ECM-VX900 A.2.

3.5” VIA VX900 Micro Module

User’s Manual

1st Ed – 23 April 2012

Part No. E2047391101R

FCC Statement

THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

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Headquarters and Branch

Avalue Technology Inc.

7F, 228, Lian-cheng Road, Chung Ho City, Taipei, Taiwan

Tel:+886-2-8226-2345

Fax: +886-2-8226-2777

Information:sales@avalue.com.tw

Service: service@avalue.com.tw

Avalue USA

Avalue Technology Inc.

9 Timber Lane, Marlboro, NJ 07746-1443

Tel: (732) 414-6500

Fax: (732) 414-6501

Information: sales@avalue-usa.com

Service: support@avalue-usa.com

BCM Advanced Research

BCM Advanced Research

an Avalue Company

7 Marconi, Irvine, CA92618

Tel: +1-949-470-1888

Fax: +1-949-470-0971

Information: BCMSales@bcmcom.com

Web: www.bcmcom.com

Avalue Europe

Avalue Europe A/S

Moelledalen 22C, 3140

Aalsgaarde, Denmark

Tel: +45-7025-0310

Fax:+45-4975-5026

Information: sales.europe@avalue.com.tw

Service: service.europe@avalue.com.tw

Avalue China

Avalue Technology Inc.

Room 805, Building 9,No.99 Tianzhou Rd.,

Caohejing Development Area,

Xuhui District, Shanghai

Tel: +86-21-5169-3609

Fax:+86-21-5445-3266

Information: sales.china@avalue.com.cn

Service: service@avalue.com.tw

Avalue Japan

Avalue Technology Inc.

2F keduka-Bldg, 2-27-3 Taito,

Taito-Ku, Tokyo 110-0016 Japan

Tel: +81-3-5807-2321

Fax: +81-3-5807-2322

Information: sales.japan@avalue.com.tw
Service: service@avalue.com.tw

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Avalue warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products that have been repaired or altered by people other than repair personnel authorized by Avalue, or that have been subject of misuse, abuse, accident or improper installation. Avalue assumes no liability under the terms of this warranty as a consequence of such events. Because of Avalue's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If any of Avalue's products is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details. If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU type and speed, Avalue's products model name, hardware & BIOS revision number, other hardware and software used, etc.) Note anything abnormal and list any on-screen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information available.
3. If your product is diagnosed as defective, obtain an RMA (return material authorization) number from your dealer. This allows us to process your good return more quickly.
4. Carefully pack the defective product, a complete Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Contents

1. Getting Started

1.1 Safety Precautions

Warning!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Always note that improper disassembling action could cause damage to the motherboard. We suggest not removing the heatsink without correct instructions in any circumstance. If you really have to do this, please contact us for further support.

1.2 Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 x 3.5” ECM-VX900 Micro Module
- 1 x Quick Installation Guide for ECM-VX900
- 1 x AUX-032 daughter board
- 1 x DVD-ROM contains the followings:
  - User’s Manual (this manual in PDF file)
  - Ethernet driver and utilities
  - VGA drivers and utilities
  - Audio drivers and utilities
- 1 x Cable set contains the followings:
  - 1 x Audio cable (12pin, 2.0mm pitch)
  - 1 x USB cable (10P/2.54mm-10P/2.0mm)
  - 1 x Serial ATA cable (7-pin, standard)
  - 1 x Serial ATA cable (15-pin, 2P/2.0mm)

1.3 Document Amendment History

Revision	Date	By	Comment
1st	June 2011	Avalue	Initial Release (A1)
2nd	April 2012	Avalue	A2 version

1.4 Manual Objectives

This manual describes in details Avalue Technology ECM-VX900 Single Board.

We have tried to include as much information as possible but we have not duplicated information that is provided in the standard IBM Technical References, unless it proved to be necessary to aid in the understanding of this board.

We strongly recommend that you study this manual carefully before attempting to set up ECM-VX900 series or change the standard configurations. Whilst all the necessary information is available in this manual we would recommend that unless you are confident, you contact your supplier for guidance.

Please be aware that it is possible to create configurations within the CMOS RAM that make booting impossible. If this should happen, clear the CMOS settings, (see the description of the Jumper Settings for details).

If you have any suggestions or find any errors regarding this manual and want to inform us of these, please contact our Customer Service department with the relevant details.

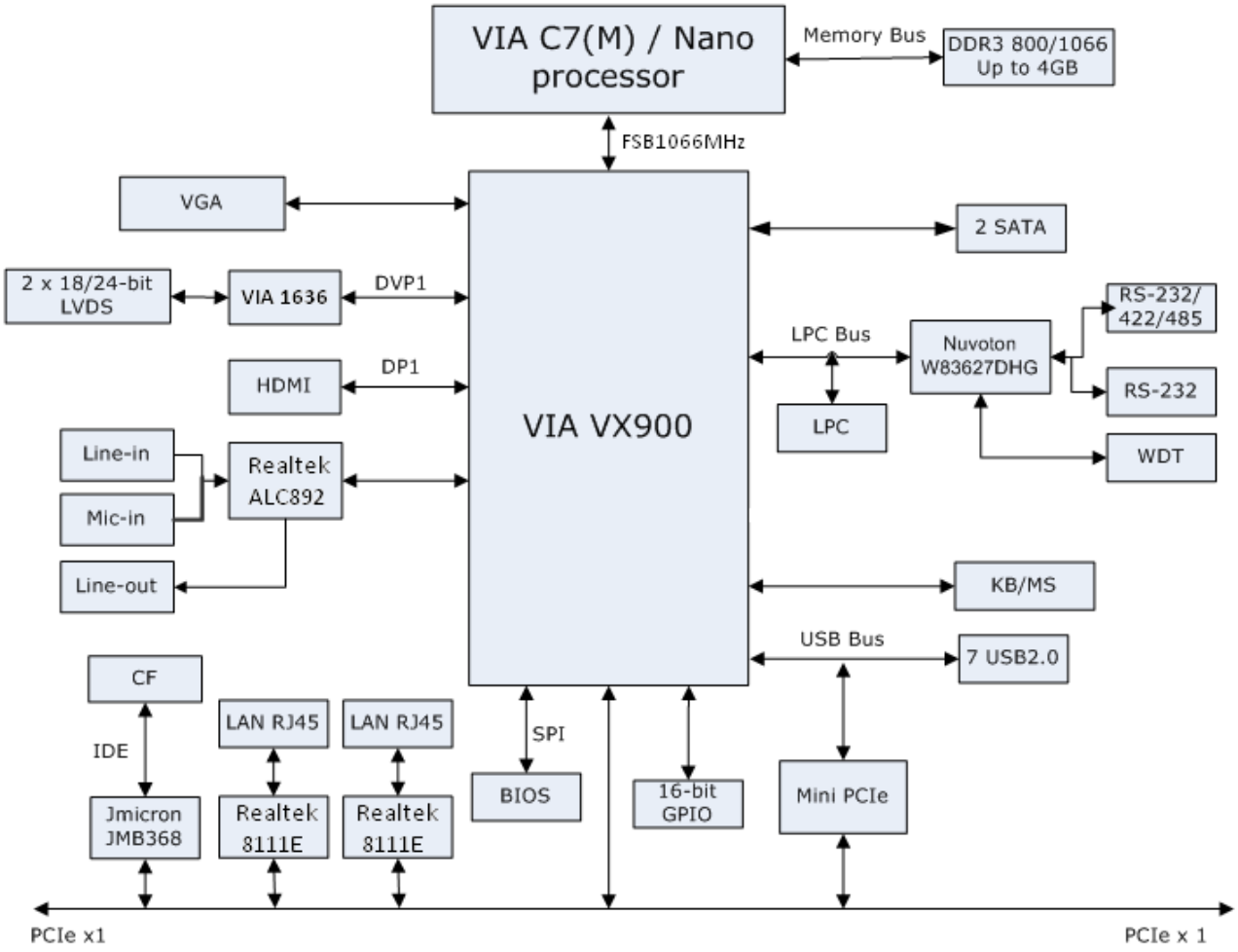
1.5 System Specifications

System	
CPU	VIA NanoX2 U4300E 1.2+GHz
	Optional VIA C7(M) / Nano processor with V4 protocal
BIOS	AMI BIOS
System Chipset	VIA VX900
I/O Chip	Nuvoton W83627DHG
System Memory	One 204-pin SODIMM socket supports up to 4GB DDR3 1333MHz SDRAM
SSD	1 x CompactFlash Type I/II socket (PCIe to IDE (JMicron JMB368))
Watchdog Timer	Reset: 3 ~ 255 min. and 1 min./step
H/W Status Monitor	Monitoring system temperature, voltage, and cooling fan status. Auto trotting control when CPU overheats
Expansion	Mini-PCIe Card Slot
I/O	
MIO	2 x SATA, 1 x RS232, 1 x RS232/422/485 , 1 x K/B & Mouse, LPC
USB	7 x USB 2.0 ports (1for edge connector, 6for pin header)
IrDA	N/A
DIO	8-bit GPI and 8-bit GPO
Display	
Chipset	VIA VX900
Display Memory	Up to 512MB frame buffer size using system memory
Resolution	CRT mode: 2560 x 1600
	LCD/Simultaneous mode (4:3): 1600 x 1200
Multiple Display	CRT + LVDS, CRT + HDMI, LVDS + HDMI
LCD Interface	Dual-Channel 18/24-bit LVDS (DVP1)
TV-out	N/A
DVI	N/A
HDMI	Integrated by VIA VX900 (DP1)
Audio	
AC97 Codec	Realtek ALC892 suport 7.1CH audio
Audio Interface	Mic in, Line in, CD-audio in, Line out

Ethernet	
LAN Chip	Dual Realtek 8111E, supports Wake on LAN
Ethernet Interface	1000Base-Tx Gigabit Ethernet compatible
Mechanical & Environmental	
Power Requirement	+12V~+28V
ACPI	Single power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
Power Type	AT/ATX
Operating Temp.	0~60°C
Operating Humidity	0%~90% relative humidity, non-condensing
Size (L x W)	5.7" x 4" (146 mm x 101 mm)
Weight	TBD

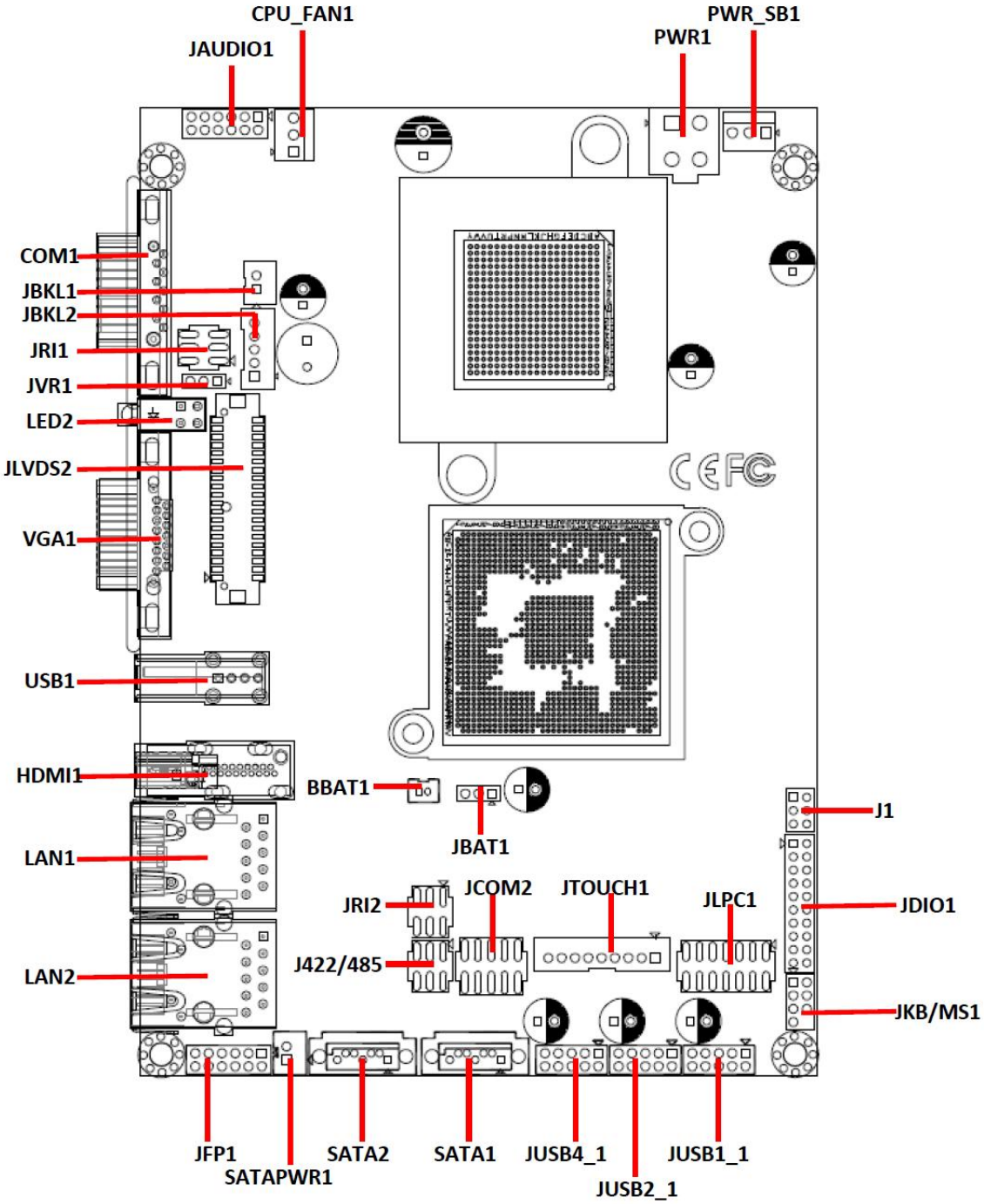
1.6 Architecture Overview—Block Diagram

The following block diagram shows the architecture and main components of ECM-VX900

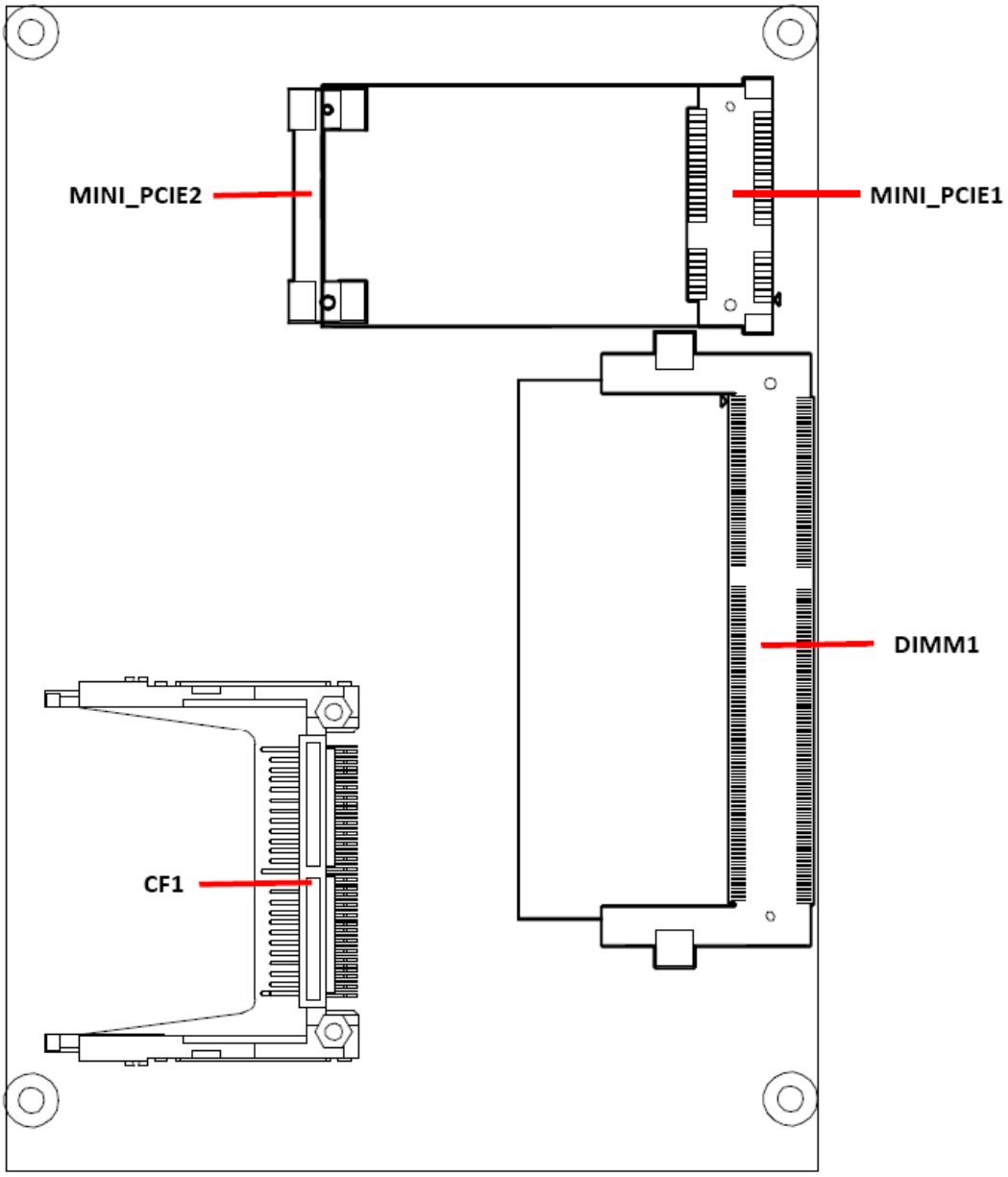


2. Hardware Configuration

2.1 Product Overview



ECM-VX900



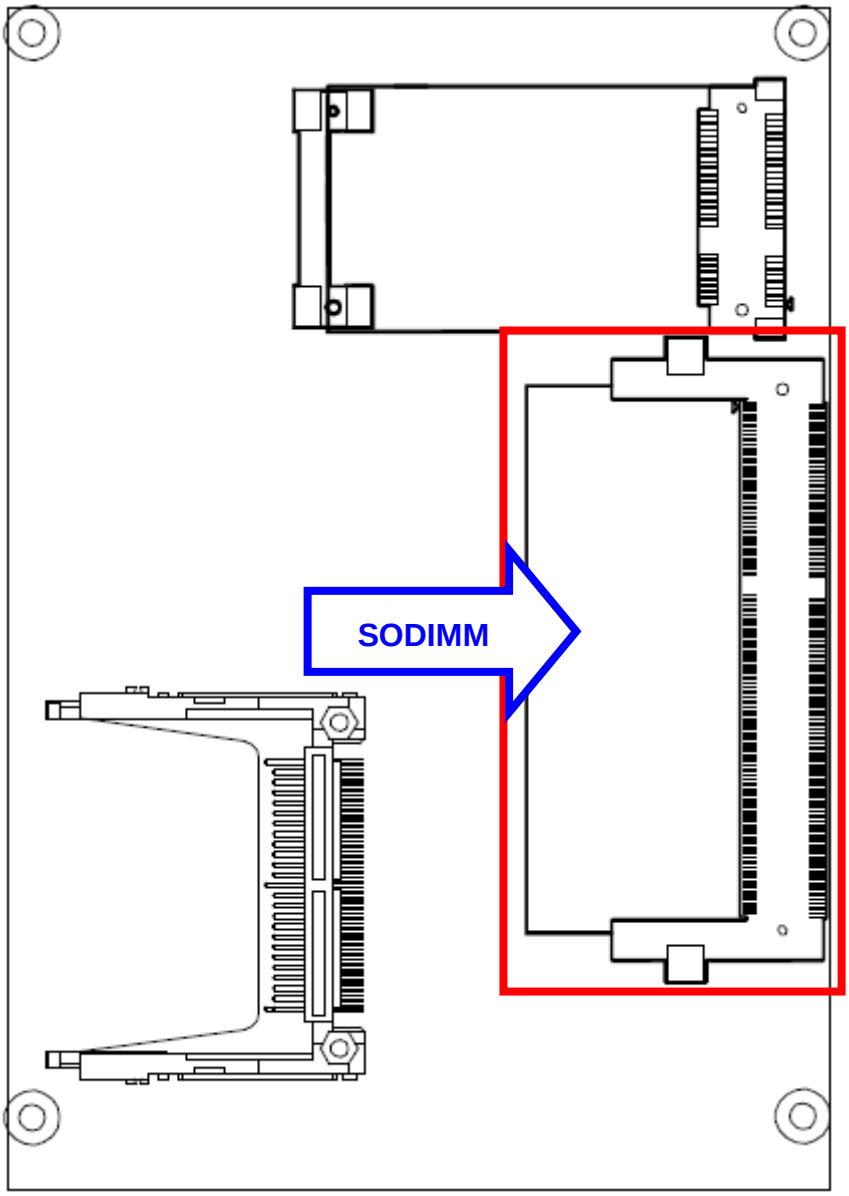
2.2 Installation Procedure

This chapter explains you the instructions of how to setup your system.

1. Turn off the power supply.
2. Insert the DIMM module (be careful with the orientation).
3. Insert all external cables for hard disk, floppy, keyboard, mouse, USB etc. except for flat panel. A CRT monitor must be connected in order to change CMOS settings to support flat panel.
4. Connect power supply to the board via the ATXPWR.
5. Turn on the power.
6. Enter the BIOS setup by pressing the delete key during boot up. Use the “LOAD BIOS DEFAULTS” feature. The ***Integrated Peripheral Setup*** and the ***Standard CMOS Setup*** Window must be entered and configured correctly to match the particular system configuration.
7. If TFT panel display is to be utilized, make sure the panel voltage is correctly set before connecting the display cable and turning on the power.

2.2.1 Main Memory

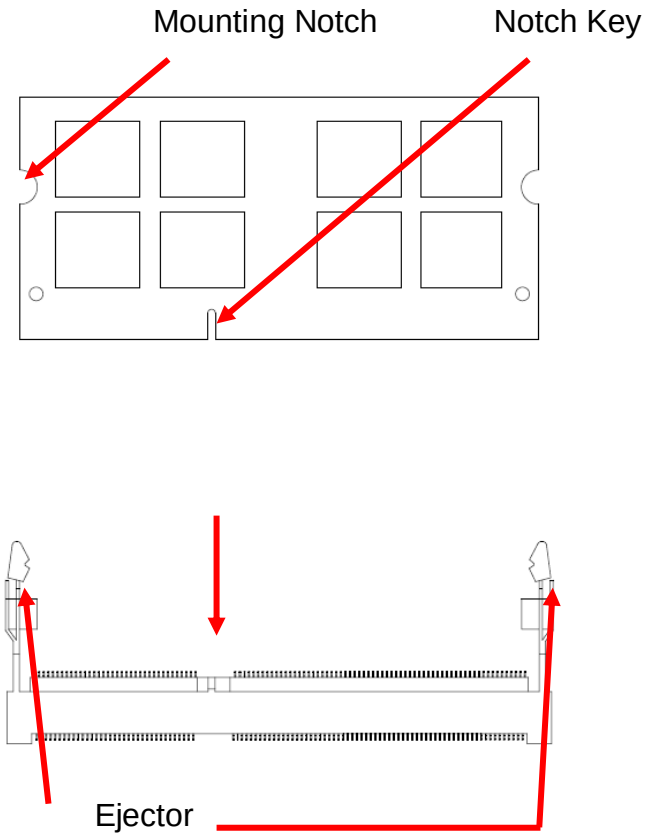
ECM-VX900 provides one 204-pin SODIMM socket that supports up to 4GB DDR3 1333MHz SDRAM.



(Rear side)

Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to board and components.

- Locate the SODIMM socket on the board.
- Carefully hold two edges of the SODIMM module. avoid touching its connectors.
- Align the notch key on the module with the rib on the slot.
- Firmly press the modules into the socket which automatically snaps into the mounting notch. Do not force the SODIMM module in with extra force as the SODIMM module only fits in one direction.



204-pin DDR3 SODIMM

- To remove SODIMM modules, simultaneously push the two ejector tabs outward, then pull out the SODIMM module.

Note:

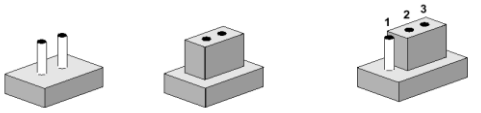
(1) Please do not change any DDR3 SDRAM parameter in BIOS setup to increase your system's performance without acquiring technical information in advance.

(2) Static electricity can damage the electronic components of the computer or optional boards. Before proceeding, ensure that you are discharged of static electricity by briefly touching a grounded metal object.

2.3 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip. To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



Open Closed Closed 2-3

The jumper settings are schematically depicted in this manual as follows:

Open Closed Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

The following tables list the function of each of the board’s jumpers and connectors.

Jumpers

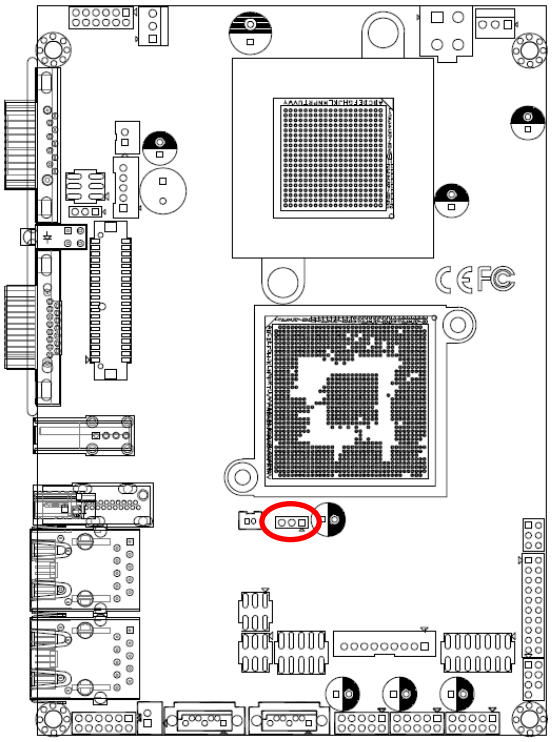
Label	Function	Note
JBAT1	Clear CMOS	3 x 1 header, pitch 2.00 mm
JFP1	Multi-purpose connector	6 x 2 header, pitch 2.0 mm
JRI1	Serial port 1 (COM1) signal selector	3 x 2 header, pitch 2.0 mm
JRI2	Serial port 2 (COM2) signal selector	3 x 2 header, pitch 2.0 mm

Connectors

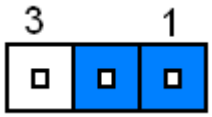
Label	Function	Note
BBAT1	Battery connector	2 x 1 wafer, pitch 1.25 mm
COM1	Serial port 1 connector	D-sub 9-pin, male
CF1	CF card connector	CF type II 50 pin
CPU_FAN1	CPU fan connector	3 x 1 wafer, pitch 2.54 mm
DIMM1	204-pin DDR3 SODIMM socket	
HDMI1	HDMI connector	
J422/485	Serial port 2 in RS-422/485 mode	3 x 2 header, pitch 2.0 mm
JAUDIO1	Audio connector	6 x 2 header, pitch 2.0 mm
JBKL1	+12V power connector	2 x 1 wafer, pitch 2.0 mm
JBKL2	LCD inverter connector	5 x 1 wafer, pitch 2.0 mm
JCOM2	Serial port 2 connector	5 x 2 header, pitch 2.0 mm
JDIO1	General purpose I/O connector	10 x 2 header, pitch 2.0 mm
JKB/MS1	PS2 KB/MS connector	4 x 2 header, pitch 2.0 mm
JLPC1	Low Pin count connector	7 x 2 header, pitch 2.0 mm
JLVDS2	LVDS Connector	20 x 2 box, pitch 1.25 mm
JTOUCH1	Touch Panel Connector	9 x 1 wafer box, pitch 2.00 mm
JUSB1-1	USB connector 0 & 1	5 x 2 header, pitch 2.0 mm
JUSB2-1	USB connector 2 & 3	5 x 2 header, pitch 2.0 mm
JUSB4-1	USB connector 4 & 5	5 x 2 header, pitch 2.0 mm
JVR1	LCD backlight brightness adjustment	3 x 1 header, pitch 2.00 mm
J1	SPI Connector	3 x 2 header, pitch 2.00 mm
LAN1/ LAN2	RJ-45 Ethernet connector	
LED2	LED connector	
MINI_PCIE1	PCI Express connector	52 header
MINI_PCIE2	PCI Express latch	
PWR_SB1	5VSB connector in ATX	3 x 1 wafer, pitch 2.54 mm
PWR1	Power connector	2 x 2 wafer, pitch 4.2 mm
SATA1	Serial ATA connector 1	
SATA2	Serial ATA connector 2	
SATAPWR1	Serial ATA power connector 1	2 x 1 wafer, pitch 2.00 mm
USB1	USB connector 6	
VGA1	VGA connector	D-sub 15-pin, female

2.4 Setting Jumpers & Connectors

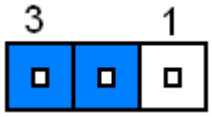
2.4.1 Clear CMOS (JBAT1)



Protect*

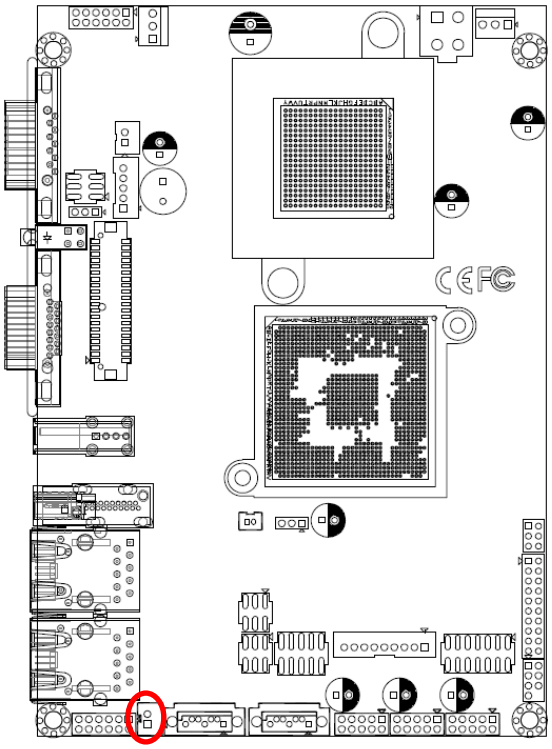


Clear CMOS



*** Default**

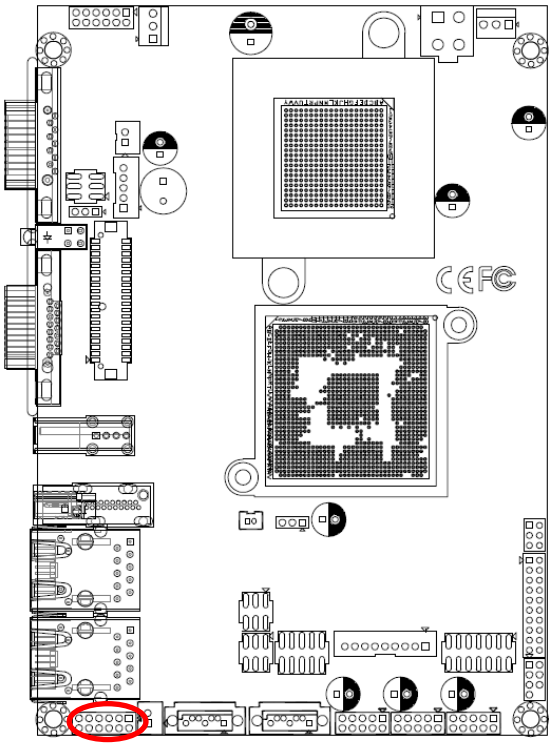
2.4.2 Serial ATA power connector (SATAPWR1)



Signal	PIN
+5V	2
GND	1

*** Default**

2.4.3 Multi-purpose connector (JFP1)



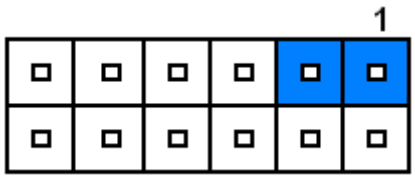
Signal	PIN	PIN	Signal
PWRBTN#	1	2	GND
AUTO_PWR_ON	3	4	GND
-RST_SW	5	6	GND
CF_SEL#	7	8	GND
PWR_LED+	9	10	PWR_LED
HD_LED+	11	12	HD_LED

*** Default**

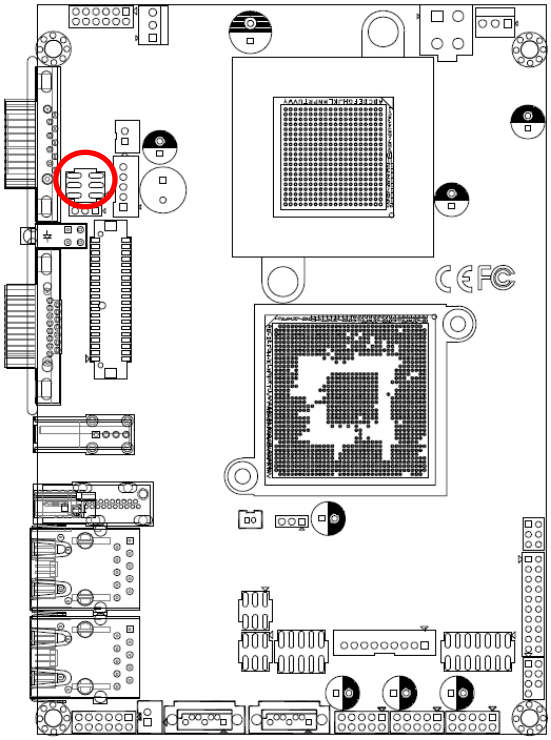
Jumper settings

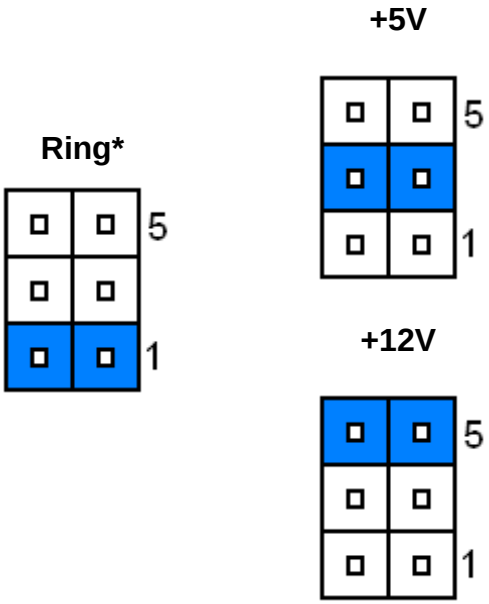
PIN	Signal
1-2	PWBT
1-3	AT PWR MODE
5-6	RST#
7-8	CF SEL Short Master Open Slave (Default)
9-10	PWR-LED
11-12	HDD-LED

AT mode*



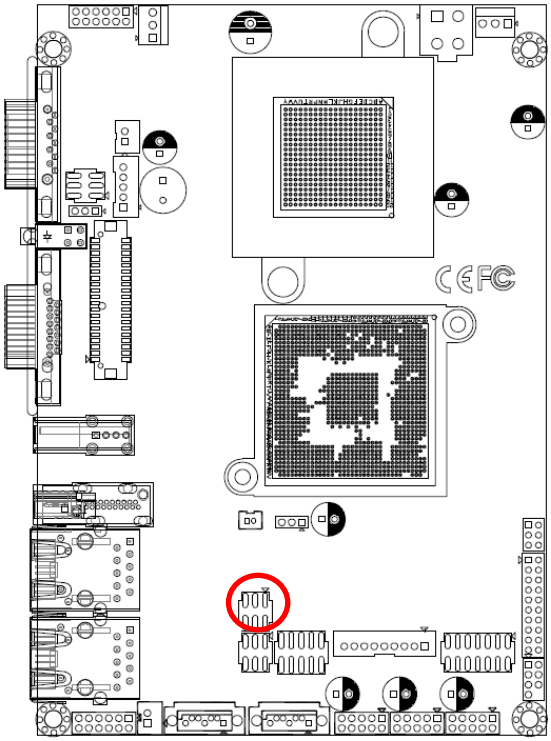
2.4.4 Serial port 1 (COM1) signal selector (JRI1)

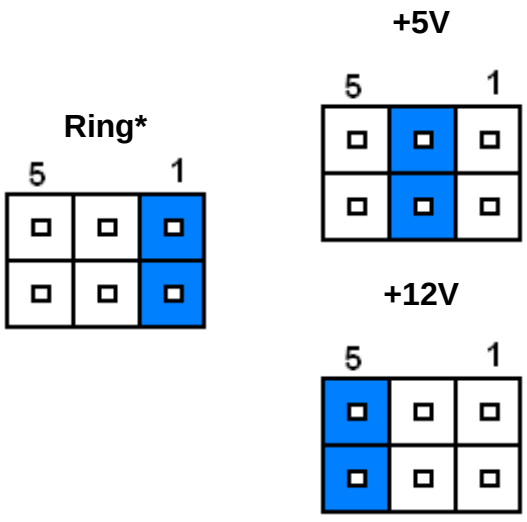




*** Default**

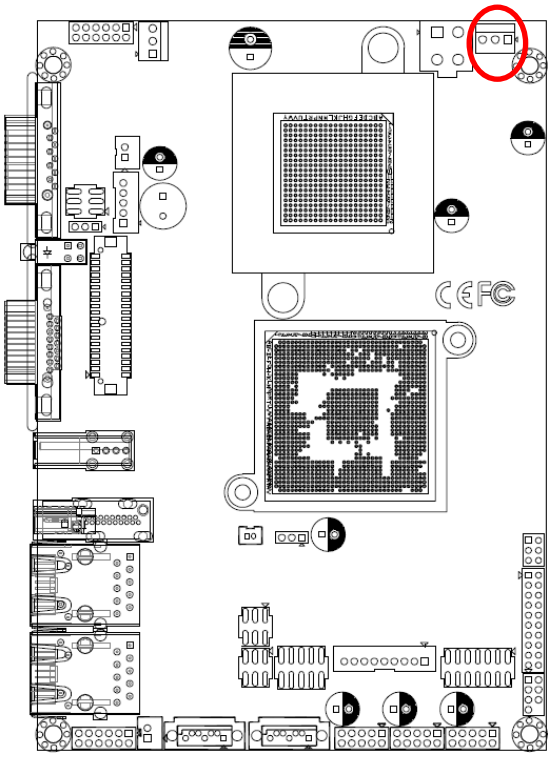
2.4.5 Serial port 2 (COM2) signal selector (JRI2)

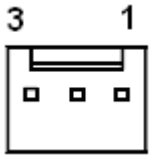




*** Default**

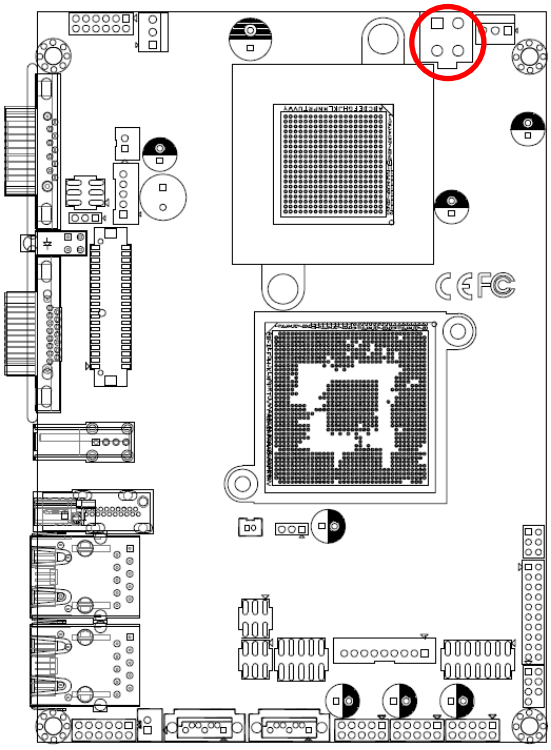
2.4.6 5VSB connector in ATX (PWR_SB1)

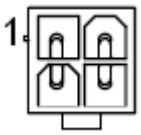




Signal	PIN
ATX5VSB	3
GND	2
PSON	1

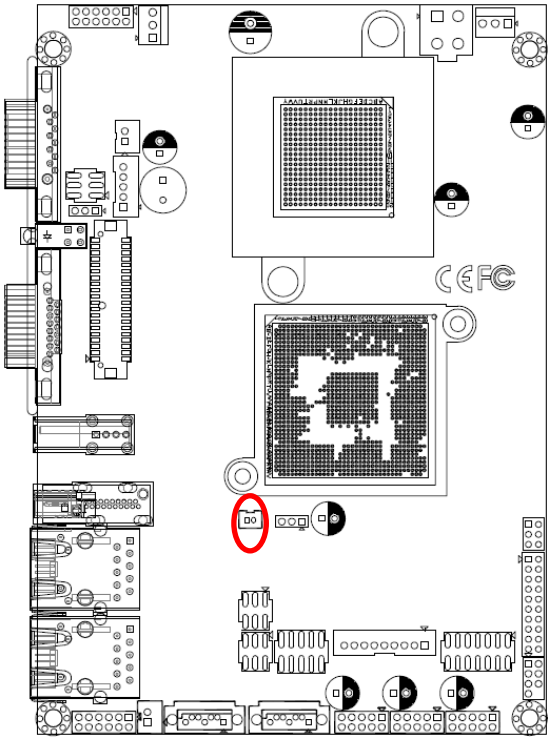
2.4.7 Power connector (PWR1)

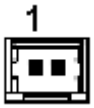




Signal	PIN	PIN	Signal
GND	1	2	GND
+VIN	3	4	+VIN

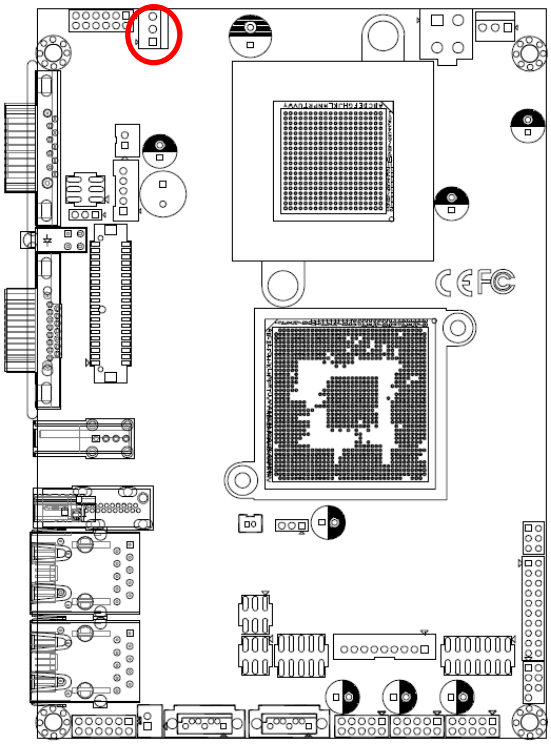
2.4.8 Battery connector (BBAT1)

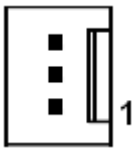




Signal	PIN
+V3.3A	1
GND	2

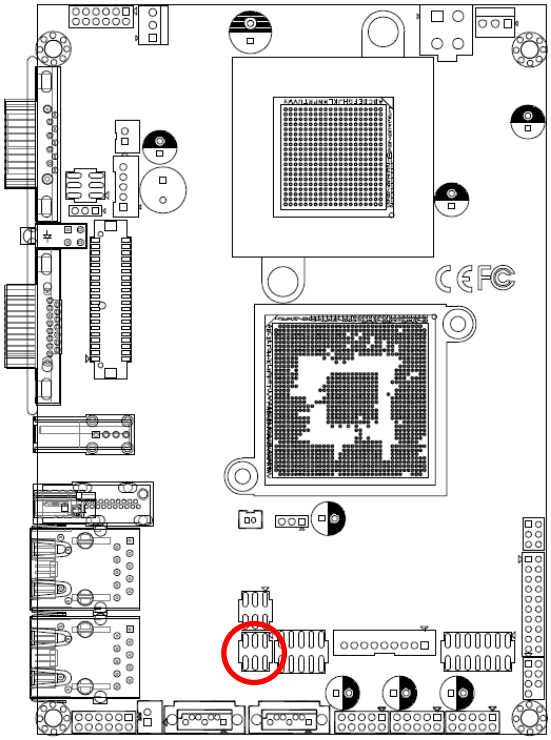
2.4.9 CPU fan connector (CPU_FAN1)

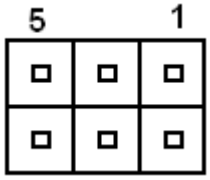




Signal	PIN
FAN_TACHOIN	3
+V12S	2
GND	1

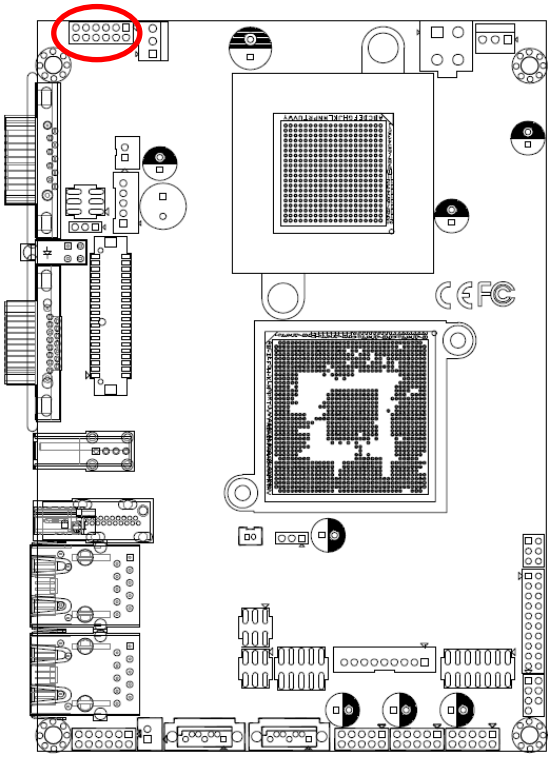
2.4.10 Serial port 2 in RS-422/485 mode (J422/485)

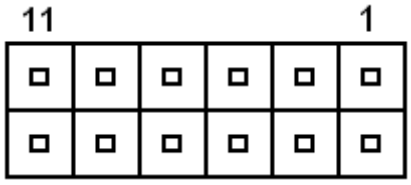




Signal	PIN	PIN	Signal
485RX-	2	1	485TX-
485RX+	4	3	485TX+
GND	6	5	+5V

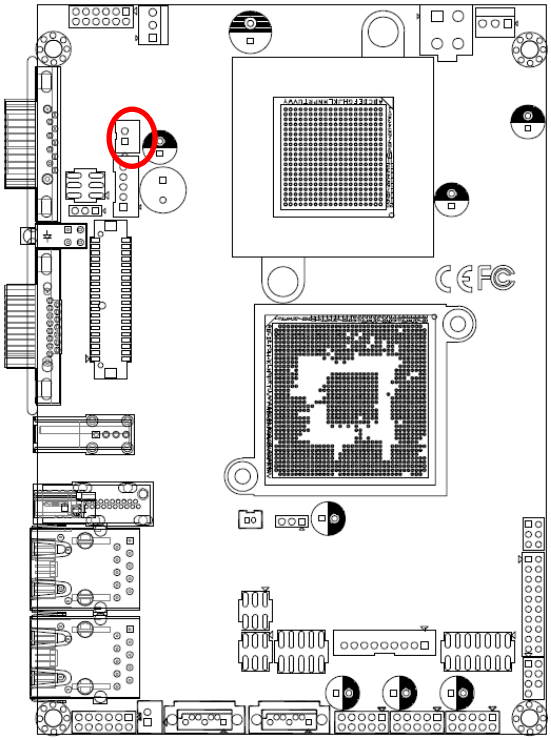
2.4.11 Audio connector (JAUDIO1)





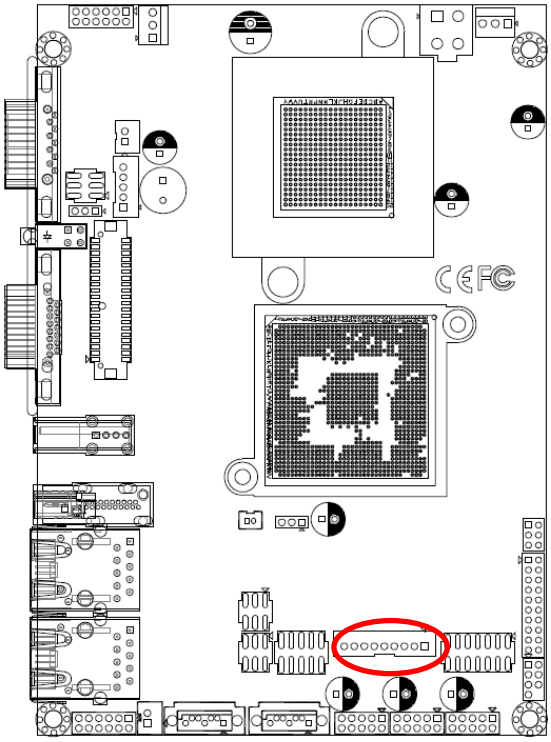
Signal	PIN	PIN	Signal
GND	12	11	MIC1_JD
LIN1_JD	10	9	FRONT_JD
MIC1_L	8	7	MIC1_R
LIN1_L	6	5	LIN1_R
GND	4	3	GND
FRONT_L	2	1	FRONT_R

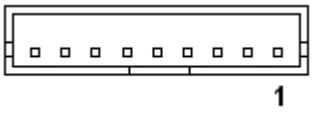
2.4.12 +12V power connector (JBKL1)



Signal	PIN
GND	2
+12V	1

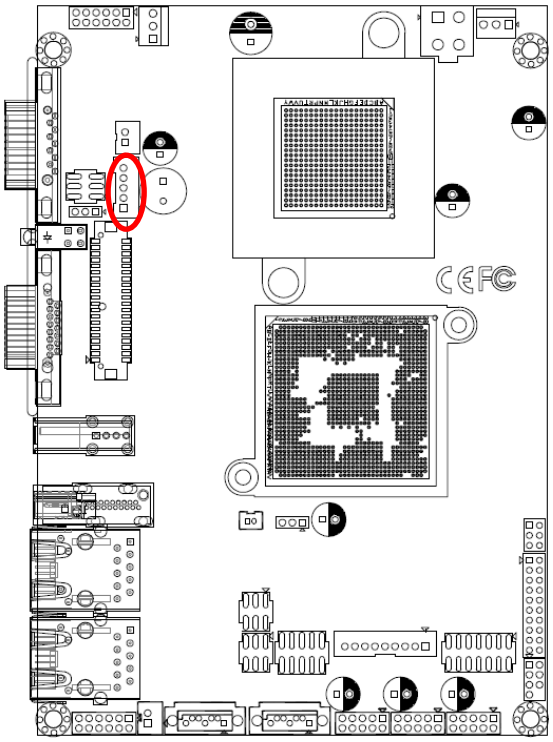
2.4.13 Touch Panel connector (JTOUCH1)





Signal	PIN	4-Wire	5-Wire	8-Wire
X+	1	NA	NA	Right Sense
X-	2	NA	NA	Left Sense
Y+	3	NA	NA	Bottom Sense
SENSE	4	NA	Sense	Top Sense
X+	5	Right	LR	Right Excite
X-	6	Left	LL	Left Excite
Y+	7	Bottom	UR	Bottom Excite
Y-	8	Top	UL	Top Excite
TOUCH_GND	9	GND	GND	GND

2.4.13 LCD Inverter Connector (JBKL2)



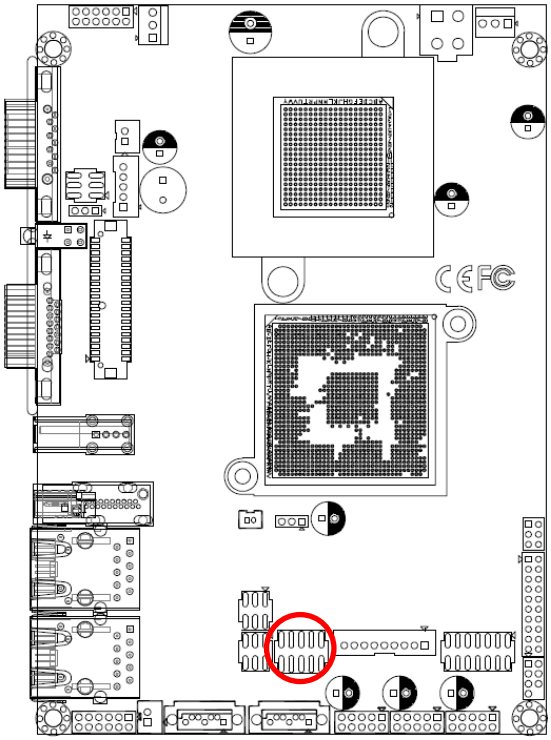
Signal	PIN
+V5S	5
L_BKLT_CTRL_R	4
LVDS_BKLT_EN	3
GND	2
+V12S	1

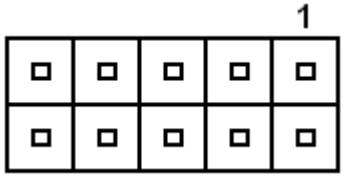
Note:
For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by **JVR1**. Please see the **JVR1** section for detailed circuitry information.

2.4.13.1 Signal Description – LCD Inverter Connector (JBKL2)

Signal	Signal Description
L_BKLT_CTRL_R	Vadj = 0.75V ~ 4.25V (Recommended: 4.7KΩ, >1/16W)
BLEN	LCD backlight ON/OFF control signal

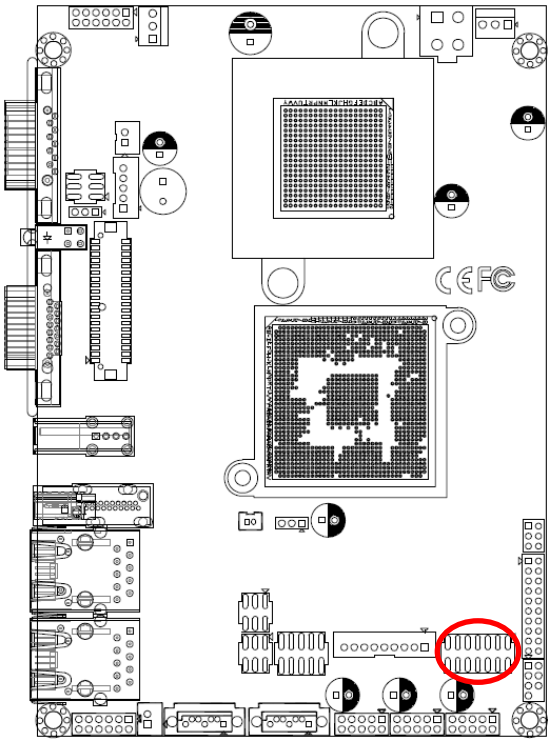
2.4.14 Serial port 2 connector (JCOM2)

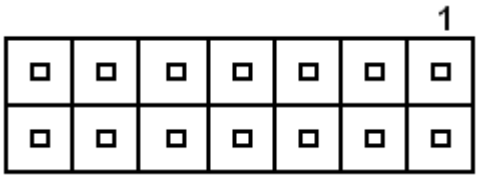




Signal	PIN	P N	Signal
DCD#_2	1	2	RxD_2
TxD_2	3	4	DTR#_2
G D	5	6	DSR#_2
RTS#_2	7	8	CTS#_2
RI#_2	9	10	NC

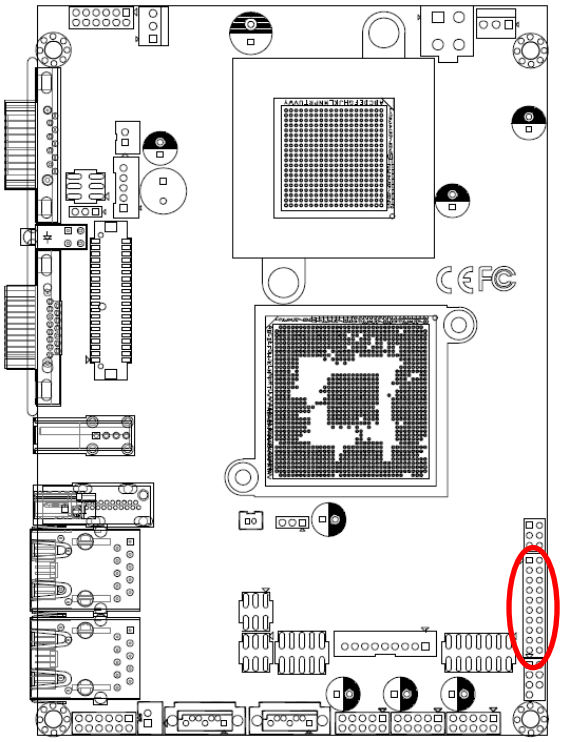
2.4.15 Low Pin Count connector (JLPC1)

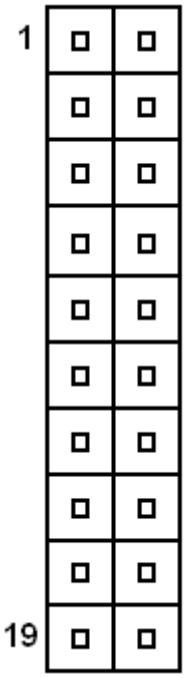




Signal	PIN	PIN	Signal
AD0	1	2	+V3.3S
AD1	3	4	RST#
AD2	5	6	FRAME#
AD3	7	8	CLK
SERIRQ	9	10	GND
+V5S	11	12	GND
+V5A	13	14	GND

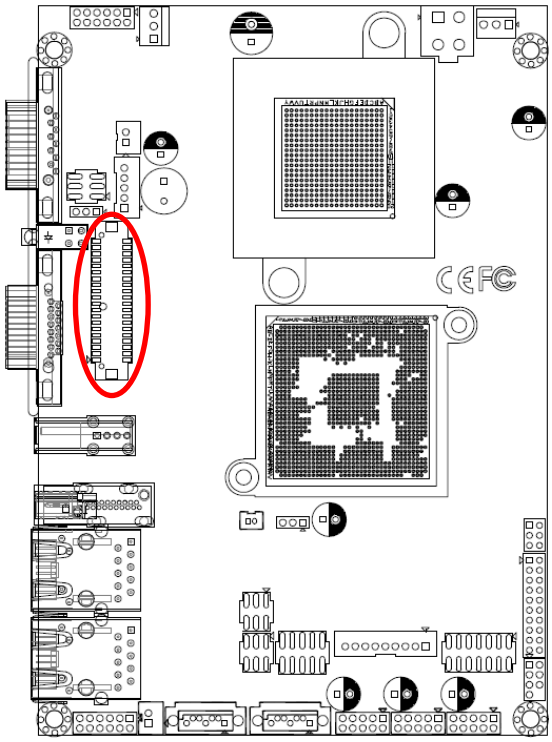
2.4.16 General purpose I/O connector (JDIO)

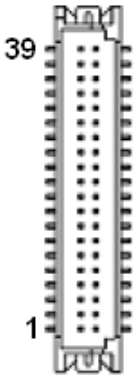




Signal	PIN	PIN	Signal
DIO_OUT0	1	2	DIO_IN0
DIO_OUT1	3	4	DIO_ IN1
DIO_ OUT2	5	6	DIO_ IN2
DIO_ OUT3	7	8	DIO_ IN3
DIO_ OUT4	9	10	DIO_ IN4
DIO_ OUT5	11	12	DIO_ IN5
DIO_ OUT6	13	14	DIO_ IN6
DIO_ OUT7	15	16	DIO_ IN7
SMB_CK	17	18	SMB_DT
GND	19	20	+5V

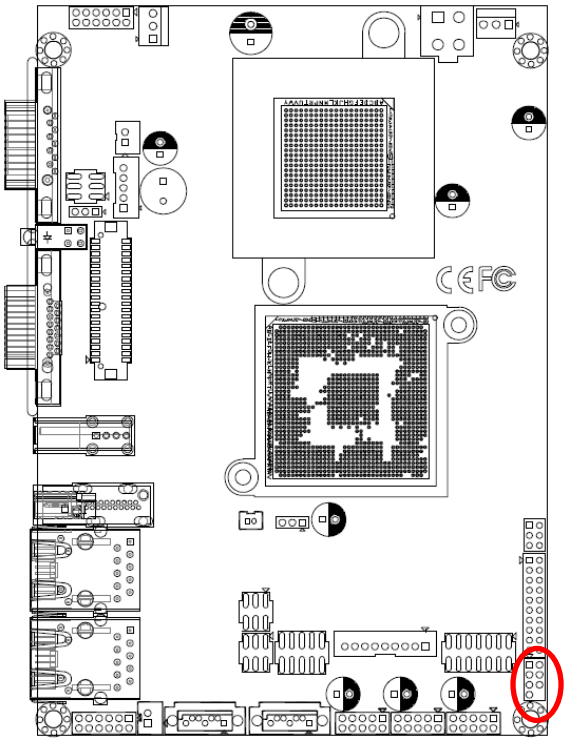
2.4.17 LVDS connector (JLVDS2)





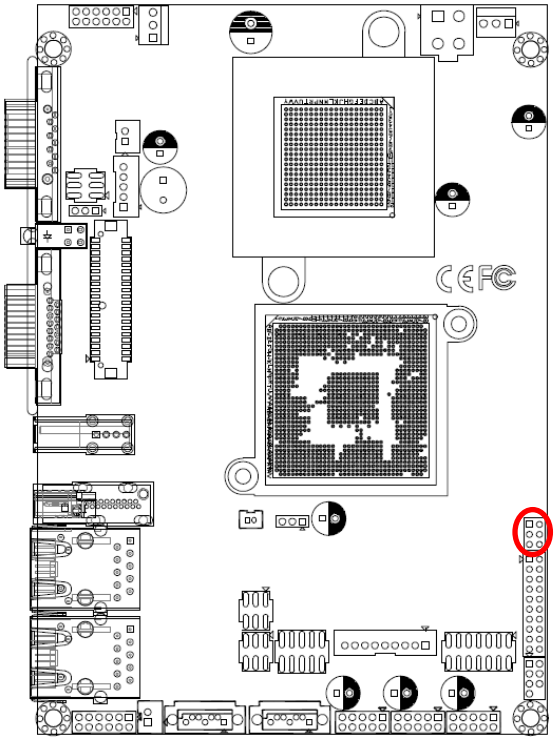
Signal	PIN	PIN	Signal
+12V	39	40	+12V
GND	37	38	GND
LVDSB_CLK#	35	36	LVDSA_CLK#
LVDSB_CLK	33	34	LVDSA_CLK
GND	31	32	GND
LVDSB_DATA3#	29	30	LVDSB_DATA2#
LVDSB_DATA3	27	28	LVDSB_DATA2
GND	25	26	GND
LVDSB_DATA1#	23	24	LVDSB_DATA0#
LVDSB_DATA1	21	22	LVDSB_DATA0
GND	19	20	GND
LVDSA_DATA3#	17	18	LVDSA_DATA2#
LVDSA_DATA3	15	16	LVDSA_DATA2
GND	13	14	GND
LVDSA_DATA1#	11	12	LVDSA_DATA0#
LVDSA_DATA1	9	10	LVDSA_DATA0
GND	7	8	GND
LVDS_DDC_CLK	5	6	LVDS_DDC_DATA
+3.3V	3	4	+5V
+3.3V	1	2	+5V

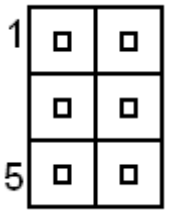
2.4.18 PS2 KB/MS connector (JKB/MS1)



Signal	PIN	PIN	Signal
KB_DT	1	2	KB_CK
GND	3	4	PS2PWR
MS_DT	5	6	MS_CK
NC	7		

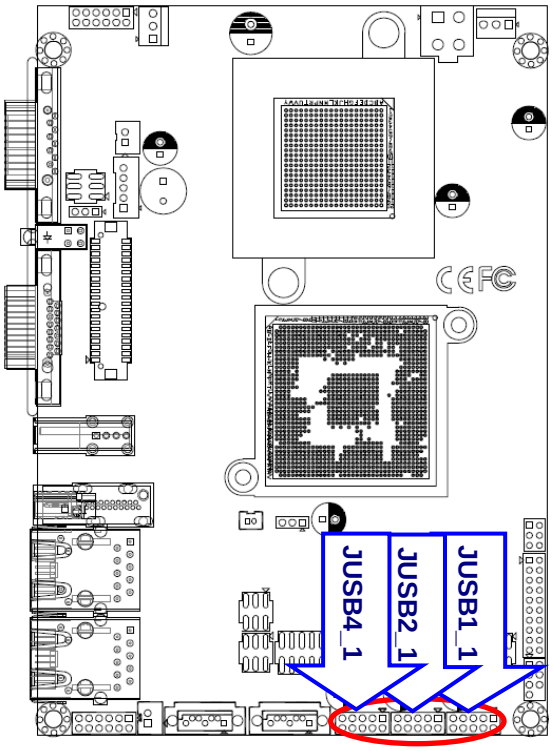
2.4.19 SPI connector (J1)

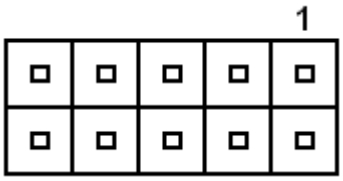




Signal	PIN	PIN	Signal
+V3.3A	1	2	GND
SS0	3	4	CLK
DI	5	6	DO

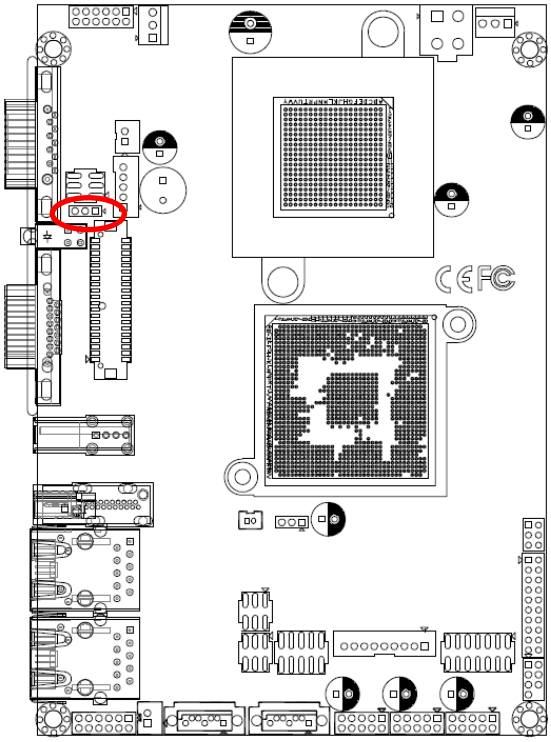
2.4.20 USB connector 0 & 1/ 2 & 3/ 4&5 (JUSB1_1/ JUSB2_1/ JUSB4_1)

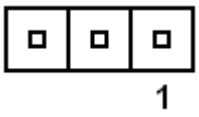




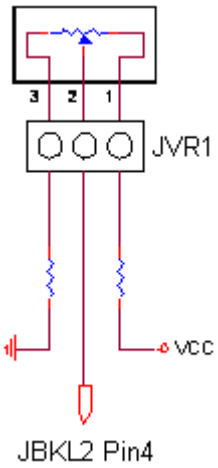
Signal	PIN	PIN	Signal
+5V	1	2	GND
N1/ N2/N4	3	4	GND
P1/ P2/P4	5	6	P0/ P3/P5
GND	7	8	N0/ N3/N5
GND	9	10	+5V

2.4.21 LCD backlight brightness adjustment (JVR1)





Signal	PIN
+5V	1
L_BKLT_CTRL_R	2
GND	3

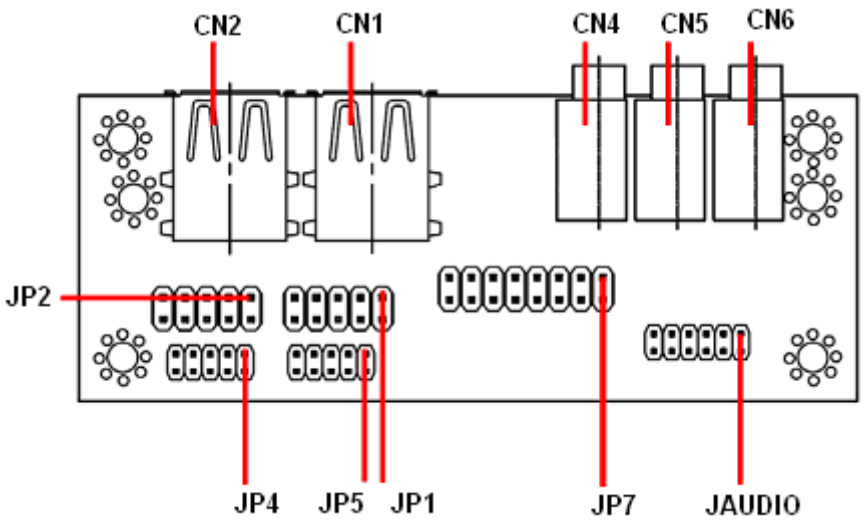


Variation Resistor

(Recommended: 4.7KΩ, >1/16W)

2.5 Audio / USB Daughter Board (AUX-032) User's Guide

2.5.1 Jumper and Connector Layout



2.5.2 Jumper and Connector List

Connectors

Label	Function	Note
CN1, CN2	USB connector	
CN4	Line out connector	Phone Jack
CN5	Line in connector	Phone Jack
CN6	Mic in connector	Phone Jack
JAUDIO	Audio connector	6 x 2 header, pitch 2.0mm
JP1	2.54mm USB connector	5 x 2 header, pitch 2.54mm
JP2	2.54mm USB connector	5 x 2 header, pitch 2.54mm
JP4	2.0mm USB connector	5 x 2 header, pitch 2.0mm
JP5	2.0mm USB connector	5 x 2 header, pitch 2.0mm
JP7	TV / Audio connector	8 x 2 header, pitch 2.54mm

2.5.3 Setting Jumper and Connector

Audio Connector (JAUDIO)

Signal	PIN	PIN	Signal
OUTR	1	2	OUTL
GND	3	4	GND
INR1	5	6	INL1
MICIN1	7	8	AREF
FRONT-JD1	9	10	LINE1-JD1
MIC1-JD1	11	12	GND

2.54mm USB Connector (JP1)

Signal	PIN	PIN	Signal
+5V	1	2	GND
D1-	3	4	GND
D1+	5	6	D2+
GND	7	8	D2-
GND	9	10	+5V

Note: Wrong USB cable configuration with your USB devices might damage USB devices.

2.54mm USB Connector (JP2)

Signal	PIN	PIN	Signal
+5V	1	2	GND
D3-	3	4	GND
D3+	5	6	D4+
GND	7	8	D4-
GND	9	10	+5V

TV / Audio Connector (JP7)

Signal	PIN	PIN	Signal
Mic In	1	2	Mic Bais
GND	3	4	GND
Line out L	5	6	Line out R
SPK L	7	8	SPK R
Line in L	9	10	Line in R
GND	11	12	NC
TVGND	13	14	NC
TVGND	15	16	COMP

2.0mm USB Connector (JP4)

Signal	PIN	PIN	Signal
+5V	1	2	GND
D3-	3	4	GND
D3+	5	6	D4+
GND	7	8	D4-
GND	9	10	+5V

2.0mm USB Connector (JP5)

Signal	PIN	PIN	Signal
+5V	1	2	GND
D1-	3	4	GND
D1+	5	6	D2+
GND	7	8	D2-
GND	9	10	+5V

3. BIOS Setup

3.1 Introduction

The BIOS setup program allows users to modify the basic system configuration. In this following chapter will describe how to access the BIOS setup program and the configuration options that may be changed.

3.2 Starting Setup

The AMI BIOS™ is immediately activated when you first power on the computer. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:
By pressing <Del> immediately after switching the system on, or
By pressing the <Del> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test).

Press DEL to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

Press F1 to Continue, DEL to enter SETUP

3.3 Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Button	Description
↑	Move to previous item
↓	Move to next item
←	Move to the item in the left hand
→	Move to the item in the right hand
Esc key	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
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
(Shift) F2 key	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F3 key	Calendar, only for Status Page Setup Menu
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the default
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

- **Navigating Through The Menu Bar**

  Use the left and right arrow keys to choose the menu you want to be in.

Note: Some of the navigation keys differ from one screen to another.

- **To Display a Sub Menu**

  Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A "➢" pointer marks all sub menus.

3.4 Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or the F1 key again.

3.5 In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the AMI BIOS supports an override to the CMOS settings which resets your system to its defaults.

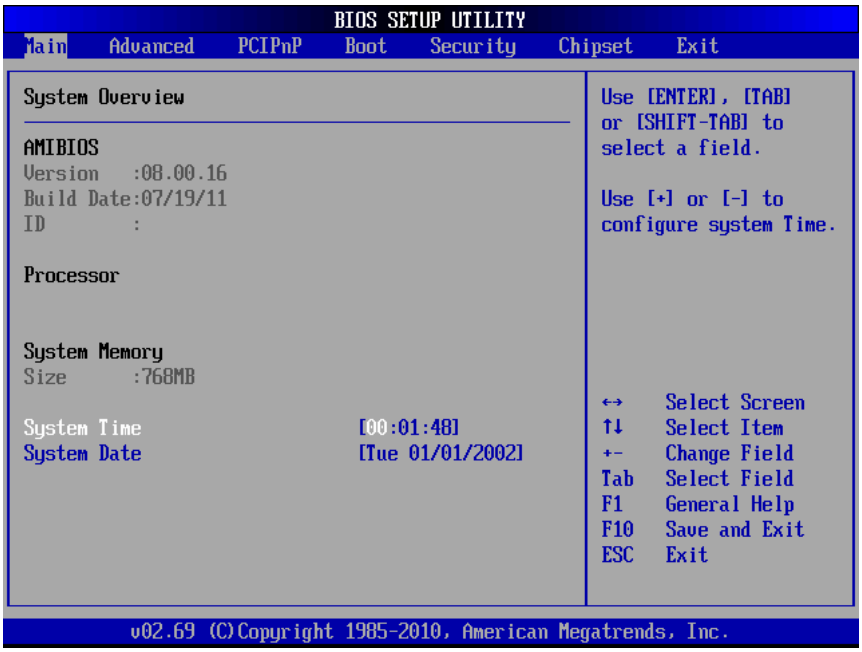
The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

3.6 BIOS setup

Once you enter the AMI BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

3.6.1 Main Menu

This section allows you to record some basic hardware configurations in your computer and set the system clock.



3.6.1.1 System Date

Use the system time option to set the system time. Manually enter the hours, minutes and seconds.

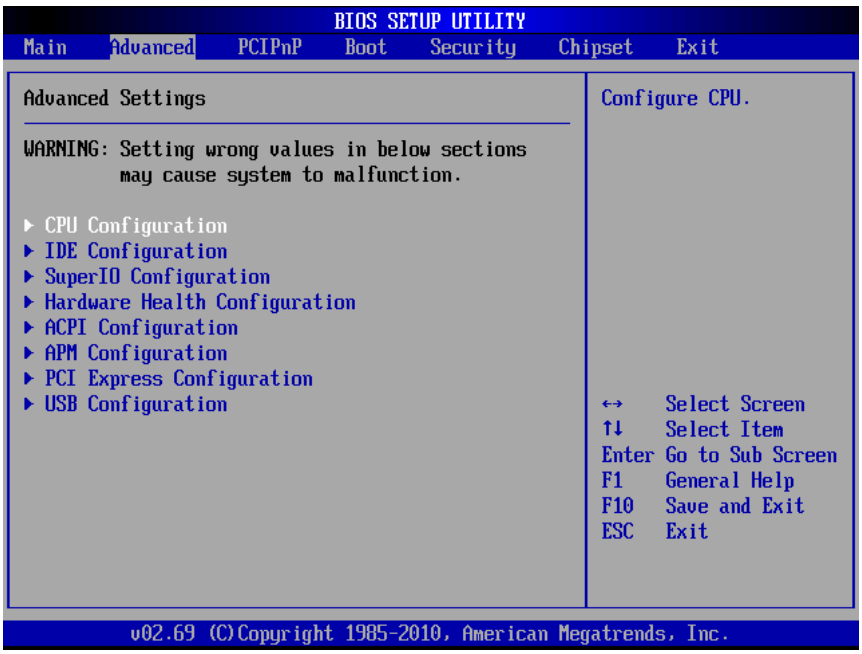
3.6.1.2 System Time

Use the system Date option to set the system date. Manually enter the day, month and year.

Note: The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen.
Visit the Avalue website (www.avalue.com.tw) to download the latest product and BIOS information.

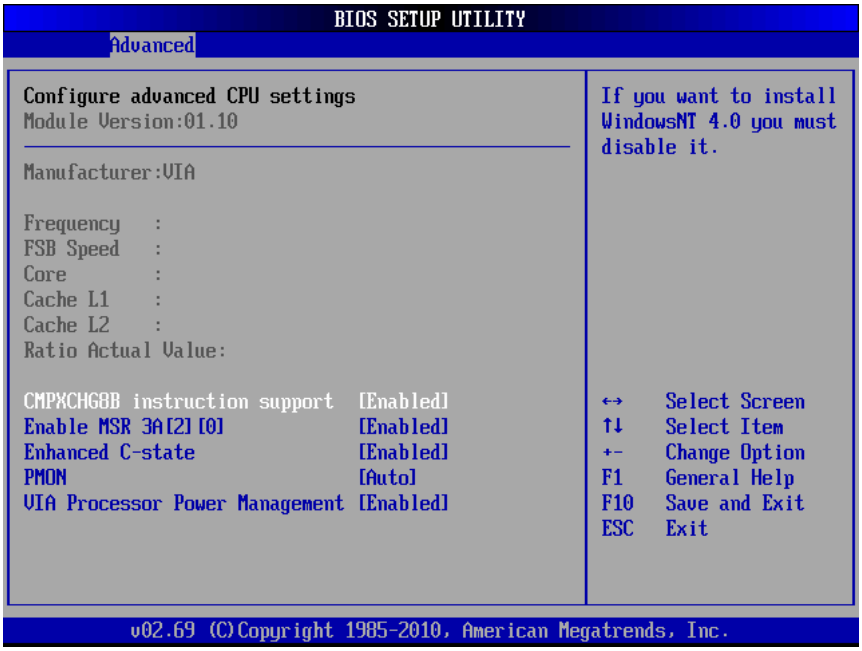
3.6.2 Advanced BIOS settings

This section allows you to configure your CPU and other system devices for basic operation through the following sub-menus.



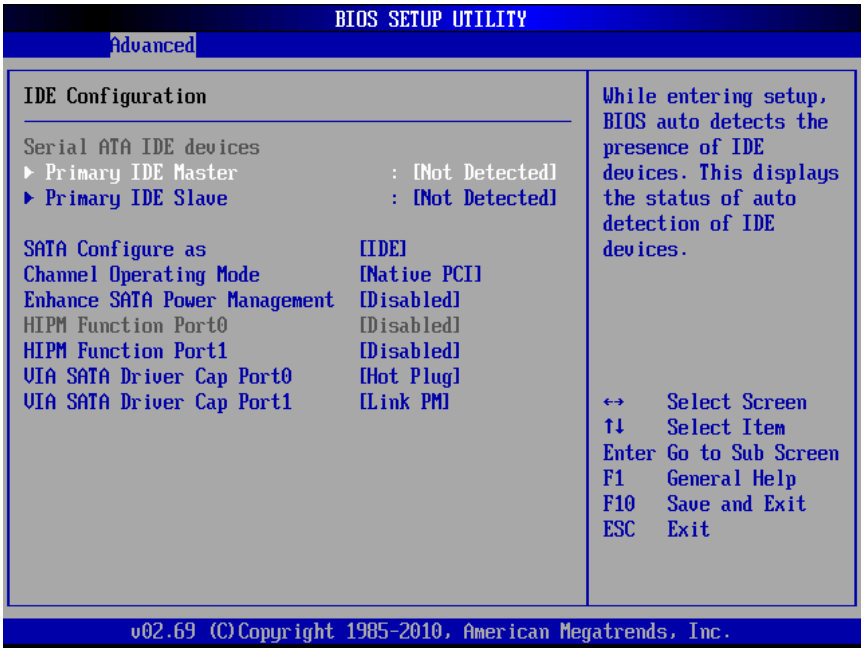
3.6.2.1 Configure advanced CPU settings

Use the CPU configuration menu to view detailed CPU specification and configure the CPU.



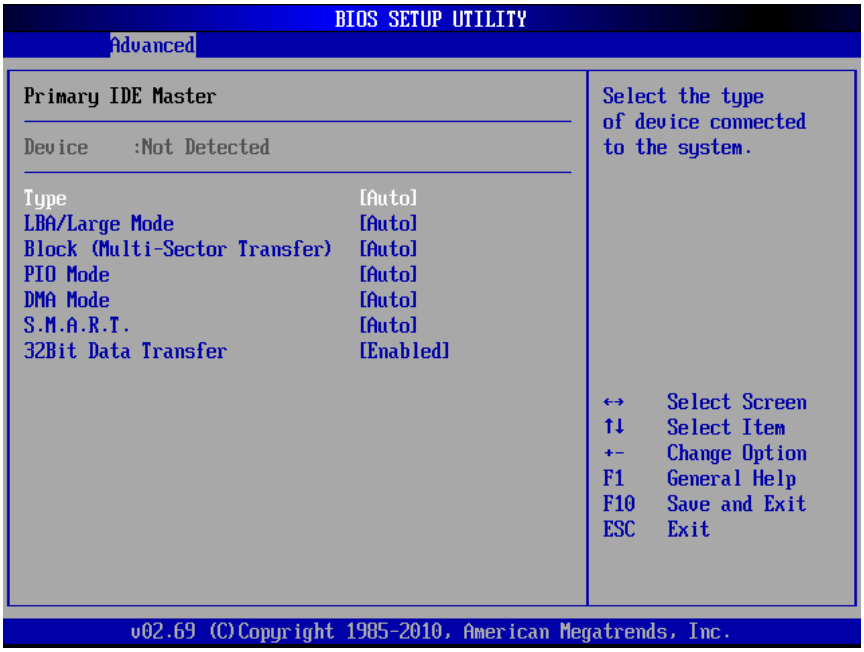
Item	Options	Description
CMPXCHG8B instruction support	Enabled Disabled	Enable or disable CMPXCHG8B instruction support
Enable MSR 3A [2] [0]	Enabled Disabled	Enable or disable MSR 3A [2] [0]
Enhanced C-state	Enabled Disabled	This item allows you to enable or disable Enhanced C-States
PMON	Auto Disabled	Enables or disables PMON
VIA Processor Power Management	Enabled Disabled	Enable or disable VIA Processor Power Management

3.6.2.2 IDE Configuration



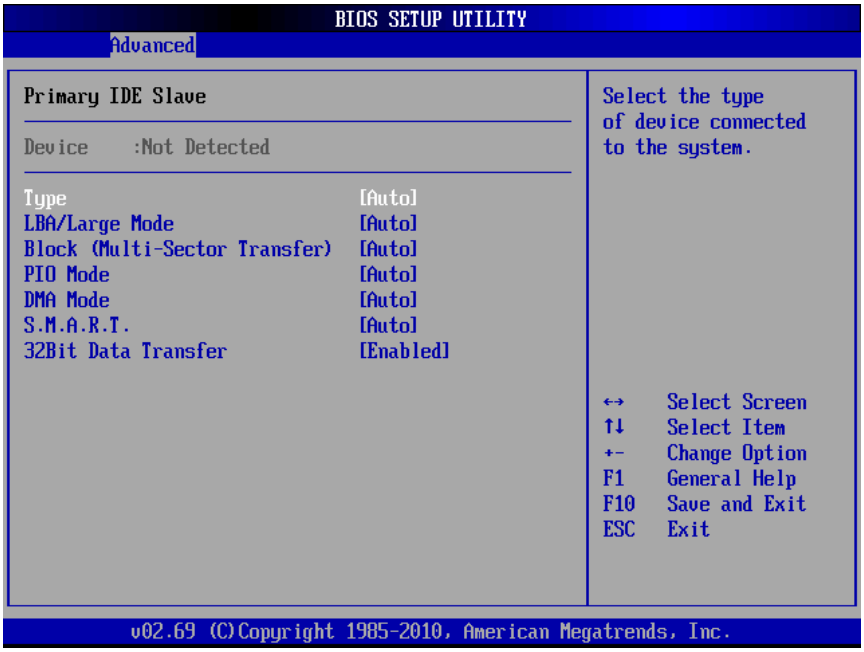
Item	Options	Description
SATA Configure as	IDE RAID	Configure SATA as IDE or RAID
Channel Operating Mode	Native PCI Compibility	Channel Operating Mode Selection
Enhance SATA Power Management	Enabled Disabled	Enable or disable SATA Power Management
HIPM Function Port0	Enabled Disabled	Enable or disable HIPM Function Port0
HIPM Function Port1	Enabled Disabled	Enable or disable HIPM Function Port1
VIA SATA Driver CAP Port0/1	Hot Plug Link PM	VIA SATA Driver CAP Port0/1 selection

3.6.2.2.1 Primary IDE Master



Item	Options	Description
Type	Not Installed Auto CD/DVD ARMD	Select options for type
LBA/Large Mode	Disabled Auto	Select options for LBA/Large Mode
Block (Multi-Sector Transfer)	Disabled Auto	Select options for Block (Multi-Sector Transfer)
PIO Mode	Auto 0 1 2 3 4	Select options for PIO Mode
DMA Mode	Auto	Select options for DMA Mode
S.M.A.R.T.	Auto Disabled Enabled	Select options for S.M.A.R.T.
32Bit Data Transfer	Disabled Enabled	Enable or disable 32Bit Data Transfer

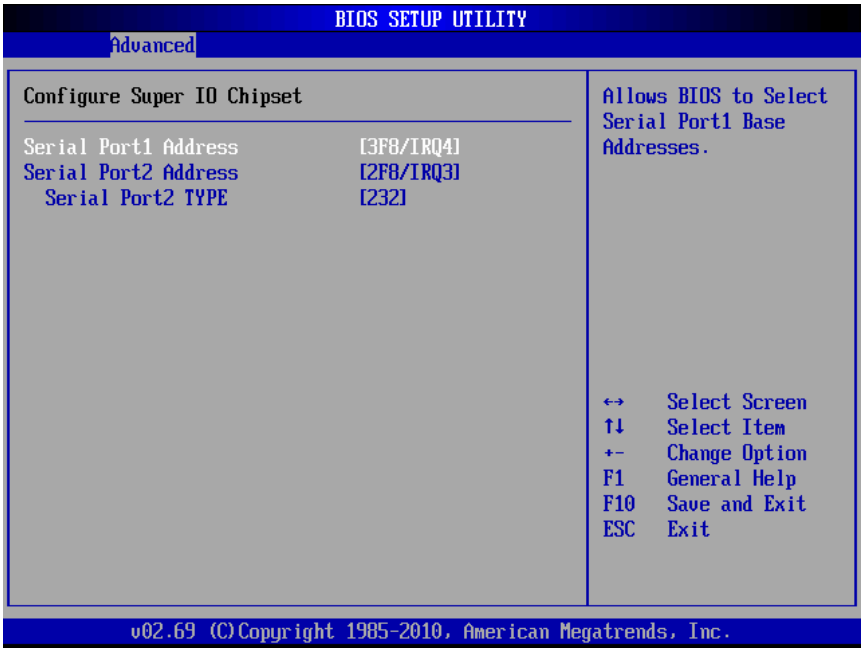
3.6.2.2.1 Primary IDE Slave



Item	Options	Description
Type	Not Installed Auto CD/DVD ARMD	Select options for type
LBA/Large Mode	Disabled Auto	Select options for LBA/Large Mode
Block (Multi-Sector Transfer)	Disabled Auto	Select options for Block (Multi-Sector Transfer)
PIO Mode	Auto 0 1 2 3 4	Select options for PIO Mode
DMA Mode	Auto	Select options for DMA Mode
S.M.A.R.T.	Auto Disabled Enabled	Select options for S.M.A.R.T.
32Bit Data Transfer	Disabled Enabled	Enable or disable 32Bit Data Transfer

3.6.2.3 Super IO Configuration

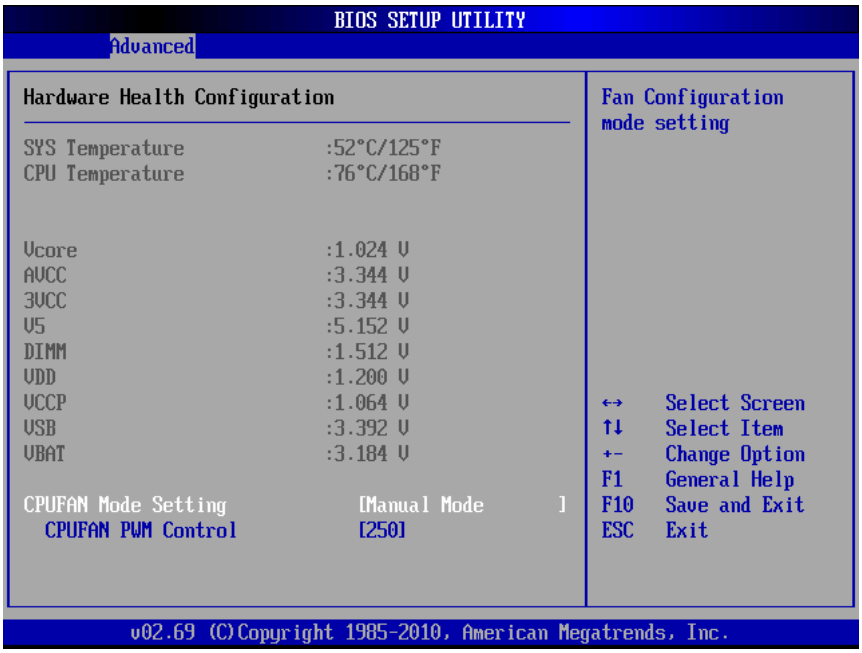
Use the **Super IO Configuration** menu for serial ports.



Item	Options	Description
Serial Port1 Address [3F8/IRQ4]	Disabled 3F8/IRQ4 (DEFAULT) 3E8/IRQ4 2E8/IRQ3	Use the **Serial Port1 Address** option to select the Serial Port 1 base address.
Serial Port2 Address [2F8/IRQ3]	Disabled 2F8/IRQ3 (DEFAULT) 3E8/IRQ4 2E8/IRQ3	Use the **Serial Port2 Address** option to select the Serial Port 2 base address.
Serial Port 2 Type [232]	232 422 485	Use the **Serial Port2 Type** option to select the Serial Port 2 base type.

3.6.2.4 Hardware Health Configuration

This section shows the operating temperature, fan speed and system voltage.



The following system temperature, fan speed and voltage are monitored.

System Temperature:

- System Temperature
- CPU Temperature

Voltage:

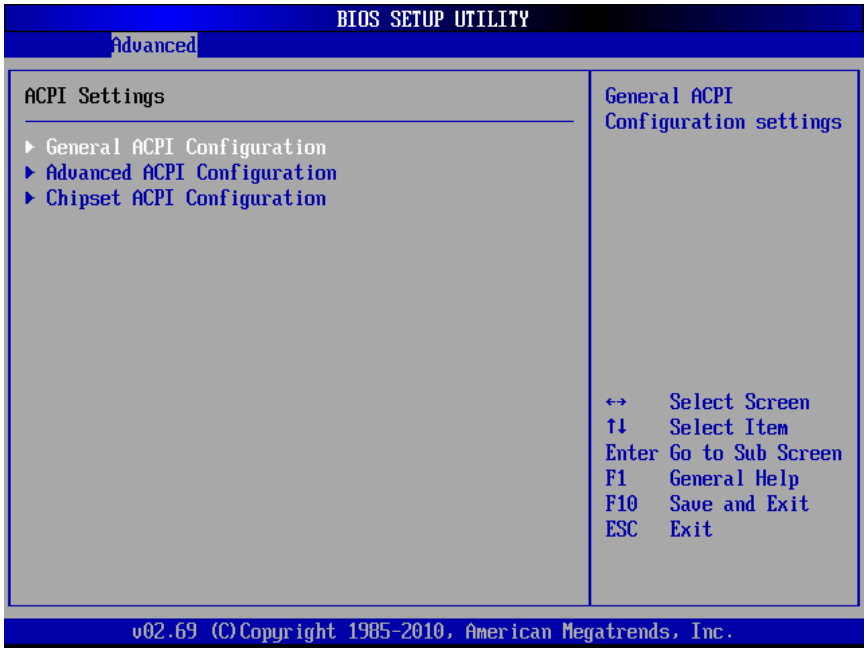
- Vcore
- AVCC
- 3VCC
- V5
- DIMM
- VDD
- VCCP
- USB
- VBAT

CPUFAN mode setting: Configures CPUFAN for CPU temperature monitoring

CPUFAN PWM Control: Configures Voltage control function

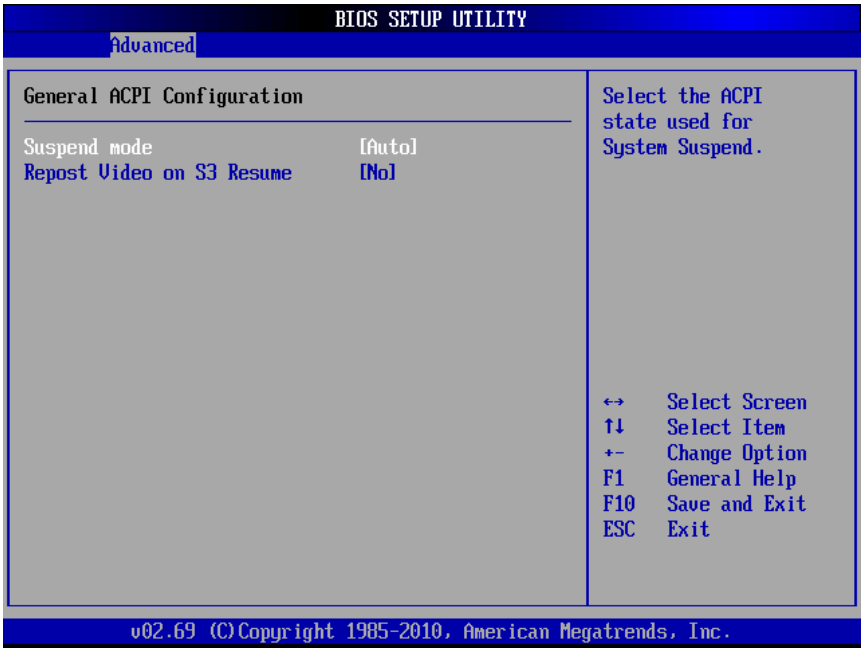
3.6.2.5 ACPI Settings

The **ACPI Configuration** menu configures Advanced Configuration and Power Interface (ACPI) options.



3.6.2.5.1 General ACPI settings

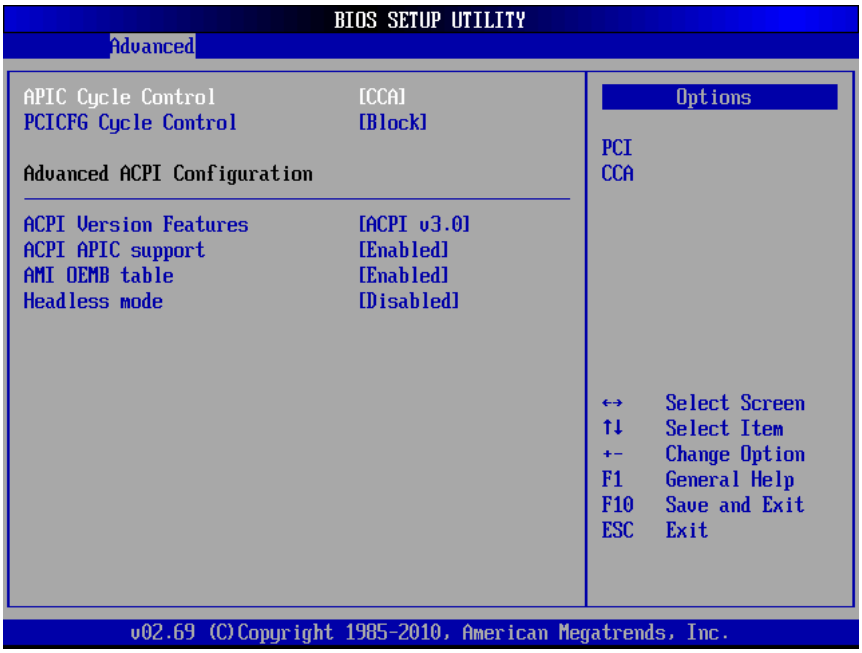
Use this option to select the ACPI state when the system is suspended.



Item	Options	Description
Suspend Mode [Auto]	S1 (POS), S3 (STR), Auto (**DEFAULT**)	Use the Suspend Mode option to specify the sleep state the system enters when it is not being used.
Repost Video on S3 Resume [No]	No (**DEFAULT**) Yes	This item allows you to invoke VA BIOS POST on S3/ STR resume.

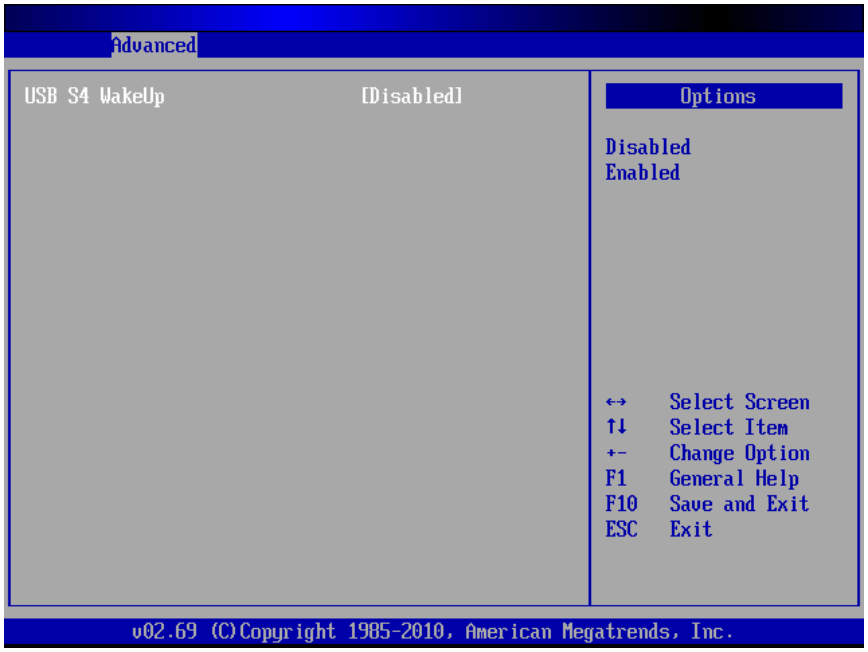
3.6.2.5.2 Advanced ACPI Configuration

Use this menu to select ACPI state when system is suspended.



Item	Options	Description
APCI Cycle Control	PCI CCA	APCI Cycle Control selection
PCICFG Cycle Control	Block Not Block	PCICFG Cycle Control selection
ACPI Version Features [ACPI v1.0]	ACPI v1.0 (**DEFAULT**) ACPI v2.0, ACPI v3.0, ACPI v4.0	This item allows you to enable RSDP pointers to 64-bit fixed system description tables.
ACPI APIC support [Enabled]	Enabled (**DEFAULT**) Disabled	to add a pointer to an ACPI APIC table in the RSDT (Root System Description Table)
AMI OEMB table [Enabled]	Enabled (**DEFAULT**) Disabled	To add a pointer to an OEMB table in the RSDT table and the Extended System Description Table (XSDT).
Headless mode [Disabled]	Disabled (**DEFAULT**) Enabled	Enable/ Disable Headless operation mode through ACPI.

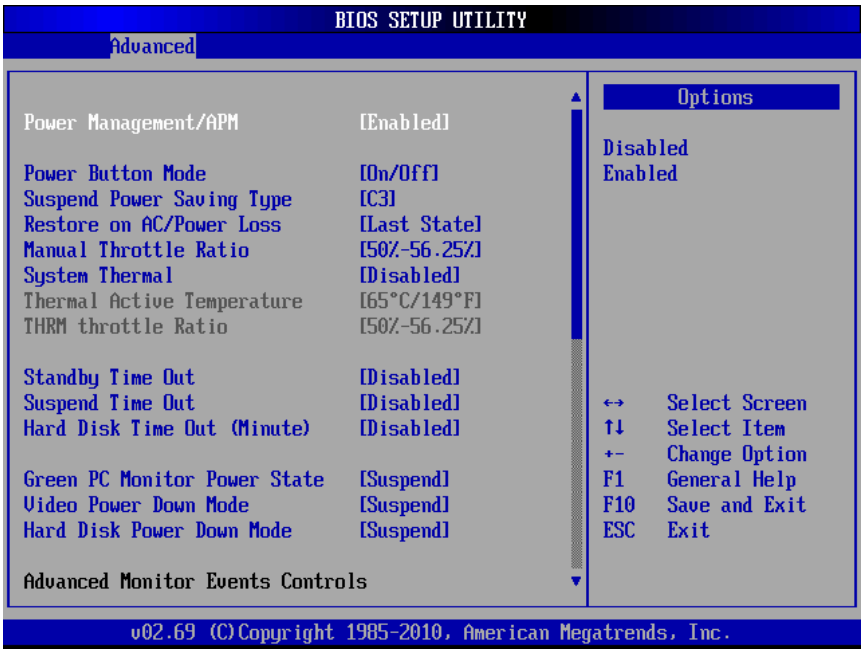
3.6.2.5.3 Chipset ACPI Configuration



Item	Options	Description
USB S4 WakeUp	Enabled Disabled	Enable or Disable USB S4 WakeUp

3.6.2.6 APM Configuration

The **APM** menu configures the advanced power management options.

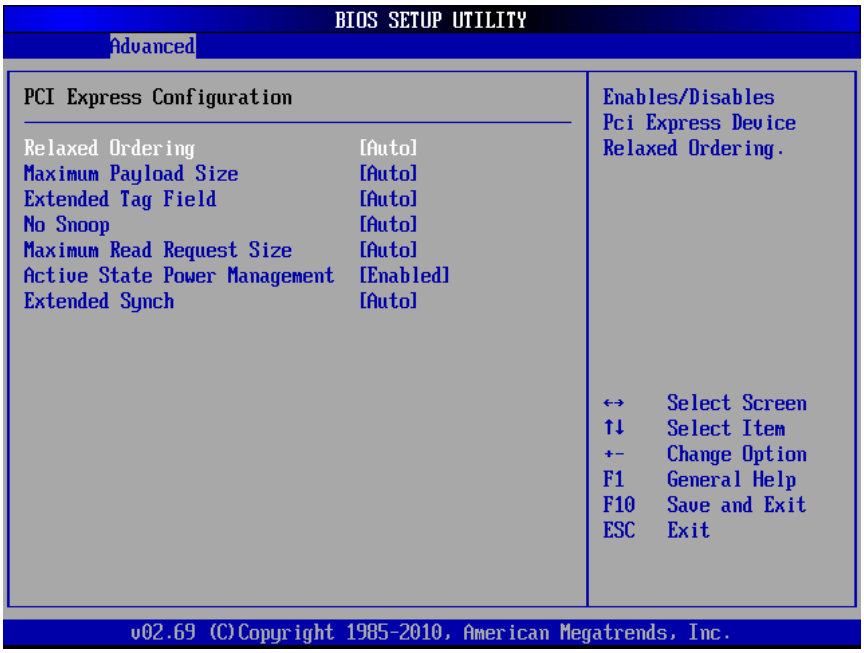


Item	Options	Description
Power Management/ APM [Enabled]	Enabled (**DEFAULT**) Disabled	This item helps to select power management mode.
Power Button Mode	On/ Off, Suspend	This section allows you to select power button mode.
Suspend Power Saving Type	C3 S1	
Restore on AC Power Loss by IO [Power off]	Power On, Power Off (**DEFAULT**) Last State	Use this to set up the system response after a power failure.
Manual Throttle Ratio	0%-6.25% 6.25%-12.5% 18.75%-25% 31.25%-37.5% 37.5%-43.75% 43.75%-50% 50%-56.25% 56.25%-62.5% 62.5%-68.75% 68.75%-75% 75%-87.5% 75%-87.25% 81.25%-87.5% 87.5%-93.75% 93.75%-100%	Manually select Throttle Ratio
System Thermal	Enabled Disabled	Enable or Disable System thermal
Standby Time Out	Disabled 1/2/4/8/10 20/30/40/50/60min	Standby Time out Selection

Suspend Time Out	Disabled 1/2/4/8/10 20/30/40/50/60min	Suspend Time Out selection
Hard Disk Time Out (Minute)	Disabled 1/2/3/4/5/6/7/8/9 10/11/12/13/14/15	Hard Disk Time Out (Minute) selection
Green PC Monitor Power State	Standby Suspend Off	Green PC Monitor Power State settings
Video Power Down Mode	Disabled Standby Suspend	Video Power Down Mode settings
Hard Disk Power Down Mode	Disabled Standby Suspend	Hard Disk Power Down Mode selection
Display Activity	Ignore Monitor	Ignore or Monitor Display Activity
Monitor IRQ3	Ignore Monitor	Ignore or Monitor IRQ34/5/6/7/9/10/11/13/14/15
Monitor IRQ4	Ignore Monitor	
Monitor IRQ5	Ignore Monitor	
Monitor IRQ7	Ignore Monitor	
Monitor IRQ9	Ignore Monitor	
Monitor IRQ10	Ignore Monitor	
Monitor IRQ11	Ignore Monitor	
Monitor IRQ13	Ignore Monitor	
Monitor IRQ14	Ignore Monitor	
Monitor IRQ15	Ignore Monitor	
Resume On Ring [Disabled]	Disabled (**DEFAULT**) Enabled	Use this option to enable activity on the RI (ring in) modem line to arouse the system from a suspended or standby state.
Resume On PME	Disabled (**DEFAULT**) Enabled	Enable or Disable Resume On PME
Resume On PS/2 KBC	Disabled (**DEFAULT**) Enabled	Enable or Disable Resume On PS/2 KBC
Wake-up Key	00/01	Enable or Disable Wake-up key
Resume On PS/2 Mouse	Disabled (**DEFAULT**) Enabled	Enable or Disable Resume On PS/2 Mouse
Resume On RTC Alarm	Disabled (**DEFAULT**) Enabled	Use this option to specify the time the system should be roused from a suspend state.
RTC Alarm Date (Days)	Choose which day the system will boot up	
System Time	Choose the system boot up time, input hour, minute and second to specify.	

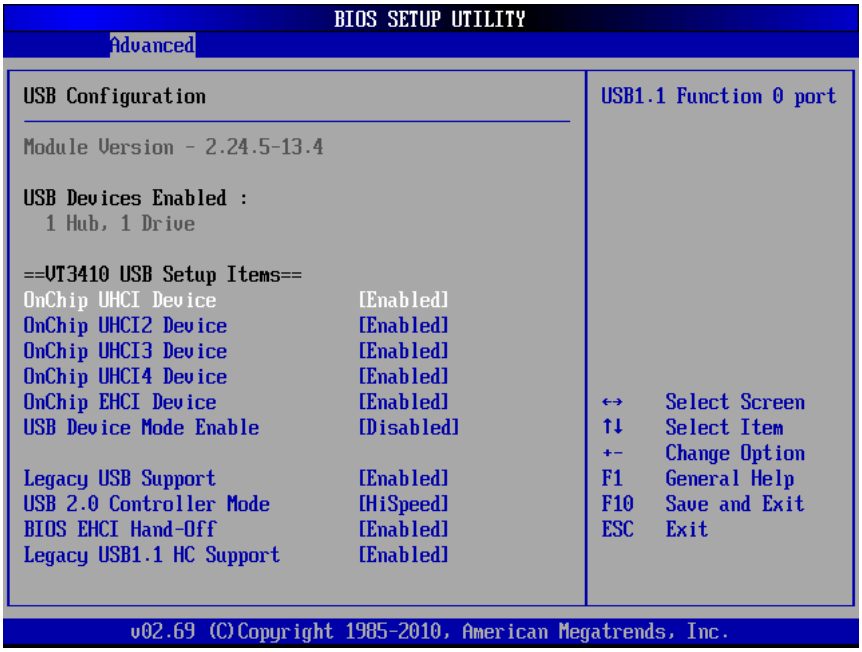
3.6.2.7 PCI Express Configuration

This item allows configuring PCI Express.



Item	Options	Description
Relaxed Ordering	Auto Disabled Enabled	Enables or Disables PCI Express Device Relaxed Ordering.
Maximum Payload Size	Auto 128/256/512/1024 2048/4096 Bytes/ Max Supported	Set Maximum Payload of PCI Express Device or allow System BIOS to select the value.
Extended Tag Field	Auto Disabled Enabled	If ENABLED allows Device to use Tag field as a requester.
No Snoop	Auto Disabled Enabled	Enables or Disables PCI Express Device No Snoop option.
Maximum Read Request Size	Auto 128/256/512/1024 2048/4096 Bytes/ Max Supported	Launches (Enabled/Disabled) the boot option for legacy network devices.
Active State Power Management	Enabled Disabled	Enable or disable Active State Power management
Extended Synch	Auto Disabled Enabled	If ENABLED allows generation of Extended Synchronization patterns.

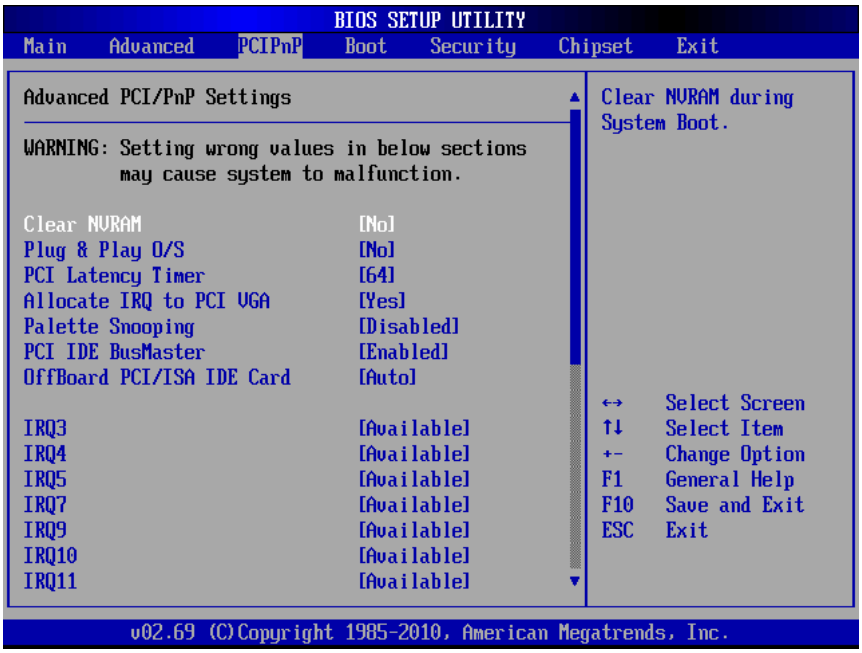
3.6.2.8 USB Configuration



Item	Options	Description
OnChip UHCI Device	Enabled Disabled	Enable or disable USB1.1 Function 0 port 0-1
OnChip UHCI2 Device	Enabled Disabled	Enable or disable USB1.1 Function 1 port 2-3
OnChip UHCI3 Device	Enabled Disabled	Enable or disable USB1.1 Function 2 port 4-5
OnChip UHCI4 Device	Enabled Disabled	Enable or disable USB1.1 Function 3 port 6-7
OnChip EHCI Device	Enabled Disabled	Enable or disable USB2.0 EHCI
USB Device Mode Enable	Enabled Disabled	Enable or disable USB device
Legacy USB Support	Enabled (**DEFAULT**) Disabled, Auto	Use this option to enable USB mouse and USB keyboard support. Normally if this option is not enabled, attached USB mouse or USB keyboard is not available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB mouse or USB keyboard can control the system even when there is no USB driver loaded onto the system.
USB 2.0 Controller Mode	HiSpeed (480Mbps) (**DEFAULT**) FullSpeed (12Mpbs)	This item allows you to select HiSpeed (480Mbps) or FullSpeed (12Mpbs).
BIOS EHCI Hand-off	Enabled (**DEFAULT**) Disabled	This is a workaround for OSs without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.
Legacy USB1.1 HC Support	Disabled Enabled	Enable or Disable Legacy USB1.1 HC Support

3.6.3 Advanced PCIPnP Settings

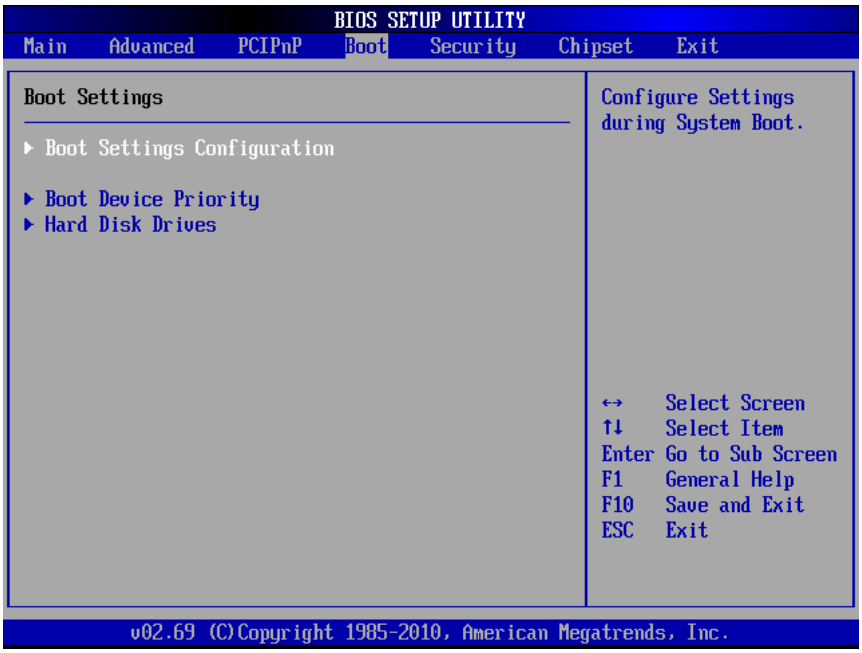
The settings in this section specifically deal with the PCI bus and Plug and Play (PnP).



Item	Options	Description
Clear NVRAM [No]	No (**DEFAULT**) Yes	Set this value to force the BIOS clear Non-volatile Random Access Memory (NVRAM). The Original and Fail-Safe default setting is No.
Plug & Play O/S [No]	No (**DEFAULT**) Yes	Choose No to let the BIOS configure all devices in the system. This setting is appropriate when using a Plug and Play operating system.
PCI latency timer [64]	32, 64, 96, 128, 160, 192, 224, 248	This feature controls how long a PCI device can hold the PCI bus before another takes over. It is set to 64 clock cycles.
Allocate IRQ to PCI VGA [yes]	No, Yes (**DEFAULT**)	If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.
Palette Snooping [Disabled]	Enabled/Disabled (**DEFAULT**)	This item is designed to solve problems caused by some non-standard VGA card.
PCI IDE BusMaster [Enabled]	Enabled(**DEFAULT**)/ Disabled	When set to enabled, BIOS uses PCI bus mastering for reading/writing to IDE drives.
Off board PCI/ISA IDE Card [Auto]	Auto (**DEFAULT**) PCI Slot 1/ 2/ 3/ 4/ 5/ 6	Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card. When set to auto will works for most PCI IDE cards.
IRQ3/ 4/ 5/ 7/ 9/ 10/ 11/12/13/14/15 [Available]	Available (**DEFAULT**) Reserved	Use the IRQ# address to specify what IRQs can be assigned to a particular peripheral device.
DMA Channel 0/1/3/5/6/7	Available (**DEFAULT**) Reserved	Use this selection to adjust DMA mode options. Use Default value if the IDE disk drive support cannot be determined.
Reserved Memory size	Disabled 16K, 32K, 64K	Use this option to specify the amount of memory that should be reserved for legacy ISA devices.

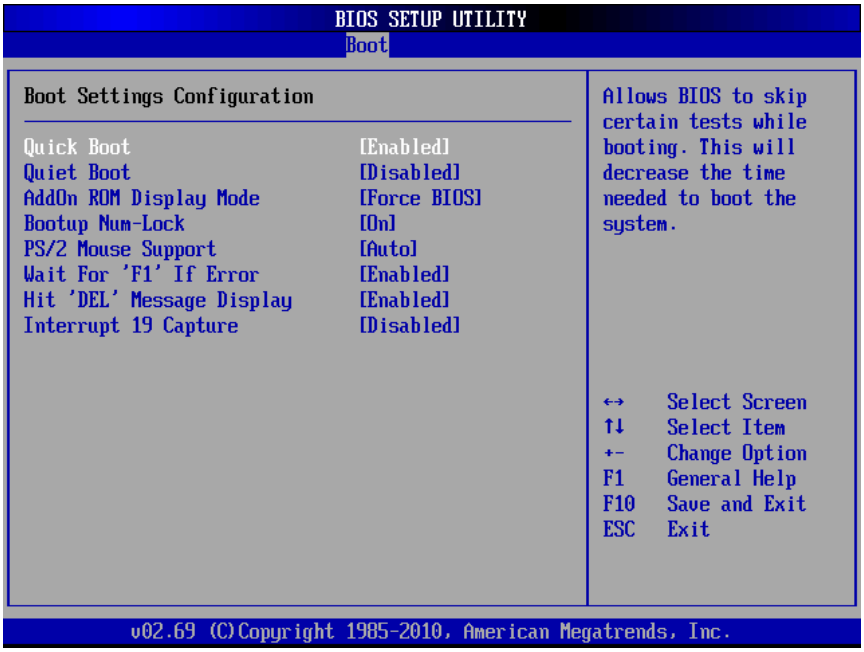
3.6.4 Boot Settings

Use the Boot menu to configure system boot options.



3.6.4.1 Boot settings configuration

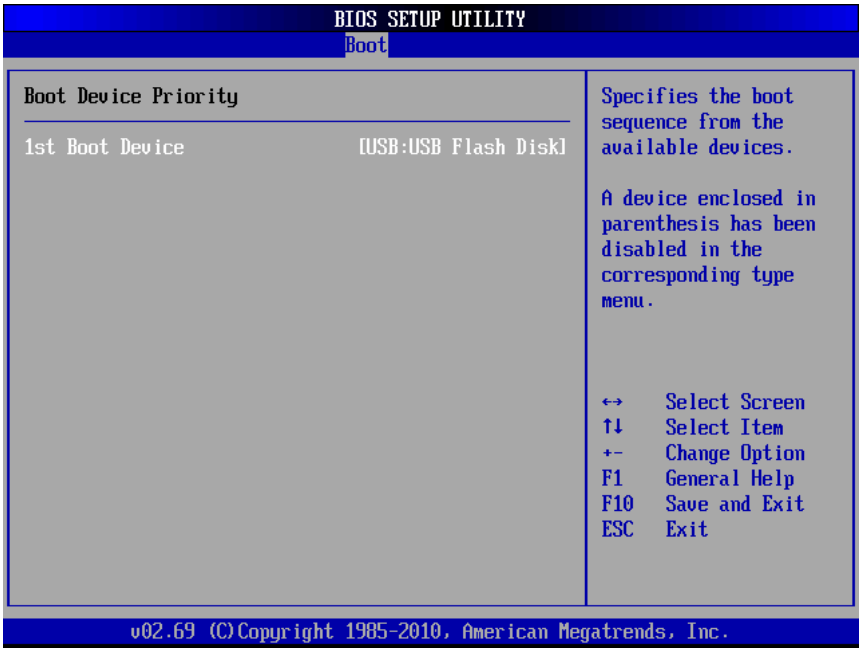
Use **Boot Settings Configuration** menu to configure advanced boot options.



Item	Options	Description
Quick Boot [Enabled]	Disabled, Enabled (**DEFAULT**)	This item allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
Quiet Boot [Disabled]	Disabled (**DEFAULT**) Enabled	If set to Disabled, the BIOS displays normal POST messages. If Enabled, an OEM Logo is shown instead of POST messages.
AddOn ROM Display Mode [Force BIOS]	Force BIOS (**DEFAULT**) Keep Current	This option allows add-on ROM (read-only memory) messages to be displayed.
Bootup Num-Lock [On]	On (**DEFAULT**) Off	This option allows the number Lock setting to be modified during boot up.
PS/2 Mouse support [Auto]	Auto (**DEFAULT**) Disabled, Enabled	This interface utilizes a bidirectional serial protocol to communicate with the computer's auxiliary device controller
Wait For "F1" If Error [Enabled]	Disabled, Enabled (**DEFAULT**)	When set to enable, the system waits for the F1 key to be pressed when error occurs.
Hit "DEL" Message Display [Enabled]	Disabled, Enabled (**DEFAULT**)	This BIOS feature allows you to control the display of the Hit "DEL" to enter setup message during memory initialization.
Interrupt 19 capture [Disabled]	Disabled (**DEFAULT**) Enabled	This item allows options for ROMs to trap interrupt 19.

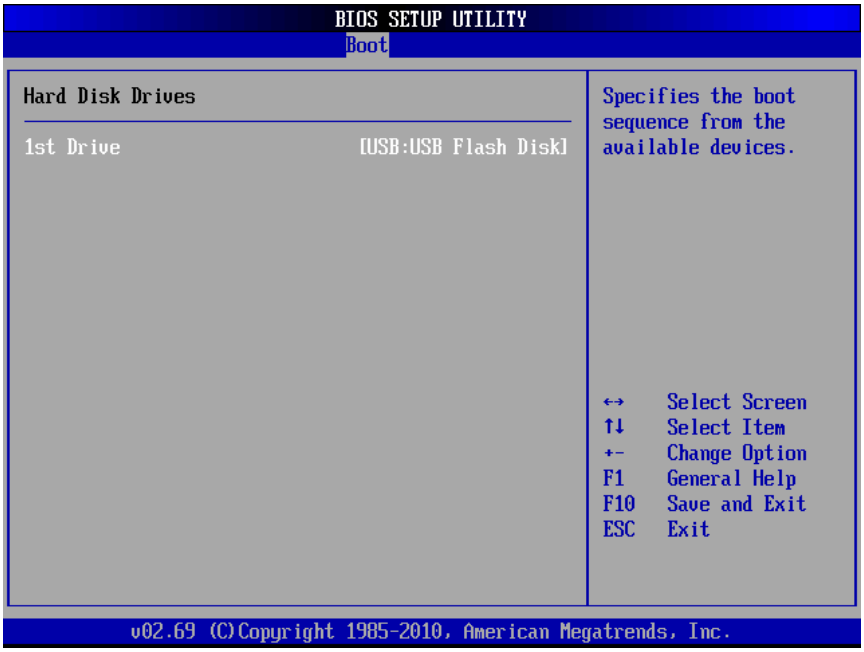
3.6.4.2 Boot device Priority

Use the Boot Device Priority to specify the boot sequence from the available devices.



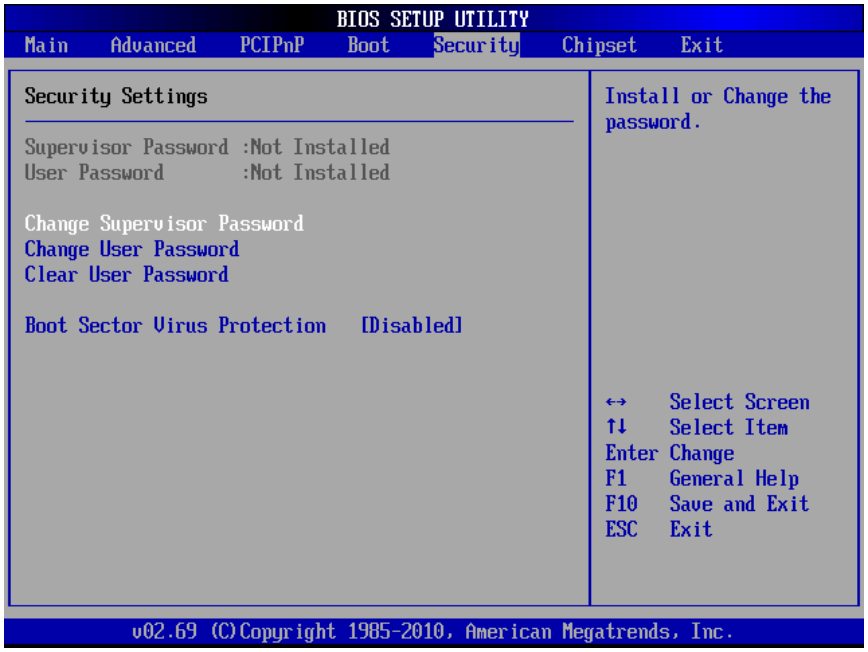
3.6.4.3 Hard Disk Drives

This option specifies boot sequence from the available devices



3.6.5 Security settings

Security Setup options such as password protection and virus protection are described in this section.



Change Supervisor / User Password

Use the Change User/ Supervisor Password to set or change a User/supervisor password. The default for this option is Not Installed. If a User/ supervisor password must be installed, select this field and enter the password. After the password has been added, Install appears next to Change User/ Supervisor Password.

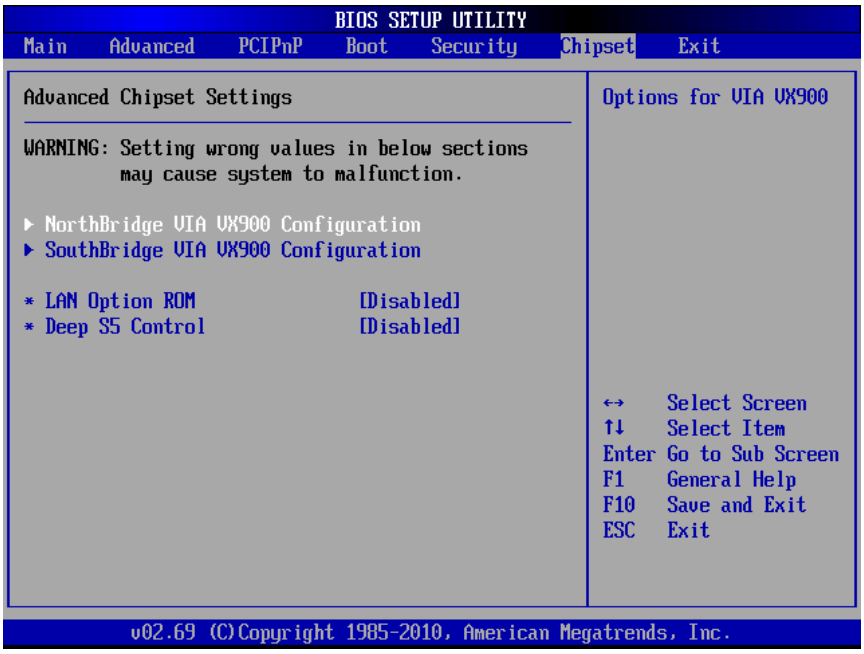
Clear User password

Use Clear User Password to delete a user password.

Item	Options	Description
Boot Sector Virus protection [Disabled]	Disabled **(Default)** Enabled	The boot sector virus protection will warn if any program tries to write to the boot sector.

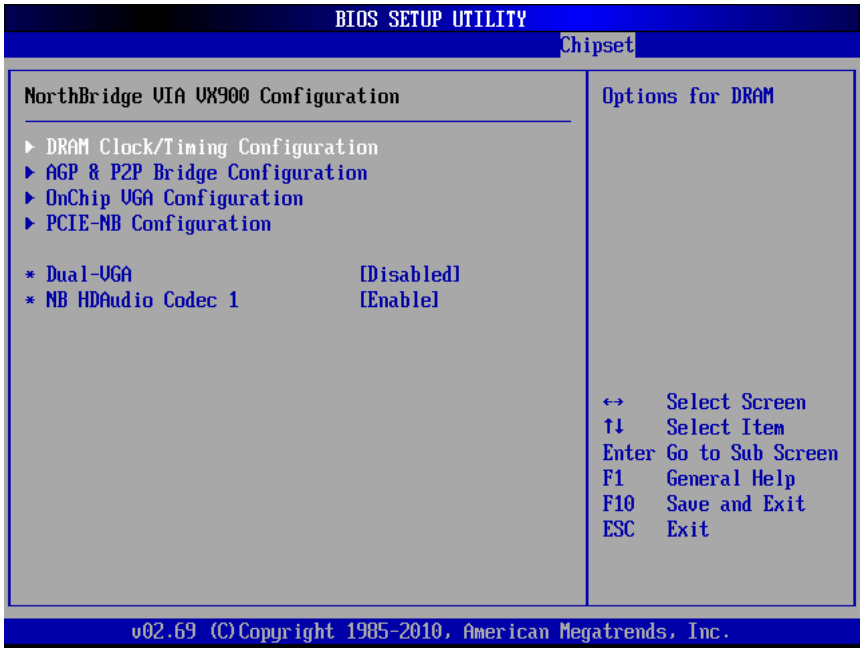
3.6.6 Advanced Chipset Settings

Use **Advanced Chipset Settings** menu to access Northbridge and Southbridge Configuration menus

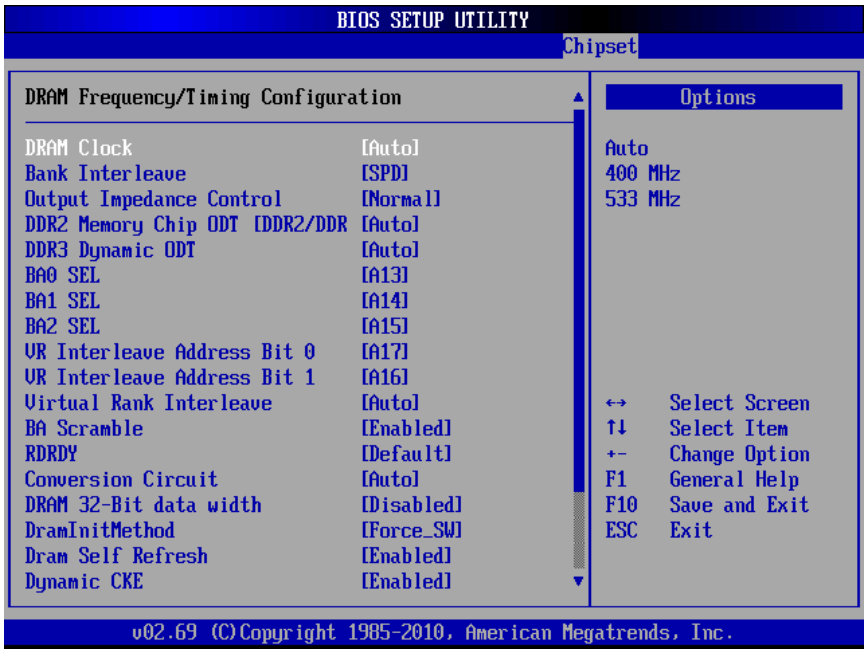


3.6.6.1 North bridge Chipset configuration

Northbridge chipset configuration menu will configure the Northbridge chipset.



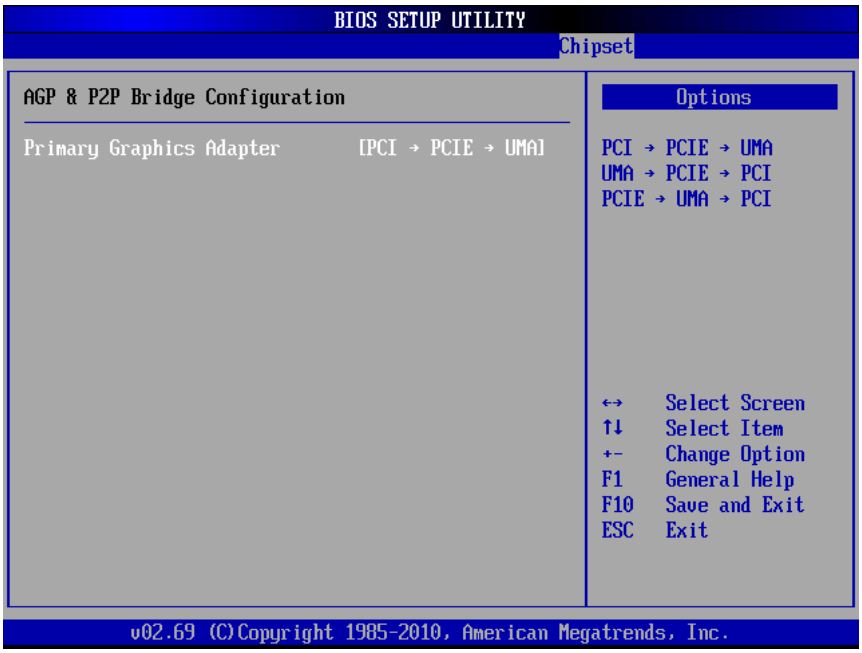
3.6.6.1.1 DRAM Frequency/Timing configuration



Item	Option	Description
DRAM Clock	Auto 400MHz 533MHz	DRAM Clock selection
Bank Interleave	SPD Non-page 2-way 4-way 8-way	Bank Interleave selection
Output Impedance Control	Normal Weak	Output Impedance Control selection
DDR2 Memory Chip ODT [DDR2/DDR3]	Auto Disabled 75 ohm/60 ohm 150 ohm/120 ohm 50 ohm/40 ohm NA/20 ohm NA/30 ohm	DDR2 Memory Chip ODT [DDR2/DDR3] selection
DDR3 Dynamic ODT	Auto Disabled RZQ/4 RZQ/2	DDR3 Dynamic ODT selection
BA0 SEL	A11 A13 A15 A17 A19	BA0 SEL selection

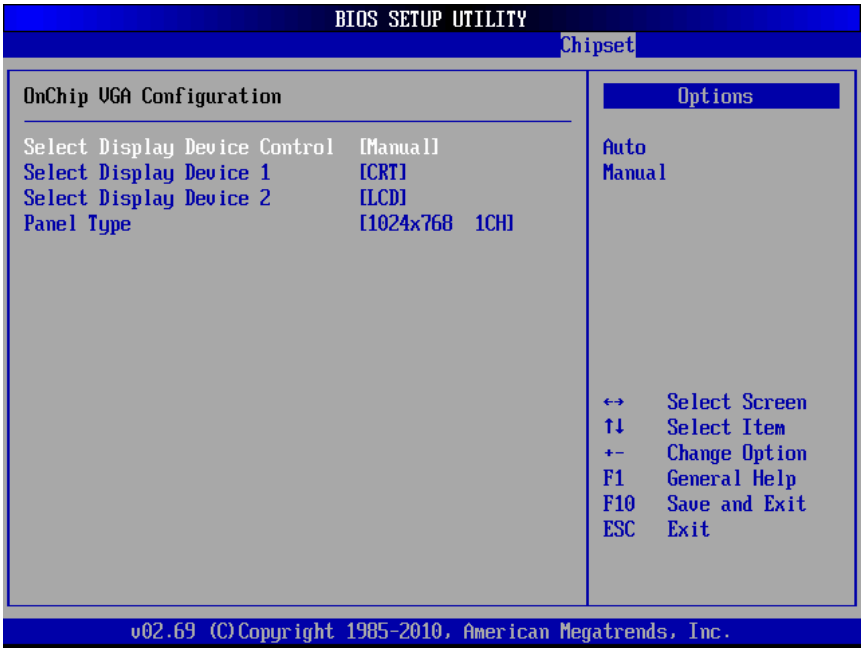
BA1 SEL	A12 A15 A16 A18 A20	BA1 SEL selection
BA2 SEL	A14 A15 A18 A19	BA2 SEL selection
VR Interleave Address Bit 0	A15 A17 A19 A21	VR Interleave Address Bit 0 selection
VR Interleave Address Bit 1	A14 A16 A18 A20	VR Interleave Address Bit 1 selection
Virtual Rank Interleave	Auto Disabled	Virtual Rank Interleave selection
BA Scramble	Enabled Disabled	Enable or disable BA Scramble
RDRDY	Default Slowest	RDRDY selection
Conversion Circuit	Auto Async	Conversion Circuit selection
DRAM 32-Bit data width	Disabled Enabled	Enable or disable DRAM 32-Bit data width
DramInitMethod	Auto Force_SW	DramInitMethod selection
Dram self Refresh	Disabled Enabled	Enable or disable Dram self Refresh
Dynamic CKE	Disabled Enabled	Enable or disable Dynamic CKE
Memory Remap Control	Disabled Enabled	Enable or disable Memory Remap Control
VGA Share Memory (Frame buffer) Size	8/32/64/128/256/512MB	VGA Share Memory (Frame buffer) Size selection
Internal VGA DVO Support	Disabled DVOx8 support DVOx16 support	Internal VGA DVO Support selection
CPU Direct Access Frame Buffer	Disabled Enabled	Enable or disable CPU Direct Access Frame Buffer

3.6.6.1.2 AGP & P2P Bridge Configuration



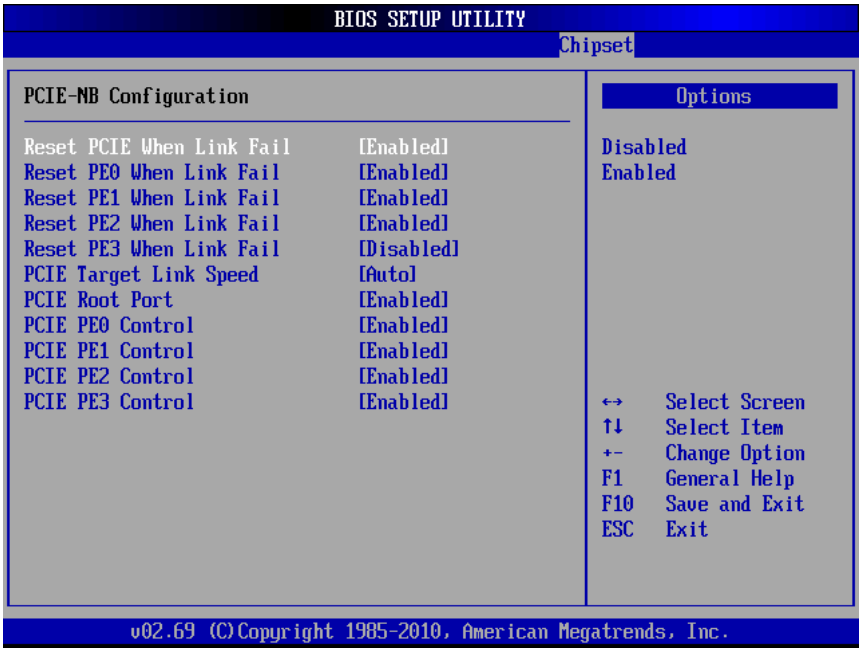
Item	Option	Description
Primary Graphics Adapter	PCI PCIE UMA UMA PCIE PCI PCIE UMA PCI	Primary Graphics Adapter selection

3.6.6.1.3 OnChip VGA Configuration



Item	Option	Description
Select Display Device Control	Auto Manual	Display Device control selection
Select Display Device 1	CRT LCD	Display Device selection
Select Display Device 2	LCD HDMI	Display Device selection
Panel Type	600x480 1CH 800x600 1CH 1024x768 1CH 1280x768 1CH 1280x1024 2CH 1400x1050 2CH 1440x900 2CH 1280x800 1CH 800x480 1CH 1240x600 1CH 1366x768 1CH 1600x1200 2CH 1680x1050 2CH 1920x1200 2CH 1920x1080 2CH 1024x576 1CH	Panel Type selection

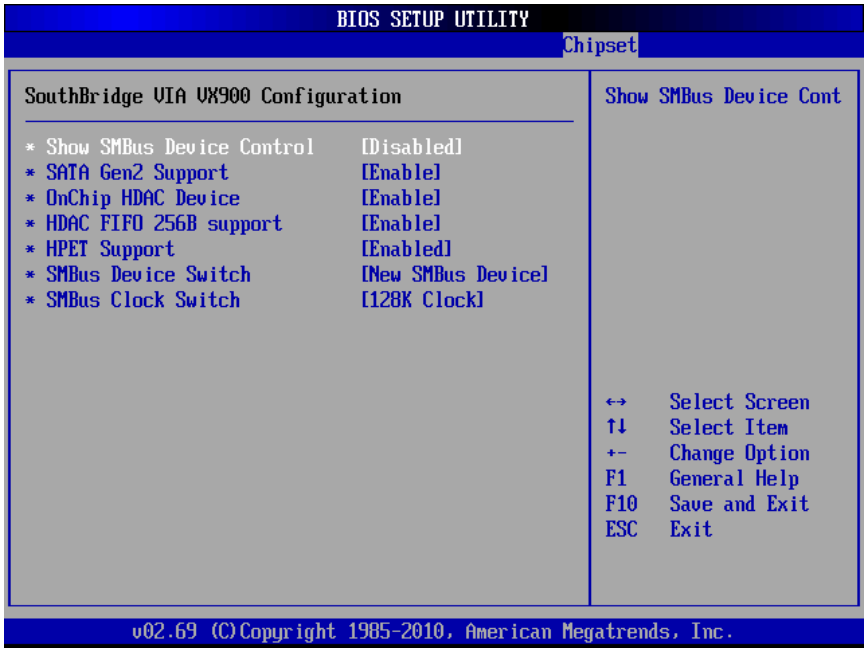
3.6.6.1.4 PCIE-NB Configuration



Item	Option	Description
Reset PCIE when Link Fail	Enabled Disabled	Enable or Disable Reset PCIE when Link Fail
Reset PE0 when Link Fail	Enabled Disabled	Enable or Disable Reset PE0 when Link Fail
Reset PE1when Link Fail	Enabled Disabled	Enable or Disable Reset PE1when Link Fail
Reset PE2 when Link Fail	Enabled Disabled	Enable or Disable Reset PE2 when Link Fail
Reset PE3 when Link Fail	Enabled Disabled	Enable or Disable Reset PE3 when Link Fail
PCIE Target Link Speed	Auto Force Gen1	PCIE Target Link Speed selection
PCIE Root Port	Enabled Disabled	Enable or Disable PCIE Root Port
PCIE PE0 Control	Enabled Disabled	Enable or Disable PCIE PE0 Control
PCIE PE1 Control	Enabled Disabled	Enable or Disable PCIE PE1 Control
PCIE PE2 Control	Enabled Disabled	Enable or Disable PCIE PE2 Control
PCIE PE3 Control	Enabled Disabled	Enable or Disable PCIE PE3 Control

3.6.6.2 North bridge Chipset configuration

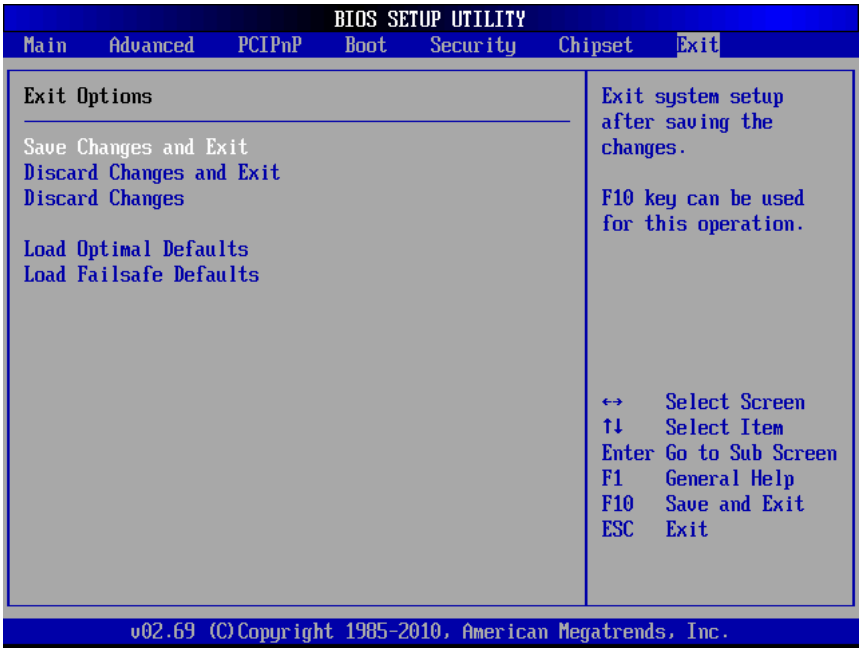
Southbridge chipset configuration menu will configure the Southbridge chipset.



Item	Option	Description
Show SMBus Device Control	Disabled Enabled	Enable or Disable Show SMBus Device Control
SATA Gen2 Support	Disabled Enabled	Enable or Disable SATA Gen2 Support
OnChip HDAC Device	Disabled Enabled	Enable or Disable OnChip HDAC Device
HDAC FIFO 265B support	Disabled Enabled	Enable or Disable HDAC FIFO 265B support
HPET Support	Disabled Enabled	Enable or Disable HPET Support
SMBus Device Switch	New SMBus Device Old SMBus Device	SMBus Device Switch selection
SMBus Clock Switch	32K RTC Clock 32K Clock 128K Clock	SMBus Clock Switch selection

3.6.7 Exit Options

Use the Exit menu to load default BIOS values, optional failsafe values and to save changes in configuration.



3.6.7.1 Save Changes and Exit

Use the save changes and reset option to save the changes made to the BIOS options and to exit the BIOS configuration setup program.

3.6.7.2 Discard Changes and Exit

Use the Discard changes and Exit option to exit the system without saving the changes made to the BIOS configuration setup program.

3.6.7.3 Discard Changes

Use the Discard Changes option to discard the changes and remain in the BIOS configuration setup program.

3.6.7.4 Load Optimal Defaults

Use the Load Optimal Defaults option to load the optimal default values for each of the parameters on the setup menus. F9 key can be used for this operation.

3.6.7.5 Load Failsafe Defaults

Select this option to replace most of the current BIOS settings with predefined settings (coded into the BIOS) that are intended to put the system into as stable a state as possible

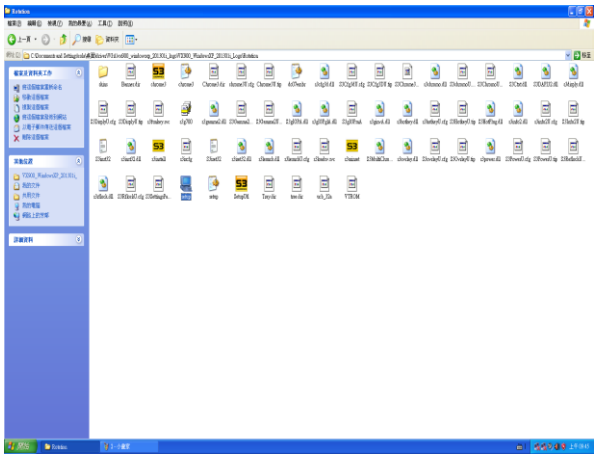
4. Drivers Installation

Note: Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

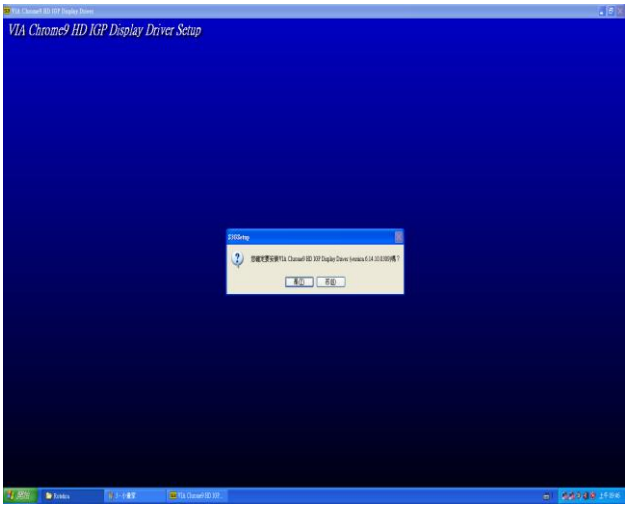
4.1 Install Display Driver (For VX900)

Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to [\Drivers\VGA\VX900]

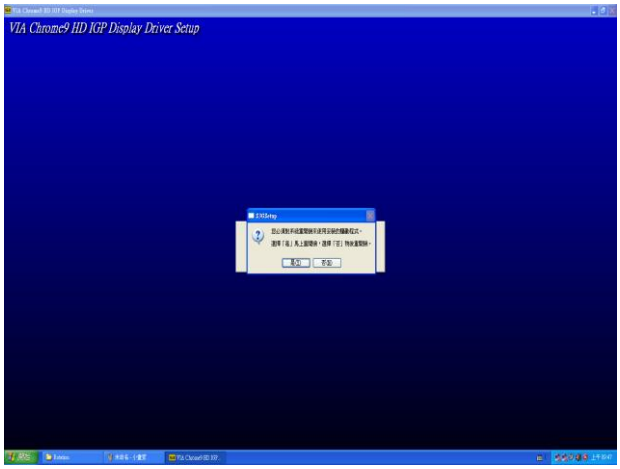
Note: The installation procedures and screen shots in this section are based on Windows XP operation system.



Step 1. Locate 「Drivers\VGA\VX900\Setup.exe」.



Step 2. Click **Next**.

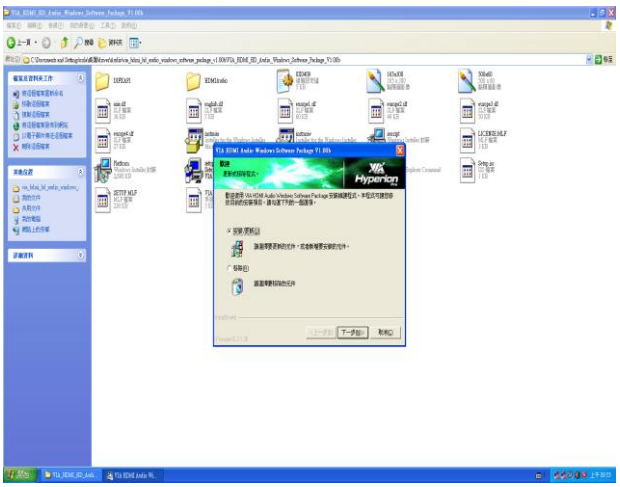


Step 3. Click **Yes**.

4.2 Install Audio Driver (For VIA HDMI ALC892)

Insert the Supporting CD-ROM to CD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to [\Drivers\Audio alc892]

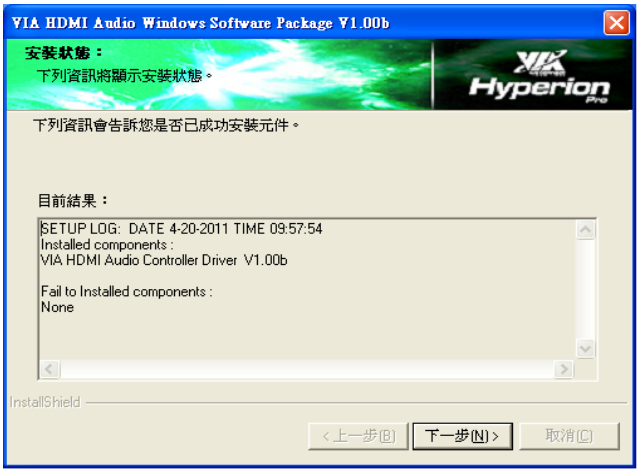
Note: The installation procedures and screen shots in this section are based on Windows 2000 operation system.



Step 1. Locate 「\Drivers\Audio alc892\setup.exe」.

Step 2. Select Driver and click **Next** to continue.

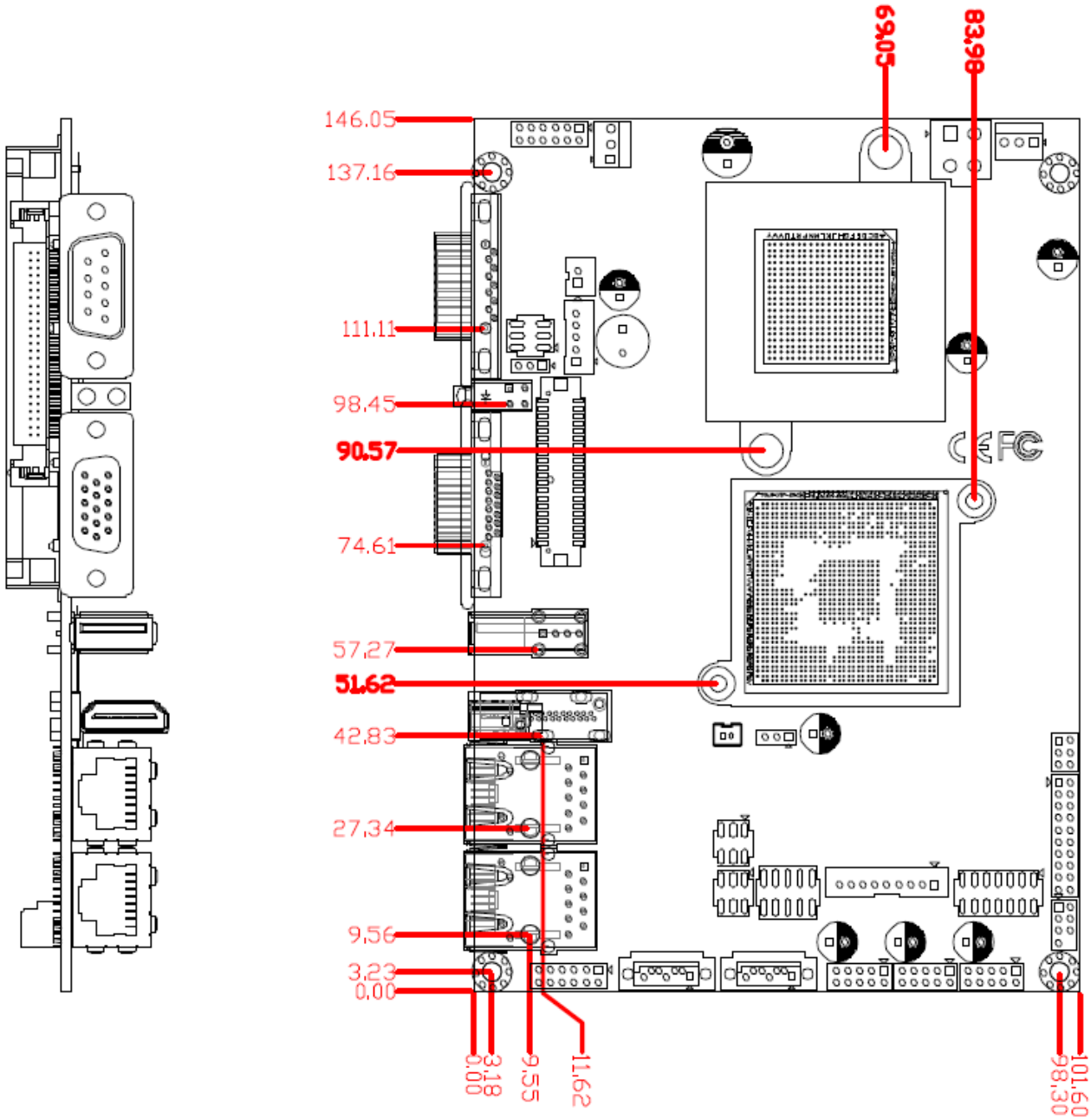
Step 3. Select **Next** to the next step.



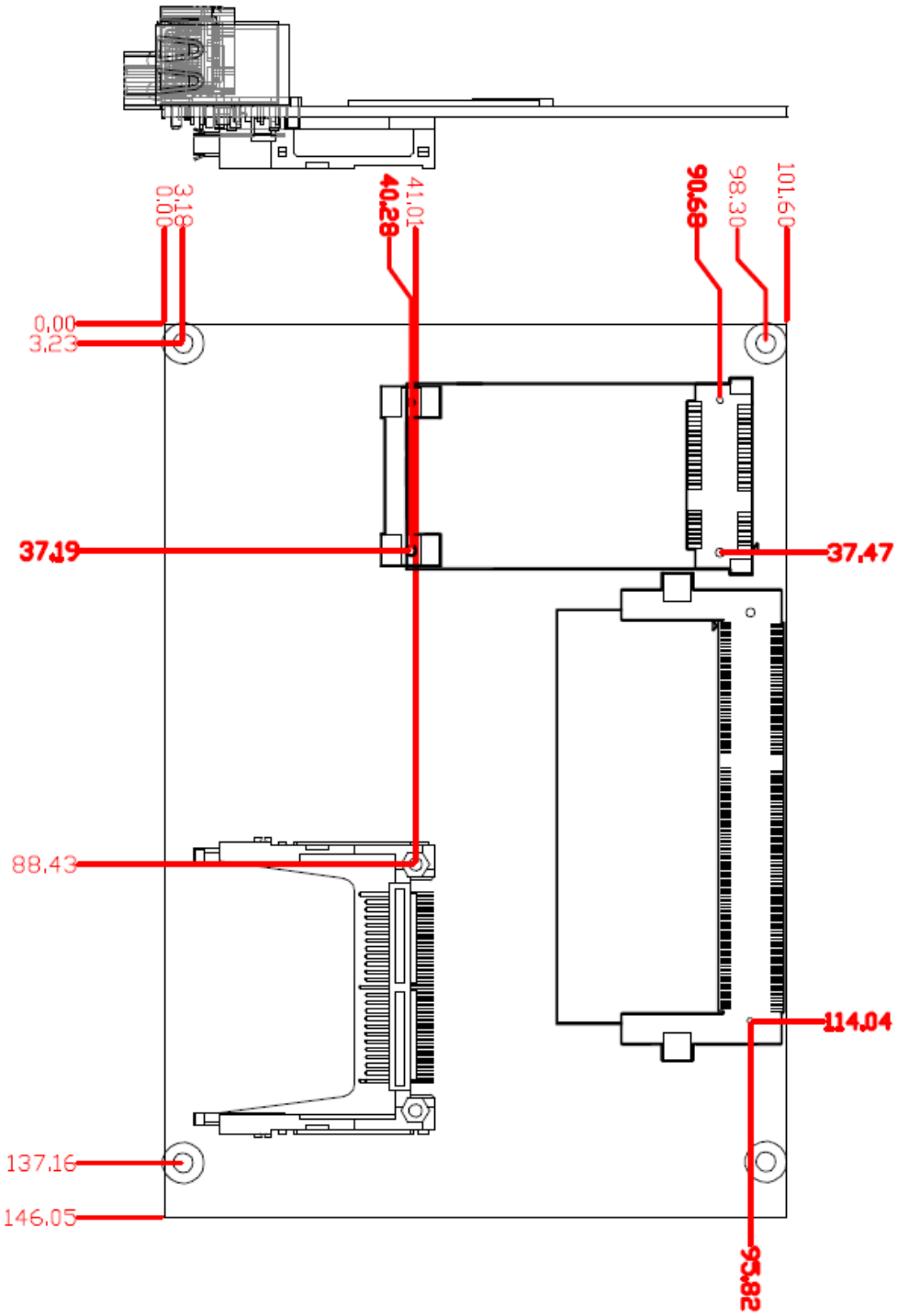
Step 4. Select **Next** to the next step.

Step 5. Click **Finish** to complete setup.

5. Mechanical Drawing


146.05
137.16
111.11
98.45
90.57
74.61
57.27
51.62
42.83
27.34
9.56
3.23
0.00
63.05
83.96
3.18
0.00
9.55
11.62
101.60
98.30

Unit: mm


3.18
0.00
41.01
40.28
89.06
98.30
101.60
0.00
3.23
37.19
37.47
88.43
114.04
137.16
146.05
95.82

Unit: mm