

✓ 孕龍科技股份有限公司 ZEROPLUS TECHNOLOGY CO;LTD

Instrument Business Department

JTAG2.0 Specification

Version: V1.0



2F, No.123, Jian 8 Rd, Chung Ho City, Taipei Hsien, R.O.C. Tel: : 886-2-66202225 Fax : 886-2-66202226 http://www.zeroplus.com.tw

Content

1	Software Installation	3
2	User Interface	7
3	Operating Instructions	9



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. The below is an example to install SSI bus.

STEP 1. Install Bus Module .



<image><image><image><image><image><image><image><image><image><image><image><image><image><image><image><image><image><image>



STEP 3. Click **Next.**



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





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

🙀 Special Bus SSI ∎odule - InstallShield Wizard	×
Customer Information Please enter your information.	1
User Name:	
Organization:	
微软中国	
Install this application for:	
Anyone who uses this computer (all users)	
C Only for <u>m</u> e (Maikle)	
InstallShield	xt > Cancel

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

🙀 Special H	Bus SSI ∎odule - InstallShield Tizard	×
Setup Type Choose the	e setup type that best suits your needs.	
Please sele	ct a setup type.	
• <u>C</u> ompl	All program features will be installed. (Requires the most disk space.)	
C Custor	m Choose which program features you want installed and where they will be installed. Recommended for advanced users.	
Install5hield —	< <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>B</u> ack Install Cancel	_

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

🙀 Special Bus SSI ∎odule	- InstallShield Wizard	×
	InstallShield Wizard Completed	
	The InstallShield Wizard has successfully installed Special Bus SSI Module. Click Finish to exit the wizard.	
	< Back Finish Cancel	



2 User Interface

In the configuration, please refer to the below image to select options of setting JTAG2.0 module.

JTAG2.0 Configuration Dialog Box

SPECIAL BUS	JTAG 2.0 SETUP:Bus1			×
Configuratio	n Package Register			
JTAG TCK:	A0	TDI/O:	A2	•
TMS:	A1 💌	🔽 TRES	T A3	•
-Decode I/(о тро	Data Directi SHIFT I	on Direction: MSB-	>LSB 🔽
Bus Color	·			
CAPTURE	··· UPDATE	·- SEL-IR	EXIT	1
IDATA	··· PAUSE	··· SEL-DR	··· EXIT	2
ODATA	IDLE/RUN_TES	T	RESET/TEST_LOGIC	:
		OK Cano	el Default	Help

JTAG2.0:

When the TREST key isn't activated, JTAG2.0 has three lines: TCK, TDI/O and TMS. Hereinto, all the channels can be selected from their dropdown menus. And TCK is defaulted A0, TDI/O is defaulted A2, TMS is defaulted A1.

TREST:

TREST can be selected, and then JTAG2.0 has four lines, but the defaulted TREST isn't activated

Decoding I/0:

Decoding I/0 has two decoding modes in the above dialog box: TDI, TD0.You can select either as your requirements.

Data Direction:

The direction of SHIFT can be selected from its dropdown menu: MSB->LSB, LSB->MSB, and the default direction is MSB->LSB.

Bus Color Settings:

The bus color can be varied by user, such as the colors of CAPTURE, UPDATE, SEL-IR, EXIT1, IDATA, PAUSE, SEL-DR, EXIT2, ODATA, IDLE/RUN_TEST, RESET/TEST LOGIC



JTAG2.0 Package Dialog Box

SPECIAL BUS JTAG 2.0 S	ETUP : Bus1			×
Configuration Package	Register			
Item	Color			
TEST_LOGIC/RESET		🔽 IR_IDATA/DR_IDATA		
RUN_TEST/IDLE	• •	V PAUSE		
CAPTURE	••	SEL-DR	•••	
UPDATE		EXIT2		
SEL-IR	•••	🔽 IR_ODATA/DR_ODATA		
EXIT1		DESCRIBE		
				_
	OK	Cancel Def	ault Help	

In the Package part, user can select the items and colors configuration as user's requirements.

JTAG2.0 Register Dialog Box

SPECIAL BUS JTAG 2.0 SETUP:Bus1		×			
Configuration Package Register					
The JTAG 2.0 bus decoding function i to purchase its serial key to active necessary.	The JTAG 2.0 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_2@zeroplus.com.tw				
>> Website:	http://www.zeroplus.com.tw				
Copyright(C) 1997-2008 ZEROPLUS TE	CHNOLOGY CO;LTD				
Reg	ister Cancel Default Help				

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



3 Operating Instructions

STEP 1. At first, group the unanalyzed channel into **Bus 1** 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 JTAG2.0 Parameter Configuration, select Special Bus, and then choose **ZEROPLUS LA JTAG2.0 MODULE V1.00 (Internal V0.1).** Next click **Parameters Configuration** to open **Parameters Configuration** dialog box.

Bus Property	×
General Bus Setting	
C GENERAL BUS	Color Config
- Special Bus Setting	
© SPECIAL BUS P	arameters Config
 ZEROPLUS LA CCIR656 MODULE V1.00(ZEROPLUS LA LIN2.1 MODULE V2.00 ZEROPLUS LA DMX512 MODULE V1.00(I ZEROPLUS LA FLEXRAY 2.1A MODULE V1.03 ZEROPLUS LA CAN 2.05 MODULE V1.03 ZEROPLUS LA JTAG 2.0 MODULE V1.00 ZEROPLUS LA S17669 MODULE V1.00 	(Internal V0.0) (Internal V0.4) (1.00 (Internal V0.1)
ZEROPLUS LA MANCHESTER MODULE V ZEROPLUS LA MILLER MODULE V1.00 ZEROPLUS LA DEZO MODULE V1.02	1.00
Use the DsDp Other More Module: http://www.zeroplus.co	om.tw
ОК Са	ncel Help

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

SPECIAL BUS JTAG 2.0 SETUP:Bus1		×
Configuration Package Register		
		1
The JTAG 2.0 bus decoding function	is optional purchased item.Welcome	
to purchase its serial key to activ	ate this function for your	
Enter serial key:		
Intel Serial Key.		
If you ordered software or have a	actions shout ordering software	
please follow the appropriate ins	tructions below. Our sales team will	
respond to your enquiry as soon as	s 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 TI	CHNOLOGY CO;LTD	
	nintur Consul Defente Vila	
Ke	gister Lancel Default Help	,



STEP 5. After Registering on the register dialog box, open the Configuration dialog box and then set up the channels for TCK, TDI/O, TMS and TREST.

SPECIAL BUS J	TAG 2.0 SETUP:Bus1	×
Configuration	Package Register	
TTLC		
TCK:	A0 TDI/0: A2	
TMS:	AI TREST AJ	
Decode I/O-		
• TDI	○ TDO SHIFT Direction: MSB->LSB ▼	
Bus Color-		
CAPTURE	·· VPDATE ·· SEL-IR ·· EXIT1	
IDATA	PAUSE ··· SEL-DR EXIT2	
ODATA	IDLE/RUN_TEST RESET/TEST_LOGIC	
	OK Cancel Default Help	

STEP 6. Next, select the decoding mode of Decode I/O and the direction of SHIFT.

PECIAL BUS	JTAG 2.0 SETUP:Bus1			×
Configuration	A Package Register			
JTAG				
TCK:	A0 💌	TDI/0:	A2	-
TMS:	A1 💌	🔽 TREST	A3	•
-Decode I/C		-Data Directio	11	
• TDI	O TDO	SHIFT Di	rection: MSB->	LSB
-Bus Color				
CAPTURE	UPDATE	· · SEL-IR	EXIT1	
IDATA	PAUSE	·· SEL-DR	EXIT2	
ODATA	IDLE/RUN_TES	T F	ESET/TEST_LOGIC	••
			1	1
		OK Cance	I Default	Help



STEP 7. Bus Color Setting.

SPECIAL BUS	JTAG 2.0 SETUP:Bus:	1		×
Configuration	n Package Register			
JTAG		TRT (0 .		
ICK.	AU	IDI/O.	A2	<u> </u>
TMS:	A1 💌	TREST	A3	•
_Decode I/0)		1	
• TDI	O TDO	SHIFT Dir	rection: MSB-	>LSB 🔻
-Bus Color				
CAPTURE	··· UPDATE	··· SEL-IR	· EXIT	
IDATA	PAUSE	··· SEL-DR		2
ODATA	UDLE/RUN_1	TEST R	ESET/TEST_LOGIC	
		OK Cancel	L Default	Help

STEP 8. Following pictures show that the completion of the Bus decoding and package list. The conditions are set as Rising edge, Memory depth is 128K, Sampling frequency is 200MHz and the compression is activated.

Bus Decoding								
SEROPLUS LAP-32	128 U-A (S	/#:000000-0000) - [s	le_DBAndSle_IR_CL	KloreSmall_3212	8_JASON.als]			
🎩 <u>F</u> ile B <u>u</u> s/Signal	T <u>r</u> igger	Run/Stop Data Tools	<u>W</u> indow <u>H</u> elp				_ 8 ×	
🗋 🗅 🚄 🔚 🗐	🖡 🔀 💱	🕂 🕂 🕂 🗸	🕪 🔲 🙀 128K	- 146 M 200M	4Hz 🚽 🔤 👫 1	0% 🔻 🐝 Page 🛛 1	 Count 	
🚯 🚯 📾		🛛 🖹 🖑 🛄 📓 •	🖌 🕺 2.267us 💌		T¥ +2 ₩ 14 ↔	🐻 📴 🔖 Height	40 – Tr	
Font Size 18 -								
Scale:2.267us		Display Pos:286.154us	A Pos:4.045ms	s 🖛 .	A = T = 4.045ms ▼	A - B = 282.4	12us 🔻	
Total:167.697ms		Trigger Pos:Ons	B Pos:3.763ms	s 🕶 🗄	B - T = 3.763ms ▼	Compr-Rate:25	5.885	
Bus/Signal	Trigger	Enable 240.8	23us 252.156us 263.4	89us 274.822us 286	. 154us 297. 487us 308	. 82us 320. 153us 331. 4	86us 342.819	
Busi (JTAG			RESET			IR-IDATA :	OXFC	
× KCK /	Z							
🥖 TMS 🌶		\otimes						
/ TDI/O		\otimes						
TREST		\otimes						

Package List



ZEROPLUS LAP-32128U-A (S/W:000000-0000) - [Sle_DRAndSle_IE_CLEMoreSmall_32128_JASOW.als]												
Eile Bus/Signal	Irigger	win/ <u>s</u> top ;	<u>Data 1</u> 0015 ;	nindow <u>n</u> ell	1004	200]	09/ - 3	D 1		
	₩φ : ₹. φ ``@ ==== []	ΨΤ ΨΤ Ψ" 			128K •				U‰ <u>▼</u> ♣ ⁸		<u> </u>	Lount
			/ 🛄 🔛 🔻	2.267	us 💌 🦷	Bar Bar B	ан Ван Ван		8	🔖 Height	40	<u>▼ Tr</u>
Font Size 18	-											
Scale:2.267us Totel:167.697ms		Display Po: Trigger Po:	s:286.154us s:Ons	A Pos B Pos	:4.045ms ▼ :3.763ms ▼		A - T = ·	4.045ms ▼ 3.763ms ▼	A Co	- B = 282.4 mpr-Rate:25	12us 🔻	
Total. Tot. optims		integer ro.		D 103			D 1	o. rooms +		mpi nace.20	0.000	
Bus/Signal	Trigger	Enable	240. 82:	Bus 252.1560	s 263.489us	274.822us 2	86.154us 2	97.487us 30	8.82us 320.3	153us 331.48	36us 342.8	
Busi (JTAG	•	⊗ -		RE	SET				IR-IDA	ATA : (OXFC	
🖌 TCK 🌶	Z	\otimes										
🥖 TMS 🌶	\square	\otimes										
🥖 TDI/O	\square	\otimes										
JTREST	\square	\otimes										
	4	4 1	4	1								┍┛
× Setting Flash	Export	Synch I	Parameter									
				TECT								_
Раскаде #	Bus1(JT/	IC 2.01	Ons	TEST	OGIC RU	N TEST S	EL DR C	APTURE	0XFC	EXITI PA	USE	
EXIT2 UPDATE SEL_DR SEL_IR EXIT2 UPDATE SEL_DR SEL_IR												
Package #	Narr	ie	TimeStamp	RESET	RUN_TEST	SEL_DR	SEL_IR	CAPTURE	IR_IDATA	EXIT1 P	AUSE	
2	Bus1(JT/	G 2.0)	247.62us	RESET	RUN_TEST	SEL_DR	SEL_IR	CAPTURE	OXFC	EXIT1 P	AUSE	
EXIT2 UPDATE EXIT2 UPDATE								•				
Ready									E	nd!	DEMO	