



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

**Instrument Business Department**

**J-K FLIP-FLOP Specification**

Version: V1.00



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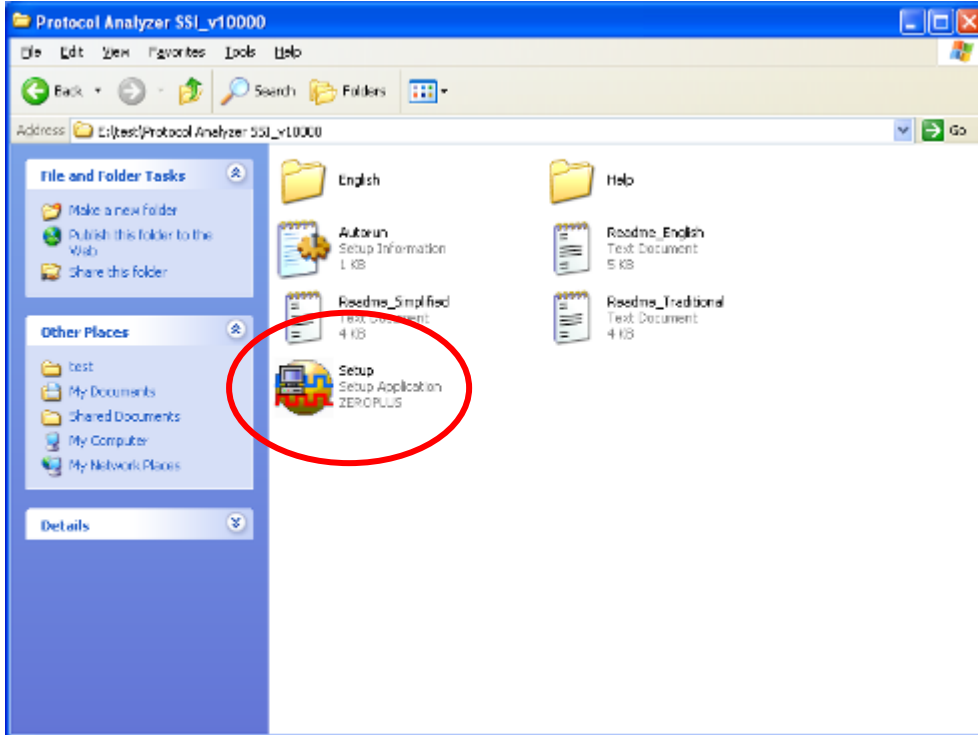
# 1 Software Installation

Please install the software as the following steps:

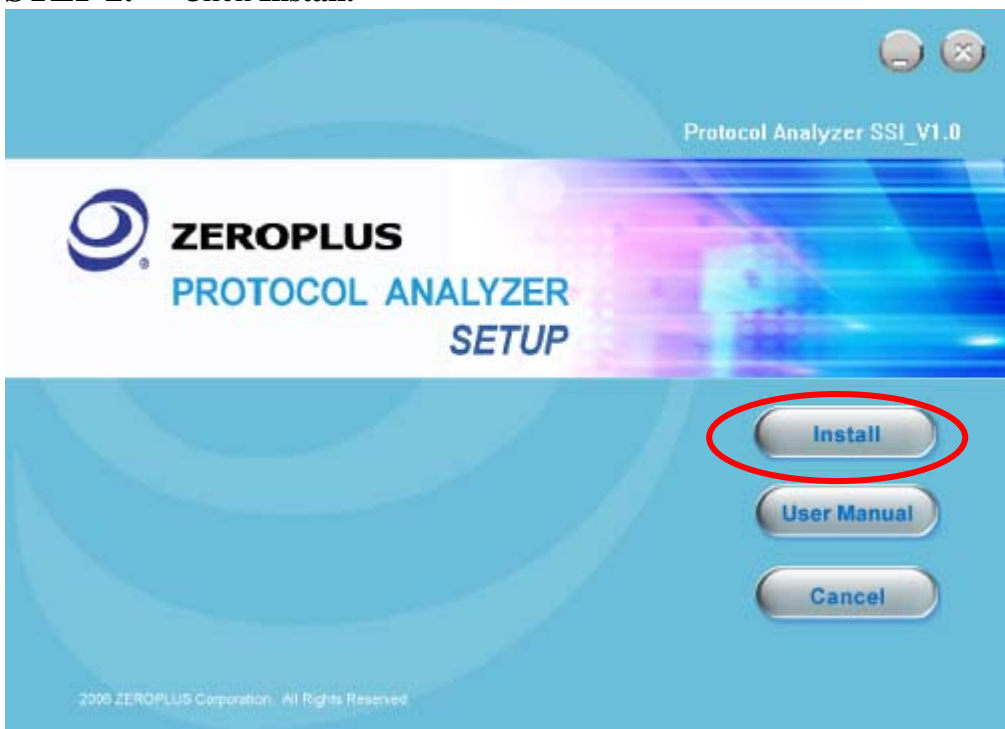
※ Remark: 1. The installation steps for all protocol analyzers are the same; you can complete the installation by following procedures. Following is an example on how to install protocol analyzer SSI.

※ 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.

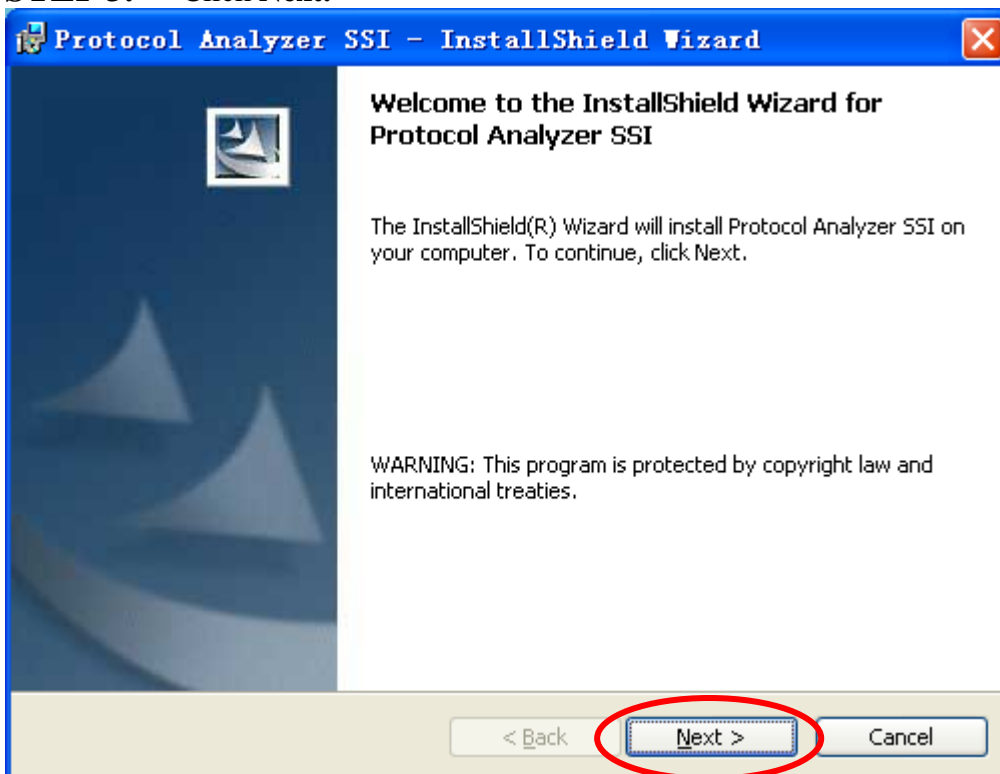


## STEP 2. Click Install.

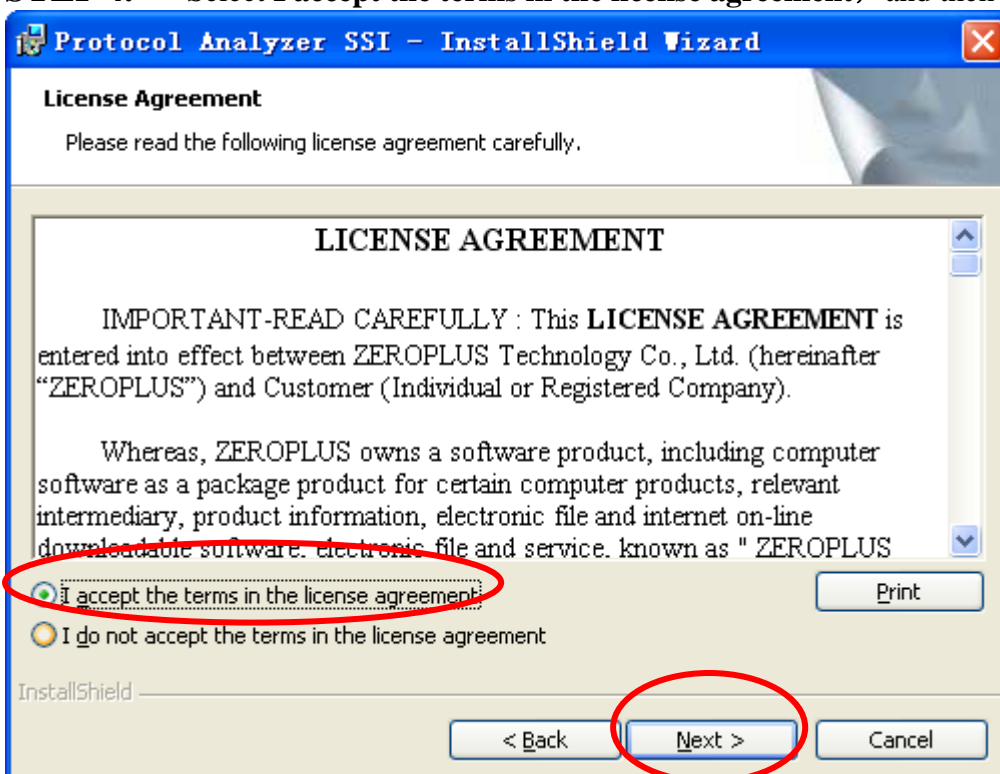




**STEP 3.** Click Next.

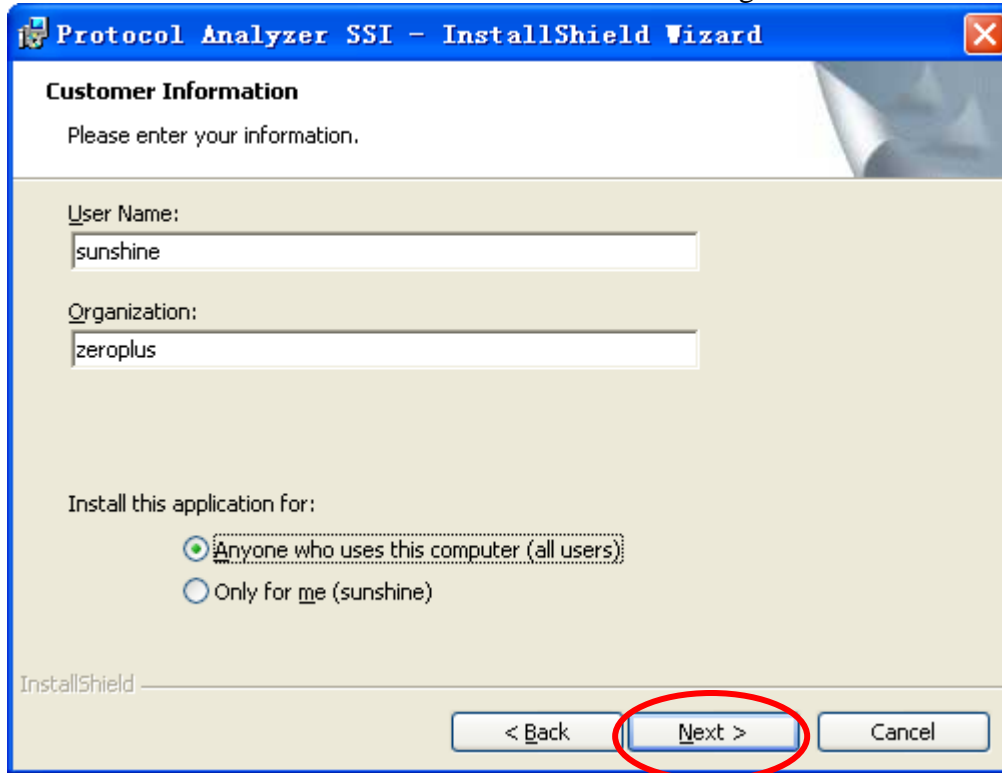


**STEP 4.** Select I accept the terms in the license agreement, and then press Next.

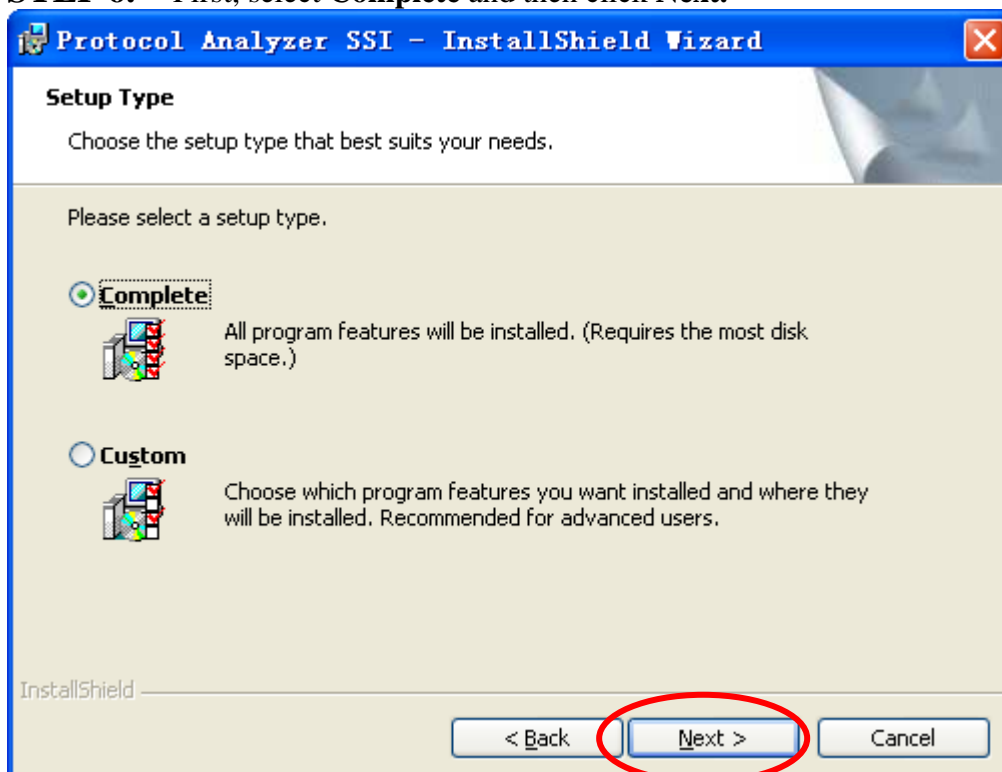




**STEP 5.** Fill in users' information in the below dialog box and click **Next**.

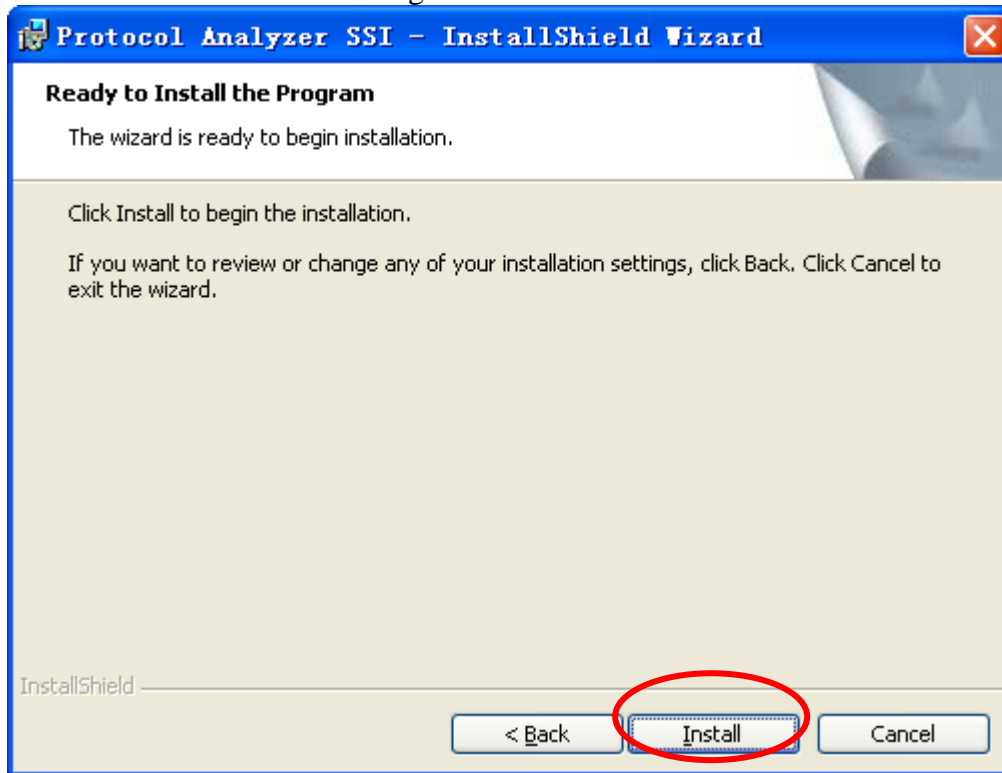


**STEP 6.** First, select **Complete** and then click **Next**.

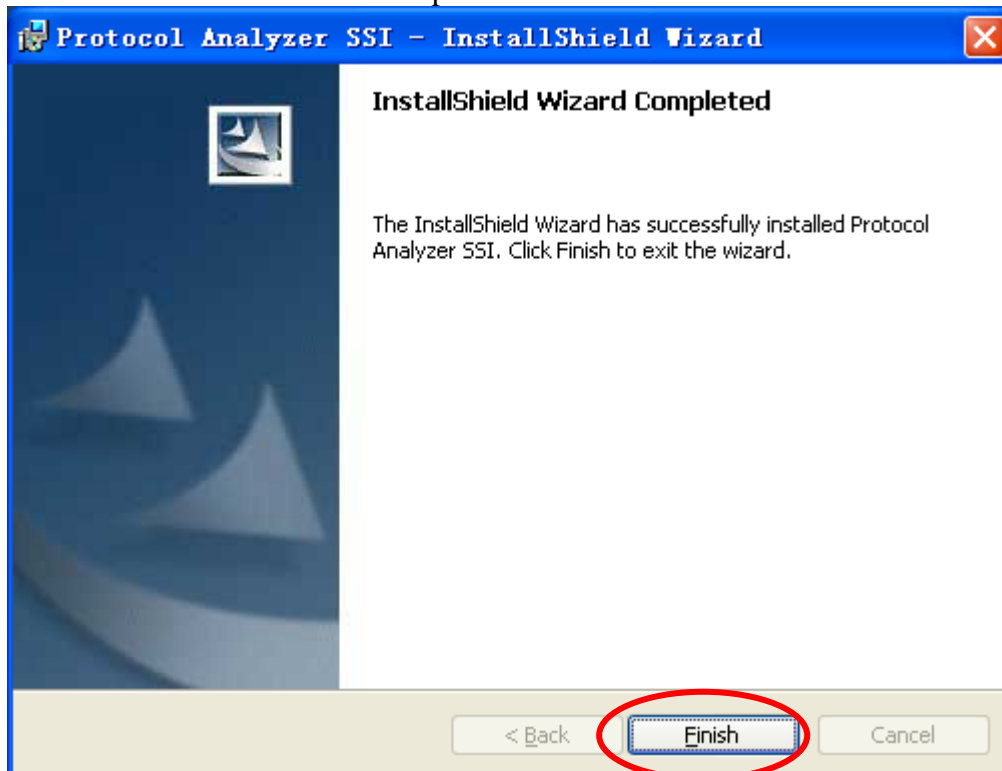




**STEP 7.** Click **Install** to begin the installation.



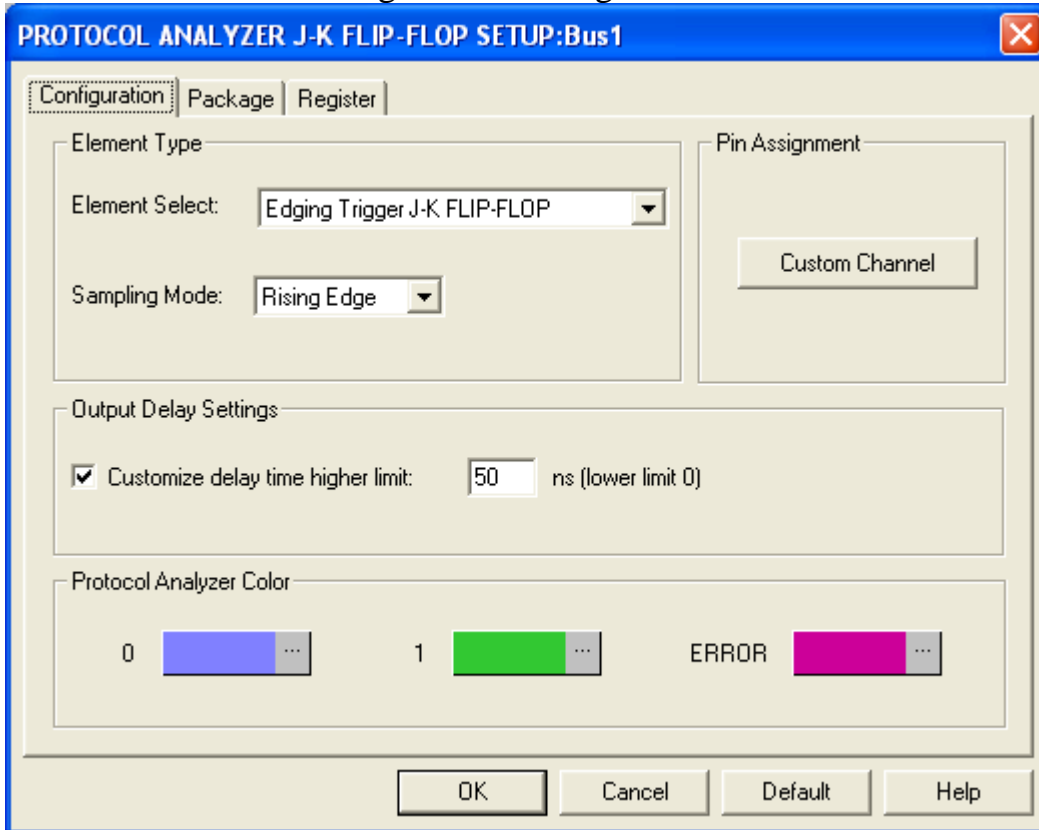
**STEP 8.** Click **Finish** to complete the installation.



## 2 User Interface

In the configuration dialog box, please refer to the below images to select options of setting **J-K FLIP-FLOP MODULE**.

### J-K FLIP-FLOP Configuration Dialog Box



#### Element Select:

It can be set as Edging Trigger J-K FLIP-FLOP or Master-Slave FLIP-FLOP.

#### Sampling Mode:

It can be set as Rising Edge or Falling Edge.

#### Output Delay Settings:

Users can set the delay time in this part.

#### Protocol Analyzer:

Users can click the buttons to set the color as their requirements.



## Custom Channel:

Pin Assignment

Input

CP: A0

CLR: A1       PR: A2

J: A3       J: A3

K: A4       K: A4

Output

Q: A5       Virtual output decoding mode

Q: A6

OK      Cancel      Default

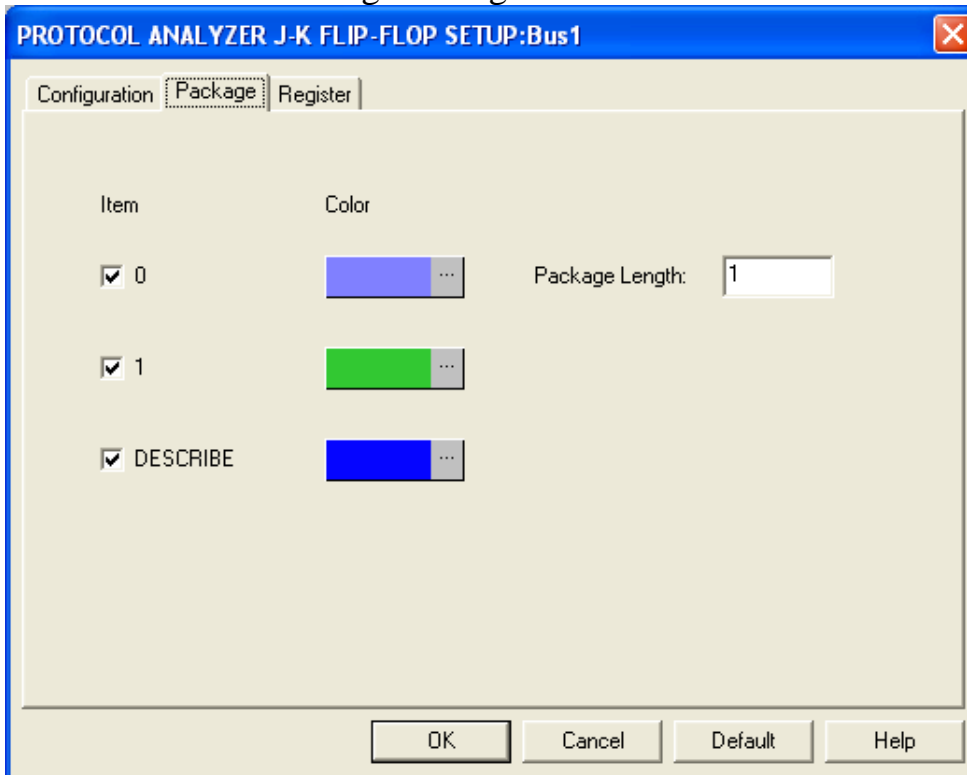
### Pin Assignment:

1. Users can select the CLR, PR, J,  $\bar{J}$ , K,  $\bar{K}$ , Q and  $\bar{Q}$  channels and set them.
2. The  $\bar{J}$  will be automatically canceled when selecting the J. The J will be automatically canceled when selecting the  $\bar{J}$ . The selection of  $\bar{K}$  and  $\bar{K}$  is the same as J and  $\bar{J}$ .
3. Users should select one of J and  $\bar{J}$  in the part of Input; the selection of K and  $\bar{K}$  is the same as J and  $\bar{J}$ .
4. When selecting **Virtual output decoding mode**, Q and  $\bar{Q}$  will be disabled.
5. When there are only three signal lines, CLR, PR, Q and  $\bar{Q}$  will be disabled. When the signal lines are more than three and less than seven and the selected channels reach the quantity of signal lines, the rest unselected channels can't be used. When the signal lines are not less than seven, all the channels can be used.



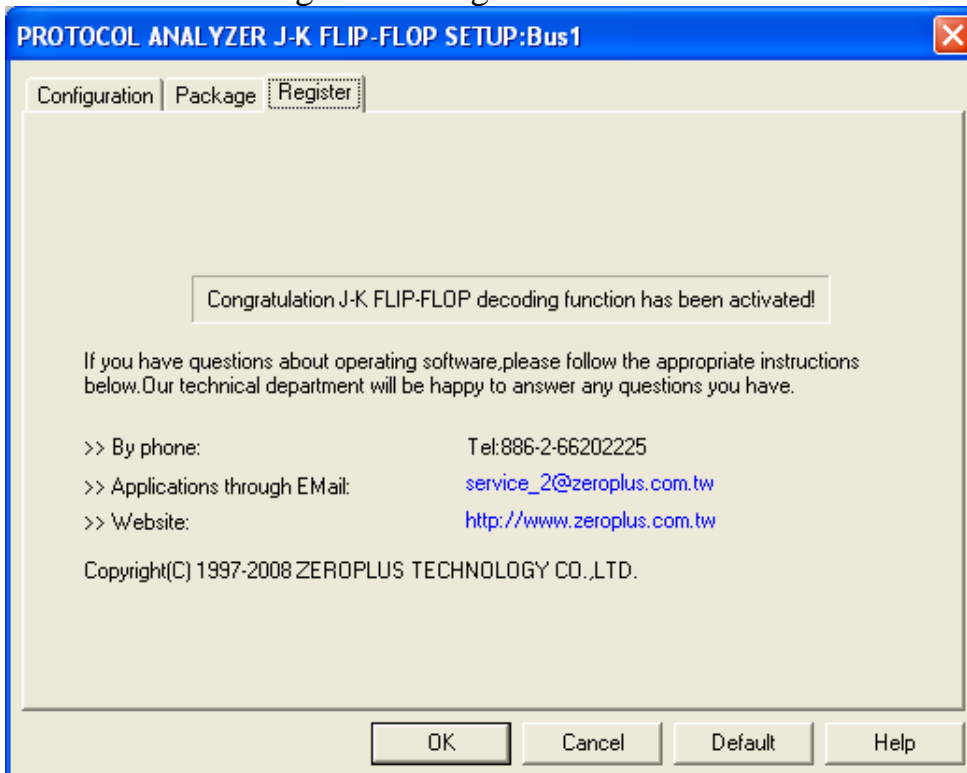


## J-K FLIP-FLOP Package Dialog Box



1. In the package dialog box, users can choose displayed items and set protocol analyzer color according to their requirements.
2. Package Length: Users can set the length of the package.

## J-K FLIP-FLOP Register Dialog Box

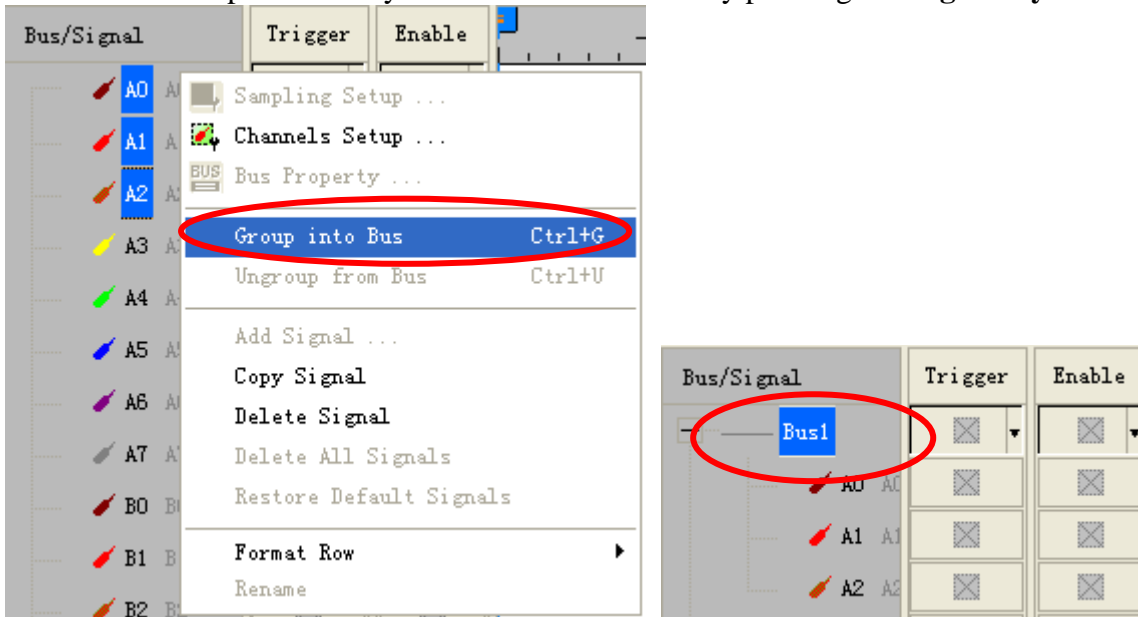


There is written ZeroPlus company information. If you have any questions about software operations, you can contact ZeroPlus by Telephone or Email.

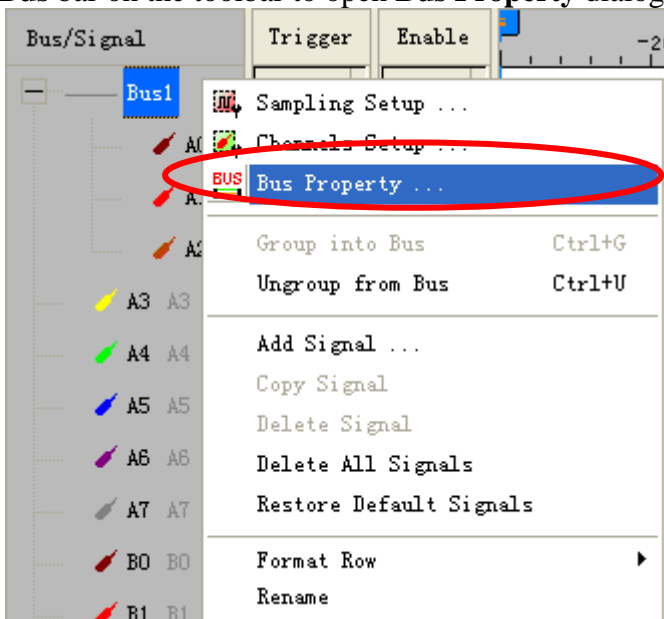


### 3 Operating Instructions

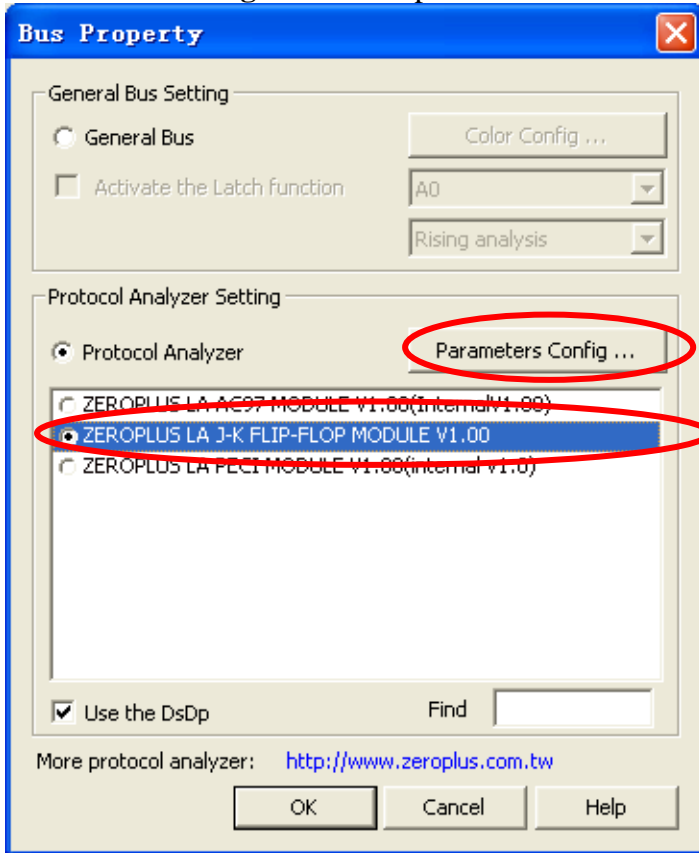
**STEP 1.** Group the unanalyzed channels into **Bus1** by pressing the **Right Key** on the mouse.



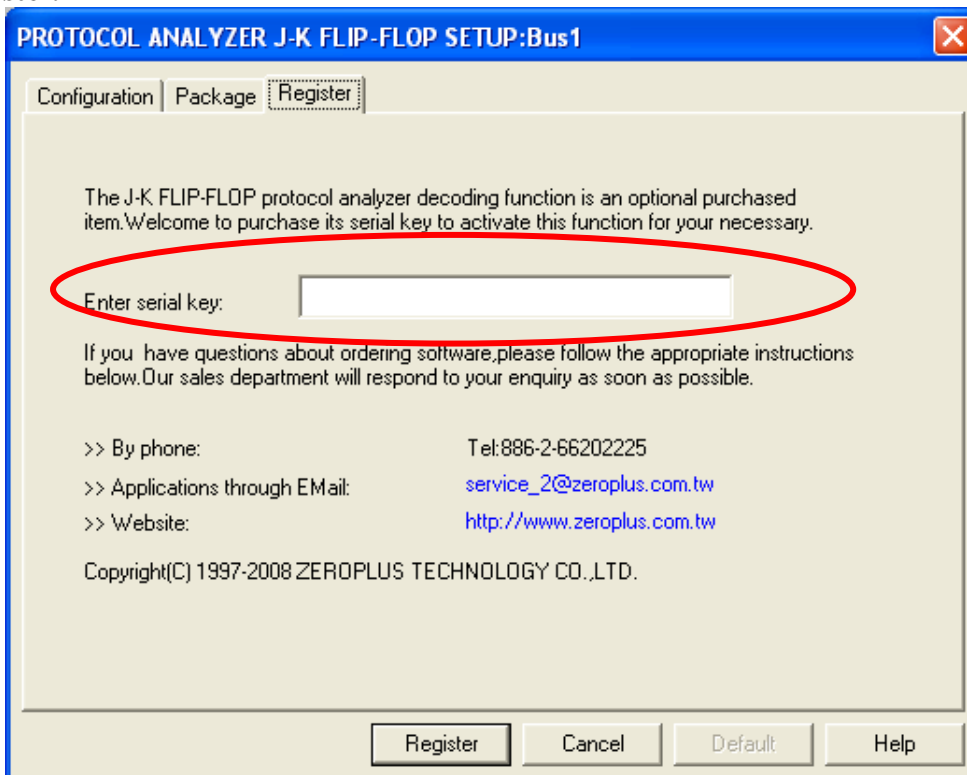
**STEP 2.** Select **Bus1**, then press **Right key** on the mouse to list menu, then press **Bus Property** or **Bus** bar on the toolbar to open **Bus Property** dialog box.



**STEP 3.** For Protocol Analyzer J-K FLIP-FLOP Parameters Configuration, select Protocol Analyzer, and then select **ZEROPLUS LA J-K FLIP-FLOP MODULE V1.00**. Next click **Parameters Configuration** to open **Parameters Configuration** dialog box.

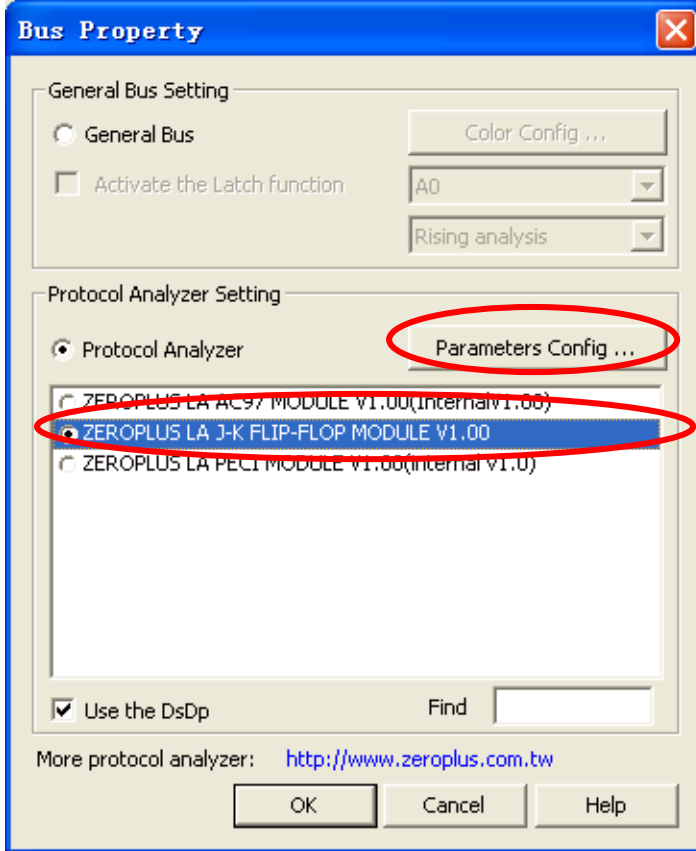


**STEP 4.** Click Register tab to type the serial key number of **J-K FLIP-FLOP**. Then, press **Register**.

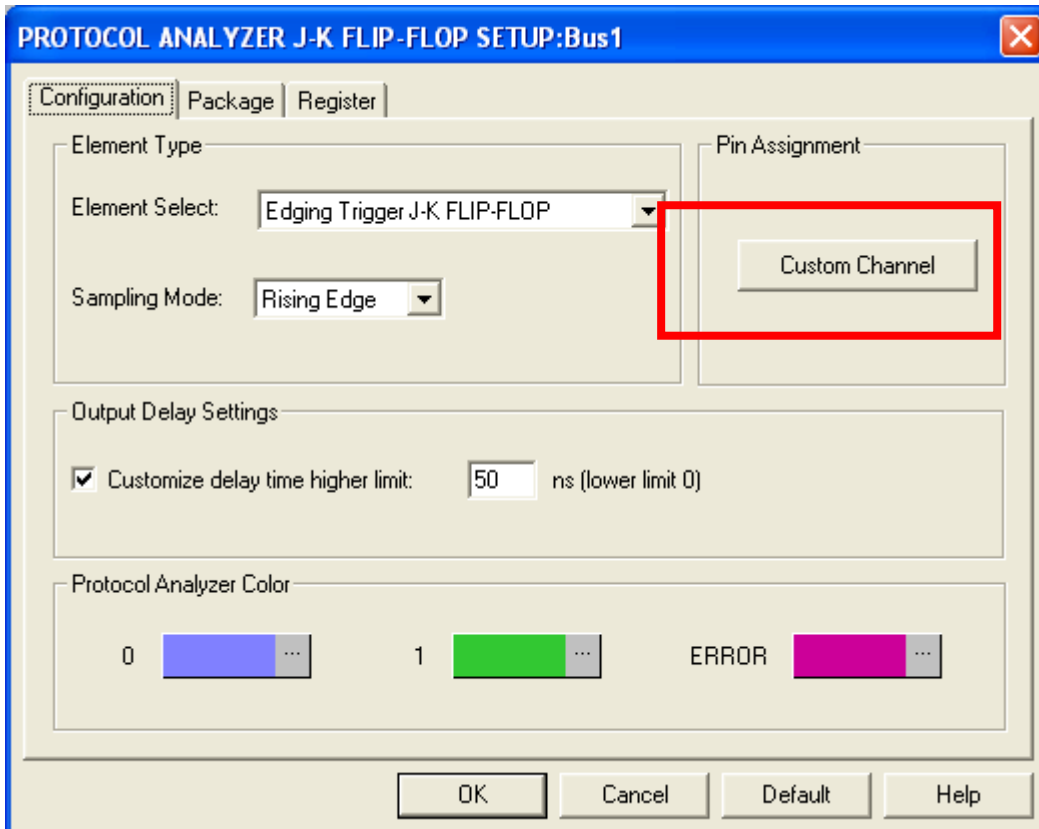




**STEP 5.** After completing **Register**, come back to the **Bus Property** dialog box, and then click the parameters configuration to start the Protocol Analyzer J-K FLIP-FLOP setup.

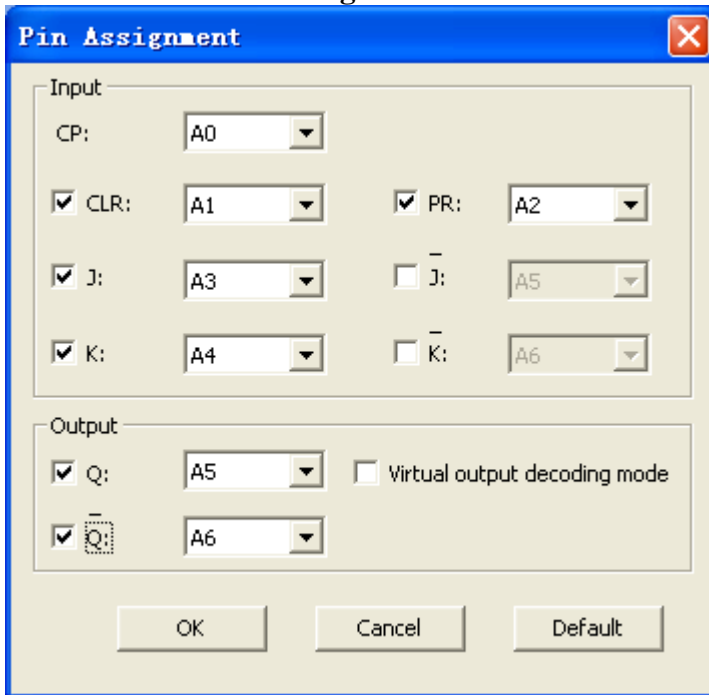


**STEP 6.** Select the Custom Channel.

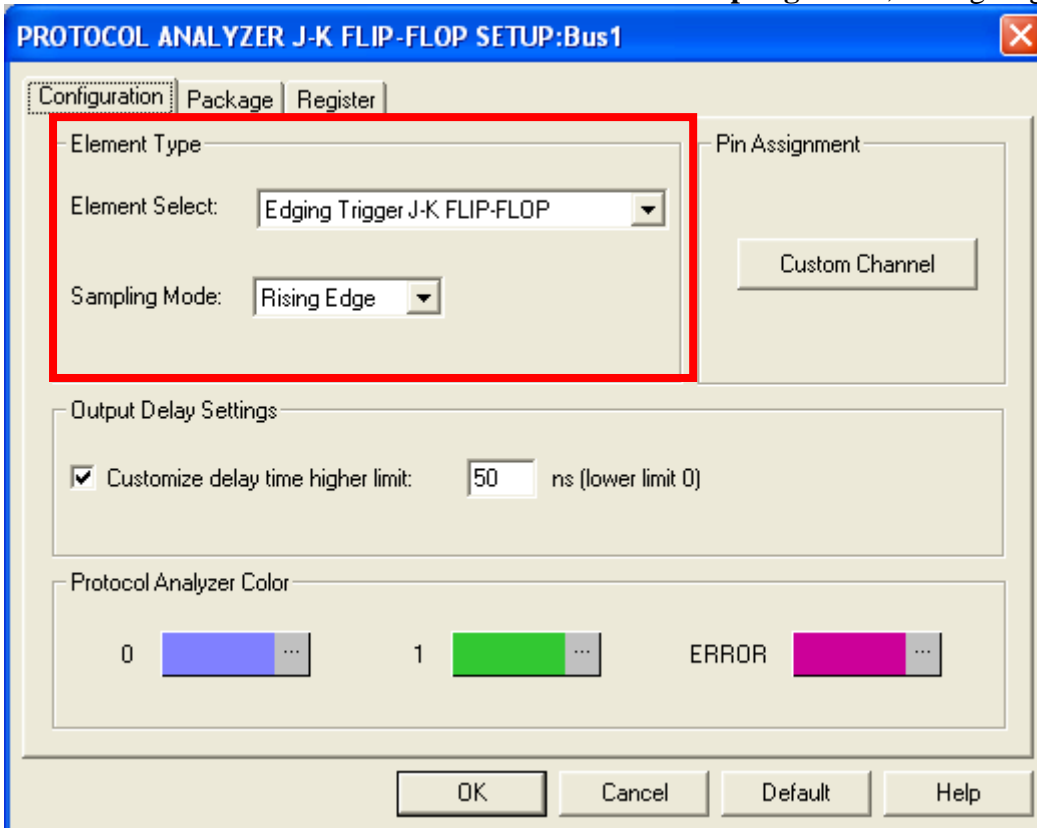




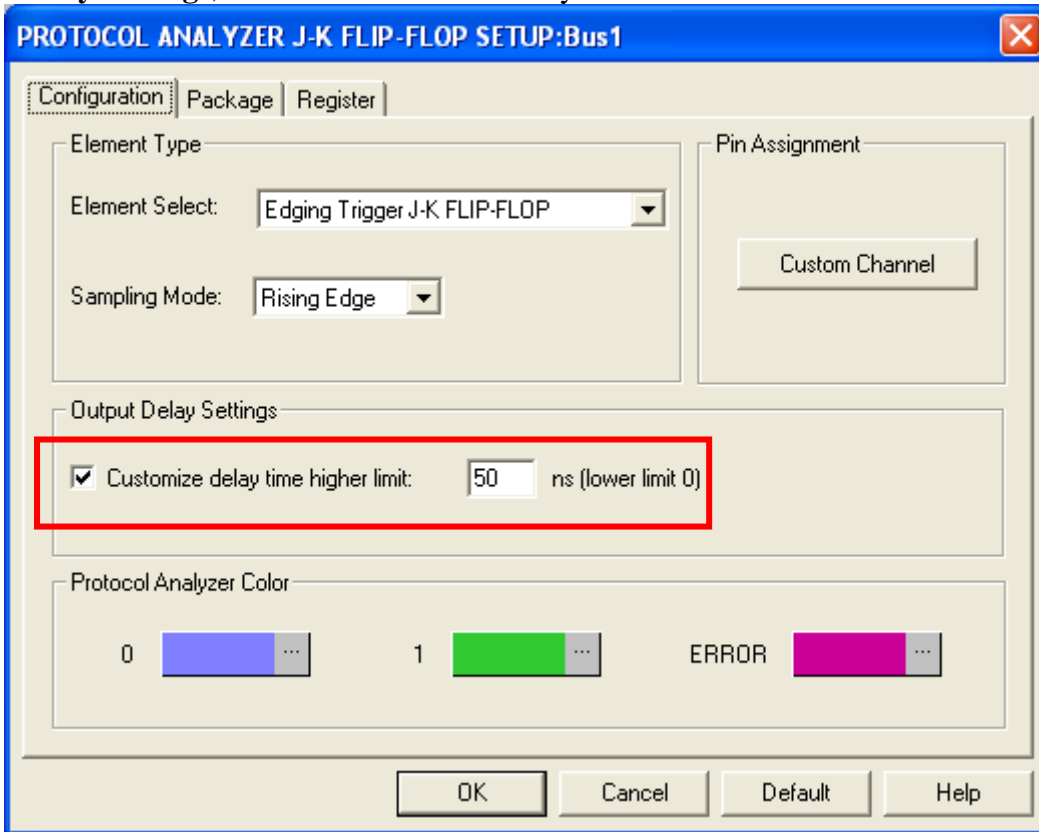
### STEP 7. Set Pin Assignment.



**STEP 8.** There are two selections of **Element Select**, Edging Trigger J-K FLIP-FLOP and Master-Slave FLIP-FLOP. There are two modes of **Sampling Mode**, Rising Edge and Falling Edge.

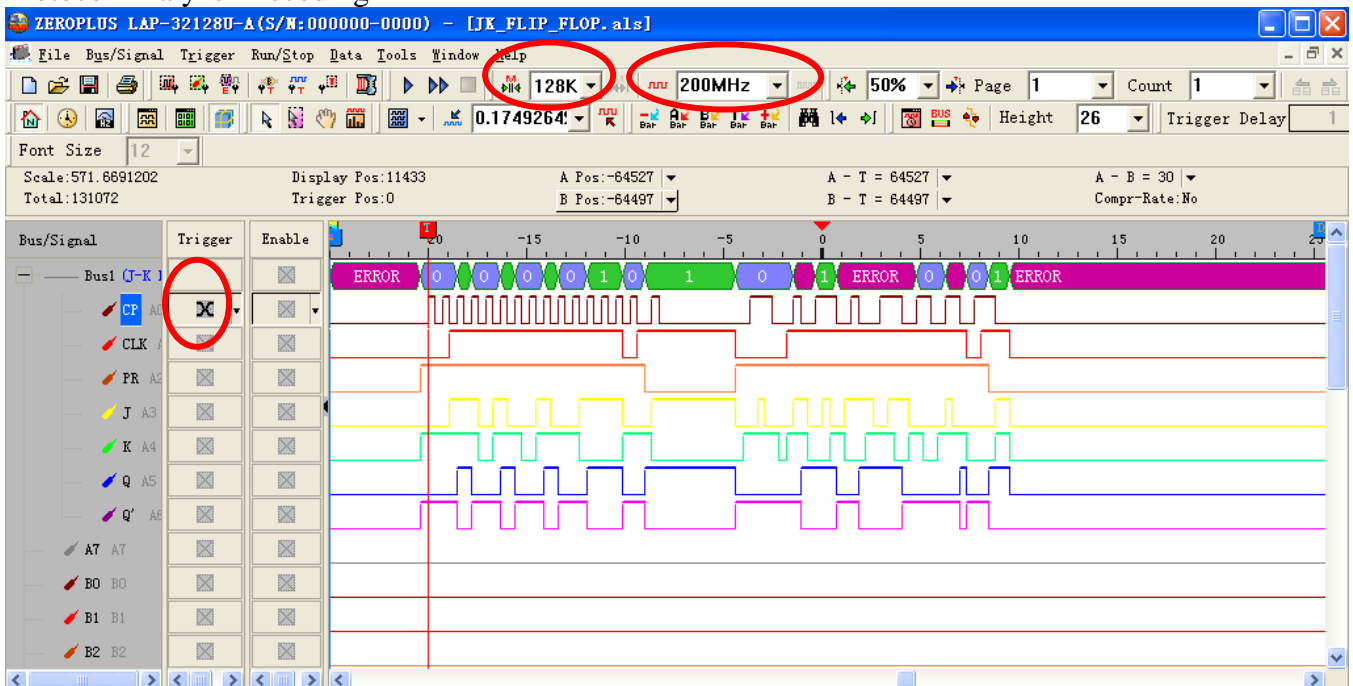


**STEP 9.** Users should select **Customize delay time higher limit** when they set the part of **Output Delay Settings**, then users can set the delay time.



**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

ZEROPLUS LAP-32128U-A(S/N:000000-0000) - [JK\_FLIP\_FLOP.a1s]

File Bus/Signal Trigger Run/Stop Data Tools Window Help

128K 200MHz 50% Page 1 Count 1

0.1749264

Font Size 12

Scale:571.6691202 Display Pos:11433 A Pos:-64527 A - T = 64527 A - B = 30  
Total:131072 Trigger Pos:0 B Pos:-64497 B - T = 64497 Compr-Rate:No

Bus/Signal Trigger Enable

Bus1 (J-K F) [X] [X]

CP AC [X] [X]

CLK [X] [X]

PR AC [X] [X]

J A3 [X] [X]

K A4 [X] [X]

Q A5 [X] [X]

Q' A6 [X] [X]

A7 A7 [X] [X]

B0 B0 [X] [X]

B1 B1 [X] [X]

B2 B2 [X] [X]

Setting... Refresh Export... Synch Parameter...

Package #	Name	TimeStamp	Describe
1	Bus1(J-K FLIP-FLOP)	-65534	Format Error
2	Bus1(J-K FLIP-FLOP)	-210	0
3	Bus1(J-K FLIP-FLOP)	840	1
4	Bus1(J-K FLIP-FLOP)	1260	0

Ready End! DEMO