Operation, Functioning and Error Messages

A2L Label

Version: 1.9

Date: 03.06.2009

Table of Contents

General

Application

The GUI application "A2L Label" is provided as an individual EXE file (a2l_label.exe).

The application runs in the background and can be configured by an icon in the system tray.

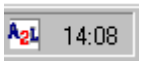

Figure 1: System tray icon

The application offers various functions to make working with A2L files easier. The primary function is to provide the user a convenient way to look up information on a label in an A2L file. This information can then be inserted into other applications by using a keyboard shortcut.

In addition, A2L Label has an export function for exporting labels and function names with their long names into a CVS file.

Conditions

Operating system

Windows 2000**, XP**

Required "A2L" file format

When information is read out of an A2L file, A2L Label will assume that the format is ASAM-MCD-2MC V1.x compatible. Remarks from .tlc files, hich can be read in

http://www.ualberta.ca/dept/aict/bluejay/usr/local/matlab-6.5/toolbox/rtw/targets/asap2/asap2/user/

were used to identify the fields. For further information, please refer to

http://www.msr-wg.de/medoc/downlo.html

Menu

Overview

The A2L Label menu is activated by clicking on the "A2L" icon.

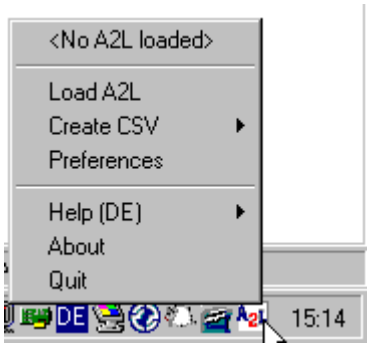

Figure 2: Menu

Loading an A2L file

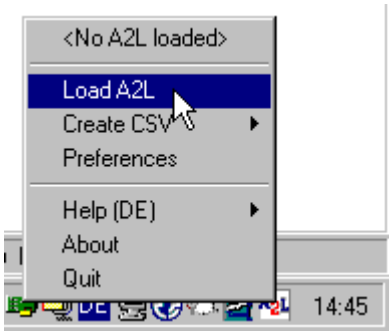

Figure 3: Loading an A2L file

At the top the menu indicates which A2L file is loaded. All functions require that an A2L file be loaded. This can be done by the "Load A2L" function.

If one of the A2L functions is started without an A2L file being loaded, "Load A2L" will be opened automatically.

Creating CSV files from A2L data.

The submenu items, "Label and LONG NAME", "Function and LONG NAME" and "Function Info" are located under the "Create CSV" menu.

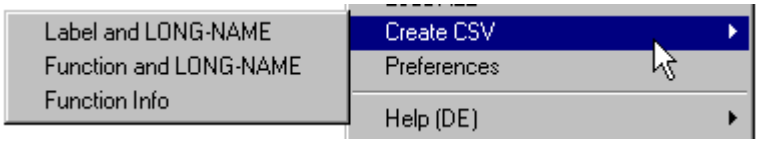

Figure 4: Exporting A2L data

The first two (Label and LONG-NAME and Function and LONG-NAME) are for creating CSV files which will contain either labels or function names with their corresponding long names.

"Function Info" shows the functions contained in the CSV file with the corresponding labels, which are broken down into blocks.

Note:	This can be used to detect differences between two software updates.

The data from the A2L currently loaded is used for the CSV file.

The separator for a CSV file is the semicolon (;).

Settings

The menu item "Preferances" can be used to open a Settings window. Here, aspects of the program can be configured.

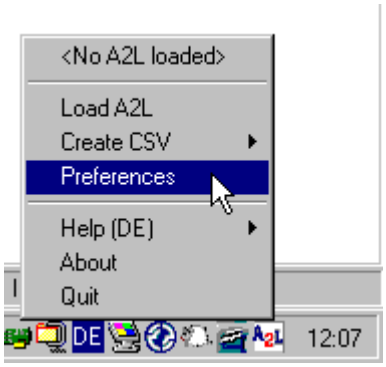

Figure 5: Settings

General

The "Settings" window is broken down into four tabs. The first three tabs allow the behaviour of the application to be adapted to the needs of the user. The fourth tab contains a quick reference to the possible settings.

Figure 6: Tabs in the Settings window

Information bubble

The "Info" tab contains information to be displayed when looking up information (see loading an A2L file).

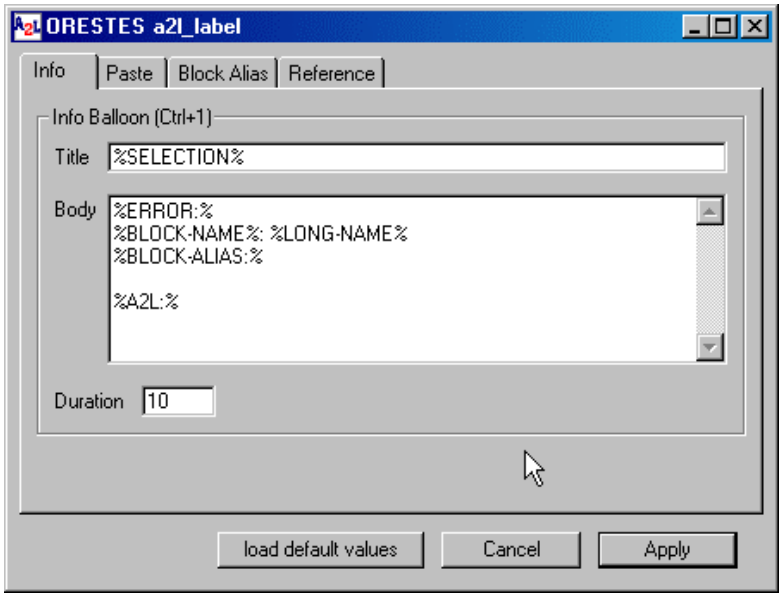

Figure 7: Settings for the information bubble

Placeholders are available for adapting the appearance. Placeholders are character chains located between percent signs. They will be replaced by label information for A2L when looking up information (see looking up information).

Available placeholders are listed in the Section Placeholders. Furthermore, a quick reference for available placeholders is located under the "Reference" tab.

The length of the information bubble can be entered in the field next to the "Duration" text. The time is indicated in seconds, but for technical reasons, 10 s is the smallest value allowed.

If changes are made to the settings, they will be shown in the information bubble as a preview at the same time. But you still need to press "Apply" in order for the changes made to be activated. Press "Cancel" to ignore the changes. But in this case the window will be closed. Press the "Load default values" button to restore to the default program settings. To apply the values from "Load default value" permanently, "Apply" must then be pressed again.

The buttons apply to all tabs at the same time. This way changes to settings can be made in several tabs and then applied by pressing the "Apply" button at the end, or cancelled by pressing "Cancel". "Load default values" will load the default values for all the tabs.

Restrictions

The follow restrictions apply to the information bubble:

- The title may not contain more than 63 characters.
- The body may not contain more than 255 characters.

If the text is longer after substituting the placeholders, the text will be cut off after 63/255 characters.

Pasting

The "Paste" tab contains the strings that can be used for inserting information (see Entering information (Ctrl+2, Ctrl+3, Ctrl+4)).

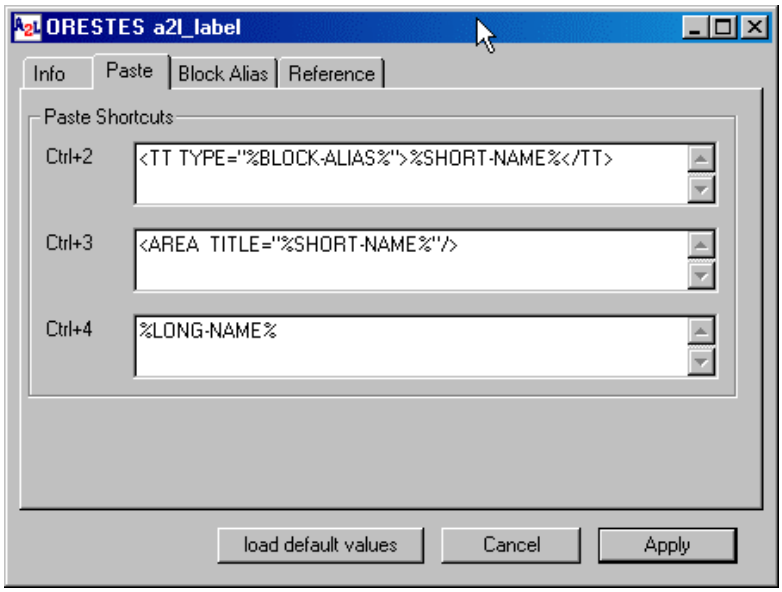

Figure 8: Character strings that can be inserted

The Paste settings function the same way as the previously described information bubble (see information bubble).

Block Alias

The "Block Alias" tab contains the assignment of the %BLOCK-NAME% currently found to an arbitrary character string. It will be inserted for the placeholder %BLOCK-ALIAS% when the label that is being searched for is found in one of the known blocks.

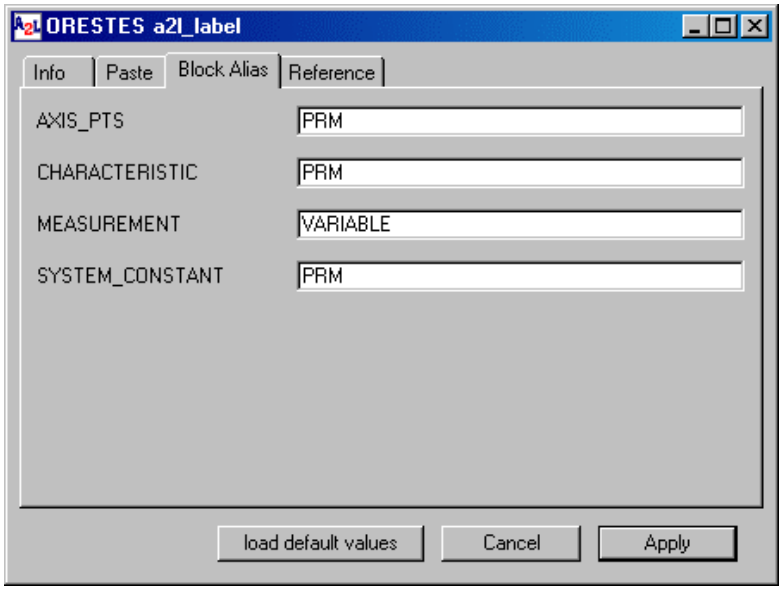

Figure 9: Block Alias

Quick reference

The last tab, "Reference", contains a quick reference for the known placeholders and instructions on using the program.

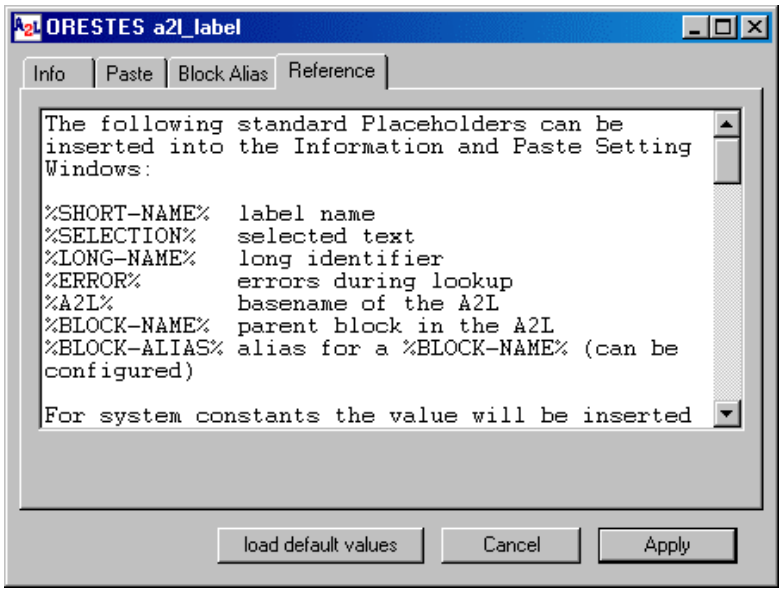

Figure 10: Quick reference

Placeholder

Placeholders are predefined upper-case character strings written between two percent signs. Placeholders can be entered in the settings window of A2L Label. They are used to adapt information displayed and inserted.

The placeholders will be substituted by the corresponding information from A2L if a label in the A2L is looked up (see Looking up information (Ctrl+1)). If a placeholder is unknown or empty, it will be ignored.

The placeholder %REPORT-AVAILABLE-DATA% can be used to obtain an overview of the placeholders available for a label.

Placeholders as prefix for information

To insert a placeholder before the information found, a colon can be placed before the closing percent sign. Example:

Placeholder	Appearance
%BLOCK-NAME%	MEASUREMENT
%BLOCK-NAME:%	BLOCK-NAME: MEASUREMENT

But the placeholder will be inserted before the information only if information for the placeholder is also found.

Standard placeholders

The following placeholders are defined:

Placeholder	Description
%SELECTION%	The highlighted text
%SHORT-NAME%	The corresponding short name that was found in A2L.
%LONG-NAME%	The corresponding long name for the short name that was found.
%BLOCK-NAME%	The block in which the label was found. (MEASUREMENT, CHARACTERISTIC, …)
%BLOCK-ALIAS%	An alias for the BLOCK-NAME found. This alias can be a aliases block.
%A2L%	The file name of the loaded A2L (without the path).
%A2L-LONG-FN%	The file name of the loaded A2L (with the path).
%ERROR%	Errors that may have occurred while looking up information.

MEASUREMENT block placeholders

Placeholder	Description
%TYPE%	data type
%CONV-METHOD%	conversion method
%RES%	resolution
%ACC%	accuracy
%L-LIM%	lower limit
%U-LIM%	upper limit

CHARACTERISTIC block placeholders

Placeholder	Description
%TYPE%	characteristic type
%MEM-ADDR%	memory address
%REC-LAYOUT%	record layout
%MAX-DIFF%	maximum difference
%CONV-METHOD%	conversion method
%L-LIM%	lower limit
%U-LIM%	upper limit

AXIS_PTS block placeholders

Placeholder	Description
%MEM-ADDR%	memory address
%IN-QUALITY%	input quality
%REC-LAYOUT%	record layout
%MAX-DIFF%	maximum difference
%NUMOF-AXIS-PTS%	number of axis pts
%L-LIM%	lower limit
%U-LIM%	upper limit

Dynamically generated placeholders

In addition to the placeholders mentioned here, there are also dynamically generated placeholders. The previously mentioned placeholders were determined by their position in the BLOCK. But there in also information contained in the A2L as a name-value assignment. Here is an example of a name-value assignment of a MEASUREMENT block:

FORMAT "%5.1"

ECU_ADDRESS 0xD000176B

In this case the %FORMAT% and %ECU_ADDRESS% placeholders are defined dynamically, and as such can be used as normal placeholders. The

dynamically generated placeholders will be converted completely to upper case, if they aren't already.

The name-value assignments differ from label to label and from A2L to A2L. The special placeholder %REPORT-AVAILABLE-DATA% can be used to find out which placeholders are defined for a label.

Location of the configuration file

A2L Label saves the settings and messages of the program in a target directory that is determined by the following environment variables (the first match will be used):

- ORESTES_HOME
- HOME
- HOMEDRIVE with HOMEPATH

If none of the variables is configured, a temporary directory to be used will be determined by a library.

In this directory, an *.orestes* directory will be created, and in it a subdirectory a2l_label (for example, u:\.orestes\a2l_label).

The *config* file contains the saved settings.

Keyboard combinations

Global

A2L Label registers four global keyboard shortcuts when it is started. The keyboard shortcuts are displayed in the Settings window and elsewhere.

Shortcut keys	Relevant section in the documentation
Ctrl+1	Looking up information (Ctrl+1)
Ctrl+2	Entering information (Ctrl+2, Ctrl+3, Ctrl+4)
Ctrl+3	Inserting information (Ctrl+2, Ctrl+3, Ctrl+4)
Ctrl+4	Entering information (Ctrl+2, Ctrl+3, Ctrl+4)

Looking up information (Ctrl+1)

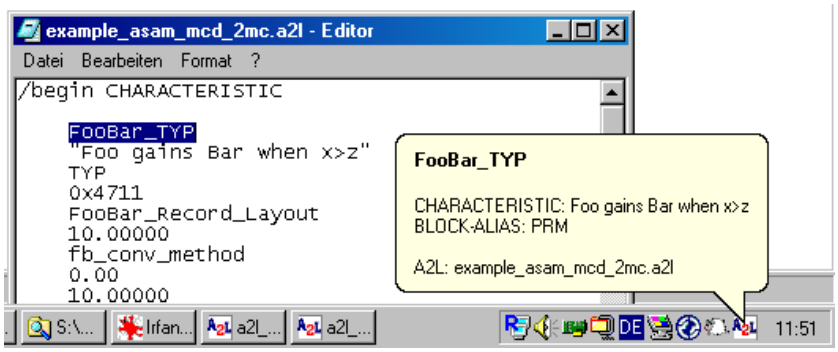

Figure 11: Information bubble

The keyboard combination Ctrl+1 is used to call the lookup function. When this keyboard combination is pressed, A2L Label will display information on the text currently highlighted in the application.

Technical procedure

When the keyboard combination is pressed, A2L Label proceeds as follows:

- The original state of the clipboard is saved.
- The Ctrl+C keyboard combination is sent to the active window.
- The content of the clipboard is used as the next label to be looked up. The information found in the A2L file is displayed in an information bubble.
- The original state of the clipboard is restored.

Comments

In order for A2L Label to work, the following conditions must apply:

- The active application must support the copying of the highlighted text to the clipboard by the keyboard combination Ctrl+C.
- Text must be highlighted in the window, as applications usually do not copy anything to the clipboard if Ctrl+C is pressed and no text is highlighted.

A2L Label cannot determined whether text is highlighted. If no text is highlighted, the content of the clipboard will not be changed by entering Ctrl+C. The current content of the clipboard will be used to look up information in A2L Label.

The Ctrl key should not be held down continuously between calls. If the Ctrl+key is held down continuously by the user, A2L Label will not be called by the operation system. After pressing the shortcut keys, please release the them briefly.

Entering information (Ctrl+2, Ctrl+3, Ctrl+4)

A2L Label registers three global keyboard shortcuts for entering information: Ctrl+2, Ctrl+3, and Ctrl+4.

These functions support the inserting of information in a label that has already been looked up.

The inserted text can be adapted to individual requirements. For more details, please refer to Settings.

If the keyboard combination is pressed, all the information just looked up will be entered into a character string and inserted in the active application.

Technical procedure

When the keyboard combination is pressed, A2L Label proceeds as follows:

- The original state of the clipboard is saved.
- The character string to be inserted is copied to the clipboard.
- The Ctrl+V keyboard combination is sent to the active window.
- The original state of the clipboard is restored.

Comments

In order for A2L Label to work, the following conditions must apply:

- The active application must support the inserting of the highlighted text from the clipboard by the keyboard combination Ctrl+V.

The Ctrl key should not be held down continuously between calls. If the Ctrl+key is held down continuously by the user, A2L Label will not be called by the operation system. After pressing the shortcut keys, please release the them briefly.

Messages

General

A2L Label does not have a window of its own. Therefore the information bubble is used for feedback by the application.

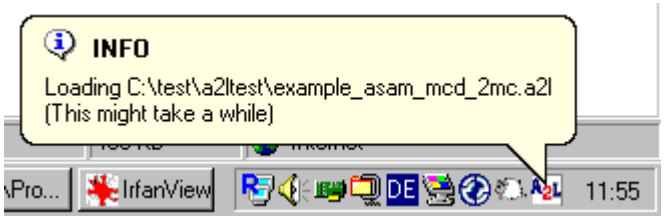

Figure 12: Status message

Normal feedback and warnings are presented in the information bubble. For errors, an error dialog is used.

Figure 13: Error dialog

These messages are also written in a logfile to be looked up at a later time.

Logs

Logs are saved in the same location as the configuration file location. A separate subdirectory is created (daily) for log.

Each time that A2L Label is started, a new log is created (e.g. 2009-03-18_13.30.48_a2l_label.txt).

It can be used to check which labels were searched for and which A2L file was loaded at the time.

Attachment

List of figures

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Information

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