# 

# Instrument Business Department

**FLEXRAY2.1A** Specification

Version: V1.0



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#### **1** Software Installation

Please follow below steps to install the software:

※ Remarks: The installation steps for all buses are the same; you can complete installation as following procedures. The below is an example to install SSI bus

#### STEP1. Install Bus Module .



#### STEP 2. Click Install.







## STEP 4. Select I accept the terms in the license agreement option, and then press Next.

🔂 Special Bus SSI Nodule - InstallShield Nizard	×
License Agreement Please read the following license agreement carefully.	44
LICENSE AGREEMENT	<u> </u>
IMPORTANT-READ CAREFULLY : This LICENSE AGREEN entered into effect between ZEROPLUS Technology Co., Ltd. (herein "ZEROPLUS") and Customer (Individual or Registered Company). Whereas, ZEROPLUS owns a software product, including com software as a package product for certain computer products, relevan	MENT is nafter nputer nt
intermediary, product information, electronic file and internet on-line downloadable software. electronic file and service. known as " ZERC	PLUS
O I do not accept the terms in the license agreement	<u> </u>
InstallShield	Cancel



#### STEP 5. Fill in user information in the below dialog box and click Next.

🚰 Special Bus SSI 🛛 odule - InstallShield ¥izard	×
Customer Information	
Please enter your information.	a second
User Name:	
Maikle	
Organization:	
logic	
Install this application for:	
O Only for me (Maikle)	
InstallShield	
< <u>B</u> ack <u>N</u> e	ext > Cancel

#### STEP 6. At first, select Complete option and then click Next.

🛃 Special Bus	SSI ∎odule - InstallShield Wizard 🛛 🔀
Setup Type Choose the set	up type that best suits your needs.
Please select a	setup type.
• Complete	All program features will be installed. (Requires the most disk space.)
C 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 begin the installation.

🔂 Special Bus SSI Nodule - InstallShield Nizard	×
Ready to Install the Program The wizard is ready to begin installation.	
Click Install to begin the installation.	
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.	
InstallShield	_
< <u>Back</u> Install Cancel	

#### STEP8 . Click Finish to complete the installation.

🙀 Special Bus SSI Bodule - Ins	stallShield Tizard 🛛 🗙
Insta	IIShield Wizard Completed
The Ins SSI Mo	stallShield Wizard has successfully installed Special Bus dule. Click Finish to exit the wizard.
	< Back Finish Cancel



#### 2. User Interface

Please refer to below images to select options of setting FLEXRAY2.1A MODULE.

#### FLEXRAY2.1A Configuration Dialog Box



#### FLEXRAY2.1A Bus Settings :

TXD is the transmission signal line ,TXEN is the transmission ENABLE line (There is effectiveness on low level ),RXD is the receiving signal line ,RXEN is the receiving ENABLE line .(There is effectiveness on low level ),RXEN line is mostly designed in the interior of the transmission and receiving module ,and it can't transmit any data ,that's to say ,it is unnecessary to consider the RXEN line decoding during decoding process .The channel select is relative to the CRC initialization.

#### Transmission speed :

The baud rate is defaulted 1Mbps, user can select the value from its dropdown menu or enter a value within the range 100KbpsM  $\sim 50Mbps$ , The interzone of software is from100Kbps to 50Mbps, the values for selection is (1000000  $\cdot$  2000000  $\cdot$  4000000  $\cdot$  6000000  $\cdot$  8000000  $\cdot$  10000000) bps.



#### FLEXRAY2.0A Package Dialog Box



In the package dialog, user can vary the color of items.

#### FLEXRAY2.1A Register Dialog Box.

SPECIAL BUS FLEXRAT 2.1A SETUP:Bu	s1	×					
Configuration Package Register The FLEXRAY 2.1A bus decoding function is optional purchased item.Welcome to purchase its serial key to activate this function for your necessary. Enter serial key:							
If you ordered software or have qu please follow the appropriate inst respond to your enquiry as soon as	estions about ordering software ructions below.Our sales team will possible.						
>> By phone:	Tel:886-2-66202225						
>> Applications through EMail:	service_20zeroplus.com.tw						
>> Website:	http://www.zeroplus.com.tw						
Copyright(C) 1997-2008 ZEROPLUS TE	CHNOLOGY CO:LTD						
	Register Cancel Default Help						

There is Zeroplus company information. If you have any questions about software Operations, you can contact Zeroplus by Telephone or Email.





#### **3 Operating Instructions**

STEP 1.	At first,	group the	unanalyzed	channels	into bus	l by	pressing	the	Right Key
on mouse.				_					



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





STEP 3. For Special Bus FLEXRAY2.1A Parameter Configuration, select Special Bus, and then choose **ZEROPLUS LA FLEXRAY2.1A MODULE V1.00**. Next click **Parameters Configuration** to open **Parameters Configuration** dialog box.

Bus Property X
General Bus Setting
Color Config
Special Bus Setting
SPECIAL BUS     Parameters Config
C ZEROPLUS LA 1-WIRE MODULE V1.04
C ZEROPLUS LA 7-SEGMENT LED MODULE V1.01
C ZEROPLUS LA CCIR656 MODULE V1.00(Internal V0.0)
C ZEROPLUS LA LIN2.1 MODULE V2.00
C ZEROPLUS LA DMX512 MODULE V1.00(Internal V0.4)
ZEROPLUS LA FLEXRAY 2.1A MODULE V1.00
O ZEROPLOS LA CAN 2.00 MODULE V1.05
C ZEROPLUS LA JTAG 2.0 MODULE V1.00(Internal V0.1)
C ZEROPLUS LA ST7669 MODULE V1.00
✓ Use the DsDp
Other More Module: http://www.zeroplus.com.tw
OK Cancel Help

STEP 4. Press Register tab to type the serial key number of logic analyzer. Then, press **Register.** 

SPECIAL BUS FLEXBAY 2.1A SETUP:Bu	s1	×					
Configuration Package Register							
The FLEXRAY 2.1A bus decoding funct; item. Welcome to purchase its serial your necessary. Enter serial key: If you ordered software or have qu please follow the appropriate inst respond to your enguiry as soon as	ion is optional purchased key to activate this function for estions about ordering software ructions below.Our sales team will norsible						
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	Tel:886-2-66202225						
>> Applications through EMail: service_2@zeroplus.com.tw							
>> Website:	http://www.zeroplus.com.tw						
Copyright (C) 1997-2008 ZEROPLUS TE	CHNOLOGY CO;LTD						
	Register Cancel Default Helj	2					



STEP 5. After completing **Register**, come back to the **Bus property** dialog box, then click the **parameters configuration** to start the Special Bus FLEXRAY2.1 setup.

Bus Property 🔀						
General Bus Setting						
Color Config						
Special Bus Setting						
SPECIAL BUS     Parameters Config						
<ul> <li>ZEROPLUS LA 1-WIRE MODULE V1.04</li> <li>ZEROPLUS LA 7-SEGMENT LED MODULE V1.01</li> <li>ZEROPLUS LA CCIR656 MODULE V1.00(Internal V0.0)</li> <li>ZEROPLUS LA LIN2.1 MODULE V1.00(Internal V0.4)</li> <li>ZEROPLUS LA DMXE12 MODULE V1.00(Internal V0.4)</li> <li>ZEROPLUS LA FLEXRAY 2.1A MODULE V1.00</li> <li>ZEROPLUS LA ATAG 2.0 MODULE V1.00(Internal V0.1)</li> <li>ZEROPLUS LA ST7669 MODULE V1.00</li> </ul>						
☑ Use the DsDp						
Other More Module: http://www.zeroplus.com.tw						
OK Cancel Help						

STEP 6. FLEXRAY2.1A Bus setting, select the decoding transmission and receiving signal line , you can choose whether to activate RXEN or not

SPECIAL BUS FLEXRAY 2.1A SETUP:Bus1	×
Configuration Package Register	
Bus Setting	
Decoding transmission signal	
TXEN: A1 🔽 Activate RXEN A1	
Transmissin speed Baud rate: 1000000 V bps (Min:100Kbps,Max;50Mbps;User can vary the baud	
rate and setup the value as your requirements.)	
TSS_FSS BSS RESERVED PPI	
NFI SFI SUFI FRAME_ID	
LENGTH CRC/NCRC CYCLE DATA	
FES DTS CAS_MTS WUS	
OK Cancel Default Help	



#### STEP 7. There are CHANNEL A and CHANNEL B for channel selection .

SPECIAL BUS FLEXRAY 2.1A SETUP:Bus	L		×			
Configuration Package Register						
Bus Setting		⊢ Channel selec				
Decoding transmission signal	C Decoding receiving signal	·				
TXD: A0	RXD: A0	CHANNEL A				
TXEN: A1	Activate RXEN A1					
Transmissin speed	L have defined on the second	FOMLES I LESS STATEMENT				
Baud rate: 1000000	rate and setup the	oumpps;user can vary the value as your requiremerits.)	baud			
Bus Color						
TSS_FSS BSS	RESERVED	PPI				
NFI SFI	SUFI	··· FRAME_ID				
LENGTH CRC/NCRC	" CYCLE	··· DATA				
FES DTS	··· CAS_MTS	wus				
OK Cancel Default Help						

STEP 8. Transmission speed setting , the Minimum Baud rate is 100Kbps, the Maximum Baud rate is 50Mbps.

SPECIAL BUS FL	EXRAY 2.1A SETUP:Bus1			×		
Configuration	Package Register					
Bus Setting	ding transmission signal	C Decoding receiving sig	- Channel s	select		
TXD:	A0 • F	RXD: A0	CHANNE	LA		
TXEN:	A1 💌 🗵	Activate RXEN A1	<u>_</u>			
Transmissin Baud rat	e: 1000000 💌	bps (Min:100Kbps,Ma rate and setup th	x:50Mbps;User can vary e value as your requireme	the baud erits.)		
- Bus Color- TSS_FSS	BSS	RESERVED	PPI			
NFI	SFI	SUFI	FRAME_I	D		
LENGTH	CRC/NCRC	CYCLE	DATA			
FES	DTS	CAS_MTS	wus			
OK Cancel Default Help						



STEP 9. Following pictures show that the completion of the Bus decoding and package list. The conditions are set as Falling edge, Memory depth is 128K, Sampling frequency is 200MHz.

#### **Bus Decoding**

ZEROPLUS LAP-32128U-A (S/W:00000-0000) - [flexray_DATA_CEC_WUS_CAS_demo.a]	ls]
💭 File Bus/Signal Trigger Run/Stop Data Tools Window Help	
] 🗅 😂 🔚 🞒 🖷 🕰 🖤 🐢 👯 📲 🔝 🕨 🕪 💷 🎑 128K 🗾 🖉 201	0MHz 🖻 🛶 50% 🔽 🐳 Page 1 💽 Count
🚹 🚯 📾 📾 🇊 📐 🖏 🖑 🎬 📓 - 🎿 1.211us 🔽 📽 🔛	📴 Tr 😥 🗰 14 💠 🛛 🐻 📴 🍖 Height 🛛 🔽 Tr
Font Size 18 -	
Scale:1.211us Display Pos:339.078us A Pos:=083.879ms 💌	A = T = 83.879ms   ▼ A = B = 150ns   ▼
Total:167.665ms Trigger Pos:Ons B Pos:-083.878ms	B = T = 83.878ms ▼ Compr=Rate:255.836
Bus/Signal Trigger Enable 314. 858us 320. 913us 326. 968us 333. 0230	us 339. 078us 345. 132us 351. 187us 357. 242us 363. 297us 369. 3
E Busi (FLEXRAY & - OXOO5 OXO5	0X75F <mark>0X09</mark> 0XFF 0X00 –
A3 A3 🛛 🖂	

#### Package List

accession and the second secon	28U- <b>a (s/h</b> :	00000-0000	)) - [flexray_]	ATA_CRC_WUS_C	AS_demo.als]				
🏥 File Bus/Signal	T <u>r</u> igger Ru	u∕ <u>S</u> top <u>D</u> ata	<u>T</u> ools <u>W</u> indow	Help					_ B ×
🗅 🖙 🖶 🎒 🍬	🕰 💱 🖣	• • т • 🗊 🛛 👖	8 🕨 🕨 🔳	₩ 128K <b>-</b> 🕅	1 200MH	z 💌 🔤 🤘	🌢 <b>50%</b> 💌	୶ Page 1	<ul> <li>Count</li> </ul>
1		📓 🖑 🛍	🔛 🕶 🧩 1.3	211us 💽 🎇	Bar Bar Bar Bar	🖌 🕂 🖉 👬 🎼	কা 🔣 👹	🖁 🔖 🛛 Height	<b>40 •</b> Tr
Font Size 18 -									
Scale:1.211us	Dis	play Pos:339	0.078us A	Pos: -083.879ms	▼ A-	- T = 83.879ms - T = 83.879ms	<b>•</b>	A - B = 150ns	<b>▼</b>
TOTAL TOT OUSINS		gger Tostons	. <u>Б</u>	ros003. oroms	• D.	- 1 - 03.010ms		compr Nate.25	3. 030
Bus/Signal	Trigger	Enable	314.858us 3	20.913us 326.968	us 333.023us 33	9.078us 345.13	32us 351.187u	s 357.242us 36	8. 297us 369. 3
Busi (FLEXRAY	•	⊗ -	0X005	OX0	5 OX	75F	0X09	OXFF	0X00 -
🖌 TXD AO	<b>N</b>	$\otimes$							
- TXEN A1		$\otimes$							
🥖 A2 A2		$\otimes$							
🧭 A3 A3		$\otimes$							
•		• • • •							► ►
× Setting Flash	Export	Synch Paran	neter						
Package #	Nar	ne		TSS FSS BS	SBESERVED	PPI NEL SE	SUFL FB	AME ID BSS	
1 1	Bus1(FLEX	RAY 2.1AJ	49.825us	TSS_FSS BS	IS 0X0	0X0 0X1 0X	0 0X0 (	XOO5 BSS	0X05
CRC11 CY	CLE BSS [	DATA BSS D	ATA BSS DATA	BSS DATA BS	S DATA BSS D	ATA BSS DAT	TA BSS DAT.	A BSS DATA E	BSS DATA
UX75F   02	KUA B221	IXEE BSSIU	XOO BSS OXOJ	BSS 0X23 BS3	sjux45  BSSjux	K67 BSS UXE	19 BSSIUXAI	BBSSIDXCDF	SS UXEF
Package #	Nar	ne	TimeStamp	TSS_FSS BS	S RESERVED	PPI NFI SF	I SUFI FR	AME_ID BSS	LENGTH
2	Bus1(FLEX	RAY 2.1A)	294.14us	TSS_FSS BS		0X0 0X1 0X		DX005 BSS	0×05
Ready								End!	DEMO