are more than 200 nautical miles from the nearest airport. All operators using the 400W/500W series unit as primary means navigation in Oceanic/Remote areas under FAR parts 91, 121, 125 and 135 must utilize the FDE Prediction Program prior to conducting a flight in these areas.

The detection function refers to the capability to detect a satellite failure which can affect navigation. The exclusion function refers to the capability to exclude one or more failed satellites and prevent them from affecting navigation. The FDE function is built into the 400W/500W series and does not require pilot interaction. In contrast, the FDE Prediction Program does require pilot interaction and must be used prior to Oceanic/Remote area flights to predict FDE availability.

To use the FDE Prediction Program, begin by entering the intended flight plan into the 400W/500W Series Trainer software, activating the flight plan, and then running the FDE Prediction Program. The FDE Prediction Program uses the flight plan information to analyze satellite coverage along your intended route of flight.

### **To use the FDE Prediction Program**

1. Create a flight plan in your unit.
2. Activate the flight plan.
3. Start the FDE Prediction Program from the Trainer CD by selecting the program from the Options menu of the Route Planning program.

See the 400W/500W-Series WFDE Prediction Instructions (p/n 190-00643-01) for detailed information for using the FDE Prediction Program. The instructions are available on the Trainer CD and on the Garmin website ([www.garmin.com](http://www.garmin.com)) in the manuals section of the desired product.

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