# JMY980 Core Board and JMY901W/R Reader English Manual

(Revision 1.00)

Jinmuyu Electronics Co. LTD 2012/7/24



Please read this manual carefully before using. If any problem, please mail to: Jinmuyu@vip.sina.com



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RESET

PA. 1

# **1** Product Introduction

JMY980 is a minimal system board, with the basic system configuration:

CPU: Samsung S3C2440, Frequency: 400MHz;

NOR FLASH: 4MByte, Nonvolatile while power off:

NAND FLASH: 256MByte, Nonvolatile while power off;

SDRAM: 64MByte, Composed of two 16bit width of 32MByte SDRAM, the clock frequency up to 100MHz;

System clock source: 12M Passive crystal;

 Real-time clock: Internal real time clock (not included then the backup of the model that included the state of the s

PC. 1

Support system:Linux2. 6. 32/WindowsCE6. 0

UCos2/2440test (Bare metal test program);

**Dimension:**  $63 \times 52$ mm;

56Pin 2.0mm Spacing; GPIO interface PA;

50Pin 2. 0mm Spacing; LCD; CMOS CAMERA interface PB;

56Pin 2. 0mm Spacing; system bus PC;

10Pin 2. 0mm Spacing; JTAG interface;

A power indicator and four user LEDs;

Board the JTAG, professional voltage regulator chip, users connected to a 5V power supply can be developed to do simple debugging.

Note: Information on CD-ROM provided in the core board schematics and PCB packages, development tools and Samsung original data.

# **2** Interface and Address Allocation Instructions

## 2.1 Pin Description

Interface	Network	Directions (Some ports	Interface	Network	Directions (Some ports
PA	Name	can be multiplexed)	PA	Name	can be multiplexed)
PA1	VDD5V	5V power	PA2	GND	GND
PA3	EINT19	EINT19/GPG11	PA4	EINT18	EINT18/GPG10/nCTS1

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PA5	EINT17	EINT17/GPG9/nRST1	PA6	EINT16	EINT16/GPG8
PA7	EINT15	EINT15/GPG7/SPICLK1	PA8	EINT14	EINT14/GPG6/SPIMOSI1
PA9	EINT13	EINT13/GPG5/SPIMIS01	PA10	EINT11	EINT11/GPG3/nSS1
PA11	EINT8	EINT8/GPG0	PA12	EINT6	EINT6/GPF6
PA13	EINT5	EINT5/GPF5	PA14	EINT4	EINT4/GPF4
PA15	EINT3	EINT3/GPF3	PA16	EINT2	EINT2/GPF2
PA17	EINT1	EINT1/GPF1	PA18	EINT0	EINTO/GPF0
PA19	WP_SD	WP_SD/GPH8	PA20	SDCLK	SDCLK/GPE5
PA21	SDCMD	SDCMD/GPE6	PA22	SDDATA2	SDDATA2/GPE9
PA23	SDDATA3	SDDATA3/GPE10	PA24	SDDATA0	SDDATAO/GPE7
PA25	SDDATA1	SDDATA1/GPE8	PA26	LCDVF2	OMO(NOR-NAND Select)
PA27	LCDVF0	LCDVF0/GPC5,Used for	PA28	M_nRESET	Manual reset signal
		USB_EN			(Active-low)
PA29	DN1	DN1/PDN0,USB Slave's	PA30	DP1	DP1/PDP0,USB Slave' s
		D			D
		D-			D+
PA31	DNO	D- DNO,USB Host's D-	PA32	DP0	D+ DPO,USB Host' s D+
PA31 PA33	DNO AIN2	D- DNO,USB Host's D- AIN2	PA32 PA34	DPO VDDRTC	D+ DPO,USB Host's D+ RTC power input(1.8V)
PA31 PA33 PA35	DNO AIN2 AINO	D- DNO,USB Host's D- AIN2 AIN0	PA32 PA34 PA36	DPO VDDRTC AIN1	D+ DPO,USB Host's D+ RTC power input(1.8V) AIN1
PA31 PA33 PA35 PA37	DNO AIN2 AIN0 L3MODE	D- DNO,USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2	PA32 PA34 PA36 PA38	DPO VDDRTC AIN1 L3DATA	D+ DPO,USB Host's D+ RTC power input(1.8V) AIN1 L3DATA/TOUT3/GPB3
PA31 PA33 PA35 PA37 PA39	DNO AIN2 AIN0 L3MODE L3CLOCK	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4	PA32 PA34 PA36 PA38 PA40	DPO VDDRTC AIN1 L3DATA I2SLRCK	D+ DPO,USB Host's D+ RTC power input(1.8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0
PA31 PA33 PA35 PA37 PA39 PA41	DNO AIN2 AIN0 L3MODE L3CLOCK I2SSCLK	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4 I2SSCLK/GPE1	PA32 PA34 PA36 PA38 PA40 PA42	DPO VDDRTC AIN1 L3DATA I2SLRCK CDCLK	D+ DPO,USB Host's D+ RTC power input(1.8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0 CDCLK/GPE2
PA31 PA33 PA35 PA37 PA39 PA41 PA43	DNO AIN2 AIN0 L3MODE L3CLOCK I2SSCLK I2SSDI	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4 I2SSCLK/GPE1 I2SSDI/GPE3	PA32 PA34 PA36 PA38 PA40 PA42 PA44	DPO VDDRTC AIN1 L3DATA I2SLRCK CDCLK I2SSDO	D+ DPO, USB Host's D+ RTC power input (1.8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0 CDCLK/GPE2 I2SSD0/GPE4
PA31         PA33         PA35         PA37         PA39         PA41         PA43         PA45	DNO AIN2 AIN0 L3MODE L3CLOCK I2SSCLK I2SSDI GPB0	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4 I2SSCLK/GPE1 I2SSDI/GPE3 TOUT0/GPB0	PA32 PA34 PA36 PA38 PA40 PA42 PA44 PA46	DPO VDDRTC AIN1 L3DATA I2SLRCK CDCLK I2SSDO GPB1	D+ DPO, USB Host's D+ RTC power input (1.8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0 CDCLK/GPE2 I2SSD0/GPE4 TOUT1/GPB1
PA31         PA33         PA35         PA37         PA39         PA41         PA43         PA45         PA47	DNO AIN2 AIN0 L3MODE L3CLOCK I2SSCLK I2SSDI GPB0 TXD2	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4 I2SSCLK/GPE1 I2SSDI/GPE3 TOUT0/GPB0 TXD2/nRTS1/GPH6	PA32 PA34 PA36 PA38 PA40 PA42 PA44 PA44 PA46 PA48	DPO VDDRTC AIN1 L3DATA I2SLRCK CDCLK I2SSDO GPB1 RXD2	D+ DPO, USB Host's D+ RTC power input (1.8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0 CDCLK/GPE2 I2SSD0/GPE4 TOUT1/GPB1 RXD2/nCTS1/GPH7
PA31         PA33         PA35         PA37         PA39         PA41         PA43         PA45         PA49	DNO AIN2 AIN0 L3MODE L3CLOCK I2SSCLK I2SSDI GPB0 TXD2 TXD1	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4 I2SSCLK/GPE1 I2SSDI/GPE3 TOUT0/GPB0 TXD2/nRTS1/GPH6 TXD1/GPH4	PA32 PA34 PA36 PA38 PA40 PA42 PA42 PA44 PA46 PA48 PA50	DPO VDDRTC AIN1 L3DATA I2SLRCK CDCLK I2SSDO GPB1 RXD2 RXD1	D+ DPO, USB Host's D+ RTC power input (1.8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0 CDCLK/GPE2 I2SSDO/GPE4 TOUT1/GPB1 RXD2/nCTS1/GPH7 RXD1/GPH5
PA31         PA33         PA35         PA37         PA39         PA41         PA43         PA45         PA47         PA49         PA51	DNO AIN2 AIN0 L3MODE L3CLOCK I2SSCLK I2SSDI GPB0 TXD2 TXD1 TXD1	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4 I2SSCLK/GPE1 I2SSDI/GPE3 TOUT0/GPB0 TXD2/nRTS1/GPH6 TXD1/GPH4 TXD0/GPH2	PA32 PA34 PA36 PA38 PA40 PA42 PA42 PA44 PA46 PA48 PA50 PA52	DPO VDDRTC AIN1 L3DATA I2SLRCK CDCLK I2SSDO GPB1 RXD2 RXD1 RXD0	D+ DPO, USB Host's D+ RTC power input (1. 8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0 CDCLK/GPE2 I2SSD0/GPE4 TOUT1/GPB1 RXD2/nCTS1/GPH7 RXD1/GPH5 RXD0/GPH3
PA31         PA33         PA35         PA37         PA39         PA41         PA43         PA45         PA47         PA49         PA51         PA53	DNO AIN2 AIN0 L3MODE L3CLOCK I2SSCLK I2SSDI GPB0 TXD2 TXD1 TXD0 nCTS0	D- DNO, USB Host's D- AIN2 AIN0 L3MODE/TOUT2/GPB2 L3LOCK/TCLK0/GPB4 I2SSCLK/GPE1 I2SSDI/GPE3 TOUT0/GPB0 TXD2/nRTS1/GPH6 TXD1/GPH4 TXD0/GPH2 nCTS0/GPH0	PA32 PA34 PA36 PA38 PA40 PA42 PA42 PA44 PA46 PA48 PA50 PA52 PA52	DPO VDDRTC AIN1 L3DATA I2SLRCK CDCLK I2SSDO GPB1 RXD2 RXD1 RXD0 nRTS0	D+ DPO, USB Host's D+ RTC power input (1. 8V) AIN1 L3DATA/TOUT3/GPB3 I2SLRCK/GPE0 CDCLK/GPE2 I2SSDO/GPE4 TOUT1/GPB1 RXD2/nCTS1/GPH7 RXD1/GPH5 RXD0/GPH3 nRTS0/GPH1

Interface	Network	Directions (Some ports	Interface	Network	Directions (Some ports
PB	Name	can be multiplexed)	PB	Name	can be multiplexed)
PB1	TSYM		PB2	TSYP	
PB3	TSXM		PB4	TSYM	
PB5	VD22	VD22/GPD14	PB6	VD23	VD23/GPD15
PB7	VD20	VD20/GPD12	PB8	VD21	VD21/GPD13
PB9	VD18	VD18/GPD10	PB10	VD19	VD19/GPD11
PB11	VD16	VD16/GPD8	PB12	VD17	VD17/GPD9
PB13	VD14	VD14/GPD6	PB14	VD15	VD15/GPD7
PB15	VD12	VD12/GPD4	PB16	VD13	VD13/GPD5
PB17	VD10	VD10/GPD2	PB18	VD11	VD11/GPD3
PB19	VD8	VD8/GPD0	PB20	VD9	VD9/GPD1
PB21	VD6	VD6/GPC14	PB22	VD7	VD7/GPC15
PB23	VD4	VD4/GPC12	PB24	VD5	VD5/GPC13



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PB25	VD2	VD2/GPC10	PB26	VD3	VD3/GPC11
PB27	VD0	VD0/GPC8	PB28	VD1	VD1/GPC9
PB29	LCD_PWR	LCD_PWR/EINT12/GPG4	PB30	VM	VM/VDEN/GPC4
PB31	VFRAME	VFRAME/VSYNC/GPC3	PB32	VLINE	VLINE/HSYNC/GPC2
PB33	VCLK	VCLK/GPC1	PB34	LEND	LEND/GPC0
PB35	CAMDATA7	CAMDATA7/GPJ7	PB36	CAMDATA6	CAMDTAT6/GPJ6
PB37	CAMDATA5	CAMDATA5/GPJ5	PB38	CAMDATA4	CAMDATA4/GPJ4
PB39	CAMDATA3	CAMDATA3/GPJ3	PB40	CAMDATA2	CAMDATA2/GPJ2
PB41	CAMDATA1	CAMDATA1/GPJ1	PB42	CAMDATAO	CAMDATAO/GPJ0
PB43	CAMCLK	CAMCLK/GPJ11	PB44	CAM_PCLK	CAM_PCLK/GPJ8
PB45	CAM_VSYNC	CAM_VSYNC/GPJ9	PB46	CAM_HREF	CAM_HREF/GPJ10
PB47	EINT20	EINT20/GPG12	PB48	CAMRST	CAMRESET/GPJ12
PB49	VDD5V	VDD5V	PB50	GND	GND

Interface	Network	Directions (Some ports	Interface	Network	Directions (Some ports
PC	Name	can be multiplexed)	PC	Name	can be multiplexed)
PC1	EINT7	EINT7/GPF7	PC2	EINT9	EINT9/GPG1
PC3	LnGCS1	Chip Select LnGCS1	PC4	LnGCS3	Chip Select LnGCS3
PC5	LnGCS2	Chip Select LnGCS2	PC6	LnWBE1	LnWBE1
PC7	LnGCS4	Chip Select LnGCS4	PC8	LnWE	LnWE
PC9	Ln0E	LnOE	PC10	nRESET	nRESET
PC11	nWAIT	nWAIT	PC12	nXDACK0	nXDACK0
PC13	LADDRO	LADDR 0	PC14	nXDREQ0	nXDREQ0
PC15	LADDR1	LADDR 1	PC16	LADDR2	LADDR 2
PC17	LADDR3	LADDR 3	PC18	LADDR4	LADDR 4
PC19	LADDR5	LADDR 5	PC20	LADDR6	LADDR 6
PC21	LADDR7	LADDR 7	PC22	LADDR8	LADDR 8
PC23	LADDR9	LADDR 9	PC24	LADDR10	LADDR 10
PC25	LADDR11	LADDR 11	PC26	LADDR12	LADDR 12
PC27	LADDR13	LADDR 13	PC28	LADDR14	LADDR 14
PC29	LADDR15	LADDR 15	PC30	LADDR16	LADDR 16
PC31	LADDR17	LADDR 17	PC32	LADDR18	LADDR 18
PC33	LADDR19	LADDR 19	PC34	LADDR20	LADDR 20
PC35	LADDR21	LADDR 21	PC36	LADDR22	LADDR 22
PC37	LADDR23	LADDR 23	PC38	LADDR24	LADDR 24
PC39	LDATAO	LDATA O	PC40	LDATA1	LDATA 1
PC41	LDATA2	LDATA 2	PC42	LDATA3	LDATA 3
PC43	LDATA4	LDATA 4	PC44	LDATA5	LDATA 5
PC45	LDATA6	LDATA 6	PC46	LDATA7	LDATA 7
PC47	LDATA8	LDATA 8	PC48	LDATA9	LDATA 9
PC49	LDATA10	LDATA 10	PC50	LDATA11	LDATA 11
PC51	LDATA12	LDATA 12	PC52	LDATA13	LDATA 13
PC53	LDATA14	LDATA 14	PC54	LDATA15	LDATA 15



**PC55** 

# 2.2 Address Space Allocation, And Chip Select Signals Defined

S3C2440 supports two startup modes: Nand Flash and Nor Flash

Both start modes, the storage space allocation for each chip select is different, as shown below:



In the above picture,

Nor Flash nGCS0 piece of selected startup mode of the memory allocation map on the left;

The right is the Nand Flash startup mode of the memory allocation map;

The following defines the device address space allocation, and chip select;

Before conducting device address, one thing is important to note that the device nGCS0 chip select space in the start mode, the map is not the same. You can know from the above Fig.;

NAND Flash boot mode, the internal 4K Bytes Boot SRAM is mapped to nGCS0 chip select space; Nor Flash boot mode (non-Nand Flash startup mode), connected with nGCS0, Nor Flash, external memory is mapped to nGCS0 chip select space;

SDRAM Address space:  $0x30000000 \sim 0x34000000$ .



# 3 Procedural Programming And Systems Download

# 3.1 Bootloader Programming

For the new Board, there is no any program; we need program the first program via JTAG interface that is Supervivi. With the Supperviv, we can download more complex system program via USB interface.

# 3.1.1 Programming nor Flash Software Installation

H-JTAG software installation requirements: Computer must have a parallel port. (The software is installed only in the first case, if installed, this step is omitted).

1、Installation H-JTAG

For H-JTAG, the installation file is located in the CD-ROM "JMY980TOOLS\H-JTAG" catalog, double-click to run, and can be installed in accordance with its prompt.

😂 H-JTAG		
文件(E) 编辑(E) 查看(V) 收	(藏 (à) 工具 (I) 帮助 (H)	<b>R</b>
🔇 后退 🔹 🕥 🕘 🏂 🔎	· 搜索 🍺 文件夹 📰 - 🔞 Folder Sync	
地址 @) 🗁 E: \JMY980T00LS\H-JTA	G 🔽 🛃 转	转到
文件和文件夹任务         冬           ■         重命名这个文件           ●         移动这个文件           ●         复制这个文件           ●         将这个文件           ●         税这个文件           ●         此文件           ●         単時次个文件	ARM2440, his HIS XH HIS XH HFC XH HFC XH HFC XH I IS H-JTAG VO. 4. 4. EXE	
其它位置 → JMY980TOOLS → 我的文档 → 共享文档 → 我的电脑 → 网上邻居		
创建日期: 2012-5-23 17:48 大小:	2.56 MB 2.56 MB 🚽 我的电脑	

After installing, the generated H-JTAG and H-Flasher shortcut will show on the desktop; double-click to run the H-JTAG, the program will automatically detect whether to connect the JTAG equipment, because we have not done any of the settings, it will pop up a prompt window:





To click OK to enter the main program, not connected to any target device, so displaying as following:

H H-JTAG Server	
File Operations Flasher Scri	pt Settings Options Help
* 9, X   F   5   T	o 🚯 🤳 🧑 🤳
Ready	

2、JTAG interface set

In the H-JTAG interface menu to hit Setting-> Jtag Setting, doing as shown below to set up, click OK to return to the main interface.

Pin4 D2 Pin2 D0
Pin2 D0 💌
Pin3 D1 -
T NO TAP RST
T NO SYS RST 💌
need 1
r

3, Set the init script

To copy H-JTAG" ARM2440.his and H-Flasher\_2440.hfc file in the directory "JMY980TOOLS \H-JTAG" for the CD-ROM to the installation directory of the H-JTAG, as shown:





In the main interface of the H-JTAG, to hit Script->Init Script, then will Pop-up Init Script window, to hit the Load button in the window below, to locate and select the open just copied ARM2440.his file, as shown below:

H-JIAG Server	
Init Script	
打开	? 🛛
查找范围 (I): C H-JTAG 🖉 🗲	<b>€</b> 📸 •
Config Config	
FDevice	
Target	
AM244U. ATS	
文件名 (M): ARM2440. his	打开(0)
文件类型 (I): H-Jtag Init Script (*.his)	]
Enable Auto Init New Load OK	Cancel
Ready	

At this time, the Init Script window will be loaded into the script fill, as shown, be careful not to click the "Enable Auto Init", click OK to return the H-JTAG interface.

## **3.1.2ARM9 NOR Flash Programming Process**

- 1. Check the programming tools
- (1) To prepare a Computer with a parallel port, and installed the software of the H-JTAG.
- (2) One of parallel lines for NOR Flash.
- (3) JMY901 contact less RF reader board or your company's own development board.
- 2、 Configuration of H-JTAG software:

Opening the software as following:



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In the H-JTAG interface menu to hit Setting->Jtag Settings, to make the following diagram configuration:

Jtag Selection	User Del	fined Pin Assignme
C Wiggler (Predefined)	TMS	Pin4 D2 -
C Sdt Jtag (Predefined)	TCK	Pin2 D0 -
User Defined	TDI	Pin3 D1 💌
Reset Signal Output	TDO	Pin11 Busy 💌
nTRST output inverted	nTRST	NO TAP RST
nSRST output inverted	nSRST	NO SYS RST 💌

- 3, To connect the device
  - (1) Using the +5V supply line, to connect the core board but without powering.
  - (2) Using the parallel port cable to connect the core board and computer.
  - (3) Confirm JMY901 toggle switch S2 in the NOR side
  - (4) Turn on the power.
- 4, Check the device connection is normal or not

To hit Operations->Detect Target, if the showing as below, that is meaning the interface has been connected:



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5、To load H-Flasher\_2440.hfc

Hitting Flasher->Start H-Flasher, to show the following H-Flash interface:



To hit Load in the H-Flash interface, loading H-Flasher\_2440.hfc:

II-F ew I	Flasher Load Save SaveAs Options Exit About	
Proç	打开	2 🛛
<b>2</b> M	查找范围 (I): C H-JIAG	← 🗈 📸 📰 -
3 I: 4 P: 7 H	FConfig FDevice HConfig Target Temp H-Flasher_2440.hfc	
	文件名 W): H-Flasher_2440.hfc 文件类型 (I): H-Flasher Configuration Files (*.h	打开 ( <u>0</u> ) fc ▼ 取消

After loaded, the following interface will appear, to choose SST39VF3201:



🖥 H-Flasher - H-Flas	her_2440.hfc	
New Load Save Save As Program Wizard	Options Exit About >> Flash Selection	
<ol> <li>Flash Selection</li> <li>Memory Config</li> <li>Init Script</li> <li>Programming</li> <li>H-Flasher Help</li> </ol>		Vendor: SST PartNo: SST39VF3201 Type: NOR Flash Sector: 1024 Size: 4 MB ID: 0x235B00BF Width: 16-Bit

- 6、Set programming parameters
- (1) Hitting 4 Programming

🥫 H-Flasher - H-Fl	sher_2440.hfc	
New Load Save Save	s Options Exit About	
Program Wizard	>> Programming - SST39VF3201	
<ol> <li>Flash Selection</li> <li>Memory Config</li> <li>Init Script</li> </ol>	Flash: Unchecked Target: Unchecked	Check
<ul> <li>Programming</li> <li>H-Flasher Help</li> </ul>	Type: Auto Flash Download Src File: Dst Addr:	Program
	From: Entire Chip To: Entire Chip	Erase

(2) To hit Check button, if the core board is ok, it displays the following interface:

rogram Wizard	>> Prog	amming - AM29LV160DB		
Flash Selection Memory Config Init Script	Flash: Target	AM29LV160DB 0x22490001 ARM920T Little-Endian		Check
Programming	Type:	Auto Flash Download	•	Program
H-Flasher Melp	Src File: Dst Addr	[ [	_	
	From	Entire Chip	•	Erase
	To:	Entire Chip	-	Blank

(3) Hitting Type drop-down list, to choose"Plain Binary Format":



rogram Wizard	>> Progr	amming - AM29LV160D	8	
Flash Selection Memory Config Init Script	Flash: Target	Unchecked Unchecked		Check
Frogramming M-Flasher Help	Type: Stc File: Dist Addr:	Auto Flash Download Auto Flash Download Intel Hex Format Risin Brnew Format		Program
	From:	Entire Chip	•	Erase
	To:	Entire Chip	-	Blank.

(4) And then to hit the Browse button to the right side of the Src File..., Select the file(supervivi-128M) to be programmed.

(5) Input 0 in the Dst Addr column.

7、Programming

To hit Program, If the programming is successful, it will be shown as following:

H-Fla	sher	
F	Programmed and verified succes 00:05:40 100% 23 KB/s	sfully. Size = 123.2 KB
		Close

# 3.2 Download the Operating System

## 3.2.1 Preparatory Work before the Download System

- 1. Check the programming tools
- (1) To prepare a Computer with USB and Serial ports
- (2) Each one for USB and Serial cable
- (3) A JMY980 Core board.
- (4) JMY901 contact less RF reader board or your company's own development board.
- (5) DNW software and115200.ht HyperTerminal software (for this two software no need to install,



directly copy to the hard disk to run) .

- (6) Installation USB driver (JMY980TOOLS\usb driver).
- (7) To switch S2 of JMY901 in NOR-side(NOR Flash staring mode)
- 2、Opening software
- (1) To open 115200.ht HyperTerminal software, as following:



(2) To open DNW software, as following:

Serial Port USB Port Configuration Help	~
	×

# 3.2.2Download Linux system

1. To confirm the Serial ports and USB Slave interface are connected, after power on, the 115200.sh software will be showing as the following:



🏶 115200 - 超级终端	
文件 (E) 编辑 (E) 查看 (Y) 呼叫 (C) 传送 (I) 帮助 (H)	
<pre>[x] format NAND FLASH for Linux [v] Download vivi [k] Download linux kernel [y] Download root_yaffs image [a] Absolute User Application [n] Download Nboot for WinCE [1] Download WinCE boot-logo [w] Download WinCE NK.bin [d] Download &amp; Run [z] Download &amp; Run [z] Download &amp; Run [g] Boot linux from RAM [f] Format the nand flash [b] Boot the system [s] Set the boot parameters [u] Backup NAND Flash to HOST through USB(upload) [r] Restore NAND Flash from HOST through USB [g] Goto shell of vivi [i] Version: 0945-2K Enter your selection: _</pre>	
	>
已连接 0:22:35 自动检测 115200 8-11-1 SUROLL CAPS 110M 涌 打印	

2、To format Nand Flash

To select the function key [f], Nand Flash will be partitioned, as following:

🍓 115200 - 超级终端	
文件 (E) 编辑 (E) 查看 (V) 呼叫 (C) 传送 (I) 帮助 (H)	
D 🚅 🝏 🐉 📫 🎦 😭	
[z] Download zImage into RAM [g] Boot linux from RAM [f] Format the nand flash [b] Boot the system [s] Set the boot parameters [u] Backup NAND Flash to HOST through USB( [r] Restore NAND Flash from HOST through U [q] Goto shell of vivi [i] Version: 0945-2K Enter your selection: f	upload) ISB
•••••••••••••••••••••••••••••••••••••••	
	•••••••••••••••••••••••••••••••••••••••
	>

3、To check "USB: OK" in the DNW software, as following:



4、 Installation bootloader

To select the function key [v], as following:



🔭 115200 - 越级终端	
文件(1)编辑(12) 畫看(12) 呼叫(12) 传送(12) 帮助(13)	
D 📽 👳 💲 🛍 🗃	
<pre>[x] format NAND FLASH for Linux [v] Download vivi [k] Download roivi [v] Download roivyaffs image [a] Absolute User Application [n] Download Nboot for WinCE [1] Download WinCE boot-logo [w] Download WinCE NK.bin [d] Download WinCE NK.bin [d] Download Zhage into RAM [g] Boot linux from RAM [g] Boot linux from RAM [g] Boot linux from RAM [s] Set the boot parameters [s] Set the boot parameters [s] Set the boot parameters [s] Set the boot plash to HOST through USB(upload) [r] Restore NAND Flash from HOST through USB [a] Goto shell of vivi [i] Version: 0945-2K Enter your selection: v USB host is connected. Waiting a download.</pre>	

To hit "USB Port->Transmit->Transmit" in the DNW software, as following:

Serial Port USB Port Configuration Help	
Transmit	
Rx Test	
Status	
Contraction of the second s	

To select supervivi-128M, then hit open, as following:

<b>DNW v0.50</b>	A [COM:x][USB:OK]	🛛
Serial Port USI	B Port Configuration Help	
打开	? 🛛	-
查找范围( <u>t</u> ):	🔁 linux 💌 🗲 🗈 📸 📰 •	
Recent 原面 設的文档 我的电脑 网上邻居	<pre>i readme.txt if rootfs_qtopia_qt4.img if rootfs_qtopia_qt4.img if supervivi-64M if supervivi-128M if vboot.bin if zImage_A70 if zImage_B35 if zImage_B35 if zImage_B43 if zImage_B4</pre>	
	文件名 (U): supervivi-128M	
	文件类型 (I):  All Files (*.*)	

5、Installation Linux Kernel

To select the function key [k], as following:





🗞 115200 - 超级终端	
文件 (E) 编辑 (E) 查看 (V) 呼叫 (C) 传送 (E) 帮助 (E)	
RECEIVED and Writed FILE SIZE:95675722 (614KB/S, 152S)	
[x] format NAND FLASH for Linux [v] Download vivi [k] Download linux kernel	
[y] Download root_yaffs image [a] Absolute User Application [n] Download Nboot for WinCE	
[1] Download WinCE boot-logo [w] Download WinCE NK.bin [d] Download &_Run	
lz] Download zimage into KHM [g] Boot linux from RAM [f] Format the nand flash	
lbJ Boot the system [s] Set the boot parameters [u] Backup NAND Flash to HOST through USB(upload)	
[r] Restore NAND Flash from HOST through USB [q] Goto shell of vivi [i] Version: 0945-2K	
Enter your selection: k USB host is connected. Waiting a download.	
   戸道城 n. no. cc 田子村谷城 (110000 n. n. ) STATIJ. (CAPS (1100)	

To hit "USB Port->Transmit->Transmit" in the DNW software, to select zImage\_Q35, as following:

Serial Port USB Port Configuration Help	
打开	2 🛛 🔺
查找范围 (I): 🔁 linux 💽 🔶 色	•
I readme.txt         grootfs_qtopia_qt4.img         Becent         Supervivi-64M         I supervivi-128M         I supervivi-128M         I stage_120         I zimage_135         I zimage_135	
文件名(W): zImage_Q35 文件类型(I): All Files (*.*)	1 打开 (2) 取消

6. Installation the root file system

To select the function key [y], as following:

🎨 115200 - 超级终端	X
文件(亚)编辑(亚)查看(亚)呼叫(亚)传送(亚)帮助(田)	
D 🗳 🐵 💈 🖬 🎦	
Written 2266616 bytes         [x] format NAND FLASH for Linux         [v] Download vivi         [k] Download linux kernel         [v] Download root_vaffs image         [a] Absolute User Application         [n] Download WinCE boot-logo         [w] Download WinCE NK.bin         [d] Download XinCE boot-logo         [w] Download XinCE NK.bin         [d] Download Zimage into RAM         [g] Boot linux from RAM         [f] Format the nand flash         [b] Boot the system         [s] Set the boot parameters         [u] Backup NAND Flash to HOST through USB(upload)         [r] Restore NAND Flash from HOST through USB         [g] Goto shell of vivi         [i] Version: 0945-2K         Enter your selection: y         USB host is connected. Waiting a download.	
已连接 0:34:16 自动检测 115200 8-x-1 SCROLL CAPS xnM 捕 打印	

To hit "USB Port->Transmit->Transmit" in the DNW software, to select rootfs\_qtopia\_qt4.img,



as following:

•• DN¥ ⊽0.50/	A [CON:x][	USB:OK]				×
Serial Port US 打开	B Port Configur	ation Help			? 🛛	<u>^</u>
	<pre>investment in the second second</pre>	ia_qt4.ing 4M 28M D24X768		← È ở ⊞•		
	文件名 (20): 文件类型 (20):	rootfs_qtopia_qt4.im; All Files (*.*)	:	•	打开 (1) 取消	v

To start sending the file system, a little longer, please wait for the process of transmission as shown below:

🍓 115200 - 超级终端		
文件(E) 编辑(E) 查看(Y) 呼叫(C) 传送(E) 帮助(H)		
0 🖆 🏐 🥈 📫 🎦		
[a] Absolute User Application In Download Nhoot for WinCE II Download WinCE bot-logo [w] Download WinCE Kk.bin [d] Download & Run [z] Download zImage into RAM [g] Boot linux from RAM [g] Boot linux from RAM [f] Format the nand flash [b] Boot the system [s] Set the boot parameters [u] Backup NAND Flash to HOST th [r] Restore NAND Flash from HOS [d] Goto shell of vivi [i] Version: 0945-2K Enter your selection: y USB host is connected. Waiting of	nrough USB(upload) [ through USB a download.	~
Now, Downloading [ADDRESS:30000] Downloaded file at 0x30000000, ; Flash params: oobsize = 64, oob = 262668288 Erasing and programming NAND wi Block erasing(addr/count) [	000h,TOTAL:956757221 size = 95675712 bytes slock = 2048, erasesiz th yaffs image Block bad(addr/count)	e = 131072, partition size Block processed/All(%)
0x0ffc0000/01995	0x0ebe0000/00009	02004/02004=100%

After the transmission, it will be showing Load ysffs OK.

7、Enter into Linux system

After power off, switch S2 of JMY901 to NAND side, and last to re-power on, the system will be started from the NAND Flash, as shown below:



🎨 115200 - 趙振终端	- 🗆 🛛
文件 12)编辑 12) 查看 12) 呼叫 12) 传送 12) 帮助 12)	
yaffs: dev is 32505859 name is "mtdblock3" yaffs: passed flags " yaffs: Attempting MTD mount on 31.3, "mtdblock3" yaffs: auto selecting yaffs2 block 783 is bad block 783 is bad block 1090 is bad block 1110 is bad block 1111 is bad block 1136 is b	
Please press Enter to activate this console	

Press Enter to enter the Linux file system to operate, as shown below:

8. The operation with touch screen

If you connect the touch screen, you can see the following Linux boot screen:



Touch calibration, click on the cross cursor to calibrate the screen, as shown below:





After calibration, then enter into Qtopia interface, as following:



Click on the screen into the system interface, as shown below:



Linux system has been installed!



# 3.2.3 Download WindowsCE System

Download WindowsCE System is the same to Download Linux System. The difference is function selection and programming file, function selected programming file storage in "JMY980TOOLS\images\wince6.0" catalog.

Programming steps:

- 1. To select the function key [n], to program file nboot\_Q35.bin;
- 2. To select the function key [1], to program file bootlogo.bmp;
- 3、 To select the function key [w], to program file NK\_Q35.bin;
- 4、To install WinCE and the synchronization software ActiveSync for WindowsXP, then to storage in"JMY980TOOLS\windows platform tools\ActiveSync" catalog;
- After programming the system then to switch to the NAND Flash start, touch screen will appear the following interface:



To start WinCE interface, as following:



Enter into the WinCE operation system, as following:



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Synchronous software-ActiveSync will pop up, as following:

😁 Licrosoft	t ActiveSync	
文件(2) 视图(	V) 工具(T) 帮助(H)	
<ul><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li><li>○</li></ul>	and a second se	
JMY980CE		6
<b>已连接</b> 已同步		
信息类型	状态	1

WinCE system has been installed!

# 4 WindowsCE 6.0 Developer's Guide

# 4.1Building WindowsCE 6.0 Development Environment

Note: The following software and steps are based on Microsoft Windows XP SP3 system and other Windows system without testing.

Windows CE 6.0 installation process is very cumbersome, and for the development of host is relatively high (otherwise it will be very slow), we recommend that users, especially beginners should follow the steps described to install the development environment.

Here is the configuration of the development host, for reference only: CPU: Pentium(R) Dual-Core E6700 @3.20GHZ Memory: DDR2 4GB Hard disk: 500GB



Install the required software listed below (partial): Visual Studio 2005(Does not provide) Download: http://download.microsoft.com/download/e/1/4/e1405d9e-47e3-404c-8b09-489437b27fb0/En vs 2005 Pro 90 Trial.img Visual Studio 2005 Service Pack 1(File name:VS80sp1-KB926601-X86-ENU.exe) Download: http://www.microsoft.com/en-us/download/details.aspx?id=5553 Visual Studio 2005 Service Pack 1 Update for Windows Visat (File name: VS80sp1-KB932232-X86-ENU.exe) Download: http://www.microsoft.com/en-us/download/details.aspx?id=7524 Visual Studio 2005 Service Pack 1 ATL Security Update (File name: VS80sp1-KB971090-X86-INTL.exe) Download: http://www.microsoft.com/en-us/download/details.aspx?id=25287 Windows Embedded CE 6.0 Download: http://www.microsoft.com/en-us/download/details.aspx?id=20083 Windows Embedded CE 6.0 Platform Buider Service Pack 1 Download: http://www.microsoft.com/en-us/download/details.aspx?id=4097 Windows Embedded CE 6.0 R2 Download: http://www.microsoft.com/en-us/download/details.aspx?id=18111 Windows Embedded CE 6.0 R3 Download: http://www.microsoft.com/downloads/details.aspx?familyid=bc247d88-ddb6-4d4a-a595-8eee355 6fe46&amp:displaylang=ia&displaylang=en

The order of the list above also shows that the software installation sequence: first install Visual Studio 2005 and the patch, and then install the Windows CE 6.0 and patch.

Note: The Platform Builder for Windows CE 6.0 is different with the previous Windows CE 5.0/4.2, etc. It is not an independent software development platform, but as of VS2005 plug-in installed, you must first install the VS2005, and after all kernel configuration compiler and development are based on VS2005.

# 4.1.1 Installing Visual Studio 2005 and patch

Step1: Opening Visual Studio 2005 folder, find the setup.exe, double-click to start the installation.



组织 🔻 📑 打开	新建文件夹		i≡ • E	
	名称	修改日期	类型	大小
	19385_RIL_x86_enu_Report_Viewer	2005/9/24 1:02	Cab 文件	
長 「我	🚪 _19440_RTL_x86_enu_Report_Viewer	2005/9/24 1:02	Cab 文件	1,8
皇 泉田	_19473_RTL_x86_enu_CR_HowDoI.cab	2005/9/24 0:50	Cab 文件	
🔄 最近访问的位置	💷 autorun.exe	2005/9/23 21:53	应用程序	
	autorun.inf	2003/7/24 9:26	安装信息	
(二) 库	contents.htm	2005/9/15 1:35	HTML文档	
📕 视频	🚳 htmllite.dll	2005/9/23 18:46	应用程序扩展	
	LocData.ini	2005/9/23 15:30	配置设置	
	S msvcp80.dll	2005/9/23 14:46	应用程序扩展	
	svcr80.dll	2005/9/23 14:44	应用程序扩展	(
❷/ 目示	🦻 readme.htm	2005/9/2 9:15	HTML文档	
	鍔 setup.exe	2005/9/23 21:55	应用程序	(
1 计算机	🔊 setup.ini	2005/9/24 7:44	配置设置	
	@ toc.htm	2005/8/19 3:52	HTML 文档	
📬 网络	掲 vs_setup.msi	2005/10/1 8:34	Windows Install	102,3
	E VSKnownIssues.htm	2005/9/15 6:03	HTML 文档	
	<			

Step2: Appear in Figure interface, point the "Install the Visual Studio 2005"



Step3: Figure interface, wait a moment, point "Next"

felcome to the Microsoft Visual Studio 2005 Istallation wizard.	
his wizard guides you through installing this program d all required components.	
elp Improve Setup ou can submit anonymous information about your	
sual Studio setup experiences to Microsoft. To articipate, check the box below.	
Yes, gend information about my setup experiences to Microsoft Corporation.	Visual Studio 2005
For more information, click <u>Data Collection Policy</u>	

Step4: Figure interface, pay attention to click on the red box, and enter the serial number, point "Next"





Step5: Figure interface, select the type of installation "Full", click "Next"

elect features to install:	Feature desc	cription:			
Default Installs the recommended features for the product	This option product.	on installs all o	f the features	available for	the
Full Installs all features for the product					
Custom	Product insta	all path:			
Select reatures to include and exclude from the product	C:\Program I	Files\Microsoft Vis	ual Studio 8\		Browse
	Disk space re Volume	Disk Size	Available	Required	Remaining
	Disk space re Volume C:	Disk Size 98.5 GB	Available 89.4 GB	Required 3.1 GB	Remaining 86.3 GB
	Disk space re Volume C: D:	Disk Size 98.5 GB 367.2 GB	Available 89.4 GB 358.6 GB	Required 3.1 GB 0 bytes	Remaining 86.3 GB 358.6 GB

Step6: Figure interface, and started to install Visual Studio 2005, this long process, please be patient.

Installing Components: Microsoft Visual Studio 2005 . MiCr Compact Framework 1.0 SP3 NET Compact Framework 2.0 Microsoft Visual 3 = 2.0 Redistributable Package . SQL Server 2005 Mobile Edition . Microsoft Device Emulator version 1.0 . Microsoft SQL Server 2005 Express Edition x86	Simplify Deployment and Departions 1. Streamline application 1. Streamline application 2. Detect and install missing prerequizites automatically using the new stetup bottstrapper 1. Incorporate performance counters and event logging mechanizms into applications easily	
---	--	--

Step7: Visual Studio 2005 installed, the following screen appears, point the "Finish" to end the installation.



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Figure interface, just click "Exit".

💬 Visual Studio 20	005 Setup
	isual Studio 2005
	Change or Remove Visual Studio 2005 Repair, reinstall, or install additional Visual Studio 2005 features. You can also uninstall Visual Studio 2005.
msdn	Install Product Documentation Install the MSDN Library, which includes Help for Visual Studio.
	<u>Check for Service Releases</u> Check for the latest Service Releases to ensure optimal functionality of Visual Studio 2005.
	View ReadMe Egit

Step8: Now begin to install the first patch file " the Visual Studio 2005 Service Pack 1", double-click to run "VS80sp1-KB926601-X86-ENU.exe" to start the installation, appears in Figure interface



Step9: Have to wait a moment, appears in Figure picture, click "OK" officially installed

licrosoft Visual Studio 2005 Professional Edition - ENU Ser	X
Do you want to install Microsoft Visual Studio 2005 Professional Edition - ENV Service Pack 1 (KB926601) on Microsoft Visual Studio 2005 Professional Edition - ENV?	
OK Cancel	

Step10: Accept the installation of the license agreement, click "I accept" to continue

PLEASE NOTE: Microsoft Corporation (or based on where	-
you live, one of its affiliates) licenses this supplement to you. You may use it with each validly licensed copy of Microsoft Visual Studio 2005 software (the 捺oftware?. You may not use the supplement if you do not have a license for the software. The license terms for the software apply to your use of this supplement. Microsoft provides support services for the	H
www.support.microsoft.com/common/international.aspx.	-
Please read the rights and restrictions described in the I Iser License Agreement (EULA). To accept the terms of thi SULA, click "I accept". To decline the terms of this EUL click "I decline". Before this software can be installed, the terms of this EULA must be accepted.	Ind is A,

Step11: Appear during the installation interface, the longer this process, please be patient





Step12: Installed, the end of the following interface appears, click "OK" The installation of this patch



Step13: install the second patch "Visual Studio 2005 Service Pack 1 Update for Windows Vista", double-click "VS80sp1-Kb932232-x86-ENU.exe ",in turn appear as shown in Figure interface

Windows Installer	
Preparing to install	
	Cancel
Microsoft Visual Studio 2005 Profes	sional Edition - ENU
Please wait while Windows conf Professional Edition - ENU	igures Microsoft Visual Studio 2005
	Cancel

Step14: Wait a moment, appears in Figure interface, click "OK" to continue





Step15: The installation license agreement screen, click "I accept" to continue

PLEASE NOTE: Microsoft Corporation (or based on where you live, one of its affiliates) licenses this	-
supplement to you. You may use it with each validly	
licensed copy of microsoft visual Studio 2006 Service Pack 1 software (the 搒oftware?. You may not use the sumlement if you do not have a license for the	Ε
software. The license terms for the software apply to	
your use of this supplement. Microsoft provides support services for the supplement as described at	
www.support.microsoft.com/common/international.aspx.	-
lease read the rights and restrictions described in the Iser License Agreement (EULA). To accept the terms of th WLA, click "I accept". To decline the terms of this EUL tlick "I decline". Before this software can be installed be terms of this EULA must be excepted.	End is .A, l,

Step16: Appear during the installation interface, the longer this process, please be patient



Step17: Installed, the end of the following interface appears, click "OK"



Step18: Next, install the third patch" Visual Studio 2005 Service Pack 1 ATL Security Update", double-click to run" VS80sp1-KB971090-x86-INTL.exe", in turn appear as shown in Figure interface







Step19: Wait a moment, appears in Figure interface, click "OK" to continue



Step20: The installation license agreement screen, click "I accept" to continue

	-
you live, one of its affiliates) licenses this	
supplement to you. You may use it with each validly	
licensed copy of Microsoft Visual Studio 2005 Service	
Pack 1 software (the "software"). You may not use the	=
supplement if you do not have a license for the	
software. The license terms for the software apply to	
your use of this supplement. Microsoft provides support	-
services for the supplement as described at	
www.support.microsoft.com/common/international.aspx.	-
Please read the rights and restrictions described in the I Jser License Agreement (EVLA). To accept the terms of this SULA, click "I accept". To decline the terms of this EVLA click "I decline". Before this software can be installed, the terms of this EVLA must be accepted.	(n. 15 1,

Step21: Appear during the installation interface, the longer this process, please be patient





Step22: Installed, the end of the following interface appears, click "OK"

Security Update for Microsoft Visual Studio 2005 Professio	X
Security Update for Microsoft Visual Studio 2005 Professional Edition - ENU (KB971090) was successfully installed on Microsoft Visual Studio 2005 Professional Edition - ENU.	
OK	

At this point, based on the Windows XP platform, Visual Studio 2005 and its patch has been installed.

# 4.1.2 Installing the Windows CE 6.0 and patch

Step1: Click on "Windows Embedded CE 6.0.msi" to begin the installation, as shown, click "Next" to continue



Step2: Enter the product key point, click "Next" to continue



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customer inton	nation			5
Please enter you	ir information.			0
<u>U</u> ser Name:				
tom				
Organization:				
ms				
Please enter the	product key:			
Ī -		-	-	
·				

Step3: Appear to install the license agreement screen, select "I accept", point the "Next" to continue

Windows Embedded CE 6.0 Setup
License Agreement Please read the following license agreement carefully.
MICROSOFT EVALUATION SOFTWARE LICENSE
MICROSOFT WINDOWS EMBEDDED CE 6.0 TOOLKIT These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read
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Print Cancel Cancel

Step4: Select and set like the picture, click "Next" to continue

1

Select Browse to change the directory where features are installed.	B
Windows Embedded CE 6.0 CE 6.0 Tools Windows Embedded CE 6.0 Test Kit Elstform Ruider Started Source MIPSII MIPSII MIPSII	Additional source-level debugging (must accept Shared Source License Agreement)
X MPSII FP MSIV X MPSIV FP X St4	This feature requires 74MB on your hard drive.
Install to: C:\WINCE600\	Brgwse

Step5: Figure interface, select as the picture, click "Next" to continue



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ource License Agreement	5
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O 1 go hot accept the terms in the accesse Agreement	

Step6: Figure interface appears, click "Install" to continue



Step7: Started to install, as shown, this process is a long time, please be patient

Windows Embedded CE 6.0 Set	h	
Installing Windows Embedded C	E 6.0	0
Please wait while the Setup Wiza	rd installs Windows Embedd	led CE 6.0. This may
take several minutes.		
Status: Valua ung instali		
	< Back	Next > Cancel

Step8: End of the installation, appears in Figure interface ,point "Finish"



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Step9: Next, install the Windows CE 6.0's the first patch for "Windows Embedded CE 6.0 Platform Builder Service Pack 1.msi ", click the installation file, appears in Figure interface, point the" Next "to continue



Step10: Figure interface shown, choose "I accept", and "Next" to continue



Step11: Figure interface shown, click "Next" to continue



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Step12: Started to install, as shown, this process is a long time, please be patient



Step13: End of the installation, appears in Figure interface ,point "Finish" .



Step14: Next, install the Windows CE 6.0's the second patch "Windows Embedded CE 6.0 R2.msi



"click "Next" to continue



Step15: Figure interface shown, select "I accept", and point the "Next" to continue



Step16: Figure interface shown, do not make any changes, and just point the "Next" to continue

Setup will install updates and new features for the Windows Embed	Ided CE 6.0 release.
Select the BSPs you wish to add	
Windows Embedded CE 6.0.R2     Support Packages     Voice over IP PXA270: ARMV4I     Windows UP Packages     Voice over IP PXA270: ARMV4I     HP Compaq t5530 Thin Client: x86	This Feature includes updates and new features for the Windows Embedded CE 6.0 release.
The following BSPs are included in this package:	This feature requires 0KB on your hard drive. It has 1 of 1 subfeatures selected. The
Voice over IP PXA270: ARMV41 5Ti7109: SH4 HP Compag t5530 Thin Client: x86	subfeatures require 491MB on you hard drive.
If a BSP is not listed in the feature tree then the corresponding cpu Windows Embedded CE 6.0 prior to this installation.	architecture must be installed from

Step17: Figure interface appears, click "Next" to continue



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Step18: Started installation, this process is a long time, please be patient

	scop	
Installing Windows Embedded C	E 6.0 R2	C
Please wait while the Setup Wiza	rd installs Windows Embedded CE 6.0 R2.	This
may take several minutes. Status: Validating install		
_		

Step19: End of the installation, appears in Figure interface, point "Finish"

Windows Embedded CE 6.	0 R2 Setup
Ð	Completed the Windows Embedded CE 6.0 R2 Setup Wizard
	Click the Finish button to exit the Setup Wizard.
	< Back Brisin Cancel

Step20: Now begin to install the third patch "R3" of Windows CE 6.0, start the installation in "Windows Embedded CE 6.0 R3.msi", as shown in Figure





Step21: Figure interface shown, choose "I accept", and "Next" to continue



Step22: Figure interface appears, click "Next" to continue

Ready to Install			5
The Setup Wizard is ready to begin	n the installation.		C
Click Install to begin the installation settings, click Back. Click Cancel to	n. If you want to o exit the wizard.	review or change any	r of your installation

Step23: Started installation, this process is a long time, please be patient



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Step24: End of the installation, appears in Figure interface, point "Finish"



## 4.1.3 Installing the BSP and core engineering sample

JMY980 (mini2440) BSP and sample project files have only one installation file "mini2440-ce6-suite-1033.exe", which contains all BSP source code and core engineering sample.

Note: the following steps to install the BSP, it is recommended not to change the installation path, or they may not compile.

Step1: Find" mini2440-ce6-suite-1033.exe "executable installation file and double-click



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Step2: To keep the settings unchanged, "Install" to continue

Mini2440-CE6-suite Setup	×
Choose Install Location	
Choose the folder in which to install Mini2440-CE6-suite.	
Setup will instal Mini2440-CE6-suite in the following folder. To instal Browse and select another folder. Click Install to start the installation	l in a different folder, dick m
Destination Folder	
RETEXT	Browse
Space required: 4.8MB	
Space available: 74.6GB	
Nulsoft Install System v2.45	
	Install Cancel
- Contraction of Cont	

Step3: Appear during the installation interface, because the installation of a small file, the installation will be over soon

Mini2440-CE6-suite Setup	ACC ACC A
Installation Complete	0
Setup was completed successfully.	
Completed	
Show details	
ulsoft bistal System v2.45	
E set	

Step4: End of the installation, appears in Figure interface, point "Close"



Mini2440-CE6-suite Setup	
Installation Complete Setup was completed successfully.	6
Completed	
Show getails	
ulseft (rotal) System v2.46	
< 5	adi. Cancel Cancel

Installed, will create "mini2440 BSP" directory under "WinCE600 \ PLATFORM" directory, as shown

曲府• 第77开	和众到举中• 其草•	新建文件先		10 · C	1 4
n 100 1	名称		修改日期	ants:	
Tet	ARUSABOARD		2009/1/25 11:58	叉件庑	
20 42	L CEPC		2009/1/25 11:56	文件完	
	COMMON		2009/1/25 11:56	文师夫	
and the second second	DEVICEEMULATOR		2009/1/25 11:55	文件类	
	H4SAMPLE		2000/1/25 11:56	文件用	
	MAINSTONEIII		2009/1/25 11:58	文件庑	
18.30	Mini2440		2009/1/25 15:45	文件完	
1 四片	100000000000000000000000000000000000000				
1 文档					
▲ 南乐					
11					
/學 计算机					
		0.22			
a ne	T			and the second second	

And create three core sample project file directory in "WinCE600 \ OSDesigns" directory, as shown

1019 • 101 E277 AUR 1	Nikone			31.*	1	1
	1 EN	修改正規	82	大小		
No Alt	Mi=i2440	2010/8/17 17:54	2348			
● 長田市市100日	Mini2440-an	2010/8/17 17:54	二月 一			I.
THE	Mini2440-with-QQ	2010/8/17 17:34	文明亮			l
	🕌 mini6430	2010/8/8 34425	灾性用			
	i mini6410-en	2010/8/8 54-35	文体用			
Biss	🗼 minit420-tw	2010/8/0 14:35	2.48			
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· Hann						
(1. +地理書 (0)						
CATAL ID:	-					
CATA2 (F)						
ER BD.ROM ERITE (F) mini 2440	1.2					
E. The second second of subsecond	- 2					

Of which:

The project file under" Mini2440 "directory can be used to compile into corresponding to the Chinese version's WinCE kernel image in CD



The project file in "Mini440 - with-QQ "directory can be used to compile into WinCE kernel image with Tencent QQ

The project file in "Mini440-en" directory can be used to generate the English version of the WinCE kernel image

At this point, Windows CE 6.0 development environment has been completely created.

## 4.1.4 The location of each driver source code

The "mini440" currently has the most complete BSP that means the driver program, and each driver has basic graphical interface test program, location of each driver source code as follows:

- (1) LED Drive \Mini2440\SRC\DRIVERS\LEDdriver
- (2) Key Drive \Mini2440\SRC\DRIVERS\Userkey
- (3) PWM Control Buzzer Drive \Mini2440\SRC\DRIVERS\PWM
- (4) ADC Conversion Drive
   \Mini2440\SRC\DRIVERS\Touch
   Description: ADC driver and the touch screen driver in the same file
- (5) I2C Drive \Mini2440\SRC\DRIVERS\IIC
- (6) RTC Drive \Mini2440\SRC\DRIVERS\Rtc
- (7) Serial Port Drive \Mini2440\SRC\DRIVERS\Serial
- (8) Touch Screen Drive \Mini2440\SRC\DRIVERS\Touch
- (9) USB Drive \Mini2440\SRC\DRIVERS\Usb
- (10) SD Card Drive
   \Mini2440\SRC\DRIVERS\SDHC
   Description: Support for high-speed large-capacity SD card up to 32GB
- (11) DM9000 Network Card Drive \Mini2440\SRC\DRIVERS\dm9000
- (12) Audio Drive \Mini2440\SRC\DRIVERS\Wavedev
- (13) LCD Drive \Mini2440\SRC\DRIVERS\Display
- (14) Backlight Drive \Mini2440\SRC\DRIVERS\Backlight
- (15) CMOS Camera Drive \Mini2440\SRC\DRIVERS\Camera



# 4.2 Compiling and configuring for Windows CE 6.0 kernel and Bootloader

Due to kernel configuration of Windows CE6 is more complex, it is easy to configure wrong so that it can't be compiled successfully. It's well-known that compilation of the "Windows CE "platform is very time-consuming, so the user directly follow the steps below to open the compiler, and" images \ wince6.0 "directory in CD contains the corresponding compiled kernel image file.

# 4.2.1 Compiler default kernel engineering example

Now, we start "VS2005" to compile just installed "mini2440 BSP", when you first start ,some matters need to be noted, as the following steps:

Step1: "Start" -> "Programs -> Microsoft Visual Studio 2005 -> Microsoft Visual Studio 2005", appears in Figure interface, point "Continue" to continue



Step2: Figure interface shown, which is a working interface in VS2005, please just refer the VS2005 information



File <u>E</u> dit ⊻iew <u>P</u> roject 1	arget <u>T</u> ools <u>W</u> indow <u>C</u> ommunity <u>H</u> elp	-	
	ing with the transfer of the		
Device: CE Device • 😤			
olution Explorer 🛛 👻 🕂 3	Start Page		- x
a	Microsoft		
	Visual Studio 2	005	1
	Recent Projects	/isual Studio Developer News	
		There is no content available yet. Content downloaded once a connection to the inte stablished.	will be ernet is
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Soluti 🖲 Catal ) 🕮 Class	Conent Project Web Site		· .
Soluti 🖲 Catal 🎯 Class ode Definition Window To definition selected	Onen: Project Web Site	r	, , , ,
Soluti 🛞 Catal 💷 Class ode Definition Window Be definition selected	Onen: Project Web Site	·	• # 3
Soluti 💌 Catal 💷 Class ode Definition Window So definition selected	Onen: Project Web Site	r	a) , ≁⊉:
Soluti  ⊕ Catal  ⊟g Class ode Definition Window % definition selected	Onen:ProjectWeb_Site	,	• # 3
Soluti Catal (B) Class Ode Definition Window No definition selected	Onen: Project Web Site	,	, , , , ,
Soluti Catal (2) Class Ode Definition Window Se definition selected	Onen: Project Web Site	,	
Soluti Scatal (B) Class ode Definition Window To definition selected		1	• • • • • • • • • • • • • • • • • • •

Step3: Point File-> Open-> Project / the Solution ..., as shown in Figure

File	Edit View Project Target	Too	ls Window Comr	munity Help	
	New	0 -	(1四-四-1)	v	
	Open •	â	Project/Solution	Ctrl+Shift+O	
	Close	12	Web Site		-
d.	Close Solution	2	File	Ctrl+O	
Ū.	Save Selected Items Ctrl+S		Convert		
	Save Selected Items As	Z	🔍 Visuai	Stuaio	2005
1	Save All Ctrl+Shift+S				
	Export Template	Rec	ent Projects		MSDN: Windows Embed
0	Page Setup	1			Windows Embedded Pa
8	Print Ctrl+P				Tue, 22 Jan 2008 14:56:53
	Exit	1			and your business by cor Distributors, and Micross
-					Distributors, and Microse

Step4: The file selection window shown, find the default kernel project file of a "mini2440"(path: C: \ WINCE600 \ OSDesigns \ Mini2440) click "Open ", as shown in Figure

en Project							? ×
Look in:	闄 Mini2440		• 0	-12	X	101	Tools ▼
-	名称	修改日期	类型	大小			
Desktop	Mini2440	sln					
	VITE Concernsion and the second						
My Projects							
1							
My							
Computer							
		-				_	
	File name:					•	Open
	Files of type:	All Project File	es (*.sln;*.dsw;*	.vcw;*.csp	roj;*.vbp	r •	Cancel

Step5: Wait a moment, the default kernel project of a "mini2440" is loaded into workspace, Figure interface appears.



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Step6: Point "Build-> Advanced Build Commands-the Clean Sysgen", begin to compile the kernel, as shown, this process is longer, please be patient

File Edit View Project	Buil	d Debug Target Tools Window Co	omm	nunity He	elp		
Cevice: CE Device • Tr Solution Explorer - Mini2440	曲西	Build Solution F Rebuild Solution Ctrl+Alt+F Clean Solution Build Mini2440 Rebuild Mini2440 Clean Mini2440	7	form Bui	rm Builder (_TGTC + 🙍		
- C:/WINCE600		Advanced Build Commands	٠	Sys	sgen	_	
PLATFORM     ARUBABOAI     B- 3 CEPC		Build All Subprojects Rebuild All Subprojects Build All SDKs		Clean Sysgen Build and Sysgen Rebuild and Clean Sysgen			
D COMMON							
DEVICEEMU     H4SAMPLE		Copy Files to Release Directory Make Run-Time Image		Bui	ild Current B build Current	SP and Subprojects BSP and Subprojects	
B Mini2440	88	Open Release Directory in Build Window				Thu, 17 May 2007 20:55:0	
<ul> <li>□ Parameti</li> <li>□ platfc</li> </ul>		Global Build Settings Targeted Build Settings	;	t  We	eb Site	the Windows Embedded Pack 1 that was announce Mobilize: Explore The N	
		Batch Build Configuration Manager		t  We	ab Site	Mon, 7 May 2007 18:36:0 overview of Windows Eml	

Step7: Compilation is completed, the results shown in the figure, and it will generate kernel image the file "NK.bin "and" NK.nb0", as the following path:

Mini2440 - Microsoft Visual Studio	A CONTRACTOR OF THE OWNER OWNER OF THE OWNER OWNE OWNER OWNE			
File Edit View Project Build Debug Targ	et Iools Window ⊊ommunity ⊟  - □	llp Ider (_TGTC 🔻 🛛 🌌		• <b>Q</b> = a × ]
Solution Explorer - Mini2440	I X Start Page			- X
Solution 'Mini2440' (1 project)           → Mini2440           → Mini2440           → Mini2440	🔋 🥪 Microsoft	tudio 200	5	
- PLATFORM	Recent Projects	MISD	N: Windows Embedded	Developer Center
COMPAGE AND     COMMON     C	Mini2440	Win Tue, and Distr Dow	dows Embedded Partne 22 Jan 2008 14:56:53 -01 your business by connec ibutors, and Microsoft. nload Windows Embed	ir Program 300 - Accelerate your sc ting with partners, OEN ided CE 6.0 Platform B
Solution Explorer 😸 Catalog Items View 🗐 Class	View +	10		
Output				+ I X
Show output from: Build .	8 4 4 <b>4 4</b>			
adaina; Change directory to C. YIEE000. adaina; researant; ed. Z. C. VIEE000/Jaulietoo 短辺市の日本の中の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の	meen'ood/wisc/phyostmodeing mi2440_ADMV4I_Belense 的目录			
BLDIGMO: Mini2440 build complete.				
Mini2440 - 0 error(x), 64 ewring(x) Build: I zucraeded er up-to-date, 0 fail	led, 0 skipped			
Code Definition Window Call Browser	ut			
Build succeeded		Ln 2394	Col 1 Ch 1	



组织 • ] 打开	新建文件夹		
☆ 的磁率	名称	修改日期	类型
T#	🐏 netui.pdb	2009/1/26 16:43	Program Debu
- (30) - (30)	netui.rel	2009/1/26 16:43	REL 文件
	Network	2009/11/5 15:25	快捷方式
THE REPERTION IN THE REPORT OF	NK.bin	2009/1/26 17:01	BIN 文件
	nk.exe	2009/1/26 17:00	应用程序
词库 目	📄 nk.map	2009/1/26 17:00	Linker Address
📑 视频	NK.nb0	2009/1/26 17:01	NB0 文件
■ 圏片	🐏 nk.pdb	2009/1/26 17:00	Program Debu
💽 文档	nk.rel	2009/1/26 17:00	REL 文件
	nlscfg.inf	2009/1/26 17:00	安装信息
	nlscfg.out	2009/1/26 17:00	<b>OUT</b> 文件
₩ 计算机	nlssrc.txt	2009/1/26 16:44	文本文档
	🚳 notify.dll	2009/1/26 16:42	应用程序扩展
·	•	HT	

## 4.2.2 Compiling and programing NBOOT of the Bootloader

Description: compiling Nboot needs to use the ADS integrated development environment, see Chapter 5.

The Nboot is a very simple bootloader, its size is less than 4K, generally programmed to 0 position Block of Nand Flash to start the WinCE kernel. Nboot is originally supplied by Samsung, which we have done a lot of improvements, currently has the following features:

- Adaptive support 64M/128M/256M/1G JMY980
- Support the start-up screen to quickly display
- Support the dynamic progress bar to load the WinCE kernel
- Start WinCE only 5-10 seconds, depending on the kernel size

Should be noted that Nboot do not have the programming function, it can only be read the file has been programmed: boot screen (BootLogo) and WinCE kernel.

Treated Nboot has a very convenient custom, you can modify the display position of the start-up screen ,background and progress bar color, position, length and width, etc. These definitions are in the option.h file, as follows:

// Select the appropriate LCD models by changing the definition, here is default selected by Q35, means Chi Mei horizontal screen LCD

//#define LCD\_N35
//#define LCD\_L80
//#define LCD\_Q35
//#define LCD\_X35
//#define LCD\_W35
//#define LCD\_A70
//#define LCD\_VGA1024768

// Set the background color
#define BACKGROUND\_R 0x00
#define BACKGROUND\_G 0x00
#define BACKGROUND\_B 0x00



// Set the progress bar's color
#define PROGRESS\_BAR\_R 0xFF
#define PROGRESS\_BAR\_G 0xFF
#define PROGRESS\_BAR\_B 0x00

// Set the location of the boot picture
#define LOGO\_POS\_TOP 0
#define LOGO\_POS\_LEFT 0

// Set the start position and aspect
#define PROGRESS\_BAR\_TOP 260
#define PROGRESS\_BAR\_LEFT 20
#define PROGRESS\_BAR\_WIDTH 200
#define PROGRESS\_BAR\_HEIGHT 12

Here are the compilation methods and procedures for Nboot:

#### **Compiling Nboot**

"WindowsCE6.0" NBOOT "folder under CD –ROM should be copied to a directory in hard drive(here is D:\work), remove the read-only attribute, run ADS1.2 integrated development environment, point file-> Open ... the open nboot.mcp file, as shown in Figure.



Click menu Project-> Make or simply press the F7 key, start to compile nboot project, completed as shown in Figure:





It will generate "nboot.bin" executable file under D:  $\ NBOOT \ NBOOT \ a DebugRel directory, as shown in Figure.$ 

Etroverks	CodeWarrior for ARM Developer Suit	e v1.2		
ile <u>E</u> dit <u>V</u> iew	Search Project Debug Mindow Help			
	a ひ X 陶 略 者 者 智 調 後 角	I 💺 🖾	E 10	
	nboot. mcp			
	10 kiluur - 50 w /6		m	
	Mereaze	* *		
	Files Link Order   Targets			
	W File	Code	Data 📽	
	244x_init.s	508	0 •	1
	244X_lib.c	444	0.	1
	nand. c	1084	4 •	ㅋ
	mand s. s	260	20 .	
6		ta ta ta ta	42	-
	■Errors & Varnings			
	🕐 0 🔥 0 🜆 1 Error	s and war	nings for	捧boot.
				100
	😥 Translation to Plain binary format :	successf	ul.	

NBOOT need to be programmed to Nand Flash in the development board.

# 4.2.3 Modifying the LCD type and serial output function in the BSP

Description: We provide the BSP currently that supports the following types of LCD:

- Chi Mei 3.5-inch LCD with touch
- •NEC3.5 inch screen with touch
- TPO 3.5 inch LCD with touch
- Sharp 8-inch LCD with touch
- $\bullet$  7-inch screen with touch

By modifying definition of "LCD TYPE" under mini2440  $\$  Src  $\$  LCD\_TYPE Inc.  $\$  options.h header file, you can select the LCD type:

//#define LCD\_Q35 fit to QIMEI 3.5-inch LCD



//#define LCD\_L80 fit to Sharp 8-inch LCD
//#define LCD\_X35 fit to Sony3.5-inch LCD
Tip: The default LCD model in the CD-ROM is LCD Q35.

In "Options.h" file, the user can modify the serial output function: as an ordinary serial port functionality or debugging output (limited to serial ports 1 and 2) ,as the following definition:

#define KITL\_NONE

#define KITL\_SERIAL\_UART0
#define KITL\_SERIAL\_UART1
#define KITL\_USBSERIAL
#define KITL\_ETHERNET

Here the default is defined as a normal serial port function, if we want to serial port 1 as output debugging information, should be defined as:

//#define KITL\_NONE

//#define KITL SERIAL UARTO

//#define KITL SERIAL UART1

//#define KITL\_USBSERIAL

//#define KITL\_ETNERNET

### 4.2.4 Creating and editing Windows CE for startupping Logo

In the previous chapter, we mentioned:

Windows CE system's boot process has two Logo: BootLogo and StarLogo. BootLogo has the display of Nboot load, users can modify Nboot source to adjust BootLogo display location and background color; StartLogo are part of the BSP, it is an array of files (StartLogo.c) in mini2440 \ Src \ Kernel \ Oal "directory, can achieve load display by the directory" init.c" file, "StartLogo.c" file can be generated through" CD StartLogoMaker.exe" tools.

StartLogoMaker is transplanted from "LogoMaker" that is one of "Linux Logo" creation tools, is a "green software", it does not require installation, directly copied to the WindowsXP / Vista platforms for running, and use it to convert bmp, jpg, png format images for" StartLogo.c"array file that "mini2440 BSP" needs, with the newly generated file to replace the file with the same name in the BSP, you can replace the splash screen of "WindowsCE", "StartLogo.c" array head content is the followings:

//Automatic generated by StartLogo.exe

Static const unsigned short StartLogoData[] = { 240.320

240,320

0x965, 0x945, 0x164, 0x9C4, 0x1246, 0x22CA, 0x22A8, 0x2AA7,

Here is steps that use" StartLogoMaker.exe "to make "StartLogo.c":

Step1: Double-click to run "StartLogoMaker.exe" program in "windows 平台工具\

StartLogoMaker", as the Figure interface shown:





Step2: click File-> Open to open an image file, can also be in the toolbar, point icon to open the file selection window:





Step3: Point File-> Convert, or click tool bar icon 🗾 to open the file output selection window:



alect the directo	ary of the Logo fi	le
	ADS1.2	~
6	CE用同步USB驱动	)
(	anw 🚞	
	GIVEI0	100
	H-JTAG	
	LCD彩色图片转换	工具BMP t
	STF2440	
	StartLogollaker	1
	tftnhoot	
		*
P		5

click"确定",and in the appropriate directory, "StartLogo.c" file will generate:

D:\mini2440-200	90616\windowsŦ	台工具\StartLogo	laker	
文件(2) 编辑(2) 查考	11(1) 收藏(4) 工具	① 帮助创		1
() 后退 ・ () ・ ()	🔎 被索 🌔 文件夹	<b>.</b> .		
地址 @) 🙆 D:\mini2440-	20090616\windows平台	工具\StartLogoMaker		- → 转到
文件和文件夹任务 動 重命名这个文件 分 称动这个文件		StartLogoWaker.exe	C Source f	1.

Step5: the generated files replace the same name files (located in mini2440-BSP  $\$  Src  $\$  Kernel  $\$  Oal directory)in the BSP, recompile the kernel, and program it into the board for running, you can see the WinCE startup screen that belongs to yourself:



## 4.2.5 Creating SDK

SDK applies: When developing host only installed VS2005, but did not install the Windows CE 6.0 Platform Builder plug, then developers want to develop mini2440 application program through VS2005, need an SDK, which is similar to the SDK that the Embedded Visual C + + requires.



When you compiled the default kernel, created corresponding SDK by the VS2005 platform. Note: the SDK here applies only to the VS2005 development environment, it can not be installed to the EVC, and you can not install to VS2008, the following is the detailed steps to create the SDK.

Step1: Running VS2005 and open the default kernel compiled sample project "mini2440", find in Figure position, and right-click on the "Mini2440-CE6-SDK" menu, point "Build" to start creating the SDK



Step2: Wait a moment, SDK created as shown

Mini2440 • Microsoft Visual Studio			
File     £dit     Yiew     Project     Build     Debug       Image: State of the state of	Farget Iools Window Community - ﷺ - ﷺ   ► Mini2440 AF ▼ Platform	Help Builder (_TGTC 👻 🏄	į
Solution Explorer - Solution 'Mini2440' + 3 ×	Start Page	<b>dio</b> 2005	- X
Caston Ite.     Caston It	Recent Projects	MSDN: Windows Emb Windows Embedded Tue, 22 Jan 2008 14:56 and your business by r	edded Dev Partner Pro :53 -0800 - connecting
Output			+ ₽ ×
Show output from: Build	• 😔 🎝 🕹 🔿 🗉		
Cabinet file successfully created: C:VUINCEBOO Committing database changes Exported SDK to: C:VUINCEBOO\OSDesigns(Wini244 C:VUINCEBOO\OSDesignsWini2440\UNini2440\SDRs\S minimumer Build I succeeded or up=to-date, D	NOSD=vigns/Wini240/Mini240/SDEs/SDE1 0/Wini2400/SDEs/SDE1/Wini2400-CB8-SDE = 	obj\xddfiles.cub si (g)	Î
141 m			
Code Definition Window Call Resumes	Dutaut		,
Build succeeded	Jorbor		
Dana succeded			

Step3: In "C:  $\ WINCE600 \ OSDesigns \ Mini2440 \ SDKs$  for  $\ SDK1$ " directory, you can see "Mini2440-CE-SDK.msi" installation files that has been generated.



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# 4.2.6 Installing SDK

Developing Mini2440 application through VS2005, you need to install the SDK that just generated as the following steps:

Step1: Double-click to run "Mini2440-CE6-SDK.msi", the following interface appears, click "Next" to continue



Step2: as shown, choose "I accept", point "Next" to continue



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End-User License Agre	ement
Be sure to carefully read a and then indicate whether	nd understand the following end-user license agreement, you accept or do not accept the terms of the agreement.
This software will not be in terms of the end-user licer the end-user license agree	stalled on your development workstation unless you accept the ise agreement. For your future reference, you can print the text of ment by clicking the PRINT button.
	SOFTWARE LICENSE TERMS
WINDOWS EMI	BEDDED CE 6.0 CUSTOMIZED OEM SOFTWARE
	Mini2440, 6.0.0
	-
Press the PAGE DOWN	key to see more text.
@ Accent	

Step3: Figure interface appears, enter a user name and company name, point "Next" to continue

Mini2440 Setup	0.000
Customer Information Please enter your customer information	0
User Name:	
tom	
Organization:	
L.z.	
< Back	Next > Cancel

Step4: Figure interface appears, point "Complete" to continue

Choose Setup Type Choose the setup t	ype that best suits your needs
¥	Custom Allows users to choose which program features will be installed and where they will be installed. Recommended for advanced users. Complete All program features will be installed. (Requires most disk space)
	< Back Next > Cancel

Step5: Figure interface appears, click "Next" to continue



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Step6: Figure interface appears, click "Install" to continue



Step7: Figure interface of progress of the installation appears, wait a moment

Installing Mini2440	e
Please wait while the Setup minutes.	Wizard installs Mini2440. This may take several
Status: Copying new files	
-	

Step8: End of the installation interface appears, point "Finish"



Click the Einich button to exit the Satur Witterd
click the Finish bactory to exit the secup virtual d.

# 4.3 With PC synchronization

# 4.3.1 Installation of synchronous drive and software

Step1: JMY901 with PC connects by USB cable, and open JMY901 power ,the following interface will pop up on your PC, point the "下一步" to continue



Step2: Click "Browse", select "CE sync USB driver, click" OK ", click" Next "to continue





Step3: The following interface appears, click "finish"

找到新的硬件向导	
	<b>完成找到新硬件向导</b> 该向导已经完成了下列设备的软件安装: ←← Anchor USB EZ-Link Cable
	要大团问号,诸里击"元以"。 (上一步 (B) 完成 取消

Step4: Installation ActiveSync synchronization software, the following interface appears, click "Next" to continue to

Buicrosoft ActiveSync 4.1 InstallShield Vizard	$\mathbf{X}$
Microsoft ActiveSync 4.1	
欢迎使用 Microsoft ActiveSync 4.1 安装程序	
单击"下一步"在您的计算机上安装 Microsoft ActiveSync 4.1	
InstallShield	
<上一步圆 下一步──>	取消

Step5: The following interface appears, select "I accept the terms of the license agreement, click" Next



"to continue

🛃 Microsoft ActiveSync 4.1 In	nstallShield	Vizard	X
<b>许可证协议</b> 请仔细阅读下面的许可证协议。			
MICROSOFT 软件许可条款 MICROSOFT ACTIVESYNC 4.1 ————————————————————————————————————	n(或忽所在地( 成的协议。请阅	的 Microsol 读本条款的	ht I内容。本
<ul> <li>● 我接受该许可证协议中的条款(A)</li> <li>● 我不接受该许可证协议中的条款(D)</li> </ul>	法按收减救什的	1936-144 (右有	1. 本条 · · · · · · · · · · · · · · · · · ·
InstallShield	<上→步圆 】下	一步(12) >	取消

Step6: The following interface appears, enter your user name and company, and click "Next" to continue to

🙀 Microsoft ActiveSync 4.1 1	InstallShield	Vizard	$\mathbf{X}$
<b>用户信息</b> 请输入您的信息。			A-A
用户姓名(山):			
Jinmuyu			
单位(_):			
Jinmuyu			
TaetalChield			
	<上─步圆 下	一步(11) > )	取消

Step7: The following interface appears, select the installation path, the default can click "Next" to continue

早古 下一步:	安装到此文件夹,或单击"勇	包"安装到不同的	]文件夹。	
将 Mi C: \Pr	crosoft ActiveSync 4.1 安装部 ogram FilesWicrosoft ActiveS	ð]∶ ync\		更改(C)
卷	磁盘空间		要求	
卷 ■C:	磁盘空间 97GB	可用 72GB	要求 27MB	
卷 ●C: ●d:	磁盘空间 97GB 195GB	可用 72GB 31GB	要求 27MB 332KB	
卷 ●C: ●d: ●E:	磁盘空间 97GB 195GB 172GB	可用 72GB 31GB 33GB	要求 27MB 332KB 0KB	



Step8: The following interface appears; click "Installation" to install the software

🛃 Microsoft ActiveSync 4.	1 InstallShield	Vizard	×
<b>已做好安装程序的准备</b> 向导准备开始安装。			44
单击"安装"开始安装。			
InstaliShield	<上→歩®	安装(1)	取消

Step9: The following interface appears, please hold on

<b>正在安装</b> 正在安装	Fort ActiveSync 4.1 InstallShield Vizard
i <del>p</del>	InstallShield Wizard 正在安装 Microsoft ActiveSync 4.1,请稍候。 这需要几分钟的时间。 状态:
InstallShield -	<上一步(B) 下一步(M) > <b>取消</b>

Step10: The following interface appears, click "Finish" to finish the installation



Step11: The following interface will pop up after installing the ActiveSync software in PC, select "Yes", and click "Next" to continue





Step12: Showing the following interface, select "yes, ..." Click "Next" to continue to

新建合作关系 🛛 🗙
选择合作关系数 请选择是否仅与此计算机进行同步。
您的设备可以最多拥有两个合作关系,也可选择只同此计算机建立一个合作关系。希望建立一个合作关系并且只同此计算机进行同步吗?
● 是,只与此计算机进行同步
册除移动设备上任何现有的合作关系并建立与此计算机的新合作关系。
○不,与两台计算机进行同步(2)
建立与此计算机的合作关系,但是不删除移动设备上任何现有的合作关系。
< 上一步 (B) 下一步 (B) > 取消 帮助 帮助

Step13: Showing the following interface, do not any change, hit "next step", and go on

<b>新建</b> 合作关系	×
<b>选择同步设置</b> 选择准备同步的信息类型	đ
要同步特定类型的信息,	请选中其复选框。要停止同步,请清除其复选框。
移动设备	台式计算机
Pocket Access	Microsoft 数据库
☑ 凰 联系人	Microsoft Outlook
🗹 🛃 任务	Microsoft Outlook
☑ 💽 日历	Microsoft Outlook
□ ④ 文件	同步文件
要了解有关同步信息以及 单击相应的信息类型,参	8自定义同步的详细信息,请在列表中 设置(S)
6	(上一步 @) 下一步 @) 〉 取消 帮助

Step14: To show the following interface, click "Finish", the end of the set





Step15: The PC will automatically pop up the following interface, showing "Connect", to click "Browse".

🔁 Microsoft ActiveSync	
文件(E) 视图(V) 工具(E) 帮助(H)	
<ul> <li>● ●</li> <li>●</li> <li>●</li> <li>□</li> <li>○</li> <li>○<td></td></li></ul>	
Arm9ReaderXJ	6
<b>已连接</b> 己同步	
信息类型状态	,I

Step16: Pop-up the following interface: this is the WinCE6.0 file folder. PC and JMY901 completed synchronously.

🚦 移动设备							-	
文件(E) 编辑(E) 查看(Y)	收藏(A) 工具(I)	帮助 (H)						
G fil - 🕥 - 🏂	🔎 搜索 👘 文件	ж 🛄 •	Kolder :	Sync				
地址 (1) 🔋 移动设备							*	转到
其它位置 予助的电脑 注意文档 注意文档 引用上部居 詳細信息	<ul> <li>Application Data</li> <li>Software</li> </ul>	Documents and Se Do Temp	FriendlyAEM	Ny Documents Cerdisp.exe	Object Store Ind default.mky	Program Files System. hv	Pecycled P 控制面板	
14 个对象			1 移动设备	÷				



# 4.4 Create an application, compile and download to development board running through VS2005

The following is the basic development steps using VS2005:

# 4.4.1Creating a Project

Step1: Open and running VS2005, hit menu file -> New -> Project, as shown:



Step2: "New Project" appears, select "Visual C + +" to Expand; select the Smart Device; Select "the MFC smart device application program" in "the Visual Studio has to install the template," enter name: "JMY901Reader", click OK

新建项目				?
项目类型 (P):		模板 (I):		
Visual C++ ATI		Visual Studio 已安装的	模板	
AIL CLR 常规 MFC 智能设备 测试 Win32		<ul> <li>ATL 智能设备项目</li> <li>MFC 智能设备 DLL</li> <li>Win32 智能设备项目</li> <li>我的模板</li> </ul>	WFC 智能设备 ActiveX 控件 MFC 智能设备应用程序	
<ul> <li>王 其他语言 分布式系统解</li> <li>子 其他项目类型</li> <li>Platform Bui</li> <li>● 测试项目</li> </ul>	读方案 ! ilder for CE 6.0	<b>]]搜索联机模板</b>		
用于 Windows Mol	bile 和其他基于 Wi	ndows CE 的设备的、使用 Micr	osoft 基础类库的应用程序	
名称(图):	JMY901Reader			
位置(L):	D:\My Documents\\	Visual Studio 2005\Projects	<b>v</b> (	浏览(B)
解决方案名称(M):	JMY901Reader		☑ 创建解决方案的目录 (型)	
			( 确定 (	取消

Step3: The following interface appears, click "Next"



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IFC 智能设备应用程序向导	- JIY901Reader
M 欢迎使用 F C	■FC 智能设备应用程序向导
概述 平台 应用程序类型 文档模板字符串 用户界面功能 高級功能 生成的类	这些是当前项目设置: • Pocket FC 2003 平台 • 单文档界面 在任一窗口中单击"完成"以接受当前设置。 创建项目后,诸参阅该项目的 readme.txt 文件,了解有关项目功能和所生成的文件的信息。
	く 上一步 下一步 一完成 取消

Step4: The following interface appears, click , Canceled "Pocket PC 2003"

■FC 智能设备应用程序向导	- JIY901Reader	? 🗙
平台		
概述	选择要添加到当前项目中的 Platform SDK。	
平台	已安装的 SDK(I): 洗定的 SDK(S):	
应用程序类型 文档模板字符串 用户界面功能 高级功能 生成的类	Smartphone 2003 Windows Mobile 6 Profession Platform Builder Mini2440-CE8-SDK Mini6410-CE8-SDK (~	
	Pocket PC 2003 指令集: ARMV4	
	(〈上一步)(下一步〉)(完成)(取	(消

Step5: Selected "Mini2440-CE-SDK" on the left", hit ), hit "Next"

■FC 智能设备应用程序向	导 - JIIY901Reader	? 🗙
平台		
<ul> <li>概述</li> <li>平台</li> <li>应用程序类型</li> <li>文档模板字符串</li> <li>用户界面功能</li> <li>高级功能</li> <li>生成的类</li> </ul>	选择要添加到当前项目中的 Platform SDK。 已安装的 SDK (①): Pocket PC 2003 Smartphone 2003 Windows Mobile 6 Profession Platform Builder Mini6410-CE6-SDK Mini2440-CE6-SDK 指令集: AEMV4I	
	〈上一步 下一步〉 完成 取	消



Step6: The following interface appears: select the "Dialog-based"; resource language "English (United States)" is selected, click "Next"

■FC 智能设备应用程序向导	- J <b>W</b> Y901Reader	? 🗙
の の の の の の の の の の の の の	类型	
概述 平台 应用程序类型 文档模板字符串 用户界面功能 高级功能 生成的类	<ul> <li>应用程序类型:</li> <li>单文档(5)</li> <li>④ 基于对话框(0)</li> <li>● 带文档列表的单文档(1)</li> <li>⑦ 文档/视图结构支持(*)</li> <li>资源语言(1):</li> <li>英语(美国)</li> </ul>	MFC 的使用: ① 在共享 DLL 中使用 MFC (①) ④ 在静态库中使用 MFC (②)

Step7: The following interface appears, click "Next"

用户3	<b>泽面功能</b>
概述 平台 应用程序类型 文档模枝字符串 用户界面功能 高级功能 生成的类	命令栏: ① 収限業单 @) ② 葉単和按钮 ① ② 状态栏 @) 对话框标题 @): 
	〔〈上─步〕〔下─步〉〕〔 完成 〕〔 取消

Step8: The following interface appears, click "Next"

■FC 智能设备应用程序向导	- JHY901Reader ?	×
高级功能		
<ul> <li>欄述</li> <li>平台</li> <li>应用程序类型</li> <li>文拾模板字符串</li> <li>用戶界面功能</li> <li>高级功能</li> <li>生成的类</li> </ul>	<ul> <li>高級功能:         <ul> <li>1年10年10日預覧(2)</li> <li>1年10年10日預覧(2)</li> <li>ActiveX 控件(2)</li> <li>Windows 審接字(10)</li> <li>最近文件列表上的文件数(2):</li> <li>✓</li> </ul> </li> <li>〈上一步 下一步〉 完成 取消     </li> </ul>	

Step9: The following interface appears, click "Finish"



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	# # # 6 * C \	
職述 亚스	生取的死 Ug): CTMY901ReaderApp	
〒日 应用程序类型	CJMY901ReaderD1g	
文档模板字符串		
用户界面功能	▲ 本名①)·	5 文件(7)
高级功能生成的类	CJMY901ReaderApp	MY901Reader, h
	基类 ( <u>A</u> ):	.cpp 文件(2):
	CWinApp	JMY901Reader. cpp

Step10: The following interface appears: WinCE application development set finished; then start to program!