Manual

VCI - Virtual CAN Interface

VCI-V2 Installation Manual

Software Version 2.x

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1 Overview

The VCI is a universal CAN-driver for all PC/CAN-cards from IXXAT. As a DLL for Windows 2000 and higher, it forms the interface between the user application and the various IXXAT PC/CAN-Interfaces. A special feature is its uniform programming interface, which enables various card types to be interchanged without having to adapt the user software.

Installation of the VCI consists of two steps:

(1) Installation of the software

Please note Section 7.1, if a previous version of the VCI driver is already installed.

Starting with VCI Version 2.20.x the VCI 3.4.x is mandatory to use the PCI(e) and USB interfaces. Die VCI 2 uses the VCI 3 API to support applications which were written for VCI V2 on latest windows operating systems without modifying them. Please install the latest VCI 3.x at first. Therefore consult the VCI V3 installation manual. Without VCI V3 only the CAN@net II and the CANblue will be supported.

(2) Installation of the hardware

This manual gives instructions on carrying out these two steps for Windows 2000 and later.

Depending on the operating system and the PC/CAN-interface, different procedures are necessary for the installation. This manual therefore contains a separate section for each operating system.

Independently of the operating system and the PC/CAN-Interface used, the following procedure should be followed:

(1) Install the VCI CAN-driver software.

(2) Select the relevant section in the manual according to the operating system used.

(3) Select the relevant sub-section according to the CAN-hardware to be installed.

(4) If explicit installation is required, install the hardware as described in this manual.

(5) Familiarize yourself with the IXXAT Interfaces Applet with the aid of Section 4.

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2 Support

Further information on our products, as well as FAQ lists and tips on installation are given in the support section of our homepage (http://www.ixxat.com). There you can also obtain information on current product versions and available updates.

If you have further questions, after studying the manuals and the information on our homepage, please contact our support department. The relevant forms for support enquiries can be found in the support section of our homepage. To facilitate our support work and enable a quick response, please provide exact details on the relevant points and describe your question or problem in detail.

If you would prefer to phone our support department, please send a relevant support enquiry first via our homepage so that our support department has the relevant information available.

2.1 Returning hardware

If it becomes necessary to return hardware to us, please download the relevant RMA form from the support section of our homepage and follow the instructions on this form.

In the case of repairs, please describe the problem or error in detail on the RMA form. This enables us to process your repair quickly.

3 Installation of the VCI driver software

Installation from CD

Insert the IXXAT Drivers and Demos CD into the CD-drive.

Windows will automatically start a menu window where you select the English language. In the dialog click on “Drivers” and start the installation of the VCI driver software.

If the menu window was not started automatically then start the installation manually by executing the file VCIxxx.exe (xxx represents the version of the VCI) in the directory “Drivers” on the CD.

Follow the instructions in the installation program.

4 The IXXAT Interfaces Applet

With the installation of the VCI-driver software, an "IXXAT Interfaces" Applet is installed in the Windows Control Panel. It provides an overview about the previously installed IXXAT PC/CAN-Interfaces and is used to test these. Interfaces that are not automatically detectable by Windows, and for which there is no Windows installation wizard, are to be installed here manually.

4.1 Starting the IXXAT Interfaces Applet

With Windows 2000 (and Windows XP and later with classic start menu view) the IXXAT Interfaces Applet can be found directly within the Control Panel window.

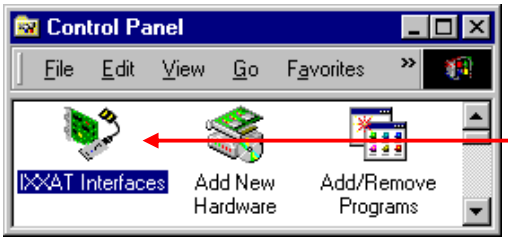

Figure 4-1: The IXXAT Interfaces Applet in the Control Panel

With the Windows XP/Vista start menu view the IXXAT Interfaces icon is contained by the subfolder “Other Control Panel Options”.

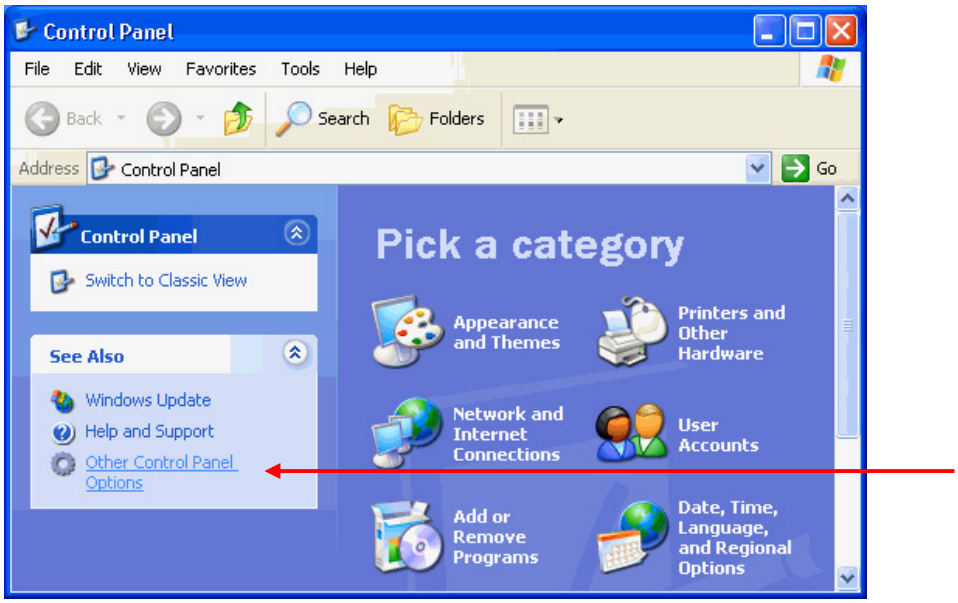

Figure 4-2: Windows XP Control Panel

4.2 Display function of the IXXAT Interfaces Applet

The IXXAT Interfaces Applet supplies the user with information on installed IXXAT PC/CAN-interfaces and their configuration (address, IRQ etc.).

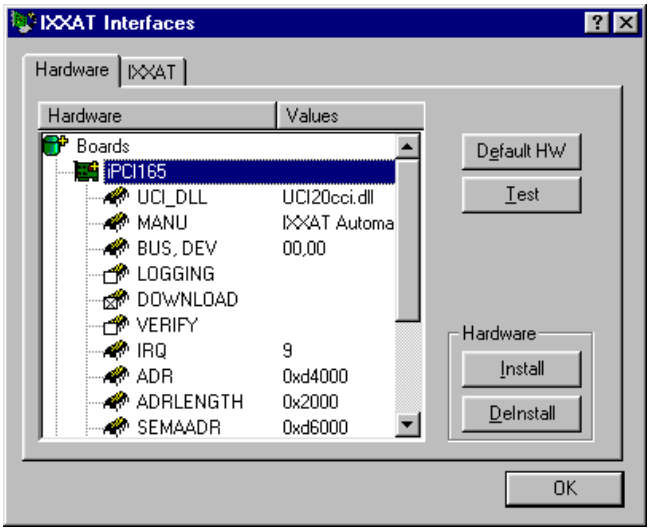

Figure 4.2-1: Information on an installed iPC-I 165

The entries LOGGING, DOWNLOAD and VERIFY have special functions:

- **LOGGING**: When Logging is activated, the log files "ccidpram.log" and "uci20cci.log" are generated by the driver. All call-ups are protocolled to the driver in these files.

  Only activate Logging if there are problems during start-up of the PC/CAN-interfaces. The log files become large very quickly and performance is greatly restricted. Please help our support department to solve your problem by attaching these two log file in zipped from to your support request to support@ixxat.de.

- **DOWNLOAD**: This entry only exists for active CAN-hardware. With this entry you can determine whether the firmware is loaded onto the board when the board is opened.

- **VERIFY**: This entry also exists only for active CAN-hardware. When VERIFY is activated, the downloaded firmware is re-checked after the download phase.

  Verification of the downloaded firmware may take some time, depending on the type of PC/CAN-interface.

4.3 Access test of the PC/CAN Interface

Access to an installed PC/CAN-interface can be tested via the "Test" button. The dialog then opened provides detailed information on specific properties of the board.

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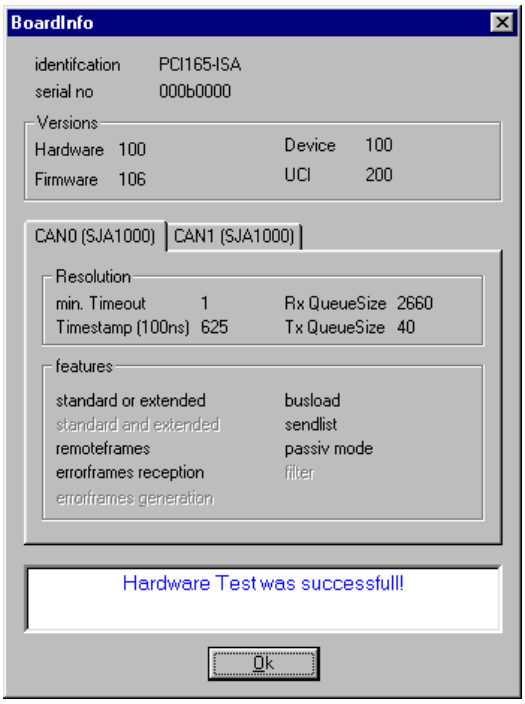

Figure 4.3-1: Specific properties of the installed board

The section **Versions** provides version information about the hardware and the driver. The version numbers are shown with three digits. The first digit is the major version number, digit two and three build the minor version number (e.g. "106" means version 1.06).

For each CAN controller on the PC/CAN interface there is a separate register card with the type of CAN controller, its property and features. Not supported features are displayed in gray color.

Property / Feature	***Meaning***
Timestamp (100ns)	Hardware specific timestamp resolution in 100 nsec
Rx QueueSize	The driver's receive queue size in number of messages
Tx QueueSize	The driver's transmit queue size in number of messages
standard or extended	Exclusive operation of standard and extended CAN protocol
standard and extended	Simultaneous operation of std. and ext. CAN protocol
remoteframes	Reception of RTR frames
errorframe generation	Generation of error frames
busload	Calculation of busload
sendlist	Support of cyclic transmit objects (see UCI Programming manual)
passiv mode	Listen to bus traffic without sending the acknowledge bit
filter	Exact filtering of 29-bit identifiers

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5 Hardware installation – Windows 2000

Under Windows 2000 the user must be logged in with administrator authorization in order to carry out new hardware installation.

Hardware type	Installation method	Section
TCP/IP: CAN@net II	via IXXAT Interfaces Applet	5.1
Bluetooth: CANblue	via IXXAT Interfaces Applet	5.2

5.1 Installation of CAN@net II

CAN@net II is installed via the IXXAT Interfaces Applet. For this, the VCI V2 driver software must be previously installed.

(1) Start the IXXAT Interfaces Applet in the Control Panel.

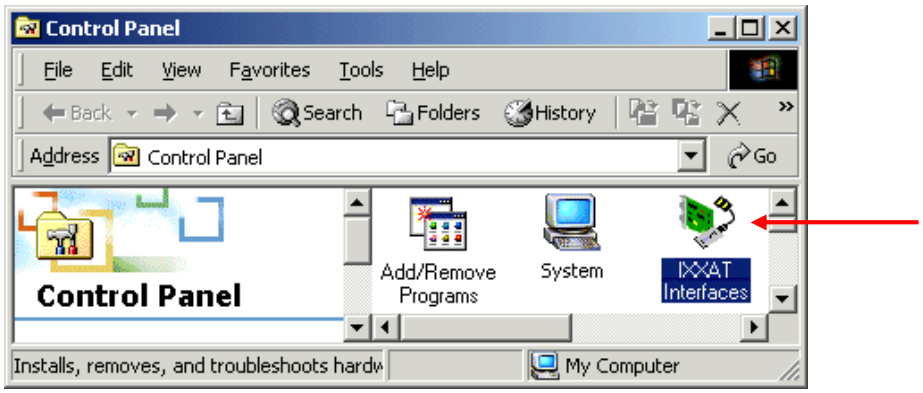

Figure 5.1-1: Starting the IXXAT Interfaces Applet

(2) Click on the “Install” button in the applet in order to install new hardware.

(3) A CAN@net II installation dialog appears after selecting “IXXAT CAN@net II Install”. Create a new configuration by clicking the “Add” button.

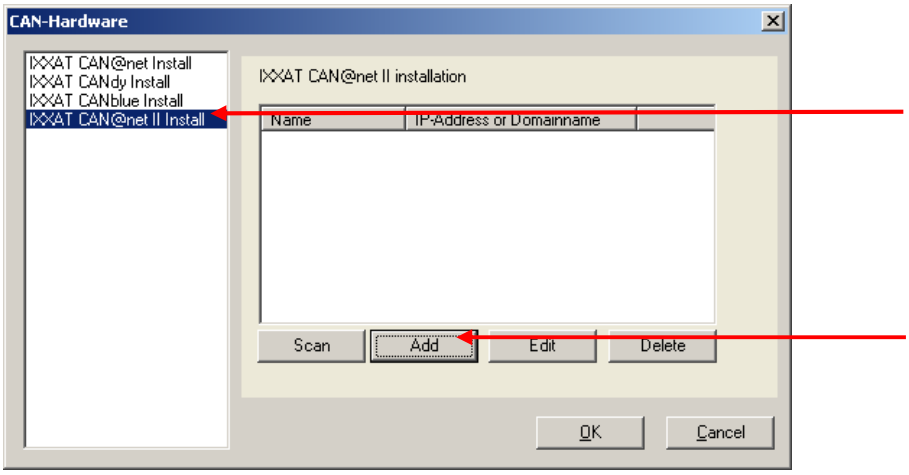

Figure 5.1-2: Installation of CAN@net II

(4) Define a symbolic name, the IP address and the password. If there is a DNS entry for the CAN@net II device you may alternatively type in a domain name instead of the IP address. The default password at delivery time is "**IXXAT**"

In the Description field you may input additional user defined description text. Add new text lines with Ctrl+Enter.

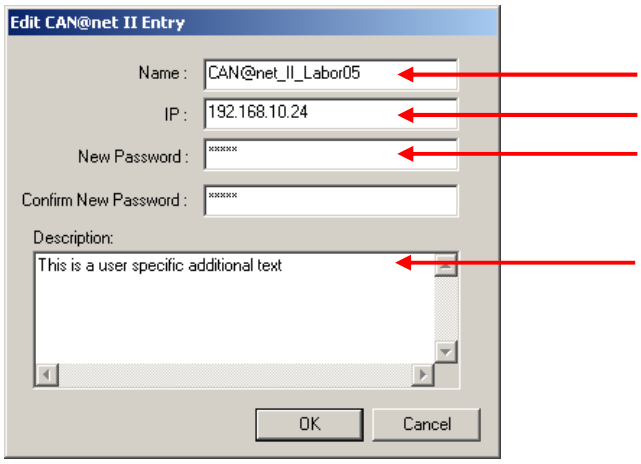

Figure 5.1-3: New CAN@net II configuration

IP address and password are configurable via the CAN@net II Configurator (refer to CAN@net II Hardware Manual).

(5) The new configuration appears within the installation dialog. Clicking the "OK" button will set up a CAN@net II device based on the selected configuration.

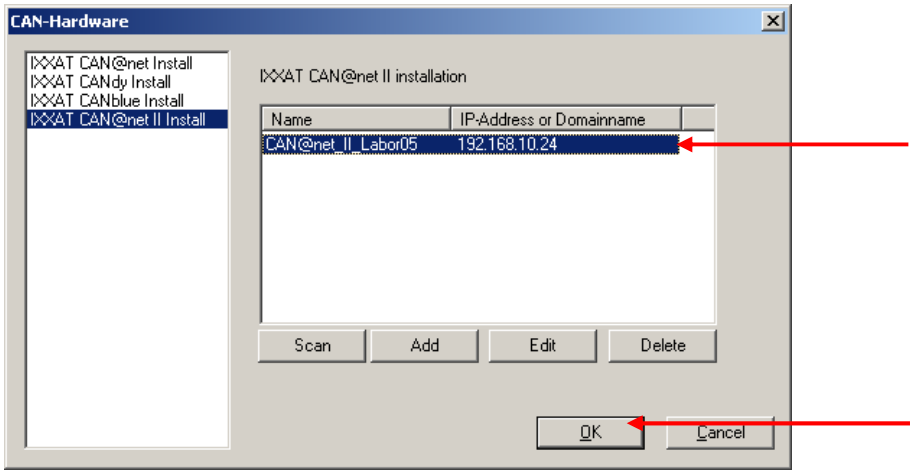

Figure 5.1-4: Installation dialog with new CAN@net II configuration

If there is more than one configuration defined you can use another device by selecting another configuration. Existing configurations can be edited via the "Edit" button and deleted via the "Delete" button.

(6) The configured CAN@net II device now appears in the main window of the IXXAT Interfaces applet. If the configured IP address and password is correct the access test via the "Test" button can be performed.

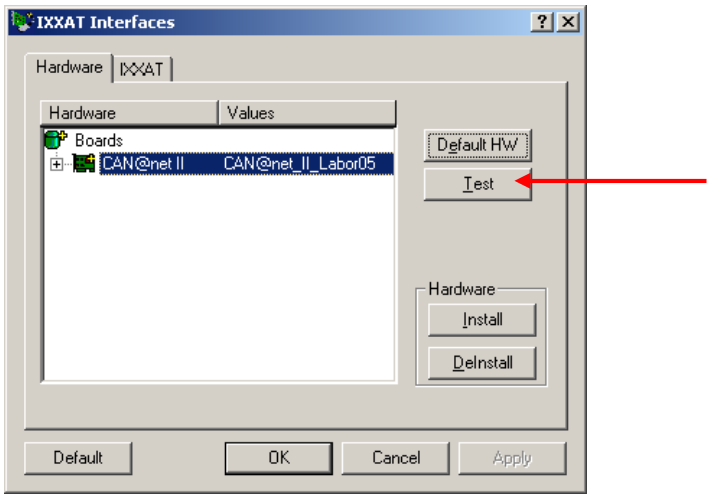

Figure 5.1-5: Applet after installation of the CAN@net II interface

5.2 Installation of CANblue

CANblue is installed via the IXXAT Interfaces Applet. For this, the VCI V2 driver software must be previously installed. Additionally you need a previously installed Bluetooth adapter. IXXAT recommends using a Bluetooth adapter which uses the Toshiba Bluetooth stack. In the following chapter, an installed Toshiba Bluetooth stack is presupposed. If you use a Bluetooth stack from another supplier, you have to set up the Bluetooth connection in a corresponding manner.

5.2.1 Set up Bluetooth connection

The following steps illustrate how to set up a Bluetooth connection using the Toshiba Bluetooth stack.

(1) Open the dialog "Bluetooth Settings" (Icon on the task bar).

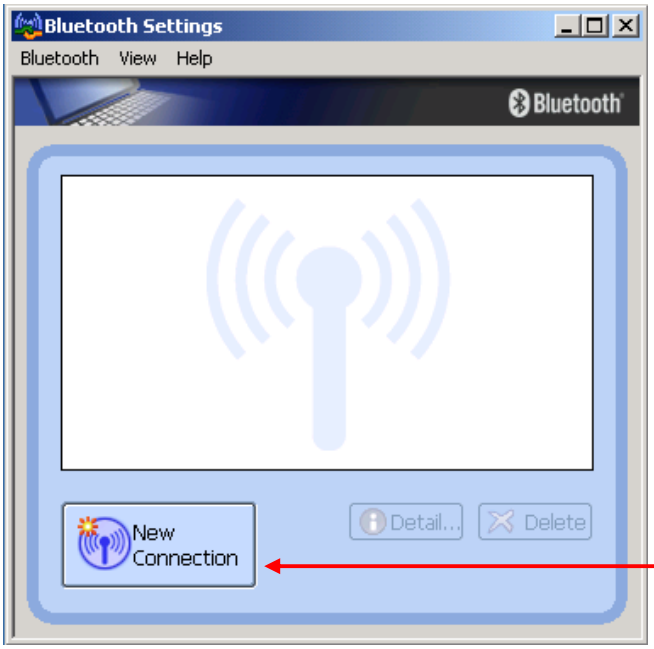

Figure 5.2-1: Bluetooth Settings – New Connection

(2) Click on "New Connection" to open the dialog "Add New Connection Wizard" and select "Express Mode".

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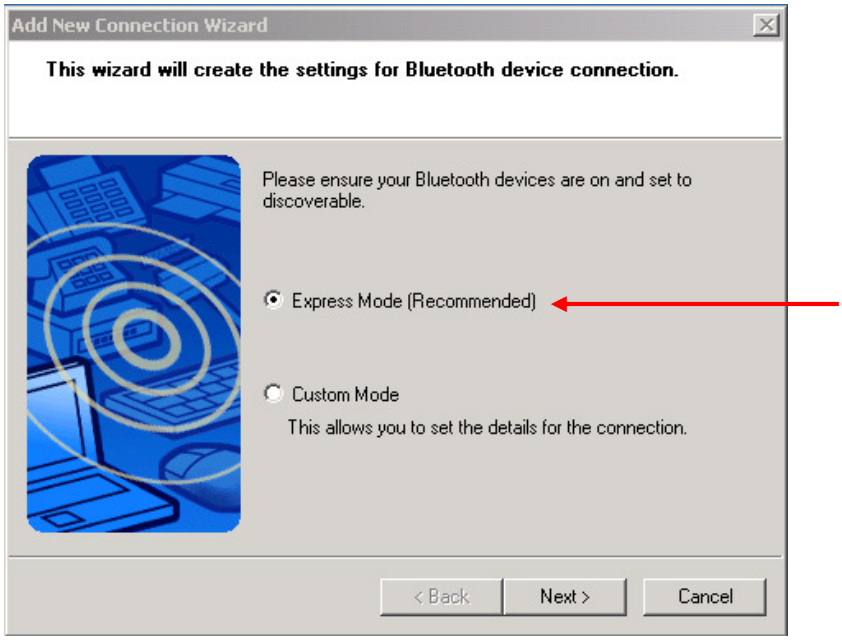

Figure 5.2-2: Connection Wizard – Select Mode

(3) All available Bluetooth devices will be displayed. Select the IXXAT CANblue (xxxxxxxxxxxx) device which has to be configured. The field behind the name "(xxxxxxxxxxxx)" shows the MAC address which is also shown on the back of the CANblue device.

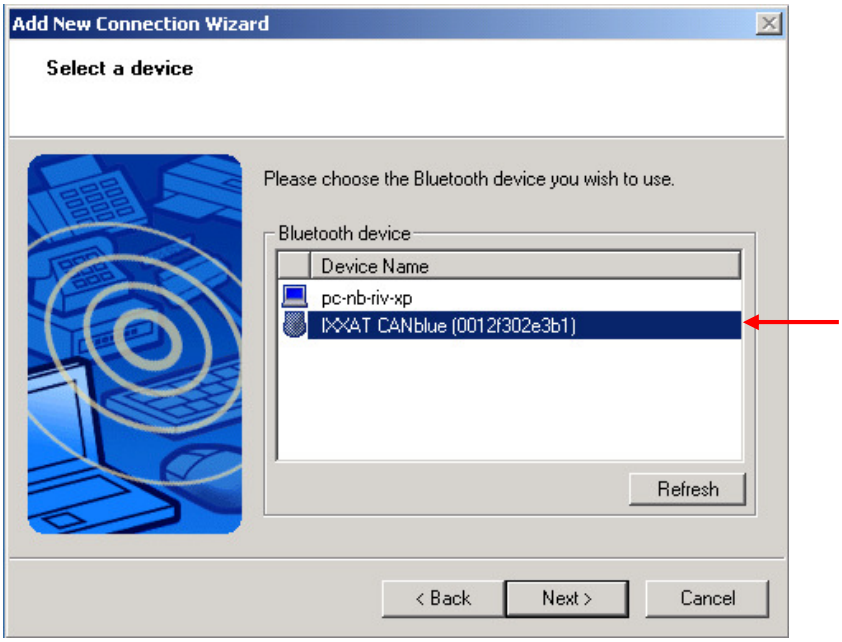

Figure 5.2-3: Connection Wizard – Select device

(4) Now the dialog "Bluetooth Manager – Bluetooth Security" appears where you need to enter the **passkey** for the Bluetooth device. The passkey for the IXXAT CANblue device is **7388**.

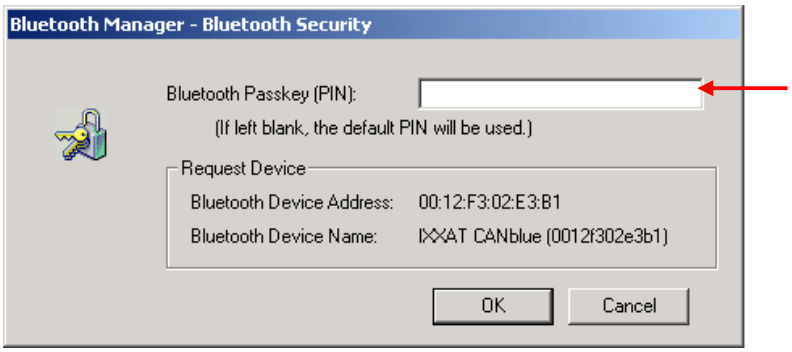

Figure 5.2-4: Bluetooth Security – Enter passkey

(5) After entering the passkey the virtual COM port of the CANblue device is shown. Memorize the number of the COM port.

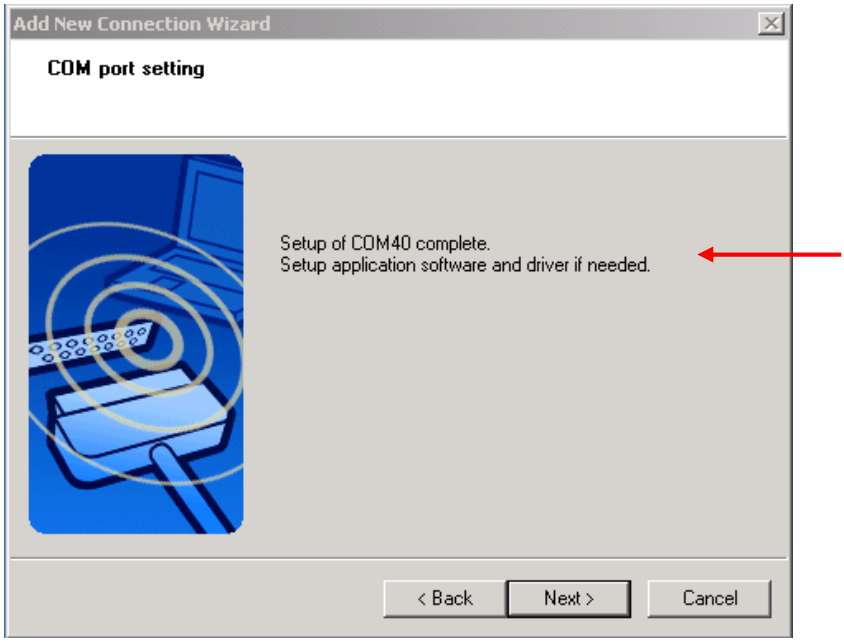

Figure 5.2-5: Connection Wizard – COM port

(6) Furthermore it's possible to change the connection name and the icon of the CANblue device. However, it's recommended to keep the default connection name of the CANblue device.

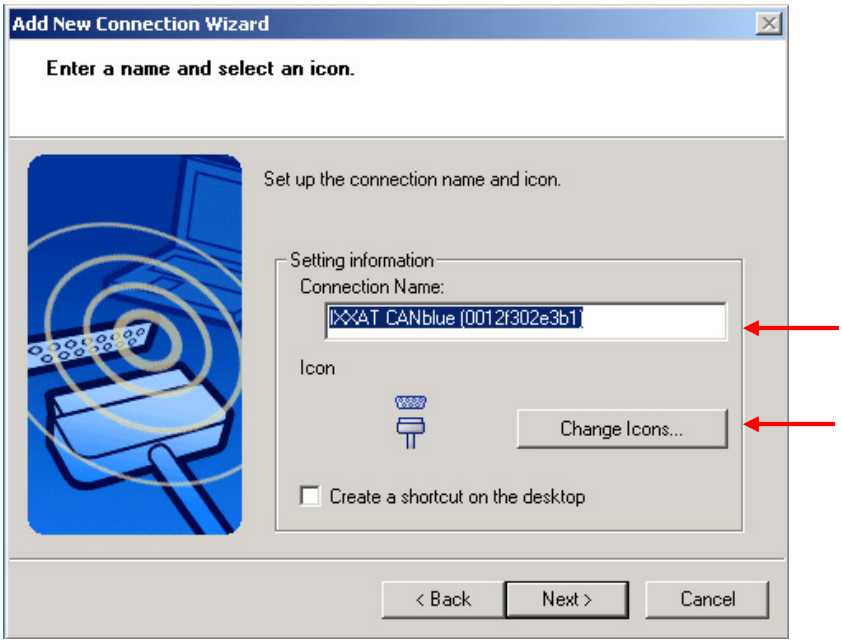

Figure 5.2-6: Connection Wizard – Change name and icon

(7) Click on "Finish" to close the dialog "Add New Connection Wizard". Herewith the set up of the connection is completed and the CANblue device appears in the dialog "Bluetooth Settings".

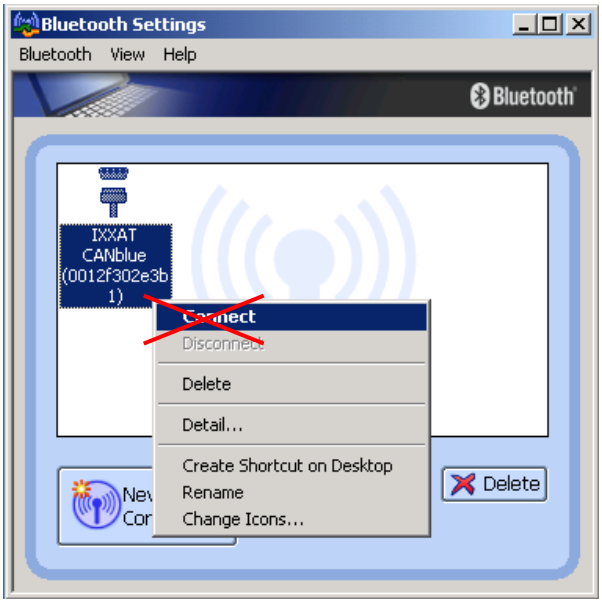

Figure 5.2-7: Bluetooth Settings – CANblue device

It's not necessary to connect the CANblue device via the context menu, because the connection is made automatically.

5.2.2 Installation of CANblue

(1) Start the IXXAT Interfaces Applet in the Control Panel.

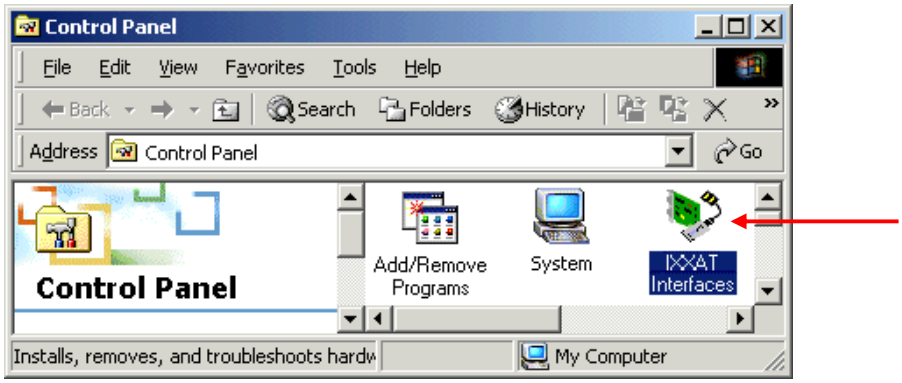

Figure 5.2-8: Starting the IXXAT Interfaces Applet

(2) Click on the "Install" button in the applet in order to install new hardware.

(3) A CANblue installation dialog appears after selecting "IXXAT CANblue Install".

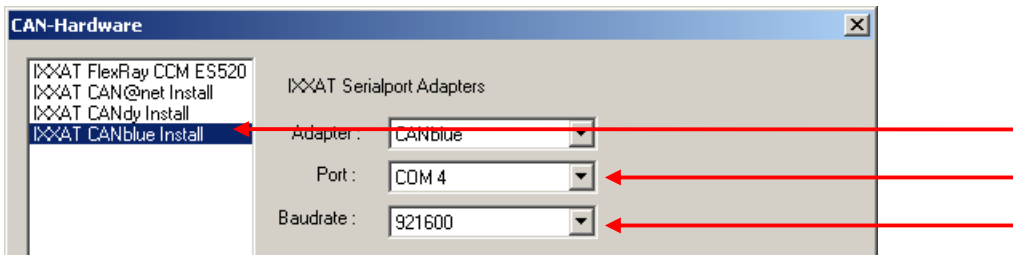

Figure 5.2-9: Installation of CANblue

(4) Select the previously configured COM port (here COM 40), adjust to the highest baud rate supported by your Bluetooth stack (for the Toshiba stack set 921,6 kBaud) and close the dialog with "OK".

(5) The configured CANblue device now appears in the main window of the IXXAT Interfaces Applet. If the configured COM port is correct the access test via the "Test" button can be performed.

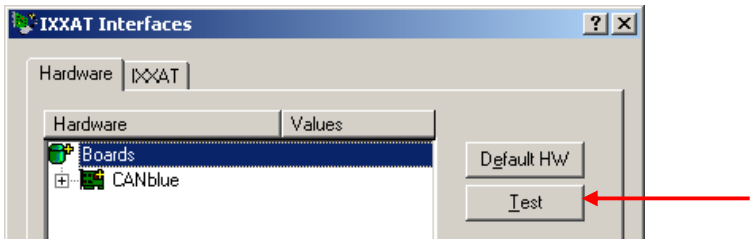

Figure 5.2-10: Applet after installation of the CANblue interface

6 Hardware installation – Windows XP and later

Under Windows XP the user must be logged in with administrator authorization in order to carry out new hardware installation.

Hardware type	Installation method	Section
TCP/IP: CAN@net II	via IXXAT Interfaces Applet	6.1
Bluetooth: CANblue	via IXXAT Interfaces Applet	6.2

6.1 Installation of CAN@net II

CAN@net II is installed via the IXXAT Interfaces Applet. For this, the VCI V2 software must be previously installed.

(1) Start the IXXAT Interfaces Applet within the Control Panel category "Other Control Panel Options"

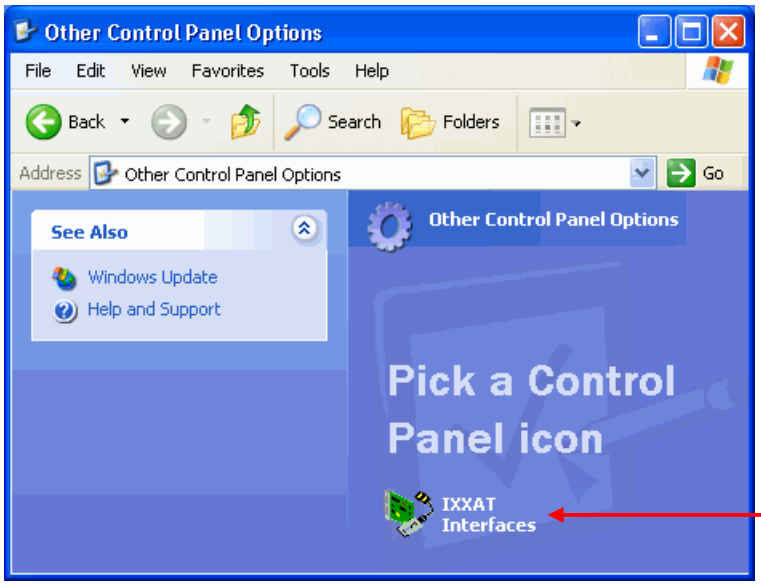

Figure 6.1-1: Starting the IXXAT Interfaces Applet

(2) Click on the "Install" button in the applet in order to install new hardware.

(3) A CAN@net II installation dialog appears after selecting "IXXAT CAN@net II Install". Create a new configuration by clicking the "Add" button.

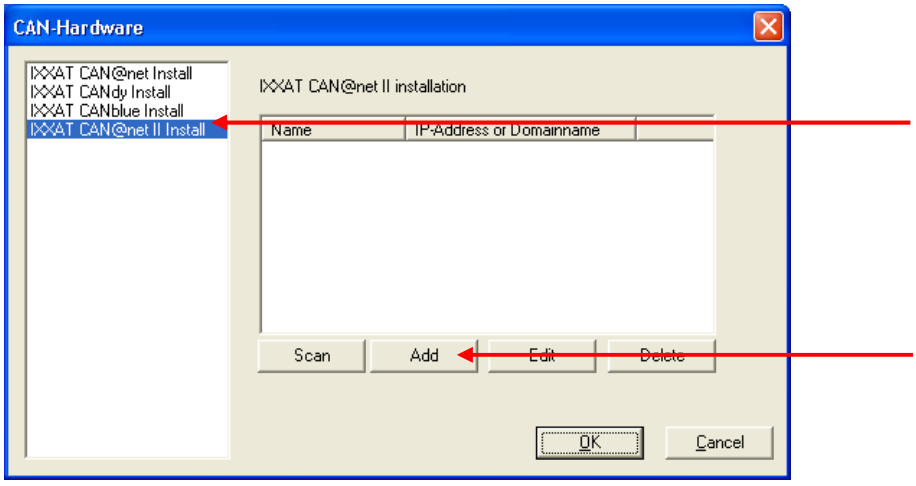

Figure 6.1-2: Installation of CAN@net II

(4) Define a symbolic name, the IP address and the password. If there is a DNS entry for the CAN@net II device you may alternatively type in a domain name instead of the IP address. The default password at delivery time is "**IXXAT**".

In the Description field you may input additional user defined description text. Add new text lines with Ctrl+Enter.

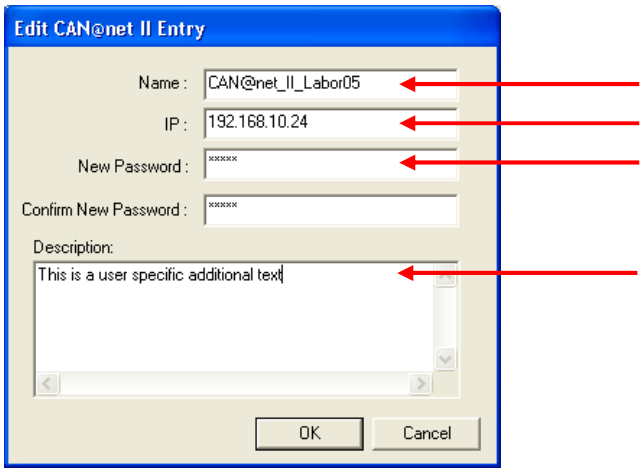

Figure 6.1-3: New CAN@net II configuration

IP address and password are configurable via the CAN@net II Configurator (refer to CAN@net II Hardware Manual).

(5) The new configuration appears within the installation dialog. Clicking the "OK" button will set up a CAN@net II device based on the selected configuration.

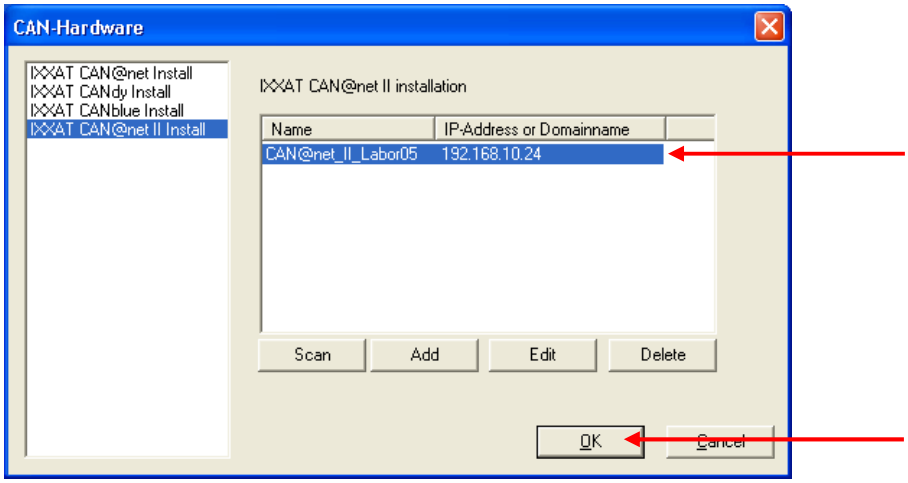

Figure 6.1-4: Installation dialog with new CAN@net II configuration

If there is more than one configuration defined you can use another device by selecting another configuration. Existing configurations can be edited via the "Edit" button and deleted via the "Delete" button.

(6) The configured CAN@net II device now appears in the main window of the IXXAT Interfaces applet. If the configured IP address and password is correct the access test via the "Test" button can be performed.

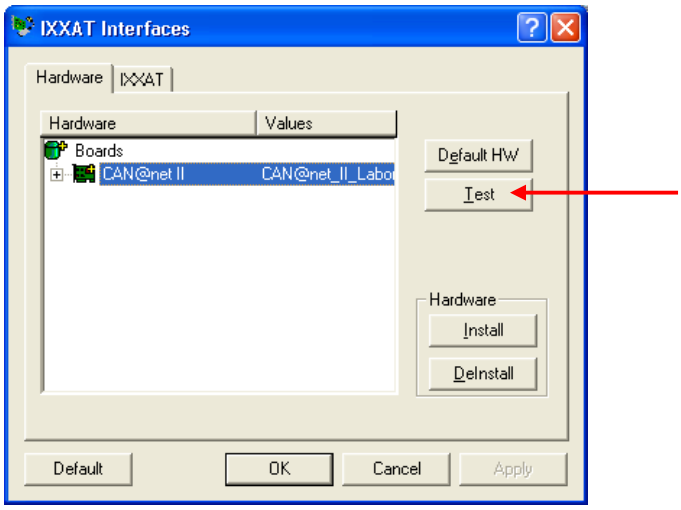

Figure 6.1-5: Applet after installation of the CAN@net II interface

6.2 Installation of CANblue

CANblue is installed via the IXXAT Interfaces Applet. For this, the VCI V2 driver software must be previously installed. Additionally you need a previously installed Bluetooth adapter. IXXAT recommends using a Bluetooth adapter which supports the XP / Vista Bluetooth stack. The XP Bluetooth stack is included in the Service Pack 2 for Windows XP. If you use another Bluetooth stack, you have to set up the Bluetooth connection in a corresponding manner.

6.2.1 Set up Bluetooth connection

The following steps illustrate how to set up a Bluetooth connection using the XP Bluetooth stack.

(1) Open the dialog "Bluetooth Devices" (Control Panel → Bluetooth Devices).

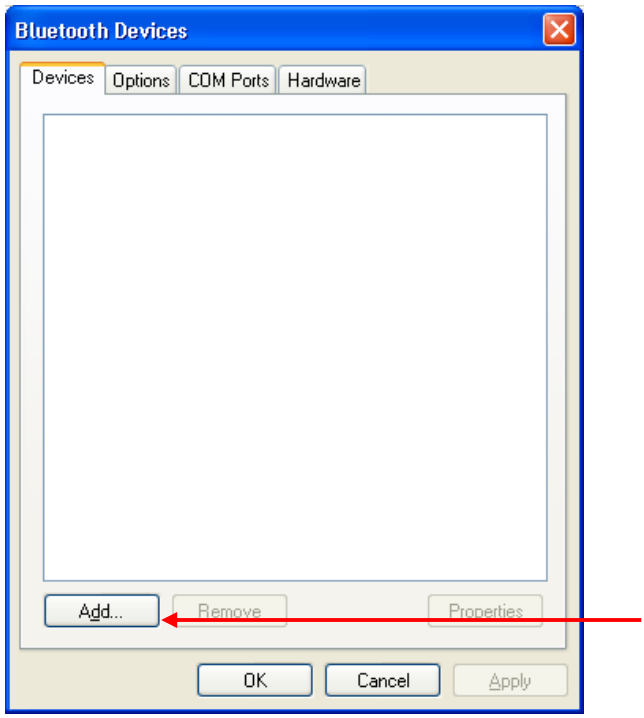

Figure 6.2-1: Bluetooth Devices – Add device

(2) Click on "Add…" to open the dialog "Add Bluetooth Device Wizard" and select "My device is set up and ready to be found".

Figure 6.2-2: Add Bluetooth Device Wizard – Find device

(3) All available Bluetooth devices will be displayed. Select the IXXAT CANblue (xxxxxxxxxxxx) device which has to be configured. The field behind the name "(xxxxxxxxxxxx)" shows the MAC address which is also shown on the back of the CANblue device.

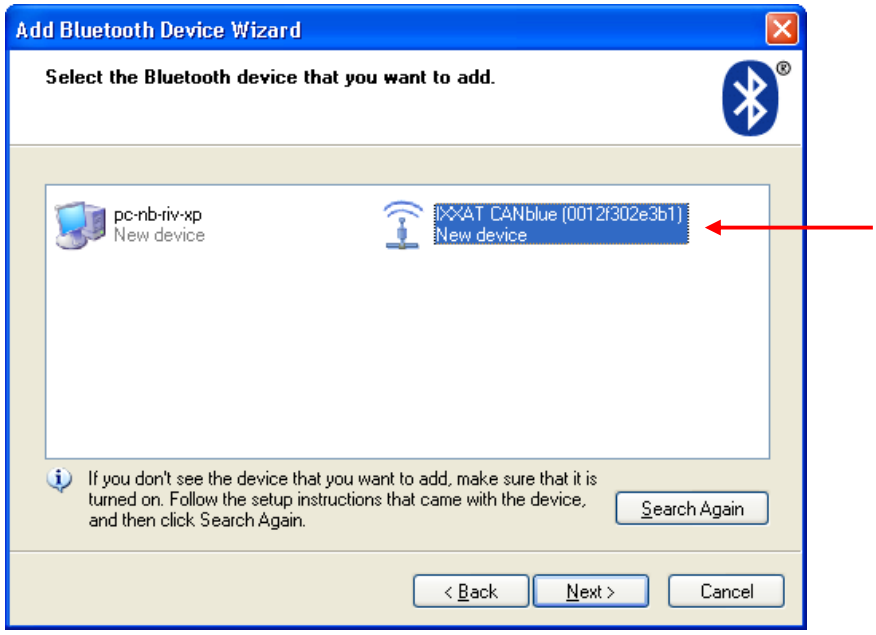

Figure 6.2-3: Add Bluetooth Device Wizard – Select device

(4) Now you have to enter the **passkey** for the Bluetooth device. Therefore select "Use the passkey found in the documentation" and enter **7388**.

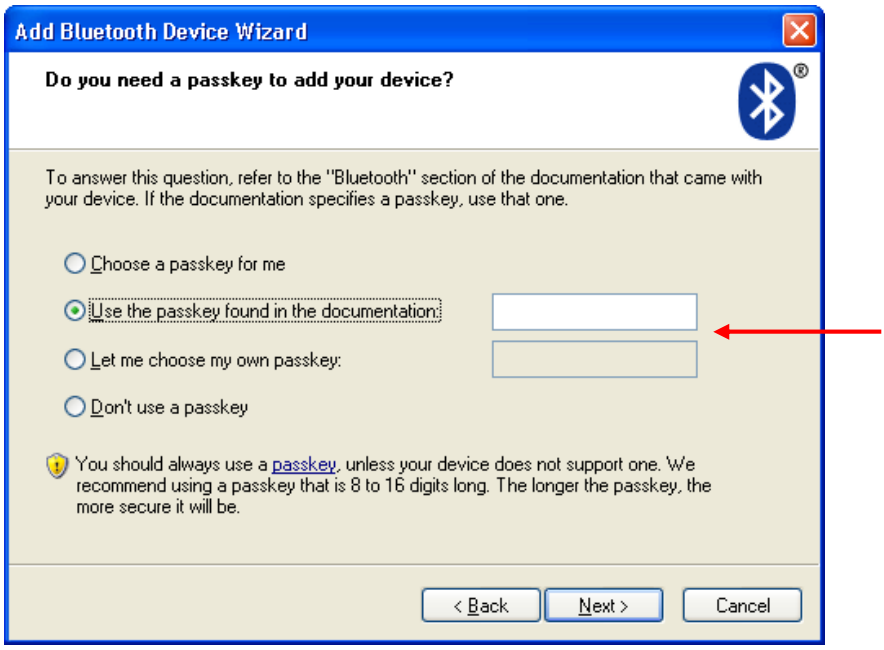

Figure 6.2-4: Add Bluetooth Device Wizard – Enter passkey

(5) After entering the passkey the virtual COM ports of the CANblue device are shown. Memorize the number of the outgoing COM port.

Figure 6.2-5: Add Bluetooth Device Wizard – COM port

(6) Click on "Finish" to close the dialog "Add Bluetooth Device Wizard". Herewith the set up of the connection is completed and the CANblue device appears in the dialog "Bluetooth Devices".

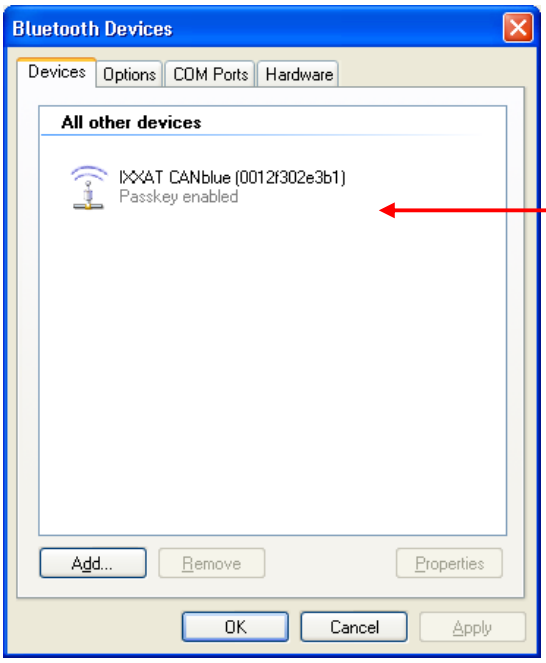

Figure 6.2-6: Bluetooth Devices – CANblue device

6.2.2 Installation of CANblue

(1) Start the IXXAT Interfaces Applet in the Control Panel.

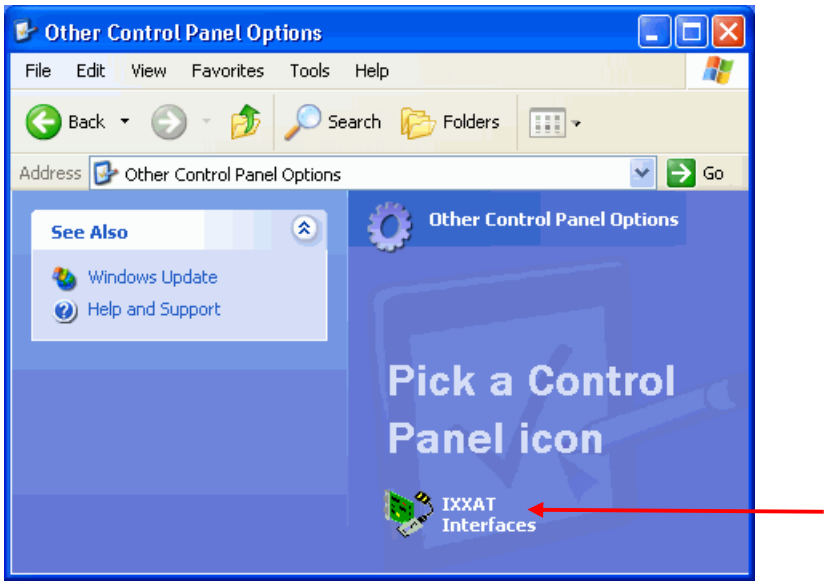

Figure 6.2-7: Starting the IXXAT Interfaces Applet

(2) Click on the "Install" button in the applet in order to install new hardware.

(3) A CANblue installation dialog appears after selecting "IXXAT CANblue Install".

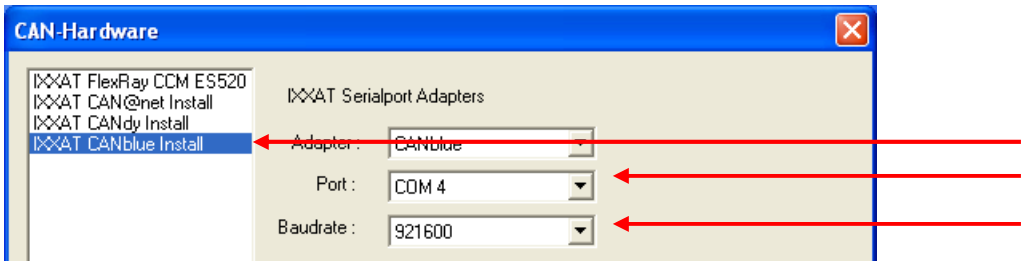

Figure 6.2-8: Installation of CANblue

(4) Select the previously configured COM port (here COM 4), adjust to the highest baud rate supported by your Bluetooth stack (for the XP stack set 921,6 kBaud) and close the dialog with "OK".

(5) The configured CANblue device now appears in the main window of the IXXAT Interfaces Applet. If the configured COM port is correct the access test via the "Test" button can be performed.

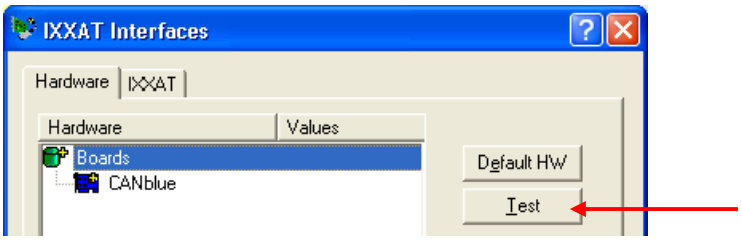

Figure 6.2-9: Applet after installation of the CANblue interface

7 Important information

7.1 Updating to a new VCI version

If you have already installed VCI-driver software and would now like to update to a newer version of the VCI, please proceed as follows:

(1) Please download the VCI-Cleaner from our homepage. This will require the password which you received with the information sheet enclosed with your hardware.

(2) Uninstall the current VCI via the Applet "Add/Remove Programs" in the Control Panel.

(3) Under Windows 2000 and later remove all IXXAT CAN interfaces from the Device Manager. For this, mark each interface and click the "Remove" button. If tinCAN or USB-to-CAN is installed, it must also be plugged in, otherwise it is not visible in the Device Manager.

(4) Start the VCI Cleaner in order to ensure complete removal of VCI files and VCI registry entries from your Windows drive. For this, mark the drive on which you have installed Windows. Ensure that you have activated the option "Search for Inf-file" under Windows 2000 and later. Always use the latest version that available from the website. (http://www.ixxat.com)

(5) Without restarting the computer, install the new VCI version by executing the setup. Then restart the computer.