

Instrument Business Department

LIN BUS Specification

Version: V1.0



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1 Software Installation

Please install software by the following steps:

Notice: The installed steps to set up all buses are the same; you can complete installation by following procedures. Below images are examples to install SSI bus.







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

1	Special Bus SSI Module - InstallShield Wizard	×
	License Agreement Please read the following license agreement carefully.	4
	LIGENCE ACDEEMENT	•
	LICENSE AGREEMENT	3
	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	
	O I do not accept the terms in the license agreement	
Ir	nstallShield	
	< <u>B</u> ack <u>N</u> ext > Cancel	



STEP 5. Fill in user Information, and then click "Next".

🙀 Special Bus SSI Nodule - InstallShield Nizard	×
Customer Information	
Please enter your information.	
User Name:	
Maikle	
Organization:	
微软中国	
Install this application for:	
Anyone who uses this computer (all users)	
Only for <u>m</u> e (Maikle)	
InstallShield	
< <u>B</u> ack <u>N</u> e:	xt > Cancel

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

🛃 Special Bus	SSI 🛛odule - InstallShield Tizard 🚬 🔁	1
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 Installing.



STEP 8. Click "**Finish**" to complete the Installation





2 User Interface

Please refer to image below to select options of setting LIN BUS. LINBUS Setup Dialog Box for Bus 1

SPECIAL BUS LIN SETUP:Bus1				×				
Configuration Package Register								
LIN BUS		Sample Rate Setting						
LIN BUS	LIN BUS			•				
		Data Follow Setting						
-Data Bits Setting		Follow:	LSB->MSB	•				
Data Bits setting Data Bits are related to the identifier ID		-Baud Rate baud rate 19200 Min=0.1kb/s Max=10Mb/s						
-Bus Color								
Syn break	Syn del		Start	•••				
Syn field	Parity	• • •	Stop					
ID bit	Data	••••	CheckSum					
	OK	Cancel	Default	Help				

LIN BUS: The default is A0.

Sampling Rata Setting : It can be set at the range of 20%-80%, The default is 60%. Data Bits Setting:

When Data Bits are related to the identifier ID is selected, it means that the data bits are related to the identifier ID. The corresponding data bits can be decoded when this option is selected, the default is the option selected.

Data Following Setting:

The default direction is LSB -> MSB, including SYN FIELD, ID BIT, CHECKSUM, DATA. Please pay attention that ID BIT+PARITY=ID FIELD.

Baud Rate (Correcting function)

When the Know Baud Rate is selected, the input /output signal will be corrected. The calculation method is 1/baut rate = T (synbit/8) as same as forgoing formula. Bus Color:

The default colors are as image below. Once Error is occurred, the warning color returns red.



LINBUS Package Dialog Box

SPECIAL BUS LIN SETUP:Busi					
Configuration Pac	kage Register				
Item	Color				
🔽 Syn Break		🔽 ID BIT			
🔽 Syn Del		🔽 Parity			
🔽 Syn field		🔽 CheckSum	•••		
🔽 Data		🔽 Describe			
	01	K Cancel	Default	Help	

Package colors can be varied by user.

LINBUS Register Dialog Box

SPECIAL BUS LIN SETUP:Bus1	×
Configuration Package Register	
Congratulation LIN decoding	function has been activated!
If you have questions about operating instructions below.Our technical supp questions you have.	software please follow the appropriate ort team will be happy to answer any
>> By phone: T	el:886-2-66202225
>> Applications through EMail: s	ervice_2@zeroplus.com.tw
>> Website: h	ttp://www.zeroplus.com.tw
Copyright(C) 1997-2007 ZEROPLUS TECHN	OLOGY CO;LTD
OK	Cancel Default Help

There is Zeroplus company information written. If users have questions about software Operations, user can contact Zeroplus by Telephone or Email.



3 Operating Instructions





 STEP 2.
 Select Bus1, then press the Right Key on mouse to list menu, next click the Bus

 Property to open Bus Property Dialog Box



STEP 3. For Special Bus Parameter Configuration, select Special Bus, then choose **ZEROPLUS LA MODULE V1.00 (Internal V0.1)**. Next click "Parameter Configuration" to



open the configure dialogue box..

Bus Property						
General Bus Setting						
C GENERAL BUS Color Config						
Special Bus Setting						
SPECIAL BUS Parameters Config						
C ZEROPLUS LA SPI MODULE V1.02						
C ZEROPLUS LA SPI-SIGNIA MODULE V1.00						
© ZEROPLUS LA SSI MODULE V1.01(Internal Build)						
© ZEROPLUS LA UART MODULE V1.02						
C ZEROPLUS LA USB MODULE V1.01						
© ZEROPLUS LA ST MODULE V1.00(Inernal 0.2)						
C ZEROPLUS LA SD MODULE V1.00(Inernal 0.1)						
© ZEROPLUS LA Miller MODULE V1.00(Iperpal V1.0)						
C 2FROPLUS LA LIN MODULE V1.00(Internal V0.1)						
Use the DsDp						
Other More Module: http://www.zeroplus.com.tw						
OK Cancel Help						

STEP 4. Resister user information: type the serial key number of logic analyzer, then press Register to finish register

SPECIAL BUS LIN SETUP:Bus1	×					
Configuration Package Register						
The LIN 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 questions about ordering software please follow the appropriate instructions below.Our sales team will respond to your enquiry as soon as possible						
>> By phone:	Tel:886-2-66202225					
>> Applications through EMail:	service_2@zeroplus.com.tw					
>> Website:	http://www.zeroplus.com.tw					
Copyright(C) 1997-2007 ZEROPLUS TECHNOLOGY CO;LTD						
Regi	ster Cancel Default Help					

STEP 5.



STEP 6. After completing Register, it turns to **Bus Property** dialogue box. Click "**Parameter Configuration**" to set up the parameter of special bus

Bus Property 🗙						
General Bus Setting						
C GENERAL BUS Color Config						
Special Bus Setting						
SPECIAL BUS Parameters Config						
C ZEROPLUS LA SPI MODULE V1.02						
C ZEROPLUS LA SPI-SIGNIA MODULE V1.00						
C ZEROPLUS LA SSI MODULE V1.01(Internal Build)						
C ZEROPLUS LA UART MODULE V1.02						
C ZEROPLUS LA USB MODULE V1.01						
C ZEROPLUS LA ST MODULE V1.00(Inernal 0.2)						
C ZEROPLUS LA SD MODULE V1.00(Inernal 0.1)						
C ZEROPLUS LA Miller MODULE V1.00(Inernal V1.0)						
ZEROPLUS LA LIN MODULE V1.00(Internal V0.1)						
Use the DsDp						
Other More Module: http://www.zeroplus.com.tw						
OK Cancel Help						

STEP 7. Firstly, setting Sampling Rate and its default is 60%.

SPECIAL BUS LIN SETUP:Bus1				×				
Configuration Package Register								
LIN BUS	Sample Rate Setting Sample Rate: 60%							
Data Bits Setting Data Bits are related to the identifier ID		Follow: LSB->MSB Baud Rate baud rate Min=0.1kb/s Max=10Mb/s						
Bus Color								
Syn break	Syn del	• • •	Start					
Syn field	Parity	• • •	Stop					
ID bit	Data	•••	CheckSum					
	OK	Cancel	Default	Help				



SPECIAL BUS LIN SETUP:Bus1				×								
Configuration Package Register												
LIN BUS		Sample Rate Setting										
LIN BUS		Sample Rate: 60% 💌										
		Data Follow Setting										
-Data Bits Setting		Follow: LSB->MSB										
Data Bits are related identifier ID	to the	-Baud Rate baud rate 19200 Min=0.1kb/s Max=10Mb/s										
-Bus Color												
Syn break	Syn del		Start									
Syn field	Parity	• • •	Stop									
ID bit	Data		CheckSum									
	OK	Cancel	Default	Help								



STEP 9. Following picture shows that the completion of bus decoding. The conditions are set as that CLK falling edge, Memory depth is 64K, Sampling Frequency is 50MHz and the compression is activated.

Decoding	bus										
😂 ZEROPLUS LA7-	3210000-4	(S/R :00000	000001) - [Miller]								- C ×
🦚 Zila Byallignel 1	leasen En	oliko Don	Iaak Winter He								- # X
0683	# 	+ 47 y		👬 64K 🔻	an 50MHz	- 33	🐝 50% 👻	+ Page 1	▼ Coun	d 1 .	-
🙆 🕢 🔂 🗃	B B	N 18 0) 📅 🔳 - 🎿	35.136us 🔹 🖞	R OF IF BE	# # 两	+ + 📷 :	, 🍖 Heigh	40 -	Trigger Delay	200
Scale 35.136ms Total 335.326ms		Displa Triggs	y Pos 2.1.35aas ic Pos Das	& Pos- El Pos-	167 744ms 📼 167 744ms 📼	1	k - T = 167 744m 8 - T = 167 744m	1 - 5 -	A - B = 6 Compr-R	00tus 👻 ente 255 833	
BusSignel	Trigger	Enable	1.432ms	Licens	1.784ms 1.959	ns 2105	as 2511a	s 2.496m	s 2660ms	2.000ms	° 1000
Bwl (1.19)		8	BREAK	SYN	I DEL		S	IN FIEL	D:0X55		
- AD .N	Z	8	Î								

Decoding bus

Package list

	ZEROPLUS L	A-00000125-41	ČEVK DODODODO	01) - (M a	lea J										. 🗆 🗙
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1 2 .	a 🕟 🗟 Senie 35 135me Jose 35 235ms		4 B C min	2.135mä 2rs	.# 35.136	US + A Fas B Fas	167.744x	& ⊭ 8. ≓ J. ₩ -	t ta	A .	•J 🐻 🔤 T = 167.744ms	teight	40 + A - B = 60 Comm-Ref	Trigger Delay	201
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	/ 20	A Z	8												
	🖌 LL 🖌	22	8												~
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*	Setting	lash Export	<u> </u>												
	Packet #	Name	TimeStamp	Break	Del	Field	IDBIT	Parity	Data	Data	CheckSum				-
	1	Bust(LIN)	100.36us	BREAK	SYN DEL	0X55	ABX0	PARITY	0XF0	OXOF	0×00				
	Packet #	Name	TimeStamp	Break	Del	Field	IDBIT	Parity	Data	Data	Data Data	CheckSum			
	2	Bus1(LIN)	9.535ms	BREAK	SYN DEL	0X55	0%20	PARITY	0X4A	0×55	0X93 0XE5	0XE6	8		
											I said the second s				
	k														
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