

Backup / Restore

Quick guide

V 1.02

© Copyright 2000-2017 by

Process-Informatik

Entwicklungsgesellschaft mbH

Im Gewerbegebiet 1

D 73116 Wäschenbeuren

Telephone number +49 7172/92 666-0

Telefax +49 172/92 666-30

1.	INTRODUCTION	3
1.1	INSTALLATION OF THE HARDWARE	3
1.1.1	<i>Direct connection of the S5</i>	4
1.1.2	<i>S5 networked via H1-bus</i>	4
1.1.3	<i>S7 networked via MPI bus</i>	5
2.	THE PROGRAM BR.EXE	6
2.1	THE MAIN MENU	6
2.1.1	<i>File</i>	6
2.1.2	<i>View menu</i>	6
2.1.3	<i>Configuration</i>	7
2.1.4	<i>Element</i>	9
2.1.4.1	Create and change	9
2.1.4.2	Delete	11
2.1.4.3	Restore all entries	11
2.1.4.4	Backup all entries	11
2.1.5	<i>Help</i>	11
2.2	DISPLAY IN THE WINDOW	12
2.2.1	<i>Data</i>	12
2.2.2	<i>Colours</i>	12

1. Introduction

The software Backup/Restore is able to save directly connected S5-PLCs, SPSes that are connected to an H1-Bus and S7-PLCs via MPI on hard drive or floppy disk. Those files are saved in the Siemens own file format "S5D" (for S5) and "S7P" (for S7). The interval and the filename can be chosen, as well as the blocks that **shouldn't** get saved.

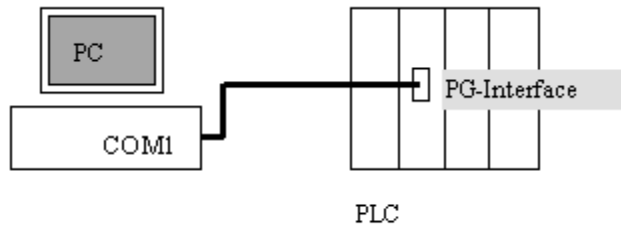
1.1 Installation of the hardware

You can establish **one** of the three following connections:

- A S5 is directly connected to a serial interface of the PC. Thereto an interface cable is needed to convert from V.24(RS232) to TTY(X4,X5 Siemens).
- Multiple PLCs are connected via H1-CPs. The PC is connected from the serial interface to an H1-CP via interface-cable. Thereto an interface cable is needed to convert from V.24(RS232) to TTY(X4,X5 Siemens) and an H1-CP with an available programming port.
- Multiple or a single S7-PLC is connected via a MPI/PPI cable to the serial interface of the PC. Thereto a MPI/PPI cable is needed that executes the conversion to MPI. The driver works with 19.2kBaud on the side of the PC and 187.5kBaud on the MPI side.

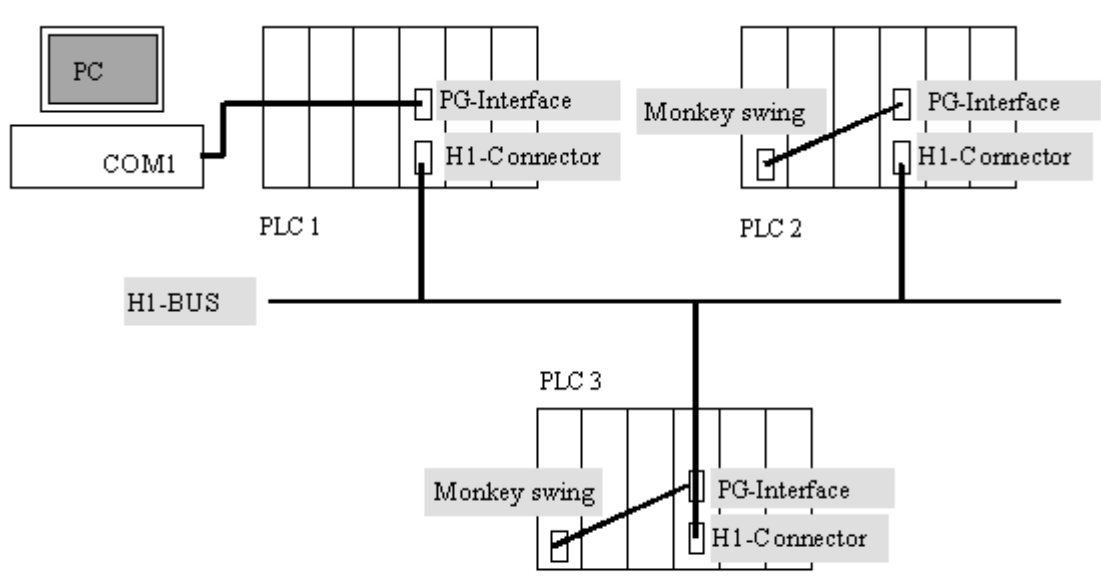
1.1.1 Direct connection of the S5

Connect your backup PC via an available serial interface with the PG interface of the CP-143 or CP-1430 with a PG-UNI cable.



1.1.2 S5 networked via H1-bus

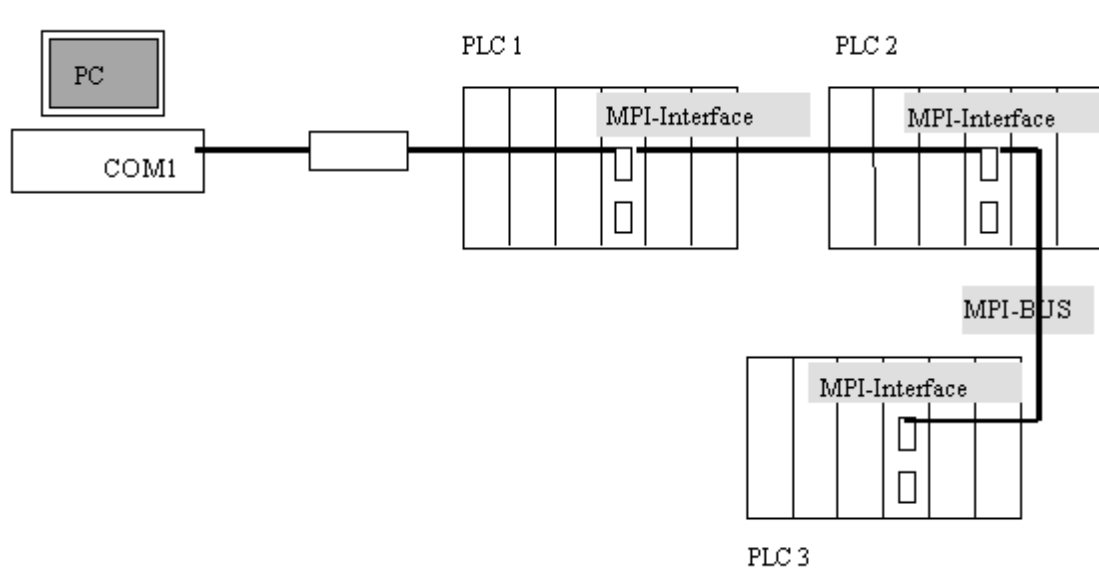
Connect the backup PC via an available serial interface with the PG interface of the CP-143 or CP-1430 with a PG-UNI cable.



In this case PLC 1 is not reachable via the H1 bus, because it doesn't have a connection to a CP. Therefore this control can't be saved over H1 bus.

1.1.3 S7 networked via MPI bus

Connect the backup PC via an available serial interface with the MPI interface of the S7-PLC.



Please note the following points:

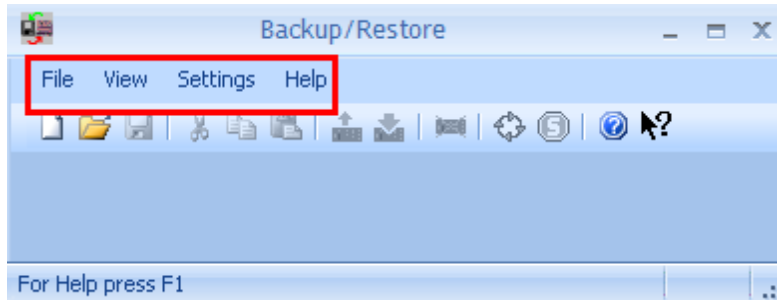
- The MPI bus is (normally) a two-wire bus. It reacts like a “mirror” at its line ends, it reflects incoming signals. Therefore the MPI bus needs to be terminated by a resistor network. Most Profibus connectors have an integrated switch that turns the termination on or off.
- Every participant needs to have a distinct station number. The backup PC always uses 0.
- It is not recommended to relocate the MPI bus via sliding contact or next to frequency inverters.
- The MPI bus has to work with 187.5kBaud, a eventually used PC adapter(Siemens) needs to be set via a switch at the LED side to 19.2kBaud.
- A connection with the bus is possible at every position, but the power supply of the MPI/PPI cable has to be assured in that case.

2. The Program BR.EXE

BR.EXE executes the actual backup or restore.

2.1 The main menu

This control element is displayed at the upper window border:



2.1.1 File

The file operations are located in this menu. You can close the current file, save the current settings in a file or save the current file named differently.

The four last used files can be selected in this menu.

The application can be terminated by the menu item exit.

2.1.2 View

The status bar and toolbar can be turned on or off in this menu.

The status bar is displayed in the lower window border border and provides information about the application's state. The current date and time are displayed in hibernation.

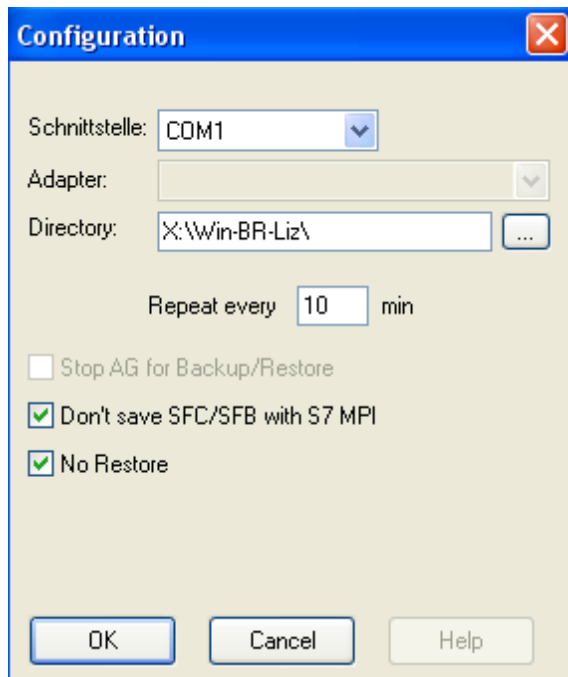
The toolbar is located in the area below the menu bar. The control buttons are located from left to right here, with the following functions:

- Create new file
- Open file
- Save file
- Cut marked elements
- Copy marked elements
- Paste the element to the backupset
- Backup all entries
- Restore all entries
- Memory reset
- Start all marked PLCs

- Stop all marked PLCs
- Help

2.1.3 Configuration

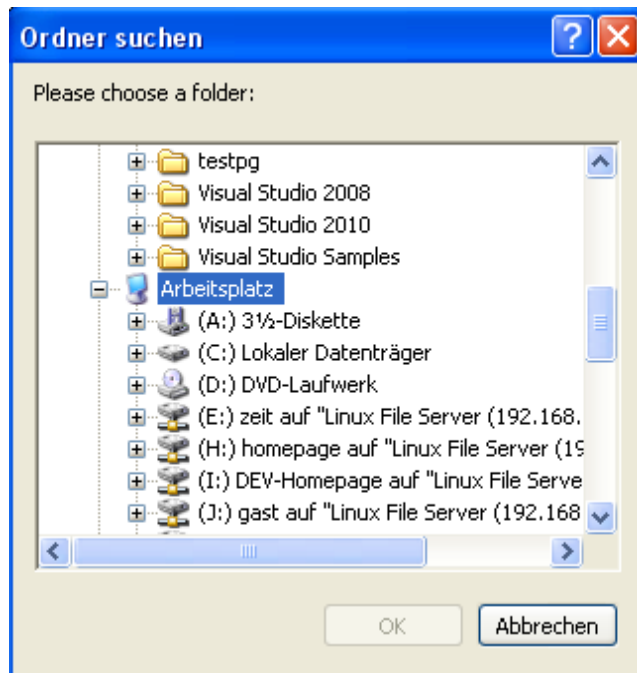
This menu hasn't any more menu items and opens to the following dialog:



Global application settings can be done here:

Interface	You can select at which serial port the PC with the PLC/CP/MPI bus is connected.
Directory	The directory in which the saved files that should get saved. The directory can be selected by clicking the button "...".
Repeat every	After an error occurred while reading the PLC, trying to gain access is repeated after the amount of minutes typed in.
Stop AG for Backup/Restore	This function isn't implemented yet. It will set the AG to STOP before saving and afterwards start it again.
Don't save SFC/SFB with S7 MPI	This function defines if the system functions and blocks of the PLC should get saved, because those blocks are provided by the PLC and therefore not saved.
No Restore	This function states if the user can start a restoring process via Element/Restore all or not.

Confirm with "OK" or discard your inputs with "cancel"



You can change directories by clicking the folder you want to change to, then press OK.

2.1.4 Element

Every backup task (file) consists of at least one element. You can edit or create this elements in this menu item. The following functions are possible:

- Create new element
- Change existing element
- Delete existing element
- Restore all elements
- Backup all elements

2.1.4.1 Create and change

You can double click on an entry to change it. A dialog for creation of a new element in the backup list is displayed and after confirmation inherited. If an element gets changed, all previous settings are displayed:

The dialog box titled "New Entry" contains the following fields and options:

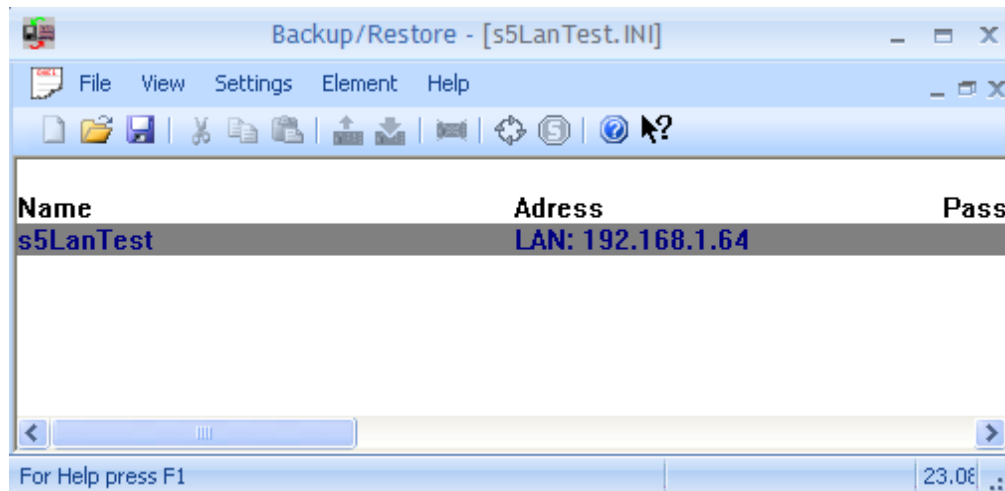
- Name:** A text input field followed by a dropdown arrow.
- Adress:** A text input field.
- Password:** A text input field.
- Filename:** A text input field.
- Interval of the Backup:** A group of radio buttons with the following options:
 - every
 - daily at
 - weekly at
 - monthly at
 - never
- Bausteine:** A group of radio buttons with the following options:
 - don't save these blocks
 - only save these blocks

At the bottom of the dialog are three buttons: **OK**, **Cancel**, and **Help**.

Name	You can give every PLC a name, which is the only name displayed.	
SPS type	The type of the connection can be selected behind every name. You can choose between S5-Direkt, S5 H1-Bus or S7-MPI.	
Address	At "S5 H1-Bus" type the Ethernet address of the PLC in that is about to get saved. It has to be 12 digits long and hexadecimal, which means the only characters that can be used are '0'..'9' and 'a'..'f'. This address has to be matching with the configured address if the H1-CP control.	
	The station address of the control needs to get typed in at the type "S7-MPI". Valid values are 2 up to 126.	
Password	At type "S7 H1-Bus" eventually a password is needed to gain access of the PLC. The password of the controller can be up to six character long. Otherwise this area remains empty.	
Filename	The name of the backup file in which the program data of the PLC are saved.	
Interval of the backup	defines the period in which backups are executed. The following settings are possible:	
	every	Cyclical backup every x hours and y minutes.
	daily at	Daily backup at a certain point of time.
	weekly at	Weekly backup at a certain day and time.
	monthly at	Monthly saving at a certain day and time. Attention: not every month has 31 days, so we don't recommend choosing the 31 st . It's better to choose the 1 st in this case.
	Never	This element gets saved only if the menu item save all gets executed.
Blocks	Type in if the blocks the get typed in, in the following textarea get saved or if this blocks get excluded:	
	don't save this blocks	The blocks that shouldn't get saved are declared here. They are separated by commas by standard. Spaces and commas are not necessarily needed. Only the blocks you've typed in are getting ignored at back up and restoring.
	only save this blocks	Backup only this blocks.

2.1.4.2 Delete

Mark the entries you want to delete by clicking your left mouse button.



This entries will get highlighted in grey and can get deleted by this menu item.

2.1.4.3 Restore all entries

The menu item lets all elements typed in restore, but the data itself has to be available. You can lock this menu item at Configuration.

2.1.4.4 Backup all entries

All entries get saved on the hard drive in the declared files.

2.1.5 Help

The current version number of the application can be seen here.



2.2 Display in the window

2.2.1 Data

The following data get displayed:

- Name of the PLC
- Ethernet address at CP, station number at S7
- Password
- Interval
- Next backup
- Filename

2.2.2 Colours

The following colours get used:

dark blue	This entry got added or typed in recently, but hasn't got saved yet.
green	This entry got saved at least once without any mistakes.
red	It has been tried to save this entry at least once, but an error occurred. Saving will get retried every 10 minutes. Please check the Ethernet address or station number.
Dark grey background	This entry is marked to delete.