

Version **4.01.15.00** :

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 :
 - 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 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 : version 2.05 : 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 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_...() 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 ENDF, the whole textblock of the IF – ELSE – ENDF 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