

Version **4.20.10.00** :

**Most important features of version 4.20.10.00 compared to version 4.20.08.02 :**  
(Release date : 20.03.2007)

- TiCobasic V1.1.01 : Real-Time development tool for TiCo processors  
(The TiCo-processor is a standalone, free programmable add-on processor, which is currently used in certain *ADwin-Pro II*-modules)
- ADbasic V4.20.10 :
  - Windows Vista is supported (new HTML Help system)
  - bugfix at : `CASEELSE`
- ADwin operating system (ADwin11.BTL) :
  - bugfix: occasional problem caused by PC communication
  - bugfix: occasional problem on starting several processes
- ADbasic include files :
  - `ADwPDIO.inc`, `ADwinPRO1.inc` : bugfix at `PWM_ENABLE`
  - `ADwPEXT.inc`, `ADwinPRO1.inc` : bugfix at Profibus, Interbus
- Developer software :
  - Delphi driver : bugfix at `Process_Status()`
- ADconfig V3.13 : support of Windows Vista
- ADtools V5.7 : :
  - Windows Vista is supported (new HTML Help system)
  - bugfix at `TButton`, `TGraph`, `TLed`
- ADEthFlash V3.7 : support of Windows Vista
- ADPro V5.3.2 :
  - SSI-Interface of CO4-D modules is supported
  - the four counters of CO4 modules are supported
  - backup and restore of calibration data (modules `Aln-F8/18`, `Aln-F8/14`, `Aln-8/18` and `Aln-32/18`)
- ADlog V1.0.40.2 :
  - Windows Vista is supported (new HTML Help system)
  - bugfix : occasional problem on recording in Diadem-format
- Setup.exe V4.7 : installs current versions of the "Adobe Reader"
- Linux, MAC OS : SciLab is now supported

**Most important features of version 4.20.08.02 compared to version 4.20.05.07 :**  
(Release date : 16.11.2006)

- ADbasic V4.20.08 :
  - bugfixes at : `libraries`, `STRINGs`, `SHIFT_LEFT` , `SELECTCASE` und `MEMCPY`
  - bugfix at access to Pro-II bus
  - bugfix at programcode located in `DRAM_EXTERN` (only T11)
  - bugfix (at T9 and T10) on calculation of constants ( `1 / const.` )
- ADwin operating system (ADwin11.BTL) :
  - bugfix: occasional damage of low prioritized processes caused by PC communication
- ADwin operating system (ADwin10.BTL) :
  - bugfix at the PC communication functions `Fifo_Full`, `Fifo_Empty`, `Fifo_Clear`
  - bugfix at code in `LOWINIT` at externally controlled processes
  - bugfix at : `TAN`
- ADbasic include files :
  - `ADwinPRO1.inc` : LS-Bus support (T11)
  - `ADwPEXT.inc` : LS-Bus support (T9 und T10)
  - `ADwL16.inc` : LS-Bus bugfix and optimized
- Developer software :
  - Labview driver V2.2 :
    - changes because compatibility to Windows / Linux / Mac OS
- ADconfig V3.9 :
  - Web Interface can be started from the Scan- window
  - „Ping“ can be executed
  - bugfix : it was possible to create a duplicate Device No ( at Edit : USB/Link )
- ADPro V5.2.2510 :
  - LS-Bus- module is supported

- calibration of the modules Aln-F8/18, Aln-8/18 and Aln-32/18
- diverse improvements and bugfixes
- ADlog V1.0.37.1 :
  - number of points per line increased from 10000 to 20000
  - higher performance at lower CPU-load
- Linux, MAC OS :
  - ADbasic- compiler V4.20.07.00 (only for Linux)
  - Linux / Mac-library ( = shared library) V3.0.449 :
    - support of Mac OS X 10.4 for ADwin-systems with Ethernet-interface
  - Labview driver V2.2 (Linux and MAC)
  - numerous functional improvements

**Most important features of version 4.20.05.07 compared to version 4.20.04.04 :**  
(Release date : 06.09.2006)

- ADbasic V4.20.05 :
  - bugfixes at: MEMCPY, SELECTCASE (only at CASE 0)
  - bugfix on opening of ADbasic project files ( \*.ABP)
  - bugfix at instructions for the modules Pro-II-AOut- 8/16 and Pro-II-Aln-F-8/14
  - occasional problem with access to Pro-II bus
- ADbasic include files :
  - ADwinPRO2.inc : bugfix at the modules Aln-8/18 and Aln-32/18  
(concerns the instructions : P2\_SEQ\_INIT and P2\_BURST\_READ\_INDEX )
  - ADwinPRO1.inc : new : TC\_READ\_B
  - ADwPEXT.inc : new : TC\_READ\_B
  - ADwPAD.inc : bugfix for T10 at : READ\_ADCF8, READ\_ADCF8\_PACKED
  - ADwL16.inc : new : support of the module HSM-24V (via LS-Bus)
- Developer software :
  - examples for Excel driver (ActiveX and Visual Basic)
  - SciLab V1.03.00 : (on the CD-Rom for the first time)
  - Matlab : warning "... case-sensitive match for 'adlab' ..." fixed
- ADPro V5.2.2406 : diverse improvements
- ADlog V1.0.36 :
  - new : processes and configurations for Pro-II modules
  - diverse improvements

**Most important features of version 4.20.04.04 compared to version 4.20.03.07 :**  
(Release date : 17.05.2006)

- ADbasic V4.20.04 :
  - bugfixes at : libraries, strings, MEMCPY, SHIFT\_RIGHT, SHIFT\_LEFT
  - bugfix at programcode located in DRAM\_EXTERN (only T11)
  - bugfix at optimization level 2 ( only T9 and T10 )
  - bugfix at powerfunction ( only at ^2 or ^3 )
- ADwin11.BTL :
  - bugfix at SetData at certain values of Startindex and Count
  - bugfix at GetFifo (only at high prioritized processes with long lasting EVENT section)
- ADbasic include files :
  - ADwinPRO2.inc : new : support of the modules Aln-8/18, Aln-32/18 and AOut-8/16 (Rev. E)  
(new instructions : P2\_ADC... , P2\_SEQ... , P2\_DAC... , P2\_DAC4\_PACKED, ...)
  - ADwinPRO1.inc as well as ADwPEXT.inc : new instr. : TCJ\_DIG\_TO\_TEMP, TCK\_DIG\_TO\_TEMP, PT100\_DIG\_TO\_TEMP, PT100\_DIG\_TO\_R
- ADwin driver (ADwin32.DLL) : bugfix at Get\_Digout() and Set\_Digout()
- ADtools : V5.5 : :
  - TGraph : new : FFT
  - now each tool can be moved by ADtools.exe and brought "on top" of the screen
  - new : ADstartpanel.exe
  - diverse bugfixes and improvements
- ADEthFlash V3.4 : new : button for Bootloader dis-/enable (from ENET firmware 2.66 on)
- ADlog V1.0.33 :

- Start/Stop Communication Buttons are now located in the toolbar of the main window
- math. functions improved
- diverse improvements

### Most important features of version 4.20.03.07 compared to version 4.20.03.00 :

(Release date : 30.03.2006)

- ADbasic include files :
  - ADwinPRO2.inc : new : support of the module Pro-Ain-F-8/14 (Rev. E)  
bugfix at CPU\_EVENT\_CONFIG()
  - ADwL16.inc : new instructions for Rev. B : SEQ\_READ(), SEQ\_INIT(), L16\_MODE()  
only DIO\_02 : SSI\_...()  
only DIO\_02 or DIO\_03 : DIGIN\_LONG\_E(), DIGOUT\_LONG\_E()
- ADwinTCPserver V1.7.0 : optimisation of data throughput
- Pro-Storage : Pro-Storage\_MP.BAS : bugfix at writing into a file
- L16Calib.exe V2.0 : now also suitable for calibration of the new L16 Rev. B
- ADconfig V3.5 : bugfixes at DHCP
- ADlog V1.0.32 :
  - new : math. functions : Addition, Substraction
  - new : two configurations with 16 channels for ADwin Gold
  - improved Zoom at several Y-axis
  - Recording mode : enhanced triggermodes
  - Recording mode : now also header line (with the names of the channels)

### Most important features of version 4.20.03.00 compared to version 4.20.01.08 :

- ADbasic V4.20.01 , ADwin11.BTL :
  - Conditional compilation with ADWIN\_SYTEM ( = ADWIN\_GOLD, ADWIN\_L16, ADWIN\_PRO )
  - names of variables and #DEFINE may not contain special characters (+-\*/^.;&|%\$\$#) any longer
  - bugfix at libraries at T11
  - bugfix at programcode located in DRAM\_EXTERN (only T11)
  - bugfix at concatenation of strings
  - bugfix at setting of the Low Priority Level
  - bugfix at #DEFINE, which is used in a SUB or a FUNCTION
- ADbasic include files :
  - ADwpAD.inc : new : READ\_ADCF4/8, READ\_ADCF4/8\_PACKED
  - ADwinPRO2.inc : new : support of the module Pro-Ain-F-8/18
- ADbasic libraries :
  - String.Li\* : bugfix at function VALF : Exponent was ignored, if it contained a "+" character
- ADtools : TProcess V5.3 supports the new Debug- Mode messages of the Pro-II-Bus
- ADPro V5.1.2153 : diverse improvements
- ADlog V1.0.27 : diverse improvements

### Most important features of version 4.20.01.08 compared to version 4.01.19.00 :

- ADbasic version 4.20.01 , ADwin11.BTL :
  - **support of the new processor T11** (with 300 MHz , more details : see document :  
C:\ADwin\Documents\Hardware\ADwin-PRO\english\Pro\_T11\_eng.pdf )
  - new instructions (only T11) : - START\_PROCESS\_DELAYED, RESTART\_PROCESS, MEMCPY,  
CPU\_SLEEP, P1\_SLEEP, P2\_SLEEP
  - maximum codesize (per process) is 1.000.000 Byte when using T11 processor
  - bugfix at Shift\_Left
  - bugfix at string assignment and string addition (only when using a T10 processor)
  - Parameter Scan did not work for Par\_80, FPar\_80
  - now a warning is generated, if the operator "-" is directly following after the operators "/" or "^".
- ADbasic include files :
  - ADwinPRO1.inc : new file for processor T11 (for well-known bus Pro I)
  - ADwinPRO2.inc : new file for processor T11 (for new Bus Pro II)  
new instructions : CPU\_EVENT\_CONFIG, CPU\_DIGIN, CPU\_DIG\_IO\_CONFIG, CPU\_DIGOUT

- ADwinPRO\_ALL.inc : new universal include file for all processors T4 to T11
- ADbasic libraries :
  - String.Li\* : bugfix at functions LNGTOSTR and FLOTOSTR
  - FFT.Li\* : optimized version for T11, bugfix at function FFT\_Phase ( )
- ADbasic sample programs :
  - new sample programs : Pro-AIn8-14\_Seq.BAS, Pro-AIn8-14.BAS
- ADwin driver bugfixes :
  - occasional problem with SetData function (ENET)
  - occasional loss of PC physical memory on useage of function SetFifo (ENET)
- Developer software :
  - Agilent VEE : sample programs revised, new : Bas\_Dmo7.vee
  - Matlab : ADlab.dll is now located in the directory "C:\ADwin\Developer\Matlab\ADwin"
- ADPro version 5.0.2077 :
  - support of processor T11 ; improved user interface
  - hint : ADpro\_Old has to be used for processors T4 to T8
- ADlog V1.0.24 : diverse improvements ; reworked Online-help
- ADEthFlash V3.3 : new : button for Bootloader dis-/enable (from ENET firmware 2.66 on)
- Setup.exe (version 4.3.0.0) :
  - there is no more check, whether the user is a so-called "Administrator", but only, whether the user is a member of the Administrators' group
  - check if Microsoft (R) .NET Framework 1.1 is installed
- JAVA V1.2 :
  - support of processor T11
  - new methods : Set\_Processdelay, Get\_Processdelay
  - the max. data transmission rate at GetData was increased (from ENET firmware 2.66 on)

#### **Most important features of version 4.01.19.00 compared to version 4.01.17.01 :**

- ADbasic version 4.01.19 :
  - bugfix at : "Compiler Options" -> "System" -> "ADwin-GOLD"
- ADlog V1.0.21 : diverse improvements ; reworked Online-help

#### **Most important features of version 4.01.17.01 compared to version 4.01.15.00 :**

- ADbasic version 4.01.17 :
  - display of line and column number in the "Status Bar"
  - new ADbasic systemvariable PROCESSDELAY (identical with GLOBALDELAY)
  - bugfixes at #defines, #endif and optimization level 2
  - bugfix at : SIN, COS, EXP, LOG, LN, SQRT, TAN, ARCSIN, ARCCOS, ARCTAN
  - bugfix at : variable ^ constant ^ constant
  - bugfix : Mark Controlblock did not work under Win XP
- ADbasic include files :
  - ADwpext.inc : support of the new thermocouple- module TC-8 ISO
- ADbasic library files :
  - Sting.Li9 / .LiA : bugfix at STRMID, STRLEFT, STRRIGHT, FLOTOSTR
- ADwin driver (ADwin32.DLL) :
  - max. data transmission rate at GetData was increased from 4.8 to 6 Mbyte/s (from ENET firmware 2.66 on)
  - bugfix : write permissions are no longer needed in the root- directory on the fixed disk ( C:\ )
  - bugfix : now also dots (= periods) are allowed in the path of the ADwin?.BTL
- Developer software :
  - ADwinActiveX V 3.0.0.1 :
    - improved error handling now supports also Multi-Threading
    - bugfix at Set\_Language()
  - Labview driver :
    - improved error handling now supports also Labviews Multi-Threading
    - the DLL-calls were made independent from the user-interface; therefore the user-interface is operable even during long-lasting DLL-calls (e.g. if ADwin-system is not accessible)
    - calling convention of the VI's is no longer "as caller" but "standard" , therefore possibly higher speed
    - from now on the current driver does only support Labview versions >= 6.0
    - bugfix : at GetData\_String
  - Matlab driver :

- o new : Get\_Last\_Error\_Text, String\_Length, Get/SetData\_String, Get\_DeviceNo, Show\_Errors
  - o Online-help : 'help ADwin' can now be called in the 'Command Window'
- Testpoint driver : Realtime Object 1.4.1 :
  - o new action : Read Fifo Int32 : necessary for integer numbers greater than 16777215 (= 24-bit)
  - o Read Parameter All and Read Parameter Block are now returning signed values
- ADconfig V3.0 :
  - o completely new designed and clearly arranged user interface
  - o scanning of ADwin-systems (Scan\_AEI) is now integrated into ADconfig
  - o context- sensitive Online- help
- ADEthFlash V3.2 as well as ADtools V5.1 : adaption for future processors
- ADlog V1.0.19 : diverse improvements
- JAVA V1.1 : bugfixes

### Most important features of version 4.01.15.00 compared to version 4.01.13.00 :

- ADbasic version 4.01.15 :
  - new samples : RS232\_send\_string.BAS, RS232\_receive\_string.BAS
- ADwin operating system :
  - ADwin10.BTL : bugfix at ADBasic instruction START\_PROCESS()
  - ADwin9.BTM : issue with Link- Bootloader fixed
- Developer Software :
  - Delphi driver : bugfix : wrong return values at function ADBoot() (at processors T2, T4, T5, T8) as well as function Processor\_Type() (at T5 and T9)
  - Matlab driver : bugfix: function 'Get\_Globaldelay' : value was taken from processnumber+1
  - C - driver : sample programs revised
  - Testpoint driver : systemobject 1.3.8 :
    - new option „Load Standardprocesses“ (i.e. loading of ADwins9.btl is possible)
  - ADwinActiveX V 2.0.0.11 :
    - **New** : sample programs for VB.NET and C#.Net
    - Intouch sample programs adapted to Intouch 9.0
  - **New** : GUI\_development.pdf : advice for developers on the drivers and samples of the different development environments
- ADwinTCPserver V1.6.3 :
  - Bugfix : big data throughput caused a timeout at 'SetData'
  - now several PCs can access an ADwin-system via the ADwinTCPserver
  - Help- file completely revised
- ADEthFlash V3.0 : Online info about EEPROM Support now also for ADwin Ethernet interface 2
- ADtools V5.0 : at all ADtools : buxfix at the DeviceNo (only if last used DeviceNo does not exist any more)
  - TPoti: the Focus-color and the NonFocus-color is now selectable
  - ADtools.exe : the recent used path is remembered on saving and opening \*.def files
- ADlog V1.0.11 : datalogging software for ADwin systems
  - ADbasic measurement processes reworked
  - higher performance of the graphic display
  - X-axis can be shown in a date / time formatted manner
  - diverse bugfixes and improvements
  - Help- file now also in English
- **Linux** : completely reworked : ADbasic- compiler V4.01.11 and driver V3.0.446 (now also ENET support)

### Most important features of version 4.01.13.00 compared to version 4.01.10.02 :

- ADbasic version 4.01.13 :
  - bugfix : at SHIFT\_LEFT, SHIFT\_RIGHT, ABS, SIN, COS, EXP, LOG, LN, SQRT, TAN if one of these functions uses itself as a function parameter
  - bugfix : accuracy of calculations at division by a constant
  - bugfix : printing in „landscape“- orientation
  - bugfix : at optimization level 2 on calculation with constant expressions
  - new Compiler Option : Remember Device No.
- ADbasic Include files :
  - ADwpdio.inc : new subroutine : RTC\_GET()
  - ADwpAD.inc : bugfix : BURST\_CREAD ()
  - ADwpext.inc : bugfixes : RS\_RESET(), WRITE\_FIFO(), GET\_LINE\_STATUS()

- ADwGCAN.inc : new file for CAN-expansion at ADwin-GOLD
- PRO-STORAGE\_SP.inc : bugfix : MEDIA\_RD\_...
- ADwin driver bugfixes :
  - occasional problem with SetData function on ENET – fixed only together with firmware >= 2.53 and 2.64 respectively
  - occasional problem with GetFifo function (ENET)
- Developer Software : Testpoint driver :
  - Realtime Object 1.3.8 : bugfix : Read Parameter returned only unsigned values.
  - A/D Object 1.3.5 : bugfix : at Sample A/D Action (all 16-bit values < 32768 were miscalculated)
- ADEthFlash V2.9 : EEprom Support now also for ADwin Ethernet interface 2
- ADtools V4.9 : diverse buxfixes at TGraph, TDigit, TPoti, TPar\_Fpar
  - TGraph : new : now up to 16 analog channels and 32 digital channels
  - TGraph : new : importing of data from a textfile
  - TGraph : new : timer can be disabled by pressing the SHIFT- key during startup
  - TGraph : new : values can be edited by double-clicking in the Textwindow
  - TProcess : new : ADbasic Debug Errors are displayed
  - TProcess : new : PM, DM, DX and Codesize are displayed
  - TProcess : new : Globaldelay can be set also in frequency units (Hz, kHz, MHz)
  - TPar\_Fpar : new : comments can be imported from ADbasic #defines.
- ADlog V1.0 : datalogging software for ADwin systems. **(on the CD-Rom for the first time)**
- **JAVA** V1.0 : JAVA- interface for ADwin-systems with Ethernet interface **(on the CD-Rom for the first time)**

#### **Most important features of version 4.01.10.02 compared to version 4.01.01.21 :**

- ADbasic version 4.01.10 :
  - bugfix : if the same Fifo is used several times within an expression
  - diverse bugfixes at optimization level 2 (e. g. at :Digin() )
  - bugfix : at integer expression VARIABLE \* CONST / CONST or VARIABLE / CONST \* CONST
  - now more than 128 characters are allowed for file-/pathname
  - bugfix : occasional problem with libraries
  - bugfix : on task-switch among several low prioritized processes
  - improved checking of the function parameters at :Fifo\_Full(), Fifo\_Empty(), Fifo\_Clear()
  - improved checking of the file, which is passed to the IMPORT instruction
- ADwin operating system (ADwin9.BTL, ADwinS9.BTL, ADwin10.BTL) :
  - bugfixes at the communication process and at the process-scheduling of low priority processes
- Developer Software :
  - Matlab driver : new function Data\_Length()
  - C - driver : sample programs revised
  - ADwinActiveX V 2.0.0.10 : bugfix at function "Boot": If property Exception\_Enable is used, then no exception was initiated.
- Pro-Storage V1.8 : bugfixes ; now also FLOAT can be stored/loaded

#### **Most important features of version 4.01.01.21 compared to version 4.01.0106 :**

- ADbasic library files : new : FFT library now also for T10 (FFT.Lia)
- ADbasic include files :
  - ADwpdio.inc : new : instructions for the COMP16 module ; bugfix on Pro-Storage (RTC)
  - ADwpext.inc : corrected : SET\_RS ( )
  - ADwpda.inc : new instructions for memory option (for example Pro-Aout-4/16-M2)
- ADwin driver bugfixes and optimizations :
  - occasional problem with SetData function on ENET
  - occasional problem with access from several PCs to one ADwin-system (ENET)
  - better usage of the transmission bandwidth on simultaneous access from one PC to several ADwin-systems with the same TCP/IP port.
  - ENET optimizations at SetFifo function , especially active with Win9X/ME PCs
- ADwin operating system (ADwin9.BTL, ADwinS9.BTL, ADwin10.BTL) :
  - Bugfix : on starting a second process
- Developer Software :
  - VisualBasic driver : return value of the function Get\_Globaldelay
  - Testpoint driver : A/D Objekt now also for GOLD and L16

- Labview driver : Acquire.vi now also for GOLD and L16
- InTouch driver : sample programs are on the CD for the first time
- Matlab driver : some functions returned a duplicate result
- GoldCalib V1.0 : this is the calibration program for ADwin-Gold-ENET/USB
- Pro-Storage V1.6 : now also module addresses > 99
- ADEthFlash V2.2 : supports now also firmware 2.52

#### Most important features of version 4.01.0106 compared to version 4.00.0600 :

- ADbasic version 4.01.01 :
  - Mark Controlblock now also for SELECTCASE
  - new functions : CAST\_FLOATTOLONG(), CAST\_LONGTOFLOAT()
  - bugfixes :
    - at optimization level 2
    - constant -2147483648 was not accepted
    - problem with Fifo (Float) as LValue
    - Open All Includes did not work in certain cases
    - Debugmode did not work in LowInit section
    - problem on handling with strings
    - on ADC instruction if the first function parameter is not a constant
    - error on nested libraries with T10 if array is in external memory (DX)
- ADbasic include files :
  - ADwinpro.inc : new function : CPU\_DIGIN()
  - ADwpio.inc : new: Pro-Storage : PCMCIA- memory and real-time clock
- Developer Software :
  - Testpoint driver : support of the T10 processor
  - Labview driver : paths adapted for Labview 7 and sample programs
  - C - driver : reworked
- ADEthFlash V2.1 : support of ADwin Ethernet interface 2

#### Most important features of version 4.00.0600 compared to version 4.00.0500 :

- ADbasic version 4.00.06 :
  - bugfix : old incompatible libraries are now rejected
  - FFT- library newly generated with ADbasic 4
- ADconfig V2.7 :
  - bugfix (problem, if all Device\_No have been deleted)
- ADPro Version 4.1 :
  - support of the new Pro-AIN 8/14, Pro-AIN-32/14, Pro-AIn-8/16 Rev C, Pro-AIn-32/16 Rev C

#### Most important features of version 4.00.0500 compared to version 3.20.1200 :

- ADbasic version 4.00.05 :
  - T10 Processor (80 MHz) is now supported (\*1)
  - Projectmanagement : A projectfile can be created, which is able to open several ADbasic files (\*1)
  - new optimisations for T10 : up to 10 % less program memory (PM) needed, compared with the T9
  - support also of the ADwin-Gold-ENET and ADwin-Gold-USB (both Rev. B1 or greater)
  - for ADwin-Gold : multiplexer settling time changed from 1,5 to 2,5 µs for theADC12 instruction. Programs with the ADC12 instruction now need more CPU- time and eventually have to be reworked.
  - Load Standardprocesses : If "No" => approx. 11 kByte bigger free program memory (PM)
  - Default Settings for Directory (BTL, INC, LIB) now also for several Users under NT, W2K, XP
  - commandline functionality
  - improved user interface :
    - all 80 PARs/FPARs in Parameter window
    - simultaneous control over all 10 processes in the "Processes Window" (\*1)
    - new button: "Enable cyclic update"
    - new button: "Parameter Scan" (\*1)
    - system (Gold, Pro, Light-16, ..) is now selectable. (= replacement for: "16 bit resolution")
    - shortcuts für Boot, Compile, Start, Stop, Parameter Scan, (Un-)Comment Block, In-/Outdent
    - permanent display of the options :

- Process X delay (= former called : (Global-) Delay)
- Initial Processdelay (= former called : (Global-) Delay)
- Device No. , Eventsources , Priority , Process number , Optimize Level
- new instructions :
  - Sleep()
  - AT DM\_LOCAL, AT DRAM\_EXTERN can optionally be specified on BYREF parameters of libraries (for the reason of code optimisation)
  - #IF PROZESSOR = T10 THEN
- bugfixes :
  - #DEFINE now also allowed on strings
  - at powerfunction ( ^ ) , at optimisation level 2, at IMPORT instruction
- revised editions of ADbasic Manual and Tutorial
- revised edition of context- sensitive ADbasic Online Help

\*1 = a new ADbasic4 license is necessary for this feature

- ADbasic include files :
  - Adapted for processor T10 : ADwpAD.inc, ADwpDA.inc, ADwpDIO.inc, ADwinPro.inc, ADwpEXT.inc
  - ADwpAD.inc : new for Pro-AIN-F-X/14 (Rev B2) : BURST\_CSTART() , BURST\_CREAD() , SYNC\_MODE()  
new instructions for sequence control : SEQ\_...()
  - ADWgcnt.inc : new for ADwin-Gold-ENET-/USB (Rev. B1 or greater) with CO1 Option :  
CNT\_GETSTATUS() , CNT\_RESETSTATUS() , CNT\_SE\_DIFF()
- ADbasic Library files : new : ADwpEXT\_lib.Li9, ADwpEXT\_lib.LiA
- ADwin driver bugfixes :
  - occasional problem (errorcode 2000) with SetFifo function on ENET
  - occasional problem with path-/filename with function ADwin\_Debug\_Mode\_On
- ADwin operating system (ADwin9.BTL, ADwinS9.BTL) :
  - ADwinS9.BTL : approx. 11 kByte bigger free program memory (PM)
- Developer Software :
  - Labview driver : improvements on Stopdac, Startdac, Acquire, Process\_Status
  - Delphi Treiber : improvements on Get\_last\_error\_text
- ADtools V4.6 : TProcess : Processor T10 is now supported ; bugfixes at TPoti and TPar\_FPar ;  
improvements at TGraph
- ADEthFlash V2.0 : Processor T10 is now supported
- ADPro Version 4.0 : Processor T10 is now supported
- ADtest V1.7 : (settings are now stored in the registry in location „HKEY\_CURRENT\_USER“ )
- ADwinTCPIPserver V1.2 : on errors, now errorcodes are displayed
- ADbootload V3.4 : bugfix

#### **Most important features of this version compared to version 3.20.0804 :**

- ADbasic version 3.20.12 :
  - Bugfixes on libraries and Sleep instruction in optimization level 2
  - Bugfix on sin-, cos- and powerfunction ( ^ ) at processes with low priority
- ADwin driver :
  - improved USB driver
- ADwin operating system (ADwin9.BTL) :
  - Bugfix on Booting the ADwin-Pro system (undefined behaviour)
- Developer Software :
  - Matlab driver : (license key for this is required).
- ADtest V1.6 : (settings are now stored in the registry in location „HKEY\_CURRENT\_USER“ )
- ADwinTCPIPserver V1.1 : (for the first time on the ADwin-CD)

#### **Most important features of this version compared to version 3.20.0703 :**

- ADbasic version 3.20.08 :
  - Bugfixes on libraries and on calculations with signed constants
  - The default setting for “16 Bit resolution” is now “Yes”
- ADbasic include files improved : ADwL16.inc , ADwgcnt.inc , ADwpad.inc

ADwpDIO.inc ( new: instructions for Pro-CO4 , Pro-DIO-32 (Rev B) )

- ADbasic example "Bas\_Dmo7.bas" improved
- FFT- library available for the first time in : C:\ADwin\ADbasic3\lib
- ADwin driver improvements :
  - On using the functions GetData\_Float / GetFifo\_Float / GetFPar\_All , possibly existing invalid bit patterns (e.g. because of not initialized data) are now set to Q-NAN
- Developer Software :
  - improvements in Labview and C – driver
  - **ADwinActiveX V 2.0** available for the first time in : C:\ADwin\Developer\ActiveX  
Therefore for the first time a driver for the developer environment :
    - **Visual Studio .NET:** C#, VC++ 7, VB.NETAs well as for the developer environments :
    - Visual C++ 6, Visual Basic 6 , Borland Delphi , Borland C-Builder , Agilent VEE, etc.
- ADPro Version 2.9 : The revision identifier is now displayed for all (i.e. also old) modules
- Windows Installer Engine version 2.0 :
  - The new engine version will be installed automatically, if necessary.
  - Problem on deinstalling older versions (Error 1316) is now fixed
  - Service pack 6 is now required for WinNT (SP6 is available on CD in directory : NT4\_SP6a).

### Most important features of this version compared to version 3.20.0109 :

- ADbasic version 3.20.07 :
  - Bugfixes on strings, libraries, ADC12, optimization level 2, power function (^)
  - Escape sequences for strings
  - Constants are now combined/calculated at compile-time, no longer at runtime. This is valid for all optimization-levels. Advantage : programs are executed faster. But **ATTENTION** : waiting times (e. g. for multiplexer settling time) , which have been implemented by program code containing calculations with constants, are now shorter. They have to be reworked respectively.
- ADbasic include files :
  - ADwpEXT.inc (new instruction because CAN-LS : **GET\_LINE\_STATUS**)
  - ADwL16.inc (for ADwin-L16-DIO1 and ADwin-L16-CO1)
- ADwin driver bugfixes :
  - improved errorhandling for diverse functions
  - improved USB driver (errorhandling)
- ADwin operating system (ADwin9.BTL) :
  - decrease in the influence of the process- timing, which could be caused by :
    - **BEGIN\_CRITICAL\_SECTION** (often used in : ADwin-Pro)
    - or division in a process with low priority
- Developer Software :
  - improvements in Visual Basic, Labview and C - driver
- ADPro Version 2.7 : new : identification/calibration of new module Pro-AIN-F-4/14, Pro-AIN-F-8/14
- L16Calib V1.0 this is the calibration program for ADwin-Light16
- ADconfig V2.2 : (configuring of several Devices is more user friendly now)
- ADtools V4.4 :
  - new : TString ( for displaying and editing of ADbasic- strings)
  - TPar\_FPar : new : individual labelling of each Par / FPar-line
  - Bugfixes
- ADfind\_dll V 1.0 searches for all ADwin- DLL and BTL files, which are stored on the PC

### Most important features of this version compared to version 3.20.0101 :

- ADwin driver feature :
  - higher data transfer rates with GetData\_Long, ...\_Float, ...\_String, ...\_Double on ENET, if firmware of the ADwin ENET interface >= 2.5 and if <= 1750 data are transferred from the ADwin- system
- ADwin driver bugfixes :
  - occasional problem (windows- protection fault) with GetData function on networks, which have a lot of traffic
  - occasional problem (wrong errorcode) with SetFifo function on ENET
- ADPro version 2.6 : new : identification of new counter module Pro-CO4
- ADbasic include files :
  - ADwpAD.inc (because of new Pro-AIN-8/16-RB , Pro-AIN-32/16-RB , Pro-AIN-F-4/14, Pro-AIN-F-8/14)
  - ADwpDIO.inc ( new: instructions for Pro-CO4 (and SSI))
- Developer Software :

- Testpoint driver version 1.3.6 with the following new actions :
  - Get\_Last\_Error
  - Read Parameter All, Read Parameter Block
- Labview driver version 2.0 with the following new functions:
  - errorhandling conformable with Labview (error wiring via Error In, Error Out : based on Get\_Last\_Error, Get\_Last\_Error\_Text )
  - Get\_Par\_Block, Get\_FPar\_Block
  - GetData\_String, SetData\_String, String\_Length
  - Process\_Status, Data\_Length, Set\_Globaldelay, Get\_Globaldelay, Set\_Language
- ADEthFlash V1.5 (new : EEprom support)
- ScanAEI V1.2 (new : If DIL-switch 1 is present, the version number is displayed with an appended ".1" )
- ADtools : bugfixes on Tgraph and TProcess
- ADconfig V2.1 : easier user guidance for the configuration of Ethernet

### Most important features of this version compared to version 3.00.3011 :

- Window XP support (new USB driver)
- ADbasic version 3.20.01 : new :
  - Libraries (see : ADbasic3.20-lib\_eng.pdf)
  - String functions (see : ADbasic manual : ADbasic3\_eng.pdf)
  - „Syntax Color“ (highlighting of ADbasic keywords, comments, etc.)
  - Autoindent
  - multiple “Undo“ and “Redo“
  - “Open All Includes“ (opens all files, which are included by the #INCLUDE command)
  - “Tabsize“ now adjustable (Default Tabsize = 2 , therefore it may be necessary to check the format of those ADbasic programs, which are using TABs)
  - On right mouseclick :
    - (Un-)Comment Block (changing multiple codelines to comments and vice versa)
    - Indent/Outdent
    - Mark Controlblock (on right mouseclick on a line, which contains IF , ELSE or ENDIF, the whole textblock of the IF – ELSE – ENDIF structure will be highlighted ; the same is also valid for : DO .. UNTIL, FOR .. NEXT )
  - Info window (shows several compiler- error messages and warnings)
  - diverse bugfixes (e.g. at SELECTCASE)
- ADPro version 2.4 : new : calibration function now has adjustable gain; binary input possible; ability to switch between UNI/BIP voltage ranges; identification of new module AIN32/16RB
- ADtest V1.4 : last used Device No. is now saved
- ADconfig V2.0 : diverse improvements, timeout now adjustable with resolution of 100 ms
- ADwin driver :
  - better error handling
  - bugfix at Set\_Fifo ( error occurred only with Ethernet, if Float Data were converted to Long DATA(s) )
  - bugfix at process-scheduling of low priority processes
- Developer Software : Visual Basic , Delphi and C – driver with the following new functions :
  - Get\_Last\_Error, Get\_Last\_Error\_Text
  - Get\_Par\_All, Get\_FPar\_All
  - GetData\_String, SetData\_String, String\_Length
  - Process\_Status, Data\_Length, Set\_Globaldelay, Get\_Globaldelay, Set\_Language
  - etc.
- ADtools V4.1 (new : TFifo and TBin)
- ScanAEI V1.0 (scans all ADwin-Ethernet interfaces, which are located in the same TCP/IP- subnet as the PC )
- Linux : latest driver and (for the first time) XADbasic\_beta (= ADbasic-GUI)

### Most important features of this version compared to version 3.00.2735 :

- ADPro version 2.2 : new : calibration function for Rev. B modules
- ADtest V1.3 : now also GOLD and Light-16 is supported ; Info window shows all installed ADwin software packages

- ADconfig version 1.7 : now available : 4-digit Linkaddress
- ADbasic : diverse bugfixes on : DAC- instruction, libraries, external event, integer division
- diverse updates and bugfixes on : ethernet, profibus, ADserver.exe, standard processes, Bootloader (Link), process-timing of low priority processes, communication problem on very big blocktransfer of data under WinNT and Win2000 fixed, problem on starting and stopping of processes under Testpoint fixed
- developer software :
  - Labview driver adapted for Labview 6.0
- for the first time on CD : ADbasic development system and drivers for Linux

**Most important features of version 3.00.2735 compared with version 3.00.2733 :**

- ADEthFlash V1.2 (for programming the bootloader and updating the firmware of ADwin-systems with Ethernet interface)
- ADTools V 3.6
- Significant improvement of the transfer rate of ADwin-light-16

**Most important features of version 3.00.2733 compared with version 3.00.2332 :**

- support of ADwin-systems with Ethernet interface
- under Win2000 also ADPCMCIA and PCI is now supported.
- under Win2000 the ISA-LINK cards are managed now in the "Device Manager".
- new ADbasic instruction : **SELECTCASE**
- "16 Bit resolution" is now the default setting in the ADbasic Compiler Options
- improvements in the accuracy of calculations with the power- function ( ^ )
- improvements of the functionality and the (transfer rate) performance of USB