

GPS Pioneer

MAGELLAN



User Manual

WARNINGS

A measure of knowledge by the user is required for proper and safe use of the **Magellan GPS Pioneer™**. READ THE USER GUIDE & WARRANTY COMPLETELY.

Use Good Judgment

This product is an excellent navigation aid, but it does not replace the need for careful orientation and good judgment. Never rely solely on one device for navigating.

Use Care to Avoid Inaccuracies

The Global Positioning System (GPS) is operated by the U.S. Government, which is solely responsible for the accuracy and the maintenance of GPS. Certain conditions can make the system less accurate.

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Introduction

Welcome to the Magellan GPS Pioneer

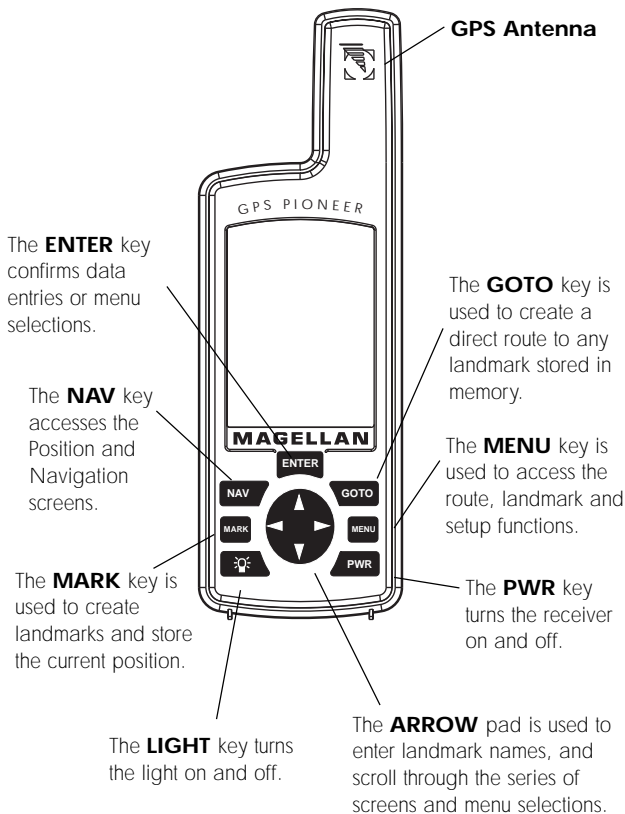
Congratulations on your purchase of the Magellan GPS Pioneer satellite navigator. The GPS Pioneer is an easy-to-use GPS receiver designed to get you out in the “Great Outdoors” rather than spending hours reading a User’s Manual. There are, however, a few items that you need to be familiar with so it is suggested that you follow along at least through the chapter on *Basic Operation*.

Before you begin, make sure that your package includes the items listed on the GPS Pioneer box. If any items are missing or damaged, contact your Magellan dealer or retailer.

GPS Pioneer Description

The GPS Pioneer is a self-contained hand-held GPS receiver designed for general purpose position locating and navigation. It has a built-in antenna located at the top of the receiver, a backlit display, and keypad. Using two AA batteries, inserted from the battery door found at the back of the receiver, the GPS Pioneer will operate continuously for up to 24 hours.

Magellan GPS Pioneer



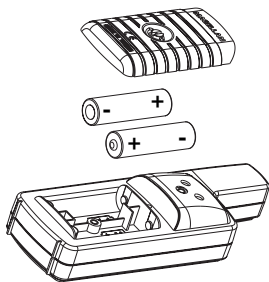
Getting Started

Installing the Batteries

The GPS Pioneer uses two AA alkaline batteries that are installed at the back of the receiver. To remove the battery cover, turn the ring of the battery door screw counterclockwise until the battery cover can be removed.

Insert the new batteries as shown, being sure to respect the polarities, and replace the battery cover.

Replace the screw and turn the ring clockwise until the battery door is held in place securely. While the battery door does provide the waterproofing seal to the batteries, you should avoid overtightening the battery door screw.



Getting Signals from Satellites

Since the GPS Pioneer receives information from satellites orbiting the earth, the antenna needs to have a relatively unobstructed view of the sky. Large obstructions such as buildings, cliffs, and overhangs may interfere with signal reception causing your GPS Pioneer to take additional time to compute your location.

The GPS Pioneer is designed to fit comfortably in your hand. Hold the receiver with the antenna towards the sky.



Initializing the Receiver - EZStart

Before using your GPS Pioneer for the first time, the receiver needs to know its approximate location. Using Magellan's EZStart procedure, the GPS Pioneer will prompt you for the information it requires when you turn it on for the first time.

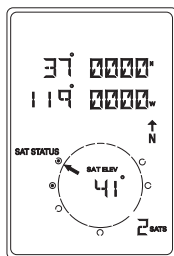
You do not need to initialize your receiver each time you use it. Follow these steps to initialize the GPS Pioneer if this is the first time you are using it.

- 1 Press **PWR** to turn the GPS Pioneer on.
- 2 **SELECT REGION.** Use the **ARROW** pad to change the flashing text to select the appropriate region for your present location. Press **ENTER**.
- 3 **SELECT COUNTRY or STATE.** Use the **ARROW** pad to change the flashing text to select the country or state for your present location. Press **ENTER**.

- 4 **ENTER ELEVATION.** Use the ARROW pad to enter the approximate elevation for your position. If unknown, leave the elevation at 0. Press **ENTER**.
- 5 **ENTER TIME.** Use the ARROW pad to enter your present time. Press **ENTER**.
- 6 **ENTER DATE.** Use the ARROW pad to enter the date. Press **ENTER**.

The GPS Pioneer then displays the *POSITION* screen and automatically begins searching for satellites that it knows are in this area for the date and time you entered.

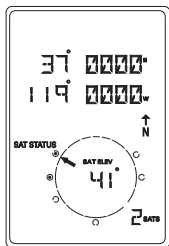
The display shown here may differ from yours depending upon the information you selected in steps 2 and 3. As the GPS Pioneer scans the sky, the arrow in the circle will swing around pointing to a satellite and displays, in the center of the circle, that satellite's elevation above the horizon.



Computing a Position

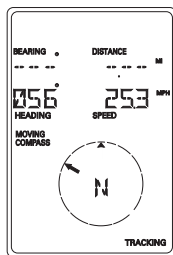
The GPS Pioneer will begin to acquire information from the satellites and use this information to compute your current position (called a position fix). Whether you have just

completed the initialization process or have just turned your GPS Pioneer on, the GPS Pioneer will display the following screens in the order shown.



As the GPS Pioneer searches for satellites, some of the small circles around the large circle will become black indicating that the GPS Pioneer is tracking that satellite and receiving information. The number at the bottom right of the screen displays how many satellites are being tracked.

After the GPS receiver has received positioning data from at least three satellites (approximately 2-3 minutes), it will begin computing a position fix based upon the information it is receiving. As soon as a position fix is computed, the receiver switches to the navigation screen displaying the moving compass. The word "TRACKING" is displayed in the lower right corner indicating that the receiver is computing position fixes.



Note: If the receiver has not acquired a position fix in approximately 10 minutes, refer to the troubleshooting section of this manual.

More information on these screens and the information they display can be found in the next chapter.

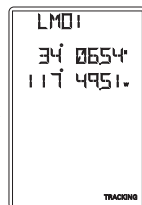
Basic Operation

Saving a Position Fix

Position fixes can be saved in memory for use later when you want to return to that position. Saved position fixes are referred to as landmarks or LMK.

To save (*mark*) your current position press **MARK**.

Receiver-Generated Name: The GPS Pioneer prompts you to enter a name or accept the receiver-generated name for this landmark. To accept the receiver-generated name (LM01 - LM99), press **ENTER**.



User-Created Name: To create a name (up to four characters), use the UP/DOWN arrows to change the character and the LEFT/RIGHT arrows to move the cursor to the left or right respectively. After you have input the desired landmark name press **ENTER**.

Press **ENTER** to accept the current latitude and press **ENTER** again to accept the current longitude.

Shortcut: Press **MARK** at anytime while viewing this screen to quickly save the position.

Creating a Landmark

To create a landmark at a location which is not your current position, use the same procedure as saving a position with the additional step of inputting different latitude/longitude coordinates.

To create a landmark press **MARK**.

The GPS Pioneer prompts you to enter a name or accept the receiver-generated name for this landmark. When the desired name is displayed at the top of the screen press

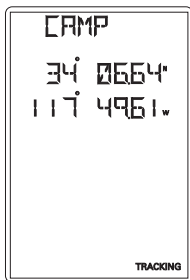
ENTER.

Use the ARROW pad to change the latitude and press **ENTER** to accept.

Use the ARROW pad to change the longitude and press **ENTER** to accept.

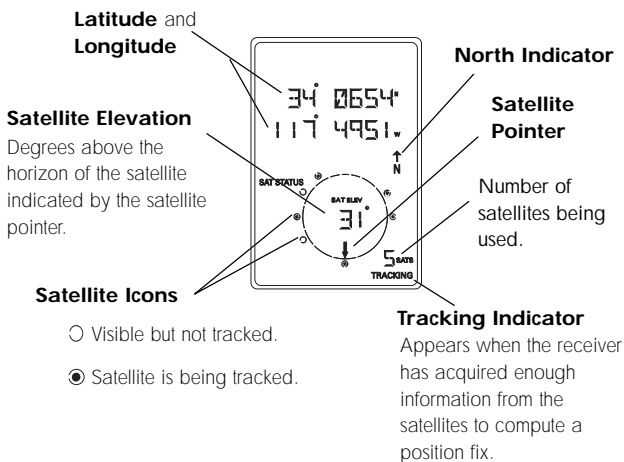
The newly created landmark is stored in memory and you are returned to the screen that was displayed when you pressed the MARK key.

Shortcut: Press **MARK** at anytime while viewing this screen to quickly save the position.



Viewing the *POSITION* Screen

The *POSITION* screen displays the coordinates for your last computed position and information about any satellites that are visible. It can be accessed by pressing the **NAV** key.

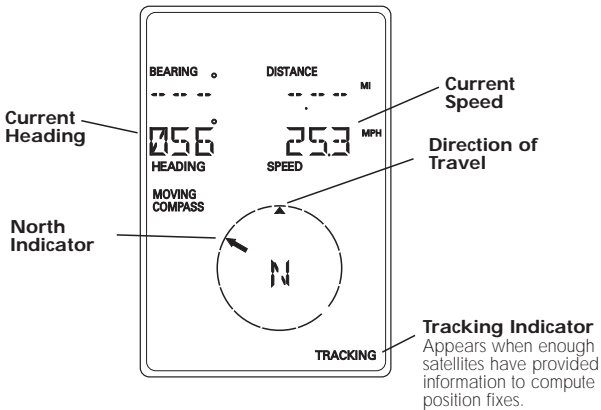


You may sometimes notice that the number of satellites being tracked differs from the number of satellites being displayed graphically. This is due to more than one satellite being tracked in the same general area.

Viewing the Navigation Screens

Without an Active Route. Without an active route the navigation screen displays your heading and the speed at which you are traveling. The lower portion of the screen displays a moving compass. The triangle at the top of the compass points in the direction you are traveling and the arrow points to north.

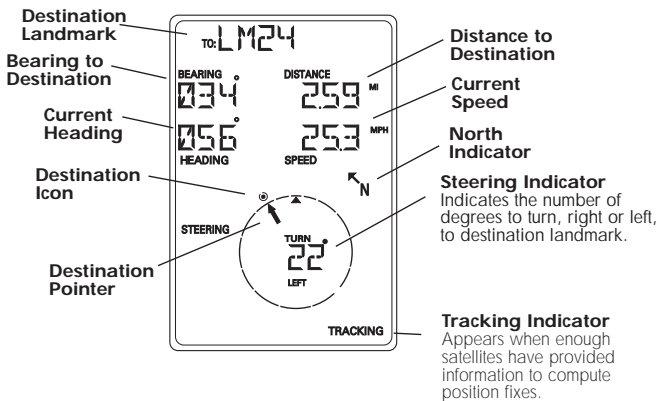
Navigation Screen without an Active Route (Moving Compass)



The navigation screens display your speed of travel. For the speed to be displayed, you must be moving at a speed greater than 2 miles per hour.

With an Active Route. When you have an active route the navigation screen still displays your heading and speed but also includes the bearing and distance to your destination. The moving compass is then replaced with steering information. You can use the graphical representation or the steering indicator to assist in directing you towards your final destination.

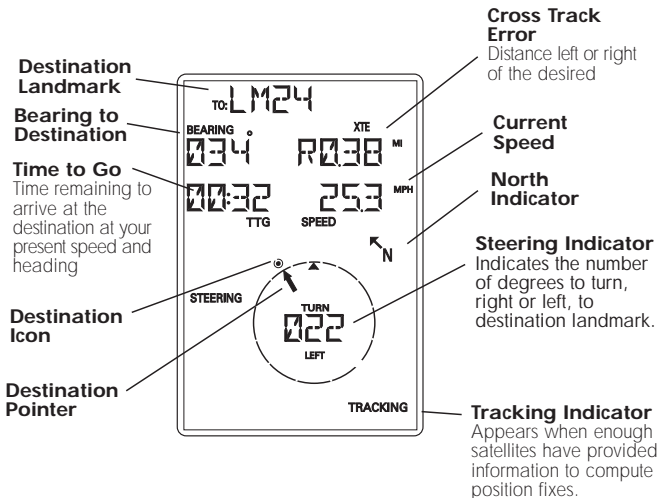
Navigation Screen with an Active Route (Steering)



In the screen above you are traveling with a heading of 56° while your destination bearing is 34° . This would indicate that you need to turn left 22° to be on a straight line to your destination. The circle and arrow display the same information but in a visual manner. The triangle points in the direction you are traveling and the arrow points towards your destination.

A second navigational screen is also provided while you have an active route. This screen is very similar to the first screen except that the distance to the destination has been replaced with XTE (cross track error, the distance left or right that you are off course) and heading has been replaced with TTG (time to go). This screen provides you additional information to aid you in navigating to your destination.

Second Navigation Screen with an Active Route (Steering)



The navigation screens and the position screen are connected to one another in a circular loop. Pressing the **NAV** key or using the **ARROW** pad while viewing one of the position or navigation screens moves you to the next screen in the loop.

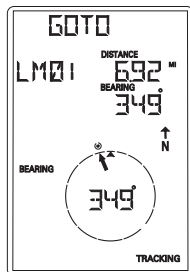
Creating a GOTO Route

The simplest form of a route is a one-leg route called a GOTO route (you are GOing TO a destination). This is routing you from your current position to a landmark stored in memory. All that is required to create a GOTO route is that you have saved a landmark indicating the location of your destination.

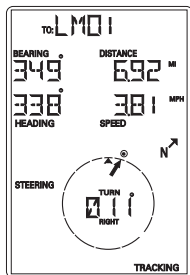
To create (activate) a GOTO Route:

From any screen, press **GOTO**. The *GOTO* screen appears.

To select a different landmark, use the LEFT/RIGHT ARROWS until the desired destination landmark is displayed.



Press **ENTER** or **GOTO**. The display returns to the Navigation screen showing the name of the GOTO destination at the top of the screen.





If the receiver is not tracking sufficient satellites to compute a position fix, the start of the newly created GOTO route will be the last position computed, which may not be the current position.

This GOTO route will remain the active route until a new GOTO route is created, a multileg route is activated, or the receiver is turned off. **Turning off the receiver deactivates any GOTO route.**

Summary

This completes the basic operation of the GPS Pioneer. At this time it would be a good idea to put what you know to practice. Pick a location that you would want to come back to, your home for example. Take a position fix of the location and save it to memory, giving it a name that you will later associate with this location. Then travel a few miles away with your receiver, stop and take another position fix. Now use the GOTO key to set a GOTO route and highlight the landmark you created before and press ENTER.

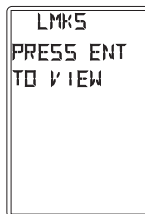
Your GPS Pioneer is ready to navigate you back to where you started. The navigation screens are now showing you the distance and bearing back to the original landmark. As you begin moving, the GPS Pioneer will begin using your speed and direction to compute the shortest distance back to your original starting point as well as how long it will take you to get there.

The following chapters provide you with more information on using your GPS Pioneer that build upon what you've learned.

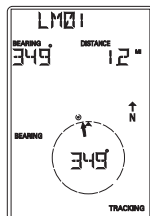
Working with Landmarks

Viewing a Landmark

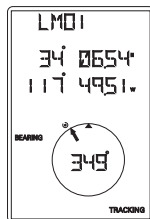
To view a stored landmark press **MENU** until LMKS appears at the top of the screen.



Press **ENTER**. The *BEARING/DISTANCE* screen for the first landmark in the receiver's memory is displayed with the bearing and distance from the last computed position fix to that landmark. To select a different landmark, use the **LEFT/RIGHT** arrows until the name of the landmark you wish to view is at the top of the screen.



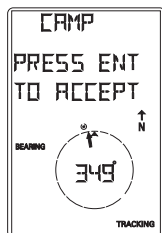
To view the *POSITION* screen of the selected landmark, press the **UP ARROW**.



Editing the Landmark Name

Following the instructions under *Viewing a Landmark*, use the LEFT/RIGHT arrows to select the landmark whose name you wish to edit.

Press the UP ARROW until the screen displays ENT TO EDIT NAME, then press **ENTER**. The GPS Pioneer then allows you to change the name of the landmark using the ARROW pad. When you have entered the name you desire (up to four characters), press **ENTER**.



Deleting a Landmark

Following the instructions under *Viewing a Landmark*, use the LEFT/RIGHT arrows to select the landmark you wish to delete.

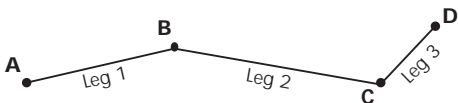
Press the UP ARROW until the screen displays PRESS ENT TO DELETE, then press **ENTER**. Use the LEFT/RIGHT ARROWS to confirm (YES or NO) and press **ENTER**.



If the landmark is used in a route or is the destination landmark in a GOTO route, the GPS Pioneer alerts you that the landmark cannot be deleted. Remove the landmark from the route and repeat.

Working with Routes

The route function allows you to link a series of landmarks and travel, point by point, to a final destination.



The route depicted here is a three-leg route. Leg 1 extends from landmark A to landmark B, leg 2 from landmark B to landmark C, and leg 3 from C to D. The GPS Pioneer gives you information on the NAV screens that directs you to the destination of each leg sequentially.

Creating a Route

A route can contain up to 10 legs using any of the landmarks stored in memory. If there is a route already in memory you must delete the existing route before you can create a new one.

Access the Route Menu by pressing **MENU** until ROUTE appears at the top of the screen. The display should say "PRESS ENT TO CREATE."

NOTE: If the display says PRESS ENT TO VIEW there is an existing route and you must delete the existing route before creating a new one. (See *Deleting a Route* for details.)

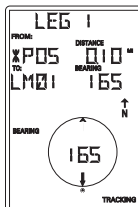
Press **ENTER**.

The receiver prompts you for a starting landmark for the route. The first landmark, *POS, is your present position. Use the ARROW pad to scroll through the list of landmarks. When the desired landmark is displayed (and flashing) press **ENTER**.



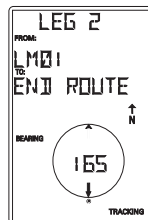
The display changes to allow the selection of the landmark to be used as the end of the first leg in the route. Use the ARROW pad to scroll through the list of landmarks.

When the desired landmark is displayed (and flashing) press **ENTER**. Note that as you scroll through the list of landmarks, the display updates showing you the bearing and distance from the start of this leg to the displayed landmark.



If the distance from the start of the leg to the end of the leg is below 0.10 miles, the message INVALID is displayed and you are prompted to select a different landmark.

The screen changes to the next leg in the route with the destination landmark of the previous leg inserted as the start of the next leg. The message END ROUTE is displayed in the TO field. You may continue this route by using the ARROW



pad to select a landmark as the destination for this leg or press **ENTER** to signal the GPS Pioneer that this was the last leg in the route and you are finished creating a route.

Continue this process for each leg in the route remembering to press **ENTER** with END ROUTE displayed in the TO field to finish up the route. If you accidentally pressed the ARROW pad but you meant to end the route, you can still end the route by continuing to press the ARROW pad until END ROUTE is displayed again.



A route may contain no more than ten legs and the GPS Pioneer automatically saves the route and returns to the Route Menu as soon as Leg 10 is entered.

After the route has been created, the GPS Pioneer automatically activates the route and begins providing navigation information for the route.

Viewing a Route

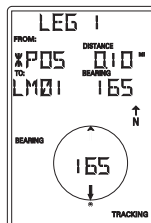
You can view a summary of the route in memory as well as viewing the individual legs of the route. All editing commands are accessed from the View Route function as well.

With a route in memory, press **MENU** until ROUTE appears at the top of the display. Press **ENTER**.

The first screen displayed is the *ROUTE SUMMARY* screen. This screen displays the start and end landmark for the entire route as well as the total distance of the route.



Use the LEFT/RIGHT ARROWS to view the legs in the route. The leg screen displays the FROM and TO landmark for the leg as well as the distance and bearing for the leg. The circle graphically displays the bearing for the leg. Continue pressing the LEFT/RIGHT ARROWS to step through the other legs in the route, eventually returning to the *ROUTE SUMMARY* screen.



Activating/Deactivating a Route

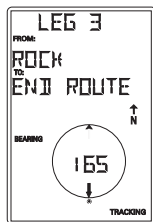
With a route in memory, press **MENU** until ROUTE appears at the top of the display. Press **ENTER**. Press the UP ARROW. If the route is currently active, the display indicates: ENT TO DEACTIVATE. If the route is currently deactivated, the display indicates: ENT TO ACTIVATE. Pressing **ENTER** will activate or deactivate the route depending upon its present status.

Deleting a Route

With a route in memory, press **MENU** until ROUTE appears at the top of the display. Press **ENTER**. While still viewing the Route Summary screen, press the UP ARROW three times until the display indicates PRESS ENT TO DELETE. Press **ENTER**. You will be prompted to confirm the deletion. Use the ARROWS to select YES or NO and press **ENTER**.

Appending a Leg to a Route

With a route in memory, press **MENU** until ROUTE appears at the top of the display. Press **ENTER**. While still viewing the Route Summary screen, press the UP ARROW until the display indicates PRESS ENT TO ADDLEG. Press **ENTER**. The display changes to the Add Leg screen with END ROUTE flashing. As in creating a route, use the ARROW pad to select the new landmark for this leg. With the new TO landmark flashing, press **ENTER**. The newly created leg is added to the end of the route.



Activating a Leg in a Route

As you are navigating you may decide that you no longer wish to continue on the leg that you are now using. Instead you wish to use another leg of the route. You will need to activate the leg of the route with the desired destination (TO landmark).

Press **MENU** until ROUTE appears at the top of the display. Press **ENTER**. Use the LEFT/RIGHT ARROWS until the leg you wish to activate is displayed. Press the UP ARROW. If the leg is not active, the display indicates ENT TO ACTIVATE. Press **ENTER**. The leg has become activated and the receiver begins to compute the necessary information to continue you on the route using the leg you selected.

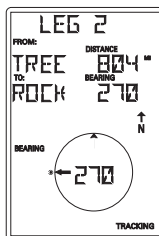
If the display indicates ENT TO DEACTIVATE, it means that the receiver is using this leg to compute the navigational information. Pressing ENTER at this screen not only deactivates the leg, but deactivates the route as well.

Editing a Leg in a Route

Press **MENU** until ROUTE appears at the top of the display. Press **ENTER**. Use the LEFT/RIGHT ARROWS until the leg you wish to edit is displayed. Press the UP ARROW until PRESS ENT TO EDIT is displayed and press **ENTER**.

The Edit Leg screen is displayed with the FROM landmark flashing. Use the LEFT/RIGHT ARROWS to select a new FROM landmark and press **ENTER**.

The TO landmark begins flashing alerting you that the GPS Pioneer is ready for you to select a new TO landmark. Press **ENTER** to accept the TO landmark as it is or use the LEFT/RIGHT ARROWS to select a new TO landmark and press **ENTER**.



The leg before and after the one you just edited will be automatically changed to reflect the changes that were made to this leg.

Deleting a Leg From a Route

Press **MENU** until ROUTE appears at the top of the display. Press **ENTER**. Use the LEFT/RIGHT ARROWS to find the leg of the route that you want to delete. Press the UP ARROW until PRESS ENT TO DELETE is displayed and press **ENTER**.

The GPS Pioneer prompts you to confirm the deletion of the leg. Use the LEFT/RIGHT ARROW to select (flashing) YES to delete or NO to cancel.



If you attempt to delete a leg that causes the route to contain a leg that is under the 0.1 mile leg distance limitation, the receiver will display the message INVALID DELETE.

Additional Features

Viewing the Time and Date

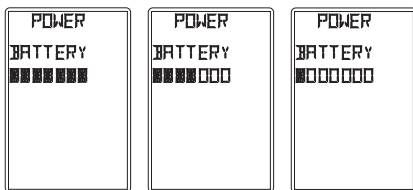
You can view the current time and date (obtained from the satellites) by repeatedly pressing the **MENU** key until TIME is displayed at the top of the screen.

Viewing Elevation

You can view the last computed elevation for your GPS Pioneer by repeatedly pressing the **MENU** key until ELEVATION is displayed at the top of the screen.

Viewing Battery Life

You can view the estimated battery life remaining by repeatedly pressing the **MENU** key until POWER is displayed at the top of the screen.



Full Battery
Life

40-60%
Battery Life

Low
Batteries

Changing Coordinate Systems

You may wish to change the coordinate system that your GPS Pioneer uses to display the position and landmarks coordinates.

You have three options: LAT/LON using degree/minutes (DEGMIN), LAT/LON using degree/minutes/seconds (DEGMINSEC) or Universal Transverse Mercator (UTM). The choice you make will depend upon the maps or charts you may be using. You want your GPS Pioneer to be displaying the coordinates in the same mode that your map or chart uses.

The following example shows the same position in each of the three different modes.

34° 06' 57"	34° 06' 34"	3774603'
117° 49' 57"	117° 49' 34"	11 423806'
LAT/LON (DEGMIN)	LAT/LON (DEGMINSEC)	UTM

Press the **MENU** key until SETUP is displayed at the top of the screen and press **ENTER**. Press **ENTER** again and the currently used coordinate system begins to flash. Use the RIGHT/LEFT ARROWS to scroll through the list of coordinate systems and press **ENTER** when the desired system is displayed.

Changing Map Datums

If you are using a map (or chart) in conjunction with your GPS Pioneer you need to insure that the datum used by the GPS Pioneer matches the one used in creating the map. The map datum can usually be found in the legend box of the map or chart. The GPS Pioneer offers the choices of WGS84 (default) or NAD27.

Press the **MENU** key until SETUP is displayed at the top of the screen and press **ENTER**. Use the RIGHT ARROW until SETUP MAP DATUM is displayed. Press **ENTER** again, the currently used map datum begins to flash. Use the RIGHT/LEFT ARROWS to scroll through the list of map datums and press **ENTER** when the desired datum is displayed.

Changing Distance Units

Your distance units can be in miles and miles per hour (MI-MPH), nautical miles and knots (NM-KTS), or kilometers and kilometers per hour (KM-KPH). To change the units, press **MENU** until SETUP is displayed at the top of the screen and press **ENTER**. Use the RIGHT ARROW until SETUP UNITS is displayed. Press **ENTER** again and, the distance unit of measure begins to flash. Use the RIGHT/LEFT ARROWS to scroll through the list of units and press **ENTER** when the desired unit of measure is displayed.

Changing Time Display and Time

To change the way that time is displayed (12 HOUR - default, 24 HOUR, or UT), repeatedly press **MENU** until SETUP is displayed at the top of the screen and press **ENTER**. Use the RIGHT ARROW until SETUP TIME is displayed. Press **ENTER** again and the time display begins to flash. Use the RIGHT/LEFT ARROWS to scroll through the list and press **ENTER** to select. The screen changes to TIME SET. Use the ARROW pad to set the time and press **ENTER** when done. (You are not prompted to set the time if you selected UT as the time format.)

When you change your clocks because of daylight savings time, remember to change the time in your GPS Pioneer.

Changing North Reference

The GPS Pioneer uses *magnetic north* as a default reference for all navigation computations. You can change this to *true north* (good if you are also using a map) or back to *magnetic north* (default, good to use if you are using a compass) under the SETUP menu. Press the **MENU** key until SETUP is displayed at the top of the screen and press **ENTER**. Use the RIGHT ARROW until SETUP NORTH REF is displayed. Press **ENTER** again, the north reference begins to flash. Use the RIGHT/LEFT ARROWS to scroll between MAGNETIC and TRUE and press **ENTER** to select.

Initializing the Receiver (EZSTART)

If you desire to re-initialize the receiver, (for example, you have moved more than 300 miles since the last time the receiver was turned on) you can do so in the SETUP menu. Press **MENU** until SETUP is displayed at the top of the screen and press **ENTER**. Use the RIGHT ARROW until SETUP PRESS ENT TO EZSTRT is displayed. Press **ENTER** again and the receiver prompts you to enter the necessary data.

SELECT REGION. Use the ARROW pad to change the flashing text to select the appropriate region for your present location. Press **ENTER**.

SELECT COUNTRY or STATE. Use the ARROW pad to change the flashing text to select the country or state for your present location.

Press **ENTER**.

ENTER ELEVATION. Use the ARROW pad to enter the approximate elevation for your position. If unknown, leave the elevation at 0. Press **ENTER**.

ENTER TIME. Use the ARROW pad to enter your present time. Press **ENTER**.

ENTER DATE. Use the ARROW pad to enter the date. Press **ENTER**.

Activating the Demo Mode

To turn on the Demo Mode, press **MENU** until **SETUP** is displayed at the top of the screen and press **ENTER**. Use the **RIGHT ARROW** until **SETUP DEMO** is displayed. To toggle between **ON** or **OFF**, press **ENTER**. The present status, on or off, will flash. Use the **LEFT/RIGHT ARROWS** to switch between on and off and press **ENTER**.

While in the Demo Mode, the receiver displays sample information on the *POSITION* and both *NAVIGATION* screens.

Setting Display Contrast

To adjust the contrast of the display, press **MENU** until **SETUP** is displayed at the top of the screen and press **ENTER**. Use the **LEFT/RIGHT ARROW** until **SETUP CONTRAST** is displayed and press **ENTER**. Use the **LEFT/RIGHT ARROW** keys to change the contrast to the desired level and press **ENTER**.



Troubleshooting

Does not turn on:

1. Check to insure that the batteries are installed correctly and that the battery terminals are clean.
2. Replace the batteries.

Takes more than 10 minutes to get a position fix:

1. If there are large obstacles nearby or overhead, move to a new location with a clear view of the sky and turn the receiver back on.
2. Make sure that the antenna is pointing up and that it is a reasonable distance from your body.
3. Check that the time is correct. If not, reset the time following the instructions for “Changing Time Display and Time” on page 28.
4. If the receiver still does not get a position fix within 10 minutes, you may wish to repeat the EZSTART initialization procedure found on page 29.

Cannot view the second navigation screen:

1. The second navigation screen is displayed **only** if you have an active route or GOTO. Activate a route or GOTO and use the NAV key to scroll to the second navigation screen.

Destination Pointer does not point to the destination:

1. Note that much of the navigation information is based upon your movement. If you are standing still the navigation information (destination pointer, etc.) is not updated until you are moving. (The receiver is unable to detect which way you are facing while you are stationary.)

Position coordinates on your receiver do not match the location on your map.

1. Make sure that your receiver is set up to use the same datum as your map. The map datum is generally shown in the map legend. See Map Datum under Setup for instructions on selecting the map datum in your receiver.
2. Check your LAT/LON format. Make sure that the format selected in COORDINATE SYSTEM (DEG/MIN/SEC or DEG/MIN.MM) is in the same format as the map you are using.

Commonly Asked Questions

Does the receiver adjust itself for daylight savings time?

No. You need to reset the time for changes in your area. (See “Changing Time Display and Time” on page 28.)

Will my receiver function correctly in the year 2000?

Absolutely. Even though only the last two digits of the year are displayed, the full year designator is stored in memory.

Why won't the receiver accept the coordinates higher than 59 seconds when I am inputting coordinates?

The most common cause of this is you are trying to enter coordinates that are in degrees/minutes while your receiver is set to degrees/minutes/seconds. Since the last two digits in degrees/minutes is in hundredths (00 - 99) and degrees/minutes/seconds can be no higher than 59 (00 - 59), inputting a number higher than 59 while in deg/min/sec results in an error and the receiver does not accept the entry.

Can I use NiCad Batteries in my GPS Pioneer?

Yes. However, the battery life of your GPS Pioneer will be diminished with the use of NiCad batteries.

Can I attach my GPS Pioneer to external power?

Yes. However, this requires the optional external power cable available from your dealer or Magellan Systems.

Will I lose all my landmarks when my batteries die?


No. As long as you leave the batteries inside the GPS Pioneer, memory will be retained for up to one month, even with dead batteries. (With good batteries installed, you can store your GPS Pioneer for six months without losing any memory.) When you remove batteries, you have 30 minutes to install new batteries before memory is lost.

Why does my speed and elevation sometimes jump around?



For security reasons, the U.S. Government introduces small errors (selective availability) which can affect positioning information. These errors are most noticeable while viewing speed, heading, and elevation.

Icons

TRACKING Provides a visual indication of whether the receiver is “locked” or “unlocked” on satellite signals. While the tracking icon is displayed, the receiver is updating its position and can be used to save landmarks and as a navigation tool. If the tracking icon is not displayed, you may need to reposition the GPS receiver to get a better view of the sky.

 **Battery Warning.** When this icon first appears, the receiver will operate for about an additional hour before automatically turning off.

The Magellan GPS Pioneer will retain its memory (route, landmarks, last fixes, etc.) for 20 minutes with the batteries removed. **Memory will be retained even with low batteries for approximately one month if the unit is turned off.**

 **Light.** Displayed when the LCD backlight has been turned on with the  key. The backlight will cause the batteries to run down much quicker and should be turned off when not needed.

EXT PWR External Power. Displayed when the GPS Pioneer is operating from external power using the GPS External Power Cable.

Contacting Magellan

If after using the troubleshooting section, you are still unable to solve your operation problem, please call Magellan's Technical Service at 800-707-9971. Representatives are available Monday through Friday, from 7 a.m. to 5 p.m., Pacific Standard Time. Faxes can be sent to 909-394-7070.

If necessary, you can also return your unit to Magellan for repair. (Please call for assistance first.) Ship the unit to Magellan Systems by Parcel Post or UPS and include a description of the problem, your name and address, and a copy of your sales receipt. If your return shipping address is different, please include it.

With all correspondence, please be sure to state the model of the receiver you have and if calling, please be sure to have your unit with you.

Packages should be sent to:

Magellan Systems Corporation
960 Overland Court
San Dimas, CA 91773
Attn.: Warranty/Repair

Overseas customers may send units for repair to:

COMAR
Unit 3, Medina Court
Arctic Road
Cowles
Isle of Wight
P031 7XD U.K.

Accessories

Accessories for your Magellan GPS Pioneer are available from your Magellan dealer or you can order directly from Magellan using the order card supplied with your receiver.

Carrying Case: Protects your GPS Pioneer from the elements and allows you to carry your GPS Pioneer on your belt, keeping it handy for when you need it.

Mounting Bracket: Mounts on a dashboard or other surface allowing you hands-free operation of your GPS Pioneer. Allows the use of the External Power Cable while the receiver is resting in the bracket putting your GPS Pioneer where you want it and always ready to use.

External Power Cable: Connects your GPS Pioneer to a cigarette lighter allowing uninterrupted use without any drain on your batteries. (Do **not** connect the GPS Pioneer to external power without the External Power Cable.)

Instructional Video: A 30-minute instruction video in VHS format that provides you with instructions on how to use and operate your GPS Pioneer.

Glossary

- Active Leg** The segment of a route currently being used to compute navigational information.
- Bearing** The compass direction from your position to a destination, measured to the nearest degree.
- Coordinates** A unique numeric or alphanumeric description of position.
- Datum** Refers to the theoretical mathematical model of the earth's sea level surface. Map makers may use a different model from which to chart their maps, so position coordinates will differ from one datum to another. The datum for the map you are using can be found in the legend of the map. If you are unsure as which datum to use, use WGS84.
- Elevation** Distance above mean sea level.
- GOTO** A single leg route with the present position being the start of the route and a defined landmark as the destination. (If the unit has been moved while turned off and has not yet acquired a new position fix, the start of the GOTO will be the position fix last recorded.)
- Heading** The compass direction in which the Magellan GPS Pioneer is moving.

Landmark	A location saved in the unit's memory which is obtained by entering data, editing data, calculating data or saving a current position. Used to create routes.
Latitude	The angular distance north or south of the equator measured by lines encircling the earth parallel to the equator in degrees from 0° to 90°.
LAT/LON	Coordinate system using latitude and longitude coordinates to define a position on the earth.
Leg (Route)	A segment of a route that has a starting (FROM) landmark and a destination (TO) landmark. A route may consist of 1 or more legs. A route that is from landmark A to landmark B to landmark C to landmark D has three legs with the first being from landmark A to landmark B.
Longitude	The angular distance east or west of the prime meridian (Greenwich meridian) as measured by lines perpendicular to the parallels and converging at the poles from 0° to 180°.
Magnetic North	The direction toward the north magnetic pole from the observer's position.
Position Fix	Position coordinates as computed by the Magellan GPS Pioneer.

TTG	Time To Go (TTG) is the measurement of how long it will take you to arrive at your destination. TTG is based on how fast you are moving towards the destination and the distance remaining.
True North	The direction to the geographical North Pole from an observer's position. The north direction on any geographical meridian.
UT	Universal Time, formerly referred to as Greenwich Mean Time (GMT).
UTM	Universal Transverse Mercator (UTM) is the metric grid system used on most large and intermediate scale land topographic charts and maps.
XTE	Cross Track Error (XTE) is the distance, left or right, of the desired courseline. The courseline is a straight line from your present position to your destination.

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XTE see Cross Track Error

Specifications

Performance:

Receiver:	AllView 12™ technology, tracks up to 12 satellites to compute and update position information.
Acquisition Times:	Warm - Approx. 35 seconds Cold - Approx 2.5 minutes
Update Rate:	1 second continuous
Accuracy:	Position - 49 feet (15 meters) RMS (without Selective Availability) Velocity - 0.12 mph RMS steady state (without Selective Availability)

Physical:

Weight:	7 ounces
Housing:	Waterproof Construction

Features:

No. of Landmarks:	100 stored landmarks
No. of Routes:	1
Legs per route:	10 maximum

Power:

Source:	2 AA alkaline batteries or 3.3 VDC ($\pm 2\%$) 100 mA at receiver or 9-16 VDC with Magellan External Power Cable
Battery Life:	Approximately 24 hours continuous operation



This product has been certified by Mission HOME™, the official educational campaign of the U.S. space community.

 **MAGELLAN**

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22-60125-000