

LAPcan - Installation Guide

Introduction

This guide describes the installation of the LAPcan PCMCIA card under Windows 95/98 and Windows NT 4.0. Please read this entire document before installing or upgrading the card or its driver routines.

Hardware requirements:

- IBM compatible PC, 80486 or higher.
- A PCMCIA slot (or a CardBus slot in PCMCIA mode, if you are using Windows 95/98).

Software requirements:

- Windows 95
- Windows 98, or
- Windows NT 4.0.

First Time Installation, Windows 95 or -98

Both Windows 95 and Windows 98 are called "Windows" here for simplicity. The installation procedure is the same for both systems unless explicitly noted here.

1. Turn on the computer and let Windows start as usual.
2. Insert the card in a free PCMCIA or CardBus slot.
3. Windows should now happily report that new hardware ("KVASER - LAPcan") has been found. The installation procedure will start automatically.
4. During the installation, you will be prompted for the location of the driver routines. These are supplied on a disk labeled "LAPcan Driver Routines". Insert that disk when Windows directs you to do so.
5. *Note:* some versions of Windows will not correctly detect the presence of the driver routines on the supplied disk. If this occurs, you will get an error message ("file so-and-so was not found") and you will be prompted once again for the location of the drivers. The remedy is simply to once again tell Windows that the drivers really are on the supplied disk.
6. Your computer will emit a so-called "happy beep" (a low-pitch tone followed by a high-pitch one) when the installation is complete.

Upgrading the driver routines, Windows 95 or -98

1. Insert the LAPcan card.
2. Open the Control Panel, select the Device Manager, double-click on "CAN Devices", double-click on the LAPcan card. On the "Drivers" tab, click on the "Update Driver"

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- button (this procedure is slightly different in different versions of Windows 95 and -98.)
3. Follow the directions given by Windows and have your disk with "LAPcan Driver Routines" handy.

Installation (or Upgrade), Windows NT

1. Turn on the computer and let Windows NT start as usual.
2. Login to the Administrator's account.
3. Start the setup.exe program located in the **WinNT** directory on the "LAPcan Driver Routines" disk.
4. Follow the instructions given by the setup program.
5. Restart your computer *with the LAPcan card inserted*.

Changing the I/O address and/or IRQ on Windows NT

Note: This is done automatically, or via the Control Panel, in Windows 95/98.

Use the program "lapcfg.exe" which was installed into a directory of your choice when you installed the driver routines. Run it from a command prompt like this -

```
lapcfg
```

It will then print the current settings and instructions for use.

Upgrading the firmware on LAPcan

If you are upgrading the drivers, it is strongly recommended that you upgrade the firmware on your LAPcan card. To upgrade the firmware,

1. Install/upgrade the driver routines first,
2. Restart your computer with your card inserted,
3. Run the program "firmup.exe" on the driver disk. Note that this program is not installed on your computer when you install the drivers, so you must have your driver disk ready.
4. The firmware upgrade will perform some tests after the upgrade to verify the result. Watch out for any error messages.

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Troubleshooting tips, Windows 95/98

1. Insert the LAPcan card. Does your computer emit a "happy beep"? (Most, but not all, computers do.)
2. In the Control Panel, you will find a icon named "CAN Hardware". Double-click on it and go to the "Diagnostics" tab. Are there any error messages there?
3. Start the Device Manager (found in the Control Panel, the "System" icon.)
4. Is LAPcan really installed? In the Device Manager, double-click on "CAN Devices" and verify that LAPcan really appears.
5. Are there any yellow question marks or red crosses in the list of devices? Any exclamation marks? - These signs usually indicates some kind of problem. If you double-click on the sign, Windows will give you more information.
6. Double-click on the "PCMCIA" icon in the Control Panel. Does the card appear in the list?

Troubleshooting tips, Windows NT

1. Insert the LAPcan card and restart your computer.
2. In the Control Panel, you will find a icon named "CAN Hardware". Double-click on it and go to the "Diagnostics" tab. Are there any error messages there?
3. Double-click on the "PC Card (PCMCIA)" icon in the Control Panel. Does the card appear in the list?
4. Run Windows NT Diagnostics (Start Menu | Programs | Administrative Tools) and verify that the "VcanNT" driver is listed on the "Resources" tab.
5. Start the Event Viewer (Start Menu | Programs | Administrative Tools) and check the System Log for errors.
6. At a command prompt, type " net start vcannt " and/or " net stop vcannt ". Any error messages?

Common Problem Sources

1. A resource conflict. Some other driver in the system is using the I/O ports or the IRQ needed by LAPcan. Try change either, or both, of these.
2. The installation of the driver routines has failed for some reason. Try reinstalling the drivers.
3. The card is not properly inserted.

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Technical Notes

LAPcan requires 8 contiguous I/O ports and one free IRQ in your computer. In particular, it can be difficult to obtain a free IRQ. You may have to disable, for example, a sound card or some other peripheral to make LAPcan work properly.

CANalyzer/CANoe users: if you have high demands on the real-time performance of the software, make sure the computer's power management is turned OFF. Refer to your computer's documentation for information on how to do this. You might have to change the settings in more than one place, for example, in the Control Panel and in the BIOS setup.

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