

Introduction

This application note describes how to create a setup window in JetSym and what possibilities such a setup window offers.

In order to setup a controller program, values need to be read from the controller and are to be displayed. For this purpose, JetSym allows to define and save several setup windows.

Basis for this Application Note

This application note is based on the exemplary program „Gripper“ described in application note 017. The project has the configuration shown in fig. 1 and the symbols given in fig. 2.

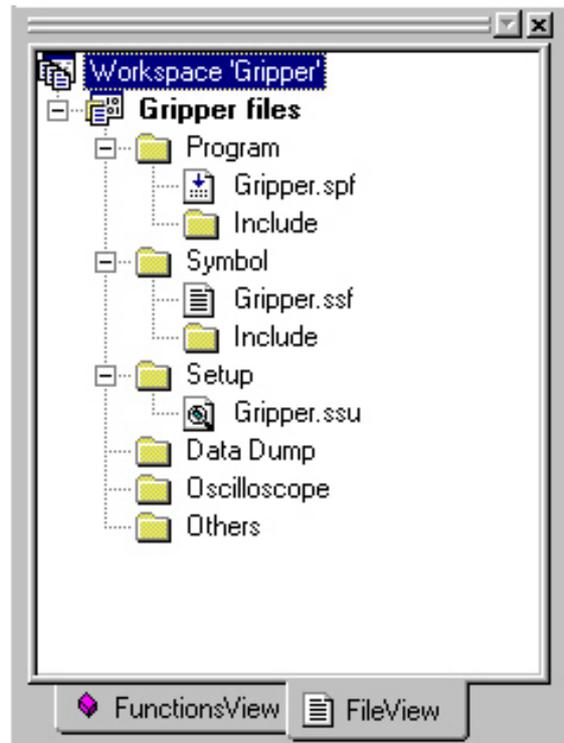


Figure 1

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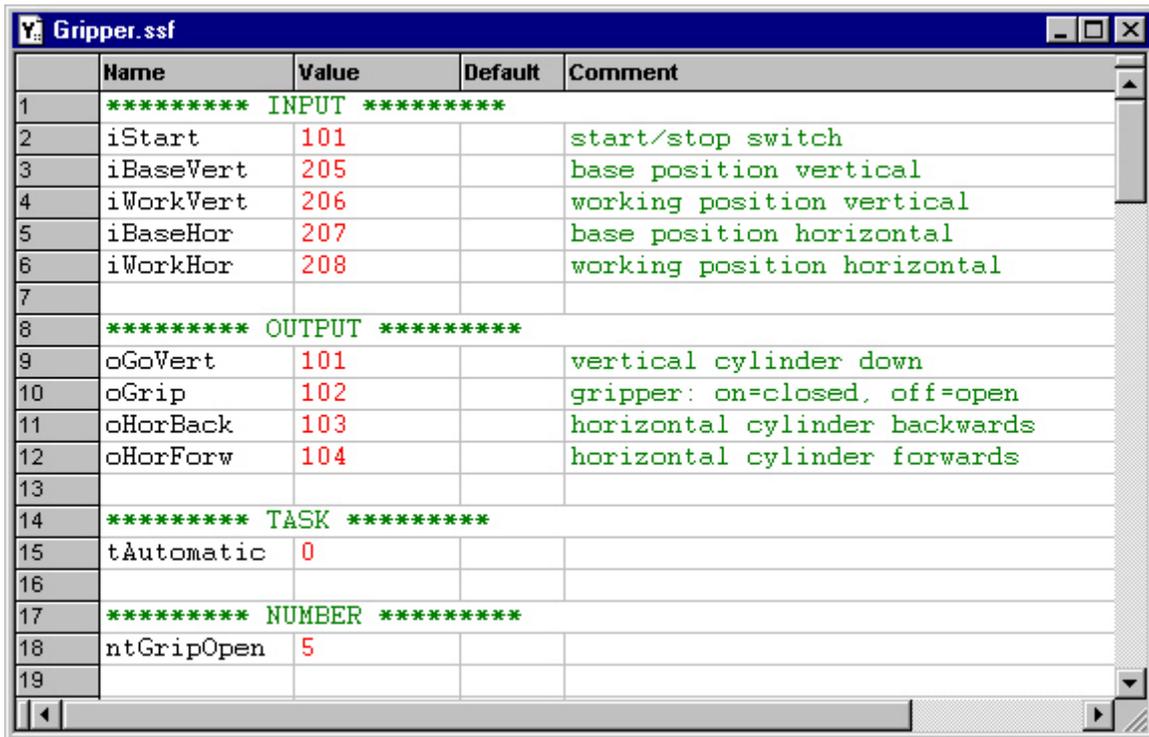
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| | Name | Value | Default | Comment |
|----|--------------------|-------|---------|-------------------------------|
| 1 | ***** INPUT ***** | | | |
| 2 | iStart | 101 | | start/stop switch |
| 3 | iBaseVert | 205 | | base position vertical |
| 4 | iWorkVert | 206 | | working position vertical |
| 5 | iBaseHor | 207 | | base position horizontal |
| 6 | iWorkHor | 208 | | working position horizontal |
| 7 | | | | |
| 8 | ***** OUTPUT ***** | | | |
| 9 | oGoVert | 101 | | vertical cylinder down |
| 10 | oGrip | 102 | | gripper: on=closed, off=open |
| 11 | oHorBack | 103 | | horizontal cylinder backwards |
| 12 | oHorForw | 104 | | horizontal cylinder forwards |
| 13 | | | | |
| 14 | ***** TASK ***** | | | |
| 15 | tAutomatic | 0 | | |
| 16 | | | | |
| 17 | ***** NUMBER ***** | | | |
| 18 | ntGripOpen | 5 | | |
| 19 | | | | |

Figure 2

Creating a Setup Window

When creating a new project, JetSym automatically creates several files. Figure 1 shows that a setup file named *Gripper.ssf* already exists in the *Setup* folder.

- Open this file by double-clicking the file name.
- This opens the setup editor (see fig. 3) which resembles the symbol editor and is similar to use. The following columns are available:
 - The *Name* column serves to enter the address of the controller value you want to have displayed. This address can also be a symbol defined in the symbol file. To enter the symbol, just click it with the left mouse button and drag it with suppressed mouse-key to the respective field of the setup editor.
 - The *Value* column is hidden when you open a new setup editor window but is located between the columns *Name* and *Content*. Once you have entered a symbol in the *Name* column, the content of the symbol is displayed in the *Value* column. This means that the values in this column correspond to those in the *Value* column of the symbol editor.
 - The *Content* column indicates the values from the controller as soon as you have activated the setup screen.
 - In the *Type* column you can assign types to the indicated controller values. For more details, please refer to the next page.
 - The *Comment* column provides space for additional comments.

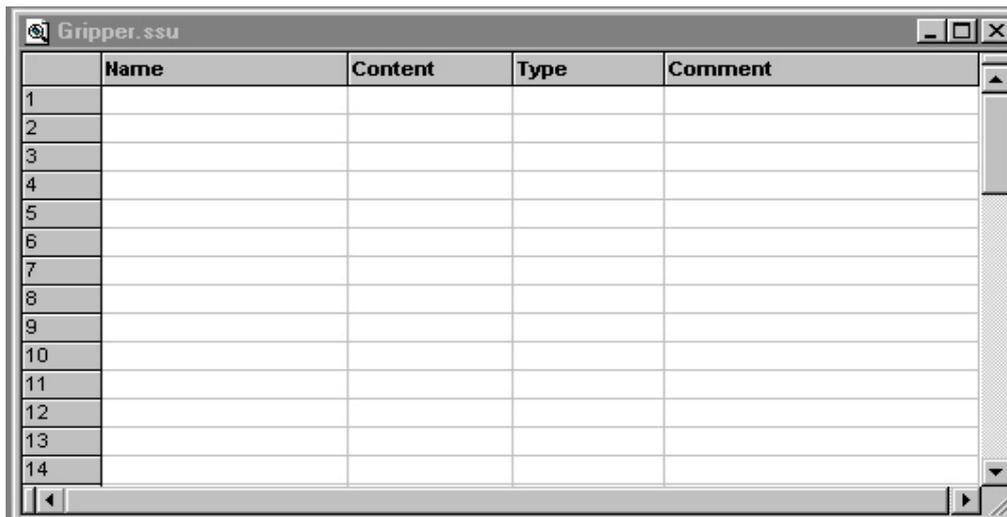


Figure 3

Working with the Setup Window

The *Name* column in the setup window serves to enter the address of the controller value you want to have displayed. This might be, for example, the number of a register or an input.

This address can also be a symbol defined in the symbol file. To enter the symbol, just click it with the left mouse button and drag it with suppressed mouse-key to the respective field of the setup editor.

As an alternative, you can select the symbol in the symbol file or in the program source text and copy the symbol by pressing (*Ctrl-C*) or by using the copy command from the context menu and insert it in the setup window by pressing (*Ctrl-V*) or with the paste command from the context menu.

Setting the Type

In the *Type* column, you can determine a type for the controller value. JetSym offers the following types:

- *Any*

This is the default setting unless you have set another type. JetSym automatically detects the type of the controller value by means of the program context where the symbol is used.
- *Register*

The content in the *Name* column is regarded as register value and is indicated accordingly in the *Content* column.
- *Input*

The content in the *Name* column is regarded as number of a digital input and is indicated accordingly in the *Content* column.
- *Output*

The content in the *Name* column is regarded as number of a digital output and is indicated accordingly in the *Content* column.
- *Flag*

The content in the *Name* column is regarded as number of a flag and is indicated accordingly in the *Content* column.
- *Axis*

Is currently not supported.

- *Numeric*

The content in the *Name* column is regarded as numerical value, comparable with a register value, and is indicated accordingly in the *Content* column.

- *Text*

The content of the *Name* column is regarded as initial register number of a text register. The content of the text register is indicated in plain text in the *Content* column.

- *Label*

Is currently not supported.

- *Task*

The content of the *Name* column is regarded as task number. The status of the task is indicated in plain text. You can go to the corresponding program line in the source text where the program execution is currently located by using the *Go To Source* command from the context menu of the setup window (see fig. 4).

In JetSym, the following status messages might appear in the *Content* column:

- *running* (the task is being processed)
- *stopped* (the task was stopped)
- *delay* (the task waits at a DELAY instruction)
- *user input* (the task waits at a USER_INPUT instruction)
- *WHEN_MAX* (the task waits at a WHEN_MAX instruction)
- *wait for net* (only applies to JetControl: the task waits at a network instruction)

Context Menu of the Setup Window

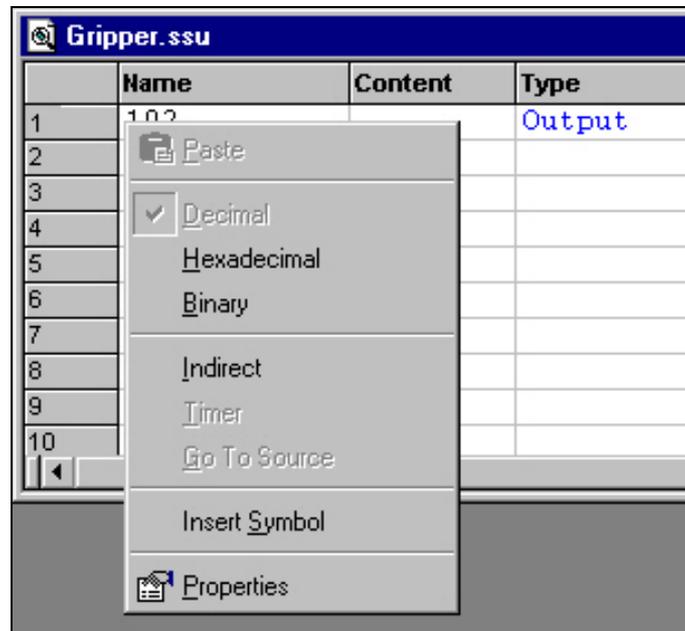


Figure 4

- The display of controller values can be further adapted via the context menu of the setup window:
 - *Decimal, hexadecimal or binary*
 The value in the *Content* column can be indicated as decimal number, hexadecimal number or binary number.
 (This is possible for all types except *Task*, *Label* and *Text*)
 - *Indirect*
 JetSym regards the address in the *Name* column as register number the content of which points to the desired controller value. This indirectly addressed controller value is then indicated in the *Content* column.
 A small "R" at the beginning of the line indicates that indirect addressing was activated for a line of the setup window.
 (This is possible for all types except *Task*, and *Label*)
 - *Timer*
 JetSym handles the address in the *Name* column as time register, i.e. the controller value is treated like a numerical value and is referred to the runtime register (runtime since reset). Thus the *Content* column shows the difference of the controller value minus runtime register. If the difference is negative, the time is regarded as elapsed and the text "END" appears in the *Content* column.
 A small "T" at the beginning of the line indicates that this function was activated for a line of the setup window.
 (This is possible for the types *Any*, *Register*, *Axis* and *Numeric*)
- You can view the *Properties* of the setup window (see figure 5) via context menu.

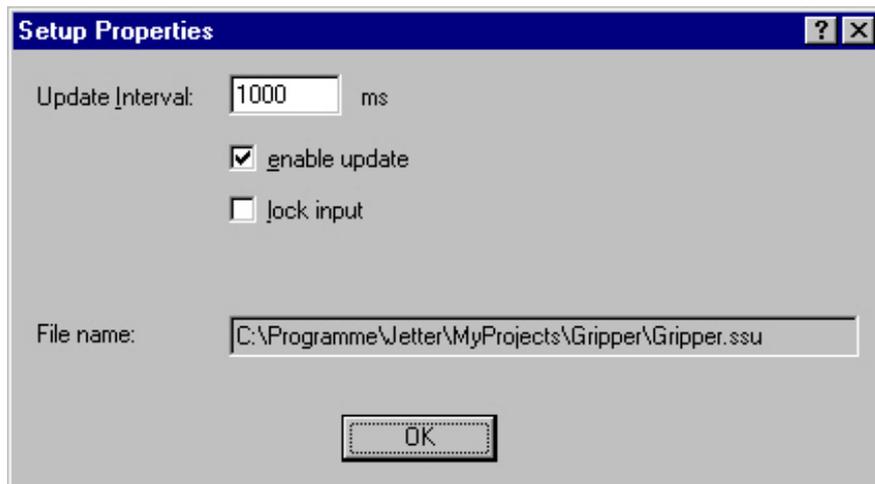


Abbildung 5

- The context menu offers further important setting possibilities:
- *Update interval*

Update Interval serves to set the interval time at which the controller data are refreshed in the setup window. The default setting is 1000 ms, i.e. the controller fetches the controller data displayed in the setup window every minute and thus refreshes the display.

Please only shorten the *Update Interval* with due care since this would increase the processor load of the PC considerably.

- *enable update*

The *enable update* box allows you to select whether a setup window is to refresh its data when setup is enabled.



The data refresh for the entire JetSym is activated/deactivated with the *Enable* switch from the menu bar option *Setup*, or by pressing the *Enable/Disable Setup* button in the symbol bar. If *enable update* is activated, individual setup windows can then be added to this data refresh.

- *lock input*

- If *lock input* was selected (active), then the values in the controller (*Content* column) cannot be modified using the setup window.
- If *lock input* is not selected (inactive), you can modify the values in the controller (*Content* column) by clicking the respective value with the mouse button and pressing the ENTER key, or by double-clicking the value with the mouse button. Next, a dialog opens where you can enter a new value. This value applies as soon as you press the *OK* button.

Creating Additional Setup Windows

- Select *File / New* from the menu or press the *Ctrl-N* key combination. A dialog window opens as shown in fig. 6. Select the file type *JetSym Setup File* and enter the file name in the *File name* text field, e.g. Gripper. Next, click *OK*.

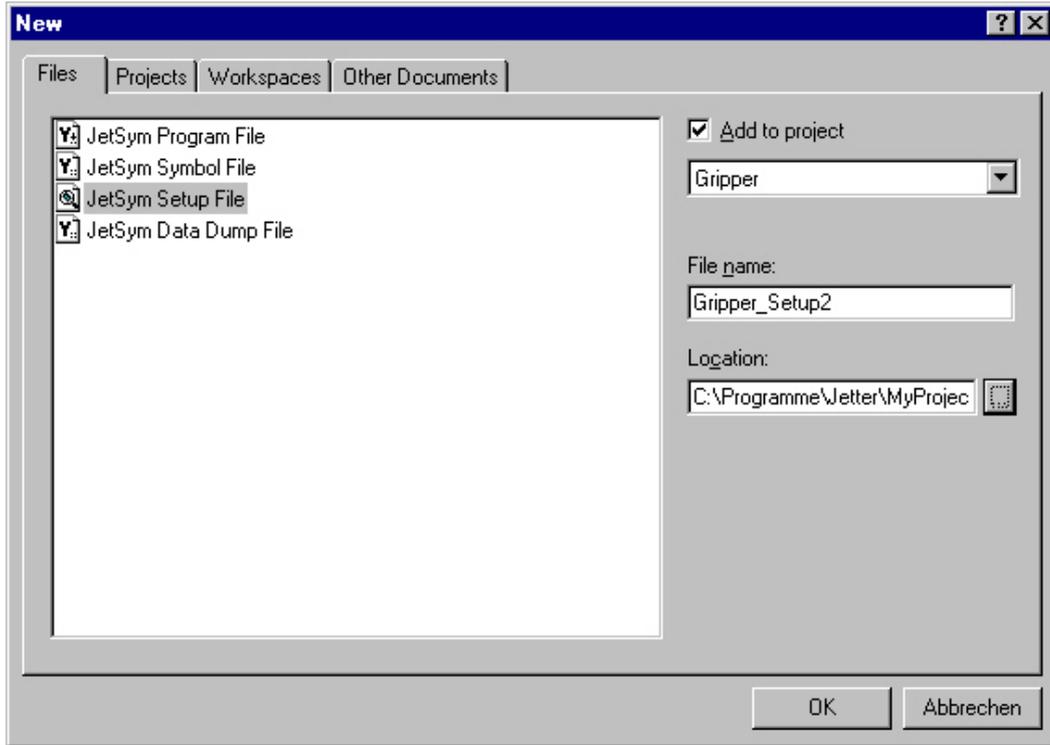


Figure 6

JetSym then creates a new file named *Gripper_Setup2.ssu* in the *Setup* directory of your *Gripper* project (see figure 7).

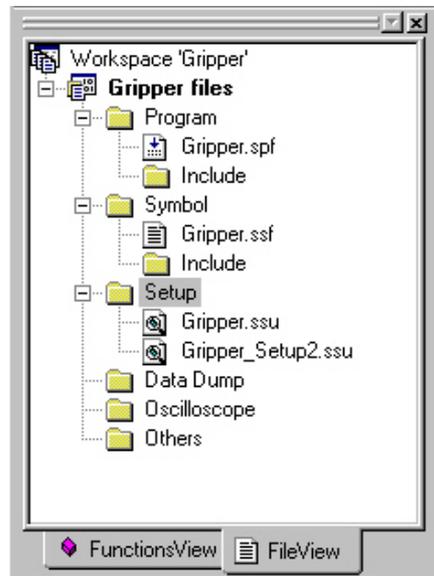


Figure 7