

SYS86355VGGA-E User Manual

Revision: 1.0

Release date: April 27, 2020

Trademark:

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Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. To minimize pollution and ensure environment protection of mother earth, please recycle.



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Environmental Safety Instruction

- Avoid the dusty, humidity and temperature extremes. Do not place the product in any area where it may become wet.
- 0 to 60 centigrade is the suitable temperature. (The figure comes from the request of the main chipset)
- Generally speaking, dramatic changes in temperature may lead to contact malfunction and crackles due to constant thermal expansion and contraction from the welding spots' that connect components and PCB. Computer should go through an adaptive phase before it boots when it is moved from a cold environment to a warmer one to avoid condensation phenomenon. These water drops attached on PCB or the surface of the components can bring about phenomena as minor as computer instability resulted from corrosion and oxidation from components and PCB or as major as short circuit that can burn the components. Suggest starting the computer until the temperature goes up.
- The increasing temperature of the capacitor may decrease the life of computer. Using the close case may decrease the life of other device because the higher temperature in the inner of the case.
- Attention to the heat sink when you over-clocking. The higher temperature may decrease the life of the device and burned the capacitor.

USER'S NOTICE

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Manual Revision Information

Reversion	Revision History	Date
4.0	Fourth Edition	April 27, 2020

Item Checklist

- Motherboard
- Cable(s)
- I/O Back panel shield

Chapter 1

Introduction of the Motherboard

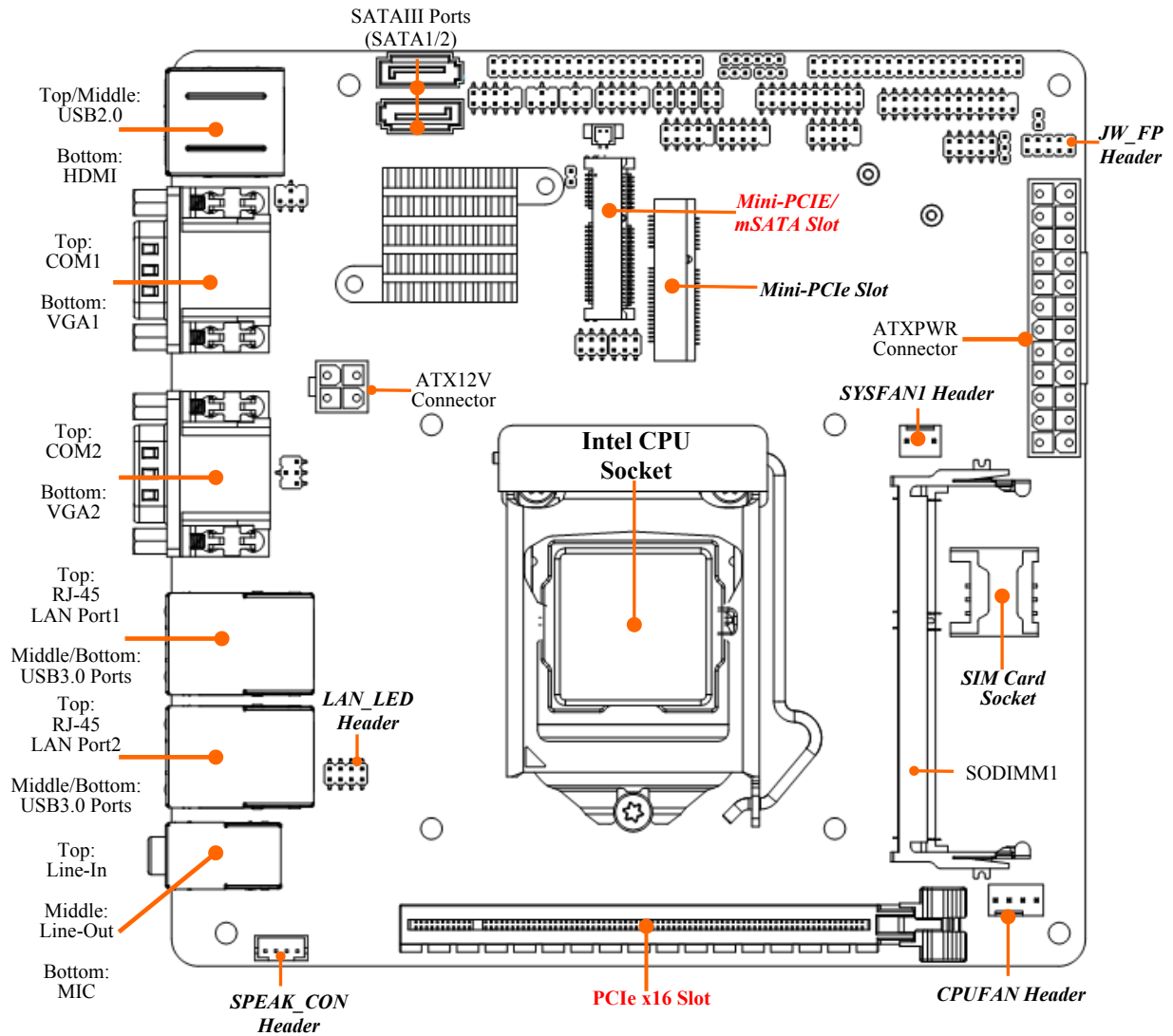
1-1 Product Features

- Intel® LGA 1150 Socket Core i7/i5/i3/Pentium Processor
- Support 2 x DDR3 /DDR3L 1600/1333Mhz SO-DIMM up to 16GB
- 2 x Intel® i211AT Gigabit Ethernet
- 4 x USB3.0 (PCI-E to USB3.0), 8 x USB2.0
- 2 x SATA Ports, 1 x PCI-Ex16 Slot
- 1 x M-SATA (Co-lay Mini PCIe, Full size), 2 x Mini PCIe connector(Full size)
- 12 x RS232 serial port (COM1/COM2 support RS232/422/485)
- 2 x CRT Ports (CRT2 support Dummy load function)
- Support SIM Card Socket, TPM Header
- 4 Phase CPU Power Support 84W CPU
- Integrated HD Audio CODEC with 6.0 CH

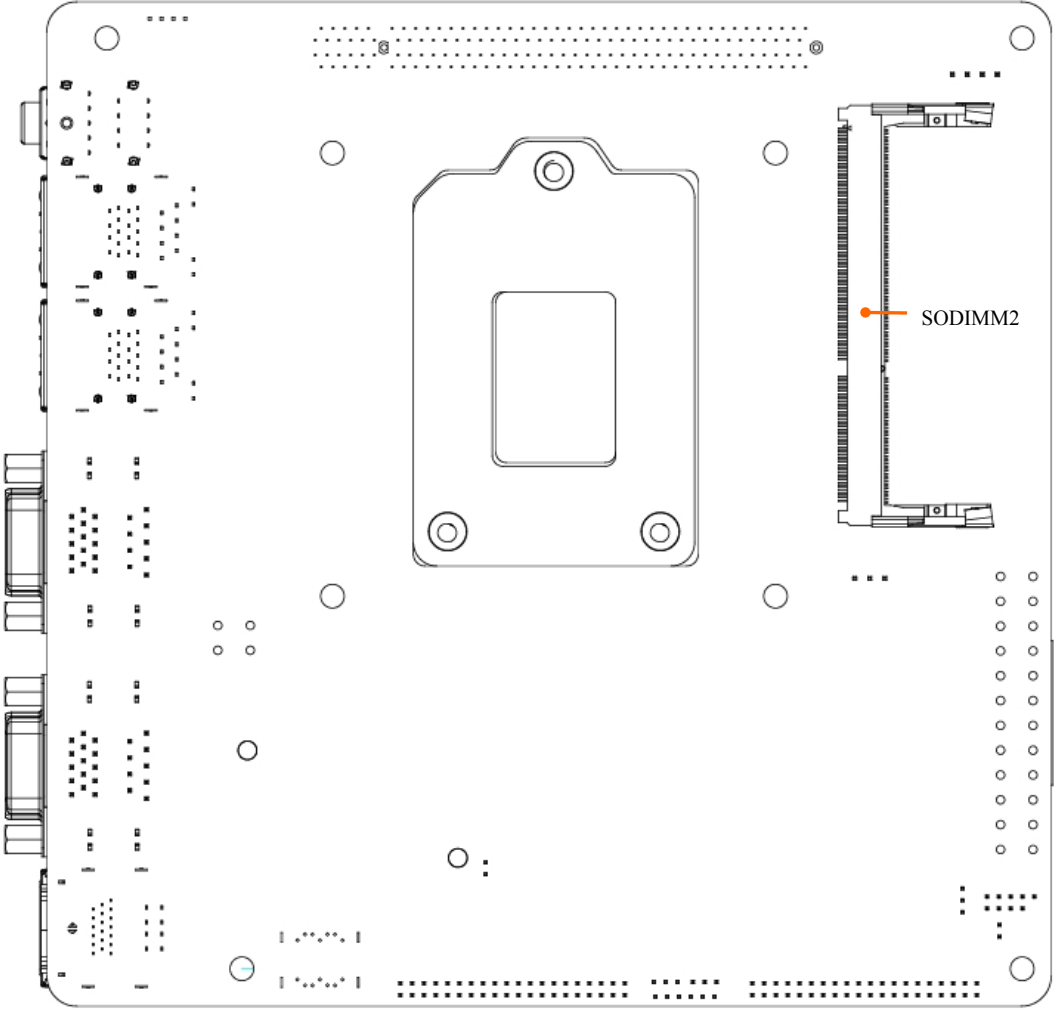
1-2 Specification

Spec	Description
CPU	<ul style="list-style-type: none"> ● Intel® LGA 1150 Socket Core i7/i5/i3/Pentium Processor
Memory	<ul style="list-style-type: none"> ● 2* DDR3/DDR3L 1600/1333MHz SO-DIMM slot up to 16GB
Expansion Slot	<ul style="list-style-type: none"> ● 2* Full-size Mini PCIe slot (MINI_CARD Co-lay MSATA) ● 1 * PCIe16 Slot ● 1* SIM Card socket
Storage	<ul style="list-style-type: none"> ● 2* SATA III 6G/s Connector ● 1* Full-size mSATA (MINI_CARD Co-lay mini-PCIE)
LAN Chip	<ul style="list-style-type: none"> ● 2* Intel® i211AT GbE ● Support Fast Ethernet LAN function of providing 10/100/1000Mbps Ethernet data transfer rate
Audio Chip	<ul style="list-style-type: none"> ● Realtek ALC662 HD Audio Codec integrated ● Audio driver and utility included
BIOS	<ul style="list-style-type: none"> ● AMI 32MB Flash ROM
Rear I/O	<ul style="list-style-type: none"> ● 1 * HDMI ● 2 * VGA ● 2* RS 232/422/485 serial ports (COM1/2) ● 2* RJ45, 10/100/1000 Mbps ● 4* USB3.0 & 2* USB2.0 ports ● 1* MIC, Line-in, Line-out port
Internal I/O	<ul style="list-style-type: none"> ● 1* Front panel header ● 1* PS/2 header ● 6* USB 2.0 header ● 10* RS 232 Serial port header (COM3/COM4/COM5-COM8,COM9-COM12) ● 1 * dual RS 485 serial port header (DUAL_RS485) ● 1* parallel port header ● 1* TPM header ● 1* 8-bit GPIO (4* In and 4* Out) ● 1* SPEAK_CON amplifier header ● 1* LAN LED header ● 1* AT_ATX Mode header ● 1* CPU / Chassis Fan connectors

1-3 Main Board Diagram: Front



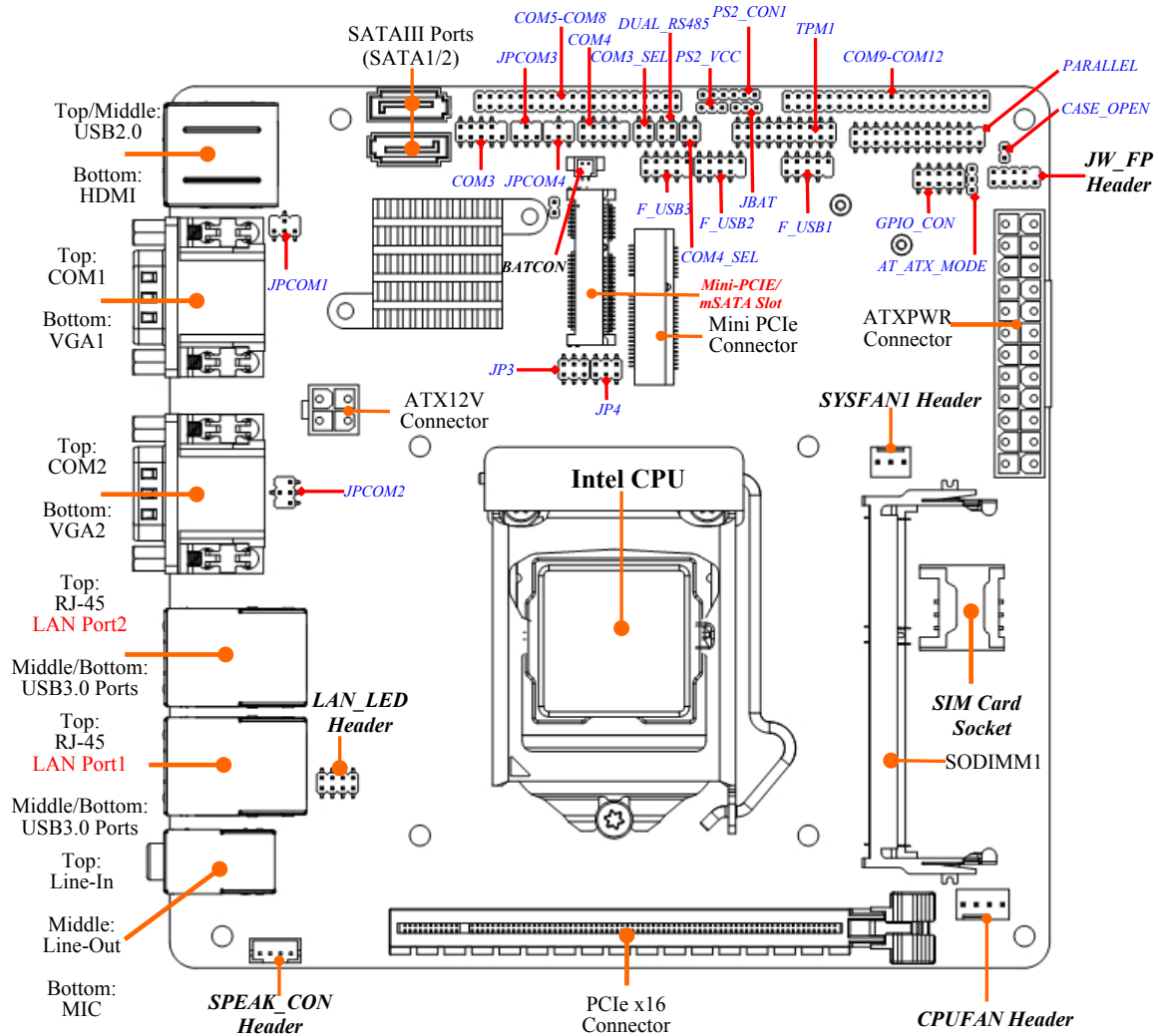
Main Board Diagram: Back



Chapter 2

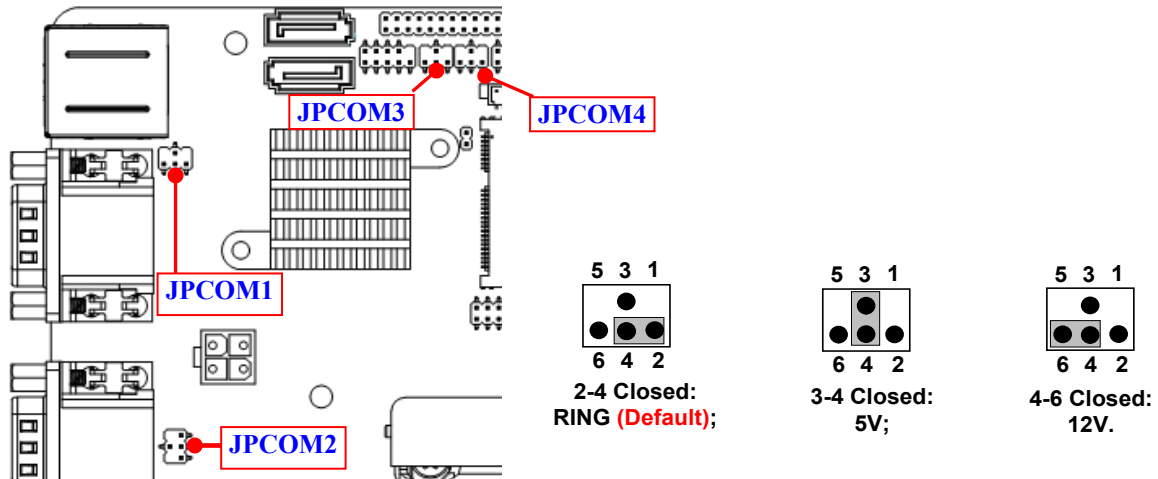
Hardware Installation

2-1 Location of Internal Jumper and Connector

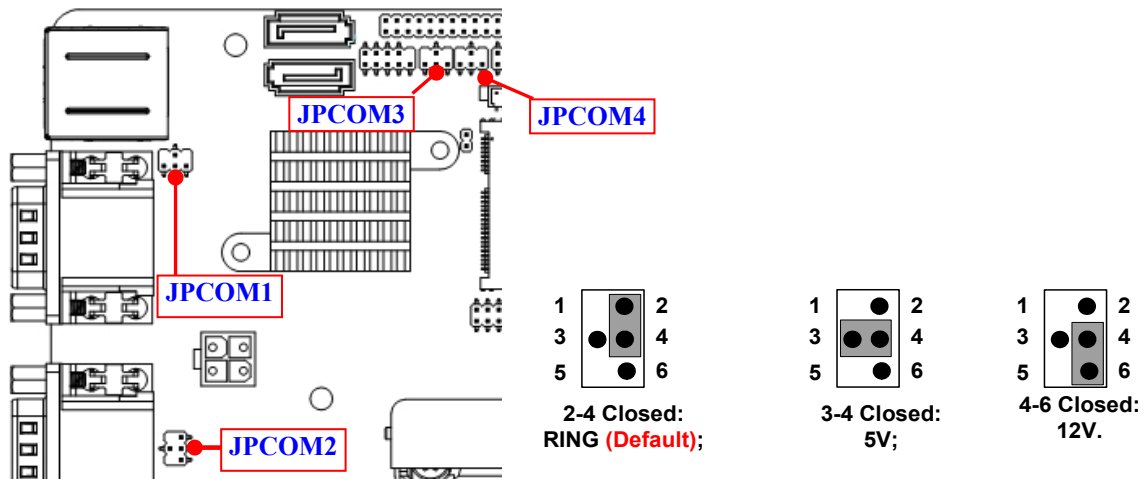


2-2 Internal Jumper and Connector Setting

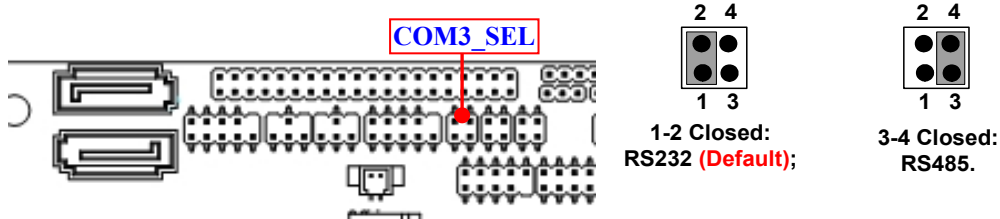
(1) JPCOM1/3/4 (4-pin): COM1/3/4 Port Pin9 Function Select



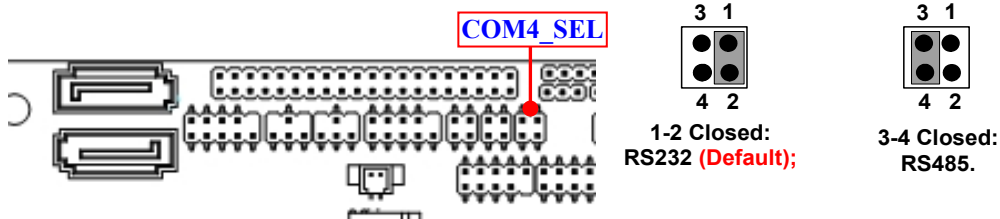
(2) JPCOM2 (4-pin): COM2 Port Pin9 Function Select



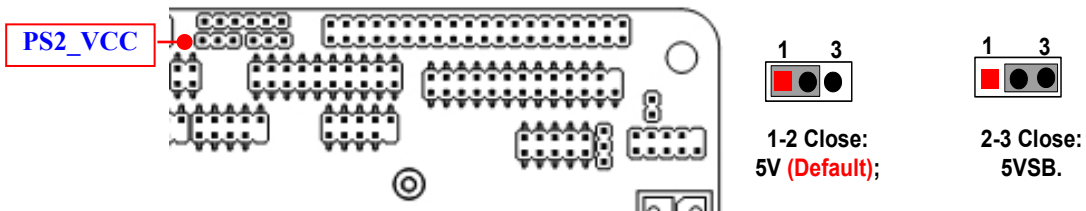
(3) COM3_SEL (4-pin): DUAL_RS485 COM3 RS232/RS485 Select



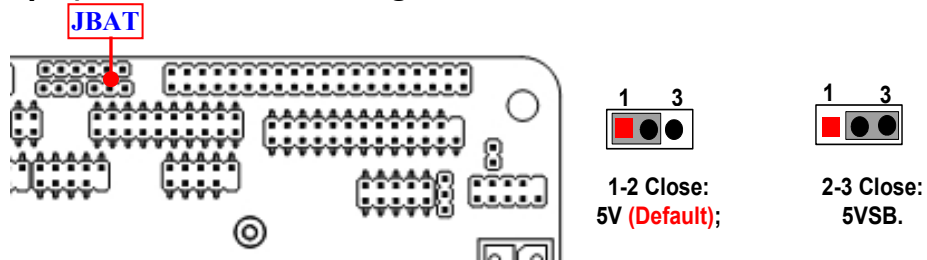
(4) COM4_SEL (4-pin): DUAL_RS485 COM4 RS232/RS485 Select



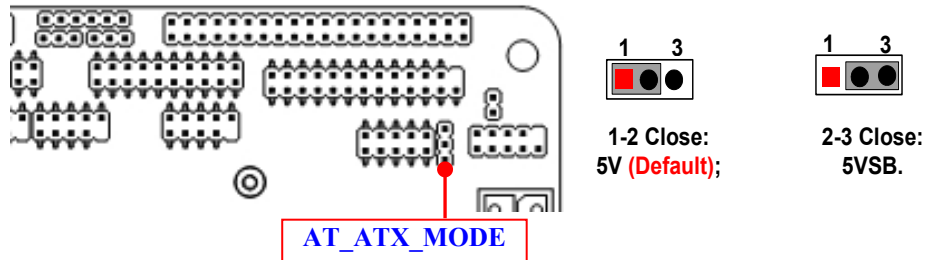
(5) PS2_VCC (3-pin): PS2_CON1 VCC 5V/5VSB Select



(6) JBAT (3-pin): Clear CMOS Setting

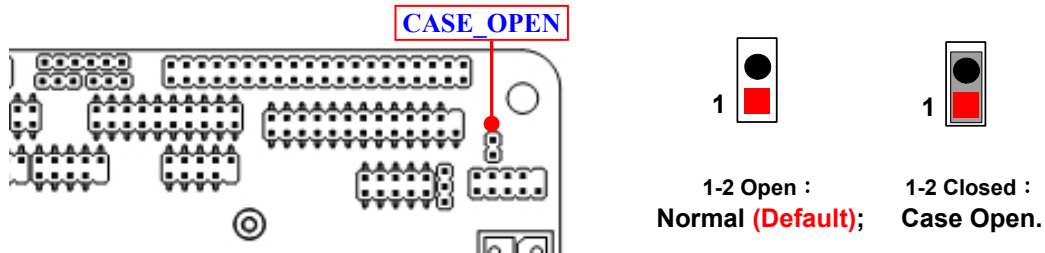


(7) AT_ATX_MODE (3-pin): AT_ATX_MODE Select



***ATX Mode Selected:** Press power button to power on after power input ready;
AT Mode Selected: Directly power on as power input ready.

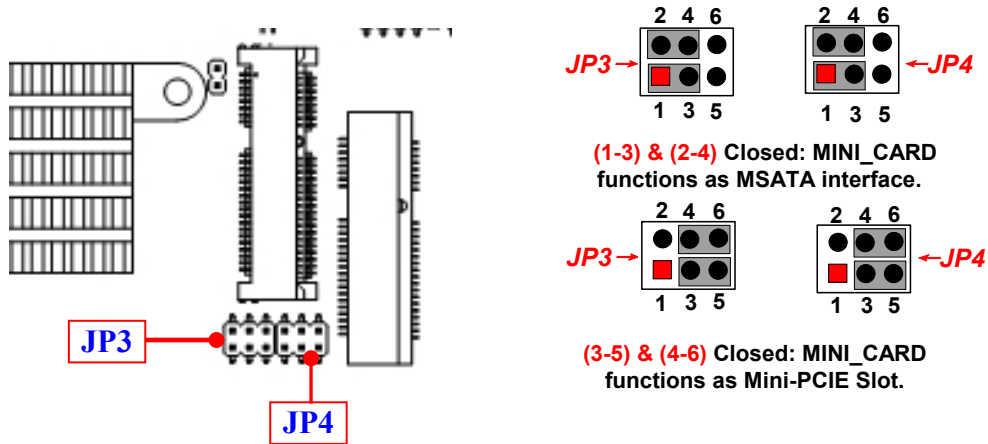
(8) CASE_OPEN (2-pin): Case Open Message Display Function Select



Pin (1-2) Close: When Case Open function pin short to GND, the Case Open function was detected. When Used, needs to enter BIOS and enable 'Case Open Detect' function. In this case if your case is removed, next time when you restart your computer, a message will be displayed on screen to inform you of this.

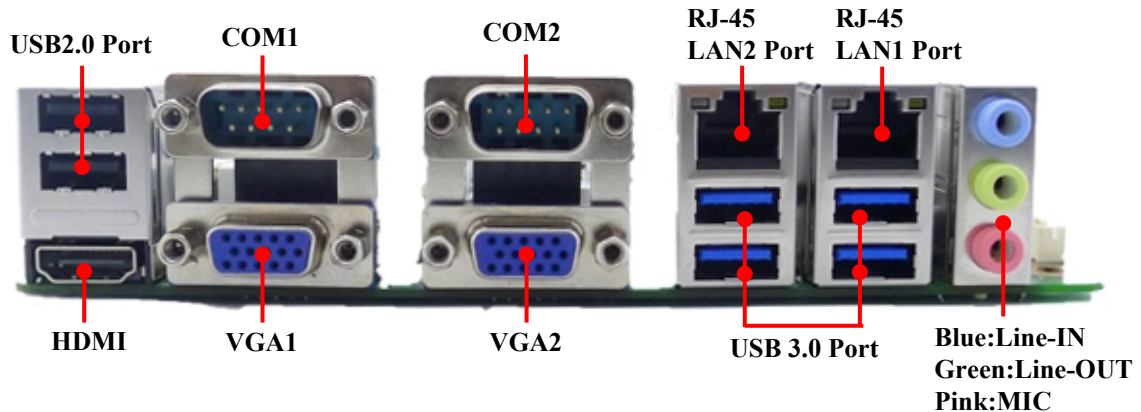
JP3 (6-pin) & JP4 (6-pin): MINI_CARD Slot Mini-PCIE/MSATA Function Select








JP3&JP4→MINI_CARD Function Select



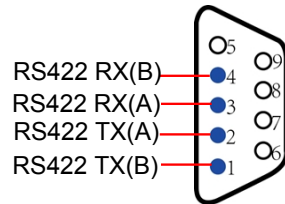
2-2-1 Connectors

(1) Rear I/O Connectors

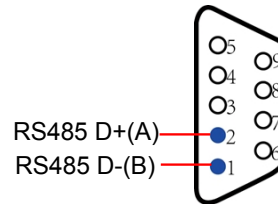


Icon	Name	Function
	USB 2.0 Port	To connect USB keyboard, mouse or other devices compatible with USB specification.
	HDMI Port	To connect display device that support HDMI specification.
	RS232/422/485 COM Port	Mainly for user to connect external MODEM or other devices that supports Serial Communications Interface.
	VGA Port	To connect display device that support VGA specification.
	RJ-45 LAN Port	This connector is standard RJ-45 LAN jack for Network connection.
	USB 3.0 Port	To connect USB keyboard, mouse or other devices compatible with USB specification. USB 3.0 ports supports up to 5Gbps data transfer rate.
	Audio Connectors	BLUE : Line-in Connector GREEN : Line-out Connector PINK : MIC Connector

COM1/COM2 (9-pin Block): RS232/422/485 Serial Port



For RS422 Mode

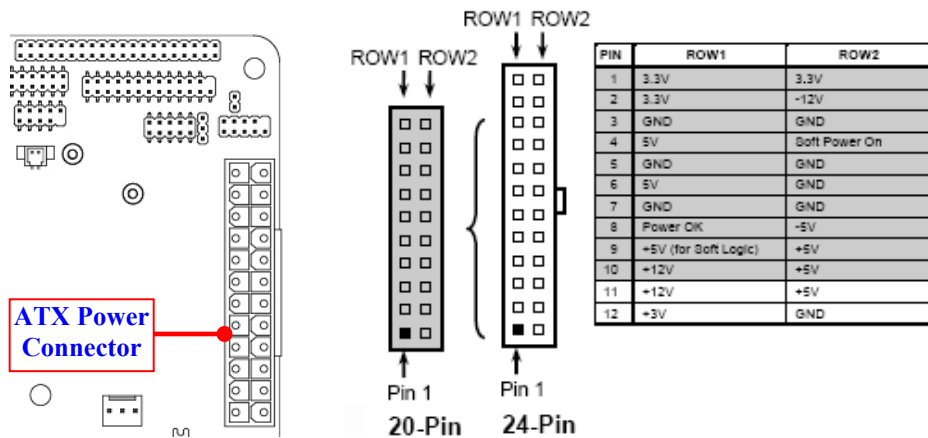


For RS485 Mode

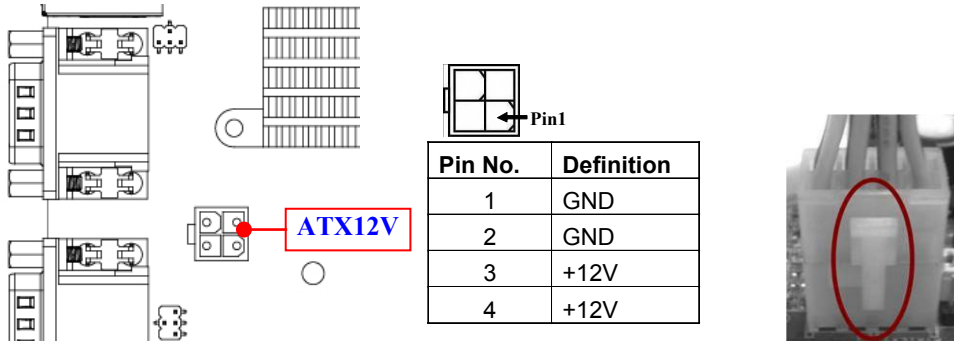
COM1/COM2 port can function as RS232/422/485 serial port. In normal settings COM1/2 functions as RS232 port. With compatible COM cable COM1/2 can function as RS422 or RS 485 port.

User also needs to go to BIOS to set '**Transmission Mode Select**' for COM1/ COM2 (refer to Page 26) at first, before using specialized cable to connect different pins of this port.

ATXPWR (24-pin block): Main Power Connector

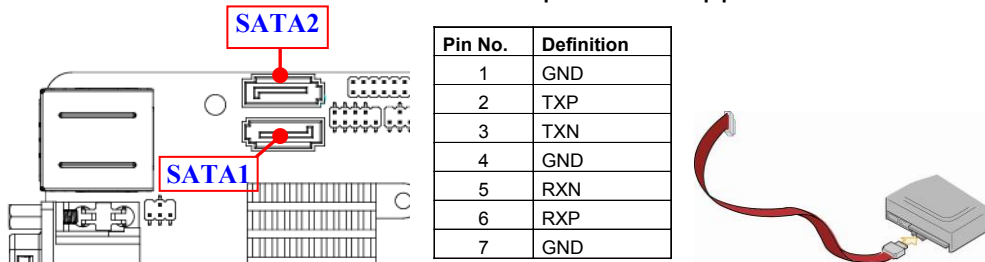


ATX12V (4-pin block): ATX12V Type Power Connector

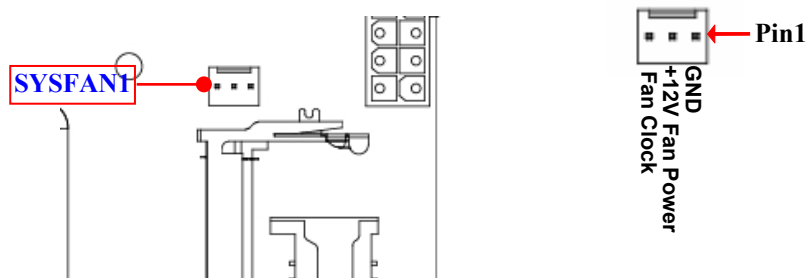


SATA1/2 (7-pin Block): SATAIII Port connector

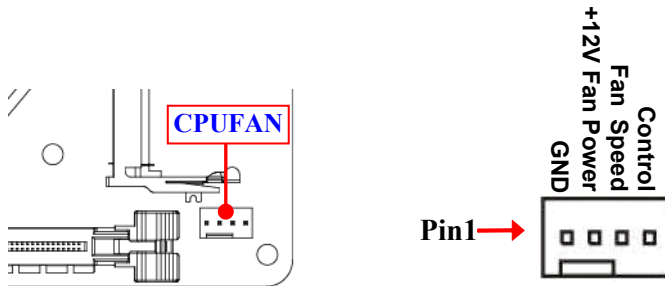
The board comes with SATA1 & SATA2 port that supports 6GB/s transfer rate.



SYSFAN1 (3-pin): System Fan Header

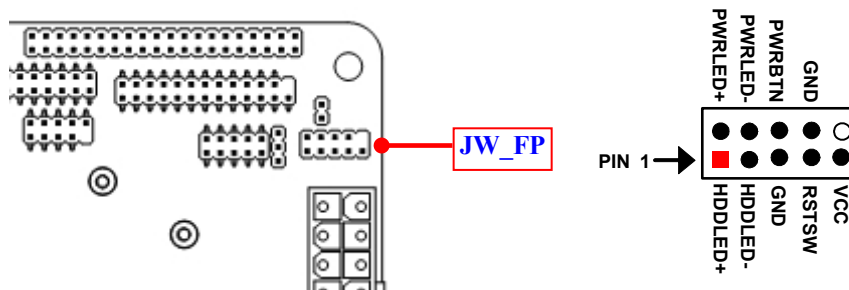


CPUFAN (4-pin): CPUFAN Header

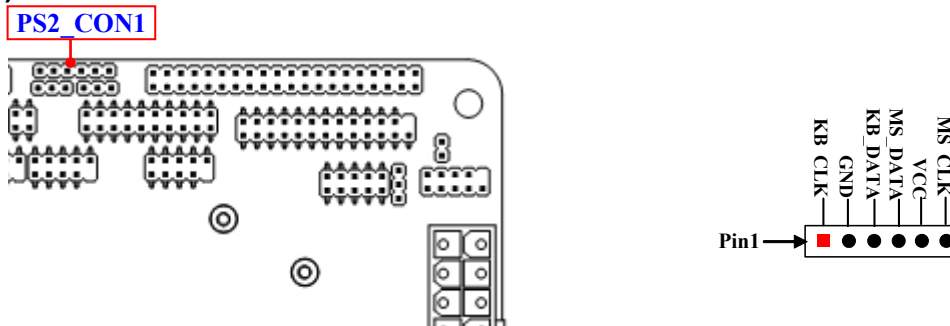


2-2-2 Headers

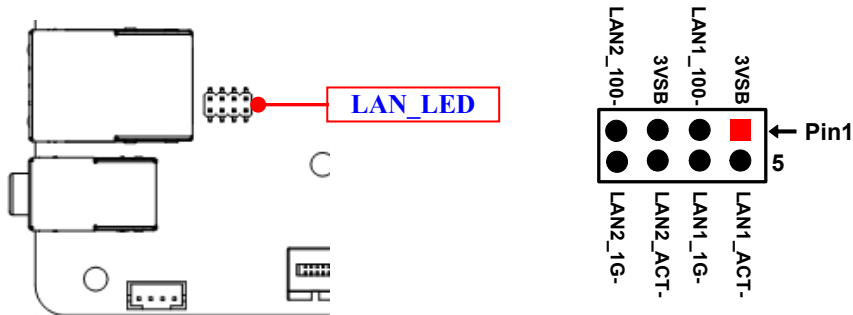
(1) JW_FP (9-pin): Front Panel Header



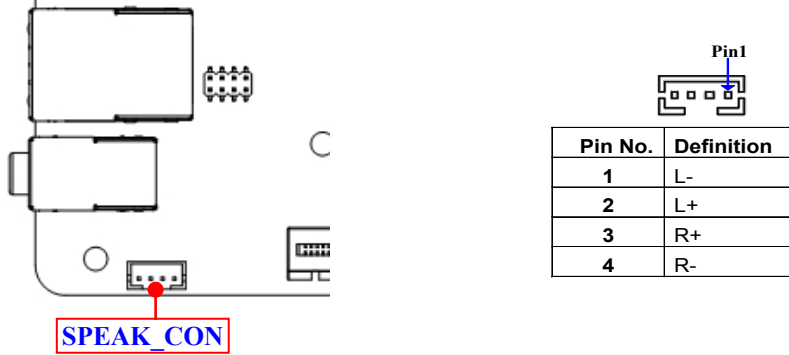
(2) PS2_CON1 (6-pin): PS/2 Keyboard & Mouse Header



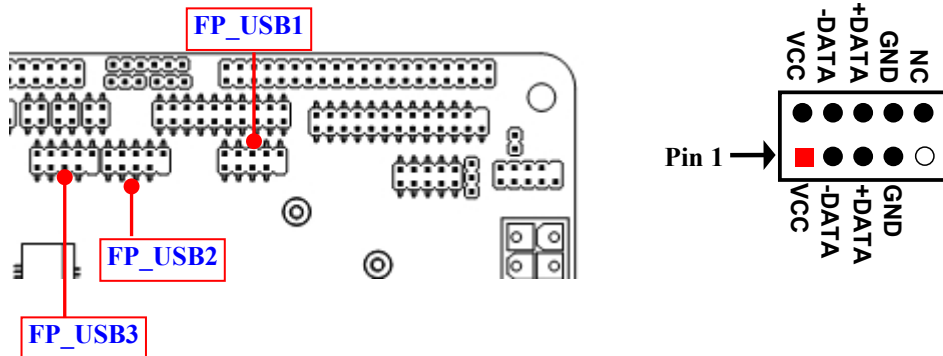
(3) LAN_LED (8-pin): LANLED Header



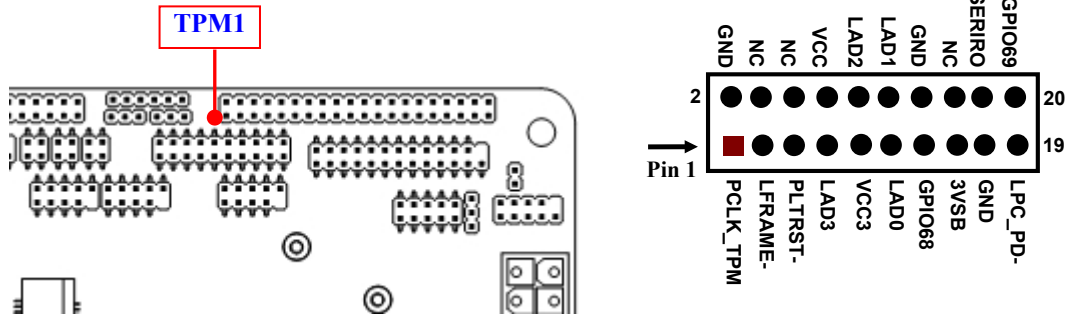
(4) SPEAK_CON (4-pin): 3W Amplifier Header



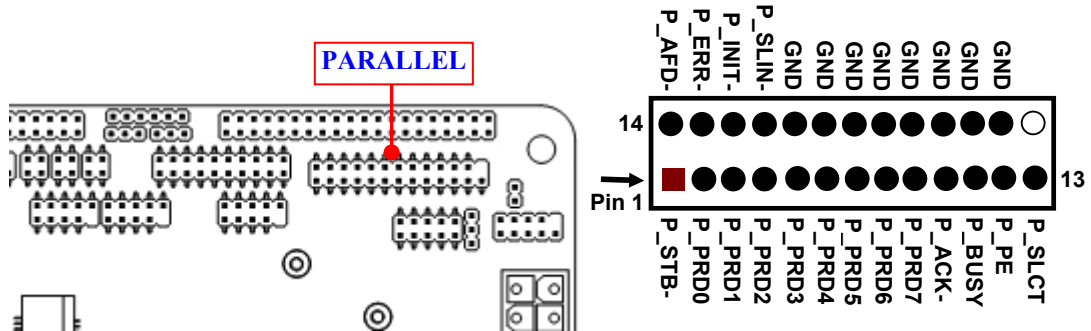
(5) F_USB1/2/3 (9-pin): USB 2.0 Port Header



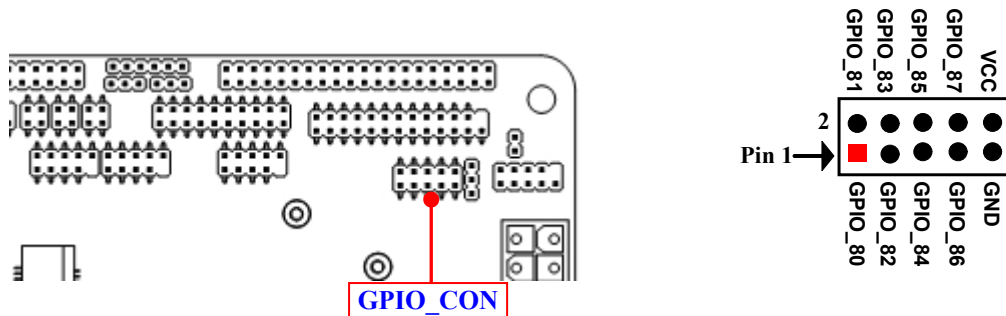
(6) TPM1 (20-pin): TPM Header



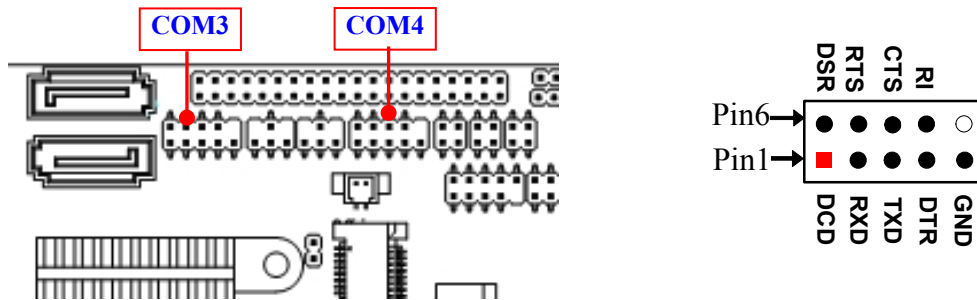
(7) PARALLEL (25-pin): Parallel Port Header



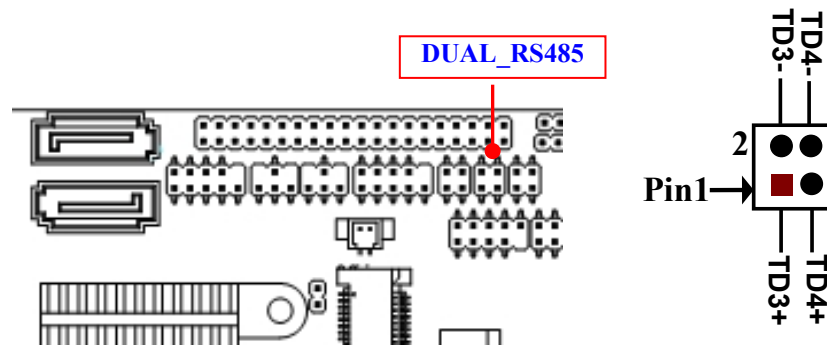
(8) GPIO_CON (10-pin): 8-bit GPIO Header



(9) COM3/4 (9-Pin): RS232 Serial Port Header

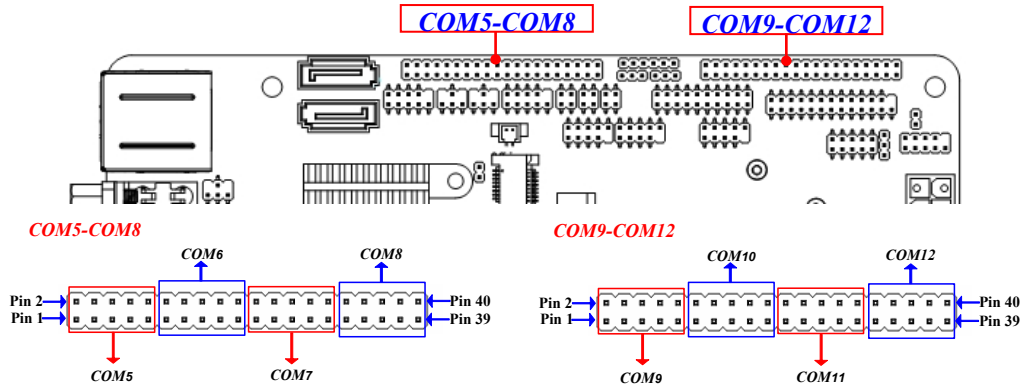


(10) DUAL_RS485 (4-pin): RS485 Header



DUAL_RS485 header serves as COM3/4 header RS485 function expansion block. For RS485 function, user needs to go to BIOS → ‘Serial Port 3 Configuration’/‘Serial Port 4 Configuration’ to set ‘Device Mode’ as [RS485], also go to set Jumper COM3_SEL or COM4_SEL as [RS485] mode before connecting compatible cable to corresponding Pin1-2 (COM3 RS485) or Pin 3-4 (COM4 RS485).

(11) COM3-COM6/ COM7-COM10 (40-Pin): RS232 Serial Port Header Block



COM5-COM8	Pin NO.	RS232	Pin NO.	RS232
COM5	Pin 1	DCD5	Pin 2	DSR5
	Pin 3	SIN5	Pin 4	RTS5
	Pin 5	SOUT5	Pin 6	CTS5
	Pin 7	DTR5	Pin 8	RI5
	Pin 9	GND	Pin 10	NC
COM6	Pin 11	DCD6	Pin 12	DSR6
	Pin 13	SIN6	Pin 14	RTS6
	Pin 15	SOUT6	Pin 16	CTS6
	Pin 17	DTR6	Pin 18	RI6
	Pin 19	GND	Pin 20	NC
COM7	Pin 21	DCD7	Pin 22	DSR7
	Pin 23	SIN7	Pin 24	RTS7
	Pin 25	SOUT7	Pin 26	CTS7
	Pin 27	DTR7	Pin 28	RI7
	Pin 29	GND	Pin 30	NC
COM8	Pin 31	DCD8	Pin 32	DSR8
	Pin 33	SIN8	Pin 34	RTS8
	Pin 35	SOUT8	Pin 36	CTS8
	Pin 37	DTR8	Pin 38	RI8
	Pin 39	GND	Pin 40	NC

COM9-COM12	Pin NO.	RS232	Pin NO.	RS232
COM9	Pin 1	DCD9	Pin 2	DSR9
	Pin 3	SIN9	Pin 4	RTS9
	Pin 5	SOUT9	Pin 6	CTS9
	Pin 7	DTR9	Pin 8	RI9
	Pin 9	GND	Pin 10	NC
COM10	Pin 11	DCD10	Pin 12	DSR10
	Pin 13	SIN10	Pin 14	RTS10
	Pin 15	SOUT10	Pin 16	CTS10
	Pin 17	DTR10	Pin 18	RI10
	Pin 19	GND	Pin 20	NC
COM11	Pin 21	DCD11	Pin 22	DSR11
	Pin 23	SIN11	Pin 24	RTS11
	Pin 25	SOUT11	Pin 26	CTS11
	Pin 27	DTR11	Pin 28	RI11
	Pin 29	GND	Pin 30	NC
COM12	Pin 31	DCD12	Pin 32	DSR12
	Pin 33	SIN12	Pin 34	RTS12
	Pin 35	SOUT12	Pin 36	CTS12
	Pin 37	DTR12	Pin 38	RI12
	Pin 39	GND	Pin 40	NC