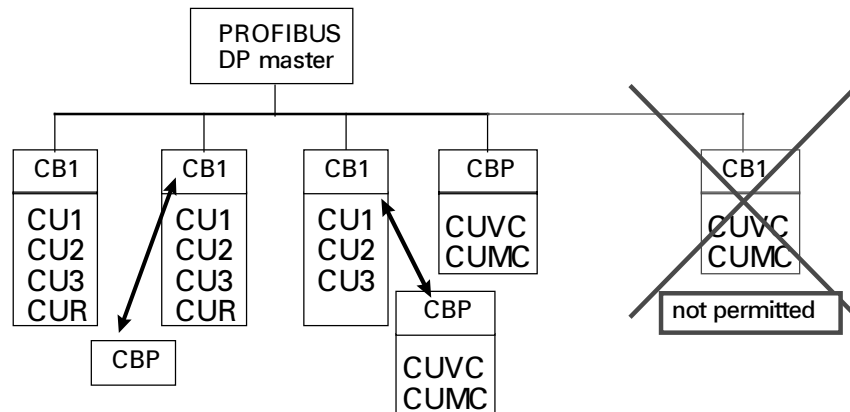


12 Guidelines to changeover from CB1 to CBP

12.1 Reasons for the changeover

Essentially, there are two reasons for the changeover of PROFIBUS boards from CB1 to CBP:



- ◆ In the scope of the changeover from MASTERDRIVES with a CU1-, CU2- or CU3 control module to MASTERDRIVES with a CUVc- or CUMc control board, a complete drive converter with CUx- and CB1 module is replaced by a new drive converter with CUVc- or CUMc and CBP module.
- ◆ Only the PROFIBUS module CB1 is replaced by a new PROFIBUS module CBP e.g. because you wish to use the higher baud rate or the expanded functions of the CBP, also together with a CU1-, CU2-, CU3- or also a CUR control module.

In both cases, you will have to modify the bus software in the PROFIBUS-DP master; i.e. the two CB1 and CBP modules are not compatible on the master side.

The necessary steps, i.e. to change an existing DP master software to an equivalent software with CBP modules will now be described in the following.

Essentially, a differentiation is made between two user groups:

- ◆ SIMATIC S5 user
- ◆ SIMATIC S7 user

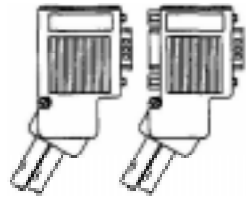
The guidelines should put you in a position to:

- ◆ Estimate the time and costs for such a changeover
- ◆ Make all of the necessary preparations, e.g. regarding GSD/type descriptive files
- ◆ Make the necessary steps using an example

12.2 Comparison, CB1 ⇔ CBP

Overview table

The following table is intended to give you some guidelines as to common features between CB1 and CBP, but also to clearly refer to the differences of the two master drives communications modules for PROFIBUS-DP.

	Old module CB 1	New module CBP
Order No.:	6SE7090-0XX84-0AK0	6SE7090-0XX84-0FF0
Instruction Manual:	6SE7087-8CX84-0AK0	Sec.8.2 of the Compendium
PNO identification No.	8022	8045
Required GSD/type file	SIEM8022.GSD SI8022AX.200	SIEM8045.GSD SI8045AX.200
Baud rates	9.6 kbaud – 1.5 Mbaud	9.6 kbaud - 12 Mbaud
Bus connection	6 pin terminal strip Phoenix connector is included in the scope of supply of CB1	9-pin sub D socket 9-pin sub D plug connector  Should be separately ordered, acc. to Catalog DA 65.10 e.g. 6ES7 972-0BA10-0XA0 6ES7 972-0BA20-0XA0
Support standard DP	yes	yes
Supports non-cyclic data transfer	no	yes
Possible to couple SIMOVIS V 5.0 via Profibus	no	yes
Function block packages which can be used	DVA_S5 all versions and DVA_S7 all versions	DVA_S5 from V 4.0 and DVA_S7 from V 2.0
Can be used with FC (CU1)	yes, can be directly inserted in the electronics box	yes, can be inserted in the electronics box with support board ADB 6SE7090-0xx84-0KA0
Can be used with VC (CU2)	yes, can be directly inserted in the electronics box	yes, can be inserted in the electronics box with support board ADB 6SE7090-0xx84-0KA0

	Old module CB 1	New module CBP
Can be used with SC (CU3)	yes, can be directly inserted in the electronics box	yes, can be inserted in the electronics box with support board ADB 6SE7090- 0xx84-0KA0
Can be used with CUMC	no	yes Can be directly inserted on the CU or inserted in the electronics box with support board 6SE7090-0xx84-0KA0
Can be used with CUVC	no	yes Can be directly inserted on the CU or inserted in the electronics box with support board 6SE7090-0xx84-0KA0
Can be used with Compact Plus	no	yes can be directly inserted on the Compact Plus baseboard

12.3 Parameter numbers of the individual CUs regarding PROFIBUS

Depending on which CD control module, the CBP is used with, then a differentiation is made between the parameter numbers, which are used to enter the settings for PROFIBUS.

Parameter name	Parameter number for MASTERDRIVES with CU1, CU2, CU3 and CUR	Parameter number for MASTERDRIVES with CUMC and CUVC
Profibus address	P 918	P 918
CB parameter 1	P 696	P 711
CB parameter 2	P 697	P 712
CB parameter 3	P 698	P 713
CB parameter 4	P 699	P 714
CB parameter 5	P 700	P 715
CB parameter 6	P 701	P 716
CB parameter 7	P 702	P 717
CB parameter 8	P 703	P 718
CB parameter 9	P 704	P 719
CB parameter 10	P 705	P 720
CB parameter 11	-----	P 721
CB-/TB	P 695	P 722
CB-/TB actual values	P 694	P 734

12.4 Information on the GSD- and type files for the new COM-BOARD CBP

Different versions of the type description/GSD file are required for the different versions of SIMATIC S5 and S7.

General information All type/GSD files for the MasterDrives PROFIBUS board CBP have the PNO identification 8045 in the name.

You can use the following list to define which type file / GSD file is used for which Siemens PROFIBUS master.

Name of the type/GSD files:	SI8045AX.200	For SIMATIC S5 with COM ET200 WIN and S7 from Version V 3.x
	SIEM8045.GSD	For SIMATIC S5 with IM308C and COM PROFIBUS from V3.0
	SI80451X.200 : SI80455X.200	For SIMATIC S7 with STEP7 Version V2.x

These files are provided on a floppy disk, which is supplied together with the CBP module.

A differentiation should be made between the following applications:

SIMATIC S5

◆ SIMATIC S5 with IM308C and COM-PROFIBUS from Version V 3.0:

The GSD file as well as the type description file can be used for this application.

- **Using the GSD file:**

Copy the GSD file SIEM8045.GSD into the COM Profibus directory GSD.

Select the menu item update GSD files, in the "file" menu, and execute this command.

Then, check in the menu "Documentation" ⇒ menu item "type / GSD files" whether you can see the new entry of "Master Drives CBP".

If this is the case, CBP can be configured as usual, analog to CB1. If not, repeat the update.

- **Using the type file:**

Copy the type.file SI8045AX.200 into the COM-Profibus directory "TYPDAT5x".

Then, in the "file" menu, select the update GSD file menu item, and execute this command.

Then, check in the menu "Documentation" ⇒ menu item "type / GSD files", whether you can see the new entry of "Master Drives CBP".

If this is the case, CBP can be configured as usual, analog to CB1. If not, repeat the update.

◆ SIMATIC S5 with IM308C and COM Windows up to Version V 2.x:

Only the type description file can be used for this application.

- **Using the type file:**

Copy the type.file SI8045AX.200 into the COM-Profibus directory "TYPDAT5x".

Then, in the "file" menu, select the menu item update type files, and execute this command.

Then, check in the menu "Documentation" ⇒ menu item "type / GSD files", whether you can see the new entry of "Master Drives CBP".

If this is the case, CBP can be configured as usual, analog to CB1. If not, repeat the update.

SIMATIC S7◆ **SIMATIC S7 with STEP7 V2.1 and integrated DP interfaces:**

Only special type description files can be used for this application.

• **Using the type files:**

Copy the type files SI80451X.200 to SI80455X.200 into the STEP7 directory

“STEP7 ⇒ S7DATA ⇒ type file”.

Then, in the "Extras" menu of the SIMATIC hardware configuration, select the "update DP type files" menu item, and execute this command.

Then, in the "Hardware Catalog" check whether you can find the new entries under the hardware catalog path "PROFIBUS DP ⇒ NORMSLAVE ⇒ DRIVES". They are displayed there under the "CBP-PPO1" to "CBP-PPO5" names.

If this is the case, the CBP can be configured as usual, analog to the CB1.

Directly select entries such as "CBP-PPO1", however, not the "subordinate" standard module

If the new entries are not displayed, repeat the update.

It may be necessary to exit STEP7 and then restart it again.

◆ **SIMATIC S7 with STEP7 V3.x , STEP7 V4.x and integrated DP interfaces:**

Only the type description file can be used for this application.

• **Using the type files:**

Copy the type.file SI8045AX.200 into the STEP7 directory

“STEP7 ⇒ S7DATA ⇒ GSD”.

Then, in the "Extras" menu of the SIMATIC hardware configuration, select the "update GSD type files" menu item, and execute this command.

Then, in the "Hardware Catalog" menu, check whether you can find the new entry under "PROFIBUS-DP ⇒ additional field devices ⇒ Simovert". They are displayed there under the "Master Drives CBP" names.

(If the new entries are not displayed, repeat the update. It may be necessary to exit STEP7 and then restart it again.)

12.5 Examples of the steps required

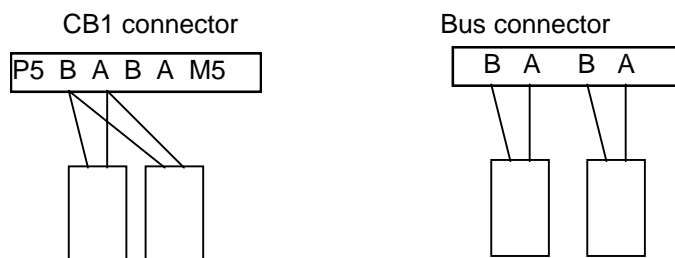
12.5.1 General information

- ◆ Replacing the modules

If the CBP cannot be directly mounted on the CUVC, e.g. as other options are already inserted there, the CBP must be inserted into the electronics box on an adapter board.

- ◆ Connecting the new CBP to the bus cable

For the CBP, the bus cable is connected via a 9-pin bus connector. The terminals in the bus connector also have the names "A" and "B" just like the terminals in the CB1 connector. Thus, the bus cable cores in the new connector should be connected again under the same names/designations as in the CB1 connector. It is not necessary to insert two cores into one terminal, as the two A terminals as well as the two B terminals are connected in the bus connector.



12.5.2 Configuring steps in the DP master "SIMATIC S5"

SIMATIC S5

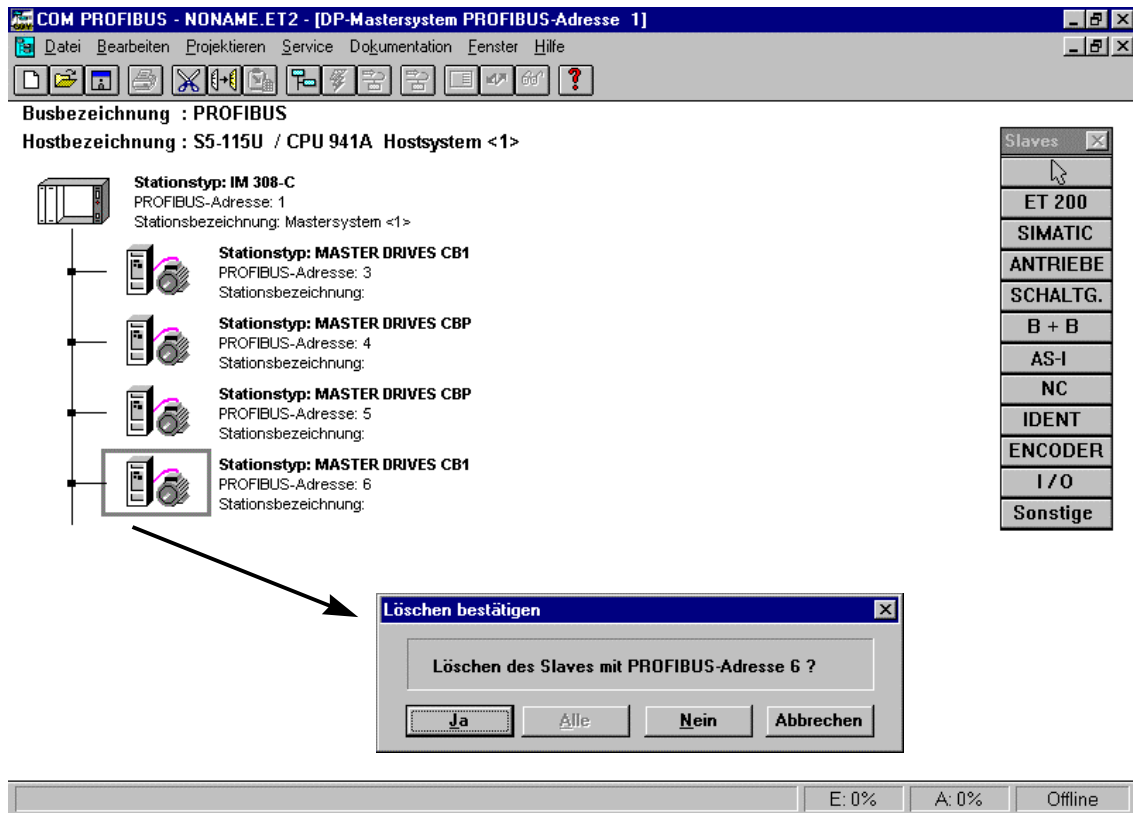
For SIMATIC S5, the procedure will be explained using as an example, the COM PROFIBUS V3.0 configuring tool.

Preparations required:

- ◆ Ensure that you have the right software on your computer or that you have a floppy disk with the associated software ready.
- ◆ Ensure that the type file SI8045AX.200 required for the CBP, is in the Typdat5x directory of your COM PROFIBUS Installation. If this is not the case, then before starting your session, copy the SI8045AX.200 type file from the floppy disks included with the CBP, into the directory "Typdat5x" according to the information in Section 12.4 "Information on GSD and type files for the new COM board CBP".
→ From COM PROFIBUS, version V 3.2, the CBP is automatically included in the SIMOVERT product group

◆ Step 1: Deleting the stations with CB1

SIMATIC S5

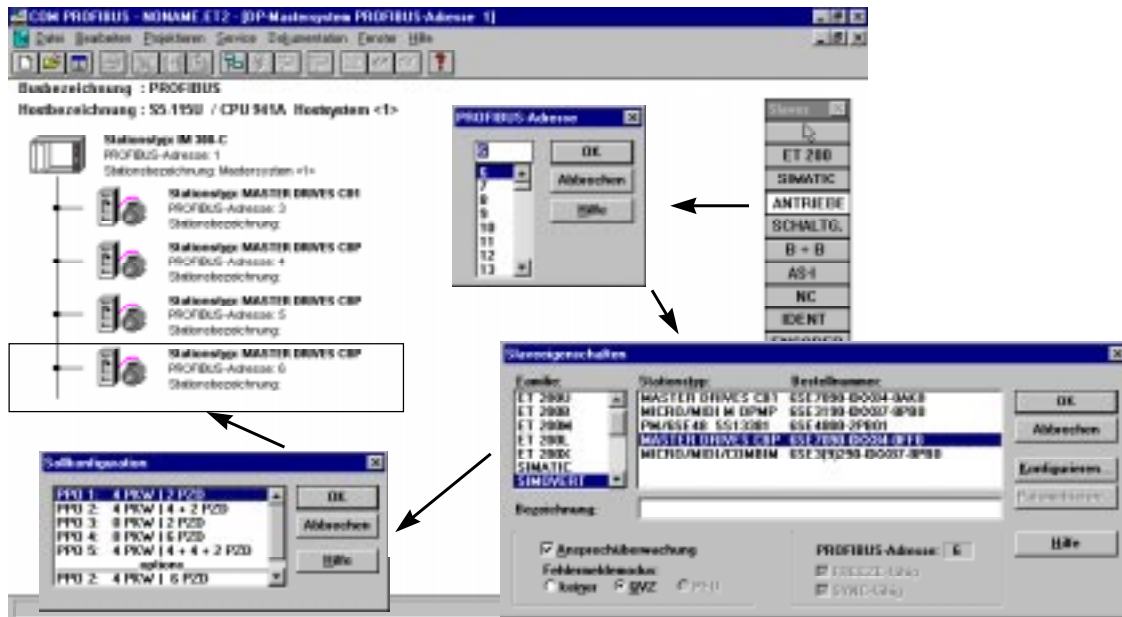


If a CB1 communications board is to be replaced by a CBP in a master PROFIBUS-DP software, then the following steps are required in the SIMATIC S5.

- ◆ Load the configuring file of the existing configuration (attachment) into the PG/PC
- ◆ Open the configuration file using the configuring tool (e.g. COM PROFIBUS)
- ◆ Open the station with the CB1 to be replaced, and document the configuring data used (e.g. response monitoring and peripheral addresses)
- ◆ **Completely delete** the station with the CB1 which is to be replaced
- ◆ Re-configure the station to be replaced, as CBP with the same bus address and the documented configuring data

◆ Step 2: Re-configuring the station with CBP

SIMATIC S5



The station to be replaced is re-configured as CBP with the same bus address, according to the following schematic.

- ◆ Open the DRIVES slave family, and draw the bus connection
- ◆ Assign the bus address of the deleted CB1 to the new CBP
- ◆ Select CBP from the selection list, and transfer “configuring...” by pressing the button
- ◆ Select the configuration required corresponding to the documented information (i.e. the same which is used for CB1), and confirm with “OK”.
- ◆ Assign the CBP the same peripheral addresses, which were also used for CB1
- ◆ Save the modified software
- ◆ **Transfer the software to a memory card or EPROM**

12.5.3 Configuring steps in the DP master "SIMATIC S7"

SIMATIC S7

For SIMATIC S7 the procedure is to be explained, using as example, the STEP7 V3.0 hardware configuration.

Required preparations:

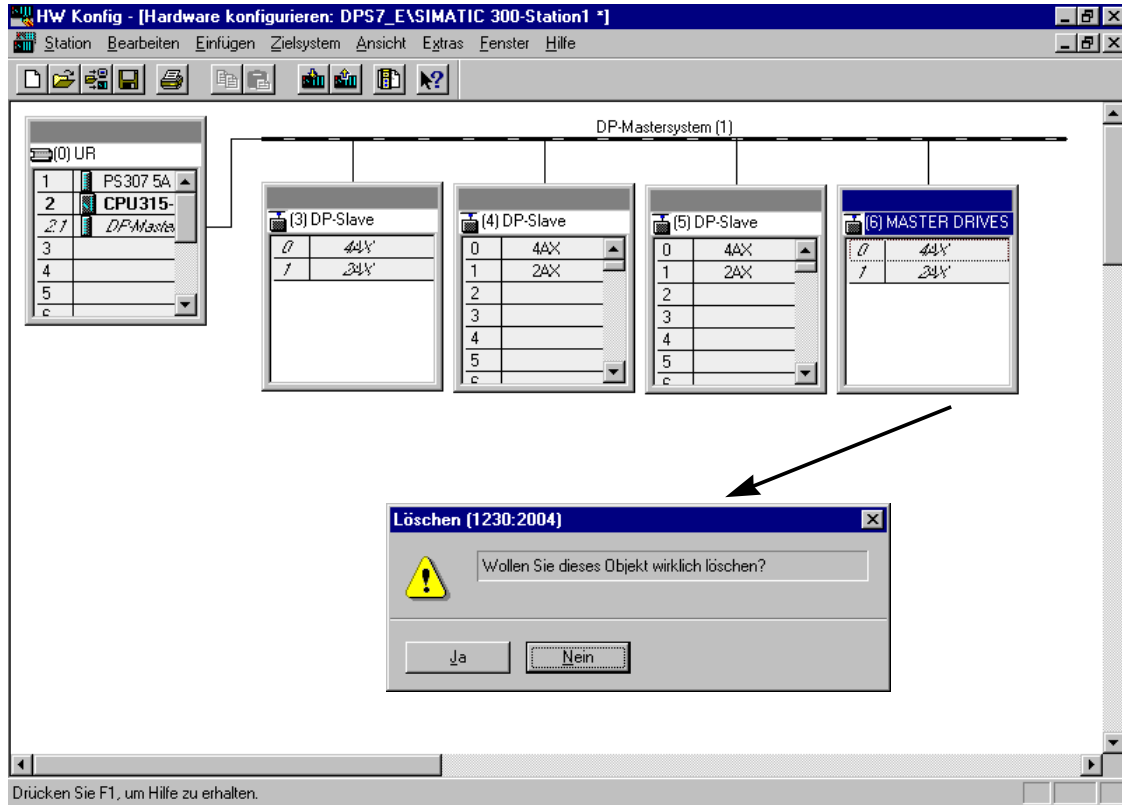
- ◆ Ensure that the right software is available on your computer or that you have a floppy disk with the appropriate software at hand.
- ◆ Ensure that you have the SI8045AX.200 type file, required for the CBP in the directory STEP7 → S7DATA → GSD of your STEP7 installation.

If this is not the case, before starting the session, copy the SI8045AX.200 type file from the floppy disk, included with the CBP, into the directory "STEP7 → S7DATA → GSD" according to the instructions in Section 12.4 "Information on GSD- and type files for the new COM board CBP".

→ From STEP7, Version V 4.1, the CBP is automatically included in the SIMOVERT product group.

◆ Step 1: Deleting the station with CB1

SIMATIC S7

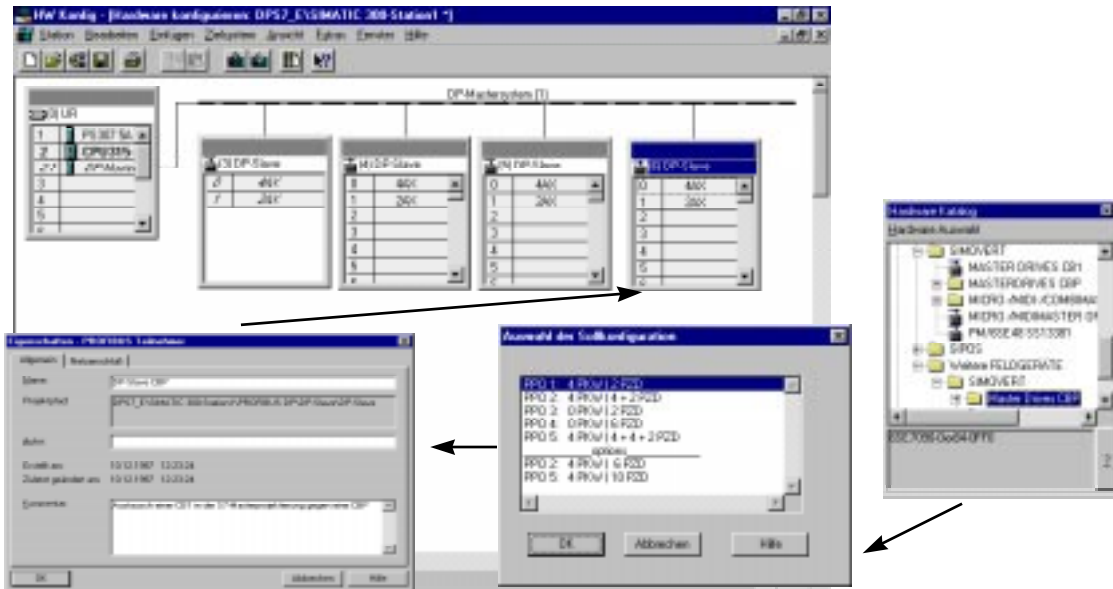


If a CB1 communications board is to be replaced by a CBP in an existing PROFIBUS-DP master software, then the following steps are required in the SIMATIC S7.

- ◆ Load the configuring file of the existing configuration (attachment) into the PG/PC
- ◆ Open the configuration file using the configuring tool (e.g. COM PROFIBUS)
- ◆ Open the station with the CB1 to be replaced, and document the configuring data used (e.g. response monitoring and peripheral addresses)
- ◆ **Completely delete** the station with the CB1 which is to be replaced

- ◆ Step 2: Re-configuring the station with CBP

SIMATIC S7



The station to be replaced is re-configured as CBP with the same bus address in the SIMATIC S7, according to the following schematic.

- ◆ Open the hardware catalog
- ◆ Select the CBP from the hardware catalog (either under SIMOVERT or under additional FIELD DEVICES --> SIMOVERT)
- ◆ Select the configuration you require corresponding to the data you documented (i.e. the same as was used for CB1) and confirm
- ◆ Assign the bus address of the deleted CB1 to the new CBP
- ◆ If it is not automatically realized, assign the CBP the same peripheral addresses, which were also used for CB1
- ◆ Save the modified software
- ◆ **Transfer the software into the CPU in the STOP condition** (i.e. the system is shutdown)