

EMU Manual

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Contents

1	About EMU	3
2	Installation	3
2.1	System requirements	3
2.2	Installing EMU	3
2.3	EMU Key	4
2.4	EMU co-operating with other programs	4
3	First steps	4
3.1	Working with dictionaries	6
3.2	Using abbreviations	6
3.3	Adjusting the Prediction List	7
3.4	Adjusting the input	8
3.5	Adjusting prediction settings	8
4	Description of EMU	8
5	Description of the Adjustment Tool	11
5.1	Input	11
5.1.1	Type	11
5.2	Feedback	12
5.2.1	Prediction List	12
5.2.2	Sound	12
5.2.3	Speech	12
5.3	Prediction	13
5.3.1	Language Specific	13

5.3.2	Dictionary	15
5.3.3	Text Collection	17
5.3.4	Abbreviations	17
5.4	Support	19
5.4.1	Driver Info	19
5.4.2	System Info	19
5.4.3	Expert Settings	19
6	Problems and Solutions	20
6.1	Program compatibility	20
6.2	Trouble Shooting	21
7	Terms used	24

Corresponding Program-version

This manual was written for the EMU version 1.3.1.3.

Types of notation

Footnotes are indicated by small superscript numbers and may always be found on the same page as the mark itself.

References to terms are indicated by small superscript numbers in round brackets. The descriptions may be found in chapter 7 on page 24.

Publisher

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1 About EMU

EMU is a text prediction system which shall help you to enter text easier and faster while working with the computer. EMU works with a lot of different programs (please refer to the program compatibility list in chapter 6.1 on page 20).

2 Installation

2.1 System requirements

EMU was developed to run on 32 Bit **Microsoft Windows 98 and above**. It does not need any additional software except some files installed with **Internet Explorer 6**. The computer should have at least a **300 MHz processor** and **128 MB RAM for Windows 98/ME** or **256 MB RAM for Windows 2000/XP**. The program may even run on slower machines, the time needed to produce and present predictions, however, will increase. Additionally, a **CD drive**¹ is required for installation. After installation sound output is activated by default but may be deactivated by using the Adjustment Tool (therefore, some kind of sound hardware is recommended but not required). For text-to-speech output a SAPI 4 or SAPI 5 compatible speech synthesizer is required.

2.2 Installing EMU

Insert the EMU CD in your CD drive. If the Autostart feature² is active the Startup window will be displayed automatically. If not, please open My Computer and select the CD drive containing the EMU CD by double-clicking the assigned symbol. Start **StartUp.exe** with a double-click.

Select "Install EMU" and follow the instructions of the installation program. After the installation EMU is configured with standard settings and ready to run.

¹If your computer is not equipped with a CD drive the installation files may be copied to any other type of storage device and started from there.

²Autostart is active by default on all supported systems

2.3 EMU Key

The full version of EMU needs a key for the installation and the usage. If you want to test EMU, please use the free available Demo-Version³. Please note, that a key will only work with the distributed user-name. You may enter the key during the installation with or without minus character and you may type the key with uppercase or lowercase characters.

A new key version is available starting with the EMU version 1.3.1.3. New keys start with the characters EMU2. The new keys will not work with older EMU versions (1.2.x.x and older). If you upgrade your monolingual EMU to a multilingual version, you will receive a new key, that will enable the new languages⁴.

Old keys are accepted by all EMU versions. Therefore, there is no need to ask for a new key unless you want to upgrade to a multilingual version.

2.4 EMU co-operating with other programs

For a proper co-operation of EMU with other programs please observe the following hints:

- Please deactivate any auto-correction and abbreviation expansion functions in the programs since EMU will not always be notified of automatic modifications in the text. This may lead to wrong predictions or problems with the smart punctuation.
- Please be careful with spell checkers and the resulting modifications of words or word parts. For EMU it is not always possible to detect such modifications which may lead to wrong predictions.
- All text modifications done without direct keyboard input (e.g. search / replace, automatic spelling correction, etc.) may under certain circumstances lead to wrong predictions. In such cases you may reset the prediction system for the active window (refer to chapter 4 on page 9).

3 First steps

The EMU text prediction system consists of two programs:

³You may find the Demo-version on the installation disk of the full version, too. You may give the demo version to others, but you must not give the full version or your key to others

⁴Please note: You need a new key to use EMU with more than one prediction language

- EMU: This program (icon with orange background colour⁵) is the text predictor that helps you enter text into different applications.
- Adjustment Tool: This program (icon with turquoise background colour⁵) is used for the configuration of EMU and maintenance of the dictionaries.

It is not possible to run EMU and the Adjustment Tool at the same time. Should you try to start both programs simultaneously you will be informed about this restriction by a dialog window.

For the first steps simply start EMU and use the text editor of your choice (Notepad, Wordpad, Microsoft WordTM, etc.) to write a text. After typing a letter you will be presented with a list of word predictions in the EMU Prediction List. If the word you want to type is among the words presented in the list simply press the affiliated selection key and the complete word including a trailing space character will be inserted in the text. If the word is not in the list just type the next letter. The prediction list will be updated accordingly and the type/search process starts anew.

If, when typing longer words, the prediction list contains a word that is, with the exception of some of the last characters, matching the word you want to type it may be better to select the offered word and delete the wrong characters by pressing Backspace instead of continue typing to find the completely fitting word. With increasing experience you will be able to better estimate which strategy is the faster in your case.

Please note that learning new words is activated by default. Therefore, all typed words that are not included in the general dictionary will be added to the current user dictionary automatically. Especially when working with the EMU system for the first time it may be tempting to just type anything that comes in mind. This way, however, the system will learn these words automatically⁶. It is, of course, possible to edit the user dictionary at any time.

EMU is adjustable to your needs in many different ways. The most common options are shown below.

⁵Icons with green and red background colour are used by the install and uninstall program.

⁶In some cases (e.g. educational institutions or on systems with many different users working with EMU) it may be better to deactivate the automatic learning function (please refer to chapter 5.3.1 on page 13).

3.1 Working with dictionaries

EMU is delivered with a general dictionary and an empty user dictionary for each prediction language. Since learning new words is activated by default new words are added to the user dictionary automatically. The general dictionary is read-only and will never be modified. The EMU system will adapt to your personal vocabulary by learning new words and putting them into the user dictionary. Thus the predictions will become more and more precise over time.

This adaption process may be sped up by analysing existing texts with the Adjustment Tool and thus producing a user dictionary. The texts used for analysing should be as error-free as possible since all words will be added to the Adjustment Tool. For further details please refer to chapter 5.3.3 on page 17.

The size of the user dictionary may influence the accuracy of the predictions. In many cases a smaller dictionary may produce faster predictions. Therefore, it may be a good idea to create different user dictionaries for different use cases (day-by-day communication, writing letters, office work, etc.). The active dictionary can be changed easily even while writing with EMU (please refer to chapter 4 on page 9). It might, however, be a good idea to use such user dictionaries only when writing about the respective topic lest the dictionary could be polluted.

3.2 Using abbreviations

Using abbreviations offers a very powerful way to save keystrokes (for example: typing “wkr” could enter “with kind regards” into the text). EMU supports two different ways of abbreviation expansion:

Automatically expanding abbreviations: Once the last character of the abbreviation has been typed it is automatically replaced with the expanded phrase. The advantage is that no further action is necessary to accept the expansion. The disadvantage is that such abbreviations need to consist of rather strange character combinations in order not to hide words starting with these characters.

Manually expanding abbreviations: The expanded phrase is displayed in the Prediction List together with other matching predictions and may be selected manually. The disadvantage is that an additional keystroke is required to select the expanded phrase. The advantage is the possibility to use any character combination as abbreviation.

With space expanding abbreviations: The third method is a blend of the two other methods. The expanded phrase is displayed in the Prediction List, but the selection is additionally possible with the space key. This method will be known from other programs like Microsoft Word™ (autocorrection feature). If you want to type for example “With␣kind␣regards␣” (the character ␣ is used for the space character) you have to type “Wkr␣” and the expansion will automatically take place right after the space key is pressed. The advantage of this method is, that the user need not search the Prediction List for the abbreviation/expansion.

With EMU it is possible to use all abbreviation systems in parallel. For further details please refer to chapter 5.3.4 on page 17.

3.3 Adjusting the Prediction List

The Prediction List window is the central interface between the program and the user. Therefore, finding optimal settings for the Prediction List (refer to chapter 5.2.1 on page 12) is virtually as important as finding good settings for the prediction process.

First you should do the basic settings for the colour of the window and the size and type of the font. A larger font, for example, is easier to read but reduces the available workspace on the Windows desktop. Another setting specifies if the Prediction List window shall follow the caret or shall remain static. When launching EMU the window will be placed at the one position from the last program termination⁷.

The width of the Prediction List window may be adjusted by simply dragging it. The width and the position of the window will be restored at program start. The height of the Prediction List window results from the number of predictions and the size of the font.

The number of the predictions to display is an important setting, too. The higher the number of predictions the better is the chance to find the matching prediction. Reading the list, however, needs more time with higher numbers of predictions. You will have to find the best balance between prediction list length and reading rate simply by trial and error. Please note that this “best setting” may change once you get used to the system.

⁷The window will be completely visible in any case

3.4 Adjusting the input

EMU offers different input schemes (key assignments to different functions). Please select the most fitting input scheme from the corresponding dialog (chapter 5.1.1 on page 11).

3.5 Adjusting prediction settings

The language specific features of EMU are adjustable in a wide range. Most of the time you will not need to adjust any of these features, some of them, however, shall be mentioned here. For further details please refer to chapter 5.3.1 on page 13.

- It is possible to change the default prediction language if there is more than one language installed and your license key includes that language. Please note that creating a user dictionary in another language does not enable EMU to use that particular language.
- The behaviour when learning new words may be adjusted as well. Educational institutions for example might want to disable the learning process to avoid dictionary pollution.
- The behaviour for upper- and lowercase writing is adjustable in many details. Especially people who do not want to or are not able to distinguish between upper- and lowercase writing will have to modify these settings.

4 Description of EMU

After starting EMU (the icon with the orange background colour) a short time is required to load dictionaries and other resources. The way the Prediction List is displayed (colours, number of predictions, font, ...) may be modified at any time by using the Adjustment Tool (see chapter 5.2.1 on page 12). The width of the Prediction List window may be changed by dragging it with the mouse, the height results from the number of predictions and the size of the font.

Each line in the Prediction List is displayed as:

hotkey : prediction

Depending on the settings the hotkey, the typed characters and the predicted characters may be displayed in the Prediction List in different colours.

If a word is too long for display the beginning of the word will be cut off and will be replaced by “...”.

Words ending with an underscore are the first part of a compound. If such a word is selected no blank will be added automatically.

Depending on the settings for the selection keys (for example function keys or numerical keypad) some additional functions are available which could improve your day-by-day work with the computer. The keyboard settings may be viewed and changed with the Adjustment Tool (please refer to chapter 5.1.1 on page 11):

De/Activate: EMU may be temporarily deactivated if its services are not just yet needed. The Prediction List window will become completely invisible but the EMU system itself is visible as icon in the system tray⁽⁶⁾ (next to the clock). By clicking this icon or pressing the assigned key again EMU will be reactivated. The defined hotkeys are released in no case⁸.

Speak: Speaks the prediction list with the help of a speech synthesiser.

Toggle Speech: Activates or deactivates speech output independently from the settings in the Adjustment Tool. This feature is intended for temporarily disabling speech output so it does not interfere with, for example, a conversation. This setting is **not saved**.

Reset: Due to some interaction between different programs the predictions may, in some rare cases, not fit to the text written. In such cases the prediction module may be reset by pressing the assigned key.

Change dictionary: As mentioned in chapter 3.1 on page 6 it may be a good idea to use several different user dictionaries. The general dictionary that is loaded at EMU startup is selected in the Adjustment Tool. The user dictionary may be changed at any time while EMU is running. Pressing the assigned hotkey opens a window that shows all available user dictionaries for the current language. Using the mouse or the cursor keys a new dictionary⁹ may be highlighted and activated either by pressing the left mouse button or the enter key.

⁸This is just to ensure that no other program reserves one of the hotkeys and thus disturbs the functions of EMU.

⁹The currently active dictionary (indicated by an “open book” symbol) cannot be selected.

Select Action: EMU offers so many additional functions that not all of them can be assigned to a hotkey. Pressing the assigned hotkey shows a window with all possible actions. An action can be selected without any modifier key (shift, alt, control) by simply using the mouse or the cursor and enter keys.

Change Prediction Language: You may change the prediction language during the EMU runtime at any time. Pressing the assigned hotkey opens a window that shows all installed prediction languages¹⁰. The currently used prediction language is shown in the lower left area of the window. You may change the prediction language by selecting the new one with the mouse or the cursor keys and selecting Ok afterwards.

The change of the prediction language is not saved. Therefore the prediction language chosen in the Adjustment Tool will be loaded after a restart of EMU. Please note, that the change of the prediction language implies, that the user dictionary will be saved (if you have chosen to do so).

Undo: You may undo any change done by EMU (selected predictions and automatically expanded abbreviations) immediately after the insertion.

Save/Reload user dictionary: You may save the user dictionary at any time. This is on one hand important for the manual learnmode (see chapter 5.3.1 on page 13), on the other hand you may influence the prediction behaviour: New words will be less ranked than other words until they are saved in the user dictionary. Therefore, you may save and reload the user dictionary if you want to rank the newly learned words higher.

Add a word: You may add a word or a phrase to the user dictionary during the EMU runtime at any time. You may enter the word or the phrase and the use count (EMU treats this word as if you had entered the word that often) and close the dialogue with the OK button.

¹⁰If you have purchased a license for only one language, you will be informed, that you may not change the prediction language.

5 Description of the Adjustment Tool

This chapter will help you make the best use of the Adjustment Tool. Please note that each and every setting is saved at once. There is no extra save action necessary when exiting the program.

At the bottom of the window there are two buttons:

About : Pressing this button opens a window with license information. If the displayed information does not match the information of the license you have ordered please contact your local dealer. Please note that the license key is displayed for information purposes only and is not suitable for making an installation.

Below the license information you will see a savings counter. This is a statistical value and shows you how many keystrokes you have saved by using EMU. Pressing the button **Reset** resets the counter to 0.

The button **Update** checks for a newer version of EMU¹¹.

Close : Clicking this button terminates the Adjustment Tool. You will be asked for confirmation before the program is closed.

5.1 Input

All input-related settings are available in this section.

5.1.1 Type

The left side of the panel contains a list with all available input schemes. The currently active scheme is identified by the pressed radio button. The right side of the panel shows all possible actions and the assigned key combinations for the selected input scheme.

A green tickmark beside an action indicates that the key combination is not in use by any other program. A red X on the other hand indicates that the key combination is already in use by another program.

Should you need a special input scheme (for example for an extended keyboard) please contact your local dealer or visit the EMU homepage (<http://www.is.tuwien.ac.at/emu>).

The button **Edit Actions** allows you to add or remove some less important actions from the input scheme thus giving you better control over

¹¹This function is usable only if you have an active Internet connection.

hotkey assignment. The actions are in any case available through the EMU dialog “Select Action”.

5.2 Feedback

Feedback is a very important topic as it offers many possibilities for saving time and effort.

5.2.1 Prediction List

In the upper left part of the panel there is a small preview area showing all colour- and font settings. The right part of the panel contains the different colour selection lists.

The group **Properties** contains controls for setting the position of the Prediction List window, the sort sequence of the predictions and the maximum number of predictions to be displayed. The button **Font** opens a standard font dialog.

5.2.2 Sound

The upper part of the panel contains a list where you can select a sound output system. If you do not have any sound hardware installed please select **<no sound system>** lest an error occurs when starting EMU. If the selected sound system offers additional settings a dialog to edit these settings may be opened by pressing the button **Options**.

The list of **Events** shows all the possibilities to play a sound. A sound may be assigned to each event. If no sound is assigned the event is disabled.

To assign a sound file simply select an event and type in the name of the file in the edit field **Sound**. You may also press the button **Browse** to the right of the edit field. The selected sound file may be tested by pressing the button **Play**. If the sound file does not exist the button **Play** is disabled. If you want to disable a sound event simply clear the edit field. The sound symbol is removed from the list automatically.

5.2.3 Speech

The upper part of the panel contains a list to select a speech output system. If you do not have any supported speech output system installed please select **<no speech system>** lest an error occurs when starting EMU. If the selected speech output system offers additional settings a dialog to edit these settings may be opened by pressing the button **Options**.

The list of **Available Spechevents** shows all possible speech output events. To enable or disable an event simply set or remove the respective tickmark.

5.3 Prediction

The central part of EMU is the prediction module. This chapter explains how to adjust the module to your own needs. Prediction sources like dictionaries or abbreviation lists are part of this chapter as are the settings for upper/lowercase writing, language and learning mode.

5.3.1 Language Specific

The left part of the panel contains a list of possible settings. The list is organised as tree (similar to, for example, the Windows Explorer). A short description of the currently selected option is displayed in the right part of the panel. An option is modified by clicking on the green underlined text. Please note that two clicks within a short period of time are recognised as a double click (which does not have any function in the context) and not as two single clicks. The time settings for single and double clicks may be changed in the mouse settings dialog of your operating system.

The default value of each option is mentioned in square brackets below:

- **Prediction Language** [German]: Clicking on the language opens a list with all installed languages. Please note that you may have installed only one language or that the license does not allow more than one language. Additionally, the prediction language and the dictionary language must be identical. If you change the prediction language you also have to select a suitable dictionary (refer to chapter 5.3.2 on page 15).
- **Smart Punctuation** [on]: If this option is active and you type a punctuation mark after an automatically inserted blank the blank is removed and appended after the punctuation mark. If consecutive punctuation marks are entered rapidly the exchange does not happen.
- **Non French Spacing** [off]: If this option is active and the option **Append Space** is activated two spaces (instead of one space) are added automatically.

- **Append Space** [on]: If this option is active a blank will be added automatically after a prediction is inserted. This way you can immediately start typing the next word.
- **Handle special characters** [on]: If this option is active a blank is not appended if the last character of the prediction is a special character (e.g. an apostrophe). This setting will only show effect, if the “Append Space” option is selected.
- **Compound⁽²⁾ Prediction** [on]: If this option is active EMU will try to generate compounds. This way such words are predictable even if they are not contained in the dictionary. Unfortunately some generated compounds may be strange or even senseless. This small drawback, however, is compensated by the fact that predicting rather long words can save a lot of keystrokes.
- **Use Abex** [on]: This option enables or disables the use of Abbreviation Expansion (Abex). Please refer to chapter 5.3.4 on page 17.
- **Learn-Mode** [learn with threshold]: This option modifies the behaviour of EMU for learning new words. Selecting “no learning” means that new words are added to the in-memory dictionary and are predicted. However, they are not saved when terminating EMU.
- **New Words Threshold** [1]: If the learn-mode **learn with threshold** is active you may enter the number of word repetitions necessary for a word to be added to the user dictionary. If, for example, this value is set to 3 a new word or phrase has to be written thrice to be added to the dictionary. This way the “pollution” of the dictionary may be reduced since a specific typo will usually not be repeated.
- **Minimum New-Word-Length** [0]: Only words with at least the set number of characters will be added to the user dictionary. If this number is e.g. set to 1, only words with at least 2 characters will be added to the dictionary; words with only 1 character will be ignored.
- **Min. Prediction Length** [1]: This value specifies the number of characters a predicted word has to be longer than the part already entered to actually be predicted at all.
- **Unigram Match Type** [0], **Bigram Match Type** [0]: These settings affect the algorithm used to compare already typed word parts

with the dictionaries. The behaviour for unigrams⁽⁸⁾ and bigrams⁽¹⁾ may be adjusted separately. In detail:

0	Upper/lowercase writing is checked for the entire word
1	Upper/lowercase writing is ignored
2	Upper/lowercase writing is not checked except for the first character
3	Same as 1, additionally characters with an accent are treated like characters without accent
4	Same as 2, additionally characters with an accent are treated like characters without accent
9	Same as 1, lowercase characters are treated as uppercase characters but not vice versa
10	Same as 2, lowercase characters are treated as uppercase characters but not vice versa
11	Same as 3, lowercase characters are treated as uppercase characters but not vice versa
12	Same as 4, lowercase characters are treated as uppercase characters but not vice versa

5.3.2 Dictionary

This panel contains a list of all dictionaries available. For each dictionary the following details are displayed:

- **Book symbol:** An open book marks the general dictionary which is loaded at EMU startup. All other dictionaries are marked with a closed book.
- **Dictionary Name:** The name of the dictionary (not necessarily identical to the filename of the dictionary).
- **Language:** The language of the dictionary. Please note that the language of the selected dictionary must be identical to the prediction language.
- **Last Changed:** Shows time and date of the last modification of the dictionary.
- **Filename:** Shows the filename of the dictionary.

Below the list of dictionaries you may find a set of buttons. Most of the buttons will not be activated until a dictionary is highlighted. The functions of the buttons are:

- **Edit:** Pressing this button¹² opens a new window for editing the dictionary. This window contains a list of all entries from the dictionary. Selecting an entry from this list copies the text to the edit field below the list. All modifications to the Entry or the Count are immediately displayed in the list, too. The original values, however, may be restored by pressing the button **Undo** as long as the selection in the list is not changed. The text below the edit field is the status of the entry. The numeric value shows the frequency of the word in the dictionary. The higher the value the more likely the word will be predicted.

The box **Info about saved Dictionary** shows statistic information. The values displayed represent the status of the dictionary after loading. Any modifications are not reflected here.

At the bottom of the window there are some buttons:

- **New:** Creates a new dictionary entry. The text may be entered in the edit field. Please do not forget to set the Count value, too. A new entry is always added at the bottom of the list.
 - **Delete:** Deletes the selected entry. You will be asked for confirmation before the entry is deleted.
 - **Save:** The modified dictionary is saved and the window is closed. You will be asked for confirmation before saving the dictionary.
 - **Cancel:** The window is closed, the dictionary is not saved. You will be asked for confirmation before closing the window.
- **Select:** The highlighted dictionary is selected as default dictionary for the language of the dictionary. The default dictionary is loaded automatically at EMU startup.
 - **New:** Creates a new empty dictionary. After pressing this button a window is opened which contains a list of all existing dictionaries. You may enter a name for the new dictionary and select the language. **Attention:** It is not possible to change the language of a dictionary after creation! If the entered filename is not valid you will be informed of this fact by a hint below the edit field.
 - **Rename:** The highlighted dictionary will be renamed. Pressing this button opens a new window which allows you to enter the new name. This window looks similar to the one for creating a new dictionary except it does not allow to set the language.

¹²Pressing the enter key in the dictionary list has the same effect.

- **Delete**¹³: The highlighted dictionary will be deleted. You will be asked for confirmation before the dictionary is deleted.

5.3.3 Text Collection

EMU can be customised to your own personal vocabulary by analysing your previously written texts and creating a dictionary with the extracted data. All words and phrases will be added to the dictionary. It is, therefore, important to use texts with as little typos as possible since EMU is not able to distinguish between a typo and an unknown word. You may edit the dictionary anytime by using the **Edit** function (please refer to chapter 5.3.2 on page 15).

On the left hand side of the panel there is an Explorer-like directory tree. Select the directory that shall be searched for text files. With the help of the **Search Mask** it is possible to narrow the search to specific file types. Clicking the button **Search** starts the search process. You may cancel the search process anytime.

The list on the right hand side of the panel shows all files found. Lines with a colour background show the directory the following lines are the files found in the respective directory. To get the complete filename of a file (including the path) simply highlight an entry and set the mouse over the line. Mark all files you want to be used for dictionary creation by ticking the corresponding list entry. Below the list there are two small buttons which allow you to set or remove the tickmark for all files.

Once the files you want are ticked simply press the button **Teach**. You will be presented with a window to choose between creating a new dictionary or expanding an existing one. Please note that the language of the dictionary must match the language of the text files.

Clicking the button **Start** starts the learning process. This may need – depending on your hardware and the number and size of the texts – some time. Pressing the button **Cancel** closes the window without taking any action.

5.3.4 Abbreviations

Abbreviation Expansion may considerably reduce the effort for writing text. EMU supports one abbreviation dictionary which is listed on the **Abbreviations** panel of the Adjustment Tool. The first column shows the

¹³Pressing the Delete key in the dictionary list has the same effect.

abbreviation, the second column shows the expansion and the third column shows the type of the expansion method.

The following expansion methods may be used:

Std: Standard method

Auto: Automatically expanding

Space: Expanding using the space key

A more detailed description of the different expansion methods may be found in chapter 3.2 on page 6.

The abbreviation expansion function may be turned on or off. For further details please refer to chapter 5.3.1 on page 14.

EMU supports the import of the abbreviation list from Microsoft WordTM. Pressing the button **Import** opens a window for the import process:

- You may select if all abbreviations shall be imported as auto-expanding.
- You may enter the number of characters the expansion must be longer than the abbreviation to be allowed to be added to the dictionary. Microsoft WordTM uses the abbreviation list also to correct character flips and to enter special characters which is not abbreviation expansion in its original meaning. This setting can remove such entries from the list.
- You may select how to handle double or existing entries.

Pressing the button **New** opens – after loading the prediction module – a window. Fill in the two edit fields **Abbreviation** and **Expansion** and select an expansion method. Hints and error messages are displayed right of the drop down control. Saving the data by pressing **OK** is not possible until no error is displayed. Pressing **Cancel** closes the window without any action.

To edit an entry highlight it in the list and press the button **Edit**¹⁴. This function uses a window similar to the one used to create new entries. It is, however, not possible to edit the abbreviation.

To delete an entry highlight it in the list and press the button **Delete**. You will be asked for confirmation.

¹⁴This may also be done by double-clicking the list entry.

5.4 Support

The settings and information display described in this chapter are mainly for special settings (which require some background knowledge) and support tasks.

5.4.1 Driver Info

The list on the left hand side of the panel shows all installed EMU driver files together with the driver type. On the right hand side information about the highlighted driver is displayed. The button **About** opens a window with a copyright notice (if the driver provides one).

5.4.2 System Info

The list shows a lot of important details about your computer system and the installed EMU version. This information may be very useful for the developers and should be attached to any error report. For simple handling the complete list may be copied to the clipboard by pressing the button **Copy**. The text may then be pasted to any email or text program.

5.4.3 Expert Settings

The settings on this panel should only be modified if you are aware of the consequences or a dealer or technician asks you to do it!

The look of the settings is identical to the language settings (see chapter 5.3.1 on page 13) but uses different colours for better differentiation. The following options are available:

- Settings Tool Start Options
 - Use Wordserver: The Adjustment Tool uses Microsoft Word™ (if it is available) to load all the supported text file formats. If you do not have Word installed this option has been set to “off” by the installation program. This option may also be disabled if an error occurred while starting the Word server. If you enable this option the worst thing that could happen is a not responding Adjustment Tool. Should this happen the option is automatically disabled upon restart of the Adjustment Tool.
- EMU Start Options

- Use Sniffer⁽⁵⁾: EMU uses special modules to retrieve text from applications and to find out which input windows can be written to. This option disables all Sniffer modules but should be used only in exceptional cases. A better solution would be to contact your dealer to find a solution for the problem.

It is also possible to enable and disable each module independently. If there is a problem with one module it may be disabled to e.g. support the debugging.

6 Problems and Solutions

6.1 Program compatibility

The programs below have successfully been tested with EMU (please observe the notes in the right column)¹⁵:

Borland IDE (Delphi, C Builder)	2
Microsoft Internet Explorer	1
Microsoft Access™ 2003	1
Microsoft Excel™ 2003	2,4
Microsoft InfoPath 2003	2,5
Microsoft Word™ 95	2,3
Microsoft Word™ 97-2003	1
Microsoft Outlook 2003	1
Microsoft Outlook Express 6	2,6
Microsoft Powerpoint 2003	2,6
Microsoft Publisher 2003	2,6
Mozilla Firefox	2,3
Mozilla Thunderbird	2,3
Notepad / Editor	1
OpenOffice	2
Pegasus Mail	2
Ultra Edit	1
Wordpad	1

Details:

¹⁵If a program is not listed in this table it only means that it has not been tested. It does not necessarily mean that the program is not compatible with EMU. Please note that results may vary depending on the system configuration.

1. No known restrictions.
2. It is not possible to retrieve already written text. Therefore, EMU is not able to use the text for predictions when the caret is moved with the cursor keys or the mouse.
3. It is not possible to retrieve the position of the caret. Therefore, the Prediction List window cannot follow the caret.
4. After switching to a new cell it is necessary to press F2 to activate the edit mode. Therefore, the function keys should not be used to control EMU with this kind of programs.
5. The prediction engine must be reset manually after switching to a new cell.
6. The prediction engine must be reset manually after using the backspace key.

6.2 Trouble Shooting

- One of the EMU programs cannot be launched because
 - **EMU or the Adjustment Tool are already running:** Both EMU and the Adjustment Tool each may only be started once. Additionally, EMU and the Adjustment Tool cannot run at the same time. Please note that – depending on your computer – it may take several seconds before EMU has really terminated. Just wait a few seconds after terminating EMU and then launch the Adjustment Tool. This should avoid the error message.
 - **the Waveout driver does not work:** Generally speaking this error occurs if there is no sound hardware available or the driver for the sound hardware does not work properly or is not installed. If there is no sound hardware in your computer please deactivate sound output with the Adjustment Tool (refer to chapter 5.2.2 on page 12).
 - **the Hook system⁽³⁾ cannot be initialised:** If EMU was terminated by the operating system due to some system instability the Hook system probably has not been terminated properly. In this case simply restart EMU. This should solve the problem.
- Already written text is not used for prediction because

- **Microsoft WordTM and Outlook¹⁶ behave a little strange when registering:** If Microsoft WordTM or Outlook was started after EMU it is necessary to switch to another application once and then return to Word or Outlook. This will cause the application to register with the system and text acquisition should work as usual.
- **the used program does not reveal the text:** Some programs do not support the standard way to acquire text. EMU is, therefore, not able to read the text and use it for prediction. However, EMU can use external modules (so called Sniffers⁽⁵⁾) which are especially tailored for a specific program and are able to get the text. Please refer to the compatibility list in chapter 6.1 on page 20.
- The Prediction List window does not move with the caret because
 - **another mode for positioning is selected:** Details about the different modes may be found in chapter 5.2.1 on page 12.
 - **the used program does not reveal its caret position:** Some programs (see compatibility list in chapter 6.1 on page 20) do not reveal their caret position. In this case the Prediction List window may be moved to a convenient position manually. Once another program reveals the caret position the Prediction List window will follow it automatically again.
- There are no predictions presented when activating a window because
 - **it is not possible to determine if the window accepts keystrokes:** EMU stores state and contents of every text input window⁽⁷⁾ used (edit fields are text input windows⁽⁷⁾, too) so it may show up-to-date predictions upon focus change. Unfortunately, for a lot of windows it is not possible to find out if they allow keyboard input. In such cases EMU has to wait for the first typed character to start predicting.
 - **the window does not allow text input:** EMU is able to detect so-called read-only⁽⁴⁾ text input windows. It would not make sense to produce predictions for such a window.
- EMU apparently does not learn new words because

¹⁶This does not apply to Outlook Express.

- **the demo version will never learn new words:** The demo version learns new words for the active session (as does the full version) but does not save the changes in the dictionary. So all learned words are “forgotten”.
 - **learning has been disabled:** The learn-mode has been set to “no learning” in the Adjustment Tool. For further details please refer to chapter 5.3.1 on page 13.
 - **the threshold for learning new words has been set to a high value:** The threshold for learning new words may be set in the Adjustment Tool. For further details please refer to chapter 5.3.1 on page 13.
 - **internal rules are not satisfied:** One of the rules says that a new word is only learned if it is not the last word in the entered text. Additionally, some types of words are never added to the user dictionary (for example articles).
 - **the new words are not predicted:** Sometimes a new word has such a low probability that, even though it has been learned, it is never shown in the Prediction List. You may either continue to type the word completely and thus raise its probability or edit the dictionary with the Adjustment Tool (please refer to chapter 5.3.2 on page 15).
- The input scheme “MS Internet Keyboard” does not work with the keyboard used because
 - **the keyboard sends different key codes.** Please note that keyboards from other manufacturers may, despite the same keyboard layout, send different key codes to the computer.
 - **the related hardware driver should not be installed.** This driver (verified up to version 5.2) is buggy and is not able to process whole words as input and also suppresses the special keys. Please uninstall the Intellikey driver since it is not compatible with EMU.
 - **only three hotkeys were defined for predictions.** The number of predictions may be set higher than three in the Adjustment Tool but EMU will only show as much predictions as can be selected with the defined hotkeys.
 - A SAPI 4 voice is not usable because

- many SAPI 4 voices are not installed correctly under Windows 2000/XP. In most cases an account with administrator privileges is required, restricted users are in most cases not able to use SAPI 4 voices. Further details may be available from the manufacturer of the SAPI 4 voice or from e.g. Microsoft at <http://www.microsoft.com/msagent/support/user/tts3000deploy.asp>.

7 Terms used

Bigram⁽¹⁾: Two words separated by a blank.

Compound⁽²⁾: A compound in general is any word composed of two or more words. EMU uses this term only for nouns.

Hook system⁽³⁾: EMU uses the Hook system to monitor keyboard input, system status and caret movement.

read-only⁽⁴⁾: No input allowed.

Sniffer⁽⁵⁾: A modul used to retrieve already written text from an application. The options for these modules may be modified using the expert settings of the Adjustment Tool (please refer to chapter 5.4.3 on page 19).

System Tray⁽⁶⁾: The area in the Windows Task Bar next to the clock. There you may also find the speaker symbol, symbols for newly detected hardware and so on.

Text input window⁽⁷⁾: An area to enter and display text. This may be a window or only an edit control (e.g. edit field).

Unigram⁽⁸⁾: A single word.