



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

SPECIFICATION

MODEL: B12017-AES/EBU

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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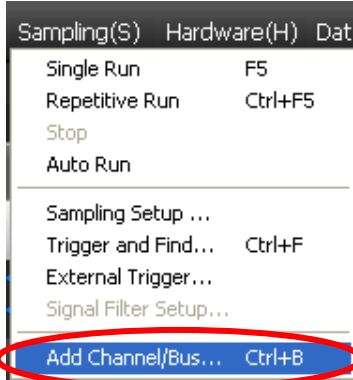
1. Software Register

Please register the software as the following steps:

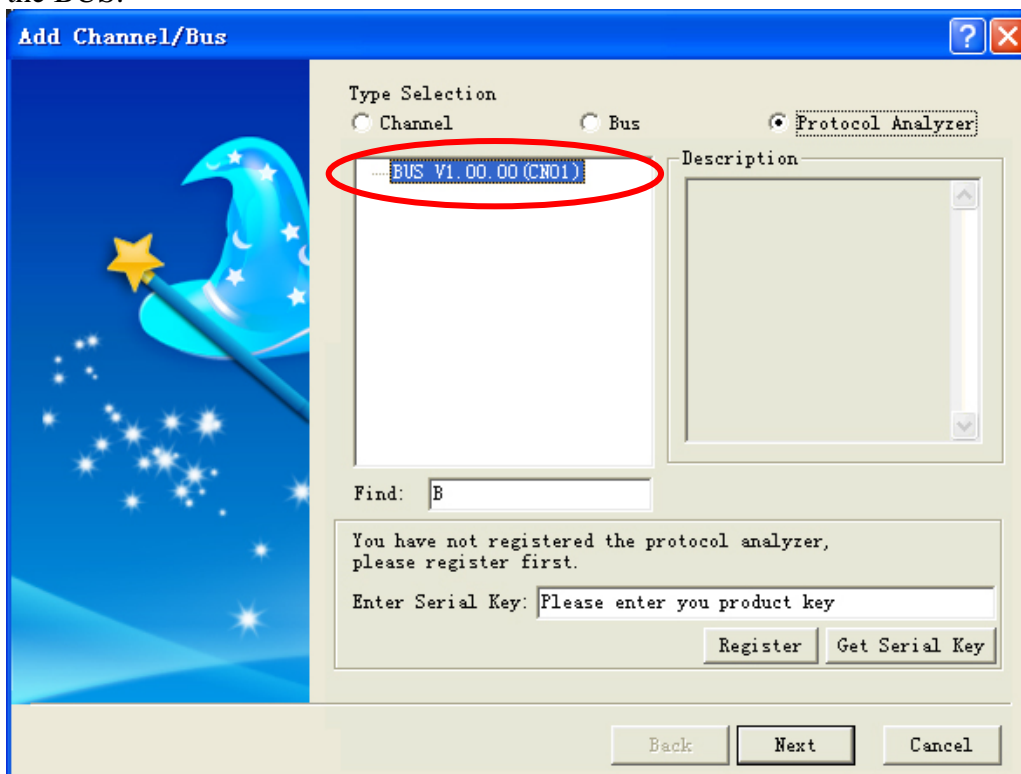
※ Remark1: The registration steps for all protocol analyzers are the same; you can complete the registration by following procedures. Following is an example on how to register the Protocol Analyzer BUS.

※ 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.

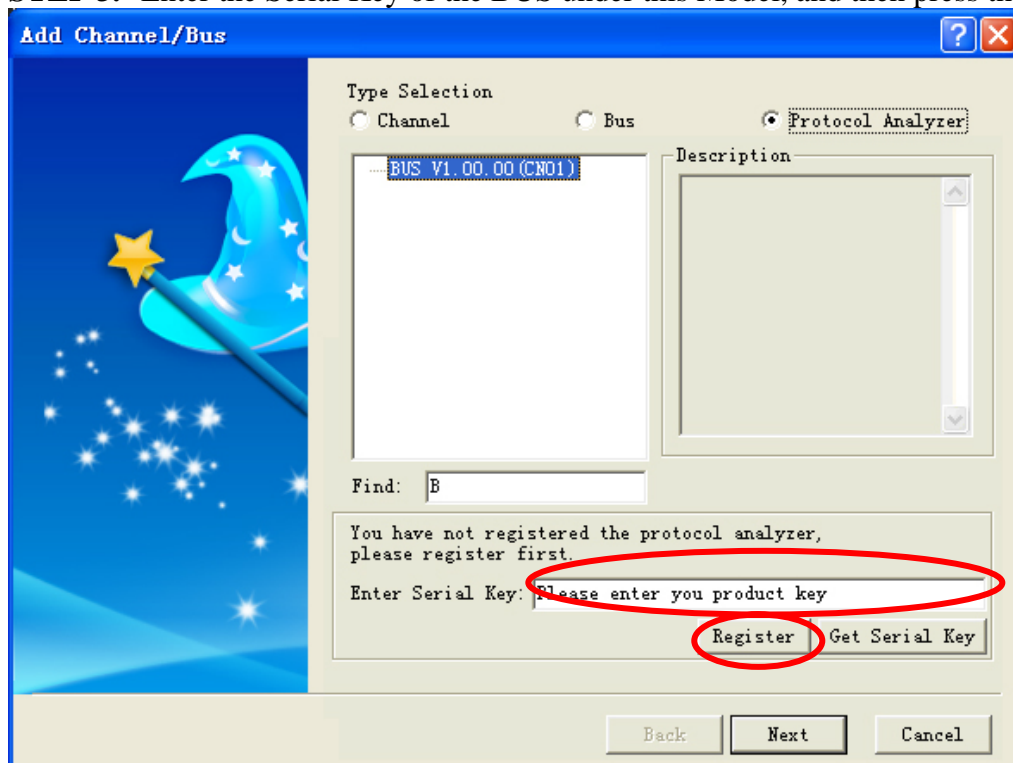
STEP 1. Open the Logic Analyzer and select the **Add Channel/Bus** item on the pull-down menu of the **Sampling(S)** to open the **Add Channel/Bus** dialog box.



STEP 2. Select Protocol Analyzer item in the Add Channel/Bus dialog box, expand the Other Type, and select the BUS.



STEP 3. Enter the Serial Key of the BUS under this Model, and then press the **Register**.



Add Channel/Bus

Type Selection
☐ Channel ☐ Bus ☒ Protocol Analyzer

--- BUS V1.00.00 (CN01)

Description

Find: B

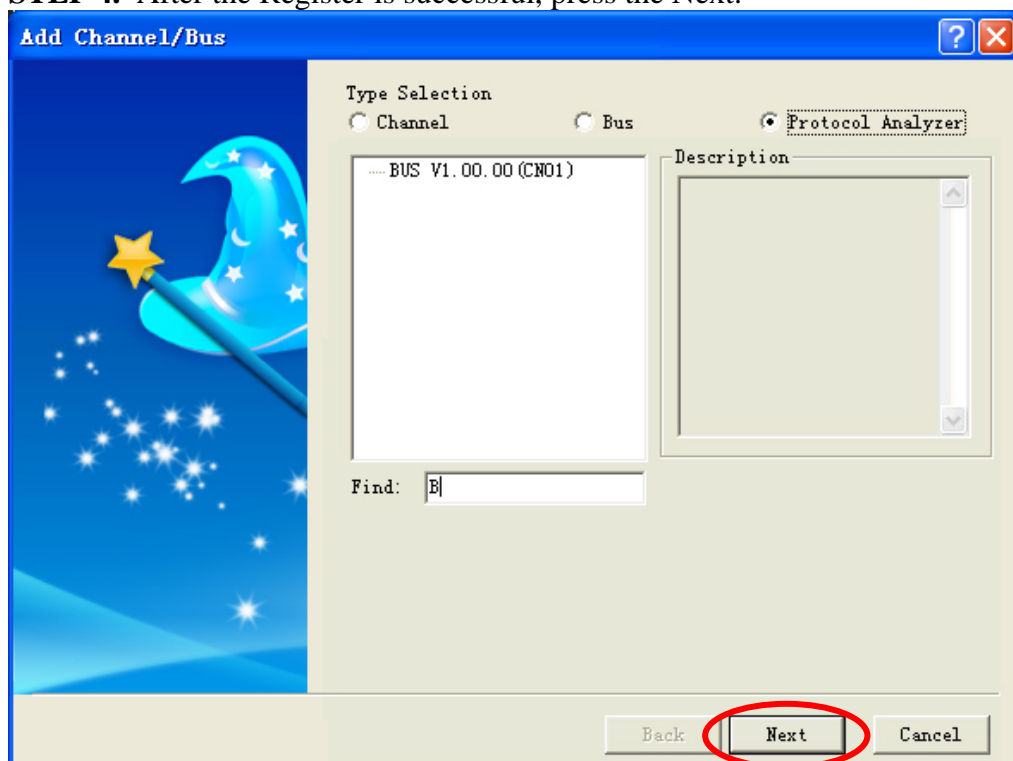
You have not registered the protocol analyzer,
please register first.

Enter Serial Key: Please enter you product key

Register Get Serial Key

Back Next Cancel

STEP 4. After the Register is successful, press the Next.



Add Channel/Bus

Type Selection
☐ Channel ☐ Bus ☒ Protocol Analyzer

--- BUS V1.00.00 (CN01)

Description

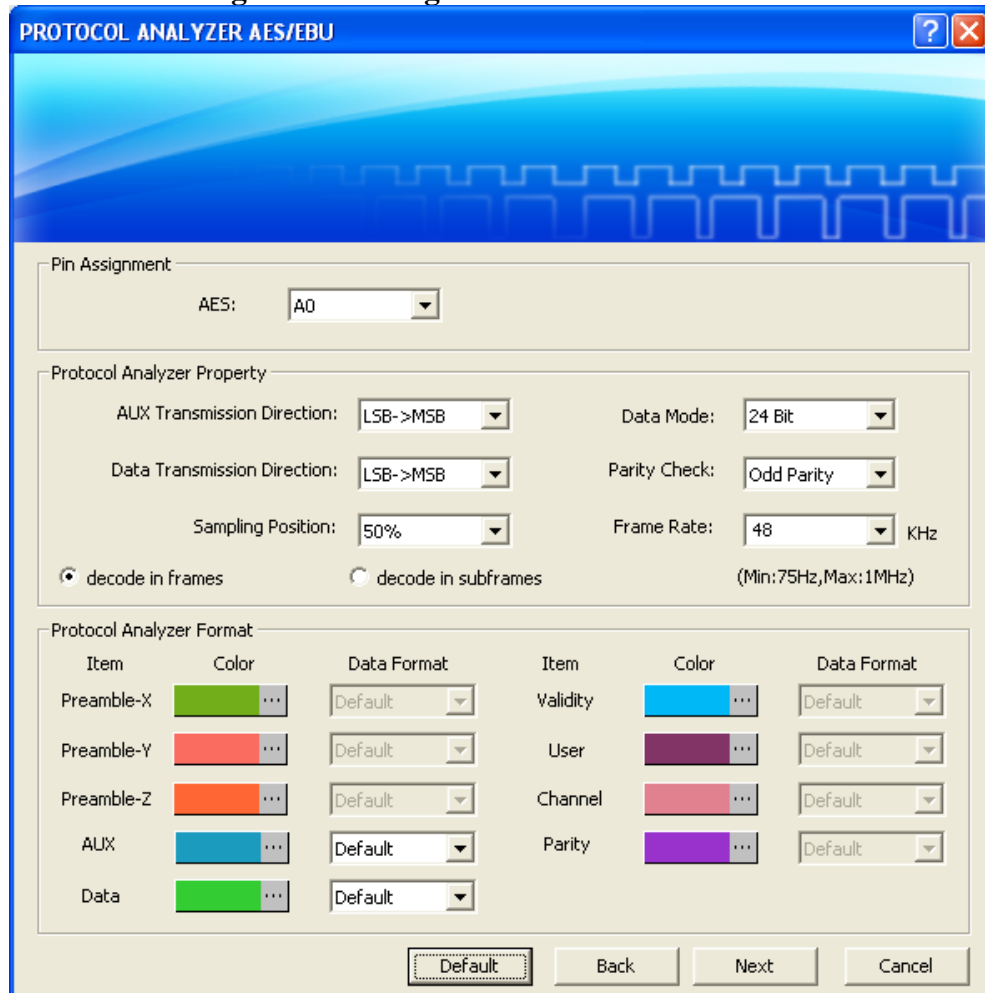
Find: B

Back Next Cancel

2. User Interface

Please refer to the below images to select options of AES/EBU module.

AES/EBU Configuration dialog box



PROTOCOL ANALYZER AES/EBU

Pin Assignment

AES: A0

Protocol Analyzer Property

AUX Transmission Direction: LSB->MSB Data Mode: 24 Bit

Data Transmission Direction: LSB->MSB Parity Check: Odd Parity

Sampling Position: 50% Frame Rate: 48 KHz

☒ decode in frames ☐ decode in subframes (Min:75Hz,Max:1MHz)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X		Default	Validity		Default
Preamble-Y		Default	User		Default
Preamble-Z		Default	Channel		Default
AUX		Default	Parity		Default
Data		Default			

Default Back Next Cancel

Pin Assignment:

AES only needs one channel, it is A0 by default.

AUX Transmission Direction and Data Transmission Direction:

There are only two items: LSB→MSB and MSB→LSB to be selected. It is LSB→MSB by default for both of them. Users cannot input any items but to select from them.

Sampling Position:

20%, 30%, 40%, 50%, 60%, 70% and 80% can be selected, it is 50% by default.

Data Mode:

Only two items (20 Bit and 24 Bit) can be selected, it is 24 Bit by default. Users cannot input any items but to select from them.

Parity Check:

Only two items (Odd Parity and Even Parity) can be selected, it is Odd Parity by default. Users cannot input any items but to select from them.

Frame Rate:

There are 48KHz, 44.1KHz and 32KHz to be selected, it is 48KHz by default. The input range is between 75 Hz and 1MHz.

Decode in frames:

The packet won't be drawn until two leading codes must be decoded in the decoding process. It is activated by default.

Decode in subframes:

Decode no matter what leading code is without considering whether it is in accord with the subframe or not, or draw Unknown packet. It is not activated by default.

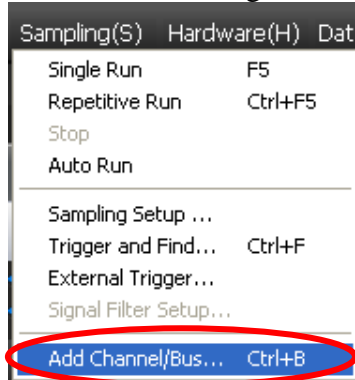
Protocol Analyzer Format:

Users can set the color of the packet as their requirements. The two items (AUX and Data) can be set as Binary, Decimal, Hexadecimal, ASCII or Default. And the data format of these items in the Waveform Display Area and Packet List is controlled by Protocol Analyzer. The default data format is controlled by main program and the data format of these two items is Default.

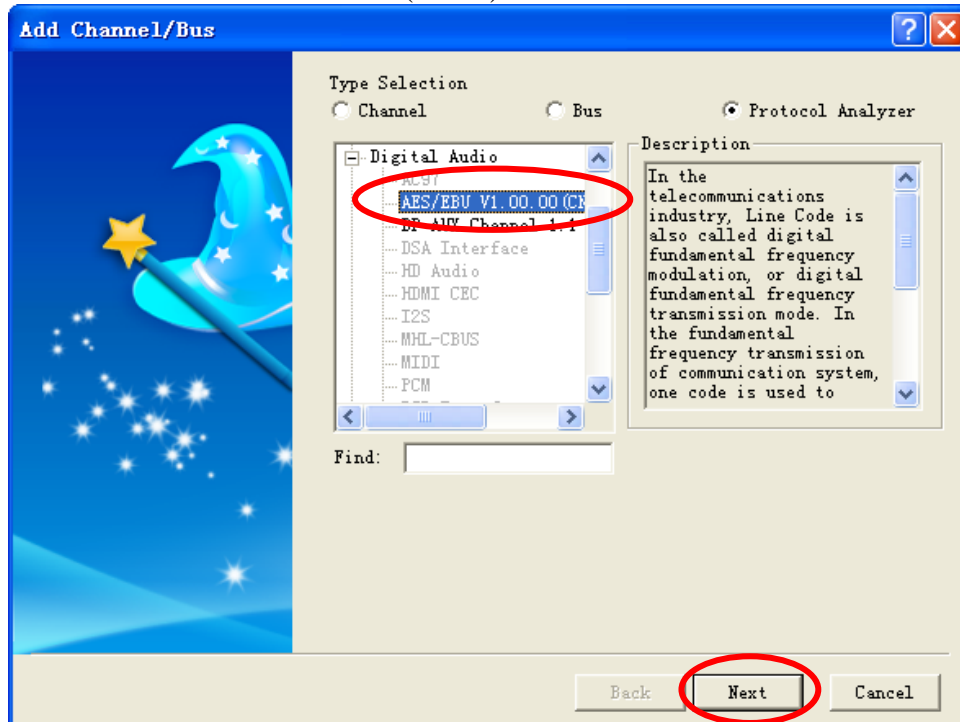


3. Operating Instructions

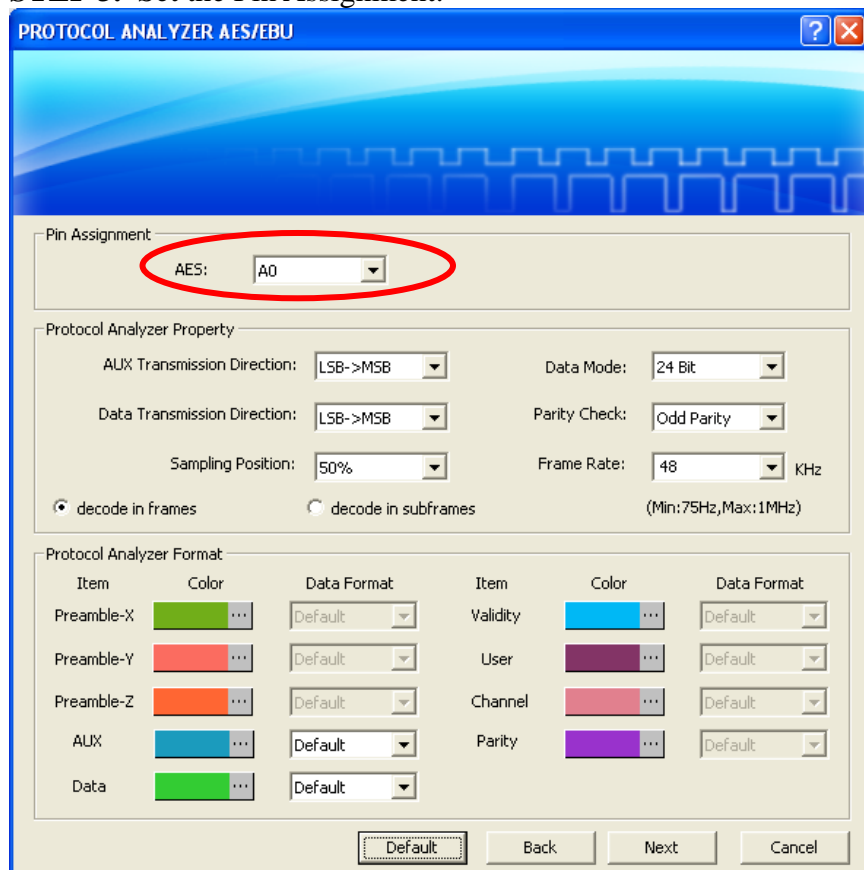
STEP 1. Select the Add Channel/Bus item on the pull-down menu of the Sampling(S) to open the Add Channel/Bus dialog box.



STEP 2. Select the Protocol Analyzer item in the Add Channel/Bus dialog box, expand the Digital Audio, select the AES/EBU V1.00.00 (CN01) and then click the Next.



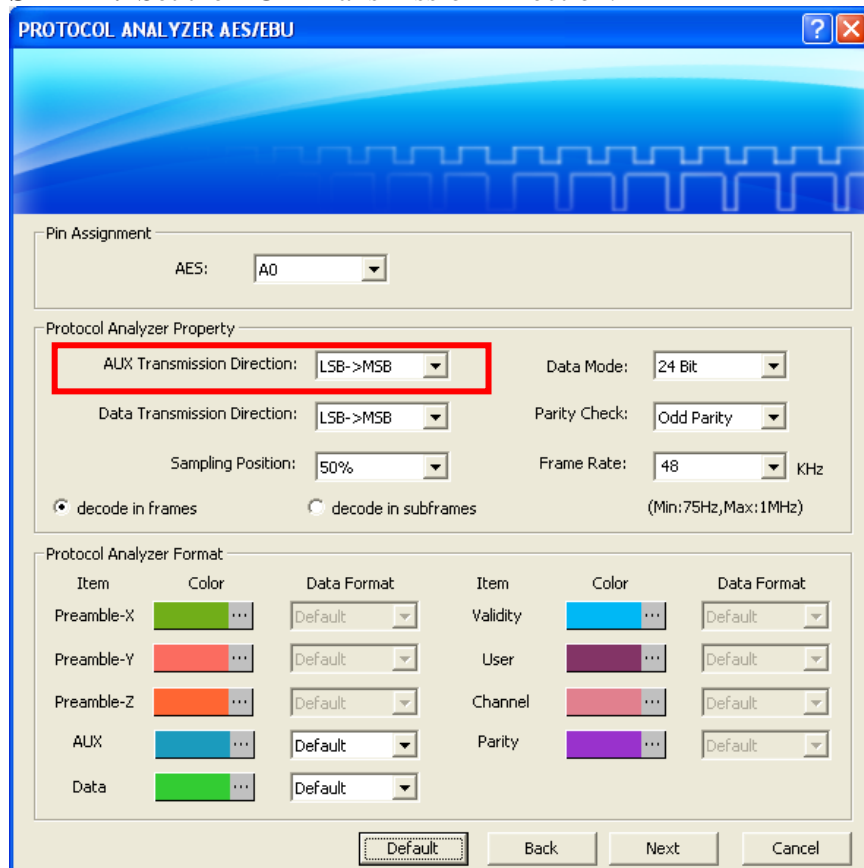
STEP 3. Set the Pin Assignment.



The screenshot shows the 'PROTOCOL ANALYZER AES/EBU' dialog box. The 'Pin Assignment' section has 'AES:' set to 'A0', which is circled in red. The 'Protocol Analyzer Property' section shows 'AUX Transmission Direction' as 'LSB->MSB', 'Data Mode' as '24 Bit', 'Data Transmission Direction' as 'LSB->MSB', 'Parity Check' as 'Odd Parity', 'Sampling Position' as '50%', and 'Frame Rate' as '48 KHz'. The 'Protocol Analyzer Format' section shows a table of items with their colors and data formats.

Item	Color	Data Format
Preamble-X	Green	Default
Preamble-Y	Red	Default
Preamble-Z	Orange	Default
AUX	Blue	Default
Data	Green	Default

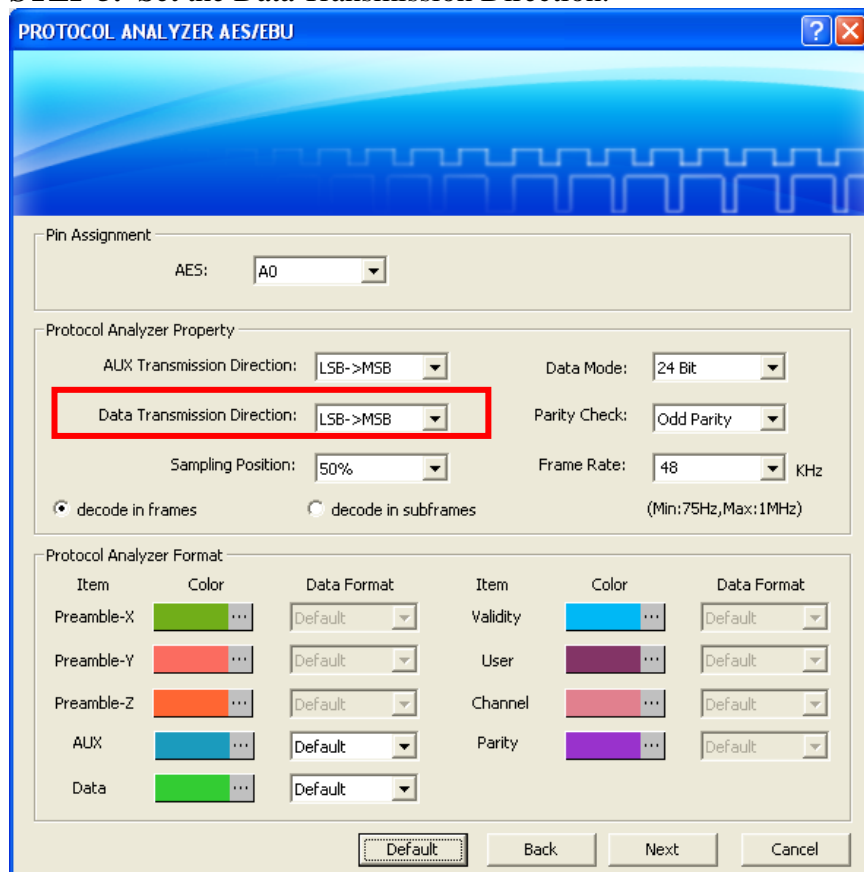
STEP 4. Set the AUX Transmission Direction.



The screenshot shows the 'PROTOCOL ANALYZER AES/EBU' dialog box. The 'Pin Assignment' section has 'AES:' set to 'A0'. The 'Protocol Analyzer Property' section has 'AUX Transmission Direction' set to 'LSB->MSB', which is highlighted with a red box. The 'Data Mode' is '24 Bit', 'Data Transmission Direction' is 'LSB->MSB', 'Parity Check' is 'Odd Parity', 'Sampling Position' is '50%', and 'Frame Rate' is '48 KHz'. The 'Protocol Analyzer Format' section shows a table of items with their colors and data formats.

Item	Color	Data Format
Preamble-X	Green	Default
Preamble-Y	Red	Default
Preamble-Z	Orange	Default
AUX	Blue	Default
Data	Green	Default

STEP 5. Set the Data Transmission Direction.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

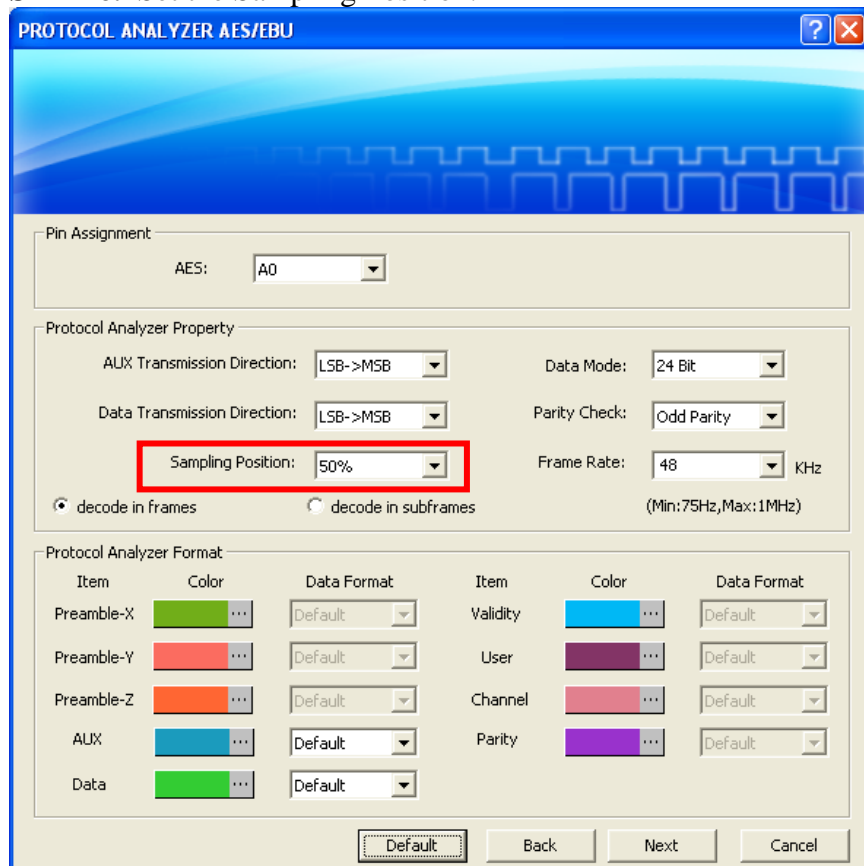
Protocol Analyzer Property
 AUX Transmission Direction: LSB->MSB
Data Transmission Direction: LSB->MSB
 Sampling Position: 50%
 Data Mode: 24 Bit
 Parity Check: Odd Parity
 Frame Rate: 48 KHz
☒ decode in frames ☐ decode in subframes (Min:75Hz,Max:1MHz)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	Green	Default	Validity	Blue	Default
Preamble-Y	Red	Default	User	Purple	Default
Preamble-Z	Orange	Default	Channel	Pink	Default
AUX	Light Blue	Default	Parity	Purple	Default
Data	Green	Default			

Default Back Next Cancel

STEP 6. Set the Sampling Position.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

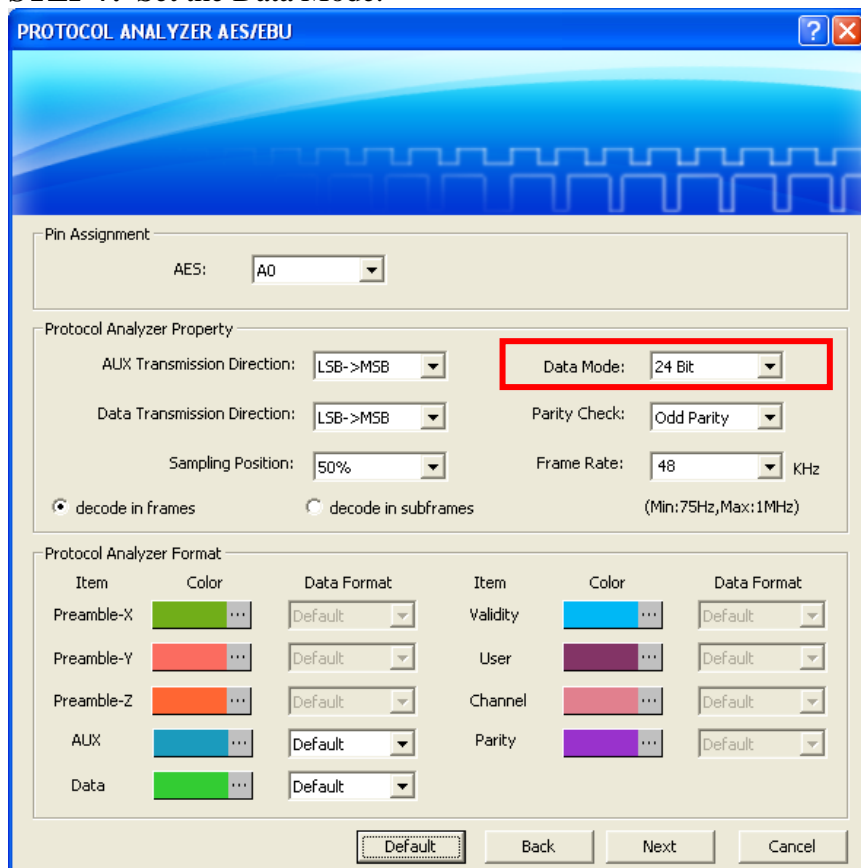
Protocol Analyzer Property
 AUX Transmission Direction: LSB->MSB
 Data Transmission Direction: LSB->MSB
Sampling Position: 50%
 Data Mode: 24 Bit
 Parity Check: Odd Parity
 Frame Rate: 48 KHz
☒ decode in frames ☐ decode in subframes (Min:75Hz,Max:1MHz)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	Green	Default	Validity	Blue	Default
Preamble-Y	Red	Default	User	Purple	Default
Preamble-Z	Orange	Default	Channel	Pink	Default
AUX	Light Blue	Default	Parity	Purple	Default
Data	Green	Default			

Default Back Next Cancel

STEP 7. Set the Data Mode.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

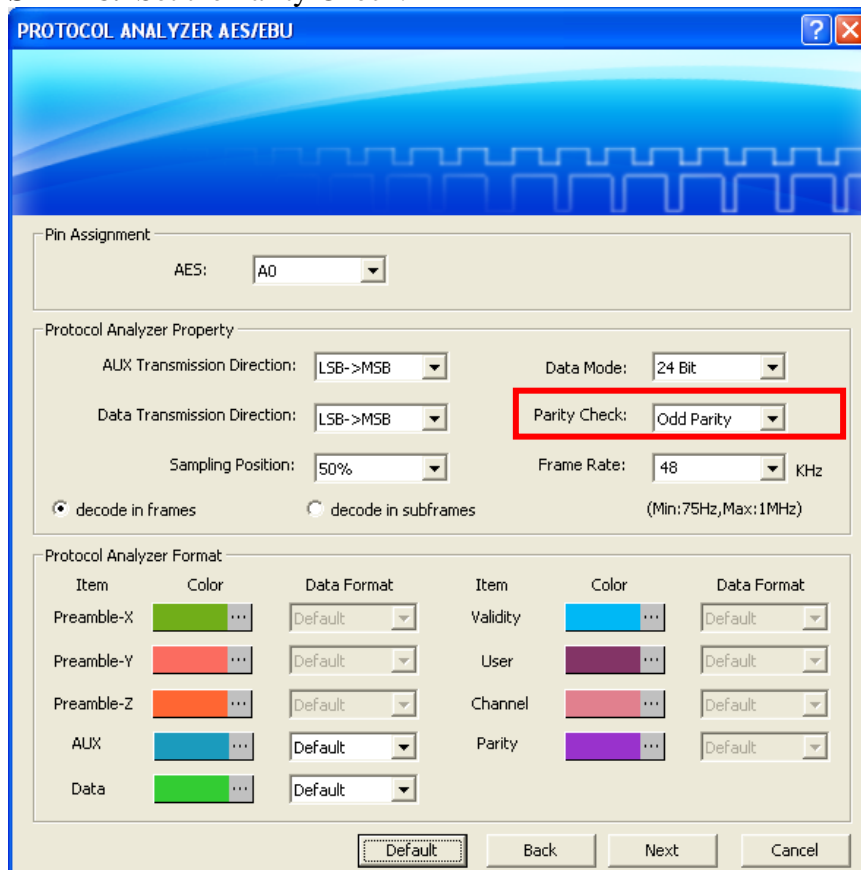
Protocol Analyzer Property
AUX Transmission Direction: LSB->MSB
Data Transmission Direction: LSB->MSB
Sampling Position: 50%
Parity Check: Odd Parity
Frame Rate: 48 KHz
☒ decode in frames ☐ decode in subframes (Min:75Hz,Max:1MHz)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	Green	Default	Validity	Blue	Default
Preamble-Y	Red	Default	User	Purple	Default
Preamble-Z	Orange	Default	Channel	Pink	Default
AUX	Teal	Default	Parity	Purple	Default
Data	Green	Default			

Default Back Next Cancel

STEP 8. Set the Parity Check.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

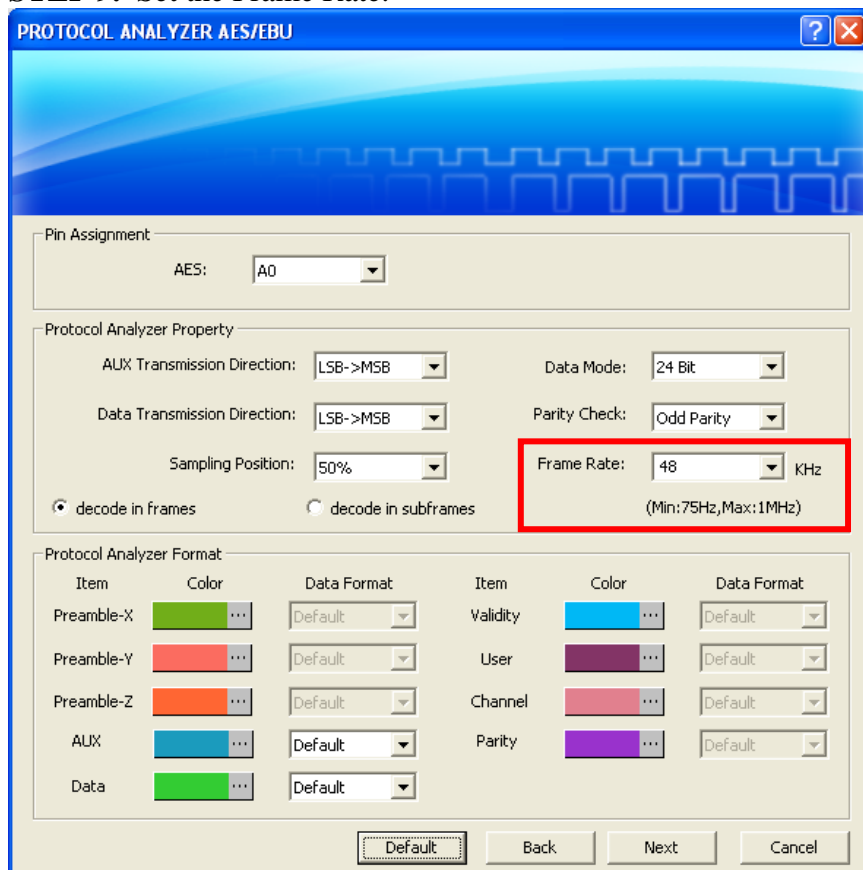
Protocol Analyzer Property
AUX Transmission Direction: LSB->MSB
Data Transmission Direction: LSB->MSB
Sampling Position: 50%
Parity Check: Odd Parity
Frame Rate: 48 KHz
☒ decode in frames ☐ decode in subframes (Min:75Hz,Max:1MHz)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	Green	Default	Validity	Blue	Default
Preamble-Y	Red	Default	User	Purple	Default
Preamble-Z	Orange	Default	Channel	Pink	Default
AUX	Teal	Default	Parity	Purple	Default
Data	Green	Default			

Default Back Next Cancel

STEP 9. Set the Frame Rate.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

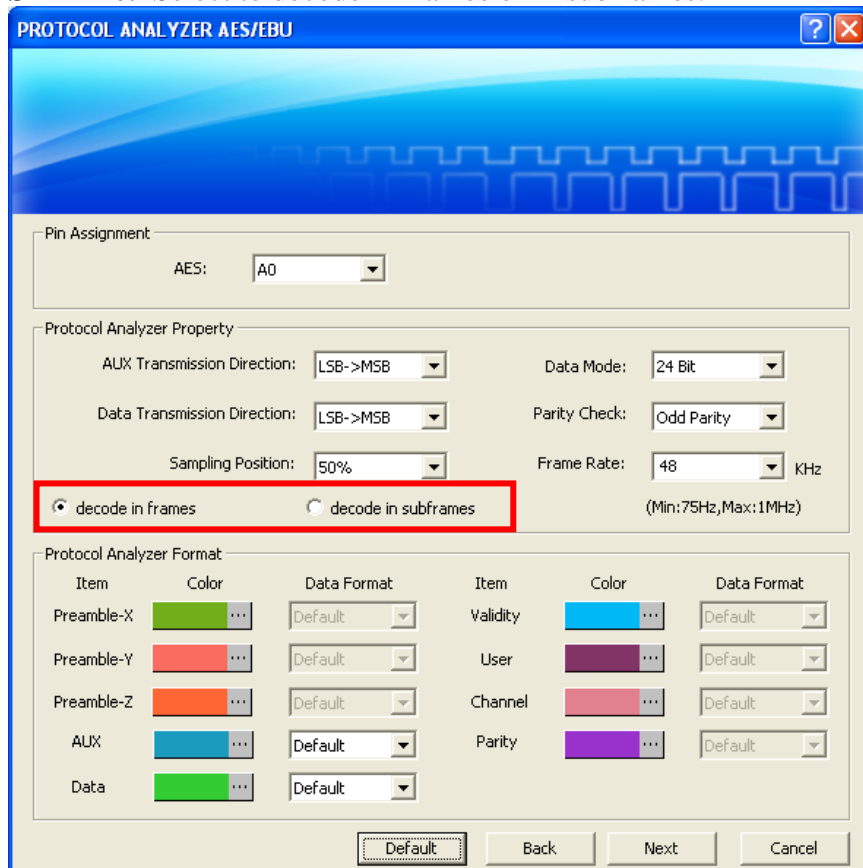
Protocol Analyzer Property
AUX Transmission Direction: LSB->MSB Data Mode: 24 Bit
Data Transmission Direction: LSB->MSB Parity Check: Odd Parity
Sampling Position: 50% **Frame Rate: 48 KHz** (Min:75Hz,Max:1MHz)
☒ decode in frames ☐ decode in subframes

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	Green	Default	Validity	Blue	Default
Preamble-Y	Red	Default	User	Purple	Default
Preamble-Z	Orange	Default	Channel	Pink	Default
AUX	Light Blue	Default	Parity	Purple	Default
Data	Green	Default			

Default Back Next Cancel

STEP 10. Select to decode in frames or in subframes.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

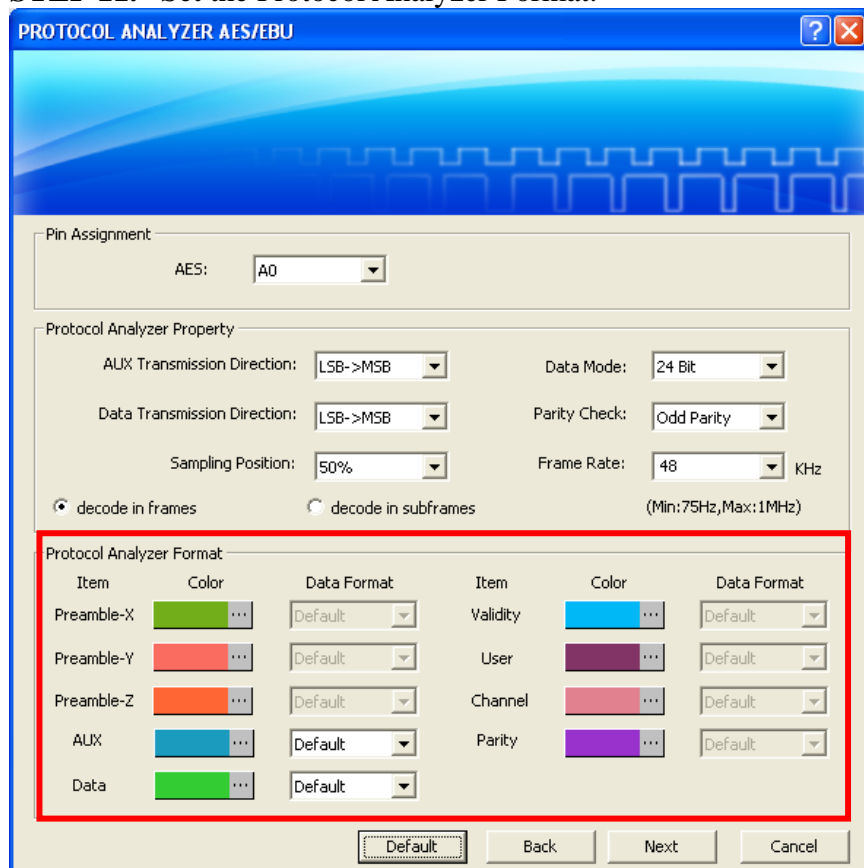
Protocol Analyzer Property
AUX Transmission Direction: LSB->MSB Data Mode: 24 Bit
Data Transmission Direction: LSB->MSB Parity Check: Odd Parity
Sampling Position: 50% Frame Rate: 48 KHz (Min:75Hz,Max:1MHz)
☒ decode in frames ☐ decode in subframes

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	Green	Default	Validity	Blue	Default
Preamble-Y	Red	Default	User	Purple	Default
Preamble-Z	Orange	Default	Channel	Pink	Default
AUX	Light Blue	Default	Parity	Purple	Default
Data	Green	Default			

Default Back Next Cancel

STEP 11. Set the Protocol Analyzer Format.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

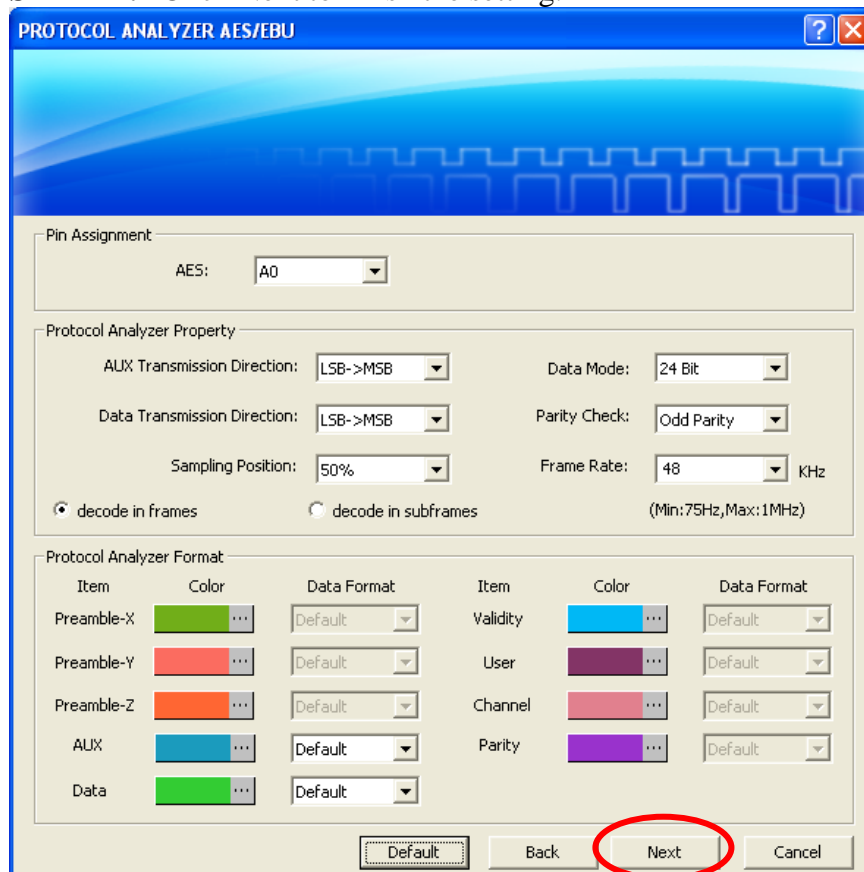
Protocol Analyzer Property
AUX Transmission Direction: LSB->MSB Data Mode: 24 Bit
Data Transmission Direction: LSB->MSB Parity Check: Odd Parity
Sampling Position: 50% Frame Rate: 48 KHz
☒ decode in frames ☐ decode in subframes (Min:75Hz,Max:1MHz)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	[Green]	Default	Validity	[Blue]	Default
Preamble-Y	[Red]	Default	User	[Purple]	Default
Preamble-Z	[Orange]	Default	Channel	[Pink]	Default
AUX	[Teal]	Default	Parity	[Violet]	Default
Data	[Light Green]	Default			

Default Back Next Cancel

STEP 12. Click Next to finish the setting.



PROTOCOL ANALYZER AES/EBU

Pin Assignment
AES: A0

Protocol Analyzer Property
AUX Transmission Direction: LSB->MSB Data Mode: 24 Bit
Data Transmission Direction: LSB->MSB Parity Check: Odd Parity
Sampling Position: 50% Frame Rate: 48 KHz
☒ decode in frames ☐ decode in subframes (Min:75Hz,Max:1MHz)

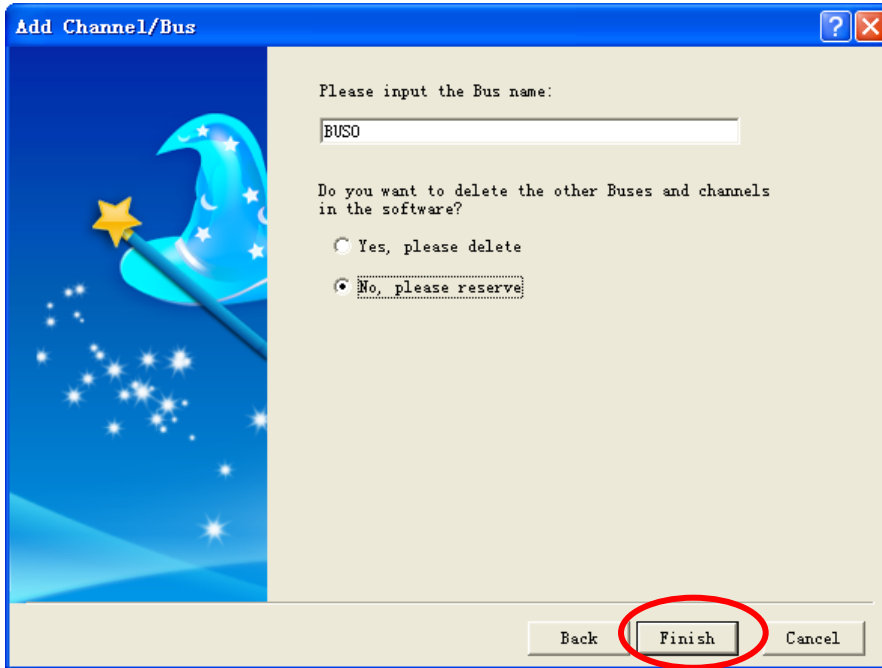
Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Preamble-X	[Green]	Default	Validity	[Blue]	Default
Preamble-Y	[Red]	Default	User	[Purple]	Default
Preamble-Z	[Orange]	Default	Channel	[Pink]	Default
AUX	[Teal]	Default	Parity	[Violet]	Default
Data	[Light Green]	Default			

Default Back **Next** Cancel

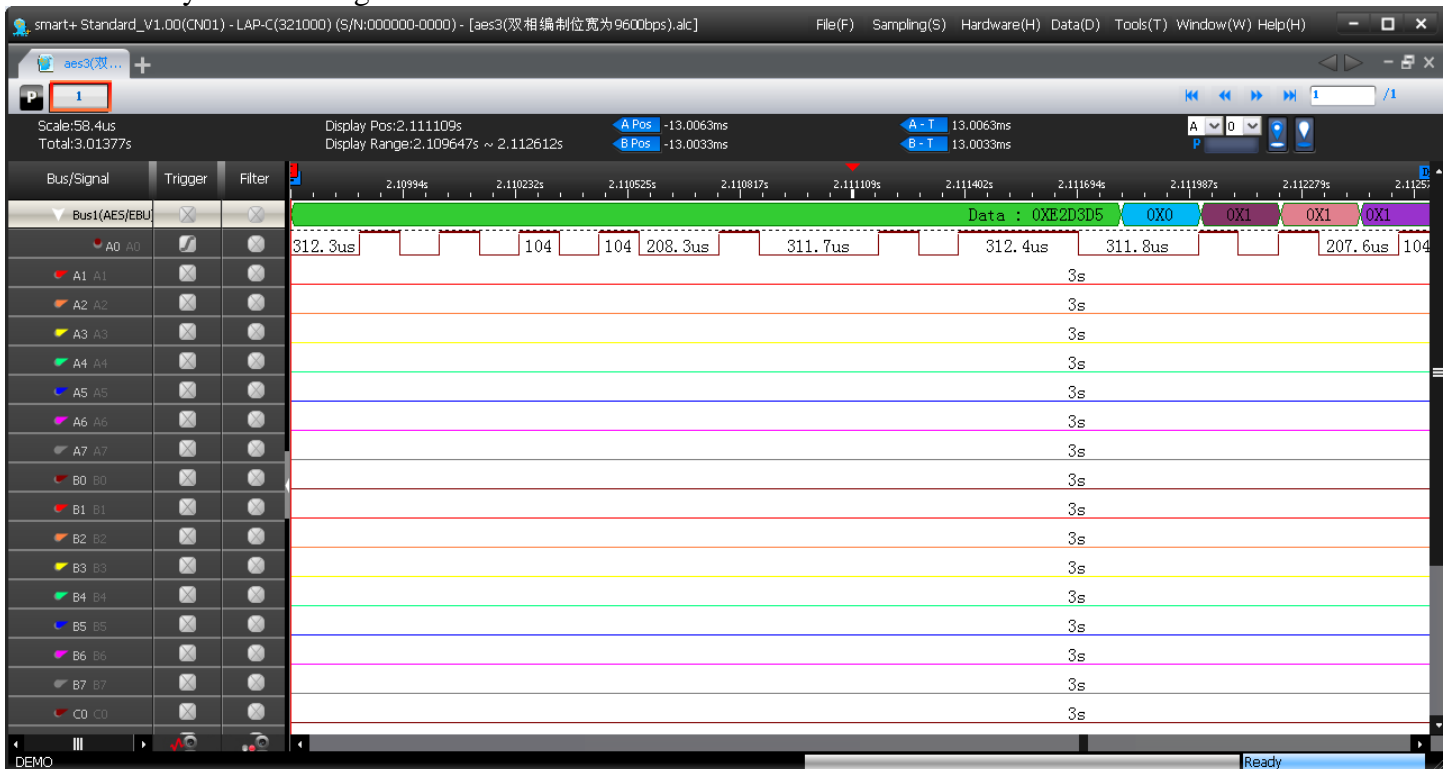


STEP 13. Please enter the Bus Name, select “Yes, please delete” or “No, please reserve” and then click Finish.



STEP 14. Following pictures show the completion of the protocol analyzer decoding and packet list. The trigger condition is set as Rising Edge, the memory depth is 256K and the sampling frequency is 10MHz (the sampling frequency should be more than four times higher than the signal to be tested).

Protocol Analyzer Decoding





Packet List

