

CATLAB

Project54

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GPS Navigation Software Manual

PROJECT54

GPS Navigation Software Manual

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Introduction

This manual will provide the reader with a full understanding of the GPS Navigation program implemented inside Project54.

The GPS Navigation program (NavGPS) is a fully voice integrated navigation application. This application has many features that are found in the highest quality navigation packages.

General Features

The NavGPS is an excellent general purpose map viewer. Pan and zoom controls are provided. With the provided commands, one can move through the map quickly and easily.

NavGPS allows for point-to-point routing. You provide the application with a destination and NavGPS generates a route from your current location to that destination.

When you choose to embark the application provides you with turn-by-turn directions until you reach your destination.

NavGPS allows you to mark your current location using colored waypoints. These waypoints allow you to see where you have been. They are easily identifiable and can be removed instantly.

Before First Use

Before running the NavGPS application, make sure that the TeleType GPS Pro software is properly installed. TeleType Pro is not part of this software package and must be installed separately. If the software is not installed, the NavGPS program will not function.

Loading Maps

Once the TeleType GPS application is installed on your computer, the maps you are going to use need to be loaded. To load the maps:

1. Open the TeleType GPS application
2. Go to **File -> Load Map ...**
3. Navigate to the following directory:
"C:\Program Files\GPS\Maps\US"

4. Choose the appropriate state (i.e. "33_NH" for New Hampshire).
5. Highlight all maps in the state directory by pressing **CTRL+A**.
6. Press the **Open** button.

Repeat this procedure for all states that you will be navigating through. You can also load the maps in a particular area of land in your view. To do this, go to **File -> Load in View -> Street Maps**. This will load all of the maps that are needed to show your view in full detail.

Adjust Units

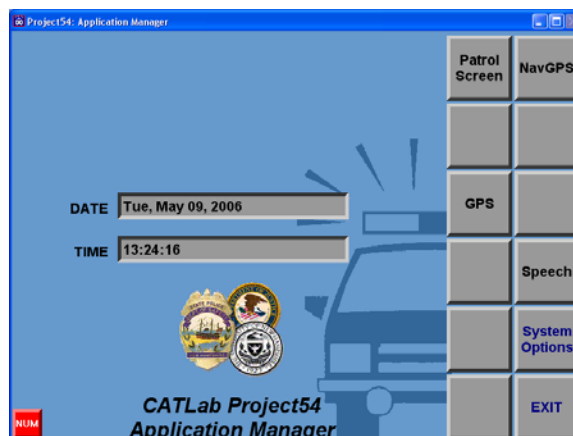
The TeleType system's default unit measurement is the metric system. I recommend changing this to the US standard system. For this, click **View -> Preferences**. Use the directional buttons of this new menu to find the "Unit" tab at the top of the menu. Once this tab is selected, change the system to English. Confirm that all units in the lower boxes are the units that are needed. Regardless of the units, the "Position" field must be "Lat/Lon." If it is not, please change the field to the appropriate value.

Confirm Active GPS Signal

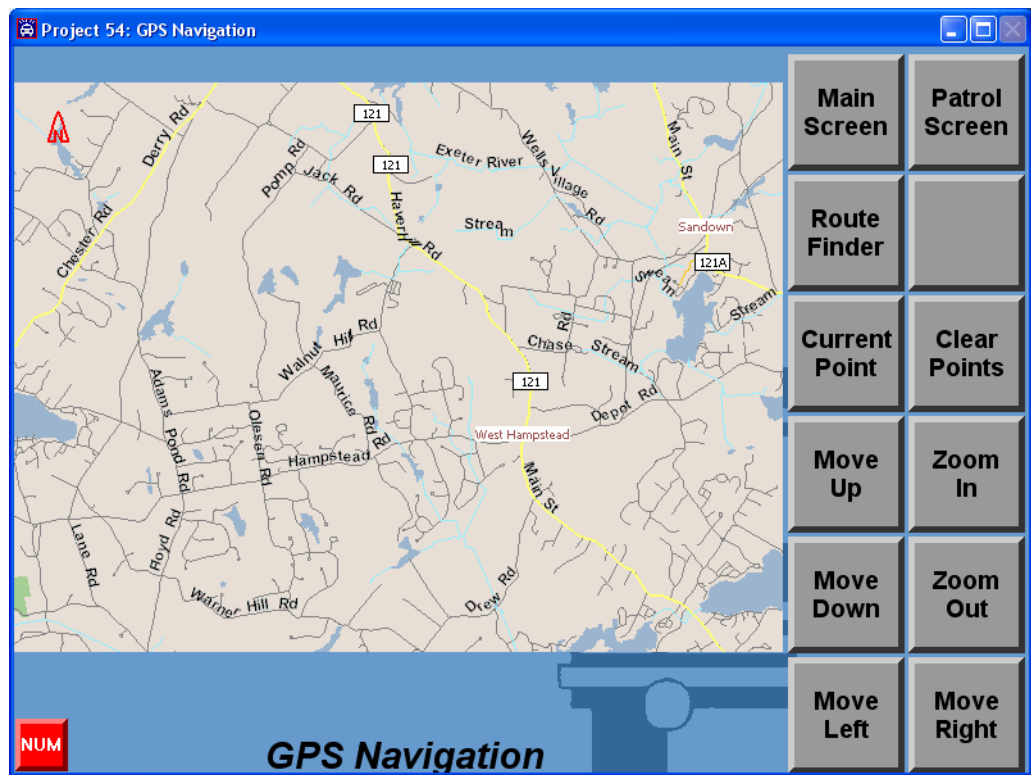
In order for the NavGPS application to work, the GPS signal must be available in the TeleType application. To test the antenna: in the TeleType application, click **Tools -> GPS Status...** If the antenna is connected properly, there will be non-zero data displayed. If the GPS antenna is not recognized then check the Project54 user manual for troubleshooting advice.

Main Screen

Once you have started Project54, entering the NavGPS application is very simple. First, confirm that you are on the main screen. You can do this by either pressing the "Main Screen" button or by using the PIT button and saying "Main Screen." Once you are at the main screen, enter the NavGPS application by pressing the "NavGPS" button or by using the PIT and saying "Nav G -P -S." Note: your main screen might look different from what is pictured below.



GPS Navigation Screen



Welcome to the Project54 GPS navigation application. This is the screen is where all of the map control features are located. Since all of the commands are voice controlled, any button on this screen can be activated by using the PTT and your voice. The commands on this screen are easily understandable, but they are explained in greater detail below.

The top two buttons, “Main Screen” and “Patrol Screen,” allow for your return to the normal Project54 systems. They are found in all Project54 applications.

The “Route Finder” button will take you to the Route Finder helper application. This application handles all routing control. The Route Finder application will be explained in later on.

Directly below the Route Finder button is the two waypoint control options. If you activate the “Current Point” command your current point will be marked on the map with a blue waypoint. Every time you press this button a new point will be added. The old point will not be removed until you activate the “Clear Points” command. This button will clear all non-route points that you have created.

The lower command buttons are for control of your map viewing. The Zoom In and Zoom Out buttons adjust your viewing height level and any one of the Move buttons allow you to pan the map in the direction selected.

Route Finder Screen

Project 54: Route Finder

16 Street McDaniel Dr

City Durham

State NH Zip 03824

1 16 Mcdaniel Dr, Durham, NH 03824

2

3

NUM

Route Finder

Main Screen Patrol Screen

Create Route Cancel

Get Routes

Location 1

Location 2

Location 3

Creating your Route

The main function of the Route Finder is to create the route to your desired destination. You can exit the Route Finder at any time by pressing the “Cancel Button.” This will bring you back to the main NavGPS window. The first step is to input your destination address into the appropriate fields. Once you have inputted the destination address, press the “Get Routes” button. This function will begin the search for possible destinations. When this function completes, a series of suggested destinations will appear in the three text fields below. Use the “Location X” buttons to select the most appropriate destination. When you have made your selection, you can “Create Route.” The Route Finder helper application will exit and you will be back at the NavGPS with your route plotted on the map. At any time you choose to embark the navigator will provide you with both audio and visual directions. When you are on a route, you can be in any part of the Project54 system. The NavGPS application will continue to provide you with appropriate directions.

Traveling off-route

If you make a wrong turn or if you decide to take an unplanned detour, the GPS system will not update your route. There is a feature that can be activated in the TeleType software application that will regenerate the route every time you travel a certain distance off your planned path. In TeleType GPS, click the **Route** menu button. At the bottom of the list activate **Directions**. A new window, “Directions,” will pop up. Activating the “Auto Re-route” box in the lower-left will enable the auto

re-route functionality. The box to the right of this selection is where you can specify the distance for this feature. Since the GPS antenna on the car has small glitches, do not set this value below 50ft. The default is 110 ft.

Address Finding

Address Tips

There are a few things that you should know about address finding.

If you do not provide the application with enough information, “Insufficient Information” will be printed inside the application.

The software is not case-sensitive.

Suffixes for street names should be shortened. Street should be St. Avenue should be Ave. This can also apply to other parts of the street name (i.e. North Main Street -> N Main St).

Numerical named streets should be spelt with the number (i.e. Fourth Street -> 4th St)

According to the TeleType Manual, “When entering information about an address, it is better to provide less information at first, and to fill it in once you have a broad result to search within. Examples of this are when you have a street like North Main St. First try searching for Main in the street name; next, try to add the prefix to your search (i.e. N Main); typing St or Ave or any other suffixes will not be necessary unless you do not see your desired suffix as a search result.”

If the system has no immediate knowledge of your destination, it will appear to crash. The program has not crashed. It is searching a broader spectrum of possibilities. Please be patient.

Wildcards

If you are unsure about the names of addresses, wildcards can be used to help simplify your search. Wildcards come in the form of asterisks (*) and question marks (?).

Asterisks are used to replace the beginning or end of a name. The program will return the three closest places beginning or ending with the keywords before or after the asterisk. For example, if you know that an address contains the word “West,” but are unsure of the full name of the address, enter “West*” into the street field. The application will display results like “Westlake” or “Westwood.”

Question marks are used to replace single letters in the name of a location. They are especially helpful if you are unsure about the spelling of a location. For example, if you were searching for the town of Durham, but were unsure of how it would be spelled on the maps, you could search for “D?rham” and the program would return with the correct spelling of “Durham.”

Navigation Indicators

While you are en route to your destination the TeleType GPS engine will be giving you prompts for next appropriate navigational move. By default, these indicators are both audio and visual. To modify the settings of these indicators, in TeleType GPS click the **Route** menu button. At the bottom of the list activate **Directions**. This is the same menu used earlier for the auto re-route feature.

The settings in this menu are self-explanatory. You have the option to enable or disable both audio and visual tells. You can also specify the noise given for a turn warning. The last two options are preferences for the time and duration of the turn warnings. I recommend experimenting with these features. The default is not always the best setup for many users.