

Using PEARL with JAWS

The PEARL Reading Camera used along with JAWS provides an easy and powerful scanning option for the **Convenient OCR** and **Picture Smart** features of JAWS. Find below extracts from the JAWS Help explaining how to use these features.

Convenient OCR

The Convenient OCR (Optical Character Recognition) feature enables you to access any image that includes textual information as part of the image. With just a few simple keystrokes, JAWS can:

- Recognize images captured using the Freedom Scientific PEARL® reading camera or a flatbed scanner and display recognized text in the Results Viewer. The PEARL is a highly portable document camera that allows you to capture and recognize a page within seconds and also features an automatic mode that senses motion which causes it to capture an image whenever a page is turned.
- Recognize an image file selected in File Explorer and display its recognized contents in the Results Viewer.
- Recognize an inaccessible PDF document currently open in Adobe Reader and display the recognized text in the Results Viewer.
- Recognize images on the screen that may contain text such as the setup window of an application or a menu of selections for a DVD movie.

To use Convenient OCR, the following layered keystrokes are available:

- **INSERT+SPACEBAR, O, A.** Recognizes images captured from a camera or scanner.
- **INSERT+SPACEBAR, O, F.** Recognizes the currently selected image file.
- **INSERT+SPACEBAR, O, D.** Recognizes the currently open PDF document.
- **INSERT+SPACEBAR, O, R.** If Microsoft Office is installed, recognizes the currently selected image file and places the recognized text into a Word document.
- **INSERT+SPACEBAR, O, W.** Recognizes the current application window that has focus.
- **INSERT+SPACEBAR, O, S.** Recognizes the entire screen.
- **INSERT+SPACEBAR, O, C.** Recognizes the currently selected control, such as a graphical button.
- **INSERT+SPACEBAR, O, Q.** Cancels recognition while it is in progress.
- **INSERT+SPACEBAR, O, QUESTION MARK.** Speaks a brief help message describing the commands in the OCR layer.

Once JAWS finishes recognizing the text and displays it in the Results Viewer, you can select the Open in Word link at the bottom of the Results Viewer window to place the recognized text into a Word document. This option is only available if Microsoft Office is installed.

Note that to correctly recognize text in other languages, you can configure the primary and secondary OCR language. The Convenient OCR settings are in the main tree view in Settings Center. When you expand this item, you have Primary Recognition Language and Secondary Recognition Language settings. Use the **SPACEBAR** to cycle through the available languages until you hear the one you want, or press **F6** to move to the combo box and select a language.

If you have an active Internet connection when you install JAWS, the OCR components will be downloaded during installation. If you do not have an active Internet connection when you install JAWS, a message is displayed at the end of the installation stating that some components were not installed. To use the OCR feature, establish an Internet connection and run the installation again so the OCR components are downloaded.

Recognizing Images from the PEARL Camera or a Scanner

To acquire and read a document with the PEARL camera, position a page under the camera aligned with the page guide, and then press **INSERT+SPACEBAR, O, A** to open the Camera and Scanner Recognition dialog box. Make sure PEARL is selected in the Cameras and Scanners combo box and then press **ENTER** or choose the Acquire button to start the single-page OCR. Once recognition is complete, JAWS displays the text in the Results Viewer where you can use standard reading commands to review the text or select and copy it to other applications. During the recognition process, JAWS also announces the page orientation such as "sideways", "upside down", or "right side up." This is especially helpful for users who need to make sure a page is positioned correctly for folding and inserting into an envelope so the correct information is showing through the window.

Note: The field of view that can be captured by the PEARL is 9 inches by 12 inches.

To acquire multiple images, after pressing **INSERT+SPACEBAR, O, A**, select the Motion Detect Multi-Page Recognition check box before activating the Acquire button to start capturing documents. When you hear JAWS play a camera shutter sound, the current image has been captured and you can place a new page under the camera or turn the page in a book. Once the PEARL no longer detects motion, the next image is captured and recognized. Once you are finished recognizing pages, press **INSERT+SPACEBAR, O, A** again to stop recognition. You can also select the Timeout check box to have recognition stop automatically if the PEARL detects no motion for 30 seconds.

By default, the PEARL's built-in light is always on during image capture and OCR. If you want the light to automatically turn on only when the camera detects low lighting conditions, or you prefer to have the light always off, use the Light combo box to change this setting.

If you are in a location with fluorescent lighting, activate the Advanced button which opens a dialog box where you can select the lighting correction for the flickering of fluorescent light. When finished, select OK or Cancel to return to the main Camera and Scanner Recognition dialog box.

To acquire an image from a scanner, place the page on the scanner bed then press **INSERT+SPACEBAR, O, A** to open the Camera and Scanner Recognition dialog box.

Make sure your scanner is selected in the Cameras and Scanners combo box and then choose the Acquire button to begin the recognition process. Just like when acquiring images from the PEARL, JAWS will also announce the orientation of the page. Once recognition is complete, JAWS displays the text in the Results Viewer where you can use standard reading commands to review the text or select and copy it to other applications. If your scanner includes an auto document feeder, select the Use auto-document feed, if available check box to scan and recognize multiple pages.

Activate the Advance button to open a dialog box where you can configure additional scanner settings including interrupting the current scan when canceling recognition, adjusting the contrast based on brightness instead of threshold, and closing TWAIN after each scan. Note that not all scanners may support these options. When finished, select OK or Cancel to return to the main Camera and Scanner Recognition dialog box.

Note: When capturing multiple images from a camera or scanner, the OCR process takes longer for large batches of pages. As text is recognized, it is added to the end of the existing text already in the Results Viewer. This allows you to continue reading without interruption as the document is processed. If you are currently not reading using Say All, JAWS announces the current line as new text is added to the Results Viewer to indicate that OCR is still in progress.

Recognizing Image Files

JAWS can recognize text in image files saved as BMP, JPG, JPEG, GIF, TIF, TIFF, PNG, PCX, or PDF. To recognize a file, press **INSERT+SPACEBAR, O, F** while focused on the specific file in File Explorer or on the Desktop. The recognized text will be displayed in the results viewer where you can use standard reading commands to review the text or select and copy it to other applications. Alternatively, press the **APPLICATIONS** key to open the context menu and choose "Recognize File with JAWS," or "Recognize File with Fusion" if Fusion is running.

Note: If JAWS is not able to perform OCR on a PDF due to its security settings, try opening the PDF in Adobe Reader and then use the **INSERT+SPACEBAR, O, D** command to recognize PDF documents.

Recognizing an Open PDF Document

If you open a PDF in Adobe Reader which turns out to be inaccessible, press **INSERT+SPACEBAR, O, D** to have JAWS begin recognizing the entire document. After several seconds, the contents of the PDF file are displayed in the Results Viewer where you can use standard reading commands to review the text or select and copy it to other applications.

Note: The OCR process takes longer for larger PDF files. As text is recognized, it is added to the end of the existing text already in the Results Viewer. This allows you to continue reading without interruption as the document is processed. If you are currently not reading using Say All, JAWS announces the current line as new text is added to the Results Viewer to indicate that OCR is still in progress.

Note: If the PDF document requires a password, you will be prompted to enter it when you first press **INSERT+SPACEBAR, O, D**. You must enter the correct password before the OCR process will continue.

Recognizing Images on the Screen

Sometimes, you will encounter application screens or controls that are only images of text. When this occurs, you can press **INSERT+SPACEBAR, O, W** to recognize the current application window, **INSERT+SPACEBAR, O, S** to recognize the entire screen, or **INSERT+SPACEBAR, O, C** to recognize the current control. JAWS will quickly recognize the image and activate the JAWS cursor so you can navigate the resulting text. The recognized text will be in the same location as the actual image on the screen. In order to differentiate the recognized text from other text that may be in the window, JAWS will use a different voice when it encounters the recognized text. When you activate the PC Cursor, or switch to another application or dialog box, the text is removed and you will need to perform the OCR again.

For example, if you are trying to install an application and the setup process does not appear to have any readily available text when pressing **TAB** or using the JAWS Cursor, you can try Convenient OCR. Start with the PC Cursor and press **INSERT+SPACEBAR, O, W** to recognize the text of the welcome screen graphic. You can then use the JAWS Cursor and **NUM PAD SLASH** (left mouse button) to move to and choose what are possible buttons and links.

If you are not getting clear recognition results or you find that text is running together when you recognize the current screen, window, or control, refer to FAQ 63556 for ways to optimize performance. When recognizing a PDF document or other image files, Convenient OCR does not use the physical image that is currently visible on the screen, so the recognition results feature a higher degree of accuracy since they are not affected by the current screen resolution.

Picture Smart

Picture Smart allows you to choose a photo and submit it to be analyzed. A description of the image is then displayed in the JAWS Results Viewer window. Descriptions might include details such as the number of people in the photo, recognizable landmarks, landscape details such as "outdoors with a blue sky and green grass," if there are vehicles such as automobiles or trains, and more. If there is text in the picture, it will OCR the text and provide that as well.

To use Picture Smart, use the layered command **INSERT+SPACEBAR** followed by **P**. Once the Picture Smart layer is active, the following keystrokes are available:

- **A** - Opens the Picture Smart dialog box where you can acquire an image from a flatbed scanner or the Freedom Scientific PEARL camera and submit it to be described.

- **F** - Describes the currently selected image in File Explorer. Supported images include BMP, JPEG, GIF, TIF, or PNG.
- **C** - Describes an image associated with the current control. For instance, if focused on an image that is part of a web page, such as a photo on Facebook, this command describes the photo.
- **B** - Describes the contents of the Windows Clipboard if it contains an image.
- **QUESTION MARK** - Displays help for the Picture Smart layer.

By default, images are submitted to Microsoft for analyzing. However, you can select the More Results link at the bottom of the Results Viewer window to submit the image again to additional services for analyzing, which displays an updated description with possibly additional details. You can also add the **SHIFT** key to a Picture Smart command to use multiple services. For example, **INSERT+SPACEBAR, P** followed by **SHIFT+F**, **SHIFT+C**, or **SHIFT+B**.

There is also a PictureSmart folder where you can save an image and have it automatically submitted for analyzing and display the resulting description. To access this folder, press **WINDOWS Key+E** to open File Explorer, open the Pictures folder, and then open the PictureSmart folder.

To use Picture Smart, the "submit anonymous usage data" option must be enabled in Settings Center. This sends encrypted information to Freedom Scientific. The images from Picture Smart are then submitted to various services (such as Microsoft) which analyze the images and returns the descriptions back to JAWS. These descriptions are then displayed in the Results Viewer. If you attempt to use Picture Smart and this setting is off, a message displays prompting you to turn it on.