



Safety Service Teamwork

Global Positioning Systems (GPS) Training



**This course is designed to instruct in the basic use and features of the
Garmin 78s GPS**

To assist the Brigades 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 GPS 78s unit.
2. The GPS 78s 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 GPS 78s is not a stand alone device but complements the use of Brigade Maps and Compass.

Options

The GPSmap 78s has some available accessories. It is useful to learn about their function.

- Computer hook-up cable and computer interface software this enables information stored in the GPSmap 78s to be downloaded to a computer for conversion to map information, or just simply as a backup. (Supplied)
- External Power Supply cable and lead, which runs off the Appliances cigarette lighter plug (12 volts only not supplied)

Stored Information can be:

- *Waypoints* (points, grid-points, locations, all mean the same thing)
- *Tracks* The GPSmap 78s can store and automatic log of a track (path) as you go. This is the most common operational use of the GPS within the Brigade. *Routes* The GPSmap 78s 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 GPSmap 78s.

- Carry case (not supplied)
- Mounting bracket or swivel holder for the Appliances can be mounted on the dash and the GPSmap 78s slides into these mounts. (not supplied)
- 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 GPS's main memory or they can be placed on a Micro SD Card and then placed into the GPSmap 78s.
- The Fire Brigade 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.

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 bottom slot over the tab at the base of the unit and press down until you hear a click. (see diagram)



Device Overview





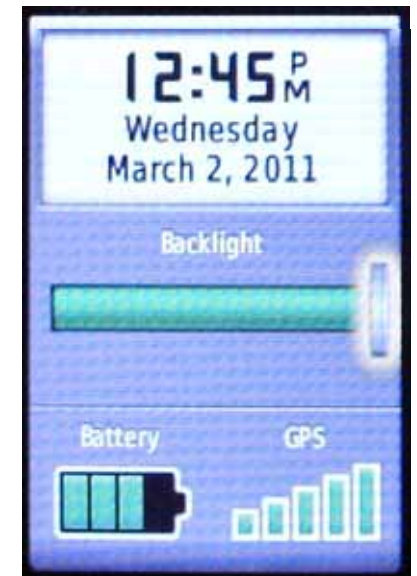
Turning ON

- 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 (except glass) or dense overhead tree.

Buttons



- However the GPSmap 78s 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.



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.

“ENTER/MARK” Press Enter button to to select options and acknowledge message. The 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

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

“+ and -” Press to zoom in and out

Buttons



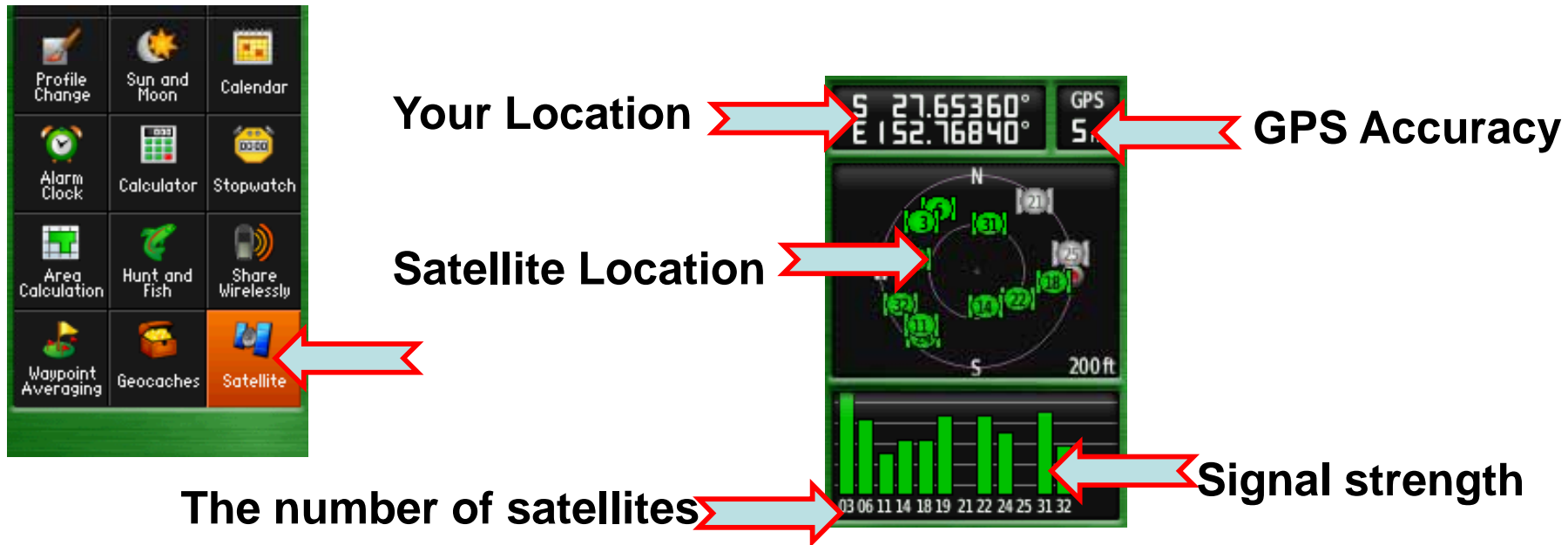
On & Backlight

Rocker

SATELLITE

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

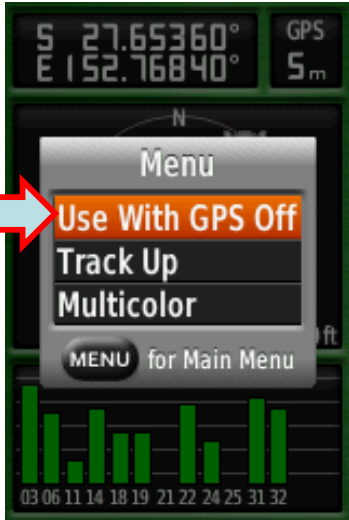
From the Satellite page press the Menu button with the GPS on and it will allow you to turn off the GPS tracking for training.




SATELLITE Continue

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. You can also change the scene to multicolour as shown below. There is a difference between the day and night time colour background scenes

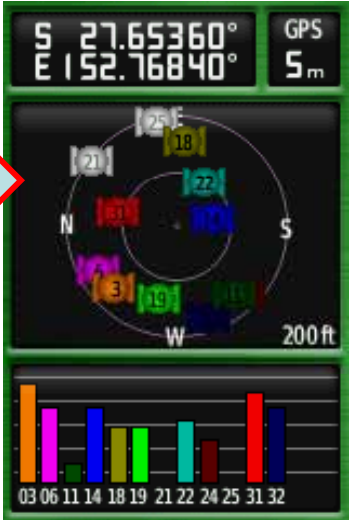
For Training →



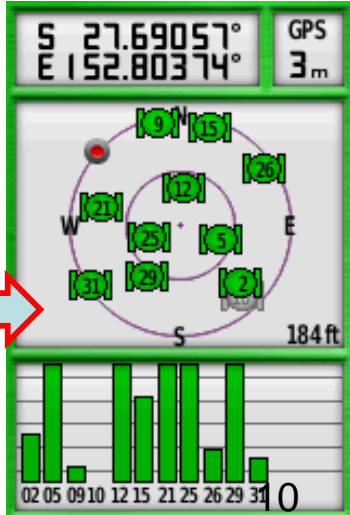
Press →



Night time →



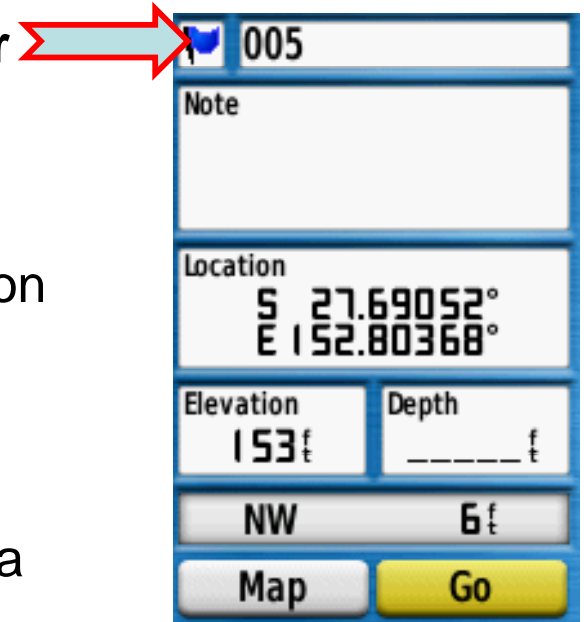
Day time →



The diagram illustrates the steps to configure the satellite tracking interface for training. It starts with the main menu where the 'Satellite' option is selected. This leads to a sub-menu where 'Use With GPS Off' is chosen. The resulting interface shows two different background themes: 'Night time' with a dark background and 'Day time' with a light background. Both themes use a multicolored scene for waypoints, with a bar chart at the bottom of each screen.

WAYPOINTS

Number



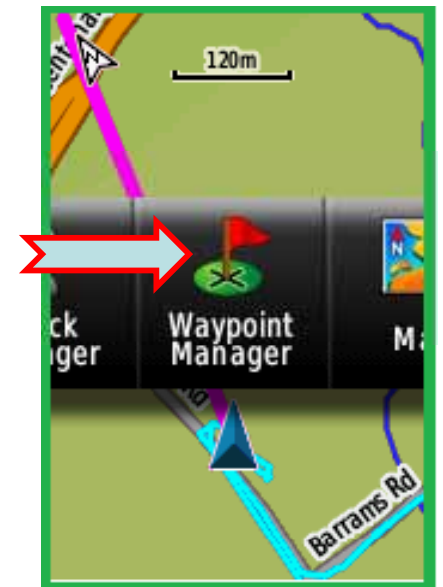
A Waypoint of your current location can be store on the GPS.

To create a waypoint from any page which may be displayed on the GPS Screen. Press and hold the “ENTER/MARK” key and this will automatically create a waypoint plus generate a waypoint number. (As in the example to the Right)

To navigate to a waypoint press the “FIND” button and select a Waypoints, press ENTER then select Go.

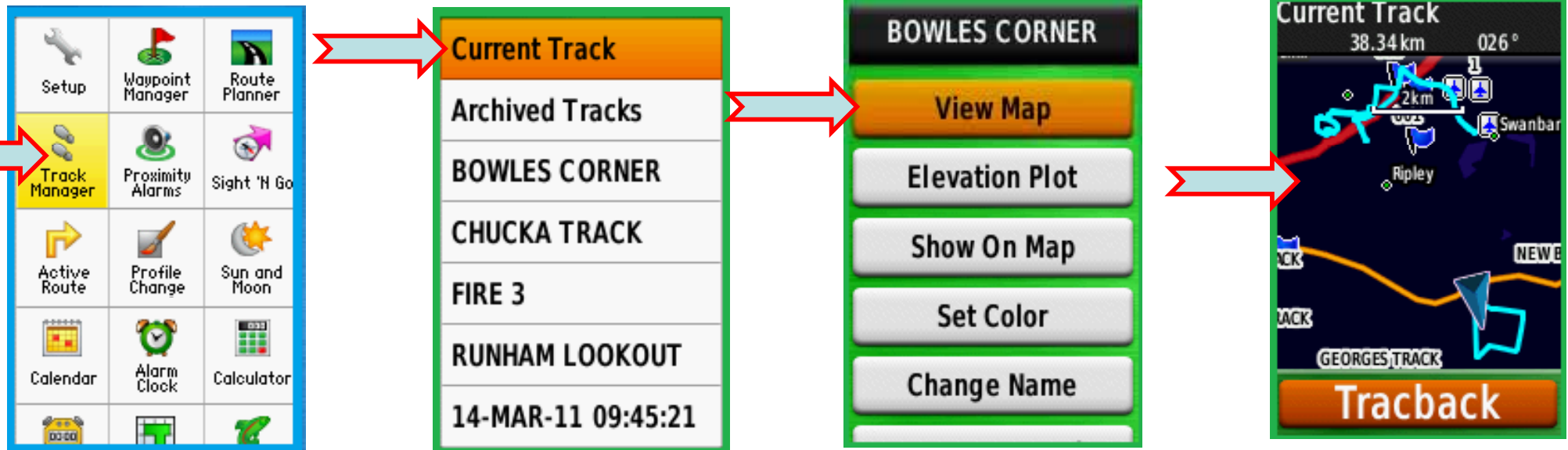
Editing of a Waypoint from the Main Menu, select **Waypoint Manager** then select a Waypoint and then select the attribute that you want to change such as name or location enter the new information via the rocker button. When completed just press the **QUIT** or **PAGE** button.

Deleting a Waypoint from the Main Menu, select **Waypoint Manager** then Enter, then select the required Waypoint and press the Menu button and then the **Rocker** button to select delete.



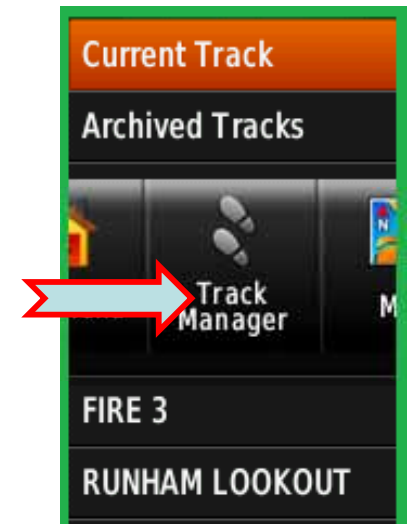
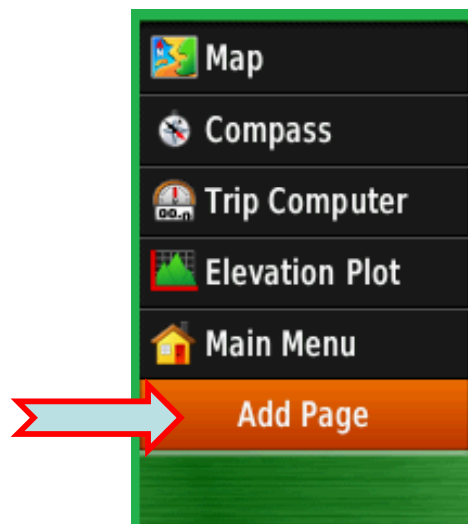
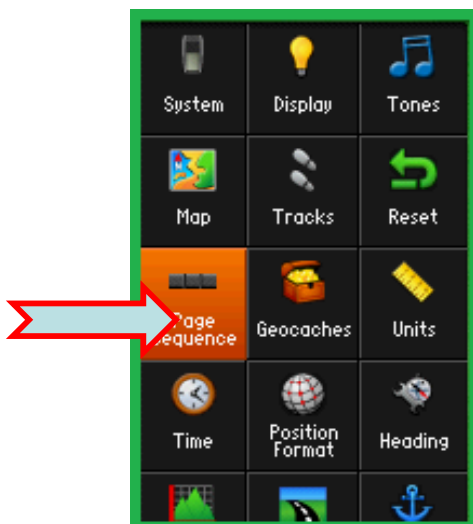
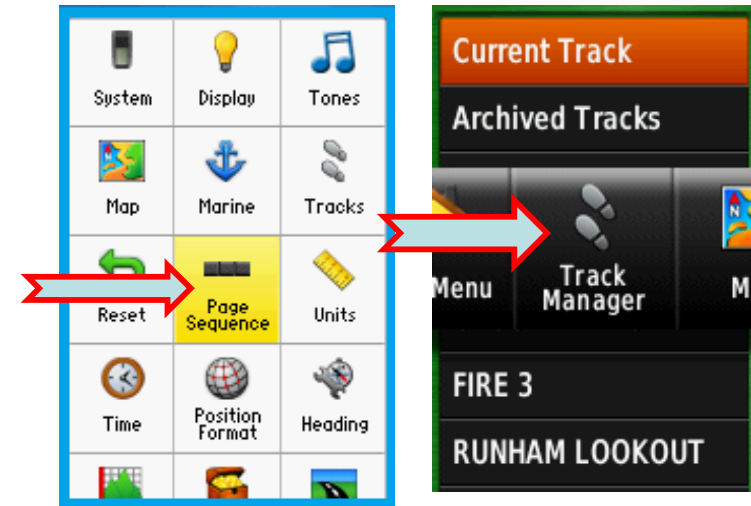
TRACKS

- To view the current Track select the **Main Menu Screen** and then select **Track Manager** and then select the **Current Track** option. This will show **View Map** on the GPS.



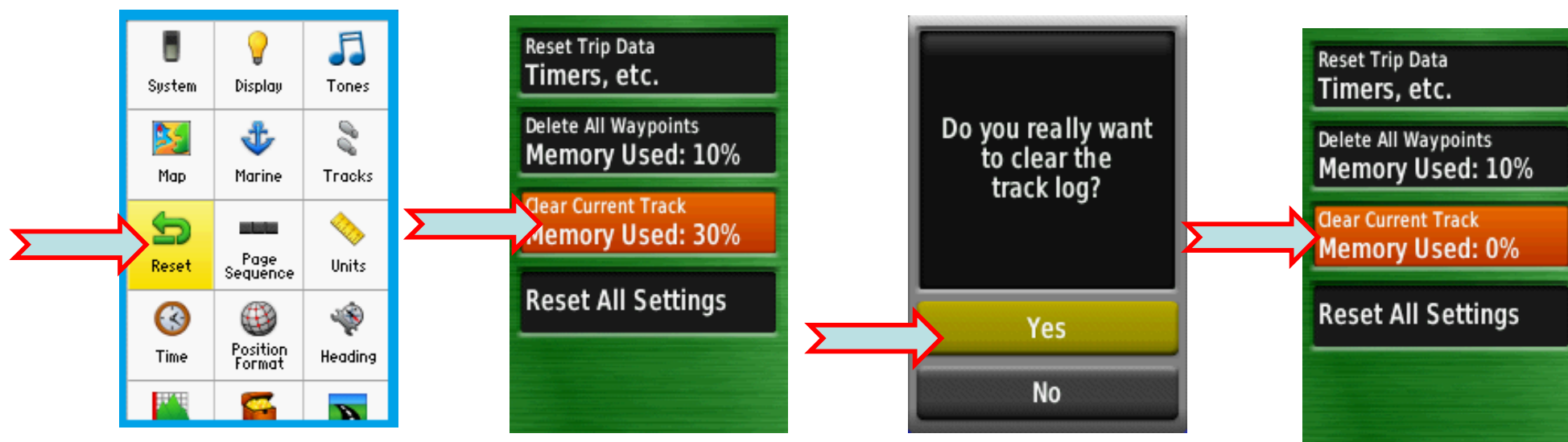
TRACKS CONTINUE

- A shortcut can be created by going to the **Main Menu** and selecting **Page Sequence** then **Add Page** then selecting **Track Manager** this will display the **Track Manager** on the **Page menu** for easy access..



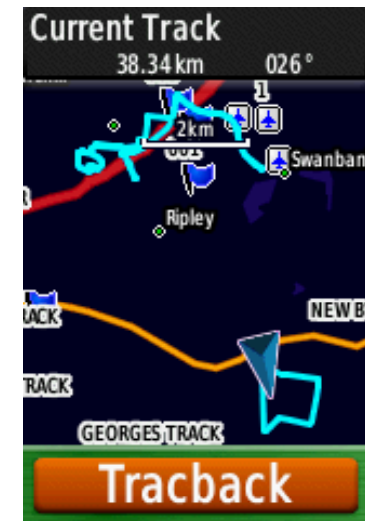
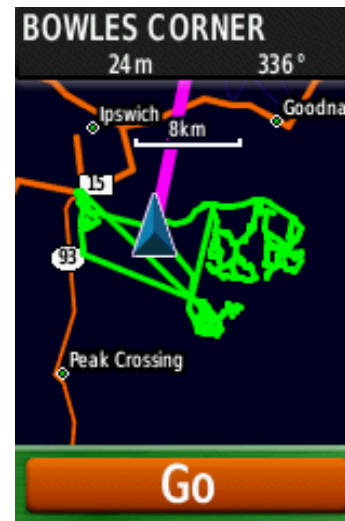
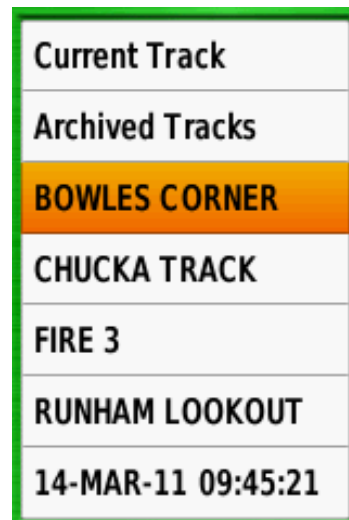
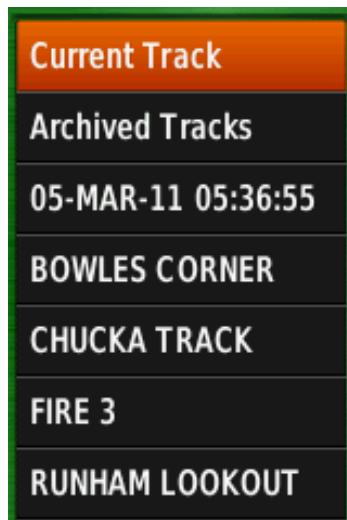
TRACKS CONTINUE

- To clear the current track select **Main Menu or Page** and select the track set up **resets** and then **clear current track** and answer **yes**.
- To Delete a track from the **Track Manager** select the Track you wish to delete press **enter** and then select **delete** and then answer **yes**.



TRACKS CONTINUE

- 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 Tracks. 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.



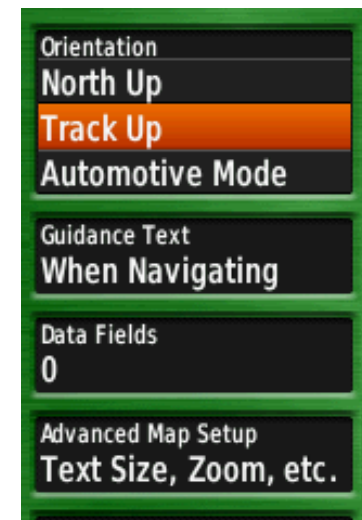
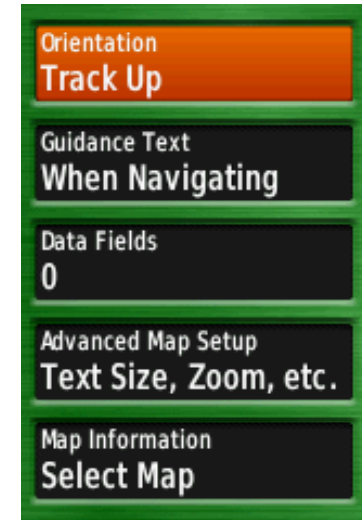
GPS MAP

▲ 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 “Set Up” 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.

I have a copy of a Garmin Map File if anyone would like a copy for their GPS..Please ask me at the conclusion of today and we will make arrangements to give you a copy.

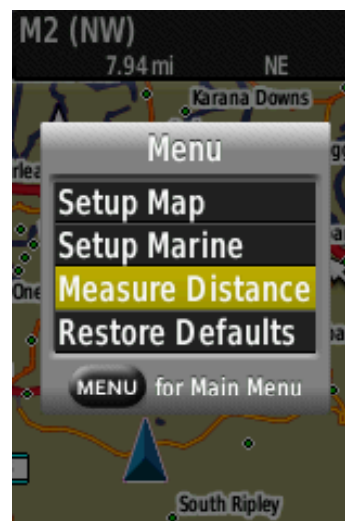
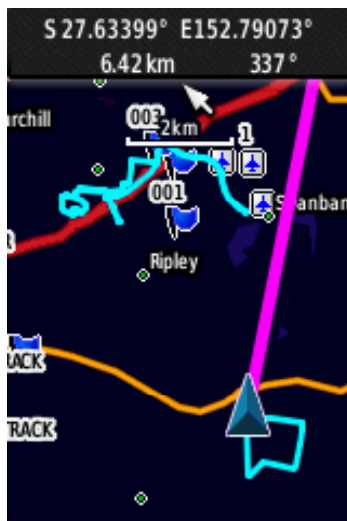


Measuring Distance

You can Measuring Distance by moving the cursor from your current position to the a different location. This will give you an approximate distance, or for a precise measurement follows the directions below. What distance from the Fire Station is the Southern Roundabouts near the ? Approximately kilometres however this is as the crows flies in a straight line.

Press the Menu Key then the Measure Distance and then measure the distance using the Rocker Key and you will see your precise distance in the box in the lower right hand corner.

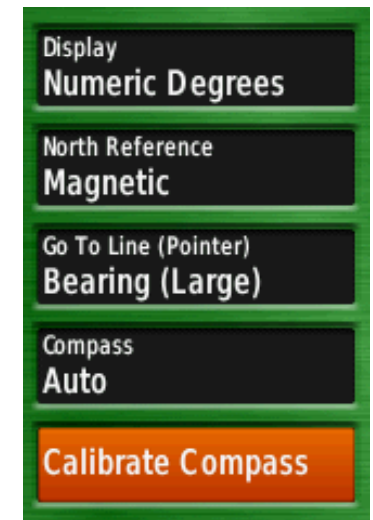
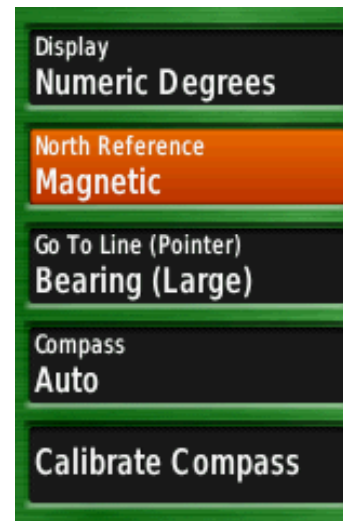
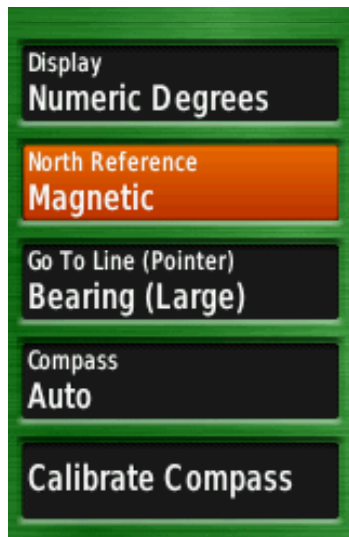
This feature is very useful when radioing back to the IMT your position from a road junction or a marker when on the fire ground.




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 to Magnetic before the GPS is put into service.



COMPASS CONTINUE

When navigating to a destination follow this  bearing pointer as it will always point to the direction that you must travel. Remember to keep the GPS level similar as if you were using a magnetic compass.

The GPS has a “Sight and Go to function” which allows you to look at a object like a column of smoke in the distance then from the Main Menu select Site and Go point the GPS at the column of smoke and then select Lock Direction then Set Course or Project Waypoint and the GPS will navigate you to the base of the fire.

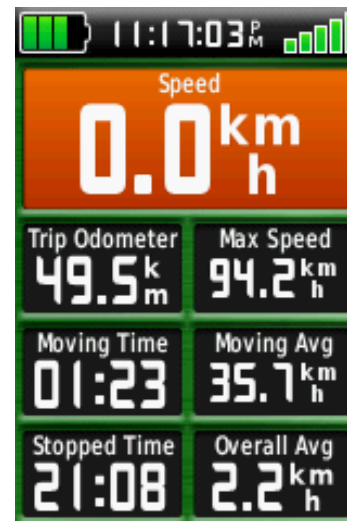
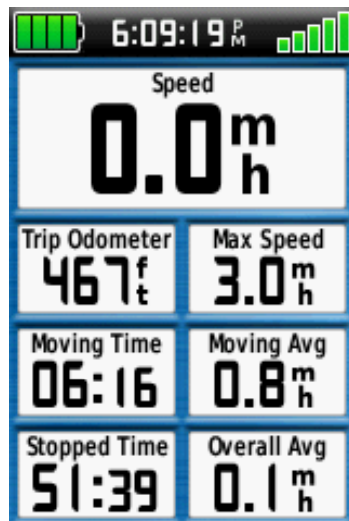


TRIP COMPUTER

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.

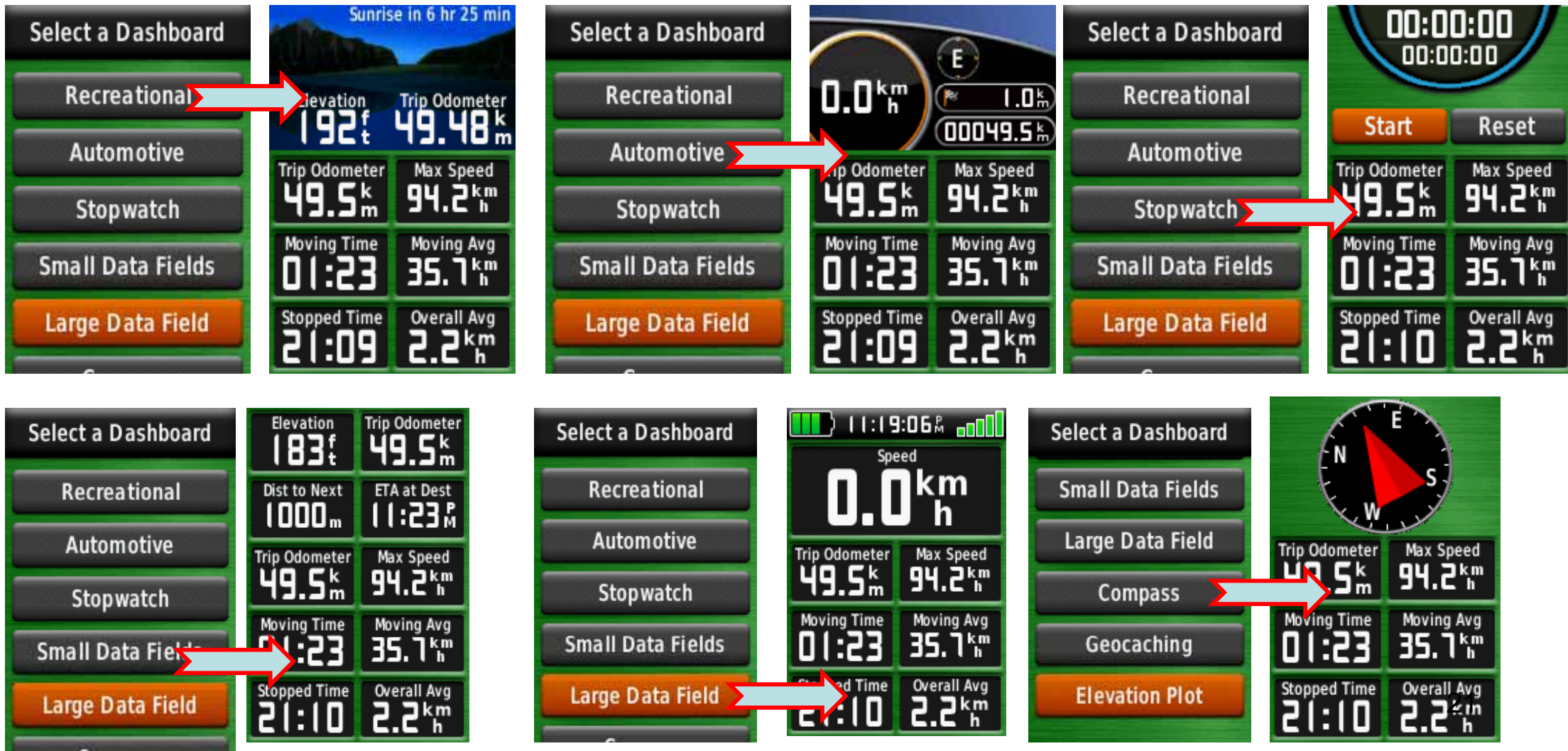
The **Trip Computer** setup can be accessed by pressing the **Page** button and you can then press the **Menu** button and press **Reset** which will reset all the information in the Trip Computer. It is a **suggested** that at the beginning of every fire the Trip Computer be Reset.

Buttons



TRIP COMPUTER Continue


- You can also change the number sizes for those like myself who are more mature and need glasses now to read. You can easily reset to the factory default settings by using the Restore Defaults. There are other settings but you can explore them at your convenience.



TRIP COMPUTER Continue

Select a Dashboard


- Small Data Fields
- Large Data Field
- Compass
- Geocaching
- Elevation Plot



Trip Odometer: 49.5 km
Max Speed: 94.2 km/h
Moving Time: 01:23
Moving Avg: 35.7 km/h
Stopped Time: 21:10
Overall Avg: 2.2 km/h

Select a Dashboard

- Small Data Fields
- Large Data Field
- Compass
- Geocaching
- Elevation Plot

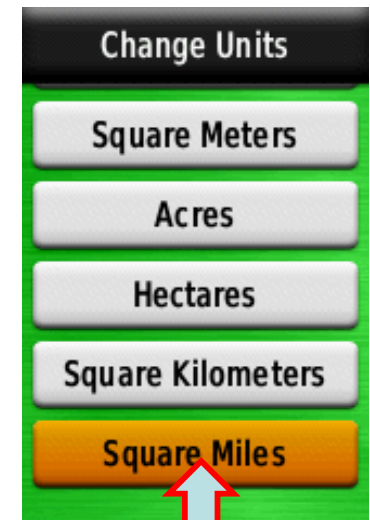
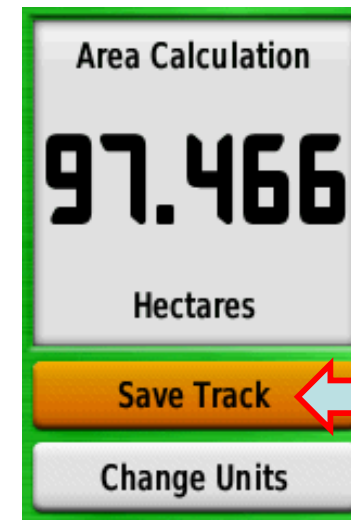
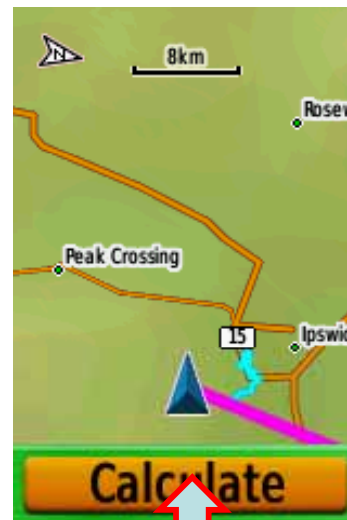
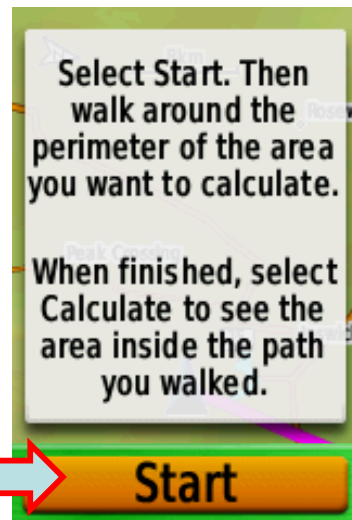
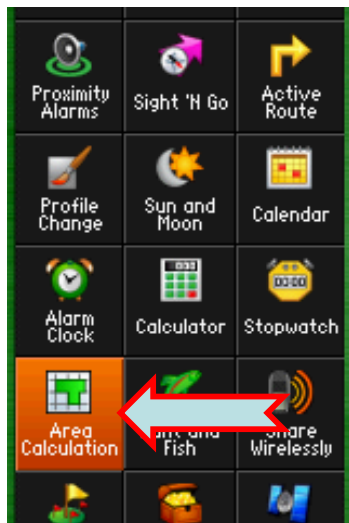


Trip Odometer: 49.5 km
Max Speed: 94.2 km/h
Moving Time: 01:23
Moving Avg: 35.7 km/h
Stopped Time: 21:11
Overall Avg: 2.2 km/h

Area calculation

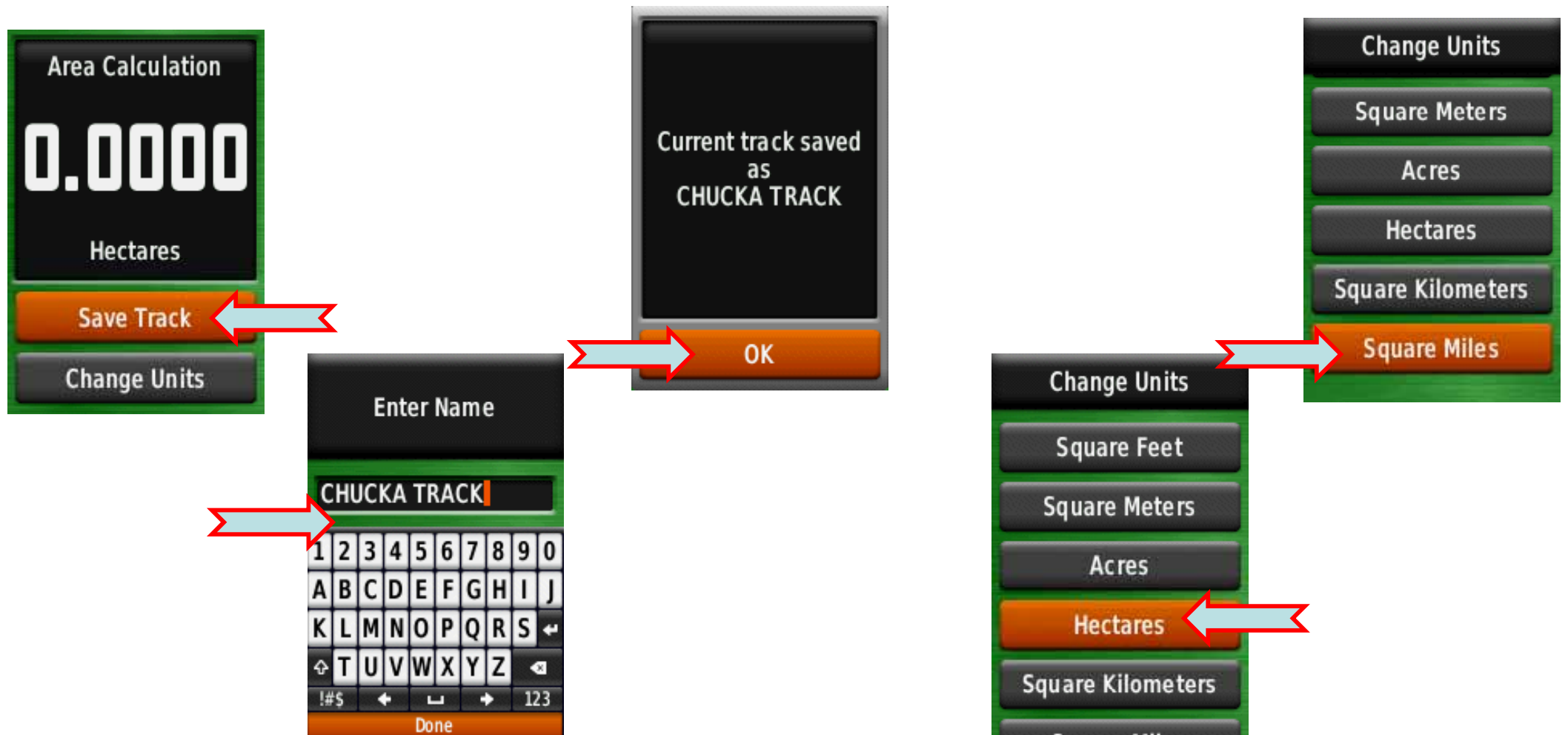
The GPS can calculate a area once you have driven or walked around the perimeter, such as a fire, then it will calculate the size.of the fire This is a very useful tool when reporting back to the IMT, FireComm, and for your RF14.

From the **Main Menu** select **Area Calculation** then press **Enter** then **Start** and then walk around the perimeter of the fire and when you have finished, then select **Calculate** and It will give you the area of the fire in Hectares.



You can change the area format into whatever you need, Square Feet, Square Meters, Acres, Square Kilometres and Square Miles. I suggest that you kept with the standard, which is Hectares.

You can then save and name this track in the GPS and for downloading into OziExplorer



TRANSFERRING FILES TO YOUR COMPUTER

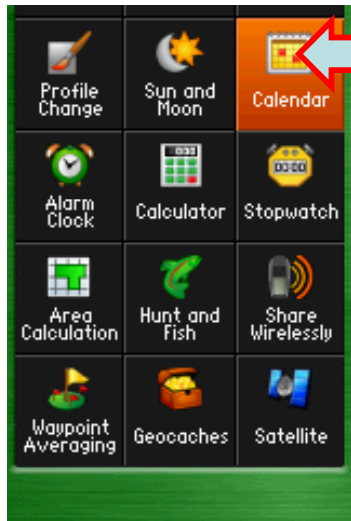
Plug the small end of the USB cable into the mini-USB port . Your device and micro SD card if install, will appear as a removable drives on your computer then using a Window Computer and as a mounted volumes on a Mac computer.

After you have connected the GPS to your computer you can copy and paste files from your computer and into the GPS. An example is to load the Garmin Road Maps file into the GPS which will be automatically read by the GPS when it is turned on.



Additional tools

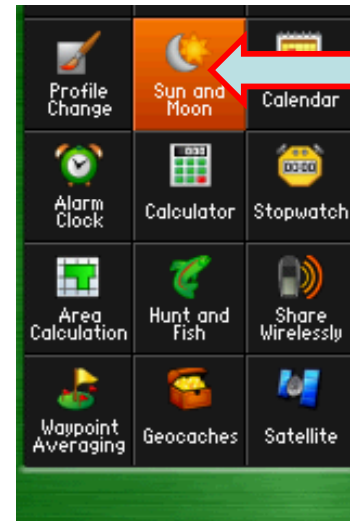
There are a number of additional menu tools that can be of assistance to you , but we will not be exploring these options today. I suggest you have a play with the GPS and familiarise yourself with these extra functions.



Calendar

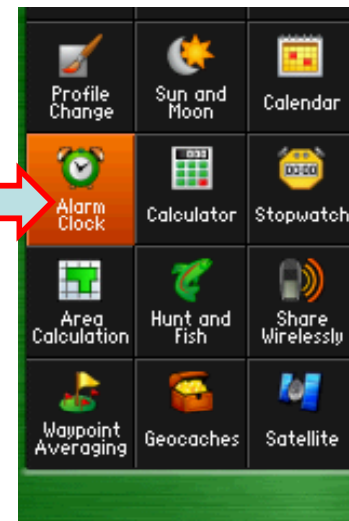


Calculator

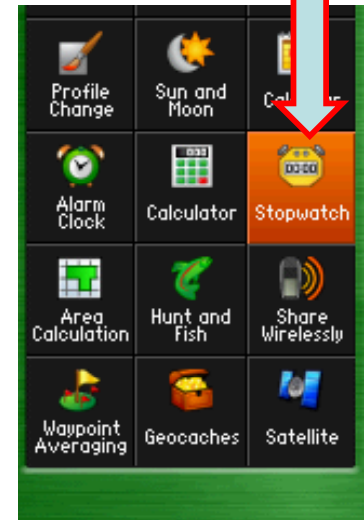


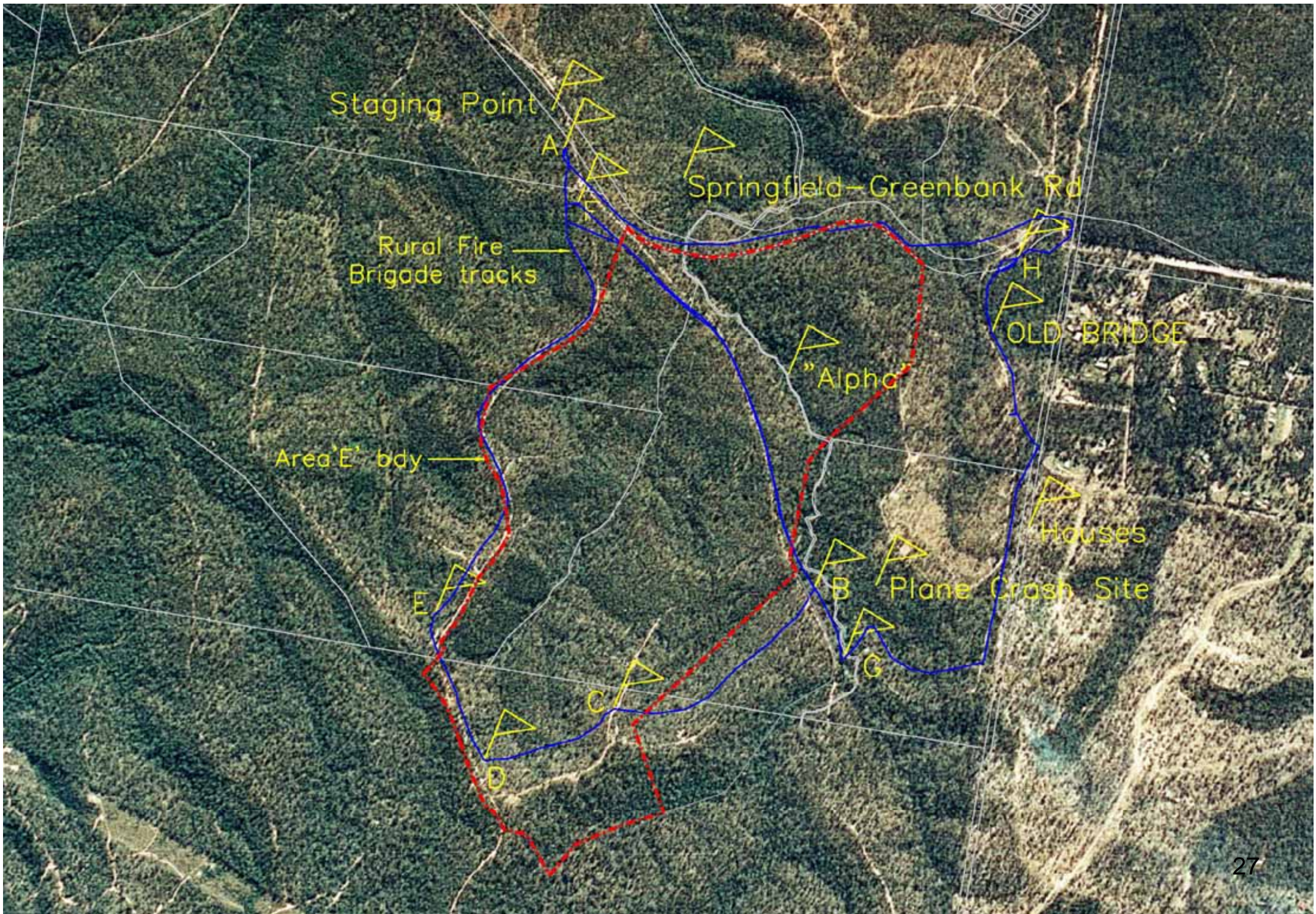
Sun and Moon

Alarm Clock



Stop Watch





Staging Point

Springfield-Greenbank Rd

Rural Fire
Brigade tracks

OLD BRIDGE

Area 'E' bdy

"Alpha"

Houses

Plane Crash Site