

Version **5.00.17.01** :

Most important features of version 5.00.17.01 compared to version 5.00.14.00 :
(Release date : 28.11.2011)

- ADbasic 5 user interface V5.0.8.19 , TiCoBasic user interface V1.2.8.19 :
 - new at T9 to T11 : "Call Tree"
 - "Managing Projects" enlarged : files of any type can be added to a project, and diverse settings can be saved in the project file
 - new : "<Region>" (= foldable text range) and „Create Region from Block“
 - new : "documenting self-defined instructions and variables" (i.e.: adding extra information)
 - further diverse improvements and bugfixes
- ADbasic 5 compiler V5.00.17 , TiCoBasic compiler V1.02.17 :
 - bugfix : occasional problem at MemCopy () at two-dimensioned arrays
 - bugfix: at T11 at Low Prio processes
 - bugfix: at TiCo at big jumps
 - diverse bugfixes among other things at FiFos, libraries (Float-division, TiCo)
- ADbasic / TiCoBasic include / library files :
 - new : (P2_Write_Fifo_Full (at: Gold II, Gold II TiCo, Pro II)
 - bugfix: P2_Digin_FIFO_Read_Fast ()
 - bugfix: at T11 at LS-Bus
 - EEPROM_Support.inc : bugfix in timeout handling
- ADwin driver :
 - USB driver now also for 64 bit Windows operating systems
 - ADwin64.Dll : V3.0.464.2 : allows the access for 64-bit applications
- Developer software :
 - dotNET - driver : V1.0.57.0 : completely reworked Online-help
 - Matlab driver V4.01.03 : now identical notes are displayed just once
- ADlog V1.2.0.0 : new : now also ADsim-processes can be used
- ADpro V5.4.5 : support of : *Pro AIn-F-8/16 Rev. B , Pro II AIn-F8/16 (calibration)*
- ADtest V5.1.0 : calibration data can be backed up in files and restored

Most important features of version 5.00.14.00 compared to version 5.00.10.00 :
(Release date : 21.03.2011)

- ADbasic 5 user interface V5.0.6.78 , TiCoBasic user interface V1.2.6.78 :
 - new : "Fontsize" can be set for the source code window
 - further diverse improvements and bugfixes
- ADbasic 5 compiler V5.00.14 , TiCoBasic compiler V1.02.14 :
 - new : Round () (returns the nearest integer of a value of data type Float)
 - the start of the timebase for Low Prio processes was moved from the begin of INIT to the end (T9 to T11)
 - bugfix : occasional problem if the passed parameter of a macro is an addition of strings
 - diverse bugfixes among other things at libraries
- ADbasic / TiCoBasic include / library files :
 - new : support for *L16-PWM1* (this add-on has one PWM-output and one SPI-interface)
 - new : support for *Pro II-TC-8 ISO* (module for thermocouples)
 - new : P2_Wait_Mux () (waits for the end of the multiplexer settling)
 - new : P2_Digin_Fifo_Read_Fast () (Fifo values are written into an array)
 - new : P2_Burst_CRead_Pos_Unpacked1, -2, -4, -8 (for *Pro II-AIn-F-8/14*)
 - new : EEPROM_Support.inc : (see: C:\ADwin\Tools\Ethernet Interface\Bootloader_eng.pdf)
 - diverse include and library functions : optimization (faster and smaller code)
- Developer software :
 - new : dotNET - driver : V1.0.52.0 BETA especially developed for Visual Studio .Net ; supports 32- and 64-bit
 - Labview driver V3.0 :
 - now 32- as well as 64-bit Labview is supported
 - new: File2Data.vi
 - SciLab driver V1.04.01 :
 - does now work also with new Scilab versions, e.g. 5.1.1 as well as 5.3.0-beta-4
 - optimized errorcode handling
 - Matlab driver V4.01.01 : if necessary , the function ADwin_Init is called automatically
 - ADwinActiveX V 4.0.0.0 : bugfix : occasional problem on Vista, Windows 7

- ADlog V1.0.48.2 : bugfix at the processes for Gold II (issue at some analog channels)
- ADEthFlash V3.10 : the required firewall configuration is set automatically
- Fieldbus : new : ESI_ABCC_ECT_V_1_04.XML (for Gold-II- EtherCAT)
- Installation routine : all default- registry- settings are now added also on 64-bit operating systems
- Linux, MAC OS Version 5.00.10.03 :
 - improvements, bugfixes : ADbasic compiler, library, generic driver, Scilab driver
 - new : Python driver 0.9 ; 64 bit support for ADconfig

Most important features of version 5.00.10.00 compared to version 5.00.08.06 :
(Release date : 10.06.2010)

- ADbasic 5 user interface V5.0.6.68 , TiCoBasic user interface V1.2.6.68 :
 - new : user-defined, external shortcuts can be inserted into the ADtools-bar
 - new : in the context menu of the project window : "Open path in Windows Explorer"
 - new : the results of "Find : All Documents of Project" can be copied into the clipboard
 - "Autocomplete for instruction or variable" was improved
 - "Jump to Declaration" does work now also for user libraries
 - new in TiCoBasic : button „R“ (= Reset Tico)
- ADbasic 5 compiler V5.00.10 , TiCoBasic compiler V1.02.10 :
 - the DATA-number is now also displayed in the Debug Mode
 - bugfix : occasional problem at programs with codesize > 131072 bytes
 - diverse improvements and bugfixes among other things at libraries (ADbasic), Min_Long , Max_Long (TiCo)
- ADbasic / TiCoBasic include / library files :
 - improvements/bugfixes at : CAN, (P2-)Workload
 - new : Wait_Mux , Mod (integer remainder of a division)
 - new : EtherCAT support for Gold-II- EtherCAT, Pro-II-EtherCAT, Pro-II-MIO-4-ET1
- ADbasic / TiCoBasic sample programs :
 - FFT sample programs optimized for T11
 - new sample programs for : Pro II-Aln-8/18, Pro II-F8/14, 16, 18, Pro II-PWM-16, Pro II-Cnt, Pro-CO4
 - new Tico sample programs for Eventsource External
- ADwin driver :
 - new : ADwin64.Dll : V3.0.464.2 BETA : allows the access for 64-bit applications
 - new : ADsim32.Dll : allows access to internal parameters/signals of a compiled Simulink model
- Developer software :
 - new : Python - driver
 - Matlab – driver V4.00.00 : now also Matlab 64-bit is supported
 - Delphi driver : support of Delphi 2009 and 2010
- ADtools V5.17 : minor bugfixes (colours, large fonts)
- ADtest V5.0.2 : completely new developed testprogram for Light-16, Gold and Gold II , calibration for Gold II
- ADlog V1.0.47.1 : bugfix in Min/Max function
- Fieldbus : new files :
 - ADwin-EtherCAT.xml (for Pro-II-EtherCAT, Pro-II-MIO-4-ET1)
 - DDF_ABCC_ECT_V_1_03.XML (for Gold-II- EtherCAT)
 - 324-8172-EDS_ABCC_DEV_V_2_3.EDS (for Gold-II-DeviceNet)

Most important features of version 5.00.08.06 compared to version 5.00.07.02 :
(Release date : 28.09.2009)

- Windows 7 : tested and approved for this operating system
- ADbasic 5 compiler V5.00.08 , TiCoBasic compiler V1.02.09 Beta :
 - occasional problem if a THEN follows a FIFO
 - occasional generic error at SEQ_READ8 , SEQ_READ16 and MEDIA_READ
- ADwin operating system (ADwin11.BTL) :
 - bugfix : occasional problem on stopping of processes with Eventsource External
- ADbasic / TiCoBasic include / library files : support of the new modules :
 - Pro II-RTD-8
 - Pro II-FlexRay-2
 - Pro II-MIO-4
- ADconfig V3.20 : the configuration of illegal (UDP) ports is now prevented
- ADtools V5.15 : improvements and bugfixes (TButton, TMeter, TGraph, ADtools.exe)

- ADlog V1.0.46.0 : enhanced ASCII record options
- L16Calib V2.0 : bugfix at calibration of Light-16
- Setup.exe V5.0.0.6 : faster installation procedure

Most important features of version 5.00.07.02 compared to version 5.00.05.10 :
(Release date : 23.06.2009)

- last version with official support for Windows 98, ME
- ADbasic 5 user interface V5.0.6.27 , TiCoBasic user interface V1.2.6.27 Beta :
 - "Automatic quick info" : automatic display of (declaration-) information if mouse is over a source code element (variable, #Define, (Lib-) Sub, (Lib-) Function)
 - when typing a Sub/Function : information on their passed parameters are shown
 - "Scan Global Variables" button in the Parameter Window : now also global arrays are shown in the Info Window
 - Autocomplete now also at :
 - #INCLUDE together with include filenames, which fit to the selected ADwin- system
 - "Reserved Keywords"
 - many "Codesnippets"
 - now the Process Window also shows, whether the process code contains Debug- / Timing- information
 - printing of a code "selection" is now possible
 - further diverse improvements and bugfixes
- ADbasic 5 compiler V5.00.07 , TiCoBasic compiler V1.02.06 Beta :
 - diverse improvements and bugfixes among other things at Timing Analyser (T9,T10)
- ADbasic / TiCoBasic include / library files :
 - ADwinPro2.inc : support of the new module : Pro II-Aln-F-8/16
 - several .inc files : bugfix at : P2_Read_Msg_Con () , Set_TiCo_RingBuffer ()
 - FFT.Li* : bugfix at : FFT () , FFT_INIT () (only if several processes, only T11)
- ADwin driver (ADwin32.DLL) : now up to 50 TCP/IP Devices can be used (before: 30)
- Developer software :
 - C - driver : TiCoLoadBin (= sample program for loading TiCo binary files)
 - DASyLab driver : new help file does work now also on Vista
 - Agilent VEE : sample programs revised, new : Bas_Dmo6.vee
- ADtools V5.13 : diverse improvements and bugfixes
- ADEthFlash V3.8 : bootloader now also accepts *11c.BTL (= ADsim) files
- ADpro V5.4.3 : support of : Pro II-Aln-F-8/16
- Profibus : V2.16 : updated : Generic Station Description file (for Gold II and PRO II) : HMSB1811.gsd

Most important features of version 5.00.05.10 compared to version 5.00.02.01 :
(Release date : 12.01.2009)

- ADbasic 5 user interface V5.0.5.10 , TiCoBasic user interface V1.2.5.10 Beta :
 - new : automatic source code formatting (= "Smart format")
 - new : formatting : "Align comments after source code"
 - new : additional frequency display of the current process
 - further diverse improvements and bugfixes
- ADbasic 5 compiler V5.00.05. , TiCoBasic compiler V1.02.03. Beta :
 - better syntax checking at the preprocessor
 - diverse improvements and bugfixes among other things at libraries and in Debug Mode
- ADbasic / TiCoBasic include / library files :
 - ADwinPro2.inc, DIO32TiCo.inc : edge output FIFO for DIO-32-TiCo Rev E03
 - ADwinGoldII.inc, GoldIITiCo.inc : new: Digin () ; new option: Gold II-Storage-16 (16 GB flash memory)
 - ADwinGoldIII.inc : new: SEQ_READ8 () , SEQ_READ16 () ; bugfix: Profibus
 - String.Li* : bugfix at function LNGTOSTR : inaccuracies at very big values
- ADwin driver (ADwin32.DLL) : bugfix at Enet at GetData () (only if network timeout)
- Developer software :
 - ADwinActiveX V 3.0.0.3 :
 - improved error handling at diverse functions
 - bugfix : memory problem at GetData_String () and at Get_FPar_Block_Double ()
- ADconfig V3.18 : bugfix : occasional problem at "Scan AEI"
now also 00-22-71-XX-XX-XX is selectable as default MAC address range
- ADtools V5.10 : TButton : new option : "Close all ADtools"

- TButton : new option : transfer data from a file to a DATA
- TParFPar : bugfix : at importing of comments
- ADpro V5.4.2 : minor changes
- ADlog V1.0.45.3 :
 - new processes for Pro II-AIN-32/18 (16 and 32 channels)
 - new: "Moving X-Axis" (= softscrolling of the X-Axis at slow sample rates)
 - bugfix at drawing of several windows, bugfix at configuration with several windows
 - diverse improvements
- Profibus : new Generic Station Description file (for Gold II and PRO II) : HMSB1811.gsd

Most important features of version 5.00.02.01 compared to version 5.00.00.01 :
(Release date : 17.06.2008)

- ADbasic 5 user interface V5.0.2.0 :
 - improved operator guidance at the useage of libraries
 - bugfix at : Parameter Scan, 64-bit Windows operating systems
- TiCoBasic V1.2.2 Beta : diverse improvements and bugfixes
- ADbasic / TiCoBasic include files :
 - ADwinGoldII.inc : Profibus support and diverse improvements
 - GoldIITiCo.inc : Gold II supports now also TiCo
 - ADwinPro1.inc, ADwPDIO.inc : bugfix at DIGOUT
 - ADwinPro2.inc :
 - the new module Pro II-PROFI-SL is now supported
 - bugfix at P2_BURST_INIT
 - AlnTiCo.inc : the following new modules are now supported :
 - Pro II AIN 32/18-D-TiCo
 - Pro II AIN 8/18-L2-TiCo
- ADPro V5.4.1 :
 - the TiCo on a module is stopped, and again started on closing of the window
 - support of : PRO II-CNT-D/-T/-I and all Pro I and Pro II-CAN-modules
 - diverse improvements and bugfixes : problem fixed at 64-bit Windows operating systems
- ADlog V1.0.44.0 :
 - diverse improvements in the user interface and diverse bugfixes
 - moving average filter : "Values count" now up to 10000
- Setup.exe (V 5.0.0.2) :
 - bugfix : compiler was not found, if ADwin-software was not installed to C:\ADwin
 - faster startup of the ADbasic 5 user interface caused by the useage of NGEN
- JAVA V1.2.2 :
 - multiple threads can now access the same ADwinDevice-Object („Thread safety“)

Most important features of version 5.00.00.01 compared to version 4.20.10.05 :
(Release date : 02.04.2008)

- TiCoBasic V1.2.1 Beta : diverse improvements and bugfixes
- ADbasic 5 V5.0.0.0 :
 - totally new user interface (see chapter "News in ADbasic 5" in the ADbasic help)
 - bugfix at : MEMCOPY , calculations with the constant 0 , libraries
 - .NET-Framework 2.0 is now required
- ADbasic include files :
 - ADwinGoldII.inc : Gold II is supported
 - ADwinPRO2.inc : the following new modules are now supported :
 - PRO II-CAN-2 , PRO II-CAN-2-LS
 - .PRO II-LIN-2
 - PRO II-RSx-2 , PRO II-RSx-4
 - PRO II-PWM 16 , PRO II-PWM-16-I
 - PRO II-CNT-D, PRO II-CNT-T, PRO II-CNT-I
 - PRO II-TRA-16
- ADwin driver (ADwin32.DLL) : bugfix at T11 at GetData () (only if count > 22.000.000)
- Developer software :
 - Matlab driver : now Matlab version 7.6 (R2008a) is supported ; Processor_Type now also for T10, T11
- ADconfig V3.16 : bugfix : visible / invisible window at „Configure AEI“
- ADPro V5.4.0 :

- support of : PRO II-DIO-32, PRO II-TRA-16, PRO II-OPT-16, PRO II-RSx-2, PRO II-RSx-4
- .NET-Framework 2.0 is now required
- Pro-Storage V1.13 : bugfixes ; the firmware version number is now displayed
- ADlog V1.0.42.0 :
 - Gold II is supported
 - setting of the Samplerate was improved
- Fieldbus / Profibus : new file : 321-2932-HMS_1811.gsd
- Setup.exe (V 5.0.0.1) :
 - automatic deinstallation of an already installed ADwin-software
 - check if the Microsoft (R) .NET Framework 2.0 is installed
- One-Click-Install.bat (V1.0 Beta) : alternative installation of the ADwin Software via command line

Most important features of version 4.20.10.05 compared to version 4.20.10.00 :

(Release date : 27.07.2007)

- TiCoBasic V1.1.02 Beta : diverse bugfixes ; new : RINGBUFFER
- ADtools V5.7 : new : TGraphTiCo
- ADbasic include files :
 - ADwinL16.inc : bugfix : SEQ_INIT () ; new (for CAN) : READ_MSG_CON ()
 - ADwinPRO1.inc, ADwPEXT.inc, ADwGCAN.inc : new (for CAN) : READ_MSG_CON ()
 - ADwinPRO2.inc : Pro II-DIO-32 Rev. E is now supported
- Developer software :
 - Matlab driver : now also Matlab version 7.4 (R2007a) is supported ;
"Standalone Applications" (EXE) can be created
 - DASyLab driver : new : support of DASyLab (version 7 , 8 and 9)
 - Testpoint driver : Realtime Object 1.4.2 : new action : Fifo Full
- ADlog V1.0.41.0 :
 - measurement processes for Pro, Pro II, Gold and Light-16 were optimized ; L16_MODE for Light-16 Rev.B

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 AIn-8/18, AIn-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 :
 - 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
- 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 : bufix 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 :
 - ADwpio.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 :
 - ADwpcdio.inc : new : instructions for the COMP16 module ; bugfix on Pro-Storage (RTC)
 - ADwpcxt.inc : corrected : SET_RS ()
 - ADwpcda.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 Lowlnit 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 ()
 - ADwpcdio.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

- **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