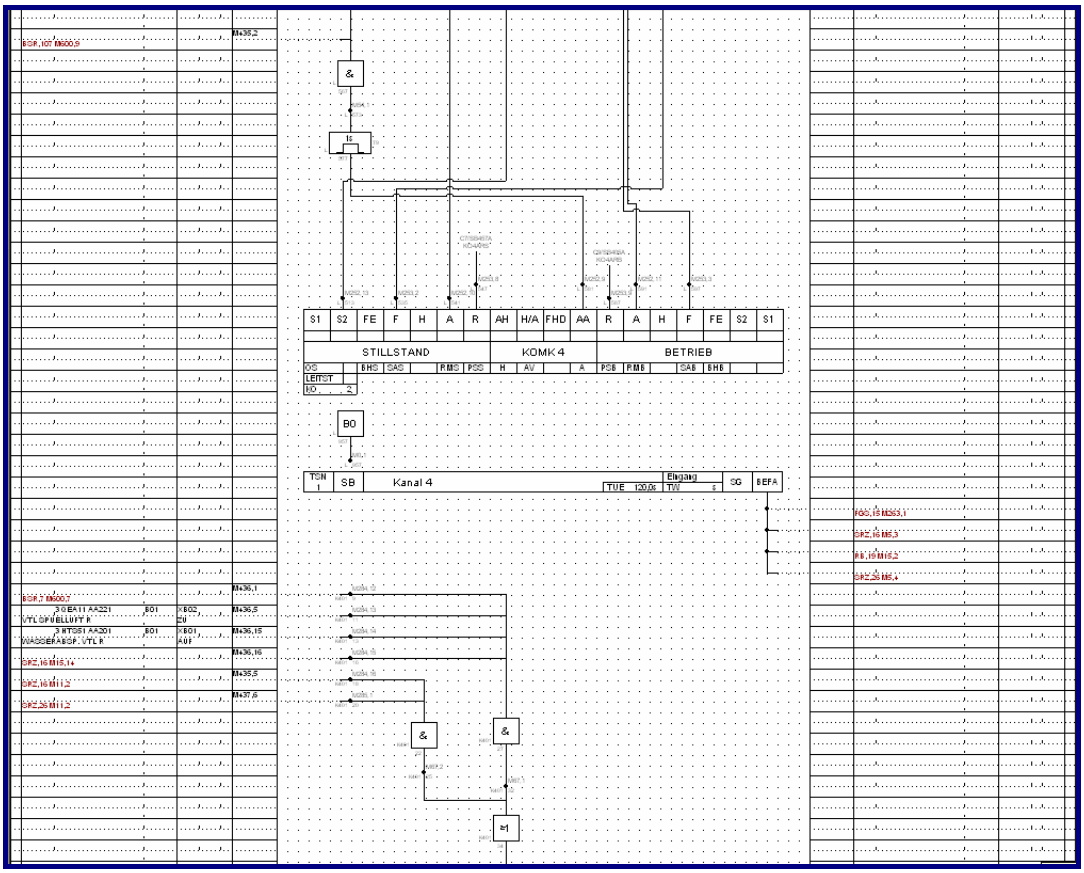

FUBI

Function Diagram Generator

User Manual

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Version

The manual describes the FUBI Generator Software, version 1.0 and higher.

Trademarks

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1 Contents

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2 Function diagram/step sequence generator

2.1 General

A process control system that has been running for a long time unfortunately develops its "own life". This means that inconsistencies between the data of the automation systems and the project data in the master computers of the process control level become fixed over the years.
Function diagrams that provide a graphic representation of the operational sequences on the automation level (such as step sequences) are an important means for locating faults in the process control system.

IPKS offers a variety of tools for the modernization of TELEPERM M / ME systems and the migration of OS / IS (OS265, .. MADAM S) systems to an up-to-date process control system. One of these tools for the "soft" conversion from an "old" system to a modern SCADA platform is the IPKS FUBI Generator.

Reverse documentation of the operational sequences in the automation systems is the essential feature of our FUBI Generator.
Basis for the reverse documentation are the structure data of the automation systems (BEK, ZEK, etc.). FUBI function diagrams can be generated as static diagrams (in the form of PDF files, for example), or as dynamic process diagrams.

FUBI generated static diagrams can be used for providing up-to-date documentation for maintenance and fault location on an existing automation level.

FUBI generated dynamic process diagrams can be integrated in the operator interface of the modern SCADA systems (such as SIMATIC WINCC) following the migration of the process control system.

Not contained in the data of the automation systems is information such as KKS names, signal identifiers and texts. This information can be entered manually. A much more efficient method, however, is the direct conversion of this information from the OS / IS systems. This way, wrong entries or logic errors - practically inevitable at manual input - can be safely avoided.

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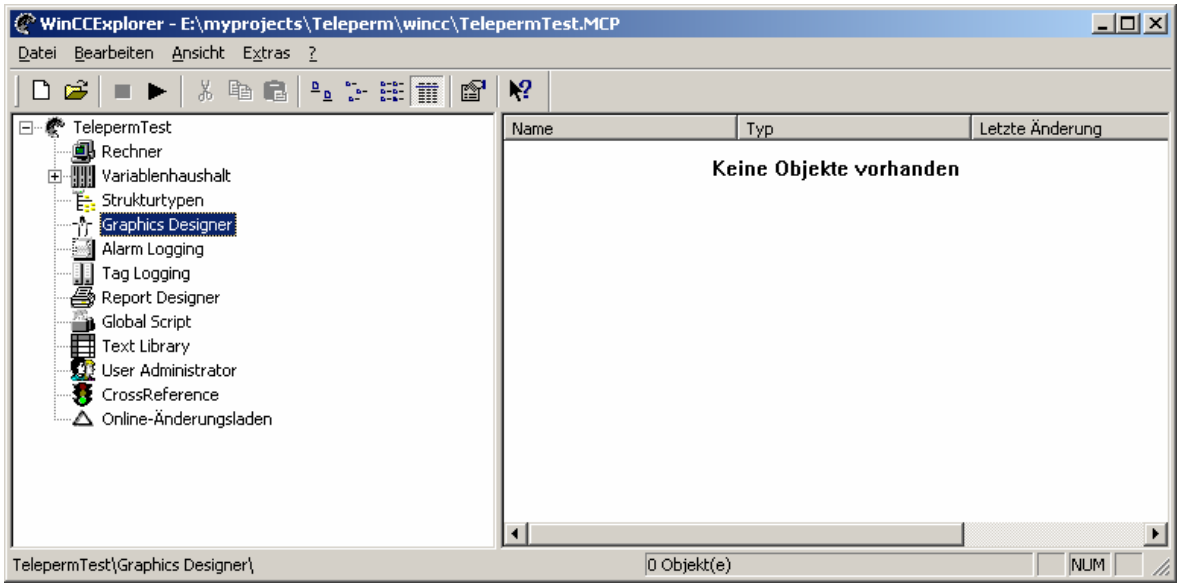
2.1.1 Requirements

The IPKS FUBI Generator uses in *WinCC* exclusive the *Graphics Designer*.
A *WinCC* project and *Graphics Designer* must be active.

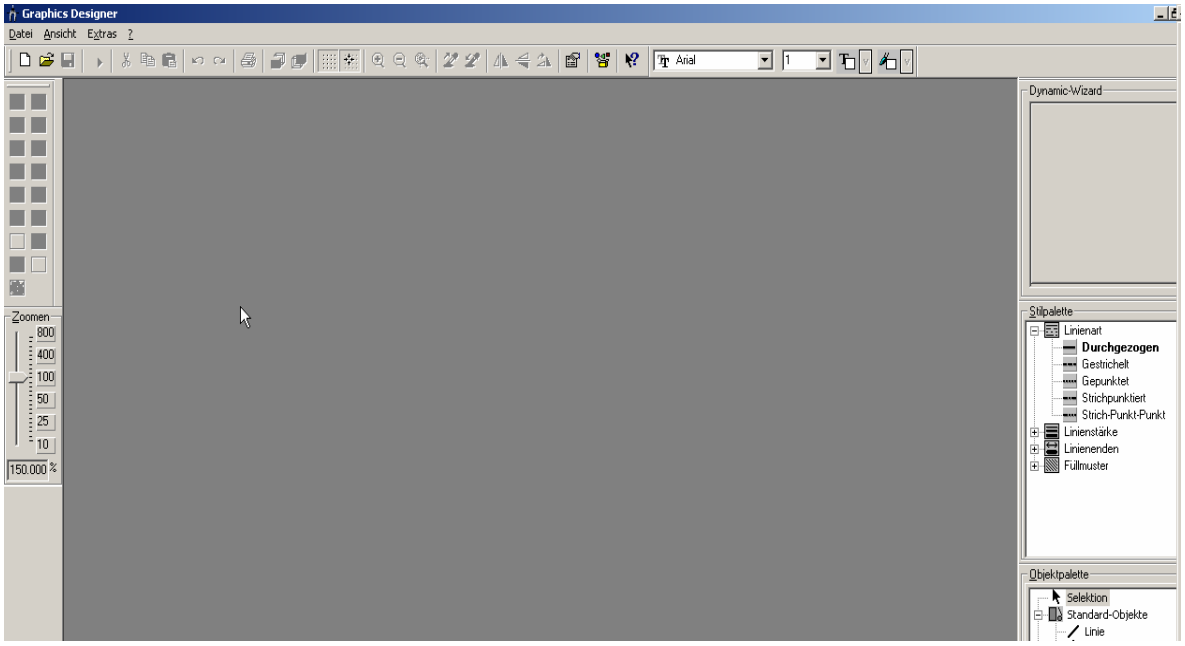
2.1.1.1 WINCC Explorer

Start WinCC Explorer.



From WinCC Explorer, start the Graphics Designer application.

2.1.1.2 Graphics Designer



Start the IPKS FUBI Generator.

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2.1.2 Operation of the FUBI Generator

2.1.2.1 Entering basic data

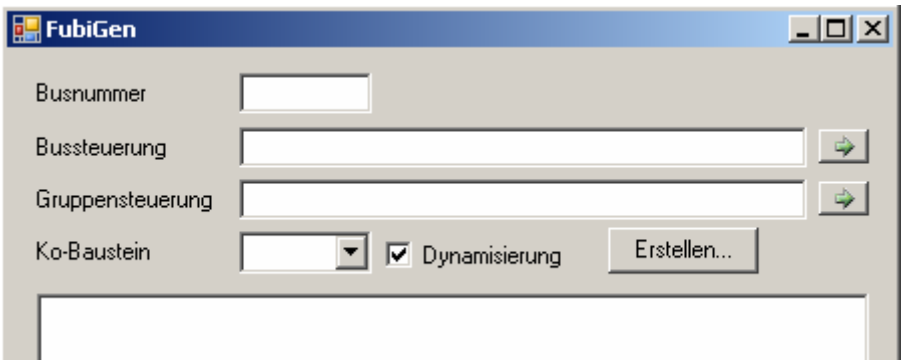

Figure 3

Busnummer (Bus number) Number of the CS275 bus the (automation) system for which the step sequences are to be generated is connected to.

Bussteuerung (Bus control) Path to the BEK files of the I/O bus control module.

Gruppensteuerung (Group control) Path to the system's group control module.

Click the green arrow to select the corresponding files.

KO-Baustein (KO block) Specify the channel for which the step sequence is generated (*KO1 to KO4)*. The dynamic adjustment (Dynamisierung) of the inputs can be deactivated if this function is not required.

Erstellen... (Generate) After you specified the above parameters, click **Erstellen** (Generate) to start the generation procedure.

Figure 4 gives you an example of a completed basic data dialog: The step sequence of channel 4 of group control 15 of the automation system is generated with the subscriber number 36 on bus 0.

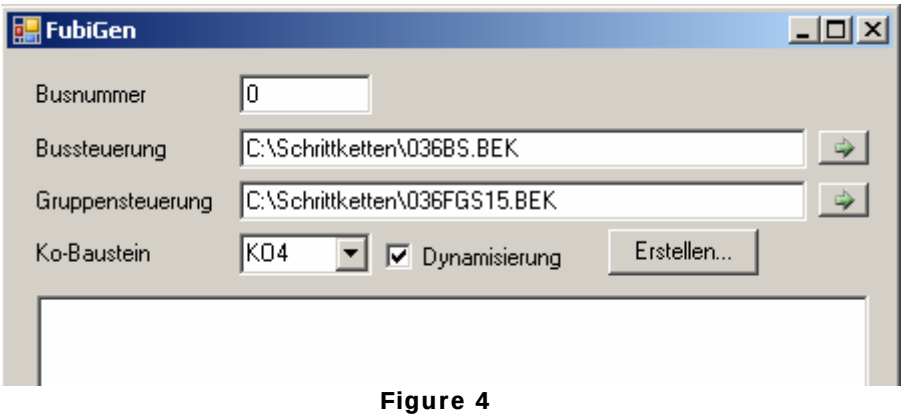

Figure 4

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2.1.2.2 KKS numbers and signal data

After the BEK files have been read in and evaluated, it is necessary to specify the KKS numbers and designations of the signals in the step sequence to be generated.
In the **Bausteine** (Blocks) dialog, specify the KKS number and designation for every command block defined in the group control (see figure 5).
Here the blocks are identified by their number and not by the channels they are assigned to. The KKS number is also required for the dynamic adjustment (Dynamisierung) of the command block inputs. If a block's KKS is not known (in the example, the KKS number is not specified for block KO 9), the block cannot be adjusted dynamically. All information entered is saved and will be available for generation at a later time.
Tip: Individual boxes can be selected with the left mouse button. Press the TAB key to move to the next box.

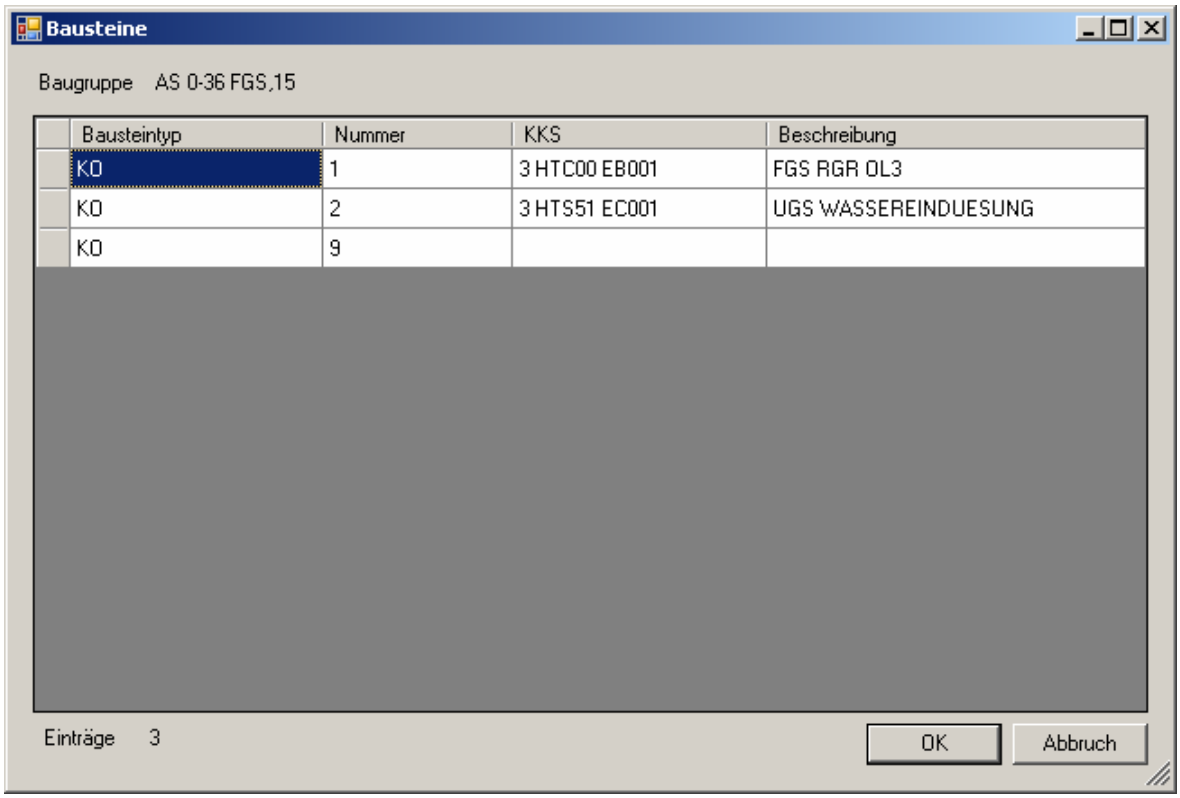

Figure 5

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2.1.2.3 Signal data

The data of the input and output signals are determined in the next step, (see figure 6).
Each signal is identified by its *Address* and *Element* data. If the allocated element belongs to a module of the same AS, the *address* represents the module defined through module type and module number. The *Element* box then shows the name of the flag or connection. If the signal is allocated to a message connection, the *address* of the AS of the message connection block is entered. The *Element* box then contains information about the block type, number or channel. Optional signal data are: KKS, sheet number (of the corresponding GET-M image), signal name, description and action. Dynamic adjustment (Dynamisierung) of input/output signals can only be implemented if the corresponding KKS number is known and the signal is made available by the bus control module via a free binary value (FBW).
For signals without clear text, the designation of the connected element is shown in red color in the generated image, which facilitates the assignment of signals. It is therefore a good idea to conduct a first run without any additional signal specifications. In a second run, you can then verify the signals marked in red with the existing GET-M images and enter the values in the corresponding boxes.

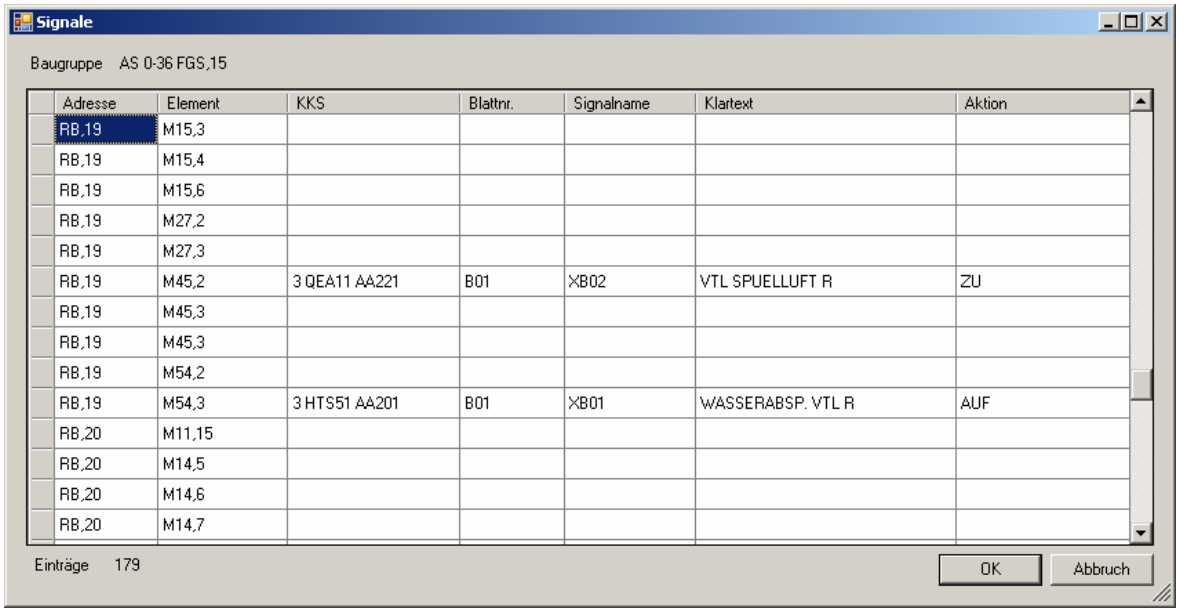

Figure 6

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2.1.3 Designation of the generated image

The name of the generated image contains the following information:
Bus no. Subscriber no. Module type Module no. – Block type Channel.

Example: The designation 036FGS15-KO4 reflects the settings defined in the basic data dialog shown in Figure 4.

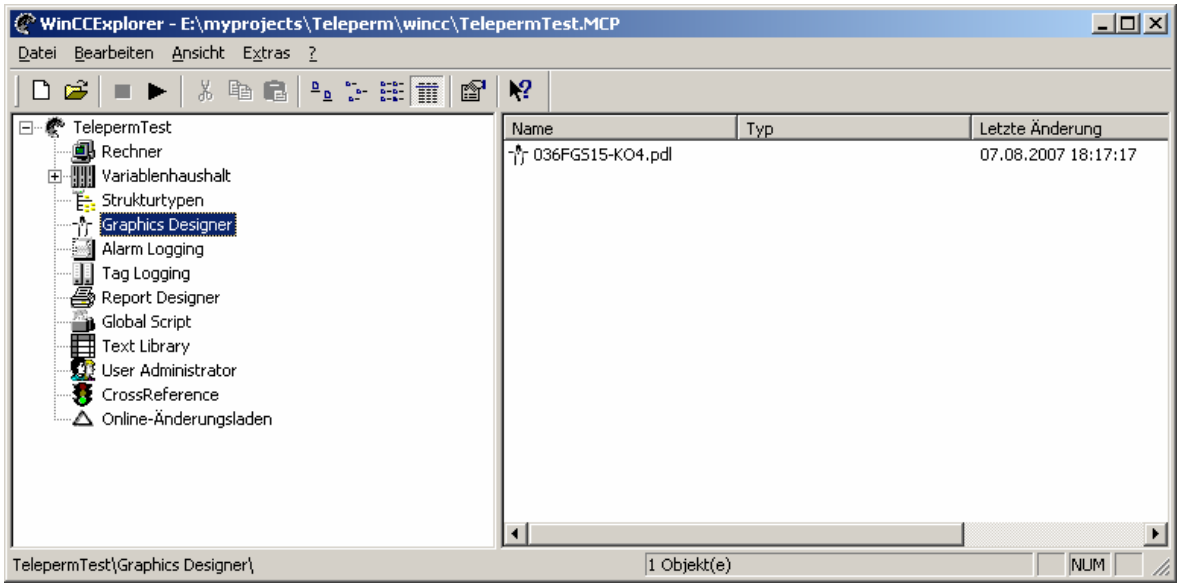

Figure 7

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2.1.4 Example of a generated image

Figures **8** and **9** give you an example of a generated *WinCC* image.

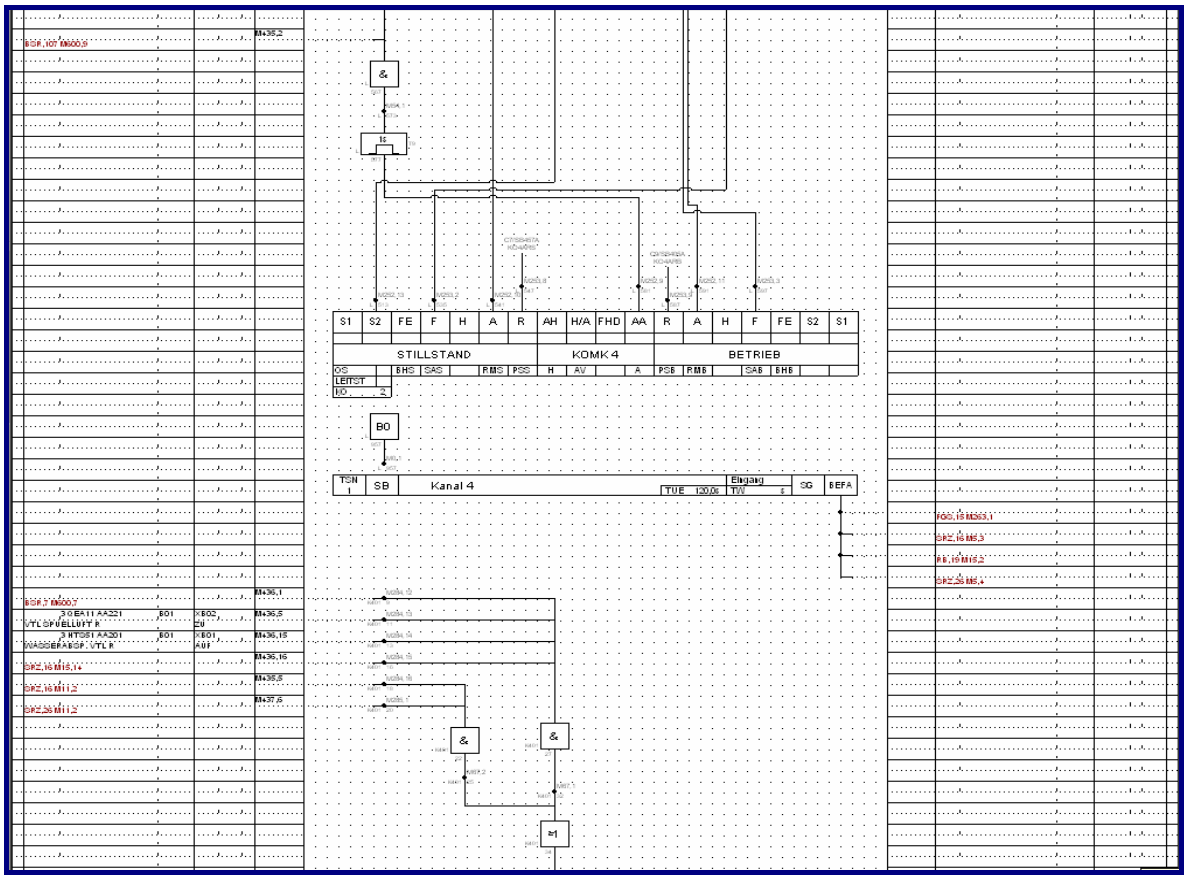

Figure 8

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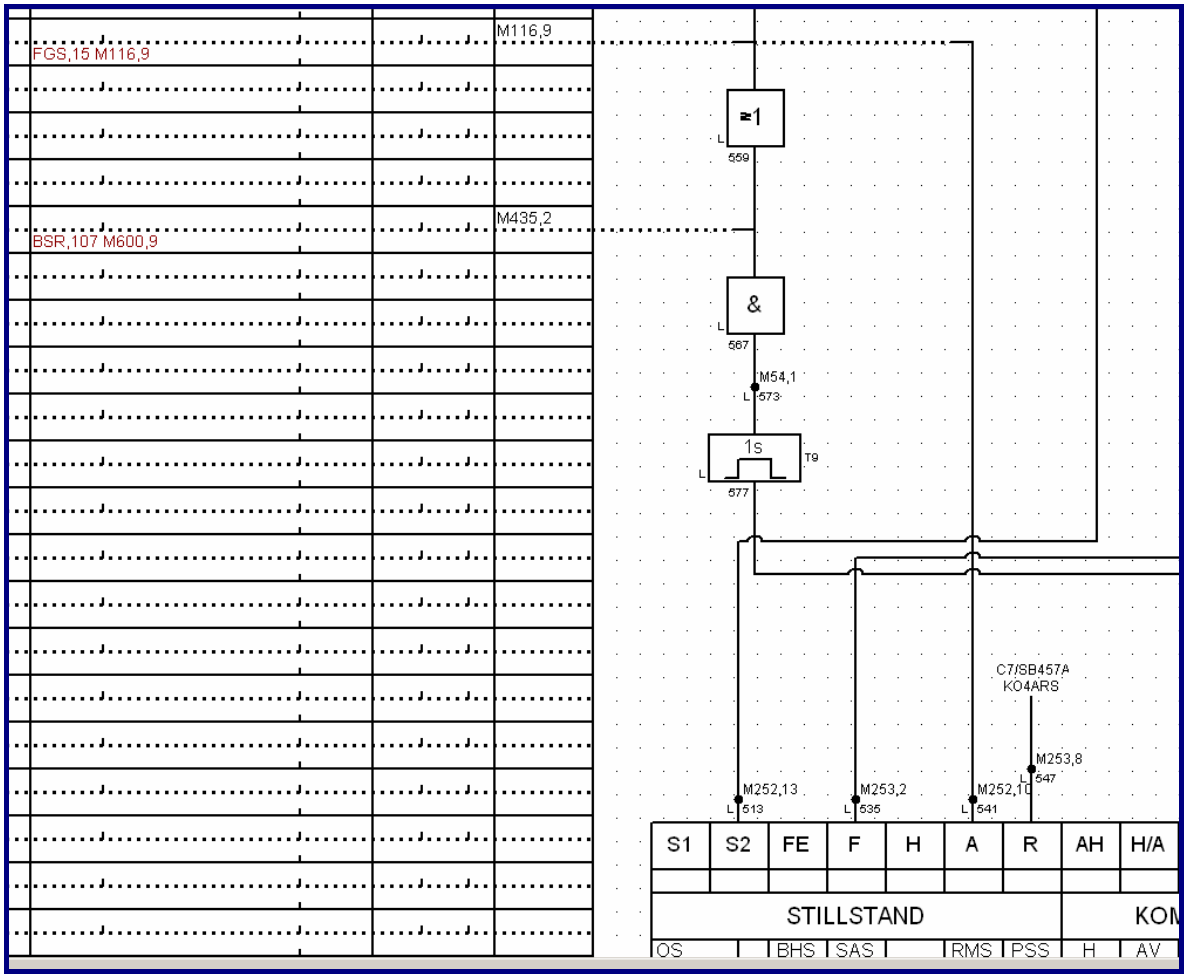

Figure 9

2.1.5 Settings

Some basic parameters can be defined in the *Settings.xml* file located in the *FubiGen.exe* directory, such as:

- *OutputDirectory* for GIF images and log file
- *DrawImage*: If *True*, the function diagrams are generated in GIF format.
- *DrawWinCC*: If *True*, WinCC images are generated.

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3 Notes

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