



**Synway Voice Board**

# **Driver Installation Manual**

**Synway Information Engineering Co., Ltd**

**[www.synway.net](http://www.synway.net)**

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## **Copyright Declaration**

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# Chapter 1 Overview

## 1.1 Brief Introduction

This document describes how to use SynCTI Driver Ver.5.3.2.7 or above under Windows operating system 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.

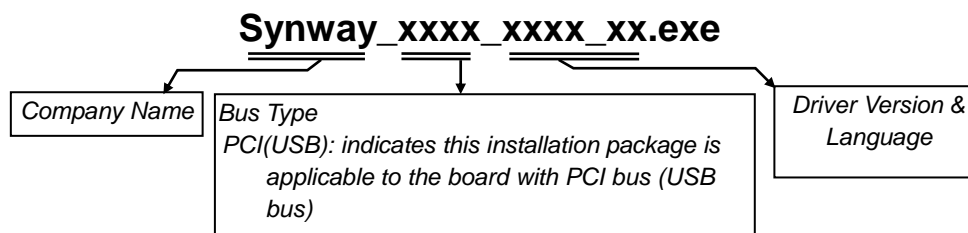


Figure 1-1

Below is the installation package for SynCTI Driver Version 5.3.2.7.

Bus Type	Driver Installation Package	Note
PCI(USB)	SYNWAY_PCI(USB)_5327_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 procedure is the same as initial installation. Note that if the earlier version has not been uninstalled or the configuration file has not been deleted during uninstallation, the program will skip “Step 13 Configure Board” described in Section [2.2.2](#) Driver Installation Procedure.

### **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.

## 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. Eliminate all faults and errors 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 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.*

#### 2.1.5 Set Installation Path

The default installation path for both 32 bit and 64 bit systems is C:\ShCti. If you want to set a special installation path, do the following operations: decompress the driver installation package, add the item of the special installation path under the [Startup] section of the script file setup.ini. For example, ShctiDirectory32=C:\ShCti32, ShctiDirectory64=C:\ShCti64.

Likewise, you can add UnInstallAPIAndHelpFile under the [Startup] section of the setup.ini file to set whether to install the API header file and the instruction documents or not: the default value 0 means "Install", and the value 1 means "Not install".

## 2.2 Installation/Upgrade

### 2.2.1 Driver Installation Interface

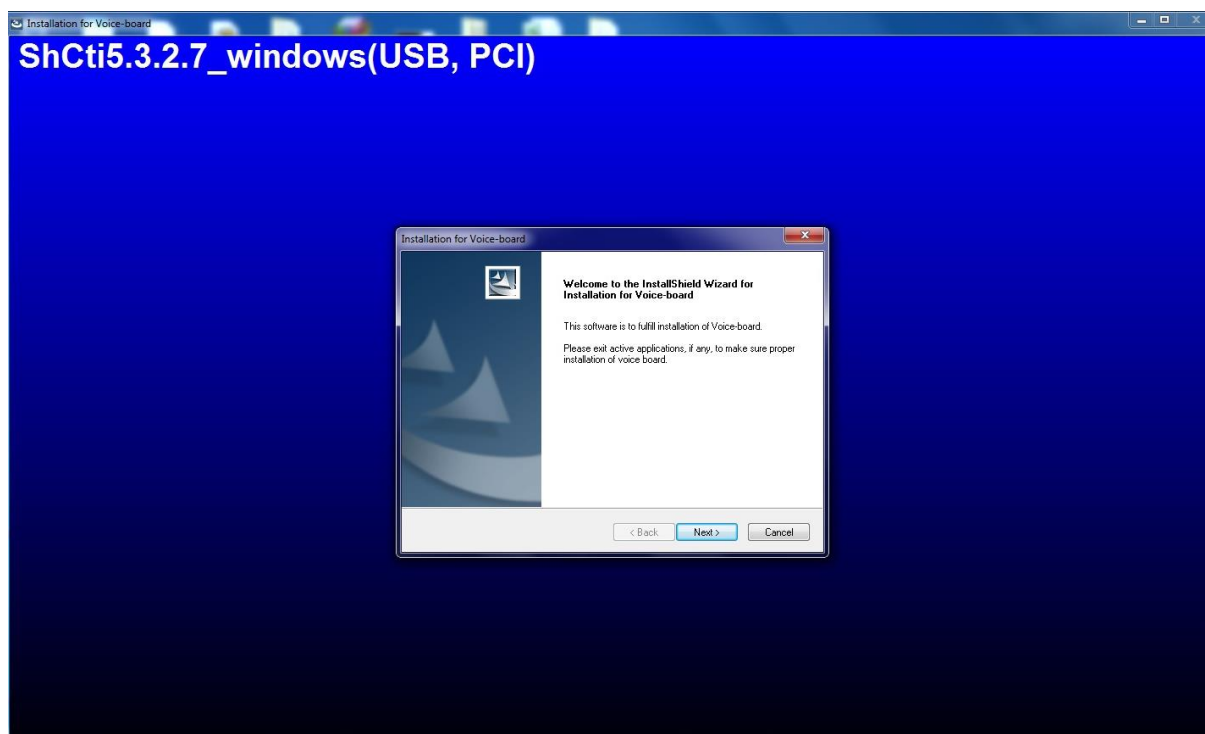


Figure 2-1

This driver supports Windows operating system. 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)\_5327\_EN.exe' (the installation package of SynCTI Driver Version 5.3.2.7 for PCI boards) for example to unfold the installation procedure.

**Step 1: Run 'SYNWAY\_PCI(USB)\_5327\_EN.exe' and go to the 'Choose Setup Language' interface**

Go to the directory of the driver installation package, double click on 'SYNWAY\_PCI(USB)\_5327\_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'.

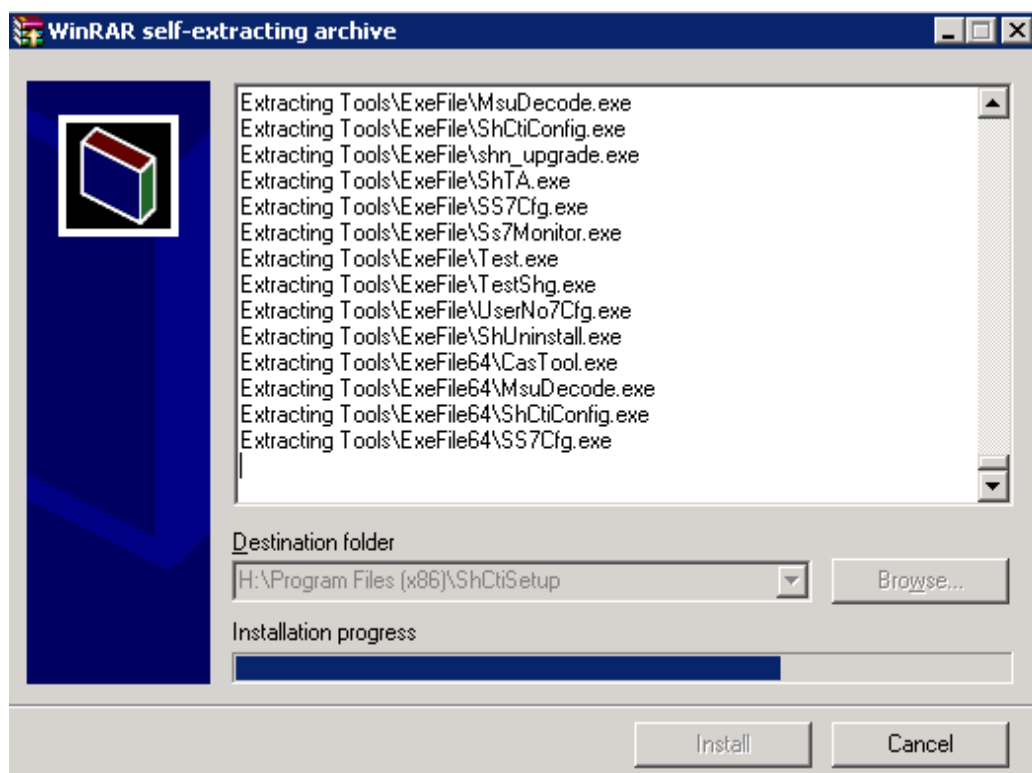


Figure 2-2

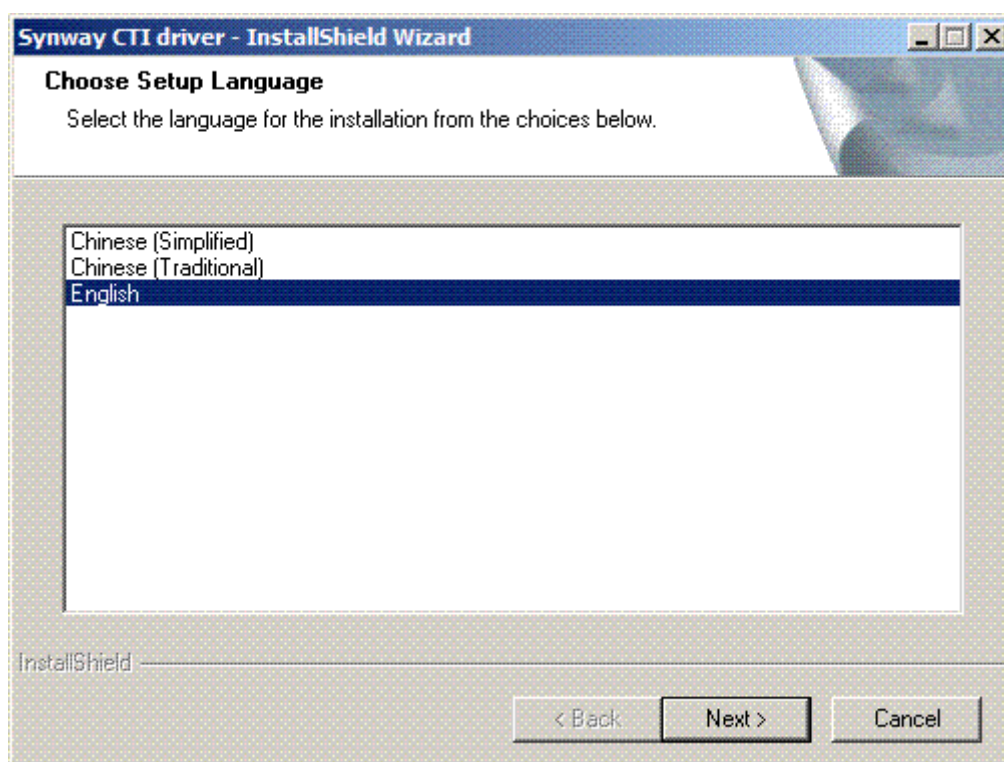


Figure 2-3

## 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.



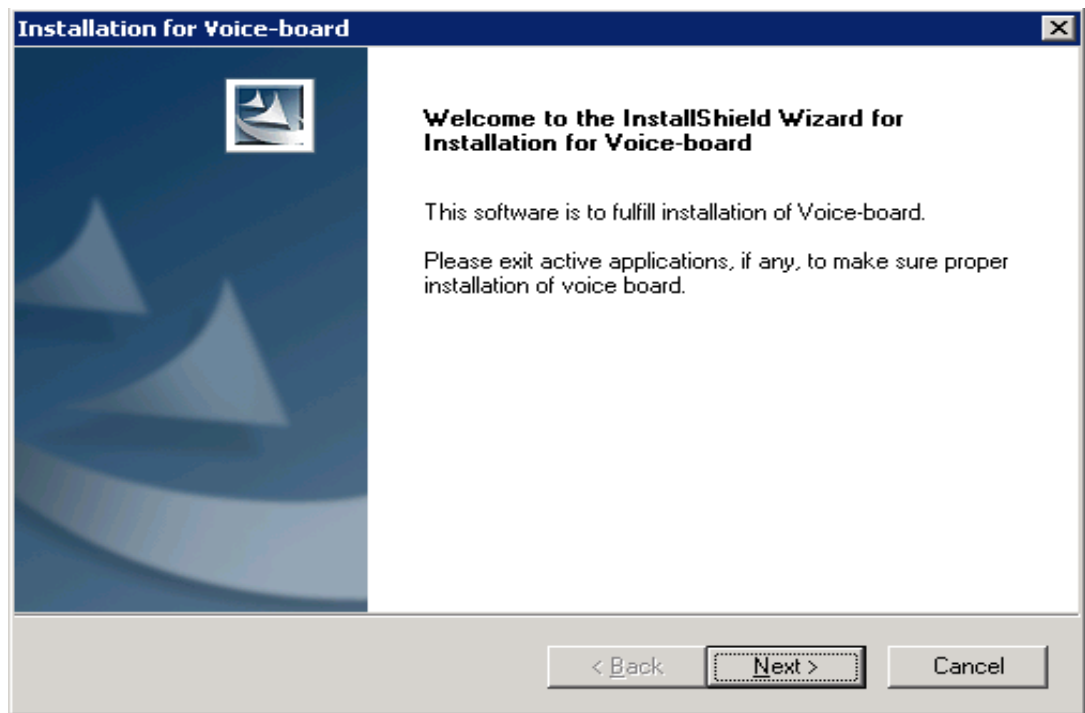


Figure 2-4

### Step 3: Select an installation mode

Select a mode from Typical, Advance, Full and Special. See Figure 2-5. If you select Typical, the system will install the SynCTI driver only and Step8 to Step10 will be skipped. If you select Advance, Step10 will be skipped. If you select Special, Step7 to Step9 will be skipped. For a 32 bit windows operating system, Step5 will be skipped.

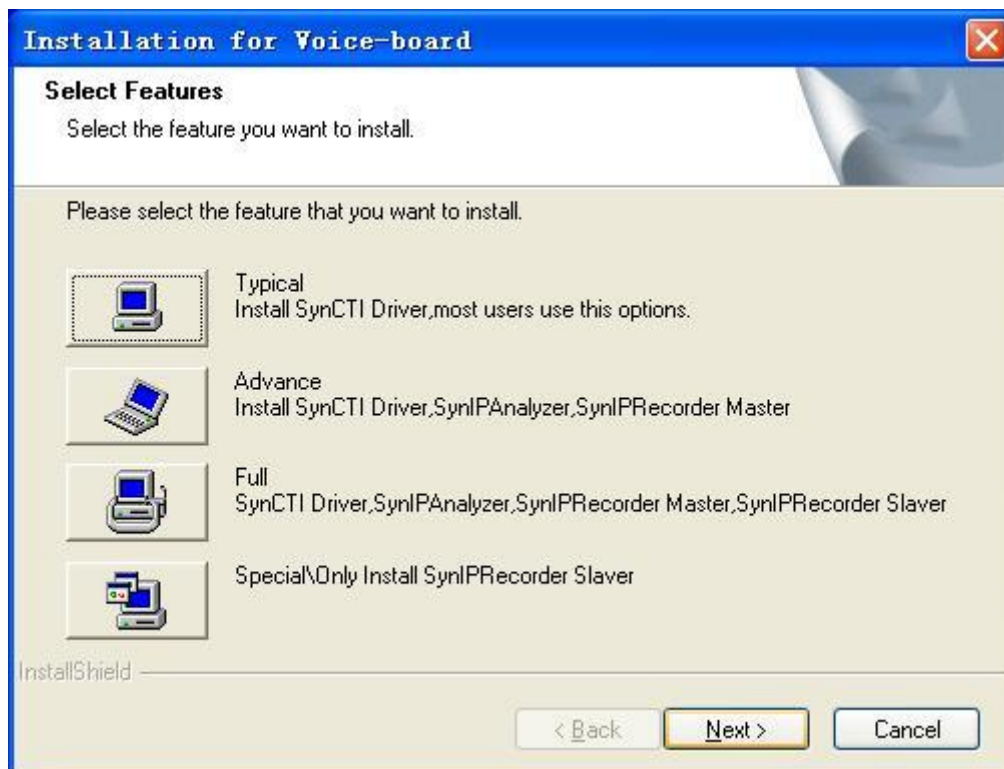


Figure 2-5

#### Step 4: Choose a destination location

Enter a new folder name or click on 'Browse' to choose a folder for installation. Click on 'Next' to continue. See Figure 2-6.

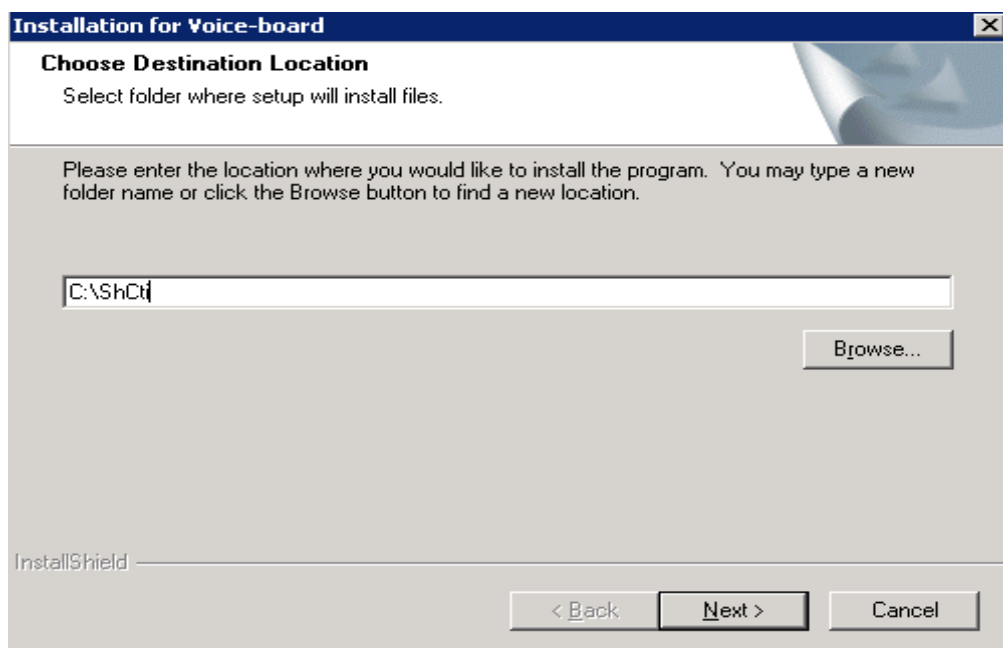


Figure 2-6

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 2-7.

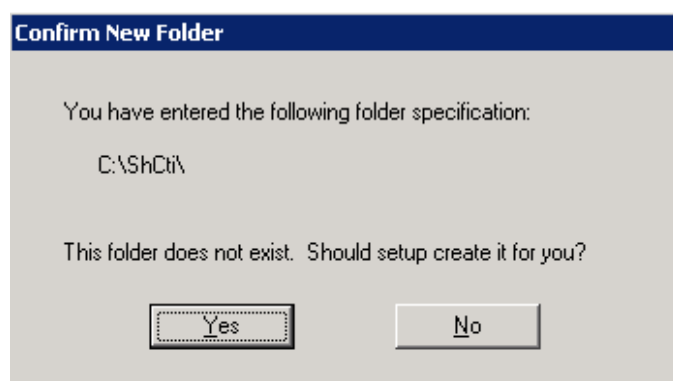


Figure 2-7

If the folder you specified is not empty, the installation program will give such a prompt as shown in Figure 2-8. Choose 'Yes' to designate another folder; choose 'No' to continue.

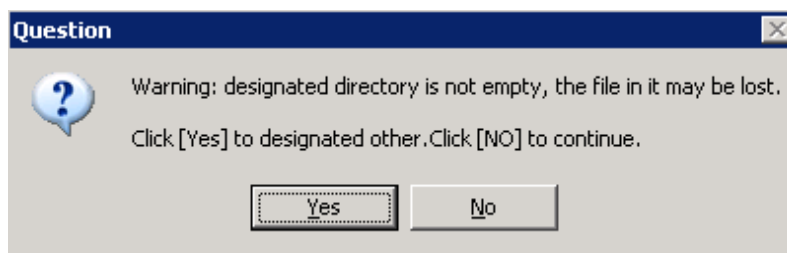


Figure 2-8

### Step 5: 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.)

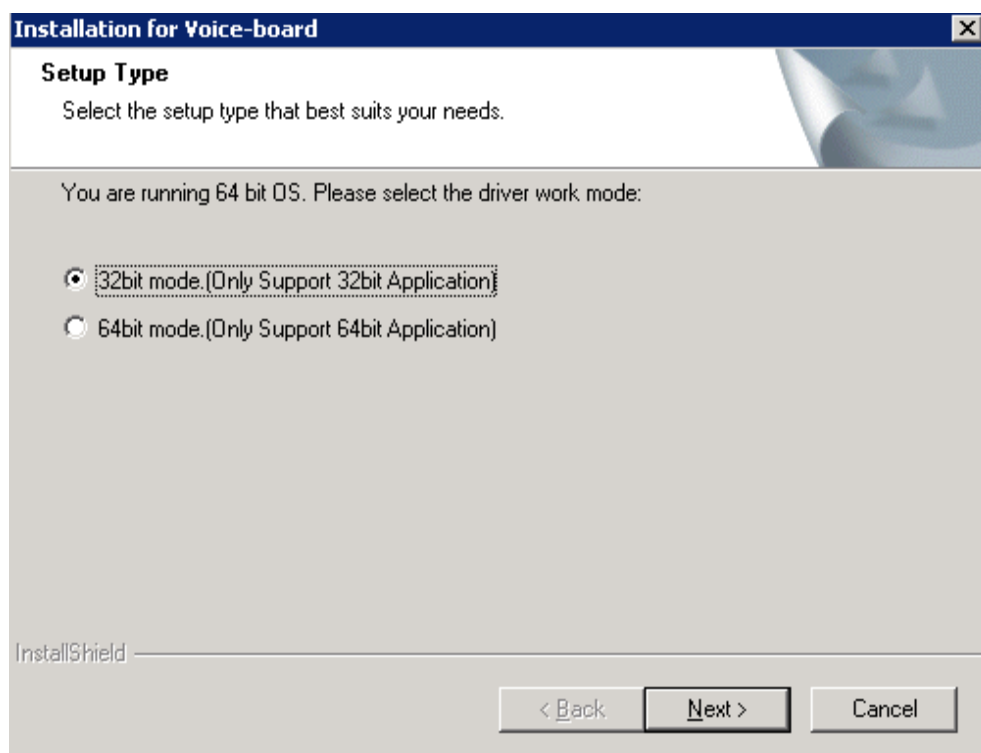


Figure 2-9

### Step 6: Copy files

The installation program starts to copy files upon collecting enough information. See Figure 2-10.

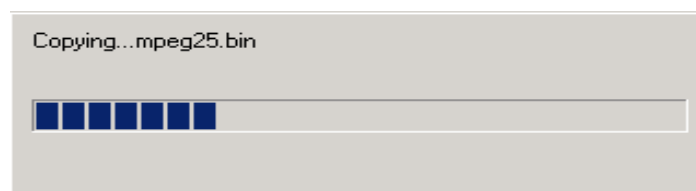


Figure 2-10

### Step 7: Scan boards

After copying all files, the installation program starts to scan the boards.



Figure 2-11

### Step 8: Install WinPcap

During the installation of the IPR driver, you are required to install WinPcap. If this software already exists in your computer, a prompt will appear as shown in Figure 2-12.

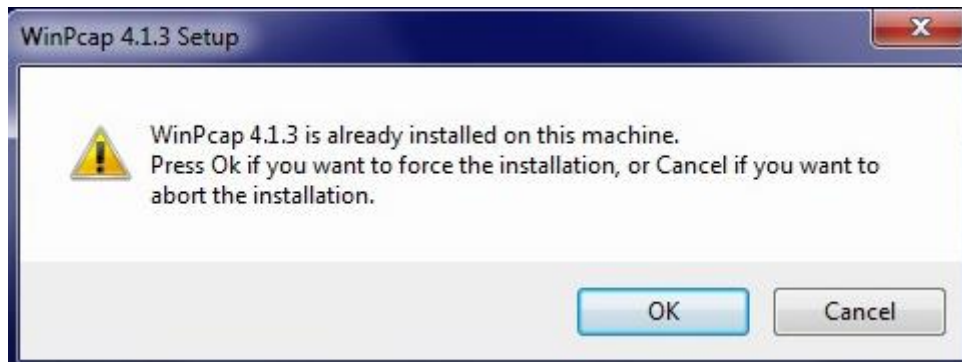


Figure 2-12

Click "OK" to install WinPcap 4.1.3, see the figures below.



Figure 2-13

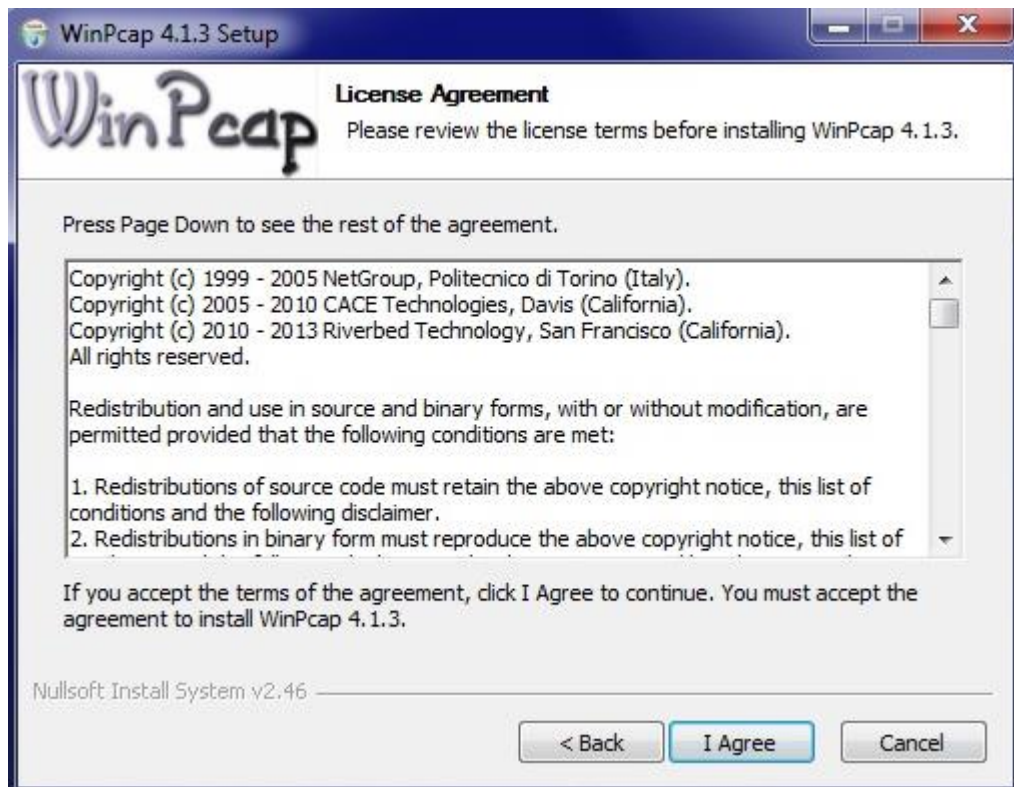


Figure 2-14



Figure 2-15



Figure 2-16

**Step 9: Install HASP**

When the installation of WinPcap finishes, the program will automatically detect the USB-KEY driver and start to install HASP. A prompt will appear as shown in Figure 2-17.

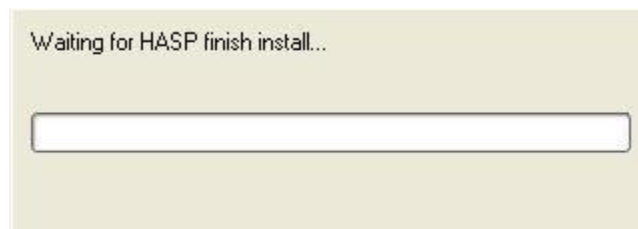


Figure 2-17

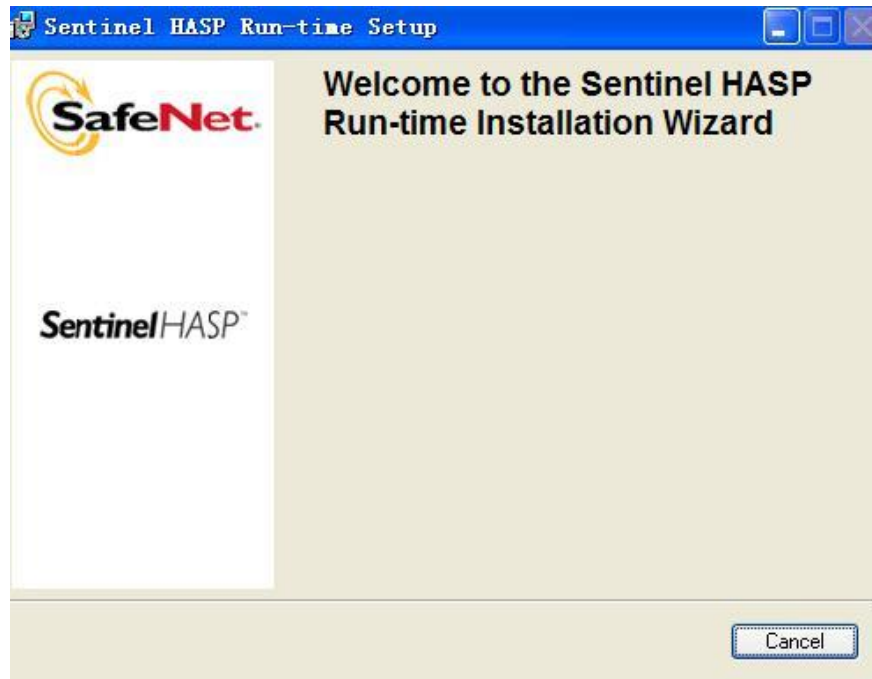


Figure 2-18

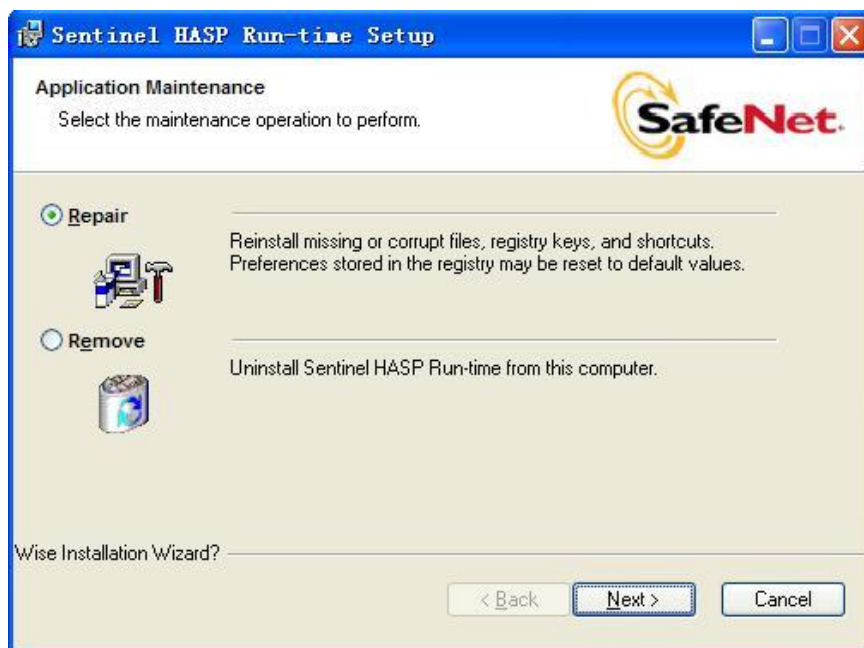


Figure 2-19

Usually choose "Repair".

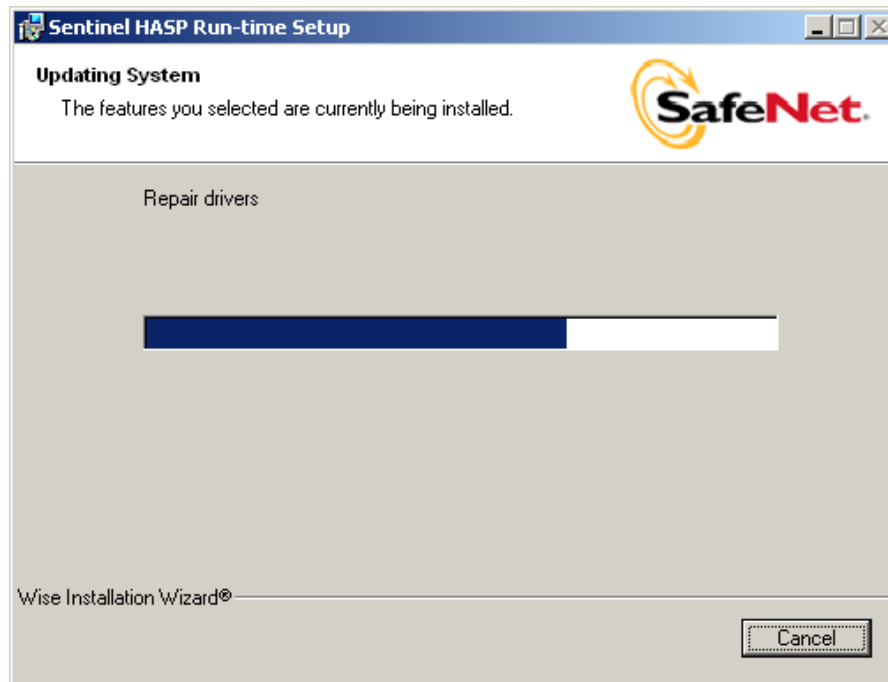


Figure 2-20

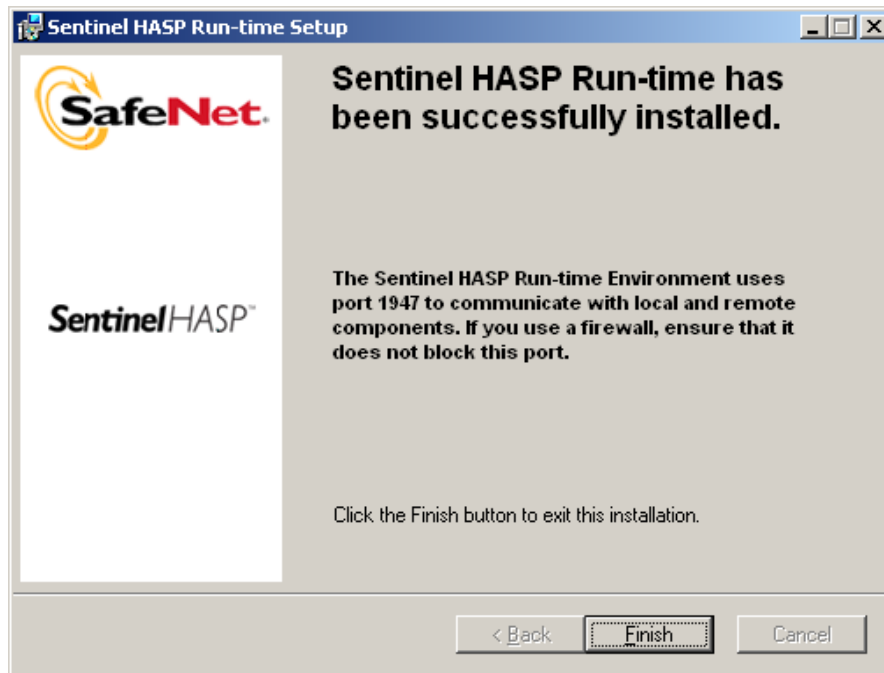
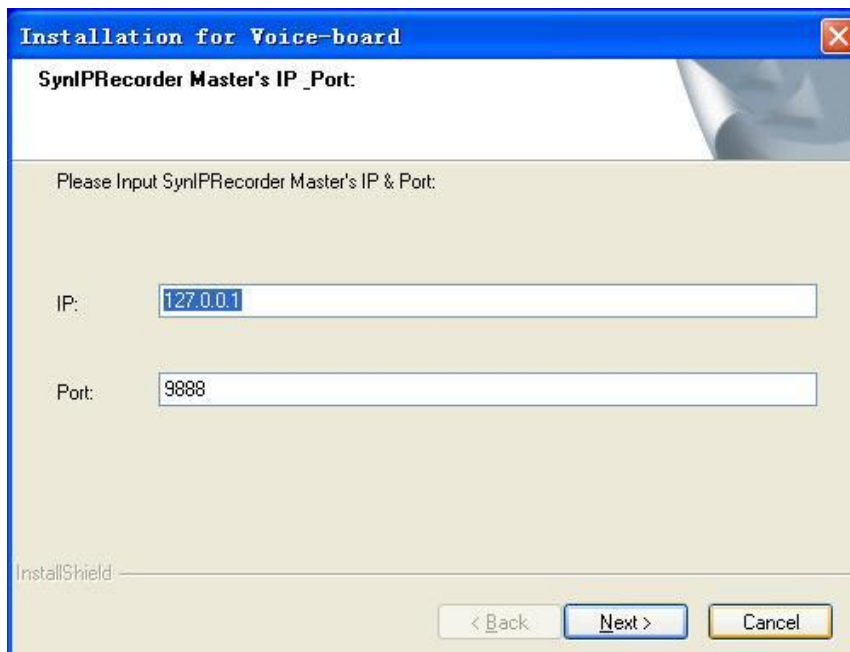


Figure 2-21

Click "Finish" to complete the installation of HASP.



## Step 10: Configure IPRecorder



**Installation for Voice-board**

**SynIPRecorder Master's IP\_Port:**

Please Input SynIPRecorder Master's IP & Port:

IP:

Port:

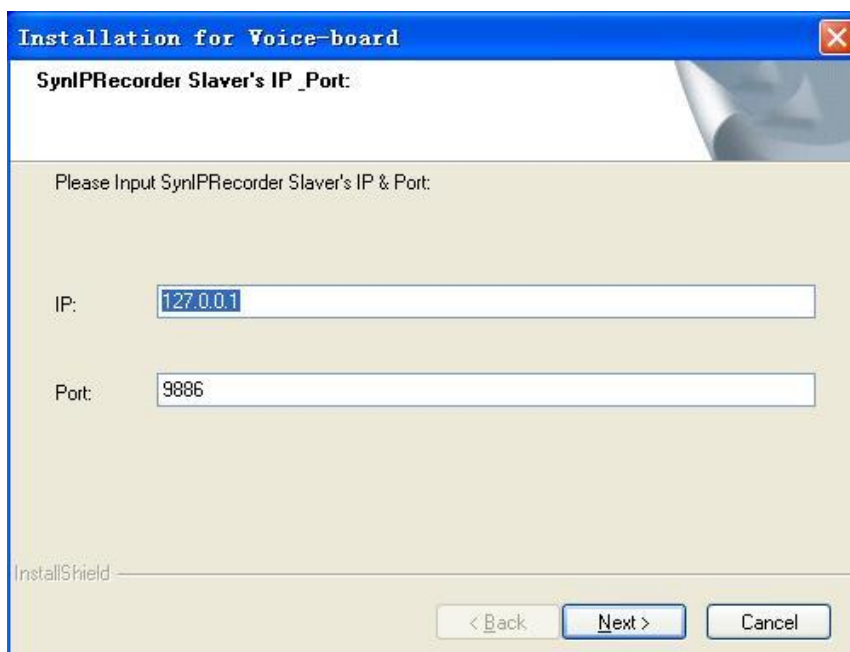
InstallShield

< Back Next > Cancel

Figure 2-22

**IP:** Sets the IP address of SynIPRecorder Master. It can be 127.0.0.1 or the actual IP address of the PC.

**Port:** Its default value is 9888 and usually needn't be modified.



**Installation for Voice-board**

**SynIPRecorder Slaver's IP\_Port:**

Please Input SynIPRecorder Slaver's IP & Port:

IP:

Port:

InstallShield

< Back Next > Cancel

Figure 2-23

**IP:** Sets the IP address of SynIPRecorder Slaver. It can be 127.0.0.1 or the actual IP address of the PC.

**Port:** Its default value is 9886 and usually needn't be modified.

## Step 11: Install the board driver

Then the installation program starts to install the driver. See Figure 2-24.

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

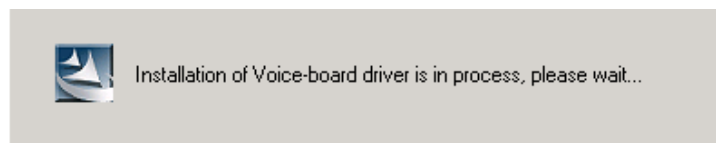


Figure 2-24

### Step 12: Prompt the 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 2-25.

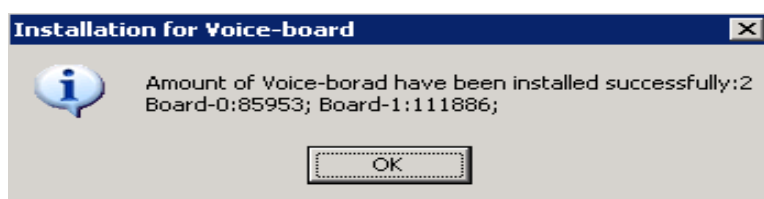


Figure 2-25

### Step 13: Configure the board

The installation program will automatically configure the board after the driver is successfully installed. See Figure 2-26 and Figure 2-27.

*Note: If the driver has been installed in the PC or if the configuration file is not deleted in driver uninstallation, this step will be skipped.*

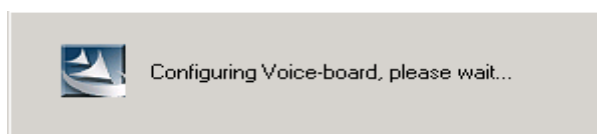


Figure 2-26

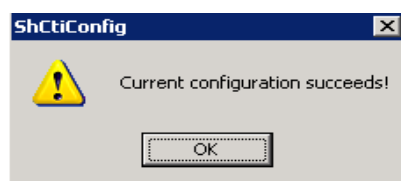


Figure 2-27

### Step 14: Finish the installation and Exit

After configuration, the installation program will prompt 'Installation has finished'. Click "Finish" to exit the installation program. See Figure 2-28.

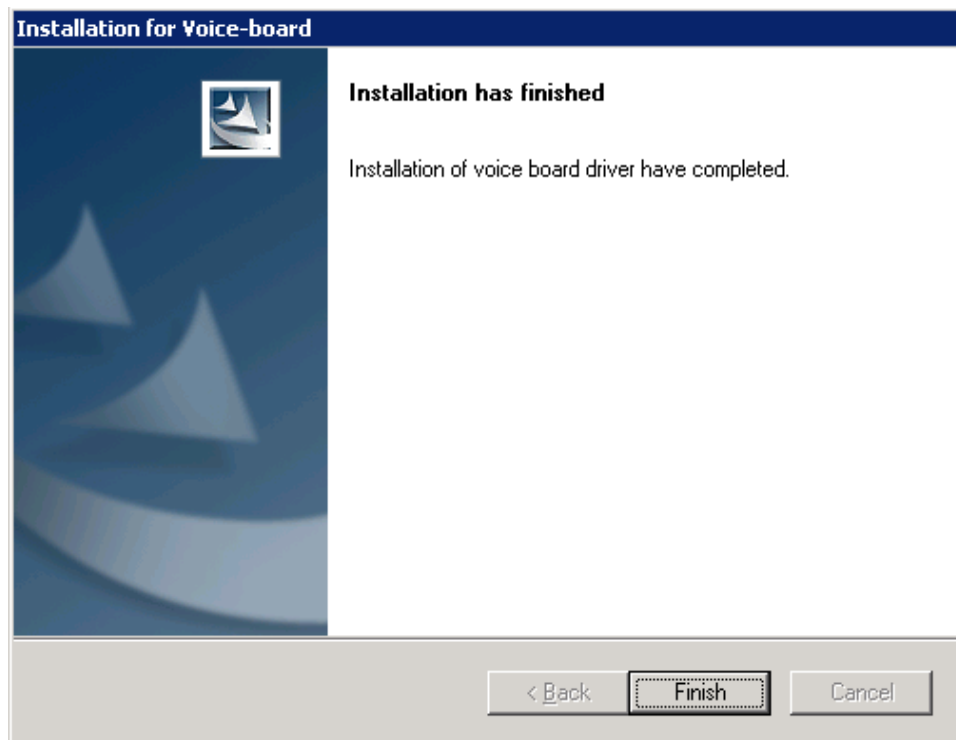


Figure 2-28

## 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

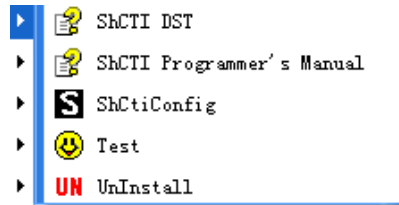
The driver files (\*.sys, \*.bin) which have been copied to the directory '%SystemRoot%\system32\drivers' can be scheduled and used by the operating system and the driver via API functions, not requiring any operation by users.

## 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)\_5327\_EN.exe (the installation package of SynCTI Driver Version 5.3.2.7 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 the description below is the fully proper for the WinRAR version you use.

### 3.2 Embed Application Installation Program

**Step 1: Preparation**

- A. Get the driver installation package 'SYNWAY\_PCI(USB)\_5327\_EN.exe'. You can download it from [www.synway.net](http://www.synway.net) or contact Synway directly.
- B. Rename the executable installation program of your application to be 'Install.exe'.

**Step 2: Right click and extract the driver installation package 'SYNWAY\_PCI(USB)\_5327\_EN.exe'.**

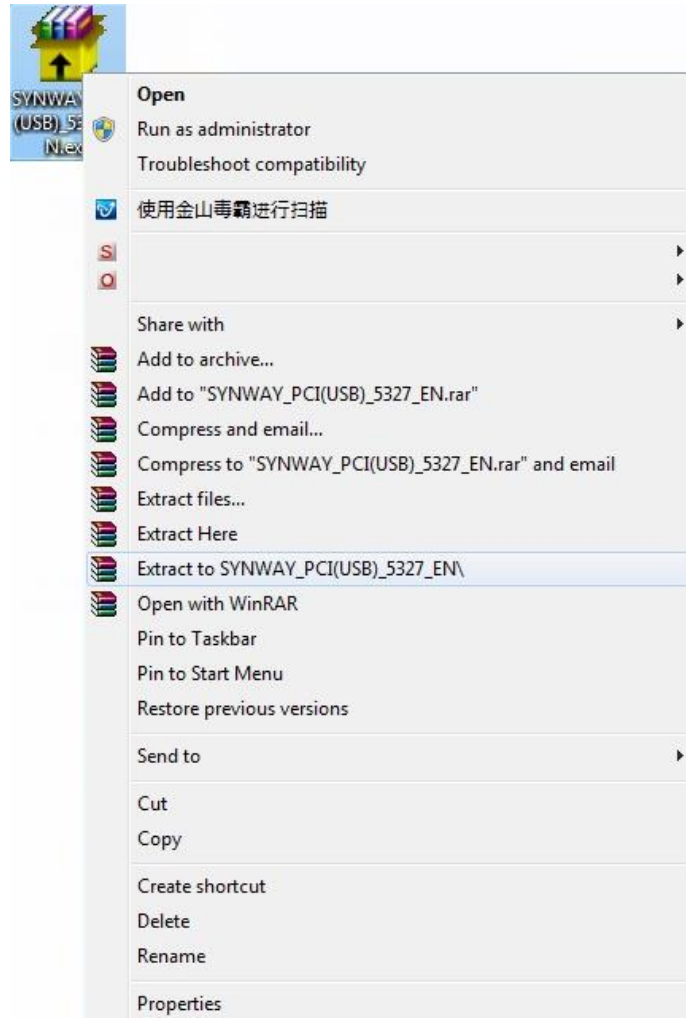


Figure 3-1

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

Copy the renamed application installation program 'Install.exe' to '. \ SYNWAY\_PCI(USB)\_5327\_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)\_5327\_EN\exe' too, but anyhow, you must ensure all of them can be visited properly by Install.exe.*

## 3.3 Repack

*Note: This step is optional. If you don't want to repackage the installation program, run 'SYNWAY\_PCI(USB)\_5327\_EN\setup.exe' to start the installation and perform the other steps as stated above.*

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

Go to the directory '\SYNWAY\_PCI(USB)\_5327\_EN' which is generated after decompression (Step 2), select all files therein, right click and select 'Add to archive'. See Figure 3-2.

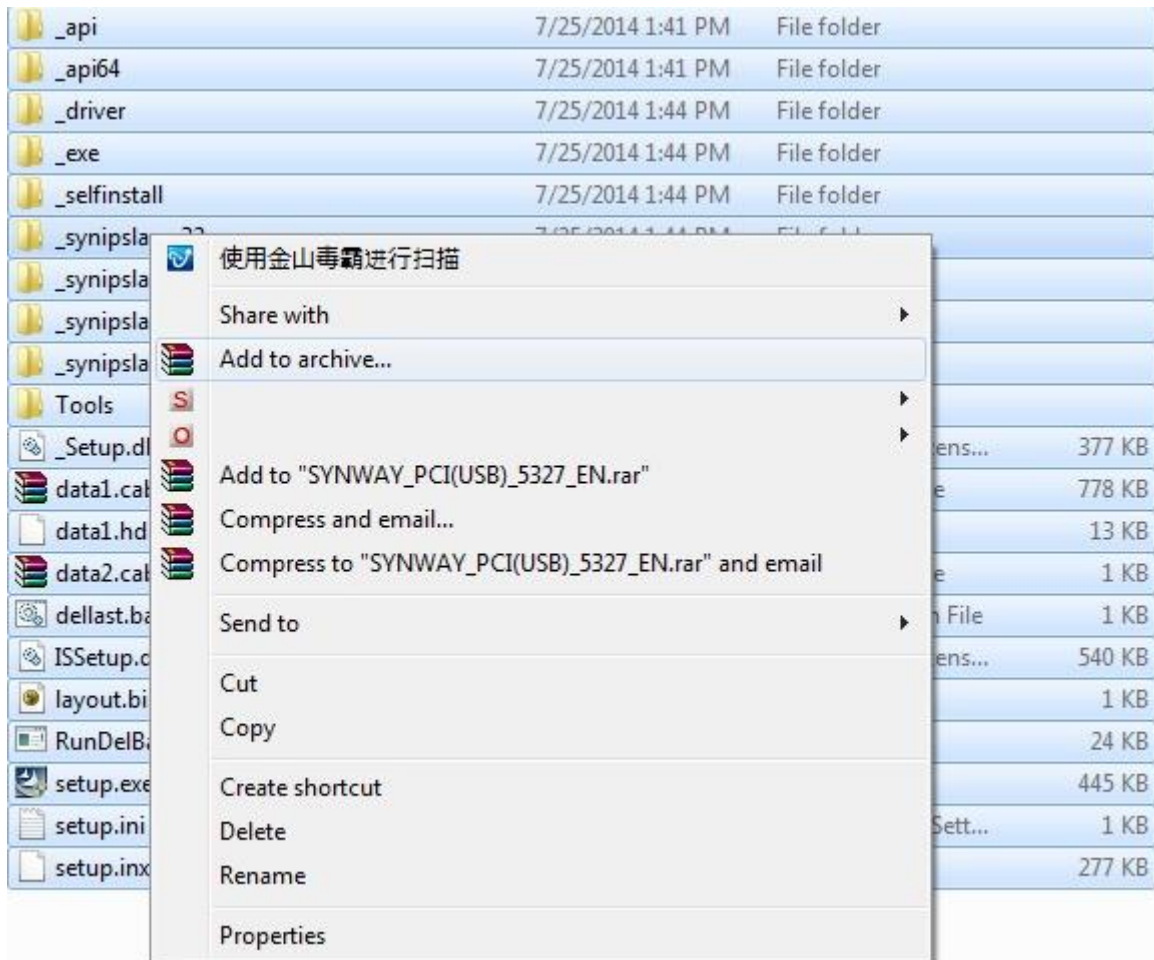


Figure 3-2

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



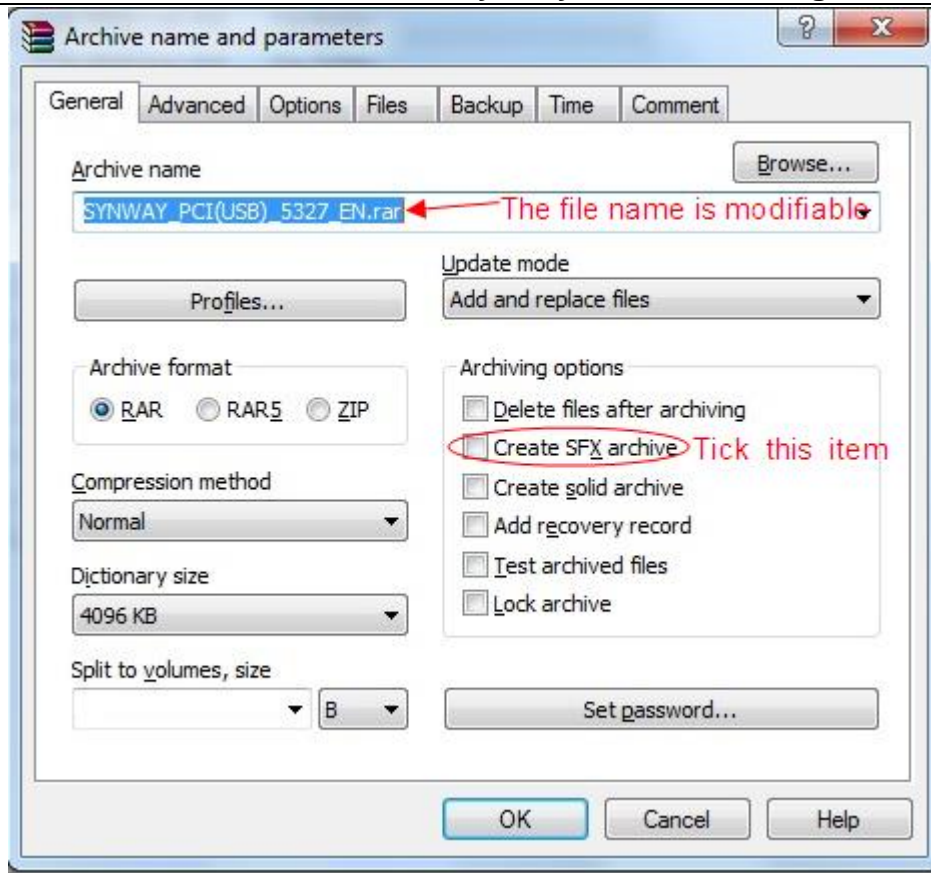


Figure 3-3

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

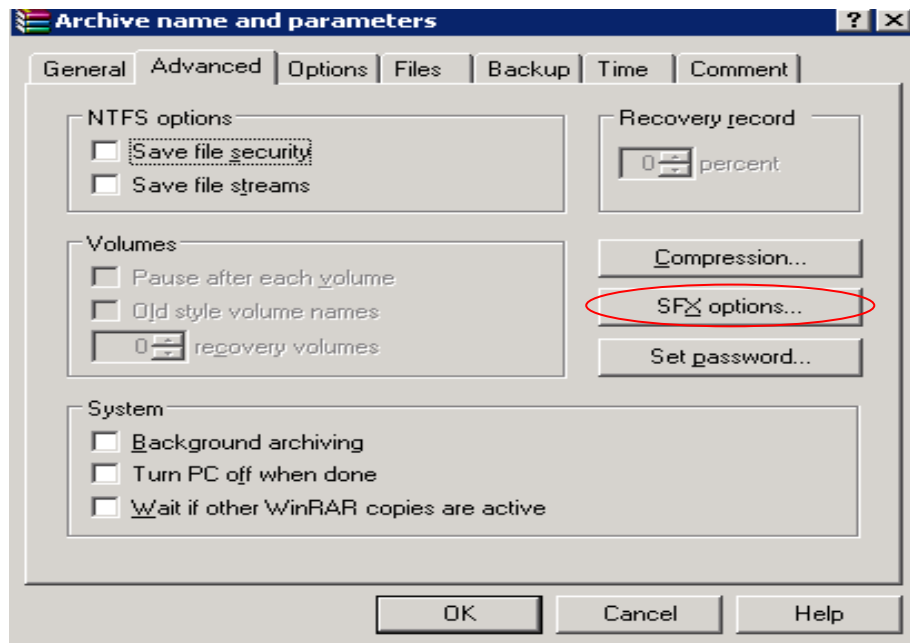


Figure 3-4

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.

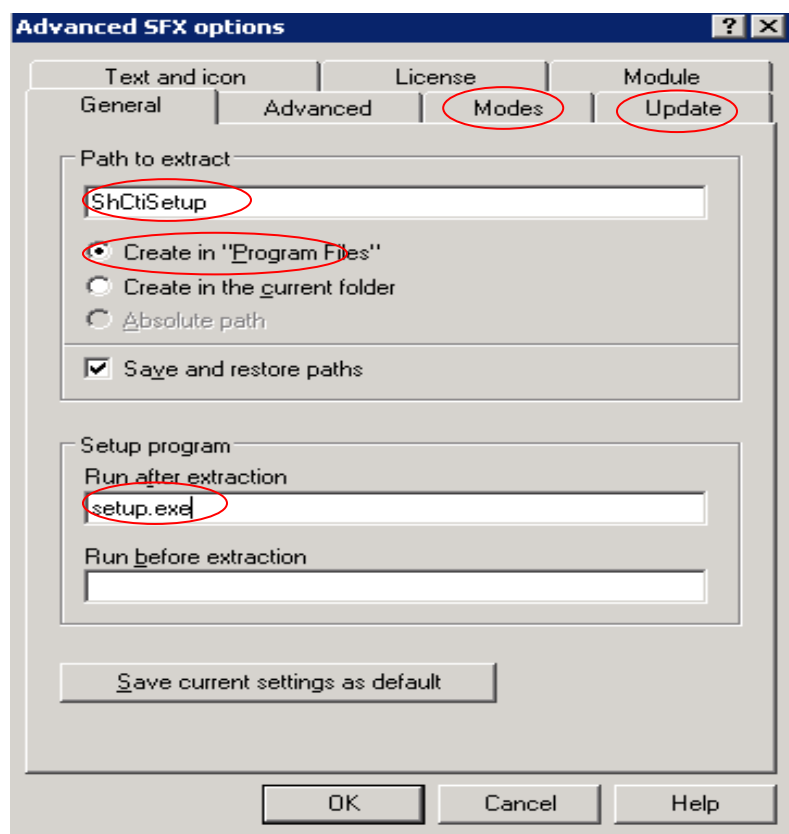


Figure 3-5

Go to 'Modes', click 'Silent mode' and select 'Hide start dialog'. Go to 'Update', click 'Overwrite mode' and select 'Overwrite all files'. Then click on 'OK'. See Figure 3-6 and Figure 3-7.

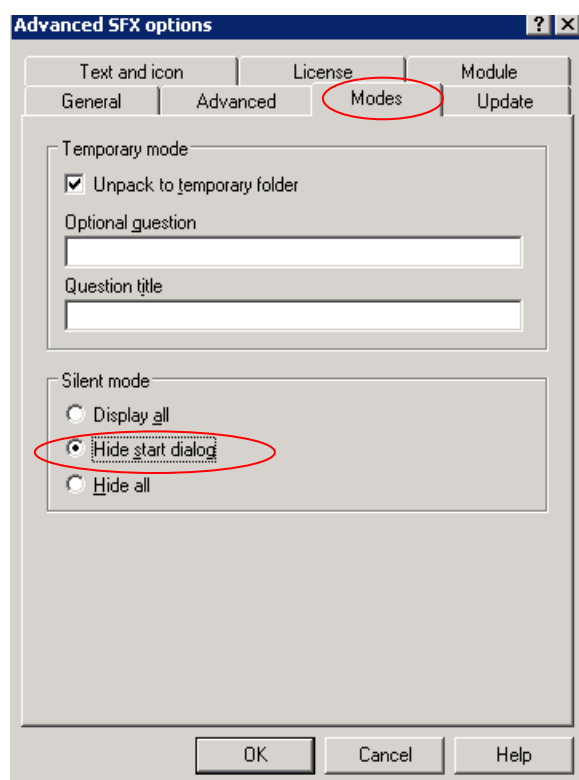


Figure 3-6

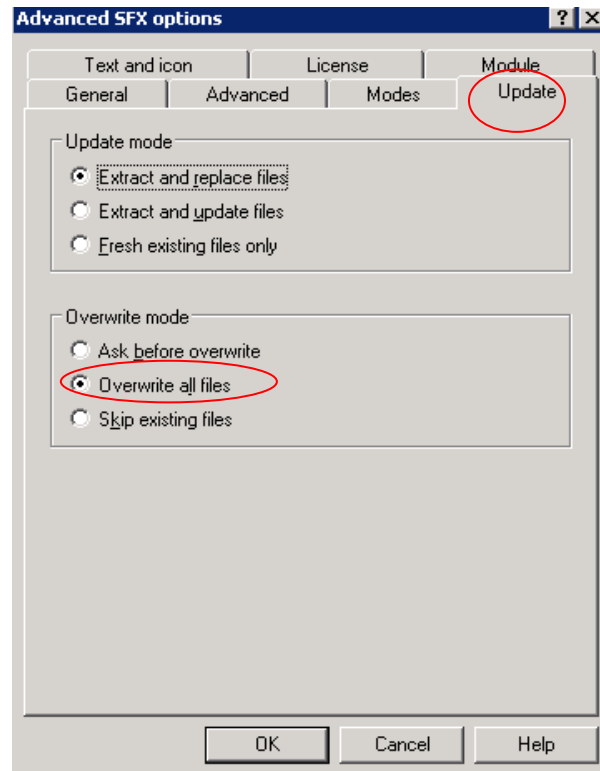


Figure 3-7

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

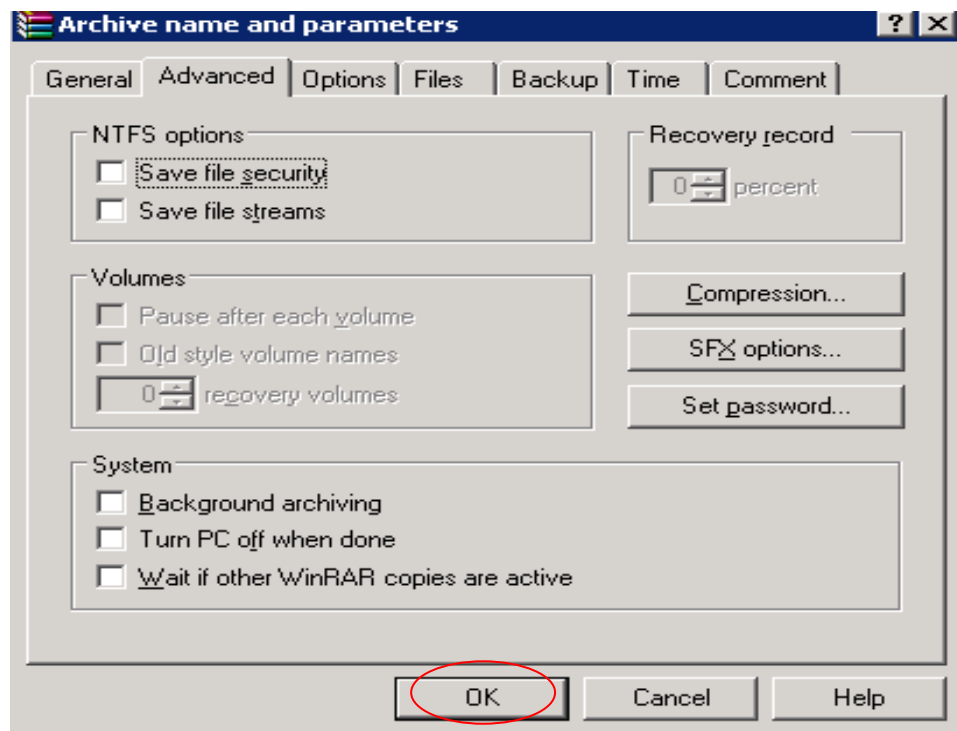


Figure 3-8

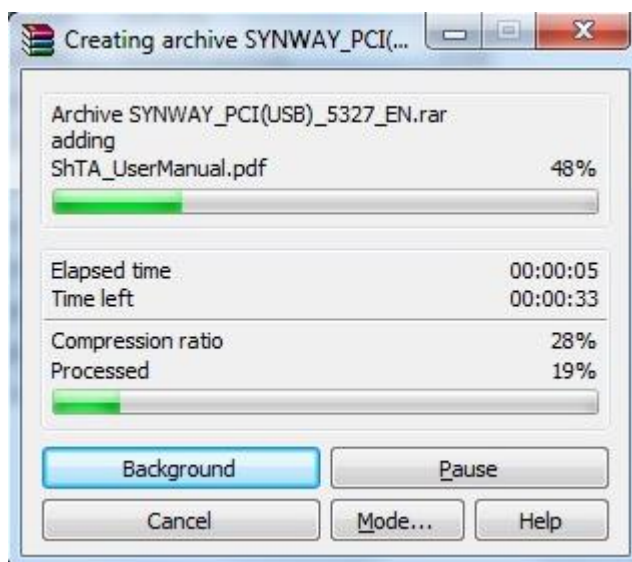


Figure 3-9

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 Start\All Programs\ShCti 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'.

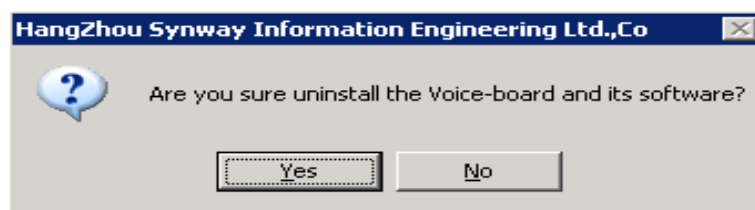


Figure 4-1

### 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.

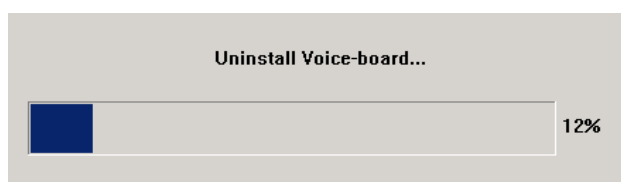


Figure 4-3

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

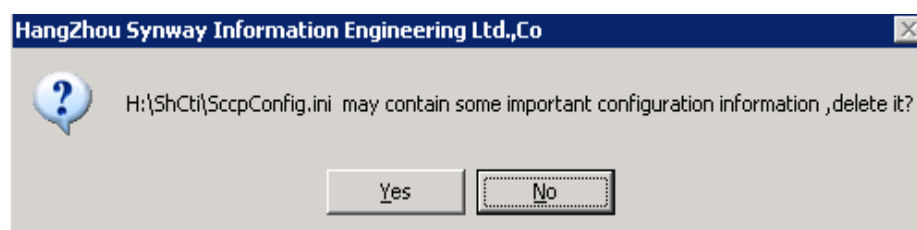


Figure 4-4

**Step 4: Display uninstallation result**

If the driver is successfully uninstalled, the following dialog box will appear.

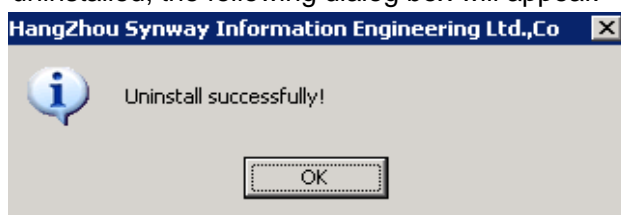


Figure 4-5

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

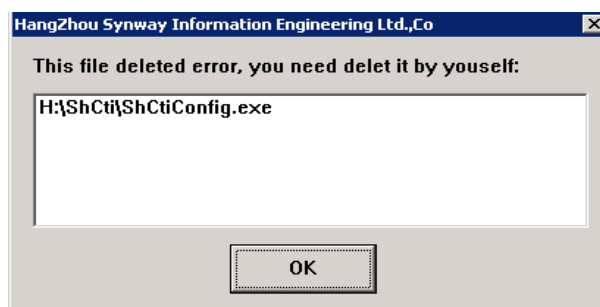


Figure 4-6

## **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.

### **Headquarters**

Synway Information Engineering Co., Ltd  
<http://www.synway.net/>  
9F, Synway D&R Center, No.3756, Nanhuan Road, Binjiang District,  
Hangzhou, P.R.China, 310053  
Tel: +86-571-88860561  
Fax: +86-571-88850923

### **Technical Support**

Tel: +86-571-88864579  
Mobile: +86-18905817070  
Email: [techsupport@sanhuid.com](mailto:techsupport@sanhuid.com)  
Email: [techsupport@synway.net](mailto:techsupport@synway.net)  
MSN: [synway.support@hotmail.com](mailto:synway.support@hotmail.com)

### **Sales Department**

Tel: +86-571-88860561  
Tel: +86-571-88864579  
Fax: +86-571-88850923  
Email: [sales@synway.net](mailto:sales@synway.net)