

SPECIFICATION

MODEL: 021-LAP-IRDA-M

PART NO: _____

VERSION: V1.08

Approver		Check	Design
GM	PM		

Customer Confirm

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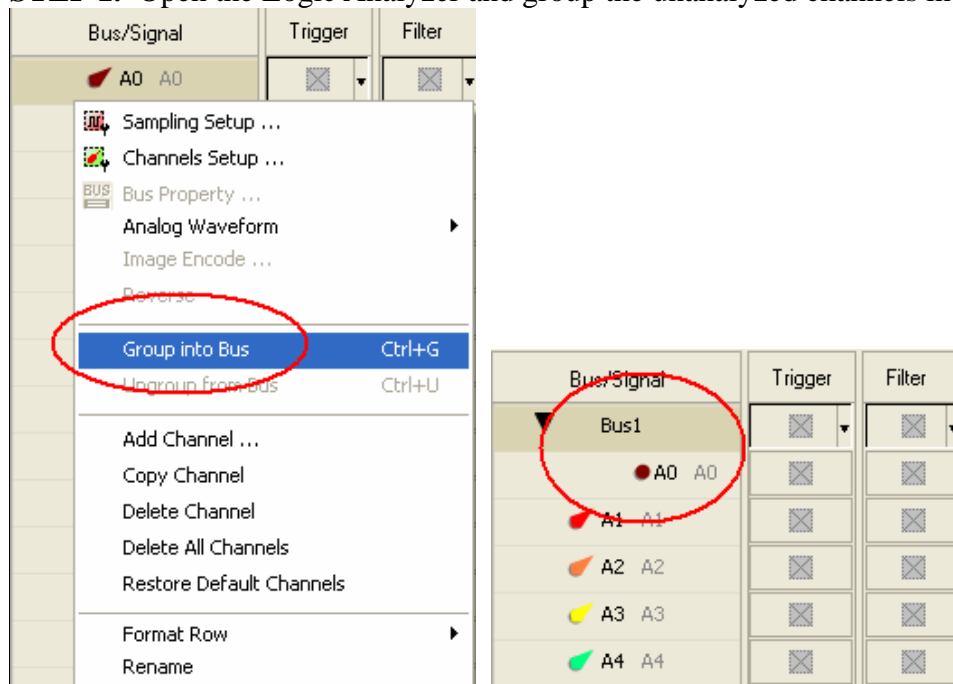
1 Software Register

Please register the software as the following steps:

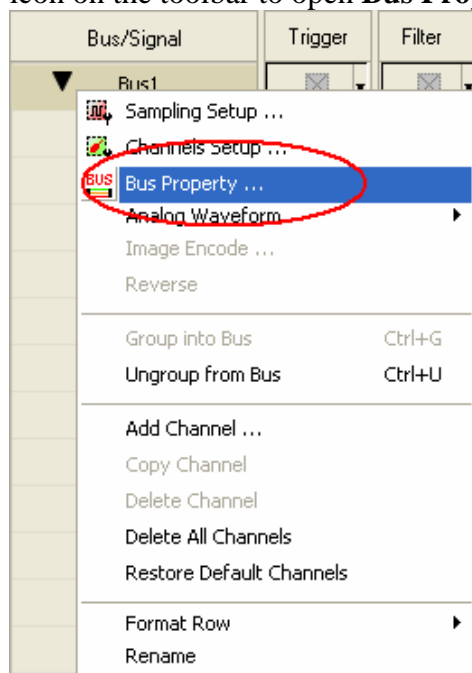
※ Remark1: The registration steps for all protocol analyzers are the same; you can complete the registration by following procedures. Following is an example on how to register the Protocol Analyzer BUS.

※ 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.

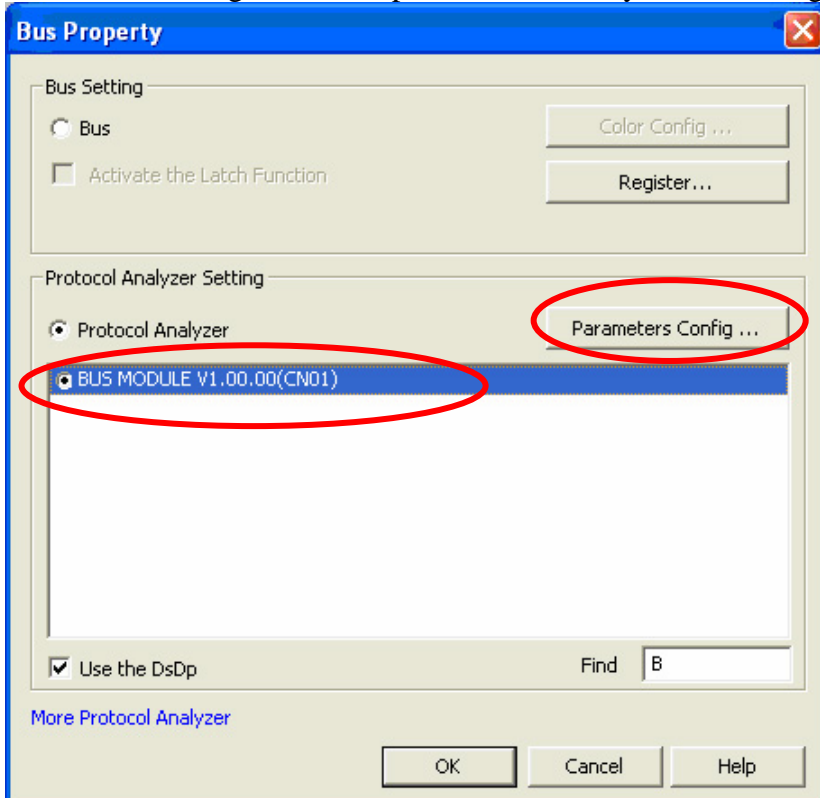
STEP 1. Open the Logic Analyzer and group the unanalyzed channels into **Bus1** by pressing the **Right Key**.



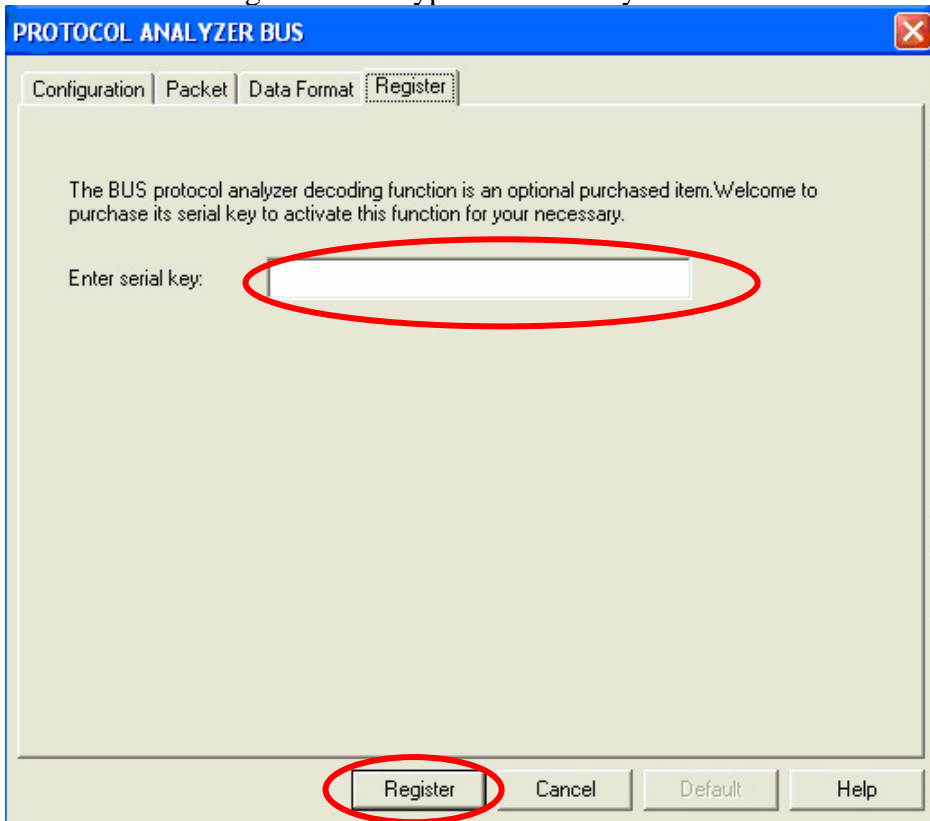
STEP 2. Select **Bus 1**, then press **Right Key** on the mouse to list the menu, then press **Bus Property** or **Bus** icon on the toolbar to open **Bus Property** dialog box.



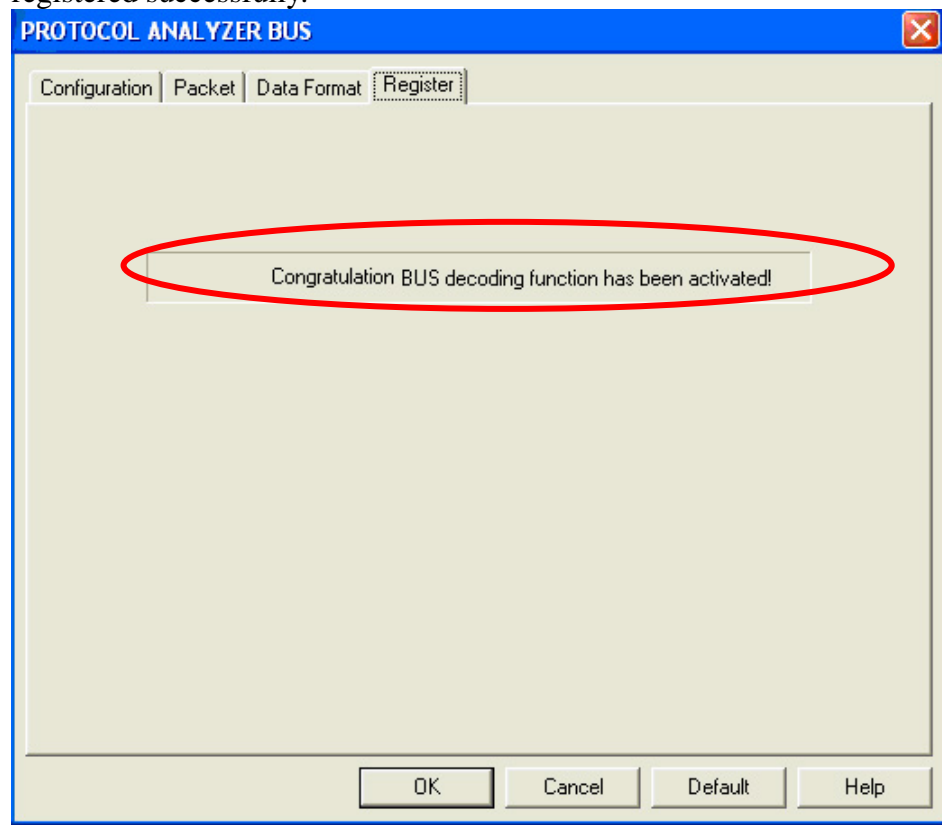
STEP 3. Select the Protocol Analyzer, and then choose **BUS MODULE V1.00.00 (CN01)**. Next click Parameters Configuration to open Protocol Analyzer Bus dialog box.



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



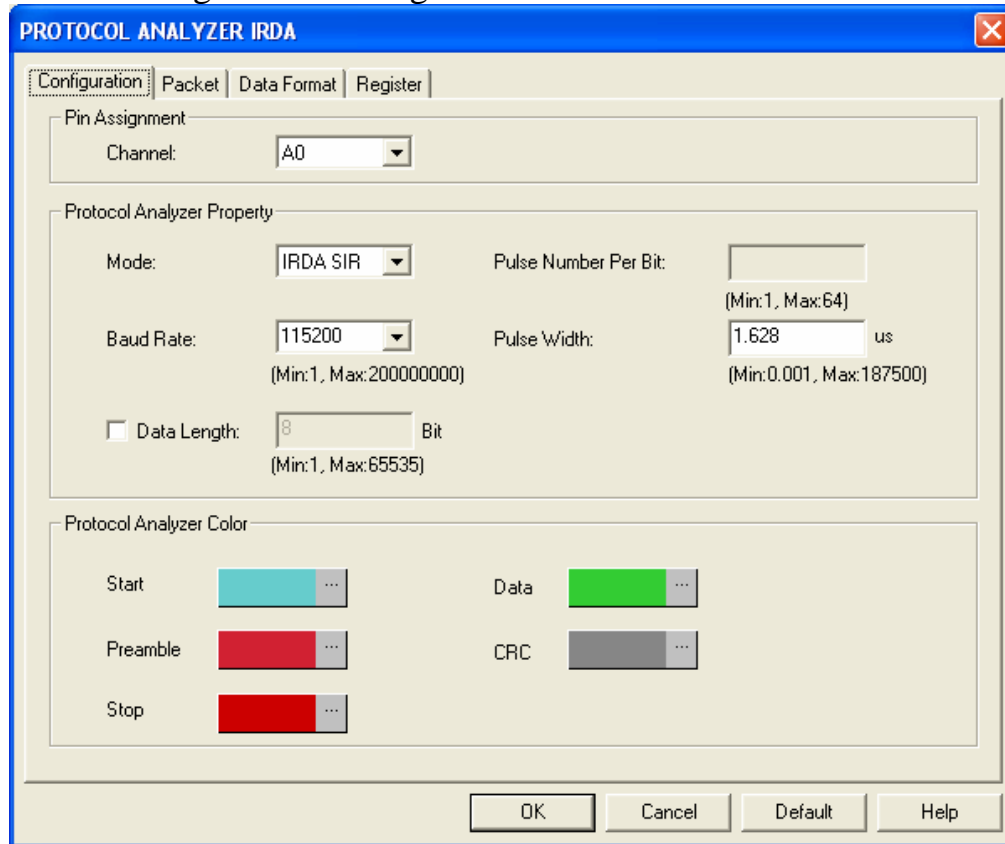
STEP 5. After pressing the Register button, following dialog box will appear, it denotes that the BUS has been registered successfully.



2 User Interface

In the configuration, please refer to images below to select options of setting **IRDA**.

IRDA Configuration Dialog Box



Pin Assignment:

IRDA only needs one channel to decode the signals.

Protocol Analyzer Property:

Mode: Set the Mode to IRDA SIR, ASK IR, IRDA HDLC or IRDA FIR, the default is IRDA SIR.

Baud Rate: The Baud Rate will be changed according to the different Modes.

In the IRDA SIR Mode, the Baud Rate is 115200bps by default;

In the ASK IR Mode, the Baud Rate is 57600bps by default;

In the IRDA HDLC Mode, the Baud Rate is 1152000bps by default;

In the IRDA FIR Mode, the Baud Rate is 4000000bps by default.

In addition, users can select the value from the pull-down menu or set the value in the range from 1 to 200000000bps.

Data Length: The option is not activated by default. When the Data Length is activated, the value can be set in the range from 1 to 65535Bit.

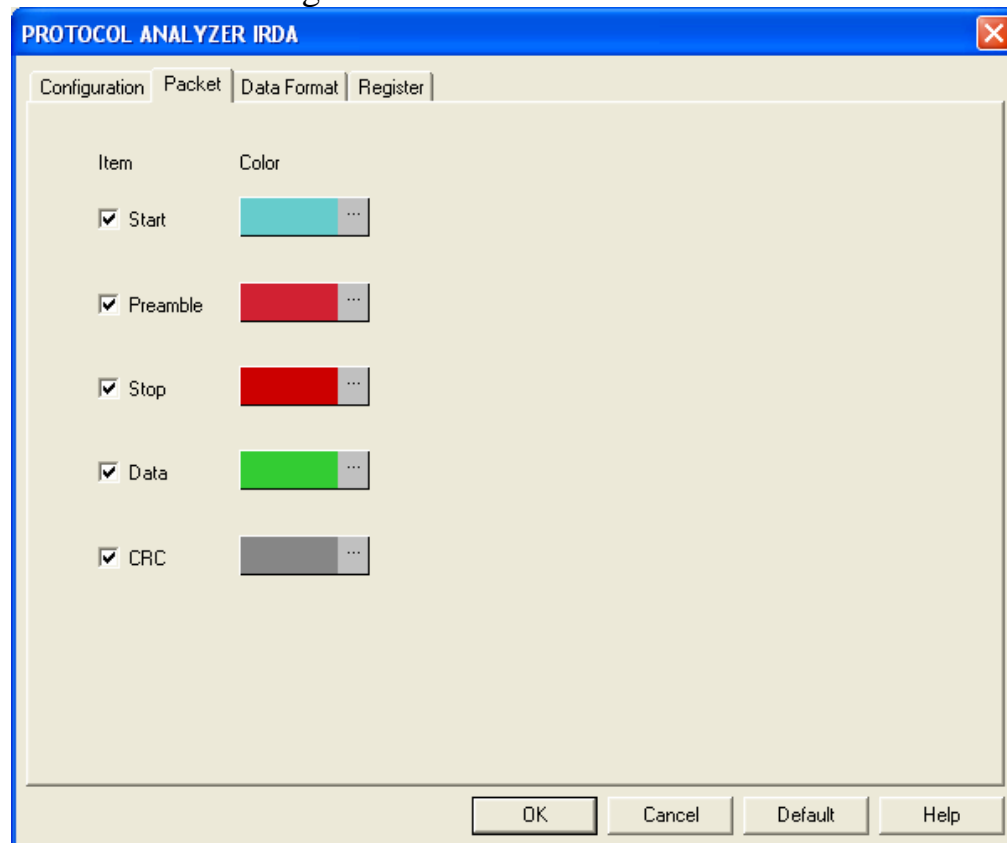
Pulse Number Per Bit: It is only available for the ASK IR Mode. When the ASK IR Mode is activated, the value of Pulse Number Per Bit can be set in the range from 1 to 64.

Pulse Width: The Pulse Width only can be set in the Modes, IRDA SIR, ASK IR and IRDA HDLC. The values of the Pulse Width can be set in the range from 0.001 to 187500us.

Protocol Analyzer Color:

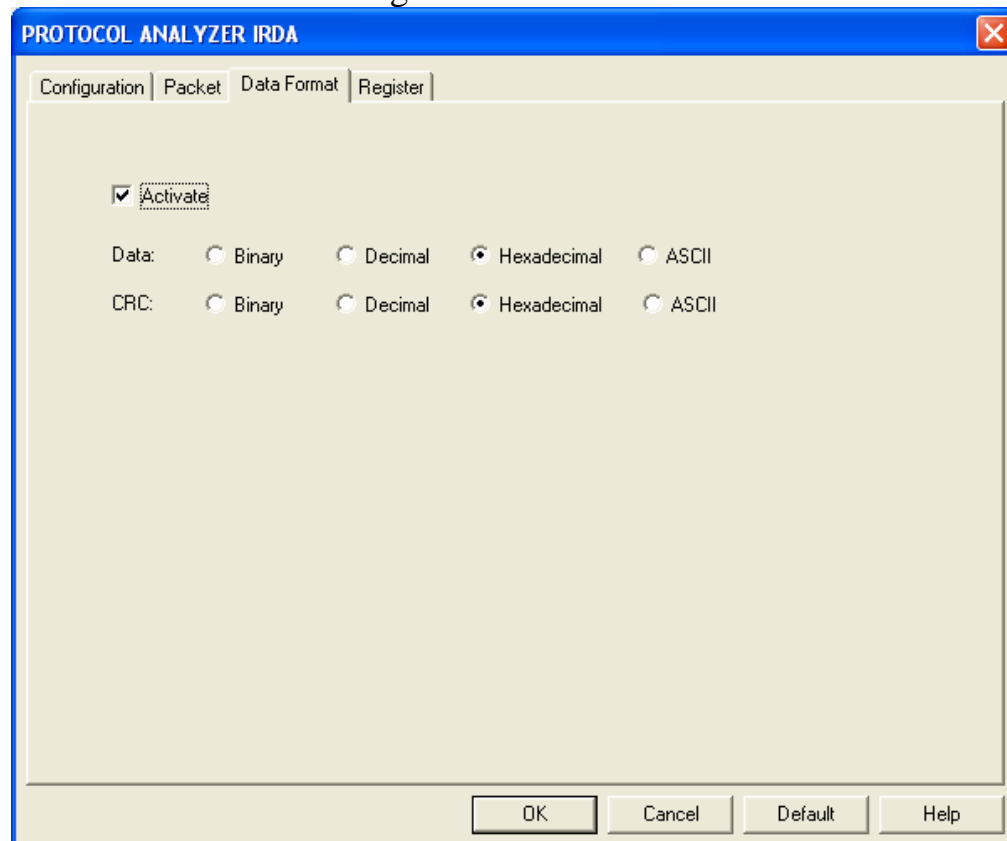
The color can be varied by users.

IRDA Packet Dialog Box



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

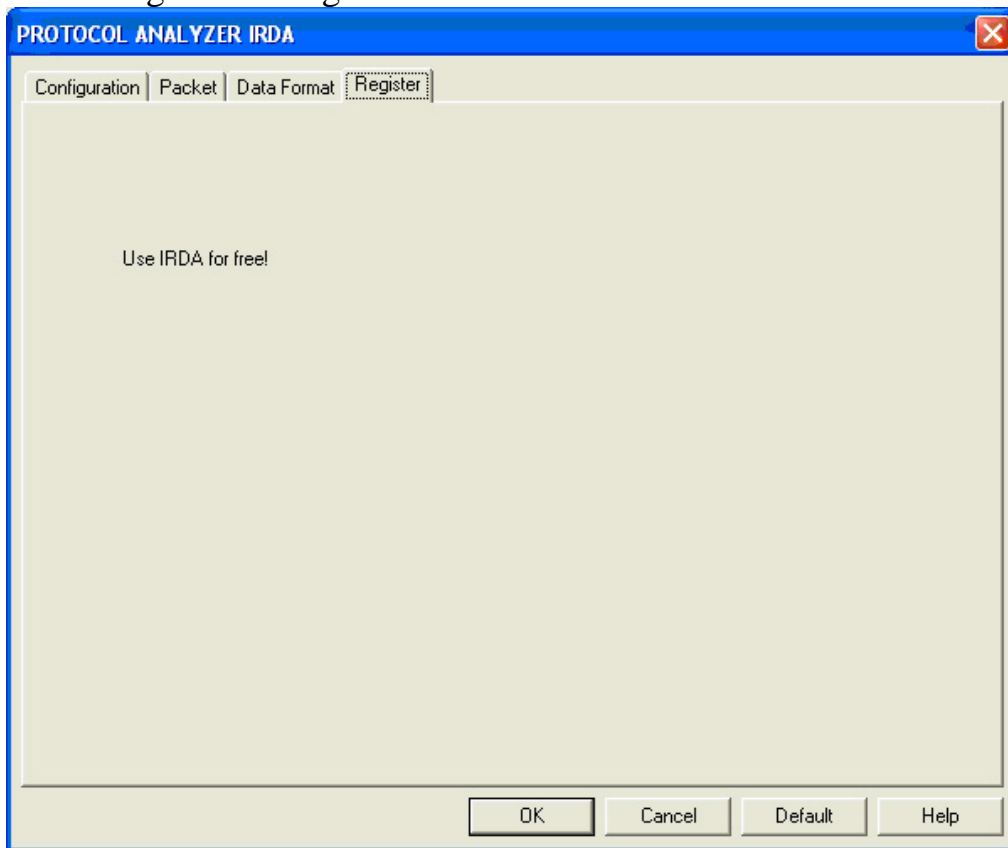
IRDA Data Format Dialog Box



Users can set the Data Format of the CRC and Data as their requirements. When the option 'Activate' is selected, the data format is decided by the settings in the Protocol Analyzer, or by the settings in the main

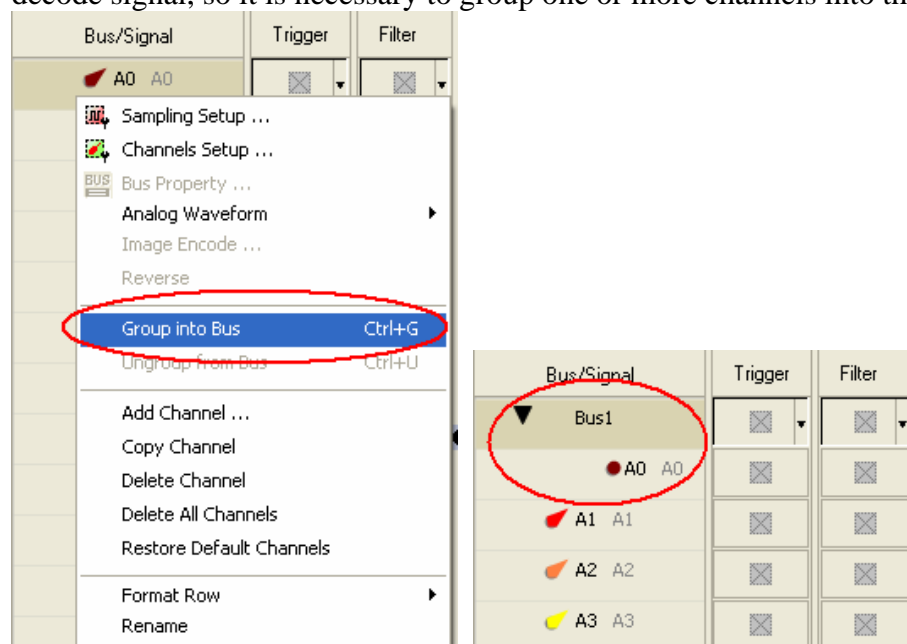
program.

IRDA Register Dialog Box

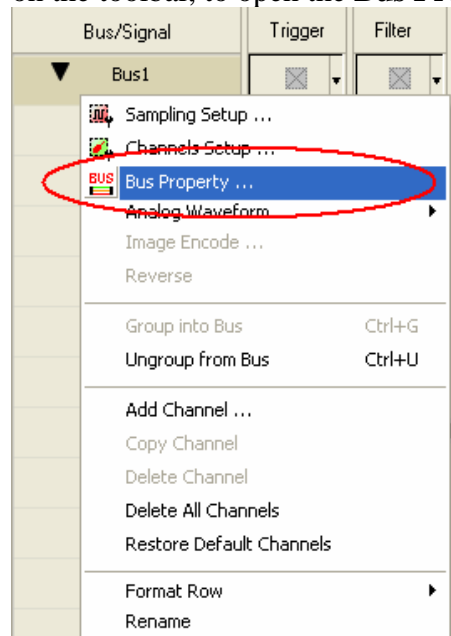


3 Operating Instructions

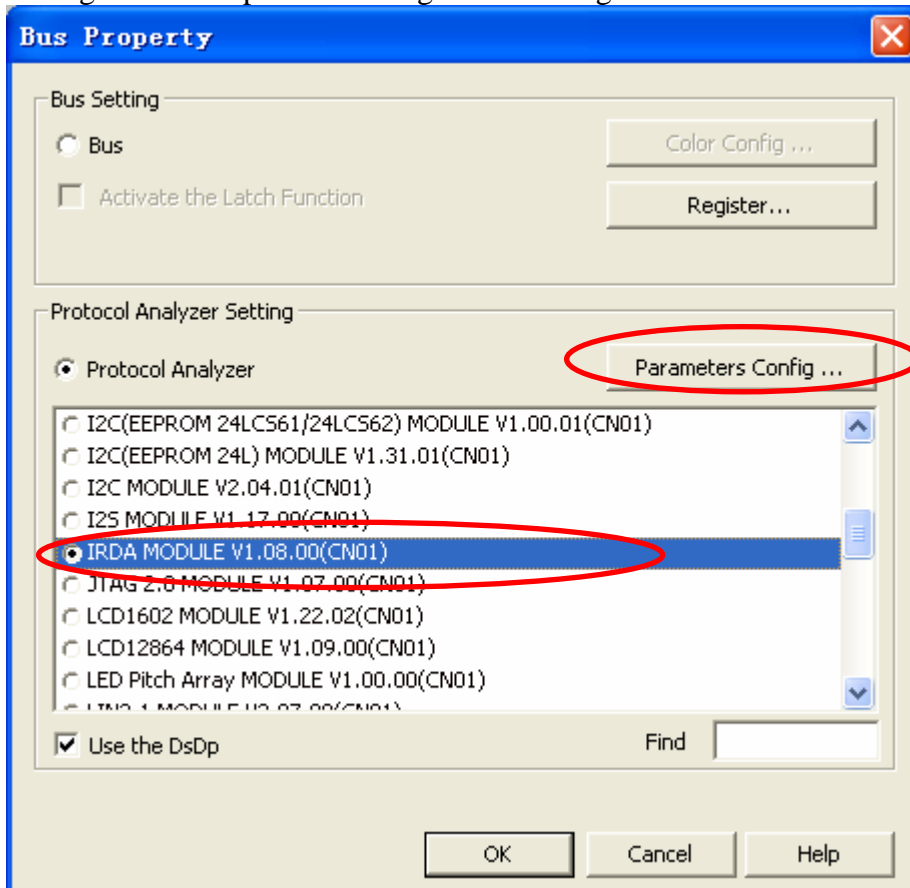
STEP 1. Group A0 into **Bus1** by pressing the **Right Key** on the mouse. IRDA needs at least one channel to decode signal, so it is necessary to group one or more channels into the Bus..



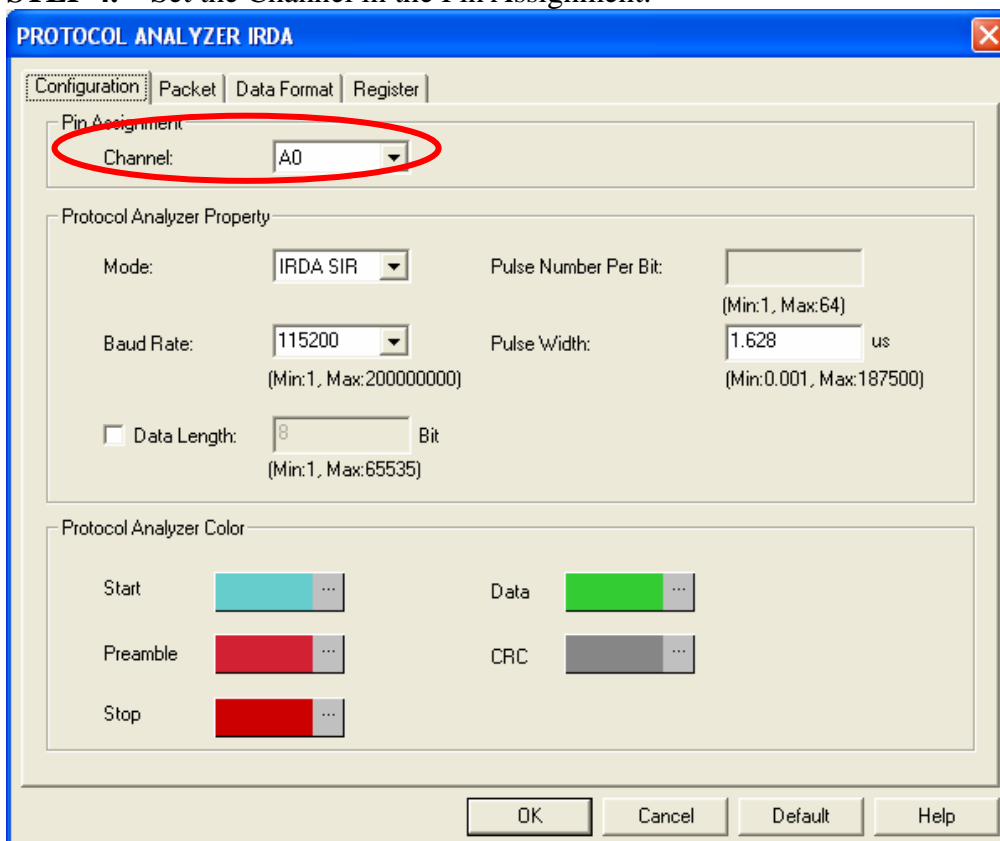
STEP 2. Select **Bus1**, press right key and select **Bus Property** from the popped menu, or click the **Bus** icon on the toolbar, to open the **Bus Property** dialog box.



STEP 3. Select Protocol Analyzer, and select IRDA MODULE V1.08.00(CN01). Then click Parameters Configuration to open the Configuration dialog box.



STEP 4. Set the Channel in the Pin Assignment.



STEP 5. Set the Mode to IRDA SIR, ASK IR, IRDA HDLC or IRDA FIR.

PROTOCOL ANALYZER IRDA

Configuration | Packet | Data Format | Register

Pin Assignment
Channel: A0

Protocol Analyzer Property
Mode: IRDA SIR (circled in red) Pulse Number Per Bit: (Min:1, Max:64)
Baud Rate: 115200 (Min:1, Max:200000000) Pulse Width: 1.628 us (Min:0.001, Max:187500)
☐ Data Length: 8 Bit (Min:1, Max:65535)

Protocol Analyzer Color
Start: [Color Picker] Data: [Color Picker]
Preamble: [Color Picker] CRC: [Color Picker]
Stop: [Color Picker]

OK Cancel Default Help

STEP 6. Set the **Baud Rate** in the range from 1 to 200000000bps.

PROTOCOL ANALYZER IRDA

Configuration | Packet | Data Format | Register

Pin Assignment
Channel: A0

Protocol Analyzer Property
Mode: IRDA SIR Pulse Number Per Bit: (Min:1, Max:64)
Baud Rate: 115200 (Min:1, Max:200000000) (circled in red) Pulse Width: 1.628 us (Min:0.001, Max:187500)
☐ Data Length: 8 Bit (Min:1, Max:65535)

Protocol Analyzer Color
Start: [Color Picker] Data: [Color Picker]
Preamble: [Color Picker] CRC: [Color Picker]
Stop: [Color Picker]

OK Cancel Default Help

STEP 7. Set the **Data Length** in the range from 1 to 65535Bit.

The screenshot shows the 'PROTOCOL ANALYZER IRDA' window with the 'Configuration' tab selected. The 'Pin Assignment' section shows 'Channel' set to 'A0'. The 'Protocol Analyzer Property' section has 'Mode' set to 'IRDA SIR', 'Baud Rate' set to '115200', and 'Pulse Width' set to '1.628 us'. The 'Data Length' field is set to '8' and is circled in red. The 'Protocol Analyzer Color' section shows 'Start' as cyan, 'Preamble' as red, 'Stop' as red, 'Data' as green, and 'CRC' as grey. The 'OK', 'Cancel', 'Default', and 'Help' buttons are at the bottom.

Field	Value	Range
Channel	A0	
Mode	IRDA SIR	
Baud Rate	115200	(Min:1, Max:200000000)
Pulse Number Per Bit		(Min:1, Max:64)
Pulse Width	1.628 us	(Min:0.001, Max:187500)
Data Length	8	(Min:1, Max:65535)

STEP 8. Set the **Pulse Number Per Bit** in the range from 1 to 64 in the ASK IR Mode.

The screenshot shows the 'PROTOCOL ANALYZER IRDA' window with the 'Configuration' tab selected. The 'Pin Assignment' section shows 'Channel' set to 'A0'. The 'Protocol Analyzer Property' section has 'Mode' set to 'ASK IR', 'Baud Rate' set to '57600', and 'Pulse Width' set to '1.000 us'. The 'Pulse Number Per Bit' field is set to '5' and is circled in red. The 'Data Length' field is set to '8'. The 'Protocol Analyzer Color' section shows 'Start' as cyan, 'Preamble' as red, 'Stop' as red, 'Data' as green, and 'CRC' as grey. The 'OK', 'Cancel', 'Default', and 'Help' buttons are at the bottom.

Field	Value	Range
Channel	A0	
Mode	ASK IR	
Baud Rate	57600	(Min:1, Max:200000000)
Pulse Number Per Bit	5	(Min:1, Max:64)
Pulse Width	1.000 us	(Min:0.001, Max:187500)
Data Length	8	(Min:1, Max:65535)

STEP 9. Set the **Pulse Width** in the range from 0.001 to 187500us.

The screenshot shows the 'PROTOCOL ANALYZER IRDA' dialog box with the 'Configuration' tab selected. The 'Pin Assignment' section shows 'Channel' set to 'A0'. The 'Protocol Analyzer Property' section has 'Mode' set to 'ASK IR', 'Baud Rate' set to '57600', and 'Data Length' checked and set to '8'. The 'Pulse Number Per Bit' is set to '5'. The 'Pulse Width' is set to '1.000 us' and is circled in red. The 'Protocol Analyzer Color' section shows color swatches for 'Start' (cyan), 'Preamble' (red), 'Stop' (red), 'Data' (green), and 'CRC' (grey). The 'OK', 'Cancel', 'Default', and 'Help' buttons are at the bottom.

Field	Value	Range/Unit
Channel	A0	
Mode	ASK IR	
Baud Rate	57600	(Min:1, Max:200000000)
Data Length	8	Bit (Min:1, Max:65535)
Pulse Number Per Bit	5	(Min:1, Max:64)
Pulse Width	1.000	us (Min:0.001, Max:187500)

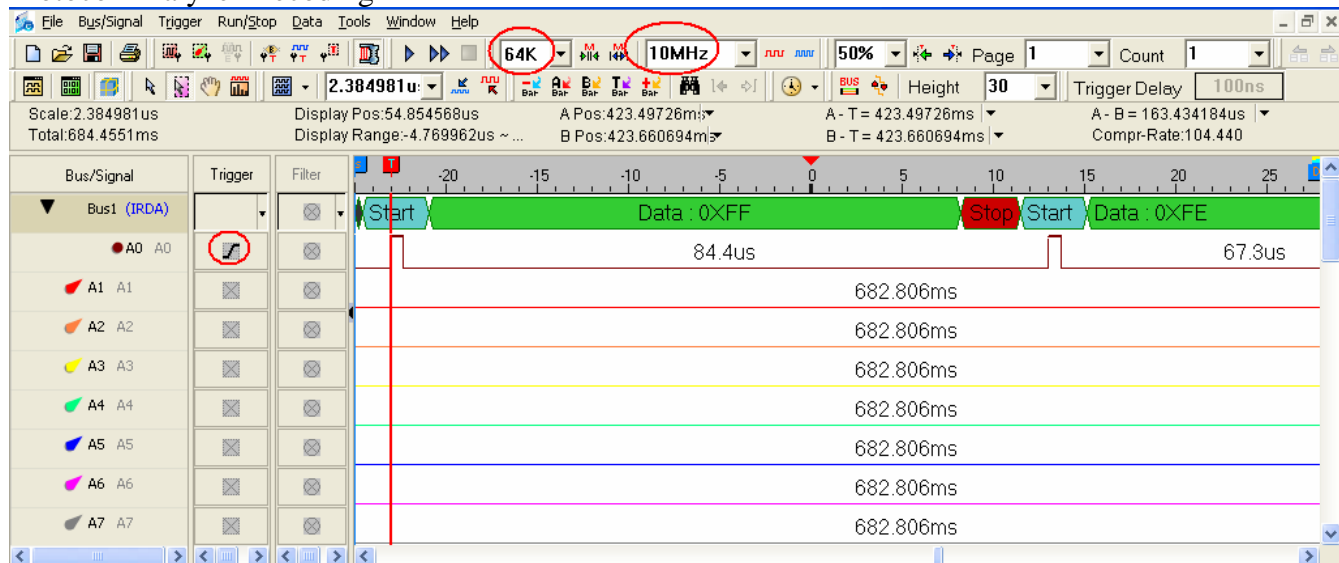
STEP 10. Set the **Protocol Analyzer Color**.

The screenshot shows the same 'PROTOCOL ANALYZER IRDA' dialog box as in Step 9. The 'Protocol Analyzer Color' section is circled in red. It contains five color swatches: 'Start' (cyan), 'Preamble' (red), 'Stop' (red), 'Data' (green), and 'CRC' (grey). Each swatch has a small '...' button next to it. The 'OK', 'Cancel', 'Default', and 'Help' buttons are at the bottom.

Field	Value	Range/Unit
Channel	A0	
Mode	ASK IR	
Baud Rate	57600	(Min:1, Max:200000000)
Data Length	8	Bit (Min:1, Max:65535)
Pulse Number Per Bit	5	(Min:1, Max:64)
Pulse Width	1.000	us (Min:0.001, Max:187500)

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 64K; the sampling frequency is 10MHz (the sampling frequency should be more than ten times higher than the signal to be tested).

Protocol Analyzer Decoding



Packet List

