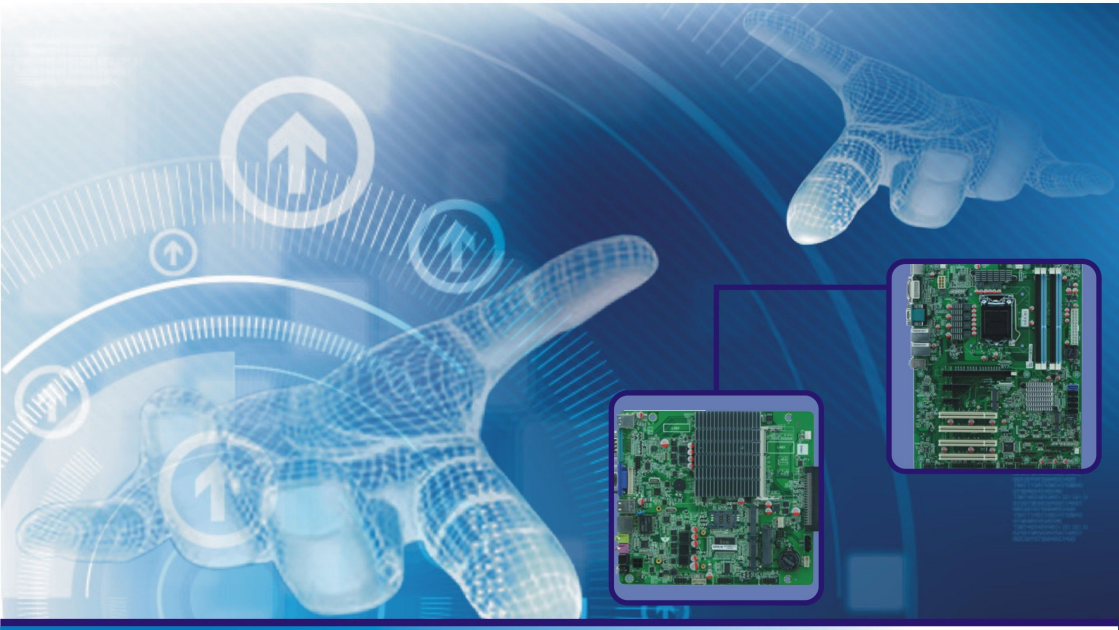
研 域 工 控
YANYU GONGKONG

用户手册
USER Manual

Intel® Haswell-U/ Broadwell-U Processor
ITX-H98 VER:1.2



Industrial & Communication Computer

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Disclaimer

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direct, indirect, intended or unintended losses and/or hidden dangers due to installation or improper operation.

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Safety Instructions

1. Please read this manual carefully before using this product.

2. Please put all unused / uninstalled boards and cards in anti-static bags.

3. For release body electrostatic ,Please place your hands on grounding metal object for a while before take out the board from its package.

4. Please place the board on a solid plane before using.

5. Please keep the board dry,heat sink slot is used for ventilation to avoid overheating of the components in the case. Do not cover or plug this kind of opening slots.

6. Please check the power voltage before connecting the board to the power supply.

7. Please put the power cord in the place where it will not be trampled, and don't put any objects on the power cord.

8. Before you want to connect or unplug any equipment,please make sure all power cords are unplugged in advance.

9. To prevent electric shock to body or damage to products, please turn off the AC power or unplug the power cord out of power sockets before connecting or disconnecting the main board or do reconfiguration.

10. Please note that all the attention and warnings mentioned in the manual.

11. To prevent any unnecessary damage to the products due to frequent power on/off, please wait at least 30 seconds to restart the unit after a shutdown.

2. If any unexpected problems happened during the operation, please seek help from professionals .

3. please do not put or save the device in the environment that the temperature is higher than 70℃, otherwise it will cause damage to the equipment.

Note:It may cause the danger of explosion if replace the battery improperly .Please use the same type of battery and the battery is which the manufacturer recommend.

Table of Contents

Chapter 1. Product Introduction

1.1 Specification

ITX-H98 is a high-performance Mini-ITX motherboard,onboard Intel® Celeron I3 4005U 1.7GHz dual core processor,compatible Intel®Haswell-U and Broadwell-U series CPU,support 1333/1600MHz DDR3L memory socket up to 8GB.The ITX-H98 is integrated with Intel® HD Graphics,provide HDMI,VGA,dual 24bit LVDS display output interfaces,and can be achieved using dual independent display. Supply 2 or 1x Realtek Gigabit Ethernet，2 x RS232 serial ports,COM2 support RS422/RS485 mode,2 x Mini-PCIE slot, support SSD,WIFI,3G model,SSD transfer rate up to 6Gbps.

With many dual display ways and the high-performance and low power consumption advantaged ,ITX-H98 can be widely used in the most industrial field, such as the financial equipment,industrial control,information systems and various terminal markets and other fields.

Processor

Onboard Intel® Celeron I3 4005U 1.7GHz dual core processor

Compatible Intel® Haswell-U / Broadwell-U series processors

Chipset

CPU Integrated

Memory

1* single channel DDR3L 1600/1333 RAM up to 8GB.

Display

Integrated with Intel® HD Graphics 4400 Graphics(Different from detail CPU),support VGA/LVDS/HDMI display output，LVDS supports dual channel 24bit,support separate display,dual display,extend module.LVDS screen voltage can support 12V output (default 3.3V),Please get the working voltage required then make setting before using LVDS.

Ethernet

* Integrated with 2xRealtek RTL8111F Gigabit LAN port（ Can be choose between LAN1 and USB1)

Support wake-on-LAN (WOL), PXE function

AUDIO

Adopt ALC662 6-channel audio controller chip,support MIC,Line_out

Power amplifier support 2Ω/5W double channels

Expansions

1x MINI-PCIE support WiFi/3G module; 1xMSATA supports WiFi (optional)/SSD card (default is SSD,support Intel agreement SSD,transfer rate up to 6Gbps).

Storage

2 x SATA port,transfer rate up to 6Gbps

1*SATA 3.0 2.5 inch HDD Space

Note : I3-4005U only support 2 x SATA port，and some CPU support 4x SATA port

➢ Rear I/O Port

1* 12V DC power input

1* HDMI port

1* VGA port

2* USB 3.0 port

2* USB 2.0 port（Alternative to LAN1 port）

2* RJ-45 LAN PORT（Alternative to USB1）

1* Line out port(green)

1* MIC (red)

➢ Internal I/O Connector

1* 4pin ATX power connector（Can be made as12V input/output connector）

1* 2P blue color power slot port（Can be made as 12V input/output connector ）

1* PS/2 KB/MS Interface 1*6Pin

1* JVGA1 connector 1*12Pin，the same with DB15 signal

1* J_HDMI port 2*8pin，the same with back panel IO HDMI signal

2* RS232 port,COM1/2 support 9th PIN charged function,COM2 supports RS485/RS422 function

1* LVDS support dual-channel 24bit LCD (dual 8) 2*15pin

1* LVDS Back light power supply interface 1*6pin

1* Front audio connector 2*5pin

1* Front Amplifier port 1*4Pin

4* USB 2.0 port 2*5Pin

1* Front Panel buttons and LED connected 2*5pin

1* LPT port 2*13pin

1*HDD power port 1*4pin

1* SIM card socket

➢ GPIO

➢

4-bit input/output connector

Cooling System

1*4pin CPU Fan，1* 3pin system fan

- BIOS

  64Mb Flash ROM

- **Watchdog**

  Support system reset function(L256，0~255sec/min)

- **Power Supply**

  Adopt DC 12V power supply

- **Dimension ,Environment**

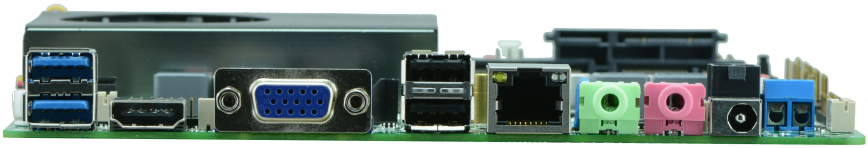
  Dimension：170mm x 170mm

  Operating Temp. ：-10℃～60℃

  Operating Humidity：5～90%(relative humidity ; non-condensing)

  Storage Temp.：-20℃～60℃

- Motherboard Picture

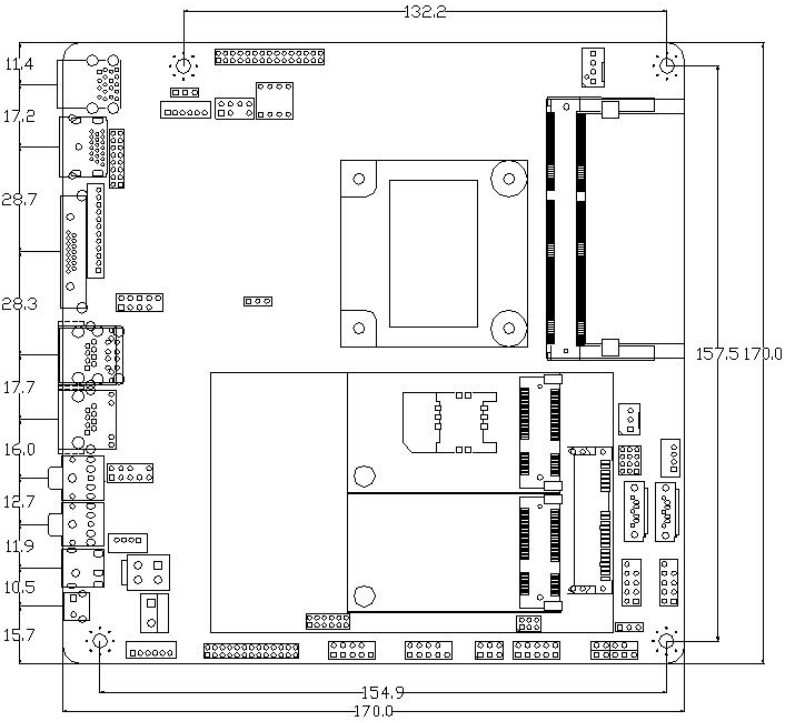


Chapter 2 Installation Instructions

2.1 Motherboard Dimension

Following picture illustrates the front interfaces and dimension of board ITX-H98.Please pay attention to the installation process. Improper installation of some components may lead to system failure.

Note: When installing the board,please wear anti-static gloves in case of any electrostatic damage caused during the installation.



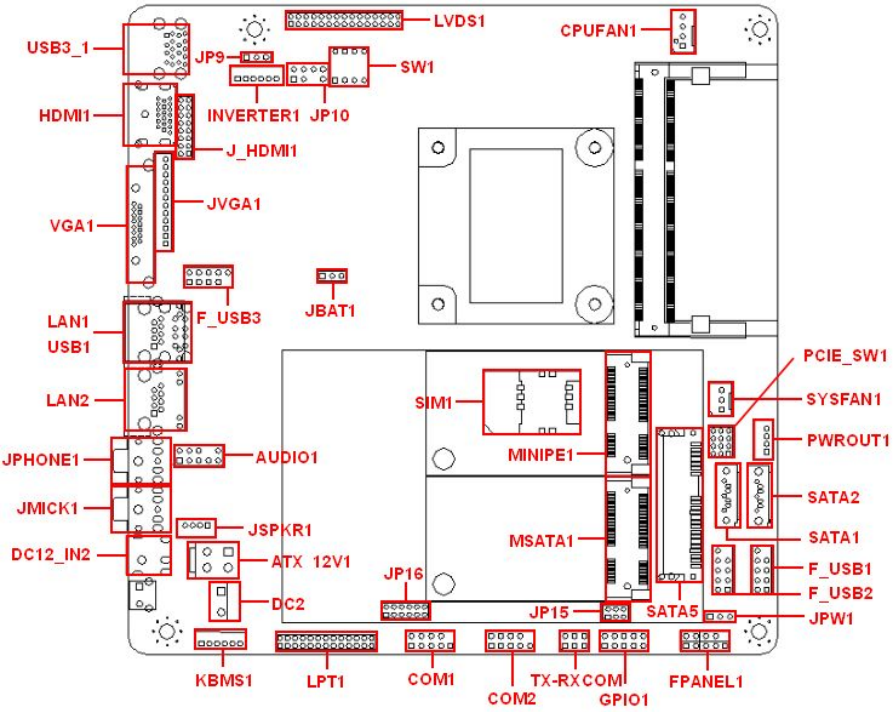
Tips:

1.Please select the appropriate screw and use the correct installation methods,otherwise you may damage the motherboard.

2.How to identify 1st pin of the jumper or interface,Text markers observed plug and socket

side,will be represented by triangle symbol or the “1” or bold lines;have a look at the pad back,square pad is the 1st pin,when connecting the line or device,pay attention to distinguish between 1st foot,otherwise it will damage the motherboard.

2.2 Interfaces Location



ITX-H98 Interfaces Location Picture

Tips:

LVDS screen operating voltage support 3.3V,5V,12V voltage Output, default is 3.3V,Before using LVDS,please understand the rated working voltage of the requirements,only when the selected LCD voltage is in accord with the LCD screen operating voltage in use,can the LCD screen operate normally.

Tips：

How to identify the alarms(Long beep indicates that system memory error occurs. Shorted beep indicates to power on the computer.)

2.3 Installation Steps

Please follow the steps below to assemble your computer:

1．Adjust all jumpers onboard according to the user manual.

2．Install other expansion cards.

3．Connect all signal line,cables,panel control circuit and power adapter.

4．Start the computer and finish BIOS settings.

⚠ Key components of this motherboard are integrated circuit and these components could be easily damaged by electrostatic influence.So,before installing this unit,please always keep the following precautions in mind:

1．Hold the board by edges,please don't touch any components or the pins of plugs and sockets.

2．Wear anti-static gloves/wrist strap while touching the integrated circuit components ,such as CPU,RAM etc.

3．Put those unused or uninstalled components in static shielding bags or trays.

4．Please first check the power switch is off before connecting the power plug.

2.4 Install Memory

ITX-H98 provides 1*SO-DIMM slot. Please refer to the following steps to install your memory bank:

1．First,please align the notch of the memory bank with the alignment mark on the socket and press the memory bank slowly into the socket.

2．Please choose the proper memory bank that matches the motherboard.

2.5 Jumper Settings

Please refer to following instructions to do jumper settings before installing the motherboard.

Remark: How to identify the PIN1 of all jumpers and interfaces: Please observe the word mark on the side of the plug socket, which will be a "1" or bold line or triangular symbol; And please look at the back of PCB, each with a square shape will be the PIN 1; and all the jumpers' PIN1 have a white arrow on the side.

2.5.1 CMOS Clear/Hold Jumper Setting（JBAT1）

CMOS is powered by the onboard button cells. Clear COMS may lead to permanent elimination of previous system settings and make the system back to the original settings.(factory default).

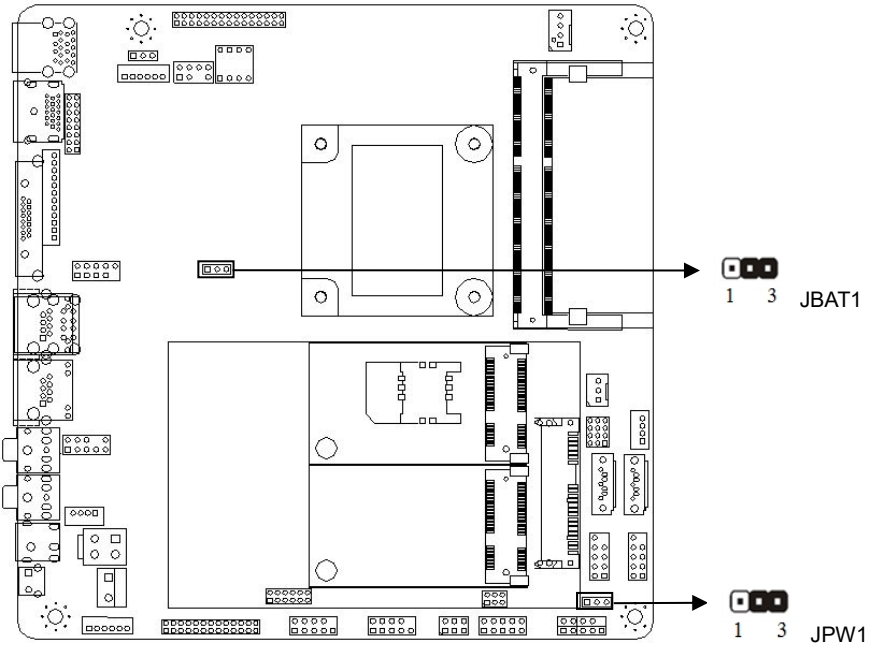
Steps：(1) Shut off the computer and disconnect power supply；

(2)Make the jumper “JBAT1” Pin 2 and Pin3 short for several seconds (Pin 2-3) and then make it back to default setting with Pin 1-2 connected.

(3)Start the computer and press “ Delete “ to enter into BIOS setup.

(4)Press” F9”--- “Enter” then reload optimal defaults.

(5)Press “F10”,Save and Exit.



JBAT1 definition：

Setting	JBAT
1-2	Normal Status
2-3	Clear CMOS，BIOS back to Initialization (Factory)

⚠ Do Not Clear CMOS when the computer is power on,otherwise,it will cause damage to the motherboard!

2.5.2 JPW1 Jumper Setting:

JPW1 definition：

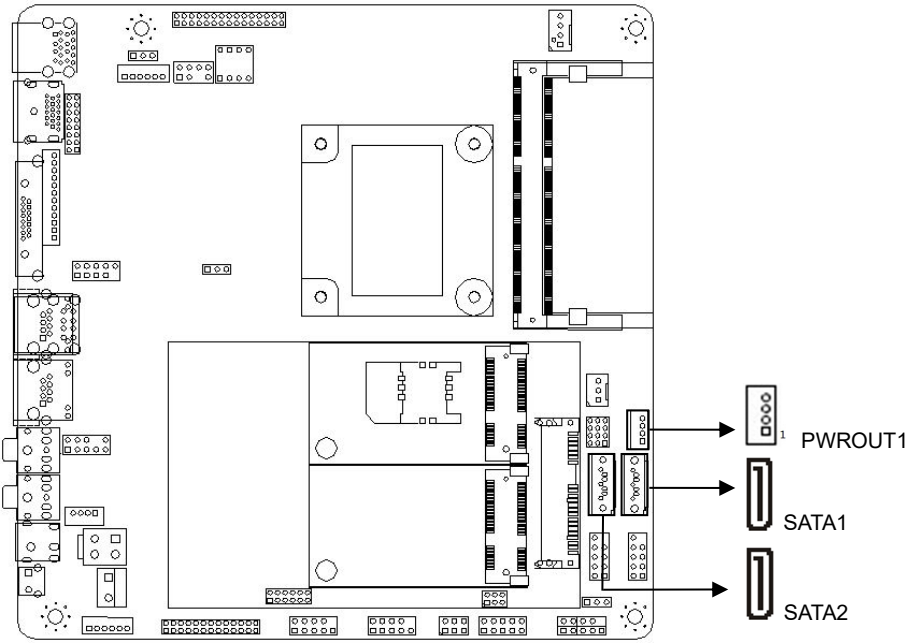
Setting	JPW1
1-2 shorted	Non-auto boot upon power on
2-3 shorted	Auto boot upon power on

2.6 Interfaces Description

⚠ **Please read the following instructions carefully before you connecting the external connectors in case of any damage caused to the motherboard!**

2.6.1 SATA Port（SATA1,SATA2,PWROUT1）

Board provides 2 x 7 Pin SATA ports and one pieces of 1x4 Pin HDD Power Voltage Interface.



SATA definition

Pin	Signal Name
1	GND
2	SATA_TXP

PWROUT definition

Pin	Signal Name
1	+12V
2	GND

3	SATA_TXN
4	GND
5	SATA_RXN
6	SATA_RXP
7	GND

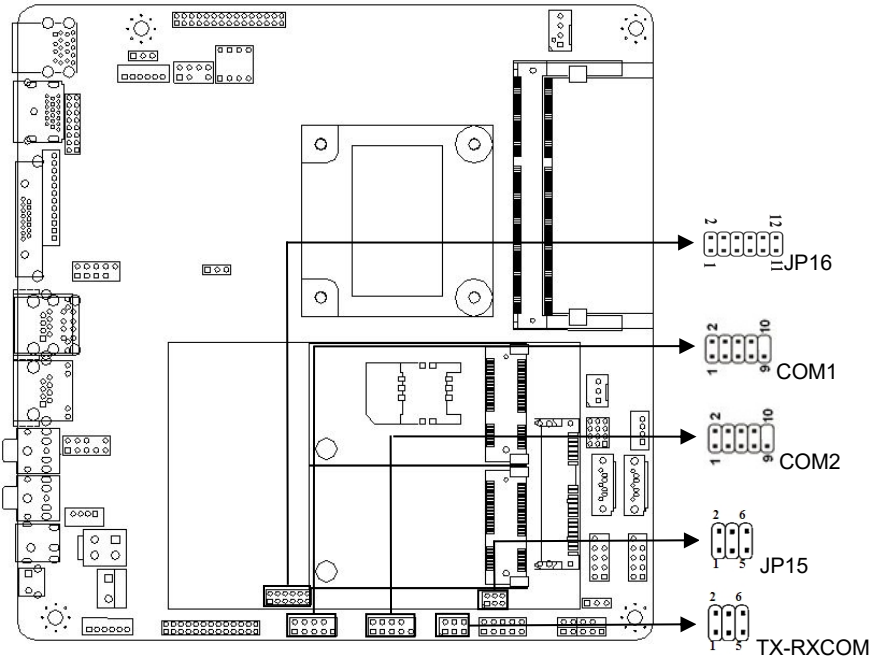
3	GND
4	+5V

Tips : PWROUT1 hard driver power connector ,1st pin for the +12V output,4st pin for +5V output， Please use the standard power cable of our company when using to avoid damage the hard disk.

2.6.2 Serial Ports (COM1,COM2,TX-RXCOM3,JP15,JP16)

ITX-H98 provide 2*RS232 COM pin connector, COM1/2 is 2*5pin header ,COM1/2 support power-charged function（Pin Pitch：2.54mm），the user can open or close the serial port in the BIOS setting,and can select the breaks IRQ and I/O address.

COM2 support RS422/485 which can be made by jumper setting ,Detailed setting up is refer to JP15 jumper setting,RS422/RS485 signal is configured by TX-RXCOM.



COM1,COM2 definition:

Pin	Signal Name	Pin	Signal Name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

JP16 Setting:

Setting	Function (JP16)	
1-2 Shorted	RS232	COM1
3-4 Shorted	+5V	
5-6 Shorted	+12V	
7-8 Shorted	RS232	COM2
9-10 Shorted	+5V	
11-12 Shorted	+12V	

JP15 Setting：

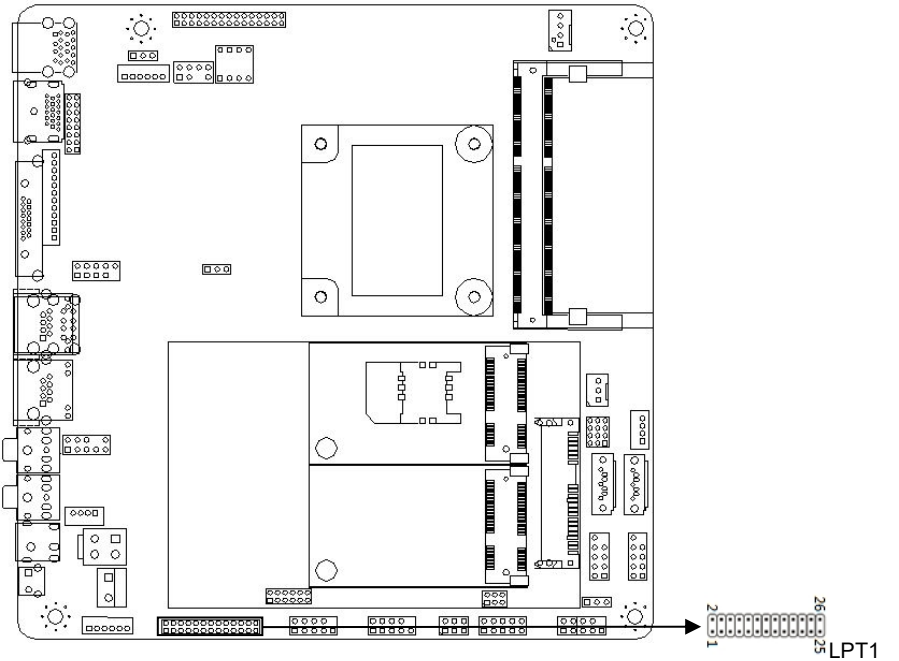
Setting	Function (JP15)	
1-2 Shorted	RS232	COM2
3-4 Shorted	RS485	
5-6 Shorted	RS422	

TX-RXCOM definition:

Pin	Signal Name	Pin	Signal Name
1	GND	2	GND
3	TXD+ (DATA+)	4	TXD- (DATA-)
5	RXD+	6	RXD-

2.6.3 Parallel Port（LPT1）

1x Standard 2*13Pin Printing Interface

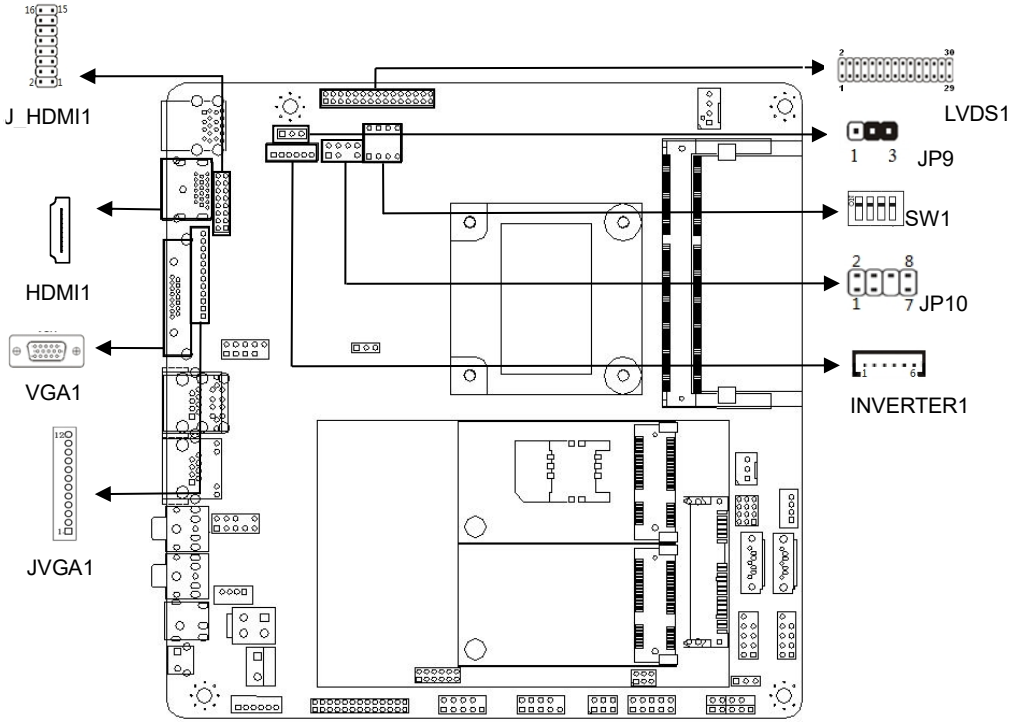


LPT1definition:

Pin	Signal Name	Pin	Signal Name
1	STB-	2	AFD-
3	PD0	4	ERR-
5	PD1	6	INIT-
7	PD2	8	SLIN-
9	PD3	10	GND
11	PD4	12	GND
13	PD5	14	GND
15	PD6	16	GND
17	PD7	18	GND
19	ACK-	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SLCT	26	NC

2.6.4 Display Port (VGA/JVGA1,LVDS1,HDMI1/J_HDMI1,INVERTER1,JP9,JP10,SW1)

The motherboard supply 2x VGA connector (same signal)，2*HDMI port (it is the same signal with J_HDMI1)，1*LVDS port：



JVGA1definition：

Pin	Signal Name	Pin	Signal Name
1	VCC	2	VSYNC
3	HSYNC	4	GND
5	R	6	GND
7	G	8	GND
9	B	10	GND

11	DDC_SDA	12	DDC_SCL

J_HDMI1definition：

Pin	Signal Name	Pin	Signal Name
1	HDMI_TXP2	2	HDMI_SCLDDC
3	HDMI_TXN2	4	HDMI_SDADDC
5	HDMI_TXP1	6	
7	HDMI_TXN1	8	HDP
9	HDMI_TXP0	10	HDMI_5V
11	HDMI_TXN0	12	GND
13	HDMI_TXCP	14	GND
15	HDMI_TXCN	16	GND

LVDS1 definition:

Pin	Signal Name	Pin	Signal Name
1	LCDVDD	2	LCDVDD
3	LCDVDD	4	NC
5	GND	6	GND
7	LVDS_A0-	8	LVDS_A0+
9	LVDS_A1-	10	LVDS_A1+
11	LVDS_A2-	12	LVDS_A2+
13	GND	14	GND
15	LVDSA_CLK-	16	LVDSA_CLK+
17	LVDS_A3-	18	LVDS_A3+
19	LVDS_B0-	20	LVDS_B0+
21	LVDS_B1-	22	LVDS_B1+
23	LVDS_B2-	24	LVDS_B1+
25	GND	26	GND
27	LVDSB_CLK-	28	LVDSB_CLK+
29	LVDS_B3-	30	LVDS_B3+

Different LCD screens have different voltages,the board provides three voltage options (3.3V,5V,12V)screen operating voltage for selection and two screen back light supply voltage (5V / 12V) for selection,Before using LVDS, please understand the rated working voltage of the requirements, only when the selected LCD voltage is in accord with the LCD screen operating voltage in use, can the LCD screen operate normally. Please set as follows:

INVERTER1(Back light Control Interface)definition:

Pin	Signal Name
1	+12V
2	+12V
3	Backlight
4	BRIGHT
5	GND
6	GND

JP9(Screen Back light Power Supply)Setting:

Setting	JP9
1-2 Shorted	12V
2-3 Shorted	5V

JP10(Screen Working Voltage)Setting:

Setting	JP11
1-2 shorted	3V
3-4 Shorted	5V
5-6 Shorted	NC
7-8 Shorted	12V

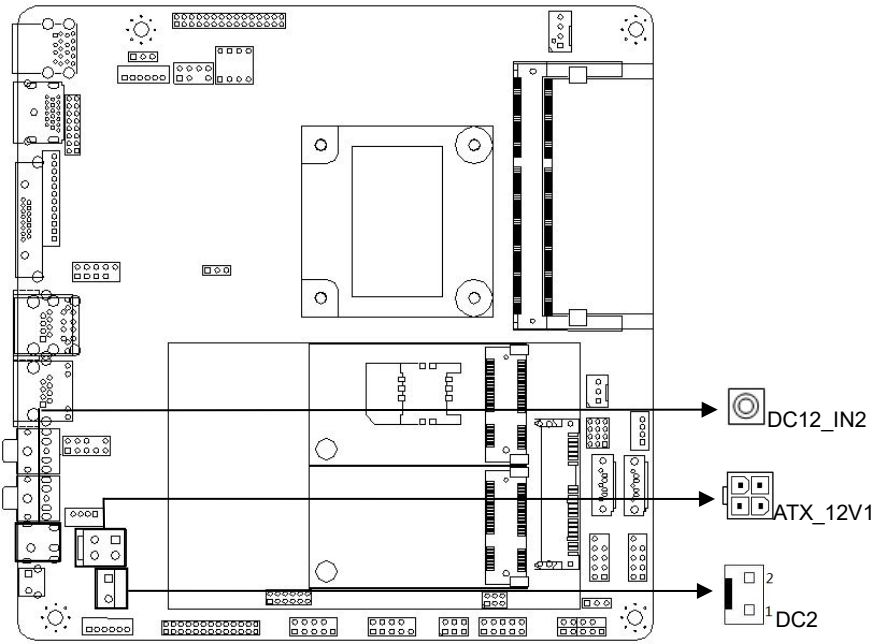
SW1 Setting：

Switch [4:1]	HA (Pixel)	VA (line)	RR (Hz)	PC (MHz)	CD (bit)	Port	HB (Pixel)	HSO (Pixel)	HSPW (Pixel)	VB (line)	VSO (line)	VSPW (line)
0000	800	600	60	38.25	6	Single	224	32	80	24	3	4
0001	1024	768	60	56.00	6	Single	160	48	32	22	3	4
0010	1280	768	60	68.25	6	Single	160	48	32	22	3	7
0011	1280	800	60	71.00	6	Single	160	48	32	23	3	6
0100	1280	960	60	85.25	6	Single	160	48	32	28	3	4
0101	1280	1024	60	91.00	8	Dual	160	48	32	30	3	7
0110	1366	768	60	72.75	6	Single	160	48	32	23	3	10
0111	1366	768	60	72.25	8	Single	160	48	32	23	3	10
1000	1440	900	60	106.50	8	Dual	464	80	152	34	3	6
1001	1024	600	60	56.00	6	Single	160	48	32	22	3	4
1010	1920	1080	60	138.50	6	Dual 15.6 inch	160	48	32	31	3	5
1011	1920	1080	60	138.50	8	Dual 21.5 inch	160	48	32	31	3	5
1100	1920	1080	60	138.50	8	Dual 42 inch	160	48	32	31	3	5
1101	1920	1200	60	154.00	6	Dual	280	48	32	35	3	6
1110	1920	1200	60	154.00	8	Dual	280	48	32	35	3	6
1111	1024	768	60	56.00	8	Single	160	48	32	22	3	4

2.6.5 Power Connector (DC12V_IN1,ATX_12V1,DC2)

1. The motherboard supply 1*4pin ATX power,support 12V input output.
2. 1 *12V DC power connector support 12V input output.

3. 1 x 2P blue power socket support 12V input output.



ATX_12V1：

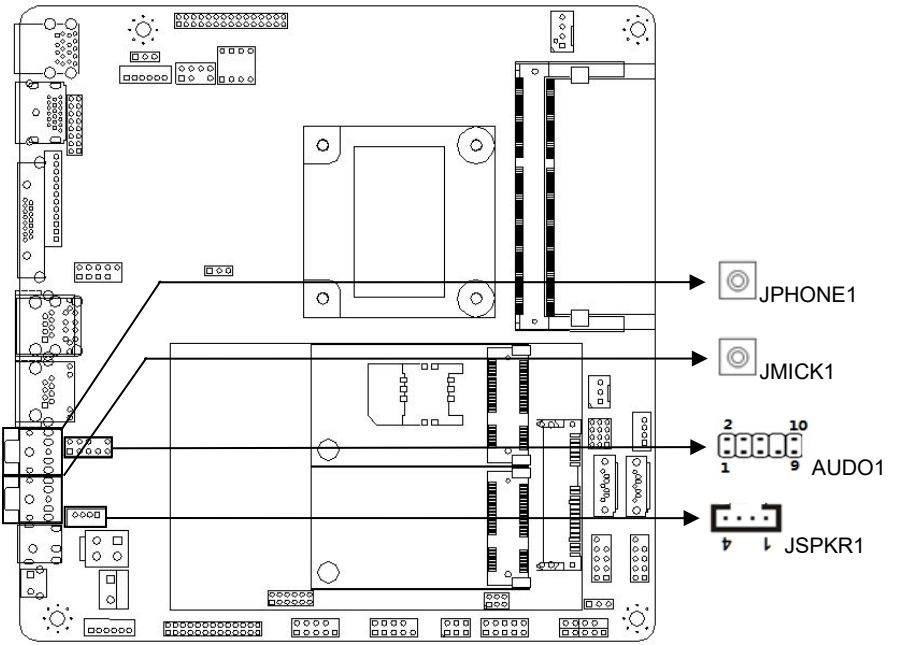
Pin	Signal Name
1	GND
2	GND
3	12V
4	12V

2P blue power socket definition：

Pin	Signal Name
1	GND
2	12V

2.6.6 Audio Interface (AUDIO1,JPHONE1,JMICK1,JSPKR1)

JPHONE1 and JMICK1 are standard audio jack input



AUDIO1 definition:

Pin	Signal Name	Pin	Signal Name
1	MIC-L	2	GND
3	MIC-R	4	DET
5	Line out-R	6	GND
7	Sense-FB	8	NC
9	Line OUT-L	10	GND

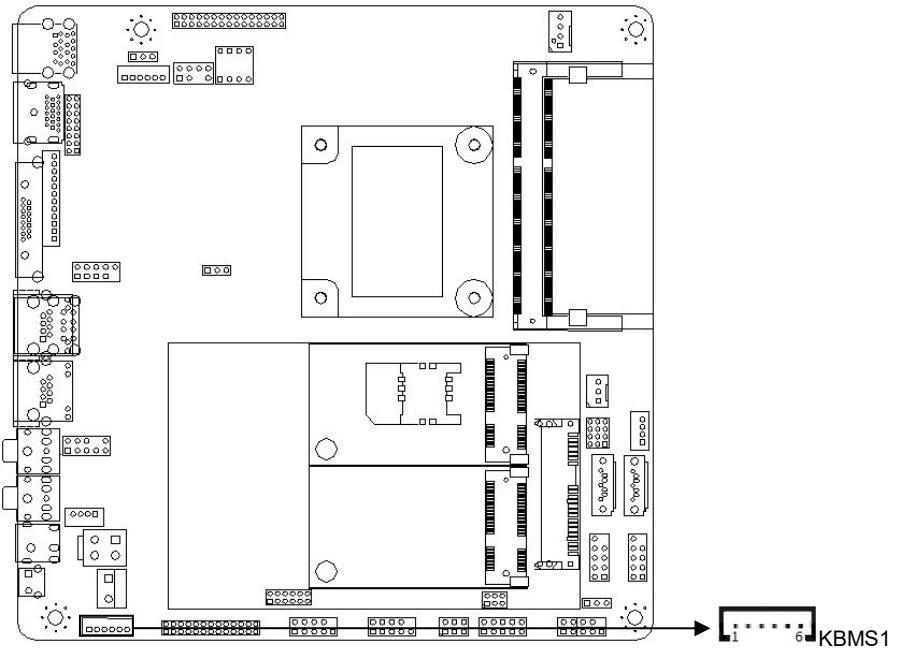
JSPKR1 definition:

Pin	Signal Name
1	SPKR+
2	SPKR-
3	SPKL-
4	SPKL+

2.6.7 KB/MS Connector (KBMS1)

1* 1×6Pin Connector,It is required exchange cable to make into PS/2 KB/MS mouse port

in definition when using.



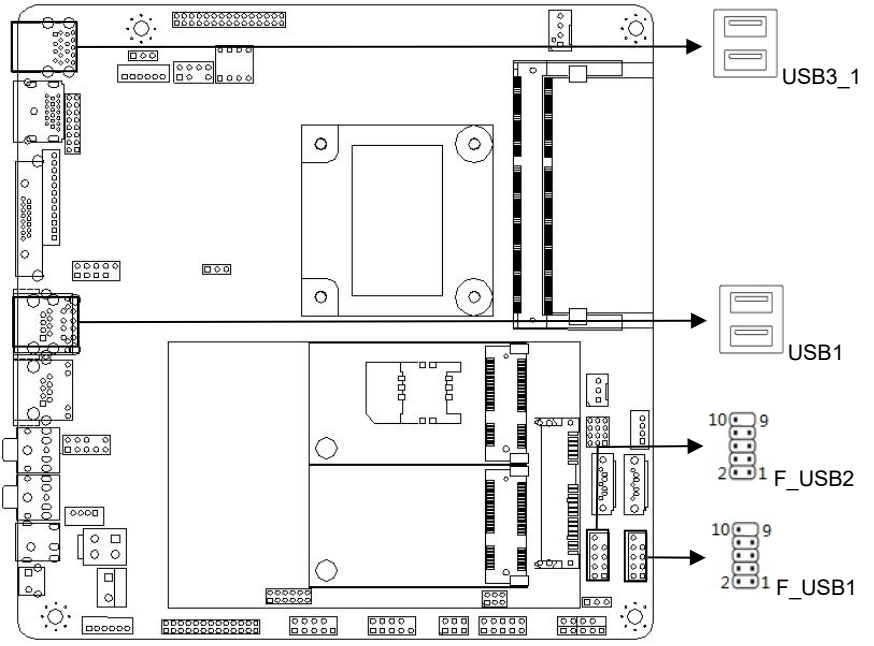
KBMS1 port definition:

Pin	Signal Name
1	VCC
2	KB_DT
3	KB_CK
4	MS_DT
5	MS_CK
6	GND

2.6.8 USB port(USB3_1,F_USB1,F_USB2,USB1)

It can be choose between USB1 and LAN1.

It can supply 2 or 4 pieces of standard USB2.0 ports；2 * 2×5Pin USB connector（Pin stitch：2.54mm）

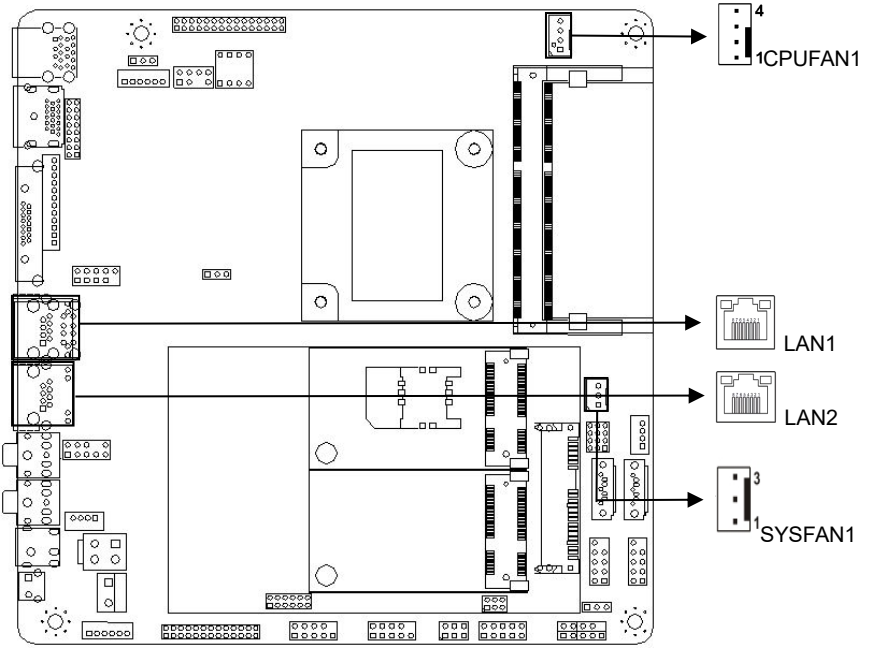


F_USB1,F_USB2definition：

Pin	Signal Name	Pin	Signal Name
1	VCC	2	VCC
3	D0-	4	D1-
5	D0+	6	D1+
7	GND	8	GND
9		10	GND

2.6.9 LAN Port , FAN Port(LAN1,LAN2,CPUFAN1,SYSFAN1)

Supply two standard LAN Port, It is choose between LAN1 and USB1.



Note：DET：Fan speed pulse output；PWM：Fan speed PWM control

CPUFAN1 definition：

Pin	Signal Name
1	GND
2	+12V
3	DET
4	PWM

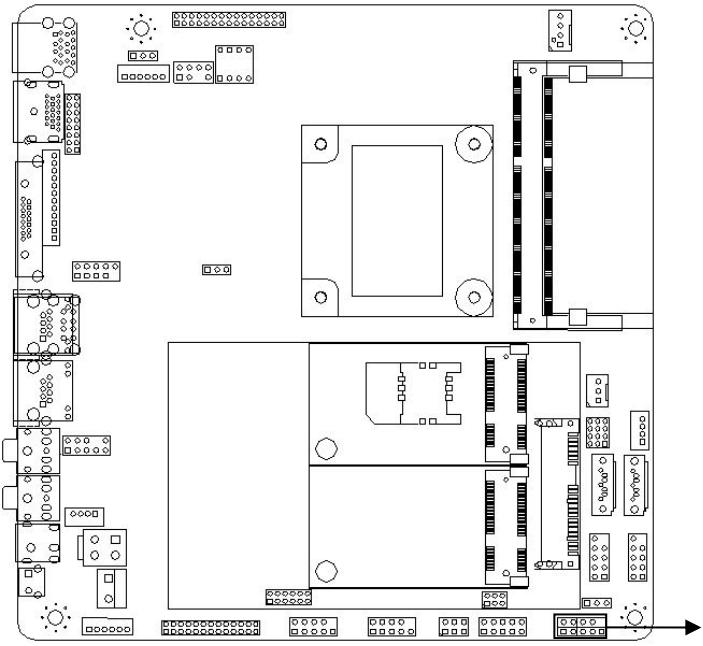
SYSFAN1 definition：

Pin	Signal Name
1	5V

2	GND
3	DET

2.6.10 Front Panel Port (FPANEL1)

Front Panel Connector connect function button and indicator in front panel，1pieces of 2×5Pin.



FPANEL1 definition:

Pin	Signal Name	Pin	Signal Name
1	HDDLED+	2	PWRLED+
3	HDDLED-	4	PWRLED-
5	GND	6	PWRBTN#
7	RESETBTN#	8	GND
9	NC	10	

（1）HDD Indicator（The 1st ,3rd pin are HDD LED the 1st is positive of LED）During hard disk reading and writing operation， the indicating lamp will flicker which show the hard disk is running.

（2）Power Indicator（2nd and 4th Pins are POWER LED,the 2nd pin is positive of LED），When system is powered on，the power indicator is lighting；When powered off，the power indicator is not bright.

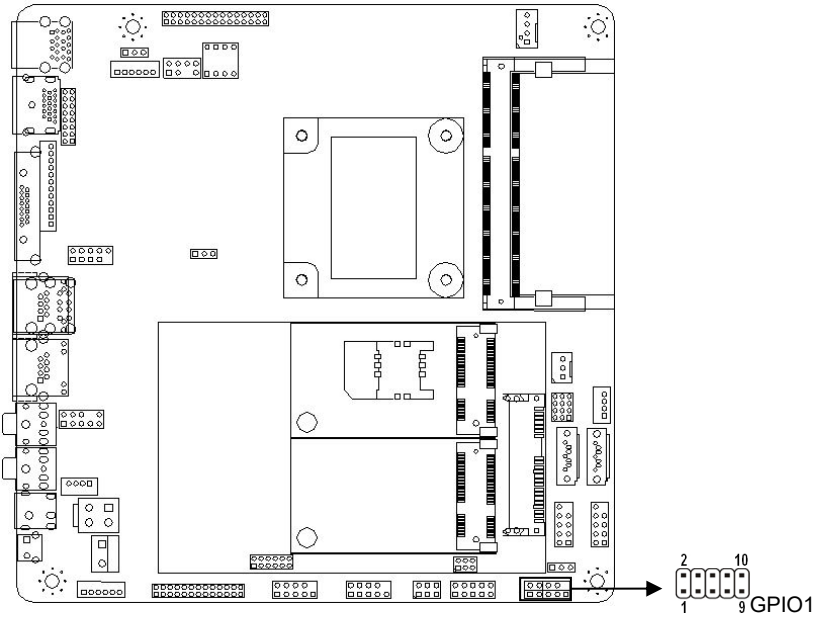
（3）Reset button （ 5th and 7th Pins are RESET BUTTON）Press Reset button can make re-start working when system can not work continually.

（4） Power Button（The 6th ,8th pin : POWER BUTTON）These two pins connected to bounce switch on the front panel can be used to connect or disconnect the power.

2.6.11 General Programmable Input/Output Interface（GPIO1）

Please write the normal GPIO driver under the OS（Please refer to the Microsoft driver information for windows series,For Linux,UNIX,Please refer to the relevant Linux driver model），Use the GPIO driver to driver GPIO1 module,hereinafter refer to as the driver.

GPIO1 module is composed of 5 groups (10) pin (refer to the motherboard)，The number 1，2，3，4，5，6，7，8 pin leads to Simple GPIO，Number 9 is VDD，Number 10 is VCC，Among them,the singular number（1，3，5，7）are for signal input pin，the Even numbers（2，4，6，8）are for signal output pin：



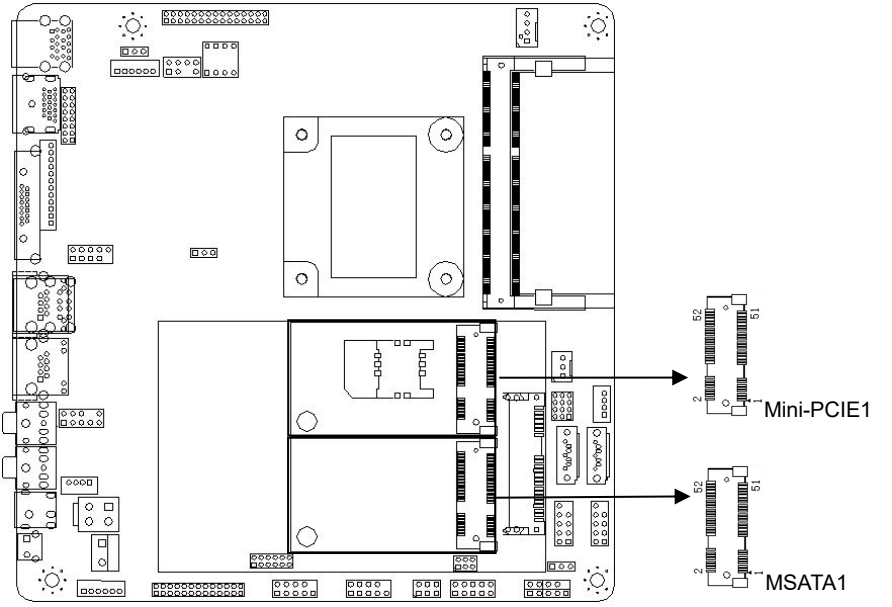
GPIO1 definition:

Pin	Function	Default Value	Remark
1	Input	High	
2	Output	Low	Decide by BIOS Settings
3	Input	High	

4	Output	Low	Decide by BIOS Settings
5	Input	High	
6	Output	Low	Decide by BIOS Settings
7	Input	High	
8	Output	Low	Decide by BIOS Settings
9	VDD		
10	VCC		

2.6.12 Mini-PCIE slot (Mini-PCIE1,MSATA1)

1x Mini-PCIE slot (supports WIFI,3G module).1x MSATA1 slot，support SSD,SSD transfer rate up to 6Gbps.



Glossary

ACPI

Advanced Configuration and Power Management Interface for short. ACPI specifications allow OS to control most power of computer and

its extended devices.Windows 98/98SE, Windows2000 and Windows ME are all support ACPI, it provide users a flexible system power management.

BIOS

Basic input/output system. It's a kind of software including all in/out control code interface in PC.It will do hardware testing while system is booting, then system runs, it provides an interface between OS and hardware. BIOS is stored in a ROM chip.

BUS

In a computer system, it's the channels among different parts for exchanging data; it's also a group of hardware lines. BUS here refers to part lines inside CPU and main components of memory.

Chipset

Integrated chips for executing one or more functions. Here "Chipset" refers to system level chipset structured by Southbridge & Northbridge; it determines motherboard's structure and main functions.

CMOS

Complementary Metal-Oxide Semiconductor, a widely used semiconductor with the characteristic of high speed but low-power-consumption. CMOS here refers to part of reserved space in on-board CMOS RAM, for saving date, time, system information and system parameter etc.

COM

Computer-Output Microfilmer. A universal serial communication interface, usually adopts

normative DB9 connector.

DIMM

Dual-Inline-Memory-Module. It's a small circuit board with memory chipset, providing 64bit RAM bus width.

LAN

Network interface. Network grouped by correlative computers in a small area, generally in a company or a building. Local area network is buildup by sever, workstation, some communications links. Terminals can access data and devices anywhere through cables,which enables users to share costly devices and resource.

LED

Light-Emitting Diode. a semiconductor device that shines when power supply is connected,often used to denote info directly by light, for example, to denote power on or HDD work normally.

PnP

Plug-and-Play. It is a specification that allows PC to configure its external devices automatically and can work independently without the manual operation by its user . To achieve this function, its BIOS should be able to support PnP and a PnP expansion card.

POST

Self-test when power on. While the system is booting, BIOS will do an uninterrupted testing to the system, including RAM, keyboard, hard disk driver etc.to check if all the components are in normal situation and work well.

PS/2

A keyboard & mouse connective interface specification developed by IBM.PS/2 is a DIN interface with only 6PIN; it also can connect other devices, like modem.

USB

It is Universal Serial Bus for short. A hardware interface adapts to low speed peripherals, and is always used to connect keyboard, mouse etc. One PC can connect maximum 127 USB devices, providing 12Mbit/s transmit bandwidth USB supports hot swap and multi- data stream,namely, you can plug USB devices while system is running, system can auto-detect and makes it work on.

Common trouble analysis and solution

FAQ	Check Point
No boot after power	1. Please check if power supply cable is connect right?

on	2. Please confirm whether the power supply meets motherboard power requirement. 3. Please reconnect the ram again 4. Try to change memory DDR 5. Try to clear CMOS based on main board manual l 6. Please check if there is external card,remove it ,check if it it ok.
VGA does not show after boot	1 Check if monitor is open 2 Check power cable is connect monitor & system unit in right way 3 Check that the monitor cable is properly connected to the system unit and monitor 4 Check whether the display brightness control is set to the dark state,it can be improved by the brightness control. For more information, a reference to the display operation instructions 5 The monitor is in “power saving” mode,press any key on the keyboard.
BIOS Setup can not be saved	1. please make sure that the CMOS battery voltage is lower than 2.8V, if less than 2.8V, replace the new battery, reset the save 2. 2.BIOS settings are not correct, according to the boot screen prompts button (DEL), in Setup BIOS to adjust the time and date
Tips: can not find boot device	1. Please confirm Hard disk power cable,data cable connected right 2. Please make sure that if your hard disk physically is damaged. 3. Please make sure that your hard disk is properly installed operating system.
Blue screen or Crash when enter into system	1. Make sure memory and external cards are loose 2.Try to remove hardware installed newly,uninstall driver or software 3. Try to change ram
Enter operating system slow	1. Try to check if hard disk have bad sectors by third party software 2. Please confirm if system located remaining space is small 3. Please check CPU cooling fan work normally rotation
System restart automatically	1. Please check CPU cooling fan work normally rotation 2. Please confirm if mistake press the reset button 3. Use anti-virus software to confirm whether system is infected with virus. 4. Make sure memory and external cards are loose 5. Make sure if your power supply load capacity is adequate,try to replace the power supply
USB device can not detected	1. Make sure if USB device requires a separate power supply 2. Make sure if USB interface is bad 3. Make sure that USB controller is open in BIOS Setup.

BIOS Program Settings

BIOS（Basic Input and Output System）,Cured on the flash memory of the CPU board,is a bridge connect between hardware and operating system.BIOS's main features include：initializing the system hardware, setting the state of the system components, adjusting the working parameters of the system components, make diagnosis about system components' function and report the fault, give hardware control interface to the upper software system and boot operating system, etc. Inappropriate BIOS parameters settings will reduce the system's performance greatly, and make the system unstable, even work abnormally.

Attention! The BIOS Settings directly affects the performance of the computer, The error settings will cause damage to computer, even unable to boot. Please clear the CMOS before using BIOS built-in defaults to restore the system. Because the the BIOS is continuously updating , the BIOS setting interface will be slightly different, the following pictures, which may be not exactly the same as you currently used, is just for your reference

BIOS Brush

The brushing of the BIOS flash is need to operate under DOS environment, the first make a pure DOS system U disk, and the second ,copy the BIOS data to the U disk, and then insert the usb to the motherboard which need BIOS brushing, after that,restart the motherboard,and the boot system storing on the U disk will automatically enter the pure DOS environment and conducting BIOS brushing which may sustain for 30 seconds ,after the brushing is over,the computer will restart automatically and then you can enter the BIOS interface ,optimize Settings and save.

Operating instruction for brush BIOS data manually: (for reference only)

AFUDOS.EXE XXXX.ROM /p /c /b /n /x（Only valid for the files named .ROM）

FPT.EXE -F XXXX.BIN(Only valid for the files named .BIN)

Notice：

1,Only update BIOS when there are problems or necessary.

2,Please use refreshed BIOS files supplied by Hanzsung or download from www.tostarcn.com

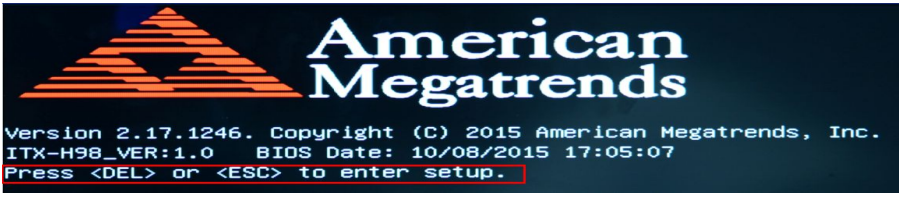
3,In case of customers' files damaged or system booting error,please do not power off or reset.

BIOS parameters Setting：

When system boot normally,the prompt information to enter the BIOS setup program can be seen. At this time(the rest time will be invalid)，press the button specified from notify message (<Del> usually) to enter BIOS setup.

1. When the system boot or reboot,display screen will appear self-test information.

2. When "Press <Del> to enter setup" was prompted in the middle of screen,Press the <Del> keys,you can enter the BIOS setup program.



Control Key

< ↑ >< ↓ >< ← >< → > Select project up and down,left and right

<Enter> Select the project

<Esc> if the current menu is main menu , exit from the main menu and not save changes, when sub menu, exit the current page and return to the main menu

<Page Up/+> increase the numerical value or change

<Page Down/-> reduce numerical value or change

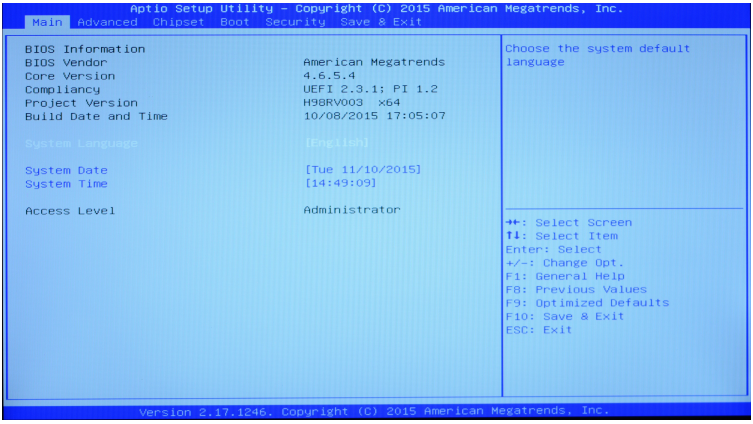
<F1> setup sub menu

<F9> set default value (factory Settings)

<F10> save the BIOS Settings

BIOS Basic Function Setting

3.1 the Main menu (BIOS information date and time)



Project Version（Read Only）

shows the BIOS version's ID number.

Build the Date and Time (read-only)

Shows the date and time of writing the BIOS.

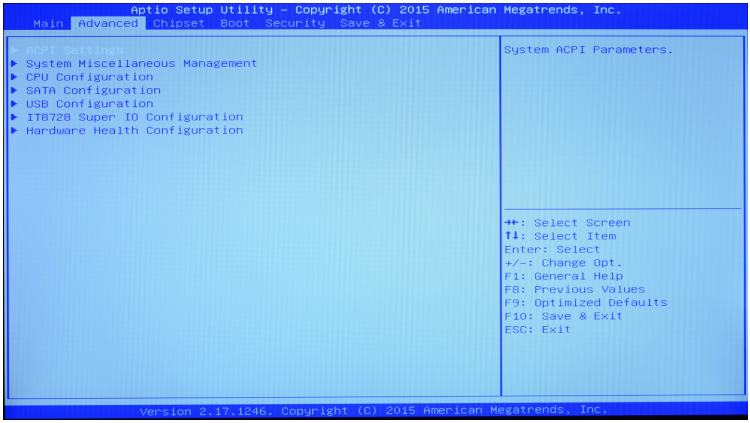
System Date

System date ,format is week/month/day/year, can be set manually with the key < + > / < - >. the week is defined by the BIOS according to date, the date is read-only for users. Users can set the date correspondingly.

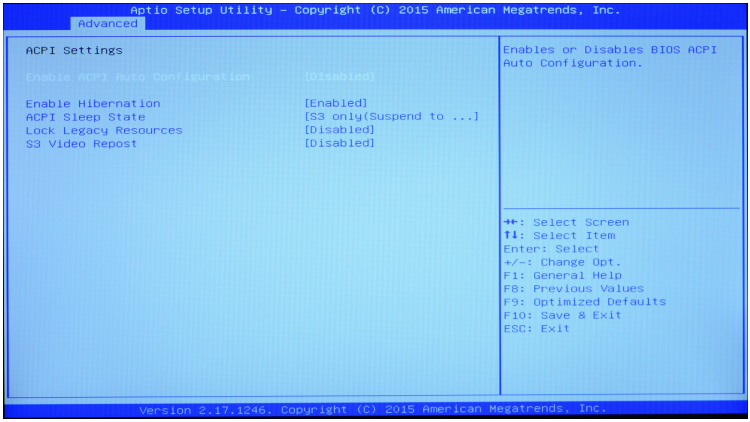
System Time

Users can use the < + > / < - > button to set the current time with the format of /minutes/seconds.

3.2 Advanced Menu



3.2.1 ACPI Settings(ACPI)



ACPI Sleep State(Sleep Mode)

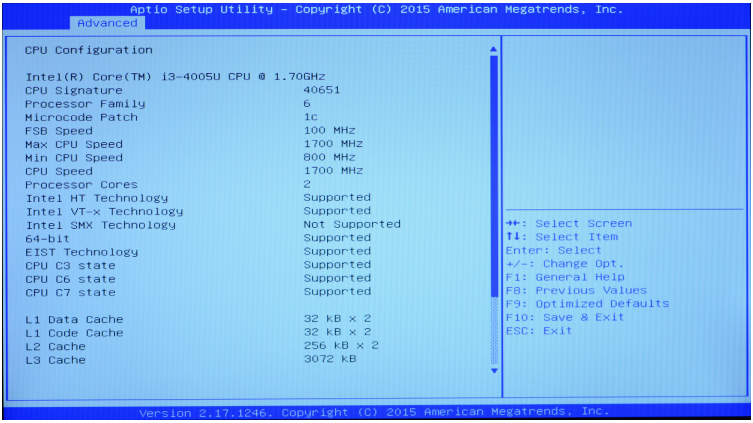
selecting power saving mode when system is gong to enter dormancy, the power consumption level is different with the mode.

Suspend Disabled: disable the power saving mode

S1 Only CPU Stop Disk: CPU to Stop working, other devices still normal power supply.

S3 Only Suspend to RAM: except memory, other equipment is not powered.

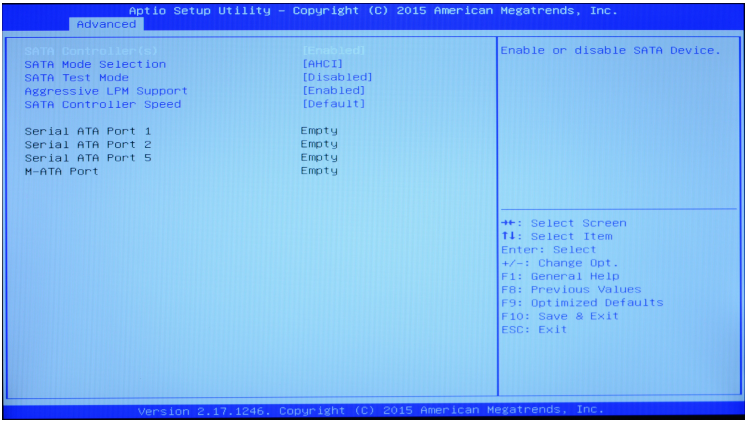
3.2.2 CPU Configuration(CPU Information)



Read-only items contain CPU's details, including the CPU manufacturer, type, frequency, level 1 cache size, level 2 cache size.

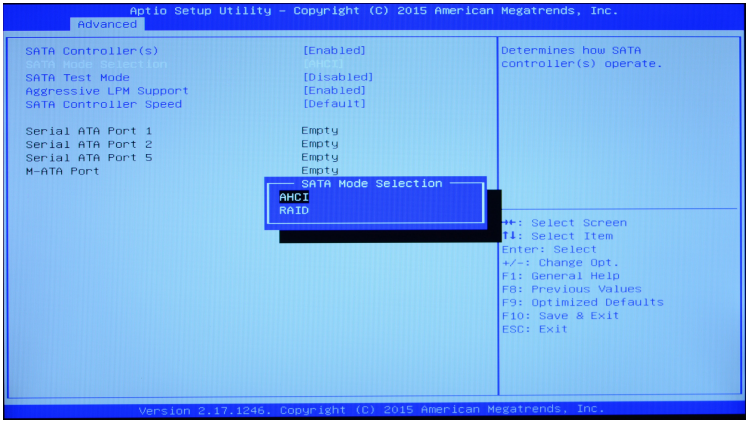
Reminder: this is only for check the CPU information, please don't change other information! Or the system may be out of order.

3.2.3 SATA Configuration(SATA)



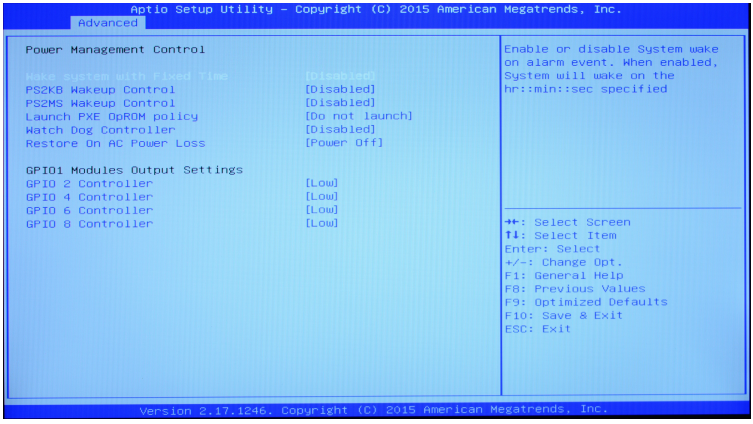
The read-only items include the order of SATA port, hard disk capacity and manufacturers.

SATA Mode Selection(SATA Mode Selection)



This is used to set the SATA's Mode，including [AHCI Mode]，[RAID Mode]

3.2.4 Power Management Control



Restore on AC Power Loss

It is used to set up boot style when power on ，Select “Power Off “ It will boot after press power button when power on，Select “Power On” It will turn on when charged,Select “ Last State”,It will determine whether start or not based on values stetted in last time.

Watch Dog Controller(Watchdog setting)

This item is used to set watchdog enable or disable . [Disabled] mean forbidden,[Enabled] means start up,It can set time after “Enabled”.

Launch PXE OpROM policy

This item is used to set enable or disable of PXE.[Do not launch] means forbidden ,[Legacy only]

means enable.

Wake system with Fixed time(Time booting setting)

This is used to set timing boot function to enable or disable,[Disabled] means forbidden,[Enabled] means start up.

RTC Alarm Date (Days)(Date Setting)

Choose this option,<+>/<-> keys used to change the date of the timing boot (can be set as each day).

Wake up hour（Hour）

Choose this option,<+>/<-> button to set the timing boot time (hour).

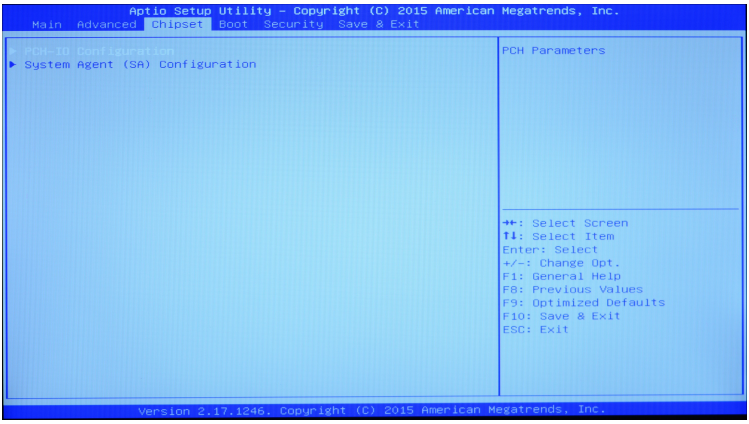
Wake up Minute(Minute)

Choose this option,<+>/<-> button to set the timing boot time（minutes）

Wake up Second

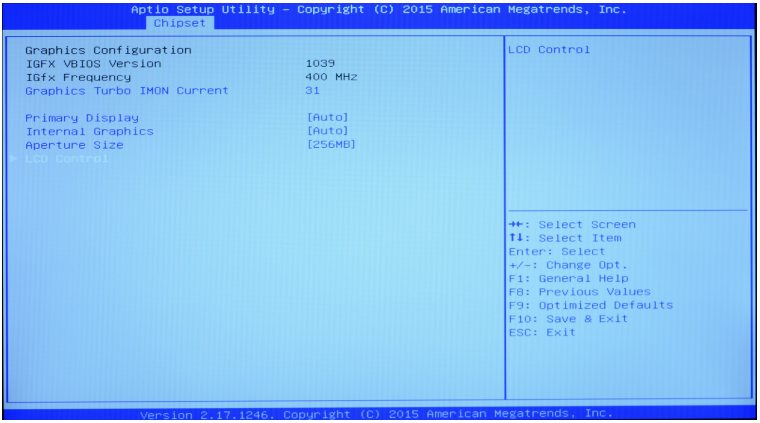
Choose this option,<+>/<-> button to set the timing boot time (in seconds）

3.3 Chipset Menu

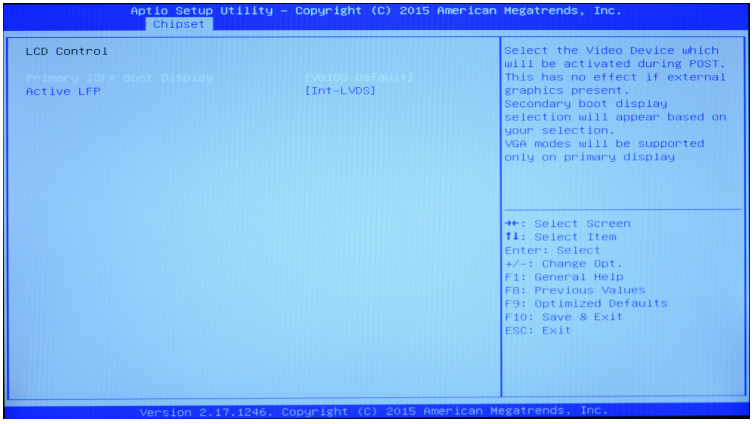


3.3.1 North Bridge Configuration

LCD Control



LCD Control



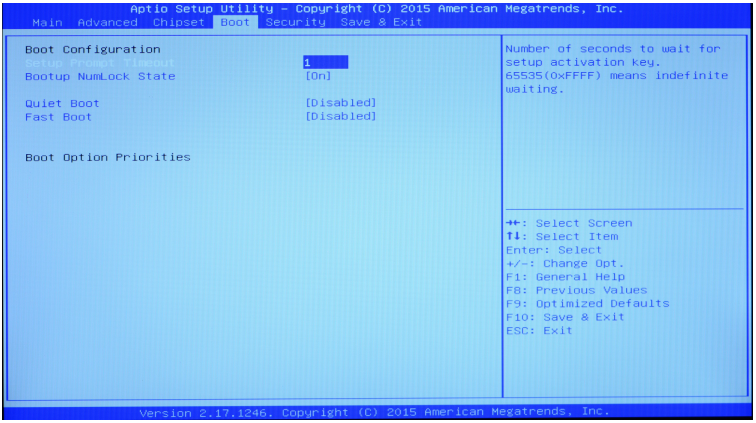
Primary IGFX Boot Display

This option specify the priority of display devices.

Active LFP

This is used to set the enable and disable of LVDS,[NO LVDS] as disabled,[Int-LVDS] is enabled.

3.4 BOOT menu



Quiet Boot

Configurate display content OEM LOGO or not.

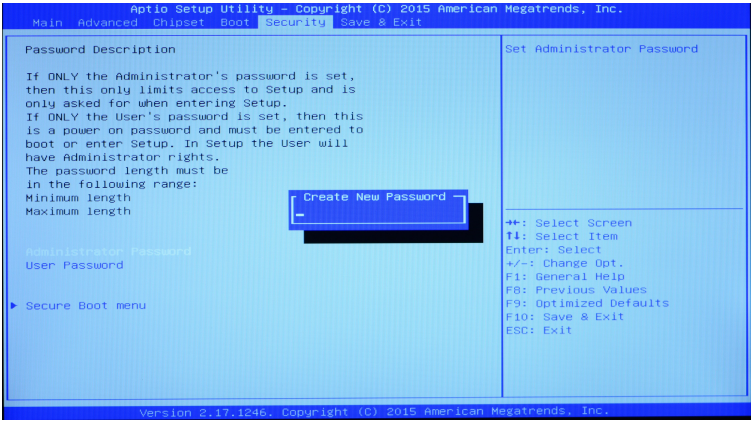
Fase Boot

Configurate is allowed to skip certain tests in order to reduce the BIOS boot time.

Boot Option Priorities

Configure the boot device's priority level.

3.5 Security



Administrator Password

This is used to set the administrator password

User Password

This is used to set a regular user password