



EPKEYS user manual

Version 1.1.0

Eye and Pen 4 compatible

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What is EPKeys ?

EPKeys is an external and independent utility (EPkeys.exe) which is installed with Eye and Pen, as a companion tool.

It can drive Eye and Pen, i.e. it can tell Eye and Pen what it has to do.

It does the magic by simulating keyboard key presses and sending them to Eye and Pen, as if you, the user, were actually pressing on keyboard keys, working (playing?) with the Eye and Pen software.

This allows you to “script” tedious and repetitive tasks, and let the computer do all the work for you, instead of spending hours repeating the same sequences over and over again.

The primary way of using EPKeys is to use a file of key presses recorded in Eye and Pen to reproduce processing sequences or data extraction in one or several protocols.

Since you can choose the software targeted by EPKeys, you can use it to drive other software.

I’ve been told that some use it to drive Excel, as a replacement for the missing macro keyboard recorder...

But please remember that it was neither built nor tested for this purpose, so you will be doing it at your own risk.

The following pages will show you how to use EPKEYS, either with keyboard key presses recording in Eye and Pen, or writing your own key presses commands. Last, we'll show you a sample script to see how it goes.

New in this version

Eye and Pen options

This version has specific options devoted to Eye and Pen 4, helping in the process of data extraction “in mass”, avoiding to have to modify Eye and Pen options. For example, it can manage column header printing, to print it only for the first extraction of a series.

Error management

This version doesn't “crash” when Eye and Pen tries to open an empty data file. This version can receive-error messages from Eye and Pen, and will display it, discarding current command processing, then start to process next file, if any.

A running process can be halted by clicking on the “Abort” button, or waiting 5 seconds if using an older version of Eye and Pen (doesn't support messages).

When in trouble, EPKeys can send {ALT+F4} to close the application, so that the process may continue.

How do I use it ?

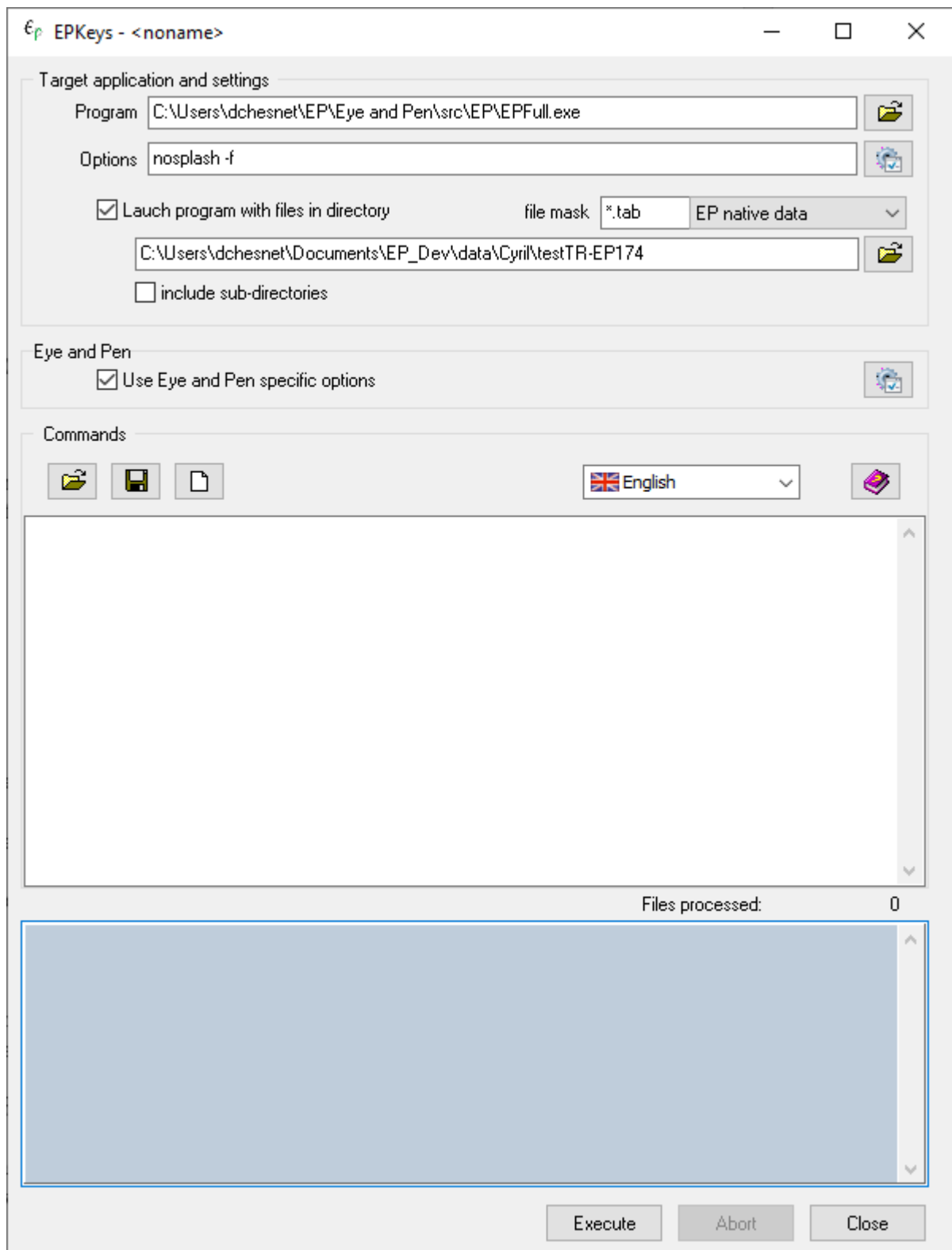



Figure1: EPKeys main screen.

The fields of the “**Target application and settings**” frame allow you to define the software to drive and how this should be done:

LABEL	DESCRIPTION
Program	Shows the path to the target program (*.exe). If needed, click on the  button to select a new one.
Options	Type in the options that will be passed via the command line to the target program (see the Eye and Pen manual for options). “nosplash -f” is usually a good option for Eye and Pen.
Launch program with files in directory	If this checkbox is ticked, the software will be launched for each file in the selected directory. You do not need to open each data file, as this will be done automatically.
File mask	Defines the filename extension to look for. For Eye and Pen, this may be “*.twk”, the analysis filename extension, or “*.tab” the acquisition data filename extension. You may override the proposed values by your own if driving a software other than Eye and Pen.
Include sub-directories	If this option is selected, the search for files will be recursive, in that it will also be performed across all the subdirectories of the selected directory.

The  button (right side of the **Options** field) shows a secondary panel.

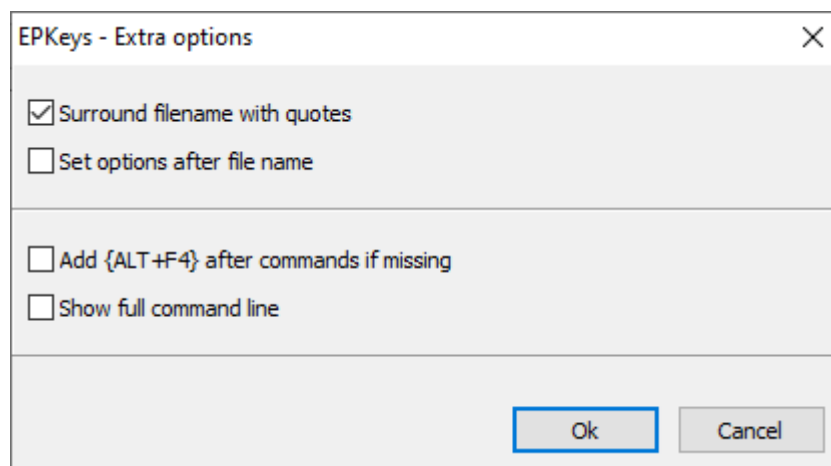


Figure 2: EPKeys options panel

Set options after filename	This option defines whether the “sentence” option should be placed before or after the filename in the command line. If this option is activated, the options will be written after the filename.
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	For Eye and Pen, this option should not be ticked.
Surround filename with quotes	If this checkbox is ticked, the filename added to the command line will be “framed” with quotation marks. This can avoid problems with filenames that include spaces, for example.
Add {ALT+F4} after commands if missing	Alt+F4 keyboard shortcut is often used to close a software. If the commands list does not include such a command, it is appended.
Show full command line	Displays the command line that is send to the target program in the feedback panel (grey panel at the bottom).

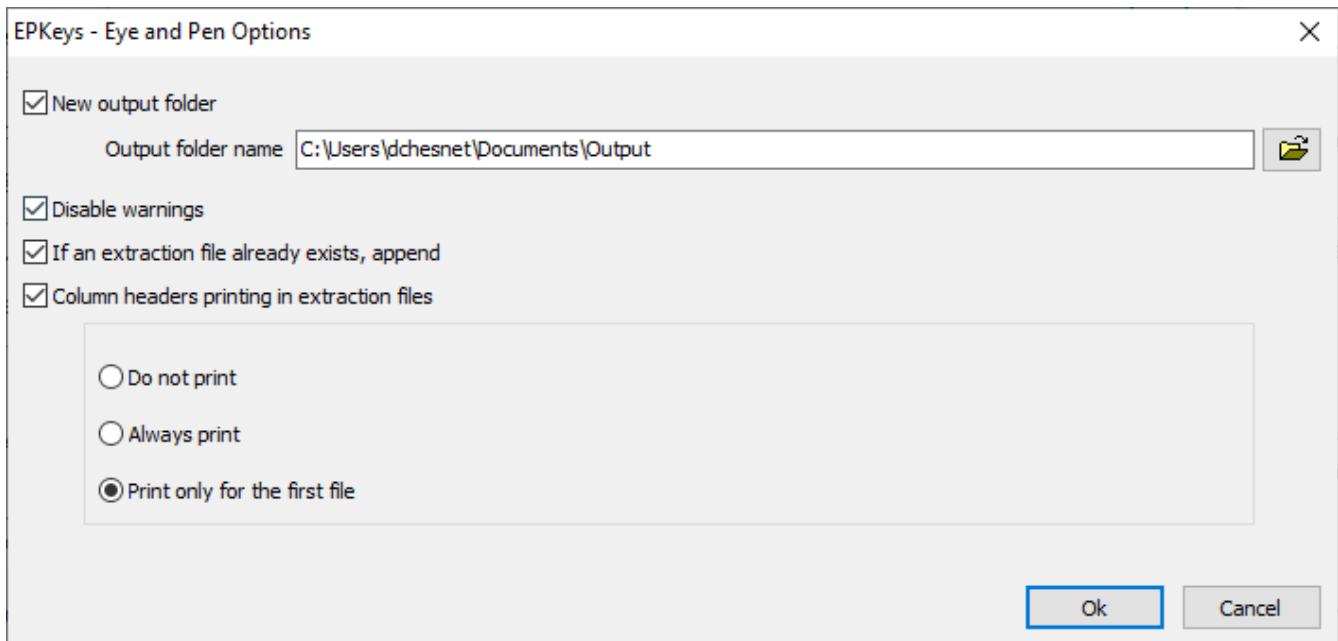
The “*Eye and Pen*” frame allows you to define specific options for the Eye and Pen software.



Only Eye and Pen 4 (and later versions) **can understand these options.**






The  button (right side of the Eye and Pen field) shows a secondary panel.



New output folder	If this checkbox is ticked, Eye and Pen will use the selected directory to output data extraction files instead of his default directory.
Disable warning	If this checkbox is ticked, the 4 warning options in the Eye and Pen configuration will be “neutralized”.

If an extraction file already exists, append	Overrides the Eye and Pen option found in Extraction Preferences Data. If an extraction file with the same name already exists, new data are appended to it.
Column header printing in extraction files	If this checkbox is ticked, Eye and Pen output behaviour regarding column header printing will be modified as follow: <ul style="list-style-type: none"> • Never print column header • Print column header for each extraction • Print column header only when the data file is created

The “**Commands**” frame allows you to define the keyboard key presses to simulate, save them in a file, load them from a file, etc.

LABEL	DESCRIPTION
	Click on this button to open and load a text file containing commands (keyboard keypresses), for example the file you saved with the keyboard recorder of Eye and Pen.
	Clicking on this button allows you to save the content of the “Commands” memo in a text-only format file.
	This button allows you to clear the “Commands” memo of its content. If there is any content, EPKeys will offer to save it in a text file.

Writing commands “by hand”

Simply write down the alphanumeric character corresponding to the key you wish to activate, one key (or combination) per line. For example, to simulate a press on the “e” key, just write, well... “e”!

EPKeys is case-sensitive: it differentiates between uppercase (capital) and lowercase letters. This means that a letter such as “E” will be interpreted as the combination of the “Shift” and “e” keys. So be careful about menu shortcuts: when in doubt, use lowercase letters. For example, the combination of the “Ctrl” and “n” keys (usual shortcut for the “*File / New*” menu) will not work if you write “Ctrl+N”, because the combination will be interpreted as “Ctrl+Shift+n”.

Comments

You can add comments in the editor, for example to keep track of you you intend to do, or what you'll have to do, etc.

A comment is a line that begins with “;” or “//”.

For example:

```
; after a semi-colon is a comments line  
// this is another comments line, choose your style ;-)
```

Special keys

Special keys are those that do not represent an alphanumeric character, but most often are parts of a shortcut.

They should be written between braces. EPKeys recognizes the following special keys:

{ALT}	Alt key
{CTRL}	Ctrl key
{SHIFT}	shift (capital) key
{TAB}	tabulation key
{BAK}	backspace key
{ESC}	escape key
{RET}	return key (enter)
{SPC}	spacebar
{END}	end key
{HOME}	home key
{LEFT}	left arrow key
{RIGHT}	right arrow key
{F1}	F1 key
{F2}	F2 key
{F3}	F3 key
{F4}	F4 key
{F5}	F5 key
{F6}	F6 key
{F7}	F7 key
{F8}	F8 key
{F9}	F9 key
{F10}	F10 key

{F11}	F11 key
{F12}	F12 key

Key combinations (mixed keys)

The CTRL, ALT and SHIFT keys can be combined with common keys to write shortcuts such as:

{ALT+a}

{CTRL+n} // (usually used for the “*File / New*” menu)

{CTRL+SHIFT+e}

...

Menu shortcuts

You can find the shortcuts associated with menu or submenu items in front of their name in the application that you wish to “drive”.

As a rule of thumb, you can activate (open, scroll down), the main menu by pressing the “Alt” key. Shortcut is written at the right of the menu entry name.

Menus and submenus that do not have shortcuts sometimes have menu accelerators: a letter is underlined in the menu name to show which key of the keyboard you need to press to activate this menu or submenu.

Close the program

If you launch your commands recursively, for example with all the files contained in a directory, do not forget to end your command list when you close the program, otherwise you may get into trouble. In most of the applications, the {ALT+F4} combination is the shortcut to “Quit”.

A sample script

This sample script shows how to extract pauses data from all analyses files located in a folder.

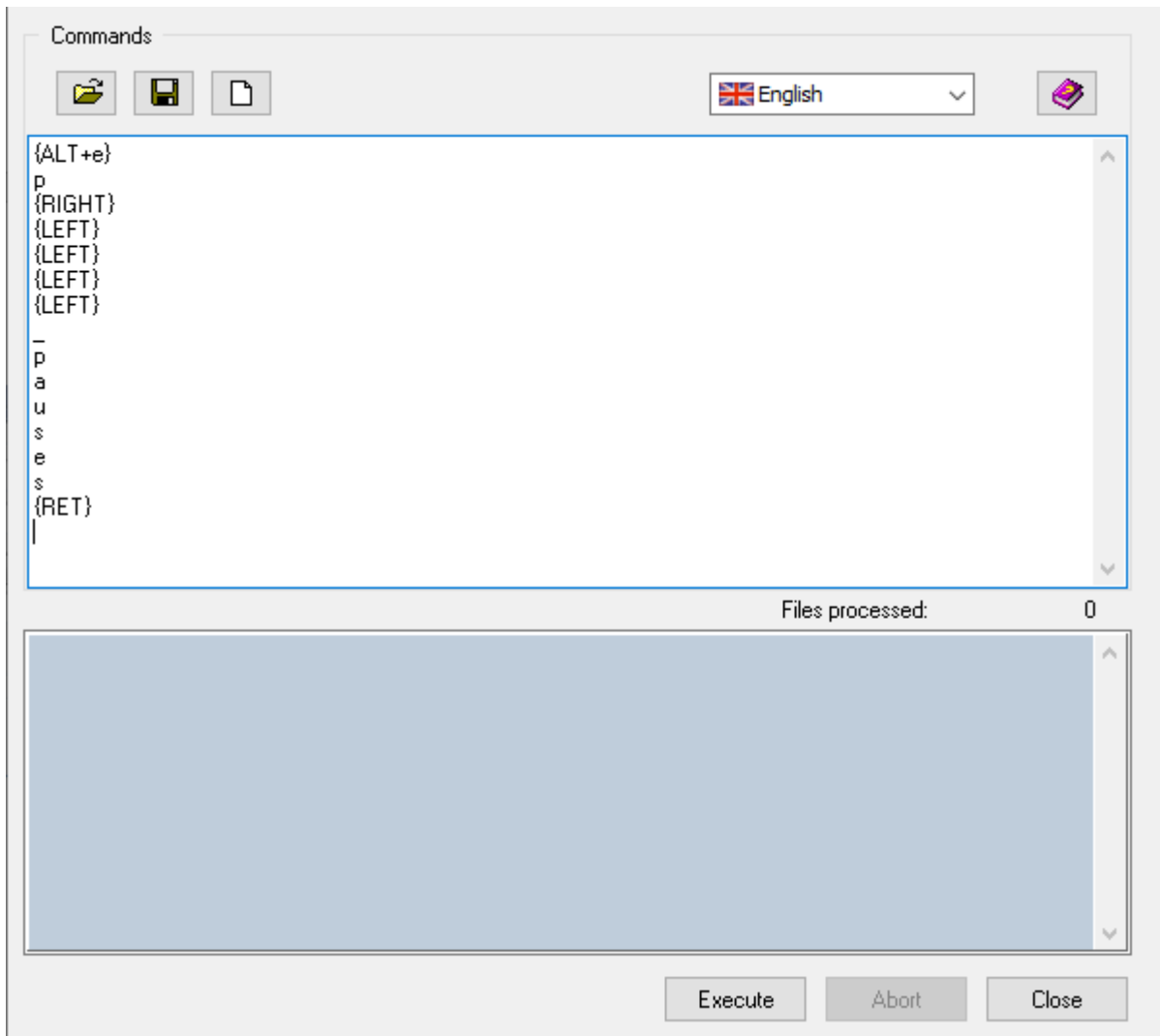


Figure 3: Commands written in EPKeys

Following is a step by step explanation of what is going on for a single file with the lines into the Commands panel.

{ALT+e} activates the Extraction menu. It scrolls down.

p selects the pauses menu entry.

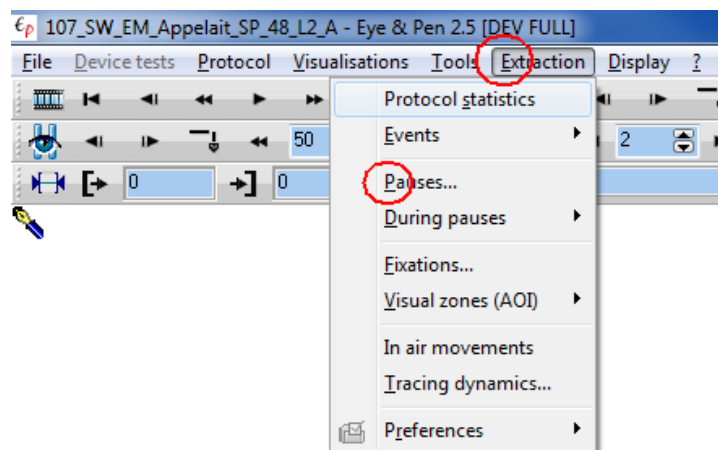


Figure 4: Eye and Pen menu activation by EPKeys commands

Then, a dialog box shows up, to let give a name for the data extraction file.

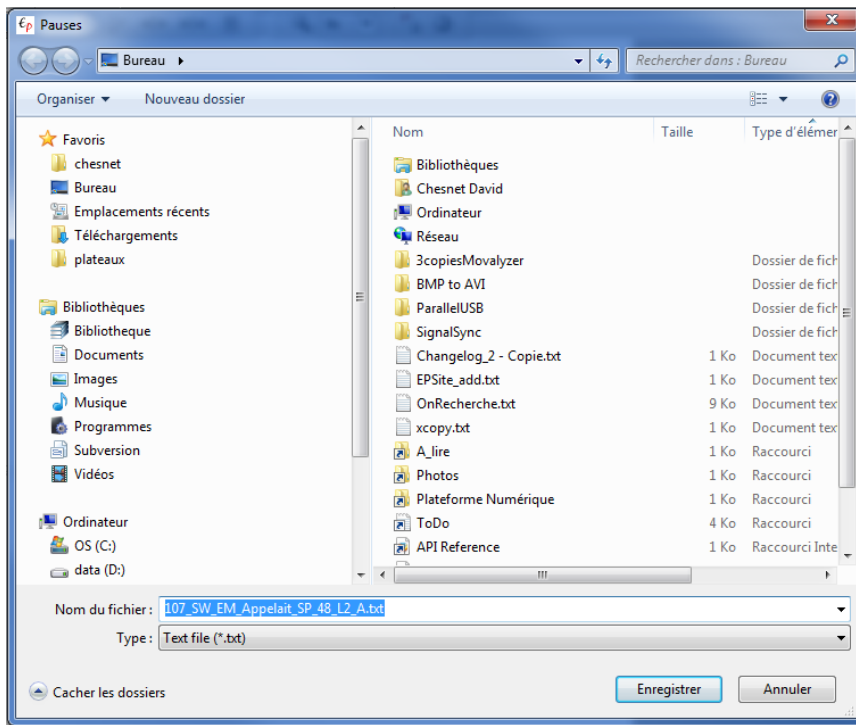
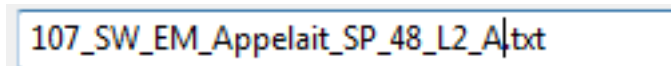


Figure 5: data extraction dialog box in eye and Pen

{RIGHT}
 {LEFT}
 {LEFT}
 {LEFT}
 {LEFT}

Move the cursor within the select filename (in blue on figure above), one time to the right, unselecting the filename, then 4 times to the left, moving the cursor just before the dot character.



The following letters will be inserted at this location:

—
 p
 a
 u
 s
 e
 s

In short, it will insert “_pauses” into the filename (see figure below).

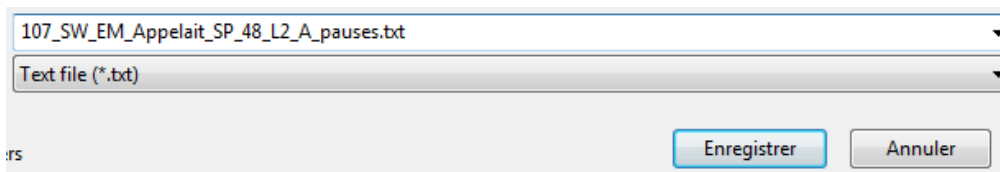


Figure 6: character insertion into a filename

{RET} will send a return key press. Since the default selected button (blue) is Save (“Enregistrer” in french), it will receive the return (enter) command and validate the dialog box. Then pauses data for this participant will be saved in a file named `<participant>_pauses.txt`.

Before using EPKeys: a few recommendations

1. **Avoid complex scripts.** If you launch the software to process a set of files, bear in mind that EPKeys is a blind robot: if something unforeseen occurs (e.g. a confirmation panel to check), EPKeys will continue to send keypresses without taking into account the fact that its keypress list no longer fits (it has no way of knowing). It is therefore a good idea to perform some manual testing (doing what EPKeys is supposed to do) before launching EPKeys. Try to have only one simple task executed at a time.
2. **Test your script on a single file** to make sure that everything goes according to plan before launching it for dozens of files.
3. **In eye and Pen**, the *File | Configuration | Edit* menu, *Application* tab, allows you to avoid dialog boxes such as “Warning: this file already exist”, etc. Deactivating these messages will save processing time and key presses.
4. Remember that **Eye and Pen will be using its own default configuration.** For example, the default output directory for extractions will be the last directory used for an extraction in Eye and Pen. So, if you want data to be extracted from a new (or dedicated) directory, create this directory (e.g. with Windows Explorer) and perform the first extraction “by hand” in Eye and Pen, in order to select this new directory as the output directory.
5. If you are launching commands on for a number of files, **do not forget to close the application launched by EPKeys** at the end of your list of commands (`{ALT+F4}` generally does this). This is necessary because some applications (including Eye and Pen) will not start twice in parallel. If a software is already running, it will be re-activated and EPKeys will not be able to communicate with it because EPKeys is supposed to communicate with a newly created software instance, not the old one.

Do not play too much with it: configuration file

The EPKeys configuration and parameters are saved in a text file named EPKeys.ini.

The parameters in the [User configuration] section are modified via the graphic interface of EPKeys (directory names, options, etc.)

A special section named [Timeouts] contains some “hazardous” parameters that can be edited “by hand”.

PARAMETER	DESCRIPTION
IdleTimeOut	<p>Represents the number of milliseconds of CPU inactivity beyond which the driven application is deemed to be idle. Increasing this value will slow down the pace of sending keypresses, but can help to avoid problems related to function execution timings.</p> <p>As a safety precaution, EPKeys only accepts values within the 20–5,000 range (default value: 200).</p>
UpTimeOut	<p>Represents the number of milliseconds EPKeys should have to wait for the “driven” program to start and be ready to receive keypresses.</p> <p>As a safety precaution, EPKeys only accepts values within the 500–10,000 range (default value: 1,000).</p>
CloseTimeOut	<p>Represents the number of milliseconds EPKeys should have to wait after the last keypress of the list has been sent. This parameter is very important when one wants the program to “loop”, for example to repeat a series of keypresses for all the files in a directory. If EPKeys does not allow enough time for the “driven” program to close, it will try to launch the program again before it can close, which can lead to problems.</p> <p>Eye and Pen is closed with the usual {ALT+F4} key combination (“<i>File / Quit</i>” menu).</p> <p>As a safety precaution, EPKeys only accepts values within the 500–10,000 range (default value: 1,000).</p>