FDL-PCI
Interface card

User Manual

February 2005

CONTENTS

PERSONAL COMPUTER MINIMUM REQUIREMENTS

- CPU Celeron 1 Ghz .

- 256 Mb di RAM.

- Microsoft Windows 98, ME.

- A free PCI expansion slot for the connection between the PC and the camera

PERSONAL COMPUTER RECOMMENDED REQUIREMENTS

- CPU Pentium IV 2 GHz

- 512 Mb RAM

- A free PCI expansion slot for the connection between the PC and the camera

SCHEME OF THE INSTALLATION PROCEDURE

When you use the camera for the first time, you must install the library and the FDL-PCI interface. For this purpose, please follow the procedure described in the next pages and schematized in the diagram below:

Turn the PC off
Insert the FDL-PCI interface in the proper SLOT
Turn the PC on

LINUX

WINDOWS

Let install the DRIVER

WINDOWS OS ask to you the DRIVER: specify the directory within the provided CD.

Let install ViSTA software

Verify the configuration of the camera with CAMERA SELECT option
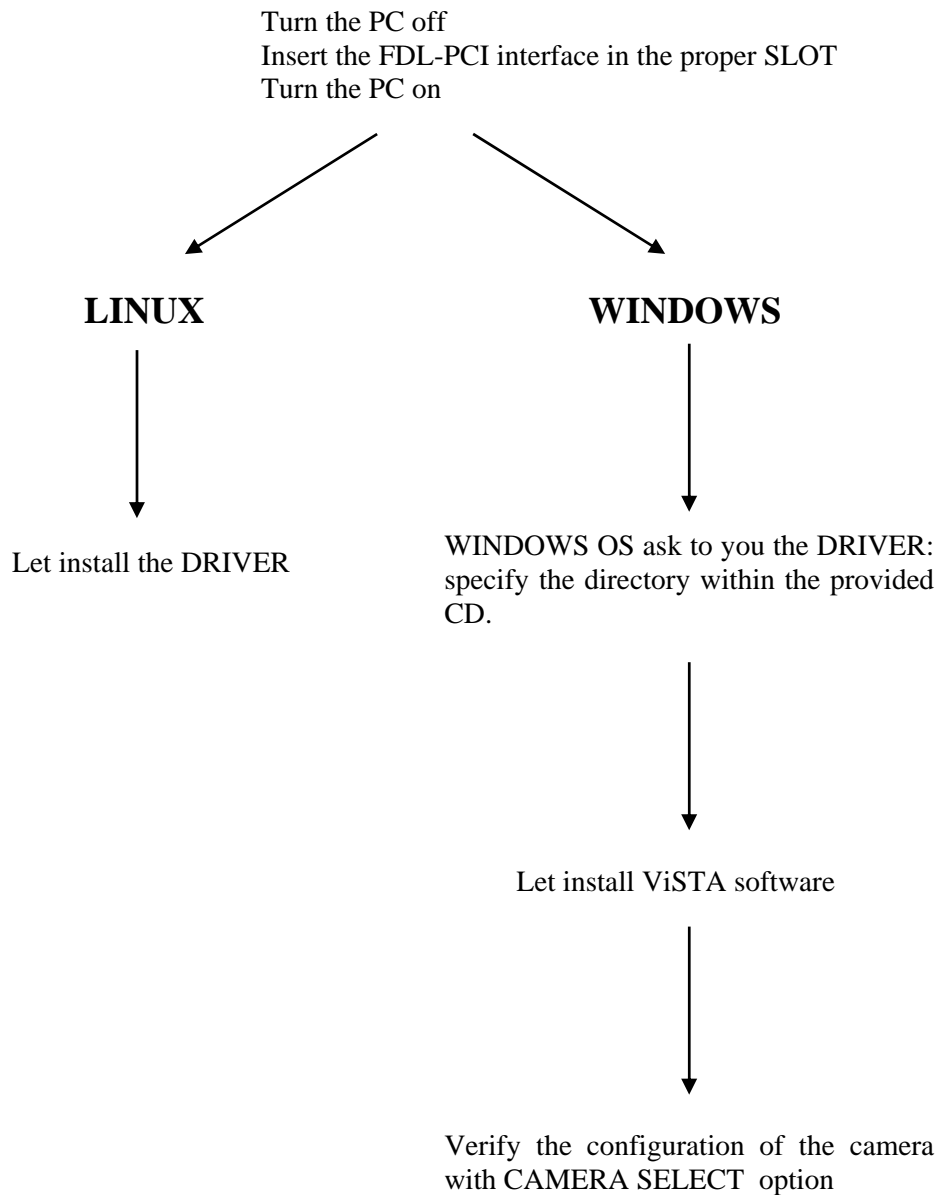
CONNECTING THE FDL INTERFACE CARD TO THE PC

To install your FDL interface card, do as follow :

$\Rightarrow$ Turn your PC off, including any peripheral.

$\Rightarrow$ Remove the external case of the PC (please see the relevant instructions in the PC Handbook).

$\Rightarrow$ Choose a free PCI expansion slot. Remove the relevant back cover by means of a screwdriver.

$\Rightarrow$ Insert the camera interface card into the expansion slot. Please make sure that the card is properly and fast inserted. Fix the card by screwing the relevant screw again.

$\Rightarrow$ Reassemble the PC case.

Turn the PC on once again. The interface card installation has been completed.
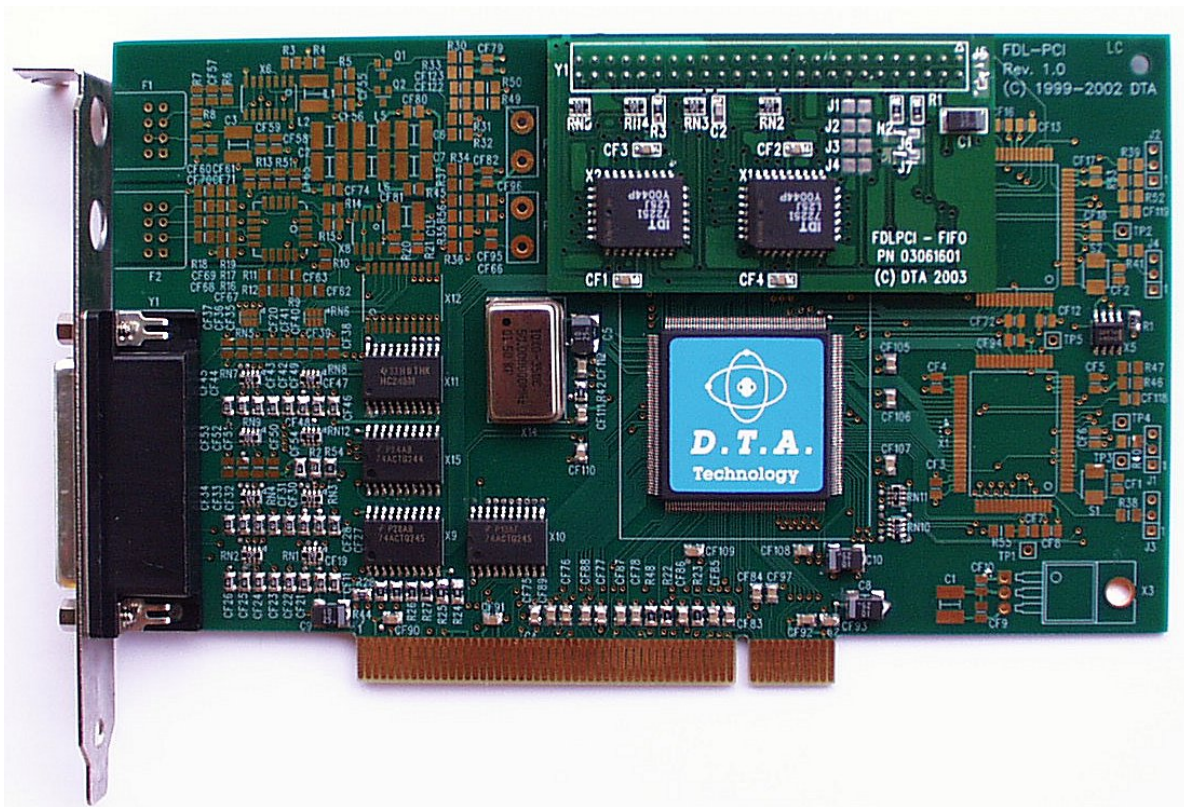
FDL-PCI interface card

In case of a fiber optic link connection, a dedicated FDL-PCI is provided with the proper connectors.

DTA *srl*

LIBRARY & FDL-PCI INSTALLATION

The installation of the library is always linked to the installation of the camera, of course. For this purpose you just need to install the PCI interface as well.

Let's analyse the sequence of operations to be carried out according to the different Operating Systems.

Once you turn the system on for the first time with the FDL-PCI interface on, you will be asked to specify where the available drivers are. Follow the steps on the basis of your Operative System.

WINDOWS 98

(Any window refers to the OS written in ITALIAN. The charts next to the images correspond to the explanatory notes translated into ENGLISH)

1) Insert the FDL-PCI card in the slot of the motherboard and turn the PC on. The PC will automatically find the FDL-PCI card and open a window like the one shown below. Click on "Next" to continue the installation

Helped installation of the new hardware.

New drivers will be looked for :
PCI Input Controller
A peripheral driver is a program that allows an hardware peripheral to work properly.

NEXT

CANCEL

2) The PC will have to look for the most suitable driver to the peripheral and ask if you'd rather do so authomatically or choose it from a list of available drivers. Choose the option "Find the most suitable driver to the peripheral (recommendable choice)" and then click on "Next".

Helped installation of the new hardware.

Installazione guidata Nuovo hardware

Scegliere l'operazione da effettuare

○ Cerca il miglior driver per la periferica (scelta consigliata).

○ Visualizzare un elenco dei driver disponibili, permettendo di selezionare il driver desiderato.

Choose the operation to be carried out.

Look for the most suitable driver to the peripheral (recommendable choice)

NEXT

CANCEL

BACK

< Indietro   Avanti >   Annulla

3) The PC will have to look for the most suitable driver to the peripheral and ask if you'd rather do so automatically or choose it from a list of available drivers. Choose the option "Find the most suitable driver to the peripheral (recommendable choice)" and then click on "Next"

Helped installation of the new hardware.

Installazione guidata Nuovo hardware

Sarà effettuata una ricerca dei nuovi driver nel database dei driver sul disco rigido e in tutti i percorsi seguenti selezionati. Scegliere Avanti per iniziare la ricerca.

☐ Unità floppy

☑ Unità CD-ROM

☐ Microsoft Windows Update

☑ Specificare un percorso:

D:\FDL_PCI_DRIVER

Sfoglia.

A search of the new drivers will be carried out in the driver database in the hard disc as well as in the following selected paths. Click on "Next" to start the search.

Specify a path

BROWSE

NEXT

CANCEL

BACK

< Indietro   Avanti >   Annulla

4) As soon as the PC finds the suitable driver, a window will appear like the one shown below. Click on "Next" to continue the installation.

Helped installation of the new hardware.

Installazione guidata Nuovo hardware

Ricerca del file del driver per la periferica:

FDL-PCI

È possibile installare il miglior driver per questa periferica. Fare clic su Indietro per selezionare un altro driver, o fare clic su Avanti per continuare.

Percorso del driver:

D:\FDL_PC~9\FDL_PCI.INF

Search of the driver file for the peripheral :

You can install the most suitable driver to this peripheral. Click on "Back" to select a different driver or, on "Next" to continue.

Driver path:

NEXT

CANCEL

< Indietro   Avanti >   Annulla

BACK

5) As soon as the copy of the files is carried out, a window will appear : it is the evidence that the installation of the drivers necessary for the proper functioning has taken place. Click on "Finish" to end the installation.

Helped installation of the new hardware.

Installazione guidata Nuovo hardware

FDL-PCI

Installazione del software necessario per la nuova periferica hardware terminata.

FDL-PCI

Installation of the necessary software for the new hardware peripheral being ended.

FINISH

CANCEL

< Indietro   Fine   Annulla

WINDOWS ME

(Any window refers to the OS written in ITALIAN. The charts next to the images correspond to the explanatory notes translated into ENGLISH)
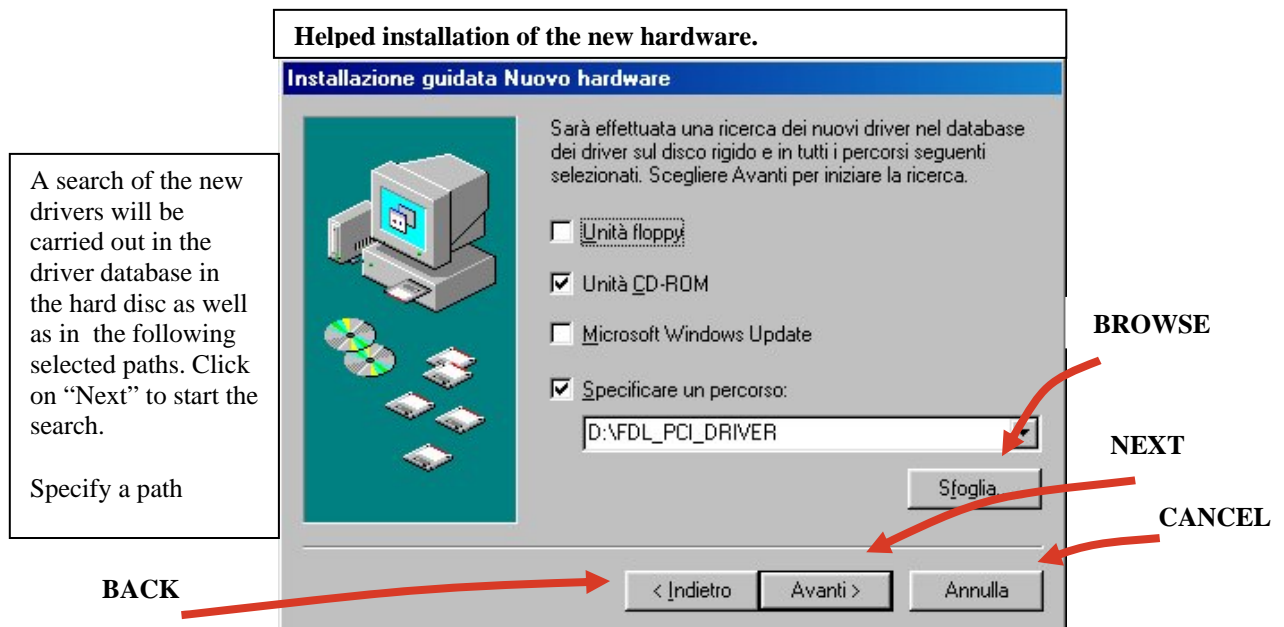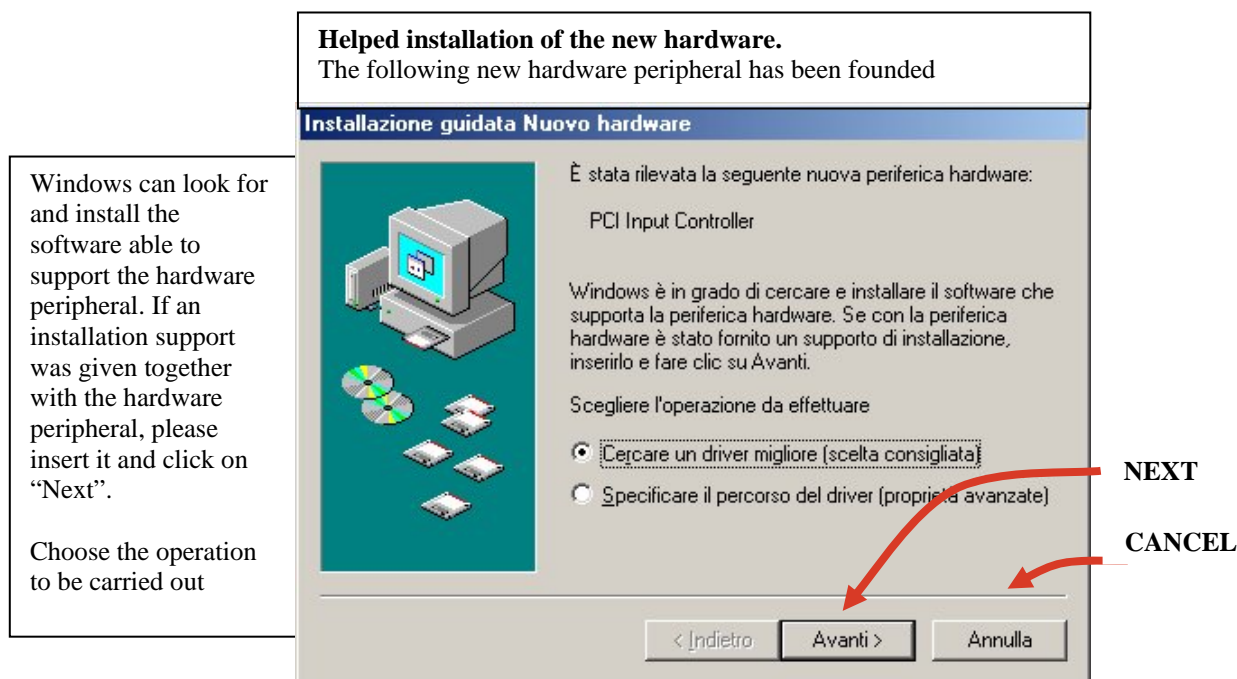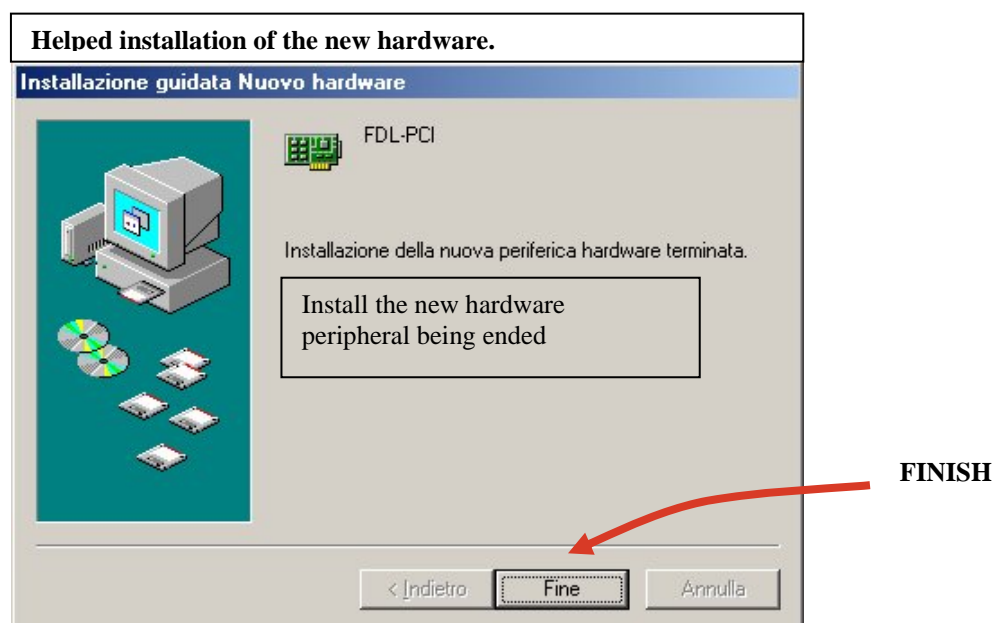
1) Insert the FDL-PCI card into the slot of the motherboard and turn the PC on.
   As soon as the system gets started, the PC will update the driver database and then a window (like the one shown below) will appear. Insert the "ViSTA" CD into the CD-ROM reader, wait a few seconds to allow the reading of the CD. Then click on "Next".

Helped installation of the new hardware.
The following new hardware peripheral has been founded

Windows can look for and install the software able to support the hardware peripheral. If an installation support was given together with the hardware peripheral, please insert it and click on "Next".

Choose the operation to be carried out

Installazione guidata Nuovo hardware

È stata rilevata la seguente nuova periferica hardware:

PCI Input Controller

Windows è in grado di cercare e installare il software che supporta la periferica hardware. Se con la periferica hardware è stato fornito un supporto di installazione, inserirlo e fare clic su Avanti.

Scegliere l'operazione da effettuare

⊙ Cercare un driver migliore (scelta consigliata)

○ Specificare il percorso del driver (proprietà avanzate)

NEXT

CANCEL

< Indietro   Avanti >   Annulla

2) The PC will start to look for the most suitable driver to be copied onto the hard disc. Once this operation is over, a window like the one shown below) will appear. Click on "Finish" to end the installation.
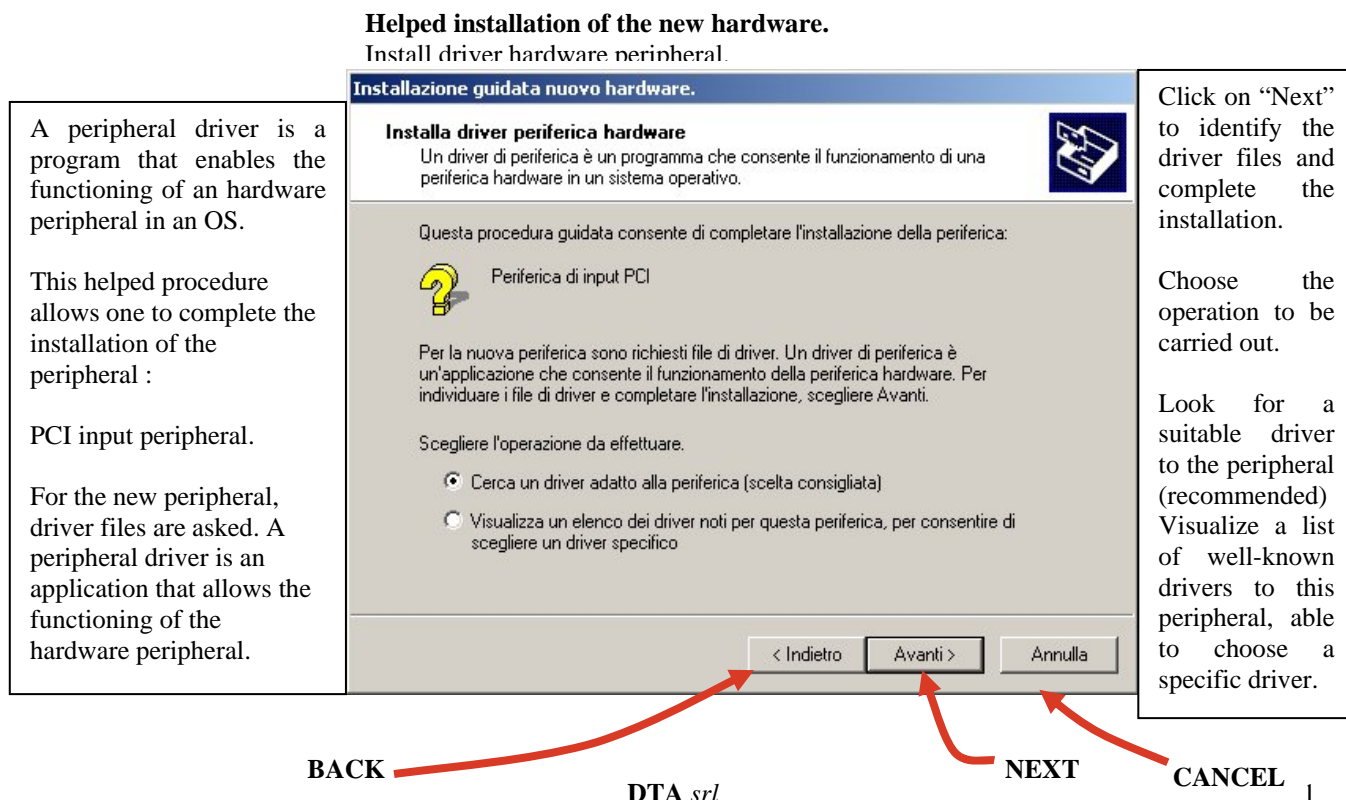
Helped installation of the new hardware.

Installazione guidata Nuovo hardware

FDL-PCI

Installazione della nuova periferica hardware terminata.

Install the new hardware peripheral being ended

FINISH

< Indietro   Fine   Annulla

WINDOWS 2000

(Any window refers to the OS written in ITALIAN. The charts next to the images correspond to the explanatory notes translated into ENGLISH)

1) Insert the FDL-PCI card into the slot of the motherboard and turn the PC on.
   The PC will automatically find the FDL-PCI card and open a window like the one you can see below. Click on "NEXT" to go on with the installation.

Helped installation of the new hardware.

Installazione guidata nuovo hardware.

Installazione guidata nuovo hardware

Questa procedura guidata consente di installare un driver di una periferica hardware.

This helped procedure allows one to install a driver of an hardware peripheral.
To continue, click on "Next".

Per proseguire, scegliere Avanti.

< Indietro   Avanti >   Annulla

→ **NEXT**

→ **CANCEL**

2) The PC will look for the most suitable driver to the peripheral; it will ask if we prefer look for it by default or if we'd rather choose the driver among a list of available drivers. We recommend you to select "LOOK FOR THE DRIVER SUITABLE TO THE PERIPHERAL (RECOMMENDED)" and then press "NEXT".

Helped installation of the new hardware.
Install driver hardware peripheral.

Installazione guidata nuovo hardware.

Installa driver periferica hardware
Un driver di periferica è un programma che consente il funzionamento di una periferica hardware in un sistema operativo.

Questa procedura guidata consente di completare l'installazione della periferica:

   Periferica di input PCI

Per la nuova periferica sono richiesti file di driver. Un driver di periferica è un'applicazione che consente il funzionamento della periferica hardware. Per individuare i file di driver e completare l'installazione, scegliere Avanti.

Scegliere l'operazione da effettuare.

○ Cerca un driver adatto alla periferica (scelta consigliata)

○ Visualizza un elenco dei driver noti per questa periferica, per consentire di scegliere un driver specifico

< Indietro   Avanti >   Annulla

Left chart:
A peripheral driver is a program that enables the functioning of an hardware peripheral in an OS.

This helped procedure allows one to complete the installation of the peripheral :

PCI input peripheral.

For the new peripheral, driver files are asked. A peripheral driver is an application that allows the functioning of the hardware peripheral.

Right chart:
Click on "Next" to identify the driver files and complete the installation.

Choose the operation to be carried out.

Look for a suitable driver to the peripheral (recommended)
Visualize a list of well-known drivers to this peripheral, able to choose a specific driver.

← **BACK**

↑ **NEXT**

→ **CANCEL**

3) Please insert the "VISTA LITE" CD and close "QUICK INSTALL" menu in case it gets opened due to the CD autorun. Then specify where the PC has to look for the driver.
Select the CD-ROM reader and specify the following path : D:\FDL_PCI_driver (D: is the letter with whom the CD-ROM reader is identified). Then press "NEXT".

Helped installation of the new hardware.
Identify driver file.

Digit the driver file path. Search of the driver files for the following hardware peripheral : PCI input peripheral. A search of the suitable drivers will be carried out in the driver database present at the PC as well as at the optional searching paths herewith specified.	**Installazione guidata nuovo hardware.** **Individua file del driver** Immettere il percorso dei file del driver. Ricerca dei file di driver per la seguente periferica hardware: ⚙ Periferica di input PCI Sarà effettuata una ricerca dei driver adatti nel database dei driver presente nel computer e nei percorsi facoltativi di ricerca specificati di seguito. Per avviare la ricerca scegliere Avanti. Se si effettua la ricerca su un disco floppy o su un CD-ROM, inserire il disco floppy o il CD-ROM prima di scegliere Avanti. Percorsi opzionali di ricerca: ☐ Unità floppy ☑ Unità CD-ROM ☑ Specificare un percorso ☐ Microsoft Windows Update	Click on "Next" to start the search. If you carry it out by a floppy disc or a CD-ROM, insert one of them before choosing "Next" Optional searching paths Floppy unit CD-ROM unit Specify a path

BACK → < Indietro | Avanti > | Annulla

CANCEL

NEXT

4) As soon as the PC finds the right driver, a window will appear (the same as the one shown below). Click on "NEXT" to continue the installation.

Helped installation of the new hardware.
Outcomes of the file driver search.

The helped procedure has finished the search of the driver files for the hardware peripheral. The peripheral driver that has been found is the following one : PCI input peripheral A driver for this peripheral has been found out. Click on "Next" to install the driver. e:\..............	**Installazione guidata nuovo hardware.** **Risultati ricerca file del driver** La procedura guidata ha terminato la ricerca dei file del driver per la periferica hardware. Il driver della periferica trovato è il seguente: ⚙ Periferica di input PCI È stato trovato un driver per questa periferica. Per installare il driver, scegliere Avanti. 💿 e:\fdl_pci_driver\fdl_pci.inf	**NEXT** **CANCEL**

< Indietro | Avanti > | Annulla

BACK

DTA *srl*

5) When the PC ends to copy any file, a window appears as a confirmation of the performed installation of the drivers necessary for the proper functioning. Choose "FINISH" to end the installation.

Helped installation of the new hardware
Finishing of the helped installation of the new hardware under progress.

Installazione guidata nuovo hardware.

Completamento dell'Installazione guidata nuovo hardware in corso.

FDL-PCI

Installazione del software della periferica completata.

Installation of the peripheral software completed.

To end the helped procedure, click on "Finish".

Per terminare la procedura guidata, scegliere Fine.

< Indietro   Fine   Annulla

FINISH

WINDOWS XP

(Any window refers to the OS written in ITALIAN. The charts next to the images correspond to the explanatory notes translated into ENGLISH)correspond to the explanatory notes translated into ENGLISH)

1) Insert the FDL-PCI card into the slot of the motherboard and turn the PC on. As soon as the system gets started, a window (like the one shown below) will appear. Insert the "VISTA LITE" CD into the CD-ROM reader, close the "Quick Install" - it may open due to the CD autorun - . Select the option "Install the software automatically (recommendable choice)". Then click on "Next" to continue the installation.
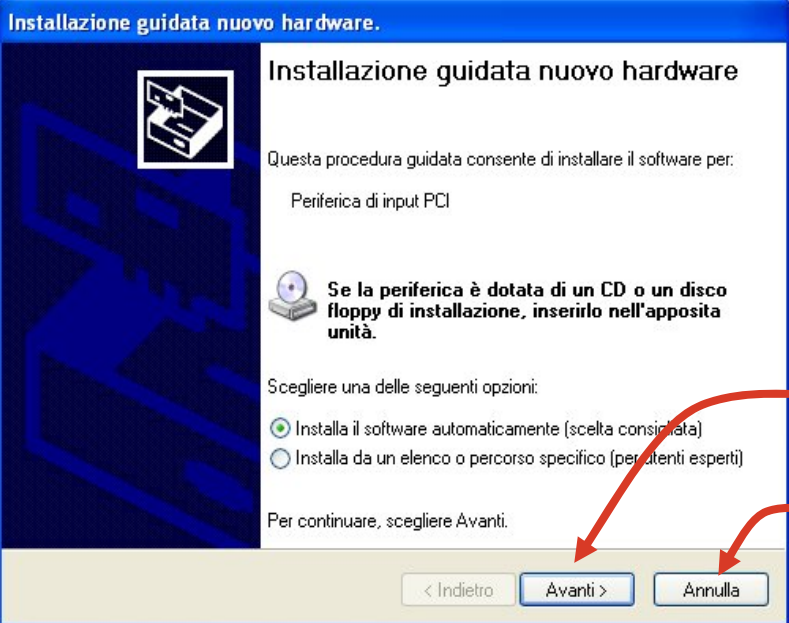
Helped installation of the new hardware

This helped procedure allows one to install the suitable software to :   PCI input peripheral   **If the peripheral is provided with a CD or an installation floppy disc, insert it in the proper unit**.   Choose one of the following options : Install the software automatically (recommendable choice) Install by taking it from a list or a specific path (for experienced users).

NEXT

CANCEL

2) The PC will start to search for the most suitable driver to the peripheral. As soon as it finds it, a window (like the one shown below) will appear. Click on "Finish" to end the installation.

Finishing of the new helped hardware installation in progress.
Software installation completed for :
To close the helped installation, choose "End"

FINISH

LINUX

System Requirements

- Linux 2.0.31 or higher (can be embedded Linux or Linux 2.4x)
- An x86 processor.
- Any 32-bit development environment supporting C (such as GCC).

Preparing the system for installation

In Linux, kernel modules must be compiled with the same header files that the kernel itself was compiled with. Since WinDriver installs the kernel module **windrvr6.o**, it must compile with the header files of the Linux kernel during the installation process.

Therefore, before you install WinDriver for Linux, verify that the Linux source code and the file **versions.h** are installed on your machine:

Install linux kernel source code
- If you have yet to install Linux, please choose **Custom** installation when performing the installation and then choose to install the source code.
- If Linux is already installed on the machine, you must check to see if the Linux source code was installed. You can do this by looking for linux in the **/usr/src** directory. If the source code is not installed, you can either reinstall Linux with the source code, as described above, or you can install the source code by following these steps:
    1. Login as super user.
    2. Type:
       /$ **rpm -i /<source location>/ <Linux distributor>/RPMS/kernel-source-<version number>**
       (For example: to install the source code from the Linux installation CD-ROM, for RedHat 7.1, type:
       /$ **rpm -i /mnt/cdrom/RedHat/RPMS/ kernel-source-2.4.2.-2.i386rpm**)
       TIP!
       If you do not have an RPM with the source code, you may download it from:
       http://rpmfind.net/linux/RPM/.

Install version.h

- The file **version.h** is created when you first compile the Linux kernel source code. Some distributions provide a compiled kernel without the file **version.h**. Look under **/usr/src/linux/include/linux/** to see if you have this file. If you do not, please follow these steps:
    1. Type:
       /$ **make xconfig**
    2. Save the configuration by choosing **Save and Exit**.
    3. Type:
       /$ **make dep**.

Before proceeding with the installation, you must also make sure that you have a linux symbolic link. If you do not, please create one by typing:
/usr/src$ **ln -s <target kernel>/ linux**
(For example: for Linux 2.4 kernel type:
/usr/src$ **ln -s linux-2.4/ linux**)

Installation

1. Insert the **DTA SDK CD** into your Linux machine CD drive or copy the downloaded file to your preferred directory.
2. Change directory to your preferred installation directory (your home directory, for example):
    /$ **cd ~**
3. Extract the file **WDxxxLN.tgz** (where xxx is the version number):
    ~$ **tar xvzf /<file location>/WDxxxLN.tgz**
    For example:
    o   From a CD:
        ~$ **tar xvzf /mnt/cdrom/LINUX/WDxxxLN.tgz**
    o   From a downloaded file:
        ~$ **tar xvzf /home/username/WDxxxLN.tgz**
4. Change directory to WinDriver (this directory gets created by tar):
    ~$ **cd WinDriver/**

    NOTE:
    From version 5.x and above this directory gets created by tar, but in versions preceding 5.x the WinDriver directory does not get created by the extraction. Therefore, when working with versions preceding 5.x (version 4.33, for example) first create a directory (e.g., WinDriver) before proceeding with the installation.
    (/$ **mkdir ~/WinDriver**)

5. Install WinDriver:
    a.   ~/WinDriver$ **make**
    b.   Become super user:
         ~/WinDriver$ **su**
    c.   Install the driver:
         ~/WinDriver# **make install**
6. Create a symbolic link so that you can easily launch the DriverWizard GUI
    ~/WinDriver$ **ln -s ~/WinDriver/wizard/wdwizard/ usr/bin/wdwizard**
7. Change the read and execute permissions on the file **wdwizard** so that ordinary users can access this program.
8. Change the user and group ids and give read/write permissions to the device file **/dev/windrvr6** depending on how you wish to allow users to access hardware through the device.
9. You can now start using WinDriver to access your hardware and generate your driver code!

**Restricting Hardware Access on Linux**
CAUTION:
Since **/dev/windrvr6** gives direct hardware access to user programs, it may compromise kernel stability on multi-user Linux systems. Please restrict access to the DriverWizard and the device file **/dev/windrvr6** to trusted users.
For security reasons the WinDriver installation script does not automatically perform the steps of changing the permissions on **/dev/windrvr6** and the DriverWizard executable (**wdwizard**).

WINDRIVER REGISTRATION

1) After the installation of the drivers for the FDL-PCI card, we need to record the files to make them work properly. Insert the "VISTA LITE" CD into the CD-ROM reader, wait a few seconds so as to allow the PC to load the "QUICK INSTALL" menu.
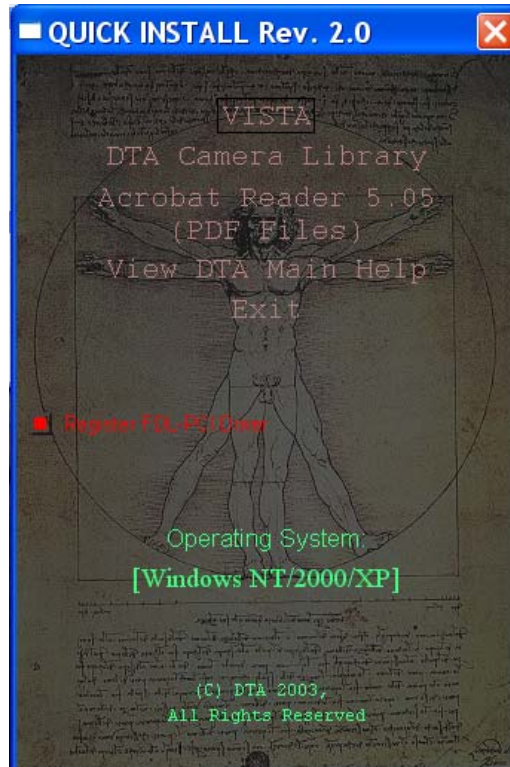
2) Once the PC has loaded the "QUICK INSTALL" menu, click on "VISTA". The PC will start the installation of the necessary drivers by loading a window like the one shown below.
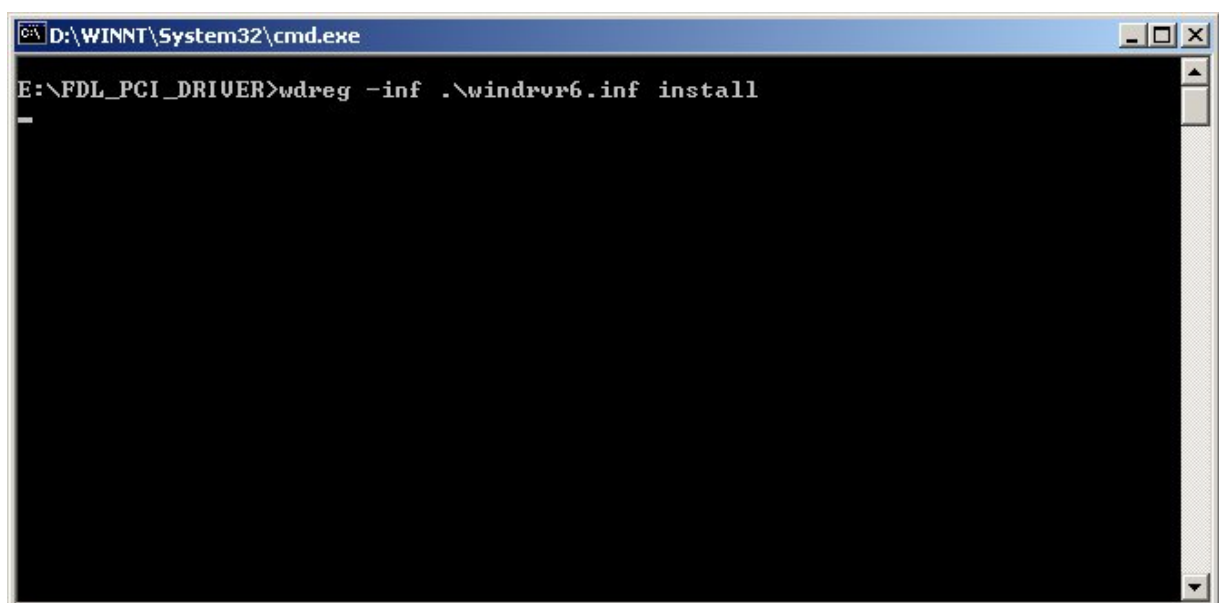
Once you have installed the drivers and the "ViSTA" software, restart the PC as on demand.
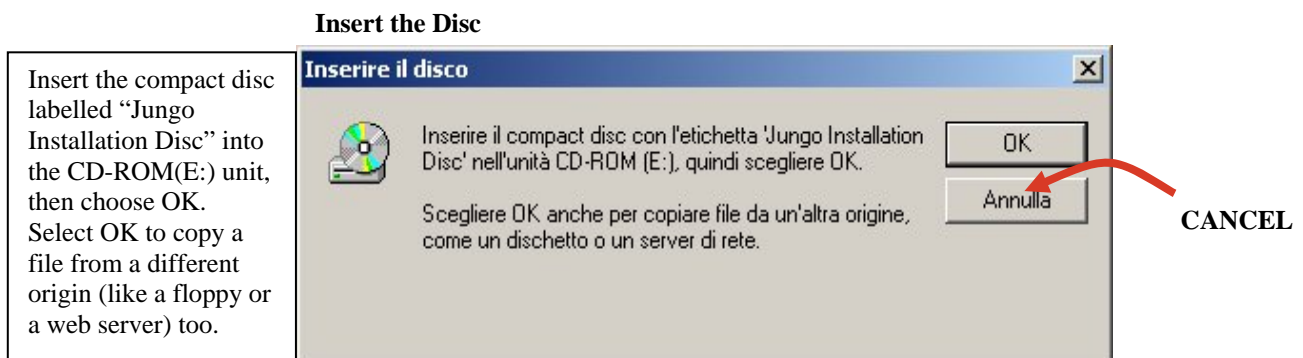With reference to WINDOWS 2000 and WINDOWS XP OS, please go on up to point 3, while to point 6 as far as any other OS is concerned.

3) Once the restart has been performed, the PC will inform you - by a window like the one shown below - that no digital signature was found for this software. Click on "Yes" to continue the copy of the files.

Digital segnature not found

Microsoft digital signature marks the software tested under Windows; it guarantees the software from being modified after any performed test.

The software that is going to be installed does not include Microsoft digital signature. So the proper functioning of the software under Windows is not guaranteed.

WinDriver

Firma digitale non trovata

La firma digitale Microsoft contrassegna il software collaudato in Windows e garantisce che il software non ha subito modifiche dopo i test.

Il software che sta per essere installato non contiene la firma digitale Microsoft. Non è quindi garantito il corretto funzionamento del software in Windows.

WinDriver

Per cercare il software con firma digitale Microsoft, visitare il sito Web di Windows Update all'indirizzo http://windowsupdate.microsoft.com (informazioni in lingua inglese) per verificarne la disponibilità.

Continuare con l'installazione?

| Sì | No | Ulteriori informazioni |

In order to look for the software with Microsoft digital signature, click on the Update Windows Web at ….(information provided in English) to verify its availability.

Will you continue the installation ?

YES

4) The PC will ask you to insert the disc labelled "JUNGO INSTALLATION DISC"; insert the "ViSTA" CD and click on "OK".

Insert the Disc

Insert the compact disc labelled "Jungo Installation Disc" into the CD-ROM(E:) unit, then choose OK. Select OK to copy a file from a different origin (like a floppy or a web server) too.

Inserire il disco

Inserire il compact disc con l'etichetta 'Jungo Installation Disc' nell'unità CD-ROM (E:), quindi scegliere OK.

Scegliere OK anche per copiare file da un'altra origine, come un dischetto o un server di rete.

| OK |
| Annulla |

CANCEL

DTA *srl*

5) After having pressed "OK", the PC will ask (by opening the **A** window) where the original file is located. Click on "Browse"; the **B** window will open : please check if the open folder is D:\FDL_PCI_DRIVER (D represents the letter with whom the CD-ROM reader is being identified). Select the **windrvr6.sys,** then click on "Open". If the **C** window appears, click on "OK" and the PC will automatically finish the copy of the files.
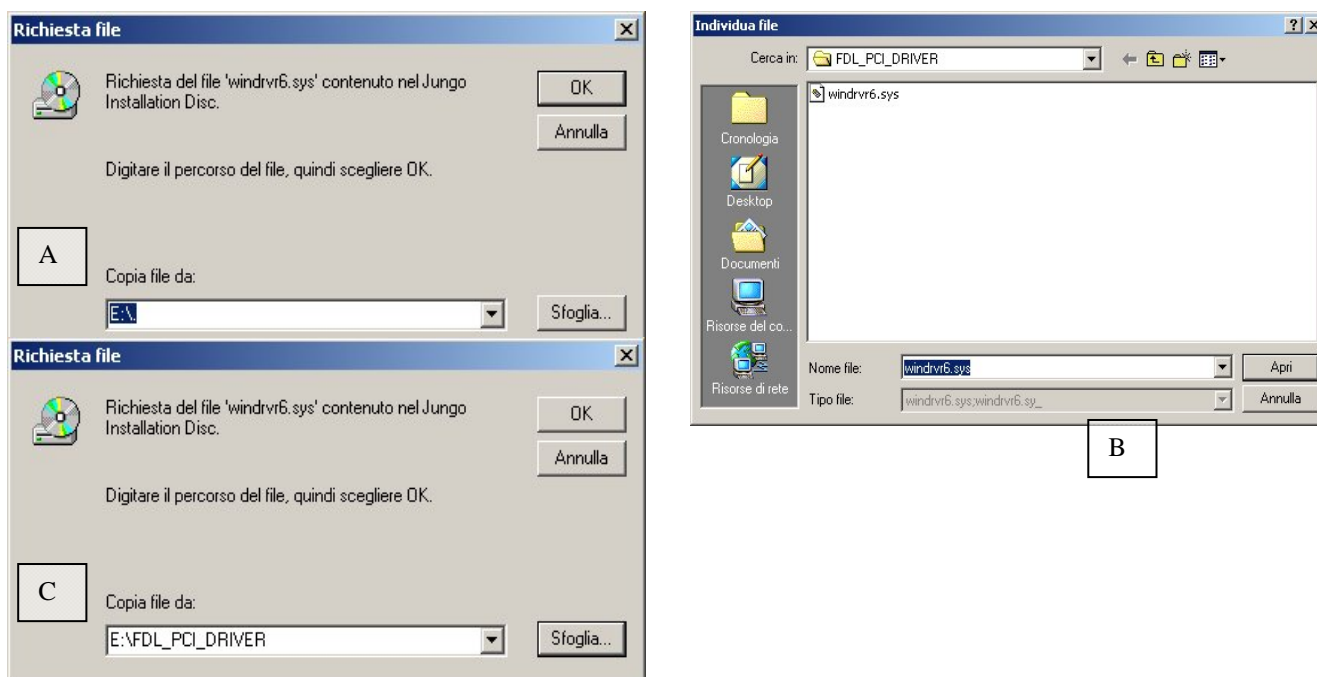
6) Once you have finished to install the necessary drivers for the FDL-PCI card and WINDRIVER, check the correct installation of the two peripherals.

When you use WINDOWS 98 and WINDOWS ME, you have to click on "COMPUTER RESOURCES" by means of the right key of the mouse. A menu with different options will open; click on "PROPERTIES" by means of the left key of the mouse. A window with different sections will open; click on "PERIPHERAL MANAGEMENT" and check if the two peripherals have been installed correctly (see the image below).

When you use WINDOWS 2000 and WINDOWS XP, you have to click on "COMPUTER RESOURCES" by means of the right key of the mouse. A menu with different options will open; click on "PROPERTIES" by means of the left key of the mouse. A window with different sections will open; click on "HARDWARE" and then on "PERIPHERAL MANAGEMENT". Then check if the two peripherals have been installed correctly (see the image below)

GENERAL PERIPHERAL HARDWARE PERFORMANCES
MANAGEMENT PROFILES

PROPERTIES

UPDATE

REMOVE

PRINT

CANCEL
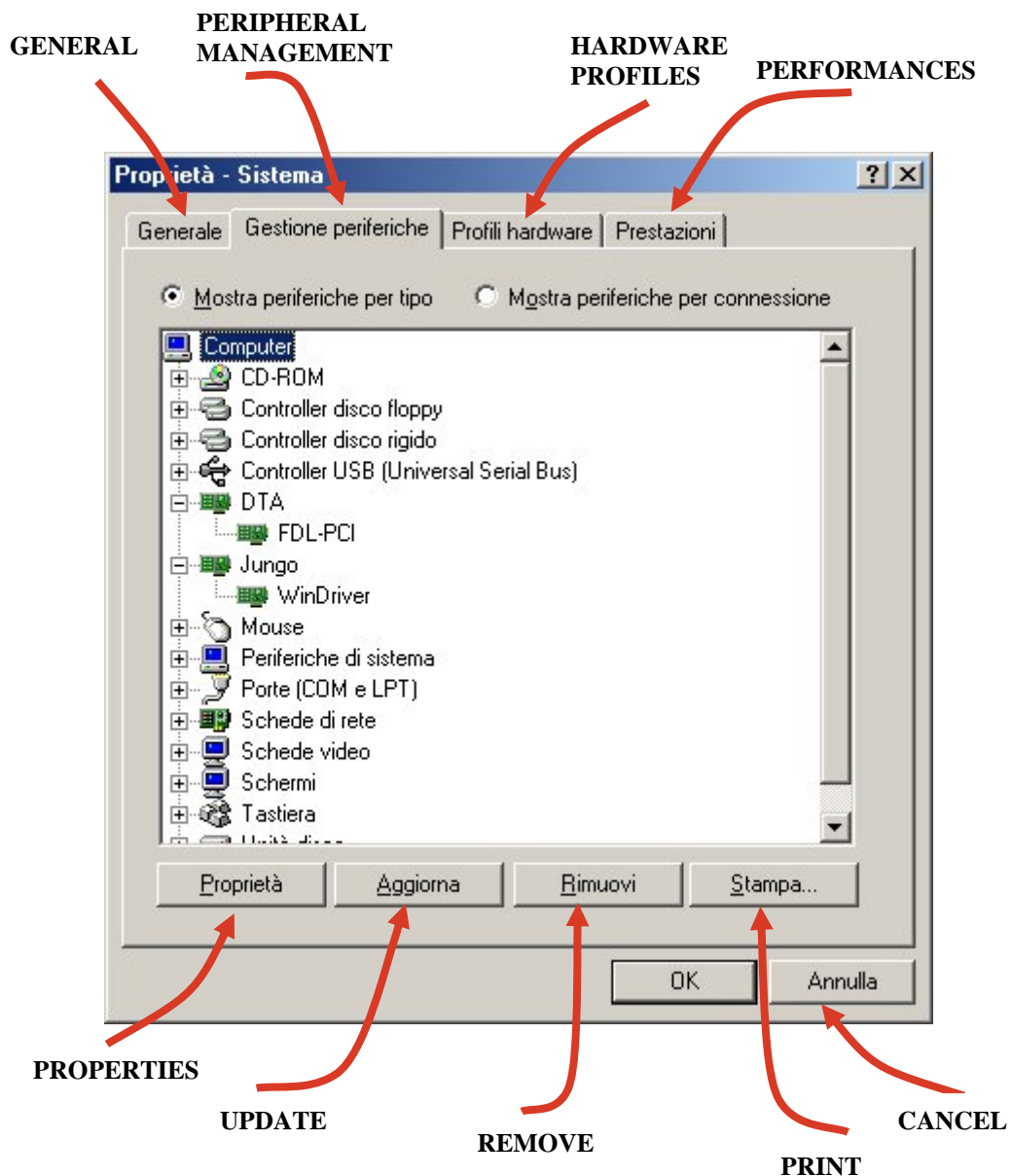
The tests have been carried out with the following OS:

WINDOWS 98 SECOND EDITION

WINDOWS 2000 WITHOUT SERVICE PACK

WINDOWS 2000 WITH SERVICE PACK 3

WINDOWS ME

WINDOWS XP WITHOUT SERVICE PACK

WINDOWS XP WITH SERVICE PACK 1

INDEX

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