E-trace

Handheld GPS

User manual and Reference guide

Date :April,2005
Version :1.0
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WARNINGS

Some certain knowledge is required to be well known by the user for proper and safe use of E-trace GPS handheld receiver. Please read this User's Manual first before operation.

This product can help the user to find out his way and orient him in travelling, BUT it can not totally replace the user's own personal judgement. Never lose your own reasonable judgement and solely rely on one device.

Because E-trace is an assistant device, it will NOT undertake any legal responsibility for any accident or damage caused by the user's wrong operation and/or wrong judgement in navigating with E-trace.

CAUTION

The Global Positioning System(GPS) is a system of 24 satellites which circle the earth twice a day in a very precise orbit and transmit information to earth. The E-trace must continuously find at least three of these satellites to calculate your position and your movement. This GPS system is operated by the government of the United States, which is solely responsible for its accuracy and maintenance. Any changes of the system could affect the accuracy and performance of all GPS equipment.

Thank you for choosing E-trace GPS handheld receiver!
It will never let you lose yourself no matter where you are.
Take it now
------it can be your best friend!

Application Conditions:

E-trace is designed for outdoors navigation in the temperature range of
-20°C~ 70°C. So please use E-trace at an open place with a clear
sky in the suitable environment since the surrounding environment
will surely affect the satellite signals reception and device work
efficiency.

Introduction section gives you a general overview of E-trace
 features.
Reference section tells how to operate the unit to locate and record
your position, how to set up a route or record a track, and how to be
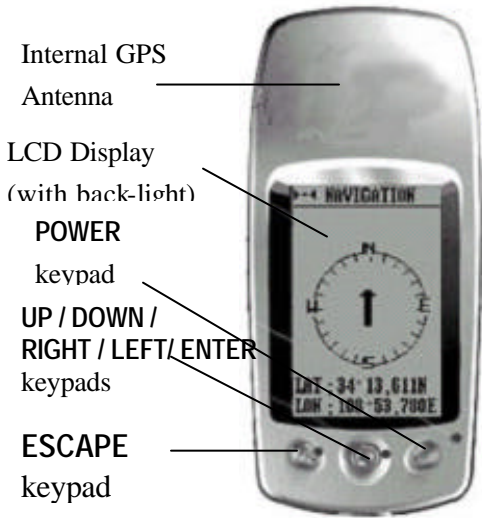guided with this unit specifically in more details.

Standard Package:
• A E-trace GPS handheld receiver
•A User' s Manual
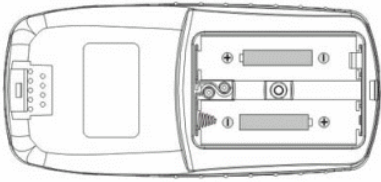
If you find something missing or damaged with the reference
to the standard package, please contact the local dealer or retailer.

- *Unit Features*

- *Battery installation & Keypad*
- *Start up the unit*
- *Operation Structure*
- *Main pages*

Internal GPS
Antenna

LCD Display
(with back-light)

POWER
keypad

UP / DOWN /
RIGHT / LEFT/ ENTER
keypads

ESCAPE
keypad

Screw

Waterproof
Battery housing

Battery Installation

1. Turn battery cover screw counterclockwise until the battery cover can be removed.

2. Insert two new AA(or rechargeable) 1.5 V batteries as shown in the left picture, be sure to check the polarity, and replace the battery cover.

3. Replace the screw and turn the screw clockwise until the battery cover is held securely. While the battery cover does provide the waterproofing seal to the batteries, you should avoid over-tightening the battery door screw.

NOTE   Battery life varies due to variety of factors, including temperature and back-lighting usage. Rechargeable batteries can also be used except that batteries state is not always correctly informed in the E-trace. An internal lithium battery will retain your data while you're changing AA(or rechargeable) batteries.

ESCAPE key
- switches among four main pages
- cancels current operation
- backs to last step or last page

POWER key
- turns the unit off and on
- turns the back-light off and on

UP / DOWN / RIGHT / LEFT/ ENTER key
- highlights menu options and enters data
- controls cursor movement on the map page
- adjusts screen lightness and map display scale
- initiates entry and accepts the selected value
- enters MENU page

To start up the E-trace, you should take the unit outside and find an open area where the built-in antenna has a clear view of the sky.

Turning the **E-trace on**
1. Press **POWER** key until you hear a sound of "B" and the Welcome page appears.
2. Press **ESCAPE** key continuously, the four main pages come out in order. Press **ENTER** key from some of these main pages, you can enter MENU page and start operation as stated below.

Turning the E-trace off
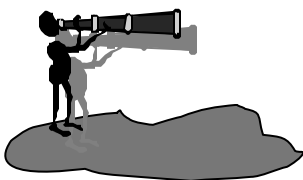Press and hold **POWER** key for about 3 seconds until the screen goes blank.

Turning the back-lighting
In any step of the operation, just press **POWER** key to turn it on and off.

```
       WELCOME

   ┌──────────────┐
   │ SEARCHING 26s│
   │ ▄▄▄          │
   └──────────────┘
   Press ESC key
    to enter !
```
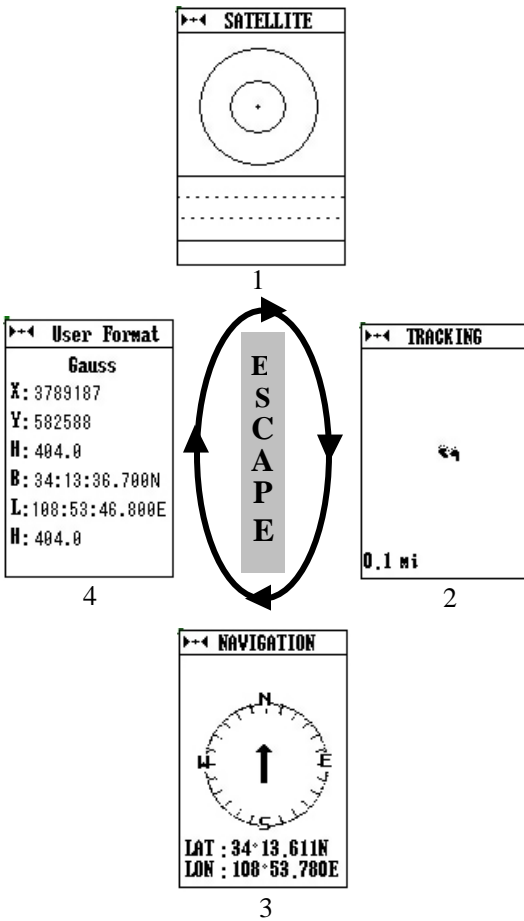
NOTE When you use the unit for the first time, it will take 5 minutes to track the satellites and fix position for the unit. After the first use, it will only take you less than one minute at the beginning for each time .
If batteries do not have enough power to support the unit operation at the very beginning, the unit will alarm

The E‑trace operation is organized into four main pages: the Satellite Page, the Tracking Page, the Navigation page, and User Format page. Normally, every time you turn on the E‑trace, you'd better switch into Satellite page and check satellites status first then start operation.

When you press **POWER** key to start up the unit, you can press **ESCAPE** key to switch among these four main pages. And from No.1 and No.3 main pages, press **ENTER** key, the unit pops up the Menu page. Here you could select specific section you want to enter and make further operation.
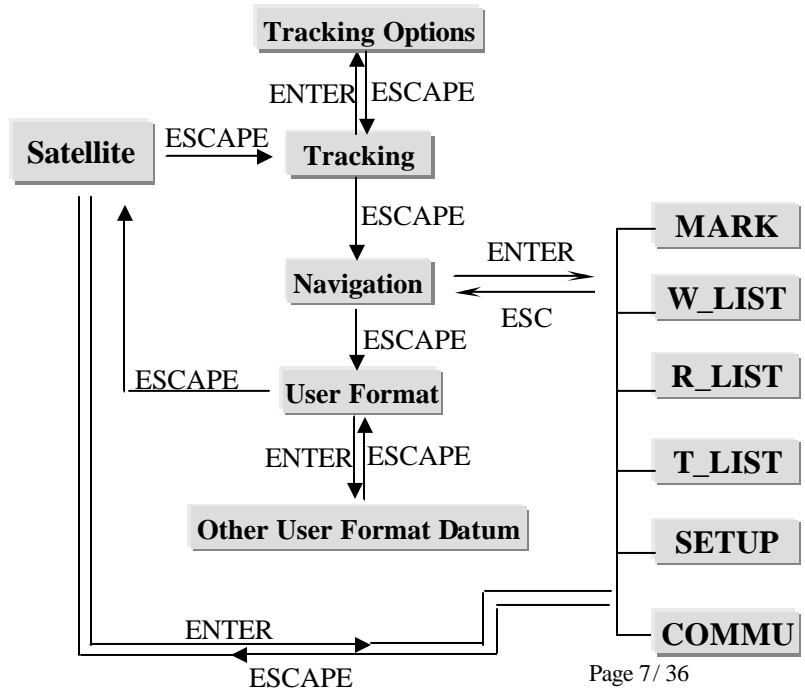
In the Menu page, there are six options: MARK, W_LIST, R_LIST, T_LIST , SETUP , COMMU. Press **UP / DOWN** key to highlight the option you want, and then press **ENTER** key, you are able to go on further operation. Or press **ESCAPE** key in the Menu page, you can withdraw from Menu page and back to those four main pages.

SATELLITE

1

User Format
Gauss
X: 3789187
Y: 582588
H: 404.0
B: 34:13:36.700N
L: 108:53:46.800E
H: 404.0

4

E
S
C
A
P
E

TRACKING

0.1 mi

2

NAVIGATION

LAT : 34°13.611N
LON : 108°53.780E

3

Operation Structure

WELCOME

SEARCHING 26 s

Press ESC key to enter !

ESCAPE or Wait for 30 seconds

Satellite → ESCAPE → **Tracking**

Tracking Options

ENTER | ESCAPE

ESCAPE

Navigation — ENTER → / ← ESC — **MARK**

W_LIST

ESCAPE

R_LIST

User Format

ENTER | ESCAPE

T_LIST

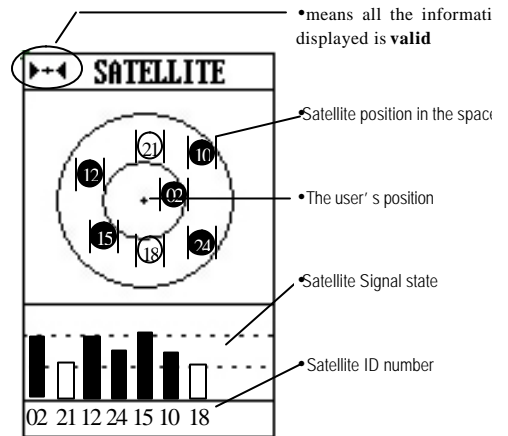**Other User Format Datum**

SETUP

ENTER

COMMU

ESCAPE

The Satellite page

This page informs you mainly on the satellites

distribution and satellite signal strength. Normally, the
unit needs at least three satellites in connection for data
processing. You should check the icon at the left top of
this page first. It plays the same role as defined in the
Position page.

Here two circles are used to describe satellites

distribution scope. All satellites will scatter within or
along the bigger circle. If the satellite icon is blank, this
satellite is just found; if it is filled with blackness, its
signal is engaged in data processing.

The columns in the half lower part of the page tell you

the strength of satellites signals. The higher the column,

•means all the information
displayed is **valid**

Satellite position in the space

•The user's position

Satellite Signal state

•Satellite ID number

The Tracking page

This page is mainly used for track recording. The little figure in the middle of the screen is YOU. When you are moving, it will trail a line to simulate your movement, in this the E-trace can record your track. And at the bottom of the display, two messages are available: one is map scale at the left; the other is mileage at the right. You can press LEFT/RIGHT keys to adjust the map scale.

Press ENTER key, four options pop up: MENU page and operation will be

introduced later in coming sections; highlight PAN item and press ENTER key again to enter the state of cruise, in which you can travel along your track and check more details; highlight AREA item and press ENTER key again to enter to setup area .

The battery state is displayed in the middle right part of the screen. The

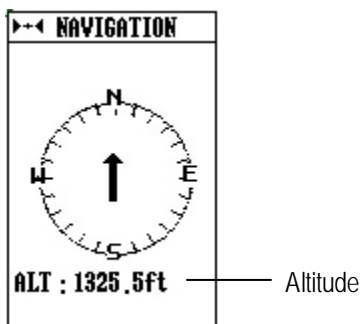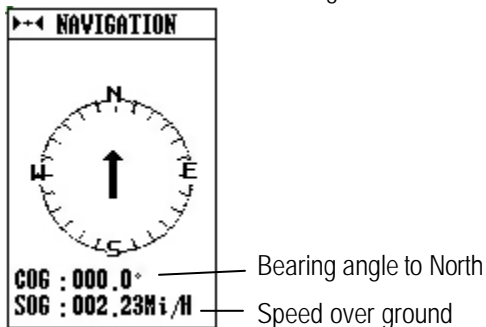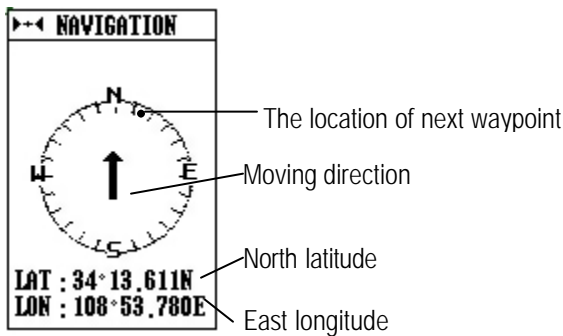higher the black column, the more the power.

In cruise page, you can move the cross by pressing UP/ DOWN/ LEFT/ RIGHT

keys. The longitude and latitude of the moving cross can always be read at right bottom of the display.
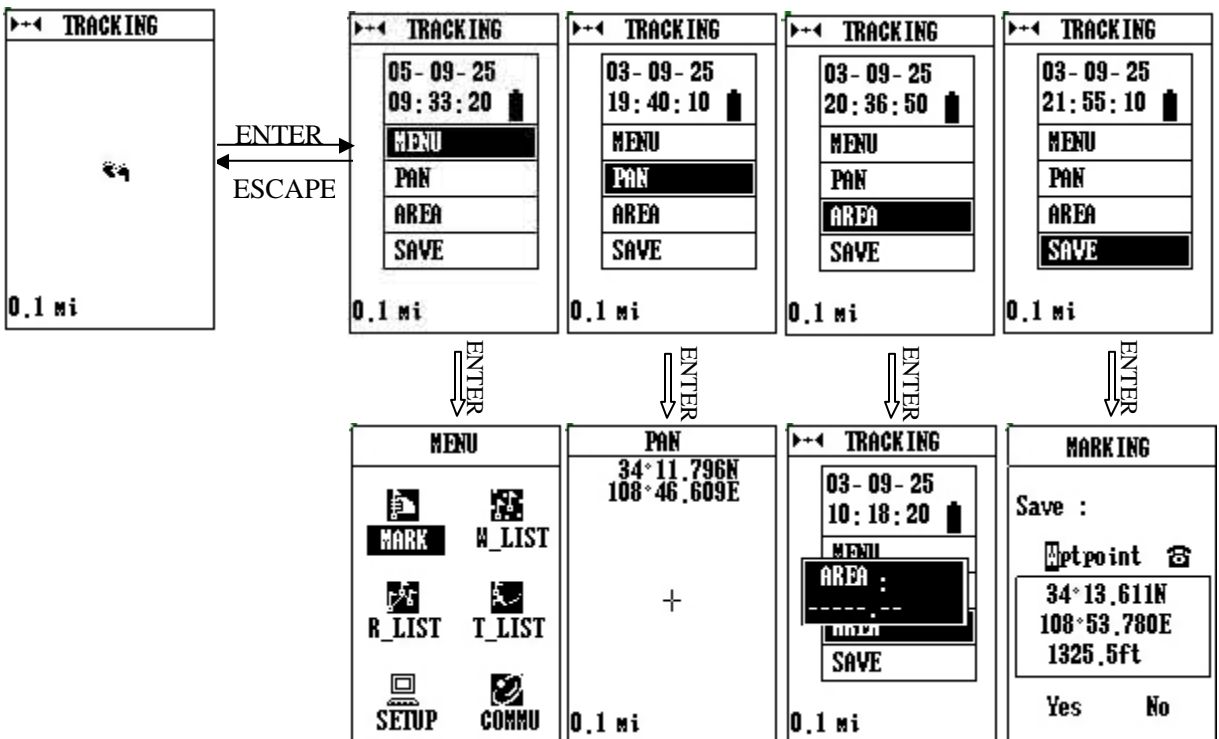
The Navigation page

This page makes very essential direction when you are under navigation. It orients you to your destination, tells you how far away you are from your destination, and your actual movement speed, and the route or track name you are using for navigation. The arrow in the middle always points to the direction you are advancing (in another word, it is Head-up direction).So you can judge your moving direction by the compass. Once you stop advancing, the arrow will return to North after 2-3 seconds. The dot in the ring shows the reference orientation of next waypoint or destination.

It displays the information about your current location, including longitude, latitude, COG, SOG ,etc, you can use the **UP/ DOWN** keypads to choose the content.

The location of next waypoint
Moving direction
North latitude
East longitude

LAT : 34°13.611N
LON : 108°53.780E

Bearing angle to North
Speed over ground

COG : 000.0°
SOG : 002.23Mi/H


Altitude

ALT : 1325.5ft

NOTE:

The date and time here is collected from the satellite, there is no clock in

E-trace.

At the left top of the page, the icon of ◀✦▶ means all the information displayed is
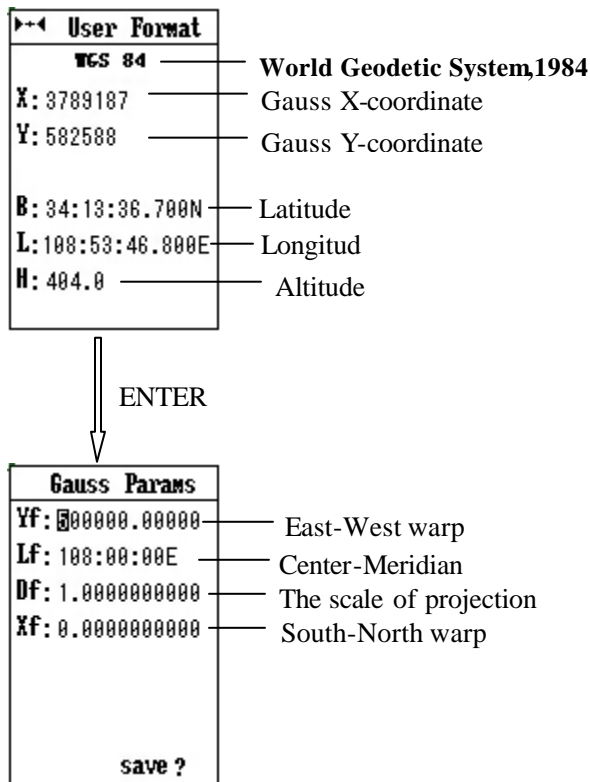
invalid; but the icon of means **valid**. **So it is very important for you to check this icon during operation.**

The User Format page

The page indicate information of local coordinates system(generally, it is WGS84) and Gauss projection coordinates .The information Contain X coordinate , Y coordinate , latitude, longitude and altitude. Press **ENTER** key, four options (**Yf** , **Lf** , **Df** , **Xf**) will appear. Its can be togged by pressing **ENTER** key, you can press **Left/Right** key to move the cursor in the selected row and press **Up/Down** keys to vary the selected data.

After main pages introduction, let's look at how to operate the E-trace step by step.

We will guide you the operation process in the order of Mark, Waypoint, Track, Route,

```
┌─────────────────────┐
│ ▶↔◀  User Format     │
│       WGS 84 ──────────── World Geodetic System,1984
│  X: 3789187 ──────────── Gauss X-coordinate
│  Y: 582588  ──────────── Gauss Y-coordinate
│
│  B: 34:13:36.700N ──── Latitude
│  L:108:53:46.800E──── Longitud
│  H: 404.0 ──────────── Altitude
│                     │
└─────────────────────┘
```

ENTER

```
┌─────────────────────┐
│   Gauss Params      │
│ Yf: 500000.00000──── East-West warp
│ Lf: 108:00:00E  ──── Center-Meridian
│ Df: 1.0000000000 ─── The scale of projection
│ Xf: 0.0000000000 ─── South-North warp
│
│
│
│        save ?       │
└─────────────────────┘
```

Mark a waypoint

Waypoint's name

Latitude Longitude Waypoint's icon
Altitude

Create a waypoint

A Waypoint is any identified point on the map or track that has been named and recorded. The E-trace can store up to 1000 waypoints in the memory. Waypoints are used to build a route.

Marking Position

If you want to mark your current position as a waypoint, you shoul check Position page to make sure your position is already fixed and valid. Then follow these steps to mark it:

1. Press **ENTER** key from Position page and enter MENU page
2. Press **UP / DOWN** keys to select MARK item
3. Press **ENTER** key to go into MARKING page
4. Press **LEFT / RIGHT/ ENTER** keys to select change items
5. Press **UP / DOWN** keys to change letter and symbol in eac item to define this waypoint
6. Use **LEFT/ RIGHT** keys to highlight YES and press **ENTER** ke to confirm your marking, then this position is saved in waypoir list; or highlight No and press **ENTER** key to cancel you marking
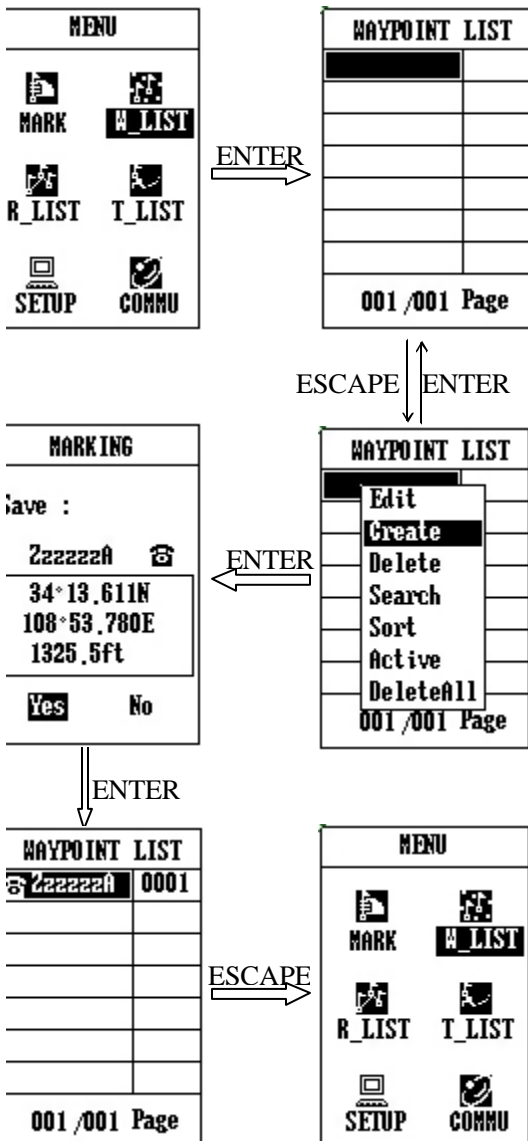
Creating a waypoint:

1. Press **UP/ DOWN** keys in MENU page and highligh Waypoint item, press **ENTER** key to go into Waypoir List page
2. Press **ENTER** key and pop up a sub-menu
3. Press **UP/ DOWN** keys to highlight Create item, ther press **ENTER** key again and enter Waypoint Creati page
4. Press **LEFT/ RIGHT/ ENTER** keys and highlight the item to change
5. Press UP/ Down keys to change letter, symbol and number. You can not only define the waypoint b name and symbol but also input the longitude an latitude for this waypoint.
6. Highlight Yes and press **ENTER** key to confirm; or N and press **ENTER** key to cancel.

Editing a Waypoint:

1.Press **ENTER** key in Waypoint List page and see a sub-menu
2.Press **UP/ DOWN** keys to highlight Edit item
3.Press **ENTER** key again and enter Waypoint Edit page
4.Now follow the step4, 5 & 6 as described to build a Waypoint

Deleting a Waypoint:

1. Press **ENTER** key in Waypoint List page and see a sub-menu
2. Highlight Delete item by pressing **UP/ DOWN** keys
3. Press **ENTER** key and see a massage "delete?"
4. Choose Yes and press **ENTER** key to confirm your deletion; or choose No for cancellation

Searching a Waypoint:

1.Press **ENTER** key in Waypoint List page and see a sub-menu
2.Press **UP/ DOWN** keys in sub-menu and highlight Search item
3.Press **ENTER** key and a small window pops up
4.Press **UP/ DOWN/ LEFT/ RIGHT** keys to input the waypoint name you are looking for, and then highlight OK and press **ENTER** key
5.If your input exists in the waypoint list, the page will go back to Waypoint List page and your wanted waypoint is highlighted in the list. Otherwise, there comes out a message saying " Fail to find out waypoint by name!"

Sorting Waypoints:

Sorting waypoint is to list all the waypoints in alphabetic order. Press **ENTER** key in Waypoint List page and see a sub-menu. Press **UP/ DOWN** keys to highlight Sort item in Waypoint List page, and press **ENTER** key, then all the waypoints are relisted.

Activate a Waypoints:

If you want to use a waypoint for navigation, you must make it active first.

1. Press **ENTER** key in Waypoint List page and see a sub-menu(as destination)
2. Highlight **Active** item by pressing **UP/ DOWN** keys
3. Press **ENTER** key to confirm and E-trace begins to guide you to reach destination
4. Then, *"***Active***"* change into *"***Stop***"*,if press **ENTER** key, guiding will stop .

DeleteAll:

Remove all waypoints.

1. Press **ENTER** key in Waypoint List page and see a sub-menu
2. Highlight **DeleteAll** item by pressing **UP/ DOWN** keys
3. Press **ENTER** key and see a massage *"*Sure to Delete?*"*
4. Choose Yes and press **ENTER** key to confirm your deletion; or choose No for cancellation
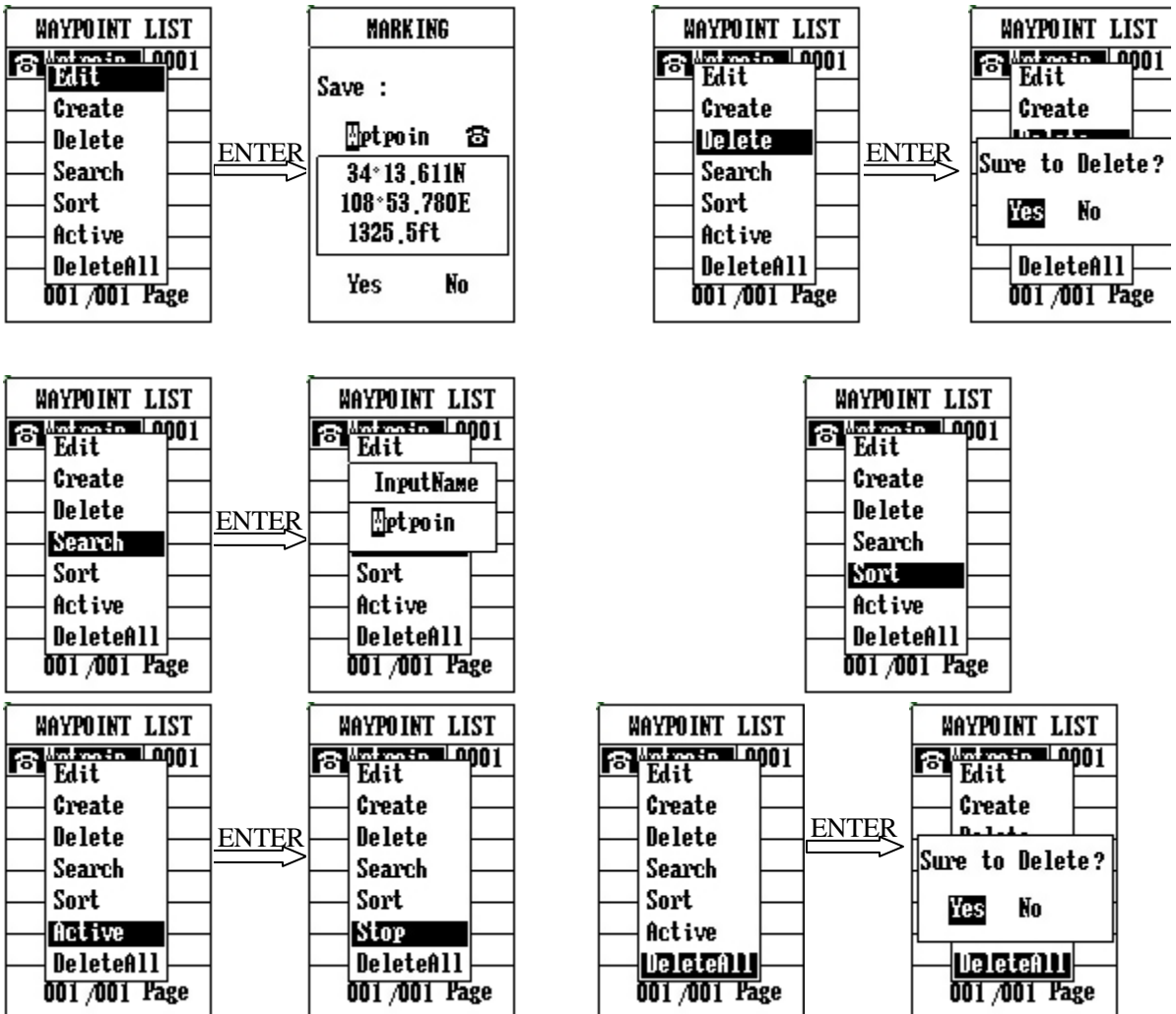
Creating a route

1. Press **UP / DOWN** keys to highlight **R_LIST** item in MENU page and press **ENTER** key

2. Coming to Routes List page, Press **ENTER** key

3 Press **UP/ DOWN** keys to highlight **Create** item and press **ENTER** key

4. Press **ENTER** key again

5. Highlight **Add** item by **UP/ DOWN** keys and press **ENTER** key

6. Coming to the page of Waypoint List, you choose any waypoint you want to set in this route by **UP/ DOWN** keys, then press **ENTER** key

7. Redo from step 4 to step 6 to add multi- waypoint into the route, Press **ENTER** key and highlight **Save** by pressing **UP/DOWN** keys.

8. Press **ENTER** key to finish creating a route.

The Route function allows you to link up a series of waypoints and guide to point by point, to a final destination. If there is a route made up of three waypoints A, B and C. Then the segments in travelling order from Waypoint A to Waypoint B, and from Waypoint B to Waypoint C are called "two legs" on the route.

The route can contain up to 50 waypoints(including start and destination) in E-trace using any of the waypoint stored in the memory.

In the page of Create a Route, highlight a waypoint by **UP/ DOWN** keys, and press **ENTER** key, pop up four operational options:

1. Add Waypoint is to put a waypoint behind the highlighted waypoint:
- Press **UP/ DOWN** keys to highlight Add WPT item
- Press **ENTER** key and enter Waypoints List page
- Press **UP/ DOWN** keys to highlight the waypoint you want to add
- Press **ENTER** key to confirm

2. Insert Waypoint is to put a waypoint in front of the highlighted waypoint
- Press **UP/ DOWN** keys to highlight Insert WPT item
- Press **ENTER** key and enter Waypoints List page
- Press **UP/ DOWN** keys to highlight the waypoint you want to insert
- Press **ENTER** key to confirm

3. Delete Waypoint is to remove a waypoint in a route
- Press **UP/ DOWN** keys to highlight the waypoint you want delete
- Press **ENTER** key, then the waypoint erased from the route

4. Save is to finish route edition and keep it in the unit memory
- Press **UP/ DOWN** keys to highlight Save item
- Press **ENTER** key and a mini-window pops up
- Use **LEFT/ RIGHT UP/ DOWN** keys to name this route
- Press **LEFT/ RIGHT** keys to choose **YES** or **NO**, then press **ENTER** key to confirm your choice

MENU
MARK   W_LIST
R_LIST T_LIST
SETUP   COMMU

ENTER →
← ESCAPE

ROUTE LIST
001 /001 Page

ENTER →
← ESCAPE

ROUTE LIST
Edit
Create
Delete
Sort
Active
Return
DeleteAll
001 /001 Page

ENTER →

CREATE ROUTE
001 /001 Page

↓ ENTER

CREATE ROUTE
aaaaaaa 0001
Add
Insert
Delete
Save
001 /001 Page

← ENTER

CREATE ROUTE
aaaaaaa 0001
001 /001 Page

← ENTER

WAYPOINT LIST
aaaaaaa 0001
bbbbbbb 0002
ccccccc 0003
ddddddd 0004
001 /001 Page

← ENTER

CREATE ROUTE
Add
Insert
Delete
Save
001 /001 Page

↓ ENTER

WAYPOINT LIST
aaaaaaa 0001
bbbbbbb 0002
ccccccc 0003
ddddddd 0004
001 /001 Page

ENTER →

CREATE ROUTE
aaaaaaa 0001
bbbbbbb 0002
001 /001 Page

ENTER →

CREATE ROUTE
aaaaaaa 0001
Add
Insert
Delete
Save
001 /001 Page

ENTER →

CREATE ROUTE
aaaaaaa 0001
Add
InputName
routeac
Save
001 /001 Page

↓ ENTER

ROUTE LIST
routeac 0001
001 /001 Page

ESCAPE ←

MENU
MARK   W_LIST
R_LIST T_LIST
SETUP   COMMU

NOTE: *When you are saving a route in route creation, if there is already a same named route existed in the memory, the unit will remind you to rename it.*

Editing Route

In the page of Route List, you can browse all the routes you saved in E-trace. If you want to change a route, you can edit it by changing waypoints design:

1. Press **UP/ DOWN** keys to highlight the route you will change in the page of Route List

2. Press **ENTER** key and switch into the page of Edit This Route

3. You see all the waypoints along the route now, press **ENTER** key and pop up a sub-menu with four commands: **Add** (WPT), **Insert** (WPT), **Delete** (WPT) and **Save**(route). You can operate as stated above to change this route specifically.

4. In the end, don't forget to save your edition. Press **UP/ DOWN** keys and highlight Save item in the page of Edit This Route, press **ENTER** key and check the route name again. If you just want to keep it, only choose OK; If you want to change the name, just follow the steps in Save Route.

Deleting Route

In the page of Route List, if you want to delete a route:

1. Press **UP/ DOWN** keys to highlight the route you will delete in the page of Route List

2. Press **ENTER** key and highlight Delete item in the pop-up sub-menu by **UP/ DOWN** keys

3. Press **ENTER** key , and a prompt appears asking for your confirmation

4. Use **LEFT/ RIGHT** keys to highlight Yes and press **ENTER** key again, the route is deleted from the unit; otherwise press No, your deletion becomes invalid

Sorting Routes

1. Press **UP/ DOWN** keys to highlight any route in the page of Route List

2. Press **ENTER** key and highlight Sort item in the pop-up sub-menu by **UP/ DOWN** keys

3. Press **ENTER** key , and all the routes in the memory are listed in alphabetic order

Active Route

If you want to use a route for navigation, you must make it active first.

1. Press **UP/ DOWN** keys to highlight the route you will use for navigation in the page of Route List

2. Press **ENTER** key and highlight Active item in the pop-up sub-menu by **UP/ DOWN** keys

3. Press **ENTER** key , then the route is activated (a wait cursor appears beside the route), navigation from start to end work , "**Active**" become to "**Stop**". Then, if press **ENTER** key on it , guiding will stop .

Return Route

If you want to return along a route for navigation, you can use this function.

1. Press **UP/ DOWN** keys to highlight any route in the page of Route List

2. Press **ENTER** key and highlight **Return** item in the pop-up sub-menu by **UP/ DOWN** keys

3. Press **ENTER** key , then navigate from end back to start point (a wait cursor appears beside the route), "**Return**" become to "**Stop**". Then ,if press **ENTER** key on it , guiding will stop .

Firstly, the five commands have the same functions and operation steps as explained above, secondly, they are only used for routes in navigation.

Once a route is activated, in the pop-up sub-menu, the five commands are used for route navigation. When you are using route navigation, you should switch to Tracking page to see your trace, and switch to Navigation page to find out your movement status, including LAT,LON, COG,SOG,ALT. In this way, you are enabled to find your way.

DeleteAll

Remove all Routes.

1. Press **ENTER** key in Route List page and see a sub-menu

2. Highlight **DeleteAll** item by pressing **UP/ DOWN** keys

3. Press **ENTER** key and see a massage "Sure to Delete?"

4. Choose Yes and press **ENTER** key to confirm your deletion; or choose No for cancellation

NOTE:

• *You can not edit a route when it is in navigation.*

Recording a Track

1.Press **UP/ DOWN** key s in MENU page and highlight T-list item, pre ss **ENTER** key and come into Track page
2.Press **ENTER** key and Track Edit window pops up
3.Press **UP/ DOWN/ LEFT/ RIGHT** keys to change letter and number to give the track a name
4.Press **ENTER** key to confirm your naming
5.Press **ESCAPE** key continuously till you return into the main page of Tracking

NOTE: If you input a name which has already existed in track library, you will be informed by a message "Name Existed". In this case, you must change your naming. In E-trace, you can record at most 10 tracks in total, otherwise, a prompt "Memory Full" appears .

6. When you stop your tracking, switch into Track page again and highlight "**Stop Record**" , then press **ENTER** key.

NOTE: You may find your track not a continuous line in the display. That is because the satellite signal reception is not steady due to some high buildings, subways or magnetic field and etc.

Once you have some tracks recorded, you can rename and delete them, use one of them for navigation, and check its record time, distance, speed, area and state.
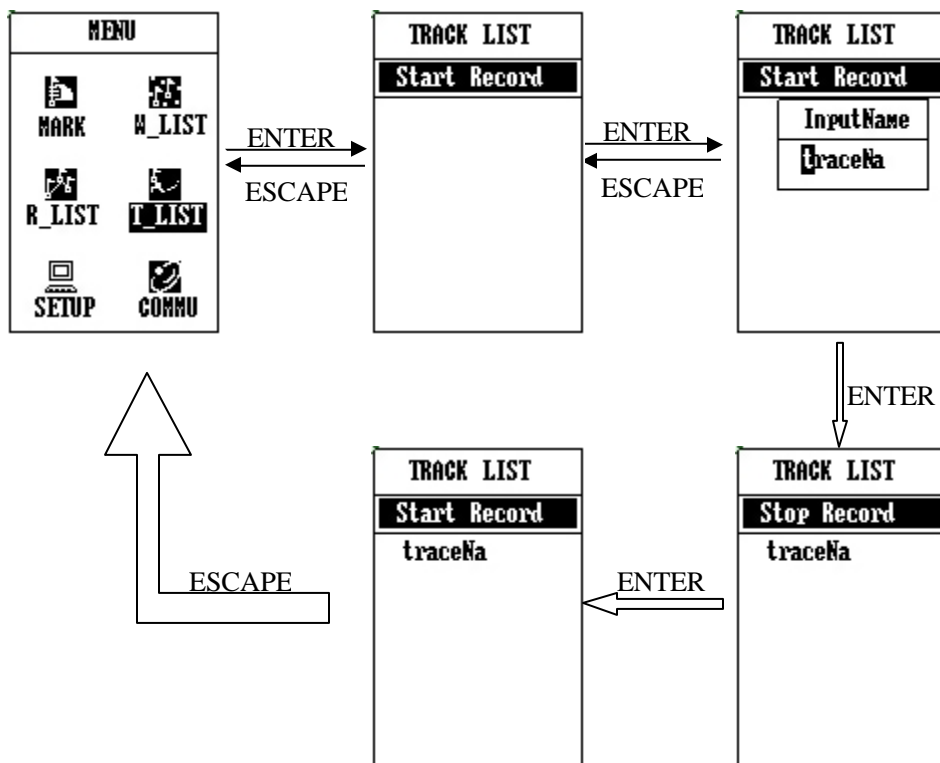
Backtrack

1. Press **UP/ DOWN** keys in Track page and highlight the track your want to use for navigation, press **ENTER** key and come out a sub-menu

1. Press **UP / DOWN** keys in Track page to highlight **Backtrack** item

2. Press **ENTER** and come out two options: "ToEnd" or "ToOrigin"

3. Use **UP/ DOWN** keys to select ToEnd or ToOrigin (meaning "the end point of the track or to the start point")

4. Press **ENTER** again, then press **ESCAPE** key to Tracking pages.Get yourself ready in this backtrack navigation. Meanwhile, take some reference in Navigation page, including LAT, LON, COG, SOG,ALT.

Renaming a track

1. Press **UP/ DOWN** keys in Track page and highlight the track your want to rename, and press **ENTER** key

2. Press **UP/ DOWN** keys to highlight **Rename** item in the pop-up window

3. Press **ENTER** key again and Track Edit window comes out

4. Press **UP / DOWN/ LEFT/RIGHT** keys change the name of the track

5. Press **ENTER** key to confirm your input

Track's Attribute

1. Press **UP/ DOWN** keys in Track page and highlight the track your want to check, and press **ENTER** key

2. Press **UP/ DOWN** keys to highlight **Attribute** item in the pop-up window

3. Press **ENTER** key and trigger out another page, displaying record time, distance, status of the track
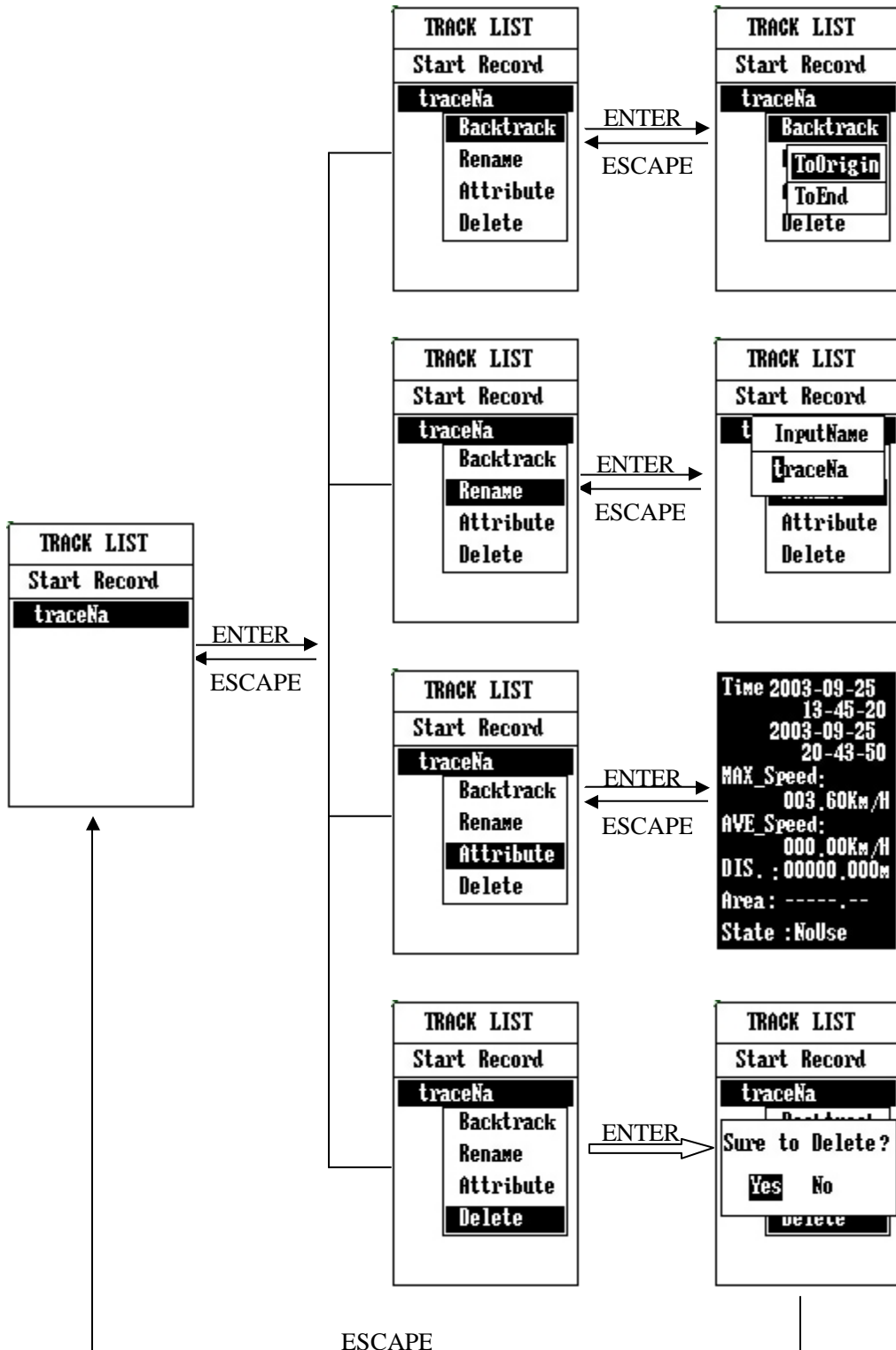
Deleting a track

1. Press **UP/ DOWN** keys in Track page and highlight the track your want to delete,press **ENTER** key and come out a sub-menu

2. Press **UP / DOWN** keys to highlight **Delete** item

3. Press **ENTER** key and a message comes to ask for your further confirmation

4. Choose Yes and press **ENTER** key, then the track is completely deleted from track library

TRACK LIST
Start Record
traceNa
  Backtrack
  Rename
  Attribute
  Delete

ENTER →
← ESCAPE

TRACK LIST
Start Record
traceNa
  Backtrack
    ToOrigin
    ToEnd
  Delete

TRACK LIST
Start Record
traceNa
  Backtrack
  Rename
  Attribute
  Delete

ENTER →
← ESCAPE

TRACK LIST
Start Record
t   InputName
    traceNa
  Attribute
  Delete

TRACK LIST
Start Record
traceNa

ENTER →
← ESCAPE

TRACK LIST
Start Record
traceNa
  Backtrack
  Rename
  Attribute
  Delete

ENTER →
← ESCAPE

Time 2003-09-25
     13-45-20
     2003-09-25
     20-43-50
MAX_Speed:
     003.60Km/H
AVE_Speed:
     000.00Km/H
DIS. : 00000.000m
Area: -----.--
State :NoUse

TRACK LIST
Start Record
traceNa
  Backtrack
  Rename
  Attribute
  Delete

ENTER →

TRACK LIST
Start Record
traceNa
  Backtrack
Sure to Delete?
Yes No
  Delete

ESCAPE

System Setup

Highlight Setup item by **UP/DOWN** key and press **ENTER** key from Menu page, the Setup page appears. You can set 7 items for the system: Datum, Display, Time, Alarm, Unit and Other.

Datum

Refers to the theoretical mathematical model of the earth's sea 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 to which datum to use, just choose WGS84.

Display

1. Highlight Display item by **UP/ DOWN** key in Setup page and press **ENTER** key.
2. Press **LEFT / RIGHT** key to adjust the contrast of the screen.

Time

You must choose time format first once you turn on the E-trace, it means you can read time in 12 hours or 24 hours. Then you need to set UTC (Universal Time Coordinate). In another word, if your present location is in +8 time zone, and you are using +8 time zone clock, you have to choose +8 hours. If you are in +8 time zone but using +6 time zone clock, you'd better choose +6 hours. If you choose 0 hour, that is exactly UTC Time. This setup is very important, it will directly affect the time displayed. Press **LEFT/ RIGHT** keys to select 12 hours or 24 hours; Press **UP/ DOWN** keys to select UTC time.

Alarm

In this item, you can set alarm for five kinds of subjects: XTE, Hazard, Destination, Landmark and Anchor. Highlight the subject you want to put alarm by **UP / DOWN** key and press **ENTER** key.

• For XTE alarm, if you choose 0.2 mile, the alarm will work once your current leg goes out of the circle with 0.2 mile radius and the center of your current location. This function will only be available when the waypoint is within the route and the unit is set to navigation status.

• For Hazard alarm, If you select 0.2 mile, the unit will alarm automatically when you get into the circle, which is an area with the center of this Hazard and the radius of 0.2 miles. This function will only be available when the waypoint is within the route or track and the unit is set to navigation status.

  NOTE:
you must set Hazard in waypoints list; otherwise this alarm does not work.

• For Destination alarm, it is the same as Hazard alarm.

• For Landmark alarm, if you choose ON for Landmark alarm and OFF for Destination alarm, the unit will alarm once you are within 0.1 unit (depending on your unit setup) away from each waypoint. If you choose ON for waypoint alarm and 0.2 mile for Destination alarm, the unit will work within 0.2 mile away from the each waypoint.

• For Anchor alarm, if you choose 0.2mile, the unit will alarm when you are 0.2 mile away from the location you set as Anchor .

NOTE:

NOTE:

The prompt alarm will last until you go out of the alarm area or switch off the alarm. If you set Anchor alarm, it will always be effective no matter it is in the state of navigation or not, expect the alarm is turned off.
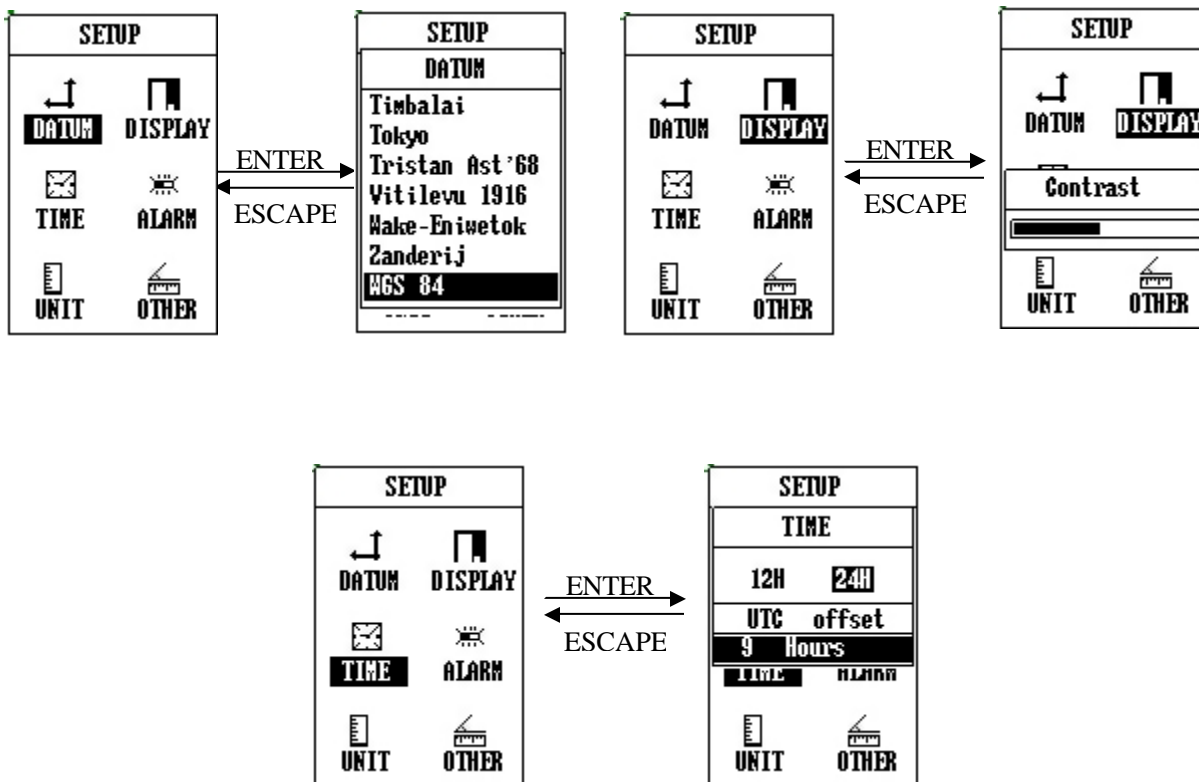
<u>Unit</u>

There are three unit available for you to choose: mile, kilometer and nautical.

<u>OTHER</u>

Highlight System item by **UP / DOWN** key and press **ENTER** key. You can have three choices.

• Choosing **Normal**, the E-trace will run in normal mode, and AA batteries can last 4 hours

• Choosing **TricklePower**, the E-trace will run in trickle power mode, and AA batteries can last 4~7 hours. In this case, satellite reception and keypad operation may not be as efficient and sensitive as in normal mode.

•Choosing **Battery Type**, E-trace can exchange battery type from alkalescence to rechargeable ,or the other way round.

• Choosing **Default**, all the data in the system will lose and restore the initiate status.

SETUP

↵ **DATUM**	◻ **DISPLAY**
⊠ **TIME**	※ **ALARM**
🗎 **UNIT**	▱ **OTHER**

← ENTER →
← ESCAPE →

SETUP

ALARM

XTE
Hazard
Destination
Landmark
Anchor

UNIT   OTHER

← ENTER →
← ESCAPE →

SETUP

ALARM

XTE	**Off**
Hazard	0.1 Km
Desti	0.2 Km
Landma	0.5 Km
Anchor	1.0 Km

UNIT   OTHER

SETUP

↵ **DATUM**	◻ **DISPLAY**
⊠ **TIME**	※ **ALARM**
🗎 **UNIT**	▱ **OTHER**

← ENTER →
← ESCAPE →

SETUP

UNIT

Mile
Kilometer
Nautical
TIME   ALARM

UNIT   OTHER

SETUP

↵ **DATUM**	◻ **DISPLAY**
⊠ **TIME**	※ **ALARM**
🗎 **UNIT**	▱ **OTHER**

← ENTER →
← ESCAPE →

SETUP

OTHER

Normal
TricklePower
Battery Type
Default

UNIT   **OTHER**

Communication page

Highlight **COMMU** item by **UP/DOWN** key and press **ENTER** key from Menu page, the Setup page appears. It contains three items:**Computer** , **Master** ,**Receive**. It activates E-trace 's communication capability with a computer or a long-range equipment (for example , modem).
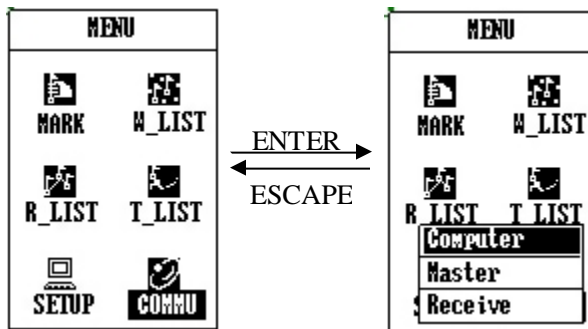
Computer:

With this function , E-trace can establish communication with a computer.

Master:

With this function , E-trace can establish communication with a long-range equipment (for example , modem) as a master.

Receive:

With this function , E-trace can establish communication with a long-range equipment (for example , modem)as a receiver.

Altitude: Distance above mean sea level.

BRG: The compass direction from current position to next waypoint or the destination.

COG: Course over ground. Your direction of movement relative to a ground position.

Coordinate: A set of numbers that describes your location on or above the earth.

Course: GPS uses "Course" to define the movement direction of receiver on the globe surface instead of navigation direction.

Datum: A math model designed to fit part of the earth's surface. Latitude and longitude lines on a paper map are referenced to a specific map datum. The map datum for a GPS receiver needs to match the datum listed on the corresponding paper map.

Distance: The linear length from current position to named waypoint or between two waypoints along a route.

DTD: Distance to Destination

DTW: Distance to the next Waypoint

Goto: A single leg route with the present position being the start of the route and a defined waypoint as the destination. You can use this function when you want to go directly to one of the waypoints saved in the memory. Select "Go to", and then find out the waypoint you want. Confirm your selection and it starts navigation in this mode.

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°.

Leg: A segment of a route that has a staring (From) waypoint and a destination(To) waypoint. A route may consist of one or more legs. For example, a route from Waypoint A to Waypoint B, to Waypoint C and to Waypoint D, has totally three legs from A to B, and from B to C, and from C to D.

Longitude: The angular distance east or west of the prime meridian (Greenwich meridian) as measured by lines perpendicular to thee

parallels and converging at the poles from 0° to 180°.

Parallel Channel Receiver: A continuous tracking receiver using multiple receiver circuits to track satellites simultaneously.

Route: A route consists of start point, end point and in-between waypoints. A single route is a kind of simple route only having start point and end point, in another word it is a "Goto" route. Route can also be made up of several legs from one waypoint reaching up to 20 other different waypoints.

SOG: Speed over ground. The actual speed the E-trace is moving over the ground. This may differ from airspeed or nautical speed due to such things as sea conditions or head winds.

Speed: The GPS receiver uses instantaneous speed to indicate practical moving speed.

TRP: Tracked route.

True North: The direction of the North Pole from your current position. Magnetic compasses are slightly incorrect due to effects of the Earth's magnetic field while GPS units are more accurate for magnetic influences.

Waypoint: A permanently stored and named position in the E-trace's memory.

XTE: Cross-Track Error.

1. The screen is blank after you press the POWER keypad.

- Wrong batteries installation or no enough power. Check to insure that the batteries are installed correctly and that the battery terminals are clean. Or replace the batteries.
- You may did not make valid operations(press is too light to start E-trace). Please press **POWER** key again till the unit responses and hear a sound "B" and see the welcome page.
- If you hear a sound "B", then the E-trace is already turned on. You need to adjust screen contrast until you can recognize the words on the screen.

Please take a reference in page 3 on " Turning the E-trace on".

2. Battery choices

You can use alkaline battery or rechargeable battery in E-trace. But if you use rechargeable battery, the E-trace can not show you the correct information on the batteries condition.

3. Unavailability of satellite signals for long time

- Make sure you are operating the E-trace outdoors, not in a house or a covered building.
- Ensure the sky is clear and open since it will influence the satellite signals reception.
- Check your surroundings, there may be some electric or magnetic field around you or the E-trace which can interfere the normal work of E-trace, such as wireless radio station, radio tower or high-voltage wires and cables, and etc.

4. The GPS_DESIGNER has water outside and inside

Wipe down the water outside of the E-trace with clean clothing. Put it in a windy place without direct sunshine and dry the inside. Then try to turn it on again to see if it works well. If it is still not good, please contact local maintenance agency. Never try to open the E-trace by yourself.

5. Though in open area with clear sky, the E-trace can not track satellite.

- It's most because the E-trace had worked indoor for long time and been brought outdoor directly. Please turn off the E-trace outdoor and restart it.
- The E-trace is damaged. Please contact local dealer or supplier.

6. The E-trace dropped or collided

Check the appearance completeness of the E-trace. Contact the local maintenance agency if you find the E-trace does not work well.

- **Navigation Features**
  Waypoints:
  Total: 1000 with name and symbol
  Routes: 30 Reversible routes
  Tracks: 10 tracks with name and symbol

· **Performance**

  Receiver: Twelve parallel channel receiver continuously tracks and uses up to
                    twelve Satellites
  Frequency: L1,1575.42MHz,C/A code
  Sensitivity: -140 dbm
  Acquisition Times:
    Hot :   Approximately 10 seconds
    Warm: Approximately 40 seconds
    Cold: Approximately 60 seconds
    Re-acquisition: Approximately less than 1 second
  Update Rate: 2-seconds,continuous
  Accuracy:
    Position: 25 meters 2DRMS
    Velocity: 0.1 knot RMS steady state
  Dynamics: 2g's
  Max.Height: 18000 meters
  Max.Velocity: 100 m/s
  Antenna: Built-in porcelain antenna

· **Physical**

    Size: 120x54x30mm
    Weight: 170g with 2 AA batteries
    Display: 105x160 pixel, high-contrast LCD, electro-luminescent backlighting
    Memory: Internal lithium battery backup lasts up to 10 years

- **Power**
    Source: 2 AA batteries(or rechargeable batteries), 1.5V(1200mAH) each
    Battery Life: Up to 16 hours

- **Temperature** Operation: 20-70°C

Symbols

In the E-trace, you can use 28 symbols to name your waypoints (see them in the right part of the page).

Prompts

- Maximum 30 routes can be saved!
  The E-trace can memorize maximum 30 routes, 10 tracks and 1000 waypoints. If you want to save more, you must delete some and spare space in the unit.

- Deletion is invalid!
  When a waypoint or a track or a route is in navigation, you can not delete them.

- No route can be used!
  There is no route in the memory at all.

- Fail to delete waypoint, it is used by Goto!
  When a waypoint is used in Goto navigation, you can not delete or edit it.

- Fail to edit waypoint, it is in use!
  The same as above.

- Waypoint is wrong, it can not be saved!
  For a valid waypoint, its longitude covers from 0º to180º, and latitude from 0º to90º. Any waypoint defined out of this range is wrong or invalid.

- Low Battery! It will shutdown automatically later.
  When the batteries are too weak to support operation, the unit will pop up this prompt.

- In dangerous zone!
  Once you get into the area you set up as dangerous place, the E-trace will alarm you as soon as possible.

- The track is unable to navigate.
  For GPS receiver, it can not identify position change within 25 - meter range.

☎	telephone kiosk	↗	incursion- border
▦	crossroad	⌂	house
✦	fish pond	◣	rockfall
◤	slope	⚓	dock
▓	flood	✚	hospital
≈	lake	⊗	forbidden a
⌐	fork in a road	♠	tree
≣	landslid	☠	danger zone
≣	broken roadway	◩	leakage
≣	expanded roadway	▤	service stat
⌂	camp-out	℗	station
♍	restaurant	⋈	bridge
👤	human	▥	riverhead
⋏	way-point	⊬	airport

Adindan-Mean	Adindan-Regional Mean
Ala,Can,Conus	North American 1983-Alaska,Canada,Conus
Alaska	North American 1927-Alaska
Aleutian IsdE	North American 1927-Alaska(Aleutian Islands E)
Aleutian IsdW	North American 1927-Alaska(Aleutian Islands W)
Aleutian Isds	North American 1983-Aleutian Islands
Antarctica	Camp Area Astro-Antarctica
Arc-Mean	Arc 1950-Regional Mean
Argentina	South American 1969-Argentina
Argentina	Campo Inchauspe-Argentina
Australian 66	Australian Geodetic 1966
Australian 84	Australian Geodetic 1984
Bahama,Florid	Cape Canaveral-Bahamas,Florida
Bolivia 56	Provisional S.American 1956-Bolivia
Bolivia 69	South American 1969-Bolivia
Brazil	Corrego Alegre-Brazil
Brazil 69	South American 1969-Brazil
Brune,E.Malay	Timbalai 1948-Brunei,East Malaysia
C.America	North American 1927-Central America
C.Amer,Mexico	North American 1983-Central America,Mexico
C.Canada	North American 1927-Central Canada
Canada Mean	North American 1927-Mean for Canada
Canada yukon	North American 1927-Canada(Yukon)
Chile 63	Provisional S. Chilean 1963-Chile
Chile 69	South American 1969-Chile
Colombia 56	Provisional S.American 1956-Colombia
Colombia 69	South American 1969-Colombia
Conus Mean	North American 1927-Mean for Conus
Cuba	North American 1927-Cuba

Czechoslova42	S-42(Pulkovo 1942)-Czechoslovakia
Czechoslova93	S-JTSK-Czechoslovakia(prior to Jan 1993)
E.Canada	North American 1927-East Canada
E.Mississippi	North American 1927-East of Mississippi
Egypt 07	Old Egyptian 1907-Egypt
Egypt 50	European 1950-Egypt
England	Ord. Survey G. Britain 1936-England
Eur.C.Reg.M	European 1979-Central Regional Mean
Eur.E Reg.M	European 1950-Eastern Regional Mean
Eur.N.Reg.M	European 1950-Northern Regional Mean
Eur.S.Reg.M	European 1950-Southern Regional Mean
Eur.W.Reg.M	European 1950-Western Regional Mean
Finland Norwy	European 1950-Finland,Norway
G.Britain M	Ord. Survey G. Britain 1936-Regional Mean
Greece	European 1950-Greece
Greenland	North American 1927-Greenland
Guam	Guam1963-Guam
Guyana	South American 1969-Guyana
Hawaii	Old Hawaiin-Hawaii
Hawaii 83	North American 1983-Hawaii
Hawaii Mean	Old Hawaiin-Regional Mean
Hong Kong	Hong Kong 1963-Hong Kong
Hungary	S-42(Pulkovo 1942)-Hungary
Iceland	Hjorsey 1955-Iceland
Indian 60	Indian 1960
India,Nepal	Indian-India,Nepal
Indonesia	Gunung Segara-Indonesia
Isle of Man	Ord. Survey G. Britain 1936- Isle of Man
Italy Sicily	European 1950-Italy(Sicily)

Japan	Tokyo-Japan
Kauai	Old Hawaiin-Kauai
Kazakhstan	S-42(Pulkovo 1942)-Kazakhstan
Latvia	S-42(Pulkovo 1942)-Latvia
Maderia Isds	Porto Santo 1936-Maderia Islands
Malta	European 1950-Malta
Marshall	Wake-Eniwetok 1960-Marshall Islands
Maui	Old Hawaiin-Maui
Mexico Gulf	North American 1927-Gulf of Mexico
Mexico	North American 1927-Mexico
Midway Isds	Midway Astro 1961-Midway Islands
Mindanao	Luzon-Philippines(Mindanao)
Montserra Isd	Montserrat Island Astro 1958
Morocco	Merchich-Morocco
N.Chile	Provisional S.American 1956-Chile(Northern)
New Zealand49	Geodetic Datum 1949-New Zealand
New Georg Isd	DOS 1968-New Georgia Islands
New Zealand71	Chatham Island Astro 1971-New Zealand
Nw.Canada	North American 1927-Northwest Canada
Oahu	Old Hawaiin-Oahu
Okinawa	Tokyo-Okinawa
Oman	Oman-Oman
Pakistan	Indian-Pakistan
Philippines	Luzon-Philippines
Paraguay	South American 1969-Paraguay
Peru 56	Provisional S.American 1956-Peru
Peru 69	South American 1969-Peru
Porland	S-42(Pulkovo 1942)-Poland
Romania	S-42(Pulkovo 1942)-Romania

Russia	Pulkovo 1942-Russia
S.Africa	Cap-South Africa
S.America M56	Provisional S.American 1956-Regional Mean
S.America M69	South American 1969-Regional Mean
S.Chile	Provisional S.American 1956-Chile(Southern)
S.Georgia Isd	ISTS 061 Astro 1968-South Georgia Islands
S.Greenland	Qornoq-Greenland(South)
S.Korea K	Korean Geodetic System-South Korea
Salvage Isds	Sevagem Grande-Salvage Islands
Sardinia 40	Rome 1940-Italy(Sardinia)
Sardinia 50	European 1950-Italy(Sardinia)
Saudi Arabia	Nahrwan-Saudi Arabia
Scotld,Shetld	Ord. Survey G. Britain 1936-Scotland,Shetland
South Korea T	Tokyo-South Korea
Soviet Sys.85	SGS 85-Soviet Geodetic system 1985
Taiwan	Hu-Tsu-Shan-Taiwan
Thai,Vietnam	Indian 1954-Thailand,Vietnam
Thailand 75	Indian 1975-Thailand
Toky-Mean	Tokyo-Regional Mean
United Arab	Nahrwan-United Arab Emirates
Uruguay	Yacare-Uruguay
Venezuela	Provisional S. American 1956-Venezuela
W. Canada	North American 1927-West Canada
W.Malay&Singa	Kertau 1948-West Malaysia & Singapore
W.Mississippi	North American 1927-West of Mississippi
Wales	Ord. Survey G. Britain 1936-Wales
WGS 72	WGS 1972-Global Definition
WGS 84	WGS 1984-Global DefinitionBolivia 56

Limited Warranty

The E-trace is warranted to be free from defects in material and functions for one year from the date of purchase. Any failure of this product within this period under normal conditions will be replaced at no charge to the customers.

Appendix

EverMore Website

Welcome to EverMore website at http://www.emt.com.tw or http://www.globalsources.com/gpsevermore.co for updated product information and drivers download.

EverMore Technology, Inc.
http://www.emt.com.tw

2F. No.7. R&D Road 1. Science-Based Industrial Park. Hsinchu. Taiwan. 300. R.O.C.