StellarTrek USER GUIDE by HumanWare

Version 2.0 2023/05/01

(REF FGAB-0001)





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About the StellarTrek

HumanWare is proud to release an update of the StellarTrek, the powerful GPS portable device, designed as an innovative orientation aid for students, professionals, or on-the-go people with a visual impairment.

Intended Use

The StellarTrek is a navigation aid for people blind or with visual impairments intended for outdoor localization. Real-time GPS data provided are processed by dedicated navigation software to determine the directions to a destination. As such, the StellarTrek is intended to be used by visually impaired and blind users.

There is no clinical benefit associated with the StellarTrek.

The StellarTrek allows to guide its owner from one address to another with precise audio instructions, as well as recognize a door address and read text using Optical Character Recognition (OCR) technology. It also improves the empowerment of blind and partially sighted people and their quality of life, because the StellarTrek can also detect some colours and read barcodes.

This current document is a user guide detailing how to configure and use the StellarTrek device.

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1 Overview of StellarTrek

1.1 Unpacking the Device

The package contains the following items:

- StellarTrek device
- USB-C cable
- Power adaptor
- Belt clip and lanyard
- Getting started sheet

1.2 Physical Description of StellarTrek

1.2.1 Front Face of the Device

On the front side of the device, at the center, are nine buttons. The two upper buttons are the **Back** button (left) and the **Go to** button (right). To the left of the **Back** button is a small hole. This is the microphone.

Below the **Back** button and the **Go to** button are four arrow keys **-Left**, **Right**, **Up** and **Down**-centered by a **Confirm** button. The **Left** and **Right arrows** are generally used to navigate through a menu; while the **Up** and **Down arrows** are used to navigate in the contextual menu options of an item.

The two lower buttons are the **Where Am I?** button (left) and the **Voice** button (right). Finally, at the bottom of the front face of the device, is a speaker in the form of an indent.

1.2.2 Left Side of the Device

On the upper left side of the device are two buttons. These are the *Up* and *Down* volume buttons used to increase or decrease the volume. For your convenience, separate volume settings are saved for the built-in speaker and headphones.

1.2.3 Right Side of the Device

On the right side of the device, near the top corner, is the *Power/Sleep Toggle* button. Press and hold this button until it vibrates, then release it, to power on. Below the Power button is a LED indicator. This LED turns on when the StellarTrek is plugged into a power supply. The LED is colored red when the battery level is below 15%, orange when the battery level is between 15 and 90%, and green when the battery level is above 90%.

Below the power button and the LED is the *Record* button which has a red circle painted on it with a raised dot in the middle.

1.2.4 Bottom Edge of the Device

At the right of the bottom edge of the StellarTrek is a 3.5mm audio jack. You can use the device with headphones, which will take over the speaker when plugged in.

In the center of the bottom edge is the USB-C port. Use this port to recharge the device or to access content on the device's internal storage using the included USB cable.

Plug the included USB cable to this port and the other end to a computer USB port in order to transfer content between the computer and the device.

1.2.5 Back side of the Device

Near the top edge of the back side of the device are two camera lenses. This is a dual-camera system that can be used to acquire images, such as house doors and address numbers, as well as recognizing text.

Near the bottom of the back side is the model and serial number of the device. This same information can also be obtained in the Settings menu, which you can access by pressing and holding the **Down arrow**.

At the bottom of the back side of the device is a slot where a lanyard can be inserted for easier and safer carrying.

1.2.6 Recharging Battery

With the fully charged battery, the device can be used up to 24 hours. The battery will automatically recharge if needed whenever the device is plugged to AC power or a computer. When the device is powered off and plugged in, you will feel a long and two short vibrations indicating the battery is recharging. The device can also be used while recharging. To obtain battery and recharge status while device is turned on, double-press the **Down arrow**. A full recharge takes up to 3.5 hours on AC power. Computers supply different levels of power or perhaps no power at all on their USB ports depending on the computer and its configuration. Therefore, when recharging from a computer USB, the StellarTrek will likely take longer to recharge, or possibly not recharge at all, depending on the USB power supplied by the computer.

Note that it is recommended to use only the USB-C AC adapter provided with the device for safety and optimal recharge.

Warning: It is normal for the battery to become warm during recharging. Therefore, it is recommended not to charge the battery with the device near a heat source or within the optional belt clip. Also, the battery will not charge if the internal temperature of the device reaches 45 degrees Celsius or above.

1.2.7 Belt Clip

The StellarTrek must be inserted in the belt clip with the top edge of the device first, so that the USB-C port and the 3.5mm audio jack are exposed. Placing the device like that in the belt clip also gives access to the Volume buttons on the left side, and the Record and Power buttons on the right side.

Note that the device must be taken out of the belt clip to use the cameras located on the back side; the clip covers them otherwise.

1.3 Power Button

1.3.1 Turning the Device On and Off

To turn the device On, press and hold the **Power** button, which is located on the right side of the device, near the top corner. You will feel a vibration. After a short delay, you will hear a welcome message.

To turn the device Off, press and hold the **Power** button again. The StellarTrek device will announce: "**Press Confirm to shutdown**, **press any other key to cancel**". After pressing the **Confirm** button, you will hear two beeps and feel 2 vibrations indicating the device is powering Off. You must wait about 30 seconds before you can again power on the StellarTrek.

1.3.2 Sleep Mode

To put the StellarTrek into sleep mode, simply press the **Power** button. Press the **Power** button again to reactivate it.

1.4 Key Describer Mode

You can use the Key Describer Mode at any moment to help you remember what are the different buttons of the StellarTrek device. To activate the Key Describer Mode, double press on the **Where am I** button, located at the bottom left of the front face of the device.

When in the Key Describer Mode, the device will announce the name of every button pressed by the user. To exit the Key Describer Mode, double-press on the **Where Am I** button again.

1.5 Button Description

- The *Power* button: Press to put the device into Sleep mode. Press again to wake the
 device. Press and hold the *Power* button to shut down the device. A confirmation message
 will be announced. Press *Confirm* to complete the shutdown.
- The *Record* button: Press to create a landmark and record a 4 second vocal description.
 - Press and hold *Record* button: Used to launch Route creation where users can record a 4 second description of the route. Note that any recorded entries can be modified at an ulterior moment.
- The *Volume Up* button: Press to increase the volume of the voice.
- The Volume Down button: Press to decrease the volume of the voice.
 - Press the Volume Up and Volume Down buttons together to switch to Speed control mode. Upon doing so, the Volume Up and Volume Down buttons can be used to increase or decreased the speed of the voices on the StellarTrek.
- The **Voice** button: Press to repeat the last message read by the device. It can also be used to interrupt a playing message.
 - o Press and hold **Voice** button: Activates the voice recognition feature
- The Where am I button: It provides information on the user's current position.
 - Press and hold Where Am I: Lists what is around (landmarks or points of interest) in your surroundings (range of 200 meters in pedestrian mode and 500 meters in motorized mode).
 - Double press Where Am I: Activates the Key Describer Mode.
- The Back button: Used to move to a previous level in a menu. While following a route, it
 allows you to deactivate the route, letting you explore your environment without being
 quided.
 - Press and hold the *Back* button: No matter what actions have been undertaken, you can always return to basic exploration of your surroundings by pressing and holding the *Back* button.
- The Go to button: The Go To button is used to validate a text entry, or to activate guidance to a landmark. It provides access to the list of landmarks that are set as possible destinations.
 - o Press and hold **Go To**: It is used to select a pre-recorded route.

- The Confirm button: The Confirm button is used to launch actions and confirm the current selection.
- The left arrow and the right arrow: The Left arrow and Right arrow are used to browse through items in a list.
 - Press and hold the *Right arrow* to lock you into open area and prevent the StellarTrek from automatically placing you on a nearby street. Press and hold the *Right arrow* again to leave open area lock. Now the StellarTrek will automatically recognize whether you are in an open area or on a street. When browsing a route, press and hold the *Right arrow* to go to Indoor preview mode.
 - Press and hold the *Left arrow* to open the travel mode menu, which allows you to choose between pedestrian, motorized or automatic. When following a route, press and hold the left arrow to reroute.
- The Up arrow: The *Up arrow* is used to enter map browsing mode. The *Up arrow* can also be pressed to move up in a contextual menu, displaying available options for an item.
 - Press and hold the *Up arrow* to enter Applications (see <u>section 4 "Applications"</u> for more details).
- The Down arrow: The Down arrow is used to provide information on the state of the system. Use the Left and Right arrows to access the 2 levels of information. The Down arrow can also be pressed to move down in a contextual menu, displaying available options for an item.
 - o Double press the **Down arrow:** Describes the current system status.
 - Press and hold the *Down arrow:* This accesses System settings. Use the *Left* and *Right* arrows to move through hierarchical menu, then use *Confirm* to enter into the selected option.
- Inaction from the user: Whenever you are asked to make a selection, you must confirm
 your selection. If an action is not performed within 45 seconds, the StellarTrek will
 announce the current item in the menu.

1.6 Getting Started

Upon activating the StellarTrek for the first time, you will need to go through a setup wizard to configure the device.

Before starting, please note that if the battery level is below 25%, the StellarTrek will prompt you to charge the device. Charge it for at least 30 minutes before trying again.

- You will be prompted with a language selection menu. Use the *Left* and *Right arrows* to
 navigate through the list and press the *Confirm* button to select the language in which you
 want to operate the device.
- You will then be prompted with a keyboard layout selection menu. Use the Left and Right
 arrows to navigate through the list and press the Confirm button to select the keyboard
 layout of your choice (see section 2.2.1 "Change keyboard layout" below for more details).
- The device will prompt you to setup Bluetooth devices (see section 2.3 "Bluetooth" below for more details). Note that you can skip this step by using the Left and Right arrows until you reach the item "Proceed to next step" pressing the Confirm button.
- You will be asked to setup the Wi-Fi (see section 2.4 "Wi-Fi" below for more details). Note: you can skip this step by using the Left and Right arrows until you reach the item "Proceed to next step" pressing the Confirm button. It is recommended, however, to connect to a Wi-Fi network to install updates and maps.
- If an update is available, the StellarTrek will prompt you to install it by pressing **Confirm**.

- The StellarTrek will ask you to install maps (see <u>section 2.5 "Installing and updating maps"</u> for more details).
- The device will present information about the key describer mode and additional settings. Press the *Confirm* button to start using the device.

Note that any setting made during the setup process can be changed in the Settings menu (see Section 5 about the settings menu for more details).

2 Configuring the StellarTrek Device

2.1 Languages and Voices

2.1.1 Managing Voices

By default, there is only one voice installed on the device. However, when the device will be connected to a Wi-Fi network, you will have access to different Text-to-speech (TTS) voices available, powered by Acapela. You will have the opportunity to manage voices installed by adding a new one (for a maximum of two voices installed on the device), by deleting one (a minimum of one voice have to be installed on the device) or by replacing any of the voices installed on the device.

2.1.1.1 Add a new voice on the StellarTrek

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the Left and Right arrows to access the item Voices and press Confirm.
- In the Voices menu, use the Left and Right arrows to access the item Manage Voices and press Confirm.
- In the Manage Voices menu, use the *Left* and *Right arrows* to access the item Add Voice and press *Confirm*.
- Select the language of your choice from the list and press *Confirm*.
- After selecting a language, the StellarTrek will display a list of the different voices you can choose for this language. Select the voice of your choice from the list and press *Confirm*. Press any other key to cancel.

Once the new voice is selected, it will be installed on the device. The StellarTrek will announce "Voice update completed" and take you back to the voice menu.

2.1.1.2 Replace a voice on the StellarTrek

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the Left and Right arrows to access the item Voices and press Confirm.
- In the Voices menu, use the **Left** and **Right arrows** to access the item Manage Voices and press **Confirm**.
- Select the voice you wish to replace and press Confirm.
- Use the **Left** and **Right arrows** to select the language of your choice from the list and press **Confirm**.
- After selecting a language, the StellarTrek will display a list of the different voices you can choose for this language. Select the voice of your choice from the list and press Confirm.
- Press **Confirm** to replace the voice. Press any other key to cancel.

The StellarTrek will start the installation of the new voice and uninstall the other voice, before taking you back to the voice menu.

2.1.2 System, Navigation and Reading Voices

You can select a different voice for the system, for navigation, and for reading. The system voice is used for most of the operations performed on the device. The navigation voice is used for instructions and intersection descriptions while navigating. The reading voice is used for the applications.

2.1.2.1 Change the system, navigation or reading voice on the device

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the Left and Right arrows to access the item Voices and press Confirm.

- In the Voices menu, use the **Left** and **Right arrows** to access the type of voice you wish to change: System Voice, Navigation Voice or Reading Voice and press **Confirm**.
- Use the Left and Right arrows to select a voice of your choice from the list of voices installed and press Confirm. If there is only one voice on the device, you will have the option to add a voice by selecting the item Add Voice and pressing Confirm.
- If you want the reading voice to automatically detect the language of a document, use the **Left** and **Right arrows** to select the item Automatic and press **Confirm**.

Note that changing the system voice will change the language of the system.

2.1.3 Changing the Speech Recognition Language

It is possible to change the language used for speech recognition when entering an address. If it was not configured in the settings before, when entering an address, the first time you will try to use the speech recognition, the system will ask you to choose your preferred language. Use the **Left** and **Right arrows** to select the language of your choice from the list and press **Confirm**.

2.1.3.1 Change the speech recognition language

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the Left and Right arrows to access to the item Voices and press Confirm.
- In the Voices menu, use the **Left** and **Right arrows** to access to the item Speech Recognition Language and press **Confirm**.
- Use the **Left** and **Right arrows** to select the language of your choice from the list and press **Confirm**.

2.1.4 Changing the TTS Speed

Another parameter related to the TTS feature that can be modified is its speed.

2.1.4.1 Change the speed of the TTS

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the **Left** and **Right arrows** to access to the item Voices and press **Confirm**.
- In the Voices menu, use the Left and Right arrows to access to the item Speed and press Confirm.
- The different speeds available are listed from slowest to fastest. Use the Left and Right
 arrows to choose the speed of your choice and press Confirm.

Alternatively, you can toggle between volume and speed by pressing the **Volume Up** and **Volume Down** buttons simultaneously. Once you toggle from volume to speed, the **Volume Up** and **Volume Down** buttons can be used to modify the speed rather than the volume.

2.1.5 Voice Auto-Switch

Voice auto-switch is a feature configured for the Navigation Voice. It enables smart voice switching for the names of streets, points of interest and barcode reading.

If, for example, you use the device in English but navigate in a place where the streets and points of interests are in French, the Voice auto-switch feature will dictate the instructions in English, but announce the names of the locations in French.

2.1.5.1 Activate the Voice Auto-Switch feature

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the **Left** and **Right arrows** to access to the item Voices and press **Confirm**.
- In the Voices menu, use the Left and Right arrows to access to the item Voice Auto-Switch.
- Press **Confirm** to toggle the Voice Auto-switch on or off.

2.2 Text Entry Method

When prompted to enter a text string such as a Wi-Fi password or a search keyword, you can do so by using the virtual keyboard of the StellarTrek.

To type text, use the *Up*, *Down*, *Left* and *Right* arrows to navigate through the characters. Upon configuring the device, you can choose to map the characters like on a standard QWERTY computer keyboard, or in alphabetical order. Press and hold the *Confirm* button on a character to toggle to capital (uppercase) letters and accented options. Press *Confirm* to enter the selected character. Note that when you enter a capital letter, the device will read it in a higher pitch voice to differentiate it from a lowercase character.

You can also access a symbol keyboard by navigating to the "Switch to symbols" key, the first button of the first row of the keyboard (below the "z"). Next is the "Switch to numbers" button, allowing you to access a numerical keyboard. Between these two keys is the Shift key, that can be pressed to write a character in capital letters. Pressing and holding the Shift key will lock the capital letters.

At any time, you can press the **Voice** button or press and hold the **Right arrow** to listen to the text you have entered so far. When you are done typing, validate your input by pressing the **Go To** button.

Alternatively, it is also possible to use a physical Bluetooth keyboard by pairing it with the StellarTrek (see section 2.3 "Bluetooth" below for more details on Bluetooth pairing).

2.2.1 Change Keyboard Layout

By default, the virtual keyboard used for text entry is a QWERTY layout. It is possible, however, to change this layout to one that you might be more familiar with. The other keyboard layouts available include the common ones, such as AZERTY or QWERTY, but also a keyboard arranged in alphabetical order. Note that a change in the keyboard layout will also apply to a paired Bluetooth keyboard.

2.2.1.1 Change the layout of the virtual keyboard

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the Left and Right arrows to access the item System and press Confirm.
- Use the Left and Right arrows to access the item Regional Settings and press Confirm.
- In the Regional Settings menu, use the **Left** and **Right arrows** to access the item Keyboard Layout and press **Confirm**.
- Choose the layout of your choice from the list using the Left and Right arrows and press Confirm.

2.3 Bluetooth

To configure the Bluetooth settings on the StellarTrek device, you first need to access the Bluetooth menu.

- Press and hold the **Down arrow** to access the Settings menu.
- Use the Left and Right arrows to access the item Bluetooth and press Confirm.

The menu contains the following items:

- Toggle Bluetooth on or off
- Connected Devices
- Paired Devices
- Pair New Device

2.3.1 Toggle Bluetooth

In the Bluetooth Settings menu, use the *Left* and *Right arrows* to navigate to the Toggle Bluetooth item. Press *Confirm* to toggle the Bluetooth feature on or off.

2.3.2 Pair a New Bluetooth Device

Make sure the Bluetooth device you try to pair the StellarTrek with is turned on.

- Use the Left and Right arrows to select the Pair New Device item in the Bluetooth Settings menu and press Confirm.
- The StellarTrek will start scanning for available Bluetooth devices nearby and announce all
 the devices discovered. Note that the StellarTrek will scan for devices for 15 seconds. If no
 device is found, the device will prompt "Start Bluetooth device discovery". Press
 Confirm to launch another scan or Back to go back to the Bluetooth menu.
- Navigate to the device of your choice using the Left and Right arrows, then press Confirm
 to pair with it. You will receive confirmation once you are paired.

Note that the device you are trying to pair to the StellarTrek might have to be put into Pairing Mode.

Some devices may require a PIN in order to be paired. If this is the case, the StellarTrek will announce the PIN to be entered on the device, which can be done using the text-entry method (see section 2.2 "Text entry method").

Once you pair with a Bluetooth device, the StellarTrek will automatically connect to it each time you turn on the device.

2.3.3 Connect to a Bluetooth Device

If you wish to connect to a Bluetooth device that your StellarTrek is paired with, select the Paired Devices item in the Bluetooth settings menu. Upon selecting this sub-menu, the StellarTrek will display the list of all the Bluetooth devices you are paired with. Navigate to the device of your choice using the *Left* and *Right arrows*, then press *Confirm* to connect to it. You will receive confirmation once you are connected.

Once you connect with a Bluetooth device, the StellarTrek will automatically connect to it each time you turn on the device.

2.3.4 Disconnect from a Bluetooth Device

If you wish to disconnect from Bluetooth device, select the Connected Devices item. Upon selecting this sub-menu, the StellarTrek will display the list of all the Bluetooth devices you are connected to. Navigate to the device of your choice using the *Left* and *Right arrows*, then press the *Up* or *Down* arrow to reach the item Disconnect. Press *Confirm* to disconnect from the paired device. You will receive confirmation once you are disconnected.

2.3.5 Forget a Bluetooth Device

If you wish to unpair the StellarTrek with a Bluetooth device, select the Paired Devices item. Upon selecting this sub-menu, the StellarTrek will display the list of all the Bluetooth devices you are paired with. Navigate to the device of your choice using the *Left* and *Right arrows*, then use the *Up* and *Down arrows* to access the item "Forget device". Press *Confirm* to unpair with it. You will receive confirmation once the device is forgotten. Note that the device will remain discoverable in the Pair New Device submenu.

2.3.6 Display Information on a Connected Device

You can display information on the Bluetooth devices connected to the StellarTrek, such as their MAC address or their battery level. To display a device information, navigate to the item Connected devices in the Bluetooth menu and press *Confirm*. Use the *Left* and *Right arrows* to navigate to the connected device of your choice and press *Confirm* to read the device information.

2.4 Wi-Fi

To configure the Wi-Fi settings on the StellarTrek device, you first need to access the Wi-Fi menu.

- Press and hold the **Down arrow** to access the Settings menu.
- Use the Left and Right arrows to access the item Wi-Fi and press Confirm.

The menu contains the following items:

- Toggle Wi-Fi on or off
- Network Status
- Scan Available Networks
- Display Saved Networks
- Enter Network Manually

2.4.1 Toggle Wi-Fi

In the Wi-Fi Settings menu, use the *Left* and *Right arrows* to navigate to the Toggle Wi-Fi item. Press *Confirm* to toggle the Wi-Fi on or off.

Note that it is recommended to turn the Wi-Fi off to preserve your battery if you don't intend to use Wi-Fi.

2.4.2 Network Status

If you are connected to a Wi-Fi network and wish to know its status, use the **Left** and **Right arrows** to navigate to the Network Status item in the Wi-Fi settings menu. The StellarTrek will announce the name of the network and the quality of the signal. Press **Confirm** and the StellarTrek will announce further information on the network (SSID, signal strength, MAC and IP addresses, Wi-Fi frequency).

2.4.3 Scan Available Networks

To connect to a Wi-Fi network, you must launch a scan to generate a list of all the available Wi-Fi routers within range of your StellarTrek.

In the Wi-Fi Settings menu, use the **Left** and **Right arrows** to navigate to the Scan Available Networks item and press **Confirm**. Use the **Left** and **Right arrows** to browse the available router SSIDs that were found. Press **Confirm** to select the router you wish to connect to.

You will then be prompted to enter the password for the chosen router. Note that passwords are case sensitive. You may toggle between uppercase, lowercase, and numeric. Refer to <a href="section 2.2" Text entry method" for more details on how to type text with the StellarTrek device. End your entry with the **Go To** button. If successful, the router SSID and password will be added to your list of configured connections (routers) and the new connection will be launched.

2.4.4 Display Saved Networks

After connecting to a Wi-Fi network for the first time, you will not need to scan for the network every time you wish to connect to it again.

In the Wi-Fi Settings menu, use the **Left** and **Right arrows** to navigate to the Display Saved Networks item and press **Confirm**. The StellarTrek will display a list of networks remembered by your device. Use the **Left** and **Right arrows** to browse the list of networks. If a network is available within range of the device, it will be announced. Press **Confirm** to connect to it.

If you wish to disconnect from the current network, use the **Left** and **Right arrows** to navigate to it within the list. Use the **Up** and **Down arrows** to navigate to the item Disconnect and press **Confirm**. If you wish to forget the current network and remove it from the list of Saved networks, use the **Up** and **Down arrows** to navigate to the item Forget and press **Confirm**. The Wi-Fi network will still be available in the list of Available networks after being removed.

2.4.5 Enter Network Manually

If you cannot find the network that you are looking for in the Scan Available Network submenu, or if the list of networks is too long to browse quickly, you can search for it manually.

In the Wi-Fi Settings menu, use the **Left** and **Right arrows** to navigate to the Enter Network Manually item and press **Confirm**. You will be prompted to type the name of the network you are looking for.

If the network is available, it will be announced by the StellarTrek. Press *Confirm* to connect to it. You will then be prompted to enter, in sequence, the SSID, the security type, the password and the visibility (hidden or non-hidden). You can skip an item by pressing the *Right arrow* and return to the previous ones by pressing the *Left arrow*. Press *Confirm* on the Connect item to save the network and connect to it.

2.5 Installing & Updating Maps

When you have the right maps installed on your device, it is possible for the GPS to locate your live position on those maps.

Please note that as the StellarTrek maps are very large and detailed, a direct download on the device can take several minutes per map. Also, you can use the map selection menu to select and unselect specific maps that you need which will help you manage the memory space on your device.

2.5.1 Selecting and Installing Maps

To select maps, you must first press and hold the **Down arrow** to access the Settings menu. Use the **Left** and **Right arrows** to navigate to the item Maps Management, and press **Confirm**.

You can choose to add or remove maps from your StellarTrek's internal memory. If you have a map already installed, it will be listed as "selected". If you select a map that is not in your StellarTrek's memory, the device will download it over Wi-Fi. This can take several minutes.

Note that you cannot install new maps if the device needs a software update.

Maps are divided in levels: Continent, Countries, and the Regions included in a country, if applicable.

- Level 1 (Continents): Continents is the most general map level (North America, South America, Europe, Africa, Oceania, Middle East). Use the *Left* and *Right arrows* to scroll through the available continents maps, and press *Confirm* to browse a continent.
- Level 2 (Countries): The maps of each country included in a continent will be available.
 Use the *Left* and *Right arrows* to scroll through the available Countries maps, then press

Confirm to browse the map of a Country and select the maps of certain of its regions or provinces. If you wish to select an entire country, press the **Up** or **Down arrow** to reach the item Select and press **Confirm**. If you wish to unselect a map, press the **Up** or **Down arrow** to reach the item Unselect and press **Confirm**. Press **Back** to go back to the list of Continents.

Level 3 (Regions, if applicable): When they are available, regions included in the selected country will be listed after the country name. Regions often cover provinces or states. You will be prompted with the map status ("Selected" or "Unselected"). Use the *Left* or *Right Arrow* until the wanted region is announced. The StellarTrek will prompt the state name and the new selection status ("Selected" or "Unselected"). Press the *Confirm* button to select/unselect the region. Press *Back* to go back to the list of Countries.

When you are done selecting your maps, press the **Go To** button to accept your changes or the **Back** button to discard them and leave the menu. After pressing the **Confirm** button, your newly selected maps will be installed, whereas unselected maps will be deleted, freeing some internal memory. The device will describe the changes to be made, including the space freed or to be taken and will prompt for confirmation.

Note that if a map needs to be updated, it will be automatically updated when the device proceeds to a software update (see section 6 Updating the StellarTrek software for more details).

2.6 Time & Device Status

When connected to a Wi-Fi signal, and with the GPS position known, the StellarTrek will configure the time automatically.

If you wish to know the time, along with the battery level and the GPS signal quality, you can do so by double-pressing on the **Down arrow**.

It is also possible to change the time format, from 24 hours to 12 hours, or vice-versa.

- In the Settings menu, use the Left and Right arrows to access the item System and press Confirm.
- Use the Left and Right arrows to access the item Regional Settings and press Confirm.
- In the Regional Settings menu, use the Left and Right arrows to access the item Time Format.
- Press Confirm to toggle the time format of the device.

2.7 Software Update

The Software Update item in the System menu will check weekly if a new update is available. It is also possible to check manually if a new update is available for download. To update your StellarTrek, you must first have an active connection to the Internet using the built-in Wi-Fi. Note that you must connect the StellarTrek to a power outlet with the AC power adapter or the battery of your device must be at least 20% charged for the update to be performed.

Please see <u>section 6 Updating the StellarTrek software</u> for the full details of how to update the StellarTrek software.

2.8 Shutdown timeout when in sleep mode

You can configure your StellarTrek so the device will shutdown automatically after a given time. To do so:

- Press and hold the down arrow to access to the Settings menu.
- With the right and left arrows, go through the options until reaching the option "System", then press Confirm.
- In the System submenu, use the right and left arrows until reaching the option "Shutdown timeout", then press Confirm.

- In the "Shutdown timeout" submenu, you will have the choice between 30 minutes, 1 hour, 2 hours, 4 hours and never that is the option selected by default. Select the desired option, then press Confirm.
- To use this function, simply press the Power button to enter in sleep mode. If you don't press the power button again during the pre-determined time for the shutdown timeout to awake the device, the device will shutdown at the end of the countdown. If you press the power button during this time, the device will be awaken and to activate the countdown again, you will have to press the power button again to put the device in sleep mode. At that time, the countdown will restart from the beginning and the device will shutdown at the end of the pre-determined period.

2.9 Factory Reset

If you wish to undo all of your customizations on the device and erase all of your data, including maps, you can do so by performing a factory reset. This will erase all the user settings and restore the application to the system version. To perform a factory reset:

- In the Settings menu, use the **Left** and **Right arrows** to access to the item System and press **Confirm**.
- In the System menu, use the *Left* and *Right arrows* to access to the item Factory Reset and press *Confirm*.
- The StellarTrek will ask: "Are you sure you want to Factory Reset this device?".
- Press **Confirm** to perform the factory reset.

3 GPS – Orientation Mode

3.1 General Description

The StellarTrek was primarily designed as an orientation aid to help you find your way. The StellarTrek locates your position through the *Global Positioning System* (GPS) and relates it to digital maps of your area. You can record your routes while walking them. The StellarTrek then provides step by step instructions on how to navigate them. With the StellarTrek, you can explore your surroundings and let the device announce street information as they are encountered.

After you charge up your StellarTrek and first power it on, it is required that you connect to your home Wi-Fi network if one is available. Connecting to Wi-Fi ensures you are running the latest version of the StellarTrek software, and in addition allows the StellarTrek software to download the updated GPS satellite information prior to you going outdoors to navigate. Having that latest GPS satellite info downloaded ahead of time will greatly speed up the GPS acquisition time when you go outdoors. Note that no maps are installed upon using the device for the first time; they need to be downloaded (see section 2.5 "Installing & Updating maps" for more details).

Upon first booting the device, the StellarTrek may need some time to acquire GPS satellite coverage. This is due to the device downloading the satellite data and learning where you are on the globe. Once you receive the connection to the satellites, your position is remembered for three days. This ensures that if you use your StellarTrek regularly, you will consistently acquire satellite reception within 5 to 30 seconds on average.

It is recommended to frequently connect to Wi-Fi to ensure the latest satellite data is updated.

<u>Warnings</u>: The StellarTrek system is designed as an <u>orientation aid</u> only and must not, at any time, be used as the only aid while traveling. When using StellarTrek, users should always be vigilant, stay alert and pay attention to the immediate surrounding area. A conventional mobility aid like a white cane or a guide dog should also be used. <u>The StellarTrek is not meant to be used as a solo mobility device</u>, but along other forms of mobility tools as mentioned previously. It is the user's responsibility to use this device with caution. Do not use headphones while walking on the street. Do not use the StellarTrek as a car GPS.

The accuracy of GPS location information for commercial products such as the StellarTrek is currently more or less 5 meters (15 feet). However, this can vary depending on a number of factors including:

- How clear a view of the sky does the GPS receiver have?
- Are there obstructions blocking signals such as tall buildings or overhangs?
- The position of the satellites being tracked: overhead, on the horizon or somewhere in between.
- How many satellites are being tracked?
- Is there a presence of cloud cover or overhead power lines?
- How fast is the user moving?

Note: The StellarTrek uses the following constellations: GPS, GLONASS, Galileo and Beidou, allowing an optimal usage of the device depending on your location.

3.1.1 Maps Installed in your Device

The GPS system uses electronic maps to provide detailed and handy information about all street names and ranges of addresses for urban areas, as well as points of interest such as banks, restaurants, pharmacies.

It is also possible to update or install new maps on your device. Please refer to <u>section 2.5 "Installing & Updating maps"</u> of this user guide.

3.1.2 Landmarks

Landmarks are particular locations along your travel paths that merit to be marked as reference points (the mailbox at the corner of the street where you have to turn), places to avoid (potted plant on the sidewalk) or a location you go to (grocery store). Upon creating a landmark, you will need to assign a name. You may create vocal recording for any number of landmarks. Note that you can rename any landmark at a further moment. A landmark will be announced as the user passes near it, whether on foot or by vehicle.

Places that you consider as possible destinations in your usual travel, such as your home, a friend's place, your pharmacy, or preferred restaurant, can be set as landmarks. Upon doing so, you can ask the StellarTrek to provide guidance instructions from your current position to the selected landmark.

3.1.3 Points of Interest

Points of Interest are commercially available information such as restaurants, hospitals, banks, train stations and bus stops included with the Maps. This information is handled jointly with the Maps already included in your device. Note that Points of interest are not automatically announced during motorized travels. Only landmarks are reported.

3.1.4 Distance Units

It is possible to change the distance units in which you wish to navigate. To do so, go to the Settings menu by pressing and holding the **Down** arrow. Then, use the **Left** and **Right arrows** until you reach the item System and press **Confirm**. In the System submenu, use the **Left** and **Right arrows** until you reach the item Regional Settings and press **Confirm**.

In the Regional Settings submenu, use the *Left* and *Right arrows* until you reach the item Distance Units and press *Confirm*.

Use the **Left** and **Right arrows** to cycle through the options and press **Confirm** to make your selection. The Distance unit settings are as follows:

- Kilometers and meters
- Miles and feet
- Miles and yards

3.2 Using the GPS

By default, the StellarTrek is in explore mode. Upon turning on the device, the connection is established, and the StellarTrek will announce your current position and attempt to find street names and landmarks. Your StellarTrek is ready to use. If a connection cannot be established or if it is lost along the way, move to a different location with an unobstructed view of the sky. Note that this step can take a few minutes the first time you use your StellarTrek.

3.2.1 Refresh Positioning

Occasionally, the StellarTrek will not be able to properly situate the user. For example, this may happen in an environment surrounded by high buildings or dense trees. In situations such as these, it can be useful to reset your GPS position for a more accurate navigation.

To reset the GPS position:

- Go to the Settings menu by pressing and holding the **Down** arrow.
- Then, use the *Left* and *Right arrows* until you reach the item System and press *Confirm*.
- In the System submenu, use the **Left** and **Right arrows** until you reach the item Refresh Positioning and press **Confirm**.

Upon selecting this option, the device will refresh its position automatically and prompt "The position has been refreshed. Searching for satellites" when done.

3.2.2 Updating GPS Satellite Positions

Although the StellarTrek automatically and regularly updates satellite positions for up to three days, it is possible to update the satellites' ephemeris information manually for an optimal GPS accuracy for up to two weeks.

To update manually the GPS satellite position:

- You need to make sure you are connected to a Wi-Fi network.
- Go to the Settings menu by pressing and holding the **Down** arrow.
- Then, use the *Left* and *Right arrows* until you reach the item System and press *Confirm*.
- In the System submenu, use the **Left** and **Right arrows** until you reach the item Update GPS satellite positions and press **Confirm**.

Upon selecting this option, the device will prompt "**Update successful**" when done. Note that you may have to wait up to 2 minutes for the GPS positions to be updated on your StellarTrek.

3.2.3 Pedometer

When in pedestrian mode, you could find it really useful to know the walking distance that you have done so far. To do so, the StellarTrek contains a pedometer.

To activate this function, press and hold the down arrow key to go to the Settings menu. With the right and left arrows, reach the option Pedometer and press Confirm to activate it. A message indicating "Pedometer enabled" will be heard and you will be returned to Explore mode. Please note that when booting the StellarTrek, pedometer will by default be de-activated and you will have to activate this feature manually to use it. Please also note that you can de-activate manually this feature by pressing and holding the down arrow and select the option Pedometer by pressing the Confirm key on it, that will de-activate the pedometer and return you to Explore mode.

To read the pedometer information, press on the down arrow key to activate the Info menu, then press the right and left arrows until you hear "Pedometer info", followed by the walking distance and the walking time. The countdown will begin after the activation of the pedometer and when a GPS signal is detected. If there is no GPS signal when the function is activated, a message will indicate to you that the pedometer is enabled but waiting for a GPS signal. Moreover, the countdown will be paused when the StellarTrek switches to motorized mode. A message indicating that pedometer has been paused, waiting for pedestrian mode will be heard. When the StellarTrek will return to pedestrian mode, pedometer will resume and will continue to calculate your walking distance from the distance measured before pausing the pedometer. Finally, if at some point you disable the pedometer manually and enable it again later, walking distance will be measured from zero, even though walking distance measures were taken before in the same session. At any time, you can have access to the pedometer status by pressing the down arrow to access to the info menu and by pressing the right and left arrows until you hear "Pedometer" followed by its status and the appropriate information if activated.

Note: please consider the walking distance measured with caution. For instance, the GPS precision can fluctuate during your walk and can sometimes display wrong information, that can influence the measures. Also, when you enter in a vehicle, it takes few seconds for the device to switch from pedestrian to motorized mode, so measures indicated can be over-estimated because pedometer

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will continue to calculate until the switch is done and that the pedometer is paused. To avoid this situation, when you enter in a vehicle, disable manually the pedometer or force your travel mode to motorized (see section 3.4.2 "Forcing a travel mode" to know more).

3.3 Carrying the StellarTrek

For your safety, you should not use headphones when walking on the street.

In areas with heavy traffic or where the ambient noise makes it difficult to hear the internal speaker, it is recommended to stop walking and use the headphones to listen to a specific instruction.

It is recommended to use the provided lanyard and maintain the device in the belt clip when carrying the StellarTrek to prevent accidental drops.

3.4 Explore

By default, the StellarTrek is in Explore mode, meaning that it is designed to explore your outdoor environment. Whether you are walking on a street or in an open area (such as a park or a parking lot) or even traveling by vehicle, the GPS tool will provide real-time information regarding your position and the direction in which you are heading.

Note that from anywhere on the device, you can always come back to Explore by pressing and holding the **Back** button.

3.4.1 Information provided while exploring around

Whether you are walking or traveling by vehicle, the StellarTrek will provide real-time information. Switching from pedestrian to motorized travel is done automatically by evaluating the speed of travel. As the speed of motorized travel does not allow the extent of spoken detail possible when walking, the StellarTrek will adjust verbosity and mapping frequency to your mode of travel.

Note: You can force the StellarTrek to use the pedestrian or motorized mode in the travel mode menu by pressing and holding the left arrow. Choose the desired mode with left and right arrows and press confirm to select It.

The choice made in this menu will stay until you restart the device, after that the automatic mode will be reset.

- Address and Street: you will be informed of the street or area name where you are. When
 traveling in open areas, you will also be provided with the name of the nearest street in
 front of you, as it gets closer.
- When no name is provided for a specific street in the map database, the StellarTrek will announce 'Street with no name', 'Junction' or 'Ramp'.
- Next intersection: The user will be informed when approaching an intersection. When in pedestrian travel, the StellarTrek informs you of the name of the crossing street and provides details on all ways included. The StellarTrek announces first the type of intersection (2, 3, 4-way intersection or more), and the current street name followed by the cross-street name. The intersection is broken down and each segment composing the intersection is named in a clockwise manner. For example, while walking on Main Street, you encounter a 3-way intersection where Fleet Street intersects with Main on your left side only. The StellarTrek will announce the following message: "3-way intersection. Main Street crossing Fleet Street on your left." When traveling in a vehicle, the StellarTrek will only announce the first crossing street, starting from right to left. For pedestrian travels, the StellarTrek will emit a beep to indicate when the intersection is detected.
- <u>Landmarks</u>: The user will be informed when approaching within 10 meters of a landmark or point of interest (if activated). It will be identified by name. Please note that in motorized mode, only landmarks will be indicated.

- <u>Traffic lights:</u> when there is a traffic light at an intersection, the device will indicate it to the user when approaching the intersection. For example, if there's a traffic light at the intersection of Main Street and Fleet Street, the StellarTrek will announce: "3-way intersection with traffic lights. Main Street crossing Fleet Street on your left." Please use this information with caution, because it only indicates the presence of traffic lights. It neither indicate for which segments these traffic lights are applying, nor when it's the time to cross and the duration of the pedestrian light. It also happens that information provided by the database may be inaccurate as it relies on offline maps. Some intersections with traffic lights are not indicated as is and some intersections are indicated with traffic lights where there is not. Always stay safe, use your orientation and mobility skills and stay alert to your surroundings.
- Bus stops: we now have access to a database that list the bus stops present in Canada, United States and United Kingdom. If you are a resident of one of those countries, when you will pass near a bus stop, it will be identified by a different sound than the landmark sound, followed by the bus circuit that pass there. If more than one circuit pass at the same bus stop, there will be the bus stop sound followed by the list of all the circuits that pass at this place. Information about bus stops can also be found in the "What's around" list that you can obtain by pressing and holding the "Where Am I" key. They are presented in the points of interests list the same way as any other point of interest. If you want to add some bus stops to your landmark list, it's possible, as for any other points of interest. Please see the section 3.6.1 "Set a point of interest as a landmark" To know more.

3.4.2 Forcing a Travel Mode

When you are using the StellarTrek in Explore mode, by default the device is in automatic mode, which is based on the speed between pedestrian and motorized automatically. It is possible that the travel mode automatically selected by the device (pedestrian or motorized) is not the right one.

To force a travel mode:

- Press and hold the *Left arrow* to access the Travel mode menu.
- Use the Left and Right arrows to select a different travel mode and press Confirm. The
 new travel mode will be announced by the device and you will be returned to explore.

3.5 Information by Request

3.5.1 Where am I?

To obtain your current position, press the *Where am I* button.

The StellarTrek provides route status, heading, street and civic number, next instruction if guided and next intersection if you are not guided. When traveling by vehicle, the StellarTrek will also provide the city name.

Note: If you are less than 10 meters (30 feet) away from any intersection, you are considered to be in a transitory zone. In this zone, the StellarTrek does not provide a description of the next intersection because the user is not already engaged on the upcoming street.

3.5.2 What's Around?

Press and hold the **Where am I** button to activate the **What's around** function. When traveling in streets, points of interest and landmarks found near you will be announced. In pedestrian mode, all of the points of interest and landmarks in a range of 200 meters (600 feet) along the road network will be announced; while in motorized mode, the range goes up to 500 meters (1500 feet). Please note that only landmarks are announced while traveling in motorised mode. The StellarTrek will

also inform you whether points of interest are located to the left or right of your current position. When traveling in open spaces, landmarks found within the default range of (100 meters) will be announced.

When in the What's around list, use the left or right **arrows** to browse the list to get an idea of the landmarks and points of interest found in the vicinity. Press **Confirm** on any landmark or point of interest to start a pedestrian route and receive instructions on how to get there. If you wish to start the route in motorized mode, use the **Up** or **Down arrow** to select the item Motorized mode and press **Confirm**. If you wish to simply browse the map from this location, use the **Up** or **Down arrow** to select the item Enter Map browsing mode and press **Confirm**.

3.5.2.1 Extended Search

When using the arrows to browse the list of landmarks and points of interest, you will find at the end an item called **Extended search**. Press **Confirm** to select it. Then, use the **Left** or **Right arrows** to search either by category or by name.

3.5.2.1.1 Search by Category

If you selected Search by Category, you will be able to refine your search by selecting a category from the list. Once again, use the *arrows* to browse the list of items found and select a destination. Press *Confirm* to start a pedestrian route. If you wish to start the route in motorized mode, use the *Up* or *Down arrow* to select the item Motorized mode and press *Confirm*.

The list of categories is as follows:

- "All categories"
- "Landmarks"
- "Transportation"
- "Food"
- "Banking"
- "Health"
- "Shopping"
- "Lodging"
- "Education"
- "Public Administration"
- "Automotive"
- "Leisure"
- "Sport"
- "Business"
- "Feature"

3.5.2.1.2 Search by Name

If you selected Search by Name, simply type in a name of your destination using the virtual keyboard, then press *Confirm*. You don't have to type the complete name to begin the search. For more information on how to type using the virtual keyboard, please refer to <u>section 2.2 Text entry method</u> of the User guide.

Once you are done typing, press the **Go To** button. The StellarTrek will then provide you with a list of up to 50 points of interest found within a range of 5 miles (8 km) that contains the partial name entered. Use the **Left** and **Right arrows** to select the point of interest of your choice and press **Confirm**.

Note: You can save a commercial point of interest as a landmark, to which it will be possible to be guided. Please refer to section 3.6.1 "Set a point of interest as a landmark" to obtain more information.

3.5.3 Next Instruction or Next Intersection

When on an active route, you can preview the next instruction by pressing the *Right arrow*. The StellarTrek will announce the distance to the next instruction followed by the action to be taken. Each time you press the *Right arrow*, the StellarTrek will announce the following instruction. Use the *Left arrow* to navigate previous instructions. When in Explore mode, pressing the *Right arrow* will announce the next intersection you will encounter if you continue in the same direction.

3.5.4 Repeat Previous Messages

If you wish to hear the last message or instruction again, press the **Voice** button. If you wish to hear one of the previous messages, you can press the **Left arrow** to navigate in the list of the last 5 messages announced by the device. If you want to have the names of the cities or streets spelled in those messages, you can press the **Up** and **Down arrows**.

3.5.5 General Information

You can obtain information regarding various aspects of the route and the system by pressing the **Down arrow**.

Press the **Down arrow** to obtain contextual information on the current StellarTrek activity. You will be given the following information: ON or OFF route, route name, Distance remaining, Distance traveled, and Route length.

Press Right arrow to obtain speed information.

3.6 Record Landmarks

Users can create landmarks any time along their outdoor environment. These act as reference points or markers and will be detected when the user comes across them. It is highly recommended to mark any meaningful point in your surrounding that can act as a guiding element, an obstacle along the way or a possible destination.

To record a landmark:

- Press the *Record* button.
- After the beep, provide a 4 second description of the landmark. A second beep will indicate
 the end of the landmark creation. The description and location of the landmark will be saved
 by the StellarTrek.

Note that it is possible to cancel the recording of a landmark by pressing the **Back** button. The recorded landmarks are kept in the list of possible destinations.

Important: Before recording landmarks, press the **Where am I** button to make sure that the StellarTrek has properly located your position. If the landmark is meant to be situated at an address, make sure the StellarTrek recognizes the location as a position on that Street (and not an open area). Similarly, if the intended Landmark is meant to be in an open area, make sure the StellarTrek does not recognize the location as being linked to streets.

3.6.1 Set a Point of Interest as a Landmark

You can save a commercial point of interest as a landmark, to which it will be possible to be guided.

- Press and hold the Where Am I button to display all the points of interest near your position (see section 3.5.2 "What's around?") to know more.
- Use the Left and Right arrows to select the point of interest you wish to save as a landmark.

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 Use the *Up* and *Down arrows* to reach the item Set as a possible destination and press *Confirm*.

3.6.2 Sort Landmarks

When landmarks have been created, you can sort them by city, by proximity, by last used and by creation date:

- Press the Go To button. The StellarTrek will announce: "Select a landmark as your destination".
- Use the *Left* and *Right arrows* to reach the item Sort.
- Use the *Up* and *Down arrows* to select the category under which you wish to sort your landmarks. The categories are: Sort by proximity, Sort by last used, Sort by city and Sort by creation date. Press *Confirm* to select the category. The StellarTrek will announce the first element in the sorted list.

Alternatively, you can sort the landmarks via the landmarks management menu.

- Press and hold the **Down arrow** to access the Settings menu.
- Use the left and right arrows to access to the item Personal Data, then press Confirm.
- Use the *left* and *right arrows* to access to the item Landmarks and Routes and press *Confirm*.
- Use the *left* and *right arrows* to access to the item Landmarks Management. Use the *Up* and *Down arrows* to select the category under which you wish to sort your landmarks and press *Confirm*.
- In the Landmarks Management menu, use the *left* and *right arrows* to access to the item Sort and press *Confirm*.

3.7 Routes

The StellarTrek provides the user with an opportunity to record a route while walking it a first time. This way, it is possible to select the most secure or preferred path. The created route can be named and retraced to be used at a later moment. Please note that recorded routes are only available in pedestrian mode.

3.7.1 Recording a Route

3.7.1.1 Create a route

- Press and hold the **Record** button and press **Confirm** to start creating a route. The StellarTrek will ask you to record a route name.
- After the beep, you will have 4 seconds to describe the route. You may find helpful to name the route by its origin and destination. For example, "Home to pharmacy".
- When the StellarTrek has confirmed that you are creating a route, navigate the entire course of the route. The StellarTrek will emit a beep every 60 seconds to indicate the recording of the route.
- Note that you can create landmarks along the way. To do so, press the *Record* button.
 After the beep, you will have 4 seconds to provide a vocal description of the landmark. A second beep will indicate the end of the landmark creation, at which point you can continue your route.
- When you have reached your destination, press and hold the *Record* button until you hear
 the beep, to inform the StellarTrek that the destination has been reached. The beeping
 stops and a message informs you that route recording has ended.

Important: You cannot record routes when in a vehicle. If you enter a vehicle during the route creation, please note that your route may not be valid. Please preview before using this route.

3.7.2 Activate a Recorded Route

You can use the StellarTrek to guide you along a previously recorded route. To select a route:

- Press and hold the Go To button.
- Use the Left and Right arrows to browse among available routes.
- When the route you are looking for is announced, press Confirm to start the route. If you
 wish to follow the route in reverse direction, press the Up or Down arrow to select the item
 Start route in reverse direction and press Confirm.

Along the way, you will be instructed on which direction to take when you come across intersections. Instructions on street network are given according to hand-side (left/right/go straight). For example, the StellarTrek could tell you to "turn left on Fleet Street."

When you enter an open area, a message will inform you. In this case, clockwise orientation is used to instruct the user on directions to take. For example, the StellarTrek could announce the following message: "Turn at 10 o'clock. Next instructions in 25 meters."

Upon reaching your destination, a message will be heard and the route will be automatically deactivated.

For landmarks created by entering an address and for commercial points of interest on maps, the StellarTrek will announce the side of the street of your destination.

Similarly to the Indoor Preview of a Route, at any moment during a guidance session, you can have the StellarTrek announce the next or previous instruction by pressing the *Right* or *Left arrow*. You will be given an instruction indicating a distance and action to be taken.

Pressing the **Down arrow** will provide route information and options: On or off route, name of the route, and Speed.

3.7.3 Deviating from Route

If you deviate from your route in an open area, the device will warn you. Press **Confirm** for the StellarTrek to provide instructions on how to return to your route.

In this situation, you will always be able to use the *Right arrow* to get information on upcoming instructions to return to your route. For example: "In 50 meters, go straight".

If you deviate from your route and you're on a street, the StellarTrek will also warn you. Press Confirm to be redirected to the shorter way to go to your destination.

3.7.4 Indoor Preview of a Route

The StellarTrek allows you to preview a route before navigating it. This gives you a chance to learn the route instructions ahead of time. Indoor preview will provide you with detailed intersection information and turn instructions.

To preview a route indoors without being interrupted by GPS information:

- Activate the route. To do so, press and hold the Go To button and use the Left and Right
 arrows to browse among available routes. When the route you are looking for is
 announced, press Confirm to load the route in the StellarTrek.
- Press and hold the *Right arrow*. The StellarTrek will announce "Indoor Preview" followed by the first instruction.
- You will be able to navigate through all instructions using the **Left** and **Right arrows** without being interrupted by incoming GPS information.
- To exit Indoor Preview, press and hold the *Right arrow. The StellarTrek will announce* "Route preview stopped".

3.7.5 Cancelling a Route

After activating a route, you may cancel navigation at any point by pressing the *Back* button. You will be asked to confirm. If the *Confirm* button is pressed within 10 seconds, guidance will end and the StellarTrek will return to exploring the environment. If the *Confirm* button is not pressed, the route will remain activated.

3.8 Getting Guidance to a Landmark

The StellarTrek can provide guidance instructions from the current user location to a selected landmark chosen as a destination. Guidance instructions are similar to those provided by the StellarTrek when following a pre-established route.

Turn instructions are adjusted to pedestrian or motorized navigation. Turn instructions for motorized navigation are calculated according to the "quickest route" criteria. Routes calculated for motorized use favor highways and other streets that may not be suitable for pedestrian travel. Turn instructions for pedestrian navigations are intended to provide the shortest route possible.

To have the StellarTrek guide you to a landmark:

- Press the Go To button. This will take you to the list of landmarks you can use as possible destination.
- Use the **Left** and **Right arrows** to select the landmark of your choice. A vocal description of each landmark is heard.
- By default, a route will be followed into Pedestrian mode. If, however, you wish to follow a route in Motorized mode, use the *Up* or *Down arrow* to select the option Motorized mode.
- Press the *Confirm* button to start receiving instructions on the direction to take to begin your route.

If you are in an open area and heading towards a landmark that is also in an open area, the StellarTrek will guide you in a straight line towards it. It will give you an indication of its relative distance and heading. The StellarTrek will inform you when you reach your landmark and the route will be deactivated.

If the StellarTrek detects that you are deviating from your path, the device will warn you and you will be prompted to press the **Confirm** button to be guided back to your original route. Once you come back to your route, the device will restart giving the navigation instructions.

IMPORTANT: Effective guidance relies on the quality of the positioning (point of origin and landmarks). Always make sure that street positions are not mapped in open areas, and that open areas are not mapped on the street network.

You may cancel guidance instruction at any point by pressing the **Back** button. You will be asked to confirm. If the **Confirm** button is not pressed, the route will remain activated.

3.9 Getting Guidance to an Address

When browsing the list of possible landmarks towards which you can be guided, (see <u>section 3.8</u> "Getting guidance to a landmark") you will come across an option allowing you to enter an address. Please refer to <u>section 2.2</u> "Text entry method" to learn how to enter text with your StellarTrek.

3.9.1 Creating a Landmark for an Address

If you select Enter an address when browsing your landmark list, you will have the opportunity to type in the address of your choice.

To have the StellarTrek guide you to an address:

 Press the Go To button. This will take you to the list of landmarks you can use as possible destination.

- Use the Left and Right arrows through the list of landmarks and select Enter an address.
 Press Confirm to select this option.
- The StellarTrek will ask you to select the country, state/province in which you will be travelling. The available choices depend on the maps you have installed. Use the *Left* and *Right arrows* to make your selection, followed by *Confirm*.
- You must now enter the name of the city. The previous city name entered will be announced. If you wish to select this city, or if none have been previously entered, you will need to enter the city name using the virtual keyboard (see <a href="section 2.2" Text entry method") or press and hold the Voice button to dictate the name. Enter the city name and press Go to.
- Select a name from the list of possible choices and press *Confirm*. Please note that you don't need to enter a complete city name or street name. You can enter a partial name, followed by *Go to* and the StellarTrek will search for names that include the characters entered. Use the left or right *arrows* to browse the list of names and press *Confirm* to make your selection.
- After entering the city name, you must enter the street name. Proceed using same method as for entering city name. You can press the **Back** button to return to the previous level.
- Once a street name is entered, you will be asked for a civic number. If you know the exact civic number, again, type the address number, followed by *Go to*.
- If the civic number you entered does not exist, the StellarTrek will provide a list of address ranges for that given street, followed by a list of intersections where address ranges are not available. Use the *Left* and *Right* arrows to browse the list, and press *Confirm* to make your selection.

At this point, a new landmark will have been created for this address; it will be added to the list of landmarks, and can now be selected to begin a new route (see <u>section 3.8 "Getting guidance to a landmark"</u>).

Note: During the character entry process, you can press and hold the **Left arrow** at any time to delete a character. If you wish to return to the previous entry level, press **Back**. To have your current entry repeated and spelled to you, press the **Voice** button.

3.10 Getting Guidance to a Postal Code (UK and Netherlands users only)

When browsing the list of possible landmarks towards which you can be guided, (see <a href="section 3.8" "Getting guidance to a landmark") you will come across an option allowing you to enter a postal code. This section will provide information on how to use the StellarTrek's buttons to enter postal code details, similarly to entering an address (see <a href="section 3.9" "Getting guidance to an address").

To have the StellarTrek guide you to a postal code:

- Press the Go To button. This will take you to the list of landmarks you can use as possible destination.
- Use the **Left** and **Right arrows** through the list of landmarks and select Enter a postal code. Press **Confirm** to select this option.
- The StellarTrek will ask you to enter the postal code towards which you will be travelling. You need to enter all characters, either letters (capital and/or lowercase) or digits, of the postal code, with or without spaces. It is also possible to dictate the postal code by pressing and holding the *Voice* button. When it is complete, press *go to*. The StellarTrek will repeat the entered postal code.
- You must now enter the civic number of the street you want to be guided to, either by typing the name or by dictating it.

Note: Entering a civic number after the postal code gives a more accurate location for the destination since in some cases, for instance in rural areas, a single postal code may cover a large geographical area.

At this point, a new landmark will have been created for this postal code. To begin guidance towards this location, select the postal code from the list of landmarks (see <u>section 3.8 "Getting guidance to a landmark"</u>).

Note: During the character entry process, you can press and hold the *Left arrow* at any time to delete a character. To have your current entry spelled to you, press the *Voice* button or press and hold the *Right arrow*.

3.11 Map Browsing Mode

Map Browsing mode allows you to virtually navigate a map installed on your device. This allows you to get to know and explore an area whether you are on the road or sitting at home. Map Browsing Mode can be accessed from your current location, from a saved landmark, or from an address.

3.11.1 Launch Map Browsing Mode from your Current Location

You can launch Map Browsing mode at any time from your current location. Ensure GPS is connected and has a lock on your position. From this point you can press the *Up arrow*. The StellarTrek will announce "Press Confirm to enter map browsing mode from current location". Press the *Confirm* button to confirm and start freely browsing the area around you.

3.11.2 Launch Map Browsing Mode from a Specific Landmark or Address

You can also launch Map Browsing Mode from a saved landmark or specific address in any map installed on your device. You do not need a GPS lock or internet connection. Before launching map browsing, press the *Go To* button, then the *Left* or *Right arrows* to browse saved Landmarks or to enter an address (see <a href="section 3.8" "Getting guidance to a landmark" for more details). When you have selected a Landmark or entered an address, use the *Up* or *Down arrow* to access the item Enter map browsing mode and press *Confirm*.

3.11.3 Using Map Browsing Mode

Once you enter Map Browsing mode, the StellarTrek will automatically orient you facing the North or East, depending on the direction of the road. The StellarTrek will tell you your current Street name and heading. You can navigate the map by:

- Pressing the *Up arrow* to move you forward to the next street segment. If you reach an
 intersection, its type (i.e. 3-way, 4-way, 5-way, etc.) and the cross-street or streets will be
 announced.
- Pressing and holding the *Up arrow* will move you forward to the next street segment and announce any Points of Interest on that segment. You can check all points of interests by pressing the *Left* and *Right arrows*. If there were items as points of interests, you will need to press the *Back* button to get back to the map and continue browsing.
- At an intersection, you can press the **Left** and **Right arrows** to scan across the intersection. For example, when you reach an intersection and press the **Left arrow**, you will be oriented towards the first segment on the left, and pressing the **Right arrow** will rotate you clockwise until you reach the last segment, at which point the StellarTrek will emit a beep. You can always press the **Left arrow** to rotate counter-clockwise. When you hear the segment you wish to continue exploring, press the **Up arrow** to move forward, or press and hold the **Up arrow** to move forward and have points of interest announced. If you wish to turn back around, press the **Down arrow** as described above.
- Press Where Am I to get current heading, nearest location, and nearest intersection.
- Press and hold *Where Am I* to hear any nearby Points of Interest.
- Press the Record button to create a new landmark at your current map browsing location.

To exit Map Browsing mode, press **Back**. You will then be prompted asking if you wish to exit this mode. Press **Confirm** to exit, or any other key to remain in Map Browsing. Upon exiting, the StellarTrek will return you to Explore mode.

3.12 Locking/Unlocking Open Area

If you are walking in a park, university campus, or doing outdoor hiking, the StellarTrek can ensure you remain in open area without automatically placing you on a nearby street. To do so, simply press and hold the *Right arrow*. You will hear a beep sound and the StellarTrek will announce "Entering open area locked". If a route is activated, deactivate it first by pressing the *Back* button before locking open area.

In open area locked mode, you can be guided as the crow flies towards any personal point of interest or landmark, whether your destination has been created on the road network or in an open area.

To leave open area locked, press and hold the **Right arrow** again. The StellarTrek will announce "Leaving open area locked" and will automatically recognize whether you are in an open area or on a street.

3.13 Landmarks and Routes Configuration

To configure the landmarks and routes on your StellarTrek, access the Settings menu by pressing and holding the **Down arrow**, then use the **Left** and **Right arrows** until you reach the item Personal data, press Confirm on this option then use the right and left arrows until reaching the item Landmarks and Routes and press **Confirm**.

A submenu will appear, displaying the following options:

- Landmarks management
- Export landmarks and routes
- Import landmarks and routes

3.13.1 Configuring Landmarks

To configure a landmark on your device, use the **Left** and **Right arrows** until you reach the item Landmarks Management and press **Confirm**.

Use the **Left** and **Right arrows** to select the landmark you wish to configure.

Use the **Up** and **Down arrows** to select the operation you wish to perform on the landmark. Operations include:

- Set/Unset landmark as possible destination
- Delete landmark
- Rename landmark with audio
- Rename landmark with text

Press *Confirm* to trigger the selected operation.

Note regarding Landmark configuration: You can directly access Landmark Settings. To do so, press the **Go To** button, then select a landmark with the **Left** and **Right arrows**. Use the **Up** and **Down arrows** to select the operation you wish to perform on the landmark.

3.13.1.1 Set or Unset Landmark as Possible Destination

Upon selecting this option, the StellarTrek will ask you to set or unset the current landmark as a possible destination. When you unset a landmark as a possible destination, it will no longer appear in the list of destinations upon setting a route.

Press **Confirm** to set or unset the landmark as a destination.

3.13.1.2 Delete Landmark

Upon selecting this option, the StellarTrek prompts you to delete the current landmark selected. Press *Confirm* to Delete.

3.13.1.3 Rename Landmark

There are two ways to rename a landmark: either by typing or by recording.

If you choose to type the name of the landmark, use the *Up* or *Down* arrow to reach the item Rename landmark with text and press *Confirm*. The device will announce "Enter landmark's name". Type the name of your choice using the text-entry method and press *Confirm* when you are done.

If you choose to record the name, use the *Up* or *Down* arrow to reach the item "Rename landmark with audio" and press *Confirm*. The device will announce "Record landmark's name" and emit a beep, indicating the beginning of recording. Say the name of the landmark. After 4 seconds, recording ends with a beep and message, indicating that the recording was saved.

3.13.1.4 Delete all Landmarks

Selecting this item will delete all landmarks saved on your device. The device will prompt you to confirm the deletion. If you are sure you wish to delete all landmarks, confirm by pressing the *Confirm* button.

Note that if your landmarks are sorted by city, the option becomes **Delete all landmarks for this city**.

3.13.2 Configuring Routes

To configure a route on your device, press and hold the **Go To** button, select the desired route using the **Left** and **Right arrows**. Use the **Up** and **Down arrows** to select the operation you wish to perform on the route.

Operations include:

- Delete route
- Rename route

Press *Confirm* to trigger the selected operation.

3.13.2.1 Deleting Route:

Upon selecting this option, the StellarTrek prompts you to delete the selected route. Press *Confirm* to Delete.

3.13.2.2 Renaming Route:

You can rename a route by recording its name. Use the *Up* or *Down* arrow to reach the item "Rename route" and press *Confirm*. The device will announce "Record route's name" and emit a beep, indicating the beginning of recording. Say the name of the route. After 4 seconds, recording ends with a beep and a message, indicating that the recording was saved.

3.13.3 Export Landmarks and Routes

Selecting this item will export all your saved landmarks and routes to the internal storage of your device.

It will then be possible to connect the StellarTrek to a computer by using the USB-C cable provided with the device. Once connected, the StellarTrek will be detected by the PC as an external device, and the landmarks and routes will be accessible from the PC.

3.13.4 Import Landmarks and Routes

Selecting this item will import all landmarks found in the internal storage of your device, that have been copied from a PC.

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4 Applications

4.1 Address Detection Mode

4.1.1 General Description

The StellarTrek device is equipped with a door/address detection mode that allows you to detect and identify a door and an address number upon arriving at a destination. This feature is made possible by the camera system, located at the top of the back side of the device.

4.1.2 Address Number Detection and Recognition

4.1.2.1 Detect a door and address number with the StellarTrek device

- Activate Applications by pressing and holding the *Up arrow*.
- In the Applications menu, use the **Left** and **Right arrows** to navigate to the item Address confirmation and press the **Confirm** button.
- If you have never used this feature before, and if it is not already configured in the settings, the StellarTrek will ask you if you agree to send anonymous data to HumanWare to help us to improve the address detection feature. Follow the given instructions to accept or decline. You can change this at any time in the settings menu. Go to "System" with left and right arrows and press confirm. Go to "data privacy" with left and right arrows and press confirm. Here with left and right arrows, go to "send pictures from address confirmation". Pressing confirm will toggle the option between always and never.
- Point the camera towards the building and pan it slowly. When a door will be identified by the camera, the StellarTrek will emit beeps. The pace of beeping determines the level of confidence in which the device identifies a door. The faster the StellarTrek beeps, the more accurate the door identification gets. The StellarTrek can also give you vocal indications to help you keep the device well-oriented.
- When the beeping is at a high pace, press the *Confirm* button.
- The StellarTrek will guide you with directional hints (i.e., "Move up", "Move down", "Move left", "Move right", "Move farther", "Move closer") to align more precisely the camera with the door. If no doors are detected, the StellarTrek will simply announce "Nothing was found".
- When the camera is aligned with the door with a satisfying precision, the device will
 announce: "Stop moving, taking picture". A double beep will be heard, followed by a
 camera shutter sound, indicating that a photography of the door has been taken by the
 device. If an address number is included in the image, the device will identify it as well.
- The StellarTrek announces the detected door and address number. If more than one result
 is returned, you can navigate through the addresses by using the Left and Right arrows.
- If text is found on the image, a sound will be heard indicating that. You will be able to read
 this text by pressing the right arrow after the number of doors detected and the address
 detected if any. For example, if business hours are displayed on the door of a company
 building, the StellarTrek OCR can recognize this text and you will be able to access to this
 information autonomously.

Note: here are some steps to follow for best results when using the address confirmation feature:

- Hold your device vertically with the camera facing up. To avoid blocking the camera, place
 your hands on the bottom of the StellarTrek, with your thumbs on the front of the device
 and your other fingers on the back, on the raised part. This will make it easier to press the
 Confirm button when you are ready to take the picture without moving, which could change
 the final result.
- Place the camera in front of you, at the level of your head. Scan your surroundings from left to right and up and down slowly. The scan should be as wide as possible, sometimes the address is not facing the driveway.

- Feel free to do this several times to determine where the StellarTrek beeping will increase, showing a high level of address recognition confidence. If you are not satisfied, move slightly to the left or right.
- When the StellarTrek beeping indicates a high enough level of confidence, use your thumbs to press the *Confirm* button and take the picture.

4.2 Text Recognition

4.2.1 General Description

The text recognition tool is a useful aid to read printed text on objects in your environment. The StellarTrek device is equipped with a camera system and an Optical Character Recognition (OCR) tool that allows to read text with high precision.

There are two different types of features using the OCR tool: the Quick reading feature and the Detailed reading tool.

Note: do not use the StellarTrek to read and validate critical or sensitive information, such as Drug prescriptions or legal documents.

4.2.2 Quick Reading

The StellarTrek device allows to quickly detect and read text on an object close to you. This can be useful, for example, if you wish to detect and read text on a bus sign or a computer screen, or in activities like sorting out your mail.

4.2.2.1 Detect and read text on an object

- Press and hold the *Up arrow* to enter Applications.
- Use the *left* and *right arrows* to navigate through the menu and choose the item Quick reading by pressing the *Confirm* button. The device will announce "Camera Ready".
- Point the camera towards an object containing text that you wish to read.
- A camera shutter sound will be heard, indicating that an image of the text has been captured.
- The StellarTrek will read the detected text.
- When the reading of the text block is done, the device will take a new picture and read the text again. This will be repeated until you press the **Back** button.
- If you wish to change the reading voice, press and hold the left arrow.

4.2.3 Detailed Reading

If the Quick reading feature does not render the printed text with enough clarity, it is possible to do a detailed reading of a piece of text with the Detailed Reading tool of the StellarTrek. This is useful to read complex documents, such as a label on a food product or a printed letter.

4.2.3.1 Read detailed text

- Press and hold the *Up Arrow* to enter Applications.
- Use the *left* and *right Arrows* to navigate through the menu and choose the item Detailed reading by pressing the *Confirm* button.
- The StellarTrek announces "Camera ready".
- Point the camera towards an object containing text that you wish to read.
- The StellarTrek will guide you with directional hints (i.e., "Move up", "Move down", "Move left", "Move right", "Move farther", "Move closer") to align more precisely the camera with the text. If no text is detected, the StellarTrek will simply announce "Nothing was found".

- When the camera is aligned with the text with a satisfying precision, the device will announce: "Stop moving, taking picture". A double beep will be heard, followed by a camera shutter sound, indicating that an image of the text has been captured.
- The StellarTrek will read the detected text. If you wish to hear the text again, press the Voice button.
- You can use the Left and Right arrows to read the text into blocks matching a more specific category of text. For example, if you are reading the label on a food product, you can arrange the text in categories such as Paragraphs, Ingredients or Nutrition Facts, if detected.
- Once you reach the category of text you wish to read, press the *Confirm* button to display
 the text with the selected category. The StellarTrek will announce the first element of the
 chosen category.
- If you wish to read further into the chosen category, use the **Left** and **Right arrows** to navigate through the elements of the category.
- If you wish to change the reading voice, press and hold the *left arrow*.
- Press **Back** once to return to the full text.
- Press the **Back** button again to go back to the initial text scanning menu, and use the Detailed reading feature again.

4.3 Colour Detection

4.3.1 General description

This feature allows you to identify the colour of the objects in your environment. The StellarTrek contains a database that allows, combined with artificial intelligence, to identify a wide range of colours when pointed on an object.

4.3.2 Detect the colour of an object

- Press and hold the up arrow to go to Applications.
- Press the right and left arrows until reaching the option "Colour detection", then press Confirm.
- The StellarTrek will indicate: "Camera ready".
- Press the Confirm key to take a picture.
- A camera focus sound will be heard during the time that the camera focus on the nearest object(s) in the environment, then a shutter sound will be heard when the picture will be taken.
- The StellarTrek will display the number of results and, if more than one colour is identified, will tell the first one. To read the other colours identified, press the right or left arrow. You can always make the device repeat the last information by pressing the Voice key.
- If you want to take other pictures, simply press the Confirm key again and a new picture will be taken.
- If you want to leave the Colour detection mode, press the Back key and you will be returned to Applications.

Notes: to improve the possibility to capture the object that you want to identify the colour, place the camera of your device near the object, at approximately 15 centimeters (6 inches) of your object. Please use the colours results with caution, in particular if you are completely blind, because you cannot be sure if the device captured the object that you wanted or an object nearby. Also, if more than one object is captured and/or if more than one colour is found, they can be mixed or it can be difficult to associate the colour with a specific object. Finally, results may vary depending on the lighting of the room. To improve the quality of the images captured, please make sure that your lighting is sufficient.

4.4 Barcode scanning

4.4.1 General description

Nowadays, all the consumption products contain barcodes. These labels, that are fixed on the product, allows to identify them and gives a lot of information about the product (name, nutrient facts, composition, quantity, etc.). The StellarTrek contains a database that, combined with artificial intelligence, is able to read a lot of these barcodes.

4.4.2 Scan the barcode of a product

- Press and hold the up arrow to go to Applications.
- Use the left and right arrows to circle in the options until you reach the option "Barcode scanning", then press Confirm.
- The StellarTrek will indicate: "Camera ready".
- Place your product at approximately 15 centimeters (6 inches) of the device.
- If the barcode is detected, a camera focus sound will be heard; that sound will be heard repeatedly until the barcode is completely detected.
- If you are not placed correctly to detect a barcode, a message "Searching" will be displayed.
- When a barcode will be detected, a cash register sound will be heard, followed by the product name if this barcode is in the database.
- Press Confirm on the product name to obtain more information about the product: its name, brand, quantity, etc. Use the right and left arrows to navigate between each text block. You can always repeat the previously heard text by pressing the Voice key. If you want to change the voice used to read this text, press and hold the left arrow. Press the Back key to return to the barcode results.
- If more than one barcode is found for the same product, use the right and left arrows to navigate in the list, then press Confirm on the desired product name.
- When a barcode is found but that the information is not in the database, or if the
 information associated is incorrect or simply not to your liking, you will have the
 opportunity to record a custom label. In the barcode results, use the right and left arrows
 until reaching the option "Record label" and press Confirm. You can also press directly
 the Record button to record a new label for this specific search.
- A beep sound will be heard and you will be able to record a 4-seconds message for your barcode. This recorded label will be added to the barcode results for this specific search and will be displayed, along with other results if any, when you will scan again the same barcode in the future.
- To scan another barcode, press the Back key, that will return you to the barcode scanning menu. The StellarTrek will indicate: "Camera ready".

4.4.3 Managing recorded labels

- Press and hold the down arrow to access to the Settings menu.
- With the right and left arrows, go through the options until reaching the option "Personal data", then press Confirm.
- In "Personal Data" submenu, select the option "Labels" and press Confirm.
- You will have three option: "Labels management", "Export labels" and "Import labels".
 Press Confirm on the desired option.
- The option "Labels management" displays the list of recorded labels present on the
 device. By navigating with the down arrow, you will be able to rename the selected label
 with audio, to rename this label with text and to delete this label. Press Confirm on the
 desired option. If you rename your label with audio, after pressing the Confirm key, a

beep will be heard and you will be able to record a new 4-seconds message for this label. If you rename this label with text, you will have to type the name with the keyboard (see section 2.2 "Text entry method" to know more). Finally, if you press the Confirm key on the "Delete label" option, a prompt asking if you really want to delete this label will be heard. Press again on the Confirm key to validate the deletion, or press the Back key to cancel.

- You can also navigate in the list of labels with the right and left arrows to rename other labels, or you can delete all labels, using the option "Delete all labels". A prompt asking if you really want to delete all labels will be displayed. Press the Confirm key to confirm the deletion or the Back key to cancel.
- If you press Confirm on the option "Export labels", a message "Labels exported" will be heard. These labels will be exported in the internal memory of the device and you will be able to copy them on a PC to backup them.
- If you press Confirm on the option "Import labels", labels found on the device that were copied from a PC will be imported. A message "Labels imported" will be heard.
- Finally, to return to Explore, press and hold the Back key.

4.5 Using the Compass

4.5.1 General Description

The StellarTrek is equipped with a compass tool, which works in a very similar way to any regular compass. This tool can be very useful if you wish to identify by yourself the orientation of your surroundings.

To access the compass:

- Press and hold the *Up arrow* to enter Applications.
- Use the **Left** and **Right arrows** to navigate through the menu and choose the item Compass by pressing the **Confirm** button.

Once the compass is activated, you can begin to use it. For the compass to work properly, the StellarTrek must always be held flat, horizontally, with the buttons facing upwards. The StellarTrek will announce your orientation every 15 seconds (i.e. "Heading Southwest", "Heading East", etc.).

You can also ask your orientation while in the compass by pressing the confirm or where am I buttons.

4.5.2 Calibrating the Compass

Upon using the compass for the first time, it is recommended to calibrate it for more optimal results. At any given time, you may also calibrate the compass for a more accurate navigation. The StellarTrek might also warn you when the compass needs calibration.

For the calibration to work properly, the StellarTrek must always be held flat, horizontally, with the buttons facing upwards.

To calibrate the compass:

- Press and hold the **Down arrow** to access the Settings menu.
- In the Settings menu, use the Left and Right arrows to access the item System and press Confirm.
- Use the *left* and *right arrows* to access the item Compass Calibration and press *Confirm*.
- The StellarTrek will announce instructions on how to place the device to optimize the
 calibration. Follow the instructions until the device announces: "Calibration was
 completed successfully". If an instruction was not followed properly, you will be prompted
 to press the Voice button to listen to it again.

5 Settings Menu

The StellarTrek can be customized using the Settings menu.

To open the Settings menu, press and hold the **Down arrow**. Browse the items of the Settings menu with the **Left** and **Right arrows**.

There are 9 items in the Settings menu:

- Pedometer
- Bluetooth
- Wi-Fi
- Personal data
- Voices
- Maps management
- Key Describer
- System
- About

Press **Confirm** to select an option. Press the **Back** button to come back to a previous menu level. Press and hold the **Back** button at any location to exit the Settings menu and go back to Explore mode.

5.1 Settings Items And Submenus List

The available items from the Settings menu, including the item unfolding into submenus, are listed in their respective order below. All the values of each item are also listed. When applicable, the default value of a setting, corresponding to the factory default setting, will be indicated.

Pedometer

Toggle Pedometer Disabled (by default), enabled.

Bluetooth

- Toggle Bluetooth: Enabled (by default), Disabled
- Connected Devices: Displays a list of devices currently connected with the StellarTrek.
- Paired Devices: Displays a list of devices currently paired with the StellarTrek.
- Pair New Device: Displays a list of nearby Bluetooth devices discovered by the StellarTrek.

Wi-Fi

- Toggle Wi-Fi: Enabled (by default), Disabled
- Network Status: Informs which Wi-Fi network you are connected to, if connected.
- Scan Available Networks: Displays a list of nearby Wi-Fi networks discovered by the StellarTrek.
- Display Saved Networks: Saved networks configurations. To connect to a saved Wi-Fi
 network, navigate to it and press Confirm.
- Enter Network Manually: Type the name of the network you are looking for.

Personal data

- Landmarks and routes
 - Landmarks Management: a list of your saved landmarks. When selecting a landmark, press the *up* or *down arrow* to display a list of the different parameters you can modify. You can also delete all your landmarks or landmarks for a given city (see <u>section 3.13.1.4</u> "Delete all landmarks" to know more).
 - Export Landmarks and Routes: export all your saved landmarks to the internal storage of the device.

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- Import Landmarks and Routes: import all landmarks found in the internal storage of your device.
- Labels
 - Labels management: a list of your saved labels. When selecting a label, press the *up* or *down arrow* to display a list of the different parameters you can modify.
 - o Export labels: export all your saved labels to the internal storage of the device.
 - o Import labels: import all labels found in the internal storage of your device.

Voices

- System Voice: Voice currently set, add voice (if there is only one voice on the device)
- Navigation Voice: Voice currently set, add voice (if there is only one voice on the device)
- Reading Voice: Voice currently set, add voice (if there is only one voice on the device)
- Speech Recognition Language: Language currently set, follows default system voice
- Speed: Range from -3 to 10; 0 is the normal speed.
- · Voice Auto-Switch: On (by default), Off
- Manage Voices: Allows you to add a voice to the device (see <u>section 2.1.1 "Adding and managing voices"</u>). Then, once an extra voice was added, selecting this item will allow you to replace it.

Maps Management

Browse a Continent: Africa, Europe, North America, South America, Oceania, Middle East

Key Describer

System

- Device Status
- Feedback and announcements:
 - o Points of interests announcement: Name and direction (by default), Tone, Off
 - Traffic lights verbosity: on (by default), off
 - Shutter sound: On (by default), Vibration
 - o Haptic feedback while navigating: Off (by default), On
- Regional Settings:
 - Distance units: a list of all the distance units available on the device
 - Keyboard layout: Alphabetical, QWERTY, AZERTY
 - Time format: 12 hours, 24 hours
- Software Update
- Compass Calibration
- Data Privacy
 - Send logs: Ask me, Never, Always
 - Send pictures from address confirmation: Always, Never
- Export Logs
- Shutdown timeout: 30 minutes, 1 hour, 2 hours, 4 hours, never (by default)
- Refresh Positioning
- Update GPS Satellite Positions
- Factory Reset

About

- Device name: StellarTrek
- System Version
- Application Version
- Updater Version
- Text-to-Speech Version
- Keyboard Version

- Voices Version
- Maps Version
- Maps currently installed
- Available space on device
- GPS Version
- Serial number

6 Updating the StellarTrek Software

HumanWare may from time to time offer new versions of the StellarTrek software. There are 2 ways to verify if a new update is available on your StellarTrek: manually, or with an automatic update.

To update your StellarTrek, you must first have an active connection to the Internet using the built-in Wi-Fi (see <u>section 2.4 "Wi-Fi"</u> for more information on the Wi-Fi configuration menu). Note that you must connect the StellarTrek to a power outlet with the AC power adapter or the battery of your device must be at least 20% charged for the update to be performed.

6.1 Verify Manually for a StellarTrek Software Update

To check for an update manually:

- Press and hold the **Down arrow** to access the Settings.
- Use the *left* and *right arrows* through the Settings menu to access the item System and press *Confirm*.
- Use the *left* and *right arrows* through the System menu to access the item Software update and press *Confirm*.
- The device will look for updates. If a new software version is available, you will be prompted "An update is available, install now? Press confirm to install, press Back to Remind you later".
- Press **Confirm** if you wish to install the update now.
- The updating process will begin immediately, and the device will announce the progression in percentage throughout. Once the update is completed, the device announces "Update done" and the StellarTrek will reboot.

6.2 Automatic Notifications of a New Update

When connected to the Internet, the StellarTrek will look once a week if a new update is available for download. When an update is available, the StellarTrek will prompt you to download it.

When prompted with a new update, press *Confirm* to install it, or *Back* to remind you later. If you press *Confirm*, the updating process will start immediately.

6.3 Consult the Update Changes

If you wish to know the latest changes and features associated with an upcoming software update, you can do so by consulting the release notes. When prompted with a new update, simply press the **Down arrow**.

The device will announce the title of the update and a brief summary of the new features. Use the **Left** and **Right arrows** if you wish to navigate through the changes.

7 Technical Specifications

StellarTrek Specifications:

- Size: 140.5 x 61.5 x 27mm (5.53 x 2.42 x 1.06 inches)
- Weight with battery: 183g (0.4 lbs)
- Weatherproof 3.5mm stereo Headset jack
- Built-in mono omni-directional microphone
- Built-in 500 mW speaker
- Battery: Lithium-Ion, 3.7V nominal
- Battery recharge time: Up to 3.5 hours with the supplied AC adapter. May be longer with other chargers or PC recharge.
- Power Supply: Switching type AC/DC. Input 100V 240V, 50Hz 60Hz. Output: 5V –2.4A (max) USB socket, 5VDC, 1A
- Operating temperature range: +10 to + 40 degrees Celsius
- Storage and transportation temperature range: -20 to + 60 degrees Celsius
- Operating humidity: 20% to 80% (non-condensing)
- Storage and transportation humidity: 10% to 95% (non-condensing)
- Internal Memory: 32 GB eMMC Flash in combo eMCP chip
- Ram Memory: 4 GB dual-channel high-speed LPDDR4 SDRAM at 1866MHz
- Weatherproof USB-C connector
- Audio Codec: High quality Mono speaker output with up to 20mW per channel for headphones.
- Text-to-Speech: Acapela
- Recording: MP3 16-bit samples at a sampling rate of 44,100Hz with a bit rate of 64, 96, 128, 192 kbps, PCM 16-bit samples at a sampling rate of 44.100Hz
- Cameras: 13MP dual cameras with 74 and 117 degrees diagonal FOV
- Wi-Fi: a/b/g/n/ac SISO Dual Band 2.4/5GHz
- Bluetooth: v5.x, 2.400 to 2.4835GHz, GFSK, π/4-DQPSK (2Mbps) and 8DPSK (3Mbps)
- GPS: Multi Constellation GNSS receiver with access to L1 and L5 bands
- IP Certification: IPX1

Care and maintenance

To keep your StellarTrek clean, we recommend that you wipe the surface of the unit periodically using a soft damp cloth. Squeeze cloth to remove excess moisture. Only use warm water. Do not use any cleaning agents. The product is not intended to be disinfected.

Storage and transportation

The product should not be folded or dismantled in storage or transportation.

The product can be carried as any electronic device in a car or plane. It does not have any specific restrictions.

Additional information

After long exposition to the sun, the surface temperature might increase.

The product has performed immersion and electromagnetic immunity tests and should not cause any interference, or be influenced by any other product.

The product material has a V-0 level rating to ignition.

The product is designed to have a lifetime exceeding 5 years. The Battery is designed to have a lifetime of 3 years.

Service Information

No maintenance, calibration or preventive inspection is needed on the device.

If the user finds the battery autonomy has decreased, the device will have to be sent to a certified HumanWare technician to replace it

Contact HumanWare or your distributor for any repair or malfunction questions. Service shall only be done by HumanWare or its authorized distributor.

Susceptibility to Interference

There may be temporary degradation of the sound when the StellarTrek is subjected to a strong radio-frequency field, electro-static discharge or transient electrical noise.

FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- —Reorient or relocate the receiving antenna.
- —Increase the separation between the equipment and receiver.
- —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- —Consult the dealer or an experienced radio/TV technician for help.

Industry Canada statements

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

Antenna Information:

Model: SRF2W012: 2.4/2.5 - 4.9/5.8 Ghz 30x6x0.15mm

Antenna w/U.FL cable, 150mm

Type: Dromus Dipole

Connector: U.FL - CH0 Only

Peak Gain (dBi): 3.0 (2.4Ghz) / 4.0 (5Ghz)

CAN ICES-3 (B)/NMB-3(B)

<u>Audio Warning</u>
To prevent possible hearing damage, do not listen at high volume levels for long periods. Exercise caution when holding your device near your ear while the loudspeaker is in use.



8 Safety Precautions

Contraindications:

There is no special contraindication for the use of the device.

Warnings:

- Never use household cleaners to clean the StellarTrek.
- Never use cleaning products that contain Ethyl Alcohol, Ethyl Acid, Ammonia, Acetone, or Methyl Chloride.
- Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.
- The StellarTrek system is designed as an orientation aid only and must not, at any time, be used as the only aid while traveling. When using StellarTrek, users should always be vigilant, stay alert and pay attention to the immediate surrounding area. A conventional mobility aid like a white cane or a guide dog should also be used. The StellarTrek is not meant to be used as a solo mobility device, but along other forms of mobility tools as mentioned previously. It is the user's responsibility to use this device with caution.
- Do not use headphones while walking on the street.
- Do not use the StellarTrek as a car GPS.

8.1 Battery Safety Precautions

Battery becomes warm during recharging. Do no recharge battery near a heat source. Battery will not recharge if internal temperature is too high. Only use supplied adapter and cable to charge the StellarTrek. If the battery is discharged for a long period of time there will be a delay of up to a few minutes before the device shows any activity, including charging. Do not submerge the product – there is a risk of overheating, fire or even explosion if the battery is put in a fire, heated, subjected to impact, fully submerge for a long period of time or if the battery terminals are shorted. Do not disassemble or modify the unit. Do not strike, throw or voluntary hit the device. Do not strike the unit with sharp objects or blunt object.

In the event that the battery leaks from the device and gets on your skin, wash with fresh clean and seek medical attention to prevent injuries. If battery leaks and liquids gets in contact with eyes, DO NOT RUB, rinse with clean running water and seek immediate medical attention.

8.2 Disposal Instructions

At the end of this device operational lifetime, its internal components must be disposed in compliance with local authorities.

This device contains no hazardous materials. For disposal, return to HumanWare or follow local governing ordinances or hospital procedure.

9 Cybersecurity

For troubleshooting purposes, application events are collected in a log file. The log file can be transmitted to HumanWare. No personal data will be collected.

Landmarks and routes can be exported to and imported from a personal computer (PC) by the user. See sections 3.13.3 and 3.13.4 for more details.

It is recommended to install antivirus / anti-malware software on your PC if it is used to store map landmarks.

It is recommended to enable the firewall on the your PC if it is used to store map landmarks.

The StellarTrek is a closed device: it is not possible to install other software or applications, nor to apply changes to the security settings.

The StellarTrek operates in kiosk mode: the system cannot have any interactions or activities outside of the execution of the software.

All the software updates will be provided by HumanWare and will be available to install directly on the device. It is important to install updates on the StellarTrek when they are available to ensure an optimal and safe usage of the device. See <u>section 7</u> for more details.

It is possible to save and restore landmarks on the StellarTrek. See section 3.1.2 for more details.

Contact HumanWare (see <u>section 11</u>) to obtain a copy of the SBOM (Software Bill of Materials), for general cybersecurity guidance and consultation, or for recommendation to secure your configuration.

It is possible to perform a reset to factory settings. This will erase all user's settings and restore the application to the version shipped. See section 2.7.1 for instructions.

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For more details, please consult our privacy policy: https://www.humanware.com/en-usa/home/Security and privacy

10 Technologies HumanWare Contact Information

1800, Jean-Berchmans-Michaud street Drummondville, Quebec Canada J2C 7G7

Telephone: 1 (819) 471-4818

Toll-free (Canada & USA): 1 (888) 723-7273

Fax: 1 (819) 471-4828

E-mail: <u>support@humanware.com</u> Website: <u>www.humanware.com</u>

11 Symbols Used On The Label



Medical Device



WEEE DIRECTIVE (2012/19/EU)



Federal Communications Commission (USA)

12 End User License Agreement

By using this product (StellarTrek) you agree to the following minimum terms.

- 1. <u>License Grant</u>. HumanWare grants to End User a non-exclusive, non-transferable right and license to use the Software on this product.
- 2. Ownership of Software. End User acknowledges that HumanWare retain all right, title and interest in and to the original, and any copies, of software which is incorporated into this product. End User agrees not to: modify, port, translate, decompile, disassemble, reverse engineer, or make public in any way the software of this Product.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)

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13 Appendix 1 – Manufacturer Warranty

This device is a high quality product, built and packaged with care. All units and components are guaranteed against any operational defects as follows:

US and Canada: One (1) year

Continental Europe and UK: Two (2) years Australia and New Zealand: One (1) year

Other countries: One (1) year

Warranty covers all parts (except battery) and labor. If any defect should occur, please contact your local distributor or the manufacturer technical assistance line.

Note: Warranty terms may periodically change, please consult our website for the latest information.

"Conditions and Limitations:

No replacement or repair covered by the warranty will be carried out unless the unit is accompanied by a copy of the original bill of purchase. Please retain your original. If the unit has to be returned, please use the original packaging. This warranty applies to all cases where the damage is not a result of improper use, mistreatment, negligence or acts of God.

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