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1 Setting up your Braille Voyager

Braille Voyager 44

Congratulations on your Braille Voyager 44!

1.1 System Description and Requirements

Your Braille Voyager 44 is designed to work as a USB plug & play device with any laptop or PC with Windows '98, Windows ME, Windows 2000 or Windows XP.

The system requirements are:

- a Pentium processor or better,
- a free USB port, or a self powered USB hub.

For the installation of your Braille Voyager 44 you will need a CD ROM drive with the auto run CD option enabled. If you have the auto run CD option disabled press the Windows keys + R and type <CD-ROM>\setup.exe, e.g., d:\setup.

1.2 What's in the Box

Your Braille Voyager 44 box contains:

A custom designed backpack with two separate compartments:

- the larger compartment contains your Braille Voyager 44 and a USB cable,
 - the smaller compartment contains the installation CD.
1. The Braille Voyager 44 is placed correctly in front of you when you can read the label and the indent in the housing is furthest away from you. This indent serves as a means of carrying as well as a protective area for the USB cable.
 2. The Braille Voyager 44 is equipped with a cover that protects the Braille cells and the keys. This cover is connected to the unit by two hinges on both sides of the unit. The cover can be opened up and folded behind the Braille line to support a keyboard or laptop. A fingerhole on the front of the unit identifies where to open the unit.
 - To use with keyboard just open up the cover 180 degrees.
 - To use with laptop lift up the cover a bit, then pick up the cover and place it behind the Braille Voyager 44, while keeping the rubber strip on the cover facing upwards.
 3. There are rubber strips on top of the Braille Voyager 44 as well as on top of the cover to prevent slipping of a laptop or keyboard when it is placed on top.
 4. The Braille Voyager 44 consists of 44 cells, with 44 touch cursor keys, 4 screenreader navigation keys, 1 Windows navigation key, 6 screenreader function keys and 2 Windows function keys.

The 44 touch cursor keys are situated right behind the Braille cells. When you move your finger above the Braille cell you will feel a ridge that leads you to a dot. When you press this dot you will activate the touch cursor key. Although dependent on the screenreader this usually performs a mouse click.

- The 4 screenreader navigation keys are situated on the front of the unit under an angle of 75 degrees, to avoid accidental activation of the keys. These keys can most easily be operated with your thumbs. These keys are therefore called thumbkeys. Pressing a screenreader navigation key will navigate left, right, up or down according to the settings of the screenreader, the mode the screenreader is set at and your own personal settings.
- The Windows navigation key is situated in the middle on front of the unit, under an angle of 75 degrees (to avoid accidental activation of the key). This key can best be operated with your thumb and is thus called the middle thumbkey. By pressing the right side of the key (feel the indent) you will perform a Tab. By pressing the left side of the key (feel the other indent) you will perform a Shift-Tab. If you want more navigation options, you can also use this key to perform arrow up and arrow down by pressing the ridge up and the ridge down. Of course you can make your own settings in the Braille Voyager Control (see Chapter 3).
- The 6 screenreader function keys are situated on top of the Braille Voyager 44 in an ergonomic eyebrow shape. The keys can be pressed as Braille keys to create an enormous amount of easy to remember screenreader commands. They are called Braille keys 1,2,3,4,5 and 6.
- The 2 windows function keys are placed next to the 6 screenreader function keys as Braille key 7 and 8. These keys perform the Windows function of Ctrl and Alt. (Note: these keys are only meant to make simple commands; they are not ergonomically fit (position and size) to be used as Braille input keys!)

1.3 Set up Instructions Braille Voyager 44

Follow these instructions before you install your Braille Voyager 44!

1. Make sure your screenreader is installed.
2. Close your screenreader.
3. Take your Braille Voyager 44, USB cable and Installation CD out the backpack.
4. Place the Braille Voyager 44 in front of you so you can read the Tieman label.
5. Plug your USB cable into the back of your Braille Voyager 44.
Use the small connector and keep the symbol placed up (you can feel the USB symbol).
6. Open your Braille Voyager 44 by using the finger opening on the front of the unit.
7. After lifting up the cover a bit, you can pick up the cover and place it behind the unit, while keeping the rubber strip on the cover facing upwards.
8. Route the USB cable thus that it goes to the back through the finger opening.
9. Place your laptop/keyboard on top of your Braille Voyager 44.
10. Put the installation CD into your laptop/PC.
The installation CD will tell you when to plug the USB cable into your laptop or PC.

2 Installation of Braille Voyager Software

2.1 Introduction

This chapter tells you how to install the Braille Voyager software and the screenreader drivers. Before starting with the software installation make sure you read Chapter 1 (Setting up your Braille Voyager) and the Software License Agreement.

After you have inserted the Braille Voyager CD into your CD-ROM drive the setup program will guide you through the installation. All the setup screens will be shown in Braille on your Braille Voyager and will have speech support in English, German, French or Dutch. The setup will automatically search your system for the Braille Voyager, install all necessary Windows drivers, the Braille Voyager Control, and if found the drivers for JAWS for Windows and Dolphin SAM. Drivers for Window-Eyes and Virgo NT are included in the products themselves and are not shipped on the Braille Voyager CD. If the Braille Voyager Setup finds Virgo NT on your system, it will automatically set the Braille Voyager as the default Braille display. In the next paragraphs you will find detailed instructions on how to configure the screenreaders and how to install the Braille Voyager drivers.

You have the choice between two setup types: a typical and a custom setup. We recommend using the typical setup. The typical setup will automatically install and update all the needed components. If you would like to install the Braille Voyager software manually you can choose the custom setup option. This option is for advanced users only. The custom setup will ask you what components you would like to install. For each component chosen you will need to provide the correct installation location.

2.2 Installing the Braille Voyager for Dolphin SAM

To use the Braille Voyager with the Dolphin products Hal or Supernova, you need to install the Braille Voyager SAM driver. To install the SAM driver on your system insert the Braille Voyager CD in your CD-ROM drive and follow the on screen instructions. At the "select setup method" screen, select the typical setup. The setup program will automatically configure your system and install the SAM driver for the Braille Voyager.

3 The Braille Voyager Control

3.1 What is Braille Voyager Control

Braille Voyager Control is a program that interacts as an interface between your screenreader and the Braille Voyager. With Braille Voyager Control you can configure the various Braille Voyager options, like sound feedback when pressing a Braille key, touch cursor key, or thumb key, adjusting the dot pressure, or changing the amount of status cells. All these options are set irrespectively of the used screenreader. When you start your screenreader, Braille Voyager Control will be activated. You can verify if Braille Voyager Control has been activated by looking for the appearance of the Braille Voyager Control icon in the systray.

3.2 Configuring the Braille Voyager with Braille Voyager Control

To activate the Braille Voyager Control configuration screen press the Braille keys 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 or right click the Braille Voyager Control icon in the systray and select <configure> from the popup menu. The Braille keys are the 8 round keys on top of the Braille Voyager placed in an eyebrow shape. They are counted from left to right 7, 3, 2, 1, 4, 5, 6, 8. To activate the Braille Voyager Control configuration screen you have to press all the Braille keys.

3.3 Property sheets

The Braille Voyager Control configuration screen contains 8 property sheets. For each Braille Voyager option there is a separate property sheet. You can switch to the next property sheet by pressing <Control + Tab>. To switch to the previous property sheet press <Shift + Control + Tab>.

The 8 property sheets are:

- Status cells
- Dot pressure
- Navigation key
- Sticky keys
- Sounds
- Key repeat
- Braille Voyager+
- Advanced

3.3.1 Status Cells Property Sheet

When you activate the Braille Voyager Control configuration dialog by pressing Braille key 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 you are placed in the first property sheet "status cells." In this property sheet you can adjust the number of status cells, turn them on and off, and select if you would like to have the status cells on the left or on the right side of your Braille Voyager. The maximum number of status cells is 10. By default there are no status cells set.

3.3.2 Dot Pressure Property Sheet

In the second property sheet you can adjust the dot pressure. The dot pressure is the degree of hardness and force of the Braille dots. Lowering the dot pressure will decrease the power consumption and sound level of the Braille Voyager. By default the dot pressure is set to 65%.

3.3.3 Navigation Key Property Sheet

The Windows navigation key is placed on the front of the unit in the middle under an angle of 75 degrees (to avoid accidental hitting). This key can best be operated with your thumb. By pressing the right side of the key (feel the indent) you will perform a Tab (default). By pressing the left side of the key (feel the other indent) you will perform a Shift-Tab (default). You can also use this key to perform arrow up and arrow down by pressing the ridge up and the ridge down (default).

The “Nav. Key” property sheet gives you the option of changing the action performed by the Windows navigation key. There are 4 options:

Option	1
Right	Tab
Left	Shift+Tab
Up	Arrow up
Down	Arrow down
Left+Right	Windows key

Option	2
Right	Arrow Right
Left	Arrow Left
Up	Arrow Up
Down	Arrow Down
Left+Right	Windows key

Option	3
Right	Tab
Left	Shift+Tab
Up	Alt+Tab
Down	Control+Tab
Left+Right	Enter

Option	4
Right	Braille scroll right
Left	Braille scroll left
Up	Braille scroll up
Down	Braille scroll down
Left+Right	

3.3.4 Sticky Keys Property Sheet

The sticky keys feature is useful for people who have difficulty pressing more than one Braille key at the same time. It enables you to press the keys one after the other. To signal the end of your Braille key command press the last key twice. The order in which you press the Braille keys is not important.

For example instead of pressing Braille key 1, 2, 3, 4, 5, 6, 7 and 8 simultaneously to activate the Braille Voyager Control configuration screen, you can press Braille key 1, then Braille key 2, then Braille key 3, then Braille key 4, then Braille key 5, then Braille key 6, Braille key 7, Braille key 8 and Braille key 8 again.

3.3.5 Sounds Property Sheet

In the “sounds” property sheet a beep can be assigned to the different groups of the Braille Voyager keys. When enabled a key press will generate a short beep. Sound feedback can be assigned to the Braille keys, touch cursor keys, and the thumb keys.

3.3.6 Key Repeat Property Sheet

In the “key repeat” property sheet the repeat delay and repeat speed of the Braille Voyager keys are set. The repeat delay is the amount of time that elapses before the key starts to repeat when you hold down a key. The repeat speed is the speed with which the key repeats when you hold down the key. Both are set in milliseconds.

3.3.7 Braille Voyager+ settings Property Sheet

The “Braille Voyager+ settings” property sheet contains options to enable or disable the support for the Braille Voyager+. When enabled you can select automatic or manual. If automatic is selected all serial ports on your computer will be scanned for a connected Braille Voyager. When set to manual you have to select to which serial port your Braille Voyager is connected. The serial support for the Braille Voyager+ is set to automatic and enabled by default.

3.3.8 Advanced Property Sheet

The “advanced” property sheet contains options for the experienced user. Here you will find the advanced configuration options, options for trouble shooting, and the options for special applications, etc. This property sheet is meant for the advanced user only.

3.3.9 Teaching Mode

When teaching mode is enabled up to 10 Braille Voyagers can be used simultaneously. The first Braille Voyager connected will be the teacher Braille Voyager. The other Braille Voyagers are working as student displays. The Braille output will be sent to all connected Braille Voyagers. However, only the buttons on the teacher Braille Voyager are operational. This mode is ideal for training and classroom situations as well as for communication purposes with people who are deaf-blind. The select teacher display combo box gives you the option of selecting another Braille Voyager as the teacher display.

3.3.10 Restoring Defaults

The “restore defaults” button will restore all settings to the default position including the Tieman Express Macro files.

3.3.11 Launch Tieman Express

The “Launch Tieman Express” button will launch the macro editor “Tieman Express.” The special Windows navigation and function option of the Braille Voyager are predefined Braille macros. These macros can be changed or removed via the Tieman Express macro editor. For a detailed description see the Tieman Express help.

3.3.12 Braille Table Selection

Braille Voyager Control has the option to select a different Braille table to be used by special applications, e.g., telephone systems. This Braille table selection does not change the Braille table used by your screenreader. For changing the Braille table of your screenreader refer to the screenreader documentation.

4 Default key assignments for Dolphin Hal and Supernova version 5.x

The following lists show the default keys to press for each Braille operation.

In the following list, T1 to T4 refer to the four thumb keys on the front of the Braille Voyager, B1 to B8 refer to the Braille keys one to eight on top of the unit, and Nav left, Nav right, Nav up, and Nav down refer to the Windows Navigation Key. The Windows navigation key is the four-way key in the middle on front of the unit.

4.1 *Physical button layout*

Top B7 (CTL) B3 B2 B1 B4 B5 B6 B8 (ALT)

Front T1 T2 NAV T3 T4

Action = key press

Open Control Panel = B1 + B2 + B3 + B4 + B5 + B6

Speak Keys Where am I? = B2 + B4

Speak Keys Status = B3 + B4

Braille Back = T1

Braille Forward = T4

Braille Line up = T2

Braille Line up (Virtual Focus) = T2

Virtual Focus Move Physical Up = T1 + T2

Braille Line down = T3

Braille Line down (Virtual Focus) = T3

Virtual Focus Move Physical Down = T3 + T4

Braille Go To Focus = T2 + T3

Braille Line Start = B3

Braille Line End = B6

Braille Top = B1 + B2 + B3

Braille Bottom = B4 + B5 + B6

Braille Cell Left = B1 + B2 + B6

Braille Cell Right = B3 + B4 + B5

Braille Physical/Logical Mode = B1

Virtual Focus Physical on off = B1

Braille Literary Braille on off = B1 + B2 + B4 + B5

Braille Cycle Attributes = B1 + B2 + B3 + B5 + B6

Braille Describe Character on off = B1 + B4

Braille On Off = B3 + B6

Braille Hooks on off = B1 + B2 + B5

Braille Monitor on off = B1 + B3 + B4

Braille Tracking on off = B1 + B2

Braille Cursor on off = B5

Braille Eight Dot Six Dot = B2 + B3 + B6
Braille Cursor Style = B1 + B3 + B4 + B5 + B6
Braille Tremble Capitals on off = B2 + B4 + B5 + B6
Braille Enhance on off = B4 + B5
Braille Input on off = T1 + T4
Braille Layout on off = B1 + B4 + B5 + B6
Braille Expand Gaps on off = B2
Simulate Key Press Up = T2 + B4
Virtual Focus Previous Line = T2 + B4
Simulate Key Press Down = T3 + B4
Virtual Focus Next Line = T3 + B4
Simulate Key Press Enter = B1 + B5
Virtual Focus Interact with control = B1 + B5
Braille Document Read Forward = T4 + B4
Braille Document Read Forward (Virtual Focus) = T4 + B4
Braille Document Read Back = T1 + B4
Braille Document Read Back (Virtual Focus) = T1 + B4
Braille Routing Button Action = B1 + B3
Braille Routing Button Action in VF = B1 + B3
Braille Second Routing Button Action = B4 + B6
Braille Second Routing Button Action in VF = B4 + B6
Simulate Key Press Tab = B5 + B6
Virtual Focus Next Object = B5 + B6
Simulate Key Press Shift Tab = B2 + B3
Virtual Focus Previous Object = B2 + B3
Simulate Key Press Escape = B2 + B5
Simulate Key Press Windows = B2 + B3 + B4
INPUTSPACE = T3

Note:

Braille key 4 used in combination with a thumbkey is a "sticky key". This key will stay pressed until the sticky key is turned off, thus enabling you to press combinations of a thumbkey plus Braille key 4 without keeping Braille key 4 pressed. Braille key 4 plus the thumbkey combinations are defined to work as a Braille document read. If Braille key 4 is pressed, pressing the thumbkeys will scroll the document.

4.2 Braille Voyager Proprietary Key Assignment:

Shift + Tab = Nav left

Tab = Nav right

Arrow up = Nav up

Arrow down = Nav down

Windows Key = Nav left + Nav right

Enter = B8 + Braille " (Quote: B5 in U.S. Braille)

Backspace = B8 + ` (Grave Accent: B4 in U.S. Braille)

Control key = B7

Alt key = B8

Alt + Tab = B8 + Braille , (Comma: B6 in U.S. Braille)

Control + Tab = B7 + ' (Apostrophe: B3 in U.S. Braille)

Control + letter = B7 + Braille letter

Alt + letter = B8 + Braille letter

Alt + Control + letter = B7 + B8 + Braille letter

Control + function key = B7 + Braille number

Alt + function key = B8 + Braille number

Alt + Control + function key = B7 + B8 + Braille number

Note:

The Control and Alt key (B7 and B8) can be used in combination with Braille letters to execute a shortcut key. For example to select your text in Microsoft Word you can use the shortcut key control + A. To execute this shortcut from the Braille Voyager press the Braille keys B7 (Control key) + B1 (Braille A). All Alt, Control, and Alt + Control plus numbers are defined as function keys F1 to F10. For example to execute an Alt+F4 from the Braille Voyager you need to press Braille key 8 for Alt and the combination to form the number 4 (in U.S. Braille B2 + B5 + B6 and in German Braille B1 + B4 + B5 + B6).

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