

CuneiForm Contents

CuneiForm(tm) is an intelligent Optical Character Recognition (OCR) system.

To learn how to use help, press F1.

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Introduction

CuneiForm Features

CuneiForm represents the state of the art in powerful OCR software. The program supports a wide selection of desktop scanners. It recognizes any scanned page, separates text from graphics, and converts images into **text** files for your favorite word processor, spreadsheet, or database applications. CuneiForm's speed and accuracy are unmatched. Our **Character Recognition** and **Spell Checker** make CuneiForm the most powerful and productive OCR software in the world.

CuneiForm recognizes English language characters, except certain stylized fonts like Old and Middle English, the Runic alphabet and forms of Gaelic. The program recognizes all commonly used type fonts. Fonts can be mixed on a page, even within a paragraph or a word. You need not tell the program which fonts it must read.

CuneiForm can handle typeset documents, as well as those printed on letter-quality printers, near letter quality dot-matrix printers, ink-jet printers, laser printers and electric typewriters. Both regular and proportional letter spacing are accepted. The program can retain the original formatting, tabulation, and adjust itself to line spacings. It can read bold and italicized letters, ligatures, underlined and multi-column text. It automatically separates text and images and can accept complex page layouts.

CuneiForm can normally recognize first, second and even third generation photocopies but the error rate for recognition may increase on poor quality documents. It can also read images scanned by other software products and handles both fine and standard faxes. CuneiForm cannot read handwriting.

CuneiForm's **Spelling Checker** improves OCR accuracy by looking for mistakes in text recognition and highlighting them for your attention. The **Edit Window** displays the **recognized text**, including the highlighted words, for you to edit. Next to the **Edit Window** is a **Zoom Window** that magnifies the original scanned image so that you can see exactly what was in the original document. You can inspect and correct any word in the recognized text using CuneiForm's simplified word processor.

CuneiForm lets you scan now and save the scanned image as a TIFF file and run recognition later. This way, you can scan multiple documents and avoid a log jam at the scanner.

CuneiForm has an array of file-saving options. You can scan a series of

pages and the program can **AutoSave** the images, assigning each an incremental file name (Page1, Page2, etc.). You can scan a page, and save it first as an image file and then as a text file after running **Recognize**. The **Define Template Zone** feature allows selective recognition on specified portions of an image.

CuneiForm operates under MS Windows 3.1 and higher versions. Its on-line **Help** follows the standard Windows conventions for help systems. So if you're already familiar with a Windows program, then you're familiar with our help system.

Congratulations. You've purchased a great productivity tool. We thank you for choosing our product from a field of competing products.

CuneiForm's Main Screen

CuneiForm's main screen consists of four areas:

Main Menu ,
Control Panel,
Status Line ,

and the large viewing area in which the various windows are displayed :

Image Window,
Image Zoom Window,
Manual Layout Window
and Recognized Text Window.

The CuneiForm Control Panel

CuneiForm's **Control Panel** in the top left portion of the viewing screen (see also descriptions of CuneiForm's **Main Screen**) consists of a column of six buttons. When a control button becomes unavailable, its label is struck through, e.g. ~~Last Image~~.

The Control Panel buttons are:

Scan & Recog

Open Image

Scan & View

Recognize

Brightness

Last Image

The Image Window, or Page View

The scanned image is for all practical purposes an exact photocopy of your original document. When you aren't sure if recognized text corresponds to what is actually on the document, you have a perfect copy to look at right on the screen. It's very useful to be able to make corrections, knowing that you are being faithful to the original content.

The right half of the screen displays the scanned image from a file or from the scanner (just after scanning and before text is recognized). This image display is referred to as the **Page View**. You can choose to view the image at one of the four levels of magnification listed under **View** in the main menu.

The **Page View** appears on the screen right after CuneiForm obtains an image from a scanner or a file. **Page View** (along with **Edit** and **Zoom Windows**) disappears after you save the recognized text. You can restore the **Page View** in this case by clicking **Last Image** in the Control Panel (or by selecting **Restore Last Image** in the **File** menu).

To control magnification of the **Page View** image, go into the **View** pull-down menu. Here you can select from **Fit In Window**, **Actual Size**, **200%** and **400%** magnifications. If the portion of the image you wish to inspect does not fall within the window at higher magnifications, use the scroll bars along the right side and bottom to adjust the view.

If you want to look at a particular section in the **Page View** more closely in the **Zoom Window**, simply click your cursor (which assumes the shape of a magnifying glass in **Fit in Window** and **Actual Size** settings) on that section. The area will appear at the center of the **Zoom Window**.

If, after scanning a document, you need to use the **Auto** brightness feature, click on the text area CuneiForm should use to set **Auto** by in the **Page View**. If a scanning problem exists, the **Fit In Window** setting for the **Page View** lets you see the whole page to identify an area with an average brightness to select.

If you use **Define Template Zone** (^T) to run recognition on selected areas of the image, you must define the template zone within **Page View**.

See also descriptions of CuneiForm's **Main Screen**.

The Zoom Window

The purpose of the **Zoom Window** is to display portions of the scanned image at high magnification. It usually appears on screen when it makes sense to use it. If it isn't on screen and you want to call it up, click **Zoom View** in the **View** menu or type **^Z**. You can also control the magnification level for the image in the **Zoom Window** from within the **View** menu. Select **Actual Size**, **200%** or **400%** magnification.

The position in which the **Zoom Window** appears on screen depends upon when it is invoked. If you call it up by clicking the cursor on an image after using **Scan & View** or after opening an image file, it will appear at the bottom left of the screen. When it comes up alongside the **Edit Window** after character recognition, its position depends on the screen layout you've chosen from the **Window** menu.

Another way to move the image within the **Zoom Window** is to use its scrolling feature. Press and hold the cursor somewhere within the window and slide it in any direction. The image will scroll up, down, to either side as well as diagonally.

See also descriptions of CuneiForm's **Main Screen**.

The **Manual Layout Window**

The **Manual Layout Window** is useful when the document you want to scan has a fairly complicated layout consisting of more than one column of text and/or graphics. Select **Manual Layout Option** from the **Options** menu with the cursor (or type **<Alt> + O**, then **Y**). Notice that the word **Layout** now appears to the right in the status line. The **Manual Layout** window will appear later after you scan a document (see also descriptions of CuneiForm's **Main Screen**).

After scanning, and in order to facilitate accurate recognition, CuneiForm automatically fragments and lays out a scanned image into blocks of what it sees as cohesive, meaningful blocks of text, like paragraphs. A text block is simply a set of characters. You can view them on the scanned image in the **Manual Layout** window.

Because the program bases its divisions on spacing, rather than contextual cues, it cannot really make perfect judgments about which text belongs together. The **Manual Layout** window provides several methods for recreating the divisions between blocks when the automatic layout is inaccurate. The **Manual Layout** option is designed strictly for correcting mistakes made in the automatic layout process prior to recognition.

You would want to use it when the page you're scanning has a particularly complex layout, with text interrupted by graphics, hand-written notes, data tables, etc. If you depend entirely upon automatic layout before text recognition, you might end up spending a lot of time editing and deleting portions that you could have excluded using **Manual Layout**.

The **Manual Layout** window consists of an image screen with a long column of buttons aligned along its left side. The page image that appears in the screen will be quite small. To examine its contents more closely, click once on **Zoom** (or type **Z**) and then click the arrow cursor on the portion of the image you want to see magnified. Click once on **UnZoom** (or type **N**) to return to the full page layout view.

Other conventional items on the button column are **Undo** and **Redo**, which allow you to go back one step to reverse the last action you performed.

Say that, at the center of the page you're about to scan, there is a table with several rows and columns of data. Using automatic layout, CuneiForm might fragment that table into many blocks that would be unintelligible after recognition is run.

Extract lets you delineate a block that includes all the various pieces of the table so they are merged into one block. To do this, click once on **Extract** (or type **C**) and draw a box around the selected area of the image by clicking and dragging. This will create a new text box that includes all the table components. Now when you run recognition, the contents of this new block will be treated as a unit. If you want to exclude the table altogether, just select the new block with the arrow cursor and click once on the **Delete** button (or type **L**).

The **Manual Layout** window offers three additional methods for correcting layout errors: **Split Horz**, **Split Vert**, **Merge** and **Delete**.

For example, say you have two columns of text arranged on the scanned document, but CuneiForm doesn't see this. Instead, it combines the two column segments into one block. Because this could cause recognition problems later, you'll want to recreate the blocks to separate the columns.

To make the separation, click on **Split Vert** (or type **S**) on the left side of the **Manual Layout** window. Next, place your cursor on the image where you want the text division to start, and click and hold on the mouse button. Drag to the point where the division should end and release the button. CuneiForm will divide the blocks vertically into two blocks of text. The **Split Horz** item performs the same function for text which should be separated horizontally.

In some cases, CuneiForm may fragment the image so that text which should flow together is divided. To correct this division, first click once on each of the blocks you wish to unite and then click **Merge** in the button panel (or type **M**). The two segments will be combined into one block.

If you want to exclude a block of text from recognition, click on it with the cursor and click once on **Delete** (or type **L**). You can select multiple items for deletion by clicking on them sequentially, or select just one at a time. (For those of you working on a color monitor, the rectangles surrounding blocks of text change from red to green when you select them.)

When you are satisfied with the layout of the scanned image, click **Done** (or type **D**). This will initiate character recognition based on your new manual layout.

The Edit Window

The **Edit Window** contains the results of character recognition. After character recognition, the **Edit Window** appears and obscures the **Page View** image. The text you choose in the **Edit Window** synchronizes with the image in the **Zoom Window**. When you move your cursor in the **Edit Window**, the image displayed in the **Zoom Window** shifts to correspond to new the cursor position and the image of the character selected is highlighted.

If the recognized text differs from the corresponding image, you can fix any mistakes made in the recognition process and edit text if you wish. The **Edit Menu** options and **Edit Window Button Bar** at the top of the **Edit Window** help you clean up recognized text. However, you may prefer to edit text from within your word processing program.

If you have difficulty reading the recognized text as it appears in the **Edit Window**, adjust character size by selecting the **Editor Settings/Font Size** option from the **View** menu. This option becomes available (unghosted) only after you run recognition on an image.

The **Font Size** box offers you a choice of **Small**, **Medium**, and **Large** fonts for displaying recognized text. Click inside the circle to the left of your selection and click **OK** to set the selection (or **Cancel** to revert to a **Small** font). The font size of the recognized text in the **Edit Window** will change accordingly.

When you've completed your inspection and made all corrections, save your work by clicking on the **Save As...** or **Append To...** button in the Edit Window Button Bar (or select equivalent items in the **File** pull-down menu).

The Edit Window Button Bar

Across the top of the **Edit Window**, just below the heading, is a button bar that contains five options: **Close**, **Save As**, **Append to**, **Next Suspect** and **Validate Word**.

Click on the **Close** button to close the **Edit Window**. If you haven't saved the recognition results, a message box appears on screen, asking you whether or not you wish to close the window without saving the results .

The **Save As** button is equivalent to the **Save Text** option beneath **File** in the main menu. The dialog box labeled **Save Recognition Results** appears when you click on this button. Select a directory and specify a file name for the recognized text you wish to save and click on **Save** to execute the action.

Append to performs the same function as **Append Text** under **File** in the main menu. When you press this button, the dialog box labeled **Append Recognition Results** appears. Select a file to which you want the current recognition results appended and click **Append** to execute the action.

The button labeled **Next Suspect** is equivalent to the **Next Suspect** option under **Edit** in the main menu. Click on it to advance the cursor to the first character of the next suspect word highlighted in the recognized text.

The **Validate Word** button performs the same function as the Validate Word selection under **Edit** in the main menu. Click on it to add the currently selected word of the recognized text to the user dictionary, so that CuneiForm won't highlight it as suspect when you subsequently run recognition.

The CuneiForm Status Line

127		dpi 300		INS		2:2		English		Spell		Dict:user.usv		Layout		1 Col		Dots	
		A		B		C		D		E		F							G
H				I		J		K											

The status line at the bottom of CuneiForms viewing screen contains information on values for various options set from within the main menu.

- A. The **brightness** setting, 127 in this illustration, is shown at the left end of the line.
- B. Next, the **resolution** setting is displayed (**B**). Here its 300 dpi, or 300 dots per inch.
- C. To the right of the resolution setting, the box labeled **C** will either contain **INS**, for insert, or **OVR** for overwrite. **INS** means that you will be inserting text into existing text in **Edit Window**. **OVR** indicates that you'll be overwriting existing text as you type new characters in.
- D. The section labeled **D** indicates cursor position. Here, the 2:2 shows that the cursor is on the second column of the second line of text in **Edit Window**.
- E. The area labelled **E** shows which language character recognition is set for (see **Set Language** command).
- F. If you've selected **Spell Check** from the **Options** menu, Spell will appear in the area labeled **F**. If **Spell Check** is not selected, this area will remain empty.
- G. If you've loaded a **User Dictionary** from the **File** menu, the dictionary file name will appear in the box labeled **G**.
- H. The section of the status line labeled **H** will contain the word Layout if you have selected **Manual Layout** from the **Options** menu. Otherwise, it will be empty.
- I. When you select the **Single Column** layout mode from the **Options** menu, the area labeled **I** will display 1 Col but will otherwise be empty.
- J. DOTs on the right end of the status line (**J**) indicates that you've selected **Dot Matrix** in the **Options** menu. Activating this option enables CuneiForm to recognize text generated by dot matrix printers.
- K. If you're reading a TIFF file in standard fax mode, the last field of the status line tells you whether resolution is 100 or 200 dpi.

The Main Menu

CuneiForms main menu at the top of the Main Screen contains the following seven items, each with its own pull-down menu:

- File Menu - opening files, saving files, exiting from the program
- Edit Menu - operations in Text Window
- Actions Menu - main user actions
- Options Menu - options for recognition process
- View Menu - view and zoom scales
- Window Menu - layout of CuneiForm windows
- Help Menu - getting help

The File Menu

Click once on **File** in the Main Menu (or type **<Alt> + F**) to invoke the pull-down menu illustrated here.

- Open Image - read image from file
- Restore Last Image - retrieve last processed image
- Save Image - save image in a file
- Open CTC native file - open file with earlier recognized text
- Save Text - save recognized text in a file
- Append Text - add your recognized text to the end of an existing text file
- Select TWAIN Source - choose a TWAIN source for the image
- Acquire image - access the image from the TWAIN source
- User Dictionary - working with the user dictionary
- Recognition engine - load or unload recognition engine
- Exit - exit from CuneiForm

The **Open Image** button in the **Control Panel** and **Open Image** menu item

The **Open Image** item in the **File** menu performs exactly the same function as the **Open Image** button on CuneiForms Control Panel. It lets you open a previously saved image. When you click on it once (or type ^**O**) the **Open Image** window will appear. Click once on the name of the directory containing the file in the **Directories** scrolling list. Next, either type in the file name in the **Filename** text field or double-click on a name listed below in the **Files** box.

The **Last Image** button in the Control Panel and **Restore Last Image** menu item

The bottom button in the Control Panel is **Last Image**. Click this button to retrieve the last image that was displayed on the screen during the current work session. It will appear regardless of whether you saved the image or not. You can also bring up the last image by selecting **Restore Last Image** from the File menu.

Click once on **Restore Last Image** (or type ^L) to call up the last image that you had on the screen. This command is useful when you're working with documents that must be broken into several small files using Define Template Zone (see the Action menu item). Even if you haven't saved it, CuneiForm holds the last scanned image in memory so that you can quickly retrieve it and select another area to recognize.

If you don't save the recognition results and you close the window containing recognized text (the Edit Window), you can select **Restore Last Image** to call the image up again. CuneiForm holds the image in memory until you open another file or scan another page.

The **Save Image** menu item

If you don't want to run recognition on a scanned page, you can save the image for recognition later. Click **Save Image** in the **File** pull-down menu (or type <Alt> + F, then I). The **Save Image** window will appear.

Using standard Windows procedures, specify the drive and directory to save to, and type the file name in the box provided.

The **Image Format** box at the bottom of the window contains a list of **image formats** from which to choose. Uncompressed image files require about 1 megabyte per page while compressed files are much smaller. We recommend using TIFF Group 4 because it provides the most compression.

The last format used becomes the default selection the next time an image is saved.

Click **OK** to save the scanned image (or click **Cancel**).

The **Open CTC native file** menu item

Click once on **Open CTC native file** in the **File** menu to call up the **Open Text** dialog box containing a list of files in **CTC native format** (saved earlier after recognition). When you choose a file, CuneiForm tries to open the text file and the corresponding image file (with the extension .TIF). If it opens both files successfully, CuneiForm proceeds as if recognition was just completed. You can now edit the recognized text referring to the image.

If CuneiForm can't open the image file, the **Open Image** dialog box appears. You can choose another image or click **Cancel**. If you select **Cancel**, CuneiForm lets you edit recognized text but doesn't retrieve an image.

The **Save Text** menu item and **Save As** button in **Edit Window's Button Bar**

Click on the **Save As** button (at the top of the **Edit Window**) or click on **Save Text** in the **File** pull-down menu (or type **<Alt> + F**, then **T**) after you have run recognition on a scanned image and want to save the results as a text file. The window labeled **Save Recognition Results** appears on screen.

Select the directory you want to store your file in from the **Directories** list, and choose the file format from the **Document Format** list (**Smart ASCII format, ASCII format, RTF format, CTC native format**). Then, next to **Filename**, replace the asterisk with the name of the new file and click **Save** to complete the operation (or **Cancel** to abort the save).

The **Unrecognized Character** box lets you choose a character that CuneiForm will use to represent all unrecognized letters.

The **Append Text** menu item and **Append To** button in **Edit Window's**
Button Bar

Click on the **Append to** button (at the top of the **Edit Window**) or click on **Append Text** in the **File** pull-down menu (or type **<Alt> + F**, then **P**) to add recognized text to the end of an existing text file. The **Append** window will appear on screen.

Select the directory containing the file to which you wish the current recognition results appended, choose the file format from the **Document Format** list (**Smart ASCII format**, **ASCII format** or **RTF format**). In the **Filename** box, enter the name of the file. Next, click on the **Append** button. The current recognized text will now be a part of the file you specified.

The **Unrecognized Character** box lets you choose a character that CuneiForm will use to represent all unrecognized letters.

The **Select TWAIN Source** menu item

CuneiForm is a TWAIN-compliant host application, which means that you can import images produced using the TWAIN application programming interface. The **Select Source** option lets you choose a source for the image. Single-click on **Select Source** in the **File** menu (or type <Alt> + **F**, then **S**) to call up the **Select Source** window.

To choose an item from the **Sources** list, either click on it once and press the **Select** button, or simply double-click on your choice. Either way, the window will disappear. The next step will involve the **Acquire** option in the **File** pull-down menu.

The **Acquire TWAIN Image** menu item

Click on **Acquire Image** in the **File** menu (**<Alt> + F**, then **A**) to access the image from the TWAIN source you selected. If you have requested TWAIN dialog, a window will appear with the name of the specified source scanner at the top. The contents of the window depend upon the source scanner you select.

The window will contain fields into which you can enter values for a number of parameters, which may include size of the image, scan mode, brightness, contrast, type of image, etc.

When you are satisfied with the settings, click the **Scan** button in the window. The imported image will appear in **Page View** on the CuneiForm screen. Now you can save it as an image file, run recognition, save the results as a text file, and generally treat it just as you would any image produced on your own scanner.

The **User Dictionary** menu item

The **User Dictionary** option lets you load, unload, import and export dictionaries you've put together yourself. If you work in a highly technical field you probably need a dictionary that includes words that would not appear in a non-technical dictionary.

After putting an image through text recognition, you can select words in the text for validation (see **Validate Word** button and menu item). You'll have the option of saving these in a user dictionary or as text.

A user dictionary will prevent the program from constantly selecting out words (like company names or product names) unless they are actually misspelled. You can update your dictionary at the end of each session so that it suits your needs.

To turn your user dictionary on or off, click **User Dictionary** in the **File** pull-down menu (<Alt> + **F**, then **D**). Select **Load** or **Unload** to activate or deactivate your dictionary.

If, over time, you've created a dictionary in your word processor, or if you just have a list of words you want to include in your CuneiForm dictionary, you can import it into CuneiForm by selecting **Import** from the **User Dictionary** pull-down menu. Likewise, if you would like to export a dictionary created in CuneiForm to another application, select **Export**.

The **Recognition Engine** pull-down menu

Click on **Recognition Engine** in the **File** menu (<Alt> + F, then R).

The **Recognition Engine** option lets you load and unload CuneiForms recognition engine as needed so that you can optimize time and memory usage. By default, the engine is loaded at startup. It occupies about 4.5MB of RAM. If the engine was not loaded at startup (i.e., if you have deselected **Load on start**), it will be loaded automatically when you request recognition.

The **Exit** menu item

Select **Exit** from the **File** pull-down menu (or type **<Alt> + F4**) to exit CuneiForm.

The Edit Menu

Click **Edit** in the **Main Menu** (<Alt> + E) to invoke the pull-down menu, which consists of the following items:

- Next suspect - go to next suspicious word (suspect)
- Prev suspect - go to previous suspicious word
- Show suspects - show suspicious word
- Search - search for string of characters in recognized text
- Search Next - repeat previous search
- Validate word - make suspect word legal and insert it into list of validated words
- Invalidate word - make word suspect and remove it from list of validated words

The **Next Suspect** menu item and button at the top of the **Edit Window**

If CuneiForm comes across a word or character it can't recognize, it will highlight it in the **Edit Window** as **suspect**. After you've examined and/or edited each highlighted word, click on **Next Suspect** (or hit **<Tab>**) to advance through the text to the next word CuneiForm finds suspect. When you click on **Next Suspect** after having advanced through all suspect words, CuneiForm sounds a beep to let you know that you've seen all the suspects.

Click on the **Prev Suspect** option in the **Edit** menu or type **<Shift> + <Tab>** to return to the previous suspect.

The **Next Suspect** option in the **Edit** menu is equivalent to the **Next Suspect** button in the **Edit Window** menu.

The **Show Suspects** menu item

Select the **Show Suspects** option in the **Edit** menu if you want the characters or words CuneiForm suspects are incorrect to be highlighted in the **Edit Window** after running text recognition. This option is either turned on or off. A checkmark appears to the left of **Show Suspects** in the **Edit** pull-down menu if it is active. If you leave this option off, no text will be highlighted in the **Edit Window**.

The **Search** menu item

Use **Search** to look for a string of characters within recognized text. Click on the **Search** option in the **Edit** menu (**<Alt> + E**, then **S**) to call up the **Search** window. Enter the character string to look for in the box labeled **Search for**. If you want the search to be case-sensitive, click inside the **Case Sensitive** box.

If you want CuneiForm to look through text that comes after your current cursor location, click inside the **Forward** box. If you leave the **Forward** box unchecked, CuneiForm will conduct its search back through text from your starting point to the beginning of the document.

The **Search Next** menu item

Selecting **Search Next** in the **Edit** menu (or pressing **F3**) instructs CuneiForm to find the next occurrence of a character string specified for using **Search**. When all occurrences have been found, CuneiForm will sound a beep when you again choose **Search Next**.

The **Validate Word** menu item and button at the top of **Edit Window**

When CuneiForm encounters a **suspect.** such as a company name or product name, you can select **Validate word** from the **Edit** menu (^**W** or <**Alt**> + **E**, then **V**) or use the **Validate Word** button to add that word to your user dictionary (or save it as text if you wish). When it next runs recognition, CuneiForm will not highlight the validated word as suspect (unless your user dictionary isn't loaded).

The **Invalidate word** menu item

If, during the course of editing, you have selected a word for validation and inclusion in your user dictionary, but later decide you don't want it validated, use the **Invalidate word** command. Click your cursor on one of the characters in the word and click on **Invalidate word** in the **Edit** pull-down menu (or type **^W**).

The **Close** button at the top of the **Edit Window**

If you close a scanned document before saving it, a message box will remind you that the recognition results are not saved and ask if you want to save them before closing the editor. You can either save the results, close without saving, or cancel the operation altogether.

When you close without saving by clicking **Yes** in the message window, the document closes and CuneiForm's main screen appears. When you click **No**, the message box disappears. You can now choose **Save Text** from the **File** menu to store your recognized text.

If, while editing the text, you selected words for validation (see **Validate Word**) the **List of Words** box will appear when you attempt to close. This box lists the words you selected to validate during your edit. You can save these in the user dictionary or save them as text.

To include these words in your user dictionary, click on the **Dict** button in the **Save as** box. A new window labeled **Save as User Dictionary** comes up. Specify a directory in the **Directories** list. Next, in the box next to **FileName**, replace the asterisk with a name for your user dictionary. Press **Return** or click on **OK** to complete the save.

The Actions Menu

Click **Actions** in the Main Menu (<Alt> + **A**) to invoke CuneiForm's **Actions** menu. Use the following commands to control scanning and character recognition:

Batch scanning

Batch recognition

Scan and View

Set Language

Recognize

Define Template Zone

Rotate

Select Scanner

Set resolution

Set Brightness

The **Batch scanning** menu item

Select **Batch Scanning** from the **Actions** menu (**<Alt> + A**, then **A**) to scan a series of pages. The **Batch scanning** window appears.

The **Batch scanning** window contains five main fields: **Options**, **Save Pages**, **Create Document**, **Modify** and **Output Format**. You can combine these settings in various ways, depending on whether your scanner has a feeder, you want to run recognition before saving, you want to control the recognition template, and so on. Each combination you create will change the processing sequence in some way. You'll probably find that there are two or three simple setting combinations that you tend to use repeatedly in batch scanning.

The **Options** box settings controls the general flow of the processing.

- 1. Pause between pages:** Check this item if your scanner doesn't have a sheet feeder and you need to load pages separately. When you initiate batch scanning, you will see the prompt "Do you want to continue with the next page?" This message will appear after you finish processing each page. Click **Yes** to start the series of scans. (Click **No** to terminate batch scanning entirely.) Place the first document of the series into the scanner and click **OK**. (Press **Cancel** to terminate batch scanning.)

If you don't check **Pause between pages**, you'll see the message "Put pages into scanner or Cancel." when you first initiate scanning. After this, CuneiForm will begin scanning the next document automatically after you finish with the previous one.

- 2. Deferred recognition:** Check this item if you want to postpone recognition until all pages have been scanned. Otherwise, each page will be recognized immediately after being scanned.
- 3. Stop on warnings:** Check here if you wish to have the option of interrupting batch processing whenever an error or a suspicious condition (such as **File already exists**) occurs. If you opt to interrupt the process under these circumstances, the program will ask you whether to completely stop or to resume batch processing.
- 4. Define template:** Check this item if you want to avoid recognizing extraneous materials like advertisements, cartoons, portions of other articles on the same page, etc. You'll be prompted to "Select the area to recognize at the Page View" or press **Cancel** after each image is scanned. Press and drag the left mouse button to outline the area to recognize. Next, you'll be asked to "Confirm the chosen template." Click **Yes** to confirm your template choice. Recognition will begin. Click **No** if you want to

redraw the template.

If you leave **Define template** unchecked, CuneiForm will automatically run recognition of the full page after each scan. The results will appear in the **Edit Window**, alongside the **Zoom Window**.

- 5. Recognize:** Select this item if you want recognition run automatically after each document is scanned. Don't select it if you want to quickly scan a series of documents for recognition later (see also **Batch recognition**).
- 6. Run editor:** This item lets you edit recognized text before saving it. If its left unchecked, recognized text will remain unedited.

In the **Save pages** box, indicate whether to save scanned images (**Image**), save text after recognition (**Text**), or both. The **Initial name** window lets you set the file name for the first page to be saved. When the **Batch scanning** window appears for the first time, type a name for the file in the **Initial name** field. The filename, with an appended number, will be increased an increment each time a new page is stored. When the **Batch scanning** window appears at the start of subsequent scans, the **Initial name** field will already contain the name you entered for the batch of documents last scanned.

The **Browse** button calls up the **Save Image** or **Save Text** dialog box.

The **Create document** box controls the destination of recognized pages. If you click **None**, no documents will be created. After recognition, each page will be stored separately, according to the **Save pages** settings.

If you choose **Single**, all pages will be appended to a single document whose name you enter in the adjacent **Name** box. Click **Browse** to bring up the **Append Recognition Results** dialog box. Click **Multi** to indicate that the pages in the scanner are separated into individual documents by empty pages. Enter the name of the first document in the **Name** box (or use the **Browse** feature). Subsequent documents will be assigned names automatically by numerically incrementing the name of the first document.

NOTE: The **Document** mode is not available when saving pages in the **CTC native format**.

The **Modify** box lets you modify names of saved images and/or recognized pages. If you click on **Image name** or **Text name**, the appropriate dialog boxes will appear at specific processing stages (after scanning, recognition or editing).

The **Output format** box lets you specify formats for saving images (uncompressed or compressed Group 4) and/or recognized text (Smart ASCII format, ASCII format, RTF format, CTC native format).

On the right side of the window are the command buttons **Start**, **Cancel**, **Store**, **Restore** and **Help**. Click **Store** to retain your current batch processing settings; click **Restore** to obtain the settings previously saved. When you're satisfied with your settings, click **Start** to initiate batch processing. As batch scanning begins, a large **STOP** button appears on screen so that you can interrupt batch processing at any time.

The **Progress Monitor** window appears on screen during recognition and the recognition results are presented in the **Edit Window**. The program will use the file name specified in the **Initial filename** space in the **Save options** window to name your file.

The **Batch Recognition** menu item

Select **Batch recognition** from the **Actions** (<Alt> + A, then I) menu to organize batch processing of scanned pages. The **Batch recognition** window appears on screen.

The controls in the **Options**, **Modify** and **Result** boxes are identical in function to the corresponding controls in the **Batch scanning** window. Select image files to be processed from those listed in the **Image files** box.

To add files to the list, click the **Add** button. The **Open Image** dialog box comes up with its standard Windows choices. To add a file to the selected set, press <Ctrl> and click on the filename. To add several files, press <Shift> and click on the file names. Click **OK** to add all highlighted files to the **Image files** box in the **Batch recognition** dialog box.

You can delete one or more files by highlighting their names and then clicking the **Delete** button. You can also deselect all selected filenames by clicking **Clear All**.

The **Scan & View** button and **Scan & View** menu item

If you want to scan a document and view it without first going through character recognition, select **Scan & View** from the **Actions** menu (^**S**) or Select **Scan & View** from the **Control Panel**. Scanning will begin immediately and a **Page View** of the scanned image will appear in the right half of the viewing area.

See also **Scan & Recog** button.

The **Scan & Recog** Button

Click once on the top button, **Scan & Recog**, in the Control Panel to initiate scanning and automatic recognition of a document. You'll want to use **Scan & Recog** when you're fairly certain that your document's layout is straightforward and won't complicate text recognition. (For more complex layouts, Scan & View is a more useful operation.)

When you first activate **Scan & Recog**, a message box appears to let you know that scanning is in process. Next, the **Progress Monitor** box shows which phase of character recognition is underway as well as the total percentage of recognition completed.

Selecting the **Scan & Recog** button is equivalent to executing Scan & View and then Recognize, without performing any intermediate actions.

The **Set Language** menu item

CuneiForm can recognize characters for different languages. The **Assign Language** window appears when you select **Set Language** from the **Actions** menu (type <Alt> + **A**, then **L**).

Click on the arrow, obtain the list of available languages, choose the language in which your document is written and click **OK**. This will load CuneiForms dictionary for that language so that words and special characters will be processed properly during recognition.

The **Recognize** Button and **Recognize** menu item

Use **Recognize** when you want to run character recognition after executing **Scan & View** or after retrieving a stored image file.

The **Recognize** command in the **Actions** menu (^R) is equivalent to the **Recognize** button in the Control Panel. Select it to run recognition on an image.

The **Define Template Zone** menu item

If you wish to run recognition on only a portion of an image, select **Define Template Zone** from the **Actions** pull-down menu (^T). A window will appear, prompting you to Select the area to recognize... Using the left mouse button, press and drag to create a box around the portion of the image to be recognized. Then click on **Recognize** in the Control Panel, or select it from the **Actions** menu. CuneiForm will run recognition on just that portion of text you've outlined.

The **Rotate** menu item

The **Rotate** command becomes available when a scanned image appears on screen after you've used **Scan & View**, opened an existing image file, or restored the last image that was on screen. Select **Rotate** from the **Actions** menu (or type **<Alt> + A**, then **O**) to invoke the pull-down menu.

To rotate the scanned image 90 degrees to the left, click **Left** (or type **L**). To rotate the image 90 degrees to the right, click **Right** (type **R**). To rotate it 180 degrees, click **Upside down** (type **U**).

The **Select Scanner** menu item

When you first open the CuneiForm program, **Select Scanner** is probably the first command you'll use.

1. Select **Actions** from the CuneiForm main menu at the top of the screen (or type in **<Alt> + A**).
2. Click once on the **Select Scanner** item in the **Actions** pull-down menu (or type **<Alt> + A**, followed by **E**). The **Scanner Setup Window** will appear.
3. Choose one of the two available systems--ISIS or TWAIN--and click on the **Scanner** button. This will call up either the Scanner Selection window (for ISIS) or the Select Source window (for TWAIN).
4. Find your model in the scrolling list, click on it to highlight it, and click on **OK**. PLEASE NOTE: If yours is a "Limited Edition" CuneiForm package, your program will not support the full ranger of scanners. Contact CTC for information on updating your program.
5. Now, click on Setup. In the ISIS system you may be asked to specify parameters like paper size, scan speed, port address, etc. In the TWAIN Setup dialog window you can choose either TWAIN's Native Transfer mode or Buffered Transfer mode. Because it consumes less RAM, we recommend the buffered mode. You can also activate the TWAIN dialog at every scan session. The dialog form and controlled features depend on the TWAIN source. Please consult your scanner manual. If you choose not to activate the TWAINs dialog, CuneiForm will determine all settings for each scanning session.
6. After entering these settings, click **OK** to confirm the operation (or click **Cancel**). The name of the scanner you selected will now appear in the **Scanner Setup** window.

The **Set Resolution** menu item

Click on **Set Resolution** in the **Action** pull-down menu (^**D**) to call up the **Select Scanner Resolution** window.

Select a 200, 300, or 400 dpi (dots per inch) resolution setting. If your scanner model cant scan at the highest resolutions, youll be instructed to lower the setting.

The **Brightness** button and **Set Brightness** menu item

The **Brightness** button lets you set an optimum level of brightness for scanning documents. CuneiForm offers 255 graded brightness settings (0-255). The default setting is 127, an average setting.

The last command in the **Actions** pull-down menu, **Set Brightness**, is equivalent to the **Brightness** button in the Control Panel. Click on it once (or type **^B**) and the **Select Brightness** window will appear.

If you're getting a lot of character recognition errors because the scanned image is too light, select a setting in the lower range of values and rescan the document. If the image is too dark, set a value from the upper end of the range. You can set the brightness levels by dragging the slider bar left or right across the brightness scale. The brightness level you select appears in the text box to the right. You can also simply type a value into the text box.

Another alternative is to use the **Auto brightness** setting.

The **Auto** brightness setting is available only when you have just scanned a document. Otherwise, the button is ghosted in the **Select Brightness** window. Use the **Auto** button when the results of your current scan are unacceptable.

Click on **Auto** in the **Select Brightness** box. A small dialog box will come up, instructing you to Click the left mouse button where you want brightness to be set or press Cancel."

When you move the cursor onto the image, it's transformed into a lightbulb icon with crosshairs next to it. Position the crosshairs on a portion of the image that has an average character density or darkness and click on it. Don't choose an area with dark or light extremes.

The **Auto** brightness function will scan the selected portion of the image to define an overall brightness setting. Next, you'll be asked if you want the page scanned using the new brightness setting. Click **Yes** and the document will be rescanned. The quality of the scanning results will depend upon whether the area you chose to define brightness was actually representative of average brightness on the document.

Before scanning again, look for the value of the new setting in left hand corner of the status line at the bottom of the screen. If the value differs from the previous brightness setting by only 10 points or so, don't bother to scan again. Instead, try setting the value manually or select a new area for defining the brightness setting using the **Auto** button.

Once set, the **Auto** value will stay in effect until you change it, either manually or by using **Auto** again. Once you close the CuneiForm program or turn off the computer, the brightness setting will revert to the default value of 127.

NOTE: To use **Auto brightness** setting with some scanners that have an auto sheet feeder, you'll have to manually place the page in the scanner and not in the feeder. Also, make sure that nothing is loaded in the feeder until after you set **Auto**.

The Options Menu

Click **Options** in the Main Menu (<Alt> + O) to invoke the **Options** pull-down menu. Its five items help you control document scanning, layout and recognition.

When each of these items is selected, a checkmark appears to the left of it in the **Options** pull-down menu and the status line shows that it's activated. The options are as follows:

- Manual Layout - turn manual layout on/off
- Single Column - enforce one column on/off
- Spell Check - turn spelling checker on/off
- Adaptive Scan - adaptive scan flag on/off
- Dot Matrix - dot matrix flag on/off
- Page Orientation - rotating of loaded page

The **Manual Layout** menu item

The **Manual Layout** option is useful when the document you want to scan has a fairly complicated layout consisting of more than one column of text and/or graphics. Select this option from the **Options** menu with the cursor (or type **<Alt> + O**, then **Y**). Notice that the word **Layout** now appears to the right in the status line. The **Manual Layout** window will appear later after you scan a document and select recognition.

The **Single Column** menu item

Click on the **Single Column** option (or **<Alt> + O**, then **I**) in the **Options** menu to instruct CuneiForm to treat all characters on a scanned image as a single column of text. Notice that when you select this item, the character string 1 Col appears in the right half of the status line.

Make sure this option is turned off when you scan a page containing more than one column of text. Otherwise, your character recognition results will be a jumbled mess.

The **Spell Check** menu item

If you select **Spell Check** from the **Options** pull-down menu (<Alt> + **O**, then **P**), CuneiForm will highlight questionable words for you to examine after running recognition on a document. Please note that, when you instruct CuneiForm to run recognition on foreign languages for which it has no dictionaries installed, the **Spell Check** option is ghosted (unavailable) in the **Options** menu.

The **Spell Check** option is active by default, although you can disable it before running recognition. **Spell Check** does not slow down recognition much, but it may not be useful if your documents are full of words and phrases that are spelled oddly.

If you want to scan and recognize a series of documents, you may want to turn the option off and perform a spell check later from within your word processing program. Alternatively, you can leave **Spell Check** on and just click on the **Save As** button as soon as recognition is finished. This way, you won't have to edit immediately, but you'll take advantage of the **Spell Check** feature.

The **Adaptive Scan** menu item

Adaptive Scan uses all of the smart features in CuneiForm to give you the best possible image. Notice that when you select **Adaptive Scan** from the **Options** menu (<Alt> + **O**, then **S**), the word Smart appears in place of the brightness setting value in the status line.

The reason for this is that you cannot set **Brightness** for an adaptive scan. Normally a document is scanned using a threshold value. Everything with a brightness below the value is black and everything with a brightness value above it is white. With **Adaptive Scan**, each pixel is given a gray-scale value ranging from 0 to 255, depending on its relative brightness. After the brightness values for all of the pixels have been determined, they are converted into a black and white image.

Because it is a much more precise process, adaptive scanning is much slower than normal scanning. While adaptive scanning definitely produces the best images, you probably won't need it for most documents.

Adaptive Scan does not initiate scanning. It only designates the type of scan to be performed. You'll have to choose **Scan & Recog**, **Scan & View** or **Batch scanning** to start the scanner.

The **Dot Matrix** menu item

If you need CuneiForm to recognize the fragmented printout from dot matrix printers, select **Dot Matrix** in the **Options** menu (<Alt> + **O**, then **D**).

It is best to leave this switch off when you're scanning regular materials. Check the status line at the bottom of your screen to see if the option is turned on. When you select **Dot Matrix**, the character string **DOTs** appears toward the right end of the status line. You can also look at the **Options** menu to see if there's a checkmark to the left of the option.

The **Page Orientation** menu item

Select **Page Orientation** from the **Options** menu to invoke the pull-down menu and choose page orientation.

This command lets you choose from four possible page orientations: **Portrait**, **Landscape**, **Upside down** and **Flipped Landscape**. When you choose an orientation other than **Portrait**, CuneiForm rotates all opened or scanned images. Note that the page orientation icon in the status line at the bottom of the screen reflects the orientation you've selected.

Page Orientation is necessary in batch processing because there is no way that you can intervene during processing to rotate images manually. (See also **Rotate** command).

The View Menu

The **Main Menu**'s **View** option lets you choose the magnification level for images that appear in CuneiForm's **Page View** and **Zoom View**. With your cursor, select **View** from the main menu (or type <Alt> + V). The pull-down menu that appears offers the following options:

- Page View** - displays **image window** on/off
- Fit In Window - view mode "Fit in window" for image window (Ctrl+F)
- Actual Size - 100% view for image window (Ctrl+A)
- 200% - 200% view for image window (Ctrl+2)
- 400% - 400% view for image window (Ctrl+4)
- Zoom View - displays **zoom window** on/off (Ctrl+Z)
- Actual Size - 100% view for zoom window
- 200% - 200% view for zoom window
- 400% - 400% view for zoom window

Editors Settings - set point size and representation for badly
recognized letters in the **Edit Window**

The **Page View** and **Zoom View** menu item groups

Page View refers to the scanned image that appears on the right side of your screen. In the upper portion of the pull-down menu, four image size options are listed for **Page View**. These are **Fit In Window**, **Actual Size**, **200%** and **400%**. Select one by clicking on it or by typing in its key combination (indicated to the right in the menu). The page image on the screen will appear at the magnification you selected, as will images you subsequently scan.

Below the **Page View** choices are three magnification choices for the **Zoom View**. You can select **Actual Size**, **200%**, or **400%**. The image in the **Zoom Window** will resize accordingly.

See also **View** pull_down menu

The **Editor Settings** menu item

Select the last option in the **View** menu (or type <Alt> + V, then S) to invoke the **Editor Settings** window. This option is available (unghosted) only after you run recognition on an image.

The first box in the **Editor Settings** window lets you specify a font size for recognized text in the Edit Window. Choose between **Small**, **Medium**, and **Large** font sizes. Click inside the circle to the left of your selection and click **OK** (or click **Cancel** to revert to a **Small** font). The recognized text in the **Edit Window** will change size accordingly.

You can also choose a symbol for CuneiForm to assign to all unrecognized characters. Click on one of the five symbols available in the **Choice field** of the **Unrecognized Character** box. The selected symbol will appear in the box adjacent to the **Choice** field and will replace all unrecognized characters in recognized text displayed in the Edit Window.

The Window Menu

Use CuneiForm's **Window** menu to choose the screen layout with which you're most comfortable working. Click once on **Window** (or, **<Alt> + W**) in the **Main Menu** to obtain the following options:

Split Horizontal

Split Vertical

Best View

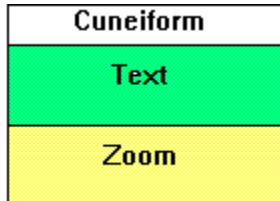
View All

Customized Viewl

Save Customized Layout

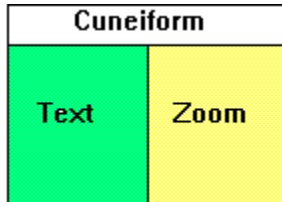
The **Split Horizontal** menu item

Click on **Split Horizontal** (^H) in the Window pull-down menu to divide the screen horizontally so that the Edit Window occupies the top portion of the screen and the Zoom Window, the bottom portion.



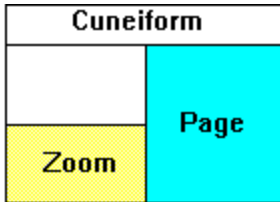
The **Split Vertical** menu item

Click **Split Vertical** (^V) in the Window pull-down menu to get a vertically split screen displaying the Edit Window on the left and the Zoom Window on the right.

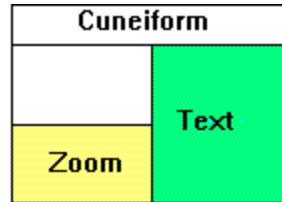


The **Best View** menu item

The **Best View** option (^E) in the Window pull-down menu gives you access to CuneiForm's Control Panel in the upper left of the screen. The Edit Window occupies the right half of the screen and the Zoom Window, the lower left quadrant.



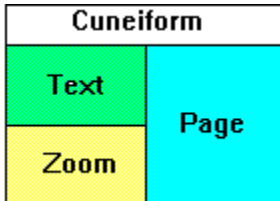
Before recognition



After recognition

The **View All** menu item

Click **View All** (^3) in the Window pull-down menu to create a layout with the scanned image in the right half of the screen, the Edit Window in the upper left quadrant, and the Zoom Window in the lower left quadrant.



The **Customized View** and **Save Customized Layout** menu items

Select **Customized View** (^C) in the Window pull-down menu to retrieve a customized screen layout you've saved using the Next menu option.

You can use standard MS Windows methods to rearrange the screen layout as you like it. Then click **Save customized layout** to save it as the default layout.

Please note that if you save a customized layout that you've created within a maximized CuneiForm screen, your CuneiForm windows may overlap the status line when you next open CuneiForm and the screen is not maximized. This is because the program remembers a larger screen setup than the one you now have. In this case, click on the upper right hand Windows button to maximize the CuneiForm screen.

The Help Menu

Three options are available in CuneiForm's **Help** pull-down menu. Click once on **Help** (or, **<Alt> + H**) in the Main Menu to access the following options:

Contents

Topic Search

About CuneiForm

The **Contents** menu item

Click on **Contents** in the **Help** pull-down menu (or type **F1**) to call up a list of CuneiForms basic features, including **Commands**, **Main Screen**, etc. Click on one of the underlined features listed to see categories listed for that feature. Next, click on a category of interest to obtain details.

The **Topic Search** menu item

Used for more subject-specific help. To activate **Topic Search**, place the arrow cursor on a CuneiForm feature that you want to know more about and type **^F1**.

For instance, if you want to quickly obtain information on the **Recognize** button in the Control Panel, place the cursor on the button and type **^F1**. Information on how to run character recognition will appear on the screen.

If you want details on **Manual Layout**, select this item in the **Options** pull-down menu and type **^F1**. A discussion of the **Manual Layout** option will appear on screen. Similarly, you can get information on the status line as well as CuneiForm's main window.

See also **Help** pull-down menu.

The **About CuneiForm** menu item

Click on **About CuneiForm** at the bottom of the **Help** pull-down menu to view copyright, serial number and the name of the licensee.

Using the Keyboard

Every command that can be executed using the mouse can also be executed using the keyboard. By holding the **<Alt>** key down and tapping the command letter, you activate that command. For instance, to pull down the **File** menu, you can click on the word **File** at the top of the screen, or you can type **<Alt> F**.

The **<Alt>** key also switches between keyboard commands and canceling keyboard commands. If you type **<Alt> F** and decide you don't want to use the **File** menu now, just tap **<Alt>** once. The **File** submenu will disappear.

If you have called up a menu by holding down the **<Alt>** key and typing any of the underlined letters in the Main Menu, such as the **A** for **Actions** and you see a letter underlined in the title of any of the commands on the pull-down menu, you can execute that command by simply typing that letter.

The Alt commands are:

F = **File Menu**
E = **Edit Menu**
A = **Actions Menu**
O = **Options Menu**
V = **View Menu**
W = **Window Menu**
H = **Help Menu**

At any time, you can use the control commands. They are executed by typing **<Ctrl>** (**^**) plus a letter, as follows:

^O = pops up the **Open Image** submenu
^L = restores the **Last Image**
^S = **Scan & View**
^B = pops up the **Brightness** submenu
^R = **Recognize**
^T = **Define Template Zone**
^D = **Set Resolution**

When you are in the **Recognized Text Window** **<Tab>** will move you to the **Next Suspect**, and **Shift + <Tab>**, to a previous one.

During a **Search**, **F3** will seek out the matching occurrence.

You can also use **^W** to **Validate Word** and **^I** to **Invalidate Word**

These Control commands affect the **view** on your screen:

^F = **Fit in Window** in the Image Window

- ^A = **Actual Size** in the Image Window
- ^2 = **200%** magnification
- ^4 = **400%** magnification
- ^Z = **Zoom** View

To choose the screen layout, use the following Control commands:

- ^H = **Split Horizontal**
- ^V = **Split Vertical**
- ^E = **Best View**
- ^3 = **View All**
- ^C = **Customized View**

^F1 **Topic Search** used for more subject-specific help.

Using the Mouse

Your mouse can do most of the work in CuneiForm. Use it to point to menus and buttons, to jump into dialog boxes and zoom across the screen. By holding down the left mouse button, you can drag the window's edges to resize the window.

To **Define Template Zone**, draw a rectangle around the text you want by clicking on the **Actions** button, clicking the **Define Template Zone** button and moving your pointer to the **Image Window**. Then, placing the pointer at one corner of the text you are interested in and holding the left mouse button down, drag a rectangle around the text you want.

When you use AutoBrightness, the mouse pointer cursor takes the form of a light bulb as you select the area to be scanned for setting **Brightness**.

Using **Manual Layout**, the left mouse button lets you **Merge**, **Extract** or **Delete** the boxes around blocks of text, as well as **Split** text boxes vertically or horizontally. You can also use it to outline an area to **Zoom** in on.

Messages

Group 1: Error messages from recognition engine:

"101. FileSys: Not enough memory for components file."

There is not enough computer memory to run recognition.

"102. FileSys: No place in the components file."

Image contains a lot of graphic components and does not fit internal memory requirements. Try to recognize part of this image.

"103. ExtrComp(an): Main number allocation fail."

Internal error. Probably your image file is damaged.

"104. ExtrComp(an): Unable to exclude large picture."

Internal error. Probably your image file is damaged.

"105. FileSys: No place in the roots file."

Image contains a lot of graphic components and does not fit internal memory requirements. Try to recognize part of this image.

"106. LinesForming: Not enough memory."

Image has very complicated layout. Try to recognize part of it.

"107. LinesForming: Unable to count page skew."

Almost empty page. Very small number of letters found.

"108. LinesForming: Empty page."

The page is blank.

"109. ExtrComp(mn): No memory for boxes."

Internal engine error. Keep image file and send it to CTC.

"110. FileSys: No place for strings."

Image has very complicated layout. Try to recognize part of it.

"111. FileSys: No strings have been found."

Almost empty page. No strings to recognize were found.

"112. Tools: No place in the kit."

Internal engine error. Keep image file and send it to CTC.

"113. Main: No memory for working area (1Mb)."

There is not enough computer memory to run recognition.

Group 2: Messages caused by image defects.

"201. ScanTiff: No image file."

Cannot open image file. If the image comes from the scanner it means the scanner is inactive. If the image comes from a file it means an error in opening the file. It is probably caused by a limit on the number of opened files in CONFIG.SYS. Increase the number of files in CONFIG.SYS or close some background applications.

"202. ScanTiff: Incorrect image file format."

Image file does not have proper TIFF 5.0 format.

Group 4: Spelling checker error messages

"401. Spelling: cannot find vocabulary."

There are no vocabulary files in the directory from which CUNEIFORM was started. Check presence of CUNEI.EXE in other directories.

"403. Spelling: the page has been processed by speller."

Speller is running this particular page a second time. Mistake in interface or ED-file is corrupted. Save image file and send it to CTC.

"405. Spelling: ed-file is corrupted."

Internal recognition error occurred. Save image file and send it to CTC.

Group 6. Save error messages in text format.

"602. TextSave: Write error."

Error during write to TEXT file.

"603. TextSave: Out of memory."

Internal error. Save ED-file and image file and send them to CTC.

"604. TextSave: Cannot open temporary ED-file."

Error in opening temporary ED-file. You should probably increase the number of files in the CONFIG.SYS or close some background applications.

"606. Lineout: Read error in ED-file."

Error in reading temporary ED-file. Check your hard disk for available space and absence of defects.

"609. RTF: ED-file is corrupted."

Internal error message. Save ED-file and image file and send them to CTC.

"611. Lineout: Write error on ED-file."

Write error during temporary ED-file save. Check your hard disk for available space and absence of defects.

TIFF

TIFF (Tagged Image File Format) - the most popular format for image storing. Almost all scanner-support, fax and OCR software can write and read files in TIFF format.

Uncompressed image files require about 1 megabyte per page while compressed files are much smaller. We recommend using **TIFF Group 4** because it provides the most compression.

ASCII

ASCII (American Standard Code for Information Interchange) - the simplest coding for text information without any formatting or fonts information.

Smart ASCII

Smart ASCII - modification of **ASCII** with some formatting information. It tries to retain the paragraph form of the original.

RTF

RTF (Rich Text Format) retains the original formatting information and can be utilized by many word processors almost as if you had produced it yourself.

CTC Native Format

CTC Native Format is the text format for debugging and troubleshooting purposes.

Suspect or suspected mistake

Suspect or suspected mistake is a badly recognized character. CuneiForm will highlight such characters for you in **Edit Window** to examine after running recognition on a document. If you turn **Spell Check** on , CuneiForm will also highlight questionable words.

