Synway Voice Board

Driver Installation Manual

Synway Information Engineering Co., Ltd

www.synway.net

Contents

Copyright Declaration

Chapter 1 Overview

1.1 Brief Introduction

This document describes how to use SynCTI Driver Ver.5.2.0.0 or above under Windows2000/2003/XP/2008/Win7 for those people who need to install the driver for any voice board from Synway.

1.2 Installation Packages

Each version of the SynCTI driver can be read from the name of the installation package. See below for details.
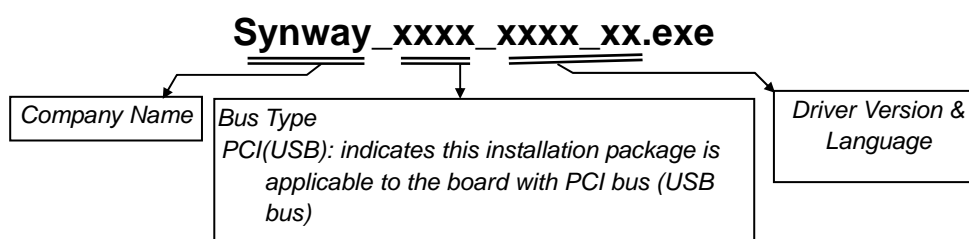
Figure 1-1

Below is the installation package for SynCTI Driver Version 5.2.0.0.

Bus Type	Driver Installation Package	Note
PCI(USB)	SYNWAY_PCI(USB)_5200_EN.exe	Using the PCI board or USB voice box on a PCI computer

Table 1-1

1.3 Common Operations

1.3.1 Initial Installation

Initial installation means the SynCTI driver was never installed in this system before. You can easily complete it following the prompts of the installation program. *For more details, refer to Section 2.2.*

1.3.2 Driver Upgrade/Reinstallation

Driver upgrade or reinstallation means to install a new version of the driver in a system where the driver has been installed. The installation program will detect the version and the installation path of the existing driver and ask the user to select the setup type: 'new install' or 'upgrade install'. *Regarding the similarity and difference between 'new install' and 'upgrade install', refer to 'Section 2.2.2 Driver Installation Procedure - Step 5: Choose Setup Type'.*

1.3.3 Add/Replace Board or Change Slot

When you are adding or replacing a board, there are two situations as shown below, depending on the board model and the operating system.

Situation 1: The driver is automatically installed for the newly inserted board. In such case, the user only needs to run ShCtiConfig.exe to configure the board, not having to run the driver installation package.

Situation 2: The driver is not automatically installed for the newly inserted board. In such case, the user is required to run the driver installation package to install the driver. For more information, refer to 'Section 1.3.2 Driver Upgrade/Reinstallation'.

Chapter 2 Driver Installation

2.1 Preparation

2.1.1 Check Hardware Installation before System Boot-up

Check if all hardware devices have been properly installed according to the hardware manual for the installed voice board. Remove any fault or error before you turn on the computer for the safety of your PC and other devices.

2.1.2 Close 'Found New Hardware' Dialog Box

After the computer is booted up, the operating system will search for new hardware automatically. Once the 'Found New Hardware' dialog box appears, click on 'Cancel' to close it.

2.1.3 Backup Important Configuration Files

Although the system will ask for your permission on any modification to important configuration files during the driver installation, we strongly recommend you to backup those files ahead of time for safety reasons.

2.1.4 Check Driver Version and Computer Type

Using a wrong installation package may cause improper running of the voice board. Therefore, you have to be sure before installation that this driver version to be used matches your computer type (PCI computer) and is just what you need.

Note: Regarding how to get the driver version and the computer type the installation package matches, refer to Section 1.2 in this file.

2.2 Installation/Upgrade
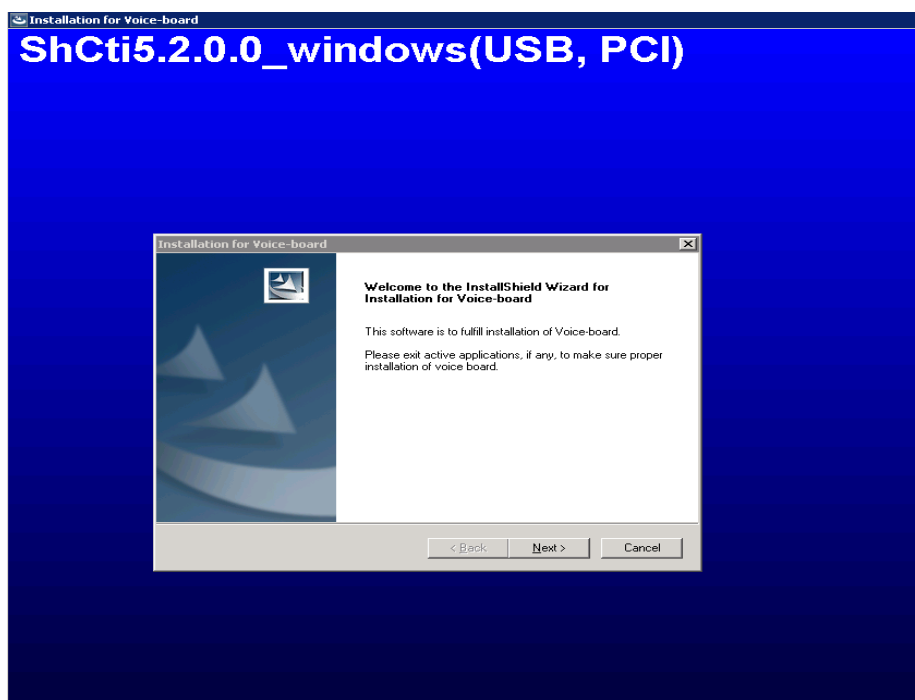
2.2.1 Driver Installation Interface

Figure 2-1

This driver supports Windows 2000, Windows 2003, WindowsXP, Windows 2008 and Windows 7. The installation program could identify your operating system and perform the corresponding installation. Follow the procedure below to complete the installation.

2.2.2 Driver Installation Procedure

Here we takes 'SYNWAY_PCI(USB)_5200_EN.exe' (the installation package of SynCTI Driver Version 5.2.0.0 for PCI boards) for example to unfold the installation procedure.

Step 1: Run 'SYNWAY_PCI(USB)_5200_EN.exe' and go to 'Choose Setup Language'

Go to the directory of the driver installation package, double click on 'SYNWAY_PCI(USB)_5200_EN.exe' to extract the archive (See Figure 2-2). Then the 'Choose Setup Language' dialog box will appear (See Figure 2-3). Select a prompt language you want for the installation from the option menu and click on 'OK'.
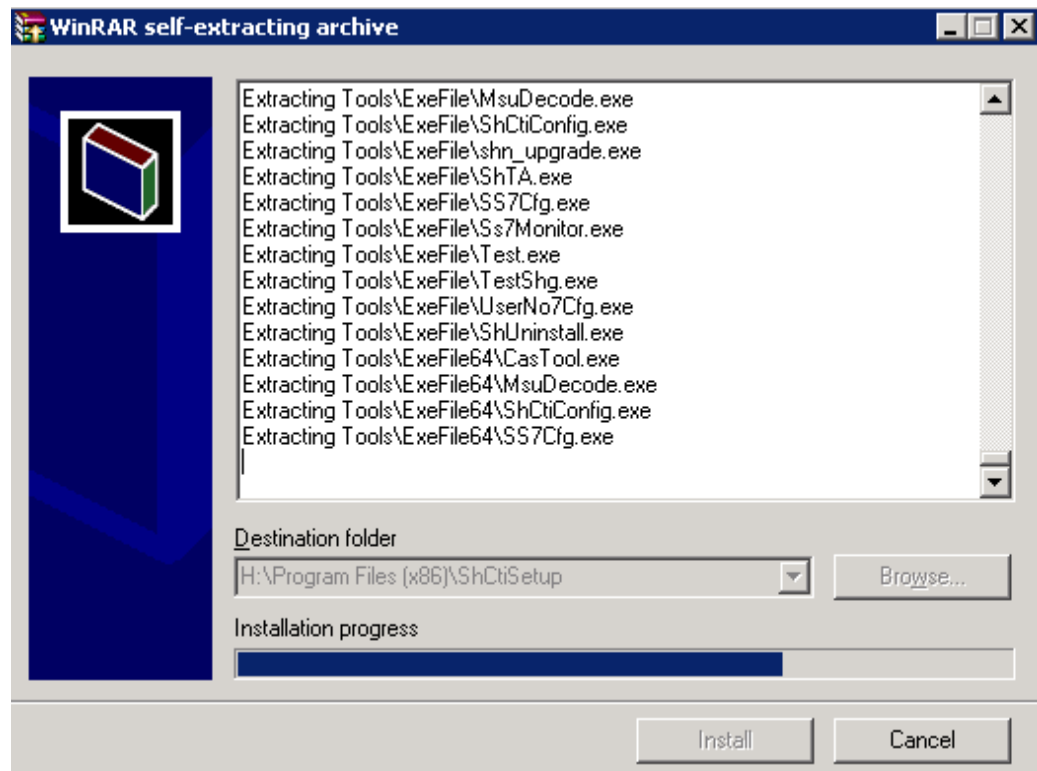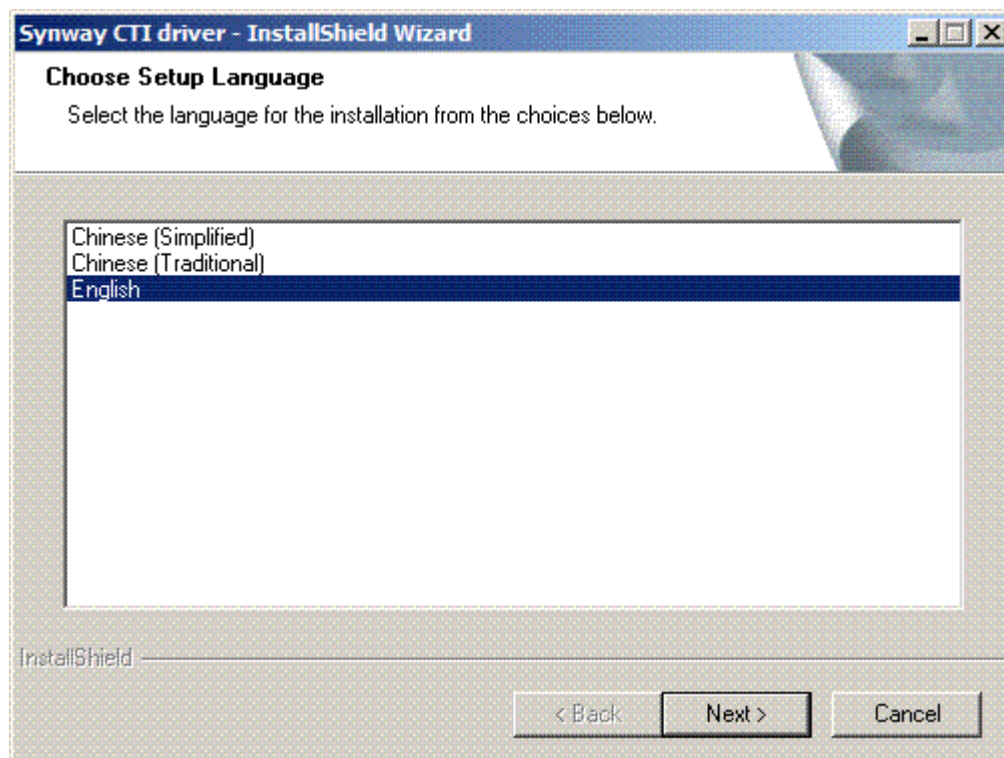
Figure 2-2

Figure 2-3

Step 2: Exit other active applications

Follow the prompt given by the installation program to close other active applications. Then click on 'Next' to continue the driver installation. See Figure 2-4.
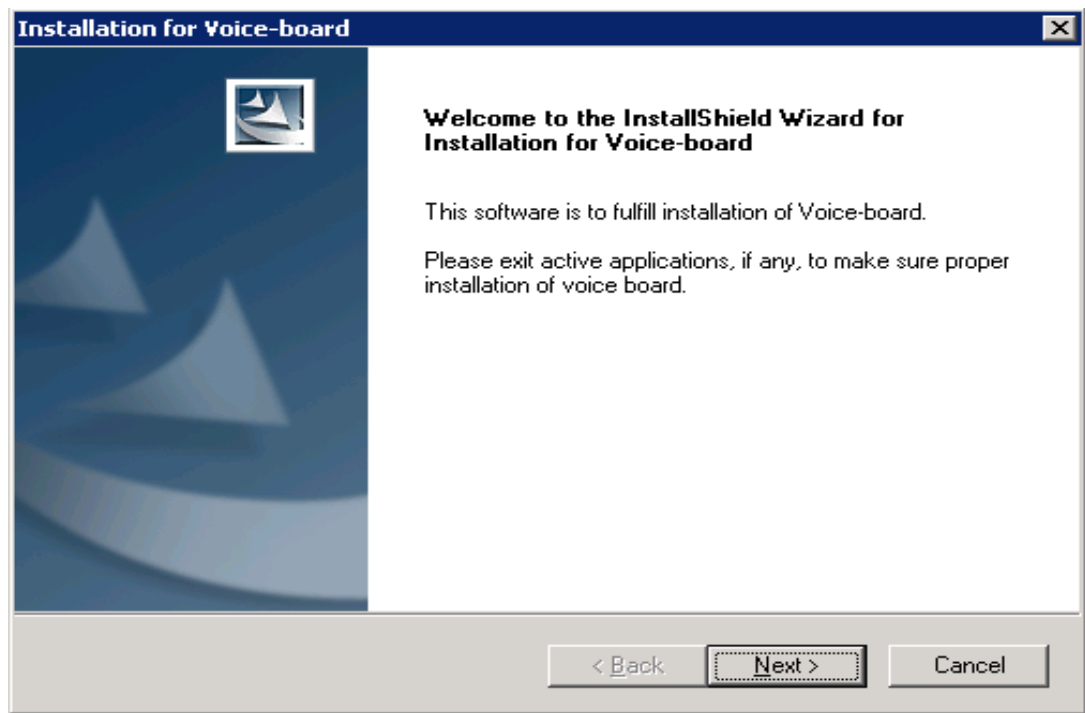
Figure 2-4

Step 3: Select an installation mode

Select the Typical or Custom mode for installation. See Figure 2-5. If you select Typical, the system will install with default options. In such case, Step 5 and Step 8 will be skipped. Even Step7 will aslo be skipped if in a 32 bit operating system. If you select Custom, the system will go to Step 5 directly.

As to the Typical installation, if this driver was never installed before, it amounts to New Install mentioned in Step 5; if this driver was ever installed, it amounts to Upgrade Install in Step 5.
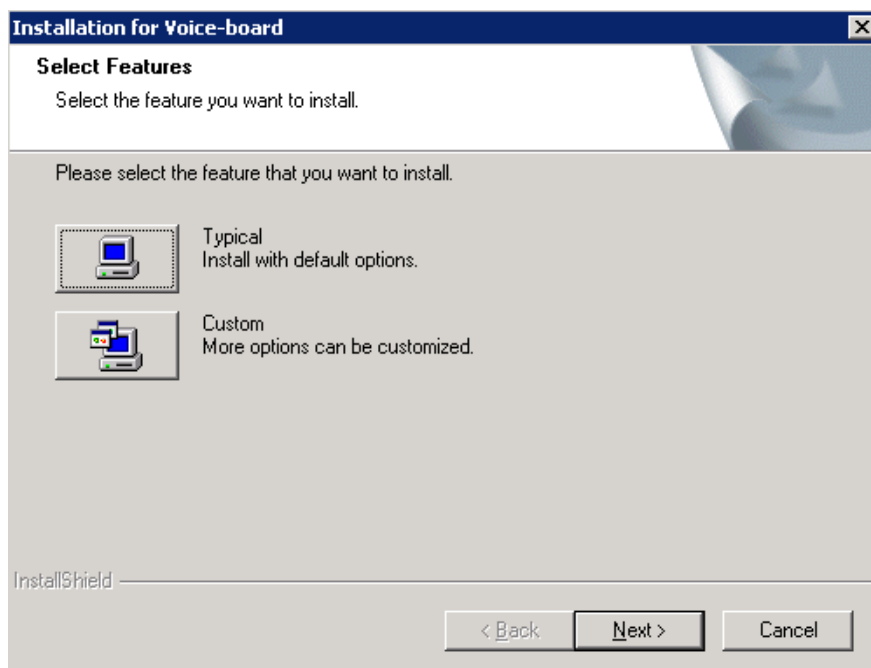

Figure 2-5

Step 4: Detect other versions

The installation program prompts it is detecting whether any other version has been installed in the system as shown in Figure 2-6.

Detecting whether other version had been installed or not, please wait...
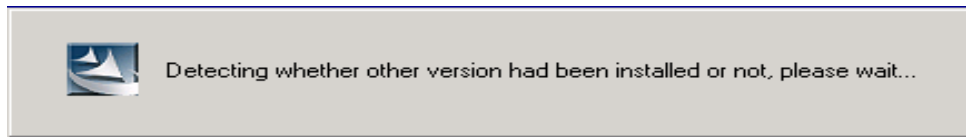
<div align="center">Figure 2-6</div>

As to the Custom installation, if the installation program doesn't detect any other version, it will skip Step 5 and automatically run ShCtiConfig.exe to configure the board once the installation is finished; otherwise, it will enter Step 5 and ask you to select the 'setup type'.

Step 5: Choose setup type

The installation program displays the detected version information and asks you to select the setup type.

- New Install – Delete the detected version. The old setting and configuration information will be lost.

If this type is selected, the installation program will uninstall the old driver version detected and automatically run ShCtiConfig.exe to configure the board after the new installation is finished. In such case, ShConfig.ini will be modified.

- Upgrade Install – Replace the detected version with the new version. The old setting and configuration information will be reserved.

If this type is selected, the installation program will not uninstall the old driver version detected but replace it with the new one. In such case, Step 6, Step 7 and Step 8 will be skipped; ShCtiConfig.exe will not run automatically to configure the board after the installation is finished, and; ShConfig.ini will not be modified either.

If you select Typical in Step 3, the installation program will not show the Setup Type dialog but run the Upgrade Install automatically.

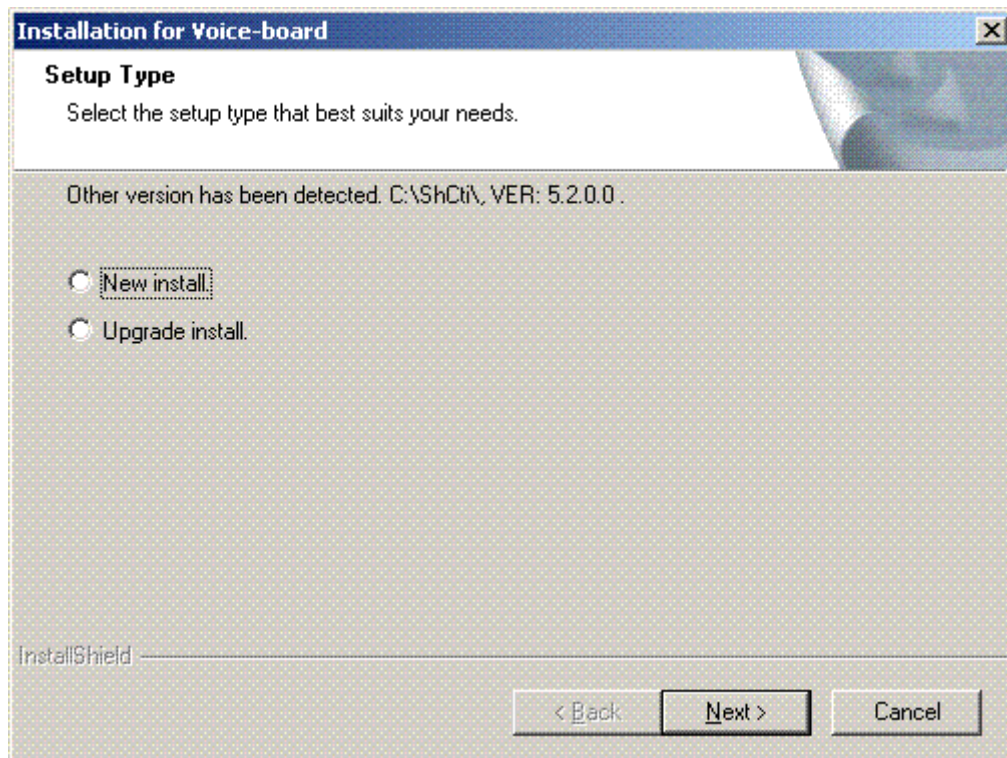Select one type and click on 'Next' to continue. See Figure 2-7.

Figure 2-7

Step 6: Choose destination location

Enter a new folder name or click on 'Browse' to choose a folder for installation. Click on 'Next' to continue. See Figure 2-8.
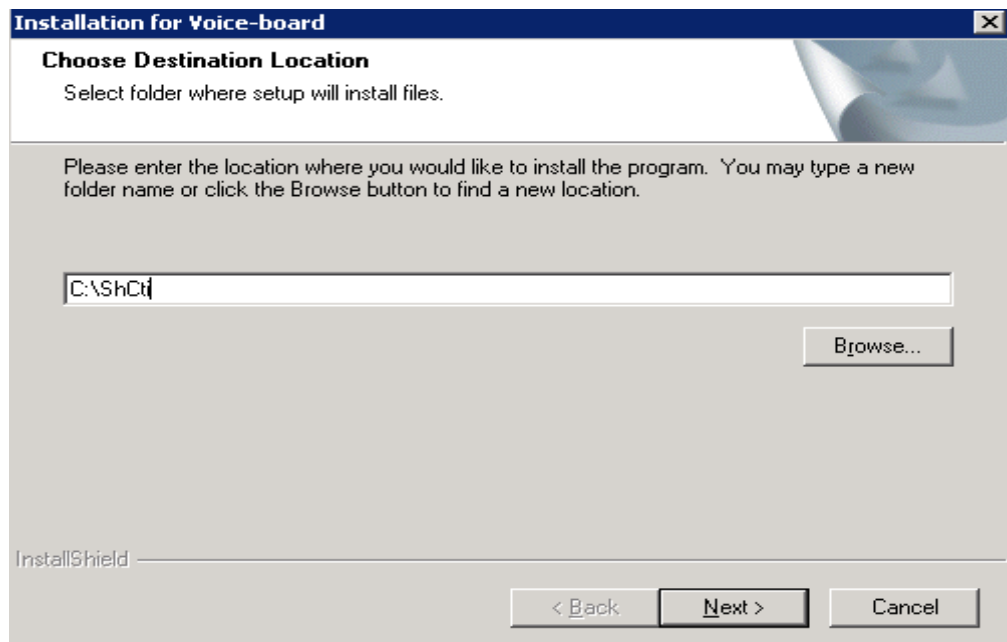

Figure 2-8

If the folder you specified doesn't exist, the following dialog box appears. Choose 'Yes' to create it or choose 'No' to set a new one. See Figure 2-9.
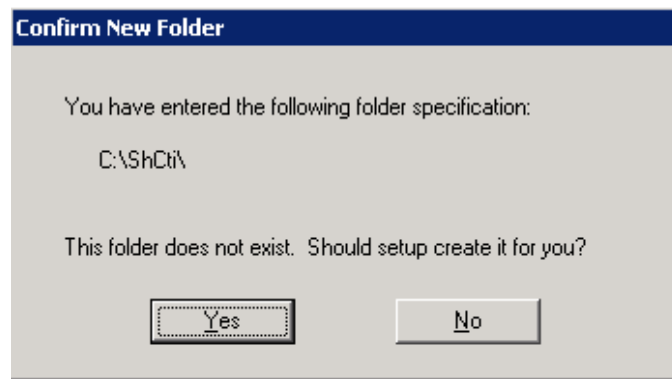
Figure 2-9

If the folder you specified is not empty, the installation program will give such a prompt as shown in Figure 2-10.
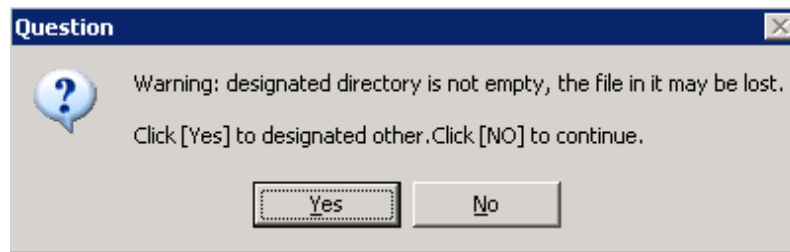

Figure 2-10

Step 7: Select the 32 or 64 bit mode

Running in a 64 bit operating system, the installation program will query if you'd like to install the 32 or 64 bit DLL. In a 32 bit operating system, this step will be skipped as such OS only supports the 32 bit DLL. If you choose 32bit mode, 32 bit DLL files and 32 bit executable programs will be installed, applicable to 32 bit application programs running in a 64 bit operating system. If you choose 64bit mode, 64 bit DLL files and 64 bit executable programs will be installed, applicable to 64 bit application programs running in a 64 bit operating system. (Note: If you are using a .net application which is adaptive to the system structure, you must select 64bit mode; otherwise, it will lead to unexpected error.)
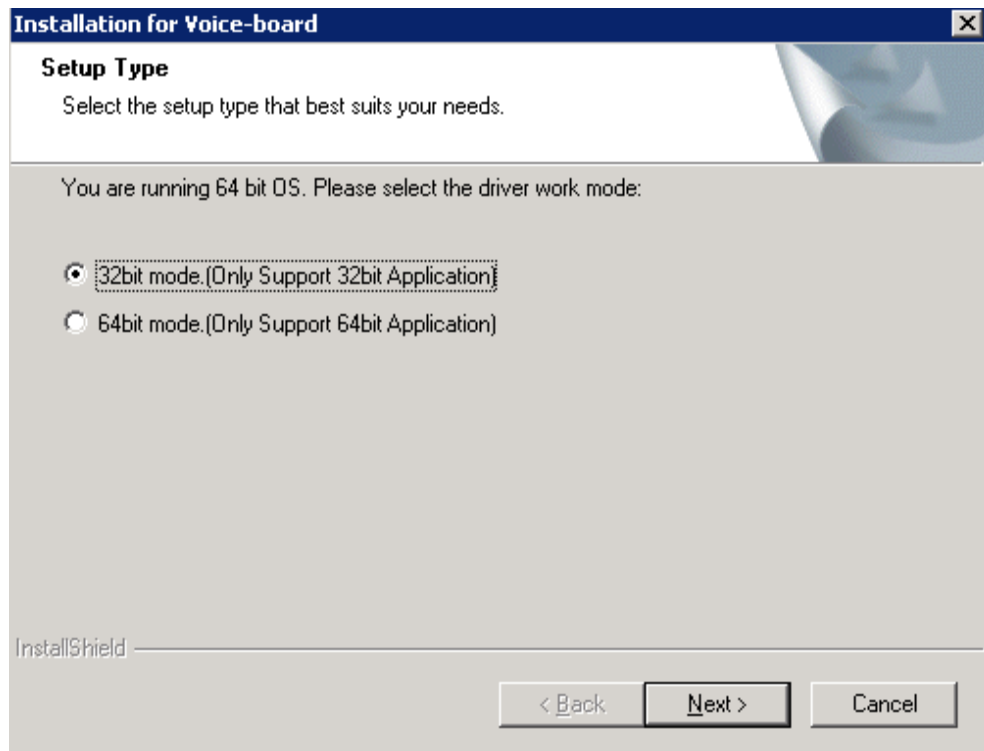
Figure 2-11

Step 8: Determine whether to install the API header and library files

If it is necessary for your development to install the API header and library files, click on 'Yes'; otherwise, click on 'No'.
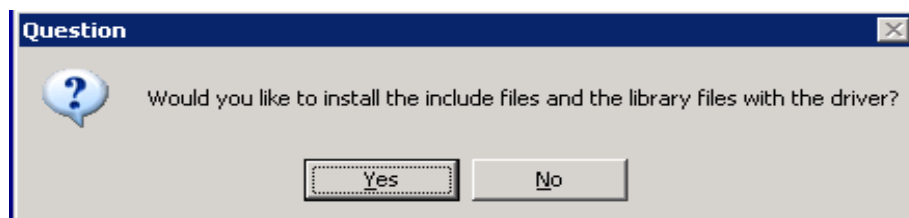

Figure 2-12

Step 9: Copy files

The installation program starts to copy files upon collecting enough information. See Figure 2-13.

Figure 2-13

If you choose Upgrade Install in Step 5, the folder will have an .ini file with the same name as the file being copied, and the following dialog box will appear to ask whether you want to cover this file. See Figure 2-14.

Note: If you choose not to execute the 'replace' order, the installation program will skip Step 12 and not run ShCtiConfig.exe to configure the board.
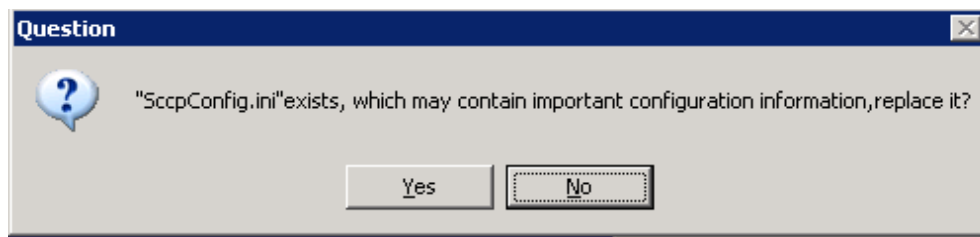

Figure 2-14

Step 10: Install board driver

Once all files have been copied, the installation program starts to install the driver as shown in Figure 2-15.

Note: The time needed for driver installation depends on the computer configuration and the quantity of boards. Usually it is about 2 minutes.
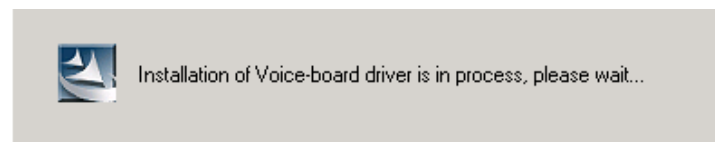

Figure 2-15

Step 11: Prompt installation result

When the installation is completed, the following dialog box will appear to show the quantity of installed boards and their serial numbers. See Figure 2-16.
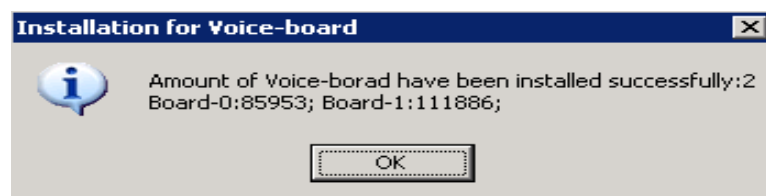

Figure 2-16

Step 12: Configure board

The installation program will automatically configure the board after the driver is successfully installed. See Figure 2-17 and Figure 2-18.

Note: If you select 'Upgrade Install' in Step 5 or click on 'No' in Step 9 (i.e. reserve the .ini file already existing), this step will be skipped.
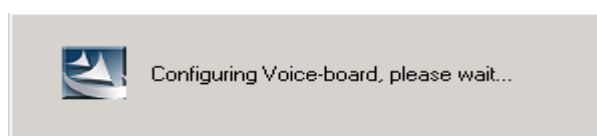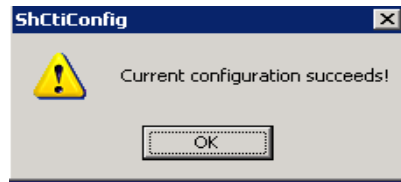

Figure 2-17

Figure 2-18

Step 13: Finish and choose the program to run after completion

If you select Typical in Step 3, the installation program will prompt installation finished here as shown in Figure 2-19.
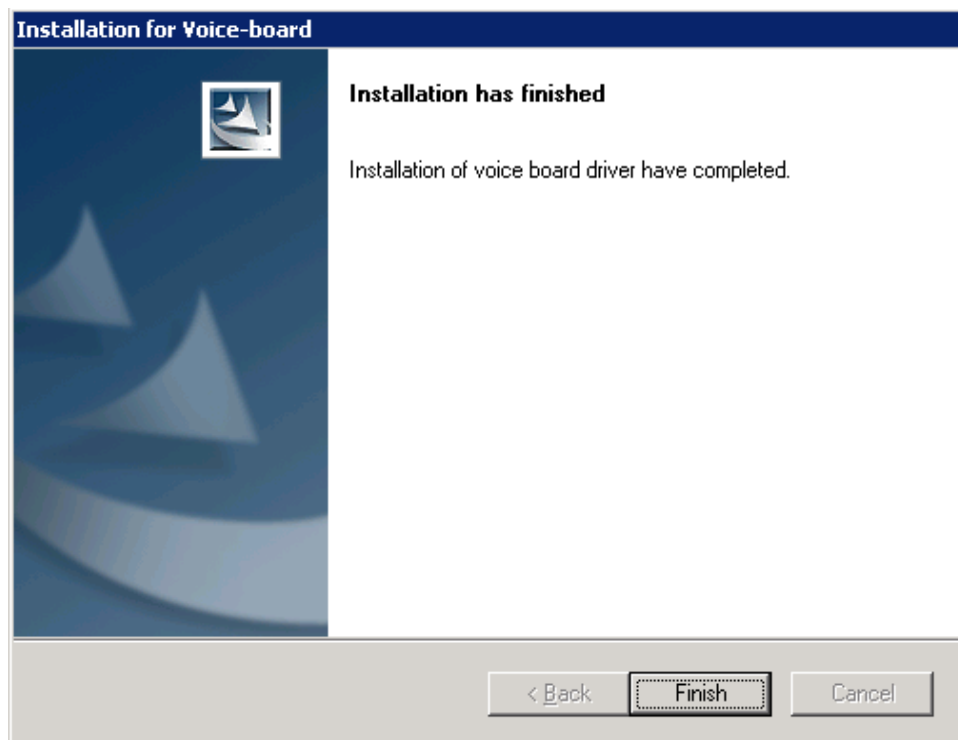

Figure 2-19

If you select Custom in Step 3, the installation program will give a choice of running ShCtiConfig.exe or test.exe. If you want ShCtiConfig.exe or test.exe to run automatically after the installation is complete, tick the first option on the dialog box below (See Figure 2-20) and click on 'Finish' to exit the installation program.
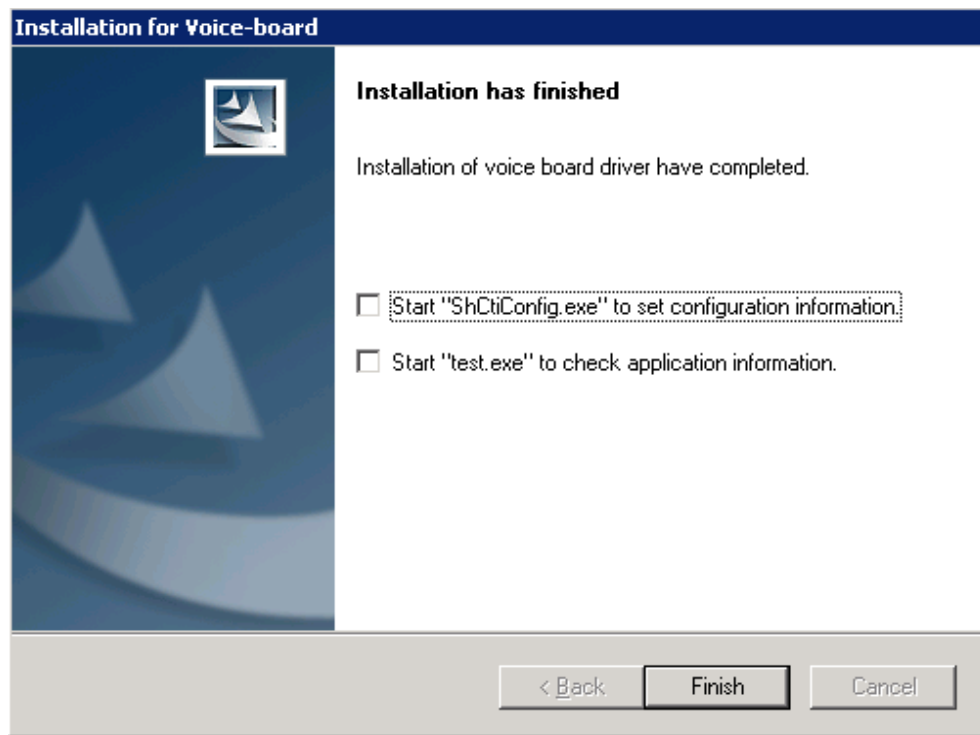
Figure 2-20

2.3 Directory Structure

After the driver installation, all software tools and relevant documents are copied to the folder you specified. Meanwhile, all driver files are copied to the system directory. Here we display the directory structure for your reference (assume your installation directory is C:\ShCti).

Installation Path

```
├── Api                              API header and library files for software development
├── ShCtiConfig.exe                   Visual configuration program for voice boards
├── Test.exe                          API function test program provided by the driver
├── Ss7Monitor.exe                   SS7 server
├── SS7Cfg.exe                       SS7 configuration program
├── MsuDecode.exe                    SS7 MSU decoder
├── ShConfig.ini                     Sample system configuration file for the driver
├── ShIndex.ini                      Sample configuration file for a form where lists voice files used for
│                                     memory playback by index
├── Ss7server.ini                    Configuration file for SS7 server
├── SccpConfig.ini                   SCCP system configuration file
├── TcapConfig.ini                   TCAP system configuration file
├── ShConfig_advanced_options_sample.ini    Sample configuration file for driver's 'advanced options'
├── ShCti_Drivers_User_Manual.chm      SynCti programmer's manual
├── SS7Cfg_User_Manual.doc             SS7Cfg.exe user manual
│   MsuDecode_User_Manual.doc           MsuDecode.exe user manual
└── Setup.log                        Log file for driver installation
```

The following dll files have been copied to the system directory. Refer to 'ShCti_Drivers_User_Manual.chm' for how to use them:

- SHP_A3.dll   *API dynamic link library of SynCti driver*
- ShdPci.dll   *Dynamic link library component for WinNT PCI voice board*
- ShdUsb.dll   *Dynamic link library file for USB voice box*
- IsdnUser.dll   *ISDN interfacing component*
- ShReco.dll   *Voice recognition component*
- MacmCvt.dll   *GSM encoding component for recording*
- MmfClnt.dll   *SS7 client-end component for single-computer edition*
- MmfServer.dll   *SS7 server-end component for single-computer edition*
- Mtp3.dll   *SS7 MTP3 component*
- Ss7Server.dll   *SS7 server scheduling component*
- TcpClnt.dll   *SS7 client-end component for network edition*
- TcpServer.dll   *SS7 server-end component for network edition*
- TCAP.dll   *Transaction control application part*
- SCCP.dll   *Signaling connection control part*
- Bmputil.dll   *Dynamic link library file*
- shinitpci.dll   *used to store information about installed board*
- ShPcmHandle.dll   *used for format conversion between PCM files*

The driver files (*.sys, *.bin) which have been copied to the directory '%SystemRoot%\system32\drivers' can be scheduled and used by the operating system and the driver via API functions, not requiring any operation by users.

2.4 Shortcuts in Start Menu

The installation program will create useful shortcuts in the 'start menu' for your convenience.

Path: Start\All Programs\ShCti

Shortcut Name:
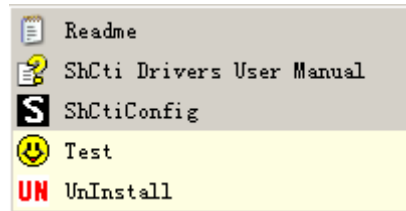
Chapter 3 Application Installation

3.1 Brief Introduction

If your application software has an executable installation program, it can be embedded into the driver installation package provided by Synway. Thus a simple 'Setup' command can help you to complete the installation of both the driver and the application software. Follow the procedure below to enable this feature if necessary.

Here we takes 'SYNWAY_PCI(USB)_5200_EN.exe (the installation package of SynCTI Driver Version 5.2.0.0 for PCI boards) for example to unfold the description.

Important Notes:

1. **The following procedure involves the use of WinRAR which is a copyrighted software product. Therefore you need to obtain its copyright or license agreement by yourselves. Synway has no responsibility for that.**

2. **Regarding how to use WinRAR, refer to the help manual of WinRAR. Synway doesn't guarantee below is the fully proper description for the WinRAR version you use.**

3.2 Embed Application Installation Program

Step 1: Do the preparation

A. Get the driver installation package 'SYNWAY_PCI(USB)_5200_EN.exe'. You can download it from www.synway.net or contact Synway directly.

B. Rename the executable installation program of your application to be 'Install.exe'.

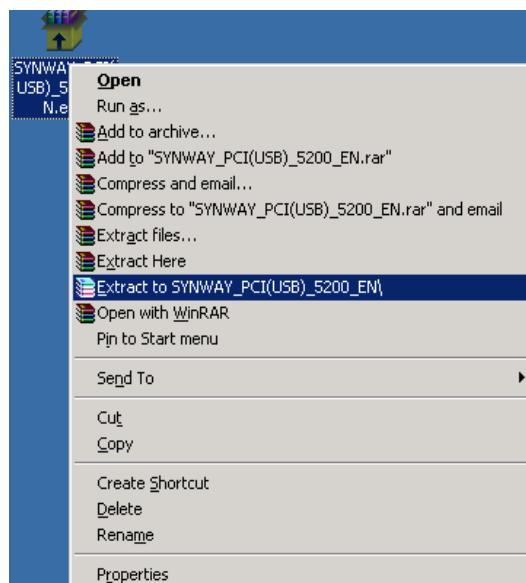**Step 2: Right click the mouse and extract the driver installation package 'SYNWAY_PCI(USB)_5200_EN.exe'.**

Figure 3-1

Step 3: Embed the application installation program into the driver installation package

Copy the renamed application installation program 'Install.exe' to '. \ SYNWAY_PCI(USB)_5200_EN_exe'.

Note: Apart from Install.exe, the application installation program may include other relevant files. You are allowed to put them under '. \ SYNWAY_PCI(USB)_5200_EN_exe' too, but anyhow, you must ensure all of them can be visited properly by Install.exe.

3.3 Repackage

Note: This step is optional. If you don't want to repackage the installation program, run 'SYNWAY_PCI(USB)_5200_EN\setup.exe' to start the installation and perform the other steps as stated above.

If you want to repackage the installation program, follow the steps below or refer to the help manual of WinRAR.

Go to the directory '\SYNWAY_PCI(USB)_5200_EN' which is generated after decompression (Step 2), select all files therein, click on the right mouse button and select 'Add to archive'. See Figure 3-2.
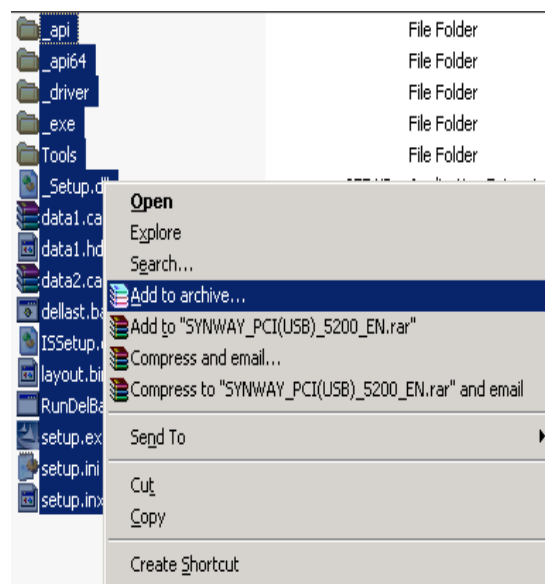

Figure 3-2

Tick the checkbox labeled 'Create SFX archive' and click on the tab 'Advanced' as shown in Figure 3-3.
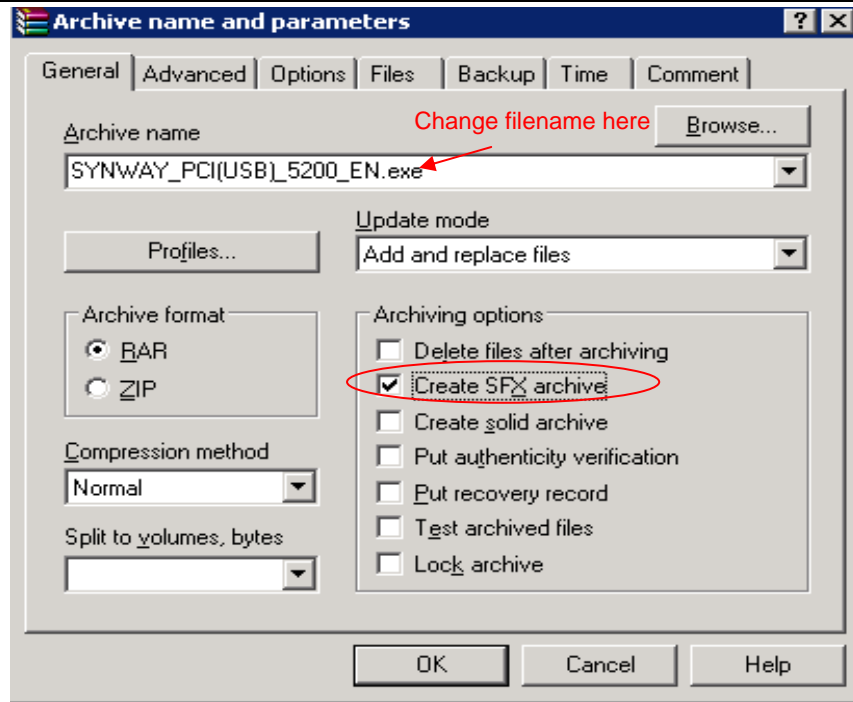
Figure 3-3

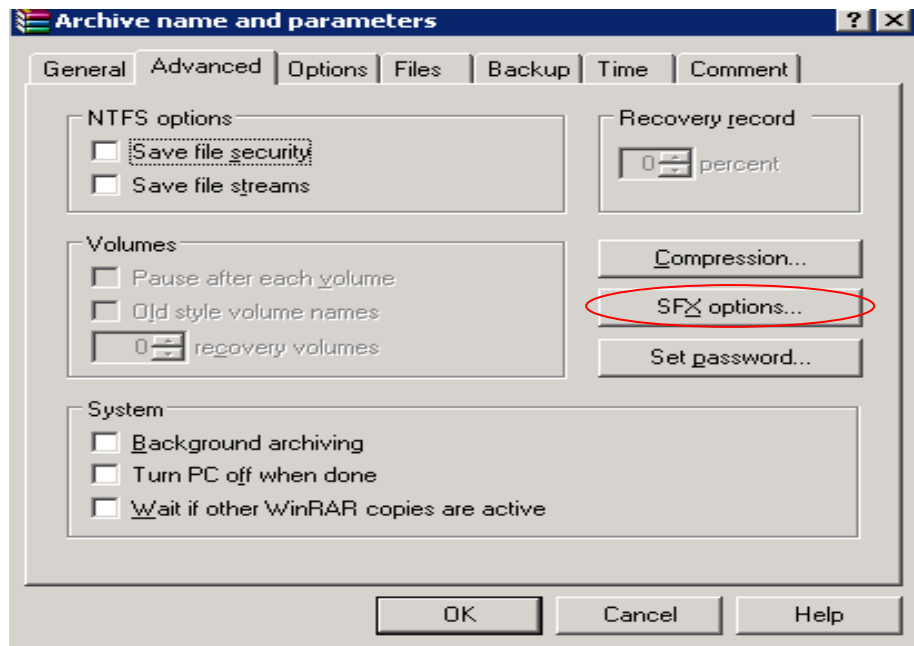Click on 'SFX Options' shown in Figure 3-4.

Figure 3-4

Click on the tab 'General', input 'ShCtiSetup' in the text area under 'Path to extract' and select "Create in 'program files'". Then input 'setup.exe' in the text area under 'Run after extraction' and click on the tab 'Modes'. See Figure 3-5.
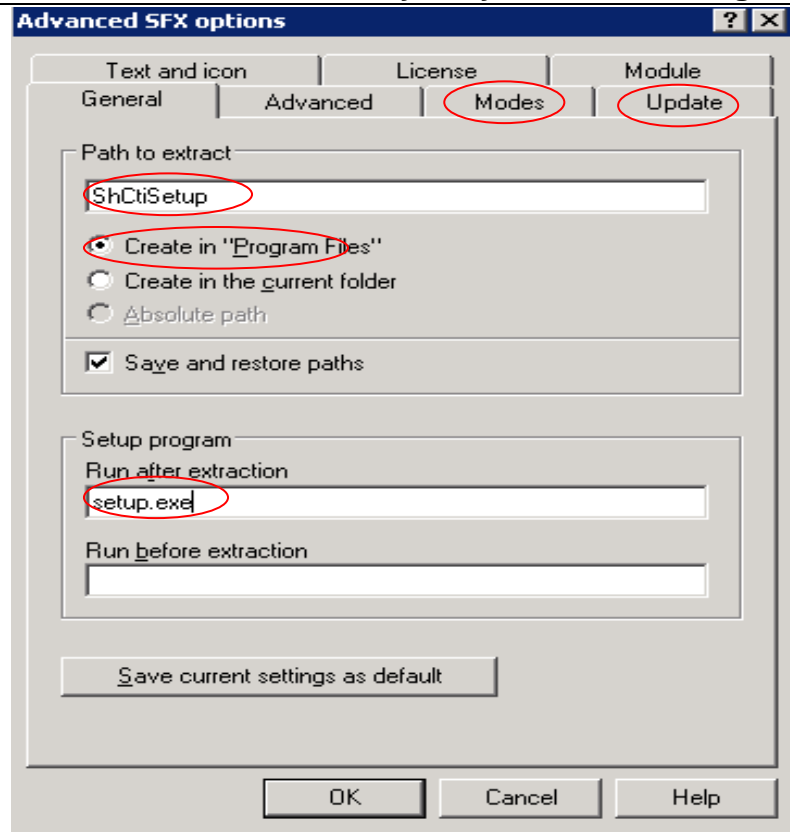
Figure 3-5

Select 'Hide start dialog' under 'Silent mode' and 'Overwrite all files' under 'Overwrite mode'. Then click on 'OK'. See Figure 3-6.
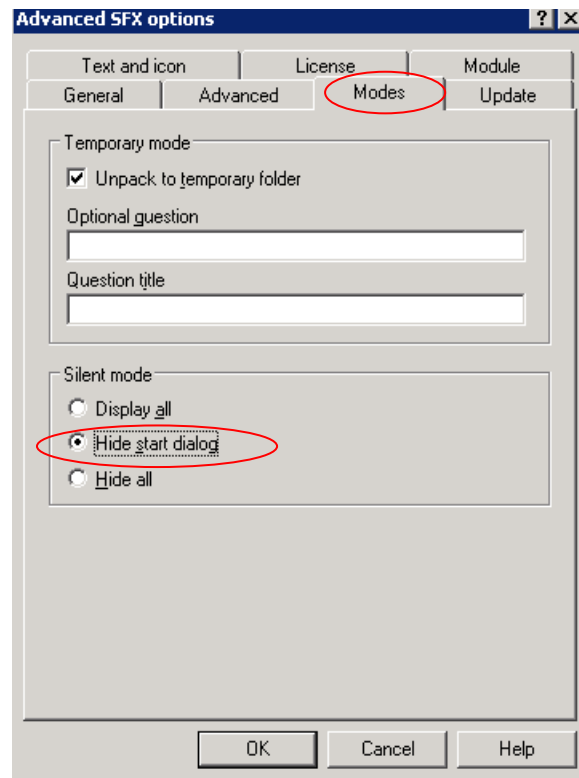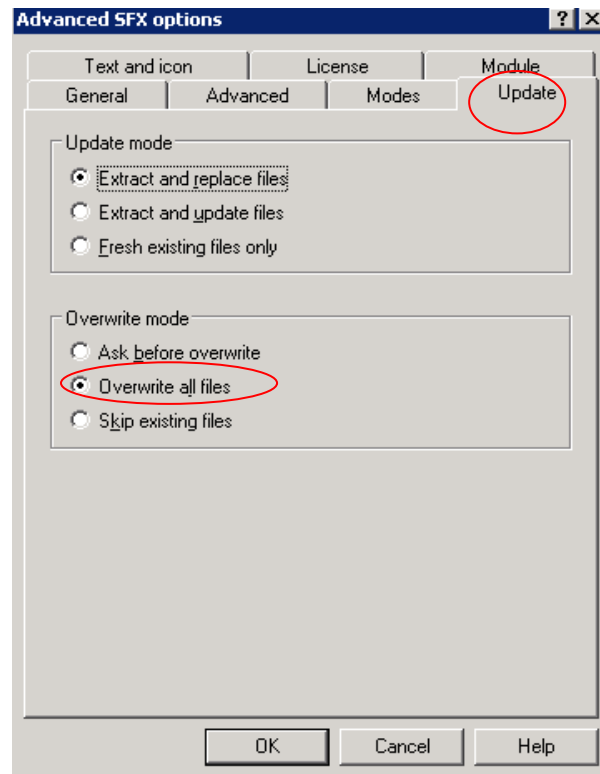

Figure 3-6

Figure 3-7

Click on 'OK' to start creating the .exe file. See Figure 3-8 and Figure 3-9.
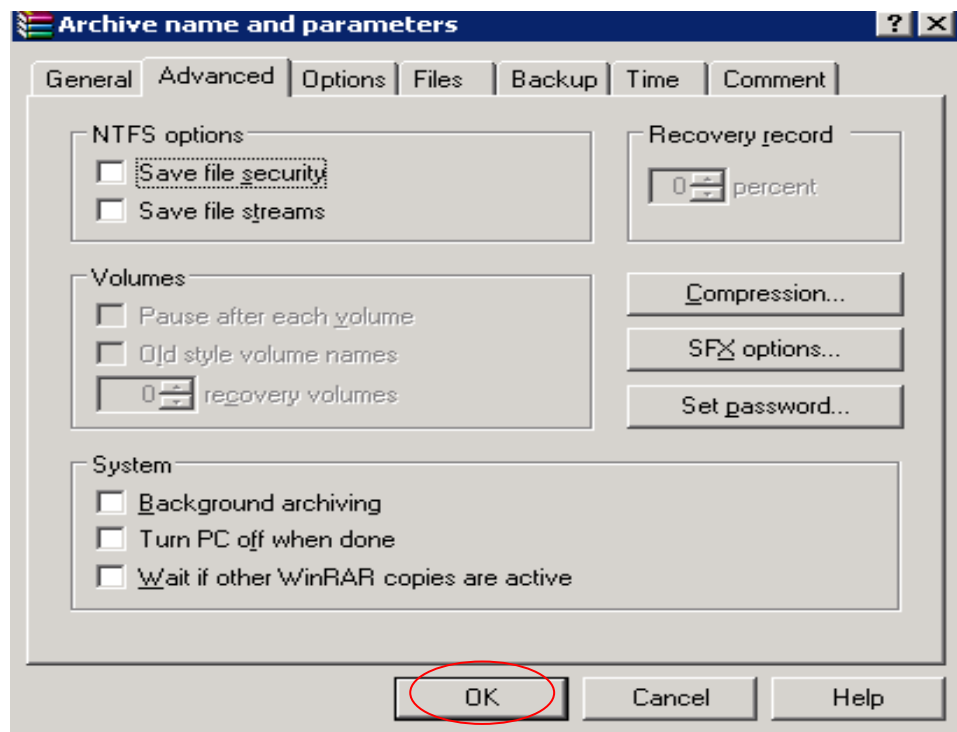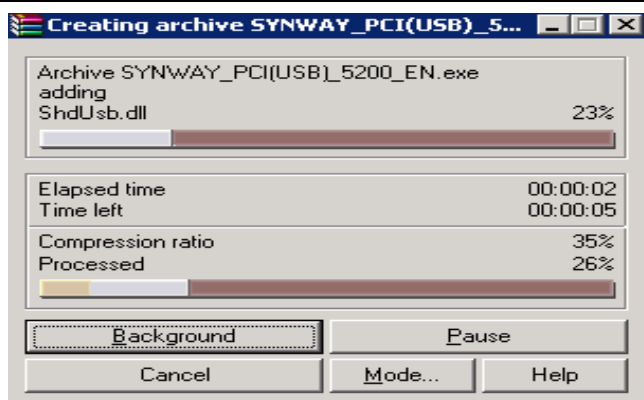

Figure 3-8

Figure 3-9

After the file is created, WinRAR will exit automatically.

Chapter 4 Driver Uninstallation

Follow the steps below to uninstall the driver.

Step 1: Run ShUninstall.exe

Go to the installation directory or <u>Start\All Programs\ShCti</u> to run ShUninstall.exe. Then the following dialog box appears. See Figure 4-1. If you don't want to do the uninstallation at this moment or you launch the uninstallation program by mistake, click on 'No'; otherwise, click on 'Yes'.
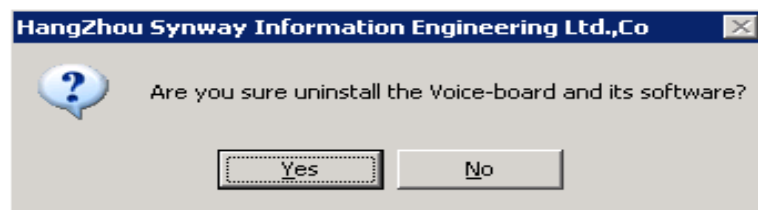
Figure 4-1

Step 2: Close other applications

Follow the prompt given by the uninstallation program to close other applications. Then click on 'OK' to continue. See Figure 4-2.

Figure 4-2

Step 3: Start uninstallation

The uninstallation progress will be prompted as shown in Figure 4-3.
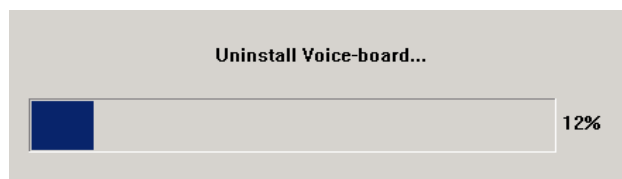
Figure 4-3

To prevent important ini files being deleted by mistake, the uninstallation program will ask for your permission as shown in Figure 4-4.
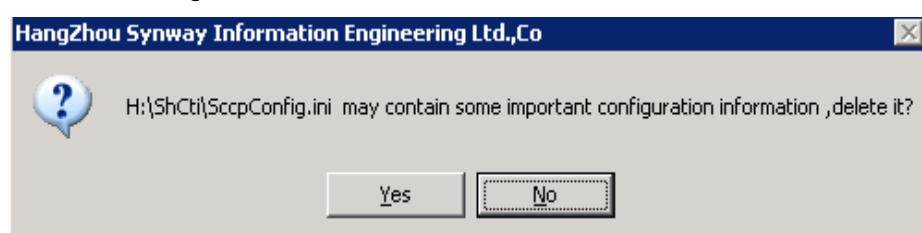
Figure 4-4

Step 4: Display uninstallation result

If the driver is successfully uninstalled, the following dialog box will appear.
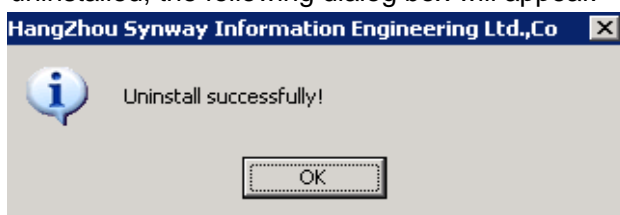
Figure 4-5

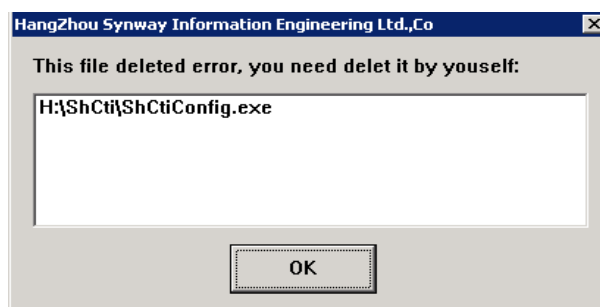If some files fail to be uninstalled, the following dialog will appear.

Figure 4-6

Appendix A Technical/sales Support

Thank you for choosing Synway. Please contact us should you have any inquiry regarding our products. We shall do our best to help you.

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