

COM-CV Rev.A

Intel® Atom™ D2550/N2600 Processor

Intel® NM10

Gigabit Ethernet

1 PATA, 2 SATA 3.0 Gb/s

8 USB2.0, 3 PCI-E[x1], 2 PCI

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.A

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.A. The COM-CV Rev.A is a cutting-edge product that provides high performance and low power consumption in the embedded market.

COM-CV Rev.A 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 10/100/1000Base-TX that allows faster network connections. This model applies three PCI-Express[x1], two PCI, one LPC bus, and one SMBus. Moreover, one PATA (shared with SATA) and two SATA 3.0Gb/s are configured on the COM-CV Rev.A. COM-CV Rev.A also equips eight USB2.0 for flexible I/O expansions.

The display of COM-CV Rev.A supports CRT/LVDS 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 18/24-bit Dual Channel LVDS LCD, DisplayPort™
- High Definition Audio Interface
- PATA x 1 (Shared with SATA) and SATA 3.0Gb/s x 2
- USB2.0 x 8
- PCI-Express[x1] x 3, PCI x 2
- COM Express Compact Module Size, Pin-out Type 2, 95mm x 95mm, COM.0 Rev.2.0

1.3 Specifications

System

- Form Factor COM Express compact Module, Pin-out Type 2, 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 DDR3 1066: Max. 4 GB
N2600 DDR3 800: Max. 2 GB
- Chipset Intel® NM10
- I/O Chipset Intel® NM10
- Ethernet Intel® 82583V,10/100/1000Base-TX
- 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 3
32-bit PCI x 2
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)
- Storage Temperature -40°F ~ 176°F (-40°C ~ 80°C)
- Operating Humidity 0% ~ 90% relative humidity, non-condensing

Display: Supports CRT/LVDS 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 4.0
- Resolution Up to 1920x1200 for CRT
Up to 1920x1200 @ 24-bit for LCD (D2550)
Up to 1280x1024 @ 18-bit for LCD (N2600)
- LCD Interface Up to 18/24-bit dual channel LVDS

I/O

- Storage SATA 3.0Gb/s x 2
PATA x 1 (Shared with SATA)
- USB USB 2.0 x 8
- Audio High definition audio

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

2.3 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.

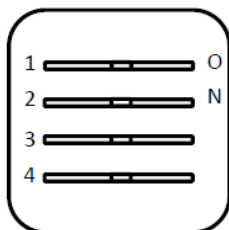
Label	Function
SW1	AT/ATX selection and clear CMOS and IDE/SATA selection

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
CN3	COM Express ROW C/D Connector
CN4	COM Express ROW A/B Connector

2.5 AT/ATX selection and clear CMOS and SATA/IDE Selection (SW1)



	ON	OFF
1	ATX Mode	AT Mode
3	Clear CMOS	Normal
4	SATA	IDE

2.6 Battery Connector (BAT1)

Pin	Signal
1	Power
2	GND

2.7 COM Express ROW A/B Connector (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	SATA2_TX+	B22	N.C.
A23	SATA2_TX-	B23	N.C.
A24	SUS_S5#	B24	PWR_OK
A25	SATA2_RX+	B25	N.C.
A26	SATA2_RX-	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	PCIE_TX4+	B55	PCIE_RX4+
A56	PCIE_TX4-	B56	PCIE_RX4-
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	KBD_RST#	B86	VCC_5V_SBY
A87	KBD_A20GATE	B87	VCC_5V_SBY
A88	PCIE0_CK_REF+	B88	RSVD
A89	PCIE0_CK_REF-	B89	VGA_RED
A90	GND (FIXED)	B90	GND (FIXED)
A91	RSVD B91	B91	VGA_GRN
A92	RSVD	B92	VGA_BLU
A93	GPO0	B93	VGA_HSYNC
A94	RSVD	B94	VGA_VSYNC
A95	RSVD	B95	VGA_I2C_CK
A96	GND	B96	VGA_I2C_DAT
A97	VCC_12V	B97	TV_DAC_A

A98	VCC_12V	B98	TV_DAC_B
A99	VCC_12V	B99	TV_DAC_C
A100	GND (FIXED)	B100	GND (FIXED)
A101	VCC_12V	B101	VCC_12V
A102	VCC_12V	B102	VCC_12V
A103	VCC_12V	B103	VCC_12V
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 ROW C/D Connector (CN3)

Row C		Row D	
C1	GND (FIXED)	D1	GND (FIXED)
C2	IDE_D7	D2	IDE_D5
C3	IDE_D6	D3	IDE_D10
C4	IDE_D3	D4	IDE_D11
C5	IDE_D15	D5	IDE_D12
C6	IDE_D8	D6	IDE_D4
C7	IDE_D9	D7	IDE_D0
C8	IDE_D2	D8	IDE_REQ

C9	IDE_D13	D9	IDE_IOW#
C10	IDE_D1	D10	IDE_ACK#
C11	GND (FIXED)	D11	GND (FIXED)
C12	IDE_D14	D12	IDE_IRQ
C13	IDE_IORDY	D13	IDE_A0
C14	IDE_IOR#	D14	IDE_A1
C15	PCI_PME#	D15	IDE_A2
C16	PCI_GNT2#	D16	IDE_CS1#
C17	PCI_REQ2#	D17	IDE_CS3#
C18	PCI_GNT1#	D18	IDE_RESET#
C19	PCI_REQ1#	D19	PCI_GNT3#
C20	PCI_GNT0#	D20	PCI_REQ3#
C21	GND (FIXED)	D21	GND (FIXED)
C22	PCI_REQ0#	D22	PCI_AD1
C23	PCI_RESET#	D23	PCI_AD3
C24	PCI_AD0	D24	PCI_AD5
C25	PCI_AD2	D25	PCI_AD7
C26	PCI_AD4	D26	PCI_C/BE0#
C27	PCI_AD6	D27	PCI_AD9
C28	PCI_AD8	D28	PCI_AD11
C29	PCI_AD10	D29	PCI_AD13
C30	PCI_AD12	D30	PCI_AD15
C31	GND (FIXED)	D31	GND (FIXED)

C32	PCI_AD14	D32	PCI_PAR
C33	PCI_C/BE1#	D33	PCI_SERR#
C34	PCI_PERR#	D34	PCI_STOP#
C35	PCI_LOCK#	D35	PCI_TRDY#
C36	PCI_DEVSEL#	D36	PCI_FRAME#
C37	PCI_IRDY#	D37	PCI_AD16
C38	PCI_C/BE2#	D38	PCI_AD18
C39	PCI_AD17	D39	PCI_AD20
C40	PCI_AD19	D40	PCI_AD22
C41	GND (FIXED)	D41	GND (FIXED)
C42	PCI_AD21	D42	PCI_AD24
C43	PCI_AD23	D43	PCI_AD26
C44	PCI_C/BE3#	D44	PCI_AD28
C45	PCI_AD25	D45	PCI_AD30
C46	PCI_AD27	D46	PCI_IRQC#
C47	PCI_AD29	D47	PCI_IRQD#
C48	PCI_AD31	D48	PCI_CLKRUN#
C49	PCI_IRQA#	D49	PCI_M66EN
C50	PCI_IRQB#	D50	PCI_CLK
C51	GND (FIXED)	D51	GND (FIXED)
C52	PEG_RX0+	D52	PEG_TX0+
C53	PEG_RX0-	D53	PEG_TX0-
C54	TYPE0#	D54	PEG_LANE_RV#

C55	PEG_RX1+	D55	PEG_TX1+
C56	PEG_RX1-	D56	PEG_TX1-
C57	TYPE1#	D57	TYPE2#
C58	PEG_RX2+	D58	PEG_TX2+
C59	PEG_RX2-	D59	PEG_TX2-
C60	GND (FIXED)	D60	GND (FIXED)
C61	PEG_RX3+	D61	PEG_TX3+
C62	PEG_RX3-	D62	PEG_TX3-
C63	RSVD	D63	RSVD
C64	RSVD	D64	RSVD
C65	PEG_RX4+	D65	PEG_TX4+
C66	PEG_RX4-	D66	PEG_TX4-
C67	RSVD	D67	GND
C68	PEG_RX5+	D68	PEG_TX5+
C69	PEG_RX5-	D69	PEG_TX5-
C70	GND (FIXED)	D70	GND (FIXED)
C71	PEG_RX6+	D71	PEG_TX6+
C72	PEG_RX6-	D72	PEG_TX6-
C73	SDVO_DATA	D73	SDVO_CLK
C74	PEG_RX7+	D74	PEG_TX7+
C75	PEG_RX7-	D75	PEG_TX7-
C76	GND	D76	GND
C77	RSVD	D77	IDE_CBLID#

C78	PEG_RX8+	D78	PEG_TX8+
C79	PEG_RX8-	D79	PEG_TX8-
C80	GND (FIXED)	D80	GND (FIXED)
C81	PEG_RX9+	D81	PEG_TX9+
C82	PEG_RX9-	D82	PEG_TX9-
C83	RSVD	D83	RSVD
C84	GND	D84	GND
C85	PEG_RX10+	D85	PEG_TX10+
C86	PEG_RX10-	D86	PEG_TX10-
C87	GND	D87	GND
C88	PEG_RX11+	D88	PEG_TX11+
C89	PEG_RX11-	D89	PEG_TX11-
C90	GND (FIXED)	D90	GND (FIXED)
C91	PEG_RX12+	D91	PEG_TX12+
C92	PEG_RX12-	D92	PEG_TX12-
C93	GND	D93	GND
C94	PEG_RX13+	D94	PEG_TX13+
C95	PEG_RX13-	D95	PEG_TX13-
C96	GND	D96	GND
C97	RSVD	D97	PEG_ENABLE#
C98	PEG_RX14+	D98	PEG_TX14+
C99	PEG_RX14-	D99	PEG_TX14-
C100	GND (FIXED)	D100	GND (FIXED)

C101	PEG_RX15+	D101	PEG_TX15+
C102	PEG_RX15-	D102	PEG_TX15-
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.A 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

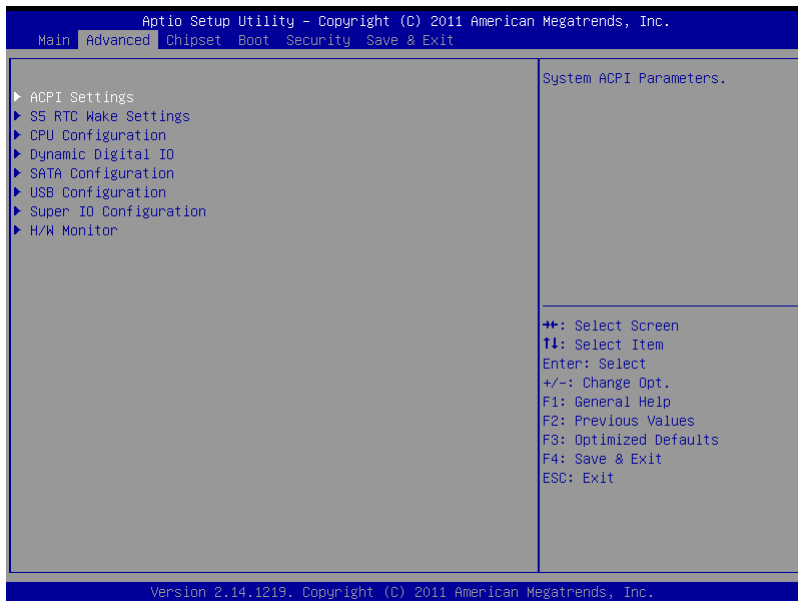
BIOS Information COM-CV R1.5 (CMCVAMxx) (09/28/2012)	Set the Date. Use Tab to switch between Data elements.
BIOS Vendor: American Megatrends Core Version: 4.6.5.1 Compliancy: UEFI 2.3; PI 1.2	
Firmware VENDOR: N/A Firmware Information: N/A Firmware Version: N/A Build Date: N/A	
System Date: [Thu 01/01/2009] System Time: [16:11:22]	+/: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Access Level: Administrator	

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Options summary: (**default setting**)

System Date	Day MM:DD:YYYY	
Change the month, year and century. The 'Day' is changed automatically.		
System Time	HH : MM : SS	
Change the clock of the system.		

Setup submenu: Advanced

Options summary: (**default setting**)

ACPI Settings		
System ACPI Parameters		
S5 RTC Wake Settings		
Support S5 RTC Wake Function		
CPU Configuration		
CPU Configuration Parameters		
Dynamic Digital IO		
DIO configuration		
SATA Configuration		

SATA Device Options Settings		
USB Configuration		
USB Configuration Parameters		
Super IO Configuration		
W83627DHG Super IO Configuration Parameters (With ECB-916MB Carrier)		
H/W Monitor		
Monitor hardware status		

ACPI Settings

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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> <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: (**default setting**)

ACPI Sleep State	Suspend Disabled	
------------------	------------------	--

	S3 only(Suspend to RAM)	
Select the ACPI state used for System Suspend		

S5 RTC Wake Settings

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Advanced

Wake system with Fixe	[Disabled]	Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified
Wake system with Dyna	[Disabled]	
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.

Options summary: **(default setting)**

Wake system with Fixed	Disabled	
Time	Enabled	
Enable or disable System wake on alarm event. Wake up time is setting by following settings.		
Wake up day	0-31	

Select 0 for daily system wake up 1-31 for which day of the month that you would like the system to wake up		
Wake up hour	0-23	
Wake up minute	0-59	
Wake up second	0-59	
Wake system with	Disabled	
Dynamic Time	Enabled	
Enable or disable System wake on alarm event. Wake up time is current time + Increase minutes.		
Wake up minute increase	1-5	

CPU Configuration

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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	+*: Select Screen ↑↓: Select Item Enter: Select +/=: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
EMT64	Not Supported	
Processor Speed	1865 MHz	
System Bus Speed	533 MHz	
Ratio Status	14	
Actual Ratio	14	
System Bus Speed	533 MHz	
Processor Stepping	30661	
Microcode Revision	265	
L1 Cache RAM	2x56 k	
L2 Cache RAM	2x512 k	
Processor Core	Dual	
Hyper-Threading	Supported	
Hyper-Threading	[Enabled]	
Limit CPUID Maximum	[Disabled]	

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Options summary: (default setting)

Hyper-Threading	Disabled	
	Enabled	
CPU Hyper-Threading Technology support or not		
Limit CPUID Maximum	Disabled	
	Enabled	
Disabled for Windows XP		

Dynamic Digital IO Configuration

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Advanced

GPI0 Device	[Input]	Set GPIO as Input or Output
GPI1 Device	[Input]	
GPI2 Device	[Input]	
GPI3 Device	[Input]	
GP00 Device	[Output]	⇧+: Select Screen ⇧1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
GP00 Direction	[Low]	
GP01 Device	[Output]	
GP01 Direction	[Low]	
GP02 Device	[Output]	
GP02 Direction	[Low]	
GP03 Device	[Output]	
GP03 Direction	[Low]	

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Options summary: (**default setting**)

GPI0~3 Device	Input	
	Output	
Set GPIO0~3 as Input or Output		
GPO0~3 Device	Input	
	Output	
Set GPO0~3 as Input or Output		
GPxx Direction	Hi	
	Low	
Set GPIO Level when used as Output		

SATA Configuration

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 Port1	Not Present	
SATA Controller(s)	[Enabled]	
SATA Mode	[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
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

Options summary: (**default setting**)

SATA Controller(s)	Enabled	
	Disabled	
SATA Controller Enable/Disable		
SATA Mode	IDE	
	AHCI	
Configure SATA controller operating as IDE/AHCI mode.		
SATA PORTx	Enabled	
	Disabled	
Enable / Disable SATA Portx		

SATA Portx Hot Plug	Enabled	
	Disabled	
Enable / Disable SATA Portx Hot Plug function		

USB Configuration

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

Advanced

<p>USB Configuration</p> <p>USB Devices: 1 Drive, 1 Keyboard</p> <p>Legacy USB Support [Enabled]</p> <p>Mass Storage Devices: JetFlashTranscend 4GB 1100 [Auto]</p>	<p>Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.</p> <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: **(default setting)**

Legacy USB Support	Enabled	
	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. DISABLE option will keep USB devices available only for EFI application

Device Name (Emulation Type)	Auto	
	Floppy	
	Forced FDD	
	Hard Disk	
	CD-ROM	

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)

Super IO Configuration (Support with ECB-916MB Carrier Board)

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

Advanced

<p>Super IO Configuration</p> <p>Super IO Chip H83627DHG</p> <p>▶ Serial Port 1 Configuration</p> <p>▶ Serial Port 2 Configuration</p>	<p>Set Parameters of Serial Port 1 (COMA)</p> <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: **(default setting)**

Serial Port 1/2 Configuration		
Set Parameters of Serial Port 1/2		

Serial Port 1 Configuration

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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.

Options summary: **(default setting)**

Serial Port	Disabled	
	Enabled	
En/Disable specified serial port.		
Change Settings	Auto	
	IO=3F8h; IRQ=4;	

	IO=3F8h; IRQ=3,4,5,7,10,11,12;	
	IO=2F8h; IRQ=3,4,5,7,10,11,12;	
	IO=3E8h; IRQ=3,4,5,7,10,11,12;	
	IO=2E8h; IRQ=3,4,5,7,10,11,12;	
Select a resource setting for Super IO device.		

Serial Port 2 Configuration

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]	
COM2 Type Option [RS-232]	
Device Mode [Standard Serial Po...]	
	⇄: 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: (**default setting**)

Serial Port	Disabled	
	Enabled	
En/Disable specified serial port.		

Change Settings	Auto	
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=3,4,5,7,10,11,12;	
	IO=2F8h; IRQ=3,4,5,7,10,11,12;	
	IO=3E8h; IRQ=3,4,5,7,10,11,12;	
	IO=2E8h; IRQ=3,4,5,7,10,11,12;	
Select a resource setting for Super IO device.		
COM2 Type Option	RS232	
	RS422	
	RS485	
Configure COM2 operated as RS232, RS422 or RS485.		
Device Mode	Standard Serial Port Mode	
	IrDA Active pulse 1.6 us	
	IrDA Active pulse 3/16 bit time	
	ASK-IR Inverting IRTX, Routed to IRRX	
	ASK-IR Inverting IRTX 8500KHz, Routed to IRRX	
	ASK-IR Inverting IRTX, Demodulation to IRRX	

	ASK-IR inverting IRTX&8500KHz, Demodulation to IRRX	
Change the Serial Port mode.		

H/W Monitor

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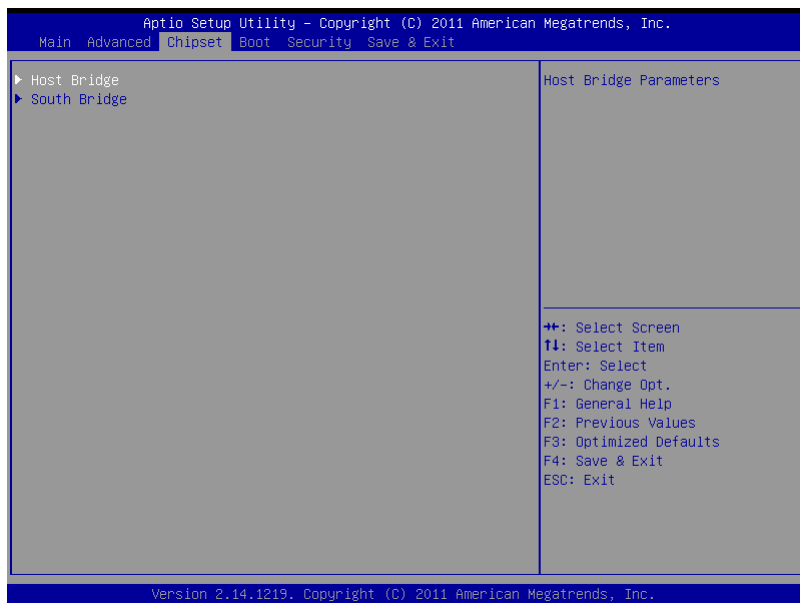
Advanced

Pc Health Status	
SYS Temperature	: +50 ℃
CPU Temperature	: +60 ℃
1.8V	: +60.928 V
5V	: +57.856 V
3VCC	: +14.592 V
1.5V	: +60.928 V
1.05V	: +60.928 V
VCCGFX	: +60.928 V

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

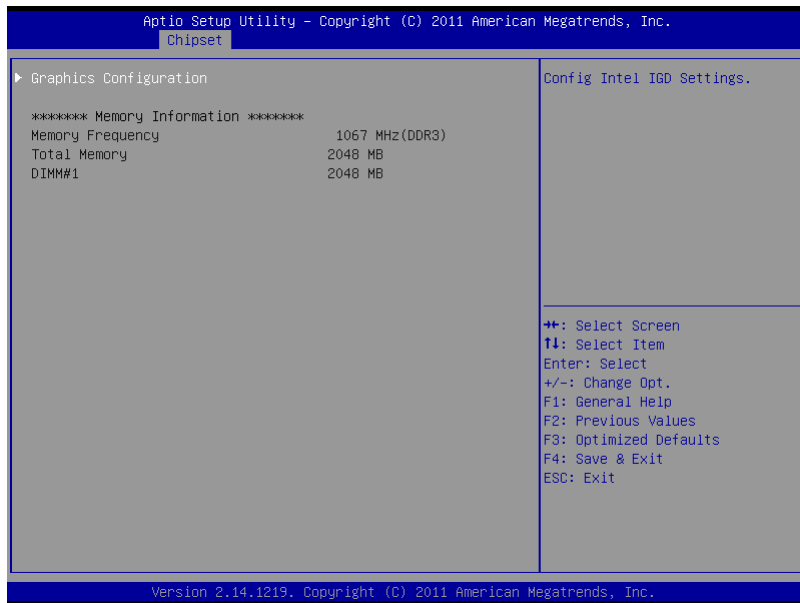
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Setup submenu: Chipset

Options summary: (**default setting**)

Host Bridge		
Host Bridge Parameters		
South Bridge		
South Bridge Parameters		

Host Bridge



Options summary: (*default setting*)

Graphics Configuration		
Enter to set GFX Configuration		
Memory Information		
Show current memory information		

Graphics Configuration

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Chipset

Graphics Configuration		Auto disable IGD upon external GFX detected.
Auto Disable IGD	[Enabled]	
IGFX - Boot Type	[VBIOS Default]	
Active LFP	[No LVDS]	
Control CH7511 LVDS	[Disable]	
Fixed Graphics Memory Size	[128MB]	
		++: 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: (*default setting*)

Auto Disabled IGD	Enabled	
	Disabled	
Auto disable IGD upon external GFX detected		
IGFX – Boot Type	VBIOS Default	
	CRT	
	DVI	
Select the Video Device which will be activated during POST		
Active LFP	No LVDS	
	Int-LVDS	

Select the Active LFP Configuration.

No LVDS: VBIOS does not enable LVDS.

Int-LVDS: VBIOS enables LVDS driver by Integrated encoder.

Control CH7511 LVDS	Disable	
	Enable	

Enable/Disable CH7511 LVDS

LVDS Panel Type	640x480 18 Bit	
	800x600 18Bit	
	1024x768 18Bit	
	800x480 18Bit	
	1280x800 18Bit	
	1280x768 18Bit	
	640x480 24Bit	
	1024x768 24Bit	
	1280x768 24Bit	
	1366x768 24Bit	
	1920x1080 48Bit	

Select panel native resolution.

Fixed Graphics Memory Size	128MB	
	256MB	

Configure Fixed Graphics Memory Size

South Bridge

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Chipset

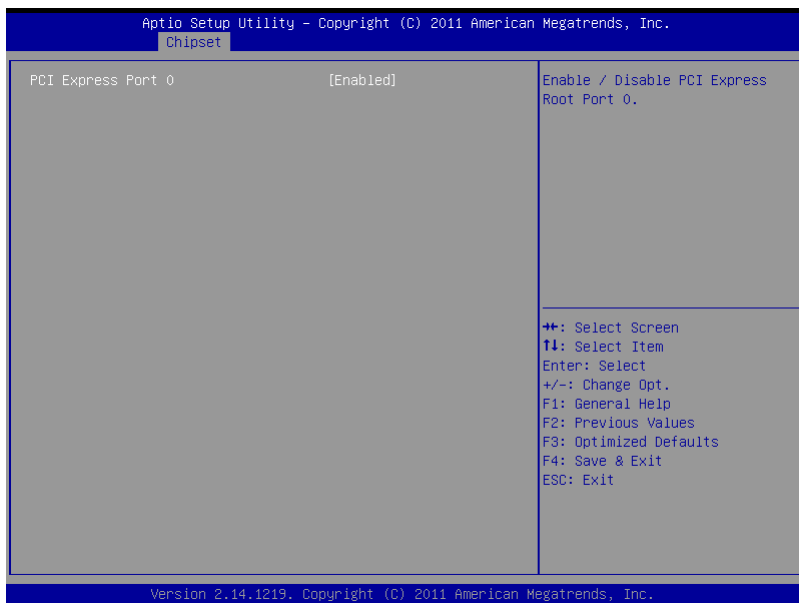
▶ TPT Devices	Enable/Disable Intel(R) IO Controller Hub (TPT) devices
▶ PCI Express Root Port 0	
▶ PCI Express Root Port 1	
▶ PCI Express Root Port 2	
OnBoard 82583V LAN	[Enabled]
Power Management Configuration	
Restore on AC Power Loss	[Power Off]

▶+: 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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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]	
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]	
		++: 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: (*default setting*)

Power Mode	ATX Type	
	AT Type	
Select the power type used on the system		
Azalia Controller	Disabled	
	HD Audio	
Azalia Controller Enable/Disable		
Select USB Mode	By Ports	
	By Controllers	

Select USB mode to control USB ports

By Ports: Enable by total USB port numbers

By Controllers: Enable by UHCI #x

USB 2.0(EHCI) Support	Disabled	
	Enabled	

Enable/Disable USB 2.0 (EHCI) Support

PCI Express Port x	Disabled	
	Enabled	

Enable/ Disable PCI Express Root Port x

On Board 82583V LAN	Disabled	
	Enabled	

On Board 82583V LAN Enable/Disable

Restore on AC Power Loss	Power Off	
	Power On	
	Last State	

Select AC power state when power is re-applied after a power failure.

Boot Configuration

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Main Advanced Chipset **Boot** Security Save & Exit

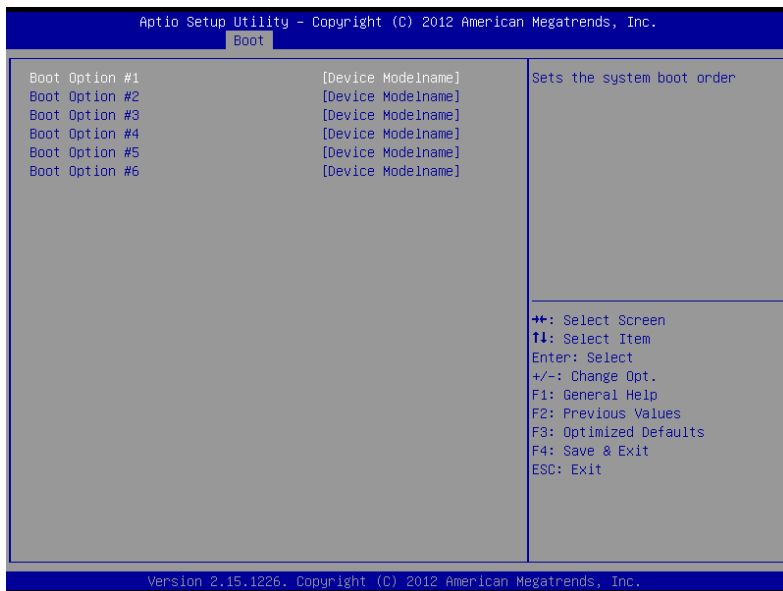
Boot Configuration		Enables or disables Quiet Boot option
Quiet Boot	[Enabled]	
Launch PXE OpROM	[Disabled]	
Boot Option Priorities		
Boot Option #1	[UEFI: JetFlashTran...]	
Boot Option #2	[JetFlashTranscend ...]	
Hard Drive BBS Priorities		
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change 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: (*default setting*)

Quiet Boot	Disabled	
	Enabled	
En/Disable showing boot logo.		
Launch PXE OpROM	Disabled	
	Enabled	
En/Disable PXE boot for On Board 82583V LAN		
Boot Option #X/		
XXXX Drive BBS Priorities		
The order of boot priorities.		

BBS Priorities



Options summary: (*default setting*)

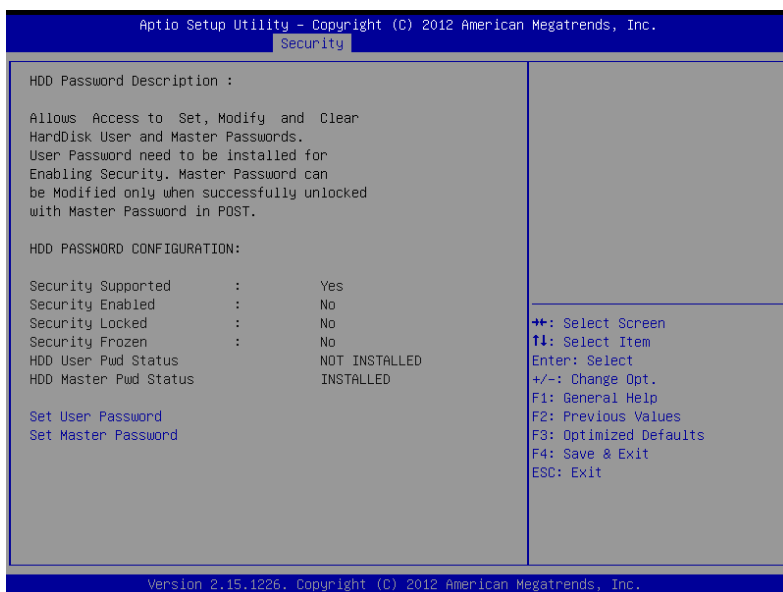
Boot Option #x	Disabled	
	Device name	
Sets the system boot order		

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.

HDD Security



Options summary: (**default setting**)

Set User Password/	Not set	
Set Master Password		

You can install a Master and User password. Before booting to OS, HDD will be set to frozen state. On S3 resume HDD will be unlocked using the HDD Password we

entered while system booting.

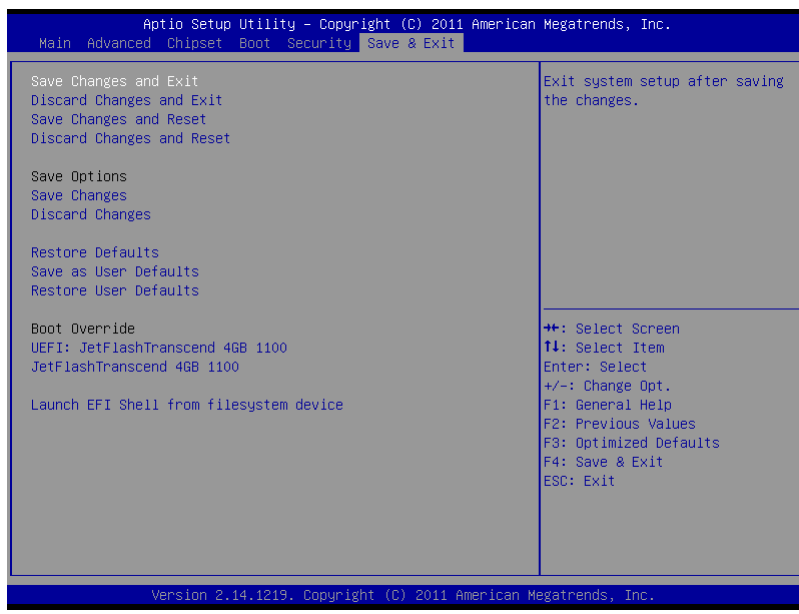
Install the Password:

Press Enter on this item, 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



Options summary: (*default setting*)

Save Changes and Reset		
Reset the system after saving the changes		
Discard Changes and Reset		
Reset system setup without saving any changes		
Restore Defaults		
Restore/Load Default values for all the setup options.		
Save as User Defaults		
Save the changes done so far as User Defaults		
Restore User Defaults		
Restore the User Defaults to all the setup options		

Chapter

4

**Driver
Installation**

The COM-CV Rev.A 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 AHCI Driver

Please read following instructions for detailed installations.

4.1 Installation:

Insert the COM-CV Rev.A CD-ROM into the CD-ROM Drive. And install the drivers from Step 1 to Step 5 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 AHCI Driver

1. Click on the **STEP5 – 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)	Device
(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