



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

SPECIFICATION

MODEL: B12018-RGB Interface

PART NO : _____

VERSION : V1.00

Approver		Check	Design
GM	PM		

Customer Confirm

* Please fax the file to
ZeroPlus Technology after
signing.

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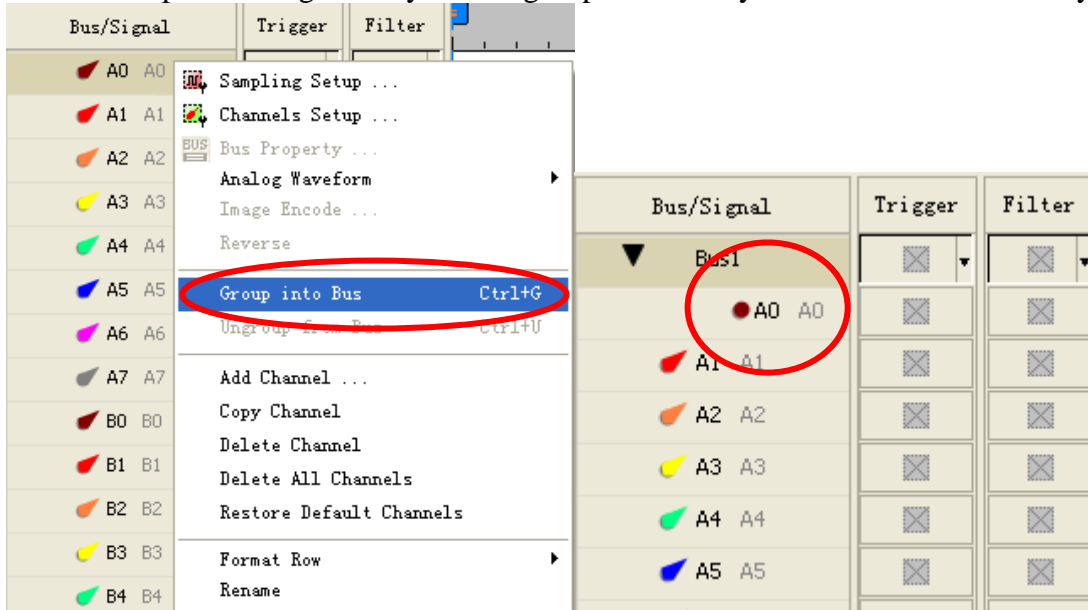
1 Software Register

Please register the software as the following steps:

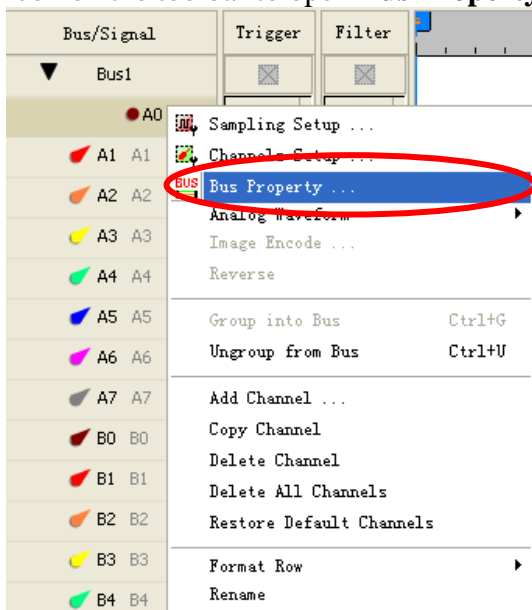
※ Remark1: The registration steps for all protocol analyzers are the same; you can complete the registration by following procedures. Following is an example on how to register the Protocol Analyzer BUS.

※ 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**.

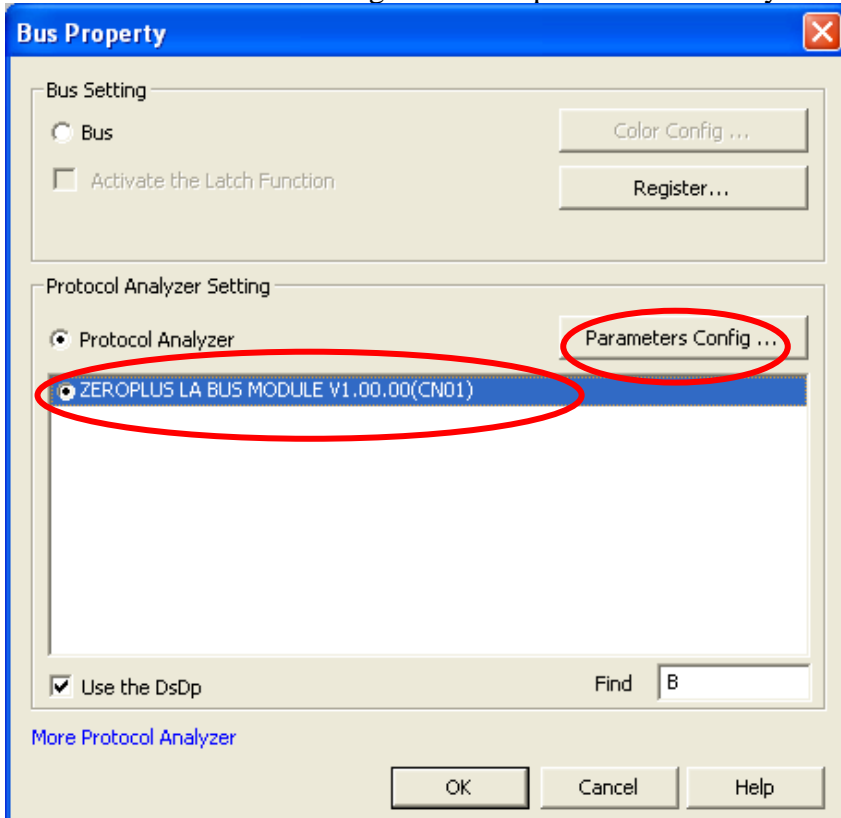


STEP 2. Select **Bus 1**, then press **Right Key** on the mouse to list the menu, then press **Bus Property** or **Bus** icon on the toolbar to open **Bus Property** dialog box.

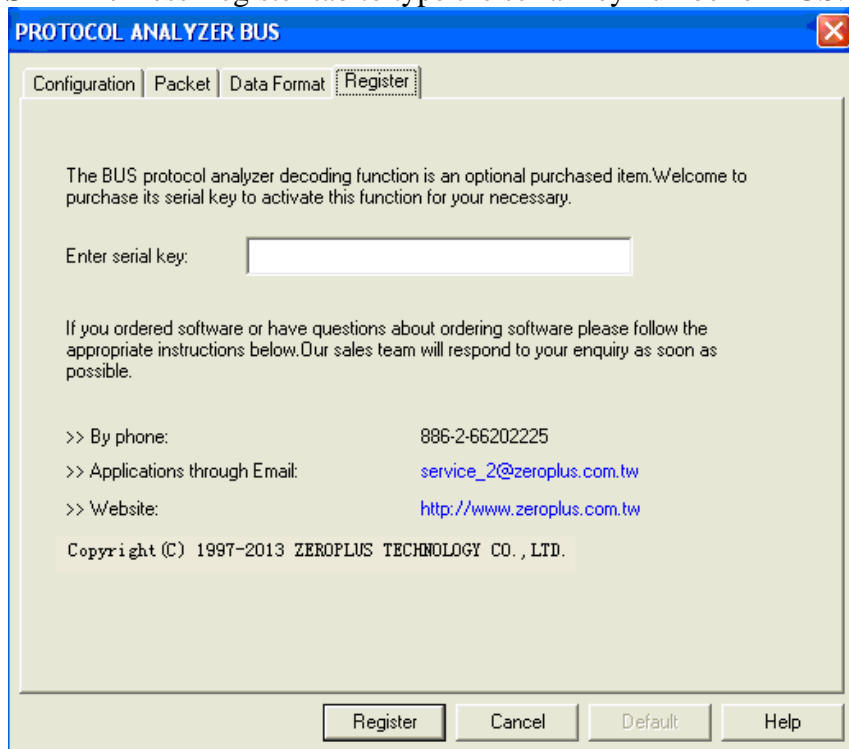




STEP 3. Select the Protocol Analyzer, and then choose **ZEROPLUS LA BUS MODULE V1.00.00 (CN01)**. Next click Parameters Configuration to open Protocol Analyzer Bus dialog box.

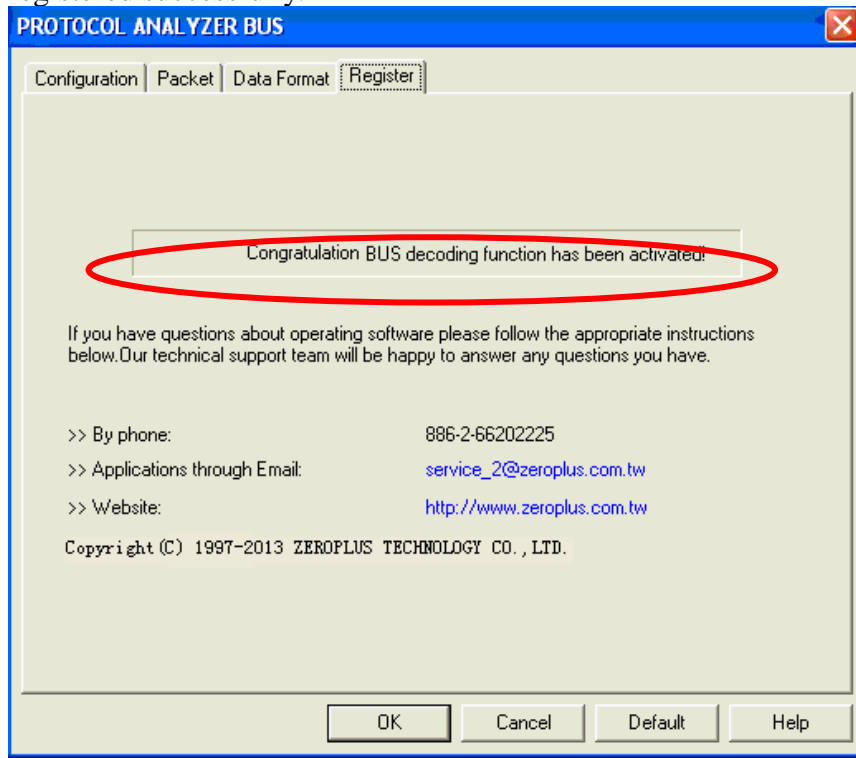


STEP 4. Press Register tab to type the serial key number of BUS. Then press Register.





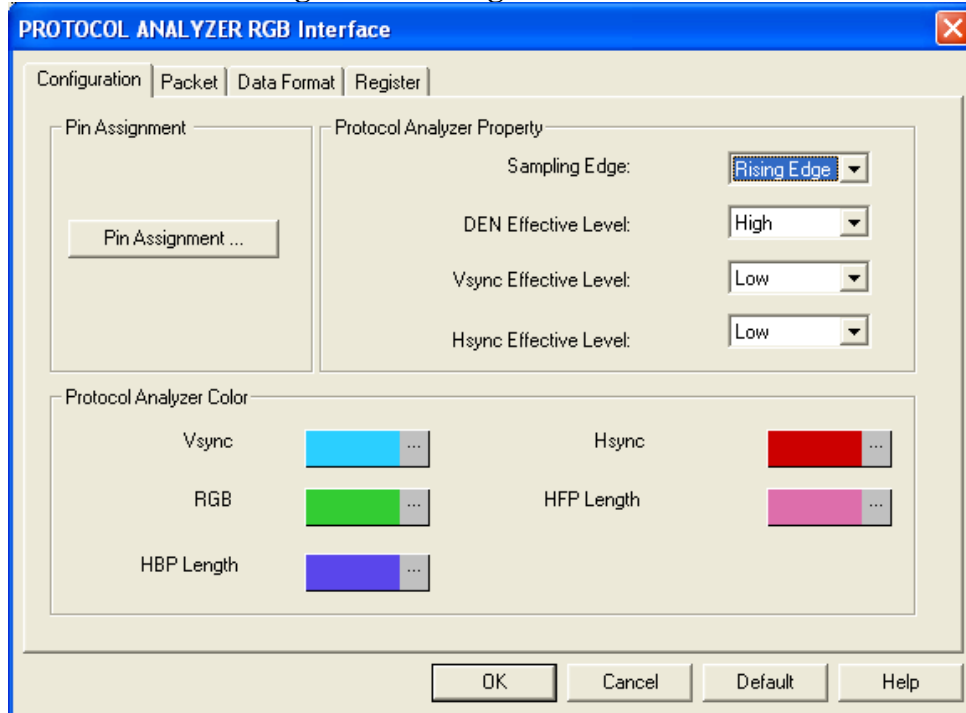
STEP 5. After pressing the Register button, following dialog box will appear, it denotes that the BUS has been registered successfully.



2 User Interface

Please refer to the below images to do settings of **RGB** module.

RGB Interface Configuration dialog box



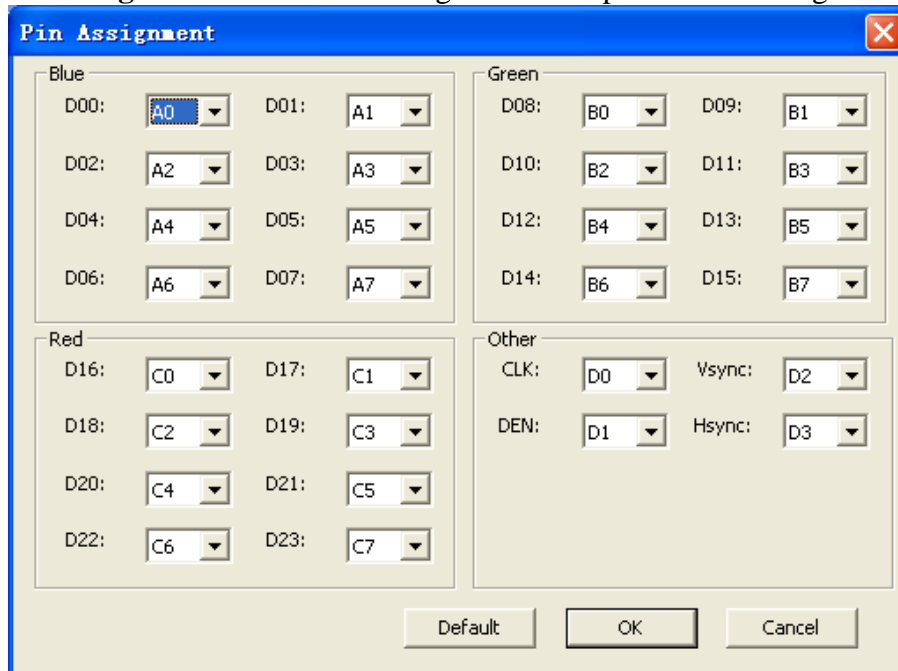
Protocol Analyzer Property:

Sampling Edge: Rising Edge and Falling Edge can be selected. It is Rising Edge by default.

DEN Effective Level: High and Low can be selected. It is High by default.

Hsync Effective Level and Vsync Effective Level: High and Low can be selected. It is Low by default.

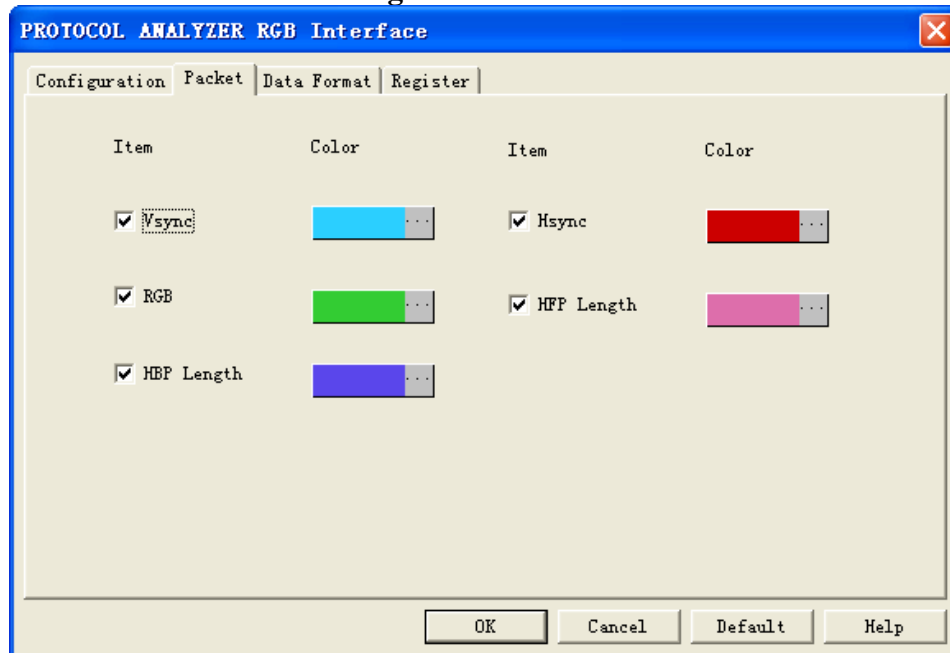
Pin Assignment: Click “Pin Assignment” to open the following dialog box for channel settings.



Protocol Analyzer Color:

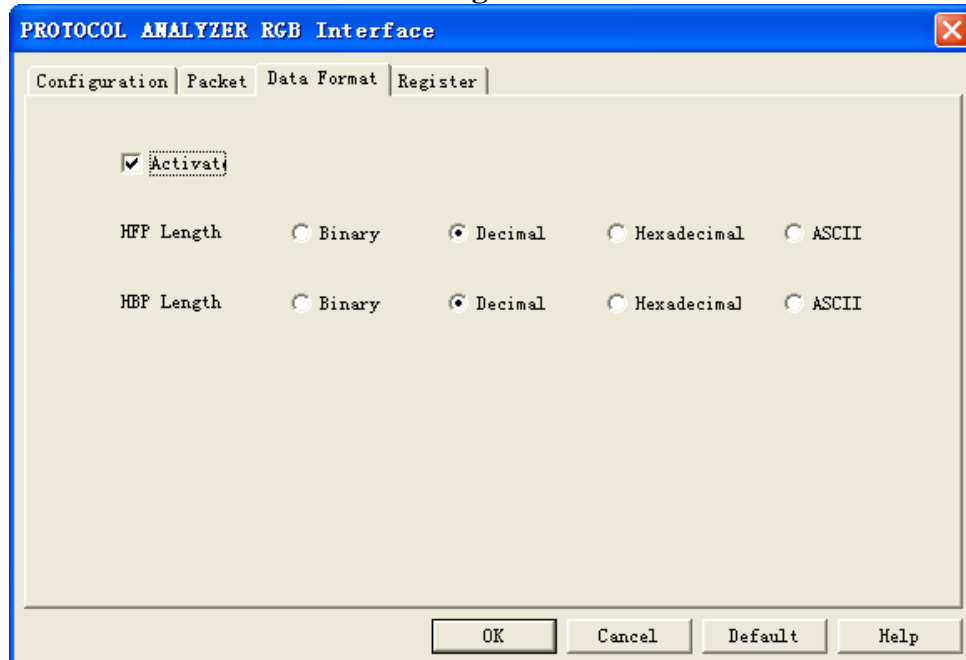
The color can be varied by users.

RGB Interface Packet dialog box



In the Packet part, users can select the items to be displayed and the colors as their requirements.

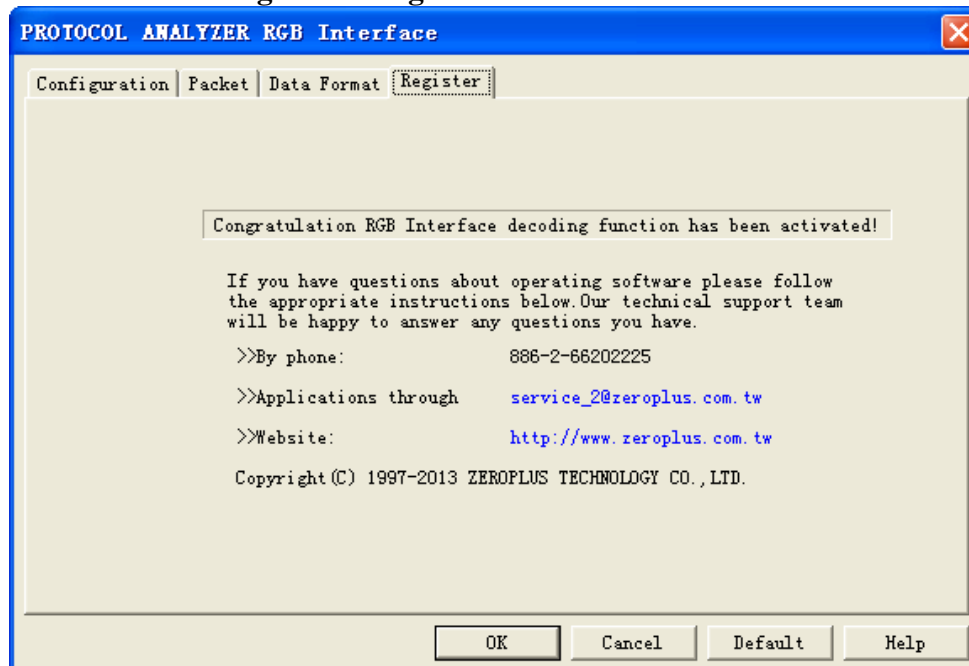
RGB Interface Data Format dialog box



Users can set the Data Format as their requirements. The two items (HFP Length and HBP Length) can be set as Binary, Decimal, Hexadecimal or ASCII (Decimal by default). When selecting the option “Activate”, the 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.



RGB Interface Register dialog box

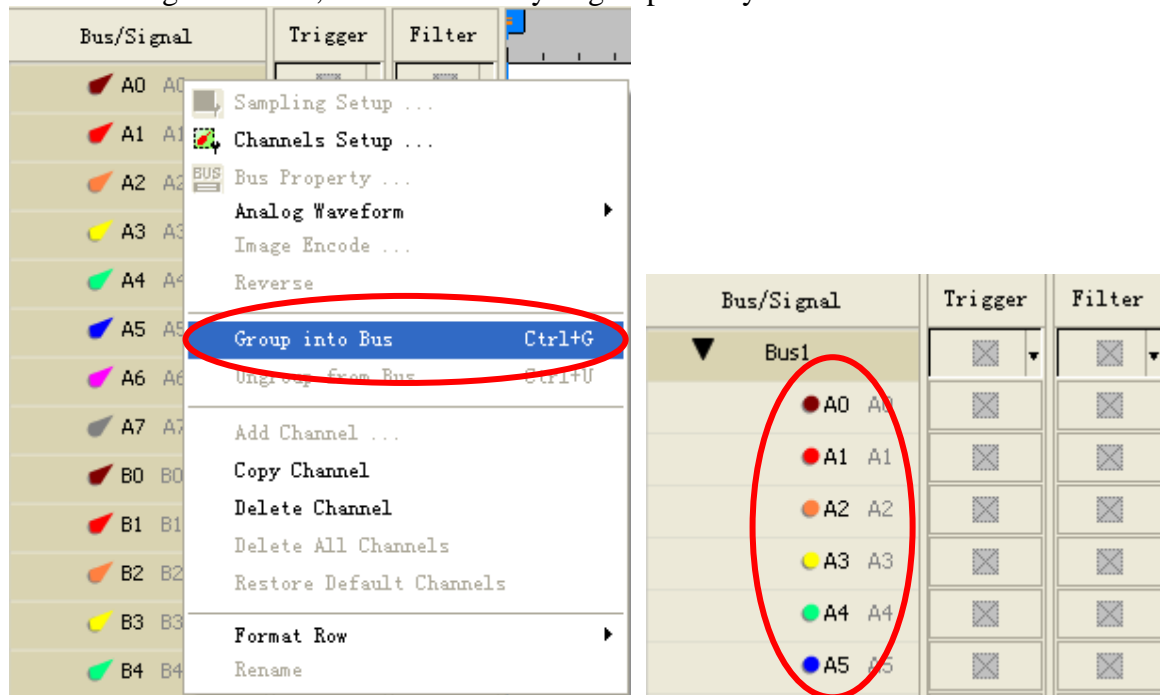


There is ZeroPlus company information. If you have questions about software operations, you can contact ZeroPlus by Telephone or Email.

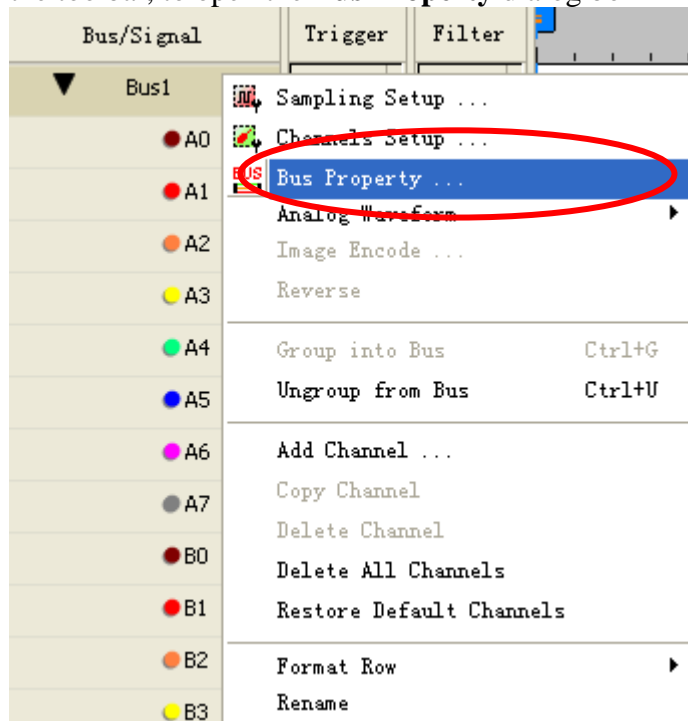


3 Operating Instructions

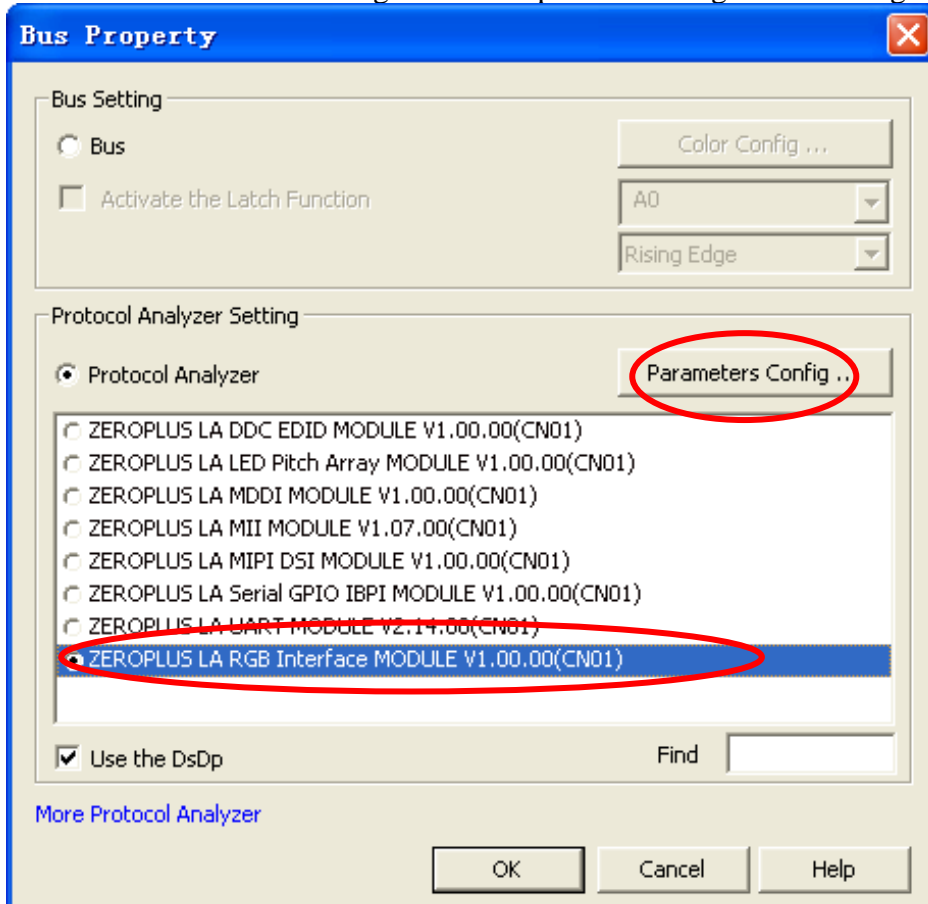
STEP 1. Group A0-D3 into **Bus1** by pressing the **Right Key** on the mouse. RGB needs twenty-seven channels to decode signal at least, so it is necessary to group twenty-seven or more channels into the Bus.



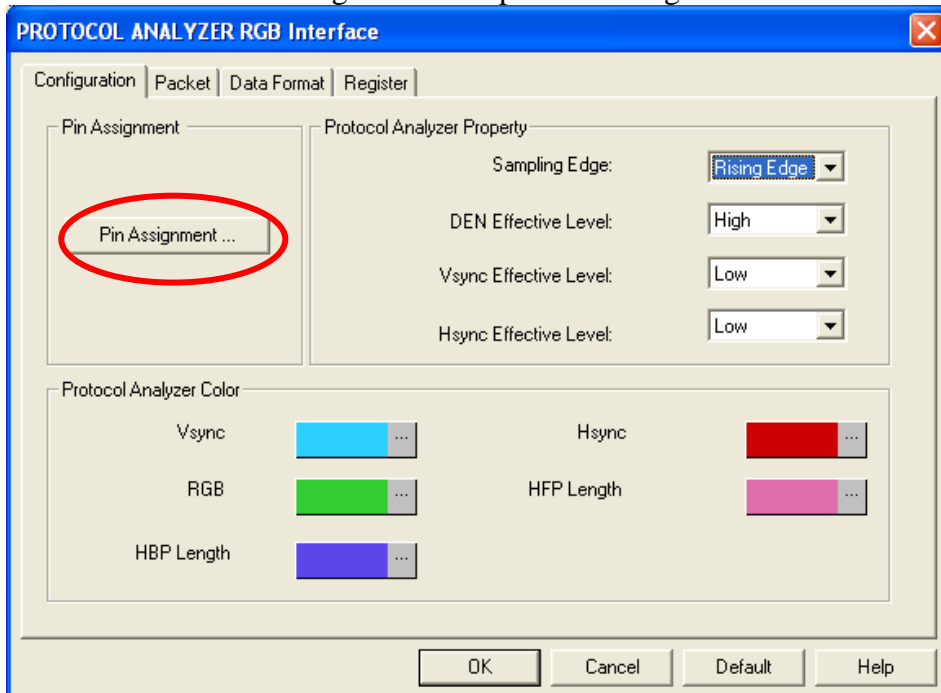
STEP 2. Select **Bus1**, press right key and select **Bus Property** from the popped menu, or click the **Bus** icon on the toolbar, to open the **Bus Property** dialog box



STEP 3. Select Protocol Analyzer, and select ZEROPLUS LA RGB Interface MODULE V1.00.00 (CN01). Then click Parameters Configuration to open the Configuration dialog box.

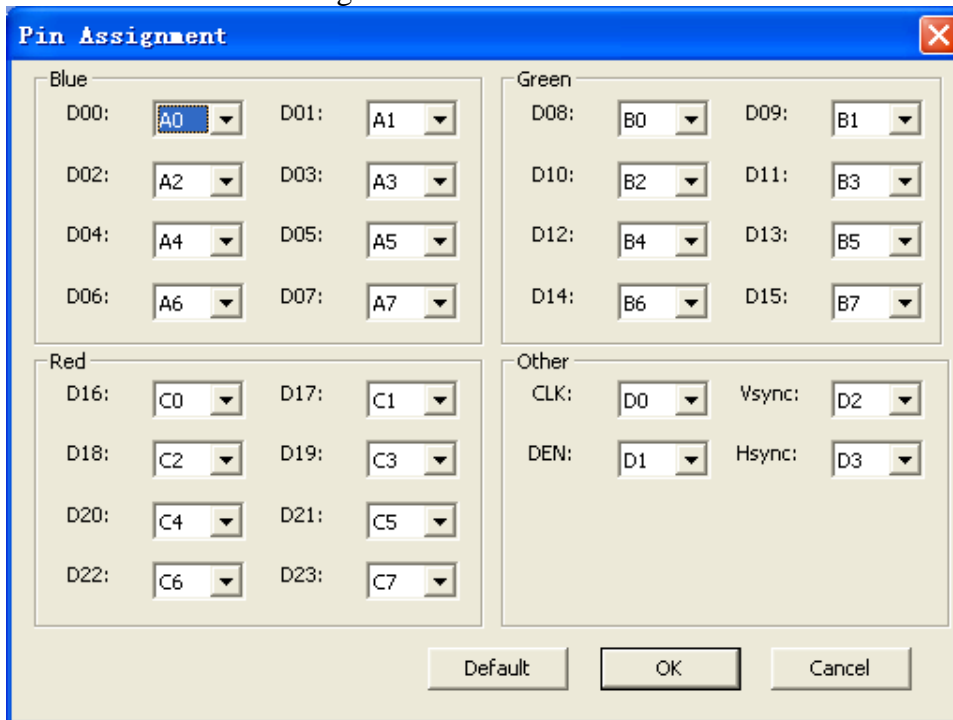


STEP 4. Click “Pin Assignment” to open the dialog box for channel settings.





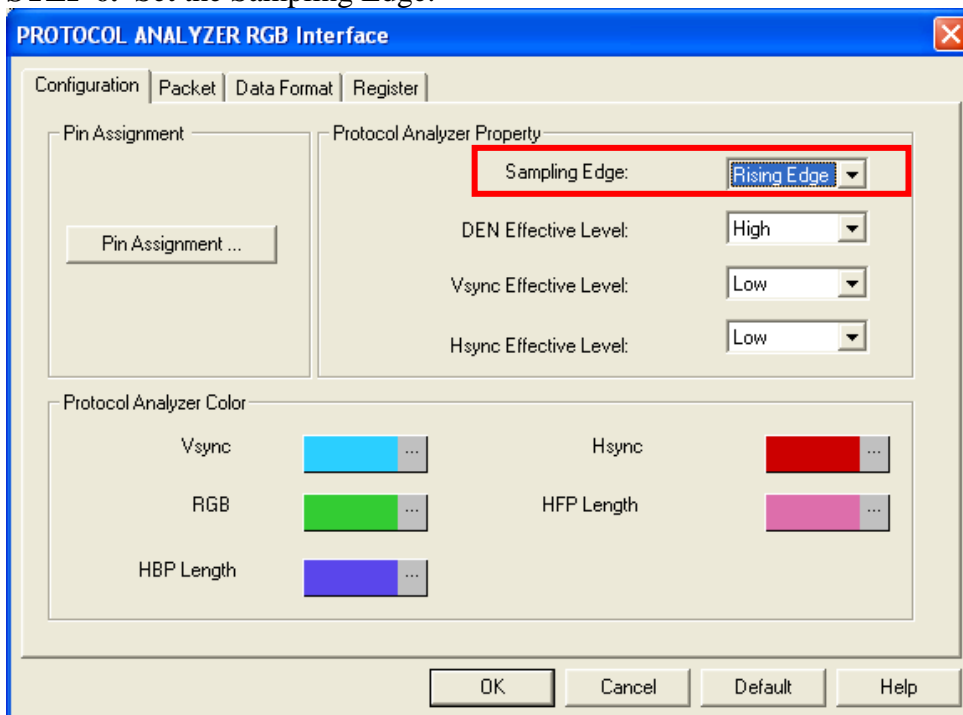
STEP 5. Set the Pin Assignment.



The Pin Assignment dialog box is used to configure pin assignments for different color channels. It features four sections: Blue, Green, Red, and Other. Each section contains a grid of pin assignment fields. The Blue section has pins D00 through D07, the Green section has D08 through D15, the Red section has D16 through D23, and the Other section has CLK, DEN, Vsync, and Hsync. Each field is a dropdown menu. The 'A0' pin in the Blue section is highlighted with a blue border. At the bottom, there are buttons for 'Default', 'OK', and 'Cancel'.

Blue	Green	Red	Other
D00: A0	D08: B0	D16: C0	CLK: D0
D01: A1	D09: B1	D17: C1	Vsync: D2
D02: A2	D10: B2	D18: C2	DEN: D1
D03: A3	D11: B3	D19: C3	Hsync: D3
D04: A4	D12: B4	D20: C4	
D05: A5	D13: B5	D21: C5	
D06: A6	D14: B6	D22: C6	
D07: A7	D15: B7	D23: C7	

STEP 6. Set the Sampling Edge.

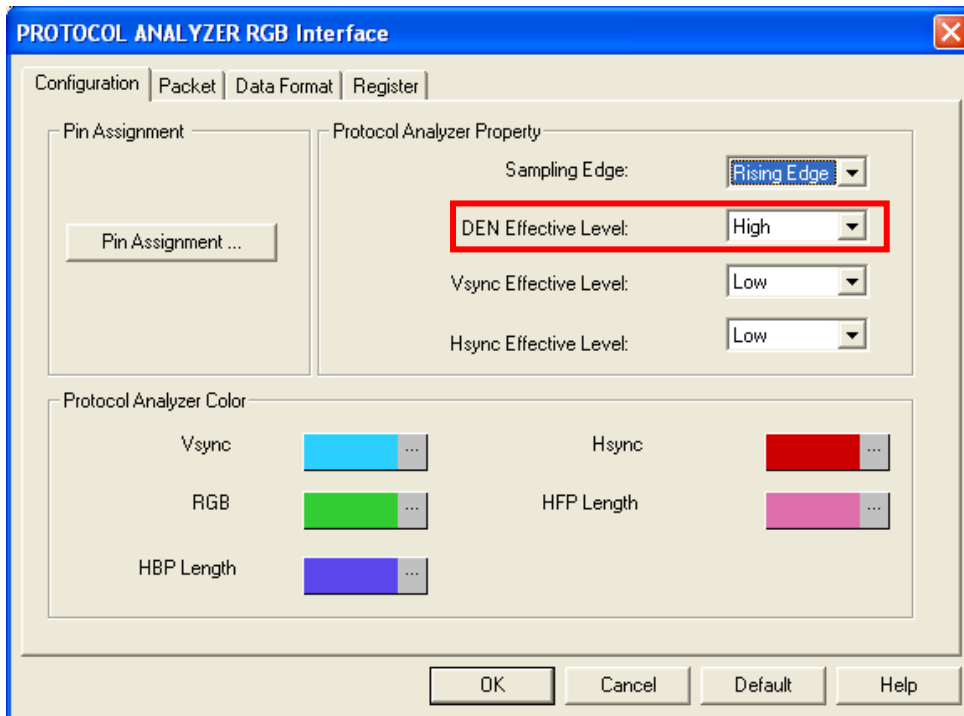


The PROTOCOL ANALYZER RGB Interface dialog box is used to configure the protocol analyzer's RGB interface. It has four tabs: Configuration, Packet, Data Format, and Register. The Configuration tab is selected. It contains a 'Pin Assignment' section with a 'Pin Assignment ...' button. The 'Protocol Analyzer Property' section has a 'Sampling Edge' dropdown menu set to 'Rising Edge', which is highlighted with a red box. Below this are three dropdown menus for 'DEN Effective Level' (High), 'Vsync Effective Level' (Low), and 'Hsync Effective Level' (Low). The 'Protocol Analyzer Color' section shows color selection for Vsync (blue), RGB (green), HBP Length (purple), Hsync (red), and HFP Length (pink). At the bottom, there are buttons for 'OK', 'Cancel', 'Default', and 'Help'.

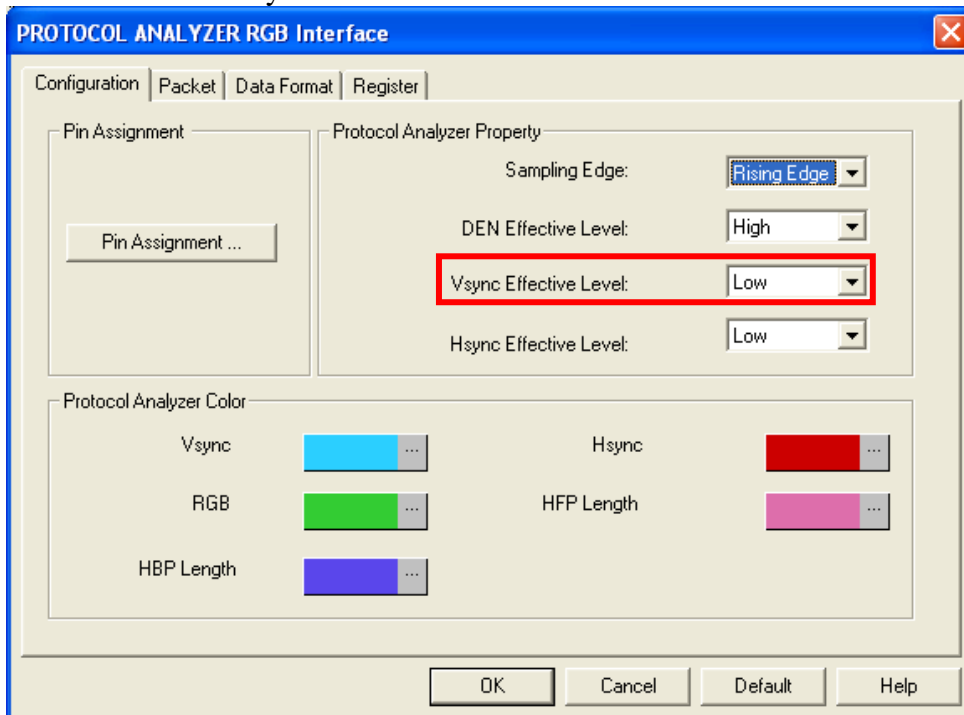
Protocol Analyzer Property	Protocol Analyzer Color
Sampling Edge: Rising Edge	Vsync: blue
DEN Effective Level: High	RGB: green
Vsync Effective Level: Low	HBP Length: purple
Hsync Effective Level: Low	Hsync: red
	HFP Length: pink



STEP 7. Set the DEN Effective Level.

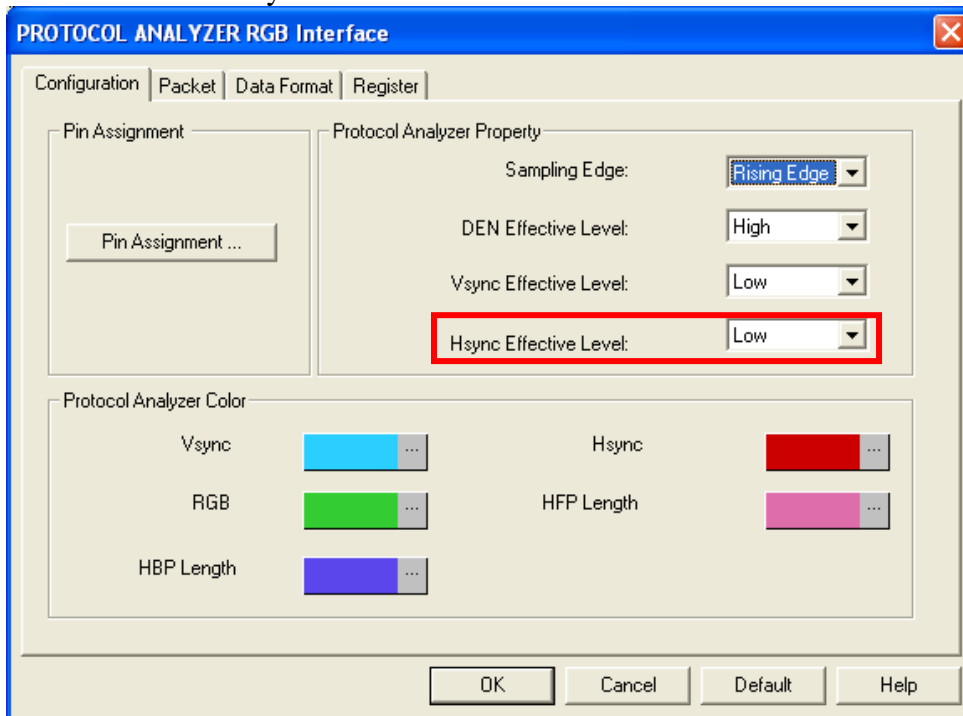


STEP 8. Set the Vsync Effective Level.

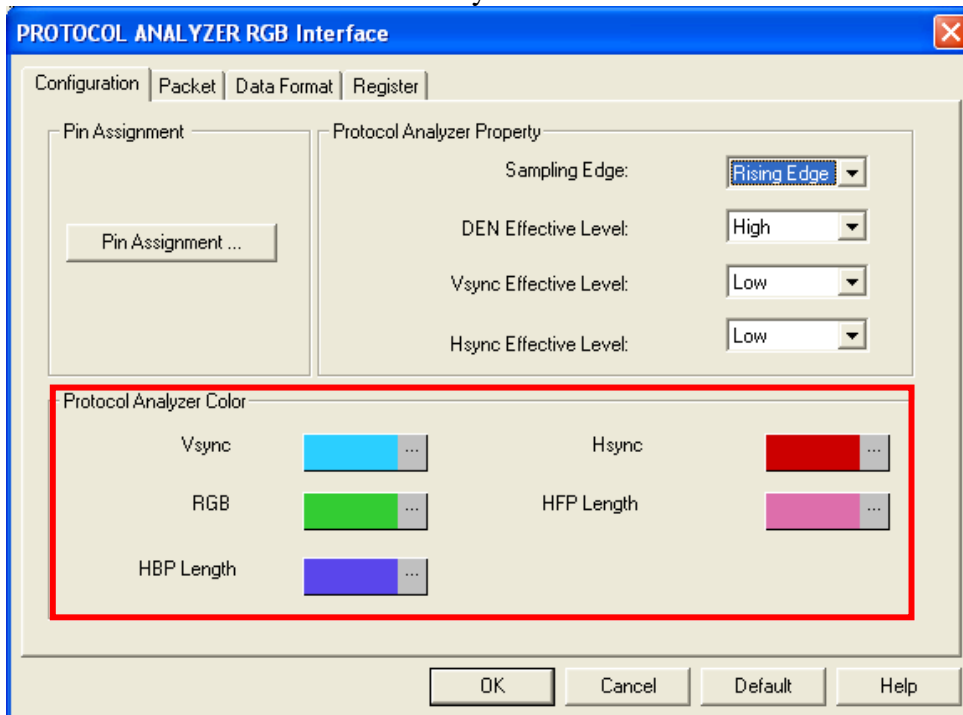




STEP 9. Set the Hsync Effective Level.



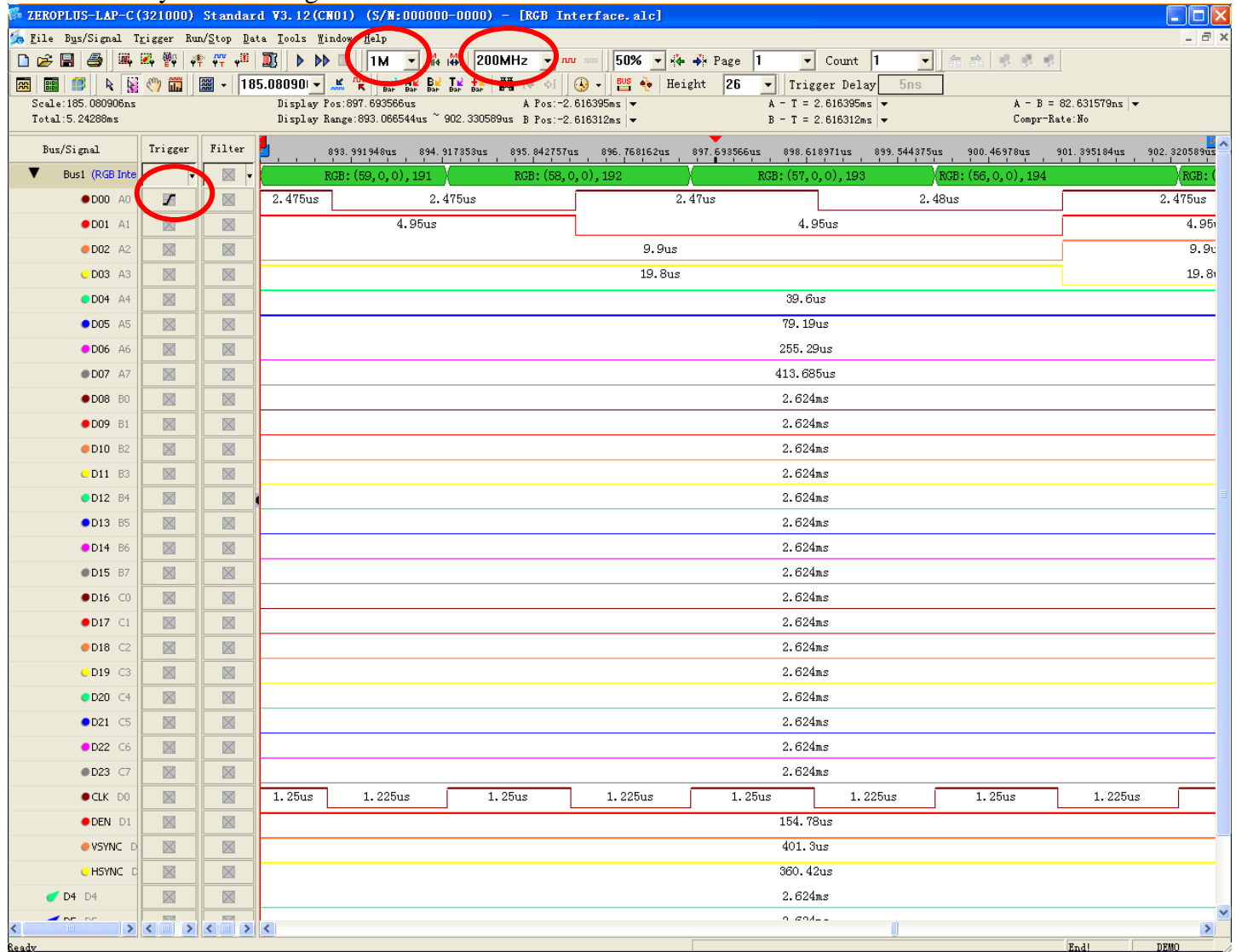
STEP 10. Set the Protocol Analyzer Color.





STEP 11. Following pictures show the completion of the protocol analyzer decoding and the packet list. The trigger condition is set as Rising Edge, the memory depth is 1M and the sampling frequency is 200MHz (the sampling frequency should be more than four times higher than the signal to be tested).

Protocol Analyzer Decoding





Packet List

