

Introduction

BEETLE systems with WN motherboard may be delivered without a pre installed operating system and therefore do not include all needed drivers for WN hardware. For these customers we provide the drivers on our web sites. This document gives you some hints concerning the installation of onboard drivers. It gives you some basic technical information about driver installation and also about new features and differences to previous BEETLE motherboards:

E1 motherboard hardware + BIOS updates and settings + Driver installation & hardware setup + additional hints about related devices

This document is made for people with a technical background. Thus, we do not need to tell you how to install a Windows driver and select INF files (“install from a list”), overwrite existing, “recommended” Windows drivers, or how to install Red Hat rpm packages, etc... For basic information & education concerning operating systems and PC technology itself, please contact your favorite consultant.

Since we used these releases from DOWNLOAD.ZIP for internal qualification of WN motherboard, we recommend download and installation of them, even if newer ones are distributed from original hardware manufacturers.

WN motherboards do use this **super I/O chip ITE 8874F** to provide two or more additional onboard COM ports. You will find one of these chips on E1 (→ 2 additional RS232) and one on E1 basic motherboard + another on POSBOARD (→ 4 additional RS232).

Contents of DOWNLOAD.ZIP

Folder	Type	Contents
WinXP	INF	Windows XP driver (INF) release 3.50
WinXP\Add.On	EXE	WNdevcon; see chapter COM port enumeration
Linux.RH9	RPM	All installation files rpm release 1.1-2
README.*	PDF	This file

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Installation for Windows XP

Since Windows XP does not provide any driver for ITE 877x. If you ordered the systems without pre installed operating system, you need to download and install the drivers from WN site.

The installation is divided into these parts for each ITE chip onboard:

- First the chip itself will be found by “ADD NEW HARDWARE WIZZARD” at Windows start up. You will be asked to give folder path to installation files.
- After this procedure the COM ports are found.

If **PCI COM board** (Sunix 4046WN) is included in your configuration, follow this installation sequence or use WNdevcon (see next chapter). Otherwise the enumeration of COM ports will be different to printed labels on BEETLE backside:

- Very first install all base components (chipset driver, video, ...)
- Next install ITE8774F driver → you will see COM3: and more
- Finally install PCI COM drivers

Windows XP enumeration of COM ports

If your BEETLE includes a PCI COM card and the COM port numbers differ from what is on the BEETLE rear side - e.g. after a BIOS update to E1 release 02/05 –

sprinteds are Since Windows X plug and play detection is not complete under control of driver programmers, you may find with This will cause, in case of BIOS update with an already installed plug and play operating system like Windows XP, a **detection of same chip again as new hardware!**

Since the Windows COM port enumerator already ran and reserved COM port numbers for (now “non present”) COM hardware, you will find “new” ports COM5: and COM6: (or COM9: and COM10: if PCI COM installed) in device manager. If PCICOM board/s is/are installed, the “new” COM ports do have higher numbers.

How to re-arrange COM ports manually?

1. Write the following lines to a new file with **REG** extension:

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session  
Manager\Environment]  
"DEVMGR_SHOW_NONPRESENT_DEVICES"="1"
```
2. Double click on the file (Windows explorer) and confirm import action.
3. You need to logout and logon to activate this option
4. Run the Windows device manager and select “view” + “show hidden devices”
5. Remove all ITE COM ports (including hidden ones) and rescan for new hardware.

How to re-arrange COM ports unattended?

1. Copy “**WNdevcon.exe**” on your target system to folder “c:\”.
2. Build a batch file like this:

```
c:\WNdevcon remove ITE*  
c:\WNdevcon rescan
```
3. Move the batch into auto start folder and reboot.

You need to run this script only once after BIOS update! It is good practise to (automatically) delete the script after first Windows start up. Of course, you can place the executable into any other folder. The enumeration of already installed PCI COM (Sunix 4056WN) boards will not be touched by Windows XP and this script. See README of PCI COM driver download for more info...

Installation for Windows NT4

We recommend usage of E1 added this package to be used **for customer projects only**. Run SETUP.EXE.

For E1 motherboards, we do recommend the usage of E1 POS BIOS instead!
This PROJECT BIOS remaps ITE COM ports to legacy resources and therefore there is no driver needed at all.

Installation for Linux

All information here based on **Red Hat distribution release 9**. An additional package for ITE877x needs to be extracted from DOWNLOAD.ZIP or from www and installed on local system. Use "--force" option to overwrite already existing packet:

```
„rpm -ihv wn_ite887x-1.1-2.i386.rpm --force“
```