

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 ()
- ADwinTCIPserver 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-Aln8-14_Seq.BAS`, `Pro-Aln8-14.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 :
 - `String.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 :

- new : Get_Last_Error_Text, String_Length, Get/SetData_String, Get_DeviceNo, Show_Errors
 - Online-help : 'help ADwin' can now be called in the 'Command Window'
- Testpoint driver : Realtime Object 1.4.1 :
 - new action : Read Fifo Int32 : necessary for integer numbers greater than 16777215 (= 24-bit)
 - Read Parameter All and Read Parameter Block are now returning signed values
- ADconfig V3.0 :
 - completely new designed and clearly arranged user interface
 - scanning of ADwin-systems (Scan_AEI) is now integrated into ADconfig
 - 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
- ADwinTCIPserver V1.6.3 :
 - Bugfix : big data throughput caused a timeout at 'SetData'
 - now several PCs can access an ADwin-system via the ADwinTCIPserver
 - 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 : bugfix at the DeviceNo (only if last used DeviceNo does not exist any more)
 - TPot: 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 bugfixes 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()`
 - ADwpdio.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 the **ADC12** 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_... ()
support of new Pro- AIN 8/14 , Pro- AIN 32/14
 - 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.NET
 As 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 : T Fifo and T Bin)
- 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