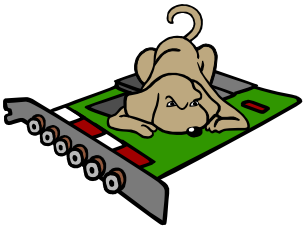
Miray Stand-Alone-Tool-Series



PCISniffer

Version 1.5

User's manual

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1. Introduction

1.1. Fields of application

PCISniffer is a diagnosis program for the PCI bus. It scans the PCI bus and detects connected devices. It reads the PCI configuration data of the devices and displays it in readable form. You get detailed information about all PCI devices installed in your computer. Even device manufacturer and device names are displayed in plain text. The PCISniffer can be used as hardware diagnosis tools and to detect errors or conflicts of PCI devices, as well as to inventory the PCI hardware.

1.2. Compatibility

The PCISniffer runs on PCs starting from 386SX-16 with a minimum of 2 MB RAM, keyboard and a VGA adapter. A 3,5"/1,44 MB floppy disk drive or, alternatively, a bootable CD drive is also required. To use the remote data transmission capabilities a nullmodem cable and a RS232 port is also required. A PC with PCI bus is optional ;-)

The PCISniffer supports the complete PCI specification, i.e. it detects up to 256 PCI busses with each 32 devices connected. 64-bit PCI devices are also detected and displayed.

1.3. Creation of a Bootdisk

If you have received PCISniffer on a **bootable floppy disk** or a **bootable CD**, there is no further bootdisk creation required. In this case skip this chapter and continue reading at *"1.4. Start"*.

If you have received the **compressed software package**, extract it into a directory of your choice. Proceed with the steps for bootdisk creation as described in the next paragraph but one.

If you have a **uncompressed software package**, you can usually start the creation process directly from the directory the installation package lies in. If this is not possible, copy the installation package in a directory of your choice.

Now start the installation program included in the software package. Insert a formatted 3,5"/1,44 MB floppy disk into drive A:. Any data contained on this floppy disk will be erased. So please make sure you don't use a floppy disk with files you will still need on it. In the installation program start the creation process. After finishing the process the floppy disk you inserted is now **bootable and ready**.

If you have an **ISO-image** in your software package, you can create a CD-R with most of the available CD-recording applications. After creating the CD-R you have a **bootable CD**.

1.4. Start

To start PCISniffer, you must have PCISniffer installed on a bootable floppy disk or on a bootable CD. If you haven't received any of the above, you can create these from an installation package, as described in *"1.3. Creation of a Bootdisk"*.

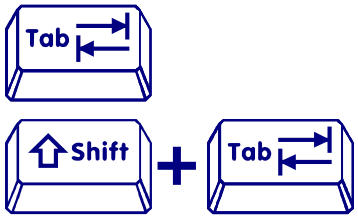
Insert now the bootable floppy disk or CD in the corresponding drive and make sure that the BIOS of your computer boots from the corresponding CD or floppy drive. Turn on the computer or restart it. PCISniffer will be started automatically from floppy disk or CD.

2. Interface

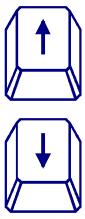
After startup PCISniffer first of all searches for installed PCI devices. If PCISniffer has finished detecting all the devices, the main screen appears, where the first detected PCI device on the first PCI bus in the system is shown.

2.1. Device selection

On the left border of the screen there are three windows vertically aligned. They contain the detected PCI busses, devices and functions that are displayed according to their PCI address. In the window *"Bus"* the first detected PCI bus is selected at program startup. In this window you can choose the desired PCI bus. The devices connected to this PCI bus are listed in the window "device" where the first detected device is also selected. In the "device" window you can select the desired device. The available functions of this device are listed in the "function" window, where again the first function is selected.



Using the <Tab> key you can change between the device selection windows in the following order: *Bus* → *Device* → *Function* (→ *Bus*). The current selected window will be highlighted with a double border.
Using the key combination <Shift>+<Tab> you can change between the windows in reverse order.



Using the arrow keys you can select the desired bus, device or function in the currently active window. If another bus is selected, the device list is automatically updated. If another device is selected similarly, the function list will be updated automatically and the selection will be set on the first available item in each case.
Any change in a window of the device selection automatically updates the PCI data window (see also *"2.2. Data Window"*).

2.2. Data window

The data window is located on the right of the device selection windows. This window shows the PCI configuration data of the currently selected PCI function. Please note that the value of the window refers to the currently selected function and not on the device, although some PCI devices offer more PCI function with all the same PCI configuration data.

The right column of the data window lists address and data spaces for ROM, RAM or IO-address-spaces eventually reserved by the PCI function. PCISniffer lists them only if they are really valid. This means that the right column can be empty, if a PCI function does not reserve any address spaces.

The left column of the data window contains all other PCI configuration data. These are valid at any time and therefore are shown at any time.

3. Functions

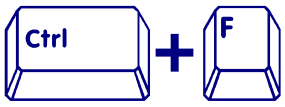
3.1. Quick Help

Using the <F1> key you can get a short overview of the different functions and key combinations of PCISniffer to remember them if they have been forgotten.

3.2. Storing to Floppy Disk

PCISniffer offers the possibility to store the PCI configuration data to a file on floppy disk. Currently, only internal floppy drives are supported. The data is stored on the floppy in a file named “PCIxxx.TXT” where the ‘xxx’ represents a three-digit number that is increased automatically.

Using the <F> key the PCI configuration data of the currently selected PCI function can be stored to an internal floppy disk.

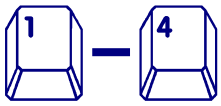


Using the key combination <Ctrl>+<F>, a **complete report** of all PCI data detected by PCISniffer can be stored to floppy disk.

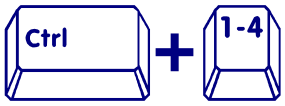
3.2. Remote Transmission

PCISniffer offers the possibility to transmit the PCI configuration data via a serial null-modem cable over a RS232-interface to another computer, where it can be received with a terminal program and be saved for inventory reasons.

The following connection settings must be set on the opposite terminal:
Speed: **9600 bps** / Databits: **8** / Parity: **none** / Stopbits: **1**



With the keys <1> to 4> the PCI configuration data of the currently selected PCI function can be sent via the corresponding serial interface (**COM1** - **COM4**) to another computer.



Using the key combinations <Ctrl>+<1> to <Ctrl>+<4> you can send a **complete report** of all PCI data detected by PCISniffer via the corresponding serial interface (**COM1** - **COM4**) to another computer.

When pressing additionally the key <Shift> the sending speed for both single and complete report can be set to **115200 bps**.

4. Disclaimer

Although PCISniffer was programmed with the largest possible caution and was tested on a large scale of different systems, we hope you understand that we cannot give a warranty for the proper functionality of the program and that we are not responsible for damages resulting of its usage, subject to gross negligence and intention.

5. Feedback

We are deeply interested on your feedback. If you encounter any program errors or if you have any improvement ideas, we always try to fix the first named and implement or integrate the latter. If you only want to tell us your opinions about this software, we are also very interested in such information.

internet	http://www.miray.de/
e-mail	feedback@miray.de support@miray.de
fax	++49 - 89 - 76 72 91 - 68
postal address	miray Software P.O. Box 15 15 01 80049 München Germany