Version **4.01.0106** :

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 T 9
  - 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. , Eventsource , 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 usingTABs)
  - • 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