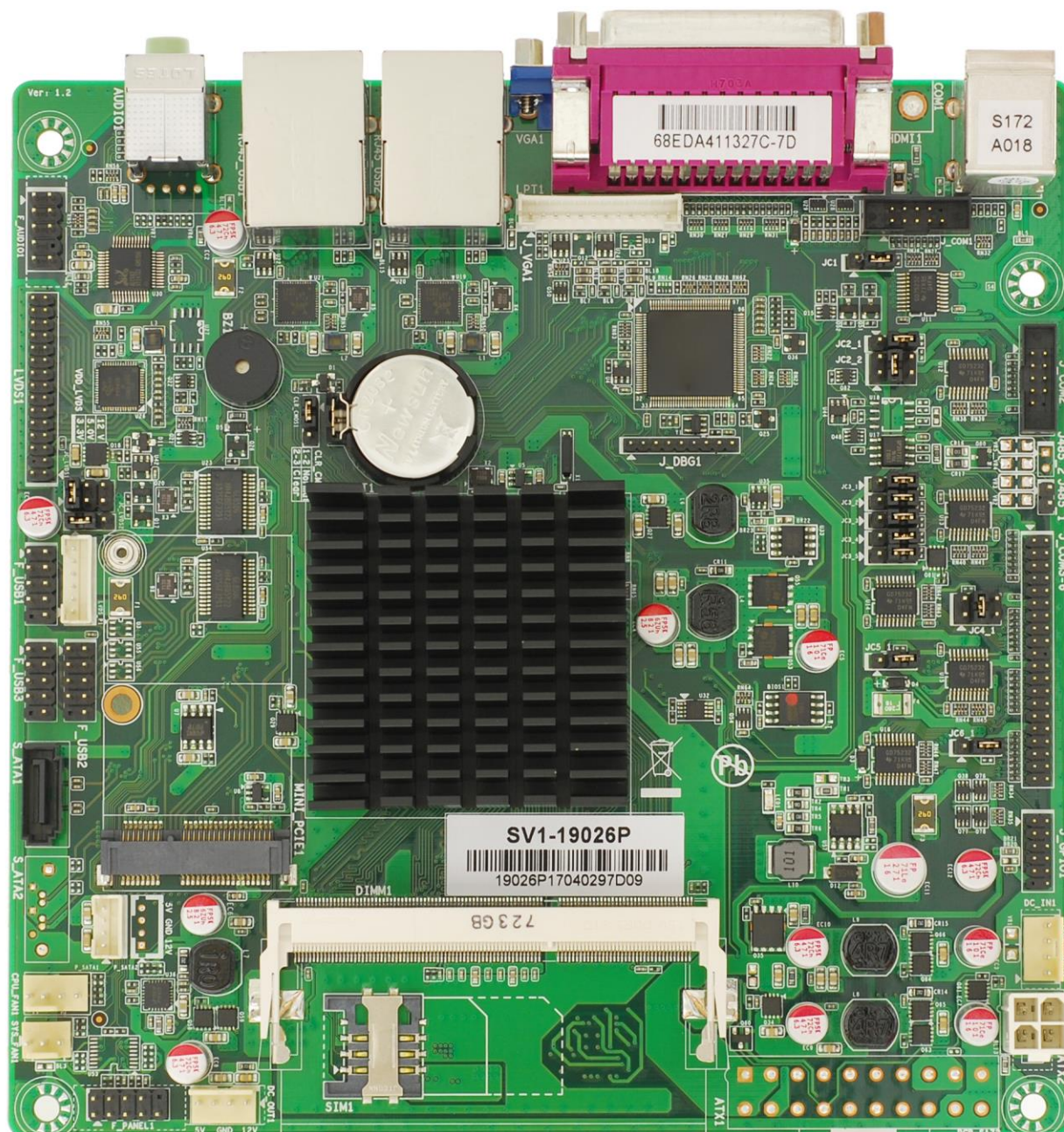


Ver 1.2



Contents

1. Models and Attentions	2
1.1 Models	2
1.2 Attentions	2
2. Specification	3
3. Data Flow	7
4. Jumpers / Headers and Connectors	8
5. Definition of Jumpers/Headers and Connectors	10
6. BIOS setup	17

1. Models and Attentions

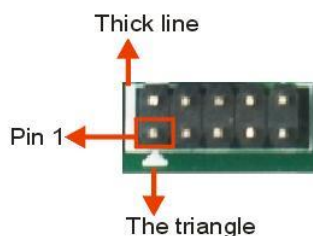
1.1 Models

This manual is applied to flowing models:

Model	CPU	COM	LAN	USB	LVDS	VGA	HDMI	Mini PCI-E
SV1-19026P	J1900	6	2*GbE	9	1	1	1	1
SV1-18026P	J1800	6	2*GbE	9	1	1	1	1
SV1-18012P-B	J1800	2	1*FE	9	1	1	1	1
SV1-18016P-B	J1800	6	1*FE	9	1	1	1	1
SV1-18016-C	J1800	6	1*FE	10	1	1	0	1
SV1-19016-C	J1900	6	1*FE	10	1	1	0	1
SV1-18012	J1800	2	1*FE	9	0	1	0	1
SV1-18012P	J1800	2	1*FE	9	1	1	0	1

1.2 Attentions

- Notes under a table or figure indicate the difference of models, or alternative definition of specific pin of the header (jumper/connector).
- 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	SV1-18026P	SV1-19026P
CPU	Intel® Celeron® J1800, Dual-core, Clock speed 2.41G, TDP 10W	Intel® Celeron® J1900, Quad-core, Clock speed 2.00G, TDP 10W
Display	1 * VGA 1 * Dual Channel 24-bit LVDS ^[1] 1 * HDMI ^[2]	
Memory	Support DDR3L 1333 MHz, 1 * SO-DIMM Slot, Up to 8GB	
Storage	1 * Serial ATA 2.0 Port + 1 * mSATA ^[3]	
Ethernet	2 * Realtek GbE LAN Chip (10/100/1000 Mbps) ^[4]	
Audio	Realtek ALC662 5.1 Channel HDA Codec, Support MIC/Line-out Ports	
COM	4 * RS232 + 1 * RS232/RS485 + 1 * RS232/TTL ^[5]	
Other Ports	9 * USB2.0: 4 * Rear I/O + 5 * Pin Header ^[6] 8 * GPIO 1 * PS/2 1 * Parallel Port 1 * Mini PCI-E ^[6] 1 * Front Audio 2 * DC12V Power Input Connector 1 * DC12V/5V Power Output Connector	
Temperature	Storage: -20~75°C Operating: 0~60°C	
OS	Windows 7/8/10, Linux, Android	
BIOS	AMI UEFI BIOS (Watchdog Timer Supported)	
Factor	Mini-ITX (170mm * 170mm)	

Model	SV1-18012P-B	SV1-18016P-B
CPU	Intel® Celeron® J1800, Dual-core, Clock speed 2.41G, TDP 10W	
Display	1 * VGA 1 * Dual Channel 24-bit LVDS ^[1] 1 * HDMI ^[2]	
Memory	Support DDR3L 1333 MHz, 1 * SO-DIMM Slot, Up to 8GB	
Storage	1 * Serial ATA 2.0 Port + 1 * mSATA ^[3]	
Ethernet	1 * Realtek FE LAN Chip (10/100 Mbps)	
Audio	Realtek ALC662 5.1 Channel HDA Codec, Support MIC/Line-out Ports	
COM	2 * RS232	4 * RS232 + 1 * RS232/RS485 + 1 * RS232/TTL ^[5]
Other Ports	9 * USB2.0: 4 * Rear I/O + 5 * Pin Header ^[6] 8 * GPIO 1 * PS/2 1 * Parallel Port 1 * Mini PCI-E ^[6] 1 * Front Audio 2 * DC12V Power Input Connector 1 * DC12V/5V Power Output Connector	
Temperature	Storage: -20~75°C Operating: 0~60°C	
BIOS	AMI UEFI BIOS	
Factor	Mini-ITX (170mm * 170mm)	

Model	SV1-18016-C	SV1-19016-C
CPU	Intel® Celeron® J1800, Dual-core, Clock speed 2.41G, TDP 10W	Intel® Celeron® J1900, Quad-core, Clock speed 2.00G, TDP 10W
Display	1 * VGA 1 * Dual Channel 24-bit LVDS ^[1]	
Memory	Support DDR3L 1333 MHz, 1 * SO-DIMM Slot, Up to 8GB	
Storage	2 * Serial ATA 2.0 Port ^[3]	
Ethernet	1 * Realtek FE LAN Chip (10/100 Mbps)	
Audio	Realtek ALC662 5.1 Channel HDA Codec, Support MIC/Line-out Ports	
COM	5 * RS232 ^[2] + 1 * RS232/TTL ^[5]	
Other Ports	10 * USB2.0: 4 * Rear I/O + 6 * Pin Header ^[6] 8 * GPIO 1 * PS/2 1 * Parallel Port 1 * Mini PCI-E ^[6] 1 * Front Audio 1 * ATX Power Input Connector	
Temperature	Storage: -20~75°C Operating: 0~60°C	
BIOS	AMI UEFI BIOS	
Factor	Mini-ITX (170mm * 170mm)	

Model	SV1-18012	SV1-18012P
CPU	Intel® Celeron® J1800, Dual-core, Clock speed 2.41G, TDP 10W	
Display	1 * VGA	1 * VGA 1 * Dual Channel 24-bit LVDS ^[1]
Memory	Support DDR3L 1333 MHz, 1 * SO-DIMM Slot, Up to 8GB	
Storage	1 * Serial ATA 2.0 Port + 1 * mSATA ^[3]	
Ethernet	1 * Realtek FE LAN Chip (10/100 Mbps)	
Audio	Realtek ALC662 5.1 Channel HDA Codec, Support MIC/Line-out Ports	
COM	2 * RS232 ^[2]	
Other Ports	9 * USB2.0: 4 * Rear I/O + 5 * Pin Header ^[6] 8 * GPIO 1 * PS/2 1 * Parallel Port 1 * Mini PCI-E ^[6] 1 * Front Audio	
	1 * ATX Power Input Connector	2 * DC12V Power Input Connector 1 * DC12V/5V Power Output Connector
Temperature	Storage: -20~75°C Operating: 0~60°C	
BIOS	AMI UEFI BIOS	
Factor	Mini-ITX (170mm * 170mm)	

Notes:

[1]: The dual channel 24-bit LVDS supports a max resolution of 1920x1200.

[2]: The HDMI and COM1 (DB9) connectors share the same position on rear I/O, when HDMI populated, COM1 is available via J_COM1 Pin Header.

[3]: SATA2 and mSATA share the same SATA signal, if SATA2 is desired, Mini PCI-E slot won't support mSATA any more.

[4]: Realtek FE LAN chip (10/100 Mbps) can be customized if necessary.

[5]: COM2/3 can be RS485 via J485_1/2 pin header and COM3 can be TTL if specified.

[6]: Up to 7 USB ports can be supported without the second USB hub (F_USB3 and one USB2.0 port of F_USB1 inaccessible).

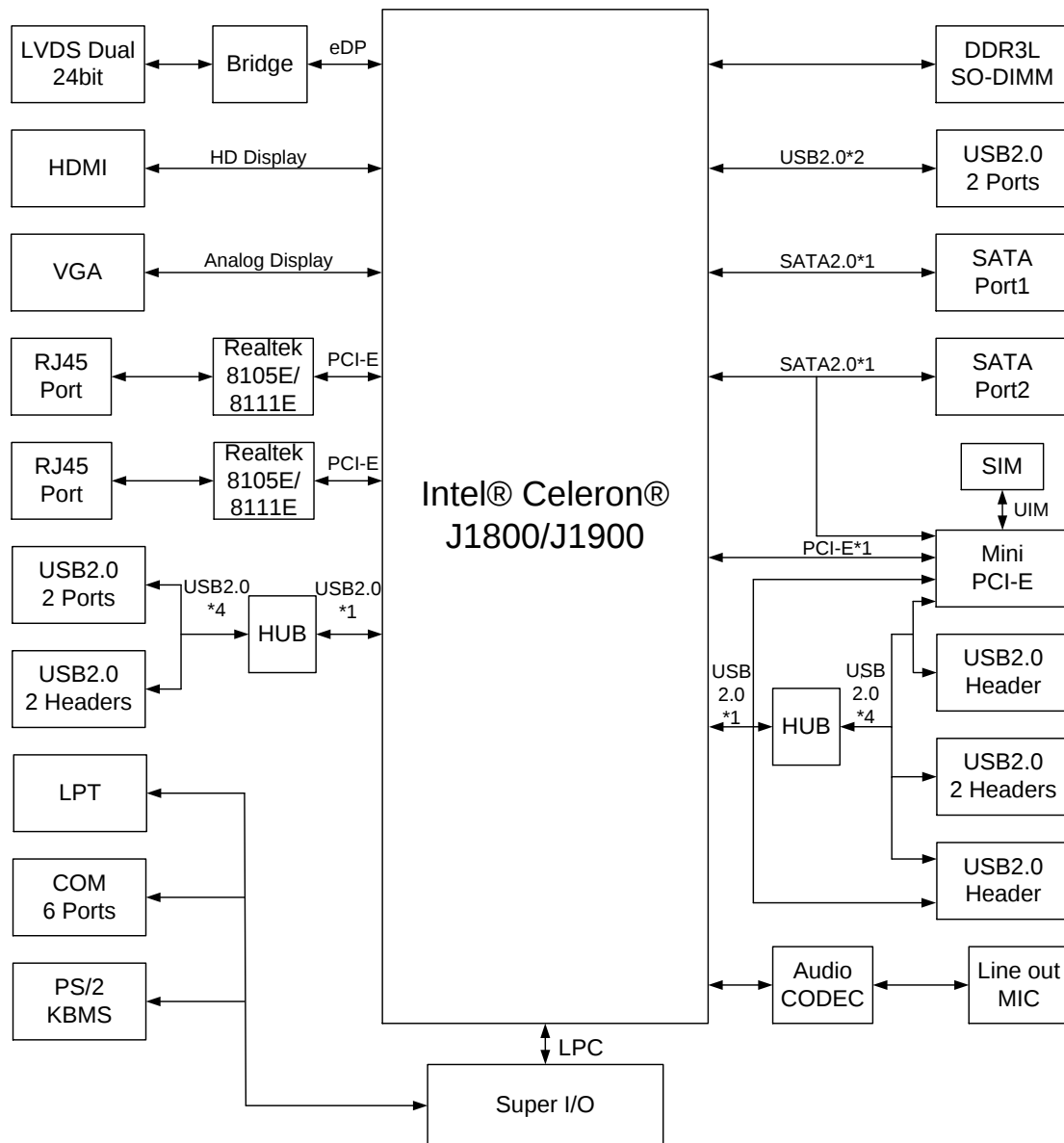
Up to 10 USB ports can be supported when mounting the second USB hub.

3G and F_USB1 share the same signal, one USB2.0 port of F_USB1 pin header will be removed if

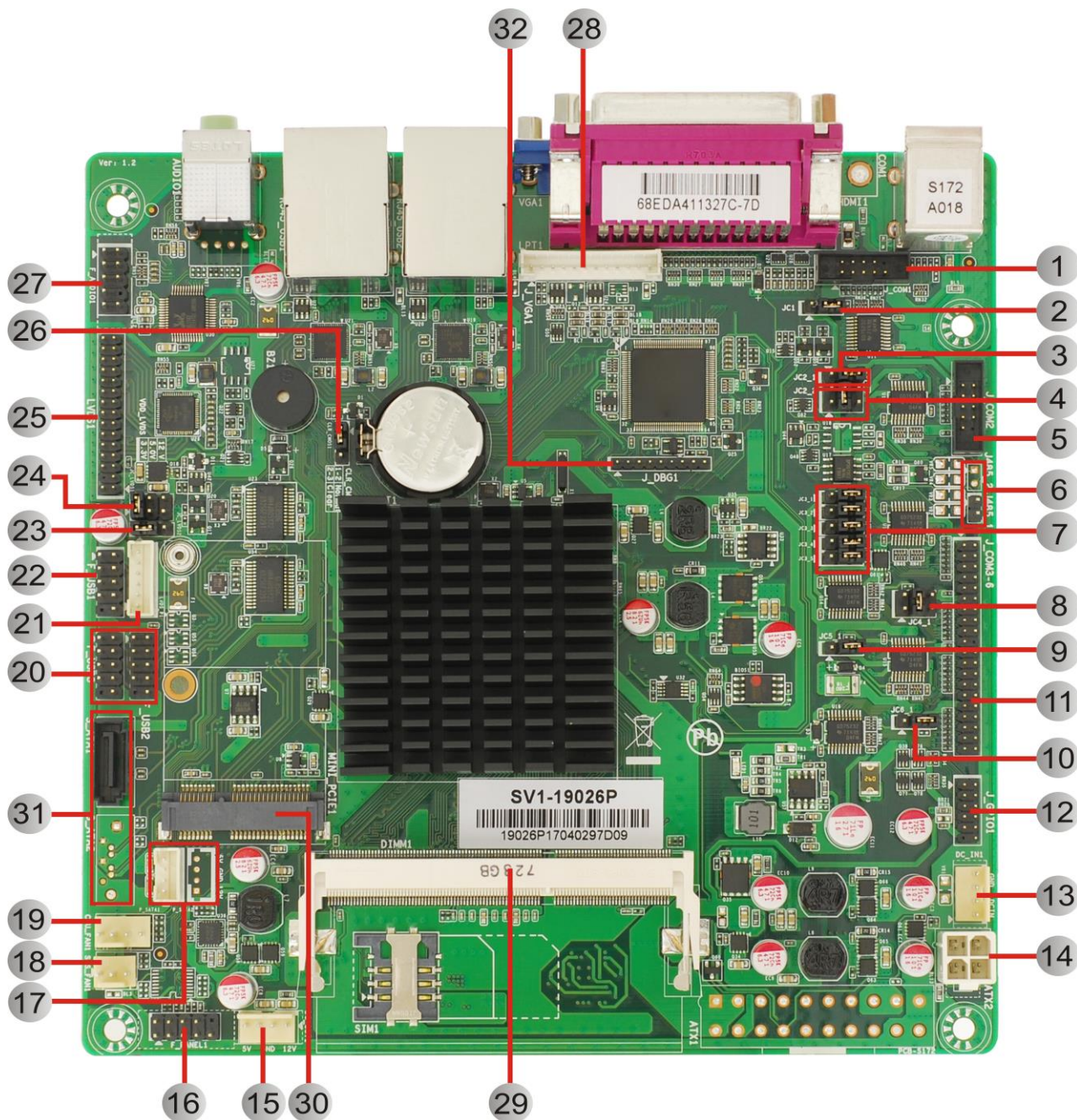
3G is desired.

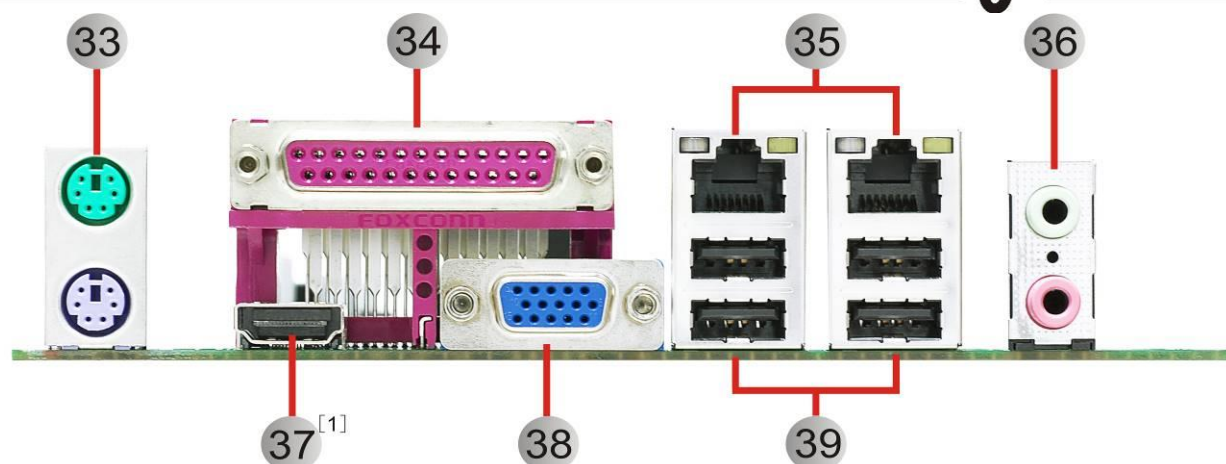
Mini PCI-E slot can supports mSATA, 3G and WIFI. mSATA and WIFI share the same signal position ,so they can't be accessed simultaneously.

3. Data Flow



4. Jumpers / Headers and Connectors





Jumpers/Headers/Connectors					
1	COM1 Pin Header	P ₈	21	LVDS Backlight Control Pin Header	P ₁₃
2	COM1 Select Jumper	P ₈	22	Front USB Pin Header1	P ₁₃
3	COM2 Select Jumper1	P ₈	23	LVDS Backlight PWM/CCFL Select Jumper	P ₁₃
4	COM2 Select Jumper2	P ₈	24	LVDS VDD Select Jumper	P ₁₄
5	COM2 Pin Header	P ₉	25	LVDS Signal Pin Header	P ₁₄
6	RS485 Pin Header	P ₉	26	CMOS Clear Jumper	P ₁₅
7	COM3 Select Jumpers	P ₉	27	Front Audio Pin Header	P ₁₅
8	COM4 Select Jumper	P ₉	28	VGA Pin Header	P ₁₅
9	COM5 Select Jumper	P ₁₀	29	SO-DIMM Slot	
10	COM6 Select Jumper	P ₁₀	30	Mini PCI-E Slot	
11	COM3~6 Pin Header	P ₁₀	31	SATA 2.0 Connectors	
12	GPIO Pin Header	P ₁₁	32	Debug Pin Header	
13	DC12V Power Input Connector1	P ₁₁	33	PS/2 Connector	
14	DC12V Power Input Connector2	P ₁₂	34	Parallel Port Connector	
15	DC12V/5V Power Output Connector	P ₁₂	35	LAN Connectors	
16	Front Panel Pin Header	P ₁₂	36	Audio Connector	
17	SATA Power Pin Headers	P ₁₂	37	COM1 or HDMI Connector ^[1]	
18	System Fan Connector	P ₁₂	38	VGA Connector	
19	CPU Fan Connector	P ₁₂	39	USB2.0 Connectors	
20	Front USB Pin Headers	P ₁₃			

Notes:

[1]: HDMI and COM1 (DB9) Connectors on rear I/O share the same position and are mutually exclusive.

5. Definition of Jumpers/Headers and Connectors

[1] COM1 Pin Header (5*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
1	J_COM1	1	JC1*	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI		

Note:

[1]: *This signal is selected via its respective Jumper JC1, check Table 2 for detail.

[2] COM1 Select Jumper (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
2	JC1	1-2	COM1_Pin 1 : 5V
		2-3 (Default)	COM1_Pin 1 : DCD

Note:

[1]: If JC1 is not mounted, Pin1 of COM1 will be its default definition (DCD).

[3] COM2 Select Jumper1 (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
3	JC2_1	1-2	COM2_Pin 1 : 5V
		2-3 (Default)	COM2_Pin 1 : DCD

Note:

[1]: If JC2_1 is not mounted, Pin1 of COM2 will be its default definition (DCD).

[4] COM2 Select Jumper2 (3*2 Pin 2.54mm)

Location	Jumper	Settings	Function
4	JC2_2	1-2	COM2_Pin 9 : 5V
		3-4 (Default)	COM2_Pin 9 : RI
		5-6	COM2_Pin 9 : 12V

Note:

[1]: If JC2_2 is not mounted, Pin9 of COM2 will be its default definition (RI).

[5] COM2 Pin Header (5*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
5	J_COM2	1	JC2_1*	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	JC2_2*		

Note:

[1]: *These signals are selected via their respective Jumpers (e.g. JC2_1 on Pin1 of J_COM2 is selected via JC2_1 Jumper), check Table 3-4 for detail.

[6] RS485 Pin Header (2*1 Pin 2.54mm) **Optional**

Location	Header	Pin	Definition	Pin	Definition
6	J485_1	1	RS485_1+	2	RS485_1-
	J485_2	1	RS485_2+	2	RS485_2-

Note:

[1]: J485_1 and J_COM2 share the same UART port and can't be accessed simultaneously.

[1]: J485_2 and COM3 share the same UART port and can't be accessed simultaneously.

[7] COM3 Select Jumpers (3*1 Pin 2.54mm) **Optional**

Location	Jumper	Settings	Function
7	JC3_1	1-2	COM3_Pin 1 : 5V
		2-3 (Default)	COM3_Pin 1 : DCD
	JC3_2	1-2	COM3_Pin 2 : RXD (TTL)
		2-3 (Default)	COM3_Pin 2 : RXD (RS232)
	JC3_3	1-2	COM3_Pin 3 : TXD (TTL)
		2-3 (Default)	COM3_Pin 3 : TXD (RS232)
	JC3_4	1-2	COM3_Pin 8 : RXD (TTL)
		2-3 (Default)	COM3_Pin 8 : CTS (RS232)
	JC3_5	1-2	COM3_Pin 9 : TXD (TTL)
		2-3 (Default)	COM3_Pin 9 : RI (RS232)

Note:

[1]: If COM3 Select Jumpers are not mounted, Pins of COM3 will be their default definitions.

[8] COM4 Select Jumper (3*2 Pin 2.54mm)

Location	Jumper	Settings	Function
8	JC4_1	1-2	COM4_Pin 1 : 5V
		3-4 (Default)	COM4_Pin 1 : DCD
		5-6	COM4_Pin 1 : 12V

Note:

[1]: If JC4_1 is not mounted, Pin1 of COM4 will be its default definition (DCD).

[9] COM5 Select Jumper (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
9	JC5_1	1-2	COM5_Pin 1 : 5V
		2-3 (Default)	COM5_Pin 1 : DCD

Note:

[1]: If JC5_1 is not mounted, Pin1 of COM5 will be its default definition (DCD).

[10] COM6 Select Jumper (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
10	JC6_1	1-2	COM6_Pin 1 : 5V
		2-3 (Default)	COM6_Pin 1 : DCD

Note:

[1]: If JC6_1 is not mounted, Pin1 of COM6 will be its default definition (DCD).

[11] COM3~6 Pin Header (20*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
11	J_COM3-6	1	JC3_1*	2	JC3_2*
		3	JC3_3*	4	COM3_DTR
		5	GND	6	COM3_DSR
		7	COM3_RTS	8	JC3_4*
		9	JC3_5*	10	GND
		11	JC4_1*	12	COM4_RXD
		13	COM4_TXD	14	COM4_DTR
		15	GND	16	COM4_DSR
		17	COM4_RTS	18	COM4_CTS

		19	COM4_RI		
		21	JC5_1*	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	JC6_1*	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

Note:

[1]: * These signals are selected via their respective Jumpers (e.g. JC3_1 on Pin1 of J_COM3-6 is selected via JC3_1 Jumper), check Table 7-10 for detail.

[12] GPIO Pin Header (6*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
12	J_GPIO1	1	SIO_ GPI10(0xA00 Bit0)	2	SIO_ GPI23(0xA01 Bit3)
		3	SIO_ GPI53(0xA04 Bit3)	4	SIO_ GPI37(0xA02 Bit7)
		5	GND	6	SIO_ GPO51(0xA04 Bit1,H) ^[1]
		7	SIO_ GPO42(0xA03 Bit2,H)	8	SIO_ GPO44(0xA03 Bit4,H)
		9	SIO_ GPO54(0xA04 Bit4,H)	10	+ 5V *
				12	N/C

Note:

[1]: “H” or “L” means the default voltage is High or Low level.

[2]: * Power on this Pin and GPIO output is 5V signaling by default, 3.3V is available if specified (resistor selectable).

[13] DC12V Power Input Connector1 (4*1 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
13	DC_IN1	1	+ 12V	2	+ 12V
		3	GND	4	GND

[14] DC12V Power Input Connector2

Location	Header	Pin	Definition	Pin	Definition
14	ATX2	1	GND	2	GND
		3	+ 12V	4	+ 12V

[15] DC12V/5V Power Output Connector (4*1 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
15	DC_OUT1	1	+ 12V	2	GND
		3	GND	4	+ 5V

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

Location	Header	Pin	Definition	Pin	Definition
16	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		

[17] SATA Power Pin Headers (4*1 Pin 2.00mm)

Location	Connector	Pin	Definition	Pin	Definition
17	P_SATA1	1	+ 12V	2	GND
	P_SATA2	3	GND	4	+ 5V

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

Location	Connector	Pin	Definition	Pin	Definition
18	SYS_FAN1	1	GND	2	+ 12V
		3	FAN Speed Detection		

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

Location	Header	Pin	Definition	Pin	Definition
19	CPU_FAN1	1	GND	2	+ 12V
		3	FAN Speed Detection	4	FAN Speed Control

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

Location	Header	Pin	Definition	Pin	Definition
20	F_USB2	1	+ 5 V	2	+ 5 V
		3	USB3-	4	USB4-
		5	USB3+	6	USB4+
		7	GND	8	GND
				10	N/C
	F_USB3	1	+ 5 V	2	+ 5 V
		3	USB5-	4	USB6-
		5	USB5+	6	USB6+
		7	GND	8	GND
				10	N/C

[21] LVDS Backlight Control Pin Header (6*1 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
21	LVDS_P1	1	GND	2	GND
		3	LVDS_BKL_CTL*	4	LVDS_BKL_EN
		5	+ 12V	6	+ 12V

Note:

[1]: * This signal is selected by “LVDS Backlight PWM/CCFL Select Jumper”(JC_LVDS2, Location 23) .

[22] Front USB Pin Header1 (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
22	F_USB1	1	+ 5 V	2	+ 5 V
		3	USB1-	4	USB2-
		5	USB1+	6	USB2+
		7	GND	8	GND
				10	N/C

Note:

[1]: When supporting 7 or 9 USB2.0 ports, only one USB2.0 port of F_USB1 can be accessed.

[23] LVDS Backlight PWM/CCFL Select Jumper (3*1 Pin 2.54mm)

Location	Jumper	Setting	Function
23	JC_LVDS2	1-2(Default)	Controlled by PWM
		2-3	Controlled by DC Voltage

[24] LVDS VDD Select Jumper (3*2 Pin 2.54mm)

Location	Jumper	Setting	Function
24	JC_LVDS1	1-2(Default)	+ 3.3V
		3-4	+ 5V
		5-6	+ 12V

[25] LVDS Signal Pin Header (15*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
25	LVDS1	1	VDD ^[1]	2	VDD ^[1]
		3	VDD ^[1]	4	N/C
		5	GND(Detect) ^[2]	6	GND(Detect) ^[2]
		7	LVDS_A_DATA0-	8	LVDS_A_DATA0+
		9	LVDS_A_DATA1-	10	LVDS_A_DATA1+
		11	LVDS_A_DATA2-	12	LVDS_A_DATA2+
		13	GND	14	GND
		15	LVDS_A_CLK-	16	LVDS_A_CLK+
		17	LVDS_A_DATA3-	18	LVDS_A_DATA3+
		19	LVDS_B_DATA0-	20	LVDS_B_DATA0+
		21	LVDS_B_DATA1-	22	LVDS_B_DATA1+
		23	LVDS_B_DATA2-	24	LVDS_B_DATA2+
		25	GND	26	GND
		27	LVDS_B_CLK-	28	LVDS_B_CLK+
		29	LVDS_B_DATA3-	30	LVDS_B_DATA3+

Note:

[1]: Panel Power VDD is 3.3V by default, 5V or 12V is selectable by “LVDS VDD Select Jumper” (JC_LVDS1, Location 24).

[2]: Grounding of this pin is required to ensure normal LVDS output.

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

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

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

Location	Header	Pin	Definition	Pin	Definition
27	F_AUDIO1	1	FP_MIC_L	2	GND
		3	FP_MIC_R	4	+ 3.3V
		5	FP_OUT_R	6	SENSE1_RETURN
		7	GND		
		9	FP_OUT_L	10	SENSE2_RETURN

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

Location	Connector	Pin	Definition	Pin	Definition
28	J_VGA1	1	N/C	2	VSYNC
		3	HSYNC	4	GND
		5	RED	6	GND
		7	GREEN	8	GND
		9	BLUE	10	GND
		11	DDC data	12	DDC clock

Note:

[1]: VGA (DB15) Connector and J_VGA1 share the same signal and can't be accessed simultaneously.

6. BIOS setup

See "SV1-19026P BIOS Quick Start Guide" or "SV1-19026P BIOS Specification Summary Sheet" for detail information of BIOS.

【End】