

SIEMENS

SINUMERIK 810D/840Di/840D

SINUMERIK PCU Basesoftware (IM6)

Commissioning Manual

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Valid for: Software PCU Basesoftware Version 7.6

Safety Guidelines

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.



Danger

indicates that death or severe personal injury **will** result if proper precautions are not taken.



Warning

indicates that death or severe personal injury **may** result if proper precautions are not taken.



Caution

with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

Caution

without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

Notice

indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Prescribed Usage

Note the following:



Warning

This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

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We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Commissioning a system

1.1 Delivery condition of the system

Overview

The high-performance SINUMERIK PCU 50 features interfaces for communication via Ethernet and PROFIBUS DP/MPI, leaving the integrated slots free for other tasks. The USB port at the back of the device provides "hot plug and play" functionality for a standard PC keyboard and mouse. The SINUMERIK PCU 50 is shipped with the Windows XP ProEmbSys operating system and the Ghost backup software, versions 6 and 7.

The HMI-Advanced user interface software can be ordered additionally.

References: "Operator Components" Manual

Supplied software on the PCU

The software installed on delivery of the PCU includes the components below, among others:

MS Windows XP Professional SP2	
Internet Explorer	V 6.0
MPI driver	V 6.03
Symantec Ghost (incl. Ghost Explorer)	V 7.0 (default)
NFS client	The NFS client from "Windows Services for UNIX" is installed on E:\SFU\NFSCCLIENT.

Note

For the system component versions contained in the PCU Basesoftware, see the C:\BaseVers.txt file.

The software package "PCU Basesoftware Thin Client" is not included and must be ordered and installed separately.

Documentation for all Ghost tools is supplied on the PCU's hard disk under E:\TOOLS.

1.1.1 Hard disk partitions

Division of the hard disk

The hard disk is divided into a primary partition C and an extended partition containing the three logical drives D, E and F. Partitions C and D work with FAT16 file access and drives E and F with NTFS file access.

The hard-disk partitioning corresponds to the grouping that is required for installing the HMI system software onto the PCU under Windows XP. Windows XP can be used with PCU 50 V2 (566 MHz or 1.2 GHz, 10 GB or 40 GB hard disk). For reasons of data security, the HMI system software and the Windows XP system software are distributed on the different hard disk partitions.

Depending on the order details, the HMI system software may be pre-loaded on delivery. It is installed subsequently by the customer the first time the system is booted up.

The following figure shows how the hard disk of the PCU is used:

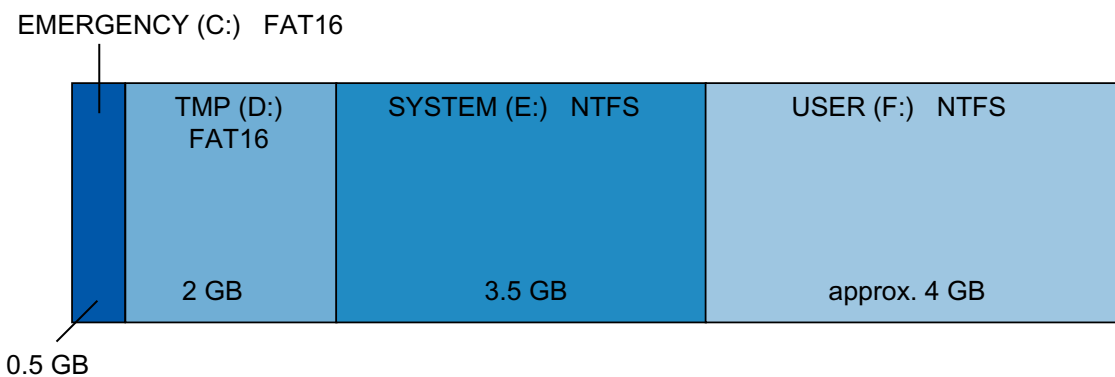


Figure 1-1 Partitioning of hard disk (example with 10 GB)

Content of the partitions

The individual partitions are intended for the following data or already contain this data:

- EMERGENCY (C:) Partition C contains DOS 6.2 together with the tools and scripts created by the Service menu (e.g., Ghost).
- TMP (D:) Used for storing Ghost images (e.g., of the status on delivery) and local backup images.
Contains the installation directory where the software to be installed is first copied to from a remote PG/PC, prior to the actual installation procedure.
- SYSTEM (E:) Reserved for the Windows XP software.
The Windows XP software is available on the recovery media CD via network, in order to later install drivers or updates as needed.
- USER (F:) For installing user programs.
Applications such as HMI system software (incl. data storage and temporary data), STEP7, OEM applications for HMI, or customer-specific applications should only be installed here.

Notice

All of the applications must be exclusively installed on USER (F:); even if these applications have a different drive set as the default drive in their installation path.

The names EMERGENCY, TMP, SYSTEM, USER must not be changed; otherwise the "ServiceCenter" (see Section 4) will no longer function.

1.1.2 System settings

PCU default setting

A PCU 50 V2 has **one** integrated Ethernet interface. This is preset as a default DHCP client for the address reference from a company network. A second additional Ethernet card must be installed with an Ethernet interface to connect this PCU to an NCU or a TCU.

Note

If no fixed Internet address is set for the Ethernet "on-board" and no DHCP server is available on the network, a so-called APIPA address is assigned under Windows XP. Boot manager is extended by at least one minute (this is system-related and not an error on the part of the HMI Manager).

The software package "PCU Basesoftware Thin Client" must be installed on the PCU if the PCU 50 V2 is to be operated in a SINUMERIK solution line network. When installing the 'PCU Basesoftware Thin Client' on the PCU 50 V2, the Ethernet interface on the additionally installed Ethernet card must be set according to application.

References: Commissioning Manual Thin Client Configuration

Name of the PCU

Upon delivery of the system, a unique computer name is generated which can be read out under: "Start" → "Settings" → "Control Panel" → "System", "Computer Name" tab.

Configuration of the operating system

For safety reasons, Windows XP has been preset as follows:

- The Autorun function is deactivated.
- Automatic Windows Update is deactivated.
- Monitoring and alerts for antivirus software and automatic update are deactivated.

1.1 Delivery condition of the system

- Links used to call up Internet Explorer from the service desktop and the start menu are removed.
- Remote Procedure Call (RPC) is possible for calls that are not connected.
- Firewall settings are activated on the on-board Ethernet network card. The firewall settings are also activated if an additional Ethernet card is installed. The firewall settings for the second network card are not deactivated until the "PCU Basesoftware Thin Client" is installed.

Changes to Windows services

Other default settings:

Windows services:	Start-up type:	
Computer Browser	Manual	(Not started)
Error Reporting Service	Disabled	
Portable Media Serial Number	Manual	(Not started)
SSDP Discovery Service	Disabled	
Universal Plug and Play Host	Disabled	
Web Client	Manual	(Not started)
Wireless Zero Configuration	Manual	(Not started)

Preset users

Upon delivery of the system, the following users are defined at the factory:

User name	Password	User type	Windows user group
operator	operator	HMI Users	Operator
auduser	SUNRISE	Service user	System administrator
siemens	*****	---	System administrator

Starting ServiceCenter



Using this link on the service desktop, you can start the service center users.

In service center users, the boot up behavior of the PCU is globally set for all users or individual users.

1.2 User administration

1.2.1 Which users are set up?

Overview

The users are managed in the "ServiceCenter Users", so that the commissioner/service user no longer has to make corresponding settings directly in the registry.

The preset users are:

- **The "auduser".**

The "auduser" is a service user type of user and belongs to the system administrators' user group. The system administrators have the user rights of a local administrator.

- **The "operator"**

The "operator" is an HMI user type of user and belongs to the operators' user group. The operators have limited user rights.

For the HMI user and service user, individual settings can be configured for boot up, the HMI program and service.

Notice

In the PCU Basesoftware version 7.6, only one service user ("auduser" is the default) and only one HMI user with the fixed name of "operator" are supported.

User

Each user is from one user type and belongs to one user group.

User type

A user can be assigned to the following user types:

User types	Task card
HMI Users	<ul style="list-style-type: none">• Boot up of the PCU• Operating the HMI program
Service user	<ul style="list-style-type: none">• Service tasks• Boot up of the PCU• Operating the HMI program

The user types are implemented under Windows in user groups with various user rights.

User group

The user types are implemented via the following Windows user groups:

User group	Name of the group (Windows)	User Rights
Operator	operator.group	Restricted
System administrators	Administrators	local administrator

Service Desktop

The service desktop provides the service user with a Windows desktop, which is expanded by tools and functions for service tasks, such as manage users, install software, save/restore data, check system integrity, etc.

1.2.2 Change service user

Overview

Any other Windows user can also become the service user (instead of "auduser") if they are set up as a local Windows administrator or a domain user and possess local administrator rights.

Change service user

The service user is identified in the registry by two entries: User name **and** user type. The default user name is "auduser", the user type for the service user is "2".

In order to change the service user, the user who wants to be the new service user must log into Windows with local administrator rights. Only this user has sufficient user rights to make the entries in his user-specific branch of the registry.

The service user is registered by the following registry entries:

Reference			Default
Key		HKLM\SOFTWARE\Siemens\SINUMERIK\Basesoftware\<version>\HMIManager	
HMIUserName	Entry	<user name> (STRING)	auduser
HMIUserDomainName	Entry	<domain name> (STRING)	(local)

Reference			Default
Key		HKCU\SOFTWARE\Siemens\SINUMERIK\Basesoftware\HMIManager	
UserType	Entry	2 (DWORD)	

The following name must be entered under "HMIUserDomainName":

- for a local administrator: (local)
- for a domain operator: <domain name>

1.2.3 Global user settings

Principle of passing on

In the "ServiceCenter Users", set the following responses under "Users" → "Global Settings":

- Boot up behavior of the PCU
- Start the HMI program
- Behavior in service mode

The settings that are made for users under "Global Settings" are passed on to individual users. The passed on settings can still be specifically adapted for the respective user. To do this, the user must log in using his password.

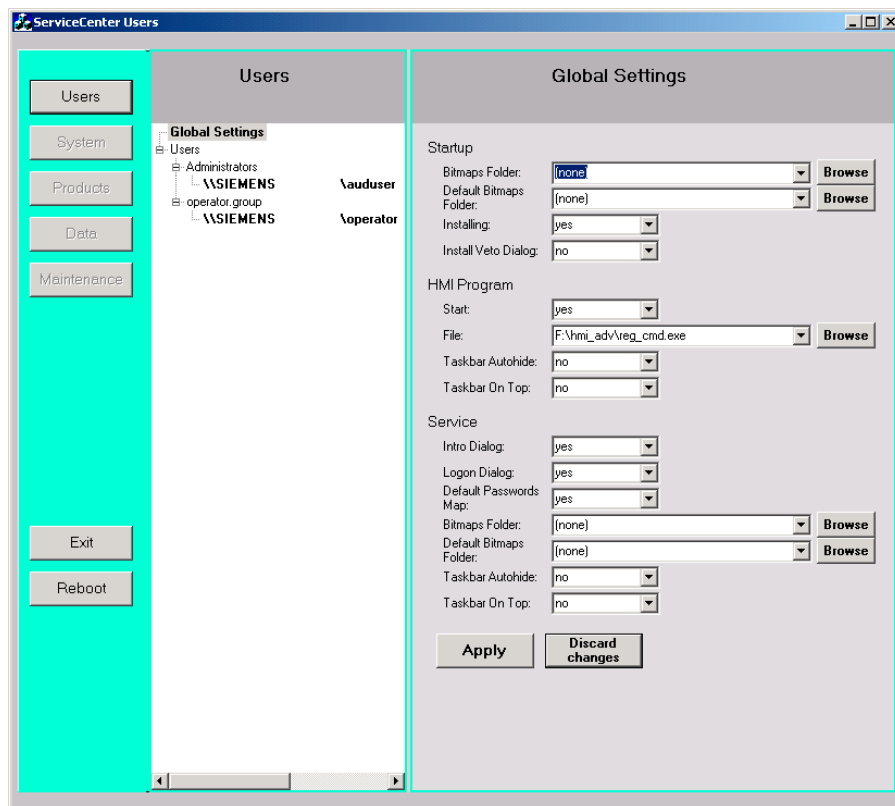


Figure 1-2 Global user settings

Startup:

	Selection	Effect
Bitmap folder:	- None -	Directory with boot screens
Default bitmap folder:	F:\hmi_adv\lib\DATA\default	Directory containing default boot screens
Installing:	"yes" (default)	Installation privilege exists during boot up
	"no"	No installation privilege
Install veto dialog:	"no" (default)	For pending installation during the boot up: No prompting, the installation begins immediately.
	"yes"	For pending installation during the boot up: Prompt asking whether to install.

HMI program:

	Selection	Effect
Start:	"yes" (default)	The HMI program is started.
	"no"	The HMI program is not started.
File:	F:\hmi_adv\reg_cmd.exe (default)	Directory of the HMI program
Task bar autohide:	"no" (default)	HMI program: Hide start task bar
	"yes"	HMI program: Show start task bar
Task bar on top:	"no" (default)	HMI program: Start task bar in the background
	"yes"	HMI program: Start task bar on top

Service:

	Selection	Effect
Intro dialog:	"yes" (default)	Display service intro dialog
	"no"	Do not display service intro dialog
Logon dialog:	"yes" (default)	Display service logon dialog
	"no"	Do not display service logon dialog
Default password map:	"yes" (default)	The password is not case-sensitive.
	"no"	The password must be entered exactly as specified.
Bitmaps folder:	- None -	Directory with background screens for the service desktop
Default bitmap folder:	- None -	Directory with default background screens for the service desktop
Task bar autohide:	"no" (default)	Service Desktop: Hide start task bar
	"yes"	Service Desktop: Show start task bar
Task bar on top:	"no" (default)	Service Desktop: Start task bar on top
	"yes"	Service Desktop: Start task bar in the background

Note

If you press the "Reboot" button, the system immediately reboots (without prior prompting). Use "Exit" to end the ServiceCenter Users.

Service dialogs during boot up

The following dialogs are shown during boot up:

- The **Service Intro Dialog** is shown, if no HMI program is installed or the start of the HMI program is deactivated.

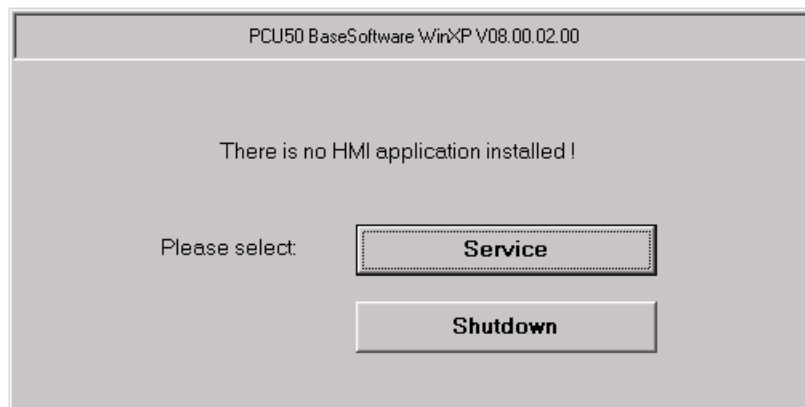


Figure 1-3 Service Intro Dialog

- If a service user wants to log in, the **Service Logon Dialog** is displayed:
 - After pressing key <3> during boot up.
 - After pressing the "Service" button in the service intro dialog.

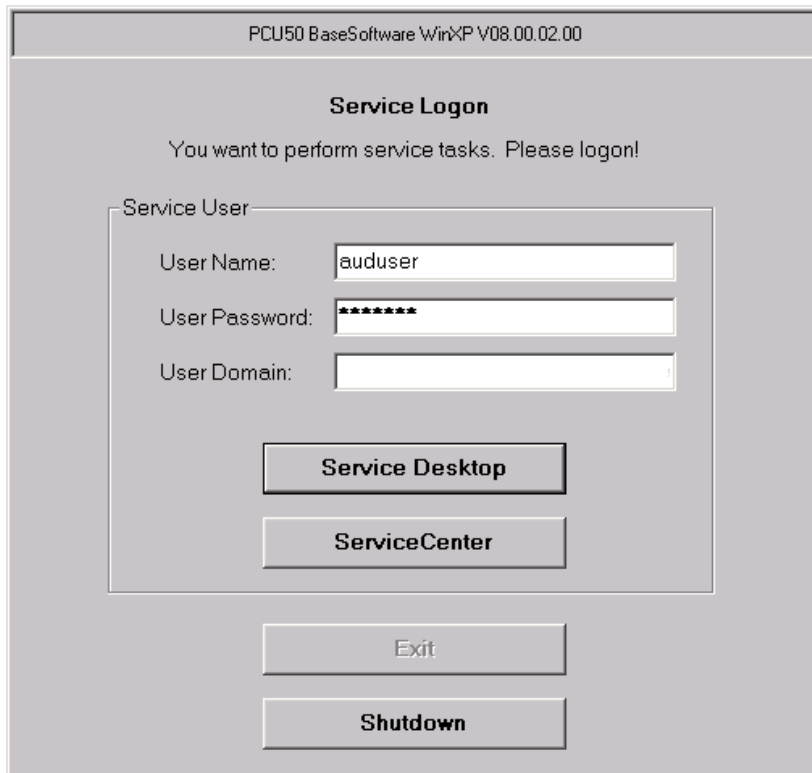


Figure 1-4 Service Logon Dialog

1.2.4 Specific user settings

Passing on settings

The settings that are made for users under "Global Settings" are passed on to the respective user.

Example: "operator"

After the password is entered, the settings can be user-specifically adapted. The settings that cannot be changed are displayed with a grey background.

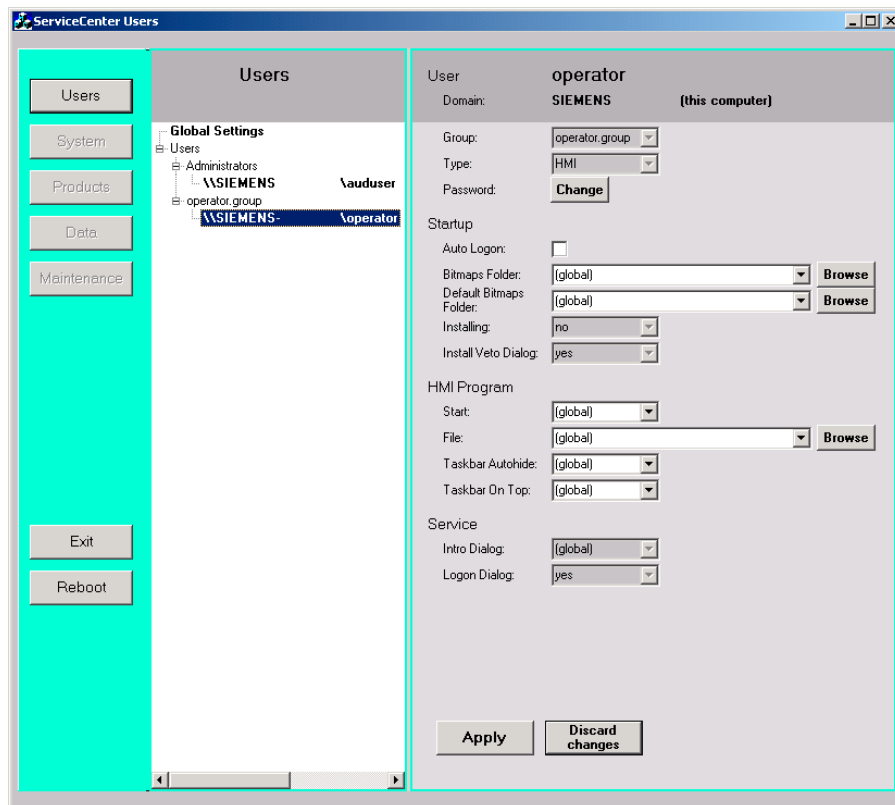


Figure 1-5 User settings for the "operator"

1.3 Boot up behavior of the PCU

1.3.1 Boot up of the PCU: no HMI program installed

Requirement

No HMI program is installed during the PCU boot up.

Ramp-up phase

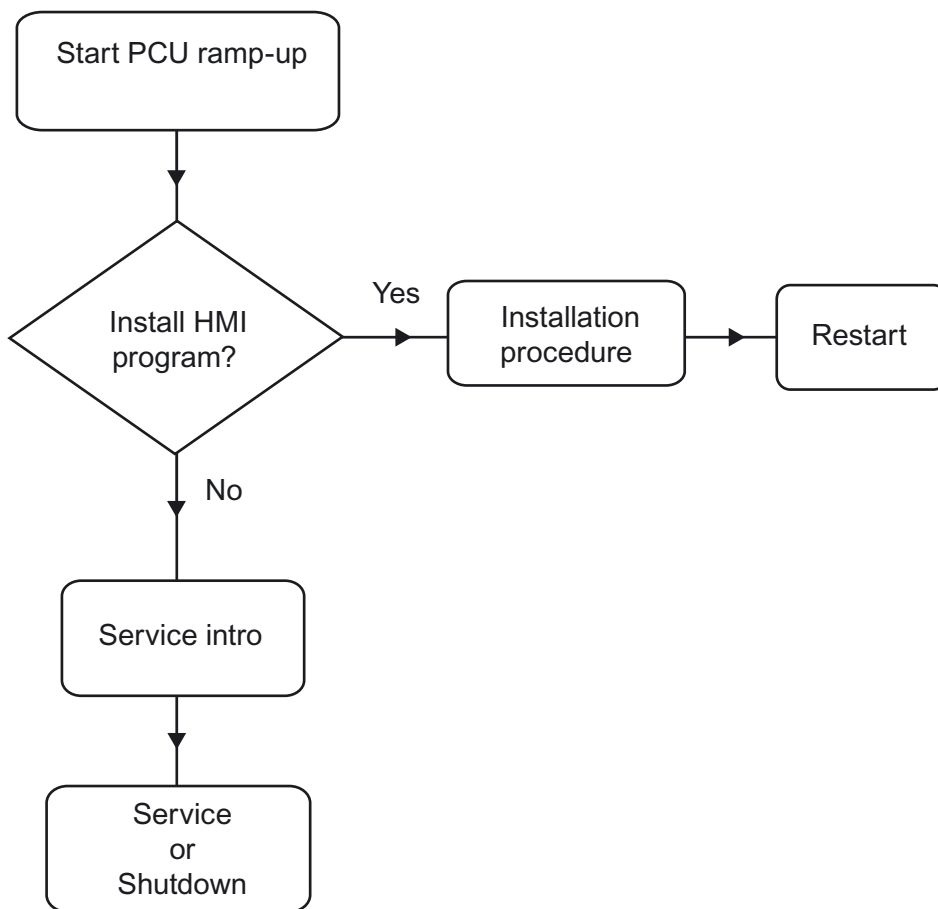


Figure 1-6 PCU bootup diagram (without HMI program)

Explanations:

- If installation programs (such as HMI Advanced) are present in directory D:\Install, you will be prompted during the first boot up as to whether the installation procedure should be started. After installation is completed, you need to restart the system.

The installation can also be skipped and carried out later.

- In the service intro dialog, you can choose between "service" or "shutdown".
- Selecting "service" opens the service logon dialog.

Note

During the **initial** boot up of the PCU 50.3, the user can only log on as 'auduser'.

1.3.2 Boot up of the PCU: HMI program already installed

Requirement

An HMI program (e.g. HMI Advanced) is already installed.

Ramp-up phase

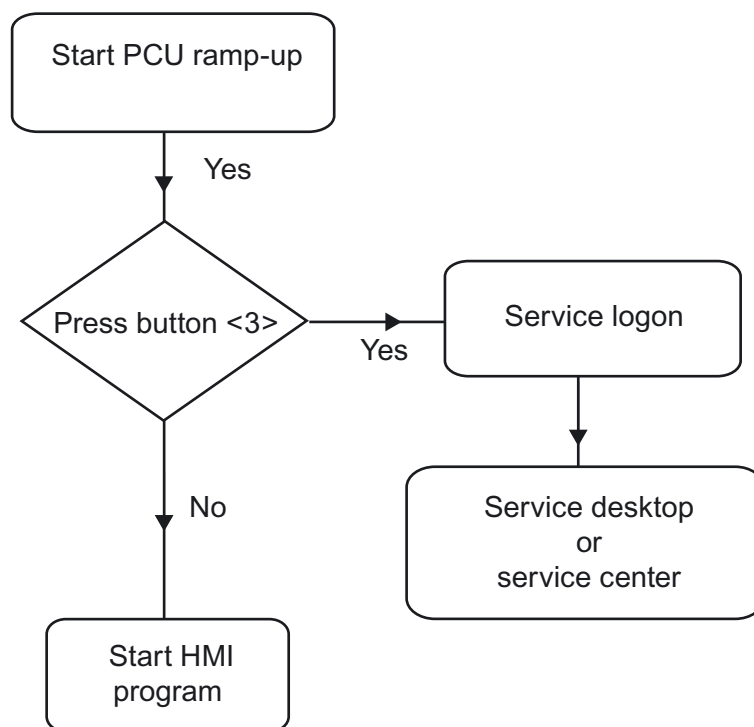


Figure 1-7 PCU bootup diagram (HMI program installed)

Explanations:

- If the HMI program is already installed, the PCU boots up and the HMI program is started (default).
- During the boot up, there is a time interval for pressing key <3> when the version information appears on the lower right of the background screen. The service logon dialog then opens.
- After logging in as a service user, you can either start the "service desktop" in order to carry out additional service tasks, or you can start the "ServiceCenter Users" in order to set the boot up behavior for the individual users.

1.4 BIOS settings

Overview

The BIOS of the PCU is preset in such a way that no changes are required. The date and time can be set under Windows or the HMI operator interface.

Notice

Your device configuration is preset for working with the software supplied with the unit. You should only change the preset values if you have modified your device in any way, or if a fault occurs when the unit is powered up.

Starting BIOS setup

1. Start the BIOS SETUP as follows:

Reset the device (warm or cold restart).

After the first boot up, the following message appears:

Press < F2 > to enter SETUP or <ESC> to show boot menu

2. Press the F2 key as long as the BIOS prompt appears on the screen.

The BIOS main menu opens:

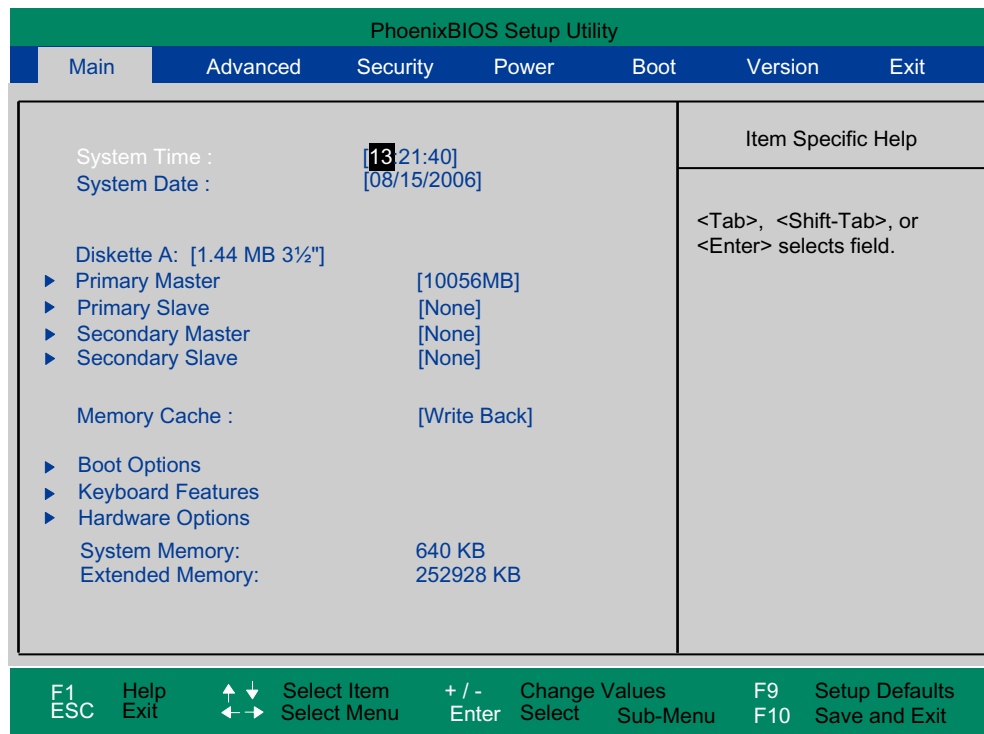


Figure 1-8 BIOS Main Menu (Example)

BIOS setup: Defaults

The following system parameters are pre-stored on a PCU with 10 GB hard disk when it is shipped:

Menu: Main

System parameters	Defaults	Custom entries
System Time	hh:mm:ss	
System Date	MM/DD/YYYY	
Disk A	1.44 MB 3½"	
Primary Master	10056 MB	
Primary Slave	None	
Secondary Master	None	
Secondary slave	None	
Memory Cache	Write Back	

Boot options		
QuickBoot Mode	Enabled	
SETUP prompt	Enabled	
POST errors	Enabled	
Floppy check	Disabled	
Diagnostic screen	Enabled	

Keyboard features		
Numlock	Off	
Key click	Disabled	
Keyboard auto-repeat rate	30 / sec	
Keyboard auto-repeat delay	½ sec	

Hardware Options		
PCI MPI/DP	Enabled	
On-board Ethernet	Enabled	
Ethernet address	08 00 06 xx xx xx	
LAN Remote Boot	Enabled	
Cardbus/PCMCIA slot	Enabled	
Fan control	Enabled	
SafeCard functions	Enabled	
Legacy USB support	Enabled	
CRT/LCD selection	SIMULTANEOUS	
LCD screensize	Expanded	
DSTN contrast	154	
PS/2 mouse	Auto Detect	

Menu: Advanced

System parameters	Defaults	Custom entries
COM/LPT1 Configuration		
Internal COM 1	Enabled	
Base I/O address	3F8	
Interrupt	IRQ 4	
Internal COM 2	Enabled	
Base I/O address	2F8	
Interrupt	IRQ 3	
Internal LPT 1	Enabled	
Mode	EPP / Bi-directional	

PCI Configuration		
PCI device slot 1		
Option ROM scan	Enabled	
Enable master	Enabled	
Latency timer	0040h	
PCI device slot 2		

PCI Configuration		
Option ROM scan	Enabled	
Enable master	Enabled	
Latency timer	0040h	
PCI device slot 3		
Option ROM scan	Enabled	
Enable master	Enabled	
Latency timer	0040h	
PCI device slot 4		
Option ROM scan	Enabled	
Enable master	Enabled	
Latency timer	0040h	
Ethernet		
Option ROM scan	Disabled	
Enable master	Disabled	
Latency timer	0040h	

System parameters	Defaults	Custom entries
PCI/PnP ISA IRQ Resource Exclusion		
IRQ 3	Available	
IRQ 4	Available	
IRQ 5	Available	
IRQ 7	Available	
IRQ 9	Available	
IRQ 10	Available	
IRQ 11	Reserved	
PCI IRQ Line 1	5	
PCI IRQ Line 2	Auto-select	
PCI IRQ Line 3	Auto-select	
PCI IRQ Line 4	Auto-select	
Installed OS	Other	
Reset configuration data	No	
Floppy disk controller	Enabled	
Local bus IDE adapter	Both	
Large disk access mode	DOS	
Memory gap at 15 MB	Disabled	
Video Adapter Settings		
Frame Buffer Size	8 MB	
AGP Rate	4X	
Default primary video adapter	AGP	

Menu: Security

System parameters	Defaults	Custom entries
Supervisor password is	Disabled	
User password is	Disabled	
Set user password	Enter	
Set supervisor password	Enter	
Password on boot	Disabled	
Fixed disk boot sector	Standard	
Floppy disk drive access	Supervisor	

Menu: Power

System parameters	Defaults	Custom entries
APM	Enabled	
Power savings	Disabled	
Standby timeout	Off	
Hard disk timeout	Disabled	

Menu: Boot

System parameters	Defaults	Custom entries
<input type="checkbox"/> Removable devices		
Legacy floppy drives		
<input type="checkbox"/> Hard drive		
Alternate device TOSHIBA MK1016 GAP-(PM)		
CD ROM Drive IBA 4.0.22 Slot 0048		
MBA UNDI (Bus 0 Slot 19)		

Menu: Version

System parameters	Defaults	
SINUMERIK	SINUMERIK PCU 50/70	
BIOS version	V02.03.06	
BIOS number	A5E00124434-ES03	
Board Revision	V02	
MPI/DP firmware	V01	
Ethernet Config Version	V01	
CPU type	Celeron (TM)	
CPU Speed	1200 MHz	
CPU ID	06B1	
Code revision	001C	

Menu: Exit

Exit Saving Changes	Save changes on exit
Exit Discarding Changes	Discard changes on exit
Load Setup Defaults	Load Setup defaults
Discard Changes	Discard changes
Save Changes	Save changes

Changing BIOS settings

Once additional components have been installed or attached, it may be the case that the system has to be informed of this via the BIOS setup:

1. Ramp up the device.
2. When the prompt to activate the BIOS setup appears, press the <F2> key (corresponds to horizontal softkey 2 on the OP).
3. The BIOS setup menu appears. In the menu, use the cursor keys to navigate to the desired selection box.
4. Change the setting using the <+> key (press <SHIFT> and <X> at the same time) or the ↔ key on in the numeric keypad.
5. Using the left-right cursor keys, you can reach other setup menus.
6. Press <ESC> (<Alarm Cancel> key) to go to the "Exit" menu (or press the right cursor key again).
7. Press the <Enter> key to exit the setup menu.

Then the system powers up.

Note

Changes to the BIOS settings, with the exception of the boot sequence, require an OEM contract to be concluded.

Configuring the system

2.1 Service menu functions (DOS function)

Functions - overview

The Service menu offers:

- Functions for installing/updating the HMI system software
- Functions for saving/restoring data

The following functions are available in the Service menu:

Main menu	Function
1	Install/Update SINUMERIK System: Installation and addition to or updating of the SINUMERIK system
1	Install from Floppy Disk
2	Install via Serial/Parallel Line: Serial connection/parallel connection
3	Install from Network Drive: Network connection
1	Manage Network Drives
1	Connect to Network Drives, enter connection data
2	Show connected Network Drives
3	Disconnect from all Network Drives
4	Change Network Settings,
1	Change Machine Name (for DOS-Net only)
2	Change User Name
3	Toggle protocol
4	Toggle logon to domain (Yes or No)
[5]	Change Domain Name
[6]	Change TCP/IP settings
1	Toggle "Get IP Addresses" (automatically/manually)
2	Change IP Address
3	Change Subnetmask
4	Change Gateway
5	Domain name server
6	Change DNS Extension
9	Back to previous menu
9	Back to previous menu
9	Back to previous menu

Configuring the system

2.1 Service menu functions (DOS function)

Main menu	Function
	4 Change Install Directory
	[5] Install from (network drive), if set up
	9 Back to previous menu
5	REBOOT: Restart of the system
9	Return to Main Menu: Back to main menu
2	SINUMERIK Tools and Options: Load additional tools and enable options.
1	Activate STEP7 for PCU
9	Return to Main Menu: Back to main menu
3	DOS Shell: Call the DOS command interpreter, drive C:\ is displayed, type "EXIT" to leave the DOS shell.
4	Start Windows: The Windows functions can be used here.
1	Standard Windows (without starting SINUMERIK HMI)
4	Original SINUMERIK HMI Environment, started on next ramp-up
5	Current SINUMERIK HMI Environment, started on next ramp-up
9	Return to Main Menu: Back to main menu
5	SINUMERIK System Check: Test the file system for consistency, restore consistency with SCANDISK if necessary.
7	Backup/Restore:
1	Hard disk Backup/Restore with GHOST
	1 Configure GHOST Parameters: Set parameters (interface, path, network connection) for Norton Ghost
	1 Set Connection Mode PARALLEL (LPT:)
	2 Set Connection Mode LOCAL/NETWORK
	3 Change Backup Image File Name
	4 Change Restore Image File Name
	5 Change Machine Name (for Windows and DOS net)
	1 Input Machine Name MANUALLY
	2 Generate Machine Name RANDOMLY
	9 Back to previous Menu
	6 Manage Network Drives
	7 Change Split Mode
	1 NO Splitting
	2 Splitting
	9 Back to previous Menu
	2 Harddisk Backup: Backing up the hard disk
	3 Harddisk Restore: Restore the data backup of the hard disk
	1 Windows XP
	1 Standard Partitioning (default)
	2 User-defined Partitioning
	3 Image-defined Partitioning
	2 Windows NT/Windows 2000 (submenu same as for Windows XP)
	3 Windows 95 (submenu same as for Windows XP)
	4 WfW3.11 (submenu same as for Windows XP)
	5 DOS (spare part) (submenu same as for Windows XP)

Main menu		Function	
		9	Back to previous Menu
		4	Switch to other version of GHOST
		9	Back to previous Menu: Return to previous menu
	4	Partitions Backup/Restore with Ghost: Back up partition contents of C:, E:, F: to D: or copy from D: back to C:, E:, F:.	
		1	Configure GHOST Parameters
		1	Change Maximum Backup Images
		2	Define Emergency Backup Image
		9	Back to previous Menu
		2	Partitions Backup, Mode LOCAL
		3	Partitions Restore, Mode LOCAL
		4	Partition E (Windows) Restore, Mode LOCAL
		8	Delete Image
		9	Back to previous Menu
	9	Return to Main Menu: Back to main menu	
8	Start PC Link: Install software from a CD-ROM (Interlink/Interserve)		
9	Reboot: System restart		

2.1.1 Parameterizing the service menu (DOS)

Parameterizing the service menu

The points available in the Service menu can be parameterized as follows:

- [a] provide/suppress
- [b] observe special product designation (in place of SINUMERIK)
- [c] change text

File "envparam.bat" must be created in directory C:\Tools, and filled with the commands below for parameterization purposes:

Entry no.		DOS command	Text/function, if =TRUE	Text/function, if = FALSE	Preassignment
1	[a]	set_INSTALL	1 Install/Update SINUMERIK System	Not displayed	TRUE
2	[a]	set_TOOLS	2 SINUMERIK Tools and Options	Not displayed	TRUE
4	[a]	set_SERVICE	4 Start Windows (Service Mode)	Not displayed	TRUE
6	[a]	set_REBOOT	6 Reboot System (Warmboot)	Not displayed	FALSE
	[a]	set_HMI	Display submenu with HMI functions	Not displayed	TRUE
String entries:					
9	[c]	set_ENDTXT	=String	Restart (warm boot)	
	[b]	set_PRODUCTLINE	=String	SINUMERIK	

Calling the Recovery Console

During system boot, select the **third** hidden menu entry in the Boot Manager, below the "SINUMERIK" menu entry.

Starting Windows Recovery Console is displayed.

Please refer to the original MS literature for more details.

2.1.2 Operating the main menu

Operating the main menu

To open the service menu:

1. During system boot, select the **second** hidden menu entry in the Boot Manager, below the "SINUMERIK" menu entry.

The main menu is displayed.

```
PLEASE SELECT
1 Install/Update SINUMERIK System
2 SINUMERIK Tools and Options
3 DOS Shell
4 Start Windows (Service Mode)
5 SINUMERIK System Check
7 Backup/Restore
8 Start PC Link

9 Reboot (warm boot)
```

Your Choice [1, 2, 3, 4, 5, 7, 8, 9]?

2. Select a menu option, e.g. key <7> for Backup/Restore

The system prompts you to enter a password:

3. Enter a password for authorization levels 0 - 2.
 - system
 - Manufacturer
 - Service

2.1.3 Setting the SINUMERIK HMI environment

Restoring the original HMI environment

The HMI environment is set to its original delivery condition. The content of the following directories is saved prior to this:

- ADD_ON
- USER
- OEM

Then the directories are cleared.

Procedure

While the PCU is ramping up (after switching the controller off and then on again):

1. Select the Service menu [hidden menu entry] in the Boot Manager.

The main menu is displayed.

2. Press key <4>: Start Windows (Service Mode)

The following menu is displayed:

```
PLEASE SELECT
  1 Standard Windows (without starting SINUMERIK HMI)
X  4 Original SINUMERIK HMI environment
  5 Current SINUMERIK HMI environment

  9 Return to Main Menu
```

```
Your Choice [1, 4, 5, 9]?
```

3. Press key <4>.

The system prompts you to enter a password:

4. Enter a password for authorization levels 0 - 2.

Result:

The system will then restart automatically: The function is executed during the ensuing start-up of Windows before the HMI system software is started.

Note

The original settings for the HMI environment can also be restored on the Service desktop by starting the function "Original SINUMERIK HMI Environ".

Restoring the current HMI environment

The original HMI environment setting is undone, that is, the contents of the saved directories are reloaded.

Procedure

While the PCU is ramping up (after switching the controller off and then on again):

1. Select the Service menu [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <4>: Start Windows (Service Mode)

The following menu is displayed:

```
PLEASE SELECT
  1 Standard Windows (without starting SINUMERIK HMI)
  4 Original SINUMERIK HMI environment
X   5 Current SINUMERIK HMI environment

  9 Return to Main Menu
```

Your Choice [1, 4, 5, 9]?

3. Press key <5>.

The system will ask you to enter the password:

4. Enter one of the passwords for authorization levels 0 - 2.

Result:

The system will then restart automatically: The function is executed during the ensuing start-up of Windows before the HMI system software is started.

Note

Restoration of the original settings for the HMI environment can also be canceled on the Service desktop by starting the function "Current SINUMERIK HMI Environ".

2.1.4 Starting DOS shell and checking the software version

Starting DOS shell

While the PCU is ramping up (after switching the controller off and then on again):

1. Select the Service menu [hidden menu entry] in the Boot Manager.
2. Press key <3>: DOS shell

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

Result: You are now in the DOS shell.

Exiting DOS shell

To leave the DOS shell, type "EXIT" ..

Checking the software version

The versions of the service menu system components contained in the PCU Basesoftware and those of Windows XP are listed in file C:\BaseVers.txt.

Procedure

1. Start DOS shell.
2. Enter: `type BaseVers.txt`

Result:

The version information is listed.

3. To leave the DOS shell, type "EXIT".

Result:

The PCU Basesoftware version is displayed on the bottom right of the boot screen.

Alternatively, HMI Explorer can be activated on the Service desktop.

2.1.5 Starting the service desktop

Purpose

On the next ramp-up, the Service desktop (Windows) will start instead of the HMI system software.

Procedure

While the PCU is ramping up (after switching the controller off and then on again):

1. Select the Service menu [hidden menu entry] in the Boot Manager.

The main menu is displayed.

2. Press key <4>: Start Windows (Service Mode)

The following menu appears:

```
PLEASE SELECT
X   1 Standard Windows (without starting SINUMERIK HMI)
    4 Original SINUMERIK HMI environment
    5 Current SINUMERIK HMI environment

    9 Return to Main Menu
```

Your Choice [1, 4, 5, 9]?

3. Press key <1>:

Result:

The system will then restart automatically: The Service desktop (Windows) is started instead of the HMI system software.

Note

The Service desktop can also be launched by pressing key <3> within 3 seconds of the version details of the PCU Basesoftware appearing in the background when booting.

2.1.6 Checking the hard disk

Purpose

All partitions (C:, D:, E:, F:) on the hard disk are checked.

Procedure

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the Service menu [hidden menu entry] in the Boot Manager
The main menu is displayed.
2. Press key <5>: SINUMERIK System Check

Result:

The system will then restart automatically: The function is executed during the ensuing start-up of Windows before the HMI system software is started.

Note

The hard disk can also be checked on the Service desktop by starting the function "Check SINUMERIK System".

2.2 Configuring the operator interface

2.2.1 Storage location of HMI boot screen

Default setting

The Siemens boot screens are stored under the path below on the appropriate PCU, e.g., for the SINUMERIK 840D controller:

F:\hmi_adv\ib\DATA\0\0*<Auflösung>*\0_0.bmp

A directory tree can also be created for manufacturer-specific boot screens. The manufacturer's screens can then be saved in accordance with the schematic below:

Directory tree of manufacturer-specific boot screens:

F:\oem\ib\DATA*<NckType>*\<Resolution>\<Name>.bmp

<i><NckType></i>	stands for:		
0	840D		0
2000	810D		0
5000	840Di		0

<Resolution>: 640 or 800 or 1024 dpi

If you want the same screen to be used each time (NCU-independent screen), it can be saved in the "default" directory in the required resolutions. If you want to be able to use different screens for different NCUs, they should be saved in the *<NckType>*\<Resolution> subdirectories using the appropriate resolution.

Screen name and resolution

<Name>.bmp: The name can be selected freely; only one file is permitted per directory. The screens must be created with a graphics tool in the resolution indicated by the subdirectory name and stored in the corresponding directory. The HMI software selects the screen, depending on the NCK type and the resolution of the available operator panel.

2.2.2 Displaying your own boot screen

Requirements

Set up a directory containing several boot screens (for different panel resolutions). This directory should be segmented into subdirectories 640, 800 and 1024, which each contain a boot screen of the appropriate resolution.

A directory containing boot screens can also be set up, likewise divided into subdirectories 640, 800 and 1024. The boot screen stored there for a particular resolution is displayed if no boot screen (including one with a lower resolution) is found in the booting-screen directory described above.

If no boot screen (including one with a lower resolution) is found, a general boot screen is displayed, which is part of the PCU basic software.

Directories

The directories can be user-specifically set in ServiceCenter Users under:

- Startup: Bitmaps folder
- Startup: Default bitmap folder

2.2.3 Changing the background of the service desktop

Overview

A background pattern for the service desktop is not set via the "Control Panel" (system control), but in the registry:

- Background pattern:

Key:	HKLM\SOFTWARE\Siemens\SINUMERIK\Basic software\ <version>\HMI desktop
Value:	Pattern (STRING)
Date:	<bit code>" (e.g., "0 80 114 32 0 5 39 2", see HKCU\Control Panel\Patterns) "(None)" (= NO background pattern)
Init data:	Background pattern previously set via the Control Panel
Default data:	"(None)" (if entry is not available/readable)

- Background image:

A background screen for the service desktop is not user-specifically set via the "Control Panel" (system control), but in the ServiceCenter Users under "Service: Bitmap Folders" or "Service: Default Bitmap Folders".

Note

An attempt to set the service desktop background (as in standard Windows) via the Control Panel does not affect the service desktop background display, but only the boot screen display.

2.3 User-specific settings during boot up

Overview

If an HMI program, e.g., HMI Advanced, is to be started following booting, the settings and functionality differ from those that apply if the service desktop is to be started.

2.3.1 Starting an HMI program during boot up

Filtering keys

During boot up of an HMI program, keystroke sequences and pressed function keys are simultaneously filtered. The keystroke sequences and functions that were pressed simultaneously and are to be filtered can be configured in file E:\Windows\System.ini.

Filtering keystroke sequences:

Section:	MMC103Keyb
Key:	SeqAct
Value:	<bit mask> (= keystroke sequences to be filtered, specified in accordance with the comment in E:\Windows\System.ini)
Init value:	262143

Filtering function keys that were pressed simultaneously:

Section:	MMC103Keyb
Key:	ConcurrentKeyMask
Value:	<bit mask> (= function keys to be filtered, specified in accordance with the comment in E:\Windows\System.ini)
Init value:	255

Starting additional programs

Programs can also be started at the same time as the HMI program and are started automatically by Windows when the service desktop is opened. This start in parallel to the HMI program can be configured.

If the programs to be started are located in the Windows directories of E:\Documents and Settings, the following registry entry must be set:

Key:	HKLM\SOFTWARE\Siemens\SINUMERIK\Basic software\ <version>\HMI Manager
Value:	StartSINHMIStartupDirsPrograms (DWORD)
Date:	1 (the programs are started) or 0 (the programs are NOT started)
Init data:	0
Default data:	0 (if entry is not available/readable)

If the programs to be started are set in the registry entries 'HKCU\Software\Microsoft\Windows\CurrentVersion\Run' and 'HKLM\Software\Microsoft\Windows\CurrentVersion\Run', the following registry entry must be set:

Key:	HKLM\SOFTWARE\Siemens\SINUMERIK\Basic software\ <version>\HMI Manager
Value:	StartSINHMIRunPrograms (DWORD)
Date:	1 (the programs are started) or 0 (the programs are NOT started)
Init data:	0
Default data:	0 (if entry is not available/readable)

Executing an HMI program

While the HMI program is being executed, Windows Explorer runs in the background and its settings (disabled browser functionality, taskbar, start menu, ...) prevent the Windows platform being accessed unintentionally.

The behavior of the taskbar can be user-specifically set in the ServiceCenter Users under "HMI program" using "Taskbar Autohide" and "Taskbar On Top".

Ending an HMI program

When the HMI program is ended, Windows XP shuts down completely.

2.3.2 Starting service desktop during boot up

Filtering keys

The keystroke sequences and function keys that are pressed simultaneously are filtered as a function of the configuration in file: E:\Windows\System.ini

Filtering keystroke sequences:

Section:	MMC103Keyb
Key:	KeySequencesEnable
Value:	1 (= filtering of keystroke sequences specified in the SeqAct key) or 0 (= NO filtering)
Init value:	0
Default value:	0 (if entry is not available/readable):

Key:	SeqAct
Value:	<bit mask> (= keystroke sequences to be filtered, specified in accordance with the comment in E:\Windows\System.ini)
Init value:	262143

Filtering function keys that were pressed simultaneously:

Section:	MMC103Keyb
Key:	ConcurrentKeyEnable
Value:	1 (= filtering of function keys specified in the ConcurrentKeyMask key) or 0 (= NO filtering)
Init value:	1
Default value:	0 (if entry is not available/readable)

Key:	ConcurrentKeyMask
Value:	<bit mask> (= function keys to be filtered, specified in accordance with the comment in E:\Windows\System.ini)
Init value:	255

Starting the service desktop

The Windows platform is freely accessible via the service desktop. When the service desktop is started, all of the programs that would automatically be started by Windows (standard version) during log-in are also started.

Executing an HMI program

The HMI program can also be started from the service desktop.

Ending an HMI program

When an HMI program started from the service desktop is exited, you are returned to the service desktop.

Saving the service desktop (default)

The settings on the service desktop (e.g. arrangement of the links on the service desktop) are not saved when you log off. A service technician should always find the same starting condition on the service desktop, not the settings from a previous session.

Saving the settings of the service Desktop

This behavior can be changed by making an entry in the registry. The following settings can be saved via this registry entry:

- Positions of open windows
- Size and position of the task bar
- Moving and deleting links

Key:	HKLM\SOFTWARE\Siemens\SINUMERIK\Basic software\ <version>\HMI Manager
Value:	SaveSINDesktopSettings (DWORD)
Date:	1 (the settings are saved) or 0 (the settings are NOT saved)
Init data:	- Value is not created by the basic software -
Default data:	0 (if entry is not available/readable)

The key is effective for all service users and other users.

Links on the service desktop are always saved, irrespective of the registry entry.

Note

Application windows that are still open before logging out, must be closed by the setting "Save settings" before exiting the service desktop. Otherwise, these application windows will briefly be displayed and then closed again during a restart immediately before the HMI program starts.

2.3.3 Starting OEM programs

Overview

You can start OEM programs directly before starting the HMI system software. This requires these programs (or their links) to be stored in subdirectories of the directory C:\RunOEM.

Starting sequence

The subdirectories are executed in the order listed. The programs within a subdirectory are started in the chronological order in which they were placed in the subdirectory.

- Programs in the C:\RunOEM\SeqOnce subdirectory are started **once and sequentially**, i.e., a program is not started until the previously started program is completed.
- Programs in the C:\RunOEM\Seq subdirectory are started **sequentially whenever the system is ramped up**, i.e., a program is not started until the previously started program is completed.
- Programs in the C:\RunOEM\ParOnce subdirectory are started **once and simultaneously**. They run parallel with the HMI system software.
- Programs in the C:\RunOEM\Par subdirectory are started **simultaneously whenever the system is ramped up**. They run parallel with the HMI system software.

Not only program files, but also other types of file can be stored in the subdirectories, which are then opened in accordance with their file type.

For example, ".txt" files are opened using Notepad, ".htm" files are opened using Internet Explorer.

2.3.4 Enabling/disabling error log during boot up

Application

Each time the system is booted up, information is written to a block in the file D:\\$\$Base.log, which contains the date, time and nature of administrative interventions.

Information about the booting controlled by the HMI Manager, can be displayed on the screen and written to log file D:\\$\$Base.log.

Output in log file

The output is controlled by registry values:

- **Type of information**

The type of information to be output is set via registry value "HKLM\SOFTWARE\Siemens\SINUMERIK\Basic software\<version>\HMI Manager\InfoLevel":

InfoLevel (DWORD)

- = 1: Mandatory information is output (default setting)
- = 2: Mandatory and supplementary information is output
- = 3: Mandatory, supplementary and trace information is output
(InfoLevel <= 0 is treated as InfoLevel == 1;
InfoLevel <= 3 is treated as InfoLevel == 3)

- **Outputting information to the screen**

Whether the information is also to be displayed on the screen (as well as being output to the log file) is set via registry value 'HKLM\SOFTWARE\Siemens\SINUMERIK\Basic software\<version>\HMI Manager\ShowInfo':

ShowInfo (DWORD)

- = 0: Displays the mandatory information,
no display of the supplemental and trace information
- = 1: Mandatory, supplementary and trace information is displayed (default)

2.4 PCU with SITOP UPS module

application

If the supply voltage to the PCU 50/70 dips, the SITOP UPS modules below could maintain operation for a limited period if a backup battery is being used, allowing the PCU to be properly shut down before the battery is exhausted:

Designation	Interface	Order number
6A module	USB	6EP1931-2DC41
15A module	USB	6EP1931-2EC41
6A module	Serial	6EP1931-2DC31
15A module	Serial	6EP1931-2EC31

Note

The UPS modules with USB interfaces can only be used on a PCU 50 with Windows XP PCU Basesoftware.

Requirements

- Windows XP PCUBasesoftware, 07.03.02 or higher for serial interface or Windows XP PCUBasesoftware, 07.04.00 or higher for USB interface
- HMI Advanced, V06.03.14 or higher
- SITOP software, V2.5.2.4 or higher is installed:
SITOP software is available for download from: www.ad.siemens.de/sitop
- SITOP monitor/configuration program is installed:
To enable this, the SITOP software must be copied to the E:\SITOP directory set up on the PCU 50. This directory already contains PCU 50 tools required for shutdown on the SITOP UPS. If this directory does not exist in an older version of the PCU Basesoftware, it must be created so that it will be compatible for any subsequent updating of the PCU Basesoftware.
- UPS USB driver for Windows XP is installed:
Installation is described in the relevant SITOP documentation. The documentation is part of the SITOP software download package.
- The SITOP UPS hardware is connected.

Test environment

The "SITOP UPS" function has been tested in the standard configuration of HMI Advanced. When installing add-on or OEM software components, the shutdown procedure of the complete system has to be checked by the operator.

2.4.1 Starting and configuring the SITOP monitor

Windows boot up

The SITOP monitor has to be started by Windows automatically during booting. A new value has to be entered for the SITOP monitor under the key below in the Windows registry:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run
    ValueName: SITOP
    ValueType: REG_SZ
    Value Data: E:\SITOP\SITOP_DC_USV.exe
```

A script file, sitop.reg, is located in the E:\SITOP directory. The required key is entered into the registry automatically if this file is executed.

The SITOP monitor is started automatically once the PCU is restarted. The next installation step is to configure the monitor.

Notice

The SITOP monitor must not be started via the Windows Autostart directory.

General settings

The following settings must be made in the SITOP monitor configuration dialogue box:

- Parameterization of the interface: For module with USB port
- Parameterization of the change action:

The monitoring window display must be deselected, as this function can lead to sporadic faults on the HMI operator interface.

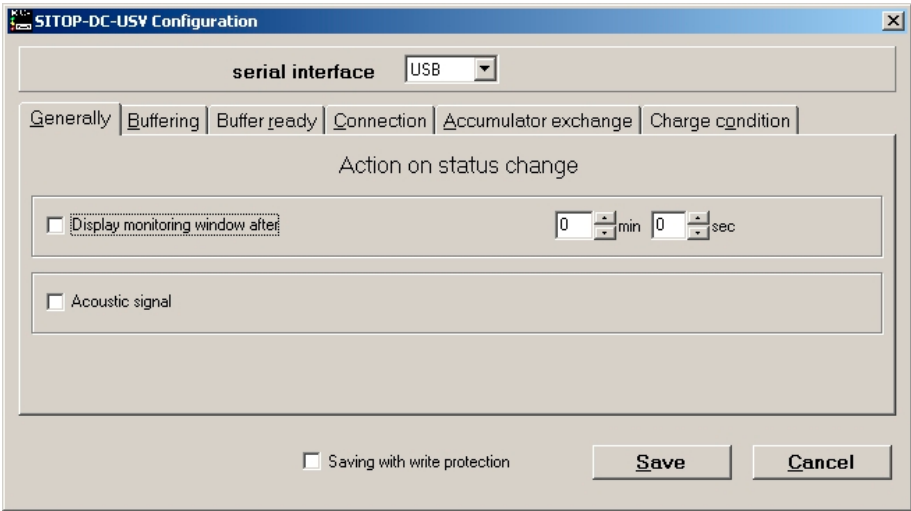


Figure 2-1 Configuration of the SITOP monitor: General settings

Parameterization of the SITOP monitor

Enter the path of the program that ensures that HMI Advanced and the PCU shut down properly in the event of a power failure into the parameter area of the buffer.
E:\SITOP\Shutdown.bat

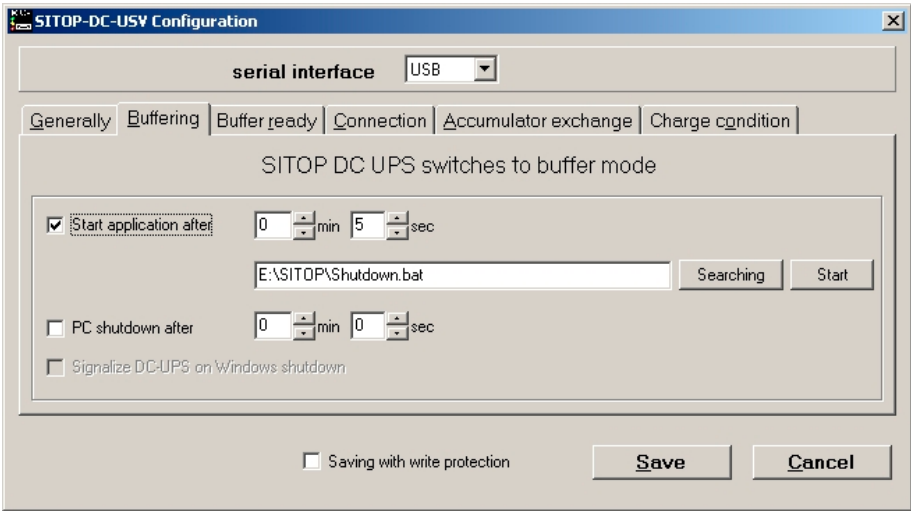


Figure 2-2 Configuration of the SITOP monitor: Buffering settings

Alternatively, the following setting can be used: E:\Windows\system32\hmiexit.exe

2.4.2 Configuration of the SITOP UPS module

Buffering parameterization

The UPS module can be used to select whether buffering should be completed after a predetermined period of time or not until the accumulator's lowest discharge threshold (= maximum buffer time) has been reached. Both buffering parameterizations result from this.

"Maximum buffer time" mode (PCUBasesoftware Windows XP, V07.04.00 or higher)

This mode enables the system to be shut down in a time-optimized manner. The UPS module is synchronized with the shutdown of the operating system. Buffering is maintained until the operating system has been shut down. The operating system must shut down within a maximum of five minutes (including all applications). Otherwise, the UPS module buffers for the maximum buffer time (dependent on the accumulator state).

Required settings on the UPS module (USB interface)

	On - Off			
1		●	+2V	Cut-in threshold +22V fixed
2		●	+1V	
3	●		+0.5V	
4		●	+1V	End-of-charge voltage +26.3 V fixed
5		●	+1V	
6	●		+0.5V	
7	●		+0.2V	
8		●	+0.2V	
9		●	+0.1V	
10		●	0.35A / 0.7A	Charging current

	On - Off			
1		●		Set time/max. time
2		●	+320 s	Buffer time +5 s fixed
3		●	+160 s	
4		●	+80s	
5		●	+40 s	
6		●	+20 s	
7		●	+10 s	
8	●			Disconnection
9		●		Accumulator operating state on/off

Legend: ● Delivery condition setting
 ● Setting for operation on the PCU 50

Required settings on the UPS module (serial interface)

	On - Off			
1		●	+2V	Cut-in threshold +22V fixed
2		●	+1V	
3	●		+0.5V	
4		●	+1V	End-of-charge voltage +26.3 V fixed
5		●	+1V	
6	●		+0.5V	
7	●		+0.2V	
8		●	+0.2V	
9		●	+0.1V	
10		●	0.35A / 0.7A	

	On - Off			
1	●			Set time/max. time
2		●	+320 s	Buffer time
3		●	+160 s	
4		●	+80s	
5		●	+40 s	
6	●		+20 s	
7	●		+10 s	+5 s fixed
8	●			Disconnection
9		●		Accumulator operating state on/off

Legend: ● Delivery condition setting
 ● Setting for operation on the PCU 50

“Fixed buffer time” mode

In this mode, the UPS module always buffers for the pre-selected, fixed period of time. It is not possible to synchronize the UPS module with the operating system shutdown.

Required settings on the UPS module

	On - Off			
1		●	+2V	Cut-in threshold +22V fixed
2		●	+1V	
3	●		+0.5V	
4		●	+1V	End-of-charge voltage +26.3 V fixed
5		●	+1V	
6	●		+0.5V	
7	●		+0.2V	
8		●	+0.2V	
9		●	+0.1V	
10		●	0.35A / 0.7A	

	On - Off			
1	●			Set time/max. time
2		●	+320 s	Buffer time +5 s fixed
3	●		+160 s	
4		●	+80s	
5		●	+40 s	
6		●	+20 s	
7		●	+10 s	
8	●			Disconnection
9		●		Accumulator operating state on/off

Legend: ● Delivery condition setting
 ● Setting for operation on the PCU 50

2.4.3 Configuration for exiting the HMI

HMI monitoring

Exiting of the HMI advanced is monitored by a separate application, hmiexit.exe. This application is started implicitly via the shutdown.bat batch file. In case of error, the application forces the operating system to shut down. An error occurs if the HMI cannot be exited within the configured delay.

Optionally, the parameters below can be set for hmiexit in file: E:\SITOP\hmiexit.ini.

```
[Actions]
#Waiting time in seconds for closing HMI Advanced applications
Wait = 120
# Action on expiration of the waiting time
ForceShutdown = True
```

These default settings only need to be changed if it takes longer than 120 seconds to exit the HMI applications in an OEM installation. This configuration is not usually changed.

Configuring the EXIT button

During production, the option to shut down the HMI via the EXIT button in the operating area menu should be disabled, as this function cannot be synchronized with the UPS module.

The EXIT button is disabled by entering ExitButton=False in the Regie.ini file.

Hibernate

The operating system's hibernate mode is suspended when operating the UPS, as the USB interface always has to be active for the UPS module.

Note

More information can be found in the product descriptions with the corresponding order number.

Installing software and network operation

Overview

This chapter describes how to install and update additional software based on the preinstalled Windows XP PCU Basesoftware.

The description below is based on the delivery condition of the hardware and software components. The Service menu and the Service desktop are both important tools.

3.1 Installing software and software update

3.1.1 Installing an upgrade or Service Pack

Upgrades and Service Packs for the WinNT 4.0 PCU Basesoftware are provided in two ways:

- **Setup directory:**

All files required for the installation, including Setup.exe, cab files, Setup.ini, etc., are stored together in one directory. The installation is started by starting Setup.exe.
- **Self-extracting setup:**

First, when started, Setup.exe extracts itself to a temporary setup directory and then starts the installation by starting Setup.exe, which is stored there.

Upgrades and Service Packs can be processed in two ways, irrespective of how they are provided:

- **Independent setup:**

The entire installation is controlled by the setup itself. In particular, setup is responsible for executing any necessary restarts during and/or after installation.

The behavior of the setup is controlled via the Setup.ini control file. This is contained in the (temporary) setup directory as standard. The control parameters are set for interactive installation per default.

Setup evaluates the control file only if it is stored in the (temporary) setup directory.
- **Subsetup of a frame setup:**

Setup is started from a frame setup and, as such, does not have full control over the installation procedure. Instead, it reports state changes and results, such as success/failure, completion, cancellation, or any necessary restarts during and/or after installation, to the frame setup. The frame setup is then responsible for carrying out the appropriate measures.

The behavior of the setup is controlled via the OpFile.txt control file. This is contained in the (temporary) setup directory as standard. The control parameters are set for "silent" installation per default.

Setup only evaluates the control file when call parameter -OF is entered when the file is called, e.g., Setup.exe -OF:\OpFile.txt. In this case, the control file can be stored in any directory.

Note

There must not be any blank between -OF: and \OpFile.txt.

The -OF call parameter lets setup know that it is running as the subsetup of a frame setup. In this case, before setup is completed, it stores information about other measures to be carried out by the frame setup in the result parameters of the control file, e.g.:

[RESULTS]

SetupSucceeded=1

RebootRequested=1

The frame setup is then responsible for carrying out the restart.

Note

When calling a setup with call parameter -OF from the command line, the operator is responsible for any necessary measures to be carried out after completion, e.g., a restart.

3.1.2 "Silently" installing an upgrade or Service Pack

Valid for: PCU 50 with PCU Basesoftware WinNT 4.0 upgrade V06.02.01

Independent or self-extracting setup

The relevant control parameters in the Setup.ini control file of the Setup.exe setup are already set per default for "silent" installation, i.e.:

[Startup]

ShowUserDlg = no:

No operator dialog boxes, such as welcome or license dialog boxes, are displayed.

ShowRebootDlg = no:

The end dialog box (Reboot yes/no) is not displayed.

Nevertheless, when these control parameters are set in this way, a dialog box appears during the installation process to ask whether the MPI needs to be reinstalled if the same MPI version is found. The only way to prevent this dialog box appearing is to use the NagsAway.exe tool to poll it and acknowledge it automatically as soon as it appears.

NagsAway.exe should be started before Setup.exe is called. It requires the NagsAway.ini configuration file, which is stored in the same directory as NagsAway.exe and contains the following:

[General]

Interval=100

[1]

WindowCaption=... checking installed MPI version

ControlCaption=&Yes

WinSubCheck=0

CtlSubCheck=0

Valid for:

PCU 50 with PCU Basesoftware WinNT 4.0 upgrade V06.03.06 and

PCU 50 with PCU Basesoftware WinNT 4.0 upgrade V07.03.05

Independent setup

The control parameters in the Setup.ini file of the Setup.exe setup are set for interactive installation. For "silent" installation, the following settings must be made:

[Startup]

ShowUserDlg = no:

No operator dialog boxes, such as welcome or license dialog boxes, are displayed.

ShowRebootDlg = no:

The end dialog box (Reboot yes/no) is not displayed.

Self-extracting setup

The only way to prevent the end dialog box (Reboot yes/no) appearing is to use the NagsAway.exe tool to poll it and acknowledge it automatically as soon as it appears.

NagsAway.exe should be started before Setup.exe is called. It requires the NagsAway.ini configuration file, which is stored in the same directory as NagsAway.exe and contains the following:

[General]

Interval=100

[1]

WindowCaption=Setup Complete

ControlCaption=Yes, I want to restart my computer now.

WinSubCheck=0

CtlSubCheck=0

[2]

WindowCaption=Setup Complete

ControlCaption=Finish

WinSubCheck=0

CtlSubCheck=0

Subsetup of a frame setup

The OpFile.txt control file is also stored in the setup directory along with Setup.exe.

The relevant control parameter in the OpFile.txt control file of the setup directory is already set for silent installation as standard:

[SETUPREQUESTS]

SetupMode = Batch

Assuming that Setup.exe is stored in the directory with path <setuppath>, start setup using:

<setuppfad>|Setup.exe -OF:<setuppfad>|OpFile.txt

Note

There must not be any blank between -OF: and .\OpFile.txt.

Self-extracting setup

Control file OpFile.txt is among the installation files extracted by Setup.exe.

The relevant control parameter in the OpFile.txt control file is already set for silent installation per default, i.e.:

[SETUPREQUESTS]

SetupMode = Batch

Assuming that Setup.exe is stored in the directory with path <setuppath>, start the self-extracting setup using:

<setuppfad>|Setup.exe -s -a -OF:.\OpFile.txt

3.1.3 Installation with FAT16 data file structure

Requirements

You will need a PC or a PG with a CD-ROM drive.

INTERSVR is used on the external PG/PC to transfer the software to the PCU. It can only be operated under DOS/Windows 3.11/Windows 95/Windows 98 if the PG/PC has a hard disk partition with a FAT16 data file structure (not FAT32!).

Transfer

This function transfers the HMI software to be installed to D:\INSTALL. The actual installation is carried out when the computer next boots, provided the software includes an exe file, e.g., "setup.exe".

The parallel interface for the HMI software installation must be used for the transfer.

Notice

Prior to the installation process, ensure that hard-disk partition D has sufficient free memory space.

Operator action

1. Switch off the PCU.
2. Using the parallel connecting cable (PC-Link cable, LapLink cable), connect the parallel port LPT on the PG/PC to port LPT on the PCU:
 - Transfer mode: Parallel
 - PC/PG - LPT1
 - PCU - LPT (25-pin)
3. Copy the HMI Advanced directory from the CD to drive C:\ on your PG/PC's hard disk and rename it "MMC2". If there is insufficient memory space available on drive C:\ or it does not have a FAT16 data file structure, you can also use another local hard disk drive (e.g., D:\). The software cannot be installed directly from the CD.
4. The HMI software installation routine is started when called in the Windows Start menu with command Run Intersvr C: (or drive on which directory MMC2 is stored).

Notice

If your PC/PG is in this state, the PCU MUST be switched off. (If the PCU is still switched on, switch it off now.)

5. Switch on PCU.

While the PCU is booting (after switching the controller off and then on again):

6. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

7. Press key <1>: Install/update SINUMERIK system

The system prompts you to enter a password:

8. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT MEDIUM:
```

```
1 Install from Floppy Disk
2 Install via Serial/Parallel Line
3 Install from Network Drive
```

```
9 Return to Main Menu
```

```
Your Choice [1, 2, 3, 5, 9]?
```

9. Press key <2>: Install via Serial/Parallel Line:

The data transfer begins.

When the PCU has restarted, the installation routine runs automatically.

10. Depending on the installation concept for the package to be loaded, follow the package-specific prompts until the installation is complete.

The computer is restarted again when installation is complete.

11. End PC/PG service mode by pressing <ALT> + F4.

3.1.4 Installation with FAT32 data file structure

Principle

This function transfers the HMI software to be installed to D:\INSTALL. The actual installation is carried out by Windows on the next booting, provided the software includes an exe file, e.g., "setup.exe".

Notice

Prior to the installation process, ensure that hard-disk partition D has sufficient free memory space.

Requirements

You will need a PC or a PG with a CD-ROM drive. You will also need a full keyboard on the PCU. The supplied CD-ROM containing the system software is also required for installation. This method must be used if your PC/PG only has partitions with a FAT32 data file structure.

Transfer

The parallel interface for the HMI software installation must be used for the transfer.

Operator action

1. Copy INTERLNK.EXE from the HMI directory on the CD to WINDOWS\COMMAND on the PC/PG. Insert the following line in CONFIG.SYS:
`device=c:\windows\command\interlnk.exe /AUTO`
2. Switch off the PCU.
3. Using the parallel connecting cable (PC-Link cable, LapLink cable), connect the parallel port LPT on the PC to port LPT on the PCU.
4. Switch on PCU.
5. Select the "Service menu" in the Boot Manager. [hidden menu entry].
The main menu is displayed:
6. Press key <8>: Start PC Link
The system prompts you to enter a password:
7. Enter one of the passwords for authorization levels 0 - 2.
8. Now copy the entire contents of the HMI Advanced directory on the CD to the D:\INSTALL directory on the PCU.
9. On completion of the transfer, close INTERSVR on the PCU by pressing <ALT> + F4. The computer is then restarted.
The installation now proceeds automatically with the PCU's InstallShield. You can operate the InstallShield prompt dialogs with TAB and the cursor keys (TAB corresponds to the END key on the OP0xx).
10. The system boots after the PCU has restarted.

3.1.5 Installation via network connection

Overview

This function transfers the HMI software to be installed to D:\INSTALL on the PCU. The actual installation is carried out by Windows on the next booting, provided the software includes an exe file, e.g., "setup.exe".

Note

Prior to the installation process, ensure that hard-disk partition D has sufficient free memory space.

If you are using a different language version of the Windows system, the terms used in the following setting operations may be different. The sequence of operations as specified below, however, is always the same.

Operator action

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <1>: Install/update SINUMERIK system

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT MEDIUM:
```

```
1 Install from Floppy Disk  
2 Install via Serial/Parallel Line  
3 Install from Network Drive
```

```
9 Return to Main Menu
```

```
Your Choice [1, 2, 3, 9]?
```

4. Press key <3>.

An input screen is displayed in which you can specify settings for the network if necessary:

PLEASE SELECT

- 1 Manage Network Drives
- 4 Change Install Directory

- 9 Back to Previous Menu

Your Choice [1, 4, 9]?

5. Select option 1 to specify the settings for a network connection. A screenform containing the detailed network functions is opened:

PLEASE SELECT

- 1 Connect to Network Drives
- 2 Show connected Network Drives
- 3 Disconnect from all Network Drives
- 4 Change Network Settings

- 9 Back to Previous Menu

Your Choice [1, 2, 3, 4, 9]?

6. Press key <1>:

Type your password:

Enter the password permitting the operator to retrieve the software from the shared directory on the networked PG/PC:

Password of a local operator on the PG/PC

Letter for Network Drive:

7. Enter the letter of the PCU drive from which the connection must be accessed (e.g., "G").

Directory to be mounted (e.g., \\r4711\dir66):

8. Enter the computer name of the PG/PC and the name of the directory (share name) that you wish to access.

The connection data for the PG/PC are displayed:

```
Machine Name: PCU_1_Name
User Name: auduser
Transport Protocol: NETBEUI
Logon to domain: No
Connect Network Drive (last): G: (\\r3344\HMINNEW)
```

PLEASE SELECT

- 1 Connect to Network Drives
- 2 Show connected Network Drives
- 3 Disconnect from all Network Drives
- 4 Change Network Settings

9 Back to Previous Menu

Your Choice [1, 2, 3, 4, 9]?

9. Press key <9> twice.

The following menu is displayed:

PLEASE SELECT

- 1 Manage Network Drives

- 4 Change Install Directory
- 5 Install from G:

9 Back to Previous Menu

Your Choice [1, 4, 5, 9]?

Result: The newly activated network connection can be installed with option <5>.

Changing the installation directory on the connected drive

If the software to be installed is located in a subdirectory of the shared directory, you can change the installation directory as follows.

1. Press key <4>: Change Install Directory

An input screen appears in which you can specify the installation directory (e.g., HMI_INST):

```
-----  
Old Install Directory: G:\  
New Install Directory: G:\HMI_INST  
-----
```

You can now start the transfer:

PLEASE SELECT

- 1 Manage Network Drives

- 4 Change Install Directory
- 5 Install from G:\HMI_INST

- 9 Back to Previous Menu

Your Choice [1, 4, 5, 9]?

2. Press key <5> to start the installation:
 - The system starts the transfer from the PG/PC to the PCU.
 - The PCU is automatically restarted (warm restart) after the transfer.
 - Select "SINUMERIK" in the Boot Manager. The transferred software is now installed, menu-assisted in some cases.
3. The system checks whether the D:\INSTALL directory already contains files.
Setup installs the program: Installation via a network connection is now complete.

Notice

If the software cannot be copied to the D:\INSTALL directory on the PCU, then the system cannot start the installation.

4. When you exit the menu, you are prompted to confirm whether you want to save the network connection parameter settings.

Note

Several installation directories can be set to enable an operator setup to be executed automatically. Installation directories are the "Install" subdirectories, which are listed in the SetupDirs section of the E:\Windows\System32\HMIServe.ini parameters file. The key names contained within a section of the E:\Windows\System32\HMIServe.ini parameters file must be unique.

The "D:\Install" installation directory is the default setting.

3.2 Settings for network drives

Overview

Some of the Service menu functions below use network drives as a source or target when installing software or backing up or restoring systems.

Settings for network operation

When necessary, the "Manage Network Drives" menu is provided in certain places on the operating menu so that the required settings can be made.

You can then choose from the following network management functions:

-
- 1 Connect to Network Drives
 - 2 Show connected Network Drives
 - 3 Disconnect from all Network Drives
 - 4 Change Network Settings
-
- 9 Back to previous menu
-

The following submenus are available for the individual menu items:

1 Connect to Network Drives

1. Enter the password permitting the operator to retrieve data (e.g., software) from or write data (e.g., PCU images) to the shared directory using the networked PG/PC.

PG/PC with Windows XP:

Password of a local operator on the PG/PC

Type your passwd:

2. Enter the letter of the PCU drive from which the connection must be accessed (e.g., "G").

Letter for Network Drive:

3. Enter the computer name of the PG/PC and the name of the directory (share name) that you wish to access. A screenform opens containing data for the PG/PC connection:

Directory to be mounted (e.g., \\r3344\HMINEW):

Machine Name: PCU_1_Name
User Name: auduser
Transport Protocol: NETBEUI
Logon to domain: No
Connect Network Drive (last): G: (\\r3344\HMINEW)

PLEASE SELECT

- 1 Connect to Network Drive
- 2 Show connected Network Drives
- 3 Disconnect from all Network Drives
- 4 Change Network Settings

9 Back to previous Menu

Your choice [1, 2, 3, 4, 9]:?

2 Show connected Network Drives

The current status of the connected drives is displayed:

Status: OK
Local Name: G:
Remote Name: \\r3344\HMINEW
Status: OK
Local Name: H:
Remote Name: \\r3344\HMI_P1

Press any key to continue ...

3 Disconnect from all Network Drives

Press any key to continue ...

All network connections are terminated.

4 Change Network Settings

The following submenu appears:

```
-----  
1 Change Machine Name (for DOS-Net only)  
2 Change User name  
3 Toggle Protocol (NETBEUI or TCP/IP)  
4 Toggle logon to domain (Yes or No)  
[5 Change Domain Name]  
[6 Change TCP/IP settings]
```

9 Back to previous menu

Your choice [1, 2, 3, 4, [5,] [6,] 9] ?

Change Network Settings menu items:

1 Change Machine Name (for DOS-Net only)

An overview with notes is displayed:

CURRENT NETWORK SETTINGS:

```
Machine Name :  
User Name: USER  
Transport Protocol: NETBEUI  
Logon to domain: No
```

PLEASE SELECT:

```
1 Change Machine Name (for DOS Net only)  
2 Change User name  
3 Toggle Protocol (NETBEUI or TCPIP)  
4 Toggle logon to domain (Yes or No)
```

9 Back to previous Menu

Your choice [1, 2, 3, 4, 9]?

HINT: This change is temporary for the DOS net only!

On the next Windows start, this Machine Name is reset to the Windows Machine Name. If you want to set the Machine Name permanently, please use "Change Machine Name (for Windows and DOS net)" in the upper menu hierarchy!

OLD Machine Name: ...

NEW Machine Name: ...

Note

If no new name is entered, the old name is retained.

2 Change User name

OLD User Name: ...

NEW User Name: ...

Note

If no new name is entered, the old name is retained.

3 Toggle Protocol (NETBEUI or TCP/IP)

Each time you press <3> you toggle from the current protocol to the other one. The current protocol setting is displayed in the header for the connection.

Note

If a connection has already been established with NETBEUI, you must restart the system to toggle to TCP/IP. If a connection has not yet been established, you can toggle to the other protocol immediately.

If a connection has already been established with TCP/IP, you must restart the system to toggle to NETBEUI.

If you have toggled to TCP/IP, the expanded Change Network Settings screenform displays an additional point 6 Change TCP/IP settings, if TCP/IP has been set as the current protocol.

Screenform to toggle from TCPIP → NETBEUI, connection already established:

```
-----  
CURRENT NETWORK SETTINGS:  
  
Machine Name: PCUXXXXXXXX  
User Name: auduser  
Transport Protocol: TCPIP, get IP Addresses automatically via DHCP  
Logon to domain: No  
  
PLEASE SELECT:  
1 Change Machine Name (for DOS Net only)  
2 Change User name  
3 Toggle Protocol (NETBEUI or TCPIP)  
4 Toggle logon to domain (Yes or No)  
6 Change TCPIP settings  
  
9 Back to previous Menu  
  
Your choice [1, 2, 3, 4, 6, 9]?  
  
WARNING:  
You already had a connection with TCPIP, now you want to toggle  
the protocol.  
You can do this (and save the changes), but then you can't  
connect again without rebooting!  
Do you really want to toggle the protocol [Y, N]?  
-----
```

4 Toggle logon to domain (Yes or No)

If Toggle logon to domain is acknowledged with Y, and the domain password is stored in the password list, the system connects to the server immediately and activates the associated login script, if defined.

If Toggle logon to domain is acknowledged with N, a dialog box for entering the domain and password appears. The same applies if the domain password is not included in the password list.

Domain logon is only activated if Y is set.

5 Change DOMAIN Name

This can be used in the same way as the name changes in options 1 and 2.

If Toggle logon to domain is acknowledged with N, the additional item **5 Change DOMAIN Name** is omitted from menu Change Network Settings.

6 Change TCP/IP settings

The following suboptions are offered for the TCP/IP protocol:

-
- 1 Toggle "Get IP Addresses" (automatically or manually)
 - 2 Change IP Address
 - 3 Change Subnetmask
 - 4 Change Gateway
 - 5 Domain Name Server
 - 6 Change DNS Extension
-
- 9 Back to previous menu

Your choice [1, 2, 3, 4, 5, 6, 9]?

Using the suboptions:

1 Toggle "Get IP Addresses"

This option toggles between automatically and manually. If "automatically" is set, IP addresses are retrieved via DHCP. A suitable Domain Name Server (DNS) must then be used.

If "manually" is set, the IP address is entered directly under 2 Change IP Address.

Note

All IP address/subnetmask entries in this screenform must be entered with a blank as separator rather than the usual period.

Example 192 168 3 2 instead of 192.168.3.2

2 Change IP Address

If "Get IP Addresses" is set to "manually", the IP address of the PG/PC is entered here. DHCP cannot be selected.

3 Change Subnetmask

If "Get IP Addresses" is set to "manually", the subnetmask of the PG/PC is entered here. DHCP cannot be selected. Notation is the same as for IP address with a blank as a separator.

Old Subnetmask: ...
New Subnetmask: <Subnetmask>

4 Change Gateway

If "Get IP Addresses" is set to "manually", the gateway is entered here. The gateway is entered as an IP address.

```
-----  
Old Gateway: ...  
New Gateway: <IP address>  
-----
```

5 Domain Name Server

If "Get IP Addresses" is set to "automatically" via DHCP, the IP address of the Domain Name Server (DNS) is entered here. DHCP normally has a suitable Domain Name Server. If the DNS has access to the correct computer/IP address assignment, nothing has to be entered here.

6 Change DNS Extension

The extension of the Domain Name Server is entered here, e.g. SIEMENS.COM

Exiting the menu

When you exit the menu, you are prompted to confirm whether you want to save the network connection parameter settings.

3.3 Network operation with the Service desktop

Overview

The Service desktop also functions as a service mode that can use the Windows functionality to commission the controller. It also functions as a platform for network operation (e.g., for installing HMI system software), for setting the runtime environment for the HMI system software or for measures relating to the system, such as authorizing SIMATIC STEP 7, checking the hard disk, checking the version, etc.

Configuring network operation

The PCU has one network port as standard:

1. Connect the Ethernet cable for TCP/IP communication.

The default setting is DHCP. (Both the TCP/IP and NETBEUI protocols are preinstalled.)

2. You can adjust the settings by selecting Start → Settings → Network Connections → Local Area Connection → Properties.
3. If it is not already the case, the PCU computer name now has to be made unique in the network: Select Start → Settings → Control Panel → System, Computer Name tab, "Change" command button to enter the desired name.

Connection via TCP/IP

A WINS server can be configured using TCP/IP. The DNS server and DNS extension are omitted. The WINS and gateway entries are also configurable with DHCP, and are displayed.

IP addresses can now also be entered with "." as a separator.

Note

WINS cannot be preassigned with "0 0 0 0", or the connection to subnets via DHCP will not work.

Post-installing Windows components

Requirement: You will need the Windows XP Recovery CD and Service Pack 2 to post-install individual components. Software, which may be required for post-installation if third-party applications have been installed, is also stored at D:\Updates\Base.

1. \MDAC21.SP2: Data Access Components V2.1 SP2 (Y2K-compatible)
2. \SP6a: Windows NT 4.0 Service Pack 6a
3. \DRIVERS\SYSTEM.INI : Keyboard table (must be copied to E:\Windows if required).
4. \DDEFIX

The installation path to be entered for "Install New Fix" is:
D:\Updates\Base\DDEFIX\hotfix.inf

5. \VBFIX : Visual Basic Hot fix

3.3.1 Installing and authorizing SIMATIC STEP 7

Overview

SIMATIC STEP 7 V5.3 SP2 can also be installed on the PCU.

Delivery item:	SIMATIC STEP 7 V5.3 SP2
Components:	SIMATIC STEP 7 V5.3 SP2 and Add-on for SINUMERIK 810D/840D/840D sl/840Di sl
Type of delivery:	2 installation CDs
System requirements:	PCU basic software V8.0 or higher A network connection or a connection to a CD-ROM drive is required. Recommendation: Mouse port

Note

The "MPI driver" package available on the PCU is part of the HMI software and must not be uninstalled!

Installation under Windows XP

You must follow the installation sequence described here!

1. Booting up the PCU in the service desktop.
2. Access CD 1 (via network or external CD-ROM drive) call up SETUP.EXE in the root directory there.
3. The installation proceeds with operator prompting. The installation directory for STEP 7 should be changed to F:\... where directory in F: can be freely selected.
4. The prompt for "Transfer license keys" must be answered with "No, transfer the license keys later." The licensing is done after the installation of SINUMERIK AddOn. Once installation is complete, the PC will need to be rebooted. During boot up, select the service desktop again.
5. Switch to the SINUMERIK_Add_on directory on CD 2 and call up SETUP.EXE there. The installation proceeds with operator prompting. Once installation is complete, the PC will need to be rebooted. During boot up, select the service desktop again.
6. Start the link "STEP7 authorizing" on the service desktop. This authorizes STEP 7 and starting can now be done from the HMI Advanced operator interface (STEP 7 appears as its own operating area on the expansion bar of the area menu, protected with protection level 3).

The following entries are made automatically in F:\Add_on\oemframe.ini:

```
[s7tgtopx]
; with HMI Advanced: eliminate minimize/maximize buttons
; of the Step7 window
WindowState_Off=196608
; with HMI Advanced: switch to previous task when Step7 is
terminated
nSwitchToTaskAfterTermination= -2
```

These entries may also need to be modified in OEM configurations.

3.3.2 Authorizing SIMATIC STEP 7 via the Service menu

Requirements

The SIMATIC STEP 7 V5.3 SP2 software for SINUMERIK hardware is already installed.

Operator action

While the PCU is ramping up (after switching the controller off and then on again):

1. Select the Service menu [hidden menu entry] in the Boot Manager

The main menu is displayed.

2. Press key <2>: SINUMERIK tools and options

The system prompts you to enter a password:

3. Enter a password for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT
X      1 Activate Step7 for PCU

      9 Return to Main Menu
```

Your Choice [1, 9]?

4. To authorize STEP 7, press key <1>.

The system will then restart automatically.

STEP 7 will be authorized when Windows nexts boots **before** the HMI system software is started.

Backing up and Restoring Data

Application

The entire contents of hard disks can be saved as a disk image using the Norton Ghost utility. These disk images can be stored on various data carriers and the data restored to the hard disk at a later date.

PCU replacement hard disks and complete PCU hard disks are supplied by the plant with Norton Ghost already installed. Norton Ghost is used in some of the backup and restore procedures described below.

More information is available on the Internet at www.ghost.com

4.1 Backing up/restoring data with an Ethernet connection

4.1.1 Backing up the PCU hard disk to the PG/PC hard disk



Figure 4-1 Backing up the hard disk

Requirements

- Ghost version $\geq 7.x$ is installed on the PCU and on the PG/PC.
- The Ghost versions on the PCU and the PG/PC must be the same.
- The directory in which the backup image is to be stored exists on the PG/PC.
- There is sufficient free memory on the PG/PC.
- Windows (any version) is installed on the PG/PC.
- The PCU and PG/PC are connected with an Ethernet cable.

Operator actions

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <7>: Backup/Restore

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

4. Press key <1>:

The following menu is displayed:

```
PLEASE SELECT
1 Configure GHOST Parameters
2 Harddisk Backup to <Path>, Mode ...
3 Harddisk Restore from <Path>, Mode ...
4 Switch to other Version of GHOST

9 Back to previous Menu
```

Your Choice [1, 2, 3, 4, 9]?

Note

The path names are default settings and depend on the drive. You can change these path names.

"Optional" start

The following steps are only applicable if you wish to change the default settings.

Here you can set the interface type, the network connection, the backup image path, and the backup image split mode.

1. Set parameters for the Norton Ghost program:

Press key <1>: Configure GHOST Parameters

The following menu is displayed:

```
PLEASE SELECT
1 Set Connection Mode PARALLEL (LPT:)
2 Set Connection Mode LOCAL/NETWORK
3 Change Backup Image Filename
4 Change Restore Image Filename
5 Change Machine Name (for Windows and DOS net)
6 Manage Network Drives
7 Change Split Mode

9 Back to previous Menu
```

Your Choice [1, 2, 3, 4, 5, 6, 7, 9]?

Notice

For the network connection described here the interface type must always be set to LOCAL/NETWORK.

1. Change interface:

Press key <2>: Set Connection Mode LOCAL/NETWORK and confirm.

2. Establish/change network connection:

Press key <6>: Manage Network Drives

3. Change the backup image path:

Press key <3>: Change Backup Image Filename: Enter the complete path for the backup file on the PG/PC, e.g. C:\SINUBACK\PCU\HMI.gho

4. Backup image split mode:

Press key <7>: Change Split Mode

Choose whether you wish to split the backup image into portions and, if so, enter the split size (max. split size: 2048 MB; default split size: 640 MB). The names of the split files are assigned as follows:

<name>.gho
<name>.001
<name>.002
<name>. ...

5. Return to the previous menu:

Press key <9>: Back to previous Menu

Prompt: Save GHOST parameters? Answer Yes.

"Optional" end

The following steps are always applicable:

Backing up the hard disk

You can now start the transfer:

1. Press key <2>: Harddisk Backup to <path name>, Mode LOCAL/NETWORK

The following menu appears if local partition data are available:

```
PLEASE SELECT
1 Backup WITHOUT Local Images
2 Backup WITH Local Images
```

Your Choice [1, 2]?

If you do NOT want to back up local partition data (substantial reduction in transfer time and memory), select:

1. Press key <1>: Backup WITHOUT Local Images or
2. Press key <2>: Backup WITH Local Images.

– A message window then opens:

You are prompted to check whether a connection exists between the PCU and the PG/PC. The target path for the directory on the PG/PC in which the backup image is to be stored is displayed. You are prompted to check whether this directory exists on the PG/PC.

– Type "Y" in the message window to acknowledge and start the backup on the PCU. The Norton Ghost message window appears with: Display of the transfer progress, the paths used and details of the data volumes to be transferred.

– If the backup is cancelled, a query appears:

Do you want to try to backup again [Y, N]?

Press N to return to the main menu. Press "Y" to restart the backup from scratch.

3. Press key <9>: Return to the previous menu

4. Disconnecting connected network drives: You can terminate all connections to the PG/PC.

4.1.2 Restoring the PCU hard disk from the PG/PC hard disk



Figure 4-2 Restoring hard-disk content

Requirements

- Ghost version $\geq 7.x$ is installed on the PCU and on the PG/PC.
- The directory in which the restore image is stored exists on the PG/PC.
- Windows (any version) is installed on the PG/PC.
- The PCU and PG/PC are connected with an Ethernet cable.

Operator actions

1. Switch on the PG/PC and insert the CD into the drive.
While the PCU is ramping up (after switching the controller off and then on again)
2. Select the "Service menu" [hidden menu entry] in the Boot Manager.
The main menu is displayed:
3. Press key <7>: Backup/Restore
The system prompts you to enter a password:
4. Enter one of the passwords for authorization levels 0 - 2.
The following menu is displayed:

```
PLEASE SELECT:
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST
  (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

1. Select option 1.

The following menu is displayed:

PLEASE SELECT:

- 1 Configure GHOST Parameters
- 2 Harddisk Backup to <Path>, Mode ...
- 3 Harddisk Restore from <Path>, Mode ...
- 4 Switch to other Version of GHOST

9 Back to previous Menu

Your Choice [1, 2, 3, 4, 9]?

Note

The path names are default settings and depend on the drive. You can change these path names.

"Optional" start

The following steps are only applicable if you wish to change the default settings.

Here you can set the interface type, the network connection, the backup image path, and the backup image split mode.

1. Set parameters for the Norton Ghost program:

Press key <1>: Configure GHOST Parameters

The following menu is displayed:

```
PLEASE SELECT:
1 Set Connection Mode PARALLEL (LPT:)
2 Set Connection Mode LOCAL/NETWORK
3 Change Backup Image Filename
4 Change Restore Image Filename
5 Change Machine Name (for Windows and DOS
net)
6 Manage Network Drives
7 Change Split Mode

9 Back to previous Menu
```

Your Choice [1, 2, 3, 4, 5, 6, 7, 9]?

Notice

For the network connection described here the interface type must always be set to LOCAL/NETWORK.

1. Change interface:

Press key <2>: Set Connection Mode LOCAL/NETWORK and confirm.

2. Establish/change network connection:

Press key <6>: Manage Network Drives

3. Setting the restore image:

Press key <4>: Change Restore Image Filename

Enter the complete path for the restore file HMI.gho on the PG/PC, e.g.
C:\SINUBACK\PCU\HMI.gho

4. Return to the previous menu:

Press key <9>: Back to previous Menu

Prompt: Save GHOST parameters? Answer Yes.

"Optional" end

The following steps are always applicable:

Restore contents of hard disk

1. Press key <3>: Harddisk Restore from <path name>, Mode LOCAL

Selecting this option opens the following menu:

For partitioning the disk it's important to know the SYSTEM BASE of the imaged configuration. Please select the SYSTEM BASE the image was created by!

```
PLEASE SELECT
1 Windows XP
2 Windows NT
3 Win95
4 WfW3.11
5 DOS (spare part)

9 Back to previous Menu
```

Your Choice [1, 2, 3, 4, 5, 9]?

2. Select the operating system on which the restore image is based. This affects the type of hard disk partitioning that is performed.

When you select the appropriate operating system, another menu opens:

What kind of disk partitioning do you want?

```
1 Standard Partitioning (default)
2 User-defined Partitioning
3 Image Partitioning
```

Your Choice [1, 2, 3]?

3. Specify whether you want standard hard disk partitioning, i.e., with a fixed number and size of partitions (depending on the operating system), or whether you want to define the partitioning yourself. In the first case, Norton Ghost sets the partition parameters automatically, whereas in the second case the operator sets the partition parameters in Norton Ghost. In the third case, the image to be loaded determines the partitioning.
4. Press key < 9 >: Return to the previous menu

5. On first commissioning or restore only (selected automatically with Ghost or Restore):
Select "1 Configure GHOST Parameters" in the menu

Set the PCU network name

If your machine is part of a NETWORK, it needs a machine name that is unique in the overall network.

The restore image brings along a machine name.

You can change this machine name now.

CAUTION:

The machine name shouldn't be changed, if:

1. the restore image is a backup image of your machine AND
2. the name of your machine hasn't been changed since creating the backup image.

NOTE for networks that require Microsoft Domain security:

Whenever you change the machine name (even if you input a name identical to the machine name contained in the restore image), your machine and its users will NO LONGER belong to the Microsoft network domain (see also the Microsoft documentation).

Press any key to continue . . .

Do you REALLY want to input a new machine name?

If you want to input the new machine name MANUALLY,

1. don't use "/\[:;|<>+=?,?*" and blanks AND
2. the new machine name has to be EXACTLY as long as the old machine name used within the restore image.

If you don't want to input a new machine name, the machine name used within the restore image remains valid.

HINT: if you want to input a machine name with a different length, you have to do this in Windows!

PLEASE SELECT:

- 1 Input Machine Name MANUALLY
- 2 Input Machine Name RANDOMLY

9 No new Machine Name

Your Choice [1, 2, 9]?

You can choose to enter a computer name for the PCU yourself or have a name generated automatically:

- Enter name yourself:

<1 Input Machine Name MANUALLY >

An input screen is displayed in which you enter the new 10-character name. On pressing Enter to confirm, the name is changed in the system.

Default name: PCUxxxxxxx [10 characters].

- Enter name automatically:

< 2 Input Machine Name RANDOMLY >

A computer name is generated automatically and transferred to the system. If necessary, you can view the name on the Windows Control Panel:

"Start" → "Settings" → "Control Panel" → "System", "Computer Name" tab

- The Norton Ghost message window appears on the PCU:
 - display of the transfer progress
 - display of the paths used
 - Details of the data to be transferred

If standard commissioning is to be performed from a GHOST image, the current PCU name must be set instead of the name contained in the GHOST image.

The new computer name (including the name generated with "2 Input Machine Name RANDOMLY") and the new system ID (SID) are assigned to the PCU with the Ghostwalker utility.

On completion of the Ghostwalker sequence, the operator is given the opportunity to repeat the restore process. This function is needed if the restore process has not been carried out correctly (e.g., connection problems, canceled by the operator, etc.). If there is no operator access within 5 seconds, the PCU is restarted automatically. The computer name can be changed in Windows if required.

```
It seems, that Ghost Restore succeeded.  
But if there was no connection or a cancel of the  
Restore,  
Ghost reports NO Errors! So you have the chance to:
```

```
PLEASE SELECT:  
1 Reboot the System (default after 5 Seconds)  
2 Try the Harddisk Restore again  
  
9 Back to previous Menu
```

```
Your Choice [1, 2, 9]?
```

You can change the computer name again at a later stage by selecting option 5 "Change Machine Name (for Windows and DOS net)" in submenu Backup/Restore → Harddisk Backup/Restore with GHOST → Configure GHOST Parameters. This change is also made via Ghostwalker.

Boot: The system must be booted following a successful restore process.

Notice

If the restore process was interrupted, the system on the hard disk will be incomplete. In this situation, a boot diskette with Norton Ghost and the network software is required. The boot diskette is available from eSupport.

4.1.3 Commissioning a replacement hard disk

The mechanical and electrical steps involved in replacing a hard disk are described in:

References: Operator Components Manual

The process for restoring the data backup of an entire hard disk, in order to always have operator and system data available for service purposes, is described below.

Norton Ghost

The entire contents of hard disks can be saved as a disk image file using the Norton Ghost utility. This disk image file can be stored on various data carriers and the data restored to the hard disk at a later date.

PCUs and replacement hard disks are supplied by the plant with Norton Ghost already installed.

Recommendation:

Archive the hard disk backup (hard disk image), including the "Norton Ghost" utility, on CD.

Restoring data backup

Requirements:

- Ghost is installed on the PG.
- A new replacement hard disk has been obtained.
- The PCU is connected to the PC/PG with a parallel cable.
- The PG has a CD drive.

Note

The replacement hard disk does not contain a Windows operating system or HMI system software.

Operations:

1. Install the replacement hard disk in the PCU (installation guide is supplied with new hard disk):
 - Insert the hard disk into the hinges.
 - Insert the connecting cable between hard disk and PCU.
 - Secure the hard disk with the 4 knurled-head screws.
 - Remove the transport lock: Turn towards "operating" until it engages.
2. Switch on the PG and insert the CD in the drive.
While the PCU is ramping up (after switching the controller off and then on again)
3. Select the "Service menu" [hidden menu entry] in the Boot Manager.
The main menu is displayed:
4. Press key <7>: Backup/Restore
The system prompts you to enter a password:
5. Enter one of the passwords for authorization levels 0 - 2.
The following menu is displayed:

```
PLEASE SELECT
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST
  (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

6. Press key <1>
Set parameters for Norton Ghost:
7. Press key <1>: Configure GHOST parameters
8. Press key <3>: Harddisk Restore from <path name>, Mode PARALLEL
When this menu is chosen, a message box appears:
You are prompted to check whether a connection exists between the HMI and the PG/PC. Select the HMI image file to be loaded as the restore image.
 - PG/PC:
In a DOS window or at the DOS level enter the command "ghost -lps" to start Norton Ghost.
 - PCU: Start the restore process by acknowledging the message window (Yes).

9. The Norton Ghost message window appears on the PCU:
 - display of the transfer progress
 - display of the paths used
 - details of the aggregates to be transferred.

Note

If the data transfer is interrupted during the restore process, the system on the hard disk will be incomplete. Therefore, a boot diskette containing MS-DOS _ 6.x-Boot and Norton Ghost software is required.

10. Press key <9>: Return to main menu

11. The PCU is restarted automatically after a successful restore operation.

Duration: Approximately 15 - 20 minutes to generate a compressed disk image = 130 MB from a 540 MB hard disk via LPT.

4.2 Backing up and restoring PCU partitions locally

Backing up partitions

In addition to backing up the entire contents of the hard disk onto an external drive, you can also back up partitions C:, E:, and F: of the PCU locally onto partition D: of the PCU (partition data backup).

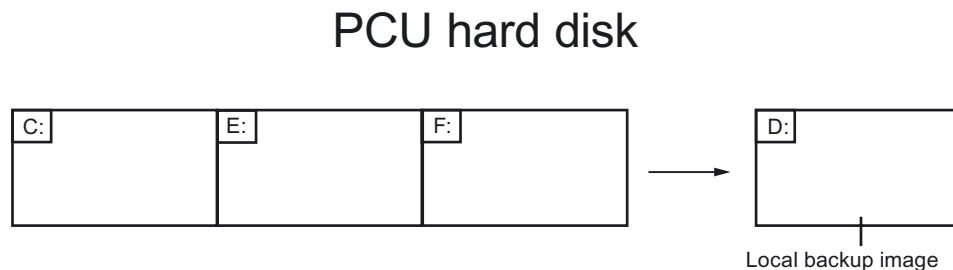


Figure 4-3 Partition data backup to drive TEMP (D:)

Restoring partitions

The local backup image generated by a partition data backup can be used to restore partitions C:, E: and F: again if necessary (partition data restore).

PCU hard disk

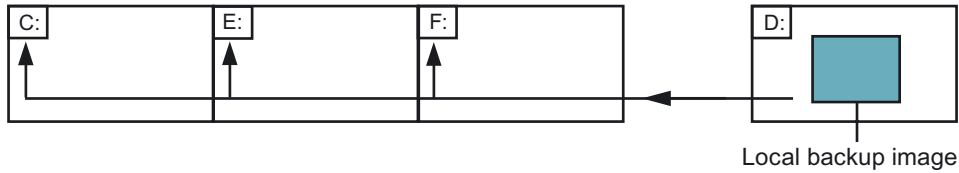


Figure 4-4 Partition data restore from drive TEMP (D:)

Restoring partition E (Windows)

A local backup image can also be used to restore only partition E: (Windows) (Windows) if required. This can be necessary if, for example, Windows can no longer be booted after a system crash or uncontrolled shutdown of the PCU (partition E data restore).

PCU hard disk

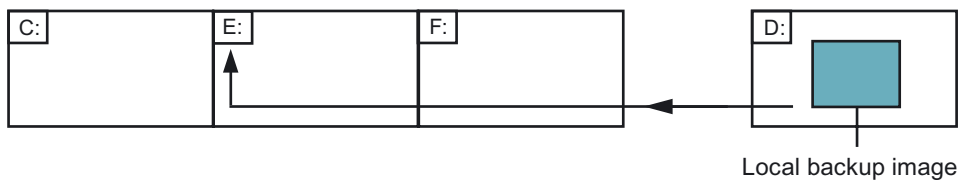


Figure 4-5 Restoring partition E from drive TEMP (D:)

Theoretically, any of the local backup images currently located on partition D: can be used in a partition data restore or a partition E data restore.

Of course, in the case of partition E data restore, the local backup image used must be chosen with great care: The registry entries of all applications installed on partition F: are also expected on the partition E: to be restored.

It is, therefore, practical to always have a particular local backup image (emergency backup image) defined, which can be loaded in case of an emergency (Windows cannot be booted) using partition E data restore without impairing execution of the installed applications.

Definition of a local backup image for a possible emergency and simple starting of the partition E data restore in the event of an emergency are supported in the Service menu.

The maximum number of local backup images (≤ 7) stored at the same time on partition D: can be set.

4.2.1 Backing up partitions

PCU hard disk

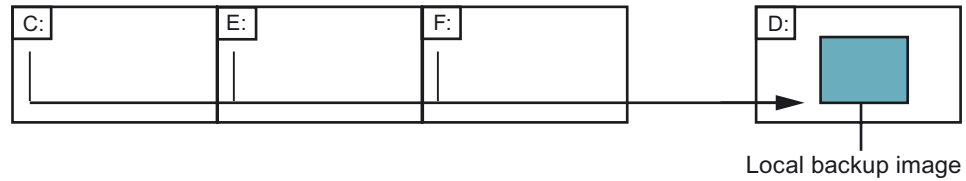


Figure 4-6 Partition data backup to drive TEMP (D:)

Operator action

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <7>: Backup/Restore

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST
  (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

4. Press key <4>.

The following menu is displayed:

```
PLEASE SELECT
1 Configure GHOST Parameters
2 Partitions Backup, Mode LOCAL
3 Partitions Restore, Mode LOCAL
4 Partition E (only Windows) Restore, Mode
LOCAL
8 Delete Image

9 Back to previous Menu
```

Your Choice [1, 2, 3, 4, 5, 8, 9]?

"Optional" start

The following steps are only applicable if you wish to change the default settings.

1. To set the maximum number of local backup images (max. 7), press key < 1 >: Configure GHOST Parameters

The following menu is displayed:

```
GHOST Connection Mode: LOCAL
Maximum Backup Images: 1
Current Backup Images: 0
```

```
PLEASE SELECT
1 Configure GHOST Parameters
2 Partitions Backup, Mode LOCAL
```

```
9 Back to previous Menu
```

Your Choice [1, 2, 9]?

2. To change the preset maximum number of local backup images, select menu 1: Enter a new number (max. 7).

Prompt: Save GHOST parameters? Answer Yes.

3. Press key < 9 > Back to previous Menu: Return to the previous menu

"Optional" end

The following steps are always applicable:

1. Press key < 2 >: Partitions Backup, Mode LOCAL

You are prompted for the name under which the new local backup image is to be stored, e.g., BACKUP1. Length of name: max. 7 characters.

Under "Description" you are asked whether you want to store an additional description for the local backup image, e.g., "Data backup1 by Hugo".

In the restore process, this additional description is offered as a selection text in the list of available backup images (if there is no description, the name of the backup image is displayed in the list).

You are asked whether you want the new local backup image to be used as an emergency backup image too (and any existing emergency backup image to be deleted). Partition data backup to D: is then started.

A file is created on D: in the IMAGES directory for every partition, e.g., BACKUP1.gh1, BACKUP1.gh3, BACKUP1.gh4. In the restore process, they are recognized as logically belonging to one backup image.

On completion of the partition data backup, the message "Backup finished" is displayed.

2. Press key < 9 > Back to previous Menu: Return to the previous menu

4.2.2 Restoring partitions

PCU hard disk

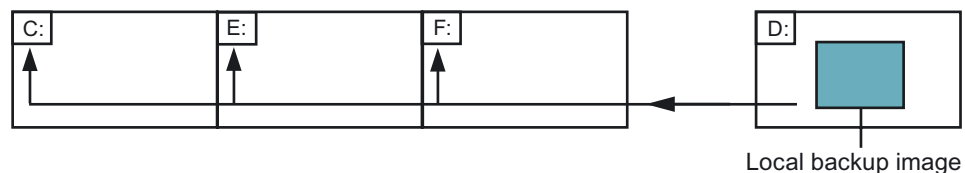


Figure 4-7 Partition data restore from drive TEMP (D:)

Operator action

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <7>: Backup/Restore

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST
  (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

4. Press key <4>.

The following menu is displayed:

```
PLEASE SELECT
1 Configure GHOST Parameters
2 Partitions Backup, Mode LOCAL
3 Partitions Restore, Mode LOCAL
4 Partition E (only Windows) Restore, Mode
  LOCAL
8 Delete Image

9 Back to previous Menu
```

Your Choice [1, 4, 5, 9]?

5. Press key <3>: Partitions Restore, Mode LOCAL

You are asked which local backup image you wish to restore, e.g., "Data backup1 by Hugo".

```
PLEASE SELECT EMERGENCY IMAGE:
1 PCU basic software V06.00.02 Win NT 4.0
  [02-01-2000: 05:32:32pm]
EMERG 2 Data backup1 by Hugo
  [02-03-2000; 04:53:24pm]
  ...

9 Back to previous Menu
```

Your Choice [1, 2, 3, ..., 9]?

6. Select the backup image you require.

On confirming your choice, the warning "All data will be overwritten" is displayed and restoration of the chosen backup image to partitions C:, E: and F: is started. On completion of the partition data restore, the message "Restore finished" is displayed.

Result:

After each restore process, partitions E: and F: are checked by the CHKDSK test program the next time the system boots. A reboot is performed between the checks on E: and F:

4.2.3 Restoring Partition E: (Windows) on the PCU

PCU hard disk

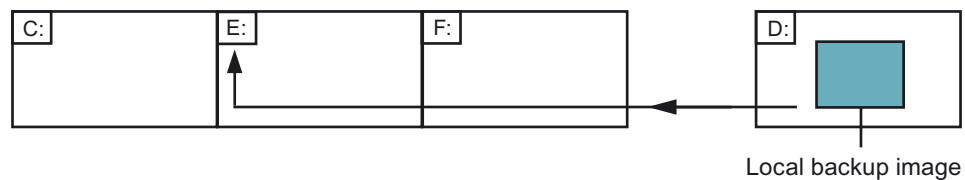


Figure 4-8 Restoring partition E data

Operator action

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <7>: Backup/Restore

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST
  (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

4. Press key <4>.

The following menu is displayed:

```
PLEASE SELECT
1 Configure GHOST Parameters
2 Partitions Backup, Mode LOCAL
3 Partitions Restore, Mode LOCAL
4 Partition E (only Windows) Restore, Mode
LOCAL
8 Delete Image

9 Back to previous Menu
```

Your Choice [1, 4, 5, 9]?

5. Press key < 4 >: Partition E (only Windows) Restore, Mode LOCAL

You are prompted to enter the local backup image from which you want to load partition E (= Windows partition), e.g. "Data backup1 by Hugo".

```
PLEASE SELECT EMERGENCY IMAGE:
1 PCU basic software V06.00.02 Win NT 4.0
[02-01-2000: 05:32:32pm]
EMERG 2 Data backup1 by Hugo
[02-03-2000; 04:53:24pm]
...
```

```
9 Back to previous Menu
```

Your Choice [1, 2, 3, ..., 9]?

6. Select the backup image you require:

On confirming your choice, the warning: "The Windows partition will be overwritten" is displayed and the restore process for partition E: is started.

On completion of the partition E data restore, the message "Restore finished" is displayed.

Result:

When Windows next boots, partition E: is checked by the CHKDSK (Check Disk) routine.

4.2.4 Deleting the backup image

Operator action

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <7>: Backup/Restore

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST
  (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

4. Press key <4>.

The following menu is displayed:

```
PLEASE SELECT
1 Configure GHOST Parameters
2 Partitions Backup, Mode LOCAL
3 Partitions Restore, Mode LOCAL
4 Partition E (only Windows) Restore, Mode
  LOCAL
8 Delete Image

9 Back to previous Menu
```

Your Choice [1, 2, 3, 4, 5, 8, 9]?

5. Press key <8>: Delete Image

From the list of available backup images, select the one you wish to delete.

The system asks you whether you really want to delete the image.

Confirm with "Y" to delete the backup image.

6. Press key <9>: Back to previous Menu

Returns you to the previous menu.

4.2.5 Defining an emergency backup image

Operator action

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <7>: Backup/Restore

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 2.

The following menu is displayed:

```
PLEASE SELECT
1 Harddisk Backup/Restore with GHOST
4 Partitions Backup/Restore with GHOST
  (locally)
5 ADDM Backup/Restore

9 Back to Main Menu
```

Your Choice [1, 4, 5, 9]?

4. Press key <4>.

The following menu is displayed:

```
PLEASE SELECT
1 Configure GHOST Parameters
2 Partitions Backup, Mode LOCAL
3 Partitions Restore, Mode LOCAL
4 Partition E (only Windows) Restore, Mode
LOCAL
8 Delete Image

9 Back to previous Menu
```

Your Choice [1, 2, 3, 4, 5, 8, 9]?

5. Press key < 1 >: Configure GHOST Parameters:

The following menu is displayed:

```
PLEASE SELECT
1 Change Maximum Backup Images
2 Define Emergency Backup Image

9 Back to previous Menu
```

Your Choice [1, 2, 9]?

6. Press key <2>.

You are asked which local backup image you want to use as the emergency backup image (this choice can be changed at any time):

```
PLEASE SELECT EMERGENCY IMAGE:
1 PCU basic software V06.00.02 Win NT 4.0
[02-01-2000: 05:32:32pm]
EMERG 2 Data backup1 by Hugo
[02-03-2000; 04:53:24pm]
3 Data backup2
[02-05-2000; 07:07:14pm]
N No Emergency Image

9 Back to previous Menu
```

Your Choice [1, 2, 3, N, 9]?

7. Choose the backup image you require, e.g., "Data backup2".

The code "EMERG" for the current emergency backup image is displayed against the chosen backup image:

```
PLEASE SELECT EMERGENCY IMAGE:
1 PCU basic software V06.00.02 Win NT 4.0
  [02-01-2000: 05:32:32pm]
2 Data backup1 by Hugo
  [02-03-2000; 04:53:24pm]
EMERG 3 Data backup2
      [02-05-2000; 07:07:14pm]
      N No Emergency Image

9 Back to previous Menu

Your Choice [1, 2, 3, N, 9]?
```

8. Press key < 9 >: Back to previous Menu
Returns you to the previous menu.

4.2.6 Restoring the emergency backup on partition E:

Overview

If Windows cannot be booted following a system crash or uncontrolled shutdown of the PCU, partition E: can be restored by the defined backup image.

- Based on one of the local backup images
Requirement: Password for authorization levels 0-2.
- Based on the emergency backup image (provided that a local backup image is defined as the emergency backup image.)

Requirement: Password for authorization levels 0-3

The partition E data restoration by the emergency backup image can be started directly in the main menu.

Note

The software for generating emergency boot diskettes is contained in D:\Eboot

Operator action

While the PCU is ramping up (after switching the controller off and then on again)

1. Select the "Service menu" [hidden menu entry] in the Boot Manager.

The main menu is displayed:

2. Press key <E>: Restore Windows Partition E (Emergency)

The system prompts you to enter a password:

3. Enter one of the passwords for authorization levels 0 - 3.

- system
- Manufacturer
- Service
- Customer

Result

The warning "The Windows Partition E: will be overwritten" is displayed and the restore process for partition E: is started after another prompt. On completion of the partition E data restore, the message "Restore finished" is displayed.

When Windows next boots, partition E: is checked by the CHKDSK (Check Disk) routine.

4.3 Backing up/restoring data with a TCU configuration

application

If a configuration contains one or more TCUs, data backup/restoration cannot be carried out with service programs on the DOS level.

This is why the Service desktop provides a link to the "ServiceCenter" program. The backup/restore functions are carried out here, as when they are called in DOS, e.g., creating an image, restoring, marking as an emergency image, etc.

Overview

Double-clicking on "ServiceCenter" opens the selection box below:

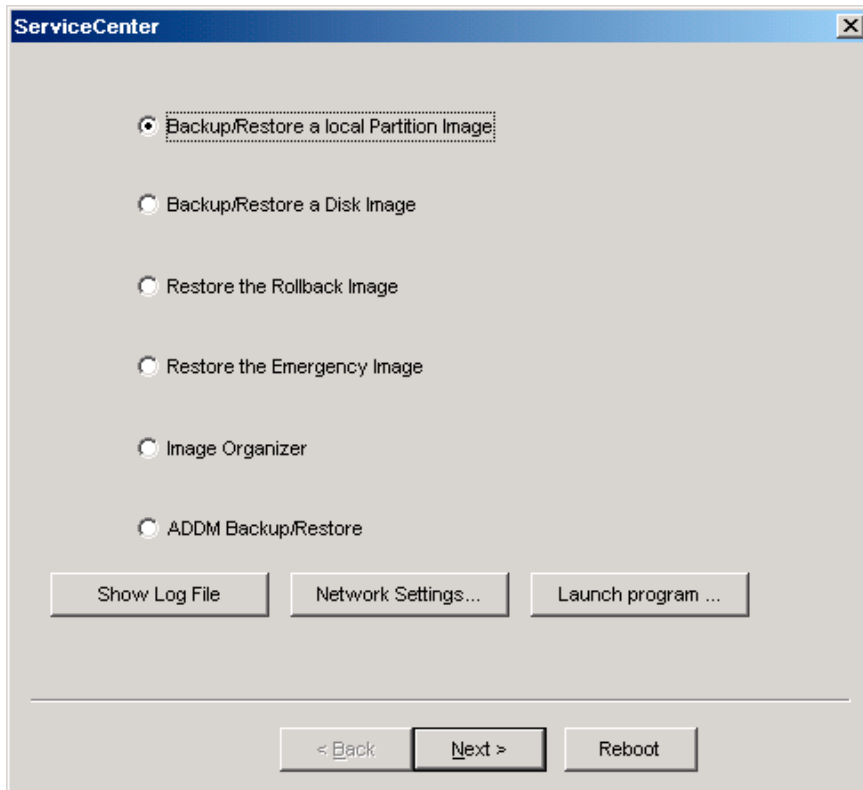


Figure 4-9 ServiceCenter Selection

Backup/Restore a local Partition Image

Select this option to create or restore an image of one or more partitions locally on partition D.

“Next >” opens the next selection box: where you can select partitions C, E or F individually. If you wish to save the backup and restore it later, we recommend that you create a complete image (C, E and F).

The size of every partition is displayed before you start the backup process. In order to retain suitable data packets for archiving on a CD-ROM, for example, you can also define the desired sizes under “Options”.

Backup/Restore a Disk Image

Select this option to create or restore an image of one or more partitions on a network drive.

“Next >” opens the next selection box: If you have already established a network connection with access to a shared drive, select “Net Share” and enter the drive name and the file name.

- You can reset the communication parameters under "Change Network Settings".
- Under “Options”, select either one backup file or several data packets and define the appropriate sizes.

A connection is established using the “Ghost Cast Client” Ghost software (with a 1:1 connection, for example). To implement this, licensed Ghost software must be installed on the target drive.

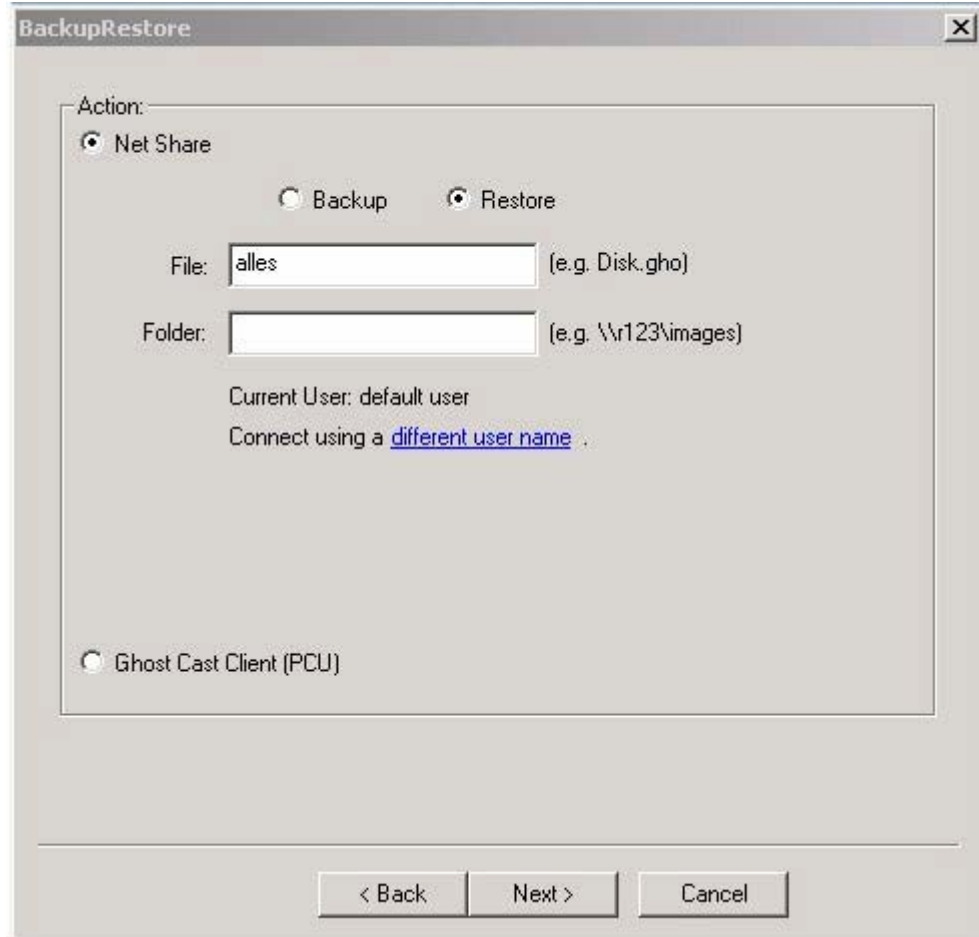


Figure 4-10 Backup hard disk via the network

Restore the Rollback Image

Select this option to restore a rollback image (the most recently backed up/newest image of partitions C, E and F).

Restore the Emergency Image

Select this option to restore the emergency image of one or more partitions. This image is intended for use when the system can no longer be booted after a system crash or uncontrolled shutdown and, therefore, comprises partitions C and E.

This image must not impair the execution of installed applications, i.e., the registry entries for all applications installed on F: must be included in the image.

Use the “Image Organizer” function to mark the emergency image.

Image Organizer

Select this option to mark out one image contained in the displayed list as the emergency image, or to delete an existing image.

ADDM Backup/Restore

Select this option to create or restore an image of the ADDM (A & D data management) software on partition D or on a network drive.

Show Backup/Restore Log File

This option opens file bacres.txt, which contains a log of all backup records.

Outputting the log file (Service menu "Actionlog" function)

The log file can be read out from the booting menu. A booting menu is displayed if the HMI system software has crashed in the control system (PLC: DB19, byte0, bit6). The bit is set and canceled by the PLC on the operator interface (as is key disable, screen blanking, etc.).

References:HMI Advanced Startup Manual

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