



ritePen® 3.5

User Manual

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What is ritePen?

ritePen is an easy-to-use and powerful handwriting recognition, markup, note-taking, and desktop control application. It allows you to write anywhere on the screen of your Tablet PC, on an electronic whiteboard, with your pen tablet, or even with a mouse or on a touchpad. ritePen instantly converts your handwriting into text and enters the text into any Windows application, such as Microsoft Word, Notepad, Excel, Outlook, File Manager, Internet Explorer, etc. ritePen also allows pen control of your applications and desktop via ink commands and powerful instant drawing and markup of the screen.

ritePen Basics

- Understands any handwritten style, does not require learning or training. Just write continuously, in whole sentences, on multiple lines of text, anywhere on the screen. Your writing will be automatically segmented into words, recognized and entered into the needed document or application.
- Supports simple and reliable gestures for common operations like adding a line break or space, deleting a wrong letter, copying and pasting, or adding punctuation and special signs via the pop-up keyboard. It also allows you to choose variants of recognized words from the answer list.
- Does not interfere with your regular use of a PC. Unlike other pen input applications, it intelligently detects scrollbars, menus, resizing areas, and other navigational and designated elements of application windows and allows seamless manipulation with your desktop applications. ritePen application can also be manually switched between writing and mouse mode by single tap.
- ritePen software employs advanced dictionary technology. In addition to large main dictionary which includes common words, key medical terms, personal and geographical names, you can always add your own personal or industry specific terms to further increase recognition accuracy. You can simply type in new words into the custom user dictionary or import them from text files or the system clipboard.
- Context aware recognition; you can assign individual "recognition profiles" to applications and their elements, such as forms fields or options dialogs, to recognize them with high accuracy. Examples are numeric data, web addresses, phone numbers, dates, personal names and many other common data types. To facilitate context aware recognition, ritePen comes with an extensive set of predefined "lexicons" and an easy visual "binding interface".

- Screen *Markup* and *Instant Note-taking* is another new feature in this version. Draw and write anywhere on the screen in multiple colors and pen widths, in smooth pressure sensitive ink. Highlight text, draw perfect freehand shapes and charts, edit your drawings, and take snapshots of the markup area. Your notes are instantly available on the screen anytime.
- This version of ritePen software recognizes handwriting in multiple *languages*: Dutch, English, French, German, Italian, Portuguese, Russian, and Spanish. Simply switch your keyboard layout to another language and write - ritePen application will follow your workflow as if you were typing on the keyboard in different languages.
- With ritePen, you can automate all your routine desktop tasks by creating and using *Ink Commands* (*pen macros, handwritten shortcuts*): putting your signature in a document, pasting common texts without looking for them, opening favorite websites or frequently used documents are now at your fingertips.
- Unlike other handwriting recognition utilities, ritePen seamlessly works with *remote applications* on Citrix and RDP networks, including Citrix seamless mode; this is important for data entry in healthcare and in other industries.
- When ritePen software is running on a Tablet PC or a Windows Vista PC, it further improves recognition quality by combining our riteScript technology with the embedded handwriting recognition engine, providing industry's *best recognition accuracy*.

We are constantly improving ritePen's features, recognition accuracy, and usability. You can check for new upgrades at any time by clicking the *Check for Upgrade* button in the *About* box.


How Does ritePen Work?

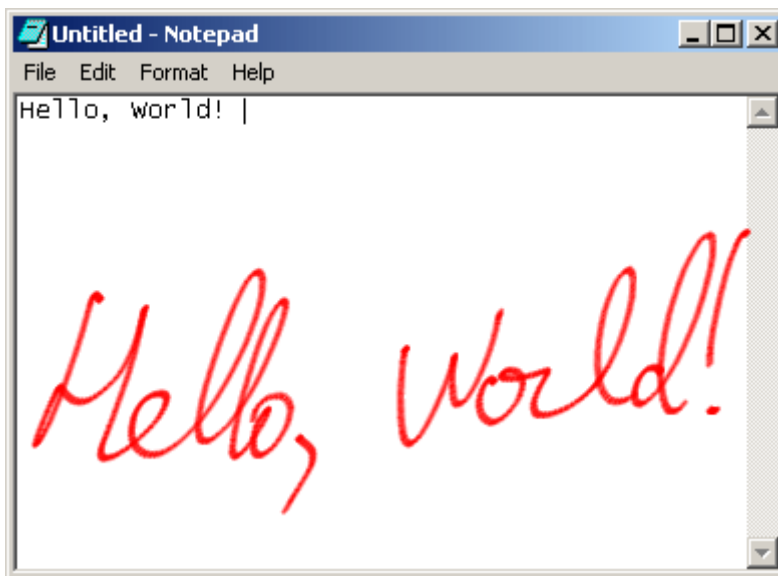
ritePen receives your handwriting, stroke by stroke, from a pen-enabled device and passes the strokes to the advanced "third generation" riteScript® handwriting recognition engine, which converts your handwriting into text. You write as you normally do, in words and phrases, and riteScript technology automatically segments your handwriting into words and lines. When you finished writing, ritePen receives the recognized text from riteScript, deletes handwritten strokes from the screen, and enters the text into the active text-enabled application, placing the text at the current position of the cursor. ritePen also recognizes your **gestures** to perform common operations like adding a space or a line break, deleting wrong symbols, or offering a list of answers. ritePen does not interfere with your navigation and control operations, such as pointing and clicking, dragging application windows, selecting portions of text, etc. When you write and encircle a word, ritePen interprets it as an **ink command** and looks for that word in your list of pen macros to execute the corresponding action. When ritePen is in the **markup and**

instant note-taking mode, it freezes the screen as a static image and overlays your pen drawings on top of that image, retaining digital ink in the editable format.

Note. ritePen does not allow writing when a single *Ctrl* or a single *Shift* key is permanently pressed; this protects you from potential interference with the operations of multiple selection in popular applications which is often performed via Ctrl-Click and Shift-Click.

Entering Text



Launch ritePen by opening it from the Start>Programs menu>EverNote>ritePen. The ritePen notification icon  appears in the Windows Taskbar. Now ritePen is ready to accept your writing anywhere on the screen and convert it into text. Open any text-enabled application, for example, Notepad, and write a few words on the screen.



Note the screen cursor changing to the pen style as you start writing. Once you complete writing, the converted text appears in the Notepad and your handwriting disappears from the screen.

What if you want to drag a window of an application or scroll through a document? ritePen will not interfere with your actions in most Windows applications. In other words, if you drag an application window holding your pen on its title bar, or scroll the window using your pen, or press menu or toolbar buttons, your actions will not be interpreted as writing a new word. For this reason, you should always *start* a new portion of your *writing outside* title bars, scrollbars, toolbars or menus of application windows. However, you can freely *cross* all such bars and menus while you are writing.

In order to *select* a word in the typed text, double tap on it. To select a fragment of the text, tap and hold at the beginning of selection area. Then drag the pen, as you typically do with a

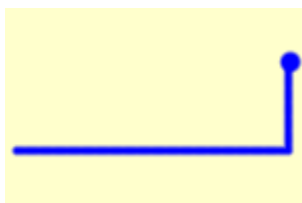
mouse. The initial holding time is slightly longer than with a mouse, because ritePen needs a short time to realize that you intended selection and not writing. Sometimes, a line may be drawn through your selected fragment of the text; stop dragging at the end of your selection, continue holding the pen down until the line disappears and turns into the selection. If your work involves extensive text selection, you may choose to temporarily disable ritePen by tapping on its notification icon in the taskbar or ritePen's main **toolbar**. Its appearance will change to . Tap on the icon again to re-enable ritePen .

Note. In order to enter recognized handwritten text into the Microsoft Vista Search box located at the bottom of the Start Menu, you have to *begin* writing within that box; then you can continue writing anywhere on the screen until you stop and the text is recognized.

You may choose to use your digital pen as the only writing tool, while your mouse, touchpad, trackball and other "navigational" devices will not produce digital ink input even when ritePen's writing mode is on. To enable this feature, check the box *Use only pen for input* in **Settings>General**. Your pen will still perform intelligent navigation of the desktop as explained above.

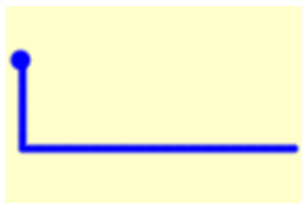
Gestures

ritePen allows basic pen-based text editing via simple gestures, so you can perform most common editing operations without touching the keyboard. Each gesture must be written in one continuous stroke, as shown in the table below. The starting dot shows the beginning point of each stroke.



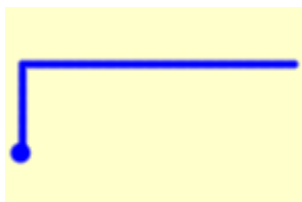
Line break (*down then left, horizontal part at least twice as long as the vertical one*)

Inserts line break at the current position of the text cursor in the active application.



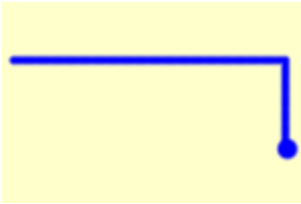
Space (*down then right, horizontal part at least twice as long as the vertical one*)

Inserts space at the current cursor position.



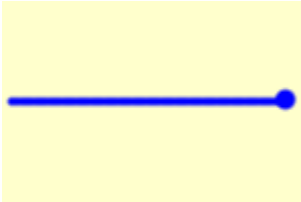
Tab (*up then right, horizontal part at least twice as long as the vertical one*)

Inserts tab at the current cursor position.



Undo (*up then left, horizontal part at least twice as long as the vertical one*)

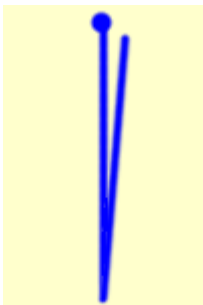
Undoes the previous action(s).



Backspace (*right to left, not too short, keep the stroke horizontal*)

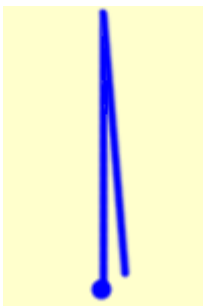
Deletes the symbol immediately preceding the current position of the text cursor or the selected text in the active application.

Note. This gesture may conflict with the *Back* gesture of *Pen Flicks*. You might want to disable the *Back* gesture in *Pen Flicks* or write your *Backspace* gestures slower to be recognized by ritePen.



WordMenu (*down then up, writing over the downward part; keep the strokes vertical*)

Retrieves the list of answers for all words for the most recent portion of your writing.



Punctuation pane (*up then down, writing over the upward part; keep the strokes vertical*)

Launches the pane with punctuation signs, special symbols and navigation keys. Click on a symbol to add it to the text at the current cursor position.

,	'	()	*	\$	↶	↷	✕
.	"	[]	&	£	→	←	PgUp
:	;	{	}	^	¥	Ins	Del	PgDn
-	+	<	>	%	€	Home	↑	End
/	\	_		©	®	←	↓	→
!	?	~	@	#	=	...	└	↶



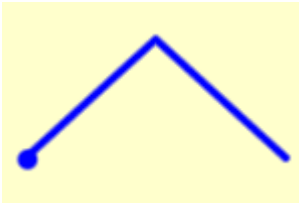
Copy (*left then right, writing over the leftward part; keep the strokes horizontal*)

Copies the selected object into the system clipboard (same as pressing Ctrl-C)



Cut (*right then left, writing over the rightward part; keep the strokes horizontal*)

Cuts the selected object into the system clipboard (same as pressing Ctrl-X).



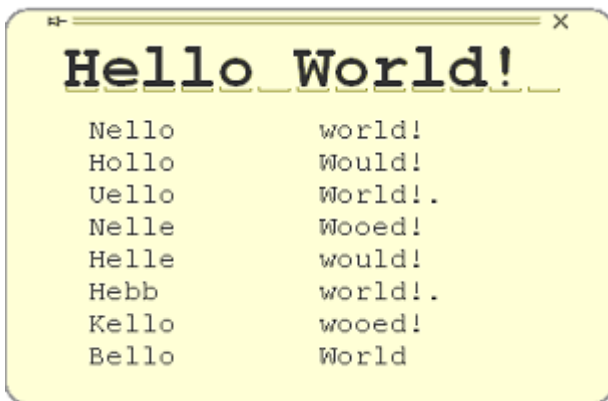
Paste (*right-up then right-down, symmetrical, at the angle of about 45 degrees*)

Pastes an object from the system clipboard to the current cursor position of the active window (same as pressing Ctrl-V).

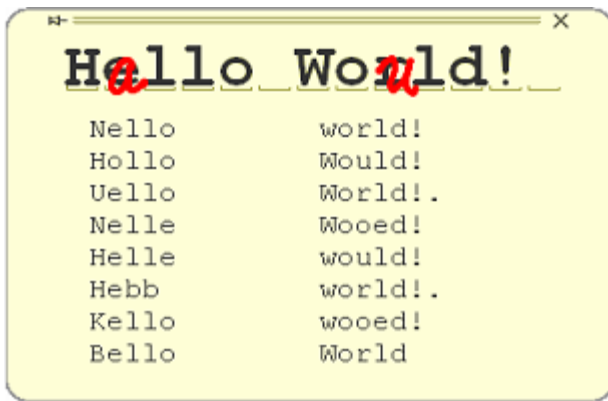
Additionally, the **Capitalization** gesture - a straight-up vertical stroke alternating the letter case, is available in the Word Menu as explained in the next section.

Word Menu

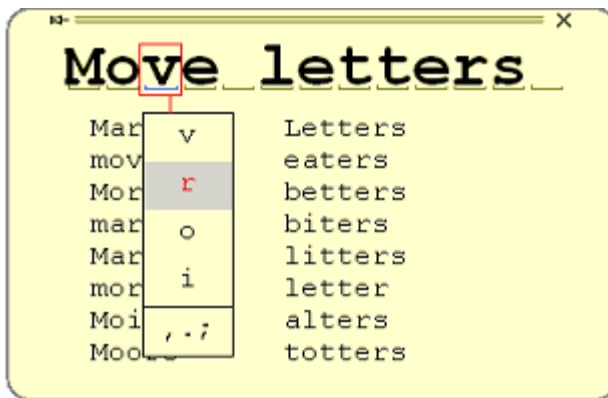
ritePen WordMenu displays the list of alternative recognition answers and allows correcting recognized text and selecting other answers for recognized words. It lists the best answer for each word in the top line and alternatives below in smaller font. Click on any item to substitute the top word with the chosen one.



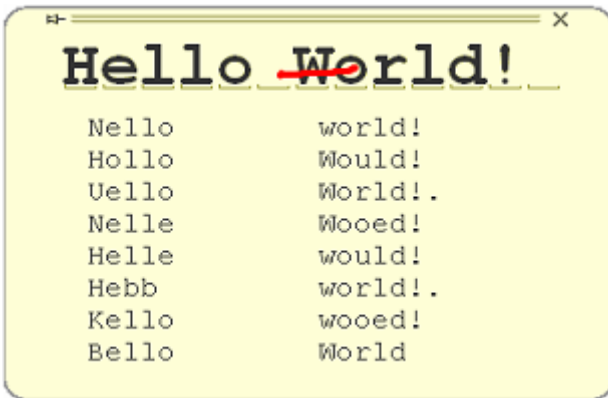
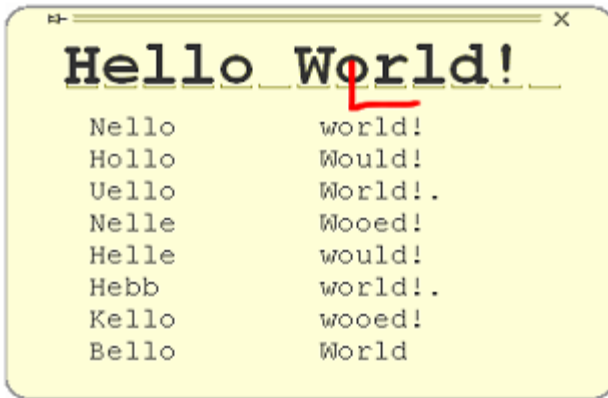
If there are no correct answers in the list you can correct words in the top (boldfaced) line by directly overwriting incorrect letters:



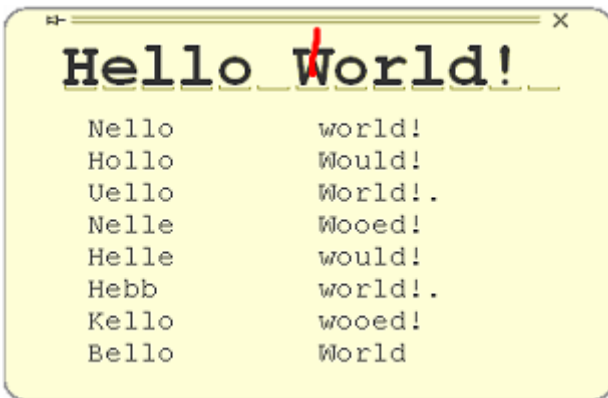
(When correcting multiple letters at once, we recommend writing them in the left-to-right order.) If you don't find correct words in the WordMenu but your top answer has just a couple of letters misspelled, you can try letter alternatives by clicking on such misrecognized letters, as illustrated below:



(The letter menu automatically pops up whenever you correct just one letter in the WordMenu). You can also use gestures to add space, remove letters, and capitalize them. All these gestures are "positional": the desired action happens at the point where the gesture was started. For example, to add a space before the letter, draw the *Space* gesture starting in the middle of the letter; to delete a letter, draw the *Backspace* gesture starting in the middle of that letter, as shown below:

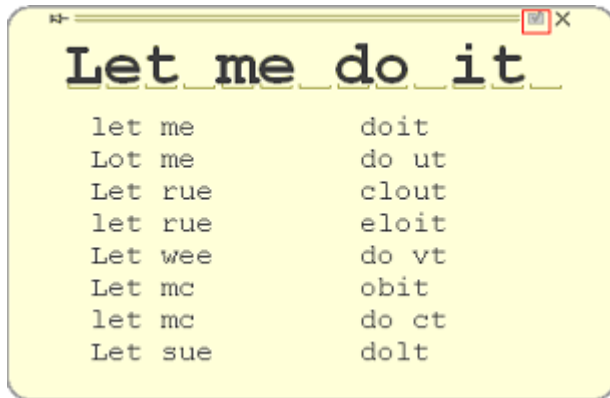


Use the "capitalize" gesture (a line straight up) to alternate the letter case (this gesture started from the capital letter 'W' up will turn it into the lower case 'w').

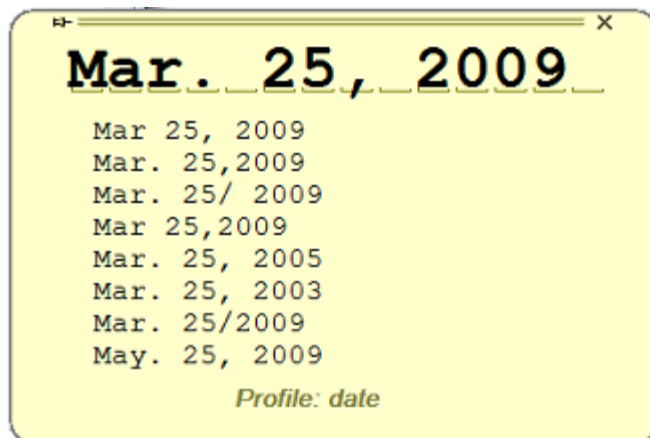


- The WordMenu window normally appears near the current position of the mouse pointer and then slowly fades away (you can customize the fade-out time in [Settings>WordMenu](#)). You may pin its position to a desired location on the screen by clicking the "pin" icon in the left top corner of the window. After that, you may drag the window where you want it to be placed on the screen using the top bar.

- To make sure your changes in the Word Menu are automatically sent to the target application, check the "Auto apply changes" option in the *WordMenu* tab of the Settings dialog. If this option is disabled, a "checkmark" icon will appear in the top right corner of the WordMenu window; you would have to click on that icon to apply the changes once you are done with editing.



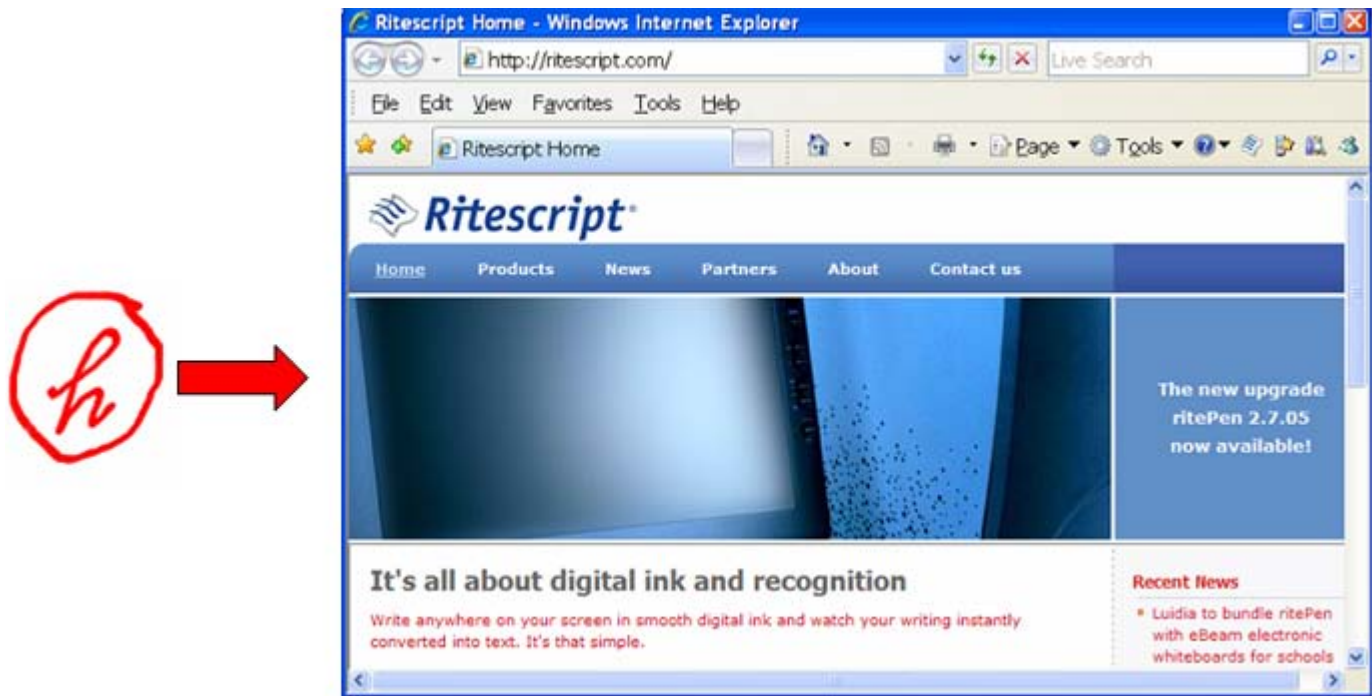
- When you recognize text with a non-default **recognition profile**, the profile name is displayed at the bottom of the WordMenu like in the example with the date recognition below.



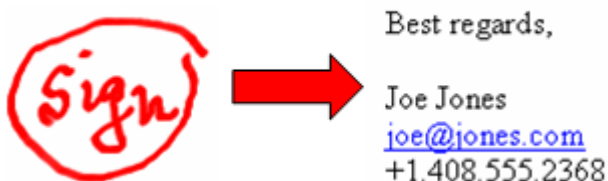
- Use the 'x' button in the top right corner of the WordMenu window to close it. Otherwise, it will fade out with a customizable timeout.

Ink Commands

In addition to seamless data input, ritePen automates your routine desktop tasks such as application launch, opening documents, entering standard texts and many other operations. You can assign an *ink command (pen macro, handwritten shortcut)* to any such operation; then, all it takes to perform the operation is writing and encircling a command. For example, if a letter "h" is assigned to opening your home page in the default browser, then writing and encircling the letter will launch the browser and jump to the website as illustrated below.



Another helpful example is adding your signature to a document by writing and encircling the command "sign":



You can also use ink commands to abbreviate long and frequently used words, to open repeatedly used documents or paste frequently used texts, to enter special symbols, etc.

ritePen 3.5 has substantially expanded the capabilities of ink commands. It allows emulating any keyboard activities, including special and functional keys, adds a few helpful commands,

supports recursive macro calls, etc. For example, with Microsoft Outlook in the foreground, you can use a single ink command to open a new email message, put a standard greeting and your signature into the message and position the cursor so you could immediately start typing recipient's name. The body of the corresponding ink command may look like:


```
{Ctrl+{Shift+M}}{Delay: 1000}{Tab}{Tab}{Tab}Dear :  
  
Joe Jones  
joe@jones.com  
+1.408.555.2368  
{Ctrl+{Home}}{Right}}
```


In the above macro, the first line (i) creates the new message (Ctrl-Shift-M), (ii) delays the execution of the macro for 1 sec. to give the message window time to open and accept the subsequent input, (iii) navigates to the message body by skipping the "CC" and the "Subject" fields (three Tab keystrokes), and (iv) adds the greeting "Dear :"; then, after skipping two lines, the signature is added; the last line of the macro returns the cursor to the beginning of the email (Ctrl-Home) and skips the word "Dear" (Ctrl-Right arrow) to position the cursor right before the colon sign to type recipient's name. So, if you have assigned an abbreviated name "msg" to this action, then writing and encircling the word "msg" when Microsoft Outlook is in the focus will perform the whole action.

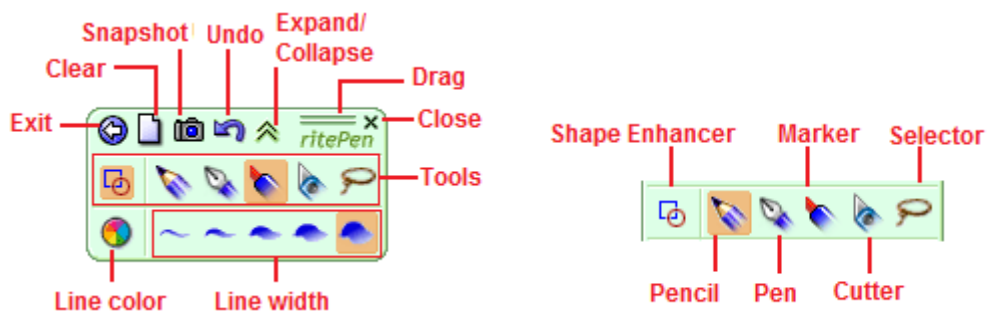
Creating and editing ink commands using the **Macros** tab in ritePen Settings is easy.

Screen Markup and Instant Note-taking

In addition to text input, you can use ritePen for full-screen markup and powerful note-taking. You can also take and save snapshots of your markups and notes. This feature is especially helpful for dynamic presentations and demos when you need to quickly and temporarily highlight portions of your PC screen, and for keeping notes right on the screen during your work.

You can switch ritePen to the markup mode by clicking the *Markup button*  in the **ritePen Toolbar** or by choosing *Markup* item from the **Main Menu**.

Markup Toolbar will pop-up on the screen and your desktop will be surrounded by red frame. The desktop is now "frozen" for drawing; you can navigate it only after you exit the markup mode by pressing the *Leave Markup Mode button*  or the *Esc* key.



In the markup mode, you can draw anywhere on the screen with the round lead *Pencil*, the calligraphy *Pen*, and highlight portions of your screen with the *Marker*. Easily change *line color* and *width*. Made a mistake? No problem, press the *Undo* button.

Shape Enhancer is a unique tool to draw perfect geometric shapes and charts; you can use it in combination with Pencil, Pen or Marker. Shape Enhancer draws smooth lines, ovals, rectangles, triangles, arrows, poly-lines, grids, concentric shapes; it also aligns connectors between shapes, and much more. It can enhance shapes instantly as you draw them or perfect previous freehand drawings when you select them (see below). Below is an excerpt from this manual marked up with different tools, colors, and line widths using Shape Enhancer.

ritePen software employs advanced *dictionary* technology. In addition to large *main dictionary* which includes common words, key medical terms, personal and geographic names, you can always add *your own personal or industry specific terms* to further increase recognition accuracy. You can simply type in new words into the custom user dictionary to support them from text files on the system clipboard.

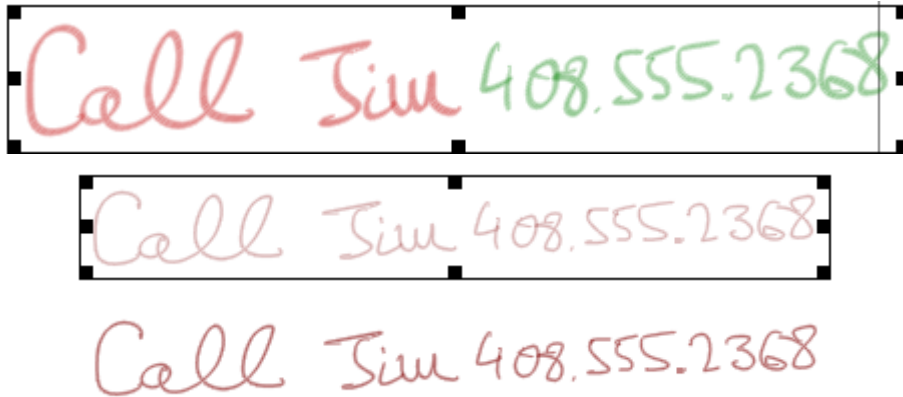
Context aware recognition; you can assign individual "recognition profiles" to applications and their elements, such as forms fields or option dialogs, to recognize them with high accuracy. Examples are numeric data, web addresses, phone numbers, dates, personal names and many other common data types. To facilitate context aware recognition, ritePen comes with an extensive set of predefined "lexicons" and an easy visual "binding interface".

Screen *Markup* and *Instant Note-taking* is another new feature of this version. Draw and write anywhere on the screen in multiple colors and pen widths, in smooth pressure sensitive ink. Highlight text, draw perfect freehand shapes and charts. *Alt* your drawings, and save snapshots of the markup area. Your notes are instantly available on the screen.



Note. When you undo enhanced shapes, the first click on the Undo button restores the original strokes before they were enhanced; press Undo repeatedly to erase those strokes.

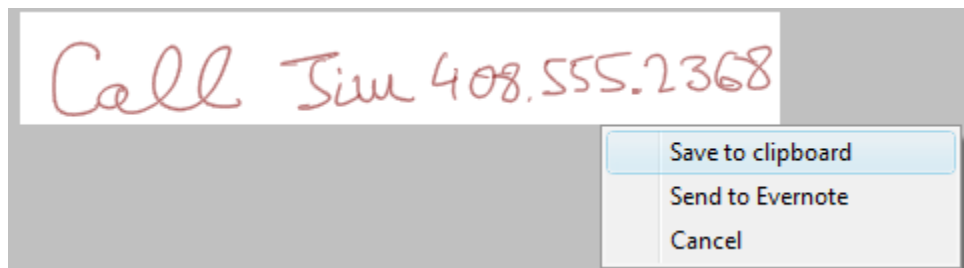
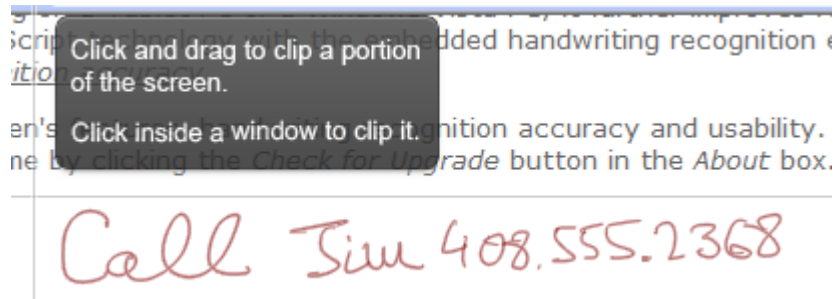
Cutter is a smart and efficient tool for deleting portions of your markup: cross unneeded strokes or encircle a portion of your drawing with its gray line to instantly delete them. *Selector* also works by crossing or encircling strokes; selected portions of digital ink within the selection box appear faded. Use Alt-cross stroke to select additional strokes and Ctrl-cross stroke to unselect strokes. You can drag and resize selection, change its color and line width, and apply Shape Enhancer to perfect shapes within the selection. Below is an example of a

selected note and the same note after the selected piece was moved, resized, and color/width of its strokes were changed, all in a few clicks.



Note. Selection affects only your ink notes and not the underlying screen content; be careful moving and resizing your markups (as opposed to notes) as drawings will may shift against the annotated content.

Your notes and markups stay on the screen until you delete them; every time you re-enter the markup mode, you can see them. You can delete and re-arrange portions of your notes using Cutter and Selector tools as explained above; or, you can delete the whole markup by pressing the *Clear All*  button. To save some of your instant notes or markups as images, use the *Snapshot*  tool. After you click on the Snapshot button, a crosshair selector will appear on the screen; you can select any area and save it as an image either to system clipboard or to your Evernote notebook.



If you don't need extensive markup features or want more screen estate for your markup and note-taking, you may choose a fixed drawing tool/color/width and collapse the toolbar to display only basic features, expanding it only to change the tool.



Ad hoc markup mode. Press and hold Ctrl+Shift keys to start drawing in the "ad hoc" markup mode; you can release Ctrl+Shift keys once your drawing appears on the screen. Unlike the regular markup mode, your keyboard remains enabled and you can navigate the desktop. Your digital ink stays on the screen until either (a) you press the Esc key or the Exit button in the Markup Toolbar; or (b) your ink is erased when application windows "redraw" portions of the screen as you navigate; or (c) you press the Clear button on the markup toolbar. The only functional buttons on the Markup Toolbar are the Pencil, Pen, Color, Width, Clear, and Exit; every other button is grayed out. Your digital ink stays on the screen temporarily and cannot be selected or edited; shape enhancer, highlighter, and cutter don't work either.

The advantage of the *ad hoc* markup is that the keyboard is not blocked like in the regular markup mode. For example, you can run a Power Point presentation and quickly markup certain portions of your slides; when you move to the next slide, the content of the Power Point window is refreshed, thus erasing your markup ink for the previous slide from the screen. If you need to erase ink before you move to the next slide, press Esc or the Exit button on the Markup Toolbar. This mode requires some skills to operate but many ritePen users like it for its "lightness" and increased control over the desktop.

Note. In order to use this option, make sure that the 'Start markup via Ctrl+Shift' in Options>General is checked.

Context Aware Recognition

In many applications, input context is restricted to specific data types. For example, in the address field of the browser we normally enter URLs (web addresses); our Excel input often needs to be purely numeric; most input fields of any form contain restricted data types, such as personal or geographical names, dates, cities, phone numbers, street addresses, Social Security Numbers, etc. ritePen offers special dictionaries and data templates for such applications which significantly increases the recognition accuracy.

For example, in some cases, it may be almost impossible to say "IOI" from "101" or "11112109" from "11/12/09". If ritePen "knew" that, in the first case, numeric input was

expected, and in the second case, a date was entered, the correct answers "101" and "11/12/09" would have been immediate.

ritePen's advanced and easy-to-use system for context aware recognition consists of four components:

- Many pre-built **lexicons**, that is, dictionaries and rules (data templates) for recognizing special data types, are shipping with ritePen; examples are city names and dates.
- **Custom User Dictionaries** allow ritePen users to add user specific data to pre-built lexicons; examples are employee lists, product codes, customer names, etc. ritePen offers simple yet powerful means of building user dictionaries and importing them directly from different sources.
- **Recognition profiles** combine lexicons, custom dictionaries, pen input, and text output options to create contexts; as an example, a user can instruct ritePen to accept pen input of a city name in separate letters and display the output text in all capital letters.
- Finally, recognition profiles can be **assigned** to application windows (including fields of forms) to introduce **temporary** or **permanent** context awareness.

You can find more details in the subsequent sections.

Important Notes.

1. ritePen uses the **default** lexicon and the **default** User Dictionary for recognizing generic texts (the User Dictionary remains empty until you explicitly add words to it). They are included in the **non-editable** "system" recognition profile *#sys-default*.

2. Any other pre-built lexicon or custom user dictionary except for the **default** has to be included in a **user-defined** recognition profile (it will appear under the *Settings>Recognition* tab). For your convenience, ritePen comes with several useful recognition profiles.

3. In this version of ritePen, **temporary** assignment of recognition profiles is always enabled, while **permanent** assignment is considered an experimental feature and is disabled by default; to enable it, check the appropriate boxes in the *Advanced* dialog under the *Settings>Recognition* tab.

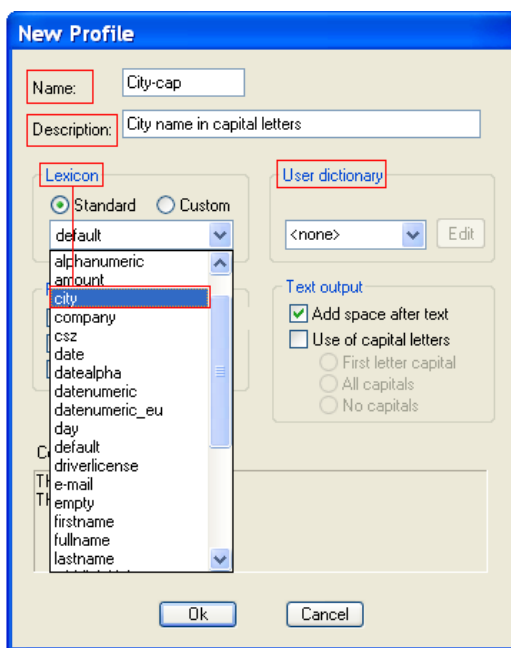
4. The ability of ritePen to maintain permanently assigned recognition profiles may depend on the properties of third party applications to which the profiles are assigned; see [Appendix 1](#) for details.

Creating Recognition Profiles

Open *Recognition* tab in ritePen Settings and select the needed language. In the *Profiles* list, you can see the default system recognition profile; under the English language, you can also find a few sample pre-built profiles. To create a new recognition profile, press the "New" button.



In the "New Profile" dialog box, enter profile *name* and brief *description*. Then choose a Standard (pre-built) or custom *lexicon* as shown below.

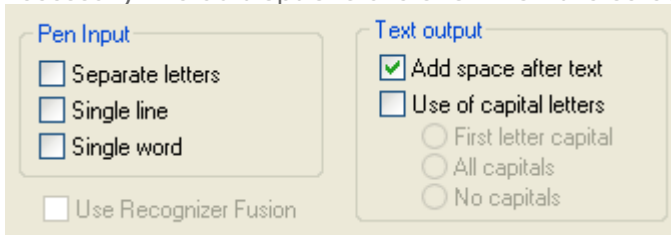


If you wish to add custom *user dictionary* to further enhance recognition, type in its name and press "Edit"; or choose one of the previously built user dictionaries from the list.

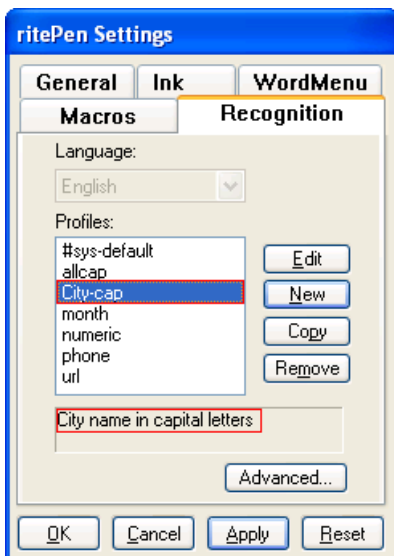


(For details, see sections [User Dictionary](#) and [Settings>Recognition](#).)

To complete your recognition profile, define custom *pen input* and *text output* options if necessary. Default options are shown on the screenshot below.



After you have created a recognition profile, its name instantly appears in the list and its description is displayed in the context help line at the bottom of the Settings>Recognition window.

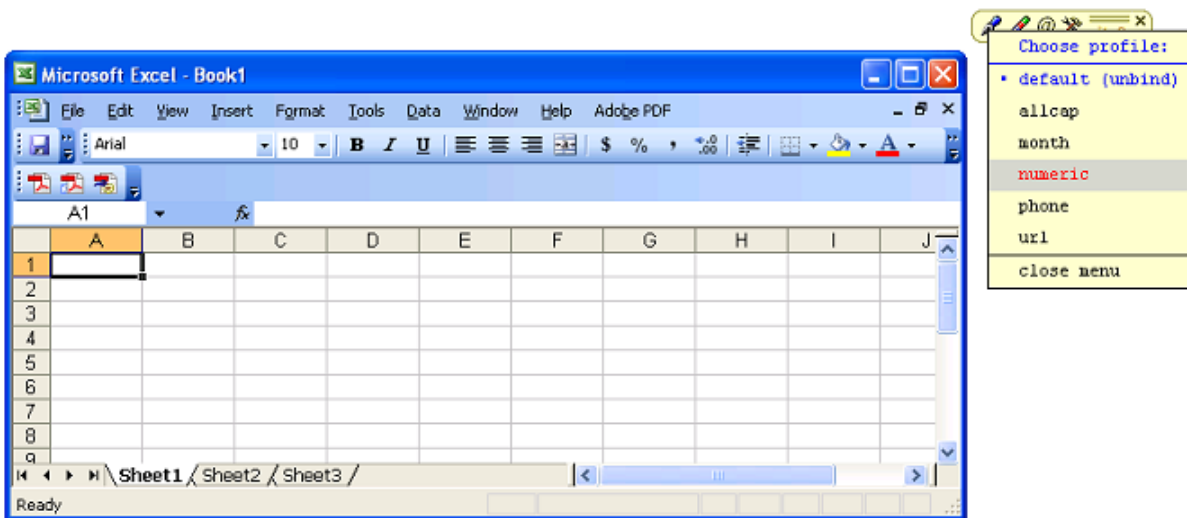


Now you can assign the profile to your applications and enable context aware recognition.

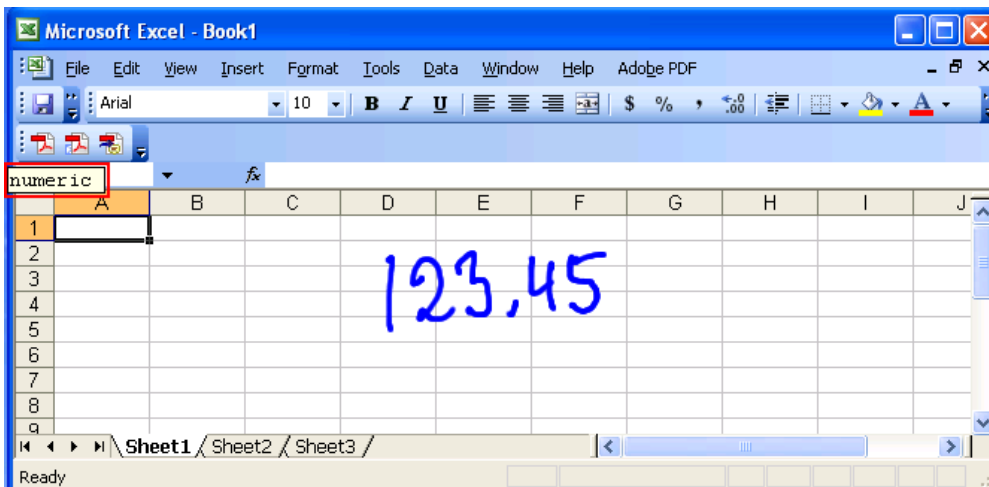
Assigning Recognition Profiles

Suppose you need to enter a long column of numbers into your Excel worksheet. It would be wise to instruct ritePen to recognize only numeric entries during this job. To achieve this, you can use the *numeric* recognition profile that came with ritePen (in languages different from English, you have to re-create this profile as explained in the previous section). This is how you can temporarily assign the numeric profile to your application:

- select your Excel worksheet;
- right-click on the pen icon in the ritePen toolbar (make sure the pen is "on" so that ritePen is in the writing mode); and
- choose "numeric" from the drop-down menu.

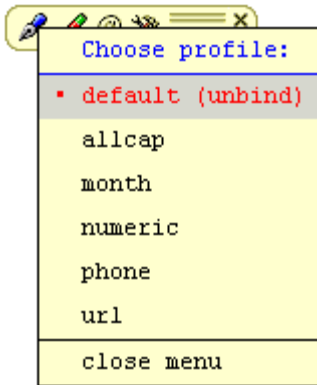


Start writing numbers into the worksheet; the sticker "numeric" will be displayed near the Excel window and the input of numbers will be very accurate.



Similarly, if you wish to write month names across a Microsoft Word table, you may assign the *month* profile to the Word window until you complete the task.

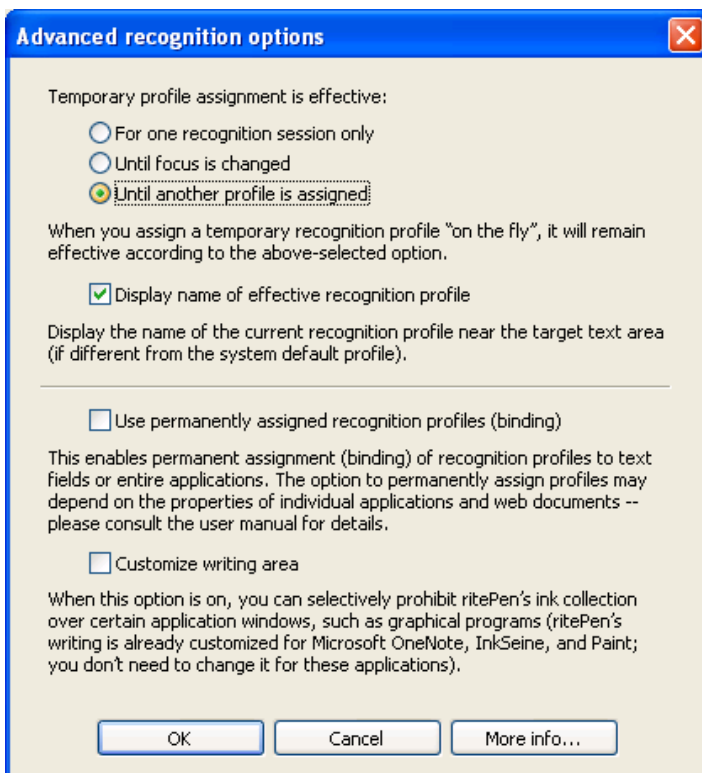
To switch back to generic text entry when you don't need the context aware recognition anymore, right click on the pen in the ritePen Toolbar and choose the *default (unbind)* menu item.



You can also design ink commands to switch recognition profiles on the fly. There are three formats for profile-changing macros:

- {UseProfile: <profilename>} sets a custom profile (for example, if you created the macro "num" with the body {UseProfile:numeric}, then writing and encircling "num" is equivalent to the selection of the numeric profile in the pop-down menu).
- {{UseProfile:}} resets the default system profile.
- {UseProfile:??} displays the list of profiles for manual choice near the screen position where you wrote the command.

Now you have a general picture of **temporary assignment** of recognition profiles. For the context aware recognition to work as described above, you have to set up a special mode for the temporary profile assignment. Click on the *Advanced* button in *Settings>Recognition* to open the *Advanced recognition options* message box and make sure to choose the option "*Temporary profile assignment is effective... Until another profile is assigned*".



Two other options of temporary profile assignment work in a slightly different way. You assign a custom recognition profile in the same way, but it automatically returns to the default system profile; you wouldn't need to reset the profile on your own:

- When the option *Until focus is changed* is chosen, custom recognition profile will automatically change to the default profile whenever you move the focus away from the text application that was active at the time when you've chosen the custom profile. You can use this mode to set up context aware recognition for a particular application (Excel, Word, etc.) for as long as the application is "active", rather than changing the behavior of the whole recognition system.
- When the option *For one recognition session only* is chosen, your change of recognition profile will affect just the next fragment of handwriting; after it is recognized, the default recognition behavior will be reset.

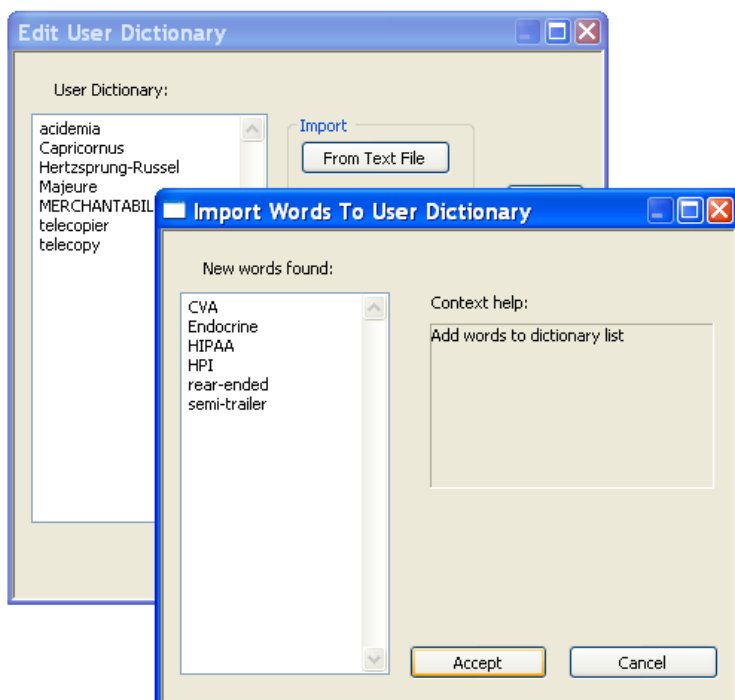
See [Settings>Recognition](#) and [Appendix 1](#) for details.

User Dictionary

ritePen recognizes your handwriting in any language using its large Main Dictionary for that language. Such dictionaries come with ritePen and include many dozens or even hundreds of thousands of common words and proper names; they are sufficient for accurate recognition of generic handwritten texts. Additionally, ritePen includes dozens of special lexicons to enable context aware recognition. Still, many users need to recognize special or personal "terms", such as drug names, personal emails, scientific terms, names of friends and co-workers, industry or company specific product names, etc.

To facilitate this need, ritePen includes an easy method of creating and editing custom **User Dictionaries** for any language and using them with recognition profiles. You can add words to the User Dictionary manually at any time; import them from text files, such as clinical reports, contracts, educational materials; import new terms directly from the Windows Clipboard or from the Microsoft Office Outlook's Personal Address Book; you can also edit the list of words. ritePen will automatically extract only new terms from the imported source and offer you a preview where you will see the words absent in the main dictionary or lexicon and in the previously created portion of the User Dictionary. With this incremental method of building User Dictionary based on your real-life experiences, you can avoid excessive research and overloading User Dictionary with large word sets that can slow down handwriting recognition and degrade its accuracy.

Below is an illustration of importing from the text file (in this case, clinical report).

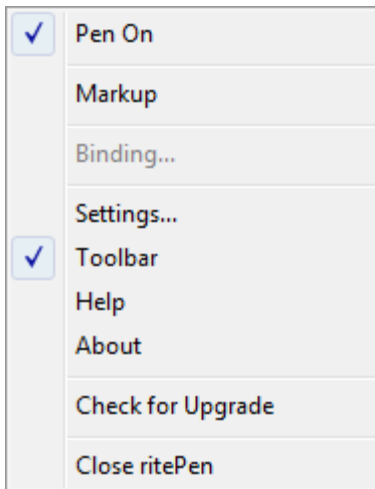


On the screenshot, you can see the *User Dictionary* on the left and the list of new words extracted from a text file in the *Import Words To User Dictionary* window.

Details on building and editing User Dictionary are presented in the [Settings>Recognition](#) section below.

Main Menu

Right-click or tap and hold ritePen notification icon, or right-click ritePen Toolbar to open Main Menu.

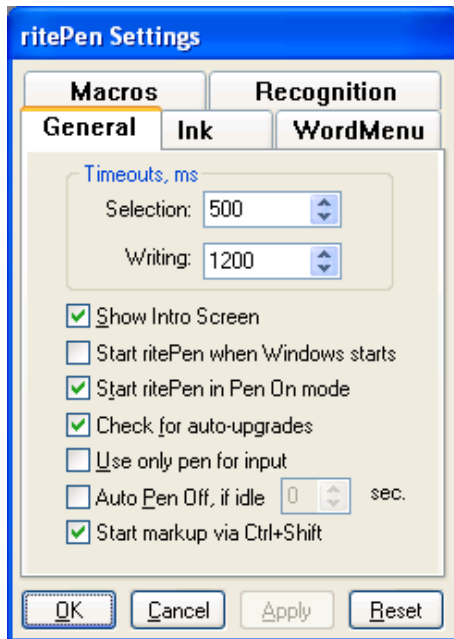


- **Pen On** is checked when writing mode of ritePen is enabled and unchecked otherwise.
- **Markup** switches ritePen into the **Markup and Instant Note-taking** mode and opens the *Markup Toolbar*.
- **Binding** (disabled by default) switches ritePen to the advanced **Binding Mode** and opens the *Binding Toolbar* for permanent assignment of recognition profiles to application windows and for customizing writing area.
- **Settings** opens the **ritePen settings** tabbed dialog, providing customization options.
- **Toolbar** displays or hides ritePen's Main **Toolbar**.
- **Help** displays this reference page.
- **About** displays copyright and version information about the product and its components and allows checking for product upgrades.
- **Check for Upgrade** connects to ritePen's online auto-upgrade system to check for available product upgrades.
- **Close ritePen** quits the application.

Settings

After calling up the ritePen Settings dialog box, you can change the following settings: **General**, **Ink**, **Recognition**, **WordMenu**, and **Macros**.

- **General**



- **Timeout for Selection.** When you select a portion of text by pressing and dragging your pen across the selection, ritePen briefly draws an ink stroke. By changing the *Timeout for Selection*, you shorten the time that stroke appears on the screen before it turns into selection.
- **Timeout for Writing.** When you are entering text using ritePen, the application recognizes your writing continuously. When you lift a pen after you have completed a portion of writing and want the text to appear in the target application, ritePen already has almost all of the answer; still, it waits for a short while to let you "dot your i's and cross your t's". In order to speed up the recognition process, you may shorten this time interval. In case you shorten the *Timeout for Writing*, make sure that the timeout is still sufficient with your individual writing speed to put the dots/crosses/etc. where they belong.
- **Show Intro Screen.** If selected, ritePen displays the introductory splash screen on the application start.
- **Start ritePen when Windows starts.** Adds ritePen to the Startup program group and forces its automatic launch after system reboot (check-marked by default).

- **Start ritePen in Pen On mode.** This choice is active (check-marked) by default, so that starting ritePen initiates the Pen On (writing) mode and ritePen accepts and recognizes handwriting. Removing the checkmark instructs ritePen to start in the Pen Off (Mouse On, navigation) mode. To turn writing on, click the ritePen tray icon to activate writing and recognition.

Note: You can also force ritePen to start in (or switch to) pen Off or On mode by specifying the command line key "/0" or "/1" after the name of its executable (e.g. "ritePen.exe /0" to switch the pen mode to off). Additionally, you can specify the parameter "/2" to toggle ritePen between the Pen Off and Pen On modes. This is especially helpful if you are using a hardware button to switch writing on and off. This method of switching ritePen mode can be used even if ritePen is already running.

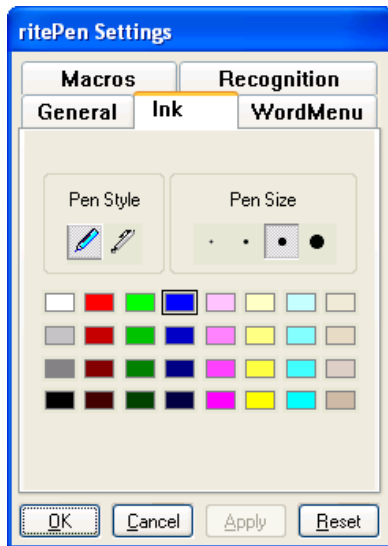
(If you are a software developer and wish to control ritePen's Pen On/Pen Off state from your application, you can also send a pre-defined Windows message to ritePen to alter or detect its state).

- **Check for auto-upgrades.** If selected, ritePen periodically connects to the server and notifies you if new upgrades are available.
- **Use only pen for input.** When enabled (unchecked by default), this option suppresses writing with a mouse, trackball, touchscreen and other navigational devices and allows writing only with the pen. This is helpful, for example, on convertible Tablet PCs and Ultra-Mobile PCs where users wish to fully utilize the pen in the tablet configuration and avoid writing in the keyboard configuration.

Note. This mode may not be working properly (and may be explicitly disabled in bundled versions of ritePen) on some models of touchscreen PCs where pen is indistinguishable, from the system standpoint, from mouse or other pointing and navigation devices.

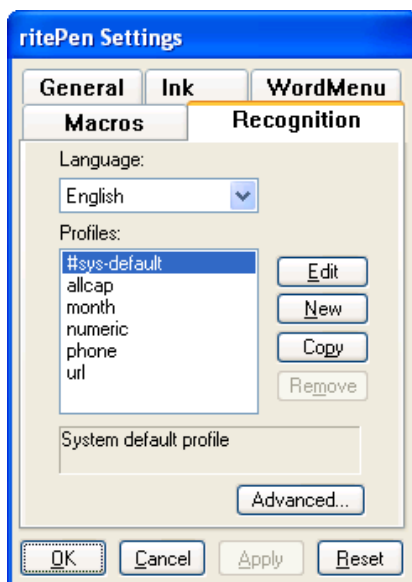
- **Auto Pen Off, if idle.** When enabled (unchecked by default), causes ritePen to automatically turn writing mode off provided that *you have not been writing for the specified time*. This option is helpful if you are mostly using your pen as a pointing and navigation tool and only occasionally for text input. Note that you have to turn back the pen mode manually each time it has been switched off.
- **Start markup via Ctrl+Shift.** When checked (enabled by default), you can press and hold Ctrl+Shift keys and start drawing on the screen to instantly switch ritePen into the **Markup and Instant Note-taking** mode. You can then release Ctrl+Shift keys and continue drawing on the screen. To return to writing and recognition mode, press the *Exit* button on the Markup Toolbar.

- Ink



- **Pen Style.** Clicking on the Pencil or Pen icon changes the appearance of handwriting on the screen between the standard "pencil" look and the calligraphy pen.
- **Pen Size.** Select pen thickness between Fine, Thin, Medium, or Thick.
- **Pen Colors.** Choose from 32 different ink colors.

- Recognition

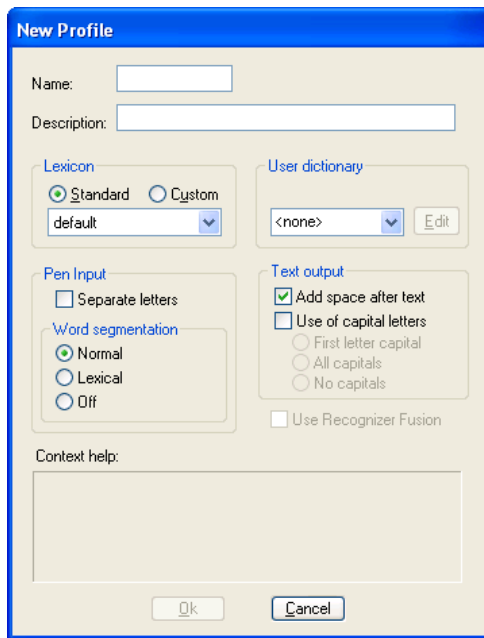


- **Language.** This version of ritePen can recognize handwriting in seven languages: English, French, German, Italian, Portuguese, Russian, and Spanish. The set of installed engines is displayed in the above box. Recognition is performed in the language currently active on your PC; for example, switching keyboard layout from English to French instructs ritePen to switch handwriting recognition engine between these languages. *Recognition Profiles are created and displayed for each language separately*; you have to choose the language prior to adding or editing a profile.
- **Profiles.** Displays the list of Recognition Profiles; except for the default system profile and sample pre-built profiles provided for your convenience, you have to create each profile. You can edit or remove any profile except the default. Sample profiles have the following meaning:
 - *allcap* - provides generic recognition with the main system dictionary, but text output comes in all capital letters.
 - *month* - restricts recognition to month names in the formats illustrated by this example: "January", "Jan", "Jan.", 1, 01.
 - *numeric* - restricts recognition to numbers, possibly with decimal period, comma separator for thousands, brackets, plus, and minus signs.
 - *phone* - restricts recognition to US phone numbers in a variety of formats; may include country and area code, prefix, and extension. Delimiters may include slashes, spaces, dashes, and dots.
 - *url* - improves recognition of web addresses; in particular, it suppresses unneeded spaces in the middle of an address and improves recognition of "top level domains" (.com, .net, .org, country extensions, etc.)

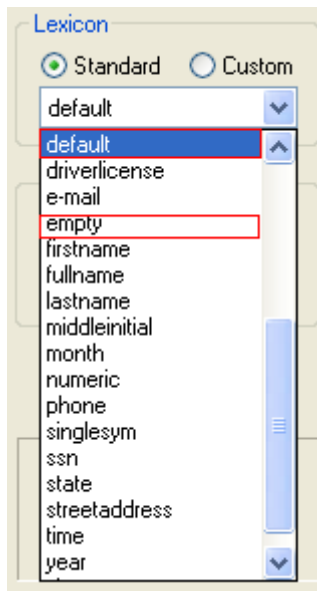
See [Appendix 2](#) for more info on lexicons used in recognition profiles.

- **Edit, New, Copy, Remove buttons** allow manipulations with Recognition Profiles.
- **Context Help** line displays the description of the selected Recognition Profile.
- **Advanced** button opens the *Advanced recognition options* dialog box.
- **New Profile**

This dialog box pops up after you press the *New* button in the *Settings>Recognition* tab (*Edit Profile* dialog box is similar). Its entries are discussed below.

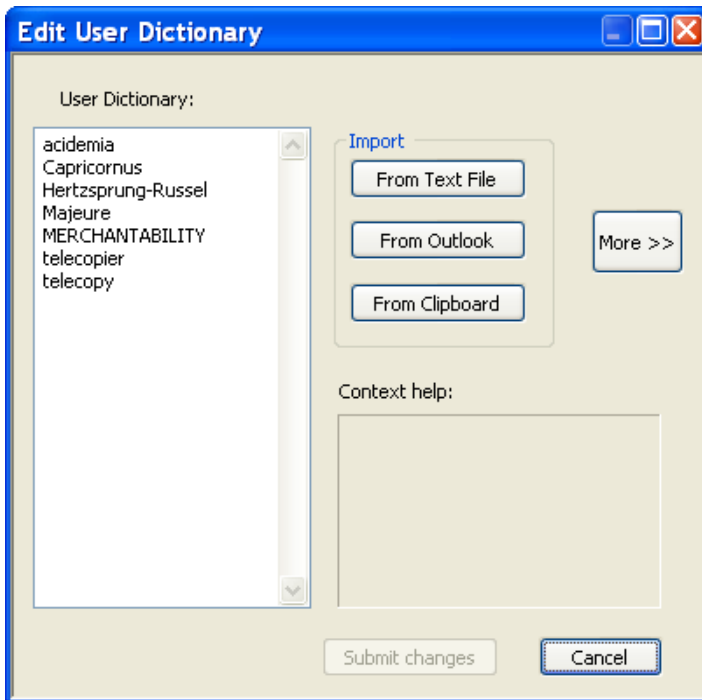
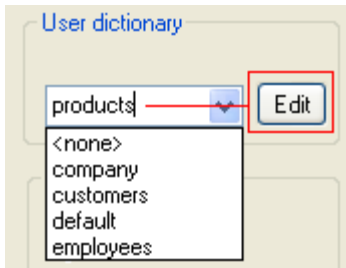


- **Name** is the unique name of Recognition Profile. All contexts are identified by ritePen by names of *Recognition Profiles*.
- **Description.** Add brief description to the profile; it will be displayed in the context help line in the Recognition window when a profile is selected.
- **Lexicon.** Special data type used to recognize entries; it can be a dictionary (personal or geographical names, etc.) or a data template (phone, social security number, numeric only entries, etc.). Select from dozens lexicons coming with ritePen.



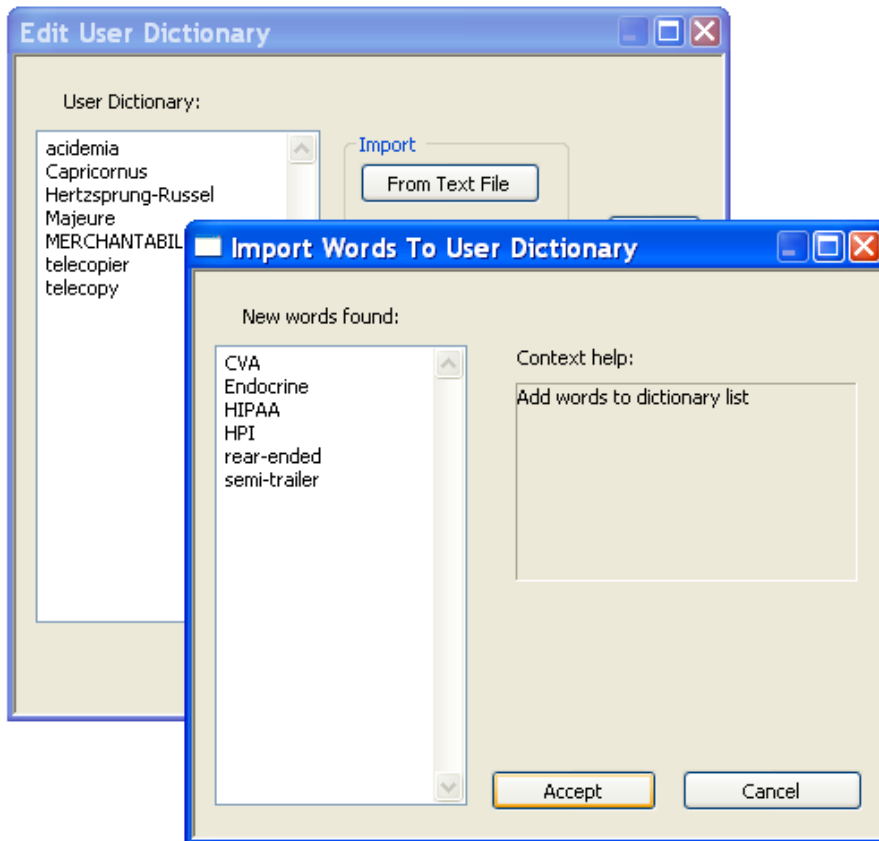
The *default* lexicon represents ritePen's main dictionary and is used for generic text recognition. The *empty* lexicon suppresses ritePen's own dictionary; use it when you need to recognize entries strictly from the *custom User Dictionary*. Custom lexicons can also be created and added to ritePen using special riteLex utility available upon request.

- **User Dictionary.** You can add custom *User Dictionary* to the recognition profile to add your specific terms (such as employee, customer or product list, etc.) to the pre-built lexicons. You may choose one of previously built user dictionaries from the list or type in a new name and click Edit button to add words to the *User Dictionary*.



- **User Dictionary.** Editable list of dictionary entries on the left side of the panel. You can add, delete or correct words in the list like in a regular text editor.
- **Import section.** Allows importing words into the User Dictionary from text files, Outlook Personal Address Book, and Windows Clipboard.
- **More >>.** This button opens panel with additional controls to facilitate word importing from diverse text sources.

- **Context help:** Prompts context dependent actions as you browse through the Edit User Dictionary Panel.
- **[Import] From Text File button.** You can import words from any text source (clinical report, homework assignment, contract, etc.) saved as *.txt* file. When you click the "From Text File" button, you are offered file selection dialog. After you select the file, ritePen splits it into words, checks the presence of each word in the Main Dictionary and in the existing portion of User Dictionary, and lists all new words in the preview *Import Words To User Dictionary* window

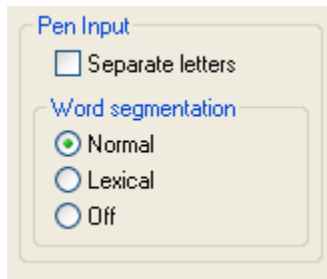


You can edit, remove or add new words in the preview window and add them to the User Dictionary by clicking the "Accept" button.

- **[Import] From Outlook button.** If you are using Microsoft Office Outlook, you can import all names and emails from your Personal Address Book into the User Dictionary. After pressing on this button, ritePen extracts names and emails from the address book, checks their presence in the existing vocabularies, and displays all new words in the "Import Words To User Dictionary" window, similarly to importing from text file. Same as previously, you

can edit, remove or add new words in the preview window and add them to the User Dictionary by clicking the "Accept" button.

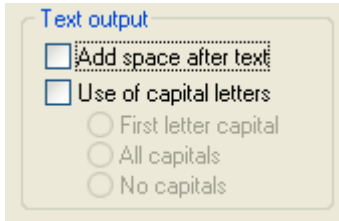
- **[Import] From Clipboard button.** Similarly to two previous items, you can capture the text into Windows Clipboard (for example, selected portion of a web page or a document) and press this button to add to User Dictionary all new words contained in that text.
- **Pen Input.** You can set up special pen input options for a recognition profile, such as writing only in separate letters, or define word segmentation mode:



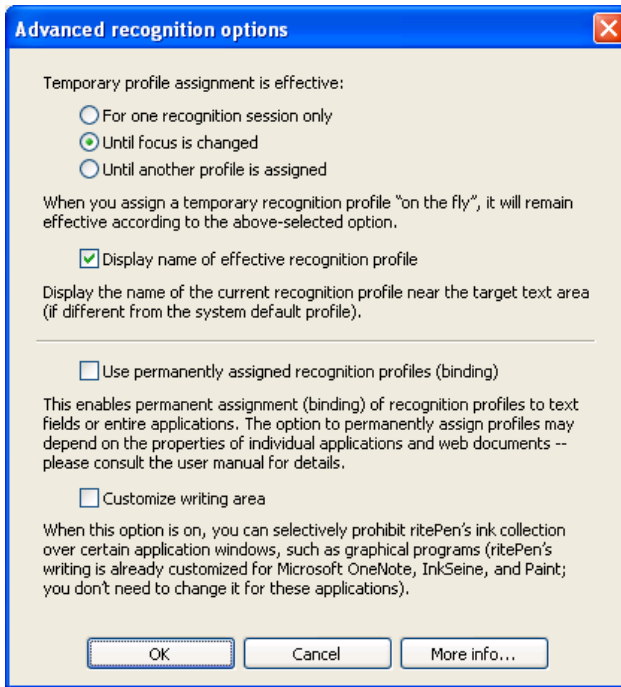
- **Separate Letters mode.** Check this box if you write in separate letters and never use cursive, connected handwriting (this option is especially important when you are filling out handwritten forms with grid or "comb" fields). This increases recognition accuracy for disconnected "separate letters" writing, but will fail the recognition of connected script.
- **Word segmentation.** Each lexicon sets its own word segmentation mode optimized for better recognition. When you choose a lexicon, you may see the radio button in Word segmentation section move to a different position. Please use this option carefully:
 - **Normal** is the standard mode – your handwritten words on one or several lines of text will be separated by spaces. Use this mode for regular text, especially with the default lexicon.
 - **Lexical** mode improves recognition with non-default lexicons where individual entries may include spaces. Examples are the date "Mar. 25, 2009" or the full name "Joe Smith". You can write on multiple lines of text and wrap handwriting to the next line; for example, "Dece
mber 4, 2009"
 - **Off** disables word segmentation; your writing on one or several lines of text will produce a single word without spaces. Use this mode to write long "words" like emails, web addresses and for entry into form fields where strictly one word is required. Do not use it if your text includes spaces between words.
- **Use Recognizer Fusion.** When ritePen works on a Tablet PC or on a Windows Vista PC, it fuses (combines) its riteScript handwriting recognition engine with the "embedded" recognizer, thus improving the recognition accuracy compared with each of the two engines. You can optionally switch off the fusion of recognition engines, in which case your handwriting will be recognized by the riteScript engine alone.

Note: On non-Tablet PC and non-Windows Vista computers this option is not available and the item is grayed out. Recognizer fusion is currently implemented for English language only.

- **Text Output.** Similarly to customizing pen input option for a recognition profile, you can specify text output options, such as adding space after each recognized word or displaying recognized text in capital letters.



- **Add space after text.** When enabled, ritePen will add a space after each recognized word. You may disable this option to recognize certain data types, such as Web addresses or emails, where spaces between words are unwelcome. You may always add a space using the space gesture.
- **Use of capital letters.** No matter how you wrote a particular entry or how ritePen recognized small vs. capital letters, you may instruct the program to output your text with capitalized first letters, in all capitals, or without capital letters.
- **Advanced recognition options.** This dialog box contains options for temporary and permanent assignment of recognition profiles for context aware recognition and for customization of writing area.



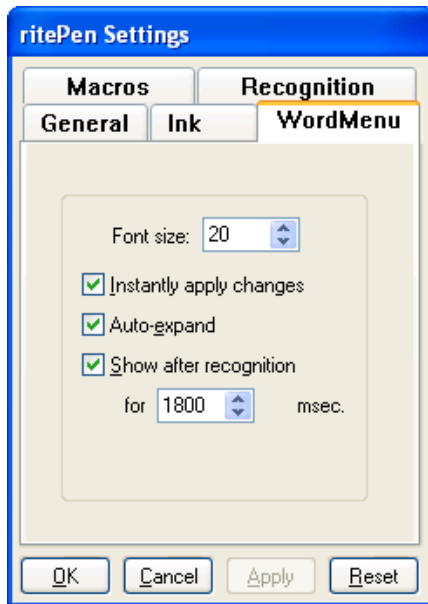
- **Temporary profile assignment is effective...** defines the scope of temporary assignment:
 - For one recognition session only** - switches back to default recognition profile after recognizing one fragment of handwriting after the custom profile was assigned;
 - Until focus is changed (the default option upon your installation of ritePen)** - reverts to default recognition profile once you move the focus away from the application that was active when the recognition profile was assigned;
 - Until another profile is assigned** - sticks with the custom recognition profile until it is manually changed to default or other custom profile.
- **Display name of effective recognition profile** shows the "tip style" sticker-reminder with the name of custom recognition profile near the target text input window (if the *default* recognition profile is used for recognition in the text input window, the sticker is not displayed).

The remaining advanced recognition options are experimental; in this version, they are disabled by default.

- **Use permanently assigned recognition profiles (binding)**. This option enables the Binding item in the ritePen menu and allows permanent assignment (binding) of custom recognition profiles to certain applications and form fields.
- **Customize writing area**. This option also enables the Binding item in the menu and allows you to selectively prohibit writing over certain application window. This can be helpful, for example, when you would like to avoid ritePen's writing over graphical applications where such writing interferes with drawing.

- **WordMenu**

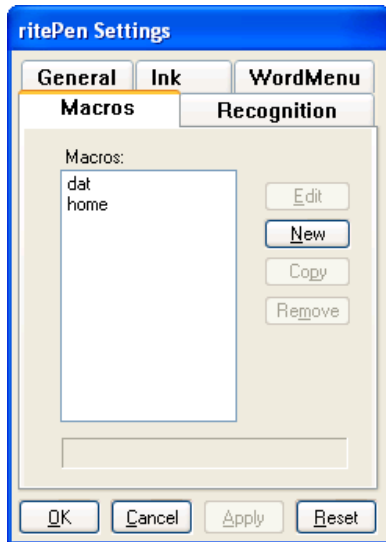
These settings control the behavior of the **WordMenu pop-up window** which allows quick correction of misrecognized words and selection of alternative answers from the list.



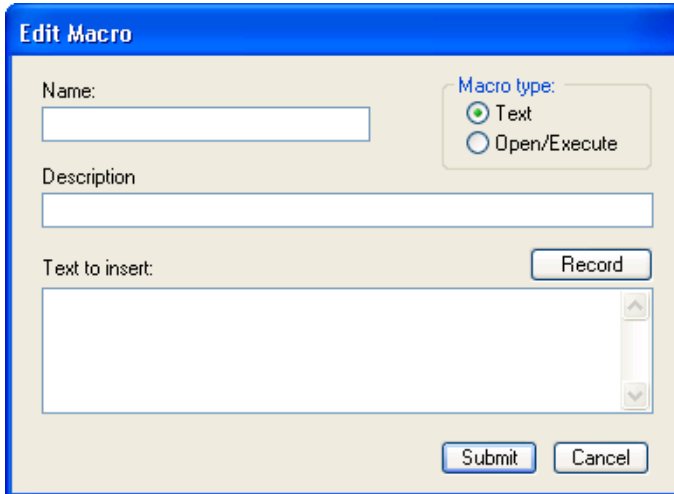
- **Font size.** Letter size for answers in the WordMenu.
- **Instantly apply changes.** When you make changes to the recognized text in the WordMenu window, they can be automatically sent to the target application. Alternatively, you can first make all changes and then click the "checkmark" icon in the top right corner of the WordMenu window to apply all changes in a single action.
- **Auto-expand.** When this option is checked, WordMenu will include all feasible recognition alternatives for each recognized word and enable selection from the list of alternatives. If unchecked, only a single line with top alternatives will be displayed; letters can be corrected manually as explained above.
- **Show after recognition.** If checked, the WordMenu window will pop-up after each ritePen's recognition session and will fade-off after the timeout indicated in the next line. If unchecked, WordMenu will not automatically appear on the screen: it will take a WordMenu **gesture** to call up the window.

- **Macros**

These settings allow creation and editing of **Ink Commands**.



- **Macros:** List of your ink commands. To make your start with pen macros easier, ritePen comes with two sample ink commands pre-built: *dat* inserts the current date and time into the target text application, and *home* opens your browser and directs it to the home page (in the sample macro, it is the main ritePen product page).
- **New.** Click this button to add a new ink command.
- **Edit.** Select a command you wish to edit and press this button to open editing panel.
- **Copy.** Copies the description and body of the selected ink command into a new command; this allows easy assigning of multiple names to the same command or reusing the content of commands.
- **Remove.** Select an ink command and press this button to remove it from the list.
- **Context help line.** Displays the description of the selected command.
- **OK/Cancel/Apply/Reset.** Standard action buttons (pressing "Reset" undoes all changes you've made after the Macro tab was opened).
- **Edit Macro.** This panel opens when you press the "New" button or the "Edit" button when a command is selected in the list.
 - **Macro type.** Before entering the body of an ink command, use the radio buttons in the top right side of the panel to choose between the **"Text"** and the **"Open/Execute"** type of command. The first type enters text into the target application, emulates keyboard activity, and performs other useful commands; the second one opens documents, websites, and applications.



- **Name.** Abbreviated name that you will be writing and encircling every time you invoke the ink command.
Important Note: In this version of ritePen, abbreviated *Name* of an ink command should be in English letters; you can use words in any language in the Text you wish to insert when the command is executed.
- **Description.** Brief memo.
- **Text to insert (for the "Text" ink command type).** Multi-line text that will be placed into the target text-aware application when you invoke the command.

In addition to text, you can use *any keystroke combinations* and many useful *commands* in the body of the macro. The following table shows all additional types of available keystrokes and commands and their formats.

Keyboard modifiers	{Ctrl+...}, {Alt+...}, {Shift+...}, {Win+...}, {HexChar:...}, {HexVk:...}
Special symbols	<u>Navigational keys</u> - {Home}, {End}, {PgUp}, {PgDn} <u>Navigational arrows</u> - {Left}, {Right}, {Up}, {Down} <u>Other common keys</u> - {Del}, {Bksp}, {Ins}, {Tab}, {Enter}, {Esc}, {Space}, {PrtScr}, {ScrLock}, {NumLock} <u>Functional keys</u> - {F1}-{F12}

Commands	<p><u>Call WordMenu</u> - {WordMenu}</p> <p><u>Call Punctuation Pane</u> - {PunctPane}</p> <p><u>Call Floating Toolbar</u> - {Toolbar}</p> <p><u>Call Binding Pane</u> - {Bind}</p> <p><u>Call Main Menu</u> - {MainMenu}</p> <p><u>Call ritePen Settings</u> - {Settings:}, {Settings:General}, {Settings:Ink}, {Settings:WordMenu}, {Settings:Macros}, {Settings:Recognition}</p> <p><u>Temporarily assign or reset recognition profile</u> - {UseProfile: <profilename>} (for example, {UseProfile:numeric}), {UseProfile:} (reset to default), {UseProfile:?} (display profile menu for manual selection)</p> <p>{Settings:WordMenu}, {Settings:Macros}, {Settings:Profiles}</p> <p><u>Set the scope of temporary assignment of recognition profile</u> - {UseProfileScope:Once} (for one recognition session), {UseProfile:Focus} (for active application only), {UseProfile:Always} (until another profile is chosen).</p> <p><u>Delay execution of the macro by xxx ms</u> - {Delay:xxx}</p> <p><u>Display Date and Time</u> - {DateShort} (MM/DD/YYYY), {DateLong} (Weekday, Month Day, YYYY), {Time} (Hr:Min AM/PM)</p> <p><i>Note.</i> `DateShort`, `DateLong`, `Time` enclosed in "grave accents" have been retained for backward compatibility with version 3.0; we recommend converting them to the new syntax.</p> <p><u>Execute ink command xxx</u> - {RunMacro:xxx} (executes a macro xxx in the body of a Text macro)</p> <p><i>Note to macro developers.</i> Be careful when using the RunMacro command; the dynamic depth of recurrent macro calls is five; after that, the calling ink command stops execution. Avoid using it for sophisticated recurrent calls of subordinate macros.</p>
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Important Note: Don't forget enclosing **all** special keystrokes in the parentheses **{ }** to avoid potential issues. For example, the macro {Ctrl+{End}} moves the cursor to the end of a document, while the result of execution of the macro {Ctrl+End} is equivalent to pressing and holding the 'Ctrl' key and subsequently pressing the 'E', 'n' and 'd' keys and depends on the application in which the keys were pressed.

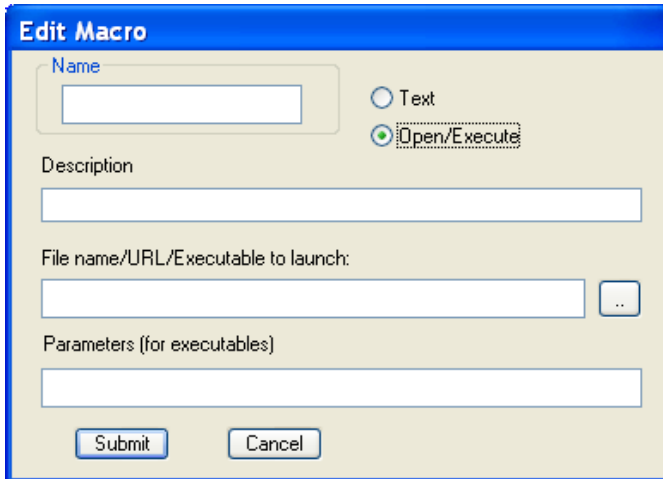
To facilitate input of special keystrokes and modifiers, ritePen offers basic recording mode:

- **Record button.** When you press this button, all your keystrokes are recorded directly into the body of the macro (*Text to insert*) in the ritePen macro format. If you made a mistake and need to delete a keystroke, press *Stop record* first.

Note. The recording mode does not offer a full-blown "macro recorder": it does not perform

the actions corresponding to recorded keystrokes; you need to plan the sequence of keystrokes in advance and then use the *Record* button to simplify the job of entering the text of the macro.

- **Edit Macro (for the "Open/Execute" ink command type).** This panel opens when you press the "New" or the "Edit" button and choose the "Open/Execute" ink command type.



- **File Name/URL/Executable to launch (for the "Open/Execute" ink command type).** Type in, paste or select full path to file (such as *c:\projects\mydocument.doc*), full URL (for example, *http://ritescript.com*) or application name (for example, *winword.exe*) that will be opened when you run the command.
- **Parameters (for executables).** Optional parameters to start the application with.



Floating Toolbars

This version of ritePen has three floating toolbars: Main, Markup, and optional Binding Toolbar.

Once you activate the always-on-top **Main Toolbar** by choosing the Toolbar item in the main menu, you can drag it by the double bar on its top right side to position the toolbar at any location on your screen. It will remember the position and will always appear there. Right-click anywhere on the bar to open the ritePen **menu** (the only exception is the pen icon in the Pen On mode; right-clicking on that icon opens the drop-down list of recognition profiles).



- **Pen On/Off**

Clicking the Pen On/Off icon toggles between the Pen On mode  and the Pen Off mode  exactly as if you had clicked on the ritePen notification icon in the task bar.

- **Markup**

Clicking this icon switches ritePen into the Markup and Instant Note-taking mode and opens the Markup Toolbar which replaces the Main Toolbar while the markup mode is active.

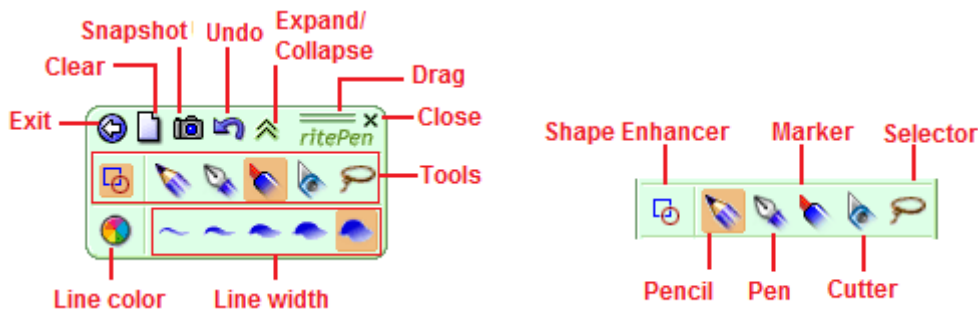
- **Open Punctuation Pane**

Clicking the Add Punctuation Symbol icon launches the pane with punctuation signs and special symbols exactly as if you had made the "Punctuation pane" [gesture](#).

- **Settings...**

Clicking the Settings icon calls up the ritePen Settings dialog box described in the ritePen [Settings](#) section above.

The **Markup Toolbar** appears on the screen in the Markup and Instant Note-taking mode.



- **Exit** button. Click on this icon to exit markup mode and reopen the Main Toolbar. Your drawing will remain on the screen and will be visible the next time you enter the Markup and Instant Note-taking mode.
- **Clear All** button. Click on this icon to erase all markup currently present on your screen.
- **Snapshot** button. Press to select screen clips and save them as images to system clipboard or Evernote notebooks.
- **Undo** button. Press to revert previous actions.
- **Expand/Collapse** toggle. Switch between full (as on the above screenshot) and basic view of the Markup Toolbar.
- **Shape Enhancer** tool. Select this tool to draw perfect shapes and charts or press it to enhance shapes in selected portion of digital ink.
- **Pencil** tool. Emulates round lead pencil for drawing.
- **Pen** tool. Calligraphy pen where line width depends on drawing direction.

- **Marker** tool. Highlights portions of your screen with semi-transparent ink. All three tools, Pencil, Pen, and Marker are pressure sensitive.
- **Cutter** tool. Select this tool to erase strokes by crossing or encircling them.
- **Selector** tool. Selects strokes by crossing or encircling them and displays selection box where selected strokes appear faded. You can drag, resize, delete, change color and line width, and apply Shape Enhancer to selection.
- **Color** button. Press to open color palette.
- **Line width** palette. Allows choosing between five different line thickness options.

The third, optional Binding Toolbar is explained in [Appendix 1](#).

Auto-Upgrades

ritePen includes a convenient online auto-upgrade system which notifies you about new releases and upgrades. It is also used to offer instructional materials, tips, surveys and other information. The auto-upgrade system periodically connects to the ritePen auto-upgrade server and compares your installed version with the latest available version of ritePen. The auto-upgrade system does **not** capture or transfer any private info from your PC to the server. If the installed version of ritePen requires an upgrade, you will receive a pop-up notification with an upgrade offer and can instantly download the upgrade from the Ritescript website or purchase it from our online store. If you are not interested in the immediate upgrade, you may elect to be reminded later or skip the offer of a particular upgrade altogether. If your company's IT policies or personal preferences conflict with receiving the auto-upgrade info, you can disable the check for auto-upgrades in the *Settings>General* as explained above. You will still be able to check for upgrades manually from the "About" box or the "Check for Upgrades" item in the Main Menu.

Appendix 1. Advanced Binding Features

This section covers binding (permanent assignment) of recognition profiles to applications for context aware recognition, as well as restricting writing area in ritePen. Additionally, it describes programmatic binding for software developers and gives guidelines for Web forms design to enable context aware recognition in such forms.

Important Note. Features described in this section are considered experimental in the current version of ritePen. Please use them carefully.

Enabling binding mode

Before you start using advanced binding features, make sure to enable the *Binding mode*: Start ritePen, open *Settings>Recognition* tab, press *Advanced* button and check the needed boxes.

Binding mode and Binding Toolbar

Binding Mode is a visual design mode allowing you to permanently assign and track recognition profiles and to disable writing over certain application windows. It is not intended for performing your regular desktop tasks: we strongly discourage you from operating any applications in this mode, including writing in ritePen (even though, technically, you are able to do that).

Select *Binding* from the ritePen menu to open Binding Mode. *Binding Toolbar* will pop-up in place of your *Main Toolbar*. It has four buttons: *Exit*, *Binding*, *Customize Writing Area*, and *Settings*. Two of the buttons, *Exit* and *Settings*, are self-explanatory. In the next two sections, we will explain how to use *Binding* and *Customization of Writing Area*.

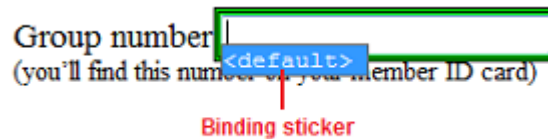


Binding recognition profiles

Section [Assigning Recognition Profiles](#) above explained how to temporarily assign profiles to applications where the context may be changing. For example, assigning the numeric profile to an Excel worksheet is helpful as long as you need purely numeric input; still, worksheets may include many other types of data, so the permanent assignment of the numeric recognition profile to Excel may be unreasonable. However, for many types of documents where data types are fixed, permanent assignment of recognition profiles makes perfect sense. Two important examples are Web addresses in a browser and structured documents, such as forms, where the

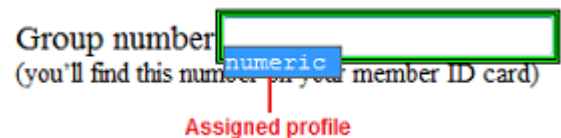
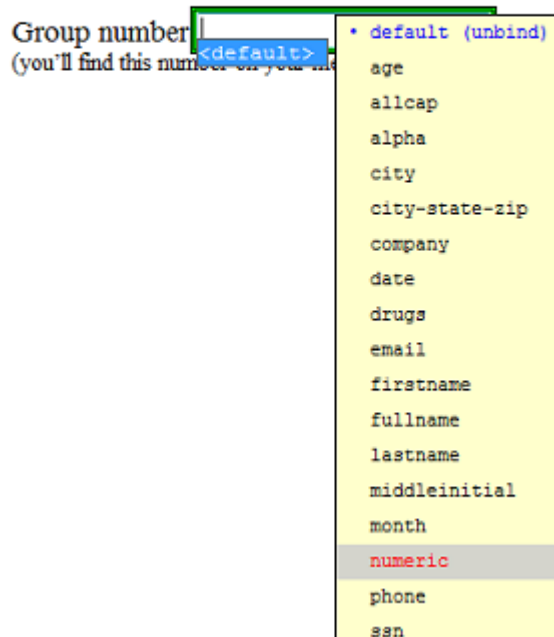
context of each "field" is pre-defined and in many cases persistent. To permanently assign (bind) recognition profiles to such applications, ritePen offers the *Bind* tool.

When ritePen is in the *Binding Mode*, navigating application windows or text input areas within applications displays a green or a yellow frame around those areas. Green frames indicate elements where binding recognition profiles is generally possible (although not always guaranteed; see *Note* at the end of this section). When you click into such area, the currently assigned recognition profile will appear near the field as a clickable "sticker" as shown below.



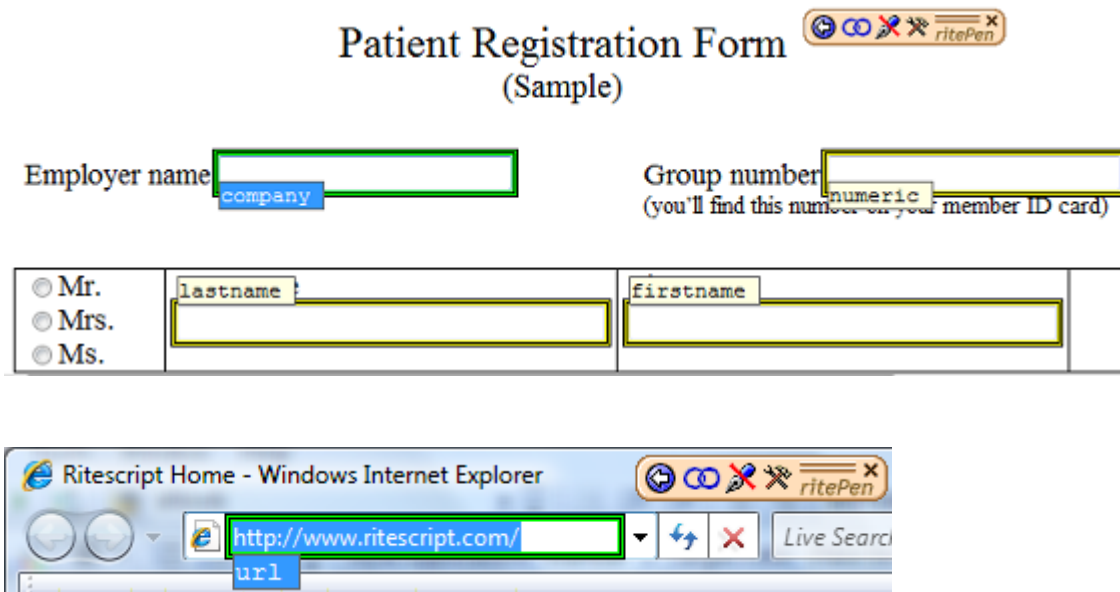
Click on the sticker to open a drop-down menu with the list of recognition profiles you have created for the current system language; you can assign one of those profiles to the selected area as illustrated below.

Patient Registration Form (Sample)



When you are browsing through multiple text input areas of the same application in the Binding mode, yellow frames indicate the areas to which recognition profiles have already been permanently assigned; you can see a light yellow sticker with a profile name near each area. If you place the cursor into such yellow area, its frame will turn green and the profile name will appear in the blue "selection color" as shown on two screenshots below. You can instantly

change the profile or "unbind" the text area by selecting the top item "default (unbind)" from the drop-down menu of the *Bind* tool.



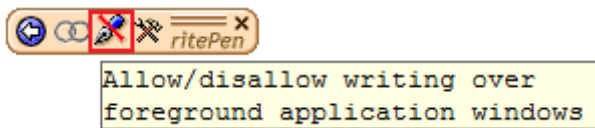
After you've assigned all profiles, close *Binding mode* by pressing the *Exit* button on the *Binding Toolbar*. You can immediately use binding results: write in Web addresses in the browser, complete your forms and enjoy accurate context aware recognition.

Note. To maintain context aware recognition, ritePen identifies applications by collecting and using their "signatures". Not all desktop and Web applications and forms have easily identifiable and persistent signatures; respectively, in some cases binding may not work. If you have a popular application where you wish to use context aware recognition and are unable to bind recognition profiles to the application or its text entry fields, please contact us: we may be able to help.

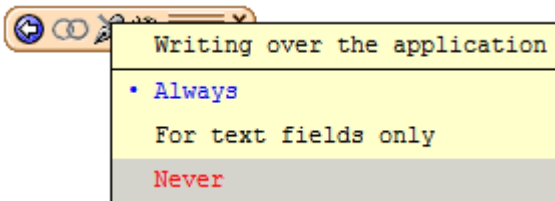
Customizing Writing Area

With ritePen, you can conveniently write anywhere on the screen. Sometimes, however, it is undesirable to write over certain applications windows, such as graphical programs where drawing may conflict with ritePen's writing. ritePen is customized to work with popular drawing applications OneNote, Paint, and InkSeine: it automatically disables writing mode on their drawing canvases. To disable ritePen's writing mode on other windows, use the *Binding Toolbar*. Open the toolbar by selecting the *Binding* item from the menu (make sure that you have checked the box *Customize Writing Area* in *Advanced recognition options* under

Settings>Recognition). Then select application window where you want to disable writing and press the "Disable Writing" button



You will be presented with a few options:



If you choose the *Never* option, the target window will appear in two crossed red lines and ritePen's writing will be disabled over this application and any its dialogs, options and other components; binding (assigning permanent recognition profiles) will also be disabled for such application.

If you choose the the *For text fields only* option, the window will appear with one crossing red line and writing will be disabled for the non-textual fields of the application (for example, for drawing canvases). However, if a text input window in the application is chosen (for example, a search box or an option in the options dialog), you will still be able to write over the application window. Binding of recognition profiles to such textual windows is allowed.

Disable writing on all applications where you don't want ritePen to conflict with application's own functioning, then close Binding Toolbar. To re-enable writing, switch to the Binding Mode, select a disabled application window click the button and select *Always* from the menu.

Important Note. Disabling application window for ritePen's writing does not mean that digital ink will never appear on top on that window. It only means that the *starting point* of each handwritten fragment should be outside the window; once you started writing in ritePen outside the excluded area, you can continue on top of any window or navigational element, including the areas where writing was disabled.

Programmatic assignment of recognition profiles to application windows

At the beginning of each writing session (a continuous fragment of writing), ritePen software analyzes the foreground "focus" window. If such window has the property ***ritePenRecProfileProperty*** set as an Atom then the value of this Atom is treated as an assigned recognition profile. If the profile name is known to ritePen (the profile has been previously created in the Settings>Recognition dialog), ritePen software will use this profile for

recognition of the handwritten text entered during the "session". If the profile is unknown or the property is absent, the default system profile will be used for recognition. Below is an example:

```
//assign recognition profile "customers" to the window with the handle hWnd1
ATOM _customersAtom = GlobalAddAtom(_T("customers"))
....
SetProp(hWnd1, _T("ritePenRecProfileProperty"), (HANDLE)_customersAtom);
....
//release property and atom (usually before destroying the window)
RemoveProp(hWnd1, _T("ritePenRecProfileProperty"));
GlobalDeleteAtom(_customersAtom);
```

Notes. 1. In the current version of ritePen, programmatic binding overrides manual binding for the same application window.

2. ritePen also has a messaging API for smooth integration into third party applications. Contact Ritescript for details.

Enabling context aware recognition in Web forms

ritePen software uses Windows system utilities to identify fields in Web forms and track assigned recognition profiles. To correctly identify fields (input elements) in such forms, all fields used with ritePen's context aware recognition should be statically labeled. Below is an example:

```
<label for="Employer">Employer_Name</label>
<input type="text" id="Employer" size="26" value="">
```

In this example, the field (input element) with the id "Employer" has the label "Employer_Name", which will be used by ritePen to (i) identify the field once the recognition profile has been assigned and (ii) ensure that the right context is used to recognize handwritten entry into that field.

Appendix 2. Lexicons

The following table explains ritePen's lexicons, the building blocks of recognition profiles used for context aware recognition. The first column alphabetically lists lexicon names as you find them in Settings>Recognition; the second column specifies ritePen's recognition languages in which the lexicon is available; description and examples are in the third column; additional comments and recommendations on pen input options for profiles that use certain lexicon are presented in the last column.

Lexicon	Languages	Description and examples	Comments
age	English	Age in years, months, weeks or days, possibly abbreviated Examples: 25 Yrs old 9 1/2 Weeks 9 Mos 06 2 Days 65	
alpha	English, French, German	Any letter combination, may include spaces between letters.	This lexicon eliminates the dictionary from recognition. Use it for "random" letter sequences which are not supposed to be dictionary entries. Better to use with Separate letters mode.
alphanumeric	English, French, German	Any combination of letters and digits, potentially including spaces, beginning with the symbols ([-'.:'] and ending with the symbols)}]-.',;?!)	This lexicon also eliminates the dictionary from recognition. Use it for "random" letter-numeric sequences not supposed to be dictionary entries. Recommended Pen Input mode - Separate letters.
amount	English, French, German	Any valid number, potentially including decimal point, comma-delimiters, the "minus" sign, a currency sign (dollar, pound, yen or euro), or a "number prefix" # (decimal part and other delimiters are not allowed for numeric data with #-prefix). Examples: \$890 €12.57 €-	

		.78 \$123 123. - 123,000 123,000. \$1,234,000 .9 -1.99	
city	English, French, German	City names, different in three languages: English (US cities), French, and German.	
company	English	Large list of US and international companies.	We recommend adding company names of your partners and suppliers to custom user dictionary and combining it with this lexicon in your recognition profiles.
csz	English	"City-State-Zip" triplets for US postal addresses, frequently used in forms entry.	
date	English, French, German	Date in numeric or alphanumeric formats. Examples: 10/25/08 Monday, February 24, 2003 Mon. Feb. 24, 2003 (US format) 25.10.2008 Montag 24 Februar 2003 (European format)	The union of datealpha and datenumeric lexicons described below. Note that each format (US, European) works in the appropriate languages: when system keyboard and ritePen are set to the English language recognition, you have access to the US format of date, while in German the date will be recognized in the European format.
datealpha	English, French, German	Date in alphanumeric format [WD,] MO DY[,][YY]YY where WD is a weekday name (optional); MO is a month name; DY is a day of a month, optionally followed by a comma; and YY[YY] is a year in the 2-digit (from 00 to 99) or the 4-digit (from 1900 to 2099) format.	

		Examples: Monday, February 24, 2003 Mon. Feb. 24, 2003 (US format) Montag 24 Februar 2003 (European format)	
datenumeric	English, French, German	Date in numeric format M[M]*D[D]*YY[YY] (US) or D[D]*M[M]*YY[YY] (European) where M[M] is a one or two digit month number; D[D] is a one-digit or two-digit day number; YY[YY] is a two of four digit year number (from 00 to 99 or from 1900 to 2099); and * can be any of the symbols "slash", "dash", "dot", or "space".	
datenumeric_eu	English	Date in any numeric format (US or European).	
day	English, French, German	Day of month, 1 to 31. Examples: 1 05 31 1st 22nd	
default	All	Main ritePen dictionary. It is used in non- editable recognition profile #sys-default and can be replicated in other profiles.	You can use this lexicon in different recognition profiles in combination with various custom user dictionaries.
driverlicense	All	US Driver License	Improves recognition of 20+ different formats of US Driver License ID used in different states. Because Driver License ID is normally a combination of capital letters and digits, recommended Pen Input mode for this profile is Separate letters.
e-mail	English	Email address	Improves recognition of email addresses. Please write the '@' sign and the 'dots' in the

			email legibly.
empty	All	Eliminates system dictionary from recognition.	Use this lexicon in recognition profiles with <i>custom user dictionaries</i> when you require the text output to belong <u>strictly</u> to the user dictionary.
firstname	English, French, German	First name.	This lexicon allows recognition of any first names; most popular names are included in the dictionary of this lexicon and will be recognized more reliably.
fullname	English, French, German	Full name in the format FN [MI[.]] LN or LN, FN [MI[.]] where FN is first name, LN is last name, MI is middle initial. Dashes in names (Marc-Andre) and suffixes (Jr., Sr.) are also allowed.	
lastname	English, French, German	Last name.	This lexicon allows recognition of any last names; most popular last names are included in the dictionary of this lexicon and will be recognized more reliably.
middleinitial	English, French, German	Middle initial: one or two letters with or without periods Examples: A A. AA AA. A.A.	
month	English, French, German	Month in numeric or alphabetic format, full or abbreviated. Examples: 2 02 Feb. February Februar	
numeric	All	Any numeric combination, potentially	Recommended Pen Input

		beginning with the symbols ({{[-.: ' and ending with)}]-. , ' : ? !	mode - Separate letters.
phone	English, French, German	Phone or fax number in a variety of acceptable national formats; may include country and area code, prefix, and extension. Delimiters may include slashes, spaces, dashes, and dots. Examples: (408) 555-2368 (408) 555-2368 x12 +1.408/555-2368 (089)/636-48018 +7-49-(089)-636-48018	Recommended Pen Input mode - Separate letters.
singlesym	All	System lexicon used in WordMenu. Not applicable for custom recognition profiles.	Do NOT use this lexicon in your recognition profiles.
ssn	English	US Social Security Number in the format XXX-XX-XXXX where X is a digit (omission of dashes or spaces in place of dashes are permitted).	Recommended Pen Input mode - Separate letters.
state	English	US State name, abbreviated or full. Examples: CA Calif. California	For 2-letter state name abbreviations, you may set up the Text Output to All capitals but still write the state name in connected small letters for faster input.
streetaddress	English, French, German	Street address. Examples: 710 Lakeway Dr. 123 State Hwy 15 apt.29 PO BOX 13 Dorfstr. 512 Alter Oelsener Weg 25 103 B AVENUE LOUIS DIDIER	
time	English, French, German	Time in the format HR, HR:MIN or HR:MIN:SEC in the 12-hour or 24-hour format, where HR - hours, MIN - minutes, SEC -	Recommended Pen Input mode - Separate letters.

		seconds.	
www	All	Web address (URL).	
year	English, French, German	Year in the 2-digit format (from 00 to 99, possibly with the prefix ') or in the 4-digit format (from 1900 to 2099).	Recommended Pen Input mode - Separate letters.
zip	English, French, German	Postal ZIP code in the 5-digit format (US ZIP codes can also be in the 9-digit format XXXXX-XXXX and German ZIP codes may include the D-prefix).	Recommended Pen Input mode - Separate letters.

Appendix 3. Customizing the Punctuation Pane

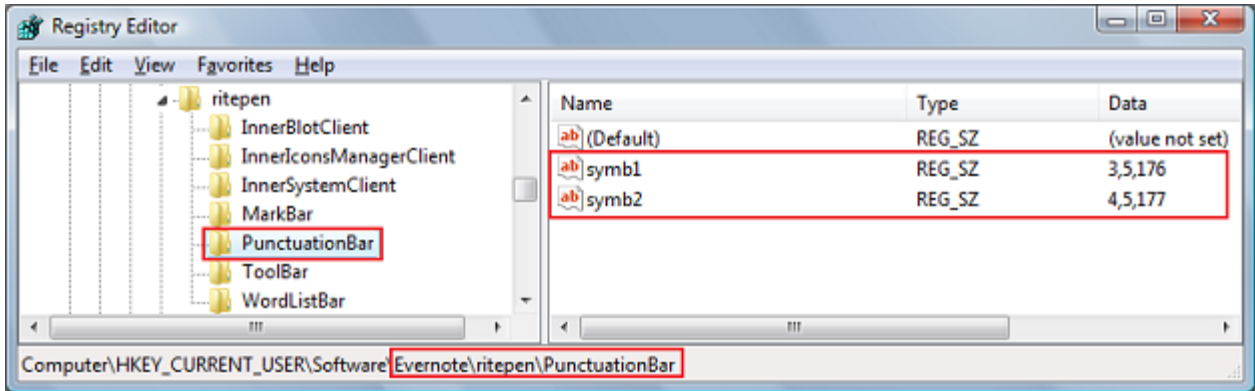
ritePen allows customization of the Punctuation Pane by replacing some of its characters. For example, you may add the degree Celsius sign or the plus-minus sign if you are frequently using them.

,	'	()	*	\$	↶	↷	⌫
.	"	[]	&	£	→	←	PgUp
:	;	{	}	^	¥	Ins	Del	PgDn
-	+	<	>	%	°	Home	↑	End
/	\	_		©	±	←	↓	→
!	?	~	@	#	=	...	⌵	↵

Custom symbols

In this version of ritePen, customizing the Punctuation Pane requires basic manipulations with the registry. *If you don't feel confident about your ability to work with the registry, don't use this feature as it may cause unpredictable effects not only for ritePen but for other applications as well.*

To customize the Punctuation Pane, create new ritePen registry key *PunctuationBar* under *HKEY_CURRENT_USER\Software\Evernote\ritepen*. Then subsequently add to that key one or several string values named *symp1*, *symp2*... (please make sure that the value names are contiguous, without omissions). Each registry item *symp1*, *symp2*, etc. replaces one symbol in the Punctuation Pane. The value of such variable should be written in the format *Row,Column,Char* where *Row* is the number of the line in which the character is replaced (0..5), the *Column* is the number of the column where the character is replaced (0..5), and *Char* is the decimal character code (for example, for the degree Celsius it is 176 and for the plus-minus sign it is 177); you can find the needed codes by selecting characters in the Character Map application.



When you add and delete symbols to and from the Punctuation Pane, make sure that the item names in the registry are always symb1, symb2, ... without omissions in the numbers.



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