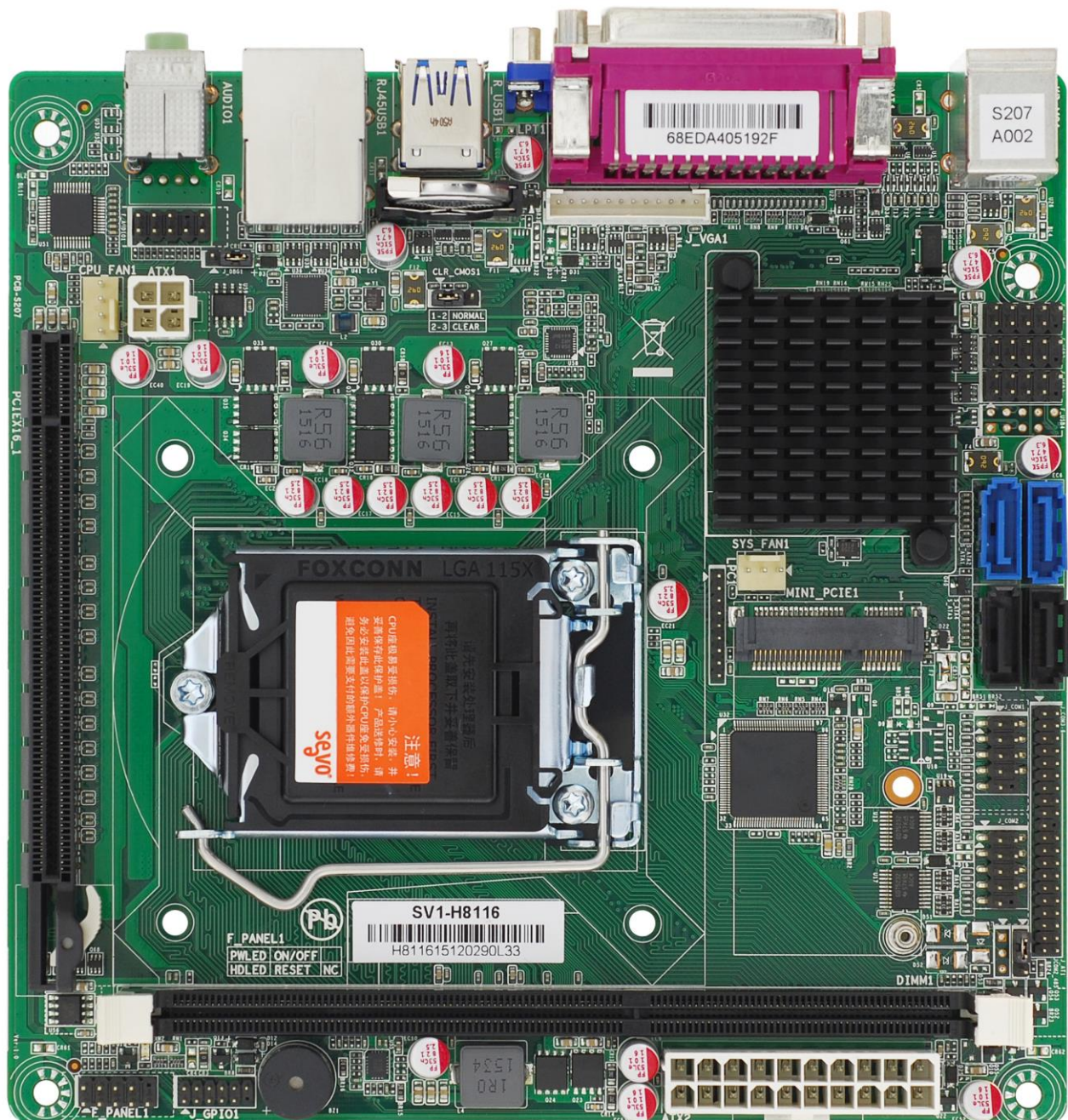


SV1-H8116 Series Motherboard

User Guide

Ver 1.0



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1. Models and Attentions

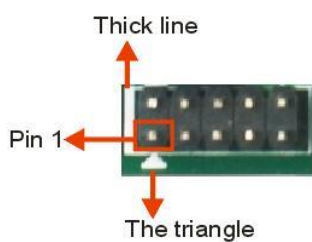
1.1 Models

This manual is applied to following models:

Model	Chipset	COM	LAN	HDMI	PCI-E X16	Mini PCI-E
SV1-H8116	H81	6	1	1	1	1

1.2 Attentions

- 1) Notes under a table or figure indicate the difference of models, or alternative definition of specific pin of the header (jumper/connector).
- 2) How to identify the first pin of a header or jumper
 - Usually, there is a thick line or a triangle near the header's or jumper's pin 1.



- Square pad, which you can find on the back of the motherboard, is usually used for pin 1.



2. Specification

Model	SV1-H8116
CPU	Support Intel Pentium/Celeron/4th Core Processor LGA1150
Chipset	Intel 82H81
Memory	Support DDR3 1066/1333 MHz 1 * U-DIMM Slot, Up to 8 GB Memory Size
Ethernet	1 * Realtek 8105E PCI-E LAN ^[1]
Storage	4 * Serial ATA ports 1*mSATA ^[2]
Serial	6 * RS232 ^[3]
GPIO	8* GPIO
Graphic	1 * VGA DB15 port and 1 * VGA Header ^[4] 1 * HDMI port
Audio	Realtek ALC662 5.1 Channel HD Audio Codec Line-in/Line-out Ports and onboard Header
Other ports	1 * PS/2 port (keyboard and mouse) 1 * LPT DB25 port 8 * USB2.0 (2 * Rear I/O + 6 * Header)+2 * USB3.0 (2 * Rear I/O) 1 * Mini PCI-E ^[2] 1 * PCI-E X16 slot 1 * SYS_FAN Socket 1 * CPU_FAN Socket
Temperature	Storage: -20~75°C Operating: 0~60°C
BIOS	AMI UEFI BIOS
Factor	Mini-ITX

Notes:

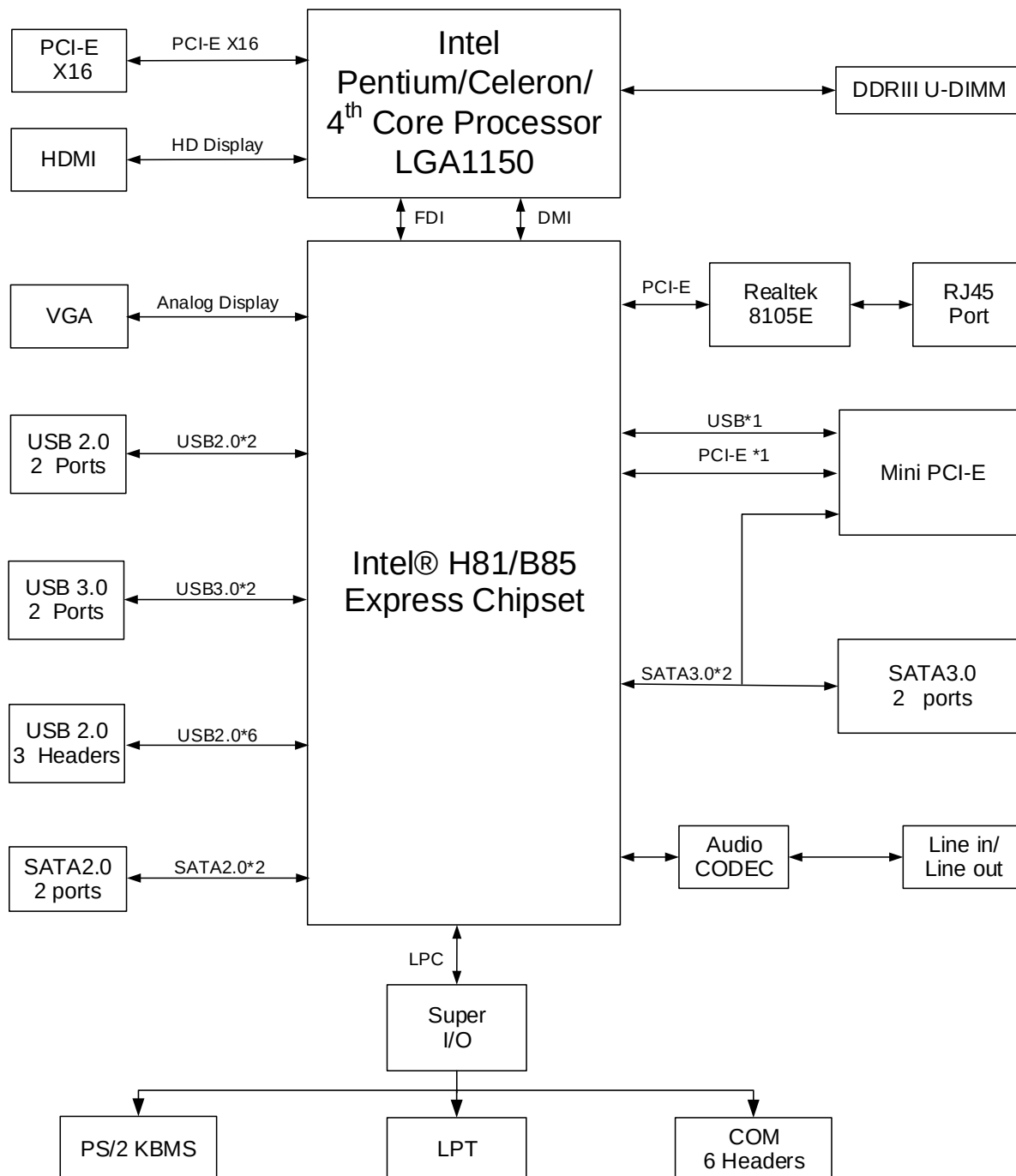
[1]: LAN can also be customized into 1000Mbps(Realtek 8111F).

[2]: mSATA and Mini PCI-E are using the same interface, so only one function can be used at one time, if you need the other function, it would need some hardware changes supported.

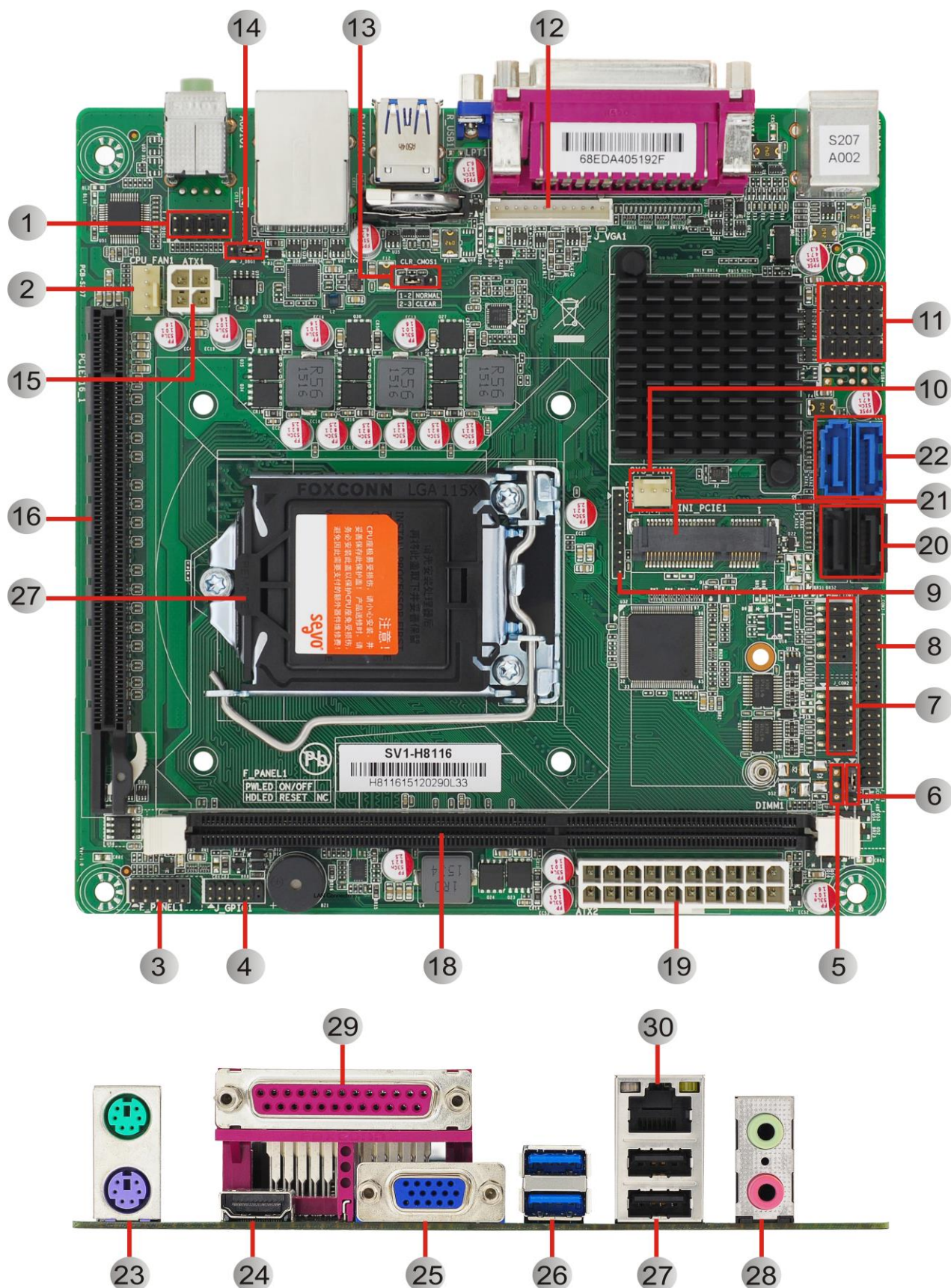
[3]: COM2 can be RS485 if JCOM2_485 is on.

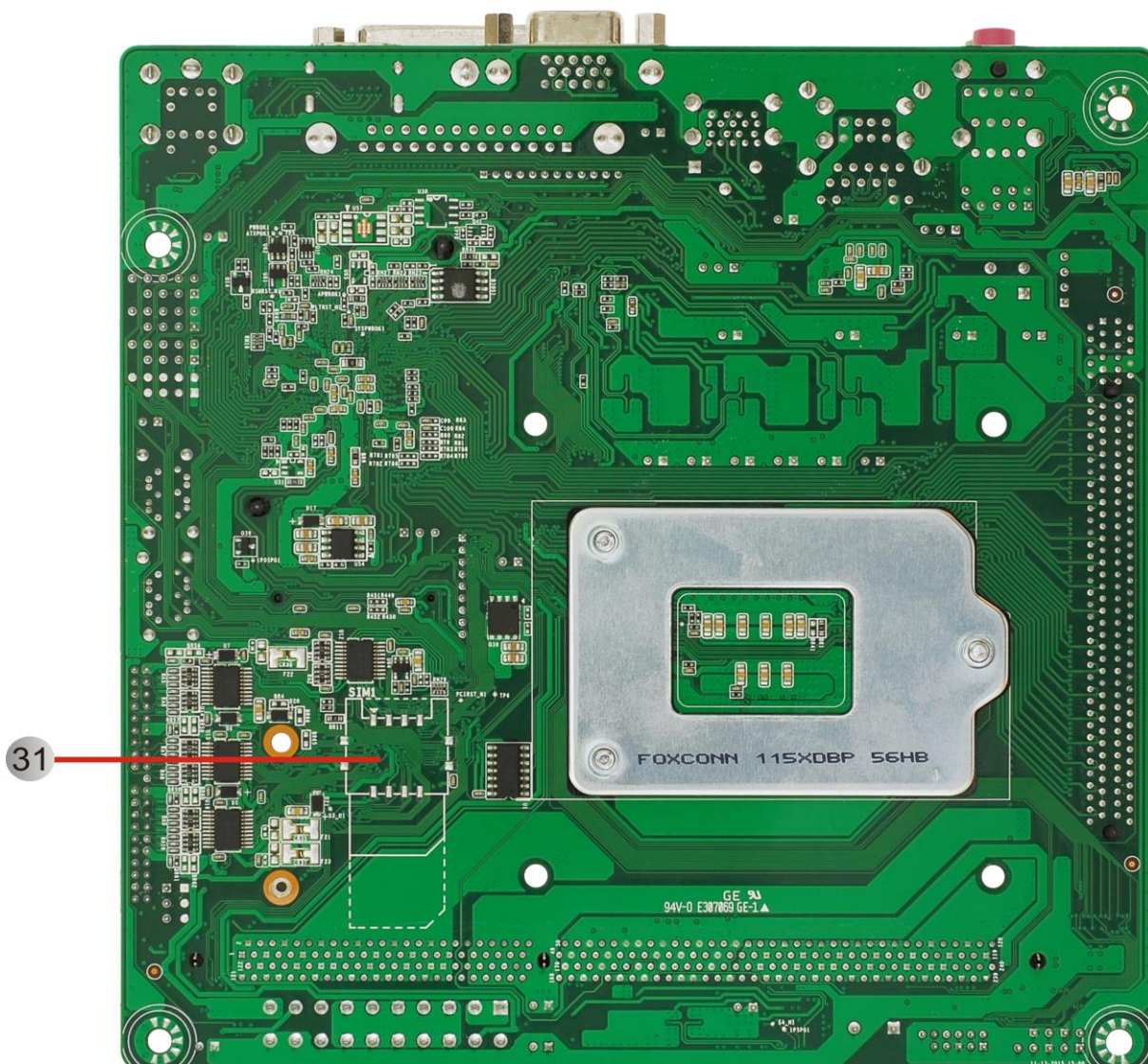
[4]: VGA DB15 port and Header are using the same signal, so only one can be used at one time,.

3. Data Flow



4. Jumpers / Headers and Connectors





Jumpers / Headers and Connectors			
1	Front Audio Header	P ₈	17 CPU Slot
2	CPU Fan Connector	P ₈	18 DIMM Slot
3	Front Panel Header	P ₈	19 ATX2 Power Supply Connector
4	GPIO Header	P ₈	20 SATA2.0 Connectors
5	RS485 Jumper	P ₉	21 Mini PCI-E Slot
6	AT Select Jumper	P ₉	22 SATA3.0 Connectors
7	COM1/2 Headers	P ₉	23 PS/2 Connector
8	COM3-6 Headers	P ₉	24 HDMI Connector
9	Debug Header		25 VGA Connector
10	System Fan Connector	P ₁₀	26 USB3.0 Connectors
11	Front USB Headers	P ₁₀	27 USB2.0 Connectors
12	VGA Header	P ₁₀	28 Audio Connector
13	CMOS Clear Jumper	P ₁₁	29 LPT Connector
14	Debug Select Jumper	P ₁₁	30 LAN Connector
15	ATX1 Power Supply Connector		31 SIM Card Slot
16	PCI-E X16 Slot		

5. Definition of Jumpers / Headers and Connector

[1] Front Audio Header (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
1	F_AUDIO1	1	FRONT_MIC_L	2	GND_AUD
		3	FRONT_MIC_R	4	3.3V
		5	FRONT_Line_OUT_R	6	SENSE_B
		7	GND_AUD	8	N/C
		9	FRONT_Line_OUT_L	10	SENSE_B

[2] CPU Fan Connector (4*1 Pin 2.54 mm)

Location	Connector	Pin	Definition	Pin	Definition
2	CPU_FAN1	1	GND	2	+ 12V
		3	FAN TAC	4	FAN PWM

[3] Front Panel Header (5*2 Pin 2.54 mm)

Location	Header	Pin	Definition	Pin	Definition
3	F_PANEL1	1	HD LED+	2	Power LED+
		3	HD LED-	4	Power LED-
		5	RESET-	6	PWR+
		7	RESET+	8	PWR-
		9	N/C		

[4] GPIO Header (5*2 Pin 2.00 mm)

Location	Header	Pin	Definition	Pin	Definition
4	J_GPIO1	1	PCH_GPO68 (0x1C48,bit 4)	2	PCH_GPI69 (0x1C48,bit 5)
		3	PCH_GPO70 (0x1C48,bit 6)	4	PCH_GPI71 (0x1C48,bit 7)
		5	GND	6	PCH_GPI1 (0x1C0C,bit 1)
		7	PCH_GPO6 (0x1C0C,bit 6)	8	PCH_GPI7 (0x1C0C,bit 7)

		9	PCH_GPO17 (0x1C0E, bit 1)	10	+ 3.3V ^[1]
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Note: All GPIOs can be programmed to input or output.

[1]: GPIO output is 3.3V signaling by default, 5V is available if specified (resistor selectable).

[5] RS485 Header (COM2, 3*1 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
5	JCOM2_485	1	RS485-	2	GND
		3	RS485+		

[6] AT or ATX Select Jumper (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
6	JP4	1-2 (Default)	ATX Mode
		2-3	AT Mode

[7] COM1 & COM2 Headers (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
7	J_COM1 J_COM2	1	DCD *	2	DSR
		3	RXD	4	RTS
		5	TXD	6	CTS
		7	DTR	8	RI
		9	GND		

*** PIN1 also can be customized to 5V or 12V power supply(resistor selectable).**

[8] COM3-6 Headers (20*2 Pin 2.00 mm)

Location	Header	Pin	Definition	Pin	Definition
8	COM3-6	1	COM3_DCD *	2	COM3_RXD
		3	COM3_TXD	4	COM3_DTR
		5	GND	6	COM3_DSR
		7	COM3_RTS	8	COM3_CTS
		9	COM3_RI	10	GND
		11	COM4_DCD *	12	COM4_RXD
		13	COM4_TXD	14	COM4_DTR
		15	GND	16	COM4_DSR

		17	COM4_RTS	18	COM4_CTS
		19	COM4_RI	20	
		21	COM5_DCD *	22	COM5_RXD
		23	COM5_TXD	24	COM5_DTR
		25	GND	26	COM5_DSR
		27	COM5_RTS	28	COM5_CTS
		29	COM5_RI	30	GND
		31	COM6_DCD *	32	COM6_RXD
		33	COM6_TXD	34	COM6_DTR
		35	GND	36	COM6_DSR
		37	COM6_RTS	38	COM6_CTS
		39	COM6_RI	40	GND

*** PIN1/11/21/31 also can be customized to 5V or 12V power supply(resistor selectable).**

[9] System Fan Connector (3*1 Pin 2.54 mm)

Location	Connector	Pin	Definition	Pin	Definition
	SYS_FAN1	1	GND	2	+ 12V
		3	FAN IO		

[10] Front USB Headers (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
	F_USB1 F_USB2 F_USB3	1	+ 5V	2	+ 5V
		3	USB0-	4	USB1-
		5	USB0+	6	USB1+
		7	GND	8	GND
				10	N/C

[11] VGA Header (12*1 Pin 2.00 mm)

Location	Connector	Pin	Definition	Pin	Definition
	J_VGA1	1	GND	2	VSYNC
		3	HSYNC	4	GND
		5	RED	6	GND
		7	GREEN	8	GND

		9	BLUE	10	GND
		11	DDCDAT	12	DDCCLK

Note:

[1]: VGA (DB15) Connector and JVGA1 share the same signal, they can't be accessed simultaneously.

[12] CMOS Clear Jumper (3*1 Pin 2.54mm)

Location	Jumper	Setting	Function
13	CLR_CMOS1	1-2(Default)	Normal
		2-3	Clear CMOS

[13] Flash ME select Jumper (3*1 Pin 2.54mm)

Location	Jumper	Setting	Function
14	J_DBG1	1-2	Flash ME
		2-3(Default)	Normal

6. BIOS setup

See "SV1-H8116 BIOS User Manual" for detail information of BIOS setup.

【End】