

Mobile Speak and Mobile Magnifier for Symbian Phones

User Manual

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Moving accessibility forward!

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Mobile Speak:

Accessible communication through exceptional innovation

Mobile Magnifier:

Improved visibility for increased usability

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1 Introduction

Congratulations and welcome to the Code Factory user community! With our world-class access solutions for mainstream mobile technology, you can now fully use your mobile phone through speech, magnification, or Braille.

Mobile Speak® is a screen reader application for Symbian Series 60-based mobile phones. It allows visually impaired users to access the full functionality of their phone through highly intelligible text-to-speech technology and excellent support for input/output Braille devices. The latest version of Mobile Speak also comes integrated with our powerful full-screen magnification application, Mobile Magnifier®. Both high-quality products are bundled in a single installation, although they can be used independently and licensed separately.

This document serves as a User Manual (available in electronic text, large print, and embossed Braille) to explain the functionality of Mobile Speak and Mobile Magnifier for Symbian Series 60. Documentation about Code Factory products for other mobile phone platforms is available at www.codefactory.es.

This manual describes the features and usage of Code Factory mobile phone solutions, and is not intended to replace the phone's user manual. In order to download a manual for Nokia phones, or for additional information about the phones, go to www.nokia.com/A4142002 or www.s60.com.

This document has been updated for v3.60 of Mobile Speak and Mobile Magnifier. It is regularly updated with every software release, so if you received a newer version of our product, please check out the release notes and newer versions of this User Manual published at our website (www.codefactory.es).

1.1 What's New in Version 3.0

The latest features of Mobile Speak v3.0 include:

- Support for Series60 3rd Edition on the latest generation of mobile phones powered by the Symbian 9.x operating system.
- Support for the built-in Web browser on all Series60 3rd edition phones, allowing rapid and powerful access to web content using a virtual cursor interface.
- Support for Wayfinder Access (www.wayfinder.com/products/wayfinder_access.en.php), a GPS solution for the blind and visually impaired based on the popular Wayfinder Navigator mainstream application.
- Access to the Nokia built-in TTS on all Series60 3rd edition phones, and to the High Quality built-in TTS (on phones where it is supported).
- Access to the built-in MP3 player on Series60 3rd edition phones.
- Improved firmware independence (particularly on newer phones).
- The ability to turn the speaking of secret numbers on and off.
- Number Processing, to control the way numbers are spoken.
- Support for more Braille devices from Optelec, Baum, HumanWare, Handy Tech, and Eurobraille.

- Ability to input text using Grade 1 (uncontracted) and Grade 2 (contracted) Braille, in addition to support for 6-dot and 8-dot computer Braille – a feature seen only in Code Factory solutions.
- A Braille review cursor to explore parts of the screen not accessible using the system focus.
- Improved stability of Braille support.
- More Braille language tables including German and Swedish.
- A new Keyboard Help Mode which allows users to learn Mobile Speak command assignments and familiarize themselves with the phone's key layout.

The latest features of Mobile Magnifier v3.0 include:

- Mobile Magnifier now works in full-screen mode, providing a total of three different screen layouts (classic, full screen and distributed views)
- Includes font and graphics smoothing for improved readability.
- Provides status shortcuts to access the most useful information (battery level, signal strength, date, time, etc.) anywhere by long pressing the softkeys.
- Text cursor can be customized, including its size and color.
- Enhanced color scheme, which provides improved visibility and readability in all applications.
- Mobile Magnifier is now integrated with Mobile Speak, and does not have to be installed as a separate application.

1.2 Changes in Mobile Magnifier in v3.0

Due to the integration of Mobile Speak and Mobile Magnifier, users of earlier versions of Mobile Magnifier will notice several changes. Here are some useful information for users upgrading to Mobile Magnifier v3.0:

- Prior to v3.0, Mobile Magnifier came either as a standalone product or as a plug-in to Mobile Speak. It is easy to configure v3.0 to operate in either of these modes. Simply go into Configure Mobile Speak and set the current MS Profile's "Auto Start Mobile Speak" option and "Auto Start Magnifier" options to suit your needs.
- Starting with v3.0, there will be only one type of license available for Mobile Magnifier. All existing users of Mobile Magnifier Standalone should contact us at info@codefactory.es to convert their current license to the new one for free.
- The Configure Mobile Magnifier application is no longer present in v3.0. Instead, all of the old and new features of Mobile Magnifier can now be configured from within the Magnifier tab of Configure Mobile Speak.
- Even if you are intending to use the Mobile Magnifier as a Standalone application, you still need to install a TTS voice prior to installing the Mobile Speak package.

2 Getting Started

2.1 System Requirements

Mobile Speak v3.0 has been designed to provide full access to the following mobile phones:

- Symbian 6, 7 and 8: Nokia 3230, 6260, 6600, 6620, 6630, 6670, 6680, 6681, 6682, 7610, N70, N72, N90, and Samsung SGH-D720.
- Symbian 9.1: Nokia 3250, 5500, E50, E60, E61, E61i, E62, E65, E70, N71, N73, N75, N77, N80, N91, N92, N93 and N93i.

- Symbian 9.2: Nokia 5700, 6110, 6120, 6121, 6124, 6290, E51, E66, E71, E90, N76, N81, N82, N95 and N95 8GB.
- Symbian 9.3: Nokia 5320, 6210, 6220, N78 and N96.

Users with older Symbian phones (i.e. Nokia 3620, 3650, 3660, 7650, N-Gage, N-Gage QD, Panasonic X700 and X701) are recommended to install v2.03 of Mobile Speak

Mobile Speak includes unrivalled support for the following Braille devices:

- Optelec Tieman Group: ALVA Braille Controller 640, EasyLink12, and EasyLink Keyboard.
- BAUM Retec AG: BAUM Conny/VarioConnect Series, BAUM Pronto, SuperVario and PocketVario Braille displays.
- The HumanWare Group: BrailleConnect Series and Brailiant displays.
- Handy Tech Elektronik GmbH: Braillino, BrailleStar, BrailleWave, and EasyBraille.
- Eurobraille: Esys series

Braille translation tables are included for all available Braille grades in English (US and UK), Spanish, Portuguese, French, Italian, German, Dutch (Netherlands and Belgium), Norwegian, Swedish, Polish, Finnish, Welsh and Hindi.

Mobile Magnifier v3.0 is developed for the following mobile phones:

- Symbian 6, 7 and 8: 6630, 6680, 6681, 6682, N70, N72 and N90,
- Symbian 9.1: Nokia 3250, 5500, E50, E60, E61, E61i, E62, E65, E70, N71, N73, N75, N80 and N91.
- Symbian 9.2: Nokia 5700, 6110, 6120, 6121, 6124, 6290, E51, E66, E71, N76, N81, N82, N95 and N95 8GB.
- Symbian 9.3: Nokia 5320, 6210, 6220, N78 and N96.

Users with older mobile phones (i.e. Nokia 3230, 3620, 3650, 3660, 6260, 6600, 6620, 6670, 7610, 7650, N-Gage, N-Gage QD, Siemens SX1, Panasonic X700, X701 and Samsung SGH-D720) are recommended to install v2.03 of Mobile Magnifier.

For updates on support for newer phones and Braille devices, please visit our website at www.codefactory.es.

To ensure optimal performance and stability, Mobile Speak and its bundled software packages should be installed to a mobile phone with the maximum possible free space, both during the installation process and during normal execution.

2.2 Usage Recommendations

For correct operation of Mobile Speak and Mobile Magnifier, you are strongly advised to follow these recommendations:

- Keep your mobile phone's storage space clean. As you use the phone, it gradually fills up with data, some of which may no longer be useful. For this reason, we recommend that you clear all the data that you do not use, such as calls, messages, contacts, sounds, etc. Besides saving space, cleaning these old data will let Mobile Speak work faster. An advisable practice is to clear data immediately after receiving it. For example, if you receive a call, clear it from the list of received calls.

- Your phone should be configured so that incoming messages are saved in the **Memory Card**. Please contact your distributor or consult your mobile phone manual for more information on this setting.

- **Ensure that the firmware on your phone is up to date.** To check your current firmware, please dial ***#0000#**. The earlier firmware versions on many Symbian phones contain problems which interfere with the operation of your phone, both with and without Mobile Speak installed. To update your firmware, you can either go to your Nokia service centre, or (if your phone is on the list of supported phones) do it online using the Nokia firmware update service at: www.nokia.com/A4176089. To check what firmware is available for your phone via the Nokia firmware update service, first go to <http://europe.nokia.com/A4305060> and enter your phone's product code (a seven-digit code found inside the phone, on a label underneath the battery). Currently supported phones for this service include the 6630, 6680, 6681, 6682, N70, N72, N90, 3250, 5500, 5700, 6110, 6120, 6121, 6290, E50, E60, E61, E61i, E70, E90, N71, N73, N76, N77, N80, N91, N92, N93, N93i and N95.

To find the latest firmware version on the market, take a look at http://hunajatehdas.net/nokia/firmware/index_en.php and type in your model number. Note that if your firmware is operator-branded, it may not be available in the latest version.

- **Prior to installing, make sure that the date and time are correctly set on your phone.** Otherwise, the packages may not install successfully and the trial license may not function properly.

- **Contact your distributor.** If you have any questions about Mobile Speak features, or suggestions, comments, etc. contact your distributor or visit the Mobile Speak web site at www.codefactory.es.

- **Learn more through our Knowledgebase.** An extensive and regularly updated Knowledgebase of informative articles, helpful tips, and answers to frequently asked questions is also available at www.codefactory.es/knowledgebase.

- **Provide feedback.** We would like to know your opinion about the software. If you have suggestions and comments or want to report a bug, please mail us at support@codefactory.es.

2.3 Install and Uninstall

If you have obtained your mobile phone from a distributor, Mobile Speak has already been installed on your device. However, it is possible that for some reason you have had to remove Mobile Speak from your system, or that the technical service of your manufacturer has removed it, or that you have downloaded the software from the Internet and want to install it yourself.

In this section, the installation process of Mobile Speak on your mobile phone is explained step by step. The same information applies to Mobile Magnifier, which will be installed at the same time as Mobile Speak. This process is not specially enabled for accessibility.

2.3.1 Installing

The following instructions apply to phones where Mobile Speak has never been previously installed, or where all Mobile Speak packages have been removed. For the case of upgrading from a previous version of Mobile Speak, please read first Section 2.5.1 before returning to this section to complete the installation.

Mobile Speak consists of different packages: TTS, Mobile Speak Software and bundled software (Sound Recorder, Calculator, Mines game, MP3 Player and FExplorer). These packages should be installed in your system in the correct order: First the TTS package, then Mobile Speak, and finally the other bundled software applications. Note that a TTS package must be installed first, even if you are only planning to use Mobile Magnifier. Note also that in Symbian 9, not all of these bundled packages are available because many of these items (e.g., MP3 Player and Calculator) are already available and accessible on the phone. If installing Loquendo voices in Symbian 9, the TTS consists of two packages - loquendo_common_3rd.SIS and a Loquendo voice file. Please install the loquendo_common_3rd.SIS file first, and then the Loquendo voice file, making sure to install them to the same memory location.

To install these packages, just transfer them to your device one by one and install them. Before transferring the next package, check that the previous one has been correctly installed and removed from the Inbox after installation. Do not transfer more than one package at the same time before starting the installation.

All the packages MUST be installed on the memory card of the phone whenever possible (this option is not available on the Nokia 7650 or the Panasonic X700 and X701).

Note that on some of the newer phones (e.g., 6630, 6680, 6681, 6682, N70, N72, N90 and all Symbian 9 phones), an additional security setting exists on the phone. The default setting may need to be changed before installation of any application is permitted on the phone. To do this, go into the phone's Application Manager and press Options / Settings and make sure that Software Installation is set to ON, and Online Certificate Check is set to OFF.

You can transfer these packages to your mobile phone using a connection with your computer via Bluetooth, USB, or infrared. Please check the instructions on your phone to get information about how to activate the communication ports and transfer data. You may also use the PC Suite application that comes with your phone to transfer the files. Please consult the PC Suite reference manual for more information on how to do so.

Alternatively, if you have a memory card reader and a PC, you may use the AutoSIS application developed by Code Factory to install the Mobile Speak components onto your memory card via the PC. This allows you to use a normal Windows-based screen reader to install the files without sighted assistance. Please see the Code Factory website www.codefactory.es and the AutoSIS documentation for more details.

After a successful installation, Mobile Speak will start automatically. However, it is advisable that you restart the phone when installation is done. If for some reason Mobile Speak did not start automatically, please use the "Start Mobile Speak" shortcut to launch the application.

After installing Mobile Speak, you may wish to install an optional multi-language package. Users who will be using just a single-language TTS voice, and who will not change the default language on their phone, do not need this multi-language package. However, users who use multiple languages (either in Mobile Speak or on their phone) may choose to install the multi-language option, which will install the Mobile Speak resources for all different languages and will automatically switch between them as the phone's language is changed.

Since v3.0, Mobile Speak comes integrated with Mobile Magnifier. By default, Mobile Speak is activated and Mobile Magnifier is deactivated the first time that the Mobile Speak package is installed. However, users can then configure the start-up behavior of Mobile Speak and Mobile Magnifier as they prefer by configuring the Auto Start Mobile Speak and Auto Start Magnifier options in the Mobile Speak configuration panel.

2.3.2 Uninstalling

To uninstall Mobile Speak, you must first press "Stop Mobile Speak" twice to make sure that the Mobile Speak application is not running. Then use the Manager application, which in most phones is located in the Tools folder or, in the case of the Nokia 6600, in the main menu. The shortcut to this program is sometimes labeled "App Mgr", "App Manager", or "Application Manager".

The Manager application will show a list with all the packages and applications installed in the system. Remove all the packages of Mobile Speak in any preferred order.

After uninstalling the packages, Mobile Speak will have been cleared from your mobile phone.

It is recommended that the phone be restarted after uninstalling Mobile Speak.

Note that on Symbian 9 phones, it is also possible to uninstall Mobile Speak by pressing the Clear key on any of the Mobile Speak icons. In Symbian 9, it is not necessary to first press "Stop Mobile Speak" before uninstalling.

2.3.3 Installing Multiple TTS Voices

Starting with v2.0, Mobile Speak allows users to install as many different voices as they need, even voices from different TTS providers. The first voice can be installed using the process described in the "Install" section above (i.e. first install the TTS, then install Mobile Speak). Subsequent different voices can be installed with Mobile Speak running, and only require that the TTS file is installed. However, DO NOT re-install the Mobile Speak SIS file, nor the currently active voice, if Mobile Speak is already running.

Once an additional voice has been installed, it must first be licensed before you can use it. Please see the "licensing" section below for details on how to obtain a trial or full license. There is no restriction to the number of voices a user can install on their device. However, please keep in mind that each voice occupies a significant amount of memory, so make sure that your phone and Memory Card have enough free space available to function correctly with any additional voices installed.

We are constantly expanding our already extensive list of supported TTS engines and languages, and we will continue integrating more voices which can be used with our

products. We encourage you to try different voices before deciding which one is most appropriate for you. Older phones may have less internal memory than newer phones, so keep this in mind when choosing the voice that is best suited for your particular phone. Please visit the Mobile Speak web page at www.codefactory.es for the latest list of available voices.

2.3.4 Nokia Built-in TTS (Symbian 9 only)

Starting with v3.32, Mobile Speak provides access to the Nokia built-in TTS on all Symbian 9 phones. The standard voice is called "Nokia" and, on phones that support the Nokia High Quality TTS (i.e. Nokia E50, E51, E65, E66, E71, E90 Communicator, N75, N78, N81, N96, 5320, 5500 Sport, 5700 XpressMusic, 6110 Navigator, 6120 classic, 6121, 6124, 6210, 6220 and 6290 phones), another called "NokiaHQ" is also available. These Nokia voices are shipped with all Symbian 9 phones, and new NokiaHQ voices are also downloadable on supported phones from the Nokia website at <http://europe.nokia.com/A4286225>. The Standard Quality TTS will automatically switch languages to match the phone language. The High Quality TTS can be configured to use a specific language and voice or modify the speed via the "Speech" application, which is usually located inside the phone's Settings folder.

If you have a supported phone, you can download and install additional High Quality voices. To do this, visit the Nokia download page at <http://europe.nokia.com/A4286225>. For a given language, you must install the language package and at least one of the voices listed. However, most phones will come with the TTS of the default language already installed. After installing the new voice, you'll see it listed inside the phone's Speech application. Use the Speech application to manage the currently selected voice. The volume and speed will be controlled by Mobile Speak.

A FAQ has been created to answer commonly asked questions regarding the Nokia built-in TTS. The address is http://www.codefactory.es/additional_docs/en/nokiaTTS_EN.html.

2.4 Licensing

Mobile Speak supports three kinds of licenses:

2.4.1 Ten-Minute Demo License

After installing Mobile Speak for the first time, the program will work for 10 minutes. When the 10 minutes are over, you can restart the phone and it will work again for 10 more minutes, get a 30-day trial license for free, or pay for a full license to use the software without any restriction. Mobile Magnifier operates with a similar 10-minute demo mode when no trial or full license is entered for it.

2.4.2 Thirty-Day Trial License

In order to obtain a 30-day trial license for Mobile Speak, you need to provide your distributor with the product serial number. To do so, activate the application shortcut "Configure Mobile Speak" located in the main menu, press the left softkey to select "Options", navigate to and press Enter on "Register Now", and then select either Mobile Speak or Mobile Magnifier. If more than one voice is installed on the phone, you will then need to select the voice that you wish to license. You will also need a separate license for Mobile Magnifier.

When you get the license number from your distributor, you must go back to the "Register Now" option and type the license number there. If more than one voice is installed on the phone, make sure to choose the same voice to which the license number corresponds. The phone will then restart (or on Symbian 9 phones, it will suggest that you restart the phone) and Mobile Speak or Mobile Magnifier will work for 30 days without any sort of limitation.

Please note that while using a trial license, you cannot change the date or the time of the phone (only a 2-hour change in the phone's time setting is allowed for daylight savings time adjustments). Changing the date or time beyond these limits will automatically lock the trial license, without any chance to recover it. The trial will run for 30 days from the time that the trial license is issued. Therefore, make sure that the time and date are set correctly on the phone before entering the license. To take advantage of the full 30 days of the trial, make sure to enter the trial license as soon it is issued.

Multiple trial licenses may be used on the phone at the same time, in order to try different voices from different TTS manufacturers.

2.4.3 Full License

After you have purchased a full license of Mobile Speak or Mobile Magnifier, you will be given a full license number. You must type the number in the "Register Now" option. The phone will then restart (or on Symbian 9 phones, it will suggest that you restart the phone) and Mobile Speak or Mobile Magnifier will be licensed without any expiration date.

Note that if you already have a full license, a message "Already Registered" will be displayed when you select "Register Now", and the registration screen will not open.

2.5 Free Software Updates

Updates of the Mobile Speak software are regularly MADE AVAILABLE AT the Mobile Speak website www.codefactory.es. These updates are free and will not affect the old license, so license numbers do not need to be re-entered when updating Mobile Speak.

2.5.1 Upgrading to v3.0 from a Previous Version

Users of the Scansoft TTS should refer to the following section for installation instructions for Mobile Speak v3.0.

Users who are upgrading to v3.0 from v1.xxx, and users who had a version of Mobile Magnifier installed on their phone MUST first uninstall ALL Mobile Speak and Mobile Magnifier packages (TTS, Mobile Speak and any related tools) before installing v3.0 of Mobile Speak. This is extremely important, since failing to do so may PREVENT Mobile Speak FROM working correctly, or may even cause phone instability. This is also recommended for all users with Symbian 9 phones, since problems of upgrading can occur on some of these phones if the previous version is not completely uninstalled prior to installing a new version. Check with your distributor or read THE USER'S manual, or REFER TO the "Uninstall" section above, if you have any doubts REGARDING how to REMOVE packages from your phone.

Once all Mobile Speak packages have been uninstalled, you should restart the phone, AND then you can proceed with a standard installation, as described in the “Install” section above.

Users who are upgrading to v3.0 from v2.xx are also recommended to uninstall all Mobile Speak packages before installing v3.0.

2.5.2 Users of Scansoft TTS

Since April 2006, Mobile Speak has not supported new users of the Scansoft TTS. However, users who previously purchased the Scansoft TTS can still upgrade to v3.0 of Mobile Speak by installing the mspeak_multi_upgrade.SIS package. The installation instructions for these users are the following:

Stop Mobile Speak

Install the mspeak_multi_upgrade.SIS package to the location where Mobile Speak is currently installed. In most cases this will be the Memory Card, but if you are not sure, make sure to check by finding the Mobile Speak application inside the phone’s Application Manager and clicking on Options / View Details and scroll down to Memory In Use. Note that this package installs directly on top of the old Mobile Speak install package, so it is important that neither the old Mobile Speak package nor the TTS are uninstalled prior to installing the upgrade.

Note that, for future releases of Mobile Speak that do not require a TTS upgrade, users will be able to upgrade from v2.x of Mobile Speak to the latest version simply by stopping Mobile Speak and then installing the mspeak_multi_upgrade.SIS package on top of the current version.

3 Using Mobile Speak

3.1 Application Shortcuts

When you start Mobile Speak for the first time, you will find a Mobile Speak folder in the phone’s MAIN menu. In this folder, you will find the following five items: Start Mobile Speak, Stop Mobile Speak, Configure Mobile Speak, Start Mobile Magnifier and Stop Mobile Magnifier. Note that on the N75, these applications are found inside the “Games & Apps” folder instead of the “Mobile Speak” folder.

3.1.1 Start Mobile Speak

This application shortcut will be placed in the “Mobile Speak” folder when Mobile Speak is installed. Press it to run Mobile Speak. Once the screen reader has started, it will keep running until “Stop Mobile Speak” is pressed (even if the phone is restarted), unless the “Auto Start Mobile Speak” option is deactivated. Pressing “Start Mobile Speak” when the program is already running will have no effect.

3.1.2 Stop Mobile Speak

This application shortcut will be placed in the “Mobile Speak” folder when Mobile Speak is installed. Press it to quit Mobile Speak. If Mobile Magnifier is not running, then Mobile Speak will be stopped and completely unloaded. However if Mobile Magnifier is running, pressing “Stop Mobile Speak” will silence Mobile Speak, and it will be necessary to first

stop Mobile Magnifier in order to completely unload Mobile Speak. ON Symbian 6/7/8 phones, if Mobile Speak is completely unloaded, it will not re-start automatically when the phone restarts. In Symbian 9, on the other hand, if the "Auto Start Mobile Speak" option is activated within the current profile, then Mobile Speak will automatically restart when the phone enters the standby screen after a restart. In Symbian 9, if you desire to stop Mobile Speak and prevent it from launching when the phone restarts, then you should unload Mobile Speak by pressing "Stop Mobile Speak", and ensure that the "Auto Start Mobile Speak" and "Auto Start Mobile Magnifier" options are set to OFF within the currently active profile. At any time, you can press "Start Mobile Speak" to re-start the program. Pressing "Stop Mobile Speak" when the program is already stopped will have no effect.

3.1.3 Configure Mobile Speak

In the configuration panel opened by the "Configure Mobile Speak" shortcut, you can change the settings of Mobile Speak and Mobile Magnifier. In order to provide maximum flexibility, Mobile Speak (MS) Profiles were introduced in v2.0 of Mobile Speak, which allow users to store different settings and to switch easily between them. These are described further in Section 3.2.1.

Each MS Profile is divided into 5 groups of settings: General, Advanced, Custom Verbosity, Braille and Magnifier. To switch between the different groups, press the joystick to the left or right. All of these options are described in greater detail later in this document. The options that also have associated function keys that allow the user to change settings on the fly are described in Section 4.

Note that any changes that you make to a set of options will only take effect once you exit the MS Profile that you are currently customizing, or if you switch to a different group of settings using joystick left or right. For the settings that are linked to Function Keys (e.g., Volume, Verbosity level, keyboard echo), it is recommended not to change them using Function Keys while the Mobile Speak configuration panel is open, since these settings will be overridden when the "Configure Mobile Speak" screen is exited.

3.1.4 Start Mobile Magnifier

This application shortcut will be placed in the "Mobile Speak" folder when Mobile Speak is installed. Press it to run Mobile Magnifier. Once Mobile Magnifier has started, it will keep running until Stop Mobile Magnifier is pressed (even if the phone is restarted), unless the Auto Start Magnifier option is deactivated. Pressing Start Mobile Magnifier when it is already running will have no effect.

3.1.5 Stop Mobile Magnifier

This application shortcut will be placed in the "Mobile Speak" folder when Mobile Speak is installed. Press it to quit Mobile Magnifier. Once Mobile Magnifier is stopped, nothing will be magnified. Press "Start Mobile Magnifier" to re-start the program. To fully unload Mobile Speak, press "Stop Mobile Speak" after stopping Mobile Magnifier.

3.2 Mobile Speak Configuration Panel

Mobile Speak and Mobile Magnifier are unique because of the flexibility they offer users in customizing their mobile access solutions. With more than 30 user-configurable options for speech, Braille and magnification, you can have an accessible phone best suited to your needs and preferences.

3.2.1 MS Profiles

Mobile Speak organizes configuration settings into groups called MS Profiles, allowing you to switch between different profiles as you need them. For example, you could configure one MS Profile to use a certain voice, speed, and level of verbosity for reading long passages of text, instead of your preferred configuration for normal use of the phone. All of the Mobile Speak settings are included in each MS Profile, making it easy to customize them to your specific needs in different situations.

Mobile Speak supports three separate MS Profiles which can be renamed if desired. In the initial screen of the Mobile Speak configuration panel, you will see a list of the three MS Profiles, named by default as Normal, Beginner and Advanced. One of these MS Profiles is always marked as Active, which means that its settings are the ones that are currently in use. The word "Active" will be spoken after the name of the currently active MS Profile.

For each Profile, you have the option to activate it or customize it. By selecting Customize, you will be presented with five separate tabs, each of which contains a different set of configuration options, as discussed in the next five sections.

3.2.2 General Options

The following is a list of the General configuration options:

- Profile Name
- Turn Keyboard shortcuts ON/OFF
- Keyboard Echo: None/Characters/Words/Characters and Words
- Audio profile: Normal/Earphone/Custom 1/Custom 2/Custom 3
- Change Volume from 1 to 10
- Change Pitch from -10 to 10
- Change Speed from -10 to 10
- Change the voice, if you have installed several voices.
- Verbosity: Normal/High/Low/Custom
- Punctuation: None/Some/All
- Turn Silent on Calls ON and OFF
- Auto Start Mobile Speak ON/OFF
- Change Volume on call from 1 to 10
- Change the Voice on call (Symbian 9 only)

3.2.2.1 Profile Name

Each MS Profile can be renamed according to your preference. For example, to help you remember which profile contains the settings you use when reading text messages, documents or web pages, rename that profile to "Reading" and this will be spoken when you use the associated function key to switch to a profile. Entering a new name here will

change the name presented in the initial screen of the Mobile Speak configuration panel. Default names are Normal, Beginner and Advanced.

3.2.2.2 Keyboard Shortcuts

In the Standby Screen (which is displayed at start-up or when the main menu is exited), long-pressing the following keys (between 2 and 3 seconds) brings you directly to the following applications:

- 3 ... Messaging
- 4 ... Calendar
- 5 ... Profiles
- 6 ... To-Do (NOTE: Not present on all phones)
- 7 ... Bluetooth
- 8 ... Notepad

Please note that keyboard Shortcuts may not work when the phone's speed dial feature is turned on, even if no speed dial shortcuts are assigned. In order to turn off speed dial, please go to Tools > settings > call settings > speed dial.

This feature can be turned ON or OFF from within the Mobile Speak configuration screen. Default setting is ON for all MS Profiles.

3.2.2.3 Keyboard Echo

This option changes the keyboard echo setting (None / Characters / Words / Characters and Words). It also has a related function key (Edit key + 8). See Section 4.1.6 for further description. Default setting is Characters and Words for all MS Profiles.

3.2.2.4 Audio Profile

Select the Normal audio profile when using Mobile Speak with speech routed through the phone's speaker. Select the Ear phone audio profile when using a headset or ear phone. Three custom audio profile settings are also available. Each one of these settings corresponds to a particular Volume, Pitch and Speed setting. Default setting is Normal for all MS Profiles.

3.2.2.5 Volume

This option increases or decreases the volume of speech output (1 to 10). It does not affect the volume of system sounds or the audio during a call. It also has a related function key (Edit key + 2, Edit Key + 3). See Section 4.1.2 for further description. Default level is 5 for all MS Profiles.

3.2.2.6 Pitch

This option increases or decreases the pitch of speech output (-10 to 10). Default level is 0 for all MS Profiles. This default is already the recommended pitch for each voice. Note that the pitch settings have not effect then using the Nokia or NokiaHQ voices.

3.2.2.7 Speed

This option increases or decreases the speed of speech output (-10 to 10). It also has a related function key (Edit key + 4, Edit Key + 5). See Section 4.1.3 for a further description. Default rate is 0 for the Normal MS Profile, -3 for the Beginner MS Profile, and 5 for the Advanced MS Profile. Note that the speed of the NokiaHQ voice is controlled from within the phone's "Speech" application. For the Nokia voices, the speed is not configurable.

3.2.2.8 Voice

Many different voices can be installed on the same phone, and the user is able to switch between them. Note that if there is at least one Trial or Full licensed voice on the phone, only voices that have a license will appear in the Configure Mobile Speak / Voice list. If you have a registered version of Mobile Speak and you install a new voice, you will need to obtain a license (either Trial or Full) in order to be able to use this new voice (you will be prompted to select a voice when entering the license).

3.2.2.9 Silent on Calls

The "Silent on Calls" feature instructs Mobile Speak not to provide speech output while the user is on a call. If this option is off, then Mobile Speak works normally during a call and the user can navigate through the phone to, for example, check the calendar or the contacts list. Default setting is OFF for all MS Profiles. Note that in Symbian 9, the Nokia built-in TTS is used while on a call.

3.2.2.10 Verbosity

This option changes the verbosity setting (Normal / High / Low / Custom). It also has a related function key (Edit key + 6). See Section 4.1.4 for further description. Default level is Normal for the Normal MS Profile, High for the Beginner MS Profile, and Low for the Advanced MS Profile.

3.2.2.11 Punctuation

This option changes the punctuation verbosity (None / Some / All). It also has a related function key (Edit key + 7). See Section 4.1.5 for further description. Default level is Some for all MS Profiles.

3.2.2.12 Auto Start Mobile Speak

This option controls whether Mobile Speak will be launched when the phone starts. Note that if Mobile Speak is unloaded when the phone is restarted (e.g., by pressing "Stop Mobile Speak" twice), it will not be possible to run Mobile Speak when the phone restarts. You may need sighted assistance to navigate to the "Start Mobile Speak" shortcut, unless you have an assigned shortcut in the Standby Screen. Default setting is ON for all MS Profiles.

3.2.2.13 Volume on call

This option increases or decreases the volume of speech output of Mobile Speak during a call (1 to 10). It also has a related function key (Edit key + 2, Edit Key + 3), which

modifies the Volume on call while the call is active. See Section 4.1.2 for further details. Default level is 8 for all MS Profiles.

3.2.2.14 Voice on call

This option, available only in Symbian 9, allows the user to choose either the Nokia or (if available) the Nokia HQ TTS as the active voice while on a call.

3.2.3 Advanced Options

The following is a list of the Advanced configuration options:

- Welcome Sound ON and OFF
- Read Full Text ON and OFF
- Mute on Keypad Lock ON and OFF
- Case Indicator ON and OFF
- Speak Deleted Character ON and OFF
- Silent while dialing ON and OFF
- Allow Shortcuts When Muted
- Secret Editor Mode (None / Asterisk / Last Character)
- Reassign edit key ON and OFF (Available only in Symbian 9)
- Number Processing (Single / Pairs / Triples / TTS).

3.2.3.1 Welcome Sound

The Welcome Sound setting can be used to activate and deactivate the sound and the animation that is displayed when Mobile Speak is launched using the "Start Mobile Speak" shortcut in the phone's main menu. Default setting is ON for all MS Profiles.

3.2.3.2 Read Full Text

The Read Full Text setting changes the way read-only text (e.g., received SMS and email, help text, and web pages) is spoken. When set to ON, all the text starting from the screen currently in focus to the end (e.g., of the text message) is read continuously when navigating (e.g., moving up/down with the joystick immediately after opening the screen), so long as you are on read-only text. When set to OFF, only the current screen (generally 5 or 6 lines) is spoken. Default setting is ON for the Normal MS Profile, OFF for the Beginner MS Profile, and ON for the Advanced MS Profile.

3.2.3.3 Mute on Keypad Lock

The "Mute on Keypad Lock" setting affects the operation of Mobile Speak when the keypad is locked. When set to ON, Mobile Speak will be automatically muted when the keypad is locked. Speech output will be enabled automatically when the keypad is unlocked. Default setting is ON for the Normal MS Profile, OFF for the Beginner MS Profile, and ON for the Advanced MS Profile.

3.2.3.4 Case Indicator

The "Case Indicator" setting changes the way capital letters are spoken in text editors (e.g., SMS, email, and help). When set to ON, the case of the character will be spoken when entering text with keyboard echo set to "Characters" or "Characters and Words", when navigating text by character, and when spelling the current word (edit key + 1).

The word "Caps" will be spoken immediately before the character if it is in uppercase. Default setting is OFF for the Normal MS Profile, OFF for the Beginner MS Profile, and ON for the Advanced MS Profile.

3.2.3.5 Speak Deleted Character

When this option is set to ON, if you erase text in an editor, the deleted character(s) will be spoken. If verbosity level is set to High, it will also say "Deleted" followed by the character(s) that were deleted. Default setting is OFF for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.3.6 Silent While Dialing

For more privacy, enabling this option lets the user dial numbers without speech feedback announcing each number pressed.

3.2.3.7 Allow Shortcuts When Muted

When this option is set to ON, function shortcuts (such as Edit+9 to tell the date and time) will be performed even when the keypad is locked. If the setting is OFF, you must first unlock the keypad before using any of these functions.

3.2.3.8 Secret Editor Mode

The "Secret Editor Mode" setting controls the type of speech output when entering characters in a secret editor (e.g., the PIN code screen and password edit fields). When this option is set to "Asterisk", the * character will be spoken each time a key is entered. When set to "Character", the entered character is spoken. When set to "None", there is no speech feedback while typing. Default setting is Asterisk for all MS Profiles.

3.2.3.9 Reassign Edit Key

This option is only available in Symbian 9. If the phone has a multimedia key (e.g., most N-series Symbian 9 phones), then enabling this option allows the use of this key as the edit key which serves as the modifier in Mobile Speak commands. On other phones that do not have a designated edit key, an alternative key has been selected to act as the edit key when this option is turned on. The phone descriptions in Section 8 describe the location of this key. When turned off, or on phones that do not have a multimedia key but do have an edit key, this setting has no effect. Default setting is ON for all MS Profiles.

3.2.3.10 Number Processing

This option controls the way that numbers are spoken by the TTS, and is applied to all numbers in all applications. Numbers of 4 digits or less are sent directly to the TTS. However, longer numeric strings (i.e. those with 5 or more digits) are processed according to the "Number Processing" setting. Available options are Single, Pairs, Triples or TTS. The "Single", "Pairs" and "Triples" settings speak numbers in groups of 1, 2 and 3 digits respectively. The "TTS" option sends the number directly to the text-to-speech engine, which will speak the numbers according to its own rules. The Default setting is Single for all MS Profiles.

3.2.4 Custom Verbosity Options

The following is a list of the Custom Verbosity options:

- List Numbers
- Tab Numbers
- Grid Numbers
- Menu Key Options
- Auto Case Change
- Character Deletion
- Battery/Signal Always
- Extended Battery/Signal
- Submenu Indicators
- Announce Window
- Top/Bottom of Web Page
- Web Page Item Number
- Web Items Only Once
- Focused Web Links
- Announce Unread Messages

3.2.4.1 List Numbers

This determines whether the index number of an item and the total number of items will be spoken in a list display, such as the list mode of the main phone menu. (For example, "Tools, 5 of 17"). Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.2 Tab Numbers

This determines whether the index number of the tab and the total number of tabs will be spoken in a tabbed dialog. (For example, "Advanced, 1 of 3"). Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.3 Grid Numbers

This determines whether the index number of the icon and the total number of icons will be spoken in a grid display, such as the default mode of the main phone menu. (For example, "Tools, 5 of 17"). Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.4 Menu Key Options

This determines whether the functions assigned to the left and right softkeys (and the Enter key, on 9.3 devices) are spoken. (For example, "Button 1 select, button 2 exit, button 3 open"). Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.5 Auto Case Change

This determines whether to announce the change from upper-case to lower-case mode when the text input mode is set to "auto-case". (The auto-case mode is indicated on the display with the icon "Abc", and automatically capitalizes the first letter of each sentence

while entering text, then switches back to lowercase input for the rest of the sentence.). Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.6 Character Deletion

This determines whether to speak “deleted” when a character is deleted with the Clear key. Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.7 Battery/Signal Always

This makes Mobile Speak Always say the battery and signal level when reading the contents of the Standby Screen. Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.8 Extended Battery/Signal

This makes Mobile Speak give verbose information about battery and signal levels. For example, “battery level is 3 bars, signal level is 4 bars” as opposed to the less verbose “battery 3, signal 4”. Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.9 Submenu Indicators

This makes Mobile Speak say the word “submenu” when a menu item has sub-item(s). Note that a submenu is opened or closed by pressing the joystick to the right or left respectively. Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.10 Announce Window

This makes Mobile Speak say the word “window” when announcing the title of a screen. For example, “messages window” vs. “messages”. Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.11 Top/Bottom of Web Page (applies to WAP browser)

This makes Mobile Speak say “top of page” or “bottom of page” when reaching the top or bottom of the contents of a web page. Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.12 Web Page Item Number (applies to WAP browser)

This makes Mobile Speak say the number index of the selected item and the total number of selectable items within a web page (e.g., “login, 5 of 19”). Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.13 Web Items Only Once (applies to WAP browser)

ON most web pages, items which can be selected (such as links and buttons) often have associated text like labels. Normally these text labels will be read along with the focused item each time the item is selected. However, if this option is set to ON, the labels for

selected items will only be read the first time each item is selected, and returning to a previously spoken item will not speak its label again. Default setting is OFF for the Normal MS Profile, OFF for the Beginner MS Profile, and ON for the Advanced MS Profile.

3.2.4.14 Focused Web Links (applies to WAP browser)

This makes Mobile Speak say the words “focused link” when a web page link is selected. Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.4.15 Announce Unread Messages

When enabled, this option announces the presence of unread messages in the Inbox (e.g., “Inbox, unread messages”) when navigating through the messaging folder list, as well as indicating which messages in the Inbox are unread while scrolling through the message list. This option is automatically turned on in High and Normal verbosity modes. Default setting is ON for all MS profiles.

3.2.5 Braille Options

Mobile Speak includes support for several popular Braille devices. For more information about the use of each specific device, including key layouts and mappings, please refer to the appendix which corresponds to your device.

The list of available Braille devices is configured using the Braille device manager, which is covered elsewhere in this manual. To access the Braille device manager, select “Braille” from the Options menu opened by pressing the left softkey anywhere within the Mobile Speak configuration panel, and then choose “Configure devices” from the pop-up submenu.

The following is a list of the Braille configuration options available from the Braille tab in Configure Mobile Speak:

- Input Braille Table
- Output Braille Table
- Show Control Type
- Braille Cursor
- Auto turn off Bluetooth
- Control Summary
- Input Full Pan
- Cursor Blinking
- Suppress Capital Sign
- Reconnect at start-up

3.2.5.1 Input / Output Braille Table

These options sets a Braille translation table to use for Braille input and output. There is a different table for each Braille grade and language. This table will be used when displaying text on the refreshable Braille line, or when entering text using the Braille keyboard. Beginning with Mobile Speak 3.0, you may select separate tables for input and output. For example, you may choose to enter text in US English grade 2 Braille, but

have the output displayed in Spanish computer Braille. By default, 8-dot computer Braille tables are selected for both input and output in all MS profiles.

3.2.5.2 Show Control Type

When enabled, this option includes a short abbreviation before each text sent to the device, indicating the type of control being displayed. The Braille control type abbreviations vary according to the currently-selected language. With an English TTS, for example, ed is used to indicate that the control in focus is an editor. With a Norwegian TTS, on the other hand, sf (as in "skrivefelt" to refer to an editor) is used instead. Default setting is ON for all MS profiles.

3.2.5.3 Braille Cursor

In addition to the normal screen navigation mode, Mobile Speak offers a "Braille cursor" mode, allowing the user to view in Braille the contents of the screen, whether they are selectable using the system cursor of the phone, and to explore the screen without moving focus to another part or item. This mode is described in more detail in Section 3.3. Default setting is OFF for all MS profiles.

3.2.5.4 Auto Turn Off Bluetooth

When this option is enabled, the Bluetooth capabilities of the phone will be automatically switched off when the Braille device is disconnected manually, either by terminating the connection between the mobile phone and Braille device, or by turning off the Braille device. This provides a higher level of security, and conserves battery power. Note that Bluetooth is automatically switched on when the connection between devices is established again. Default setting is OFF for all MS profiles.

3.2.5.5 Control Summary

This option, when used in conjunction with the Braille Cursor mode, adds an extra line for each editable control, selection list or grid, providing additional information about the location of the system focus within the control, as well as the number of lines and items in the control. For example, if system focus is on the second of four lines in an editor, control summary displayed in Braille Cursor Mode will inform the user, through a concise format suitable for short Braille displays, that the control is an editor with four lines and that focus is currently on Line 2. The same applies to lists and grids, except that instead of lines, control summary provides details on the number of items and on which item is currently in focus. Default setting is ON for all MS profiles.

3.2.5.6 Input Full Pan

This option controls the scrolling behavior of the Braille line when the end of the line is reached while entering or editing text. If the option is set to ON, the display will be scrolled by the entire width of the line such that the next character entered is shown in the first cell of a new Braille line. This setting is the default as most Braille users do not need to monitor the Braille display while typing. Conversely, if set to OFF, the display will be scrolled by just one character at a time such that the next character is shown near the end of the current Braille line. This setting is recommended if you want to keep track of what you have typed so far without relying on speech feedback.

3.2.5.7 Cursor Blinking

When this option is set to ON, the current position of the cursor within the text will be indicated on the Braille device via a flashing tactile cursor (dots 7 and 8 that go up and then retract every half-second). The blinking stops when the Braille device or mobile phone is not touched for 30 seconds. Default setting is OFF for all MS profiles.

3.2.5.8 Suppress Capital Sign

Enabling this option prevents the Braille output from indicating upper-case ("capital") letters in Grade 1 or Grade 2 Braille by placing a dot 6 before the uppercase character. Default setting is OFF for all MS profiles.

3.2.5.9 Reconnect at Start-up

When this option is enabled, Mobile Speak will automatically attempt to reconnect to the last-connected Braille device when the phone is restarted. This is turned off by default.

3.2.6 Magnifier Options

The following is a list of the Magnifier options:

- Zoom level: 1.25x – 16x
- Auto Start Magnifier: ON / OFF
- Layout type: Full screen / Distributed / Classic
- Auto Zoom: ON / OFF
- Scrolling: ON / OFF
- Scrolling Speed: 1 - 10
- Border: ON / OFF
- Border width: Small / Medium / Large
- Border Color: White / Red / Green / Black / Yellow / Blue
- Font smoothing: ON / OFF
- Color scheme: Normal / Black and White / Gray scale low res / Gray scale high res / Color low res / Color high res / Inverse colors
- Enhanced color scheme: ON / OFF
- Status shortcuts: ON / OFF
- Distributed zoom level: 1x / 1.25x / 1.5x / 2x
- Text cursor: ON / OFF
- Text cursor color: White / Red / Green / Black / Yellow / Blue
- Cursor size: Small / Medium / Large
- Cursor blinking: ON / OFF

3.2.6.1 Zoom Level

Nine choices are available, ranging from 1.25x to 16x. Default setting is 2x for the Normal MS Profile, 4x for the Beginner MS Profile, and 3x for the Advanced MS Profile.

3.2.6.2 Auto Start Magnifier

If this option is enabled, Mobile Magnifier will load automatically at phone start-up. Default setting is OFF for all MS Profiles.

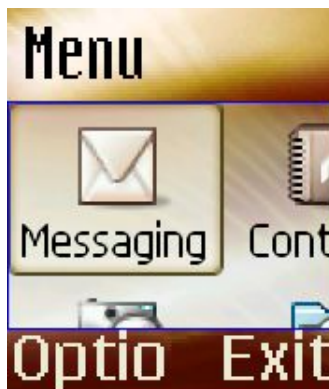
3.2.6.3 Screen Layout Type

Mobile Magnifier v3.00 has three different ways to magnify the screen:

- Full screen (default layout for all MS Profiles) – The contents of the entire screen are magnified.
- Distributed views – Screen text is magnified in the center using the selected zoom level, while the window title at the top as well as current left and right softkeys at the bottom are displayed using a secondary magnification setting.
- Classic – The bottom half of the screen shows what is in the unmagnified top half, but using a different magnification level.



Full Screen view



Distributed view



Classic view

3.2.6.4 Auto Zoom

Auto Zoom can be turned ON or OFF. When turned ON, the Magnification Level will automatically adjust to the amount of screen contents and may therefore change. Users who prefer to have a fixed zoom level should turn this feature OFF. Default setting is OFF for all MS Profiles.

3.2.6.5 Scrolling

When this option is enabled, if a high level of magnification is used and text does not fit the screen, Mobile Magnifier will automatically scroll to let you read the entire text without pressing any key. Default setting is OFF for all MS Profiles.

3.2.6.6 Scrolling Speed

This option controls the rate at which Mobile Magnifier automatically pans the text when the "Scrolling" feature is enabled. There are 10 different scrolling speeds to choose from. Default setting is 3 for the Normal MS Profile, 1 for the Beginner MS Profile, and 5 for the Advanced MS Profile.

3.2.6.7 Border

Mobile Magnifier can draw a border outside the magnification area. Default setting is OFF for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.6.8 Border Width

The width of the border can be customized to user preference. Default setting is Small for the Normal MS Profile, Large for the Beginner MS Profile, and Small for the Advanced MS Profile.

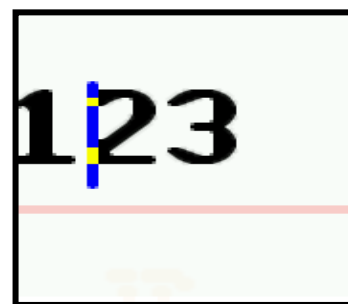
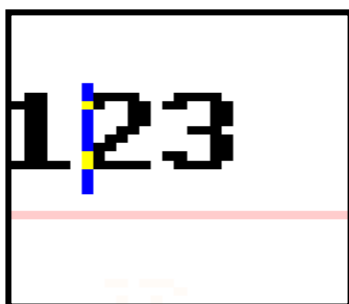
3.2.6.9 Border Color

The color of the border can be customized according to user preference (White / Red / Green / Black / Yellow / Blue). Default setting is Red for all MS Profiles.

3.2.6.10 Font Smoothing

Mobile Magnifier is the first and only solution for the Symbian platform to offer this very important feature for the visually impaired. Enabling this option smoothes the corners, curves and edges of the magnified screen contents to make them appear less jagged when enlarged and thus easier to read, even for extended lengths of time.

Here is an example:



Without font smoothing

With font smoothing

Default setting is ON for the Normal and Beginner MS Profiles, and OFF for the Advanced MS Profile.

3.2.6.11 Color Scheme

Mobile Magnifier has 7 different color schemes: Normal, black and white, gray scale (low resolution), gray scale (high resolution), color (low resolution), color (high resolution) and Inverse colors – meeting the needs of all users with varying degrees of vision impairment. Default setting is Normal for all MS Profiles.

3.2.6.12 Enhanced Color Scheme

When enabled, the enhanced color scheme option will load a theme which has been especially designed to improve visibility of text. This theme is loaded into all applications, providing better readability of text. Default setting is OFF for all profiles.

3.2.6.13 Status Shortcuts

This is another exciting new feature available only in Mobile Magnifier, starting with version 3.0. Enabling this gives you access to the following information screens:

Pressing the *left softkey* for half a second, the screen will show an icon indicating the battery level, network status and current time – all displayed with large icons and fonts.

Pressing the *right softkey* for half a second, the screen will show icons indicating if there are missed calls, unread messages and the date with big numbers.

Users can enable or disable this feature using the “Status Shortcuts” setting. Default setting is ON for all MS Profiles.

3.2.6.14 Distributed Zoom Level

This is the secondary magnification level used for the title and softkey areas of the Distributed Views layout type described in Section 3.2.6.3. Default setting is 2x for all MS profiles.

3.2.6.15 Text Cursor

This is yet another enhancement of Mobile Magnifier v3.0. It can replace the default system cursor with your own text cursor which you can customize by selecting its width and color, as well as turn blinking on or off. Users can enable or disable this feature using the Text Cursor setting. Default setting is ON for all MS Profiles.

3.2.6.16 Text Cursor Color

Users can customize the color of the text cursor (White / Red / Green / Black / Yellow / Blue). Default setting is Red for all MS Profiles.

3.2.6.17 Cursor Size

Users can customize the size of the text cursor (Small, Medium or Large). Default setting is Large for the Normal MS Profile, Large for the Beginner MS Profile, and Small for the Advanced MS Profile.

3.2.6.18 Cursor Blinking

Users can control the blinking of the text cursor with this setting (ON or OFF). Default setting is ON for the Normal MS Profile, ON for the Beginner MS Profile, and OFF for the Advanced MS Profile.

3.2.7 Options List Opened with the Left Softkey

By pressing the left softkey in the Mobile Speak configuration panel, a list of options is presented.

3.2.7.1 Change

This option is available when configuring a particular MS Profile setting. It opens a new screen where you can change the currently highlighted item. Note that for items that only allow ON/OFF settings, pressing Change will toggle the setting instead of opening a screen.

3.2.7.2 Apply to All Profiles

This causes the setting of the currently highlighted item to be applied to all MS Profiles. For example, if the currently highlighted item is Volume and it is set to 4, then by pressing "Apply to All Profiles", all MS Profiles will be set to have a Volume of 4. The only exception to this is the Profile Name setting – pressing "Apply to All Profiles" has no effect on this setting, since it does not make sense to have all MS Profiles with the same name.

3.2.7.3 Register Now

This opens a registration window where Trial or Full license codes can be entered for both Mobile Speak and Mobile Magnifier (see Section 2.4). If more than one voice is installed on the phone, you will then need to select the voice which you wish to license. Note that if you already have a full license, a message "Already Registered" will be displayed, and the registration window will not open.

3.2.7.4 Restore Defaults

This option will have a different function depending upon where focus is when it is selected. If it is pressed while customizing an MS Profile, then all the settings for the MS Profile being customized will be restored to their defaults. However, if this option is pressed from the initial screen of the Mobile Speak configuration panel (i.e. the screen with the list of MS Profiles displayed), then all of Mobile Speak's factory default settings will be restored and the phone will be restarted (Note: In Symbian 9, the phone will not restart). In both cases, the user will be prompted to confirm in order to proceed.

3.2.7.5 Braille Submenu: Configure Devices

The "Configure Devices" submenu item of the Braille menu opens the Braille device manager, which presents a list of the currently paired Braille devices. You can add additional devices to this list, delete a device, view information about a device, or connect to the currently selected device.

To add a Braille device to the list, select "Add new device" from the Options menu opened with the left softkey. Mobile Speak will present you with a list of supported devices. Select your device from the list and the device manager will perform a Bluetooth search to establish a connection. Once the device has been configured, you may connect and disconnect it by selecting "Connect" from the options menu, or by using the Edit + Dial key shortcut. Note that you can add more than one Braille device in the Device Manager, so switching between Braille devices is possible.

To delete, show information, or connect to a device, select the corresponding entry from the device manager list, and select the appropriate command from the Options menu.

3.2.7.6 Braille Submenu: Turn Braille On/Off

This submenu item of the Braille menu performs the same function as the Edit + Dial key combination, which is to connect to the currently configured Braille device, or disconnect from the device if a connection is active. If no Braille device has been configured, an appropriate information message is displayed.

3.2.7.7 Help

A description of all the Function Shortcuts is provided in the Help menu.

3.2.7.8 About

The date and version of Mobile Speak, copyright information, as well as the status of licenses (for every TTS installed on the phone) will be spoken.

3.2.7.9 Activate

This option is available in the initial screen of the Mobile Speak configuration panel, and when pressing the Enter key while focus is on one of the MS Profiles. It sets the currently selected MS Profile to become the active one, which means that Mobile Speak will function according to its settings.

3.2.7.10 Customize

This option is available in the initial screen of the Mobile Speak configuration panel, and when pressing the Enter key while focus is on one of the MS Profiles. It opens the configuration window for the currently selected MS Profile, allowing the user to change its settings.

3.3 Braille Cursor Mode

The Braille Cursor mode is one of the many unique features of Code Factory's access solution for the Symbian platform. It serves a twofold purpose:

1. To allow users to navigate to areas of the screen not accessible using the system focus.
2. To review screen contents without moving the system focus and losing one's place in a list or text.

The user interface of the phone (menus, lists, etc.) can be navigated in two different ways using a Braille device. The first method is to move with the Braille device's

navigation key if any, or Braille commands that simulate the phone's joystick. However, this method only allows the user to move to those elements on the screen that are selectable, such as buttons, lists, and editable text. Other non-selectable text, including the window title, status icons, and the left and right softkey labels, cannot be read using this method.

In order to make these elements accessible, Mobile Speak provides a second mode, called the "Braille cursor mode". This mode allows the user to navigate up and down the screen contents line by line, including those lines which would not normally be accessible via the joystick. In this mode, screen contents will not be displayed in Braille according to the visual format, but items will instead be presented in separate lines since refreshable Braille lines on supported devices consist of just one row of Braille cells. Therefore, even though visually, the softkeys are aligned with one being on the left and the other on the right, Braille Cursor Mode shows the left softkey first in one Braille line, and then the right softkey in the next. Further, status icons found near the top of the screen are displayed in Braille using a concise format suitable for short Braille lines.

Moreover, the Braille cursor moves independently of the system cursor on the phone. This means that when navigating in Braille cursor mode, the Braille display may show a part of the screen that is not really in focus. This allows the Braille user, for example, to review the text entered so far into an editor without moving the system cursor from the end of the text so that input can be resumed immediately without having to reposition the system cursor again. This is thus the Braille equivalent of how sighted people can read the rest of the screen without losing their place within a control.

As discussed in Section 3.2.5.5, control summary is displayed by default in Braille cursor mode. For example, if you are reading a text message and you are already on the seventh of ten lines of text, but you want to review something mentioned in Line 2, you do not need to move the system focus five lines up. Just switch to the Braille cursor and use the Braille device's navigation keys to move up to the second line of text. If you move further up and thus move out of the current control displaying the body of the text message, you will be shown a control summary when you navigate back down to that control. This summary informs you of the control type, tells you the index number of the line that contains the system focus, and gives you the total number of lines. Similarly, if the control was a list or grid, the summary will tell you the control type, the index number on which focus is, and the total number of list/grid items.

Note that Braille indicators for the control information are still used in the Braille output by default (see Section 3.2.5.2), even in Braille cursor mode. In addition, if focus is on the line or item where system focus is on, the letter 'f' (for focus) is added to the end of the control indicator. For example, if focus is on the third list item, the first two items and all the others following Item 3 will have the li Braille indicator displayed before them in Braille cursor mode, while lif precedes the name of the third item.

To enter the Braille cursor mode, press the appropriate key combination for the Braille device you are using (refer to the Appendices). This is typically assigned to the keys used for entering dots 1 through 6, plus the command modifier on that device. Thus, it may be Space + dots123456, Left Space + Right Space + dots123456, or D1 + D2 + D3 + D4 + D5 + D6. (Note: On the ALVA BC640, press the three middle thumbkeys on the front panel.) Mobile Speak will activate the Braille cursor mode and announce the mode status (On or Off). Once in this mode, moving up or down with the Braille navigation keys will send each line of screen text to the Braille output, as well as speak the corresponding

text if speech output is available. Clicking on the current item under the Braille cursor will activate it where appropriate or move system focus to that item. Note that when using the Braille cursor in screens where there are tabs (e.g., Mobile Speak configuration panel, tabs for contacts list and groups, or from within Messaging folders when moving from one to another), navigate to the tab name and then press the joystick on the Braille device to the left or right to move to the previous or next tab.

To exit the Braille cursor mode, use the same Braille command performed to activate it, and Mobile Speak will announce that the Braille cursor mode is now off.

4 Mobile Speak Function Shortcuts

4.1 Overview

The following combination of keys can be used at any time when Mobile Speak or Mobile Magnifier is running. Below is a list of them and their corresponding description.

Mobile Speak Function Shortcuts are performed by first pressing and releasing the Edit Key, and then pressing the other key in the function shortcut (within 2 seconds of pressing the edit key).

- Edit + 1:** Spell word under the cursor
- Edit + 2:** Decrease volume
- Edit + 3:** Increase volume
- Edit + 4:** Decrease speed
- Edit + 5:** Increase speed
- Edit + 6:** Change verbosity level
- Edit + 7:** Change punctuation verbosity
- Edit + 8:** Change keyboard echo
- Edit + 9:** Read date and time
- Edit + 0:** Toggle speech mute
- Edit + *:** Read the last word or phrase spoken (up to 5 items)
- Edit + #:** Read the current screen
- Edit + Left Softkey:** Read status information (e.g., battery and signal level)
- Edit + Right Softkey:** Go to Mobile Speak configuration panel
- Edit + Enter:** Read current softkey assignments
- Edit + Joystick Left:** Move the cursor and speaks the previous word in the text
- Edit + Joystick Right:** Move the cursor and speaks the next word in the text
- Edit + Joystick Up:** Move the cursor and speaks the previous line in the text
- Edit + Joystick Down:** Move the cursor and speaks the next line in the text
- Edit + Clear:** Change Active MS Profile
- Edit + Dial key:** Connect to, or disconnect from, default Braille device

Note that if you need to repeat the same function key, it is not necessary to keep pressing the edit key each time (e.g., Edit key + 3 + 3 will increase the volume by two levels). However, you must not wait longer than 2 seconds in between pressing keys. Otherwise, you will have to press the edit key again. There are also groups of function keys that work together in the same way – e.g., in an editor, the joystick left, right, up, down and key 1 (spell current word). Thus, for example, to speak an SMS byword as well as by character, you can press: Edit key+ joystick right + 1 + joystick right + 1 + joystick right + 1 + joystick right + 1 ... in order to move to the next word, spell it, move to the next word again, spell it, so on and so forth.

Note also that several function keys are directly linked to a setting in the Mobile Speak configuration panel (e.g., Volume, speed, Verbosity). In these cases, changes made using the function keys will be seen when you enter the configuration panel next time.

In addition to speech feedback, the corresponding Braille output is provided for these function shortcuts such as those used to read date and time or to repeat the last spoken text.

4.1.1 Spell Word Under the Cursor (Edit + 1)

This function key is useful when editing or reading text. It spells the word that is currently under the cursor. If the "Case Indicator" option is enabled, then any capital letter will be preceded by the word "Cap".

4.1.2 Increase Volume / Decrease Volume (Edit + 2 / Edit + 3)

These function keys change the volume of the speech output, on a range from 1 to 10. Note that the volume cannot be lowered to zero. If you wish to mute the phone, use the "Mute" function key described below instead.

4.1.3 Increase Speed / Decrease Speed (Edit + 4 / Edit + 5)

These function keys increase or decrease the speed of the speech, on a range from -10 to 10. Note that the speed of the NokiaHQ voice is controlled from within the phone's "Speech" application. For the Nokia voices, the speed is not configurable.

4.1.4 Change Verbosity (Edit + 6)

This function key sets the current verbosity level. Each verbosity level behaves differently when reading the contents of the screen. Possible values are: High, Normal, Low, and Custom. When set to "Custom", all the current MS Profile's "Custom Verbosity" settings will be activated.

4.1.5 Change Punctuation Verbosity (Edit + 7)

This function key sets whether common punctuation symbols should be read aloud. Possible values are: All, Some, and None.

4.1.6 Change Keyboard Echo (Edit + 8)

This function key sets whether characters and words are spoken while entering text. There are four options:

- **None:** No speech feedback is provided while entering text.
- **Characters:** As the text is being typed, each character is spoken.
- **Words:** As the text is being typed, characters are not spoken, but as soon as a space character is inserted, the word before it is read.
- **Characters and words:** Both characters and words are spoken while entering text.

4.1.7 Read Date and Time (Edit + 9)

This function key speaks and displays in Braille the date and time currently set on the phone.

4.1.8 Toggle Mute (Edit + 0)

This function key toggles the muting of speech output. When "Mute" is ON, Mobile Speak does not speak until the "Mute" is turned OFF.

The Mute function is especially useful when an application that is playing audio is conflicting with Mobile Speak. For example, when moving through the list of melodies in the Profiles application, it may be necessary to mute Mobile Speak first in order to hear the music played without speech output for the name of the sound file cutting into it.

Please note that the "Mute" state is not persistent. If Mobile Speak is muted and the phone is restarted, speech output will be re-enabled. This helps new users who may have accidentally muted Mobile Speak to get speech output back by just restarting the phone.

The "Mute" key can serve an additional purpose during a call. If the user has set "Silent ON Calls" to ON, Mobile Speak will be muted while the user is on a call. However, by pressing the "Mute" key combination, Mobile Speak will provide speech output even with an active call if the user needs to navigate through the phone's interface. This is convenient for users who generally do not want Mobile Speak to speak while they are on a call, but who occasionally would need speech feedback during a particular call.

4.1.9 Read Last Spoken Text (Edit + *)

This function key repeats the last words or phrases that were spoken by Mobile Speak. Up to five phrases will be stored. Keep pressing (edit key + *) to cycle through this list. This can be very useful when items were not heard properly and something has been spoken since then. The user can in this case press the (edit key + *) function more than once to repeat these things, e.g., alarm information. Words that were missed due to audio conflicts may now also be repeated using (edit key + *), e.g., call summary at the end of a call.

4.1.10 Read Current Screen (Edit + #)

This function key reads the contents of the whole screen. Note that when typing a text message and you need to know how many characters (out of the 160 characters maximum) remain in the current page of the SMS you are composing, then performing this function will speak the status indicator for this information.

4.1.11 Read Status Information (Edit + Left Softkey)

This function key reads the current battery level and charging state, the network coverage and operator, and other status indicators displayed on the screen. The battery and signal level is spoken as "bars", as it is displayed on the phone's screen (with a range of 1 to 7). Note that if the battery is currently charging, the battery level will speak "Charging" instead of speaking the number of bars. To check the current battery level in this case, simply disconnect the power source and read the battery level again. Once the

battery has finished charging, the battery level (in Bars) will again be spoken. This function also reports the following additional information:

- Enabled Bluetooth
- Active infrared
- Active GPRS
- Set alarm
- Active call diverts
- Presence of new missed calls in the call log
- Presence of unread messages in the Inbox
- Presence of unsent messages in the Outbox
- WLAN status
- Enabled keypad lock

4.1.12 Go to the Mobile Speak Configuration Panel (Edit + Right Softkey)

This function key opens the same screen as the “Configure Mobile Speak” shortcut. Refer to Section 3.2 for more information about the configuration panel.

4.1.13 Read Current Softkey Assignments (Edit + Enter)

This function key reads the current assignment of the left and right softkeys (and the Enter key on 9.3 phones) (referred to as button 1 and button 2 respectively, and button 3 for the Enter key on 9.3 phones).

4.1.14 Move to Previous/Next Word (Edit + Joystick Left/Right)

When editing text or reading it (for example, when reading a received SMS message), these function keys allow you to easily navigate through the text word-by-word. The cursor is moved to the end of the word being spoken.

4.1.15 Move to Previous/Next Line (Edit + Joystick Up/Down)

When editing text or reading it (for example, when reading a received SMS message), these function keys allow you to easily navigate through the text line-by-line. The cursor is moved to the start of the line being spoken. Note that in a received message, pressing the joystick up and down will move focus between the “From” field and the message body. Therefore, to read the message body line by line, use these function keys instead.

4.1.16 Change Active MS Profile (Edit + Clear)

This function key sets the currently active MS Profile. The name of the new active profile will be spoken as it is selected. Note that if this also requires a change in the voice, the phone may take a couple of seconds to resume speaking, as the previously active TTS is unloaded and the new one is loaded.

4.1.17 Connect/Disconnect Braille Device (Edit + Dial Key)

If a default Braille device has already been configured via the Braille device manager within the Mobile Speak configuration panel, pressing Edit + Dial will automatically reconnect to this device, or disconnect if a connection is currently active.

4.2 Mobile Magnifier Function Shortcuts

Mobile Magnifier function shortcuts operate in a similar way to those of Mobile Speak (described in the previous section). The difference is that these shortcuts are accessed by pressing and releasing the edit key twice. We refer to this as an Edit2 key press. After the Edit2 key press, you have 2 seconds to press the other key in any of the following function keys.

- Edit2 + 0** : Toggle magnifier ON/OFF.
- Edit2 + 2** : Focus the magnifier on the screen title.
- Edit2 + 3** : Open Mobile Speak Configuration screen.
- Edit2 + 4** : Toggle Border ON/OFF.
- Edit2 + 5** : Toggle Auto Zoom ON/OFF.
- Edit2 + 6** : Cycle through Mobile Magnifier Color Schemes (7 choices).
- Edit2 + 8** : Switch focus between the left and right softkeys.
- Edit2 + 9** : Toggle font smoothing ON/OFF.
- Edit2 + up**: Increase zoom level.
- Edit2 + down**: Decrease zoom level.
- Edit2 + right**: Change **screen** layout type.

There are also several useful shortcuts that are not accessed via the edit2 key. These are described here:

- **Left / right / up / down pressed and held for a second**: Start panning the focus area left / right / up / down.
- **Left Softkey pressed and held for half a second**: Status shortcut 1. Show battery level, network status and time.
- **Right Softkey pressed and held for half a second**: Status shortcut 2. Show inbox status, missed calls and date.

Note that if you repeat the same function key, it is not necessary to keep pressing the edit key each time (e.g., Edit2 key + up + up will increase the magnification by two levels). However, you must not wait longer than 2 seconds in between pressing keys. Otherwise, you will have to press the edit2 key again.

Note also that several function keys are directly linked to a setting in the Mobile Speak configuration panel (e.g., Border, Zoom level, color scheme). In these cases, changes made using the function keys will be seen when you enter the configuration panel next time.

5 Other Features of the Software

5.1 Using the WEB Browser (Symbian 9 only)

The Web browser is available on all Symbian 9 phones. Mobile Speak provides easy to use and powerful access to web content via the Web browser, allowing users to navigate web pages in the way they are accustomed to with their desktop screen readers. In most phones, this browser is called "Web". In 9.2 and 9.3 phones, it is the default browser and the only one pre-installed on the device. It can also be launched by doing a long press of the key "0" from the standby screen. In 9.1 phones, it is not the default browser - the default browser is typically called "Services" and is also supported by Mobile Speak (see

the next section on the WAP browser for more details). If you have a 9.1 phone and want to use the newly supported Web browser, make sure that you are launching the correct browser (i.e. the one typically called "Web").

Mobile Speak provides support for the web browser by means of a virtual cursor. The default keypress functionality has been changed in order to provide special functionality and allow easy navigation through the web page. While a page is being loading, press joystick up to hear the status of loading (e.g. 123 of 456 KB), to inform you of how much data has already been loaded and how much still needs to be loaded. Once a page is fully loaded, a page summary with the number of frames, headings, elements and links will be spoken. Once this is spoken, you can begin to navigate the page using the Mobile Speak virtual cursor. Note that you must wait till the page is fully loaded to start using the Mobile Speak virtual cursor.

Please keep in mind that you will need an internet connection in order to use this web browser. If you do not connect via WLAN, then please check the data plan of your operator, so that you know exactly what charges are involved with downloading internet data.

Here is a summary of the virtual cursor commands currently available:

- Joystick down: Move forward one element in the web page.
- Joystick up: Move back one element in the web page.
- Joystick right: Jump forward one element based on the current Jump Mode. The Jump Mode can be changed by pressing the keys 2-8 (see below). The default Jump Mode whenever a new page is loaded is "Jump by Links".
- Joystick left: Jump back one element based on the current Jump Mode. The Jump Mode can be changed by pressing the keys 2-8 (see below). The default Jump Mode whenever a new page is loaded is "Jump by Links".
- 0: Toggles between start and end of a page.
- 2: C for Control. Toggles the Jump Mode between: Jump to same control; Jump to different control; Jump to graphical control.
- 3: F for Forms. Toggles the Jump Mode between: Jump by forms; Jump by editors; Jump by buttons; Jump by checkbox and radio button; Jump by combo box and list box.
- 4: H for Headings. Toggles the Jump Mode between: Jump by headings and frames; Jump by headings; Jump by frames.
- 5: L for Links. Toggles the Jump Mode between: Jump by links; Jump by non-links; Jump by in-page links.
- 6: M for Move. Move forward or backwards in the page by a fixed percentage of the page size (in elements). Options are: 2%, 5% and 10%. Information about the current element number in the page is also provided, to give an indication of your current location in the page.
- 7: P for Paragraph. Toggles the Jump Mode between: Jump by paragraph and block quotes; Jump by paragraph; Jump by block quotes.
- 8: T for Tables. Toggles the Jump Mode between: Jump by table and list; Jump by list; Jump by table.
- 9: Read to end of page. This will speak the contents of the page, starting at the current element. Press the * key to stop speaking, and the virtual cursor will be positioned at the element where you stopped.

- clear: Move backwards in the current page using your navigation history. This provides a convenient way to trace back the steps as you navigate through a page.
- Send key: Opens a search window, allowing the user to enter a search term. The left and right joystick keys can then be used to repeatedly jump through and move to the next found element.
- Enter: Appropriate behaviour depending on type of control. For example, when currently focused on a link, navigate to the link. When currently focused on a Text entry box, open the editor so that text can be entered.

The left and right soft keys have their normal functionality in the web browser. The left soft key pops up a menu of available browser options, while the right soft key allows the user to move back to the previous page.

Note that you must keep Javascript enabled inside the Web settings menu (it is enabled by default, so unless you disable it for some reason, this should work fine).

5.2 Using the WAP Browser (Symbian 6 / 7 / 8 / 9.1 only)

Mobile Speak works with the standard web browser application (sometimes called "Services") included with many Symbian Series 60 phones, speaking the contents of the web page and guiding you through the navigation of the links and controls on the page. To avoid confusion with the WEB browser on Symbian 9 phones, we will refer to this browser as the WAP browser.

The WAP browser application is generally located in the main menu, although on some models (such as the Nokia N-Gage), it may be located in a separate folder like "Media".

To use the WAP browser to surf the internet, you must first configure your mobile phone with an "access point". An access point is a collection of settings which are dependent both on the model of the mobile phone and your network operator. For details about configuring your phone with an internet access point, consult your network operator. (NOTE: for most Nokia phones, an internet configuration wizard is also available on the Nokia website (www.nokia.com) under the Support section.)

Once the WAP browser has been configured, you may load one of the previously saved bookmarks or enter a new web address (URL). The browser application will load the page, and Mobile Speak will announce the page title and the first portion of the content. To move up and down in the page, simply use the up and down arrow keys. Mobile Speak will continue to speak the page contents as you move from navigable element to navigable element within the page. (Navigable elements within a typical web page include links, buttons, edit controls, list boxes, etc.). The normal shortcut keys, such as those used to adjust speech volume/pitch/speed, to read screen contents, etc. should work as normal within the web browser application.

Most elements within a page, such as links and buttons, can be selected using the Enter key. If an edit control is selected, pressing the Enter key will open a dialog window, allowing you to enter the text that you would like to place in the edit control.

The application menu for the WAP browser (opened with the left softkey) provides access to common functions, such as saving and opening bookmarks, getting page information, etc.

The speech output for certain items within the WAP browser can be controlled through the Mobile Speak verbosity level, particularly “custom verbosity”. Refer to Section 3.2.4 for more details.

5.3 Reading the Caller ID

When there is an incoming call, you can read the phone number or contact name of the caller by pressing the right softkey, referred to as button 2. This will also mute the ringtone.

Note that the following limitations apply to the Caller-Id function:

- Caller-Id doesn't work if the current profile is Silent (the call will be rejected if you press the right softkey)
- Caller-Id does not work if the current Ringing Type is set to either “Silent” or “Beep Once”.

You can personalize phone profiles (e.g., ringtones, ringing type, etc.) through the “Profiles” application in the phone's main menu. Please check your device's manual for more information. Note that on some Symbian 9 phones, you can use a built-in text-to-speech engine to hear the caller-ID. When enabled through the Profiles application, it will cut into the ringtone of an incoming call to speak the caller's name or number.

5.4 Silence Button

The silence button is used to stop the current speech output from Mobile Speak. To use the silence button, press and hold the Edit Key for a second and then release it. Note that this only interrupts speech, and does not mute it.

5.5 Using a Bluetooth Headset

In order for Mobile Speak to work through a Bluetooth Hands-free Headset, the setting “Ear phone” must be selected in the “Audio Profile” option of the currently active Profile of Mobile Speak.

6 Tools Package

Mobile Speak is a software package that contains different free bundled software: Code Factory's accessible calculator, Code Factory's accessible sound recorder, a minesweeper game, the FExplorer file system browser software, and an MP3 Player.

6.1 Accessible Calculator (Symbian 6/ 7/ 8 only)

In order to access the calculator, select the “calculator” shortcut in the phone's main menu. Note that this is not the same as the built-in Calculator application of the phone which, though it has fewer functions, is also accessible using Mobile Speak. The shortcut to the default Calculator is usually located within a folder in the main menu.

You can enter the numbers by using the phone keypad. The Hash key is used to insert the decimal separator. Left and Right softkeys allow you to store and restore numbers respectively. With the star key you can cycle through addition (plus), subtraction (minus), multiplication (times), division (divided by), square root, Power (to the power of), and percent operations.

Use the Edit Key to toggle between a positive and negative (+/-) value of the number you enter. The Clear key lets you delete the numbers on the screen. To get the result of a calculation, press Enter.

To exit the calculator, press the left joystick key.

6.2 Accessible Sound Recorder (Symbian 6/ 7/ 8 only)

When you launch the sound recorder, you will find two options in the main screen. The first one in focus is "New". With this option, you make a new recording. Just select "New" and the recording will automatically start. When you stop the recording, the program offers you the options New, Open, Play and Save. If you decide to save the file, you need to enter a file name.

The second option available in the sound recorder is "Open". If you select this, you can open files previously recorded. You can erase a saved file by navigating to it in the list presented, and then pressing the Clear key.

To exit the sound recorder, press the left joystick key.

6.3 Minesweeper Game

To start the minesweeper game, select Mines in the main menu and press Enter.

Description:

This is the mobile phone version of the computer game where the player must uncover all the squares in a grid that do not have mines and mark those that do.

In the main screen of the game, you can select between three different levels:

Easy: 7 x 7 5 mines

Medium: 10 x 10 10 mines

Expert: 12 x 12 15 mines

Press the left softkey to start the game using the selected level. Press the right softkey to exit the game.

To navigate, use the phone's joystick. When you focus on a square, the coordinates are announced using letters to indicate the row and numbers to indicate the column. To uncover a square, press Enter. Once a square is uncovered, you lose the game if there is a mine. If the square is empty, a quick ascending sound is played if there are no mines surrounding this square, or the number of adjacent squares which contain a mine is spoken. When you have deactivated all mines by marking them with a press of the left softkey, the game is over and you will hear applause for finishing the game successfully. To unmark a square, press the left softkey again. To return to the game's menu, press the right softkey.

6.4 FExplorer (Symbian 6/ 7/ 8 only)

FExplorer is a utility for browsing the file directories of your phone, so that you can easily locate files and perform operations such as copy, cut, paste, beam (via infrared), transfer (via Bluetooth), view file properties, and many more. The software is very easy to use because keys used to navigate the file system are similar to those used on a desktop computer. You can move up and down the list of items in a directory with the joystick. To move up one folder level, press the left key. Conversely, to move to a sub-folder, if any, press the right key. You can also press Enter to open a folder. The left menu key is used for accessing Options, the right one to exit the program.

6.5 MP3 Player (Symbian 6/ 7/ 8 only)

You can switch between Song Mode and List Mode by pressing the joystick left or right. To load a sound file saved on your phone or memory card into the MP3 Player, change to list mode to view all files supported by the player. Pressing Enter on the list item in focus plays the sound file. To pause playback, press the right softkey.

To increase the volume of the player, press the joystick up. Conversely, push the joystick down to decrease the volume. To rewind or fast forward while a song is playing, press the Edit key, then push the joystick to the left or right respectively.

Press the left softkey to access the player's options. The first item here lets you switch directly to the next track. When you select Settings, you can choose which sound files are shown in List Mode (all songs or selected songs). You can also specify whether the MP3 Player should stop, play the next song, or play a random song after the one currently played is over. Further, you can toggle Repeat Mode, and to use a Bluetooth headset if one is available.

To exit the MP3 Player, press the menu key.

7 Help and Information

7.1 Mobile Speak Keyboard Help Mode

Mobile Speak includes a built-in help mode, which describes the names and functions of keys and key combinations as they are pressed. For example, if the 3 key is pressed, Mobile Speak will say the name "three key". If the Edit key is pressed, followed by the 3 key, Mobile Speak will say the name and description of the corresponding function key shortcut, or "edit plus three, volume up".

To activate the keyboard help mode, press and hold the edit key for at least three seconds from any application except the Standby Screen. Mobile Speak will announce that help mode has been activated, and then wait for further keys to be pressed. To deactivate, press and hold the edit key again for at least three seconds, and Mobile Speak will return to the normal mode. If no keys are pressed for at least ten seconds during help mode, Mobile Speak will also return to normal mode. Note that help mode cannot be activated from the Standby Screen, and that it will be automatically deactivated when an incoming call is received.

7.2 How to Use an Application

If you wish to learn the functions and options available in a built-in program on your phone (e.g., Messaging, Calendar, Contacts, etc.), open that application and select Help from the Options list opened by pressing the left softkey. You can use the joystick and Mobile Speak reading commands to navigate the displayed text.

In this screen, the left softkey opens a list of options to view the topics related to the current application, to select from the help category list, and to search Help by keyword. The right softkey closes Help and returns you to where you were in the application.

Alternatively, you can use the Help application shortcut in the main menu of your phone to view the entire alphabetical list of help topics available. Use the joystick to move up and down this list, and press on the topic you want to read. If there are subtopics for the item you selected, you will be placed in another list. Continue selecting the topic of interest to narrow down your search for a specific subject. Press the right softkey to move up a level of topics. The left softkey opens a list of options for viewing help categories and searching by keyword.

8 Description of Supported Mobile Phones

8.1 Symbian 6 / 7 / 8 Phones

8.1.1 Nokia 3230

The 3230 has a simple rectangular layout that makes it easy to navigate. The power key is located on the top of the phone, in a recessed groove. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick, with the menu key on the leftmost side (and larger than the rest), followed by the left softkey and the dial key, one on top of the other and just to the left of the joystick. Just to the right of the joystick are the right softkey and the hang-up key, with one on top of the other. Finally, on the rightmost side are the clear key and the edit key, also arranged with one above the other. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key.

8.1.2 Nokia 3650

On the top of the 3650 is the power key. Below the screen are the left and right softkeys. The keypad of the 3650 is laid out in a circle: 1 is on the top-left, 9 on the top-right. On the top-left of one are the dial and the edit keys, on the right are the hang-up and the clear keys. In the middle of the circle, towards the top, is the navigation key. On the lower-left is the *(+) key, and on the right is the # key. Below this is the menu key.

8.1.3 Nokia 6260

On the upper part of the phone, just below the display towards the left, you will find the left softkey, while to the right you will find the right softkey. Below the left softkey is the edit key and in between the edit key and the left softkey is the menu key. Below the right softkey is the Clear key. At the center of all these keys is the navigation key. Above the display is the switch off key.

On the lower part of the phone are the numeric keys from 1 to 9, arranged in three rows of three keys each. The fourth row consists of the * key, the 0 key, and the # key from left to right.

8.1.4 Nokia 6600

Below the display, towards the left, is the left softkey, while towards the right is the right softkey. Between them is the navigation key. Below are the numbers from 1 to 9, arranged in three rows of three keys each. The fourth row consists of the * key, the 0 key, and the # key from left to right.

To the left of the keypad is the dial key. Below this is the menu key and further below it, the edit key. TO the right of the keypad is the hang-up key. Below it is the right softkey and further below it, the Clear key.

8.1.5 Nokia 6630

Below the display, towards the left, is the left softkey, while towards the right is the right softkey. Between them is the navigation key. Below are the numbers from 1 to 9, arranged in three rows of three keys each. The fourth row consists of the * key, the 0 key, and the # key from left to right.

On the left edge of the front part of the phone is the dial key and below it is the menu key. On the right edge of the front part is the hang-up key, below which is the Clear key, and below that still is the edit key.

8.1.6 Nokia 6670

Below the display, towards the left, is the left softkey, while towards the right is the right softkey. Between them is the navigation key. Below are the numbers from 1 to 9, arranged in three rows of three keys each. The fourth row consists of the * key, the 0 key, and the # key from left to right.

On the left edge of the front part of the phone is the dial key and below it is the menu key. On the right edge of the front part is the hang-up key, below which is the Clear key, and below that still is the edit key.

8.1.7 Nokia 6680/6681/6682

The 6680, 6681, and 6682 are almost identical in design, with the main difference being the additional camera on the front of the 6680. Both models have the power switch on the right edge of the phone, just above a small door which provides easy access to the memory card.

The keypad layout is fairly standard, with raised keys in a slightly curving layout. The joystick is a circular pad below the screen, with the left and right softkeys to either side of it, and the numeric keypad underneath. The remaining function keys are arranged vertically down the sides of the numeric keypad; the dial and menu keys are stacked along the left edge of the front part of the phone, while the hang-up, clear and edit keys are on the right edge. The clear and edit keys are roughly half the size of the rest of the special keys.

8.1.8 Nokia 7610

Below the screen are the left and right softkeys. To the left of the left softkey is the dial key, and to the right of the right softkey is the hang-up key. Below the dial key is the edit key, and below the right softkey is the Clear key. Below the hang-up key is the menu key. In the center of these keys is the navigation key. Below the navigation key are the numbers from 1 to 9, arranged in three rows of three keys each. The fourth row consists of the * key, the 0 key, and the # key from left to right..

8.1.9 Nokia 7650

The 7650 is built in an easy-to-use way. On the top-right part of the phone is the power button. Below the screen you can find the left and right softkeys. Below these two buttons is the navigation key. On the left of the navigation key is the menu key.

On the lower part of the phone (the part that can be extended) the first key on the left is the edit key. To its right is a key where the left part is for starting a call (Dial key), while the right is for ending the call (Hang-up key). The key on the farthest right is the key for deleting (Clear key). Below are the numbers from 1 to 9, arranged in three rows of three keys each. The fourth row consists of the * key, the 0 key, and the # key from left to right.

8.1.10 Nokia N70 / N72

The N70 and N72 are candybar-shaped phones with a rectangular layout. The power button is located on the top of the phone, and is a small recessed button. Directly below the screen is a rectangular directional pad/joystick. On the left side of the joystick are two keys: the left softkey (above) and the dial key (below). Similarly, on the right side are two keys: the right softkey (above) and the hang-up key (below). The numeric keys are located in a rectangular keypad directly below the joystick, with two raised, narrow buttons on each side. The narrow buttons on the left hand side are the menu key (top) and the edit key (bottom). On the right side are the user-defined "multimedia" key (top) and the clear key (bottom).

8.1.11 Nokia N90

The N90 is a flip phone with a twistable top portion designed for taking photos and video. The power switch is located on the top of the phone when closed, on one of the sections which swivels when open. It has two separate joysticks: one on the front of the lower section of the phone, just above the numeric keypad, and another on the right-hand side at approximately the same latitude. Likewise there are two sets of softkeys: one on either side of the joystick, and one on the top of the display, which is used primarily when the display is twisted into photo/video mode. To the left of the front joystick are the left softkey and the dial key, one on top of the other. To the right are the right softkey and the hang-up key, also one above the other. The edit button is located to the bottom-left of the joystick, under the dial key, and the clear key is located to the bottom-right, below the hang-up key. The menu key is located between them, directly below the joystick. The numeric keypad is in the standard layout, located below the special keys on the lower part of the phone.

8.1.12 Nokia N-Gage

On the top-left of the screen is the dial key. Below this is the navigation key, and further below this are the melody, radio and the menu keys. Below them are the Clear key and the left softkey.

On the top-right side of the screen is the hang-up key. Below this are the numeric keys from 1 to 9, arranged in three rows of three keys each. The fourth row consists of the * key, the 0 key, and the # key from left to right. Below are the right softkey and the edit key.

8.1.13 Panasonic X700/X701

The X700 is a flip phone, with the screen in the top half of the phone and all keys in the bottom half. The power button is a small button at the bottom-right of the phone, just opposite a special key at the bottom-left which can be used to launch internet applications.

The navigation key is a circular directional pad at the top of the lower half of the phone, with the enter button in the centre. The left and right softkeys are located above the navigation key, to the left and right, while the edit and clear keys are located below it, also to the left and right, respectively. Below this group of keys is a horizontal band of three buttons: the dial, menu and hang-up keys from left to right. The numeric keypad is slightly raised, and has a mostly rectangular layout, tapering slightly narrower toward the bottom.

Access to the memory card on the X700 is through a small removable door at the top of the phone.

Note: The Panasonic X701 is the same phone but sold by Vodafone.

8.1.14 Samsung SGH-D720

The D720 is a "slider"-type phone, with the numeric keypad sliding out from below the rest of the phone. The power button on the D720 is actually the hang-up key, located at the bottom-right of the upper portion of the phone. Press and hold this key to turn the phone on and off. On the other hand, a quick press of this key will end a call.

The joystick is located in the centre, just below the screen on the upper portion of the phone. The clear key is small and located in the centre, just below the joystick. The remainder of the function keys are lined up symmetrically along the sides of the joystick; from top to bottom on the left side are the left softkey, edit key and dial key, while on the right are the right softkey, menu key, and hang-up key.

The numeric keypad has a standard layout with non-raised keys. Each key does have a slight ridge to help locate it, and the 5 key does have a tactile indicator.

On each side of the phone are two additional special keys for functions such as volume control and launching specific applications.

8.1.15 Siemens SX1

To the left of the screen, you will find the keys from 1 to 5. Below the five is the star key. TO the right of the screen are the number keys from 6 to 9, and 0. Below 0 is the hash key.

Below the screen are the left and right softkeys, with the navigation key between them. Below the navigation key is the menu key. Further below this, towards the left are the dial and the hang-up key. Below these are the edit key and the Clear key respectively.

8.2 Symbian 9.1 Phones

8.2.1 Nokia 3250

The 3250 is designed specifically for playing music. By twisting the bottom part of the phone 90 degrees to either the left or to the right, the phone's camera is activated (note that the camera lens is located on the lower-left side of the phone). By twisting the bottom part of the phone 180 degrees, the music player is activated and the four buttons (rewind, play, stop and fast forward from left to right) can be used to control the music player. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick, with the menu key on the leftmost side, followed by the left softkey and the dial key, one on top of the other and just to the left of the joystick. Just to the right of the joystick are the right softkey and the hang-up key, with one on top of the other. Finally, on the rightmost side are the clear key and the edit key, also arranged with one above the other. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key.

8.2.2 Nokia 5500 Sport

The 5500 is a light and compact phone with a textured keypad. The power key is located on the top of the phone, and has a textured notch. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. On the left side of the joystick, just below the screen is the left softkey. The dial key is directly below this, and sticks out slightly from its surrounding keys, while the menu key is directly below. On the right side of the joystick, just below the screen is the right softkey. The hang-up key is directly below this, and sticks out slightly from its surrounding keys, while the clear key is directly below. The edit key is located on the lower-right side of the phone. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. The camera lens is located on the back of the phone.

8.2.3 Nokia E50

The E50 is the smallest and lightest of the E series phones. The power key is located on the top-right of the phone, and has a textured notch. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. On the left side of the joystick, just below the screen is the left softkey. The menu key is to the lower-right of the left softkey, and is a smaller key. The dial key is directly below. On the right side of the joystick, just below the screen is the right softkey. The clear key is to the lower-left of the left softkey, and is a smaller key, while the hang-up key is directly below. The edit key is located on the right side of the phone, beside the

screen. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. The camera lens is located on the back of the phone.

8.2.4 Nokia E60

The E60 is a compact E series phone with a candy-bar shape. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. On the left side of the joystick, just below the screen is the left softkey. The dial key is directly below, and the edit key is below it. On the right side of the joystick, just below the screen is the right softkey, while the hang-up key is directly below, and then the clear key. The menu key is located directly below the joystick. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key.

8.2.5 Nokia E61 / E61i / E62

These phones are in the style of a blackberry device, with a full QWERTY keyboard. The power key is located on the upper right corner of the phone. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. On the far left side of the joystick, just below the screen is the left softkey. The dial key is directly below it, while the menu key is located to their right, in between these two keys and the joystick. On the far right side of the joystick, just below the screen is the right softkey. The hang-up key is directly below it, while the mail key is located to their left, in between these two keys and the joystick.

Below all these keys, there is an array of keys grouped into 4 rows and 10 columns. These keys have a standard QWERTY layout. The top three rows contain the alphabetic characters, with the numeric keys being the central 4 keys in each of these rows. The clear key is the rightmost key on the second row. There are two shift keys: one is the second key from the left on the bottom row (which acts as the edit key), and the other is the second key from the right on the bottom row. The larger key in the centre of the bottom row is the space bar. The bottom-left key changes input modes, while the bottom-right key brings up the symbol table when inside an editor. The E61i has a camera on the back of the phone. It also extra hotkeys to access mail and multimedia, on the left and right of the joystick respectively.

8.2.6 Nokia E65

The E65 is a compact slider phone. The power key is located on the top-right of the phone. The joystick is located in the centre of the phone, just below the screen. Immediately to the left and right of the joystick are four hotkey buttons (two on each side) which give access to the phonebook and multimedia applications. Surrounding all these keys is a thin, circular group of keys with the following functions: On the top-left side, just below the screen is the left softkey, while the right softkey is located on the top-right side. On the left side and below the left softkey is the Dial key, while on the right side and below the right softkey is the hang-up key. Below the joystick and to the left is the menu key, and to its right is the clear key. The numeric keypad is found by sliding out the lower part of the phone. It has a standard layout with raised keys and a tactile marker on the 5 key. The camera lens is located on the back of the phone. On the right side of the phone are the volume up/down keys, Immediately above them is the edit key, and above the edit key is the sound recorder shortcut key.

8.2.7 Nokia E70

The E70 has a movable keyboard which allows it to operate in two modes. When closed, it acts as a standard phone keypad. However when opened up, it transforms into a full QWERTY keyboard, with half of the characters to the left of the screen and half to the right. The power key is located on the upper right side of the phone, just above the screen. The camera is located on the back of the phone.

8.2.8 Nokia N71

The N71 is a flip phone. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. On the left side of the joystick, just below the screen is the left softkey. The dial key is directly below. On the right side of the joystick, just below the screen is the right softkey, while the hang-up key is directly below. Below these keys are 3 horizontal keys which are, from left to right, the edit key, the menu key and the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key.

8.2.9 Nokia N73

The N73 is a compact phone with a candy-bar shape. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. To the left of the joystick is the left softkey. The dial key is directly below that. Similarly, to the right of the joystick is the right softkey, while the hang-up key is directly below that. To the left of the left softkey is the raised and narrow menu key on the left edge of the front part of the phone, and below it is the edit key. Two similar keys can be found on the right edge: the multimedia key and below it the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key.

8.2.10 Nokia N75

The N75 is a compact flip phone. The power key is located on the top of the phone. On the outside front cover, there are 3 keys for playing music (rewind, play and fast forward). The joystick is located in the centre of the phone, just below the screen. Immediately to the left of the joystick is the menu key, and immediately to the right is the multimedia key. Surrounding all these keys is a thin, circular group of keys with the following functions: On the top-left side, just below the screen is the left softkey, while the right softkey is located on the top-right side. On the left side and below the left softkey is the Dial key, while on the right side and below the right softkey is the hang-up key. Below the joystick and to the left is the edit key, and to its right is the clear key. The numeric keypad has large keys arranged in standard layout with raised keys and a tactile marker on the 5 key.

8.2.11 Nokia N77

The N77 is a compact phone with a candy-bar shape. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. TO the left of the joystick is the left softkey. The dial key is directly below that. Similarly, to the right of the joystick is the right softkey, while the hang-up key is directly below that. To the left of the left softkey, on the edge of the front part of the phone, is the raised and narrow menu key, and below it is the edit key. Two similar keys can be

found on the right edge: the multimedia key and below it the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key.

8.2.12 Nokia N80

The N80 is a slider phone. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. To the left of the joystick is the left softkey. The dial key is directly below that. Similarly, to the right of the joystick is the right softkey, while the hang-up key is directly below that. Below these keys are 4 horizontal keys which are, from left to right, the edit key, the menu key, the multimedia key and the clear key. The numeric keypad is found by sliding out the lower part of the phone. It has a standard layout with raised keys and a tactile marker on the 5 key.

8.2.13 Nokia N91

The N91 is a slider-phone designed for playing music. The power key is located on the top-left of the phone, and the keyboard lock key is a slider switch located to its right. When closed, the slider is a music controller, with play, stop, rewind and fast forward keys. The joystick is located in the centre of the phone, just below the screen. To the left of the joystick is the left softkey. The dial key is directly below that. Similarly, to the right of the joystick is the right softkey, while the hang-up key is directly below that. By opening the slider, the other phone keys are revealed. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. The edit key is located to the left of the 1 and 4 keys, and the clear key is located to the right of the 3 and 6 keys. The menu key is located on the right side of the phone, beside the screen.

8.2.14 Nokia N92

The N92 is a flip phone with a twistable top portion designed for taking photos and video. The power switch is located on the top of the phone when closed, on one of the sections which swivels when open. The joystick is located in the centre of the phone, just below the screen. Immediately surrounding the joystick are the keys for controlling music and video (play, stop, rewind and fast forward), positioned in a circular formation. To the top-left and top-right of these keys are the left and right softkeys respectively, while to the bottom-left and bottom-right are the dial key and hang-up key. To the lower-right of the dial key is the menu key, while to the lower-left of the hang-up key is the clear key. The numeric keypad is located below these, with raised keys and a tactile marker on the 5 key. Keys from 1 to 9 are in standard layout, but in the bottom row are 4 keys: the leftmost one is used as the left softkey when the screen is twisted, while the other keys are the standard *, 0 and # keys. When the screen is twisted, the keys 1-9 change to match the phone's new orientation, while the left and right softkeys also change position to be located below the newly positioned screen.

8.2.15 Nokia N93

The N93 is a flip phone with a twistable top portion designed for taking photos and video. The power switch is located on the top of the phone when closed, on one of the sections which swivels when open. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. To the left of the joystick is the left softkey. The dial key is directly below that. Similarly, to the right of the joystick is the right softkey, while the hang-up key is directly below that. Below these keys are 4 horizontal keys which are, from left to right, the edit key, the menu key, the

multimedia key and the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key.

8.2.16 Nokia N93i

The N93i is similar in appearance to the N93. It is a flip phone with a twistable top portion designed for taking photos and video. The power switch is located on the top of the phone when closed, on one of the sections which swivels when open. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick, in a U shape. On the upper-left side of the joystick is the left softkey. The menu key is below it, and the dial key is further below that. On the upper-right side of the joystick is the right softkey, while the multimedia key is below it and the hang-up key further below that. In between the dial key and the hang-up key are two keys: the edit key and, to its right, the clear key. The numeric keypad has a standard layout with a tactile marker on the 5 key.

8.3 Symbian 9.2 Phones

8.3.1 Nokia 5700

The 5700 is designed specifically for playing music. By twisting the bottom part of the phone 90 degrees to either the left or to the right, the phone's camera is activated (note that the camera lens is located on the lower-left side of the phone). By twisting the bottom part of the phone 180 degrees, the music player is activated and the three buttons (rewind, play/pause and fast forward from left to right) can be used to control the music player. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. The left softkey is located to the left of the joystick (below the screen) and the dial key is below the left softkey. To the right of these keys is a slightly raised key, which is the menu key. Just to the right of the joystick are the right softkey and the hang-up key, with one on top of the other. Finally, on the rightmost side is another raised key, the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. This phone does not have an edit key. However, note that the rewind and fast forward keys act as an edit key in Mobile Speak when "reassign edit key" is activated and when the phone is not twisted to act as a music player.

8.3.2 Nokia 6110

The 6110 Navigator is a slider phone. The power key is activated by long-pressing the hang-up key. The joystick is located in the centre of the phone, just below the screen. To the left of the joystick is the left softkey. The dial key is directly below that. Similarly, to the right of the joystick is the right softkey, while the hang-up key is directly below that. Below these keys are 3 horizontal keys which are, from left to right, the menu key, the navigator key and the clear key. The numeric keypad is found by sliding out the lower part of the phone. It has a standard layout with raised keys. This phone does not have an edit key, but the navigator key can be re-assigned to act as the edit key within the advanced options of the Mobile Speak configuration panel.

8.3.3 Nokia 6120 / 6121

The 6120 and 6121 are highly-compact candybar-shaped phones. The joystick is located in the centre of the phone, just below the screen. The left softkey is located to the left of

the joystick, and the dial key is below the left softkey. To the right of these keys is a key with a small tactile marker, which is the menu key. Just to the right of the joystick are the right softkey and the hang-up key, with one on top of the other. Finally, on the rightmost side is another key with a small tactile marker, the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. The camera key is located on the right side of the phone. This phone does not have an edit key. However, note that the camera key acts as an edit key in Mobile Speak when "reassign edit key" is activated.

8.3.4 Nokia 6124

The 6124 is a compact candybar-shaped phone. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. The left softkey is located to the upper-left of the joystick, and the dial key is below the left softkey. In between these keys is a small key with a tactile marker, which is the menu key. Just to the upper-right of the joystick is the right softkey and below it is the hang-up key. In between these keys is a small key with a tactile marker, which is the clear key. The numeric keypad has a standard layout and a tactile marker on the 5 key. The camera key is located on the right side of the phone, and the volume up/down keys are above it (beside the screen). This phone does not have an edit key. However, note that the camera key acts as an edit key in Mobile Speak when "reassign edit key" is activated.

8.3.5 Nokia 6290

The 6290 is a compact flip phone. The power key is activated by long-pressing the hang-up key. On the outside front cover are 3 keys for playing music (rewind, play and fast forward). The joystick is located in the centre of the phone, just below the screen. On the upper-left side of the joystick is a column of 3 keys which are, from top to bottom, the left softkey, the menu key, and the dial key. On the right side of the joystick, there is a similar column of 3 keys which are, from top to bottom, the right softkey, the clear key and the hang-up key. In between the dial key and the hang-up key is the multimedia key. The numeric keypad has large keys and has a standard layout with raised keys and a thin metallic strip separating the rows of keys. A small tactile marker is located on the strip separating the 2 and 5 keys. This phone does not have an edit key, but the multimedia key can be re-assigned to act as the edit key within the advanced options of the Mobile Speak configuration panel.

8.3.6 Nokia E51

The E51 is a compact E series phones. The power key is located on the top-right of the phone, and has a textured notch. The joystick is located in the centre of the phone, just below the screen. Immediately to the left and right of the joystick are four buttons (two on each side, situated one above the other). The upper-left of these buttons is the menu key, while directly below it is the Calendar hotkey which gives access to the calendar application. The two buttons on the right are, from top to bottom, the Phonebook and Email hotkeys, which give access to these applications. Surrounding all these keys is a thin, circular group of keys with the following functions: On the top-left side, just below the screen is the left softkey, while the right softkey is located on the top-right side. On the left side and below the left softkey is the Dial key, while on the right side and below the right softkey is the hang-up key. Directly below the joystick is the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. On the right side of the phone there are three tactile keys, which are (from top to

bottom): Volume Up, Voice Command and Volume Down. On the right side of the phone is the voice recorder hotkey. The camera lens is located on the back of the phone. This phone does not have an edit key. However, note that the Calendar hotkey (the key to the left of the joystick and below the menu key) acts as an edit key in Mobile Speak when "reassign edit key" is activated.

8.3.7 Nokia E66

The E66 is a slider phone. The power key is located on the top-right of the phone. The joystick is located in the centre of the phone, just below the screen. Immediately to the left and right of the joystick are four buttons (two on each side, situated one above the other). The upper-left of these buttons is the menu key, while directly below it is the Calendar hotkey which gives access to the calendar application. The two buttons on the right are, from top to bottom, the Phonebook and Email hotkeys, which give access to these applications. Surrounding all these keys is a thin, circular group of keys with the following functions: On the top-left side, just below the screen is the left softkey, while the right softkey is located on the top-right side. On the left side and below the left softkey is the Dial key, while on the right side and below the right softkey is the hang-up key. Directly below the joystick is the clear key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. On the right side of the phone there are three tactile keys, which are (from top to bottom): Volume Up, Voice Command and Volume Down. Below these keys is the camera key. The camera lens is located on the back of the phone. This phone does not have an edit key. However, note that the Calendar hotkey (the key to the left of the joystick and below the menu key) acts as an edit key in Mobile Speak when "reassign edit key" is activated.

8.3.8 Nokia E71

This phone has the style of a blackberry device, with a full QWERTY keyboard. The power key is located on the upper right corner of the phone. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. On the far left side of the joystick, just below the screen is the left softkey. In between these two keys and the joystick are two small keys: the menu key is the one on the left, and the calendar key is the one on the right. On the far right side of the joystick, just below the screen is the right softkey. The hang-up key is directly below it. In between these two keys and the joystick are two small keys: the Contacts key is the one on the left, and the Mail key is the one on the right.

Below all these keys, there is an array of keys grouped into 4 rows and 10 columns. These keys have a standard QWERTY layout. The top three rows contain the alphabetic characters, with the numeric keys being the central 4 keys in each of these rows. The clear key is the rightmost key on the second row. The shift key is the second key from the left on the bottom. The larger key in the centre of the bottom row is the space bar. The bottom-left key changes input modes, while the bottom-right key brings up the symbol table when inside an editor. On the right side of the phone there are three tactile keys, which are (from top to bottom): Volume Up, Voice Command and Volume Down. The camera is on the back of the phone. This phone does not have an edit key. However, note that the Calendar hotkey (the small key to the immediate left of the joystick) acts as an edit key in Mobile Speak when "reassign edit key" is activated.

8.3.9 Nokia E90

The E90 is a communicator-style phone which flips open to reveal a full QWERTY keyboard with an extra-large internal screen. The power key is located on the upper right corner of the phone's external screen. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. On the far left side of the joystick is the left softkey. The dial key is directly below it, while the menu key is located to their right, in between these two keys and the joystick. On the far right side of the joystick is the right softkey. The hang-up key is directly below it, while the clear key is located to their left, in between these two keys and the joystick. The numeric keypad is located below these, and has a standard layout with raised keys and a tactile marker on the 5 key. The phone flips open from the left side to give access to the large internal screen and full QWERTY keyboard. These keys have a standard QWERTY layout. Eight keys are located below the screen in a row, which serve as shortcuts to access common applications. Below this is the main keyboard. The top row contains the numeric characters, with the alphabetic characters located in the 4 rows below. On the upper right side of the keyboard is a large joystick. The clear key is the rightmost key directly below the joystick, and the return key is below the clear key. There are two shift keys: one is the leftmost key on the second-to-bottom row (which acts as the Edit key), and the other is the second key from the right on the second-to-bottom row. The larger key in the centre of the bottom row is the space bar. To the left of the internal screen are two keys: the dial key and the hang-up key below it. Similarly on the right side of the internal screen are the softkeys, located one above the other. The camera is located on the back of the phone. This phone does not have an edit key when the phone is closed. However, note that the Voice Command key (the key located on the upper right side of the phone) acts as an edit key in Mobile Speak when "reassign edit key" is activated.

8.3.10 Nokia N76

The N76 is a compact flip phone. The power key is located on the top of the phone. On the outside front cover there are 3 keys for playing music (rewind, play and fast forward). The joystick is located in the centre of the phone, just below the screen. To the left of the joystick is a column of 3 keys which are, from top to bottom, the left softkey, the menu key, and the dial key. To the right side of the joystick, there is a similar column of 3 keys which are, from top to bottom, the right softkey, the multimedia key and the hang-up key. To the right of the dial key is the edit key, while the clear key is to the left of the hang-up key. The numeric keypad has large keys and has a standard layout with flat keys, each of which has a small tactile marker.

8.3.11 Nokia N81

The N81 is a slider phone. The power key is located on the top right of the phone, and on the top left is a switch to lock/unlock the keypad. The joystick is located in the centre of the phone, just below the screen. Immediately surrounding the joystick are 4 keys which control the multimedia player: to the upper left is the rewind key, to the lower left the stop key, to the upper right the fast forward key, and to the lower right the play/pause key. In addition, on the right side of the joystick and in between the fast forward and play/pause keys is the tactile Multimedia key. It acts as an edit key in Mobile Speak when "reassign edit key" is activated. Surrounding these multimedia keys, there are three keys on the left side and three on the right. On the left, from top to bottom, are the left softkey, dial key, and menu key. On the right, from top to bottom, are the left

softkey, hang-up key and clear key. The numeric keypad is found by sliding out the lower part of the phone. It has a standard layout with a tactile marker between each row of keys and also on the 5 key. On the right side of the phone are the Volume Up / Volume Down keys, and further below them is the camera key. The camera lens is located on the back of the phone.

8.3.12 Nokia N82

The N82 is a candy-bar shaped phone. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. To the left of the joystick is a large, flat key. The top half of the key is the left softkey, while the bottom half is the menu key. The dial key is directly to the left of these keys. To the right of the joystick there is a small raised key, which is the multimedia key. It acts as an edit key in Mobile Speak when "reassign edit key" is activated. Above this raised key is the right softkey, while the clear key is directly below it. To the left of these keys is the hang-up key. The numeric keypad has a standard layout with raised keys and a tactile marker on the 5 key. On the right side of the phone and beside the screen are the volume up/down keys, while further down on the right side of the phone are the music player key and the camera key. The camera is located on the back of the phone, and has a lens cover which must be manually opened in order to use the camera.

8.3.13 Nokia N95 / Nokia N95 8GB

The N95 is a versatile slider-phone which comes with GPS integrated and dedicated music playing keys. By sliding down the screen, the four music buttons (rewind, stop, play/pause, and fast forward from left to right) can be used to control the music player. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. The function keys are all grouped around the joystick. On the far left side of the joystick, just below the screen is the left softkey. The dial key is directly below it, while the menu key is located to their right, in between these two keys and the joystick. On the far right side of the joystick, just below the screen is the right softkey. The hang-up key is directly below it, while the multimedia key is located to their left, in between these two keys and the joystick. Immediately below the joystick and to the right of the Dial key is the edit key, while to the left of the hang-up key is the clear key. The numeric keypad is found by sliding out the lower part of the phone. It has a standard layout with raised keys and a tactile marker on the 5 key.

8.4 Symbian 9.3 Phones

8.4.1 Nokia 5320

The 5320 Xpress Music is a compact candybar-shaped phone. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. The left softkey is located to the left of the joystick, and the dial key is directly below the left softkey. To the left of these keys is a small key, which is the menu key. Just to the right of the joystick are the right softkey and the hang-up key, with one on top of the other. Finally, on the rightmost side is another small key, the clear key. The numeric keypad has a standard layout with raised keys and two tactile markers on the 5 key. The camera key is located on the lower right side of the phone, and the volume up/down keys are above it (beside the screen). On the left side of the phone and beside the screen are (from top to bottom) the fast forward, play and rewind keys. The multimedia (Own) key is located on the upper right corner of the phone, just above the

screen. This phone does not have an edit key. However, note that the multimedia key acts as an edit key in Mobile Speak when “reassign edit key” is activated.

8.4.2 Nokia 6210

The 6210 Navigator is a slider phone. The power key is activated by long-pressing the hang-up key. The joystick is located in the centre of the phone, just below the screen. The left softkey is located to the upper-left of the joystick, and the dial key is below the left softkey. In between these keys is a small, raised key, which is the menu key. Just to the upper-right of the joystick is the right softkey and below it is the hang-up key. In between these keys is a small, raised key, which is the clear key. The tactile Navigator key is directly below the joystick. The numeric keypad is found by sliding out the lower part of the phone. It has a standard layout and two tactile markers on the 5 key. The camera key is located on the lower right side of the phone, and the volume up/down keys are above it (beside the screen). This phone does not have an edit key. However, note that the navigator key acts as an edit key in Mobile Speak when “reassign edit key” is activated.

8.4.3 Nokia 6220

The 6220 is a compact candybar-shaped phone. The power key is located on the top of the phone. The joystick is located in the centre of the phone, just below the screen. The left softkey is located to the upper-left of the joystick, and the dial key is below the left softkey. In between these keys is a small, slightly raised key, which is the menu key. Just to the upper-right of the joystick is the right softkey and below it is the hang-up key. In between these keys is a small, slightly raised key, which is the clear key. The numeric keypad has a standard layout and two tactile markers on the 5 key. The camera key is located on the lower right side of the phone, and the volume up/down keys are above it (beside the screen). On the upper-left side of the phone is the Navigator key. This phone does not have an edit key. However, note that the camera key acts as an edit key in Mobile Speak when “reassign edit key” is activated.

8.4.4 Nokia N78

The N78 is a candy-bar shaped phone. The power key is located on the top of the phone, towards the right. The joystick is located in the centre of the phone, just below the screen. To the left of the joystick is a large, flat key. The right half of the key is the left softkey, while the left half is the dial key. The menu key is directly below the dial key. It is a long thin key located to the left of the elevated keypad. To the right of the joystick there is a small raised key, which is the multimedia key. It acts as an edit key in Mobile Speak when “reassign edit key” is activated. Above this raised key is the right softkey. To the left of these keys is the hang-up key. The clear key is directly below the hang up key. It is a long thin key located to the right of the elevated keypad. The numeric keypad has a standard layout consists of four thin, wide, raised keys. The upper raised key is used to dial numbers 1 to 3 (dial 1 by pressing the key near the left side; dial 2 by pressing the key near the centre; dial 3 by pressing the key near the right side), the second key for numbers 4 to 6, the third key for numbers 7 to 9, and the last key for *, 0 and #. There is a tactile marker on the 5 key. On the right side of the phone and beside the screen are the volume up/down keys, while further down on the right side of the phone is the camera key. The camera is located on the back of the phone, and has no lens cover.

8.4.5 Nokia N96

The N96 is a two-way slider phone. The power key is located on the top right of the phone, and on the top left is a switch to lock/unlock the keypad. The joystick is located in the centre of the phone, just below the screen. Immediately surrounding the joystick are 4 keys which control the multimedia player: to the upper left is the rewind key, to the lower left the stop key, to the upper right the fast forward key, and to the lower right the play/pause key. In addition, on the right side of the joystick and in between the fast forward and play/pause keys is the tactile Multimedia key. It acts as an edit key in Mobile Speak when "reassign edit key" is activated. Surrounding these multimedia keys, there are three keys on the left side and three on the right. On the left, from top to bottom, are the left softkey, dial key, and menu key. On the right, from top to bottom, are the right softkey, hang-up key and clear key. The numeric keypad is found by sliding out the lower part of the phone. It has a standard layout with a tactile marker between each row of keys and also on the 5 key. By sliding the phone in the other direction, the screen rotates and another set of four multimedia keys are exposed. Holding the phone upright in its normal position, these keys are (from right to left): fast forward, play/pause, stop and rewind. On the right side of the phone are the Volume Up / Volume Down keys, and further below them is the camera key. The camera lens is located on the back of the phone.

9 User License Agreement

If a user wants to test the software, he/she should ask for a trial license. Under no circumstances will the purchase price of licenses be returned.

Each license granted allows you only one installation. If you want to install Mobile Speak in several devices, you must purchase a quantity of licenses equal to the number of cell phones you have.

The user declares that he/she has read the contents of the web page www.codefactory.es and, therefore, has knowledge of the features of the software. He declares that he/she has read the user manual before using the software and, consequently, knows how to use it.

10 Legal Information

10.1 Emergency Calls

Mobile Speak operates using radio signals, wireless, and landline networks as well as user-programmed functions. Because of this, connections in all conditions cannot be guaranteed. Therefore, you should never rely solely upon any wireless phone for essential communications (for example, medical emergencies).

Emergency calls may not be possible on all wireless phone networks or when certain network services and/or phone features are in use. Check with local service providers.

To make an emergency call:

1. If the phone is not on, switch it on. Check for adequate signal strength. Some networks may require that a valid SIM card be properly inserted in the phone.

2. Press the Hang-Up Key as many times as needed (for example, to exit a call, to exit a menu, etc.) to clear the display and prepare the phone for calls.
3. Key in the emergency number for your present location (for example, 911 or other official emergency number). Emergency numbers vary by location.
4. Press the Dial Key.

If certain features are in use, you may first need to turn those features off before you can make an emergency call. Consult the user's manual for your phone and your local cellular service provider.

When making an emergency call, remember to give all the necessary information as accurately as possible. Remember that your wireless phone may be the only means of communication at the scene of an accident – do not end the call until given permission to do so.

10.2 Intellectual Property

According to the regulations in force referring to royalties, especially the revised text of "Ley Española de Propiedad Intelectual" approved by "Real Decreto Legislativo 1/1996" of 12th April, in the articles 1, 5.2, 8, 95 and further concurrent ones, and as per the international agreements on this matter, especially Bern Agreement and Geneva Convention and Council Management of European Communities of 14th May 1991 about legal protection of computer programs, CODE FACTORY is the sole owner of the patrimonial rights arising from the said Mobile Speak and Mobile Magnifier computing programs.

It is strictly forbidden to modify, duplicate and/or distribute either totally or partially these computer programs or any of their components without the authorization of CODE FACTORY, S.L. Such a practice will constitute a legal crime and will be severely punished according to international Laws.

Mobile Speak®, Mobile Magnifier®, and Code Factory® are registered trademarks.

10.3 Disclaimer

The user declares that he/she has read, understood and accepted the contents of this Manual for the Mobile Speak and Mobile Magnifier computer programs, describing the technical features, the install process and how to use Mobile Speak and Mobile Magnifier.

CODE FACTORY, S.L. is not responsible for the problems arising from the download, use and installation of Mobile Speak and Mobile Magnifier, including errors and the corruption of data or software existing in the device, and / or damage in the hardware of the device. Code Factory is not responsible for damage that might be caused by the software made by other companies included in the bundled package of Mobile Speak or of the tools of other companies that can be bought separately.

CODE FACTORY, S.L. will supply, by e-mail, technical support to registered users. However, the distributor in each area will perform the setting up of Mobile Speak in mobile phones and he/she will do the repairs and/or updating of the program.

Appendix A – BAUM Conny / VarioConnect / Pronto

Braille Key Assignments

- Dots 1 through 6: Braille input keys labeled from left to right as 3, 2, 1, 4, 5, 6 on the Conny/VarioConnect.
- Dots 1 through 8: Braille input keys labeled from left to right as 7, 3, 2, 1, 4, 5, 6, 8 on the Pronto.
- Joystick up/down/left/right: four directions of the navigation key on the front panel of the Conny/VarioConnect.
- Joystick press: Center of the joystick on the front panel of the Conny/VarioConnect.
- Space: key between Braille input keys 1 and 4 on the Conny/VarioConnect.
- LSpace or RSpace (either can be pressed): the left or right Space key on the Pronto, or the key to the left or right of the navigation key on the Conny/VarioConnect.
- LRSpaces (pressed together to perform commands): keys immediately to the left and to the right of the navigation key of the Conny/VarioConnect or below the Braille keyboard of the Pronto.
- D1 through D6: set of three keys on either end of the Braille display numbered like the dots of a six-dot cell, with D1, D2 and D3 on the left, and D4, D5 and D6 on the right.
- Outer/Inner LTK/RTK: Round thumbkeys on the front panel of the Conny/VarioConnect, with outer LTK and RTK being on the farthest ends.
- Cursor-routing: key above each Braille cell.

<i>Command</i>	<i>Action</i>
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table
Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table
Dial 9	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Enter (Accept)	D3 + D6, Space + dots15(e), Joystick Press, Cursor-Routing in Braille Cursor mode
Insert space	Space, LRSpaces (8-dot computer Braille input) and LSpace or RSpace (other Braille grades)
Insert Paragraph Marker	Space + dots46, LRSpaces + dots46
Insert Braille character with dot 7	Inner LTK + Braille character
Insert Braille character with dot 8	Inner RTK + Braille character
Braille Escape	Space + dots1356(z), LRSpaces + dots1356(z)
Braille Backspace	Space + dots12(b), LRSpaces + dots12(b)
Clear/Delete	D4 + D5, Space + dots45, LRSpaces + dots45
Braille Pan Left	D2, Outer LTK
Braille Pan Right	D5, Outer RTK

Previous Character/Grid Item/Tab Sheet	Space + D3, Joystick Left
Next Character/Grid Item/Tab Sheet	Space + D6, Joystick Right
Previous Line/List Item/Menu Item	Space + D1, Joystick Up
Next Line/List Item/Menu Item	Space + D4, Joystick Down
Previous Word	Space + dot2, LRSpaces + dot2
Next Word	Space + dot5, LRSpaces + dot5
Read previous line of Text	LRSpaces + dot1,
Read next line of Text	LRSpaces + dot4,
Start of current line (Home)	LRSpaces + dots123
End of current line (End)	LRSpaces + dots456
Start of text (Top of edit control)	D1 + d2 + D3
End of text (Bottom of edit control)	D4 + D5 + D6
Left Softkey	D2 + D3, LRSpaces + dot3, LSpace or RSpace + Outer LTK
Right Softkey	D5 + D6, LRSpaces + dot 6, LSpace or RSpace + Outer RTK
Dial/Send	D1 + D3
Hang-Up/End Call	D4 + D6
Applications Menu	D1 + D3 + D4, Space + dots134(m), LRSpaces + dots134(m)
List of Open Applications	D1 + D3 + D5, Space + dots135(o), LRSpaces + dots135(o)
Quick List	D1 + D2 + D3 + D4 + D5, Space + dots12345(q), LRSpaces + dots12345(q)
Read Softkeys	D2 + D3 + D5 + D6, LRSpaces + dots36
Read Status Information	D2 + D3 + D4, Space + dots234(s), LRSpaces + dots234(s)
Open Configure Mobile Speak screen	D1 + D4, Space + dots14(c), LRSpaces + dots14(c)
Change User Profile	Space + dots1234(p), LRSpaces + dots1234(p)
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	Space + dots35, LRSpaces + dots35
Repeat Last Spoken Text	D1 + D2 + D3 + D5, Space + dots1235(r), LRSpaces + dots1235(r)
Decrease Volume	Space + dots236, LRSpaces + dots236
Increase Volume	Space + dots356, LRSpaces + dots356
Decrease Speed	Space + dots126, LRSpaces + dots126
Increase Speed	Space + 345, LRSpaces + dots345
Change Verbosity Level	Space + dots1236(v), LRSpaces + dots1236(v)
Change Punctuation Level	D1+D2+D3+D4, Space + dot8 + dots1234(p)
Change Keyboard Echo	D1 + D5
Read Date and Time	D1 + D4 + D5, Space + dots145(d), LRSpaces + dots145(d)
Toggle Speech Mute	D1 + D3 + D6
Interrupt/Stop Speech	D2 + D5, Space + dots25, LRSpaces + dots25
Toggle Command Help Mode	D1 + D2 + D5, Space + dots125(h), LRSpaces + dots125(h)
Change Braille Input Grade	D1 + D2 + D4 + D5, Space + dots1245(g), LRSpaces + dots1245(g)

Toggle Braille Cursor	D1 + D2 + D3 + D4 + D5 + D6, Space + dots123456, LRSpaces + dots123456
Route System Focus to Braille Cursor	Cursor-Routing

Appendix B – BAUM SuperVario / HumanWare Brailiant

Braille Key Assignments

- D1 through D6: set of three keys on either end of the Braille display numbered like the dots of a six-dot cell, with D1, D2 and D3 on the left, and D4, D5 and D6 on the right.
- Cursor-routing: key above each Braille cell.

<i>Command</i>	<i>Action</i>
Dial 1	D1 + D6
Dial 2	D1 + D2 + D6
Dial 3	D1 + D4 + D6
Dial 4	D1 + D4 + D5 + D6
Dial 5	D1 + D5 + D6
Dial 6	D1 + D2 + D4 + D6
Dial 7	D1 + D2 + D4 + D5 + D6
Dial 8	D1 + D2 + D5 + D6
Dial 9	D2 + D4 + D6
Dial 0	D3 + D4 + D6
Dial *	D3 + D5
Dial #	D3 + D4 + D5 + D6
Enter (Accept)	D3 + D6, Cursor-Routing in Braille Cursor mode
Insert space	D3 + D4 + D6 in an edit control
Insert Paragraph Marker	D3 + D4 + D6 (pressed three times) in an edit control
Clear/Delete	D4 + D5
Braille Pan Left	D2
Braille Pan Right	D5
Previous Character/Grid Item/Tab Sheet	D3
Next Character/Grid Item/Tab Sheet	D6
Previous Line/List Item/Menu Item	D1
Next Line/List Item/Menu Item	D4
Previous Word	D2 + D3 + D5
Next Word	D2 + D5 + D6
Start of text (Top of edit control)	D1 + d2 + D3
End of text (Bottom of edit control)	D4 + D5 + D6
Left Softkey	D2 + D3
Right Softkey	D5 + D6
Dial/Send	D1 + D3
Hang-Up/End Call	D4 + D6
Applications Menu	D1 + D3 + D4
List of Open Applications	D1 + D3 + D5
Quick List	D1 + D2 + D3 + D4 + D5

Read Softkeys	D2 + D3 + D5 + D6
Read Status Information	D2 + D3 + D4
Open Configure Mobile Speak screen	D1 + D4
Change User Profile	D1 + D2 + D3 + D4,
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	D3 + D4
Repeat Last Spoken Text	D1 + D2 + D3 + D5
Decrease Volume	D2 + D3 + D6
Increase Volume	D3 + D5 + D6
Decrease Speed	D1 + D2 + D3 + D5 + D6
Increase Speed	D2 + D3 + D4 + D5 + D6
Change Verbosity Level	D1 + D2 + D3 + D6
Change Punctuation Level	D1 + D2 + D3 + D4 + D6
Change Keyboard Echo	D1 + D5
Read Date and Time	D1 + D4 + D5
Toggle Speech Mute	D1 + D3 + D6
Interrupt/Stop Speech	D2 + D5
Toggle Command Help Mode	D1 + D2 + D5
Change Braille Input Grade	D1 + D2 + D4 + D5
Toggle Braille Cursor	D1 + D2 + D3 + D4 + D5 + D6
Route System Focus to Braille Cursor	Cursor-Routing

Appendix C – HumanWare BrailleConnect Series

Braille Key Assignments

- BK1 through BK6: Braille input keys labeled from left to right as 3, 2, 1, 4, 5, 6.
- Nav up/down/left/right: four directions of the navigation key on the front panel.
- Nav Center: Center of the joystick on the front panel.
- Space: key between Braille input keys 1 and 4.
- LSpace or RSpace (either can be pressed): the key to the left or right of the navigation key on the front panel.
- LRSpaces (pressed together to perform commands): keys immediately to the left and to the right of the navigation key on the front panel.
- D1 through D6: set of three keys on either end of the Braille display numbered like the dots of a six-dot cell, with D1, D2 and D3 on the left, and D4, D5 and D6 on the right.
- Outer/Inner LTK/RTK: Round thumbkeys on the front panel, with outer LTK and RTK being on the farthest ends.
- Touch cursor: key above each Braille cell.

<i>Command</i>	<i>Action</i>
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table
Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table

Dial 9	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Enter (Accept)	D4 + D6, Nav Center, Touch Cursor in Braille Cursor mode
Insert space	Space, LSpace or RSpace
Insert Paragraph Marker	Space + BK4,6, LRSpaces + BK4,6
Insert Braille character with dot 7	BK7 + Braille character
Insert Braille character with dot 8	BK8 + Braille character
Braille Escape	D1 + D3 + D5 + D6, Space + BK1,3,5,6(z), LRSpaces + BK1,3,5,6(z)
Braille Backspace	Space + BK1,2(b), LRSpaces + BK1,2(b)
Clear/Delete	D3 + D6, Space + BK3,6, LRSpaces + BK3,6
Braille Pan Left	D2, Outer Left TK
Braille Pan Right	D5, Outer Right TK
Previous Character/Grid Item/Tab Sheet	D3, Nav Left
Next Character/Grid Item/Tab Sheet	D6, Nav Right
Previous Line/List Item/Menu Item	D1, Nav Up
Next Line/List Item/Menu Item	D4, Nav Down
Previous Word	Space + BK2, LRSpaces + BK2
Next Word	Space + BK5, LRSpaces + BK5
Read previous line of Text	Space + BK1, LRSpaces + BK1
Read next line of Text	Space + BK4, LRSpaces + BK4
Start of current line (Home)	Space + BK1,2,3, LRSpaces + BK1,2,3
End of current line (End)	Space + BK4,5,6, LRSpaces + BK4,5,6
Start of text (Top of edit control)	D1 + d2 + D3
End of text (Bottom of edit control)	D4 + D5 + D6
Left Softkey	LSpace + Outer LTK, RSpace + Outer LTK
Right Softkey	LSpace + Outer RTK, RSpace + Outer RTK
Dial/Send	D1 + D4 + D5, Inner LTK + Outer RTK
Hang-Up/End Call	D1 + D2 + D5, Inner RTK + Outer RTK
Applications Menu	D1 + D3 + D4, Space + BK1,3,4(m), LRSpaces + BK1,3,4(m)
List of Open Applications	D1 + D3 + D5, Space + BK1,3,5(o), LRSpaces + BK1,3,5(o)
Quick List	D1 + D2 + D3 + D4 + D5, Space + BK1,2,3,4,5(q), LRSpaces + BK1,2,3,4,5(q)
Read Softkeys	Outer LTK + Outer RTK
Read Status Information	D2 + D3 + D4, Space + BK2,3,4(s), LRSpaces + BK2,3,4(s)
Open Configure Mobile Speak screen	Space + BK1,4(c), LRSpaces + BK1,4(c)
Change User Profile	Space + Bk1,2,3,4(p), LRSpaces + Bk1,2,3,4(p)
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	D3 + D5, Space + BK3,5, LRSpaces + BK3,5
Repeat Last Spoken Text	D1 + D2 + D3 + D5, Space + BK1,2,3,5(r), LRSpaces + BK1,2,3,5(r)
Decrease Volume	Space + BK2,3,6, LRSpaces + BK2,3,6

Increase Volume	Space + BK3,5,6, LRSpaces + BK3,5,6
Decrease Speed	Space + BK1,2,6, LRSpaces + BK1,2,6
Increase Speed	Space + BK3,4,5, LRSpaces + BK3,4,5
Change Verbosity Level	Space + BK1,2,3,6(v), LRSpaces + BK1,2,3,6(v)
Change Punctuation Level	D1 + D2 + D3 + D4
Change Keyboard Echo	D1 + D5
Read Date and Time	Space + BK1,4,5(d), LRSpaces + BK1,4,5(d)
Toggle Speech Mute	D1 + D3 + D6
Interrupt/Stop Speech	Inner LTK + Inner RTK
Toggle Command Help Mode	Space + BK1,2,5(h), LRSpaces + BK1,2,5(h)
Change Braille Input Grade	Space + BK1,2,4,5(g), LRSpaces + BK1,2,4,5(g)
Toggle Braille Cursor	D1 + D2 + D3 + D4 + D5 + D6, Space + BK1,2,3,4,5,6, LRSpaces + BK1,2,3,4,5,6
Route System Focus to Braille Cursor	Touch Cursor

Appendix D – Optelec EasyLink and EL12

Braille Key Assignments

- Dots 1 through 6: Braille input keys labeled from left to right as 3, 2, 1, 4, 5, 6.
- Space: The middle of three keys in front of the Braille keyboard.
- Shift: Key to the left of the Space key.
- Control: Key to the right of the Space key.
- Left Pan: Round key on the left end of the Braille display of the EL12.
- Right Pan: Round key on the right end of the Braille display of the EL12.
- JUp/Down/Left/Right: Four directions of the joystick between dots 1 and 4 of the EL12.
- JCenter: Center of the joystick between dots 1 and 4 on the EL12.

<i>Command</i>	<i>Action</i>
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table
Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table
Dial 9	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Enter (Accept)	JCenter, Space + dots15(e)
Insert space	Space
Insert Paragraph Marker	Space + dots46
Insert Braille character with dot 7	dot7(Shift) + Braille character
Insert Braille character with dot 8	dot8(Control) + Braille character
Braille Escape	Space + dot7(shift)
Braille Backspace	Space + dots12(b)
Clear/Delete	Space + dots45

Braille Pan Left	Left Pan
Braille Pan Right	Right Pan
Previous Character/Grid Item/Tab Sheet	JLeft, Space + dot3
Next Character/Grid Item/Tab Sheet	JRight, Space + dot6
Previous Line/List Item/Menu Item	JUp, Space + dot1
Next Line/List Item/Menu Item	JDown, Space + dot4
Previous Word	dot8(Control) + JLeft, Space + dot2
Next Word	dot8(Control) + JRight, Space + dot5
Read previous line of Text	Space + JUp, dot8(Control) + JUp
Read next line of Text	Space + JDown, dot8(Control) + JDown
Start of current line (Home)	Space + dot7(Shift) + dot1
End of current line (End)	Space + dot8(Control) + dot4
Start of text (Top of edit control)	Space + dots123
End of text (Bottom of edit control)	Space + dots456
Left Softkey	Space + Left Pan, Space + JLeft -or- Space + dot8(Control) + dot3
Right Softkey	Space + Right Pan, Space + JRight -or- Space + dot8(Control) + dot6
Dial/Send	dot7(Shift) + JCenter
Hang-Up/End Call	dot8(Control) + JCenter
Applications Menu	Space + dot8(Control), Space + dots134(m)
List of Open Applications	Space + dots135(o)
Quick List	Space + dots12345(q)
Read Softkeys	Space + Left Pan + Right Pan, Space + dots36
Read Status Information	Space + dots234(s)
Open Configure Mobile Speak screen	Space + dots14(c)
Change User Profile	Space + dots1234(p)
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	Space + dots35
Repeat Last Spoken Text	Space + dots1235(r)
Decrease Volume	Space + dots236
Increase Volume	Space + dots356
Decrease Speed	Space + dots126
Increase Speed	Space + dots345
Change Verbosity Level	Space + dot8(Control) + dots1236(v)
Change Punctuation Level	Space + dot8(Control) + dots1234(p)
Change Keyboard Echo	Space + dot8(Control) + dots15(e)
Read Date and Time	Space + dots145(d)
Toggle Speech Mute	Space + dot8(Control) + dots136(u)
Interrupt/Stop Speech	dot8(Control)
Toggle Command Help Mode	Space + dots125(h)
Change Braille Input Grade	Space + dots1245(g)
Toggle Braille Cursor	Space + dots123456
Route System Focus to Braille Cursor	JCenter, Space + dots15(e)

Appendix E – Optelec ALVA Braille Controller 640

Braille Key Assignments

- Up/Down/Left/Right: Four directions of the navigation d-pad in the center of the Smartpad keys below the Braille display.
- Enter: Center of the navigation d-pad.
- SP1 through SP4: Set of two keys on the left and right of the d-pad. SP1 on the farthest left and SP4 on the farthest right have three horizontal and vertical marks respectively, while SP2 on the left and SP3 on the right only have one each. These keys can be pressed quickly or pressed and held for half a second (hold).
- ETTL/BL/TR/BR: Set of two eTouch keys on either end of the Braille display, with three vertical marks on the top-left (TL) and top-right (TR) eTouch keys, while a single horizontal mark is found on the bottom-left (BL) and bottom-right (BR) eTouch keys. These keys can be pressed once (single), twice quickly (double), or pressed and held for half a second (long).
- TK1 through TK5: Thumbkeys on the front panel, numbered from left to right.
- Cursor-routing: Key below each Braille cell.
- Braille FeaturePack: An optional Braille keyboard with keys for Braille input, playing media, etc. can be purchased separately.

<i>Command</i>	<i>Action</i>
Dial 1	Use Braille FeaturePack
Dial 2	Use Braille FeaturePack
Dial 3	Use Braille FeaturePack
Dial 4	Use Braille FeaturePack
Dial 5	Use Braille FeaturePack
Dial 6	Use Braille FeaturePack
Dial 7	Use Braille FeaturePack
Dial 8	Use Braille FeaturePack
Dial 9	Use Braille FeaturePack
Dial 0	Use Braille FeaturePack
Dial *	Use Braille FeaturePack
Dial #	Use Braille FeaturePack
Enter (Accept)	Enter, Cursor-Routing in Braille Cursor mode
Insert space	Use Braille FeaturePack
Insert Paragraph Marker	Use Braille FeaturePack
Insert Braille character with dot 7	Use Braille FeaturePack
Insert Braille character with dot 8	Use Braille FeaturePack
Braille Escape	Use Braille FeaturePack
Braille Backspace	Use Braille FeaturePack
Clear/Delete	SP4
Braille Pan Left	TK1
Braille Pan Right	TK5
Previous Character/Grid Item/Tab Sheet	Left
Next Character/Grid Item/Tab Sheet	Right
Previous Line/List Item/Menu Item	Up
Next Line/List Item/Menu Item	Down
Previous Word	TK3 + Left
Next Word	TK3 + Right
Left Softkey	TK3 + SP1

Right Softkey	TK3 + SP4
Dial/Send	TK3 + SP2
Hang-Up/End Call	TK3 + SP3
Applications Menu	SP1
List of Open Applications	SP1 (hold)
Quick List	SP2
Read Softkeys	TK3 + Enter
Read Status Information	ETTR Single
Open Configure Mobile Speak screen	ETTR Long
Change User Profile	ETTL Double
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	SP3 (hold)
Repeat Last Spoken Text	ETBR Single
Decrease Volume	TK3 + ETBR Single
Increase Volume	TK3 + ETTR Single
Decrease Speed	TK3 + ETBL Single
Increase Speed	TK3 + ETTL Single
Change Verbosity Level	ETTR Double
Change Punctuation Level	ETBR Double
Change Keyboard Echo	ETBL Double
Read Date and Time	ETTL Single
Toggle Speech Mute	ETBR Long
Interrupt/Stop Speech	TK3
Toggle Command Help Mode	TK3 + ETTL Long
Change Braille Input Grade	Use Braille FeaturePack
Toggle Braille Cursor	TK2 + TK3 + TK4
Route System Focus to Braille Cursor	Cursor-Routing
Disconnect Braille device	SP2 (hold)

Appendix F – Eurobraille Esys

Braille Key Assignments

- Dots 1 through 8: Braille input keys labeled from left to right as 7, 3, 2, 1, 4, 5, 6, 8.
- Space: Right of two keys below the keyboard.
- Backspace: Left of two keys below the Braille keyboard.
- LTA/RTA: Left or right triple-action key on either end of the display, that can be pressed in three ways (left, right, or center).
- Cursor-routing: Key above each Braille cell.
- JUp/Down/Left/Right: Four directions of the joystick found at either end of the row of cursor-routing keys.
- JCenter: Center of either left or right joystick.

<i>Command</i>	<i>Action</i>
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table

Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table
Dial 9	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Enter (Accept)	
Insert space	LSpace or RSpace
Insert Paragraph Marker	Space + dots468
Insert Braille character with dot 7	dot7 + Braille character
Insert Braille character with dot 8	dot8 + Braille character
Braille Escape	Space + dots15(e)
Braille Backspace	dot 7, Space + dots12(b)
Clear/Delete	Space + dots45
Braille Pan Left	RTA Up
Braille Pan Right	RTA Down
Previous Character/Grid Item/Tab Sheet	Space + dot3
Next Character/Grid Item/Tab Sheet	Space + dot6
Previous Line/List Item/Menu Item	Space + dot1, LTA Up
Next Line/List Item/Menu Item	Space + dot4, LTA Down
Previous Word	Space + dot2
Next Word	Space + dot5
Read previous line of Text	Space + dot8 + dot1, LRSpaces + LTA Up
Read next line of Text	Space + dot8 + dot4, LRSpaces + LTA Down
Start of current line (Home)	Space + dots13
End of current line (End)	Space + dots46
Start of text (Top of edit control)	Space + dots123
End of text (Bottom of edit control)	Space + dots456
Left Softkey	Space + LTA Up, Space + dot7
Right Softkey	Space + RTA Up, Space + dot8
Dial/Send	Space + LTA Down
Hang-Up/End Call	Space + RTA Down
Applications Menu	LTA Center + RTA Center, Space + dots134(m)
List of Open Applications	LRSpaces + RTA Center, Space + dots135(o)
Quick List	Space + RTA Center, Space + dots12345(q)
Read Softkeys	Space + LTA Up + RTA Up, Space + dots78
Read Status Information	Space + dots234(s)
Open Configure Mobile Speak screen	Space + dots14(c)
Change User Profile	Space + dots1234(p)
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	Space + dots35
Repeat Last Spoken Text	Space + dots1235(r)
Decrease Volume	Space + dots236
Increase Volume	Space + dots356
Decrease Speed	Space + dots126
Increase Speed	Space + dots345

Change Verbosity Level	Space + dot8 + dots1236(v)
Change Punctuation Level	Space + dot8 + dots1234(p)
Change Keyboard Echo	Space + dot8 + dots15(e)
Read Date and Time	Space + dots145(d)
Toggle Speech Mute	LRSpaces + dots136(u)
Interrupt/Stop Speech	LRSpaces
Toggle Command Help Mode	Space + dots125(h)
Change Braille Input Grade	Space + dots1245(g)
Toggle Braille Cursor	Space + dots123456
Route System Focus to Braille Cursor	Cursor-Routing

Appendix G – Handy Tech Brailino and BrailleStar

Braille Key Assignments

- Dots 1 through 8: Braille input keys labeled from left to right as 7, 3, 2, 1, 4, 5, 6, 8.
- LSpace and RSpace: Left and right Space keys below the Braille keyboard.
- Space: Either the left or right Space key.
- LRSpaces (pressed together to perform commands): Both Space keys.
- LTA/RTA: Left or right triple-action key on either end of the display, that can be pressed in three ways (up, down, or center).
- Cursor-routing: Key above each Braille cell.

<i>Command</i>	<i>Action</i>
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table
Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table
Dial 9	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Enter (Accept)	dot 8, RTA Center, Cursor-Routing in Braille Cursor mode
Insert space	LSpace or RSpace
Insert Paragraph Marker	Space + dots468
Insert Braille character with dot 7	dot7 + Braille character
Insert Braille character with dot 8	dot8 + Braille character
Braille Escape	Space + dots15(e)
Braille Backspace	dot 7, Space + dots12(b)
Clear/Delete	Space + dots45
Braille Pan Left	RTA Up
Braille Pan Right	RTA Down
Previous Character/Grid Item/Tab	Space + dot3

Sheet	
Next Character/Grid Item/Tab Sheet	Space + dot6
Previous Line/List Item/Menu Item	Space + dot1, LTA Up
Next Line/List Item/Menu Item	Space + dot4, LTA Down
Previous Word	Space + dot2
Next Word	Space + dot5
Read previous line of Text	Space + dot8 + dot1, LRSpaces + LTA Up
Read next line of Text	Space + dot8 + dot4, LRSpaces + LTA Down
Start of current line (Home)	Space + dots13
End of current line (End)	Space + dots46
Start of text (Top of edit control)	Space + dots123
End of text (Bottom of edit control)	Space + dots456
Left Softkey	Space + LTA Up, Space + dot7
Right Softkey	Space + RTA Up, Space + dot8
Dial/Send	Space + LTA Down
Hang-Up/End Call	Space + RTA Down
Applications Menu	LTA Center + RTA Center, Space + dots134(m)
List of Open Applications	LRSpaces + RTA Center, Space + dots135(o)
Quick List	Space + RTA Center, Space + dots12345(q)
Read Softkeys	Space + LTA Up + RTA Up, Space + dots78
Read Status Information	Space + dots234(s)
Open Configure Mobile Speak screen	Space + dots14(c)
Change User Profile	Space + dots1234(p)
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	Space + dots35
Repeat Last Spoken Text	Space + dots1235(r)
Decrease Volume	Space + dots236
Increase Volume	Space + dots356
Decrease Speed	Space + dots126
Increase Speed	Space + dots345
Change Verbosity Level	Space + dot8 + dots1236(v)
Change Punctuation Level	Space + dot8 + dots1234(p)
Change Keyboard Echo	Space + dot8 + dots15(e)
Read Date and Time	Space + dots145(d)
Toggle Speech Mute	LRSpaces + dots136(u)
Interrupt/Stop Speech	LRSpaces
Toggle Command Help Mode	Space + dots125(h)
Change Braille Input Grade	Space + dots1245(g)
Toggle Braille Cursor	Space + dots123456
Route System Focus to Braille Cursor	Cursor-Routing

Appendix H – Handy Tech BrailleWave

Braille Key Assignments

- Dots 1 through 8: Braille input keys labeled from left to right as 7, 3, 2, 1, 4, 5, 6, 8.
- Space, Enter, Escape: Three dedicated function keys.

Command	Action
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table
Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table
Dial 9	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Enter (Accept)	Enter, Cursor-Routing in Braille Cursor mode
Insert space	Space
Insert Paragraph Marker	Space + dots468
Insert Braille character with dot 7	dot7 + Braille character
Insert Braille character with dot 8	dot8 + Braille character
Braille Escape	Escape
Braille Backspace	Space + dots12(b)
Clear/Delete	Space + dots45
Braille Pan Left	dot7
Braille Pan Right	dot8
Previous Character/Grid Item/Tab Sheet	Space + dot3
Next Character/Grid Item/Tab Sheet	Space + dot6
Previous Line/List Item/Menu Item	Space + dot1, LTA Up
Next Line/List Item/Menu Item	Space + dot4, LTA Down
Previous Word	Space + dot2
Next Word	Space + dot5
Read previous line of Text	Space + dot8 + dot1
Read next line of Text	Space + dot8 + dot4
Start of current line (Home)	Space + dots13
End of current line (End)	Space + dots46
Start of text (Top of edit control)	Space + dots123
End of text (Bottom of edit control)	Space + dots456
Left Softkey	Space + dot7
Right Softkey	Space + dot8
Dial/Send	Space + dots237
Hang-Up/End Call	Space + dots568
Applications Menu	Space + dots134(m)
List of Open Applications	Space + dots135(o)
Quick List	Space + dots12345(q)
Read Softkeys	Space + dot7 + dots13(k)
Read Status Information	Space + dots234(s)
Open Configure Mobile Speak screen	Space + dots14(c)
Change User Profile	Space + dots1234(p)
Press * key in whichever Braille grade (to open Symbols list or unlock	Space + dots35

keypad)	
Repeat Last Spoken Text	Space + dots1235(r)
Decrease Volume	Space + dots236
Increase Volume	Space + dots356
Decrease Speed	Space + dots126
Increase Speed	Space + dots345
Change Verbosity Level	Space + dot8 + dots1236(v)
Change Punctuation Level	Space + dot8 + dots1234(p)
Change Keyboard Echo	Space + dot8 + dots15(e)
Read Date and Time	Space + dots145(d)
Toggle Speech Mute	dot8 + dots136(u)
Interrupt/Stop Speech	Space + dots78
Toggle Command Help Mode	Space + dots125(h)
Change Braille Input Grade	Space + dots1245(g)
Toggle Braille Cursor	Space + dots123456
Route System Focus to Braille Cursor	Cursor-Routing

Appendix I – Handy Tech EasyBraille

Braille Key Assignments

- Dots 1 through 8: Braille input keys labeled from left to right as 7, 3, 2, 1, 4, 5, 6, 8.
- LSpace / RSpace: Left or right Space keys below the Braille keyboard.
- Space: Either left or right space key.
- LRSpaces (pressed together to perform commands): Both Space keys.

<i>Command</i>	<i>Action</i>
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table
Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table
Dial 9	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Enter (Accept)	LRSpaces, Cursor-Routing in Braille Cursor mode
Insert space	LSpace or RSpace
Insert Paragraph Marker	Space + dots468
Insert Braille character with dot 7	dot7 + Braille character
Insert Braille character with dot 8	dot8 + Braille character
Braille Escape	Space + dots1346(x)
Braille Backspace	dot 7, Space + dots12(b)
Clear/Delete	Space + dots45
Braille Pan Left	Left Space
Braille Pan Right	Right Space

Previous Character/Grid Item/Tab Sheet	Space + dot3
Next Character/Grid Item/Tab Sheet	Space + dot6
Previous Line/List Item/Menu Item	Space + dot1, LTA Up
Next Line/List Item/Menu Item	Space + dot4, LTA Down
Previous Word	Space + dot2
Next Word	Space + dot5
Read previous line of Text	Space + dot8 + dot1
Read next line of Text	Space + dot8 + dot4
Start of current line (Home)	Space + dots13
End of current line (End)	Space + dots46
Start of text (Top of edit control)	Space + dots123
End of text (Bottom of edit control)	Space + dots456
Left Softkey	Space + dot7
Right Softkey	Space + dot8
Dial/Send	LRSpaces + dot7
Hang-Up/End Call	LRSpaces + dot8
Applications Menu	Space + dots134(m)
List of Open Applications	Space + dots135(o)
Quick List	Space + dots12345(q)
Read Softkeys	LRSpaces + dots13(k)
Read Status Information	Space + dots234(s)
Open Configure Mobile Speak screen	Space + dots14(c)
Change User Profile	Space + dots1234(p)
Press * key in whichever Braille grade (to open Symbols list or unlock keypad)	Space + dots35
Repeat Last Spoken Text	Space + dots1235(r)
Decrease Volume	Space + dots236
Increase Volume	Space + dots356
Decrease Speed	Space + dots126
Increase Speed	Space + dots345
Change Verbosity Level	Space + dot8 + dots1236(v)
Change Punctuation Level	Space + dot8 + dots1234(p)
Change Keyboard Echo	Space + dot8 + dots15(e)
Read Date and Time	Space + dots145(d)
Toggle Speech Mute	LRSpaces + dots136(u)
Interrupt/Stop Speech	LRSpaces
Toggle Command Help Mode	Space + dots125(h)
Change Braille Input Grade	Space + dots1245(g)
Toggle Braille Cursor	Space + dots123456
Route System Focus to Braille Cursor	Cursor-Routing