

braille

ALVA 640 Comfort

**User Manual
English**



User Manual

Version 1.0

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Optelec
2993 LT Barendrecht
The Netherlands
Telephone: +31 (0)88 6783 444. Fax +31 (0)88 6783 400
Internet: www.optelec.com

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1. Introduction

Congratulations on choosing the ALVA 640 Comfort. The ALVA 640 Comfort merges classic Braille display access with advanced functionality. The high quality and reliability of the ALVA 640 Comfort gives you optimal flexibility and productivity in an ultra compact design.

Each ALVA 640 Comfort features future proof hardware standards as wireless Bluetooth® connection and USB ports. The ergonomic design with its high quality Braille cells and optimal navigation possibilities allows you to be in full control of your computer, tablet or smart phone. Used in combination with screen reading software the ALVA 640 Comfort can be installed for a wide range of operating systems to provide a tactile and audible user interface.

The ALVA 640 Comfort offers an enhanced ergonomic design that extends the navigation and operation possibilities of the screen reading software. The ergonomics are designed for optimal efficiency when working with a computer, tablet or Smartphone.

The ALVA 640 Comfort was designed to adhere to the Open Standard philosophy using mainstream technology. This enables compatibility with most screen reading software and operating systems. The available and supported functionality of the ALVA 640 Comfort depends on the Braille display options of your screen reader, your mainstream computing hardware and operating system.

Contact your distributor or Optelec for updated information about screen readers that fully support the device.

If you have any questions or suggestions concerning the use of this Braille display, please contact your distributor or Optelec's head office using the contact information at the last page of this manual. Your feedback is highly appreciated. We hope you enjoy working with your ALVA 640 Comfort.

1.1. About this manual

This manual will familiarize you with the features and basic operation of your ALVA 640 Comfort. Please read this manual carefully before using your device. Please note that this manual is about the ALVA 640 Comfort and does not contain information about screen readers, screen reader commands, screen reader installation procedures, screen reader Braille display selection or screen reader key assignments. Refer to your screen reader documentation to find out more on these topics.

1.2. ALVA 640 Comfort package contents

The ALVA 640 Comfort package contains the following:

- The ALVA 640 Comfort
- A pouch
- USB cable
- The ALVA 640 Comfort driver software for Windows 7 and higher and documentation on CD-ROM

If any of these items are missing from your package, please contact your distributor.

2. Getting to know your ALVA 640 Comfort

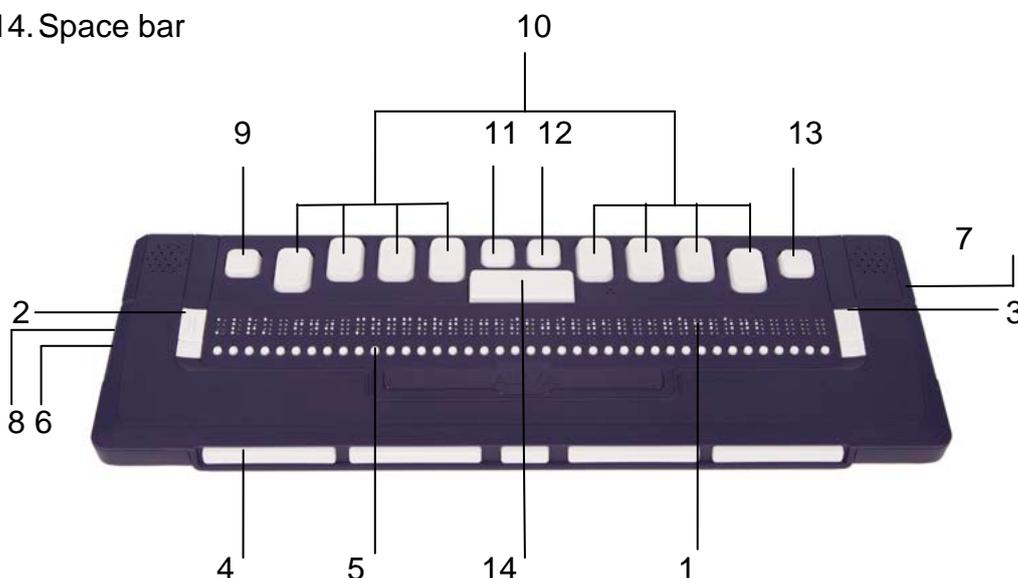
The ALVA 640 Comfort consists of a 40 cell Braille line with advanced navigation possibilities and a Braille keyboard. This chapter will give a detailed overview of the lay-out of the ALVA 640 Comfort.

2.1. The ALVA 640 Comfort lay-out

The ALVA 640 Comfort is placed correctly in front of you when the Braille input keys are located at the back of the flat surface and the thumb keys are facing towards you.

The ALVA 640 Comfort contains:

1. 40-cell Braille display
2. Two eTouch keys (left of the Braille line) for panning left and right or other screen reading functions
3. Two eTouch keys (right of the Braille line) for panning left and right or other screen reading functions
4. Five thumb keys for panning, left, right, up and down and returning to the cursor position
5. 40 Cursor Routing Keys
6. Mini USB connector
7. On/off switch
8. Feature connector
9. The Ctrl key
10. An eight key Braille keyboard (From left to right Braille keys 7, 3, 2, 1, 4, 5, 6, 8)
11. Windows key (to open the Windows Start Menu)
12. Enter key
13. Alt key
14. Space bar



2.1.1. Surface and front panel lay-out

The ALVA 640 Comfort is designed with a row of 40 Braille cells. In front of the Braille cells one row of small buttons can be found, known as Cursor Routing Keys. Each Braille cell has a corresponding Cursor Routing Key that can be used for multiple functions. On the left and right side of the Braille line you will find two groups of two keys. These so-called eTouch keys can be used for Braille panning left and right as well as various other screen reader functions.

2.1.2. Right side lay-out

The power switch is located at the right side of the Braille display. The Braille display is switched on when the rectangular push button is pressed. Switching the Braille display on will generate an audio signal.

2.1.3. Left side lay-out

The left side of the Braille display contains two connectors. From front to back: mini USB connector and a feature connector. The feature connector has no function with the release of this manual.

2.1.4. Front panel keys, eTouch navigation buttons and cursor routing keys

The names of the ALVA 640 Comfort keys listed in this section will be used in all documentation, including your screen reader documentation. This section describes the name of the key(s) and its main function, which is supported by the screen reader. The exact functionality is defined by the screen reader. Please refer to your screen reader documentation for detailed functionality of the ALVA 640 Comfort.

eTouch keys

The two keys on each side of the Braille line are called the eTouch keys. They are used for panning left and right as well as various other Braille functions.

eTouch 1	Top left key marked with two vertical lines
eTouch 2	Bottom left key marked with one horizontal line
eTouch 3	Top right key marked with two vertical lines
eTouch 4	Bottom right key marked with one horizontal line

Cursor Routing Keys

The cursor routing keys correspond to the particular Braille cell immediately above each button. Typically, they are used for routing the cursor or caret to the corresponding Braille cell, generating a left or right mouse click at that point, or for obtaining additional information about the contents of the Braille cell.

Thumb Keys

At the front of the Braille display five front panel keys are placed, the so called thumb keys. Four bigger keys are symmetrically aligned along the front of the ALVA 640 Comfort. One smaller button is located in the middle of the front. Pressing one of the four bigger thumb keys will navigate left, right, up or down. By pressing the middle key you will return to the cursor position

2.1.5. ALVA 640 Comfort Braille keyboard lay-out

The ALVA 640 Comfort is designed with an eight-key Braille keyboard that is located directly behind the 40 cell Braille line. The Braille keyboard consists of eight Braille keys, a space bar, a Ctrl key, a Windows key, an Enter key and an Alt key. The space bar is the long key that is located at the centre of the Braille keyboard. The eight rectangular keys located at the left and right of the space bar are the Braille input keys. The four square keys are the Ctrl key, Windows key, Enter key and Alt key. From left to right the keys are labeled as Ctrl key, Braille key 7, Braille key 3, Braille key 2, Braille key 1, Windows key, Enter key, Braille key 4, Braille key 5, Braille key 6, Braille key 8 and the Alt key.

3. Installation

In this section, a general description of the installation procedure is described for the JAWS, Window-Eyes and Dolphin Supernova screen readers for Windows 7 and higher and the setup and Bluetooth® installation.

The ALVA 640 Comfort is compatible with most modern operating systems, including Windows 7, Windows 8, Linux, Apple OS X, Apple iOS, Google Chrome OS and Android. Please refer to the screen reader documentation for instructions on how to setup and configure the Braille display for your screen reader of choice and operating system.

3.1. Setting up the ALVA 640 Comfort

3.1.1. Setting up the USB connection

The ALVA 640 Comfort does not need any special USB drivers. Windows 7 (or higher and most other operating systems) will automatically detect the ALVA 640 Comfort and install the necessary USB drivers.

1. Attach the USB cable to the ALVA 640 Comfort and computer.
2. A 8GB removable drive will appear on the screen. This drive contains the ALVA 640 Comfort screen reader drivers for JAWS, Window-Eyes and Dolphin Supernova.
3. Switch on the ALVA 640 Comfort. Windows will automatically install the necessary drivers. This process will approximately take 1 minute. Please do not turn off the ALVA or cancel the installation during this process. Generally this does not require any further user input. When the connection is established the ALVA 640 Comfort will issue an audible signal and displays the message "USB connected".

3.2. Installing ALVA 640 Comfort screen reader drivers

Drivers for the majority of the screen readers are included in the products themselves. Therefore, you do not need to install the screen reader drivers from the ALVA 6-series CD-ROM or removable drive within the ALVA. Please refer to your screen reader documentation for more information on the setup of, and selection of a ALVA 640 Comfort and to select and configure the unit in your screen reader.

Only if the drivers on the CD-Rom are newer than the drivers included with the screen reader, we recommend to install the screen reader drivers from the CD-ROM or ALVA internal removable drive:

1. Insert the ALVA 640 Comfort software CD-ROM that came with the package in your computer's disk drive.
2. The program will automatically run if the autostart feature of your CD-ROM drive is enabled.
 - a. If the autostart feature is not enabled, press the Windows key and type d:\setup.exe (assuming d: is the letter assigned to your CD-ROM drive) and press Enter.

- b. Or, locate the ALVA folder on the ALVA 640 Comfort removable drive and run the "Setup.exe".
3. Select "Install screen reader drivers"
4. The setup program will guide you through the installation.
5. The setup program will automatically search your system for installations of JAWS, Window-Eyes and Dolphin screen readers and will install all necessary drivers, manuals and the ALVA BC6 Bluetooth® pairing utility.

3.3. Bluetooth® connection

To create the Bluetooth® connection with your ALVA, the device will need to be paired with the PC using the ALVA Bluetooth Utility included with the ALVA screen reader drivers.

Important:

Please use the ALVA Bluetooth Utility to establish the Bluetooth connection. Do not use the standard Windows Bluetooth pairing control panel applet. The ALVA Bluetooth Utility will register the ALVA with the screenreader.

Pairing the ALVA 640 Comfort using the ALVA BC6 Bluetooth®Utility

1. Launch the ALVA BC6 Bluetooth® Utility located on your desktop or by going to Start, All Programs, ALVA BC6, ALVA BC6 Bluetooth® Utility;
2. Press the Search button.
3. Select the "ALVA BC640 CF" from the list by checking the checkbox;
4. Click on "OK" if you did not changed the default PIN code "0000". Otherwise, please enter your PIN code and click on "OK".

Connecting the Bluetooth ALVA 640 Comfort Braille keyboard:

1. In the ALVA Bluetooth® Utility, select the ALVA BC640 CF you just paired from the list and right click or press shift-F10;
2. Select "Connect keyboard" from the context menu.
3. A new window will open. In this window, select your ALVA (Other device) and right click or press shift-F10;
4. In the context menu, select "Properties";
5. On the "Services" tab, check the checkbox to enable the keyboard service.

Note: This step can be skipped when using JAWS or Dolphin Supernova. JAWS and Supernova support direct Braille input and do not require the Braille keyboard driver to be installed.

Unpairing the ALVA 640 Comfort

1. In the ALVA Bluetooth® Utility, select the ALVA BC640 CF from the list and right click or press shift-F10;

2. Select "Unpair" from the context menu and press enter.

Please note:

- A. *You will have to restart your screen reader to establish the Bluetooth® connection.*
- B. *Most screen readers use the first found ALVA. Therefore, make sure that the ALVA you would like to use is at the top of the list. Use the "Up" button in the ALVA Bluetooth® Utility to move an ALVA up the list.*
- C. *Unchecking the checkbox in the list of paired ALVA's in the ALVA Bluetooth Utility will not unpair the ALVA. By unchecking the checkbox the screen reader will no longer use this particular ALVA and will remove it from the list of available ALVA's for the screen reader.*
- D. *If there are multiple Bluetooth® stacks installed on your system, make sure you select the Bluetooth® stack you would like to use with your ALVA in the ALVA Bluetooth® Utility before proceeding with pairing the unit.*

4. The ALVA 640 Comfort menu

This chapter describes the menus of the ALVA 640 Comfort. Standard there is one so-called Local Menu on the ALVA 640 Comfort.

When the ALVA 640 Comfort is switched on, the following message is displayed:

“ALVA 640 Comfort” followed by the date and time.

This message will automatically disappear when the screen reader is loaded and a successful connection with the ALVA 640 Comfort is established.

4.1. Local Menu

4.1.1. Activating the Local Menu

To enter the local menu press space + M (Braille key 1, 3 and 4) and click with the cursor routing keys on “Settings”.

To exit the Local Menu press eTouch key 1. eTouch key 1 is the top key marked with the 2 vertical lines, located left of the Braille line.

Note: Depending on the used screen reader, you may need to close your screen reader first in order to access the local menu.

4.1.2. Changing settings in the Local Menu

The Local Menu allows you to configure the ALVA 640 Comfort or review information about the current status of the ALVA 640 Comfort.

To navigate in the menu use the following keys:

Local menu	Key Combination
Next menu item	Thumbkey 4
Previous menu item	Thumbkey 2
Select menu item	Thumbkey 3
Next field in menu item	Thumbkey 5
Previous field in menu item	Thumbkey 1
Change value in menu field item	Thumbkey 2 or 4
Confirm and leave field	Thumbkey 3
Exit menu without saving changes	eTouch key 1

To indicate that a menu item is activated, it will be underlined with dot 7 and 8.

The Local menu has the following items:

Battery: 45%, charging

Battery presents the status of the battery and informs you if the battery is charging. In case the USB connection is used, the ALVA 640 Comfort will charge automatically.

Notes

Notes. This menu item activates Notes. The shortcut key to activate Notes is space + N. Please note that depending on the used screen reader, you may need to close your screen reader first in order to be able to open Notes.

Date/Time: 01/01/2014 01:00:00

Date and time. This menu item shows the current date and time. To set the date and time and to change the date and time format, please refer to the set date, set time and date and time format menu options.

Bluetooth®status: connected

Bluetooth® status displays if the ALVA 640 Comfort Bluetooth® is connected or disconnected.

Set Bluetooth®pairable

Set Bluetooth® pairable. Activating this menu item will disconnect the current Bluetooth® connection and make the ALVA 640 Comfort visible to other Bluetooth® devices. Alternatively, switching the ALVA 640 Comfort off and on will disconnect the current Bluetooth® connection and switches the Bluetooth® module into the pairable state too.

Bluetooth: on

Bluetooth® on / off. The ALVA 640 Comfort Bluetooth® module can be switched on or off using this menu item.

Bluetooth®pin: 0000

Bluetooth® PIN. The ALVA 640 Comfort is protected by a Personal Identification Number (PIN) to prevent other people from setting up a wireless connection with your Braille display. This setting allows you to enter your own PIN code. By default the PIN code is set to 0000. This number is required when setting up a wireless connection with your PC or other Bluetooth® device. Use this menu item to change the Bluetooth® PIN.

Bluetooth® name: ALVA BC640 CF

Bluetooth® Name. Specify the Bluetooth® name for the ALVA 640 Comfort. This allows you to uniquely identify the ALVA 640 Comfort in case you are setting up a wireless Bluetooth® connection with your PC or other Bluetooth® device. By default the Bluetooth® name is ALVA BC640 CF. To be able to use your ALVA with Apple and Android devices, please do not change the default name. Apple and Android require the Bluetooth® name to start with ALVA BC640.

Sleep: 30

Sleep. By default the sleep time function is set to 30 minutes. Set a time of 5, 10, 15 or 30 minutes, indicating the time after which the Braille display puts itself into sleep mode if there is no activity. To disable the sleep function, select never. Consequently, the ALVA 640 Comfort consumes virtually no energy when the Braille display is in sleep mode.

Braille configuration

Braille configuration. The Braille configuration submenu contains three menu items: keyboard layout, Braille table and contracted (Grade 2) table. These three items are being used to translate the Braille input on the 8-key Braille keyboard into text for the internal Notes and screen readers or screen reader drivers that do not support Braille input.

Apple Voice Over, Android BrailleBack, JAWS and Dolphin Supernova are examples of screen readers that do support Braille input. Therefore, these screen readers are not influenced by these settings.

It is important to select the same keyboard layout on the ALVA 640 Comfort as in Windows. Your Windows keyboard layout can be found in the *Windows Control Panel / Change keyboards and other input methods*. When a keyboard layout is selected, the ALVA 640 Comfort will attempt to match the Braille table and contracted table if present. If there is no matching Braille table present, no changes will be made. Alternatively, you can manually select a different Braille table or Contracted table. The default Braille table is the NABCC (North American Braille Character Code) and the US English contracted table. The selected Braille table is used in the Local Menu.

Please note that screen readers have their own Braille tables. Therefore, the Braille that is being displayed on the Braille display cannot be controlled by the ALVA 640 Comfort. Selecting a different Braille table for displaying Braille should be done in the screen reader itself.

To enable or disable the contracted (or Grade 2) Braille input, press Space + B1245 (Braille keys 1, 2, 4, 5). The ALVA 640 Comfort will generate a series of beeps to indicate that the contracted Braille is turned on or off. Space + B234 will enable or disable the special character set for languages that require multi-lingual input. When the Arabic Braille input is selected, this key combination will toggle between English and Arabic input.

Note: JAWS and Dolphin Supernova use their build-in Braille translation and ignore the ALVA 640 Comfort Braille translation. Therefore, the space + B1245 command is ignored when using one of these screen readers.

Dot pressure: 5

Dot pressure. Select the Braille reading comfort by setting the dot pressure. If you prefer hard and stiff Braille dots set the value to 5. If you prefer soft and weak Braille dots, set the value to 1. The default setting is 5.

Number status cells: 0

Number status cells. By default the number of status cells is 0. To enable status cells, select a value of 1 to 20 status cells. If the status cells are set to 0, the status cells will be disabled and all 40 Braille cells are used for displaying text and data. Status cells provide useful information about the text on the screen, Windows controls and screen reader mode.

Please note that some screen readers, such as JAWS, ignore this setting. To set the number of status cells in JAWS, please refer to the JAWS help documentation.

Status cells: Left

Status cells. The default position of the status cells is on the left. Select the position of the status cells either on the left or right side on the Braille display.

Please note that some screenreaders, such as JAWS, ignore this setting. To set the number of status cells in JAWS, please refer to the JAWS help documentation.

Split point configuration menu

When split point **is enabled**, the Braille display will be divided into two segments. This enables you to read and interact with two devices simultaneously. For example, the Bluetooth® screen reader output of a mobile phone can be displayed on the first segment of the Braille display while the second segment can be used to read the PC screen reader output via the USB connection. The cell between the two segments will have all 8 dots raised to indicate where the first segment ends and the second segment starts. By default the first segment will display the information send via the Bluetooth® connection. The second segment will display the information send via the USB connection. To be able to use the split point feature, please make sure your screen reader supports this function. To find out if your screen reader supports the ALVA split point functionality, please refer to your screen reader documentation.

Split point configuration menu : Split point active: off

Split point active. The first item in the Split point Configuration menu is the option to enable or disable the split point feature.

Split point configuration menu: Split point: 5

Split point. Adjust the number of cells used for the split point function by selecting the number of cells.

Split point configuration menu: Display layout: BT-USB

Display layout. This option selects which connection is linked to a Braille display segment. By default the Bluetooth® connection is linked to the first segment and the USB connection to the second segment. The display layout can be changed using the quick menu Space+M. In this menu select the "Preferred Interface" and toggle the option by activating it with the cursor routing.

Split point configuration menu: Keys to: left segment

Keys to. When selecting the keys to the left or right segment, the ALVA 640 Comfort keys will be directed to the selected segment and connection. The display layout can be changed using the quick menu Space+M. In this menu select the "Preferred Interface" and toggle the option by activating it with the cursor routing.

Repeat keys: on

Repeat keys. The repeat function of the thumb keys can be enabled or disabled. When holding down a thumb key with the repeat function switched on, the thumb keys will start repeating after half a second. This enables you to quickly scroll the display by keeping the thumb key pressed.

2nd cursor routing row: on

2nd cursor routing row. The ALVA 640 Comfort is equipped with one row of cursor routing keys. However, by keeping the cursor routing key pressed the ALVA 640 Comfort is able to emulate a second row of cursor routing keys. This will give you the possibility to perform a left and a right mouse click with one row of cursor routing keys. When enabled, the ALVA 640 Comfort will differentiate between a short and a long cursor routing key press. A short press will be treated as a press of a key of the first row of cursor routing keys, while a long press will be seen as a press of a key of the second row of cursor routing keys. The length of a "long press" can be set by adjusting the delay time. The default time is half a second. The assignment of the first and second row of cursor key actions depends on the used screen reader. Refer to your screen reader documentation for the assignment of the first and second cursor routing key actions.

2nd cursor routing delay: 500 ms

2nd cursor routing delay. The length of the delay before the second cursor routing key is activated can be set by adjusting the delay time. By default the delay is set to 500 ms or half a second.

Sounds: off

Sounds can be switched on or off. When switched on, a short beep is being generated on each key press. If you prefer no sounds to be generated, select “off”. For each group of keys the beeps can be switched on or off individually.

Cursor routing sound: on

Cursor routing sound can be switched on or off. When switched on, a short beep is generated on each cursor routing key press. If you prefer no sounds to be generated when a cursor routing key is pressed, select off.

eTouch key sound: on

eTouch key sound can be switched on or off. When switched on, a short beep is generated on each eTouch key press. If you prefer no sounds to be generated when an eTouch key is pressed, select off.

Thumb key sound: on

Thumb key sound can be switched on or off. When switched on, a short beep is generated on each thumb key press. If you prefer no sounds to be generated when a thumb key is pressed, select off.

Set time: 01:01:00

Set time. This setting allows you to adjust the time of the internal clock of the ALVA.

Set date: 01:01:2014

Set date. This setting allows you to adjust the date.

Date format: dd-mm-yyyy

Date format. This setting allows you to set the date format. By default this is set to day / month / year. The date can be displayed in the formats dd-mm-yyyy, yyyy-mm-dd and mm-dd-yyyy.

Date separator: /

Date separator. This setting allows you to set the date separator. By default the “/” symbol is used. The date separator can be changed in a “/”, “.”, “.” or “-”.

Time format: 24 hours

Time format. This setting allows you to set the time format. The default is the 24 hour format. The time can be displayed in either the 24 hours or 12 hours format.

Time separator: :

Time separator. This setting allows you to set the time separator. The default is the “:” symbol. The time separator can be changed in “.” or “:”.

Language: **English**

Language. Select the language for the Local Menu.

Preferred interface: Bluetooth®

Select the preferred interface; Bluetooth® or USB. If the ALVA 640 Comfort is connected to two mainstream devices using its Bluetooth® and USB connection, the device will only “communicate” with the preferred interface. By default the preferred interface is Bluetooth®. The USB connection will be ignored.

ALVA System drive: on

ALVA System drive. When the ALVA System drive is on, the internal drive is visible and accessible by Windows. When turned off, the drive is no longer accessible by Windows resulting in the drive not popping up when switching on the ALVA 640 Comfort.

BT MAC: xxxx:xx:xxxxxx

BT MAC refers to the ALVA 640 Comfort Bluetooth® MAC address. A Bluetooth® MAC address uniquely identifies a Bluetooth® device.

Firmware: #.#.# BT: #.##.#

Firmware version shows the version of the built in ALVA 640 Comfort software and the software version for the Bluetooth® module.

Hardware: 98

Hardware version shows the version of the ALVA 640 Comfort hardware revision.

Restore factory settings

Restore factory settings allows you to restore the factory settings. If you select this option the ALVA 640 Comfort factory defaults will be restored. Alternatively, the ALVA 640 Comfort factory defaults can be restored by deleting the SETTINGS.A6 file from the internal ALVA_BC6 drive. To delete the SETTINGS.A6 file:

- Connect your ALVA 640 Comfort to the USB port of your PC using the supplied USB cable
- The ALVA_BC6 driver will automatically appear
- Locate and open the system folder
- Locate the SETTINGS.A6 file
- Delete the file

To format the internal drive and restore all settings, press thumb key 1 and 5 while switching on the unit. Please be aware that this will delete all Notes files as well as the contracted Braille tables. After formatting the internal drive, the contracted Braille tables will need to be installed again. Without these tables, contracted Braille will be disabled. To install the Braille tables again, run the ALVA setup.

Note: The system folder is a hidden folder. To see hidden folders, you have to enable "show hidden files and folders" in Windows Explorer.

Test mode

Test mode. Use the test submenu if you have the impression that certain keys or Braille cells are not responding properly. The ALVA 640 Comfort has two built-in tests: a Braille cell test and a key test. When activating the key test, pressing a particular key provides a unique dot pattern on the array of Braille cells. The Braille cell test will cycle all dots continuously.

4.2. The Bluetooth® Menu

Use the quick menu Space+M to access the Bluetooth® menu. Open the Bluetooth® menu by activating it with the cursor routing. To exit the Bluetooth® Menu, press eTouch key 1.

BT: Braille keyboard

Bluetooth® Menu. The Bluetooth® Menu shows the status of the various Bluetooth® connections. If a connection is activated, dot 7 and 8 will be raised to indicate the connected state. Clicking on a connection with the cursor routing keys will connect or disconnect the particular Bluetooth® connection.

5. Power Sources

There are two ways to power the ALVA 640 Comfort:

- Using the USB power;
- Using the internal battery.

In the subsequent sections, you will find more information about each power option.

5.1. USB power

If you connect your ALVA 640 Comfort directly to a PC using the USB connection, the PC will provide power to the Braille display through the USB cable. The USB connection provides sufficient power to charge the unit's internal battery and to operate the ALVA 640 Comfort.

5.2. Internal battery

The ALVA 640 Comfort runs on an internal battery if no USB connection is used. The ALVA 640 Comfort will approximately run up to 12 hours on a fully charged battery.

6. Using the Braille keyboard

This chapter provides an overview of the Braille key combinations that emulate keyboard function keys. There are two types of function keys; chord commands to emulate keyboard function keys and prefix chord commands to emulate function key combinations.

6.1. Chord commands

Chord commands are Braille key commands that are combined with the space bar. These chord commands are used to emulate keyboard function keys such as Home, End, Backspace, Delete and Escape. Please note that these commands can only be used with screen readers that do not support direct Braille input. JAWS, Dolphin Supernova, Voice Over and BrailleBack have their own Braille commands for these functions. Please refer to the screen reader documentation for the list of Braille commands for these functions.

Overview of chord commands:

Chord command	Keyboard key
Backspace	Space + b12
Escape	Space + b15
Delete	Space + b45
Page up	Space + b13
Page down	Space + b46
Home	Space + b123
End	Space + b456
Tab	Space + b56
Shift-Tab	Space + b23
Shift-Space	Space + b7
Arrow up	Space + b1
Arrow down	Space + b4
Arrow left	Space + b3
Arrow right	Space + b6
Word left	Space + b2
Word right	Space + b5
Shift-Arrow up	Space + b17
Shift-arrow down	Space + b47
Shift-Arrow left	Space + b37
Shift-Arrow right	Space + b67
Shift-Page down	Space + b467
Shift-Page up	Space + b137
Shift-Home	Space + b1237
Shift-End	Space + b4567
Shift-Delete	Space + b457
Shift-Escape	Space + b157

6.2 Prefix chord commands

There are four prefix chord commands to emulate the function keys F1 to F12 (Space + b124 for activating F, followed by the number 1 to 12), Insert (Space + b24), Caps Lock (Space + b14) and Num Lock (Space + b136) combinations.

To press one of the function keys F1 to F12, press Space + b124 (Space + F) followed by a character. The function key number is represented by the characters "a" to "l" while the character "a" represents F1 and "l" represents F12. To press F1 using the Braille keyboard, first type space + b124 followed by the character "a" (Braille key 1). Press the Space + b124 combination once again to exit this function.

Similarly, the Insert, Caps Lock and Num Lock can be typed by pressing Space + b24 for Insert, Space + b14 for Caps Lock and Space + b136 for Num Lock. To type an Insert + J command, press Space + b24 followed by a "j" (Braille keys 2, 4, 5). Typing the Insert, Num Lock or Caps Lock command twice will switch the status of this command on or off, depending on its current status.

6.3 Contracted Braille on/off

The chord + g command or Space + b1245 will turn contracted Braille (Grade 2) on or off. The contracted Braille table can be set in the *Local Menu/ Braille configuration/ Contracted Braille table*.

Before you can use contracted Braille input make sure the contracted Braille tables are installed. To install the contracted Braille tables:

1. Connect your ALVA 640 Comfort to the pc via USB and switch it on;
2. Start the ALVA 640 Comfort installation by locating the Setup on the CD or on the internal ALVA BC6 USB drive;
3. Select the button "Install contracted Braille Tables" and wait until the setup is completed.

Note:

JAWS, Dolphin Supernova, Voice Over and BrailleBack use their own Braille contraction.

6.4. Special characters on/off

Space + b234 toggles special character input on / off. This option is being used for Arabic Braille input. Toggling this special characters on / off makes it possible to enter Arabic Braille and insert an English word or phrase without having to switch to another Braille table.

7. Notes

The Notes application enables you to write and save notes on the internal memory of the ALVA 640 Comfort. Notes contains a few elementary text adding and editing functions such as copy, cut, paste and a block function.

No PC connection is required to use Notes. The ALVA 640 Comfort Braille keyboard has to be used to enter Notes. It is not possible to enter text in Notes via the PC keyboard.

Text entered in Notes will be saved in text format. To correctly translate the Braille input to text format make sure the correct Braille table is selected in the Local Menu, Braille Configuration. If you enter text in contracted Braille, the file will be saved in contracted Braille. To translate the file to text format, save the file using the menu option "Contracted to text" under the Notes Braille menu.

Notes is capable of reading text files created in Windows Notepad or Word that are saved as a "txt file". Files can be copied from and to the ALVA 640 Comfort System drive with the Windows Explorer. Make sure that the files are copied to the Notes folder on the ALVA BC6 System drive.

7.1 Starting Notes

To start the Notes application:

Press Space + b1345 to start Notes. Alternatively, open the Local Menu to start Notes.

In all two situations Notes will open a new file. To be able to activate Notes, you may have to close your screen reader.

7.2 Using Notes

This paragraph will describe the different options of Notes in more detail.

7.2.1 Editing text

Use the following chord commands to edit text.

Chord command	Keyboard Key
Backspace	Space + b12
Delete	Space + b45

7.2.2 Navigating in Notes

Please use the following commands to navigate in the text:

Chord command	Keyboard Key
Previous character	Space + b3
Next character	Space + b6
Previous line	Space + b1
Next line	Space + b4
Previous word	Space + b2
Next word	Space + b5

The cursor routing keys can also be used to move the cursor and navigate through the text.

7.2.3 Defining a block

Please follow the procedure below to define a text block:

1. Place the cursor at the beginning of the defined block;
2. Press Ctrl+J to mark the beginning of the block;
3. Move the cursor to the end of the block;
4. Press Ctrl+K to mark the end of the block.

The defined block can be copied or cut and pasted elsewhere in the text. The shortcut keys commands for cut, copy and paste are, Ctrl+X, Ctrl+C and Ctrl+V. The commands can also be found in the Notes menu.

7.2.4 Reading in Notes

The following commands have been defined for reading text in Notes:

Command	ALVA 640 Comfort Key
Scroll left	Thumb key 1 or eTouch 1
Line up	Thumb key 2 or eTouch 2 or space + b1
Back to cursor	Thumb key 3
Line down	Thumb key 4 or eTouch 4 or space + b4
Scroll right	Thumb key 5 or eTouch 3

7.3 The Notes Menu

The Notes menu can be activated by pressing the Alt key. Click on the cursor routing key to activate a menu item. To exit the menu, click on the Alt key once again. Notes menu options can be activated with shortcut key commands. Please refer to paragraph 7.4 for a list of short key combinations.

7.3.1 Notes main menu

To enter the main menu, press the Alt key. The Notes main menu consists of the following submenus:

- File
- Edit
- Braille
- Help

Press the Alt key once again to exit the main menu.

7.3.1.1 File menu

To enter the File menu, click on File in the main menu, using the cursor routing keys. The File menu contains the following options:

- New
- Open
- Save
- Save As
- Delete
- Exit

New Note

To create a new note, click on New in the File menu. If the current note contains unsaved text, Notes will ask you to save the changes.

Open a Note

To open an existing note, click on Open in the File menu, using the cursor routing keys. A list containing existing notes will display..

Save a Note

To save a note, click on Save in the File menu. If the note does not have a name yet, you will be prompted to enter a new name.

Save As

Clicking on Save As will prompt you to name your current note. If the name already exists you will be asked to overwrite the existing file. Clicking on “No” will prompt you to enter a different file name.

Delete a note

Clicking on Delete will prompt you to select the file to be deleted. You will need to confirm to delete the selected file by clicking on "Yes".

Exit Notes

Clicking on Exit will close Notes. If the current note has not been saved, you will be prompted to save the file. Clicking "Yes" will require that you enter a file name. Clicking "No" will close Notes without saving the file.

7.3.1.2 Edit menu

The Edit menu contains the following options:

- Cut
- Copy
- Paste
- Find
- Find next

Cut

By clicking "cut", the selected block or character will be cut. The selected block or character may be pasted elsewhere in the text. The shortcut key command for "cut" is Ctrl+X.

Copy

By clicking "copy", the selected block or character will be copied. The selected block or character may then be pasted elsewhere in the text. The shortcut key command for "copy" is Ctrl+C.

Paste

To paste a "cut" or "copied" block, click "paste". You can also use the shortcut key command Ctrl+V.

Find

To find a word or phrase in a text, click on find and enter the text to be searched for. To start the search press Enter.

Find Next

Find Next will continue the search for the same text string entered in Find.

7.3.1.3 Braille

If you enter text in contracted Braille, the file will be saved in contracted Braille. To translate the file to text format, save the file using the menu option "Contracted to text" under the Notes Braille menu.

7.3.1.4 Help

The Help menu displays the about screen. Press Space+b15 to exit this screen.

7.4 Notes Shortcut Key Combinations

Below you will find an overview of the most frequently used shortcut key combinations:

Command	Keyboard Key
Previous line	Space + b1
Previous word	Space + b2
Previous character	Space + b3
Next line	Space + b4
Next word	Space + b5
Next character	Space + b6
Backspace	Space + b12
Delete	Space + b45
Escape	Space + b15
Copy	Space + b14
Mark start of block	Space + b245
Mark end of block	Space + b13
New note	Ctrl + b1345
Open note	Ctrl + b135
Save note	Ctrl + b234
Paste	Ctrl + b1236
Open / Close Notes Menu	Alt

Appendix: Safety and regulatory notices

This equipment has been developed and tested in order to comply with the following regulations:



and



for a Class B digital device, pursuant to part 15 rules.

These limits are designed to provide reasonable protection against harmful interference in a residual 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 of the following measures:

- Re-orient 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 distributor or an experienced radio/TV technician for help.

Medical electrical equipment needs special precautions regarding EMC (Electro Magnetic Compatibility) and needs to be installed and put into service according to the EMC guidelines.

WARNING: The use of accessories, transducers and cables other than those specified and sold by the manufacturer of the ALVA 640 Comfort as replacement parts for components, may result in increased emissions or decreased immunity of the ALVA 640 Comfort.

By design the ALVA will shut down in case of an ESD 8KV test pulse. The ALVA 640 Comfort will need to be switched on again to resume.

CE Caution:

- The input and output parts need to be connected properly;
- The unit is for exclusive interconnection with IEC/EN 60XXX certified equipment outside of the user environment and IEC/EN 60601-1 certified equipment within the user environment.
- This device complies with EN 60601-1-2. To minimize the interference from other equipment, a minimum 0.5 m distance shall be kept from other potential electromagnetic sources, such as a Mobile Phone.
- Equipment connected to the analog or digital interfaces must comply with the respective IEC/EN standards (e.g. IEC/EN 60950-1 for data processing equipment and IEC/EN 60601-1 for medical equipment).
- Do not open the housing.
- Only qualified service personnel should service the unit.
- All possible configurations shall comply with the current version of the standard for SYSTEMS IEC/EN 60601-1-1 directive.
- When connecting additional equipment to the signal input part or signal output part of the device, be aware a medical system is being configured. Therefore, the person who configures and interconnects the system is

responsible for the whole system and needs to make sure it complies with the current version of the requirements of the system standard IEC/EN 60601-1-1. In case there is any doubt about the system compliance with the current version of the requirements of the system standard IEC/EN 60601-1-1, consult the technical service department or your local representative.

FCC:

FCC Notice:

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.

FCC Caution:

To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC RF Radiation Exposure Statement:

This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure compliance requirements, avoid direct contact to the transmitting antenna during transmitting. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

Explanation Of Graphical Symbols:



This symbol warns user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.



Stand-by



Direct Current

Safety Logo:



This device complies with the 93/42/EEC, EN60601-1, EN60601-2 of related European standards.

Disposing of your old product:

-If you see this symbol-

Information on Disposal for other Countries outside the European Union.



This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Classification:

- No protection against the ingress of water: IPX0
- Mode of operation: Continuous Operation
- The equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide: Not AP or APG Category:

Environmental conditions

Environment	Operating Temperature: +0	°C ~ +40°C
Conditions	Storage/Transportation Temperature: -20	°C ~ +60°C
	Operation Relative Humidity: 20% ~80% Non-Condensing	
	Storage/Transportation Relative Humidity: 10% ~95% Non-Condensing	
	Atmospheric pressure: 500~1060 hPa	

Warranty conditions

Optelec warrants the ALVA 640 Comfort, effective from the date of delivery, to be free of any defects in material and workmanship.

Warranty is not transferable. The ALVA 640 Comfort and BC680 has been designed for the individual purchaser to be used in home and office environments. Optelec reserves the right to repair or replace any purchased ALVA 640 Comfort and BC680 with a similar or better product.

In no event shall Optelec or its distributors be liable for indirect or consequential damages. The original user’s remedies are limited to replacement of ALVA 640 Comfort modules. This warranty is valid only when serviced in the country of original purchase and with intact seals. For additional warranty claims or service during or after warranty period, please refer to your distributor.

Optelec takes no responsibility for use of this device other than described in this manual.

Optelec offices worldwide

Optelec U.S. Ltd

3030 Enterprise Court, Suite C
Vista, CA 92081
U.S.A.

T. +1 (800) 826-4200

www.optelec.com

Optelec Canada

1832, Boulevard Marie-Victorin
Longueuil, QC J4G 1Y9
Canada

T : +1 (800) 665-3005

www.optelec.ca

Optelec Limited

2, Millfield House, Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YX
United Kingdom

T: +44 (0)1923 23 13 13

www.optelec.co.uk

Optelec Nederland BV

Breslau 4
2993 LT Barendrecht
The Netherlands

T: +31 (0)88 6783 555

www.optelec.nl

Optelec NV

Baron Ruzettelaan 29
B-8310 Bruges
Belgium

T: +32 (0)50 35 7555

www.optelec.be

Optelec GmbH

Fritzlarer Strasse 25
34613 Schwalmstadt
Germany

T: +49 (0)6691 96170

www.optelec.de

Optelec Corporate Headquarters: Breslau 4 - 2993 LT Barendrecht – The Netherlands – T: +31 (0)88 678 3444 – www.optelec.com



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