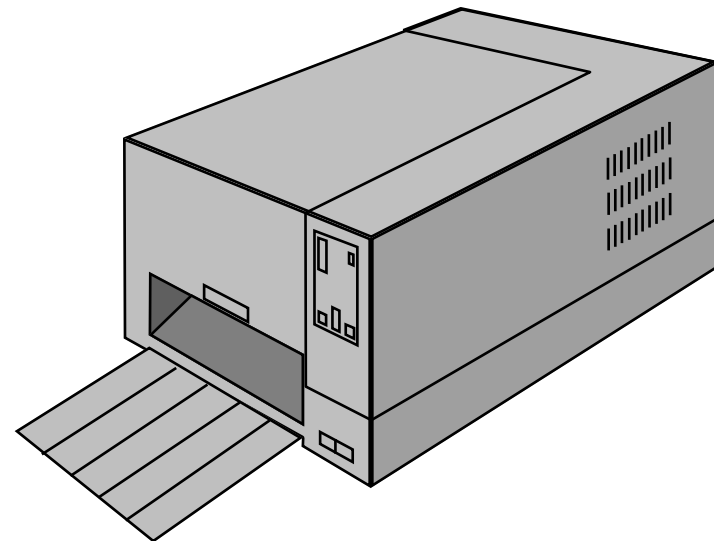
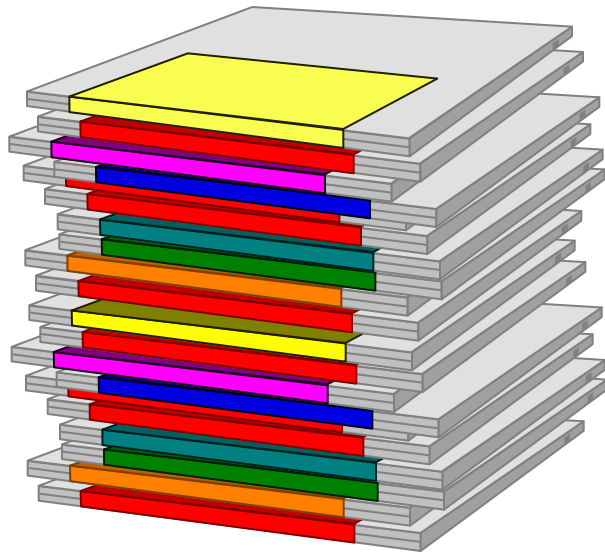


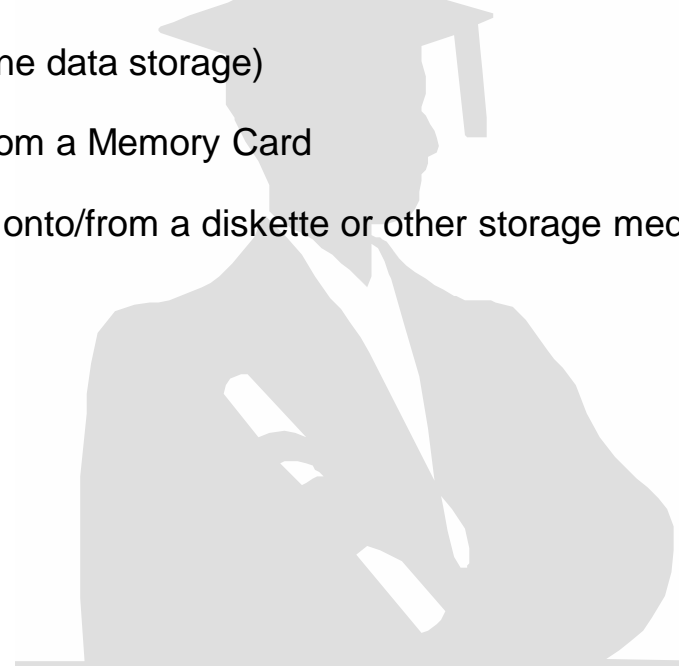
Documenting, Saving, Archiving



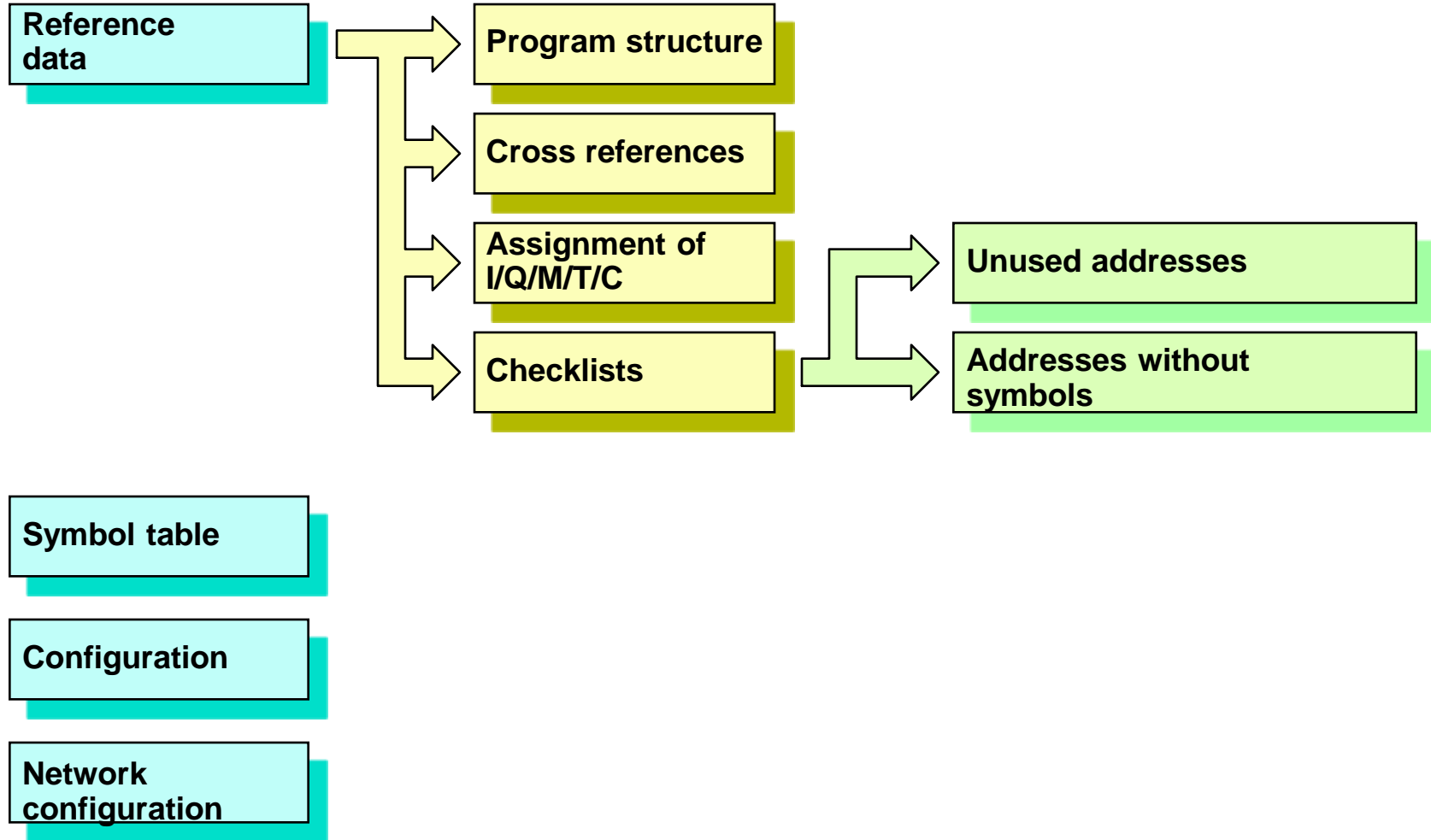
Objectives

Upon completion of the chapter the participant will ...

- ... be familiar with the documentation possibilities of blocks
- ... understand the "Managing multilingual project" function
- ... be able to print out programs
- ... understand the memory concept of the SIMATIC S7-300/400
- ... be able to make a "PLC Copy" (online data storage)
- ... be able to load/read a program to/from a Memory Card
- ... be able to archive/retrieve a project onto/from a diskette or other storage media



Other Documentation Tools



Block Documentation

```
LAD/STL/FBD - [FC4 -- My_Project\My_Station\CPU 314]
File Edit Insert PLC Debug View Options Window Help

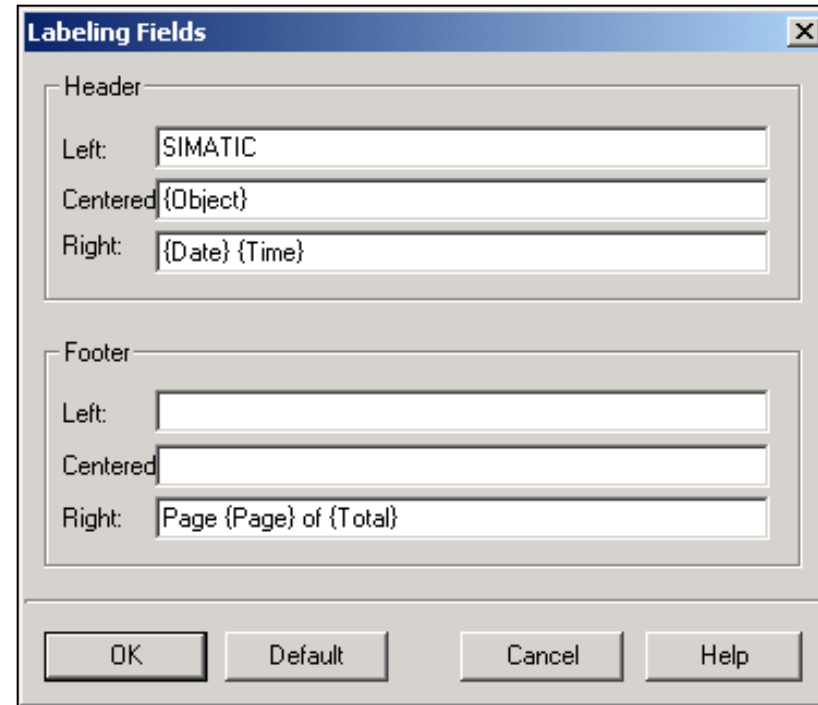
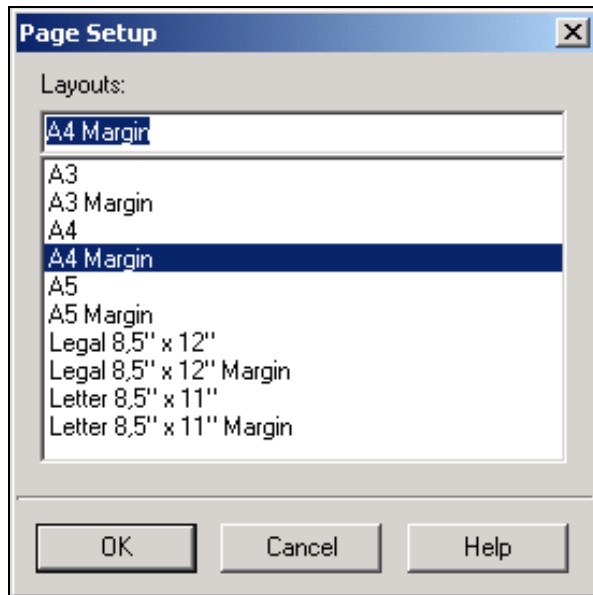
FC4 : Block Title up to 64 characters
Block comment: To enter a comment, select menu options "View -> Display with ->
Comment". You have up to 64 kBytes per Block for block and network comments.

Network 1: Network Title up to 64 characters
Network comment: To enter a comment, select menu options "View -> Display with
-> Comment". You have up to 64 kBytes per Block for block and network comments.

      A      "T_System_ON"           // Statement comment up to 160 characters
// Comment can also be inserted between the lines
      S      "L_System"             // LED for System ON
      AN     "T_System_OFF"         // System OFF
      R      "L_System"             // LED for System ON

1: Error  2: Info  3: Cross-references  4: Address info.  5: Modify  6: Diagnostics  7: Comparison
Press F1 to get Help.  offline  Abs < 5.2  Nw 1 Ln 6  Insert Chg
```

Page Setup



Print Preview

SIMATIC My Project\My Station\CPU 314\...\FC20 - <offline> 01/22/2003 9:20:24

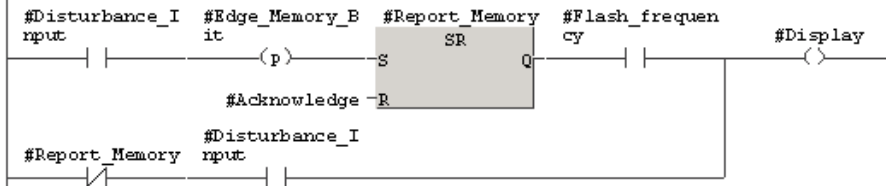
FC20 - <offline>

"FC_Fault" Evaluation of Faults no memory
Name: Family:
Author: Version: 0.1
 Block version: 2
Time stamp Code: 10.01.2002 09:17:22
 Interface: 12.07.2000 14:24:45
Lengths (block/logic/data): 00152 00048 00000

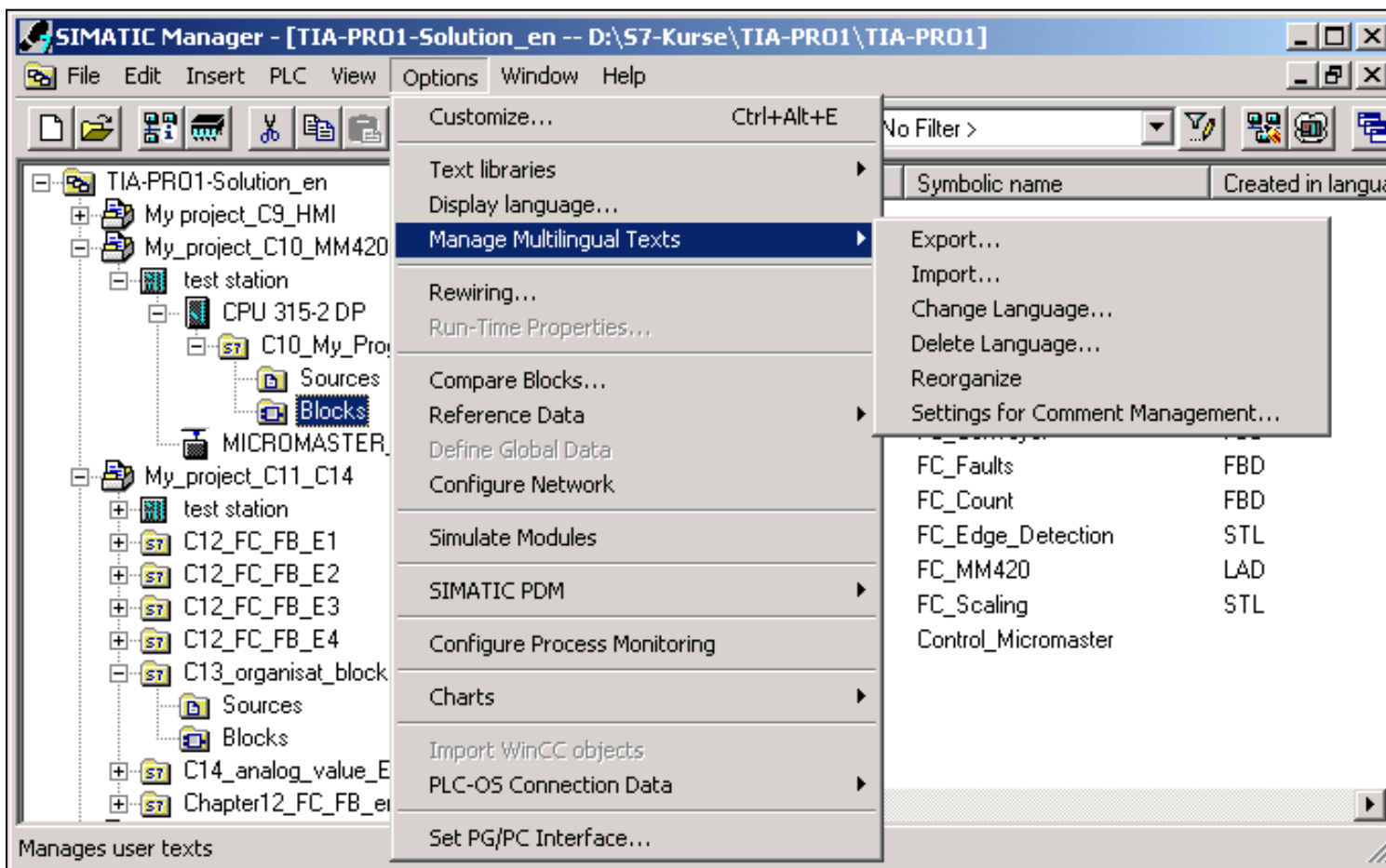
Name	Data Type	Address	Initial Value	Comment
IN		0.0		
Disturbance_Input	Bool	0.0	FALSE	
Acknowledge	Bool	0.1	FALSE	
Flash_frequency	Bool	0.2	FALSE	
OUT		2.0		
Display	Bool	2.0	FALSE	
IN_OUT		4.0		
Report_Memory	Bool	4.0	FALSE	
Edge_Memory_Bit	Bool	4.1	FALSE	
TEMP		0.0		
RETURN		0.0		
RET_VAL		0.0		

Block: FC20

Network: 1 Disturbance evaluation



Managing Multilingual Project Documentation



Overview: Saving User Data

Uploading program from the CPU to PG

1. Create a new S7 program in the SIMATIC Manager
2. Switch to the online view
3. Open the new S7 program and select Blocks folder
4. SIMATIC Manager → PLC → Upload

Upload station in PG

- SIMATIC Manager → PLC → Upload Station

Load program from PG to Memory Card... ... inserted in PG/PC or ... Inserted in CPU

1. Open two windows in the SIMATIC Manager:
"Blocks folder of the S7 program" and "S7 Memory Card"
- 2a. Use drag & drop to copy blocks to the "S7 Memory Card"
- 2b. SIMATIC Manager → PLC →
Download user program to Memory Card

Copy program from CPU to Memory Card (only S7-300)

- SIMATIC Manager → PLC → Copy RAM to ROM...

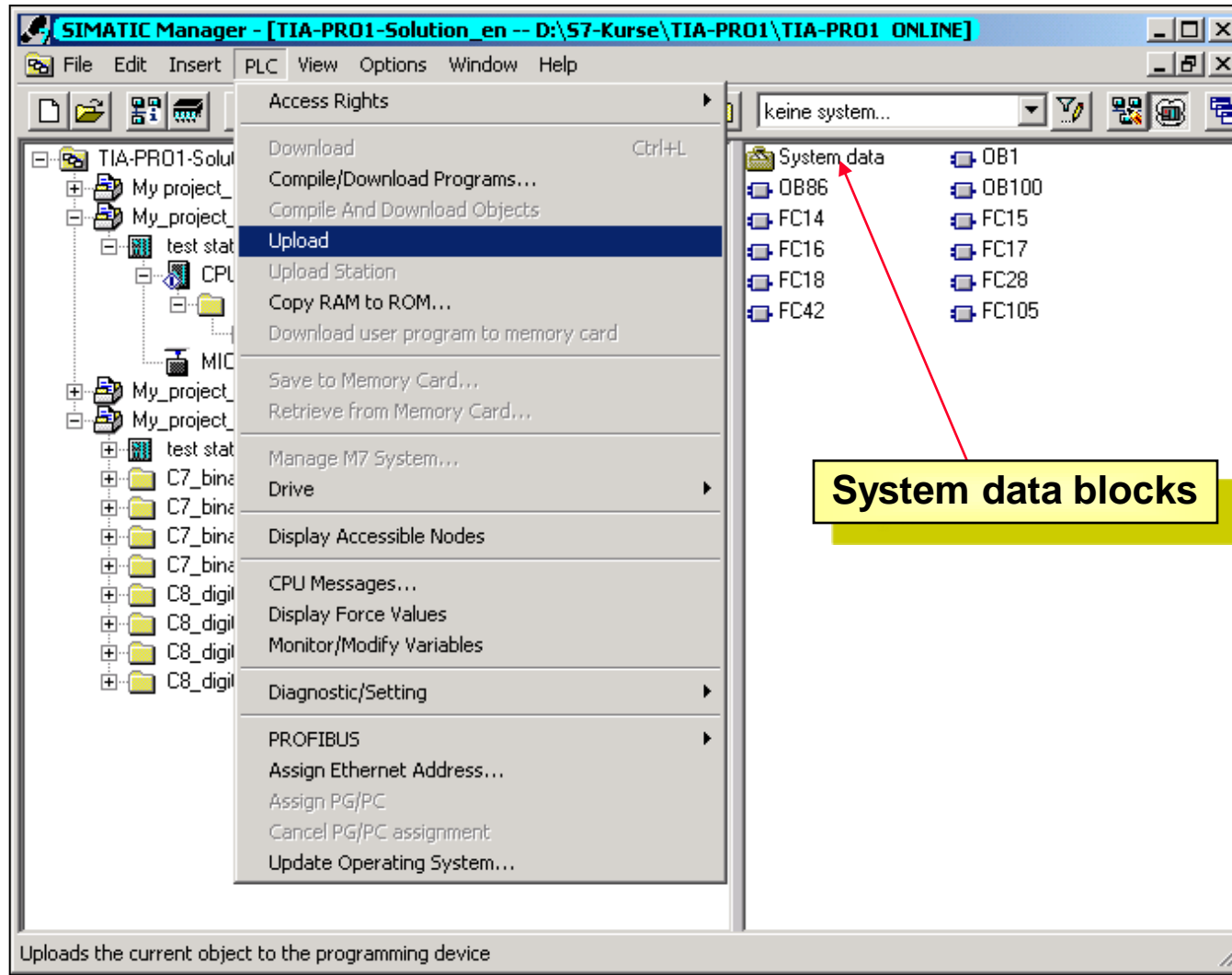
Project archiving on Memory Card/MMC (S7-400, S7-300 after 10.02)

1. Select the CPU on whose Memory Card the project data are to be saved
2. SIMATIC Manager → PLC → Save Project on Memory Card

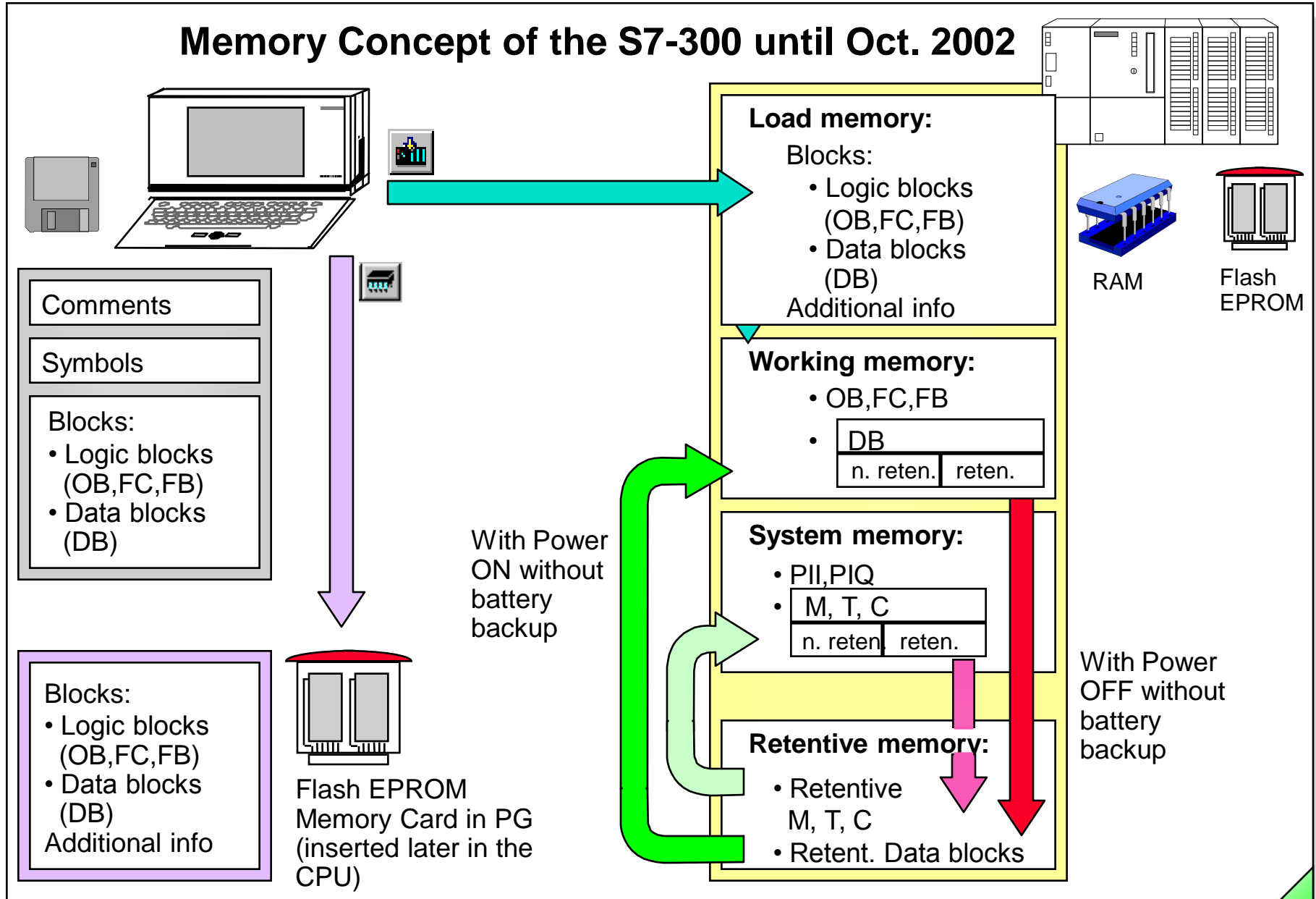
Project archiving on diskette

1. SIMATIC Manager → File → Archive
2. Select project to be archived
3. Specify name and storage path of the archive file and start function
4. In the Windows Explorer, copy archive file onto diskette

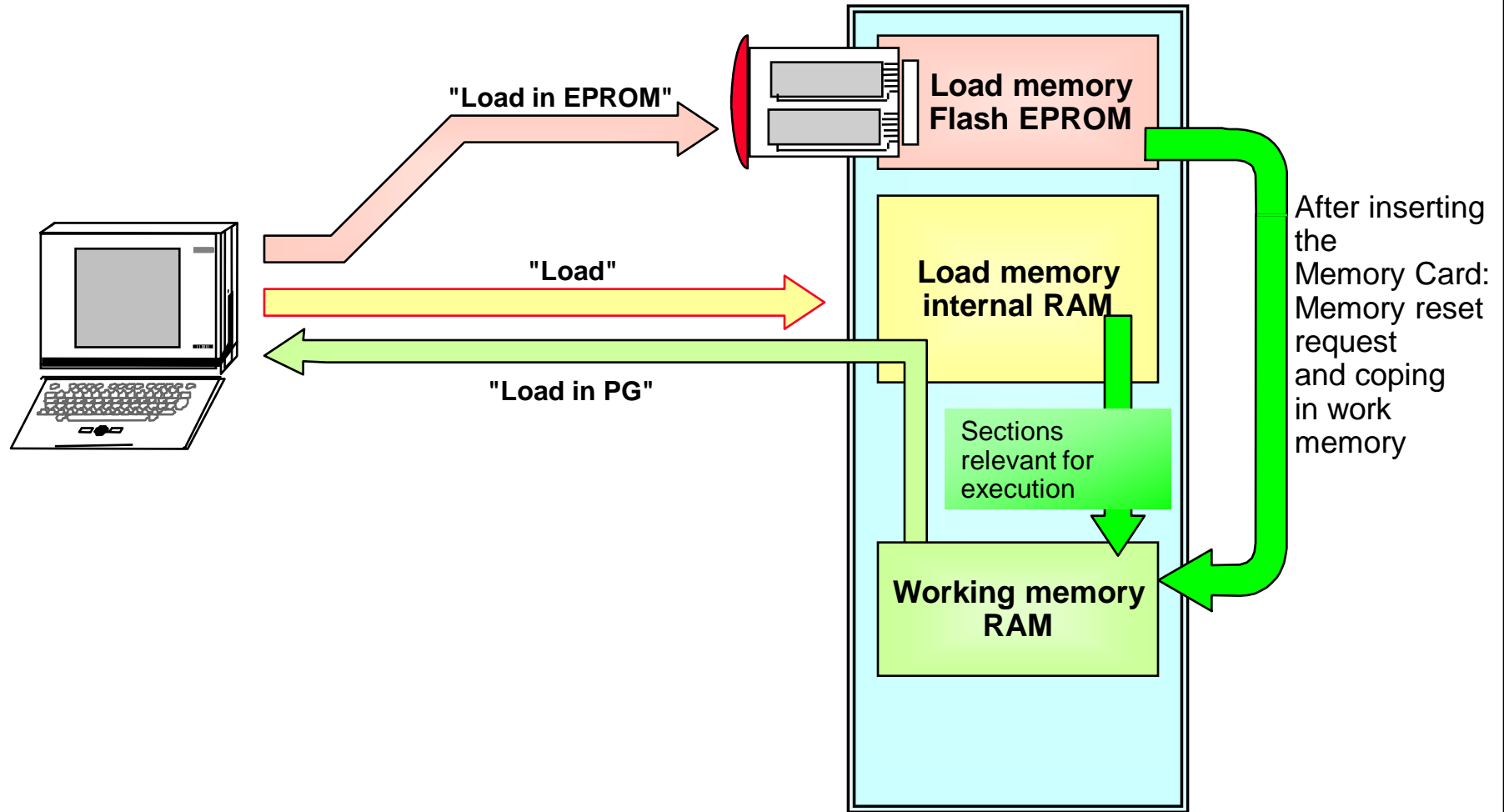
Uploading a Program from the CPU to the PG



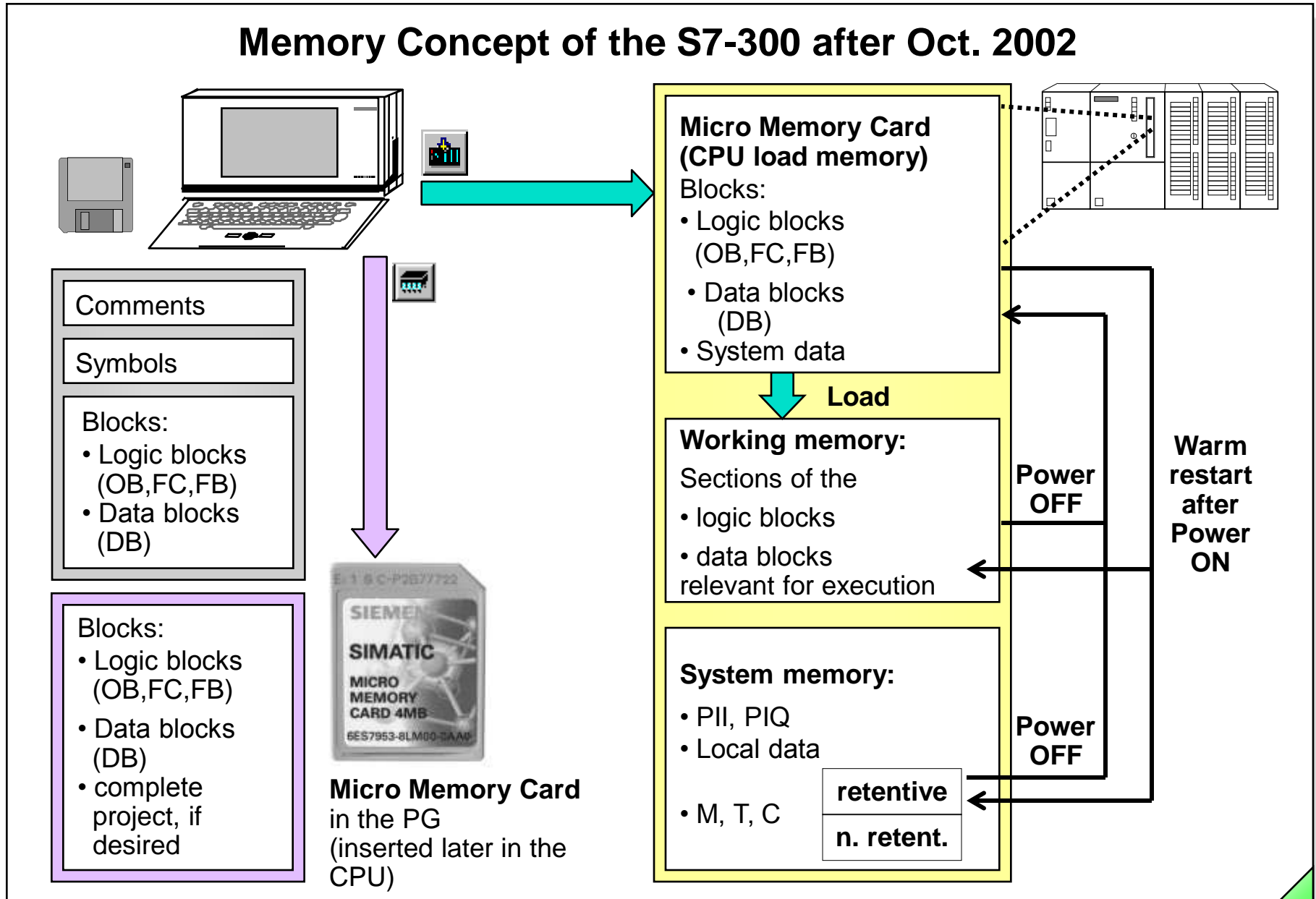
Memory Concept of the S7-300 until Oct. 2002



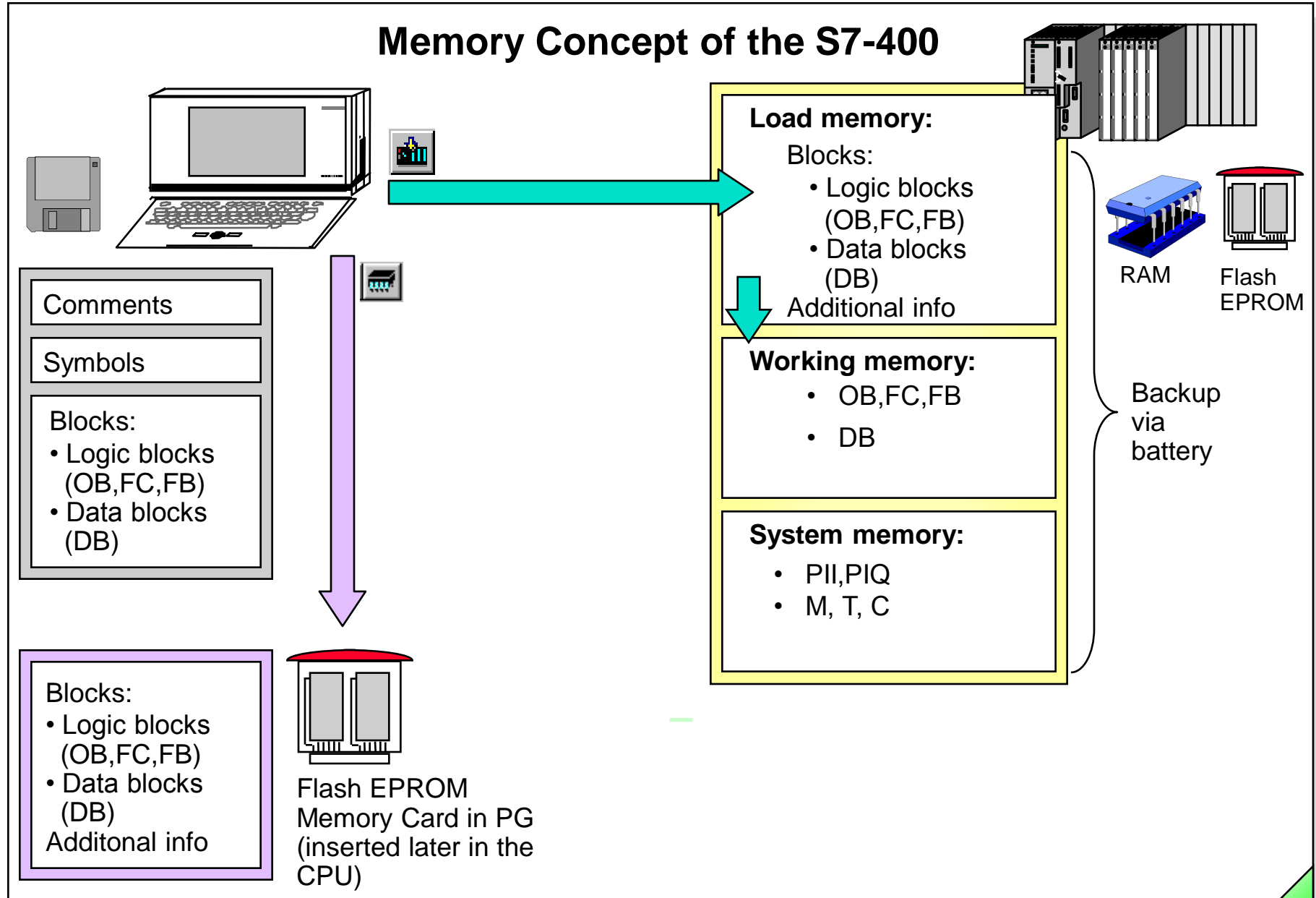
Loading Blocks into / out of a Flash EPROM Memory Card



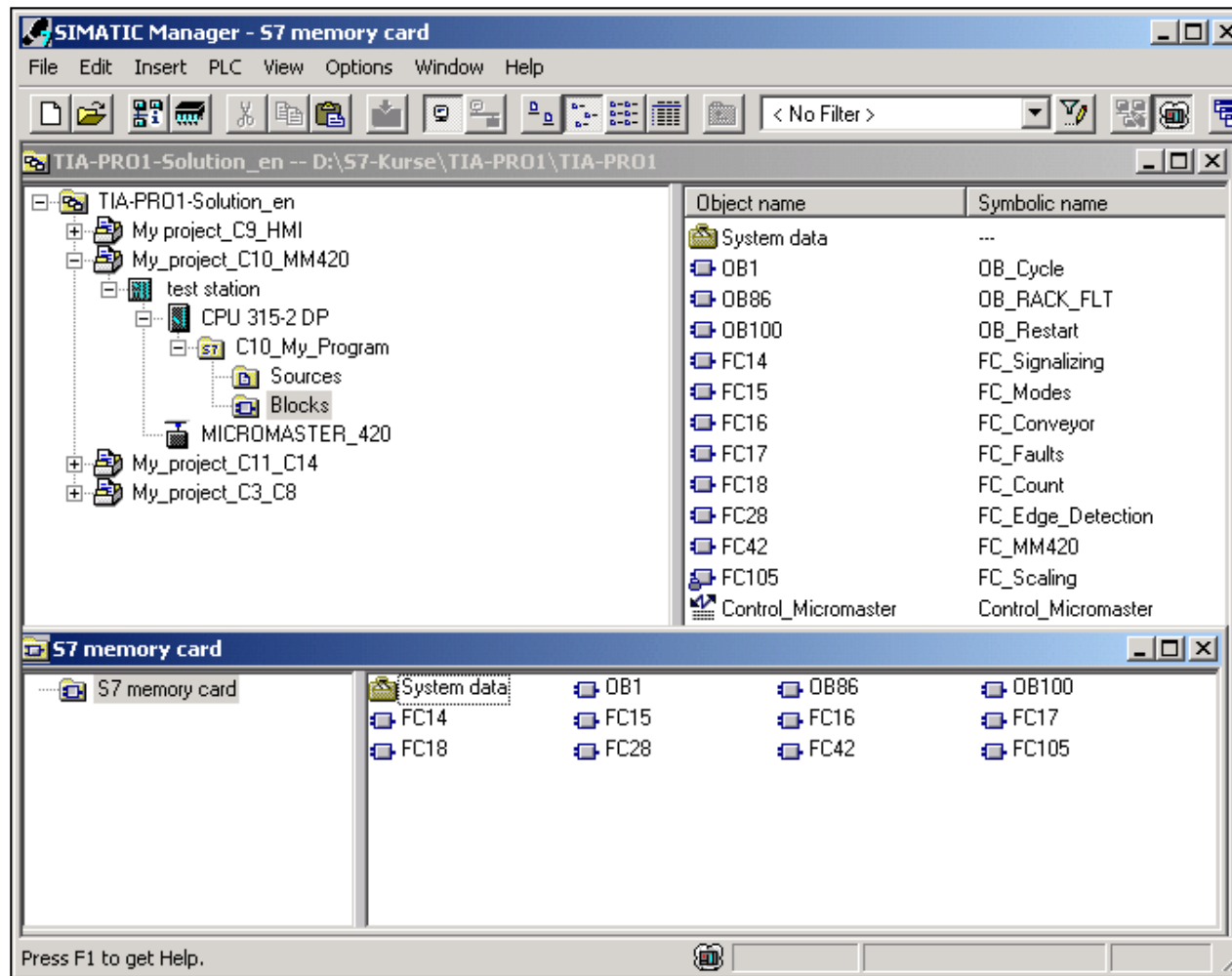
Memory Concept of the S7-300 after Oct. 2002



Memory Concept of the S7-400



Copying a Program onto a Memory Card



Saving a Project on a Memory Card

The screenshot shows the SIMATIC Manager interface. The 'File' menu is open, and the 'Save to Memory Card...' option is highlighted with a yellow arrow. The 'Save to Memory Card in the PLC' dialog box is open, showing the following options:

- STEP 7 Data:**
 - Current user program (incl. HW configuration)
 - Current project
 - Libraries in current multiproject
- Other files:**
 - Search in: Manuals
 - MM420_OPI_de_0402.pdf
 - MM420_Parameterliste_de_0402.pdf
 - PROFIBUS_deut.pdf
- Storage location on PLC:**
 - Memory Card
 - Load memory (RAM)

A caution message is displayed: "Caution! The memory card will be completely deleted if 'Current user program' is selected". The dialog box has 'OK', 'Cancel', and 'Help' buttons.

Loading a Project from the Micro Memory Card (MMC)

The screenshot shows the SIMATIC Manager interface with the 'Retrieve from Memory Card...' option highlighted in the 'PLC' menu. The 'Retrieve Files from PLC' dialog box is open, displaying a table of files to be retrieved:

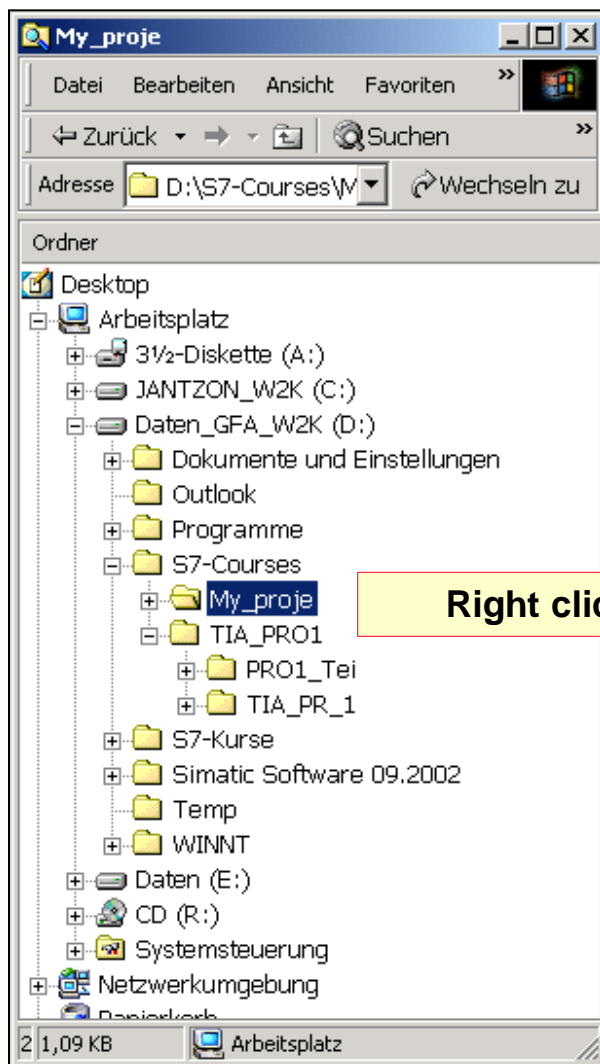
File name	Size	Type	Modified
MM4_PROFIBUS...	625792	Adobe Acrob...	06.02.2001 ...
PROFINET IO.s7p	1092157	STEP 7 Project	07.10.2005 ...

The 'Save in the selected folder' dialog box is also open, showing a file explorer view with the following folders listed:

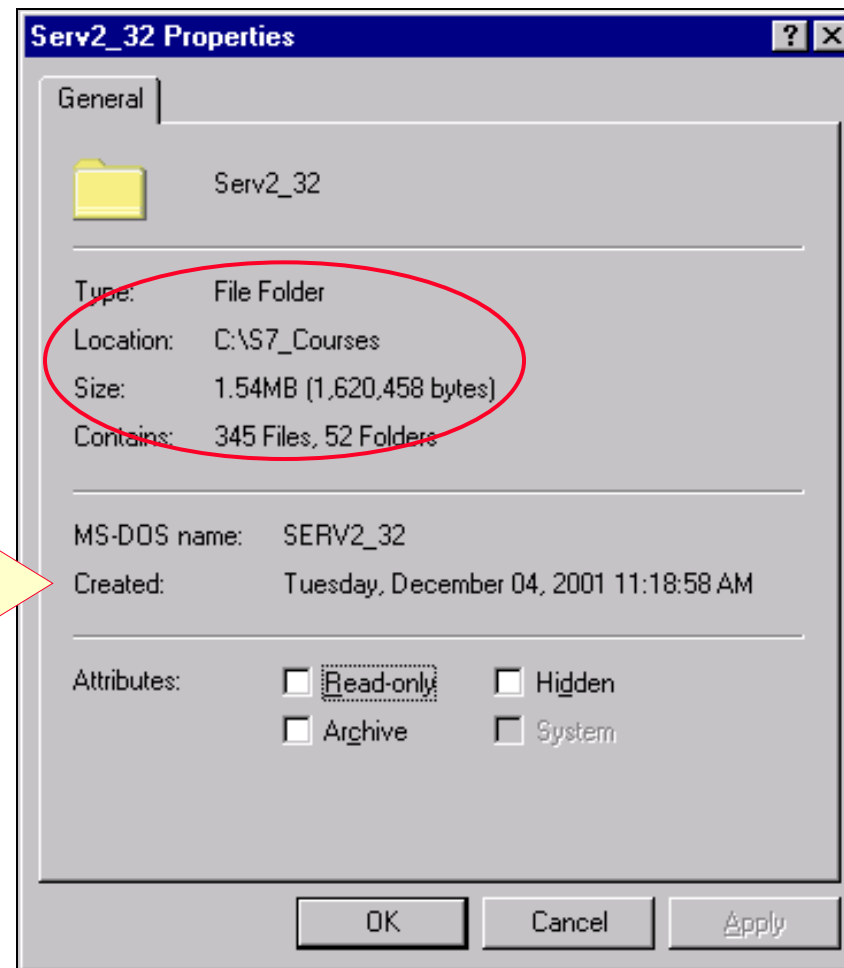
- #Referent Michael Jantzon
- #Software
- #TIA_PRO123_v55
- abc
- AX NF ZZ
- Documents and Settings
- DOTS_SWP
- RECYCLER
- S7 courses
- SIMATIC S7 - Projekte
- SIMATIC S7 Archive

The 'S7 courses' folder is selected, and the 'Order:' field is set to 'S7 courses'. The 'OK' button in the 'Retrieve Files from PLC' dialog is also highlighted with a red arrow.

Determining the Size of a Project



Right click



Project Archiving

Archiving

User projects | Libraries | Sample projects | Multiprojects

Name	Storage path
GD_Communication	C:\S7_Kurse\GD_Kommu
Mein_Projekt	C:\S7_Kurse\Mein_Pro
My_Project	C:\S7_Courses\My_Proje
SERV1_32S	C:\S7_Courses\Serv1_32
SERV2_32S	C:\S7_Courses\Serv2_32

Selected

User Projects:

Libraries:

Sample Projects:

Multiprojects:

OK

Archiving - Select an archive

Save in: S7_Courses

- My_Proje
- Serv132s
- Serv2
- Serv2_32

File name: My_proje.zip

Save as type: PKZip 4.0-Archive (*.zip)

Save Cancel

Archive - Options

Archive That Goes across Diskettes:

No

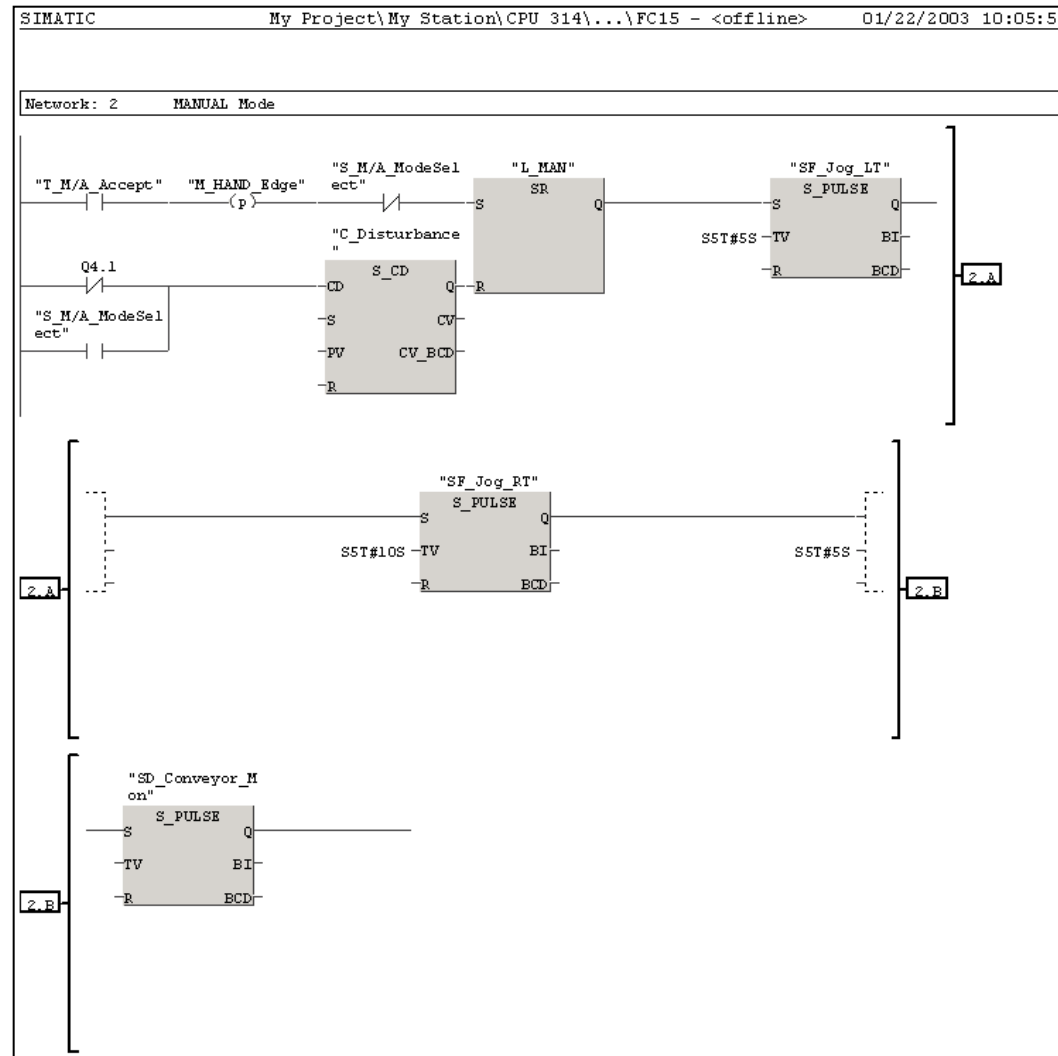
Incremental Archiving

Reset Archive Bit

Check Consistency

OK Cancel Help

Exercise 1: Documenting a Block and Printing It Out



Ex.2: Saving the Program and Hardware Configuration (PLC Copy)

The screenshot shows the SIMATIC Manager interface with the 'Upload Station to PG...' option selected in the 'PLC' menu. The 'Select Node Address' dialog box is open, displaying the following information:

Which module do you want to reach?

Back: 0
Slot: 0

Target Station: Local
 Can be reached by means of gateway

Enter connection to target station:				
PROFIBUS address	Module type	Station name	Module name	Plant designation
2	CPU 315-...			

Accessible Nodes

1				
2	CPU 315-...			
6	IM151-1			

Buttons: Update, OK, Cancel, Help

View / Update Button

Exercise 3: Archiving a Project

The screenshot illustrates the steps to archive a project in SIMATIC Manager. The main window shows the 'File' menu with 'Archive...' selected. The 'Archiving' dialog box is open, displaying a list of projects. The 'My_Project' is highlighted. The 'OK' button is pressed, opening the 'Archiving - Select an archive' dialog box. In this dialog, the 'Save in' field is set to 'S7_Courses', and the file name is 'My_proje.zip'. The 'Save as type' is set to 'PKZip 4.0-Archive (*.zip)'.

Archiving

Name	Storage path
GD_Communication	C:\S7_Kurse\GD_Kommu
Mein_Projekt	C:\S7_Kurse\Mein_Pro
My_Project	C:\S7_Courses\My_Proje
SERV1_32S	C:\S7_Courses\Serv1_32
SERV2_32S	C:\S7_Courses\Serv2_32

Archiving - Select an archive

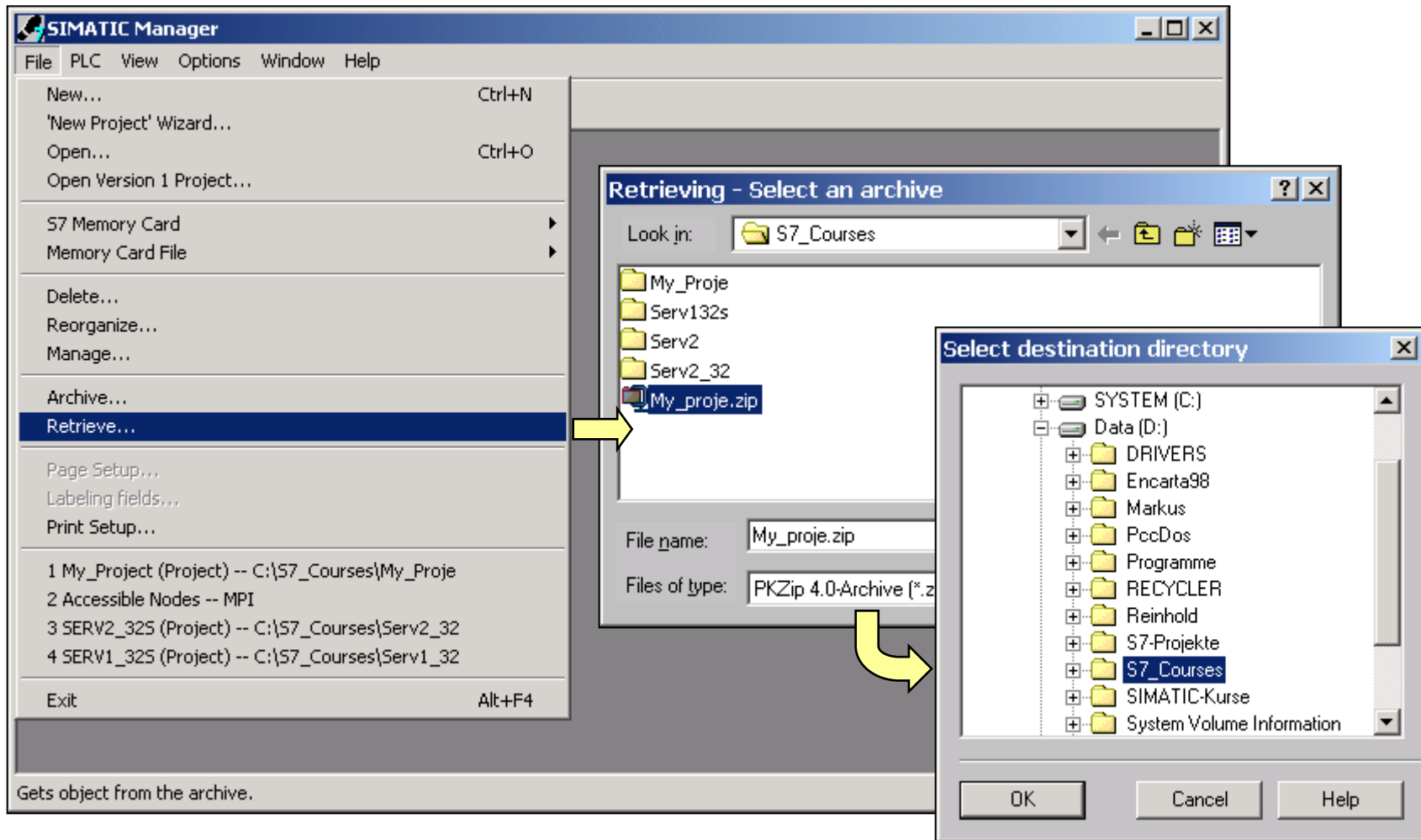
Save in: S7_Courses

- My_Proje
- Serv132s
- Serv2
- Serv2_32

File name: My_proje.zip

Save as type: PKZip 4.0-Archive (*.zip)

Exercise 4: Deleting a Project and Retrieving It



If You Want to Know More



MMC - as Additional Data Memory on the CPU

The screenshot shows the SIMATIC Manager interface with a context menu open for a CPU 314-2 module. The menu items are:

- Access Rights
- Download (Ctrl+L)
- Configure... (Ctrl+K)
- Compile/Download Programs...
- Compile and Download Objects...
- Upload to PG
- Upload Station to PG...
- Copy RAM to ROM...
- Download user program to memory card
- Save to Memory Card...
- Retrieve from Memory Card...
- Manage M7 System...
- Drive
- Display Accessible Nodes
- CPU Messages...
- Display Force Values
- Monitor/Modify Variables
- Diagnostic/Setting
- PROFIBUS
- Edit Ethernet Node...
- Assign PG/PC
- Cancel PG/PC Assignment
- Update Firmware
- Update the Operating System...
- Save Service Data...

The table on the right shows memory blocks:

Symbolic name	Created in language	Size in the work me...	T...
---	---	---	SI
	FBD	86	0
	FBD	38	0
	FBD	38	0
	FBD	38	0
	FBD	38	0
	FBD	48	F...

Annotations in the image:

- A yellow box labeled "Load Memory" has an arrow pointing to the "Download" menu item.
- A yellow box labeled "Data Memory" has two arrows pointing to the "Save to Memory Card..." and "Retrieve from Memory Card..." menu items.

At the bottom of the window, a status bar reads: "Downloading and controlling blocks and programs, modifying and monitoring modules."

PLC: Storing Data on the Memory Card

Corresponds to
"Load user program
on MC"

Currently open project
is compressed and
copied

All individual files except
archives (e.g. *.zip) and
directories

Starts transmission

Save to Memory Card in the PLC

STEP 7 Data

- Current user program (incl. HW configuration)
- Current project
- Libraries in current multiproject

Caution!
The memory card will be completely deleted if 'Current user program' is selected

Other files

Search in: MM420_Manuals_englisch

- MM4_PROFIBUS_En.pdf
- MM420_Operating Instruction.pdf
- MM420_Parameter List.pdf

Storage location on PLC

- Memory Card
- Load memory (RAM)

OK

Dateien laden in EPROM Memory Card auf CPU

Dateien übertragen ins Zielsystem
Quelle: D:\S7_SERV1\Übungen\MM420_Parameterliste.pdf
Ziel: CPU

Datenübertragung ins Zielsystem läuft ...

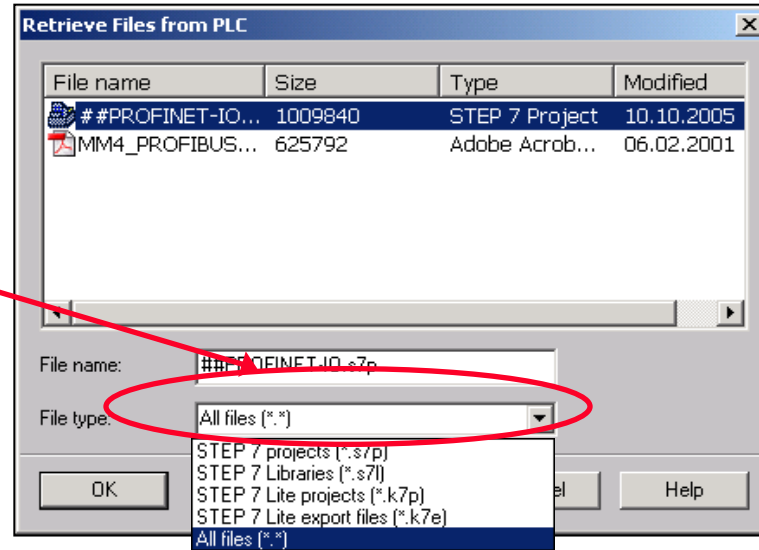
Geschätzte Dauer: 4 min 23 sec
Gesamtes Datenvolumen: 1.396 MB
Bereits übertragen: 1.396 MB

Abbrechen

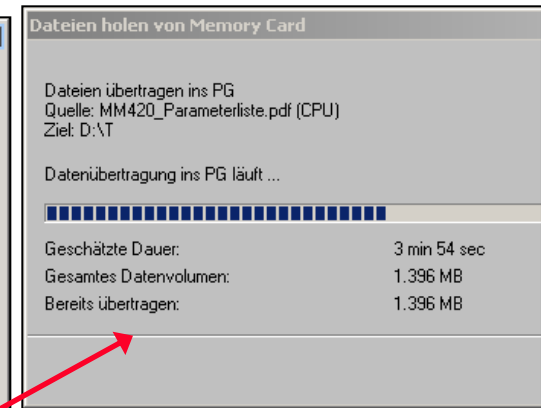
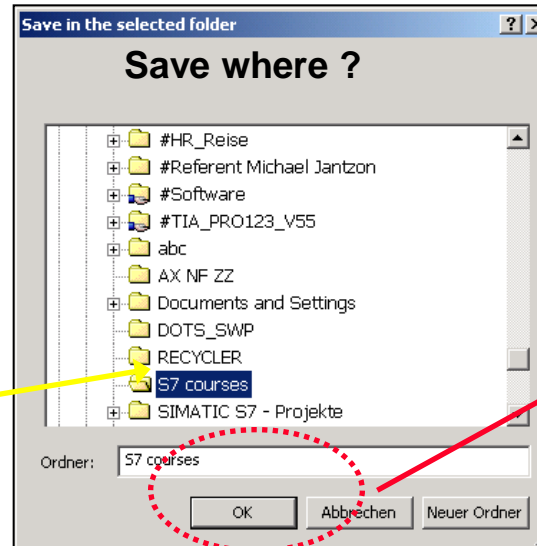
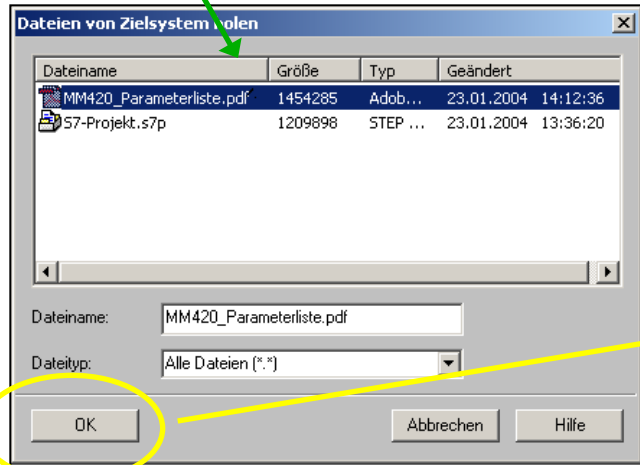
Current Selection List !!
No current MMC content

PLC: Getting Data from the Memory Card

Contents are displayed
Attention! File type by default only "S7 Projects"; if necessary, set to "all files"



Select + highlight particular files



Starts transmission