

BD19M1D8-6 Series

PCB: I1170D00G V1.01

Intel Baytrail Series

User's Manual

Ver: 0.1 December, 2015

Motherboard

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Chapter 1 Introduction

1.1 Package Checklist

Thank you for choosing our products.

Before using your product, please make sure your packaging is complete, if there have been damaged or you find any shortage, please contact your agency as soon as possible.

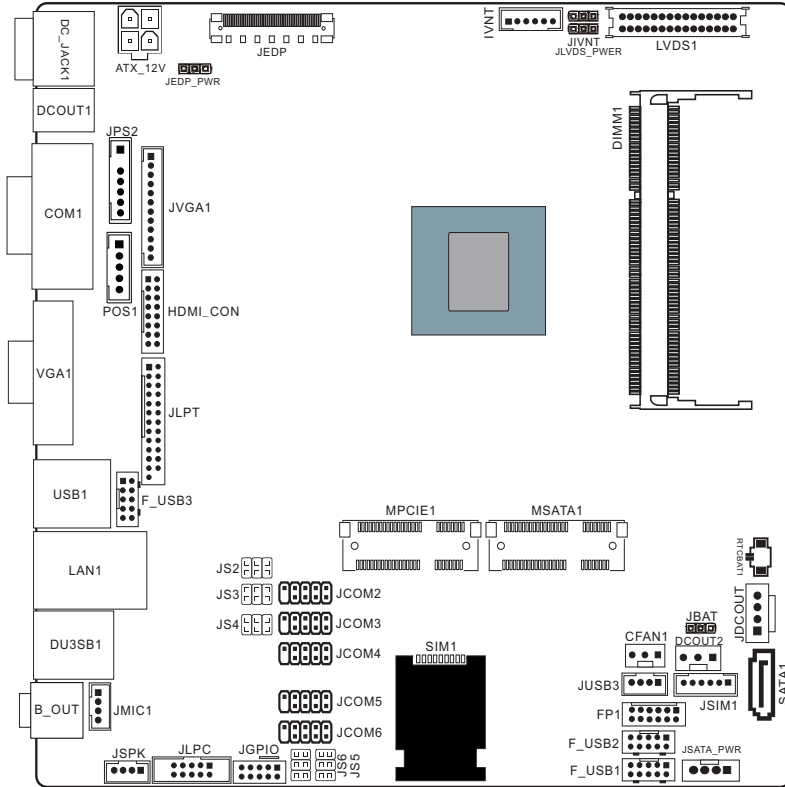
- Motherboard x 1
- COM date cables x 2

The above accessories and specifications are only for reference, we reserve the modify rights.

1.2 Motherboard specifications

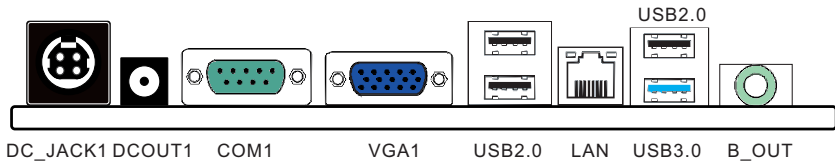
CPU	- Support Intel® Celeron® J1900 series processor
Chipset	- Adopt Intel® Baytrail-D chipset
Memory	- 1 X 204-pin DDR3L SO-DIMM slot - Support DDR3L SO-DIMM 1066/1333/1600MHz memory module - The max memory capacity is up to 8GB
Expansion slots	- 1 x MSATA1 slot (Support SSD) - 1 x SIM1 slot (Support 3G card) - 1 x MPCIE1 slot (Support wifi/3G card)
Rear Panel I/O	- 1 x DC_JACK1 power connector(12V DC Power Input) - 1 x DCOUT1 connector(12V DC Power Output) - 1 x COM1 connector - 1 x VGA1 connector - 3 x USB 2.0 interfaces, backwards compatibility USB 1.1 - 1 x USB 3.0 interfaces, backwards compatibility USB 2.0/1.1 - 1 x RJ45 connector - 1 x audio connectors(B_OUT)
Internal Connectors	- 1 x 4-pin ATX_12V power connector(12V Power Input) - 3 x 10-pin USB2.0 headers for additional 6 USB 2.0 connectors(F_USB3 connector is optional) - 1 x 4-pin USB3.0 header for additional 1 USB 3.0 connector - 1 x SATA2.0 connectors - 1 x JSATA_PWR connector - 1 x JMIC1 connector - 1 x CPU Fan connector - 1 x DCOUT2 connector(optional) - 1 x JEDP connector - 1 x JEDP_PWR jumper - 1 x JLVDS_PWR jumper(optional) - 1 x LVDS1 connector(optional) - 1 x JPS2 connector - 1 x Front panel switches connector(FP1) - 1 x JVGA1 connector(optional) - 1 x HDMI_CON connector - 5 x JCOM connectors - 1 x IVNT connector(optional) - 1 x JIVNT jumper(optional) - 1 x JSPK connector - 1 x JGPIO connector - 1 x JDCOUT connector - 1 x JLPT connector
BIOS/POWER Management	- AMI 64M Bit BIOS - Support advanced power management ACPI, Monitor CPU temperature, fan speed, system voltage in real time - Support No disk boot, Wakeup By LAN, Power-on boot, watchdog function, etc.
Audio	- Front MIC connector
LAN	- 1 x 10/100/1000Mbps NIC connector
Form Factor	- Mini-ITX(170mm * 170mm) architecture
Working Environment	- Working temperature :-10~60° C - Working Moisture :5%~95% No Frost - Storage temperature :-20~70° C
Operating system	- Windows7/8/8.1/Linux

1.3 Motherboard Layout



(This picture is only for reference)

1.4 Connecting Rear Panel I/O Devices



(This picture is only for reference)

- **DC_JACK1:** 12V DC Power input interface
- **DCOUT1:** 12V DC Power output interface
- **COM1:** Serial communication interface
- **VGA1:** Video Graphics Array interface
- **USB 2.0(black):** USB 2.0 connector, backwards compatibility USB 1.1
- **USB 3.0(blue):** USB 3.0 connector, backwards compatibility USB 2.0/1.1
- **LAN:** The LAN port allows the motherboard to connect to a local area network by means of a network hub
- **B_OUT:** This jack is used to connect to the front left and right channel speakers of the audio system

Chapter 2 Hardware Setup

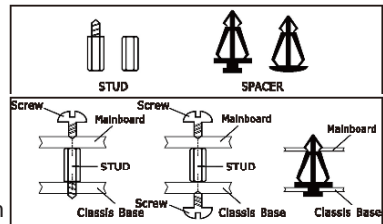
2.1 Installing I/O Panel

It can block the transmission of electric RF, protect the internal components, and promote airflow after installing this panel. Before installing motherboard, you need to install this panel. If required, you should uninstall the optional panel first.

2.2 Installing the Mainboard

Most computer chassis have a base with many mounting holes to allow the mainboard to be securely attached, and at the same time, prevent the system from short circuits. There are two ways to attach the mainboard to the

chassis base: (1) with studs, or (2) with spacers. Basically, the best way to attach the board is with studs. Only if you are unable to do this should you attach the board with spacers. Line up the holes on the board with the mounting holes on the chassis. If the holes line up and there are screw holes, you can attach the board with studs. If the holes line up and there are only slots, you can only attach with spacers. Take the tip of the spacers and insert them into the slots. After doing this to all the slots, you can slide the board into position aligned with slots. After the board has been positioned, check to make sure everything is OK before putting the chassis back on.



! Always power off the computer and unplug the AC power cord before adding or removing any peripheral or component. Failing to do so may cause severe damage to your mainboard and/or peripherals. Plug in the AC power cord only after you have carefully checked everything.

To install this mainboard:

1. Locate all the screw holes on the mainboard and the chassis base.
2. Place all the studs or spacers needed on the chassis base and have them tightened.
3. Face the mainboard's I/O ports toward the chassis's rear panel.
4. Line up all the mainboard's screw holes with those studs or spacers on the chassis.
5. Install the mainboard with screws and have them tightened.

2.3 Installing Memory Module

This motherboard provides one 204-pin DDR3L SO-DIMM slot.

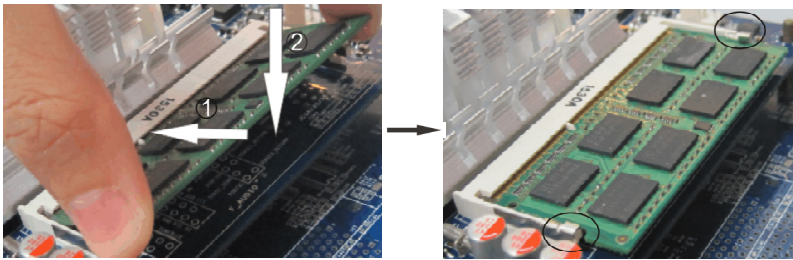
Before starting the installation, please read the following warning messages:


1. Make sure your purchased memory specification is supported with the motherboard;
2. Before installing or removing memory, make sure that the computer is turned off;
3. The memory is designed with fool-proof marker, if you insert with wrong direction, it can not be inserted.

Installing memory:

1. Before installing or removing memory, please turn off the power and unplug the AC cable.
2. Carefully grasp both ends of memory, and do not touch the metal contacts.
3. Align the memory to slots, and pay attention to the direction.
4. Inclining 30 degrees and insert, then press down until you hear the "clicking" sound (to avoid any damage, your strength must be gentle).
5. To remove the memory, push out both latch of DIMM slot at the same time, and take it out.

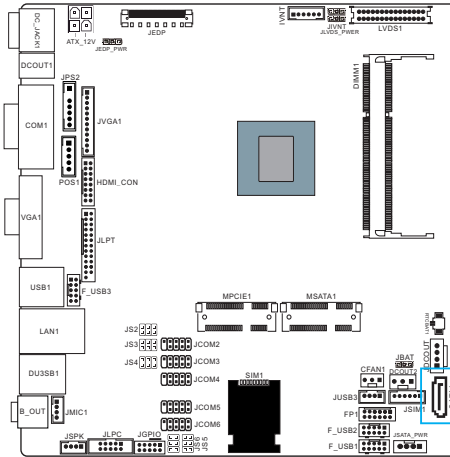
Memory installation illustration (only for reference):



 Static will damage the electronic components of computer and memory, when doing above step, you should contact with a grounded metal object to remove the static from your body.

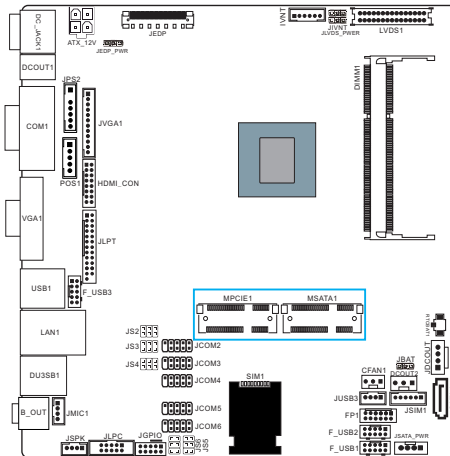
2.4 Connect with External Devices

2.4.1 Serial ATA Connectors



The Serial ATA connector can connect to Serial ATA hardware or other corresponding devices when use Serial ATA cable.

2.4.2 MSATA1 and MPCIE1 slots



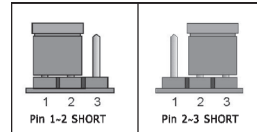
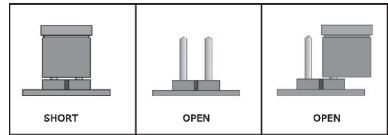
MSATA1 slot is long card, It supports SSD.
MPCIE1 slot is long card, It supports wifi and 3G card.

(While installing, incline it 30 degrees and insert,then press down to bolt position, and use the screws to fix it.)

Chapter 3 Jumpers & Headers Setup

3.1 Checking Jumper Settings

- 2-pin jumper: Plug the jumper cap onto both pins will make it CLOSE (SHORT). Remove the cap or plug it on another pins (keep for future use) will activate the jumper.
- 3-pin jumper: Plug the jumper cap onto pin 1~2 or pin 2~3 will make it CLOSE (SHORT). Shorted by plugging the jumper cap in.



How to identify the PIN1?

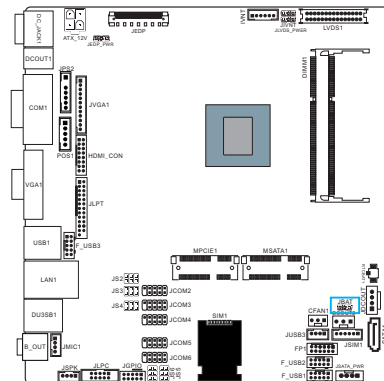
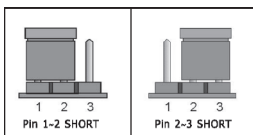
Please check the Motherboard carefully, the PIN1 is marked by "1", white thick line or white triangle.

3.2 CMOS Memory Clearing Header(JBAT)

When: (a) the CMOS data damaged, (b) you forgot the supervisor or password of BIOS, (c) you are unable to boot-up because the frequency of CPU was incorrectly, or (d) there have modifications on CPU or memory modules, means you need to unplug the CMOS header.

It uses a jumper cap to clear the CMOS setup, and reset the BIOS value to default.

- Pins 1 and 2 open circuit (Default): Normal situation
- Pins 2 and 3 shorted: Clear CMOS setup



To clear the CMOS setup and set to default values:

1. Power off the system.
2. Plug the jumper cap to pin 1-2, and wait for 3-5 seconds, then plug the cap back to pin 1-2.
3. Power on the system.
4. If the frequency of CPU set incorrect, please press the button to enter the BIOS setup menu after powering on system.
5. Reset the running speed of CPU to default or to suitable value.
6. Save and exit the BIOS setup menu.

3.3 Jumpers setting

JEDP_PWR Jumper

pin	definition
1-2	3.3V
2-3	5V

JIVNT Jumper(optional)

pin	definition
1-2	3.3V
2-3	5V

JLVDS_PWR Jumper(optional)

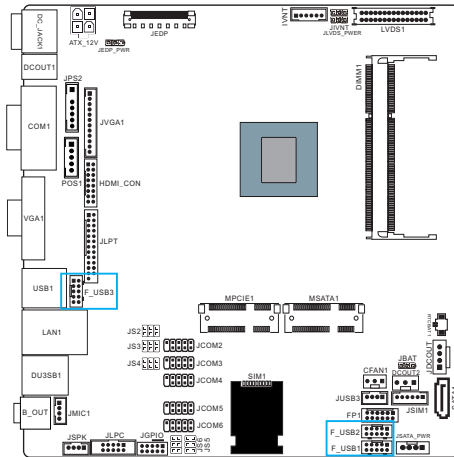
pin	definition
1-2	3.3V
2-3	5V

JS2/JS3/JS4/JS5/JS6 Jumpers

(COM5/COM6 PIN9<RI>selection jumpers)

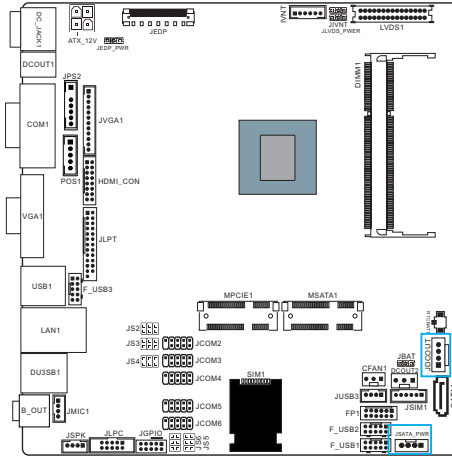
pin	definition
1-2	12V
3-4	5V
5-6	RI

3.4 F_USB1/2/3 extended interfaces (F_USB3 interface is optional)



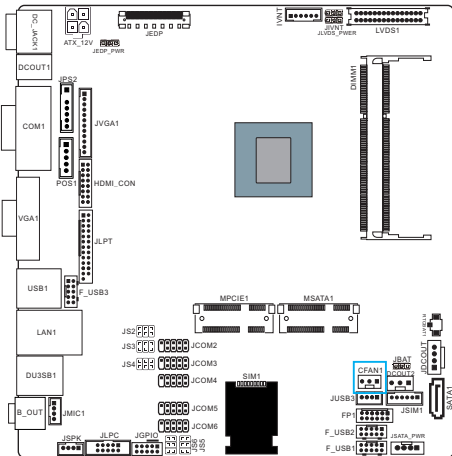
pin	definition	pin	definition
1	VCC	2	VCC
3	DATA 0-	4	DATA 1-
5	DATA 0+	6	DATA 1+
7	GND	8	GND
9	NC(CUT)	10	CUT

3.5 JSATA_PWR/JDCOUT(SATA POWER interface)



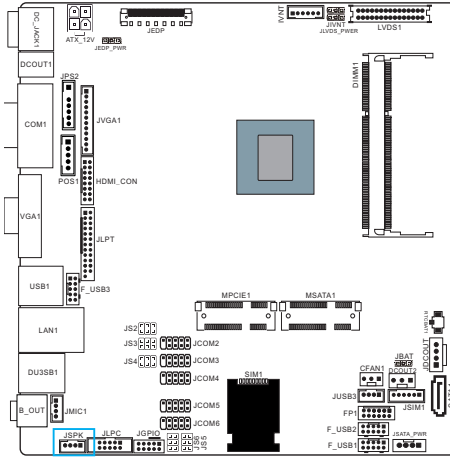
pin	definition	pin	definition
1	12V	2	GND
3	GND	4	5V

3.6 CPU FAN Power Connector



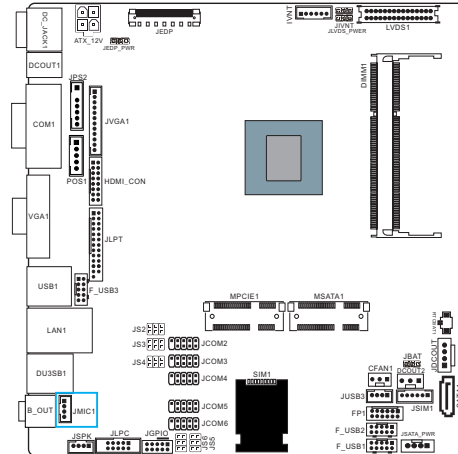
pin	definition	pin	definition
1	+12V	3	GND
2	RPM		

3.7 JSPK interface



pin	definition	pin	definition
1	Right-	2	Right+
3	Left-	4	Left+

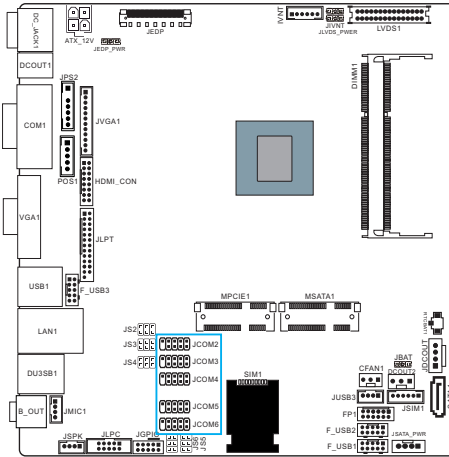
3.8 JM1C1 interface(Front MIC interface)



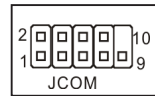
pin	definition	pin	definition
1	MIC-R	2	MIC-JD
3	MIC-L	4	GND

3.9 JCOM interfaces

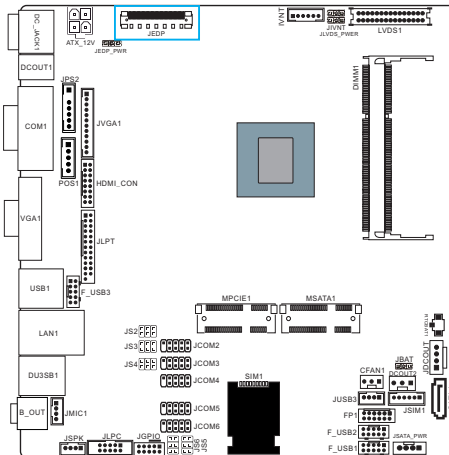
The motherboard provides onboard 5 2x5 Pin Serial ports(the space is 2.0-DIP)



pin	definition	pin	definition
1	DCD	2	DSR
3	SIN	4	RTS
5	SOUT	6	CTS
7	DTR	8	RI
9	GND	10	NC



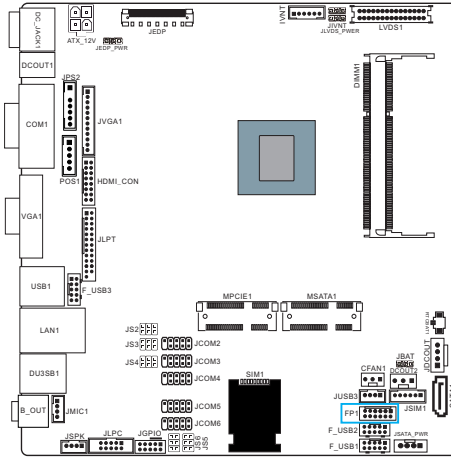
3.10 JEDP interface(display interface)



pin	definition	pin	definition
1	V3.3S_DP_EMB	23	TXN0_C
2	V3.3S_DP_EMB	24	TXP0_C
3	V3.3S_DP_EMB	25	GND
4	V3.3S_DP_EMB	26	EMB_AUXP
5	V3.3S_DP_EMB	27	EMB_AUXN
6	GND	28	GND
7	GND	29	V3.3S_EMB_AUXPWR
8	GND	30	DATA
9	GND	31	VCC3
10	EMB_HPD	32	GND
11	NC	33	GND
12	NC	34	VCC
13	GND	35	DBL_CLK
14	TXN3_C	36	PWM
15	TXP3_C	37	L_BKLT_EN
16	GND	38	VCC5
17	TXN2_C	39	VCC3
18	TXP2_C	40	GND
19	GND	41	NC
20	TXN1_C	42	NC
21	TXP1_C	43	NC
22	GND	44	NC

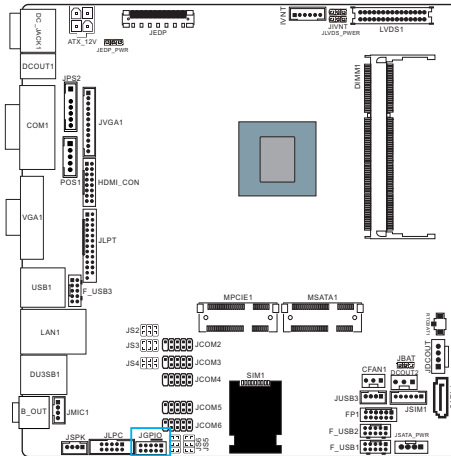
NOTE: There are onboard JEDP/VGA/HDMI displays on the motherboard, and meanwhile the motherboard reserves JVGA pin and LVDS pin. these displays support dual synchronous and asynchronous display. But need to note: between onboard VGA and HDMI displays, you can't use both at the same time, only choose one to use. the using method of LVDS and EDP is the same as VGA and HDMI's.

3.11 Front panel Switches & Indicators Headers (FP1)



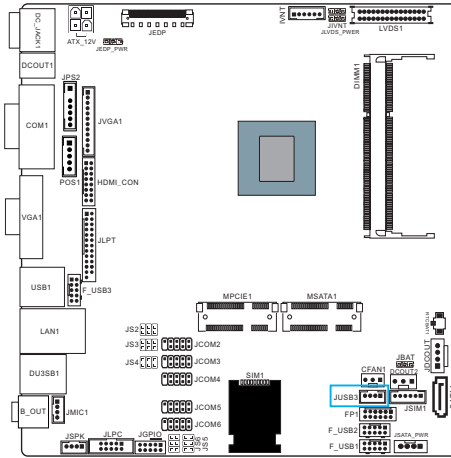
pin	definition	pin	definition
1	PWBT+	2	HDD_LED+
3	PWBT-	4	HDD_LED-
5	RESET_SN	6	PWER LED+
7	RESET_GND	8	PWER LED-
9	SMB_CLK	10	LAN LED+
11	SMB_DATA	12	LAN LED-

3.12 JGPIO interface



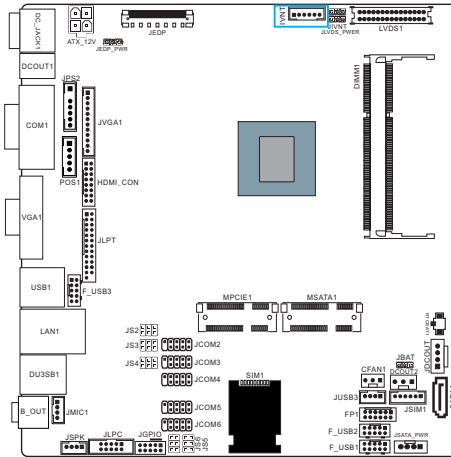
pin	definition	pin	definition
1	5V	2	GND
3	GPIO1	4	GPIO8
5	GPIO2	6	GPIO7
7	GPIO3	8	GPIO6
9	GPIO4	10	GPIO5

3.13 JUSB3 interface (USB3.0 extended interface)



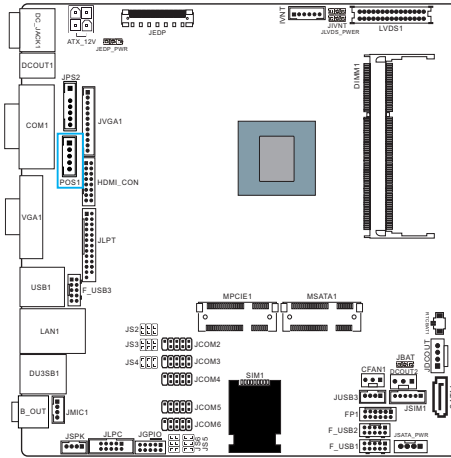
pin	definition
1	VCC
2	DATA-
3	DATA+
4	GND

3.14 IVNT interface (BLT CONTROL)



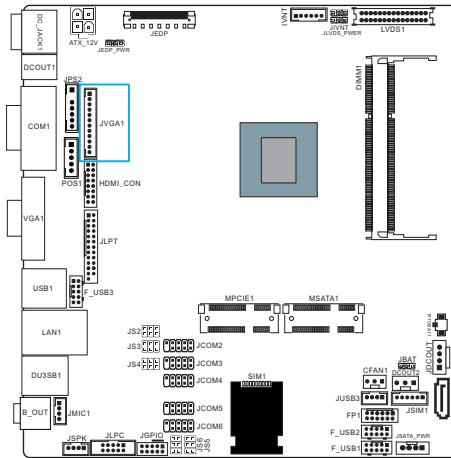
pin	definition
1	12V
2	12V
3	BLT EN
4	BLT PWM
5	GND
6	GND

3.15 POS1 interface



pin	definition
1	GND
2	POWER-
3	GPIO
4	12V
5	GND

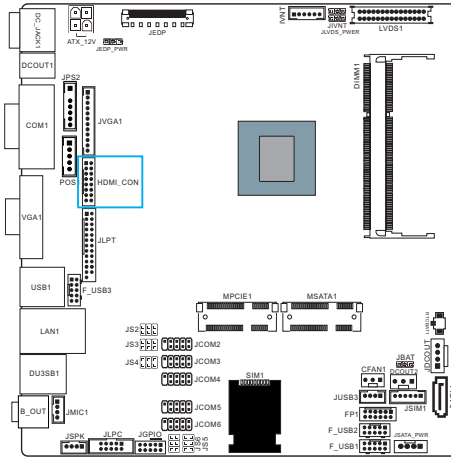
3.16 JVGA1 interface (Front VGA interface, is optional)



pin	definition	pin	definition
1	DET	2	V
3	H	4	GND
5	R	6	GND
7	G	8	GND
9	B	10	GND
11	DAT	12	CK

NOTE: There are onboard JEDP/VGA/HDMI displays on the motherboard, and meanwhile the motherboard reserves JVGA pin and LVDS pin. these displays support dual synchronous and asynchronous display. But need to note: between onboard VGA and HDMI displays, you can't use both at the same time, only choose one to use. the using method of LVDS and EDP is the same as VGA and HDMI's.

3.17 HDMI_CONinterface (Front VGA interface)

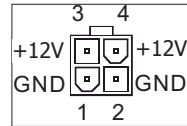
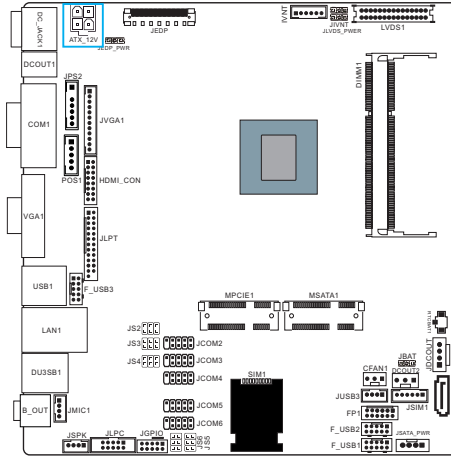


pin	definition	pin	definition
1	HDMIC_TX2_DP	2	HDMIC_SCL
3	HDMIC_TX2_DN	4	HDMIC_SDA
5	HDMIC_TX1_DP	6	GND
7	HDMIC_TX1_DN	8	DPC_HPD_CN
9	HDMIC_TX0_DP	10	DAC_5V
11	HDMIC_TX0_DN	12	GND
13	HDMIC_CLK_DP	14	GND
15	HDMIC_CLK_DN	16	GND

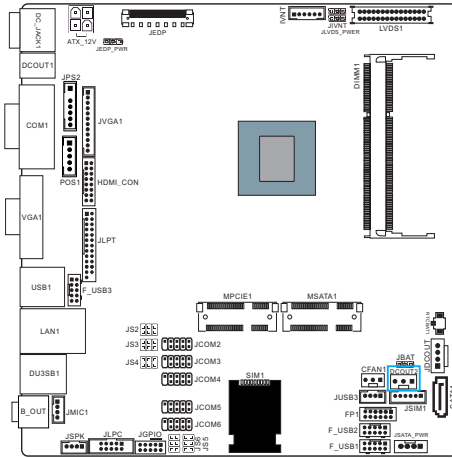
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3.18 ATX_12V Power interface

ATX_12V Power interface is 12V power interface and provides the power for the printer.

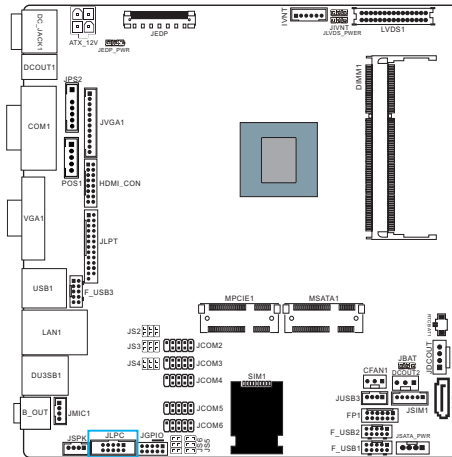


3.19 DCOUT2 power output interface (optional)



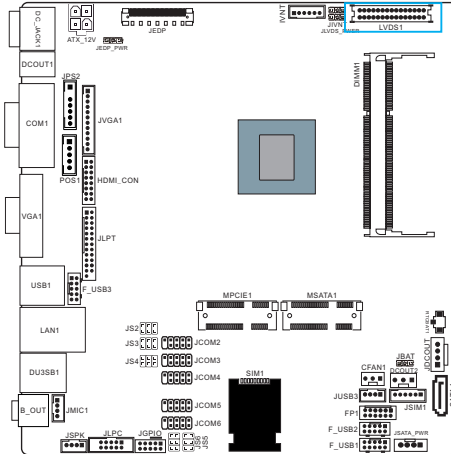
pin	definition
1	+5V
2	GND
3	+12V

3.20 JLPC interface



pin	definition	pin	definition
1	+3.3V	6	LPC-D1
2	33MHz CLOCK	7	LPC-D2
3	RESET	8	LPC-D3
4	GND	9	FRAM
5	LPC-D0	10	NC

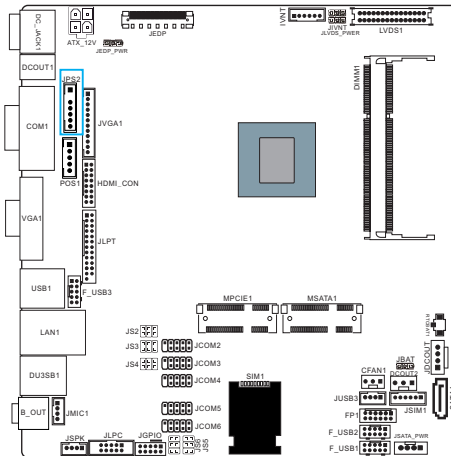
3.21 LVDS1 display interface



pin	definition	pin	definition
1	LVDS_VCC	2	LVDS_VCC
3	LVDS_VCC	4	GND
5	GND	6	GND
7	LVDSA_DATAN0	8	LVDSA_DATAP0
9	LVDSA_DATAN1	10	LVDSA_DATAP1
11	LVDSA_DATAN2	12	LVDSA_DATAP2
13	GND	14	GND
15	LVDSA_CLKN	16	LVDSA_CLKP
17	LVDSA_DATAN3	18	LVDSA_DATAP3
19	LVDSB_DATAN0	20	LVDSB_DATAP0
21	LVDSB_DATAN1	22	LVDSB_DATAP1
23	LVDSB_DATAN2	24	LVDSB_DATAP2
25	GND	26	GND
27	LVDSB_CLKN	28	LVDS1_CLKP
29	LVDSB_DATAN3	30	LVDSB_DATAP3

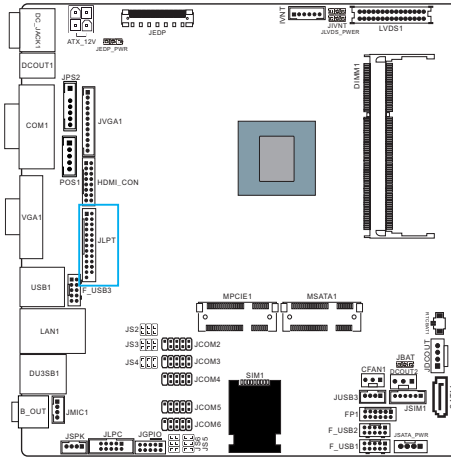
NOTE: There are onboard JEDP/VGA/HDMI displays on the motherboard, and meanwhile the motherboard reserves JVGA pin and LVDS pin. these displays support dual synchronous and asynchronous display. But need to note: between onboard VGA and HDMI displays, you can't use both at the same time, only choose one to use. the using method of LVDS and EDP is the same as VGA and HDMI's.

3.22 JPS2 interface(PS/2 adapter pin)



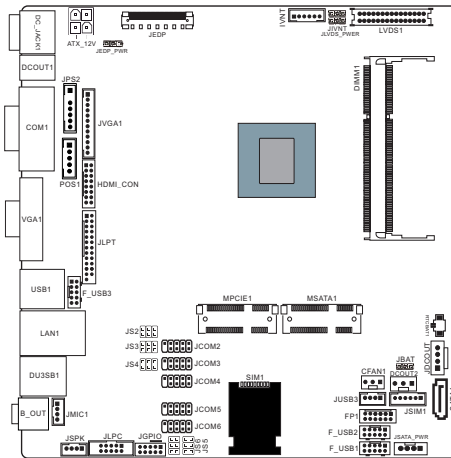
pin	definition
1	VCC
2	NC
3	KBDT
4	KBCK
5	GND
6	MCLK
7	MPAT

3.23 JLPT interface (Printer pin)



pin	definition	pin	definition
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

3.24 JSIM interface



pin	definition
1	PWR
2	RST
3	CLK
4	VPP
5	DATA
6	GND

Chapter 4 BIOS Setup Utility

BIOS stands for Basic Input and Output System. It was once called ROM BIOS when it was stored in a Read-Only Memory (ROM) chip. Now manufacturers would like to store BIOS in EEPROM which means Electrically Erasable Programmable Memory. BIOS used in this series of mainboard is stored in EEPROM, and is the first program to run when you turn on your computer.

BIOS performs the following functions:

1. Initializing and testing hardware in your computer (a process called "POST", for Power On Self Test).
2. Loading and running your operating system.
3. Helping your operating system and application programs manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

4.1 About BIOS Setup

BIOS Setup is an interactive BIOS program that you need to run when:

1. Changing the hardware of your system. (For example: installing a new Hard Disk etc.)
2. Modifying the behavior of your computer. (For example: changing the system time or date, or turning special features on or off etc.)
3. Enhancing your computer's behavior. (For example: speeding up performance by turning on shadowing or cache)

4.2 To Run BIOS Setup

First access BIOS setup menu by pressing <F1> key after "POST" is complete (before OS is loaded). After the first BIOS be setupped(or loaded default values) and save, the key will be pressed if you will enter BIOS setup menu.

4.3 About CMOS

CMOS is the memory maintained by a battery. CMOS is used to store the BIOS settings you have selected in BIOS Setup. CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS Looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery runs out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and check and configure the BIOS Setup for the new start.

4.4 The POST (Power On Self Test)

POST is an acronym for Power On Self Test. This program will test all things the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

4.5 BIOS Setup — CMOS Setup Utility

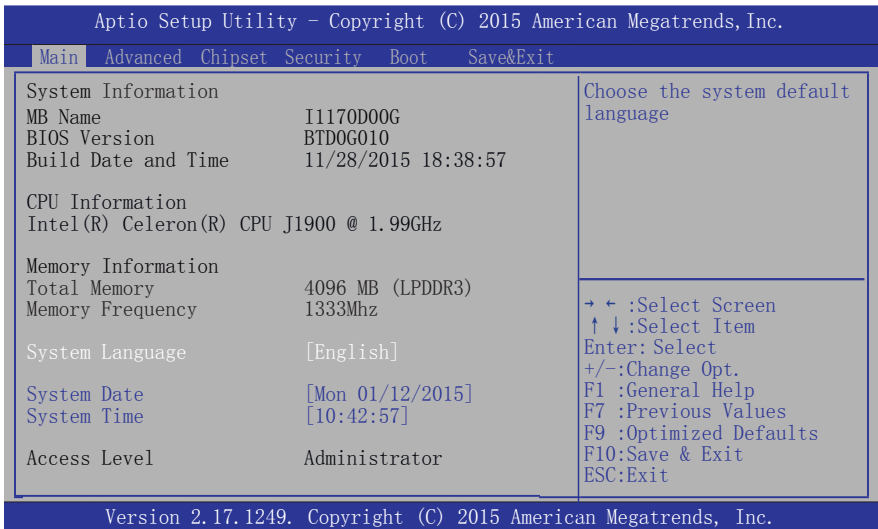
- **In order to increase system stability and performance, our engineering staff is constantly improving the BIOS menu. The BIOS setup screens and descriptions illustrated in this manual are for your reference only, and may not completely match with what you see on your screen. This chapter were based mainly on the model, unless specifically stated.**
- **Do not change the BIOS parameters unless you fully understand its function.**

4.5.1 CMOS Setup Utility

After powering up the system, the BIOS message appears on the screen, when the first time or when CMOS setting wrong, there is following message appears on the screen, but if the first BIOS be setuped (or loaded default values) and save, the key will be pressed if you will enter BIOS setup menu.

Press to enter SETUP

If this message disappears before you respond, restart the system by pressing <Ctrl> + <Alt>+ keys, or by pressing the reset button on computer chassis. Only when these two methods should be fail that you restart the system by powering it off and then back on. After pressing key, the main menu appears.



The menu bar on top of the screen has the following main items:

- Main** For changing the basic system configuration.
- Advanced** For changing the advanced system settings.
- Chipset** For changing the system ports settings.
- Security** For changing the system security settings.
- Boot** For changing the system boot configuration.
- Save & Exit** For changing CMOS mode and loading default settings.

4.5.2 Control Keys

Press <F1> to pop up a small help window that describes the appropriate keys to use and the available options for the highlighted item.

Please check the following table for the function description of each control key.

Control Key(s)	Function Description
← / →	Move cursor left or right to select screens
↑ / ↓	Move cursor up or down to select items
+/-	To Change option for the selected items
<Enter>	To bring up the selected screen
<ESC>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<F1>	General help
<F7>	Previous Values
<F9>	Optimal Defaults
<F10>	Save & exit

4.2.3 Main

Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.		
Main	Advanced	Chipset Security Boot Save&Exit
System Information		Choose the system default language
MB Name	I1170D00G	
BIOS Version	BTDOG010	
Build Date and Time	11/28/2015 18:38:57	
CPU Information		
Intel(R) Celeron(R) CPU J1900 @ 1.99GHz		
Memory Information		
Total Memory	4096 MB (LPDDR3)	
Memory Frequency	1333Mhz	
System Language	[English]	→ ← :Select Screen ↑ ↓ :Select Item Enter: Select +/-:Change Opt. F1 :General Help F7 :Previous Values F9 :Optimized Defaults F10:Save & Exit ESC:Exit
System Date	[Mon 01/12/2015]	
System Time	[10:42:57]	
Access Level	Administrator	
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- **BIOS Information**

This page mainly introduce the BIOS related information, such as the BIOS version, the BIOS manufacturer, the program code versions, establish dates, etc.

- **System Language**

Allows you to choose the system default language.

- **System Date**

Allows you to set the system date. The format is "Day/Month/Date/Year."

- **System Time**

Allows you to set the system date. The format is "hour/minute/second."

4.2.4 Advanced

Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.		
Main	Advanced	Chipset Security Boot Save&Exit
▶ IDE Configuration		CPU Configuration Parameters.
▶ Super IO Configuration		
▶ Hardware Monitor		
▶ Serial Port Console Redirection		
▶ CPU Configuration		
▶ Network Stack Configuration		
▶ USB Configuration		
▶ Platform Trust Technology		
▶ Security Configuration		
▶ Power Management		
		→ ← :Select Screen ↑ ↓ :Select Item Enter: Select +/-:Change Opt. F1 :General Help F7 :Previous Values F9 :Optimized Defaults F10:Save & Exit ESC:Exit
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.		

► **IDE Configuration** Press<Enter>key to turn into the submenu

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Advanced

IDE Configuration		Enable / Disable Serial ATA
Serial-ATA(SATA)	[Enabled]	
SATA Test Mode	[Disabled]	
SATA Speed Support	[Gen2]	→ ←:Select Screen ↑ ↓:Select Item Enter: Select +/-:Change Opt. F1 :General Help F2 :Previous Values F9 :Optimized Defaults F10 :Save & Exit ESC :Exit
SATA ODD Port	[No ODD]	
SATA Mode	[AHCI Mode]	
Serial-ATA Port 0	[Enabled]	
SATA Port0 Hotplug	[Disabled]	
Serial-ATA Port 1	[Enabled]	
SATA Port0 Hotplug	[Disabled]	

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- **Serial-ATA(SATA)**
This item is SATA port controller. Options: Enabled, Disabled.
- **SATA Test Mode**
Options: Enabled, Disabled.
- **SATA Speed Support**
Set the maximum speed the SATA controller can support.
Options: Gen1, Gen2.
- **SATA ODD Port**
Options: Port0 ODD, Port1 ODD, No ODD.
- **SATA Mode**
This item allows you to set the onboard SATA mode. Options: AHCI Mode, IDE Mode.
- **SATA Port0 / 1 Hotplug**
Allows you to enable Hot Plug support for SATA Port 0/1. Options: Enabled, Disabled.
- Press <Esc> key to return to "Chipset" menu

▶ **Super IO Configuration** Press<Enter>key to turn into the submenu

Apdio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.	
Advanced	
Super IO Configuration Super IO Chip IT8786 ▶ Serial Port 1 Configuration ▶ Serial Port 2 Configuration ▶ Serial Port 3 Configuration ▶ Serial Port 4 Configuration ▶ Serial Port 5 Configuration ▶ Serial Port 6 Configuration ▶ Parallel Port Configuration	Set Parameters of Serial Port 1(COMA). <hr/> → ← :Select Screen ↑ ↓ :Select Item Enter: Select +/-:Change Opt. F1 :General Help F7 :Previous Values F9 :Optimized Defaults F10:Save & Exit ESC:Exit
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.	

This item allows you to view and set basic properties of the SIO logical device as IO Base, IRQ range, DMA channel and device mode.

- Press <Esc> key to return to "Advanced" menu.

▶ **Hardware Monitor** Press<Enter>key to turn into the submenu

Apdio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.	
Advanced	
Pc Health Status CPU Temperature : +35°C System temperature : +38°C Fan1 Speed : N/A Fan2 Speed : N/A VCORE : +0.804 V +VCCDDR : +1.356 V VCC12 : +18.360 V VCC : +4.980 V VCC3 : +3.302 V Smart Fan Setting [Full Speed]	<hr/> → ← :Select Screen ↑ ↓ :Select Item Enter: Select +/-:Change Opt. F1 :General Help F2 :Previous Values F9 :Optimized Defaults F10 :Save & Exit ESC :Exit
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.	

The hardware monitoring page showing the current system working state, including the CPU temperature, system temperature, fan speed and voltage readings, etc.

• **Smart Fan Setting**

This item allows you to set the speed of the fans which are automatically controlled basing on temperature. options: Disabled, Auto Mode, User-Defined, Full Speed.

- Press <Esc> key to return to "Advanced" menu.

▶ **Serial Port Console Redirection** Press<Enter>key to turn into the submenu

Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.

Advanced

COM0 Console Redirection [Disabled] ▶ Console Redirection Settings Legacy Console Redirection ▶ Legacy Console Redirection Settings Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS) Console Redirection [Disabled] ▶ Console Redirection Settings	Console Redirection Enable or Disable. → ←:Select Screen ↑ ↓:Select Item Enter: Select +/-:Change Opt. F1 :General Help F7 :Previous Values F9 :Optimized Defaults F10 :Save & Exit ESC :Exit
---	---

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This item allows you to set the COM console redirection, by which the display can be showed on the other machine. Options: Enabled, Disabled.

- Press <Esc> key to return to "Advanced" menu

▶ **CPU Configuration** Press<Enter>key to turn into the submenu

Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.

Advanced

CPU configuration ▶ Socket 0 CPU Information ▶ CPU Thermal Configuration CPU Speed 1834 MHz 64-bit Supported Limit CPUID Maximum [Disabled] Execute Disable Bit [Enabled] Internal Virtualization Technology [Enabled] Power Technology [Custom] Turbo Mode [Enabled] CPU C6 report [Disabled] CPU C7 report [Disabled] Package C State limit [No Limit]	Socket specific CPU Information. → ←:Select Screen ↑ ↓:Select Item Enter: Select +/-:Change Opt. F1 :General Help F2 :Previous Values F3 :Optimized Defaults F4 :Save & Exit ESC :Exit
--	--

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• **Socket 0 CPU Information**

This item is the Related information of onboard CPU.

• **CPU Thermal Configuration**

This item is the Related settings of CPU thermal configuration.

• **Limit CPUID Maximum**

Setting limit the maximum number of CPUID via the item, and the default values of which is disabled. Options: Disabled, Enabled.

• **Execute Disable Bit**

The XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS. When this function is disabled, it forces the XD feature flag to always return to zero. Options: Disabled, Enabled.

• **Intel Virtualization Technology**

When this function is enabled, it allows a VMM to utilize the additional hardware capabilities provided by Intel Virtualization Technology. Options: Disabled,Enabled.

• **Power Technology**

This item is power management settings. Options: Disabled, Energy Efficient, Custom.

• **Turbo Mode**

This item allows you to enabled or disabled turbo mode. Options: Disabled, Enabled.

• **CPU C6 report**

This item allows CPU C6 to send report to operating system. Options: Disabled, Enabled.

• **CPU C7 report**

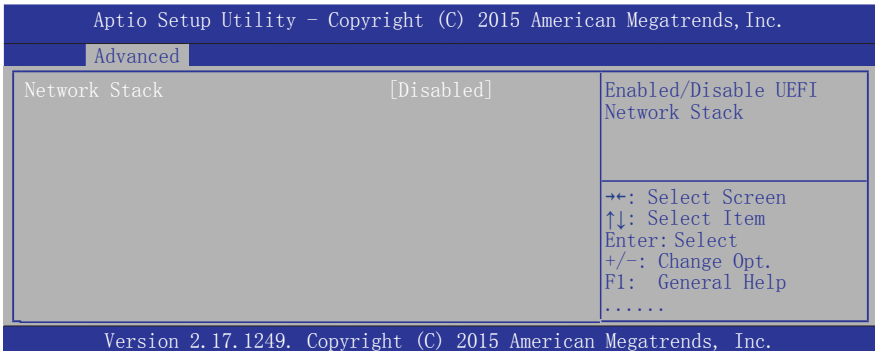
This item allows CPU C7 to send report to operating system. Options: Disabled, Enabled.

• **Package C State limit**

Options: C0, C1, C3, C6, C7, No limit.

• Press <Esc> key to return to "Advanced" menu.

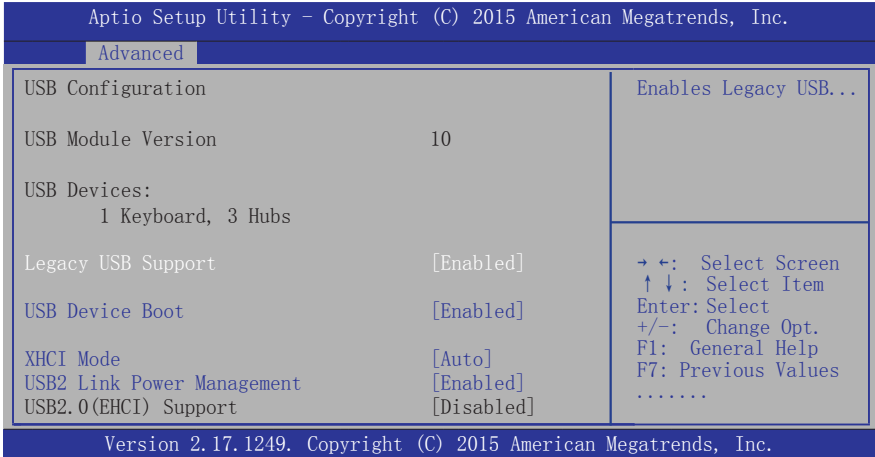
▶ **Network Stack** Press<Enter>key to turn into the submenu



• **Network Stack**

This item is used for network boot in UEFI mode. Options: Enabled, Disabled.

▶ **USB Configuration** Press <Enter> key to turn into the submenu



• **Legacy USB Support**

Allows you to select legacy support for USB devices. Options: Enabled, Disabled, Auto.

• **USB Device Boot**

Allows you to enable or disable USB device boot support. Options: Enabled, Disabled.

• **XHCI Mode**

Allows you to enable or disable USB 3.0 port controller. Options: Enabled, Disabled, Auto, Smart Mode.

• **USB2 Link Power Management**

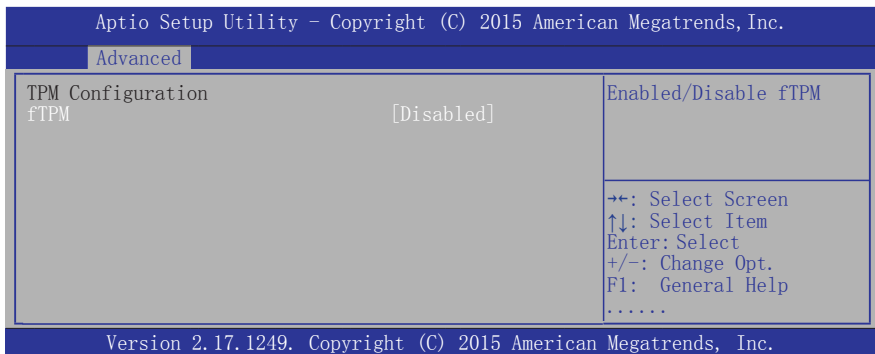
Allows you to enable or disable USB2 Link Power Management. Options: Enabled, Disabled.

• **USB 2.0(EHCI) Support**

This item is USB 2.0 port controller, the default values is disabled. Options: Enabled, Disabled.

• Press <Esc> key to return to "Advanced" menu.

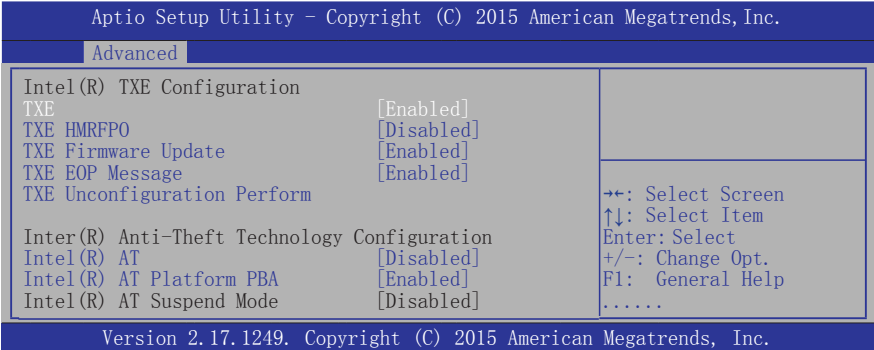
▶ **Platform Trust Technology** Press <Enter> key to turn into the submenu



• **fTPM**

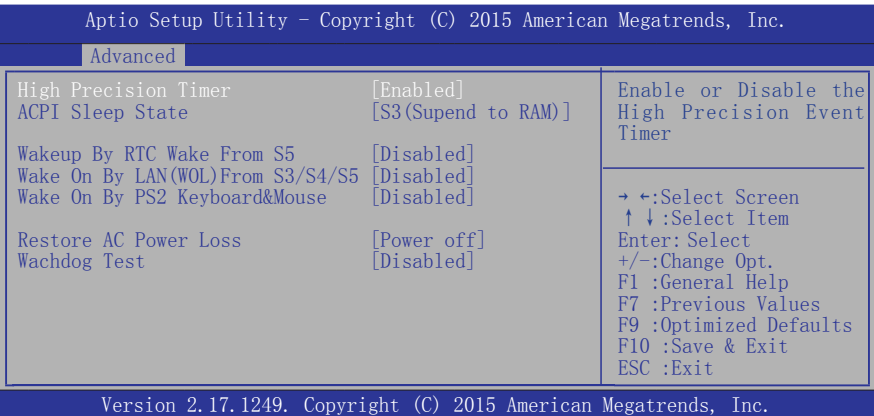
Options: Enabled, Disabled.

▶ **Security Configuration** Press <Enter> key to turn into the submenu



- **TXE**
Options: Enabled, Disabled.
- **TXE HMRFP0**
Options: Enabled, Disabled.
- **TXE Firmware Update**
Options: Enabled, Disabled.
- **TXE EOP Message**
Options: Enabled, Disabled.
- **Intel(R) AT**
Options: Enabled, Disabled.
- **Intel(R) AT Platform PBA**
Options: Enabled, Disabled.
- Press <Esc> key to return to “Advanced” menu.

▶ **Power Management** Press <Enter> key to turn into the submenu



- **High Precision Timer**

Options: Enabled, Disabled.

- **ACPI Sleep State**

Selects the power saving modes for ACPI function. Options: Suspend Disabled, S3(Suspend to RAM).

- **Wakeup By RTC Wake From S5**

Enable or disable system wakeup on alarm event from S5 dormancy situation. Options: Disabled, Fixed Time, Dynamic Time.

- **Wake On By LAN(WOL) Wake From S3/S4/S5**

Enable or disable system wakeup on by LAN from /S3/S4/S5 sleeping or dormancy situation. Options: Disabled, Enabled.

- **Wake On By PS2 Keyboard&Mouse**

Enable or disable system wakeup on by PS2 Keyboard&Mouse . Options: Disabled, Enabled.

- **Restore AC Power Loss**

Selects AC power state when AC power is re-applied after AC power loss. when Enables "Power Off", your computer will power on by pressing power button on the Chassis Panel; when Enables "Power On", your computer will straightway power on after AC power is re-applied; when Enables "Last State", the system will recovery the same state as before AC power loss after AC power is re-applied.

- **Watchdog Test**

Enable or disable watchdog test function. Options: Disabled, Enabled.

- Press <Esc> key return to "Advanced" menu

4.2.5 Chipset

Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.		
Chipset		
Onboard Audio Controller	[Enabled]	Control Detection.....
HDMI Azalia Port B	[Enabled]	
HDMI Azalia Port C	[Disabled]	
Primary Display	[IGD]	→ ←: Select Screen ↑ ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F7: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
DVMT Total Gfx Mem	[256MB]	
Primary IGFX Boot Display	[LFP]	
Secondary IGFX Boot Display	[CRT]	
eDP-LVDS	[Enabled]	
Int-LVDS	128	
LVDS Resolution	[Disabled]	
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.		

- **Onboard Audio Controller**

Allows you to enable or disable onboard audio controller. Options: Disabled, Enabled.

- **HDMI Azalia Port B/C**

Allows you to enable or disable HDMI Azalia Port B/C. Options: Disabled, Enabled.

- **Primary Display**

Allows you to select the first initiation of the monitor display from the onboard graphics or PCI Express graphics card. Options: Auto, IGD, PCI, SG.

• **DVMT Total Gfx Mem**

This item allows you to select DVMT5.0 Total Graphic Memory size used by the internal Graphic Device. Options: 128MB, 256MB, Max.

• **Primary IGFX Boot Display**

This item allows you to select the first internal graphic in the post process.

• **Secondary IGFX Boot Display**

This item allows you to select the secondary internal graphic in the post process.

• **eDP-LVDS**

Allows you enable or disable the LVCD-LCD display. Options: Disabled, Enabled.

• **LVDS Resolution**

This item allows you adjust the LVDS resolution.

4.2.6 Security

Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.					
Main	Advanced	Chipset	Security	Boot	Save&Exit
Password Description			Set Administrator Password.		
If ONLY the Administrator' password is set, then this only limits access to Setup and is only asked for when entering Setup.					
If ONLY the User's password is set, then this isa power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights.					
The password length must be in the following range:					
Minimum length		3			
Maximum length		20			
Administrator Password			→ ←: Select Screen ↑ ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F7: Previous Values F9:Optimized Defaults F10:Save & Exit ESC:Exit		
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.					

• **Administrator Password**

This option is used to set an administrator password, as the following steps:

1. Move the cursor to the Administrator Password item, press <Enter>.
2. In the "Create New Password" dialog box, enter **3 to 20 characters or numbers** to be set, press <Enter>, and enter again in the "Confirm Password" dialog box to confirm the password.If the prompt" Invalid Password! ", the passwords do not match, please re-enter again. To clear the system administrator password, select "Administrator Password", in "Enter Current Password" dialog box enter the old password, and in the "Create New Password" press <Enter>, password will be cleared.

4.2.7 Boot

Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.				
Main	Advanced	Chipset Security	Boot	Save&Exit
Boot Configuration				Number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting.
Setup Prompt Timeout		1		
Bootup NumLock State		[On]		
Popup Menu Hotkey		[Enabled]		
Full Logo		[Enabled]		
Launch PXE OpROM		[Disabled]		
OS Selection		[Windows 7]		
Fast Boot		[Disabled]		
ME OVERRIDE		[Disabled]		
Boot Option Priorities				
▶ CSM Configuration				
				→ ← : Select Screen ↑ ↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F7: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.				

• **Setup Prompt Timeout**

This option sets how long the prompt message will last.

• **Bootup NumLock State**

It is used to set the state of the Numlock key after system starts up. When "On" is chosen, the Numlock key will be ON and number keys on the keypad are available after system starts up; When "Off" is chosen, Numlock will remain OFF after system starts up.

• **Popup Menu Hotkey**

Allows you to enable or disable to enter Popup Menu Hotkey. Options: Disabled, Enabled.

• **Full Logo**

Allows you to enable or disable the full screen logo display feature. Options: Disabled, Enabled.

• **Launch PXE OpROM**

Allows you to enable or disable PXE ROM. Options: Disabled, Enabled.

• **OS Selection**

This item allows you that must select types of OS you want to install, otherwise, you can't install OS successfully. Options: Windows 7, Windows 8.X, Andriod.

• **Fast Boot**

This item allows you to enable or disable boot with initialization of minimal set of devices required to launch active boot option. It is no effect on BBS boot. Options: Disabled, Enabled.

• **ME OVERRIDE**

Enabling this item, ME will be disabled when the computer boots next time.

► **CSM Configuration**

Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.	
Boot	
Compatinility Support Module Configuration	
CSM Support	[Enabled]
CSM16 Module Version	07.76
GateA20 Active	[Upon Request]
Option ROM Messages	[Force BIOS]
INT19 Trap Response	[Immediate]
Boot option filter	[UEFI and Legacy]
Enabled/Disabled CSM Support.	
→ ←: Select Screen ↑ ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help	
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.	

- **CSM Support**
Allows you enable or disable CSM Support function. Options: Enabled, Disabled.
 - **GateA20 Active**
This feature determines how GateA20 is used to adress memory above 1MB.
Upon Request: GateA20 can be disabled using BIOS services.
Always: Do not allow disabling GateA20.
 - **Option ROM Messages**
Setting display mode for Option ROM. Options: Force BIOS, Keep Current.
 - **Boot option filter**
Options: UEFI and Legacy, Legacy only, UEFI only.
- 4.2.8 Save & Exit

Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.				
Main	Advanced	Chipset Security	Boot	Save&Exit
Save Changes and Reset		Reset system after saving the changes.		
Discard Changes and Reset				
Load Optimized Defaults		→ ←: Select Screen ↑ ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F7: Previous Values		
Launch EFI Shell from filesystem device				
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.				

- **Save Changes and Reset**
Select "Save Changes and Exit", and press the <Enter> key, and select "Yes", this will save all settings to the CMOS and exit BIOS setup program. If you want to abort, select "No" or Press <ESC> key and return to the "Save & Exit" menu.
- **Discard Changes and Reset**
Select "Discard changes and exit", select "Yes" and press <Enter> to give up on BIOS program changes and exit BIOS setup program. Select "No" or press <ESC> key to return to the main menu.
- **Load Optimized Defaults**
Allows you to load all the options of BIOS optimized defaults.
- **Launch EFI Shell from filesystem device**
This option allows you to attempt to launch the UEFI Shell application(shellx64.efi) from one of the available devices that have filesystem.

Chapter 5 Driver Installation

Check your package and there is Driver DVD included. This DVD consists of all drivers you need. In addition, this DVD also include an auto detect software which can tell you which hardware is installed, and which drivers needed so that your system can function properly.

Insert DVD into your DVD-ROM drive and the menu should appear as below. If the menu does not appear, double-click My Computer / double-click DVD-ROM drive or click Start / click Run / type X:\AUTORUN.EXE (assuming X is your DVD-ROM drive).



(This picture is only for reference)

Please click on the options, and install relevantly corresponding driver. (**Note:** USB3.0 driver only support WIN7 OS.)

Toxic and hazardous substances or elements logo:



Carried out under the Ministry of Information Industry of the People's Republic of China released the <<Electronic Information Products Pollution Control Management Measures >> SJ/T11364-2006 standard requirements, pollution control identification of the products and toxic and hazardous substances or elements of identity are described below:

Toxic and hazardous substances or elements logo:

The names and contents of toxic and hazardous substances or elements in the product

Part Name	Toxic and hazardous substances or elements					
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)
PCB Board	×	○	○	○	○	○
Structure	○	○	○	○	○	○
Chipset	○	○	○	○	○	○
Connector	○	○	○	○	○	○
Passive electronic components	○	○	○	○	○	○
Weld metal	○	○	○	○	○	○
Wire	×	○	○	○	○	○
Help welding,thermal grease, labels and other supplies	○	○	○	○	○	○
<p>O : Indicates that this toxic and hazardous substance content in all of the components of homogeneous material provisions of the SJ/T11363-2006 standard limited requirement. X : Indicates that this toxic or hazardous substances at least in the part of a homogeneous material content than SJ/T11363-2006 standards limited requirement. Note : X means the location of the lead content exceeds the limit requirement of ST/T11363-2006's standard, but in line with the European Union RoHS Directive exemption clause.</p>						