

APC620/PPC700

Upgrade Information

Version: **1.2 (October 2004)**

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1. Document History

Version	Date	Comments
1.0	05.10.2004	Changes / New Features - First Edition.
1.1	07.10.2004	Changes / New Features - Section 9 "Circumstance Windows XP Embedded and BIOS Upgrade", auf Seite 12 added.
1.2	14.10.2004	Changes / New Features - Document aligned to new naming (MTCX).

Table 1: Document History

2. Important information

Warning!

The upgrade procedures described in this short document must be carried out for all systems (APC620/PPC700) with software versions lower than those listed in the following table.

CPU Board Software	815E	855GME
BIOS	< R017	< R007
MTCX PX32 Firmware	< V1.19	< V1.19
MTCX FPGA Firmware	< V1.06	< V1.06

Table 2: CPU board software versions

Automation Panel Link	Transceiver (5DLSDL.1000-01)	Receiver (5DLSDL.1000-00)
Version	< V0.03	< V0.03

Table 3: Automation Panel Link software versions

3. What is required?

The following peripheral devices are needed for a software upgrade:

- USB floppy drive
- 1.44MB HDD diskette(s) (max. 3 diskettes)
- PS/2 or USB keyboard
- B&R upgrade software

4. What information do I need?

Before starting the upgrade, you should know the CPU board type (815E and 855GME) and the various software versions.

4.1 Which CPU board do I have?

After switching on the APC620/PPC700, the installed CPU board can be identified by the letters "B" and "C".

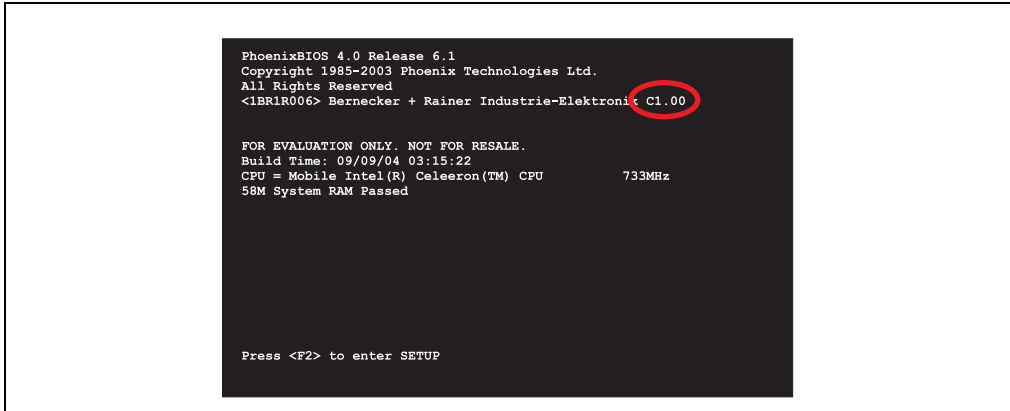


Figure 1: Differentiating between 815E and 855GME CPU boards

Letter	CPU Board	Model Number
B	855GME	5PC600.E855-00
C	815E	5PC600.E815-00, 5PC600.E815-02, 5PC600.E815-03

Table 4: Differentiating between 815E and 855GME CPU boards

4.2 Which BIOS version and firmware are already installed on the APC620/PPC700?

This information can be found on the same BIOS Setup page for both the 815E and the 855GME CPU boards:

- After switching on the APC620/PPC700, you can get to the BIOS Setup by pressing "F2".
- From the BIOS main menu "Advanced" (top), select "Baseboard/Panel Features" (bottom):

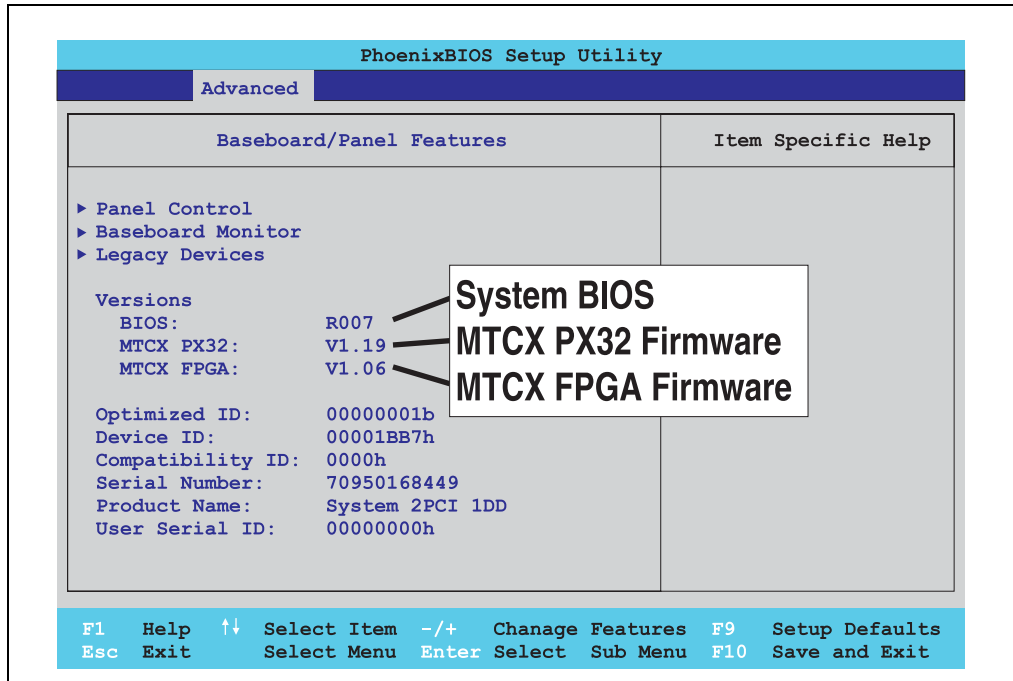


Figure 2: Software versions

4.3 Which firmware is installed on the Automation Panel Link Transceiver/Receiver?

This information can be found on the same BIOS Setup page for both the 815E and the 855GME CPU boards:

- After switching on the APC620/PPC700, you can get to the BIOS Setup by pressing "F2".
- From the BIOS main menu "Advanced" (top), select "Baseboard/Panel Features" (bottom) and then "Panel Control":

Information:

The version can only be shown if an Automation Panel with Automation Panel Link SDL Transceiver (5DLSDL.1000-01) and Automation Panel Link SDL Receiver (5DLSDL.1000-00) is connected.

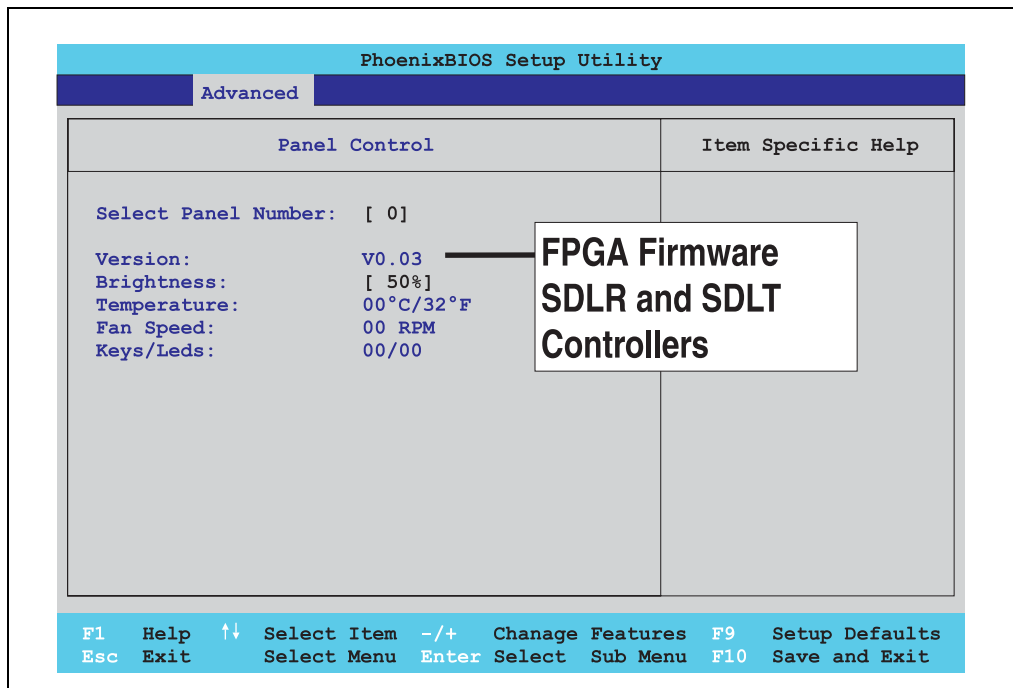


Figure 3: Firmware version of Automation Panel Link SDL Transceiver/Receiver

5. Upgrade BIOS for 815E

- Unpack ZIP file.
- Copy the files to an MS-DOS startup disk (information about creating a bootable disk can be found in section 10 "Creating a DOS boot diskette in Windows XP" on page 13).
- Place the diskette in the USB floppy drive and reboot the APC620/PPC700.
- The following boot menu will be shown after startup

1. Upgrade PHOENIX BIOS for 815E

2. Exit

Concerning point 1:

BIOS is automatically upgraded (default after 5 seconds).

Concerning point 2:

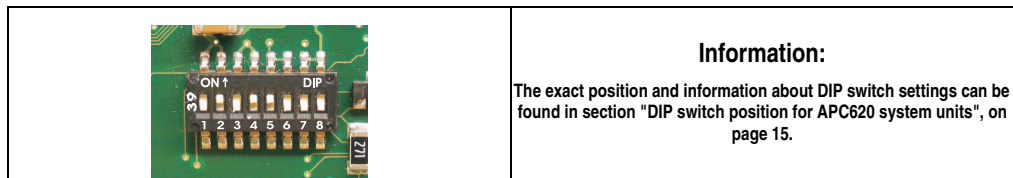
Return to the shell (MS-DOS).

- The system must be rebooted after a successful upgrade.

Information:

When the system has rebooted, Load Setup Default values must be reloaded after the Checksum Error message (press F1 or select "Load Setup Defaults" in the BIOS Setup "Exit" menu). Afterwards, the time and date must be set again.

When using a system unit with 2 PCI slots, the DIP switches on the system unit must be set to profile position 2. When using a system unit with 1 PCI slot, the DIP switches do not have to be changed.



Information:

The exact position and information about DIP switch settings can be found in section "DIP switch position for APC620 system units", on page 15.

Figure 4: DIP switches on system unit (example)

Number	Optimized for Device	DIP Switch Setting							
		1	2	3	4	5	6	7 ¹⁾	8 ¹⁾
Profile 0	APC620 - System 1PCI Slot	Off	Off	Off	Off	Off	Off		
Profile 2	APC620 - System 2PCI Slot 1 Disk Drive	Off	On	Off	Off	Off	Off	-	-

Table 5: Profile overview

1) Not required. Free.

6. Upgrade BIOS for 855GME

- Unpack ZIP file.
- Copy the files to an MS-DOS startup disk (information about creating a bootable disk can be found in section 10 "Creating a DOS boot diskette in Windows XP" on page 13).
- Place the diskette in the USB floppy drive and reboot the APC620/PPC700.
- The following boot menu will be shown after startup

1. Upgrade PHOENIX BIOS for 855GME

2. Exit

Concerning point 1:

BIOS is automatically upgraded (default after 5 seconds).

Concerning point 2:

Return to the shell (MS-DOS).

- The system must be rebooted after a successful upgrade.

Information:

When the system has rebooted, Load Setup Default values must be reloaded after the Checksum Error message (press F1 or select "Load Setup Defaults" in the BIOS Setup "Exit" menu). Afterwards, the time and date must be set again.

When using a system unit with 2 PCI slots, the DIP switches on the system unit must be set to profile position 2. When using a system unit with 1 PCI slot, the DIP switches do not have to be changed.

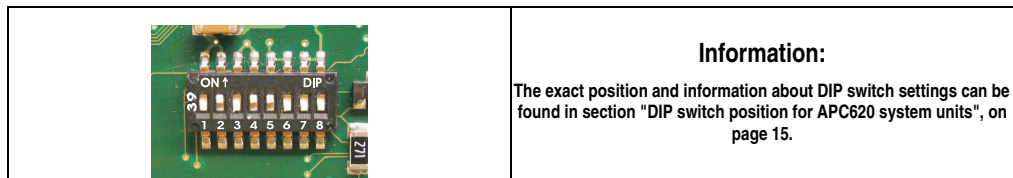


Figure 5: DIP switches on system unit (example)

Number	Optimized for Device	DIP Switch Setting							
		1	2	3	4	5	6	7 ¹⁾	8 ¹⁾
Profile 0	APC620 - System 1PCI Slot	Off	Off	Off	Off	Off	Off		
Profile 2	APC620 - System 2PCI Slot 1 Disk Drive	Off	On	Off	Off	Off	Off	-	-

Table 6: Profile overview

1) Not required. Free.

7. Upgrade the firmware

Depending on the design, a APC620/PPC700 system is equipped with several controllers (MTCX, SDLR, SDLT). The firmware can be upgraded individually.

- Unpack ZIP file.
- Copy the files to an MS-DOS startup disk (information about creating a bootable disk can be found in section 10 "Creating a DOS boot diskette in Windows XP" on page 13).
- Place the diskette in the USB floppy drive and reboot the APC620/PPC700.
- The following boot menu will be shown after startup

1. Upgrade MTCX PX32 and FPGA
2. Upgrade MTCX PX32 only
3. Upgrade MTCX FPGA only
4. Upgrade FPGA of Panel 0 only
5. Exit

Concerning point 1:

Automatically upgrade PX32 and FPGA for MTCX (default after 5 seconds).

Concerning point 2:

Automatically upgrade PX32 for MTCX.

Concerning point 3:

Automatically upgrade FPGA for MTCX.

Concerning point 4:

Automatically upgrade FPGA firmware for SDLR controller on Panel 0.

Warning!

The SDLR firmware can only be updated if an Automation Panel with Automation Panel Link SDL Transceiver (5DLSDL.1000-01) and Automation Panel Link SDL Receiver (5DLSDL.1000-00) is connected. This update is only permitted in an office environment (clean environment - no disturbances) because a software error in versions lower than V0.03 can cause errors. This error can cause the Automation Panel to remain off after an update. If this error occurs, the Automation Panel Link SDL Transceiver (5DLSDL.1000-01) or Automation Panel Link SDL Receiver (5DLSDL.1000-00) must be exchanged or sent in for repair.

Concerning point 5:

Return to the shell (MS-DOS).

8. Installing the graphic chip driver for 815E CPU boards

The following must be observed when installing the graphic chip driver for the graphic chip integrated in the 815E chip set:

- The driver available from Intel is NOT permitted to be used, only the driver available from B&R.
- After unpacking the *.zip file, the driver must be updated using the Windows Device Manager "Start - Control Panel - System - Hardware - Device Manager - Update Driver". When doing this, use the file **i81xnt5.inf**.
- The initial installation of the driver can only be carried out with an external monitor connected. After successfully installing the B&R driver, an Automation Panel be operated without problems.

Caution!

Presently, this driver is only approved for the Windows XP Professional and Windows XP embedded operating systems.

9. Circumstance Windows XP Embedded and BIOS Upgrade

If following error message is displayed after the BIOS Upgrade and rebooting:

"Copy Error"

"Setup cannot copy the file Audio3d.dll"

you have to install the audiodriver once again.

At this case you have to use the audiodriver from the B&R homepage (www.br-automation.com).

During the installation you have to select 2 files manually at following 2 directories:

ksuser.dll at directory ...\\Windows\\system32

ks.sys at directory ...\\Windows\\system32\\drivers

This circumstance occurs with 815E and 855GME CPU boards.

Furthermore you have to install the graphic chip driver for 815E CPU boards once again (see section 8 "Installing the graphic chip driver for 815E CPU boards").

10. Creating a DOS boot diskette in Windows XP

- Place an empty 1.44MB HDD diskette in the disk drive
- Open Windows Explorer
- Right-click on the 3 1/2" Floppy icon and select **"Format..."**.

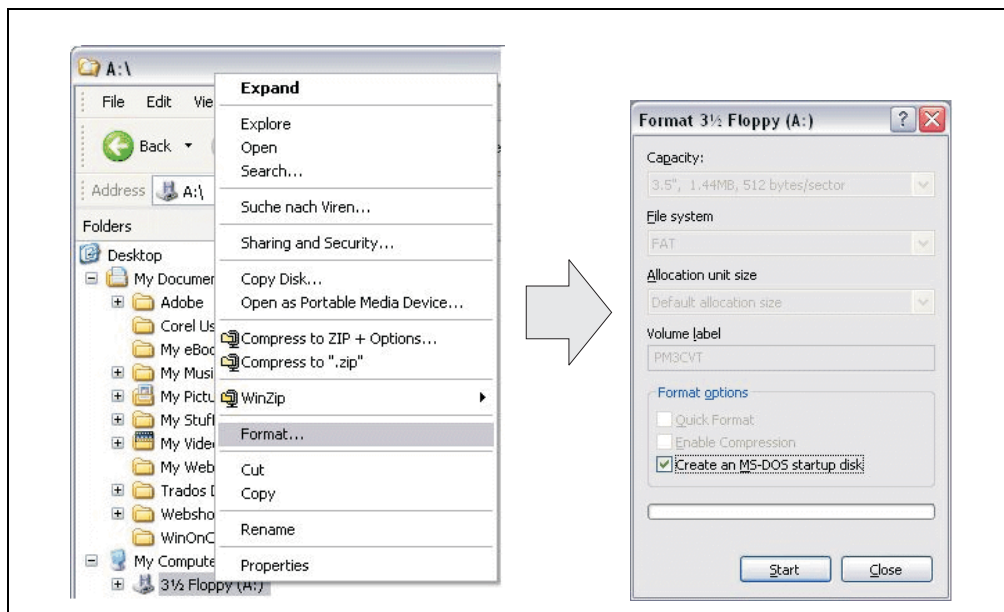


Figure 6: Creating a bootable diskette in Windows XP - step 1

- Then select the checkbox **"Create an MS-DOS startup disk"**, press **"Start"** and acknowledge the warning message with **"OK"**.

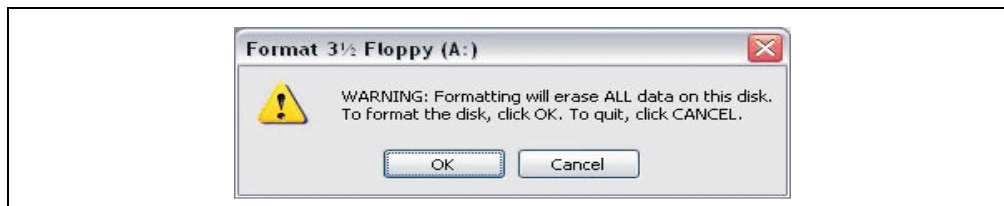


Figure 7: Creating a bootable diskette in Windows XP - step 2



Figure 8: Creating a bootable diskette in Windows XP - step 3

After creating the startup disk, some of the files must be deleted because of the size of the update.

When doing this, all files (hidden, system files, etc.) must be shown on the diskette.

In the Explorer, go to the "Tools" menu, select "Folder Options..." and open the "View" tab - now deactivate the option "Hide protected operating system files (Recommended)" (activated as default) and activate the option "Show hidden files and folders".

Before				After			
Name	Größe	Typ	Geändert am	Name	Größe	Typ	Geändert am
DISPLAY	17 KB	Systemdatei	08.06.2000 17:00	AUTOEXEC	1 KB	Stapelverarbeitungsdatei f...	04.10.2004 15:14
EGA2.CPI	58 KB	CPI-Datei	08.06.2000 17:00	COMMAND	91 KB	Anwendung für MS-DOS	08.06.2000 17:00
EGA3.CPI	58 KB	CPI-Datei	08.06.2000 17:00	CONFIG	1 KB	Systemdatei	04.10.2004 15:14
EGA.CPI	58 KB	CPI-Datei	08.06.2000 17:00	DISPLAY	17 KB	Systemdatei	08.06.2000 17:00
KEYB	22 KB	Anwendung für MS-DOS	08.06.2000 17:00	EGA2.CPI	58 KB	CPI-Datei	08.06.2000 17:00
KEYBOARD	34 KB	Systemdatei	08.06.2000 17:00	EGA3.CPI	58 KB	CPI-Datei	08.06.2000 17:00
KEYBRD2	32 KB	Systemdatei	08.06.2000 17:00	EGA.CPI	58 KB	CPI-Datei	08.06.2000 17:00
KEYBRD3	31 KB	Systemdatei	08.06.2000 17:00	IO	114 KB	Systemdatei	15.05.2001 18:57
KEYBRD4	13 KB	Systemdatei	08.06.2000 17:00	KEYB	22 KB	Anwendung für MS-DOS	08.06.2000 17:00
MODE	29 KB	Anwendung für MS-DOS	08.06.2000 17:00	KEYBOARD	34 KB	Systemdatei	08.06.2000 17:00
				KEYBRD2	32 KB	Systemdatei	08.06.2000 17:00
				KEYBRD3	31 KB	Systemdatei	08.06.2000 17:00
				KEYBRD4	13 KB	Systemdatei	08.06.2000 17:00
				MODE	29 KB	Anwendung für MS-DOS	08.06.2000 17:00
				MSDOS	1 KB	Systemdatei	07.04.2001 13:40

Figure 9: Creating a bootable diskette in Windows XP - step 4

Name	Größe	Typ	Geändert am
AUTOEXEC	1 KB	Stapelverarbeitungsdatei für MS-DOS	04.10.2004 15:14
COMMAND	91 KB	Anwendung für MS-DOS	08.06.2000 17:00
CONFIG	1 KB	Systemdatei	04.10.2004 15:14
DISPLAY	17 KB	Systemdatei	08.06.2000 17:00
EGA2.CPI	58 KB	CPI-Datei	08.06.2000 17:00
EGA3.CPI	58 KB	CPI-Datei	08.06.2000 17:00
EGA.CPI	58 KB	CPI-Datei	08.06.2000 17:00
IO	114 KB	Systemdatei	15.05.2001 18:57
KEYB	22 KB	Anwendung für MS-DOS	08.06.2000 17:00
KEYBOARD	34 KB	Systemdatei	08.06.2000 17:00
KEYBRD2	32 KB	Systemdatei	08.06.2000 17:00
KEYBRD3	31 KB	Systemdatei	08.06.2000 17:00
KEYBRD4	13 KB	Systemdatei	08.06.2000 17:00
MODE	29 KB	Anwendung für MS-DOS	08.06.2000 17:00
MSDOS	1 KB	Systemdatei	07.04.2001 13:40

Figure 10: Creating a bootable diskette in Windows XP - step 5

Now all files (marked) except Command.com, IO.sys and MSDOS.sys can be deleted.

11. DIP switch position for APC620 system units

Warning!

The following procedure is only permitted with the power switched off and the supply voltage disconnected!

To get to the DIP switches, it is necessary to open the front cover. To do this, loosen the five Torx screws (T10) marked and pull the cover off towards the front. Then the DIP switches can be accessed at the location marked in yellow. The setting can now be made using a pointed object. If the system has a slide-in drive, it must be removed first to get to the DIP switches.

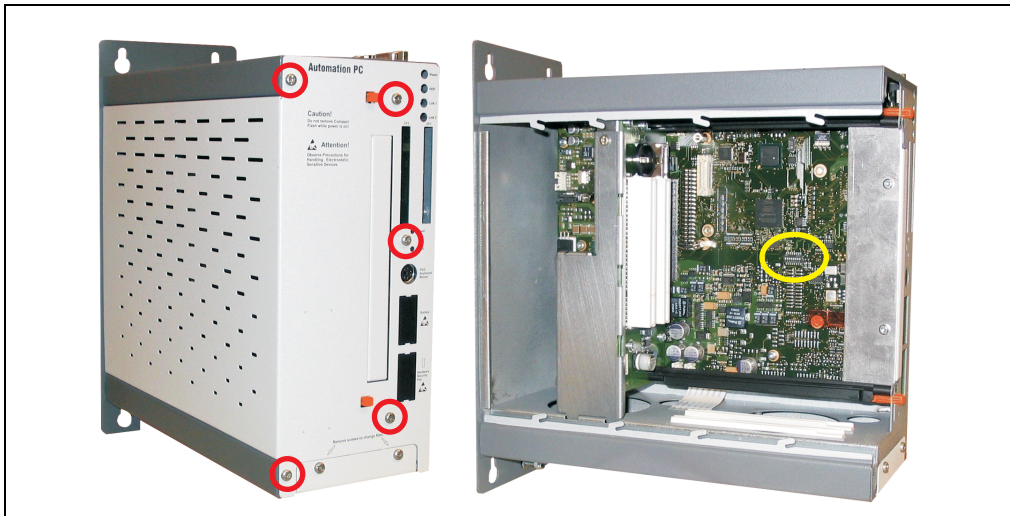


Figure 11: DIP switch position

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