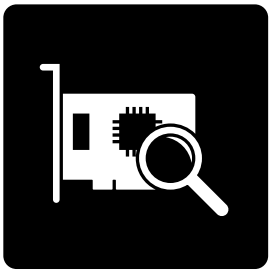
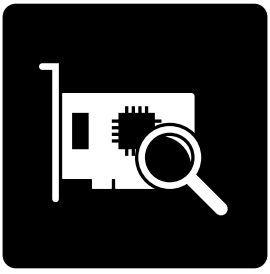
PCISniffer 3

Miray





PCISniffer 3

Manual

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1 Introduction

Thank you very much for choosing PCISniffer. It is our expressed goal to offer a product which fully meets your requirements and expectations. Should you wish to offer any suggestions for improvement or if you for any reason are not satisfied with the software, we kindly ask that you send your suggestions and feedback to feedback@miray.de.

1.1 Brief description

PCISniffer is a tool for scanning the PCI busses on a PC and displaying PCI header data in readable form, directly gathered from the PCI devices.

1.2 Chapter summary

1 Introduction: General information about this manual and PCISniffer.

2 Supported hardware: Minimal requirements and supported devices.

3 Quickstart: Short description of installation and program startup.

4 Installation: Creating a PCISniffer bootable media (USB stick or CD/DVD).

5 Program startup: Starting PCISniffer.

6 Troubleshooting: Should you encounter any problems when using PCISniffer, this chapter provides information and suggestions for solutions.

7 Miscellaneous: Legal disclaimer and feedback.

1.3 Character conventions

In this manual, keys on the keyboard are printed with an inverted background, for example Esc for the escape key or Return for the return key. Some keys are represented by their corresponding symbol, for example ↑ for the 'up'-key. Visual controls on the screen, particularly buttons are represented over-and-underlined with italic font, for example *next*, *back*.

2 Supported hardware

This section contains information on the hardware supported by PCISniffer. PCISniffer runs on PCs (x86) and supports a wide range of hardware.

2.1 Supported Systems

- PC 80586 or higher, 500 MHz, 128 MB RAM, VGA (optimal: VESA support)
- Keyboard & mouse: PS/2, USB or Bluetooth
- Bootable CD drive or USB bootable media

2.2 Compatibility

PCISniffer was developed to support general hardware standards. It has been tested on many devices.

2.3 Device standards

To support a wide spectrum of devices, PCISniffer implements the official interface standards for the particular device types. In addition, we perform extensive tests with each type of device. Though should you experience any issues, in most cases these can be resolved by setting the options appropriately (see ▸ 6 Troubleshooting). The event that this does not solve the issues, our Support Team (▸ 7.3 Support) will be glad to help you.

3 Quickstart

To start (=boot) PCISniffer, the following steps are required:

1. If you already have a bootable media (CD/DVD or USB stick) with PCISniffer, please proceed with step 4.
2. Plug a USB stick into your PC or insert an empty CD/DVD into your CD/DVD writing drive. Start **PCISniffer.exe** from the program package.
3. Select the desired CD/DVD drive or the desired USB stick and create a bootable media.
4. Boot the desired PC from this media.
5. When the main program screen opens, follow the course of the program.

4 Installation

Create a bootable media with ▸ 4.1 Boot-Setup or as described in ▸ 4.2 ISO image.

Note: Should you have obtained PCISniffer on a media (CD/DVD or USB stick), you can start PCISniffer directly from there in many cases (▸ 5 Program startup).

4.1 Boot-Setup

Boot-Setup (▸ fig. 1) creates a bootable media for starting (booting) PCISniffer on any PC.

To open Boot Setup, start **PCISniffer.exe** from the program package.

The Boot-Setup window offers these options:

- **Select target**: Select the desired type (**USB** or **CD/DVD**) and a drive from the drop-down box. Drive lists are updated automatically. Alternately, you may select an **ISO image** to be created.
- **UEFI boot support**: Adds boot support for modern UEFI systems. The disk will also still boot on BIOS systems. Should you encounter any boot problems, simply deactivate this option to create a bootable disk without UEFI bootcode.
- **Format drive**: This option is available for USB disks only. It formats the selected drive prior to making it bootable. This is helpful with boot problems or for simply starting with a fresh drive. All data on the drive will be deleted.

fig. 1: Boot-Setup

Click on *Create now* to start creating the bootable media. Follow the instructions and wait for the program to confirm successful completion. Continue under ▸ 5 Program startup or ▸ 3 Quickstart.

Note: When creating a CD/DVD, please always use a new, empty writeable CD/DVD. Otherwise there may be problems when trying to boot PCISniffer from this CD/DVD.

4.2 ISO image

The PCISniffer software package contains an ISO image (**pcisniffer.iso**):

It can be used to create a bootable PCISniffer CD/DVD in any operating system using third party CD/DVD writing software capable of burning ISO files. For further information, please refer to the manual of your CD/DVD writing software.

1. Start your CD/DVD writing software and choose **Create CD from image file** (or similar option, depending on the CD/DVD writing software used).
2. Specify the file **pcisniffer.iso** as an image file (instead of adding it as a normal file).
3. Insert a blank CD /DVD into the drive and start the burning process.

Once these steps have been completed, you will have created a bootable CD/DVD. You can use it to start (boot) the software directly on any PC with a bootable CD/DVD drive as described in ▸ 5 Program startup.

Hint: The easiest way to create a bootable CD under Linux is to use the software tool **cdrecord** with the following syntax:
cdrecord pcisniffer.iso

5 Program startup

PCISniffer is a self-booting application, meaning the program cannot be started from Windows directly, but has to be booted when starting the PC.

5.1 Self-booting

Connect the bootable USB stick or insert the bootable CD/DVD (▸ 4.1 Boot-Setup). Start the PC and ensure that BIOS will boot from the desired media. PCISniffer will then be launched from the bootable media.

Note: Should your PC not boot from the PCISniffer boot media, press F8, F11 or F12 (BIOS dependent) as soon as you power on the PC to access the boot menu and select the boot media.

PCISniffer will also boot on UEFI systems, with or without SecureBoot mode.

5.2 Quit program

In the lower right of the system bar you find a symbol to power off the PC (⏻). Click on this symbol or press the Esc key to quit PCISniffer.

Note: If you do not want to start PCISniffer when starting the computer next time, remember to first remove the PCISniffer boot media from the boot drive.

6 Troubleshooting

This paragraph describes problems you may possibly encounter when using PCISniffer and offers proposals for solutions of these problems. Should you find no proposed solution to a problem, please feel free to contact our ▸ 7.3 Support.

6.1 General

6.1.1 Retry

Should a process not run as expected during the first attempt, a common, yet often effective solution is to give it a second try. This saves time, especially if hardware issues are the root cause, as many problems will resolve upon reconnecting hardware, or by using a different port.

6.1.2 System-Log

Should you encounter any problems in general, but especially when contacting our ▸ 7.3 Support, please create a System Log first and attach it. Similar to a flight recorder, it will contain information about internal program activities; this will help us – as well as you – to find a solution more quickly. Store the System Log as follows:

1. If you have not booted PCISniffer from a USB stick, please connect one to store the System Log onto.
2. Click on the Toolbox symbol (⏻) or press Ctrl + Alt + F12.
3. Select the Store System Log option. If you have booted PCISniffer from a USB stick, the System Log will be stored to it automatically. Otherwise, a popup will open and prompt you to select a storage media.
4. A popup window will appear, which will display the storage progress as well as the storage location and the file name.

If an older System Log is found at the storage location, the number contained in the file name will be increased automatically. The latest System Log will always be the one with the highest number.

Hint: If saving the System Log to a log file fails when triggered over the System Bar, you can still force PCISniffer to store a continuous System Log upon startup. Use the Startup option System Log: <Startup> to store the log to the PCISniffer bootable disk.

6.2 Create a bootable PCISniffer media

This chapter addresses potential issues when creating a bootable media for PCISniffer.

6.2.1 USB stick not working

If creating a bootable USB stick or booting from this USB stick fails, the cause may be that the USB stick lacks a partition table. Should this be the case, start ▸ 4.1 Boot-Setup, use the option **Format disk** and recreate the bootable USB stick. All stored data on the USB stick will be irretrievably lost.

6.2.2 CD/DVD writer not selectable

Should no drive be offered for selection at **CD/DVD writer** although a CD/DVD writer is available on the system, the installed CD/DVD writing software may be the culprit. It may reserve the drive exclusively, so that Boot-Setup cannot access it. Deactivate or uninstall the CD/DVD writer software in this case or create a bootable CD/DVD with your CD/DVD writing software the ▸ 4.2 ISO image contained in the software package.

6.3 Booting PCISniffer

Should issues arise while booting PCISniffer from a USB stick or CD/DVD (for example black screen or startup screen freezes), the following chapters provide appropriate solutions.

6.3.1 BIOS-USB-Boot

If the PCISniffer bootable media (USB stick or USB CD/DVD drive) is not listed in the BBS menu (▸ 5.1 Self-booting), activate USB boot support in the BIOS setup first. Press F2, Del, or F10 (depending on BIOS) to enter BIOS setup. The setting can be found under different names and menu items, depending on the BIOS version. In most cases, it can be found under labels such as **USB**, **Boot** and **Legacy**. In BIOS setup you can also opt to boot from USB permanently, usually under the menu item **Boot**.

6.3.2 UEFI-Boot and SecureBoot

Current PC models often have a UEFI-BIOS. PCISniffer supports booting with UEFI. Some PCs also offer the SecureBoot function, which PCISniffer also supports. Should an issue arise when booting with SecureBoot, deactivate SecureBoot while using PCISniffer. You can activate SecureBoot again afterwards. Should you

encounter any issue when booting with UEFI, recreate the PCISniffer bootable media (▸ 4.1 Boot-Setup) while the **Include UEFI boot support** option is disabled. Restart PCISniffer from this bootable media.

6.3.3 Extended Boot Options

The boot settings of PCISniffer are optimized for fast booting. If there are any problems with booting, change the settings on the boot screen (▸ fig. 2) press the M key for **More Options**. This will display the Extended Boot Options.

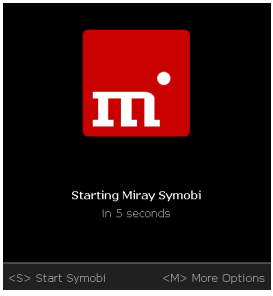

fig. 2: Boot screen

Startup modes

The startup modes already cover a certain boot setting, which will be modified by the selected startup options.

- Start Symobi: Start the system normally.
- Compatibility Mode: Recommended in the event of booting issues.
- Safe Mode: Recommended in the event of issues with connected devices, especially mass storage or input devices.

Startup options

These options can be activated or deactivated independently. They will be applied when booting one of the startup modes.

- IRQ: Deactivate if any hardware problems occur (passive device access).
- SATA & Parallel ATA (AHCI/IDE): Deactivate to eliminate interference caused by SATA and IDE devices.
- SATA PortMultiplier: extended detection: Activate in the event that disks which are connected over a PortMultiplier are not properly detected.
- USB 1.0/1.1/2.0 (UHCI/OHCI/EHCI): Deactivate to eliminate interference caused by devices which are connected to normal USB ports (connect input devices to USB 3 or PS/2 instead!).
- USB 3.0 (XHCI): Deactivate to eliminate interference caused by devices connected to USB-3-Ports.
- Advanced input device drivers + Bluetooth: Deactivate in the event of issues with input devices.

- SCSI & Firewire (IEEE1394): Deactivate to eliminate interference caused by SCSI or Firewire devices.
- Advanced bootloading: Deactivate in the event of booting issues.
- Video mode: The default **auto** will select the video mode automatically. **Native** will use the video mode set via BIOS/UEFI. **VESA**, **VGA-BIOS** and **VGA** allow to activate one of these legacy drivers explicitly.
- System log: Default is **normal**. Select **reduced** only in the event of oversized system logs. The option **autosave** will save the system log automatically and continuously to the root directory of the bootable disk as **Symobi.1.log**.

Select the desired startup options, then boot, invoking the desired startup mode (↑, ↓ and Return key).

6.4 Input devices

If there is no reaction on the mouse or keyboard input after starting PCISniffer, the following subchapters provide further information and solutions.

6.4.1 General

A generally very successful solution when having issues with input devices is to connect an alternative USB input device of the same type.

6.4.2 Bluetooth devices

PCISniffer also supports Bluetooth mice and keyboards. If a Bluetooth input device is not recognized, please connect another USB device of the same type.

6.4.3 Problem devices

A few input devices contain a flawed implementation of the standard. Though those devices may work with Windows, as vendors usually test them against Windows, they will not work with other operating systems. Should this be the case, please use a different USB device temporarily. Create a ▸ 6.1.2 System-Log and submit it, together with information about the applicable vendor and model of the non-working device to our ▸ 7.3 Support.

7 Miscellaneous

7.1 Disclaimer

Parts of this product are based on products which are licensed under the GNU General Public License (GPL). The applicable license can be found by visiting http://www.gnu.org/copyleft/gpl.html. Upon submission of a request to support@miray.de you will be sent a copy of the source code.

While PCISniffer was programmed and tested with the greatest possible care, please understand that we cannot assume any liability for the proper functionality of the program, and that we cannot be held liable for any damages that may result from its usage, which may be subject to gross negligence or intent.

7.2 Feedback

Your feedback is highly valued. Should you experience any program errors, we will certainly make every effort to rectify these issues. If you would like to make any suggestions for improvement, we would like to hear them in order to implement and integrate your ideas. We welcome and look forward to any opinions or information that you would like to share with us regarding this software.

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7.3 Support

Should you encounter any problems with any of our products, our support team will be glad to assist you. Please send us your inquiry via our homepage at miray-software.com/support or email us at support@miray.de.