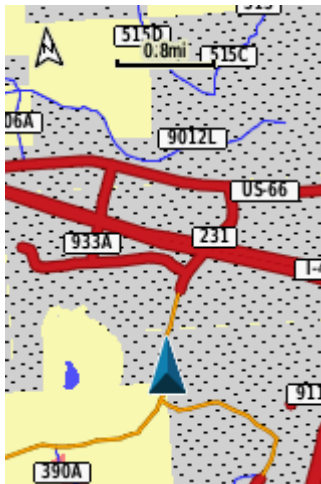
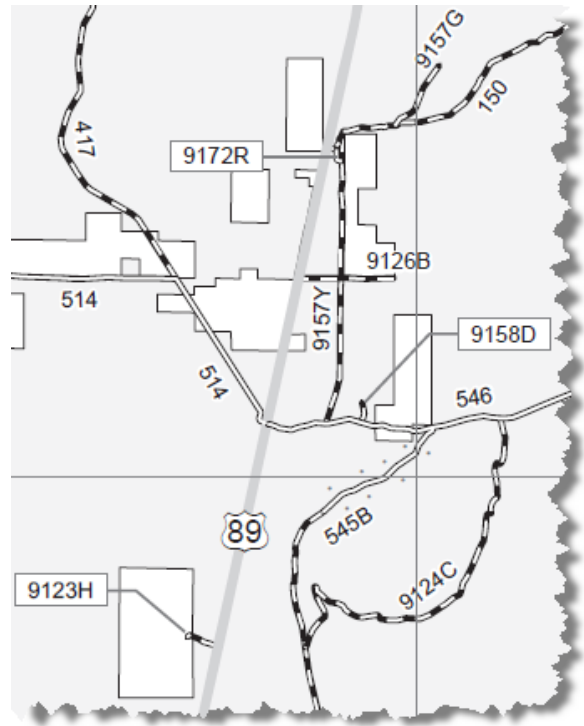


Guidance On Installation And Use Of A Travel Aid For Garmin GPS Receivers

Background - The published Motor Vehicle Use Map (MVUM) is the official document-of-record that designates roads, trails, and areas open to public motorized use on Coconino National Forest. An example is illustrated at right.

The published MVUM contains important information about road, trail, and area designations that motorists should always have close at hand. However, the MVUM's large size could make it difficult to handle, or refer to, while travelling, and some motorists have found that the MVUM's small map scale and spare design make it difficult to locate themselves with confidence along the roads and trails that it portrays.



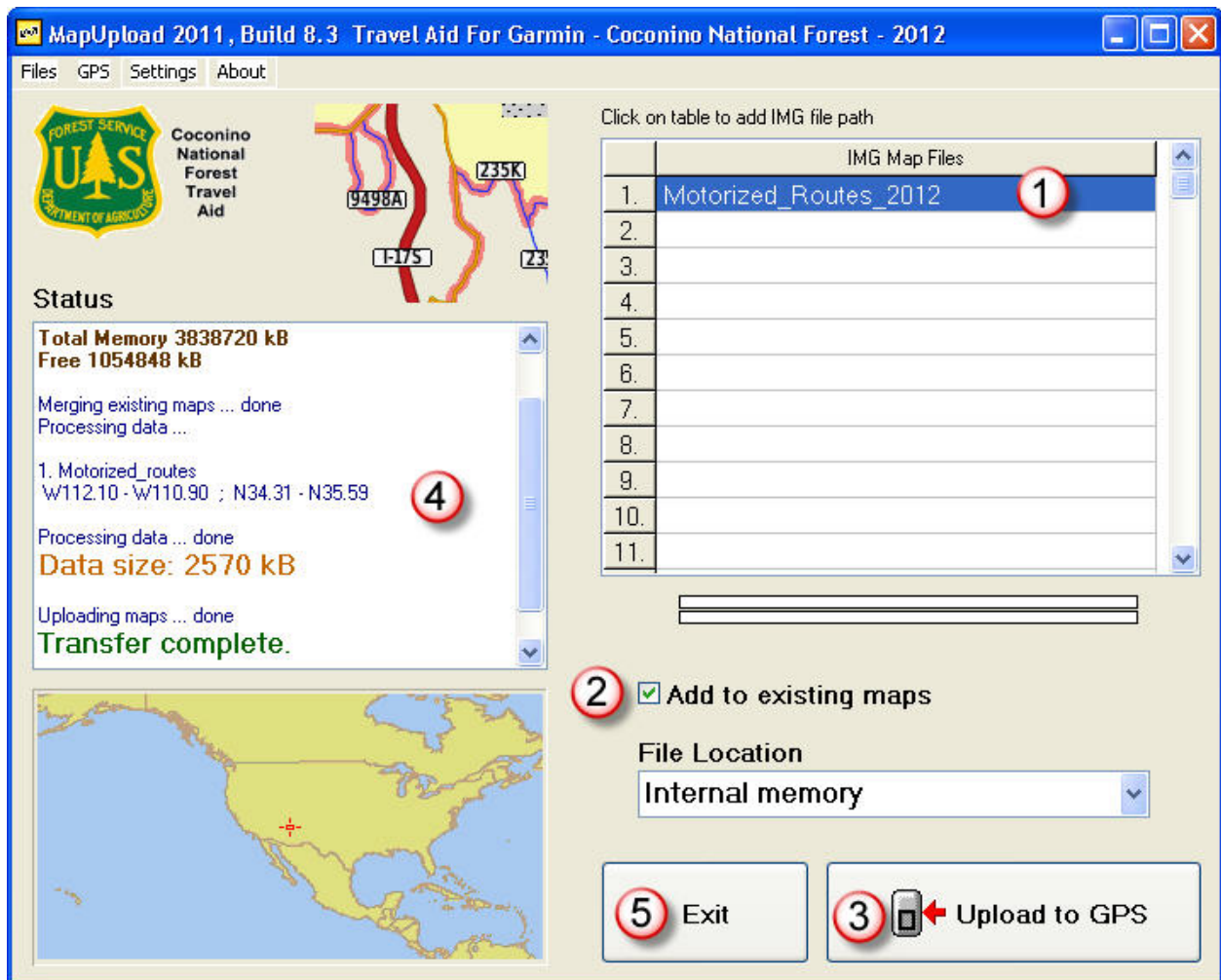
In response to these issues, Coconino National Forest has developed a Travel Aid for Garmin GPS receivers (example at left) that is designed to help motorists locate their position:

- Along designated roads or trails,
- Within areas open to motorized cross-country travel,
- Relative to motorized dispersed camping corridors, and
- Relative to areas open to motorized elk retrieval.

Install the Travel Aid – Follow these steps to install the Travel Aid.

1. Keep this document handy, as it provides guidance on installation of the Travel Aid.
2. Refer to **Appendix A** to see a list of supported Garmin GPS receivers.

3. Click **Start – Control Panel – Add or Remove Programs** on the Windows PC (2000, XP, Vista, or 7) that will be used to perform the installation, and determine if a **Garmin USB Drivers** entry is present. If not, the drivers must be installed on the PC before proceeding. Garmin USB drivers can be obtained from these sources:
 - CD shipped with a new Garmin GPS receiver,
 - Garmin MapSource or BaseCamp software CD or installation package, or
 - Garmin website at http://www8.garmin.com/support/download_details.jsp?id=591.
4. **Save the Garmin Installer package** file (~7 MB) to the PC from this link.
 - <http://go.usa.gov/PEa>
5. Turn on the Garmin GPS receiver, and connect it to the PC with its USB cable.
6. Double-click the **Garmin Installer package** file, and note, or carry out, the numbered items described below. The installer's appearance may vary somewhat.



- **Item 1** – The Travel Aid’s map is already pre-loaded. No further action is required.
- **Item 2** – Check this box to merge Travel Aid map content with the receiver’s existing supplemental maps. **If this box is not checked, existing supplemental map content in the gmapsupp.img file will be permanently over-written! The default base map and City Navigator map (gmapbmap.img and gmapprom.img) are not affected.** An alternative would be to install the Travel Aid on a separate micro-SD card, and swap cards as needed. **NOTE: Merging the Travel Aid map with a large supplemental mapset, like MapSource data, can be extremely time-consuming!**
- **Item 3** – Click the **Upload to GPS** button to install the Travel Aid’s map content.
- **Item 4** - Note the status messages, and wait for the “Transfer complete” message before proceeding. Do not operate the GPS receiver during the Travel Aid’s installation. Travel Aid map content totals only about 2.6 MB.
- **Item 5** – Click **Exit** to complete the Travel Aid’s installation.

Use the Travel Aid – These topics describe general operation and use of the Travel Aid.

Establish GPS reception - Turn the GPS receiver on outdoors, and wait for it to establish a position fix before using the Travel Aid. Receivers vary, but most provide an indication that GPS reception has been established, or that the receiver is ready for navigation.



Map page - Display the Map page (left) by cycling through the receiver’s page sequence, or by opening it from the receiver’s menu.

Feature display – Refer to **Appendix B** for an example of the symbols used to represent the Travel Aid’s features.

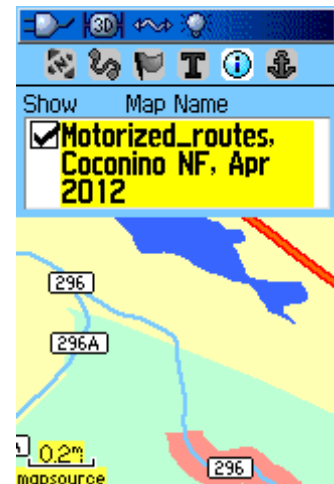
If it is not already so, change the map’s **Detail** setting to “Most” in the receiver’s map setup section. The map’s color scheme was designed for daytime use, so it is recommended that users manually change their receiver’s **Display Mode** to the “Daytime” setting. The map may be easier to interpret if its **Orientation** is set to “track up”.

Position and direction of travel - The receiver’s current position will be indicated by an arrowhead pointing in the direction of travel. In the example above, travel is towards the northeast along Road 237, a road that has been designated for highway-legal vehicles only.

Feature identification – Use the receiver’s Map Pointer to identify unlabeled features. In the example above, the pointer is identifying an area designated for motorized elk retrieval. Identifying an unlabeled road will reveal its road number and its season of use.

Zoom levels – Different feature types will appear at different zoom levels. When zooming in, for instance, roads designated for highway-legal vehicles will be visible prior to the appearance of roads designated for all vehicles. The map may be viewed at any convenient zoom level, but the 0.2-mile through 0.5-mile zoom levels are typically preferred for general use.

Hide the map – Users can hide the Travel Aid’s map by un-checking its “Show” entry in the receiver’s Map Setup section, as at right.

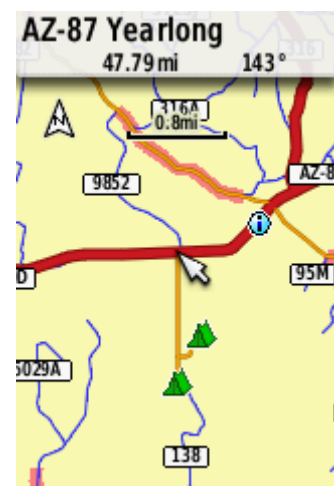
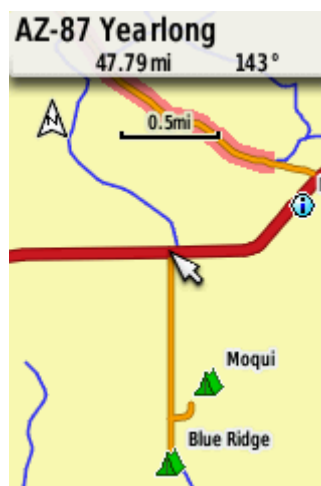
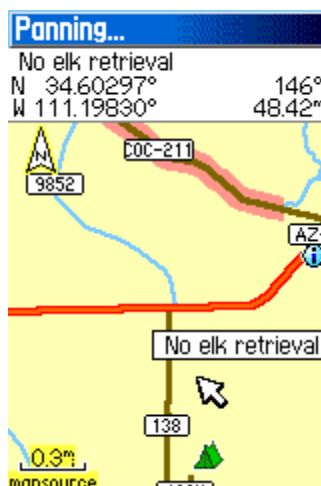


Travel Aid limitations – Unfortunately, the Travel Aid is **not a perfect solution**. The following topics describe some of its limitations.

Map visibility – Certain lighting conditions, and limited screen size/resolution, can impair map visibility. Zoom in, show “most” detail, and increase screen backlight to improve map visibility.

Feature display - Different Garmin GPS receiver models display feature symbols differently, and at different zoom levels, depending upon their version of installed firmware.

Road and trail labels – Some receivers display fewer labels, and may drop labels altogether as they zoom in. In the examples below, an older 60CSx receiver (left) retains road labels at all zoom levels. A newer 62sc receiver (center and right) drops road labels when zooming in from the 0.8-mile level to the 0.5-mile level. Use the Map Pointer to identify unlabeled features.



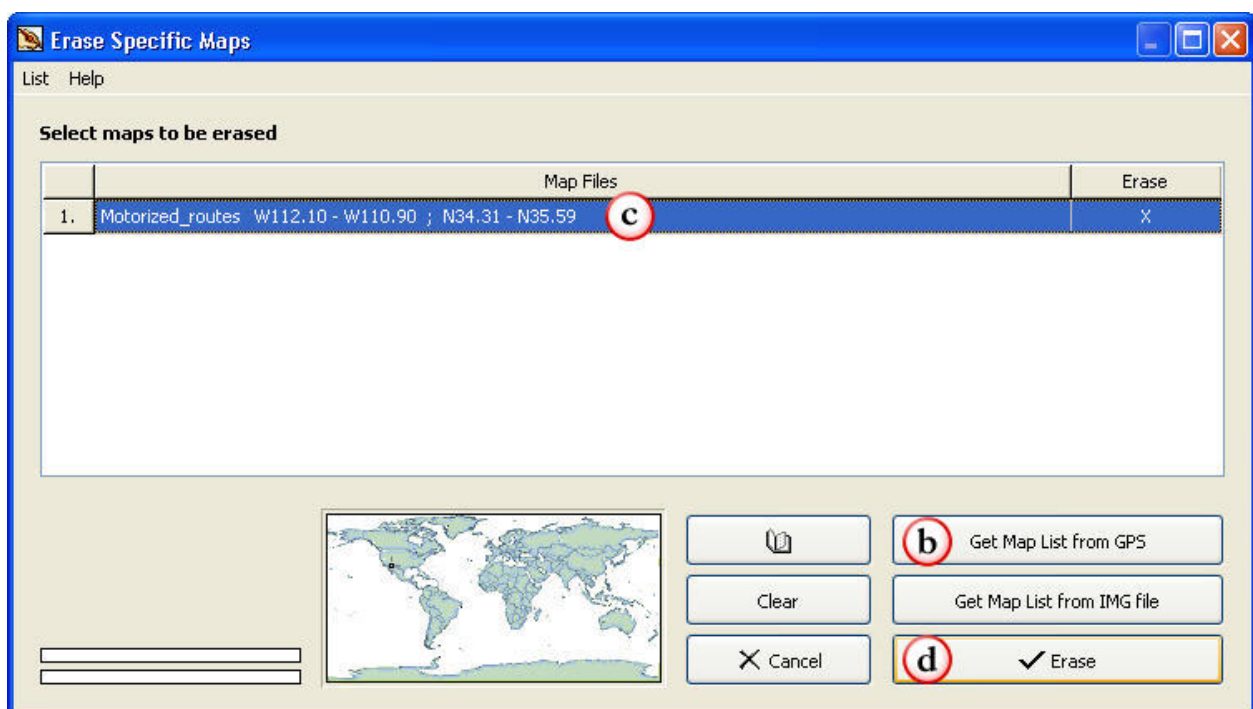
Roads and trails are not “routable” – Unlike commercial map content for the Garmin Nüvi, Tom Tom, Magellan RoadMate, and so on, the Travel Aid’s roads and trails are not “routable”.

Windows compatibility only – The Travel Aid’s installer package is compatible only with PCs running Windows 2000, Windows XP, Windows Vista, or Windows 7.

Pink or green screen – See **Appendix C** if a pink or green screen appears instead of the map.

Un-install the Travel Aid – Unfortunately, the Travel Aid’s installer package does not include an un-install utility. Follow these steps to remove the Travel Aid from a Garmin GPS receiver.

1. Download and install the Mapwel Demo software (<http://www.mapwel.net/down.htm>) on a Windows PC.
2. Turn on the Garmin GPS receiver, and connect it to the PC with its USB cable.
3. Start the Mapwel Demo software, click **No** when prompted to register, and:
 - a. In Mapwel, click **GPS – Erase Specific Maps**,
 - b. Click **Get Map List From GPS**,
 - c. Select the **Motorized_routes** map, and
 - d. Click **Erase**.



Appendix A – List of supported Garmin GPS receivers

The Travel Aid should be installed only on Garmin GPS receivers that are supported by the Travel Aid’s development software, as listed below.

Unfortunately, “supported” is a relative term, as these receivers may display feature symbols differently, and at different zoom levels, depending upon their version of installed firmware.







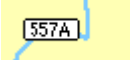
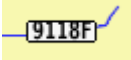
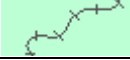




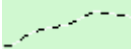
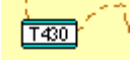























Although technically supported, **receivers having a grey-scale (non-color) screen are not generally suitable for Travel Aid use.**

Garmin® Nuvifone M20™
Garmin® Mobile XT™
Garmin® Aera™
Garmin® Oregon™
Garmin® Dakota™
Garmin® Colorado™
Garmin® Montana™
Garmin® Astro™
Garmin® Nuvi and Zumo (all models)™
Garmin® Edge 605, 705, 800™
Garmin® iQue M3, M4, M5™
Garmin® eTrex 20, 30™
Garmin® eTrex Summit HC™
Garmin® eTrex Venture Cx, HC™
Garmin® eTrex Legend C, Cx, HCx™
Garmin® eTrex Vista, C, Cx, HCx™
Garmin® Rino 120, 130, 520, 530, 520HCx, 530HCx™
Garmin® GPS V™
Garmin® GPSMAP 60C, 60CS, 60Cx, 60CSx, 62, 62s, 62st™
Garmin® GPSMAP 76, 76S, 76C, 76CS, 76Cx, 76CSx, 78, 78s, 78sc™
Garmin® GPSMAP 176, 176C, 276C, 376C, 378, 478C™
Garmin® GPSMAP 96, 96C, 196, 296, 396, 496™
Garmin® GPSMAP 620 - only routing maps in automotive mode™
Garmin® Quest, Quest 2™
Garmin® Street Pilot i2, i3, i5™
Garmin® Street Pilot c320, c330, c340™
Garmin® Street Pilot c530, c550, 580™
Garmin® Street Pilot 2610, 2620, 2650, 2660™

Appendix B – Travel Aid feature legend for older and newer models of Garmin GPS receiver

Unfortunately, different Garmin GPS receiver models may display feature symbols differently, and at different zoom levels, depending upon their version of installed firmware. This table displays the variations likely to be observed between older and newer Garmin GPS receiver models.

In addition to many others, older receivers include the GPSMap 60C and 76C series. Newer receivers include the Oregon, Montana, GPSMap 62, and GPSMap 78 series.

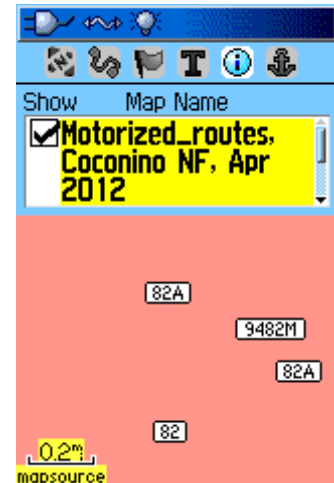
Type Of Feature	Older Receivers	Newer receivers
Public road or highway		
Road open to highway-legal vehicles only		
Road open to all vehicles		
Road sign		
Motorized trail open to all vehicles		
Motorized trail open to motorcycles only		
Motorized trail open to vehicles 50 inches, or less, in width		
Motorized trail sign		
Campground		
Picnic area		
Motorized trailhead		
Information site		
Corridors open to motorized off-road dispersed camping		
Area open to motorized cross-country travel		
Wilderness area		
Water body		
Non-National Forest land		
Area where motorized elk retrieval is permitted		
Area where motorized elk retrieval is not permitted		

Appendix C – Solutions for the Travel Aid appearing as a solid pink or green screen

Issue – Many Garmin receivers will initially display a solid pink or green screen instead of the Travel Aid’s map, as illustrated at right on a GPSMap 76CSx.

Unfortunately, the unruly variation in Garmin models, firmware, and filing structure make these suggested solutions something of a hit-or-miss proposition, and results are not always totally satisfactory.

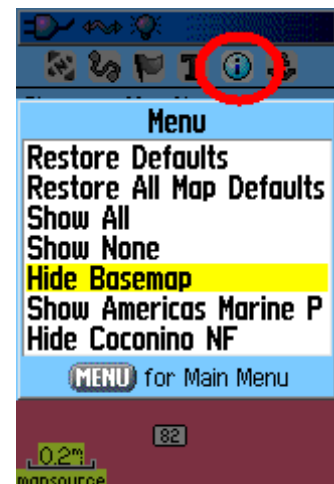
We’re still discovering new wrinkles in how the “pink screen” problem plays out with different receivers. So, let us know if you experience issues not addressed here. Call (928) 527-3600, or visit <http://www.fs.usda.gov/contactus/coconino/about-forest/contactus>



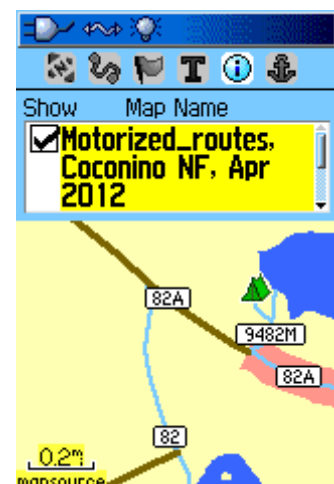
Solution for older (non-GPX-based) handheld receivers – For example, receivers in this category might include the eTrex HC series, or the GPSMap 76C series.

The solution for this category of receiver is to “hide” the receiver’s built-in base map. Receiver firmware varies, but equivalent functionality should be available for most models. The solution described here, and illustrated at right, is based on a GPSMap 76CSx.

1. Press **Page** until the receiver’s Map page is displayed.
2. Press **Menu**, select **Setup Map**, select the **Information** tab (the red circle above right), and press **Menu** again.
3. Select **Hide Basemap** (the yellow highlight above right), and press **Enter**.



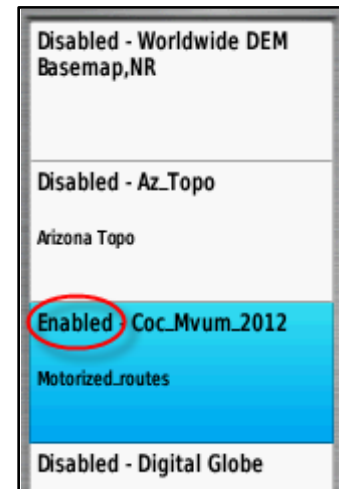
Result – The Travel Aid’s map should appear, as in the illustration at right.



Solution for newer (GPX-based) handheld receivers – For example, receivers in this category might include the Oregon series, or the GPSMap 62 series.

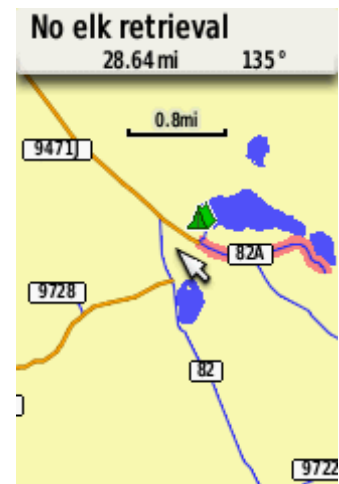
The solution for this category of receiver is to “disable” the receiver’s built-in base map. Receiver firmware varies, but equivalent functionality should be available for most models. The solution described here, and illustrated at right, is based on a GPSMap 62sc.

1. Press **Page** until the receiver’s Map page is displayed.
2. Press **Menu**, select **Setup Map**, and then press **Enter**.
3. Select the **Map Information Select Map** section, and press **Enter**.
4. Select the **Basemap**, press **Enter**, select **Disable**, and press **Enter** again.



In the example above right, all maps have been disabled except for the Travel Aid map.

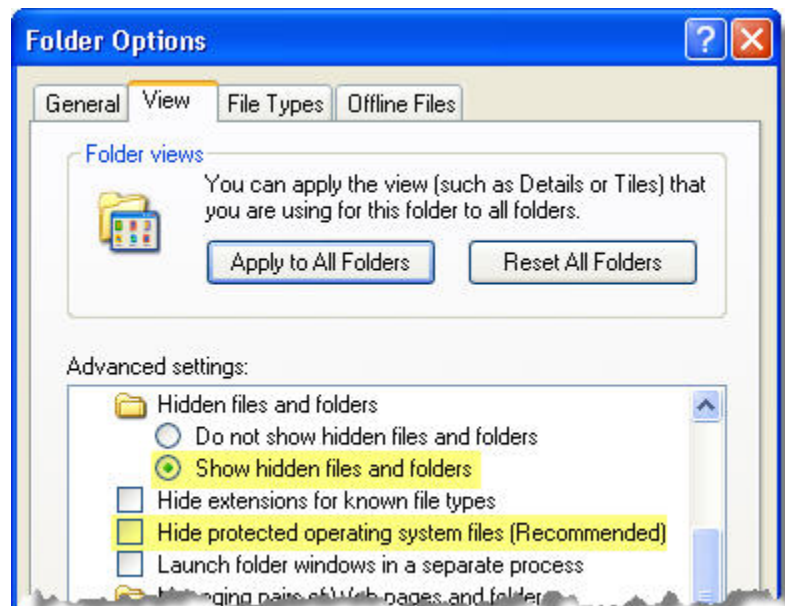
Result – The Travel Aid’s map should appear, as in the illustration at right.



Solution for Nüvi automotive receivers – For example, receivers in this category might include the Nüvi 255W, or the Nüvi 50LM.

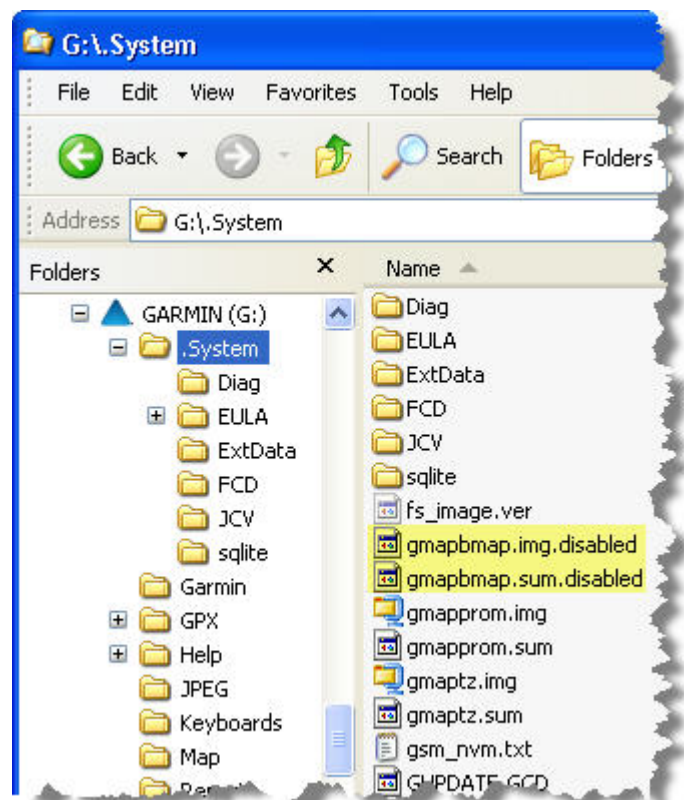
The general solution for this category of receiver is to “disable” its built-in base map file by renaming it. **Never rename or delete the `gmaptz.img` file or the `gmapprom.img` file!**

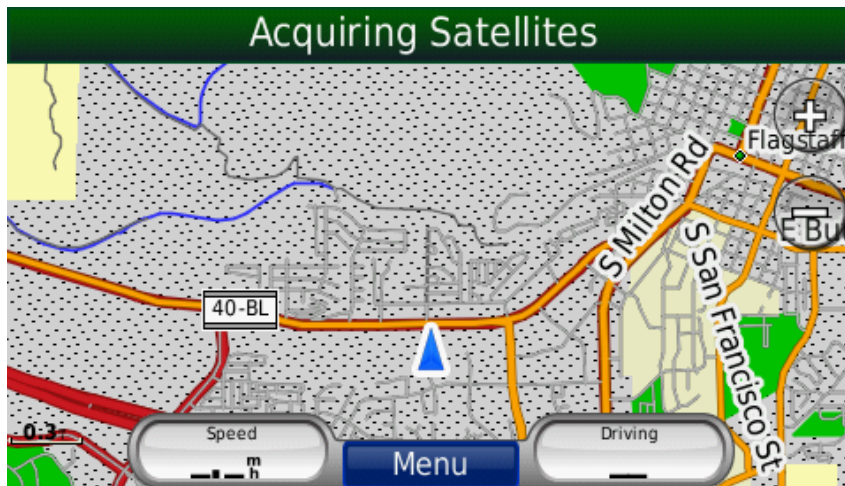
1. In some models, the built-in base map file resides in a hidden folder named **.System**. In this event, it will be necessary to use Windows Explorer on the PC to temporarily make that folder visible by **showing hidden files and folders**, and **un-hiding protected operating system files**, as illustrated at right. To do so in Windows Explorer, click **Tools – Folder Options...**, and then click on the **View** tab.



2. To disable the base map file, connect the receiver to a PC with its USB cable. Then browse to the device's **.System** folder, **Garmin** folder, or **Map** folder, and rename the **gmapbmap.img** file (the built-in base map file) to **gmapbmap.img.disabled**, as illustrated at right.

Re-hide protected operating system files once renaming is complete.





In some Nuvi models, the process described above will result in both the Travel Aid map and the Nuvi's City Navigator map being displayed simultaneously, as at left. This situation may be remedied by substituting the Travel Aid's map for the original built-in base map using this procedure.

1. Rename the Nuvi's **gmapbmap.img** file to **gmapbmap.img.disabled**, as previously described.
2. Rename the Travel Aid's **gmapsupp.img** file to **gmapbmap.img**.

Result – The Nuvi's City Navigator (CN) map will now be the only entry in the Nuvi's list of maps. Check the City Navigator map **On** to view it, or check the City Navigator map **Off** to view the Travel Aid map.

