

BRAILLE HANSONE 2 USER MANUAL

ENGLISH Ver 1.0

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NOTIFICATION

Thank you for your purchasing Braille HANSONE.

Please check the following items when you open your package.

- 1) Braille Hansone.
- 2) DC adaptor
- 3) Serial cable
- 4) USB cable
- 5) Carrying bag
- 6) User manual
- 7) Braille user manual (Short cut key table)
- 8) Active sync CD-ROM

1. The input voltage of DC adaptor is 100V and the output is DC 6V / 2A.
2. The battery is not full charged. Before you use this unit, please charge up to 100 percent level.
3. If this unit is used only by battery without DC adaptor, it announces remaining battery capacity when it is below 10 percent. In this status, please connect DC adaptor for charging. If the remaining battery capacity is 2 percent and the unit is not connected to the DC adaptor, the power is turned off 10 minutes after it announces 2 percent of battery power.
4. This unit is fragile machine. Please be careful when handling this unit. And this unit is very precise machine and so please keep away from dust.
5. The Braille cell is very sensitive part. If the Braille cell is not work proper due to dust or any other reason, please contact with our repairing center for your maintenance.
6. Please register your information on our web site for your further maintenance and upgrade information from HIMS. Please visit our website www.hansone.net and register your information. If you have any trouble when registering your information on our web site, please contact with our repair center or the agent where you purchased our product.
7. Please do not disassemble the unit by yourself your by anybody who is not qualified by HIMS. If you disassemble the unit, it may occur fatal accident. And if it is disassembled without permission or by anybody who is not qualified by HIMS, such unit may be excluded from the free maintenance even during the warranty period. And if the unit is damaged by any liquid or shock, it may be

also excluded from free maintenance even during the warranty period.

8. If you have any problem or any suggestion, please give us comment on our website. We will examine your excellent suggestion and reflect you great idea on our improvement of our unit. We will be appreciate for your using Braille Hansone and your great idea for improvement.

1. Introduction

1.1 What is 'Braille Hansone'

Braille Hansone is Braille note taker developed and manufactured by HIMS for the blind. You can do followings by using Braille Hansone.

- (1) You can make Braille document by using Perkins style keyboard.
- (2) You can print text document if you print it on ink printer. And you can emboss Braille document if you connect Braille printer to Braille Hansone.
- (3) You can open MS-Word document and read in Braille. Braille Hansone can import any document that was made on MS-Word and translate it into Braille.
- (4) You can send e-mail to the sighted and you can read the e-mail that you received in Braille.
- (5) You can register you important appointment. Braille Hansone will alarm at the time that you registered.
- (6) You can input various information about your contacts and can retrieve information that you input.
- (7) You can surf internet in Braille.
- (8) You can listen to the music or any sound information that are recorded in MP3 wma or wave file.
- (9) You can calculate any algebra including scientific calculation.
- (10) You can copy any file from personal computer to your Braille Hansone and vice versa. And you can read information displayed on the monitor of personal computer if you install proper screen reader program on your personal computer.
- (11) You can copy, move and delete your file in Braille Hansone.
- (12) You can adjust volume, speed and tone of speech. You can also set many of features of Braille Hansone as you want.
- (13) The Braille beginner can learn Braille very easily. The sighted who do not know Braille can teach Braille to the blind very easily by using LCD display on Braille Hansone.

1.2 Hardward

This section will explain about hardware configuration of Braille Hansone.

The size of Braille Hansone is 25cm (w) x 14.5cm (d) x 4.5cm (h). At the bottom of the unit, there are rubber foot in order to prevent slipping when you use the unit on you knee. Keyboard is Perkins style with 7 Braille keyboard including one space bar, and

two additional function keyboard including backspace and enter key. And there are 32 cells of Braille display.

Please position the unit with Braille display facing you. Braille display is made to read from left side to right side. Each cell consist of 8 dots.

And behind the Braille display, you can find 32 small keys that correspond to 32 Braille cells. These keys are called cursor routing keys. If you move your finger to the left of leftmost Braille cell and right of rightmost Braille cell, you can touch triangular buttons. These buttons are called scroll button. The cursor routing keys are used for short cut key or selecting any cell while editing any document. The scroll buttons are used to scroll any menu or information displayed on Braille display.

Behind the cursor routing keys, you can find four bar shaped buttons. These four bar shaped buttons are extension keys. Two of them are located left side of the unit and the other two are located on the right of the unit.

Behind these extension keys, you can find Perkins style Braille keyboards including space bar.

Place you fingers on these 9 Perkins style keyboard including space bar. Place your index finger, middle finger, ring finger and little finger of you left hand on the left four buttons and place you index finger, middle finger, ring finger and little finger of your right hand on the right four buttons, and place your thumb of your left hand or right hand on the long space bar.

The button where your index finger of your left hand is put is keyboard for dot 1 of the Braille. And the button where your middle and ring fingers of left hand are keyboards for dot 2 and dot 3 respectively. The button where you little finger is placed is called 'backspace' key.

And the button where your index finger of your right hand is keyboard for dot 4 of the Braille. And the button where your middle and ring fingers of right hand are keyboards for dot 5 and dot 6 respectively. The button where you little finger is placed is called 'enter' key.

And the long bar shaped button where your thumb is placed is called 'space bar'.

And for the four extension keys below these Perkins style keyboard, the left most key is called F1 key and the key located right of F1 key is called F1 key. And right most

key is called F4 key and the key located left of F4 key is called F3 key.

Behind the Braille keyboard, there is liquid crystal display (LCD) for displaying text. And right and left side of LCD there are two speakers.

Let us look at right side of Braille Hansone.

Move your finger to the left of the unit. You can find power on/off switch. Pull the switch if you want to turn the power on and pull the switch if you want to turn the power off.

If you move your finger to rear direction, you can find small hole that is DC adaptor jack for the connection of DC power supply. If you want to supply power to the Braille Hansone, plug the DC adaptor to this jack.

Let us look at the left side of Braille Hansone.

If you move your finger to the left side of Braille Hansone, you can find two long slots. These slots are CF (compact flash) memory slots. You can also put the memory card or CF type hard disk drive into this slots.

Now let us look at the rear side of Braille Hansone.

At the left most side, you can find small rectangular window. This is IrDA window for the communication with other device with IrDA by using infrared communication protocol.

At the right of this IrDA window, you can find small rectangular hole. This is USB master port. If you connect 3.5 inch floppy disk drive or USB stick memory to this USB master port, you can use those devices as auxiliary storage device.

Move your finger to the right of the USB master port and you can find USB slave port. If you connect to personal computer by using USB cable, you can handle files in Braille Hansone at your personal computer. Regarding how to use it, we will explain more detailed later in this manual.

Move to the right of USB slave and you can find LAN port. If you connect Braille Hansone to Ethernet, you can use web browser or e-mail.

At the right of this LAN port, you can find parallel port, video output port and serial port, successively.

Parallel port is used to print by using any printer with parallel interface. Video output is used to display the text displayed on the Braille cell on the monitor for the sighted. This is very helpful feature for education purpose.

Serial port is used to print using any printer with serial interface or connect to personal computer for communication with personal computer.

The more detailed will be explained later in this user manual.

And if you move your finger from the serial port to Braille keyboard, you can find small projection. This is reset switch. If there is any problem on your Braille Hansone, you can reset the unit by pressing this reset switch with any needle or end of ball point pen. If this reset button is pressed, Braille Hansone will reboot and it will take about 10 seconds for rebooting.

Finally, let us look at front side of Braille Hansone.

You can find two holes and 5 buttons with different shapes. The left hole is microphone jack and right hole is hole for stereo headphone jack. And the 5 buttons are for playing back audio and recording voice. More detailed will be explained at the media player in this user manual.

1.3 Hardware specification of Braille Hansone

- 1) Operating system : Windows CE.NET
- 2) Flash memory : 64MB
- 3) RAM : 64MB
- 4) Memory extension : compact flash or USB stick memory
- 5) CPU : Intel PXA255
- 6) Battery : Lithium Ion (detachable), backup battery installed
- 7) Keyboard : Braille keyboard with Perkins style, 4 extension keys, 32 cursor routing keys, 2 scroll keys, 5 audio buttons.
- 8) Braille display : 32 refreshable Braille cells
- 9) Video output : VGA output
- 10) Network : 10base-T Ethernet, PTSN modem by CF type modem (optional)
- 11) Interface : USB master, USB slave, serial (RS-232C), parallel, 2 CF slots
- 12) Sound : internal stereo speakers, stereo headphone jack
- 13) Voice recording : internal microphone, external microphone jack

1.4 Memory in Braille Hansone

Do you know what is FLASH or RAM?

Braille Hansone has 64MB of RAM (random access memory) and 64MB of flash memory. RAM is memory space for program execution. This memory space is used as temporary

storage of any program or data like document that you are editing. The data in RAM area will be disappeared if the battery power is used up when DC adaptor is not connected. Or if Braille Hansone reboots by pressing reset button or any other action, the data in RAM is also disappeared.

But the data in flash memory is not disappeared even if the power is down or rebooted by pressing reset.

2. Information to the user

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

3. Basic Functions

3.1 How to use command

All the commands in Braille Hansone are combination of Braille keyboards. In this user manual, ' - ' sign is used to designate key combination. For example, 'space-z (dots 1-3-5-6)' means that the user should press 'space bar' and 'character z (dots 1-3-5-6)' simultaneously and release them simultaneously.

It is very easy to cancel any command that the user inputted. Most of commands are executed by pressing enter button. If you want to cancel execution of any command and return to the previous status, just press 'space-z (dots 1-3-5-6)'.

3.2 Concept of menu

The menu that is used in restaurant helps you to select any food in the restaurant. The menu in Braille Hansone also provides selection choice to you in Braille Hansone. If you select any menu in the menu list, the sub menus are appeared if there are sub menus.

To move to lower sub menu or move to next menu in the menu list is very simple. There is short cut key code after the name of each menu name. You can move to any menu and press 'enter' or you can just input short cut key directly in order to select and execute any menu.

For example, you can move to next menu item by pressing 'space-4', or you can move to previous menu item by pressing 'space-1'. If you want to move to first item of menu, just press 'space-1-3'. If you want to move to the last item of the menu, just press 'space-4-6'. The corresponding menu name will be displayed on the Braille display and will be sounded through TTS (text to speech) engine. And if you want to listen to the name of menu again, just press 'space-r (dots 1-2-3-5)'. Once you move to any menu item that you want to execute, just press 'enter'. By pressing 'enter', it moves to the lower sub menu or starts execution of the selected menu. We call it as 'menu selection'.

Or you can move to any menu or execute any menu by pressing an initial spell of the menu.

Sometimes, if any menu is executed by pressing 'enter', the lower-level menu is displayed. In this case, right direction arrow sign is displayed after the name of the corresponding menu and 'lower level menu' is sounded.

Now, pull the power switch and turn the power on. Then you can find 'program menu'. This 'program menu' is upper most menu in Braille Hansone. The items of this program menu are file manager, wordprocessor, planner and so on. The first item of the program menu is 'file manager'. If 'space-4' is pressed, the next menu item is displayed on Braille display and is read in voice. If 'space-4' is pressed repeatedly, 'help' menu is displayed. This 'help' menu is the last item of the program menu.

Now press 'space-4-6' when 'file manager' is displayed. Then Braille Hansone outputs 'help'. And press 'space-1-3', then it outputs 'file manager'. It means that

'space-4-6' moves to the last item of the program menu, and 'space-1-3' moves to the first item of the program menu.

If move from the current menu to upper level menu, press 'space-z (dots 1-3-5-6)'.

And you can press enter when any menu or sub menu is displayed in order to execute that menu item. During navigation of those menu items, if you want to move to upper most level of the menu, just press 'space-1-2-3-4-5-6' then it moves to 'file manager' that is the first menu item of upper most level menu, that is program menu.

3.3 How to use move key

Move key is used to move from one item of the menu to the other menu item. Or you can also use these keys when you want to move from any position in Braille cell to the other position in the Braille cell by 32 Braille cells.

3.4 Option setting

Option setting in Braille Hansone contains many information about Braille Hansonea and can change the settings. You can determine whether you will use Braille display or not, or on / off sound, or select power saving mode and so on.

Let us go into option setting by pressing 'space-o (dots 1-3-5)'. Braille Hansone displays 'Braille output? On' as a first item of the option setting. By pressing 'space-4' or 'space-1' you can move to the other items of the option settings. You can also move to the next item by pressing F2 or F4 keys, or move to the previous item by pressing F1 or F3 keys.

Option setting is dialog box style and so after setting change, press 'space-4-5 (tab)' and press enter if confirm is displayed. But if you want to exit from the option setting without changing setting, just press 'space-4-5 (tab)' and, press enter or press 'space-z (dots 1-3-5-6)' when the cancel is appeared.

In this section, we will explain the items of option setting and how to set the option setting.

If 'option setting' is called, 'Braille output? On' that is the first item of the option setting is displayed. Press 'space-4', and it moves to 'Braille cursor? On', 'Sound output? On', 'keyboard voice? Syllable/word' etc is displayed on the Braille display and sounded. Press 'space-4-6' to move to the last item. 'Power saving mode time? 10 minutes' is displayed. If 'space-4' is pressed, it displays first item of the option setting. If 'space-1' is pressed at this status, the last item is also displayed. Space-1 and space-4 circulate in items in option setting.

By pressing 'space' at any item of the option setting, you can on or off the setting value. If there are many values to any item in option setting, those values are set by pressing space. If the wanted value is displayed, press enter, or press tab (space-4-5) in order to confirm changes.

If enter is pressed when 'cancel' is displayed or Esc (space-e) is pressed, the setting value will not be changed and exit from the option setting.

3.5 DC power supply and battery in Braille Hansone

To know working time when it is operated by battery is very important to the users.

If the remaining battery capacity is not sufficient, Braille Hansone displays the shortage of battery power. And it is better for the user to check remaining battery capacity frequently when use without DC power supply.

Press 'space-1-6' to check 'check power'. You can check (1) battery charge rate and (2) battery or DC power (power source).

Battery charge rate represents percentage of charge status of battery. The second item that is power source designates the power source is battery or dc power.

Braille Hansone announces battery status. If the battery charge rate is under 10 percent, it announces the remaining battery charge rate in Braille display and in voice. If the charge rate is under 5 percent, it announces 'battery charge xx percent. Please connect dc adaptor.' If the charge rate is below 2 percent, it warns 'battery charge rate is under 2 percent. Power will be turned off in 10 minutes.'

If the user do not connect dc adaptor in this stage, it announces last warning message at 5, 3, 1 minute(s) before the power is turned off automatically.

Finally if the dc adaptor is not connected in spite of those message, Braille Hansone will be turned off in 10 minutes automatically.

3.6 Changing direction of move keys

Changing direction of move key can be set in the option setting. The default value is 'right direction'.

If F2 or F4 key is pressed, Braille Hansone shows next raw by moving by 32 Braille cells. And some times if the other move keys like F2 or F3 key is pessed, Braille Hansone shows previous line by 32 Braille cells.

In order to change this direction of move keys, press option button ('space-o (dots 1-3-5)') and press 'space-4' until 'Change move key?' and select 'normal direction' by pressing press button from right direction to reverse direction.

3.7 Explanation of Disk and folder

Flash memory in Braille Hansone is just like big bookshelf in the library. We say it 'disk'. You can make some partition in order to classify the books in bookshelf. This partitioned section is 'folder'. And each book may be considered as 'file'. You can put any file into any folder at your convenience. Making proper folder will help you to find any file after you save any file in the disk.

And the name of disk may be named by the user at one's convenience. When Braille Hansone is shipped from the factory, the name of the flash memory in Braille Hansone is named as 'flash disk'. You can make folders under this 'flash disk' as you want.

And you can expand your memory space by adding more memory space like floppy disk drive through USB or USB stick memory or compact flash in the CF slot in Braille Hansone. The name of floppy disk drive is 'FDD' and the name of CF card is 'CFD'. And the name of USB stick memory is 'SMD'.

You can make folders in these additional memories as you want.

3.8 Controlling volume, speed and tone of the sound

You can change the volume, speed and tone of the speech in Braille Hansone very simply.

In order to volume up, press backspace-F4. In order to speed up the sound, press space-F4. In order to make higher tone, press enter-F4.

Or in order to volume down, press backspace-F1. In order to speed down the sound, press space-F1. In order to make lower tone, press enter-F1.

If backspace-F4 is pressed, Braille Hansone announces 'volume level xx' and the sound is output with more louder. Also if space-F4 is pressed, it announces 'voice speed xx' and if enter-F4 is pressed, it announces 'voice speed xx'.

Those setting values are not changed even if the power is turned off and on again.

3.9 How to use voice and Braille display

You may want to read Braille only without sound. Or you may want to listen to sound only without reading Braille. Or you may want both of them.

If you turn on the power of Braille Hansone while 'b (dots 1-2)', the Braille is displayed but sound is not output.

During using Braille Hansone, you can also change the settings by changing option setting by pressing 'space-o (dots 1-3-5)'. And select 'Braille output' or 'sound output' by pressing space-4 or space-1 as explained earlier in this user manual.

And then press 'space' to select as you want. If anything is set to 'on' and you want to make it off, just press 'spacebar'.

After setting proper values that you want, press tab (space-4-5) and press enter when 'confirm' is displayed.

Or you can turn Braille or sound on or off by pressing the other keys.

By pressing backspace-F2, it turns sound on or off. By pressing backspace-F3, it turns Braille display on or off.

But both Braille and sound are not turned off simultaneously.

3.10 Displaying on computer monitor

You can display the data on Braille display on the computer monitor.

In order to do so, connect the VGA output on the rear panel of Braille Hansone to the computer monitor. And press space-o (dots 1-3-5) and select 'Screen display? Off' by pressing space-4 or space-1. And press 'space' and make it 'on' and exit from the option setting by pressing enter at 'confirm' is displayed by pressing tab (space-4-5).

3.11 Data input method on Braille Hansone

There is English input mode and numeric input mode in Braille Hansone. Each input mode can be toggled by pressing space-F2 or space-F3.

When you input punctuation mark, press Braille with dot 8 (enter button). For example, if you want to input ':', press dots 2-5 with dot 8.

Frequently used punctuation marks are listed below.

Open small parenthesis: dots 2-3-5-6-7

Close small parenthesis: dots 2-3-5-6-8

Open middle parenthesis: dots 6-8, dots 2-3-5-6-8

Close middle parenthesis: dots 2-3-5-6-8, dots 3-8

Open double quotation mark: dots 2-3-6-8

Close double quotation mark: dots 3-5-6-8

Open single quotation mark: dots 6-8, dots 2-3-6-8

Close single quotation mark: dots 3-5-6-8, dots 3-8

Dash: dots 3-6

Slash: dots 3-4-8

Dot: dots 2-5-6-8

Comma: dots 2-8

Asterisk: dots 3-5-8, dots 3-5-8

Exclamation mark: dots 2-3-5-8

Question mark: dots 2-3-6-7

Colon: dots 2-5-8

Semi colon: dots 2-3-8

Wave mark: dots 3-6-8, dots 3-6-8

Apostrophe: dots 3-8

3.12 Common keys

- (1) Toggling between English and numeric: Space-F3 or Space-F3
- (2) Call menu: Space-m (dots 1-3-4)
- (3) Exit: Space-z (dots 1-3-5-6)
- (4) Escape: Esc (space-1-5)
- (5) Move to the next control in the dialog box: Tab (space-4-5)
- (6) Move to the previous control in the dialog box: Shift-tab (space-1-2)
- (7) Move to the previous character: left arrow key (space-3)
- (8) Move to the next character: right arrow key (space-6)
- (9) Move to the previous line/item: upper arrow key (space-1)
- (10) Move to the next line/item: down arrow key (space-4)
- (11) Move to the first line/item: home (space-1-3)
- (12) Move to the last line/item: end (space-4-6)
- (13) Move to the first document/item: ctrl-home (space-1-2-3)
- (14) Move to the last document/item: ctrl-end (space-4-5-6)
- (15) Find: Space-F (dots 1-2-4)
- (16) Upper case letter: Space-u (dots 1-3-6)
- (17) Listen current item again: Space-r (dots 1-2-3-5)
- (18) Check time: Space-t (dots 2-3-4-5)
- (19) Check power status: Space-1-6
- (20) Call option setting: Space-o (dots 1-3-5)
- (21) Online help: Space-h (dots 1-2-5)

4. File manager

4.1 Structure of 'file manager'

4.1.1 Basic of 'file manager'

'File manager' in Braille Hansone has almost the same function and structure of 'file manager' in personal computer.

'File manager' consists of 'address editing window' and 'file list'. And for improvement of user accessibility and convenience, it provides 'pop up' style menu and short cut key.

- 1) Address editing window: The user can input folder name or disk name, or file name. If the user inputs file name that can be displayed on wordprocessor in this window, Braille Hansone loads wordprocessor automatically and the selected file is opened.
- 2) File list: By pressing move keys, the user can find and manage the files or folders in Braille Hansone.
- 3) Pop up menu: The user can call main menu of 'file manager' and use those menu function like on the Windows in personal computer. This makes the beginners as well as advanced users help to use 'file manager' conveniently.
- 4) Short cut keys: Without calling pop up menu, the user can execute any menu quickly by pressing short cut keys.

4.1.2 Function of 'file manager'

The user can check the files and folders in Braille Hansone by using the function of 'file manager' and do jobs as listed below;

- 1) Open: By pressing 'open' on the menu list, wordprocessor is executed automatically and selected file is loaded directly if the selected file is readable by wordprocessor. If the selected one is any folder, the content of the folder is displayed.
- 2) Copy: Selected file or folder is copied to the buffer that is temporary space.
- 3) Paste: Pastes any file or folder from the buffer to the place where the user selected.
- 4) Cut: Cuts selected file or folder and move it to the buffer. The files or folders that was cut can be pasted by paste function stated above.
The difference between 'copy' and 'cut' is that the original file or folder remains at the original place when 'copy' is executed, but the original file or folder disappears from the original place when 'cut' is executed.
- 5) Send: Copies one or more selected file(s) to the flash disk, floppy disk or CF memory.
- 6) Delete: Deletes one or more selected file(s).
- 7) Rename: Changes the name of selected file or folder.

- 8) New Folder: Create new folder under the current folder.
- 9) File Conversion: This function converts one or more selected file(s) to the desired file format and save it.
- 10) Select Option: This function is used to determine the method to select files or folders. There are three types of selection styles; 'one', 'continuously', 'select all'.
- 11) Information: Shows detailed information about the selected file or folder. And the user can change some of attribute of the selected file.

4.2 Key control for each function

4.2.1 Moving in the file/folder list

There two kinds of list; file list and pop up list. File list is not circulated but pop up list is circulated.

Followings are the list of move keys;

- (1) Move to previous item: up arrow key (Space + dot 1)
- (2) Move to next item: down arrow key (Space + dot 4)
- (3) Move to the beginning of the list: Ctrl-Home (Space + dots 1,2,3)
- (4) Move to the end of the list: Ctrl-End (Space + dots 4,5,6)
- (5) Fast move to folder list or move to file list: Space + dots 5,6. In any selected folder, there may be many sub-folders and many files. In this case, if the user wants to move to any item of sub-folders list or move to any item of files, the user can use this function.
- (6) Move from/to file list to/from address edit window: Tab (Space + dots 4,5) / Shift-Tab (Space + dots 1,2)
- (7) Inter into selected folder or open selected file: Enter
- (8) Move to upper folder: Backspace
- (9) Fast move to upper most disk: Space + dots 1,2,5,6
- (10) Move to previous by 32 items: Space + dots 1,2,6 (PG UP), It will be supported at the next upgrade
- (11) Move to next by 32 items: Space + dots 3,4,5 (PG DN), It will be supported at the next upgrade
- (12) Fast move to any item in the 32 items on the list: Cursor key (32 cursor keys – Move to corresponding cell number). This function is used in combination with above two functions. If press 'move to previous by 32 items', the 33rd item is displayed on the Braille cell. If the user want to select 34th item (file) on the list,

the user can select by pressing 2nd cursor key. It will be supported at the next upgrade.

- (13) Find and move by inputting first letter of file or folder in the file list.

4.2.2 Fast execution in the pop up menu

The pop up menu has 'fast execution key' as well as move keys. The users can select and execute any desired file by pressing the corresponding alphabet. Following are the list of such keys.

- (1) pop up menu key: Space + m (dots 1,3,4)
- (2) Open: o (dots 1,3,5)
- (3) Send: s (dots 2,3,4)
- (4) Copy: c (dots 1,4)
- (5) Cut: x (dots 1,3,4,6)
- (6) Paste: v (dots 1,2,3,6)
- (7) Delete: d (dots 1,3,4)
- (8) Rename: r (dots 1,2,3,5)
- (9) New folder: f (dots 1,2,4)
- (10) File conversion: t (dots 2,3,4,5)
- (11) Select all: a (dot 1)
- (12) Information: I (dots 2,4)

4.2.3 Item (folder or file) selection key – Block

- (1) Select one by one (Space): Select one or more item(s) while moving in the list. '**' is displayed in front of the selected item.
- (2) Select continuous items (Enter + b (dots 1,2)): Select all the items from the item where this key is pressed to the item that the cursor is moved to. '**' is displayed in front of the selected items.
- (3) Select all: It selects all the items including files and folders in the current path as block. It is executed by pressing 'enter + a (dot 1)'. The selected item can be checked by move keys and can be cancel selection or select again by pressing space.

4.2.4 Cancel / Exit key

- (1) Cancel: It is used to cancel any function during the function is executed. It is the same function as 'Esc' in personal computer. Key is space + e (dots 1,5).
- (2) Exit: It cancel any function selected or stop execution of any program. This is

the same function as 'Alt-F4' in the personal computer. In order to exit from any program, press space + z (dots 1,3,5,6)

4.3 Using function in the file list

File list is the list when the user executes 'file manager'. If the 'file manager' is executed, the disk selection part is displayed first. Press 'enter' and then the folder and file list in the corresponding path is displayed.

At the list, the item that was put in the double quotation mark ("") is folder and the other ones are files. The item is displayed with the name of item and the number of item.

4.3.1 Selecting disk

By execution of 'file manager', 'flash disk' that is displayed first is disk name. If the floppy disk drive is connected or CF memory card is inserted in PCMCIA slot, those can be selected by pressing up arrow key (space + dot 1) or down arrow key (space + dot 4). The user can also select by using 'advance bar' or 'backspace' key. The user can select the desired disk by pressing enter at the desired item.

4.3.2 Move into selected folder / escape from the folder

In order to go into the selected folder, press 'enter' at the desired folder name. In order to exit from the current folder to the upper folder, press 'backspace'.

4.3.3 Open file

Press 'enter' or press enter + o (dots 1,3,5) when any file name is displayed, then the wordprocessor is opened and the file is opened. If the selected file is not a file that can be used on the wordprocessor, the selected file is regarded as text file (.txt).

If the user wants to open any file by using pop up menu, press space + m (dots 1,3,4) and press 'enter' or press 'o'.

4.3.4 Sending

It copies one or more folders or files to the flash disk, floppy or CF memory that is inserted in the PCMCIA slot.

Select the file(s) or folder(s) to be copied by pressing 'space' on the file or folder name to select one by one, or pressing 'enter + b' to select continuously, or pressing 'enter + a' to select all items on the list, and then press 'space + m (dots 1,3,4) to call pop up menu and select 'send' or press 's'. And then by using up arrow key (space + dot 1) or down arrow key (space + dot 4), move to the desired disk name. Press enter at the

desired disk name is displayed and then the selected files or folders are copied to the selected disk. By pressing 'enter + s (dots 2,3,4)' that is short cut key of sending.

4.3.5 Copy / Move

The difference between 'copy' and 'move' is that copy remains original files or folders in the original position but move removes original files or folders at the original position.

At the 'file manager', the 'copy' is executed as followings.

First, select original file or folder to be copied.

Second, selected file is temporarily copied in the buffer.

Third, copy the file in the buffer to the desired place.

By doing above procedure, when the user want to copy any item, use 'copy' and if the user want to move any item, use 'cut' at the original position and 'paste' at the destination.

Example1) Copy 'sample.txt' in the flash disk to the 'download' folder

Select 'sample.txt' at the flash disk and select 'copy' at the menu or press short cur key 'enter + c (dots 1,4)'. Move to 'download' folder and press 'space + m (dots 1,3,4) at the menu and select 'paste', or press short cut key 'enter + v (dots 1,2,3,6)'.

Example2) Move 'sample1.txt', 'sample2.txt', 'sample3.txt' in the flash disk to the floppy disk.

Select 'sample1.txt', 'sample2.txt', 'sample3.txt' in the flash disk by pressing space bar at the corresponding 3 files. Call pop up menu and select 'cut', or press short cut key 'enter + x (dots 1,3,4,6) in order to copy those files to the buffer and remove those files in the list of flash disk. And then move to the floppy disk and select 'paste' at the menu, or press short cut key 'enter + v (dots 1,2,3,6) and then the files are moved to the floppy disk.

4.3.6 Delete files or folders

In order to delete any file(s) or folder(s), select 'delete' at the pop up menu or press 'del (space + d)' or 'enter + d (dots 1,4,5)' at the selected file(s) or folder(s). 'Enter + d (dots 1,4,5)' is the same function as 'del (space + d)', and 'enter + d(dots 1,4,5)' is additional key for this function. One or more file(s) or folder(s) can be selected by 'one by one', 'continuously' or 'select all'.

4.3.7 Rename

It changes the name of selected file or folder. Select 'rename' at the pop up menu or

press short cut key 'enter + r (dots 1,2,3 5), and then 'change name?' is displayed. Input new name and press enter.

4.3.8 New folder

It creates new folder at the current path. Select 'new folder' at the pop up menu or press 'enter + f (dots 1,2,4) to create new folder. If it is executed, 'new folder?' is displayed and Hansone waits for user input. Input new folder name and press enter and then new folder is created at the current path.

4.3.9 File conversion

It is the similar function as the 'save as' in the wordprocessor. It converts selected file to the following file formats; 'Hansone wordprocessor format: hbl', 'text file ; txt', 'Braille file ; brl'.

Select one or more file(s) and then select 'file conversion' at the pop up menu or press short cut key 'enter + t (dots 2,3,4,5), then the file conversion is executed. If this function is executed, Hansone asks new file format to be converted. Select the file format by using up arrow key / down arrow key, by pressing 'space' / 'backspace' or by pressing advance bar and press enter at the desired new file format. And then the selected file is converted into selected file format.

If more than one file is selected, respective file format can be different from the other ones. If file conversion is executed, new file with new file extension and with the same file name is created. The original file remains at the original folder.

If there is a file with the same file name and extension already, 'year' is added to the file name. If there is any file with the same file name, extension and year, 'time' is added to the file name again.

4.3.10 Select all

'Select all' selects all files and folders in the selected folder. It is used to select all files or folders in the selected folder before executing copy, cut and delete function. Select 'select all' at the pop up menu or press 'enter + a (dot 1)' to select all.

4.3.11 Information

'Information' shows folder or file type, date and time, size and attribute.

In order to execute 'information', select 'information' at the menu or press short cut key 'enter + i (dots 2,4).

Move to next or previous item in the information, press 'tab (space + dots 4,5)' and

'shift-tab (space + dots 1,2)'. By pressing those keys, following information is displayed.

- 1) File or folder type: In case of folder, 'there is/are xx folders' is displayed. In case of file, it shows extension name of the file.
- 2) Size: In case of file it shows size of file, In case of folder, total size of all the files in the folder.
- 3) Date/time: Displays date and time when the folder or file is modified recently.
- 4) Attribute: It shows that the selected file is read only file or re-writable file. In order to change the attribute, press up/down arrow key, space/backspace or advance bar. It is toggled between 'protect' and 'non-protect'. However, in case of folder, there is no attribute in the 'information'. Attribute is valid only for the file(s).
- 5) Confirm: In order to change the attribute, press enter when 'confirm' is displayed.
- 6) Cancel: In order to cancel the change, press enter when 'cancel' is displayed.

4.4 Using address edit window

At the address edit window, the user can move to or select (open) any path or file. And by using history list, the user can find any path or file that was used before.

4.4.1 Editing

At the folder or file list, press 'tab (space + dots 4,5)' or 'shift-tab (space + dots 1,2)' to move to address editing window. Editing is available by using cursor. At the disk list, move to address edit window is now available.

And also copy or paste any block by using block function.

Refer to the edit, delete and move function in the wordprocessor.

4.4.2 Input path / file name

At the address input window, if the new data is inputted, the data in the window is updated to inputted data. If the user edits the data in the window without input new data or move by cursor, the original data is not removed and is edited.

Followings are some examples;

Example1) Address edit window:/flashdisk/download (enter)

It moves into the download folder and shows items in this folder.

Example2) Address edit window:/flashdisk/work/sample.txt (enter)

The wordprocessor is opened and the file 'sample.txt' that is under the

download folder is loaded.

Example3) Address edit window: .. (Enter)

Move to upper folder. This function will be supported later.

Example4) Address edit window: / (enter)

Move to upper-most folder (root folder). This function will be supported later

4.4.3 Open History

History stores the path and folder or file list that was opened before.

At the address edit window, press down arrow key in order to open history list. The items in the history list can be navigated by using up/down arrow key.

And if inter 'a' and press down arrow key, then history list shows from the items that begin with letter 'a'. (However, there should be any item that begin with 'a' in the history list).

If the user inputs new data during move to any item on the history list, that new data will be updated.

5. Wordprocessor

The most important change in wordprocessor is that the wordprocessor start from the creation of new document if the wordprocessor is executed. And most of the menu can be called by pressing 'space + m (dots 1,3,4)' and so if the user do not remember exact short cut key the user can use various functions by calling this menu.

The menu of wordprocessor consists of file, edit, move, read and layout. In order to use those menus, just press 'space + m (dots 1,3,4)' during using wordprocessor and select desired menu and press enter, or press backspace and the corresponding character that represent the desired menu name.

For example, in order to execute edit menu, press 'space + m (dots 1,3,4)' to call the menu and move to next menu by pressing move keys to find the edit menu, and then press enter. Or press 'space + m (dots 1,3,4)' and press 'e' that represent 'edit menu'.

And in order to execute it more quickly, just press 'backspace + e (dots 1,5)'.

And that menu contains lower level menu, the 'right arrow' is displayed at the end of the menu name and it is sounded as 'menu' followed by the menu name.

If the menu has dialog box, '...' is displayed after the name of the menu and sounded as 'dialog box'.

Followings are more detailed explanation of how to use the menu.

5.1 File (F)

'File' menu contains the menus to create new document, open any document that was saved in disk, save any document that is edited and print through Braille printer. And it contains various environment setting menu and inserting document and exit. In order to execute 'file' menu, press 'backspace + f (dots 1,2,4)' when the wordprocessor is opened.

5.1.1 New document (N)

It creates new document after closing the document currently editing. The name of new document is 'noname.hbl' as a default. It is the same file name that is named automatically when the wordprocessor is executed.

In order to create new document, select 'new document' on the 'file' menu. Or press 'backspace + f (dots 1,2,4)' and then press 'n'. Or just press 'enter + n (dots 1,3,4,5)'. 'New document' means that the user create new document after closing currently editing document. Closing the currently editing document means that the currently editing document is erased from the temporary memory. If the new document is executed without saving the currently editing document, Hansone asks whether to save or not current document in order not to lost changes in current document. When the 'save? Yes' is displayed, the user can select 'y' in order to save the current document or select 'n' in order not to save changes. If select 'c' by pressing space bar once more, wordprocessor cancels new document and return to the current editing document.

5.1.2 Open (O)

It opens a document that is already saved in various disks.

Select 'open' at the file menu or press 'backspace + f (1,2,4)' and press 'o'. Or press 'enter + o (dots 1,3,5)'. Then Hansone calls dialog box for open any file.

'Open dialog box' is the tool to find the document that the user wants to edit. It consists of 'file name' that is the field to input file name directly, 'file format' that changes file format during opening any document, 'file list' that shows the list of files or folders, 'confirm' for confirming the selection and 'cancel' for canceling selection.

In order to move between controls is executed by pressing 'tab (space + dots 4,5)' or 'shift-tab (space + dots 1,2)'.

If 'open dialog box' is executed, 'file name' is displayed first.

If 'file name:' is displayed, then input file name to be opened and press enter.

Then Hansone finds that file in the '/flashdisk/work' folder. If there are files that used

recently, the user can make sure it by pressing 'space + dot 4' that is 'move to next key'. The file names that was opened recently are displayed one by one every pressing of 'space + dot 4'. If the file that the user wants to open is found, press enter to select it. In order to move to previous file name in the list, press 'space + dot1'.

In order to open the file with different file format, press 'tab (space + dots 4,5)' to move to file format selection and then press up arrow key (space+dot1) or down arrow key (space+dot4) to select desired file format. Press 'tab' to move to 'file list' and then select desired file.

On the other hand, press shift-tab (space + dots 1,2) to move from 'file name' to 'file list' in order to select desired file. The file names and lower level folder names are displayed. The file names in this list are only the files with the selected file extension. Move to desired file by pressing move keys and press enter at the desired file is selected. If the user press enter at the folder name, the files and lower level folders in selected folder are displayed. If the user wants to move to upper level folder, just press backspace key.

5.1.3 Save (S)

It saves the current editing document in the disk. In order to execute this function, select 'save' at the menu, or press 's' after pressing 'space + m (dots 1,3,4)', or just press 'enter + s(dots 2,3,4)'.

If the user saves the file that was created by 'new document', or the file that was opened from the storage device, it is saved without any other comment or dialog box.

But if the user want to save the file in the different position or change the file format, the user have to save the file by using 'save as' menu.

And if the user wants to save any file with the file name 'noname.hbl', it will be saved in the 'work' folder without any message.

5.1.4 Save As (A)

It saves any document with different file name or saves in the other folder.

Select 'save as' in the file menu, or press 'space + m(dots 1,3,4) and then press 'a', or just press 'space + s(dots 2,3,4)' to 'save as'. If 'save as' is selected, the corresponding dialog box is displayed.

The dialog box of 'save as' consists of 'file name', 'file format' and 'file list' just like in the dialog box of 'open'. The difference between the dialog box of 'save as' and that of 'open' is that the default file name, folder name and format in 'save as' is the same as those of current editing file. Please refer to the explanation of the dialog box of 'open'.

Remember that it may take long time if the file size to be saved is big.

5.1.5 Print (P)

Printing on ink printer or emboss on the Braille printer can be done by using this menu.

To select print menu, select 'print' at the file menu, or press 'backspace + m (dots 1,3,4) and then press 'p', or just press 'space + p (dots 1,2,3,4).

There are two lower level menus for print menu. One is print on ink printer and the other one is print (emboss) on the Braille printer.

1) Embossing Braille

Open the document to be embossed and press space-m (dots 1-3-4) to call menu.

Select 'print' in the file menu and select 'Braille printer', or press 'b (dots 1-2)'. Then 'Braille print dialog box' is opened. Input starting page and ending page to be embossed. Moving to another items in the dialog box is done by pressing up arrow key (space-1) or down arrow key (space-4). Followings are each items in the dialog box.

(1) Starting page number

Starting page number to be embossed. The default value is 1. In order to change the value, input the number of the page.

(2) End page number

End page number to be embossed. The default value is 100000. It means that the document will be embossed to the end of the document. In order to change the value, input the number of end page.

(3) Number of copies

It designates the number of copies to be embossed. The default value is 1. In order to change this value, just input the number.

(4) Confirm / Cancel

In order to emboss as designated above, move to 'confirm' by pressing tab (space-4-5) and press enter. Or if cancel embossing, press enter at the 'cancel'.

If enter is pressed at 'confirm', 'Print? Yes' is displayed on the Braille display and voice is output. If enter is pressed at 'yes', it starts embossing.

If you do not want to emboss, press spacebar to select 'no' and press enter.

If 'save document' is selected, then the current document is saved as 'brl' file.

If there is any problem on Braille printer, it stops embossing and outputs error message and opened document is displayed.

2) Printing on ink printer

If you want to print the document on the ink printer, open the document to be printed and press space-m (dots 1-3-4) to open file menu and select 'print'.

And then select ink printer, or press p (dots 1-2-3-4).

The dialog box for ink printer is almost the same as that of Braille printing. But in case of ink print, 'font size selection' is added. And it does not have function to save as 'brl' file format. The default value of the font size is 11. If you want to change the font size, input number between 1 and 99.

After inputting font size, press tab (space-4-5) and then it asks 'Print? Yes' is displayed. If enter is pressed, it starts printing. But if press spacebar to change to 'no' and enter is pressed, it cancels printing and return to the opened document.

5.1.6 Environment Settings

It sets environment to use wordprocessor. In order to use this menu, select 'environment settings' at file menu, or press 'backspace + f (dots 1,2,4) and press 'e', or just press 'enter + e (dots 1,5). By execution of this menu, the dialog box is displayed and the items in this dialog box are as follows.

- 1) View format character (yes/no): If it is set to 'yes', all the format characters are displayed. If the user wants to change this value, press 'space'.
- 2) Read only (yea/no): If it is set to 'yes', the document cannot be modified in order to protect the document from unintentional modification. If the user wants to change it into 'no', press 'space'.
- 3) Reading unit (line/paragraph): It sets the moving unit when space-1 or space-4 is pressed while reading any document. If it is selected as 'line' and 'space-1' is pressed, it moves by line. If it is selected as 'paragraph' and 'space-1' is pressed, it moves by paragraph.
- 4) Speed of automatic scroll (1~20): It sets the time duration for displaying one line during scrolled display. 20 is the most fastest scroll speed. Pressing 'space' make the number increase, 'backspace' make the number decrease.
- 5) Automatic save interval (0~60): It sets the automatic save time interval of the current editing file. If it is set to 0 minute, automatic save mode does not work. The setting time can be increased or decreased by 10 minutes by pressing 'space' or 'backspace', respectively.
- 6) Keep current setting (yes/no): It selects the settings only valid for all the documents including all the documents that will be loaded, or valid for only current document. If 'yes' is selected, the settings are valid for all the future

opened documents, and if 'no' is selected, it is valid only for current editing document. In order to toggle between 'yes' and 'no', press 'space'.

- 7) Confirm: Press 'enter' at 'confirm' changes the settings and return to current editing document
- 8) Cancel: Press 'enter' at 'cancel' will cancel setting changes and return to current editing document.

5.1.7 Insert File (I)

In order to insert other document into the current editing document, use this function. In order to execute this menu, select 'insert file' in the file menu, or press 'backspace + f (dots 1,2,4)' and then press 'i', or just press 'enter + i (dots 2,4)' during editing any document.

Then dialog box of 'open' is displayed. Input required information according to the input method explained in dialog box of 'open', in order to open desired file.

'Insert file' can be executed for the different file format from the file format of current document. And to save the file which any file is inserted in has the same file format as original file format. For example, if insert 'sample.txt' in 'sample.hbl' and save, then the saved file will be sample.hbl.

5.1.8 Exit (Z)

It closes wordprocessor. In order to execute this menu, select 'exit' in the file menu, or press 'backspace + f (dots 1,2,4) and then press 'z', or just press 'space + z (dots 1,2,5,6)'. If the document is changed (or edited) and 'exit' is selected without saving the document, dialog box for asking whether to save it or not the current document into proper memory will be displayed. Select save (yes) or not (no) with space bar and press enter to exit from wordprocessor.

5.2 Edit

This is almost same function as block menu in the previous version of Hansone wordprocessor. In order to select edit menu, press 'space + m(dots 1,3,4) in order to call edit menu and press 'e', or just press 'backspace + e (dots 1,5)'.

In the previous version of Hansone wordprocessor, in order to select block, locate cursor at the beginning of the block, and select 'block start' in the block menu or press 'enter + s (dots 2,3,4)'. And move to the end of block to be designated, and select 'end of block' in the block menu or press 'enter + e (dots 1,5)'. But in the upgraded version, place cursor at the beginning of block and select 'block' at the edit menu, or press

'enter + b (dots 1,2)'. And move to the end of block to be set and select any block function as 'copy' or 'paste'.

Each function has the same function as in the block menu. And 'select all' is added to the edit menu for selecting all part of the document very conveniently.

Followings are the more detailed explanation of each function of edit menu.

5.2.1 Block (B)

Place the cursor at the beginning of block and execute this function by selecting 'block' in the edit menu or pressing 'backspace + e (dots 1,5) followed by 'b', or just pressing 'enter + b (dots 1,2).

5.2.2 Copy (C)

After setting block in a document, select 'copy' in the edit menu and press enter, or press 'backspace + e (dots 1,5)', or just press 'enter + c (dots 1,4)' during editing.

5.2.3 Add to the clipboard (P)

After setting block in a document, select 'add to the clipboard' in the edit menu and press enter, or press 'backspace + e (dots 1,5) and then press 'p', or just press 'enter + p (Dots 1,2,3,4) during editing.

5.2.4 Delete (D)

In order to delete any block after selecting and block, select 'delete' in the edit menu and press enter, or press 'backspace + e (dots 1,5) and the press 'd', or just press 'del (space+ dots 1,4,5).

5.2.5 Cut (X)

In order to cut any block after selecting any block, select 'cut' in the edit menu and press enter, or press 'backspace + e (dots 1,5) and then press 'x', or just press 'enter + x (dots 1,3,4,6).

5.2.6 Paste (V)

In order to paste the block that was copied by using 'copy' menu or cut by using 'cut' menu, select 'paste' at the edit menu and press enter, or press 'backspace + e (dots 1,5)' and then press 'v', or just press 'enter + v (dots 1,2,3,6).

5.2.7 Select all (A)

In order to select all parts of the document, select 'select all' at the edit menu and press enter, or press 'backspace + e (dots 1,5)' and then press 'a', or just press 'enter + a (dot 1)'.

5.3 Move (M)

In order to call move menu, press 'm' after pressing menu key 'space + m (dots 1,3,4)' in the wordprocessor. Or press 'backspace + m (dots 1,3,4)'. In the move menu, there are submenus like 'find', 'find again', 'replace', 'fast move', 'mark' and 'move to mark'

5.3.1 Find (F)

It finds particular position where the user wants to find. In order to execute this function, select 'move' in the menu and press up arrow key (space+dot 1) or down arrow key (space+dot 4) to select 'find'. Or press 'space + f (dots 1,2,4)' during editing document.

If 'find' is executed, the dialog box is displayed. This dialog box consists of edit window, searching direction, confirm button and cancel button.

During editing document press 'space + f (dots 1,2,4)', or select 'find' at the move menu and press enter. And then 'find dialog box' is appeared and the edit window for text inputting that the user wants to find is displayed. In this edit window, input the texts to be found and press enter. By pressing enter, it starts finding the text in the document in the direction that is selected in searching direction tab. The default direction is forward direction. If the user wants to change the direction, press 'tab (space + dots 4,5)' after inputting find text in the edit box, and select the direction by pressing space and press enter to start searching in the selected direction.

If 'Esc' or 'space + z' is pressed, or 'cancel (no)' button is selected, then everything is canceled even though the text and direction was selected.

After execution of find function as explained above and if it finds the text that the user inputted, the found text string is displayed left end of the Braille display and 'completed' is announced in voice. If there was no such text that the user inputted, cursor does not move and it displays 'no more found data' in Braille and display.

This function saves the latest input texts and direction and so the user can use it again. So if this function is executed again, it will find the same texts in the same direction again if the user does not change them.

And in the find function, current cursor position is very important. If the cursor is located at the beginning of the document, it is better for the user to select 'forward'

direction. If the cursor is located at the end of the document, it is better for the user to select 'backward' direction.

5.3.2 Find again (H)

Just like explained before, select 'find again' at the move menu and press enter, or press 'backspace+m (dots 1,3,4)' and then press 'h', or just press 'space+r (1,2,3,5).

How to use this function is the same at the method of old version of Hansone.

5.3.3 Replace (R)

By executing this function, selected word or sentence is replaced by new word or sentence. In order to use this function, select 'replace' or press 'r' at the move menu using up arrow key (space + dot 1) or down arrow key (space + dot 4). Or press 'enter + r (dots 1,2,3,5)' during editing the document. Then the 'replace dialog box' is opened. 'Replace' also has dialog box that consists of edit window where the text to be found, edit window where new text to replace, tab to select range of replacement, confirm button and cancel button.

Input text in the edit window that will be replaced and press 'tab (space + dot 4,5)' to move to the edit window for new text, and input new text. By pressing enter, the inputted text is replace by new text in the direction selected in the searching direction. The only one text found is replaced. In order to replace all the texts that coincides with the inputted text by new text, press 'tab (space + dots 4,5)' after inputting new text for replacement, and press space to select the range of replacement. If space bar is press once, it is changed from 'one' to 'all'. If space pressed one more time, it is changed to 'one' again. After selecting the selection range, press enter to execute replace.

If there is no text that coincides with the inputted text, 'no more text to be found' is displayed and this function is canceled.

When the user set the selecting range as 'all', the user should be careful. For example, if the user wants to replace the text 'Ent' by 'Enter' and if there is text 'Enter' that is already inputted in the document, that 'Enter' will be replaced by 'Enterer'.

5.3.4 Fast move (L)

It moves to any designated position more rapidly. In order to this function, select 'move fast' at the move menu and press enter, or press 'backspace + m (dots 1,3,4)' and then press 'l', or just press 'enter + l (dots 1,2,3).

If 'fast move' is selected, Hansone wordprocessor asks 'the number of paragraph to be moved by?', The user should input the number of paragraph and press enter, and then it

jumps to the paragraph at once.

If the user wants to move to forward direction, add plus sign in front of the number.

If the user wants to move to backward direction, add minus sign in front of the number.

5.3.5 Mark (M)

It marks at some position in the document for the later use. In order to use this function, move to the position where the mark is marked, and select 'mark' in the move menu and press enter, or press 'backspace + m (dots 1,3,4) and then press 'm', or press 'enter + m (dots 1,3,4)'.

5.3.6 Move to the mark (J)

It finds the mark that is marked before. In order to use this function, select 'move to the mark' at the move menu and press enter, or press 'backspace + m (dots 1,3,4) and then press 'j', or just press 'enter + j (dots 2,4,5)'.

5.4 Read (R)

Read menu reads the document in voice and in Braille when the user wants to use read in voice and Braille. In order to call the 'read menu', press 'space + m (dots 1,3,4) and then press 'r', or press 'backspace + r (dots 1,2,3,5). The submenus of 'read' menu are 'block read', 'block start position', 'from the beginning to the cursor', 'from the cursor to the end', 'automatic scroll' and 'read status bar'.

5.4.1 Block read (B)

Reads in voice for the designated interval. In order to use this function, select 'block read' in the read menu and press enter, or press 'backspace + r (dots 1,2,3,5) and then press 'b', or just press 'backspace + b (dots 1,2)'.

5.4.2 Block start position (U)

Outputs in voice and in Braille one line where the block is started. In order to execute this function, select 'block start position' at the read menu and press enter, or press 'backspace + r (dots 1,2,3,5) and then press 'u', or just press 'enter + u (dots 1,3,6)'.

5.4.3 From the beginning to the cursor (T)

It reads from the beginning of the document to the cursor position in voice. In order to use this function, select 'from the beginning to the cursor' in the read menu and press enter, or press 'backspace + r (dots 1,2,3,5) and then press 't', or just press

'backspace + t (dots 1,2,4,5).

5.4.4 From the cursor to the end (G)

It reads from the cursor position to the end of the document in voice. In this case, Braille display is synchronized with the voice. In order to use this function, select 'from the cursor to the end' at the read menu, or press 'space + g (dots 1,2,4,5).

5.4.5 Automatic scroll (A)

It scrolls automatically as set in the environment settings of file menu. It reads the document line by line automatically. In order to execute this function, select 'automatic scroll' in the read menu, or press 'backspace + r (dots 1,2,3,5) and then press 'a', or just press 'backspace + s (dots 2,3,4). For the faster scroll during scrolling, press right arrow key (space + dot 6). For slower scroll during scrolling, press left arrow key (space + dot 3).

5.4.6 Read status bar (S)

This function shows information of the document. If this function is executed, 'file name / mode(Korean or English) / file protection (write or read only) is displayed in Braille and output 'file name / Hangul or English / write or read only' in voice.

In order to execute this function, select 'read status bar' at the read menu, or press 'backspace + r (dots 1,2,3,5)' and then press 's', or just press 'space + dots 3,4' during editing.

5.5 Layout (L)

It sets the layout for printing on ink printer or emboss on the Braille printer.

It has following submenus – 'Braille document layout', 'document layout for ink printer', and 'general paragraph layout'.

The function and how to use of the 'layout menu' is the same as those of 'format menu' in the old version of Hansone.

5.6 List of hot keys

- 1) File menu: Backspace + f (dots 1,2,4)
 - New document: Enter + n (dots 1,3,4,5)
 - Open: Enter + o (dots 1,3,5)
 - Save: Enter + s (dots 2,3,4)
 - Save as: Space + s (dots 2,3,4)

Print: Space + p (dots 1,2,3,4)
Environment settings: Enter + e (dots 1,5)
Insert file: Enter + i (dots 2,4)
Exit: Space + z (dots 1,3,5,6)

- 2) Edit menu: Backspace + e (dots 1,5)
 - Block: Enter + b (dots 1,2)
 - Copy: Enter + c (dots 1,4)
 - Add to the clipboard: Enter + p (dots 1,2,3,4)
 - Delete: Del (Space + dots 1,4,5)
 - Cut: Enter + x (dots 1,3,4,6)
 - Paste: Enter + v (dots 1,2,3,6)

- 3) Move menu: Backspace + m (dots 1,3,4)
 - Find: Space + f (dots 1,2,4)
 - Replace: Enter + r (dots 1,2,3,5)
 - Fast move: Enter + l (dots 1,2,3)
 - Mark: Enter + m (dots 1,3,4)
 - Move to the mark: Enter + j (dots 2,4,5)

- 4) Read menu: Backspace + r (dots 1,2,3,5)
 - Read block: Backspace + b (dots 1,2)
 - Block start position: Enter + u (dots 1,3,6)
 - From the beginning to the cursor: Backspace + t (dots 1,2,4,5)
 - From the cursor to the end: Space + g (dots 1,2,4,5)
 - Automatic scroll: Backspace + s (dots 2,3,4)
 - Read status bar: Space + dots 3,4

- 5) Layout menu: Backspace + l (dot 1,2,3)

6. Address List

6.1 What is 'address list'.

'Address list' can save name, company address, home address and other information.

Address list has 'add address' and 'search address'.

'Add address' can input and save name, company address, home address and so on, and 'search address' can search, edit and delete stored data.

And it can print selected address through ink printer or Braille printer.

6.2 Execution of address list

Pressing enter at the 'address list' menu and then Hansone asks 'name?'. By executing address list, 'search address' is executed automatically. But if there is no address that is already inputted, it starts from 'add address' automatically.

And it also has pop up menu style menu.

6.3 Function keys in address list

The move key in the address list can move from the field to the field, and move from the record to the record. And there are menu keys and short cut keys, as well.

1) Move keys for data fields and menu items

Move to previous field or move to previous item: up arrow key (space + dot 1)

Move to next field or move to next item: down arrow key (space + dot 4)

Move to the first field or item: Ctrl+home (space + dots 1,2,3)

Move to the last field or item: Ctrl+end (space + dots 4,5,6)

2) Move keys for record

Move to previous record: space + dot 2

Move to next record: space + dot 5

Move to first record: space + dots 2,3

Move to the last record: space + dots 5,6

3) Menu

Add address: l (dots 2,4)

Search address: s (dots 2,3,4)

Edit: e (dots 1,5)

Delete: d (dots 1,4,5)

Select all: a (dot 1)

Option setting: o (dots 1,3,5)

Save as a file: t (dots 2,3,4,5)

Print: p (dots 1,2,3,4)

4) Short cut keys

Add address: Enter+l (dots 2,4)

Search address: Enter+s (dots 2,3,4)

Edit: Enter+e (dots 1,5)

Delete: Space+d (dots 1,4,5)

Select all: Enter+a (dot 1)

Option setting: Enter+o (dots 1,3,5)

Save as a file: Enter+t (dots 2,3,4,5)

Print: Space+p (dots 1,2,3,4)

6.4 Add address

It adds new address on the address list. In order to execute it, press 'space + m (dots 1,3,4)' in order to call address list menu, and press up arrow key (space + dot 1) or down arrow key (space + dot 4) to find 'add address' and press enter. Or just press short cut key 'enter + i (dots 2,4)' during execution of address list. 'Add address' consists of 'search address', 'set additional field' and 'exit'.

6.4.1 Method to input add address

It is the field to add address. The items in the field are 16 items including telephone number and mobile phone number.

Move from one item to the other item is done by pressing tab (space + dots 4,5) and shift-tab (space + dots 1,2).

'Add address list' consist of 16 fields of items for inputting address. 'Confirm' is to save added address and 'cancel' cancels input without saving inputs.

At the 'add address list', input corresponding contents and press enter or press down arrow key to move to the next item. It is not necessary to input all 16 items. If there is nothing to input, just press enter or down arrow key (space + dot 4) and then the field is processed empty field and move to next item.

If all the items are inputted, move to 'confirm' button using tab (space + dot 4,5) and shift-tab (space + dots 1,2) and press enter. Or just press 'backspace + o(dots 1,3,5)' in order to save the address.

If the user do not want to save the input, press 'tab (space + dots 4,5)' and 'shift-tab(space + dots 1,2)' to move to 'cancel' and press enter.

After canceling the input, it shows the first item of the 'add address'. Move between each item is done by pressing up arrow key (space + dot 1) and down arrow key (space + dot 4), or by pressing cursor key. Move by pressing cursor key is that each cursor key corresponds to the items. For example, 'mobile phone number' is fifth item and so pressing fifth cursor key finds and displays 'mobile phone number' item. In order to jump to 'e-mail' that is 14th item of the add address, press 14th cursor key. If 17th cursor key or later is pressed, warning sound is outputted.

The items of the add address are name, nick name, company name, title, mobile phone number, home telephone number, home fax number, company telephone number, company fax number, home address, home zip code, company address, company zip code, e-mail id, home page and memo.

Out of those input items, the telephone numbers may be inputted as lower numbers (computer Braille) without number sign or normal number (normal Braille) with number sign, and use dash (-) between telephone number like 000-000-0000. Dash (-) should be inputted dots 3,6.

Especially, when inputting home page and e-mail id, input in computer Braille. The @ (at sign) should be inputted 'space + u (dots 1,3,6)' and 'dot 4'. Dot ('.') in the URL address or e-mail id should be inputted as dots 4,6.

Memo should be one line only, but there is no limit in the number of text.

6.4.2 Setting add address field

Setting add address field selects the desired items only from the 16 items in the add address list. In order to execute it, press 'space + m (dots 1,3,4)' to call menu, and press 'o (dots 1,3,5)' or select 'field setting', and press enter. Or, just press 'enter + o (dots 1,3,5)' during planner is working.

On the right side of each field item name, 'use/not use' is displayed. The default value is 'use'. In order to change it into 'not use', press space.

After set all the desired items, move to 'confirm' or 'cancel' button by pressing tab(space + dots 4,5) or shift-tab(space + dots 1,2), and press enter to save or cancel the changes, respectively.

Pressing short cut key 'backspace + o (confirm)' or 'backspace + c (cancel)' saves or cancels the field selection in the list of fields. Or cancel by pressing 'space + e (dots 1,5) or 'space + z (dots 1,3,5,6)'.

If the items are selected in this method, the only selected items are displayed while adding address.

6.4.3 Move to searching address during inputting add address items

During inputting any item in the add address, the user can jump to searching address. In order to jump to searching address, press 'space + m (dots 1,3,4)' to call menu, and select 'search address' and press enter or press 's (dots 2,3,4)' and press enter. Or just press 'enter + s (dots 2,3,4)' to jump to searching address.

If the address that is inputting before jump to searching address is not saved, it asks 'Save the changes? Yes/no' and it moves to searching address after user input.

6.5 Searching address

6.5.1 How to search address

It searches inputted address. In order to execute it, press 'space + m (dots 1,3,4)' in order to call menu, and select 'search address' by pressing up arrow key (space + dot 1) or 'down arrow key (space + dot 4)' and press enter. Or just press 'enter + s (dots 2,3,4)'.

If the user presses enter without inputting any text in the search key word, all the records inputted are selected. 'Record' is the address of one person.

And the user can search the record by inputting the other key word other than the name of the record. Move to the desired item by pressing 'up arrow key (space + dot 1)' and 'down arrow key (space + dot 4)' and input at that field, and press enter. The records that include that key word are listed.

In order to move to desired item in the searched record, refer to 'function keys in address list'.

6.5.2 Setting searching address field

It sets the fields that the user wants to check. Unselected field is not displayed if it is set. Press 'space + m (dots 1,3,4)' to call menu and select 'field setting' and press enter. Or just press 'enter + o (dots 1,3,5)'.

If the user wants to check only name, mobile phone number and company telephone number, press space at the corresponding field is displayed. Pressing space changes from 'use' to 'not use'. Pressing it again changes 'not use' to 'use'.

The user can check only name, mobile phone number and company telephone number after it was set.

6.5.3 Move to the add address during searching address.

The user can jump from the 'searching address' to the 'add address'. In order to do it, press 'space + m (dots 1,3,4)' to call the menu and select 'add address' and press enter. Or just press 'enter + i (dots 2,4)'.

6.6 Functions in the searched address

6.6.1 Search again

The user can search another address after searching one address.

During checking any field of searched record, if 'tab (space + dots 4,5)' or 'shift-tab

(space + dots 1,2)' is pressed, the field is changed to edit window for inputting searching key word.

6.6.2 Editing field

In order to edit the field, move to the field by using up arrow key or down arrow key. At the field to be modified, press 'space + m (dots 1,3,4)' to call menu and select 'edit', or just press 'enter + e (dots 1,5)'. And then input modifying content.

Move to the other field by pressing direction key explained before. After modifying the content of the field, press enter and then the content of the field is read and saved.

During the edit mode, other functions are not executed and all the fields can be edited with checking existing content even though some fields are selected by setting fields explained in section 4.4.2 and section 4.5.2.

In order to close editing mode, move to 'confirm' or 'cancel' by pressing tab (space + dots 4,5) or shift-tab (space + dots 1,2). Or press 'backspace + o (confirm)' to save changes or press

In order to save the changes, move to 'confirm' by pressing tab or shift-tab and press enter, or just pressing 'backspace + o'. In order to exit from edit mode, move to 'cancel' by pressing tab or shift-tab and press enter, or just press 'space + e (cancel)' or 'space + z(exit)'.

6.6.3 Delete record

In order to delete record, search desired record and delete it. Call menu by pressing 'space + m (dots 1,3,4)' and select 'delete' or press 'd (dots 1,4,5)'. Or just press 'space + d (dots 1,4,5)' at the record to be deleted. And one or more record can be deleted from the list by the following method.

1) Select individual record and delete

In order to select the deleting record, press space when the record to be deleted is displayed. The selected record can be deleted by pressing 'delete' key. Before delete, if space is pressed again, the selection is canceled. If any record is selected, '*' is attached in front of the 'name' that is first item of the record and 'selected' is announced in voice. If the user cancel selection by pressing space again, '*' in front of the name field is disappeared and 'canceled selection' is announced in voice.

2) Select all and delete

If the user wants to delete all the items after selecting all the selected records, press 'space + m (dots 1,3,4)' to call menu and select 'select all', and then press

'delete' key. 'Select all' is the function to select all the recorded that was searched.

6.6.4 Print

It prints the selected record in Braille printer or ink printer. First, search the record to be printed using 'searching address' function and select it. After selecting the record, press 'space + m (dots 1,3,4)' to call menu and select 'print', or press 'space + p (dots 1,2,3,4)'.

In order to select record, press space at the record to be printed or execute 'select all'. At the beginning of selected record, '*' is displayed.

The selected record can be printed in Braille printer or ink printer that are the sub menu of print menu.

6.6.5 Create file - Save as document

It saves the selected record in the form of document file. The method to select the desired record is the same as that of 'print'.

In order to save as document file, select 'create file' or press 'enter + t (dots 2,3,4,5)' after selecting the desired record. If the save as document function is executed, file name and file format is asked in the 'file save dialog box'. Input file name and select file format and save it. The method to use this dialog box is the same as that of 'save as' in wordprocessor.

7. Planner

7.1 Overview

Planner is used to input schedule like birthday, promise or any event, and give alarm at the reserved schedule. Especially, when Hansone is turned on, it announces today's schedule if the user set to do so.

The main function of the planner consists of 'add schedule' and 'search schedule'. 'Add schedule' is adding new schedule and 'search schedule' searches registered (added) schedule. By using 'search schedule' the user can edit or delete the schedule.

7.2 Execution of planner

When the planner is executed, 'search schedule' is activated first. But if there is no schedule inputted, it is activated from the 'add schedule' automatically and so the user can input schedules directly.

Basically, planner is executed by not only menu but also short cut keys.

7.3 Move keys of planner

1) Keys for moving from item to item (add/search/menu)

Move to previous item: up arrow key (space+dot 1)

Move to next item: down arrow key (space + dot 4)

Move to the first item: Ctrl-home (space + dots 1,2,3)

Move to the last item: Ctrl-end (space + dots 4,5,6)

2) Move by schedule unit (search schedule)

Move to previous schedule: space + dot 2

Move to next schedule: space + dot 5

Move to the first schedule: space + dots 2,3

Move to the last schedule: space + dots 5,6

3) Menu

Add schedule: l (dots 2,4)

Search schedule: s (dots 2,3,4)

Edit: e (dots 1,5)

Delete: d (dots 1,4,5)

Select all: a (dot 1)

Alarm option: o (dots 1,3,5)

Morning call: m (dots 1,3,4)

Create file: t (dots 2,3,4,5)

Print: p (dots 1,2,3,4)

4) Short cut keys

Add schedule: Enter + i (dots 2,4)

Search schedule: Enter + s (dots 2,3,4)

Edit: Enter + e (dots 1,5)

Delete: Space + d (dots 1,4,5)

Select all: Enter + a (dot 1)

Alarm option: Enter + o (dots 1,3,5)

Morning call: Enter + m (dots 1,3,4)

Create file: Enter + t (dots 2,3,4,5)

Print: Space + p (dots 1,2,3,4)

5) Cancel / Exit

(1) Cancel: Space + e (dots 1,5)

It cancels current job or setting like Esc key in personal computer.

(2) Exit: Space + z (dots 1,3,5,6)

Exit from the planner. It can be used as cancel key for any function.

7.4 Setting date / time

Setting data / time is the common function in the add schedule and search schedule to set date and time. This is very important explanation in the planner function and so we will explain it as independent section.

Setting date / time can be inputted directly, or can be inputted by using short cut keys. While inputting date and time, normal number in Braille with number sign or lowered number in Braille without number sign can be used. Hansone can process both of numbers without problem.

When inputting hour/minute of time and year/month/date in date are inputted with two digit numbers with space or dash (-) or slash (/).

By using following date/time setting toggle keys, the date/time can be inputted.

1) Date setting keys

Move to next day: space + dot 6

Move to previous day: space + dot 3

Move to next week: space + dot 5

Move to previous week: space + dot 2

Move to next month: space + 4

Move to previous month: space + 1

Move to next year: space + dots 5,6

Move to previous year: space + dots 2,3

2) Time setting keys

Move 1 hour next: space + dot 5

Move 1 hour before: space + dot 2

Move 1 minute next: space + dot 6

Move 1 minute before: space + dot 3

7.5 Add schedule

In order to add schedules, press 'space + m (dots 1,3,4)' to call planner menu and select 'add schedule (i)', or press short cut key 'enter + i (dots 2,4)'. 'Add schedule' consists of items like date, time, title, plan, alarm, confirm and cancel. Except plan field, other items can be inputted directly and press enter to input in order to input them. 'Confirm' and 'cancel' is used to confirm or not the current input. In order to confirm input, select 'yes', but select 'no' to cancel input.

In order to move to previous/next item, press tab (space + dots 4,5) and shift-tab (space + dots 1,2). The items in 'alarm setting' will be explained in the section '5.5.5 alarm setting'.

7.5.1 Promise date

When the add schedule is executed, 'promise date' is displayed first. Default date displayed is year/month/day that is set recently. In order to use this date as promise date, just press enter or tab to move to next item. Detailed setting method to set date is explained at 'setting date/time' above.

7.5.2 Promise time

This is the second item in the add schedule. It consists of setting hour and minute. The hour is inputted in 24 hour system. Detailed is the same as explained at 'setting data/time' above.

7.5.3 Title

This is third item in add schedule. Input title and press enter or tab to complete input and move to next item.

7.5.4 Plan

If enter is pressed at 'plan', the input window is opened. In this field the user can input detailed information of the promise. The method to input this field is the same as that in wordprocessor.

After completion of input plan, press 'space + z (dots 1,3,5,6)' to exit to the add schedule item list and press tab to move to next item.

7.5.5 Alarm setting

It sets alarm time that is the time interval before promise time. Default time is 20 minutes.

In order to change this time, input time in number directly or use time shift keys explained below.

1) Increase/decrease by 10 minutes

Press 'space + dot 2' in order to decrease by 10 minutes. Press 'space + dot 5' in order to increase by 10 minutes.

The maximum time duration that can be set is 23 hours 50 minutes.

2) Increase/decrease by 1 minute

Press 'space + dot 3' in order to decrease by 1 minute. Press 'space + dot 6' to increase by 1 minute.

The maximum time duration is 23 hours 59 minutes.

The alarm time can be set by using above method. If this time is set to '0', it means that the alarm function will not be used. Alarm function works only when the Hansone is turned on. Even though the alarm is set, if Hansone is not turned on, the alarm does not ring.

7.5.6 Confirm

It saves the inputted data.

7.5.7 Cancel

It cancels input. If it is selected, it moves to the start of add schedule and wait for new input. Press enter at 'cancel', or press 'space + e (dots 1,5)'.

7.6 Search schedule

It searches the schedule that was inputted. It can be activated by selecting 'search schedule' at the planner menu or just press 'enter + s (dots 2,3,4)'. The searched schedule can be edited, deleted and printed.

There are 'search by promised date' and 'search by title' in the search schedule. If the search schedule is executed, the 'promise date' is displayed first. If the user wants to search by title, press tab (space + dots 4,5) or shift-tab (space + dots 1,2) to select search by promise date and search by title.

If search schedule is executed, 'input searching date' is output in voice and '0000year 00month 00day' is displayed in Braille. If enter is pressed while this message is output, it searches today's schedule. If the user wants to search another date, input the desired date as 0000year 00month 00day directly or select desired date by using the date setting keys explained in 'setting date/time'.

If 'search by title' is selected, 'title?' is output in both voice and Braille display. Input all or some part of title in this field and press enter.

If enter is pressed after inputting date or title, it outputs the schedule of corresponding date or title. If there is no schedule that coincides with the search condition, it outputs 'no registered schedule'. If the schedule that coincides with the search condition is more than one, the user can check the schedules with move keys as explained before.

7.7 Edit schedule

In order to execute 'edit schedule', select 'edit' after call planner menu by pressing 'space + m (dots 1,3,4)' end press enter, or just press 'enter + e (dots 1,5)'.

'Edit schedule' can edit and modify schedule that is already inputted.

In order to modify the schedule, edit the schedule just as the method of add schedule. After finishing editing, the original schedule will be replaced by the modified schedule.

7.8 Delete schedule

In order to delete a schedule, execute 'search schedule' to find the schedule to be deleted. And then, select 'delete' after calling planner menu by pressing 'space + m (dots 1,3,4)', or just press short cut key 'space + d (dots 1,4,5)'.

And one or more record can be deleted by following method.

1) Delete individual record

Record to be deleted can be selected by pressing space when the record is displayed, and the selected record can be deleted by selecting 'delete' menu. In order to cancel the selection, press space again.

2) Select all and delete

In order to delete more than one records that was selected, select 'select all' in the planner menu and execute 'delete'.

7.9 Alarm option setting

It sets alarm duration and alarm repeat interval between alarm and successive alarm. It is executed by pressing 'alarm option' at the planner menu, or just pressing 'enter + o (dots 1,3,5)'.

1) Alarm duration

It sets the time duration of alarm. Setting unit is 5 seconds to 600 seconds.

Default setting time is 30 seconds. In order to change the setting, press enter and input number in Braille with number sign, or lowered number in Braille without number sign.

2) Alarm repeat interval

When it alarms, if the user do not stop alarming, Hansone starts alarm again after alarming for alarm duration. Alarm repeat interval is the time interval like this.

The setting value is from 1 minute to 60 minutes, and the default value is 5 minutes. In order to change the value, press enter and input time in number in Braille with number sign, or in lowered number in Braille without number sign.

3) Confirm

It confirms changes of the value and return to the previous status that was executed before selecting alarm option.

4) Cancel

It cancels setting changes. If it is executed, alarm option is stopped and the status that was executed before selecting alarm option is displayed.

7.10 Morning call

Morning call can be executed by pressing 'morning call (m)' in the planner menu, or just pressing 'enter + m (dots 1,3,4)'.

Morning call do not affect add schedule nor search schedule. It sets only 'morning call' at specific time and specific date in a week. 'Morning call' works during Hansone is turned on.

If Hansone is turned off, it does not work.

Move from one setting to the other setting is done by pressing 'tab (space + dots 4,5)' and 'shift-tab (space + dots 1,2)'.

1) Time setting

It sets morning call time. The method to set this time is the same as that of time setting explained in add schedule.

2) Morning call date setting

It sets the date(s) to ring morning call. Default is 'no use'. In order to change setting, press up arrow key (space + dot 1) and down arrow key (space + dot 4), or use advance bar, or backspace / space. The values that can be selected are 'one day', 'week day (Monday, Tuesday, Wednesday, Thursday, Friday)', 'every day', 'no use'.

3) Confirm

It confirms and saves the settings. If confirm is pressed, the settings are saved and return to the position where this menu is executed.

4) Cancel

It cancels setting. If cancel is pressed, the settings are canceled and return to the position where this menu is executed.

7.11 Print

It prints selected record in Braille or ink printer. First, select any record to be printed by using 'search schedule' menu and select 'print' in the planner menu by pressing 'space + m (dots 1,3,4)' and press enter, or just press short cut key 'space + p (dots

1,2,3,4)'.

To select record, press 'space' or use 'select all'. The selected record is printed by selecting 'print in Braille' or 'print in ink printer' in the menu. Regarding the printing method, refer to the explanation of printing in wordprocessor.

7.12 Create file

It creates new file that contains only the selected records of planner. Selecting the record to make new file is the same method as the file selection in 'print'.

If the records that are the elements of the new file are selected, select 'create file' in the planner menu, or just press short cut key 'enter + t (dots 2,3,4,5)'. If it is executed, the dialog box that asks file name and file format is displayed. Input file name and select file format in this dialog box and save it. Regarding the method to use this dialog box, refer to the explanation of 'save as' in the wordprocessor.

8. E-mail

You can send and receive e-mail if you connect Braille Hansone to the network by LAN. Press e (dots 1-5) at the program menu in order to execute e-mail.

If you want to check help, press space-h (dots 1-2-5). In order to send and receive e-mail, LAN port of Braille Hansone should be connected to network by LAN cable and e-mail environment should be set properly.

Some of free web mail provider do not support POP and SMTP service and so you should make sure it with your web mail provider. If POP and SMTP is not supported, you cannot use e-mail of Hansone with that e-mail id.

Regarding the e-mail environment setting, refer to section 7.3 of this user manual.

8.1 Read e-mail (dots 1,2,3,5)

In order to receive and read e-mail in Braille Hansone, you should execute 'read e-mail' in the e-mail menu. If 'read e-mail' is executed, 'read received e-mail', 'receive new e-mail' and 'send saved e-mail' is displayed as its sub menu.

But if you did not register service the 'e-mail environment setting', it requires you to generate service information at the environment settings. If 'read received e-mail' is executed, e-mail list is displayed.

If 'receive new e-mail' is selected, new e-mail will be received and move to e-mail list.

If 'send saved e-mail' is selected, the saved e-mail that was not sent due to any reason is sent again.

Followings are detailed explanations.

8.1.1 Read received e-mail (dots 2,4)

If 'read received e-mail' is selected, 'preparing for e-mail list' is displayed and the e-mail list is displayed later. E-mail list consists of title, receiver, sender, sent time, attachment, e-mail message, reply and transfer.

Followings are move key between each items.

Move to next item: Space + dot 4, F2, F4

Move to previous item: Space + dot 1, F1, F3

Move to next e-mail: Space + dot 5

Move to previous e-mail: Space + dot 2

Move to first item: Space + dots 1,2,3

Move to last item: Space + dots 4,5,6

Move to first e-mail: Space + dots 2,3

Move to last e-mail: Space + dots 5,6

Delete current e-mail: Space + dots 1,4,5

8.1.2 Receive new e-mail

It receives new e-mail from the e-mail server. After receiving new e-mail, it returns to the e-mail list.

In order to get new e-mail, select e-mail server at 'service selection list'. In order to move from one item to the other in this service selection list, press space-1 or space-4. In order to jump to first item, press space-1-2-3, and in order to go to last item, press space-4-5-6. Press enter at the expected service in order to connect to expected service.

If Braille Hansone succeeded to connect to the server, Braille Hansone checks new e-mail and down load it onto Braille Hansone if there is new e-mail received. And it announces the number of new e-mail received and displays it on Braille display.

After completion of receiving new e-mail, it shows 'e-mail list' automatically.

8.1.3 Send saved e-mail

It send saved e-mail that was not sent properly due to network error and so on.

8.1.4 Information of the e-mail

'Title' is the e-mail title. If the title is long and so it is not displayed on the Braille display, you can read it by pressing F2 or F4. Press enter while the title is displayed in

order to read that e-mail.

‘Sender’ is the name or e-mail id of the sender. If the sender’s e-mail id is too long, it may not appear on the Braille display but is announced in voice. You can also make sure it by pressing move key like F2 or F4.

‘Receiver’ shows the e-mail id of receiver and ‘Sent time’ shows the time that the e-mail was sent.

8.1.5 Download attached file

If there is ‘attached file’ on the received e-mail, Braille Hansone announces ‘x attached file(s)’. In order to download the attached file, move to the attached file by pressing space-1 or space-4, and press enter. Then Braille Hansone asks the download folder. If the default path is selected, the attached file will be downloaded to the default folder that was selected at the ‘option and default selection’ in the ‘environment settings’.

If space-4 is pressed to select ‘folder list’, you can select new folder to be downloaded and press enter to select it. When downloading is done it returns to the attachment file list. Press space-z (dots 1-3-5-6) to exit from attachment file list and return to e-mail list.

8.1.6 Read message

If enter pressed at the ‘title’ or ‘read e-mail message’, it starts to read e-mail message. How to use this read message is the same as that in wordprocessor.

In order to exit from read message, press space-z (dots 1-3-5-6).

8.1.7 Reply

Press enter at ‘reply’ in the e-mail list. Then the receiver of the e-mail will be the sender of the original e-mail message and the other things are almost the same as how to use ‘writing e-mail message’. Please refer to section 7.2 in this user manual.

8.1.8 Transfer

It transfers the current reading e-mail received to the other person. If you want you can add new message on the current e-mail message. Press enter at ‘transfer’ on the e-mail list. How to write message is the same as how to write e-mail message that will be explained on section 7.2 in this user manual.

8.2 Writing e-mail message (dots 2,4,5,6)

In order to write e-mail message, press enter at ‘write e-mail message’ in e-mail menu.

There are items including 'sender', 'cc', 'hidden cc', 'title', 'file attachment', 'message' and 'send'. Move from item to the other item is done by pressing space-1 and space-4.

'Sender', 'cc', 'hidden cc' and 'title' should be input directly and select attachment file and press enter in order to attach file. And write 'message'.

'Sender' should be input. If it is not input, next item will not appear. Writing 'message' is the same way in wordprocessor. If writing e-mail message is done, press space-z (dots 1-3-5-6) and move to 'send' and press enter to send the e-mail. The service selection will appear to select e-mail account that will be used to send e-mail.

Move by pressing space-1 to move to previous item, or press space-4 in order to move to next item. If 'send' is pressed, Braille Hansone shows 'under transmission'. If the e-mail is sent successfully, it displays 'completed sending e-mail'. If sending e-mail message failed, it shows 'fail to send e-mail' and exit from the e-mail writing menu.

8.2.1 E-mail address

More than one e-mail address can be selected or input in the field of 'receiver', 'cc' and 'hidden cc'. In order to input more than 2 e-mail ids, separate e-mail ids by ';'. E-mail id consists of English alphabet, number, @, ., - and _. And followings should be input in Computer Braille.

English alphabet: do not use grade 2.

Capital letter: space-u (dots 1-3-6) followed by alphabet to be input.

Number: number in Braille without number sign.

@ (at sign): space-u (dots 1-3-6) followed by dot 4.

. (period): dots 4-6

/ (slash): dots 3-4

; (semi colon): dots 5-6

8.2.2 Searching address (dots 3,4)

In order to search address, the name and e-mail address should be input in Address List. In order to use this Address List, call e-mail address by pressing space-3-4 at the e-mail address window (sender, cc and hidden cc). If 'input address keyword' is displayed, input all or part of searching name. Press enter if you want to display all the names in the Address List.

If there are couple of addresses with the same name that you input, it shows 'x addresses are found'. You can move between the found addresses by pressing space-1 or space-4. If space is pressed at the address that you are looking for, press enter. Or if you want to select more than two addresses, press space at the addresses that you

want to add as receiver's list. If space is pressed twice at the same address, it cancels selection. Finally press enter when you finished selecting addresses. If any address was selected by pressing space, Braille Hansone announces 'selected' and '*' is displayed at the address.

If adding e-mail address is done, it returns to address input status. If you want to input more address, call address list again and input continuously.

8.2.3 File attachment

You should designate attachment file if you want to attach any file to the e-mail.

In order to attach file, press enter at the 'file attachment'.

Select disk and folder where the file exists. How to use it is the same as the way in file manager.

Press enter if you found any file to be attached in order to attach that file.

If you want to attach more than two files, press space at the file to be attached.

If attachment of files is done, press space-4. Then it returns to the e-mail message writing function.

8.2.4 Writing e-mail

Press enter at 'writing e-mail message'. How to input e-mail message is the same as how to use wordprocessor. Please refer to wordprocessor. When writing e-mail message is done, press space-z (dots 1-3-5-6) and exit from 'writing e-mail message'.

8.2.5 Sending e-mail

In order to send written e-mail message, press enter at 'send'.

Then select e-mail service at 'service selection list' and press enter.

If the message is sent successfully, 'completed sending' is announced and exit to e-mail menu.

8.3 Setting e-mail environment (dots 1,3,5)

Setting e-mail environment has 'add service', 'search and modify service' and 'option and default setting' sub menus. Move from one sub menu to the other by pressing space-1 or space-4, or F1 or F4. And press enter at the sub menu that you want to execute.

8.3.1 Add service

In order to send and receive any e-mail, following information should be registered.

- 1) Service name: Name of registered environment (for example, hitel)
- 2) Logon id: e-mail id that was registered at the e-mail service provider (for example, hansone)
- 3) Password: Password that was registered at the e-mail service provider
- 4) E-mail id: the e-mail id that was registered at the e-mail service provider. (for example, hansone@hitel.net)
- 5) POP3 (Post Office Protocol version 3): server name for receiving e-mail. This name is provided by e-mail service provider. (for example, hitel.net)
- 6) SMTP (Simple Mail Transfer Protocol): server name for sending e-mail. This is also provided by e-mail service provider. (for example, smtp.hitel.net)

After inputting all the items, press enter to complete inputting each item and move to next item to be input. After inputting all the items press space-s (dots 2-3-4) to save settings and press space-z (dots 1-3-5-6) in order to exit from the setting menu.

During inputting any item, press backspace in order to delete previous character for modification. If backspace-c (dots 1-4) is pressed, the selected line will be deleted. Press space-1 or space-4 in order to move from one item to the other.

8.3.2 Searching service and edit (dot 2,3,4)

You can search and modify or delete any item at 'searching service'. If 'searching service' is selected, 'start of service list' is displayed. In order to move to next item press space-4. In order to move to the previous item, press space-1. Pressing space-4-5-6 moves to the last item, and pressing space-1-2-3 moves to the first item.

In order to move to the next item press space-5. In order to move to previous service item, press space-2. Moving to last service item is space-5-6. Moving to the first service item is space-2-3.

If you want to modify any item, move to that item and press space-m (dots 1-3-4). Then 'modify data' is displayed and the inputted information is displayed. Input modifying data and press enter, then the inputted one is over-written on the old data and saved automatically. In order to modify couple of items press space-m (dots 1-3-4) after moving to the item to be modified.

If you want to delete any service item, move to the item and press space-d (dots 1-4-5). Then 'delete service? Yes' is displayed. If enter is pressed, the selected item will be deleted. If you do not want to delete, press space to change 'yes' to 'no' and press enter.

8.3.3 Set option and default (dots 1,2,3,5)

'Setting option and default' has 'setting delete option', 'setting file attachment path' and 'setting download path'. 'Setting option and default' can be selected at the e-mail environment setting menu. Or press r(dots 1-2-3-5) at the e-mail environment setting menu.

Move from one item to the other is done by pressing space-1 or space-4. And press space-z (dots 1-3-5-6) in order to exit from setting menu and move to upper level menu.

Followings are the submenu of setting option and default menu.

1) Setting delete option

It sets whether the received e-mail message will remain in server or delete it.

If this menu is executed, 'remain e-mail copy at the server? Yes' is displayed. If you want to keep the copy at server, press enter at 'yes'. If not, press space to change 'yes' to 'no' and press enter.

2) Setting file attachment path

It sets default path for selecting file attachment.

If this sub menu is executed, '/flashdisk/upload. Change? Yes' is displayed. If you want to keep this path, press space to change 'yes' to 'no' and press enter. If yes is selected, Braille Hansone asks new path. How to select the new path is the same as the method in file manager. Press space at the selected path and press enter.

3) Setting download path

It sets default path for file downloading the attached file.

If this submenu is selected, '/flashdisk/download. Change? Yes' is displayed. If you want to keep this path, press space to change 'yes' to 'no' and press enter. If yes is selected, Braille Hansone asks new path. How to select the new path is the same as the method in file manager. Press space at the selected path and press enter.

8.4 Hot key list

1) Move from item to item or e-mail to e-mail

Move to next item: space-4, F2, or F4

Move to previous item: space-1, F1 or F3

Move to next e-mail: space-5

Move to previous e-mail: space-2

Move to the first item: space-1-2-3

Move to the last item: space-4-5-6

- Move to the first e-mail: space-2-3
- Move to the last e-mail: space-5-6
- 2) Reading e-mail: r (dots 1-2-3-5)
 - Read received e-mail: l (dots 2-4)
 - Receive new e-mail: n (dots 1-3-4-5)
 - Save in e-mail storage: r (dots 1-2-3-5)
- 3) Writing e-mail: w (dots 2-3-5-6)
 - Exit from e-mail writing: space-z (dots 1-3-5-6)
 - Search address list: space-3-4
 - Move to next item: space-4
 - Move to previous item: space-1
 - Select or cancel selection of address: space
 - Select address: enter
- 4) Delete e-mail: del (space-d (dots 1-4-5))
- 5) Setting e-mail environment: o (dots 1-3-5)
 - Add service: a (dot 1)
 - Search service: s (dots 2-3-4)
 - Setting option and default: r (dots 1-2-3-5)
 - Save service item: space-s (dot 2-3-4)
 - Modify service item: space-m (dots 1-3-4)
 - Delete previous character: backspace
 - Delete current line: backspace-c (dots 1-4)
 - Delete service item: del (space-d(dots 1-4-5))
- (Move key in the list)
 - Move to next item: space-4, F2 or F4
 - Move to previous item: space-1, F1 or F3
 - Move to the first item: space-1-2-3
 - Move to the last item: space-4-5-6
 - Move to next service: space-5
 - Move to previous service: space-2
 - Move to the first service: space-2-3
 - Move to the last service: space-5-6

9. Media player

Media player can play wav, mp3 and wma file. Such audio files can be played by using

Braille keyboard that will be explained in this section and also can be played by using audio keys that are located in the front side of the unit.

Media player contains not only playing music but also recording voice.

9.1 Using audio buttons

In order to use audio buttons that are located at the front side of the unit, stop all the application programs and the control should be at the program menu. If any one of audio button is pressed while the other program is being executed, it outputs 'stop the other program before execution of audio player'. The audio is played after you stop the other application program under execution.

9.1.1 Play button

Ellipse shaped button is audio play button. It is used to play any audio files that are already listed on the 'play list'. If there is no audio file in play list, media player will find and play audio file in '/flashdisk/media/' that is default folder for media player.

During playing any music, if this button is pressed again, the music will be paused. If this button is pressed again, it plays again from the paused position of the music.

If the button is pressed after recording any voice, the recorded voice is played.

9.1.2 Next button and Previous button

Out of audio buttons, there are two triangular buttons. Left most triangular button is previous button and the right most triangular button is next button. If you want to listen to the next music in play list or recorded voice file, press the next button. If you want to listen to the previous music in the play list or recorded voice file, press the previous button.

Those next and previous buttons can be used during playing back any music. If one of those buttons is pressed during playing any music, the current playing music will stop and it will find next music in the play list and starts playing it. If it is playing last music of the play list, and the next button is pressed, it will not work. Also if it is playing first music of the play list, and the previous button is pressed, it will not work.

9.1.3 Record button

You can find round button in the audio buttons. This button is record button. If the button is pressed, it starts recording. If this button is pressed again during recording, the recording will be paused.

9.1.4 Stop button

Stop button is rectangular button. During playing any music or recorded voice, if this button is pressed, it will stop playing. Or during recording voice, if this button is pressed, the recording will be stopped.

9.2 Braille keyboard and extended keys

If you use media player by using Braille keyboard of Braille Hansone, you can use more features than you use the media player using audio button that are located at the front side of the unit.

In order to execute media player by Braille keyboard, select 'media player' at the program menu or press m (dots 1-3-4) that is the short cut key of media player.

If media player is executed, two tabs will appear. One is playback information tab and the other one is play list tab. In order to move between these two tabs, press 'space-4-5' or 'space-1-2'.

Followings are the selection list for those tabs.

9.2.1 Playback information tab

Playback information tab shows many information. The first information is the title of play list that is selected as current play list. This is the file name of current play list. Next information shows status message of the play list. The status is playback, pause or stop. If there is no selected play list, 'title: no item to be displayed' will be displayed. It means that there is no selected play list.

If move key is pressed again, two kinds of time information are displayed. One is the remaining time of current music or elapsed time. You can select remaining time or elapsed time in the dialog box that will be explained later.

If you selected remaining time, minus sign will be displayed in front of the remaining time. If you selected elapsed time, plus sign will be displayed in front of the elapsed time. And the next displayed time is total play time of the play list. If the play list is changed, this total time will also be changed. If there is no selected play list, 'time: no time to be displayed' will be displayed.

9.2.2 Play list tab

It shows the items in the selected play list. If there is no item in the play list, 'no item' will be displayed.

If there is no item in the play list, you should register items (files) to be played by using 'file menu' that will be explained later. Various kinds of play list items can be

registered in the play list tab. In the play list tab, many of play list can be registered. Followings are example of play list.

For example, if '(1): Chopin - Fantasie Impromptu 1/10' is in the play list, the first number (1) is play item number (we say it 'track'). And 'Chopin – Fantasie Impromptu' is file name in play list. '1/10' is registered in the play list and it means that this music is first one out of 10 items in the play list.

9.2.3 Function keys in play information tab and play list tab

Followings are the function keys and its functions that are used in play information tab and play list tab.

(key)	(function in the play information tab)	(function in the play list tab)
Space-4	Move to the next information	Move to the next item
Space-1	Move to the previous information	Move to the previous item
Space-4-6	None	Move to the last item
Space-1-3	None	Move to the first item
Space	Puase/play	Select/deselect current item (during playing, pause/play)
Enter-1-2	None	Start selecting items
Enter	Start playing	Play current item
Backspace	Stop playing	Stop current playing item
Space-1-4-5	None	Delete current item or selected item
Dot 6	Play next item	Play next item
Dot 3	Play previous item	Play previous item
Dots 4-6	Play last item	Play last item
Dots 1-3	Play first item	Play first item
Dots 5-6	Play fifth file from the current file	Play fifth file from the current File
Dots 2-3	Play fifth previous file from the current file	Play fifth previous file from the current file
Dot 5	Play after advance by 5 seconds	Play after advance by 5 sec
Dot 2	Play from 5 sec before	Play from 5 sec before
Space-1-3-4	Open menu	Open menu
Space-1-2-5	Open help	Open help
Space-4-5/Space-1-2	Move to play list tab	Move to play information tab
Space-1-3-5-6	Exit program	Exit program

9.3 How to use media player menu

Media player menu consists of 4 menus. First menu is 'file'. It is used to register any music file into play list tab or delete any music file from the play list tab.

The second menu is 'play' that has playback function menus for playing music.

The third menu is 'record' that provides function to record voice. The last menu is 'setting' that has various setting function for playing and recording.

Followings are more detailed information.

9.3.1 File

In order to call file menu, press 'space-1-3-4(m)' at the play information tab or play list tab. Then 'file f->' is displayed. Press enter or input dots 1-2-4 (f) that is short cut key for file menu. Then following sub menus will appear.

1) File open dialog box

The file open dialog box is the same dialog box for file open in file manager. You select disc and folder, and select file to be played. The extension names of the audio files are wav, mp3 and wma. If any file is selected, that file is registered in the play list tab.

As explained before, file open dialog box has same construction as the file open dialog box in file manager and so you can use this dialog box in the same way. If you want to open this dialog box quickly, press enter-o (dots 1-3-5) at the play information tab or play list tab.

2) Folder open dialog box

Folder open dialog box has also disc selection and folder selection process. The difference from the file open dialog box is that it is used to open folder not file. You find the folder that has playable files and press 'space' to select that folder and press enter. Then Braille Hansone will find playable files in the selected folder and add those files into play list tab and starts playing first item in the play list. If there is lower level folder in the selected folder, it finds the playable files in the sub folder and register them into play list, too.

If you want to open 'folder open dialog box' quickly, press 'enter-f (dots 1-2-4)' at the play information tab or play list tab.

3) Add file dialog box

At this add file dialog box, you can select files to be played and select play list and add that file to the selected play list. In the 'file open dialog' box, if you add any audio file, then it is played immediately without pressing play button or command. But in this 'add file dialog box', it adds any file into the play list but not start playing music immediately.

Also you can call this dialog box quickly by pressing 'backspace-o (dots 1-3-5)' that is short cut key for add file dialog box.

4) Add folder dialog box

How to use this dialog box is the same as that of folder open dialog box. The difference is that it does not start playing immediately after adding any folder to the play list. For the quick opening this dialog box, press 'backspace-f (dots 1-2-4)' that is short cut key of add folder dialog box.

5) Delete item

This is used to delete any item in the play list tab. Open play list and select the file to be deleted and execute 'delete item'. Then the selected item will be deleted from the play list. In order to select more than one item to be deleted, press 'enter-b (dots 1-2)' or press space at the file to be deleted.

Deleting from the play list do not means deleting any file from Braille Hansone forever. Deleting from the play list is just deleting from the play list. The file itself will remain in the original folder. If you want to add that file into the play list, you can add simply again.

The short cut key for this delete item is 'space-d (dots 1-4-5)'.

6) Exit

It exits from media player. During playing any file if this button is pressed, the media player program will be stopped and exit from the media player program. You can also exit from the media player by pressing 'space-z (dots 1-3-5-6)'.

As explained above, you can execute any item by pressing corresponding initial letter. You can move back to previous status by pressing 'space-e (dots 1-5)' and cancel menu by pressing 'space-z (dots 1-3-5-6)' and move to play information tab or play list tab.

9.3.2 Play

In order to start playing, press 'space-m (dots 1-3-4)' or call media menu and press 'p(dots 1-2-3-4)' that is initial of play, or move to 'play p' by pressing moving keys. Then following 13 lower level items appear. The functions and its short cut keys are listed below.

- 1) Play (p): Starts playing selected file in the play list tab. If more than one file is selected, the selected files are played sequentially. And if enter is pressed at the play information tab or play list tab, it starts playing without calling menu.
- 2) Previous track (b): Play previous track in the play list. Pressing dot 3 at the play information tab or play list tab also plays in the same way.
- 3) Next track (n): Play next track in the play list. Pressing dot 6 at the play information tab or play list tab has the same function.
- 4) 5th previous track (d): Starts play 5th previous track. Pressing dots 2-3 at the play information tab or play list tab has the same function.
- 5) 5th next track (u): Starts play 5th next track. Pressing dots 5-6 at the play information tab or play list tab has the same function.
- 6) First track (t): Starts playing first track in the play list. Pressing dots 1-3 at the play information tab or play list tab has the same function.
- 7) Last track (e): Starts playing last track in the play list. Pressing dots 4-6 at the play information tab or play list tab has the same function.
- 8) 5 seconds previous (r): Play from the 5 seconds advanced from the current position when enter is pressed. Pressing dot 2 has the same function in the play information tab or play list tab.
- 9) 5 seconds next (f): Play from the 5 seconds from the current position when enter is pressed. Pressing dot 5 has the same function at the play information tab or play list tab.
- 10) Pause (a): During playing any music, if enter is pressed at pause, the music is paused. In order to play continuously, select play in the play menu. Pressing space bar at the play information tab or play list tab has the same function.
- 11) Stop (s): During playing any music, if enter is pressed at stop, the music stops and returns to play information tab or play list tab. Pressing backspace at the play information tab or play list tab has the same function.

10. Web Browser

The main purpose of Hansone web browser is to read web page in the internet.

In order to execute web browser, select 'web browser' at the program menu and press enter. Then it is connected to the web page that was registered as 'starting page' in the web browser.

The more detailed will be explained below.

10.1 File (F)

File menu is executed by selecting 'file' after pressing 'space + m (dots 1,3,4)' that calls web browser menu and press enter, or just press short cut key 'backspace + f (dots 1,2,4)'. To move from one submenu to another submenu, press up arrow key (space + dot 1) and down arrow key (space + dot 4). Followings are the detailed function explanation of file menu of web browser.

10.1.1 Open URL (U)

It is executed by selecting 'Open URL' at the web browser menu, or just press short cut key 'enter + u (dots 1,3,6)' during web browser is activated.

If 'open URL' is executed, the edit window for inputting address is displayed. On this window, the address of current page is displayed. Input new home page address in computer Braille just like 'www.yahoo.co.kr' and press enter.

The user can check the address that was inputted before by pressing down arrow key (space + dot 4). Move to the address that the user wants to open using up arrow key or down arrow key and press enter. By inputting a new address or selecting one address, web browser will be connected to that web page.

10.1.2 Open (O)

In order to execute 'open', select 'open' at the web browser menu, or press 'enter + o (dots 1,3,5)' while web browser is opened.

It opens html file (with extension .htm) that was saved before in the Hansone. It is almost the same function as the open function in the wordprocessor, but web browser can open only html file only.

Input file name in the edit window and press enter, or press tab (space + dots 4,5) to move to the file list and select desired file and press enter.

The default folder is '/flashdisk/download' and it can be changed by the same method as explained in 'file manager'.

In order to check the current path, press 'space + dots 3,4'. This can be used at the dialog boxes of 'save as', 'add favorite' and 'favorite list'

Web browser can open only html file, and so there is no file format item in the dialog box of web browser. This is the difference between the dialog box of wordprocessor and that of web browser.

In order to cancel 'open', press 'escape (space + e)' or 'exit (space + z)'. Or select 'cancel' by pressing tab and press enter to cancel 'open'.

10.1.3 Save as (A)

In order to execute 'save as', select 'save as' at the web browser menu and press enter, or just press 'space + s (dots 2,3,4)' during the web browser is opened.

'Save as' can save html file with the different file name. This is almost the same as 'save as' in wordprocessor, but it can only save with html file format, not the other file format. Input new file name and press enter to save as new file name. The default folder is '/flashdisk/download'. If the user wants to change the path, press 'tab (space + dots 4,5)' in order to move to file list, and then select file and press enter.

It can only save html file format, there is no 'file type' item in the dialog box.

In order not to save with new file name, press 'escape (space + e)' or 'exit (space + z)'. Or select 'cancel' by pressing tab and press enter to cancel saving.

10.1.4 Page information (I)

Page information shows how many tables, links and controls are in the current page.

Page information is shown in one line, and if there are too many texts to be displayed, press f4 to read additional lines.

Select 'page information' at the web browser menu and press enter to check page information.

10.1.5 Exit (Z)

It ends web browser and return to the program list. It can be executed by pressing 'space + z' as well as selecting exit in the web browser menu.

10.2 Move (M)

Move menu can be selected by pressing 'space + m (dots 1,3,4)' followed by pressing enter, or by pressing short cut key 'backspace + m (dots 1,3,4)'.

10.2.1 Move to home page (P)

The first page when web browser is opened is called home page. The user can register one's favorite site as home page. Whenever 'starting page' is selected or executed, web browser shows home page that was registered.

The default starting page is www.himskorea.co.kr that is the home page of HIMS Co., Ltd.. In order to move to the home page, select 'home page' at the web browser menu, or just press 'enter + p (dots 1,2,3,4)' during web browser is opened.

10.2.2 Move to previous page (B)

Previous page is the page shown just previous to current page. For example, when the web browser is executed, first page opened is home page of HIMS that was registered in the starting page, and search and load home page of Yahoo, and then call news page by clicking 'news' link on the home page of Yahoo. In this case, the home page of Yahoo is previous page of current 'news' page.

In order to move to previous page, select 'move to previous page' at the web browser menu and press enter, or just press backspace with left arrow key (backspace + space + dot 3). But at the first page is displayed on the web browser, it does not work, because there is no previous page of first page.

10.2.3 Move to next page (W)

When many pages were opened, the page shown next to current page is next page. For example, first, connect to home page of HIMS that was registered as starting page, and then connect to home page of Yahoo, and next, connect to home page of Lycos. Then, the next page of Yahoo is Lycos.

In order to move to next page, select 'move to next page' at the web browser menu and press enter, or just press backspace with right arrow key (backspace + space + dot 6). But when the last page is displayed, it does not work, because there is no next page to the last page.

10.2.4 Refresh (R)

If the page is not opened correctly due to network problem and so on, or refresh the current page, select 'refresh' at the web browser menu and press enter, or just press 'enter + r (dots 1,2,3,5)'.

10.2.5 History (H)

History saves the page address and its title that was connected by link selection as well

as the page address and name that the user inputted. The title of each item in the history list is displayed. In order to display the address, press 'space + i (dots 2,4)' . If the user had been inputted 'www.yahoo.co.kr' before, it will show the title of the page, 'Yahoo!'.

In order to connect to Yahoo site by using history list, select 'Yahoo!' in the history list and press enter. In order to change the display from the title to the address, press 'space + i'.

And in order to delete undesired item on the history list, select that item on the history list and press 'del key (space + d)'.

In order to open history list, select 'history' at the web browser menu and press enter, or just press short cut key 'enter + h (dots 1,2,5)'.

The maximum number of items in the history list is 300 items. If it exceeds 300 items, the oldest item will be deleted automatically from the history list and added new item.

10.2.6 Find (F)

This function has the same function in wordprocessor. This function finds any text string in the web page found and move to the position where the found text string is located. In order to execute 'find' menu, select 'find' at the web browser menu and press enter, or just press 'space + f (dots 1,2,4)'.

If the 'find' is executed, the dialog box that contains input box for inputting text string and searching direction is appeared. Like other dialog box, in order to move from one box to the other box, press tab (space + dots 4,5) or shift-tab (space + dots 1,2).

Input the searching text string and select searching direction and press enter, and then it finds the text string and move to the position with that text string.

The default direction is 'forward' that searches from the current position to the end of the page. If the user wants to change the direction, select 'previous' and press enter.

If the direction is not changed, the direction will be kept until the web browser is closed.

10.2.7 Find again (E)

Find again searches the text string again at the direction selected. On the move menu, select 'find again' and press enter, or just press 'space + r (dots 1,2,3,5)' to execute find again.

'Find again' finds the text string that was used to search before, and so there is no edit window for text string and searching direction selection.

10.3 Favorite (A)

'Favorite' is executed by selecting 'favorite' at the web browser menu that is called by pressing 'space + m (dots 1,3,4)' and pressing enter, or just pressing 'backspace + a (dot 1)'.

By using 'favorite' menu, the user can find the web site that the user browses frequently.

10.3.1 Registering home page (H)

'Home page' is the web site that is connected automatically when the web browser is opened. The user can register the web site that the user browses frequently as home page. In order to register home page, connect to the web site that will be the home page. And then select 'register home page' at the favorite menu and press enter.

10.3.2 Add favorite (A)

In order to add favorite, select 'add favorite' at the favorite menu and press enter.

'Add favorite' is dialog box, and it includes edit box where the name of the site is inputted, list box for selecting path, confirm and cancel. Moving from one item to the other item is done by pressing 'tab (space + dots 4,5)' or 'shift-tab (space + dots 1,2)'. When this edit box is opened, the name of current title is displayed and the extension is URL. The root folder for this favorite is '/flashdisk/favorites'. If press enter without changing this path, the address of the selected site will be saved in this folder.

If the user wants to change the name and/or path, input the new name in the edit window and select path and press enter. At this time, the extension URL cannot be changed, and the upper most folder is 'favorite' and so the path should be lower folder of 'favorite'.

And, there is no function to create folder in the 'add favorite' menu, and so the user have to make new folder under the 'favorite' folder if the user want to save the favorite at the desired new folder. New folder can be created at the 'file manager' or 'favorite list' menu of web browser menu.

10.3.3 Favorite list (L)

The user can look up any web site out of the list saved by 'add favorite'. And also the user can copy, delete or rename the name of the site in the favorite list.

In order to execute favorite list, select 'favorite list' at the favorite menu and press enter. If the user inputs the site name in the edit box, or selects it by pressing tab key, and press enter, web browser browses the selected web site.

In the favorite list, if there is any folder that the user created, the folder name is displayed with the file name. The folder name is displayed with quotation mark. Open the menu by pressing 'space + m' and then the user can rename, copy, paste and create folder, just like the functions in 'file manager'.

10.4 Read page

In the web page, there are links, controls and other various elements as well as texts. And so in order for the user to look up web sites, the web browser should provide recognize each elements and let the user know.

So, when reading the web page by moving with 'space + dot 4' or 'space + dot 1', one element is displayed in one line. And links and controls are displayed with respective symbols for the user to distinguish each element.

More detailed will be explained below.

10.4.1 Move to link

The link is displayed on the display on the Braille display as follows.

'Start of link (dots 4,5,6, dot 1,3), link name, end of link (dots 4,6, dots 1,2,3)'

It is outputted 'link' in voice. If there is no tool tip or text that has little explanation of the image provided by web site at the selected 'image link', the file name is displayed as link name.

In order to move to link, select link in the read menu and press enter.

And in order to move from one link to the other link, use move to link as explained below.

1) Move to previous link: Backspace

Move to the nearest previous link. If there is no more previous link, warning sound is outputted.

2) Move to next link: Space

Move to the nearest next link. If there is no more next link, warning sound is outputted.

10.4.2 Move to control

Control means edit box, radio button or combo box that is used in Windows of personal computer. Web pages also use various kinds of controls for user input.

Each control has different control method and purpose, and so the user has to know exact type of control. For example, in case of edit window, input text string that the user wants to input or web site designate to be inputted. In case of combo box and list

box, the user should select one of the items. In the Hansone web browser, it uses a pair of symbols to inform the beginning and end of control. And in order to move from one control to the other control without reading other texts, Hansone provides move to control as follows.

1) Previous control: Shift-tab (space + dots 1,2)

Move to the nearest previous control from the current position. If there is no more previous control, warning sound is outputted.

2) Next control: Tab (space + dots 4,5)

Move to the nearest next control from the current position. If there is no more next control, warning sound is outputted.

Next, more detailed about each control will be explained.

1) Edit window

The symbol of beginning of the edit window is 'dots 1.2.3.4.6' and the end symbol is 'dots 1,3,4,5,6'. The texts are displayed between those two symbols. In order to input texts in this edit window, press enter when the edit window is displayed. If there is any text already, it is outputted in both Braille and voice. Input desired text string and press 'Esc (space + dots 1,5)', and then the edit window is closed and return to the page before it is opened. At this time the texts are outputted in both Braille and voice.

2) Combo box

The symbol of beginning of combo box is 'dots 1,2,3,4,6 and dots 2,5' and the end symbol is 'dots 2,5, and dots 1,3,4,5,6'. The texts for the combo box is displayed between those two symbols. At the end of the combo box display, the number of the selected item and the total number of items are displayed with slash between these two numbers.

For example, the total number of items is 12 and the selected item is 4th item, it displays 4/12.

In order to change the selection in the combo box, press and hold 'backspace' and press 'down arrow key (space + dot 4)' or 'up arrow key (space + dot 1)'.

3) List box

The symbol of beginning of list box is 'dots 1,2,3,4,6, and dots 1,2,3' and the end symbol is 'dots 4,5,6 and dots 1,3,4,5,6'. The texts for the list box is displayed between those two symbols. At the end of item, the number of item and the total number of items are displayed with slash between the two numbers, just like explained in Combo box.

In order to select other item in the combo box, press and hold 'backspace' and

press 'down arrow key (space + dot 4)' or 'up arrow key (space + dot 1)'.

4) Radio button

If the radio button is selected, 'dots 2,4,5,6, dots 1,2,3,4,5,6 and dots 1,2,3,5' is displayed. If the selection is canceled, 'dots 2,4,5,6, dots 3,6 and dots 1,2,3,5' is displayed. And then press enter to select.

5) Check box

If the check box is selected, 'dots 4,5,6, dots 1,2,3,4,5,6 and dots 1,2,3' is displayed. If the check box is not selected, 'dots 4,5,6, dots 3,6 and dots 1,2,3' is displayed.

In order to select or cancel selection, press enter.

6) Button

The symbol of beginning of button is 'dots 1,2,3,4,6 and dots 2,6' and the end symbol is 'dots 3,5, dots 1,3,4,5,6'. The button name is displayed between those two symbols. Press enter to click the button.

10.4.3 Table

At the starting position of table, Hansone shows table number and the numbers of row and column. For example, if there is two upper level tables, and each table has three lower level table, the starting position of the first table that is in second upper level table is shown as 'table 2-1 3 rows 2 columns'.

At the end of the table, it shows table number only like 'table 2-1'.

If the table consists of only 1 row and 1 column, or the empty table that has only border or background, such tables are not shown.

And Hansone provides the method to move by table and move by cell and in order for the user to comprehend the structure of the table.

In order to move by cell, the cell position and contents of the cell are displayed. The position information is outputted only in voice.

For example, if the moved cell is second row and third column, and the content of the cell is 'news', 'second row third column news' is outputted, where 'second row third column' is outputted in voice only and 'news' is displayed in Braille.

If the table is included in the cell, 'table cell' is outputted and if there is no table in the cell, 'empty cell' is outputted.

In the table cell, if the user wants to read lower level table (inner table) by moving by cell, press chord 4 to move to the starting line of the lower level table and then move by cell. If move to next cell or previous cell in the current table cell, it moves to the next or previous cell in the same table.

If the cell is merged, it is outputted like 'second row, from third to fourth column'. It means that the third cell and fourth cell are merged. It is the same as for merged column.

Move by cell is valid only in the table and if executed out of table, warning sound is outputted.

- 1) Move to previous table: space + dots 3,4,5,6
It moves to the starting position of the previous table. If there is no more previous table, warning sound is outputted.
- 2) Move to next table: space + dots 1,4,5,6
It moves to the starting position of the next table. If there is no more next table, warning sound is outputted.
- 3) Move to previous cell: space + dots 2,3
It moves to the previous cell. If the current cell is first cell, it moves to the table start line and warning sound is outputted.
- 4) Move to next cell: space + dots 5,6
It moves to the next cell. If current cell is the last cell, it moves to the table end line and warning sound is outputted.
- 5) Move to upper cell: space + dots 3,5
It moves to the cell in the previous row in the same column. If the current cell is at the first row, warning sound is outputted.
- 6) Move to lower cell: space + dots 2,6
It moves to the cell in the next line with the same column. If the current cell is at the last row, warning sound is outputted.
- 7) Current cell: space + dots 2,3,5,6
It outputs the content of current cell again.
- 8) Move to previous cell of the upper level table: backspace + dots 2,3
It moves to the previous cell of the current cell that contains current table. If the current table cell is the first cell of upper most level table, it moves to the start table line. It does not work at the upper most level table.
- 9) Move to lower cell of the upper level table: backspace + dots 5,6
It moves to the next cell of the current cell that contains current table. If current table cell is the last cell of upper most level table, it moves to the end table line. It does not work at the upper most level table.
- 10) Move to upper cell of upper level table: backspace + dots 3,5
It moves to the cell in the previous line of the cell that contains current table. If the cell that contains the current table cell is located in the first row of the

upper level table, warning sound is outputted. It does not work at the upper most level table.

11) Move to lower cell of upper level table: backspace + dots 2,6

It moves to the row of the current cell that contains current table. If the table cell that contains current table is at the last row of upper level table, warning sound is outputted.

It does not work at the upper most level table.

12) Check position: space + dots 1,5,6

It returns the number of row and the number of column of current cell in the table. It is outputted in both Braille and voice, like 'table 2-3 third row fourth column'.

10.4.4 Move to frame

At the frame, the frame number and frame name is outputted, and 'start' and 'end' are displayed at the start and end of frame, respectively.

If the name of second frame is 'main frame', 'frame 2 start of main frame' is displayed.

If there is no frame name, only frame number is displayed.

1) move to previous frame : space + dots 3,4,6

It moves to the start position of the previous frame. If there is no more frame, warning sound is outputted.

2) move to next frame : space + dots 1,4,6

It moves to the starting position of the next frame. If there is no more frame, warning sound is outputted.

10.5. Hot keys and symbols

10.5.1 Hot keys

1) File menu: backspace + f (dots 1,2,4)

Open URL: Enter + u (dots 1,3,6)

Open: Enter + o (dots 1,3,5)

Save as: Space + s (dots 2,3,4)

Exit: Space + z (dots 1,3,5,6)

2) Move menu: Backspace + m (dots 1,3,4)

Move to home page: Enter + p (dots 1,2,3,4)

Move to previous page: Backspace + space + dot 3

Move to next page: Backspace + space + dot 6

- Refresh: Enter + r (dots 1,2,3,5)
- Open history list: Enter + h (dots 1,2,5)
- History address: Space + i (dots 2,4)
- Find: Space + f (dots 1,2,4)
- Find again: Space + r (dots 1,2,3,5)
- 3) Favorite: Backspace + a (dot 1)
 - Register as home page: Backspace + a, h
 - Add favorite: Backspace + a, a
 - Favorite list: Backspace + a, l
- 4) Move to link
 - Move to previous link: Backspace
 - Move to next link: Space
- 5) Move to control
 - Move to previous control: Shift-tab (Space + dots 1,2)
 - Move to next control: Tab (Space + dots 4,5)
 - Select next item in the combo box (list box): Backspace + space + dot 4
 - Select previous item in the combo box (list box): Backspace + space + dot 1
- 6) Move to table
 - Move to previous table: Space + dots 3,4,5,6
 - Move to next table: Space + dots 1,4,5,6
 - Move to previous cell: Space + dots 2,3
 - Move to next cell: Space + dots 5,6
 - Move to upper cell: Space + dots 3,5
 - Move to lower cell: Space + dots 2,6
 - Move to previous cell of upper level table: Backspace + dots 2,3
 - Move to next cell of upper level table: Backspace + dots 5,6
 - Move to upper cell of upper level table: Backspace + dots 3,5
 - Move to lower cell of upper level table: Backspace + dots 2,6
 - Check current position: Space + dots 1,5,6
- 7) Move to frame
 - Move to previous frame: Space + dots 3,4,6
 - Move to next frame: Space + dots 1,4,6
- 8) Read current line again : Space + r (dots 1,2,3,5)

10.5.2 Symbols of link and control

Start of link: dots 4,5,6, dots 1,3

End of link: dots 4,6, dots 1,2,3
 Start of edit window: dots 1,2,3,4,6
 End of edit window: dots 1,3,4,5,6
 Start of combo box: dots 1,2,3,4,6, dots 2,5
 End of combo box: dots 2,5, dots 1,3,4,5,6
 Start of list box: dots 1,2,3,4,6 dots 1,2,3
 End of list box: dots 4,5,6 dots 1,3,4,5,6
 Start of button: dots 1,2,3,4,6 dots 2,6
 End of button: dots 3,5, dots 1,3,4,5,6
 Radio button selected: dots 2,4,5,6 dots 1,2,3,4,5,6 dots 1,2,3,5
 Radio button not selected: dots 2,4,5,6 dots 3,6 dots 1,2,3,5
 Check box selected: dots 4,5,6 dots 1,2,3,4,5,6 dots 1,2,3
 Check box not selected: dots 4,5,6 dots 3,6 dots 1,2,3

10.6 What web browser do not support

- 1) Image is not supported.
- 2) Any executable file on the web site cannot be executed. It is because of the difference of operating system.
- 3) Web page that was made using flash cannot be opened.
- 4) Do not support JavaScript

11. Utility

11.1 Calculator

The calculator in Braille Hansone includes scientific calculator. The algebraic expression can be checked in Braille and voice. During using calculator, if you need any help, you can call it by pressing space-h (dots 1-2-5).

11.1.1 Execution of calculator

Press c(dots 1-4) at the utility menu in order to execute calculator.

If you want to use calculated result that you calculated before, input operator first. If the other numbers other than operator is input, the calculation made before will be cleared to 0. Pressing backspace-c (dots 1-4) will clear calculation expression.

11.1.2 Input calculation express

If the calculator is executed, 'start calculation' is announced in voice and Braille
Hansone is ready to input expression.

Followings are the input method for calculation.

When inputting number in calculator, use computer Braille. It means that from 0 to 9,
the corresponding Braille is dots 3-5-6 (0), dot 2 (1), dots 2-3 (2), dots 2-5(3), dots 2-
5-6(4), dots 2-6(5), dots 2-3-5(6), dots 2-3-5-6(7), dots 2-3-6(8), dots 3-5(9).

Do not use number sign. And do not input space during inputting expression.

Followings are the operators;

Add: dots 3-4-6

Subtraction: dots 3-6

Multiplication: dots 1-6

Division: dots 3-4

Decimal point: dots 4-6

Percent operator: dots 1-4-6

Open parenthesis: dots 1-2-3-5-6

Close parenthesis: dots 2-3-4-5-6

Press enter after completion of inputting expression and make sure calculation result.

1) Reading calculation expression

If you want to review inputted calculation expression or modify it, you can move by
32 column by using move keys.

2) Editing calculation expression

Editing calculation expression is possible only in the order of reverse successive
order.

11.1.3 Basic calculation

1) Addition, subtraction, multiplication and division

Calculation order is the same as normal operation in math.

For example, $5 + 4 \times 8$. Multiplication will be calculated first and then addition is
calculated later. The answer to this calculation will be 37.

2) Using parenthesis

Parenthesis is calculated prior to 4 operators.

Open parenthesis is dots 1-2-3-5-6 and closing parenthesis is dots 2-3-4-5-6.

Use of multiple parentheses is available.

For example, $(5+4) \times 8$. Calculation in the parenthesis is done first and then

multiplication is calculated. The answer to this calculation is 72.

3) Negative number

Basically, two operators cannot be input successively. If you should use two successive operators, use parentheses.

For example, $10 - -3$ cannot be input. This should be input as $10 - (-3)$.

4) Percent

Regarding the percent calculation, refer to following examples.

Ex1) $90 + 20\%$: Calculate 20 percent of 90 first and then add it to 90. So the calculation result is $90 + 18 = 108$

Ex2) $90 - 20\%$: Calculate 20 percent of 90 first and then subtract it from 90. So calculation result is $90 - 18 = 72$

Ex3) $20/40\%$: $20/40$ is 0.5. And so it is 50 percent

Ex4) $90 \times 30\%$: It means 30 percent of 90. The calculation result is 27.

11.1.4 Scientific Calculation

It can calculate engineering and scientific calculation including trigonometric function or logarithmic function. Those include open and closing parentheses. For example in case of sine calculation, it should begin with `'sin('`. The closing parenthesis is necessary.

Followings are the scientific calculation operators.

sine: Enter `-s(dots 2-3-4)` followed by `s(dots 2-3-4)`

arc sine: Enter `-s(dots 2-3-4)` followed by `a(dot 1)`

hyperbolic sin: Enter `-s(dots 2-3-4)` followed by `h (dots 1-2-5)`

cosine: Enter `-c(dots 1-4)` followed by `c(dots 1-4)`

arc cosine: Enter `-c(dots 1-4)` followed by `a (dot 1)`

hyperbolic cosine: Enter `-c(dots 1-4)` followed by `h (dots 1-2-5)`

tangent: Enter `-t(dots 2-3-4-5)` followed by `t (dots 2-3-4-5)`

arc tangent: Enter `-t(dots 2-3-4-5)` followed by `a (dot 1)`

hyperbolic tangent: Enter `-t(dots 2-3-4-5)` followed by `h (dots 1-2-5)`

natural logarithm (ln): Enter `-l(dots 1-2-3)` followed by `e (dots 1-5)`

common logarithm (log): Enter `-l(dots 1-2-3)` followed by `n (dots 1-3-4-5)`

square root: Enter `-q(dots 1-2-3-4-5)`

exponent: `Backspace-4-5`

11.2 Setting date/time (dots 2,3,4,5)

Move to next month: Space + dot 4

Move to previous month: Space + dot 1

Move to next week: Space + dot 5

Move to previous week: Space + dot 2

Move to next day: Space + dot 6

Move to previous day: Space + dot 3

Move to next year: Space + dots 5,6

Move to previous year: Space + dots 2,3

Increase an hour: Space + dot 5

Decrease an hour: Space + dot 2

Increase a minute: Space + dot 6

Decrease a minute: Space + dot 3

Exit: Space + dots 1,3,5,6

11.3 Checking date/time

Press d (dots 1-4-5) at the utility menu, or pres space-t (dots 2-3-4-5) at any time using Braille Hansone. If this is executed, time is displayed first. If you press move key, date is diplayed.

11.4 Calendar

Calendar is added to the utility menu.

It can check solar calendar, lunar calendar, 24 solar terms and day of the week. The year range that Hansone can check is from 1841 to 2043. In case of 24 solar terms, the selectable year is from 1900 to 2043.

11.4.1 How to use calendar

The items in the calendar consist of 'solar calendar', 'lunar calendar' and '24 solar terms' as well as 'day of week'.

1) Move items

Calendar consists of solar calendar, lunar calendar and 24 solar terms.

(1) Move to the previous item: tab (space + dots 4,5)

(2) Move to the next item: shift-tab (space + dots 1,2)

2) How to input date

When input date, input in the order of year, month and date. Year should be 4 digit number, and month and date should be 2 digit numbers. The number can be

inputted as normal number with number sign and lower number without number sign. When inputting year, month and date, insert space or ‘/(slash)’, or ‘-’. After inputting number and press enter, and then it reads the date inputted again and move to next item. If enter is pressed while solar calendar is displayed, it is changed to lunar calendar.

3) Short cut keys in calendar

By pressing tab (space + dots 4,5) or shift-tab (space + dots 1,2), move to previous and next item out of solar calendar, lunar calendar and 24 solar terms.

- (1) Move to next day: Space + dot 6
- (2) Move to previous day: Space + dot 3
- (3) Move to next week: Space + dot 5
- (4) Move to previous week: Space + dot 2
- (5) Move to next month: Space + dot 4
- (6) Move to previous month: Space + dot 1
- (7) Move to next year: Space + dots 5,6
- (8) Move to previous year: Space + dots 2,3

4) Short cut keys for 24 solar terms

After selecting 24 solar terms, pressing tab (space + dots 4,5) and shift-tab (space + dots 1,2) can move to lunar and solar calendar.

- (1) Move to next 24 solar terms: Space + dot 1
- (2) Move to previous 24 solar terms: Space + dot 4

11.5 Pronunciation dictionary

It can be used to register pronunciation of any word or delete any pre-registered information. It contains English word dictionary and English abbreviation dictionary.

11.5.1 Kinds of dictionary

1) English word dictionary

Input English word or characters. When input, do not insert space.

2) English abbreviation dictionary

English abbreviation or any symbol is registered in this dictionary.

11.5.2 How to input dictionary

Followings are explanation of adding word to the dictionary.

If pronunciation dictionary is executed, ‘key input’ is displayed. Then input the word to be registered and press enter. The ‘input pronunciation’ is displayed. Then input your

pronunciation as you prefer.

11.5.3 Searching item

If this function is executed, 'input key' is displayed. Input a word to be searched and press enter. Then 'key xxx, converted value xxxx' is displayed. Press space-z (dots 1-3-5-6) in order to exit to 'work list' and if space-z (dots 1-3-5-6) is pressed again, then it exits from 'dictionary list'.

11.5.4 Modifying item

It modifies registered word and its pronunciation. Input a word to be modified and press enter. Then 'input converted value' is displayed. Input new pronunciation.

11.5.5 Delete item

It deletes any item on the pronunciation dictionary. If it is executed, 'input key to be deleted' is displayed. Input a word to be deleted and press enter. Then the word and its pronunciation are deleted.

Pressing space-z (dots 1-3-5-6) exits to dictionary list. Pressing space-z (dots 1-3-5-6) again exits to pronunciation dictionary menu.

11.6 Stopwatch (dots 2,4,5,6)

Press enter at 'stopwatch', and 'stopwatch ready' is sounded in voice and '00:00:00:0' is displayed on the Braille display.

If dot 6 is pressed, stopwatch starts counting. If dot 6 is pressed again, it is paused and the elapsed time is sounded in voice and shown on the Braille display.

And if dot 6 is pressed again at this status, the stopwatch moves continuously.

If dot 3 is pressed during execution of stop watch, elapsed time will be announced and the time is reset to '00:00:00:0'. During execution of stopwatch, if space is pressed, it announces elapsed time but it does not stop counting.

And if space-F2 is pressed simultaneously, time on Braille display stops but counting is continued internally. Pressing space-F3 will continue display elapsed time on Braille display.

If dots 3-4-5-6 is pressed during execution of stopwatch or before execution of stopwatch, time counting will stop and stopwatch is changed to 'count down timer'.

If it is changed to count down timer, it asks current hour, minute and second. Input current time if you want set it again. If you do not input any special time, it will count down from 1 minute. If count down timer starts working, it start down counting after

saying 'count down xx (inputted time)'.

It also stop counting if dot 6 is pressed and continue to count down if dot 6 is pressed again. Pressing dot 3 will initialize count down timer.

If count down timer is 0 second during counting down, it alarms for 10 seconds and return to initial status. Press backspace-enter in order to stop alarming. And Braille Hansone returns to new count down timer. Press dots 3-4-5-6 in order to make ready status of stopwatch.

Pressing space-z (dots 1-3-5-6) will stop timer and return to stopwatch menu.

11.7 Screen reader (dots 2,3,4)

If you install screen reader software on you personal computer and connect Braille Hansone to the personal computer with serial cable or USB, your Braille Hansone can be used as Braille display for the screen reader that you installed. The screen reader software that work with Braille Hansone will be recommended by HIMS.

Please contact with the agent where you bought your Braille Hansone or HIMS.

And how to use this screen reader function may depend on the type of screen reader that you installed on you personal computer.

11.8 Internet setting (dots 2,4)

Internet setting is needed to use web browser or e-mail function on Braille Hansone.

You can set IP address, subnet mask, gateway and name server.

Move to Internet setting in Utility menu or press I (dots 2-4) at the utility menu in order to go into Internet setting menu.

The first step to set Internet setting is to set manual or automatic setting of IP address.

When 'IP setting?' is displayed, you can select one out of 'automatic' and 'manual'.

If you want to select 'automatic' mode, just press enter. Then remaining settings are done automatically. This mode should be used when your server has DHCP (Dynamic Host Configuration Protocol). Regarding this issue, you should ask to your network expert in your place.

If you select 'manual', you should input IP address, subnet mask, gateway and name server. Regarding the detailed information about these settings, please contact with your server expert in your place. Those information should be provided by such person. When you set your those values, input each information and press enter. If you completed to enter all the information, Braille Hansone will announce 'completed setting' and it saves the values and returns to the internet setting menu.

If the internet setting was changed, you should reboot Braille Hansone.

Press reset button with any needle or end of ballpoint pen in order to reset you Braille Hansone.

11.9 Check power status (dots 1,2)

Press b (dots 1-2) in the utility menu or select 'check power status' by using move keys in order to select 'check power status'.

Or you can check your power status by pressing space-1-6 anywhere.

You can check two information regarding power status by checking power status.

One is battery charge status in percent and the other one is your main power source (battery or dc adaptor).

Press space-z (dots 1-3-5-6) in order to exit from 'check power status'.

11.10 Hansone OS upgrade (dots 1,3,6)

It updates all the program in Braille Hansone. If you execute this menu, your Braille Hansone will be connected to the server in HIMS automatically and downloads newly upgrade software and installs them automatically.

In order to use this function, your Braille Hansone should be connected to the network through LAN and all the setting for Internet setting should be set properly according to your network status.

All the software in the Braille Hansone will be changed to new software but all your user data will be saved safely in your Braille Hansone.

But if there are too much your user data on your Braille Hansone, downloading new software cannot be done successfully. So we recommend that you backup your all the files in Braille Hansone to the other storage media before you upgrade your OS.

If this menu is executed, Braille Hansone will ask 'Do you want to start upgrading? Yes'. If you press enter, it starts upgrading. If you do not want to upgrade and cancel it, press space to change 'yes' to 'no' and press enter to cancel it.

If there is any problem on your network, Braille Hansone will announce 'Internet connection is not available. Check your cable and try again'. If you want to start again, press space-z (dots 1-3-5-6) to exit to menu and select OS upgrade menu again.

If Internet connection is done successfully, it downloads necessary files from the server in HIMS and installs them on you Braille Hansone and reboots automatically.

The execution time depends on your network condition but it will take about 30 minutes. During updating program, do not push reset button. And please connect your dc power adaptor to your Braille Hansone.

