

Reading PDF with screen magnifiers and screen readers

PDF-Reader Manual for the blind and visually impaired

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1 Introduction

The number of documents published in PDF format is still growing. People who use screen magnifiers or screen readers often have problems reading these PDF documents, since the operation of their software differs from average word processing programs and sometimes the visible contents is displayed incoherently or not at all.

Whereas information about making PDF documents accessible abounds, there is hardly any information available about reading them. Therefore, Viziris has compiled this manual for reading PDF documents with a screen magnifier or a screen reader. This manual was compiled in close cooperation with an internal ICT policymaker and a specialist in the field of accessibility of software for the visually disabled.

The interest the Dutch manual raised internationally has resulted into this English version.

Viziris (formally known as the Netherlands Federation of the Blind and Visually Impaired) defends the medical and social rights of all persons in the Netherlands with visually impairment.

Section 2 provides quick tips for reading PDF documents with a screen magnifier or a screen reader. Section 3 describes the characteristics and the production of PDF documents. Section 4 provides instructions for installing the PDF Reader. Section 5 gives an outline of the structure of the PDF main window. Section 6 describes how Adobe Reader can be used for reading documents and forms. The appendix of this manual contains keyboard shortcuts for Adobe Reader.

1.1 Software versions

The aim of this manual is to provide instructions for reading PDF documents with Adobe Reader 8.0.

Since Windows and Windows-based applications can be configured in different ways, it can not be guaranteed that the instructions below will work on your computer system accordingly. Also, the screen display can differ. Section 4, Installing Adobe Reader 7.0, provides a number of solutions for tackling problems of this kind.

Visually impaired people use screen readers and screen magnifiers in order to be able to access their computer screens. This manual assumes the use of one of the following software programs for screen magnification: ZoomText 9 or Lunar 7, for screen reading: Supernova/Hal 7 or JAWS 7. In all cases, it is recommended to use the latest versions.

This manual will show that, although its instructions are followed, a PDF document might still be inaccessible. If so, it is recommended to use a text recognition program such as OmniPage or FineReader. These programs are designed for detecting text within an image, for example a scanned document. Any text detected, can then be read.

1.2 PDF and Microsoft Word

Many people use Microsoft Word for producing and reading documents. In Word, the screen magnifier program or screen reader uses the cursor for indicating the focus. Hence, one might say that the screen reader or screen magnifier follows the cursor. However, since no cursor is available in Adobe Reader, the focus cannot be detected. Adobe Reader solves this by actively offering the structure and contents of a PDF document to the screen magnifier or screen reader program.

1.3 Reading formats

The Dutch and English versions of this manual are available in Microsoft Word (in font Arial 12 dots per inch); in PDF (version 1.6) and on the web at www.viziris.nl.

2 Quick Start

PDF documents can best be read with Adobe Reader 6 and later versions. First, initialize the accessibility options. For this purpose, choose Help and select the Accessibility Setup Assistant. In this wizard you can set the options for a screen magnifier and/or a screen reader, according to your preferences.

2.1 Reading for the first time

If an untagged PDF document is opened and a screen reader or magnifier is running, the 'Reading an untagged document' dialog box is shown. It is recommended to select the standard options in the dialog.

2.2 How to read a PDF document

1. Open the PDF document.
2. Choose Document>Accessibility Quick Check. If a document seems to contain no text or is secured, see 4 c. If you receive a message, saying that the document is not structured, go to the next step.
Note: if an accessible document contains text pages and one or more graphic pages, or unlabeled graphics this will not be indicated.
3. You can read the PDF document line by line, or use the reading keys of the screen magnifier or screen reader.
 - a. To go to the next or previous page, press Left or Right Arrow or Ctrl+Page Up/Down, if your screen reader or screen magnifier does not claim these keystrokes.
 - b. To open the Go to Page dialog box, press Shift+Ctrl+N. This keystroke does not work very well in Supernova/Hal.
 - c. Press F 4 to show or hide the Navigation Panes.
 - d. Press Shift+F5 to toggle between the Status Bar and the main Document Window.
 - e. Press F5 to go to the Document Window.
 - f. To open the Find dialog, press Ctrl+F. Jaws will display the Jaws Find dialog. In Supernova/Hal and Lunar this option does not work very well.
 - g. Press Ctrl+equals sign (=) for zooming in. Press Ctrl+minus sign (-) for zooming out.
4. If the document cannot be read:
 - a. Change the reading order: choose Document>Change Accessibility Reading Options. Then read the document again.
 - b. If you still cannot read the document, try to copy the file to the Clipboard: Menu>Edit>copy file to clipboard. Next, paste the document into a word processor with Ctrl+V. The accessibility of tables, will also cause problems when converting to Word. In Microsoft Word more of the formatting will be saved, compared to saving it as a text file: Menu>File>Save as text.
Note
If you use the copy command Ctrl+C only one page will be copied.

- c. An alternative option can be to Send the PDF document as an attachment to: pdf2html@adobe.com or to pdf2txt@adobe.com. An Adobe software program will try to convert the document and return it attached to an email.
- d. Still problems, use a text recognition program such as OmniPage or FineReader to try to convert the file into text.
- e. The last option is to ask the author to send the document as a Microsoft Word file or pasted into an email.

Screen readers or screen magnifiers can only give a poor layout presentation of a PDF document. Therefore, a tagged PDF document on a brailldisplay, in synthetic speech and with magnification still feels like a long unformatted text. For details, see section 6.7.

3 What is PDF?

PDF is the abbreviation of Portable Document Format which was developed by Adobe Systems. PDF is a popular standard on the World Wide Web and it is used to distribute and exchange electronic documents. PDF uses a universal file structure by which formatting, fonts, graphics and layout of a document is kept exactly as it was designed, regardless of the interface or platform in which it is shown. This makes PDF popular on the internet.

PDF Standard is available in different versions. From Adobe Reader 6 (PDF version 1.5) and later, Adobe has included relevant accessibility features.

PDF documents have the following characteristics:

Maintenance of layout and integrity

PDF is a document format for formatted documents containing text and images. No matter which application is used to display it, the documents look exactly the same as the source document and the document will maintain all source elements, such as text, drawings, images in color, and photos.

Easy to create

PDF documents can be created easily by printing them from their source application to a so called virtual PDF printer.

Secure

A password might be used to secure a PDF document against reading or printing.

Search facilities

The Search Window can be used to search for words, phrases, bookmarks and data fields.

Accessible

From PDF version 1.5 (Acrobat Reader 6) and higher, PDF documents have included accessibility technology for screen magnifiers and screen readers.

Platform- and operating system-independent

PDF documents are platform-independent which means they can be accessed on a computer running Windows, Macintosh or Unix, while looking the same in all systems.

Efficient

PDF documents can be compressed. That way, exchanging them becomes much more efficient.

3.1 Producing PDF

PDF documents can be produced using, for example, Adobe's Acrobat Reader. The Adobe Reader interface contains a wide range of features that can be used to determine a document's layout and the structure. For example, you can select the reading order in which a document needs to be read. Furthermore, Adobe Acrobat can add

alternate or descriptive text to figures or form fields which can be read by screen magnifiers and screen readers.

Other free software for reading PDF documents can be downloaded from the web. For example, PDF995 (<http://www.pdf995.com>) or PDF Creator (<http://sourceforge.net/projects/pdfcreator>). This free software cannot be used to indicate the reading order of a document and it is impossible to tag a document. The free programs are installed on the computer as virtual printers. You can create PDF documents by simply printing a document to the virtual printer. PDF software will then convert the document into PDF.

3.2 Producing accessible documents

The underlying structure, layout and contents of a PDF document are loaded to your screen reader or screen magnifier when Adobe Reader has detected either of them. Screen readers or magnifiers can only read textual information. If a PDF document does not contain text, that is to say textual characters, the screen magnifier or screen magnifier will not be able to interpret its contents. As a result, it will appear to the reader that the document is empty.

The use of a freeware virtual PDF printer program appears to be very convenient for a sighted user. There is, however, one drawback, since images might also be stored as PDF documents. If a document does contain a scanned letter, Adobe Reader will not be able to provide the screen reader or screen magnifier with textual information. In that case, what is displayed in the main document window may seem to be text, but is merely an image. Hence, the document is not accessible.

The solution will be to convert the scanned text into textual information which can be read with assistive technology.

If a document contains text columns and tables, these page elements need to be organized in the right reading order. When creating a PDF document with Adobe Acrobat, the reading order of documents can be indicated to offer structured information to screen magnifiers and screen readers. Apart from indicating the reading order, it is possible to add alternate text descriptions, or tags, to graphic elements and form fields. Acrobat Reader 5 and later versions offer this exclusive tagging feature.

4 Installing Adobe Reader

This manual assumes the installation of Adobe Reader for a computer that is running Windows XP. Adobe Reader can be downloaded at <http://www.adobe.com>. Next, follow the instructions in the dialog box. After the installation, start running Adobe Reader. Finally, agree to the terms of the license agreement by pressing the “I agree” button.

4.1 *The Accessibility Setup Assistant*

After the license agreement has been accepted, Adobe Reader will try to detect whether a screen reader and/or a screen magnifier is running. If this is the case, the Accessibility Setup Assistant wizard is shown. Select the options you prefer. If you wish to change any of the options later on, choose the Accessibility Setup Assistant from the Help menu.

The Wizard Accessibility Setup Assistant consists of 4 or 5 screens, depending upon your choice at screen 1. Below, all screens are listed.

Screen 1: screen magnifier or screen reader

You can select the values recommended for the use of screen readers or screen magnifiers. First, indicate which assistive technology you use.

There are three choices:

- Set Options For Screen readers
- Set Options For Screen magnifiers
- Set All Accessibility Options

Screen 2: Screen magnifiers

Screen 2 will not be shown if you choose Set Options For Screen readers at screen 1.

Adobe Reader can override the document colors and instead use high contrast in order to make the text more readable. Select the checkbox: Use High Contrast Colors for Document Text, if you prefer this. With this option you can choose from a list of four contrasting color combinations for text and background.

1. Green text on black
2. Yellow text on black
3. White text on black
4. Black text on white

Select Disable Text Display Smoothing. This option will make the text brighter and easier to read with a screen magnifier.

The option Default Zoom View enables you to set a default zoom view percentage value at which to magnify documents on the screen. You can either choose a percentage value of the page size or select the Override Page Layout. This option changes the layout of the document text in such a manner that only text is displayed. If you use a screen magnifier, it is recommended to use the Adobe Reader magnification rather than the magnification of a screen magnifier. The Zoom View can magnify a document on screen up to 6400%. The font display is then still excellent.

By default the mouse indicator in Acrobat Reader is represented by a fully open hand. The Hand indicates the basic reading mode. If you select the option Always Use The Keyboard Selection Cursor, the Select tool pointer will be displayed instead. This tool pointer resembles the capital letter I when you point it over text.

Screen 3: Options for reading order

This screen offers choices for setting the reading order of untagged documents.

- a. Infer Reading Order From Document (recommended) tells Adobe Reader to infer the reading order from the document by using an advanced method of layout analysis and fonts.
- b. Left-To-Right, Top-To-Bottom Reading Order.
- c. Use Reading Order In Raw Print Stream.

You can select one of the reading orders specified above, instead of using the reading order specified by the structure of a tagged document. This option is useful for poorly tagged PDF documents. Normally this is not necessary and mostly does not solve reading order problems.

Using a checkbox, you can specify whether Adobe Reader should ask to specify the reading order every time an untagged document is opened.

Screen 4: number of loaded pages

The contents of a document can be loaded in parts or entirely to the buffer of a screen reader or a screen magnifier. Since loading large documents may take quite some time, it might be convenient to select one of the options below:

- a. Currently Visible Pages.
- b. Deliver The Entire Document At Once.
- c. Deliver All Pages Only For Small Documents.
- d. Maximum Number of Pages In A Small Document. Select this option to set the page number limit at which you want Adobe Reader to load pages. The default number is 50.

Screen 5: save and load documents

Disable Document Auto-Save.

During reading, Acrobat Reader auto-saves the document. The screen reader or magnifier has to reload the document. Disabling this function will save time.

Reopen Documents To The Last Viewed Page.

With this option you can save the last viewed position. The next time, the document will be opened at that position.

Display PDF Documents In The Web Browser

This option will open PDF documents from the Internet in the web browser, for example Internet Explorer or Firefox, instead of a separate Adobe Reader window. It is recommended to deselect this option, since screen readers or magnifiers do not fully support PDF in a browser. Adobe Reader will give greater control when navigating a document in your screen reader.

5 The Adobe Reader 8 interface

5.1 Panes and Bars

This section describes the Application Window of the Adobe Reader interface, including its bars and panes. Many of the bars and panes listed below can be either shown or hidden, according to your preferences.

Title Bar

At the top of the Adobe Reader Application Window is the Title Bar, which contains the name of the application and the name of the current document.

Menu Bar

Beneath the Title Bar is the Menu Bar, which contains the following menus: File, Edit, View, Document, Tools, Window, and Help. To show or hide the Menu Bar, press toggle keystroke F9. To move focus to the Menu Bar, press F10 or Alt.

Toolbar area

Under the Menu Bar is the toolbar area. You can use the mouse to select an item. You can use toggle keystroke F8 to show or hide the toolbar area. After you have moved focus to the Menu Bar, press Ctrl+Tab to go to the active toolbars.

Navigation Pane

The Navigation Pane is to the left side of the Document Pane. It can be navigated in various ways, depending on the navigation options provided by the author. To select one of its options, use the mouse or make a selection from the Menu Bar > View > Navigation Panel. Select one of the following tabs: Articles, Attachments, Bookmarks, Signatures, Layers, Model Tree, Pages. To hide or show the Navigation Pane, press toggle keystroke F4. To dock currently floating tabs to the left side of the Navigation Pane, choose View > Navigation Tabs > Dock All Tabs.

Note: whether a tab has contents or not, is defined by the author of a document.

Document Pane

In this part of the program window, the document is shown.

The How To Window and The Search Window

To the right of the main document window is the How To window. It provides quick tips on performing basic tasks in Adobe Reader. It can be opened or closed by pressing Shift+F4. Press Tab to move through the list of basic tasks. To select one of the buttons, press Enter. Press the Backspace to return to the previous level.

The Search PDF window provides advanced search tools. It can be opened and closed at the right side of the Document Pane by pressing Ctrl+Shift+F. Use the Tab key for moving through this dialog. Press Escape to close the Search Window.

Attachments and Documents Pane

The Attachments and Comments Tabs open across the bottom of the Application Window. To open or hide either of them, choose View > Navigation Panes.

Status Bar

The Status Bar is at the bottom of the Application Window. There are buttons for other views and for moving through a document. Also the current page and the total number of pages of the document are shown. Shift+F5 will put focus on the Status Bar.

Note: the Status Bar in Adobe Reader differs from the ones used, for example, by Windows Applications. As a consequence, the standard assistive technology hotkeys may not be used.

5.2 Recommended Main Window Display

You can create a well-organized Application Window by hiding most of the bars and panes. The program will become easier to use for a screen magnifier or screen reader operator. Below the most effective presentation is given.

The **Title Bar** cannot be hidden.

Do not hide the **Menu Bar**. If necessary, press F9 to show it.

The **Toolbars** don't have to be displayed. Press F8 to hide or show them. If necessary, choose View>Toolbars to select which bars you want to show. In the same menu or with Ctrl+F8 you can dock floating toolbars. Press Alt+F8 to make them float again.

In the **Navigation Pane** ZoomText and JAWS will display the author's bookmarks, if any. Bookmarks make it easy to navigate a document. They are displayed in a tree view, where the vertical Arrow keys are used for going up or down the tree, and the horizontal arrow keys are used for opening and closing a specific level. To open a topic, press Enter. The simplest way to open a list of bookmarks is using the Menu: View>Navigation Panes>Bookmarks.

Leave the **Document Pane** as it is.

Press Shift+F4 to hide the **How To window**.

The **Search Window** does not have to be shown. Press Ctrl+Shift+F to bring focus to it. When focus is in this window, press the Escape key to hide it.

The **Attachments and Comments Tabs** can be hidden as well. Use Menu>View>Navigation Panes.

It is not possible to hide the **Status Bar**.

If you follow these recommendations, the Application Window will look like this: the Title Bar is at the top, below that is the Menu Bar, under the Menu Bar at the left side you'll find the closed Tabs of the Navigation Pane, and at the right side the main document window. The Status Bar is at the bottom of the Application Window.

6 Reading PDF documents with Adobe Reader

6.1 Reading with magnification

Instead of using separate screen magnification software for reading documents, you might prefer to use the magnification software included in Adobe Reader which can magnify up to 6400% of the original document in a very clear font. You will have to switch off your present screen magnifier in order to benefit from the options that Adobe Reader offers. Menus and dialogs will not be magnified, but Adobe Reader will display an excellent magnification of your document. To zoom select View>Zoom>Zoom To. You can increase the zoom factor up to 6400%.

Press Ctrl+equals sign (=) to increase the zoom factor or Ctrl+minus (-) to decrease it.

6.1.1 ZoomText

If you use ZoomText with speech, a document will be read out loud line by line. If you only use ZoomText magnification, reading line by line is not possible since there is no cursor in a PDF document. If you do want to use ZoomText for reading a document line by line, first copy its contents to a word processor program.

DocReader (Document Reader) and AppReader (Application Reader) work with Adobe Reader.

6.1.2 Lunar

If you combine Ctrl+scroll wheel, you can change the zoom factor percentage value in Adobe Reader.

The ticker tape does not work according to expectations: only the first page of a document is displayed and its background color is reversed.

6.2 Reading with a screen reader

If a screen reader is running, Acrobat Reader will offer the structure and contents of the document to the screen reader.

6.2.1 JAWS

Since there is no cursor in Acrobat Reader, Jaws will automatically switch on the Virtual Cursor. This can be compared to reading an HTML document in Internet Explorer.

The Jaws shortcuts for navigating documents work. For example, press Ctrl+Home to go to the first page of a document. Ctrl+End will take you to the last page.

JAWS does not indicate page breaks and the Acrobat Reader screen does not scroll when moving through the document with the Jaws virtual cursor.

6.2.2 Supernova/Hal

Supernova/Hal will automatically switch on the virtual focus. In Adobe Reader, the screen will not scroll when moving through the document with the virtual focus. Page borders are not indicated. If you use the Down Arrow to read from top to bottom, all text is read. When reading backwards, parts of the document might be skipped.

The ticker tape does not function properly. The contents of the present page is displayed with reversed background colors.

6.3 Opening untagged PDF documents

If Adobe Reader detects an untagged document, the Wizard Reading An Untagged Document will be showing. Adobe Reader will indicate the number of pages in the document and offer three options for its reading order. These options are as follows:

1. Infer Reading Order From Document (recommended)
2. Left-To-Right, Top-To-Bottom Reading Order
3. Use Reading Order In Raw Print Stream

You can also set either of the preferences below:

1. Deliver Only The Currently Visible Pages
2. Deliver The Entire Document At Once (recommended)

6.4 Document Properties

The properties of a document will be displayed when you choose File>Properties. Or press Ctrl+D. The dialog box Document Properties has four tabs: Description, Security, Fonts and Advanced.

The first Tab includes the name of the author and information about the document.

There is an advanced part in this Tab containing information concerning:

1. the source program that was used to produce the document
2. the PDF version
3. the location (of the document)
4. the file size
5. the page size
6. the number of pages
7. whether the document is suitable for) Fast Web View

To determine the accessibility of a document, see section 6.4.1 below.

Note: since you cannot go through this dialog with the Tab key, use the Jaws cursor, the virtual focus of Hal, the Braille display or the reading keys of Lunar and ZoomText to read this dialog.

6.4.1 Accessibility Quick Check

After you checked the document properties, execute the Accessibility Quick Check. This tool determines the document's accessibility. To have this assessment performed, choose Help> Accessibility Quick Check. You can also press Shift+Ctrl+6.

Next, the accessibility Quick Check message box will provide one of the results below.

"This document has logical structure but it is not a Tagged PDF. Some accessibility information may be missing."

If the reading order of the page does not seem to be logical, go to Document>Change Accessibility Reading Options and try one of the options.

"This document is not structured, so the reading order may not be correct. Try different reading orders using the Change Accessibility Reading Options Dialog".

"No accessibility problems were detected in this quick check."

In general, Quick Check has found that the PDF document is tagged, has an underlying document structure, and does not have any security settings that prohibit access for screen readers. This PDF document shouldn't cause problems for assistive technology and Adobe Reader's accessibility features.

"This document's security settings prevent access by screen readers."

Accessibility Quick Check has found that the PDF document has security settings that prohibit access for screen readers. If copying of the contents is not prohibited by the author, see the Document Properties dialog, you can try to make the document accessible by copying its contents to a word processing program: Menu>Edit>copy file to clipboard.

Next, open a word processing program, for instance Notepad, WordPad or MS Word.

Then, paste the contents into the word processor with Ctrl+V. If you use the copy command Ctrl+C, only one page will be copied.

Another solution is to convert the document to text. If the result is still poor, another solution might be to open the document and try to have it translated into text by a text recognition program, for example OmniPage or FineReader.

A last option is to ask the author to convert the document into an accessible form (see section 2.2).

"This document appears to contain no text. It may be a scanned image."

Accessibility Quick Check has found that the PDF document consists of only graphical pages, probably because the file was scanned to PDF as images. The document can only be read by translating it into text using a text recognition program.

Note: if a document contains textual and graphical pages, this will not be mentioned.

6.5 Navigation

Effortless navigation is essential for efficiently reading documents with assistive technology. For this purpose, navigation tabs are available. Unfortunately, navigation tabs are not accessible for JAWS and HAL screen readers. Screen magnifiers can read most tabs. You can use the mouse to activate the tabs.

Not all tabs are read out loud, but it is possible to navigate through topics in the Tabs, since screen magnifiers follow the cursor focus.

6.5.1 Pages

To find out the current and/or total number of pages in a document, choose View>Go To>Page. You can also press Ctrl+Shift+N. Next, the Go To Page dialog box will appear. In the edit box the active page number is shown. Straight behind, you will find the total number of pages. If you want Adobe Reader to go to a specific page, enter its number in the Edit box. Adobe Reader will then go to this page.

If you use ZoomText, you first need to activate the Hotkey Pass Through feature by pressing Alt+Pause in order to execute the hotkey. Next, press Ctrl+Shift+N.

Press either Alt+Ctrl+A (AppReader) or Alt+Ctrl+D (DocReader) if you want to have the current document read out loud.

Even with a mouse click, when reading with the Supernova Hal Lunar Virtual Focus, the screen does not scroll along.

In the Navigation Tabs Window, on the Tab: pages, on the left of the main window, the page numbers can be selected. The present page number is displayed in the dialog box. The page number will be read out loud if you press either the Up or Down Arrow keys. Press Enter to activate. F4 will close the Navigation Tabs window.

JAWS and ZoomText will handle this task without errors. Supernova, Hal and Lunar do not change the screen contents when choosing another page.

6.5.2 Bookmarks

It is a good idea to get an impression of a document by navigating the table of contents. By doing so, you will understand the way in which a document is structured. Bookmarks in a PDF document can be used for the same purpose. Unfortunately, not all PDF documents contain bookmarks.

If a document contains bookmarks, you can display these by choosing View>Navigation Panels>Bookmarks. Bookmarks are represented in a structure tree. The vertical Arrow keys are for navigating the structure tree, whereas the horizontal arrow keys will open and close a level. Press Enter to go to a topic.

JAWS and ZoomText will go to the selected location in the document. The speech and Braille of Supernova Hal will work, whereas Supernova Hal and Lunar will leave the visual screen as is.

6.5.3 Searching documents

To search documents, activate the Find tool by pressing Ctrl+F. Type your search terms in the Edit box. If the search term is found, it will be marked in the document. Otherwise, you will receive a message saying that the search term is not found.

When pressing Ctrl+F Jaws will show the Jaws search dialog. When a search term is found, Jaws places the virtual focus in the document at the search result.

Next, you can continue reading the document.

ZoomText will magnify the search result in the document and Adobe Reader will highlight it.

When searching with Supernova Hal, you will receive a message that the virtual focus cannot be detected. Nevertheless you can enter your search term and press Enter. Adobe Reader will search the document.

The Adobe Reader's Search PDF window has more options than the Find tool. Press Ctrl+Shift+F to open and close the Search Window at the right side of the main document window. Navigate through the advanced search options with Tab. When in the Edit box, enter your search terms. Press the Tab key to move up or down in the search results. Press Enter or the Spacebar to select. When in the dialog, you can press escape to close. When in the document, close the dialog by pressing Ctrl+Shift+F. This feature is not supported by screen readers Jaws and Supernova/Hal. The search results window is not accessible. However, ZoomText and Lunar can magnify this results window.

6.6 PDF forms

Acrobat 6 (2004) and later versions can be used for creating and filling in PDF forms. In most cases, PDF forms are meant to be printed for manual completion. Online PDF forms can only be read by screen readers when they are tagged correctly. Tags do enable screen reader software to detect form fields and labels. For example, when tabbing to an Edit field, the corresponding label is mentioned. With Adobe Reader 7 and higher, you might be able to complete an untagged form. PDF forms can be completed using screen readers or magnifiers in the same way HTML forms in the web browser are completed.

6.7 Remaining accessibility issues in tagged PDF documents

Adobe Reader offers the structure and contents of a PDF document actively to the screen magnifier or screen reader. Critical accessibility issues are caused by the fact that Adobe Reader offers poor formatting information to the screen readers:

Hence, screenmagnifiers and screenreaders:

- Can not display empty lines
- Display Bulleted lists as text
- Display tagged tables unpredictable
- Sometimes give unexplainable reading problems in Large-scale or complicated documents.

Therefore, a tagged PDF document on a brailldisplay, in synthetic speech and with magnification still feels like a long unformatted text.

6.8 How to produce tagged PDF documents

Tagging a simple Word document containing a table of contents, headings and some pictures takes the author only a few minutes. Tagging a more complicated document with

tables or references or a PDF form is difficult and time-consuming. The only software to produce correct tagged PDF documents are products of the Adobe family like Adobe Acrobat. The newest versions have an auto tagging tool, OCR text recognition and an accessibility checker. Adobe Acrobat Professional has the most advanced accessibility features like a check for section 508 and W3CAG priority 1 2 and 3. The best input file is a well formatted MS Office document.

For more information about creating accessible PDF documents see:

http://www.adobe.com/products/acrobat/access_booklet.html

7 Appendix: Keyboard shortcuts

This appendix provides keyboard shortcuts for navigating Adobe Reader. When screen readers or magnifiers are used, the keyboard shortcuts below may not be effective.

7.1 Keystrokes for text

Select all contents on page	Ctrl+A
Deselect all contents on page	Ctrl+Shift+A
Open dialog	Ctrl+O
Fit Page	Ctrl+0 (zero)
Move focus to Status Bar	Shift+F5

7.2 Keystrokes for navigating documents

Go to previous screen	Page Up
Go to next screen	Page Down
Go to first page	Ctrl+Home
Go to last page	Ctrl+End
Go to previous page	Left Arrow or Ctrl+Page Up
Go to next page	Right Arrow or Ctrl+Page Down
Go to previously viewed page	Alt+Left Arrow
Go to next viewed page	Alt+Right Arrow
Go to previous document	Alt+Shift+Left Arrow
Go to next document	Alt+Shift+Right Arrow
Scroll up	Up Arrow
Scroll down	Down Arrow
Scroll (when the Hand Tool is activated)	Spacebar
Zoom in	Ctrl+equals sign (=)
Zoom out	Ctrl+minus sign (-)
Temporarily activate Zoom in tool	Ctrl+Spacebar, mouse click
Temporarily activate Zoom out tool	Ctrl+Shift+Spacebar
Zoom to	Ctrl+M

7.3 Keystrokes for general navigation

Show or hide Menu Bar	F9
Move focus to menus	F10
Activate toolbar in browser	Shift+F8
Move focus to toolbar	Ctrl+E
Show or hide context menu	Shift+F10
Move focus to Document Pane	F5
Move to next open document	Ctrl+F6
Move to previous open document	Ctrl+Shift+F6
Close current document	Ctrl+F4
Close all open documents	Ctrl+Shift+W
Cycle focus forward through panes and panels	F6
Cycle focus backward through panes and panels	Shift+F6
Open the Find toolbar	CTRL+F
Select the next search result and show it in the Document Pane	F3
Activate current tool, item or task	Spacebar or Enter
Activate Hand tool. Move focus to Document Pane	Esc
Select or deselect text (when keyboard selection cursor is active)	Shift+ Arrow keys
Move focus to next toolbar	Ctrl+Tab
Select or deselect previous word (when keyboard selection is activated)	Shift+Ctrl+Up or Down Arrow
Select or deselect next or previous word (when keyboard selection is active)	Ctrl+Up or Down Arrow

7.4 Keystrokes for use with the Navigation Pane

Open or close Navigation Pane	F4
Cycle focus forward through panes and panels (including Document Pane, Navigation Pane, How To window)	F6
Move focus to next item	Tab
Cycle focus through elements of the active navigation tab	Up or Down Arrow
Cycle focus through Navigation Pane (when focus is anywhere in Navigation Pane)	Ctrl+Tab
Expand current bookmark (when focus is on bookmark)	Right Arrow or Shift+plus sign (+)
Collapse current bookmark (when focus is on bookmark)	Left Arrow or minus sign (-)
Expand all bookmarks (when focus is on bookmark)	Shift+ asterisk (*)
Collapse all bookmarks (when focus is on bookmark)	Shift+forward slash (/)
Collapse current bookmark (when focus is on bookmark)	Forward slash (/)
Move focus to next item in navigation tab contents	Down Arrow
Move focus to previous item in navigation tab contents	Up Arrow

7.5 Keystrokes for navigating the Help window

Open Help window	F1
Close Help window	Ctrl+W or Alt+F4
Cycle focus through Help navigation tabs (when focus is anywhere in Navigation Pane)	Ctrl+Tab
Cycle focus through Help navigation tabs (Contents, Search and Index)	Right Arrow or Left Arrow
Move focus to next element in active navigation tab contents	Up Arrow or Down Arrow
Cycle between Active tab and tab contents	Tab

7.6 Keystrokes for navigating the How To window

Open or close How To window	Shift+F4
Go to first page of How To window	Home
Move focus between contents of How To window and tools at the top of How To window	Ctrl+Tab or Ctrl+Shift+Tab
Move focus to next control in How To window	Tab
Move focus to previous control in How To window	Shift+Tab
Go to next page in How To window	Left Arrow
Go to previous page in How To window	Right Arrow