SARTrack Manual v1.3

1 November 2023 (#9)

Welcome to the SARTrack Manual for Search and Rescue users.

As you can see, it has a Version number. This number is directly linked to the current version of the SARTrack software, which is changing on a regular basis.
It is therefore important to update this Manual from the SARTrack website, if the current SARTrack version is higher than the version you see on this manual.
The website can be found at http://www.sartrack.nz/

The Manual is intended for SAR and Emergency Services users using SARTrack in 'SAR' mode; however Amateur Radio users may also find some parts useful.

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(https://creativecommons.org/licenses/by-nc-sa/4.0/) and any adaptations or attributions must contain a reference to "SARTrack Limited" and the URL www.sartrack.nz.
In addition to this Licence: Any documentation on the Software is must also be amended on a regular basis to allow for significant changes and additions to be added.
As a result, a Version Number **must** be supplied with any documentation to indicate up to which version the documentation has been updated.

Note: This document cannot really keep up with the fast development of the SARTrack system, and as a result it is sometimes behind the actual program version.
Some screenshots may be slightly different that the latest version of SARTrack.

Contents

Version Changes

Between version 1.106 and 1.30

- Major overhaul. Integrated Email system, AREC /ARES Comms Operation and much more

Between version 1.001 and 1.106

- New Main Menu. Major internal changes. Some windows have changed.

Between version 1.001 and 1.009

- Change to Multi-Operation system. Many windows have changed.

Between version 0.9.780 and 1.001

- Switch from Beta to version 1
- The Equipment system has been completely rewritten, which requires the entire Manual to be reprinted.

Between version 0.9.779 and 0.9.780

- Setup: SAR: Replace page 12
- Edit Object: Replace page 24
- Edit Station: Replace page 25
- Team Linkage: Replace page 26
- Message Chat Window: Replace page 28.
- Team Setup: Replace page 43.

Between version 0.9.778 and 0.9.779

- Database Users: New Options (Page 10)
- Team Setup: New Team (Page 53)
- Team Linkage to Tracker Objects and Stations (Page 27): (updated text)

Between version 0.9.776 and 0.9.777

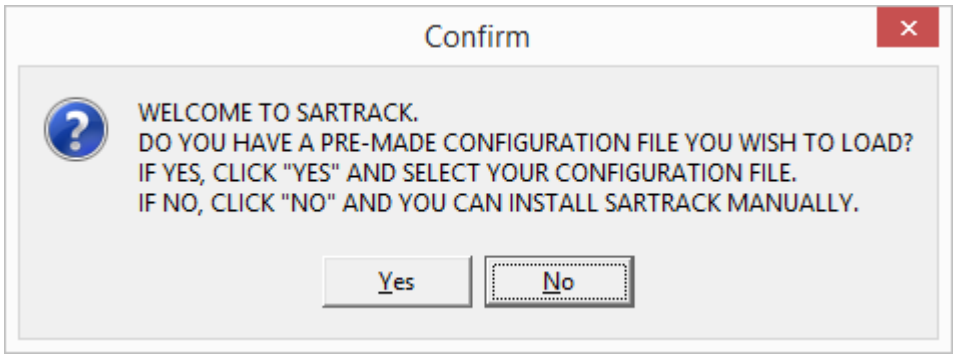
- Map: Changed Popup window (Page 20)
- Map: New Popup window with extended options on Show / Hide (Page 21) items on the map.

SARTrack Installation

The SARTrack software is a Windows based program, which requires Windows XP or higher to run.

To install the software, download the SARTrack software from the website http://www.sartrack.nz
Run the installation program, which will install the software on your computer, *in the current Windows User account,* in the '..\AppData\SARTrack\' folder. That is, it can only be run from this one Windows User account.
The installation program will generate an Icon on the desktop:

Click on this Icon to start SARTrack.
The first time, you will have to work through the Activation steps.
There are two ways: Manually go through the steps, or load a pre-made SARTrack configuration file from a USB stick (More about this later).



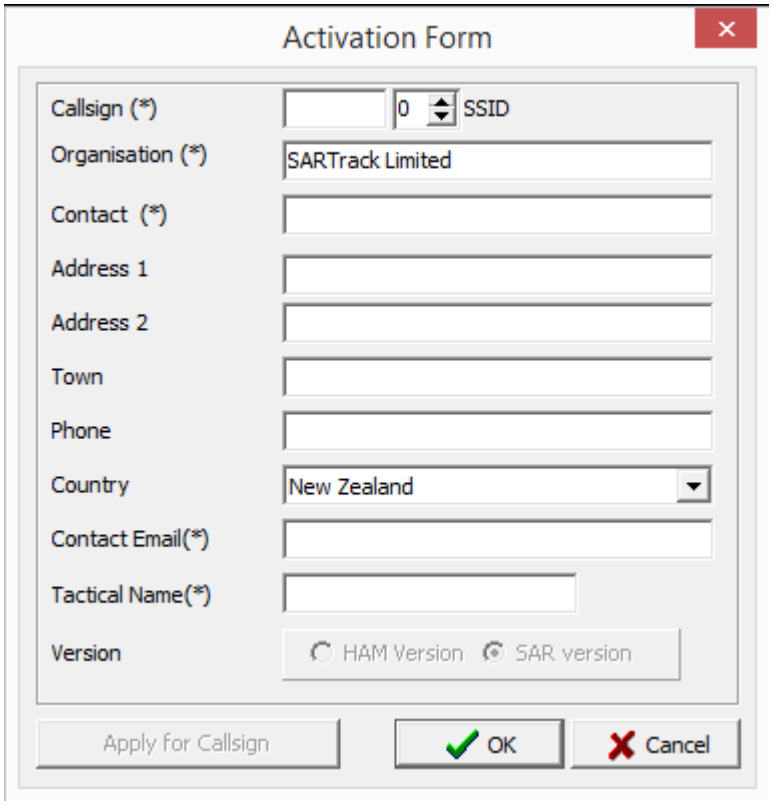
If you have been supplied with a pre-made SARTrack configuration file you select 'Yes' and follow the steps to load it.
In all other cases, select 'No' and the program will ask you some questions, which you must answer correctly, so that the right settings are generated.
After the Language is selected from the initial box, please answer the following questions:

New Zealand SAR users:

- Are you planning to use SARTrack for Search and Rescue? (Select YES)
- Are you installing SARTrack for Home Training: If **Yes**, a simplified install starts; if **NOT**:
- Are you a Licenced Amateur Radio operator? (if not, you must get a Callsign)
- Did your SAR Group already receive a Base Callsign range from SARTrack Limited? (This question will be asked if you are in New Zealand and do NOT have an Amateur Radio Callsign. If you answer YES, you must request a Callsign from your Group's manager, if NO, SARTrack will send a 'Callsign Request' to SARTrack Limited.)
- At this point, you will see the Activation Form below.

International Users:

- Are you planning to use SARTrack for Search and Rescue? (Select YES)
- Are you in New Zealand? (Select **NO**)
- Are you a Licenced Amateur Radio operator? (if not, you must make up a Callsign)
- At this point, you will see the Activation Form below.



- **Callsign:** Originally, SARTrack was based on the Amateur Radio 'APRS' system, which requires each computer to have a 'Callsign'. This is a 3 to 6 character/digit field, followed by a number (0 to 15) called a SSID.

Currently SARTrack uses this Callsign to identify each SARTrack computer, and it **absolutely imperative** that every computer has a **unique** Callsign. Never should a SARTrack terminal or SARTrack Database Server have the same Callsign/SSID as another one.

The following fields speak for themselves, but:

- **Contact Email:** Make sure this is correct! SARTrack uses this email address to communicate with you when you send a 'Bug Report' or apply for the mailing lists. **Your Email address will NEVER be shared with anyone else**.
- **Tactical Name:** This is the name which identifies your computer on all Maps and forms, and in the Operations Log. You can make it anything you like, but make it obvious whose computer this is.

Once you click OK, another important window will appear: The SARTrack **GroupID**.
All SARTrack computers are linked to each other based on this GroupID, which is a number between 1000 and 26000. By default, SARTrack will generate a random number here for you.
But, once a GroupID has been selected by your organisation, you must enter that specific ID for your computer.
If the GroupID is not correct, you will not be able to connect your SARTrack terminal to the other computers of your organisation.
Note: New Zealand users will get a GroupID allocated by SARTrack Limited.

Once you click OK on this window, SARTrack will email the Activation details to SARTrack Limited.

After this you *may* get one more question:

- **Tablet PC?**

If MS-Windows detects you have a Touch Screen, it claims it is a Tablet PC. However, if you install on a normal Laptop, select **No** here. Only select Yes if this is a Tablet. This will change some of the buttons (especially the Map window) to a much larger type, but it is not recommended for laptops.

You are done!

SARTrack is now running. But, you may want to connect SARTrack to a Database Server, or to other communication devices. You can read more on this in the following chapters.

 ***Note:*** *After the first installation for your organisation and after you have modified all Settings to your liking, you can* ***export*** *the final configuration file to a USB stick. This will greatly simplify the installation of following SARTrack computers for your organisation.*

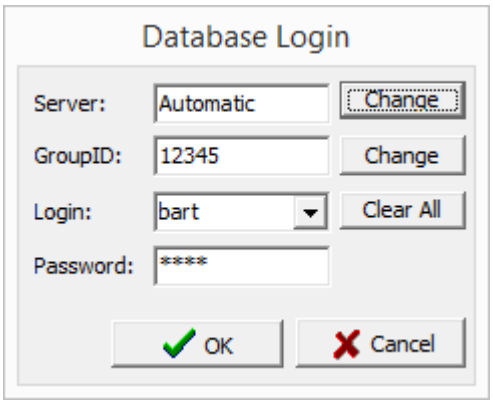
This exported file will contain only these settings which will be shared across all SARTrack computers. It will not include Callsign, Tactical, and personal information. It will also not include connection settings to communication devices. But it will include the ***GroupID and*** *many other global settings.*

Also: You can pre-set a ***LOCK*** *on the Setup Menu. Once this is done, it requires a Password to get into the Setup. This LOCK & Password will be exported with the configuration file, so that the end-users of the new SARTrack installations cannot change the settings, unless they have the password.*

To Export the configuration file: *Click on the Tools button in the Main Menu and select Export. The option to LOCK the Setup can also be found there.*

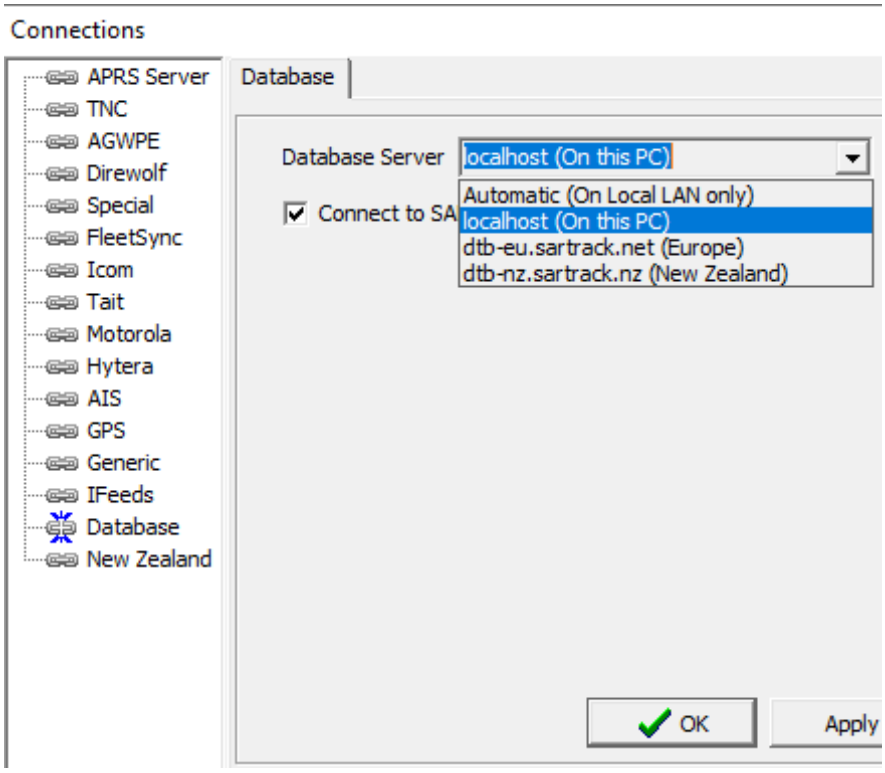
Login window

Before you can do anything with SARTrack (in SAR mode) you **must** connect to a **Database Server**.



In the example on the left, the connection to the Database Server is set as '**Automatic**'. This means that SARTrack will attempt to connect to a Database Server **on the local LAN / WIFI only**.
It does this by sending a request over the local LAN and the Server will respond to this, after which the connection will be established, and the Login procedure will start.
This system will only work if both Server and Terminal are on the same Class-C network on the LAN. It will not work in situations where two different WIFI units are in use and the Server is connection to the other unit.

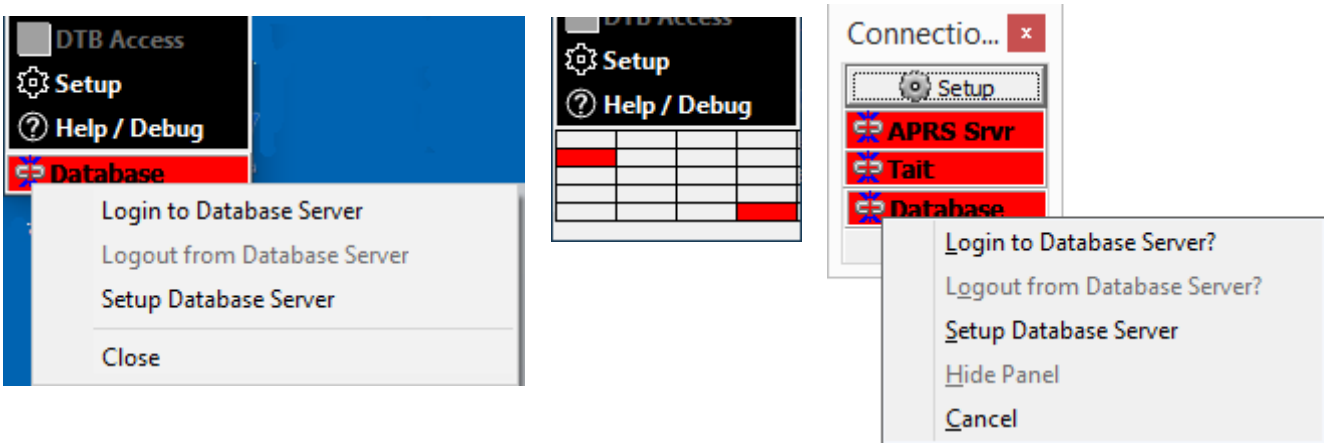
By clicking on the (Server) 'Change' button, you can change to which Database Server you want to connect:



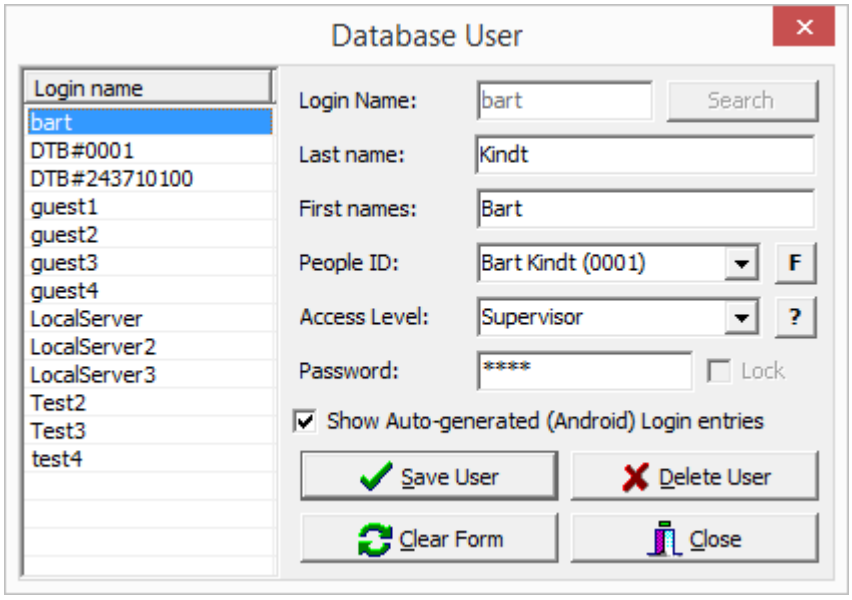
'Automatic' will only work on a local WIFI where a Local Server is running.
'Localhost' only works when a Local Server is running on the same PC.
In all other cases select or enter the link to a Database Server. This can be a server Name, or an IP address.

However, using an IP address should only be used if it is certain that this cannot unexpectedly change, as may happen when it is connected to a WIFI unit, with DHCP enabled (a normal situation).
In a case like this, after a power failure of the WIFI unit, there is a good chance the Server will be allocated another IP address, and the connection is lost.
Note: If you are running a Database Server on the same PC, the Database Server is locked to 'localhost'.

The Login window will automatically appear when SARTrack is started. However, when the Login is cancelled, the way to bring it back again is to click on the Database panel at the bottom. If the default Menu is used (first image) Right-click will allow you to connect. If the Menu is set to use the Connection Panel (second image) clicking will open the Connection Menu, where you can then right-click on the Database panel (third image).


DTB Access
Setup
Help / Debug
Database
Login to Database Server
Logout from Database Server
Setup Database Server
Close
Setup
Help / Debug
Connectio...
Setup
APRS Srvr
Tait
Database
Login to Database Server?
Logout from Database Server?
Setup Database Server
Hide Panel
Cancel

DTBUsers (Database Users)



The 'DTBUsers' window will enable anyone with a Supervisor access level to add, edit and remove Database User Login's.
You can access this window by clicking in the **Main Menu** on 'Operations', then in the **Operations Menu** click on the **Manage Menu**.
There are several levels of access which can be assigned to the database users:

- Supervisor: Can start and close Operations, can edit the Database Users and can do certain 'multi' commands like 'Clear All Teams'.
- Operations: Can do everything except the items above (Note: Can NOT start or close an Operation)
- Data Entry: Can add and edit People, and use the 'People arrival' window. Has read access to the Operation.
- Read Only: Has read access to the Operation, but cannot interact with it.
- Private Only: This is a special Login level, which gives that person (from the People database) access to its own private data only via the SARTrack Android App. In addition limited Operational data will be transmitted to the Android App when this person is assigned to an Active Operation. The App can also transmit location data back to the Server, and the App can transmit Messages and Clue information to the Server. This type of Login can also be automatically generated by SARTrack when a new person is added into the People Database (People window," Additional Info") . The "**People ID**" is the link between the DTBUser Login and the ID of the person in the People database, if it exists. If a "Private Only" login is created manually for an Android device, the "People ID" field should be set to "Unknown".
- **DatabaseServer:** This is a special Login only to be used by Local Database Servers to connect to a Master Internet Server. Never try to use this with a SARTrack Terminal.

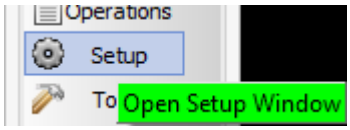
In most cases, an access level of Operations should be assigned to the operators.

Be aware that everybody with an access level of 'Supervisor' can (accidentally) close an active Operation, which can have disastrous consequences.

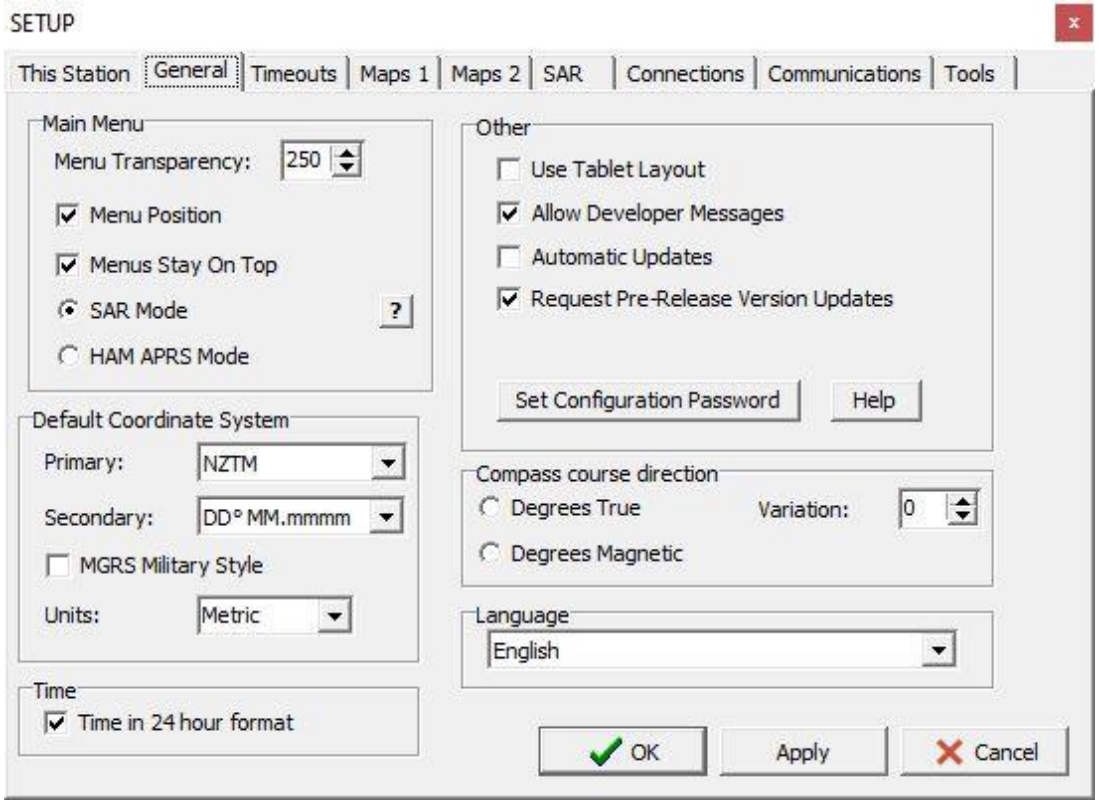
Note: When you are adding database user login's to a Local Database Server, and you are planning to also use an Internet Master Server, the new database Login's will only be available on the Master Server after your Local Server has connected and synchronized with it.
And this is only possible after you have first added a 'DatabaseServer' level login directly to the Internet Master Server for your Local server to login with.

Setup Window

To open the main Setup window (not to be confused with the *Connection Setup* (on Page15)), click on the Setup button in the Main Menu:



This will open the window:



The Setup window has multiple Tabs which you can click on to open the specific form. The default Tab is the 'General' Tab seen above.

- **This Station:** All settings relating to this SARTrack PC including the Callsign, Tactical and Location.
- **General (As above):** All the generic settings. You can also override some default settings which were generated during the initial installation here.
- **Timeouts:** This form allows you to set Timeouts and Expiry for incoming Radio Trackers and other Stations or Objects. When a Timeout occurs for a given item, it will get a yellow label on the Maps and lists to indicate a Timeout has occurred. The Expiry system is not used in SAR mode, as this would completely delete an Expired item, and this is not allowed in SAR mode.
- **Maps1 and Maps2:** These are all settings relating to the Map windows. Most of the default values should be okay, but you can try some of the items to fit your taste. There are some important ones:
    - Max Track Parts: This value, when changed, will change across all SARTrack computers connected to the Database Server. It sets the maximum 'track parts' or 'way points' for any Tracker object, and this includes imported GPX file from GPS devices. What this means is that if this value is exceeded by any Tracker (or imported GPS track) it will restart at the beginning (e.g. it is circular) and the first positions of the original track will be overwritten. If you import GPS tracks, and they seem incomplete, you may have to increase this value, but note this will be set across all connected computers.
    - Track type: This will change the way the Tracks look on the map.

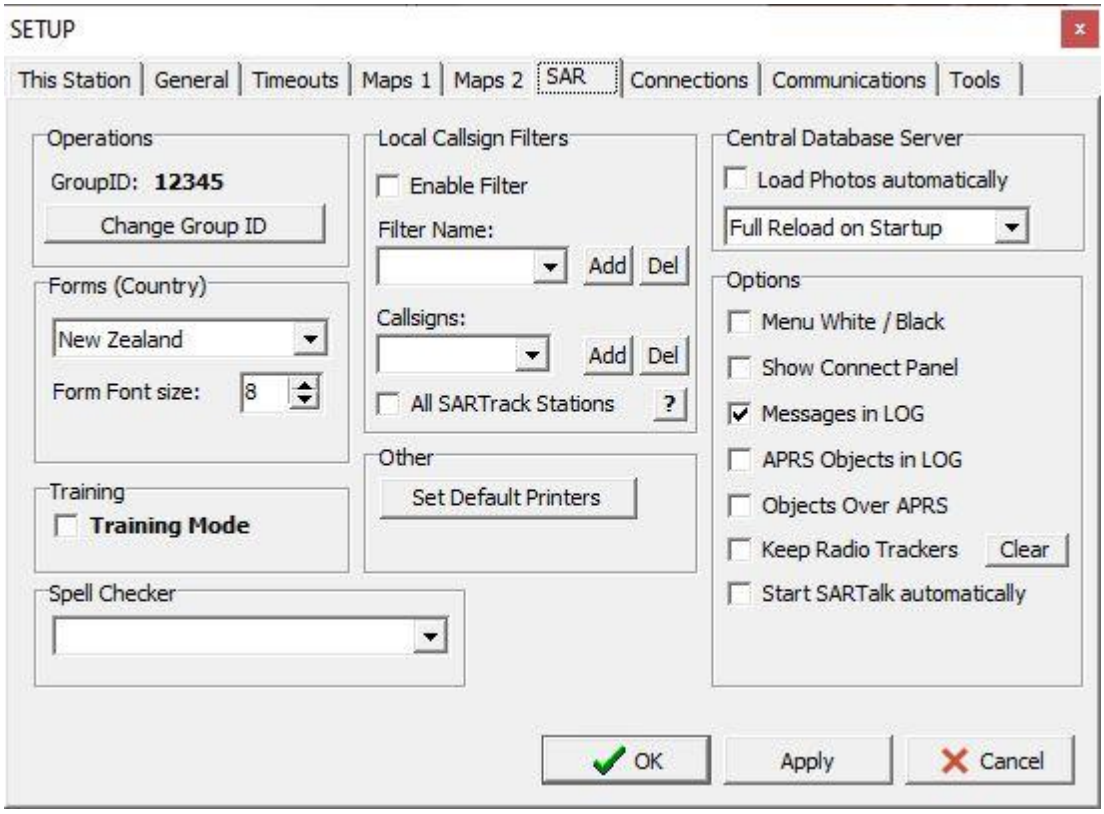
- Label: How the Labels look on the Map. *Cut-off level* sets the point after which the labels will no longer show when zooming out.
- Maps 2: Show Maps in Menu: In the OSM Map window you can select many different Map Types (Topographic, Satellite, Weather Overlays, etc.). As this Map Types list can get very long, you can select here which Maps should be visible in this list. You can simply hide the ones you never use.

- **COMM'S:** Communication related settings. These are mostly related to APRS connections and will only have an effect if this computer is connected to an APRS Server or Radio Modem (TNC). See the Connection Setup for more details on this.

  - Transmit Log entries: Transmit over APRS Server (this includes all incoming Log entries which arrive via the Database Server, they will then be forwarded to the APRS Server. This is no longer recommended.
  - Send Objects over Radio: This will cause SARTrack to transmit all local and incoming Objects to transmit over a connected Radio Modem (TNC). This is not recommended as it will overload the radio frequency. However, it does make it possible to have remote APRS connected devices to receive Objects on their Map screen.
  - Digipeater: When ON, SARTrack will act as a APRS Digipeater, and will re-transmit all incoming packets from a Radio Modem (TNC) back over the radio channel. ONLY recommended if you know what you are doing!
  - Radio Path: Default APRS path WIDE3-3 for SAR operations where it is required to get data via multiple portable and fixed Digipeaters. Else WIDE2-2.

Note: In the General Tab as shown above, you can select to receive **Beta (or Pre-Release) versions** of SARTrack. These will have the latest improvements and features, while the normal Release version will not be updated that often.

The Setup window 'SAR' Tab:



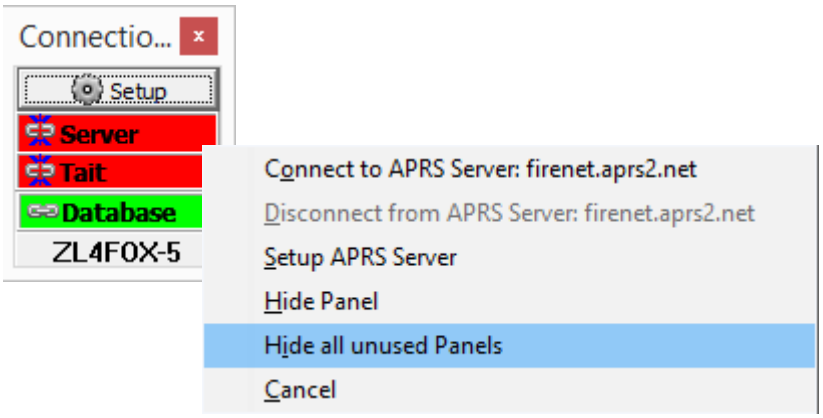
- **SAR:** Some important settings can be changed here:
  - **Group ID:** The GroupID links all SARTrack terminals of an organisation together (via the Database Server) The ID should have been set during the initial Activation of SARTrack. However, if it is not correct, or you need to connect your SARTrack terminal to the GroupID of another organisation, you can change it here. It is recommended to restart SARTrack after changing this.
  - Forms (Country): This can only be changed when the 'Forms package' has been installed. Select here your country, for the paper forms printing system.
  - Database Server: It is now possible for the SARTrack Terminal to keep all Databases on the local disk, after which the Server only has to send any Updates which have occurred since the last disconnect. This will make a connection to the Server much faster. In this case, select "Only Updates on Startup". If it looks like SARTrack does not have a full copy of the Server Databases, select "Full reload on Startup" and restart SARTrack.
  - Options: Show Connect Panel: This is (only) recommenced for a SARTrack Terminal which is connected to one or more Interfaces like a Base Radio or a satellite feed.
  - Options: Messages in Log: All APRS Messages are also stored in the Log.
  - Options: APRS Objects in Log: When checked, will include all creation and changes of APRS generated Objects in the (automatic) Log. This is not recommended, as it may cause a very large amount of Log entries to be created.
  - Options: Use RadioLog Entry: When checked, when the Radio Log window is used, instead of the standard Log window, the simplified Radio Log Entry window is used. This is no longer recommended, as many important features are not available in this window. Use the standard Log Entry window instead (no checked).
  - Options: Objects over APRS: When this is checked, and when any SARTrack terminal is connected to an APRS-IS server, all Objects used during an Operation will also be transmitted (in the open) to the APRS-IS network. This is a security risk when private information is part of the Operation.
  - Options: Keep Radio Trackers: When checked (default) SARTrack will save all Radio Trackers when the Operation is closed, so that they can be selected again when a new Operation is started. (See Team Linkage to Trackers on Page 27)

Connection Setup Menu

You can open the Connection Menu by clicking on the **Connections** button in the Main Menu:

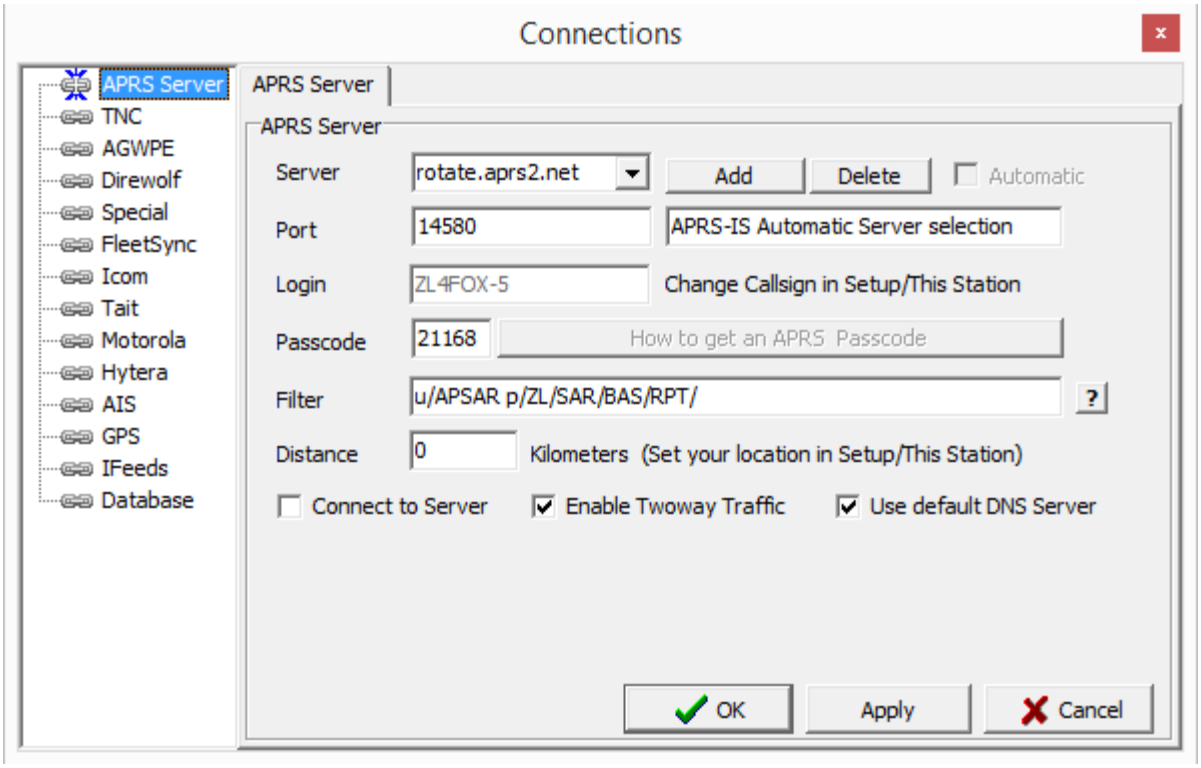
This will open the Connection Setup Window (page 15):

By clicking on the **Setup** button you can open the **Connection Window**, but you can also open this window directly for a specific Connection *entry* by right-click on one of the panels:



Did you know: You can disable selected Panels in the Connection Menu, so that you only keep those you actually need: ***Right-click*** *on a Panel, and select 'Hide this Panel' or 'Hide all unused Panels'. This will make this Menu more manageable.*

Connection Setup window



There are many different devices SARTrack can connect to, for Tracking and communication purposes.

- **APRS Server:** This allows the connection to an APRS Server, like the amateur radio APRS-IS network. This is only of interest if you are using APRS based Radio Trackers which are received via this server. Do NOT use this to connect SARTrack computers for operational purposes; you should use a SARTrack Database Server for this.
- **TNC (Radio Modem):** This allows the direct tracking of APRS Trackers via radio, but it also allows two-way Messaging communication with an APRS device capable of this (for example, an AP-510 APRS device in combination with a Smartphone)
- **AGWPE and Direwolf:** These are APRS software interfaces (running in the background) which connect to APRS Radio based tracking devices.
- **Special:** This form allows the connection to some generic GPS Microphones, which transmit their GPS position over the Voice radio channel.
- **Fleetsync, Icom, Tait, Motorola and Hytera:** These are commercial radio systems which transmit their GPS based position over the voice radio channel, either in analogue mode or in digital mode. SARTrack will decode this data, and overlay the position of the radios on the Maps.
- **AIS:** This is a VHF radio based vessel (boats) location system used all over the world. SARTrack can decode these both direct via an AIS receiver, or via an AIS Internet site, and overlay the position of the vessels on the Maps.
- **GPS:** This allows the connection to a raw GPS feed, which will allow SARTrack to transmit the position of the computer via APRS or the Database Server.
- **IFeeds:** This system allows an Internet based connection to Satellite Tracking websites, to overlay Satellite based trackers on the Maps.
- **Database:** This connects the SARTrack Terminal to a SARTrack Database Server. It can be an Internet based Server or a Local Database Server (on the local LAN or WIFI). You can connect to the free SARTrack Internet based Database Server in Germany or New Zealand (if your organisation has been set up first on this Server by SARTrack Limited) or you can connect to a Local Server in 'Automatic' mode, that is, SARTrack will connect to the local server on the same LAN/WIFI automatically. If the server is NOT on the same LAN/WIFI, you must enter the IP address here (but this is not recommended, as the IP may unexpectedly change). Or you can enter the domain name of your own organisation's Internet based

Database Server. In all cases, you need a Login and Password set up by a Supervisor on the selected Server.

Most local devices use a Windows 'COM' port to connect. What this means is that when the USB driver for the device is installed, it will generate a 'Serial COM port' in Windows.
SARTrack requires this COM port to connect to the device. Therefore, you need to know which COM port is assigned to the required device. So find this, in **Windows Control Panel**, lookup '**System**', and the '**Device Manager**'. In the **Device Manager**, under '**Ports (COM & LTP)**' you should be able to find the assigned COM port, which you can then enter in SARTrack.
Other COM port settings required (baud rate etc.) should be available in the User Manual of your device.

It is possible to connect multiple devices on a single SARTrack PC. For example, if you use both an APRS based Tracking system (via TNC/Radio Modem) and a Radio based Tracking system (Tait, Icom, Motorola, etc.) you can connect these both to the same PC using two different COM ports.
But, you can also decide to use two different SARTrack PC's to do this, and when these are both connected to a SARTrack Database Server, the final result will be the same: All data will be available on all connected SARTrack computers.

NOTE: New Zealand users will have an additional tab "New Zealand" under which some special Satellite interfaces can be activated.

Basic Operation of SARTrack

SARTrack is intended to be used with an **external mouse** with **mouse-wheel**.
Using an external mouse will greatly improve the usability especially when using the Map.
Get yourself a wireless Logitech mouse.

SARTrack uses the mouse-wheel, and both the right and left mouse buttons, which often have different functions.

The Main Menu
From SARTrack Version 1.100 the Main Menu is a single vertical bar from which all other windows can be opened. The Menu Bar always stays on top.

You can place all SARTrack windows (including the Menu Bar) wherever you want on the Desktop, and there positions will be saved for the next session.

*Clicking the **[-]** button will minimize **only** the Main Menu. Clicking the **[A]** (All) button will minimize **all** SARTrack windows.*

Every SARTrack Window moves independently, and has its own Menu bar at the top, with settings only relating to that specific window.
The advantage of this system is that you can position each window anywhere on the screen and in case of an extended desktop (for example if you connect an additional Monitor or Video Projector) you can, for example, transfer the Map window to the external monitor/projector, and have all other windows you use on the laptop screen itself.
And as each window has its own menu bar, it is much easier to locate the required settings for this window.

Every button or entry field will show a green Hint box when you hover the mouse over the item. This will give you additional information on its function.

In the following pages we will show most of the available SARTrack windows, with their options.

For step-by-step details on using SARTrack run a SAR Operation, go to Operations on page 37.

The OSM Map window

The OSM ('OpenStreetMap') window is the primary and recommended Map window in SARTrack.
Basic operation in the Map window follows standard Windows conventions, and works in the same way as Google Maps.

*The Map Window is intended to be used with an **external Mouse** with a **mouse-wheel**.*
While it is possible to operate the Map with a Laptop "mouse-pad", this is not recommended!

To ***move*** the Map, press the ***left*** mouse button and drag the map and release the button when ready.
To ***zoom*** the Map, roll mouse ***wheel***. Rolling forward will zoom in and rolling backwards will zoom out.

It is also possible to zoom using the (+) and (-) buttons in the top/left corner of the Map window, if a mouse wheel is not available (not recommended). Additionally, you can zoom in – and out with the '+' and '-'keys on the keyboard.

Pressing the ***right*** mouse button anywhere on the Map will open a **Pop-up Menu (Page 20)**.
The menu items which appear in this menu will depend on what object on the Map you have clicked on.

For example, when you right-click on a Station or Object ***Icon*** (*not the label*) on the Map, one of the available options will be "Edit Station". If you select this entry the Setup Window will be opened at the Stations tab, and you can edit, amongst other things, the Tactical Call sign and Track Colour of the station. Also see 'Edit Object' on page 25.

At the top of the Map window, its Menu Bar shows other available options:

- **Line:** This enables the drawing of a coloured polyline on the map.
- Area: This will draw a enclosed Area which can be filled with selectable coloured hashes.
- **Dist:** This will show the distance between two points on the map, including the direction.
- **Jump:** This will jump the Map position to the coordinates entered. *However, it is much easier to open the Station or Object window, right-click on 'Show Station/Object on Map', after which the Map will jump to that location.*
- **Google:** This will open the Google ***Static*** Map window at the same location as the OSM Map window. *However, the use of the Google Map window is no longer recommended for the following reasons:* (1) Every time the map is moved or zoomed, the entire map will be re-downloaded from the Google server. (2) Due to the way the map is supplied by Google, its location in the world is not totally accurate, and as a result the overlays (Icons, polylines) may not show in the correct location. The Google Static Map is only left in SARTrack because of requests of end-users.

*If you require a **Satellite Map**, use the Map Type '**ArcGIS World Satellite**' instead.*

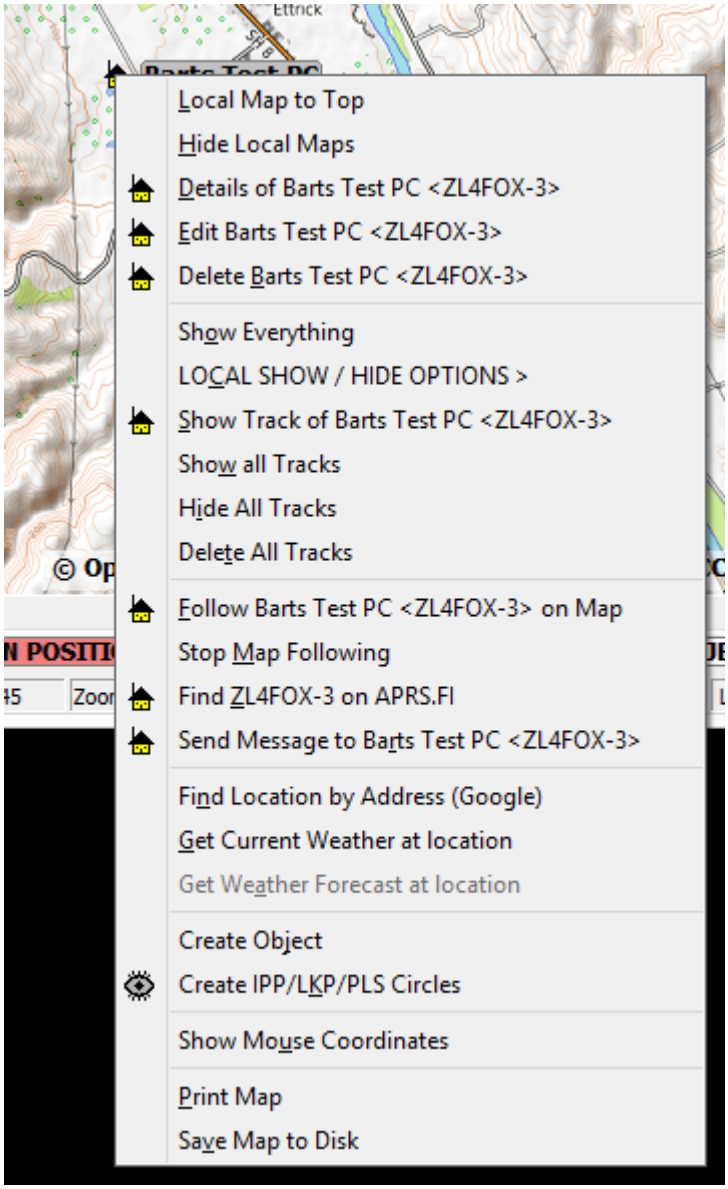
- **NZ Topo:** This item only shows when the New Zealand Topographical Maps package has been installed. This system is no longer recommended because of the slow rendering of the map, and because the map package has not been updated for many years.

  *If you require the New Zealand Topographical maps, use the OSM Map Type '**New Zealand Topo**' instead.*
- **:** This button will reload all Map Tiles currently visible on the Map.
- **Map Type:** Select here the OSM Map you wish to display. There are two types of maps: The primary (Base) maps, and the Overlay Maps. You can select only one base map, but you can overlay more than one Overlay map. Some overlay maps are special, for example Weather maps, which will update themselves regularly. All OSM maps (excluding weather maps) are saved to disk after initial download from the Internet OSM servers. This means that they will be available for off-line use afterwards.

  Do make sure to disable Overlay maps when you no longer need them, because they will slow down the rendering and downloading of the base map, even when they themselves are not visible.
- **Options:** This pull-down menu has many additional items you can select to change the way things are displayed on the map. In addition there are entries to rebuild OSM or 'local' Maps, and there are entries to import external GPS tracks and waypoint, and to export existing tracks, both in GPX format.

  When importing GPS tracks with many waypoints, make sure your 'Max Track Parts' value is high enough to accommodate the imported track. You can change this in 'Setup>Maps 1. See page 11.
- **OSM Bulk:** This will open the OSM Bulk Download window. Here you can select an area on the map, and download all OSM Map Tiles in the selected area in a selected zoom range. This will make these Map Tiles available for off-line use. However, using this option may require the download of thousands of Tiles, may take a long time, and is actively opposed by some OSM Web servers.
- **Load Local Map:** You can install your own local Maps on the computer in the form of image files, and with a supporting .INF file containing the details of the map. There is an explanation file on this in the default local Map directory: '..\Documents\SARTrack\Maps\How to make your own Maps.txt'.
- **Mouse Coords:** When checked, will display the Mouse Coordinates window which moves with the mouse, and shows the geographical coordinates of the mouse.

The Map popup window



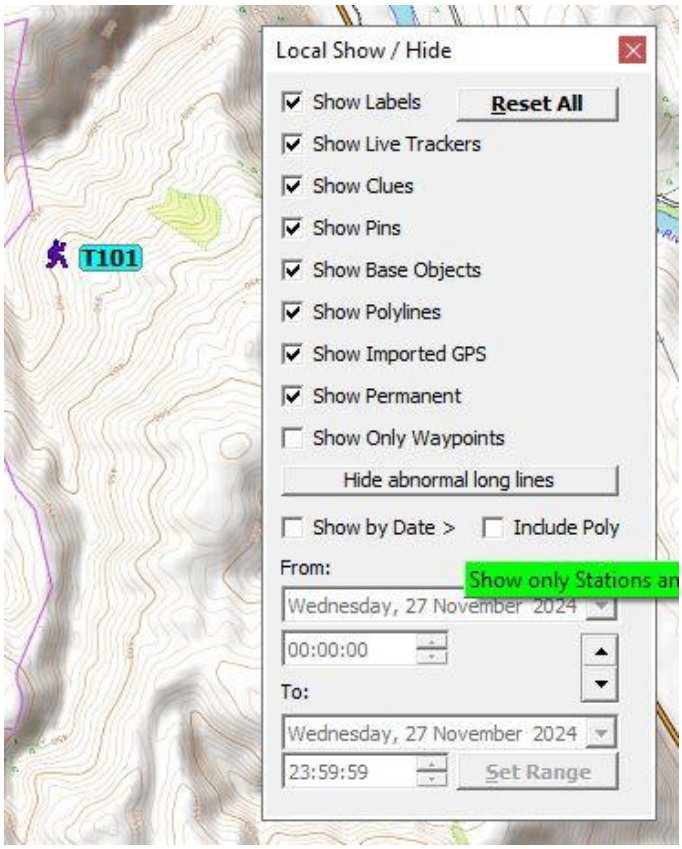
When right-clicking on an **Icon** (**not a label**) of any Station or Object, the Popup Menu on the left will appear.

- **Local Map:** A Local Map is one you have manually added to SARTrack. They can be overlaid on top of the OSM (OpenStreetMap).
- **Details off..:** This will show the details of the Station or Object.
- **Edit…:** Will Edit the Station or Object.
- **Delete..:** This option is normally not allowed when you are in an Active Operation.
- **Move …:** This option allows you to move the Object on the map by dragging.
- **Show Everything:** This will reset any filters, and show all Stations and Objects on the Map.
- **LOCAL SHOW / HIDE OPTIONS:** This will open the Show/Hide popup window, where you can locally filter what you want to see on the Map. This is a live window, when you select an item, it will immediately be visible on the Map. This does not affect any other SARTrack Terminals.
- **Show/Hide Track:** Here you can hide or show the coloured Track of any Station or Object on the Map. By default all tracks are shown.
- **Show All Tracks / Hide All Tracks:** This will show or hide ALL tracks (but not the Icons) of all Stations and Objects.
- **Follow on Map:** When selected, the Map will start to follow the selected Station/Tracker. The Station/Tracker will stay in the middle of the Map. To stop this, select "Stop Map Following".
- **Stop Map Following:** This will stop the Map of following a Station or Object.
- **Find on (or Get Info of..)**: Will open a (internet) Website where you get information on the selected Station or the Object.
- **Send Message to..**: This option is only visible when the selected Station of Object is capable of receiving (and possibly sending) a Message. In case of an APRS Station, normally two-way Messaging is available. In case of an Object, depending on the commercial Radio type, it may be possible to send either a full text message, or a 'Static Message', which is a pre-encoded message which will appear on the screen of the radio, based on a simple code which is transmitted. In the latter case, all radios must be **pre-programmed** with a list of short static messages, and the **same** messages must be programmed in SARTrack, in the **Static Message Edit** window. This window can be opened from the Connection Window (Page 15), at the specific Radio type (e.g. Icom, Tait, Motorola, etc.)
- **Find Location By Address:** This uses Google to locate any address in the world, with the possibility to automatically generate an Object (Icon) on the Map at the location. Note the Google information may not always be accurate! Internet access is required.
- **Get Current Weather at Location:** This uses the 'OpenWeather' Internet Server to request the weather at the nearest possible location. (Note: This is NOT the same as the APRS based Weather Stations).
- **Get Weather Forecast at Location:** This is work-in-progress and not finished yet.
- **Create Object:** This will create an Object at the selected location on the Map.
- **Create IPP/LKP/PLS Circle system:** This will create a Statistical Circle system (Page 59) on the Map at the selected location.

- **Show Mouse Coordinates:** Will activate a small window which moves with the mouse cursor and shows the Map coordinates of the mouse cursor.
- **Print Map:** This will print the Map as shown in the Map window at that moment.
- **Save Map to Disk:** Will save a copy of the current Map to disk, where you can then attach it to a Task.

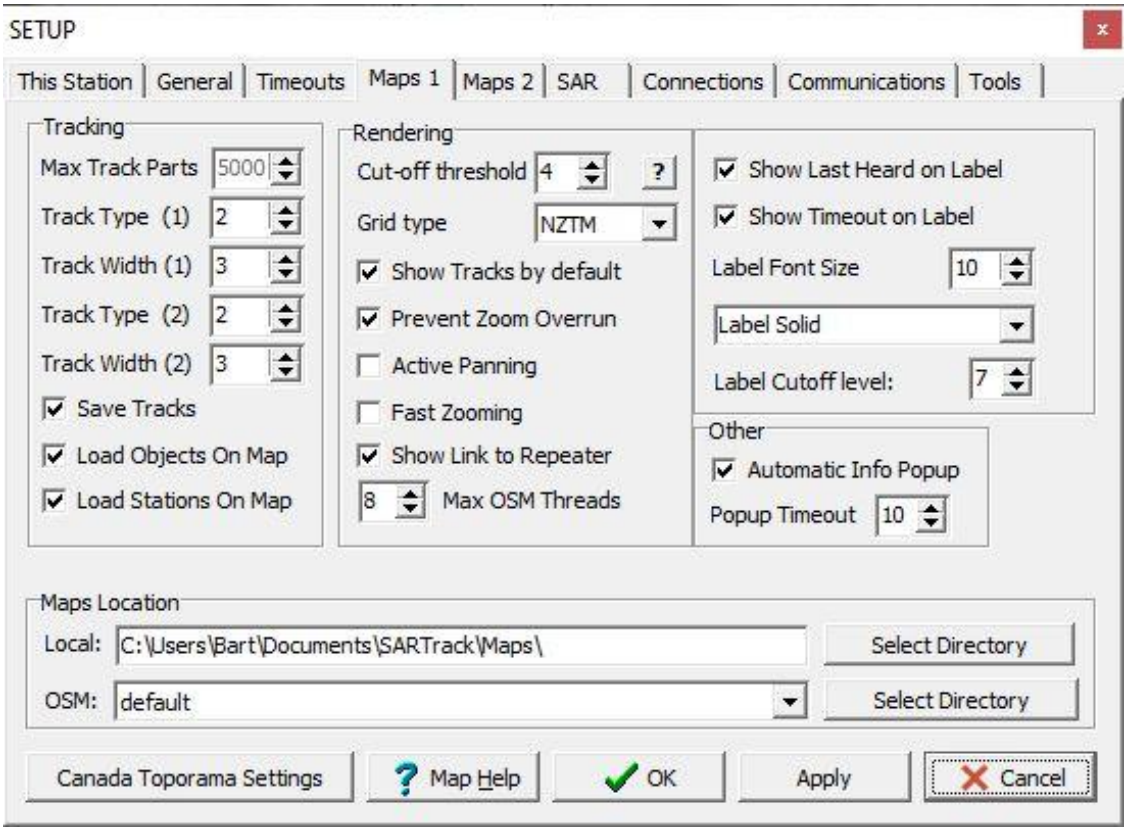
Show / Hide Options

After opening from the Map Popup window ("**LOCAL SHOW / HIDE OPTIONS**") this Popup window will stay on the Map until closed, and you can actively change what appears on the Map by checking- or un-checking the available item.
The map changes will only happen on the local SARTrack terminal, and will not affect any other Terminals.



Maps Setup

There are additional Setup options for the Map:



- Track type: The Track type enables you to modify the way Tracks show up on the Map. There is a difference between tracks which are generated by live Trackers '**Track Type (1)**': (Radio, AIS, Satellite, etc.) and imported GPS (.gpx) tracks '**Track Type (2)**'. The reason for this is that GPS tracks have often a huge amount of way points, and it is useful to be able to set these types of tracks with much thinner lines, and smaller way points. In both cases you can select the **Type** (1 or 2), the **width** the tracks, and the **size** of the way point markers.

Other noticeable options are:

- Prevent Zoom Overrrun: (default:on) This will clear the buffer of the mouse-wheel queue after each zoom level change of the Map. Else the Map will keep zooming until all queued mouse-wheel are processed.
- Active Panning (default:off): This will render the Map while it is panning (being dragged). Only suitable for very fast computers.
- Fast Zooming (default:off): On very slow computers, when zooming the Map takes a long time, check this. It will disable the (10) intermediate Zoom steps, and zoom directly into the 20 primary zoom levels. Do make sure you also have the 'Prevent Zoom Overrun' enabled.
- Map Location: OSM: This will enable you to relocate the default OSM Maps directory tree to a location where you may have more space. As this directory tree can get really huge over time (mine is 16 Gigabytes) you can now relocate it from its default location at "..\Documents\SARTrack\OSMMaps\". **Note however that you must first move the actual data from the previous location to the new location yourself!**

Stations and Objects

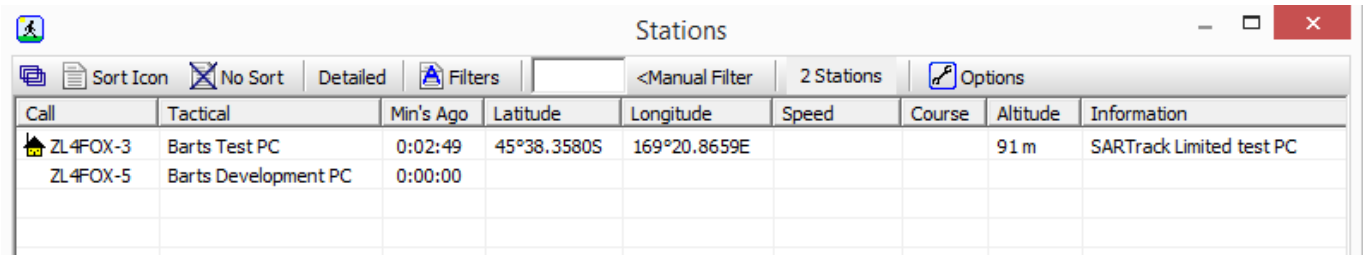
SARTrack is originally based on the Amateur Radio APRS (Automatic Packet reporting System) system. APRS uses a system of 'Stations' and 'Objects', where a Station is a unique entity with its own 'Callsign' and is not required to have a location, while an Object is an item on the Map with its own ID and details, but is owned by a particular Station.
Stations can be either have no location, be at a fixed location, or be moving (as a Car or personal Tracker) while in the amateur radio world, Objects are generally static. However, in SARTrack Objects are also used as live Radio Trackers and Clue's.

The SARTrack terminal is a Station, and must therefore have a unique callsign.
From SARTrack, you can generate fixed Objects on the Map, but SARTrack also uses Objects in a unique way: It can decode non-APRS Trackers (Commercial radios, Satellite trackers, AIS Vessel trackers, etc.) and convert these into moving APRS Objects which can be shown on the Map, and shared by all other connected SARTrack terminals and other APRS programs (if the Objects are transmitted over the APRS Internet network).

Note: In SARTrack there are currently two separate windows for Stations and Objects. This may be sometimes confusing, if in a SAR operation you may have Station (APRS) Trackers but also Object Trackers, as these are not shown in the same window.

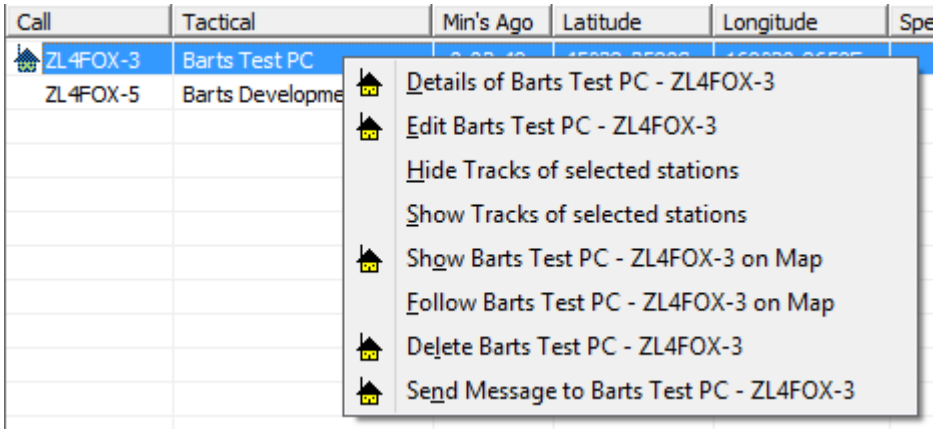
In addition to this, SARTrack has a unique option to link a Station or an Object to a SAR Team. Once this linkage is established, all tracking information from the Station or Object will be linked to the position of the Team in the field. Currently the only way to link a Station or Object to a Team is by editing these (from the Map or from the Station / Object window), and set the linkage. See page 27.

Station Window



There are two versions of the Stations window, the simple version (shown above) and the *detailed* version with more information.

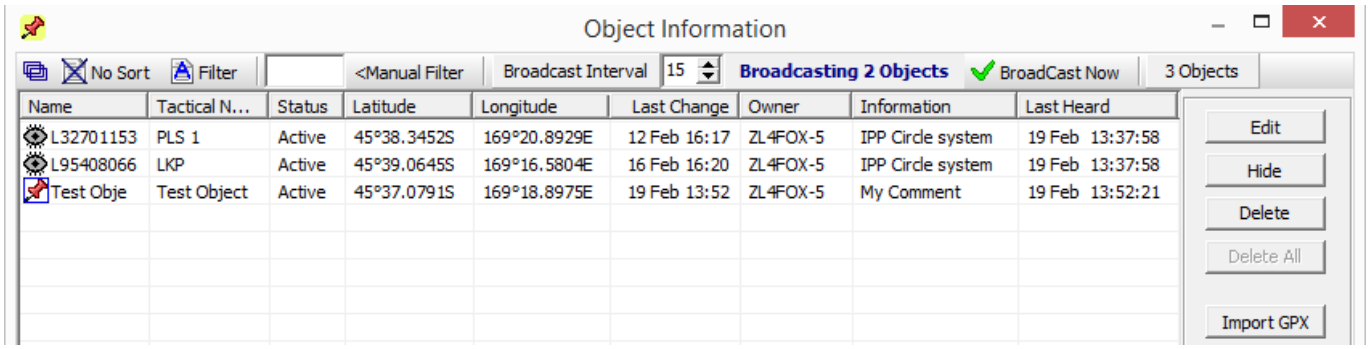
All Stations will have a Callsign (6 characters/digits + an SSID (-1..-15) and a Tactical name, which is a unique SARTrack field which, if it exists, will show on all Maps and lists instead of the callsign.
By *right-clicking* on a Station the following popup-menu will appear:



Some notes on the available entries;

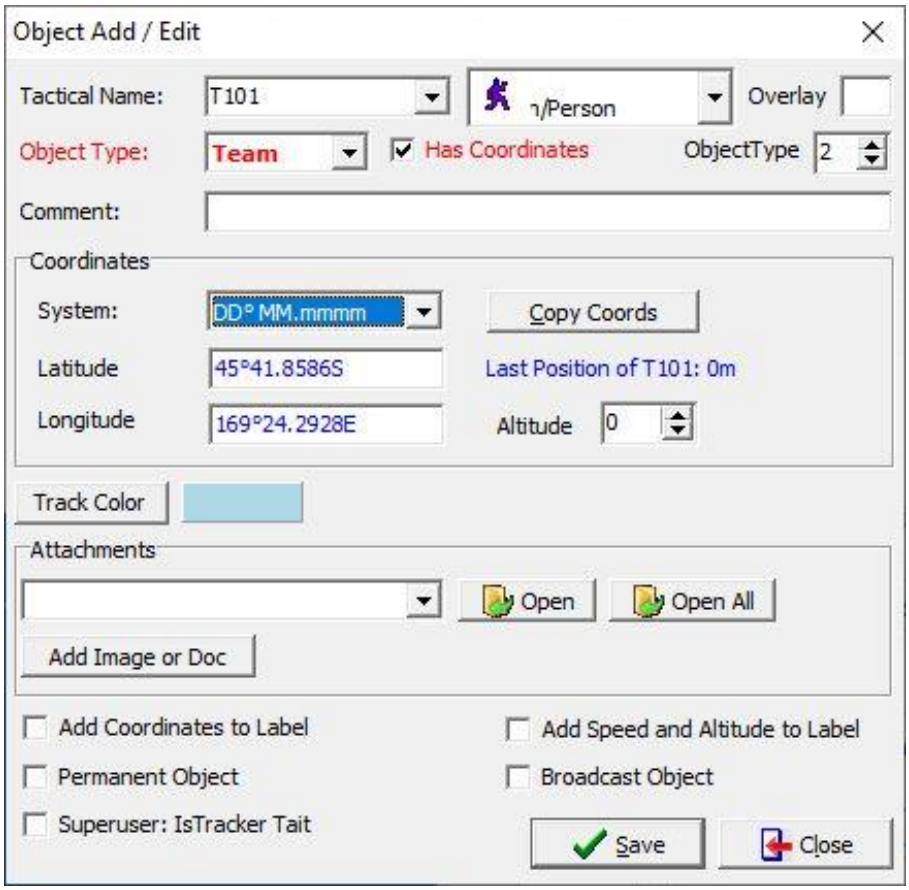
- **Show Station on Map:** This will jump the Map to the location of the Station, if this Station has coordinates. *Note that a Map window must be open for this to work.*
- **Follow Station on Map:** This will cause the (open) Map to move with the moving Station. You can disable this in the Map window, right-click anywhere and select 'Stop Map following'.
- **Delete Station:** This is not allowed when in an Active Operation.
- **Send Message to Station:** This will open the APRS Message window, (page 28) with the callsign already filled in. You can only send APRS messages to Stations which have this capability.

Object Window



Objects have an Icon, a 9 character Object ID field, and a Tactical name which is a unique SARTrack field which, if it exists, will show on all Maps and lists instead of the Object ID.
An Object is either Active (it is visible on the Map) or Inactive (hidden) which means it is not visible on the Map, but it still exists in the database, and can still be accessed via this window.
Normal *static* Objects are re-broadcasted by the Station *owner* (e.g. SARTrack) on a regular basis, as they do not change position. By default this is done every 15 minutes, only over the APRS network (normally not over the radio network).
SARTrack *moving* Objects (Commercial radios, satellite trackers, etc.) are broadcast when new position data comes in.
You can activate or deactivate (Show or hide) Objects by using the buttons, or right-clicking on an Object.
Deleting an Object during an active Operation is not allowed.

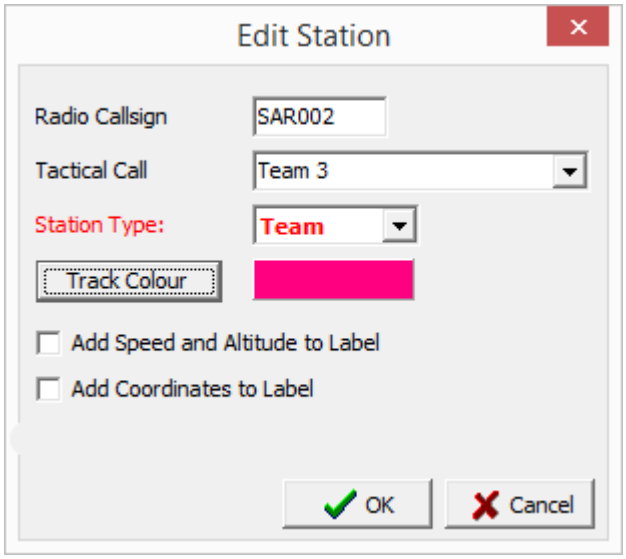
Creating and editing an Object



You can create an Object (Page 24) by right-clicking on a location on the Map, and select '***Create Object***'. This will open the 'Object Add / Edit' window on the left.

- **Object Name:** This is a 9 character / digit field. If you are planning to use the *Tactical Name*, you can set the Object Name to 'Automatic' to save time.
- **Tactical Name**: This is a free-form field, but in it must be unique, that is, no other Object should have the same Tactical Name.
- **Icon:** You can select from a list of APRS based Icons from the pull-down list. When the Object is a 'Clue' it is worthwhile to find an Icon which indicates this. Note: When this Object is marked as being a 'Team', SARTrack will initially change it to a 'Person'.
- **Overlay:** Some Icons are designed to have an Overlay, which is a single character or digit. You can therefore have multiple Objects on the map, each with the same Icon, but with a separate overlay (e.g. 1, 2, 3 or A, B, C) which is useful for Clues**. When this Object is marked as a Clue, the default Icon is a black box. SARTrack will then automatically assign a number or character to a new Clue (unless you set it yourself) and the Clue will appear on the map as a black box with a number/character in it**. *Note: Many other Icons do not allow an Overlay character.*
- **Object Type:** This is an important selection: An Object can either be: a **Team**, **Clue**, or standard **Object**. When you select the Object to be a **Team**, SARTrack will try to create a Team based on the Tactical Name, or it will try to link the Object to an existing Team. For more details on this important issue, please refer to Team Linkage on page 27.
- **Comment:** An optional Comment for this Object.
- **Latitude and Longitude:** This is the location of the Object and you can change it here.
- **Track Colour:** When selected, this will be the Track colour of the Object (if it will have a Track). If this Object is marked as being a 'Team', the Tab colour in the Team Setup and Team Status windows will also be this colour.
- **Attached Files:** You can now attach any file to an Object. For example, if the Object would be a **Clue**, you can attach a picture or any document to this Clue.
- **Broadcast Object:** When checked, this will broadcast this Object over the **APRS** network (if one of the connected SARTrack terminals is connected to an APRS server). *This has no effect on the distribution of the Object to all other SARTrack computers via the Database Serve, which always occurs.*
- **Permanent Object:** If you check this box, this Object will become Permanent, and will also still exists when you start a New Operation. For example, if this is set as a Standard Object, and you want to mark some Huts in remote locations, you can create these as Permanent, so next in the next Operation they will be again visible on the Map.

Edit Station



Once a Station exists (it has been heard for the first time), you can edit it by right-clicking on the Map Icon or the Station Window entry, and select 'Edit Station.
In the Edit Station window, the following options are available:

- **Radio Callsign:** This is the unique APRS Callsign required for every Station, with a maximum of 6 characters or digits and an optional SSID (1..15) **You cannot change this**. *To change your own callsign, do this in 'Setup>This Station'.*
- **Tactical:** This is the SARTrack Tactical name of this Station. In the above example, it has been manually entered, and is not linked to a team.
- **Station Type:** This is an important selection: A Station can either be: a **Team** or a **standard Station**. When you select the Station to be a Team, SARTrack will try to create a Team based on the Tactical Name, or it will try to link the Station to an existing Team. For more details on this important issue, please refer to Team Linkage on page 27.

Team Linkage to Tracker Objects and Stations

When a Station is an APRS Radio Tracker, or an Object is a Radio Tracker based on commercial radios with GPS like Icom, Tait, Motorola etc., SARTrack can create a Link between this Station or Object Tracker, and a Team. This link is based on the **Tactical Name** of the Station / Object and the **Team Name**, e.g. these must be the same. When a link exists, the Track Colour of the Station / Object and the Tab colour of the Team (in the Team Setup and Team Status windows) will also be the same.

SARTrack has several ways to make a link between a Team and a Radio Tracker.

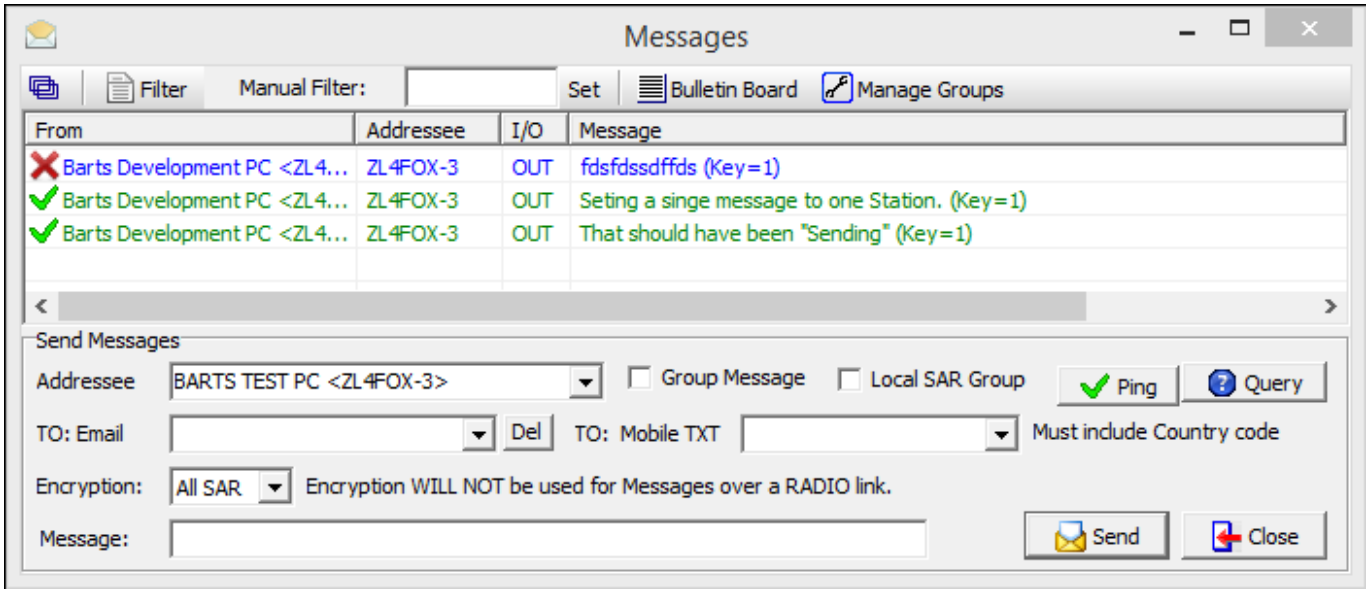
1) **During allocation of equipment to a Team (Recommended):** From version 1.0 of SARTrack you can now allocate all Equipment to a Team on Team Departure, using a Barcode system. When the equipment is an APRS Tracker or a "Radio with GPS", SARTrack will automatically link the Tracker device to the selected Team. Using this system means it is no longer required to do this linkage manually as per following options. See page 35 for details.
2) Adding a new Team using the New Team window (Page 53) from Team Setup: In the 'Link Tracker' pull-down list you will find all currently active Radio Trackers, and also any previously saved Trackers (The latter requires the option "Setup>SAR>Keep Radio Trackers" to be set).
3) In Team Setup, right-click on the Tab of a Team and select 'Assign Tracker' which will open a similar window.
4) Editing an Object or Station:

When you Edit an Object (Page 25), you can select what Type of Object this is. The options are: (standard) **Object**, **Clue** or **Team**.
When the Object is set as a **Team**, and you save it, SARTrack will attempt to link the Object to a Team. If a Team exists with the same name as the Object Tactical Name, it will try to make a link. If a Team with this name does not yet exist, SARTrack will automatically create a new Team.

When an APRS Station is a Radio Tracker, you can Edit the Station (Page 26) and set it as a Team, after which the same options apply as above.

When an existing Team is already linked to another Object or Station, SARTrack will ask you what you want to do.

Messages (APRS)



The Messages window enables the transmitting of APRS Messages to a single Station, to a Group, or in the blind. You cannot transmit APRS Messages to an (Team) Object.

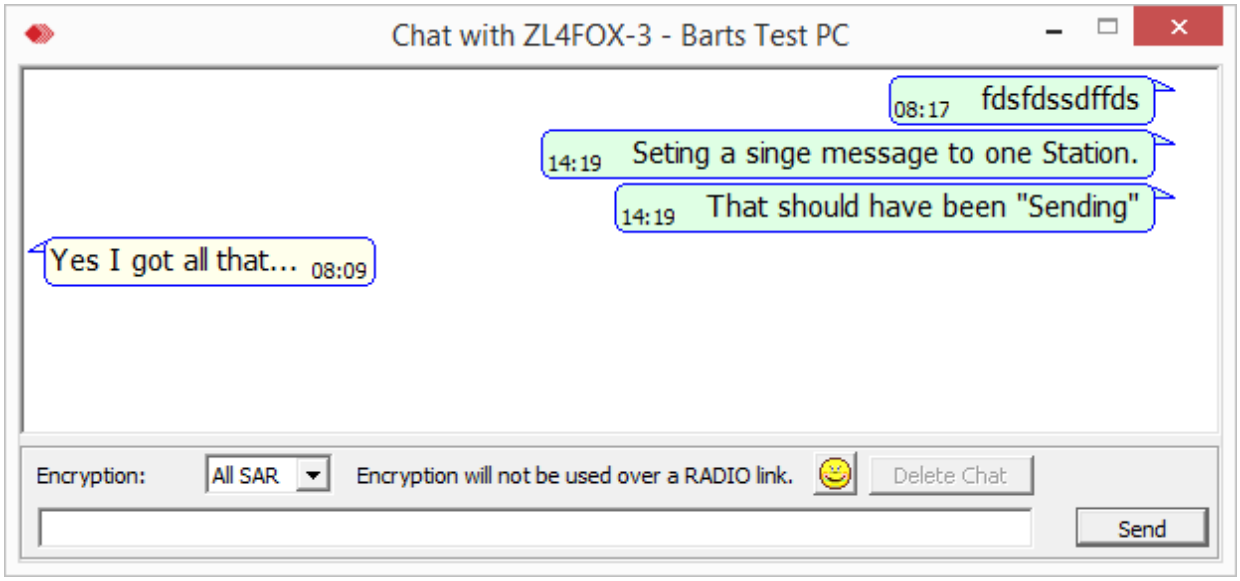
To send a message, select a Station from the pull down list, or enter the callsign of the required Station.
You can also select a 'Group' to send the message to. When you check '*Local SAR Group*' the message will be send to all SARTrack stations with the same **GroupID**.

Encryption: The encryption used here is a simple SARTrack specific system, intended to be used when the message is send over the APRS network. When a APRS message is send 'Open' via the APRS-IS network, everybody in the world can read it, and it will be archived on websites like http://aprs.fi
When the encryption it set to the default 'All SAR', only SARTrack stations can read it, and they have to be online on the APRS network at the time. The message is *not* archived by aprs.fi.
When encryption is set to 'Private' only SARTrack stations with the same **GroupID** can read it, and it is not archived on APRS. However, when the APRS message is send over a radio link, it will never be encrypted (as it is illegal on amateur radio frequencies).

When SARTrack is used with the Database Server, which means all connected computers will have the same GroupID, all computers will be able to read the APRS messages (even if it is it is send 'privately' from one SARTrack station to another). *There is no privacy with APRS based messages.*

A new Database based Message system is in development which will allow private conversations.

When a new Message is send from the main Message window, a 'Chat' window will automatically appear for this conversation:

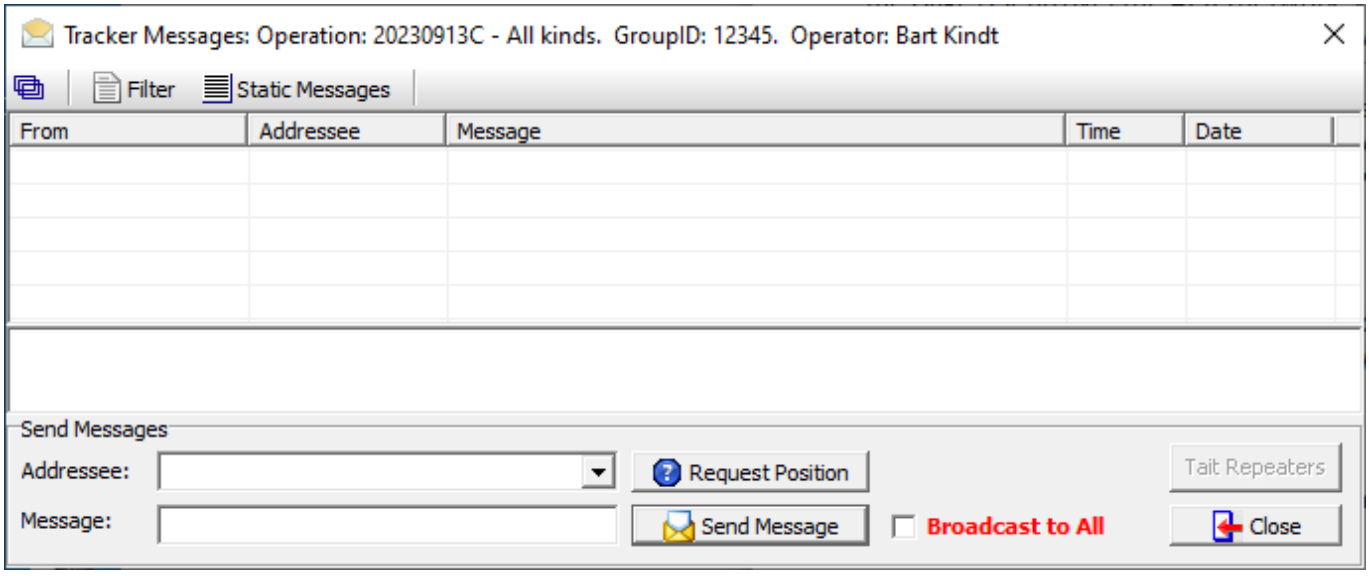


When a Chat window is closed, it can be re-opened from the main Messages window, by right-click on a Message, and selecting 'Open Chat Window'. (This can only be done on message conversations from your own SARTrack terminal)

Using the Chat windows will make it easier to manage multiple conversations.

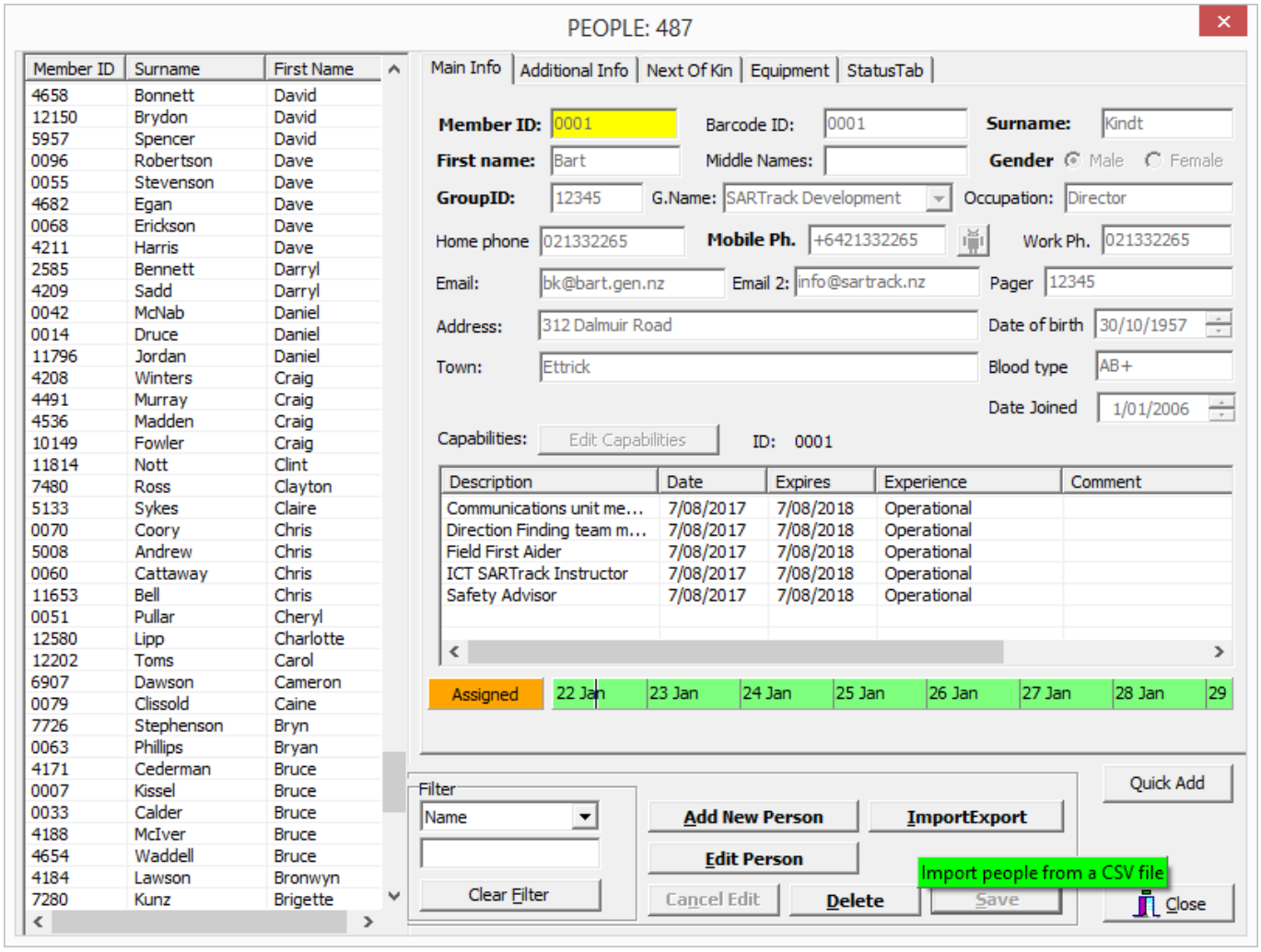
When a message is send to a single Station, you can see if the message has arrived there when the ✔ appears next to the message. Messages send to Groups will not get a confirmation. In Database mode, it is possible the destination station is not online at the time, in which case a ✖ will appear; However, when this station comes online later, they may still be able to read the message.

Device Messages



This window is used to communicate between message-capable Radio systems and satellite tracking devices.

Manage People

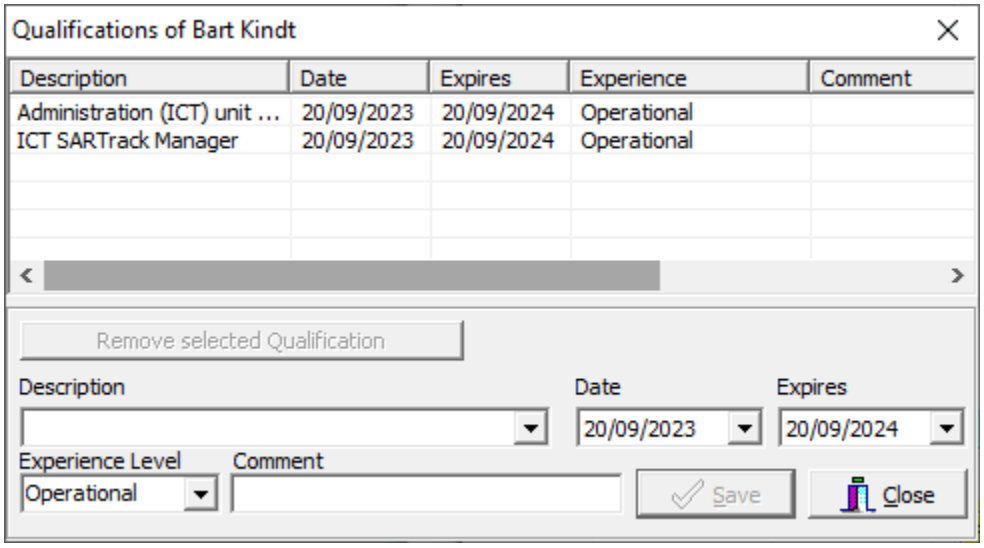


In Manage People you can add and edit all members of your organisation, and other organisations which may be involved in your Operations.
You can access this window by clicking in the **Main Menu** on 'Operations', then in the **Operations Menu** click on the **Manage Menu**.
Every person must have a **unique** Member ID. This should be the organisation ID assigned to the member by your organisation. The **Barcode** should be based on any unique barcode of the person, preferably the organisation membership card; else a driver's licence could be used for the Barcode. Some of the other important fields are:

- **GroupID:** Enter here the SARTrack GroupID of the organisation of which this person is a member. This will allow you to include members of other organisations in the database, but still be able to filter by Group ID, so you can (for example) only see the members of your own organisation. If a person does not have a Group ID assigned to his/her organisation (Police, Fire, Ambulance, etc.) you can assign (make up) a unique ID here to be able to separate them in the list.
- **Mobile Phone:** This field will be used by SARTrack to transmit SMS messages to the person's Mobile Phone. For this reason, it must be complete with the country code, and in the format of: +6421332265 (This is a New Zealand mobile phone number with country code of'64').
- **Qualifications**: This will open the Qualifications window (Page 32), where you can add / edit the person's SAR qualifications.
- **Add New Person:** This will switch the window into Edit mode, and jump to the Member ID field**. You must start by entering a unique Member ID in this field**, before you can edit anything else.

- **Edit Person:** This will switch the window into Edit mode, with the selected person's data loaded.
- **Import/Export:** This will open the Import/Export window, where you can import people from a comma delimited (.csv) file, or export your People database to this file.

Qualifications window



The Qualifications window is opened from the Manage People (Page 30) window for a selected person. You can add, edit or remove the Member's capabilities here.

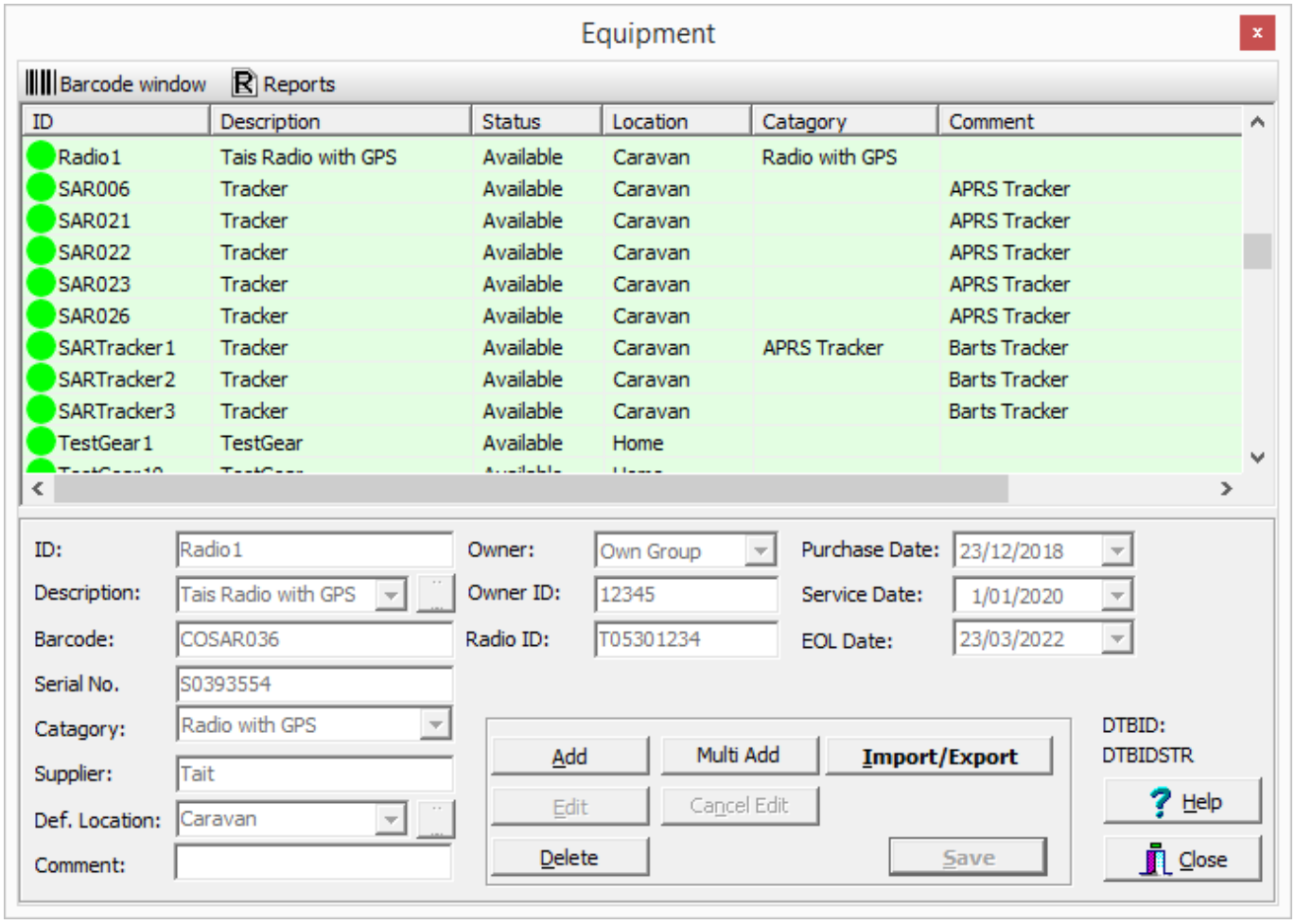
In addition to the main People window, the People Quick Add window is available to add People on the fly, when an Operation is in progress and a person arrives which is not yet in the People database.

As it is not possible to assign a person to a Team unless they first exists in the People database, and Equipment can also not be allocated in that case, this window will allow a quick solution to the problem.

When the checkbox "Enter for This Operation Only" is checked, the person will automatically only be visible in the current Operation, and will not be permanently added to the People database.

It is strongly recommended to avoid this situation by having members from other (SARTrack user) organisations to bring a USB stick with their Exported People file (Own GroupID only) so that they can be imported with full details (including their capabilities).

Manage Equipment

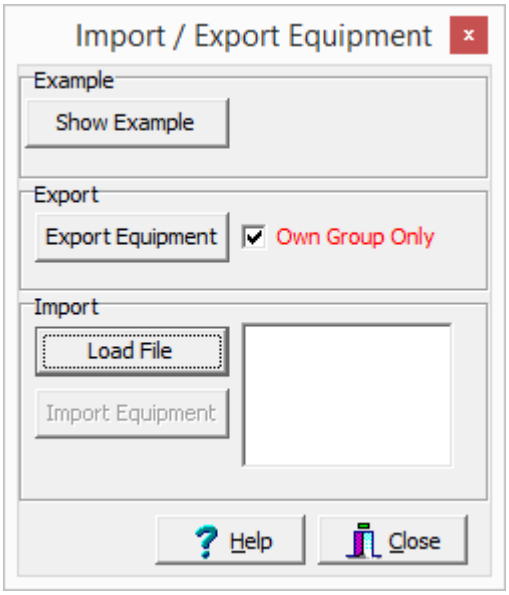


In the Manage Equipment window to can add, edit and remove Equipment used by your organisation, other organisations or private persons.
You can access this window by clicking in the **Main Menu** on 'Operations', then in the **Operations Menu** click on the **Manage Menu**.

As from version 1.0, SARTrack is designed to use Barcodes for Equipment. This will greatly improve speed and safety when dealing with equipment being allocated and returned by Teams, and to do yearly Stocktakes.

When the equipment is an "APRS Tracker" or a "Radio with GPS" it is required to enter the "Radio ID" as used by SARTrack. This will enable SARTrack to automatically link the Tracker device to a Team during allocation of the equipment (by Barcode)

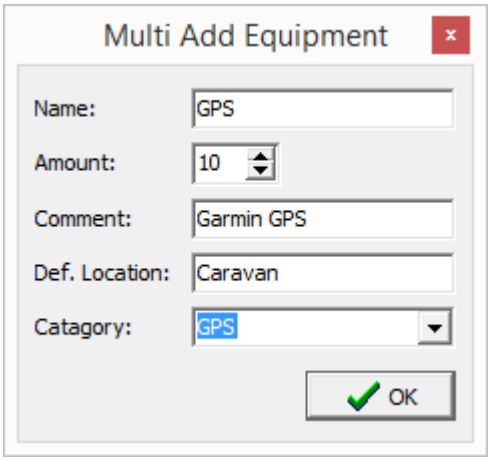
- When the device is an "APRS Tracker", the Radio ID is the APRS Callsign-SSID of the device.
- When the device is a "Radio with GPS" the Radio ID is the ID of the radio, with the SARTrack assigned first character at the beginning. For example, a Tait radio with an ID of 5301234 will show as a SARTrack Radio ID of "T05301234". When it is unclear what the Radio ID may be, switch on the device, place in range of the GPS satellite system, and check in the Object window what the 'Name' is, once it appears in the list.



It is possible to Export and Import equipment in .csv format. You can use this feature to export the existing equipment to a spread sheet, and manually (and fast) update all required fields (e.g. Category, etc), then import it back into SARTrack. This is very useful if you just updated from SARTrack version 0.9.8xx where the Equipment system was not as advanced as from version 1.0.

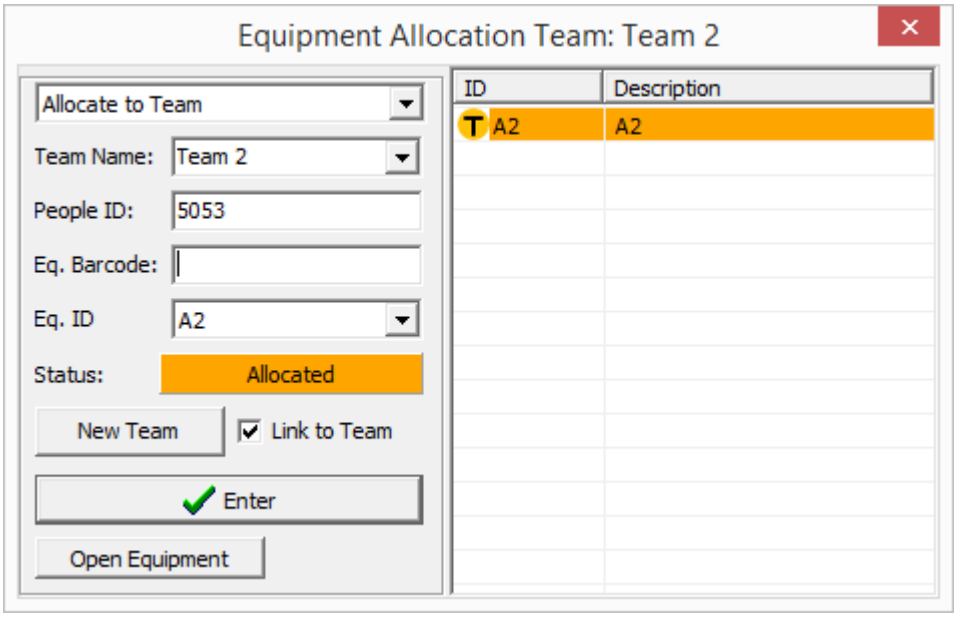
The 'Owner' field indicates the owner of the equipment. While most will probably be owned by your organisation, it is now also possible to add equipment owned by other organisations and private persons.

- When the owner is 'Own Group', SARTrack will automatically assign your SARTrack GroupID.
- When the owner is another Group, you can enter their SARTrack GroupID.
- When it is a private person, it is required that this person first exists in your People database, with the person's Member ID.



You can add a single piece of equipment, but it is also possible to do a 'Multi Add', to create a range of identical pieces of equipment, like backpacks or torches. These will then be generated with an increasing number after the name, like 'Torch1', Torch2', etc.

However, you cannot add any Barcodes or serial numbers this way, if these are required, you will have to edit every item and manually add them afterwards.



Equipment Allocation:

This window can be opened from the Main Menu "Team Depart".

From here you can very fast allocate all equipment to a team or person, and later mark the equipment as returned. A full Log is generated for all transactions, so it is always possible to see what has happened with the equipment.

The window is especially designed for use with a Barcode reader, which can be purchased nowadays very cheap.

- First, select from the pull-down list the required option, for example "Allocate to Team". The cursor will jump to the People ID field.
- You can now directly scan the ID card of any person which is allocated to the Team. When the person is found, and its Team allocation has been detected, the Team Name will automatically be filled, and the cursor will jump to the Equipment ID field.
- Now you can quickly scan all equipment which will be taken by the Team. A Log is generated which will store the details of the Team and Person which will take the equipment.

When the selected equipment is a "Radio with GPS" or an "APRS Tracker", SARTrack will automatically **link** the Tracker to the selected Team, for display on the Maps. This means it is no longer required to set up this link manually afterwards. There can only be one Tracker linked to a Team.

While it is possible to manually select the Team Name and Equipment, it is strongly recommended that a Barcode reader is used, as this will make the allocation of equipment to Teams during departure very fast and reliable.

Operation: Setting up at location

When a new SAR Operation is starting, and you have to set it up at a remote location, it is very important that some basic but critical equipment is ready to be activated. In this chapter we will step through the most important issues which should be prepared before an Operation even begins.

Remote Location

When setting up at a remote location for any Operation, the following critical items must be installed:

- **Power:** A backup generator may be required.

- **WIFI / LAN:** It is **imperative** that a WIFI/ LAN router is activated at the location, which has been pre-set up for use with the laptop computers which will be used at the location. In addition, it is strongly recommended that a system is in place to connect this WIFI / LAN device to the Internet. This could be done with a unit which is designed to have a build-in SIM card for connection to a wireless network, or an external Satellite VSAT system for access to the Internet. All laptop computers used at the location should have been pre-set up to use this specific WIFI device (e.g. it is Open, or the WIFI password has already been set) (*Also see note below regarding Windows Updates*). Make sure that any passwords used by the WIFI device are labelled onto it! It is extremely important that this WIFI / LAN device always has power, even when the generator stops! We recommend it is directly powered from a 12 Volt backup (car) battery, instead of a 230(110) Volt power socket from the generator. When Internet access is (intermittently) available, the Local Database Server should connect to the Internet Database Server to be able to share the Operation with any permanent EOC. The recommended Network setup (Page 64) shows how this should work.

- **Primary SARTrack Laptop computer:** There must be a Primary SARTrack Laptop set up for use at remote locations. This laptop should have a SARTrack Local Database installed, and a SARTrack Terminal. It should also be set up to automatically connect to the WIFI unit being used, and the Local Database Server should try to connect to the Internet Database Server.

- **Tracking devices:** When Radio based Tracking devices are used (APRS TNC /Radio Modem, Radio based: Tait, Icom, Motorola, Kenwood, etc.) the connection to the Base Radio or TNC should have been pre-set up. This means that the physical connection (USB cable) and associated Windows COM port(s) are correctly setup in a SARTrack terminal in advance.

If you normally do not work from a Caravan or Communications Truck, but are heading into the field by 4WD, it is recommended that you build yourself a suitcase where a WIFI unit, SARTrack laptop (Server & Terminal) and Base Radio and/or Tracking receiver are pre-installed, so that you only have to connect this to a 12 Volt power source and radio antenna, and you are completely online.

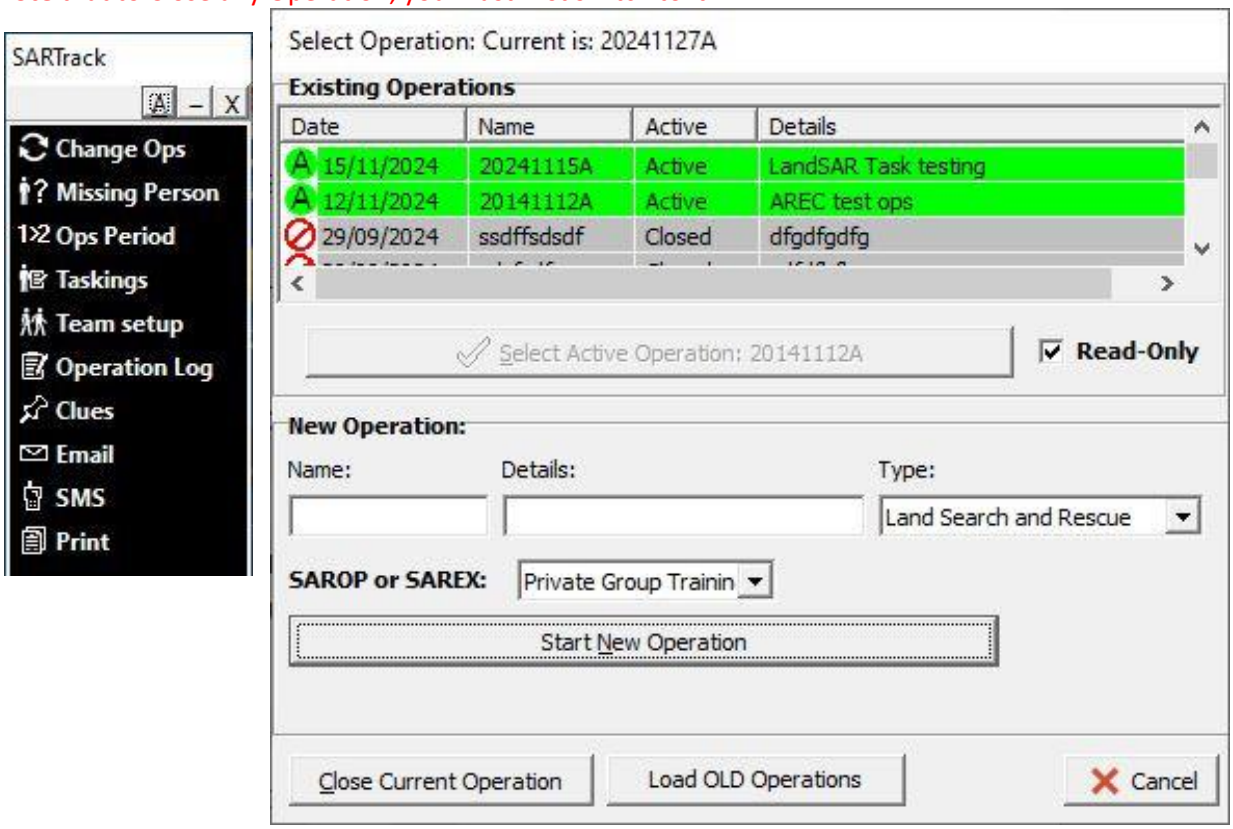
Also have a read at this document available on the SARTrack website:

SARTrack Preparation, Deployment and Operations

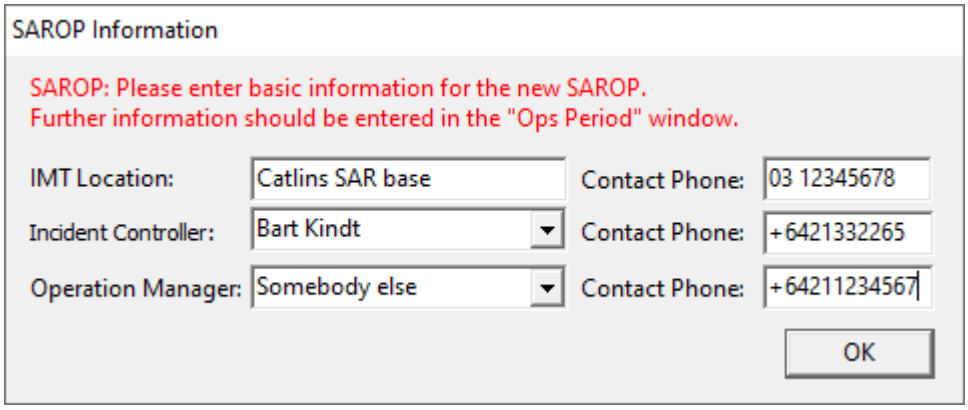
*There is a serious problem with Microsoft Windows trying to do its Updates while computers are connected to a WIFI / LAN at a remote location. Especially **Windows 10** will, without warning, starting to do Gigabyte downloads which will completely take down any Wireless Broadband or Satellite connection (and cost you a fortune). The only way to avoid this is, **on all computers**, to program Windows to accept the local WIFI unit as a '**Metered Connection**', or in earlier Windows versions, set up Windows Update to '**Notify only**'. And this should be done **in advance**! I also strongly recommend upgrading all Windows 10 to 'Profesional'. This will fix these issues.*

Operations

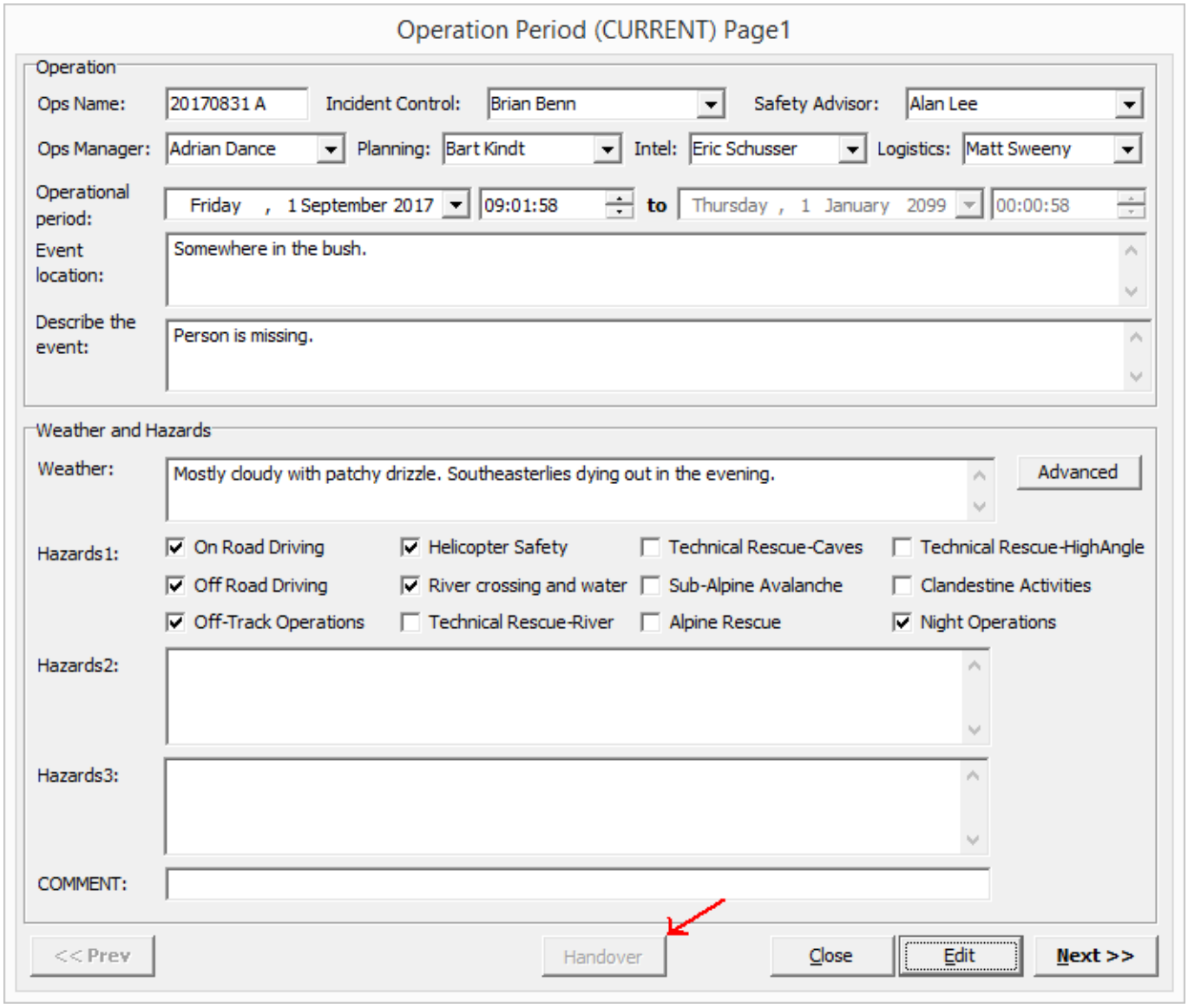
You can open the "**Select Operation**" window by clicking on the '**Change Ops'** button.
Depending on the situation, you can now start a **New Operation**, switch to another **Active Operation**, or select a **Historic (closed)** Operation (either in Read-Only mode, which is the default, or by *re-activating* it.
In all cases, when you change to another Operation, SARTrack will ask if you wish to **close** the current Operation (where you are on at that time). This option will only show up when you have Supervisor level access.
If you choose **NOT** to **close** the previous Operation, it will stay open, and any **People** and **Equipment** allocated there will stay allocated, and **cannot be used in another Operation** until you switch back to the original Operation, and clear them (or close this Operation).
Note that to Close any Operation, you must first switch to it.



Starting a New Operation:
The '**Name'** is the main identifier for this Operation, and must be unique, that is, it cannot have the same name as a previous one. The '**Details**' field is required, and should make clear what this Operation is about.
Type of Operation must be selected. Default is a 'Land Search and Rescue', other options are currently under development.
SAROP or SAREX: From **version 1.106** you must also select if a new Operation is for Training or is a real SAROP.
Once pressing **OK**, the new Operation is started. You will then be presented with the window below. If it is a SAROP, you are required to enter the information for Police purposes, else this is optional.



Operation Period form



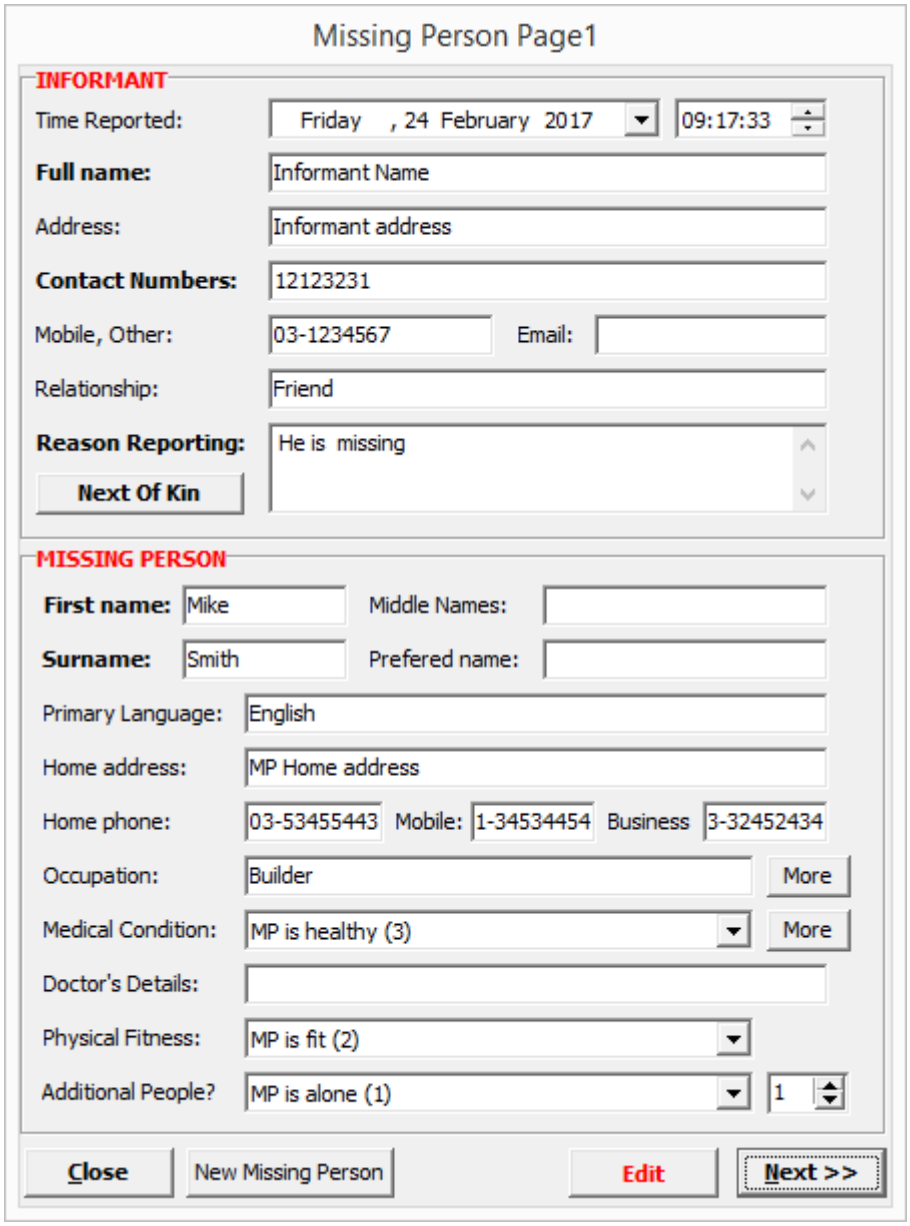
An ***Operation Period*** is a period in a SAR Operation. In a short Operation, there could only be one; however, in a multi-day Operation there will be one or more ***handovers*** (Page **Error! Bookmark not defined.**) and a new Operation Period will be created, with probably new people in the positions of *Overall Control*, *Operations Manager*, etc. All other information is then copied over into the new Period.

The Operation Period forms are based on New Zealand paper forms, but will likely be similar to what is used in other countries. Shown above is the first of two forms to be entered in SARTrack.

To *edit* the form, you must first click on the **Edit** button. This will cause the background to turn yellow to indicate you are in edit mode, and the form is locked for all other users (that is, they can view it but not edit it).

Note: When an empty form is opened in a new Operation, it will automatically be opened in Edit mode.

Missing Person form (Page 1)



The Missing Person form has two pages, shown above is the first page.

Here you must enter details of the **Informant** the *Informant* panel (at the top) and the details of the **Missing Person** in *Missing Person* panel (below).

To *edit* the form, you must first click on the **Edit** button. This will cause the background to become yellow to indicate you are in edit mode, and the form is locked for all other users (that is, they can view it but not edit it).

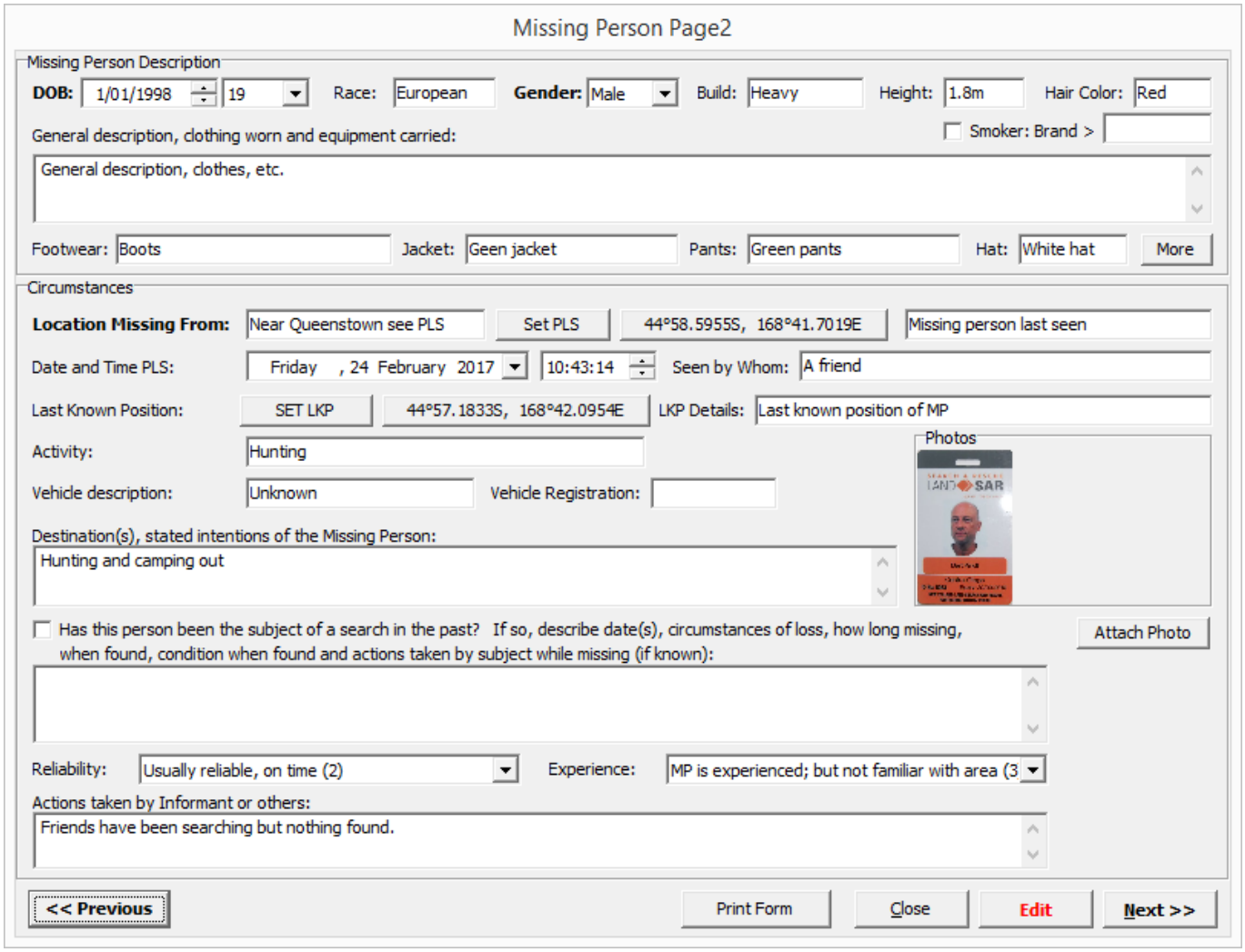
In addition to the field visible on this form, you can also (optionally) click on the '**Next of Kin**' and 'More' buttons to open additional windows where you can add more information.

The fields *Medical Condition*, *Physical Fitness* and *Additional People* are linked to the Search Urgency (Page 43) form to calculate the urgency of the response.

The '**New Missing Person'** button will allow additional Missing Persons to be added.

*Note: Entries on **Bold** are required fields.*

Missing Person form (Page 2)



In the second page of the Missing Person form additional information can be added, some of which is required.

To *edit* the form, you must first click on the **Edit** button. This will cause the background to become yellow to indicate you are in edit mode, and the form is locked for all other users (that is, they can view it but not edit it).

Some of the important fields:

- **DOB:** Date of Birth. There are two ways to enter this information: The detailed way by editing the actual day/month/year field, or if these full details are not available, the person's age in years. In this case the day and month are set to 1/1.
- **Gender:** Male or Female must be selected.
- **Location missing From:** This freeform text field must be filled.
- **Set PLS:** Set Point Last Seen. This will open the Map window, and requires you to create a PLS Circle system (Page 59) on the Map, where the person was last seen. It is important that the Date & Time is correctly set here.
- **Set LKP:** Set Last Known Position: This will open the Map window, and requires you to create a LKP Circle system (Page 59) on the Map, which is the person's last known position. It is important that the Date & Time is correctly set here.

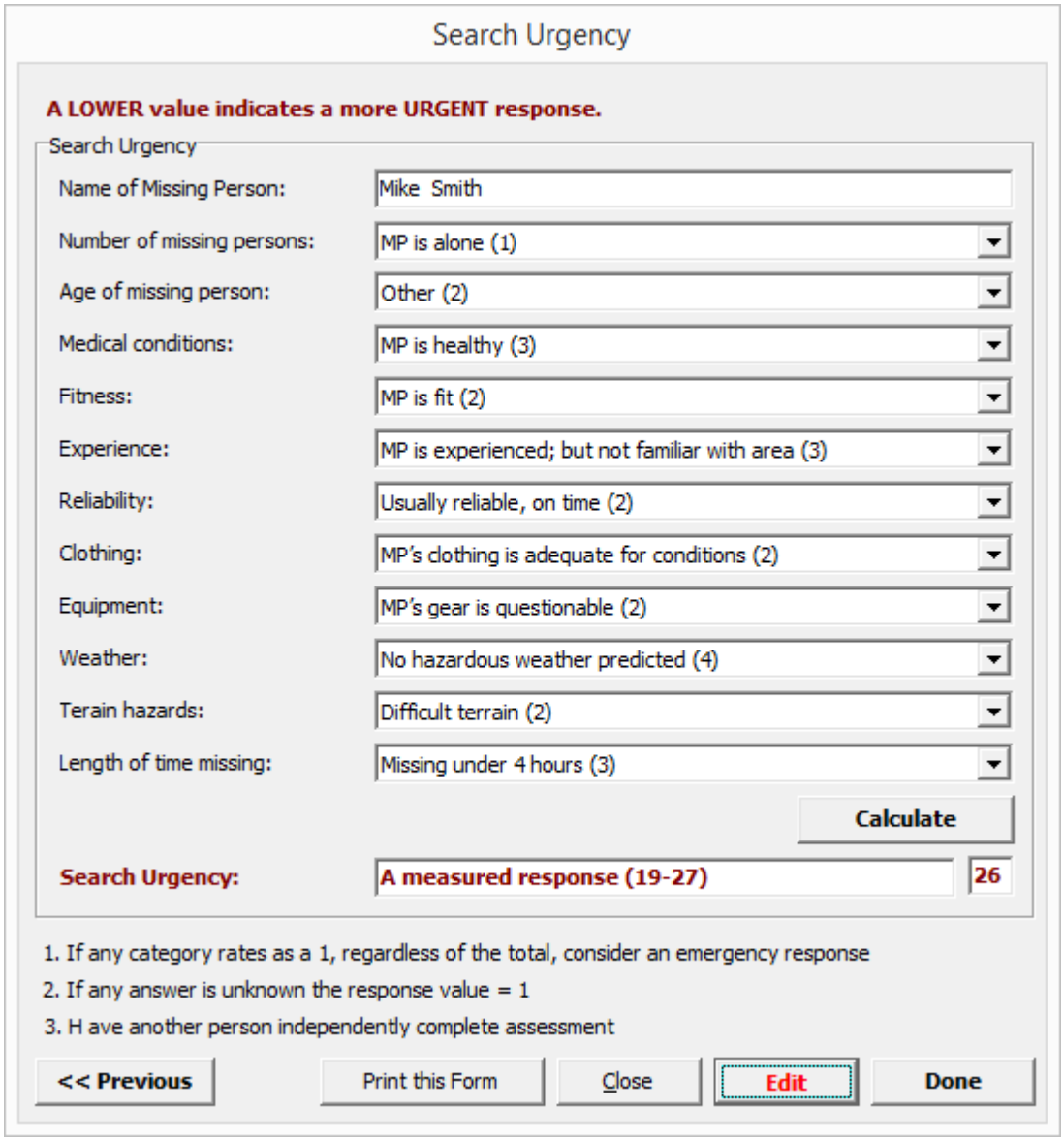
- Attach Photo: You can attach a photo of the person here, in the form of a JPEG or PNG file. These will be resized for display and transfer to the Database Server. You can select multiple photos, but only the first one is visible and will be printed.

The fields '*Reliability*' and '*Experience*' are linked to the Search Urgency (Page 43) form to calculate the urgency of the response.

 *When the PLS or LKP circle system are set, you can click on the coordinate buttons to open the Map window at that location.*

 When you click on the person's photo, a larger image will be opened, which will also include any additional photos added.

Search Urgency form

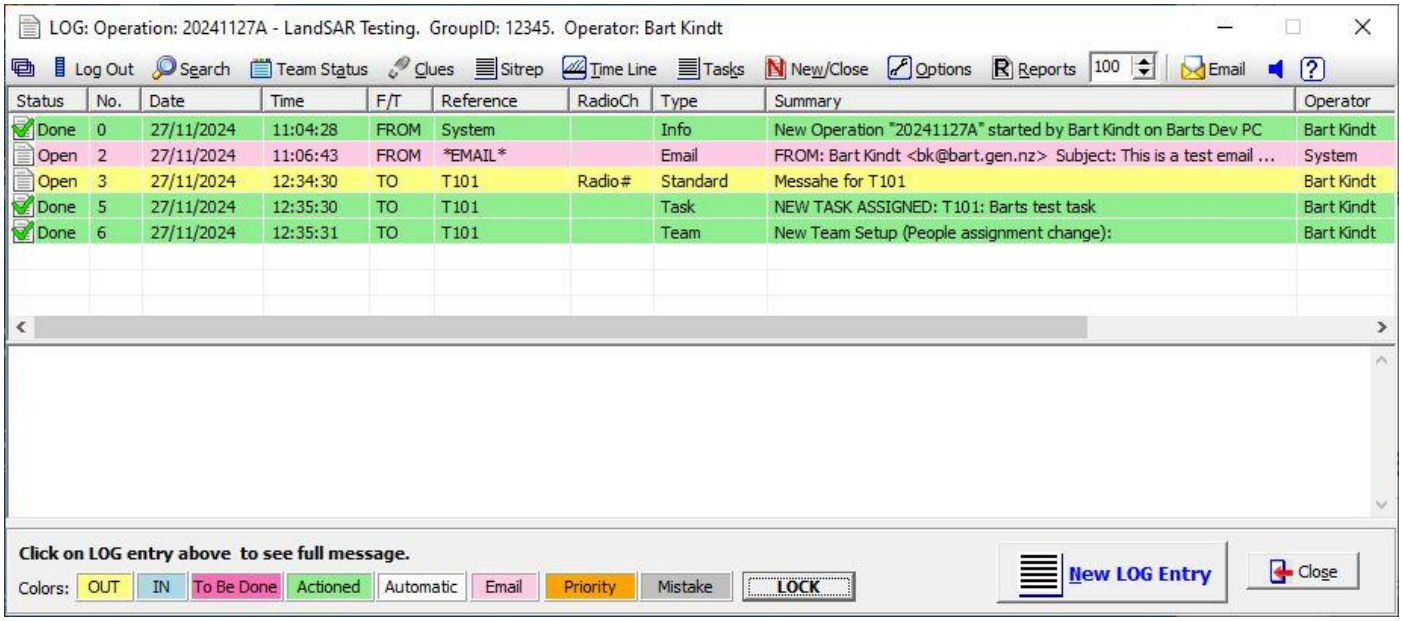


The Search Urgency form will generate a Urgency level, depending on the entries in the fields.

Some of these entries have already been set in the Missing Person forms.

Pressing the Calculate button will generate the final Urgency level. If required you can change the entries and calculate again.

Operation Log



The SARTrack Operation Log is the primary window during an SAR Operation. From here all Log entries are made, *including the communication between the Radio Operator and the Operations Management*.

In addition to the Logging of operational information, it is intended that the Radio Operator enters incoming Team radio messages into the Log as 'From' a Team and the Operations Management then reads these Log entries, and confirms them as 'read' by marking the Log Entry as 'Actioned'. Orders 'TO' a Team are then send from the Operation Management in the same way, after which the Radio operator will transmit this to the selected Team, and (when it is confirmed) marks the Log Entry as 'Actioned'. Changing the Status of a Log Entry can be done by right-clicking on it.

From the Menu Bar at the top, the following windows can be opened:

- **Team Status:** The status of the all Teams. This shows the Log entries and current Task for all Teams.
- **Time Line:** This window shows a Timeline (whiteboard) of all activities.
- **Overview:** This window shows the *last* Log Entry of all Teams.
- **Forms:** This opens the Forms window, (page 58) from which you can select the Missing Person, Operation Period, Welfare Assessment and other forms, including *paper forms* to be printed.
- **New Ops:** Start a New Operation. This will save and close any current Active operation and allows you to start a new one.
- **Close Ops:** This will save and close the current Active Operation.
- **Reports:** Will allow you to make several reports on the current Operation.
- **Options:** In the Options list you can select the following entries:
    - Show Auto Log entries: When checked, this will not only show you the manual Log entries, but also the automatically generated ones from SARTrack.
    - Use Radio Channel field: This will add a Radio channel box in the New Log form.

- Load Historical Data: This will allow you to temporarily suspend the current Active Operation on this computer, and load a Historic Operation. A full list will be available to choose from. The Database Server will then open the selected historic Operation for in in read-only mode. The 'Options' list entry will change to '*Switch to Active Operation*' which, when clicked, will reopen the Active Operation. *Note: All open windows will close when you switch Operations, and you will have to reopen them.*

- Reactivate Historic Operation: **Warning:** This is intended as an emergency procedure, when an Active Operation is accidentally closed while not finished. The People and Equipment may not be reset to the original Operation status, as they have been reset to their defaults when the Operation was closed.

- Broadcast Message: This will allow you to send a one-line message to all connected SARTrack terminals with your GroupID. A message box will appear on all terminals' screens with your message.

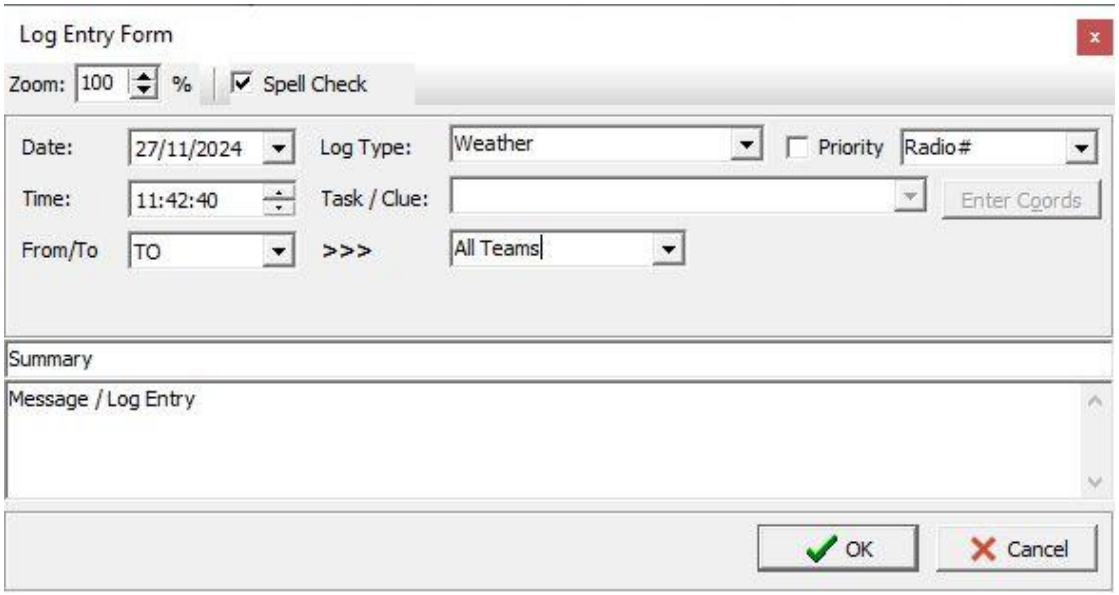
By right-clicking on a Log Entry, you can change its Status ('Mark as Actioned', 'Mark as NOT Actioned', 'Mark as Priority' or 'Mark as Mistake'.

At the bottom:

- **Switch to RadioOps View:** There are two views of the Operation Log window, and the Add Log window: The default is the standard one (shown above), the alternative it the version intended for the Radio Operator, which is simplified and has a larger font size. *Due to the many new features now added to the Log system, the use of the RadioOps version is no longer recommended, especially the Radio operator Log Entry window.*

- **New Log Entry:** Opens the New Log Entry form.

Log Entry Form (LandSAR Operation):



- **Date & Time:** The Time the data for the Log Entry was actually received. If information is entered in the Log at a later time, you must edit the Date and time first.

- **From/To:** You must select here if the information entered in the Log is '**From'** or '**To'** the Team or other reference in the next field, indicated by the '>>>' arrows.

- **Reference pull-down box:** Select here the **source or destination** (From/To) of the Log entry. This can be a Team in the field, a person, Operations Management, etc. as set by the 'Type' field to the right. When a **new** reference is manually entered in this box, you must select the **Type** in the pull-down box on the right.

- **Type:** A pull-down box of the Type of the Reference. If you leave this selection as '**one-off**' the reference will not be saved. In all other cases ('Team','Person','Aircraft' etc.) the reference will be saved, and will become available in the Team Setup, Team Status and other windows, and in the previous pull-down box for the next entry.

- **Log Type:** The default is 'Standard'. This type of Log Entry will not be saved in the Time Line window. Other options are Task, Clues, Team, SITREP Manager, SITREP Teams, Weather, Map Markers and Comments. These will be added to the Time Line window at the appropriate line.

- **Log Type: Task: When the option 'Task' is selected, this Log Entry is assumed to be a New Task for the selected Team** (Only available if the *From/To* is set to '**To'** and the reference field is not set as 'One-Off'). You can now select an existing Task from the 'Task List' pull-down box, or you can manually enter the new Task in the Log. When a *manual* Task is assigned to a Team in this way, the Summary field will become the Task ID, and the main body the actual Task. *Note that this **manual** way of assigning a Task to a Team does not give all the options which are available when the Tasking window and the Team Setup window are used to assign a new Task.* In addition to above you can also select, '**Mark Current Task as Completed**' if a Team reports this by radio. In this case, the From/To box must be set to 'From'.

- **Log Type: Clues: When the option 'Clues' is selected, a new Clue must be created, or an existing Clue must be selected, to indicate this Log Entry is linked to the Clue.** A Clue is by default an Object on the Map. As such, it always has a location on the Map, which must be entered (the first time only) in the Edit Object window. This window will automatically pop up when '*NEW*' is selected in the Task / Clue pull-down list, or when the 'Enter Coords' button is pressed.

- **Log Type: SITREP Manager:** This Situation Report is intended for the Operation manager to report on the current situation of the Operation itself, for access by higher lever management. It is NOT intended for SITREP's from teams. A special SITREP Log window is available to view the Operation level SITREP's.

- **Log Type: SITREP Teams:** This Situation Report is intended for Teams.

- **Enter Coords:** In the current version of SARTrack, you can manually enter the position coordinates of the selected Team here. In the next version, you will be able to either enter the Team's coordinates, or to enter the location of a Clue found by the selected Team. In both cases, the previous known position of the Team will be pre-loaded in the coordinate window. If the Team has a Tracker with them, the location will be the last received automatic position report.

Did you know: Pressing the Tab key will step you through the input boxes in the right order, and will take you then to the Message/Log Entry box first. You can then start typing your text in the Message box.

One more press on the Tab key will take you to the Summary box. However, when you leave the Summary box empty, SARTrack will automatically copy the first 80 characters over into the Summary when you press Enter.

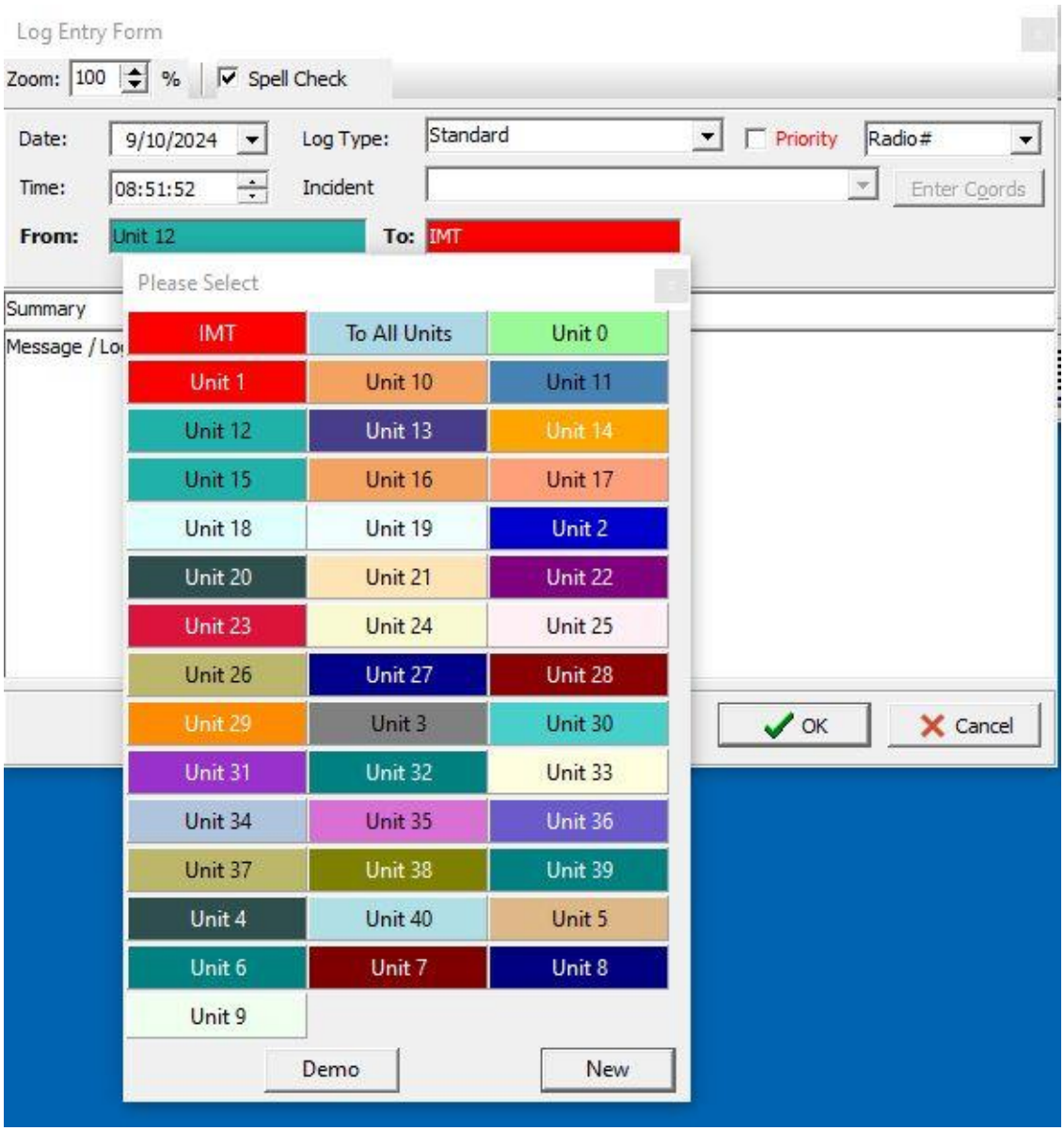
Alternatively, when you start typing in the Summary box, your text will also appear in the Message box. When you then reach the limit of 80 characters for the summary, SARTrack will switch you automatically to the Message box where you can keep typing.

Operation Type “AREC Comms”

When a new Operation is started, there is now a selection “LandSAR Operation” or “AREC Comms Operation”.
When “AREC Comms” is selected, the SARTrack terminal will behave in a different way.

- Teams are now called **Units** and they can be used without any members in them.
- Clues are now called **Incidents** and they can be entered without Map coordinates.
- ‘Missing Person’ is removed from the Main Menu.
- The new Log window now has a ‘From’ and a ‘To’ entry.
- The Log Entry window now requires a ‘From’ and a ‘To’ entry to be selected. However, the way this is now done is changed, to be able to quickly select a ‘Unit’ from a large list of Unit’s. This does require a mouse (and don’t forget, SARTrack is designed to be used with an **external mouse**! NOT a mousepad)

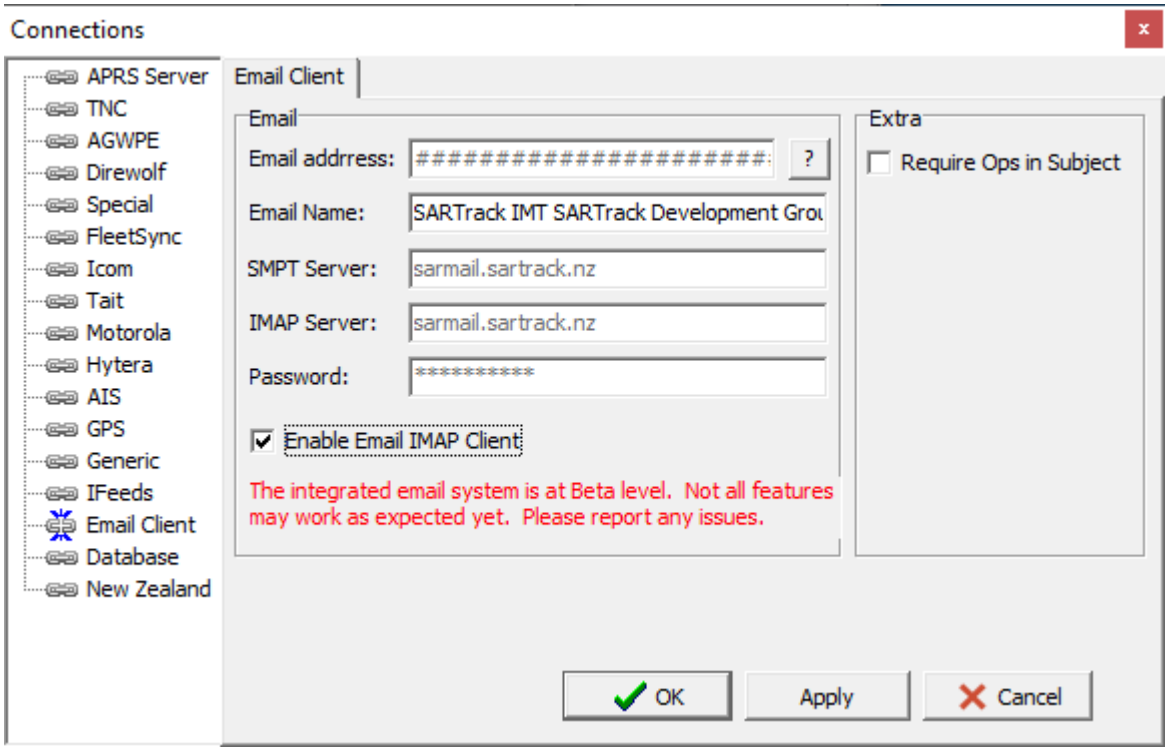
Log Entry Form (AREC / AREC Comms Operation):



Integrated Email system

As from version 1.30 SARTrack has a new integrated two-way email system. This makes it possible to communicate with authorities directly from the Log system.
In New Zealand, a special email server has been set up, and on this server every LandSAR Group has been allocated a unique email address for the SARTrack system. (International users: You will have to set up special email address for this purpose. See https://sartrack.nz/docs/xxxx.pdf).
This is the email address which external organisations can use to communicate with the IMT using the SARTrack system during an active Operation.
In the future, a Form Template system will be added to send SITREPS or Asset Requests etc. in a standardised format.
The Email system is capable of viewing HTML emails.

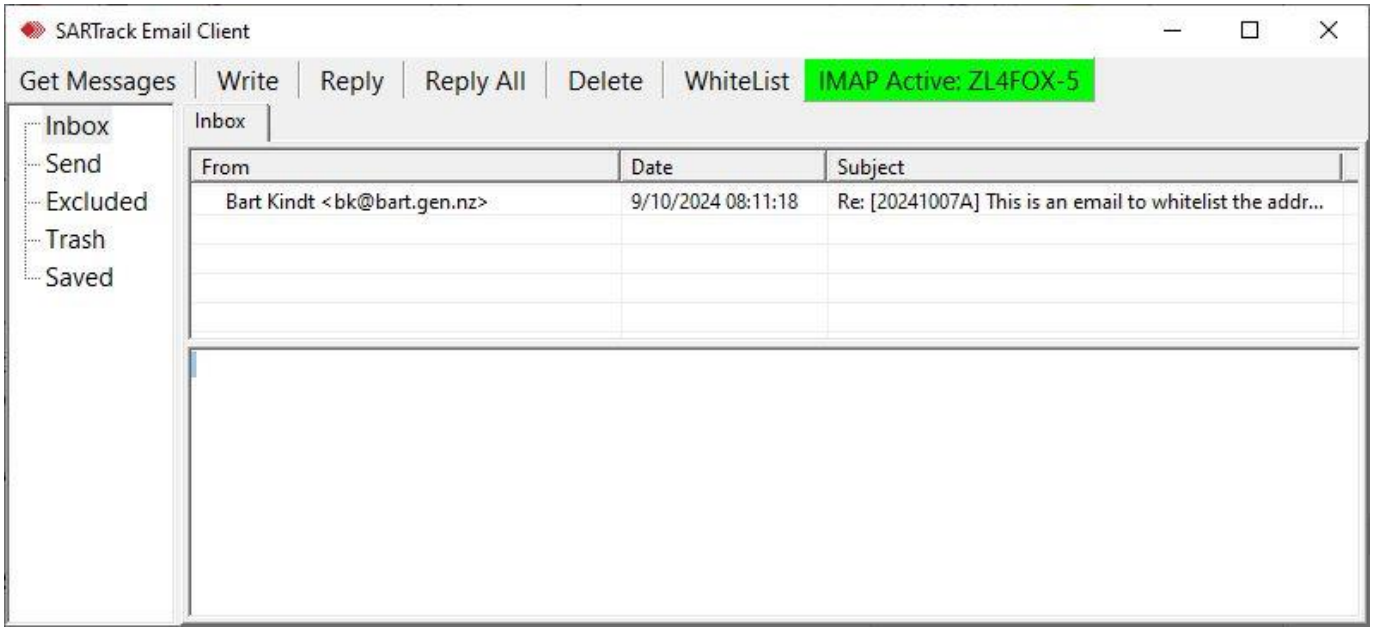
How does it work
To activate the email **IMAP** system, from the SARTrack main Menu, select Connections. In the



Connections panel, click on Setup. Then select 'Email Client'. Check 'Enable Email IMAP Client'.
Note that only **one** terminal can connect to the email IMAP server at any time. This terminal will update all other terminals on all incoming emails.
The option 'Require Ops in Subject' will filter out any incoming emails which do not have the name of the Active Operation in the Subject field. These emails will be received, but will end up in the 'Excluded' email folder.
At the moment I recommend leaving this unchecked unless multiple Operations are active on the same GroupID.

You may notice the email address itself is by default not visible, reason being we do not want this email address to become public. By clicking on the [?] the email address will become visible and will be copied to the Clipboard.

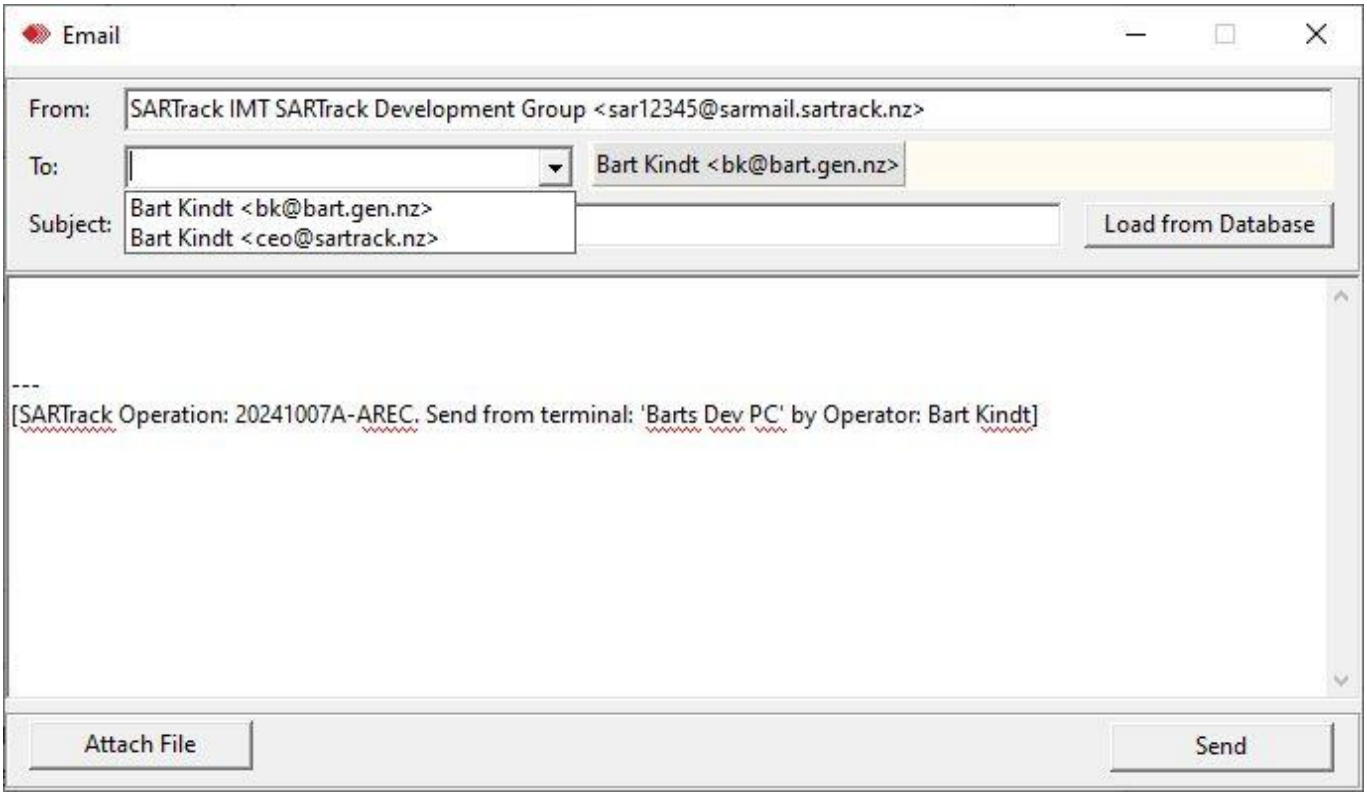
In the Main Menu there is now a new button "Email". This will open the Email client window. You can also open it from the Log window.



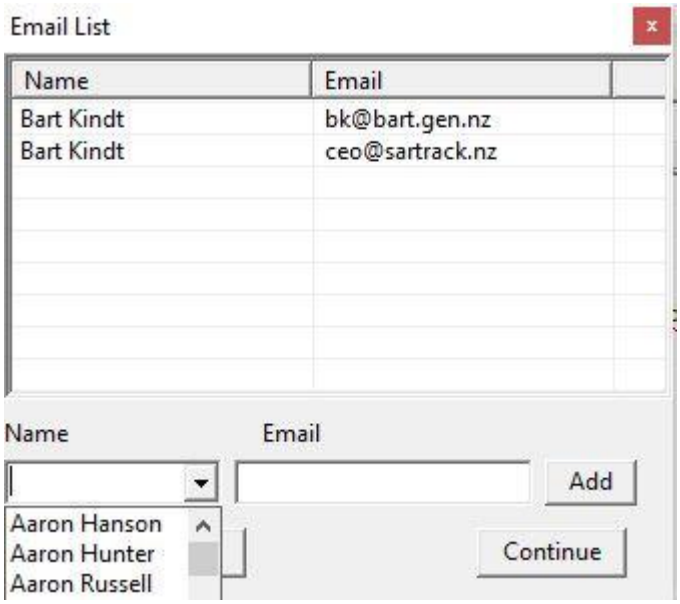
The green panel indicates <u>which</u> SARTrack terminal is acting as the IMAP client for the GroupID and Operation. This can be the same terminal you are working on, or another one, but only <u>one</u> terminal can be active at any given time. The Server will notify all other terminals on this.

When an email is sent to an external address, this email address is automatically white-listed. From this moment on, all incoming emails from this address will end up in the INBOX, and at the same time appear in the Log system.
Incoming emails which are NOT white-listed, will end up in the 'Excluded' mailbox, and they will NOT show in the Log system.

Clicking on the "Write" or "Reply" button will open the 'Send Email' window, see below.

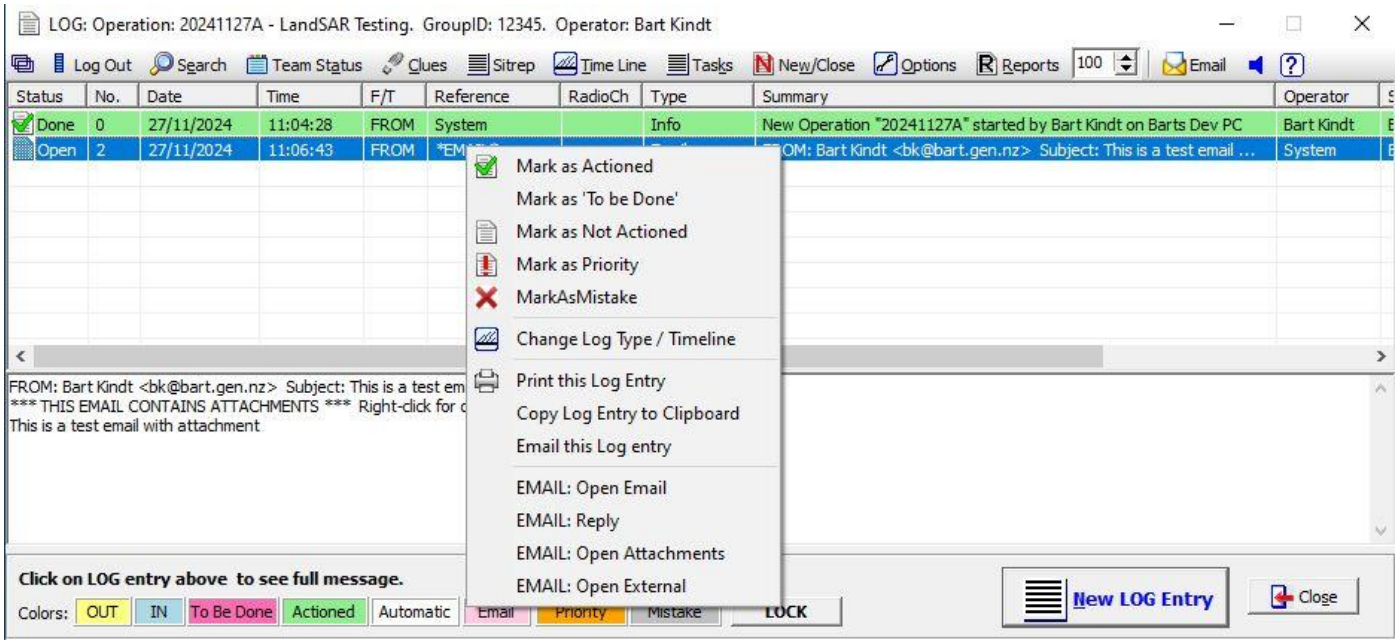


In this window you can select the addresses which are already in the Whitelist, or you can enter a new address. Multiple addresses can be entered.
You can also click on the 'Load from Database' button, which will open a window where you can select any email address from the People database.

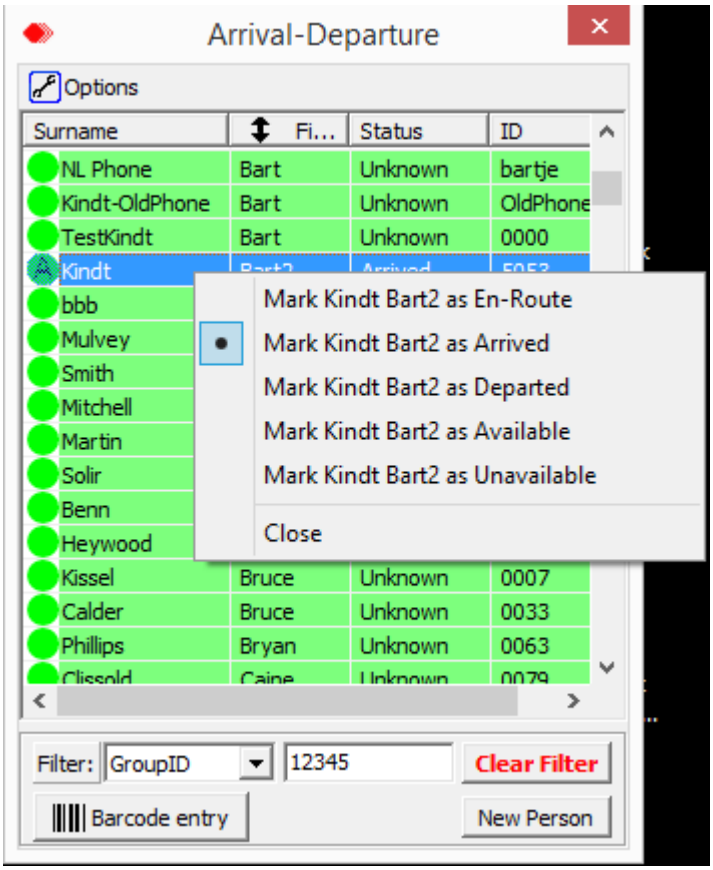


When in the Log window, emails can directly be opened by right-clicking on the Log entry, and if the email contains attachments these can also be opened directly from here.

In addition, the entire email can be opened in the default Windows email program.
See image on the next page.


LOG: Operation: 20241127A - LandSAR Testing. GroupID: 12345. Operator: Bart Kindt
Log Out
Search
Team Status
Clues
Sitrep
Time Line
Tasks
New/Close
Options
Reports
100
Email
Status
No.
Date
Time
F/T
Reference
RadioCh
Type
Summary
Operator
Done
0
27/11/2024
11:04:28
FROM
System
Info
New Operation "20241127A" started by Bart Kindt on Barts Dev PC
Bart Kindt
Open
2
27/11/2024
11:06:43
FROM
OM: Bart Kindt <bk@bart.gen.nz> Subject: This is a test email ...
System
Mark as Actioned
Mark as 'To be Done'
Mark as Not Actioned
Mark as Priority
MarkAsMistake
Change Log Type / Timeline
Print this Log Entry
Copy Log Entry to Clipboard
Email this Log entry
EMAIL: Open Email
EMAIL: Reply
EMAIL: Open Attachments
EMAIL: Open External
FROM: Bart Kindt <bk@bart.gen.nz> Subject: This is a test em
*** THIS EMAIL CONTAINS ATTACHMENTS *** Right-click for
This is a test email with attachment
Click on LOG entry above to see full message.
Colors:
OUT
IN
To Be Done
Actioned
Automatic
Email
Priority
Mistake
LOCK
New LOG Entry
Close

People Arrival / Departure



The Arrival / Departure window is intended to be used by an operator with 'Data Entry' access, on a separate SARTrack computer, who marks the status all people involved in the Operation.

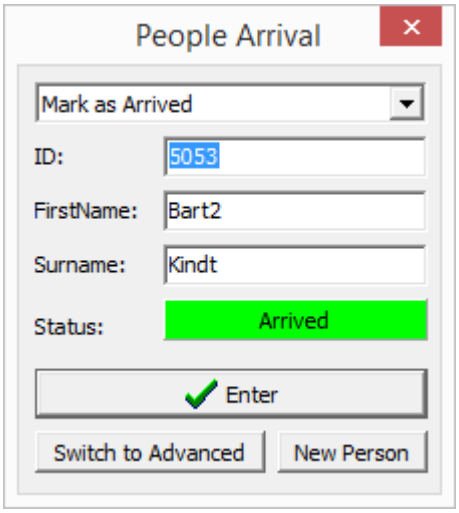
Generally people will initially be Available, and then they can be marked as 'En Route', later as Arrived.

The Filter option enables filtering by GroupID, Name, etc.
By default, on first opening of this window, the people are filtered on the GroupID of the own Group. To show <u>all</u> people, click on the 'Clear Filter' button

Once the person has arrived, they can be assigned to a Team in the Team Setup window.

A better way of very quickly marking people as arrived or Departed is using the Barcode Entry window, below.

Note: In the Team Setup window, any person who is NOT marked as 'Unavailable' can be directly assigned to a Team, overriding any other Status.



The **Barcode version** of the People Arrival/Departure window allows very quick processing, and is strongly recommended.

- First, select from the pull-down list the required option, in this example "Mark as Arrived". The cursor will jump to the ID (Barcode) box.

- Use the barcode scanner to scan the person's ID card (or other ID like a drivers licence).

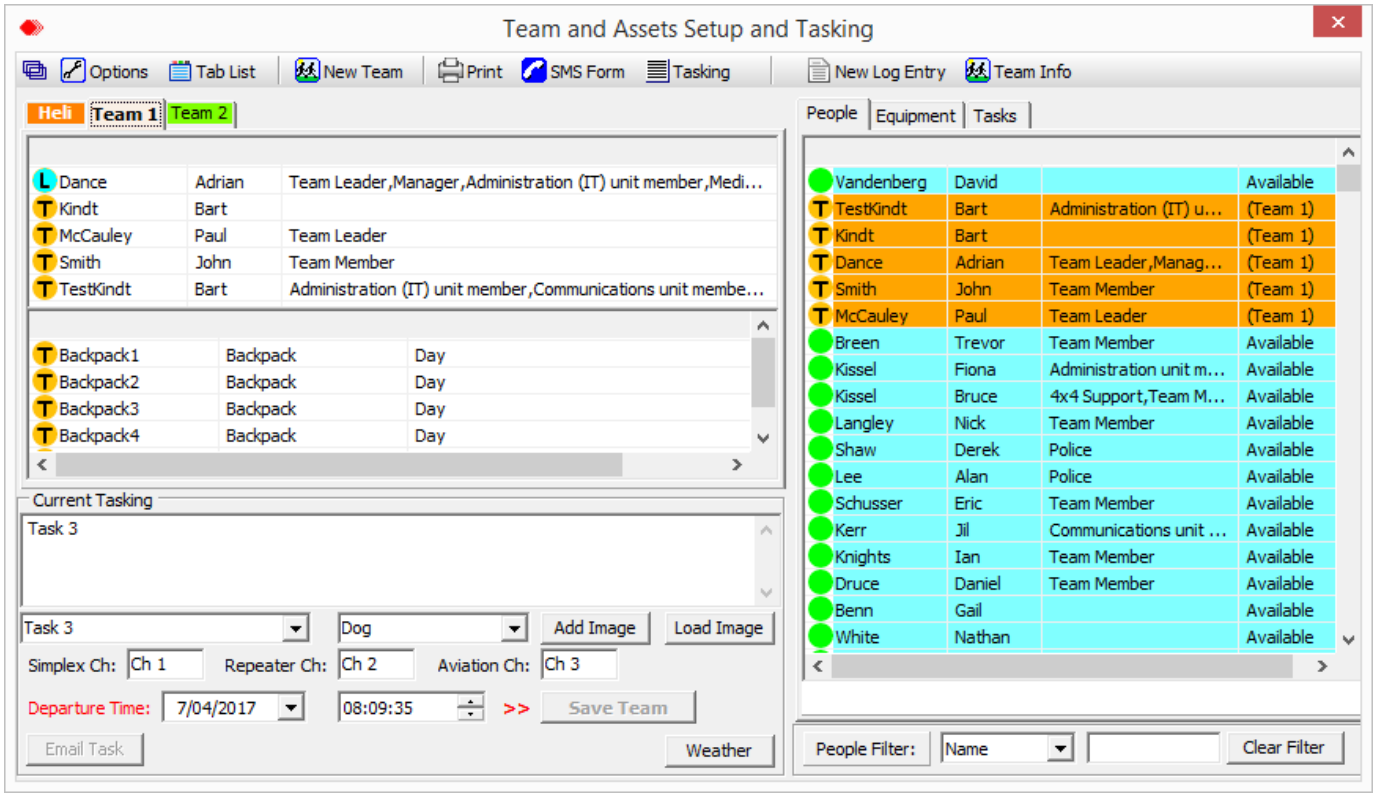
When the person is found in the People database, he/she will be immediately marked as Arrived, the cursor jumps back to the ID box, and the window is ready for the next person.

Note1: It is also possible to manually enter the MemberID of the person in the ID box.

Note 2: The person must available in the People database, *with* the selected barcode used (Membership card, drivers licence, etc.).

<u>No matter type of ID what is used, the Barcode must be unique.</u>

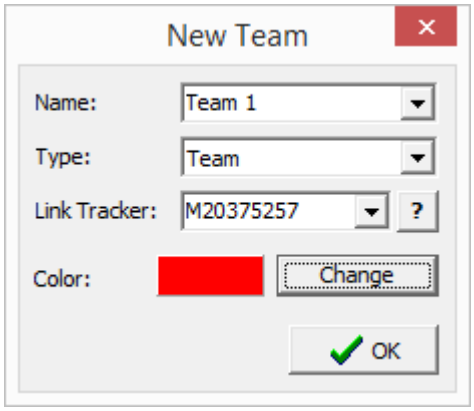
Team Setup



In the Team Setup window, you can add Teams, assign People and equipment to the Team, and allocate a Task to the Team. The entered information can then be printed out.

- **Tab List:** To show or hide all available Teams. Not all Teams are automatically shown; here you can select which entries are visible in the window.

- **New Team:** This will generate a new Team with a selected name and a tab colour which will also be the Track colour on the Map. Clicking on the button will open this window.



  - **Team Name:** Enter a unique Team Name, which cannot already exist.

  - **Type:** The Type of the Team.

  - **Link Tracker:** You can directly link the new Team to an existing Radio Tracker or a previously saved Radio Tracker by its ID. For the latter to work, in Setup>SAR the option 'Keep Radio Trackers' must be enabled, and this must be done before closing the previous Operation, so that any Radio Trackers used at that time will be saved, and can be loaded in following Operations, in the pull-down list.

- **Tasking:** This will open the Tasking window (page 55) where Tasks can be prepared in detail, including adding images to the Task (Maps, pictures).

- **New Log Entry:** This will open the Log Entry form, with the ID of the selected Team already filled in.

- **Team Info:** This will open the Team Information window, where you can view the Team members and the Team's current Task.

- **SMS Form:** This opens the SMS window, where you can send a SMS to all People who have a valid mobile phone number added. *This requires Internet access and enough SARTrack SMS credits.*

- **People Filter:** You can reduce the visible list of People by filtering: By GroupID, Name, Member ID or Capability. When the Team Setup window is opened for the first time, it defaults by Filtering by own GroupID. This means, any People from other Groups in the People database are not visible. To make **all** People visible, click on Clear Filter.

Setting up and populate a Team:

Select a Team by clicking on a Tab, or click on 'New team' to create a new one.

- **Adding People:** Click on the 'People' tab on the right panel. Select the required People on this panel. Then drag-and-drop the selected people into the People list in the left Team panel. *After dropping the People, you must select a Team Leader by right-clicking on the person, and select 'Mark this person as team Leader'.*

- **Adding Equipment:** Click on the 'Equipment' tab on the right panel. Select the required equipment on this panel. Then drag-and-drop the selected equipment into the Equipment list in the left Team panel. This system is no longer recommended, instead use the Equipment allocation 'Barcode' window, which allows very fast allocation and will generate a permanent Log of to which Team and the Person to which the equipment was given.

- **Adding a Task from existing list:** Click on the 'Task' tab on the right panel. Select the required Task on this panel. If no Tasks are yet available, open the 'Tasking' on the top Menu Bar, to open the Tasking Window (page 55) and add new Tasks, or drag Template Tasks to the Active Tasks. Then drag-and-drop the selected Task into the Task Edit box in the left Team panel.

- **Adding a Task manually:** (Not recommended) Enter the Task text into the Task box in the left Team panel. Select the Task Type from the pull-down list. The first 32 characters of the Task text will become the Task ID. Currently y*ou cannot attach an Image to this task.*

- **Add Image, Show Image:** You can add Images to the Task, and view these. All attached images will be printed out when the Task assignment is printed.

- **Adding Radio Channels:** You can add radio channels in the three available boxes. This information will be printed out with the Team's Task sheet.

- **Weather:** This feature is not fully developed, but *general* weather can be added here.

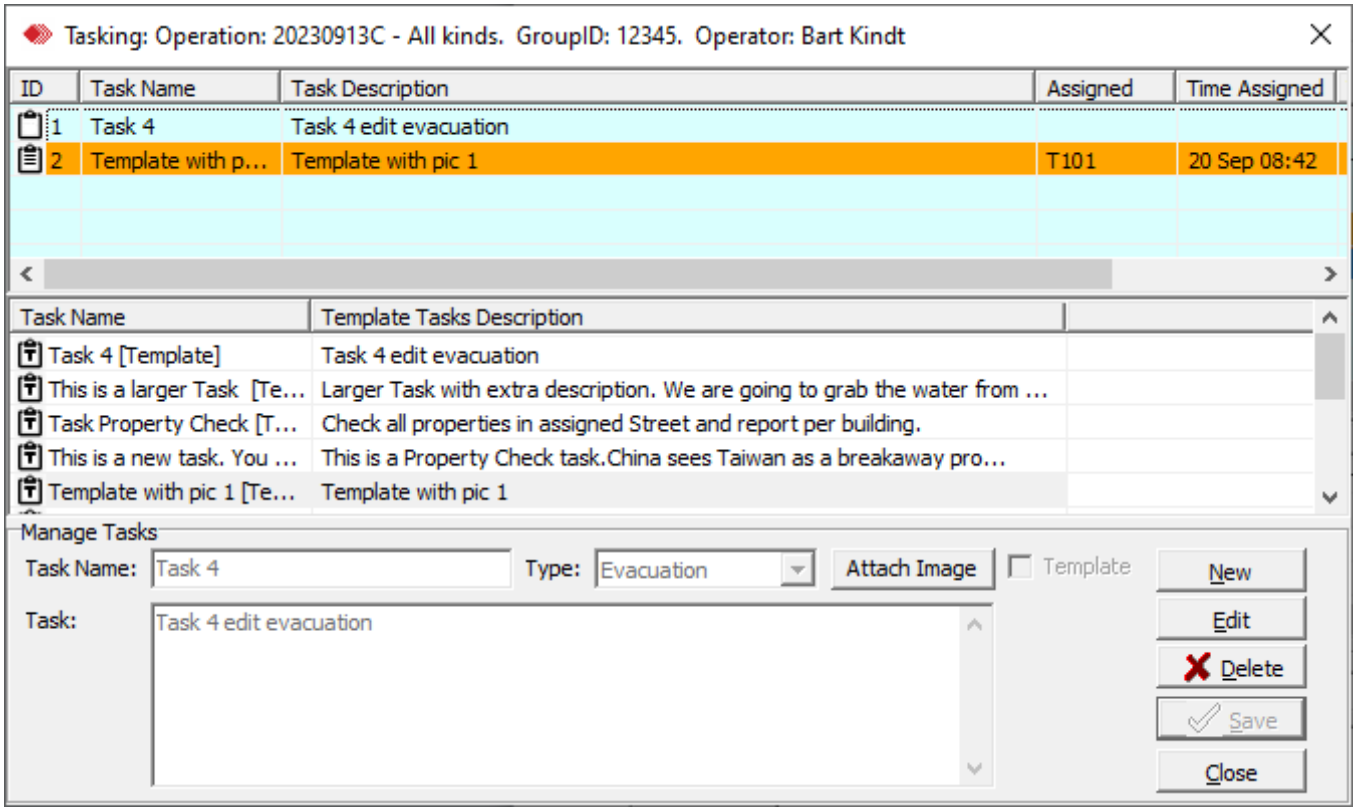

*After adding or changing the Task for a Team, you must click '**Save Team**' to activate it.*


Right-clicking on a Task will allow you to change the Task Status: Mark as Completed, Cancelled or Open.


Right-clicking on a Team member in the left panel, will allow you to remove this person from the Team.


Did you know: When dragging items from Windows lists, always start your drag (grab it) from the second or later fields of the selected item(s). If you try to start dragging from the first field, MS-Windows will attempt to do a multi-line selection instead and the drag will fail.

Tasking



In the Tasking window you can add and edit Tasks, to be later assigned to the Teams.
You can access this window by clicking in the **Main Menu** on 'Operations', then in the **Operations Menu** click on the **Manage Menu**.

There are two types of Tasks: Template Tasks and Active Tasks. A template will be saved permanently and will be available when a new Operation is started.

Active Tasks are only valid for the current Active Operation. You can drag Template Tasks to the Active Tasks window, after which they will become available for assignment in the Team Setup window (page 53).

To **add** a new Task, click '**New**' and in the Task Name, enter a unique Task ID name for the task, or to **edit** an existing Task, select one from the pull-down list. In the **Type** pull-down box, select the Type.

In the **Task** edit box, enter the full Task description.

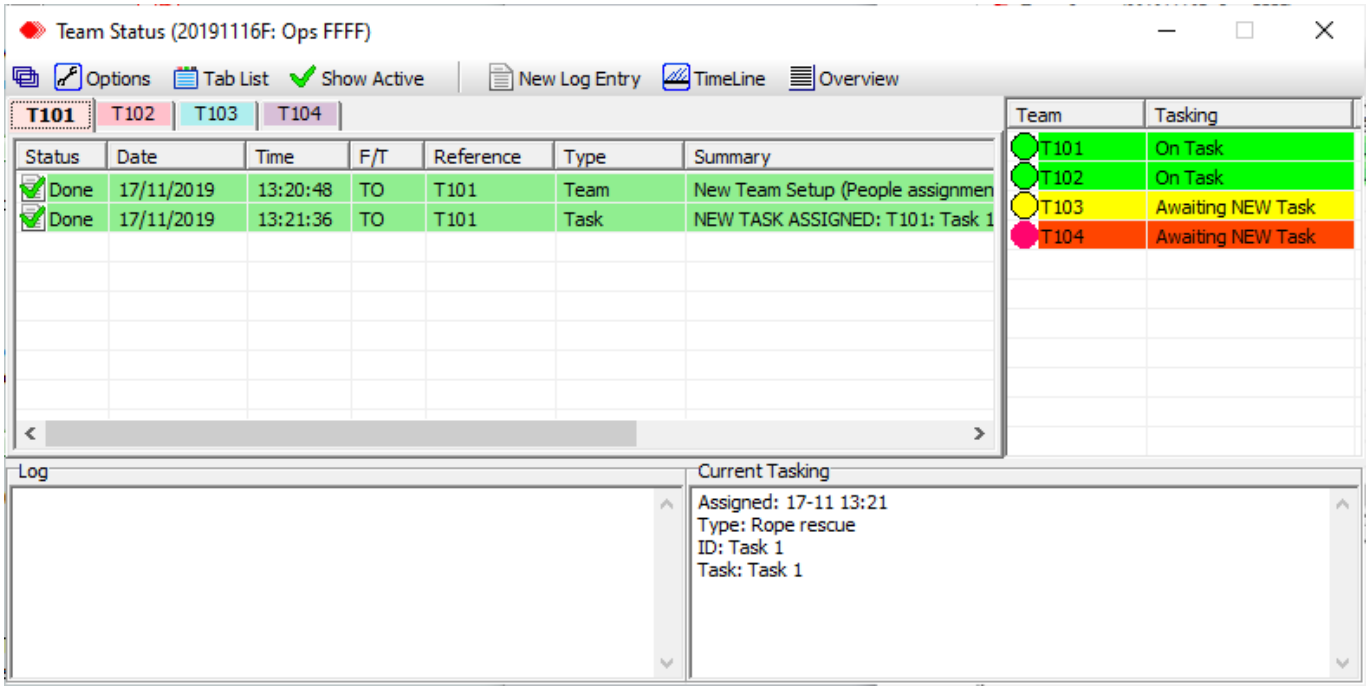
You can optionally attach an **Image** to the task. For example, this could be a Map or Missing Person photo. It will be printed out with the Team Tasking sheet.

If you wish to save this Task for future use (in another Operation) check the '**Template**' box.

Click **SAVE** to save the Task. If you entered it as a *template*, you can now **drag** the template to the Active Tasks window to make it active.

Did you know: When dragging items from Windows lists, always start your drag (grab it) from the second or later fields of the selected item(s). If you try to start dragging from the first field, Windows will attempt to do a multi-line selection instead.

Team Status window



In the Team Status windows you can monitor the status of all Teams. Under each Team Tab the Log entries '*From*' or '*To*' the Team are displayed, and also the Team's current Task.

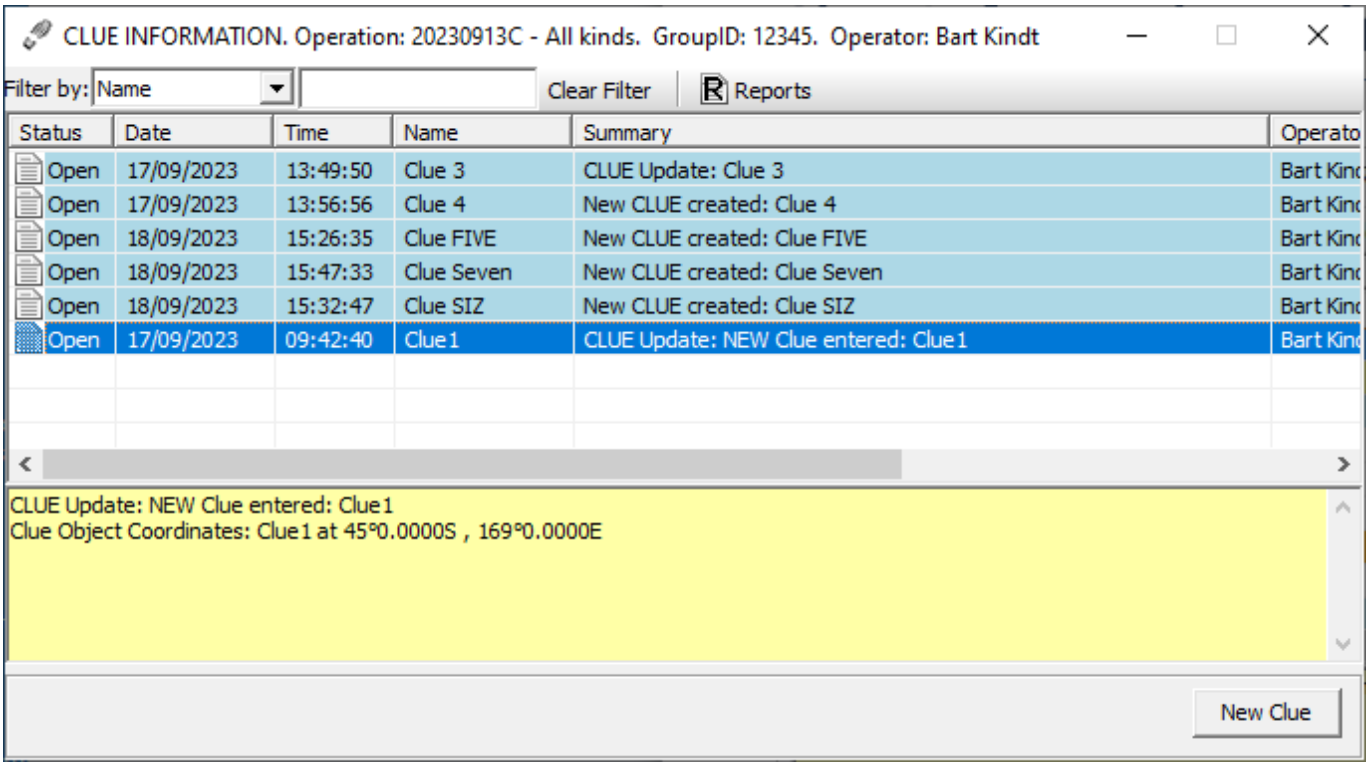
When a new Log entry related to a Team comes in, the coloured Tab will start flashing (except for the Tab which is open at that time). This will quickly show that new information related to this Team has arrived, and clicking on the flashing Tab will then enable you to read the new Log entry.

In addition, on the right is a list of all Teams with People in them. This list indicates whether the Team is **On Task**, or **Awaiting a Task** (*in which case the entry will be **flashing** to indicate they are **waiting** for a new Task to be assigned*).

- **Options:** You can hide the Task Panel on the right it not required.
- **Right click** on any Log Entry to change its status or to switch it to another Time Line (Page 57)
- **Tab List:** Select here which Teams you want visible in this window. You can also hide a Team Tab by right-clicking on a Tab and selecting 'Hide this Tab'.
- **New Log Entry:** You can directly open the Log Entry (Page 45) from here, with the selected Team already filled in.
- **TimeLine:** You can open the Time Line window here.

By right-clicking on a Log Entry, you can change its Status ('Mark as Actioned', 'Mark as NOT Actioned', 'Mark as Priority' or 'Mark as Mistake'.

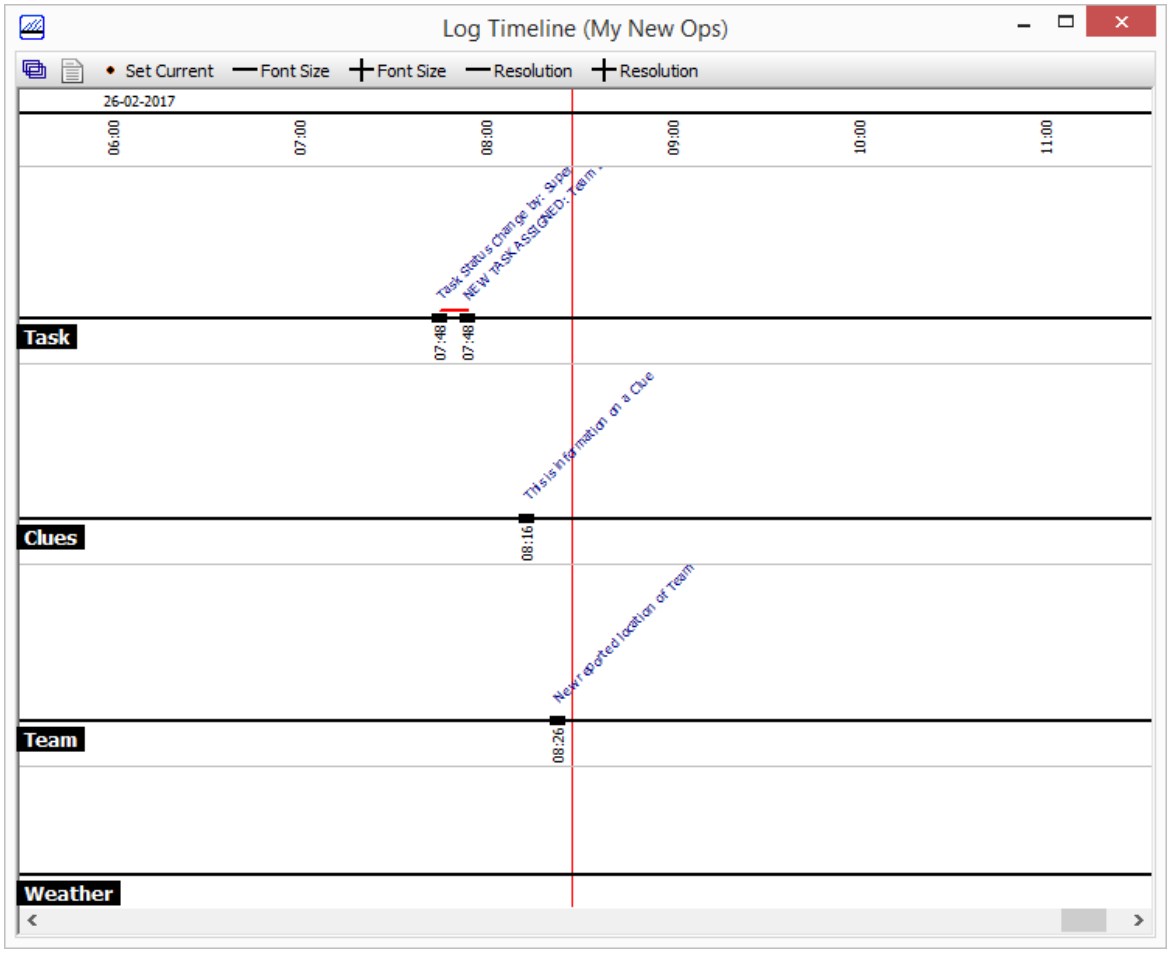
Clue Information window



This window can be opened from the Operation Log window (Page 38).
In this window all references in the Log are filtered by Clue, and by default grouped by Clue name.

*Note: This is an **intermediate version** of the Clue information window: In later SARTrack versions this window will be formatted in the same way as the current Team Status window, with a separate Tab for each Clue.*

TimeLine window



The TimeLine window shows timelines of the Operation. Default lines are: **Task, Clues, Team, Weather** and **Comments**.

- Open the main Log window.
- **Set Current:** Jump the display to the current time.
- **+ Font Size, - Font Size:** Change the font size of the displayed text.
- **+ Resolution, - Resolution:** Change the Time resolution of the display.

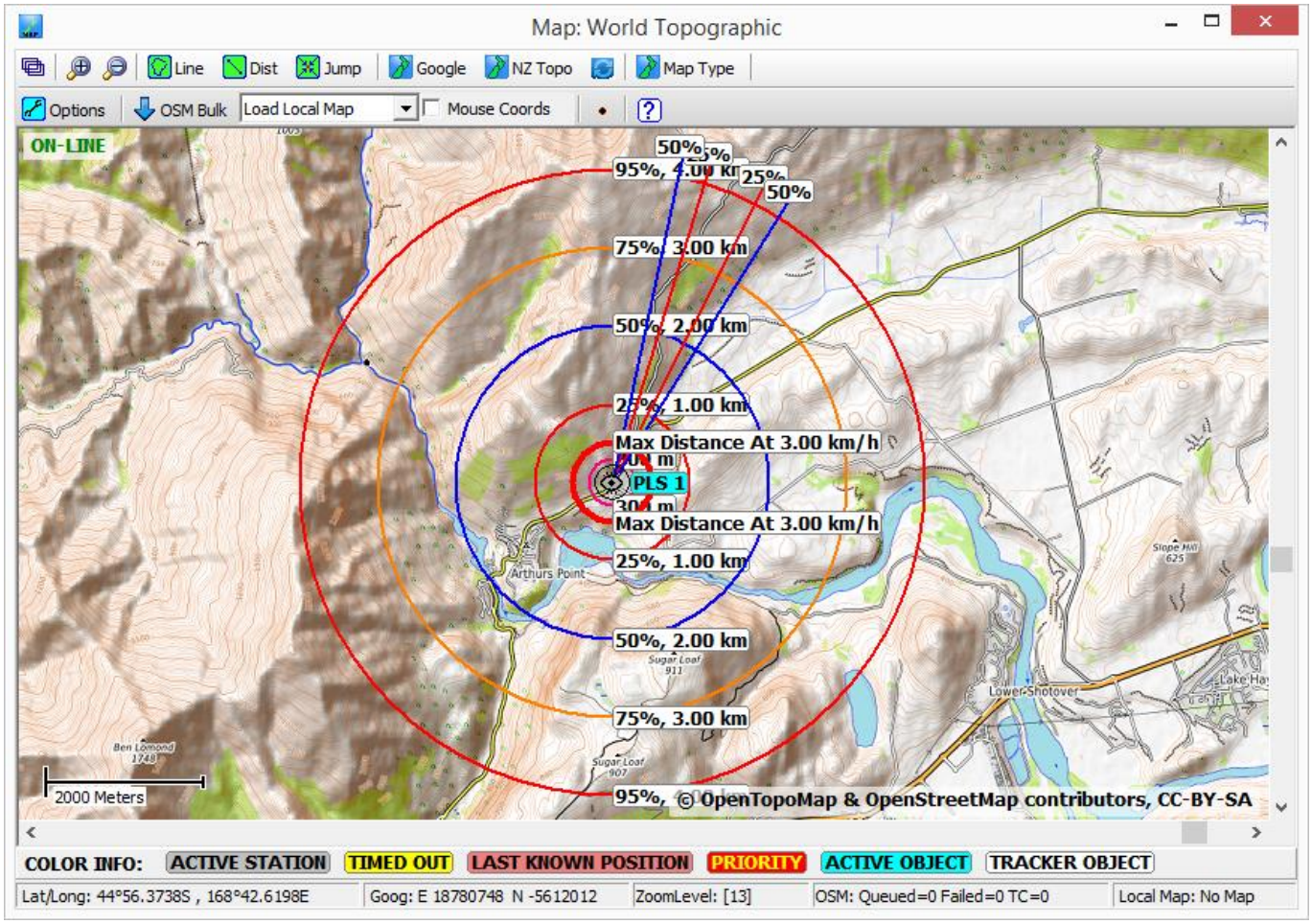
To **Hide** a TimeLine you do not use, **right-click** on the required TimeLine (on or above its Base line) and select 'Hide Timeline'.

To **Change the order** or **un-hide** a Timeline, **right-click** anywhere and select 'Edit Timelines'.

You can adjust the **height** of each Time Line by **left-clicking** on is base line (at the bottom) and dragging it up- or down.

When you **hover the mouse cursor** over an entry on a Timeline (the black square on the base line) an information box will pop up with details of the Log Entry.

Statistical Rings and Dispersion Angles



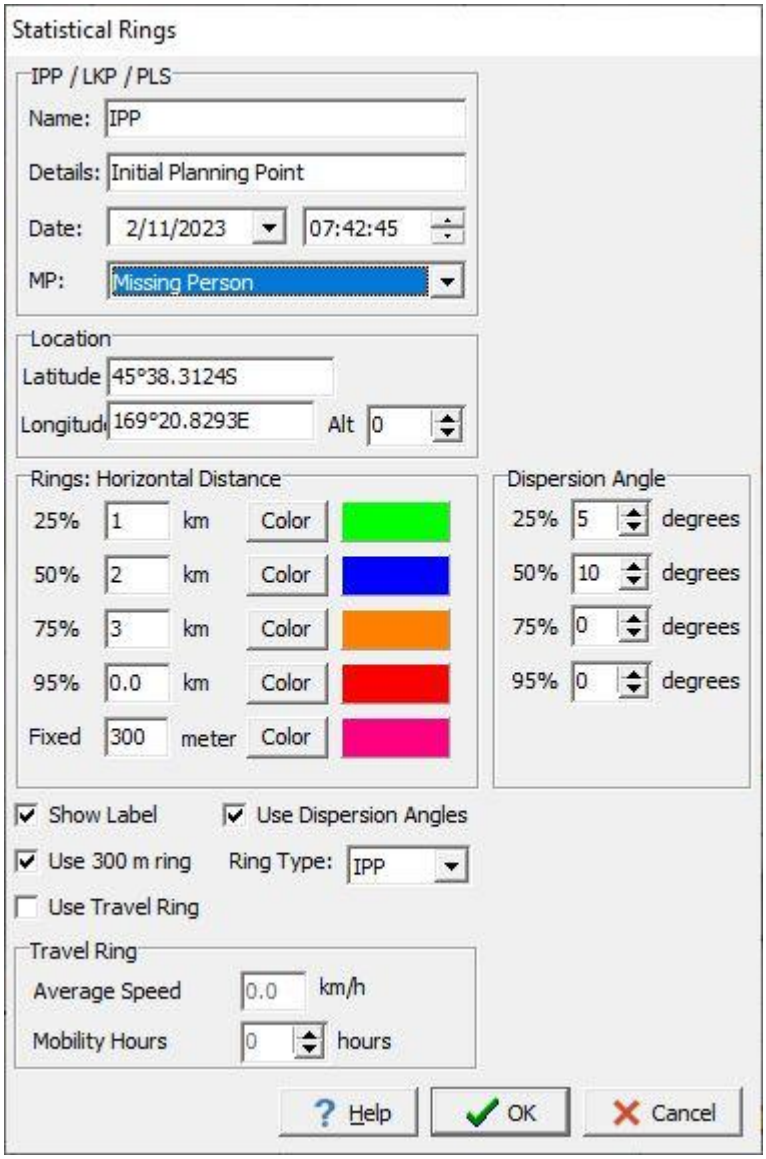
Based on the ***International Search & Rescue Incident Database (ISRID)*** and the book Lost Person Behaviour by Robert Koester, SARTrack can display a Statistical Ring system, including (optional) **Dispersion lines**. The 'Percentage' of the available Rings is the statistical chance that the person will be in that area.

The Colours of the percentage Circles are linked to the colours of the percentage Dispersion Lines. This means that the 'Pie' shape produced by lines of the same colour, is the statistical percentage chance for the person to be in that pie-shaped area.

Optional is a 'Travel Circle' which shows an expanding circle based on estimated speed since Last Seen.

- The Statistical Ring system can be edited at any time.
- You can hide all Labels.
- You can hide the entire Statistical Ring system, to (for example) start a new one, if you receive a new PLS/LKP information. The original system will still be available to display when needed, or during debrief. (You can re-activate it in the Object window (Page 24))

To create a *new* **LKP** (Last Known Position) or **PLS** (Point Last Seen) circle system, right-click on the location on the Map and select '**Create IPP/LKP/PLS Circles**'. This will open the LKP/PLS window (see next page):



- **Name:** Enter a unique name here for this circle system.

- **Details:** Do enter some details here. Note that there may be additional Circle Systems generated for this person, depending on new incoming information.

- **Date & Time:** It is critical that this is correctly set to the actual time the person was Last Seen or his/her Last Know Position was reported. This Date & Time are also used to calculate the Travel Circle (if used).

- **MP:** Link this Statistical Ring to a Missing Person.

- **Location:** This is the clicked Map location, but it can be edited here.

- **Rings:** Enter here the values from the ***ISRID*** database. The values here are for an Alzheimer person in an urban area.

- **Dispersion Angle:** Optionally enter here the Dispersion Angle values from the ***ISRID*** database.

- **Show Label:** Show the Label on the Map.

- **Use 300m Ring:** By default this will show the 300 meter ring, which is a required search area.

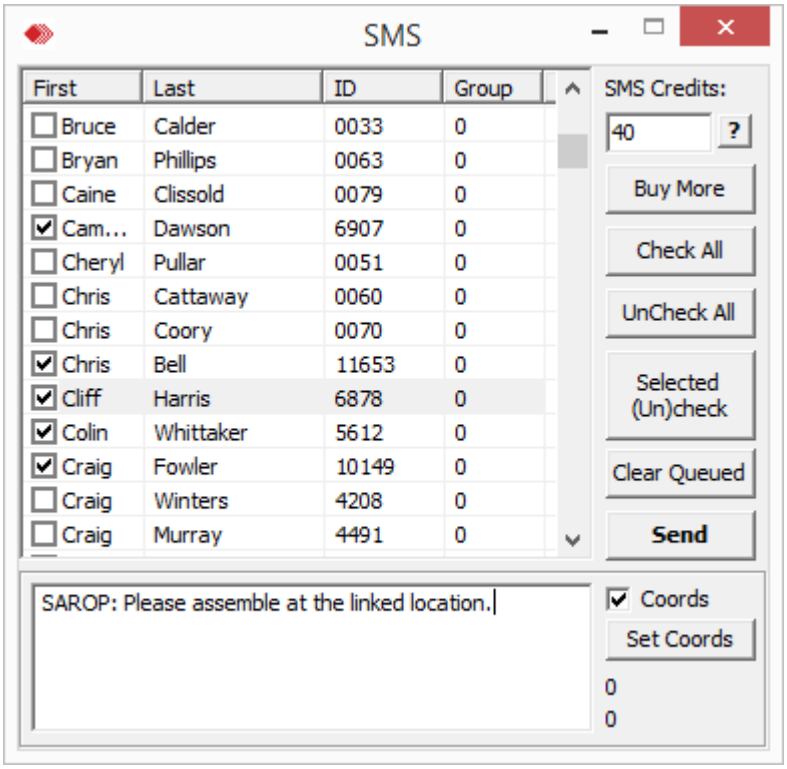
- **Ring Type:** Select here if this is a PLS (Point Last Seen) or LKP (Last Known Position) ring system.

- **Use Travel Ring:** This is a SARTrack additional option. When checked, SARTrack will start drawing a Travel Ring, updated every minute, starting at the entered *Date & Time*, based on the estimated maximum *Average Speed* of the person, and limited to his/her ISRID *Mobility Hours* (The time it is estimated the person will no longer move from his/her position). When this time has been reached, the Travel ring will lock at this position.

- **Average Speed:** Estimated by the Operations Manager, the maximum average speed the person could achieve in the terrain. This is based on a straight line therefore when walking tracks are involved, this should be taken into account.

- **Mobility Hours:** From the ***ISRID*** Database, the time after which the person will probably no longer move from his/her position.

SMS Form



The SMS Form allows you to send an SMS to one or more Members of your organisation. This requires Internet access to a Master Database which has been set up for this purpose, and enough SARTrack 'SMS Credits'.

To be able to use this system, you need Internet access. Either SARTrack is connected to the SARTrack Internet Database direct, or connected to a Local Database, which in turn is connected to the SARTrack Internet Database Server.

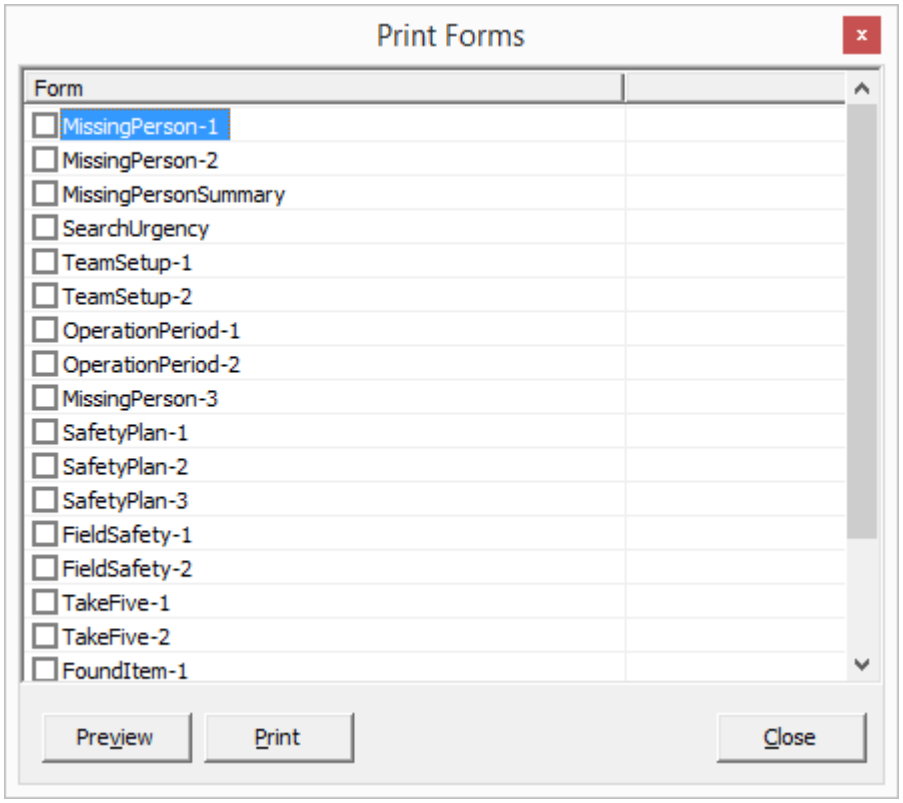
When this window is opened, a request is made to the Internet Database Server for the available SMS Credits, which will then be displayed in the top-right corner.

You can purchase more SMS Credits from SARTrack Limited, by clicking on the 'Buy More' button. Then will open your Web browser on a link to the PayPal website. There you can make a 'donation' which will be linked to your organisation's **GroupID**, and which will be passed on by PayPal to SARTrack Limited. SARTrack Limited will then calculate how many SMS Credits you receive for the amount of money 'donated', and add this to your SMS Credits total.

This is a manual process, and may take one or two days. It is therefore important that you always have enough SMS Credits in store for an unexpected Operation.

- **Buy More:** Open your web browser on PayPal to make a donation to SARTrack Limited.
- **Check All:** Check all available people. Note: Only people with a valid Mobile Phone number can be selected.
- **Uncheck All:** Uncheck all checked entries.
- **Selected (Un)Check:** This will **swap** all selected entries checked / unchecked. This will enable you to 'check' all people who did not get an SMS yet, and un-check all people who already got an SMS.
- **Clear Queued:** This will clear any SMS messages which are still queued for transmission on the **Local** Database Server. When the Local Database Server is NOT connected to the Internet Database Server, all SMS send will be queued locally. When the Local Server then (later) connects to the Internet Database Server, all SMS messages will be send at that time. To prevent this (because it has already been too long, or too late) you can cancel the SMS transmission by clearing the local queue.
- **Set Coords:** By clicking this button, the Map window will open, and you must Create an Object (for example the assembly point), which location will then be transmitted with the SMS. The receivers of the SMS will be able to open this location on their device in Google Maps or Apple Maps.

Print Preview window



You can select here to Preview or Print from a list of available paper forms.

NOTE: Some Forms cannot be printed here, because the item is not actually selected. For example, to print the forms for a specific Team, you need to select this Team from the Team Setup (Page 53) window and print it from there.

Large Operations

Once an Operation is started, the Operation Log will start filling up, and the Map starts filling up with Team tracks, Clue objects and LKP/PLS circle systems. In addition GPS Tracks may be imported, which will quickly fill up the map with many waypoints and lines.
And, when the Operations goes into the next (and following) days, old Teams go out and new Teams come in, , some data is no longer valid, and new managers are running the Operation.

How to deal with the overload of information?

Viewing the Operation log

- **The primary Operation log window** shows ALL Logs in (by default) date & time order. When new Log entries come in, the window puts the last entry at the bottom, and jumps to that location. This window is suitable to view the last entries coming in, and should always be used by the Radio Operator, who will use it to transmit commands from the Operation Managers to the Teams in the field, and to enter received radio messages from the field Teams into the Log, so that the Operations Managers can view it.
- In addition there is a Search Log button available, which will open a separate **Search window**, in which the entire Log can be searched for keywords.
- For the Operation Managers, the best window to use is the Team Status window (Page 56). In this window there is a Tab for each Team, under which all Log entries relating to this Team are collected. When new data comes in for a Team, its Tab will start flashing to indicate a new Log entry is available. Tab's which are no longer relevant can be hidden, so you only see the ones which are still active. You can also use this window as a way of dealing with multiple operations (as SARTrack currently has no option for this situation), see the Team Status window for details.
- From the primary Operation Log window, the **Clues window** (Page 57) can also be opened. In this window you can view all Log entries directly related to Clues.

Cleaning up the Map

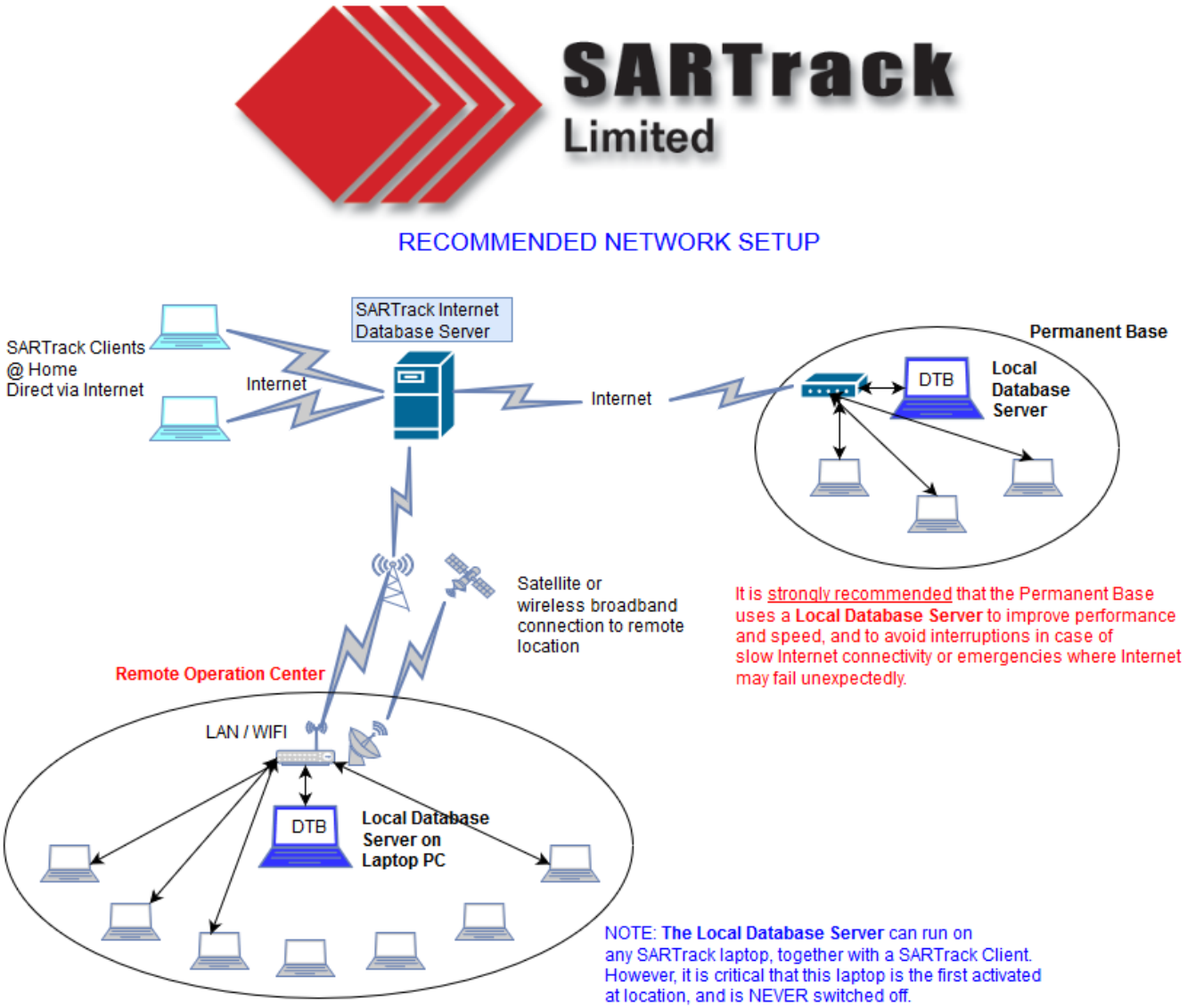
The Map may fill quickly with all kinds of data. After a while, it may become unworkable. There are several ways of dealing with this.

- **Tracks:** When Teams (Station or Objects) are moving about, they will leave tracks. These can either be generated by automatic position reports, or by manual position reports. After while the map may be cluttered. You can completely hide all Tracks (on the local PC only) by right-clicking anywhere on the Map, and selecting '**Hide All Tracks**'. Then, you can right-click on a single Team (Station or Object) and select '**Show Track of <Object name>**'. This way you keep the Map clean, and only look at the Track of one or more Teams. In addition, you can also show tracks in a certain date & time period. Right click anywhere on the map, and select '**Show Tracks by Date**'. The default setting is the current day (from midnight to midnight). This will hide all tracks except the selected period. By default Polylines (Search areas) are excluded, but can be included if required. You can view all tracks again by selection '**Show all Tracks**'.
- **Objects (Clues, LKP circles, etc.):** All Objects on the Map can be hidden. You can hide any Object by right-clicking on the Object on the Map, and select '**Hide <Object name>**'. In SARTrack version 0.9.774 and older, this means the Object will be hidden on ALL SARTrack computers. To make the Object visible again, locate it in the Objects window (Page 24) and select '**Reactivate <Object name>**'.
- By right-clicking on the Map, the "LOCAL SHOW/HIDE" window opens which allows advanced filtering.

Team names

One way to deal with Teams in multi-day Operations is to give all Teams a name relating to the day of the Operation. This way, you can clear the Team at the end of the day, and start a new Team (with a new Name-day) the next day. You can then **hide** the Teams of the previous days on the Map. However, the disadvantage of this system is that it is no longer possible to hard-link Team names to Radio trackers (Page 27) and you must manually link each Radio Tracking device to the Team who is carrying it, every day.

Recommended Network Setup



SARTrack laptops at the remote location must connect to the **Local Database Server** and will work independently from an Internet connection. If Internet is (intermittently) available, the Local Server and Internet Server will synchronize in the background. Note that any (OSM) Maps must be downloaded while Internet is still available.