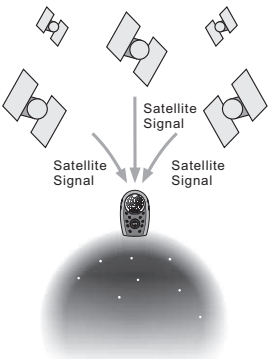
GLOBAL **NAV**

GLOBAL POSITIONING SYSTEM

OWNER'S MANUAL

Table of Contents: *Part 1*

Table of Contents: *Part 2*

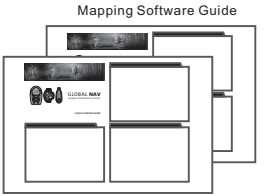


The GLOBAL **NAV**, a personal navigation system, contains a Transceiver, a Watch and a PC-Link unit. The system exploits the 24-satellites network which circles the earth in the earth's lower orbit, to determine one's position wherever in the world and at any time.

As soon as, a satellite of the network is hooked by the Transceiver, it will compute the time gap between the signal was transmitted by that satellites and the time the signal is received by the Transceiver. Using that time gap, the Transceiver will get the distance (satellites-user distances) of the user from the satellite.

Similarly the Transceiver will employ the above steps again until 3 different satellites-user distances are got. Then, the GLOBAL **NAV** can determine the user's current position - latitude, longitude and altitude (mean sea level in meter).

Once the user's position has been determined, the GLOBAL **NAV** can further compute other information such as the current, average and maximum travel speed, travel distance and heading compass value (moving direction).

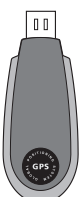



CD ROM


Expandable arm strap


Belt clip


GLOBAL NAV Watch


GLOBAL NAV PC-Link


GLOBAL NAV Transceiver

This GLOBAL **NAV** package component includes:

1. GLOBAL NAV Watch,
2. GLOBAL NAV Transceiver,
3. GLOBAL NAV PC-Link,
4. CD ROM:
   a) PC interface software (GPS data extractor),
   b) Mapping shareware evalution copy,
   c) Software copy of the mapping software guide,
   d) Software copy of the quick started guide, and
   e) Owner's manual.
5. Expandable arm strap,
6. Belt clip,
7. Quick start guide, and
8. Mapping software guide.

WARNING !

- Make sure that fully understand the functions and limitations of this product before using it.
- The performance of this product, like most Global Positioning System equipment, depends on the satellites which operated by the United States government. The above satellites system may subject to change which could affect the accuracy and performance for this product and all GPS equipment.
- This product is an assistant device for navigation, and it is NOT a substitute for getting the navigating information from chart, map, observation and experienced navigator. DO NOT use this product for the navigation that requires precise navigation or the navigation that devotes for vital matter.
- In case, there is doubt about the directions and positions of the way of the navigation, consult the park administration office before starting the navigation.

CAUTION

- Enabling the GPS function consumes much power. Disable it if not used.
- This product only can obtain position in an outdoor environment. More open is the area, more accurate the information and faster to obtain the first position.
- The first position can be obtained within 1 minute for coldstart, and 10 second for hot start.
- The display (GPS antenna) side of the Transceiver should NOT face down to the ground.
- To use GPS function with chronograph (Lap Travel), enable the GPS function and get the position (satellite icon hold) before start the chronograph/lap travel. Otherwise, the lap distance and lap speed during satellite searching time is invalid.
- The compass value is NOT updated UNLESS you move. (In fact, the reading is the moving direction).
- The Altitude is Mean Sea Level in meter.

FCC Compliance Statement

(For US)

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

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

CARE

MAINTENANCE

The GLOBAL **NAV** is carefully designed and produced, in order to utilize this feature, it is advisable to use the GLOBAL **NAV** in conformity with the below-mentioned notes:

- Avoid exposing the GLOBAL **NAV** to extreme conditions for an unreasonable time, and avoid rough uses or severe impacts on the GLOBAL **NAV**.
- Clean the GLOBAL **NAV** occasionally with a soft moisten cloth.
- DO NOT expose the GLOBAL **NAV** to strong chemicals such as gasoline and alcohol, as they will damage your watch.
- Store the GLOBAL **NAV** in a dry place when it is not in use.
- Remove the battery from the battery case when the Transceiver DOES NOT use for a long time.

GLOBAL **NAV GPS Functions**

Trek Travel Function (GPS Mode)

- Readout of Longitude and Latitude,
- Readout of Current, Average and Maximum Trek Travel Speed,
- Readout of Trek Travel Distance and Odometer,
- Readout of Altitude and Compass value,
- Travel High Speed Alarm,
- Travel Low Speed Alarm,
- Travel Distance Alarm,
- Automatic waypoints recording,
- Realtime waypoints sending to PC
- Offline waypoints download to PC.

Lap Travel Function (Chronograph Mode)

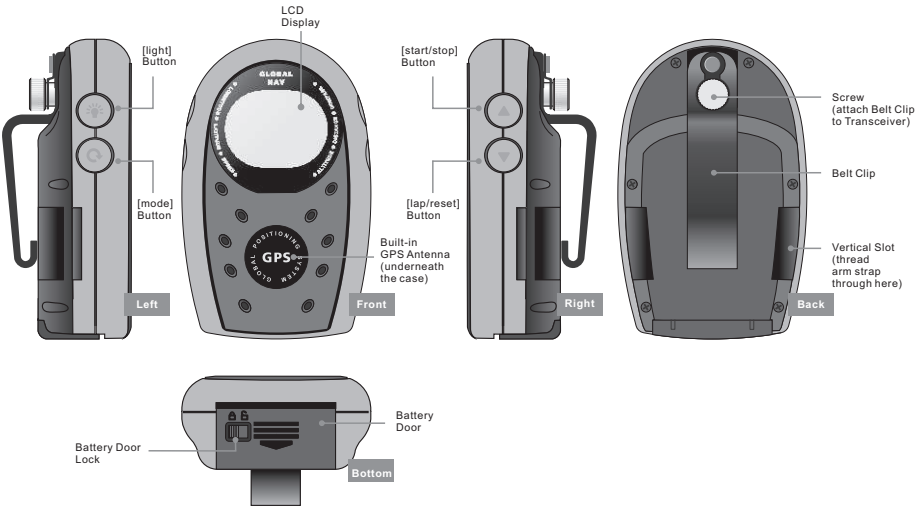
- Readout of Current, Average and Maximum Lap Travel Speed,
- Readout of Lap Travel Distance,
- Download stored lap data (lap number, lap time, lap distance, average lap speed and the maximum lap speed) to PC.

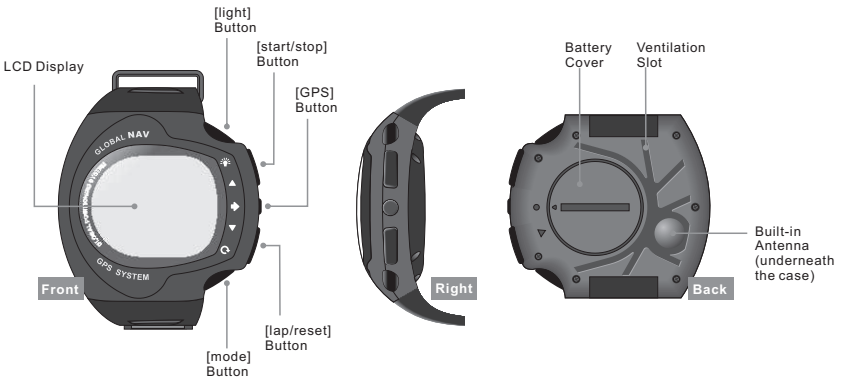
Note: The GLOBAL **NAV** Transceiver (Chronograph Mode) and the GLOBAL **NAV** Watch (Chronograph Mode) can record its own set of lap data.

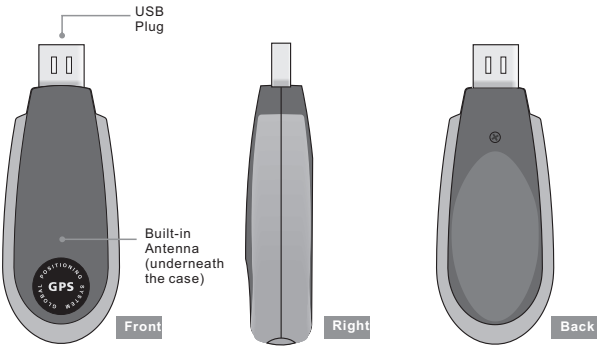
GLOBAL **NAV Timekeeping Functions**

- Current Time and Calendar (Auto adjustment with the GMT time),
- Daily Alarm and Hourly Chime,
- 10-Hour Countdown Timer ,
- 100-Hour Chronograph with 40 lap memory.

B. Unit Overview: *Name of the Parts (Transceiver)* **B-01**




[light]
Button
[start/stop]
Button
LCD Display
[GPS]
Button
GLOBAL NAV
MOUNTAIN MASTER
GPS SYSTEM
Front
[lap/reset]
Button
[mode]
Button
Right
Battery
Cover
Ventilation
Slot
Built-in
Antenna
(underneath
the case)
Back

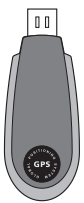

USB
Plug
Built-in
Antenna
(underneath
the case)
GPS
GLOBAL POSITIONING SYSTEM
Front
Right
Back

Global NAV
Transceiver

GLOBAL **NAV** Transceiver

- An independent GPS (with GPS antenna) device. It picks up the signal which transmitted from satellites, and hence to determine one's position wherever in the world and at any time.
- To store and exhibit the GPS data.
- To store the Transceiver set lap travel data. (Note: GLOBAL **NAV** Transceiver and GLOBAL **NAV** Watch can store its own set of lap travel data).
- To send the realtime GPS data to GLOBAL **NAV** Watch, and PC via PC-Link.
- To send the offline GPS data (stored previously) and Lap Travel data (Transceiver set) to PC via the GLOBAL **NAV** PC-Link.
- An independent timekeeping device.

Global NAV Watch



Global NAV PC-Link

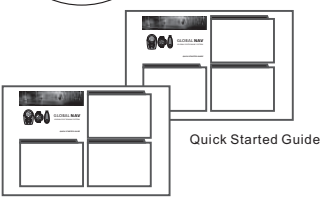
GLOBAL **NAV** Watch

- A dependent GPS (with NO GPS antenna, and its GPS function depends on the on-line GPS data sending from the GLOBAL **NAV** Transceiver).
- To pick up the on-line GPS data transmitted from the GLOBAL **NAV** Transceiver, hence it exhibits user's position and other information.
- To store GLOBAL **NAV** Watch set lap data.
- To send Lap travel data to PC via the GLOBAL **NAV** PC-Link.
- An independent timekeeping device.

GLOBAL **NAV** PC-Link

- To convey the realtime GPS data from GLOBAL **NAV** Transceiver to PC.
- To convey the off-line GPS data and Lap data from GLOBAL **NAV** Transceiver to PC.
- To convey the off-line Lap data from GLOBAL **NAV** Watch to PC.

CD ROM



Quick Started Guide

Mapping Software Guide

Belt clip

Expandable arm strap

CD ROM

- To store the PC interface software - GPS Data Extractor.
- To store the mapping softwares:
  1). GPSUtility, and
  2). ExpertGPS
- To storage of the software copy of the quick start guide.
- To storage of the software copy of the mapping guide.
- To storage of the software copy of the owner's manual.

Owner's manual

- The detail instruction on how to use the GLOBAL **NAV.**

Quick started guide

- The brief instruction on how to use the GLOBAL **NAV.**

Mapping software guide

- The brief instruction on how to calibrate and use a new map by using mapping software.

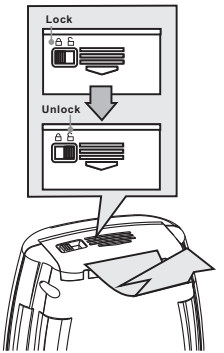
Expandable arm strap

- To wear the GLOBAL **NAV** Transceiver on user's forearm.

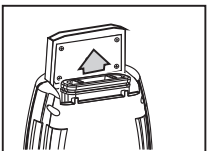
Belt clip

C. Setting Up: Remove the Battery Case from the Transceiver **C-01**

1 **Slide the switch to unlock position**

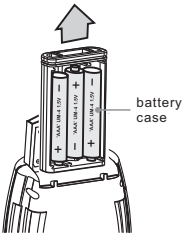


2 **Slide and turn the battery door**

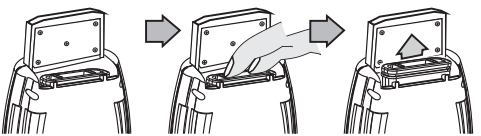


3a **Battery case come out with a pop.**

4 **Pull the battery case**



OR



3b **Battery case does not came out.**

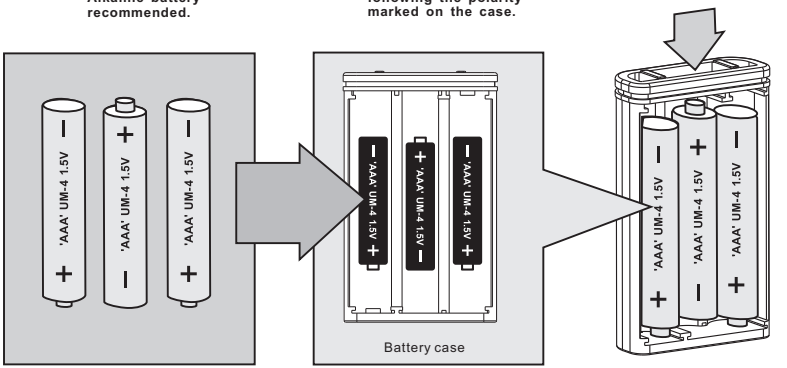
Push down the battery case once

Battery case come out with a pop.

1 **'AAA' or UM-4 Size 1.5V battery 3 pieces. Alkaline battery recommended.**

2 **Insert the battery into the battery case following the polarity marked on the case.**

3 **This side (without battery contacts) up.**

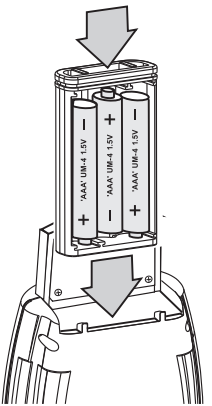


Note :

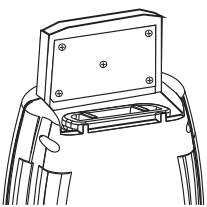
- The Trek Travel Data, Lap Travel Data and the special setting values (time zone offset, daily alarm, timer and GPS alarm settings) saved on the Transceiver will NOT loss during normal battery replacement.

C. Setting Up: Insert the Battery Case into the Transceiver **C-03**

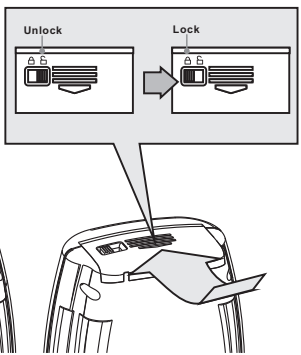
1 **This side (without battery contacts) up**



2 **Slide the battery case into the Transceiver**

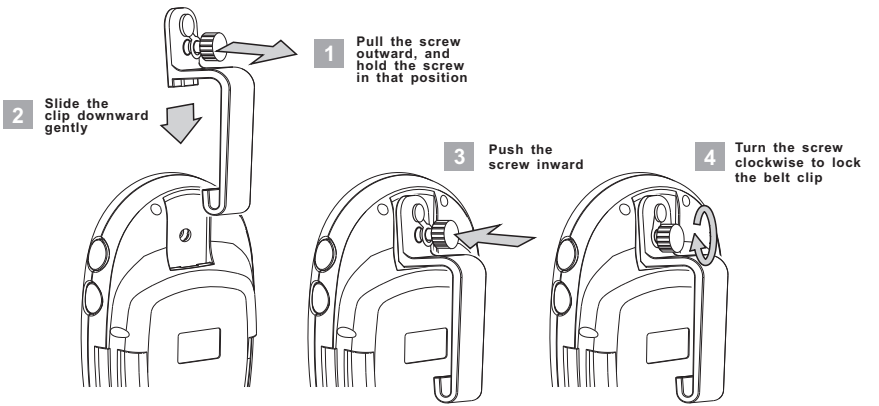


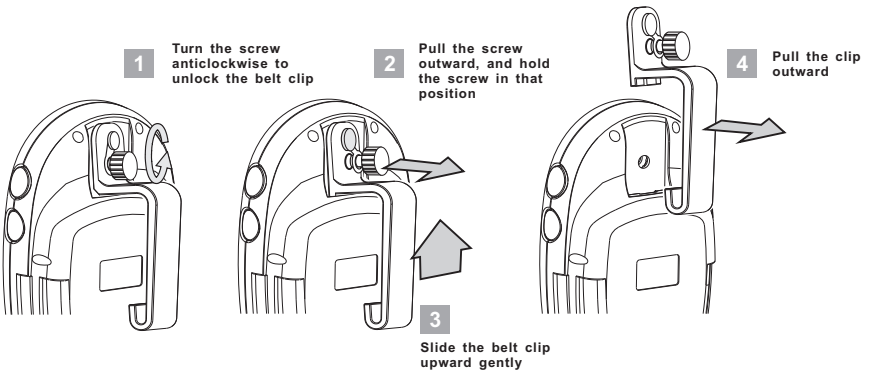
3 **The battery case is completely submerged into the Transceiver**



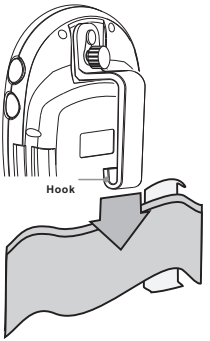
4 **Turn and slide the battery case**

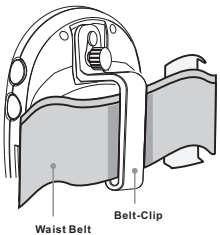
5 **Slide the switch to lock position**

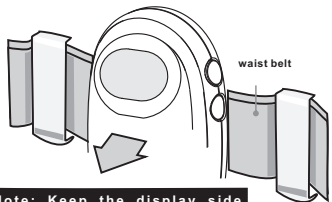

1
Pull the screw outward, and hold the screw in that position
2
Slide the clip downward gently
3
Push the screw inward
4
Turn the screw clockwise to lock the belt clip


1
Turn the screw anticlockwise to unlock the belt clip
2
Pull the screw outward, and hold the screw in that position
3
Slide the belt clip upward gently
4
Pull the clip outward

C. Setting Up: Insert the Transceiver onto a Waist Belt







Note: Keep the display side (GPS antenna) of the Transceiver facing outside and see the sky most of the time during the travel

1 Insert the Transceiver onto the waist-belt with the display side (antenna) of the Transceiver facing outside and see the sky .

Note: the width of the chosen waist belt must be fitted with the belt-clip

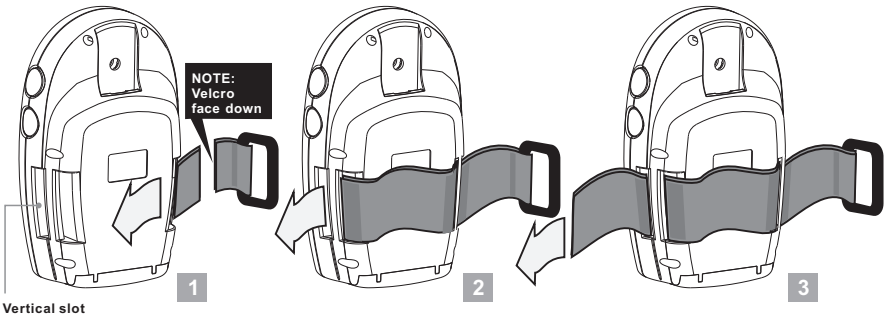
2 The belt-clip must be correctly lodged onto the waist belt, otherwise, the Transceiver may dislodge from the waist belt when moving at high speed.

Note: the waist belt must be lodged inside the hook

3 Keep the display side (GPS antenna) of the Transceiver facing outside and see the sky most of the time during the travel, hence the Transceiver may be inserted from one side to another side of the waist belt from time to time.

Note:

- Put the Transceiver in the place within 5 meters from Watch, otherwise the Watch CANNOT receive the data from the Transceiver.
- Insert the Transceiver on the waist belt with the display side (GPS antenna) of the Transceiver facing outside and see the sky most of the time.
- DO NOT cover the Transceiver with clothing, it may shelter the satellite signal.



Following the below steps to thread the Arm-strap and Transceiver together:

1. With the Transceiver facing down on a soft cloth (to avoid scratching the lens and the case) that lets the vertical slots of the Transceiver face up.
2. With the arm strap open and the Velcro side face down.
3. Thread the open end of the arm strap through the two vertical slots steadily until the strap pass through all these two slots.

Following the below steps to fasten the Transceiver to one's forearm:

1. Slide the end of the strap through the connector, loose fit the strap using the Velcro first.
2. Slide the hand and arm through the loose fitted strap as the above diagram.
3. Fine adjust the arm strap until the Transceiver is securely fit on user's forearm .

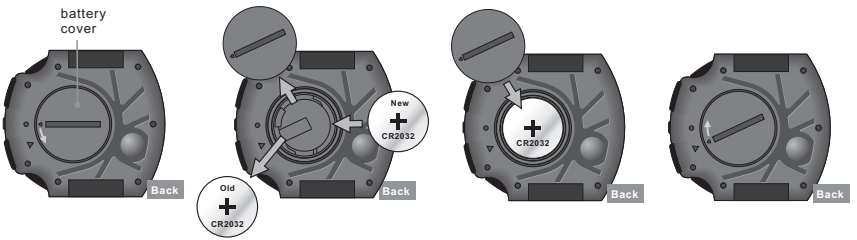
Note:

- Put the Transceiver in the place within 5 meters from the Watch, otherwise the Watch CANNOT receive the data from the Transceiver.
- Fasten the Transceiver to the forearm with the display side (antenna) of the Transceiver facing outside and see the sky most of the time.
- DO NOT cover the Transceiver with clothing, it may shelter the satellite signal.

WARNING: DO NOT adjust the arm strap too tight, it may block the arm's blood circulation.

● Close position marker

▼ Open position marker



1 To open the battery cover: Turn the battery cover anticlockwise until the arrow aligned with the open position marker (arrow), and then turn one step slightly further to let the battery cover come out.

2 Move aside the cover. Replace the old battery with a new CR2302 with the (+) side of the battery face upward.

3 Replace the battery cover.

4 To close the battery cover: Turn the battery cover clockwise until the arrow aligned with the close position marker (dot).

Note :

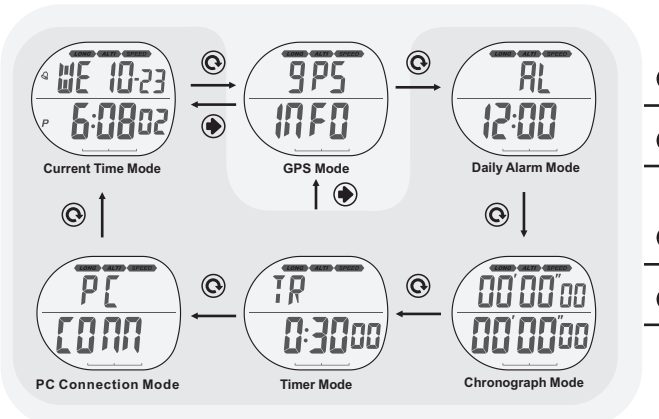
- The special setting values (time zone offset, daily alarm, timer and GPS alarm settings) saved on the Watch will NOT loss during normal battery replacement.

Buttons	Names	Major Functions
	Light	 To turn ON the EL back light for about 3 seconds  To Enable/Disable the GPS Function in any function Mode
	Mode	 To select among the functional displays To select among the setting items during setting display To select Chrono Stop display during Lap review  To select setting display if it is NOT selected To exit setting display during setting display
 (For the watch only)	GPS	 To select the GPS Mode in any function Mode To select the Current Time Mode if it is GPS Mode  To select the GPS Mode and Enable the GPS Function To select the Current Time Mode and Disable the GPS Function

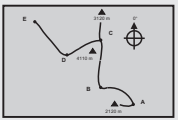
Legend:  Press this button once;  Hold this button for about 2 seconds

Buttons	Names	Major Functions
	Start/Stop	To scroll the setting by increment of 1
		To select among GPS sub-function displays in GPS Mode
		To start/stop the chronograph/timer
		To turn ON/OFF the hourly chime in Alarm Time Mode
		To select among Lap sub-function displays in Lap review
		To scroll the setting by increment faster
	Lap/Reset	To scroll the setting by decrement of 1
		To select NE;SE;SW or NW for latitude and longitude
		To record lap in chronograph mode
		To turn ON/OFF the daily alarm in Alarm Time Mode
		To select among Lap records in Lap review
		To scroll the setting by decrement faster
		To reset the chronogeaph/timer when counting is stopped

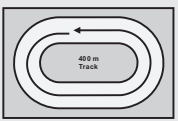
Legend:  Press this button once;  Hold this button for about 2 seconds



Main Functional Mode



Note: To use the Trek Travel G.P.S. Functions in G.P.S. Mode, it should enable the G.P.S. function in an open outdoor environment (with a clear view of the sky).
DO NOT start the trekking unless the satellite icon is hold and has 2 bars the least, otherwise the reading is invalid.



Note: To use the Lap Travel GPS Function in Chronograph Mode, it should enable the GPS function in an open outdoor environment (with a clear view of the sky). DO NOT start running (chronogrqaph) unless the satelite icon is hold and has 2 bars the least, otherwise the reading is invalid.

Trek Travel (GPS Mode)

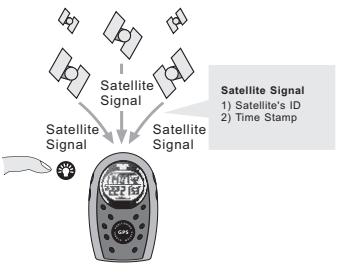
Current Trek Travel Speed	Average Trek Travel Speed	Maximum Trek Travel Speed	Trek Travel Distance
Longitude and Latitude	Altitude)Mean Sea Level in meter(	Heading Compass Value (Moving Direction)	Odometer

Trek Travel High Speed Alarm	Trek Travel Low Speed Alarm	Trek Travel Distance Alarm
Realtime waypoints send to PC	Automatic waypoints recording	Offline waypoints download to PC

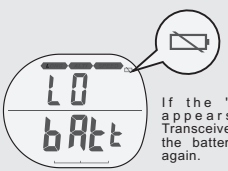
Lap Travel (Chronograph Mode with GPS Function enabled)

Current Lap Travel Speed	Average Lap Travel Speed	Maximum Lap Travel Speed

Lap Travel Distance	Offline Lap Travel data download to PC



Global NAV Transceiver



If the 'LO bAtt' appears on the Transceiver, replace the battery, then try again.

Signal and Data Network

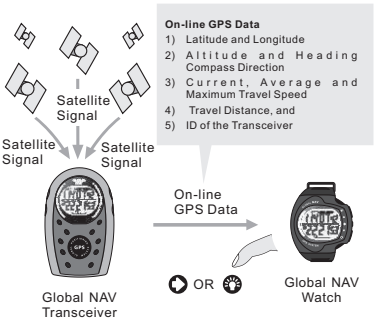
- When the GLOBAL **NAV** is working, there are different signal or data steam through the GLOBAL **NAV** components. Check the coming sections for more detail on how these signal or data is steaming.
- When these signal or data are steaming through the GLOBAL **NAV**, only ID-matched component could communicate with each other, it avoids unintended interference from other GLOBAL **NAV**. Check the coming 'GPS Mode Setting' section for more detail on how to set the ID for the Watch and Transceiver.

Signal From Satellites to the Transceiver

- The signal which send from satellites to Transceiver: Satellite's ID and the time stamp of the signal.

How to start receiving the Signal (Enable the GPS Function on the Transceiver)

- Hold down the ' ' button (of the Transceiver) in any mode to start receiving the satellite signal. **Note:** Enable the above function in a open outdoor area (with a clear view of the sky), otherwise the Transceiver CANNOT receive the signal from satellites.
- If the '***LO bAtt***' message appears on the display of the Transceiver, replace the battery of the Transceiver, then try the above steps again.



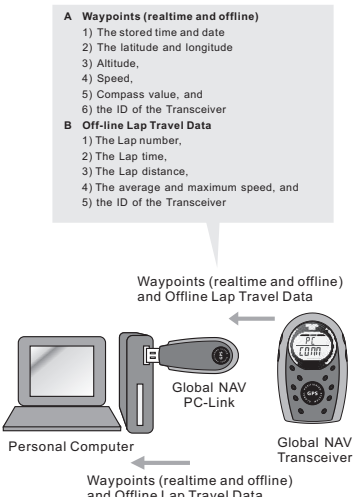
If the '***RF LOSS***' appears on the Watch, enable the GPS function on the Transceiver or replace the watch battery, then try again.

Data from the Transceiver to the Watch

- The online GPS data send from the Transceiver to the Watch which as follows:
  1) The latitude and the longitude,
  2) The altitude and heading compass value,
  3) The current travel speed, average travel speed and maximum travel speed,
  4) The travel distance, and
  5) The ID of the Transceiver.

How to start receiving the Data (Enable the GPS Function on the Watch)

- Hold down the ' ⚙ ' or ' ◯ ' button (of the Watch) in any mode to receive the above data from the Transceiver. **Note:** (1) Put the Watch in the place within 5 metes from the Transceiver, otherwise the Watch CANNOT receive the data from the Transceiver, (2) Make sure that the GPS Function on the Transceiver was enabled, and it has determined the position (satellite icon hold).
- If the '***RF LOSS***' message appears on the display of the Watch, it may cause by either the Transceiver GPS Function is disabled or the watch's battery level is low. Enable the GPS function on the Transceiver or replace the watch's battery, then try the above steps again.



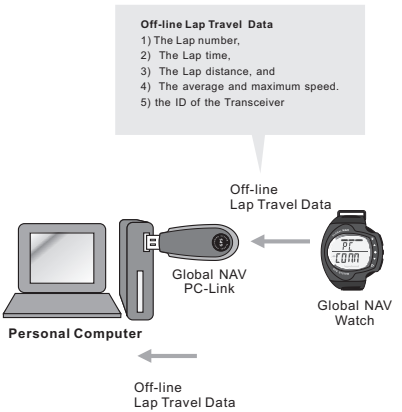
Data from the Transceiver to PC via PC-Link

- The waypoints (realtime and offline) data send from Transceiver to the PC which as follows:
  1) The stored time and date
  2) The latitude and longitude
  3) The altitude,
  4) The speed,
  5) The Compass value, and
  6) The ID of the Transceiver.
- The off-line Lap Travel Data send from Transceiver to the PC which as follows:
  1) The Lap number,
  2) The Lap time,
  3) The Lap distance,
  4) The average and maximum speed, and
  5) The ID of the Transceiver.

How to start sending the Data (PC Connection)

- Check the coming 'PC Connection' section for more detail on how to send the data from Transceiver to PC.

Note: (1) The Transceiver and the Watch can record its own set of Lap Travel data, (2) Put the Transceiver in the place within 3 metes from the PC-Link, otherwise the PC-Link MAY NOT be able to receive the data from the Transceiver.



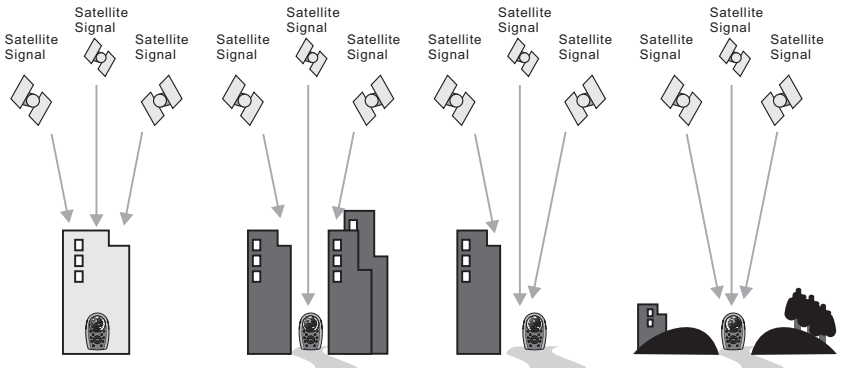
Data from the Watch to PC via PC-Link

- The off-line Lap Travel Data send from Watch to the PC which as follows:
  1) The Lap number,
  2) The Lap time,
  3) The Lap distance,
  4) The average and maximum speed
  5) The ID of the Watch.

How to start sending the Data (PC Connection)

- Check the coming 'PC Connection' section for more detail on how to send the data from Watch to PC.

Note: (1) The Transceiver and the Watch can record its own set of Lap Travel data, (2) Put the Transceiver in the place within 3 metes from the PC-Link, otherwise the PC-Link MAY NOT be able to receive the data from the Watch.


Satellite Signal
Satellite Signal
Satellite Signal
Satellite Signal
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Satellite Signal
Satellite Signal
Satellite Signal
Satellite Signal
Satellite Signal
Satellite Signal
Satellite Signal
On the inside of a building or shelter
NO Signal
On the Narrow street with tall buildings on both side
NO Signal
On the street with tall buildings on one side
Fair GOOD Signal
In an open area environment (with a clear view of the sky)
GOOD Signal

Case	To Enable the GPS function	Mode	Average time to fix the 1st. position in open area
1.	To Enable the GPS function the first time	Cold start	50 seconds
2.	If battery has been replaced	Cold start	50 seconds
3.	DID NOT get valid position for more than 2 hours	Warm start	40 seconds
4.	Has got a valid position within the past 2 hours	Hot start	8 seconds