

Smart SPD DDR5

User Manual

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【Smart SPD DDR5 Writer】

Package Contents

Please check the package contents. If there is any device shortage, please contact us. The missing device will be delivered as soon as possible!



Information for first driver installation

For the computer without RS-232 cable and using the RS-232 To USB, please install the <HL-340.EXE>, from the installation CD.

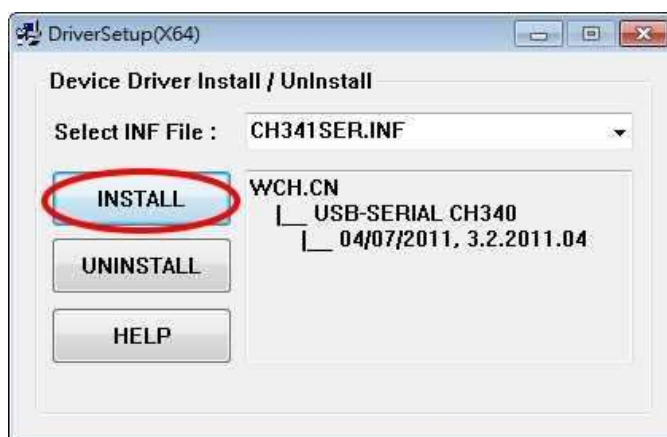
After installation, please move to Microsoft Management Console. The device *USB-SERIAL CH340* is under the Cable(COM and LPT). Choose COM1 if it is not the default.

If the picture on the right side occur, please check the driver of USB TO RS-232 port or the Cable option in management console for correct cable.



Installing USB TO RS-232 driver

The USB TO RS-232 cable is needed for installation. Install the <HL-340.EXE> from the installation CD.



※ The Com1 is the default for using the RS-232 cable. For using USB to RS-232 cable, check the COM cable in Computer Management.

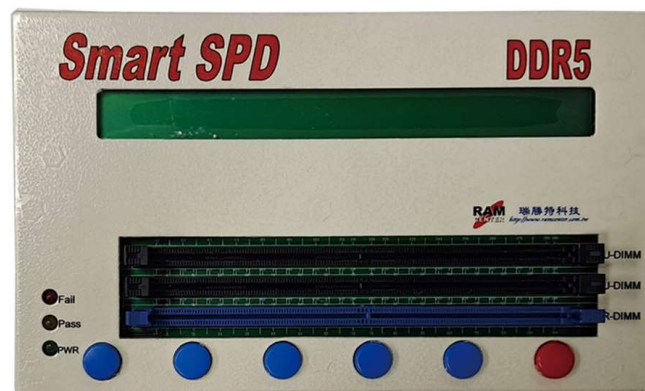
Instruction Guild

【Smart SPD DDR5 Writer】 has the 3 parts:

- A. DDR5 SPD Writer
- B. Windows interface SPD Burning Software
- C. Module Burning Board

The following will make an instruction for each part.

1. DDR5 SPD Writer



After the power is turned on, the DDR5 SPD Writer will provide 6 main function key options for selection on LCD monitor:

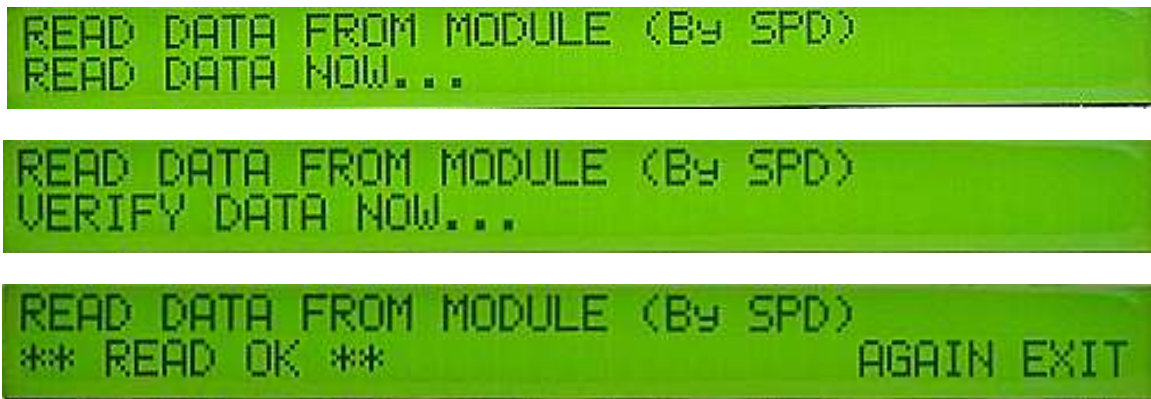


1. READ: Read the SPD code from Writer's module and store the SPD code in Writer.
2. COPY: SPD code will be copied from the Writer to the module.
3. VERIFY: Verify whether the SPD code in the Writer is the same as the SPD code in the module to be programmed.
4. VIEW: Display SPD code in a module and the SPD code stored in Writer.
5. SETUP: Provide a setting mode you want.
6. M_COPY: Depending on the setting mode, the function keys will appear three modes, ML_C+V, M_COPY, and M_Vefi. With the Writer LCD monitor, you can choose 6 function to use :

Options on the homepage

1. READ

Press <READ> and the Writer will read the SPD code in the module. LCD will display the following images:



When the images above are displayed, press<AGAIN> to reoperate <READ> without turning back to the homepage to restart the process. Selecting <EXIT> can return to the homepage when finishing the process.

If the module is not plugged properly or EEPROM is damaged, the error message will appear like the following image after pressing <READ>. Select <AGAIN> to reoperate <READ>. Selecting <EXIT> can return to the homepage when finishing the process.



2. COPY

Press <COPY> and the Writer will copy SPD code to the module. LCD will display the following images:





COPY DATA TO MODULE (By SPD)
VERIFY DATA NOW...



COPY DATA TO MODULE (By SPD) 04000002
** COPY OK ** AGAIN EXIT

When the images above are displayed, press <AGAIN> can reoperate <COPY> without returning to the homepage to restart the process. Selecting <EXIT> can return to the homepage when finishing the process.

If the module is not inserted properly or EEPROM is damaged, the error message will appear like the following image after pressing <COPY>. Select <AGAIN> to reoperate <COPY>.

Selecting <EXIT> can return to the homepage when finishing the process.



COPY DATA TO MODULE (By SPD)
** COPY FAIL: DATA FAIL AGAIN EXIT

3. VERIFY

Press <VERIFY> and the Writer will verify whether the SPD code in the Writer is the same as the SPD code in the module to be programmed. LCD will display the following images:



VERIFY DATA WITH MODULE (By SPD)
VERIFY DATA NOW...



VERIFY DATA WITH MODULE (By SPD)
** VERIFY OK ** AGAIN EXIT

When the images above are displayed, press <AGAIN> to reoperate <VERIFY> without returning to the homepage to restart the process. Selecting <EXIT> can return to the homepage when finishing the process.

If the code verified is wrong, the following messages will appear after pressing <VERIFY>. Selec <AGAIN> can reoperate <VERIFY>. Selecting <EXIT> can return to the homepage when finishing the process.



4. VIEW-MODULE, TESTER, H_REG, and P_REG

Pressing <VIEW> can display the SPD code in the Writer and module:

1. <MODULE>: Display the SPD code in the module.
2. <TESTER>: Display the SPD code in the Writer.
3. <H_REG>: Display the SPD HUB information in the module.
4. <P_REG>: Display the PMIC information in the module.

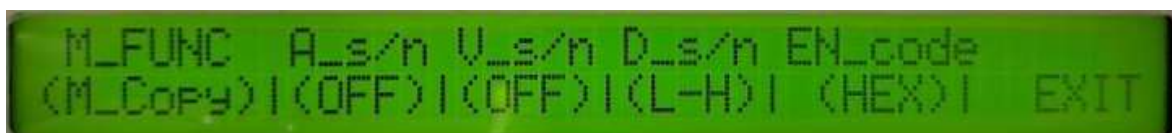


Press <DOWN> for the next page, <UP>, which is the first one on the left of <DOWN>, for the previous page. Selecting <EXIT> can return to the homepage when finishing the process.

5. SETUP-M_FUNC, A_s/n, V_s/n, D_s/n, and EN_code

Following picture will appear when pressing <SETUP>. There are 5 modes that can be set.

Selecting <EXIT> can return to the homepage:



1. <M_FUNC>
2. <A_s/n>

3. <V_s/n>
4. <D_s/n>
5. <EN_code>

<M_FUNC >

<M_FUNC> can change the burning option in burn-in board:

1. <ML_C+V>: Burning + verifying
2. <M_Copy>: Burning
3. <M_Vefi>: Verifying

Selecting <EXIT> can return to the homepage, the chosen option will appear in the homepage.



<A_s/n >

<A_s/n > can turn on or off the function of auto setting serial number.



<ON>: Auto setting serial number is on



<OFF>: auto setting serial number is off

Select <EXIT> on the rightmost and can return to the homepage. As in the following picture, <?> logo shown on the top right means the automatic numbering is on, it won't appear if the function is off.



<V_s/n >

<V_s/n > can turn on or off the function of verifying the serial number:

1. <ON>: Will verify all the SPD code information, including the serial number. The verification will fail if all the SPD codes are the same but the serial numbers are different.
2. <OFF>: Will verify all the SPD code information except the serial number. The verification will succeed even if the serial numbers are different, because the serial number is not in the verified condition.

<D_s/n >

<D_s/n > can choose the arrangement of the serial number:

1. <H-L>: From high to low.
2. <L-H>: From low to high.

<EN_code >

<EN_code > can choose the positional numeral system:

1. <HEX>: Hexadecimal
2. <DEC>: Decimal

6. ML_C+V, M_COPY, and M_Vefi

“ML_C+V” : Burn the SPD code stored in the Writer to the memory module on the burn-in board to do multiple burns. Verify the SPD value at the same time.





```
COPY SPD TO MULTI-BOARD (By SPD)
COPY DATA NOW...
```



```
COPY SPD TO MULTI-BOARD (By SPD)
VERIFY DATA NOW...
```



```
COPY SPD TO MULTI-BOARD (By SPD)57000002
** MULTI-COPY_VERIFY OK **      AGAIN EXIT
```

Burning and verifying successfully will display the images above. Pressing <AGAIN> can do multiple burn and verify SPD code, without returning to the homepage to restart the process. Selecting <EXIT> can return to the homepage when finishing the process.

“ M_COPY ” : Operate multiple burning from the Writer to the burning board



```
SMART-SPD  DDR5    V1.0c    RamCENTER
READ  COPY  VERIFY  VIEW    SETUP  (M_Copy)
```



```
COPY SPD TO MULTI-BOARD (By SPD)
COPY DATA NOW...
```



```
COPY SPD TO MULTI-BOARD (By SPD)57000002
** MULTI-COPY OK **      AGAIN EXIT
```

Burning successfully will display the images above. Pressing <AGAIN> to reoperate <M_COPY> without returning to the homepage to restart the process. Selecting <EXIT> can return to the homepage when finishing the process.

“ M_Vefi ” : Verify if the SPD code in the Writer is the same as the SPD code of the module on the burning board.



```
SMART-SPD  DDR5    V1.0c    RamCENTER  ?
READ  COPY  VERIFY  VIEW    SETUP  (M_Vefi)
```




COPY SPD TO MULTI-BOARD (By SPD)
VERIFY DATA NOW...



COPY SPD TO MULTI-BOARD 57000002
** MULTI-VERIFY OK ** AGAIN EXIT

Verifying successfully will display the images above. Pressing <AGAIN> to reoperate <M_Vefi> without returning to the homepage to restart the process. Selecting <EXIT> can return to the homepage when finishing the process.

If pressing <ML_C+V>, <M_CPOY>, and <M_Vefi> displays the following picture:



COPY SPD TO MULTI-BOARD
** Remove ON-Tester MODULE ** AGAIN EXIT

It means there is a module on the Writer. After removing the module, press <AGAIN> to reoperate <ML_C+V>, <M_CPOY>, and <M_Vefi> without returning to the homepage to restart the process.

If the burning board is not fully inserted, not properly inserted, or EEPROM damaged, pressing <ML_C+V>, <M_CPOY>, and <M_Vefi> will display the wrong messages in the following three images. Please exclude the factors above and select <AGAIN> to reoperate <ML_C+V>, <M_CPOY>, and <M_Vefi>. Selecting <EXIT> can return to the homepage when finishing the process.

When <ML_C+V> goes wrong



COPY SPD TO MULTI-BOARD (ROM512)82000002
** MULTI-COPY_VERIFY FAIL ** AGAIN EXIT

When <M_CPOY> goes wrong

```
COPY SPD TO MULTI-BOARD (ROM512)82000002  
** MULTI-COPY FAIL **          AGAIN EXIT
```

When <M_Vefi> goes wrong

```
COPY SPD TO MULTI-BOARD          82000002  
** MULTI-VERIFY FAIL **          AGAIN EXIT
```

※ During operation, the green light in the burning board shows that the burning is in progress, the orange light is PASS. If it is not lit, it fails.

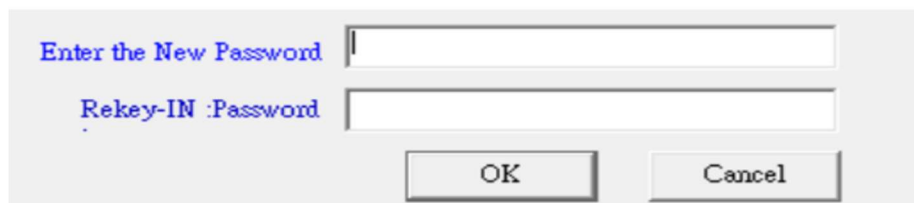
2. DDR5 SPD burning software in Windows



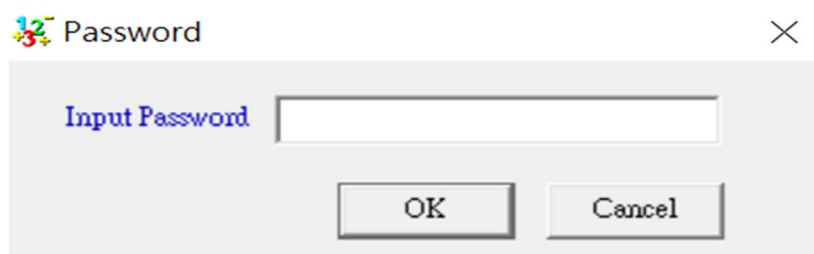
Install SPD burning software

This software has an English and Chinese version. Choose the needed version from the <SETUP.EXE> from the installation CD to execute installation for SPD DDR5 burning software.

It will require a password setting for first use.



The software will require the password for entering. If the password is incorrect, it can only execute limited functions.

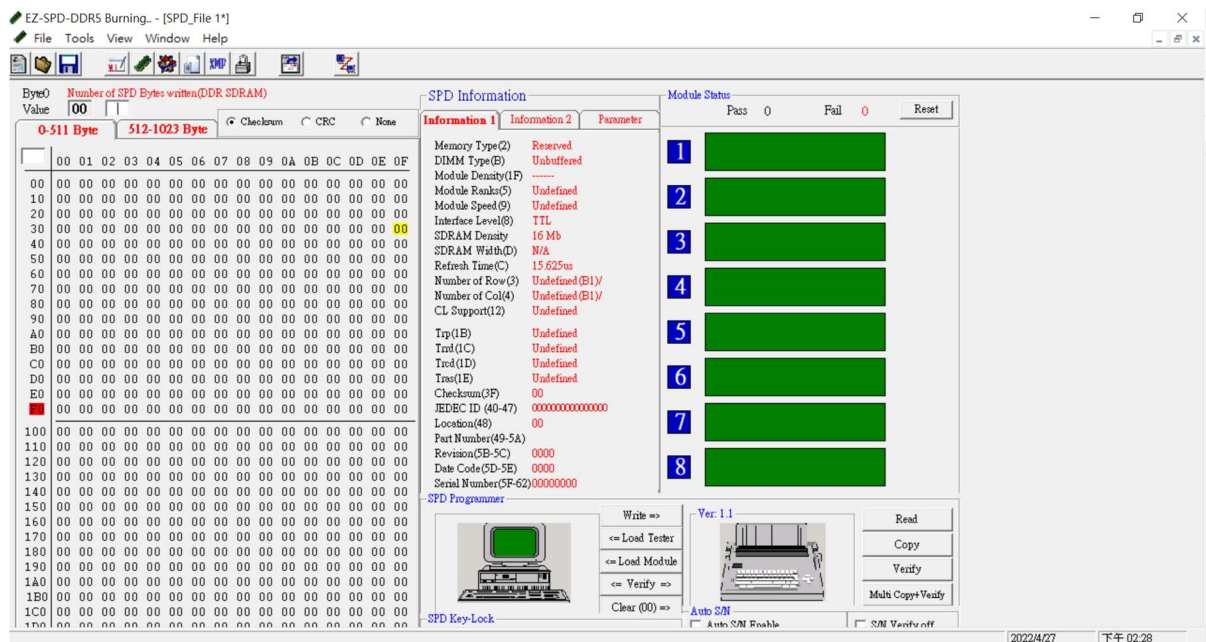


Before entering the software, please make sure that the power of the Writer has been turned on.

The following message will shown if the Writer is not turning on:

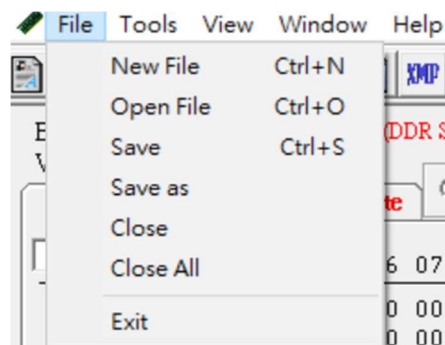


Following are two parts of illustrations for the functions in needed in homepage in WINDOWS



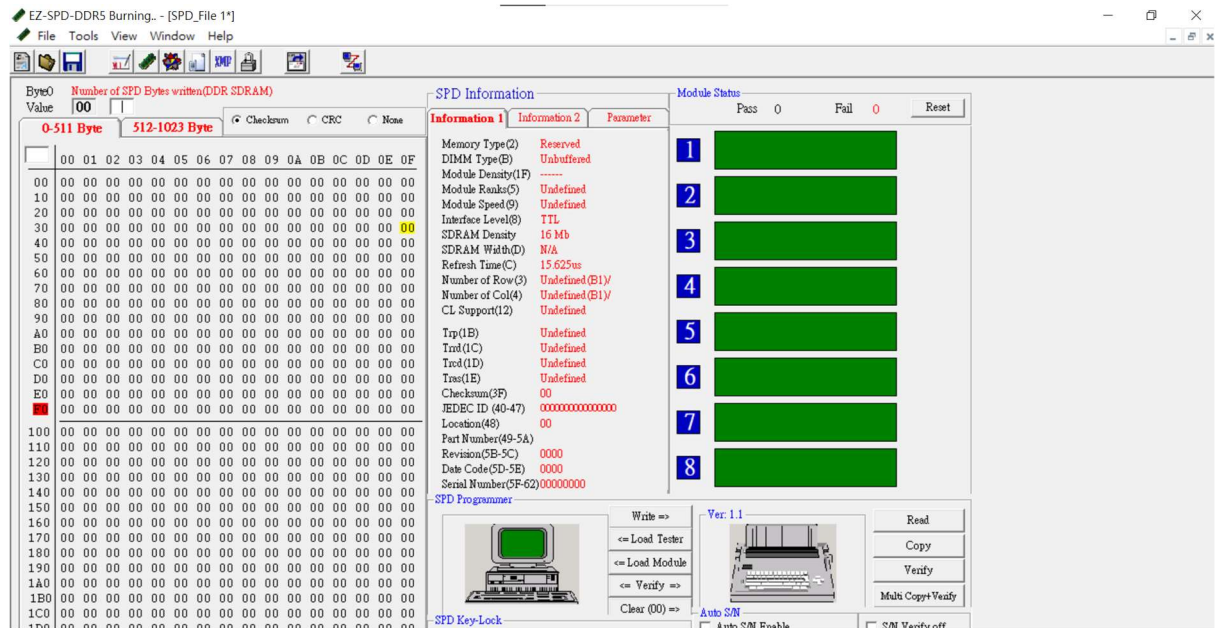
Part I

<File>



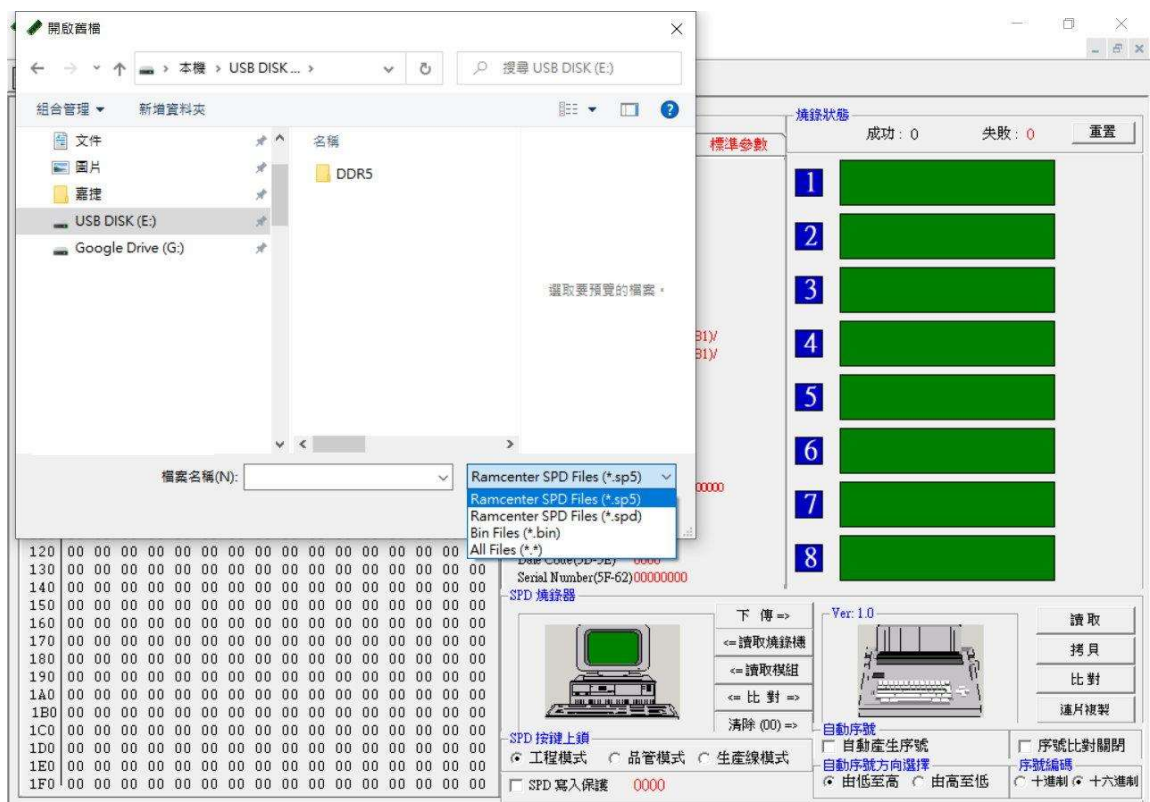
Following are some illustrations for some options in <File>:

1. New file: After establishing new file, you can edit SPD code in main page



2. Open file: Open file in computer, support the *.BIN 、*.SPD 、*.SP5 format.

※*.SP5 format is the only supported format for DDR5.



DDR5 Manufacturer Information

Module Information | Module Parameter

Module ID (512-513) [00] [00]

Location (514) [00]

Date (515-516) [00] [0] ☐ 2022/4/27 18 weeks

Serial Number (517-520) [00] [00] [00] [00]

DRAM ID (552-553) [00] [00]

Part Number (521-550) []

Revision (551) [00]

Specific Data (555-590) []

Clear Setup Close

<Tools>

Following are some illustrations for some options in <Tools>:

1. Manufacturer Information: Set the information and parameters for the module.



- SPD Timings: Change the timings of SPD.

DDR5 Manufacturer Information

Module Information **Module Parameter**

SPD ID	86	32	(Montage Technology Group)
SPD Rev.	1.4		
SPD Type	Installed	SPD 5118	
PMIC0 ID	80	B3	(IDT / RENESAS)
PMIC0 Rev.	2.0		
PMIC0 Type	Installed	PMIC 5100	
PMIC1 ID	00	00	
PMIC1 Rev.	0.0		
PMIC1 Type	Not Installed	PMIC 5000	
PMIC2 ID	00	00	
PMIC2 Rev.	0.0		
PMIC2 Type	Not Installed	PMIC 5000	
Tsensor ID	00	00	
Tsensor Rev.	0.0		
Tsensor Type	Not Installed	Not Installed	TS 5111

Clear Setup Close

- SPD Wizard: Establish the needed specification for SPD by wizard.

SPD Timing

CL- Support

<input type="checkbox"/> 20	<input checked="" type="checkbox"/> 22	<input type="checkbox"/> 24	<input type="checkbox"/> 26	<input checked="" type="checkbox"/> 28	<input checked="" type="checkbox"/> 30	<input type="checkbox"/> 32	<input type="checkbox"/> 34
<input checked="" type="checkbox"/> 36	<input type="checkbox"/> 38	<input checked="" type="checkbox"/> 40	<input checked="" type="checkbox"/> 42	<input type="checkbox"/> 44	<input type="checkbox"/> 46	<input type="checkbox"/> 48	<input type="checkbox"/> 50
<input type="checkbox"/> 52	<input type="checkbox"/> 54	<input type="checkbox"/> 56	<input type="checkbox"/> 58	<input type="checkbox"/> 60	<input type="checkbox"/> 62	<input type="checkbox"/> 64	<input type="checkbox"/> 66
<input type="checkbox"/> 68	<input type="checkbox"/> 70	<input type="checkbox"/> 72	<input type="checkbox"/> 74	<input type="checkbox"/> 76	<input type="checkbox"/> 78	<input type="checkbox"/> 80	<input type="checkbox"/> 82
<input type="checkbox"/> 84	<input type="checkbox"/> 86	<input type="checkbox"/> 88	<input type="checkbox"/> 90	<input type="checkbox"/> 92	<input type="checkbox"/> 94	<input type="checkbox"/> 96	<input type="checkbox"/> 98

CL- tAA(min)	40 T	tRFC1(min)	195 ns
tRCD(min)	40 T	tRFC2(min)	130 ns
tRP(min)	40 T	tRFCsb(min)	115 ns
tRAS(min)	77 T		
tRC(min)	116 T		
tWR(min)	73 T		

Finish Close

SPD Wizards

Module Type: **UDIMM**

Module Speed: **DDR5-4800**

DRAM Type: **1G x 8**

Module Rank: **1 Rank**

ECC Support: **None ECC**

CL- Support:

<input type="checkbox"/> 20	<input checked="" type="checkbox"/> 22	<input type="checkbox"/> 24	<input type="checkbox"/> 26	<input checked="" type="checkbox"/> 28	<input checked="" type="checkbox"/> 30	<input checked="" type="checkbox"/> 32	<input type="checkbox"/> 34
<input checked="" type="checkbox"/> 36	<input type="checkbox"/> 38	<input checked="" type="checkbox"/> 40	<input checked="" type="checkbox"/> 42	<input type="checkbox"/> 44	<input type="checkbox"/> 46	<input type="checkbox"/> 48	<input type="checkbox"/> 50
<input type="checkbox"/> 52	<input type="checkbox"/> 54	<input type="checkbox"/> 56	<input type="checkbox"/> 58	<input type="checkbox"/> 60	<input type="checkbox"/> 62	<input type="checkbox"/> 64	<input type="checkbox"/> 66
<input type="checkbox"/> 68	<input type="checkbox"/> 70	<input type="checkbox"/> 72	<input type="checkbox"/> 74	<input type="checkbox"/> 76	<input type="checkbox"/> 78	<input type="checkbox"/> 80	<input type="checkbox"/> 82
<input type="checkbox"/> 84	<input type="checkbox"/> 86	<input type="checkbox"/> 88	<input type="checkbox"/> 90	<input type="checkbox"/> 92	<input type="checkbox"/> 94	<input type="checkbox"/> 96	<input type="checkbox"/> 98

CL- tAA(min): **40 T**

tRCD(min): **40 T**

tRP(min): **40 T**

tRAS(min): **77 T**

tRC(min): **116 T**

tWR(min): **73 T**

Finish Close

4. There are 3 tabs for DDR5 module information in “DDR5 SPD information” in the mainpage.

SPD Information	
Information 1	Information 2
Memory Type(2)	Reserved
DIMM Type(B)	Unbuffered
Module Density(1F)	-----
Module Ranks(5)	Undefined
Module Speed(9)	Undefined
Interface Level(8)	TTL
SDRAM Density	16 Mb
SDRAM Width(D)	N/A
Refresh Time(C)	15.625us
Number of Row(3)	Undefined(B1)/
Number of Col(4)	Undefined(B1)/
CL Support(12)	Undefined
Trp(1B)	Undefined
Trrd(1C)	Undefined
Trcd(1D)	Undefined
Tras(1E)	Undefined
Checksum(3F)	00
JEDEC ID (40-47)	0000000000000000
Location(48)	00
Part Number(49-5A)	
Revision(5B-5C)	0000
Date Code(5D-5E)	0000
Serial Number(5F-62)	00000000

SPD Information	
Information 1	Information 2
Manufacture Location	-----
Manufacture Date	-----
Specific Data	-----

SPD Information

Information 1Information 2Parameter

SPD Revision 00

SPD ID 0000

SPD Rev. 00

SPD Device Type

PMIC0 ID 0000

PMIC0 Rev. 00

PMIC0 Device Type

PMIC1 ID 0000

PMIC1 Rev. 00

PMIC1 Device Type

PMIC2 ID 0000

PMIC2 Rev. 00

PMIC2 Device Type

Tsensor ID 0000

Tsensor Rev. 00

Tsensor Device Type

5. XMP View: Show the information of XMP.

XMP View

ModuleProfile1Profile2Profile3

Profile Name

Module Speed

VPP Voltage

VDD Voltage

VDDQ Voltage

Control Voltage

CL Support

CL -tAA(min)

tRCD(min)

tRP(min)

tRAS(min)

tRC(min)

tWR(min)

tRFC1(min)

tRFC2(min)

tRFCsb(min)

CMD Rate Mode

Advance OC feature

CRC

Profile 1

5208 Mhz

1.80 V

1.10 V

1.10 V

1.10 V

22 26 28 30 32 36 40 42 46 48

16128 ns (42 T)

16128 ns (42 T)

16128 ns (42 T)

32256 ns (84 T)

48384 ns (126 T)

29952 ns (78 T)

295 ns

160 ns

130 ns

130 T

Not Supported

B4BE

6. XMP Wizard: Establish the needed specification for XMP by wizard.

DDR5 XMP Wizards

DDR5 XMP 3.0

XMP Profile: Profile 1
 Profile Name: Profile 1
 Module Speed: DDR5-4800
 Vdd Voltage: 1.10 V
 Vpp Voltage: 1.80 V
 Vddq Voltage: 1.10 V
 Control Voltage: 1.10 V

CL Support

<input type="checkbox"/> 20	<input checked="" type="checkbox"/> 22	<input type="checkbox"/> 24	<input type="checkbox"/> 26	<input checked="" type="checkbox"/> 28	<input checked="" type="checkbox"/> 30	<input type="checkbox"/> 32	<input type="checkbox"/> 34
<input checked="" type="checkbox"/> 36	<input type="checkbox"/> 38	<input checked="" type="checkbox"/> 40	<input checked="" type="checkbox"/> 42	<input type="checkbox"/> 44	<input type="checkbox"/> 46	<input type="checkbox"/> 48	<input type="checkbox"/> 50
<input type="checkbox"/> 52	<input type="checkbox"/> 54	<input type="checkbox"/> 56	<input type="checkbox"/> 58	<input type="checkbox"/> 60	<input type="checkbox"/> 62	<input type="checkbox"/> 64	<input type="checkbox"/> 66
<input type="checkbox"/> 68	<input type="checkbox"/> 70	<input type="checkbox"/> 72	<input type="checkbox"/> 74	<input type="checkbox"/> 76	<input type="checkbox"/> 78	<input type="checkbox"/> 80	<input type="checkbox"/> 82
<input type="checkbox"/> 84	<input type="checkbox"/> 86	<input type="checkbox"/> 88	<input type="checkbox"/> 90	<input type="checkbox"/> 92	<input type="checkbox"/> 94	<input type="checkbox"/> 96	<input type="checkbox"/> 98

CL-tAA(min): 40 T
 tRCD(min): 40 T
 tRP(min): 40 T
 tRAS(min): 77 T
 tRC(min): 116 T
 tWR(min): 72 T
 tRFC1(min): 295 ns
 tRFC2(min): 160 ns
 tRFCsb(min): 130 ns
 CMD Rate Mode: 2 T

Cancel Setup Close

7. SPD Write Protect: Setting the writing protect for the block in needed

SPD Write Protect


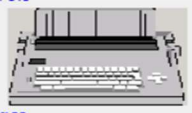
☒ User Define ☐ All Protect ☐ All Clear

☐ Block 0 (Byte 0-63) ☐ Block 8 (Byte 512-575)
☐ Block 1 (Byte 64-127) ☐ Block 9 (Byte 576-639)
☐ Block 2 (Byte 128-191) ☐ Block 10 (Byte 640-703)
☐ Block 3 (Byte 192-255) ☐ Block 11 (Byte 704-767)
☐ Block 4 (Byte 256-319) ☐ Block 12 (Byte 768-831)
☐ Block 5 (Byte 320-383) ☐ Block 13 (Byte 832-895)
☐ Block 6 (Byte 384-447) ☐ Block 14 (Byte 896-959)
☐ Block 7 (Byte 448-511) ☐ Block 15 (Byte 960-1023)

Defuse Module WP Setup Close



※After setting the write protect, need to check {SPD Write Protect} in main page. It will eliminate the protection if {SPD Write Protect} is not checked.

DDR5 SPD Information			Module Status	
Information 1	Information 2	Parameter	Pass	Fail
Memory Type	DDR5 SDRAM		1	
DIMM Type	Unbuffer-DIMM		2	
Module Density	8 GB		3	
Module Ranks	1 Ranks		4	
Module Speed	4800 MHz		5	
Module Bus Width	2 ch 64 bit(32/32)		6	
Module Voltage	1.1/1.1/1.8 V		7	
SDRAM Density	1 Gb		8	
SDRAM Width	8 bit			
SDRAM Banks	2 Banks 8 Groups			
Number of Row	16			
Number of Col	10			
CL Support	22 28 30 32 36 40 42			
CL-tAA	16640 ps (40T)			
tRCD	16640 ps (40T)			
tRP	16640 ps (40T)			
tRAS	32032 ps (77T)			
CRC (0-509)	3ED5			
Serial Number	00000000			
Part Number				
DRAM ID	0000			
Module ID	0000			

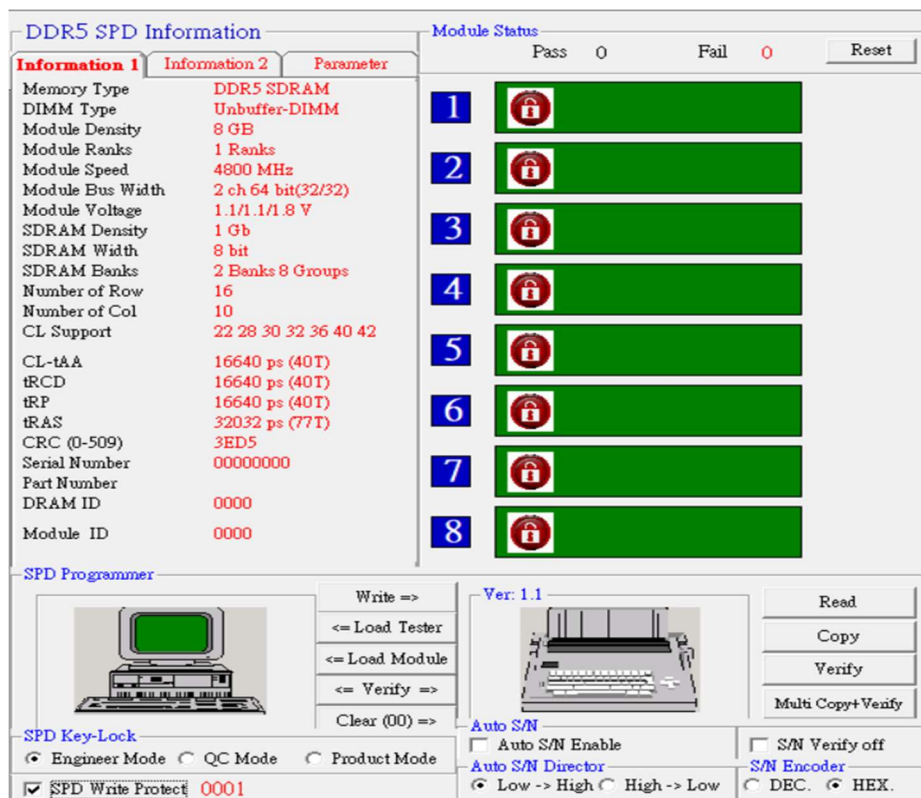
SPD Programmer	
	Write => <= Load Tester <= Load Module <= Verify => Clear (00) =>
Ver: 1.1 	Read Copy Verify Multi Copy+Verify

SPD Key-Lock	
<input checked="" type="radio"/> Engineer Mode <input type="radio"/> QC Mode <input type="radio"/> Product Mode	<input type="checkbox"/> SPD Write Protect 0001

DDR5 SPD Information			Module Status	
Information 1	Information 2	Parameter	Pass	Fail
Memory Type	DDR5 SDRAM		1	
DIMM Type	Unbuffer-DIMM		2	
Module Density	8 GB		3	
Module Ranks	1 Ranks		4	
Module Speed	4800 MHz		5	
Module Bus Width	2 ch 64 bit(32/32)			
Module Voltage	1.1/1.1/1.8 V			
SDRAM Density	1 Gb			
SDRAM Width	8 bit			
SDRAM Banks	2 Banks 8 Groups			
Number of Row	16			
		38 30 32 36 40 42		
		40 ps (40T)		
		40 ps (40T)		
		40 ps (40T)		
		32 ps (77T)		
		05		
		00000		
Part Number				
DRAM ID	0000			
Module ID	0000			

SPD Programmer	
	Write => <= Load Tester <= Load Module <= Verify => Clear (00) =>
Ver: 1.1 	Read Copy Verify Multi Copy+Verify

SPD Key-Lock	
<input checked="" type="radio"/> Engineer Mode <input type="radio"/> QC Mode <input type="radio"/> Product Mode	<input checked="" type="checkbox"/> SPD Write Protect 0001

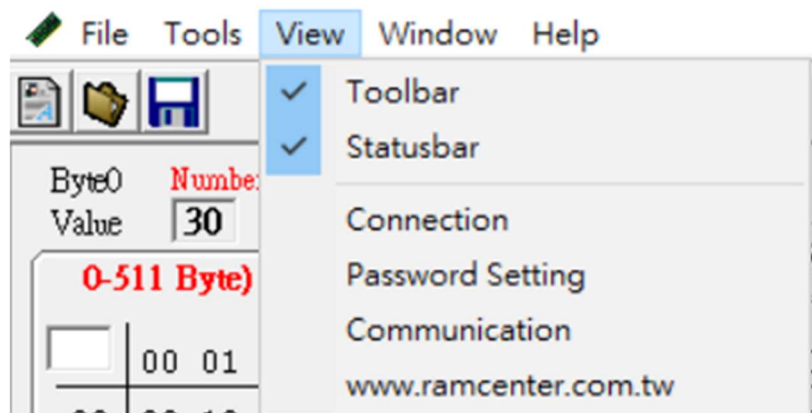


The picture below will appear once writing protection is set and the auto setting serial number is on:

The Writer will appear <!> and <?> two sighs, meaning that write protect and auto setting serial number have been turned on.

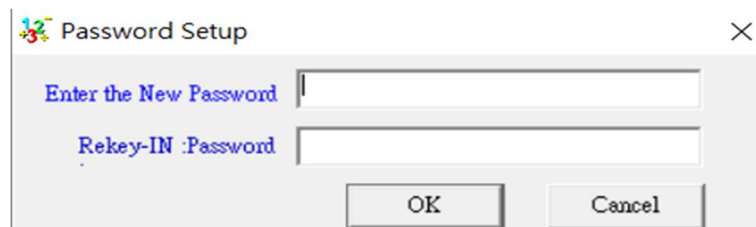


<View>

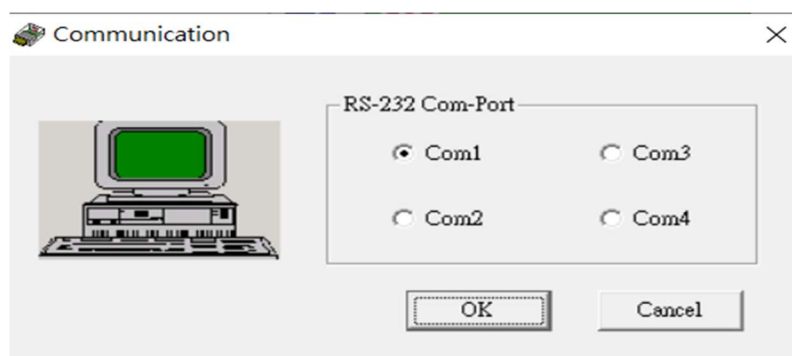


Following are some illustrations for some options in <View>:

1. Password Setting: Besides the setup in the first time, the password can be changed here.



2. Communication: Choose the cable



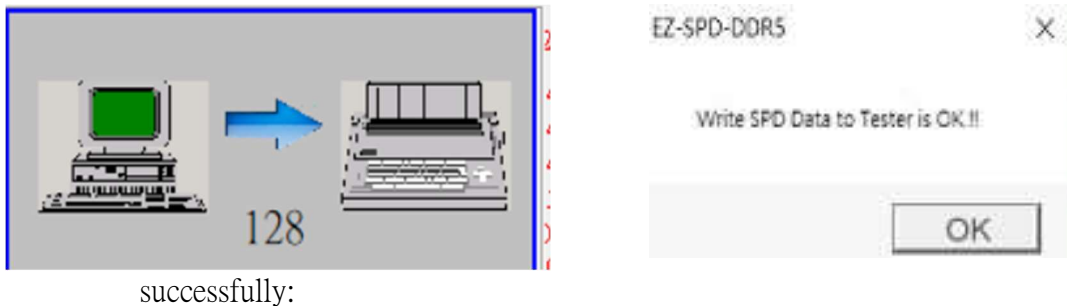
※ The Com1 is the default for using the RS-232 cable. For using USB to RS-232 cable, check the COM cable in Computer Management.

Part II

PC Client function option

Following are some illustrations for some options in the PC client:

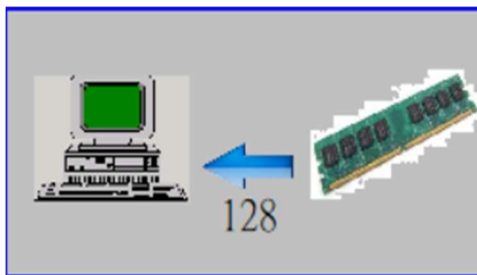
1. Write: Write the SPD code in PC to DDR5 SPD Writer. First picture below will appear when writing is in progress. Second one will appear when writing



2. Load Tester: Load the SPD code in SPD Writer to the PC client, and show the SPD information on the screen. First picture below will appear when loading is in progress. Second one will appear loading successfully:



3. Load Module: Load the SPD code from the module on SPD Writer to the PC client, and show the SPD information on the screen. First picture below will appear when loading is in progress. Second one will appear loading successfully:

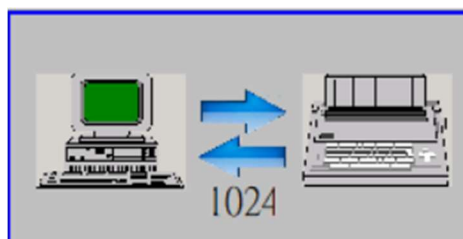


Picture below will show when the module is not plugged properly or EEPROM is damaged:



4. Verify: Verify if the SPD code in the PC client and SPD Writer is the same. Picture below appeared when verifying is in progress:

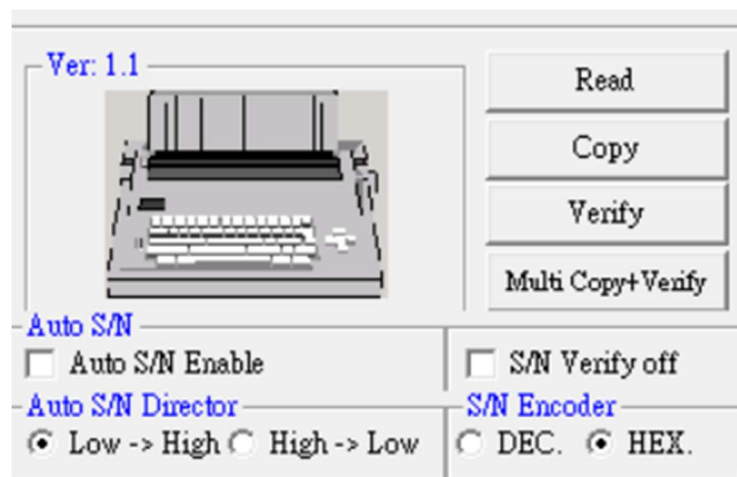
Verify fail



5. Clear: Clear the SPD code in DDR5 SPD Writer.



DDR5 SPD Writer Client function option



Following are some illustrations for some options on PC for DDR5 SPD Writer:

1. READ: Read the SPD code from the module on the Writer and store the SPD code in the Writer.
2. COPY: Copy the SPD code from the Writer to the module.
3. VERIFY: Verify if the SPD code in the Writer is the same as the code in the module.
4. Multi Copy+Verify: Copy and verify the SPD code from the Writer to the module on the Burning Board.

(The 4th option can be changed from "SETUP" in SPD Writer. <ML_C+V> is multi copy + verify, <M_Copy> is multi copy, and <M_Vefi> is multi verify.

New option will appear on the PC after the Writer reconnects to the PC.)

※ When operating copy and multi copy, following options will appear on SPD monitor for burning:

1. <ML_C+V>: Multi Copy + Verify.
2. <A_s/n>: Auto setting serial number.
3. <V_s/n>: Turn off the verification for the serial number.
4. <D_s/n>: Arrangement for auto setting serial number.
5. <EN_Code>: Can choose the positional numeral system with hexadecimal or decimal

※ When operating multi copy, please remove the module on the SPD Writer to prevent misjudgement.

※ Following pictures will appear when the copy is finished.



SPD Key Lock: Engineer Mode, QC Mode, and Product Mode

Engineer Mode: When selecting the Engineering Mode, represent all the keys unlocked and all functions are available.



QC Mode: Following picture will show when selecting QC Mode:



In the meantime, the SPD Writer will be like the picture below, meaning that <COPY> and <SETUP> are unavailable:



Product Mode: Following picture will show when selecting Product Mode:



In the meantime, the SPD Writer will be like the picture below, meaning that <SETUP> is unavailable:



Burning Board

Pressing the button on Burning Board can operate like <M_COPY> on SPD Writer, burning the SPD code from the Writer to the module on Burning Board.

※ During the operation, the green light on Burning Board meaning that burning is in progress, red one meaning burning successfully, while no lit meaning Fail.

