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

SPECIFICATION

MODEL: 013-LAP-S/PDIF-M

PART NO: _____

VERSION: V1.21

Approver		Check	Design
GM	PM		

Customer Confirm

*Please fax the file to Zeroplus Technology after signing.

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Content

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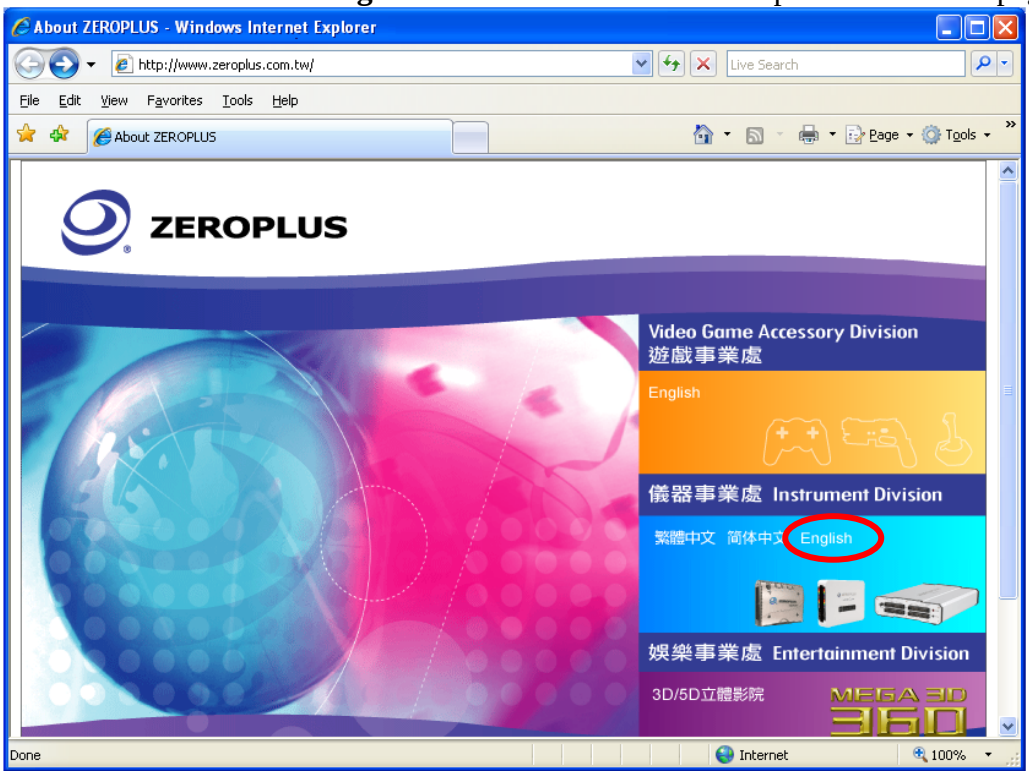
1 Software Download

Please install the software as the following steps:

Remark: 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. Visit the website of Zeroplus: http://www.zeroplus.com.tw.

STEP 2. Click the **English** in the Instrument Division part on the Homepage.



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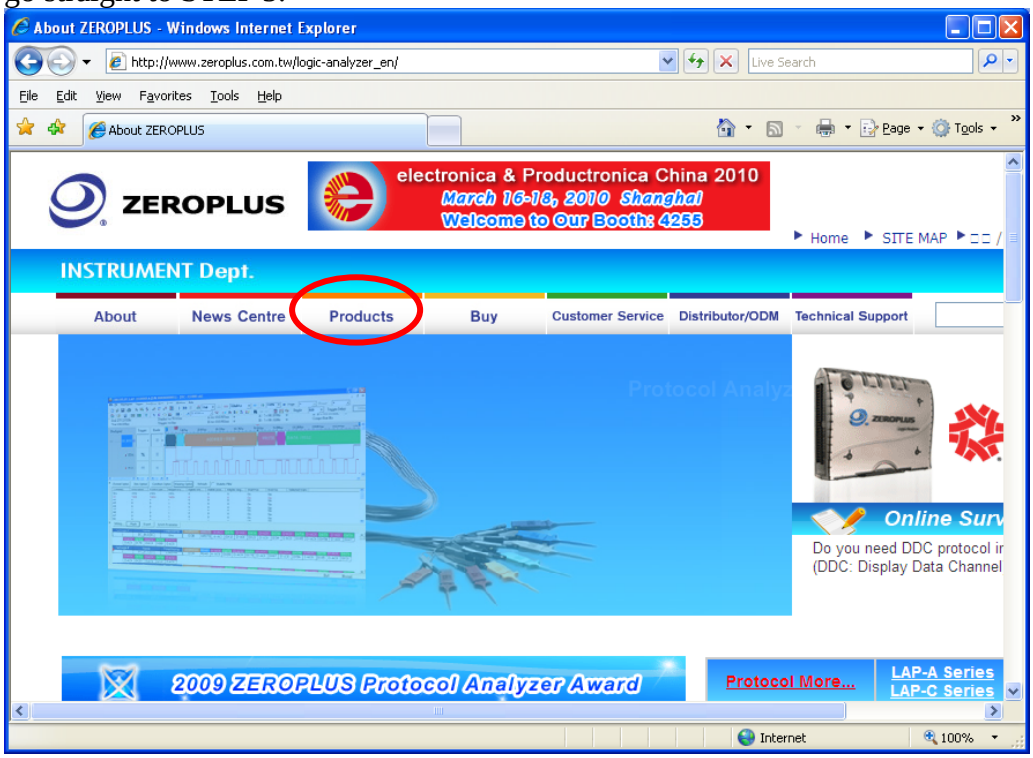
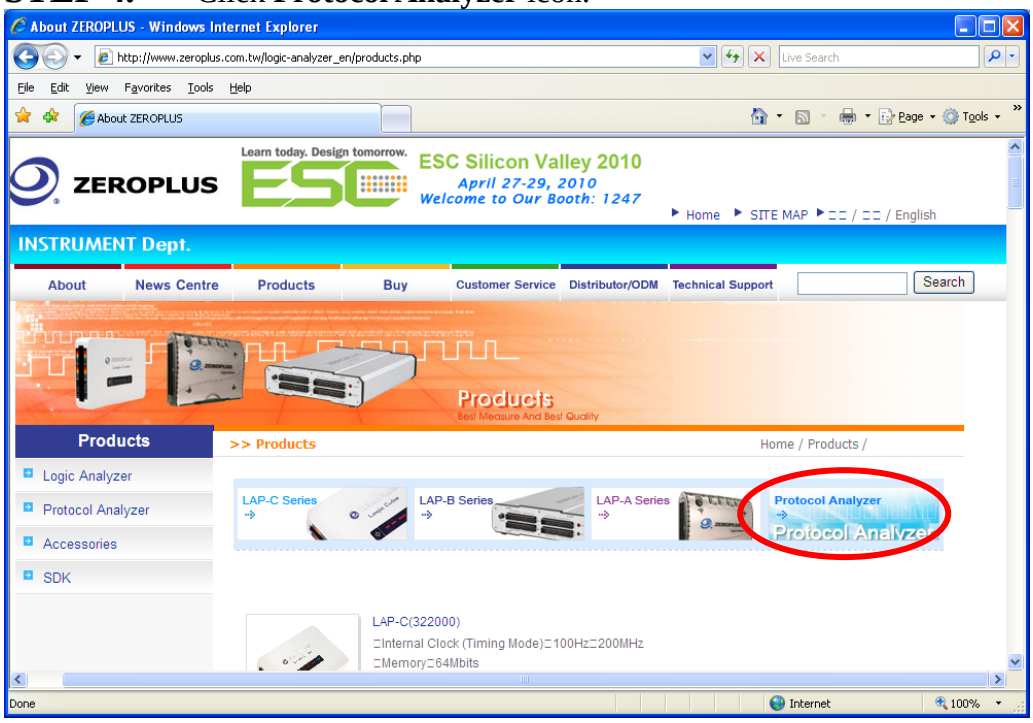
STEP 3. Click **Products** menu or select **Protocol Analyzer** item from its pull-down menu to go straight to STEP 5.



STEP 4. Click **Protocol Analyzer** icon.



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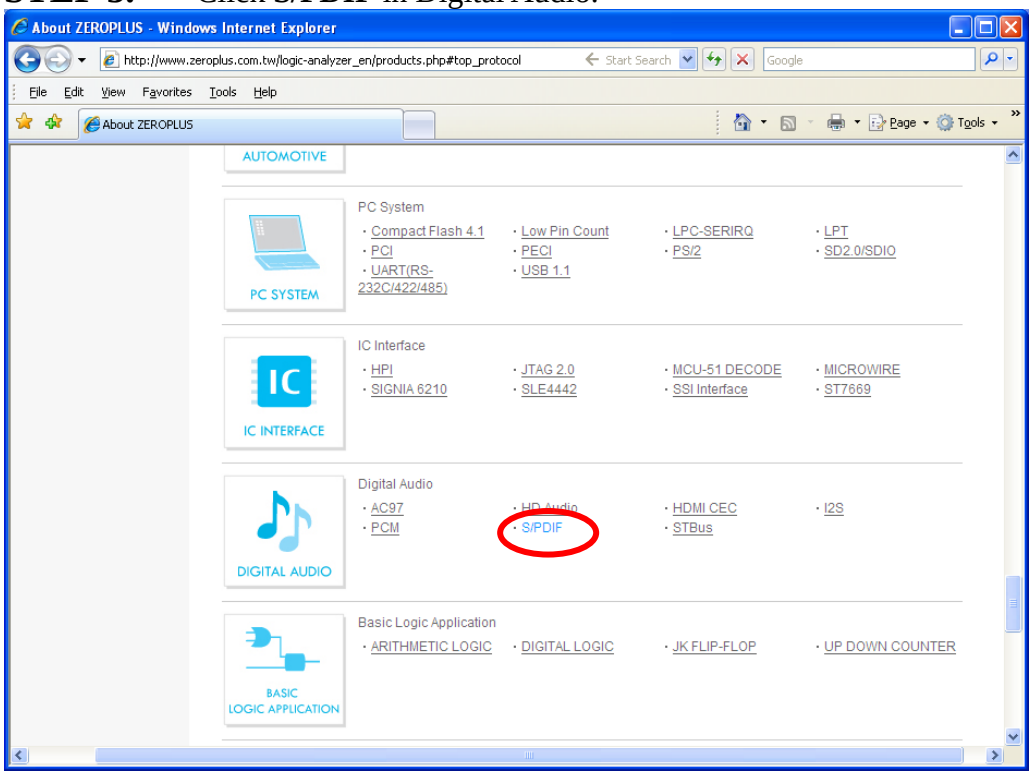
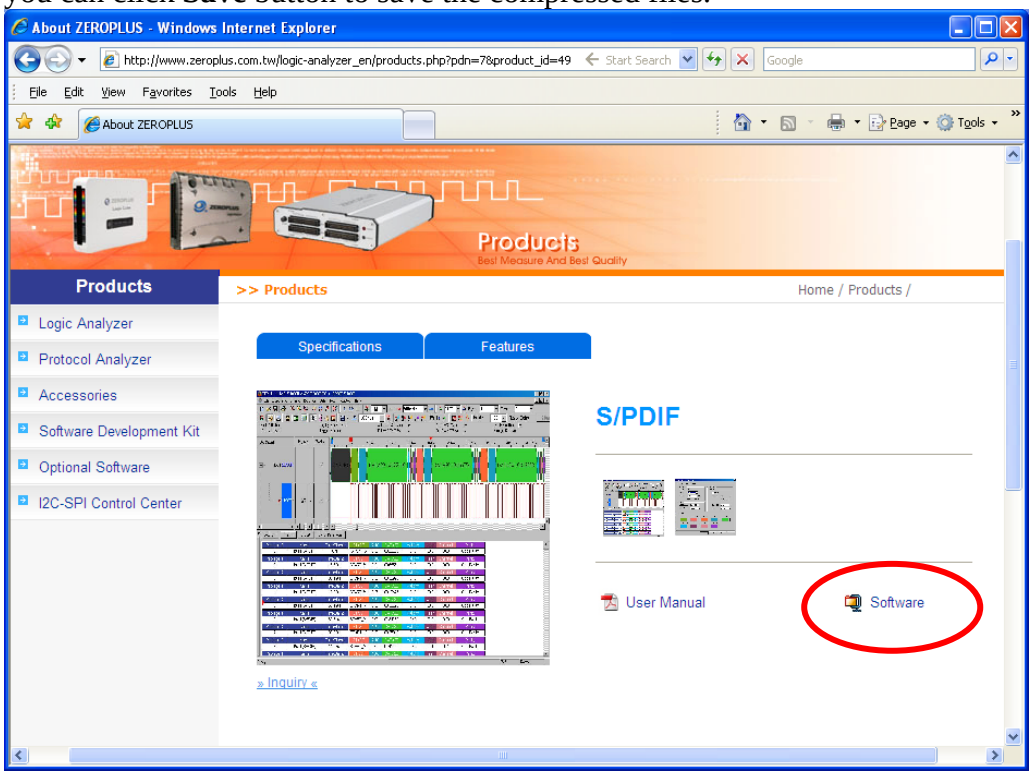
STEP 5. Click **S/PDIF** in Digital Audio.



STEP 6. Click **Software** in the Products page. When the File Download dialog box appears, you can click **Save** button to save the compressed files.



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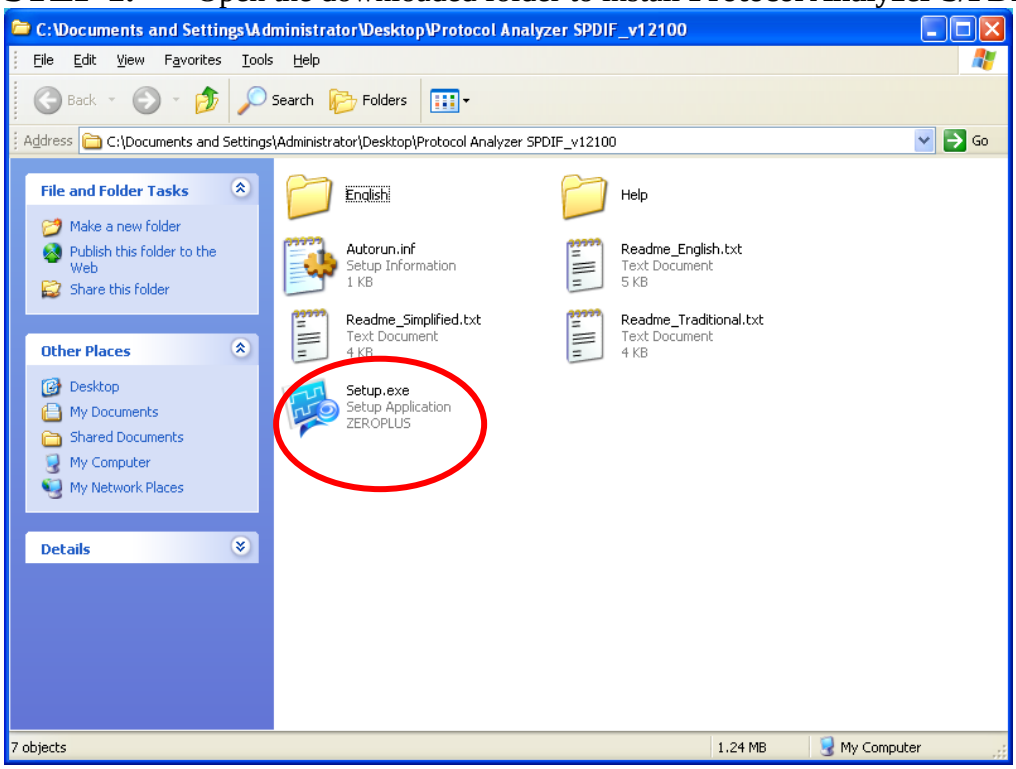
2 Software Installation

STEP 1. Open the downloaded folder to install **Protocol Analyzer S/PDIF**.



STEP 2. Click **Install**.

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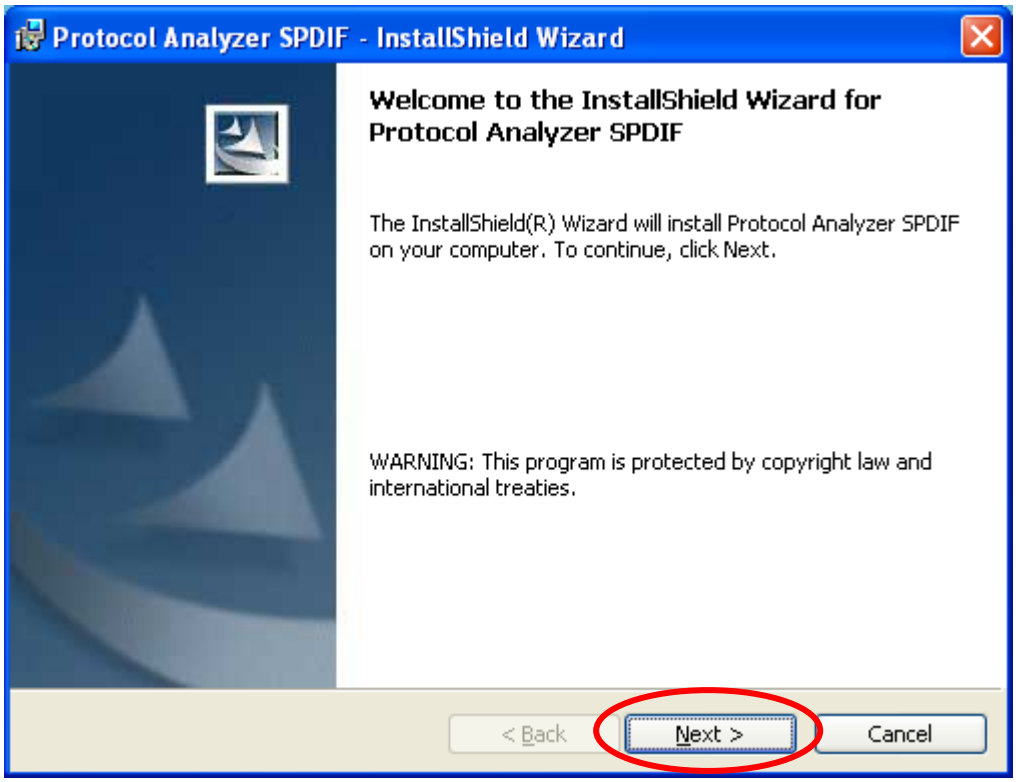
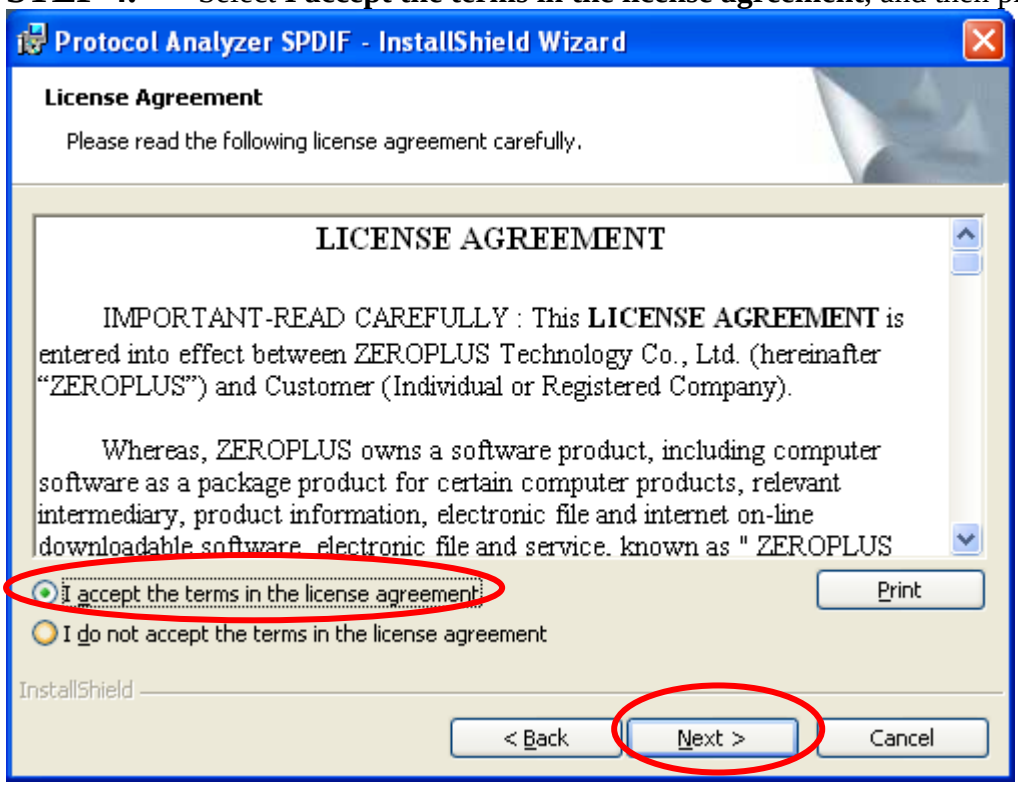
STEP 3. Click **Next**.



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



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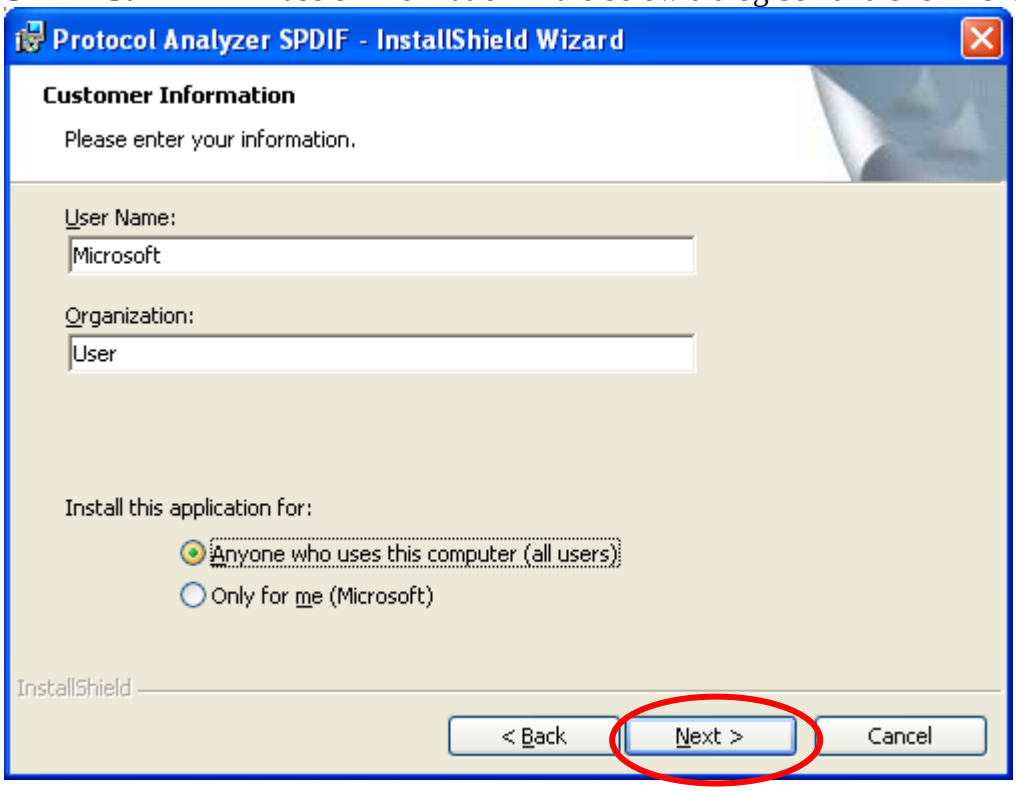
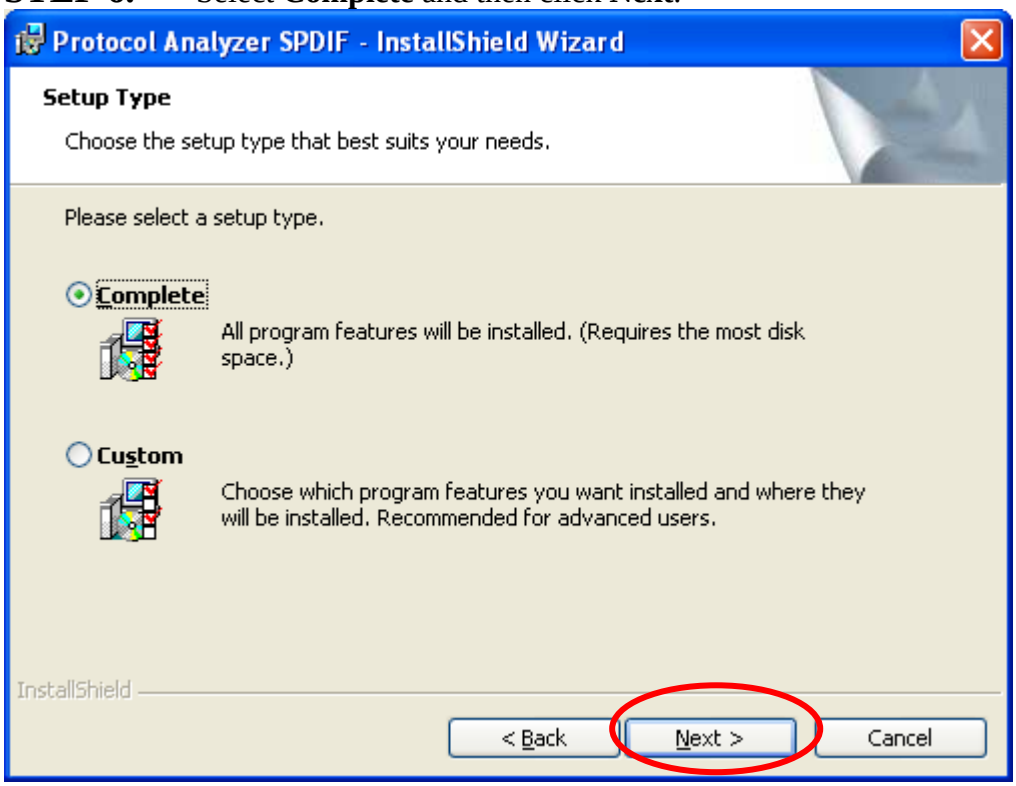
STEP 5. Fill in users' information in the below dialog box and click **Next**.



STEP 6. Select **Complete** and then click **Next**.



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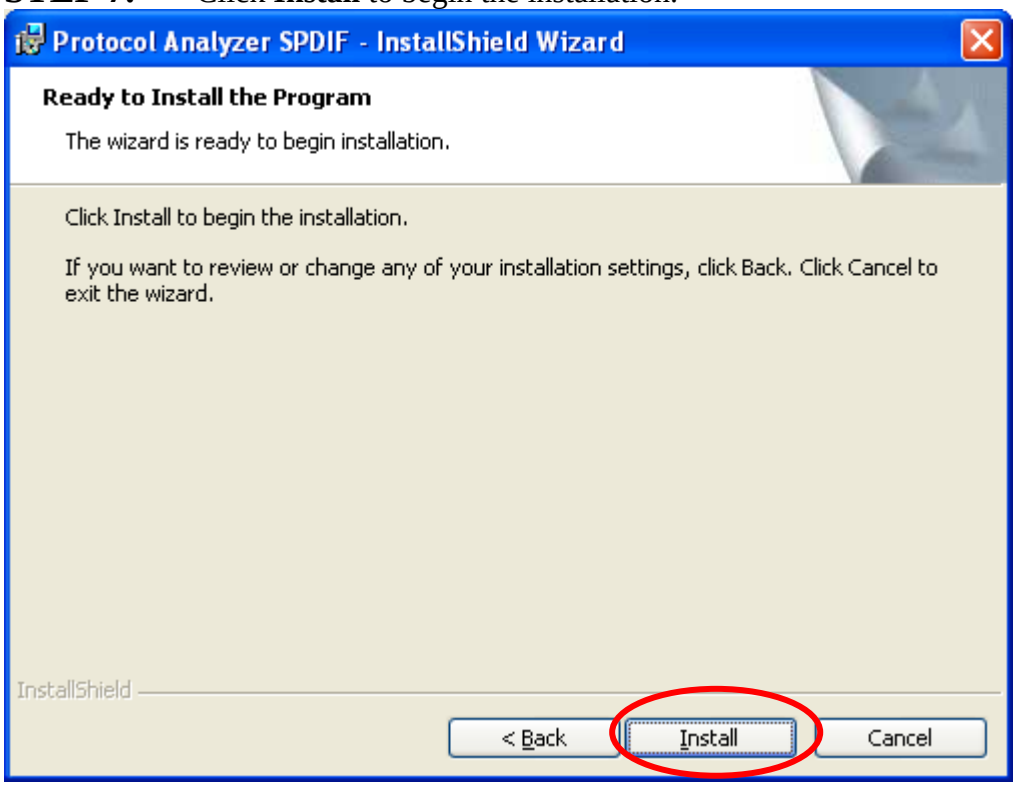
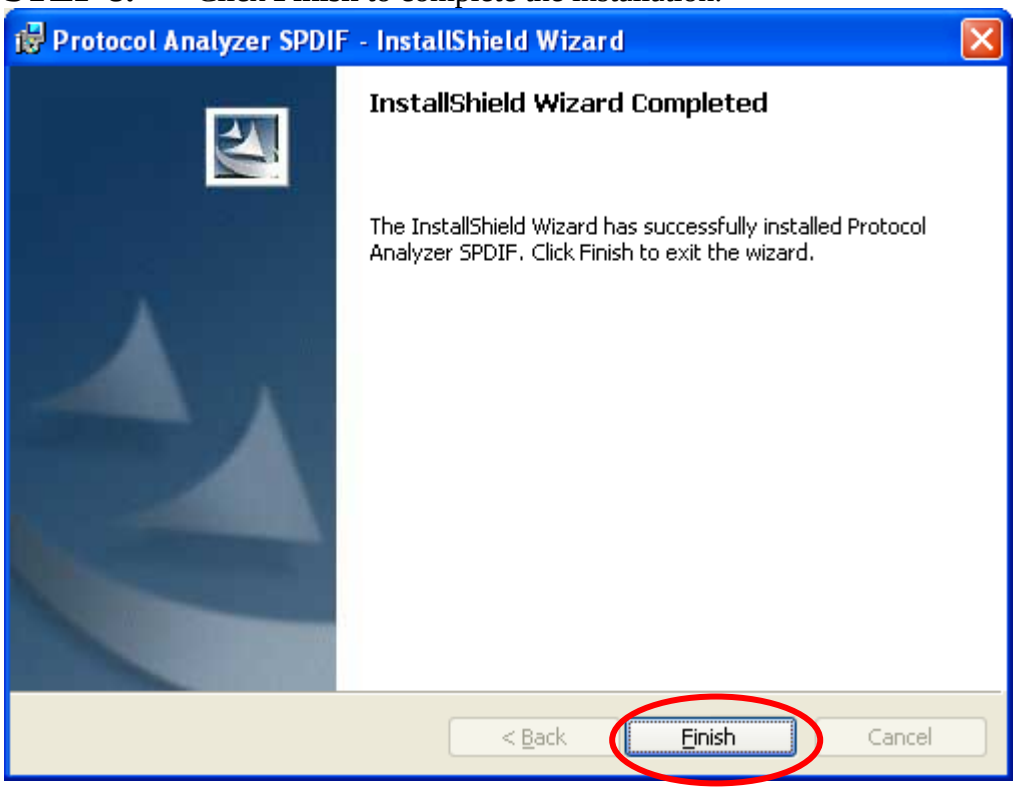
STEP 7. Click **Install** to begin the installation.



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



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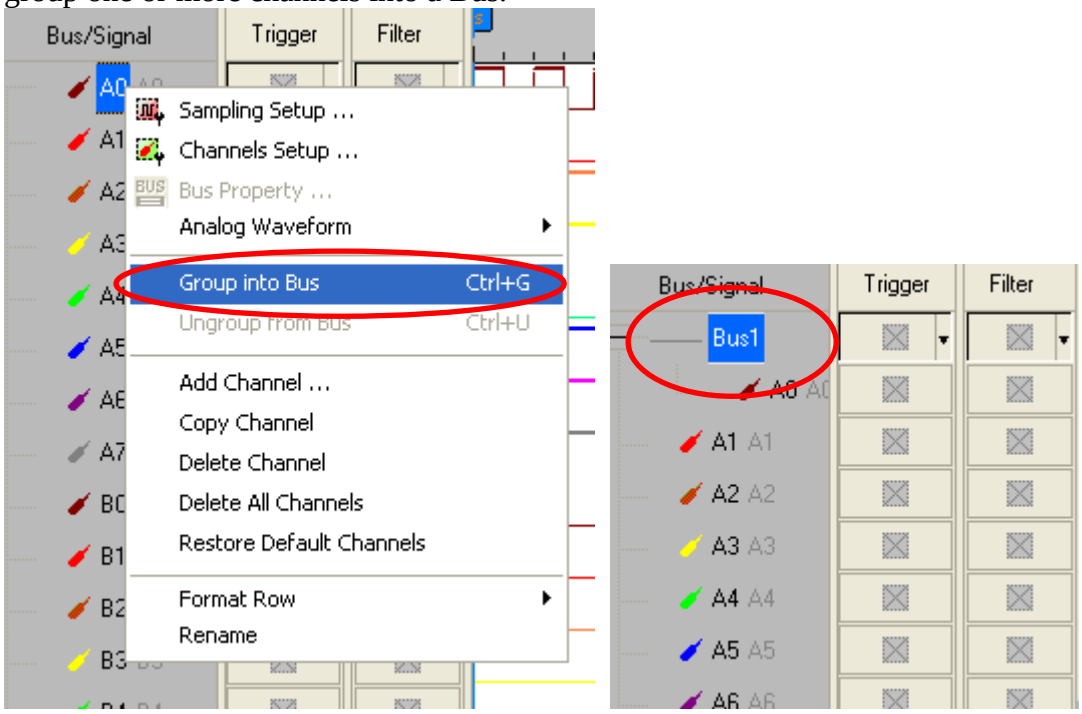
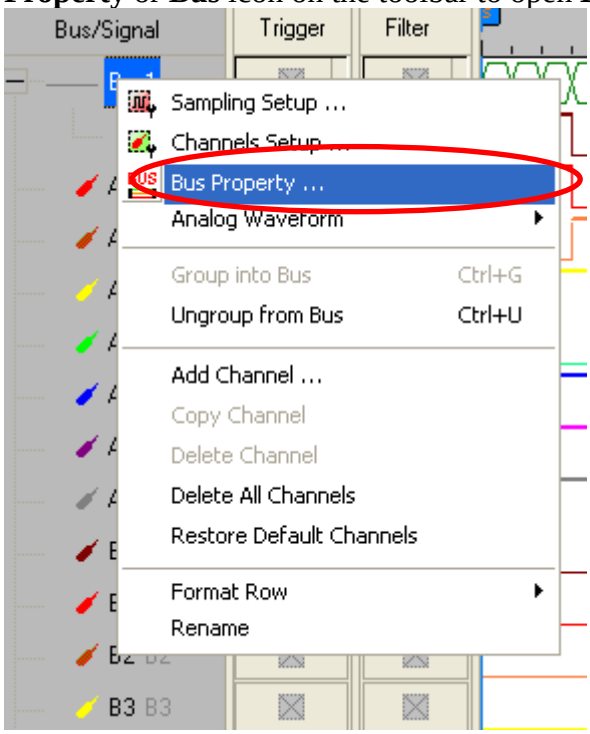
3 Software Register

STEP 1. Open the Logic Analyzer and group the unanalyzed channels into Bus1 by pressing the Right Key on the mouse. S/PDIF only needs one channel to decode signals, so it is necessary to group one or more channels into a Bus.



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



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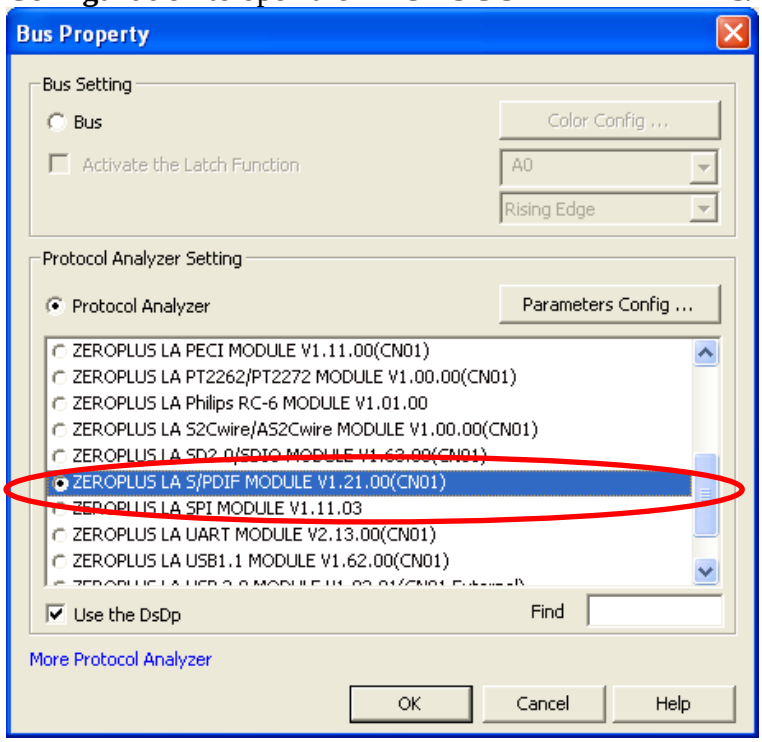
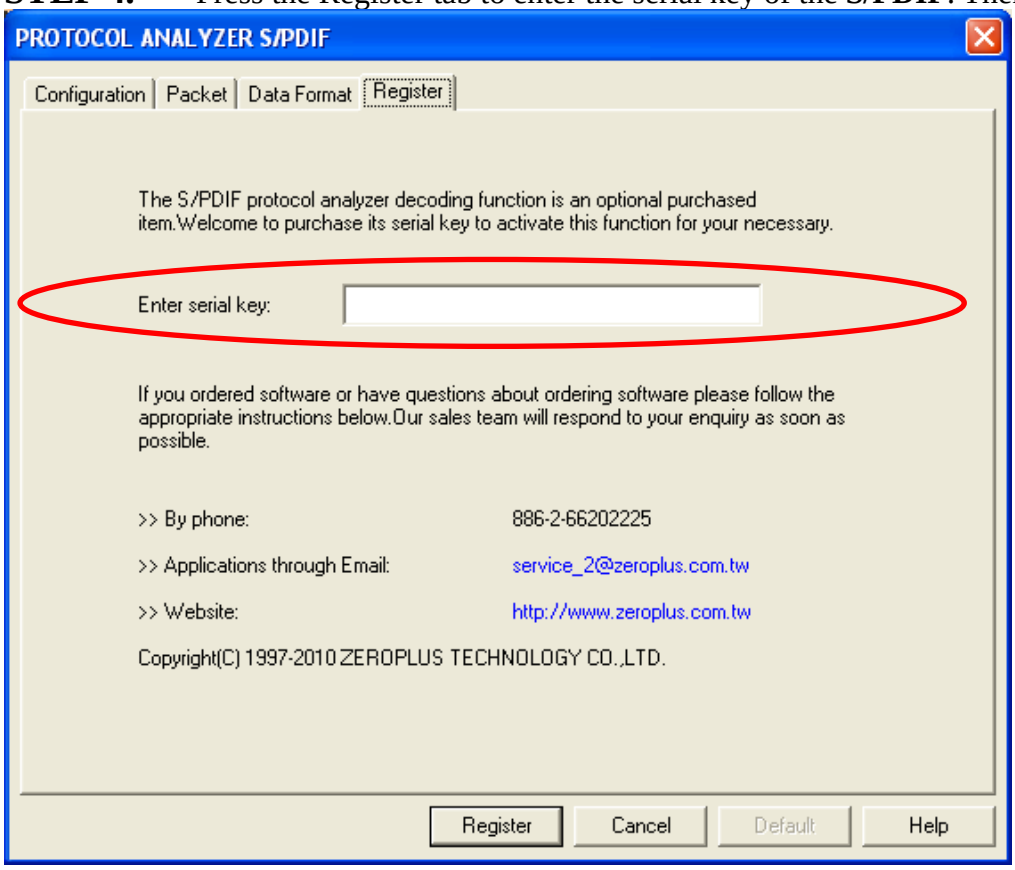
STEP 3. For Protocol Analyzer S/PDIF Parameters Configuration, select Protocol Analyzer, and then choose **ZEROPLUS LA S/PDIF MODULE V1.21.00(CN01)**. Next click **Parameters Configuration** to open the **PROTOCOL ANALYZER S/PDIF** dialog box.



STEP 4. Press the Register tab to enter the serial key of the **S/PDIF**. Then, press **Register**.



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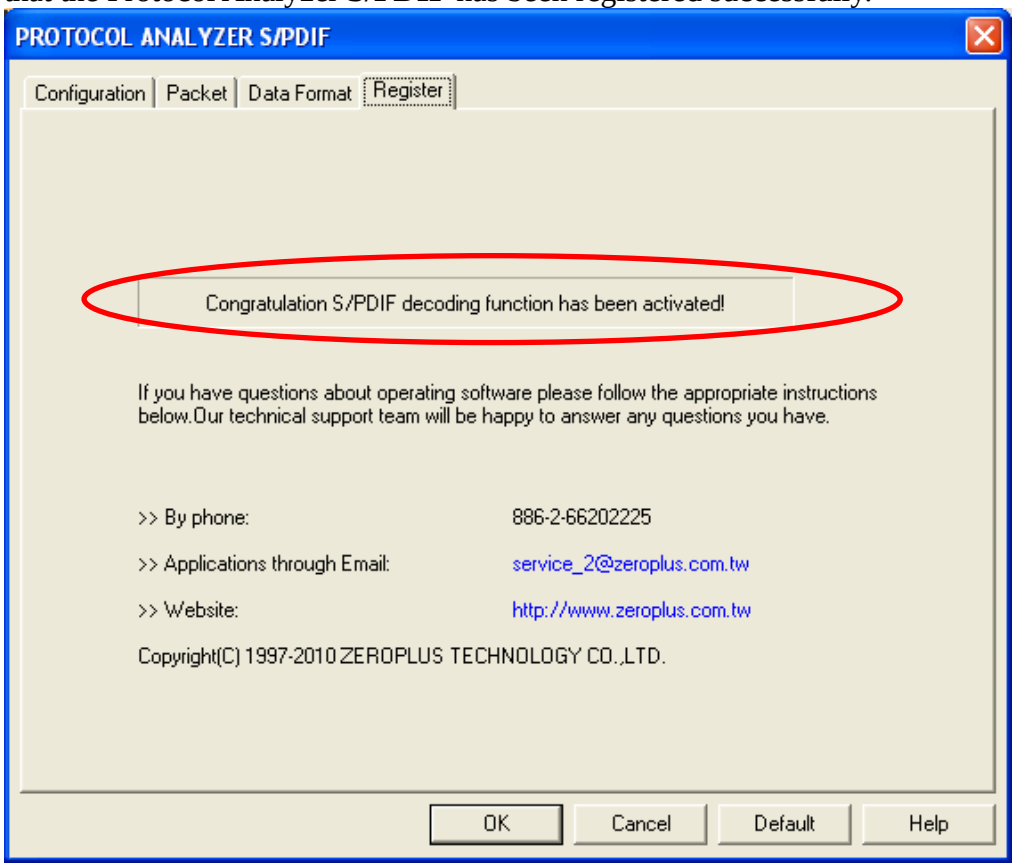
STEP 5. After pressing the Register button, the following dialog box will appear; it denotes that the Protocol Analyzer **S/PDIF** has been registered successfully.



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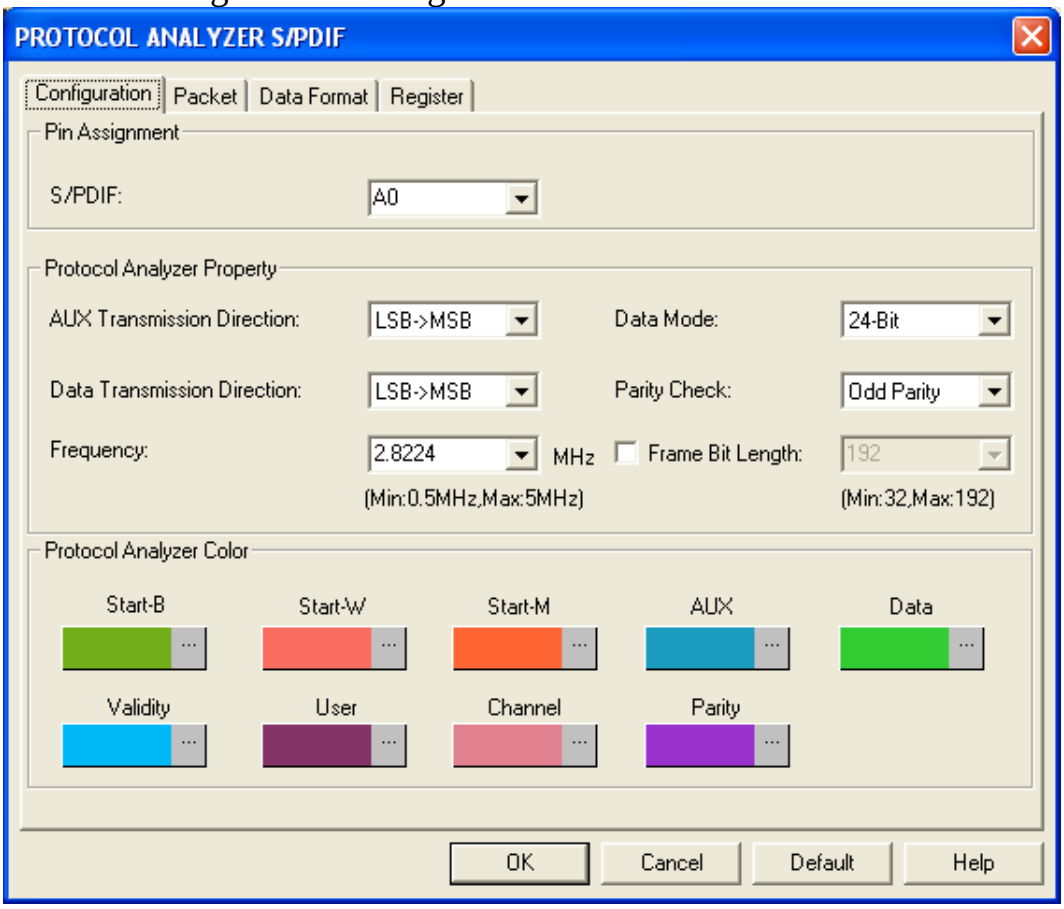
4 User Interface

In the configuration, please refer to below images to select options of setting **S/PDIF**.

S/PDIF Configuration Dialog Box



Pin Assignment:
S/PDIF only needs one channel to decode the signals, and the default is A0.

Protocol Analyzer Property:
AUX Transmission Direction: Set the Direction to LSB->MSB or MSB->LSB, the default is LSB->MSB.
Data Transmission Direction: Set the Direction to LSB->MSB or MSB->LSB, the default is LSB->MSB.
Frequency: Set the Frequency to 2.8224MHz, 3.0720MHz or 2.0480MHz, or enter a number in the range from 0.5MHz to 5MHz.
Data Mode: Set the Mode to 24-Bit, 20-Bit or 16-Bit, the default is 24-Bit.
Parity Check: Set the Parity Check to Odd Parity or Even Parity, the default is Odd Parity.
Frame Bit Length:
When the function is activated, the signals will be decoded strictly according to BLOCK format protocol; when the function is not activated, the signals which accord with the Sumframe format will be decoded. Generally, the range of BLOCK is from 32 to 192 Frames, and the default is 192 when the function is activated.

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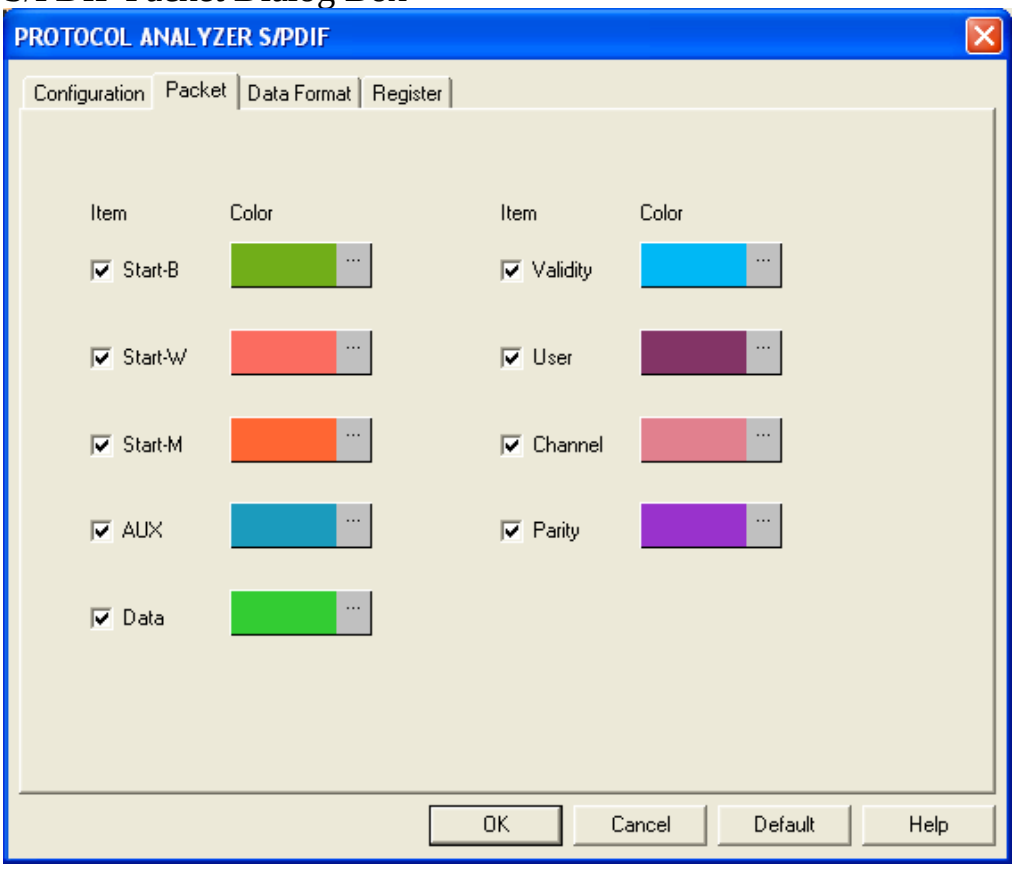
Protocol Analyzer Color:
The color can be varied by users.

S/PDIF Packet Dialog Box



In the Packet dialog box, users can vary the color of items and set the item to be displayed.

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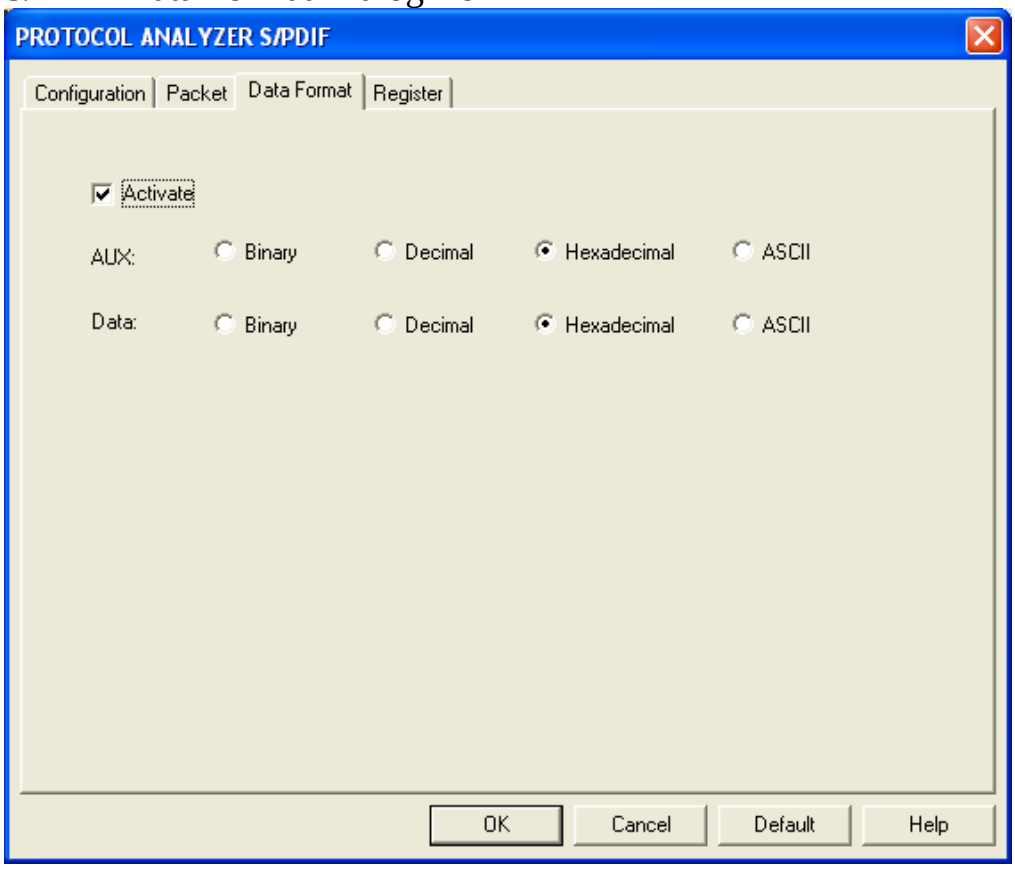
S/PDIF Data Format Dialog Box



Users can set the Data Format of the AUX and Data as their requirements. When selecting the option, Activate, the data format is decided by the settings in the Protocol Analyzer; when not selecting the option, Activate, the data format is decided by the settings in the main program.

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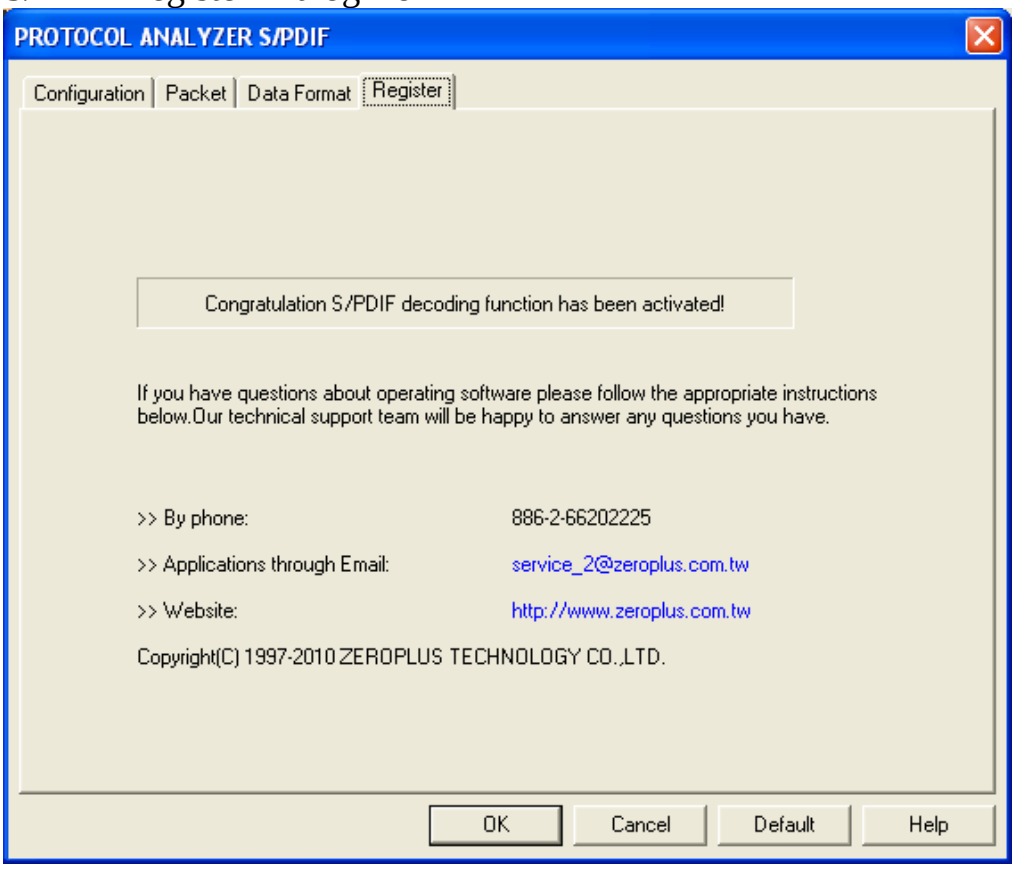
S/PDIF Register Dialog Box



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

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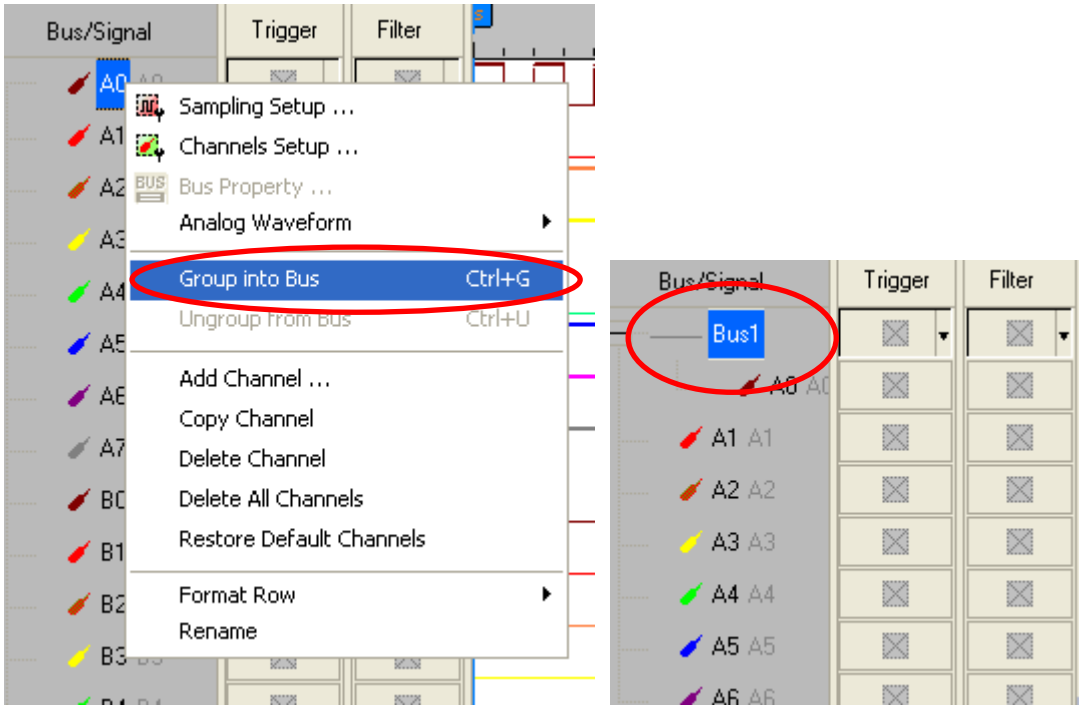
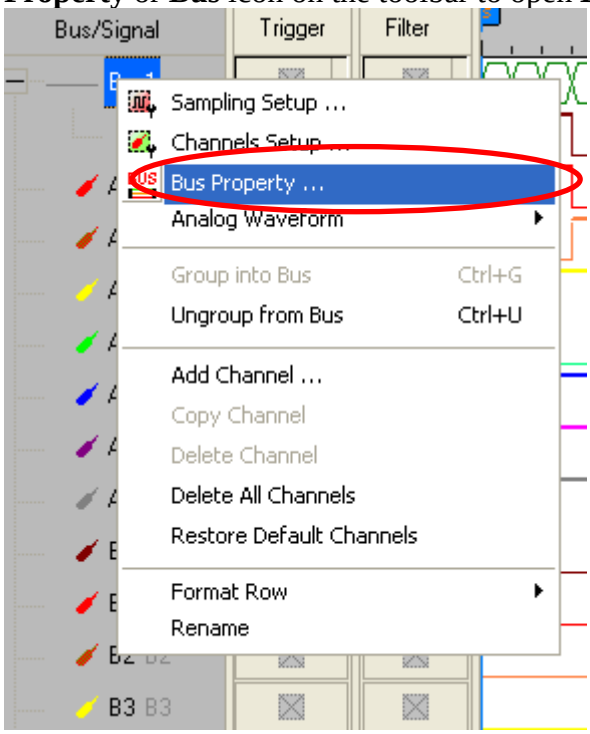
5 Operating Instructions

STEP 1. Group the unanalyzed channels into Bus1 by pressing the Right Key on the mouse. S/PDIF only needs one channel to decode signals, so it is necessary to group one or more channels into a Bus.



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



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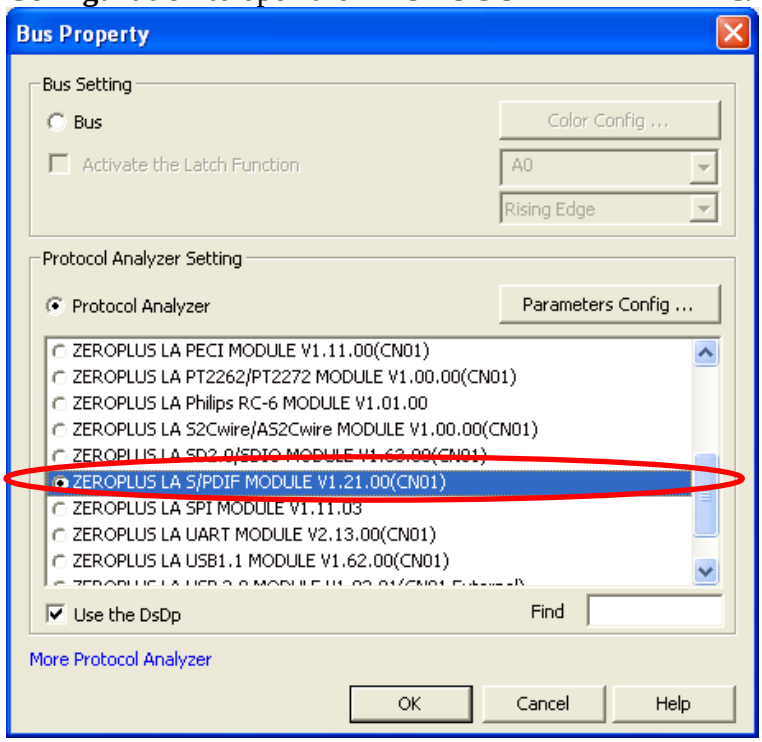
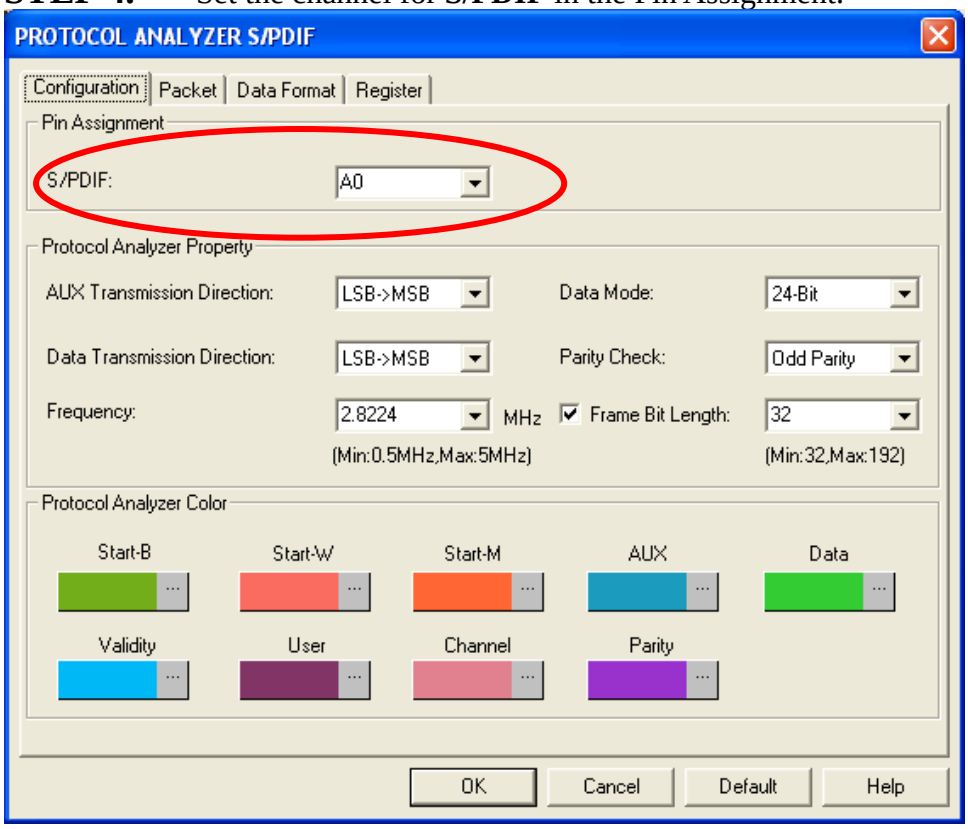
STEP 3. For Protocol Analyzer S/PDIF Parameters Configuration, select Protocol Analyzer, and then choose **ZEROPLUS LA S/PDIF MODULE V1.21.00(CN01)**. Next click **Parameters Configuration** to open the **PROTOCOL ANALYZER S/PDIF** dialog box.



STEP 4. Set the channel for **S/PDIF** in the Pin Assignment.



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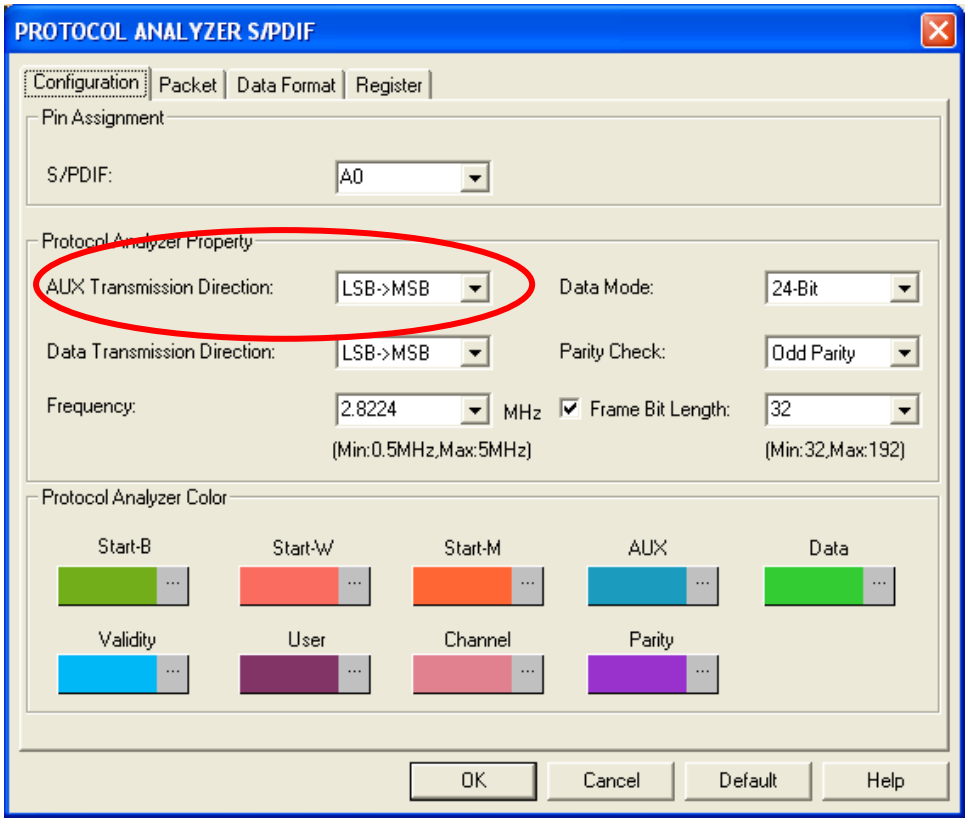
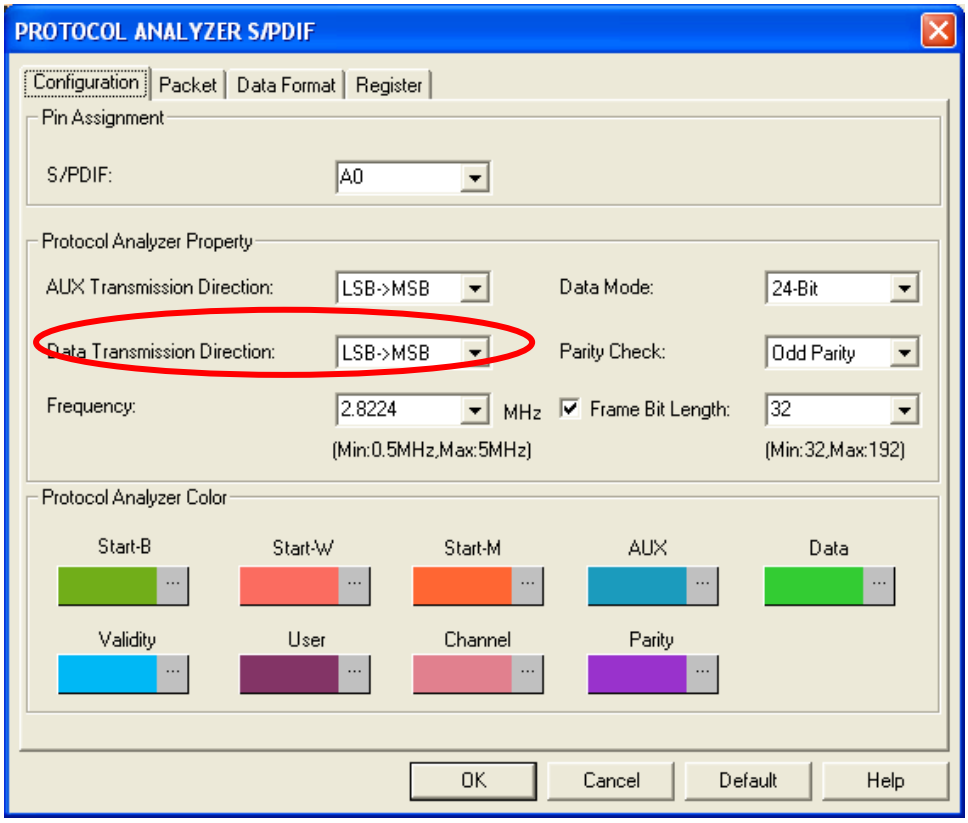
STEP 5. Set the **AUX Transmission Direction** to LSB->MSB or MSB->LSB.



STEP 6. Set the **Data Transmission Direction** to LSB->MSB or MSB->LSB.



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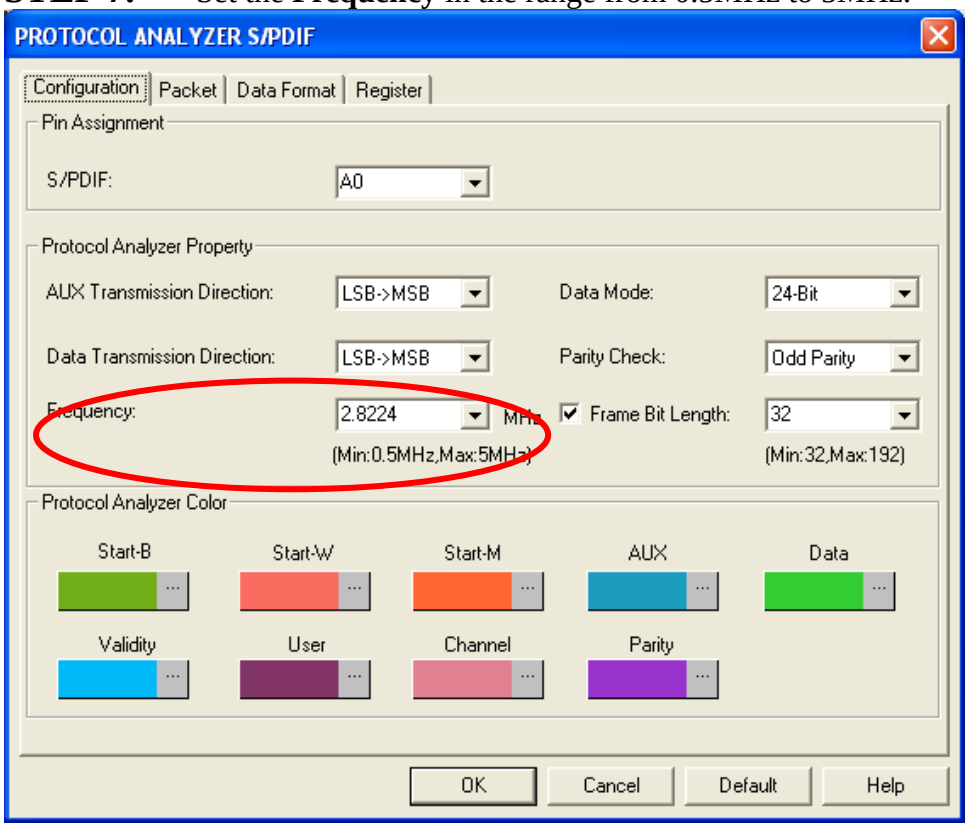
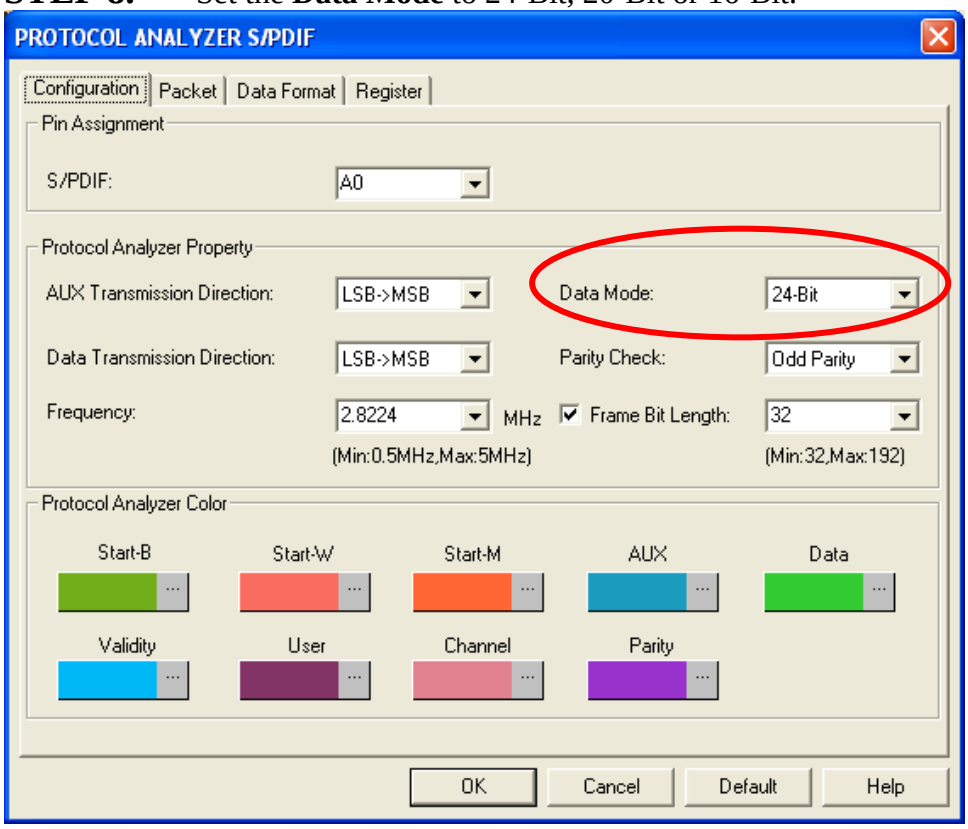
STEP 7. Set the **Frequency** in the range from 0.5MHz to 5MHz.



STEP 8. Set the **Data Mode** to 24-Bit, 20-Bit or 16-Bit.



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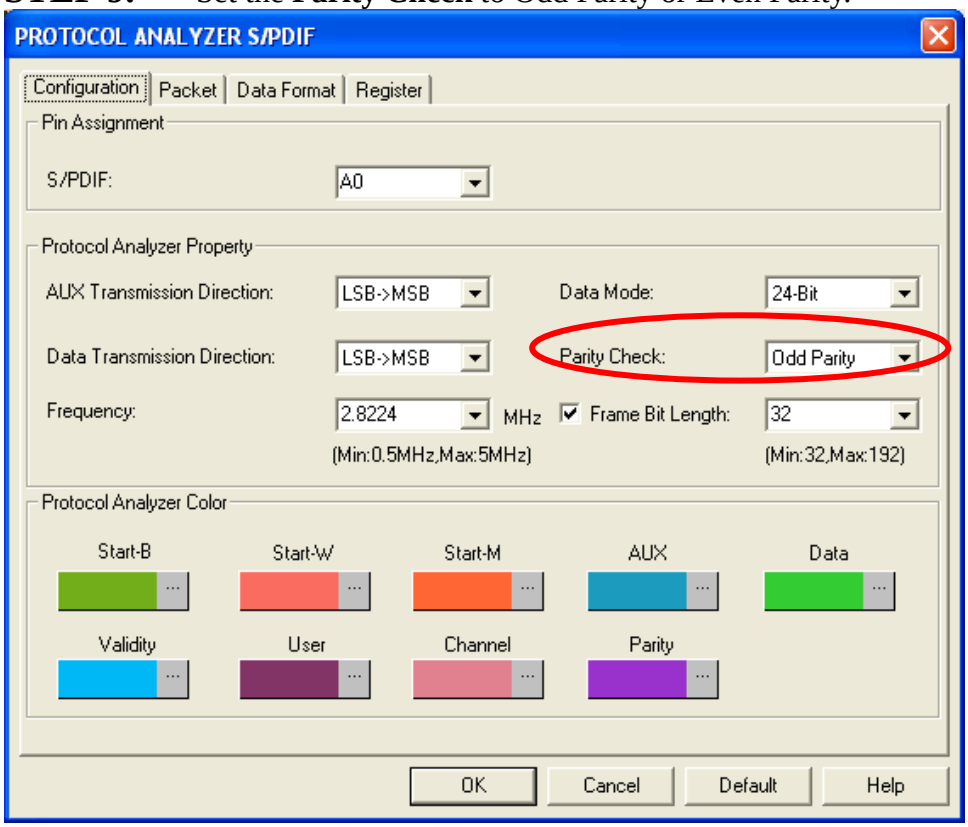
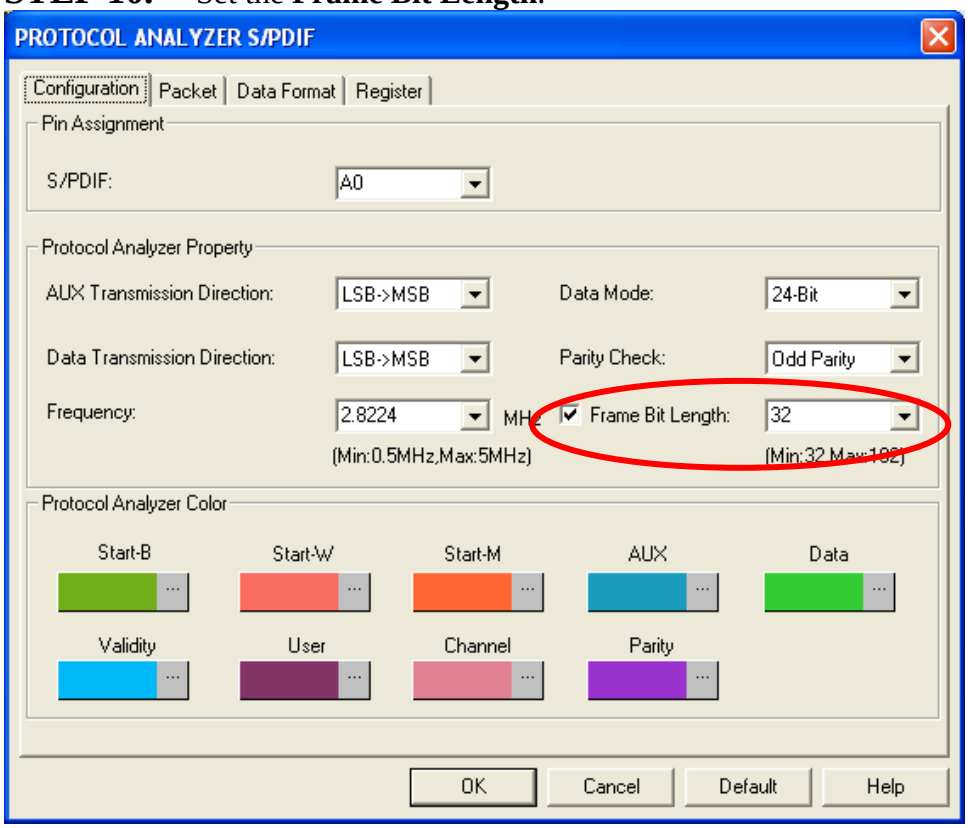
STEP 9. Set the **Parity Check** to Odd Parity or Even Parity.



STEP 10. Set the **Frame Bit Length**.



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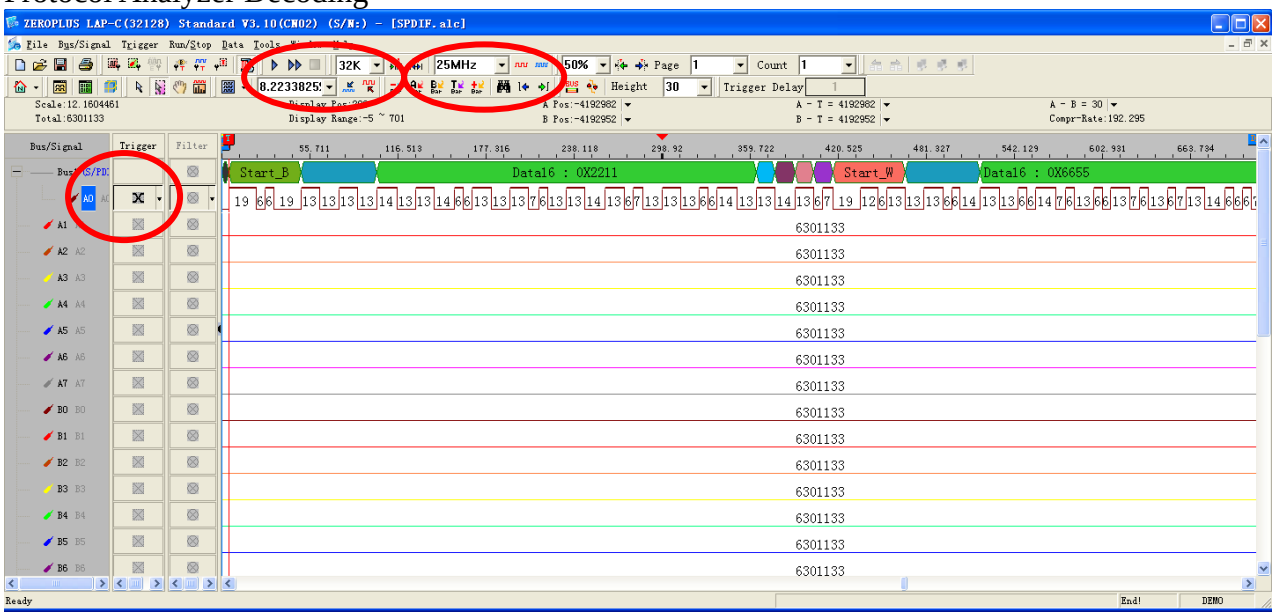
STEP 11. Following pictures show the completion of the protocol analyzer decoding and the packet list. The trigger condition is Either Edge; the memory depth is 32K; the sampling frequency is 25MHz (the sampling frequency should be more than four times higher than the signal to be tested).

Protocol Analyzer Decoding



Packet List