

# SPECIFICATION

**MODEL: 013-LAP-S/PDIF-M**

**PART NO:** \_\_\_\_\_

**VERSION:**   V1.23  

Approver		Check	Design
GM	PM		

Customer Confirm

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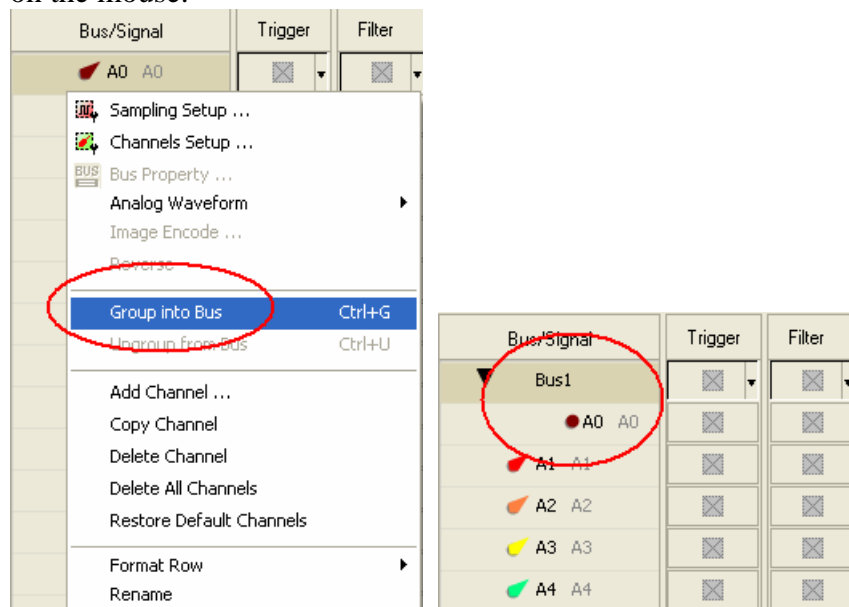
# 1 Software Register

Please register the software as the following steps:

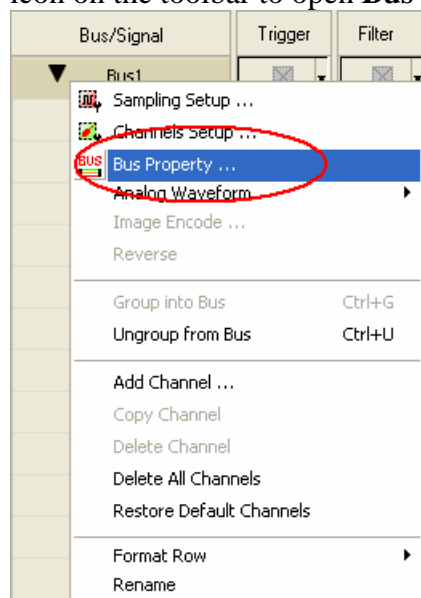
※ Remark1: The registration steps for all protocol analyzers are the same; you can complete the registration by following procedures. Following is an example on how to register the Protocol Analyzer BUS.

※ Remark2: 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.

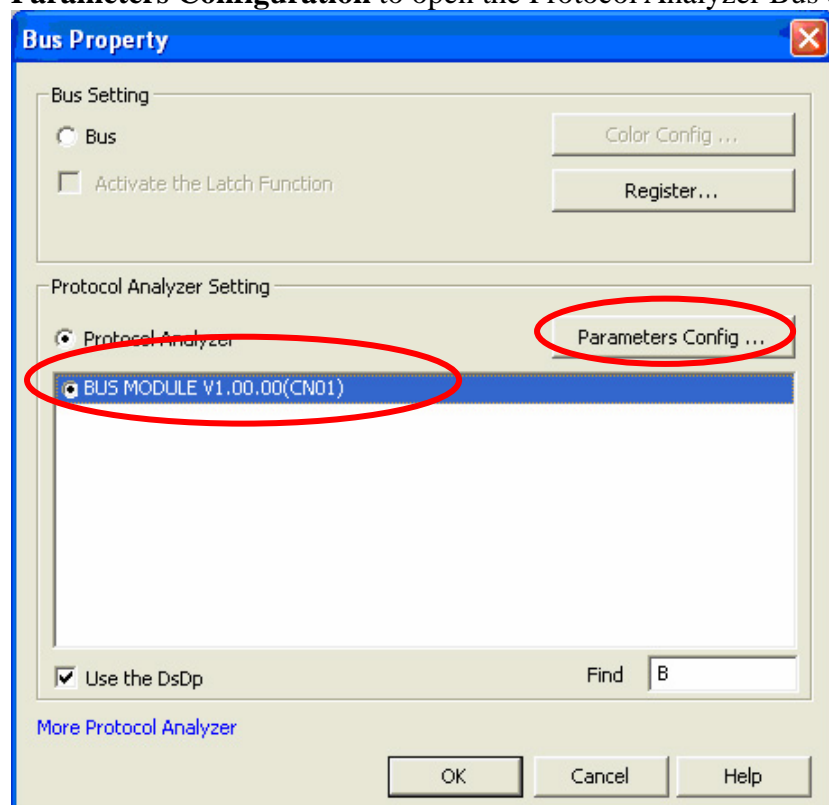
**STEP 1.** Open the Logic Analyzer and group the unanalyzed channels into **Bus1** by pressing the **Right Key** on the mouse.



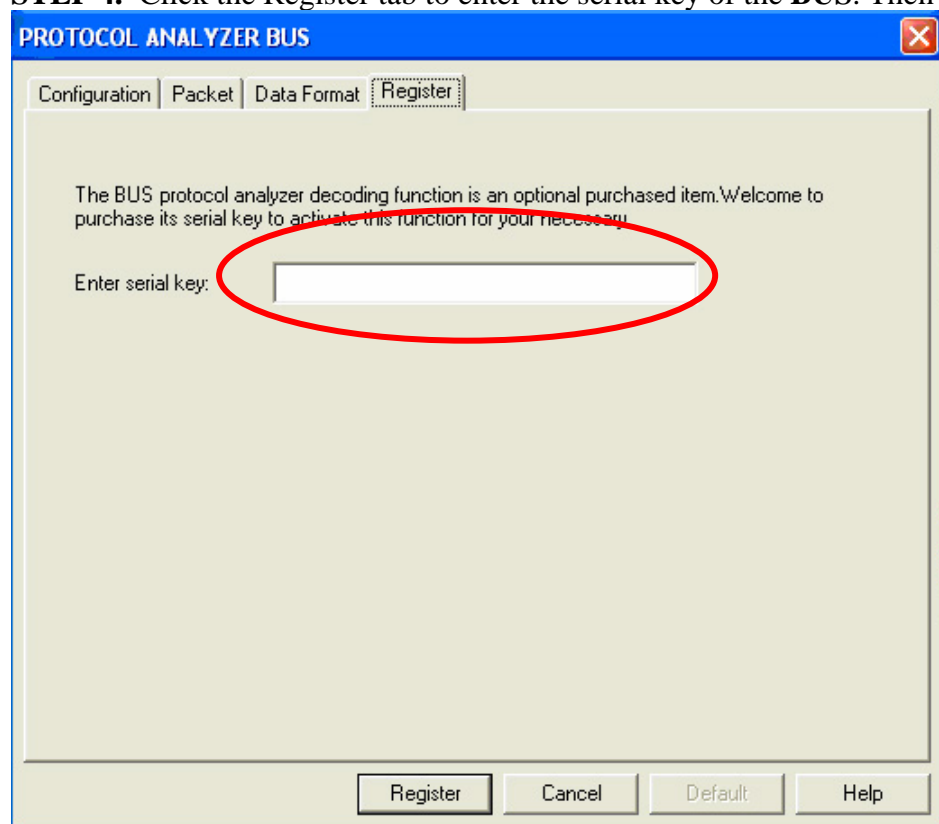
**STEP 2.** Select **Bus1**, and press **Right Key** on the mouse to list the menu, then click **Bus Property** or **Bus** icon on the toolbar to open **Bus Property** dialog box.



**STEP 3.** Select the Protocol Analyzer, and then choose **BUS MODULE V1.00.00 (CN01)**. Next click **Parameters Configuration** to open the Protocol Analyzer Bus dialog box.



**STEP 4.** Click the Register tab to enter the serial key of the **BUS**. Then click **Register**.



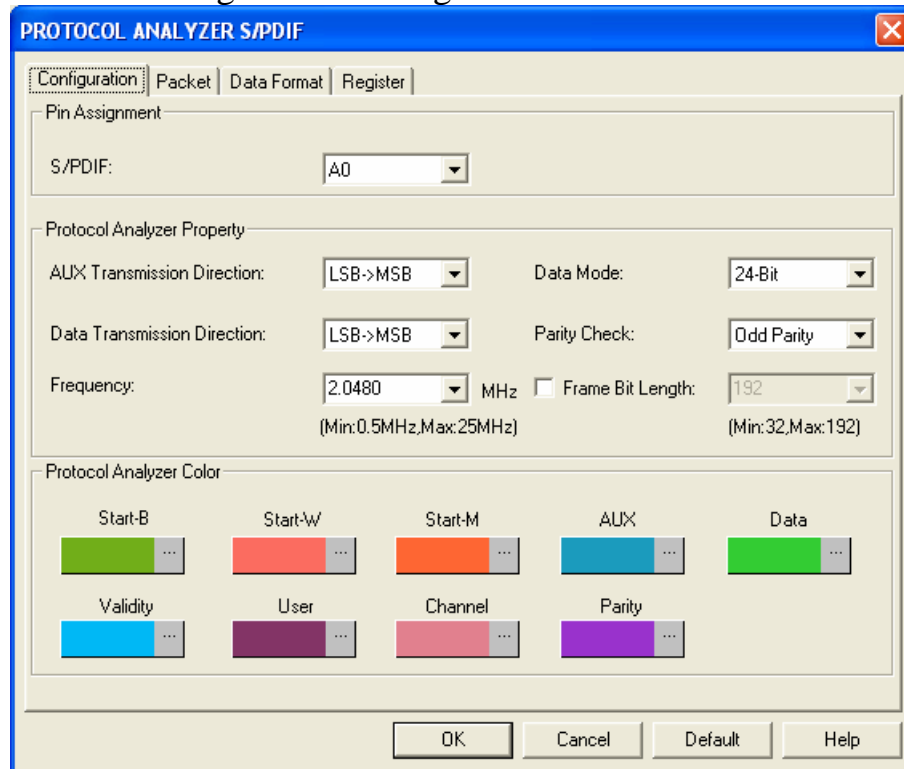
**STEP 5.** After clicking the Register button, the following dialog box will appear, it denotes that the BUS has been registered successfully.



## 2 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 2.0480Mhz, 2.8224Mhz, 3.072Mhz, 5.6448Mhz, 6.144Mhz, 11.2896Mhz, 12.288Mhz, 22.5792Mhz, 24.576Mhz, or enter a number in the range from 0.5MHz to 25MHz.

**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.

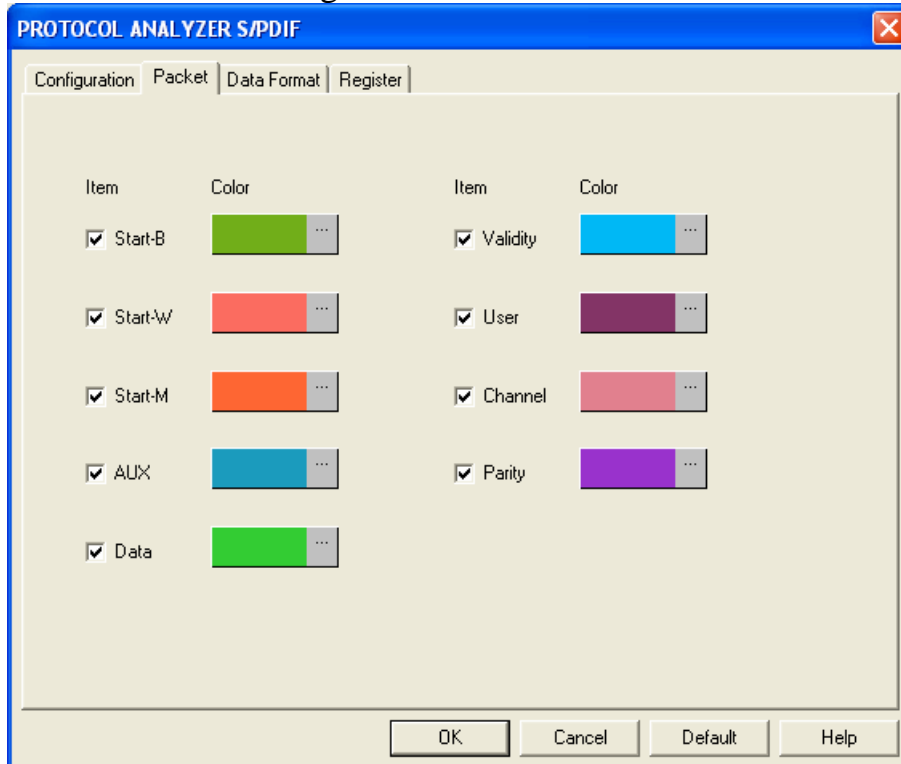
#### Frame Bit Length:

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.

#### Protocol Analyzer Color:

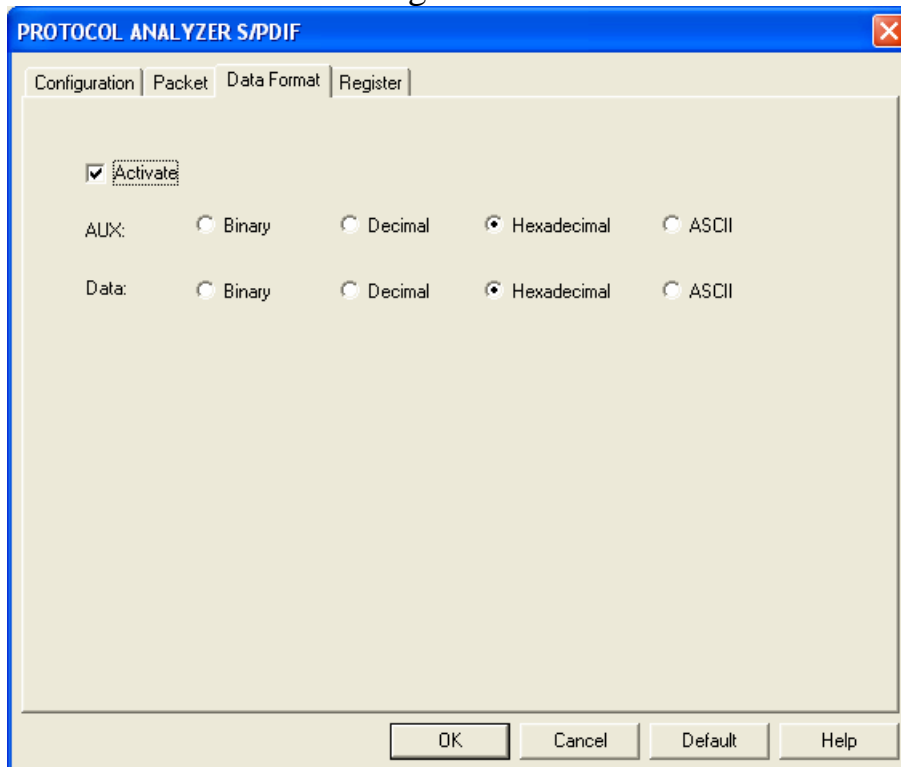
The color can be varied by users.

## S/PDIF Packet Dialog Box



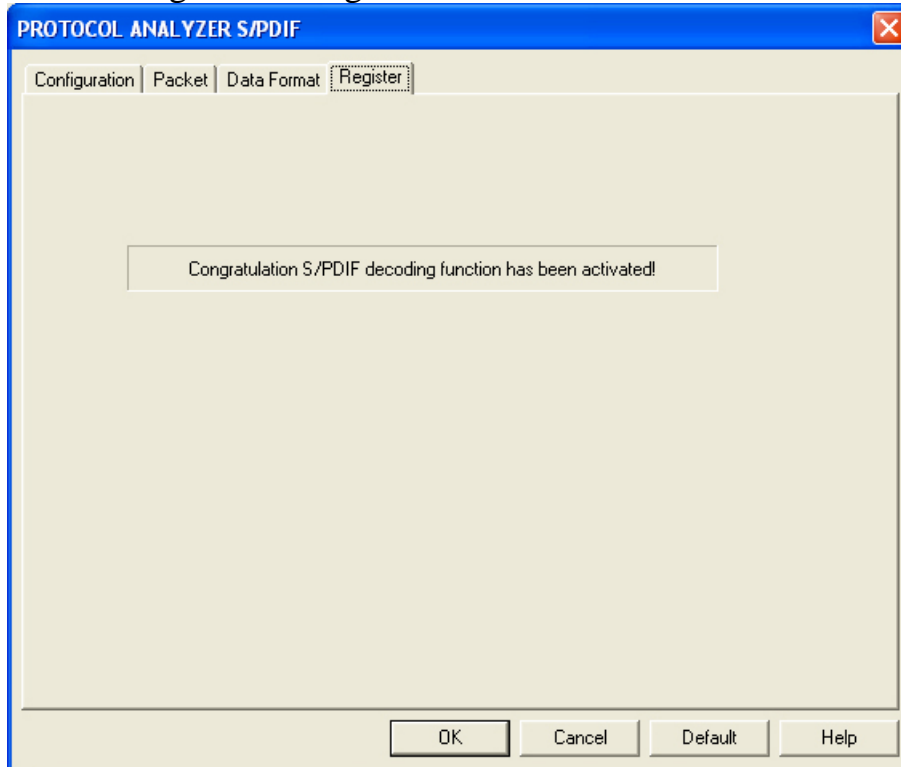
In the Packet dialog box, users can vary the color of items and set the item to be displayed.

## S/PDIF Data Format Dialog Box



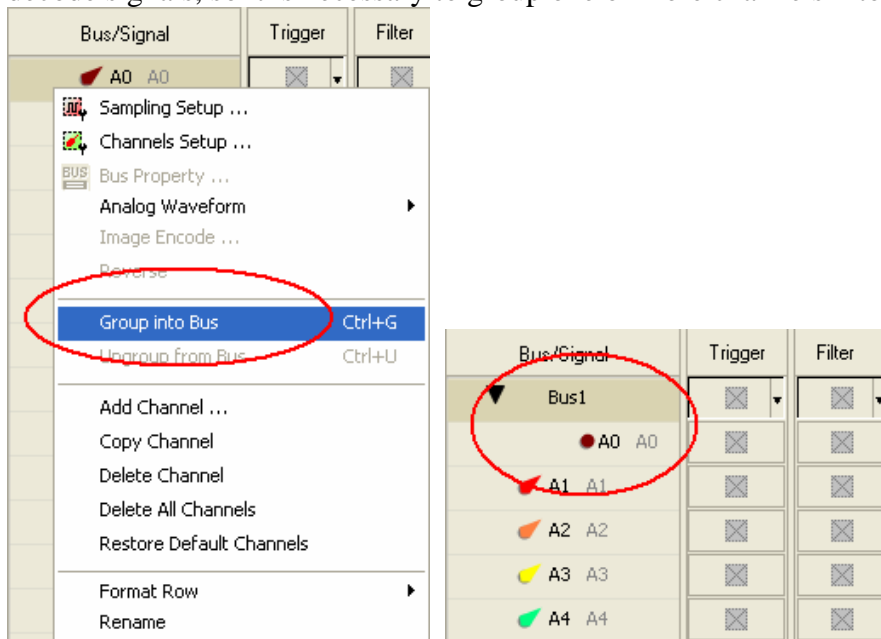
Users can set the Data Format of the AUX and Data as their requirements. When selecting the option, Activate, the data format is decided by the settings in the Protocol Analyzer; when not selecting the option, Activate, the data format is decided by the settings in the main program.

## S/PDIF Register Dialog Box

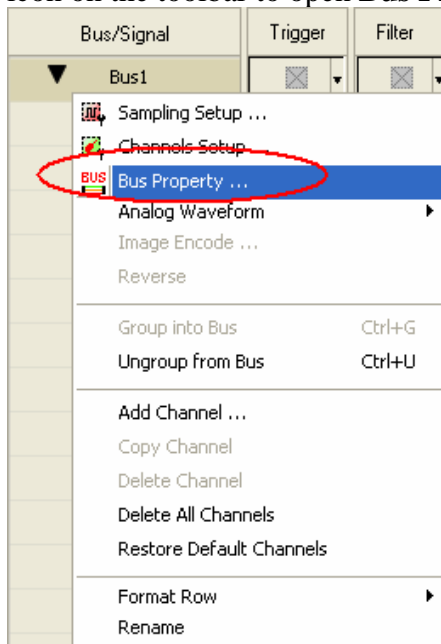


### 3 Operating Instructions

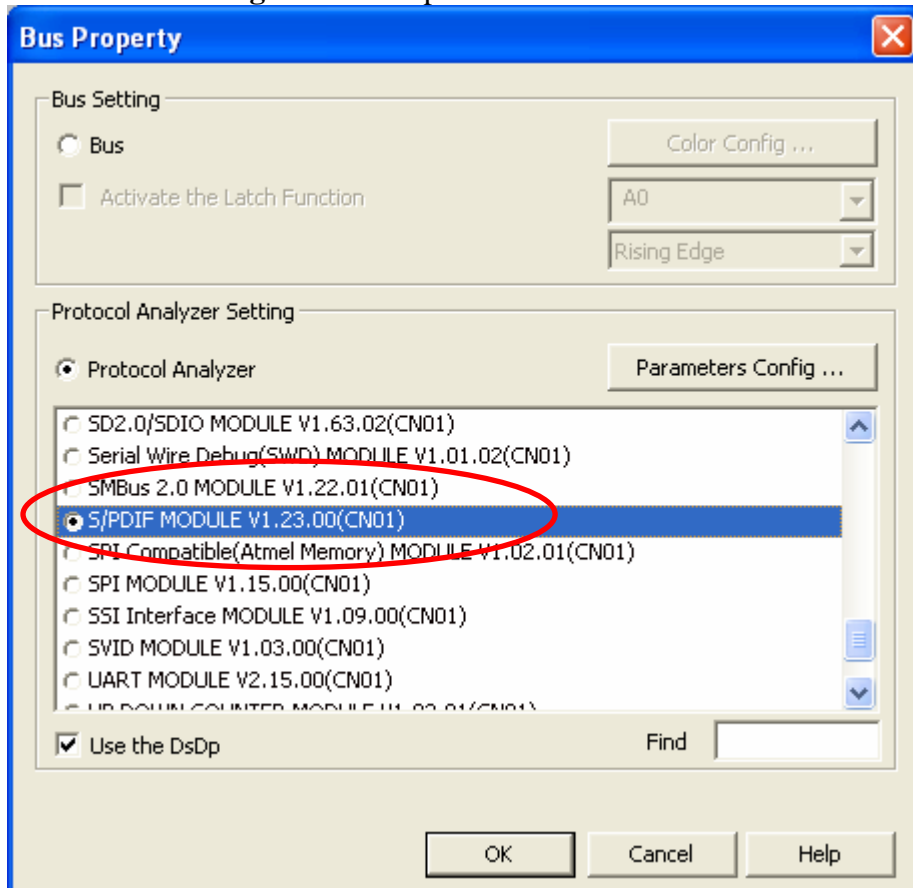
**STEP 1.** Group A0 into Bus1 by pressing the Right Key on the mouse. S/PDIF only needs one channel to decode signals, so it is necessary to group one or more channels into a Bus.



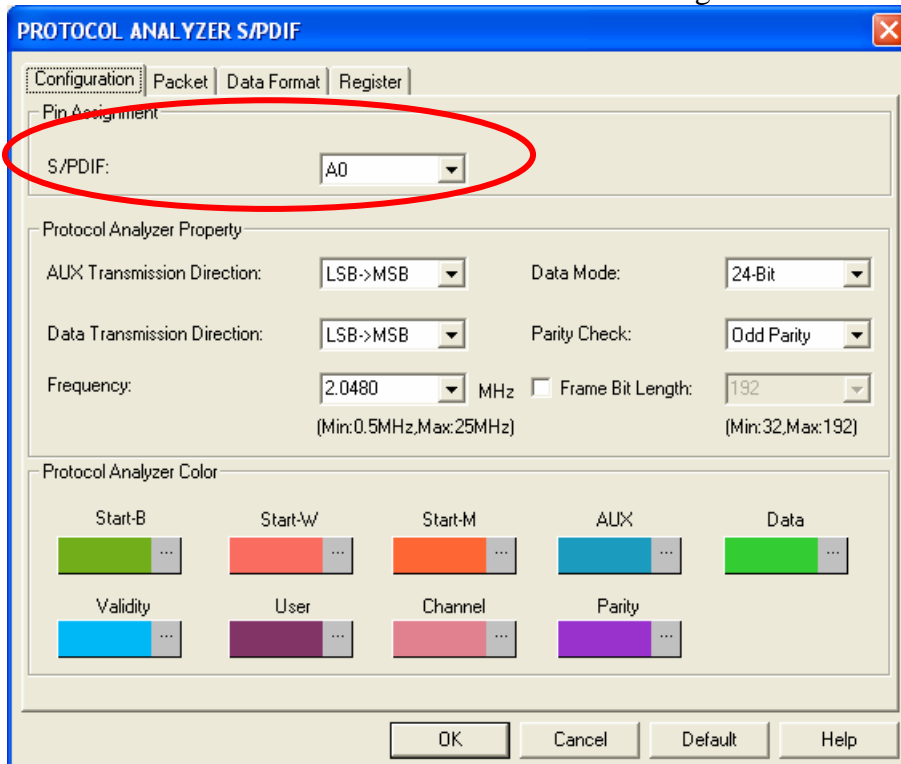
**STEP 2.** Select **Bus1**, and press **Right Key** on the mouse to list the menu, then press **Bus Property** or **Bus** icon on the toolbar to open **Bus Property** dialog box.



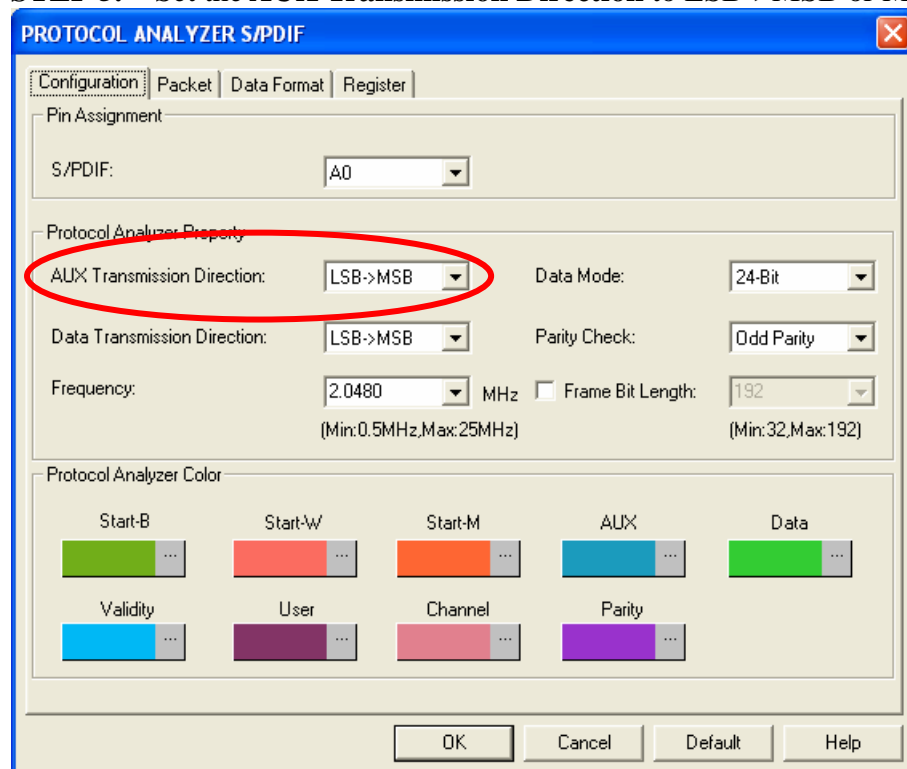
**STEP 3.** Select Protocol Analyzer, and then choose **S/PDIF MODULE V1.23.00 (CN01)**. Next click **Parameters Configuration** to open the **PROTOCOL ANALYZER S/PDIF** dialog box.



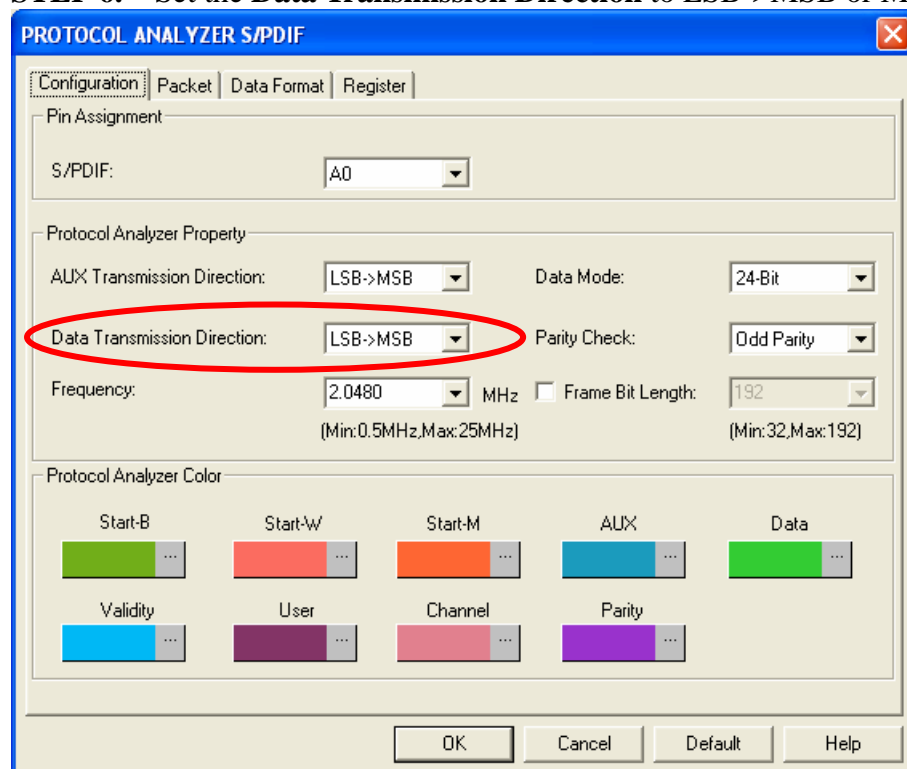
**STEP 4.** Set the channel for S/PDIF in the Pin Assignment.



**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.



**STEP 7.** Set the **Frequency** in the range from 0.5MHz to 25MHz.

The screenshot shows the 'PROTOCOL ANALYZER S/PDIF' dialog box with the 'Configuration' tab selected. The 'Frequency' field is highlighted with a red circle. The field is set to '2.0480' MHz, with a range of '(Min:0.5MHz,Max:25MHz)' displayed below it. Other settings include 'S/PDIF: A0', 'AUX Transmission Direction: LSB->MSB', 'Data Mode: 24-Bit', 'Data Transmission Direction: LSB->MSB', 'Parity Check: Odd Parity', and 'Frame Bit Length: 192'. The 'Protocol Analyzer Color' section shows color swatches for Start-B, Start-W, Start-M, AUX, Data, Validity, User, Channel, and Parity. The 'OK', 'Cancel', 'Default', and 'Help' buttons are at the bottom.

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

The screenshot shows the 'PROTOCOL ANALYZER S/PDIF' dialog box with the 'Configuration' tab selected. The 'Data Mode' field is highlighted with a red circle. The field is set to '24-Bit'. Other settings include 'S/PDIF: A0', 'AUX Transmission Direction: LSB->MSB', 'Data Transmission Direction: LSB->MSB', 'Parity Check: Odd Parity', 'Frequency: 2.0480 MHz', and 'Frame Bit Length: 192'. The 'Protocol Analyzer Color' section shows color swatches for Start-B, Start-W, Start-M, AUX, Data, Validity, User, Channel, and Parity. The 'OK', 'Cancel', 'Default', and 'Help' buttons are at the bottom.

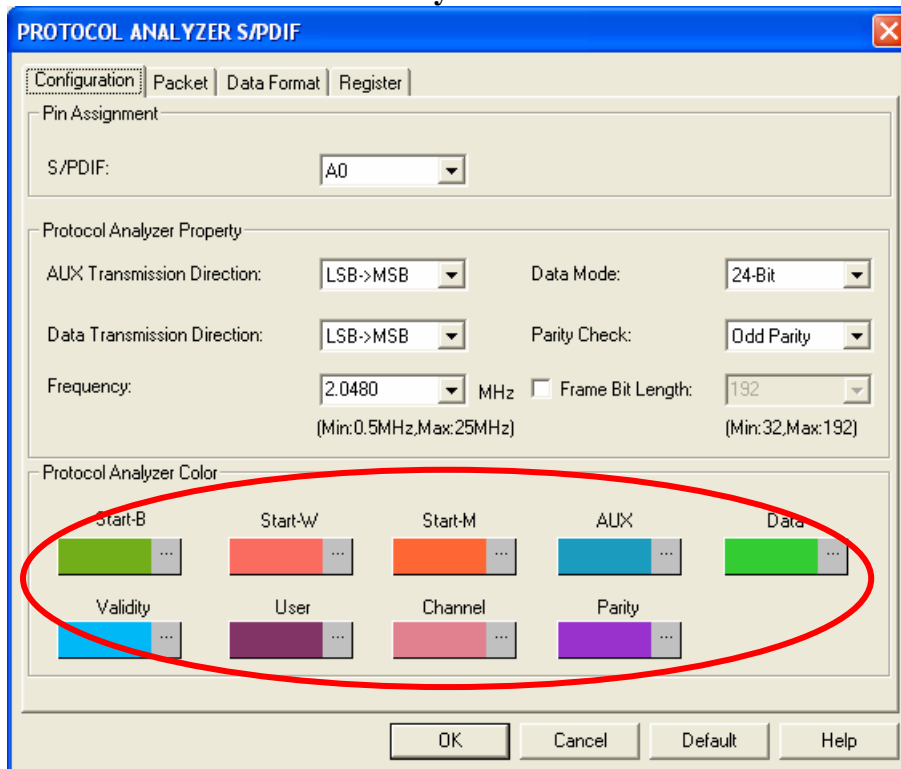
**STEP 9.** Set the **Parity Check** to Odd Parity or Even Parity.

The screenshot shows the 'PROTOCOL ANALYZER S/PDIF' dialog box with the 'Configuration' tab selected. The 'Pin Assignment' section shows 'S/PDIF:' set to 'A0'. The 'Protocol Analyzer Property' section contains several settings: 'AUX Transmission Direction' is 'LSB->MSB', 'Data Mode' is '24-Bit', 'Data Transmission Direction' is 'LSB->MSB', 'Frequency' is '2.0480 MHz' (with a range of Min:0.5MHz,Max:25MHz), and 'Frame Bit Length' is '192' (with a range of Min:32,Max:192). The 'Parity Check' dropdown is highlighted with a red circle and set to 'Odd Parity'. The 'Protocol Analyzer Color' section shows color swatches for Start-B, Start-W, Start-M, AUX, Data, Validity, User, Channel, and Parity. At the bottom are 'OK', 'Cancel', 'Default', and 'Help' buttons.

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

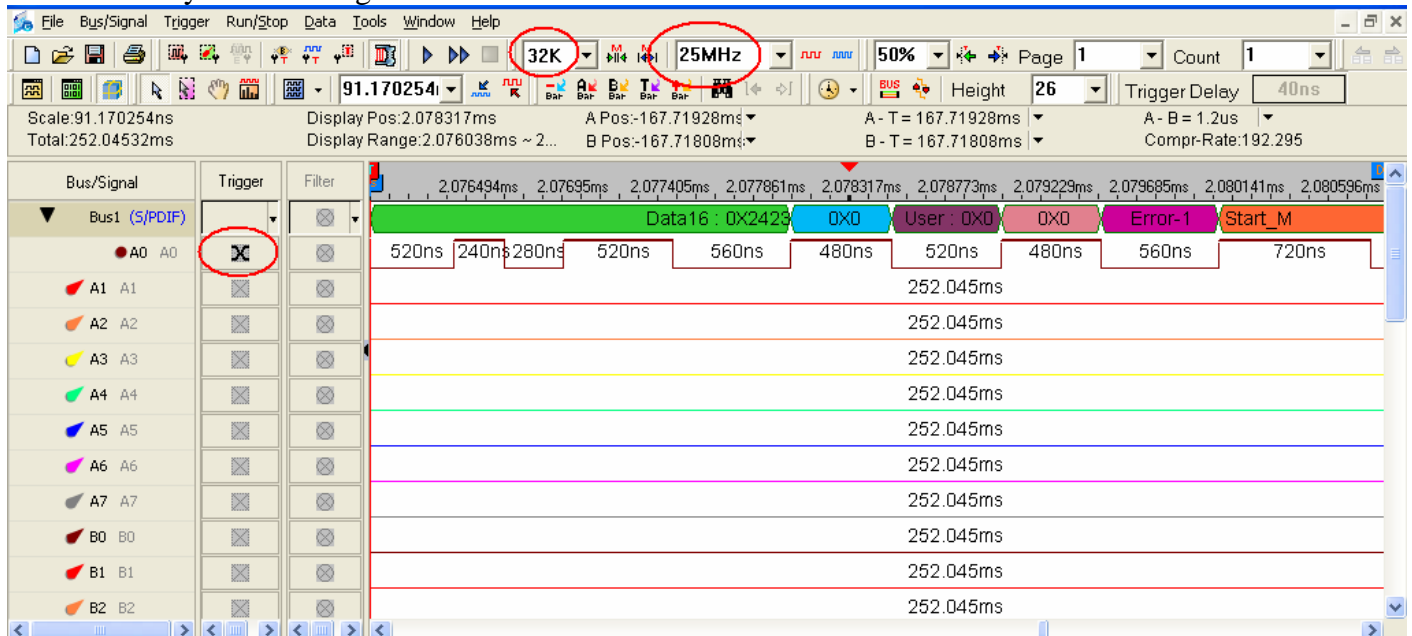
The screenshot shows the same 'PROTOCOL ANALYZER S/PDIF' dialog box. In this step, the 'Frame Bit Length' dropdown is highlighted with a red circle and set to '192'. All other settings, including the 'Parity Check' set to 'Odd Parity', remain the same as in the previous step.

## STEP 11. Set the Protocol Analyzer Color



**STEP 12.** 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

