

# Global Positioning Systems (GPS) Training

**This course is designed to instruct in the basic use and features of the  
Garmin GPSMap78s**

**To Assist Rural Brigade Efficiency and Safety in Operational Matters**

# The Introduction

1. This course is designed to help you learn about the functions, and the various methods of using the **Garmin GPSMap78s** unit.
2. The **Garmin GPSMap78s** is a useful device so long as you have batteries or a power source. Therefore it is prudent to keep spare batteries in your fire vehicles.
3. The **Garmin GPSMap78s** is not a stand alone device but complements the use of Brigade Maps and Compass.

## \*\*\*\*Notice\*\*\*\*

The training GPS's used in this training session have already been customised with the Page Sequence favourites added. The favourite functions that have been selected are the functions that would be mostly used in the field. Therefore some of the functions on the GPS with the Factory Settings applied to the GPS are not captured in this presentation.

The applications on how to use the GPS in this Power Point Presentation uses the Page Sequence favourites. A screen shot of each function is used in this Power Point Presentation to demonstrate the activation of each function.

# Options

The Garmin **GPSMap78s** has some available accessories. It is useful to learn about their function.

- Computer cable and computer interface software enables information stored in the **Garmin GPSMap78s** to be downloaded to a computer for conversion to map information, or just simply as a backup.
- External Power Supply cable and lead, which can be run off the Fire Appliances cigarette lighter plug if it has a 12 Volt socket. (12 volts plug not supplied)

Stored Information can be:

- **Waypoints** (points, grid-points, locations, all mean the same thing)
- **Tracks** The **Garmin GPSMap78s** can store an automatic log of a track (path) as you go. This is the most common operational use of the GPS within the Brigade.
- **Routes** The **Garmin GPSMap78s** can store collection of points, known as Routes. This allows for automatic guidance from one Point to another.

All of the above **Waypoints, Tracks & Routes** information can be stored on a computer and then downloaded into the **Garmin GPSMap78s**.

# Options

- Carry case (not supplied)
- Mounting bracket or a swivel holder (not supplied) for the Fire Appliances can be mounted on the dash and the **Garmin GPSMap78s** slid into the mount. But if ordered through the RFS subsidy it will be included.
- Digital charts or maps for use on land and sea. These maps provide a background map for assistance in navigation. These maps can be downloaded into the GPSmap 78s ROM memory and do not affect the **Garmin GPSMap78s** main memory or they can be placed on a Micro SD Card and then placed into the **Garmin GPSMap78s**.
- Rural Brigades can purchase the MetroGuide Australia or Garmin TOPO Australia and you will see the name of most Roads and Highways around your Brigade area. It will show some geographical information, like Creeks and Rivers etc.
- 12V/24V Adaptor can be used to allow the use of a USB Cable instead of the larger supplied Power Cable (See Examples)



# Installing Batteries



1. Remove the battery cover from the back of unit by sliding latch and pulling off cover.
2. Insert the batteries, observing the proper polarity. A polarity diagram can be found moulded into the battery compartment.
3. Reinstall the battery cover by inserting the base or heel of the cover over the tab at the base or heel of the unit and press down the cover near the sliding latch until you hear a click. (see diagram)



# Device Overview



# Turning ON

- In order to receive any satellite signals you must be outdoors or have a clear view of the sky. Satellite signals cannot pass through solid materials and the signal strength can be diminished in a dense forest.
- However the **Garmin GPSMap78s** has a High Sensitivity Antenna and is able to receive satellite signals in most areas.
- Press and hold  to turn the GPS on and off
- Quickly press  to turn the backlight on and open the status page.
- The GPS bars will indicate the satellite's strength.

Buttons



# Function Key's

**“PAGE”** Press page to scroll through the main pages.

**“MENU”** Press menu to open the options menu for the page that is currently open. Press menu twice to open the main menu from any page.

## Buttons

**“ENTER/MARK”** Press Enter button to select options and acknowledge message. Then press and hold to MARK your current location and save as a waypoint.

**“ROCKER”** Press up, down, right and left to select Menu option and to move the Map cursor.

## On and Off & Backlight Function

**“QUIT”** Press Quit to cancel or return to the previous page.

**“+ and -”** Press to zoom in and out.



Rocker

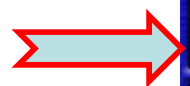
# Satellite

The Satellite Page shows your current location, GPS accuracy, Satellite Location & Signal strength.

From the Satellite page press the Menu button with the GPS on and it will allow you to turn off the GPS tracking for training. This will put the GPS into simulation mode.



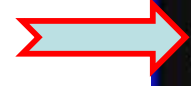
Your Location



GPS Accuracy



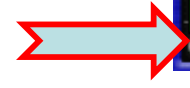
Satellite Location



The outer circle represents the Satellites travelling around the 30 Degrees above the horizon.

The inner circle represents the Satellites travelling around the 60 Degrees above the horizon.

The number of satellites



Signal strength



# Page Sequence

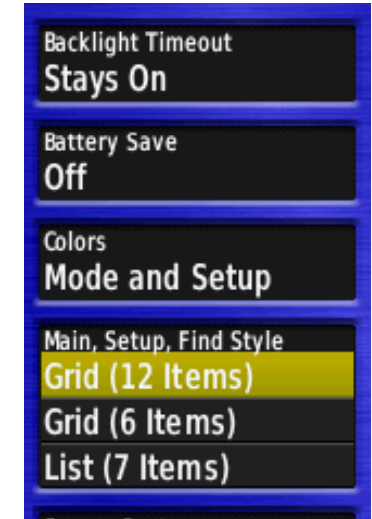
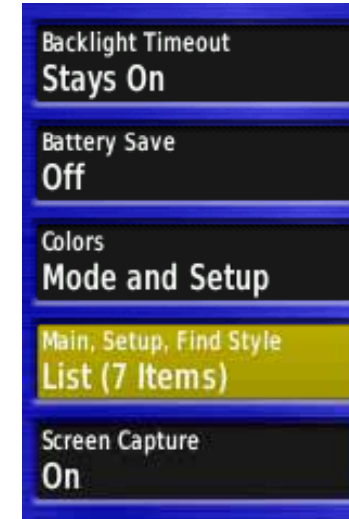
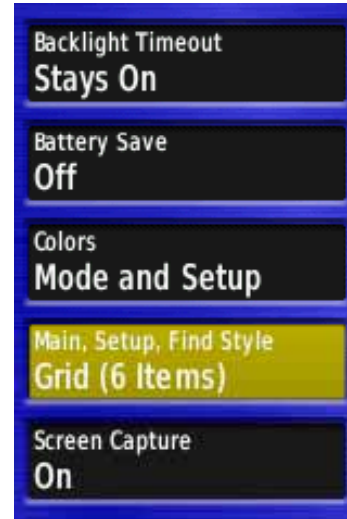
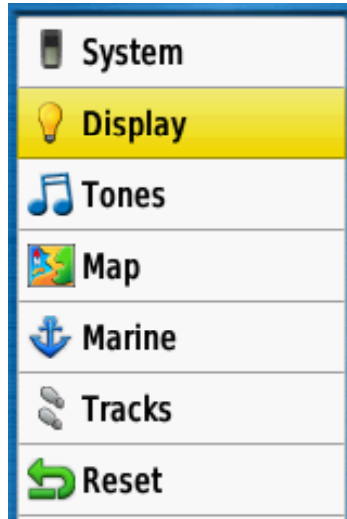
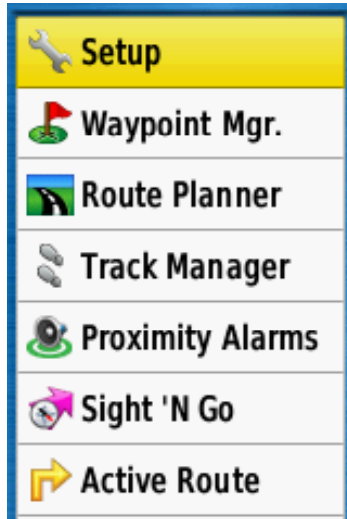
- **Page Sequence** function allows you to personalise the mode functions that are frequently used. These mode function will then slide across the screen by using the **Quit** or **Page** buttons.
- By selecting the **Quit** button or the **Page** button you can select the required function as it slides across the screen. The required function will be selected when you stop on the function that is currently on the screen.
- The **Quit** button will slide the functions from left to right and the **Page** button will slide the function from right to left.



Select: **Area Calculator, Main Menu, Maps, Satellite, Share Wirelessly, Track Manager ,Waypoint Manager and Setup.**

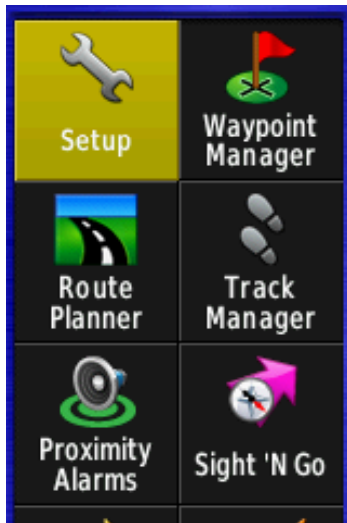
# Main Grid Setup

- The **Main Grid Setup** is how the standard Function Menu looks on the screen.
- Select **Setup** function and then **Display** function.
- Select the desired Grid Layout. 6 Item Grid, 7 Item Grid or 12 Item Grid

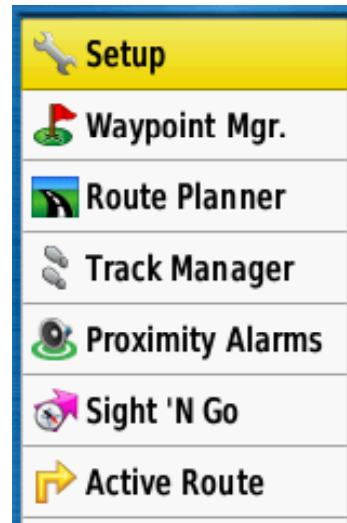


# Main Grid Setup continued

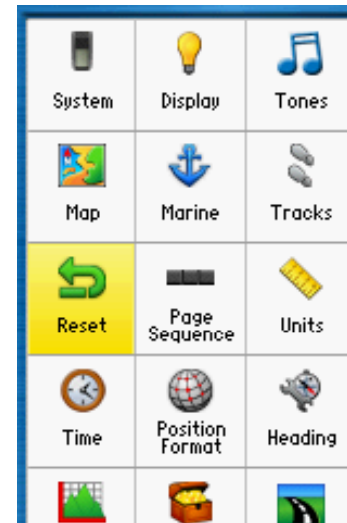
6 Item Grid Layout



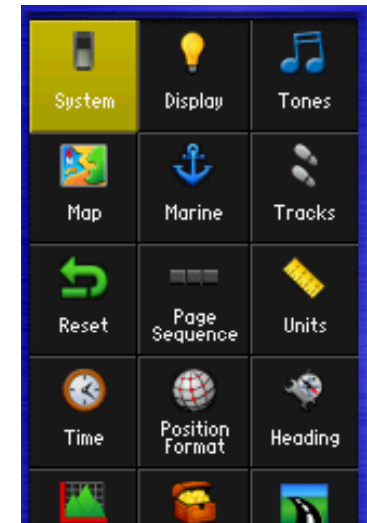
7 Item Grid Layout



12 Item Grid Layout  
In Daytime Mode



12 Item Grid Layout  
In Night time Mode



# Mark a Waypoint

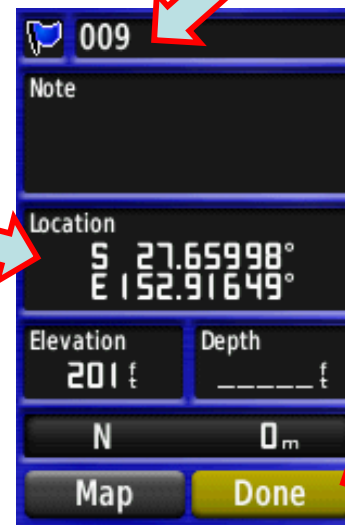
- To mark a **Waypoint** press and hold the **Enter/Mark** button.
- This will select the current position you are currently at.

## Buttons



Press and hold the **Enter/Mark** key

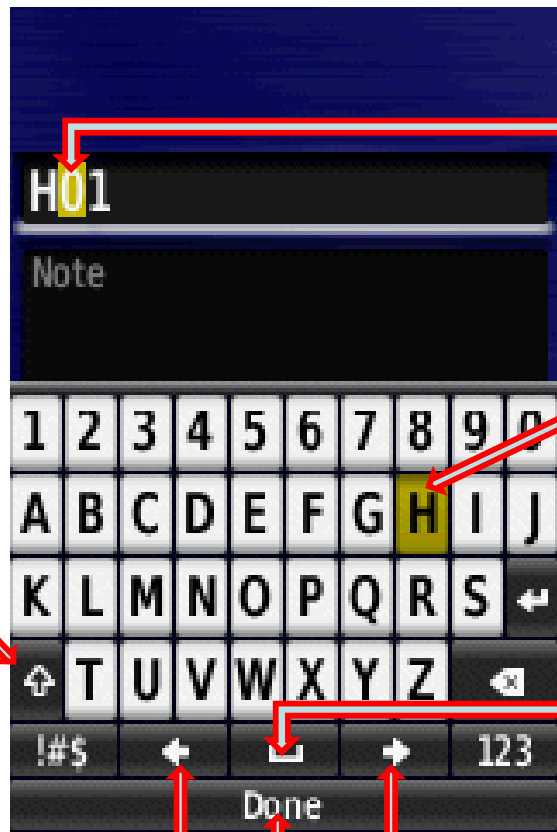
Waypoint Location



Waypoint Number

By pressing the **Enter/Mark** key on the **Done** will save the Waypoint

# Using the GPS on Screen Keyboard



To move the highlighted cursor in this area use the **Rocker** key to highlight the **Left key** or **Right key** at the bottom of the screen and press the **Enter/Mark** key to move the cursor left or right.

(See the second bottom line on the GPS screen)

To move the highlighted cursor in the keyboard area use the **Rocker** key and highlight the letter or number required and press the **Enter/Mark** key.

Return to another line key

Erase or Backspace key

Space key

**\*\*\*\* Notice on the use of the Enter key.\*\*\*\***

The only time the **Enter** key is held down is when making a waypoint. For all other enter functions the **Enter** key is only quickly pressed or clicked.

To move **Left key**

To moved **Right key**

**Done or Save key**

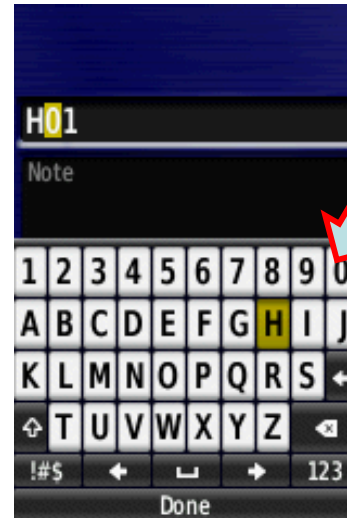
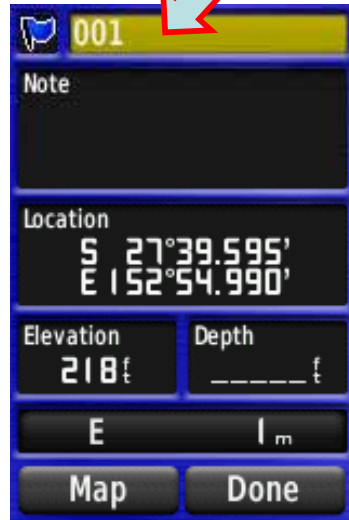
# Changing the Name of a Waypoint

- **CHANGING THE NAME OF A WAYPOINT**
- How to change the name of a **Waypoint**.

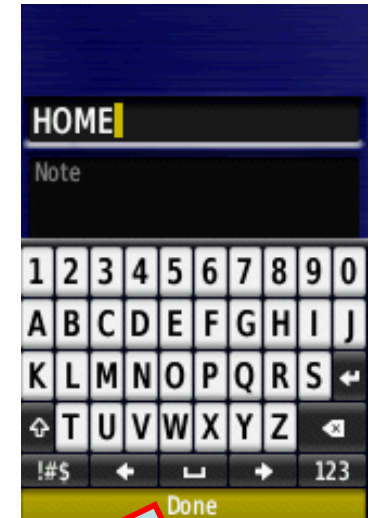
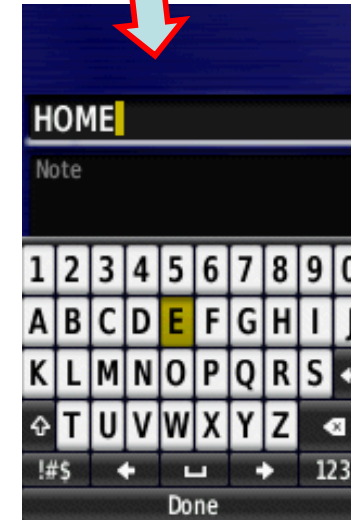


Select Waypoint Manager

Select the desired Waypoint and Enter



By using the Keyboard Function change the name of the Waypoint



Select Done to complete the name change

# Sight N Go

- The **Sight N Go** function allows you to project a waypoint or to take a bearing and track your way to that bearing.
- This function is ideal for working out where a fire in the distance is located by taking several **Sight N Go** projections.
- Before making a **Sight N Go** projection, mark a waypoint at your current location and identify this waypoint to sync with your projected waypoint that is taken when you complete your **Sight N Go** function.

E.g. SNG 1 for your current location and Proj Wpt 1 for your projected waypoint.

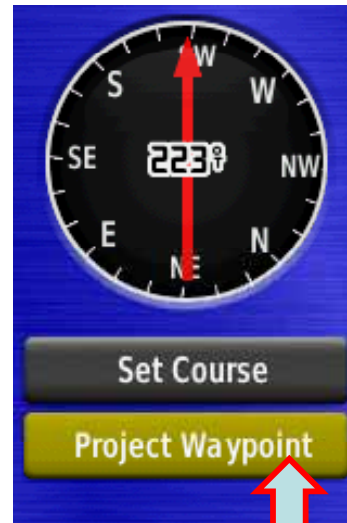
- Several **Sight N Go** waypoints can be taken and the results of these can be used to triangulate onto a map or imported into the Ozi Explorer Program to give you a location of a landmark or a column of smoke in the distance.



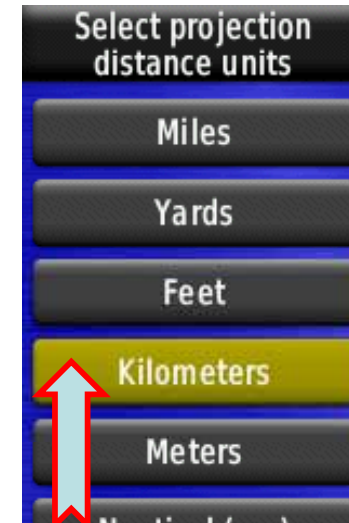
Select the **Sight N Go** function



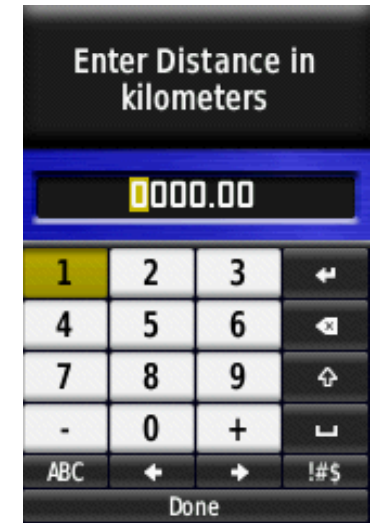
Point the GPS towards your destination. E.g. A smoke column. Select **Lock Direction**. **Project Waypoint**



Select



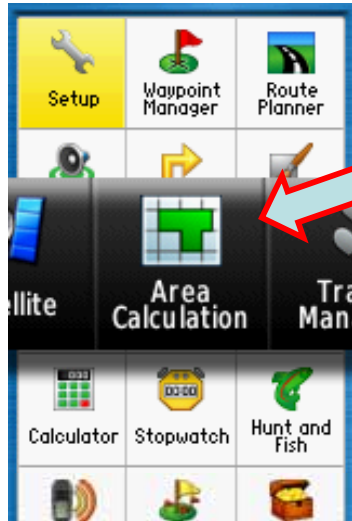
Select the unit of measurement you wish to use.



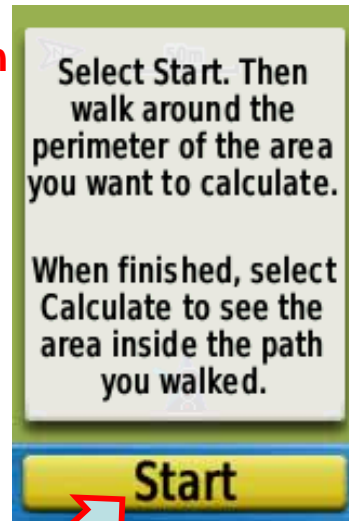
Enter your estimated distance and select **Done**

# Area Calculator

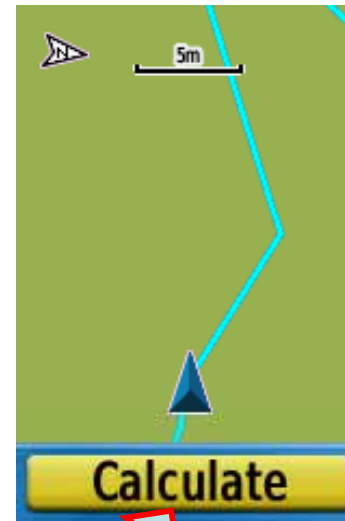
- The perimeter of a fire or the area that has been burnt out can be calculated.
- This can be a useful tool when filling out RF14 Incident Form.



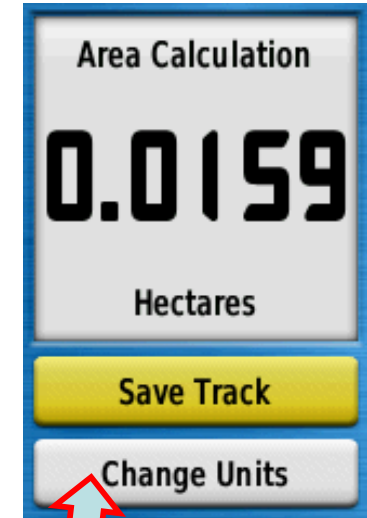
Select **Area Calculation**



Select **Start** an start walking or driving the perimeter



Select **Calculate** at the end of walk or drive



On completion the area calculation will be given. The units can be changed here for Hectares or Acres etc.

# In the Field use

- [In the Field use exercise.](#)
- 10 – 15 Minute outdoor exercise to gather Waypoints
- Take Note Pad and Pencil
- Exercise with **Sight N Go** function
- Exercise **Area Calculation** function

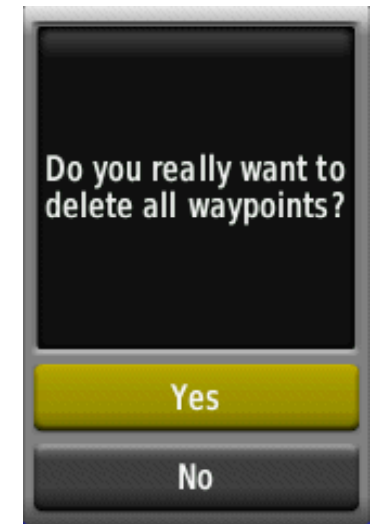
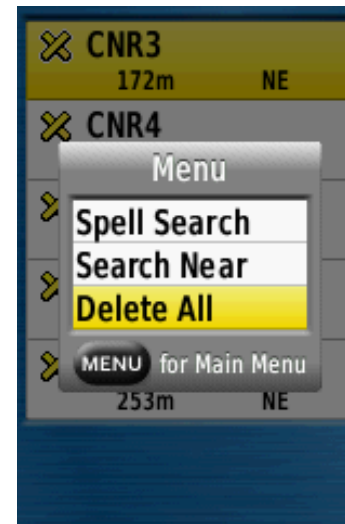
- [On return to Training Room](#)
- Rename Waypoints
- Deleting Waypoints and Tracks
- Show how to use **Share Wirelessly** Function.



# Deleting Tracks and Waypoints

## DELETING ALL WAYPOINTS

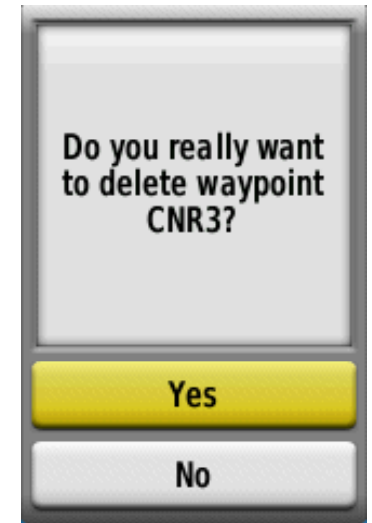
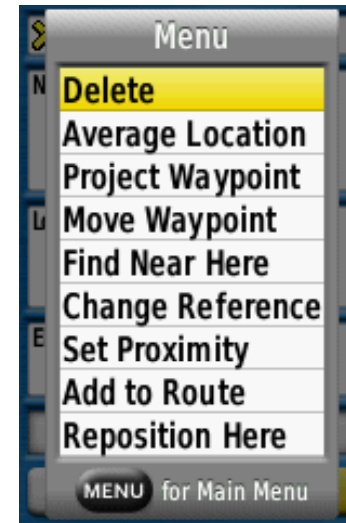
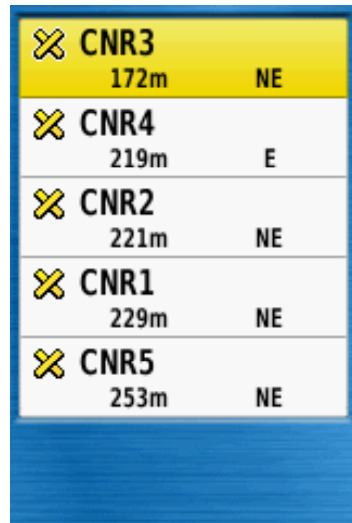
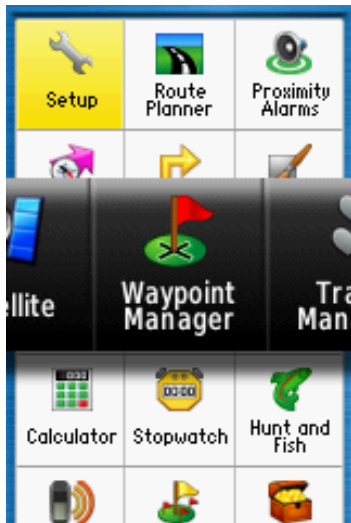
- Deleting all Waypoint, select **Waypoint Manager** press the **Menu** key.
- Select **Delete** and select **Yes** to delete all waypoint.



# Deleting Tracks and Waypoints continued

## DELETING ONLY ONE WAYPOINT

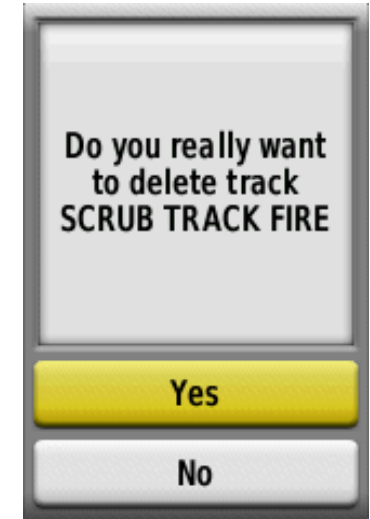
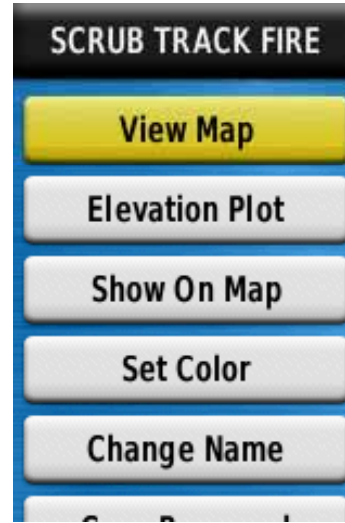
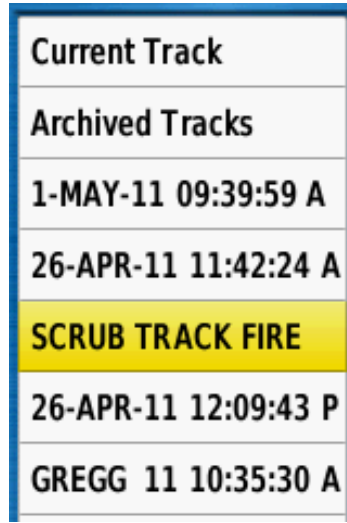
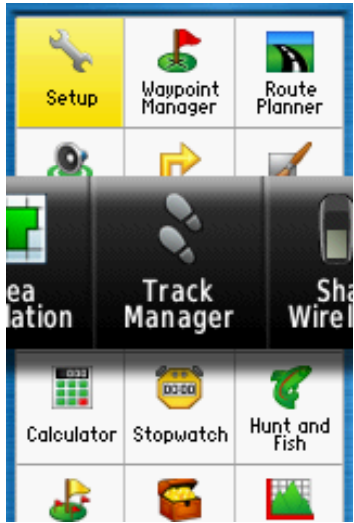
- Deleting a Waypoint select **Waypoint Manager**.
- Select the required **Waypoint** and press **Enter/Mark** key.
- Press the **Menu** key, then select **Delete** and then select **Yes**



# Deleting Tracks and Waypoints continued

## DELETING A SINGLE TRACK

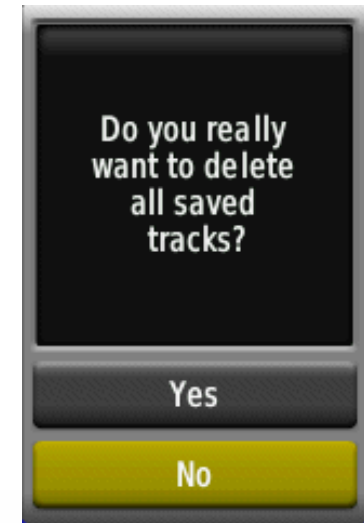
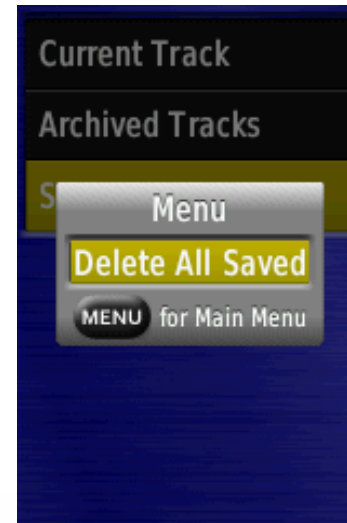
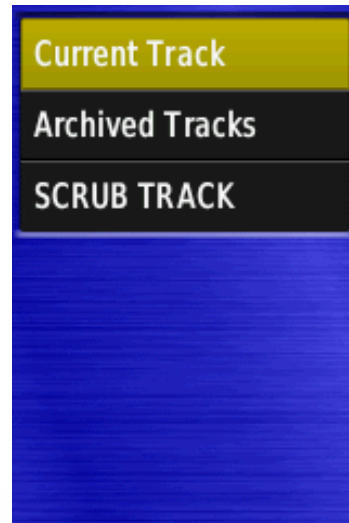
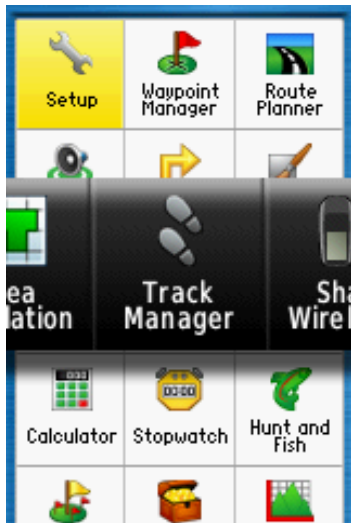
- To delete a track. Select **Track Manager**.
- Select the required track by highlighting it and press **Enter/Mark** key
- Scroll down until you find **Delete** and then select the **Delete** function.
- Select the **Yes** tab and the track will be deleted.



# Deleting Tracks and Waypoints continued

## DELETING ALL TRACKS

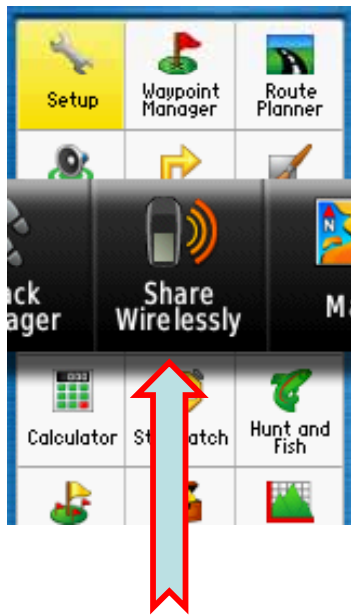
- To delete a track. Select **Track Manager**.
- Press **Menu** key
- A **Delete All Saved** window will be displayed.
- Press the **Enter/Mark** key
- Select the **Yes** tab and all the tracks will be deleted.



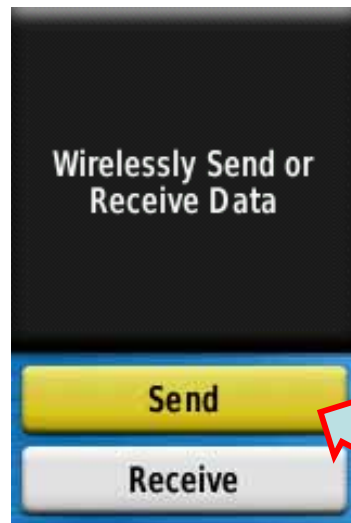
# Share Wirelessly

- To share **Tracks** and **Waypoints** in the field **Wirelessly**. Go to the **Share Wirelessly** then select **Send** and follow the on-screen instructions.

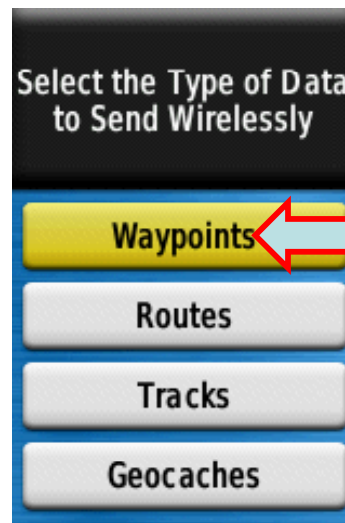
## The Sender Function Mode



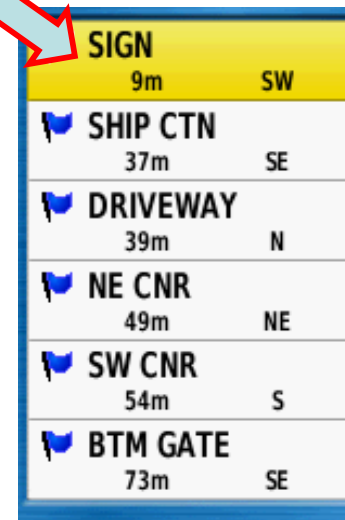
Sending GPS



Sending GPS



Sending GPS



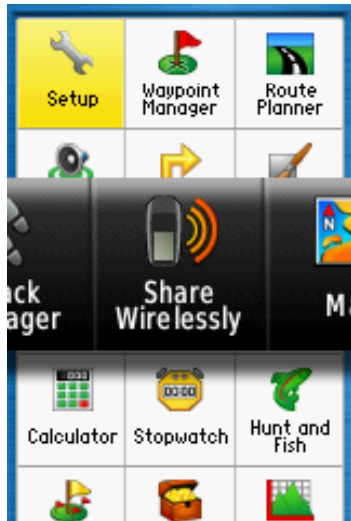
Sending GPS



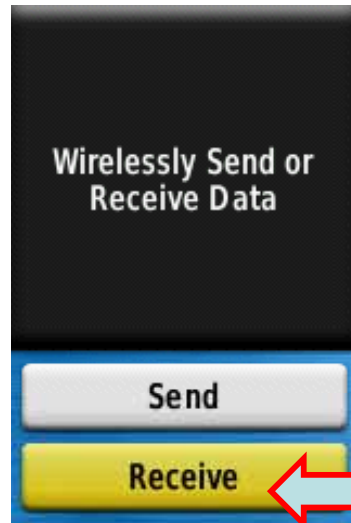
# Share Wirelessly Continued

- On the Receiving GPS select **Share Wirelessly** then select **Receive** and follow the on-screen instructions.

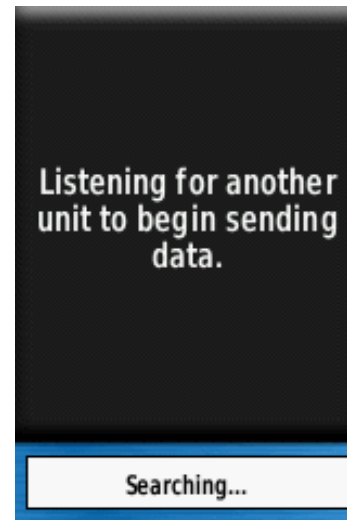
## The Receiver Function Mode



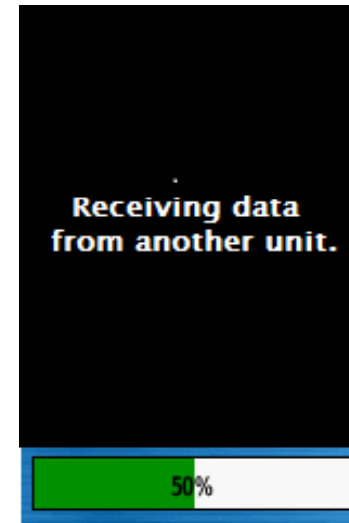
Receiving GPS



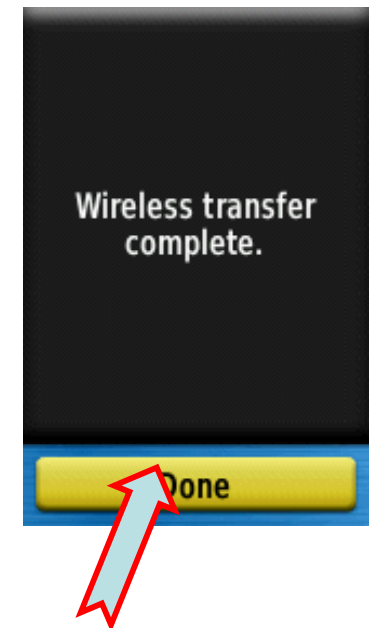
Receiving GPS



Receiving GPS



Receiving GPS

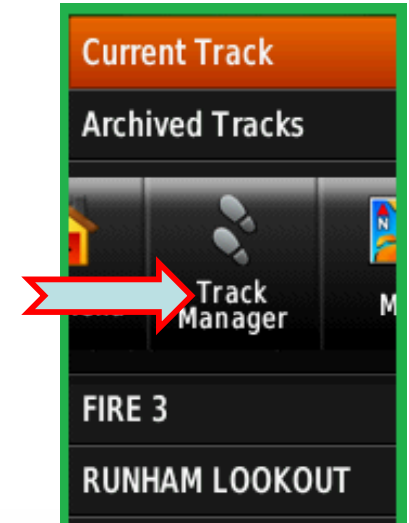
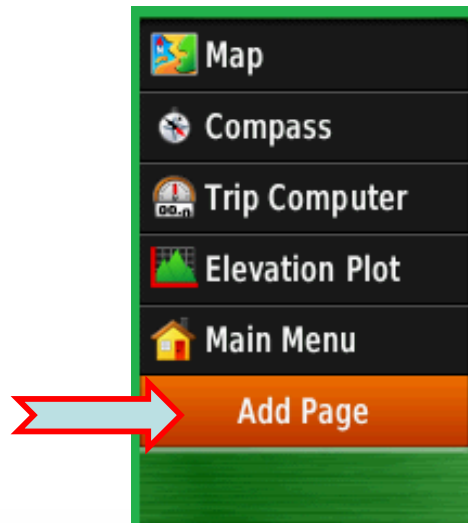
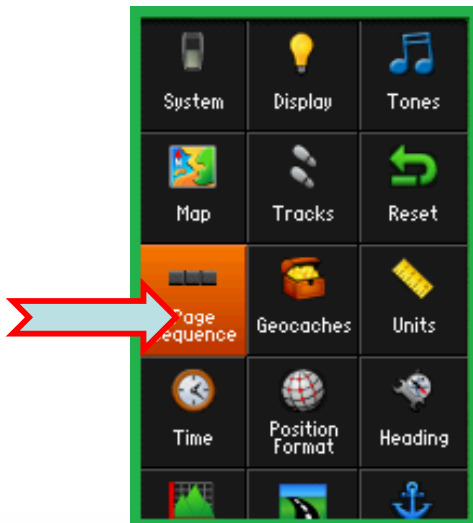
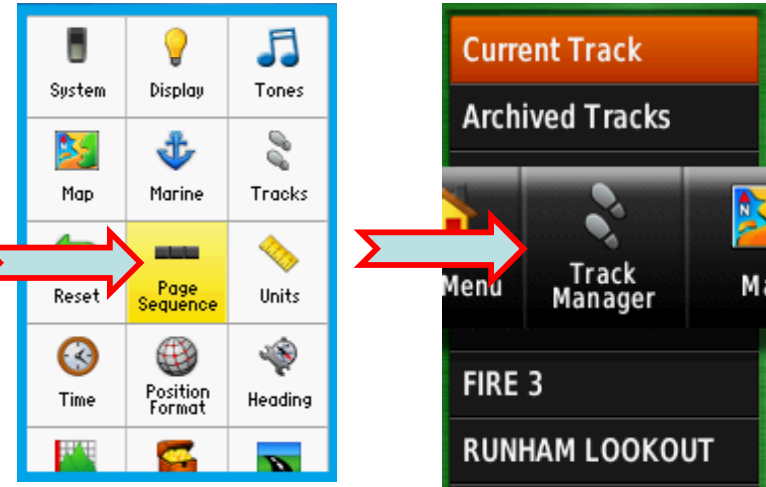


# Advanced Features



# Page Sequence

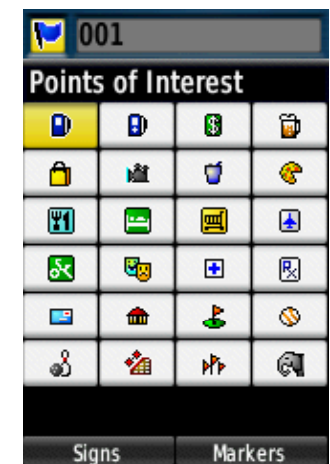
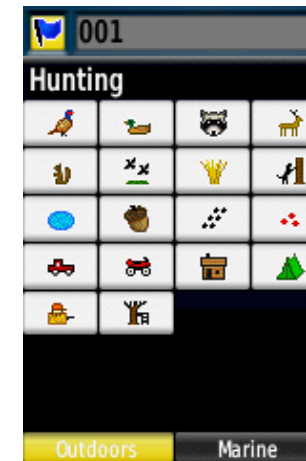
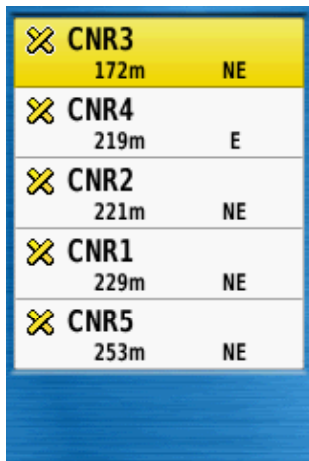
The Favourites Bar can be edited by going to the **Main Menu** and selecting **Page Sequence** then **Add Page**. For example, selecting **Track Manager** this will display the **Track Manager** on the Favourites Bar for easy access.



# Working With Waypoints

## CHANGING AN ICON

- To change an **Icon**, select the **Icon** in the top left hand corner of the waypoint screen.
- There are several categories of **Icons** that can be selected. Please see the following example types
- Select the **Icon** category and then the **Icon** required



\*\*\*\*\* Notice\*\*\*\*\*

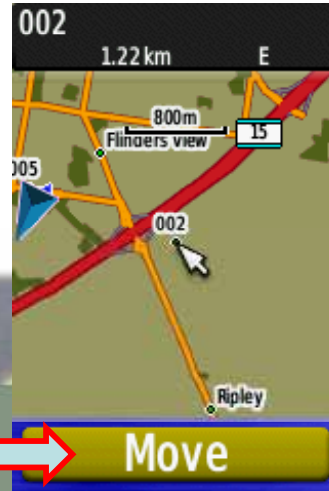
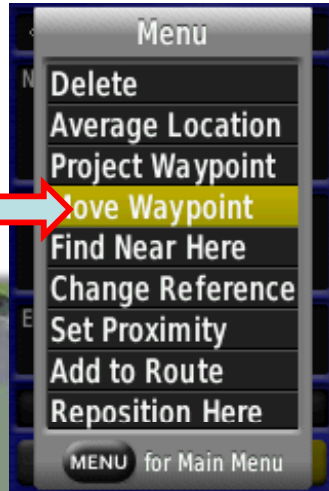
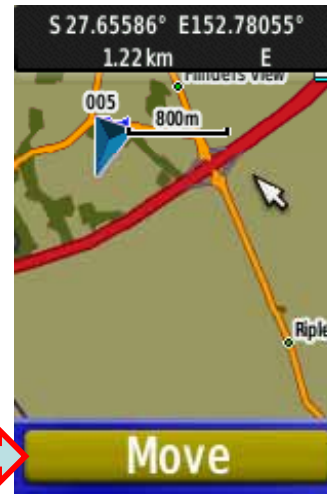
When an **Icon** is changed this **Icon** will become your default **Icon** the next time you mark a waypoint. To overcome this, reselect the **Icon** you wish to use as a default after you have finished changing an **Icon** for your waypoint reference.

# Working With Waypoints

You can move a waypoint, select **Waypoint Manager** then select the required waypoint and press **Enter/Mark** and then the **Menu** button and then the **Rocker** button to select **Move Waypoint** and press **Enter/Mark** then by using the **Rocker** button to move the cursor to the new location and then **Enter/Mark**.



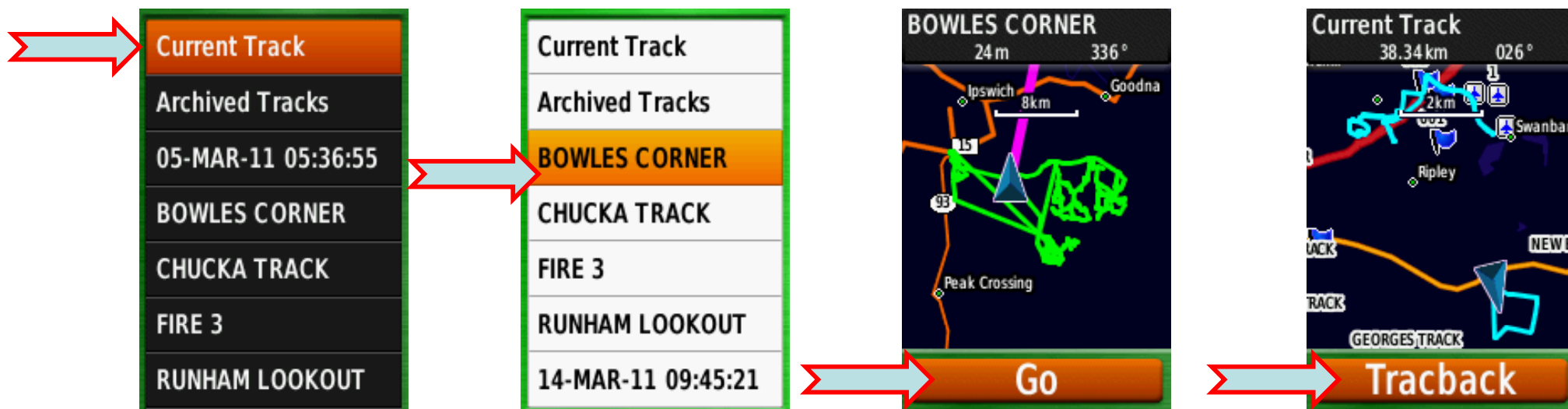
Buttons



# Working With Tracks

To navigate a track that you have saved or recorded, press the “**FIND**” button then select **Tracks** and press “**ENTER**” and the Track Scene showing all the saved and current Track.

Then select the name of the Track or the Current Track and press “**ENTER**” and then press go or backtrack and follow the GPS directions.

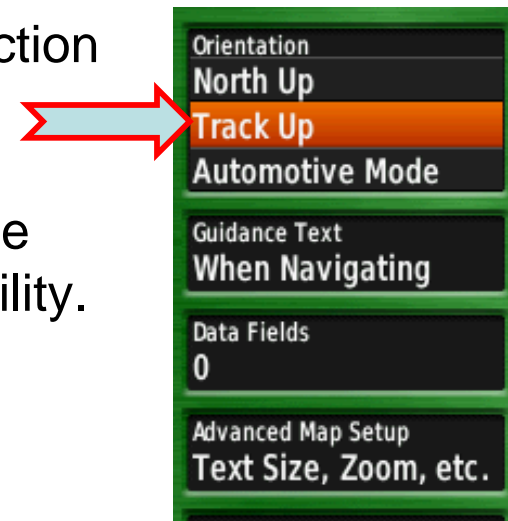
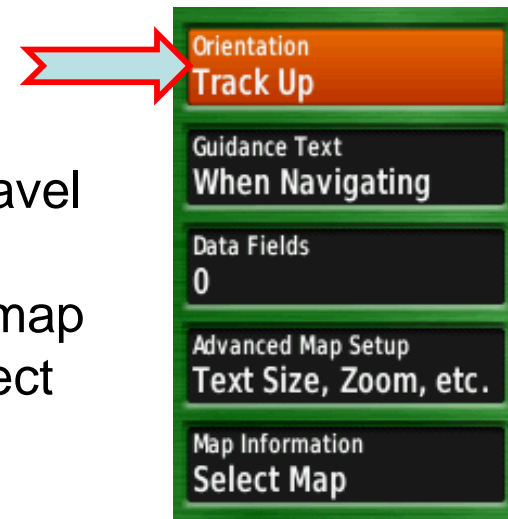


# Working With Tracks

▲ This symbol represents your position on the GPS map. As you travel the position icon will move and will leave a automatic breadcrumb trail (track log) on the GPS screen. You can change the orientation of the map by pressing the “**MENU**” button and then select “**Setup Map**” and select the “Orientation” screen then “Track Up”.

You can then choose between having the map as showing **North Up**, **Track Up** or **Automotive Mode**. **Track Up** will always show your direction of travel at the top of the GPS.

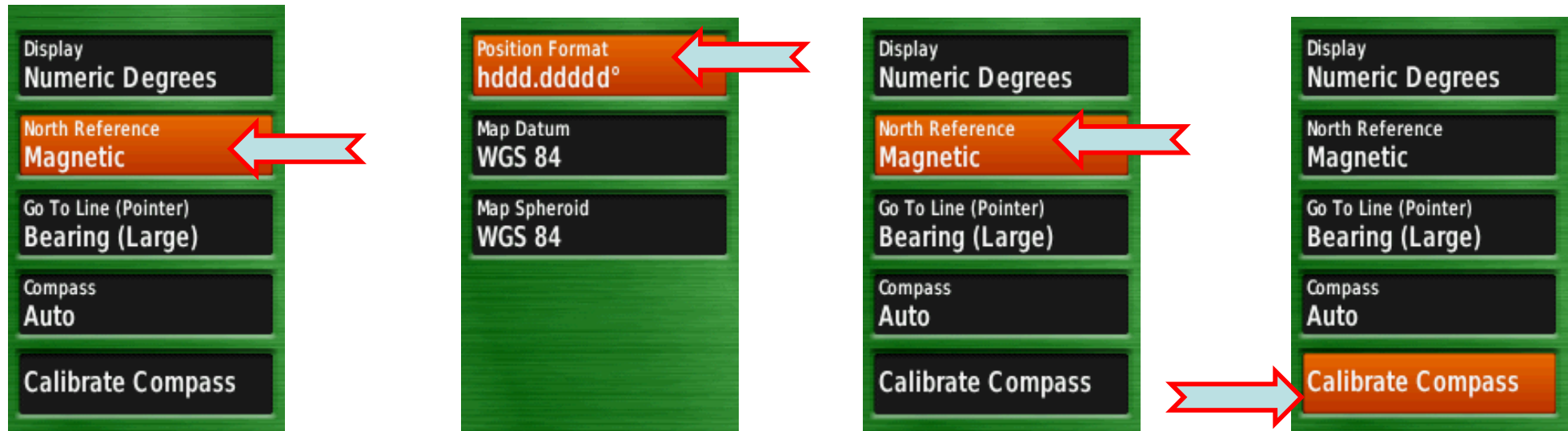
You can select automotive mode to show a prospective view but for the conditions that we operate in it is unlikely we will ever need this capability.



# Compass

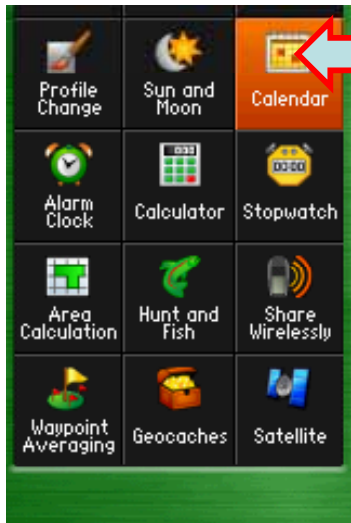
The GPSmap 78s has a Electronic Compass for field use and it needs to be calibrated before use. The directions to complete this are in the manual and it is simple to undertake.

In the **Compass** set up options it is advisable to set your compass to **Numeric Degrees** (001- 359°) and also set your **North Reference** to **Magnetic** before the GPS is put into service.



# Additional Tools

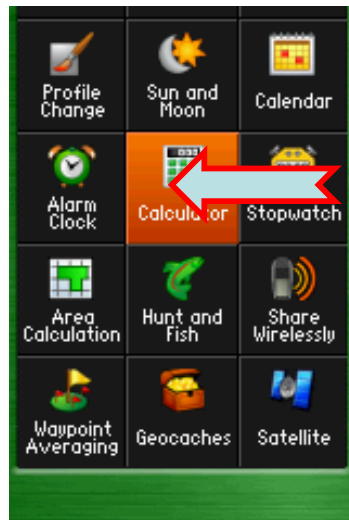
There are a number of additional menu tools that can be of assistance to you, but we will not be exploring these options today. We suggest you have a play with the GPS and familiarise yourself with these extra functions.



**Calendar**

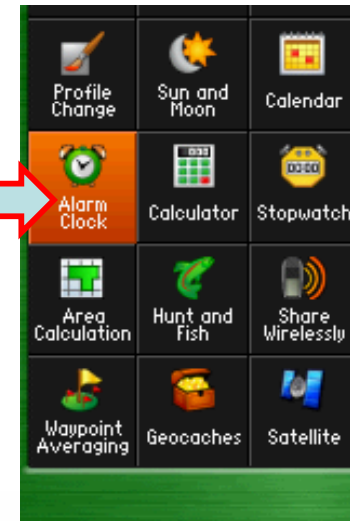


**Sun and Moon**

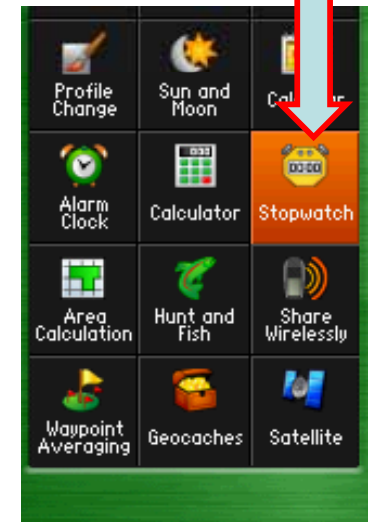


**Calculator**

**Alarm Clock**



**Stop Watch**



# Trip Computer

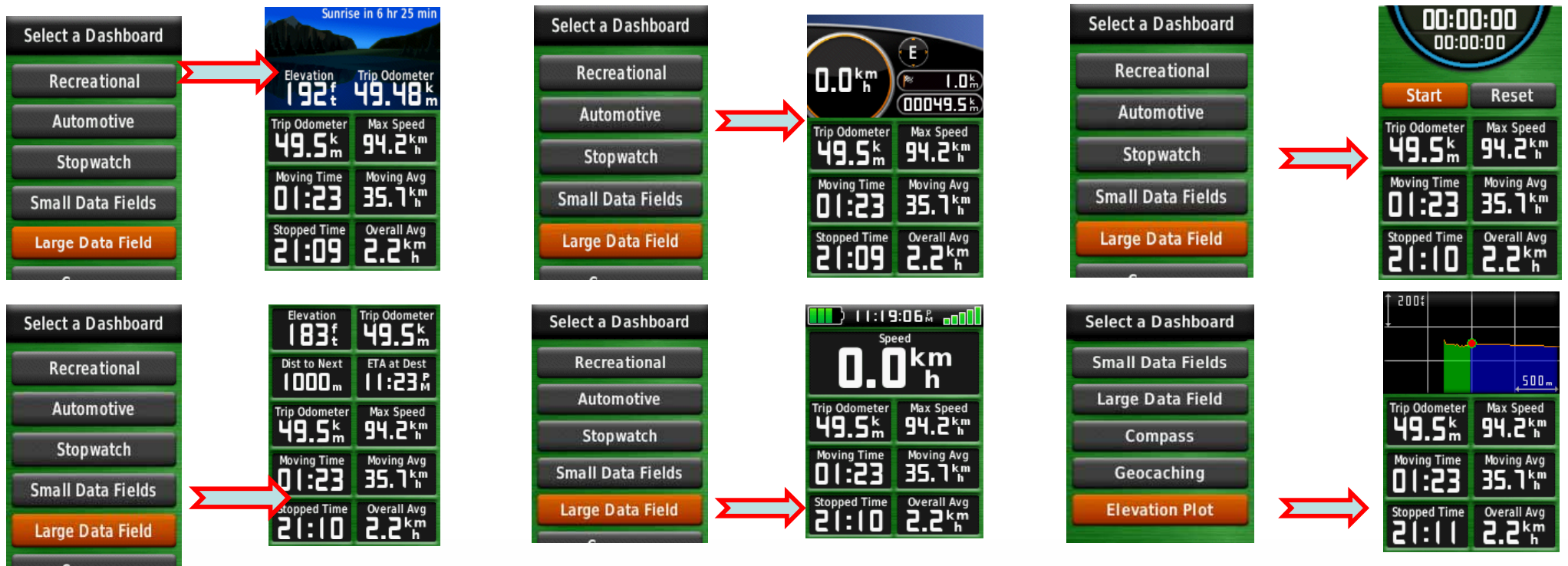
The **Trip Computer** displays your **Current Speed, Average Speed, Maximum Speed, Trip Odometer** and other helpful statistics you can change these fields to suit your particular needs.

The **Trip Computer** setup can be accessed by pressing the **Page** button and you can then press the **Menu** button and press **Reset** which will reset all the information in the Trip Computer. It is suggested that at the beginning of every trip the **Trip Computer** be **Reset**.



# Information Formats

You can also change the number sizes for those who need glasses to read. You can easily reset to the manufactory default settings by using the **Restore Defaults**. There are many other settings but you can explore them at your convenience.

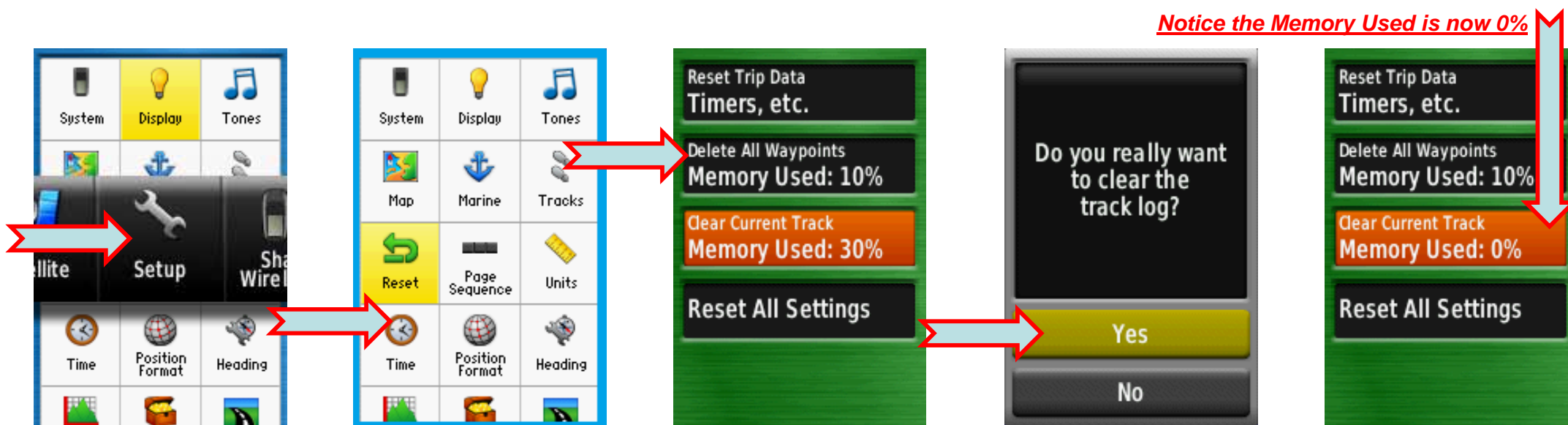


# Clearing Memory

To clear the **Memory** select **Setup** and select **Reset** icon and then select one field at a time. Firstly the **Reset Trip Data** then **Delete All Waypoints** and then **Clear Current Track**.

The example below is for clearing the **Clear Current Track** memory data. The **Reset Trip Data** and **Delete All Waypoints** are done the same way.

**\*\*\*Notice\*\*\*** If you select **Reset All Settings**. It will restore every thing back to Factory Setting. You will then have to reconfigure all the settings and **Page Sequence** again.



# Thank You

## *Questions?*

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Videos on how to use are also on [Youtube.com](https://www.youtube.com) Type in GPSMap78s and look up [gpscity.com](https://www.gpscocity.com) videos