



Seavo Motherboard

User's Manual

SV1-H312A Series

Ver 0.0

Contents

1. Models and Attentions	2
1.1 Models	2
1.2 Attentions.....	2
2. Specification	3
3. Data Flow	4
4. Jumpers / Headers and Connectors	5
5. Definition of Jumpers /Headers and Connectors.....	8
1) F_AUDIO1 (Front Audio Pin Header 5*2 Pin 2.54mm)	8
2) CPU_FAN1 (CPU FAN Connector 4*1 Pin 2.54mm)	8
4) ATX1 (CPU 12V Power Input Connector 4Pin ATX)	8
5) J_GPIO1 (GPIO Pin Header 5*2 Pin 2.54mm)	8
6) J_COM3-6 (COM3-6 Pin Header 20*2 Pin 2.00 mm)	9
7) J_COM7-10 (COM7-10 Pin Header 20*2 Pin 2.00 mm)	10
8) J_COM1 (COM1 Pin Header 5*2 Pin 2.00mm)	10
9) J_COM2 (COM2 Pin Header 5*2 Pin 2.00mm)	11
10) JP_COM3-1 (COM3-6 Pin1 Signal Select Jumper 6*2 Pin 2.54mm)	11
11) F_PANEL1 (Front Panel Pin Header 5*2 Pin 2.54 mm)	11
12) J_USB1(Front USB Pin Header1 5*2 Pin 2.54mm)	12
13) SYS_FAN1 (System Fan Connector 3*1 Pin 2.54mm)	12
14) CLR_CMOS1 (CMOS Clear Jumper 3*1 Pin 2.54mm)	12
15) J_ATCFG1 (AT or ATX Select Jumper 3*1 Pin 2.54mm)	12
26) J_PSW1 (Power Button Connector 2*1 Pin 2.0mm)	12
27) LED_SYS1 (System+HDD LED)	13
6. BIOS setup.....	13

1.Models and Attentions

1.1 Models

This manual is applied to following models:

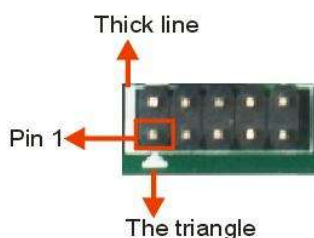
Model	Chipset	COM	LAN	VGA	HDMI	USB 2.0	USB 3.1 G1	SATA 3.0	PCI-E X16	Mini PCI-E
SV1-H312A	H310	10	2	1	1	8	4	2	1	2

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

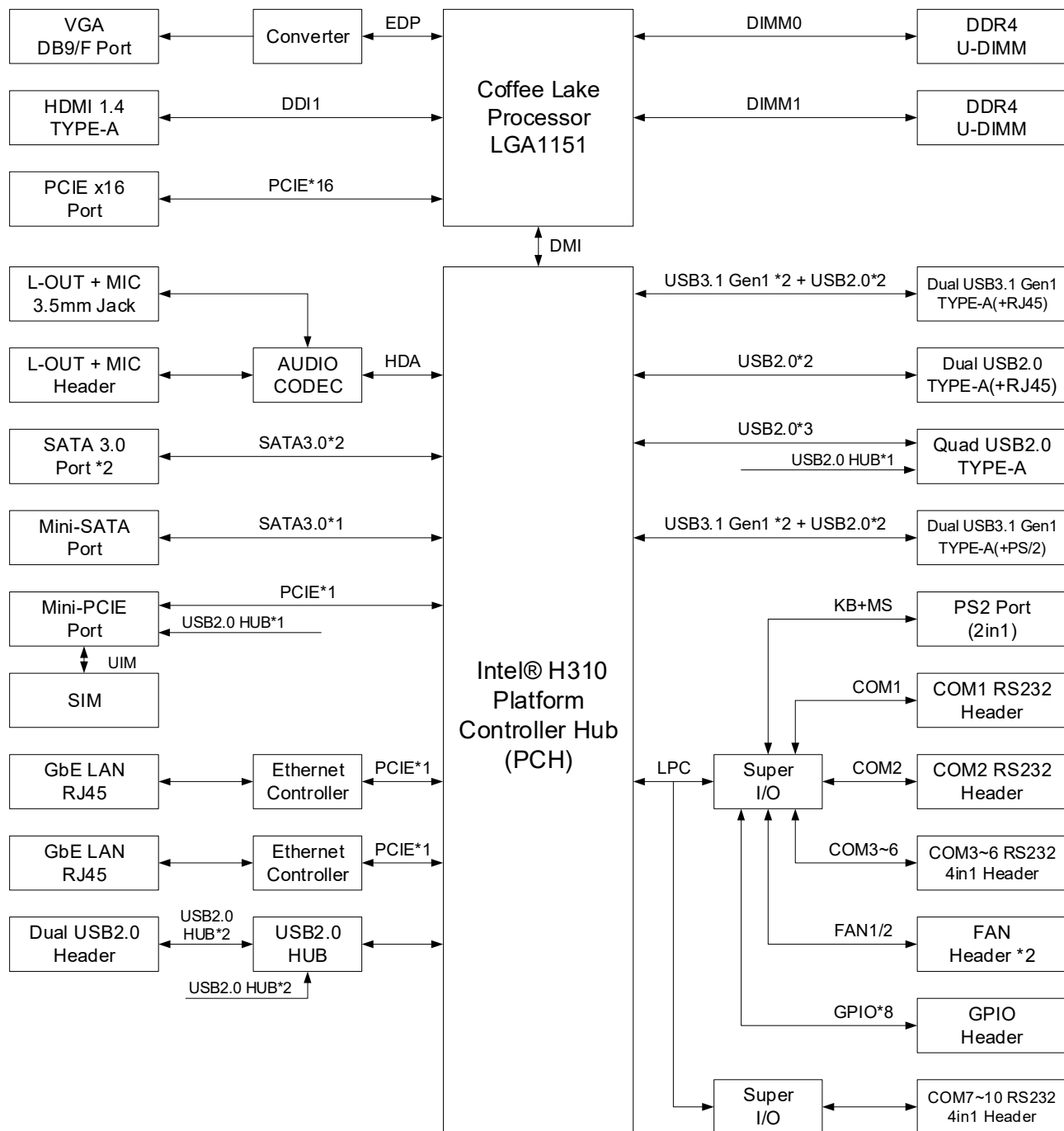
Model	SV1-H312A
CPU	Intel 8-9 th Generation Core i3/5/7/9, Pentium, Celeron Processors, LGA1151
Chipset	Intel® H310 ^[1] , TDP 6W
Display ^[1]	1 * VGA (DB15/F): resolution up to 1920*1080@60Hz 1 * HDMI 1.4 TYPE-A: resolution up to 4096*2160@30Hz
Memory	Support DDR4-2400MHz ^[2] , 2 * U-DIMM Slot, Up to 32GB
Storage	2 * Serial ATA 3.0 Port 1 * Mini PCI-E (mSATA)
Ethernet	2 * Realtek GbE LAN Chip (10/100/1000 Mbps)
Audio	Realtek ALC662 5.1 Channel HDA Codec Support Line-out/MIC Ports, Line-out/MIC Header
COM	2 * RS232 (COM1-2, Header) 8 * RS232 (COM3-10, Header)
USB	12 * USB: 4 * USB3.1 Gen1 (Rear I/O) 6 * USB2.0 (Rear I/O) 2 * USB2.0 (Header)
Other Ports	1 * PCI-E X16 slot 1 * Mini PCI-E Slot (WIFI+4G) 8 * GPIO 1 * PS/2 Connector (Keyboard+Mouse 2in1) 1 * SIM Card Slot 1 * Power Button Connector 1 * Front Panel Pin Header 2 * Smart Fan 1 * System+HDD LED 1 * CPU 12V Power Input Connector (ATX 4P) 1 * ATX 20P Power Input Connector
System	Windows 10(64 bit), Linux
Temperature	Storage: -20~75°C Operating: 0~60°C
BIOS	AMI UEFI BIOS (Support Watchdog Timer)
Power Supply	ATX (20P + 4P)
Factor	Mini-ITX (170mm * 170mm)

Notes:

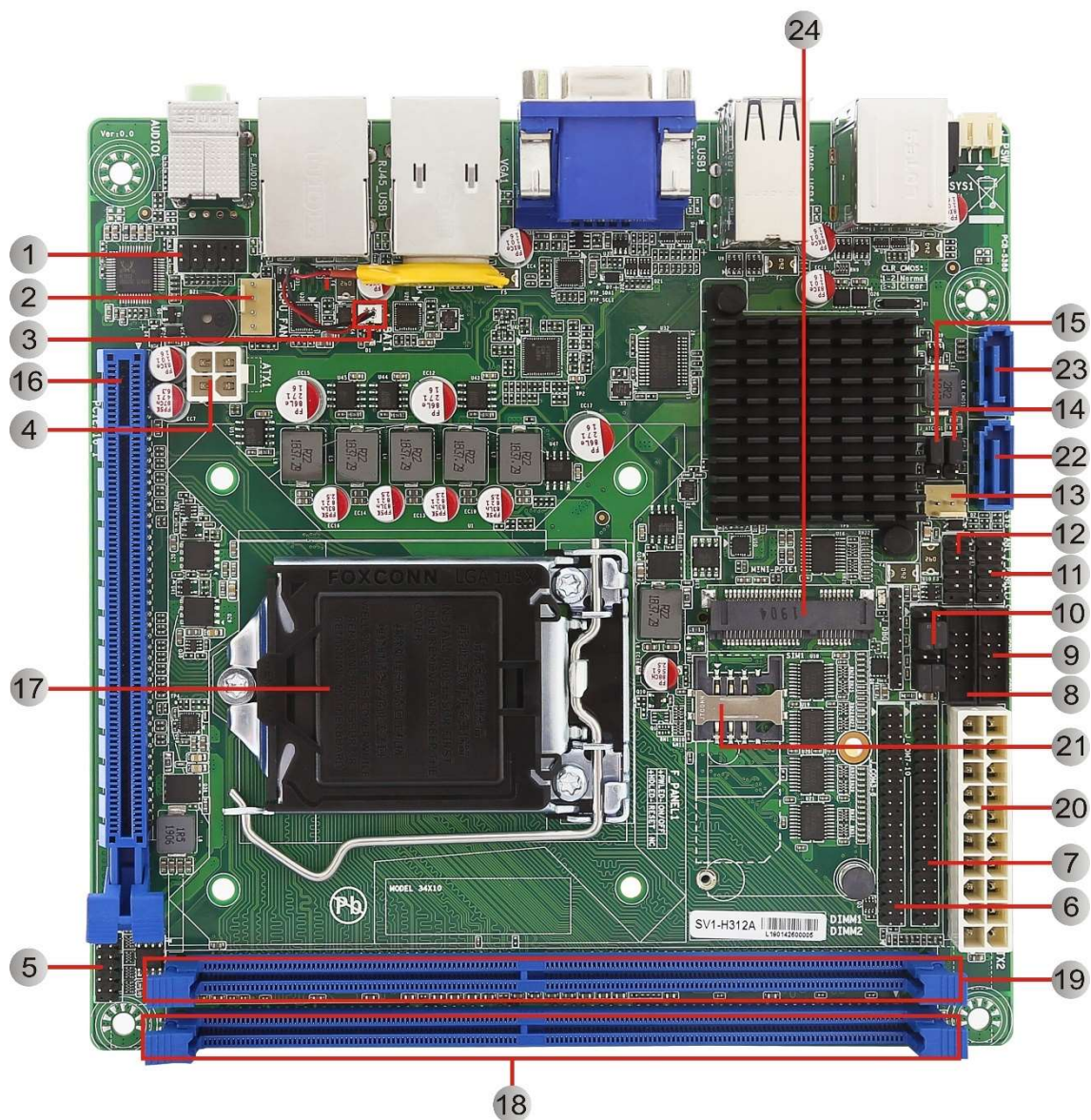
[1]: Chipset can be customized into Intel® Q370 or H310. Up to two displays can be activated at the same time.

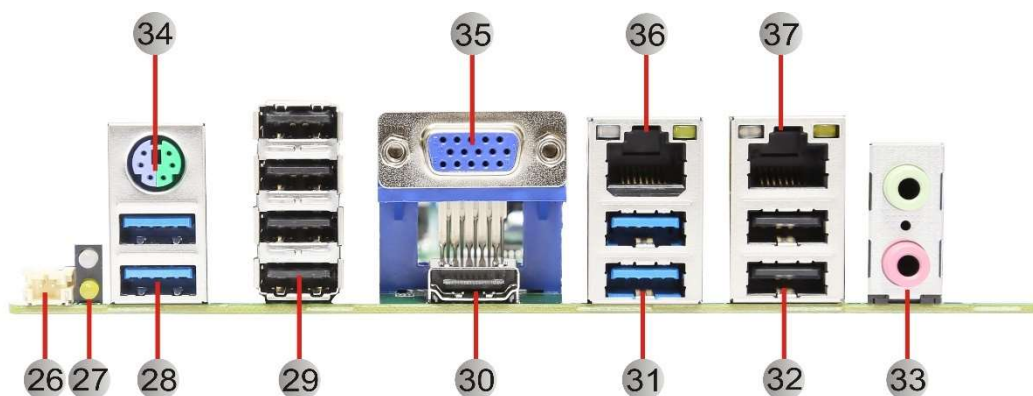
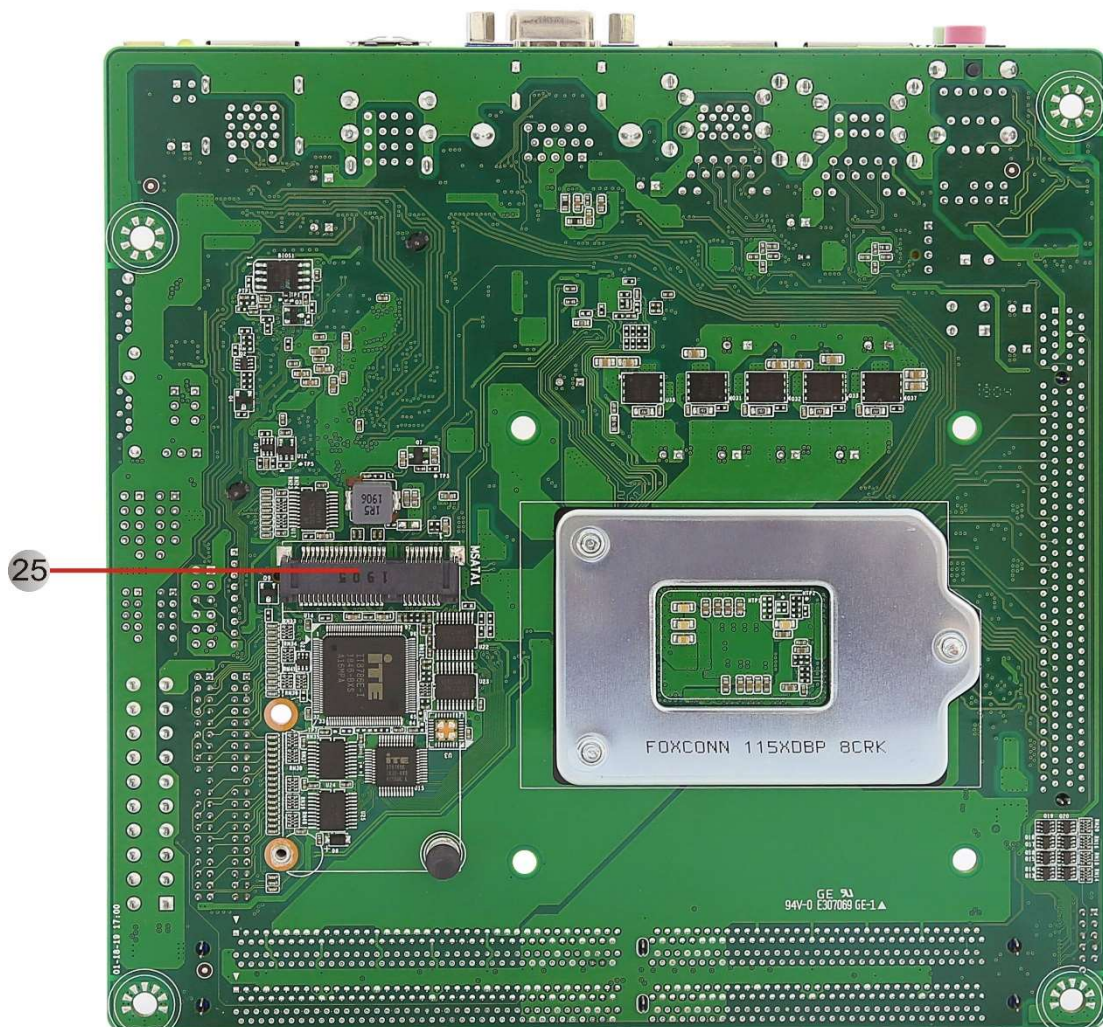
[2]: Supported memory frequency is determined by the CPU and PCH, supports up to 2666MHz.

3.Data Flow



4. Jumpers / Headers and Connectors

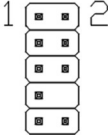




Jumpers / Headers and Connectors		
1	F_AUDIO1	Front Audio Pin Header
2	CPU_FAN1	CPU FAN Connector
3	BAT1	Battery Connector
4	ATX1	CPU 12V Power Input Connector
5	J_GPIO1	GPIO Pin Header
6	J_COM3-6	COM3-6 Pin Header
7	J_COM7-10	COM7-10 Pin Header
8	J_COM1	COM1 Pin Header
9	J_COM2	COM2 Pin Header
10	JP_COM3-1	COM3-6 Pin1 Signal Select Jumper
11	F_PANEL1	Front Panel Pin Header
12	J_USB1	Front USB1 Pin Header
13	SYS_FAN1	System Fan Connector
14	CLR_CMOS1	CMOS Clear Jumper
15	J_ATCFG1	AT or ATX Select Jumper
16	PCIEX16_1	PCI-E 16X Slot
17	CPU_SOCKET1	CPU Socket
18	DIMM2	DDR4 U-DIMM2 Slot
19	DIMM1	DDR4 U-DIMM1 Slot
20	ATX2	ATX2 20P Power Input Connector
21	SIM1	SIM Card Slot
22	SATA2	SATA 3.0 Connector2
23	SATA1	SATA 3.0 Connector1
24	MINI_PCIE1	Mini PCI-E Slot (WIFI+4G)
25	MSATA1	Mini PCI-E Slot (mSATA)
26	J_PSW1	Power Button Connector
27	LED_SYS1	System+HDD LED
28	KBMS_USB1	USB 3.0 Dual TYPE-A Connector
29	R_USB1	USB 2.0 Quad TYPE-A Connector
30	HDMI1	HDMI 1.4 TYPE-A Connector
31	RJ45_USB1	USB 3.0 Dual TYPE-A Connector
32	RJ45_USB2	USB 2.0 Dual TYPE-A Connector
33	AUDIO1	Line-out + MIC 3.5mm Jack
34	KBMS_USB1	PS/2 Connector
35	VGA1	VGA DB15/F Connector
36	RJ45_USB1	LAN Connector1
37	RJ45_USB2	LAN Connector2

5. Definition of Jumpers /Headers and Connectors

1) F_AUDIO1 (Front Audio Pin Header 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	MIC_IN_L	2	GND
	3	MIC_IN_R	4	+ 3.3V
	5	LINE_OUT_R	6	MIC_IN_RET
	7	GND		
	9	LINE_OUT_L	10	LINE_OUT_RET

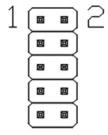
2) CPU_FAN1 (CPU FAN Connector 4*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	+ 12V
	3	FAN Speed Detection	4	FAN Speed Control

4) ATX1 (CPU 12V Power Input Connector 4Pin ATX)

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	GND
	3	+12V	4	+12V

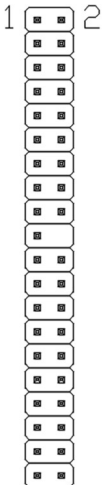
5) J_GPIO1 (GPIO Pin Header 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	SIO_GPI80 (0xA07 Bit0, H) ^[1]	2	SIO_GPI81 (0xA07 Bit1, H)
	3	SIO_GPI82 (0xA07 Bit2, H)	4	SIO_GPI83 (0xA07 Bit3, H)
	5	GND	6	SIO_GPO84 (0xA07 Bit4, H)
	7	SIO_GPO85 (0xA07 Bit5, H)	8	SIO_GPO86 (0xA07 Bit6, H)
	9	SIO_GPO87 (0xA07 Bit7, H)	10	+ 3.3 V ^[1]

Note:

[1]: "H" or "L" means the default voltage is High or Low level, and GPIO output is 3.3V(default) 5V if specified (resistor selectable).

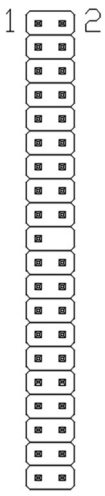
6) J_COM3-6 (COM3-6 Pin Header 20*2 Pin 2.00 mm)

Graphic	Pin	Definition	Pin	Definition
	1	COM3_P1 [1]	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_P1 [1]	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_P1 [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	COM6_P1 [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

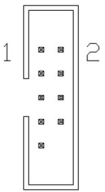
Note:

[1]: Pin1 of JCOM3/4/5/6 can be 5V or signal DCD (selected via JP_COM3-1, Location 10).

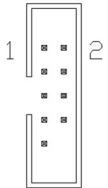
7) J_COM7-10 (COM7-10 Pin Header 20*2 Pin 2.00 mm)

Graphic	Pin	Definition	Pin	Definition
	1	COM7_DCD	2	COM7_RXD
	3	COM7_TXD	4	COM7_DTR
	5	GND	6	COM7_DSR
	7	COM7_RTS	8	COM7_CTS
	9	COM7_RI	10	GND
	11	COM8_DCD	12	COM8_RXD
	13	COM8_TXD	14	COM8_DTR
	15	GND	16	COM8_DSR
	17	COM8_RTS	18	COM8_CTS
	19	COM8_RI	20	
	21	COM9_DCD	22	COM9_RXD
	23	COM9_TXD	24	COM9_DTR
	25	GND	26	COM9_DSR
	27	COM9_RTS	28	COM9_CTS
	29	COM9_RI	30	GND
	31	COM10_DCD	32	COM10_RXD
	33	COM10_TXD	34	COM10_DTR
	35	GND	36	COM10_DSR
	37	COM10_RTS	38	COM10_CTS
	39	COM10_RI	40	GND

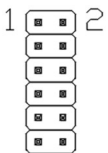
8) J_COM1 (COM1 Pin Header 5*2 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	COM1_DCD#	2	COM1_SIN
	3	COM1_SOUT	4	COM1_DTR#
	5	GND	6	COM1_DSR#
	7	COM1_RTS#	8	COM1_CTS#
	9	COM1_RI#		

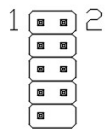
9) J_COM2 (COM2 Pin Header 5*2 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	COM2_DCD#	2	COM2_SIN
	3	COM2_SOUT	4	COM2_DTR#2
	5	GND	6	COM2_DSR#2
	7	COM2_RTS#	8	COM2_CTS#2
	9	COM2_RI#		

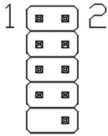
10) JP_COM3-1 (COM3-6 Pin1 Signal Select Jumper 6*2 Pin 2.54mm)

Graphic	Settings	Function
	3-5(default)	COM3_P1: DCD
	4-6(default)	COM4_P1: DCD
	9-11(default)	COM5_P1: DCD
	10-12(default)	COM6_P1: DCD
	1-3	COM3_P1: + 5V
	2-4	COM4_P1: + 5V
	7-9	COM5_P1: + 5V
	8-10	COM6_P1: + 5V

11) F_PANEL1 (Front Panel Pin Header 5*2 Pin 2.54 mm)

Graphic	Pin	Definition	Pin	Definition
	1	HD LED+	2	Power LED+
	3	HD LED-	4	Power LED-
	5	GND	6	PWR+
	7	RESET#	8	PWR -
	9	N/C	10	

12) J_USB1(Front USB Pin Header1 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	+ 5 V	2	+ 5 V
	3	USB1-	4	USB2-
	5	USB1+	6	USB2+
	7	GND	8	GND
	9	N/C	10	

13) SYS_FAN1 (System Fan Connector 3*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	+ 12V
	3	FAN Speed Detection		

14) CLR_CMOS1 (CMOS Clear Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2 (Default)	Normal
	2-3	Clear CMOS

15) J_ATCFG1 (AT or ATX Select Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2 (Default)	ATX Mode
	2-3	AT Mode

26) J_PSW1 (Power Button Connector 2*1 Pin 2.0mm)

Graphic	Pin	Definition	Pin	Definition
	1	PANSW#	2	GND

27) LED_SYS1 (System+HDD LED)

Graphic	Setting	Function
	Upside	HDD LED
	Below	System LED

6. BIOS setup

See “SV1-H312A BIOS Quick Start Guide” & “SV1-H312A BIOS Specification Summary Sheet” for detail information of BIOS setup.

【End】