

ScanNav Companion Documentation Version 4.0

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Introduction

The Android app "ScanNav Companion" is a simplified version of ScanNav with basic functions useful in the cockpit, and dedicated to SnMap raster charts. Only the charts are paid, which makes it completely free for ScanNav users already equipped with SnMap cartography. The application is not yet available on the Google PlayStore, it can be downloaded from the ScanNav website (see chapter "Installation").

Supported Devices and Android Versions

ScanNav Companion 4.0 is compatible with all Android tablets and phones from version 5 (Lollipop), up to the latest (16 - Baklava to date) and for all types of processors (arm/intel/mips).

For older Android versions 4 (Ice Cream Sandwich, Kitcat, and Jelly Bean) you can use the previous version of Companion 3.0, knowing that it will not evolve.

The storage space required depends mainly on the mapping (for example, count around 500MB for one of the complete SnMap packs)

Choice of interface language

The user interface is displayed in the language configured on your Android device. For languages not listed below, the interface will be displayed in French. To change the language, you must change your device's settings.

Some languages are **machine translated using Google Translate** to test their relevance, and errors (and even mistranslations) are certainly numerous. Any feedback on their comprehensibility is welcome.

Currently the following languages are available:

- **Native** version
- **English:** Native manual translation
- **German:** Manual translation (Contribution by Odile Pelletier-Lombard)
- **Spanish / Portuguese / Italian :** automatic translation via Google Translate

Features

The main features are:

- **Map support :** Map management is Seamless (automatic loading and connection between maps). This version works exclusively with raster maps in the latest generation SnMap format. These must be in Mercator projection, perfectly straightened and without distortions. It is strongly recommended to only use snmap maps from the ScanNav offer, with which the cartographic engine is well developed (see <http://www.scannav.com/FR/PackRaster.php>)
- **GPS positioning** with track keeping
- **tracking repeaters** (COG, SOG, BTW, DTW, XTE, ETE, ETA, VMG), and Sonar (DPT) since version 3.0
- **Creating Waypoints and Routes**
- Interactive management of Routes/Waypoints/Traces in a list with **search function** and **synchronized with the mapping**
- **Object layer** management to quickly show/hide object classes.
- **Import/Export** in GPX format
- Using **Internal GPS** , or a **NMEA Wifi source**
- Possibility of transmitting NMEA frames from the internal GPS via Wi-Fi.

Important Notes on Android Access Rights

As Android versions have progressed, restrictions have appeared on the possibilities for accessing different directories. Thus, the following restrictions apply (some variations may exist depending on the manufacturer):

- To access outside of its private space, Companion must obtain the user's authorization, which it is strongly recommended to accept (see "application authorizations" in the next chapter).
- Without permissions, ScanNav Companion will only be able to access its own application space, located in directories, some of which are invisible to other applications. Furthermore, all maps and personal data in these directories will be deleted if Companion is uninstalled.
- Furthermore, even if permissions are granted, an additional restriction applies to write access to external SD cards. Thus, even if Companion can read all directories on the SD card, it will only be able to write to its dedicated directory "android/data/com.mlombard.scannav", this directory being deleted when the application is uninstalled.

In the file or directory selectors used in different functions (GPX import/export, choice of base map directory, etc.), a list of shortcuts is presented at the top of the window, they are as follows:

- "Shared" "ScanNav" directory at the root of the internal drive. Access will only be possible if permissions are granted. Aside from permission restrictions, no other restrictions apply, data will not be deleted upon uninstallation, and other applications have access to it (if they have been granted permissions).
- "Private" Only Companion has access to this directory, it is not visible to other applications, and will be deleted upon uninstallation
- "SD0" This is the directory located on the internal card, and specific to the application (android/data/com.mlombard.scannav). Its use is identical to "Shared", except that it will be deleted when Companion is uninstalled.
- "SD1" (and following, depending on the presence or absence of one (or more) external SD cards): This is the directory located on the external SD card and specific to the application. This is the only directory on which Compagnon will be able to write on the card, and it will be deleted when Compagnon is uninstalled.
- "Downloads": This is the standard Android download directory, normally "Download", at the root of the internal memory (with some exceptions depending on the manufacturer). Access will be denied if you have not accepted the permissions. This shortcut is not shown if it does not make sense.

By default, Companion stores its information in "Shared" if the rights are granted. Otherwise, it tries in "SD0", and as a last resort "Private".

Facility

Installing the application

Since the app is not yet listed on Google's PlayStore, you must authorize the installation of "Unknown Sources" on your tablet or phone. To do this, go to Android's security settings and check the "Unknown Sources (Allow installation of non-Market apps)" box. On recent versions of Android, a window will open inviting you to go to the settings. Simply follow the instructions to accept the exception.

Download the latest version of the installation package from the following link:

<http://www.scannav.com/Compagnon/SNCompagnon.apk>

and launch it on your device to install it.

Downloading and installing is very quick, as no maps are installed. You will be prompted for permissions and map downloads the first time you launch the app.

APPLICATION PERMISSIONS

Previously requested during installation, permissions are now only granted upon explicit request from the application. When you first launch Companion, a window will ask you to accept the following permissions, which will be unchecked by default. Although it may operate in degraded mode if you do not authorize them, **it is strongly recommended that you accept them**.

- **Storage** : If this permission is not granted, your data will be stored in the app's dedicated directory and cannot be exported. It will also be deleted when the app is uninstalled (see "Important Notes on Android Access Rights" in the introduction).
- **Location** : This permission is required to use the internal GPS. You can skip it if you only use an external Nmea source.
- **Phone** : If this permission is not granted, you may have problems recognizing your license if you reinstall your system.

REQUEST TO DOWNLOAD MAPS



On first launch, or if it doesn't detect any installed maps, ScanNav Companion will prompt you to install some. If you don't install any maps, you'll see a blank screen. Three packs that don't require a license are offered by default:

- **BASECHARTS**: It is highly recommended to install at least this pack, which consists of a basic global odds contour. It is very lightweight and will install very quickly.
- **AIRESMARINES**: This is a basic map of the Marine Protected Areas along the French coast. In addition to viewing protected areas, this pack allows you to have a little more detail than the global outline on the French coasts to test the software. It is also very easy to install.
- **DEMONY**: This is a demo pack of royalty-free maps covering the New York City area. It will allow you to test the software a little more with detailed maps. Please note: these maps are not up-to-date and should not be used for navigation.

See chapter "3 Installing the cards" below for the operating procedure.

Card License Activation

Installing other maps requires prior activation of your license. You must be connected to the internet at this time.

- Launch the "ScanNav Companion" application by clicking on the icon .
- Click on the extension menu, and choose the entry "**License Activation**". The extension menu is displayed by clicking on the **button**  **at the bottom right**.
- In the form, indicate your Name/First Name/Email, and possibly address, as well as the product code that was provided to you when you ordered.
- Then click on the "Submit" button, and wait a few moments until the result is indicated.

Installing the cards

Before installing the maps, we recommend that you check the " **Base Directory** " setting in your system configuration, described at the beginning of the " **CONFIGURATION** " chapter below. The maps will be installed in this directory, and you should define its location before installing the maps if the default settings are not suitable.

By default, the chosen directory will be the shared directory (which will be persistent between multiple installations), or, if you have not given permission (see above), the Companion private directory (which will be deleted when the software is uninstalled)

The first charts to install are the global coastal contour charts (BASECHARTS, see above)

If you have maps from the SnMap packs, **make sure to activate the license (see previous chapter) before installing them** . The procedure is the same for demo maps and packs you have purchased. We recommend using the standard procedure, which downloads and installs the maps immediately.

NOTES ON THE STRUCTURE OF LIBRARIES

Each library corresponds to a subdirectory of the base directory, named according to the identifier of the corresponding pack.

In versions 2.9 and earlier, maps could be installed directly to the root of the maps directory if the user had not taken care to create a dedicated directory. This is no longer possible in order to clarify library management. If Compagnon detects maps at the root, it will automatically migrate them to a library named "Migrated" which will be enabled/disabled like the other libraries. To avoid duplicates in different directories, we advise you to reinstall the packs in the standard way, and once the checks have been carried out, to uninstall the "Migrated" pack.

STANDARD PROCEDURE

This method is the simplest. Maps are downloaded one by one and installed as they are downloaded.

1 – Installation : In ScanNav Companion, select the “ Maps ” entry and then “ Download and Install... ” from the extension menu (bottom right button) to open the map installation management window. Note: this window is automatically displayed when the application starts if no maps are present in the library (see “1-Installing the application” above)

When you first open this window, you'll see a message stating that it's downloading your subscription's card list. This message should disappear on its own after a few seconds.

The list of available packs is then displayed, with each entry displaying the pack's ID and title. Click on an entry, and it will display the pack's details, including legal information, the number of cards in the pack, and its size, as well as an " **Install** " button.

⇒ Click this button to start the download/installation.

A progress bar is then displayed to indicate the progress, including the number of cards in queue, the number of cards whose installation has finished, and possibly the number of cards in error, then disappears when the installation is complete.

Installation time will vary depending on the number of maps in the pack and your internet connection speed. During installation, you can return to the Companion main screen, where maps will be displayed as they are installed. You can return to the installation screen at any time to check the progress of the installation.

If for any reason the installation stops (e.g. application shutdown, tablet or phone shutdown, internet outage, etc.), simply click the "Install" button again. The download/installation will resume where it left off, without re-downloading the already installed maps. Similarly, you can later restart the installation to check if an update is available. No maps will be downloaded if they are already up to date with your license.

If installation errors are reported, check that you still have space available on your device, that your connection is active, and that your license is updated (see chapter 2 "Activating the map license" above), then try again.


2 – Uninstall : To uninstall a pack, simply click on the "Uninstall" button for the corresponding pack. This button is not displayed if no maps are installed for this pack.

Please note: Older versions of the packs are no longer available for download after one year. To reinstall them after this period, you will need to subscribe to an update or install it from a personal backup.

PROCEDURE WITH PRE-DOWNLOADED PACK

With this method, you must download (or copy from your PC) the pack(s) concerned in Zip format. The space required is therefore twice the size of the pack (once for the installation pack, and once for the installed maps)

Caution : The installation source must be a map pack (.zip extension), not individual maps (.snmap extension). To install individual maps (.snmap), follow the manual procedure described below.

Open the map installation window (see "standard procedure" above), then click the menu button  **at the top right** , and choose the entry "**Install a previously downloaded pack** "

- A file selector opens to choose the pack (zip file) to install. Go to the location where you downloaded the pack, then select the file corresponding to this pack, and confirm by pressing the "Select" button.
- A new window opens to confirm the name of the destination library. We recommend keeping the proposed name, which by default is the name of the selected installation file. However, you can choose another destination using the drop-down list of existing entries, and also create new entries using the "**New** " button.

Once you have made your choice, click on "**Install** ", the procedure will begin, and a progress bar will appear at the bottom of the screen until the end. Once the installation is complete, a window displays the results of the installation, and the maps are loaded on the screen (*). The installation is not blocking, you can continue working during it.

The entry will then appear in the list of installed packs under the chosen name, and with the label "Custom Pack". To **uninstall it** , follow the same procedure as for the standard procedure.

MANUAL PROCEDURE

Warning : This manual procedure, used in previous versions, has been deprecated since Beta 2.5 and is therefore grayed out. It can still be used for troubleshooting **only by experienced technicians** who understand the directory structure. There are also some restrictions related to the evolution of the Android permissions system that must be taken into account.

You need to copy the maps from your PC version of ScanNav, to the sdcard (physical or virtual) of your Android device. This can be done either from your PC by inserting the physical sdcard into a reader on your PC, or by USB connection; or via Wifi from your

Android device, having previously shared the directory(ies) on your PC (in the latter case, we recommend using EsExplorer, available for free on the PlayStore, see here: <https://play.google.com/store/apps/details?id=com.estrongs.android.pop>). The base directory of the maps can be installed wherever you want, but it is strongly recommended to use the default location as described below. The subdirectories of the base directory were imposed until Beta 2.4. From Beta 2.5, they are no longer imposed, but it is recommended to keep the naming recommendations.

- At the root of the SD card (path /sdcard or /mnt/sdcard or other depending on the case), create a "ScanNav" directory.
- In this ScanNav directory, create a subdirectory "Charts"
- In this "ScanNav/Charts" directory:
 - Copy the map "Europe.snmap" on your PC in the ScanNav installation directory (by default "C:\Program Files (x86)\Marc Lombard\ScanNav\DemoCharts\Europe.snmap" to the directory "/sdcard/ScanNav/Charts" of Android, in order to have the general map.
 - Create subdirectories corresponding to the SHOM map packs you own. Until Beta 2.4, directories had to have one of the following names, depending on the map(s) you own. They have been free since Beta 2.5, so the following naming is only a recommendation (you can now create as many subdirectories as you want):
 - "Sleeve": SHOM Sleeve pack
 - "Atlantic": SHOM Atlantic pack
 - "Mediterranean": SHOM Mediterranean pack
 - "UKHO-GB": UKHO United Kingdom + Ireland pack
 - "UKHO-PTSD": UKHO Spain + Portugal pack
 - Copy the SnMap maps from the packs from your PC to these directories depending on the pack.
 - You can copy the charts into the base "Charts" directory, but in this case they will always be taken into account, regardless of the library selected in the preferences (see below)

Other menus related to the maps

The "Maps" menu entry also includes other possibilities:

- " **Active Map Library** " allows you to enable/disable packs without uninstalling them. Only packs installed in the base directory are offered.
- " **Frames** " allows you to display a red frame around each available map, using the same principle as in ScanNav, in order to graphically check the list of maps present.
- " **Rotate Map** " allows the user to rotate the map with 2 fingers, in conjunction with zooming. Uncheck this box to return to a "North Up" view (default)

Configuration

Click on the extension menu, and choose the "Preferences" entry.

MAP LIBRARY " chapter :

- **Base Directory** " entry is the base directory where the maps will be installed. To change it, click the entry and change the directory using the directory selector that appears.

- **Map Library** " entry has the same function as the "Maps" ⇒ "Map Libraries" menu.
- If you had installed the maps manually before activating the license, the pack(s) you configured above will have been scanned, with a null result because no active maps will have been detected. You should then tell Companion to re-scan the map directory(ies) to detect them. To do this, click on "**reload maps**". This operation is necessary as soon as you change the contents of the map directories manually (adding or removing maps), but is not normally useful on standard installations, unless indicated by support.
- "**Scale Priority**" allows you to adjust the choice of maps to be displayed based on the zoom level, in order to adjust the display according to the screen resolution and the user's view. When the cursor is in the center, the software will choose the maps whose scale corresponds to the zoom level. By moving the cursor to the left, it will choose smaller scales (with less detail) which will be enlarged on the screen (therefore with larger characters), and by pushing it to the right, larger scales (with more detail, but smaller characters therefore less readable).

LOCATION " chapter :

You can be located with

- the internal GPS.
- by an external NMEA source via Wifi
- or by triangulation of the GSM and Wifi network (approximate positioning)

Once the first tests have been carried out, **it is recommended to uncheck "location by wifi network"**, and to **keep only one positioning source: either** the internal GPS, **or** the NMEA Wifi source.

Configuring the NMEA Wi-Fi interface: In addition to checking the "Location by external NMEA source" option, you must configure the Wi-Fi communication port on which the information will arrive. You must first consult the documentation of the transmitting device to find out the protocol, port number, and IP address parameters. To connect to ScanNav on a PC (from version 14.1), refer to the documentation in the ScanNav release notes.

In this version, the configuration is simple and consists of a string to be filled in, which must be filled in carefully, using the following syntax: "**XXX** " " **numport** "{" **:IPaddress** "}, or:

- "XXX": Protocol used: must be **UDP** or **TCP**
- "numport": Port number (e.g. 5000)
- ":IPaddress": Remote IP address: Mandatory in TCP, Optional in UDP. In UDP, if the address is not specified, Companion listens to all devices broadcasting on the port number specified in numport, regardless of their IP. Otherwise, only frames from the specified IP address are accepted.

Examples (to be completed without quotation marks):

- "UDP3555": accepts sentences from all network transmitters that transmit on port 3555 in UDP mode, regardless of their IPs.
- "UDP3555:192.168.1.4": Same, except that only frames from the IP address 192.168.1.4 are accepted.
- "TCP5000:192.168.1.4": Connects in point-to-point TCP mode to the IP address 192.168.1.4 on port 5000

- "TCP5000:monordi": connects in point-to-point TCP mode to the IP address of the computer "monordi" on port 5000

To connect to the PC version of ScanNav, use the UDP protocol (with or without IP).

"Boat Centering" When checked, the boat remains centered on the map. This entry is also available directly in the extension menu.

"Interpolation distance" This parameter indicates the minimum displacement below which no points will be stored.

NMEA WIFI OUTPUT " chapter :

Companion allows you to transmit the position given by the internal GPS over the Wifi network, and thus transform a phone or tablet into an external GPS, which can be used by ScanNav on PC (from version 14.1) or Companion on another Android device without internal GPS.

The configuration consists only of defining the UDP or TCP communication port, according to the same principle as described in the previous chapter (see **Configuring the NMEA Wifi interface** above). For use with ScanNav pc or Companion, use the UDP protocol.

Enabling/Disabling the NMEA output is done via the **"Wifi NMEA Output" entry in the general extension menu**.

Important note : When Compagnon is put in the background, the transmission of NMEA frames is not interrupted, unless Android decides to stop the background task. Note a difference between version 4.0 of Compagnon and previous versions: The latest versions of Android systematically stopped GPS listening as soon as Compagnon went into the background. This is no longer the case from version 4.0.

It is therefore important to disable the NMEA output if you no longer need it, before switching to another application, in order to save battery (use of Wifi and GPS).

VISUALIZATION " chapter :

Keep screen on Prevents the screen from going into sleep mode when ScanNav Companion is displaying the map screen. Note that sleep mode resumes normal operation when you switch screens.

"Heading Line" Allows you to display a heading line in front of the boat. When you click on this option, a window opens allowing you to select the various possible parameters (color and thickness of the line, length in nautical miles, graduation in time or distance). The heading line is only displayed when the GPS is active and valid information is received.

" Interactive rotation " allows the user to rotate the map with two fingers, in conjunction with zooming. This entry is also available directly in the "Maps" extension submenu. Uncheck this box to return to a "North up" view (default).

" Map Frame View " displays a red frame around each available map, similar to ScanNav. This entry is also available directly in the "Maps" extension submenu.

" Viewing map edges " allows you to not hide the edges of the maps where the cartridges/general information of the map are shown, following the same principle as "navigable zone" in ScanNav.

Waypoint Symbol Size : Allows you to increase or decrease the size of the symbols to best adapt their visibility to your device's resolution and your preferences. Note: Waypoint size has been adapted to screen resolution since version 3.0. Users of

previous versions who have increased this value may need to reset it to 100%.

Under the chapter “ REPEATERS ”:

Each repeater can be enabled/disabled individually. These will only appear on screen if they are checked, and:

- For COG and SOG, and DPT: GPS must be enabled
- For all others (BTW/DTW/XTE/ETE/ETA/VMG) : GPS must be enabled and a destination waypoint must be set
- Make sure the “Active Repeaters” entry is checked in the extension menu.
- The DPT repeater (sounder) requires connecting an external Nmea source.

The size of the repeaters can be set as a percentage of the base size, to make them more or less visible and to fit them all on the screen depending on your device and its orientation. If, depending on their size and number, all the repeaters do not fit within the screen width, simply scroll them with your finger to the left or right.

List of repeaters:

- COG (Course Over Ground): Instantaneous course (heading) over ground
- SOG (Speed Over Ground): Instantaneous ground speed (expressed in knots)
- VMG (Velocity Made Good): Effective closing speed at the waypoint
- BTW (Bearing To Waypoint): Course to follow to reach the destination waypoint
- DTW (Distance To Waypoint): Distance to the destination waypoint (expressed in Nautical Miles)
- XTE (Cross Track Error): Course correction to reach the destination waypoint:
 - If preceded by “L” (Left): correction towards Port
 - If preceded by “R” (Right): correction towards Starboard
- ETE (Estimated Time Enroute): Estimated time to reach the destination waypoint, (based on current conditions)
- ETA (Estimated Time of Arrival): Estimated time of arrival at the destination waypoint, (based on current conditions)
- DPT (Depth): Displays the probe (new in 3.0)
- Other instruments will be available in later versions.

“Advanced” chapter :

Auto Backup : Allows you to set the frequency of the auto backup in minutes. Set to 0 to disable it.

Notes:

- Automatic backup is done in the background, and should not normally impact performance.
- If you disable automatic backup, it will still be performed when the application goes to sleep (goes to the background, etc.)

Automatic return to selection tool : Starting with version 4.0, to prevent incorrect operations on routes and waypoints, the selected tool automatically returns to the default selection tool after a period of inactivity. You can set the inactivity period here in seconds, up to 5 minutes. To disable this function, set the value to 0.

Secure Connections : Due to security updates, older versions of Android have issues accessing the https protocol, which is used for license validation and map downloads. This option is normally set to the correct value depending on your Android version, but

you can enable or disable it.

It is recommended to leave the other inputs unchanged and leave them at their default values. Further information will be provided in future releases if necessary.

Use

Once the map library is set up, it should be very intuitive to use.



Toolbar:



The toolbar shown above appears at the bottom of the screen (see later in this document for the use of each button). On lower-resolution phones in portrait mode, not all buttons may appear. In this case, simply tap the center of the bar and slide it left or right without lifting your finger to reveal the missing buttons.

Map Viewing:

To scroll the map on the screen, simply slide your finger across the map, and to zoom, use two fingers, spreading them apart to zoom in, and pinching them together to zoom out. Maps will load automatically as you move and zoom.

It is also possible to zoom in/out using the  and buttons  in the toolbar, which can be easier when operating one-handed on a phone, and allows for operation on devices that do not have multi-touch.



Screen Rotation : On most tablets/phones, you can flip the screen to view in portrait or landscape.

It is also possible to control the rotation more finely manually, by checking the "Map rotation" entry in the "Maps" extension submenu, or in the preferences. The rotation is then done interactively with 2 fingers. To return to a "North up" angle, uncheck the "Map rotation" box.

GPS activation:

If you are using the internal GPS, first make sure that GPS is enabled in your Android system settings (location settings), and that you have accepted location permissions.

If you are using an external WiFi source, make sure that the WiFi connection is active and properly configured.

Then click on the button , a window asks you if you want to activate the track (see below). After validation, the boat will appear at your location, and the center of the button will be replaced by a filled circle . If you move, the track (if active) will be displayed. The active repeaters are displayed.

Click the same button again to stop GPS listening: The GPS button returns to its initial state, and the repeaters disappear if they were active.

It may take some time for the GPS to receive valid information. Initially, the map is positioned at the last known GPS position (which may be a long time ago).

The symbol materializing the boat on the map will be displayed in different colors, depending on the GPS reception status:

- In Green: GPS reception active.
- In Gray: Remanent position not updated (listening disabled, or no GPS reception yet)
- In Red: GPS not receiving, or disabled.
- In Yellow: Position received by GSM/Wifi triangulation.

If you have any doubts about reception, check the "Display received positions" box in the "DEBUG" section of the preferences. Text notifications will then appear for each GPS or Wi-Fi point received. You can also view changes in GPS status, or information about the satellites used in the location (still in the form of text notifications).

Important: it is recommended to disable location by GSM/wifi triangulation and only keep the internal or external GPS (see above in the preferences).

The GPS activation window asks you the question "Do you want to continue the old track" and offers you 3 choices:

- "No track": no track will be saved or displayed, only the boat will be positioned on the map
- "New Trace": A new trace will be created
- "Yes": The previous track will be resumed. However, this choice is not valid the first time you launch ScanNav Companion.
- If you do not confirm one of these 3 choices (click outside the window, or press the Android back button), the GPS activation is canceled.

All intermediate points are kept in the track. The display of the track (visibility, color and line thickness, class) can be controlled in the track properties. See the "Route Properties" chapter below for a description of these attributes. The list of points displayed is different from the routes: For tracks, the points display the date, position, course and ground speed.

Note a difference between **version 4.0** of Companion and previous versions: The latest versions of Android systematically disabled GPS and Wi-Fi as soon as Companion went into the background, or the device went into sleep mode. This is no longer the case from version 4.0, and Companion will therefore continue to record your track. It is therefore important to disable GPS listening if you no longer need it, before switching to another application, in order to save battery (use of Wi-Fi and GPS).

Object creation/editing tools

Preliminary note: The tool selected in the toolbar determines the actions performed during interactions. Starting from version 4.0, to avoid false manipulations on routes and waypoints, the selected tool automatically returns to the default selection tool after a period of inactivity (30 seconds by default, see [the Configuration chapter](#) to modify this value or deactivate it)

QUESTION: TOOL

This tool is the default. It is recommended to return to this tool outside of route and waypoint creation phases to avoid inadvertently creating waypoints or routes. Interactions with this tool selected are as follows:

If the "object list" window is open, **short-pressing an object** displays the object's details and the object is highlighted (same behavior for waypoints, routes and tracks) (see below)

A **long press on the map** opens a context menu allowing certain actions on objects intersecting the clicked point

- "Map Properties": Displays the properties dialog for the underlying map, allowing you to view its analytical details.
- "Maps...": Displays a list of underlying maps, sorted from largest to smallest scale. Simply choose from this list to switch to the corresponding scale.
- "Navigate to XXX": Allows you to set waypoint XXX as the destination waypoint (see GOTO function)
- "Stop navigating to XXX": Only displayed if a navigation track to a waypoint is active. Stops navigating to the waypoint.
- "Properties of XXX": displays the properties of the selected object
- "Delete XXX": Deletes the selected object
- Note: XXX represents the name of the object intersecting the point. If several objects intersect the point, this name is replaced by "..." and a submenu appears allowing you to choose the object on which to apply the operation.

GOTO FUNCTION:

The destination waypoint is shown on the map as a translucent red circle superimposed on the waypoint. The current tool must be **the "query" tool** in order to define the destination waypoint (see above)

- You can move the destination waypoint (see "creating waypoints"), to set a new destination.
- When the Goto function is active, additional tracking repeaters are displayed (if GPS is active)

CREATING / EDITING WAYPOINTS: TOOL



With this tool selected, a waypoint will be created each time you confirm a tap on the map (touch the map, leave your finger there for about ½ second, and lift it without moving it). A window will then allow you to modify the waypoint's properties before confirming. If you click "Cancel", the waypoint will disappear.

To move an existing waypoint, tap and hold it and move your finger without lifting it. You can also change the settings before confirming. If you click "Cancel," the waypoint will return to its original state (position and attributes).

To delete a waypoint on the screen: press it once, and quickly move your finger, lifting it at the end in the process (fling action).

By performing a quicker tap (single "tap" on the screen and immediately lifting the finger) on an existing waypoint, the waypoint properties are displayed.

WAYPOINT PROPERTIES:

The Waypoint Properties window displays the following fields:

- name: must fit on one line
- Comment: Free field that can fit on multiple lines. The area expands as you enter lines.
- Symbol: Allows you to choose the symbol to display.
- Class: Allows you to group several objects (waypoints/routes/tracks) within the same class. These classes can then be managed via the layers window to be activated or deactivated at the same time.
- Min Scale: Set a minimum scale below which the waypoint size will decrease until it is no longer displayed to lighten the display. Check the box and specify a scale to enable this feature. Note: The scale is approximate and may vary depending on the screen.

- **Visible:** If this box is unchecked, the waypoint will never be visible (used in conjunction with layers)
- **Latitude/Longitude:** By clicking on one of the latitude or longitude fields, a window allows you to enter or correct the position in degrees/minutes.

The Symbol/Visible/Minimum Scale settings are saved between the creation or modification of each waypoint within the same session (the default settings when creating a new waypoint are those assigned during the previous validation). The default value of the "Class" parameter is defined in the "Layers" window (see below).

CREATING / MODIFYING ROUTES: TOOL



When this tool is selected, click (press and hold) on successive locations on the map to create a route. To complete the route, double-click on the map or press and hold. The properties window will appear, allowing you to modify the graphic attributes of the route. The next time you click on the map, a new route will be created.

You can also:

- **Move a point from an existing route:** Click on it and move it while keeping your finger pressed (if you click on a waypoint belonging to another route, this becomes the currently edited route).
- **Create intermediate points:** Click on the midpoint of a road segment to create the intermediate point
- **Delete an existing waypoint:** Click on the point, and flick your finger at the end (same function as for individual waypoints)
- **To edit the general properties of a route (name, color, line, class), or view the list of points with their headings and distances:** long press on the entry corresponding to the route in the list of objects, or long press on one of the route's waypoints on the map.

Notes:

- When you create or manipulate a route, and click on an existing waypoint on another route, the manipulated route changes. If changes were made to the previous route, the Route Properties window appears to confirm the changes, cancel them, or resume editing on the same route.
- The same applies if you do not perform any interaction within the maximum time limit to return to the selection tool.

ROUTE PROPERTIES:

The Route Properties window displays the following fields:

- **Name/Class/Comments/Visible:** See description in Waypoints properties above.
- **Color / Thickness:** allows you to change the color and thickness of the road line
- **Points list:** the number of points and the total distance are indicated at the top, and is followed by the list of all the points, with for each its position, and the distance and direction to follow to reach it from the previous point.
- By long pressing on one of the points, you can edit its properties (see chapter above)
- You can scroll up or down the list of points if they are not all displayed on the screen.
- **Comments:** you can hide or show this field by clicking on the small button to its left, which allows you to have more space to view the list of points, very useful especially in cases where the comment contains several lines.

The validation buttons are as follows:

- **OK:** validates the changes made

- **Cancel:** Cancels all changes
- **Continue:** This button only appears if interactive edits are in progress with the Routes tool. It allows you to resume editing on the same route, for example when the window automatically displays after the inactivity timeout.

Layer management:

To open the layer management window, use the "Layers..." entry in the main extension menu or the object list. For those familiar with this concept, this is very similar to the one used in ScanNav.

This window allows you to quickly display or hide multiple objects belonging to the same class. Simply check or uncheck the box in the row corresponding to the layer.

The checkbox can take 3 states:

- **Green check mark:** all objects of this class are visible.
- **Gray square:** Some of the objects in this class are visible, and some are hidden.
- **Empty box:** All objects in this box are hidden.

Layers are defined automatically, based on the "Class" field entered in the object properties. The "**Default Layer**" field allows you to define a layer where all new objects created will be classified by default. Simply enter a name in the input field. This can be the name of an existing layer or a new name. To assign it to an existing name, long-press on the line corresponding to the layer.

For example, if you enter "Summer 2013," all new tracks, waypoints, and routes will be categorized there by default. This will allow you to easily display or hide all the data corresponding to your navigation in "Summer 2013," without having to delete them and reimport them.

The list contains as many entries as there are different classes defined in the objects. The first line, "Unnamed," corresponds to objects for which no class has been defined. You can scroll the list up or down if all the entries do not fit on the screen.

To confirm your changes, click the "OK" button. If you click "Cancel", no changes will be taken into account.

GPX Import:

Accessible via the extension menu ==> "Import GPX", this allows you to import waypoints, tracks or routes, to view them on your Android device. For example, you can export a waypoint database from ScanNav to display them in Companion.

The import process happens in the background, so if you're using a very large gpx file, the waypoints won't appear immediately. You can continue to move around the map or perform other operations during this time. The imported waypoints or other objects will appear when the entire import is complete.

Note: some concepts such as classes, minimum display scales, thickness of route lines, etc. are specific to ScanNav (and ScanNav Companion), and are therefore implemented as extensions, because they do not appear in the basic GPX format.

GPX Export:

Allows you to export all objects in GPX format for archiving or use in ScanNav. Note: To make a selective export, use the export function available in the object list menu.

Displaying the list of objects (Waypoints/routes/tracks):

You can view the list of objects via the "Object List" entry in the extension menu. The list appears to the left of the map in landscape mode, or at the top of the map in portrait


mode. To expand the list area, touch the edge separating the list from the map, and move your finger. This list contains its own toolbar:



Extension menu, allowing to:

- define the type of objects to display (Waypoints, Routes, Traces, or all types)
- Open the "Layers..." management window
- List all objects, or only those in the visible map area ("Visible only")
- Set the action when the user selects an entry in the list
 - "Auto zoom": the map zooms in on the selected elements to fit them all in the map
 - "Auto-center": the map recenters on the selected elements, without changing scale
 - neither of the 2 entries checked: no action
- Switch between "Multiple Selection" or "Single Selection" mode (see below)
- "Select All": Switches to "Multiple Selection" mode, and selects all entries in the list
- "Deselect All": Deselects all entries
- "Export selection": allows you to export the selected items in the list in GPX format
- "Properties": Opens a window allowing you to edit the properties of the selected object. Note: You can also long-press on an item in the list when you are in "Single Selection" mode.
- close the list



This button allows you to quickly switch from "Single Selection" to "Multiple Selection" mode . Its icon changes depending on the selection mode.



Deletes the selected item(s) from the list



Search tool. Fill in the text field immediately to the left of this button, and click the button. The list will then display only objects whose name contains the entered string. To return to the full list, empty the text field and press the button again.

In Single Selection mode:

- Only one item is selected at a time, and the details (comments) of the selected object are displayed below its name.
- You can edit the object's properties by long-pressing the item, which opens the object's properties window.

In Multiple Selection mode:

- Multiple items can be selected, allowing you to delete multiple items at once, for example.
 - Click on an item to select or deselect it.
 - To select or deselect an entire range of items, long-press on an item, then click on another item in the list. ==> All entries between these 2 entries (inclusive) will be selected or de-selected depending on the selection state of the first entry.

The list and the map are synchronized in both modes: Depending on the "Auto zoom" and "Auto center" mode, selecting an item in the list centers or zooms the map on the corresponding object, and clicking on an object in the map selects the object in the list.

Selected items in the list are highlighted in blue on the map.

Other functions of the general extension menu:

- "Active repeaters": hides all repeaters (by unchecking the box), without changing their individual settings in the preferences. Note: repeaters will only be present when GPS is active (see above "configuration → repeaters", "GPS activation" and "goto function")
- "About ScanNav": Displays a window with ScanNav Companion version information. You can check if a newer version of ScanNav Companion is available by clicking the "Check for Updates" button in this window.
- "Documentation": opens the documentation
 - "Local Documentation": Opens this document on your device, without requiring the internet (available in French only). Note: You must have a PDF reader installed on your device.
 - "Online Documentation": Requires an internet connection. Opens the documentation on the ScanNav website. It is available in French, English, German, Spanish, and Portuguese.
- "Clock": Displays a clock overlay on the map. This was originally intended as a simple test and has been retained. However, the component used has been abandoned by Google, and while functional with older versions of Android, it no longer works correctly starting with Android 12. This component will therefore likely be doomed.
- "Maps" / "License Activation" / "Preferences": see above.

Crash Reports:

A mechanism allows sending a crash report by email (after validation by the user)

If a crash occurs, a dialog box opens the next time you start the application, asking you to send the crash report.

- If you click " **OK** ", an email window opens. You can view the technical information sent, and possibly supplement it with other information that would allow you to reproduce or situate the context. The report is then deleted from your device. Note: on the latest versions of Android, you also have the choice of using other sharing methods than email, depending on the applications installed on your tablet/phone.
- If you click " **Cancel** ", nothing is sent, and the report is deleted from your device.
- If you click " **Later** ", the report is "parked" in a separate directory, and can be sent later (for example, when you have a free internet connection).

When one or more crash reports are "parked", a new entry " **Send crash reports** " appears at the end of the extension menu. Click this entry to send pending reports (same confirmation box as above), these will then be deleted, and the menu entry will disappear.