

JVC-8100



Version 1.0




A





ESD

(ESD, electrostatic sensitive devices)

- ESD
- ESD
- ESD
- ESD
- ESD

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1

1.1

VC-8100

D2000

IO

BOX

UOS

1.2

	- VC-8100	- VC-8100
	- D2000/8 2.3GHz 8C 25W	
	- 2 x 260-pin DDR4 2666MHz SODIMM max 64GB	
	- 2 x 2.5 " HDD/SSD	
	- LVDS - 1 x VGA VGA 1920*1200@60Hz - 1 x HDMI HDMI 4096*2160@24Hz	
	- 1 x Mic-in 1 x Line-out amp	
	- 2 x RJ45	
USB	- 4 x USB3.0 - 4 x USB2.0	
COM	- 2 x RS232/422/485 - 10 x RS232	
GPIO	- 2 x DB9 8bit GPIO	
LED	- 1 x Power 1 x HDD	
	- 1 x Mini-pcie - 1 x M.2 B-key 3052 5G Micro SIM	- 1 x Mini-pcie - 1 x M.2 B-key 3052 5G Micro SIM - 1 x PCIe x8 + PCI - 2 x PCI
Watch Dog	- 255 /	
	- 12V DC-in - 2-Pole Phoenix DC plug in	
	- -40 85	

	-	0	50	10%	85%

2

2.1

2.2

0% 90%

50cm

-40 80

10cm

12

2.3

2.3.1

-
-
-
-
-

2.4

-
-
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-
-
-

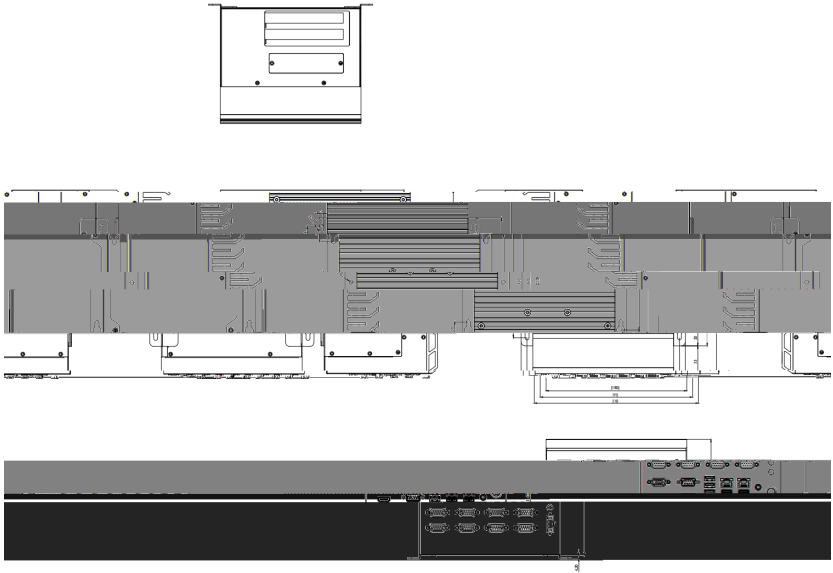
(

I/O

0.5V

50mm 100mm

3.2.2 JVC-8100



4

4.1

4.2

DCIN	

5

5.1

5.1.1 JVC-8100

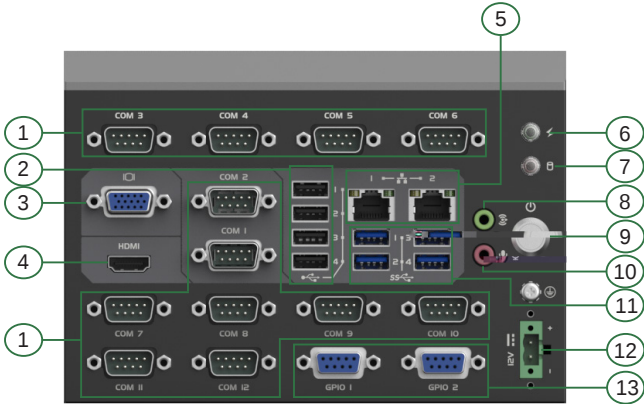


5.1.2 JVC-8100

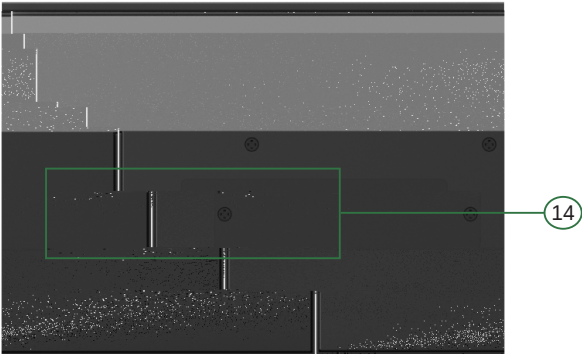


5.2 IO

5.2.1 JVC-8100 IO

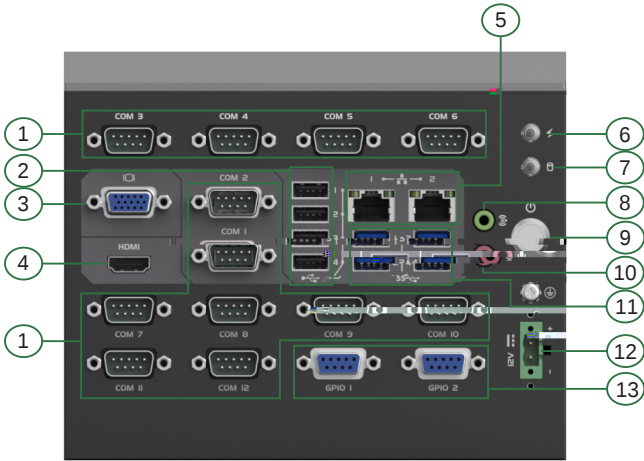


5.2.2 JVC-8100 IO



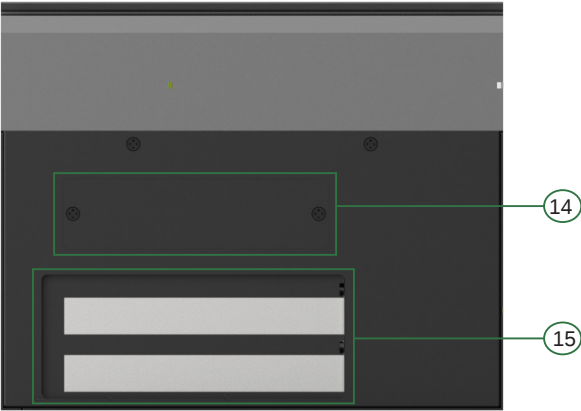
5.2.3 JVC-8100

IO



5.2.4 JVC-8100

IO



1. COM1/2/3/4/5/6/7/8/9/10/11/12
2. USB2.0 USB2.0
3. VGA VGA
4. HDMI HDMI
5. LAN1/2 RJ45
6. PWR
7. HDD
8. LINE OUT
9. PWR Button
10. MIC IN
11. USB3.0 USB3.0
12. DC_IN DC
13. GPIO1/2 GPIO
14. Idoor
15. Expansion slot

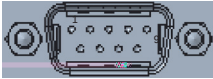
5.3

		LED	
PWR	PC		PC
HDD			

5.4 DC_IN

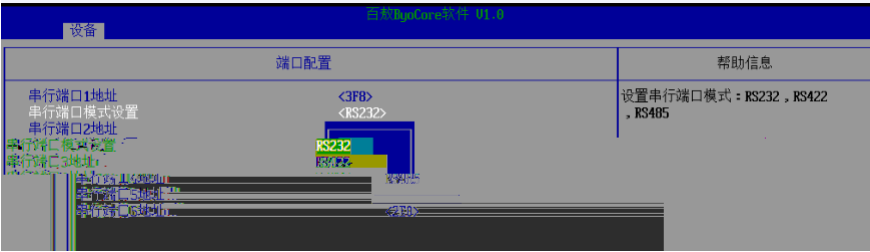
	+	DC_IN
	-	GND

5.5 COM1/2

				
	PIN	RS232	RS422	RS485
	1	DCD	422TX-	485-
	2	SIN	422TX+	485+
	3	SOUT	422RX+	/
	4	DTR	422RX-	/
	5	GND	/	/
	6	DSR	/	/
	7	RTS	/	/
	8	CTS	/	/
	9	RI	/	/

COM1-2 RS232/422/485

BIOS



5.6

5.6.1 JLVDS1

	1	+V3.3
	2	LVDS Power
	3	+V5

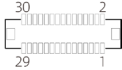
5.6.2 JLVDS2

	1	NC
	2	LVDS Power
	3	+V12

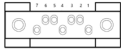
5.6.3 INVT1

	1	+V12
	2	GND
	3	BKL_EN
	4	BKL_PWM
	5	+V5

5.6.4 LVDS1

	1	LVDS Power	2	LVDS Power
	3	LVDS Power	4	GND
	5	GND	6	GND
	7	LVDS1_D0N	8	LVDS1_D0P
	9	LVDS1_D1N	10	LVDS1_D1P
	11	LVDS1_D2N	12	LVDS1_D2P
	13	GND	14	GND
	15	LVDS1_CLK1N	16	LVDS1_CLK1P
	17	LVDS1_D3N	18	LVDS1_D3P
	19	LVDS1_D4N	20	LVDS1_D4P
	21	LVDS1_D5N	22	LVDS1_D5P
	23	LVDS1_D6N	24	LVDS1_D6P
	25	GND	26	GND
	27	LVDS1_CLK2N	28	LVDS1_CLK2P
	29	LVDS1_D7N	30	LVDS1_D7P

5.6.5 SATA1/2

	1	GND
	2	SATA_TX_P
	3	SATA_TX_N
	4	GND
	5	SATA_RX_N
	6	SATA_RX_P
	7	GND

5.6.6 SATA_POWER1

	1	+V5
	2	GND
	3	+V12
	4	GND

5.6.7 GPIO1

	1	GPIO1_0	2	GPIO1_4
	3	GPIO1_1	4	GPIO1_5
	5	GPIO1_2	6	GPIO1_6
	7	GPIO1_3	8	GPIO1_7
	9	PVCC_GPIO	10	GND

5.6.8 GPIO2

	1	GPIO2_0	2	GPIO2_4
	3	GPIO2_1	4	GPIO2_5
	5	GPIO2_2	6	GPIO2_6
	7	GPIO2_3	8	GPIO2_7
	9	PVCC_GPIO	10	GND

5.6.9 COM3/4/5/6

	1	COM_SIN	2	COM_DCD
	3	COM_DTR	4	COM_SOUT
	5	COM_DSR	6	GND
	7	COM_CTS	8	COM_RTS
			10	COM_RI

5.6.10 COM7_14

	1	GND	2	GND
	3	COM7_SOUT	4	COM11_SOUT
	5	COM7_SIN	6	COM11_SIN
	7	GND	8	GND
	9	COM8_SOUT	10	COM12_SOUT
	11	COM8_SIN	12	COM12_SIN
	13	GND	14	GND
	15	COM9_SOUT	16	COM13_SOUT
	17	COM9_SIN	18	COM13_SIN
	19	GND	20	GND
	21	COM10_SOUT	22	COM14_SOUT
	23	COM10_SIN	24	COM14_SIN
	25	GND	26	GND

5.6.11 USB2_2

	1	+V5	2	+V5
	3	USB2_HUB_N6	4	USB2_HUB_N5
	5	USB2_HUB_P6	6	USB2_HUB_P5
	7	GND	8	GND
			10	GND

5.6.12 JFP1

	1	UART1_TXD	2	UART1_RXD
	3	PWRBTN#	4	GND
	5	RESET#	6	GND
	7	POWER_LED+	8	GND
	9	SATA_LED+	10	SATA_LED-

5.6.13 ATX_IN1

	1	GND	2	GND
	3	+12V	4	+12V

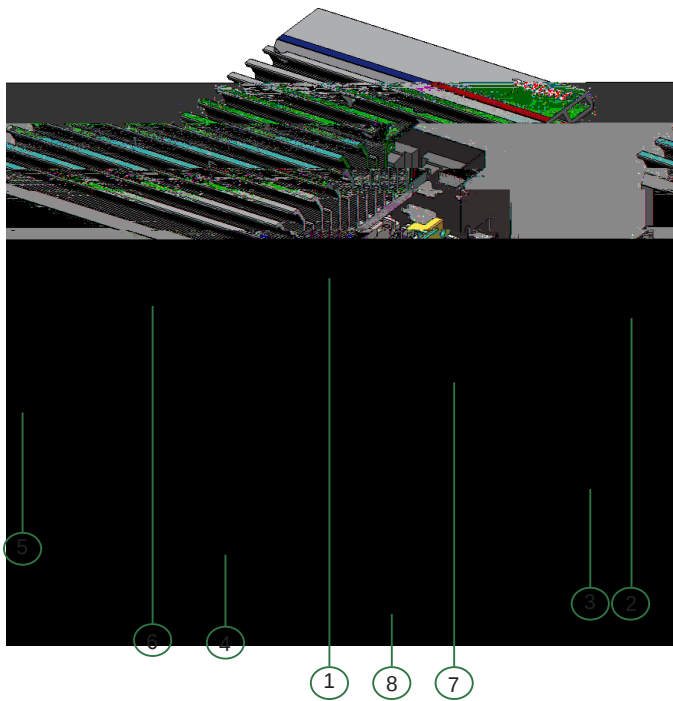
5.6.14 GPIO_PWR1

	1	+V5
	2	PVCC_GPIO
	3	+V3.3

6

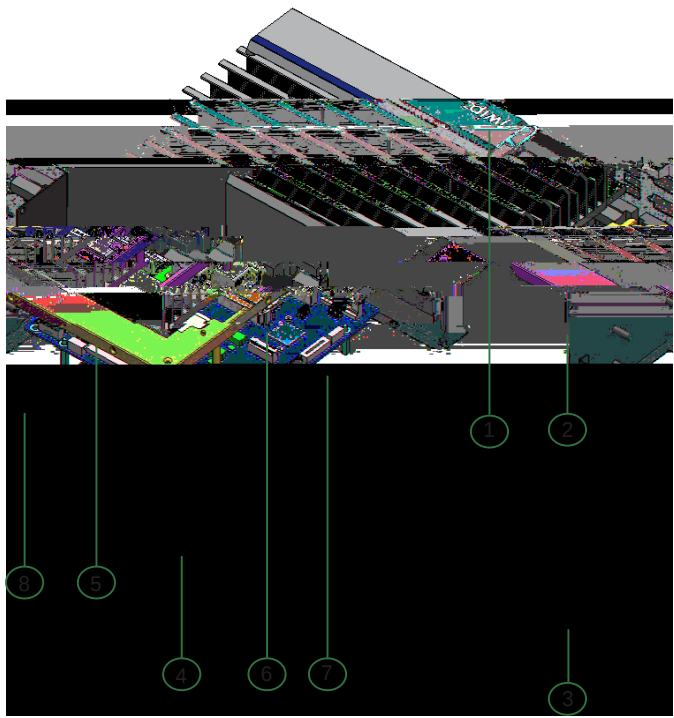
6.1

6.1.1 JVC-8100



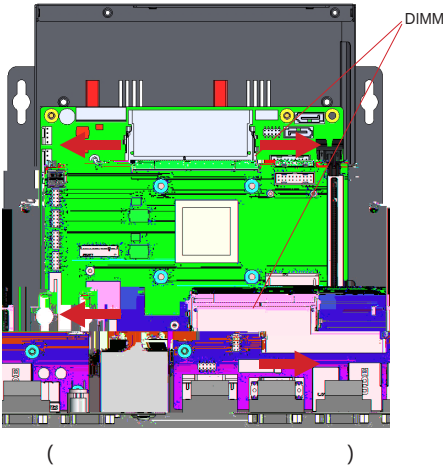
1		2		3	
4		5		6	
7		8			

6.2.2 JVC-8100



1		2		3	
4		5		6	
7		8			

6.3

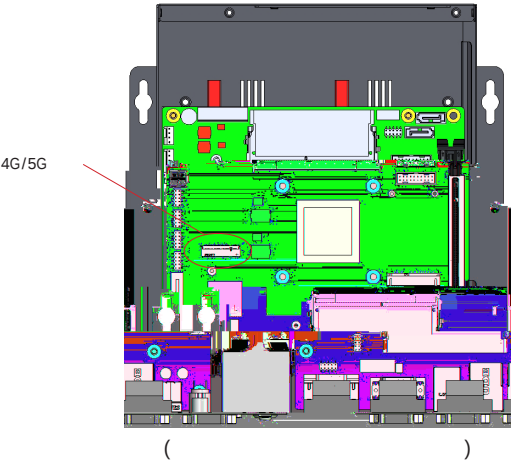


DIMM

- 1.
- 2.
- 3. DIMM
- 4.

DIMM 30°

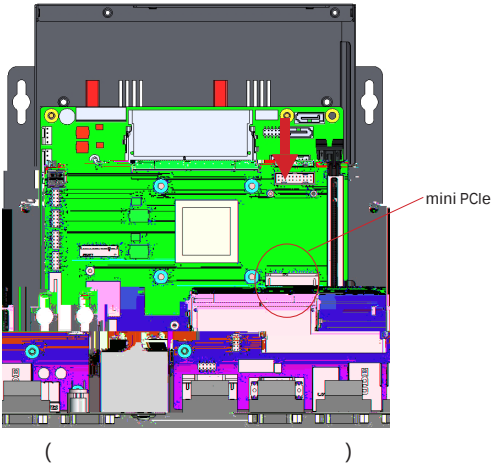
6.4 4G/5G



4G/5G

4G/5G 30°

6.5 mini PCIe



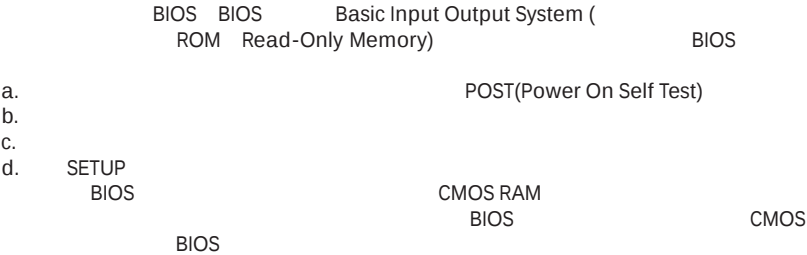
mini PCIe

mini PCIe

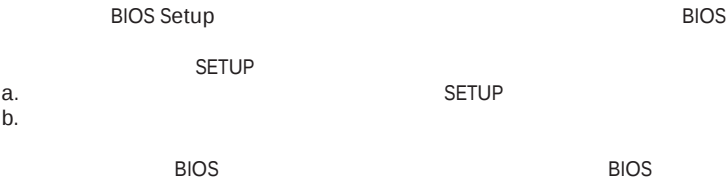
30°

7 BIOS

7.1 BIOS



7.2 BIOS



7.2.1 BIOS

<F2> BIOS

7.2.2

<Enter> <F1> <Esc>

/	
/	
+ / -	
<Enter>	
<ESC>	
<F1>	
<F9>	
<F10>	

7.3 BIOS

		BIOS
		BIOS
		BIOS
		BIOS

7.4

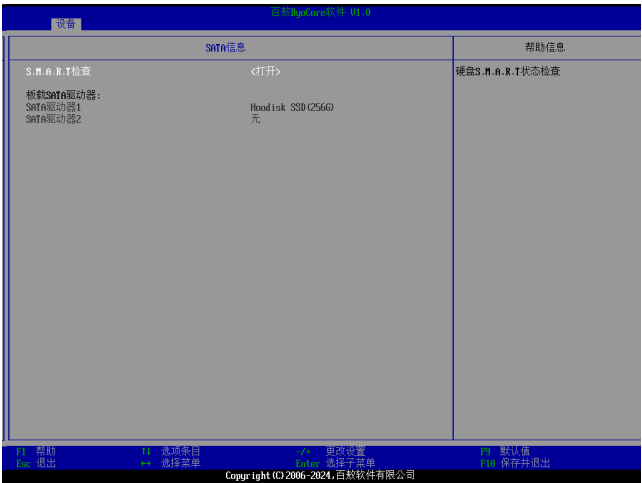




GMAC

- SATA
- SATA
- PCI
- PCI
- USB
- USB
- SIO
- SIO

SATA <Enter>



S.M.A.R.T
S.M.A.R.T

PCI <Enter>



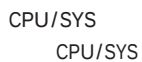
PCI

USB <Enter>



USB
:

<Enter>



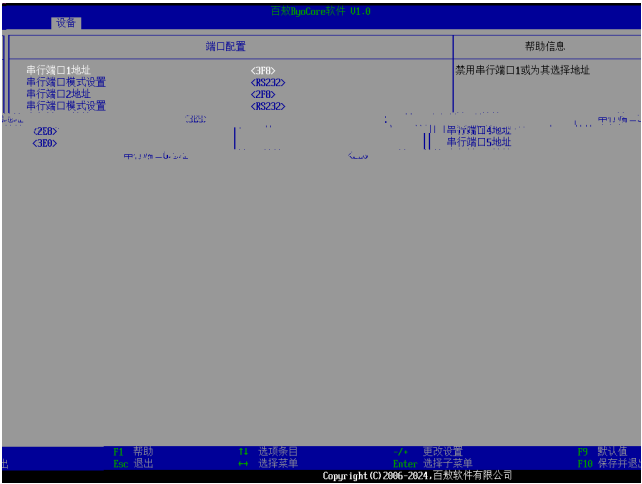
CPU/SYS
CPU/SYS

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CPU/SYS

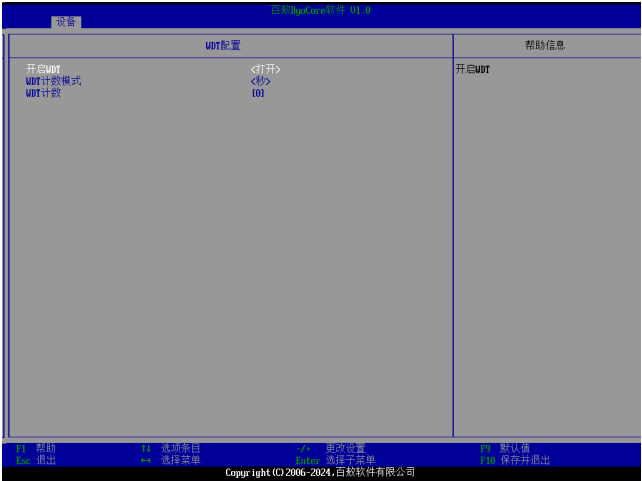
WDT

<Enter>



1/2/3/4/5/6

WDT <Enter>



WDT WDT

WDT WDT

WDT WDT

WDT WDT

0-255

<Enter>



SHA-256 Hash SM3 Hash

<Enter>



<Enter>



<Enter>





NunLock
NumLock



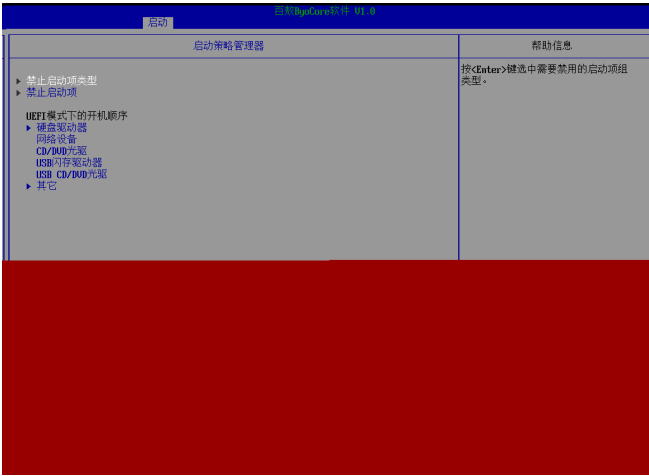
SHELL
SHELL

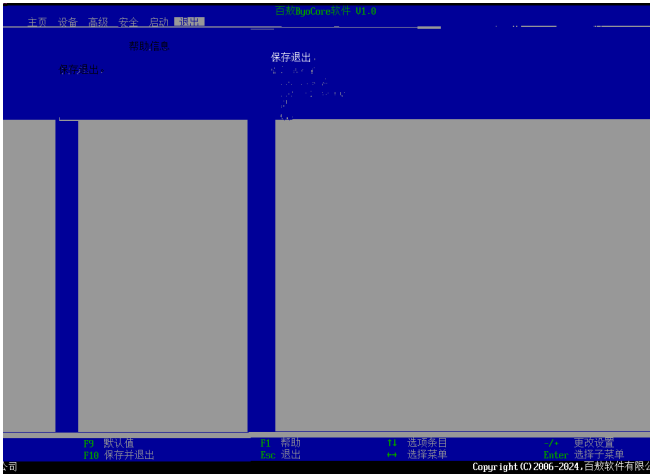


<Enter>



<Enter>





Q34

Q34

Q34 BIOS

Q34 BIOS

Q34

Q34

8 WDT

```
#define SuperIo_Index_Port 0x2E
#define SuperIo_Data_Port 0x2F
#define GPIO_LDN8_DEVICE 0x08
UINT8 Data8

//a. Super IO Configuration Mode
IoWrite8(SuperIo_Index_Port, 0x87);
IoWrite8(SuperIo_Index_Port, 0x87);

//b. GPIO, LDN 8
IoWrite8(SuperIo_Index_Port, 0x07);
IoWrite8(SuperIo_Data_Port, GPIO_LDN8_DEVICE);

//c. Enabled WDT
IoWrite8(SuperIo_Index_Port, 0x30);
IoWrite8(SuperIo_Data_Port, IoRead8(SuperIo_Data_Port) | 0x01);

//d. WDT Register 0xF0 Bit3 1 0
IoWrite8(SuperIo_Index_Port, 0xF0);
//
IoWrite8(SuperIo_Data_Port, IoRead8(SuperIo_Data_Port) | 0x08);
//
// IoWrite8(SuperIo_Data_Port, IoRead8(SuperIo_Data_Port) & 0xF7);

//e. WDT 5 /
IoWrite8(SuperIo_Index_Port, 0xF1);
IoWrite8(SuperIo_Data_Port, 0x5);

//f. Super IO Configuration Mode
IoWrite8(SuperIo_Index_Port, 0xAA); // Super IO Configuration Mode SuperIO
, Configuration Mode
```

9 GPIO

[illegible]

```
#include <stdio.h>
#include <stdlib.h>
#include <fcntl.h>
#include <sys/ioctl.h>
#include <sys/types.h>
#include <unistd.h>
#include <linux/usb/lspci.h>
#include <linux/i2c.h>
#include <unistd.h>
```

(8)

a.

b.

```
if(ioctl(file, I2C_SLAVE, I2C_SLAVE_ADDR) < 0){
    perror("Failed to acquire bus access talk to slave");
    close(file);
    exit(1);
}
```

c.

6

GPIO0

GPIO0

I0.0

```
unsigned char num = 0;
if(write(file, num << num, 2) != 2){
    perror("Failed to write to the i2c bus config");
    close(file);
    exit(1);
}
if(write(file, config_buffer, 2) != 2){
    perror("Failed to write to the i2c bus config");
    close(file);
    exit(1);
}
if(write(file, output_buffer, 2) != 2){
    perror("Failed to write to the i2c bus output");
    close(file);
    exit(1);
}
```

d. read ioctl

```
unsigned char read_data;
if(read(file, &reg_addr, 1) != 1 || read(file, &read_data, 1) != 1){
    perror("Failed to read from the i2c bus");
    close(file);
    exit(1);
}
unsigned char read_data;
read_pin_state = (read_data >> 0) & 0x01;
printf("GPIO0 pin state: %d\n", read_pin_state);
```

(9)

a.

```
#define I2C_DEV "/dev/i2c-1" //定义总线
#define I2C_SLAVE_ADDR 0x20 //定义从机地址

//定义I2C寄存器地址
#define I2C_REG_INPUT_PORT0 0x00 //获取 GPIO0 输出状态的输入寄存器
#define I2C_REG_CONFIG_PORT0 0x07 //配置 GPIO0 寄存器
#define I2C_REG_INPUT_PORT1 0x01 //获取 GPIO1 输入状态的输入寄存器
```

b.

```
int file;
char filename[20];
snprintf(filename, 19, I2C_DEV);
file = open(filename, O_RDWR);
if(file < 0){
    perror("Failed to open the i2c bus");
    exit(1);
}

if(ioctl(file, I2C_SLAVE, I2C_SLAVE_ADDR) < 0){
    perror("Failed to acquire bus access and transmit to slave");
    close(file);
    exit(1);
}
```

c. 6 GPIO0 GPIO0

```
if (i2c_smbus_write_byte_data(file, I2C_REG_CONFIG_PORT0, 0xFF) < 0)
{
    perror("Failed to set configuration for port 0");
    exit(1);
}
```

```
int Port0 = i2c_smbus_read_byte_data(file, I2C_REG_INPUT_PORT0);
```

d. GPIO GPIO0 I0.0

```
& 0x01); //将GPIO0 I0.0 配置为输入模式
//将GPIO0 I0.0 配置为输入模式
```

10

10.1

		/
		1 2 12
	“ ”	
		1 2 3
		Winpe
I O		PCI ISA
	BIOS	Setup BIOS Setup BIOS
BIOS		
Boot device not found	BIOS	BIOS “ ” (Boot)
USB	USB 2.0 USB 2.0	USB 2.0
	USB	1 Support USB Legacy 2 USB