Important information:

1.This instruction is suitable for RT809H programmer.

2.In order to connect the programmer more conveniently and faster, please connect the hardware after installing the software.

3.Please read the instruction carefully before using the programmer.

4.Please use the original USB data cable.

Copyright Statement

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RT809 series of programmers have acquired 6 China National invention patents, any unit or individual is not allowed to copy, photograph, regenerate, translate or restore to any form of electronic media readable by other machines, or will be investigated for legal responsibility.

This manual is subject to change without notice.

Once there are some differences against this instruction caused by software upgrade please follow to the software.

1.1 Brief

1.1.1 What is RT809F?

RT809F is a kind of cost-effective, reliable and fast universal programmer series, suitable for all the computers or laptops based on Pentium IV processors or the better processors. When working it can communicate with the USB2.0 fast port of computer directly, with driver program inside software, which makes installing operation more convenient.

1.1.2 Programmer Characteristic:

- > Supporting Windows XP, Windows Vista, Windows 7, windows 8 and windows 10;
- > with low-power consumption, can be used as VGA signal generator, easy to repair ;
- > Support 24/25/93/95 series serial SPI Flash. EEPROM offline read and write.
- > Support 26/27/28/29/30/39/49/50 series NOR Flash/ PROM read and write;
- Support TSOP48 and BGA footprint NAND Flash parameter automatic identification and offline reading;
- Support the mainstream device, including E/EPROM、MCU、EC、SPI NOR flash、 parallel NOR flash、
 SPI NAND, etc ;

NAND_AUTO can identify most of the NAND to read and write;

- I2C/ serial port ISP has strong function, compatible with most of the LCD chip scheme, can check the printing information on line and read and write on line;
- > NOR/NAND chip, can read and write the EC chip of laptop on line or off line;
- > Support the IT8/KB90/NPCE/NEC16 series of laptop mainboard' s EC chip to read and write;
- High-speed USB port,USB driver with WHQL certification, the reading and writing speed can be as much as 25 MB/S;
- Full driver structure, free software upgrade, the universal socket to reduce the using cost for the user.

Attention: The chip with 32 pins or more need the PEB-1 expansion board together to do the writing.

1.1.3 Instruction Tissue

This instruction consists of three parts:

The part one is to introduce RT809H, including the system requirement, software and hardware installing, etc ;

The part two is the detailed instruction of software commands and each function;

The part three is appendix, including the user support and the wrong message.

1.1.4 System Requirement

Minimum system configuration:

- Pentium IV and above compatibles, desktop or laptop computer, at least a universal serial main line port conform to USB2.0 high-speed standard.
- > Windows XP/Vista operating system.
- > The hard disk with at least 1G free space.

1.1.5 Programmer External Port Instruction

Front view



> Left lateral view



> Right lateral view



Port instruction

"VGA ISP"	can be used as VGA signal output,be connected with the VGA port of the board when
	flashing.
"VGA IN"	is the VGA signal input, can be connected with the computer graphics.
	When unconnected,VGA ISP will output the VGA signal produced by itself;
	When connected, VGA ISP output the computer graphics signal;
"HDMI"	Digital high-definition interface" can connect with the HMDI port of the flashing board.

1.1.6 Programmer Packing

The standard packing:

- > Programmer mainframe 1
- > SOP simple soldering board 1
- > USB2.0 high-speed cable 1
- > VGA connecting line 1

Chapter 2 Software Installation

2.1 Software downloading

If you are the first time to use RT809F USB universal programmer, please surf the programmer official web to download the latest software.
<u>http://www.ifix.net.cn/thread-325-1-1.html</u>

Like this:





> Downloaded file :



Need to be unzipped :

> Open the folder



> Open the Installation Notice first

> Attention : The programmer can not be connected before installing.

2.2 Software installing

> Begin to install, double click this icon;



➢ Click "OK" ;



Click "Next" ;

🔏 RT809F 20170705 安装	
	Welcome to the RT809F Setup Wizard
	This wizard will guide you through the installation of RT809F.
	It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
100	Click Next to continue.
Pahl	
	Next > Cancel

Click "Next" ;

🛃 RT809F 201	70705 安装		
1	Choose Inst Choose the f	a ll Location older in which to install R	T809F.
Destination	Setup will install RT809F in folder, click Browse and se At least 42.42 Mb of free o	the following folder. To i ect another folder. Click lisk space is required.	nstall in a different Next to continue.
D:\RT809F	=		Browse
Copyright 72017	, 广州海柯电子科技有限公司	< Back Net	xt > Cancel

Click "Next" ;

🛃 RT809F 2017070	5 安装		
1.	Select shortcu Select additiona	i ts al shortcuts.	
S C C C C	elect any additional shortcu he installation:	ts for RT809F that you wo	uld like created by
🔽 Create a Deskto	p icon		
Copyright ?2017, 广外	1海柯电子科技有限公司 -	< Back Next >	Cancel

> Software installing finished.

🛃 RT809F 20170705 安装	
	Completing the RT809F Setup Wizard
	RT809F has been installed on your computer. Click Finish to close this wizard.
	 Launch RT809F View Readme Visit product web site
	Finish Cancel

2.3 Installing the third-party toolchain patch

> Double click this icon ;



> Click to unzip ;

評TinBAR 自解压	文件
	• 按下解压按钮开始解压。
	• 使用 浏览 按钮从目录树中选择目标文件 夹。它也可以手动输入。
	• 如果指定的目标文件夹不存在,在文件解压 前它将被自动创建。已在提取之前自动创 建。
	」
	解压应及 解压 取消

> Wait for the progress bar to finish.

ि WinBAR 自解	玉文件	
	正解压文件到 D:\RT809F 文件夹 正在从 TOOLCHAIN_20170618.exe 中提取	
	正在解压 MTK\MTK_2.48.05\MtkTool.exe	
	解压进度	取消

2.4 Driver installation

> The system of window 7 or more can install the driver automatically, just wait for a moment ;

1 驱动程序软件安装		×
设备准备就绪		
USB Composite Device USB Serial Converter A USB Serial Converter B USB Serial Port (COM4)	可以使用 可以使用 可以使用 可以使用	
		关闭(C)

If automatic installation failed, you can install manually, find the hardware without installing driver in the device manager;



> Click the right mouse button and click "upgrade driver software";

CD T
更新驱动程序软件(P)
禁用(0)
卸载 (U)
扫描检测硬件改动(A)
属性 (R)

> Choose "Through the computer to find the driver software(R)";

🛢 更新驱动程序软件 - USB Serial Converter A	X
◎ ① 更新驱动程序软件 - USB Serial Converter A	
您想如何搜索驱动程序软件?	
◆ 自动搜索更新的驱动程序软件(S) Windows 将在您的计算机和 Internet 上查找用于相关设备的最新驱动程序软件,除非在设备安装设备中禁用该功能。	
→ 浏览计算机以查找驱动程序软件 (B) 手动查找并安装驱动程序软件。	
	The site of

Click "Browse" ;

I 更新驱动程序软件 - Mstar USB Debug Tool	×
G ■ 更新驱动程序软件 - Mstar USB Debug Tool	
浏览计算机上的驱动程序文件	
在以下位置搜索驱动程序软件:	
D:\RT809F\DRIVER 浏览(R)	
☑ 包括子文件夹(I)	
→ 从计算机的设备驱动程序列表中选择 (L) 此列表将显示与该设备兼容的已安装的驱动程序软件,以及与该设备处于同一类别下的所有驱动程序软件。	
下一步のの 取	消

Choose D:\RT809F\DRIVER ;

浏览计算机上的驱动程序文件	浏览文件夹
在以下位置搜索驱动程序软件:	选择包含您的硬件的驱动程序的文件夹。
D:\RT809F\DRIVER	
 人计算机的设备驱动程序列表中选择 (L) 此列表将显示与该设备兼容的已安装的驱动程序软件, 有驱动程序软件。 	 ▶ KDR ▶ KuGou ▶ MyDownloads ■ RT809F ♥ ▶ BMP ♥ ▶ CVT_GMI ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥
	下一步 (8) 取消

Click "OK" and "Next" ;

更新驱动程序软件 - USB Serial Converter A	
◎ ① 更新驱动程序软件 - USB Serial Converter A	
Windows 已经成功地更新驱动程序文件	
Windows 已经完成安装此设备的驱动程序软件:	
USB Serial Converter A	

> Next install the other 2 drivers in the same way, ;



> USB serial port driver, the corresponding ground serial port of programmer is COM4;



> After installing, open the RT809F software and can see the serial number of the programmer.

<mark>【RT809F串行ISP编程器, 約</mark> 文件(F) 器件(D) 操作(P)	(件版本: 20170618 缓冲区(0) 设置(0) 工具(L) 帮助](H) Language (G)	×
智能识别 SmartID	ISP自动识别 AutoISP	缓冲区 Buffer	工具链面板 Toolchain
读取 Read	输入芯片印字	历史记录	确完 OK
保存 Save			
打开 Open	ALL	24_01 24_02	
写入 Write	AMD AMIC	24_02 #ISP 24_04	
校验 Verify	ATMEL AUO BergMicro	24_04 #ISP 24_08 24_08 #ISP	
擦除 Erase		24 1024	
查空 Blank	001: 序列号: 2017,00010004		2.0 •
保护 Protect			
取消 Cancel			
DIP8	T		
	液晶电视工具 参数设置	串口打印	教程查看

> The serial number is the only proof for technical support and warranty.Please do not leak, properly and secretly kept.

Chapter 3 The Software Instruction

Software Main Interface



Third-party Toolchain Interface



Smart Identify SmartID	Click this icon to recognize intelligently the type of most of
	the chip,easy to operate.
Auto ISP AutoISP	When flash on line, click this icon
	it will recognize the chip type.
Buffer Buffer	Click this icon to check the data
	content of reading and writing.
Tool Chain Toolchain	Click to enter the third-party
	testing software connecting
	window.
Read	
Save	
Open	
Write	
Verify	Operating command
Erase	
Blank	
Protect	
Cancel	
Setting (N) Tools (L) Help (H) Language (G)	
Programming setup options (O)	
Uninstall USB driver (U)	
Reinstall USB driver (D)	
USB firmware repair (R)	
Device manager (M)	Click "Catting" and draw down
Add chip partnumber (A)	list appears.
Add ISP software (I)	
TV Tool setting (T)	
Serial Print Information (P)	
USB Serial port selftest (S)	
PEB-1 Expansion board serial number (N)	
PEB-1 Expansion board firmware upgrade (W)	

Setting (N) Tools (L) Help (H) Lar		Click this icon and following
Programming setup options (O)		menu appears.
Software config		
Programming settings of serial device ISI	 P setting VGA ISP: SDA/RX->12,SCL/TX->15 VGA ISP: SDA/RX->15,SCL/TX->12 VGA ISP: SDA/RX->4,SCL/TX-> 11 VGA ISP: SDA/RX->11,SCL/TX-> 4 VGA ISP: SDA/RX->11,SCL/TX-> 4 Peed Fast Slow divertment: Auto verification after ISP bus using 5V pull-u Click the "erase" or "write" again to After read and open the file to view 	ISP Setting:change the line sequence connecting VGA ISP. Speed adjustment:can adjust the speed when writing.
Save	Cancel	
Uninstall USB	driver (U)	Uninstall the programmer driver
Reinstall USB	driver (D)	Reinstall the programmer driver.
USB firmware repair (R)		When the programmer shows that serial number can be used,please try to repair the programmer firmware.
Device manager (M)		Check the device manager quickly.
USB Serial port selftest (S)		Click to self-test if the serial port works well, it need to short circuit the corresponding pin with VGA port when testing.
PEB-1 Expansion board serial number (N)		After insert the PEB-1 expansion board.click this icon to check the serial number of the PEB-1.
PEB-1 Expansion board firmware upgrade (W)		Upgrade the firmware of the PEB-1 expansion board.
TV Tool setting (T)		Set the line sequence and BIT rate when flashing,click one of these two icons the following menu will appear.

TV tool setting	
VGA lines sequence types	
VGA: RXD / SDA -> 12, TXD / SCL -> 15,MST	
VGA: RXD / SDA -> 15, TXD / SCL -> 12, MST	
VGA: RXD / SDA -> 4, TXD / SCL -> 11, MTK	
VGA: RXD / SDA -> 11, TXD / SCL -> 4, MTK / MST	
Serial port speed rate	
Baud rate 115200 (Most of the TV Mainboard)	
Baud rate 57600 (Some of TCL chassi:	
Baud rate 38400 (Some of Skyworth chassis	
Baud rate 9600 (Universal TV Ma	
Read the chip before you write and save the MAC address or HDCP KEY area of data, and merge inside new data. Also set the starting Start Address 0 End Address: 0 Save Cancel	
Serial Print	The serial port printing switch,when serial port close it shows serial port printing;when it open it shows close.
Language (G) Chinese Simple ✓ English Arabic Russian	Click the drop-down list of "Language" to choose different languages.

Chapter 4 Detailed Operation

4.1 93XX,24XX,25XX Chips' Reading and Writing

4.1.1 The putting place of different chips

> The putting place of DIP encapsulation chip on RT809F.



> The position of SOP encapsulation on the bounce board.



> The position of SOP encapsulation on the board.



> The position of QSOP 16 pins encapsulation on the socket.



> The position of QSOP 16 pins encapsulation on the board.



If the power supply of the chip is 1.8V, it need to add the board.
 DIP 8 encapsulation



SOP 8 encapsulation



4.1.2 Choose the chip types

> 93 series chips

Step 1 : Enter the chip printing and click "OK";

Enter chip printing	History	
93cc46		ОК

Step 2 : Operate only after "OK" shows.

> 24XX、25XX series chips

Step 1 : After putting the chip well click

Smart Identify SmartID

to get the chip ID ;

006:	自动识别到2个ID相符的型号。
007:	http://www.ifix.net.cn/thread-2550-1-1.html
008:	当前所选: M25P80V,容里: 8M位,1M字节。
009:	>OK

Step 2 : If there are two or more same IDs, choose the same type with the chip waiting to be flashed and click "OK" ;

<i>"</i> ,	-	确完 OK
-		
型号		
M25P80V	l.	

1.1.3 93XX,24XX,25XX series chips reading



Step 2 : Change the name and path, then click "Save" .



1.1.4 93XX,25XX,24XX series chips writing

Step 1 : Click Open

Step 2 : Choose the name of the file that will be written(Bin format) ;



4.2 Laptop KB90XX series EC chip' s writing off line

Enter the type into the chip printing blank and click "OK";

Enter chip printing	History	
KB9012	-	ОК

> The position of the chip on the board.



- > Then read and write, the saving and loading of the file can refer to the way of 93XX' s.
- > The hint to show reading and writing smoothly.



4.3 PLCC 32 pins chip' s reading and writing

> The chip with 32 pins or more need PEB-1 expansion board to be used cooperatively.

> Enter the chip type.

Enter chip printing	History	
W49F002U		
Manufacturers	Partnumber	
Winbond	W49F002U	
	W49F002U@PLCC32	

> The position of the chip on the PEB-1.



> It shows writing successfully.



4.4 TSOP 48 pins chip's reading and writing

> Enter the chip type;

Enter chip printing	History	-
MX29LV320		ОК
Manufacturers	Partnumber	
MACRONIX	MX29LV320ABT@TSOP48	

> The position of the chip on the PEB-1;

	Gap upwards
PEB-1	
Program Extend Board	PINI V N H TAP
for RT809F	TANKU O TANKU O
E I	
	RT-TSOP48-1 TSOP48-40-32

- Attention : If to write NAND FLASH, first input the chip type, if there is no please choose "NAND AUTO" algorithm;
- > If it shows error when using socket, then weld the chip on the test board to test.



4.5 Write the 85 series EC chip off line

> The position of the chip on the board ;



> The position of the chip on the socket ;



> It shows success.

Attention : The above writing way can write the 85XX series EC chip,but not including 8585 chip(which can choose to write on line)

4.6 Write the IT85XX Series Laptop EC Chip on Line

> Input "IT8XXX_ISP_PEB-1" in the "Enter chip printing" blank;

	历史记来	772-014				
IT8XXX_ISP @PEB-1	<u> </u>	确定 OK				
厂商	型묵					
ITE	IT8XXX_ISP @PEB-1					

> Connect the mainboard and programmer with PEB-1 as requested ;



> Search for the same type with your laptop in setting;

ITSXXX ISP Setting							nuui Fiix net c 🔀
Adapter 1、选择对	应的	-				3	發修.助力你的事业 关键即位定义
ASUS KSSSLD ASUS XSSOLD ASUS XSSIMA	「考	LENOVO Y400	KSOD	7	KS09	4	TQFP128 :
LENOVO E450 LENOVO G40-70M	板号:	LA8691P	KSO1	11	KSIO	12	KSO0-Pin36 KSO1-Pin37
LENOVO G50-30 LENOVO Y400	芯片:	IT8580E	K502	13	KSII	1	KSO2-Pin38 KSO3-Pin39
LENOVO YS10P LENOVO YOGA 314 LENOVO 750-70	用户:	Admin	KSO3	18	KSI2	8	KSO4-Pin40 KSO5-Pin41 KSO6-Pin42
22101020010		☑调換顺序	KSO4	14	KSI3	9	KS07-Pin43 KS09-Pin45
	1、当接 第1脚不	1、当接口板和JKB键盘接口的 第1脚不在排线同一侧时,诸	KSO5	10	KSI4	5	KSI0 -Pin58 KSI1 -Pin59
	选中"调 指键盘报	舆顺序";2、JBK位数 度口的脚位总数,通常 a文词:a、注本美丽	KSO6	17	KSI5	6	KSI2 -Pin60 KSI3 -Pin61 KSI4 -Pin62
1、点击"确定"	任21903 紙或根據 设置相关	2之间,5、语宣有因 居右侧的芯片引脚定义 《卷歌。	KSO7	15	JKB位数	24	KSI5 -Pin63
			-	-	_		
	确定	取消		添加		修改	

> If there is no the same type,add by yourself according to the line sequence.

> Attention :

1. Don't forget to ground it, and the ground line can not be too slim;

2. The flat cable must be cut and plugged as requested, if it isn't clear enough, there are high-definition photo in BBS to be referred;

3. If 8585 and 8586 can't be read, please ground the 100pin of the chip.

4. Choose the right type and set the right line sequence, then click "Read" and charge the mainbaord ;

5. Some boards fail in connecting, please interrupt the charge and connect again, this kind of chip need to catch the ISP ENTER signal when power on.

4.6.1 Reading data



> Charge the mainboard after clicking "Read";

➤ Then click "Save" ;


4.6.2 Writing data

 If the mainboard read before hasn' t power off, then can be written directly,or have to click "Write" first and then charge the mainboard;





 \succ Then click "Write";



4.7 Laptop EC Chip MEC1633 Read&Write by Flying Line







4.8 Laptop EC Chip KB90 Series off Line Read&Write

> Input the corresponding chip type in the software interface;

T809F串行ISP编程器,软 (F) 器件(D) 操作(P) 約	(件飯本:20170705 愛冲区 (0) 设置 (8) 工具 (L) 帮助	(H) Language (G)	
智能识别 SmartID	ISP自动识别 AutoISP	缓冲区 Buffer 工具链环	面板 Toolchain
读取 Read	输入芯片印字	历史记录	
保存 Save	кь90		确定 OK
打开 Open		型号 KB9010	
写入 Write	ENE	KB9012 KB9016 KB9018	
校验 Verify		KB9022	

 Weld the chip on the board, and please install the components on the board according to the request;



21: >
22: 开始读取芯片 23: 读取成功,用时: 6.356秒。 24: 自动校验… 25: 校验成功,用时: 6.357秒。 26: 缓冲区数据累加校验和: 16位_0xA06B,32位_0x00FDA06B; 27: 用时: 12.72秒,平均速率20607字节/秒。
23: 读取成功,用时:6.356秒。 24: 自动校验 25: 校验成功,用时:6.357秒。 26: 缓冲区数据累加校验和:16位_0xA06B,32位_0x00FDA06B; 27: 用时:12.72秒,平均速率20607字节/秒。
24: 自动校验 25: 校验成功,用时: 6.357秒。 26: 缓冲区数据累加校验和: 16位_0xA06B ,32位_0x00FDA06B; 27: 用时: 12.72秒,平均速率20607字节/秒。
25: 校验成功,用时: 6.357秒。 26: 缓冲区数据累加校验和: 16位_0xA06B ,32位_0x00FDA06B; 27: 用时: 12.72秒,平均速率20607字节/秒。
26: 缓冲区数据累加校验和: 16位_0xA06B,32位_0x00FDA06B; 27: 用时: 12.72秒,平均速率20607字节/秒。
27: 用时: 12.72秒,平均速率20607字节/秒。
28: >
29: 开始写入芯片
30: 写入成功,用时 : 31.74秒。
31: 自动校验
32: 校验成功,用时: 6.357秒。
33: 用时: 38.11秒,平均谏率3439字节/秒。
34: ><
5/25/167 (C-125/6 C-2
4

4.9 Laptop EC Chip KB90XX Series Reading by Flying Line

> Flying line diagram



> Pin's corresponding definition

引脚功能	KB9012QF A3脚位	JKB1键盘接口脚位	RT809F锁紧座
EDI_CS /KSI4	59	15	5
EDI_CLK/KSI5	60	19	10
EDI_DIN/KSI6	61	16	9
EDI_DO /KSI7	62	17	6
TP_PLL_Lock/KS03	42	22, 飞到旁边的GND, GND还要飞线到转接板上, 这里是要飞两根线。	8

	ų	关想G480_E530_E430 EC KB9012QF A3在线读	写接线定义
引脚功能	KB9012QF A3脚位	JKB1键盘接口脚位	RT809F锁紧座
DI_CS /KSI4	59	5	5
DI_CLK /KSI5	60	6	10
DI_DIN /KSI6	<mark>61</mark>	3	9
DI_DO /KSI7	62	2	6
IP_PLL_Lock/KSO3	42	18,飞到旁边的GND,GND还要飞线到转接 板上,这里是要飞两根线。	8

> RT809F locking socket pin identify



> Attention :

Please fly 6 lines totally, the ground line must be flied well ;

The length of the signal line must be within 10cm,EC power supply need the original board supply or the external power source with 3.3V;

After flying the 6 lines above well, charge the mainboard first, with the external adapter or charge the chip with 3.3V power source.



Click "Read" ;

(件(F) 器件(D) 操作(P)	(版中区(U) 设置(N) 工具(L) 報助(H)	f) Language(G)	
智能识别 SmartID	ISP自动识别 AutoISP	缆中区 Buffer	工具链面板 Toolchain
it it Read	输入芯片印字 KER01205 A2	历史记录	зафок
保存 Save	RB30120F_A3		Mig on
打开 Open	ENE	在飞线过长	、干扰较大的情
写入 Write		况下, 读取 件可以自动	【发生错误时, 軟 (调任频率, 重新
枝验 Verify		读取,所以	在自动识别后,
操作 Erase	Lange Fix as	请务必先读	取一次,以自动
查空 Blank	006: 自动识别到1合识相音的现象 007: 当前所选: KB9012UF_A3,	上一下, 一下, 一下,	(千円维头球TF=
保护 Protect	008 > 008 - 000 开始读取芯片 010 读取错误,自幼控低频率,重)K	
取:首 Cancel	011: 當取成功,用时: 9.842秒。 012: 自动核验。		
E00841 T43/R52	013 秋飯瓶切,用時: 94200 014 運冲区数据累加校验和: 16位 015.用时: 19.29秒,平均速率138 016 >	_0x3488,32位_0x011C34 586字节秒。)K	
IBM N.B Password 2:SDA			
3:SCL			

> Click "Write";

智能识别 SmartiD	ISP自动识别 Auto ISP	線冲区 Butter	工具链函板 Ioolcha
读取 Bead	输入芯片印字	历史记	R R R OK
保存 Save	KB90120F_A3	24	MARE OD
打开 <u>Open</u>	ENE	KE80120F_A3	
篇入 Write			
枝釉 Yenity			
酸脱 Erase	warm Ely n	et cn	
查空 Blank	006 >	0 0√_0×C688 , 32(<u>√</u> 0×00	F1C688 ;
保护 Protect	008. 开始写入芯片 009. 翻除+写入成功,用时:23.3	98.	
取消 <u>C</u> ancel	013 首約50%。 011 校社成功,用时:6.328秒。 012:用时:29.73秒,平均速率44	108字节心。	
	V14. 23	MIN.	
WSON8			
WSONB			
WSONS			

> Referring to 93 chip about how to save and open the file.

4.10 BUF16821 TCON Board GAMMA Voltage Producing Chip Read&Write on Line



4.10.1 Board Number

Board Number 6870C-3500C, the TCON board frequently-used by LG HD screen of 32 to 55 inch.

4.10.2 Chip Instruction

BUF16821 internal ROM has two Banks,but only use one group of them actually,there is the configured data of 36 bytes for each group,which control the two groups of VCOM and the 16 path GAMMA calibrating voltage value by change the internal DAC' s output voltage.

When the internal procedure lost or the chip is damaged or changed, we have to rewrite the configured data to work again normally, the procedure can be read from the good board but please pay attention that if the board numbers are the same, different sizes can't be interchanged currently, different types but with same size can't be interchanged sometimes also, please refer to the actual test result.

The actually read file is 40 bytes, 0x00 - 0x1F is the 16 group DAC value ; 0x24 - 0x27 is the VCOM value of left and right path ; 0x20 - 0x23 is the reserved bytes.

4.10.3 Line Connection Mode

Read&Write Line Connection-----LG 32 to 52 inch HD screen TCON board' s screen line port with

51 pins, the fourth pin is SDA, the fifth pin is SCL, with a line GND more, remould a ISP upgrading line with the screen lines; and connect it with the 12C expansion port on locking socket of RT809F, then can read and write on line using the screen lines port.

Before reading and writing please charge the screen with the 12V power.

4.10.4 Notes

- There are limits to the number of writing times of BUF16821 chips' internal ROM, the request from manufacturer is that every BANK can' t be more than 16 times, exceeding the number of times maybe causes the verifying failure after writing, but as for reading, it has no times limit.
- The BUF16821 chip' s 14pin is SCL,15 pin is SDA, they are connected with the 5th pin SCL and 4th pin SDA generally;
- > 16 pin A0 must be grounded,17 pin BKSEL is BANK choose which should be grounded acquiescently generally,use the first BANK to save the data;
- If the chip has been written for 16 times, when verifying goes wrong, please disconnect this pin with GND, connect the high level, then the chip choose the 2nd BANK automatically to save data, so it can be written for 16 times more;
- BUF16821 chip type has two kinds of suffix,A and B;the A version's printing is "BUF16821", the B version's printing is "BUF16821B", A can replace B absolutely,but B probably can't.(There is limit to the threshold value of B version's VCOM voltage,adjustable range is small,but A version has no limit.)

4.10.5 Reading Operation

Connect the 12C expansion port of programmer with the TCON board correctly using the converted screen line, and then charge. Open software to the main interface, click "Smart ID" then it shows that the chip type is detected.



4.10.6 Writing Operation



Refer to 93XX chip to save and load file.

4.11 EPM3064A Read&Write

4.11.1 Chip Instruction

- Board number : 6870C-0060G,LG LED TV screen LC370WX1 TCON board,CPLD chip type EPM3064A.
- Programmer : RT809F
- > Software version : RT809F_140516 or the updated version
- Instruction : EPM3064A and EPM3032A is the MAX3000 series CPLD chip of American ALTERA Company,EPM3064A' s internal amounts to 1250 Logic Element Circuit ,with the maximum operating frequency of 222MHz. There are certain applications on FPTV TCON board, power supply and high-voltage plate,form the medium-sized logic control or the IO expansion circuit,with EEPROM inside,can be read and written towards standard JTAG port.



> Chip pin definition:



> Standard JTAG port : TMS TCK TDI TDO 4 signal line with ground line GND

4.11.2 Reading operation

> Step 1 : Connect the lines correctly and charge the TCON board, the power source is 12V;



➢ Step 2 : Click "Read" .

智能识别 SmartD	ISP自动识别 Auto[SP	健冲区 Buffer	工具链面板 Ioolcha
读取 Bead fm	EPM3064A#ISP	のたいと求	確定のK
保存 Save	(Th)	친부	
打开 Open	ALTERA:	EPM3032A#ISP	
篇入 Write		EPM3064415P	
the Maria			
Doar Keuty			
按除 Erase	www.Fix.n	et.cn	
查空 Blank	001:当前所选:夏修910分例1 002:>	的影响:32K位,4K字节。 OK-	e
加密 Protect	003. 芯片型号为EPM3064A。 004: 开始该顺芯片		
	005> 读取成功,用时:0.2688 006> 自动特验	5.	
取消 <u>C</u> ancel	007 -> 校验成功,用时:0.2988	\$. * 0.0070 - 22* 0.0000/	0070 +
	009. 用时:0.58秒,平均建率144	2_080079,3202_0800000	
THE REAL PROPERTY.	010: >	0K	c
100			
Han and			
	S		

4.11.3 Writing Operation

> When writing you can click to encrypt to avoid reading by someone;



> Refer to 93 chip to save and open the data.

4.12 S3F Series Samsung Singlechip's Reading and Writing

S3F Series Samsung Singlechip is widely used in the kinds of small home appliances like induction cooker, pressure-cooker and electric frying pan of Midea, Galanz, Povos and other brands. When it needs to read and write the data or change the chip to do repairing, we can use RT809F to do the reading and writing.

4.12.1 Program Data Source

- > The original program and data supplied by after sale ;
- The MCU program and data read by self(The precondition is that the MCU hasn' t been encrypted and after reading the RT809F software will ask automatically if to encrypt or not; if the data has been encrypted, the writing is unnecessary.)
- Decrypt the cryptographic MCU to get the program data(If it's worthy to do according to its value and the cost to decode).

4.12.2 Preparation

- Reading and writing the S3F series MCU using RT809F need to purchase the ICSP port board used by PIC series or DIY a port board to cooperate with RT809H.It need to connect 5 lines, which respectively is VPP program voltage(12.5V), VDD power supply 5V, GND, SDA data signal and SCL clock signal.
- The users need to check the pin definition of MCU of certain version, and connect them with ICSP port board correspondingly one by one. If there are online read&write port on the target board, currently it can be connected directly and read or write on line.
- Please remove the MCU and fly 5 lines to ICSP port board to read and write in the following situation:
 - There is no reserved online read&write port on the board and VPP/RESET pin is used as common IO,connected with other circuit;
 - After connecting on line with ICSP,VPP voltage is lowered to be less than 12V;
 - When reading or writing on line goes wrong with ICSP(Because S3F series programming timing sequence require that VDD and VPP must both be controlled,but on some board card this 2 pins' capacitance is too big,which makes the timing sequence unqualified,removing MCU,using socket or flying lines to read and write will avoid this problem)

4.12.3 Attention:

> The first time to use ICSP port board, please insert the board on the RT809F locking socket and

impact it,measure the voltage between 13 pin and 16 pin.If the voltage is lower than 4V,take the RT809F apart first,find two 302 resistors(3k),R63 and R64,and change them to 102 resistor(1k).The RT809F produced after Dec. 2013 has changed the R63/R64 to 1k resistor,so do not need to change anymore.But if the resistor is 1k,the voltage between 13 pin and 16 pin is still low,please remove the 78L05 of the ICSP port board(Useful for PIC series,not for S3F series);



- Connect the S3F chip with the ICSP port board using the line first and then put on the locking socket; according to the practical testing, please be attention that GND ground line must be connected correctly or it will breakdown between the VPP and VDD pin of the MCU to damage the chip when begin to read or write without connecting well. (Use the numeration table diode to test MCU, red probe connects VPP pin, black probe connects VDD pin, the value is infinity normally, after breakdown the value is 500 and more.)
- The solving method : Series connect a Schottky diode on the VDD line, such as 1N5819, SS14 and other types, connect the positive pole to one side of the ICSP port board, connect the negative pole to the side with VDD pin of MCU, which can avoid the problem that the VPP pin break down the VDD pin because of connecting the GND ground line poorly.
- According to chip DATASHEET, if just need to read MCU but not write, then connect the VPP pin of MCU to VDD directly but not to 12.5V. However according to the actual test, when reading S3F9498/S3F9488 with VPP pin connecting with VDD pin, verifying will fail after reading chip; but if connect VPP pin to 12.5 instead and read, verifying will pass.
- S3F series MCU, if VPP and nRST are at the same pin, like S3F9454, after charging the VDD/VPP it' s allowed to read or verify in 200ms; and if they are not at the same pin like S3F9498, it has no limit for the timing sequence;
- > It comes with a problem : If the configuration of some computer hardware is low,or with a slow system, which result in the failure to read or write the S3F9454 again and again, so that to think the

chip has been damaged. In fact just to test instead of on a computer with high configuration and fast system then it can be read and write normally.

Advice for the fresh man to read and write S3F9454 at the first time : First buy some new S3F9454,then use the attachment in this post link(http://www.ifix.net.cn/thread-12370-1-1.html), write the program file : "奔腾 PC21N-8 S3F9454BZZ-DK94 主板", if it verified successfully it shows the function to read and write S3F is normal;if it verified wrongly please make a clean system again or change to a faster computer to test until write in and verify successfully,at last read and write the S3F series MCU of client.

4.12.4 Connection diagram and connection definition



> The material connection picture of S3F9454/S3F9498 with RT809F

> The connection definition of S3F series with ICSP port board



- Recommend : Connect the VPP pin with a 104 tile capacitor to the ground and series connect a Schottky diode on the VDD line, such as 1N5819, SS14 and so on. Connect the positive pole to the ICSP port board, the negative pole to the side of VDD pin of MCU, which can avoid the VPP pin of MCU to break down the VDD pin because of the poor connection of GND ground line.
- There is another commonsense problem : Relevant pins of MCU must be connected well with ICSP board, and insert the ICSP board on the programmer then choose corresponding type to read and write. If to insert the ICSP board in the locking socket first and then connect MCU pin, it is easy to burn the MCU.
- > S3F9454 on line read&write connection definition



> S3F9498 on line read&write connection definition



> S3F9488 on line read&write connection definition



4.12.6 Reading Operation

Step 1 : Open the software, choose MCU type manually;



Step 2 : Click "Read" .



4.12.7 Writing Operation

Anima TRI O UN			TRHTH THE
智能识别 SmartiD	ISPERDV(R) AutoisP	Strift Suffer	上與發曲权 Looichain
读歌 <u>B</u> ead	输入芯片印字	历史记	*
保存 <u>S</u> ave	S3F9454 #ISP	N E	▲ 欄连 0区
打开 <u>Open</u>	SAMSUNG	83F9454 #ISP	
写入 Write			
校验 Yerity			
擦除 <u>E</u> rase	www Fix	net cn	
查空 Blank	001: 当前所选: 39794500567 002: >	764122K位,4K字节。	<
保护 Brotect	003: 文件已载入,累加校验和: 004: 开始写入芯片 005: 自动增险	16位_0×1E52 , 32位_0×00	071E52;
取消 <u>C</u> ancel	005: 日初保林… 006: 并始写入… 007: 写入成功,用时: 2.366秒 008: 自动校验…		
SP Adapter	009: 校验成功,用时:0.855秒 010: 用时:3.245秒,平均速率 011: >	。 1262字节彫。 —OK———————————————————————————————————	¢
121			

- > Refer to 93 chip to backup and open the data.
- Note 1 : The encryption after writing is optional,MCU can be used also without encryption.Click "Protect" to encrypt if it is needed.
- Note 2 : If the RT809F software hints that the program is encrypted after reading, it is no need to save as file, not to write into other chip either.

4.13 AT45DB Series SPI Flash Read&Write — — AT45DB081D for example

4.13.1 Read&Write Connection Diagram



4.13.2 Reading Operation

> Step 1 : Connect the lines correctly,open the software and click "Smart ID";



	新中区创 双直创 工具化 希助	A) Language (G)	
智能识别 SmartID	ISP自动识别 AutoISP	銀冲区 Buffer	工具链面板 Ioolchain
读取 Bead De	输入芯片印字	历史记录	
保存 Save	AT45DB081D(PAGE 256B)	~	硼定 OR
打开 <u>O</u> pen	ATMEL	AT4508081D(PAC	3E 2568)
篇入 <u>W</u> rite		A HADDOUTD (PAC	JE 2040)
校验 Verify			
據除 <u>E</u> rase	www.iFix.n	et cn	
a population of the second	001:自动识别到2010相帮的教保 002:当前所选:AT45DB081D(PA	内醫訓选择第一个,如有必要 GE 256B),容量:8M位,11	请手动选择其它型号。 4字节。
查空目ank		the state of the s	
查空 Blank 保护 Protect	003: OTF区域大小: 512位, 643 004: >	宇节,在缓冲区中的起始位置 OK	: 0×100000. <
查空 Blank 保护 Protect 取消 <u>C</u> ancel	003: OTP区域大小:512位,64 004: >- 005: 芯片ID校验正确。 086: 开始读取芯片 007: 闪存每页为264字节。	字节,在缓冲区中的起始位置 OK	: 0×100000.
查空 Blank 保护 Protect 取消 Cancel	003: OTP区域大小: 512位, 64 004: >	字节,在缓冲区中的起始位置 OK	: 0×100000. < 548 : <

Step 2 : If the software hints "Flashing page is 256 bytes", then skip this step; if it hints "Flashing page is 264 bytes" then reselect the chip type and read again according to the following picture;

the second se	and the second second second second		Construction of the local state
智能识别 SmartiD 2	ISP自动识别 Auto[SP	銀冲区 Buffer	工具链面板 Ioolchai
读取 Bead n	输入芯片印字	历史记录	-
	AT45DB081D(PAGE 2	94B) 🗸 🗸	确定 OK
保存 <u>Save</u>	厂商	월号	1
打开 Open	ATMEL	AT45DB081D(PA	IGE 256B)
写入 Write			UT CONDITION OF
校验 Yerity			
擦除 <u>E</u> rase	MANAN IF	ix not on	
-	011: 緩冲区数据数如放驶和 012: 用时:3203秒,平均	方标的。如0548,32位_0x07EB9 2率653724字节形。	3548 :
查空 <u>U</u> lank	Tour titled a present a 1 work		
查空 Elank 保护 Protect	013: >	OKOK	< ,1M字节。
월도 Blank 保护 Brotect	013. > 014: 当前所选: AT45DB08 015: OTF区域大小: 512位 016: >	OK	、1M字节。 {:0×108000。
登空 Blank 保护 Protect 取消 <u>C</u> ancel	013 > 014 当前所选:AT45DB08 015 OTP区域大小:512位 016 > 017 芯片ID校验正确。	OK 1D(PAGE 264B),容量:8.25M位 ,64 字节,在缓冲区中的起始位置 OK	、1M字节。 ≹: 0×108000。 <
登空 Blank 保护 Brotect 取消 <u>C</u> ancel	013 > 014:当前所选:AT45DB08 015:0TF区域大小:512位 016:> 017:芯片旧校验正确。 018:开始读取芯片。 019:016章页为264字英	OK	
登空 Blank 保护 Protect 取消 Cancel	013. > 014. 当前所选: AT45DB08 015. OTF区域大小: 512位 016. > 017. 芯片ID校验正确。 018. 开始读取芯片 019. 闪存每页为264字节。 020. 读取成功,用时: 1.64	OK	
登空 Blank 保护 Brotect 取消 Cancel	013 → 014 当前所选:AT45DB08 015 OTF区域大小:512位 016 → 017 芯片ID核验正确。 018 开始读取芯片 019 闪存每页为264字节。 020 读取成功,用时:1.64 021 自动校验。 022 校社的订为,用时:1.65	OK- 1D(PAGE 264B),容量:8.25M位 ,64 字节,在缓冲区中的起始位量 OK- 8秒。	c ,1M字节。 {:0x108000。 c
登空 Blank 保护 Brotect 取消 Cancel	013 > 014 当前所选:AT45DB08 015 OTF区域大小:512位 016 > 017 芯片ID校验正确。 018 开始读取芯片 019 闪存每页为264字节。 020 读取成功,用时:1.64 021 自动校验 022 校验成功,用时:1.65 023 缓冲区数据累加校验和	OK- 1D(PAGE 264B),容量:8.25M位 ,64 字节,在缓冲区中的起始位量 OK- 8秒。 3秒。 :16位_0x0A41,32位_0x082B0	、1M字节。 ま: 0×108000。 <

4.13.3 Writing Operation

12 器件12)操作12 !	徽中区(1)设置(18)工具(1)帮	助(H) Language (G)	
智能识别 SmartID	ISP自动识别 Auto[SP	额冲区 Buffer	工具链面板 Ioolchain
读取 Bead	输入芯片印字 AT45DR091D/PAGE 2645	历史记	录 确定 OK
保存 <u>Save</u>	厂商		
打开 Open	ATMEL	AT45DB081D(PAGE 256B)
怎入 Write		telle Contraction	Produce and a feat
校验 Yerity			
擦解 <u>E</u> rase	www iFix	net cn	
查空 Blank	001: 文件已載入 男如校前列 002: 芯片D校验正确。	行行了。Q19395 , 32位_0×06	3DF9395;
保护 Erotect	003: 开始写入芯片 004: 自动探除		
取消 <u>C</u> ancel	005: 續採成功,用时:8.77秒, 006: 开始写入 007: 写入成功,用时:27.12秒 008: 自动校验 009: 校验成功,用时:1.654秒 010: 用时:37.56秒,平均速率 011: >	2. 28785宇节/砂。 ——OK——————————————————————————————————	×
M	i e l		
	******	*****	使口 trin

> Refer to 93 chip to save and load writing file.

4.14 PIC 12F Series SCM's Reading and Writing

4.14.1 Board Number

Board Number : LD40V9-MAC4X , TCL GC32 chip , standby MCU type PIC12F675。PIC12F629,the same method to read and write.

4.14.2 PIC Series Instruction

MCU of PIC series is widely used in the standby controlling and power management circuits of FPTV, with many types, low power consumption, high performance. When repairing there are maybe some problems, like PIC MCU damage because of the too-high 5V power supply voltage (This MCU will damage when the VDD power supply is over 5.5V), or the IO port of PIC MCU is broken down

because of the static or so on.MCU need to be changed when repairing and then write the program and data in again.

4.14.3 Program Data Source

- > The original program and data supplied by after sale;
- The MCU program and data read by self(The precondition is that the MCU hasn' t been encrypted and after reading the RT809F software will ask automatically if to encrypt or not; if the data has been encrypted, the writing is unnecessary.)
- Decrypt the cryptographic MCU to get the program data(If it's worthy to do according to its value and the cost to decode).

4.14.4 Preparing

- Reading and writing MCU of PIC series on line using RT809F need to buy or DIY a ICSP port board according to the diagram to cooperate with RT809F;
- There are totally 5 lines for the ICSP port, they are VPP program voltage(12V~13V), VDD power supply 5V, GND, PGD data signal and PGC clock signal.
- Users need to check the pin definition of the PIC relevant type of MCU, and connect the pins with ICSP ports correspondingly one by one. If there are ICSP port on the target board, usually they can be connected directly and read or write on line.
- > Remove the PIC series of MCU and fly 5 lines to ICSP port to read and write in following situation :
 - There is no reserved ICSP port on the board card, and VPP pin is used as common IO,connected with other chip,it' s the same for this example;
 - After ICSP connecting on line, VPP voltage will be dropped down to be lower than 12V or VDD voltage will be dropped down to be lower than 4.6V;
 - When reading and writing on line by ICSP goes wrong(Because the PIC series programming timing sequence require both VDD and VPP to be controlled,but these two pins on some board cards have the overlarge external capacitor,which makes the timing sequence unqualified,removing MCU,using socket or flying line to read and write won' t have the same problem .)

4.14.5 Attention

The internal storage space inside PIC series MCU is divided into Code Memory program area, Data Memory data area and Configuration Word / Calibration Word configuration area, the program area blank is "FF3F", data area blank is "FF00". If it's encrypted, it will always be "0000" after reading. The set point of the configuration is usually saved between program area and data area, is only a few bytes, can click "Configuration Word" button to enter the setting interface and set the configuration word of PIC series MCU, then write the chip.

- As for the configuration word of chip, the general user can read directly without too much attention, it's OK to write another chip directly when there is no the hint of encryption, the chip encrypted also can be erased directly and written, just can not be read directly by programmer. If use the program or data supplied from manufacturer we need to according to some document description or check the MCU's data of corresponding type and set the configuration word.
- When the RT809F is reading and writing PIC series, there will be a page of "FF FF" invalid region in the buffer, which is for the two-way compatibility of the Xeltek 280U/580U/3000U reading&writing program, data and configuration word with large consumption.



4.14.6 Reading Operation

Step 1 : Open the software and click the button in following picture to identify the MCU type automatically;

智能识别 SmartD	ISP自动记录 Auto(SP	继冲区 Buffer	IB	· 婚面板 Toolchai
	- Ang			
读取 Bead	输入芯片印字 🚽	历史	记录	
保存 Save	PIC12F675 #IC8P		~	観定の区
打开 Open	MICROCHIP	EIC12EB75	IICSP	
篇入 <u>W</u> rite				
校验 Yerily				
BAR Erase	www Fix	net cn		
查空 Blank	001: 使用模式A扫描 0A目 002: 模式A未识别资质卡,负于	你的事业 线手到模式D继续识别…		
NONE Confin	003. 模式D来说规则极卡,变到 004. 模式B未识别别版卡,变到 005. 扫描MICROCHIP ICSP#	株式序到視式日継球识別… A総序到模式C継续识別… Iロ		
BCH + Cound	east held interior of the Tool in	18	and the second	
取消 <u>Cancel</u>	005. 目初识别到1个ID相符的基 007. 当窗所选: PIC12F675 # 008. >	CSP,容量:134K位,16 ——OK	(字节.	
取損 <u>C</u> ancel	005: 目动识别到1个ID相符的E 007: 当前所选: PIC12F675 #1 008: >	CSP,客量:134K位,16 ——OK——	(李节 . (
Rancel Rancel	006: 目动识别到1个ID相符的运 007: 当截所选: PIC12F675 # 008: >	CSP,容量:134K位,16 —OK——	《字节 。 〈	
	006: 目动识别到1个ID相符的医 007: 当截所选: FIC12F675 #1 008: >	CSP,容量:134K位,16 ——OK——	(¥₽.	
	006: 目动识别如1个ID相符的5 007: 当截所选: PIC12F675 # 008: >	CSP,容量:134K位,16 —OK—	(7 77)	

Step 2 : Click "Read" ,RT809F software will read and verify automatically again;

件(化) 器件(化) 操作(化)	编中区 印 设置 图 工具 图 考	RAD (Language (G)		
智能识别 SmartD	ISP自动识别 Auto SP	錢)中区 Bytter	工具链面板 100	Ichain
读取 Bead a	输入芯片印字	历史	iz ₹	_
保存 Save	PIC12F675#ICSP		● 确定 OK	
打开 Open	MICROCHIP	ElG12F675F	ICSP	
篇入 Write				
校验 Yenity				
按於 Erase				
查空 Blank	002 模式A未识别的原卡财产 003 模式D未识别到版卡,数	Chet.Ch 創始所動模式D雌绿识别… 執线序到模式B繼续识别…		
記賀字 Config	004 模式B未识别到板卡, 变 005 扫描MICROCHIP_ICSP	與线序到模式C继续识别… 第日		
取消 <u>Cancel</u>	006 自动识别的1个L2相任的 007 当前所选: PIC12F675 # 008 >	2号。 ICSP,容量:134K位,16K ——OK-	学节。 <	
ICSP	010 开始读取芯片 011 读取成功,用时:1.43秒 012 自动放船。 013 技能成功,用时:1.331程 014 缓冲区数据累加校验和: 015 用时:2.772秒,平均速和 016 >	9. 16位_0x869D,32位_0x00 第12374平节相9。 ————————————————————————————————————	3DB69D ;	
Auapter	25			_
	20			

4.14.6 Writing Operation

智能识别 SmartD	ISP自动识别 Auto SP	緩冲区 Buffer	工具链面板 Ioolchain
读取 Bead	输入芯片印字	历史证	*
保存 Save	PIC12F675 #ICSP	2 12	▲ 截定 OK
打开 Open	MICROCHIP	PIC12F875 #10	SP
写入 Write	写入前可以点		
校验 Yenly	比设置配置 字、加密MCU。		
State	7 WWW Fix	net cn	
查空 Blank	文件已载入,包如甘龄列 002: Chip is PIC12F675.	D7C0 . 3212_0×0	03BD7C0 ;
記證字Config	003: 开始与入心片 004: 自动擦除 005: 缓降成功,用时:0.242米		
取消 <u>C</u> ancel	006: 开始写入 007: 写入成功,用时:3.81秒。		
ICSP	008 目动校验。 009 正在写入配置字… 010 配置字写入成功。 011 检验成功,用时:2.491秒 012 用时:6.559秒,平均速率 013 >	。 2615字节/砂。 —OK—	s
Adapter	-61		اد

Note 1 : The encryption is optional,MCU also can be used normally without being encrypted.If you cancel the /CP option of the configuration word before writing,the program area will encrypt automatically after finishing writing and verifying;if cancel the /CPD option the data area will encrypt automatically after finishing writing and verifying.

Like the following picture, first set and then write:

Configuration Word [Device Address(Word): 0:200 He Address(Pre): 0:400E-0:400F] bit13 bit12 Unimplemented bit8 bit7 bit6 bit5 bit4 bit3 bit2 bit1 bit0 BS1 BOD Ø/CPD Ø/CP Ø BODEN [MOLRE] /PWRTE Ø WDTE Ø FOSC2 [FOSC1] FOSC0	Configuration Word [Device Address(Word): 0x20	和下、助力 位	trade to a di te				
bit13 bit12 Unimplemented bit8 bit7 bit6 bit5 bit4 bit3 bit2 bit1 bit0 B51 B00 - - Image: CPO			diess(byte);	: 0x400E-0x4	005]		
BOST BOO V/CPO V/CP BOOEN MOLRE /PWRTE VWDTE VFCSC2 FOSC1 FOSC0	bit13 bit12 Unimplemented bit8 bit7 b	oit6 bit5	i bit4	bit3	bit2	bit1	bit0
	□BG1 □BG0 @/CPO @/CP @		a.re 🗌 /PI	WRTE 🗹 WD		C2 FOS	C1 0F09C0

Note 2 : If RT809F software hints that the program or data is encrypted after reading, then it is no need to save to be a file, not even write it into another chip.



> Refer to 93 chip to save and open the file.

4.15 RT809F Checking the Printing Information of LCD Board

4.15.1 Software Setting

> Open the software, there are two icon at the bottom right corner, like the following picture:



- > 1—Parameter Setting:
 - ① VGA lines sequence type : Choose the different lines sequences according to different mainboards,or you can press the button to see the light,different situation corresponds different line sequences(there is instruction before).

[©] Serial port speed rate adjustment : It will show messy code without correct adjusting, please save after adjusting well.

•	VGA: RXD / SDA -> 12, TXD / SCL -> 15,MST
С	VGA: RXD / SDA -> 15, TXD / SCL -> 12, MST
C	VGA: RXD / SDA -> 4, TXD / SCL -> 11, MTK
C	VGA: RXD / SDA -> 11, TXD / SCL -> 4, MTK / MST
۱Dj	東率
•	波特率115200(大多数电视主板)
C	波特率57600(TCL部分机芯)
C	波特率38400(创维部分机芯如8M60)
C	波特率9600 (朗朗V29)
[据]	重组
入入	前先读取并保存MAC地址或HDCP KEY所在区域的数据,与 的新数据合并重组,设置起止位置(十六进制):
起如	台地址: 0x 0 结束地址: 0x 0

➢ 2—Serial port switch

When showing "Serial print", the serial port is in the closed state.When showing "Close", the serial port is in the open state.

Mainboard connection

ORX TX Lead is on the VGA port, please use the matched VGA line directly.

②RX TX Lead is on the HDMI port, please use the HDMI line or fly line from the locking socket.

③RX TX Lead reserves the extension socket on the board.

4.15.2 Flying line

- > If to fly line, please connect the bottom line with ground line.
- > The position of the flying line on programmer:
 - ↔ White plug, from top to bottom, pin1 to pin8, connect to 2 3 4 pin or 5 6 7 pin.



4.15.3 Operation Step

- > Step 1 : Connect the lines well first, make sure that the RX TX lines connect correctly;
- > Step 2 : Set the line sequences and bit rate well and save;
- Step 3 : After opening the serial port switch, charge the LCD mainboard (The charging order must be correct or there will be no printing information).
- > Step 4 : Prepare the software interface well and charge the mainboard;

智能识别 SmartiD	ISP自动识别 AutoISP	鐵冲区 Buffer	工具链面板 Toolchain
读职 Read	输入芯片印字	历史记录	TRAD OK
保存 Save	厂商	팬号	SHILE OK
打开 Open	ALL	A 24_01 24_02	÷.
写入 Write	AMD AMIC	24_02 #ISP 24_04	
校验 Verify	ATMEL	24_08 24_08 24_08 #ISP	
撥除 Erase	RemMicro	24 1024	*
查空 Blank			
保护 Protect			
取消 Cancel			
RT809H 编程器			
-			

> Step 5 : The printing information showed.

SPESICEI Smarth	ISPARTIDE AutoISP	新市区 Buffer	Т	B Stanto Toolchai
Biller (0) official	In Balle Of Nation	State Conter		PERIODIC FOOICHER
读取 Read	输入芯片印字	历	使记录	(
保存 Save		mi O	•	确定 OK
	一前	型号		
打开 Open	ALL	24_02		
写入 Write	AMD AMIC	24_02 #IS 24_04	P	1
枝验 Verify	ATMEL	24_04 #15 24_08 24_08 #15	P	
撥除 Erase	BernMicro	7 24 1024		
查空 Blank	AC on ====cvte power on check usb and	d upgrade ====		
保护 Protect	<628> do_cvte_init_at_prama4er Check USB port[0]: [USB] usb_lowdewel_init+*	TV .		
取消 Cancel	[USB] USB EHCI LIB VER: 2014.0 [USB] Port 0 is Enabled [USB] TV urb. init (UTM Init) as	6.09		
RT809H 编程器	[USB] UTMI Base 1F207500 [USB] UHC Base 1F204800 [USB] USBC Base 1F200E00 [USB] BC Base 1F206C00 [USB] Config miu select [70] [B8] [FF] [[FF]		
and the second	[USB] TV_usb_init [USB] Usb_host_Init++			

4.15.4 Checking the printing information using Secure CRT

- > Step 1 : First close the serial print of software;
- Step 2 : Open Secure CRT and set;



> Step 3 : The following page will appear, set the parameter like the picture showing at the right;

快速连接	快速连接
协议(P): SSH2 ▼ 主机名(H): 端口(O): 22 防火墙(F): None ▼ 用户名(U): ♥Password ♥PublicKey ♥Keyboard Interactive ♥GSSAPI	协议(P): Serial 要和设备管理器里面显示的一样 端口(O): COM4 流控 波特率(B): 115200 DTR/DSR 数据位(D): 8 RTS/CTS 奇偶校验(A): None XON/XOFF 停止位(S): 1
 □ 启动时显示快速连接(W) □ 保存会话(V) □ 在新标签中打开(T) □ 连接 □ 取消 	 □ 启动时显示快速连接(W) □ 保存会话(V) □ 在新标签中打开(T) □ 连接 □ 取消

> Step 4 : Check the port in the device management;



Step 5 : Click "Connect" after setting;



- > Step 6 : When the icon at the top left corner turns green it shows the successful connection;
- Step 7 : Connect the RX TX of LCD mainboard with the programmer;
- > Step 8 : Charge the LCD mainboard then you can see the printing information.

```
Serial-COM4 (5) - SecureCRT
 文件(F) 编辑(E) 查看(V) 选项(O) 传输(T) 脚本(S) 工具(L) 帮助(H)
Serial-COM4 (5)
create instance at 2B6AE9F0 with private size 48 bytes at 2B6AEA38
uboot held at [2B3DDF60~2CD00000],size=019220A0
CPU : Monet
Board: BD_MST087B_10AJSM_MONET
DRAM: 205 M1B
Now running in RAM - U-BOOT at: 28E00000
eMMC: HS200 200MHz
eMMC 3.63 GB [747FF8h]
In: seria]
Out:
          serial
Err:
Net:
          serial
          No ethernet found.
[AT][MBoot][Driver Init][648]
  <env_reload for CHECK_IF_MBOOT_DEFAULT_ENV>
"File not found /etc/set_env
[ERROR] loadscript:757: No enough buffer or path fail(/etc/set_env) :
[src/MsUtility.c] [loadscript]
MPOOL size : 0x200000
Changelist:
                       24543697
                  = set bootargs ==
Hit any key to stop autoboot: 0
AC on

====cvte power on check usb and upgrade ====

<628> do_cvte_init_at_prama4env

Check USB port[0]:

[USB] usb_lowlevel_init++

[USB] USB EHCI LIB VER: 2014.06.09

[USB] TV_usb_init (UTMI Init) ++

[USB] TV_usb_init (UTMI Init) ++

[USB] UTMI Base 1F207500

[USB] UHC Base 1F204800

[USB] UHC Base 1F204800

[USB] USBC Base 1F20600

[USB] BC Base 1F20600

[USB] BC Base 1F246C00

[USB] config miu select [70] [B8] [FF] ][FF]

[USB] TV_usb_init--

[USB] USb_host_Init++
AC on
```

就绪