



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

**Instrument Business Department**

**DIGRF Specification**

Version : V1.00



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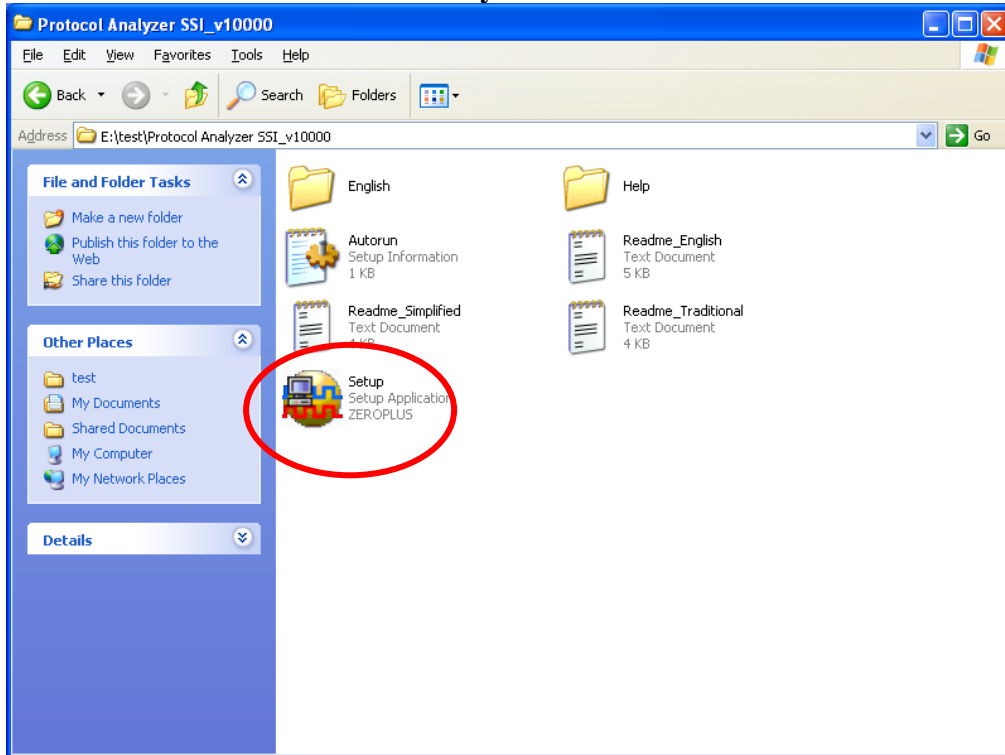


## 1 Software Installation

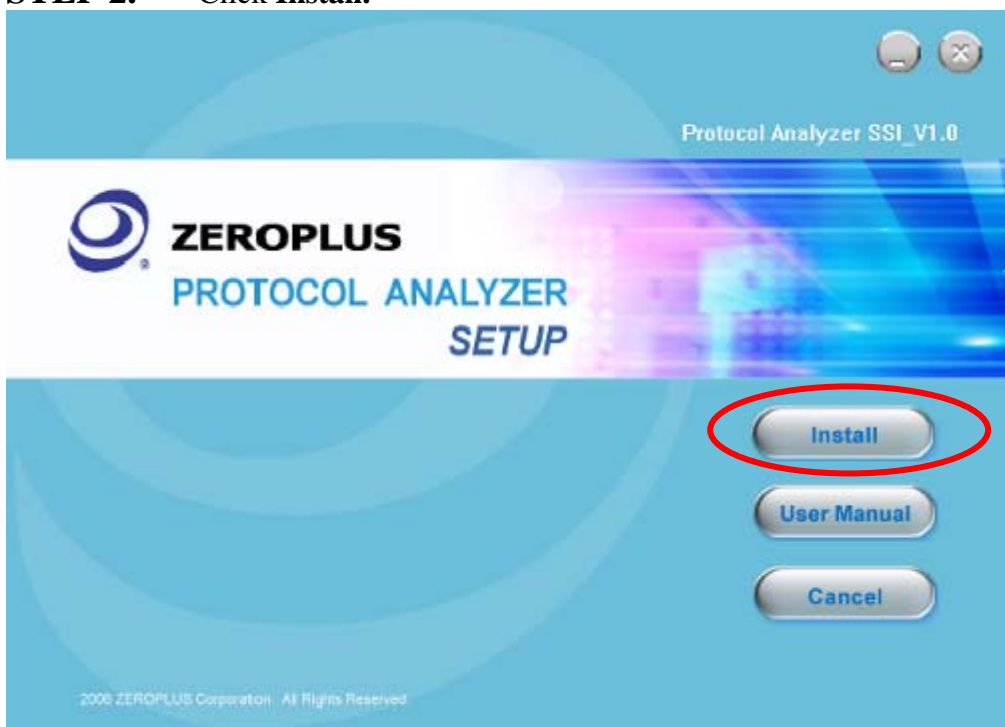
Please install the software as the following steps:

- ※ 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.

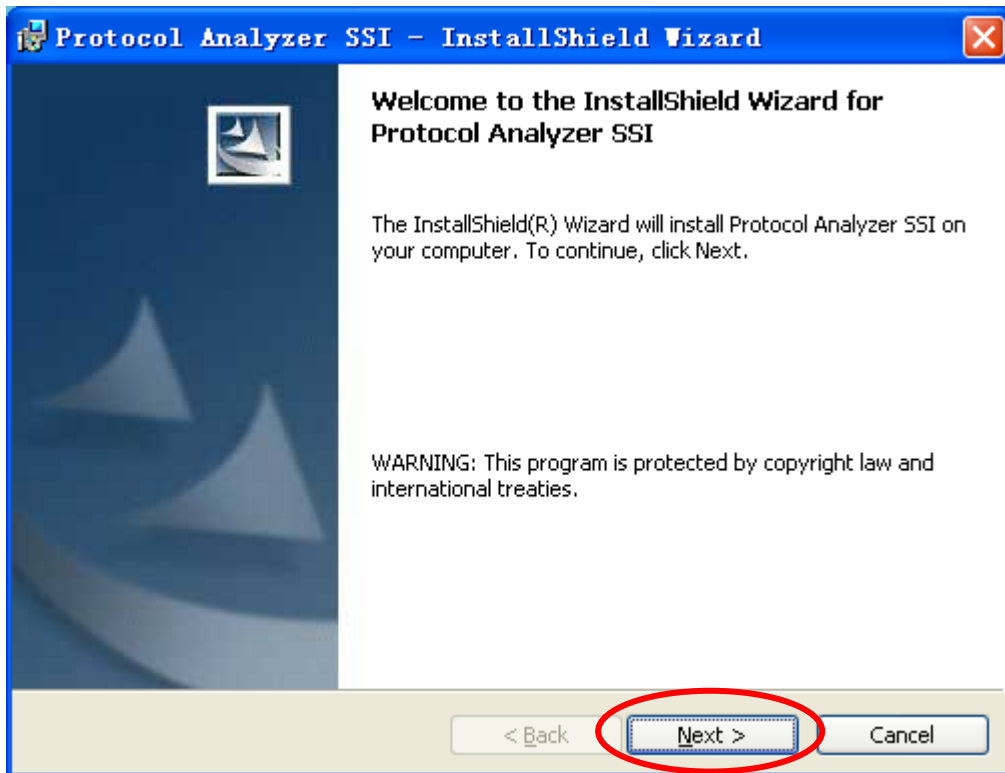


### STEP 2. Click Install.

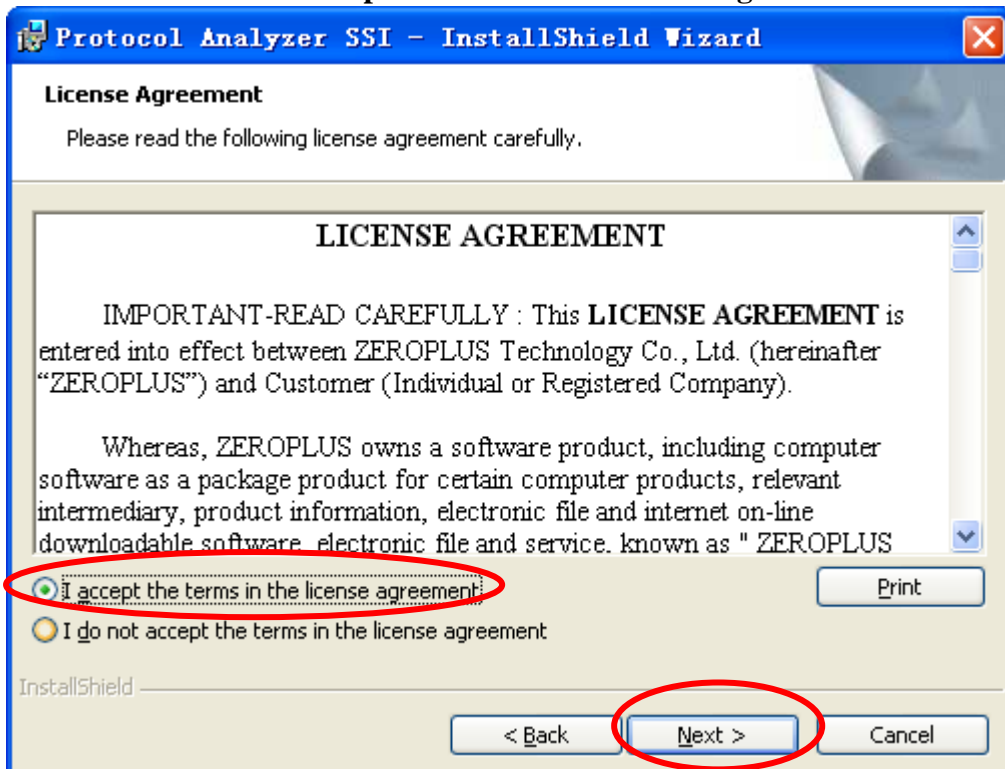




**STEP 3.** Click Next.



**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**.

**Protocol Analyzer SSI - InstallShield Wizard**

**Customer Information**  
Please enter your information.

User Name:  
sunshine

Organization:  
zeroplus

Install this application for:

Anyone who uses this computer (all users)

Only for me (sunshine)

InstallShield

< Back   **Next >**   Cancel

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

**Protocol Analyzer SSI - InstallShield Wizard**

**Setup Type**  
Choose the setup type that best suits your needs.

Please select a setup type.

**Complete**  
All program features will be installed. (Requires the most disk space.)

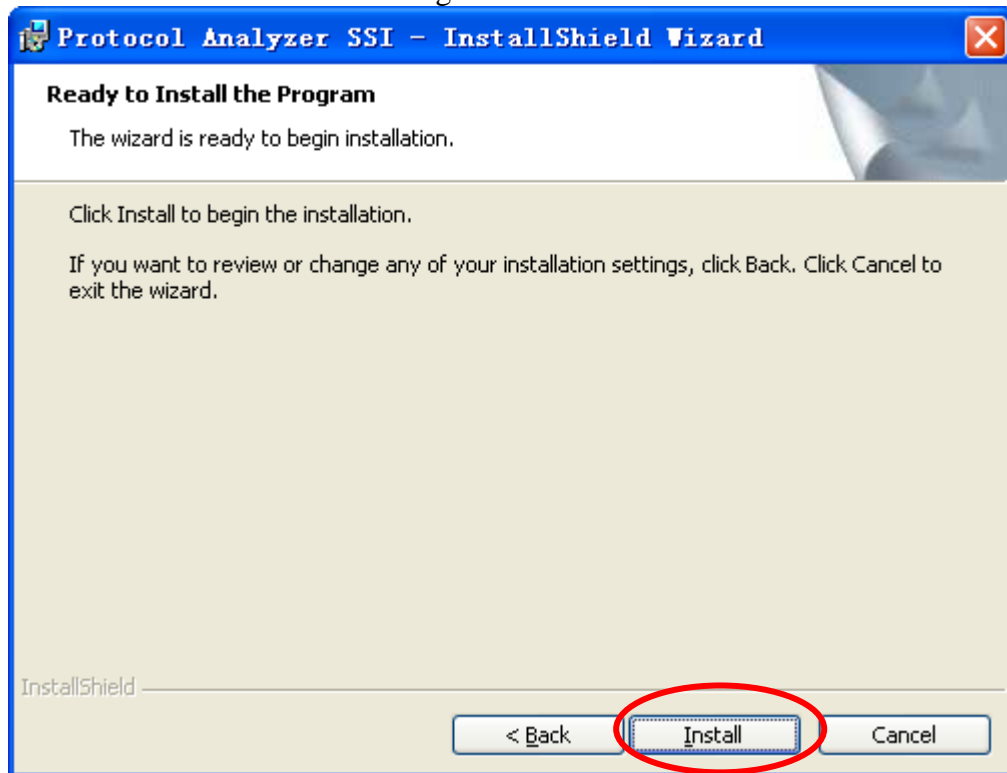
**Custom**  
Choose which program features you want installed and where they will be installed. Recommended for advanced users.

InstallShield

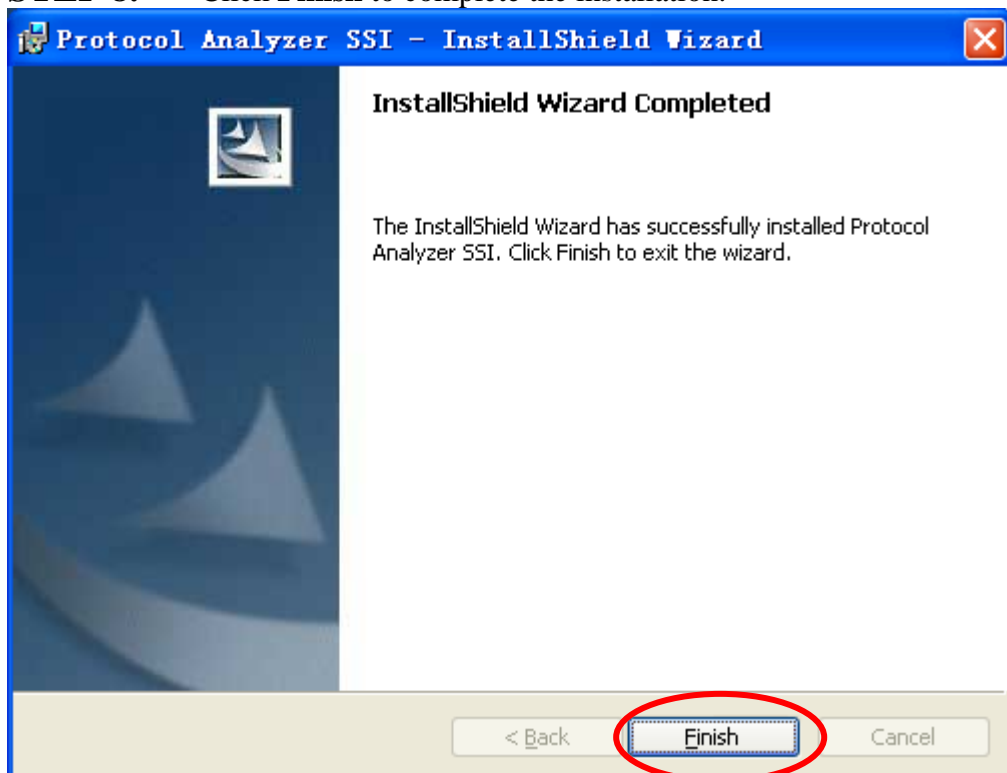
< Back   **Next >**   Cancel



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



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

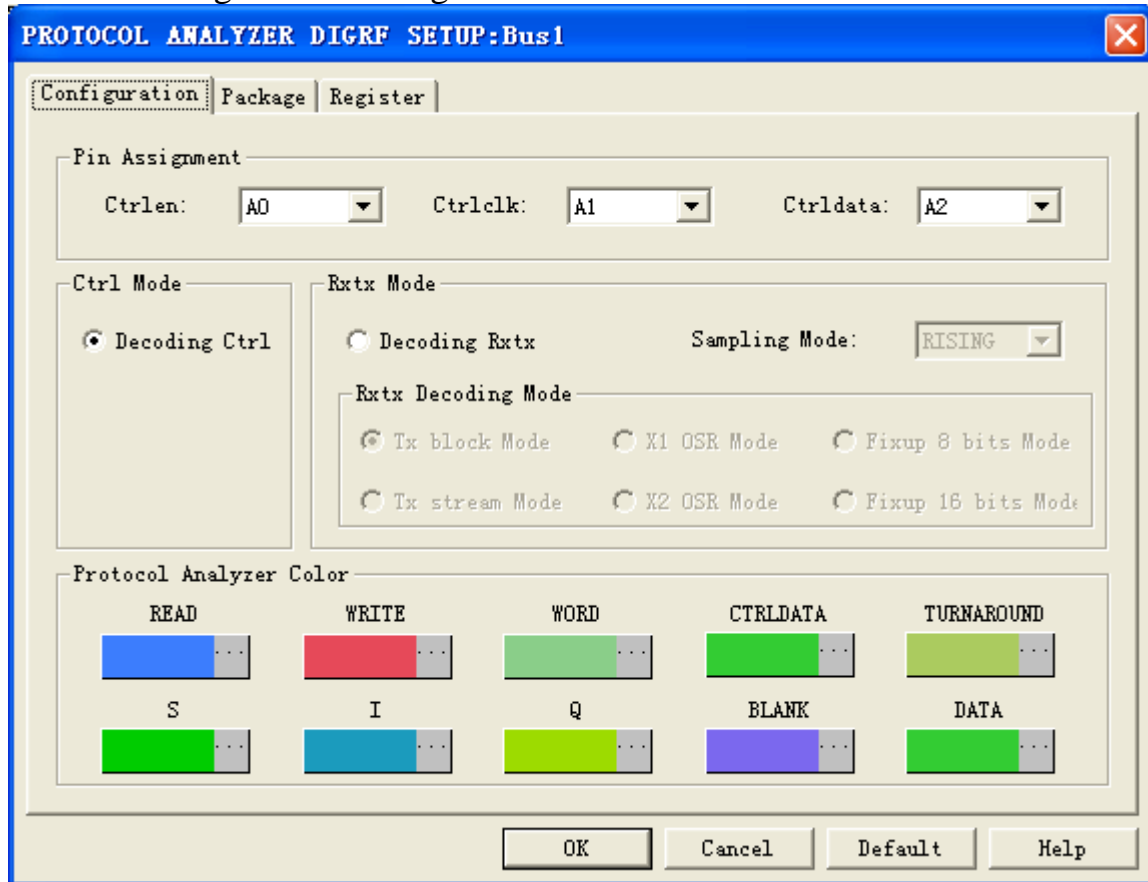




## 2 User Interface

Please refer to the below images to select options of setting **DIGRF** module.

### DIGRF Configuration Dialog Box



#### Pin Assignment:

**Ctrlren:** Setting the usable Enable line channel (The channel is Rxtxen in the Decoding Rxtx).

**Ctrlclk:** Setting the usable CLK channel (The channel is Sysclk in the Decoding Rxtx).

**Ctrlldata:** Setting the usable data channel (the channel is Rxtxdata in the Decoding Rxtx).

**Ctrl Mode:** Decoding Ctrl command.

**Rxtx Mode:** Decoding Rxtx. It can be divided into six kinds of Rxtx Decoding Mode, which are Tx block Mode, Tx stream Mode, X1 OSR Mode, X2 OSR Mode, Fixup 8 bits Mode, Fixup 16 bits Mode.

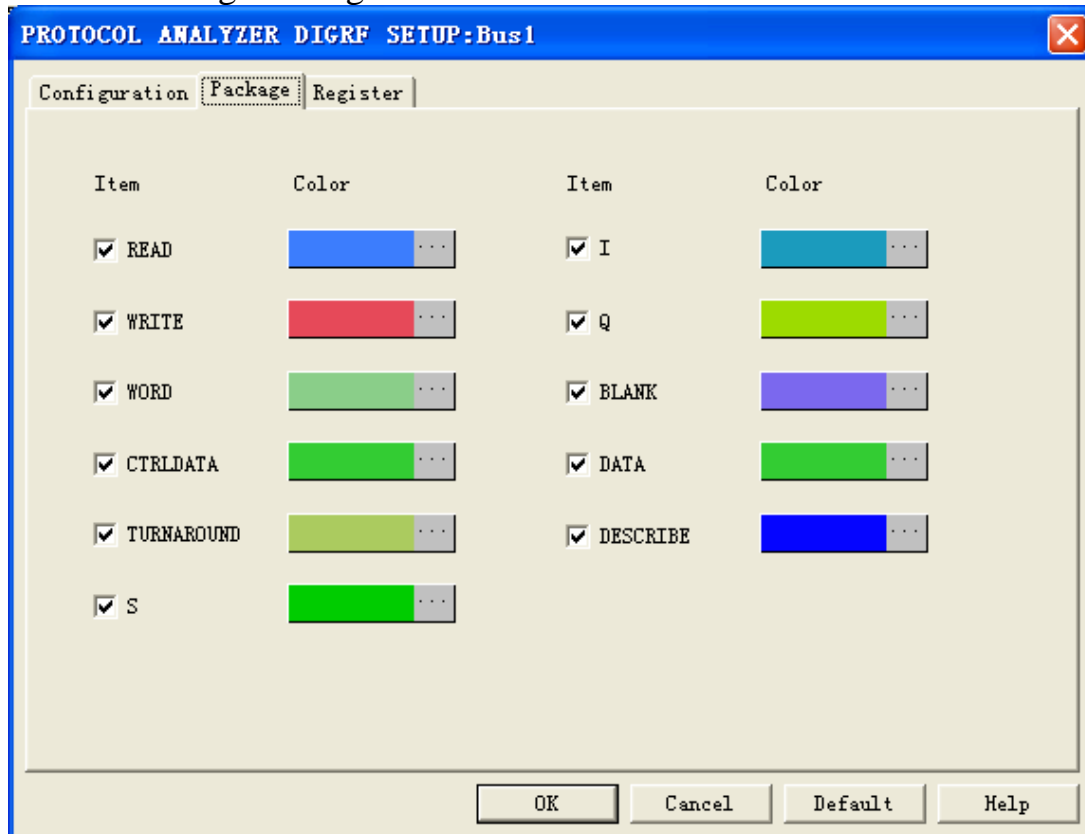
**Sampling Mode:** To set up the Sampling Mode is RISING edge or FALLING edge.

#### Protocol Analyzer Color

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

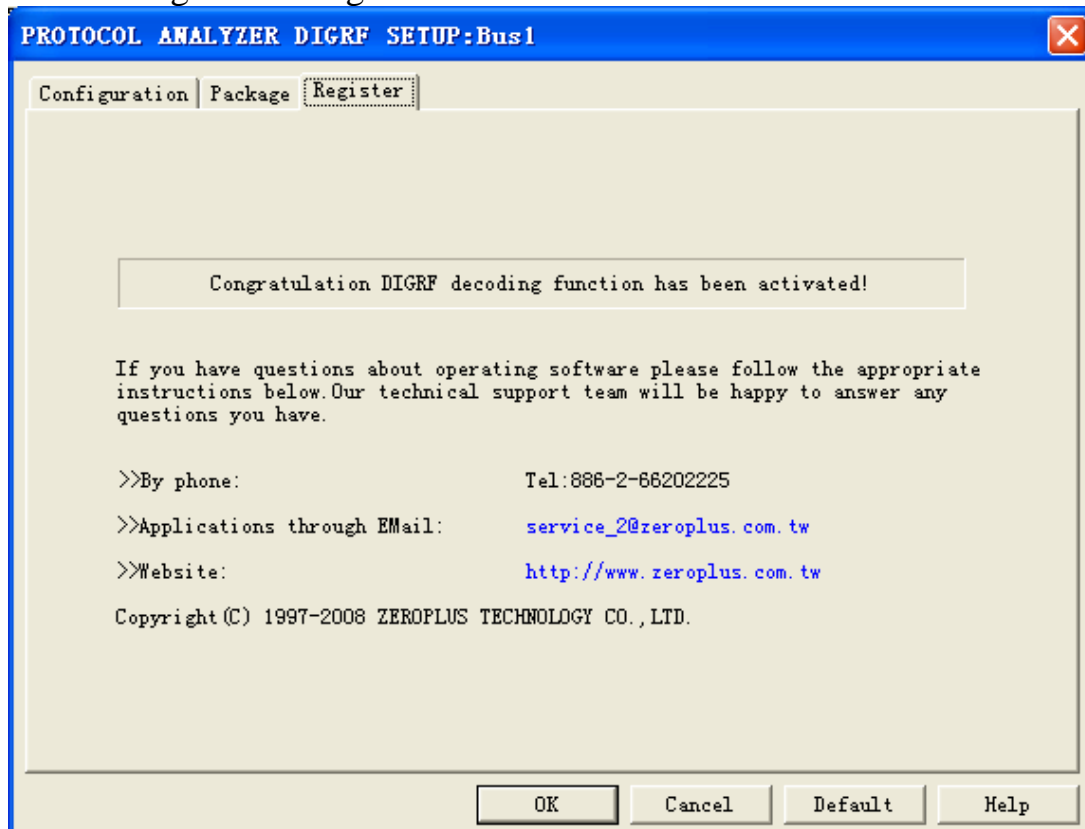


## DIGRF Package Dialog Box



In the package part, users can vary the displayed item and its color.

## DIGRF Register Dialog Box



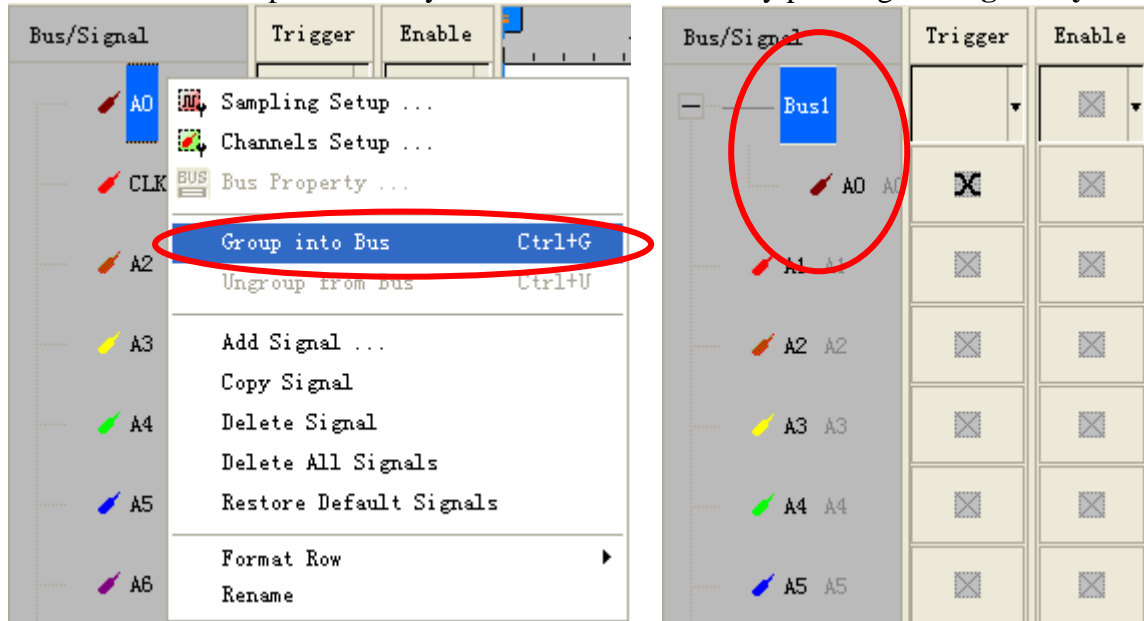
There is ZeroPlus company information. If you have any questions about software operations, you can contact ZeroPlus by Telephone or Email.



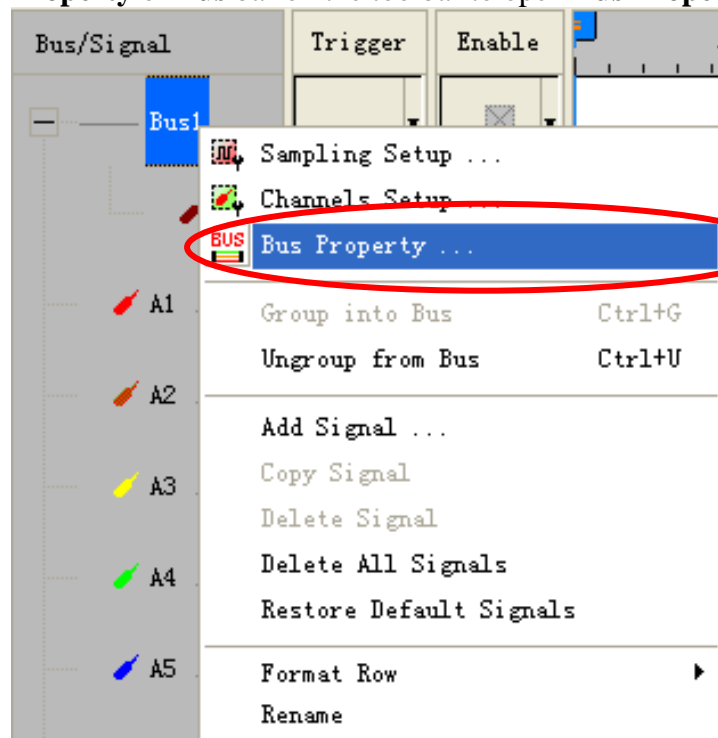


### 3 Operating Instructions

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

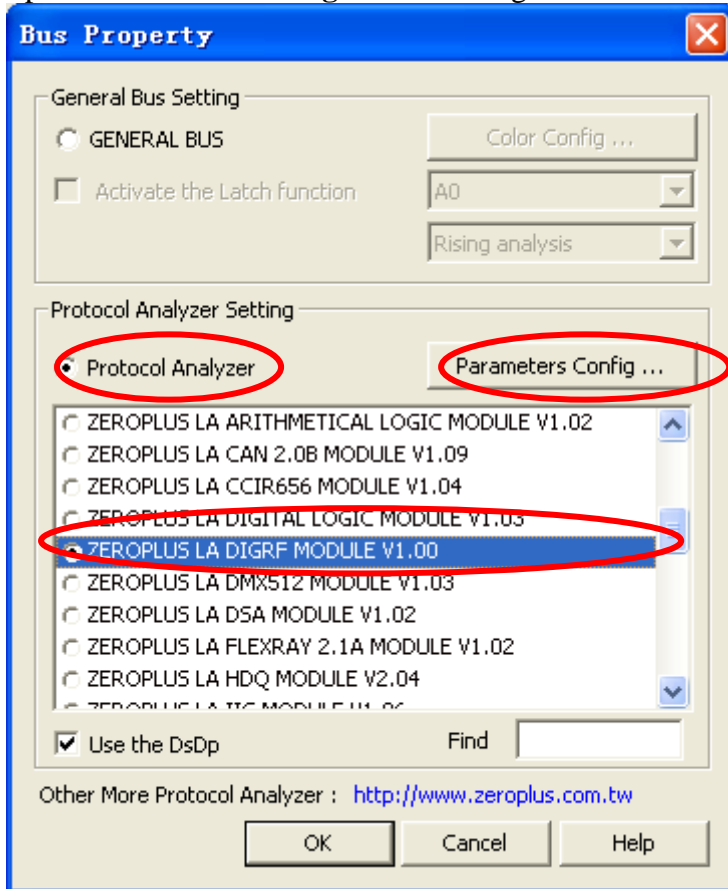


**STEP 2.** Select **Bus1**, then press **Right key** on the mouse to list menu, then press **Bus Property** or **Bus bar** on the toolbar to open **Bus Property** dialog box.

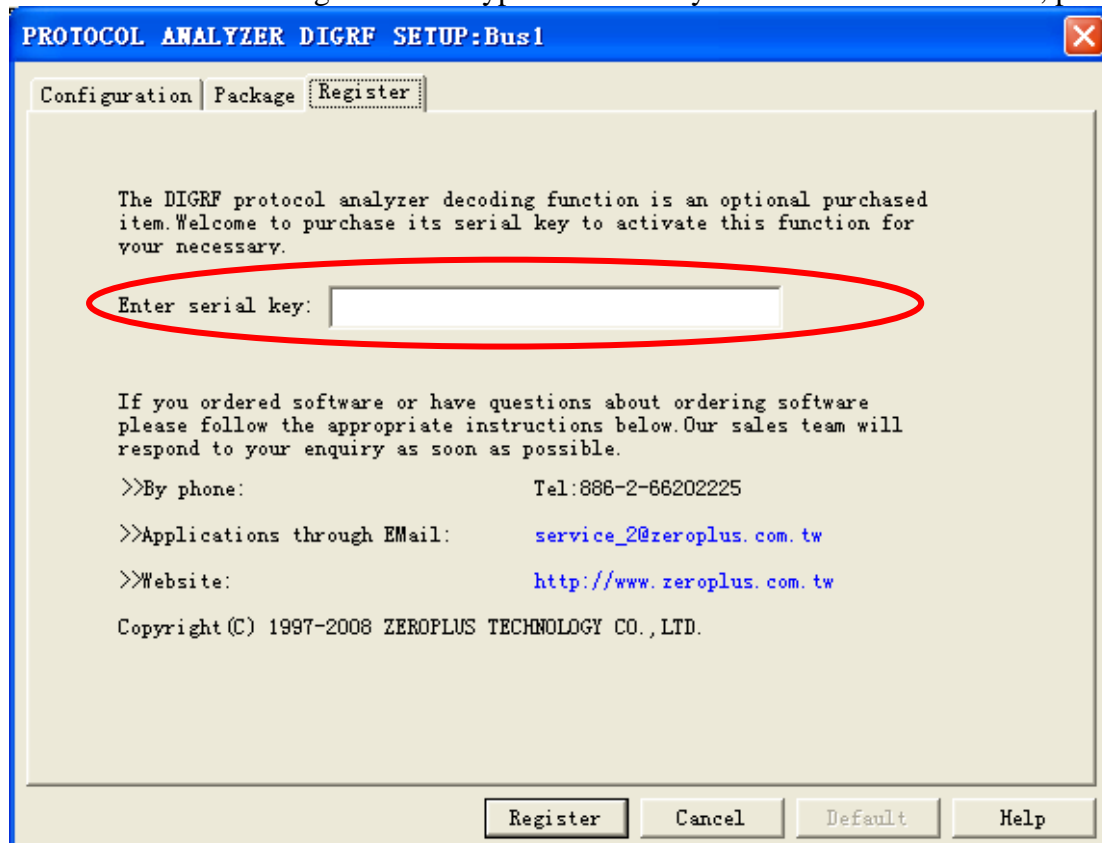




**STEP 3.** For Protocol Analyzer DIGRF Parameters Configuration, select Protocol Analyzer, then select **ZEROPLUS LA DIGRF MODULE V1.00**. Next click **Parameters Configuration** to open **Parameters Configuration** dialog box.

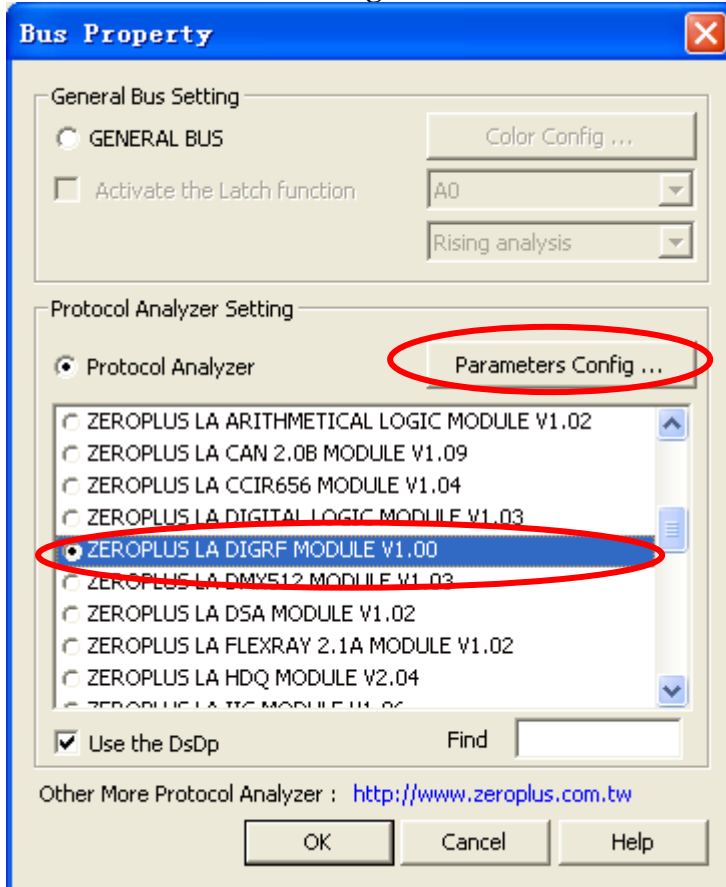


**STEP 4.** Click Register tab to type the serial key number of **DIGRF**. Then, press **Register**.

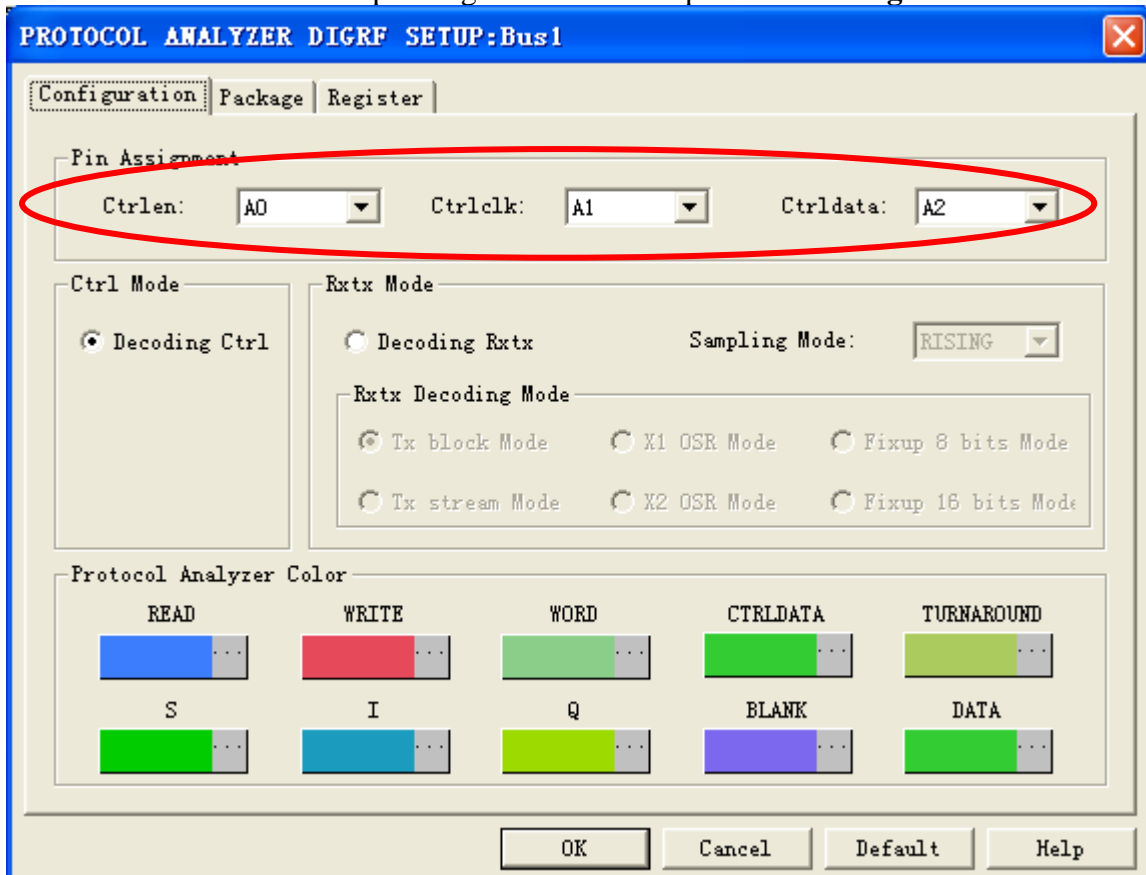




**STEP 5.** After completing **Register**, come back to the **Bus Property** dialog box, and then click the **Parameters Configuration** to start the Protocol Analyzer DIGRF setup.

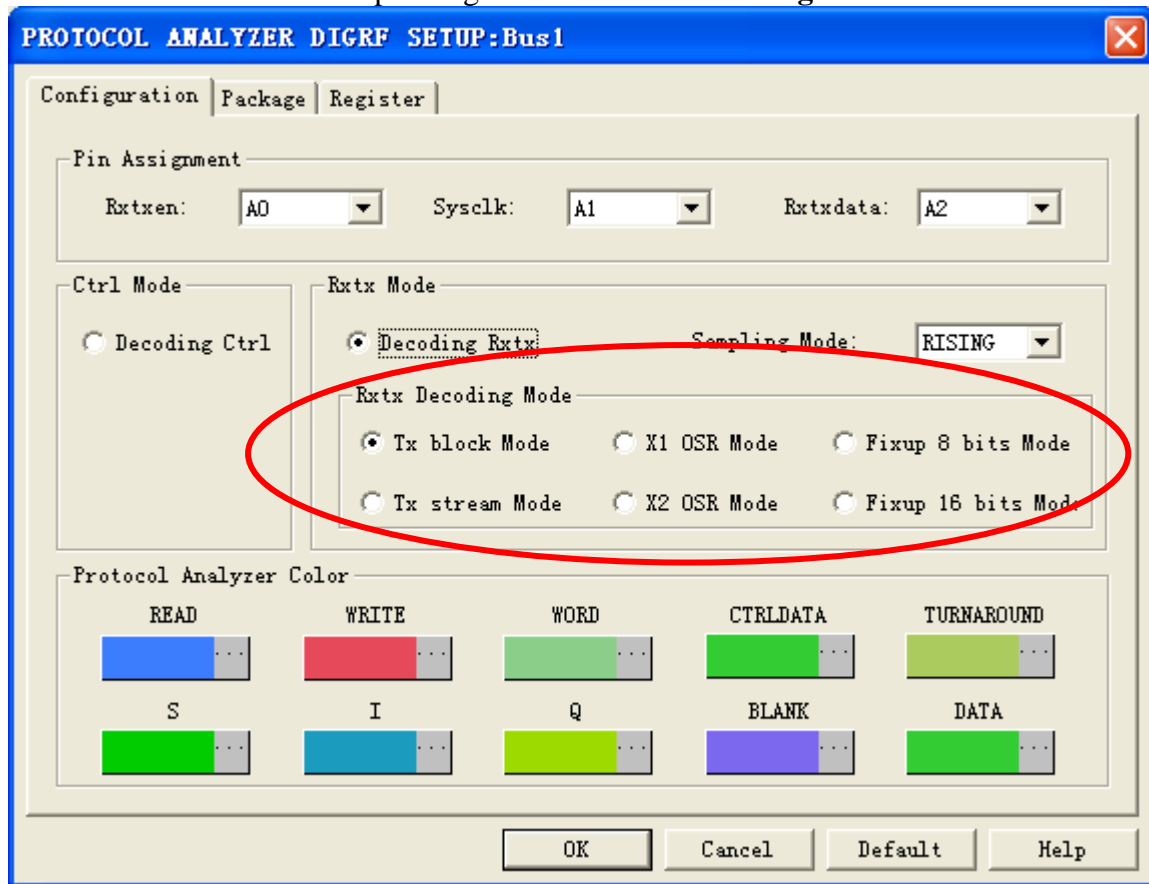


**STEP 6.** Set the corresponding channels in the part of **Pin Assignment**.

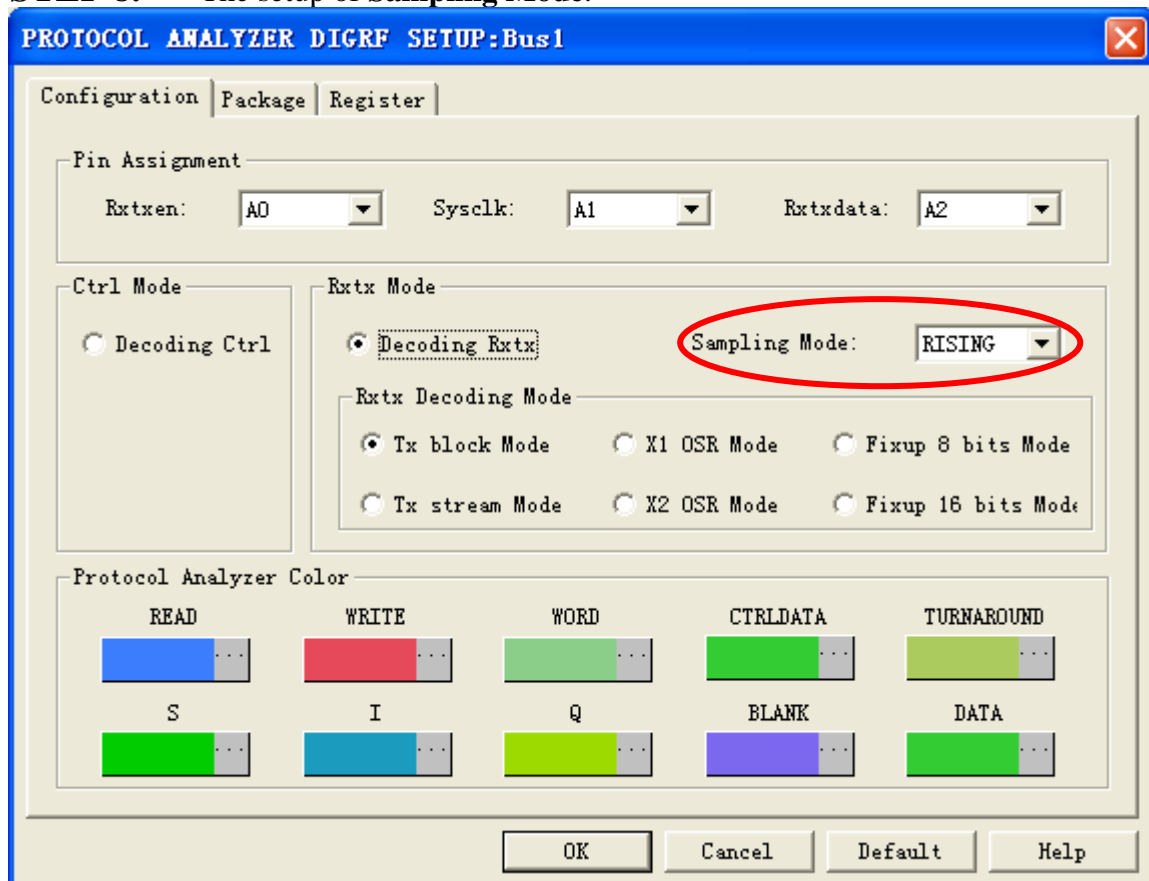




**STEP 7.** Set the corresponding modes in **Rtxx Decoding Mode**.

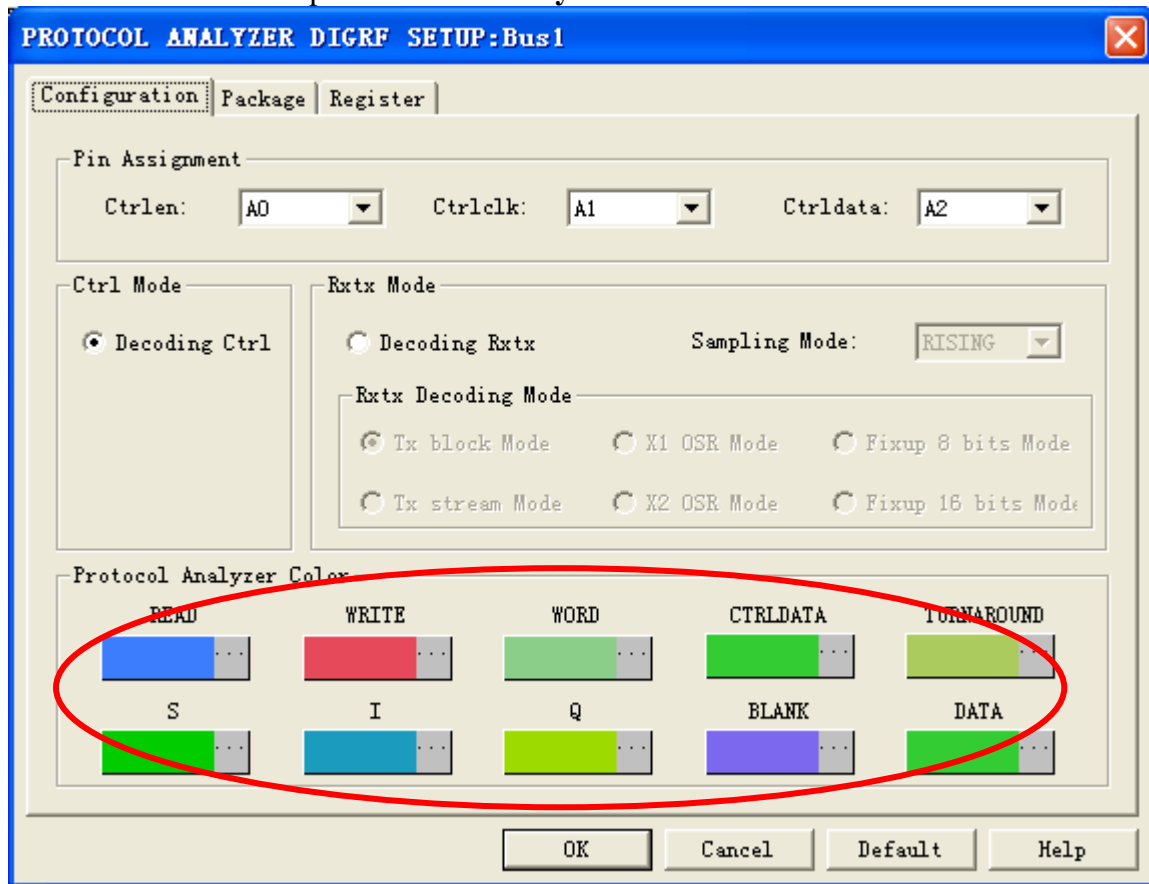


**STEP 8.** The setup of **Sampling Mode**.



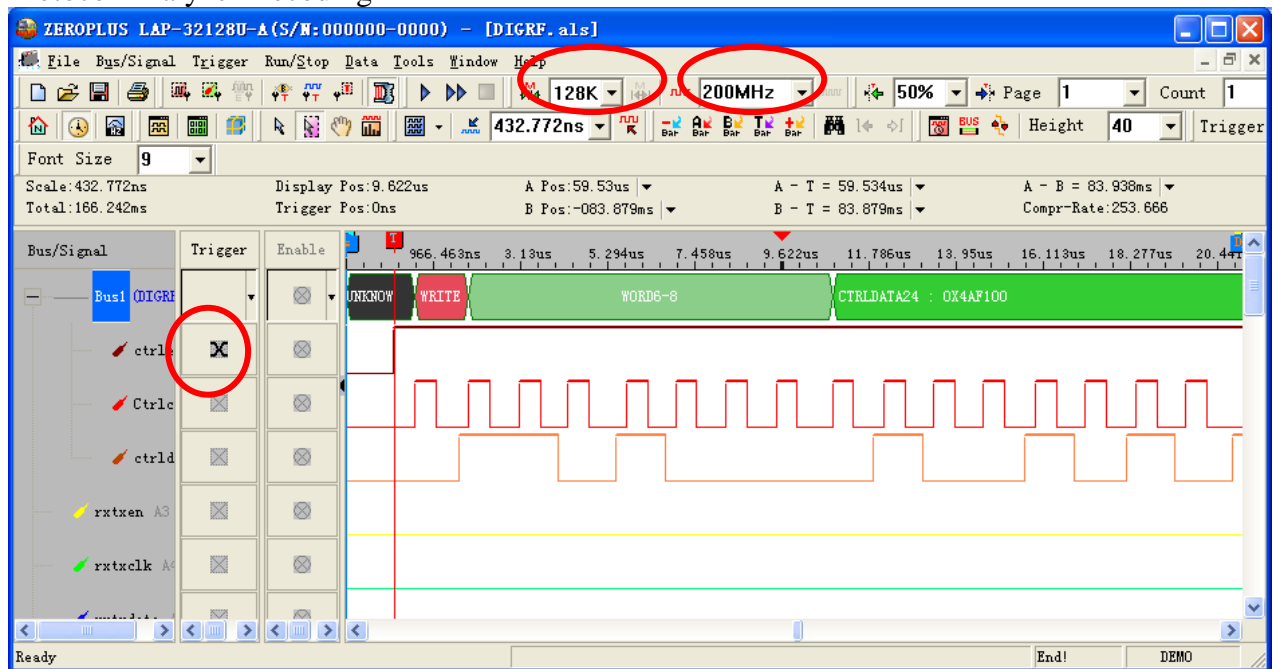


### STEP 9. The setup of Protocol Analyzer Color



**STEP 10.** Following pictures show the completion of the protocol analyzer decoding and the package list. The Trigger condition is set as Either Edge; the Memory depth is 128K; the Sampling frequency is 200MHZ.

### Protocol Analyzer Decoding





### Package List

The screenshot shows a logic analyzer window titled "ZERPLUS LAP-32128U-A (S/N: 000000-0000) - [DIGRF. als]". The interface includes a menu bar, a toolbar with various analysis tools, and a main display area showing a bus signal trace for "Bus1 (DIGRF)". The trace shows a sequence of operations: a WRITE operation (red bar) followed by a WORD6-8 operation (green bar) and a CTRLDATA24 : 0X4AF100 operation (green bar). Below the trace, there is a table with columns for Package #, Name, TimeStamp, and operation details.

Package #	Name	TimeStamp	WRITE	WORD	CTRLDATA	
1	Bus1(DIGRF)	525ns	WRITE	WORD6-8	0X4AF100	
Package #	Name	TimeStamp	READ	WORD	TURNAROUND	CTRLDATA
2	Bus1(DIGRF)	43.47us	READ	WORD6-8	TURNAROUND	0X4FF1
Package #	Name	TimeStamp	READ	WORD	TURNAROUND	CTRLDATA
3	Bus1(DIGRF)	80.565us	READ	WORD0	TURNAROUND	0X84FF1