SU-6000 User's Manual



Contents

Chapter 1 SU-6000 Hardware Installation	3
Chapter 2 SU-6000 Software Installation	.8
Chapter 3 SU-6000 Operation Manual (For NAND FLASH)1	2
Chapter 4 SU-6000 Operation Manual (For NOR/SPI FLASH)2	21
Chapter 5 Problems solution:2	26

Chapter 1: SU-6000 Hardware Installation

1. Surface

(1) SU-6000's front: Please check reed. If reed is a serious distortion and deformation, it should be adjusted.



(2) SU-6000's side



- (3) How to connect cables to SU-6000?
 - (1) Ground wire : Use the wire for the ground.
 - (2) ID knob : It should be set a different ID number when connect multiple SU-6000 in the same PC. If so, the PC software will be able to correctly identify the different SU-6000.
 - (3) USB: A USB cable (A to B connector) for access to PC.
 - (4) AC power cord : 110V AC~240V AC power
 - (5) Power: "-": turn on/ "O": turn off



2. Setup Adaptors

(1) Align the adaptors on the fixed-points of the connectors.





(2) Put the the adaptors gently and slight move the them. Make sure the PCB and the fixed-points have been wedged. Then, screw them.

(3) Four screws should be locked in a clockwise direction slightly first, then, lock them tight. These actions can avoid the dis-average pressure between the PCB and the reed which will cause the damage on the reeds.





(4) Just screw by hand will be fine. It not necessary to use tools such as screwdriver. Screw too tight will cause damage to the connector.

(5) After all of the adaptors locked, the SU-6000 hardware setting has completed.



3. Power SU-6000 on

(1) Power on the power switch.



(2) After power on, the LED will keep bright state.



(3)Then, run the PC software and start programming.

Chapter 2: SU-6000 Software Installation

1. SU-6000 System Requirement

- (1) Operating system: Windows XP SP2 (Recommend)
- (2) Processor: Pentium 4 and above
- (3) Memory: 512M and above
- (4) Hard Disk: over 200M free space(Depend on IC Size)
- (5) Interface: USB 2.0 High Speed interface

2. SU-6000 Driver Installation

(1) Connect the power cord and USB cable with SU-6000. At the first time you turn the power on, a message as below picture should appear on the right bottom of your screen.



(2) Await "add new hardware" dialog box to appear then choose the option "No, not this time" to start installation.



(3) Then click the option of "Install from a list or specific location(Advanced)".

Found New Hardware Wizard	I
	his wizard helps you install software for: Grang Programmer for group hardware came with an installation CD or floppy disk, insert it now. And do you want the wizard to do? Install the software automatically [Recommended] Distall from a list or genetic location (Advanced) lick Next to continue.
	< <u>B</u> ack <u>N</u> ext> Cancel

(4) Choose the file route of driver.



(5) When the below dialog box appears, please click "Continue Anyway".





(6) Click the "Finish" button to complete the driver of SU-6000.

Chapter 3: SU-6000 Operation Manual (For NAND FLASH)

 Open the file folder where SU-6000 software located, execute program "SU-6000 nand", then enter "Order Manager" dialog box to proceed the setup before programming.

SU-6000 GANG I	ROGRAMMER		
ß	Order Manager	Order Manag	er Device Parameter
Project Name	Project1	•	Select
IC Vendor	SAMSUNG		Device
PartNumber	K9G8G08U0M(TS48)		Select
File Name	Data From Buffer		
Quantity	Unlimited 🔹 🥯		
Procedure	Image: First organ → Image: First organ Block Option Image: Scan Bad Block Image: Image: State	/erify	
		X Can	cel 🖌 OK
formation			
Times	Status C	iear Information	Save Information

2. Press "Select Device" button to choose the vendor and part number. Then press "OK" to go back the previous "Order Manager" dialog box.

Manufacturer			Type N	Tumber		
HYNIX			HY27US	08121M(TS48)		
HYNIX INTEL MICRON SAMSUNG ST TOSHIBA			HY27UF HY27UF HY27UF HY27UF HY27UF HY27US HY27US HY27US HY27US	081G2A(TS48) 082G2A(TS48) 084G2M(TS48) 088G5M(TS48) 0084G2M(TS48) 08121A(TS48) 08121A(TS48) 08121K(TS48) 08121N(TS48) 08281A(TS48) 08281A(TS48)		
PIN : 48	¥CC = 3.30	VCCP -	= 3.30	VPP = 3.30		
SIZE : 64M*8bits						
Note : SU-6K-NAND-T	SOP48					
				X Can	cel	ок

3. Press "Select File" and select the file route of programming and beware the file content. You have to click "File Include Spare Area Data" option if the file contains spare area data. Make confirmation again then press "OK" to go back to "Order Manager" box.

format	Source Select :
MS-DOS fn.exe	Start Address : 0000000000
MS-DOS fn.com	End Address : 0000041FFF
Binary / Machine Code	Destination Select :
Intel HEX	
Motorola HEX	Start Address : 0000000000
Tektronix HEX	🔽 Fill unused with
POF	🔽 File Include Spare Area Data
ror	V Pue include Spare Area Data

4. Confirm the program procedure; "Scan Bad Block" means to scan bad block before programming, "Ignore Bad Block" means to program without a bad block check. Please select "Scan Bad Block" in common circumstance.

	Program Read Verify Erase Group Define
Procedure	♥ Erase ▶ ♥ Program ▶ ♥ Verity Block Option © Scan Bad Block © Ignore Bad Block

5. After you complete above procedures, click "OK" to enter the program box.



6. Then select the order in "Function" column (the default setting is "program"). Put the IC properly then click "Start" button and wait the "BEE~~" sound which represents program complete. The result will show on the screen and the LED on programmer will also show the result by different light signals.



7. Take the programmed IC and put another blank one, click "Start" to continue programming until complete all the scheduled work.

8. Software Icon Instruction



- 9. Specific Function of programming Nand Flash
 - (A) The Way to Process Group Program

Please refer to the below picture to load define file.

1	Order Manager	B	Order Manager		Device Paramete
-			Edit		Utility
Project Name	Project1		-	 5	Select
IC Vendor	SAMSUNG		— ļ		Device
Part Number	K9F1208U0C(TS48)				Select File
File Name	test.bin				
Quantity	Unlimited 💌 🥯				
(6	Program Read Verify Erase Gro	up Define	3		
	Load Group Define File	Group Defi	ne		
Procedure	Group Define File Name :		inc i		
	H:\su6000\SU-6000_0731\DataBase\G	roup [\] group	512.def (5)	
	·				
		2	Cancel		ок
Select dev	vice				(
Load the f	ile that you are going to program ir	nto the d	levice. (1	The file	e must
include all	data of Group Program)		,		
Select " G	roup Define "				
Mark " Usi	ing Group Define "				
Press "Loa	ad Group Define File" then select g	group51	2.def		
Select "Pr	ogram" then mark "Scan Bad Bloc	k"			
Press "OK	" to ovocuto programming				

is a new setting, user must load another Group Define File.

* Please operate according to the procedures above after starting the software.

(B)How do create a "Group Define file" :

- (1) First, use the software which can be edited as binary and open the Group Define file. In SU-6000 software directory (database\group) has a pre-defined file (group64M.def) for reference.
- (2) Enter edit mode to start editing:

1	🛛 Dump Edit																												
Second 1	8 Bits 16 Bits Buffer Information Buffer Map Byte Swap 1																												
ſ			Γ		Γ		Π	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	OD	0E	OF	٥	1	2	3	4	5
		0	0	1	D	0	0	47	52	4F	55	50	2)0	44	45	46	3)9	4E	45	32	4 0	00	00	G	R	0	U	Ρ	
	1	0	0	0	0	1	0	01	00	00	00	00	00	00	00	BF	0D	00	00	FS	03	00	00	8					
	19	0	0	0	0	2	0	01	00	00	00	CO	0D	00	00	BF	0F	00	00	71	01	00	00	8				L	3
		0	0	0	0	3	0	01	00	00	00	CO	OF	00	00	FF	0F	00	00	02	00	00	00	8				L	*
	<u>@</u>	0	0	0	0	4	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
	9	0	0	0	0	5	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
	100	0	0	0	0	б	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
		0	0	0	0	7	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
	CP:	0	0	0	0	8	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
		0	0	0	0	9	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
I		0	0	0	0	A	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
		0	0	0	0	В	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
		0	0	0	0	С	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
		0	0	0	0	D	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
		0	0	0	0	E	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						
		0	0	0	0	F	0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF						

- **1** From the beginning of 000010, each 16 byte as a group.
- 2 The start block of this group.
- 3 The end block of this group.
- A Need to program number of this group.

I	P D	110	ıp	B	di	it																								
1	Bits 16 Bits Buffer Information Buffer Map Byte Swap																													
Г	~	Ī	٦	٦		Г	Π	Π	00	01	02	03	04	05	06	07	08	09	OA	OB	loc	OD	0E	OF	O	1	2	3	4	5
	6		5	0	0	0	0	0	47	52	4F	55	50	20	44	45	46	49	4E	45	32	00	00	00	G	R	0	U	Ρ	
	閛	1)	0	0	0	1	0	01	00	00	00	00	00	00	00	BF	0D	00	00	FS	03	00	00	8					
	29	(2)	0	0	0	2	0	01	00	00	00	CO	0D	00	00	BF	OF	00	00	71	01	00	00	8				L	3
ŀ		(3)	0	0	0	3	0	01	00	00	00	CO	OF	00	00	FF	OF	00	00	02	00	00	00	0				L	*
			5	0	0	0	4	0	FF	FF	FF	FF																		
	99)	0	0	0	5	0	FF	FF	FF	FF																		
ľ	en.i)	0	0	0	б	0	FF	FF	FF	FF																		
ŀ	1.37)	0	0	0	7	0	FF	FF	FF	FF																		
	CP)	0	0	0	8	0	FF	FF	FF	FF																		
ľ)	0	0	0	9	0	FF	FF	FF	FF																		
)	0	0	0	A	0	FF	FF	FF	FF																		
)	0	0	0	в	0	FF	FF	FF	FF																		
			0	0	0	0	С	0	FF	FF	FF	FF																		
)	0	0	0	D	0	FF	FF	FF	FF																		
			0	0	0	0	E	0	FF	FF	FF	FF																		
)	0	0	0	F	0	FF	FF	FF	FF																		

(3) As below picture, define 3 groups:

- group from the block 0 till the block 0x0DBF, the total number of programming block for 0x03F5.
- group from the block 0x0DC0 till the block 0x0FBF, the total number of programming block for 0x0171.

group from the block 0x0FC0 till the block 0x0FFF, the total number of programming block for 0x0002.

(4) Notes:

Group definition of the size can not exceed the number of IC block, and each group can not overlap each other.

Need to have a corresponding programming image file (includes spare area data and blank block).

- (C) MLC Nand Flash Error Bit check function
 - (1) After programming is completed, if the software shows a'! PASS !' message, it means there is the corresponding adaptor of the IC have a page does not exceed 4 bit error-bit data.



(2) Press click right button of mouse and select 'view error bit count'.



(3)The software shows error bit record, as the following picture:

- TX1 : There are 3 error pages; each page has an error bit.
- TX2 : No data
- TX3 : No data
- TX4 : No error bit



Chapter 4: SU-6000 Operation Manual (For NOR/SPI FLASH)

1. Execute program "SU-6000", then enter "Order Manager" dialog box to proceed the setup before programming.

2 SU-6000 GANG I	PROGRAMMER		
3	Order Manager	Urder Menage V Editor Save	r Device Parameter
IC Vendor Part Number Package File Name	AMIC A25L080 SOP8-150		Select Device Select File
Procedure	Program Read Verify Erase Image: Blank Check Image: Blank Check Image: Blank Check	Mex) 🗆 Veri	fy Vcc(Min)
			🖌 ок
Information Times	Status	Clear Information	Save Information

 Press "Select Device" button to choose the vendor, part number and packing. Then press "OK" to go back the previous "Order Manager" dialog box.

Manufacturer		Type Number			Package
MXIC		MX29LV640BTT			TSOP48(20mm)
HYNIX INTEL MICRON MXIC PMC SAMSUNG SEIKO SPANSION SST		M%29LV160CTT M%29LV320DBT M%29LV320DTT M%29LV640BBT M%29LV640BTT M%29LV640DTT M%29LV640DTT M%29LV640DTT M%29LV800CBT M%29LV800CTT			TSOP48(20mm)
PIN : 48	Mar	n. Code: 0x00C2	Dev. Code: 0x22C9	Туре	: Memory
SIZE : 64M bits					
Note : SU-6K-NOR-TSO	P48				
			2	Can	icel 🖌 OK

Press the "Select file" and select the file route of programming and beware the file content, then press "OK" to go back to "Order Manager" box.

🕼 SU-6000 GANG PROGRAMMER		
H:\TESTFILE\mx29lv640_080820-1.Bl	N	
File Format	Fill Unused By	
Auto Detect		Л ок
C MS-DOS fn.exe	• 0xFF	
O MS-DOS fn.com		
C Binary / Machine Code	0.0.00	Cancel
O Intel HEX	0000	<u>[[]</u>]
O Motorola HEX		
C Tektronix HEX	O Other FF	
O POF		

4. Confirm the program procedure as follow:

Blank Check + Erase(if the device is in blank will not process the Erase function) \rightarrow Blank Check \rightarrow Program \rightarrow Verify Normal

	Program Read Verify Erase
	🔽 Blank Check \Rightarrow 🔽 Erase
Procedure	→ 🔽 Blank Check
	🔿 🔽 Program
	→ 🔽 Verify Normal → 🗖 Verify Vcc(Max) → 🗖 Verify Vcc(Min)
	🔿 🗖 Protect

5. After you complete above procedures, click "OK" to enter the program box.

😰 SU-6000 GANG PROGRAMMER					
0 1 FAIL: TOTAL START	2 PASS: PAS	Order Device M00C M023 File HATESTFI Sum 005A96A	BLV640BTT TSOP48(20mm) LEVmx29N640_080820-1.BIN D7A		
R		Functions Blank Che Process Blank Che Program +	ck + Erase -> Blank Check -> Venty		
		Count	00		
	GANG PROGRAMMER	PASS	0 0%		
	Copyright (C) LEAP ELECTRONIC CO.,LTD. www.leap.com.tw	FAIL TOTAL	0 0%		
Information	Status	Clea	Information Save Information		
2008/09/12 17:05:28 : Dow 2008/09/12 17:05:28 : Fale 2008/09/12 17:05:28 : Fale 2008/09/12 17:05:28 : Folg 2008/09/12 17:05:34 : Prog 2008/09/12 17:05:34 : Prog 2008/09/12 17:05:36 : Folg 2008/09/12 17:05:36 : Fale 2008/09/12 17:05:36 : Fale 2008/09/12 17:05:36 : Fale 2008/09/12 17:05:36 : Fale	enclosed for fine 1 binary 66-1 checksam-diffetSiSIMD7A binarksam-diffetSiSIMD7A genamer unt 1 - devended FPGA success 1 genamer unt 1 - devended FPGA success 1 success 1 - devended FPGA success 1 - devended FPGA success 1 success 1 - devended FPGA success 1 - devended FP		×		

6. Then select the order in "Function" column (the default setting is "program"). Put the IC properly then click "Start" button and wait represents program complete. The result will show on the screen and the LED on programmer will also show the result by different light signals. (Green light: Pass; Red light: Fail.)



7. Take the programmed IC and put another blank one, click "Start" to continue programming until complete all the scheduled work.

8. Software Icon Instruction





- 2 Fail quantity
- 3 Total quantity
- Adaptor status
- **5** Enable the adaptor (marked)
- 6 One unit "Start" button (Execute programming)
- **B** Description of function key
- 9 Back to "Order Manager" window
- 10 Total pass quantity of 4 sites
- 1 Total fail quantity of 4 sites
- 12 Total quantity of 4 sites
- (B) One/Multiple unit " Start" button (Execute programming)
- 14 Zero the counter
- 15 Information column

Chapter 5: Problems solution:

- 1. Unable to find the programmer.
- Please make sure the power is on.
- Does USB cable connect properly?
- Dose the driver install correctly?
- · Confirm that if the USB port is 2.0 High Speed interface.
- 2. Unable to detect IC and proceed programming:
- Please check: Does the IC put properly? Is it in right insertion way? Are the connected pins clean and ordered? (Please use brand new IC for programming, do not use the used ones in case shorten the adapter's life.)
- Is the adapter's part number correct? Is the socket out of usable period?
 Exceed limited using frequency? (Adapters are expendables, please purchase a new one if the original adapter is unable to use.)
- Appear abnormal operation situations: Shut down the programmer and software. To try again by re-execute the software and turn on the power of programmer.
- Microsoft operation system after Win 2000/XP and later needs to have administrator privilege to install driver or other application.