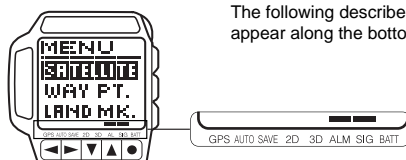# Module No. 1840

GETTING ACQUAINTED

Congratulations upon your selection of this CASIO watch. To get the most out of your purchase, be sure to carefully read this manual and keep it on hand for later reference when necessary.

About this manual

- Button operations are indicated using the letters shown in the illustration.
- Each section of this manual provides basic information you need to perform operations in each mode. Further details and technical information can also be found in the "REFERENCE" section.

| Indicator	Description
GPS	• Watch is in the GPS Mode. • Flashes when the watch is performing a GPS measurement operation.
AUTO	Watch is in the GPS Auto or Continuous Mode.
SAVE	Watch is in the GPS One-shot or Auto Mode.
2D	Watch is performing a 2-dimensional GPS measurement (using three satellites). This is the type of measurement normally used in the Quick, One-Shot, and Auto Mode.
3D	Watch is performing a 3-dimensional GPS measurement (using four or more satellites), which provides better accuracy than 2D. This is the type of measurement used in the Continuous Mode when data is obtained from four or more satellites.
ALM	Alarm is turned on.
SIG	Hourly Time Signal is turned on.
BATT	Battery power is low and battery needs to be replaced.

Display Indicators

The following describes the indicators that appear along the bottom of the display.

Precautions

- The measurement functions built into this watch are not intended for use in taking measurements that require professional or industrial precision. Values produced by this watch should be considered as reasonably accurate representations only.
- Though a useful navigational tool, a GPS receiver should never be used as a replacement for conventional map and compass techniques. Remember that magnetic compasses can work at temperatures well below zero, have no batteries, and are mechanically simple. They are easy to operate and understand, and will operate almost anywhere. For these reasons, the magnetic compass should still be your main navigation tool.
- CASIO COMPUTER CO., LTD. assumes no responsibility for any loss or any claims by third parties that may arise through the use of this watch.

GENERAL GUIDE

- Use **MENU** and **GPS** to change between modes.
- In the GPS Mode, use ▼ and ▲ to change between screens.
- The watch beeps whenever you press a button to change to another mode or screen.
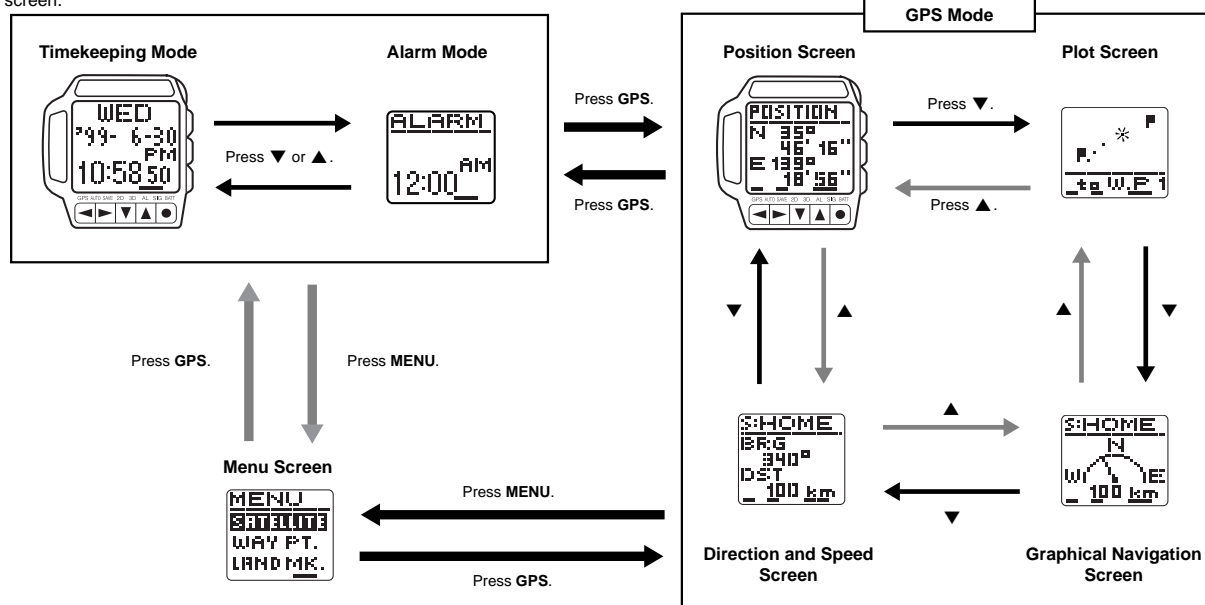
- You cannot go from the Menu Screen to the GPS Mode after displaying the Menu Screen from the Timekeeping Mode or Alarm Mode. To get to the GPS Mode in this case, you have to press **GPS** to return to the Timekeeping Mode (or Alarm Mode) and then press **GPS** again to enter the GPS Mode.

Using the Menu Screens

Many of the operations of this watch are performed using on-screen menus. The following describes the general procedures for using on-screen menus.

To use the Menu Screens

- In any mode, press the **MENU** button to display the Menu Screen.
- The highlighted menu item is the one that is currently selected.
- Use ▼ and ▲ to move the highlighting. The menu will scroll automatically if all the items do not fit on a single screen.

- Press ● to select the highlighted menu item. Selecting a menu item sometimes displays another menu, and sometimes it displays some sort of Setting Screen.
- Press the **MENU** button to back track through menus.

Adjusting Display Contrast

Use the following procedure to adjust the relative darkness of the figures on the display.
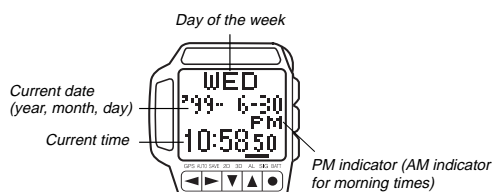
To adjust display contrast

1. In any mode, press the **MENU** button and the ◄ button at the same time to display the Contrast Screen.
2. Use ▲ to increase contrast (making the screen darker) and ▼ to decrease it.
- You can set contrast to one of 16 levels.
- The current contrast setting is indicated by a value on the Contrast Screen.

3. After the contrast is the way you want, press **MENU** or ● to return to the screen you started from in step 1.
- You can also display the Contrast Screen using the following procedure: Press **MENU**, highlight SET UP, press ●, highlight CONTRAST, press ●. After setting the contrast, press **MENU** twice to return to the Menu Screen.
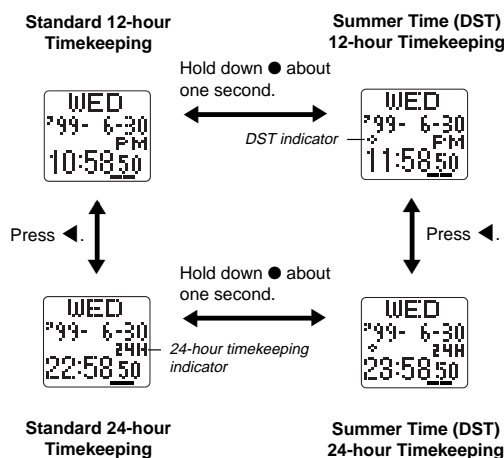
BACKLIGHT

Press the **LIGHT** button to illuminate the display for about two seconds.
- The backlight is disabled while a GPS measurement operation is in progress (indicated when the GPS indicator is flashing) and while the WAIT message is on the display following a Set Up Menu operation.
- The electro-luminescent (EL) panel that illuminates the display loses illuminating power after very long use.
- Illumination may be hard to see when viewed under direct sunlight.
- The watch may emit an audible sound while the backlight is on. This is normal and does not indicate malfunction.

TIMEKEEPING MODE

Day of the week

Current date (year, month, day)

Current time

PM indicator (AM indicator for morning times)

Use the Timekeeping Mode to view the current time and date. You can select from among the four different Timekeeping Screen formats shown below.

Standard 12-hour Timekeeping

Summer Time (DST) 12-hour Timekeeping

Hold down ● about one second.

DST indicator

Press ◄.

Press ◄.

Hold down ● about one second.

24-hour timekeeping indicator

Standard 24-hour Timekeeping

Summer Time (DST) 24-hour Timekeeping

- The summer time or Daylight Saving Time (DST) Screen automatically advances the current time setting by one hour. This is a practice followed in certain geographic areas, and may or may not apply in your area.

Setting the Current Time and Date

Use the Menu Screen to set the current time and date, and to reset the second's count to zero.

Important!

The GPS Mode of this watch uses the time and date settings to determine the current positions of satellites. Make sure that your time and date setting are always accurate.

To set the current time and date

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP.
3. Press ● to display the Set Up Menu.
4. Use ▼ and ▲ to move the highlighting to TIME, and then press ●.
- This displays the current date and time setting, with the seconds digits flashing.
5. Use ◄ and ► to move the flashing around the display to the other digits in the sequence shown below.

Press ►. ⟶ ⟵ Press ◄.

Seconds	Hour	Minutes
Day	Month	Year
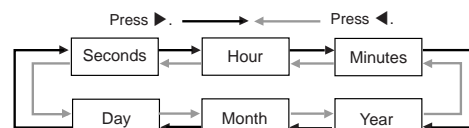
6. While the hour, minutes, year, month, or day digits are selected (flashing), press ▲ to increase them or ▼ to decrease them.
- Holding down either button changes the flashing digits at high speed.
7. After everything is the way you want it, press **GPS** to exit the Setting Screen and return to the screen you started from in step 1.
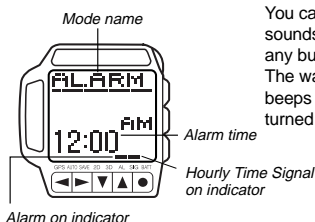
To reset the seconds count to zero

1. In any mode, press the **MENU** button to display the Menu Screen, highlight SET UP, and then press ● to display the Set Up Menu.
2. Use ▼ and ▲ to move the highlighting to TIME, and then press ●.
3. While the seconds digits are flashing, press ▲ to reset them to zero.
- Pressing ▲ while the seconds count is in the range of 30 to 59 resets it to 00 and adds 1 to the minutes. If the seconds count is in the range of 00 to 29, pressing ▲ resets it without changing the minutes.
4. After everything is the way you want it, press **GPS** to exit the Setting Screen and return to the screen you started from in step 1.

Notes

- The year can be set in the range of 1995 to 2039.
- The day of the week is displayed automatically in accordance with the month and day settings.
- The watch's built-in full automatic calendar makes allowances for different month lengths and leap years. Once you set the date, there should be no reason to change it except after replacing the watch's battery.

ALARM MODE

Mode name

Alarm time

Hourly Time Signal on indicator

Alarm on indicator

You can set an alarm time at which a beeper sounds for about 20 seconds each day. Press any button to stop the alarm.
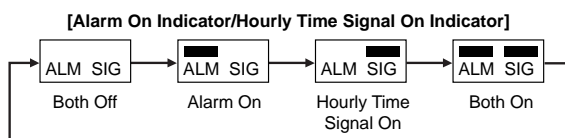The watch also has an hourly time signal that beeps twice every hour on the hour when turned on.

To set the alarm

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP.
3. Press ● to display the Set Up Menu.
4. Use ▼ and ▲ to move the highlighting to ALARM and then press ●.
• This displays the current alarm time setting, with the hour digits flashing.
5. Use ◄ and ► to move the flashing between the hour digits and the minutes digits.
6. Press ▲ to increase the flashing digits or ▼ to decrease them.
• Holding down either button changes the flashing digits at high speed.
7. After the alarm time is the way you want it, press **GPS** to exit the Setting Screen and return to the screen you started from in step 1.

To turn the alarm and Hourly Time Signal on and off

In the Alarm Mode, each press of ● cycles through the alarm and Hourly Time Signal on/off settings as shown below.

[Alarm On Indicator/Hourly Time Signal On Indicator]

ALM SIG	→	ALM SIG	→	ALM SIG	→	ALM SIG
Both Off		Alarm On		Hourly Time Signal On		Both On

• An indicator appears above ALM at the bottom of the display when the alarm is turned on, and above SIG when the hourly time signal is turned on.
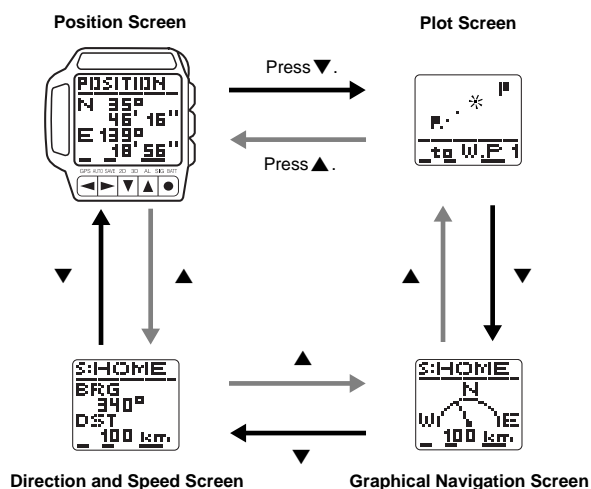
To test the alarm

In the Alarm Mode, hold down ● to sound the alarm.

GPS MODE

The GPS Mode provides you with a collection of powerful GPS functions that allow you to determine your current position and perform other useful navigation operations. After entering the GPS Mode, use the ▼ and ▲ buttons to cycle through four GPS Data Screen formats as shown below.

GPS Data Screens

Position Screen

Press ▼.

Press ▲.

Plot Screen

Direction and Speed Screen

Graphical Navigation Screen

• The Position Screen appears first whenever you enter the GPS Mode.

Setting Up the GPS Mode

The following are settings you need to make before actually taking any measurements with the GPS Mode. Most of these need to be made only the first time you use the watch. See the referenced pages for full information about each setting.

• **Area setting (See "Setting Your Area")**
• **Datum setting (See "Setting a Datum")**
• **Distance unit setting (See "Setting the Distance Unit")**
• **Speed unit setting (See "Setting the Speed Unit")**

Important!

• The Timekeeping Mode time and date settings are also used to determine the current positions of satellites. Make sure that your time and date setting are always accurate.

Taking a GPS Measurement

The following are the basic steps for taking a position measurement in the GPS Mode. See the referenced pages in this manual for further details.
The following procedure uses the One-Shot Mode as an example. See "GPS Measurement Modes" for information about other measurements.

Important!

• GPS measurements may take a long time to complete or may even be impossible due to satellite and other conditions.

To take a GPS measurement

Antenna
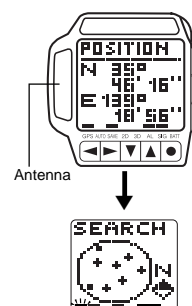
1. While a GPS Data Screen is on the display, press ●.
• This example procedure starts from the Position Screen.
• This changes to the Satellite Search Screen.
• The indicator flashes above GPS at the bottom of the screen to indicate that the watch is searching for overhead satellites.
• To interrupt an ongoing GPS measurement, press ● again.
• Make sure the antenna is pointing up at the sky while a measurement is taking place.

2. When the measurement is successful, the watch beeps a number of times and returns to the GPS Data Screen you started from in step 1.
• See "To add a landmark by registering your current location" for information about storing GPS measurement data in Landmark Memory.
• See "GPS Measurement Modes" for more information about indicators and how the watch updates measurement data.
• If the watch is unable to successfully complete the measurement within about two minutes, it plays a short tune and displays SATELLITE at the top of the display to let you know. If this happens, press ● twice to return to the GPS Data Screen, move to a more open area, and try again.
• If you perform the above GPS measurement operation within the area defined by 20° to 46° north latitude and 122° to 149° east longitude, a successful measurement causes a map of Japan to appear on the display for a few seconds, followed by a GPS Data Screen.

GPS Measurement Modes

You can select from among four different GPS measurement modes. The mode you should select depends on how quickly you want your position data updated balanced against how important it is for you to conserve remaining battery power.
Remember, however, that no matter which GPS measurement mode you use, it can take a considerable amount of time to achieve the first measurement.

To perform:	Use:
One-shot measurement with standby for subsequent measurements	**Quick Mode**
One-shot measurement with no standby (power save)	**One-Shot Mode**
Continuous measurement with standby for subsequent measurements	**Continuous Mode**
Continuous measurement with semi-standby (power save)	**Auto Mode**

• The standby modes provide faster updating of measurement data following the first measurement, but they consume more battery power because the watch's GPS circuit remains in standby (half power). The indicator flashing above GPS at the bottom of a GPS Data Screen indicates that GPS measurement is in standby.

- The non-standby modes take longer to produce subsequent measurements, but shutdown of the watch's GPS circuit between measurements conserves battery power. In these modes, the indicator above GPS at the bottom of a GPS Data Screen does not flash and an indicator appears above SAVE to indicate power save is enabled.

Quick Mode

The Quick Mode performs a GPS measurement when you press ● and updates the GPS Data Screen. After the first measurement, the watch's GPS circuit remains in standby, which is indicated by the flashing indicator above GPS at the bottom of the GPS Data Screen. Because of this, subsequent measurements are produced more quickly. Continuous Quick Mode standby uses battery power. To exit standby, press ▶ while the Position Screen is on the display to change to another measurement.

One-Shot Mode

The One-Shot Mode also performs GPS measurement when you press ● and updates the GPS Data Screen. In this mode, however, the watch's GPS circuit is shut down between measurements. Because of this, it takes more time to perform each measurement.

Continuous Mode

The Continuous Mode performs a GPS measurement every second starting when you press ● and ending when you press ● again. The GPS Data Screen is updated with each measurement. In the Continuous Mode, the watch's GPS circuit remains in standby, which is indicated by the flashing indicator above GPS at the bottom of the GPS Data Screen.

Auto Mode

The Auto Mode also performs a GPS measurement every minute starting from when you press ● and ending when you press ● again. The GPS Data Screen is updated with each measurement. Though the GPS circuit shuts down between measurements in this mode, the indicator above GPS continues to flash until you press ● to stop measurement.

Important!

- The indicator flashing above GPS at the bottom of a GPS Data Screen indicates that the GPS circuit is activated, which consumes valuable battery power. To prolong battery life, be sure to use the following operations to turn off the GPS circuit when you are not using it.
- Press ● to stop position measurement and turn off the GPS circuit. The indicator above GPS stops flashing at this time.

To select a GPS measurement mode

While the Position Screen is on the display in the GPS Mode, press ▶ to cycle through the GPS measurement modes in the sequence shown below.

Position Screen
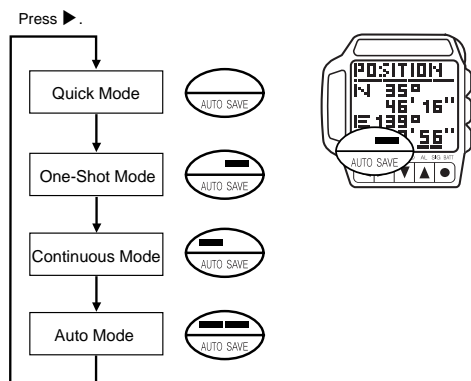
Latitude
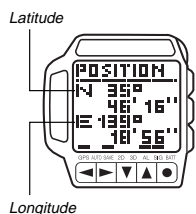
Longitude

- The Position Screen shows your current position in terms of latitude and longitude.
- Latitude is indicated as N (north) or S (south), and longitude as E (east) or W (west).
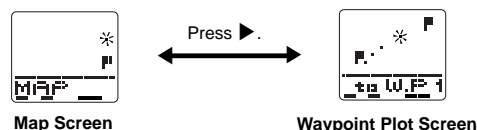
Plot Screens

The Plot Screens show your current location and your progress (tracks) from one waypoint to another.
- See "Track Memory" for information about tracks and how they are stored in memory.
- With the Plot Screens, the top (12 o'clock position) of the watch's display is always north.

Plot Screen Formats

There are two Plot Screen formats: a Map Screen and a Waypoint Plot Screen.
- Press ▶ to toggle between screen formats.

Map Screen   Press ▶.   **Waypoint Plot Screen**

- The Map Screen shows tracks and your current position inside the grid cell where your current position is located.
- The Waypoint Plot Screen normally shows the two waypoints between which your current position is located. You can also scroll to view other sets of waypoints along your route.
- When you change to the Map Screen, a Map Scale Screen first appears for about two seconds, followed by the Map Screen.

Grid cell width

Grid cell height
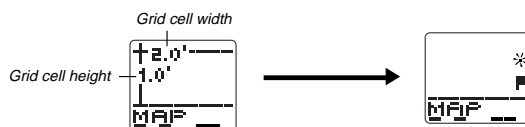
- When you change to the Waypoint Plot Screen, the virtual width of the screen first appears for about two seconds, followed by the Waypoint Plot Screen.

Screen virtual width

Destination waypoint number (W.P 1 = Waypoint 1)
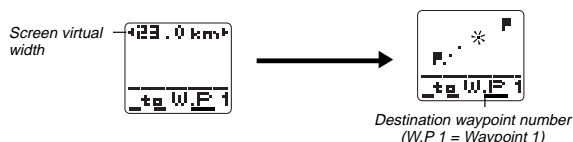
Waypoints

Note that you must define waypoints in watch memory before you can use the Waypoint Plot Screen. See "Using Waypoints" for information about defining and managing waypoints.
- The message NO W.P (no waypoints) appears on the screen if there are no waypoints defined in the WAY PT. (waypoint) List.

Using the Map Screen

Once you set up the Map Screen to match the gridlines on your paper map, you can easily plot your position within a specific grid cell on the map. A simple operation also lets you quickly determine which grid cell on the map is currently shown on the Map Screen of the watch.
- See "Maps and Gridlines" for information about the types of maps that are compatible with the Map Screen.
- See "Map Scale Settings" for other important information about the map scale.

Important!

- The Map Screen of this watch is designed for use with maps that indicate latitude and longitude down to minutes. It will not work properly with maps that indicated latitude and longitude in degrees only.

To set up the Map Screen to match the gridlines of your map

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP and then press ● to display the Set Up Menu.
3. Use ▼ and ▲ to move the highlighting to MAP SCALE and then press ● to display the Map Scale Setting Screen.
- The values on the Map Scale Setting Screen are for specifying the vertical-to-horizontal ratio (in minutes) of each grid cell on the map you are using. 1:2, for example, indicates that grid cells are twice as wide as they are high.
4. Use ◀ and ▶ to move the highlighting between the vertical and horizontal ratio values, and ▼ and ▲ to change the highlighted value.
- See "Map Scale Settings" for full details about how your settings affect the appearance of the screen.
5. After everything is the way you want, press ● to return to the Set Up Menu with DST UNITS highlighted.
6. Press the **MENU** button to return to the Menu Screen.

GPS Measurement with the Map Screen

After successful measurement is achieved, your current position appears on the Map Screen.

Current position (flashing)
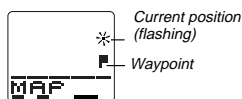
Waypoint

- See "Taking a GPS Measurement" for full details about GPS measurements.
- Any waypoints (▉) located in the same grid cell as your current location also appear on the display.

To determine your current grid cell

1. Set up the Map Screen to match the gridlines of the map you are using.
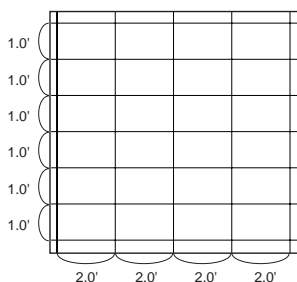- See "To set up the Map Screen to match the gridlines of your map".
2. While your position is plotted on the Map Screen, press ◀ to display the Corner Screen.
- This screen shows the latitude and longitude of the upper left corner of the grid cell on your map where your current position is located.
- See "Maps and Gridlines" for detailed information about grid cells.

3. Press ◀ to return to the Map Screen.
- When you press ◀, the Map Scale Screen appears for about two seconds, followed by the Map Screen.

Using the Map Screen for Navigation

Let's say you want to use the Map Screen to determine your position on a paper map. Let us assume that your map is marked with lines creating grid cells that are twice as wide as they are high.

Use the following procedure to set up the watch to match the map and to plot your position on the map.

1. Use the procedure under "To set up the Map Screen to match the gridlines of your map" to set the map scale.
- If you want waypoints to appear on the Map Screen, use the procedure under "Using Waypoints" to define them.
2. Use the GPS Auto or Continuous mode to measure your position and plot it on the screen as you travel towards your destination.
3. Use the procedure under "To determine your current grid cell" to locate the currently displayed grid cell on your map.
4. Find the applicable grid cell on your map and you should be able to determine your route by tracing the tracks that appear on the display of the watch.
- The example below shows the grid cell whose upper left corner is located at 35° 46' 00" North latitude and 139° 18' 00" East longitude.

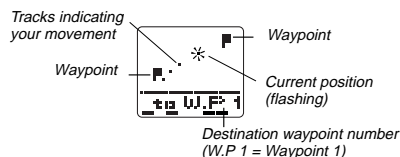**Map**

Your route on the map

Watch display
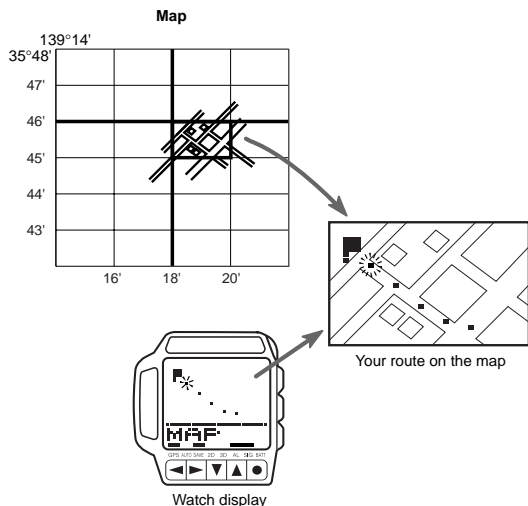
Using the Waypoint Plot Screen

The Waypoint Plot Screen shows preset waypoints in sets of two each, a *start waypoint* and a *destination waypoint*, along with *track markers* that indicate your progress between the two points. The distance between start and destination waypoints is scaled in order to allow both of them to fit on the screen, so the *virtual width* of the screen is adjusted automatically in accordance with the actual distance between the two displayed waypoints. Text at the bottom of the screen indicates the name of the next destination waypoint, and you can specify kilometers, miles, or nautical miles as the unit of measurement for the virtual width. When you reach a destination waypoint, a simple operation changes it to your new start waypoint and displays the next destination waypoint, automatically scaling the distance between them so they both fit on the screen.

GPS measurement with the Waypoint Plot Screen

After successful measurement is achieved, your current position appears on the Waypoint Plot Screen, along with your current start waypoint and destination waypoint.

Tracks indicating your movement

Waypoint

Waypoint

Current position (flashing)

Destination waypoint number (W.P 1 = Waypoint 1)

- Each waypoint is indicated on the display by a flag, which flashes alternately with the applicable waypoint number.
- See "Taking a GPS Measurement" for full details about GPS measurements.

To display the next set of waypoints
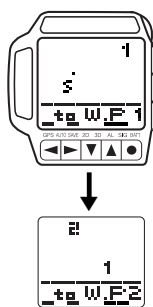
1. While the Waypoint Plot Screen is on the display, press ◀ to display the next set of waypoints.
2. The virtual width of the screen for the new start and destination waypoints appears for about two seconds, followed by the Waypoint Plot Screen.
- You can use the above procedure to view upcoming waypoints to determine changes in direction. Remember that the top of the display is always north.

Graphical Navigation Screens

The Graphical Navigation Screen shows the distance and direction from your current position to a destination waypoint. You can specify kilometers, miles, or nautical miles as the unit of measurement for the distance.
- See "To set the distance unit" for information about how to set the units of measurement.

Important!

- The Graphical Navigation Screen will not work properly unless you have defined waypoints already. See "Using Waypoints" for information about defining and managing waypoints.

Graphical Navigation Screen Formats

There are two Graphical Navigation Screen formats: a Fixed Direction Screen and a Current Direction Screen.

Fixed Direction Screen   **Current Direction Screen**

- The Graphical Navigation Screen format is normally the Fixed Direction Screen. It automatically switches to the Current Direction Screen only while the watch is in the Continuous Mode and you are moving at a speed of 8kph or faster. The Current Direction Screen is refreshed with each new successful position measurement.
- Both screens show the name of your destination waypoint, a pointer to the next destination waypoint, and the distance to the next destination waypoint.
- With the Fixed Direction Screen, the top (12 o'clock position) of the display is always north, while with the Current Direction Screen the top of the display is always your current direction of travel.

GPS Measurement with a Graphical Navigation Screen

After successful measurement is achieved, the display shows a pointer to your destination waypoint along with the distance to the destination.

Destination waypoint name
Destination pointer
Distance to destination waypoint

Fixed Direction Screen   **Current Direction Screen**
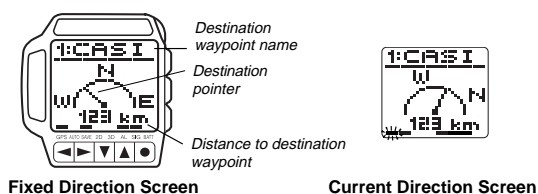
- See "Taking a GPS Measurement" for full details about GPS measurements.
- When you plan to use the GPS Continuous Mode while in motion, wait until the watch is able to obtain its first successful position measurement before you start moving.
- See "Graphical Navigation Screen" for other important information about these screens.

To change the destination waypoint

1. While the Fixed Direction Screen or Current Direction Screen is on the display, press ◄ to display the next waypoint.
2. The Graphical Navigation Screen points to the direction of the new waypoint and displays the distance to it.
- See "Using Waypoints" for information about defining and managing waypoints.

Direction and Speed Screens

The Direction and Speed Screens provide you with numeric information about the bearing and distance to your destination waypoint, and your current heading and speed. You can specify kilometers, miles, or nautical miles as the unit of measurement for the distance, and kilometers per hour, miles per hour, or knots for the speed.
- See "To set the distance unit" and "To set the speed unit" for information about how to set the units of measurement.

Direction and Speed Screen Formats

There are two Direction and Speed Screen formats: a Bearing and Distance Screen, and a Heading and Speed Screen.
- Press ► to toggle between screen formats.
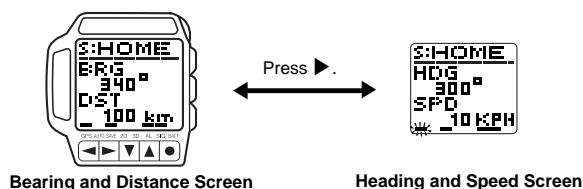
Press ►.

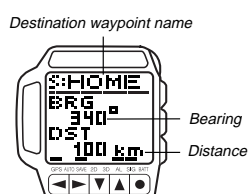**Bearing and Distance Screen**   **Heading and Speed Screen**

Important!

- The Bearing and Distance Screen will not work properly unless you have defined waypoints already. See "Using Waypoints" for information about defining and managing waypoints.

GPS Measurement with the Bearing and Distance Screen

After successful measurement is achieved, the Bearing and Distance Screen shows the bearing and distance from your current position to your destination waypoint.

Destination waypoint name

Bearing
Distance

- See "Taking a GPS Measurement" for full details about GPS measurements.
- See "Bearing and Direction Values" for information about how to interpret the bearing value.

To change the destination waypoint

1. While the Bearing and Distance Screen or Heading and Speed Screen is on the display, press ◄ to display the next waypoint.
2. The Bearing and Distance Screen shows the bearing of the new waypoint and the distance to it.

GPS Measurement with the Heading and Speed Screen

After successful measurement is achieved, the Heading and Speed Screen shows your current direction of travel (heading) and speed.
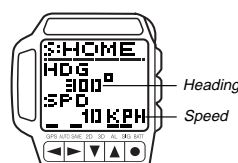
Important!

- Heading and speed can be displayed only when you are using the GPS Continuous Mode.
- When you plan to use the GPS Continuous Mode while in motion, wait until the watch is able to obtain its first successful position measurement before you start moving.

Heading
Speed

Using the Landmark List

The LMK (landmark) list is like a data bank of locations from which you can select your waypoints. You can store up to 200 locations in the LMK list for instant recall when defining your waypoints.

Preset Data

Your GPS watch comes pre-programmed with landmark list data for the latitudes and longitudes of the world's major mountains. See "LANDMARK LIST". You can use this data as it is, or you can edit or delete it to suit your own needs.
- Note that once you edit or delete the preset data it cannot be recovered.
- Use the procedures under "Editing and Deleting Landmarks" to change the preset data.
- Local names for mountains may differ from those pre-programmed in the "LANDMARK LIST".
- As described under "Datums", latitude and longitude may differ according to the map datum being employed to produce them. Because of this, the latitudes and longitudes pre-programmed in the "LANDMARK LIST" may differ from positions plotted on maps used by you.

To display the LMK list

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to highlight LAND MK., and then press ●.
- A screen showing how many more landmarks can still be stored in memory appears for about one second, followed by the actual LMK list.
- If there are no landmarks currently stored in memory, the New Landmark Input Screen appears in place of the list.
3. To exit the LMK list, press **MENU** to return to the Menu Screen.

To display the location of a landmark

1. On the LMK list, use ▼ and ▲ to move the highlighting to the landmark whose location (latitude and longitude) you want to display.
2. Press ► to display the Location Screen.
3. Press ◄ to return to the LMK list.

Press ► or ◄.

Landmark List   **Location**
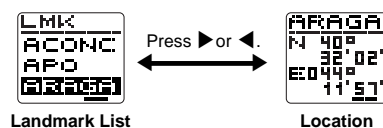
Adding Landmarks to the LMK List

You can store up to 200 landmarks in the LMK list for later recall when you need them. There are two methods you can use to add a landmark to the LMK list: registering your current location and manually entering position data.

To add a landmark by registering your current location

While the GPS Mode Position Screen is on the display with the latitude and longitude of a successful GPS measurement, hold down ◄ for about one second until the watch beeps and the message SAVE appears at the top of the screen.

Hold down ◄.

Position Screen
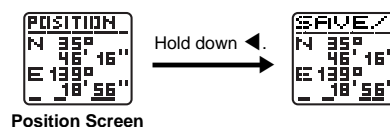
The position is saved as a landmark, with the current date (month – day) and time (hour : minutes) as its name.
- See "Taking a GPS Measurement" for full details about GPS measurements.

To add a new landmark by manually entering position data
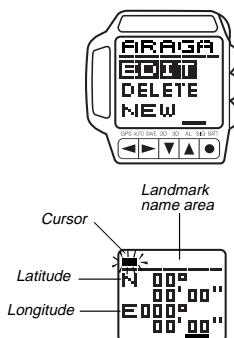
1. While the LMK list is on the display, press ● to display the LMK list editing menu.
- Note that you cannot edit or delete a landmark what is also defined as a waypoint in the WAY PT. List. Because of this, the LMK List Editing Menu does not appear if you press ● while such a landmark is highlighted in the LMK List.
2. Use ▼ and ▲ to move the highlighting to NEW and then press ● to display the Landmark Input Screen.
3. Input the name you want to assign to the landmark.
- See "To input text".
4. After the name is the way you want, press ● to advance to the Latitude and Longitude Input Screen.
- See "To input the latitude".

5. Input the latitude of the position and then press ● to move the cursor to the longitude.
- See "To input the longitude".
6. Input the longitude and then press ● to save the landmark data.

Editing and Deleting Landmarks

Use the following procedures to edit and delete landmarks.

To edit a landmark
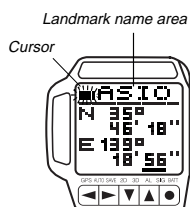
1. On the LMK list, use ▼ and ▲ to highlight the landmark you want to edit.
2. Press ● to display the LMK list editing menu.
- Note that you cannot edit or delete a landmark what is also defined as a waypoint in the WAY PT. List. Because of this, the LMK List Editing Menu does not appear if you press ● while such a landmark is highlighted in the LMK List.
3. Use ▼ and ▲ to move the highlighting to EDIT and then press ● to display the Landmark Editing Input Screen.

4. Use the procedures under "Inputting Data" to edit the landmark name, latitude, and longitude.
5. After you are finished editing the landmark, press ● the required number of times to return to the Location Screen in step 1.

To delete a landmark

1. On the LMK list, use ▼ and ▲ to highlight the landmark you want to delete.
2. Press ● to display the LMK list editing menu.
- Note that you cannot edit or delete a landmark what is also defined as a waypoint in the WAY PT. List. Because of this, the LMK List Editing Menu does not appear if you press ● while such a landmark is highlighted in the LMK List.

3. Use ▼ and ▲ to move the highlighting to DELETE and then press ●.
4. Use ▼ and ▲ to highlight YES (if you really want to delete the landmark) or NO (if you want to exit the delete operation without deleting anything), and then press ●.

Using Waypoints

Waypoints are the points you pass through while travelling. They include your initial start point, your final destination, and points you pass along the way. Waypoints are required to produce readings on the Plot Screens, the Graphical Navigator Screens, and the Direction and Speed Screens. You can define up to 9 waypoints by selecting them from the LMK (landmark) list.

To define a set of waypoints

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to highlight WAY PT., and then press ● to display the WAY PT. list.
- This is the list of currently defined waypoints.
- S: indicates the start point. If there is no start point currently set, the start point name appears as S:xxxx.
3. Press ● to display the list of currently registered landmarks.
- Landmarks are listed in alphabetical order, according to their names.
4. Use ▼ and ▲ to move the highlighting to the landmark you want to select as your start point.

5. Press ● to select the highlighted landmark as your start point, and return to the WAY PT. list.
6. To define the next waypoint, use ▼ to move the highlighting to 1: (waypoint number 1).
7. Repeat steps 3 through 6 to define all the waypoints you want.
8. After you are finished defining waypoints, press the **MENU** button to return to the Menu Screen.

To add waypoints

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to highlight WAY PT., and then press ● to display the WAY PT. list.
3. Use ▼ to move the highlighting to the bottom of the list.
4. Press ● to display the list of landmarks.
5. Use ▼ and ▲ to move the highlighting to the landmark you want to add, and then press ●.
6. Repeat steps 3 and 5 to add more waypoints if you want.
7. After you are finished adding waypoints, press the **MENU** button to return to the Menu Screen.

To insert waypoints

1. On the WAY PT. list, use ▼ and ▲ to move the highlighting to waypoint above which you want to insert a new waypoint.
2. Press ●.
3. On the menu of options that appears, use ▼ and ▲ to move the highlighting to INSERT, and then press ● to display the list of landmarks.
4. Use ▼ and ▲ to move the highlighting to the landmark you want to insert, and then press ●.
5. In response to the INSERT? message that appears, use ▼ and ▲ to highlight YES (if you really want to insert the waypoint) or NO (if you want to exit the operation without inserting anything), and then press ●.

To change an existing waypoint

1. On the WAY PT. list, use ▼ and ▲ to move the highlighting to waypoint you want to change.
2. Press ●.
3. On the menu of options that appears, use ▼ and ▲ to move the highlighting to CHANGE, and then press ● to display the list of landmarks.
4. Use ▼ and ▲ to move the highlighting to the landmark to which you want to change, and then press ●.
5. In response to the CHANGE? message that appears, use ▼ and ▲ to highlight YES (if you really want to change the waypoint) or NO (if you want to exit the operation without changing anything), and then press ●.

To delete a waypoint

1. On the WAY PT. list, use ▼ and ▲ to move the highlighting to waypoint you want to delete.
2. Press ●.
3. On the menu of options that appears, use ▼ and ▲ to move the highlighting to DELETE, and then press ●.
4. In response to the DELETE? message that appears, use ▼ and ▲ to highlight YES (if you really want to delete the waypoint) or NO (if you want to exit the operation without deleting anything), and then press ●.

Track Memory

Track point data is automatically stored into track memory when you perform a GPS position measurement. Track memory can hold up to 100 track point data records, each of which contains a record number, track position (latitude and longitude), measurement date, and measurement time. Track point data is used as the basis for the tracks that are plotted on the GPS Mode Plot Screens. You can also recall track memory records and view the data contained in each.
- After the track memory becomes full with 100 track point data records, each new measurement causes the oldest record in memory to be deleted to make room for the new data.
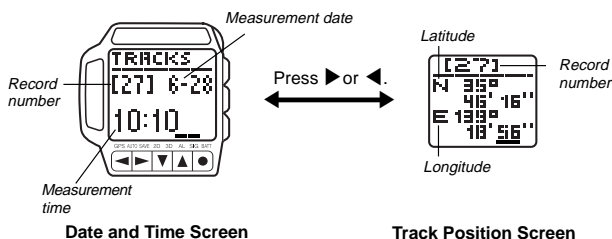
When track point data is stored

The following describes the timing when track point data is stored into track memory.
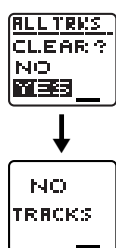- **Quick Mode/One-Shot Mode**
Track point data is stored each time a GPS measurement is successful.
- **Auto Mode/Continuous Mode**
Track point data is stored every 10 minutes.

To recall track memory data

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to highlight TRACKS, and then press ● to display the Tracks Screen.
3. Use ▼ and ▲ to scroll through the data in track memory.
4. Use ◄ and ► to switch between the two Track Memory Data Screens.

Measurement date

Record number

Measurement time

Press ► or ◄.

Latitude

Record number

Longitude

Date and Time Screen   **Track Position Screen**

To clear track memory

1. While the Tracks Screen is on display, press ●.
• You can perform this step while either the Date and Time Screen or Track Position Screen is on the display.
2. Use ▼ and ▲ to highlight YES (if you really want to clear all data from the track memory) or NO (if you want to exit the clear operation without clearing anything), and then press ●.

GPS Mode Settings

This section describes how to make various settings that affect GPS Mode data. Most of these settings can be made once when initially setting up the watch, and should never need changing.

Setting Your Area

The area setting lets the watch know where it is currently located. The watch uses this information as a reference point for making GPS measurements. You need to update this setting whenever you move from one geographic area to another.
There are two ways to specify the area: by selecting a preset area or by inputting area data.

To specify a preset area

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP and then press ● to display the Set Up Menu.
3. Use ▼ and ▲ to move the highlighting to AREA and then press ● to display the Area Menu.
4. Use ▼ and ▲ to move the highlighting to SELECT and then press ● to display the Area Selection Screen.

5. Use ▼ and ▲ to scroll through the area names on the screen until the one you want is highlighted.
• See "AREA LIST" at the back of this manual for a full list of area names and the area data connected with each name.
6. After highlighting the name of the area you want to specify, press ● to register it and return to the Set Up Menu.
7. To exit the Set Up Menu, press **MENU**.
• Selecting an area automatically sets the appropriate latitude, longitude, GMT differential and datum for that area.

To input area data

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP and then press ● to display the Set Up Menu.
3. Use ▼ and ▲ to move the highlighting to AREA and then press ● to display the Area Menu.
4. Use ▼ and ▲ to move the highlighting to INPUT and then press ● to display the Area Data Input Screen.

5. Input the latitude of the area and then press ● to move the cursor to the longitude.
• See "To input the latitude".
6. Input the longitude and then press ● to advance to the GMT Differential Screen.
• See "To input the longitude".

7. Input the GMT differential.
• The GMT differential is the time difference between the area whose data you are setting and Greenwich Mean Time.
• You can input a GMT differential value in the range from –11.0 to +13.0, in units of 0.5 hours.
• See "To change a numeric setting".
8. After inputting the GMT differential, press ● to return to the Set Up Menu.
9. Press ● to display the DATUMS list, and set the datum for the area. Use the procedure starting from step 4 under "To specify a datum".
• See "Datums" for information about datums.
• Pressing **MENU** instead of ● in the above step exits the Set Up Menu.

Setting a Datum

The GPS constellation of satellites generates latitude and longitude positions on the World Geodetic System 1984 (WGS 84) horizontal datum. Though WGS 84 is the latest standard for the entire world, higher precision can be obtained using a datum for a particular local area. Use the following procedure to select the datum that is appropriate for the area where you are taking GPS measurements with this watch.
• See "Datums" for more information about datums and how they affect GPS measurements.

To specify a datum

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP and then press ● to display the Set Up Menu.
3. Use ▼ and ▲ to move the highlighting to DATUMS and then press ● to display the DATUMS list.
4. Use ▼ and ▲ to scroll through the datum names on the screen until the one you want is highlighted.

• See "DATUM LIST" at the back of this manual for a full list of datum names and the applicable area for each.
5. After highlighting the name of the datum you want to specify, press ● to register it and return to the Set Up Menu.
6. To exit the Set Up Menu, press **MENU**.

Map Scale Settings

Ratio: 2:6

Ratio: 2:2.5

You can change the map scale settings of the watch so the screen represents one grid cell of the map you are using. Because of the physical size of the screen, its default vertical-to-horizontal relationship is normally 1:2, meaning the cell is assumed to be twice as wide as it is tall. Whenever you use the procedure under "To set up the Map Screen to match the gridlines of your map" to change the longitude value, the watch automatically adjusts the latitude value to maintain a ratio of 1-to-2.
If you manually change the latitude value to a vertical-to-horizontal ratio other than 1:2, the unused portion of the screen is automatically blacked out as shown in the illustration nearby.

The following table shows all of the possible settings that can be made for the map scale. The values along the top and left side indicate the latitude-to-longitude ratio, while the dimension values inside the table indicate the screen size in dots. The full screen size is 24 × 32 dots.

Horizontal / Vertical	1.0'	1.5'	2.0'	2.5'	3.0'	4.0'	5.0'	6.0'	7.5'
0.5'	24×32	16×32							
1.0'		24×24	24×32	20×32	16×32				
1.5'			24×22	24×27	24×32	18×32			
2.0'				24×20	24×24	24×32	20×32	16×32	
2.5'					24×20	24×26	24×32	20×32	16×32
3.0'						24×22	24×27	24×32	20×32

Setting the Distance Unit

Distance data produced by the GPS Mode can be displayed in kilometers (KM), miles (MILES) or nautical miles (NM). Use the following procedure to select the unit of measurement you want to use for distance data.

To set the distance unit

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP and then press ● to display the Set Up Menu.
3. Use ▼ and ▲ to move the highlighting to DST UNITS and then press ● to display the DST Units Menu.
4. Use ▼ and ▲ to move the highlighting to the unit you want to set and then press ●.
5. Press **MENU** to return to the Menu Screen.

Setting the Speed Unit

Speed data produced by the GPS Mode can be displayed in kilometers per hour (KPH), miles per hour (MPH) or knots (KNOTS). Use the following procedure to select the unit of measurement you want to use for speed data.

To set the speed unit

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to move the highlighting to SET UP and then press ● to display the Set Up Menu.
3. Use ▼ and ▲ to move the highlighting to SPD UNITS and then press ● to display the SPD Units Menu.
4. Use ▼ and ▲ to move the highlighting to the unit you want to set and then press ●.
5. Press **MENU** to return to the Menu Screen.

REFERENCE

This section contains more detailed and technical information about the features, functions, and operation of this watch. It also contains important precautions and notes that apply to watch operation.

Power Requirements

This watch is powered by a single CR2 lithium battery. Replace the battery as soon as possible when figures on the display appear dim, when the backlight does not turn on, or when the BATT EMPTY message appears on the display.

Important!

- Make sure that any water on the outside of the watch does not get into the battery compartment! Carefully wipe all moisture from the watch before opening the battery compartment.

To replace the battery
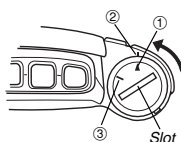
1. In the Timekeeping Mode, check the display of the watch to make sure that the WAIT message is not shown and that there is no GPS measurement operation being performed.
   - Never remove the battery from the watch while a GPS measurement operation is in progress.

- Never remove the battery from the watch while the message WAIT is on the display. Wait until the message disappears (which can take as long as 20 seconds) before starting.
2. Insert a coin into the slot in the battery compartment cover and twist so the ▲ mark ① on the cover is aligned with the ▮ mark ② on the watch to open the cover.
- The battery has a spring under it, so the cover and battery will suddenly spring free. Take care that you do not drop the battery compartment cover and lose it.

Battery
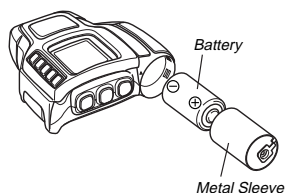
Metal Sleeve

3. Remove the old battery and its metal sleeve from the watch, and then remove the battery from the sleeve.
4. Insert the new battery into the sleeve, and slide the battery and sleeve into the battery compartment.
- Load the new battery as quickly as possible after removing the old battery.

- Make sure that the positive end (the one with the nub in the center) of the battery is facing toward the cover and the negative end (the flat one) is facing down when you insert the battery and sleeve into the watch.
5. Screw the battery compartment cover back onto the watch, aligning the ▮ mark ③ on the cover with the ▮ mark ② on the watch.
- Make sure you do not force or over-tighten the battery compartment cover. Doing so can damage the watch.
6. Press **LIGHT** to check that the EL Backlight works properly.
7. Check the area, datum, time, and date settings of the watch and correct them if necessary.

Important!

- We strongly urge use of battery brands specifically recommended in this manual.
- The battery installed at the factory discharges during shipment and inventory storage. Because of this, it may not provide the normal battery life specified for this watch.
- The battery installed at the factory is not rechargeable. Never try to charge it.
- Damage to or dirt, dust, moisture on the inside of the battery compartment cover or on the surface that comes into contact with the rubber seal can cause loss of water resistance. Keep such areas clean and free of moisture.
- We recommend that you replace the battery compartment cover and the rubber seal once a year in order to ensure that the watch always performs at the level for which it was designed. Contact your CASIO dealer or distributor about replacement of these items.
- Should battery fluid ever leak inside the battery compartment, immediately use a dry rag to wipe it out while taking care not to get any fluid on your hands.
- Never leave a dead or weak battery in the battery compartment. Doing so runs the risk of damage and malfunction due to battery fluid leaks.
- Be sure to dispose of old batteries according to the local laws and regulations in your area.
- Improperly replacing the battery can result in damage to the watch. Repairing such damage will be charged to you, so take care to replace the battery correctly.
- Always take along extra batteries when going to isolated areas where they might not otherwise be available.
- The display of the watch will go blank if you leave it for a long time without a battery installed.
- If you do not plan to load a battery right away, insert the empty metal sleeve into the battery compartment and close the battery compartment cover. When you open the battery compartment cover while there is no battery loaded, there is no spring force pressing up on the inside of the cover when you open it. In such a case, use the following procedure to open the battery compartment cover.
  1. Insert a coin into the slot in the battery compartment cover and twist so the ▲ mark ① is aligned with the ▮ mark ② on the watch to release the cover.
  2. Insert the blade of a screwdriver or other similar object into the slot on the side of the cover and lift the cover to open it.
- Do not operate any of the watch's buttons when there is no battery in the battery compartment.
- If you left the watch without battery power until the screen went blank, make new time, alarm, map scale, distance unit, and speed unit settings.
- The initial position measurement after you replace the battery may take a relatively long time to complete.
- Never try to take the battery apart, or expose it to heat or direct flame. Take care that the positive and negative ends of the battery never become shorted.
- Carrying or storing batteries together with metal objects or other batteries can cause them to generate heat, burst, or even emit flame. Take sufficient care whenever carrying, storing, or disposing of batteries.
- **Keep batteries out of the reach of small children. If accidentally swallowed, immediately contact a physician.**

Inputting Data

Use the following procedures to input text and numbers. These procedures are performed while the input cursor is flashing on an Input or Editing Screen.

To input text

1. Use ◀ and ▶ to move the cursor to the position where you want to input a character.
2. Use ▼ and ▲ to cycle through the available input characters in the sequence shown below.
- You can input up to 14 characters for the name.

Press ▲. →   ← Press ▼.

(space) → A to Z → 0 to 9
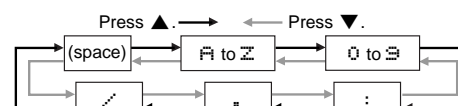
- Holding down ▼ or ▲ cycles through the characters at high speed.
- To delete all the characters currently in the input area on the display, hold down ◀ or ▶ until the watch beeps.
3. Repeat steps 1 and 2 to input all the characters you want.

To input the latitude

1. Use ◄ and ► to move the cursor to the position in the latitude you want to change.
2. Use ▼ and ▲ to cycle through the range of settings at the position where the cursor is located.

Position	Setting Range
N 00 00' 00"	N or S
N **0**0 00' 00"	0 to 9
N 0**0** 00' 00"	0 to 9
N 00 **0**0' 00"	0 to 5
N 00 0**0**' 00"	0 to 9
N 00 00' **0**0"	0 to 5
N 00 00' 0**0**"	0 to 9

- Holding down ▼ or ▲ cycles through the settings at high speed.
- Any latitude greater than 90°00'00" is automatically converted to 90°00'00" when you save it.
3. Repeat steps 1 and 2 to set the latitude you want.

To input the longitude

1. Use ◄ and ► to move the cursor to the position in the longitude you want to change.
2. Use ▼ and ▲ to cycle through the range of settings at the position where the cursor is located.

Position	Setting Range
E 100 00' 00"	E or W
E **1**00 00' 00"	0 or 1
E 1**0**0 00' 00"	0 to 9
E 10**0** 00' 00"	0 to 9
E 100 **0**0' 00"	0 to 5
E 100 0**0**' 00"	0 to 9
E 100 00' **0**0"	0 to 5
E 100 00' 0**0**"	0 to 9

- Holding down ▼ or ▲ cycles through the settings at high speed.
- Any longitude greater than 180°00'00" is automatically converted to 180°00'00" when you save it.
3. Repeat steps 1 and 2 to set the longitude you want.

To change a numeric setting

1. Use ◄ and ► to move the cursor to the digit you want to change.
2. Use ▼ and ▲ to cycle through the numbers from 0 to 9.
- Holding down ▼ or ▲ cycles through the numbers at high speed.
3. Repeat steps 1 and 2 to make all the settings you want.

Displaying GPS Satellite Information

You can use the following procedure to display the position and the receive status of GPS satellites that are currently overhead.

To display GPS satellite information

1. In any mode, press the **MENU** button to display the Menu Screen.
2. Use ▼ and ▲ to highlight SATELLITE, and then press ●.
- Satellite information appears immediately if a GPS measurement operation is already in progress.
- If a GPS measurement operation is not in progress, the message WAIT remains on the display as data is being collected.

- In the case of a GPS Continuous Mode measurement operation, the screen data is refreshed every second. To refresh the display in other GPS measurement modes, press **MENU** to return to the Menu Screen and then press ● again.

Satellite Information Display

The following shows the meaning of the satellite marks that appear on the display.

Celestial Sphere
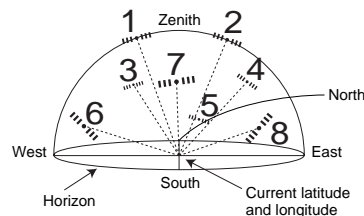
Top-Down View
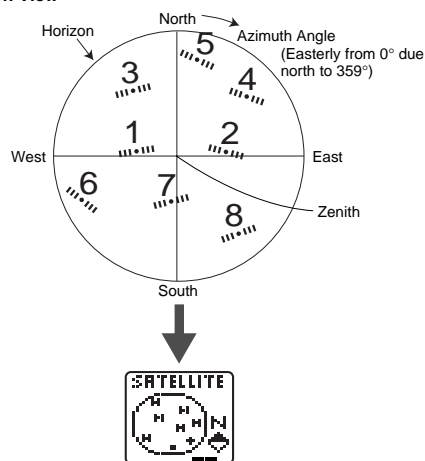
Satellite Marks

Searching
This mark indicates a satellite from which the watch is standing by to receive a signal. The positions of these satellites are determined using almanac data for the current latitude, longitude, and time.

Tracking
This mark indicates a satellite that is currently being tracked by the watch. Signal receipt for these satellites is enabled.

Busy
This mark indicates a satellite from which ephemeris data (information about the position of the host satellite and the satellite clock time) is being received. It indicates the satellites that the watch is using for position measurement.

Datums

Since the Earth is neither flat nor a perfect sphere or even an ellipsoid, a wide variety of spheroid models (mostly ellipses) were developed with different major and minor axes. An ellipsoid, in addition to the various control points required to relate how the ellipsoid lies in relation to the Earth constitutes a map datum.
When various countries mapped their areas, each usually used its own datum to provide accuracy in a specific area. Though some datums share the same ellipsoid, they use different control points, which results in differing datums. The development of air travel between countries created the need for a single global datum, which is identified according to their World Geodetic System (WGS) names. The constellation of GPS satellites uses WGS 84 to describe coordinates. It should be noted that errors of several hundred meters can occur if coordinates of one datum are referred to in another datum without converting them first.

Maps and Gridlines

Most maps are marked with horizontal and vertical lines that form a *grid*. The squares of a map's grid are called *grid cells* or *grid squares*.
The gridlines of some maps are spaced a number of inches or millimeters apart, while others have gridlines spaced a number of minutes of latitude and longitude. It is this latter type of map with *latitude and longitude based gridlines* that can be used with the Map Screen of your GPS watch for positioning.

GPS Mode

What is GPS?

The Global Positioning System (GPS) was originally developed and is currently operated by the United States Department of Defense. The space segment of the GPS consists of the NAVSTAR satellites that are orbiting 21,000 kilometers above the Earth over six equally spaced orbital planes. When signals are received from a minimum of three satellites, the principal of triangulation is used to determine the current location of the GPS Watch based on the distance between each satellite and the watch, and the orbital path of each satellite.

Important!

- The signals produced by GPS satellites are controlled by the GPS Master Control Station at Colorado Springs, Colorado. Signals may be subject to reduced precision and even interruption without notice.

Almanac and Ephemeris Data

The data message sent from a GPS satellite consists of an *almanac* that gives the approximate positions of all the other satellites in the system, and the satellite *ephemeris* that contains precise information about the position of the host satellite.

How quickly the watch is able to acquire the data it needs to determine your position depends on a number of factors. One of the most important factors is the status of almanac and ephemeris data in watch memory. There are two possible data conditions from which you can start when performing a GPS measurement: *hot start, warm start.*

Start Type	Description
Hot Start	- GPS receiver circuit shut off for a very short time (few minutes at most). - Watch has not been moved to a different location since last measurement. - Both almanac and emphemeris data from last measurement still in memory.
Warm Start	- GPS receiver circuit shut off for a long time (over night, etc.) - Watch has not been moved to a different location since last measurement. - Almanac data from last measurement still in memory, but no ephemeris data.

Important!

- The above terms and their definitions are based on current standard American English usage. Definitions may differ according to language and geographic area.

Whenever the watch determines that the almanac data it currently has in memory is no longer valid, it receives new almanac data from one of the satellites overhead. The message RECEIVING SATELLITE DATA appears on the display of the watch to indicate when almanac data is being received. Be sure to leave the watch with its antenna facing the sky whenever this message is on the display.

Factors that Affect GPS Signal Reception

Signal reception from GPS satellites may be difficult or even impossible under the following conditions.
- Inside buildings or underground
- Among tall buildings
- In densely wooded areas
- Near high voltage lines
- Inside a motor vehicle
- When the antenna is covered by your sleeve, etc.

Navigation Precautions

- **Never perform navigation operations while walking, cycling, or operating a motor vehicle. Doing so can lead to accidents.**
- **Do not use this watch as a main navigation device for a boat or aircraft. Doing so can lead to accidents.**
- **Though a useful navigational tool, a GPS receiver should never be used as a replacement for conventional map and compass techniques. Remember that magnetic compasses can work at temperatures well below zero, have no batteries, and are mechanically simple. They are easy to operate and understand, and will operate almost anywhere. For these reasons, the magnetic compass should still be your main navigation tool.**

Data Reliability

- The global positioning system (GPS) is administered by the United States, which also takes responsibility for all maintenance, management, and precision adjustments. Because of this, there may be unforeseen changes in the system and the signals it generates.

Graphical Navigation Screen

- Though the Current Direction Screen can be used when travelling at speeds of less than 8 kilometers per hour, measurement accuracy is greatly reduced.
- The message SEARCH appears on the screen if buildings or other obstructions interfere with signal receipt while the Current Direction Screen is on the display during Continuous Mode measurements. The Current Direction Screen will return as soon as the next successful measurement is achieved.
- The maximum distance that can be displayed on the Graphical Navigation Screen is 9999 kilometers.
- The direction pointer may remain on the Current Direction Screen even if you come to a full stop.
- The appearance of the destination pointer changes automatically depending on the relative direction of the destination.

Fixed Direction Screen

Destination towards the North

Destination towards the South

Current Direction Screen

Destination in front of you

Destination in back of you

Bearing and Direction Values

Bearing and direction are indicated on the Direction and Speed Screens as values that represent degrees. The following illustration shows the meanings of these values.

315° = Northwest 0° = North 45° = Northeast
270° = West 90° = East
225° = Southwest 180° = South 135° = Southeast
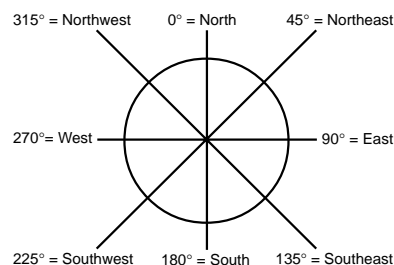
Display Indicators and Messages

The following describes some of the indicators and messages that appear on the display of the watch. These are normal and do not indicate malfunction.

Wait Message
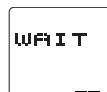
This message indicates that the watch is busy performing some procedure. Never remove the battery from the watch while the WAIT message is on the display.

Data Receive Message

This message indicates that the watch is receiving satellite data. A data receive operation can take about 20 minutes to complete. Leave the watch with its face facing towards the sky during this period.

Flashing GPS Indicator

The bar at the top of the screens in the GPS Mode flashes while the watch is receiving ephemeris data. Ephemeris data contains precise information about the position of the host satellite and the satellite clock time. Do not perform any button operations while the bar is flashing.

Low Battery Warning

```
BATT
EMPTY
```

This message appears when battery power drops to a level that does not allow proper operation of the watch's functions. Replace the battery as soon as possible after this message appears.
Note that the low battery warning may appear under very cold conditions, even though battery power is not low. In this case, the message should disappear when the watch is brought back to normal temperature.

Antenna

```
WED
'99- 6-30
PM
10:58.50
GPS AUTO SME 2D 3D AL DGS BATT
◄► ▼ ▲ ●
```

Antenna

Never attach any metallic stickers to the antenna of this watch. Doing so can interfere with proper signal reception.

AREA LIST

City name		Preset Data									
		GMT	Latitude		0.01 min unit		Longitude		0.01 min unit	Datum	Datum
	Code	Differential	S/N	Deg	Min	N : + S : –	E/W	Deg	Min	E : + W : –	No.	Name
HONOLULU	HNL	– 10.0	N	21	21	128100	W	157	56	– 947600	111	HAWAII
ANCHORAGE	ANC	– 9.0	N	61	10	367000	W	149	55	– 899500	105	NAD83-1
LAS VEGAS	LAS	– 8.0	N	36	05	216500	W	115	10	– 691000	107	NAD83-3
LOS ANGELES	LAX	– 8.0	N	34	03	204300	W	118	15	– 709500	107	NAD83-3
SEATTLE	SEA	– 8.0	N	47	37	285700	W	122	19	– 733900	107	NAD83-3
SAN FRANCISCO	SFO	– 8.0	N	37	37	225700	W	122	23	– 734300	107	NAD83-3
VANCOUVER	YVR	– 8.0	N	49	11	295100	W	123	10	– 739000	106	NAD83-2
DENVER	DEN	– 7.0	N	39	45	238500	W	104	52	– 629200	107	NAD83-3
EDMONTON	YEA	– 7.0	N	53	34	321400	W	113	31	– 681100	106	NAD83-2
CHICAGO	CHI	– 6.0	N	41	47	250700	W	87	45	– 526500	107	NAD83-3
DALLAS	DFW	– 6.0	N	32	47	196700	W	96	48	– 580800	107	NAD83-3
GUATEMALA CITY	GUA	– 6.0	N	14	35	87500	W	90	31	– 543100	108	NAD83-4
HOUSTON	HOU	– 6.0	N	29	46	178600	W	95	22	– 572200	107	NAD83-3
MEXICO CITY	MEX	– 6.0	N	19	24	116400	W	99	12	– 595200	108	NAD83-4
SAN JOSE	SJO	– 6.0	N	09	56	59600	W	84	05	– 504500	108	NAD83-4
ATLANTA	ATL	– 5.0	N	33	39	201900	W	84	25	– 506500	107	NAD83-3
BOGOTA	BOG	– 5.0	N	04	42	28200	W	74	08	– 444800	034	BOGOTA
BOSTON	BOS	– 5.0	N	42	22	254200	W	71	02	– 426200	107	NAD83-3
DETROIT	DTT	– 5.0	N	42	20	254000	W	83	01	– 498100	107	NAD83-3
LIMA	LIM	– 5.0	S	12	00	– 72000	W	77	07	– 462700	141	SAM69
MIAMI	MIA	– 5.0	N	25	49	154900	W	80	17	– 481700	107	NAD83-3
NEW YORK	NYC	– 5.0	N	40	46	244600	W	73	54	– 443400	107	NAD83-3
PANAMA CITY	PTY	– 5.0	N	08	58	53800	W	79	31	– 477100	001	WGS84
WASHINGTON	WAS	– 5.0	N	38	51	233100	W	77	02	– 462200	107	NAD83-3
MONTREAL	YMQ	– 5.0	N	45	28	272800	W	73	45	– 442500	106	NAD83-2
TORONTO	YTO	– 5.0	N	43	40	262000	W	79	38	– 477800	106	NAD83-2
CARACAS	CCS	– 4.0	N	10	30	63000	W	66	56	– 401600	141	SAM69
LA PAZ	LPB	– 4.0	S	16	31	– 99100	W	68	11	– 409100	141	SAM69
SANTIAGO	SCL	– 4.0	S	33	26	– 200600	W	70	41	– 424100	141	SAM69
BUENOS AIRES	BUE	– 3.0	S	34	35	– 207500	W	58	29	– 350900	035	CAMPO
MONTEVIDEO	MVD	– 3.0	S	34	52	– 209200	W	56	12	– 337200	170	YACARE
RIO DE JANEIRO	RIO	– 3.0	S	22	55	– 137500	W	43	10	– 259000	042	CORREGO
SAO PAULO	SAO	– 3.0	S	23	30	– 141000	W	46	37	– 279700	042	CORREGO
CASABLANCA	CAS	0.0	N	33	34	201400	W	07	40	– 46000	080	MERCHICH
EDINBURGH	EDI	0.0	N	55	57	335700	W	03	13	– 19300	117	GRB36
LISBON	LIS	0.0	N	38	47	232700	W	09	08	– 54800	057	EUR79
LONDON	LON	0.0	N	51	09	306900	W	00	11	– 1100	117	GRB36
GRAN CANARIA	LPA	0.0	N	28	29	170900	W	15	11	– 91100	122	PICO
AMSTERDAM	AMS	1.0	N	52	21	314100	E	04	54	29400	057	EUR79
BARCELONA	BCN	1.0	N	41	25	248500	E	02	08	12800	057	EUR79
BRUSSELS	BRU	1.0	N	50	50	305000	E	04	20	26000	057	EUR79
COPENHAGEN	CPH	1.0	N	55	41	334100	E	12	33	75300	057	EUR79
FRANKFURT	FRA	1.0	N	50	07	300700	E	08	40	52000	057	EUR79
HAMBURG	HAM	1.0	N	53	38	321800	E	10	00	60000	057	EUR79
MADRID	MAD	1.0	N	40	25	242500	W	03	41	– 22100	057	EUR79
MILAN	MIL	1.0	N	45	28	272800	E	09	12	55200	057	EUR79
MUNICH	MUC	1.0	N	48	08	288800	E	11	42	70200	057	EUR79
OSLO	OSL	1.0	N	60	12	361200	E	11	05	66500	057	EUR79
PARIS	PAR	1.0	N	48	58	293800	E	02	27	14700	057	EUR79
ROME	ROM	1.0	N	41	48	250800	E	12	14	73400	057	EUR79
STOCKHOLM	STO	1.0	N	59	2	356100	E	17	57	107700	057	EUR79
VIENNA	VIE	1.0	N	48	15	289500	E	16	22	98200	057	EUR79
ZURICH	ZRH	1.0	N	47	23	284300	E	08	34	51400	057	EUR79
ATHENS	ATH	2.0	N	37	58	227800	E	23	43	142300	057	EUR79
CAIRO	CAI	2.0	N	30	08	180800	E	31	24	188400	110	EGYPT30
CAPE TOWN	CPT	2.0	S	33	57	– 203900	E	18	36	111600	037	CAPE
JERUSALEM	JRS	2.0	N	31	46	190600	E	35	13	211300	001	WGS84
HELSINKI	HEL	2.0	N	60	19	361900	E	24	58	149800	057	EUR79
ISTANBUL	IST	2.0	N	40	58	245800	E	29	05	174500	001	WGS84
ADDIS ABABA	ADD	3.0	N	08	59	53900	E	38	48	232800	007	ADIND-1
BAHRAIN	BAH	3.0	N	26	00	156000	E	50	30	303000	013	ABD70
BAGHDAD	BGW	3.0	N	33	14	199400	E	44	14	265400	001	WGS84
DOHA	DOH	3.0	N	25	17	151700	E	51	32	309200	135	QATAR
RIYADH	RUH	3.0	N	24	43	148300	E	46	43	280300	085	NAHRWA3
KUWAIT CITY	KWI	3.0	N	29	20	176000	E	48	01	288100	084	NAHRWA2
JEDDAH	JED	3.0	N	21	30	129000	E	39	12	235200	085	NAHRWA3
NAIROBI	NBO	3.0	S	01	19	– 7900	E	36	55	221500	023	ARC60
TEHRAN	THR	3.5	N	35	41	214100	E	51	21	308100	057	EUR79

DATUM LIST

Datum Name	Display	Applicable Area
WGS-84	WGS84	Worldwide
WGS-72	WGS72	Worldwide
ASTRO B4 SOR. ATOLL	A · EB4 SOR	Tern Island
ASTRO BEACON "E"	A · EBEACON	Iwo Jima Island
ASTRO POS 714	A · EPOS 714	St. Helena Island
ASTRONOMIC STATION 1952	A · ESTA 52	Marcus Island
AIN EL ABD 1970	ABD70	Bahrain Island
ADINDAN	ADIND-1	Mean Value (Ethiopia & Sudan)
	ADIND-2	Mali
	ADIND-3	Senegal
AFG	AFG	Somalia
ANNA 1 ASTRO 1965	ANNA 65	Cocos Island
ARC 1950	ARC 50	Mean Value (Botswana, Lesotho, Malawi, Swaziland, Zaire, Zambia, Zimbabwe), etc.
ARC 1960	ARC 60	Mean Value (Kenya & Tanzania)
ASCENSION ISLAND 1958	ASCEN 58	Ascension Island
AUSTRALIAN GEODETIC 1966	AUS66	Australia & Tasmania Island
AUSTRALIAN GEODETIC 1984	AUS84	Australia & Tasmania Island
BELLEVUE (IGN)	BELLEV	Efate & Erromango Islands
BERMUDA 1957	BERM 57	Bermuda Islands
BOGOTA OBSERVATORY	BOGOTA	Colombia
BUKIT RIMPAH	BUKIT	Bangka & Belitung Islands (Indonesia)
CAMP AREA ASTRO	CAMP	Camp Mcmurdo Area, Antarctica
CAMPO INCHAUSPE	CAMPO	Argentina
CANTON ISLAND 1966	CANT 66	Phoenix Islands
CAPE	CAPE	South Africa
CAPE CANAVERAL	CAPE CAN	Mean Value (Florida & Bahama Islands)
CARTHAGE	CARTHA	Tunisia
CHATHAM 1971	CHAT 71	Chatham Island (New Zealand)
CHUA ASTRO	CHUA	Paraguay
CORREGO ALEGRE	CORREGO	Brazil
DJAKARTA (BATAVIA)	DJAKART	Sumatra Island (Indonesia)
DOS 1968	DOS68	Gizo Island (New Georgia Islands)
EASTER ISLANDS 1967	EASTER67	Easter Island
OLD EGYPTIAN 1930	EGYPT30	Egypt
EUROPEAN 1950	EUR50	Mean Value (Western Europe, Cyprus, Egypt, England, Scotland, Channel & Shetland Islands, England, Ireland, Scotland & Shetland Islands, Greece, Iran, Italy - Sardinia, Italy - Sicily, Norway & Finland, Portugal & Spain), etc.
EUROPEAN 1979	EUR79	Mean Value
G. SEGARA	G SEG	Kalimantan Islands (Indonesia)
GANDAJIKA BASE	GANDA	Republic of Maldives
GEODETIC DATUM 1949	GEODE49	New Zealand
ORDNANCE SURVEY OF GREAT BRITAIN 1936	GRB36	Mean Value (England, England, Isle of Man, & Wales, Scotland & Shetland Island, Wales), etc.
GUAM 1963	GUAM63	Guam Island
GUX 1 ASTRO	GUX 1	Guadalcanal Island
HERAT NORTH	H-NORTH	Afghanistan

City name		Preset Data									
		GMT	Latitude		0.01 min unit		Longitude		0.01 min unit	Datum	Datum
	Code	Differential	S/N	Deg	Min	N : + S : –	E/W	Deg	Min	E : + W : –	No.	Name
DUBAI	DXB	4.0	N	25	18	151800	E	55	18	331800	084	NAHRWA2
MUSCAT	MCT	4.0	N	23	48	142800	E	58	36	351600	116	OMAN
KABUL	KBL	4.5	N	34	33	207300	E	69	13	415300	167	H-NORTH
KARACHI	KHI	5.0	N	24	54	149400	E	67	08	402800	001	WGS84
BOMBAY	BOM	5.5	N	18	54	113400	E	72	49	436900	065	INDIAN-2
CALCUTTA	CCU	5.5	N	22	32	135200	E	88	20	530000	065	INDIAN-2
DELHI	DEL	5.5	N	28	37	171700	E	77	12	463200	065	INDIAN-2
MADRAS	MAA	5.5	N	13	00	78000	E	80	11	481100	065	INDIAN-2
DHAKA	DAC	6.0	N	23	48	142800	E	90	25	542500	065	INDIAN-2
YANGON	RGN	6.5	N	16	46	100600	E	96	10	577000	001	WGS84
BANGKOK	BKK	7.0	N	13	44	82400	E	100	34	603400	064	INDIAN-1
JAKARTA	JKT	7.0	S	06	11	– 37100	E	106	50	641000	164	BUKIT
HONG KONG	HKG	8.0	N	22	18	133800	E	114	10	685000	063	HONG63
KUALA LUMPUR	KUL	8.0	N	03	07	18700	E	101	33	609300	071	KERTAU48
MANILA	MNL	8.0	N	14	31	87100	E	121	00	726000	075	LUZON-1
BEIJING	BJS	8.0	N	39	56	239600	E	116	17	697700	001	WGS84
PERTH	PER	8.0	S	31	56	– 191600	E	115	57	695700	006	AUS84
SHANGHAI	SHA	8.0	N	31	10	187000	E	121	26	728600	001	WGS84
SINGAPORE	SIN	8.0	N	01	22	8200	E	103	55	623500	153	S-ASIA
TAIPEI	TPE	8.0	N	25	02	150200	E	121	31	729100	168	HU-TIZU
FUKUOKA	FUK	9.0	N	33	35	201500	E	130	23	782300	003	TOKYO
OSAKA	OSA	9.0	N	34	41	208100	E	135	31	813100	003	TOKYO
SEOUL	SEL	9.0	N	37	30	225000	E	127	00	762000	003	TOKYO
SAPPORO	SPK	9.0	N	43	03	258300	E	141	20	848000	003	TOKYO
TOKYO	TYO	9.0	N	35	41	214100	E	139	46	838600	003	TOKYO
ADELAIDE	ADL	9.5	S	34	56	– 209600	E	138	31	831100	006	AUS84
GUAM	GUM	10.0	N	13	33	81300	E	144	50	869000	060	GUAM63
MELBOURNE	MEL	10.0	S	37	49	– 226900	E	144	58	869800	006	AUS84
SYDNEY	SYD	10.0	S	33	57	– 203700	E	151	11	907100	006	AUS84
NOUMEA	NOU	11.0	S	22	16	– 133600	E	166	27	998700	001	WGS84
AUCKLAND	AKL	12.0	S	37	01	– 222100	E	174	48	1048800	059	GEODE49
WELLINGTON	WLG	12.0	S	41	17	– 247700	E	174	46	1048600	059	GEODE49

| Datum Name	Display	Applicable Area
OLD HAWAIIAN	HAWAII	Mean Value (Hawaii, Kauai, Maui, Oahu), etc.
HJORSEY 1955	HJOR55	Iceland
HONG KONG 1963	HONG63	Hong Kong
HU-TZU-SHAN	HU-TZU	Taiwan
INDIAN	INDIAN-1	Thailand & Vietnam
	INDIAN-2	Bangladesh, India & Nepal
RELAND 1965	IRE65	Ireland
ISTS 073 ASTRO 1969	ISTS073	Diego Garcia
JOHNSTON ISLAND 1961	JOHNSTO	Johnston Island
KANDAWALA	KANDAWA	Sri Lanka
KERGUELEN ISLAND	KERGUELE	Kerguelen Island
KERTAU 1948	KERTAU48	West Malaysia & Singapore
L.C.5 ASTRO	L.C.5-A	Cayman Brac Island
LA REUNION	LA REUNIO	Mascarene Island
LIBERIA 1964	LIBERIA64	Liberia
LUZON	LUZON-1	Philippines (Excluding Mindanao Island)
	LUZON-2	Mindanao Island
MAHE 1971	MAHE71	Mahe Island
MARCO ASTRO	MARCO-A	Salvage Islands
MASSAWA	MASSAWA	Eritrea (Ethiopia)
MERCHICH	MERCHICH	Morocco
MIDWAY ASTRO 1961	MID61	Midway Island
MINNA	MINNA	Nigeria
NORTH AMERICAN 1927	NAD27-1	Mean Value (CONUS)
	NAD27-2	Alaska, Bahamas (Excluding San Salvador Island), Bahamas - San Salvador Island
	NAD27-3	Canada (Including Newfoundland Island), Alberta & British Columbia, East Canada, Manitoba & Ontario, Northwest Territories & Saskatchewan Yukon, Canal Zone, Caribbean
	NAD27-4	Central America
NORTH AMERICAN 1983	NAD83-1	Alaska
	NAD83-2	Canada
	NAD83-3	CONUS
	NAD83-4	Mexico, Central America
NAHRWAN	NAHRWA-1	Masirah Island (Oman)
	NAHRWA-2	United Arab Emirates
	NAHRWA-3	Saudi Arabia
NAMIBIA	NAMIBIA	Namibia
NAPARIMA. BWI	NAPARIM	Trinidad & Tobago
OBSERVATORIO 1966	OBSERV66	Corvo & Flores Island (Azores)
OMAN	OMAN	Oman
PICO DE LAS NIVIES	PICO	Canary Island
PITCAIRN ASTRO 1967	PITC67	Pitcairn Island
PUERTO RICO	PUERTO	Puerto Rico & Virgin Islands
QATAR NATIONAL	QATAR	Qatar
QORNOQ	QORNOQ	South Greenland
ROME 1940	ROME40	Sardinia Islands
RT90	RT90	Sweden
SOUTH ASIA	S-ASIA	Singapore
PROVISIONAL SOUH CHILEAN 1963	S-CHILE	South Chile (near 53° S)
SOUTHEAST BASE	S-E-BASE	Porto Santo & Madeira Islands
SOUTHWEST BASE	S-W-BASE	Faial. Graciosa, Pico, Sao Jorge & Terceira Island
PROVISIONAL SOUH AMERICAN 1956	SAM56	Mean Value (Bolivia, Chile - Northern Chile (near 19° S), Chile - Southern Chile (near 43° S), Colombia, Ecuador, Guyana, Peru, Venezuela), etc.
SOUTH AMERICAN 1969	SAM69	Mean Value (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Trinidad & Tobago, Venezuela), etc.
SANTA BRAZ	SANTA BR	Sao Maguel, Santa Maria Islands (AzoEes)
SANTO (DOS)	SANTO	Espirito Santo Island
SAPPER HILL 1943	SAPPER43	East Falkland Island
TANANARIVE OBSERVATORY 1925	TANAN25	Madagascar
TIMBALAI 1948	TIMBA48	Brunei & East Malaysia (Sarawak & Sadah)
TOKYO	TOKYO	Mean Value (Japan, Korea & Okinawa)
TRISTAN ASTRO 1968	TRIST68	Tristan da Cunha
VITI LEVU 1916	VITI16	Viti Levu Island (Fiji Islands)
WAKE-ENIWETOK 1960	WAKE60	Marshall Islands
YACARE	YACARE	Uruguay
ZANDERIJ	ZANDERIJ	Suriname

LANDMARK LIST

The Landmark List comes pre-programmed with the names and locations of the major mountains of the world. You can use these as they are or you can change them to other landmarks using the procedure under "Editing and Deleting Landmarks".
- The readings of names shown in this list may differ from those used locally.
- Depending on the map you use, the latitude and longitude values in this list may be a number seconds off.

No	Mountain Name	Preset Name		Latitude				Longitude		
				Deg.	Min.	Sec.		Deg.	Min.	Sec.
1	Aconcagua	ACONCAGUA	S	32	39	11	W	070	01	14
2	Mount Apo	APO	N	07	00	58	E	125	16	31
3	Aragats	ARAGATS	N	40	32	02	E	044	11	57
4	Mt. Ararat	ARARAT	N	39	41	58	E	044	18	40
5	Bagzane	BAGZANE	N	18	40	03	E	008	40	00
6	Volcan Baru	BARU	N	08	48	46	W	082	33	20
7	Bazar-Dyuzi	BAZAR-DYUZI	N	41	12	51	E	047	51	43
8	Ben Nevis	BEN NEVIS	N	56	47	59	W	005	00	30
9	Pic Bette	BETTE	N	22	01	57	E	019	12	37
10	Blue Mountain Peak	BLUE MOUNTAIN	N	18	11	01	W	077	08	02
11	Pico Bolivar	BOLIVAR	N	08	33	01	W	071	03	01
12	Brandberg	BRANDBERG	S	21	09	30	E	014	34	35
13	Champagne Castle	CHAMPAGNE	S	29	04	59	E	029	21	02
14	pik Chan-Tengri	CHAN-TENGRI	N	42	12	00	E	080	15	03
15	Chimborazo	CHIMBORAZO	S	01	27	55	W	078	48	58
16	Mount Cook	COOK	S	43	40	49	E	170	02	25
17	Pico Cristobal Colon	CRISTOBAL COLO	N	10	50	01	W	073	41	00
18	Mount Damavand	DAMAVAND	N	35	57	37	E	052	05	57
19	Daravica	DARAVICA	N	42	32	22	E	020	07	46
20	Dimlang	DIMLANG	N	08	24	06	E	011	47	14
21	Doi Inthanon	DOI INTHANON	N	18	35	01	E	098	29	02
22	Pico Duarte	DUARTE	N	19	01	30	W	071	01	01
23	Emi Koussi	EMI KOUSSI	N	19	50	00	E	018	30	01
24	Everest	EVEREST	N	27	58	50	E	086	55	17
25	Fan si Pan	FAN SI PAN	N	22	18	42	E	103	46	17
26	Fuji	FUJI	N	35	21	27	E	138	43	50
27	Galdhopiggen	GALDHOPIGGEN	N	61	37	54	E	008	15	41
28	Gerlachovsky	GERLACHOVSKY	N	49	09	35	E	020	08	22
29	Mt. Goverla	GOVERLA	N	48	10	02	E	024	34	02
30	Grauspitz	GRAUSPITZ	N	47	03	48	E	009	35	01
31	Grossglockner	GROSSGLOCKNER	N	47	04	52	E	012	41	26
32	Gunnbjorn Fjeld	GUNNBJORN	N	68	55	02	W	029	47	00
33	Mt. Hermon (Jabal ash-Shaykh)	HERMON	N	33	24	43	E	035	51	28
34	Hkakabo Razi	HKAKABO RAZI	N	28	20	02	E	097	32	02
35	Mount Huascaran	HUASCARAN	S	09	07	29	W	077	36	39
36	Mount Inyangani	INYANGANI	S	18	18	02	E	032	51	00
37	Jabal ash-Sham	JABAL ASH-SHAM	N	23	09	55	E	057	25	39
38	Jebel Abha	JABEL ABHA	N	27	16	02	E	040	00	59
39	K2	K2	N	35	53	20	E	076	30	27
40	Kanchenjunga	KANCHENJUNGA	N	27	45	14	E	088	10	46
41	Volcan Karisimbi	KARISIMBI	S	01	30	29	E	029	26	51
42	Mt.Karonje	KARONJE	S	04	10	59	E	029	40	58
43	Mt.Kartala	KARTALA	S	11	45	01	E	043	21	59
44	Gebel Katherina (Mount Sinai)	KATHERINA	N	28	30	36	E	033	57	23
45	Kebnekaise	KEBNEKAISE	N	67	53	01	E	018	10	06
46	Mt.Kilimanjaro	KILIMANJARO	S	03	03	21	E	037	21	53
47	Mount Kinabalu	KINABALU	N	06	04	33	E	116	36	10
48	Kinyeti	KINYETI	N	03	56	58	E	032	54	01
49	Kommunizm Peak	KOMMUNIZM	N	38	56	41	E	072	01	21
50	Korab	KORAB	N	41	46	55	E	020	32	40

No	Mountain Name	Preset Name		Latitude				Longitude		
				Deg.	Min.	Sec.		Deg.	Min.	Sec.
51	Mt.Kosciusko	KOSCIUSKO	S	36	27	24	E	148	15	40
52	Kula Kangri	KULA KANGRI	N	28	04	22	E	090	22	37
53	La Selle	LA SELLE	N	18	21	59	W	071	59	02
54	Mt. Logan	LOGAN	N	32	18	34	W	064	45	38
55	Maglic	MAGLIC	N	43	18	03	E	018	45	11
56	Mount Makarakomburu	MAKARAKOMBURU	S	09	43	32	E	160	01	36
57	Margherita Peak	MARGHERITA	N	00	22	56	E	029	51	50
58	Maromokotra	MAROMOKOTRA	S	14	00	02	E	049	12	01
59	Mt. McKinley	MCKINLEY	N	63	05	35	W	151	00	45
60	Mogoton	MOGOTON	N	13	45	21	W	086	23	23
61	Mont Blanc	MONT BLANC	N	45	50	04	E	006	51	28
62	Monte Binga	MONTE BINGA	S	11	52	02	E	035	01	58
63	Monte Rosa (Dufourspitze)	MONTE ROSA	N	45	56	40	E	007	51	39
64	Mount Kenya (Kirinyaga)	MOUNT KENYA	S	00	08	40	E	037	18	32
65	Moussa Ali	MOUSSA ALI	N	12	27	10	E	042	24	36
66	Mulhacen	MULHACEN	N	37	03	07	W	003	18	17
67	Musala	MUSALA	N	42	04	59	E	023	23	57
68	Pico da Neblina	NEBLINA	N	00	47	30	W	066	06	47
69	Negoiu	NEGOIU	N	45	36	03	E	024	34	34
70	Mt. Nimba	NIMBA	N	07	37	01	W	008	24	40
71	Nowshak	NOWSHAK	N	36	24	36	E	071	49	16
72	Ojos de Salado	OJOS DE SALADO	S	27	05	24	W	068	32	14
73	Mount Olympus	OLYMPUS	N	40	05	33	E	022	21	36
74	Pico de Orizaba	ORIZABA	N	19	00	35	W	097	15	55
75	Mont Orohena	OROHENA	S	17	37	12	W	149	28	49
76	Mount Paek-tu	PAEK-TU	N	41	59	42	E	128	05	13
77	Phou Bia	PHOU BIA	N	19	30	07	E	103	04	07
78	Pico de Basile	PICO DE BASILE	N	03	35	26	E	008	45	40
79	Pico de Cano	PICO DE CANO	N	14	56	57	W	024	23	02
80	Pidurutalagala	PIDURUTALAGALA	N	06	59	59	E	080	46	45
81	Pik Pobedy	POBEDY	N	42	03	00	E	080	11	02
82	Puncak Jaya	PUNCAK JAYA	S	04	02	34	E	137	03	18
83	Ras Dashan	RAS DASHAN	N	13	12	47	E	038	21	00
84	Mount Roraima	RORAIMA	N	05	13	55	W	060	44	01
85	Rysy	RYSY	N	49	11	58	E	020	04	05
86	Sajama	SAJAMA	S	18	01	27	W	069	04	05
87	Santa Ana	SANTA ANA	N	13	50	58	W	089	38	01
88	Sapitwa(Mt. Mulanje)	SAPITWA	S	15	58	09	E	035	42	49
89	Serro Moco	SERRO MOCO	S	12	19	10	E	015	00	17
90	Mount Shimbiris	SHIMBIRIS	N	10	43	30	E	047	14	47
91	Gora Shkhara	SHKHARA	N	43	00	05	E	043	05	40
92	Soira	SOIRA	N	14	44	59	E	039	31	58
93	Tahat	TAHAT	N	23	16	56	E	005	31	13
94	Volcan Tajumulco	TAJUMULCO	N	15	02	14	W	091	55	17
95	Jebel Toubkal	TOUBKAL	N	31	03	55	W	007	54	59
96	Troglav	TROGLAV	N	43	56	44	E	016	35	47
97	Tavan-Bogdo-Uli	TSAST BOGD	N	46	31	58	E	093	32	58
98	Vinson Massif	VINSON MASSIF	S	77	40	00	W	087	00	05
99	Yu Shan	YU SHAN	N	23	29	23	E	121	02	32
100	Zugspitze	ZUGSPITZE	N	47	25	00	E	010	59	18

1840 NOTES

Antenna —

LIGHT
MENU
GPS
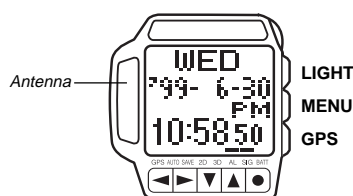
GPS Measurement Tips

Check the following points whenever GPS measurements seem to take too long or when you are unable to achieve successful measurements.
- ❏ Are the watch's AREA, DATUM, and TIME settings correct?
- ❏ Are you in a building with a roof, heavily wooded area, or any other area where you cannot directly see the sky?
- ❏ Are you using an old battery?
- ❏ Is the low battery power message on the display of the watch?
- ❏ Are you near high-voltage lines, near a person using a mobile phone, or near any other device or facility that could be interfering with signal reception?
- ❏ Is the antenna to the left of the display wet or covered with a sticker?

GPS Measurement Troubleshooting

1. When poor measurement conditions are due to objects blocking you from the sky or satellite pattern configuration.
   ➜ Change to another location or try again later.

2. When your current measurement point is more than 300km from your last measurement point.
   ➜ Change the area setting of the watch. If you cannot find a pre-programmed area that is close to your current position, manually input your current location.
3. After you have replaced the battery or removed and then reloaded the battery.
   ➜ If the watch cancels the measurement operation before it can be completed, try again. If you cannot achieve a successful measurement after about five minutes, cancel the current measurement and try again.
4. After you have not performed a GPS measurement for a long time.
   ➜ If the watch cancels the measurement operation before it can be completed, try again.

Getting Back to the Timekeeping Mode Screen

If you find yourself at a screen from which you do not know how to return, perform the following steps until you get back to the Timekeeping Mode or Alarm Mode. First try step 1. If that doesn't work, advance to step 2. If you still are not in the Timekeeping Mode or Alarm Mode, perform step 3.
Step 1: Press the **GPS** button.
Step 2: Simultaneously press the **LIGHT**, **MENU**, and **GPS** buttons, and then press the **GPS** button again.
Step 3: Press the ▼ button twice, and then press the **GPS** button.
- After you get to the Timekeeping Mode, press the **MENU** button and confirm that the Menu Screen appears.
- From the Menu Screen, press the **GPS** button to return to the Timekeeping Mode.