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ตัวอย่างเอกสารที่ใช้สร้างคลังข้อมูลภาษา

BrailleConnect 24/32/40

User Manual

Version 2

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1. Introduction: BrailleConnect 24/32/40

Congratulations on the purchase of your new mobile braille display, the BrailleConnect. This display will provide you with unparalleled functionality, flexibility and portability. BrailleConnect is an ideal Braille display and Braille keyboard for mobile devices, such as notebooks, mobile phones and PDAs. BrailleConnect supports all common screenreaders, such as VIRGO, Blindows, JAWS, Mobile Speak, Mobile Speak Pocket, Talks etc.

BrailleConnect is a new Braille display available with 24, 32 or 40 braille cells. It provides cursor routing keys for each braille cell, six navigation keys and an eight dot braille keyboard, as well as a joystick and four function keys.

BrailleConnect connects to your mobile device via a USB or wireless Bluetooth interface. Leave your mobile device in your pocket and access its full functionality using BrailleConnect's function keys and joystick.

BrailleConnect's outstanding battery life of approximately 30 hours using Bluetooth or approximatley 100 hours using USB allows for total freedom and mobility.

The universal power supply and battery charger that comes with BrailleConnect will fully charge the device in less than 2.5 hours. Alternatively, you can charge BrailleConnect via a USB connection.

Its highly durable casing is made from light metal. Such materials are found in modern camera bodies and are already used in the BrailleNote PK. They allow for the construction of equipment that is stylish, stable and robust.

BrailleConnect marks a milestone in the development of mobile equipment for blind users. Its most outstanding feature is its combination of up-to-date technology with a tried-and-tested simple design.

2. About this manual

Chapter Three contains a description of the device, its power supply and instructions for switching it on and off.

Chapter Four contains information about the operation of the device and the system Menu settings.

Chapter Five describes the installation process and gives instructions on how to connect BrailleConnect to various devices.

Chapter Six contains tips and suggestions for troubleshooting minor problems.

Chapter Seven contains technical specifications for the BrailleConnect.

Chapter Eight contains listings of commands specific to various screen readers. The screen reader determines which functions are assigned to the Braille keys, and thus how BrailleConnect works with these applications.

Chapter Nine contains our contact information. Feel free to call us with questions and suggestions.

We hope you enjoy working with your new BrailleConnect display.

HumanWare

3. Description of the device

3.1 Keys and Buttons

At the rear left side of the case, you will find a round socket for the five volt DC power supply. When charging the device, ensure that only the power supply that is provided with BrailleConnect is used.

To the right of the power supply socket, also on the left side of the device, there is a Mini USB socket. It is a small square socket which can be used with standard MINI USB plugs. Recall that BrailleConnect can be charged via a USB connection.

The convex power button is located just to the right of the USB socket, on the left side of the BrailleConnect. To turn the device on or off, press and hold down this button for approximately three seconds. BrailleConnect will beep when it is switched on or off.

On the front of the display are the Braille cells. Depending on the model you have purchased, there are either 24, 32 or 40 Braille cells. Above each Braille cell there is a cursor routing key.

To the left and the right of the Braille line are six small round keys, known as Display keys. On the left they are numbered D1 to D3 from top to bottom, and on the right D4 to D6 from top to bottom (which corresponds to the numbering of the Braille dots) and can be pressed individually or in combinations.

The functionality of the keys depends on what screenreader you are using (VIRGO, Blindows, JAWS, Talks, Mobile Speak etc.)

On the front edge there are more buttons. On both the left and right front edge, there are two round function keys. From left to right, they are F1 and F2 on the left and F3 and F4 on the right.

In the middle of the front edge is the joystick which can be moved in four directions (up, down, left and right). It can also be pressed down.

To the left and right of the joystick there are two more keys, B9 and B0. B9 and B0 often function as space bars when using the braille keyboard.

The functions of the buttons vary according to the screen reader used.

Above the braille cells you will find the eight dot braille keyboard. The keys are ergonomically located, so that your fingers will rest in a comfortable position on dots one to eight (refered to as b1 through b8).

Bluetooth is a wireless connection, so no port is needed. The antenna is integrated into the device.

Please fully charge your braille display before the first use. A full charge will take about 2.5 hours.

3.2 Power on/off and Reset

The power button is located on the left side of the BrailleConnect. It is a small, convex button to the right of the Power and USB sockets.

Holding the power button down for approximately 3 seconds will turn the device on and off.

A beep will announce that it is switched on (or off).

After holding the power button down for approximately ten seconds, the device will reset.

If the device is not used (no communication with the PC and no keyboard input) the device will turn off after the “auto-power-off” period expires. This auto-power-off period will reset any time data is received from the PC or user input occurs.

If the device is turned on, and the USB port is being used but the cable has been disconnected or the PC is turned off, the device will also turn off after the auto-power-off period expires.

If the device is turned off and the USB cable is plugged in, the device will ? wake up.“ If the battery is low and charging by USB is enabled, charging will start automatically.

Connecting the AC adapter to the device will also wake up the device and “Charging…” will be displayed.

3.3 AC adapter and battery

BrailleConnect has a built-in rechargeable Lithium Ion battery. Please charge the device with the power supply that comes with it. You can also charge the battery via a USB connection.

Thanks to our unique battery management technology, BrailleConnect can operate continuously for 30 hours using Bluetooth or for 100 hours using USB.

To charge the battery, insert the adapter’s small plug into the socket on the left side of BrailleConnect and then plug the adapter into an electrical outlet. Please use only the SUPPLIED AC adapter.

BrailleConnect beeps when charging. While charging, the braille display shows “charging” and “charge done” when the battery is fully charged.

After about 2.5 hours, BrailleConnect is fully charged. You can use BrailleConnect while it is charging. You can check the battery status using the system menu.

If your BrailleConnect is operating via USB, you can also charge the batteries using the USB cable, so you do not need to connect the power supply and your battery will always stay fully charged. If you are using a notebook with a very short battery life, you can disable this function in the system menu, in order to conserve some of the notebook’s battery power. BrailleConnect will then use its own battery until this battery is almost drained. Then the USB charge function will be switched on temporarily.

This guarantees that you will be able to use the Braille display as long as the notebook will run.

We recommend that you fully charge the battery before using BrailleConnect.

BrailleConnects battery management includes a battery protection circuit that prevents it from being damaged as a result of total discharge. If the battery is low, BrailleConnect will warn you by beeping (if sounds are on in the system menu) before it will switch off automatically. If you are unable to charge the battery, the device will automatically turn off within a few minutes.

Please do not try to replace the battery yourself. This will likely damage the device and the warranty will be voided. If the battery is functioning incorrectly, contact your local dealer or HumanWare.

4. The BrailleConnect System Menu

As soon as BrailleConnect is switched on, the first lines of the System Menu appear on the braille display. This menu contains information relating to the braille display. This information includes device name, serial number, battery status etc. If necessary, the settings can be changed using the advanced System Menu. The settings that can be changed include interfaces, protocols, sounds and auto power off timer.

Usually you will not pay much attention to the System Menu, as it disappears as soon as data is transferred from your mobile device to the braille display.

The basic System Menu consists of six lines giving the name of the device, status, its serial number, battery status and Bluetooth name.

It may also be necessary to modify special settings or values, using the Advanced System Menu that can be accessed directly with its own key combination.

The lines in the System Menu can be accessed upwards with D1 (top left), and downwards with D3 (bottom left). Whenever the System Menu is activated, the first line will be displayed. Items can be selected in the Advanced System Menu by pressing one of the cursor routing keys above the display. The active or selected item is indicated with braille dots 7 and 8.

The lines of the System Menu are described below.

To exit the Advanced Menu, navigate to the “Menu off” option and press a cursor routing key over the word “off”; this is done automatically as soon as data has been exchanged between the PC and the Braille display.

All settings are automatically saved when quitting the System Menu and remain active until next modified.

After you leave the System Menu, you may want to return to it. This can be accomplished by turning the device off and on again or by double clicking the power button.

4.1 The Basic System Menu.

NB: If reading this document as an RTF file on the PC, the BlackBrl.ttf font must be installed from the accompanying installation CD so that the braille version of the menu can be viewed, otherwise only cryptic symbols will appear. As each line is also written in text, this is not strictly necessary.

First line: name of the braille display

This is the first entry in the System Menu. It displays the name of the braille display. Depending on the model:

BrailleConnect 40

BrailleConnect 32

BrailleConnect 24

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Second line: Status

This line shows battery status (charging percentage), active communication channel, protocol and version number of firmware.

Stat: bb% ccc pppp Vxxx

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bb	=	charging percentage.
ccc	=	active communication channel (USB or Bluetooth)
ppp	=	protocol
Vxx	=	Firmware-Version

Third line: serial number

This shows the serial number of the braille display

SN: xxxxxxxx

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Fourth line: Battery status

This line shows the current charging percentage of the built-in battery, followed by ?OK“ or ?LOW“ if the battery is almost drained and charging is strongly recommended. The BrailleConnect can be used while charging the battery.

Battery Status: xxx% OK.

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Fifth line: Bluetooth name

This line shows the Bluetooth name that is used to identify BrailleConnect on mobile devices.

Bluetooth Name: xxxxxxxx.

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NB: The Bluetooth PIN is ?1234“

Sixth line: Quit Menu

Press one of the routing buttons above the word “off” to quit the menu

Menu off

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4.2 The Advanced System Menu

The additional options in the Advanced System Menu allow you to optimize the settings of your braille display. You can change the power off timer settings, sound, interface and protocol, or restore the factory settings.

All settings are saved as soon as you quit the System Menu.

All current and selected settings are indicated by Braille dots 7 and 8 underneath the relevant value. To select a setting, simply press one of the cursor routing keys above the relevant value.

Open the Advanced System Menu by first pressing both outer cursor routing keys and then both upper display keys (on BrailleConnect 40 P1, P40, D1, D4). Hold all four keys for at least five seconds or until the device beeps.

The menu will open at the first entry “HumanWare BrailleConnect 40”; use D1 and D3 to browse through the menu options.

The first four lines in the advanced menu are identical to the basic menu (device name, status, serial number, battery status).

Fifth line: Protocol

This option is not available in the first firmware version.

If you want to use the BrailleConnect with screenreaders where no driver is available, you can setup BrailleConnect to use different protocols (emulations). The default is the ?HumanWare“ protocol which should be used for VIRGO, Blindows, JAWS and all other screenreaders, where a driver for BrailleConnect is available.

The following text is displayed:

prot: HumanWare ht pb1 pb2

"HumanWare" is marked with dots 7 and 8.

You can select a protocol by pressing a cursor routing key above its name. Then this protocol will be marked with dots 7,8.

Abbreviation "ht" stands for Handy-Tech and "pb" stands for Powerbraille.

The difference between pb1 and pb2 is how the keystrokes are handled. Pb2 allows for the use of all key combinations that can be assigned by a screenreader, whereas this assignment is limited in pb1.

Only use one of these protocols when there is no driver for BrailleConnect available. Otherwise, use the HumanWare protocol and the appropriate driver.

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Sixth line: Communication channel

This line determines if BrailleConnect communicates via USB or wireless Bluetooth.

Communication Channel: usb bluetooth

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Seventh line: Auto power off

In this line, you can decide whether the BrailleConnect should automatically switch off after a certain period of inactivity. Inactivity means no data is transferred and no key is pressed. (APO Time = Auto Power Off Time)

Auto Power Off Time on off

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Select ON or OFF by pressing a cursor routing key above the word.

Eighth line: Auto Power off time

Set the length of time after which the Braille display will power off automatically, if no data is transferred and no keys are pressed. Press the cursor routing key above the appropriate value. This line is only visible if Auto Power Off is switched on in the line above.

Auto Power Off Time: 5min 15min 1h 2h

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Ninth line : USB charge on/off

Using this setting, charging the batteries via USB can be switched on or off.

USB Charge: on off

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Tenth line: Vibration

On an incoming call, or alarm, BrailleConnect can vibrate. Switch this feature on or off by pressing a cursor routing key above the word “on” or “off.”

Vibration: on off

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Eleventh Line: Sound

Use this setting to enable or disable the sounds produced by BrailleConnect.

Sound: on off

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Twelfth line: Bluetooth name

Using this setting, you can change the name BrailleConnect uses to make itself visible to other devices. The default name is your serial number.

Bluetooth Name: xxxxxxxxx

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Change the name by pressing a cursor routing key above the digit you want to change. The values you can modify are preceded by a colon and are marked with dots 7 and 8. Under the value selected, dots 7 and 8 will blink. Use D4 (forward) or D6 (backward) to change the numerical value of the selected digit. Go to the next value with D5 and back with D2 or press the cursor routing key above the value you wish to modify. Once you have changed all the necessary values, save the new name with D1.

NB: The Bluetooth PIN is “1234.”

Thirteenth line: Restore factory settings.

This option allows the Braille display settings to be restored to their defaults at the time of delivery. Click on one of the routing keys above the word “RESTORE.”

Restore Factory Settings

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Factory Settings are:

- Communication channel : USB
- Protocol : HUMANWARE
- Auto-power-off : After 15 Minutes
- USB Charge : ON
- Sound : ON
- Bluetooth Name : “BrailleConnect(xxxxxxxx)”,

with xxxxxxxx as the serial number

- Bluetooth Pincode : “1234”
- Bluetooth class : “Display”
- Eleventh line : Quit menu and save settings

Press one of the routing keys above the word “off.” When quitting the menu all changes will be saved automatically and the braille display will resume its normal operating mode.

Menu off

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4.3 Self-Test

The Self-test function can only be accessed from the Advanced System Menu.

In the System Menu, press the first two and the last two cursor routing keys on the braille display (BrailleConnect 40: P1 P2 P39 P40) simultaneously to launch self-test. The dots of each braille cell will be activated one after the other and then cleared; the names of all keys you press will also be displayed. As soon as data have been transferred to the braille display, the Self-Test will end and the display will return to normal.

Once the Self-test has been launched, dot B1 then B2, B3, B7, B4, B5, B6, B8 etc. will be set on each cell until all 8 dots are set. They will then be cleared one by one until all are cleared. This process is then repeated.

Press and hold the keys as follows:

D1 to set dots B2B5 in the first cell

D2 to set dots B3B6 in the first cell

D3 to set dots B7B8 in the first cell

D4 to set dots B2B5 in the last cell

D5 to set dots B3B6 in the last cell

D6 to set dots B7B8 in the last cell

Pressing a cursor routing key will set B1B4 in the braille cell underneath.

B-keys, F-Keys and Joystick generate a beam shaped pattern, allowing you to check all keys.

4.4 Firmware Updates

In order to take advantage of future changes and enhancements to BrailleConnect, you can easily update the Braille display's software. All you need to do is connect the braille display to the PC (preferably via USB) and the update program will bring the display up to date. This program is designed so that the braille display can still be used during the update process, and a new update can be attempted should the first attempt to update fail.

During a software update the braille display beeps every second and a status bar is displayed.

You can download all updates, as well as the installation program, from the HumanWare homepage: www.HumanWare.com.

5. Installation and Interface Ports

BrailleConnect communicates via its built in wireless Bluetooth interface with mobile phones (running the Symbian Operating System) that are compatible with TALKS or Mobile Speak. It can also be used as a braille display and keyboard for PDAs running Windows CE and the screenreaders Mobile Speak Pocket or Pocket HAL (under development). In addition, BrailleConnect is also supported by PC screenreaders like VIRGO, Blindows and JAWS. We recommend Windows XP Service Pack 2 for Bluetooth connections. You can also use a USB connection to interface with a notebook or PC, which will allow you to charge the batteries via USB.

5.1.1 USB Port

Operating system:

- Windows 2000/XP

The commonly-used USB port, now present on every PC and notebook, has almost completely superseded the serial port. The main advantages of USB are its plug-and-play capability and its speed. USB devices may be plugged into, and unplugged from, active devices without damaging either unit. However, a screenreader may not necessarily continue to drive a braille display, without having to be restarted.

Plug the rectangular USB Connector into your PC. Plug the small Mini USB Plug at the other end of the USB cable into BrailleConnect's USB port. This is the small rectangular socket on the left side between the Power socket and the Power switch.

When the braille display is connected to the PC, the new hardware will be recognized immediately and the PC will search for a driver. Insert the driver CD and allow the PC to locate the new driver. The driver will then be installed automatically - follow any instructions as appropriate. The driver installation dialog will appear once again - let the PC search for and automatically load the appropriate driver a second time.

NB:

Installation of both drivers is absolutely essential so that BrailleConnect can interface with the PC via the USB port. One of the drivers installs the correct USB access (the virtual COM-port), and the other installs the braille display.

During installation you may receive a warning that the driver is not certified by Microsoft, proceed with the installation anyway.

When BrailleConnect has been connected to the USB port and the driver installed from the CD supplied, the braille display will be contacted as though connected to a serial port; the driver is simulating a so-called virtual serial port. This has the advantage that BrailleConnect can be used with screenreaders that can only support serial braille displays.

By installing this driver, one USB port on the computer will be regarded as a serial port, e.g. as COM3. To ascertain which virtual COM-port has been created, go to the Start menu on the PC, select Settings > Control Panel > System; on the 'Hardware' tab, select 'Device manager' and look through the list of ports.

USB ports are not compatible with all operating systems. Windows XP is recommended.

Windows 2000, ME and 98 support USB, but DOS, Windows 3.11, 95 and NT are not supported.

5.1.2 Bluetooth Interface

Bluetooth is a wireless connection. Similar to USB, Bluetooth simulates a virtual Com port.

The wireless technology, in combination with BrailleConnect's long battery life, allows for total freedom and independence from wires within the range of a Bluetooth connection.

Bluetooth is now a common interface for mobile phones, PDAs and notebook PCs. PCs can be upgraded with Bluetooth using a so-called Bluetooth USB dongle that installs automatically on Windows XP Service Pack 2 when plugged in.

When two Bluetooth devices are connected for the first time, they have to be ?paired.“ This is for security reasons. The devices exchange a PIN code. Later, the devices will recognize each other automatically, if permitted by the user.

On the list of Bluetooth devices on your PC, you will find BrailleConnect listed as:

BrailleConnect (xxxxxxx) where xxxxxxxx is the serial number.

The Bluetooth PIN that must be sent to the BrailleConnect is ??1234.“

The Bluetooth device class is ?Display.“

The devices are identified by different serial numbers, so you can use as many as you like within the same room.

5.2 BrailleConnect with mobile phones

BrailleConnect functions as a braille display and a braille keyboard for Symbian mobile phones running TALKS or Mobile Speak.

5.2.1 TALKS

Symbian Series 60 mobile phones with TALKS version 2.x or 3.x, which can support a braille display, can use the TBI driver (TALKS Braille Interface).

A list of supported phones can be found at the TALKS website:

www.nuance.com/talks

The latest version of TBI can be downloaded from

www.HumanWare.com.

This file also includes the TBI installation documentation.

5.2.2 Mobile Speak

Symbian Series 60 mobile phones with Mobile Speak can be used with BrailleConnect. The driver comes with Mobile Speak.

A list of supported phones can be found at the Mobile Speak website:

www.codefactory.es

Please read the Mobile Speak manual to find out how to use Mobile Speak with BrailleConnect.

5.3 BrailleConnect with PDAs

BrailleConnect functions as a braille display and keyboard for PDAs running Windows CE. Variants like Pocket PC 2003 or Windows Mobile are also supported. Available screen readers are Mobile Speak Pocket and Pocket HAL (under development).

5.3.1 Mobile Speak Pocket

PDAs with Mobile Speak Pocket support BrailleConnect. The driver comes with the latest version of Mobile Speak Pocket. Be sure to install the appropriate driver for your PDA and HUMANWARE braille devices.

A list of supported PDAs can be found at the Mobile Speak website:

www.codefactory.es

Mobile Speak Pocket can be purchased from HUMANWARE directly.

www.HumanWare.com

Please read the Mobile Speak Pocket manual to find out how to use Mobile Speak Pocket with BrailleConnect.

5.3.2 Pocket HAL

PDAs running Pocket HAL support BrailleConnect (available soon). The driver comes with the latest version of Pocket HAL.

A list of supported PDAs can be found at the Dolphin Pocket HAL website:

www.yourdolphin.com

Please read the Pocket HAL manual to find out how to use Pocket HAL with BrailleConnect.

5.4 Connecting to a PC or notebook

BrailleConnect can be used as a braille display and a keyboard with popular PC screenreaders like VIRGO, Blindows and JAWS etc. The PC or notebook must provide either USB or a wireless Bluetooth interface either built in or using a USB Bluetooth dongle. We recommend Windows XP Service Pack 2 as this automatically detects and installs Bluetooth hardware.

How to find out which virtual serial port is provided by a Bluetooth or USB interface:

Open Control Panel (Start/settings/Control Panel)

Select “System” from the list

Select the tab “Hardware”

On this tab, click on “Device Manager”

In the Device Manager’s treeview, open the branch “Ports (Com and LPT)”

Search for something similar to “standard serial over Bluetooth port (Com 13).” There may be several listings.

Note the number after the “COM.”

This number is the number of the virtual com port in which the device is connected. The screen reader must know which port is being used.

Some screenreaders do not support higher numbers of Com Ports. In that case you may want to change the port number. Do this by selecting the Port (Com and LPT)” branch in the Device Manager treeview as described above and right click on the port you wish to change (Shift F10 will do the same). The context menu opens and you can click on “Properties.” Then click on the tab “Port Settings” and click on the “advanced” button. In the Window that appears, there is a List Box “Com Port Number” where you can choose a free port number. Numbers not available will be marked.

5.4.1 VIRGO

The latest Versions of Virgo provides you with the necessary drivers to operate the braille display and keyboard.

Open the Virgo menu, select Braille/Braille display (or braille options/braille display) and then select 'BrailleConnect'. From the dropdown list headed "Connection:" select the serial port in current usage (Bluetooth will be referred to as a virtual serial port)

Find the latest information about VIRGO at: www.virgo4.de

5.4.2 Blindows

The latest Version of Blindows supports BrailleConnect. However, braille input is not supported by Blindows. Make sure BrailleConnect is set up for the HumanWare protocol.

Find the latest information on Blindows at:

www.audiodata.de

5.4.3 JAWS

There is a JAWS driver on the BrailleConnect installation CD. The latest version can be downloaded from

www.HumanWare.com.

This driver supports both the braille display and braille keyboard. Installation instructions are included in the driver package.

5.4.4 Window -Eyes

Version 6.1 of Window-Eyes provides you with the necessary drivers to operate the braille display and keyboard.

www.gwmicro.com

5.4.5 Other Screen Readers

When using a screen reader that does not support BrailleConnect and for which HumanWare does not provide a driver, you can set up BrailleConnect to use a different protocol. Thus BrailleConnect can emulate a Handy-Tech or PowerBraille display and your screenreader will treat it as such. You can choose Handy-Tech, Power

Braille 1 or Power Braille 2. For the serial port, select the port BrailleConnect is connected to, with USB and Bluetooth being treated as virtual serial ports.

6. Help and Problem Solving

Minor issues can occur that visibly affect the performance of a braille display. A few suggestions are described below.

1. The braille display shows no characters.

Check that the device is switched on.

Has a program been launched which is accessing the braille display's port?

Was the correct port selected when the screenreader was loaded?

2. After switching BrailleConnect on, there is no response from the display either when the System Menu is called up or a computer application is launched.

The battery might be drained; charge the device and try again.

If BrailleConnect does not respond, turn off the unit and wait 2 minutes before you switch it on again. If the System Menu is still not displayed or the pins blink quickly, please contact the Service Department.

4. BrailleConnect is switched on and the display suddenly stops reacting.

Ii is possible that you have not used the display for some time and the auto-power-off time limit has been exceeded. Turn it on again and move the cursor to update the display.

7. Technical Specifications

BrailleConnect

Mobile 24, 32 or 40-cell braille display with braille input keyboard for universal connection to mobile phones running Symbian and TALKS or Mobile Speak, PDAs running Windows CE and Mobile Speak Pocket or Pocket HAL (available soon) or notebooks running Windows XP Service Pack 2 and screen readers, such as JAWS, Window - Eyes or VIRGO.

Dimensions:

BrailleConnect 24: 215 x 86 x 18 mm / 8.46” x 3.36” x 0.70” (WxDxH)
BrailleConnect 32: 259 x 86 x 18 mm / 10.19” x 3.36” x 0.70” (WxDxH)
BrailleConnect 40: 310 x 86 x 18 mm / 12.20” x 3.36” x 0.70” (WxDxH)

Weight:

BrailleConnect 24: 420 g / 0.926 lbs
BrailleConnect 32: 500 g / 1.102 lbs
BrailleConnect 40: 600 g / 1.323. lbs

Function Keys:

Three keys on both the left and right of the braille display, two function keys on both left and right side on front, eight braille input keys, two ergonomically positioned space buttons, one joystick, and one cursor routing key above each braille cell.

Ports: USB and Bluetooth wireless connection

Supported Screen Readers:

TALKS, Mobile Speak, Mobile Speak Pocket, Pocket HAL, VIRGO, Blindows, JAWS, Window-Eyes.

Power Supply:

Built in rechargeable Lithium Ion battery

Battery Life:

Approx. 30 hours Bluetooth, 100 hours USB.

Charge Time:

2.5 hours using charger that comes with the device. (Can also be charged via USB).

Declaration of conformity / compliance

CE – see appendix.

8. Key Assignments

Standard assignments for commands and screen navigation, depending on the screenreader program.

8.1.1 Virgo 4

D1	=	Previous element, or upwards
D2	=	Braille display scroll left
D3	=	Next element, or downwards
D4	=	Upwards in hierarchy
D5	=	Braille display scroll right
D6	=	Downwards in the hierarchy
D1D3D6	=	Display attribute with dots 7, 8 on/off
D3D5D6	=	Cursor with all dots set/underlined
D2D3D6	=	Switch between 6/8-dot Braille
D2D5	=	Speech on/off
D1D4	=	Go to top of foreground window
D3D6	=	Go to bottom of foreground window
D1D3D4D6	=	Read out current foreground window
D1D2D3	=	Continuous reading
D4D5	=	Shift navigation to mouse pointer
D5D6	=	Shift navigation to focus
D1D2	=	Cursor up
D2D3	=	Cursor down
D1D3	=	Shift-Tab

D4D6 = Tab key
D1D2D3D5 = Return
D3D4 = Simulate Alt+F4
D1D3D4 = Minimize all windows
D2D3D4 = Launch Start menu
D1D2D3D4D5 = Quick menu on/off
D1D2D3D6 = Switch Virgo menu on/off
D1D2D4 = Update Virgo files
D1D2D5 = Window-specific Help
D2D3D5 = Display "Program Wizard"
D2D5D6 = De-activate "Screen Wizard"
D1D6 = Navigation to Bookmark No. 1
D1D2D6 = Navigation to Bookmark No. 2
D1D4D6 = Navigation to Bookmark No. 3
D1D4D5D6 = Navigation to Bookmark No. 4
D1D5D6 = Navigation to Bookmark No. 5
D1D2D4D6 = Navigation to Bookmark No. 6
D1D2D4D5D6 = Navigation to Bookmark No. 7
D1D2D5D6 = Navigation to Bookmark No. 8
D2D4D6 = Navigation to Bookmark No. 9

8.2 Other Protocols

When switching to another display protocol, the key assignments are coordinated with the currently simulated display type or screenreader.

8.2.1 Handy-Tech (HT)

In the Handy-Tech emulation the keys are assigned as follows:

D1 = HT-key up
D2 = HT-key B1
D3 = HT-key down
D4 = HT-key B2
D5 = HT-key B3
D6 = HT-key B4

8.2.2 Power Braille (PB)

In the PowerBraille emulation the keys are assigned as follows:

D2	=	Left PB-key
D5	=	Right PB-key
D1	=	left rocker up
D3	=	left rocker down
D4	=	right rocker up
D6	=	right rocker down
D2D6	=	convex PB-key
D3D5	=	concave PB-key

9. Contact Information

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