

Instrument Business Department

MANCHESTER Specification

Version : V1.01



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1 Software Installation

Please install software by the following steps.

Remark: Because all bus installation programs are the same, you can install according to the program, take SSI bus installation for example, and other bus can refer to the following installation.
 STEP 1. Install SSI Bus Module



STEP 2. Click "Install"





STEP 3. Click "Next"



STEP 4. Select **"I accept the terms in the license agreement"** and then click **"Next".**

🙀 Special Bus SSI Module - InstallShield Wizard	
License Agreement Please read the following license agreement carefully.	1
LICENSE AGREEMENT	
IMPORTANT-READ CAREFULLY : This LICENSE AGREEMENT is entered into effect between ZEROPLUS Technology Co., Ltd. (hereinafter "ZEROPLUS") and Customer (Individual or Registered Company). Whereas, ZEROPLUS owns a software product, including computer software as a package product for certain computer products, relevant intermediary, product information, electronic file and internet on-line downloadable software. electronic file and service. known as "ZEROPLUS	×
I accept the terms in the license agreement; Print I do not accept the terms in the license agreement InstallShield InstallShield < Back	



STEP 5. Fill in User Information. Then, click "Next"

ustomer Information Please enter your information.	
User Name:	
user	
Organization:	
ZEROPLUS	
Install this application for:	
Install this application for:	
Install this application for: Anyone who uses this computer (all users) Only for me (TestPC01)	

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

🙀 Special Bus S	SI Module - InstallShield Wizard	×
Setup Type Choose the set	up type that best suits your needs.	
Please select a	setup type.	
⊙ <u>Complete</u>	All program features will be installed. (Requires the most disk space.)	
O Cu <u>s</u> tom	Choose which program features you want installed and where they will be installed. Recommended for advanced users.	
InstallShield	< <u>B</u> ack <u>N</u> ext > Cancel)



STEP 7. Click "**Install**" to start installing.





2 User Interface

In the configuration, please refer to below image for option selections of setting Manchester.

Manchester Configuration Dialog Box

SPECIAL BUS MANCHESTER SETUP:Busi				
Configuration Package Re	gister			
– Manchester code mode sele	ct			- I
 Raising with 0, Fallin 	g with 1	C Raising with 1, 1	Falling with 0	
Data channel enactment —				
Manchester channel:	A0 💌	Bit clock:	1 us	
Data bitcount:	16	Min : 10ns	Max : 655.35us	
Decoding at the edge:	0Bit 💌	Parity check:	The best value is 💌	
		Inaccuracy Rate:	20%	
🔲 Ignored the postpond t	ime,starting analyzing	ţ		
		– Bus color –		
idle Data Parity				
Obit			•	
	OK	Cancel	Default Help	

MANCHESTER Code Mode Selection: There are two modes as dialogue displayed, the default mode is Raising with 0, Falling with 1.

MANCHESTER Channel: Its default is A0.

Bit Clock: It is a time period of Bit on data (It doesn' t include the time period on the beginning bit). Bit Clock is used to ensure the starting bit, and the **postponed** time must be longer than two Bit clock (This option is available when the postponed is ignored). It is unnecessary to proceed on Parity Check, because the time period of the start bit is variable.

Data Length: The data length can be set by user, the default is 16BIT.

Decoding at the edge: It can be set as start bit and non_start bit, but the default is 0. Non_start bit is related to the final result as the image at the left below of the configuration dialog box.

Parity Check: It can be set as Odd Parity or Ever Parity. When the Parity Check is error, ERROR is displayed. Parity Check is correct, PARITY is displayed.

Ignored the postponed time, starting analyzing: When it is selected, the start bit will come after the end bit

Inaccuracy Rate: The time of starting bit may be different from the requirement of



data bit, so the Inaccuracy Rate does not include the calculation of starting bit time.

Bus Color Setup: The data bit default is in Green.

The Parity Check default is in orange.

Manchester Package Dialog Box

SPECIAL BUS MANCHESTER SETUP:Bus1	×
Configuration Package Register	
Item Color	
✓ Data bit	
Parity	
🔽 Dexribe 📉	
OK Cancel Default	Help

Package color can be varied by user.



Manchester Register Dialog Box

SPECIAL BUS MANCHESTER SETUP:Busi			
Configuration Package Register			
Use Manchester for free!			
If you have questions about operating technical support team will be happy	g software please follow the appropriate instructions below.Our to answer any questions you have.		
>> By phone	Tel:886-2-66202225		
>> Applications through EMail	service_2@zeroplus.com.tw		
>> Website:	http://www.zeroplus.com.tw		
Copyright(C) 1997-2007 ZEROPLU	S TECHNOLOGY COLTD		
	OK Cancel Default Help		



3 Operating Instructions

```
STEP 1. At First, group the unanalyzed channels into bus1.
```



STEP 2. Selected Bus 1, then press **Right Key** on mouse to list menu. Next, click **Bus Property** to open Bus Property Dialog Box





STEP 3. Select **Special Bus**. Then , choose **ZERPLUS LA Manchester MODULE V1.00(Internal V0.1)**,and next Click the "**Parameter Configuration**"

GENERAL BUS Color: Config ipecial Bus Setting Parameters Config SPECIAL BUS Parameters Config CZEROPLUS LA IIC MODULE V1.03 Parameters Config ZEROPLUS LA IIC MODULE V1.03 Parameters Config ZEROPLUS LA IIC MODULE V1.03 Parameters Config ZEROPLUS LA IIC MODULE V1.00 Parameters Config ZEROPLUS LA LIN MODULE V1.00 Parameters Config ZEROPLUS LA LIN MODULE V1.00 Parameters Config ZEROPLUS LA MICRO-WIRE MODULE V1.00 Parameters V0.1) ZEROPLUS LA MICRO-WIRE MODULE V1.00 Parameters V0.1) ZEROPLUS LA MICRO-WIRE MODULE V1.00 Parameters V0.1) ZEROPLUS LA MILER MODULE V1.00 Parameters V0.1) ZEROPLUS LA S/PDIF MODULE V1.00 Parameters V1.00 ZEROPLUS LA S/PDIF MODULE V1.00 Parameters V1.01 ZEROPLUS LA S/PDIF MODULE V1.00 Parameters V1.01 ZEROPLUS LA S/PDIF MODULE V1.00 Parameters V1.01 ZEROPLUS LA SPARAMENTA MODULE V1.00 Parameters V1.01 ZEROPLUS LA SPARAMENTA MODULE V1.00 Parameters V1.01 ZEROPLUS LA SPARAMENTA MODULE V1.01 Parameters V1.02 Vuse the DSDP Parameters V1.02 <th>ieneral Bus Setting</th> <th></th> <th></th>	ieneral Bus Setting		
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ZEROPLUS LA Manchester MODULE V1.00(Inernal V0.1) ZEROPLUS LA MICRO-WIRE MODULE V1.01 ZEROPLUS LA Miller MODULE V1.00(Inernal V1.0) ZEROPLUS LA PS2 MODULE V1.01 ZEROPLUS LA S/PDIF MODULE V1.00(Internal V3.4) ZEROPLUS LA S/PDIF MODULE V1.00(Internal V3.4) Use the DsDp her More Module: http://www.zeroplus.com.tw	C ZEROPLUS LA LPC MODU	LE V1.00(Inernal 0.1)	
C ZEROPLUS LA MICRO-WIRE MODULE V1.01 C ZEROPLUS LA Miller MODULE V1.00(Inernal V1.0) C ZEROPLUS LA PS2 MODULE V1.01 C ZEROPLUS LA S/PDIF MODULE V1.00(Internal V3.4) C ZEROPLUS LA S/P	ZEROPLUS LA Mancheste	r MODULE V1.00(Inernal V0.	1)
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✓ Use the DsDp her More Module: http://www.zeroplus.com.tw	C ZEROPLUS LA S/PDIF MO	DULE V1.00(Internal V3.4)	5
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	ber More Module: http://ww	www.zeroplus.com.tw	
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		1	

STEP 4. After Special Bus setting is completed, it turns configuration dialog box setup.

SPECIAL BUS MANCHESTER SETUP:Busi	×
Configuration Package Register	
Manchester code mode select	
Raising with 0, Falling with 1 Raising with 1, Falling with	.0
Data channel enactment	
Manchester channel: A0 Bit clock: 1	us
Data bitcount: 16 Min : 10ns M	ax : 655.35us
Decoding at the edge: OBit Parity check: The best	value iz 💌
Inaccuracy Rate: 20%	•
☐ Ignored the postpond time,starting analyzing	
- Bus color	
idle manchester Data F	Parity
Obt	
OK Cancel Default	Help



STEP 5. At first, select **Manchester Code Mode Select** to ensure the Code Mode, there are two modes as the images below; the default mode is **Raising with0, Falling with1.**

SPECIAL BUS MANCHESTER SETUP:Busi	
Configuration Package Register	
_ Manchester code mode select	
Raising with 0, Falling with 1 C Raising with 1, Falling with 1	alling with 0
Data channel enactment	
Manchester channel: A0 Bit clock:	l us
Data bitcount: 16 Min : 10ns	Max : 655.35us
Decoding at the edge: OBit Parity check:	The best value is 💌
Inaccuracy Rate:	20%
Ignored the postpond time,starting analyzing	
_Bus color	
idle manchester Data	Parity
Obit	
OK Cancel	Default Help



STEP 6. On the **Data Channel Enactment**, choose Manchester channel from the channel list, the default is A0, and then enter a value on the Data Bit count to ensure the Bit Count, next select the decoding at the edge on the bit list, the default decoding at the edge is 0Bit.

SPI	SPECIAL BUS MANCHESTER SETUP:Busi			
ſC	onfiguration Package Register			
	Manchester code mode select			
	Raising with 0, Falling with 1	C Raising with 1, Falling with 0		
	Data channel enactment			
1	Manchester channel: A0	Bit clock: 1 us		
	Data bitcount: 16	Min : 10ns Max : 655.35us		
	Decoding at the edge: OBit	Parity check: The best value is		
		Inaccuracy Rate: 20%		
	Ignored the postpond time,starting and	alyzing		
	1	-Bus color		
	idle imanchester	Data. Parity		
	Obit			
_		OK Cancel Default Help		



STEP 7. After setting Data channel enactment, , enter a value on the bit clock , the range is 5ns~327.675us, and the default is 2.

SPECI	SPECIAL BUS MANCHESTER SETUP:Busi				
Confi	iguration Package Re.	gister			
_M	anchester code mode sele	ct			- I
(Raising with 0, Fallin; 	g with 1	C Raising with 1, 2	Falling with 0	
-Da	ata channel enactment				
Ma	anchester channel:	A0 🔹	Bit clock:	1 us	
Da	ta bitcount:	16	Mm : 10ns	Max . 655.35us	
De	ecoding at the edge:	0Bit 💌	Parity check:	The best value is 💌	
			Inaccuracy Rate:	20%	
	Ignored the postpond ti	me,starting analyzing			
			– Bus color –		
1.1	Data Parity				
•	Obit			•	
		OK	Cancel	Default Help	



STEP 8. Next, set **Parity check** and **Inaccuracy Rate**, select values on the list of Parity check and **Inaccuracy Rate**, Parity Check default is Even parity. **Inaccuracy Rate** default is 20%.

PECIAL BUS MANCHESTER SETUP:Busi								
Configuration Package Register								
Manchester code mode select								
Raising with 0, Falling with 1 C Raising with 1, Falling with 0								
Data channel enactment								
Manchester channel: A0 Bit clock: 1 us								
Data bitcount: 16 Min : 10ns Max : 655.35us								
Decoding at the edge: OBit Parity check: The best value is								
Inaccuracy Rate: 20%								
☐ Ignored the postpond time, starting analyzing								
-Bus color								
Idle manchester Data Parity								
Obit ····								
OK Cancel Default Help								



STEP 9. The bus data analysis determines if it is necessary to select "Ignored the postponed time, starting analyzing".

SPECIAL BUS MANCHESTER SETUP:Busi	×							
Configuration Package Register								
Manchester code mode select								
Raising with 0, Falling with 1 C Raising with 1, Falling with 0								
Data channel enactment	1							
Manchester channel: A0 Bit clock: 1 us								
Data bitcount: 16 Min : 10ns Max : 655.35us								
Decoding at the edge: OBit Parity check: The best value is								
Inaccuracy Rate: 20%								
Ignored the postpond time, starting analyzing								
-Bus color								
Data Parity								
Obit								
OK Cancel Default Help								

STEP 10. Following picture shows that the completion of bus decoding. The conditions are set as that Memory depth is 16K and Sampling Frequency is 200MHz.

😂 ZEROPLUS LAP-	-321000 0 -	- A (S/N: 000000-0	1000) - [MANC	HESTER-2US-3	21000 0. als]			
💭 File Bus/Signal	T <u>r</u> igger	Run/Stop Data To	ols <u>W</u> indow <u>H</u> elr					- 8
🗋 😂 🖪 🎒	ų 🔍 鞭	🖗 🕂 📲 🔟	> >> =	16K ▼ 🐝 🗖	200MHz	n 👫 50%	▼ 🛶 Page 🛛	•
1		🔌 🕅 🖑 🛍 🛛	🕷 🛛 📠 ち 500 ns		Bar Bar Bar Bar	! 👪 le 🌖 😿	💾 🏘 Height	28
Trigger Delay	5ns							
Scale:2MHz	I	Display Pos:9.696us	A Post-	035.915us 💌	A - T = 27	. 844KHz 🔻	A = B = 6.667MHz	•
Total:81.92us	I	frigger Pos:Ons	B Pos:-	035.765us 👻	B - T = 27	. 96KHz 🔫	Compr=Rate:No	
Bus/Signal	Trigger	Enable -3	1 03.'884ns 2.196us	4.696us 7.19	6us 9.696us	12.196us 14.696us	: 17.196us 19.69	6us 22.3
A1	•							
- Busi (Mancl		UNKNO	W	Dat	a : OXBF		0X1	UNKN
🖌 🔥 A.C	1							
A2 A2								



Following picture shows the package list and waveforms displaying.

🔒 ZEROPLOS LA	P-3210000 - A (S/N-000000	100001) [L aDoc	n –					- 7 ×
🗰 Ele Bustims)	Trigger Hundhog Data	Look Kindov B	alp					- <i>6</i> , ×
	M # # 10 10 10 10		- 16K	· Hi nov 2	00MHz - 447 🚸	50% - + Page	1 • Count 1	-
	🖲 🔟 🐸 🗛 📓 🕅	🛗 📓 - 🎿	387.838ns	* "R = 8	R I I I M 14	ा 🛐 🛗 🔶 Hei	ght 40 💌 Trigger	Delay 5mg
Zcala 397 839ns Iotal 20 953ms	Display Irigger	Pos:12.078m Pos:0m	A B	Pos:-010.479me Pos:-010.479me	• A·T • B·1	= 10.479ms =	A - B = 150ms + Compr-Rate:255.77	15
-	I mar I mar							No.
Bustiagnal	Ingger Energy	43210	6.261ns	. 8.3m	10.139 12.078 e	, 14.017e , 15.9	56us 17896us 19.8	8545 21.77
😑 👝 Eval (Mar	az) • 🖾 •		Data : 0	XAA		Data : 0XA/	A (UNKNO
A0								
								-
j 🥖 🖌 🕹 🕹								~
<	<u>s cu s cu s</u>	0			ų.			1
* Setting Fk	ash Export	unan at		a maria				
Packet #	Name	TimeStamp	Data Data	Parity				-
1	Bus1 (Manchester)	2.99us	0XAA 0XAA	Odd Parity				
Packet #	Name	TimeStamp	Data Data	Parity	Describe			
2	Bus1[Manchester]	27.885us	0X55 0X55	ERROR-1	Parity check error	rl		
- 20-				1. AU		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
								•
Ready							Endi	Normal