Embedded Solutions

MDIS4/2004 under Windows

W2k Drivers for W2k/XP

QuickStart Guide

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About this Document

This QuickStart guide describes how to use MDIS4 Windows 2000 PnP (Plug & Play) drivers under W2k/XP.

For the usage of MDIS4 Windows NT4.0 drivers and the complete documentation of MDIS4 under Windows, please refer to the MDIS4 under Windows user manual.

History

Edition	Comments	Technical Content	Date of Issue
E1	First edition	D. Pfeuffer	2004-10-15

Conventions

This sign marks important notes or warnings concerning proper functionality of the product described in this document. You should read them in any case.

italics   Folder, file and function names are printed in *italics*.

bold   **Bold** type is used for emphasis.

monospace   A `monospaced` font type is used for listings, C function descriptions or wherever appropriate.

hyperlink   Hyperlinks are printed in blue color.

The globe will show you where hyperlinks lead directly to the Internet, so you can look for the latest information online.

IRQ#   Signal names followed by "#" or preceded by a slash ("/") indicate that this signal is
/IRQ   either active low or that it becomes active at a falling edge.

Copyright Information

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Contents

1   General

The host system must be a Windows NT/2000/XP based PC on which you want to develop your application. If you would like to develop your application directly on your target system (without a separate host), you can perform the host and target installation on your target system.

MDIS4 Windows 2000 PnP drivers can be used on targets running Windows 2000 Professional and Windows XP Professional/Home/Embedded.

The drivers are generally not digitally signed by Microsoft, therefore you might see a warning during driver installation. In this case, just choose *Continue Anyway.*

MDIS API libraries (e. g. MDIS-API, USR-OSS, ...) use the *__stdcall* calling convention and the multithreaded versions (*LIBCMT.LIB*, *MSVCRT.DLL*) of the C runtime library. The MDIS API libraries are provided as static libraries (linkable from C/C++ programs) as well as DLLs (usable from all major Windows programming languages).

If you want to use the DLLs:

☑ Copy them from the *%WORK%\NT\OBJ\DLL\MEN\I386\FREE* path of your host system to the *%SystemRoot%\System32* path of the target system.

The MDIS-API library provides application programs access to the W2k PnP drivers. The static and the DLL version of the MDIS-API library **require the men_winspec.dll** file.

☑ Copy the Windows 2000/XP specific *men_winspec.dll* from the *%WORK%\W2K\OBJ\DLL\MEN\FRE\I386* path of your host system to the *%SystemRoot%\System32* system path of the target system.

Ready-to-use built driver example programs and tools will be placed in the *%WORK%\NT\OBJ\EXE\MEN\I386\FREE* path of your host system. For test purposes, just copy the executables to an arbitrary path (e. g. *C:\MEN*) of the target system.

The MDISNT test and configuration utility (*mdisnt.exe*) can be used to quickly test any driver function, determine the capability of a driver, get revision information of all software modules used by the driver, and much more. To benefit your development process, MDISNT ships with most of their C sources (*%WORK%\NT\TOOLS\MDISNT*).

Problems with MDIS4 software modules? Please refer to Chapter A 9 Solving Problems of the *MDIS4 under Windows user manual*.

2 Installing MDIS on the Host System

If you have already installed MDIS4 for Windows on your system, please refer to Chapter A 3.2.1 Hints on Updating and Deinstalling of the *MDIS4 under Windows user manual*.

2.1 Installing the System Package

☑ Extract the *13m00006.zip* ZIP file to an arbitrary empty folder.

☑ Read the *readme.txt* file in this folder for additional information.

☑ Execute *setup.exe* in this folder.

☑ Choose the destination folder (*%WORK%*) of the MDIS installation (usually *C:\WORK*) and use the default selection of the components to be installed.

The installer performs the following steps:

- The setup program copies all selected components into the *%WORK%* folder.
- Some environment variables (prefixed by *MEN_*) are set.
- A program folder is created in the *Start* menu (default: *Programs\MDIS4 for Windows*). From this program folder, called "MDIS4 program folder", you can browse the MDIS4 installation.

2.2 Installing Driver Packages

Use the MDIS4 Package Installer to install all MDIS4 (or native) driver packages for Windows (one by one) required for your target system.

☑ Move the driver package ZIP file and any related documentation files (*.pdf*, *.html*, *.txt*) to an arbitrary empty folder (e. g. *C:\MEN_MDIS_PKGS\13M066-70*). Take care to put files of only one article into the empty folder.

☑ Execute the MDIS4 Package Installer program from the MDIS4 program folder via the *Start* menu.

☑ Specify the path where the driver package is located and follow the setup instructions.

The MDIS4 Package Installer performs the following steps:

- Copy the content of the Driver Package to the *%WORK%* folder. Thereby, all W2k PnP drivers (free build) and package description files (*.xml*, *.inf*) will be copied to folder *%WORK%\W2K\TARGET_INSTALL*.
- Put links to the documentation files included in the package to the MDIS4 program folder.

3 Installing the MDIS Driver on the Target System

The installation of the Windows 2000 PnP drivers depends on the target's hardware configuration. For the target installation, you have to take all the required files (drivers, programs, DLLs, etc.) from your MDIS4 host installation (e.g. via a network connection).

The files required for the installation of W2k PnP drivers are located in the host's target install folder (*%WORK%\W2K\TARGET_INSTALL*).

If your target system provides a VMEbus, please refer to Chapter A 4.1 VMEbus Systems and Swapping Drivers of the *MDIS4 under Windows user manual*.

3.1 Installing PnP Devices

The *Found New Hardware Wizard* will guide you to the installation of a PnP device. If a new PnP device was installed, Windows detects the device automatically and searches for a matching driver. If a proper driver was found on the computer, the driver will be installed without any user interaction. Otherwise, Windows starts up the *Found New Hardware Wizard*.

Step 1: When the Wizard appears...

W2k:

☑ Click Next

☑ Take over the default selection *Search for a suitable driver for my device (recommended)*.

☑ Click *Next*.

XP:

☑ Select *Install from a list or specific location (Advanced)*.

☑ Click *Next*.

Step 2: Determine the location of the driver installation files

W2k:

☑ Uncheck all options except *Specify a location*.

☑ Click *Next*.

☑ Browse to the location of the driver installation files.

☑ Click *OK*.

XP:

☑ Select *Search for the best driver in these locations*.

☑ Select *Include this location in the search* and browse to the location of the driver installation files.

☑ Click *Next*.

Step 3a: If Windows has found more than one matching driver

W2k:

- ☑ Select *Install one of the other drivers* (otherwise the first driver found will be installed but this may be the wrong driver).

- ☑ Click *Next*.

- ☑ Select the correct driver from the displayed list (ignore the confusing *Recommended driver* message that appears if the first listed driver is selected).

- ☑ Click *Next*.

XP:

- ☑ Select the correct driver from the displayed list (ignore the warning "*This driver is not digitally signed*").

- ☑ Click *Next*.

Step 3b: If Windows has found only one matching driver

W2k:

- ☑ Click *Next*.

Step 4: When the *Completing the Found New Hardware Wizard* window appears

- ☑ Click *Finish*.

3.2　　　Installing Non-PnP Devices

A non-PnP device is a hardware device that cannot be automatically detected. The *Add(/Remove) Hardware Wizard* will guide you through the installation of non-PnP devices.

Note: For a few PnP hardware devices a user-initiated installation (as for non-PnP devices) is required. Please refer to Chapter A 4.4.1 W2k Driver & PnP Basics of the *MDIS4 under Windows user manual*.

To start the *Add(/Remove) Hardware Wizard*:

W2k:

☑ Select *Start ➤ Settings ➤ Control Panel ➤ Add/Remove Hardware.*

XP:

☑ Select *Start ➤ Control Panel ➤ Add Hardware.*

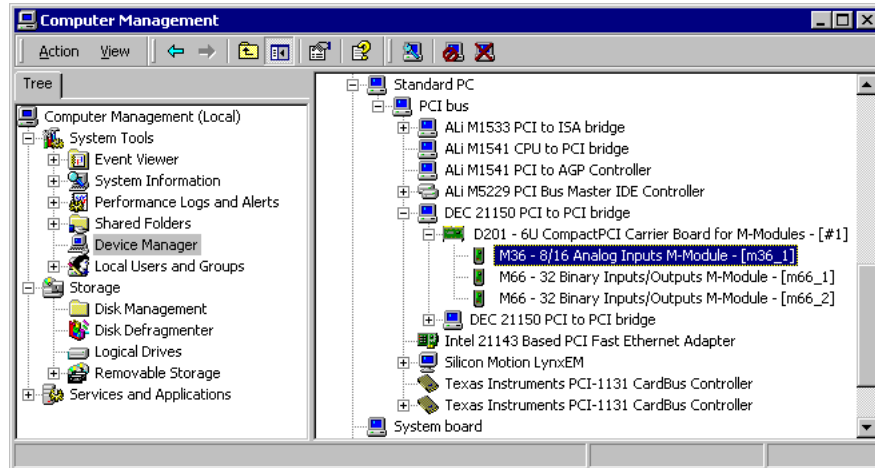**Now follow the Wizard instructions using the following options:**

- *add a new device from the list*
- *select the hardware from a list*
- Select *Other/Show All devices* from the list.
- Click *Have Disk and Browse* to select the location of the driver installation files.
- Select *MEN Mikro Elektronik* as a manufacturer.
- Select the model of the hardware device you want to install.

For a detailed description of the installation procedure, please refer to Chapter A 4.4.4 Installing Non-PnP Devices of the *MDIS4 under Windows user manual*.
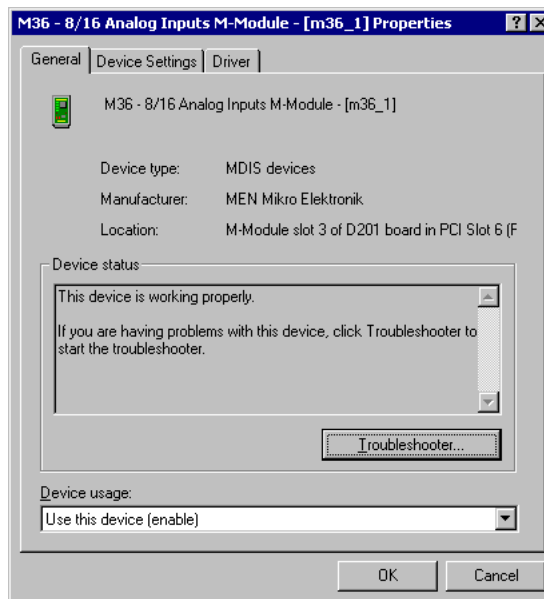
4   MDIS Device Configuration

The device configuration can be modified after the driver installation via a device property page, accessible over the **Windows** *Device Manager*.
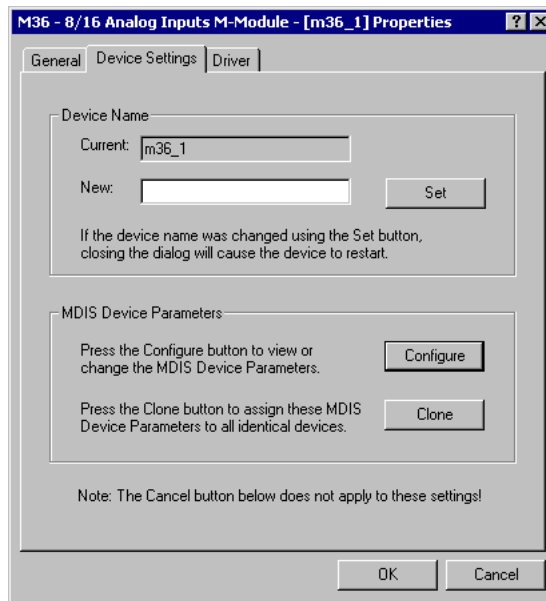
☑ Use the view option *Devices by connection* to easily recognize which device (e.g. M-Module) resides on which board (e.g. carrier board):

☑ Double-click on a desired device (e.g. an M36 M-Module plugged on a D201 PCI carrier board) to open the corresponding *Device Property* **page**:
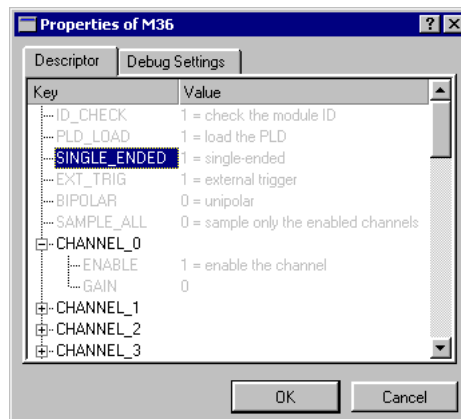
The ***Device Settings* tab** designed by MEN depends on the driver type (function/bus driver). The main difference is that all *Device Settings* tabs of a function driver related device have a *Device Name* setting section whereas the *Device Settings* tabs of a bus driver do not. *Device Settings* tab of a function driver (e.g. M36 M-Module):

To view or modify MDIS4 device parameters:

☑ Press the *Configure* button. The *Properties of xxx* window appears.

☑ **Double-click on the desired parameter to modify its value.** A further, parameter-type dependent window appears that gives you the option to use the default value or to specify another, parameter-specific value.