

SIEMENS

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Product information

PROGRAF AS+/NT

Var. **V4.00**

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Descriptors

TELEPERM M, AS Configuration

Summary

The present Product Information relates to the Software Packages:

Name	Variant	Product no. (MLFB)
PROGRAF AS+/NT	V4.00	6DS5 255-1CX
PROGRAF AS+/NT Upgrade	V4.00	6DS5 255-1CX00-4XX4

Description:

Bedienungsanleitung PROGRAF AS+	deutsch	C79000-G8000-C450
Instructions PROGRAF AS+	engl.	C79000-G8076-C450

This manuals have to be ordered separately if required.

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Sous réserve de modifications
Con riserva di modifiche

1 Scope of Delivery

The delivery 6DL5 255-1CX or 6DL5 255-1CX00-4XX4 consists of:

1 CD with PROGRAF AS+/NT software package V4.00 with German and English language
Software Protection (1 dongle for parallel interface)
Product Information

to be installed alternatively

For an upgrade the old dongle
has to be delivered back.

2 Performance

- Graphic function chart editor with AUTOROUTER
- Program editors for TML, ORPA, STEP and LAYOUT
- Check programs for TML, ORPA, STEP and LAYOUT
- Decompilation and documentation of installed AS structures
- Delta list: Difference between AS decompilation and PC database structure
- Consistent database for the automation systems
- Closed data loop
- Project-related libraries
- Graphic CFC documentation based on the WYSIWYG principle
- Total documentation and selective documentation
- CS 275 and PROFIBUS-TM link for loading, backup, and online modifications
- Central configuring workstation
- Central online commissioning console
- Data export to PROGRAF OS, OS 520, OS 525, ...
- Data import from hardware plan
- Backup (compressed) and restore

2.1 Function and performance characteristics in comparison with PROGRAF AS+

The program package PROGRAF AS+/NT is able to run under the operation system Microsoft Windows NT 4.0 .

It is compatible in functionality as well as in data structure to the predecessor product PROGRAF AS+ which was able to run only under Microsoft Windows 3.1, i.e. the data can be processed with both versions alternatively.

Determined by the new operating system all problems with the available DOS memory known with PROGRAF AS+ are no longer applicable with PROGRAF AS+/NT.

2.2 Restrictions in functionality in comparison with PROGRAF AS+

PROGRAF AS+/NT covers the complete functionality of PROGRAF AS+ with the following exception:

- Graphic documentation of STEP modules

This function will probably be available in 04/2001, and will then be provided via download in the internet. It can also be requested via the TELEPERM M hotline if required (phone +49 (0) 721 595 4400).

3 Application

PROGRAF AS+/NT relieves the well-tried engineering tool PROGRAF AS+ which could only run under the operating system Microsoft Windows 3.1 . It is compatible in functionality as well as in data structure.

Data compatibility means that all user data structures created with PROGRAF AS+/NT and PROGRAF AS+ are identically. Because of this all user data created with PROGRAF AS+ can be processed by PROGRAF AS+/NT and reverse.

PROGRAF AS+ has been released for the automation systems

AS 230 / AS 230K, AS 235, AS 235 K, AS 235 H as well as AS 388/TM and AS 488/TM

Important information / restrictions:

- Using version F03.05 or G01.07 of the system software guarantees unrestricted operation of PROGRAF AS+ in the AS 235 system.
- All AS systems from variant E onwards with loadable system software must be upgraded to a greater/equal version F03.02 of the system software if loading sequences are to be loaded via TTY or bus into the AS.
- The previous AS 230 variants B, C, and D permit decompilation of the AS structure. Online configuration of these variants is only possible from variant D3 onwards.
- The main memory dump of variants B, C, or D must be converted into the format of AS 230 E (or higher) as PROGRAF AS+ can only read AS diskette formats from variant E onwards.
- Online configuration and loading via TTY emulator is only possible from variant D3 onwards. The following settings are required:
 - Baud rate: 1200 bits/s
 - With screen updating
 - With stop on errorA maximum baud rate of 4800 bits/s is possible from AS 230 / 230 K variant E onwards.
- It can happen in older AS structures that decompilation is aborted as the structure contains incompatible structure elements that must first be eliminated in the AS (e.g. using old UFB names as SFB names; identical block names; identical element names, ...).
The decompilation log contains information about errors in the AS structure. Any information marked by 'F:' prevents decompilation.

3 Installation Guidelines

3.1 Device configuration

Personal Computer with:

- Graphic interface card with a minimal resolution of 1024 x 768 pixel (at \geq 32768 colors)
- Colour monitor with high resolution (at least with 19" screen for ergonomic reasons)
- Disk drive 3,5"
- Disk drive 5,25" (for reading AS disks)
- Printer with postscript

Software:

- Microsoft Windows NT 4.0 (not included in delivery of PROGRAF AS+/NT!)

3.2 Installation

The setup program SETUP.EXE of PROGRAF AS+/NT is located on the delivery CD in the directory \SW\PROGRAF. It must be started within Windows NT in the Explorer by double clicking on Setup.exe.

The next actions then are described in the specified menus.

Order of events:

- After the installation language has been selected, the setup for PROGRAF AS+/NT is started.
- Selection of the target drive for the PROGRAF system directories (dr:\PROGRAF\...)
- The setup for installing the dongle driver is started (Hardlock).
- After the installation language has been selected, the setup for the N-AT/N-PCI driver is started (NAT-NPCI).
- Input of the hardware (I/O) address for the N-AT interface module (using the N-PCI this input is irrelevant, because it is determined by the driver).
If this I/O address should be changed later, the driver has to be deinstalled, and installed again via \SW\NAT-NPCI\Setup.exe .
- Finally the setup program of PROGRAF AS+/NT requires a reboot of the PC.
- After this reboot a PROGRAF AS workstation has to be installed.
For this the program dr:\PROGRAF\SYSTEM\SETUP\Setup.exe has to be started. This offers also installation guidelines. These should be observed, if there are any problems, e.g. with PG740.

This information for installation may also directly be retrieved in the PROGRAF AS+/NT startup menu under 'Help/Installation Guidelines'.

There is a file S7ONLIX.DLL existing in the directory \PROGRAF\SYSTEM, needed for linking to PROFIBUS-TM. If STEP 7 is already installed on the PC, this DLL can be deleted from the PROGRAF directory.

3.3 Deinstallation

To remove the software package PROGRAF AS+/NT from your PC completely, following steps have to be taken:

- Open the dialog "Start → Settings → Control Panel → Add/Remove Programs".
- Choose "PROGRAF AS+ /NT V4.00" and remove it.
- Choose "Hardlock Device Driver" and remove it (Selection Automatic).
- Choose "NAT-NPCI" and remove it.
- The fonts installed by PROGRAF AS+/NT have to be deleted from the Windows NT system directory with the Explorer (right mouse key / Delete):
 - Fonts\TELEPERMM.FNT
 - Fonts\TELEPERMMTERMINAL.FNT
- Perhaps the PROGRAF directories (System and User) have to be cleaned.
- Finally the PC should be rebooted.

4 Interface modules

PROGRAF AS+/NT supports the new bus interface modules N-PCI (for system bus CS 275) and CP 5613 (for system bus PROFIBUS-TM) designated for PCI slots as well as the old bus interface modules N-AT (for system bus CS 275) and CP 5412 (A2) (for system bus PROFIBUS-TM) designated for ISA slots.

Attention: The interface module CP 5412 (**A1**) is no longer supported within Windows NT!

The interface modules for the CS 275 and the PROFIBUS-bus may be inserted in the same computer. PROGRAF AS+/NT activates only one of the interface modules.

The selection is carried out in the startup level in the menu "Options / Busparameter...":

- Select button CS 275 or PROFIBUS-TM
 - At CS 275 the bus and station address are read from the interface module, and then displayed.
 - At PROFIBUS-TM only the station address given within the setup of the SIMATIC NET driver is determined automatically. The bus number for PROFIBUS-TM has to be set by the user in this dialog.

4.1 Linking to CS 275

For linking to the CS 275 one of the modules N-AT or N-PCI has to be used. The driver installed with PROGRAF AS+/NT addresses the N-AT via the I/O address entered during installation. This must correspond to the I/O address selected on the N-AT. The N-AT requires no interrupt. The N-AT bus parameters (e.g. station address) are set on the module with switches and jumpers, as for the I/O address. The settings for the N-PCI are completely read by the driver from the module.

4.2 Linking to PROFIBUS-TM

Use the software package belonging to the CP 5613 or CP 5412 (A2) module to connect the module to the PROFIBUS-TM. This instructions do not replace the Installation Instructions or Product Information of these SIMATIC NET products.

4.2.1 Communication between PROGRAF AS+/NT and CP 5412 / CP 5613

The CP 5412 interface module is addressed via a driver from the software package of the module. The driver is installed in addition to PROGRAF AS+/NT. No parameter settings except the bus number are required in PROGRAF AS+/NT for communication with the driver. But some parameters for the communication between the driver and the CP 5412 interface module have to be set outside of PROGRAF AS+/NT.

Settings for CP 5412:

During installation the following package has to be installed for the CP 5412:
'PB DP-5412'.

The application access point 'CP_L2_1: CP5412A2(PROFIBUS)' has to be selected within 'System Settings → Set PG/PC Interface'.

The bus profile 'Universal (DP/FMS)', the transmission rate 1.5 Mbit/s, and the own station address have to be selected within 'Properties / PROFIBUS' of 'CP5412A2(PROFIBUS)'.

An IRQ interrupt and a DP-RAM address are set with switches and jumpers on the CP5412-A1 interface module. The bus parameters are set with software tools.

Seen from PROGRAF AS+/NT the bus parameters for PROFIBUS-TM are part of the interface module which cannot be modified by PROGRAF AS+/NT either than jumper settings on the N-AT (excepting the bus number).

Settings for CP 5613:

During installation the following package has to be installed for the CP 5613:
'PB CP 5613/5614 (DP-Base)'.

The application access point 'CP_L2_1: CP5613_5614(PROFIBUS)' has to be selected within 'System Settings → Set PG/PC Interface'.

The bus profile 'Universal (DP/FMS)' has to be selected within 'Properties / PROFIBUS' of 'CP5613_5614(PROFIBUS)'.

Interrupts:

In previous releases the IRQ10 had to be occupied by N-AT in order to operate N-AT with PROGRAF AS+. From the PROGRAF AS+ release V3.00 onwards the communication with the N-AT functions without interrupt. To avoid superfluous interrupts remove the N-AT interrupt jumper (jumper on IRQ socket X100), if there is no other application using the N-AT interrupt.

The CP5412 requires an interrupt for the communication with the driver (e.g. INT5).

5 System Features / Restrictions

AS system software

○ D variant / faulty modules

There are problems with loading faulty modules in D variants. The mode 'With stop on error' must therefore be selected to be able to issue 'F;' to acknowledge the AS error message if a faulty module is detected, and to continue the loading procedure. Without this input the AS will delete the faulty modules if D variants are concerned.

○ System blocks without ORPA, such as UHR, KLOE ...

These block types are decompiled but must not be transferred into the AS by total loading. They must be manually removed from the loading sequence and transferred in the AS via a reloadable diskette.

Alternatively, delta loading may be used for continuing work. These block types will then not be contained in the loading sequence, and need not be removed manually.

○ Interconnections after disabling elements

Interconnections after disabling elements should not be performed (see note in Chapter 3.2.1.4 of the AS description, Element instructions for delimiting internal parameters), and are therefore not supported by PROGRAF AS+. Interconnections after disabling elements are rejected during decompilation. The rejected interconnections are listed in the decompilation log.

○ Interconnections after disabling elements in RSK

Several interconnections are performed after the disabling element in the AS if the RSK standard block is interconnected with the RSB. These interconnections will be reported and rejected during decompilation. This will not interrupt the configuration cycle, however.

○ Block types, blocks, and block elements of the same name

Identical element names are possible in AS systems. Structures of the same name cannot expediently be decompiled and cannot be loaded via loading sequences. The decompiler detects identical names and reports them in the decompilation log. A database is not created.

Using the SYST.WART block or RNAM enables the user to clear up structures of identical names. This also applies to the D variant if a memory dump has been created there that is converted to the E variant (or higher) and corrected there.

○ ORPA with variable element names

A database is not created in the reverse branch if ORPA elements are accessed whose element names contain '*' or '\$' (produced by variable element names). Such structures can no longer be loaded in the AS in the forward branch (syntax error when loading the modules).

Such incorrect structures are produced as follows:

- Create an ORPA with a correct element names
- Write the associated modules
- Alter element names in ORPA such that they contain illegal characters

The correct procedure is:

- Create ORPAs with correct element names
- Write the associated modules
- Element names that contain '*' or '\$' should not be modified in the ORPAs but in the block instances of the type. The modules will then remain correct as they always perform access via ORPA names. This guarantees loadability.

○ Decompile / structure error of archived AS diskettes

While the AS RAM is being archived onto diskettes, configuring via the second operation position or via bus is not permitted. This would produce an incomplete AS RAM dump on the diskette. During decompilation, this is indicated as a structure error, and decompilation will then be aborted.

Remedy: Repeat archiving and decompile again.

○ BATCH AS version 4.xx

Using PROGRAF AS+ for decompiling this BATCH SW produces an abortion and the error message 'Error in AS'.

The reason is that the INIT block possesses two elements of the same name (HZ4,ID and HZ4,PB). From BATCH version 4.22 this problem is eliminated.

PROGRAF AS+

○ Hard disk storage

Ensure, when using PROGRAF AS+, that there is sufficient storage space on the hard disk. Always check the storage space available on the hard disk when a system error message is issued.

PROGRAF AS+ needs storage space on the following drives:

- Drive of the currently selected automation system for databases, documents, AS-RAM dumps, loading sequences...
- Drive of the PROGRAF AS+ operation position for temporary data, mainly for documentation creation
- Drive for temporary files of the print manager for all PROGRAF AS+ print functions

- Create total documentation

The total documentation of AS structures requires a large disk capacity and a powerful PostScript printer.
Documenting an AS structure of 1400 blocks requires approximately 50 MB on the hard disk and approximately 6000 printed pages.
In addition, large spool files will be created.
- Visibility/invisibility codes of data blocks

Data block elements may not be made visible/invisible. Shortening data blocks is therefore not possible.
- Modifying ORPAs

The ORPAs of previously defined blocks may not be modified.
- Repeated access to an element in a module

A block element that is repeatedly accessed in a module will only be referenced once in documentation. This has been implemented to maintain documentation at a reasonable size.
- Printers/printer drivers
 - DR400_AC Siemens printer
The DR400_AC Siemens printer does not permit faultless documentation to be produced (lines, character set).
 - MIGROFAX printer driver
This printer driver is not recommended for PROGRAF AS+ documentation. There are problems with file names that use a hyphen '-' as a delimiter.
 - HP Laserjet 4
'PostScript' mode rather than 'Automatic' mode must be selected in the JOB printer menu if the HP LaserJet 4 is used.
'Send print data not comprimized' must be selected in the POSTSCRIPT menu.
 - HP Laserjet 5 Plus
The mode „Send binary file“ in the printer control must imperatively be switched off when the LaserJet 5 Plus is used.
- Tested printers:
 - HP Laserjet III Postscript DIN A4
 - HP Laserjet 4M Postscript DIN A4
 - HP Laserjet 4MV Postscript DIN A4 and DIN A3

Observe that printing without PostScript does not allow list documentation printing (total documentation) and that the printout may not be correct.

○ Data export/import

Data is not exported if an AS structure is merely decompiled and the blocks in the CFC editor have not been allocated. Only a directory and a file structure without contents are created. An information box will not be displayed. The blocks in the CFC editor must be allocated to plans if you wish to export data.

○ Data export, bus and station address

The exported data always refer to the bus and station address selected in the startup menu.

A warning is not issued when OS cross-reference data is created and bus and station address have not been selected in an AS-related way in the Options / AS Coupling menu.

○ Network drives

Before any transfer PROGRAF AS+ determines the available storage capacity. In case of network drives it can arrive that the storage space is occupied by other applications between inquiry and occupation. If the storage capacity is then not sufficient PROGRAF AS+ signals 'Disk full'.

In this state PROGRAF AS+ cannot store the current data which could be inconsistent. In this case use 'Reject AS' to stay on the state of the last 'Save AS'.

6 Supplement to the User's Guide

Online configuration position; Chapter 12

PROGRAF AS+ may be used as a central configuring console via the bus system. The AS configuration desktop is emulated on the monitor. This is not possible with AS 230/230K, variants B, C or D.

Bus communication, Chapter 2.2.2

The default I/O address on the N-AT module is 300h rather than 310h (as described in the User's Guide).

The same selection must be made in the PROGRAF AS+ menu 'Option/N-AT Hardware Address'.

resp.

The same selection must be made while installing the N-AT driver for PROGRAF AS+/NT.

Menu Doku, Chapter 7.13

Paragraph 1, only an overview figure is printed and not individual pages and overview page.

Configuration cycle, Chapter 5.2.2 and Cross reference of blocks, Chapter 13.7.6

Code bits for alarm (A) and write protection (S) were only shown with not inter-connected inputs, because only in this case these bits were taken into the loading sequence.

7 Known restrictions and remedies

- If a loading sequence in an AS that is in STA mode is loaded, a cycle overload (due to a missing I/O module and the resulting driver message) and a timeout of the PROGRAF AS+ structuring telegram on the bus system can occur. The data can then no longer be correctly or completely transferred.

Remedy: Put the AS in 'stop' or switch out the peripheral driver.

- When generating the OS cross reference data, no removable media (diskette etc.) can be selected. The data must be copied manually onto the desired data medium after it has been exported.

Remedy: If your system can address removable media as a hard disk, you should select this mode. PROGRAF AS+ will then be able access this data medium.

- It is not possible to define several empty elements in the ORPA editor because elements with the same name are not permitted.

- If data is archived to a data medium from within PROGRAF AS+, no write errors to the medium are registered by PROGRAF AS+.

Remedy: Before deleting the original data, you should read the data back to avoid any loss of data. If the data can be read from the medium, the contents of the files have been archived without error.

- If a PROGRAF AS+ automation system is archived without including the documentation data, and is then later restored, a system error occurs because the system still searches for the documentation directory.

Remedy: However, after canceling the error, you can continue to work without any problem and, for example, create a new set of documentation data.

- When restoring an AS from the hard disk, you can only select the same type of drive as the one containing the PROGRAF AS+ structures for the target drive.

Remedy: Using the Windows explorer, create the path <drive>\prograf\as_data (where <drive> is the drive identity, e.g. C:) on the corresponding drive. Now PROGRAF AS+ will also recognize this drive as the target drive.

- From software version F on, you can change ORPA parameter names in the AS at a later date using SYST.WART. This functionality is not available in PROGRAF AS+.

Remedy: Change the names in the AS and then read the structures back. Make sure that no changes are being made simultaneously within these structures on PROGRAF AS+.

- When loading TML programs via PROGRAF AS+, only lines up to a maximum of 64 characters are processed. Longer lines result in error messages.

- If PROGRAF AS+ is used in conjunction with an PROFIBUS-TM coupling, make sure that the text was not adapted to suit the PROFIBUS environment. This means that in all locations where the N-AT module is named, the PROFIBUS module is addressed. This behavior applies to all N-AT related texts.
- If PROGRAF AS+ is registered for structuring via the system bus and the coupling is interrupted, only the same station can log back on to the AS.
Remedy: Restart the online structuring station and log on and off correctly.
- If an AS x88/TM is loaded from the memory card using the PROGRAF AS+ online structuring station, after it has loaded and the program is restarted, the coupling with PROGRAF AS+ ends. You receive the message 'Bus structuring terminated'.
Remedy: You have to log on again.
- If many module accesses are present in a PROGRAF AS+ data set, an error can occur having the code number C2A3.
Remedy: Define some large modules, e.g. GA, GB, RN etc. and then delete them again. Now the error should not recur. Note, however, that when the entire system is transferred out and then transferred back, the error occurs again.
- While outputting a STEP chart on screen or printer, a red error message box (System Error 895) may appear, if the bracketing level of the STEP module is very large.
- If in CFC a block is removed from one cycle to another several times without delta loading between, the build off commands will be missing in the delta loading sequence. (Example: Move a block from cycle 3 to cycle 2 and then to cycle 5. After the following delta loading the block is build in at cycle 3 and 5.)
Remedy: Before removing a block a second time, do a delta loading first.

9 Service

Please address product-relating questions or service requests to your local service unit or to the TELEPERM M hotline.

The TELEPERM M hotline is within reach under:

Telephone: +49 (721) 595-4400

Fax: +49 (721) 595-2996

The hotline takes your questions on working days between 8:00 am and 5:30 pm CET (monday to friday). In the remaining time the telephone line is connected to a voice box, which allows you to deposit a short message. You will be called back then on the next workday by a system specialist.

Customers with service contracts (service level 1) as well as ZN/LG commissioning and service personnel will get service support via telephone +49 (171) 3340867 out of the normal working hours.

Internet address of the TELEPERM M homepage:

http://www.ad.siemens.de/teleperm/index_76.shtml

If you have access to our intranet page as SIEMENS employee, please use following intranet address:

http://intra1.nbgm.siemens.de/extern/spiegeln/teleperm/index_76.shtml