

For: State and County Offices

Garmin Global Positioning System (GPS) Map76 Firmware Upgrade 4.00

Approved by: Deputy Administrator, Farm Programs



1 Overview

A Background

On July 11, 2008, ITSD released a News Flash directing NRCS to upgrade the Garmin GPS Map76 to version 4.00. To create consistency and a uniform version of the firmware installed, FSA will also upgrade Garmin GPS Map76 Firmware to version 4.00. State and County Offices will be officially notified of any GPS firmware or DNR Garmin software upgrade action in an upcoming notice.

Garmin GPS Map76 Upgrade 4.00 is a firmware upgrade available for the Garmin Map76 receivers. The new firmware specifically allows the receiver to optimize using the Federal Aviation Administration Wide Area Augmentation Service (WAAS) as a differential correction service. The upgrade also corrects differential signal processing delays and National Marine Electronics Association sentence integration.

Although many geographic regions do not use or require WAAS, WAAS differential correction may be used as a backup for real time 3D Differential Location if Differential Global Positioning System (DGPS) operated by the U.S. Coast Guard is unavailable. However, given improvements in WAAS capability, all States should be aware of this option and use when necessary. DGPS is still considered FSA’s primary source for acquiring real time 3D Differential Location. GPS units used for compliance purposes **must** be in 3D Differential Location status. 3D Differential Location is when the receiver is using at least 4 satellites and a form of differential correction to calculate horizontal position and altitude.

Users may upgrade the firmware for the Garmin Map76 receiver (hand-held unit) by accessing http://www8.garmin.com/support/download_details.jsp?id+153.

The firmware upgrade consists of a self-extracting zipped file. The files do not require administrative rights to install. GPS users may install the firmware upgrade as a regular user. It will also require the Garmin Map76 receiver (hand-held unit) and a Garmin/PC interface cable.

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B Purpose

This notice informs State and County Offices to upgrade all FSA Garmin Map76 receivers (hand-held units) to version 4.00.

C Procedure for Upgrading Garmin Map76 Firmware to Version 4.00

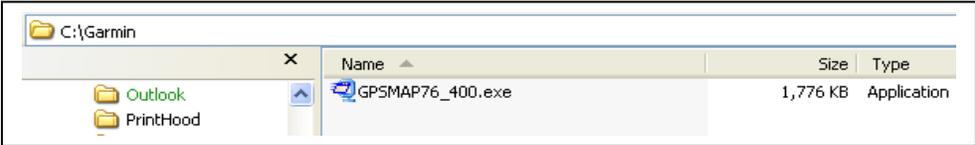
The following table provides steps for performing Garmin Map76 Firmware upgrade to version 4.00.

Note: If there are any saved waypoints or tracks on the Garmin hand-held unit, download the data before running the upgrade process. The upgrade process will erase all saved data on the hand-held unit.

Step	Action
1	It is recommended that the user performing the upgrade disable screen savers or other programs running on the PC while going through the update process. Disruptions may render the GPS inoperable. If the transfer is interrupted, turn off the GPS and then turn it back on. Reboot the computer, go to step 8 and attempt the download again. GARMIN is not responsible for failed downloads of operating software to the GPS and factory resetting the GPS unit will fall under GARMIN's Flat Rate Repair Policy. If users cannot manipulate the screen saver settings, contact the State GIS specialist or coordinator. The State GIS specialist or coordinator shall contact the State ITS manager. The download takes approximately 20 minutes to complete.
2	Open Internet Explorer and access the Garmin web site located at http://www8.garmin.com/support/download_details.jsp?id=153 . <div data-bbox="428 1268 1334 1663" style="border: 1px solid black; padding: 5px;"><p>Download (1.81 MB)</p><p>View download instructions and system requirements</p><p>Notes:</p><ul style="list-style-type: none">o WARNING: If you are updating from a previous software version, this software will clear user memory.o Please back up important data (routes, tracks, and waypoints) to MapSource prior to updating.</div> <p>CLICK "Download".</p>

1 Overview (Continued)

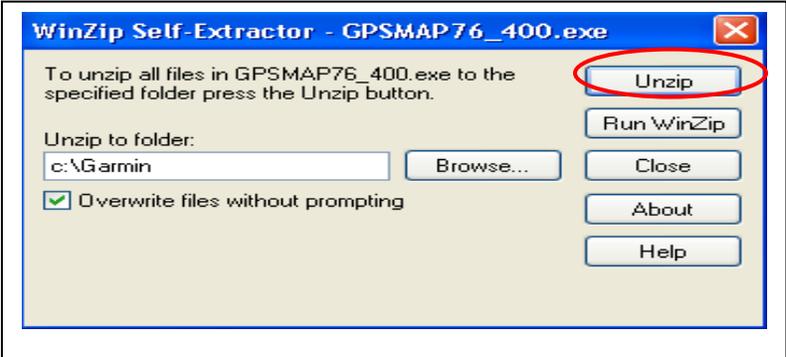
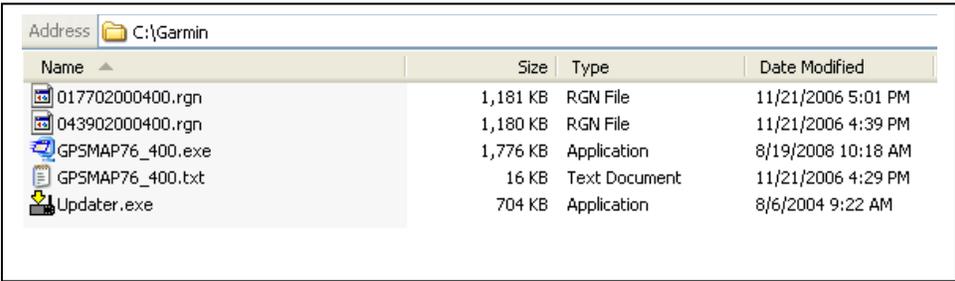
C Procedure for Upgrading Garmin Map76 Firmware to Version 4.00 (Continued)

Step	Action
<p>2 (Cntd)</p>	<p>A File Download dialog window will appear. CLICK “Save”.</p>  <p>Click Close after “Download” is complete.</p>
<p>3</p>	<p>Choose a location where you can easily locate the file by saving it to a location such as C:\Garmin.</p>
<p>4</p>	<p>Once the download is complete, navigate to the saved file location using Windows Explorer.</p>
<p>5</p>	<p>Navigate to the folder where the downloaded file is stored and double-click on GPSMAP76_400.exe.</p>  <p>The double-click action will launch the Win-Zip Self Extractor. CLICK “Run”.</p>  <p>This program compresses the data to allow a faster download on the needed files.</p>

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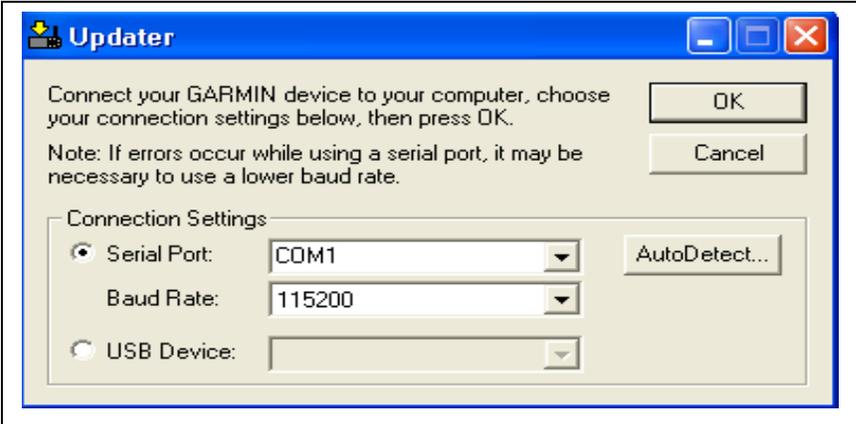
1 Overview (Continued)

C Procedure for Upgrading Garmin Map76 Firmware to Version 4.00 (Continued)

Step	Action
6	<p>A program window will appear asking you where to "Unzip" the files.</p> <p>Change the program's defaulted C:\temp directory to C:\Garmin and CLICK "Unzip".</p> 
7	<p>Once the unzip process is complete, click OK to complete the extraction process.</p> 
8	<p>Navigate to the C:\Garmin directory using Windows Explorer and double-click on the Updater.exe file.</p> 

1 Overview (Continued)

C Procedure for Upgrading Garmin Map76 Firmware to Version 4.00 (Continued)

Step	Action
9	<p>The Updater dialog box will be displayed. Ensure that the following settings have been applied:</p> <ul style="list-style-type: none"> • Serial Port is set to COM1 • Baud Rate is set to 115200. 
10	<p>Connect the GPS to the computer using a GARMIN PC Interface cable to an open serial port.</p>  <p>Turn the GPS on, place it in Simulator mode and verify that the Interface Mode is set to GARMIN.</p>

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1 Overview (Continued)

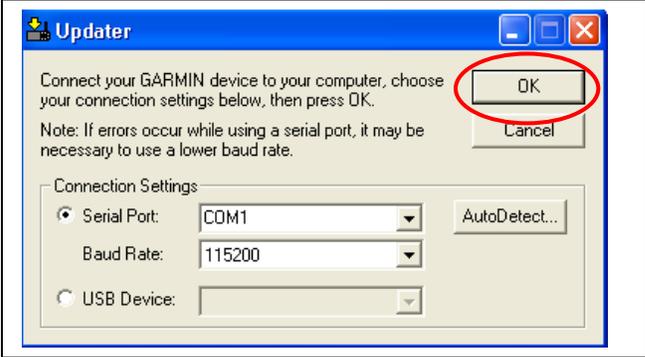
C Procedure for Upgrading Garmin Map76 Firmware to Version 4.00 (Continued)

Step	Action
10 (Cntd)	<p data-bbox="415 357 1409 430">Simulator mode is started from the GPS Information page, usually the first page that opens after the introductory pages. To start simulator mode:</p> <ul data-bbox="415 470 1425 579" style="list-style-type: none"> • PRESS “Menu” once when the GPS Information page opens • use the Rocker key to highlight the “Start Simulator” option from the list • PRESS “Enter” to accept the choice.  <p data-bbox="415 890 1117 924">To verify that the Interface Mode is set to GARMIN:</p> <ul data-bbox="415 966 1458 1260" style="list-style-type: none"> • PRESS “Menu” 2 times • use the Rocker key to highlight Setup • PRESS “Enter” to accept the choice • use the Rocker key once to the left. This should display the Interface Mode set to GARMIN. 

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C Procedure for Upgrading Garmin Map76 Firmware to Version 4.00 (Continued)

Step	Action
11	<p data-bbox="418 359 1338 390">CLICK “OK” on the Updater program window to start the data transfer.</p> <div data-bbox="428 428 1073 785">A screenshot of the 'Updater' dialog box. The title bar says 'Updater'. The main text reads: 'Connect your GARMIN device to your computer, choose your connection settings below, then press OK.' Below this is a note: 'Note: If errors occur while using a serial port, it may be necessary to use a lower baud rate.' Under 'Connection Settings', there are three options: 'Serial Port' (selected with a radio button), 'Baud Rate', and 'USB Device'. The 'Serial Port' dropdown is set to 'COM1'. The 'Baud Rate' dropdown is set to '115200'. There is an 'AutoDetect...' button next to the 'Serial Port' dropdown. At the bottom right, there are two buttons: 'OK' and 'Cancel'. The 'OK' button is circled in red.</div> <p data-bbox="418 821 1446 890">Once the data transfer is complete, a dialog window will be displayed indicating that the update has been successful. Click OK to exit.</p>

2 Action

A State Office Action

State Office GIS Specialists or Coordinators shall:

- contact Alison Lenz in the National Office with questions or concerns about this notice at either of the following:
 - e-mail at alison.lenz@wdc.usda.gov
 - telephone at 202-720-6194
- assist County Offices with questions or concerns about this notice
- contact ITSD staff if users are not able to install the firmware upgrade.

B County Office Action

CED shall:

- assure that this notice is followed to upgrade all FSA Garmin Map76 or Map76S receivers (hand-held units) to version 4.00
- contact State GIS Specialists/Coordinators for assistance with questions or concerns about this notice.