PCB5.0C EPROM Program Operating Manual (English language)



-. The hardware



- 1. The jumpers for Volt set
- 2. The USB cable for power supply
- 3. The DC cable for power supply
- 4. The jumpers for power select(DC or USB)
- 5. The 25 SubD cable
- 6. DIP switch (see window STATUS of software)
- 7. The jumpers for special devices

8. Set PCB4. 5C or PCB3B
9. The jumpers for special devices
10. The ZIF Socket for devices
11. For PLCC32 devices(Volt is 5V)
12. For PLCC32 FWH/LPC devices(Volt is 3. 3V)
13. The ZIF Socket for 25XX devices
14. The ZIF Socket for 93XX devices
15. The ZIF Socket for PIC devices
16. The ZIF Socket for 24XX devices

二.The BIOS setting

Check the parallel port setting in the BIOS, it should be EPP or ECP+EPP

CHOS Setup Utility - Copyright (C) 1984-2002 Award Software Integrated Peripherals			
On-Chip Primary PCI IDE	[Enabled]	Item Help	
IDE Primary Master PIU	HUCOL	Maline Transfer	
THE Primary Slave FIU	HUTOI	Menu Level)	
IDE Frimary Master UDNA	[HUTO]		
THE FRIMARY STAVE UNH	[HUTO]		
UN-UNID Secondary PUL IDE	[Chapled]		
THE Secondary Master FIU	HULU I		
The Secondary Stave Flu	[Auto]		
THE Secondary Flatter UNH	Inut of	$\alpha = \beta$	
USR Centroller	[Epsb]ed]		
ISB Keuboard Support	[Dicabled]		
IISB Mause Support	Ulisabled 1		
AC'97 Audio	[Auto]		
AC'97 Modem	[Auto]		
Anhoard LAN selection	It nah led l	Menu Level	
INE HAD Block Mode	[Enabled]	Hend Level IV	
Flanny Controller	[Enabled]		
Serial Port A	F3F8/18041		
Serial Port B	12F8/18031		
Serial Port B Mode	[Normal]		
RxD , TxD Active	[Hi.Lo]		
IR Transmission Delay	[Enabled]		
IR Buplex Mode	[Half]		
IR Pin Select	[IR-Rx2Tx2]		
Parallel Port	[378/1807]		
Parallel Port Mode	[ECP]		
EPP Version	1.71		
ECP Mode Use DMA	[3]		
Onboard Game Port	[201]		
Onboard Midi Port	330		
Midi IRQ Select	10) 🔻		

Ξ . Hardware connection

1. Connect to the printer port with a 25 SubD cable, the cable should not be longer

than 1.8 meter(6 feet standard cable).

This must be a fully wired 1:1 cable, a null modem or serial cable won't work. 2. Connect the power supply with a USB cable or DC power, the power led(green) must go on.

四.the software



1. Install the setup. exe, and run the software.

2. Some driver problems may occur under Windows 2000:

- * first, delete an entry in the device manager as follows:
- 1. On the Start Menu, click Start --> Settings --> Control Panel.
- 2. In the Control Panel, double click the System icon.
- 3. In the System Properties window, click the Hardware tab.
- 4. On the Hardware tab, click the Device Manager button.
- 5. In the Device Manager menu, click View --> Show Hidden Devices.
- 6. In the device list find the Non-Plug and Play Drivers entry. Click the plus' sign on the left of the entry to expand the list.

7. Find the dlportio entry and right-click it. Click on Uninstall in the context menu that appears.

五.Test the connection with Test Hardware

Before put the IC in the programmer board, you have to run software fist for cutting Vdd and Vpp which will supply to EPROM. You can check programmer board connecting by using tab bar **Test H/W** on button of the panel or using menu **Help -> Text Hardware**

🛲 PCB4.5c EPROM Program -	
<u>F</u> ile <u>E</u> dit <u>D</u> evice <u>A</u> ction <u>H</u> elp Bioshome:www.rebios.ne	t
🗃 🔚 🏷 惧 📢 <u>T</u> est Hardware	🐝 🌾
About Device Select SST49LF004A Size & Checksum $0x7FFFF$ $0x0000$ Shift & Pattern adr $A0 \rightarrow A18$ $0x040000$ WP $0x0000$ 40.0 uS WC $0x0000$ 40.0 uS Vpp $1 2 3 4 5 6 7 8 9 101112$ $0N$ ADAPTER	FWHILPC
Firmware Hub / LPC Smart Program chip SST and Winbond (reduce time Prog. 30-40%) Quadruple Byte Program (ST micro M50xxxx) 50.0 uS	Programmer Settings
H\L delay time (On-Off Vcc)	Check Type 16 Bit Add Printer Port LPT1 (0x378)
Device Buffer temp Configs Test H/W CFG PIC18Fxxx	
StatusBar	

Hardware test fail,Causes:

1. The connect of printer port is error.

2. The connect of power supply is error.

六.Burn a device 📏

1. Selecting the IC number that you want to program by using menu **DEVICE** or click the button



🚟 PCB4.5c EPROM Program —			
<u>F</u> ile <u>E</u> dit <u>D</u> evice <u>A</u> ction <u>H</u> elp	Bioshome:www.rebios.net		
🚔 🖬 🛛 🏷 惧 🍫 🍬 🕫	A->B	%	4
Device Select SST49LF004/ Size & Checksum 0x7FFFF 0x000 Shift & Pattern adr A0 -> A18 0x04 twP	EPROM EPROM Electrical Erase EEPROM Flash 28Fxxx Flash 29/39/49Fxxx Flash 29/39/49常用芯片 mcs51 programming MCS-51 MCS-48/41 AVR SRAM DS12xx/TimerKeeper	 PC PC nmer (Settings
Smart Program chip SST and Winbond (r Quadruple Byte Program (ST micro M50x R\C delay time (On-Off Vcc)	DS12xx/TimerKeeper Serial programming Microchip PIC10/12/16 Microchip PIC18Fxxx I2C 24Cxxx SPI 25Cxxx Microwire 93Cxx S24H(S)xx	ip Wi st Pro Hex) Type Port	ite OxFF ogramming 0 16 Bit Add LPT1 (0x378)

2. For **the IC type 8-pin,18-pin** setting DIPswitch doesn't need, but for **the IC type 28-pin, 32-pin** you have to set the DIPswitch same as the DIPswitchsetting picture.

PCB4.5c EPROM Program -	
[ile <u>E</u> dit <u>D</u> evice <u>A</u> ction <u>H</u> elp Bioshome:www.rebi	ios. net
🚰 🖬 🖄 🦫 惧 🍫 🏇 🕒 A->B	%
Device Select SST 29EE010 Size & Checksum 0x1FFFF 0x0000 Shift & Pattern adr A0> A16 0x010000 WP	
AT28C/29Cxxx Sector Progamming Sector size 128	Programmer Settings Skip Write 0xFF Fast Programming
	Offset (Hex)
	Check Type 16 Bit Add 💌
	Printer Port LPT1 (0x378)
Device Buffer temp Configs Test H/W CFG PIC18Fxxx	
StatusBar	

Programming **the IC FLASH Memory 28C,29F,29C040 4 Mbit** you have to set the jumber, which locates on letf side of the DIPswitch, to the position 2-3(Default position is 1-2).

🖷 PCB4.5c EPROM Program —		
<u>F</u> ile <u>E</u> dit <u>D</u> evice <u>A</u> ction <u>H</u> elp Bioshome:www.rebios.r	net	
🗃 🔚 🏠 🦠 惧 🍫 🧤 💷 A->B	\$	4
Device Select SST 39SF040 Size & Checksum 0x7FFFF 0x0000 Shift & Pattern adr A0> A18 0x040000 WP 2.0 uS A18 1 2 3 4 5 6 7 8 9 101112 ON 0N		Dereye
	Programmer S Skip Wri Fast Pro	ettings ite OxFF gramming
	Offset (Hex)	0
	Check Type	16 Bit Add 💌
	Printer Port	LPT1 (0x378) 💌
Device Buffer temp Configs Test H/W CFG PIC18Fxxx		110
StatusBar		1

3. When you has finished the file, then select menu **ACTION** (as the picture below) or click icon on toolbar menu.

File Edit Device Action Help Bioshow Image: Select Read C Device Select Gompare/Verify C Size & Checksum Blank Check C Shift & Pattern adr Get ID 28/29/49/89/90/PIC C Get ID 28/29/49/89/90 C WP Image: Sector Size Move A to B address Copy Data to Full CHIP AT28C/29Cxxx Sector Progamming Sector size 128 Image: Sector size	me:www.rebios.net
Read 0 Device Select Compare/Verify Size & Checksum Checksum Shift & Pattern adr Get ID 28/29/49/89/90 WP Image: Select WP Image: Select WP Image: Select WP Image: Select NWC Image: Select WC Image: Select NWC Image: Select State & Checksum Get ID 28/29/49/89/90 WP Image: Select NWC Image: Select NWC Image: Select Nove A to B address Copy Data to Full CHIP	Ctrl+R Ctrl+P Ctrl+B Ctrl+B Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+I Ctrl+B
AT28C/29Cxxx Sector Progamming Sector size 128	Programmer Settings Skip Write 0xFF Fast Programming Offset (Hex) Check Type 16 Bit Add
Duffer temp Configs Test UAI/ CEC DIC10	Printer Port LPT1 (0x378)
Device Buffer temp Configs Test H/W CFG PIC18	sBar
event	

Tooll	oar Menu and .	Action Menu Description		
😓 Read Chip	Reads program from the IC			
🐝 Program/TestRAM	Writes program into the IC			
Compare/Verify	Compares the program in the IC with the program in buffer			
Erase 28/29/49/89/90/PIC	Erases the program in the IC (* the IC number 27C has to erase by UV light)			
Sy CheckEmpty	Checks the IC is empty (0xFF)			
Get ID 28/29/49/89/90/PIC	Reads the ID code from CHIPS (For some devices when the software reads the ID code, it will set parameters to the CHIPS automatically)			
Boot Block Lockout	Protects the data from rewriting. This data can not earase by Erase command. (Make sure you don't want to change this data anymore)			
	Mode 1:	No protection		
Lock Modes 89C	Mode 2:	Protects the program in the chip from reading of cornand MOVC from outside memory, but it doesn't protect verification from the machine which's able to programming		
	Mode 3:	same mode 2 and protects verification		
	Mode 4:	same as mode 3 and protects the chip from out side memory programming		
ClearBuffer (0xFF)	Erases prog	ram from buffer = 0xFF		
CheckSumBuffer	Calculates CheckSum in buffer			

4. **Programming PIC** you have to set more parameters as the picture below.

Image: Provide and the select Image: Provide and the select Size & Checksum 0x7FF Shift & Pattern adr A0> WP Image: Provide and the select Vpp 1 2 3 4 5 6 7	Help Bioshor Help Bioshor M B A->B PIC 16F684 OxD1E0 A12 Ox010000 10.0 uS 4.0 mS B 9 10 11 12 ON	ne:www.rebios.net		eler
PIC Setting Oscillator RC ClkOut Code Protect CP OFF BODEN 11 CONFIG 0x3FFF ID FFF 11-1111-111 MCLRE +5V Device Buffer temp Confi	✓ WatchDog Power-up Timer ✓ MCLRE ✓ IESO ✓ FCMAN ✓ CP EEPROM gs Test H/W CFG PIC18 Status	Calibration Word 0x2008 0x2009 Read Write	Programmer S Skip Wri Fast Pro Offset (Hex) Check Type Printer Port	ettings ite 0x3FFF gramming 0 16 Bit Add LPT1 (0x378)

Programing Data (EPROM, EEPROM, FLASH, PIC)

1. Select device type (Menu Device)

2. Set the DIP switch (see window STATUS).DIPswitch switches can be red(like in the sofware), white or other colors.

3. Load program file (Menu File -> Load xxx)

4. Insert the IC to the ZIF Socket or the DIP socket

5. For: Eprom 27Cxxx,27xxx make sure you earase all data (UV erase) by use (Menu Action -> Checkempty)

Flash, Eeprom erase data by (Menu Action -> Erase 28x, 29x, 49x, AT89x)

PIC check parameter setting first by use (Menu Progsettings)

6. Program (Menu Action -> Program)

Reading Data (EPROM, EEPROM, FLASH, PIC)

1. Select device type (Menu Device)

2. Set the DIP switch (see window STATUS)

3. Insert the IC to the ZIF Socket or the DIP socket

4. Read data (Menu Action -> Read)

5. Save data, You can save as two types 1. binary(.bin) or 2. Intel hex (.hex) (Menu File ->Save xxx)

Programming MCS-51 (Adapter board is needed

1. Select pin type (40 or 20pin) and number program (Menu Device)

- 2. Set the DIP switch (see window STATUS).
- 3. Insert the IC to Adaptor board

4. Select device type. For ATMEL chip you can read the ID code and set parameters automatically (auto select)

5. Load program file (Menu File -> Load xxx)

6. Erase old program existing in the IC (Menu Action -> Erase 28C,29C,AT89)

7. Burn program (Menu Action -> Program)

8. Protect your data (protect from copying) (Menu Action ->Lock Bit)

TIPS

Programming AT89C55WD is needed voltage at least 5.6V

Programming data into the IC (follow ATMEL specification, it guarantees at 6.5 V)

If voltage less than 5.6V, it maybe can't program some lot of CHIPs.

It can solve this promblem by attaching one diode at the second pin of the IC 7805.

The voltage that supply to the IC will be 0.6+0.6+5 = 6.2 V

and the voltage that supply other chips will be increase 5.6 V.

When you have finished programming, you should move the added diod out to decrease voltage to 5.6V.

Warning:

never insert an eprom when you haven't started the program yet and the Vpp and Vcc leds are still burning.

Never remove the power supply lead or disconnect the adapter when an eprom is still in the socket, also make sure the power lead is firmly connected to the board and can't become disconnected.

All of this can cause random "writes" to your eprom and change it's contents.

八.For example:to burn flash IC:SST49LF004A

1. connect the hardware and power.run the software.

2. Select device type and set the DIPswitch .



ile Edit Device Action Help Bioshome:www.rebios	s. net 🕊 🕊
Device Select SST49LF004A Size & Checksum 0x7FFFF Shift & Pattern adr A0> A18 0x040000 WP	
Firmware Hub / LPC Smart Program chip SST and Winbond (reduce time Prog. 30-40%) Quadruple Byte Program (ST micro M50xxxx)	Programmer Settings Skip Write 0xFF Fast Programming
R\C delay time (On-Off Vcc)	Offset (Hex) 0 Check Type 16 Bit Add ▼
	Printer Port
Device Buffer temp Configs Test H/W CFG PIC18Fxxx	Printer Port

3. Insert chip to the FWH/LPC \underline{Socket}



4. check ID. (not possible with older 27(C)XXXX devices), If you can't get a valid chip ID it's useless to try reading, erasing or writing.

 Electronic ID

 Manufacture
 OxBF
 SST / Sanyo

 Device code
 0x60
 SST49LF004A

 OK
 OK

A valid ID gives the right manufacturer and chip type.

5. Erase IC, it is very fast

6.Click 🖻, load program file

7.Click[™]to program, the Vcc and Vpp led will light.

:	芯片编程操作	
	21%	N N
twp peak	twc peak	取消で
Loop Peak		44147

九.Error

Programming can fail in different ways:

First byte, error message: error at 0x000000 Buffer=0xXX ,Chip=0xFF or 0xXX. Causes: chip not inserted right,faulty chip,Vpp too low. random error,error message: error at 0xXXXXXX ,Buffer=0xXX ,Chip=0xXX Causes: 27CXXX eprom not completely UV erased,tWP too low,other causes.

Normally you should not change tWP and tWC unless you know what you are doing. If you get random write errors with 27(C)XXX eproms try higher settings. Older eproms like the 2716 need higher settings.

In the Buffer section you can see the contents of your program file or the chip if you have done a chip read.

The configs section give an overview of all settings and parameters.

If you need PIC in circuit programming, you can use a DIP connector for the 18 pin PIC 16F84 socket(5 gnd.,12 clock,13 data i/o,14 Vcc).

The Vpp volt set J6, J7



J8

normal (5V)	5V	5V6	6V2
□ □ J8		•	000

For the special devices

-	-				
NORMAL	2732	2716	2816	128F001	AT29C256
JP1	JP1	JP1	JP1	JP1	JP1
00		• • • •			00
JP2	JP2	JP2	JP2	JP2	JP2

Close the erase jumper only to erase W27X or SST27SFXXX devices.

W27Cxx or SST27SFxxx		
Pin 2/3 Pin		
🚼 🗹 4/2PIN		
8	芯片擦除	

For the special devices

Image: Normal Image: Normal	29XD40 (4Mbit) 29XD40 (4Mbit) 0 0 0 0 0 0	27CO80 (BMbit) 27CO80 (BMbit)
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Set the jumpers to $A18\ {\rm and}\ {\rm normal}\ {\rm for}\ {\rm standard}\ {\rm use}.$

Set the jumper to A19 for XXX080 devices.

Set the jumper to 29X040 for the 29F040,29C040 and for the 27C080(801)

A19,A20,A21 are used to connect to the TSOP 48 adapter.

A19, A20, A21 are also used to connect to the 16 bit 42 pin adapter(27C400..27C322).