



孕龍科技股份有限公司
ZeroPlus Technology Co., Ltd.

SPECIFICATION

MODEL: AC97 Specification

PART NO : B08011

VERSION : V1.01

Approver		Check	Design
GM	PM		

Customer Confirm

* Please fax the file to
ZeroPlus Technology after
signing .



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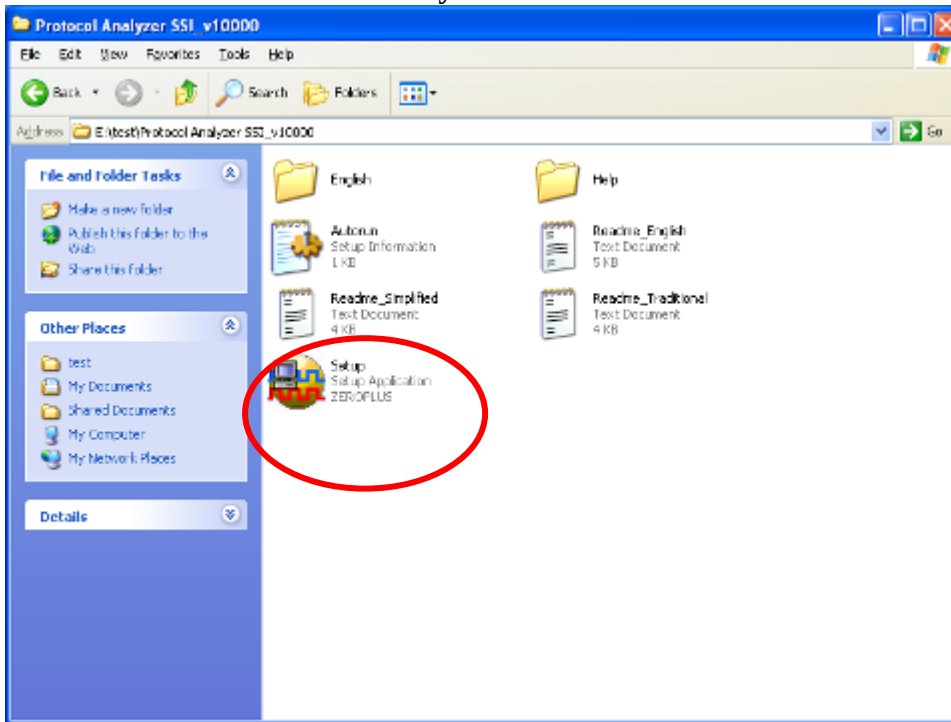


1 Software Installation

Please install the software as the following steps:

- ※ Remark: 1. The installation steps for all protocol analyzers are the same; you can complete the installation by following procedures. Following is an example on how to install protocol analyzer SSI.
- ※ Remark: 2. We won't have additional notice for you, when there is any modification of the module specification. If there is some unconformity caused by the module version upgrade, users should take the module software as the standard.

STEP 1. Install Protocol Analyzer Module.

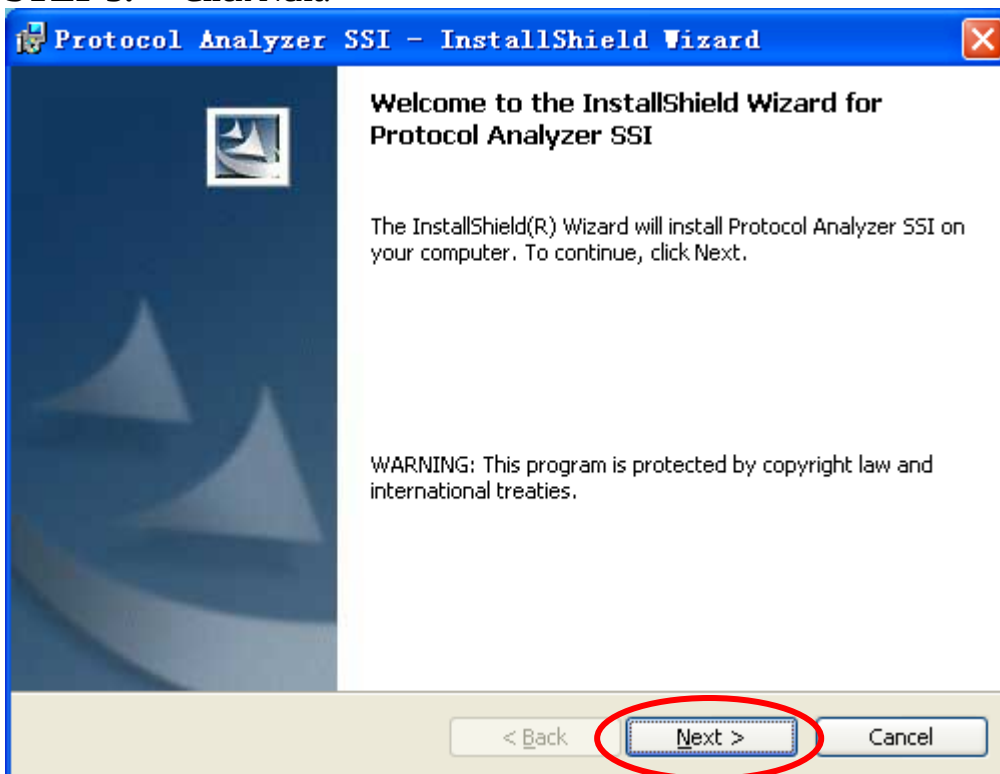


STEP 2. Click Install.

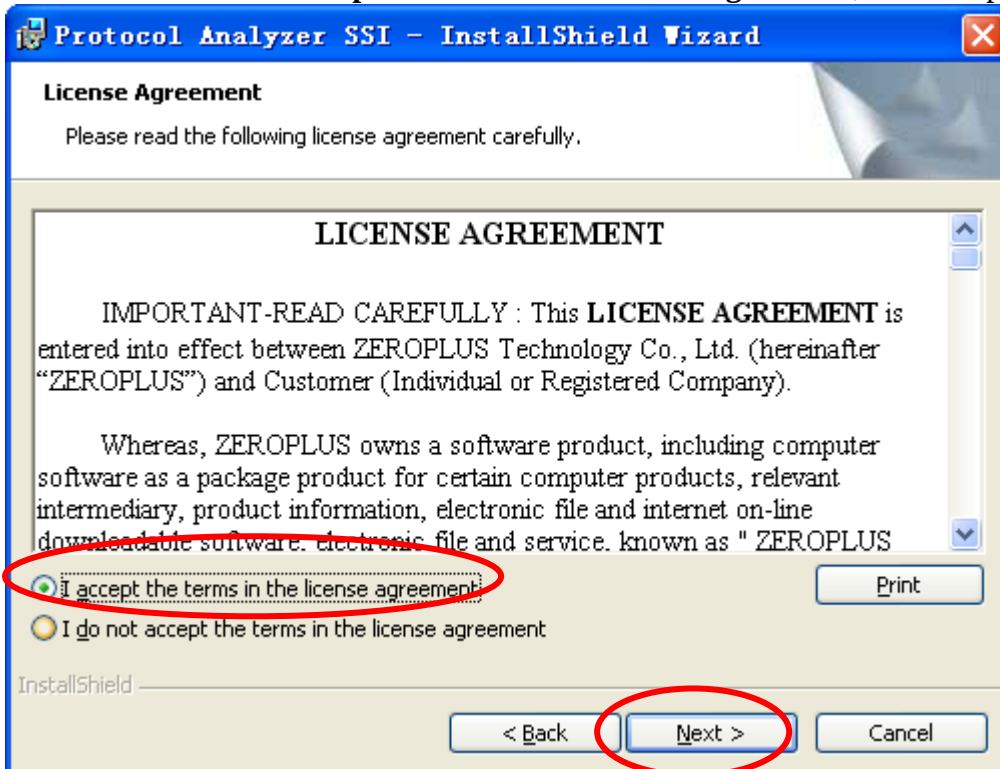




STEP 3. Click Next.



STEP 4. Select I accept the terms in the license agreement, and then press Next.





STEP 5. Fill in users' information in the below dialog box and click **Next**.

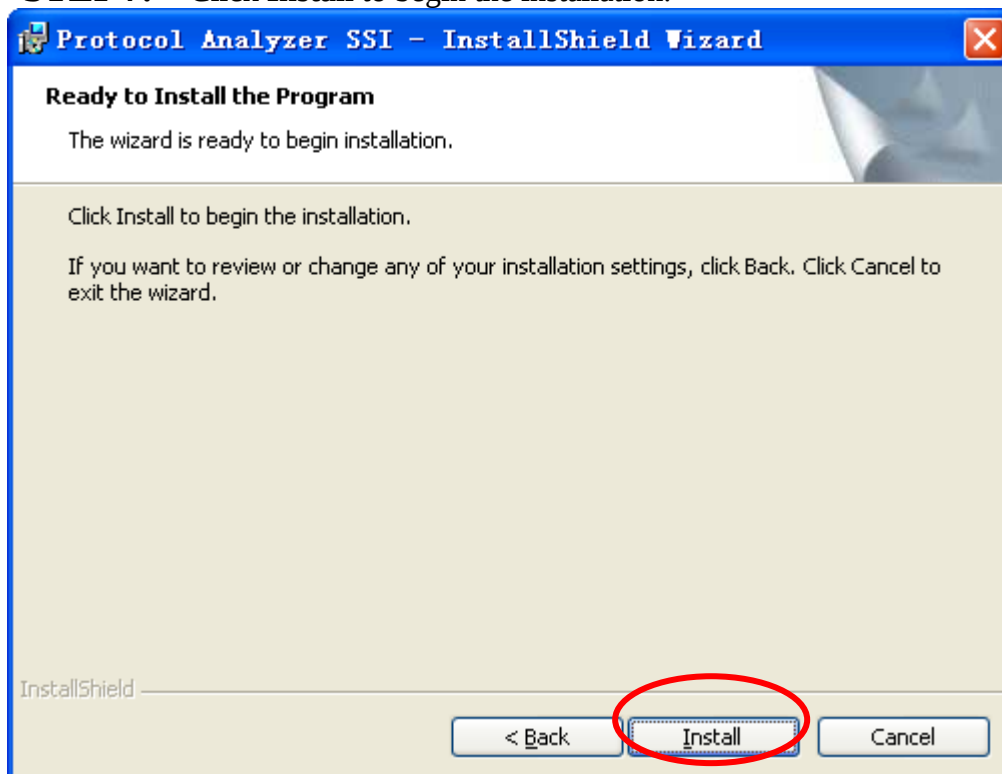
The dialog box is titled "Protocol Analyzer SSI - InstallShield Wizard". It has a blue title bar with a close button. The main area is titled "Customer Information" and contains the text "Please enter your information." Below this are two text input fields: "User Name:" with the value "sunshine" and "Organization:" with the value "zeroplus". Below these fields are two radio button options: "Anyone who uses this computer (all users)" (selected) and "Only for me (sunshine)". At the bottom, there are three buttons: "< Back", "Next >" (circled in red), and "Cancel". The "InstallShield" logo is visible in the bottom left corner.

STEP 6. First, select **Complete** and then click **Next**.

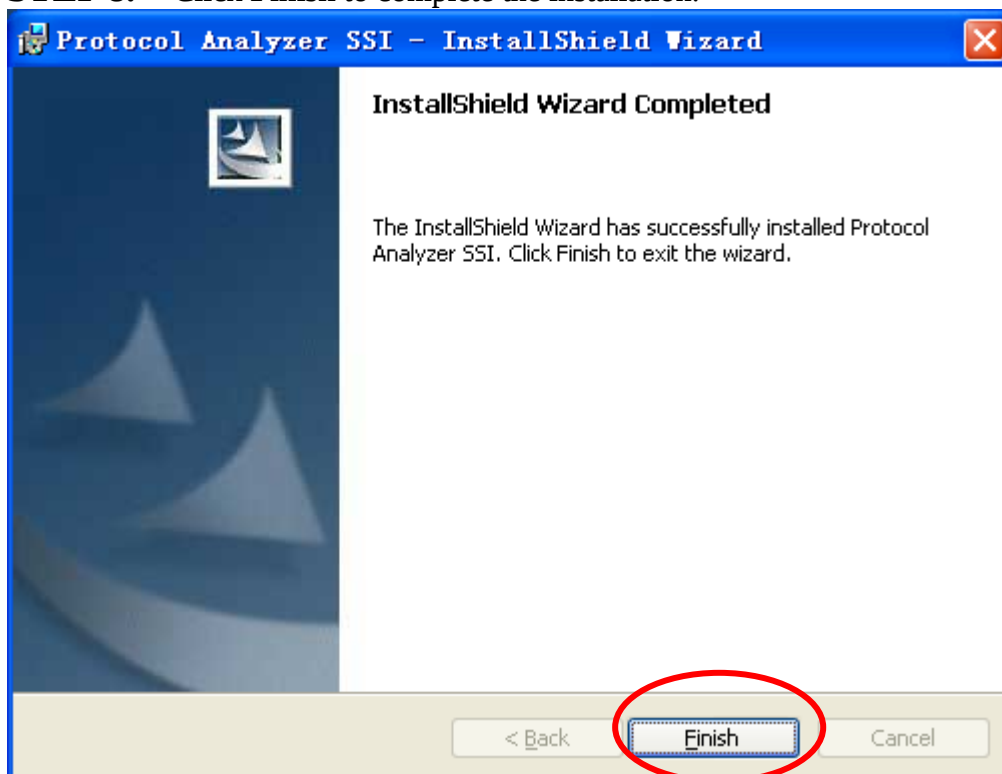
The dialog box is titled "Protocol Analyzer SSI - InstallShield Wizard". It has a blue title bar with a close button. The main area is titled "Setup Type" and contains the text "Choose the setup type that best suits your needs." Below this is the text "Please select a setup type." There are two radio button options: "Complete" (selected) and "Custom". The "Complete" option has a description: "All program features will be installed. (Requires the most disk space.)". The "Custom" option has a description: "Choose which program features you want installed and where they will be installed. Recommended for advanced users." At the bottom, there are three buttons: "< Back", "Next >" (circled in red), and "Cancel". The "InstallShield" logo is visible in the bottom left corner.



STEP 7. Click **Install** to begin the installation.



STEP 8. Click **Finish** to complete the installation.

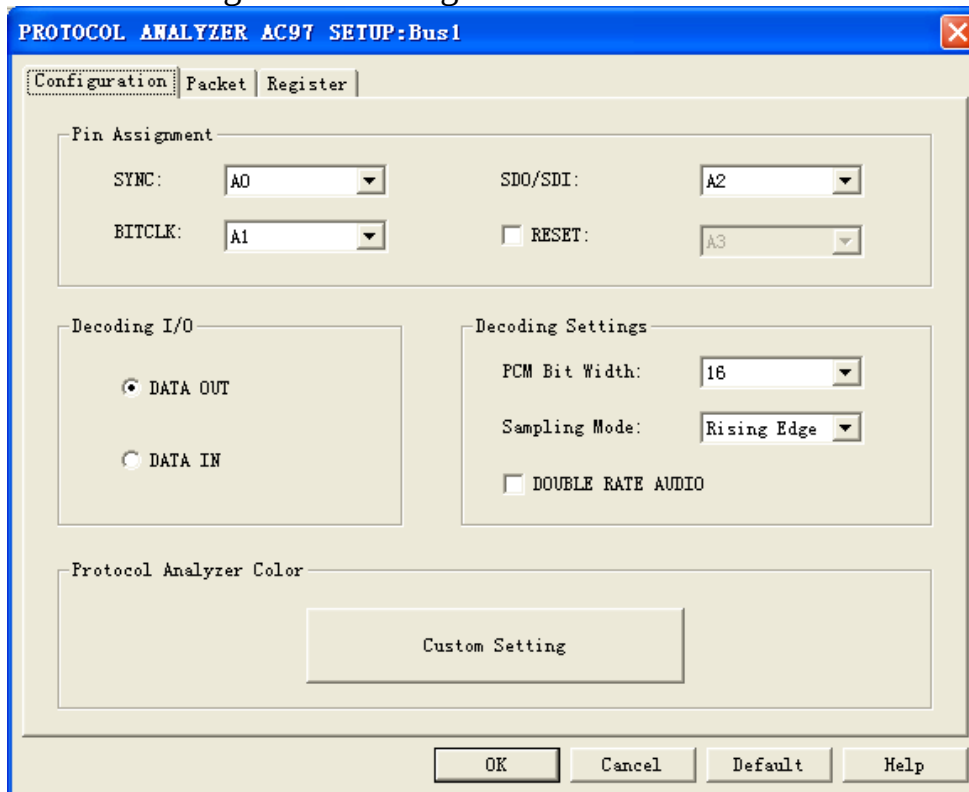




2 User Interface

In the configuration dialog box, please refer to the below images to select options of setting **AC97 MODULE**.

AC97 Configuration Dialog Box



Pin Assignment:

The selection of AC97 Protocol Analyzer channels:

1. SYNC: It is the synchronous signal line; the default is A0.
2. BITCLK: It is the clock signal line; the default is A1.
3. SDO/SDI: It is the data transmission line; the default is A2.
4. RESET: It is the reset line; the default is A3.

Decoding I/O:

Users can set the **Decoding I/O as DATA OUT or DATA IN**.

Decoding Settings:

1. PCM Bit Width: Users can set the bit width of PCM which are 16bits, 18 bits or 20bits.
2. Sampling Mode: The default is Rising Edge sampling of BITCLK. When the settings is Rising Edge, the decoding condition is changed into the Falling Edge sampling.
3. DOUBLE RATE AUDIO: After selecting the decoding, it can decode PCM L, PCM R, PCM C.

Protocol Analyzer Color:

Users can click the Custom Setting to set and vary the color of the items according to their requirements.



AC 97 Packet Dialog Box

Item	Color	Item	Color	Item	Color
☒ RESET	[Pink]	☒ FRAME VALID	[Light Blue]	☒ FRAME INVALID	[Dark Blue]
☒ SLOT VALID	[Green]	☒ SLOT INVALID	[Purple]	☒ RESERVED	[Magenta]
☒ CODEC ID	[Blue]	☒ INVALID	[Teal]	☒ READ	[Light Blue]
☒ WRITE	[Red]	☒ ADDRESS	[Orange]	☒ DATA	[Green]
☒ PCM L FRONT	[Pink]	☒ PCM R FRONT	[Pink]	☒ LINE 1 DAC	[Light Orange]
☒ PCMCENTER	[Light Green]	☒ PCM L SURR	[Orange]	☒ PCM R SURR	[Yellow]
☒ PCMLFE	[Orange]	☒ LINE 2 DAC	[Light Blue]	☒ HSET DAC	[Light Green]
☒ IO CTRL	[Purple]	☒ SLOTREQ	[Pink]	☒ PCM LEFT	[Magenta]
☒ PCM RIGHT	[Blue]	☒ LINE 1 ADC	[Dark Purple]	☒ PCM MIC	[Light Blue]
☒ LINE 2 ADC	[Pink]	☒ HSET ADC	[Red]	☒ IO STATUS	[Teal]
☒ PCML	[Purple]	☒ PCM R	[Pink]	☒ PCM C	[Light Green]
☒ READY	[Purple]	☒ NO READY	[Light Purple]	☒ DESCRIBE	[Dark Blue]

In the packet dialog box, users can choose displayed items and set protocol analyzer color according to their requirements.

AC97 Register Dialog Box

Congratulation AC97 decoding function has been activated!

If you have questions about operating software please follow the appropriate instructions below. Our technical support team will be happy to answer any questions you have.

>> By phone: Tel:886-2-66202225
>> Applications through EMail: service_2@zeroplus.com.tw
>> Website: <http://www.zeroplus.com.tw>

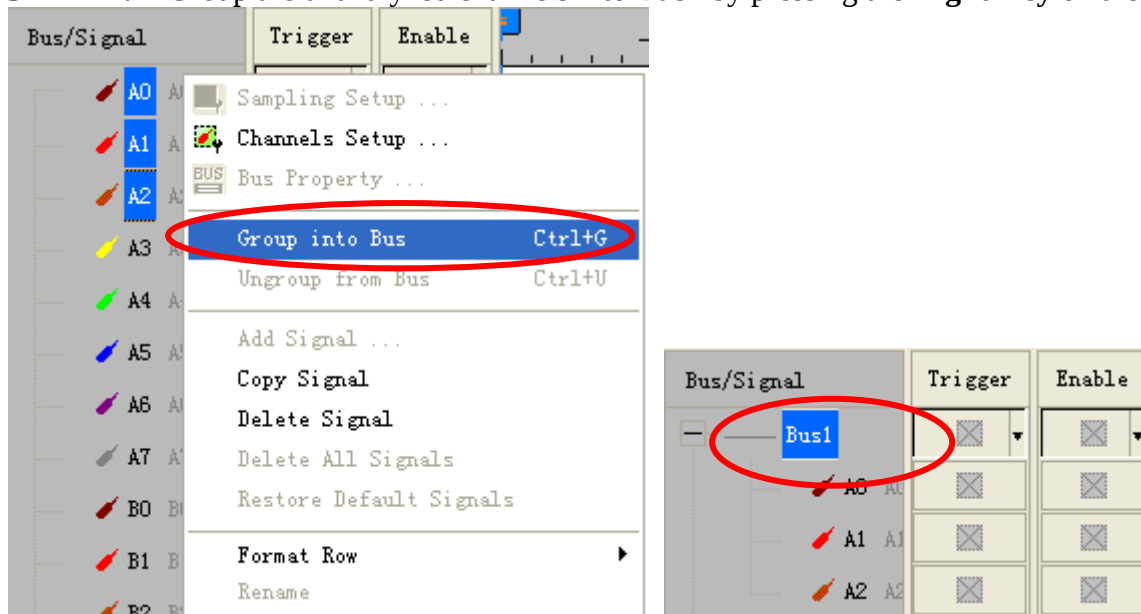
Copyright (C) 1997-2009 ZEROPLUS TECHNOLOGY CO., LTD.

There is written ZeroPlus company information. If you have any questions about software operations, you can contact ZeroPlus by Telephone or Email.

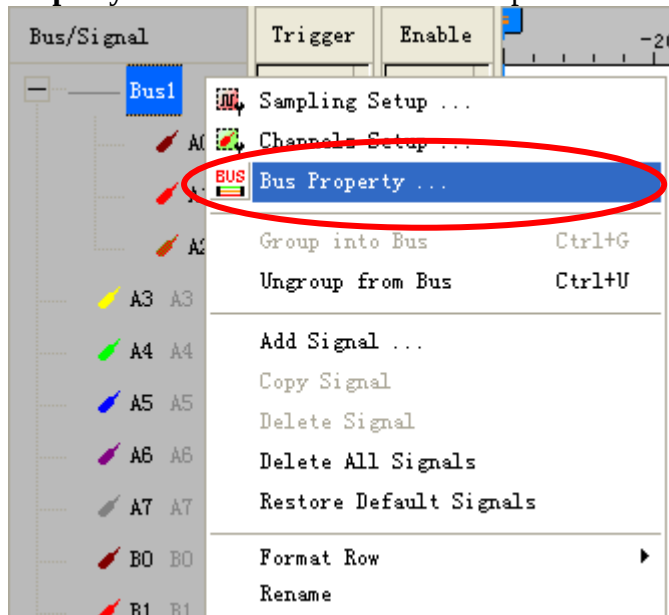


3 Operating Instructions

STEP 1. Group the unanalyzed channels into **Bus1** by pressing the **Right Key** on the mouse.

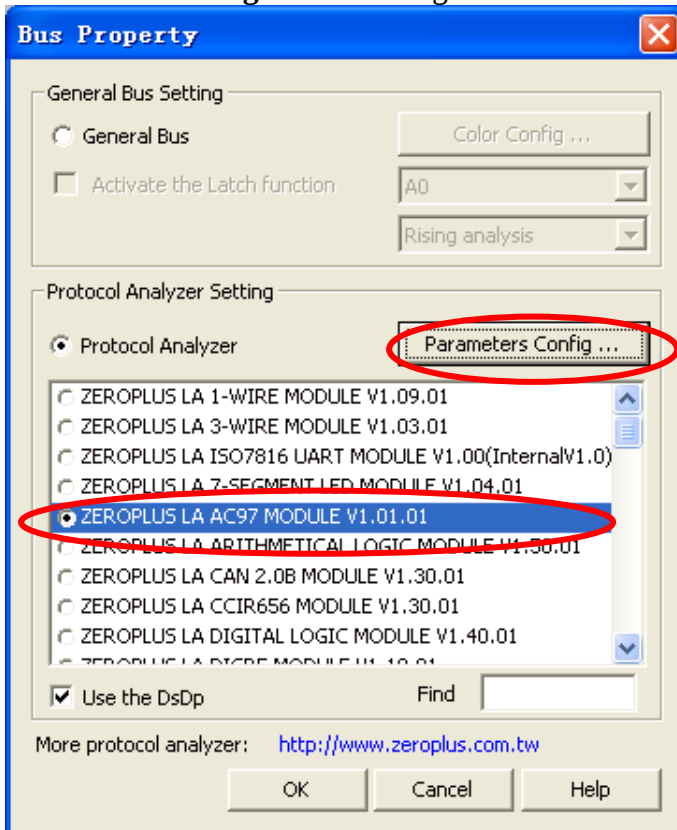


STEP 2. Select **Bus1**, then press **Right Key** on the mouse to list the menu, then press **Bus Property** or **Bus bar** on the toolbar to open **Bus Property** dialog box.

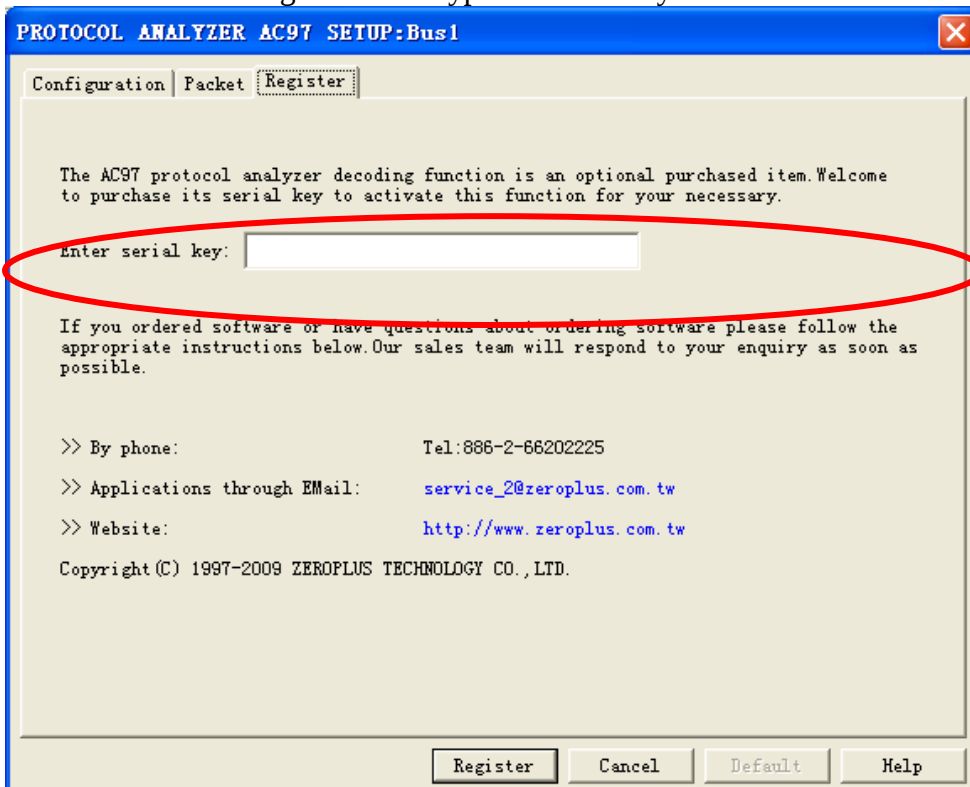




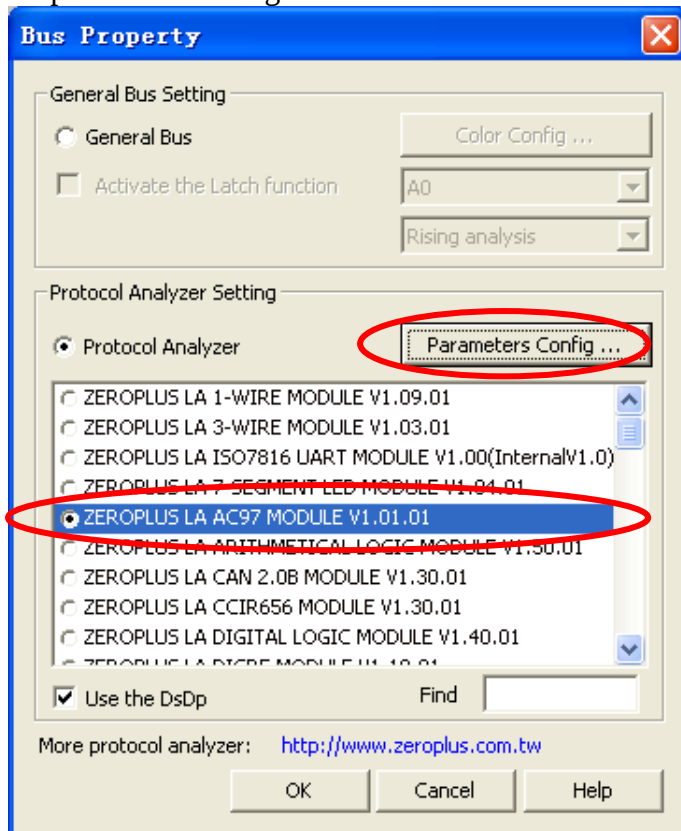
STEP 3. For Protocol Analyzer AC97 Parameters Configuration, select Protocol Analyzer, and then select **ZEROPLUS AC97 MODULE V1.03.01**. Next click **Parameters Configuration** to open **Parameters Configuration** dialog box.



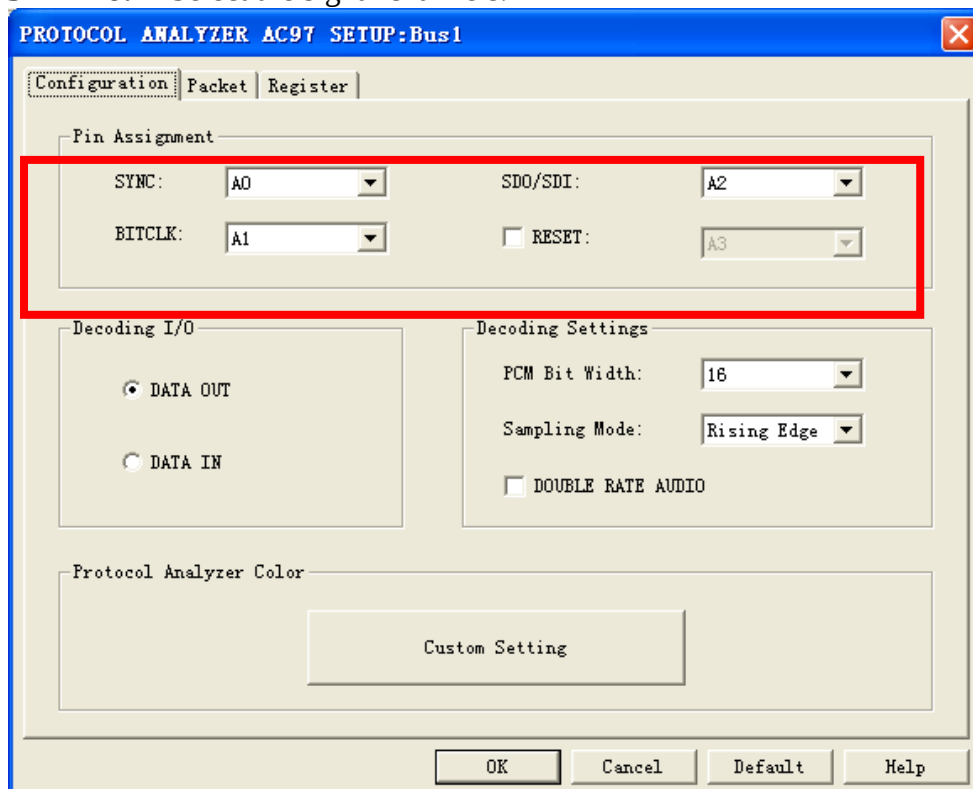
STEP 4. Click Register tab to type the serial key number of AC97. Then, press **Register**.



STEP 5. After completing **Register**, come back to the **Bus Property** dialog box, and then click the parameters configuration to start the Protocol Analyzer AC97 setup.

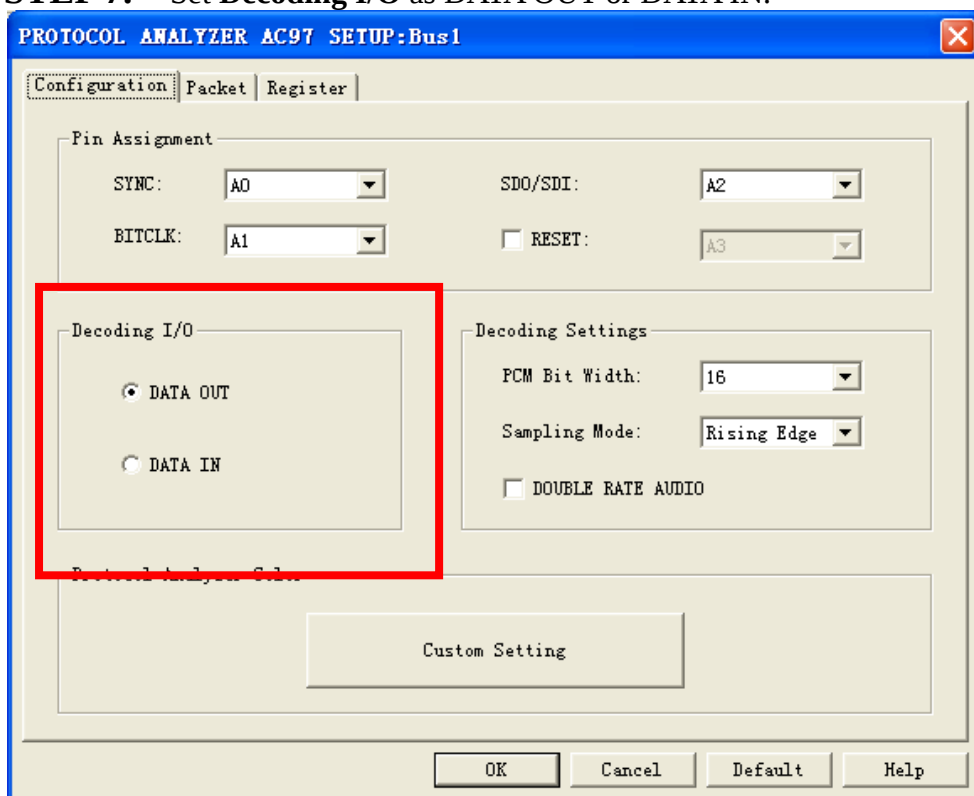


STEP 6. Select the signal channels.

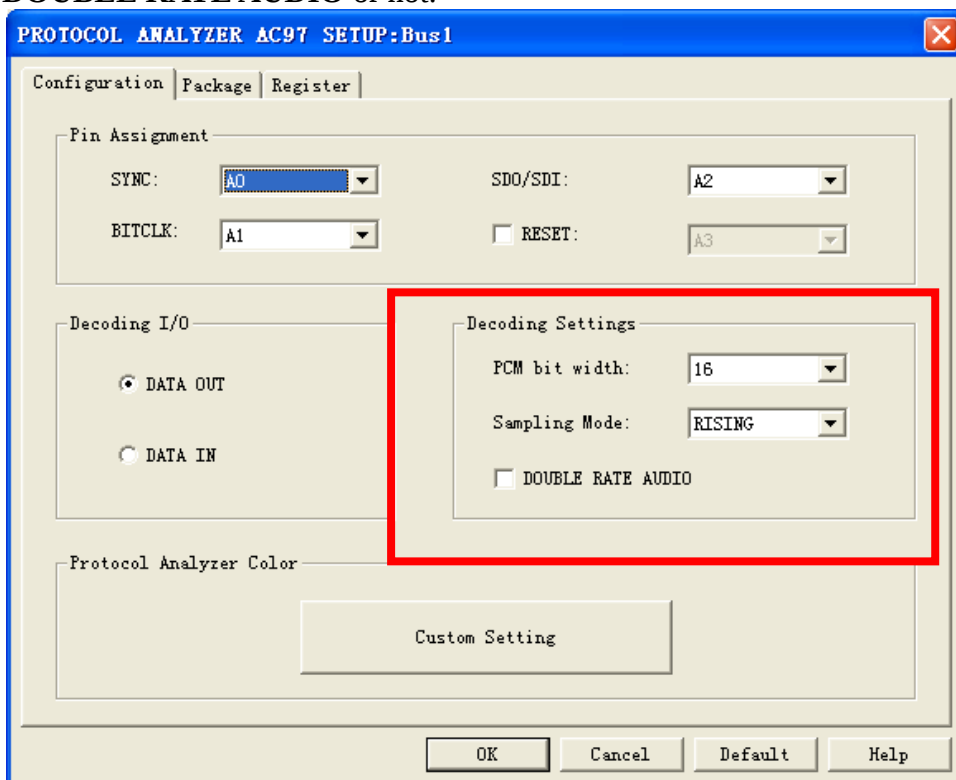




STEP 7. Set Decoding I/O as DATA OUT or DATA IN.



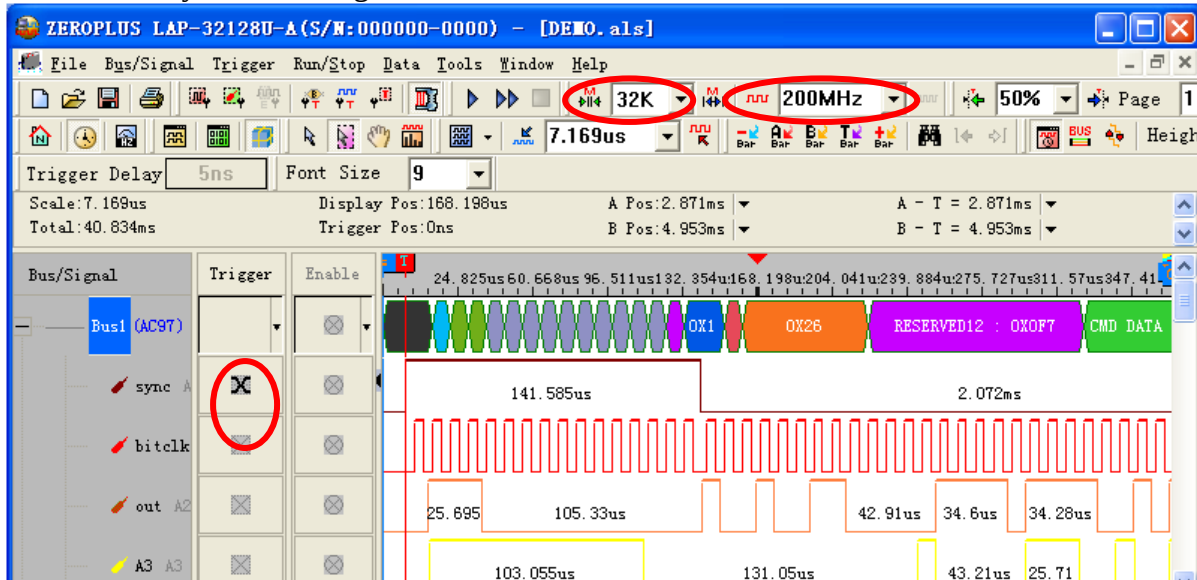
STEP 8. Set PCM Bit Width, Sampling Mode and select whether to start the function of DOUBLE RATE AUDIO or not.





STEP 9. Following pictures show the completion of the protocol analyzer decoding and the packet list. The trigger condition is set as Either Edge; the memory depth is 32K; the sampling frequency is 200MHZ.

Protocol Analyzer Decoding



Packet List

