

GTR

User's Guide

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Contents

1. Introduction	3
2. Safety and Legal Notices	3
3. Quick Start Guide	3
4. Principles and Limitations of GPS	3
5. Using GTR.....	4
5.1 PERF – Performance Measurements	4
5.2 GOTO – Navigation	5
5.3 DATA – Basic GPS Data	6
6. Menu	7
7. Status Messages.....	7

1. Introduction

GTR measures your vehicle's performance (top speed and acceleration for 0-100 km/h and 0-400 m, or for 0-60 mph and quarter mile, or you can select other speed ranges and distances). GTR is also useful for navigation as it gives direction and distance to any set destination. GTR runs on Android devices equipped with a GPS receiver and an accelerometer.

2. Safety and Legal Notices

Obey all laws and speed limits when using GTR. Use GTR for performance measurements only in designated areas, not on streets or highways.

Keep your eyes on the road. GTR records acceleration and speed results automatically for viewing after the run.

Tempes shall not be held liable in any way for any incidental or consequential damages to the vehicle, driver, passengers, and/or other involved parties or property occurring while using GTR.

3. Quick Start Guide

In settings [Menu / Settings] you can change units from km/h to mph, set acceleration ranges, change GPS coordinate format, set notification for acceleration end speed and distance, and change theme color (yellow is recommended for difficult lighting conditions). Note that you must accelerate until the set end speed or distance is reached to get acceleration results.

GTR has three views can be switched by touching tabs. PERF view is for performance measurements, GOTO view is for navigation and DATA view shows GPS compass and other basic GPS data. See chapter 5 for details.

GTR measures automatically all accelerations between set limits (default limits are 0-100 km/h and 400 m, or 0-60 mph and ¼ mile). Detailed results are saved to files [Menu / Results].

Store the current location as a navigation destination by pressing the Set key, or enter latitude and longitude coordinates by pressing Edit. The arrow points to the destination. There are 8 destinations with preset names. Destinations can be scrolled up and down. Note that you must move for navigation to work.

4. Principles and Limitations of GPS

The GPS (Global Positioning System) consists of 24 satellites. About 12 GPS satellites can be visible at one time. The GPS receiver of your phone calculates its position using data received from the satellites. Direction data is available only when the GPS receiver is moving. This means that you must walk or drive to use the navigation feature of GTR.

GPS receivers can connect to satellites only when there is a clear view of the sky. Trees and tall buildings can block the view, and signals are rarely received inside a building. Best reception is usually achieved by placing the phone on the front or rear dashboard of a car. Note that heat reflective or heated screens can block GPS signals.

5. Using GTR

The status line at the bottom of the PERF view shows GPS and acceleration status. The GPS receiver can take up to a couple of minutes to establish a connection to the GPS satellites if visibility to the sky is available (**Searching...** is shown in the status line). If navigation data is inaccurate because the GPS receiver cannot connect to the proper number of satellites (due to blocking from high buildings, tall trees etc.), **INACCURATE** is shown in the status line. Acceleration measurements are disabled if data is inaccurate, but navigation can still be used.

Note that screen switch-off is disabled for safety reasons while GTR is being used.

GTR has three views:

PERF is for performance (acceleration and top speed) measurements.

GOTO shows distance and direction to a destination (e.g. car, hotel or geocache).

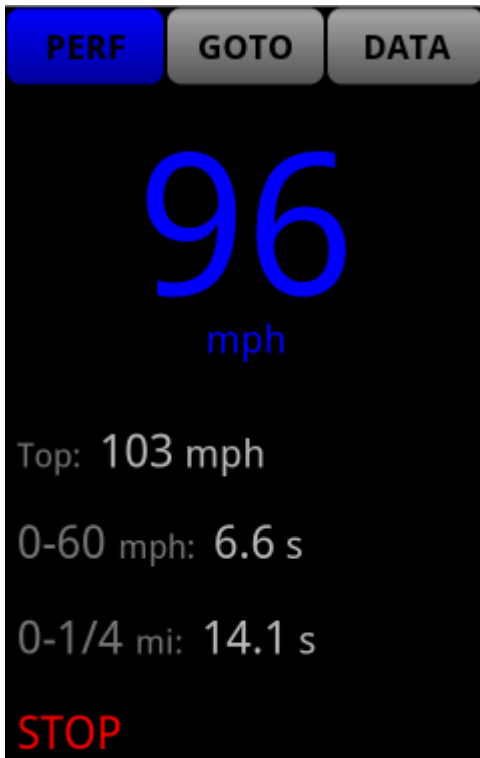
DATA shows basic GPS data including GPS compass.

Views can be switched by touching the tabs at the top of the views. Automatic scanning of views can be started by pressing two tabs in quick succession. Scanning can be stopped by pressing a tab.

5.1 PERF – Performance Measurements

Performance measurements are fully automatic. Stop your vehicle, wait a couple of seconds and go! GTR status line shows the process (**STOP**, **GO!** or **ACCELERATING**) but keep your eyes on the road. GTR records performance results for viewing after the run. Measurement stops when your vehicle is decelerating.

If notifications are selected in [Menu / Settings], the ACCELERATING text is red and the phone beeps when acceleration end speed and distance have been reached.



Performance measurement view (**PERF**, see above) shows current and top speed and acceleration results for the selected ranges (e.g. 0-60 mph and 0-1/4 mi).

Note that distance acceleration results are shown only if start speed is zero.

Detailed results are saved to files that can be viewed on the phone's display [Menu / Results] and sent to your PC via email or to other phones via text messages. The result files contain acceleration times for the selected speeds with 10 km/h increments (0-10 km/h, 0-20 km/h, ...) and for distances (if start speed is zero) with 100 m increments (0-100 m, 0-200 m, ...). If mph unit is selected then acceleration times are for 0-10 mph, 0-20 mph, ... and for 0-60 ft, 0-330 ft, 0-1/8 mile, 0-1000 ft and 0-1/4 mile. Peak speed and foreign unit summary (mph or km/h) is also included.

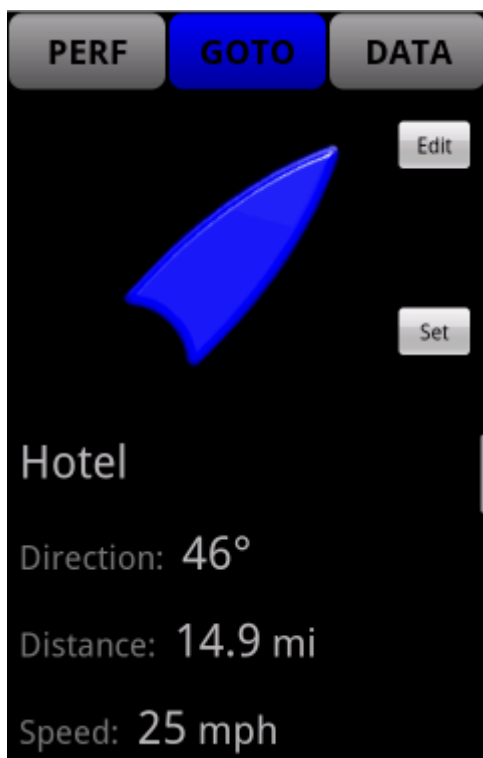
Results files are named as Session_MinSpeed-MaxSpeed_Time_Distancem/f.txt. Session ends when you exit from GTR, and session top speed and best acceleration results are stored to a top file named TSession_TopSpeed_MinSpeed-MaxSpeed_Time_Distancem/f.txt. If two files would have the same name, a running number is added to the name. **R** identifies result files and **T** top files in the file listing.

Note that the GTR result files are not deleted automatically if you decide to uninstall the application. Result files are stored in /sdcard/GTR and you can delete them before uninstalling [Menu / Results / Delete all] or afterwards with a file manager application or via PC connection.

Acceleration measurement ends when you decelerate or some problem (e.g. inaccurate GPS data) is detected. Acceleration results are calculated and saved only if the limiting speed or distance is exceeded. Performance measurements are done in the background even if another view (**GOTO** or **DATA**) is used.

Acceleration measurements should be done on a flat and straight track. The weight of the car affects acceleration, so best results can be achieved without passengers and with little fuel in the tank.

5.2 GOTO – Navigation



Navigation view (**GOTO**, see above) shows the direction to destination with an arrow, destination name, direction to destination in degrees, distance to destination and current speed. Note that the GPS receiver can determine direction only if you are moving. Direction indicators disappear shortly after you stop.



The current location can be set as a destination by pressing the Set key. The destination latitude and longitude can also be typed in and the destination name can be edited by pressing the Edit key, see above. Latitude and longitude format can be chosen in [Menu / Settings / Coordinate format]. Destinations can be scrolled up and down.

For safety reasons the navigation distance and direction indicators are disabled if the speed exceeds 250 km/h or 160 mph.

5.3 DATA – Basic GPS Data



GPS data view (**DATA**, see above) shows a compass arrow which points to the geographic North, heading in degrees, latitude, longitude, altitude above mean sea level and location accuracy.

6. Menu

There are three selections under the Menu key:

- Settings** Select used units, acceleration speed and distance limits, GPS coordinate format, acceleration end notification (status line in red and/or beeps), and the color of tabs, speed indicator and arrows.
- Results** A short press opens the result file for viewing. A long press opens a menu to view the file, to delete the file, to delete all files or to send the file via email or text message.
- Help** Show a short User's Guide.

7. Status Messages

GT status messages are shown at the bottom of the display in **PERF** view:

- SEARCHING...** GPS receiver is searching for satellites. This could take up to a couple of minutes if visibility to GPS satellites is available. See chapter 4 if the message prevails for a longer time.
- INACCURATE** GPS reception is not good enough for performance measurements. If this message prevails for more than a couple of minutes, try to find a better location for the GPS receiver to see a wider part of the sky. See also chapter 4.
- STOP** Stop the car to start an acceleration measurement.
- GO!** Acceleration measurement can be started.
- ACCELERATING** Acceleration measurement is in progress.