

COM-CV Rev.B

Intel® Atom™ D2550/N2600 Processor

Intel® NM10

Gigabit Ethernet

2 SATA 3.0Gb/s, 2 USB3.0, 8 USB2.0

2 UART, 4 PCI-E[x1]

DisplayPort™x 1 (HDMI Signal)

COM Express Compact Module

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Packing List

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

- 4 M2.5 Screw
- 1 CD-ROM for manual (in PDF format) and drivers
- 1 COM-CV Rev.B

If any of these items should be missing or damaged, please contact your distributor or sales representative immediately.

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Chapter

1

**General
Information**

1.1 Introduction

AAEON, a leading embedded board manufacturer, is pleased to announce the debut of their new generation COM Express Module--COM-CV Rev.B. The COM-CV Rev.B is a cutting-edge product that provides high performance and low power consumption in the embedded market.

COM-CV Rev.B adopts the latest Intel® Atom™ D2550/N2600 processor. The system memory deploys with onboard 204-pin DDR3 800/1066 memory up to 4 GB (D2550: Max. 4 GB; N2600: Max. 2 GB). In addition, Intel® 82583V supports Gigabit Ethernet that allows faster network connections. This model applies four PCI-Express[x1], one LPC bus, and one SMBus. Moreover, two SATA 3.0Gb/s are configured on the COM-CV Rev.B. COM-CV Rev.B also equips eight USB2.0 and two USB3.0 ports for flexible I/O expansions.

The display of COM-CV Rev.B supports CRT/LCD/HDMI simultaneous and dual view displays. This brand new COM Express Module is developed to cater to the requirements of Automation, Medical, ticket machine, transportation, gaming, KIOSK, and POS/POI applications.

1.2 Features

- Onboard Intel® Atom™ D2550/N2600 Processor
- Intel® NM10
- SODIMM DDR3 1066 Memory, Max. 4 GB
- Intel® 82583V Gigabit Ethernet
- CRT, Up to 24-bit Dual Channel LVDS LCD, DisplayPort™ (HDMI Signal)
- High Definition Audio Interface
- SATA 3.0Gb/s x 2
- USB2.0 x 8, USB3.0 x 2
- PCI-Express[x1] x 4
- COM Express Compact Module Size, Pin-out Type 6, 95mm x 95mm, COM.0 Rev.2.0

1.3 Specifications

System

- **Form Factor** COM Express compact Module, Pin-out Type 6, COM.0 Rev. 2.0
- **Processor** Intel[®] Atom™ D2550/N2600 processor,
D2550: 1.86 GHz
N2600: 1.6 GHz
- **System Memory** 204-pin DDR3 800/1066 SODIMM x 1,
Max. 4 GB
D2550: Max. 4 GB
N2600: Max. 2 GB
- **Chipset** Intel[®] NM10
- **I/O Chipset** Intel[®] NM10
- **Ethernet** Intel[®] 82583V, Gigabit Ethernet
- **BIOS** AMI BIOS SPI type, 4MB ROM
- **EEPROM** Atmel[®] AT25080B (8Kb), save BIOS and configuration data (Optional)
- **Wake On LAN** Yes
- **Watchdog Timer** IT8518E
- **H/W Status Monitoring** Supports CPU temperature monitoring
- **Expansion Interface** PCI-Express [x1] x 4
LPC bus x 1
SMBus x 1
- **Power Requirement** +12V only
2-pin wafer for RTC battery
- **Board Size** 3.74”(L) x 3.74”(W) (95mm x 95mm)
- **Gross Weight** 0.55 lb (0.25 Kg)
- **Operating Temperature** 32°F ~ 140°F (0°C ~ 60°C)
-40°F ~ 185°F (-40°C ~ 85°C) for WITAS 2

- **Storage Temperature** -40°F ~ 185°F (-40°C ~ 85°C)
- **Operating Humidity** 0% ~ 90% relative humidity, non-condensing

Display: Supports CRT/LCD/HDMI Simultaneous/ dual view displays

- **Chipset** Intel® Atom™ D2550/N2600 processor integrated
DirectX 9, OpenGL*3.0
Integrated hardware MPEG2 decoder
- **Memory** Shared system memory up to 256MB/ DVMT 5.0
- **Resolution** Up to 1920x1080 for CRT
Up to 1920x1080 for LCD (D2550)
Up to 1366x768 for LCD (N2600)
- **LCD Interface** Up to 24-bit dual channel LVDS
- **DisplayPort™** Supports DisplayPort™ x 1 (HDMI signal)

I/O

- **Storage** SATA 3.0Gb/s x 2
- **Serial Port** UART x 2 (Tx/Rx only)
- **USB** USB2.0 x 8
USB3.0 x 2
- **Audio** High definition audio
- **GPIO** Up to 4 in and 4 out

Chapter

2

**Quick
Installation
Guide**

2.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

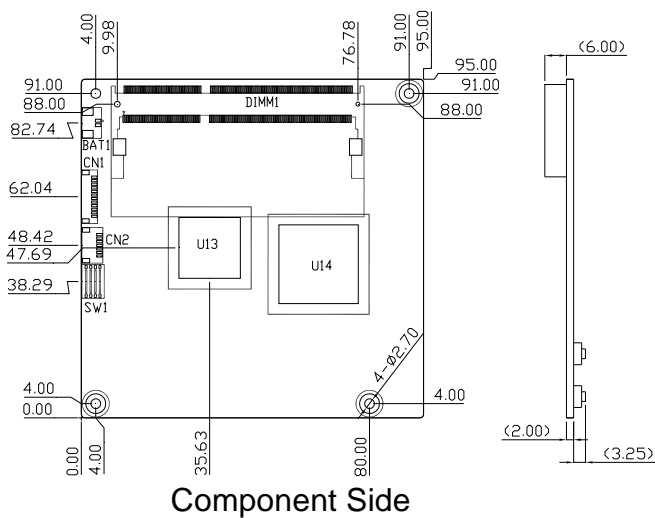
Caution!



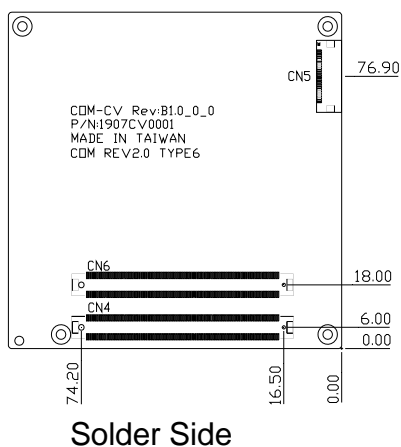
Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not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

2.2 Location and Mechanical Drawings of Connectors and Switches

Component Side



Solder Side



2.3 List of Switch

There is a switch on the board that allows you to configure your system to suit your application. The table below shows the function of the switch.

Label	Function
SW1	AT/ATX Selection and Clear CMOS

2.4 List of Connectors

There are a number of connectors of the board that allow you to configure your system to suit your application. The table below shows the function of each connector in the board:

Label	Function
BAT1	Battery Connector
CN4	COM Express ROW A/B Connector
CN6	COM Express ROW C/D Connector

2.5 AT/ATX Selection and Clear CMOS (SW1)

	ON	OFF
1	ATX Mode (Default)	AT Mode
3	Clear CMOS	Normal (Default)

2.6 Battery Connector (BAT1)

Pin	Signal
1	Power
2	GND

2.7 COM Express Connector (Row A & B) (CN4)

Row A		Row B	
A1	GND (FIXED)	B1	GND (FIXED)
A2	GBE0_MDI3-	B2	GBE0_ACT#
A3	GBE0_MDI3+	B3	LPC_FRAME#
A4	GBE0_LINK100#	B4	LPC_AD0
A5	GBE0_LINK1000#	B5	LPC_AD1
A6	GBE0_MDI2-	B6	LPC_AD2
A7	GBE0_MDI2+	B7	LPC_AD3
A8	GBE0_LINK#	B8	LPC_DRQ0#
A9	GBE0_MDI1-	B9	LPC_DRQ1#
A10	GBE0_MDI1+	B10	LPC_CLK
A11	GND (FIXED)	B11	GND (FIXED)
A12	GBE0_MDI0-	B12	PWRBTN#

A13	GBE0_MDI0+	B13	SMB_CK
A14	GBE0_CTREF	B14	SMB_DAT
A15	SUS_S3#	B15	SMB_ALERT#
A16	SATA0_TX+	B16	SATA1_TX+
A17	SATA0_TX-	B17	SATA1_TX-
A18	SUS_S4#	B18	SUS_STAT#
A19	SATA0_RX+	B19	SATA1_RX+
A20	SATA0_RX-	B20	SATA1_RX-
A21	GND (FIXED)	B21	GND (FIXED)
A22	N.C.	B22	N.C.
A23	N.C.	B23	N.C.
A24	SUS_S5#	B24	PWR_OK
A25	N.C.	B25	N.C.
A26	N.C.	B26	N.C.
A27	BATLOW#	B27	WDT
A28	ATA_ACT#	B28	AC_SDIN2
A29	AC_SYNC	B29	AC_SDIN1
A30	AC_RST#	B30	AC_SDIN0
A31	GND (FIXED)	B31	GND (FIXED)
A32	AC_BITCLK	B32	SPKR
A33	AC_SDOUT	B33	I2C_CK
A34	BIOS_DISABLE#	B34	I2C_DAT
A35	THRMTRIP#	B35	THRM#
A36	USB6-	B36	USB7-

A37	USB6+	B37	USB7+
A38	USB_6_7_OC#	B38	USB_4_5_OC#
A39	USB4-	B39	USB5-
A40	USB4+	B40	USB5+
A41	GND (FIXED)	B41	GND (FIXED)
A42	USB2-	B42	USB3-
A43	USB2+	B43	USB3+
A44	USB_2_3_OC#	B44	USB_0_1_OC#
A45	USB0-	B45	USB1-
A46	USB0+	B46	USB1+
A47	VCC_RTC	B47	EXCD1_PERST#
A48	EXCD0_PERST#	B48	EXCD1_CPPE#
A49	EXCD0_CPPE#	B49	SYS_RESET#
A50	LPC_SERIRQ	B50	CB_RESET#
A51	GND (FIXED)	B51	GND (FIXED)
A52	N.C.	B52	N.C.
A53	N.C.	B53	N.C.
A54	GPI0	B54	GPO1
A55	N.C.	B55	N.C.
A56	N.C.	B56	N.C.
A57	GND	B57	GPO2
A58	PCIE_TX3+	B58	PCIE_RX3+
A59	PCIE_TX3-	B59	PCIE_RX3-
A60	GND (FIXED)	B60	GND (FIXED)

A61	PCIE_TX2+	B61	PCIE_RX2+
A62	PCIE_TX2-	B62	PCIE_RX2-
A63	GPI1	B63	GPO3
A64	PCIE_TX1+	B64	PCIE_RX1+
A65	PCIE_TX1-	B65	PCIE_RX1-
A66	GND	B66	WAKE0#
A67	GPI2	B67	WAKE1#
A68	PCIE_TX0+	B68	PCIE_RX0+
A69	PCIE_TX0-	B69	PCIE_RX0-
A70	GND (FIXED)	B70	GND (FIXED)
A71	LVDS_A0+	B71	LVDS_B0+
A72	LVDS_A0-	B72	LVDS_B0-
A73	LVDS_A1+	B73	LVDS_B1+
A74	LVDS_A1-	B74	LVDS_B1-
A75	LVDS_A2+	B75	LVDS_B2+
A76	LVDS_A2-	B76	LVDS_B2-
A77	LVDS_VDD_EN	B77	LVDS_B3+
A78	LVDS_A3+	B78	LVDS_B3-
A79	LVDS_A3-	B79	LVDS_BKLT_EN
A80	GND (FIXED)	B80	GND (FIXED)
A81	LVDS_A_CK+	B81	LVDS_B_CK+
A82	LVDS_A_CK-	B82	LVDS_B_CK-
A83	LVDS_I2C_CK	B83	LVDS_BKLT_CTRL
A84	LVDS_I2C_DAT	B84	VCC_5V_SBY

A85	GPI3	B85	VCC_5V_SBY
A86	RSVD	B86	VCC_5V_SBY
A87	RSVD	B87	VCC_5V_SBY
A88	PCIE0_CK_REF+	B88	RSVD
A89	PCIE0_CK_REF-	B89	VGA_RED
A90	GND (FIXED)	B90	GND (FIXED)
A91	SPI_POWER	B91	VGA_GRN
A92	SPI_MISO	B92	VGA_BLU
A93	GPO0	B93	VGA_HSYNC
A94	SPI_CLK	B94	VGA_VSYNC
A95	SPI_MOSI	B95	VGA_I2C_CK
A96	RSVD	B96	VGA_I2C_DAT
A97	RSVD	B97	SPI_CS#
A98	SER0_TX	B98	RSVD
A99	SER0_RX	B99	RSVD
A100	GND (FIXED)	B100	GND (FIXED)
A101	SER1_TX	B101	FAN_PWMOUT
A102	SER1_RX	B102	FAN_TACHIN
A103	RSVD	B103	SLEEP
A104	VCC_12V	B104	VCC_12V
A105	VCC_12V	B105	VCC_12V
A106	VCC_12V	B106	VCC_12V
A107	VCC_12V	B107	VCC_12V
A108	VCC_12V	B108	VCC_12V

A109	VCC_12V	B109	VCC_12V
A110	GND (FIXED)	B110	GND (FIXED)

2.8 COM Express Connector (Row C & D) (CN6)

Row C		Row D	
C1	GND (FIXED)	D1	GND (FIXED)
C2	RSVD	D2	RSVD
C3	USB_SSRX0-	D3	USB_SSTX0-
C4	USB_SSRX0+	D4	USB_SSRX0+
C5	RSVD	D5	RSVD
C6	USB_SSRX1-	D6	USB_SSTX1-
C7	USB_SSRX1+	D7	USB_SSRX1+
C8	RSVD	D8	RSVD
C9	N.C.	D9	N.C.
C10	N.C.	D10	N.C.
C11	GND (FIXED)	D11	GND (FIXED)
C12	N.C.	D12	N.C.
C13	N.C.	D13	N.C.
C14	RSVD	D14	RSVD
C15	N.C.	D15	N.C.
C16	N.C.	D16	N.C.
C17	RSVD	D17	RSVD
C18	RSVD	D18	RSVD
C19	N.C.	D19	N.C.

C20	N.C.	D20	N.C.
C21	GND (FIXED)	D21	GND (FIXED)
C22	N.C.	D22	N.C.
C23	N.C.	D23	N.C.
C24	N.C.	D24	RSVD
C25	N.C.	D25	RSVD
C26	N.C.	D26	N.C.
C27	RSVD	D27	N.C.
C28	RSVD	D28	RSVD
C29	N.C.	D29	N.C.
C30	N.C.	D30	N.C.
C31	GND (FIXED)	D31	GND (FIXED)
C32	DDI_CTRLCLK_AU X+	D32	N.C.
C33	DDI_CTRLDATA_A UX-	D33	N.C.
C34	DDI_DDC_AUX_S EL	D34	N.C.
C35	RSVD	D35	RSVD
C36	N.C.	D36	N.C.
C37	N.C.	D37	N.C.
C38	N.C.	D38	RSVD
C39	N.C.	D39	DDI_PAIR0+
C40	N.C.	D40	DDI_PAIR0-
C41	GND (FIXED)	D41	GND (FIXED)
C42	N.C.	D42	DDI_PAIR1+

C43	N.C.	D43	DDI_PAIR1-
C44	N.C.	D44	DDI_HPDP
C45	RSVD	D45	RSVD
C46	N.C.	D46	DDI_PAIR2+
C47	N.C.	D47	DDI_PAIR2-
C48	RSVD	D48	RSVD
C49	N.C.	D49	DDI_PAIR3+
C50	N.C.	D50	DDI_PAIR3-
C51	GND (FIXED)	D51	GND (FIXED)
C52	N.C.	D52	N.C.
C53	N.C.	D53	N.C.
C54	N.C.	D54	N.C.
C55	N.C.	D55	N.C.
C56	N.C.	D56	N.C.
C57	N.C.	D57	N.C.
C58	N.C.	D58	N.C.
C59	N.C.	D59	N.C.
C60	GND (FIXED)	D60	GND (FIXED)
C61	N.C.	D61	N.C.
C62	N.C.	D62	N.C.
C63	RSVD	D63	RSVD
C64	RSVD	D64	RSVD
C65	N.C.	D65	N.C.
C66	N.C.	D66	N.C.

C67	RSVD	D67	GND
C68	N.C.	D68	N.C.
C69	N.C.	D69	N.C.
C70	GND (FIXED)	D70	GND (FIXED)
C71	N.C.	D71	N.C.
C72	GND	D72	GND
C73	N.C.	D73	N.C.
C74	N.C.	D74	N.C.
C75	N.C.	D75	N.C.
C76	GND	D76	GND
C77	RSVD	D77	RSVD
C78	N.C.	D78	N.C.
C79	N.C.	D79	N.C.
C80	GND (FIXED)	D80	GND (FIXED)
C81	N.C.	D81	N.C.
C82	N.C.	D82	N.C.
C83	N.C.	D83	N.C.
C84	GND	D84	GND
C85	N.C.	D85	N.C.
C86	N.C.	D86	N.C.
C87	GND	D87	GND
C88	N.C.	D88	N.C.
C89	N.C.	D89	N.C.
C90	GND (FIXED)	D90	GND (FIXED)

C91	N.C.	D91	N.C.
C92	N.C.	D92	N.C.
C93	GND	D93	GND
C94	N.C.	D94	N.C.
C95	N.C.	D95	N.C.
C96	GND	D96	GND
C97	RSVD	D97	RSVD
C98	N.C.	D98	N.C.
C99	N.C.	D99	N.C.
C100	GND (FIXED)	D100	GND (FIXED)
C101	N.C.	D101	N.C.
C102	N.C.	D102	N.C.
C103	GND	D103	GND
C104	VCC_12V	D104	VCC_12V
C105	VCC_12V	D105	VCC_12V
C106	VCC_12V	D106	VCC_12V
C107	VCC_12V	D107	VCC_12V
C108	VCC_12V	D108	VCC_12V
C109	VCC_12V	D109	VCC_12V
C110	GND (FIXED)	D110	GND (FIXED)

Below Table for China RoHS Requirements

产品中有毒有害物质或元素名称及含量

AAEON Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板 及其电子组件	×	○	○	○	○	○
外部信号 连接器及线材	×	○	○	○	○	○
<p>O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。</p> <p>X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。</p> <p>备注: 此产品所标示之环保使用期限, 系指在一般正常使用状况下。</p>						

Chapter

3

**AMI
BIOS Setup**

3.1 System Test and Initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors.

System configuration verification

These routines check the current system configuration stored in the CMOS memory and BIOS NVRAM. If system configuration is not found or system configuration data error is detected, system will load optimized default and re-boot with this default system configuration automatically.

There are four situations in which you will need to setup system configuration:

1. You are starting your system for the first time
2. You have changed the hardware attached to your system
3. The system configuration is reset by Clear-CMOS jumper
4. The CMOS memory has lost power and the configuration information has been erased.

The COM-CV Rev.B CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs down.

3.2 AMI BIOS Setup

AMI BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM and BIOS NVRAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press or <F2> immediately. This will allow you to enter Setup.

Main

Set the date, use tab to switch between date elements.

Advanced

Enable/disable boot option for legacy network devices.

Chipset

Host bridge parameters.

Boot

Enables/disables quiet boot option.

Security

Set setup administrator password.

Save&Exit

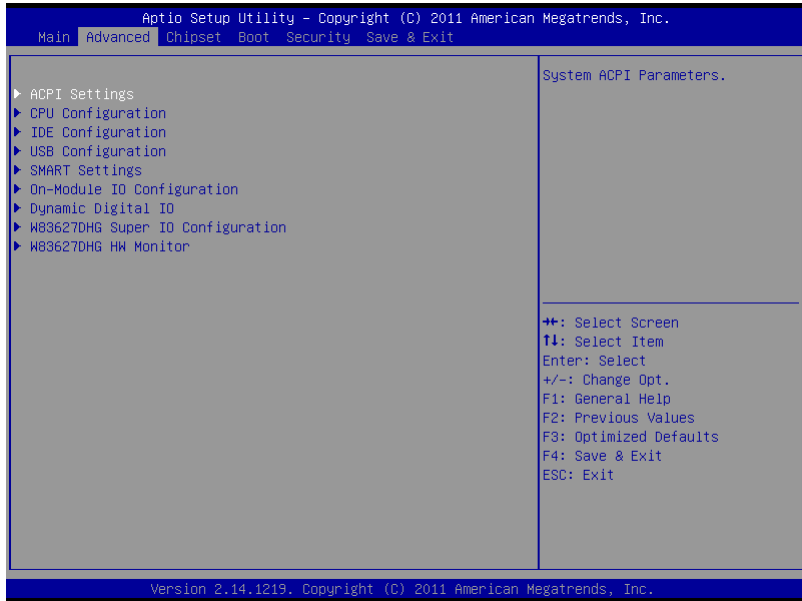
Exit system setup after saving the changes.

Setup Menu

Setup submenu: Main

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Main Advanced Chipset Boot Security Save & Exit		
BIOS Information	COM-CV Rev.B 1.5 (CCVBAM15) (04/24/2012)	Set the Date. Use Tab to switch between Date elements.
BIOS Vendor	American Megatrends	
Core Version	4.6.5.3	
Compliance	UEFI 2.3; PI 1.2	
Firmware VENDOR	AAEON	
Firmware Information	Mother Board	
Firmware Version	CMCVBE07	
Build Date	2012/3/28	
Firmware Information	N/A	
Firmware Version	N/A	
Build Date	N/A	
System Date	[Thu 01/01/2009]	+/: Select Screen
System Time	[06:34:10]	↑↓: Select Item
		Enter: Select
		+/-: Change Opt.
		F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit
Access Level	Administrator	
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

Setup submenu: Advanced



ACPI Settings

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Advanced

<p>ACPI Settings</p> <p>ACPI Sleep State [S3 (Suspend to RAM)]</p>	<p>Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.</p> <hr/> <p> +/: Select Screen ↑: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit </p>
--	---

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Options summary :

Suspend mode	S3 (Suspend to RAM)	Optimal Default, Failsafe Default
Select the ACPI state used for System Suspend		

CPU Configuration

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Advanced

CPU Configuration		Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology).
Processor Type	Intel(R) Atom(TM) CPU EMT64	
Processor Speed	1600 MHz	
System Bus Speed	400 MHz	
Ratio Status	16	
Actual Ratio	16	
System Bus Speed	400 MHz	
Processor Stepping	30661	
Microcode Revision	268	
L1 Cache RAM	2x56 k	
L2 Cache RAM	2x512 k	
Processor Core	Dual	
Hyper-Threading	Supported	
Hyper-Threading	[Enabled]	
Limit CPUID Maximum	[Disabled]	

++: 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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Options summary :

Hyper-Threading	Disabled	
	Enabled	Optimal Default, Failsafe Default
En/Disable CPU Hyper-Threading function		
Limit CPUID Maximum	Disabled	Optimal Default, Failsafe Default
	Enabled	
Disabled for Windows XP		

IDE Configuration (IDE)

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Advanced

SATA Port0	Not Present	SATA Ports (0-3) Device Names if Present and Enabled.
SATA Controller(s)	[Enabled]	
Configure SATA as	[IDE]	

++: 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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IDE Configuration (AHCI)

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Advanced

SATA Port0	TOSHIBA MK1661 (160.0	SATA Ports (0-3) Device Names if Present and Enabled.
SATA Port1	Not Present	
SATA Controller(s)	[Enabled]	
Configure SATA as	[AHCI]	
SATA Port 0	[Enabled]	
SATA Port 0 Hot Plug	[Enabled]	
SATA Port 1	[Enabled]	
SATA Port 1 Hot Plug	[Enabled]	

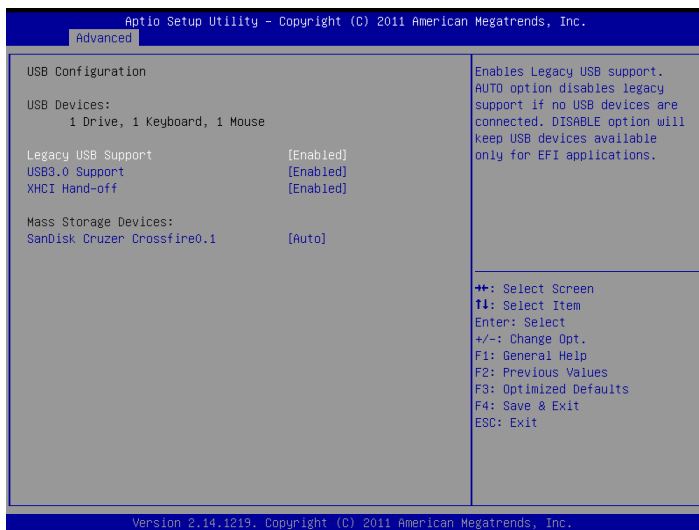
⇧+: Select Screen
 ⇧↓: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help
 F2: Previous Values
 F3: Optimized Defaults
 F4: Save & Exit
 ESC: Exit

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Options summary :

SATA Controllers	Disabled	
	Enabled	Default
En/Disable SATA Controller.		
SATA Mode	IDE	Default
	AHCI	
IDE: Configure SATA controllers as legacy IDEAHCI: Configure SATA controllers to operate in AHCI mode		
Hot Plug	Disabled	
	Enabled	Optimal Default, Failsafe Default
En/Disable Hot Plug feature.		

USB Configuration



Options summary :

Legacy USB Support	Enabled	Optimal Default, Failsafe Default
	Disabled	
	Auto	
Enables BIOS Support for Legacy USB Support. When enabled, USB can be functional in legacy environment like DOS. AUTO option disables legacy support if no USB devices are connected		
USB3.0 Support	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable/Disable USB3.0 (XHCI) Controller support.		
XHCI Hand-off	Enabled	Optimal Default, Failsafe Default
	Disabled	
This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.		
Device Name (Emulation Type)	Auto	Optimal Default, Failsafe Default
	Floppy	
	Forced FDD	
	Hard Disk	
	CDROM	
If Auto. USB devices less than 530MB will be emulated as Floppy and remaining as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD(Ex. ZIP drive)		

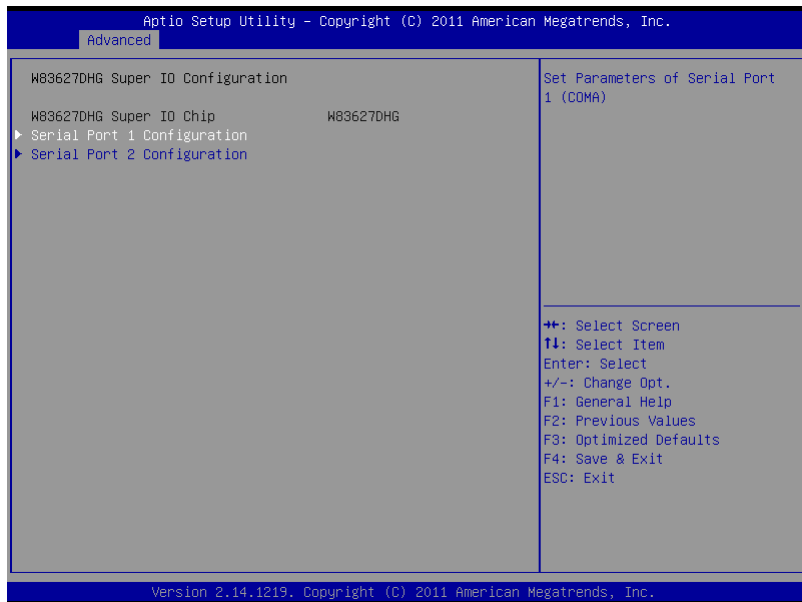
SMART Settings



Options summary :

SMART Self Test	Enabled	
	Disabled	Optimal Default, Failsafe Default
Run SMART Self Test on all HDDs during POST.		

W83627DHG Super IO Configuration (with the standard carrier board: ECB-917T)



Serial Port Configuration

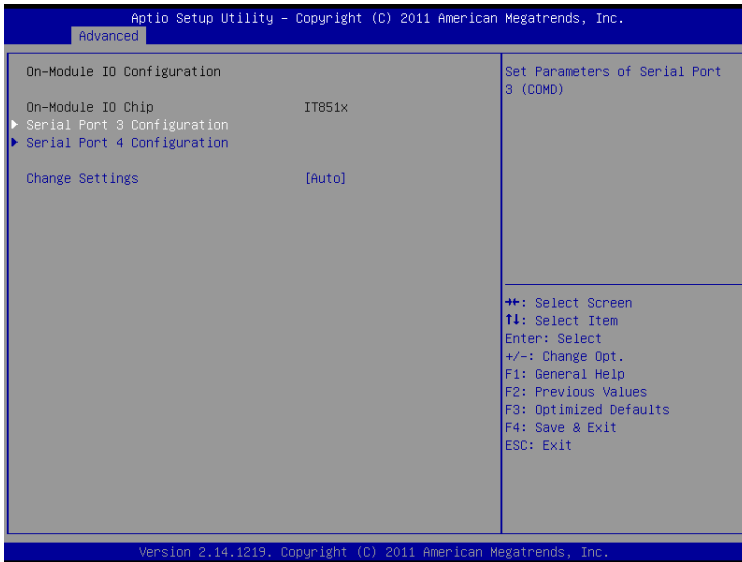
Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Advanced		
Serial Port 1 Configuration		Enable or Disable Serial Port (COM)
Serial Port	[Enabled]	
Device Settings	IO=3F8h; IRQ=4;	
Change Settings	[Auto]	
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.14.1219, Copyright (C) 2011 American Megatrends, Inc.		

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Advanced		
Serial Port 2 Configuration		Enable or Disable Serial Port (COM)
Serial Port	[Enabled]	
Device Settings	IO=2F8h; IRQ=3;	
Change Settings	[Auto]	
		++: 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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Options summary :

Serial Port	Disabled	
	Enabled	Default
Allows BIOS to En/Disable correspond serial port.		
Change Settings (Serial Port 1)	Auto	Default
	IO=3F8h; IRQ=4;	
	IO=3F8h; IRQ=3,4,5,6,7,10,11,12;	
	IO=2F8h; IRQ=3,4,5,6,7,10,11,12;	
	IO=3E8h; IRQ=3,4,5,6,7,10,11,12;	
	IO=2E8h; IRQ=3,4,5,6,7,10,11,12;	
Allows BIOS to Select Serial Port resource.		
Change Settings (Serial Port 2)	Auto	Default
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=3,4,5,6,7,10,11,12;	
	IO=2F8h; IRQ=3,4,5,6,7,10,11,12;	
	IO=3E8h; IRQ=3,4,5,6,7,10,11,12;	
	IO=2E8h; IRQ=3,4,5,6,7,10,11,12;	

IT8518 Super IO Configuration



Serial Port Configuration

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.	
Advanced	
Serial Port 3 Configuration	
Serial Port	[Enabled]
Device Settings	ID=3E8h; IRQ=11;
Change Settings	[Auto]
Enable or Disable Serial Port (COM)	
++: Select Screen ↑: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.	

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.	
Advanced	
Serial Port 4 Configuration	
Serial Port	[Enabled]
Device Settings	ID=2E8h; IRQ=10;
Change Settings	[Auto]
Enable or Disable Serial Port (COM)	
++: Select Screen ↑: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.	

Options summary :

Change Settings (Serial Port 3)	Auto	Default
	IO=3E8h; IRQ=11;	
	IO=3F8h; IRQ= 3,4;	
	IO=2F8h; IRQ= 3,4;	
	IO=3E8h; IRQ= 10,11;	
	IO=2E8h; IRQ= 10,11;	
Allows BIOS to Select Serial Port resource.		
Change Settings (Serial Port 4)	Auto	Default
	IO=2E8h; IRQ=10;	
	IO=3F8h; IRQ= 3,4;	
	IO=2F8h; IRQ= 3,4;	
	IO=3E8h; IRQ= 10,11;	
	IO=2E8h; IRQ= 10,11;	

Dynamic Digital IO

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Advanced

Dynamic Digital IO Dynamic Digital IO Support [Disabled]	Enable or Disable Dynamic Digital IO support ⇧+: 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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Options summary :

Dynamic Digital IO Support	Disabled	Default
	Enabled	
Enable or Disable Dynamic Digital IO support		
GPIO Direction(0-3)	Input	Default
	Output	
Set GPIO as Input or Output		
GPO0 Direction(0-3)	Input	
	Output	Default
Set GPIO as Input or Output		
Output Level	Hi	Default
	Low	
Set GPIO Output as Hi or Low		

**W83627DHG H/W Monitor (with the standard carrier board:
ECB-917T)**

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Advanced

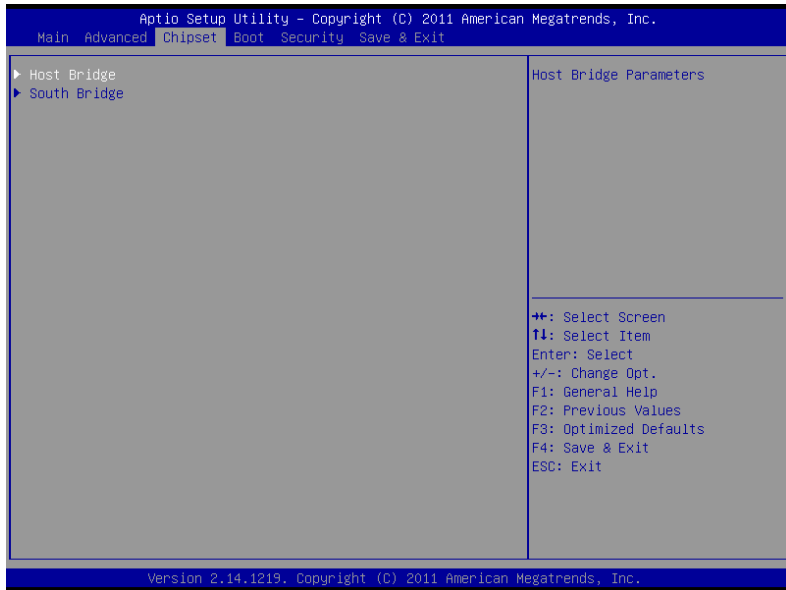
Pc Health Status

System temperature	:	+27 C
System Fan Speed	:	5192 RPM
CPU Fan Speed	:	N/A
3.3V	:	+3.504 V
12V	:	+12.416 V
5VSB	:	+4.752 V
5V	:	+4.752 V

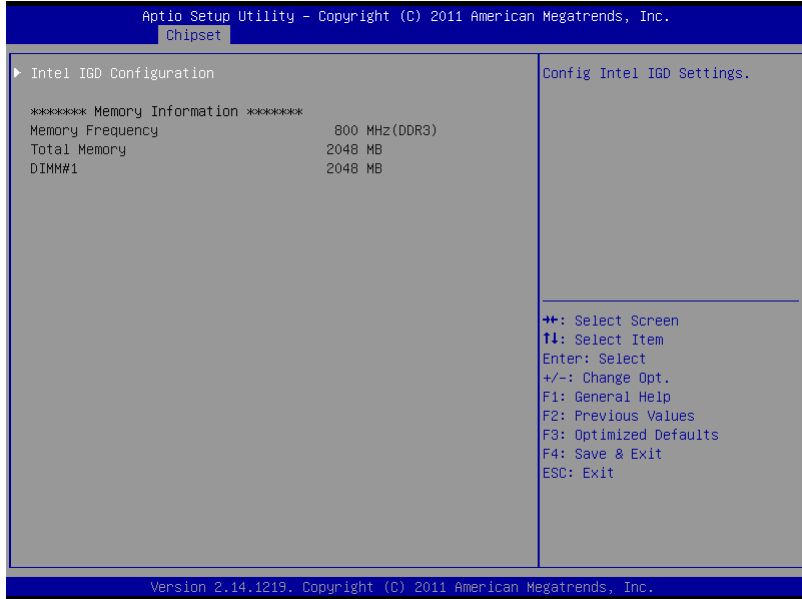
⇧: Select Screen
⇩: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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Setup submenu: Chipset



Host Bridge



Graphics Configuration

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Chipset	
Intel IGD Configuration	
IGFX - Boot Type	[VBIOS Default]
LCD2 Panel Type	[1024x768 18Bit]
Active LFP	[LVDS]
Fixed Graphics Memory Size	[256MB]
	Select the Video Device which will be activated during POST. This has no effect if external graphics present.
	→+: 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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Options summary :

IGFX - Boot Type	VBIOS Default	Default
	CRT	
	LVDS	
	HDMI	
Select the Video Device which will be activated during POST. This has no effect if external graphics present.		
LCD2 Panel Type	VBIOS Default	Default
	640x480 18bit	
	800x600 18bit	
	1024x768 18bit	
	1024x600 18Bit	
	1280x768 18bit	
	1024x768 24Bit	
	1280x768 24Bit	
	1366x768 24Bit	
	1280x1024 48Bit	
	1600x1200 48Bit	
1920x1080 48Bit		
Select panel native resolution.		
Active LFP	No LVDS	
	LVDS	Default
Active LFP		
Fixed Graphics Memory Size	128MB	
	256MB	Default
Select the amount of system memory used by the Internal graphics device.		

South Bridge

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Chipset

<ul style="list-style-type: none"> ▶ TPT Devices ▶ PCI Express Root Port 0 ▶ PCI Express Root Port 1 ▶ PCI Express Root Port 2 ▶ PCI Express Root Port 3 <p>DMI Link ASPM Control [Enabled] PCI-Exp. High Priority Port [Disabled]</p> <p>Power Management Configuration PWRON After PWR-Fail [Last State]</p>	<p>Enable/Disable Intel(R) ID Controller Hub (TPT) devices</p> <hr/> <p> ++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit </p>
---	--

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Options summary :

PCI Express Root Port 0	Disabled	
	Enabled	Default
Enabling/Disabling PCI Express root ports		
DMI Link ASPM Control	Disabled	Default
	Enabled	
The control of Active State Power Management on both NB side and SB side of the DMI Link.		
PCI-Exp. High Priority Port	Disabled	Default
	Enabled	
Select a PCI Express High Priority Port.		
PWRON After PWR-Fail	Power On	
	Power Off	
	Last State	Default
Restore AC Power Loss help.		

TPT Devices

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.			
Chipset			
Power Mode	[ATX Type]	Select the power type used on the system	
Azalia Controller	[HD Audio]		
Select USB Mode	[By Controllers]	++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
UHCI #1 (ports 0 and 1)	[Enabled]		
UHCI #2 (ports 2 and 3)	[Enabled]		
UHCI #3 (ports 4 and 5)	[Enabled]		
UHCI #4 (ports 6 and 7)	[Enabled]		
USB 2.0(EHCI) Support	[Enabled]		
SMBus Controller	[Enabled]		
SIRQ Logic	[Enabled]		
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.			

Options summary :

Power Mode	ATX Type	Default
	AT Type	
Select Power Mode: ATX Type: Normal ACPI support AT Type: Suspend/Sleep disabled, and Always On when restoring from power failure.		
Azalia Controller	Disabled	
	HD Audio	Default
Select a OnBoard Azalia Configuration.		
UHCI #1~4	Disabled	
	Enabled	Default
Control the USB UHCI (USB 1.1) functions.\n\nDisable from highest to lowest controller.		
USB 2.0(EHCI) Support	Disabled	
	Enabled	Default
Enable or Disable USB 2.0 (EHCI) Support.		
SMBus Controller	Disabled	
	Enabled	Default

Enable or Disable OnChip SMBus Controller.		
SIRQ Logic	Disabled	
	Enabled	Default
Enable or Disable SIRQ logic.		

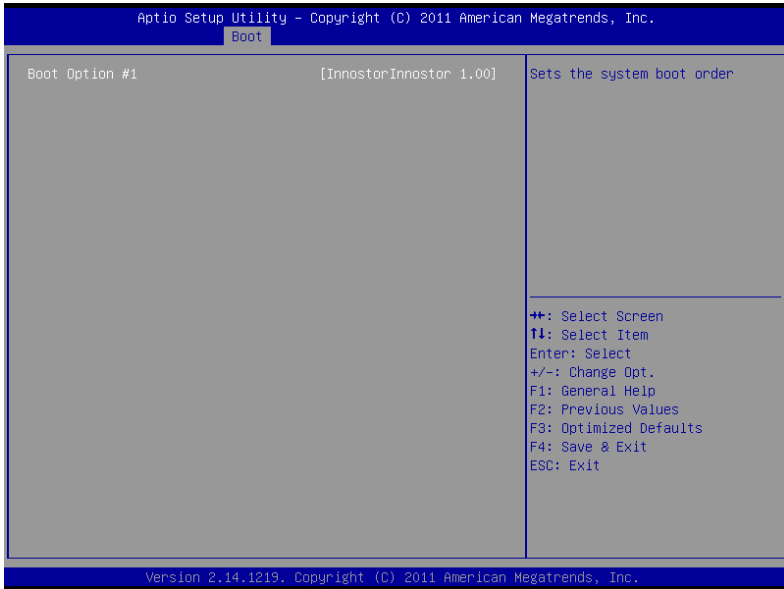
Setup submenu: Boot

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.					
Main	Advanced	Chipset	Boot	Security	Save & Exit
Boot Configuration			Enables or disables Quiet Boot option		
Quiet Boot		[Enabled]			
Launch On-Module LAN PXE OpROM		[Disabled]			
Boot Option Priorities					
Boot Option #1		[UEFI: SanDisk Cruz...]			
Boot Option #2		[SATA PM: TOSHIBA ...]			
Hard Drive BBS Priorities					
			++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.					

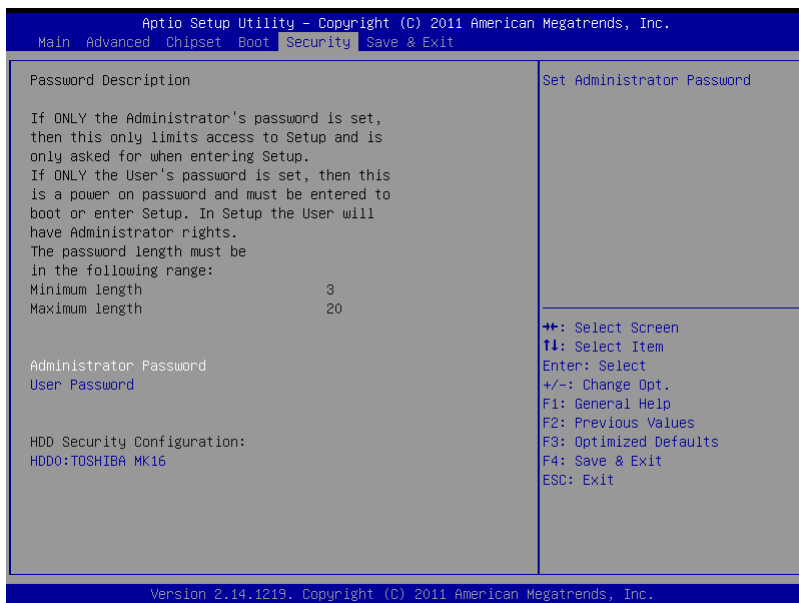
Options summary :

Quiet Boot	Disabled	
	Enabled	Default
En/Disable showing boot logo.		
Launch PXE OpROM	Disabled	Default
	Enabled	
En/Disable PXE boot from LAN		

BBS Priorities



Security



Change User/Supervisor Password

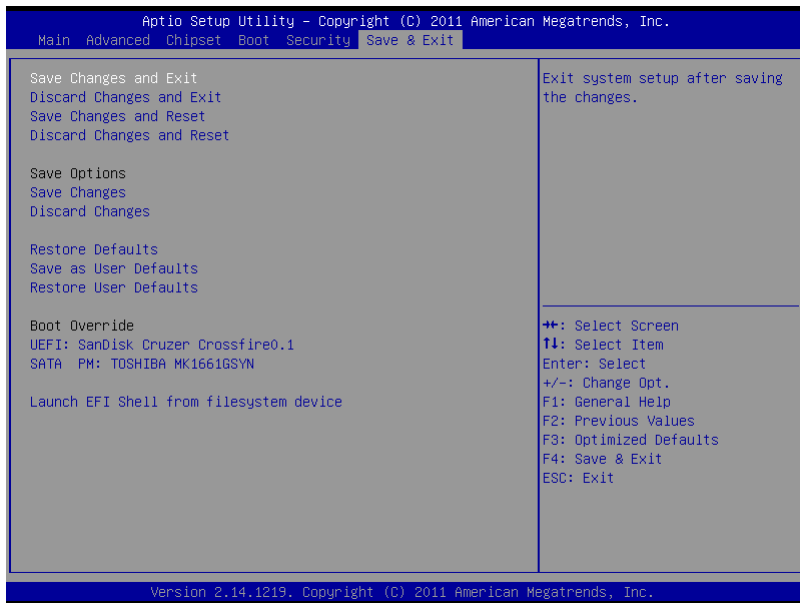
You can install a Supervisor password, and if you install a supervisor password, you can then install a user password. A user password does not provide access to many of the features in the Setup utility.

If you highlight these items and press Enter, a dialog box appears which lets you enter a password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. A second dialog box asks you to retype the password for confirmation. Press Enter after you have retyped it correctly. The password is required at boot time, or when the user enters the Setup utility.

Removing the Password

Highlight this item and type in the current password. At the next dialog box press Enter to disable password protection.

Setup submenu: Exit



Chapter

4

**Driver
Installation**

The COM-CV Rev.B comes with a CD-ROM that contains all drivers your need.

Follow the sequence below to install the drivers:

Step 1 – Install Chipset Driver

Step 2 – Install VGA Driver

Step 3 – Install LAN Driver

Step 4 – Install Audio Driver

Step 5 – Install USB3.0 Driver

Step 6 – Install AHCI Driver

Please read following instructions for detailed installations.

4.1 Installation:

Insert the COM-CV Rev.B CD-ROM into the CD-ROM Drive. And install the drivers from Step 1 to Step 6 in order.

Step 1 – Install Chipset Driver

1. Click on the **STEP1 - CHIPSET** folder and double click on ***infinst_autol.exe*** file
2. Follow the instructions that the window shows
3. The system will help you to install the driver automatically

Step 2 – Install VGA Driver

1. Click on the **STEP2 - VGA** folder and double click on ***Setup.exe*** file
2. Follow the instructions that the window shows
3. The system will help you to install the driver automatically

Step 3 – Install LAN Driver

1. Click on the **STEP3 - LAN_82583V** folder and double click on ***W7_PROWin32.exe*** file
2. Follow the instructions that the window shows
3. The system will help you to install the driver automatically

Step 4 – Install Audio Driver

1. Click on the **STEP4 - AUDIO** folder and double click on ***32bit_Vista_Win7_R265.exe*** file
2. Follow the instructions that the window shows

3. The system will help you to install the driver automatically

Step 5 – Install USB3.0 Driver

1. Click on the **STEP5 – USB30 Driver** folder and double click on **RENESAS-USB3-Host-Driver-21160-setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you to install the driver automatically

Step 6 – Install AHCI Driver

1. Click on the **STEP6 - AHCI** folder and double click on **setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you to install the driver automatically

Appendix

A

Programming the Watchdog Timer

A.1 IT8518E Watchdog Timer Initial Program

ND_PROCESS MACRO

mov ah, 4ch

int 21h

ENDM

;
;***** Code Segment *****

.MODEL SMALL

.CODE

begin:

; Set BRAM_Device as 0xA0

mov dx, 284h

mov al, 10h

out dx, al

inc dx

mov al, 0A8h

out dx, al

```
;Set BRAM_Command as 0x00 (GPIO device input/output
```

```
;access)
```

```
dec dx
```

```
mov al, 11h
```

```
out dx, al
```

```
inc dx
```

```
mov al, 00h
```

```
out dx, al
```

```
; Set BRAM_Data2 as 0xFF (WDT Counter)
```

```
dec dx
```

```
mov al, 15h
```

```
out dx, al
```

```
inc dx
```

```
mov al, 3Ch ;60 Sec
```

```
out dx, al
```

```
; Set BRAM_Ctrl_Sts as 0x10 (Read & Start)
```

```
dec dx
```

```
mov al, 12h
```

```
out dx, al
```

```
inc dx
```

```
mov al, 30h
```

```
out dx, al
```

```
exit: END_PROCESS
```










































Appendix

B

I/O Information

B.1 I/O Address Map

Input/output (IO)	
[00000000 - 0000001F]	Direct memory access controller
[00000000 - 00000CF7]	PCI bus
[00000010 - 0000001F]	Motherboard resources
[00000020 - 00000021]	Programmable interrupt controller
[00000022 - 0000003F]	Motherboard resources
[00000024 - 00000025]	Programmable interrupt controller
[00000028 - 00000029]	Programmable interrupt controller
[0000002C - 0000002D]	Programmable interrupt controller
[0000002E - 0000002F]	Motherboard resources
[00000030 - 00000031]	Programmable interrupt controller
[00000034 - 00000035]	Programmable interrupt controller
[00000038 - 00000039]	Programmable interrupt controller
[0000003C - 0000003D]	Programmable interrupt controller
[00000040 - 00000043]	System timer
[00000044 - 0000005F]	Motherboard resources
[0000004E - 0000004F]	Motherboard resources
[00000050 - 00000053]	System timer
[00000060 - 00000060]	Standard PS/2 Keyboard
[00000061 - 00000061]	Motherboard resources
[00000062 - 00000063]	Motherboard resources
[00000063 - 00000063]	Motherboard resources
[00000064 - 00000064]	Standard PS/2 Keyboard
[00000065 - 00000065]	Motherboard resources
[00000065 - 0000006F]	Motherboard resources
[00000067 - 00000067]	Motherboard resources
[00000070 - 00000070]	Motherboard resources
[00000070 - 00000077]	System CMOS/real time clock
[00000072 - 0000007F]	Motherboard resources
[00000080 - 00000080]	Motherboard resources
[00000081 - 00000091]	Direct memory access controller
[00000084 - 00000086]	Motherboard resources
[00000088 - 00000088]	Motherboard resources
[0000008C - 0000008E]	Motherboard resources
[00000090 - 0000009F]	Motherboard resources
[00000092 - 00000092]	Motherboard resources
[00000093 - 0000009F]	Direct memory access controller
[000000A0 - 000000A1]	Programmable interrupt controller
[000000A2 - 000000BF]	Motherboard resources
[000000A4 - 000000A5]	Programmable interrupt controller
[000000A8 - 000000A9]	Programmable interrupt controller
[000000AC - 000000AD]	Programmable interrupt controller
[000000B0 - 000000B1]	Programmable interrupt controller
[000000B2 - 000000B3]	Motherboard resources
[000000B4 - 000000B5]	Programmable interrupt controller
[000000B8 - 000000B9]	Programmable interrupt controller
[000000BC - 000000BD]	Programmable interrupt controller













































	[000000C0 - 000000DF]	Direct memory access controller
	[000000E0 - 000000EF]	Motherboard resources
	[000000F0 - 000000F0]	Numeric data processor
	[00000284 - 00000293]	Motherboard resources
	[000002A0 - 000002AF]	Motherboard resources
	[000002B0 - 000002BF]	Motherboard resources
	[000002E8 - 000002EF]	Communications Port (COM4)
	[000002F8 - 000002FF]	Communications Port (COM2)
	[000003B0 - 000003BB]	Intel(R) Graphics Media Accelerator 3600 Series
	[000003C0 - 000003DF]	Intel(R) Graphics Media Accelerator 3600 Series
	[000003E8 - 000003EF]	Communications Port (COM3)
	[000003F8 - 000003FF]	Communications Port (COM1)
	[00000400 - 0000047F]	Motherboard resources
	[00000400 - 0000047F]	Motherboard resources
	[000004D0 - 000004D1]	Motherboard resources
	[000004D0 - 000004D1]	Programmable interrupt controller
	[00000500 - 0000053F]	Motherboard resources
	[00000500 - 0000057F]	Motherboard resources
	[00000600 - 0000061F]	Motherboard resources
	[00000600 - 0000061F]	Motherboard resources
	[00000680 - 0000069F]	Motherboard resources
	[000006A0 - 000006AF]	Motherboard resources
	[000006B0 - 000006EF]	Motherboard resources
	[000006B0 - 000006EF]	Motherboard resources
	[00000D00 - 0000FFFF]	PCI bus
	[00001000 - 0000100F]	Motherboard resources
	[0000E000 - 0000EFFF]	Intel(R) N10/ICH7 Family PCI Express Root Port - 27D6
	[0000F000 - 0000F01F]	Intel(R) N10/ICH7 Family SMBus Controller - 27DA
	[0000F020 - 0000F02F]	Standard AHCI 1.0 Serial ATA Controller
	[0000F040 - 0000F05F]	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27CB
	[0000F060 - 0000F07F]	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27CA
	[0000F080 - 0000F09F]	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27C9
	[0000F0A0 - 0000F0BF]	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27C8
	[0000F0C0 - 0000F0C3]	Standard AHCI 1.0 Serial ATA Controller
	[0000F0D0 - 0000F0D7]	Standard AHCI 1.0 Serial ATA Controller
	[0000F0E0 - 0000F0E3]	Standard AHCI 1.0 Serial ATA Controller
	[0000F0F0 - 0000F0F7]	Standard AHCI 1.0 Serial ATA Controller
	[0000F100 - 0000F107]	Intel(R) Graphics Media Accelerator 3600 Series
	[0000FFFF - 0000FFFF]	Motherboard resources
	[0000FFFF - 0000FFFF]	Motherboard resources









































B.2 Memory Address Map

Address Range	Device Name
[00000000 - 00000FFF]	Motherboard resources
[00000000 - 00000FFF]	Motherboard resources
[00000000 - 00003FFF]	Motherboard resources
[000A0000 - 000BFFFF]	Intel(R) Graphics Media Accelerator 3600 Series
[000A0000 - 000BFFFF]	PCI bus
[000C0000 - 000DFFFF]	PCI bus
[000E0000 - 000EFFFF]	PCI bus
[000F0000 - 000FFFFFF]	PCI bus
[7F800000 - 7FFFFFFF]	PCI bus
[80000000 - FEBFFFFFF]	PCI bus
[DFC00000 - DFCFFFFFF]	Intel(R) Graphics Media Accelerator 3600 Series
[DFD00000 - DFD1FFFF]	Intel(R) 82583V Gigabit Network Connection
[DFD00000 - DFDFFFFFF]	Intel(R) N10/ICH7 Family PCI Express Root Port - 27D6
[DFD20000 - DFD23FFF]	Intel(R) 82583V Gigabit Network Connection
[DFE00000 - DFE01FFF]	Renesas Electronics USB 3.0 Host Controller
[DFE00000 - DFEFFFFFF]	Intel(R) N10/ICH7 Family PCI Express Root Port - 27D2
[DFF00000 - DFF03FFF]	High Definition Audio Controller
[DFF04000 - DFF043FF]	Standard AHCI 1.0 Serial ATA Controller
[DFF05000 - DFF053FF]	Intel(R) N10/ICH7 Family USB2 Enhanced Host Controller - 27CC
[E0000000 - EFFFFFFF]	System board
[FEC00000 - FEC00FFF]	Motherboard resources
[FED00000 - FED003FF]	High precision event timer
[FED14000 - FED19FFF]	System board
[FED1C000 - FED1FFFF]	Motherboard resources
[FED1C000 - FED1FFFF]	Motherboard resources
[FED20000 - FED8FFFF]	Motherboard resources
[FED45000 - FED8FFFF]	Motherboard resources
[FEE00000 - FEE00FFF]	Motherboard resources
[FF000000 - FFFFFFFF]	Intel(R) 82802 Firmware Hub Device
[FF000000 - FFFFFFFF]	Intel(R) 82802 Firmware Hub Device
[FFC00000 - FFFFFFFF]	Motherboard resources



B.3 IRQ Mapping Chart

Interrupt request (IRQ)	
(ISA) 0x00000000 (00)	System timer
(ISA) 0x00000001 (01)	Standard PS/2 Keyboard
(ISA) 0x00000003 (03)	Communications Port (COM2)
(ISA) 0x00000004 (04)	Communications Port (COM1)
(ISA) 0x00000008 (08)	System CMOS/real time clock
(ISA) 0x0000000A (10)	Communications Port (COM4)
(ISA) 0x0000000B (11)	Communications Port (COM3)
(ISA) 0x0000000C (12)	Microsoft PS/2 Mouse
(ISA) 0x0000000D (13)	Numeric data processor
(ISA) 0x00000051 (81)	Microsoft ACPI-Compliant System
(ISA) 0x00000052 (82)	Microsoft ACPI-Compliant System
(ISA) 0x00000053 (83)	Microsoft ACPI-Compliant System
(ISA) 0x00000054 (84)	Microsoft ACPI-Compliant System
(ISA) 0x00000055 (85)	Microsoft ACPI-Compliant System
(ISA) 0x00000056 (86)	Microsoft ACPI-Compliant System
(ISA) 0x00000057 (87)	Microsoft ACPI-Compliant System
(ISA) 0x00000058 (88)	Microsoft ACPI-Compliant System
(ISA) 0x00000059 (89)	Microsoft ACPI-Compliant System
(ISA) 0x0000005A (90)	Microsoft ACPI-Compliant System
(ISA) 0x0000005B (91)	Microsoft ACPI-Compliant System
(ISA) 0x0000005C (92)	Microsoft ACPI-Compliant System
(ISA) 0x0000005D (93)	Microsoft ACPI-Compliant System
(ISA) 0x0000005E (94)	Microsoft ACPI-Compliant System
(ISA) 0x0000005F (95)	Microsoft ACPI-Compliant System
(ISA) 0x00000060 (96)	Microsoft ACPI-Compliant System
(ISA) 0x00000061 (97)	Microsoft ACPI-Compliant System
(ISA) 0x00000062 (98)	Microsoft ACPI-Compliant System
(ISA) 0x00000063 (99)	Microsoft ACPI-Compliant System
(ISA) 0x00000064 (100)	Microsoft ACPI-Compliant System
(ISA) 0x00000065 (101)	Microsoft ACPI-Compliant System
(ISA) 0x00000066 (102)	Microsoft ACPI-Compliant System
(ISA) 0x00000067 (103)	Microsoft ACPI-Compliant System
(ISA) 0x00000068 (104)	Microsoft ACPI-Compliant System
(ISA) 0x00000069 (105)	Microsoft ACPI-Compliant System
(ISA) 0x0000006A (106)	Microsoft ACPI-Compliant System
(ISA) 0x0000006B (107)	Microsoft ACPI-Compliant System
(ISA) 0x0000006C (108)	Microsoft ACPI-Compliant System
(ISA) 0x0000006D (109)	Microsoft ACPI-Compliant System
(ISA) 0x0000006E (110)	Microsoft ACPI-Compliant System
(ISA) 0x0000006F (111)	Microsoft ACPI-Compliant System
(ISA) 0x00000070 (112)	Microsoft ACPI-Compliant System
(ISA) 0x00000071 (113)	Microsoft ACPI-Compliant System
(ISA) 0x00000072 (114)	Microsoft ACPI-Compliant System
(ISA) 0x00000073 (115)	Microsoft ACPI-Compliant System
(ISA) 0x00000074 (116)	Microsoft ACPI-Compliant System
(ISA) 0x00000075 (117)	Microsoft ACPI-Compliant System
(ISA) 0x00000076 (118)	Microsoft ACPI-Compliant System
(ISA) 0x00000077 (119)	Microsoft ACPI-Compliant System
(ISA) 0x00000078 (120)	Microsoft ACPI-Compliant System

 (ISA) 0x00000079 (121)	Microsoft ACPI-Compliant System
 (ISA) 0x0000007A (122)	Microsoft ACPI-Compliant System
 (ISA) 0x0000007B (123)	Microsoft ACPI-Compliant System
 (ISA) 0x0000007C (124)	Microsoft ACPI-Compliant System
 (ISA) 0x0000007D (125)	Microsoft ACPI-Compliant System
 (ISA) 0x0000007E (126)	Microsoft ACPI-Compliant System
 (ISA) 0x0000007F (127)	Microsoft ACPI-Compliant System
 (ISA) 0x00000080 (128)	Microsoft ACPI-Compliant System
 (ISA) 0x00000081 (129)	Microsoft ACPI-Compliant System
 (ISA) 0x00000082 (130)	Microsoft ACPI-Compliant System
 (ISA) 0x00000083 (131)	Microsoft ACPI-Compliant System
 (ISA) 0x00000084 (132)	Microsoft ACPI-Compliant System
 (ISA) 0x00000085 (133)	Microsoft ACPI-Compliant System
 (ISA) 0x00000086 (134)	Microsoft ACPI-Compliant System
 (ISA) 0x00000087 (135)	Microsoft ACPI-Compliant System
 (ISA) 0x00000088 (136)	Microsoft ACPI-Compliant System
 (ISA) 0x00000089 (137)	Microsoft ACPI-Compliant System
 (ISA) 0x0000008A (138)	Microsoft ACPI-Compliant System
 (ISA) 0x0000008B (139)	Microsoft ACPI-Compliant System
 (ISA) 0x0000008C (140)	Microsoft ACPI-Compliant System
 (ISA) 0x0000008D (141)	Microsoft ACPI-Compliant System
 (ISA) 0x0000008E (142)	Microsoft ACPI-Compliant System
 (ISA) 0x0000008F (143)	Microsoft ACPI-Compliant System
 (ISA) 0x00000090 (144)	Microsoft ACPI-Compliant System
 (ISA) 0x00000091 (145)	Microsoft ACPI-Compliant System
 (ISA) 0x00000092 (146)	Microsoft ACPI-Compliant System
 (ISA) 0x00000093 (147)	Microsoft ACPI-Compliant System
 (ISA) 0x00000094 (148)	Microsoft ACPI-Compliant System
 (ISA) 0x00000095 (149)	Microsoft ACPI-Compliant System
 (ISA) 0x00000096 (150)	Microsoft ACPI-Compliant System
 (ISA) 0x00000097 (151)	Microsoft ACPI-Compliant System
 (ISA) 0x00000098 (152)	Microsoft ACPI-Compliant System
 (ISA) 0x00000099 (153)	Microsoft ACPI-Compliant System
 (ISA) 0x0000009A (154)	Microsoft ACPI-Compliant System
 (ISA) 0x0000009B (155)	Microsoft ACPI-Compliant System
 (ISA) 0x0000009C (156)	Microsoft ACPI-Compliant System
 (ISA) 0x0000009D (157)	Microsoft ACPI-Compliant System
 (ISA) 0x0000009E (158)	Microsoft ACPI-Compliant System
 (ISA) 0x0000009F (159)	Microsoft ACPI-Compliant System
 (ISA) 0x000000A0 (160)	Microsoft ACPI-Compliant System
 (ISA) 0x000000A1 (161)	Microsoft ACPI-Compliant System
 (ISA) 0x000000A2 (162)	Microsoft ACPI-Compliant System
 (ISA) 0x000000A3 (163)	Microsoft ACPI-Compliant System
 (ISA) 0x000000A4 (164)	Microsoft ACPI-Compliant System
(ISA) 0x000000A5 (165)	Microsoft ACPI-Compliant System
(ISA) 0x000000A6 (166)	Microsoft ACPI-Compliant System
(ISA) 0x000000A7 (167)	Microsoft ACPI-Compliant System
(ISA) 0x000000A8 (168)	Microsoft ACPI-Compliant System
(ISA) 0x000000A9 (169)	Microsoft ACPI-Compliant System
(ISA) 0x000000AA (170)	Microsoft ACPI-Compliant System
(ISA) 0x000000AB (171)	Microsoft ACPI-Compliant System
(ISA) 0x000000AC (172)	Microsoft ACPI-Compliant System
(ISA) 0x000000AD (173)	Microsoft ACPI-Compliant System
(ISA) 0x000000AE (174)	Microsoft ACPI-Compliant System
(ISA) 0x000000AF (175)	Microsoft ACPI-Compliant System

	(ISA) 0x000000B0 (176)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B1 (177)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B2 (178)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B3 (179)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B4 (180)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B5 (181)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B6 (182)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B7 (183)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B8 (184)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B9 (185)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BA (186)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BB (187)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BC (188)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BD (189)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BE (190)	Microsoft ACPI-Compliant System
	(PCI) 0x00000005 (05)	Intel(R) N10/ICH7 Family SMBus Controller - 27DA
	(PCI) 0x00000010 (16)	Intel(R) N10/ICH7 Family PCI Express Root Port - 27D0
	(PCI) 0x00000010 (16)	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27CB
	(PCI) 0x00000011 (17)	Intel(R) N10/ICH7 Family PCI Express Root Port - 27D2
	(PCI) 0x00000012 (18)	Intel(R) N10/ICH7 Family PCI Express Root Port - 27D4
	(PCI) 0x00000012 (18)	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27CA
	(PCI) 0x00000013 (19)	Intel(R) N10/ICH7 Family PCI Express Root Port - 27D6
	(PCI) 0x00000013 (19)	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27C9
	(PCI) 0x00000013 (19)	Standard AHCI 1.0 Serial ATA Controller
	(PCI) 0x00000016 (22)	High Definition Audio Controller
	(PCI) 0x00000017 (23)	Intel(R) N10/ICH7 Family USB Universal Host Controller - 27C8
	(PCI) 0x00000017 (23)	Intel(R) N10/ICH7 Family USB2 Enhanced Host Controller - 27CC
	(PCI) 0xFFFFFFF2 (-14)	Intel(R) 82583V Gigabit Network Connection
	(PCI) 0xFFFFFFF3 (-13)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFF4 (-12)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFF5 (-11)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFF6 (-10)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFF7 (-9)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFF8 (-8)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFF9 (-7)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFFA (-6)	Renesas Electronics USB 3.0 Host Controller
	(PCI) 0xFFFFFFFB (-5)	Intel(R) Graphics Media Accelerator 3600 Series
	(PCI) 0xFFFFFFF4 (-4)	PCI standard PCI-to-PCI bridge
	(PCI) 0xFFFFFFF5 (-3)	PCI standard PCI-to-PCI bridge
	(PCI) 0xFFFFFFF6 (-2)	PCI standard PCI-to-PCI bridge

B.4 DMA Channel Assignments

-  Direct memory access (DMA)
-  4 Direct memory access controller