FILE: README.txt For Windows NT 4.0 / 98 SE / XP / 2000

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OLE for Retail POS Modules - Release 1.6A20 - <10/24/02>

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++ Notes on version 1.6A20 ++
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Table of Contents:

1. How to install

1.1. Older OPOS modules need to be Uninstalled from the system. For instructions on how to do this, please refer to the "Useful hints" chapter.

1.2. The OPOS Control Objects are written with the Microsoft Foundation Classes included in the Microsoft Visual C++ Compiler 6.0, which requires the following files Windows NT / Windows 98 SE / Windows 2000 / Windows XP:

Name	Language	Length	Version	Date
Mfc42.dll	(English USA)	995.383	6.00.8665.0	06/08/00
Msvcrt.dll	(English USA)	290.869	6.10.8637.0	06/08/00

These files are copyrighted by Microsoft Corp.

(They generally the directory:
Windows NT 4.0 / 2000 C:\WINNT\SYSTEM32
Windows 98 SE C:\WINDOWS\SYSTEM

```
     Windows XP              C:\WINDOWS\SYSTEM32
).
```

The setup program will install these Microsoft Visual C++ 6.0 files if they are not already in the system directory.

All OPOS Samples are written with the Microsoft Visual Basic 6.0, which requires the following files in the system directory:
Windows NT / Windows 98 SE / Windows 2000 / Windows XP:

Name	Language	Length	Version	Date
Tabctl32.ocx	(English USA)	209.408	6.00.8418	05/07/99
Msvbvm60.dll	(English USA)	1.384.448	6.00.8495	05/10/99

These files are copyrighted by Microsoft Corp.

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( They generally the directory:
     Windows NT 4.0 / 2000   C:\WINNT\SYSTEM32
     Windows 98 SE           C:\WINDOWS\SYSTEM
     Windows XP              C:\WINDOWS\SYSTEM32
).
```

The setup program will install these Microsoft Visual Basic 6.0 files if they are not already in the system directory.

1.3. Start the setup.exe file on the CD and enter the dates in each dialogue box. In order to allow the installation and use of the scale transaction module, it is strongly recommended to use the default directory C:\Retail\Software\OPOS for the OPOS modules installation.

During the registration, the *.DLL and *.EXE will be registered as OLE automation servers and the *.OCX files as OLE Custom Controls. In addition the key HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail and all its subkeys are inserted into the system registry database.

2. File list

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The WN OPOS setup on this CD contains the following files:

ReadMe.txt	This file
WN_OPOS.cfg	Registration file for registering and unregistering the OPOS modules
OPOS_En.hlp	HELP file for this package in English
OPOS_En.cnt	Content file for the help file OPOS_En.hlp

2.1 Control Objects

Object	Version	Description
Drawer.ocx	1,6,0,4	OPOS Control Object for Cash Drawers
FPrinter.ocx	1,6,0,4	OPOS Control Object for Fiscal Printers
HTotals.ocx	1,6,0,4	OPOS Control Object for Hard Totals on File
Keyboard.ocx	1,6,0,4	OPOS Control Object for POS Keyboards
Keylock.ocx	1,6,0,4	OPOS Control Object for Keylocks
Linedisp.ocx	1,6,0,4	OPOS Control Object for POS Line Displays
MICR.ocx	1,6,0,4	OPOS Control Object for Magnetic Ink Character Recognition
MSR.ocx	1,6,0,4	OPOS Control Object for Magnetic Stripe Readers
Printer.ocx	1,6,0,4	OPOS Control Object for POS Printers
POSPower.ocx	1,6,0,4	OPOS Control Object for POS Power
Scale.ocx	1,6,0,4	OPOS Control Object for Scales
Scanner.ocx	1,6,0,4	OPOS Control Object for Optical Readers

2.2 Service Objects

Axiohm_Draw_MICR.dll	1,6,0,4	OPOS Service Objects for
Axiohm_Draw_MICR.exe	1,6,0,4	A793 and A756 POSPrinter with MICR reader and WN cash drawer connected to the Axiohm printer
Axiohm_Draw_MICR.txt		Information about this service object
FPtr_ND77_Draw_Disp_GRE.dll	1,6,0,8	OPOS Service Objects for WN ND77 Fiscal Printer, WN cash drawer connected to ND77 Fiscal Printer and BA63/BA66 line display connected to ND77 Fiscal Printer for GREECE
FPtr_ND77_Draw_Disp_GRE.exe	1,6,0,8	
FPtr_ND77_Draw_Disp_GRE.txt		Information about this service object
FPtr_ND77_Draw_Disp_HUN.dll	1,6,0,6	OPOS Service Objects for WN ND77 Fiscal Printer, WN cash drawer connected to ND77 Fiscal Printer and BA63/BA66 line display connected to ND77 Fiscal Printer for HUNGARY
FPtr_ND77_Draw_Disp_HUN.exe	1,6,0,6	
FPtr_ND77_Draw_Disp_HUN.txt		Information about this service object
FPtr_ND77_Draw_Disp_ITA.dll	1,6,0,8	OPOS Service Objects for WN ND77 Fiscal Printer, WN cash

FPtr_ND77_Draw_Disp_ITA.exe		drawer connected to ND77
	1,6,0,8	Fiscal Printer and BA63/BA66 line display connected to ND77 Fiscal Printer for ITALY
FPtr_ND77_Draw_Disp_ITA.txt		Information about this service object
ND210_Draw_Disp.dll	1,6,0,6	OPOS Service Objects for WN
ND210_Draw_Disp.exe	1,6,0,6	ND210 printer, WN cashdrawer connected to ND210 and BA63/ BA66 line display connected to ND210
ND210_Draw_Disp.txt		Information about this service object
ND69_Draw_Disp.dll	1,6,0,4	OPOS Service Objects for WN
ND69_Draw_Disp.exe	1,6,0,4	ND69 printer, WN cashdrawer connected to ND69 and BA63/ BA66 line display connected to ND69
ND69_Draw_Disp.txt		Information about this service object
ND77_Draw_Disp.dll	1,6,0,6	OPOS Service Objects for WN
ND77_Draw_Disp.exe	1,6,0,6	ND77 printer, WN cashdrawer connected to ND77 and BA63/ BA66 line display connected to ND77
ND77_Draw_Disp.txt		Information about this service object
ScaleXX.dll	1,6,0,2	OPOS Service Object for calculating scales (Bizerba, Mettler, etc.) connected to COM port
ScaleXX.txt		Information about this service object
WN_BA.dll	1,6,0,4	OPOS Service Object for WN BA63/BA63 line display connected to COM port
WN_BA.txt		Information about this service object
WN_DrawRS232.dll	1,6,0,3	OPOS Service Object for Cash Drawer connected to RS232 Port or to BEETLE MINI DIN Port (WinNT only)
WN_DrawRS232.txt		Information about this service object
WN_EL.dll	1,6,0,3	OPOS Service Object for WN Elxx scanner
WN_EL.txt		Information about this service object
WN_HT.dll	1,6,0,2	OPOS Service Object for WN Hard Totals as file on

		ReadMe.txt hard drive
WN_HT.txt		Information about this service object
WN_Pwr.dll	1,6,0,3	OPOS Service Object for WN POS Power
WN_Pwr.txt		Information about this service object
WN_TA.dll	1,6,0,4	OPOS Service Object for WN POSKeyboard, Magnetic Stripe Reader and Keylock integrated in the TAxx or SNIKey Keyboards
WN_TA.txt		Information about this service object
WN_TH22.dll	1,6,0,7	OPOS Service Object for WN TH22 printer
WN_TH22.txt		Information about this service object
Text2Reg.exe Text2Reg.dll	1,6,0,1	Utility to register and unregister Control Objects and OLE Server
COMTest.exe	1.06.0002	Utility to check the COM-Ports
RSSConf.exe	1,6,0,3	Utility to configure OPOS
RSSConf.hlp / RSSConf.cnt		Information and contents of and about this utility

2.2.1 Additional OPOS from other vendors:

AXIOHM:

Axiohm.dll	1,4,10,0	OPOS Service Object for Axiohm A794 and A758 printers, integrated MICR reader and cash drawer connected to the printer
A758.txt / A794.txt		Information about this service object
9106105a A758 OPOS IS.doc		Documentation about A758
9106100a A794 OPOS IS.doc		Documentation about A794
AXIOHM.bas / AXIOHM.h		Include files from Axiohm

All listet Axiohm files are copyright 2001 by Axiohm Transaction Solutions, Inc. Ithaca, NY USA

TransAct:

PcOS.exe	1,0,0,1	Utility to configure TransAct POSjet1000 printer
PcOS.hlp		Information of and about

		this utility
PcOSOPOS.dll	1,0,0,1	Necessary dll for PcOS.exe
POSPrinterSO.dll	1,6,0,0	TransAct OPOS Service Object for POSjet1000 printer
CashDrawerSO.dll	1,6,0,0	TransAct OPOS Service Object for cash drawers connected to POSjet1000 printer
MicrSO.dll	1,6,0,0	TransAct OPOS Service Object for MICR (without function in combination with POSjet1000 printer)
IthacaOPOS.doc		Documentation about POSjet1000

2.3 Additionally drivers / files

2.3.1 Windows 98 SE:

Object	Version	Description
VUPIOD0.VXD		Windows 98 driver for cash
VUPIOD1.VXD		drawers connected to BEETLE
VUPIOD2.VXD		MINI DIN Port. For Windows
VUPIOD3.VXD		98SE only.
(Target directory: \windows\system)		
VUPIODx.txt		Information about this driver

2.3.2 Windows NT / 2000 / XP:

Object	Version	Description
RSSUPIO.SYS		Windows NT driver for cash
(Target directory:		drawers connected to BEETLE
\WinNT\system32\drivers or		MINI DIN Port. For Windows NT,
\Windows\system32\drivers)		based operating systems only!
RSSUPIO.txt		Information about this driver
RSSOPOSdiag.dll	1,6,0,2	DLL for WN OPOS diagnostic.
RSSOPOSdiagmes.dll		DLL with WN OPOS diagnostic
(Target directory:		messages. For Windows NT
\WinNT\system32 or		based operating systems only!
\Windows\system32)		
CSCNUPS.SYS	000626 2003	Windows NT UPS driver for BEETLE battery. This driver
(Target directory:		works in combination either
\WinNT\system32\drivers or		with Windows NT UPS service
\Windows\system32\drivers)		or with OPOS. For WIN 2000 or XP this driver works only in combination with OPOS!
CSCNUPS.txt		Information about this

2.4 Include files

Choosing setup type 'Custom' and 'Selecting Components for OPOS includes' will install all available OPOS 1.6 include files to 'C:\Retail\Software\OPOS\Include\...'.

2.5 Help files

Choosing setup type 'Custom' and 'Selecting Components for OPOS Help' will install all available WN OPOS 1.6 help files to 'C:\Retail\Software\OPOS\Help\...'.

2.6 Sample files

Choosing setup type 'Custom' and 'Custom setup for OPOS samples' will install all selected WN OPOS samples (including sources) to 'C:\Retail\Software\OPOS\Samples\...'.

Available samples:	Version	Description
..\FiscalPrinter\FPrinter.exe	1.06.0034	WN Visual Basic sample for WN ND77 Fiscal Printer
..\HardTotals\HTotals.exe	1.06.0013	WN Visual Basic sample for Hard Totals on file
..\KKM\KeybKeylMSR.exe	1.06.0016	WN Visual Basic sample for WN keyboards/keylock/MSR
..\LineDisplay\LineDisp.exe	1.06.0027	WN Visual Basic sample for WN line displays
..\POSPower\POSPower.exe	1.06.0012	WN Visual Basic sample for POS Power
..\Printer_CashDrawer_MICR\PrtDrawMICR.exe	1.06.0029	WN Visual Basic sample for POSPrinters, CashDrawers and MICR
..\Scale\Scale.exe	1.06.0029	WN Visual Basic sample for calculating scales
..\Scanner\Scanner.exe	1.06.0024	WN Visual Basic sample for Optical Readers (scanners)

3. Useful hints

3.1 Unregistering older versions of OPOS modules

If there is an older version of OPOS already installed, delete the entries in the system registry database to avoid conflicts with this newer version.

If there are OPOS modules from Wincor Nixdorf which are version 1.0A10 to version 1.1B00, click the UNINSTALL button in the program manager of the OPOS group (Windows NT 3.51) or in the Start --> Programs --> OPOS sub menu (Windows 98 SE / NT 4.0 / 2000 / XP).

If there are older versions of OPOS modules (before 1.0A10) installed, they must be uninstalled manually:

Using the system registry database editor REGEDT32.EXE (Windows NT / 2000) or REGEDIT.EXE (Windows 98 SE), delete the OPOS entries in the registry key HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail.
The next step is to unregister all the old OPOS modules. This is done with the tool Text2Reg.exe that is also on the OPOS CD.

```
e.g.:
Text2Reg /u Linedisp.ocx
Text2Reg /u C:\Retail\Software\OPOS\Service\WN_BA.dll
Text2Reg /u D:Axiohm_Draw.exe
```

3.2 Register controls with a version independent OLE-programmatic ID

Since OPOS 1.3, installation all version dependent and independent OLE programmatic ID's are automatically stored in the system registry database so this chapter may be skipped.

If older Wincor Nixdorf OPOS Releases (before 1.3) are used, then the following steps need to be taken.
When the Wincor Nixdorf Control Objects are registered, (as done after installing the OPOS software) the controls are installed as follows:

device	module	OLE programmatic ID CLS ID
CashDrawer	drawer.ocx	OPOS.CashDrawer.16 80E3BA13-326B-11D0-94DE-0000E8A5A107
FiscalPrinter	fprinter.ocx	OPOS.FPrinter.16 632EFF43-E970-11D0-AE3F-0000E8A5A107
HardTotals	htotals.ocx	OPOS.HTotals.16 632EFF23-E970-11D0-AE3F-0000E8A5A107
Keylock	keylock.ocx	OPOS.Keylock.16 80E3BA33-326B-11D0-94DE-0000E8A5A107
LineDisplay	linedisp.ocx	OPOS.LineDisplay.16 80E3BA53-326B-11D0-94DE-0000E8A5A107
MagneticInkCharacter Recognition	micr.ocx	OPOS.MICR.16 632EFF03-E970-11D0-AE3F-0000E8A5A107
MagneticSwipecard	msr.ocx	OPOS.MSR.16

```
        Reader          80E3BA43-326B-11D0-94DE-0000E8A5A107
POSKeyboard           keyboard.ocx  OPOS.POSKeyboard.16
                        80E3BA23-326B-11D0-94DE-0000E8A5A107
POSPower              pospower.ocx  OPOS.POSPrinter.16
                        A7DE6353-8C49-11D3-8051-08000627DEAF
POSPrinter            printer.ocx   OPOS.POSPrinter.16
                        80E3BA03-326B-11D0-94DE-0000E8A5A107
Scale                 scale.ocx     OPOS.Scale.16
                        632EFF33-E970-11D0-AE3F-0000E8A5A107
Scanner               scanner.ocx   OPOS.Scanner.16
                        80E3BA63-326B-11D0-94DE-0000E8A5A107
```

The OLE programmatic names also contain the Version (means: 16 = OPOS 1.6). Since OPOS 1.3, the controls are also registered with a version independent OLE-programmatic ID. This registration is necessary if an application works with the version independent OLE programmatic ID's.

3.3 TA57 and TA64 with Windows NT 4.0

If the WN TA57 or TA64 keyboards are used under Windows NT 4.0, it is necessary to install Service Pack 6a to get the right key codes. All Wincor Nixdorf keyboards have to be equipped with a Windows Prom.

3.4 Conftool

Unlike previous versions, it is not necessary to install all WN OPOS Control Objects in order to run the configuration tool from WN.

3.5 Service Object for POSPower (for Windows NT based operating systems only)

On a preinstalled BEETLE system, the services 'UPS' and 'CSCNUPS' are started automatically! The Service Object will have no access to COM9 and the DeviceEnabled call will return 'Illegal'.

3.6 CSCNUPS driver (for Windows NT based operating systems only)

If the CSCNUPS service is not in the registry on a Windows NT based operating system, OPOS 1.6A20 will install (if setup mode is TYPICAL or COMPACT) this driver in the systems drivers directory.
In CUSTOM mode, setup gives the option to install this driver for BEETLE/M or BEETLE/XL2 battery type. If TYPICAL or COMPACT is selected, the BEETLE/M battery type is set as default.
In each case the start value in the registry is set to 'manual'.

3.7 Sample Programs

The re-entrance capability of the Wincor Nixdorf Visual Basic sample programs might force them to not run in synchronous mode (e. g. error situations may occur in combination with the fiscal device).

3.8 Axiohm Service Objects

In order to run the AXIOHM A758 and A794 printers with the OPOS service objects from Axiohm, the printer's 'Emulation' and 'Mode' parameters must be switched to 'native'.

4. How to uninstall this version

Click the UNINSTALL button in the OPOS sub menu of the OPOS menu line (Windows 98 SE / Windows NT 4.0 / Windows 2000 / Windows XP).
Please make sure that no application is running which uses the OPOS controls and that no program accesses a directory under \Retail\Software\OPOS. The *.OCA files in the directory \Retail\Software\OPOS\Control may have to be deleted.

5. Where to find useful information

More information about Wincor Nixdorf's retail division can be found at:

www.wincor-nixdorf.com/internet/com/Industries/Retail/Main.html

The 'OPOS Application Programmer's Guide', which is the OPOS specification, can be downloaded from:

www.wincor-nixdorf.com/internet/com/Industries/Retail/SoftwTechnology/Opos/index.html

6. Description of changes to the OPOS version 1.0

Corrected errors:

Changes:

All Service Objects:

During registration with
regsvr32.exe <so-name>.dll
or

<so-name>.exe /regserver
the service object will also set the following corresponding entries in the system registry database under

HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\......

Version = is set to the module version
SORegDescription = is set to the module description
Service = is set to the complete path and filename

The service object detects its own entries by comparing the value of the default entry (@=..) with its own OLE programmatic ID.

AXIOHM A756 and A793 Printer service objects:
- The SO now supports the character set for ASCII (999) and ASCII (998). The "best-fit" character is printed. Also, the code pages 437 and 850 are supported.
- The entry "Country" in the system registry database is no longer relevant since all european special characters are in the ANSI character set.

BA66 and BA63 Line Display service object:
- The SO now supports also the character set for ASCII (999) and ASCII (998). The "best-fit" character of the line displays character set is displayed.
- The entry "Country" in the system registry database has no longer a meaning since all European special characters are in the ANSI character set.

7. Description of changes to older OPOS versions

7.1 Description of changes to the OPOS version 1.1A00

Corrected errors:

Keyboard SO:
- Please refer to the description of the service object (file WN_TA.txt)

Keylock SO:
- Please refer to the description of the service object (file WN_TA.txt)

ND69 printer SO, cash drawer connected to ND69, line display connected to ND69:
- Please refer to the description of the service object (file ND69_DRAW_DISP.txt)

AXIOHM printer SO:
- Please refer to the description of the service object (file AXIOHM_DRAW.txt)

Cash drawer connected to COM port or BEETLE MINI DIN port:
- Please refer to the description of the service object (file WN_DrawRS232.txt)

Scanner connected to COM port:
- Please refer to the description of the service object (WN_EL.txt)

Line display connected to COM port:
- Please refer to the description of the service object (WN_BA.txt)

Changes:

7.2 Description of changes to the OPOS version 1.1A20

Corrected errors:

Cash drawer connected to COM port or BEETLE MINI DIN port:
- Please refer to the description of the service object (file WN_DrawRS232.txt)

Keylock SO:
- In previous versions the state of the keylock was unknown immediately after Open() and DeviceEnabled=TRUE. In this version, the service object gives the keylock state immediately . More information can be found in the text file of the keylock service object WN_TA.TXT.

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Changes:

BEETLE/60 internal Linedisplay SO:
- Please refer to the description of the service object (file WN_BAI.txt)

BEETLE/60 internal Printer SO:
- Please refer to the description of the service object (file Prt_B60.txt)

ND77 printer SO, cash drawer connected to ND77, line display connected to ND77:
- Please refer to the description of the service object (file ND77_DRAW_DISP.txt)

Utility to check the COM-Port:
- Please refer to the description of the service object (file tcomm.txt)

ND77_DRAW_DISP.exe, ND69_DRAW_DISP.exe and AXIOHM_DRAW.exe Service Objects:
- These service objects are also available as DLL files.

- Please refer to the description of the service objects (files ND77_DRAW_DISP.txt, ND69_DRAW_DISP.txt and AXIOHM_DRAW.txt).

7.3 Description of changes to the OPOS version 1.1B00/B10

Corrected errors:

Changes:

All Control Objects:

- New length calculation for the trace facility for Control Objects

New Control Objects:

- HTotals (Hard Totals)
- FPrinter (FiscalPrinter)
- MICR (Magnetic Ink Character Recognition, as part of a release)
- Scale

- - - - - - - - -

All Service Objects:

- For detailed information click on the corresponding icon in the Start -> Programs -> WN OPOS ... folder.
- New feature: All service objects are now using the eventlog for reporting errors. This new feature is only available with Windows NT. Errors, Warnings, etc. are reported in the eventviewer application section. Each entry has the service object name as the source entry.
- Wincor Nixdorf OPOS Release 1.1 offers the possibility to operate with up to eight COM ports. This limitation has been eliminated since Wincor Nixdorf OPOS Release 1.3.

Keylock SO:

- A system wide hook mechanism is supported via the value 'HookType' in the system registry database. It is used to deliver events to background processes which are dealing with the OPOS devices Keyboard, Keylock and MSR.

Keyboard SO:

- A key translation mechanism was added. For the description of this mechanism, refer to the service object specific readme file WN_ta.txt

HardTotalsOnDiskFile SO (new with OPOS 1.3):

- Service object for Hard Totals On Disk File.
- Please refer to the description of the service object (file WN_ht.txt)

Scale SO (new with OPOS 1.3):

    - Service object for calculating scales like Bizerba,
      Mettler, etc.
    - Please refer to the description of the service
      object (file ScaleXX.txt)

Axiohm POSPrinter, cashdrawer connected to Axiohm printer, MICR
integrated in Axiohm printer SO (new with OPOS 1.3):
    - Service object for AXIOHM 7156 POSPrinter, WN cash drawer
      and MICR.
    - Please refer to the description of the service
      object (file Axiohm_Draw_MICR.txt)

ND77 FiscalPrinter, cash drawer connected to ND77 FPtr, line display
connected to ND77 FPtr SO (new with OPOS 1.3):
    - Service object for Wincor Nixdorf ND77 FiscalPrinter,
      cash drawer and line display.
    - Please refer to the description of the service
      object (file FPtr_ND77_Draw_Disp.txt)

7.4 Description of changes to the OPOS version 1.3A00/A10

Corrected errors:

All Printer Service Objects:
    - When ClearOutput is called after the DeviceEnabled property
      is set to FALSE and AsyncSend=TRUE, the Service Object
      hangs

All Service Objects:
    - Please refer to the description of each Service Object.

Changes:

All Control and Service Objects:
    - The default value for the entry 'FileLenMax' in the
      system registry database for each trace output file is
      increased to 128 kb.

All Service Objects with in-proc and out-proc variant:
    - The default installation is now the in-proc variant (dll)
      instead of the out-proc variant (exe).

ND77 FiscalPrinter:
    - Service Object for Fiscal Printer for Italy renamed from
      FPtr_ND77_Draw_Disp.* to FPtr_ND77_Draw_Disp_ITA.*
    - New Service Object for Fiscal Printer for Hungary
      FPtr_ND77_Draw_Disp_HUN.* integrated

Scale
    - Operating scales within the EU requires a certification
      according to WELMEC. It is necessary to use additional
      software, the ScaleTransaction Module. The software
      for pricecomputing scales with CheckOut Dialog 06 has
      been certified. The test certificate number by the PTB

is D09-96.13, 1. Revision.

7.5 Description of changes to the OPOS version 1.3A30

Corrected errors:

All Service Objects:
- Please refer to the description of each service object

Changes:

General:
- Adaptation to new OPOS 1.6 methods and properties
- Copyright and logos changed to Wincor Nixdorf
- New default installation path is C:\Retail\Software\OPOS
- File names and entries in the system registry database changed to WN_*.*
- File names SNI... changed to RSS...

All Control and Service Objects:
- New extension for trace output files is '.txt' instead of '.out'

Trace entry:
- Default "TraceMode" value changed from unbuffered (0) writing to buffered (1) writing in the system registry database under: HKLM\SOFTWARE\OLEforRetail\ServiceInfo\Wincor Nixdorf

Control Objects:
- Backward compatible to former releases

Service Objects:
- Axiohm POSPrinter, with cashdrawer and MICR:
  - The Service objects for AXIOHM A793 and A756 POSPrinter with/without MICR and Wincor Nixdorf cash drawer need to be upgraded to a single new service object.
- ND77 FiscalPrinters for ITALY, HUNGARY and POLAND:
  - General revision
  - Integration of CodePageMapping, CharacterSetList and SpacePage
- Scanner:
  - Reading label data changed from bytewise to string.
- LineDisplay:
  - Output will be done in the background (for performance)
  - Integration of CodePageMapping and CharacterSetList
  - Different baudrates are allowed in combination with

printers to match the printers baudrate (without affecting the performance of the line display)

- All Wincor Nixdorf POS Printers:
  - Integration of CodePageMapping, CharacterSetList and SpacePage

- CashDrawer:
  - Integration of CashDrawer_Open to reverse the resultcode
  - Create 2nd entry in the system registry database during installation for 2nd drawer

- MSR:
  - Integration of Track4
  - Integration of Sentinel characters

- Keyboard:
  - Only translated keys will generate a DataEvent, configurable via entry in the system registry database

- BEETLE/60:
  - Service Object for internal line display and printer will not be supported by OPOS 1.6.

All VB Sample Programs:
- Unified layout
- Adoption and partial integration of additional features

COMTest:
- Layout changed

ConfTool:
- Changed from static to dynamic control usage
- Integration of POSPower
- Integration of new values in the system registry database for OPOS 1.6
- Integration of non Wincor devices Axiohm A758 and A794
  NOTE: Configuration for TransAct POSjet1000 printer not integrated (see below)

Installation:
- Integration of POSPower, FiscalPrinters for Poland and Greece
- Integration of new values in the system registry database for OPOS 1.6
- Integration of non Wincor Nixdorf devices (Axiohm A758 and A794)

New with WN OPOS 1.6:

Configuration:
- TransAct's own Configuration Tool (PcOS.exe) for TransAct's POSjet1000 printer

Control Object(s):
- POSPower (POS Power)

Service Object(s):
- POSPower (POS Power)
- ND210 POSPrinter
- ND77 FiscalPrinter for GREECE
- TransAct's OPOS 1.6 service object for POSjet1000 printer becomes part of the Wincor Nixdorf OPOS 1.6 package
- Axiohm's OPOS 1.4 service object for A758 and A794 printers become part of the Wincor Nixdorf OPOS 1.6 package

7.6 Description of changes in OPOS version 1.6A00

General:

Correction of some minor bugs (like wrong version number 1.3, etc.) in different readme files, entries in the system registry database for OPOS 1.6 and installation script files.

Integration of the CSCNUPS driver and the POSjet1000 to the installation.

Corrected errors:

All affected Service Objects:
- Please refer to the description of each service object

7.7 Description of changes to the OPOS version 1.6A10

General:

Correction of all service objects which use COM devices > 8 (forced a Dr. Watson log entry). The maximum COM port number is limited to 20 and will work only, if it is supported by the operating system.

NOTE: The user is responsible for a correct setting.

New with OPOS 1.6A20:

Installation:

- String value "SharedComPorts" added to the system registry database (default value is set to 20) under: HKLM\SOFTWARE\OLEforRetail\ServiceInfo\Wincor Nixdorf

HINT: This key limits the max. number of COM ports.

Corrected errors:

Service Objects:

CashDrawer on BEETLE port
- CashDrawer_Open polarity returns correct value

ND77 FiscalPrinter / Greece
- Printing in nonfiscal mode on the slip station

ND77 FiscalPrinter / Hungary
- Printing in nonfiscal mode on the slip station

ND210 printer with cash drawer and line display
- Print limitation to 1000 characters abolished

ND77 printer with cash drawer and line display
- Print limitation to 1000 characters abolished

TH22 printer
- Print limitation to 1000 characters abolished

Axiohm A756 and A793 printers
- In error situations a following disable could force an access violation or a runtime error (Corrected in all printers / occured only in Axiohm service object)

Installation:

- The CNCNUPS driver will be installed dependent on the operating system and a perhaps existing UPS driver.
- String value "SharedComPorts" added to the system registry database (default value is set to 20) under: HKLM\SOFTWARE\OLEforRetail\ServiceInfo\Wincor Nixdorf HINT: This key limits the max. number of COM ports.

Configuration:
- Crash at first test of OPOS.MSR fixed.

8. How to change from older OPOS Controls to OPOS 1.6 Controls in a C++ application

General changes:
The common methods 'Claim' and 'Release' must be renamed to 'ClaimDevice' and 'ReleaseDevice'.

This is a general description of the steps to be done in Visual C++ V6.0 to change the access to an OLE control to a newer version. These steps are necessary when changing from an OPOS version 1.0 to OPOS 1.3 (or later WN OPOS versions) since OPOS Control objects are OLE controls.
Note: These steps are not necessary if you change from OPOS 1.3 to 1.6 (same CLSIDs).

(1) Uninstall OPOS 1.3 or older version and install OPOS 1.6
(2) Go into the MSVC Development Studio, select the application project, delete in the project windows the CPP files which are the wrapper classes to the OPOS controls. Exit the Development Studio.
(3) Delete the MDP, NCB, CLW and APS file of your application project in the File Manager or Explorer. Also, delete all OPOS wrapper files (CPP and H files, e.g. OPOS_printer.cpp and OPOS_printer.h)
(4) In the <yourproject>.mak file there will be entries at the end of the file:

```
# End Source File
# End Target
# End Project
################################################################
################################################################
# Section rpmprint : {80E3BA53-326B-11D0-94DE-0000E8A5A107}
#   0:18:OPOS_LineDisplay.h:D:\printmanager\ocx_source\OPOS_LineDisplay.h
#   0:20:OPOS_LineDisplay.cpp:D:\printmanager\ocx_source\OPOS_LineDisplay.cpp
#   2:21:DefaultSinkHeaderFile:OPOS_linedisplay.h
#   2:16:DefaultSinkClass:COPOS_LineDisplay
# End Section
################################################################
```

These "Section <myproject>" parts of the makefile are references to what tool buttons should be shown in the resource editor in the "Controls"-toolbar when you edit the dialogue containing the OPOS controls. You may delete these sections in the makefile (above they are shown in gray)

Next time you go into the resource editor of the Developer Studio you have to insert the new controls.

(5) In the RC file change the CLSID of the OPOS Controls (for each control).
    You may use a normal text editor such as notepad:

    From OPOS 1.0 to OPOS 1.1, OPOS 1.3 or OPOS 1.6:

```
    CashDrawer:     1.0 "{5D634663-7032-11CF-9416-0000E8A5A107}"
                    1.1 "{80E3BA13-326B-11D0-94DE-0000E8A5A107}"
                    1.3 "{80E3BA13-326B-11D0-94DE-0000E8A5A107}"

    FiscalPrinter:  1.3 "{632EFF43-E970-11D0-AE3F-0000E8A5A107}"

    HardTotals:     1.3 "{632EFF23-E970-11D0-AE3F-0000E8A5A107}"

    Keylock:        1.0 "{75F5FF93-76A5-11CF-9420-0000E8A5A107}"
                    1.1 "{80E3BA33-326B-11D0-94DE-0000E8A5A107}"
                    1.3 "{80E3BA33-326B-11D0-94DE-0000E8A5A107}"
```

```
    LineDisplay:    1.0 "{C99B9663-6A9D-11CF-A211-0000E8A59A4C}"
                    1.1 "{80E3BA53-326B-11D0-94DE-0000E8A5A107}"
                    1.3 "{80E3BA53-326B-11D0-94DE-0000E8A5A107}"

    MICR:           1.1 "{632EFF03-E970-11D0-AE3F-0000E8A5A107}"
                    1.3 "{632EFF03-E970-11D0-AE3F-0000E8A5A107}"

    MSR:            1.0 "{C0ABDAF3-5A26-11CF-93FC-0000E8A5A107}"
                    1.1 "{80E3BA43-326B-11D0-94DE-0000E8A5A107}"
                    1.3 "{80E3BA43-326B-11D0-94DE-0000E8A5A107}"

    POSKeyboard     new with
                    1.1 "{80E3BA23-326B-11D0-94DE-0000E8A5A107}"
                    1.3 "{80E3BA23-326B-11D0-94DE-0000E8A5A107}"

    POSPower:       1.5 "{A7DE6353-8C49-11D3-8051-08000627DEAF}"

    POSPrinter:     1.0 "{74A22353-6D2D-11CF-A218-0000E8A59A4C}"
                    1.1 "{80E3BA03-326B-11D0-94DE-0000E8A5A107}"
                    1.3 "{80E3BA03-326B-11D0-94DE-0000E8A5A107}"

    Scale:          new with
                    1.3 "{632F0033-E970-11D0-AE3F-0000E8A5A107}"

    Scanner:        1.0 "{58B98543-7802-11CF-9424-0000E8A5A107}"
                    1.1 "{80E3BA63-326B-11D0-94DE-0000E8A5A107}"
                    1.3 "{80E3BA63-326B-11D0-94DE-0000E8A5A107}"
```

There is a reference for each instance of a control object.

(6) Go into MSVC Developer Studio:
    Open Project Workspace, select "List of Filetypes = *.mak"
    and open your applications MAK file. In your application's
    resource file, in the dialogue containing the OPOS control
    objects should now contain the new OPOS controls.

(7) First, the CLW file has to be generated. This is the
    database for the Class-Wizard of the Developer Studio:
    Select in the dialogue containing the OPOS controls, select
    one control and go to the menu View - Class Wizard (or press
    hot key CNTRL-W): The first time you will get a message box like:
    "The CLW file does not exist Would you like to rebuild it
    from your source files?". Press "yes".
    Then select in the following dialogue box "Selected Source
    Files - <your project>.clw" the "Add All" button, then "OK"
    button. The CLW file is now created.
    Press the "Cancel" button.

(8) Now you have to recreate the new wrapper classes from your
    controls:

(8.1) Insert new controls in the component gallery:
      go to menu "insert" - "Component" . In the register TAB,
      select the "OLE Controls", press the "Customize" button.
      Now you may delete all old OPOS 1.0 components from the
      component gallery (this is only in the component gallery
      database). Add the new OPOS Control object via the "import"
      button and select the OPOS controls in the file dialogue,

which is generally where the OPOS control objects are installed.

C:\Retail\Software\OPOS\Control

This step is not always necessary. Sometimes the component gallery automatically adds new installed controls.

(8.2) Create the wrapper class:
Select the Component gallery for each OPOS control and press the "Insert" button: You will get a message box with the title "Confirm Classes". Here you may select the name of the wrapper class and the name of the CPP and the H file. Use the same files as in the previous version and press the OK button.

For Wincor Nixdorf OPOS printer control the names suggested are:

class name:	COPOS_Printer
header file:	OPOS_printer.h
implementation file:	OPOS_printer.cpp

The files are automatically inserted into your makefile.

Remark 1: If the Class Wizard suggests to use a class name with a following number (e.g. COPOS_Printer1) or for the files OPOS_printer1.h/cpp then something was done wrong in steps 1 to 8. Please ensure that the files for the wrapper classes are deleted and that the NCB, MDP, CLW and APS files of your project are deleted before opening the makefile in the Developer Studio.

Remark 2: For the OPOS line display class, it is necessary to rename the methods:

```
   DestroyWindow       ->  xDestroyWindow
   CreateWindow        ->  xCreateWindow
```

in the wrapper class (*.h and *.cpp file). Also, the access to these methods in the application should be done with these names. Otherwise the C++ - compiler will generate many syntax errors like

"Create Window: illegal number of arguments in CreateWindowA"

The reason is a "misunderstanding" between the Class Wizard and the MSVC system headers. In the system headers the name CreateWindow and DestroyWindow are used as macro definitions and they are mapped to DestroyWindowA and CreateWindowA in the ANSI version. Microsoft uses this macro-replacing -mechanism to allow ANSI and UNICODE compiling. However, if you have C++ classes with a method using a "reserved" word the compiler will generate errors.
In general: you should not use method names which are already used in the Window API. This is

not a restriction of the language C++ but of the
MSVC compiler.

(9) recompile all: menu Build - Rebuild all
After leaving the MSVC Developer Studio a new NCB, APS, CLW,
and MDP file is created.

9. Known errors and hints in this package

AXIOHM A756 / A793 Printer firmware:

- Some AXIOHM printers have a physical sensor for "Receipt Paper Near End" and some do not.
  If an AXIOHM printer without a "Receipt Near Empty" sensor is used, the printer will send a Receipt Near Empty message to the service object. So the service object will fire a StatusUpdateEvent (PTR_SUE_REC_NEAREMPTY) since it is not possible to detect the presence of this sensor. In addition, the CapRecNearEmptySensor is always set to true.

- If the CutPaper() method or the OPOS ESC sequence is used to cut the paper, the service object translates the sequence into the AXIOHM ESC sequences. Therefore, cutting the receipt paper cannot be done while printing on the slip station. The same goes for printing a bitmap using SetBitmap() and using the OPOS PrintBitmap-escape-sequence. This type of Bitmap will always be printed on the receipt station. If the printer is printing on the slip station and a bitmap is sent to the receipt, the active printer station is changed from the slip to the receipt station and the printing continues on the receipt station. Therefore, sending a PrintBitmap escape sequence to the slip station is not supported.

ND77 SO:

- The cashdrawer sends the CASHDRAWER CLOSED message if both cash drawers are closed and sends the CASHDRAWER OPEN message if one of them is open.

- When using 'BeginRemoval' and 'BeginInsertion', the timeout period has to be greater than 1 second.

- PrintNormal on slipstation: The service object gets the wrong message 'near empty' (instead of 'no paper') if the slip paper is removed from the slip station during printing. To get the correct message, a revision of the ND77 printer firmware is necessary.
  --> Corrected firmware: Version 0.00

ND69 Printer firmware:
On all logical ESC-Sequences which include '0x01D'
(for example 29 line feeds or micro steps), there may be an
OPOS_ERROR. You have to use as workaround two print orders
(i. e. 20 line feeds and again 9 line feeds).

10. Trace and Runtime Diagnostic utilities of Wincor Nixdorf OPOS Control and Service Objects

10.1 Trace function of Wincor Nixdorf OPOS service objects and Wincor Nixdorf OPOS control objects:

All Wincor Nixdorf control and service objects support a trace feature which allows to record each method and property access of an application. This feature enables testing of interfaces during development.

Under each device unit subkey within a category, there is a Trace subkey with three field definitions. During the installation, these subkeys are created automatically.

The subkey for each WN OPOS Control Object can be found in the system registry database under:

    HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ControlOPOS

with the following fields:

    <DeviceClass>\Trace\FileName=<name>
    <DeviceClass>\Trace\Level=<value>
    <DeviceClass>\Trace\FileLenMax=<kbsize>

The subkey for each WN OPOS Service Object can be found in the system registry database under:

    HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS

with the following fields:

    <DeviceClass>\<Device>\Trace\FileName=<name>
    <DeviceClass>\<Device>\Trace\Level=<value>
    <DeviceClass>\<Device>\Trace\FileLenMax=<kbsize>

Possible <DeviceClass> values are:

    CashDrawer, FiscalPrinter, HardTotals, Keylock,
    LineDisplay, MICR, MSR, POSKeyboard, POSPower,
    POSPrinter, Scale, Scanner

The <Device> value depends on which devices are selected during the Installation. The following examples show only a few examples of the possible <Device> values:

    WN_KA.PORT, WN_FPTR_ND77.COM, WN_HT.16, WN_TA_WKL.16,
    WN_BA66.COM, WN_MICR.AXIOHM7156, WN_MSR.16, WN_TA.16
    WN_PWR.16, WN_ND210.COM, WN_SCALE.COM, WN_Elxx.COM

Field definitions within the Trace subkey:

FileName=<name>

Trace file name with complete path. This name should correspond to the selected device.

    FileName=SO_<DeviceAbbreviation>.txt
    FileName=CO_<DeviceAbbreviation>.txt

Examples:

    C:\TEMP\SO_Ptr.txt

```
        C:\TEMP\CO_Cash.txt

Level=<value>
    Specifies whether or not trace data is to be written
    to a file.
        Level=0 (Default)
        possible values: 0, 1
            1 = Trace is active
            0 = Trace is not active

FileLenMax=<kbsize>
    If present, specifies the maximum size, in kilobytes
    of the trace log file. If this limit is reached, the
    trace file will be renamed (a suffix .old is added)
    and a new trace file is created.
        FileLenMax=128 (Default)


Examples:

HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ControlOPOS\
    Keylock\Trace\FileLenMax=128
    Keylock\Trace\FileName=C:\TEMP\CO_Lock.txt
    Keylock\Trace\Level=1

HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\
    Keylock\WN_TA.16\Trace\FileLenMax=128
    Keylock\WN_TA.16\Trace\FileName=C:\Temp\SO_Lock.txt
    Keylock\WN_TA.16\Trace\Level=1



This variable enables the tracing of each Service Object
or Control Object in a separate trace file or all together
in one trace file.
The trace of the Control Object may also be used to trace
Service Objects of peripherals from other vendors which do
not support the trace feature. All OPOS method calls and
property accesses are traced into a file by the Wincor Nixdorf
Control Object..
The trace parameters in the registry are valid after opening
a device. If any parameter is changed, the device must be
closed and reopened. Only then the new parameters will be
used by the OPOS objects.

In older WN OPOS versions the trace of the control/service
object was written unbuffered to the file by default. This
had the advantage that immediately after calling an OPOS
method, the call could be found in the trace file. However
the performance was significantly affected.

The other option is to allow buffered writing (new since
Wincor Nixdorf OPOS version >1.1A00). This is much faster
and can also be used to trace an application for extended
periods of time, e. g. a whole day. The application slowdown
is limited. It is important to note that the FileLenMax
parameter limits the file size of the output file, thus
keeping the trace file from filling up the hard drive.
When using buffered writing, the content of the trace file
```

may be slightly delayed after the method calls because a few traces may be still in the file buffer. After a device is closed, the trace file is also closed and all outputs are in the trace file.

HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceInfo\Wincor Nixdorf\TraceMode=1

is set to allow buffered writing. If the entry is set to "0" or if this entry does not exist, the trace works unbuffered (like in earlier versions).

Possible values:
TraceMode = 0, 1

With OPOS 1.6 the default value of "TraceMode" is set to "1" to allow buffered writing. If the entry is set to "0" or if this entry isn't present, the trace works unbuffered (like in earlier versions).

10.2 Runtime Diagnostic feature of Wincor Nixdorf OPOS service objects:

This feature is available for Windows NT based operating systems only and new since WN OPOS version 1.3.

All Wincor Nixdorf Service Objects create EventLog entries when errors occur during a method calls or a property access. These entries are located in the application log section. They can be viewed with the Windows NT EventViewer tool. All entries have "OPOS 1.6A20" in the category field and the name of the Service Object (e. g. WN_TA.dll) in the source field. A detailed description of the error is displayed by double-clicking it.

11. Trademarks

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-end for now...

// EOF