User Guide

kReader Mobile

knfbReader Mobile

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www.knfbReading.com

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SECTION 1. LEARNING THE POWER OF YOUR READER

Welcome to the world of mobile text recognition and reading through our growing Mobile Reader family of innovative, life-changing products. This Guide will help you learn to use the kReader Mobile, and the knfbReader Mobile which is designed for blind users.

The Mobile Reader will enable you to read most ordinary printed documents within only a few seconds after taking a picture. "Mobile" means reading on the go. So, don't leave home without your Mobile Reader. Take it and use it anywhere you go.

1.1 What the Reader Can Do

The Mobile Reader - or simply, Reader - can read a wide variety of document types you may encounter throughout the day. It performs particularly well for reading printed memos, reports, fliers, and virtually any other kind of document typically printed from a personal computer. It will also read many professionally printed items of various sizes, colors, and styles, including:

- books
- magazines
- most restaurant menus
- utility bills
- printed mailing addresses
- class or conference handouts
- hotel bills
- printed receipts
- business cards
- airline boarding passes
- labels on packaged foods showing contents and nutrition information
- transit brochures and schedules
- CD labels

1.2 What the Reader Cannot Do

The Reader is programmed to recognize and respond to a wide variety of type styles, printing formats, and lighting conditions. However, as computer software, your Reader is not quite as adaptable as the human brain. You can expect some printed matter to be read accurately with very high reliability, but in other instances the accuracy may be less than you would like. In general you should give the Reader a try with things you need to read. This will help you to learn best what to expect.

The Reader is not designed for use with handwriting or scrolling text on a screen or sign. Accuracy for household product containers (food boxes, tea bags, milk containers, detergent bottles, etc.) may vary, especially if the written information on these containers is artistically presented or is surrounded by pictures and graphics. Other circumstances that may lower accuracy include:

- text printed on cylinders with warped or incomplete images (such as soup cans or medicine bottles)
- LED and LCD screens (such as digital clocks, computer screens, and cell phone screens)
- vending machine buttons and instructions
- engraved print (such as serial numbers) on machines
- very large printed text

- posted signs such as signs on transit vehicles and signs in shop windows
- conventional, analog clocks

1.3 Factors Affecting Accuracy

As with human vision, performance of your Reader will vary depending on several factors, including:

- surface reflection and glare
- distance between the Reader and the target text
- text size and variation
- text layout
- curvature of the target text
- wrinkles and creases
- background images and colors
- ambient lighting
- shadows
- obstructions (such as cords, fingers, or neckties) between the Reader and the target text

Except for obstructed images, the Reader can generally adjust to a normal amount of variability with each of these factors. Nonetheless, some attention should be given to minimize the impact of any of these factors when getting ready to take a picture.

1.4 Learning to Aim Your Reader

The Reader is designed to be simple so you can point and shoot, but practice will help in the beginning. Using a familiar document, printed in clear type on an 8-1/2 by 11 inch white sheet of paper is recommended for your initial practice sessions. Place the document on a flat surface having a plain, dark background. Keep the phone parallel to the plane of the page. Get as close to the text as you can without cutting off any text, as it is displayed on the screen or, for the knfbReader Mobile, as heard in the Field of View report (see section 4.3.3). Then you should be able to obtain excellent results. After you take the picture, the Reader will announce if any text is cut off (out of the field of view of the camera). After some practice with aiming and taking pictures you will begin to know how the Reader responds. You will also be better prepared to analyze and correct conditions you can control when performance does not measure up. A little practice and persistence can greatly improve performance.

The knfbReader Mobile comes with a training page that can help you practice. When you take a picture of the training page, the Reader automatically detects it and tells you its distance from the page and the orientation of the Reader relative to the center of the page. The Reader then tells you how to move for the best result, suggesting you move some distance up, down, left, right, forward, or back. Practicing with this page can give you a better understanding of how it feels when you are holding the Reader in the best position above the page.

To use the training page, follow these steps:

- Locate the training page: it is approximately 8 inches by 10 inches on heavyweight paper with a cut corner. The cut is about ½ inch long. Although the training page is slightly smaller than 8-1/2 by 11 inches, the Reader will be giving you position information as if the page were 8-1/2 by 11 inches.
- Place the training page on a flat and uncluttered reading surface in front of you, using a solid (preferably black) cloth for best performance.
- Place the training page in portrait orientation, with the notch in the upper right corner.
- Set the Reading Format to Bills and Memos. (See section 9.4.)

- In the Image Capture screen (section 4), hold the Reader approximately 10 inches above the training page and press Keypad-1 to shoot the picture. Continue to hold the Reader above the page while the distance and orientation information is spoken. If the Reader does not report "Training page detected", the page may be upside down or face down.
- Move the Reader to the position recommended, and try another picture.

1.5 Technical Support

There is an email list for Reader users, where you may be able to get questions answered. To subscribe,

- Go to http://www.nfbnet.org/mailman/listinfo/reader-users_nfbnet.org

Or, send an email to reader-users-request@nfbnet.org and put the word "subscribe" in the subject field.

If you still have questions after you have studied this Guide and consulted the user list, please contact your dealer for technical support. Then, if your problem persists or your question is not answered, please email a request for assistance to: support@knfbReader.com or call the K-NFB Reading Technology, Inc. Reader Technical Support Line toll free at: 1-877-547-1500.

SECTION 2. KEY BASICS

This guide will instruct you on the use of the various keys on your phone. The exact location and

Key	Meaning
Keypad-0, …, Keypad-9, Keypad-*, Keypad-#	One of the twelve keys on the numeric (telephone) keypad, used to dial telephone numbers
5-way scroll	The control on the phone that has up, down, left and right functions. Also has an "enter" function in the center.
Up, Down, Left, Right	The 4 directional buttons or functions of the 5-way scroll
Enter	The enter function of the 5-way scroll
Left Selection key	The key just under the bottom left of the screen, marked with a visual horizontal bar
Right Selection key	The key just under the bottom right of the screen, labeled with a visual horizontal bar
Send key	The green key to the left of the 5-way scroll, used to initiate a telephone call
End key	The red key to the right of the 5-way scroll used to end a telephone call
Menu key	The key to the left of the 5-way scroll used to access applications on the phone
Volume keys	Rocker keys on the upper right of the phone's right edge, used to adjust volume.

appearance of keys depend on your phone model; see the appendix for your model. Below is a general description of the keys.

The function of most of these keys in the Reader depends on the context you are in, as will be explained in sections 3 through 10. In any screen where the Left Selection key is labeled "Options", you can press it to display a menu and navigate through the menu items to hear the command options available in the screen and their keypad shortcuts.

For the Send, End, Menu, and Volume keys, the function is always the same:

- Press the Send key to accept a call while the Reader is in use.

- Press the End key to exit the Reader.

- Press the Menu key to place the Reader in the background and access a list of programs available on your phone.

- Use the Volume keys to adjust the Reader's volume. Press up to increase volume, or down to decrease. (Volume can also be controlled by a Reader setting, as will be explained in section 9.10.)

- Keypad-# (also known as the "pound" key) is reserved for future use. If you accidentally press this key, you must press it again to resume normal operation.

Note that "pressing" a key means a quick press and release, i.e. without holding the key down.

For the knfbReader Mobile, you can press and hold down the Left or Right Selection key in any screen to hear what the key's function is in that screen.

SECTION 3. HOME SCREEN

Before you can run the Reader, the software must be installed and activated. You may have purchased a phone with the software already installed. If not, see the Installation Instructions. This section assumes that these steps have been taken, and you are ready to use the Reader.

The Mobile Reader presents you with different screens depending on what you are trying to do. You make the Reader do things by pressing keys on the keypad, or the left or right selection keys. These keys do different things depending on the context.

Whenever the Left Selection key is labeled "Options", pressing that key displays a menu that lists the commands available from the current screen.   Most commands are associated with a "Shortcut" key which can be used to execute the command without bringing up the Options menu. The more you use Shortcut keys, the more your efficiency will improve.

In this section, you will learn about the commands available in the Reader's Home screen.

3.1 Screen Layout

When the Mobile Reader starts, a screen will be displayed featuring the kReader or knfbReader logo. See Figure 1.

Notice the region at the top of the screen which displays "kReader Mobile" or "knfbReader Mobile". This is the Title Bar. The reader generally reports status here, such as "Unsaved document".

At the bottom of the screen are labels for the Left and Right Selection keys. The Left Selection key is "Options". By pressing it, you bring up a menu that lists the commands available in the Home screen. The Right Selection key is "Exit". By pressing it, you exit the application.

FIGURE 1

3.2 Command Options

Whenever the Options menu is up, "Select" appears above the Left Selection key and "Cancel" above the Right Selection key. Pressing Select executes the command selected in the menu. Pressing Cancel dismisses the menu without making a selection.

The Options menu of the Home screen is shown in Figure 2.

FIGURE 2

The command options and corresponding Shortcut keys are described in the table below.   A Shortcut key executes a command whether or not the menu is up. Alternatively, when the menu is up an option can be selected by navigating up or down to the option and then pressing Enter or the Left Selection key.

Command	Key	Description
Image Capture	1	Take a picture for text recognition and reading.
File Explorer	2	Access saved document and image files for reading or deletion.
Recent Documents	3	Access recently viewed documents for reading or deletion.
Settings	4	View, change, save, or restore user settings.
License Activations	5	Add licensed features.
Help	6	Access online documentation.
About	9	Get status and version information.
Exit		Exit the application.

The first six of these options are commands to go to a new context in which further options are available. These contexts will be discussed in the following sections.

If you select "About", a dialog displays the product version, the status of external power, and the status of secondary memory. "OK" appears over the Right Selection key. Press it to dismiss the dialog and return to the Home screen.

If you select "Exit", the Reader application exits and you are returned to the phone screen.

The Home screen is a jumping-off point for all the major functionality. Accordingly, the Options menu of other screens includes an option to return to the Home screen.

SECTION 4. IMAGE CAPTURE

The Image Capture screen is where you initiate the sequence of taking a picture, processing the image, and recognizing text from it. When you enter Image Capture, the camera viewfinder comes on. The viewfinder shows what the Reader sees. Filling the viewfinder area with target text will increase processing quality.

4.1 Selection Keys

Above the Left Selection key is Options, and above the Right Selection key is Back. By pressing the Left Selection key you bring up the Options menu, which shows the commands for this screen. By pressing the Right Selection key, you return to the previous screen.

4.2 Command Options

The Options menu of the Image Capture screen is shown in Figure 3.

FIGURE 3

The command options with corresponding Shortcut keys are described in the table below. Note that "Recognize U.S. Currency" and "Field of View Report" are for the knfbReader Mobile only.

Command	Key	Description
Capture and Read	1	Take a picture, process the image for text, display and read the text.
Settings	4	View and change user settings for Image Capture.
New Document	5	Start a new document. (Used for the "Multiple pages" setting, see section 9.11.)
Field of View Report (knfbReader Mobile)	2	Obtain a report on how well the camera is positioned.
Recognize U. S. Currency (knfbReader Mobile)	0	Recognize the denomination of a U.S. Currency bill.
Home	*	Return to the Home screen.

The Enter key may also be used for Capture and Read.

When you select Settings, you can view or change a subset of relevant user settings: Camera Flash, Reading Format, Text Language, Document Paging, and Translation. For more details, see section 9.

The "New Document" command is useful when the Document Paging setting has the value "Multiple pages"; see section 9.11. In this mode, the text from each picture you take is appended as an additional page to a single document. When you are done adding pages and wish to start a new document, you should select "New Document" before taking the next picture.

4.3 Capture and Read

The term "capture" refers to the process of taking a picture which results in a digital image of printed text. Once captured by your Reader's camera, the digital image is processed in several ways to improve the quality of the image and convert the result into audible and visually displayed text. Capturing and reading text is the most basic and important function of your Reader.

If your camera lens has a cover, make sure it is switched to open position before you attempt to take a picture.

4.3.1 Arranging Your Space and Material

Your Reader is designed to be taken anywhere and used spontaneously in many different situations. However, its performance can be affected by things the camera sees, including the surrounding background colors and pattern of the reading surface. When possible, clear a space for the target document on a plain contrasting background (preferably solid black). This will optimize performance.

4.3.2 Lining Up the Picture

Place the text you want to read on a flat surface in front of you. Flatten the text as much as possible. Keep the Reader level over the page. Fill up the screen with the text that you want to capture: get as close to the text as you can without cutting off any text, as it appears on the screen. After you take the picture, the Reader will announce if any text is cut off (out of the field of view of the camera).

Please note that pictures of small documents, such as business cards, can be taken at distances of just a few inches.

4.3.3 Get a Field of View Report (knfbReader Mobile)

The Field of View Report is an optional procedure intended to help you with lining up the picture to capture text. Hold the Reader over the target document and press Keypad-2 to hear the report. Please note that the Reader will take a picture of the target document but must still be held steady in position over the document until you press Down to capture the image for reading. It is ideal, but not essential, for the Field of View Report to say, "All four edges are visible. Seventy percent filled." For best results, move the Reader slightly to improve your aim if needed and press Keypad-2 again to check the result. This procedure may be repeated several times to get the best alignment before taking the picture. Regardless of the specific report you receive, your goal should be to move and hold the Reader as close to the target as you can while still keeping all four edges of the document in the image. This will normally be about 10 inches above a standard 8-1/2 inch page and even closer for smaller documents.

4.3.4 Shooting the Picture

You can take a picture by selecting Capture and Read from the Options menu. But it's easier to press Keypad 1 or Enter. After pressing, hold the Reader steady for about two seconds until the shutter snaps. The Reader can then be moved to any position.

Sharp pictures are essential for best performance. If you find it difficult to hold the Reader steady, use both hands or brace your elbows on the reading surface, while still keeping the Reader far enough from the target to capture all the text. Distance from the target can greatly affect the text recognition quality. Most, but not all, documents should be approximately 10 inches from the Reader. The Reader can be held closer for documents smaller than a standard 8-1/2 by 11 inch page.

Once the picture is taken, a progress bar displays the progress of image processing. During this stage the Right Selection key is Cancel. Press it to cancel processing and return to the Image Capture screen.

4.3.5 Reading the Text

Sometimes image processing does not generate any text, for example if the image quality is poor. In that case the message "No text", and you will be returned to the Image Capture screen where you can try again. Otherwise reading automatically begins as text is generated, normally about twenty seconds after the shutter snaps. The text appears in a new screen, as described in the next section.

4.3.6 Recognizing U.S. Currency (knfbReader Mobile)

Press Keypad-0 to capture an image of U.S. currency and recognize the denomination. Hold a bill about 12 inches away from and oriented vertically to the Reader or, for best results, place the bill on a flat surface, using a vertical orientation. The denomination will be spoken, along with the orientation of the bill: for example, "The image is rotated right, the bill is backside up". The orientation can be used to sort currency, e.g. for use with automated transaction machines.

SECTION 5. TEXT NAVIGATION

The Text Navigation screen speaks and displays text, highlighting each word as it progresses. It also enables you to navigate through the text, view or change settings relevant to text, spell words, reprocess the image, or save files. You get to this screen either by taking a picture in which text is recognized, or by opening a file in File Explorer or Recent Document (see sections 7 and 8).

Press Right or Left to move forward or backward through the text. The amount you move depends on the "Navigate Text By" setting. The possible values include Character, Word, and Sentence. See Section 9.12.

5.1 Selection Keys

The Left Selection key is Options, and the Right Selection key is Back. By pressing the Left Selection key, you bring up a menu with the available command options. By pressing the Right Selection key, you return to the previous screen.

When text first appears, the title bar displays "Recognizing text". If you select Back during this stage, or if you select Home from the Options menu, this processing will be canceled.

When text generation is complete, "Unsaved document" appears in the status bar. Now if you select Back, or if you select Home from the Options menu, you will be prompted on whether you want to save the text document, the image, both or neither. For more details see section 5.6.

5.2 Command Options

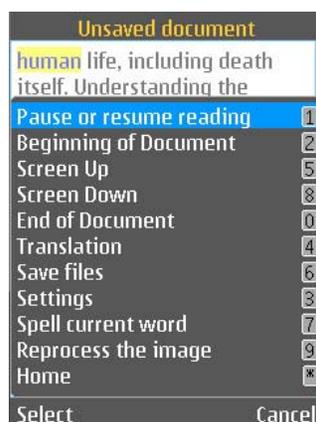The options menu of the Text Navigation screen is shown in Figure 4.

FIGURE 4

The command options with corresponding Shortcut keys are described in the table below.

Command	Key	Description
Pause/Resume Reading	1	Pause reading, or resume reading from when it was last paused or interrupted.
Beginning of Document	2	Navigate to the beginning of the document.
Screen Up	5	Navigate up by a screenful of text.
Screen Down	8	Navigate down by a screenful of text. .
End of Document	0	Navigate to the end of the document.
Translation	4	Turn translation on or off.
Save Files	6	Save the text document or image file.
Settings	3	View or change settings for text navigation.
Spell Current Word	7	Spell the currently selected word.
Reprocess the Image	9	Reprocess the image in a new Reading Format.
Home	*	Return to the Home screen.

5.3 Translation

The Translation option enables you to toggle the Translation setting: turn it off if it was on, or vice versa. If Translation is off, recognized text is displayed and read in the Text Language. If Translation is on, then recognized text is displayed and read in the User Language. Translation can also be controlled from the Settings menus accessible from the main screen; see section 9.13. (Also see 9.7 on the Text Language setting).

Note that a displayed translation cannot be saved. The save options described below in section 5.6 refer to the original recognized text.

Translation can be activated while an image is being processed in the Text Language, or even afterward. For example, suppose Translation is off and the Text Language is French. If you then take a picture of a French document, you can let the Reader process the image and begin reading the document before you press Keypad-4 to turn Translation on. The Reader will immediately begin the process of translating to English (if that is the User Language) and when done will read in English from the beginning of the document. See section 9.13 for more on the translation process.

Translation requires the installation of more than one language on your phone. It also requires the Text Language to be different from the User Language.

You must also have a wireless internet connection. When translation is first attempted after the Reader has started up, the phone's operating system prompts you for information to establish a connection. The possibilities include:

- Cell phone data connection, available if your phone is activated as a cell phone.
- Public Wi-Fi (WLAN), often available for free with no password required.
- Private Wi-Fi, password required. Check with your company or host.

Select the desired connection when prompted. Blind users will need a screenreader. For a WLAN, you will first be asked "Create WLAN connection in offline mode?" Answer "Yes".

Note: the Nokia 6220 phone does not support Wi-Fi connections.

With Translation on, it may take several seconds before reading begins. It's also possible for the connection to be dropped before translation is complete, resulting in further delay.

Under some circumstances, memory problems may arise during translation. If this happens, try setting the Reading voice and the Message voice to be the same. See section 9.7.

5.4 Settings

The Settings option enables you to change the settings relevant to the Text Navigation screen: "Navigate Text By", "Text Display", "Automatic File Saving", "Speed", and "Reading Voice". For more on these settings, see section 9.

5.5 Reprocessing the Image

If you select the option to Reprocess the Image, the current image will be processed in a Reading Format different from the one it was processed in previously. For example, if it was processed as "Books, articles, and labels", it is reprocessed as "Bills and memos".

5.6 Saving Text and Image Files

If you have gotten to the Text Navigation screen by taking a picture, the recognized text will be discarded as soon as the next picture is taken unless it is saved.   File saving may be set to automatic or manual, as discussed in section 9.5. Automatic saving may be more convenient but may also delay the text presentation after the picture is taken.

If file saving has been set to manual, the Text Navigation screen displays "Unsaved document" in the Title Bar to indicate that a document has not been saved. Saving can then be done in several ways. When you select Save Files
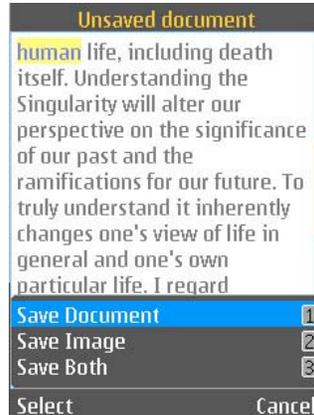

FIGURE 5

and neither text document nor image has been saved, a menu appears offering you the choice to Save Document, Save Image, or Save Both. See Figure 5.

A similar menu appears if you select Home or press the Right Selection key for Back. If neither text document nor image has been saved, this menu also allows you to choose Save Neither. See Figure 6. Shortcut keys are available for all options. (Note: for the knfbReader Mobile, this menu does not appear.)
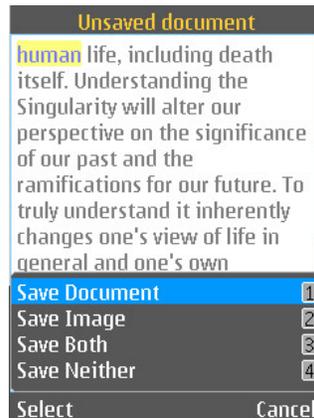

FIGURE 6

After a document is saved, the Title Bar reports the name of the saved file. See Figure 7. When an image is being saved, messages appear when saving is ongoing, and when saving is done.
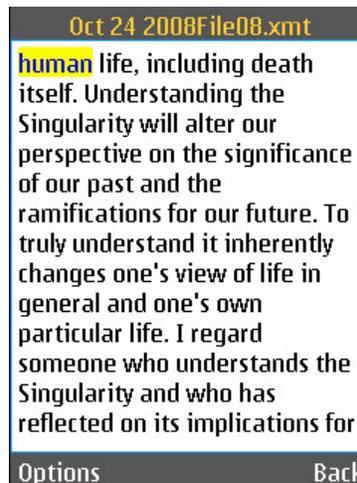
FIGURE 7

A text document is saved to your Reader memory card both as an XMT file and a TXT file. Documents are named by the current date and a file number. An image is saved as a JPG file, and named similarly. The XMT format of a text file is required for display and reading by the Mobile Reader. The TXT format enables transfer of text to a computer or other device, as described in the next section.

SECTION 6. TRANSFERRING FILES

Files saved in your Reader may be transferred to a compatible computer using a communications program known as Nokia PC Suite (see the Nokia manual for PC connection instructions). A version of Nokia PC Suite accessible to blind people using screen reader software can be found at www.blindsea.com by following the "Mobile Corner" link to Third Edition Third-Party Software.

After your phone and computer are connected with Nokia PC Suite installed on the computer, saved files in your Reader can be found on the memory card (not the phone memory) of your Mobile Reader Phone. These files can be located using the File Manager available in Nokia PC Suite. However, for people using screen reader software, using Windows Explorer, My Computer, or another comparable program may be more accessible to locate and enter the phone directory and the memory card subdirectories.

The memory card directory which contains your Reader's saved files is called "KReader", which also has one subdirectory called UserDir. Enter KReader and UserDir to reach the additional subdirectories called "Reader Documents," "Reader Images," and "Reader Text Files." These are exactly the same directories you will find by entering File Explorer on your Reader.

The files stored under Reader Text Files are designated with a TXT extension. They are intended for use with other computers, printers, etc. Files found under Reader Documents contain markup codes intended for use with your Reader only. Files stored as Reader Images are the digital pictures of your target text. These files are essential in making a visual analysis to determine why a particular document is not read as expected.

Follow the instructions for Nokia PC Suite to transfer files from your Mobile Reader Phone to your PC; or if you enter the memory card using Windows Explorer, My Computer, or another comparable program, transfer files from the memory card to your computer using the standard procedure for copying files from one directory to another.

SECTION 7. FILE EXPLORER

In the File Explorer you can retrieve and read previously saved document files in XMT or TXT format. You can also retrieve and reprocess previously saved images.

The File Explorer screen displays the contents of the directory you are in. Press Up or Down to locate folders named by date in a directory or to find files named by sequential numbers within each date folder. Press Left to go to the parent directory. To go to the root directory, press Left repeatedly. The root directory contains the Reader Documents, Reader Images, and Reader Text Files directories.

Press Right or Enter when a directory is highlighted to enter that directory. Press Right or Enter when a document file is highlighted to open and read the file in a Text Navigation screen. Press Right or Enter when an image file is highlighted to reprocess the image and then read any generated text in a Text Navigation screen.

7.1 Selection Keys

The Left Selection key is Options, and the Right Selection key is Back. By pressing the Left Selection key, you bring up a menu that itemizes the available command options. By pressing the Right Selection key, you go to the parent directory. So the Right Selection key is like Left arrow key except when you are in the root directory, in which case pressing the Right Selection key brings you to the Home screen.

7.2 Command Options

The Options menu of the File Explorer screen is shown in Figure 8.

FIGURE 8

The command options with corresponding Shortcut keys are described below.

Command	Key	Description
Root Directory	1	Go to the user's root directory.
Open	2	Open the selected file.
Erase	3	Delete the selected file.
Home	*	Return to the Home screen.

7.3 Opening a File

When you open a document file, its text is displayed in a Text Navigation screen whose options are described in section 5. When you open an image file, the image is processed (or reprocessed) and recognized text is displayed in a Text Navigation screen.

7.4 Erasing a File

When you choose to erase a file, you will be presented with the name of the file and asked to confirm that you want to erase it. See Figure 9. Press either the Left Selection key "Erase", or the Right Selection key "Cancel".
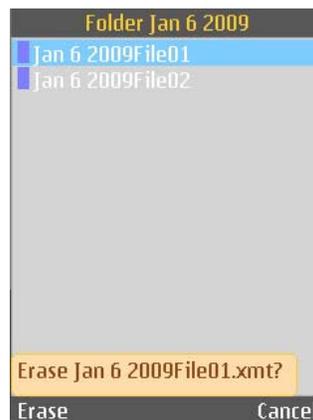

FIGURE 9

SECTION 8. RECENT DOCUMENTS

The Recent Documents screen displays a list of text files that you have recently saved or viewed. Press Up or Down to navigate through the list. Press Right or Enter when a document file is highlighted to open and read the file in a Text Navigation screen.

8.1 Selection Keys

The Left Selection key is Options, and the Right Selection key is Back. By pressing the Left Selection key, you bring up a menu listing the available command options. By pressing the Right Selection key, you go back to the previous screen.

8.2 Command Options

The Options menu of the Recent Documents screen is shown in Figure 10.

FIGURE 10

The command options with corresponding Shortcut keys are described below.

Command	Key	Description
Open	2	Open the selected file.
Home	*	Return to the Home screen.

SECTION 9. SETTINGS

A setting is an aspect of the Reader that you can control by selecting one of several pre-defined values. In this section you will learn about the various settings.

9.1 Settings Commands

The Settings screen first shows a menu that displays several command options. See Figure 11. Selecting "Save Settings" will save all the current settings to your phone's secondary memory. Selecting "Load Settings" will set all the settings from those which were last saved. Selecting "Restore Factory Settings" sets the settings to what they were before the Reader was first used. Selecting "Change/View Settings" will bring up settings menus as described in the following sections.

9.2 Settings Menus

Each setting is represented in its own menu, displaying the name of the setting above a list of its possible values. From any given setting menu, you can navigate through other settings and adjust them if desired.

Figure 11

The setting menu that is initially displayed and the range of settings you can view depend on how you got to the Settings screen. If you have selected "Change/View Settings" from the menu of Figure 11, "Camera Flash" is initially displayed and from there you can navigate through all settings. If you have selected "Settings" from the Image Capture screen's command options (Figure 3), "Camera Flash" is initially displayed and you can navigate through settings relevant to taking pictures. If you have selected "Settings" from the Text Navigation screen's command options (Figure 4), "Navigate Text By" is initially displayed and you can navigate through settings relevant to text display.

To navigate settings, press Right to go to the next setting menu or Left to go to the previous setting menu. In any menu, the highlighted item is the current value.   Press Up or Down to select a different value.

When a setting menu is up, the Left Selection key is "OK", and the Right Selection key is disabled. By pressing OK, you confirm all the current settings and return to the previous screen.

9.3 Camera Flash

This setting controls the camera flash mode. The possible values are:

  Always on

  Off
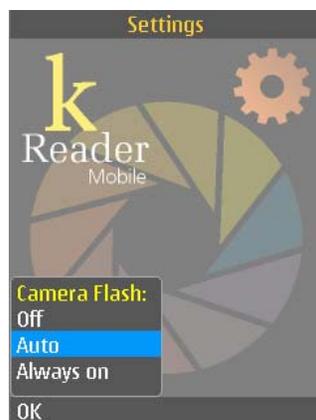
  Auto

FIGURE 12

Page 20

See Figure 12.

9.4 Reading Format

This setting specifies the format of the original text that you image. The possible values are:

   Books, articles, and labels

   Bills and memos

See Figure 13.

Select "Books, articles, and labels" for text with columns, complex formats, or where text is printed on a curved surface (including the curved portion of a page near the spine of a book). Select "Bills and memos" for text to be read from left to right in a linear, top to bottom presentation.

FIGURE 13

9.5 Automatic File Saving

This setting controls if and how images or text documents are saved automatically. The possible values are:

- Documents only
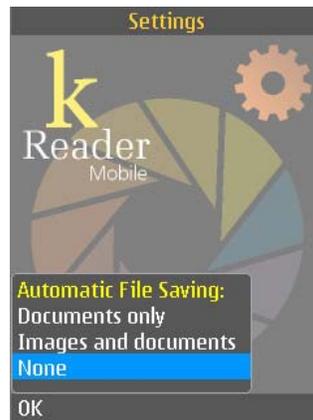- Image and documents
- None

See Figure 14.

FIGURE 14

9.6 Automatic Exit

This setting controls if and when the application exits automatically when not in use. The possible values are:

- Never
- 1 minutes
- 3 minutes
- 5 minutes
- 10 minutes
- 15 minutes

See Figure 15.

FIGURE 15

9.7 Text Language

Your Mobile Reader can have one or more languages installed. Of these, one is the User Language which you cannot change in the Mobile Reader, and one is the Text Language which you can.

The User Language is the language used to speak system prompts, system messages (for example "battery low"), response to commands, etc. We suggest you purchase a Reader with the User Language in your native language, or in the language with which you are most comfortable out of the available languages. If you wish to change the User Language, check with your dealer.

The Text Language is the language of the text which you are attempting to capture. To process text that is not in your User Language, change the Text Language setting. The possible values are the languages you have installed, including the User Language. See Figure 16. They also include any languages you may have added in an add-on package, as described in section 10.
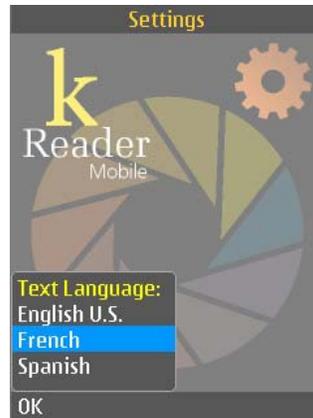

FIGURE 16

9.8 Speed

This setting controls the speed at which the Reader reads text. The possible values range from 10 percent to 100 percent. See Figure 17.
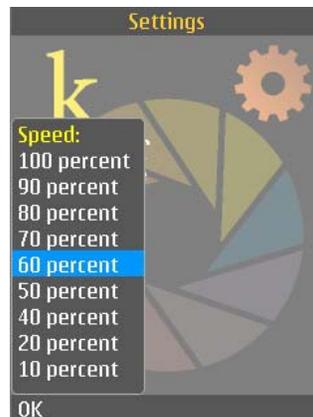

FIGURE 17

9.9 Voices

One or more voices are available for each language. You can set a voice for the document being read, and a voice for messages from the Reader. They can be the same voice.

If memory problems are encountered when Translation is on (see section 9.13), set the Message and Reading voices to be the same.

9.9.1 Reading Voice

This setting determines the voice used to read documents. The possible values are the installed voices for the selected Text Language. See Figure 18.

When Translation is on, the Reading Voice is a voice for the User Language.
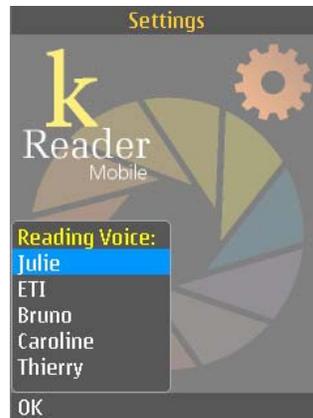
FIGURE 18

9.9.2 Message Voice

This setting determines the voice used by the Reader to respond to key presses and to report status (for example, "External power has been disconnected"). The possible values are the installed voices for the User Language. See Figure 19.

FIGURE 19

9.10 Volume

   This setting controls the Reader volume. The possible values range from 10 to 100 percent. See Figure 20.   (Alternatively, you can use the volume keys on the phone.)

FIGURE 20

9.11 Document Paging

This setting controls how the text recognized in an image is stored in a document. The possible values are:

- Single page
- Multiple pages

See Figure 21.

Select "Single page" if you want all the text of an image to be contained in its own document. Select "Multiple pages" if you want the text from multiple images to be in the same document, with each image text on its own page.
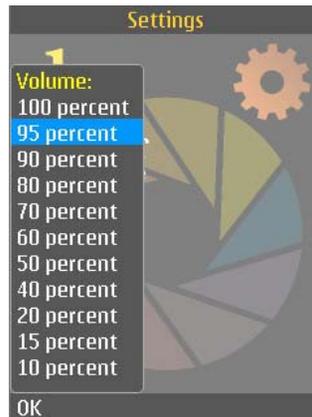
If "Multiple pages" is selected, every image you capture contributes a page of text to the same document. When done capturing images for the document, return to the Image Capture screen and select "New Document" in the options menu; see section 4.2. Use the 5-way Scroll Key to navigate through and read all pages of a completed multi-page document, just as you would for a single-page document.

It is not necessary to read the entire text from each captured image before taking the next picture for a multi-page document. But before returning to the Image Capture screen, you must wait for processing to

FIGURE 21

complete. Otherwise, processing will be canceled and only a portion of the text from the current image will be appended to the document. For this reason, you will be asked to confirm that you wish to cancel processing if you attempt to return to Image Capture by pressing Back before processing is complete.

9.12 Navigate Text By

This setting controls the unit by which text is navigated. Possible values are:

- Character
- Word
- Sentence

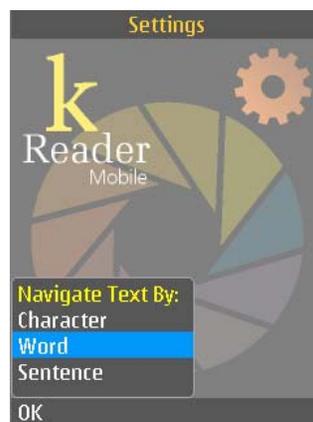See Figure 22. Pressing Right or Left will jump forward or backward by the unit selected.

FIGURE 22

9.13 Translation

This setting controls whether text recognized from an image will be translated. The possible values are:
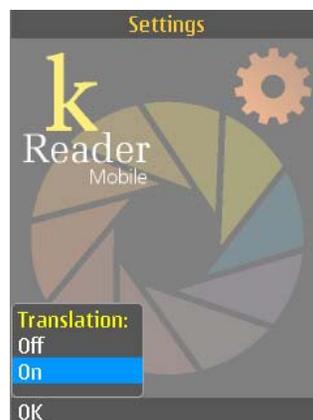
- Off
- On

FIGURE 23

See Figure 23.

If Translation is off, recognized text is displayed and read in the Text Language. If Translation is on, then recognized text is displayed and read in the User Language. For details, see section 5.3.

9.14 Text Display

This setting controls the size of text in the Text Navigation screen. The possible values are:

- Small
- Medium
- Large

See Figure 24.

FIGURE 24

9.15 Orientation of Screen and Arrow Keys

This setting controls screen orientation. The possible values are:

- Portrait
- Landscape
- Auto

See Figure 25.

An advantage of selecting Landscape is that it can increase the line length of text displayed on the screen.

If the setting is changed from Portrait to Landscape, with the screen on the left and the keys on the right, the Left Arrow key also changes to Down, Up and Down change to Right and Left, and Right changes to Up. If the setting is changed from Landscape to Portrait, the reverse occurs. In either case, the Mobile Reader phone must be rotated to the new Orientation immediately so the arrow keys can be used as intended.

Note: for the Nokia 6220 phone, "Auto" will keep the orientation in portrait, because there is no accelerometer. There may be other phones that also behave this way: check the appendix for your phone model to be sure.

If Auto is selected, the following sequence of motions will change the Orientation. First hold the Mobile Reader Phone on a parallel plane with a table or desk. Rotate the phone 90 degrees to the left so the

screen is on the left and the keys are on the right. Then in a gentle and even motion, tilt and hold the Mobile Reader Phone perpendicular to the reading surface until the Orientation changes. The change will be shown on the screen as the image rotates. A verbal confirmation message is also provided to confirm the orientation of the arrow keys. Repeat the phone movement procedure if necessary until the Orientation changes.

To prevent unintended changes as the Mobile Reader Phone is moved, select Portrait or Landscape.

FIGURE 25

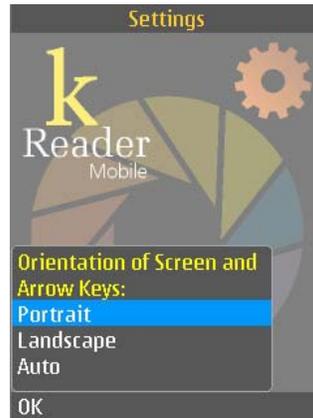9.16 Output Mode (kReader Mobile)

This setting controls whether visual elements of the user interface are spoken as well as shown. The possible values are:

- Audible and visible
- Visible only

See Figure 26.

Select "Audible and visible" if you want dialogs, menu items, and other visual prompts to be spoken as well as displayed. Select "Visible" only if you want them only to be displayed.
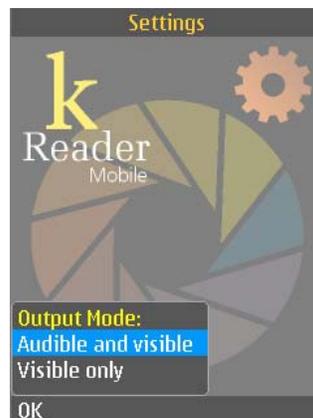

FIGURE 26

SECTION 10. ADD-ON PACKAGE ACTIVATION

The Reader has optional features such as additional languages which can be added to an existing installation. These features are delivered as an add-on package. Installation of an add-on can be performed upon request by your dealer or you can download each new software version by going to the downloads page at www.knfbReading.com and following the instructions provided. You can activate such a package for use in the Reader by following these steps.

- On the website, go to "My Reader"; "Manage my licenses".
- On the Reader, go to the License Activations screen.

The Installation Instructions describe the Reader software activation process, for installing software onto a new phone or upgrading to a new software version. This is similar to the process described here.

10.1 Prerequisites

You will need the following in order to complete your activation of an add-on package:

- Your phone with the Reader installed and activated.
- A PC with Internet access for Reader product activation, or your dealer may assist you.
- The USB cable, provided with the phone, that connects your phone to a PC.
- A serial number. If you have just purchased an add-on package, use the serial number that came with it. Your original Mobile Reader serial number may allow additional add-ons: check with your dealer. Your Mobile Reader serial number is printed on the outside of your product box. If you have previously registered at www.knfbReading.com, your serial number may be found there. If you do not have a serial number, contact your dealer.

10.2 Install the Add-On Software

Connect the phone to your PC. See *Setting Up Phone to PC Communications* in the Installation Instructions.

With your computer connected to your Mobile Reader Phone through the supplied USB cable and Nokia PC Suite, proceed to install your new Reader software by pressing Enter on the name of the Nokia installer file provided in the download package, then press Enter again to confirm that you want to install the software. From that point forward, the installation will proceed automatically with periodic prompts on the phone which require you to press the Left Selection Key to make an affirmative response. The software installation is complete when the phone confirms that fact and returns to the opening phone screen.

Start the Reader. From the main screen, select "License Activations."

10.3 Selection Keys

The Left Selection key is Options, and the Right Selection key is Back. By pressing the Left Selection key, you bring up a menu listing the available command options. By pressing the Right Selection key, you return to the previous screen.

10.4 Command Options

The Options menu of the License Activations screen lists the options below.

Command	Key	Description
Additional Languages	5	Activate additional languages.
Home	*	Return to the Home screen.

See Figure 27.
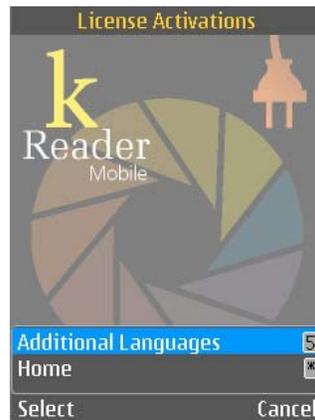
FIGURE 27

10.5 Licensing Process

Selecting "Additional Languages" initiates the activation process. In the first screen, you are informed that several steps need to be completed. See Figure 28. You may press Next to continue or Cancel to exit the process.
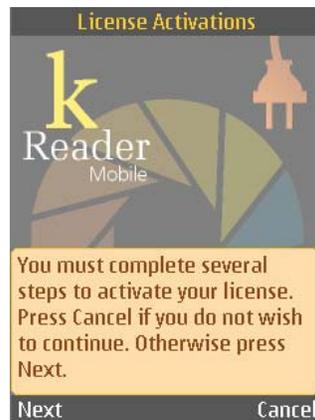
FIGURE 28

In the next screen, you are asked to enter an activation code for the add-on package. See Figure 29. If you have a license number, you may use the www.knfbReading.com website. Go to "My Reader", then "Manage my licenses", and enter the add-on code at the bottom of the Reader screen. Alternatively, your dealer may give you an activation code. Note that activation codes are only valid for a limited amount of time.

FIGURE 29

The next screen prompts you to enter the code again, if what you entered is invalid. See Figure 30. Press OK to go to a screen where you can re-enter the code.

FIGURE 30

If the code is valid, you are informed that the activation was successful. See

FIGURE 31

Figure 31. Press OK to exit License Activations.

Your Mobile Reader can now use the additional features in the add-on package(s) that you have just activated. If you were installing additional languages, you can confirm that the languages were installed by going to the Text Language setting menu; see section 9.7. This displays all the languages you installed (in addition to the User Language).

SECTION 11. DOCUMENTATION EXPLORER

The Documentation Explorer screen, accessible from the Help option of the Home screen, displays chapters of the online documentation. It is similar to the File Explorer screen, but instead of navigating through directories you view only the separate sections of this User Guide. Press Up or Down to navigate through the list. Press Right or Enter when a section file is highlighted to open and read the file in a Text Navigation screen.

Besides the User Guide, help is available in any screen. When the Left Selection key is labeled "Options", you can press it to display a menu and navigate through the menu items to hear the command options and their keypad shortcuts. For the knfbReader Mobile, you can press and hold the Left or Right Selection key to hear what the key's function is.

11.1 Selection Keys

The Left Selection key is Options, and the Right Selection key is Back. By pressing the Left Selection key, you bring up a menu listing the available command options. By pressing the Right Selection key, you go back to the previous screen.

11.2 Command Options

The Options menu of the Documentation Explorer screen is shown in Figure 32.
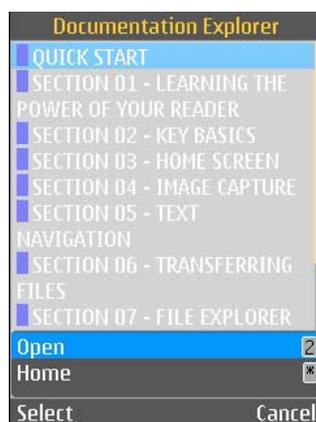
FIGURE 32

The command options with corresponding Shortcut keys are described below.

Command	Key	Description
Open	2	Open the selected file.
Home	*	Return to the Home screen.

SECTION 12. MAINTAINING AND UPGRADING YOUR READER

12.1 Camera Flash and Lens

The need to keep the camera flash and lens clean and free from finger-prints must be emphasized. You should leave the lens cover in the open position.

When shooting images on a glossy or semi-glossy surface, the camera flash should be turned off. Otherwise reflection resulting from the bright flash will compromise image quality. When the flash is turned off, care should be taken to be sure that moderate to bright ambient light is available. An alternative is to have filters installed which have been especially designed to cover the camera lens and flash.   These filters, called polarizers, can remove glare from glossy images and help to improve reading quality provided they are properly installed and maintained to assure correct alignment. To obtain polarizers and assistance, contact your dealer or support@knfbreader.com. Please specify which supported phone you are using in order to obtain the correct polarizers and installation instructions.

If you do have polarizers installed, you must take care to insure that each polarizer is cleaned with a soft dry cloth routinely, as much as several times a day, depending on use. You should also inspect the polarizers during cleaning to insure that both of them remain securely in position and have not been inadvertently removed. Misalignment of the polarizers will cause poor reading results because the images seen by the camera will not be clear.

12.2 Protective phone case

The Reader is sold with a thin protective phone case which helps to keep the polarizers clean and properly positioned. If your phone does not have a case please contact your dealer. The case covers the buttons but leaves the buttons tactile and easy to use with the case on.

SECTION 13. WARRANTY AND SUPPORT

Your Mobile Reader software includes the Limited Warranty   set forth in the End User License, and does not extend to any features or functions of your Mobile Reader Phone other than the Mobile Reader Product purchased through a K-NFB Reading Technology authorized dealer.

To obtain support or warranty service, please call your dealer or contact K-NFB Reading Technology Inc. You can do this in several ways:

- Send an email request to: support@knfbReader.com
- Call the K-NFB Reading Technology Reader Tech Support Line toll free at: 1-877-547-1500
- Visit our website at: www.knfbReading.com

There is an email list for Reader users, where you may be able to get answers to your questions. To subscribe,

- Go to http://www.nfbnet.org/mailman/listinfo/reader-users_nfbnet.org
- Or, send an email to reader-users-request@nfbnet.org and put the word "subscribe" in the subject field.

APPENDIX A. INSTRUCTIONS FOR THE NOKIA N82

Location of Keys

The table below shows where the keys referred to in this Guide are located on the Nokia N82 phone.

Key	Location
Keypad-*, Keypad-#, Keypad-0, … , Keypad-9	One of the twelve raised keys on the numeric (telephone) keypad, located on the front panel of the phone. These keys are also used to dial telephone numbers.
5-way scroll key	The square box with four raised edges and middle recessed square, located above Keypad 2 on the front panel of the phone
Up, Down, Left, Right	The raised edges of the 5-way scroll key - top, bottom, left, or right edge respectively. Also known as Arrow keys.
Enter	The square recessed portion of the 5-way scroll key surrounded by the four directional raised edges
Left Selection key	The upper portion of the flat, square key to the left of the 5-way scroll key
Right Selection key	The upper portion of flat, square key to the right of the 5-way scroll key
Power button	Button in the middle of the top edge of the phone, above the screen. To turn the phone off or on, press and hold for about 2 seconds.
Send key	Key on the curved far outer edge, to the left of the Left Selection key.
End key	Key on the curved far outer edge, to the right of the Right Selection Key. Press to exit the Reader.
Menu key	Key on the lower portion of the flat, square key, left of the 5-Way Scroll key.
Camera switch	Switch immediately above the camera lens on the back panel of the phone. It must be open in order to take a picture. The switch slides easily from the closed to the open position.
Volume keys	Keys on the upper right of the phone's right edge.

Configuration

If you have purchased a phone with the Reader already installed, the phone will be configured by your dealer, and you do not have to perform any of these steps. For a brand-new phone, follow these steps:

- Install the battery according to the Nokia manual.
- Turn on the power.

- Follow instructions on the phone to set up the Time, Date and Time Zone. It's required that these be set accurately, to within a few minutes.
    - o Press the Menu key.
    - o Select Tools.
    - o Select Settings.
    - o Select General.
    - o Select Date and time.
    - o Set the Time, Time zone, and Date.

The following further steps are recommended.

- Turn off the keypad autolock. The keypad will not lock while the Reader is running, but by default the N82 locks the keypad after 30 seconds. There is no audible indication that the keys are locked, unless screen reader software is installed.
    - o Press the Menu key.
    - o Select Tools.
    - o Select Settings.
    - o Select General.
    - o Select Security.
    - o Select Phone and SIM card.
    - o Set Key autolock period to None.
- Set the display to maximum time-out.
    - o Press the Menu key.
    - o Select Tools.
    - o Select Settings.
    - o Select General.
    - o Select Personalization.
    - o Select Display.
    - o Set Power saver time-out to maximum time.
    - o Set Light time-out to maximum time.

Starting the Mobile Reader

If you do not have a shortcut for starting the Reader, you can always start the Reader from the opening phone screen as follows:

- Press Menu
- Select Applications
- Press Enter
- Select Reader
- Press Enter

APPENDIX B. INSTRUCTIONS FOR THE NOKIA 6220

Location of Keys

The following table shows where the keys referred to in this Guide are located on the Nokia 6220 phone.

Key	Location
Keypad-#, Keypad-0, Keypad-1, … , Keypad-9	One of the twelve keys on the numeric (telephone) keypad, located on the front panel of the phone. These keys are also used to dial telephone numbers. The keypad-5 button has small raised bumps on its left and right sides.
5-way scroll key	The square box with four raised edges and middle recessed square, located above Keypad 2 on the front panel of the phone
Up, Down, Left, Right	The raised edges of the 5-way scroll key - top, bottom, left, or right edge respectively. Also known as Arrow keys.
Enter	The square recessed portion of the 5-way scroll key surrounded by the four directional raised edges
Left Selection key	The key to the upper left of the 5-way scroll key, marked with a blue horizontal line, located just below the bottom left corner of the screen on the front face of the phone.
Right Selection key	The key to the upper right of the 5-way scroll key, marked with a blue horizontal line, located just below the bottom right corner of the screen on the front face of the phone.
Power button	Button in the middle of the top edge of the phone, above the screen. To turn the phone off or on, press and hold for about 2 seconds.
Send key	Key directly above the Keypad 1, marked by a green icon.
End key	Key directly above the Keypad 3, marked by a red icon. Press to exit the Reader.
Menu key	Key on the narrow left extension of the 5-Way Scroll key. It is between the Left Selection key and the Send key.
Clear key	Key on the narrow right extension of the 5-Way Scroll key. It is between the Right Selection key and the End key.
Camera switch	Switch immediately to the left of the camera lens on the back panel of the phone. It must be open in order to take a picture. The switch slides easily from the closed to the open position, by pushing it toward the bottom side of the phone.
Volume keys	Keys on the upper right of the phone's right edge.

Installation notes for the Mobile Reader software

When installing on the 6220 Classic phone, you may experience the following message during installation:

"Application not compatible with phone. Continue anyway?"

This warning appears erroneously. Select yes and the installation will continue.

Configuration

If you have purchased a phone with the Reader already installed, the phone will be configured by your dealer, and you do not have to perform any of these steps. For a brand-new phone, follow these steps:

- Install the battery according to the Nokia manual.
- Turn on the power.
- Follow instructions on the phone to set up the Date, Time, and Time Zone. It's required that these be set accurately, to within a few minutes.
- To change the Date, Time, and Time Zone after they have been set:
    - Press the Menu key.
    - Select Office.
    - Select Clock.
    - Press Left Selection key for Options.
    - Select Settings.
    - Select Time.
    - Press Enter to change Time.
    - Use the keypad to enter the correct Time.
    - Press Left Selection key for OK.
    - Repeat the last four steps for Date.
    - Select Time Zone.
    - Press Enter to change Time Zone.
    - Select Country.
    - If necessary, Press Up or Down as needed to select City.

The following further steps are recommended.

- Turn off the keypad autolock. The keypad will not lock while the Mobile Reader software is running, but it is recommended to turn off the key lock because there is no audible indication that the keys are locked, unless screen reader software is installed. The keys can be manually locked by pressing left selection key and then star. To turn off the key lock:
    - Press the Menu key.
    - Select Settings.
    - Select Phone.
    - Select General.
    - Select Security.
    - Select Phone and SIM card.
    - Select Keypad autolock period.
    - Select None.
- Set the display to maximum time-out.

- o Press the Menu key.
- o Select Settings.
- o Select Phone.
- o Select General.
- o Select Personalization.
- o Select Display.
- o Select Screen Saver.
- o Set time-out to maximum time.

Starting the Mobile Reader

If you do not have a shortcut for starting the Reader, you can always start the Reader from the opening phone screen as follows:

- Press Menu
- Select Applications
- Press Enter
- Select My Own
- Press Enter
- Select Reader
- Press Enter

APPENDIX C. INSTRUCTIONS FOR THE NOKIA N86

Location of Keys

The following table shows where the keys referred to in this Guide are located on the Nokia N86 phone.

Key	Location
Keypad-#, Keypad-*, Keypad-0, Keypad-1, … , Keypad-9	The front panel of the N86 slides up to uncover a standard telephone numeric keypad. There is a raised bump below the 5-Key and above the 8-Key.
5-way scroll key	The square box with four raised edges and middle recessed square, located near the bottom center of the front panel of the phone. If the keypad is extended from the bottom of the front panel, the 5-way scroll key is directly above Keypad 2
Up, Down, Left, Right	The raised edges of the 5-way scroll key - top, bottom, left, or right edge respectively. Also known as Arrow keys.
Enter	The square recessed portion of the 5-way scroll key surrounded by the four directional raised edges
Left Selection key	The key to the upper left of the 5-way scroll key, which is raised from the front panel and is shaped like a short horizontal line.
Right Selection key	The key to the upper right of the 5-way scroll key, which is raised from the front panel and is shaped like a short horizontal line.
Power button	Button on the left of the top edge of the phone, above the screen. To turn the phone off or on, press and hold for about 2 seconds. If the numeric keypad is extended from the bottom of the front panel, the power button is behind the top of the front panel, still on the top left side.
Send key	Key directly to the left of the 5-way scroll key, which is raised from the front panel and is shaped like a short vertical line. The Send key is green.
End key	Key directly to the right of the 5-way scroll key, which is raised from the front panel and is shaped like a short vertical line. The End key is red.
Menu key	Key to the lower left of the 5-Way Scroll key. If the numeric keypad is extended from the bottom of the front panel, the Menu Key is directly above keypad 1. The Menu key is raised from the front panel of the phone, and it is shaped like a short line at a 45 degree angle.
Clear key	Key to the lower right of the 5-Way Scroll key. If the numeric keypad is extended from the bottom of the front panel, the Clear Key is directly above keypad 3. The Clear key is raised from the front panel of the phone, and it is

	shaped like a short horizontal line.
Camera switch	Switch immediately to the left of the camera lens on the back panel of the phone. It must be open in order to take a picture. The switch slides easily from the closed to the open position, by pushing it toward the bottom side of the phone.
Volume keys	Keys on the upper right of the phone's right edge. The top button raises volume and lower button lowers it.

Configuration

If you have purchased a phone with the Reader already installed, the phone will be configured by your dealer, and you do not have to perform any of these steps. For a brand-new phone, follow these steps:

- Install the battery according to the Nokia manual.

- Turn on the power.

- Follow instructions on the phone to set up the Date, Time, and Time Zone. It's required that these be set accurately, to within a few minutes.

- To change the Date, Time, and Time Zone after they have been set:
  - Press the Menu key.
  - Select Applications.
  - Select Clock.
  - Press Left Selection key for Options.
  - Select Settings.
  - Highlight "Time" and press Enter to change Time.
  - Use the keypad to enter the correct Time.
  - Press Left Selection key for OK.
  - Repeat the last four steps for Date.
  - Select Time Zone.
  - Press Enter to change Time Zone.
  - Select Country.
  - If necessary, Press Up or Down as needed to select City.
  -

The following further steps are recommended.

- Turn off the keypad autolock. The keypad will not lock while the Mobile Reader software is running, but it is recommended to turn off the key lock because there is no audible indication that the keys are locked, unless screen reader software is installed. The keys can be manually locked by pressing left selection key and then star. To turn off the key lock:
  - Press the Menu key.
  - Select Tools.
  - Select Settings.
  - Select General.
  - Select Security.
  - Select Phone and SIM card.
  - Select Keypad autolock period.

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- o Select None.
- Set the display to maximum time-out.
  - o Press the Menu key.
  - o Select Settings.
  - o Select Phone.
  - o Select General.
  - o Select Personalization.
  - o Select Display.
  - o Select "Power saver time-out".
  - o Set time-out to maximum time.

Starting the Mobile Reader

If you do not have a shortcut for starting the Reader, you can always start the Reader from the opening phone screen as follows:

- Press Menu
- Select Applications
- Select Reader