

SIDEKICK PC
USER'S MANUAL
VERSION 1.1

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1. INTRODUCTION

Sidekick Enterprise Solution is a standard system proposed by **Cross Technology and Innovation** (CTI) for the after sales support organization. The main target of this system is to provide field support engineers with a handy tool that, together with proper interface modules, simplifies the execution of the diagnostic procedures and that allows an easy way to configure electronic boards.

Sidekick is an enterprise-wide system that seamlessly integrates the most up-to-date information about Electrolux products into a client software tool. The client software (**SidekickPC**) lets you quickly diagnose appliances and create spare electronic boards. This is the User's Manual of this application.

Data integration between corporate databases and SidekickPC seamlessly occurs by means of web services that exploit the latest technologies in order to minimizing update time and improving user experience and security.

There are many advantages in using a computer-aided service tool, for example:

1. the possibility to diagnose the appliances in less time and in a more precise way, thus reducing the amount of spare components required to fix the problem and the time of intervention. SidekickPC identifies if possible the appliance to test, gets and decodes the internal status of the electronic controller, and it executes the diagnostic procedures and troubleshooting steps the user requires;
2. the possibility to create spare electronic boards starting from “generic boards” with a programming and configuration procedure. This function ensures that the spare part is created in the same way as it was originally produced in the factory.

1.1. ACRONYMS AND ABBREVIATIONS

AMI	Appliance Mini Interface
ACK	Appliance Connection Kit
CCF	Cycle Configuration File
CTI	Cross Technology and Innovation
DAAS	Domestic Appliance Acquisition System
ELC	Engineering Level Code
HEX	Firmware filename extension
HTML	Hyper Text Markup Language
LBL	Label Definition File extension
MCF	Machine Configuration File
MDAC	Microsoft Data Access Components
MDI	Multiple Document Interface
MMC	Microsoft Management Console
PC	Personal Computer
PIF	Programming Information File
PNC	Product Number Code
Prog	Progressive Insertion Number
PSS	Product Software Storage
Search Key	The database search string extracted from the User Code
SidekickPC	The program for diagnosing appliances and configuring electronic boards.
SKC	Service Kit Code
SP1	Service Pack 1
SP2	Service Pack 2
SP4	Service Pack 4
SSE	Service Support Europe
SYM	Symbol filename extension
TDS	Technical Documentation System
USB	Universal Serial Bus
User Code	The string code as entered by the user
WSE	Web Services Enhancements

1.2. SYSTEM REQUIREMENTS

The software prerequisites for **SidekickPC** are the following:

1. Microsoft Windows XP SP2 or Vista (except the Starter Edition)
2. Microsoft Windows Installer 3.1
3. MDAC 2.8
4. Microsoft .NET Framework 2.0
5. Microsoft WSE 3.0
6. Microsoft Internet Explorer 6.0 SP1 or later
7. Microsoft SQL Server 2005 Express Edition SP2. If in your PC you have already installed another edition of SQL Server 2005, this item is not required.

The setup program detects all the missing software and, if necessary, it is able to setup automatically items 2, 3, 4 and 5. The setup program is able to detect the absence of the required SQL Server 2005 instance but it does not install it automatically. Later in this document you can read how to install Microsoft SQL Server Express Edition 2005 SP2.

Microsoft Internet Explorer 6.0 SP1 is software prerequisite for all installations of SQL Server 2005, as it is required for Microsoft Management Console (MMC) and HTML Help. A minimal installation of Internet Explorer is sufficient, and Internet Explorer is not required to be the default browser.

If none of the software prerequisites is installed, the target PCs needs at least 10 GB of free hard disk space. This space includes the optional SQL Server Management Studio Express.

The minimum RAM quantity required is 512 MB (1 GB highly recommended) while the minimum processor speed required is 1 GHz. A CD or DVD drive, as appropriate, is required for installation from CD or DVD media.

SidekickPC requires at least a monitor resolution of 1024x768 pixels.

The most demanding application is SQL Server 2005 Express edition. If you go to the Microsoft's web site you can read the exact requirements for this software:

<http://msdn2.microsoft.com/en-us/library/ms143506.aspx>

1.3. SOFTWARE INSTALLATION

This paragraph describes the sequence of steps in a typical setup procedure on a PC running Windows XP without any additional installed software. Setup steps may however vary depending on the actual operating system and software configuration of the PC.

You must log on as full Administrator in order to make the installation of the software.

1.3.1. SidekickPC Setup

1. Run the **SETUP.EXE** program that is present in the root folder of the distribution CD.
2. If the .NET Framework 2.0 is not installed, SETUP asks you to install it. Just press **Accept** to go on:

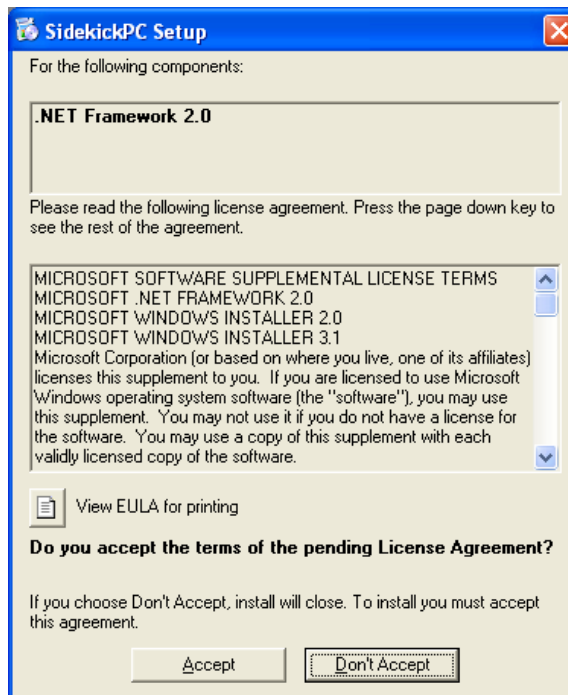


Fig. 1. Install .NET Framework 2.0

3. If the WSE 3.0 Runtime is not installed, SETUP asks you to install it. Just press **Accept** to go on:

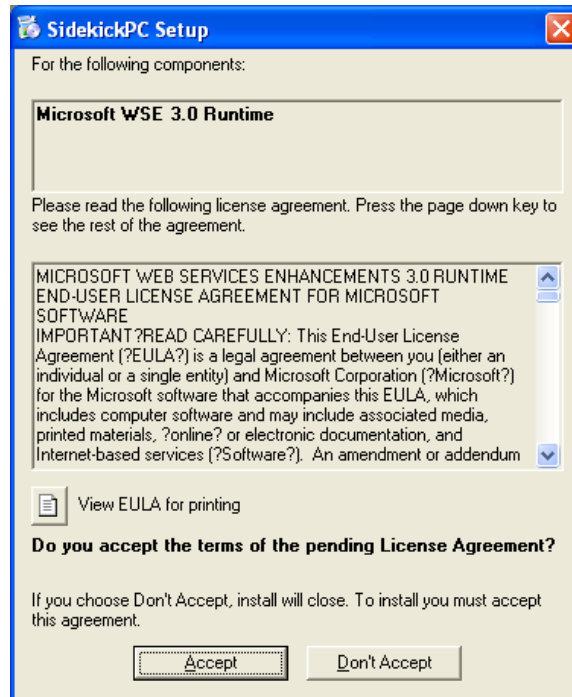


Fig. 2. Install WSE 3.0 Runtime

4. If Windows Installer 3.1 is not installed, SETUP asks you to install it. Just press **Accept** to go on:

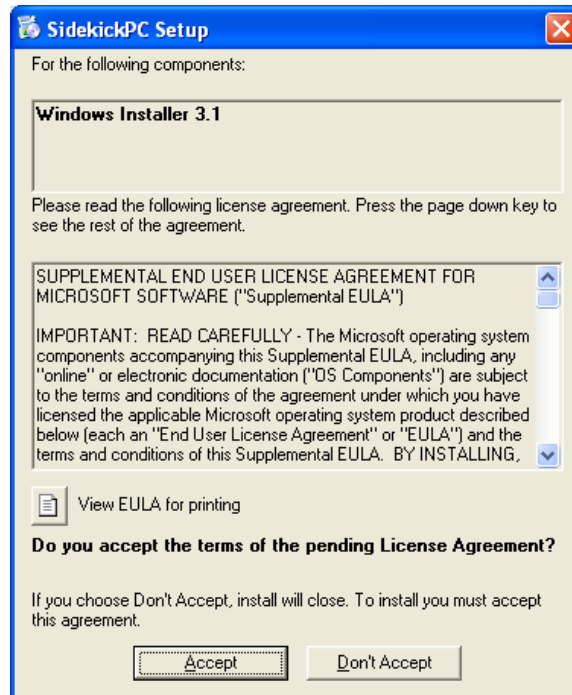


Fig. 3. Install Windows Installer 3.1

5. After installing the above prerequisites, you are asked to reboot your PC.

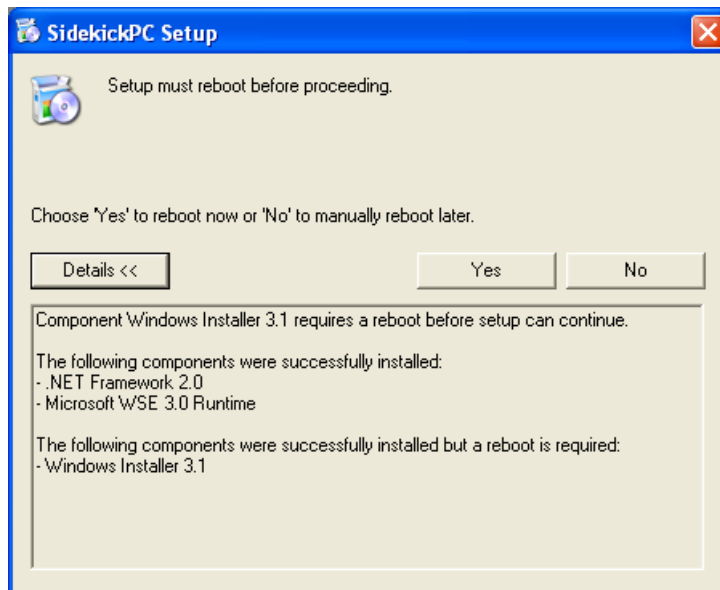


Fig. 4. Reboot the system

6. Reboot the PC, log on as full Administrator and, if necessary, run again SETUP.EXE. If there is no SQL Server 2005 installed instance, you immediately get an error message like the following one. Otherwise skip to step 17.

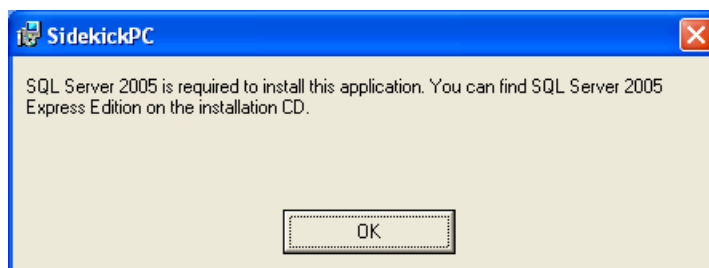


Fig. 5. SQL Server 2005 Required

Press **OK** to quit SETUP without completing the installation:

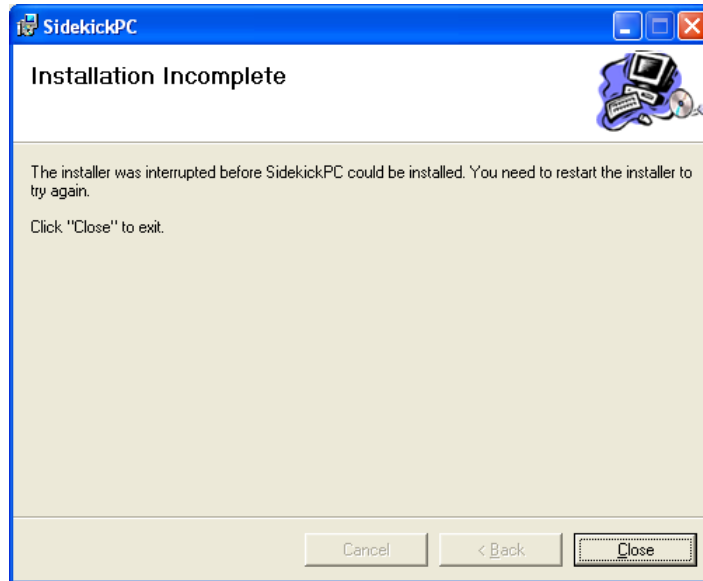


Fig. 6. Installation Incomplete

7. Run the **SQLEXP32.EXE** program located in the **SqlExpress** folder in the distribution CD and accept the license agreement. This program checks and installs prerequisites. At the end press **Next**:

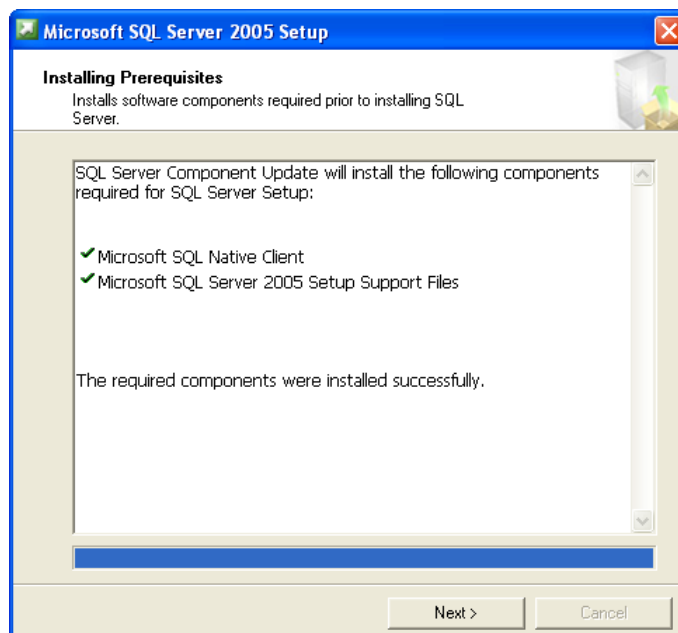


Fig. 7. SQL Server Express Setup – Prerequisites Installation

8. After the System Configuration Check press Next:

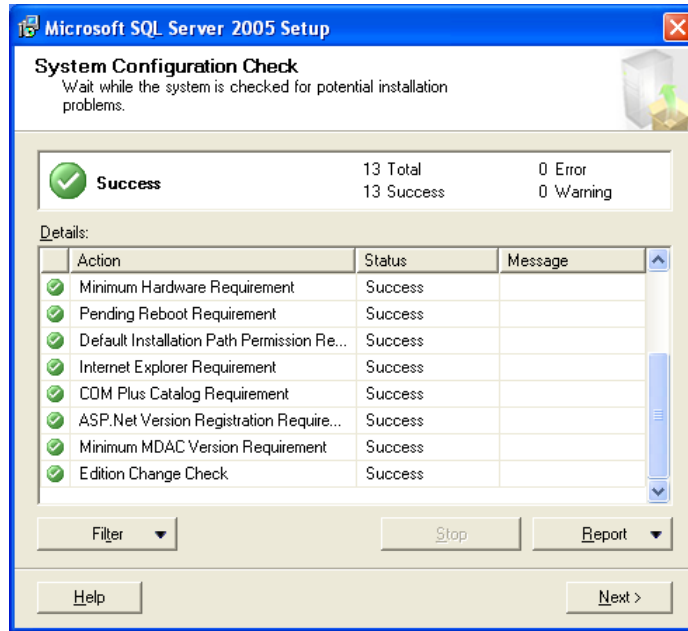


Fig. 8. SQL Server Express Setup – System Configuration Check

9. After entering registration data press Next:

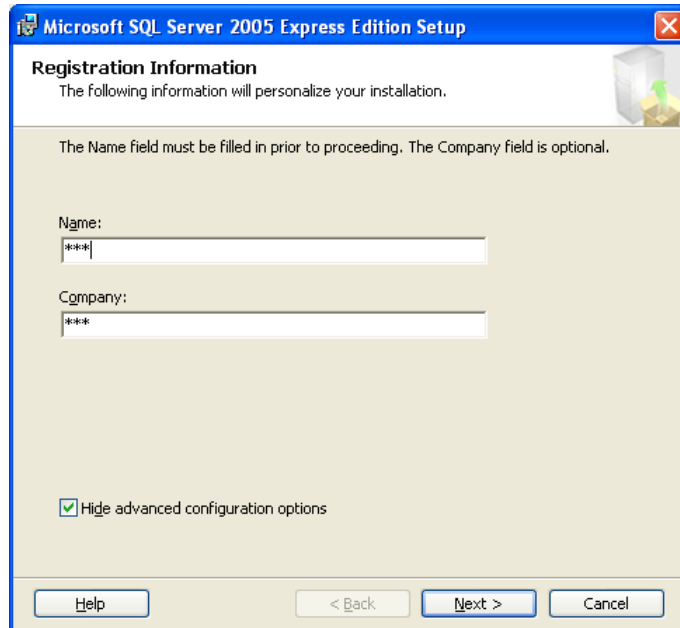


Fig. 9. SQL Server Express Setup – Registration

10. You can keep the default features. Then press Next:

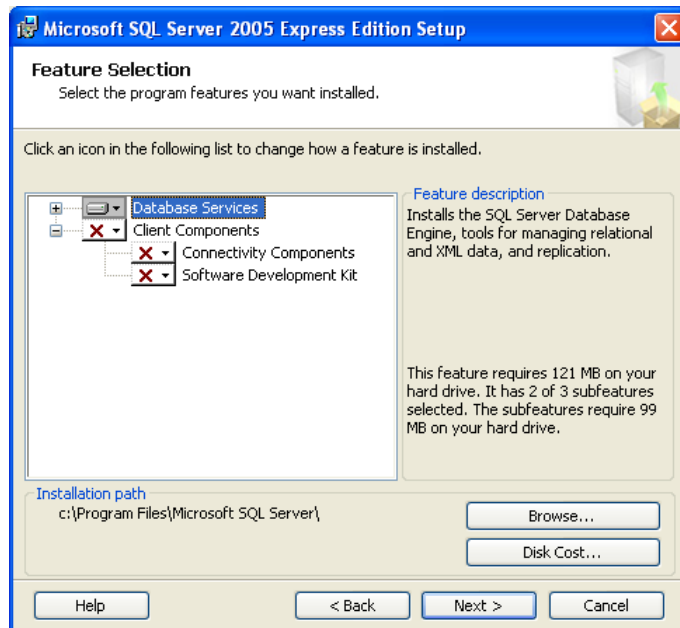


Fig. 10. SQL Server Express Setup – Feature Selection

11. You can keep the default for Authentication Mode (the setup program will later automatically change this setting to Mixed Mode):

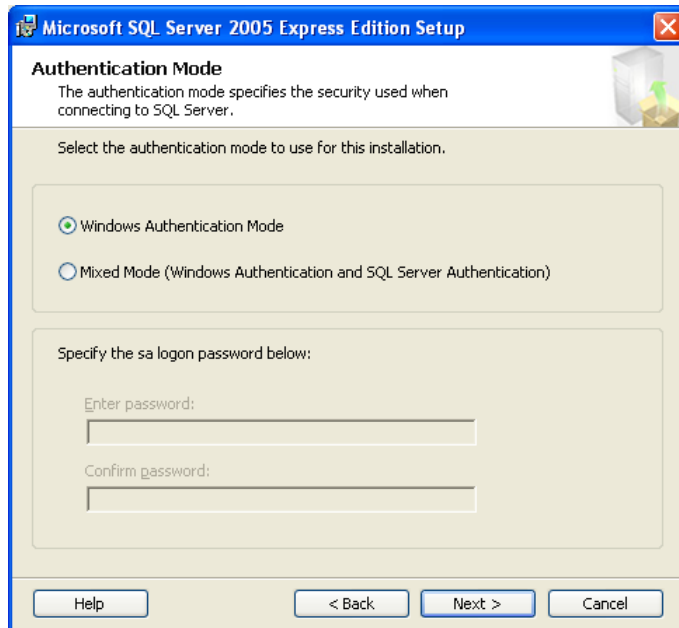


Fig. 11. SQL Server Express Setup – Authentication Mode

12. **Important:** select both checkboxes in the Configuration Options window and press Next.

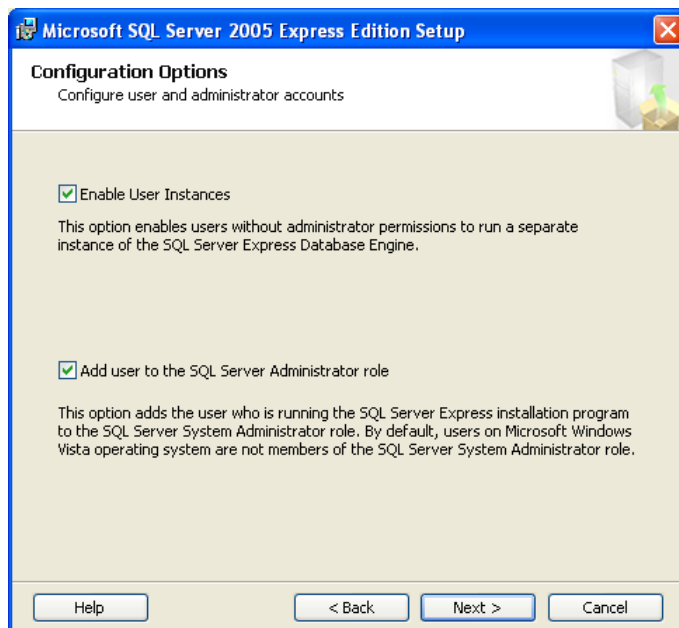


Fig. 12. SQL Server Express Setup – Configuration Options

13. Keep the default options for Report Settings, then press Next:

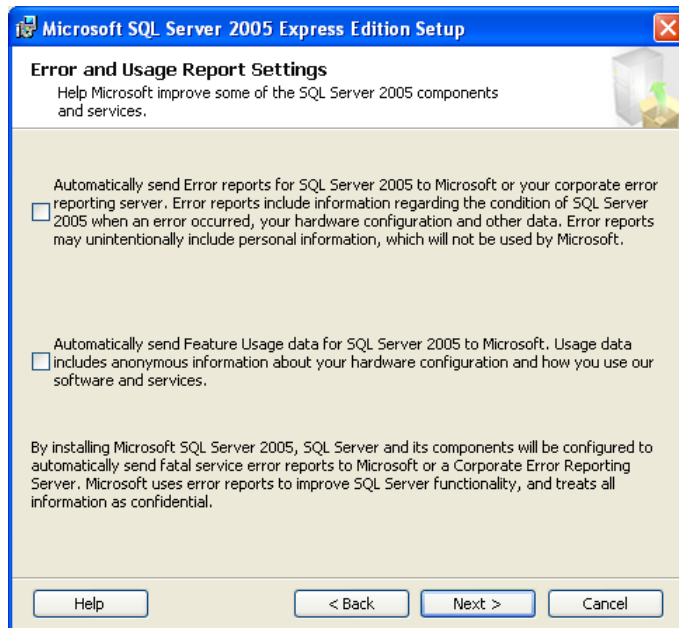


Fig. 13. SQL Server Express Setup – Report Settings

14. SQL Server 2005 is ready to install. Press Install:

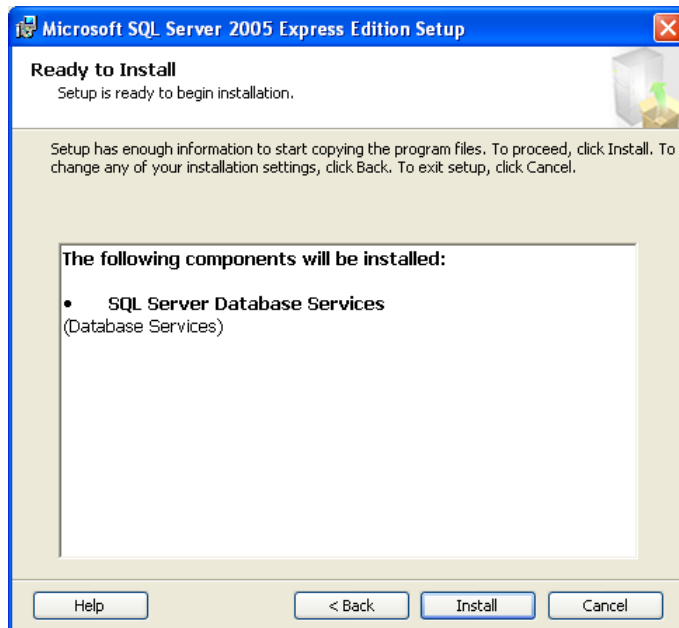


Fig. 14. SQL Server Express Setup – Ready to install

15. Wait until the end of SQL Server setup, then press Next:

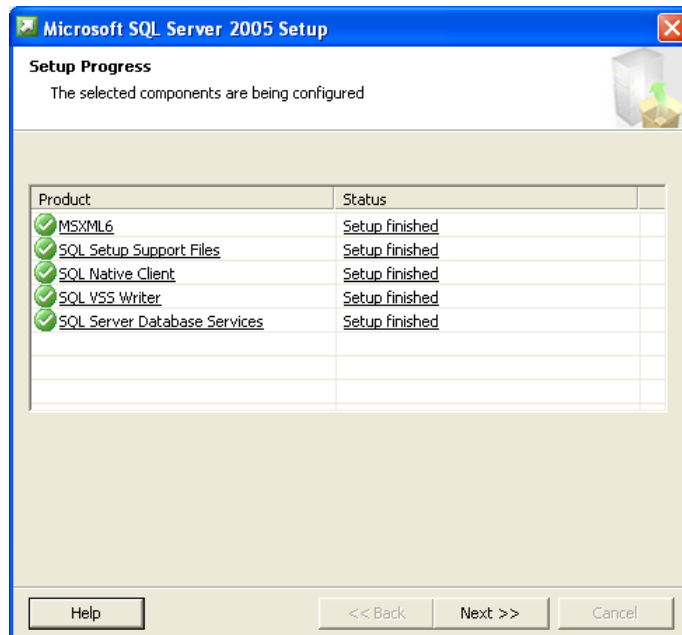


Fig. 15. SQL Server Express Setup – End of Setup

16. Just press Finish to complete the setup procedure:

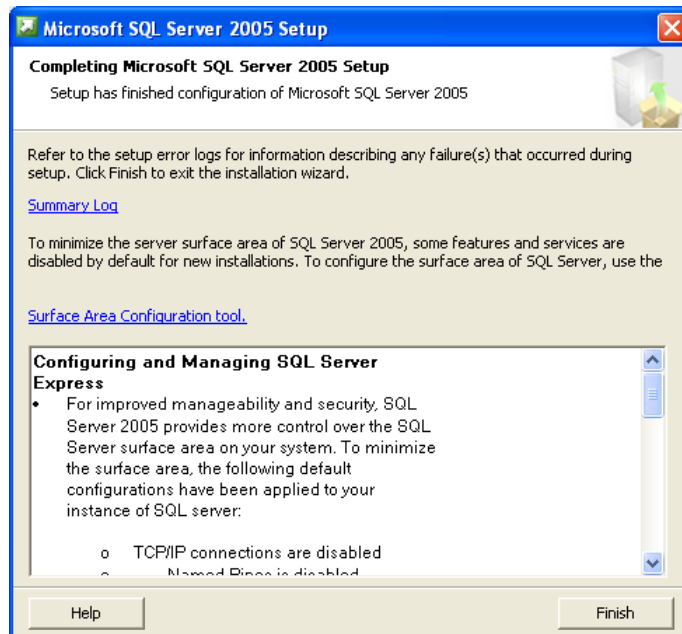


Fig. 16. SQL Server Express Setup – Optional Steps

17. If you have just installed SQL Server 2005 Express, run again SETUP.EXE. You are now prompted to choose the installation folder. Keep the default settings unless strictly necessary. Please remember that you cannot specify special folders like “**C:\Program Files**”, “**C:\Documents and Settings\All Users\Application Data**”, or “**C:\Windows\System32**”. If you do it, the setup will show you an error message and rollback the entire process. This limitation is due to a compatibility issue related to the Microsoft Vista operating system:

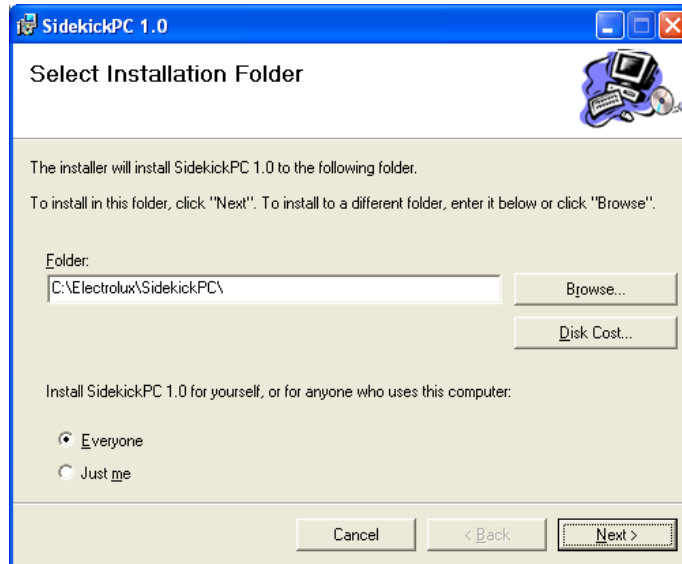


Fig. 17. Select Installation Folder

18. SETUP asks you to choose the settings of the Database that it is going to automatically create. It is possible to specify a database and login created with a previous installation of the software. Keep the default settings unless strictly necessary. **Data Source** identifies the SQL Server instance that will hold the local database. **Database** is the name of the local database. **User ID** and **Password** are the credential of the login to the local database. Please remember that, by default, SidekickPC uses “Mixed Authentication” to connect to the local database:

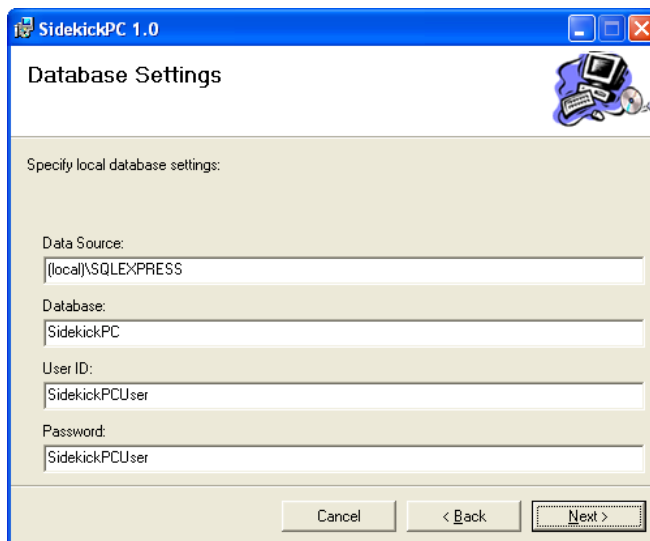


Fig. 18. Database Settings

19. Specify the URL and credentials for the Web Services Settings that the application will use to download data updates, if you already know them. For **Username** and **Password** you should use the login information you have been given with an automatic e-mail notification when your account was created. These are the same credentials that you use to access to the reserved area in the Sidekick Portal:

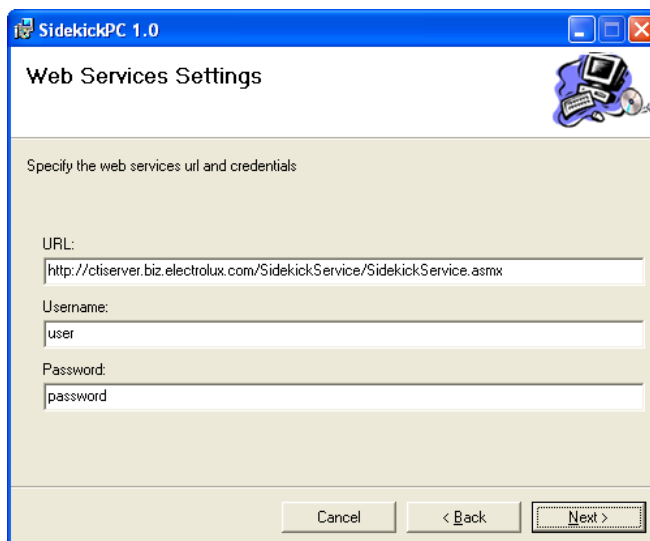


Fig. 19. Web Service Settings

20. Enter your license number in the Activation Settings window, if you already know it. You should use the license number you have been given with an automatic e-mail notification when your account was created:

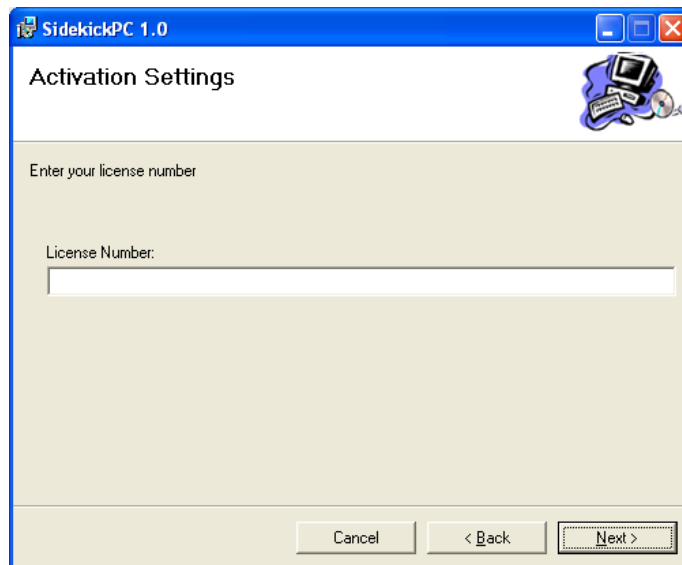


Fig. 20. Activation Settings

21. Confirm the installation and wait for the completion of the process. If any errors occur during the setup, an installation log appears. Otherwise no other dialog appears, except the final one.
22. SETUP finally completes. Just press Close to end the process:

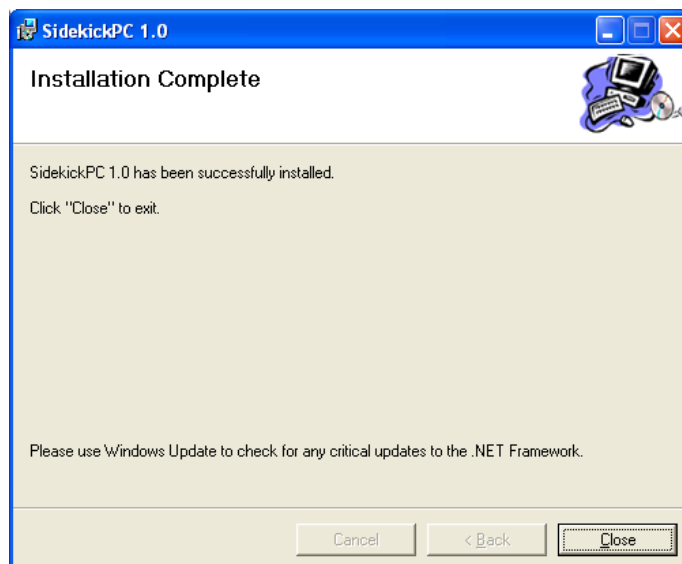


Fig. 21. Installation Complete

1.3.2. Setup of the USB drivers for the Appliance Connection Kit

After completing the installation of SidekickPC, there is another important installation that you must perform prior leaving the administrative mode in the PC: you must install the USB drivers for the Appliance Connection Kit.

In order to perform this step you must have an Appliance Connection Kit (ACK) that Service Support Europe (SSE) should have given you. You should connect the USB interface of the interface module to the PC by means of the supplied cable. The operating system recognizes that this is the first time that you connect the device to the PC and prompts you for the installation of the drivers.

The drivers are copied to the hard disk during the setup of SidekickPC in the **USB Drivers** directory starting from the installation folder. The default driver directory is:

C:\Electrolux\SidekickPC\USB Drivers

You can find detailed instructions on how to setup the USB drivers in the “**Appliance Interface Modules USB Setup v 2.0**” manual that is installed during the setup of SidekickPC.

1.3.3. SQL Server Management Studio Express Setup

This section describes the optional installation of SQL Server Management Studio Express. The installation of this software is only necessary for software troubleshooting purposes. This is a tool for the administration of the local database, only necessary for software support activities.

In most cases you can simply skip this section.

1. Run the **SQLServer2005_SSMEE.msi** installer located in the **Extra\Microsoft SQL Server Management Studio Express** folder in the distribution CD. In the welcome dialog press Next:

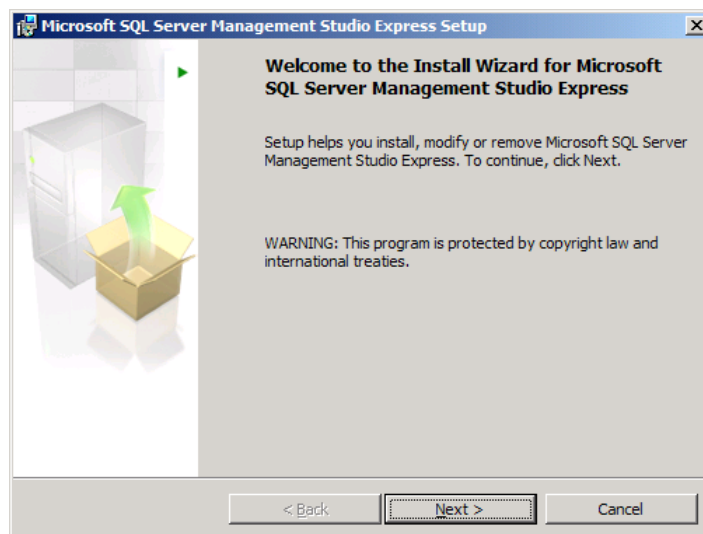


Fig. 22. SQL Server MS Express Setup - Welcome

2. Accept the license agreement, then press Next:

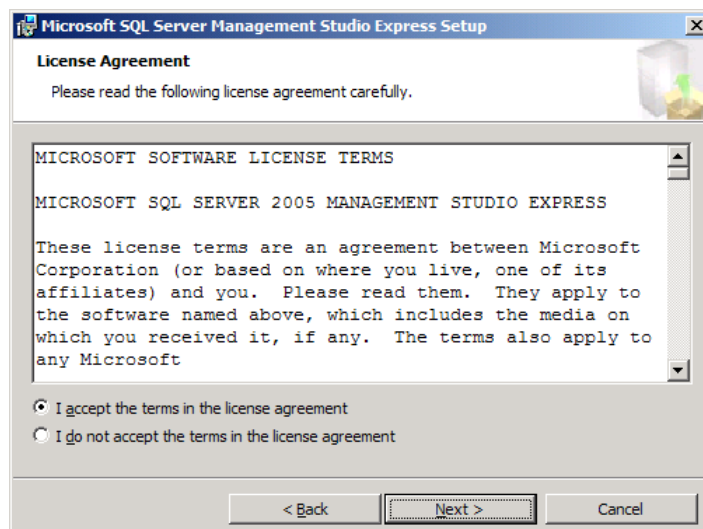


Fig. 23. SQL Server MS Express Setup – License Agreement

3. Insert registration information, then press Next:

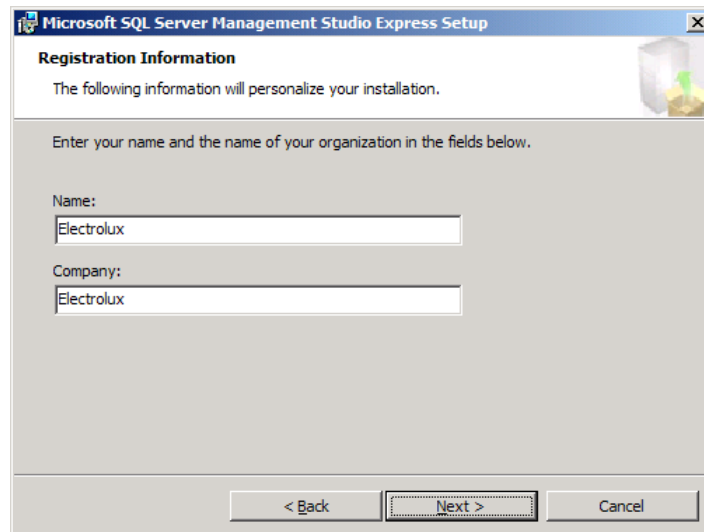


Fig. 24. SQL Server MS Express Setup – Registration

4. You can select the default features. Then press Next:

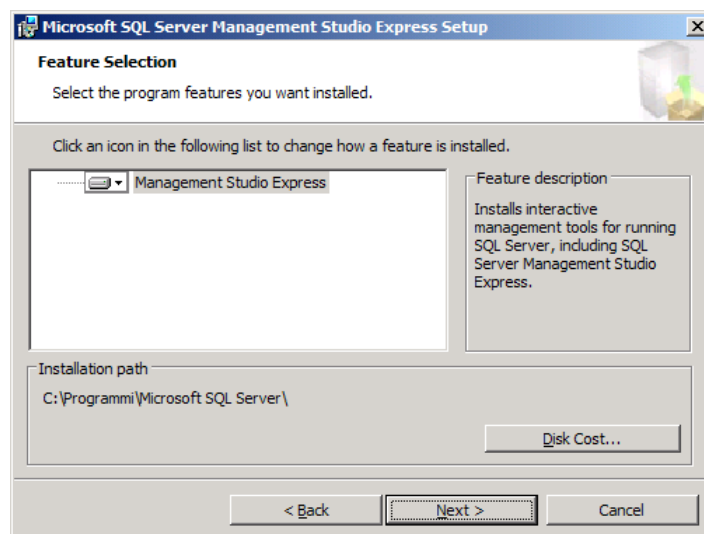


Fig. 25. SQL Server MS Express Setup – Feature Selection

5. SQL Server Management Studio Express is ready to install. Press Install:

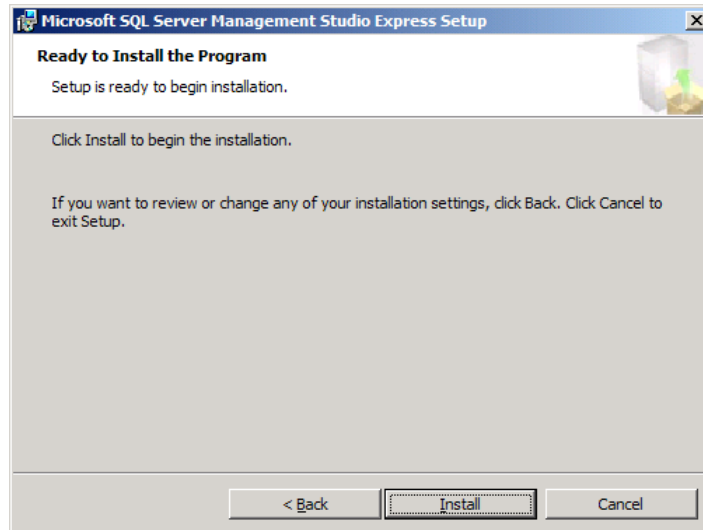


Fig. 26. SQL Server MS Express Setup – Ready to Install

6. Wait until the end of setup, then press Finish:

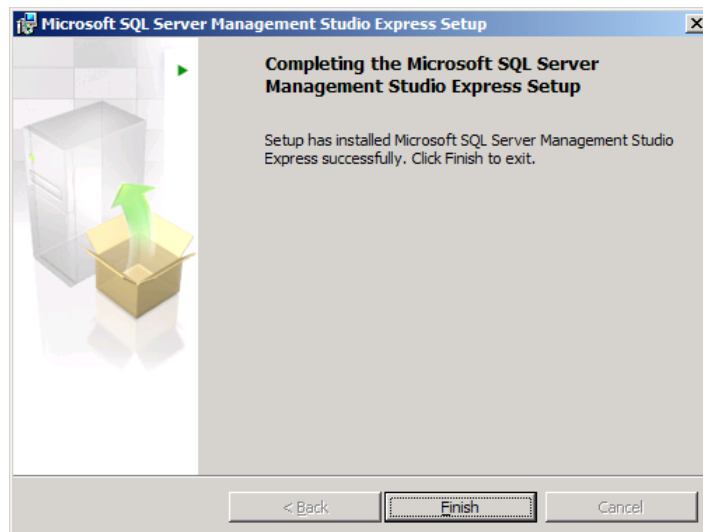


Fig. 27. SQL Server MS Express Setup – End

1.3.4. Uninstalling SidekickPC

At a certain point you may want to remove the application from your PC. You can remove it as any other Windows application by means of the **Add/Remove Programs** applet in the **Control Panel**.

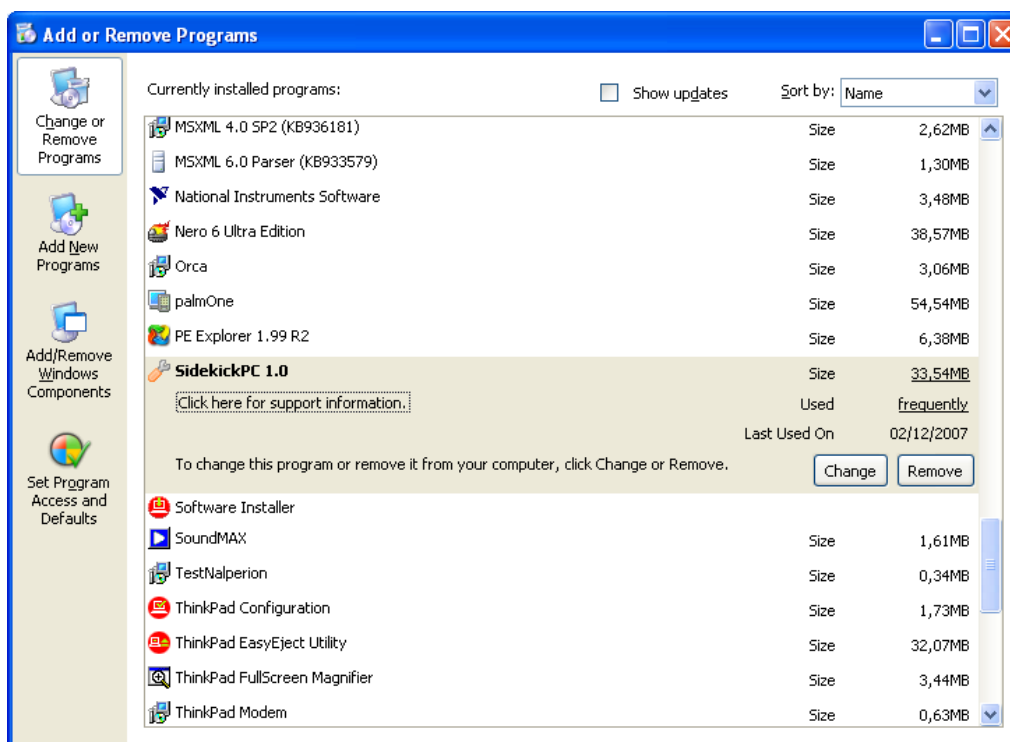


Fig. 28. Removing the SidekickPC application

You must log on as full Administrator in order to remove the software.

When you remove SidekickPC, the uninstall procedure asks you if you want to delete also the local SQL Server 2005 database. Please remember that, under Vista, the dialog box that asks you to remove or not the database may be hidden by other windows: the uninstall procedure looks as if it is “frozen”. In this case, you should just check for the presence of the dialog and choose “Yes” or “No” to continue.

1.4. TROUBLESHOOTING

In this section you can find additional information that you may need in order to solve installation problems.

1.4.1. Manual installation of prerequisites

Under certain circumstances, the SETUP program may not be able to detect the absence of one or more software prerequisites. In this case you can install them manually prior running the main SETUP program.

In case of need, you should manually install the prerequisites in the following order:

1. **Microsoft Windows Installer 3.1**. Run the `\WindowsInstaller3_1WindowsInstaller-KB893803-v2-x86.exe` file.
2. **MDAC 2.8**. Run the `\MDAC28\mdac_typ.exe` file.
3. **Microsoft .NET Framework 2.0**. Run the `\dotnetfx\dotnetfx.exe` file.
4. **Microsoft WSE 3.0**. Run the `\WSE3_0\Microsoft WSE 3.0 Runtime.msi` file
5. **Microsoft SQL Server Express Edition 2005 SP2**. Run the `\SqlExpress\SQLEXP32.EXE` file. At this point the SQL Server setup program may detect that Microsoft Internet Explorer 6.0 SP1 is missing. In this case you must stop the installation and run `\Extra\IE6Setup\ie6setup.exe`, prior installing SQL Server.
6. **SQL Server Management Studio Express** (optional). Run `\Extra\Microsoft SQL Server Management Studio Express\SQLServer2005_SSMSEE.msi`.

1.4.2. SQL Server installation problems

Under certain circumstances, the SQLEXP32.EXE program may encounter problems depending on the actual configuration of the PC and of the network. These problems are outside the control of CTI.

In case of problems you can find in the internet plenty of information regarding tips and workarounds related to setup issues. You should in particular refer to Microsoft forums dealing with the matter.

Experience collected so far by CTI has revealed two problems regarding the setup of SQL Server 2005 Express Edition. You can find the solution for these problems here:

<http://forums.microsoft.com/MSDN/ShowPost.aspx?PostID=130981&SiteID=1>
<http://support.microsoft.com/kb/910070/en-us>

1.5. SOFTWARE INITIALIZATION

1.5.1. License Activation

After that you have successfully installed the program and the USB drivers you can log off as Administrator and log on as a normal user. At any rate, the first thing that you are required to do the first time you run SidekickPC is to activate the software license. Please remember that, in order to activate the software license, your PC must be connected to the internet, unless you use Manual Activation.

The first time you run the software, you can see this message:

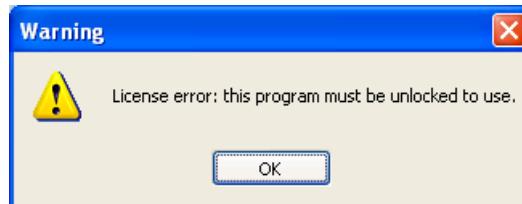


Fig. 29. License Activation Request

After you press the **OK** button, you should execute a few initial configuration steps for your software:

- Language (optional)
- Internet Settings (mandatory when your PC is not directly connected to the internet)
- License Activation (mandatory)

You may want to choose a display language other than English. In this case you must use the dialog box that you can see if you select the **Language** command in the **Options** menu.

If your PC is not directly connected to the internet, you must select proper Internet Settings. You can see the corresponding dialog if you select the **Internet Settings** command in the **Commands** menu. For detailed information on this matter, please refer to the corresponding section later in this chapter.

Finally, you must activate your software license by means of the **License Manager** dialog. You can see this dialog if you select the **License Manager** command in the **Commands** menu. In most cases you only need to specify the **License Number** (if you have not specified it during the setup) and press the **Internet Activate** command:

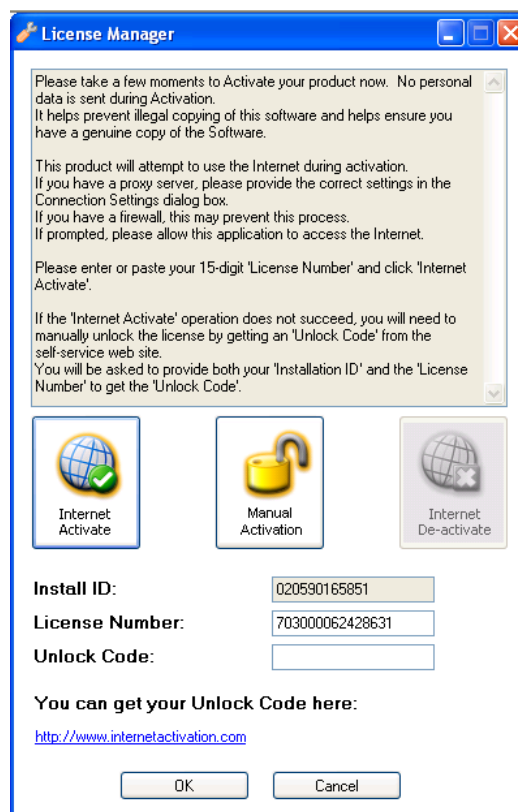


Fig. 30. License Activation Request

After you press the Internet Activate button, you should quickly see the following message:

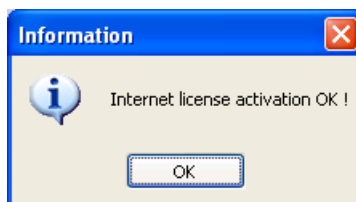


Fig. 31. License Activation Request

Press OK and the License Manager dialog should close.

If you cannot connect to the internet the PC where you have installed SidekickPC, you can install the license manually by means of the **Manual Activation** command. This option requires, however, the use of another PC that is connected to the internet.

To manually activate the software license, you must get the **Unlock Code** from an activation portal available at the following URL: <http://www.internetactivation.com>:

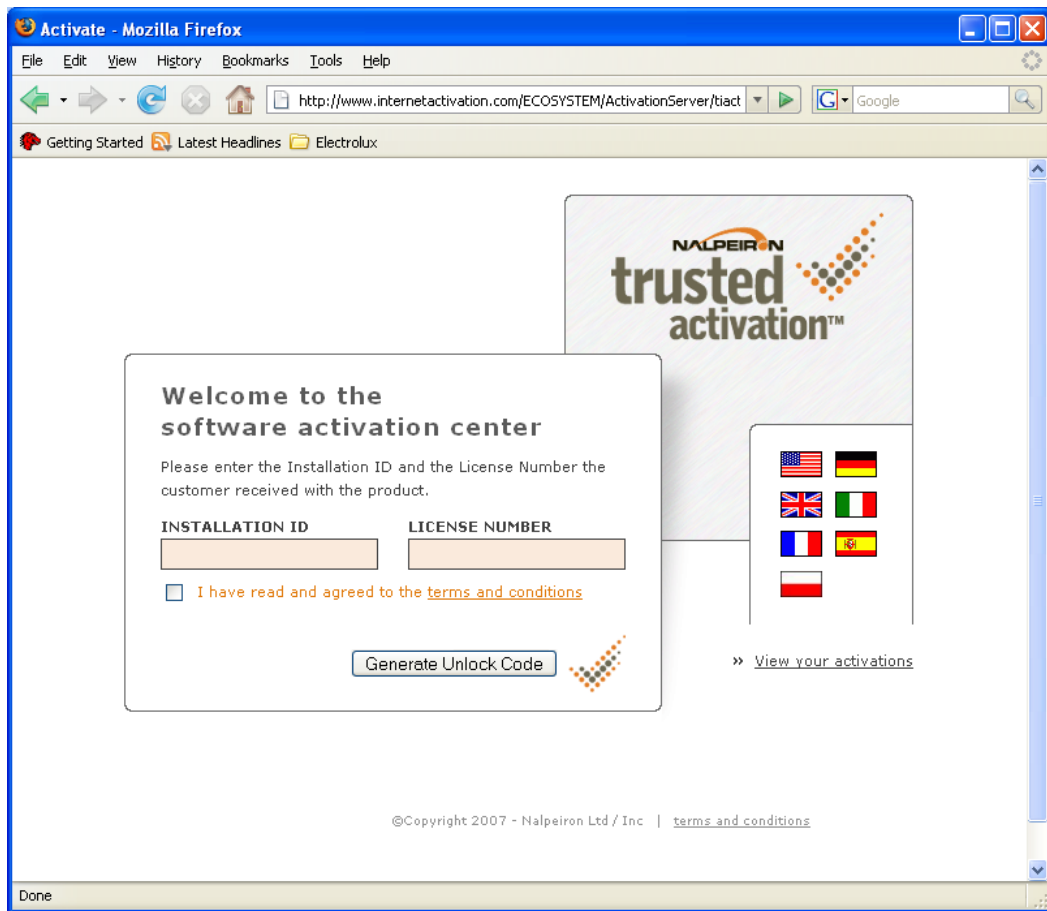


Fig. 32. License Activation Portal

In **INSTALLATION ID** you must enter the **Install ID** code you can see in the dialog box. In **LICENSE NUMBER** you must enter the personal **License Number** that has been assigned to you. After you have specified these two pieces of information, you must issue the **Generate Unlock Code** command. The license activation portal should then display the unlocking code:

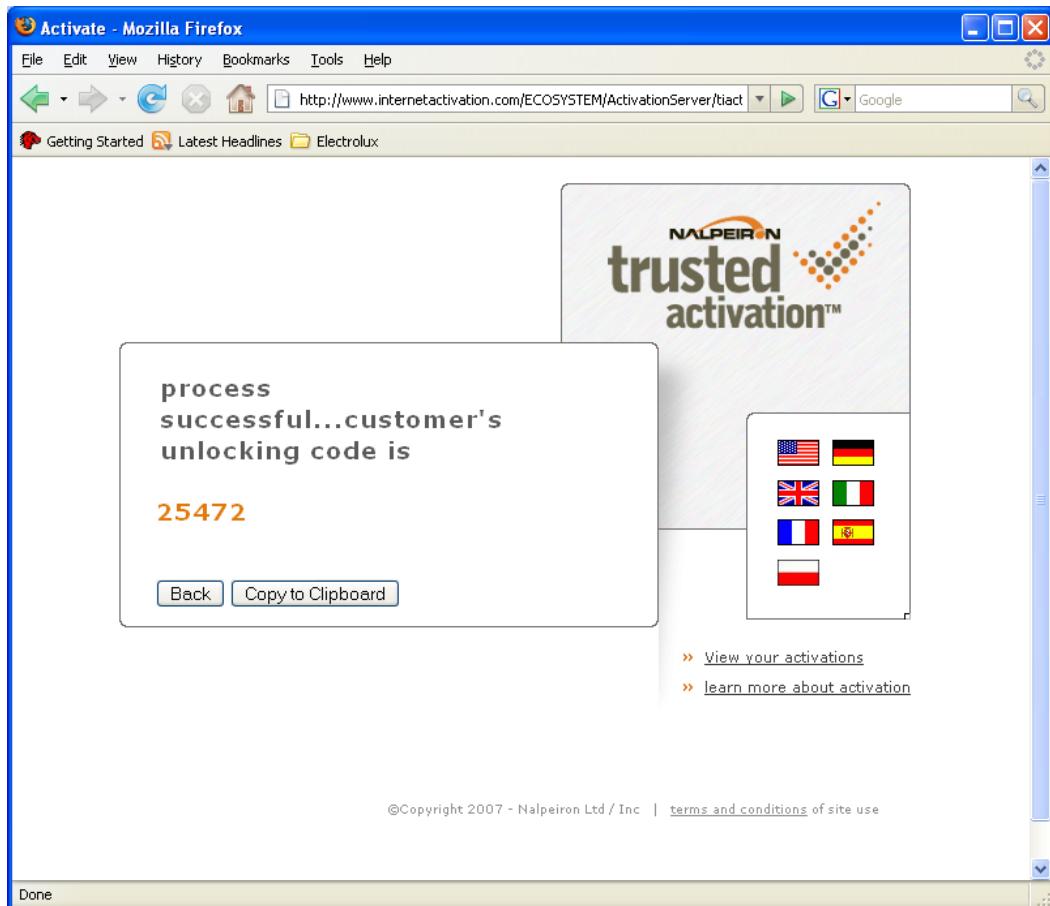


Fig. 33. Unlocking Code

Finally, insert the code displayed in the portal in the **Unlock Code** option in the License Manager dialog, verify the correctness of the **License Number**, and press the **Manual Activation** command:

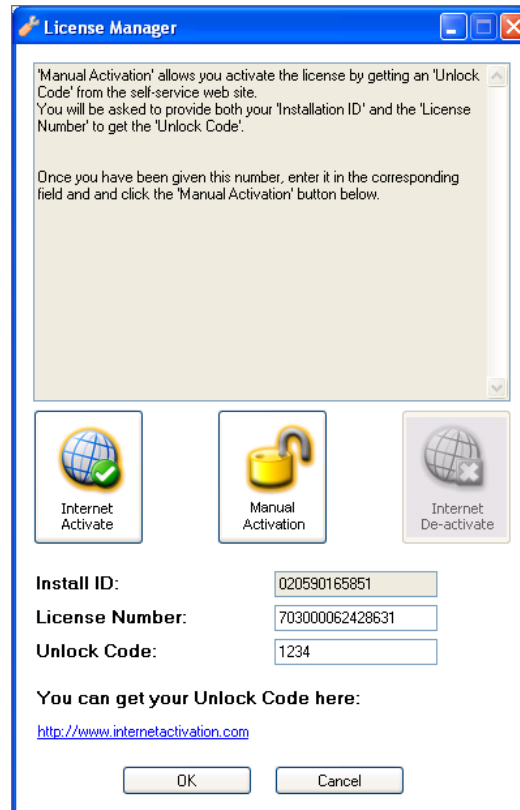


Fig. 34. Unlock Code in License Manager

The **Internet De-activate** command allows you removing the license from your PC. After you de-activate the license in one PC you can activate it in another PC.

1.5.2. Internet Settings

If an internet connection error occurs, please verify that you are really connected to the network and check your proxy settings in the dialog that you can activate in **Commands >> Internet Settings**:

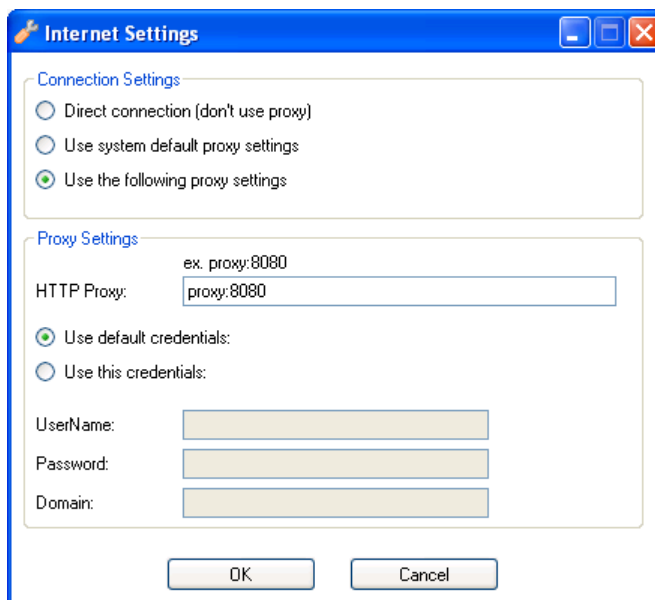


Fig. 35. Internet Settings Dialog

Sometimes invalid proxy settings are the reason of internet license activation and local database update failures. By default the setup program activates the option that uses “system default proxy settings”. In some cases this option does not work and you must explicitly specify your proxy configuration.

The **Connection Settings** section lets you specify the way you are connected to the internet. The following options are available:

1. **Direct connection (don't use proxy)**: use this option if your PC is directly connected to the internet;
2. **Use system default proxy settings**: use the settings you have specified in Internet Explorer web browser, if you have installed it in your PC. If the proxy you are using requires explicit authentication (username and password), you cannot use this option but you must explicitly specify credentials with the “**Use the following proxy settings**” option;
3. **Use the following proxy settings**: use this option to explicitly specify your proxy settings. If you use this option you must fill-in the **Proxy Settings** section. The **HTTP Proxy** field allows you to specify the DNS name or the IP address of your proxy. The default TCP port for the proxy is 80. You can specify another port by separating the DNS name (or IP address) to the port number by means of a comma. If your proxy requires authentication, you must specify also the **UserName**, **Password**, and **Domain** fields.

1.5.3. Update Dialog

The Update Dialog allows you to perform the update of the local database by means of a connection to the remote web service. You can activate the dialog with the **Commands >> Update** menu item

The software fully relies on the local database contents. You cannot operate the software if the local database is empty. For this reason, you must perform the initial full database update, prior using the software.

Local database updates occur in a very simple way and are executed through the interaction of SidekickPC with a remote web service that copies information from the Electrolux central Sidekick database to your local copy.

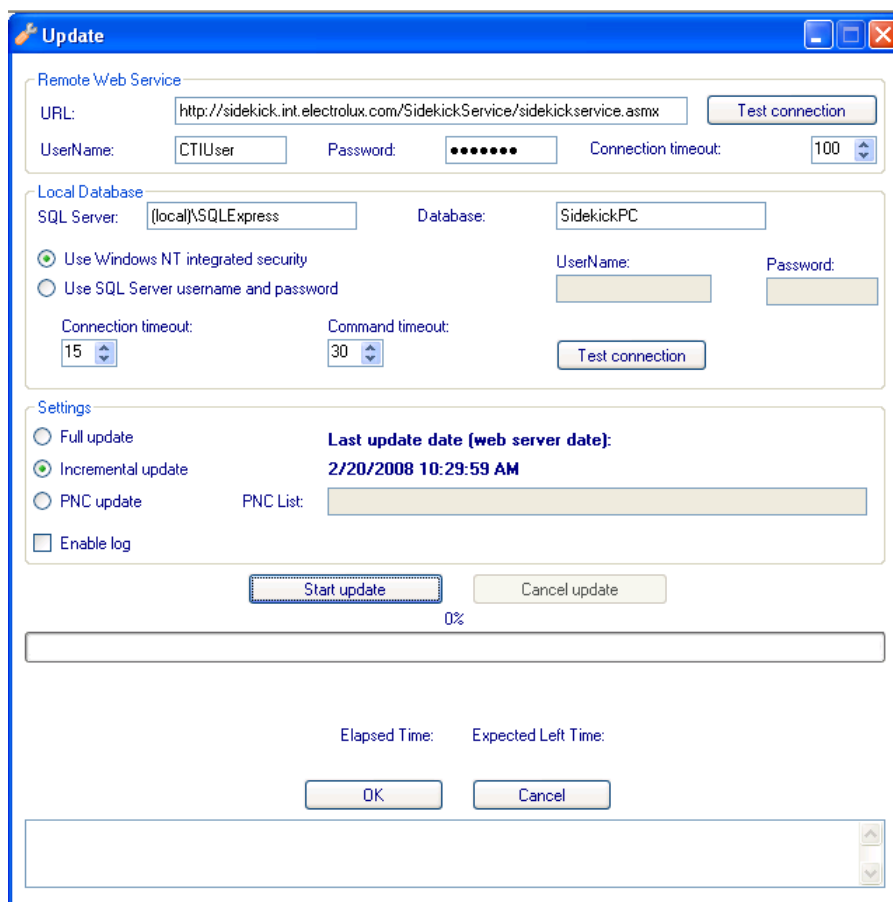


Fig. 36. Update Dialog

The **Remote Web Service** section lets you specify the connection options for the web service:

1. **Service URL:** the intranet or internet address to reach the web service. Depending on the different situations, you can use one of the following URLs:
 - a. <http://sidekick.int.electrolux.com/SidekickService/SidekickService.asmx>
 - b. <https://sidekick.int.electrolux.com/SidekickService/SidekickService.asmx>
 - c. <http://sidekick.electrolux.com/SidekickService/SidekickService.asmx>
 - d. <https://sidekick.electrolux.com/SidekickService/SidekickService.asmx>

Addresses containing the “int.electrolux” portion, are only visible from inside the Electrolux network or through the Access Manager application (intranet). Electrolux may change or remove some of the above URLs in the future. For this reason, you should ask Service Support Europe to know which address you should actually use in your case;

2. **User Name** and **Password** allow you to specify your personal credentials to access the web service. You should use the User Name and Password that you receive by mail when your license is activated. You can use the same credentials to enter also the reserved area in the Sidekick web portal that, depending on the different situations, you can reach with one of the following addresses:
 - a. <http://sidekick.int.electrolux.com/SidekickPortal>
 - b. <https://sidekick.electrolux.com/SidekickPortal>

Also for the URLs of the Sidekick web portal are valid the same remarks as the URLs for the web service;

3. **Response Timeout:** this option allows you to specify the maximum response time of the web service in seconds. If your internet connection is very slow and you get a timeout error during updates, you can increase this value and try again;
4. the **Test Connection** command allows you to connect to the web service to verify if you have specified the correct settings.

You may already have specified the options in this section during the setup of the software.

The **Local Database** section lets you specify the connection options for the local SQL Server database:

1. **Server:** the name of the SQL Server instance that stores your local Sidekick database. By default the instance name is **(local)\SQLEXPRESS**. You select the server name at installation time;
2. **Database:** the name of the local Sidekick database. By default the database name is **SidekickPC**. You choose the database name at installation time;
3. the **Use Windows NT Integrated Security** option allows you to access the database through the integrated security of the operating system;
4. the **Use a specific username and password** option allows you to access the database by means of explicit credentials. This is the default way to access to local database. The **User Name** and **Password** fields allow you to specify your personal credentials to access

the database. You choose the user name and the password to access the local database at installation time;

5. with the **Connection Timeout** and **Command Timeout** you can specify the connection and command timeouts (in seconds) for the operations related to the local database. Usually you do not need to alter these settings;
6. the **Test Connection** command allows you to connect to the database to verify if you have specified the correct settings.

The **Settings** section lets you specify the type of the update and it shows the date and time of the last update.

1. **Full update:** use this option if you want to perform a full update of the local database. In this case all local data are removed (if any) prior executing a full copy of the remote database contents to the local database. The full update involves all Electrolux appliance models (PNCs) supported by Sidekick. A full update is mandatory prior using the software for the first time after the setup;
2. **Incremental update:** use this option if you want to download only the new records from the remote database. This is the most common update after the initial setup. The incremental update involves all Electrolux appliance models (PNCs) supported by Sidekick;
3. **PNC update:** use this option if you want to download only the new records related to a certain set of PNCs from the remote database. The **PNC List** entry allows you to specify the list of PNCs (one or more up to 20) that you are interested in. The PNC list is a sequence of comma-separated PNCs. A PNC (Part Number Code) is a numeric code of 9 digits that identifies a certain appliance model from Electrolux. In the **PNC List** you should not supply the ELC (Engineering Level Code): downloading data for a certain PNC means getting the update for all related ELCs. Instead of commas you can also use semicolons (;), hyphens (-), and forward slashes (/) as a separator. An example of a valid PNC List the following one: 914791101,913101218,914521544;
4. **Last update date (server date)** displays the date and time of you last Full or Incremental update. Keep in mind that this is the date of the server not the date of your local PC. Please remember that the PNC update does not change this value;
5. the **Enable log** option creates a log file during the update process. This option is only useful for troubleshooting purposes. You should not normally enable it.

The **Start update** command starts the update procedure. Depending on your update options and internet connection speed, the update process may require several minutes to complete. During the update a progress bar and some feedback messages indicate the state of the update process. The update occurs within a local database transaction. This means that if you press **Cancel update** or any error occurs during the update, all changes to the local data will be roll-backed and the local data will stay unchanged. Changes to the local data are committed only at the end of the update, if no error occurs.

The **Cancel update** command cancels the update procedure.

The **OK** button closes the dialog and saves the settings you have changed.

The **Cancel** button closes the dialog without saving the settings you have changed.

As previously specified, prior using SidekickPC for the first time you must execute a Full update.

Please press the **Test Connection** buttons to check if the connection to the remote web service and to the local database work. If necessary, select the **Full Update** option and then press the **Start update** command. You should see feedback messages indicating the progress of the operation. The initial full update may take several minutes to complete, please be patient. At the end you should see the completion notification:

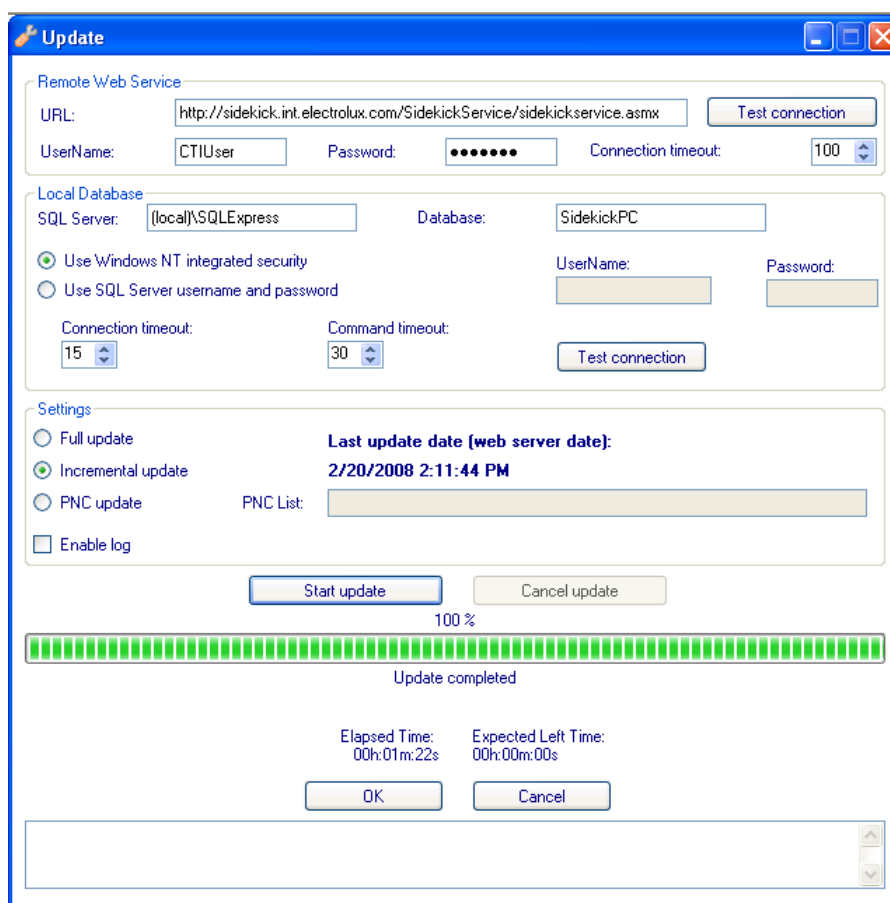


Fig. 37. Update Dialog: operation complete

Press **OK** and you are ready to start using the software.

2. CONNECTING THE APPLIANCE TO THE PC

CAUTION! In order to avoid the risk of electrical shock only skilled personnel should use and install the Appliance Connection Kit. The connection of all items should occur only when the appliance is powered off and, if possible, unplugged from the power supply. Also the adapter module should be off.

If the Appliance Connection Kit uses the USB interface of your PC, please remember that you should always employ a fully-shielded High-Speed USB 2.0 cable. This type of USB cable provides a good level of reliability for the communication between the PC and the appliance.

If you want to diagnose an appliance or update its electronic board configuration, you should connect it to the PC. To connect the appliance to the PC you need to do the following steps:

- Turn off the interface module (if it has a separate power supply).
- If necessary, disconnect the interface module from the PC (disconnect the RS-232 cable or the USB cable).
- Turn off the appliance and, if possible, unplug it from the power supply.
- Open the appliance cabinet in order to reach the electronic board connector. For instance in a typical washing-machine: remove 2 screws from the cover on the backside of appliance.

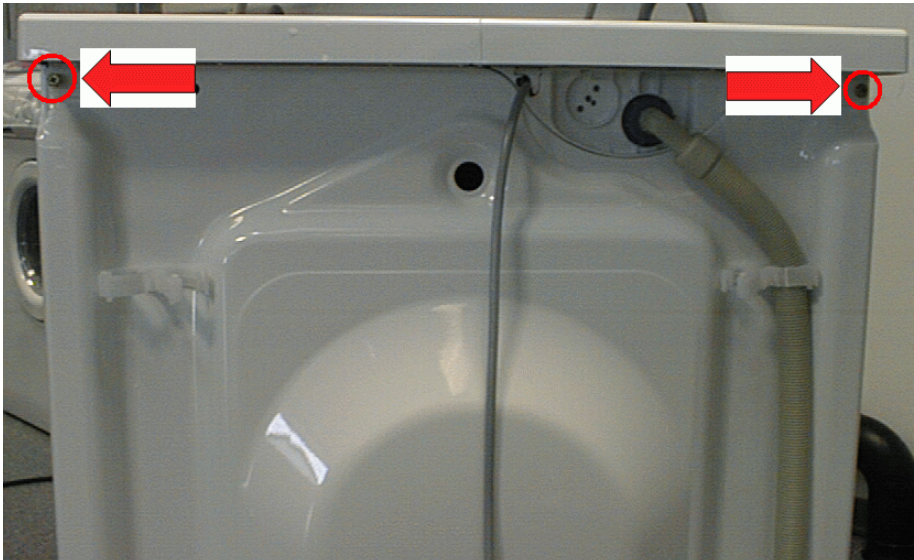


Fig. 38. Appliance backside view

- Typical washing-machine example: slide the top cover back and (if necessary) remove the plastic shield from the electronic board using the plastic tips, which you find at each

end. In some types of appliance you only need to open the plastic tip that protects the interface connector in the electronic board.

- Connect the adapter module to the appliance using the interface cable as shown in the following picture.



Fig. 39. Appliance with adapter connected

- Connect back the appliance to the power supply and turn it on.
- Turn on the adapter module (if it has a separate power supply).
- Connect the adapter module to the PC using either the modem cable (for the RS-232 interface) or the USB cable.



Fig. 40. Laptop PC backside view

- Run the SidekickPC software.

VERY IMPORTANT NOTE!

Since the interface module is able to power the electronic board even if the appliance is not connected to the mains supply, the appliance may detect false alarm conditions if the adapter is turned on before the appliance.

For this reason you should **ALWAYS** turn on the appliance under test **BEFORE** turning on the adapter and connecting it to the Personal Computer.

Conversely, you should **ALWAYS** turn off the adapter and disconnect it from the Personal Computer **BEFORE** turning off the appliance under test.

3. CONNECTING THE SPARE BOARD TO THE PC

CAUTION!

In order to avoid the risk of electrical shock only skilled personnel should use and install the Appliance Connection Kit. You should NEVER power on the spare board from the mains supply (230VAC) when it is not installed in the appliance.

The adapter interface module provides the necessary power to the board during the configuration procedure, without the need of connecting the mains supply.

If you want to create a spare board for a specified appliance, you should connect the naked board to the PC for the configuration. To connect the board to the PC you need to do the following steps:

- Turn off the interface module (if it has a separate power supply).
- Connect the adapter module to the board using the interface cable as shown in the following picture.



Fig. 41. Board with appliance cable connected

- Connect the adapter module to the PC using either the modem cable (for the RS-232 interface) or the USB cable and turn on the adapter module. This operation turns on the spare board as well.

VERY IMPORTANT NOTES!

You may hear an intermittent beep when the spare board is powered on by the adapter. This beep is due to the fact that the board detects a false alarm condition since it is not yet installed in the appliance.

When you turn on an appliance for the first time after you have reconfigured it, or after you have replaced the electronic board, the machine may automatically start the electric test (the electric test is only used in the factory at the end of the assembly line). Turn the appliance on and off to set it back in normal mode.

4. SOFTWARE OPERATION

This chapter deals with the **SidekickPC** utility functions. The program consists of a main window that is a container of all other functional windows (forms). The main window follows the Multiple Document Interface (MDI) approach. Using MDI allows you opening many forms at the same time during the diagnostic procedure.

The following figure displays the main form:

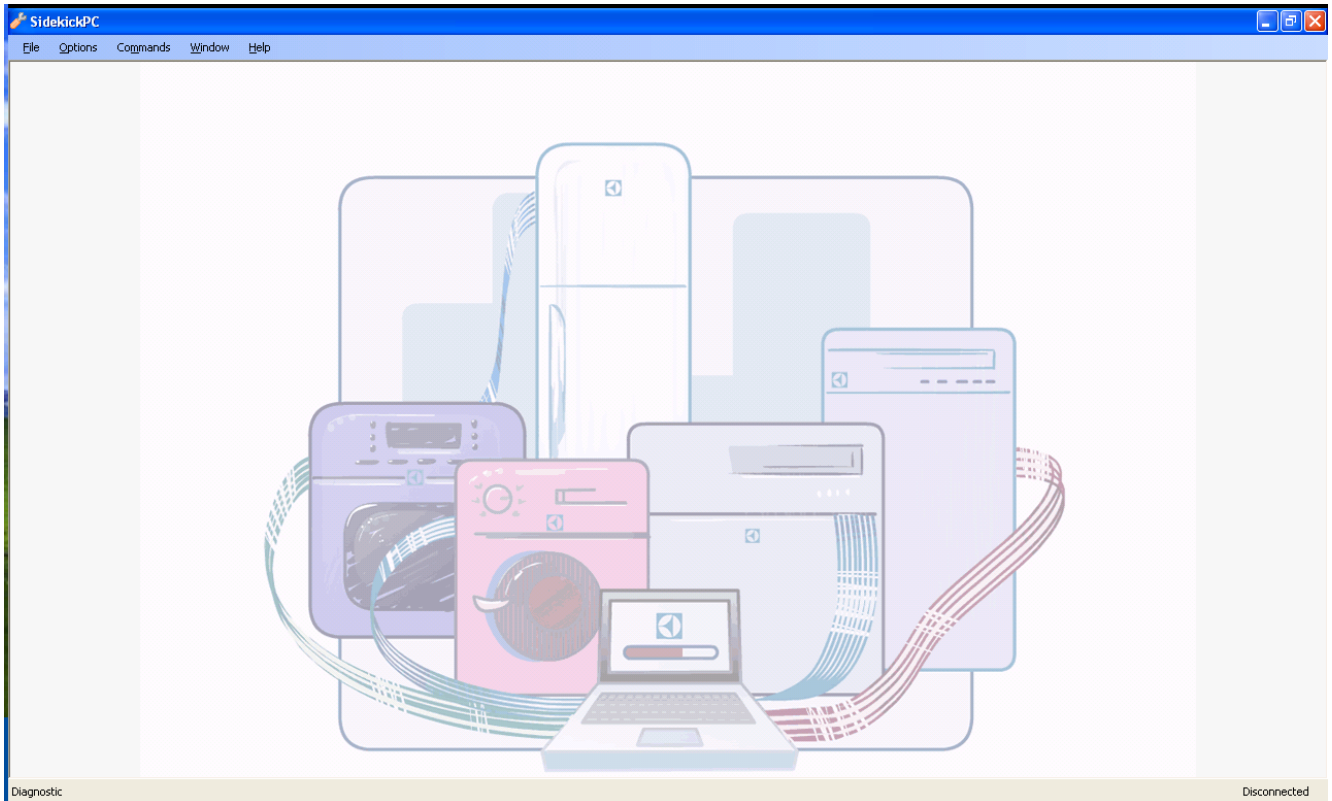


Fig. 42. Main Form

The main form contains the **pull-down menu** placed just below the title bar. The main menu items are: **File**, **Options**, **Commands**, **Window**, and **Help**.

The **Start Page** command in the File menu activates the Startup Form.

The **Exit** command in the File menu quits the application.

The **Communication** command in the Options menu shows the **Connection Settings** dialog box that allows specifying the maximum communication speed for communicating to the target appliance:

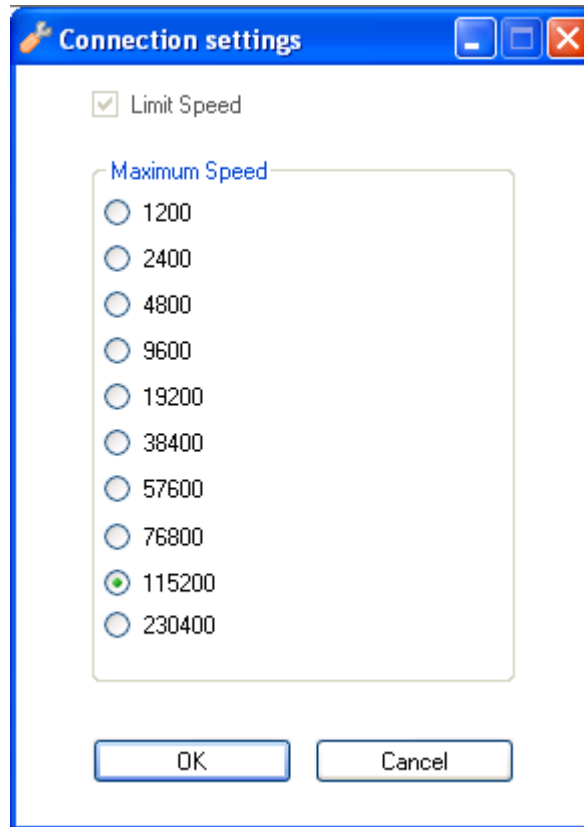


Fig. 43. Connection Settings

You do not usually need to change any settings in this dialog box.

The **Language** command in the Options menu shows the **Language** dialog box that allows choosing the display language:

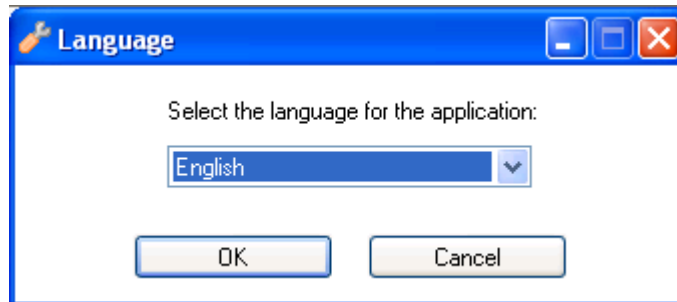


Fig. 44. Language Selection

The **Update** command in the Commands menu shows the Update Dialog already described in Chapter 1.

The **License Manager** command in the Commands menu shows the License Manager Dialog already described in Chapter 1.

The **Internet Settings** command in the Commands menu shows the Internet Settings Dialog already described in Chapter 1.

The **Windows** menu contains various commands that simplify arrangement of forms in the workspace.

The **Help** menu contains only the command to display the About Dialog box.

4.1. Startup Form

When you run the program you see the Startup form:

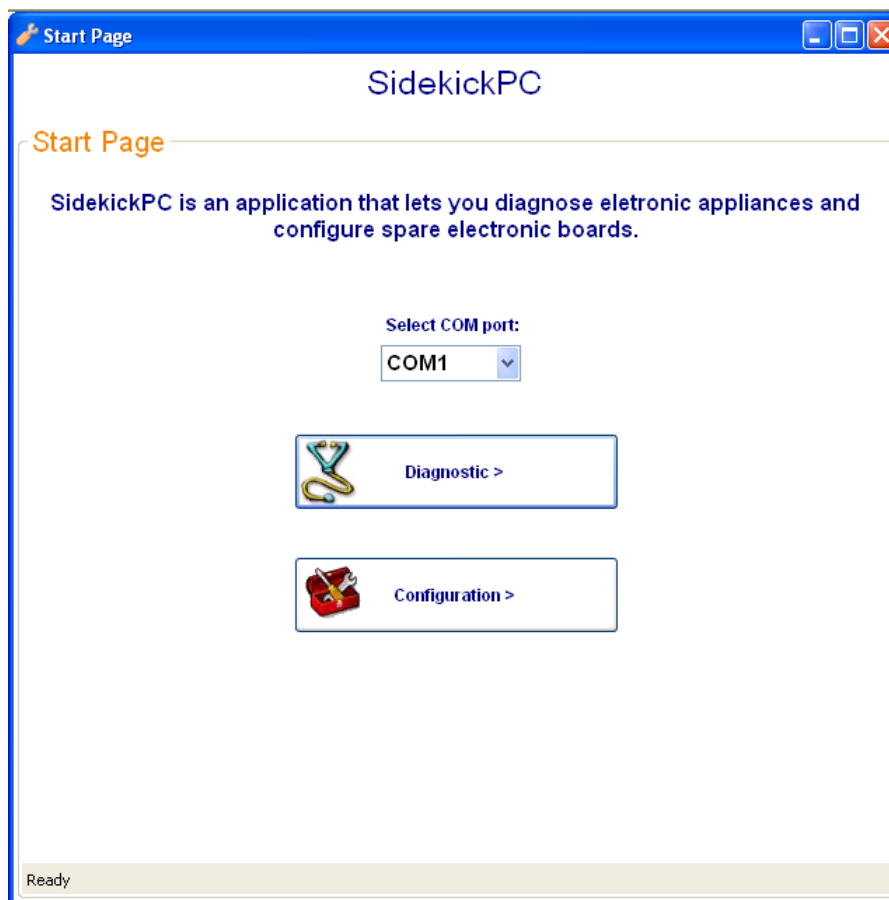


Fig. 45. Startup Form

There are three objects on the form: the **Select COM port** list, the **Diagnostic** button, and the **Configuration** button.

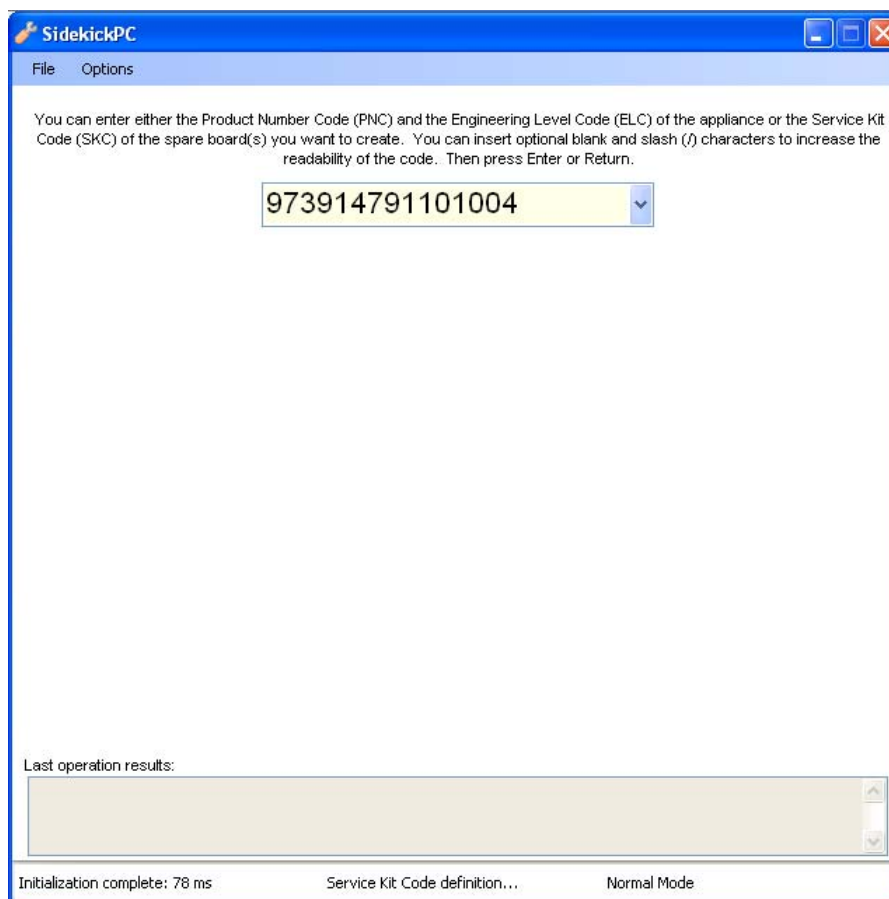
The **Select COM port** list lets you choose the communication port. The software automatically detects the available serial ports on the PC and, if possible, it selects the port that you have selected in the previous SidekickPC session.

The **Diagnostic** button lets you start the appliance diagnostics function. After successful appliance detection, the program shows you the Identification form with the main configuration parameters in the connected appliance.

The **Configuration** button lets you enter to the board configuration function. When you press this button, SidekickPC shows you the Board Configuration form.

4.2. Configuration Form

This is the form that appears when you press the **Configuration** button in the Startup Form. The Configuration form allows you either to create a spare board or to upgrade the electronic configuration of an appliance.




The screenshot shows a software window titled "SidekickPC" with a menu bar containing "File" and "Options". The main area contains the following text: "You can enter either the Product Number Code (PNC) and the Engineering Level Code (ELC) of the appliance or the Service Kit Code (SKC) of the spare board(s) you want to create. You can insert optional blank and slash (/) characters to increase the readability of the code. Then press Enter or Return." Below this text is a text input field containing the code "973914791101004" and a small downward-pointing arrow button on its right side. At the bottom of the window, there is a status bar with the text "Last operation results:" followed by a scrollable area that is currently empty. The status bar also displays "Initialization complete: 78 ms", "Service Kit Code definition...", and "Normal Mode".

Fig. 46. Configuration Form

The **Code Selection** field lets you enter either the **PNC/ELC** of the appliance that you want to upgrade or the **Service Kit Code (SKC)** of the configured spare board that you want to create. In practical terms, these codes identify the model of the appliance.

The PNC/ELC is an 11-digit code. The SKC is a 15-digit code beginning with 973. A PNC/ELC code corresponds to one SKC and vice versa. This means that you obtain the same result if you enter either the PNC/ELC code or the corresponding SKC.

You can insert optional blank characters, hyphens and slashes, between one digit and another, to increase the readability of the inserted code. The software ignores all extra characters that you may insert for improving the readability of the code.

SidekickPC keeps a list with the most recently used codes. You can click the select button  on the right side of the Code Selection field and choose one of these items instead of manually entering the digits each time you enter a new code.

When you press the ENTER key, SidekickPC searches for matches with the specified code in the internal database. If it finds the specified code, SidekickPC automatically processes the information for the configuration of the specified spare board.

If the specified code does not exist in the database, the software just shows an error message.

If the specified code exists in the database, you can then enter the number of identical boards to configure:

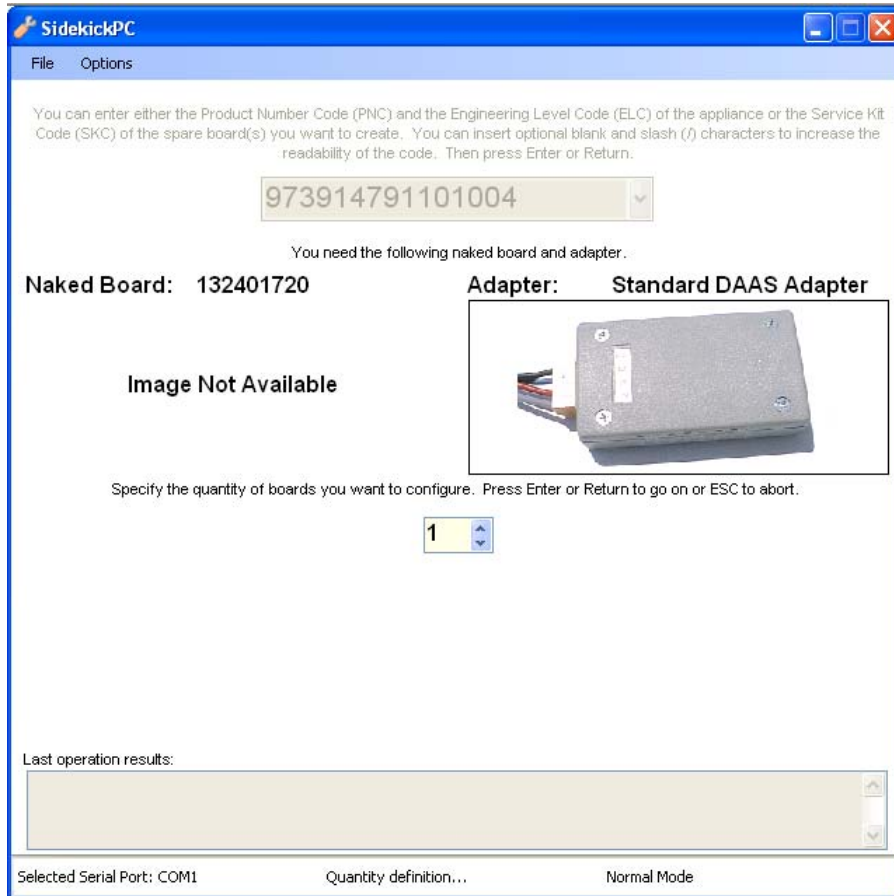


Fig. 47. Quantity Definition

After the quantity definition, press the ENTER key again and you are ready to start the configuration. This means that you can connect the appliance board to the PC and press OK to start the programming procedure:

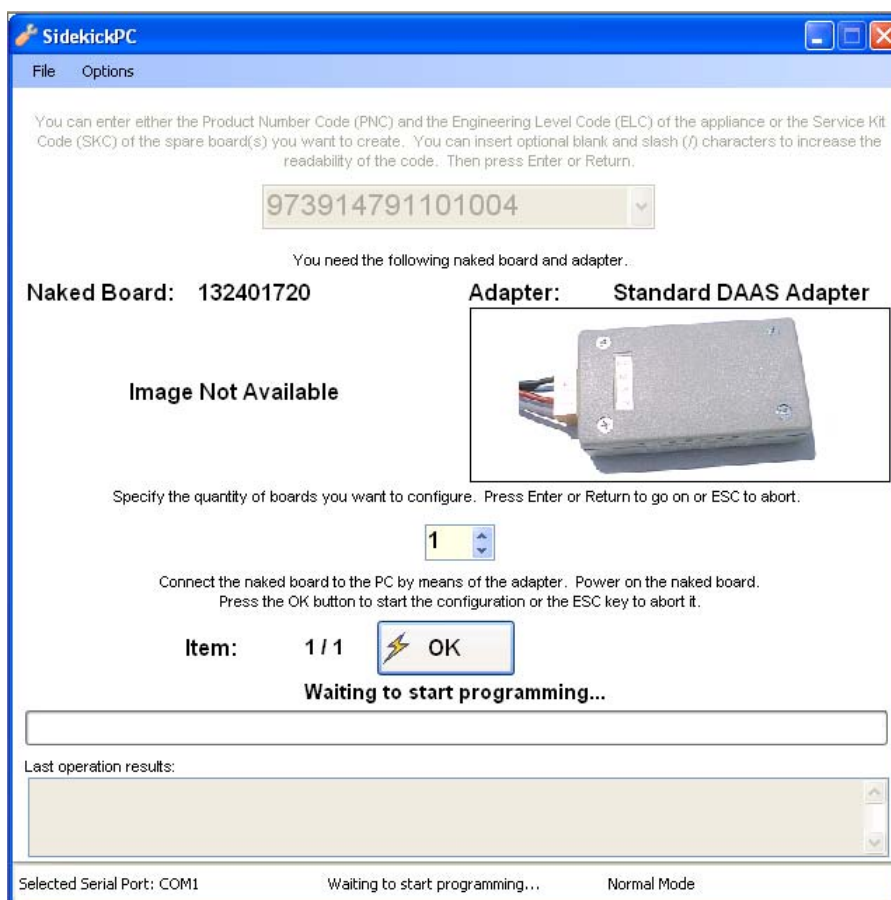


Fig. 48. Start Programming

When you press the OK button to start the configuration of the board, at first the program identifies the naked board. If the naked board you are using is not suitable for the appliance model you have selected, SidekickPC issues an error message and prevents you further actions with the board. Otherwise it immediately starts the board configuration procedure.

The board configuration procedure occurs using the information contained in the local database. During the execution of this command the target device goes into a special mode. After the programming procedure, SidekickPC resets the board and it performs a check of the configuration.

The **Last operation results** textbox shows the result of the last board programming operation. The GREEN color highlights successful result, RED failure. In case of success, you can see statistics regarding the operation. In case of failure you can see a description of the error:

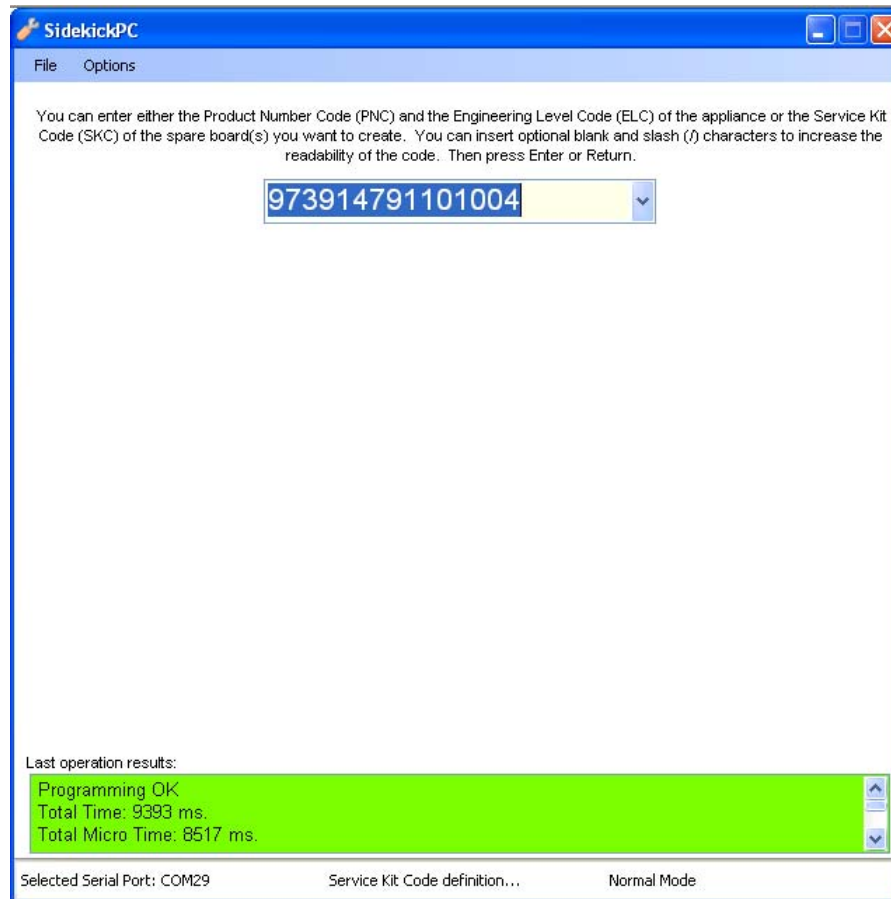


Fig. 49. Last operation result

Please note that all board programming operations are recorded in the local database (Database Log) and that are uploaded to the remote server whenever you execute a database update operation.

VERY IMPORTANT NOTES!

The board may become unusable if the board programming operation fails for any reason.

During the programming procedure it is highly recommended not to detach the connection cables, not to switch off the interface module, or otherwise interrupt the operation since the board may become unusable. Interrupting a programming operation may lead to an unusable naked board.

In the above cases, recovering the board may require special programming tools. This program does not provide this capability.

4.2.1. Configuration Form Menu Commands

The Configuration form has a pull-down menu with the following items: **File** and **Options**.

The **Exit** command in the File menu just closes the form.

The **Additional Verify** command in the Options menu shows the **Additional Verify** dialog box that allows activating an extra configuration step after the board programming procedure:

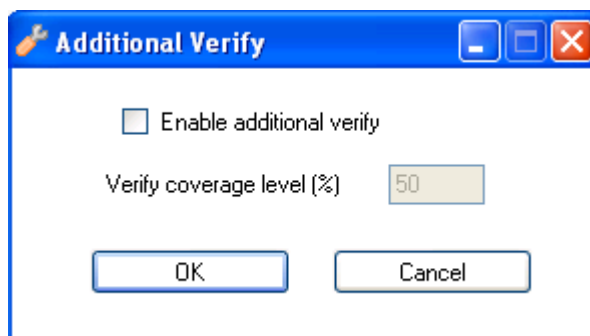


Fig. 50. Additional Verify Dialog

This dialog allows you to enable/disable an additional board configuration check and set the coverage of memory locations (in percent of whole memory space) that will be checked after the programming procedure. Greater values mean more verifying time. The minimum coverage value is 5%.

The **Images** command in the Options menu shows the **Images** dialog box that allows managing image files for the naked board and interface modules:

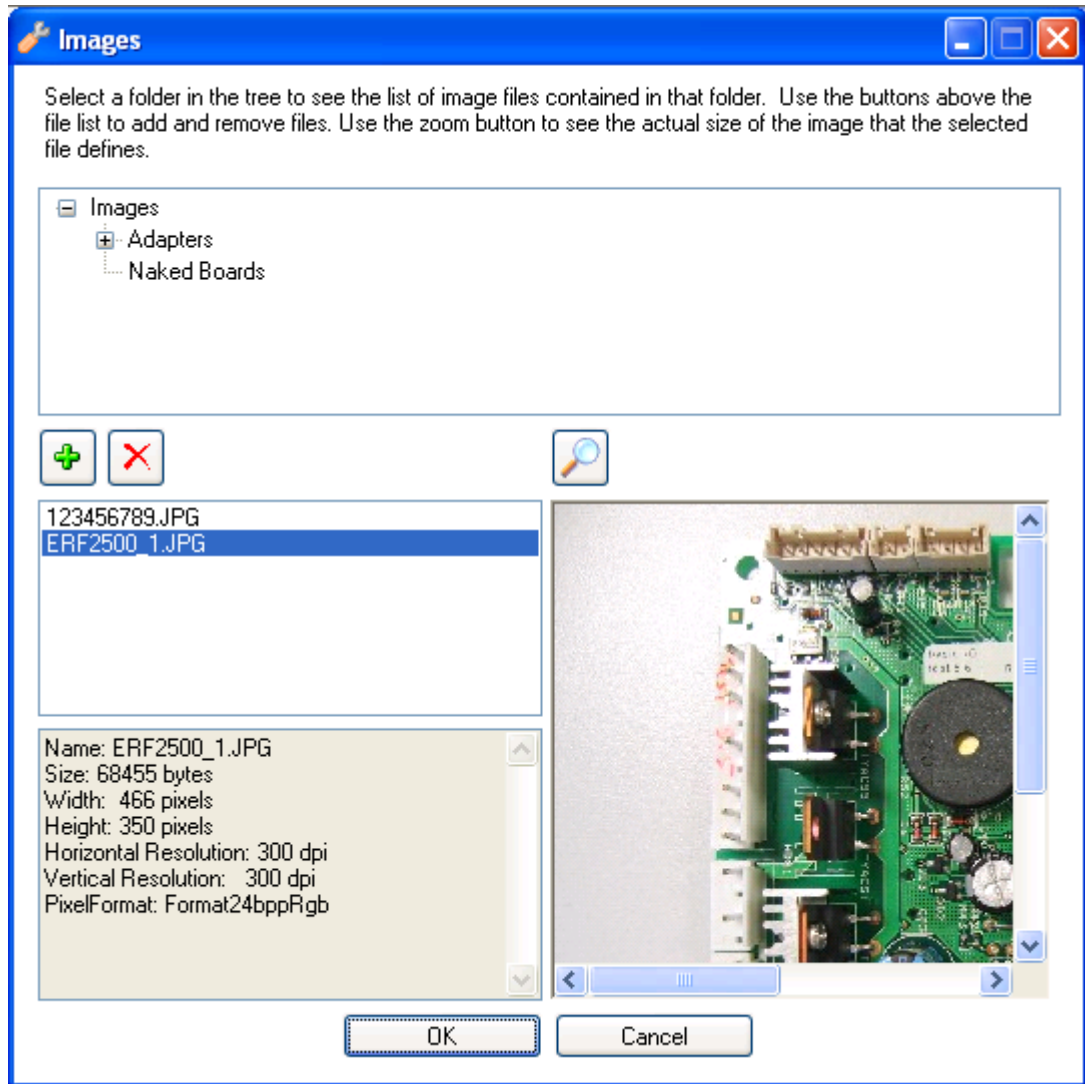


Fig. 51. Images Dialog

The software supports the following graphic formats: BMP, JPG, GIF, TIFF, and PNG. Starting from the root folder of the application, there is a folder called “Images” that contains the following subfolders:

- **Adapters** (for storing the adapter images)
- **Naked Boards** (for storing the naked boards images)

The name of the image files for the naked boards is the code of the naked board. The extension depends on the actual picture file format. For example for bitmap files: the bitmap image of the naked board whose code is 132148224 is 132148224.bmp.

The name of the adapter picture files is the value of the Adapter entry in the Programming Information File stored in the local database. The extension depends on the actual picture file format. For example for bitmap files: the bitmap image of the “Standard DAAS Adapter” is “Standard DAAS Adapter.bmp”.

Image files are not essential for the proper execution of board programming operations.. The software executes the programming of the board even when image files are not present, not reachable in the path, or corrupt.

The **Programming Log** command in the Options menu shows the **Programming Log** dialog box:

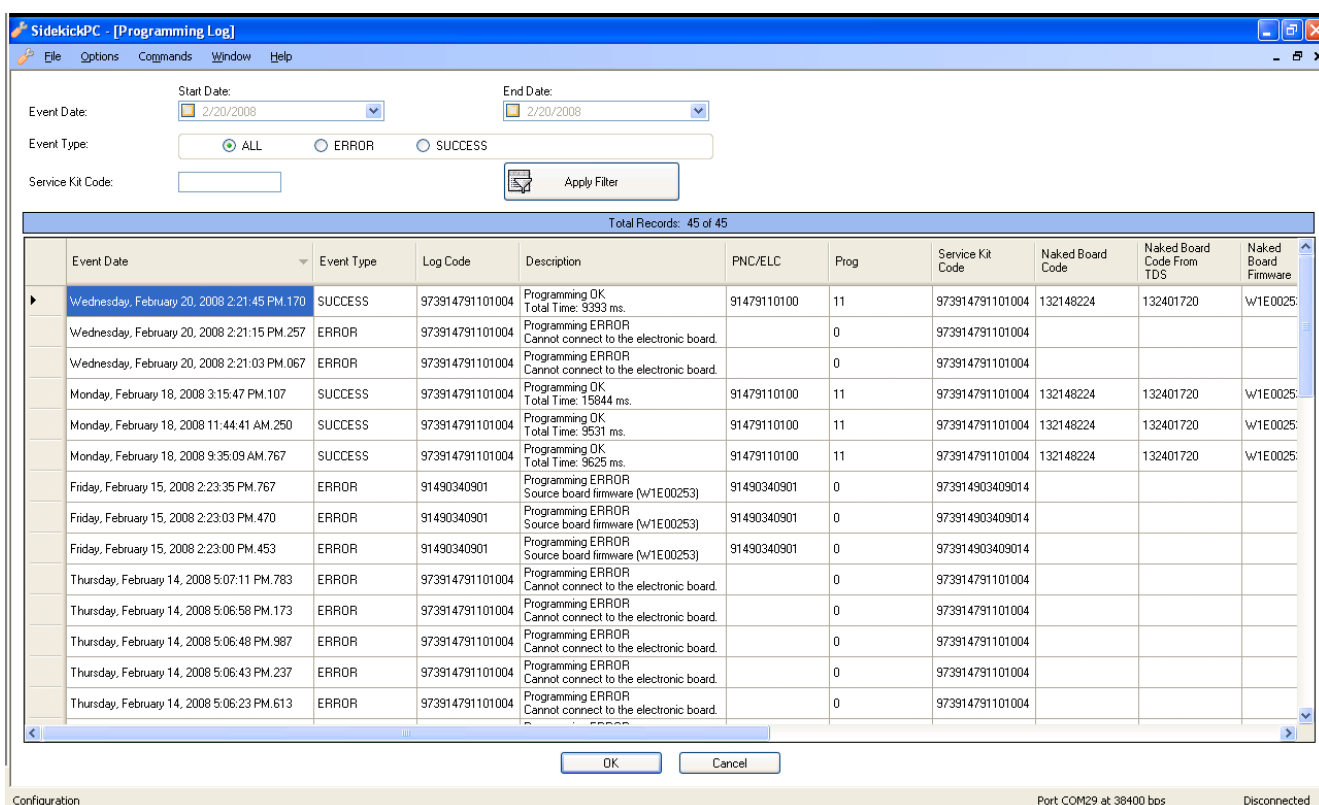


Fig. 52. Programming Log Dialog

The Programming Log dialog shows you information regarding board configuration activities. The program is able to keep a track of all boards that have been configured in the workstation.

Each record stores the information regarding a programming operation. The meaning of each field in the programming log record is the following:

- **Event Date:** date and time of the programming operation;
- **Event Type:** a string that identifies the result of programming (ERROR, SUCCESS);
- **Log Code:** a short string that stores the code as inserted by the operator;
- **Description:** additional information regarding the programming operation;
- **PNC/ELC:** the PNC/ELC in the database record selected for programming the board;

- **Prog**: the progressive insertion number that identifies the database record selected for programming the board;
- **Service Kit Code**: the service kit code related to the spare board to configure;
- **Naked Board Code**: the code of the naked board;
- **Naked Board Code From TDS**: the code of the naked board as specified in the TDS database;
- **Naked Board Firmware**: is the firmware identification string in the board before the configuration step;
- **MCF**: code and revision of the PNC parameters stored in the board. For Fabric Care appliances this field refers to the Machine Configuration File (MCF);
- **CCF**: code and revision of the base model parameters stored in the board. For Fabric Care appliances it refers to the Cycle Configuration File (CCF);
- **Configured Board Firmware**: firmware identification string in the board after the configuration step;
- **Configured Board SN**: serial number stored in the configured board, if any. The serial number provides the date and time of the programming operation. It is a decimal number with the following format:
YYMMDDHHmm
YY programming year modulus 40 (0..39 => 39=2039, 00=2040)
MM programming month (01..12 => 01= January, 12=December)
DD programming day (01..31)
HH programming hour (00..23)
mm programming minute (00..59)
Example: 708081155 => this serial number indicates that the board has been programmed on the 8th August 2007 at 11.55 AM.
- **Algorithm Name**: the algorithm used for programming the board;
- **Communication Speed**: the actual communication speed (baud rate) employed for board programming;
- **Always Replace Firmware**: when this flag is 'true', the program always overwrites the firmware even when the same firmware is already present in the target board;
- **Skip Verify After Programming**: when this flag is 'true', the program skips the check of the operation after the board programming step.

Electrolux uses the programming log information both for collecting data that is useful for improving the quality of products and for troubleshooting problems that you may experience while programming electronic boards.

The software uploads the programming log to the central Sidekick server each time you execute an Update operation. Programming log records are removed from your local PC after each update operation if they are older than a specified period called "programming log retention time". The programming log retention time is typically 30 days.

The **Spare Board Label** command in the Options menu shows the **Label** dialog box that allows the activation of label printing after each board programming operation:

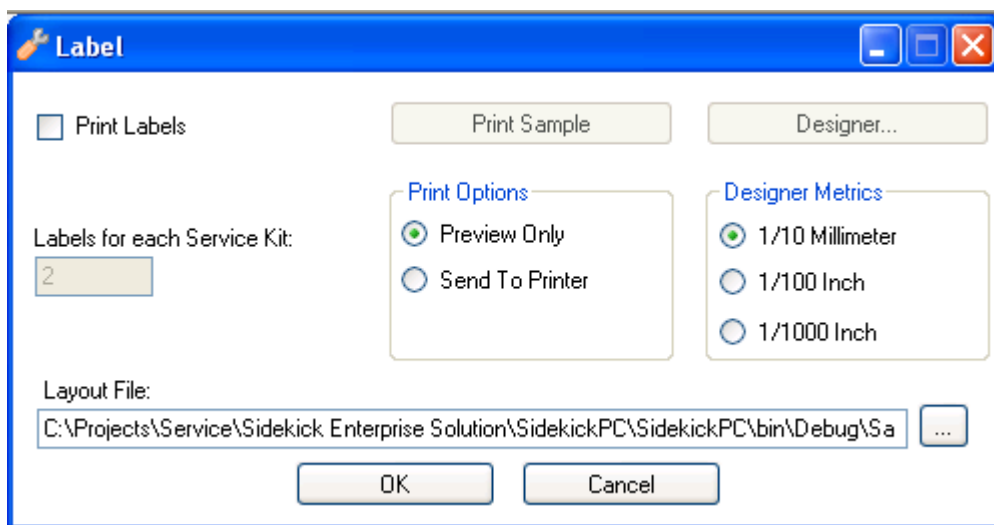


Fig. 53. Label Dialog

This dialog box allows you to enable/disable printing one or more labels after the successful programming of each board. You can select how many identical labels to print for each board (the number is limited to 10 labels).

The **Layout File** field you define the label layout by means of external files (*.lbl). Only after you choose a layout file, **Print Sample** and **Designer** commands will work properly.

According to the **Print Options**, the Print Sample command lets you preview or print a sample of the selected label.

Press the **Designer** button if you want to enter the integrated label layout Designer. The Label Designer enables you to modify an existing layout, to create a new one from the scratch, and to print sample labels. This is a graphical editor that provides you with the full control over the label appearance and contents. The **Designer Metrics** options allow you to specify the units of measure the editor displays. The description of the layout Designer is outside the scope of this manual.

The following is an example of label that you obtain:

973 914 791 101 00/4

00-01-132197270.000-132225610.000-W4A30111.000

SN = 708081155 created with SidekickPC 1.0

Fig. 54. Label Example

As you can see, the label shows all identification data regarding the spare part, appliance model, and database record used for the configuration:

973 914 791 101 00/4 is the Service Kit Code formatted for better readability;

00-01-132197270.000-132225610.000-W4A30111.000 indicates which database record has been used for programming the spare part or upgrading the appliance configuration. Each piece of information is separated from the following one by a hyphen. In the above example, from left to right, the meaning of the various fields is the following one:

00: ELC field in the selected record. Sometimes the ELC field may be different from the ELC that the Service Kit Code specifies;

01: Progressive Number field (Prog) in the selected record;

132197270.000: code and revision of the PNC parameters (machine configuration file for Fabric Care appliances) programmed in the configured board;

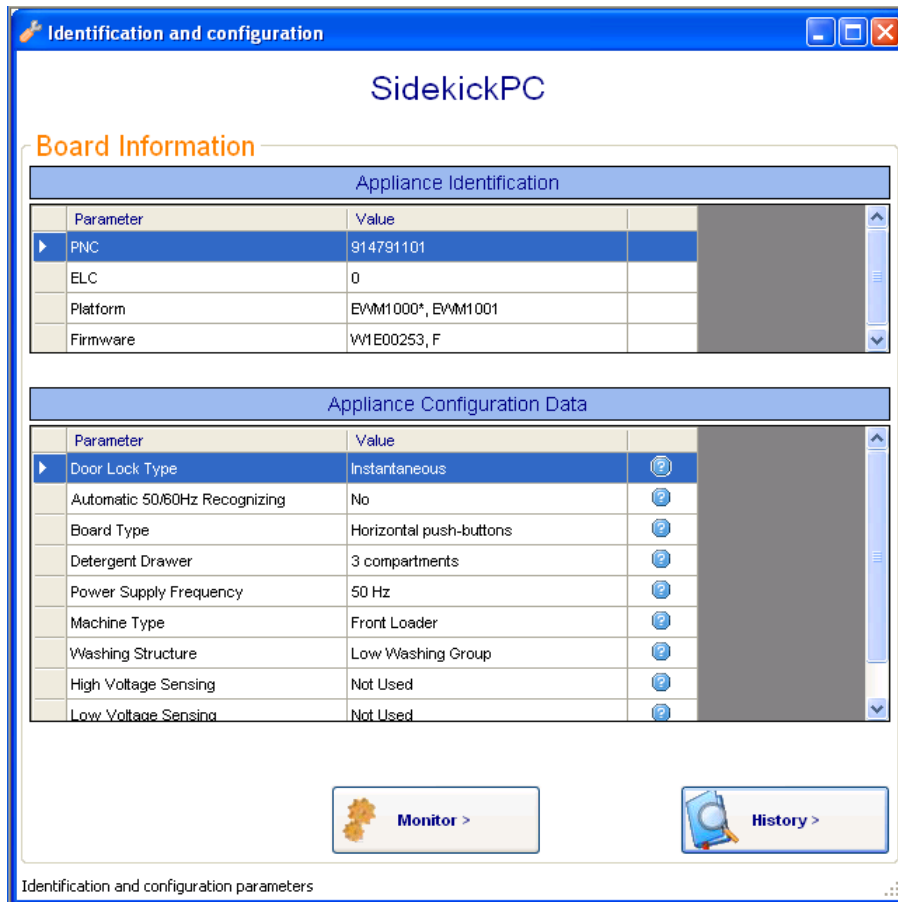
132225610.000: code and revision of the base model parameters (cycle configuration file for Fabric Care appliances) programmed in the configured board;

W4A30111.000: code and revision of the firmware programmed in the configured board;

SN = 708081155 created with SidekickPC 1.0 shows the serial number stored in the programmed board (if any). The meaning and format of the serial number has been previously described in this chapter, in the section that deals with the programming log.

4.3. Identification Form

This is the form that appears you when press the **Diagnostic** button in the Startup form and when the connection with the appliance is successfully established. You enter this form when you want to execute the diagnostic procedures on the appliance under test.



Parameter	Value
PNC	914791101
ELC	0
Platform	EWM1000*, EWM1001
Firmware	W1E00253, F










Parameter	Value	
Door Lock Type	Instantaneous	
Automatic 50/60Hz Recognizing	No	
Board Type	Horizontal push-buttons	
Detergent Drawer	3 compartments	
Power Supply Frequency	50 Hz	
Machine Type	Front Loader	
Washing Structure	Low Washing Group	
High Voltage Sensing	Not Used	
Low Voltage Sensing	Not Used	

Fig. 55. Identification Form

This panel has four main groups of items.

The **Appliance Identification** group provides short information on the current appliance, if available (platform, PNC/ELC if known, firmware ID, and board type).

The **Appliance Configuration Data** group provides information about the main features and configuration of the appliance under test.

The **History** button opens the History Form. This button is not active if the database does not specify any history reference information for the connected appliance.

The **Monitor** button opens the Monitor Form.

4.4. History Form

The History form provides information about the device usage history stored in the non-volatile memory of the appliance.

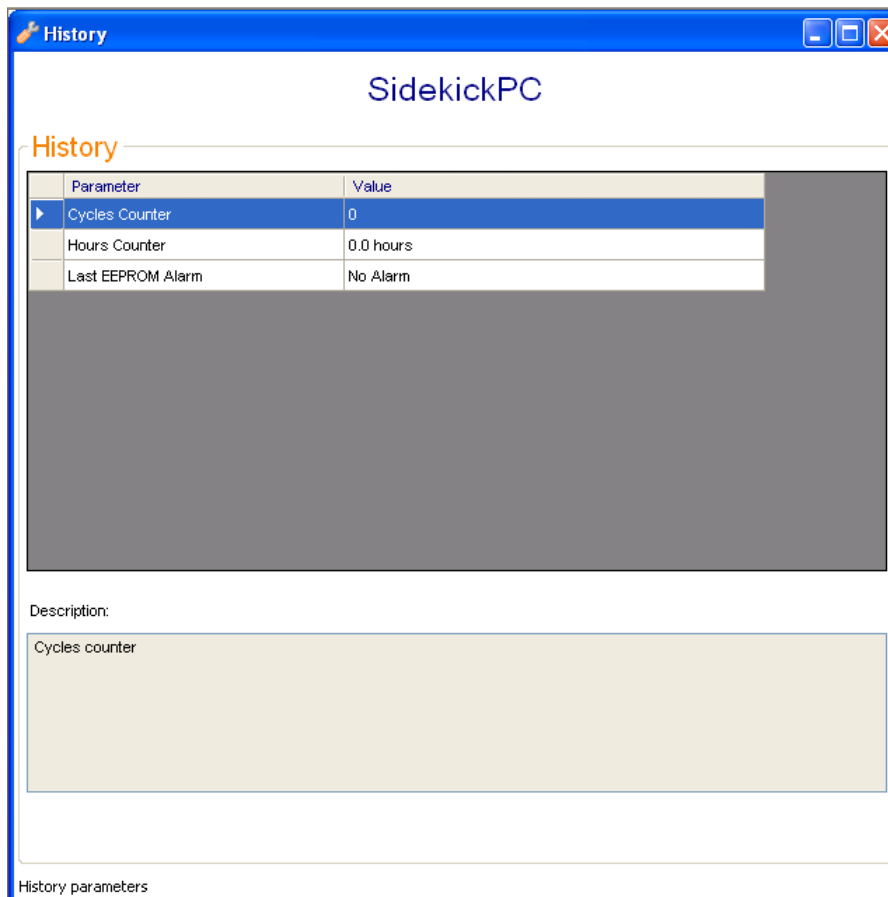


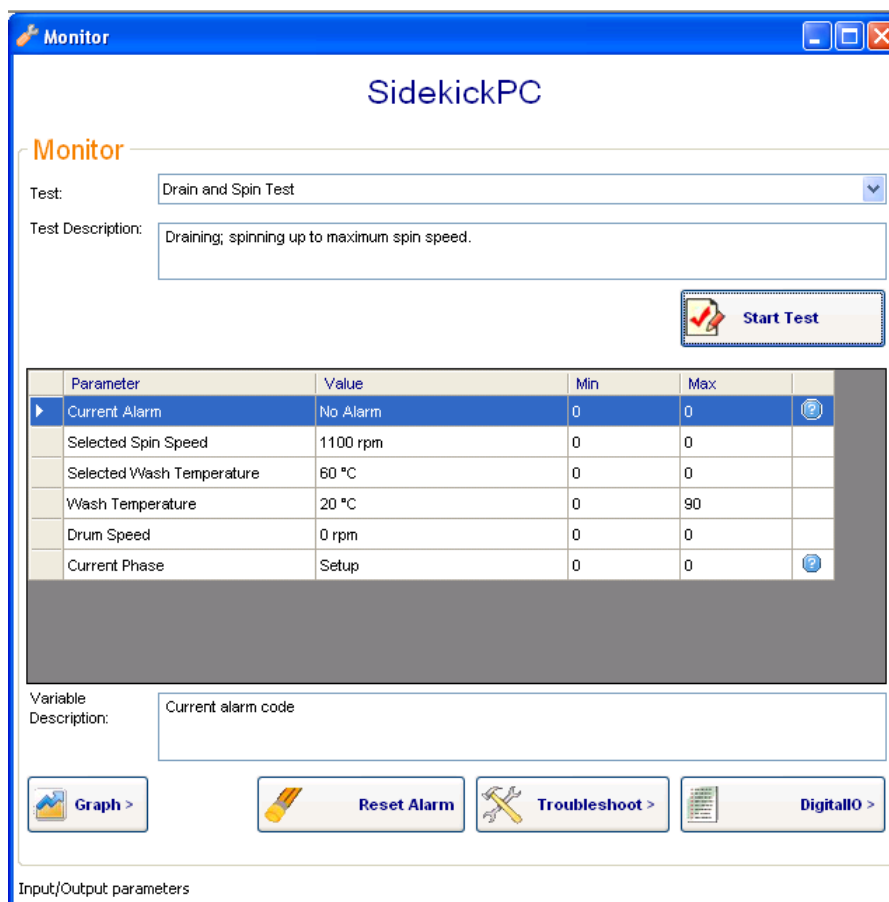
Fig. 56. History Form

At the top of History form you can see a list that shows the history information. To see the detailed description of each parameter in the **Description** textbox, just select the corresponding item in the above list.

The actual items listed in the list depend on the appliance model and local database contents.

4.5. Monitor Form

The Monitor form allows you to watch the appliance variables and run the device tests.



Parameter	Value	Min	Max
Current Alarm	No Alarm	0	0
Selected Spin Speed	1100 rpm	0	0
Selected Wash Temperature	60 °C	0	0
Wash Temperature	20 °C	0	90
Drum Speed	0 rpm	0	0
Current Phase	Setup	0	0

Fig. 57. Monitor Form

At the top there is the **Test** selection list with all tests for the connected appliance. In order to start a test, just select one from the list and press the **Start test** button. When a test is in progress, the same button becomes **Stop test**. In this case, you can use the button to stop the current test and, usually, reset the appliance.

Test Description provides a short description about the selected test (if any).

In the middle of the Monitor form there is a list of input/output variables that provide meaningful information during the diagnostic procedures. In this list you can see some appliance variables values. Please note that SidekickPC displays all items whose values are outside the minimum/maximum limits in red. The program updates these values every second. To see the detailed description of the variable in the **Variable Description** field, just select click the corresponding item.

The **Graph** button allows you to enter the Graph form that allows you to see some parameters in graphical form.

The **Reset Alarm** button resets the last alarm stored in the non-volatile memory of the electronic board. This command is only active if the local database defines a procedure to reset the last alarm. Please note that if one alarm is currently still active, you cannot clear the last stored alarm as it will be immediately set back again.

The **Troubleshoot** button shows the list of troubleshooting procedures defined by the local database for the appliance under test (if any). For more information on the troubleshooting feature of SidekickPC, please refer to the next paragraph.

The **Digital I/O** button allows you to enter the Digital I/O form that displays the current state of the digital inputs and outputs in the appliance.

4.5.1. Troubleshooting Wizard

If the local database defines troubleshooting procedures for the appliance under test, the software is able to guide you step-by-step to the resolution of the fault, starting from the alarm code.

A troubleshooting procedure is a sequence of interactive dialog boxes.

When there is an alarm condition and the software detects that one troubleshooting procedure is associated to that alarm, the **Troubleshoot** button in the Monitor form becomes red:

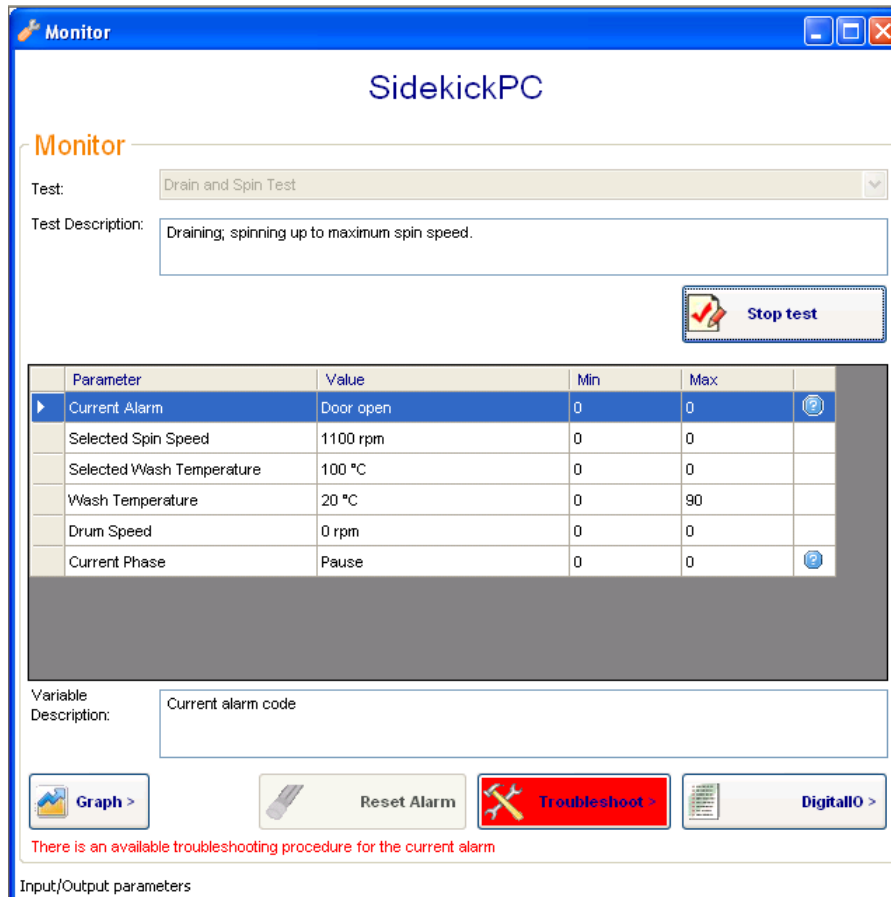


Fig. 58. Available Troubleshooting Procedure

If you press the Troubleshoot button you can see the **Troubleshooting List** dialog:

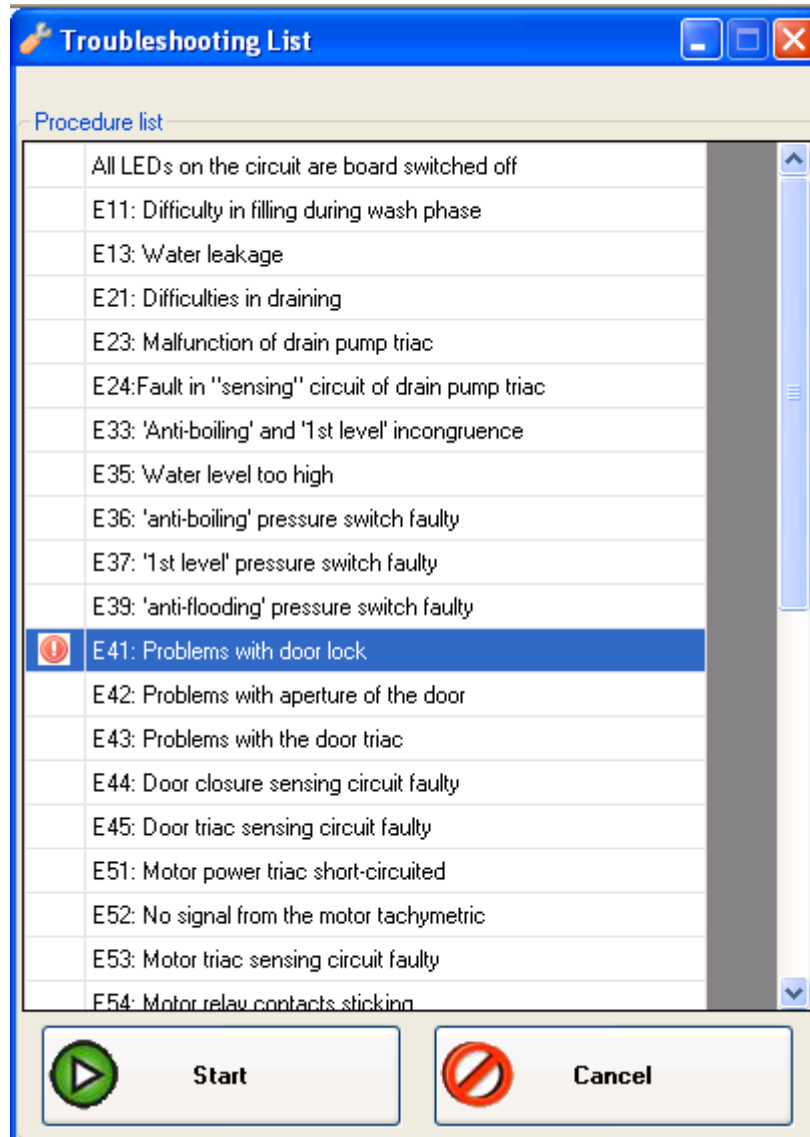


Fig. 59. Troubleshooting List

This dialog shows the list of all available troubleshooting procedures in the database. All procedures that are related to the current alarm condition (if any) are highlighted in red. In order to start the Troubleshooting Wizard for a certain procedure, just select it from the list and press the **Start** command.

Each step consists in a dialog box that shows instructions and up to two images:

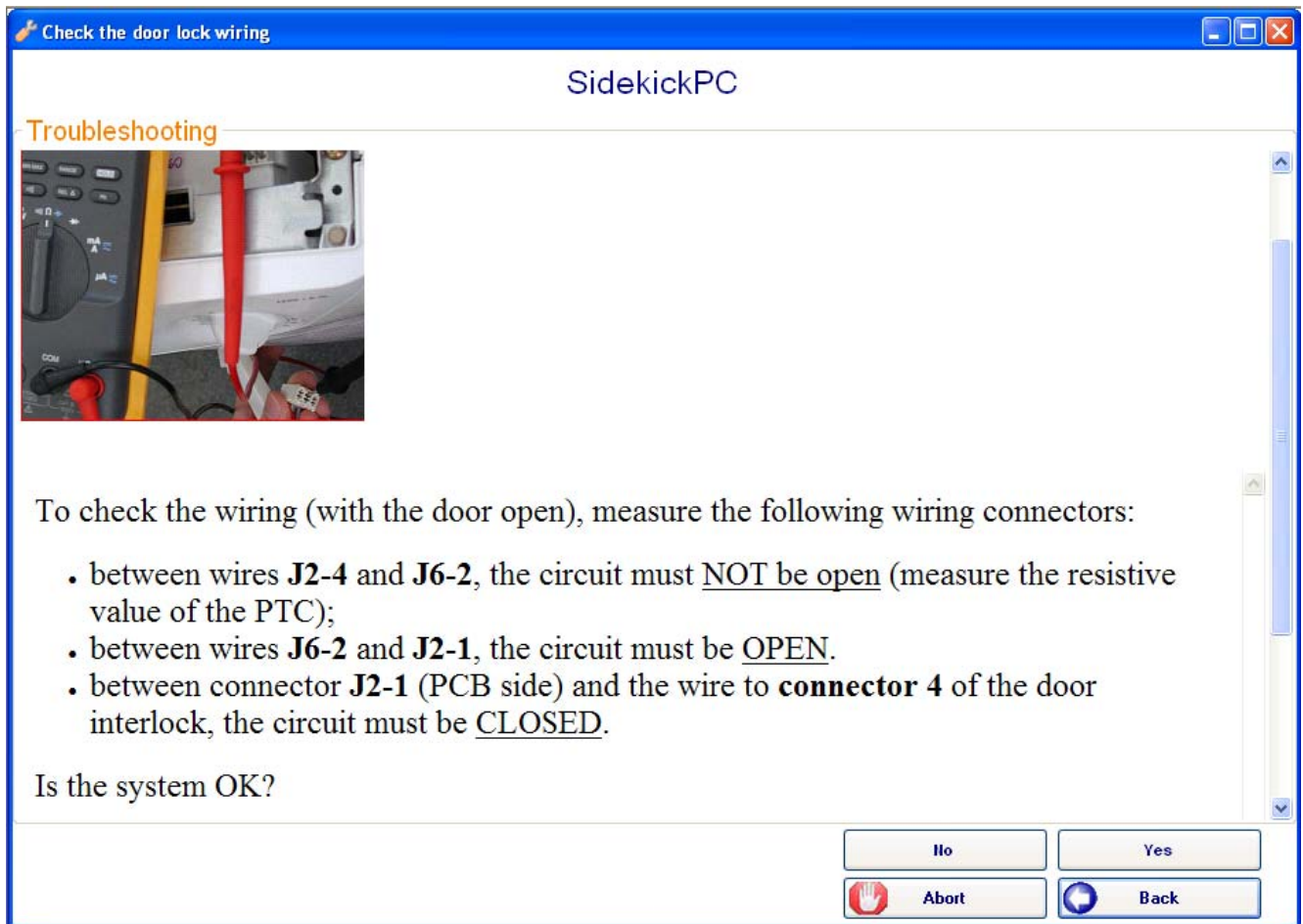


Fig. 60. Troubleshooting Wizard Step

The instructions provide information regarding the specific operation to execute. You should provide a result to the wizard in terms of a **Yes** or **No** answer. The next step, if any, depends on the answer you provide.

Troubleshooting steps either can be only manual or can involve the interaction with the electronic board. The management of such interaction is completely automatic for the end user.

4.6. Graph Form

The Graph form allows you to see the evolution of the appliance parameters in graphical form.

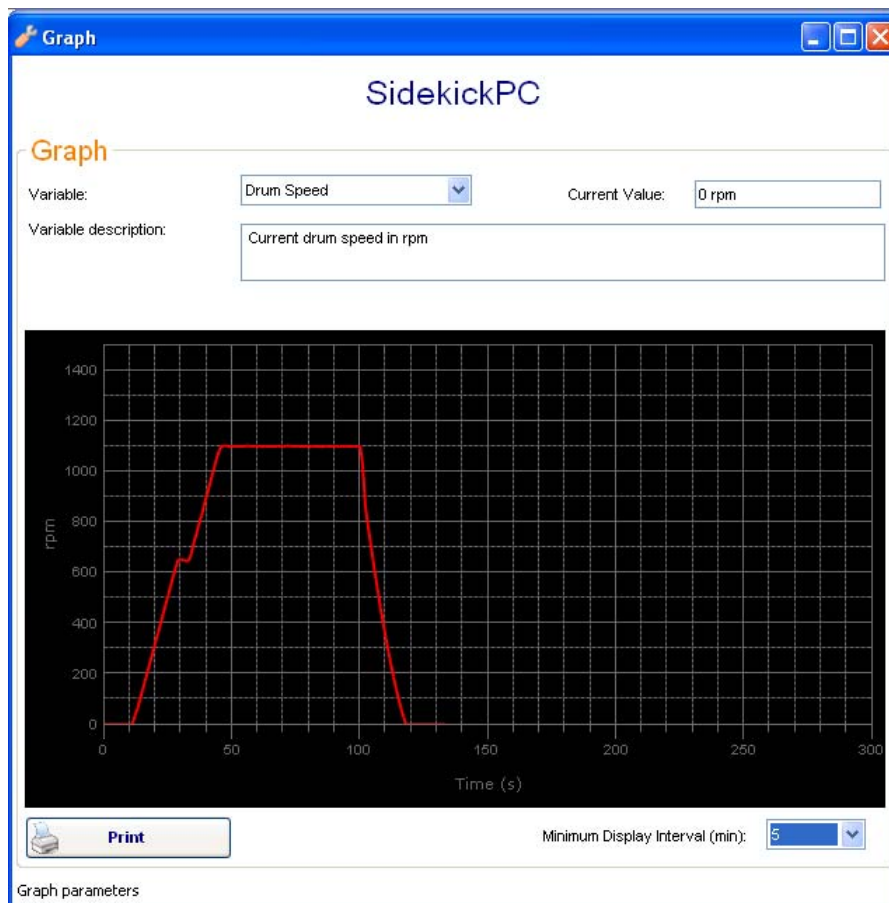



Fig. 61. Graph Form

To see the graphical representation of one appliance variable, you should choose it from the **Variable** selection field at the top of Graph Form. Click with the mouse the selection button () and choose the variable name. The detailed description of the variable appears in the **Variable Description** field. In the **Current Value** field you can see the present value of the selected parameter.

The **Maximum Display Interval (min)** control allows you to select the display width of the graph. The default interval is 1 min, but you can change it from 1 minute up to 2 hours. For each variable, the program reads a new data sample from the appliance every 1 second.

The **Print** button allows you to create a hardcopy of the current graph.

4.7. Digital I/O Form

The Digital I/O form displays the current state of the digital inputs and outputs in the appliance.



Fig. 62. Digital I/O Form

You can see a list of the digital inputs and outputs states that are meaningful during the diagnostic procedures. The program updates these values every second.

To see the detailed description of each parameter in the **Description**, just select the corresponding item in the list.