

Instrument Business Department

HDQ Specification

Version : V1.0



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1 Software Installation

Please follow below steps to install the software:

***** Remark: The installation steps for all buses are the same; you can complete installation by following procedures. Below is an example on how to install SSI bus.

STEP 1. Install Bus Module







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STEP 3. Click Next.



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

ı	🖥 Special Bus SSI Module - InstallShield Wizard	$\mathbf{\times}$
	License Agreement Please read the following license agreement carefully.	
	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	~
	Print	5
	I do not accept the terms in the license agreement	
	O I go noc accept the terms in the license agreement	
Ir	nstallShield	
	< <u>B</u> ack <u>N</u> ext > Cancel	



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

🙀 Special Bus SSI Module - InstallShield M	lizard 🛛 🔀
Customer Information Please enter your information.	
User Name: sunshine	
Organization: zeroplus	
Install this application for:	
Anyone who uses this computer (all users)	
Only for <u>m</u> e (sunshine)	
InstallShield	
< Back	ext > Cancel

STEP 6. First, select **Complete** and then click **Next**.

🛃 Special Bu	s SSI Nodule - InstallShield Vizard 🛛 🛛 🔀
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.)
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 Module - InstallShield Wizard 🛛 🛛 🔀
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

STEP 8. Click **Finish** to complete the installation.





2 User Interface

Please refer to the below images to select options of setting HDQ MODULE.

HDQ Configuration Dialog Box

SPECIAL BUS HDQ SETUP:Bus1									
Configuration Package Register									
- тад									
Bus Nan	ne: Busl		Cha	nnel: AO	•				
Timing(US) -									
Break:	190	to:	1000000	Recovery:	40	to: 10	000000		
Host 1:	0	to:	70	Device 1:	0	to: 70)		
Host O:	80	to:	180	Device O:	80	to: 18	30		
Host bit:	190	to:	260	Device bit:	190	to: 28	30		
🔽 Response:	190	to:	320						
-Bus Color-									
Break	Recovery	_	Address	Read	Write	Da	ta		
			OK	Cancel	Defa	ult _	Help		

HDQ :HDQ is a data signal line ,its default is A0.

Timing(us): Package waveform time settings, all parameters must be set in US, and the setting parameters are as below:

- Break : Break package judges the timing.
- Host 0: ADD package bit judgement is 0.
- Host 1 : ADD package bit judgement is 1.
- Host Bit : ADD package judges the timing in one bit length.
- Recovery : Break package judges the timing.
- Device 0: ADD package bit judgement is 0.
- Device 1 : ADD package bit judgement is 1.
- Device Bit : Data package one bit length.
- Response : Write/Read command judges the timing.

Bus Color: Set the colors for bus package.

HDQ Package dialog box

SPECIAL BUS HDQ	SETUP:Bus1			×
Configuration Pack	age Register			
Item	Color			
🔽 Break	••••	🔽 Write	••••	
🔽 Recovery	••••	🔽 Describe	••••	
🔽 Address				
🔽 Data	••••			
🔽 Read	••••			
	ОК	Cancel	Default Hel	.p

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

HDQ Register dialog box

SPECIAL BUS HDQ SETUP:Bus1	×					
Configuration Package Register						
Use HDQ for free!						
If you have questions about operating software please follow the appropriate instructions below.Our technical support team will be happy 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) 1997-2008 ZEROPLUS TECHNOLOGY CO;LTD						
OK 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. First, group the unanalyzed channels into **bus1** by pressing the **Right Key** on



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.





Bus Property	X					
General Bus Setting						
C GENERAL BUS Color Config						
Special Bus Setting						
SPECIAL BUS Parameters Config	\mathbf{P}					
CO ZEROPLUS LA HDQ MODULE V2.00						
C ZEROPLUS LA DIMASIZ MODULE VI.00						
C ZEROPLUS LA CAN 2.08 MODULE V1.06	E					
C ZEROPLUS LA UART MODULE V2.00						
C ZEROPLUS LA USB 1.1 MODULE V1.02						
C ZEROPLUS LA IIS MODULE V1.02						
C ZEROPLUS LA IIC MODULE V1.03						
	~					
☑ Use the DsDp						
Other More Module: http://www.zeroplus.com.tw						
OK Cancel Help						

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

SPECIAL BUS HDQ SETUP:Bus1							
Configuration Package Register							
The HDQ 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) 1997-2008 ZEROPLUS TECHNOLOGY CO;LTD							
Regis	ter Cancel Default Help						



STEP 5. Click Configuration to open the configuration dialog box, and then set channel for HDQ

SP	SPECIAL BUS HDQ SETUP:Bus1							×		
C	Configuration Package Register									
					,					
	Break:	190	to:	1000000	Recovery:	40	to:	1000000		
	Host 1:	0	to:	70	Device 1:	0	to:	70		
	Host O:	80	to:	180	Device O:	80	to:	180		
	Host bit:	190	to:	260	Device bit:	190	to:	260		
	🔽 Response:	190	to:	320						
	-Bus Color									
	Break	Recovery	·	Address	Read	Write		Data		
	•••									
	OK Cancel Default Help									

STEP 6. Set all parameters for Timing in us and all parameters are as following: Break, Host 0,Host 1,Host Bit, Recovery, Device 0,Device 1 and Device Bit.

SPECIAL BUS HDQ SETUP:Bus1								
Configuration	Package Re	gister						
- ЮО — — — — — — — — — — — — — — — — — —								
Bus Name: Bus1 Channel: AO								
-Timing(VS) -								
Break	190	to: 1000000	Recovery:	40	to: 1000000			
Host 1:	0	to: 70	Device 1:	0	to: 70			
Host O:	80	to: 180	Device O:	80	to: 180			
Rost bit:	190	to: 260	Device bit:	190	to: 260			
🔽 Response:	190	to: 320						
-Bus Color-								
Break	Recovery	Address	Read	Write	Data			
••				• • •				
		OK	Cancel	Defaul	t Help			



STEP 7. Set the colors for bu	us packages.
--------------------------------------	--------------

SPECIAL BUS HDQ SETUP:Bus1										
Configuration Package Register										
- тор 										
Bus Name: Bus1 Channel: A0 💌										
Timing(US)										
Break:	190	to:	1000000	Recovery:	40	to:	1000000			
Host 1:	0	to:	70	Device 1:	0	to:	70			
Host O:	80	to:	180	Device O:	80	to:	180			
Host bit:	190	to:	260	Device bit:	190	to:	260			
🔽 Response:	190	to:	320							
-Bus Color-										
break	Recovery		Address	Read	Write		Jata	+		
·							• •			
OK Cancel Default Help										

STEP 8. Following pictures show the completion of the Bus decoding and package list. The conditions are set as falling edge, Memory depth is 512K, Sampling frequency is 200MHz.

😂 ZEROPLUS LAP-	-3210000	- <u>A (S/N:</u> OC	0000-0000) – [HDQ bus	_test3_97	0430.als]			
🕌 <u>F</u> ile B <u>u</u> s/Signal	T <u>r</u> igger	Run/ <u>S</u> top <u>I</u>	<u>)</u> ata <u>T</u> ools	<u>W</u> indow <u>H</u> elp					- 8 ×
🗋 🖻 🖉 🕯	🖡 🏹 酔	ψ [®] Ϋ́́́, Ψ́	1 🛐 🕨	🔶 🔲 🉀 512	2k 💌 🙀 🗖	200MHz		20% 🔻 🐳 Pa	ige 1 💌
🚯 🚯 📾	III ()	(¹) 🕅 🖌	· · · · · · · · · · · · · · · · · · ·	👗 62.866us		A¥ B¥ T¥ Bar Bar Bar	👬 🕅 10 💠	1 🐻 皆 🍖	Height 40
Trigger Delay	5ns	Font Size	12 -						
Scale:62.866us	Di	splay Pos:1	6.345ms	A Pos:192.545r	ns 🔻	A - T = 19	92.545ms 🔻	A = B = 380.3	394ms 🔻
Total:1.075s (1.075s	s) Tr	igger Pos:O	ns	B Pos:572.939r	ns 🔻	B - T = 57	72.939ms 🔻	Compr=Rate:40	09.968
Bus/Signal	Trigger	Enable] 15.088m	s 15.402ms 15.7)	.6ms 16.031ms	: 16.345ms 1	6.659ms 16.974m:	s 17.288ms 17.6	02ms 17.917r
- Bus (HDQ)	·	⊗ -		ADDRESS	5 : OXO	9	DATA	: OX10	
на на	N								
🖌 A5	\mathbb{X}	\otimes							~



Following picture shows the package list and waveforms display.									
😂 ZEROPLUS LAP-321000U-A(S/N:000000-0000) - [HDQ bus_test3_970430.als]									
🌉 <u>F</u> ile B <u>u</u> s/Signal T <u>r</u> igger	Run/ <u>S</u> top <u>D</u> ata <u>T</u> ool	s <u>W</u> indow <u>H</u> elp					- 8 ×		
🗋 😂 🖪 🥌 🕮 🖏	📲 👯 📲 🚺	▶▶ ■ →M4 5	12k 💌 🚻	200MHz	- ww	20% 💌 📣 Pag	e 1 🔻		
🚯 🕟 📾 📟 🥵	R 🕅 🥙 🗰 📓	🔹 👗 62.866u	S 🔻 🦷	-2 A¥ B≥ T¥ Bar Bar Bar Bar	🙀 🙀 14 -	si 🔣 🔡 🏘 H	Height 40		
Trigger Delay 5ns Font Size 12 -									
Scale:62.866us I)isplay Pos:16.345ms	A Pos:192.54	45ms 🔻	A - T = 192	.545ms 🔻	A = B = 380.39	4ms 🔻		
Total:1.075s (1.075s) 7	Grigger Pos:Ons	B Pos:572.93	39ms 🔻	B - T = 572	.939ms 🔻	Compr-Rate:409	. 968		
Bus/Signal Trigger	Enable 15.)88ms 15.402ms 15.	716ms 16.031	ms 16.345ms 16	.659ms 16.974	ms 17.288ms 17.602	ms 17. 9171		
		ADDRES	SS : 0X	09	DATA	: OX10	<u></u>		
🗸 нод з									
- 🖌 A5 🛛 🕅	\otimes						~		
							>		
× Setting Flash Expo	ort Synch Parameter								
Package # Name	TimeStamp Br	ak Recovery	Address	Write Data			•		
1 Bus(HDQ) 14.832ms BR	EAKRECOVERY	0X09	Write 0X10					
Package # Name	TimeStamp Bro	eak Recovery	Address	Write Data					
2 Bus(HDQ) 187.725ms BR	EAKRECOVERY	OXOA	Write 0X40					
Package # Name	TimeStamp Br	eak Recovery	Address	Write Data					
3 Bus(HDQ	J 359.614ms BR	EAKRECOVERY	UXUB	Write UX4F					
Package # Name	TimeStamp Br	Eak Recovery		Write Data					
	J 530.490ms BR								
Fackage # Name 5 Bus(HDO	546 057ms BR		Address 0X0C	Write 0X3B					
Package # Name		ak Becovery	Address	Write Data					
		The Theoremy	1001000				•		
Keady						End!	DRWO		