



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

SPECIFICATION

MODEL: 032-LAP-MCU-51 DECODE-M

PART NO: _____

VERSION: V1.04

Approver		Check	Design
GM	PM		

Customer Confirm

*Please fax the file to Zeroplus Technology after signing.

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Content

1	Software Download.....	3
2	Software Installation	6
3	Software Register	10
4	User Interface	13
5	Operating Instructions.....	16



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.

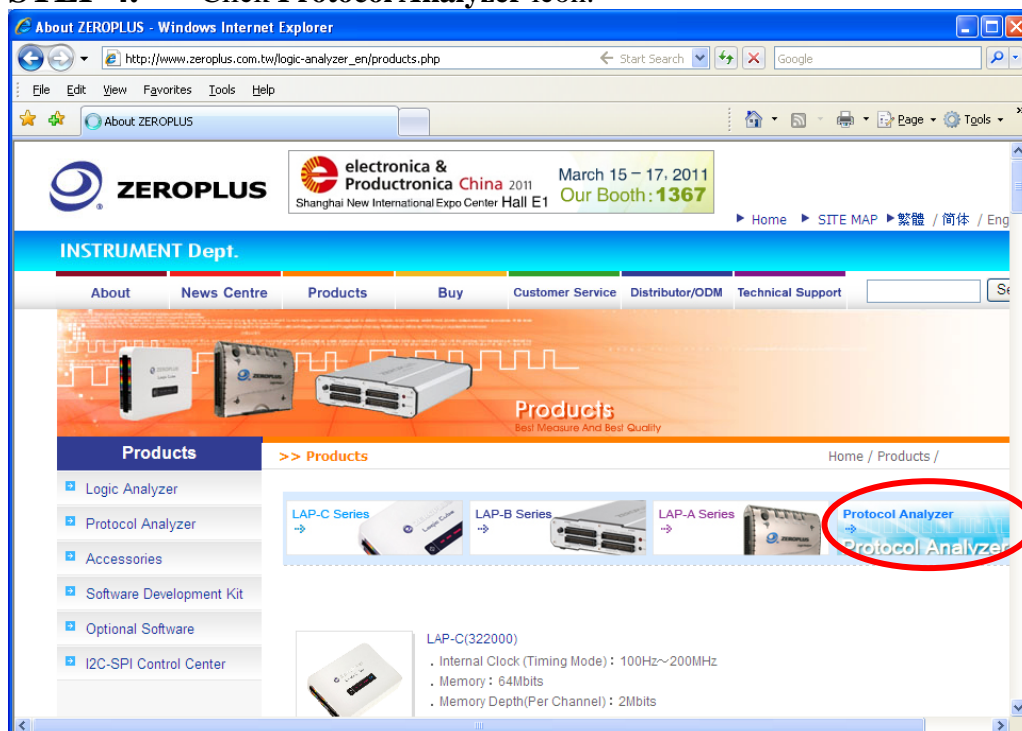




STEP 3. Click **Products** menu or select **Protocol Analyzer** item from its pull-down menu to go straight to STEP 5.

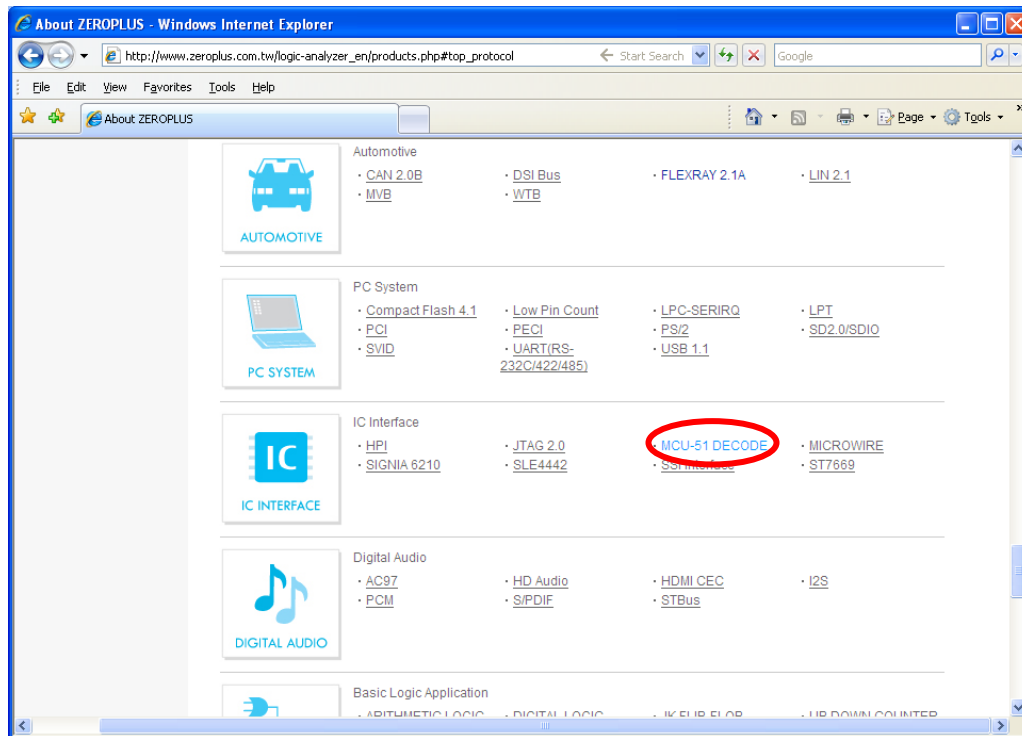


STEP 4. Click **Protocol Analyzer** icon.

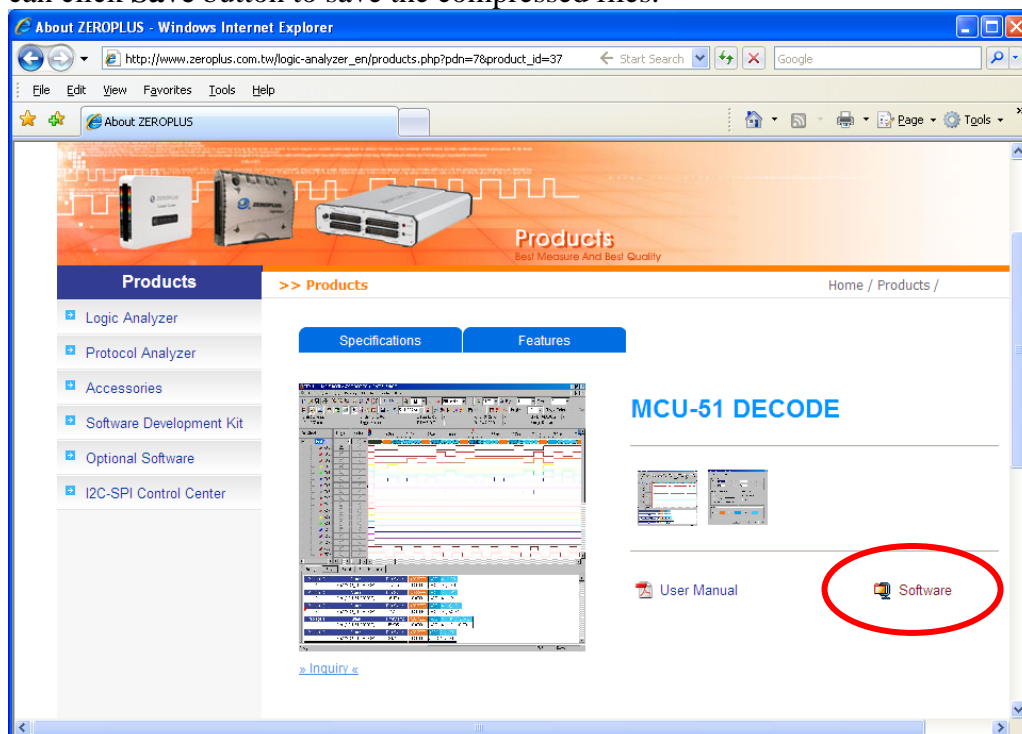




STEP 5. Click **MCU-51 DECODE** in the IC Interface.



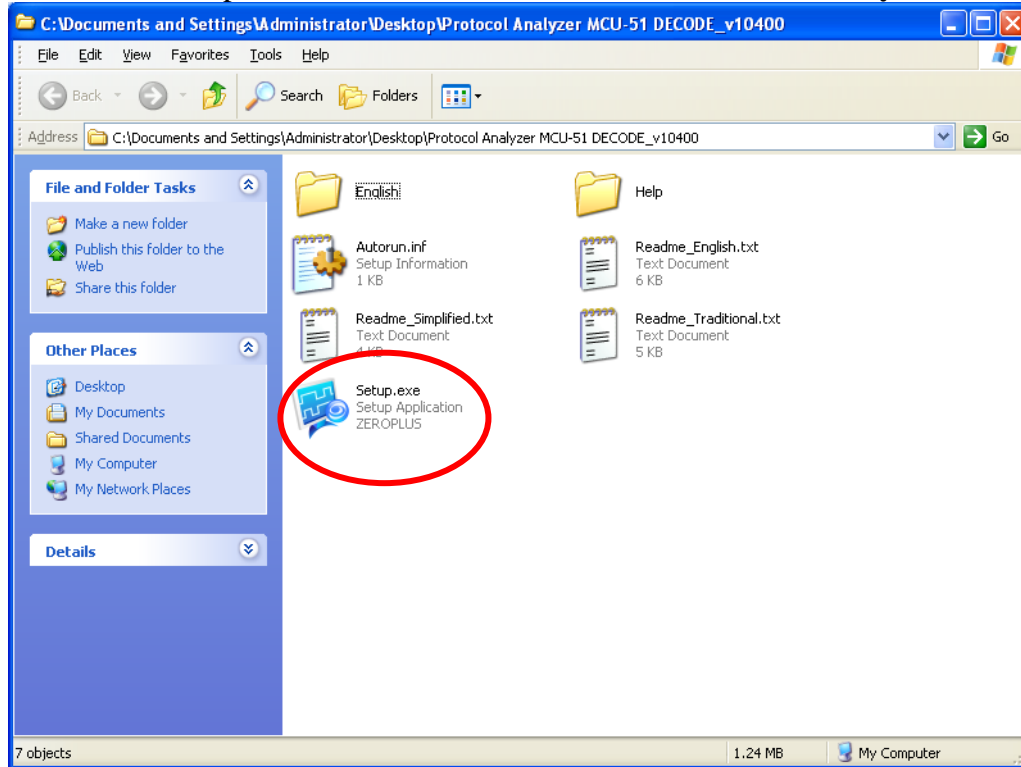
STEP 6. Click **Software** in the Products page. When the File Download dialog box appears, you can click **Save** button to save the compressed files.



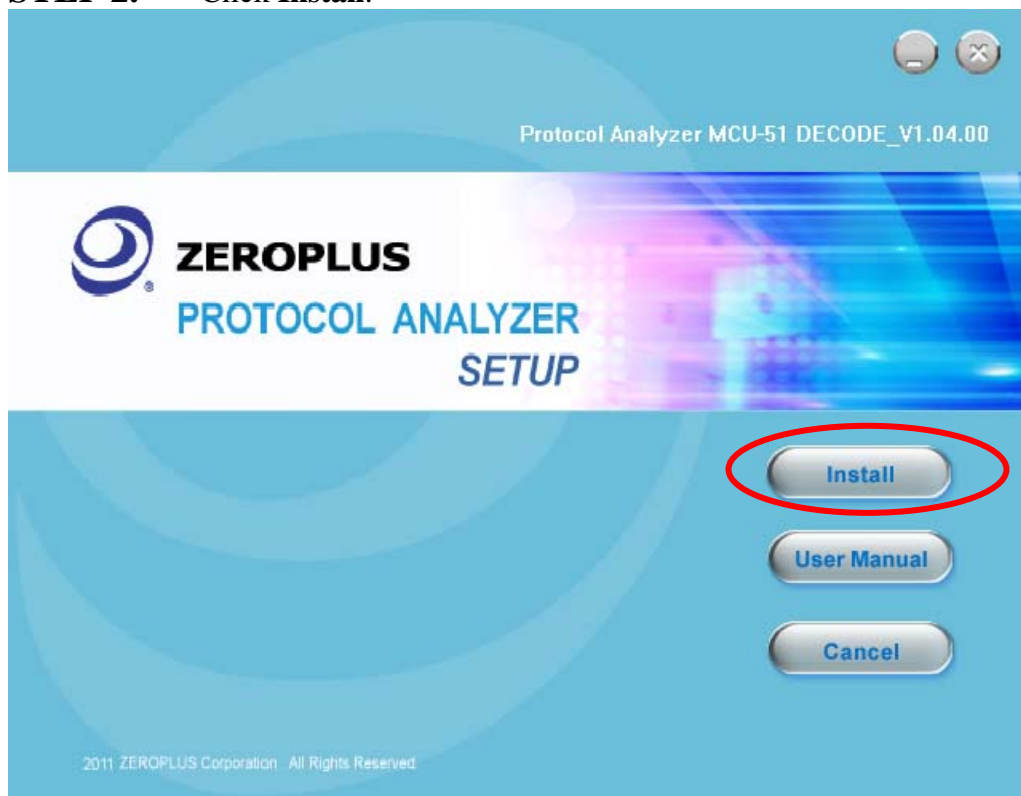


2 Software Installation

STEP 1. Open the downloaded folder to install **Protocol Analyzer MCU-51 DECODE**.

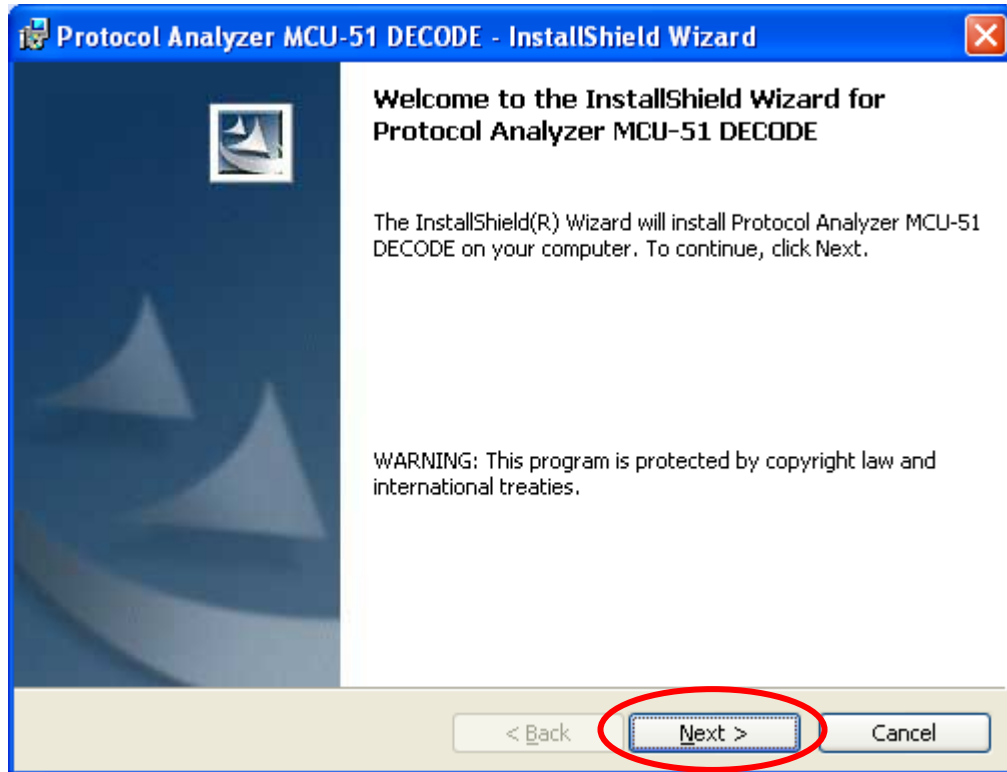


STEP 2. Click **Install**.

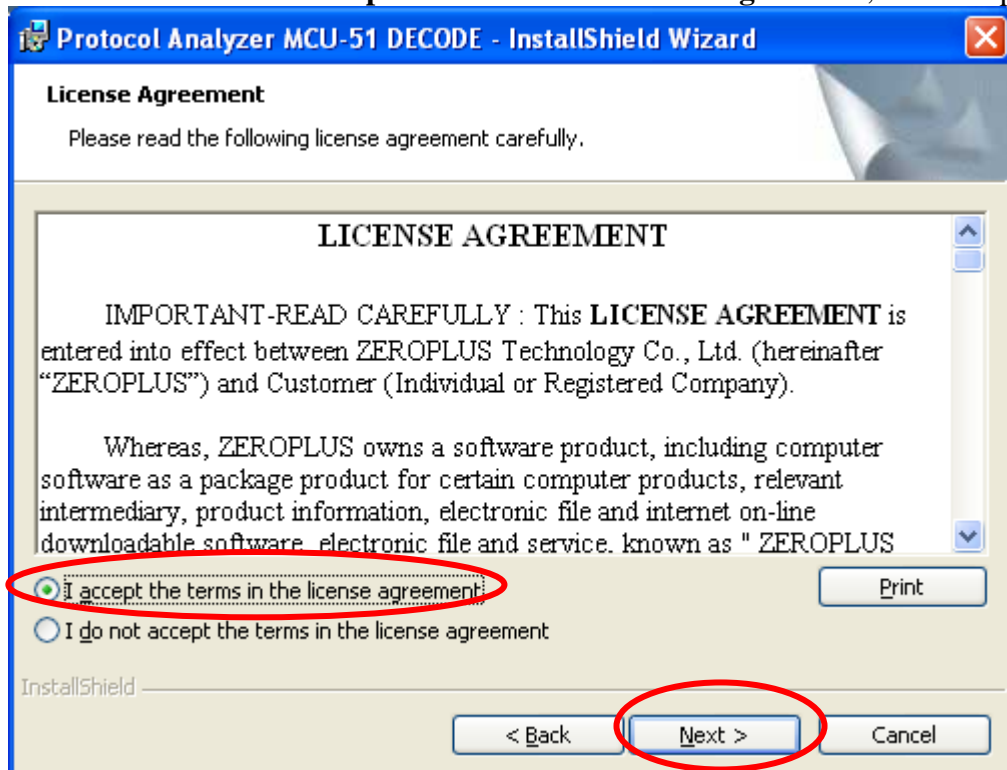




STEP 3. Click Next.



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**.

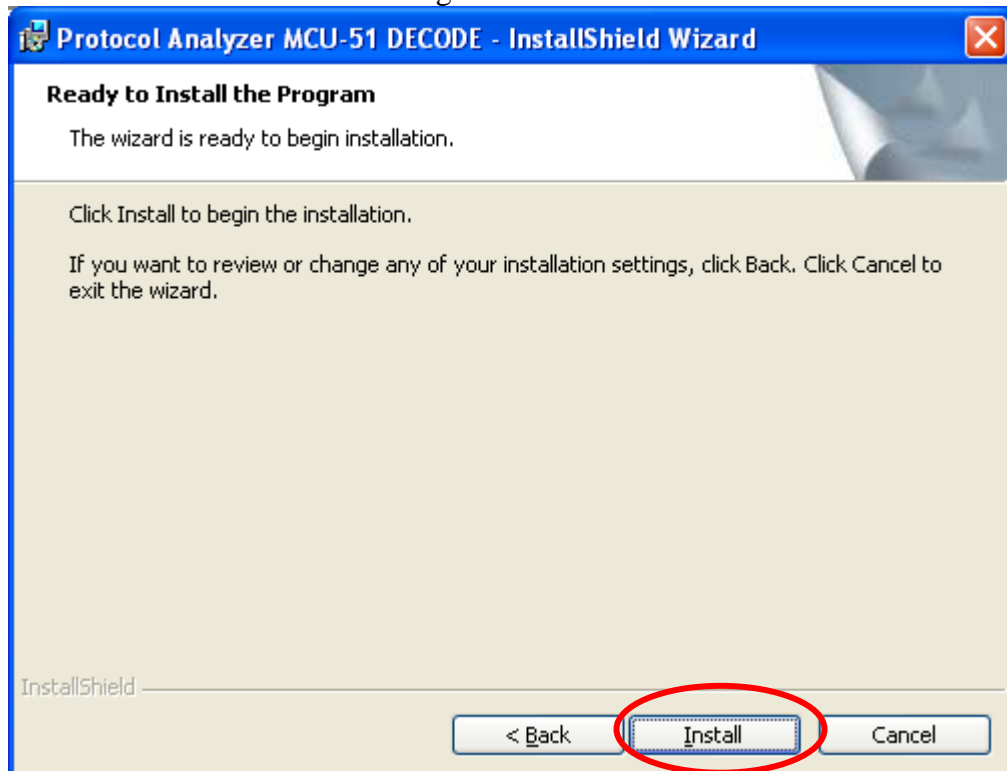
The dialog box is titled "Protocol Analyzer MCU-51 DECODE - InstallShield Wizard". It contains a section titled "Customer Information" with the instruction "Please enter your information." Below this are two text input fields: "User Name:" with the text "Microsoft" and "Organization:" with the text "User". There are two radio button options under the heading "Install this application for:": "Anyone who uses this computer (all users)" (which is selected) and "Only for me (Microsoft)". At the bottom, there are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel".

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

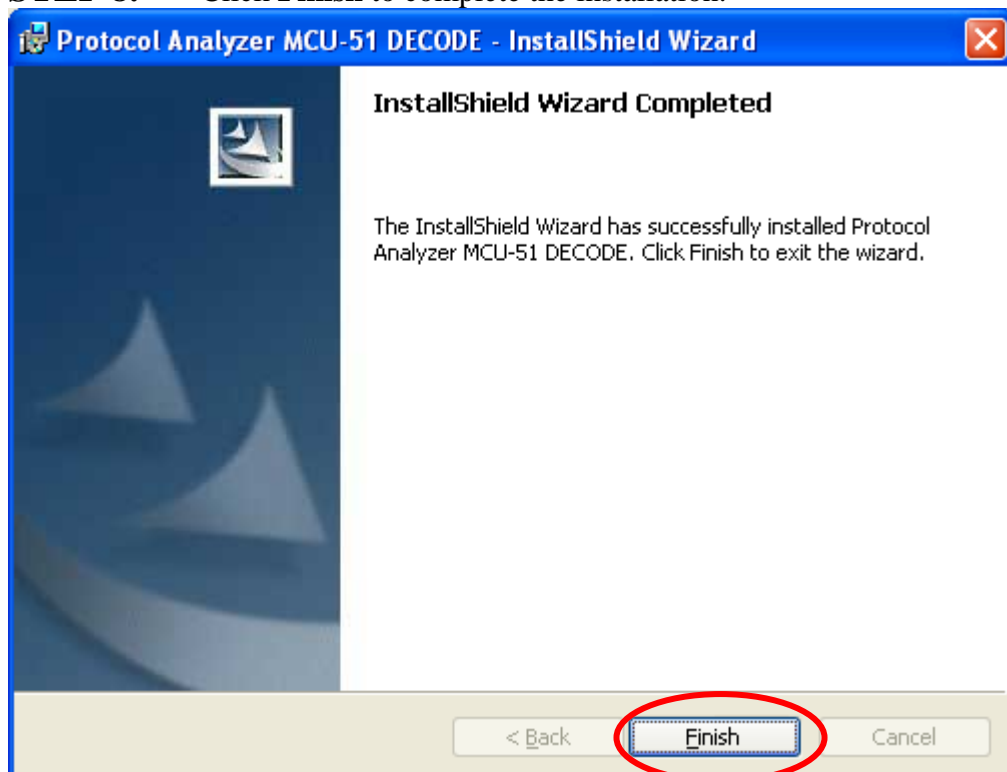
The dialog box is titled "Protocol Analyzer MCU-51 DECODE - InstallShield Wizard". It contains a section titled "Setup Type" with the instruction "Choose the setup type that best suits your needs." Below this is the text "Please select a setup type." There are two radio button options: "Complete" (which is selected) and "Custom". The "Complete" option has a description: "All program features will be installed. (Requires the most disk space.)". The "Custom" option has a description: "Choose which program features you want installed and where they will be installed. Recommended for advanced users." At the bottom, there are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel".



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



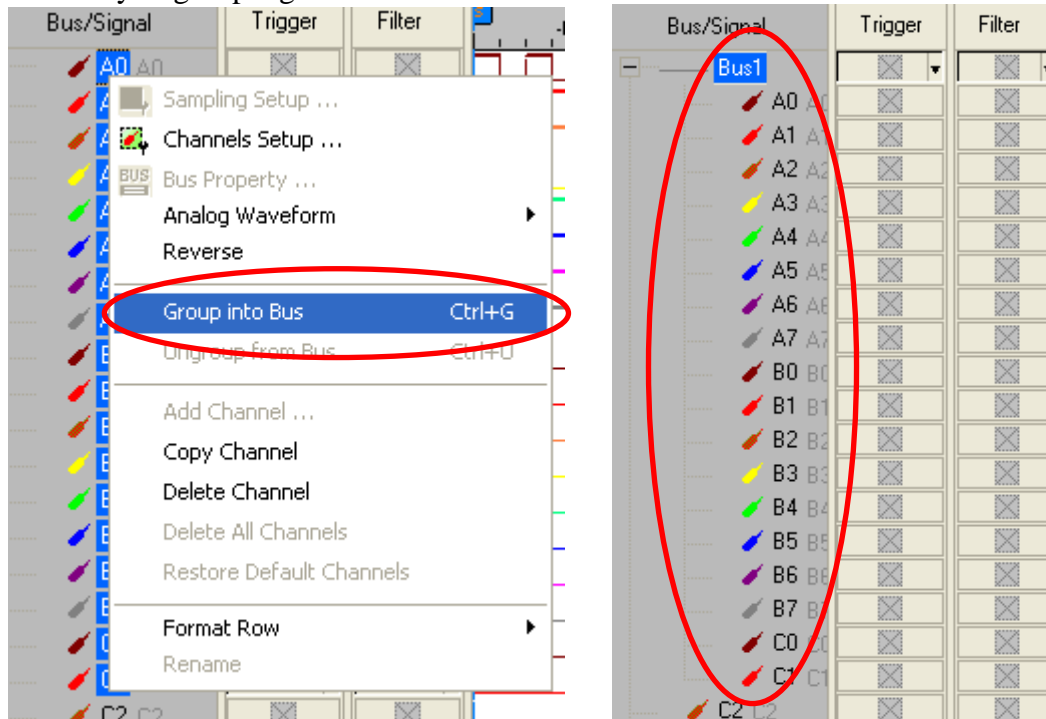
STEP 8. Click **Finish** to complete the installation.



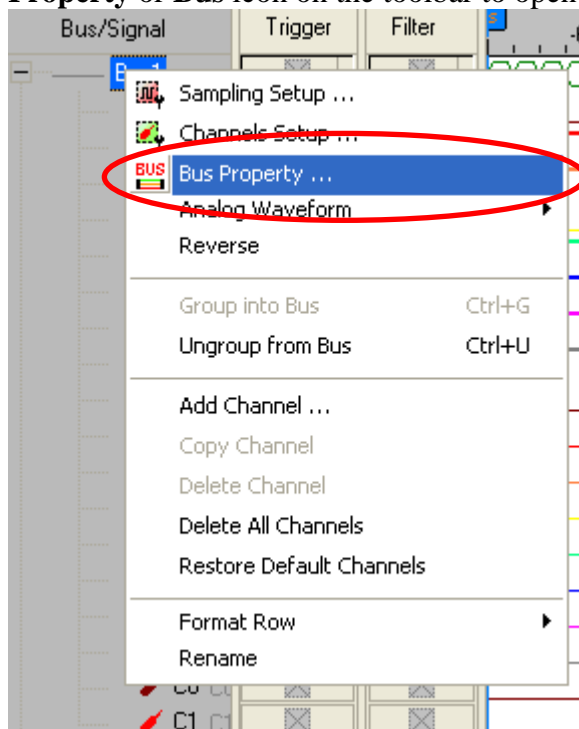


3 Software Register

STEP 1. Open the Logic Analyzer and group the unanalyzed channels into **Bus1** by pressing the **Right Key** on the mouse. **MCU-51 DECODE** needs eighteen channels to decode signals, so it is necessary to group eighteen or more channels into a Bus.

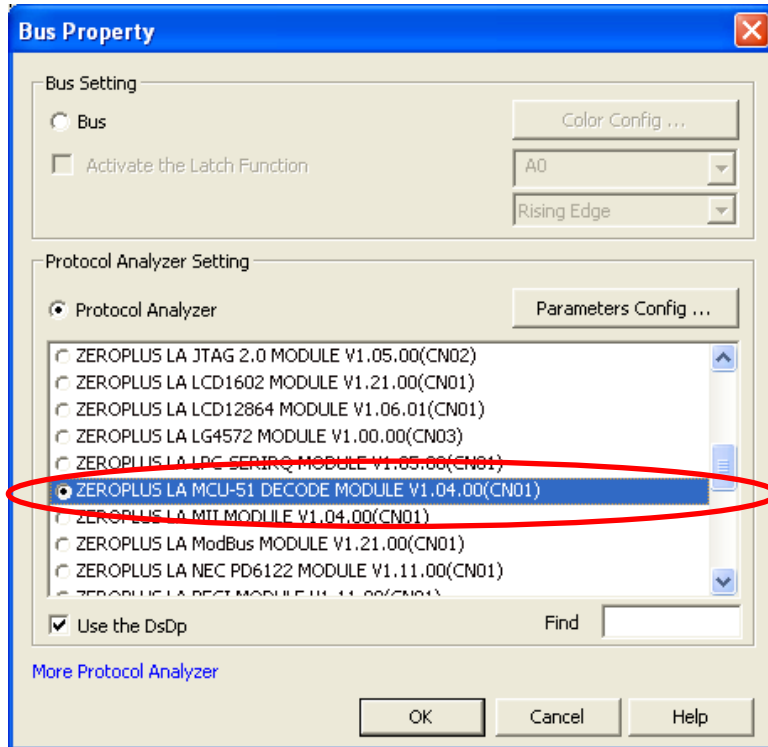


STEP 2. Select **Bus1**, and press **Right Key** on the mouse to list the menu, then press **Bus Property** or **Bus** icon on the toolbar to open **Bus Property** dialog box.

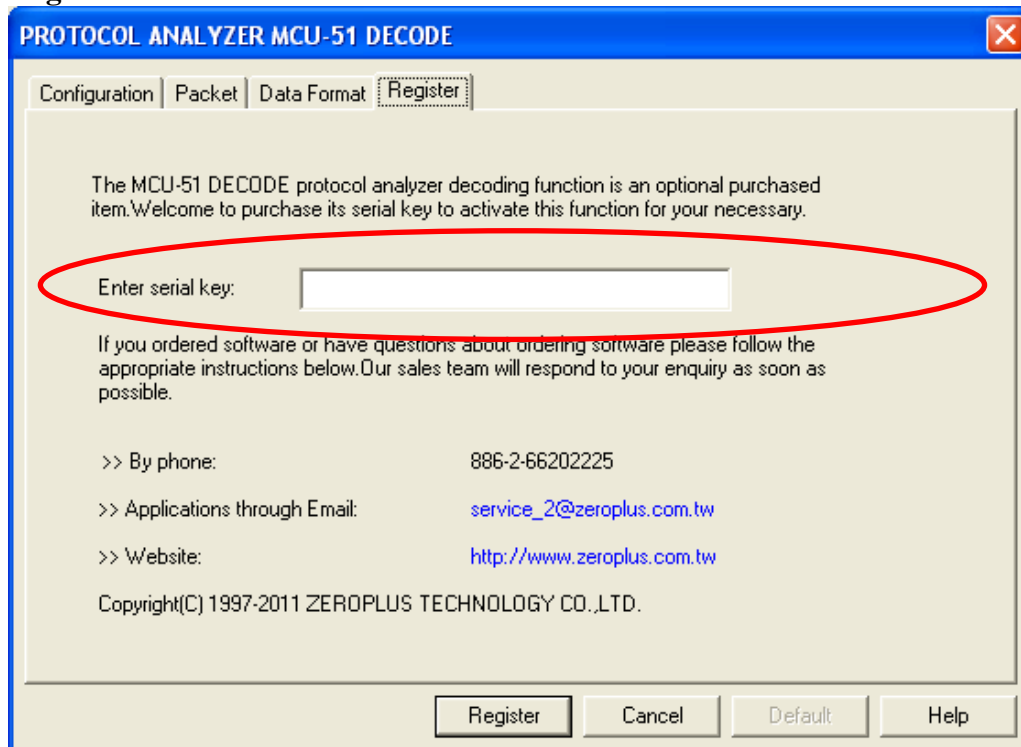




STEP 3. For Protocol Analyzer **MCU-51 DECODE** Parameters Configuration, select Protocol Analyzer, and then choose **ZEROPLUS LA MCU-51 DECODE MODULE V1.04.00(CN01)**. Next click **Parameters Configuration** to open the **PROTOCOL ANALYZER MCU-51 DECODE** dialog box.

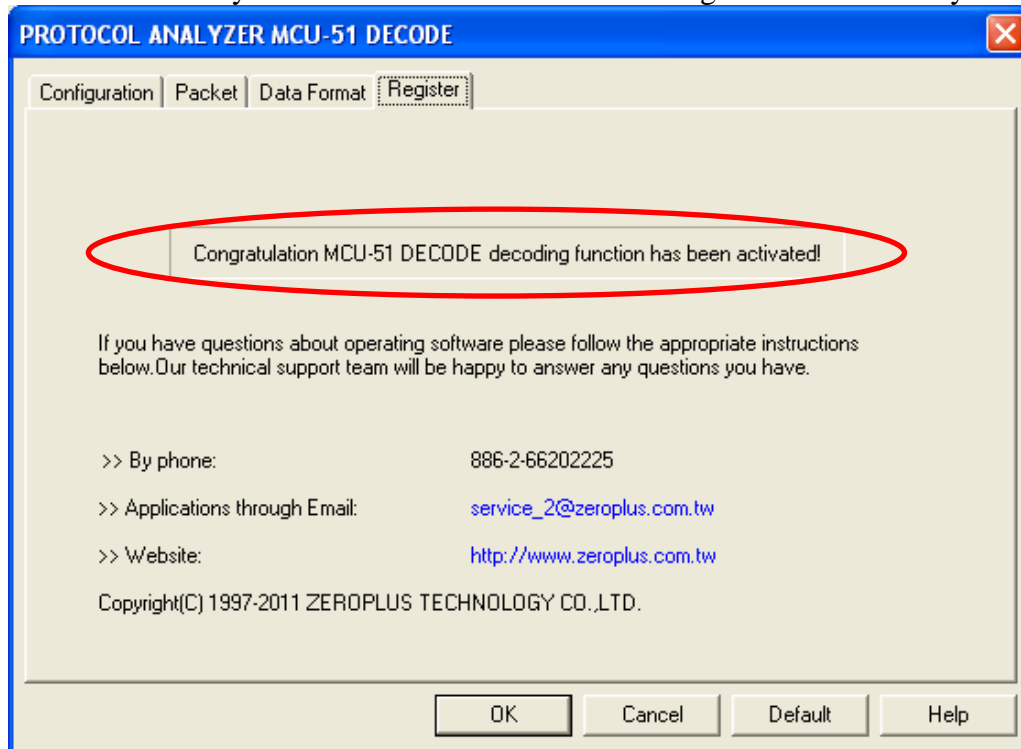


STEP 4. Press the Register tab to enter the serial key of the **MCU-51 DECODE**. Then, press **Register**.





STEP 5. After pressing the Register button, the following dialog box will appear; it denotes that the Protocol Analyzer MCU-51 DECODE has been registered successfully.

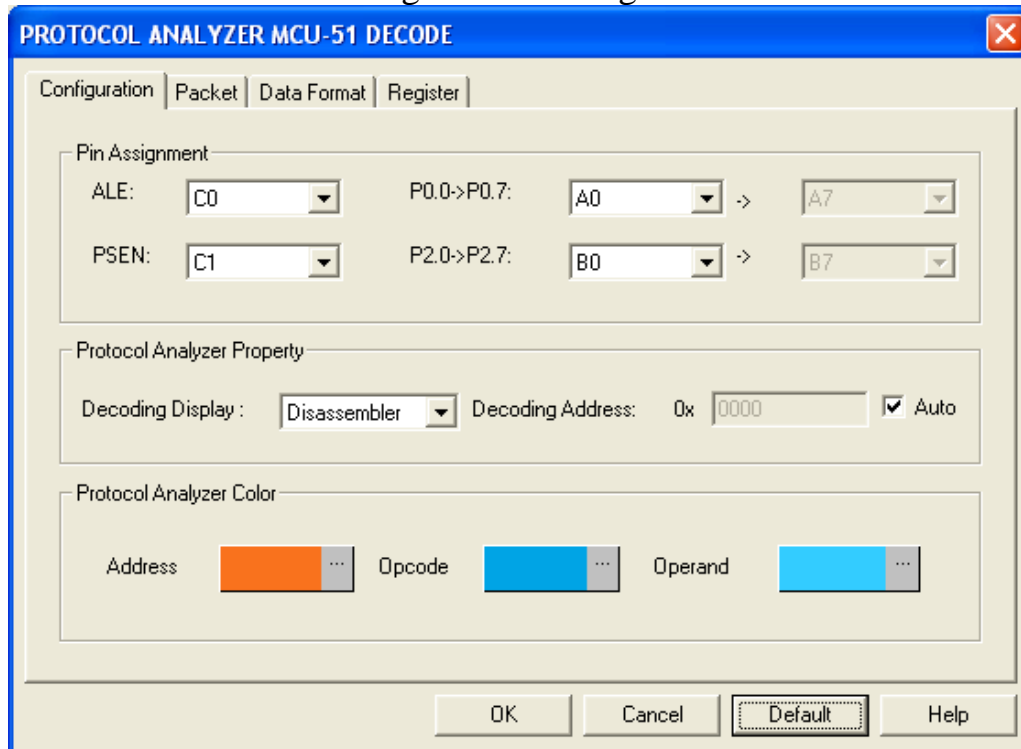




4 User Interface

In the configuration dialog box, please refer to the below images to select options of setting **MCU-51 DECODE Module**.

MCU-51 DECODE Configuration Dialog Box



Pin Assignment:

ALE: It is the **Address Latch** line. Notice: Only when the PSEN is at High Level, the **Address Latch** is at the Falling Edge.

PSEN: It is the **Programmer Saving Enable** line, and it is available for the Low Level.

P0.0->P0.7: They are the **Low 8-Bit Address/Data Reuse** lines.

P2.0->P2.7: They are the **High 8-Bit Address** lines.

Protocol Analyzer Property:

Decoding Display: Set the Decoding Display to Disassembler or Machine Code.

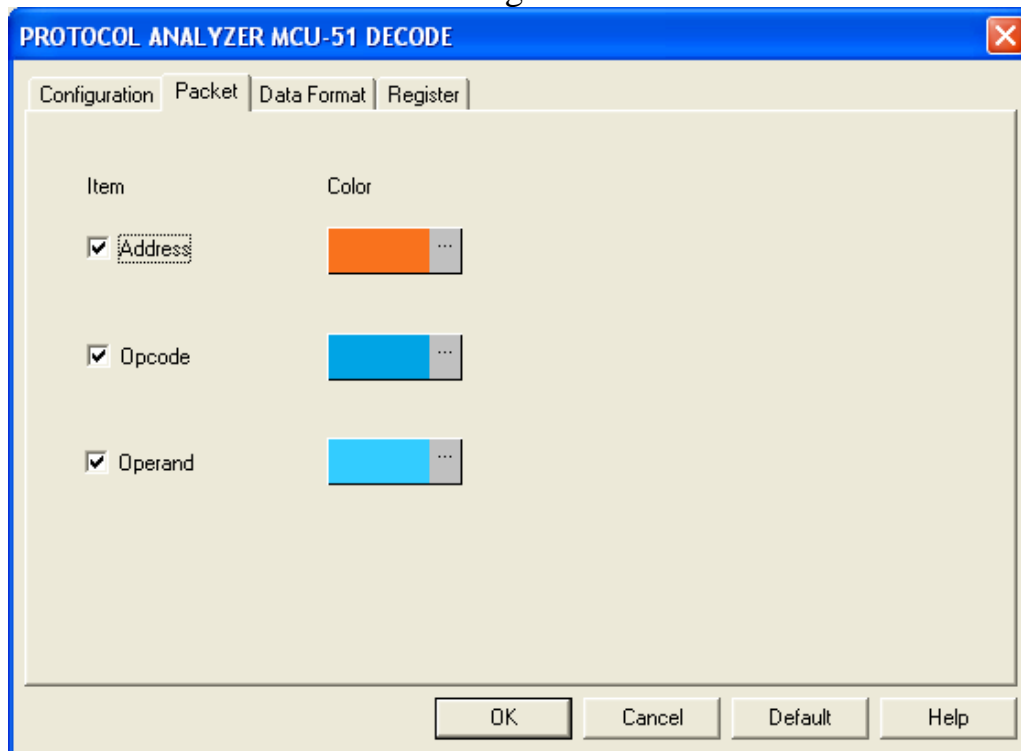
Decoding Address: Set the Address to the Fixed Address, or select the Auto to detect the Decoding Address automatically.

Protocol Analyzer Color:

Users can vary the protocol analyzer color.

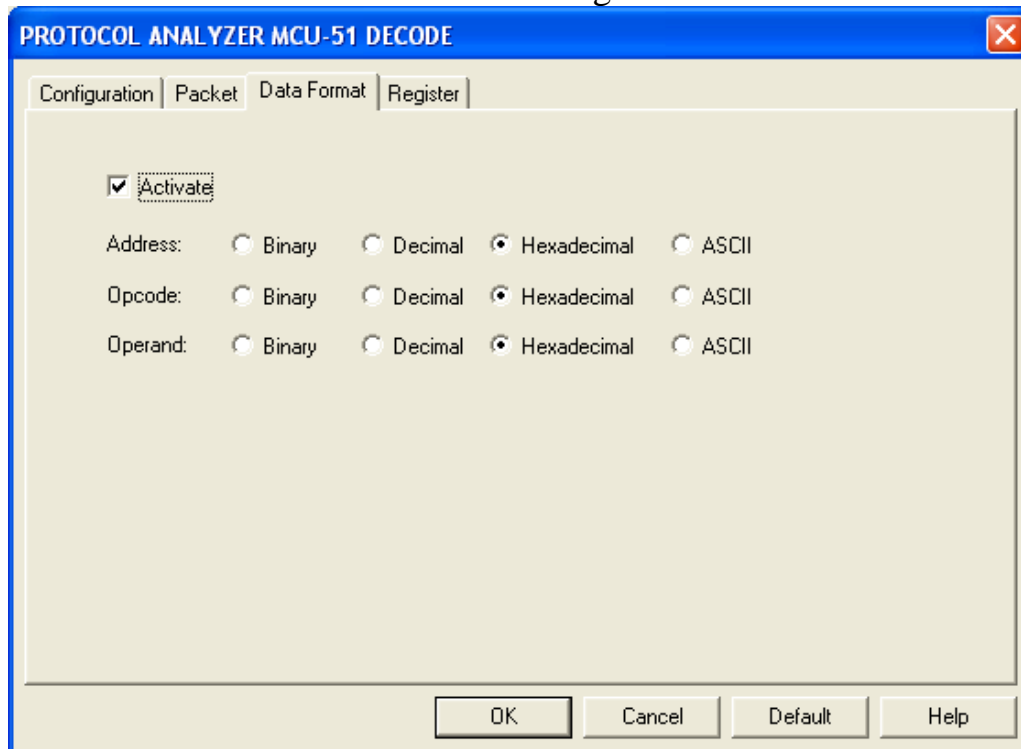


MCU-51 DECODE Packet Dialog Box



In the Packet dialog box, users can choose the displayed items and set protocol analyzer color according to their requirements.

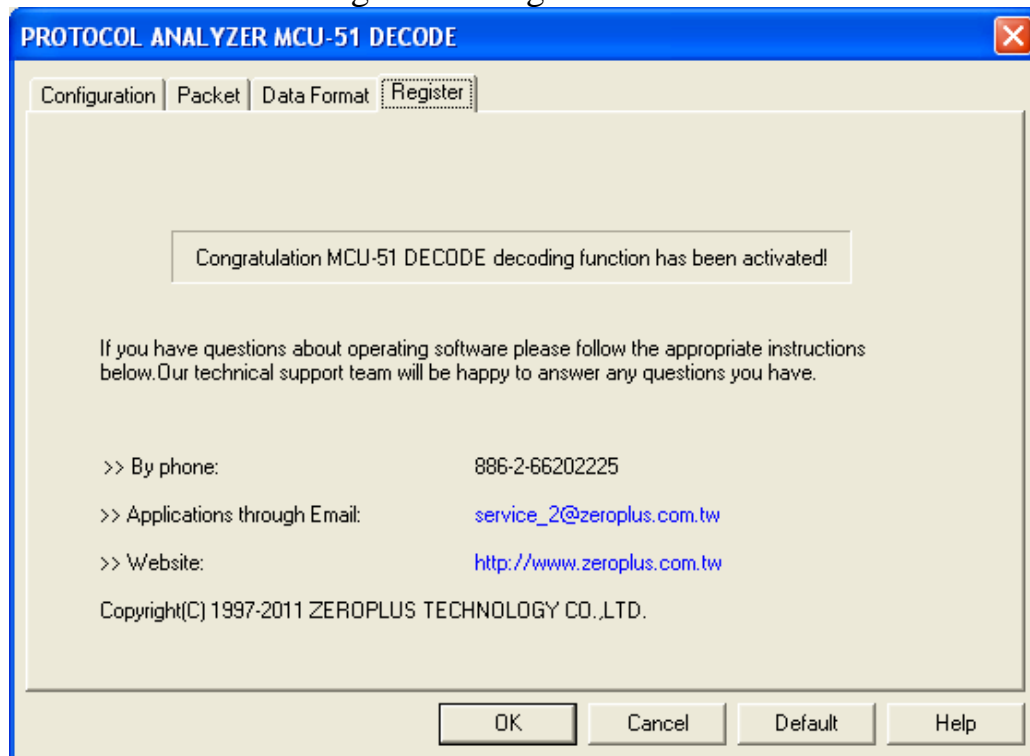
MCU-51 DECODE Data Format Dialog Box



Users can set the Data Format of the Address, Opcode and Operand 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.



MCU-51 DECODE Register Dialog Box

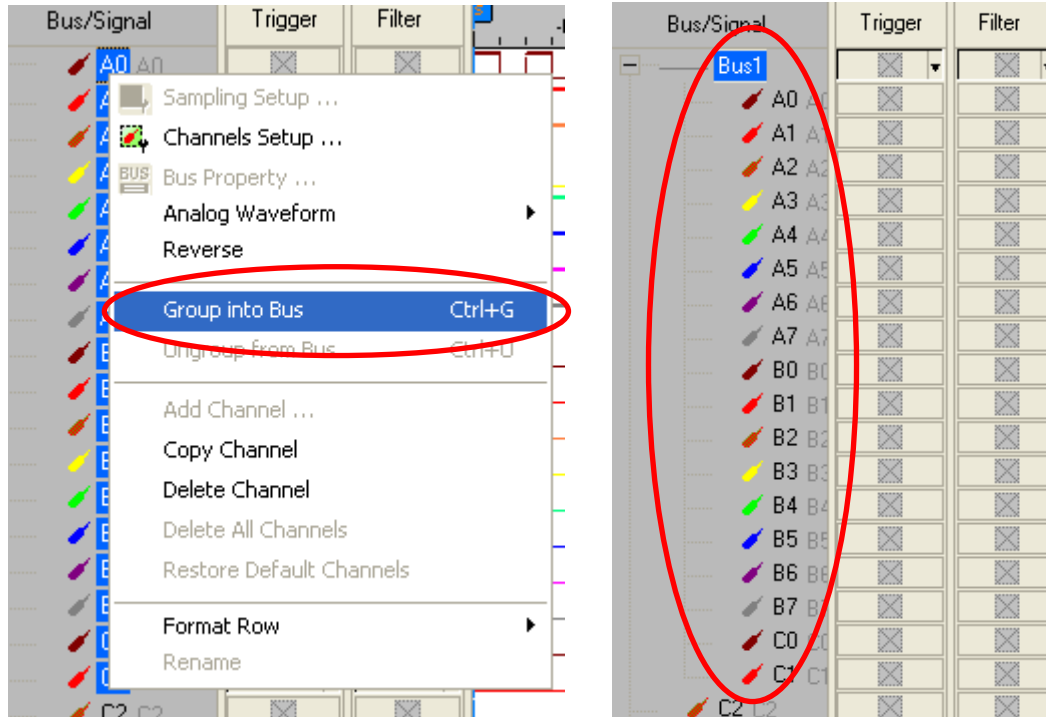


There is written ZeroPlus company information details. If you have any questions about software operations, you can contact ZeroPlus by Telephone or Email.

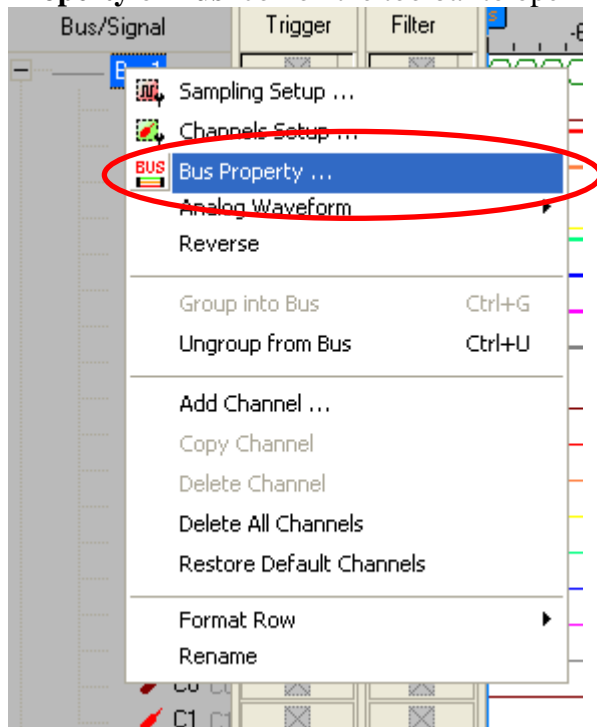


5 Operating Instructions

STEP 1. Group the unanalyzed channels into **Bus1** by pressing the **Right Key** on the mouse. **MCU-51 DECODE** needs eighteen channels to decode signals, so it is necessary to group eighteen or more channels into a Bus.

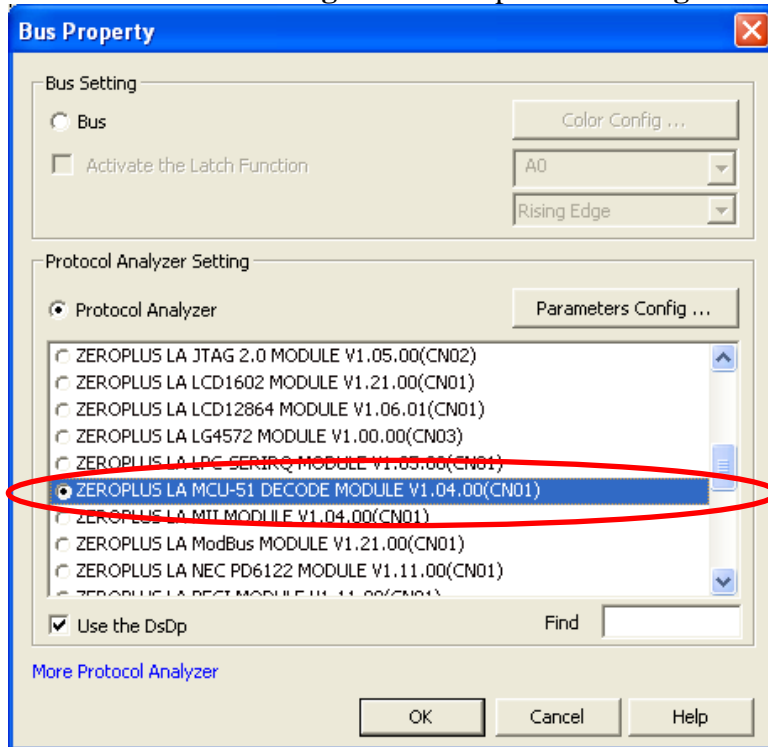


STEP 2. Select **Bus1**, and press **Right Key** on the mouse to list the menu, then press **Bus Property** or **Bus** icon on the toolbar to open **Bus Property** dialog box.

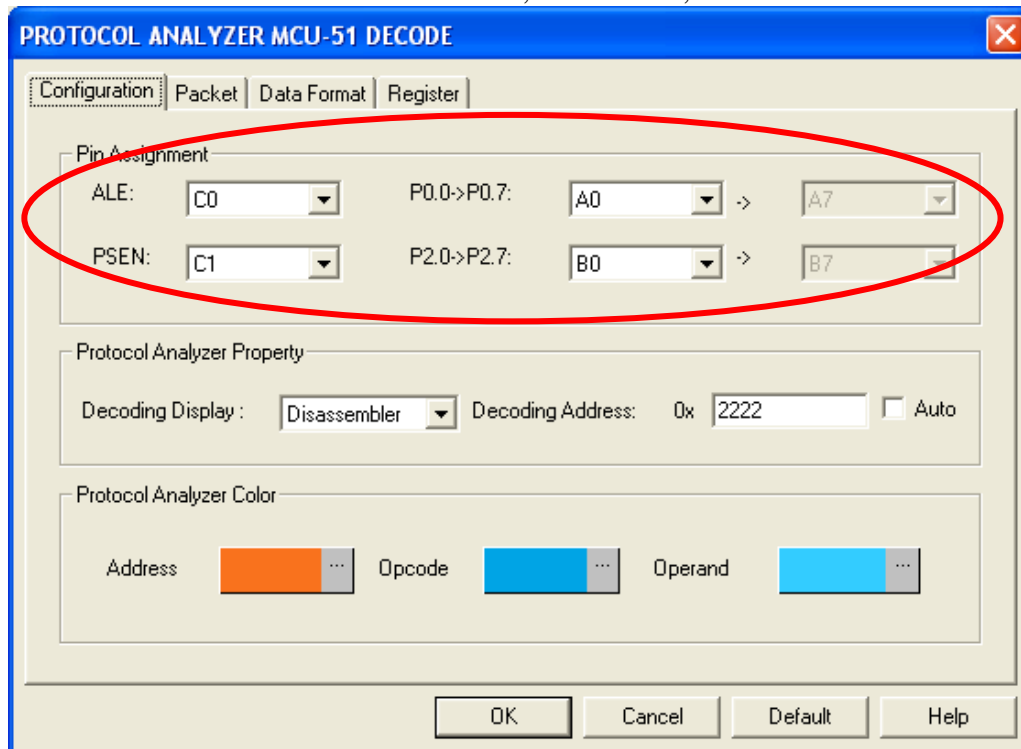




STEP 3. For Protocol Analyzer **MCU-51 DECODE** Parameters Configuration, select Protocol Analyzer, and then choose **ZEROPLUS LA MCU-51 DECODE MODULE V1.04.00(CN01)**. Next click **Parameters Configuration** to open the **Configuration** dialog box.

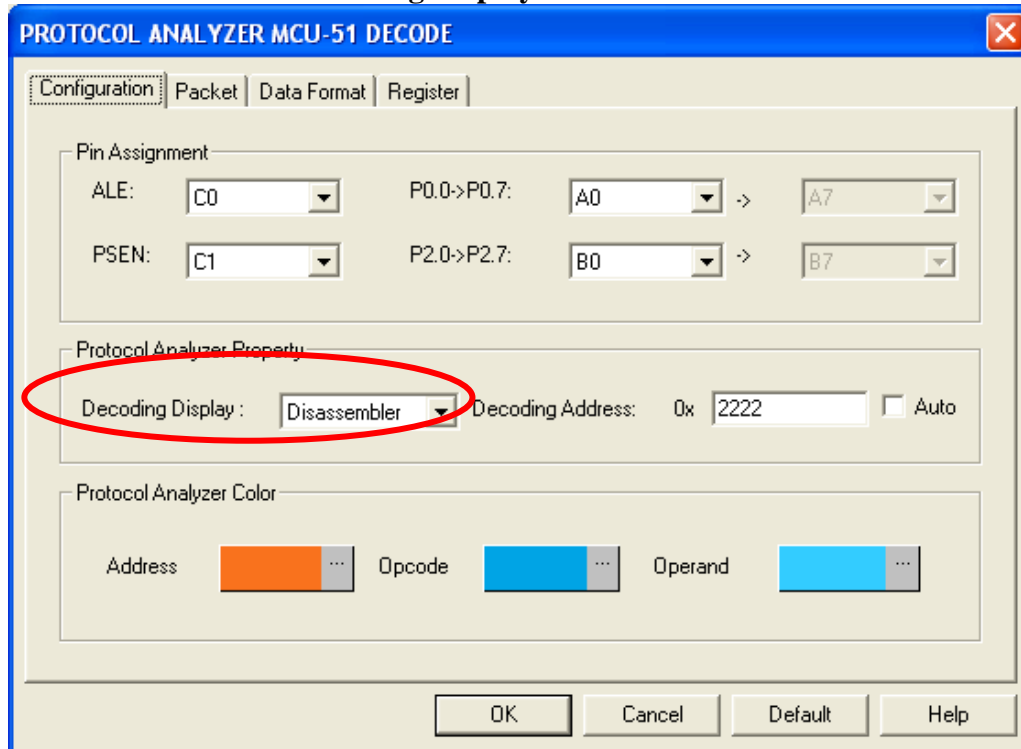


STEP 4. Set the channels for ALE, P0.0->P0.7, P2.0->P2.7 and PSEN.

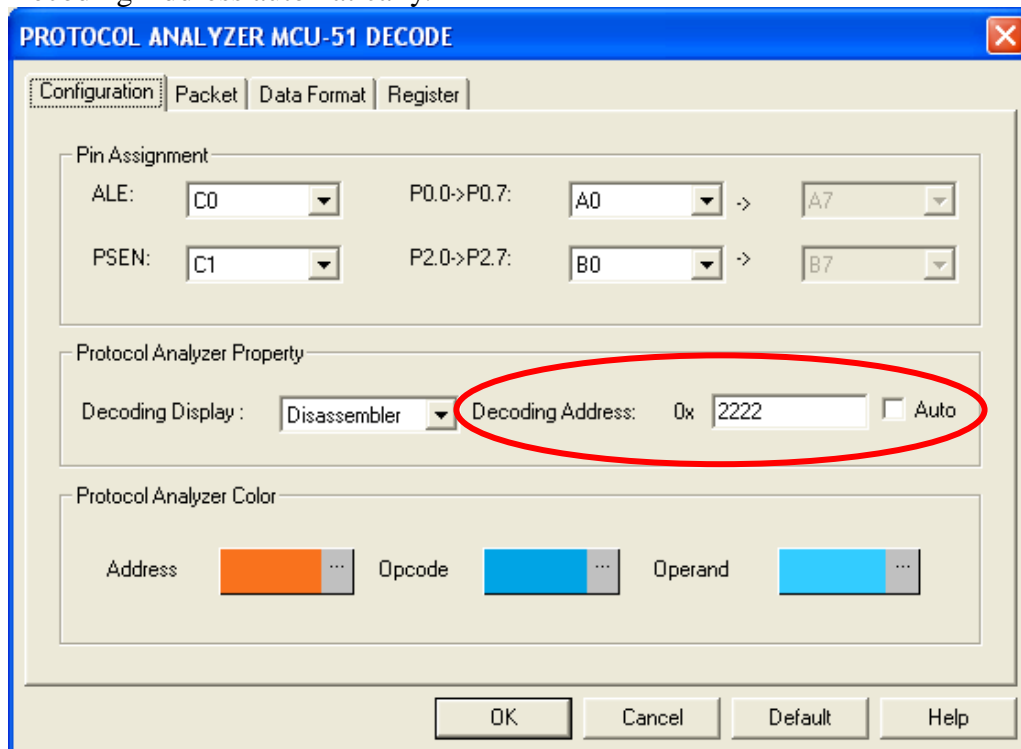




STEP 5. Set the **Decoding Display** to Disassembler or Machine Code.

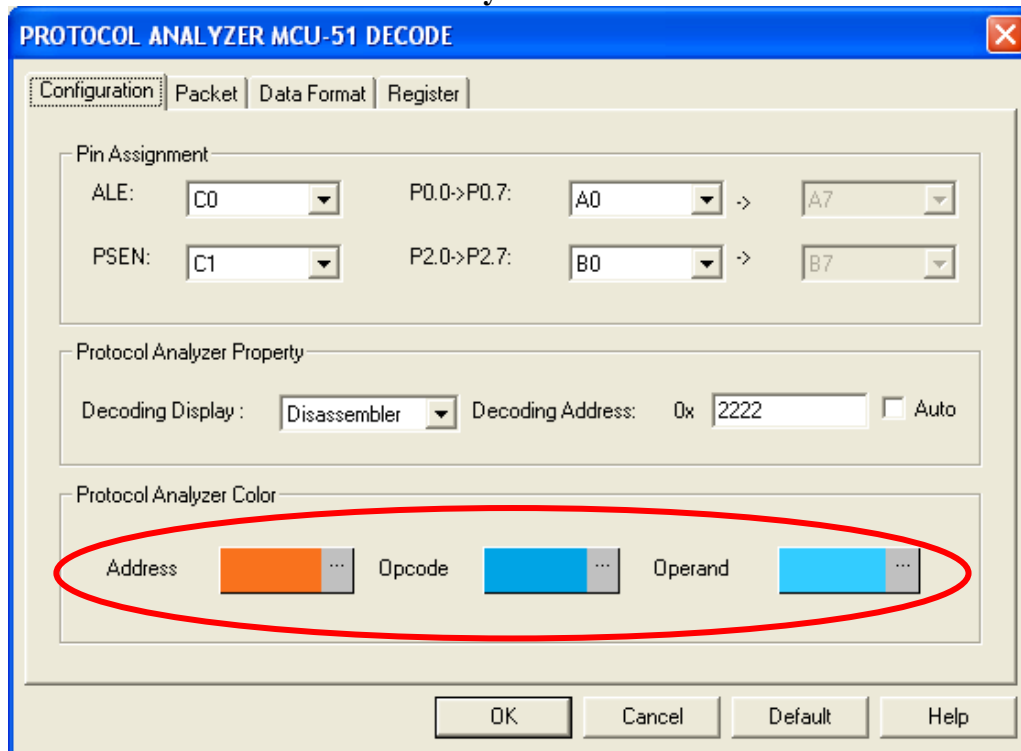


STEP 6. Set the **Decoding Address** to the Fixed Address, or select the **Auto** to detect the Decoding Address automatically.



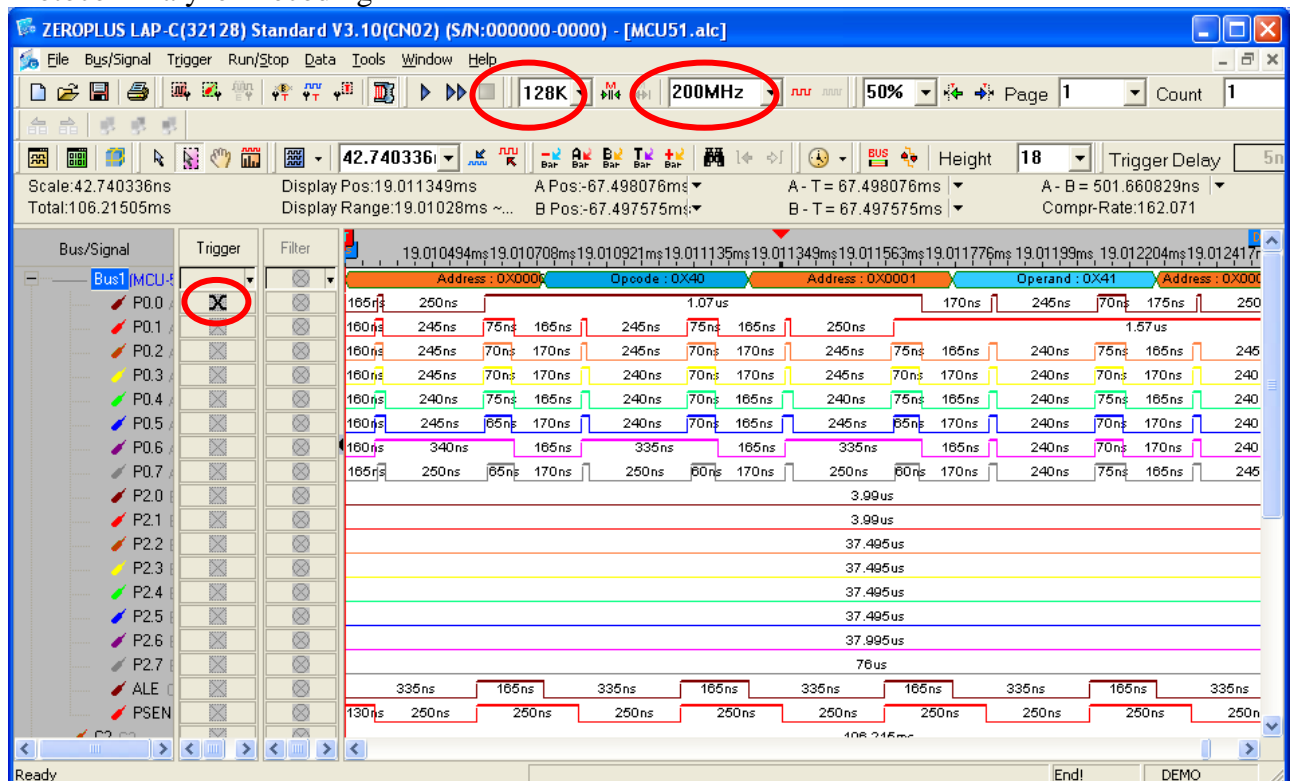


STEP 7. Set the Protocol Analyzer Color.



STEP 8. Following pictures show the completion of the protocol analyzer decoding and the packet list. The Trigger condition is set as Either Edge; the Memory depth is 128K; the Sampling frequency is 200MHz (the sampling frequency should be more than five times higher than the signal to be tested).

Protocol Analyzer Decoding





Packet List

