Holux Handheld GPS

GM-120 **User Manual**

About This Manual

Thank you for choosing the Holux GM-120 Handheld Navigator. This manual helps you to familiarize yourself with this product to best suit your needs. Keep this manual for future reference.

Warranty

The GM-120 Handheld GPS Navigator is warranted to be free from defects in material and functions for a period of one year from the date of purchase. If there is a product failure within this period (under normal conditions), a replacement will be provided at no charge to the customer.

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Safety Information

- Read and understand all instructions.

- When using this product, heed the safety precautions to reduce the risk of fire, electric shock, or personal injury.

- Do not disassemble the device. The product contains no user-replaceable parts.

Maintenance Service

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Introducing the GM-120

Product Overview

Congratulations on your purchase of the *HOLUX* **GM-120 Handheld GPS Navigator**. The GM-120 is an easy-to-use, multi-function handheld GPS navigator which allows you to enjoy outdoor activities without worrying about losing your way in unknown locations. The GM-120 helps you to locate your position anywhere in the world and navigate your way easily. It also features a geocaching function for users to participate and enjoy treasure hunting games. The sports mode acts as a personal training aid to help you set up training programs and calculate the calories you burn during training. The various features of the GM-120 make it your ideal companion for outdoor activities.

Package Contents

Before you start using your GM-120 Handheld GPS Navigator, make sure that your package contains the following items. If anything appears to be missing or damaged, contact your local Holux dealer or distributor for a replacement.

GR-120 Handheld GPS Navigator	Documentation (Quick Start Guide and Warranty Card)
Li-Ion battery	**Power / USB data cable**
Bicycle holder attachment (optional)	**Software CD**

* USB data cable can be used for battery charging and data transfer between the GM-120 and a Notebook / PC.

Main Features

- Point tracking /Route recording

- Object quick search

- 4 gray level display

- 20 parallel satellite-tracking channels for fast acquisition and reacquisition (TTFF)

- Waterproof—ideal for outdoor sports

- Specially designed for personal navigation, mountaineering, investigation and military purposes

- WAAS (North America) and EGNOS (Europe) GPS receiver with accuracy to 3 meters

- Features an electronic compass and altimeter sensor

- Bluetooth integrated (GM-120B, GM-120C Optional)

- Battery life up to 20 hours under normal use

- With map. It stores roads, river, lakes, borders, cities and POIs. (GM-120C)

GM-120A	GM-120B	GM-120C
Features: • SiRF GSC3 • 9 keys (Menu, Esc, Zoom in, Zoom out, Hotkey, 4-way navigation keys) • 2MB program code in NOR flash • 2MB pseudo SRAM • Buzzer • Waypoint, track log stored in NOR flash • 1600 mAh battery	Equipped with GM-120A features plus: • Electronic compass • Altimeter • Barometer • Bluetooth (Option)	Equipped with GM-120B features plus: • 128MB memory build-in for support map. • It stores roads, river, lakes, borders, cities and POIs. • Bluetooth (Option)

Hardware Components

Take a moment to familiarize yourself with your GM-120 Handheld GPS Navigator. The following illustrations provide information about the components of the unit.

Front View
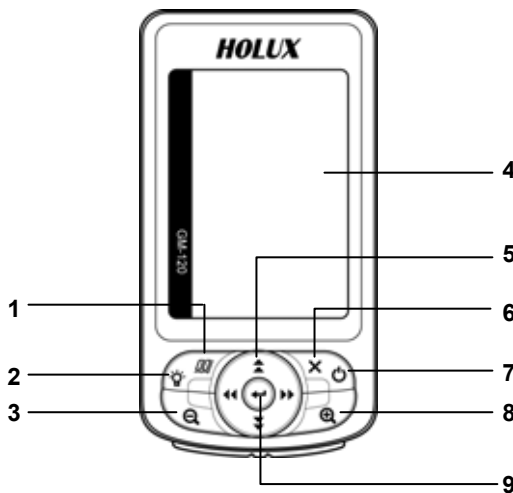
No.	Item	Function
1.	Menu	Press once to display the OSD menu. Press twice to display the Main Features menu.
2.	Backlight	Press and hold to turn the backlight on/off.
3.	Zoom out	Press to zoom out on a map page.
4.	LCD screen	Displays the map page, satellite information, OSD menus and so on.
5.	Four way navigation keys	**Up arrow:** Press to move the cursor up in OSD menus or on the map page. **Down arrow:** Press to move the cursor down in

No.	Item	Function
		OSD menus or on the map page.
No.	**Item**	**Function**
		Left arrow: Press to move the cursor left in the OSD menus or on the map page. **Right arrow:** Press to move the cursor right in the OSD menus or on the map page.
6.	ESC/Page	Press to exit the OSD menu. Press to toggle between the map page and the compass page.
7.	Power	Press and hold to turn the power on/off.
8.	Zoom in	Press to zoom in on the map page.
9.	OK/Enter	Press to toggle between the map page and navigation mode. On the menu page, press to confirm your selection.

Rear View

Battery compartment latch

Bottom View

USB port
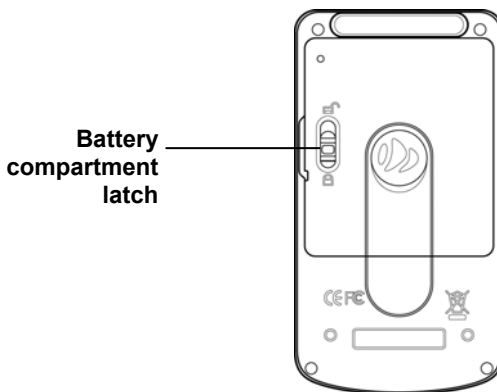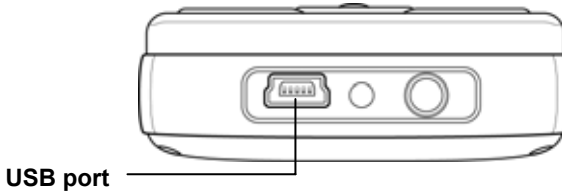
Setting up the GM-120

This section contains instructions about setting up your GPS navigator by inserting the battery, charging the battery, and installing the holder assembly.

Installing the Battery

1. Slide the battery compartment latch to the unlocked position.
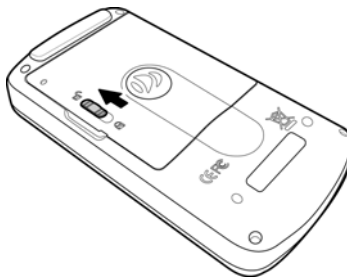
2. Lift up the battery compartment cover as shown.
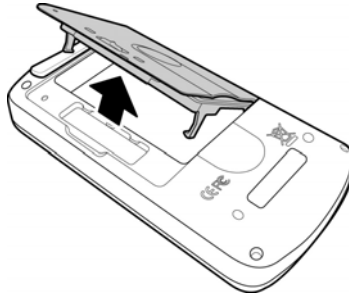
3. Insert the battery in the direction as shown.
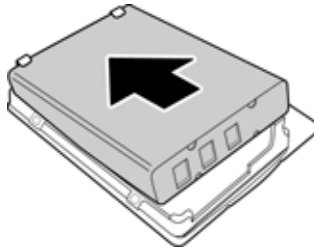
4. Close the battery compartment cover.
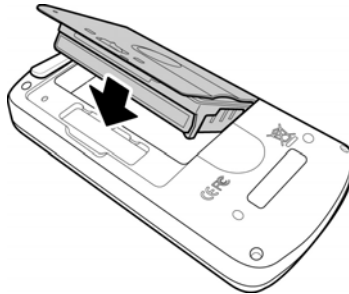
5. Slide the battery compartment latch to the locked position.
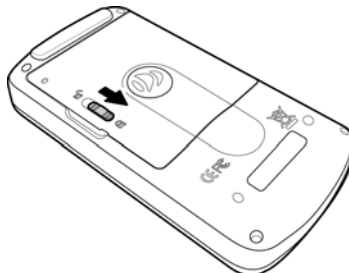
Installing the Holder Assembly

The GM-120 comes with a holder assembly that you can mount on your car dashboard to hold the device.

To fix the holder assembly to your car dashboard:

1. Hook both parts of the bicycle holder assembly onto the front bar of your bike and fix it securely with the screw provided.
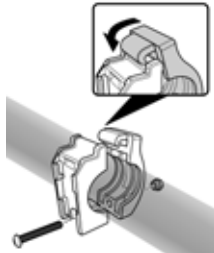
2. Insert the GM-120 into the assembly holder.

3. Insert the top of the base into the notch on the back of the holder assembly and slide it upwards to fix it firmly as shown.

Turning on for the First Time

To turn on your GM-120 Handheld GPS Navigator, press and hold the **Power** button for two seconds. The product information page is displayed.

Next, the **Mode Selection** menu appears. Use the navigation keys to select the mode you want and press the **OK** button to confirm.

Press the **Menu** button twice and select **Satellite**. The GM-120 starts acquiring satellite information as described in the following section.

Acquiring Satellite Information

The satellite page displays information obtained from the GPS satellites. The upper half of the screen displays the satellites found in the vicinity and their respective numbers.

The vertical bars on the bottom of the screen show the signal strengths acquired from the satellites. The GPS requires at least 4 satellites to determine its position. Once the GPS position has been correctly determined, the position coordinates are displayed at the bottom of the screen.

Solid signal strength bars represent latched signals. Outlined bars represent unlatched signals.
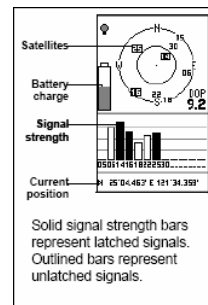
NOTE:
In order to operate each mode at its optimal performance, the GM-120 must have its position determined by the satellites.

Turning the GPS On/Off

When the GM-120 is used indoors, the device may not receive a sufficient GPS signal and a warning message will appear on the screen. This warning message does not go off until GPS is turned off.

To turn off GPS, do the following:

1. Press the **Menu** button twice to display the OSD menu.

2. Select **GPS Off** to turn off the GPS function. The device will stop acquiring satellite data.

3. To resume the GPS function, press the Menu button to choose **GPS On** and press **OK**.

Viewing the Map Page

Press the **Page** button to toggle between the map page and the compass page. On the map page, a ▲ icon indicates your current location and the ⌂ icon indicates your home location. Press the **Menu** button to start navigation.

When navigation is initiated, a route between the Home location and your current location is displayed on the screen. You can refer to the route to help you go back to your Home location. Press the **ESC** button to return to the map page.

Zooming In/Out

You can change the map scale while viewing the map with one of the following ways:

- Press the + button to zoom in and increase the map scale.

- Press the – button to zoom out and reduce the map scale.

Alternatively, you can adjust the map scale from the OSD menu.

1. In Professional mode, press the **Menu** button to display the OSD menu.

2. Select **Map Scale** and press **OK** to confirm. A map scale bar is displayed on the map page.

3. Use the left/right navigation keys to adjust the map scale. Press the navigation key to the right to increase the map scale and to the left to decrease the map scale.

4. Press **OK** to save the changes.

The GM-120 features nine zoom levels. You can select from 50m, 100m, 200m, 500m, 1km, 2km, 5km, 25km, and 100km.
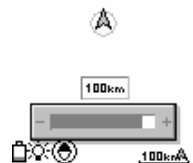
Turning on the Backlight

The GM-120 is quipped with a built-in backlight to illuminate the screen when you are using it in poor lighting conditions. Press and hold the **Backlight** button to turn the backlight on or off as required.

The backlight status is displayed as the icon on the bottom left corner of the screen.

Adjusting the Screen Contrast

To adjust the contrast of the LCD screen:

1. Press the **Menu** button twice to display the OSD menu.

2. Select **LCD Level** and press **OK** to confirm. A LCD scale bar is displayed on the map page.

3. Use the navigation keys to adjust the LCD level. Press the navigation key to the right to increase the LCD contrast and to the left to decrease the contrast as required.

Using the GM-120 in Simulation Mode

In normal or navigation mode, the GM-120 tracks its position through satellite information. In simulation mode, the device stops acquiring data from the satellites. When you are planning a trip, use the simulation mode to look up maps, to adjust system settings, and to conserve battery consumption.

You can switch to simulation mode with one of the following ways:

To switch to simulation mode from the satellite page:

1. Press the **Menu** button to display the OSD menu.

2. Use the navigation keys to select **GPS Off** and press **OK** to confirm. The device stops acquiring satellite information and enters simulation mode.

3. To return to navigation mode, repeat steps 1 and 2, and select **GPS On** to resume satellite navigation.

To switch between simulation and navigation mode from any page:

1. Press the **Menu** twice button to display the OSD menu.

2. Use the navigation keys to select **System Setting** and press **OK**.

3. Under the **Set 1** tab, use the navigation keys to highlight **Navigation Mode** option and press **OK**.

4. Use the navigation keys to select **Simulation** or **Normal** (for navigation mode) as required and press **OK** to save your settings.
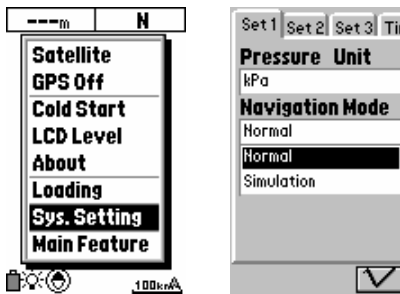
Viewing the compass page

The compass page display information about the direction in which you are moving, the time and distance required to reach the next waypoint and your destination. The inner heddle of the compass points in the direction in which you are moving. The outer small pointer points in the direction of north measure by electronic compass.

To view the compass page, press ESC button once on the map page. Some mode may select Compass tab by left/Right keys.

	NOTE: If a navigable route is not available, the compass needle is not visible and all field values will be set to 0.

Using the GM-120

Now you have familiarized yourself with the GM-120 and learned about its basic features, you can start using this device to plan routes and to act as your navigator when traveling and doing exercise. Read this section to learn more about the various functions and take full advantage of its useful features.

The GM-120 features four modes: **Easy**, **Professional**, **Geocaching**, and **Sports** modes.

Press the **Menu** button twice and select **Main Feature**, the **Mode Selection** screen will appear.
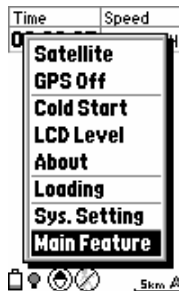
Use the navigation keys to select the mode you want to use and press **OK** to enter the chosen mode.

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Using Easy Mode

In Easy mode, you can set a home location before you start out shopping or taking a walk in an unfamiliar neighborhood. You can then track the route you have taken using the navigation function to get back to your home location.

Setting the Home Location

To set your Home Location:

1. In Easy mode, press the **Menu** button to display the menu options.

2. Use the navigation keys to select **Set Home LOC.** and press **OK**.

3. You can set your home location with one of the following ways:

    - Press the navigation keys to highlight **Edit Home Position** and press **OK**. Use the navigation keys to set the home position manually.

    - Select **Copy GPS to Home** by pressing the navigation keys. Your home location is automatically set to the location acquired from the GPS.

4. Use the navigation keys to highlight √ to save your settings. When a new home location is set, the previous log will be deleted. A warning message prompts you to confirm the new setting.
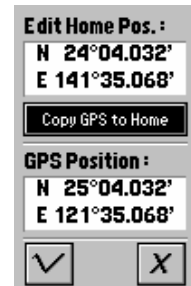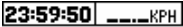
Using the Navigation Feature

After setting your home location, you can start navigation and recording track logs. The navigation log is recorded every 50 meters.

To turn on the Navigation function:

1. In Easy mode, press the **Menu** button to display the OSD menu.

    `23:59:50` `___.KPH`

2. Use the navigation keys to select **Navigation**. The device will stop recording log and a tracking line will be displayed on the screen.

    Set home LOC.
    Navigation
    Menu for main Menu

3. The arrow pointing to the direction which leads to your home location. It also displays the time and distance before you reach your home location.

4. Press the **Page** button to go to the Navigation page. A route between the home location and your current location is displayed. You can refer to the route to go back to your home position.

	NOTE:
	After setting your home location, you can start navigation and recording track logs. Press **OK** to clear the log history and start recording a new log.

Calibrating the Compass

Compass calibration is the process used with electronic digital compass to separate the earth's magnetic field from stray magnetic fields emitted by your vehicle. Calibration is necessary to ensure accurate compass readings.

To perform compass calibration:

1. In Easy mode, press the **Page** button to display the Compass page.

2. Press the **Menu** button to display the menu options.

3. Use the navigation keys to select **Calibration** and press **OK** to confirm.

4. The compass starts calibrating. This takes 15 seconds. Place the GM-120 on a level surface and start rotating the unit through 360 degrees three times every 5 seconds.

Using Professional Mode

In Professional mode, you can search the objects step by step or by nearest search. Also you can set waypoints and create routes for important locations and store them on the GM-120 for future reference.

Search Object

You can search objects including roads, hotels, banks, restaurants…etc. in this function. Read the following sections to learn how to search the object you want.

5. On the map page, press the **Menu** button to display the menu options.

6. Use the navigation keys to select the **Search Object** option and press **OK**.

7. **Select A Region** first, you can use the navigation keys to select the region you want and press **OK**.

8. Then **Select A Type** you want to search, use the navigation keys to select the type and press **OK**.

9. Finally you can **Select A Name** of the object. Use the navigation keys to move the highlight to the search bar and press **OK**, the you can use up/down keys to select the object and press **OK** to the map page. You will see the object on the map page.

Nearest Search

You also can use the nearest search function to search the nearest object. Read the following sections to learn how to search the nearest object you want to find.

1. On the map page, press the Menu button to display the **Menu** options.

2. Use the navigation keys to select the **Nearest Search** option and press **OK**.

3. **Select A Type** first, you can use the navigation keys to select the type and press **OK**.

4. Select the **Distance** and **Select A Name**, you can use the navigation keys to move the highlight you want to select and press **OK**. Then use the up/down keys to move to what you want to select and press **OK**. Finally you will see the object on the map page.

Using Waypoints

Read the following sections to learn how to utilize the waypoint function.

Creating Waypoints

To create a new waypoint using the map:

5. On the map page, position the cursor at the location where you want to set a waypoint.

6. Press the **Menu** button to display the menu options.

7. Use the navigation keys to select the **Waypoints** option and press **OK**.

8. The waypoint screen is displayed. Highlight the name column and press **OK** to display the alphanumeric keyboard and enter a name for the new waypoint.

9. Press the **Menu** button and select **New** from the dropdown box. Press **OK** to confirm.

    A waypoint of the chosen location is created and its location information is displayed.

10. You can specify the name and add a comment for the waypoint you just created. Use the navigation keys to highlight each field and make changes as required.

11. Highlight the **Active** box and press **OK** to check the option. An active waypoint will be displayed on the map page.

12. Highlight the √ and press **OK** to save changes.

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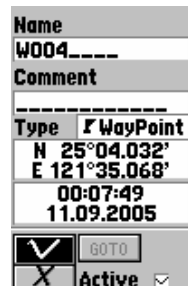
13. Highlight the **GOTO** option and press **OK** to create an auto-route from your current location to the waypoint.

(lightbulb icon)	**NOTE:** GM-120 saves up to 1000 waypoints.

To create a new waypoint from the map page:

1. On the map page, move the cursor to where you want to create a new waypoint.

2. Press and hold the **OK** button. The new waypoint page will be displayed.

3. Use the navigation keys to highlight each field and make changes as required.

4. Highlight the √ option and press **OK** to save changes.

Modifying Waypoints

To modify an existing waypoint:

1. On the map page, press the **Menu** button to display the menu options.

2. Use the navigation keys to select the **Waypoints** option and press **OK**. A list of all waypoints is displayed on the screen.

3. Use the navigation keys to highlight the waypoint you want to modify and press the **Menu** button.

4. Select **Edit** from the dropdown box and press **OK**.

5. Use the navigation keys to highlight the field you want to modify and make the changes as required.

6. Highlight the √ option and press **OK** to save changes.

Deleting Waypoints

To delete an unused waypoint:

1. On the map page, press the **Menu** button to display the menu options.

2. Use the navigation keys to select the **Waypoints** option and press **OK**.

3. A list of all waypoints is displayed on the screen. The active waypoint which is currently used for navigation is denoted by an asterisk (*) sign next to it.

4. Use the navigation keys to highlight the waypoint you want to delete and press the **Menu** button to display the OSD menu.

5. Select **Delete** from the dropdown box and press **OK** to confirm.

6. A message prompts you to confirm the action. Press **OK** to delete or the **ESC** button to cancel.

Using the Routes Feature

Read this section to learn how to create a route manually using the previously created waypoints.

Creating a Route

To create a route using the waypoints previously created:

1. In Professional mode, press the **Menu** button to display the menu options.

2. Use the navigation keys to select the **Routes** option and press **OK**.

3. A list of routes will be displayed on screen. Press the **Menu** button and use the navigation keys to select **New**.

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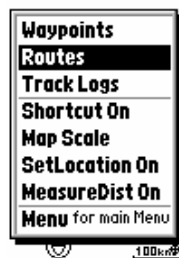
4. A new route is created and its information is displayed on screen. Use the navigation keys to highlight each field to input information such as name, comment, and so on.

5. Use the up/down navigation keys to highlight the waypoints field. Press the **Menu** button to select from the following options to create a route:

   - Select **Add WP** to add existing waypoints to the route.

   - Select **Insert WP** to insert a waypoint starting at the selected location on the route.

6. You can set the priority of the waypoints on the route by selecting the waypoint and pressing the **OK** button. The order of the waypoints on the route is displayed on the right column of the respective waypoint.

7. Press the **Page** button to highlight the waypoints field.

8. Use the down navigation key to highlight the √ option and press **OK** to save changes.

9. Select the route you just created and press the **Menu** button to view the menu options.

10. Highlight the **Set Navi** option and press **OK** to confirm. The selected route is activated and the GM-120 switches to navigation mode.

Name	0/150
R001____	

Add WP
Insert WP
Delete WP
Delete All
Invert WP

14.09.2005

∨ X

Name	0/150
R002____	
Comment	

Name	
_____	
W001	1
W002	3
W003	2

∨ X

3/3/1000

Manu Routes 1/50
R001

New
Edit
Delete
Delete All
Set Navi
Cancel Navi

Press menu
Press Enter to Select

Editing Routes

You can modify or delete all the routes that you created as required.

To edit routes:

1. In Professional mode, press the **Menu** button and select the **Routes** option. A list of all the routes is displayed on screen.

   The route being navigated is denoted by an asterisk sign next to it.

2. Press the **Menu** button to display the routes menu. Select from the following options to modify the routes as required:

   - Select **Edit** to modify the chosen route.

   - Select **Delete** to delete the chosen route.

   - Select **Delete All** to delete all routes.

   - Select **Set Navi** to activate navigation mode.

   - Select **Cancel Navi** to disable navigation mode.

Using the Track Log Feature

In the track log menu, you can configure track log settings, change track log type, and view the track log information.

Creating a Track Log

The GM-120 also features a track log function that records information about your trip to help you track your journey in the future.

To create a track log:

1. In Professional mode, press the **Menu** button to display the menu options.

2. Highlight the **Track Logs** option and press **OK**.

3. Under the **Track** tab use the navigation keys to highlight the **Tracking** field and press **OK** to display the drop down menus.

4. Select from the following options:

   - Select **Off** to disable tracking.

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- Select **Fill** to save track logs with no more than 2500 track points.

- Select **Wrap** to create track logs in a cyclical manner. After a track log with 2500 track points is saved, new track points are saved by overwriting the old track points starting from 0.

- Select **Continue** to create a single continuous track log of all track points. You can save up to 8 continuous track logs.
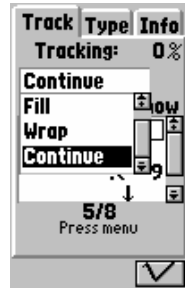
5. Press the **Menu** button to view the track log menu and select from the following options:

- Select **Clear Tracking** to clear all current tracking points.

- Select **Save Tracking** to save the current track log to the system's internal flash memory. Up to 8 track logs can be saved.

- Select **Tracking Dist** to calculate the tracking distance from the start point to the end point.

- Select **Tracking Area** to calculate the tracking area from the start point to the end point.

- Select **Delete** to delete the selected track log.

- Select **Show ON** to display the track log.

6. Under the **Type** tab, follow the steps below to select the tracking method using distance or time intervals:

- Highlight the **Dist Interval** field and press **OK** to view the options. Use the navigation keys to select the distance interval and press **OK** to save your settings. Select the **-----** option if you do not wish to specify the distance interval.

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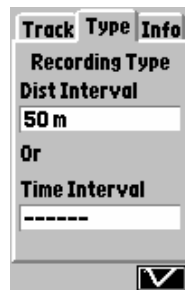
- Highlight the **Time Interval** field and press **OK** view the options. Use the navigation key to select the time interval and press **OK** to save your settings. Select the **-----** option if you do not wish to specify the time interval.

7. Use the down navigation key to highlight the √ option and press **OK** to save changes.

	NOTE:
	• If you select a value for both the distance interval and time interval, a tracking point is recorded when either of the interval value is reached.
	• To ensure the integrity of data structure, the track log cannot be saved into non-volatile memory when battery is low.
	• When saving track logs, select **Continue** option and the track log setting will automatically be set to **Show ON**. If you select **Wrap** or **Fill**, the track log setting will automatically be set to **Show Off**.

Viewing Track Log Information

To view track log information:

1. In Professional mode, press the **Menu** button to display the menu options.

2. Highlight the **Track Logs** option and press **OK** to confirm.

3. Under the **Info** tab use the navigation keys to view the distance and the area traveled of the selected track log.

Using the Shortcut On Feature

The Shortcut On features allows user to create a short cut from your current location to the location of the cursor on the map page.

To enable on the Shortcut On feature:

1. On the map page, press **OK** and the cursor will change to a cross icon. Move the cursor to the location you want to go

2. Press the **Menu** button to display the menu options.

3. Select **Shortcut On** and press **OK**.

4. A route between your current location and the location of your cursor is displayed on the map.

5. Press the **Menu** button and select **Shortcut Off** to disable it.

Using Map Scale Feature

Refer to **Zooming In/Out** on page 12 to learn about the map scale function.

Using the Set Location Feature

The **Set Location** feature enables the user to view a specified location where the user utilizes frequently. It can automatically go to the location you specified instead searching for it on the map.

To enable the Set Location feature:

1. On the map page, press **OK** and the cursor will change to a cross icon.

2. Move the cursor to the point where you wish to set as a constantly used location.

3. Press the **Menu** button to display the menu options.

4. Select **Set Location On** and press **OK**. It will automatically return to the map page.

5. Press **OK** and the cursor will move to the location you just set.
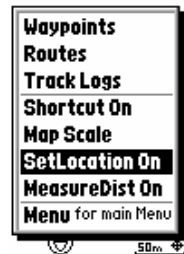
Using Measure Distance Feature

The **Measure Distance** features enables users to measure the distance from the current position to the specified destination.

To enable the measure distance function:

1. On the map page, press the **Menu** button to display the menu options.

2. Select **Measure Dist**. On and press **OK**.

3. A ruler appears at the cursor point on the map screen. Use the navigation keys to move to your destination and press **OK**.

4. The distance between the start point and end point is displayed.
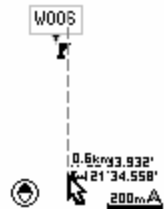
Viewing Trip Status

To view trip information such as your speed, direction, trip time, and so on:

1. From the map page, press the **Page** button to view the trip status information.

2. Use the navigation keys to toggle between **6 fields** and **2 fields** tabs and choose the information you want to view.

   - **Speed**: shows the speed at which you are traveling

   - **Track**: shows the tracking direction

   - **Trip Odom**: shows the distance traveled so far

   - **Trip** Time: shows the time elapsed

   - **Altitude**: shows the altitude of your current location

   - **Signal**: shows the current signal strength of the device

	NOTE:
	The ▲ icon at the top of the trip status page indicates the location whose information is being displayed on the map in navigation mode. The ▲ icon cannot be selected or modified.

Resetting Trip Data

Resetting trip data will reset the value of Trip Odom and Trip Time to zero.

To set the trip data and display new data:

1. On the trip status page, press the **Menu** button to display the menu options.

2. Select the **Trip Reset** option and press **OK** to confirm. The trip status data is reset to default settings.

Changing the Fields

You can specify the items to be displayed in the trip status fields.

To change the field items:

1. On the trip status page, press the **Menu** button to display the menu options.

2. Highlight the **Change Field** option and press **OK**

3. Select the field you want to change and press **OK** to view the available options.

   - **Speed**: shows the speed at which you are traveling

   - **Track**: shows the tracking direction

   - **Trip Odom**: shows the distance traveled so far

   - **Trip Time**: shows the time elapsed

   - **Altitude**: shows the altitude of your current location

   - **Signal**: shows the current signal strength of the device

   - **Speed Avg.**: shows the average speed

   - **Speed Max:** shows the maximum speed

   - **To Dest.:** shows the distance to your destination

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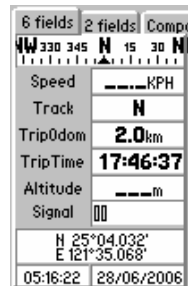
4. Use the navigation key to toggle between the **6 fields** and **2 field**s tab and repeat the steps 1 to 3 to change the fields accordingly.
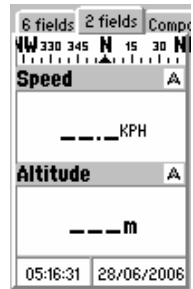
Moving to the Next Waypoint

On the compass page, you can switch to the next waypoint and view the direction and distance information with ease.

To change to the next waypoint:

1. On the map page, press the **Page** button and use the left/right navigation keys to choose the **Compass** tab.

2. The compass shows the direction and distance to the next waypoint. Press the **Menu** button to display the menu options.

3. Select **Change Next WP** and press **OK**.

4. A list of all waypoints on the route is displayed on screen. Select the next waypoint to be displayed and press **OK**.

5. The selected waypoint information is then displayed on the compass page.

Calibrating Altitude

Altitude calibration is the process used with barometer altimeter and GPS altitude. GPS altitude is used as the reference.

To perform altitude calibration:

1. In Professional mode, press the **Page** button to display the Info page.

2. Press the **Menu** button to display the menu options.

3. Use the up/down navigation keys to select **Calibration** ^{Alt.} and press **OK** to confirm.

4. Select **Auto by GPS** or **Manual** and press **OK** to confirm.

Using Geocaching Mode

The GM-120 features a geocaching function which enables users to use location coordinates and set up caches to participate in treasure hunting games.

Setting Geocaching Coordinates

To set up the cache box from the Geocaching menu:

1. In Geocaching mode, press the **Menu** button to display the menu options.

2. Select **Check Box Information** and press **OK** to display the **Treasure Box List**.

3. Select a box to set up the location coordinates. You can set up to 3 cache boxes on the GM-120.

4. Use the navigation keys to highlight the field you want to change such as name, comment, coordinates, and radius.

5. Check the **Alert** box to enable an alert to be displayed when the cache is reached.

6. Highlight the √ option and press **OK** to save changes. The cache box you just set up is shown on the map page.

Repeat steps 1 to 6 to set up other cache boxes.

You can also set up cache boxes directly from the map page:

1. Move the cursor to the location where you want to set up a cache box.

2. Hold the **OK** button to save the current location. The cache box that has not been alerted by user will be used for saving automatically. If all three cache boxes have been set up, the device will save data to Box 3 and replace the current data.
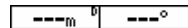
Viewing the Geocaching Page

After setting up the cache box, you can start the treasure hunt by using the coordinates on the geocaching page.

Follow the steps below to access to the cache boxes location on your map page:

1. On the map page, press the **Menu** button to display the menu options.

2. Select the box location you want to view, and press **OK** to confirm.

3. A warning message prompts to start recording track log. Press **OK** to proceed.

4. The map page will switch to the compass page showing the direction, distance and time from your current position to the chosen cache box. The white arrow shows the direction of your final destination, while the black arrow show the direction you are traveling.

5. You can pause or stop recording the track log during the treasure hunting. Press the **Menu** button to display the menu options.

   - If Choose **Stop Box**, the track log recording will stop and a guiding line will be deleted.

   - If you choose **Log Pause**, the recorded guiding line will be deleted. Press **Menu** button again and select **Log Continue** to resume recording the track log.
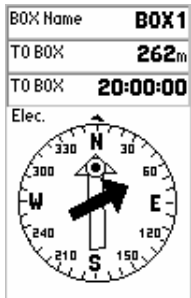
Using Sports Mode

The GM-120 features a sports mode which allows users to set up a training session and record their performance for post exercise evaluation.
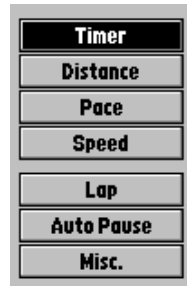
Training Setup

The **Training Setup** menu enables you to set up the time, distance, pace, speed, lap when you are taking a walk, jogging, or cycling, and view your exercise performance afterwards.

Timer
Distance
Pace
Speed
Lap
Auto Pause
Misc.

Setting the Timer

To set up the timer:

1. In Sports mode, press the **Menu** button to display the menu options.

2. Select **Training Setup** and press **OK** to display the menu options.

3. Highlight **Timer** and press the **OK** button.

4. Use the navigation keys to select the field you want to change and press the **OK** button.

5. Use the navigation keys to adjust each field and press the **OK** button to confirm.

Set Timer

Hr   Min   Sec

01 : 00 : 00

☑ ALERT

☐ POP UP MESSAGE

✓   ✗

6. Highlight the √ option and press the **OK** button to save changes.

Setting the Distance

To set up the training distance:

1. In Sports mode, press the **Menu** button to display the menu options.

2. Select **Training Setup** and press **OK** to display the menu options.

3. Highlight **Distance** and press the **OK** button.

4. Use the navigation keys to select the field you want to change and press the **OK** button.

Set Distance

KM   Meter

01   700

☑ ALERT

☐ POP UP MESSAGE

✓   ✗

5.   Use the navigation keys to adjust each field and press the **OK** button to confirm.

6.   Highlight the √ option and press the **OK** button to save changes.

Setting the Pace

To set up the training pace:

1.   In Sports mode, press the **Menu** button to display the menu options.

2.   Select **Training Setup** and press **OK** to display the menu options.

3.   Highlight **Pace** and press the **OK** button.

4.   Use the navigation keys to select the field you want to change and press the **OK** button.

5.   Use the navigation keys to adjust each field and press the **OK** button to confirm.

6.   Highlight the √ option and press the **OK** button to save changes.

Setting the Speed

To set up the training speed:

1.   In Sports mode, press the **Menu** button to display the menu options.

2.   Select **Training Setup** and press **OK** to display the menu options.

3.   Highlight **Speed** and press the **OK** button.

4.   Use the navigation keys to select the field you want to change and press the **OK** button.

5.   Use the navigation keys to adjust each field and press the **OK** button to confirm.

6.   Highlight the √ option and press the **OK** button to save changes.

Setting the Lap

This feature allows users to set up the lap counter to count automatically after specified distance or time elapsed during training or manually by pressing the **Menu** key when a lap has been completed.

To set up the training laps:

1. In Sports mode, press the **Menu** button to display the menu options.

2. Select **Training Setup** and press **OK** to display the menu options.

3. Highlight **Lap** and press **OK**.

4. Use the navigation keys to select **Auto** or **Manual** and press **OK** to confirm.

5. Use the navigation keys to adjust each field and press **OK** to confirm.

6. Highlight the √ option and press **OK** to save the changes.
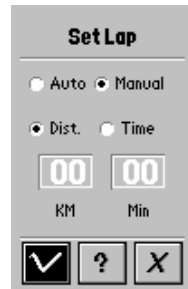
A message will pop up to inform the user when a lap has been completed.

If you set the lap counter to manual, press the **Menu** button when a lap has been completed and the following screen appears. Press **OK** to start a new lap.

Setting Auto Pause

The auto pause function reminds users to pause recording the sports log after a specified period.
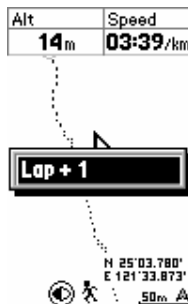
To set up the auto pause during training:

1. In Sports mode, press the **Menu** button to display the menu options.

2. Select **Training Setup** and press **OK** to display the menu options.

3. Highlight **Auto Pause** and press **OK**.

4. Use the left/right navigation keys to select the field you want to change and press **OK**.

5. Use the up/down navigation keys to adjust each field and press **OK** to confirm.

6. Highlight the √ option and press **OK** to save changes.

Miscellaneous Settings

In the Miscellaneous setting menu, you can personalize the training type and set up the way your training is recorded.

You can set up training by selecting the type of exercise and your weight. By the end of the training, you can view your training performance and the calories you consumed in the **History** menu.

To configure miscellaneous settings:

1. In Sports mode, press the **Menu** button to display the menu options.

2. Select **Training Setup** and press **OK** to display the menu options.

3. Highlight **Misc.** and press the **OK** button.

4. Use the left/right navigation keys to select the **Misc.** tab.

5. Use the up/down navigation keys to select the field you want to change and press **OK**.

6. Use the navigation keys to adjust each field and press **OK**.

7. Highlight the √ option and press **OK** to save changes.

To set the record distance and time interval:

1. In Sports mode, press the **Menu** button to display the menu options.

2. Select **Training Setup** and press **OK** to display the menu options.

3. Highlight **Misc.** and press **OK**.

4. Use the left/right navigation keys to select the **Record** tab.

   - Highlight the **Dist Interval** field and press **OK** to view the options. Use the up/down navigation keys to select the distance interval and press the **OK** button to save your settings. Select the **-----** option if you do not wish to specify the distance interval.

   - Highlight the **Time Interval** field and press **OK** view the options. Use the up/down navigation keys to select the time interval and press **OK** to save your settings. Select the **-----** option if you do not wish to specify the time interval.

5. Highlight the √ option and press the **OK** button to save changes.

Start Training

After you have configured training settings, you can start the training session and have your sports track and performance recorded.

To start a training session:

1. On the map page, press **OK** to start training. The "**Start Training**" message pops up. The 🏃 icon at the bottom of the screen indicates training is in progress The route taken, time elapsed, current altitude, pace, and speed are displayed on the screen.

2. To stop training, press **OK** again. The "**Stop Training**" message pops up and the device stops recording. The 🏃 icon at the bottom of the screen indicates that the training has ended.

Viewing Training History

The Training History keeps a record of your training sessions on a weekly basis. You can view the training records either from the Training History or the Training Summary page.

To view the summary of your last training:

1. On the map page, press the **Page** button to view the Training Summary page. You will see the total distance, time, max. speed, pace, and calories you burnt for each training session you completed.

2. Press the **Page** button again to return to the map page.

To view the information page:

1. On the map page, press the **Page** button and then the right navigation key to view the information page. Here you can see the current barometer, altitude and the direction you are traveling.

2. Press the **Page** button again to return to the map page.
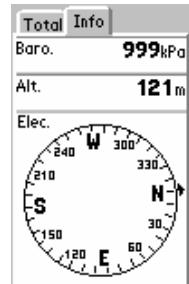
To view your training history:

1. On the map page, press the **Menu** button to display the sports menu options.

2. Select **History** and press **OK**. A training record of the current week is displayed on the screen.

3. Press **OK** to view a complete list of the training records.

4. Use the navigation keys to highlight a training record and press **OK** to view the lap information of the selected training.

5. Use the up/down navigation keys to select a lap and press **OK**.

By Week		LapNum
Jun.29	00:47	2
Jun.29	00:50	1
Jun.29	00:53	1
Jun.29	00:55	1

Dist	Time
165$_m$	00:01:12
Speed$_{max}$	Calories
_.__KPH	10.6$_{kcal}$

6. Use the left/right navigation keys to toggle between **Lap Detail** and **Diagram** tab and view the lap information.

LapNo.
LAP 1
LAP 2

Dist	Time
85$_m$	00:00:13
Speed$_{max}$	Calories
21.5KPH	1.3$_{kcal}$

LapDetail / Diagram

201	ALT:0m	LAP1
0	45	1s
4.8	1.2KPH	LAP1
0.0	45	1s
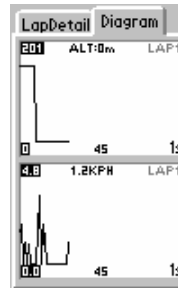
To delete the training records:

1. On the training history page, press the **Menu** button to display the menu options.

Duration	Freq.
Aug.16 - Aug.22	1

| **Del. last training** |
| **Del. over 1 month** |
| **Del. over 3 month** |
| **Del. over 1 year** |
| **Delete All** |

Speed$_{max}$	Calories
3.8KPH	964$_{cal}$

2. Use the navigation keys to select an option to delete the records and press **OK** to confirm.

Transferring Data

You can transfer maps, waypoints, routes, track logs, and fonts to and from a PC using the **Loading** feature.

Making Connections

To connect the GM-120 to your laptop, use the USB cable provided in the package. Connect the smaller end of the cable to the data port on the device and connect the other end of the cable to a free USB port on your laptop.

Please execute the **setup.exe** in CD-ROM to install Maproute program first. Execute USB-V2.1.0.exe to install **USB driver**. Follow the instructions on the screen to complete the driver installation.

|	**NOTE:**
	• Make sure that the USB cable is working properly and connected correctly to the GM-120 and the PC. If not, an error message will be displayed on the PC's screen.
	• You must connect the GM-120 to the PC and use the Maproute program to upload or download data. Both devices are needed to transfer data.
	• A virtual COM port will appear in the PC/laptop.

Starting Data Transfer

To transfer data, do the following:

1. Press the **Menu** button twice to display the main menu.

2. Scroll to the **Loading** option and press **OK**.

3. Press the **Menu** key as prompted.

4. Choose the appropriate option from those displayed on the screen as follows:

   - **PC->GPS Track**: to transfer track logs from a PC to the GM-120. See **Downloading Track Logs** on page 57.

   - **PC->GPS Wp&Rt**: to transfer waypoints and routes from a PC to the GM-120. See **Downloading Waypoints and Routes** on page 58.

   - **PC->GPS Geocaching**: to transfer geocaching coordinates from a PC to the GM-120. See **Downloading Geocaching Coordinates** on page 58.

   - **GPS->PC Track**: to transfer track logs from the GM-120 to a PC. See **Uploading Data** on page 59.

   - **GPS->PC Wp&Rt**: to transfer waypoints and routes from the GM-120 to a PC. See **Uploading Data** on page 59.

   - **GPS->PC Spt Rec**: to transfer sports records from the GM-120 to a PC. See **Uploading Data** on page 59.
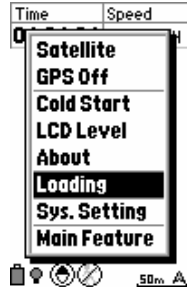
To transfer data to your laptop or PC, use the **Maproute** utility provided on the software CD. The following sections provide more information about using this utility.

Using Maproute

After connecting the GM-120 to the PC (see **Making Connections** on page 44) and setting it up with the **Loading** menu (see **Uploading Data** on page 59) to select the type of data transfer, run the **Maproute.exe** program from the software CD to start data transfer. Refer to the following sections to learn more about the software and how to transfer different types of data.

💡	**NOTE:** Use the following tools in the Maproute utility to view and manage the map files as follows: • Click **Tools | Zoom In** to enlarge the map scale. • Click **Tools | Zoom Out** to reduce the map scale. • Click **Tools | Move** to pan and scan different areas of the map. • Click **Tools | Arrow** to show the names of roads or interesting points when moving the cursor over the map.

System Requirements

Make sure that the host PC meets the following system requirements:

- **PC**: Pentium or above, or compatible PC
- **Memory**: 16 MB (minimum)
- **Operating system**: Windows XP/2000/Me/98/95
- **Hard disk space**: 100MB (minimum)

Features

You can use the menu bar to perform various tasks from the main program window. The following sections describe how to use the Maproute menu items. You can also use the toolbar icons to carry out various functions. Move your mouse over the toolbar icons to view a tool-tip about the icon and learn what each icon represents.

File Menu

Click **File | Open** to open map card files (*.ard) or map list files (*.arl, which contains a list of several map card files).
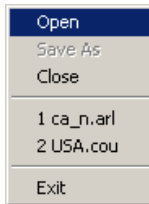

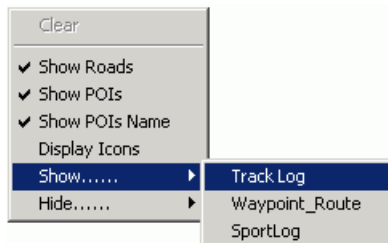Select a map list file (*.arl) from the **File Open** menu and click **OK**.
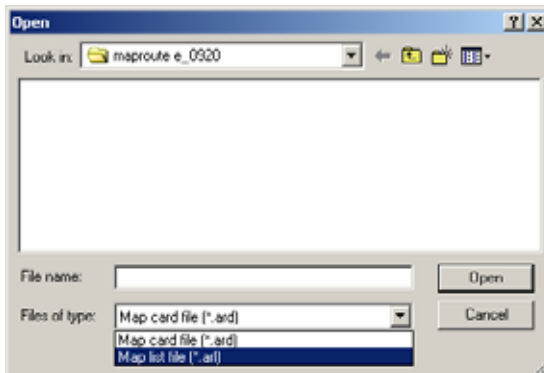
The selected map file opens and the roads and points of interests are displayed on the map.

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Show Menu

Click **Show** and choose the item that you want to display on the map. Move the cursor over the map and hold it over a road or any other point of interest to view information about the location. The exact latitude, longitude, name of the road, district, and name (if any) of the location are displayed next to the cursor.
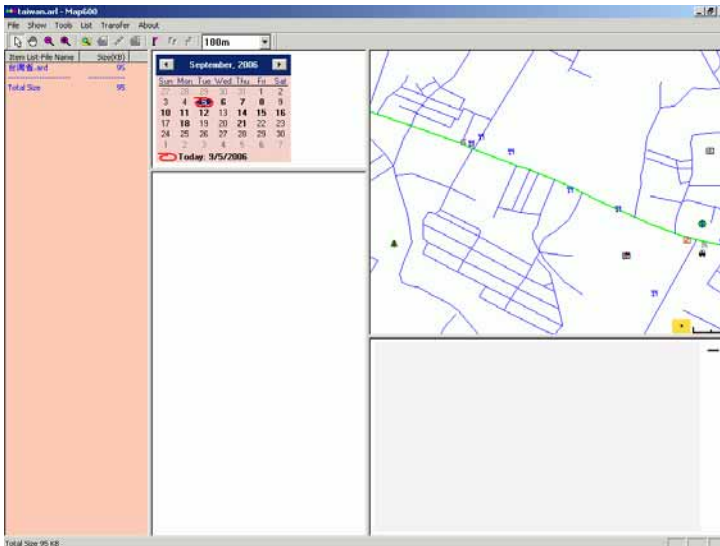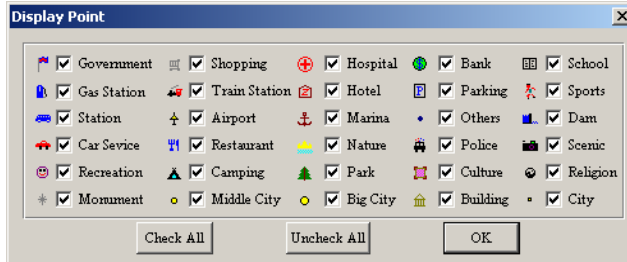

Use the following items on the **Show** menu as follows:

- **Show Roads** – displays all roads on the map.
- **Show POIs** – displays points of interest on the map.
- **Show POIs Name** – displays the names of the points of interest

- **Display Icons** – enables you to choose which points of interests
  are displayed on the map. You can select locations such as
  government buildings, shopping places, restaurants and so on to
  be displayed on the map by selecting the required check boxes.

- **Show/Hide | Track Log** – displays or hides details of a track log
  (*.trl).
- **Show/Hide | Waypoint_Route** – displays or hides routes (*.wpr)
  created from waypoints on the map.
- **Show/Hide | SportLog** – enables or disables the display of sports
  logs (*.spt).

Tools Menu

The **Tools** menu enables you to view the map, move across the map, search for locations, and so on.
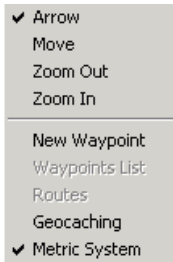

- **Arrow** – Cursor becomes an arrow. Move the cursor to a road or point of interest to view information about it.
- **Move** – Cursor becomes a hand and allows you to pan across the map. Press the left mouse button to drag and move the map. The cursor turns into a closed fist when the left mouse button is pressed.
- **Zoom out** – Cursor changes to a magnifier with a minus (–) sign in the center. Click to zoom out and view a larger area of the map.
- **Zoom in** – Cursor changes to a magnifier with a plus (+) sign in the center. Click to zoom in and view more details of the map.
- **New Waypoint** – Click the map on any location that you want to mark as a waypoint. You are prompted to specify the file in which you want to save the waypoints. Click **Open** to use an existing file or **New** to open a new file.
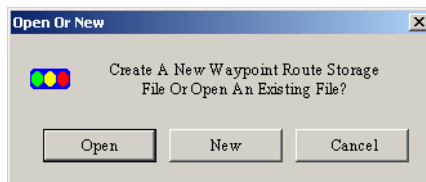
Specify the location to save the waypoint file and click **Save**.
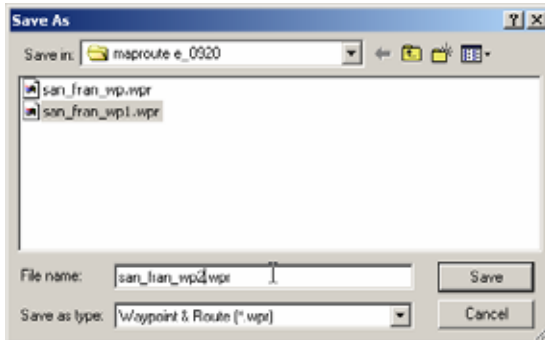
A new waypoint screen appears. Enter information such as the name of the waypoint and comments for the waypoint. If required, edit the latitude and longitude of the waypoint to get an accurate location.
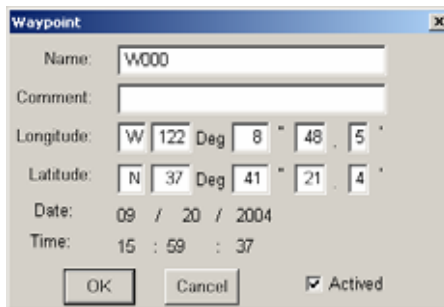
- **Waypoints List** – Displays a list of all the waypoints. Select a waypoint and click **Go To** to view the location of the waypoint on the map. Click **Edit** to modify the waypoint.

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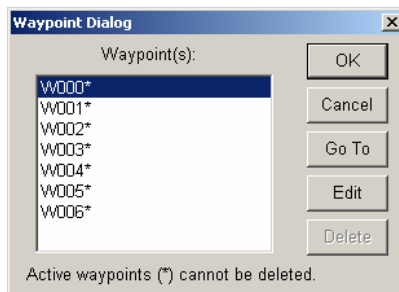
- **Routes** – Enables you to create and edit routes using waypoints. If no waypoints have been created, this option will not be available. Create a route as follows:

  i. Click **New** under **Route** to create a new route. Modify the route name if desired in the **Name** field.

  ii. Select a waypoint from the waypoint list and click **Add** to add it to the route. Repeat as required.

  iii. Click **Set Navi** to create the route and display it on the map.

- **Geocaching** – Click to create or open a geocaching file. You are prompted to specify the file in which you want to save the geocaching file. Click **OPEN** to use an existing file or **CREATE** to open a new file.
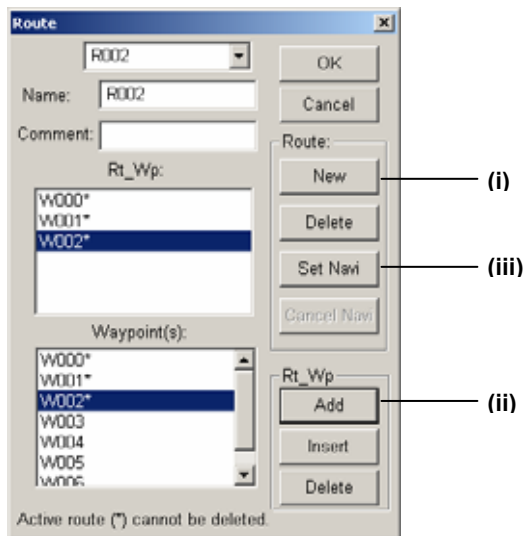
Specify the location to save the geocaching file and click Save.
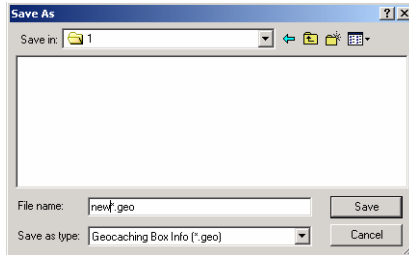
A dialog for new box pops up. Enter information such as the name of the box and comments for the box. If required, edit the la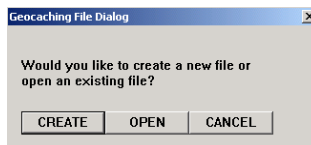titude and longitude of the box to get an accurate location. You can also establish a new box point by importing a (*.loc) file from the Internet.
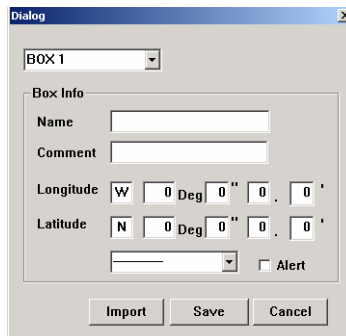
- **Metric System** – Click to set the measurement units on the map to the metric system. Distances are shown in meters (m) or kilometers (km). If not enabled, distances are shown in miles (mi).

List Menu

The **List** menu enables you to merge map card files (*.ard) and create a list map file (*.arl).

Follow these steps to use this menu:

1. Click **File | Open** to open a map file.

2. Click **List | Add An Item** to add the file to the list. The selected item is displayed in the left pane of the program window.

3. Repeat the first two steps to add the required maps. The file list in the left pane shows all the component map card files and their size. The total file size is displayed in the lower left corner.

4. After adding all the required files, a map list file (*.arl) is created.

Transfer Menu

The transfer menu enables you to transfer data such as maps, track logs, and waypoints and routes between the GM-120 and your host PC.
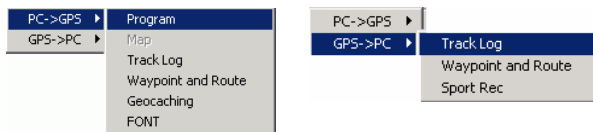
- **PC->GPS | Program –** downloads firmware files (*.s) to the GM-120.
- **PC->GPS | Track Log–** downloads track logs (*.trl) to the GM-120.
- **PC->GPS | Waypoint And Route–** downloads waypoint and route files (*.wpr) to GM-120.
- **PC->GPS | Geocaching–** downloads geocache files (*.geo) to GM-120.
- **PC->GPS | FONT–** downloads font files to GM-120.
- **GPS->PC | Track Log –** uploads track logs (*.trl) from the GM-120 to a host PC.

- **GPS->PC | Waypoint And Route–** uploads waypoint and route files (*.wpr) from the GM-120 to a host PC.
- **GPS->PC | Spt Rec**: transfers sports logs from the GM-120 to a PC.

About Menu

Click this menu item to view company and software version information.

About MapRoute
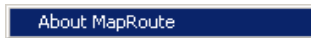
Context Menu

You can view the context-sensitive menu by right-clicking anywhere in the map window. This menu provides the same options as those available from the menu bar.

Clear
✔ Show Roads
✔ Show POIs
✔ Show POIs Name
Display Icons
Show......   ▶   Track Log
Hide......   ▶   Waypoint_Route
                       SportLog

- **Show Roads –** displays all roads on the map.
- **Show POIs –** displays points of interest on the map.
- **Show POIs Name** – displays the names of the points of interest.
- **Display Icons** – enables you to choose which points of interests are displayed on the map. You can select locations such as government buildings, shopping places, restaurants and so on to be displayed on the map by selecting the required check boxes.
- **Show/Hide | Track Log** – displays or hides details of a track log (*.trl).
- **Show/Hide | Waypoint_Route** – displays or hides routes (*.wpr) created from waypoints on the map.

- **Show/Hide | SportLog** – enables or disables the display of sports logs (*.spt).

Viewing Sports Logs

To view the details of your sports logs, do the following:

1. Right-click anywhere in the map window and select **Show | SportLog**.

2. Specify the location of the sport log file (*.spt) and click **Open**.
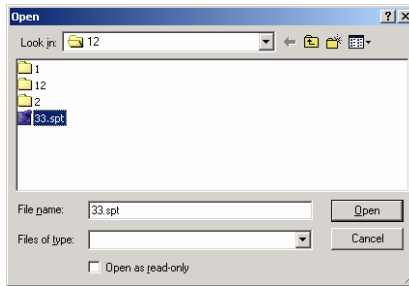
3. The sports log file opens and displays the amount of exercise within a week.

4. Double-click a log to view the types of exercise done.

5. Click the exercise type to display the lap information. The track diagram is displayed on the upper right screen and the lap detail diagram is displayed on the screen at the lower right corner.
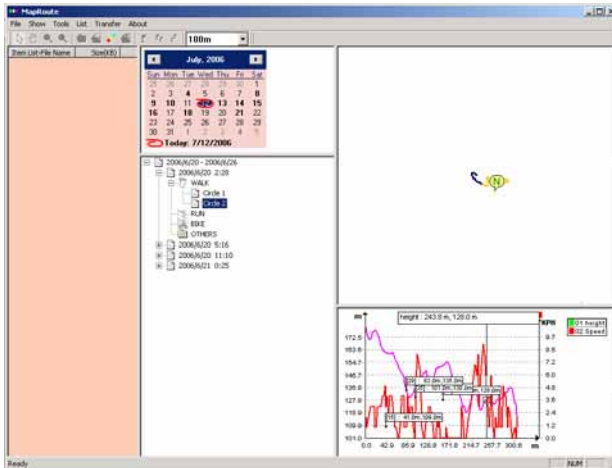
Downloading Fonts

To download fonts to the GM-120, do the following:

1. Click **Transfer | PC->GPS | FONT** in the Maproute window.

2. The **Open** dialog window opens. Locate the desired font file and click **Open** to copy the font to the GM-120.

3. The selected font file is copied to the internal memory of the GM-120 through the USB cable. The correct USB port will be detected automatically. Download status is displayed on the screen while downloading is in progress.

Downloading Map

To download map to the GM-120, do the following:

1. Click **Transfer | PC->GPS | Map** in the Maproute window.

2. The **Open** dialog window opens. Locate the desired map file (*.are) and click **Open** to copy a new map to the GM-120.

3. The selected map file is copied to the internal memory of the GM-120 through the USB cable. The correct USB port will be detected automatically. Download status is displayed on the screen while downloading is in progress.

Downloading Track Logs

To download track logs to the GM-120, do the following:

1. Click **Transfer | PC->GPS | Track Log** in the Maproute window.

2. The **Open** dialog window opens. Locate the desired track log file (*.trl) and click **Open** to copy the track log to the GM-120.

3. The selected track log file is copied to the internal memory of the GM-120 through the USB cable. The correct USB port will be detected automatically. Download status is displayed on the screen while downloading is in progress.

Downloading Waypoints and Routes

To download waypoints and routes to the GM-120, do the following:

1. Click **Transfer | PC->GPS | Waypoint and Route** in the Maproute window.

2. The **Open** dialog window opens. Locate the desired waypoint and route file (*.wpr) and click **Open** to copy the waypoint and route to the GM-120.

3. The selected waypoint and route file gets copied to the internal memory of the GM-120 through the USB cable. The correct USB port will be detected automatically. Download status is displayed on the screen while downloading is in progress.

Downloading Geocaching Coordinates

To download geocaching coordinates to the GM-120, do the following:

1. Click **Transfer | PC->GPS | Geocaching** in the Maproute window.

2. The **Open** dialog window opens. Locate the desired geocaching file (*.geo) and click **Open** to copy the data to the GM-120.

3. The selected geocaching file gets copied to the internal memory of the GM-120 through the USB cable. The correct USB port will be detected automatically. Download status is displayed on the screen while downloading is in progress.

Uploading Data

To upload track logs, waypoints, and routes from the GM-120 to a PC, do the following after setting up the device with the **Loading** menu (see

Starting Data Transfer on page 45):

1. Click **Transfer | GPS->PC | Track Log** to copy track logs to the PC from the device.

2. Click **Transfer | GPS->PC | Waypoint and Route** to copy waypoints and routes to the PC.

3. Click **Transfer | GPS->PC | SportLog** to copy sports logs to the PC.

4. The selected data starts getting transferred to your PC. Upload status is displayed on the screen while uploading is in progress.

Adjusting the System Settings

The **System Settings** menu enables you to customize the GM-120 according to your needs. To view the system settings, do the following:

1. Press the **Menu** button twice to display the main menu and scroll to the **System Settings** option.

2. Press **OK** to select the option and change the system settings.

3. There are four tabs in the **System Settings** menu – **Set 1**, **Set 2**, **Set 3**, and **Time**. Refer to the following sections to learn how to adjust the various settings.

Setting the Pressure Units

Units can be set to atm, kPa, or mmHg.

To set the **Pressure Unit** option:

1. Press the **Menu** button twice to display the main menu.

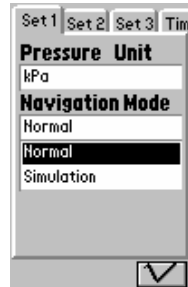2. Select **Sys. Settings** and press **OK**.

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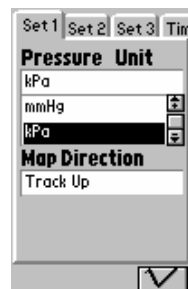
3. Select the **Set 1** tab using the left/right navigation keys.

4. Use the up/down navigation keys to highlight the **Pressure Unit** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation keys to select a setting.

7. Use the up/down navigation keys to highlight √ and press **OK**.

Setting the Navigation Mode

Navigation mode can be set to **Normal** or **Simulation**. **Normal** mode is used with live satellite data. **Simulation** mode does not use live satellite data; therefore, functions that require live satellite data cannot be used.

To set the **Navigation Mode**:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Select the **Set 1** tab using the left/right navigation keys.

4. Use the up/down navigation keys to highlight the **Navigation Mode** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation keys to select a setting.

7. Use the up/down navigation keys to highlight √ and press **OK**.

Changing the Map Direction

The map can be set to either display with north always at the top of the screen, or to rotate according to the direction the GM-120 is facing. When the map is set to **North Up**, the map will always display with north at the top of the screen. When set to **Track Up**, the map will rotate as the GM-120 is rotated and a North Indicator appears on the screen.

To set the **Map Direction**:

8. Press the **Menu** button twice to display the main menu.

9. Select **Sys. Settings** and press **OK**.

10. Select the **Set 1** tab using the left/right navigation keys.

11. Use the up/down navigation keys to highlight the **Map Direction** option.

61
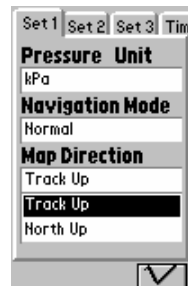
12. Press **OK** to display the available settings.

13. Use the up/down navigation keys to select a setting.

14. Use the up/down navigation keys to highlight √ and press **OK**.

Setting the Bluetooth

To enable/disable the **Bluetooth** feature:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Use the up/down navigation keys to highlight the **Bluetooth** option in **Set1** tab.

4. Press **OK** to display the available settings.

5. Use the up/down navigation keys to select **On/Off**.

6. Use the up/down navigation keys to highlight and press **OK**.

Setting the Display Units

Units can be set to either metric (KM/KPH), or traditional (Mi/MPH).

To set the **Units** option:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Select the **Set 2** tab using the left/right navigation keys.

4. Use the up/down navigation keys to highlight the **Units** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation keys to select a setting.

7. Use the up/down navigation keys to highlight √ and press **OK**.
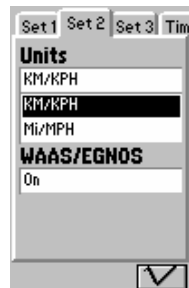
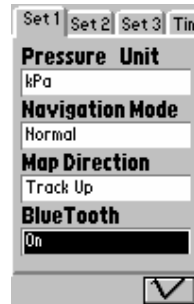# Setting the DMS Format

DMS format defines how Degrees, Minutes, and Seconds are displayed. You can either set the GM-120 to display degrees followed by minutes and fraction of a minute, or you can set it to display degrees and minutes followed by seconds and fractions of a second.

To set the **DMS format**:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Select the **Set 2** tab using the left/right navigation keys.

4. Use the up/down navigation keys to highlight the **DMS Format** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation to select a setting.

7. Use the up/down navigation keys to highlight √ and press **OK**.

Setting the WAAS/EGNOS

To enable/disable the **WAAS/EGNOS** feature:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Select the **Set 2** tab using the left/right navigation keys.

4. Use the up/down navigation keys to highlight the **WAAS/EGNOS** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation keys to select **On/Off**.

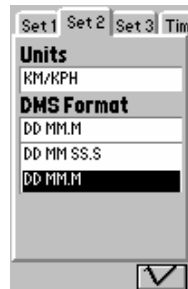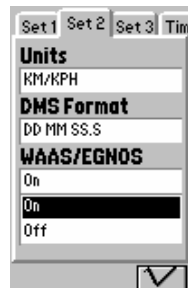7. Use the up/down navigation keys to highlight √ and press **OK**.

Setting the Backlight

The backlight can be set to always remain on, or turn off after 30 seconds, 3 minutes, or 10 minutes. The more you use the **Backlight**, the faster the batteries will drain. When the **Backlight** goes out, press any key to turn it on again.

To set the **Backlight**:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Select the **Set 3** tab using the left/right navigation keys.

4. Use the up/down navigation keys to highlight the **Backlight** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation keys to select a setting.

7. Use the up/down navigation keys to highlight √ and press **OK**.

Setting the Beeper

You can set the beeper on for keypad, warning messages, or both.

To set the **Beeper**:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Select the **Set 3** tab using the left/right navigation keys.

4. Use the navigation keys to highlight the **Beeper** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation keys to select a setting.

7. Use the up/down navigation keys to highlight √ and press **OK**.

Setting the Startup Page

You can choose to display or hide the startup page when turning on GM-120.

To enable/disable the startup page:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Select the **Set 3** tab using the left/right navigation key.

4. Use the up/down navigation keys to highlight the **Startup Page** option.

5. Press **OK** to display the available settings.

6. Use the up/down navigation keys to select **On/Off**.

7. Use the up/down navigation keys to highlight √ and press **OK**.

Setting the Time

The local time can be set on the GM-120 using the **Time** setting function. Local time is set by entering the offset from Greenwich mean time. For instance, if local time is 7 hours ahead of Greenwich mean time, you will need to enter an offset of plus (+) seven hours.

To change the **Time** setting:

1. Press the **Menu** button twice to display the main menu.

2. Select **Sys. Settings** and press **OK**.

3. Use the left/right navigation keys to select the **Time** tab.

4. Use the up/down navigation keys to select the **Adjust Time** field.

5. Press **OK** to toggle between **Plus** and **Minus**.

6. Use the up/down navigation keys to highlight the **Hour** field and press **OK**.

7. Use the up/down navigation keys to change the **Hour** field and press **OK** to confirm your setting. The **Current Time** field shows the corrected time.

8. In the **Minute** field, press **OK** to toggle between 0 and 30.

9. Use the up/down navigation keys to highlight √ and press **OK** to confirm the time setting.

Making a Cold Start

Use this feature to locate your position correctly, if the GM-120 is unable to identify your position after being powered on for a few minutes. This may happen if there is old, incorrect data in the device and the signal strength is poor due to uneven distribution of the satellites. In some cases, you may also wish to acquire fresh information from the satellites and clear the previous, obsolete data from the memory.

The **Cold Start** feature enables you to restart navigation by acquiring fresh positioning information from the available satellites as follows:

1. Press the **Menu** button twice to display the main menu.

2. Scroll to the **Cold Start** option and press **OK**. The device starts acquiring fresh satellite information.
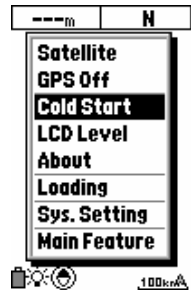
Resetting to Factory Defaults

When strange encoding appears on the screen, restore all setting to factory default to acquire fresh information from the satellites and clear the previous, obsolete data from the memory.

To reset all settings to factory defaults:

1. Press the **Menu** button twice to display the main menu.

2. Scroll to **Satellite** and press **OK** to enter the satellite page.

3. Press and hold **Menu** and **OK** buttons for three seconds. A warning message appears to confirm resetting to factory defaults.

4. Press **OK** to confirm.

Viewing Device Information

To view information about the device's firmware:

1. Press the **Menu** button twice to display the main menu.

2. Scroll to the **About** option and press **OK**.

3. The screen displays the device information and the free memory available for track logs, routes, and waypoints.

GM120	
OS:1.251ZA	
Free Memory	
Track Log	100.0%
Routes	98.0%
Waypoints	99.7%

Appendix

This section contains troubleshooting solution and technical information for your reference.

Troubleshooting

Problems	Possible Solution
I pressed the power button but the device doesn't switch off.	• Make sure that you hold the power button for two seconds to turn it off. • If the unit still doesn't turn off, remove the battery or the power source for five seconds and install it again.
The unit does not respond when I try to move the cursor.	The map position may be latched. Check if the ▲ symbol is shown in the bottom right corner of the map page. If so, press and hold a direction key to unlatch the device.
What do I do to return to my current position on the map page after I have moved the map?	Check if the ▲ symbol is showing in the bottom right corner of the map page. Press the **ESC** button to return to your current position.
The GM-120 fails to locate my current position.	• Make sure that you are not in simulation mode. • Make sure you are in an area with no obstruction such as trees or tall buildings. • The GM-120 requires synchronization with at least three satellites to identify with your current location. Once the position has been identified, it requires at least one satellite to maintain status. If available satellite signals are too low in orbit or all in a line, it may not be able to locate your current location.

Specifications

Item	Description
Navigation	• **Waypoints:** Max. 1000 waypoints with name (symbol) coordinate and remarks • **Route**: 20 reversible and editable routes up to 30 waypoints each • **Track Log**: 8 tracking logs with 2500 points each
Performance	Acquisition Time: • **Cold Start:** within 42 seconds • **Warm Start:** within 38 seconds • **Hot Start:** within 1 second in open sky and 15 seconds indoors • **Update Rate:** every second
Accuracy	• **Position:** within 5 to 25m CEP • **Velocity:** 0.1m/sec. • **Time:** ±1μs
Dynamic Conditions	• **Altitude:** -1,000 to +18,000m • **Velocity:** 515m/sec. • **Acceleration:** ±4G
Interface	RS-232 (for NMEA 0183) or USB • **Antenna:** built-in patch antenna • **Alarm:** built-in buzzer for warning messages
Physical	• **Dimension:** 109 (L) * 59 (W) * 22.8 (H) mm • **Weight:** 130g with Li-Ion battery • **Casing**: Waterproof up to IPX6 standards
Operating Temp.	• **Operating temp.:** -10°C to +60°C • **Storage temp.:** -20°C to +70°C

* The specifications are subject to change without notice.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.