

**NVR-6300S**

Network Video Recorder

3.5" Hot-Swappable SATA HDD Tray x 12

2.5" HDD Tray x 1

Gigabit Ethernet x 2

USB3.0 x 4, USB2.0 x 3

VGA x 1, DisplayPort x 1, HDMI x 1

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## Packing List

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

- 1 DVD-ROM for Manual (in PDF Format) and Drivers
- 1 NVR-6300S

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

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## Below Table for China RoHS Requirements

产品中有毒有害物质或元素名称及含量

## AAEON Boxer/ Industrial System

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	×	○	○	○	○	○
外壳	×	○	○	○	○	○
中央处理器 与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
电源	×	○	○	○	○	○

**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。

**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。

**备注:**

一、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。

二、上述部件物质中央处理器、内存、硬盘、电源为选购品。

Chapter

1

**General  
Information**

## 1.1 Introduction

---

NVR-6300S adopts the Intel® Core™ i3/ i5/ i7 Processor and equips with Intel® Q87 chipset. Moreover, the system memory features four dual channel DDR3 1600MHz DIMM non-ECC Memory up to 32GB. It deploys two LAN ports that consist of 10/100/1000Base-TX Ethernet RJ-45 ports.

This NVR-6300S supports up to 12 3.5" hot-swappable HDD trays and one 2.5" SATA HDD Tray x 1, Slim Optical Disk Drive x 1. Moreover, the flexible expansion interfaces feature one PCI-E[x16] and one PCI-E[x4] (signal [x2]). In addition, this model supports up to four USB3.0 ports and three USB2.0 ports. Furthermore, the NVR-6300S can support three independent displays with one VGA, one DisplayPort and one HDMI.

## 1.2 Features

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- LGA 1150 Socket for 22nm Intel® Core™ i3/i5/i7 Processor, Max. 65W TDP
- Dual-Channel 240-pin DDR3 1600MHz DIMM x 4, Up to 32GB
- 3 Graphic Displays Interface: HDMI x 1, DisplayPort x 1, VGA x 1
- Intel® 10/100/1000Base-TX Ethernet x 2
- SATA x 14, SATA 1~6 Support RAID 0/1/5/10, SATA 7~14: RAID (Optional)
- USB 2.0 x 3, USB 3.0 x 4, Onboard COM Header x 2
- PCI-E [x16] x 1, PCI-E [x4] x 1 (Signal [x2])
- Audio Jack x 3 (Mic-in/Line-in/Line-out)
- Hot-Swappable 3.5" SATA HDD Tray x 12 + Hot-swappable 2.5" SATA HDD Tray x 1, Slim Optical Disk Drive x 1
- Supports PoE Function

### 1.3 Specifications

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#### *System*

● CPU	Intel® LGA Socket 1150 with Intel Core™ i3/i5/i7 Processor, Max.TDP: 65W
● Chipset	Intel® Q87
● System Memory	Dual Channel DDR3 1600 DIMM Memory x 4, non-ECC, up to 32GB
● BIOS	AMI BIOS, 128 Mb SPI flash ROM
● H/W Monitoring	CPU Temperature, Voltage, and Fan speed monitoring
● Ethernet	10/100/1000Base-TX, RJ-45 x 2 LAN 1: Intel® PHY I217LM Gigabit LAN ( supports AMT 9.0) LAN 2: Intel® I211AT Gigabit LAN
● Watchdog Timer	System reset: 1~255 steps by software programming
● TPM	Infineon SLB9635 TT 1.2 (optional)
● I/O Chip	IT 8728F
● Storage	SATA 6.0 Gb/s x 14 (SATA 1~6: support RAID 0/1/5/10, SATA 7~14: optional RAID support)

● Expansion Slot	PCI-E [x16] x 1 PCI-E [x4] x 1 (Signal [x2])
● Power requirement	ATX standard 24-pin connector x 1, 8-pin +12V connector x 1, CPU fan x 1, System fan with 4-pin wafer x 1, Supports Smart Fan control

### *Mechanical*

● Front Door	Front door cover with lock for HDD security
● Dimension	19" x 23.82" x 6.97" (482.7mm x 605mm x 177 mm)
● Gross Weight	47.3 lb (21.5 Kg)
● Net Weight	31.02 lb (14.1 Kg)

### *Environmental*

● Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
● Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
● Storage Humidity	5%~95%, non-condensing

### *I/O Connectors*

● KB & MS	PS/2 keyboard (purple) x 1 PS/2 mouse (green) x 1
● USB	USB3.0 x 4, USB2.0 x 3

● Serial Port	COM x 2 (Box header 2.0mm x 2)
● Audio	Audio Jack x 3 (Mic-in/ Line-in/ Line-out)
● Display Port	VGA x , DisplayPort x 1, HDMI x 1

**Remark:** When operating 4K\*2K monitor, please use HDMI port ONLY since NVR-6300S has compatible limitation on Display Port.

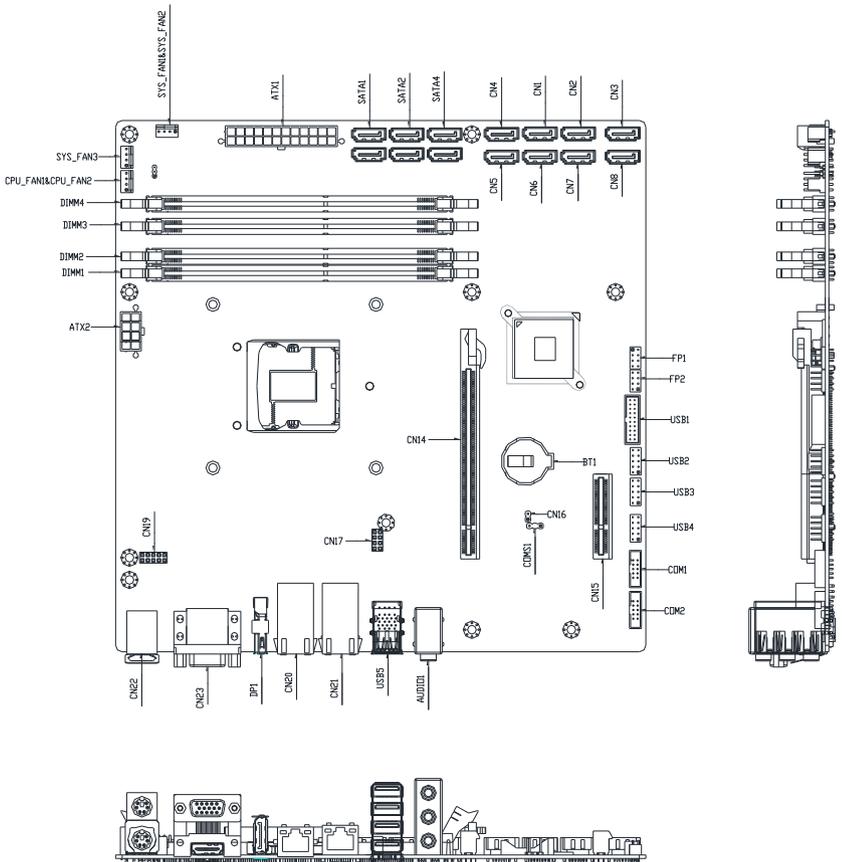
Chapter

2

**Hardware  
Installation**

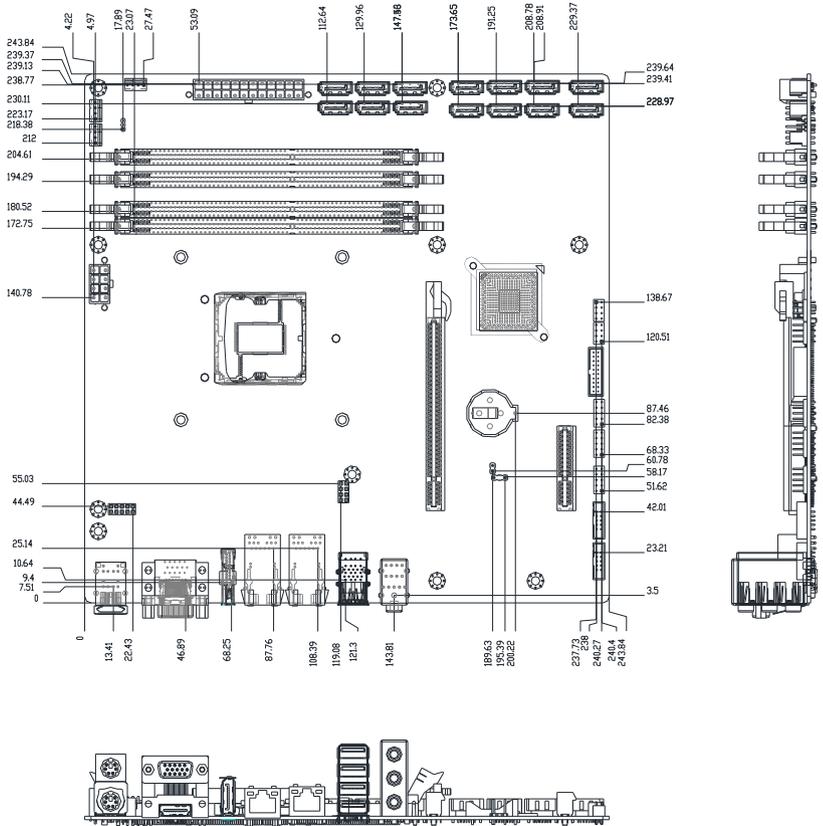
## 2.1 Locations of Jumpers and Connectors of the Main Board

### Component side

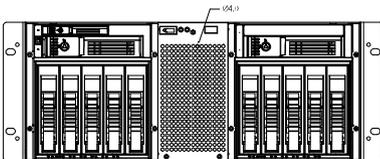
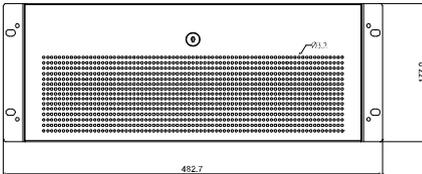
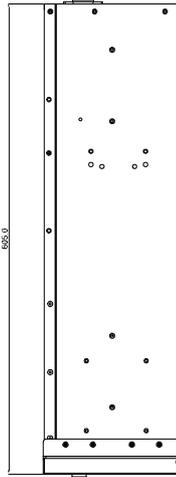
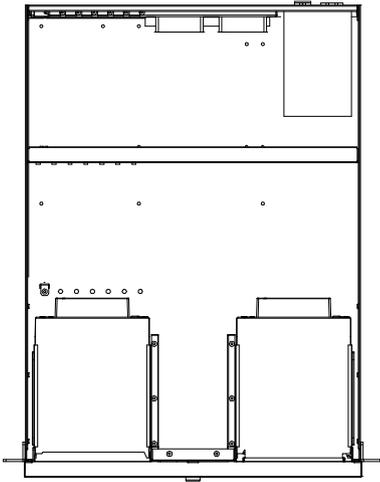
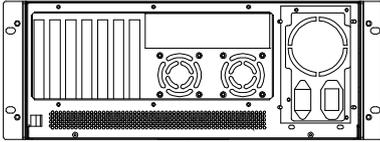


## 2.2 Mechanical Drawings of the Main Board

### Component side



### 2.3 Mechanical Drawings of NVR-6300S



## 2.4 List of Jumpers of the Main Board

---

The board has a number of jumpers that allow you to configure your system to suit your application.

The table below shows the function of each of the board's jumpers:

<b>Label</b>	<b>Function</b>
JP1	AUTO POWER BUTTOM
CMOS1	Clear CMOS

## 2.5 List of Connectors of the Main Board

---

The board has a number of connectors that allow you to configure your system to suit your application. The table below shows the function of each board's connectors:

<b>Label</b>	<b>Function</b>
FP1	Front Panel Connector 1
FP2	Front Panel Connector 2
CN14	PCIEX16 Connector
CN15	PCIEx4 Connector
CN17	POE Signal Connector
CN19	POE Power Connector
CN20	LAN1 Connector
CN21	LAN2 Connector
CN22	PS2 KB/MS Connector
CN23	VGA / HDMI Connector
DP1	Display Port Connector

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USB5	USB3+USB2 Connector
AUDIO1	Audio Connector
DIMM1	DDR3 DIMM Slot
DIMM2	DDR3 DIMM Slot
DIMM3	DDR3 DIMM Slot
DIMM4	DDR3 DIMM Slot
BT1	Battery
SATA1~SATA14	SATA Connector
CPU_FAN1	4-Pin Fan Connector
SYS_FAN1	4-Pin Fan Connector
SYS_FAN2	4-Pin Fan Connector
ATX1	24-Pin ATX Power Connector
ATX2	8-Pin ATX Power Connector
USB1	USB3 Connector
USB2	USB2 Connector
USB3	USB2 Connector
USB4	USB2 Connector
COM1	RS-232 Connector
COM2	RS-232 Connector

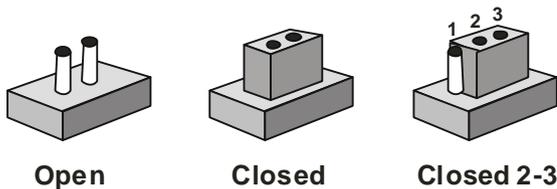
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## 2.6 Setting Jumpers

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You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip.

To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



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

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

Generally, you simply need a standard cable to make most connections.

## 2.7 Clear CMOS (CMOS1)

CMOS1	Function
1-2	Protected (Default)
2-3	Clear

## 2.8 Auto Power Button (JP1)

JP1	Function
1-2	Power ON by Button (Default)
2-3	Auto Power ON

## 2.8 Front Panel Connector (FP1)

Pin	Signal	Pin	Signal
1	Power On Button (+)	2	Reset Switch (+)
3	Power On Button (-)	4	Reset Switch (-)
5	HDD LED (+)	6	Power LED (+)
7	HDD LED (-)	8	Power LED (-)

## 2.10 Front Panel Connector (FP2)

Pin	Signal	Pin	Signal
1	External Speaker (+)	2	Key Board Lock (+)
3	NC	4	GND
5	Internal Buzzer (-)	6	I2C Bus SMB Clock
7	External Speaker (-)	8	I2C Bus SMB Data

**Note:** Internal Buzzer Enable: Close Pin 5,7

## 2.11 USB2.0 Port PIN Header

Pin	Signal	Pin	Signal
1	VCC	2	VCC

3	USBN(0)	4	USBN(1)
5	USBP(0)	6	USBP(1)
7	GND	8	GND
9	NC	10	GND

### 2.12 USB3.0 Port PIN Header

Pin	Signal	Pin	Signal
1	VCC	20	NC
2	USB3_RX1_DN_C	19	VCC
3	USB3_RX1_DP_C	18	USB3_RX2_DN_C
4	GND	17	USB3_RX2_DP_C
5	USB3_TX1_DN_C	16	GND
6	USB3_TX1_DP_C	15	USB3_TX2_DN_C
7	GND	14	USB3_TX2_DP_C
8	USBP_0N_C	13	GND
9	USBP_0P_C	12	USBP_1N_C
10	NC	11	USBP_1P_C

### 2.13 COM1 Port PIN Header

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

## 2.14 COM2 Port PIN Header

---

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

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## 2.15 PoE Signal Connector (CN17)

---

Pin	Signal	Pin	Signal
1	POE3-	2	POE1-
3	POE3+	4	POE1+
5	POE4-	6	POE2-
7	POE4+	8	POE2+

---

## 2.16 PoE Power Connector (CN19)

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Pin	Signal	Pin	Signal
1	+12V	2	GND
3	+12V	4	GND
5	+12V	6	GND
7	+12V	8	GND
9	+12V	10	GND

---

## 2.17 Installing the Slim Optical Drive and 3.5" Hard Disk Drive

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Step 1: Unfasten the screws on right side and left side



Step 2: Thumb finger touch downward and then push back the rear back cover

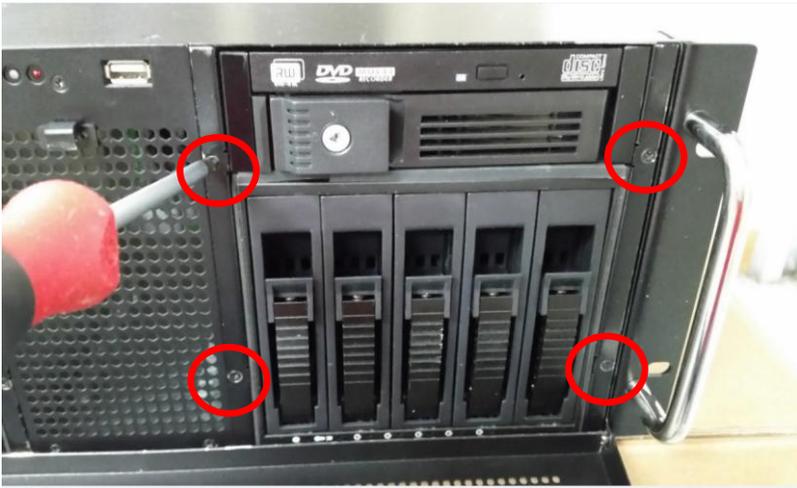


### Installation the slim optical drive

Step 1: Use key to open the front bezel



Step 2: Release the four screws



Step 3: Pull back 5-tray HDD bay



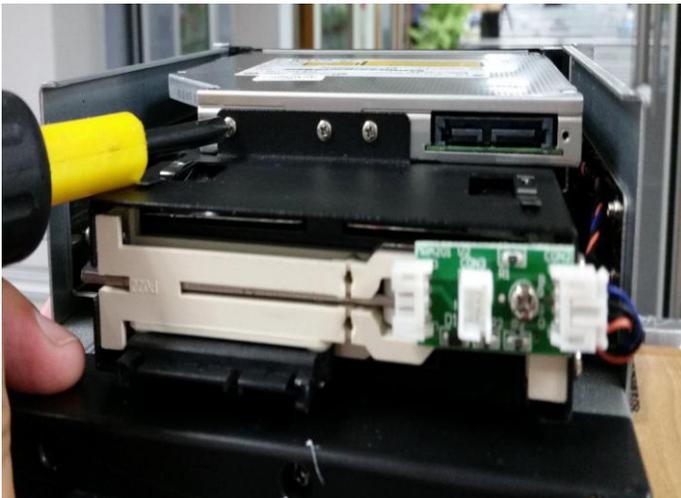
Step 4: Remove the slim optical drive bay by pressing buttons on both sides



Step 5: push slim optical drive in to the slim drive bay



Step 6: use a magnetic screwdriver to secure three screws the optical drive

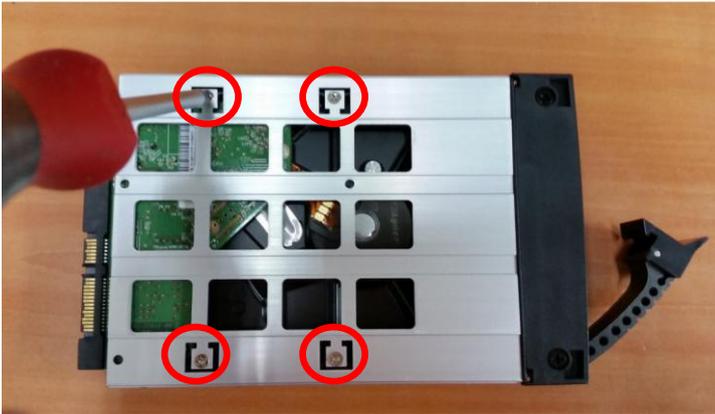


## Installation the 3.5" Hard Disk Drive

Step1: insert the 3.5" hard drive to the HDD tray



Step 2: Fasten the four screws to secure the HDD with the HDD tray



Step 3: Slide the HDD tray into a HDD bay



Step 4: Push the lever to latch the HDD tray



Step 5: Use the key to lock the front bezel



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 NVR-6300S 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

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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 <Del> 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

---

### Main

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.	
Main Advanced Chipset Boot Security Save & Exit	
BIOS Information NVR-6300S R1.0(NV87AM10) (07/14/2014)	Set the Date. Use Tab to switch between Date elements.
BIOS Vendor Core Version Compliance	American Megatrends 4.6.5.4 UEFI 2.3.1; PI 1.2
System Date System Time	[Mon 07/14/2014] [13:05:00]
Access Level	Administrator
	<b>++</b> : Select Screen <b>F1</b> : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1286. Copyright (C) 2012 American Megatrends, Inc.	

## Advanced



## S5 RTC Wake Settings

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.

Advanced

Wake system with Fixed Time	[Disabled]	Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified
Wake system with Dynamic Time	[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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### Wake system with Fixed Time

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.

Advanced

Wake system with Fixed Time	[Enabled]	Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified
Wake up day	0	
Wake up hour	0	
Wake up minute	0	
Wake up second	0	
Wake system with Dynamic Time	[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:

Wake system with Fixed Time	Disabled	Default
	Enabled	
Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified.		
Wake up day	0 (Default)	
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 (Default)	

select 0-23 For example enter 3 for 3am and 15 for 3pm		
Wake up minute	0 (Default)	
select 0-59 for minute of an hour.		
Wake up second	0 (Default)	
select 0-59 for second of a minute.		
Wake system with	Disabled	Default
Dynamic Time	Enabled	
Enable or disable System wake on alarm event. When enabled, System will wake on the current time + Increase minute(s)		
Wake up minute increase	0 (Default)	
select 1 - 5 for minute(s).		

## Wake system with Dynamic Time

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.

Advanced

Wake system with Fixed Time	[Disabled]	Enable or disable System wake on alarm event. When enabled, System will wake on the current time + Increase minute(s)
Wake system with Dynamic Time	[Enabled]	
Wake up minute increase	1	

++: 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:

Wake system with Dynamic Time	Disabled	Default
	Enabled	
Enabled or Disabled system wake on alarm event. When enabled, system will wake on the current time + Increase minute(s).		

## ACPI Settings

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.

Advanced

<p>ACPI Settings ACPI Sleep State [S3 only(Suspend to ...)]</p>	<p>Select 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 &amp; Exit                      ESC: Exit                 </p>
---	--

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### Options Summary:

Suspend mode	Suspend Disabled	Default
	S3 (Suspend to RAM)	
Select the ACPI state used for System Suspend		



## CPU Configuration

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Advanced

CPU Configuration		When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology
Intel(R) Pentium(R) CPU G3320TE @ 2.30GHz		
CPU Signature	306c3	
Microcode Patch	17	
Max CPU Speed	2300 MHz	
Min CPU Speed	800 MHz	
CPU Speed	2300 MHz	
Processor Cores	2	
Intel HT Technology	Not Supported	
Intel VT-x Technology	Supported	
Intel SMX Technology	Not Supported	
64-bit	Supported	
L1 Data Cache	32 KB x 2	
L1 Code Cache	32 KB x 2	
L2 Cache	256 KB x 2	
L3 Cache	3072 KB	
Intel Virtualization Technology	[Enabled]	
Turbo Mode	[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:

Intel Virtualization Technology	Disabled	Default
	Enabled	
En/Disable Intel Virtualization Technology.		
Turbo Mode	Disabled	Default
	Enabled	
En/Disable Turbo Mode Technology.		

## SATA Configuration

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Advanced

SATA Controller(s)	[Enabled]	Enable or disable SATA Device.
SATA Mode Selection	[AHCI]	
Serial ATA Port 1	Empty	
Port 1	[Enabled]	
Hot Plug	[Enabled]	
Serial ATA Port 2	Empty	
Port 2	[Enabled]	
Hot Plug	[Enabled]	
Serial ATA Port 3	Empty	
Port 3	[Enabled]	
Hot Plug	[Enabled]	
Serial ATA Port 4	Empty	
Port 4	[Enabled]	++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Hot Plug	[Enabled]	
Serial ATA Port 5	Empty	
Port 1	[Enabled]	
Hot Plug	[Enabled]	
Serial ATA Port 6	Empty	
Port 2	[Enabled]	
Hot Plug	[Enabled]	

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### Options Summary:

SATA Controller(s)	Disabled	Default
	Enabled	
En/Disable SATA Controller(s)		
SATA Mode Selection	IDE	Default
	AHCI	
	RAID	
Determines how SATA controller(s) operate		

## PCH-FW Configuration

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.

Advanced

ME FW Version	9.0.30.1482
ME Firmware Mode	Normal Mode
ME Firmware Type	Full Sku Firmware
ME Firmware SKU	5MB

++: 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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## AMT Configuration

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Advanced

Intel AMT	[Enabled]	Enable/Disable Intel (R) Active Management Technology BIOS Extension. Note : iAMT H/W is always enabled. This option just controls the BIOS extension execution. If enabled, this requires additional firmware in the SPI device
Un-Configure ME	[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:

Intel AMT	Disabled	Default
	Enabled	
Enable/Disable Intel(R) Active Management Technology BIOS Extension.		
Un-Configure ME	Disabled	Default
	Enabled	
OEMFlag Bit 15 : Un-Configure ME without password.		

## USB Configuration

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Advanced

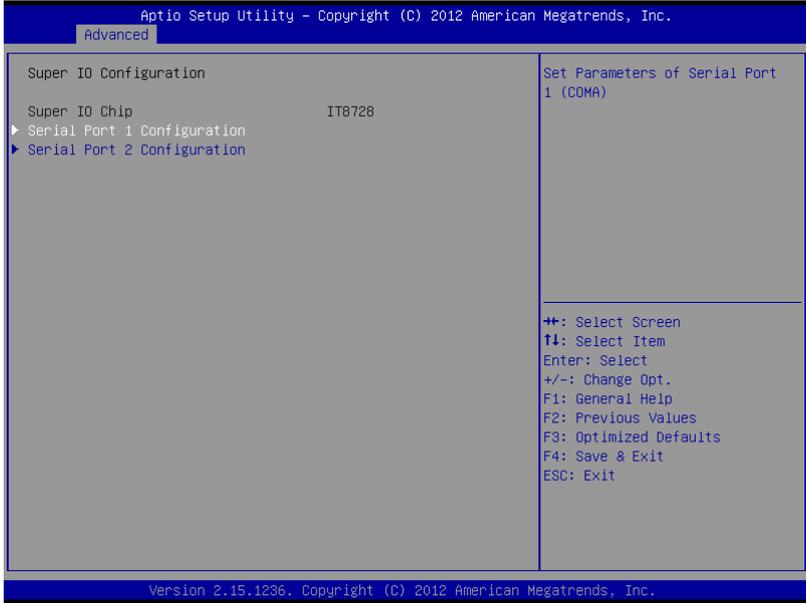
USB Configuration  USB Devices: 1 Drive, 2 Hubs  Legacy USB Support                      [Enabled]	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.  ++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
---	--

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### Options Summary:

Legacy USB Support	Enabled	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		

### Super IO Configuration



#### Options Summary:

Serial Port 1	Disabled	Default
Configuration	Enable	
Enabled or Disabled Serial Port(COM).		
Serial Port 2	Disabled	Default
Configuration	Enable	
Enabled or Disabled Serial Port(COM).		

## Serial Port 1 Configuration

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Advanced

Serial Port 1 Configuration		Enable or Disable Serial Port (COM)
Serial Port	[Enabled]	
Device Settings	ID=208h; IRQ=10;	
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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## Serial Port 2 Configuration

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Advanced

Serial Port 2 Configuration		Enable or Disable Serial Port (COM)
Serial Port	[Enabled]	
Device Settings	ID=2C8h; IRQ=11;	
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 corresponding serial port.		
Change Settings (Serial Port 1)	Auto	Default
	IO=3F8h; IRQ=3;	
	IO=3F8h; IRQ=3,4,5,7,10,11;	
	IO=2F8h; IRQ=3,4,5,7,10,11;	
	IO=3E8h; IRQ=3,4,5,7,10,11;	
	IO=2E8h; IRQ=3,4,5,7,10,11;	
Allows BIOS to Select Serial Port resource.		
Change Settings (Serial Port 2)	Auto	Default
	IO=2F8h; IRQ=4;	
	IO=3F8h; IRQ=3,4,5,7,10,11;	
	IO=2F8h; IRQ=3,4,5,7,10,11;	
	IO=3E8h; IRQ=3,4,5,7,10,11;	
	IO=2E8h; IRQ=3,4,5,7,10,11;	
Allows BIOS to Select Serial Port resource.		

## Pc Health Status

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Advanced

Pc Health Status	Smart Fan function setting
<p>▶ Smart Fan Function</p> <p>CPU temperature : +46 ℉  System temperature : +32 ℉  CPU Fan1 Speed : 1157 RPM  SYS Fan1 Speed : N/A  SYS Fan2 Speed : N/A  VCore : +1.728 V  V_SM : +1.536 V  +12V : +12.090 V  +5V : +5.100 V  +5VSB : +5.136 V  VBAT : +3.024 V</p>	<p>++: Select Screen  ↑↓: Select Item  Enter: Select  +/-: Change Opt.  F1: General Help  F2: Previous Values  F3: Optimized Defaults  F4: Save &amp; Exit  ESC: Exit</p>

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### Smart Fan Mode Configuration

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Advanced

CPU Fan Mode	[Automatic Mode]	CPU Fan Mode Select
Fan off temperature limit	15	
Fan start temperature limit	45	
Fan start PWM	35	
PWM SLOPE SETTING	[8 PWM]	
SYS Fan 1 Mode	[Automatic Mode]	
Fan off temperature limit	15	
Fan start temperature limit	45	
Fan start PWM	35	
PWM SLOPE SETTING	[8 PWM]	
SYS Fan 2 Mode	[Full on Mode]	

++: 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:

CPU Fan Mode	Full Mode	Default
	Manual Mode by PWM	
	Auto Mode by PWM	
CPU Fan Mode Select.		
SYS Fan 1 Mode	Full Mode	Default
	Manual Mode by PWM	
	Auto Mode by PWM	
SYS Fan1 Control Mode.		

SYS Fan 2 Mode	Full Mode	Default
	Manual Mode by PWM	
	Auto Mode by PWM	
SYS Fan 2 Control Mode.		

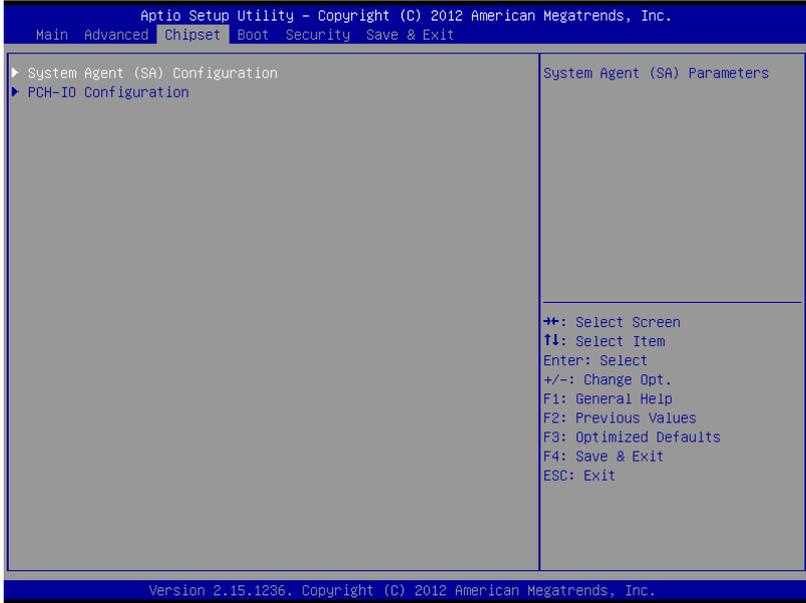
## S5 RTC Wake Settings

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Advanced		
Wake system with Fixed Time	[Disabled]	Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified
Wake system with Dynamic Time	[Disabled]	
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.15.1234. Copyright (C) 2012 American Megatrends, Inc.		

**Options Summary:**

Wake system with Fixed Time	Disabled	Default
	Enabled	
Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified.		
Wake up day	0 (Default)	
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 (Default)	
select 0-23 For example enter 3 for 3am and 15 for 3pm		
Wake up minute	0 (Default)	
select 0-59 for minute of an hour.		
Wake up second	0 (Default)	
select 0-59 for second of a minute.		
Wake system with Dynamic Time	Disabled	Default
	Enabled	
Enable or disable System wake on alarm event. When enabled, System will wake on the current time + Increase minute(s)		
Wake up minute increase	0 (Default)	
select 1 - 5 for minute(s).		

## Chipset



### System Agent (SA) Configuration

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Chipset

VT-d Capability	Unsupported	Configure PCIe x16 port Speed (B0:D1:F0 Gen1-Gen3)
PCIe x16 port Speed	[Auto]	
Primary Display	[Auto]	
▶ Graphics Configuration		
▶ Memory Information		

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

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Options Summary:

PCIe x16 port Speed	Auto	Default
	Gen1	
	Gen2	
	Gen3	
Configure PCIe X16 Port Speed.		
Primary Display	Auto	Default
	IGFX	
	PEG	

Select which of IGFX/PEG/PCI Graphics device should be Primary Display or select SG for Switchable Gfx.

## Graphics Configuration

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Chipset

<p>Graphics Configuration</p> <p>Internal Graphics [Auto]                  DVMT Total Gfx Mem [MAX]                  Primary IGFX Boot Display [VBIOS Default]</p>	<p>Keep IGD enabled based on the setup options.</p> <hr/> <p>                     ++: Select Screen                      ↑↓: Select Item                      Enter: Select                      +/-: Change Opt.                      F1: General Help                      F2: Previous Values                      F3: Optimized Defaults                      F4: Save &amp; Exit                      ESC: Exit                 </p>
--	---

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### Options Summary:

Internal Graphics	Auto	Default
	Disabled	
	Enabled	
Keep IGD enabled based on the setup options.		
DVMT Total Gfx Memory	128M	Default
	256M	
	Max	
Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.		
Primary IGFX Boot	VBIOS Default	Default

Display	CRT
	HDMI
	Display Port
Select the video Device which will be activated during POST.	

## Memory Information

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Chipset

Memory Information	
Memory RC Version	1.7.0.0
Memory Frequency	1333 Mhz
Total Memory	8192 MB (DDR3)
Memory Voltage	1.50v
DIMM#0	8192 MB (DDR3)
DIMM#1	Not Present
DIMM#2	Not Present
DIMM#3	Not Present
CAS Latency (tCL)	9
Minimum delay time	
CAS to RAS (tRCDmin)	9
Row Precharge (tRPmin)	9
Active to Precharge (tRASmin)	24
XMP Profile 1	Not Supported
XMP Profile 2	Not Supported

++: 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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**Boot**

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

Boot Configuration Quiet Boot [Enabled]  Launch I217LM PXE OpROM [Disabled] Launch WGI211AT PXE OpROM [Disabled]  Boot Option Priorities Boot Option #1 [SanDisk Cruzer Cros...] Boot Option #2 [UEFI: SanDisk Cruze...]  Hard Drive BBS Priorities	Enables or disables Quiet Boot option           ++: 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:**

Quiet Boot	Disabled	Default
	Enabled	
En/Disable showing boot logo.		
Launch I217LM PXE OpROM	Disabled	Default
	Enabled	
En/Disable I217LM PXE OpROM		
Launch WGI211AT PXE OpROM	Disabled	Default
	Enabled	
En/Disable WGI211AT PXE OpROM		

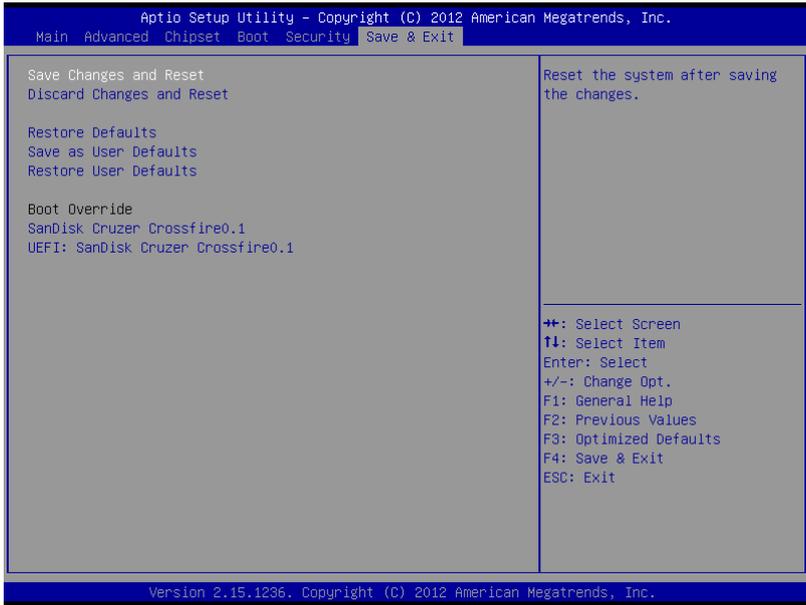
## Security

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.					
Main Advanced Chipset Boot Security Save & Exit					
<p>Password Description</p> <p>If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.</p> <p>If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights.</p> <p>The password length must be in the following range:</p> <table> <tr> <td>Minimum length</td> <td>3</td> </tr> <tr> <td>Maximum length</td> <td>20</td> </tr> </table> <p>Administrator Password</p> <p>User Password</p>	Minimum length	3	Maximum length	20	<p>Set Administrator Password</p> <hr/> <p>                     ++: Select Screen                      ↑↓: Select Item                      Enter: Select                      +/-: Change Opt.                      F1: General Help                      F2: Previous Values                      F3: Optimized Defaults                      F4: Save &amp; Exit                      ESC: Exit                 </p>
Minimum length	3				
Maximum length	20				
Version 2.15.1286. Copyright (C) 2012 American Megatrends, Inc.					

## Options summary:

Set User Password/	Not set	
Set Administrator Password		
<p>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.</p> <p><i>Install the Password:</i></p> <p>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.</p> <p><i>Removing the Password:</i></p> <p>Highlight this item and type in the current password. At the next dialog box press Enter to disable password protection.</p>		

## Save & Exit



**Options Summary:**

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 NVR-6300S comes with an AutoRun DVD-ROM that contains all drivers and utilities that can help you to install the driver automatically.

Insert the driver DVD, the driver DVD-title will auto start and show the installation guide. If not, please follow the sequence below to install the drivers.

***Follow the sequence below to install the drivers:***

- Step 1 – Install Chipset Driver
- Step 2 – Install VGA Driver
- Step 3 – Install USB3.0 Driver
- Step 4 – Install LAN Driver
- Step 5 – Install ME Driver
- Step 6 – Install Audio Driver
- Step 7 – Install ASM1061 Driver
- Step 8 – Install IRST Driver
- Step 9 – Install TPM Driver

Please read instructions below for further detailed installations.

### 3.1 Installation

---

Insert the NVR-6300S DVD-ROM into the DVD-ROM drive and install the drivers from Step 1 to Step 9 in order.

#### Step 1 – Install Chipset Driver

1. Click on the **Step1 - Chipset** folder and double click on the **SetupChipset\_10.0.14.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

#### Step 2 – Install VGA Driver

1. Click on the **Step2 - Graphic** folder and select the OS your system is
2. Double click on the **Setup.exe** file located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

#### Step 3 – Install USB3.0 Driver

1. Click on the **Step3 - USB3.0** folder and double click on the **Setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

#### Step 4 – Install LAN Driver

1. Click on the **Step4 - LAN** folder and select the OS your system is
2. Double click on the **.exe** file located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

#### Step 5 – Install ME Driver

1. Click on the **Step5 - ME** folder and double click on the **SETUP.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

#### Step 6 – Install Audio Driver

4. Click on the **Step6 - Audio** folder and double click on the **Win7\_Win8\_Win81\_R273.exe** file
5. Follow the instructions that the window shows
6. The system will help you install the driver automatically

#### Step 7 – Install ASM1061 Driver

1. Click on the **Step7 - ASM1061** folder and double click on the **setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

### Step 8 – Install IRST Driver

1. Click on the **Step8 - IRST** folder and double click on the **SetupRST\_12.9.0.1001.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

### Step 9 – Install TPM Driver

1. Click on the **Step9 - TPM** folder and double click on the **Setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Appendix

**A**

**I/O Information**

## A.1 I/O Address Map

Input/output (I/O)	
[0000000000000000 - 00000000000001F]	Direct memory access controller
[0000000000000000 - 000000000000CF7]	PCI bus
[0000000000000010 - 00000000000001F]	Motherboard resources
[0000000000000020 - 000000000000021]	Programmable interrupt controller
[0000000000000022 - 00000000000003F]	Motherboard resources
[0000000000000024 - 000000000000025]	Programmable interrupt controller
[0000000000000028 - 000000000000029]	Programmable interrupt controller
[000000000000002C - 00000000000002D]	Programmable interrupt controller
[000000000000002E - 00000000000002F]	Motherboard resources
[0000000000000030 - 000000000000031]	Programmable interrupt controller
[0000000000000034 - 000000000000035]	Programmable interrupt controller
[0000000000000038 - 000000000000039]	Programmable interrupt controller
[000000000000003C - 00000000000003D]	Programmable interrupt controller
[0000000000000040 - 000000000000043]	System timer
[0000000000000044 - 00000000000005F]	Motherboard resources
[000000000000004E - 00000000000004F]	Motherboard resources
[0000000000000050 - 000000000000053]	System timer
[0000000000000060 - 000000000000060]	Standard PS/2 Keyboard
[0000000000000061 - 000000000000061]	Motherboard resources
[0000000000000062 - 000000000000063]	Motherboard resources
[0000000000000063 - 000000000000063]	Motherboard resources
[0000000000000064 - 000000000000064]	Standard PS/2 Keyboard
[0000000000000065 - 000000000000065]	Motherboard resources
[0000000000000065 - 00000000000006F]	Motherboard resources
[0000000000000067 - 000000000000067]	Motherboard resources
[0000000000000070 - 000000000000070]	Motherboard resources
[0000000000000070 - 000000000000077]	System CMOS/real time clock
[0000000000000072 - 00000000000007F]	Motherboard resources
[0000000000000080 - 000000000000080]	Motherboard resources
[0000000000000080 - 000000000000080]	Motherboard resources
[0000000000000081 - 000000000000091]	Direct memory access controller
[0000000000000084 - 000000000000086]	Motherboard resources
[0000000000000088 - 000000000000088]	Motherboard resources
[000000000000008C - 00000000000008E]	Motherboard resources
[0000000000000090 - 00000000000009F]	Motherboard resources
[0000000000000092 - 000000000000092]	Motherboard resources
[0000000000000093 - 00000000000009F]	Direct memory access controller
[00000000000000A0 - 0000000000000A1]	Programmable interrupt controller
[00000000000000A2 - 0000000000000BF]	Motherboard resources
[00000000000000A4 - 0000000000000A5]	Programmable interrupt controller
[00000000000000A8 - 0000000000000A9]	Programmable interrupt controller
[00000000000000AC - 0000000000000AD]	Programmable interrupt controller
[00000000000000B0 - 0000000000000B1]	Programmable interrupt controller
[00000000000000B2 - 0000000000000B3]	Motherboard resources
[00000000000000B4 - 0000000000000B5]	Programmable interrupt controller
[00000000000000B8 - 0000000000000B9]	Programmable interrupt controller
[00000000000000BC - 0000000000000BD]	Programmable interrupt controller
[00000000000000C0 - 0000000000000DF]	Direct memory access controller
[00000000000000E0 - 0000000000000EF]	Motherboard resources

-  [00000000000000F0 - 00000000000000F0] Numeric data processor
-  [00000000000002F8 - 00000000000002FF] Communications Port (COM2)
-  [0000000000000378 - 00000000000003FF] Printer Port (LPT1)
-  [00000000000003B0 - 00000000000003BF] Intel(R) HD Graphics 4600
-  [00000000000003C0 - 00000000000003DF] Intel(R) HD Graphics 4600
-  [00000000000003F8 - 00000000000003FF] Communications Port (COM1)
-  [00000000000004D0 - 00000000000004D1] Motherboard resources
-  [00000000000004D0 - 00000000000004D1] Programmable interrupt controller
-  [0000000000000680 - 000000000000069F] Motherboard resources
-  [0000000000000A00 - 0000000000000A1F] Motherboard resources
-  [0000000000000A20 - 0000000000000A2F] Motherboard resources
-  [0000000000000A30 - 0000000000000A3F] Motherboard resources
-  [0000000000000D00 - 0000000000000FFF] PCI bus
-  [000000000000164E - 000000000000164F] Motherboard resources
-  [0000000000001800 - 00000000000018FE] Motherboard resources
-  [0000000000001854 - 0000000000001857] Motherboard resources
-  [0000000000001C00 - 0000000000001CFE] Motherboard resources
-  [0000000000001D00 - 0000000000001DFE] Motherboard resources
-  [0000000000001E00 - 0000000000001EFE] Motherboard resources
-  [0000000000001F00 - 0000000000001FFE] Motherboard resources
-  [000000000000A000 - 000000000000AFFF] Intel(R) 8 Series/C220 Series PCI Express Root Port #8 - 8C1E
-  [000000000000B000 - 000000000000BFFF] Intel(R) 8 Series/C220 Series PCI Express Root Port #7 - 8C1C
-  [000000000000C000 - 000000000000CFFF] Intel(R) 8 Series/C220 Series PCI Express Root Port #6 - 8C1A
-  [000000000000D000 - 000000000000DFFF] Intel(R) 8 Series/C220 Series PCI Express Root Port #5 - 8C18
-  [000000000000E000 - 000000000000EFFF] Intel(R) 8 Series/C220 Series PCI Express Root Port #4 - 8C16
-  [000000000000F000 - 000000000000F03F] Intel(R) HD Graphics 4600
-  [000000000000F040 - 000000000000F05F] Intel(R) 8 Series/C220 Series SMBus Controller - 8C22
-  [000000000000F060 - 000000000000F07F] Intel(R) 8 Series/C220 Chipset Family SATA AHCI Controller
-  [000000000000F0A0 - 000000000000F0A3] Intel(R) 8 Series/C220 Chipset Family SATA AHCI Controller
-  [000000000000F0B0 - 000000000000F0B7] Intel(R) 8 Series/C220 Chipset Family SATA AHCI Controller
-  [000000000000F0C0 - 000000000000F0C3] Intel(R) 8 Series/C220 Chipset Family SATA AHCI Controller
-  [000000000000F0D0 - 000000000000F0D7] Intel(R) 8 Series/C220 Chipset Family SATA AHCI Controller
-  [000000000000F0E0 - 000000000000F0E7] Intel(R) Active Management Technology - SOL (COM3)
-  [000000000000FFFF - 000000000000FFFF] Motherboard resources
-  [000000000000FFFF - 000000000000FFFF] Motherboard resources
-  [000000000000FFFF - 000000000000FFFF] Motherboard resources

## A.2 Memory Address Map

Address Range	Device Name
[0000000000A0000 - 0000000000BFFFF]	Intel(R) HD Graphics 4600
[0000000000A0000 - 0000000000BFFFF]	PCI bus
[0000000000D0000 - 0000000000D3FFF]	PCI bus
[0000000000D4000 - 0000000000D7FFF]	PCI bus
[0000000000D8000 - 0000000000DBFFF]	PCI bus
[0000000000DC000 - 0000000000DFFFF]	PCI bus
[0000000000E0000 - 0000000000E3FFF]	PCI bus
[0000000000E4000 - 0000000000E7FFF]	PCI bus
[00000000DF20000 - 00000000FEAFFFF]	PCI bus
[00000000E000000 - 00000000EFFFFF]	Intel(R) HD Graphics 4600
[00000000F740000 - 00000000F77FFFF]	Intel(R) HD Graphics 4600
[00000000F780000 - 00000000F78FFFF]	Intel(R) 8 Series/C220 Series PCI Express Root Port #8 - 8C1E
[00000000F781000 - 00000000F7810FF]	Asmedia 106x SATA Controller
[00000000F790000 - 00000000F79FFFF]	Intel(R) 8 Series/C220 Series PCI Express Root Port #7 - 8C1C
[00000000F791000 - 00000000F7910FF]	Asmedia 106x SATA Controller
[00000000F7A0000 - 00000000F7AFFFF]	Intel(R) 8 Series/C220 Series PCI Express Root Port #6 - 8C1A
[00000000F7A1000 - 00000000F7A10FF]	Asmedia 106x SATA Controller
[00000000F7B0000 - 00000000F7BFFFF]	Intel(R) 8 Series/C220 Series PCI Express Root Port #5 - 8C18
[00000000F7B1000 - 00000000F7B10FF]	Asmedia 106x SATA Controller
[00000000F7C0000 - 00000000F7C1FFF]	Intel(R) I211 Gigabit Network Connection
[00000000F7C0000 - 00000000F7C3FFF]	Intel(R) 8 Series/C220 Series PCI Express Root Port #4 - 8C16
[00000000F7C2000 - 00000000F7C23FFF]	Intel(R) I211 Gigabit Network Connection
[00000000F7D0000 - 00000000F7D1FFF]	Intel(R) Ethernet Connection I217-LM
[00000000F7D2000 - 00000000F7D2FFFF]	Intel(R) USB 3.0 eXtensible Host Controller
[00000000F7D3000 - 00000000F7D33FFF]	High Definition Audio Controller
[00000000F7D39000 - 00000000F7D390FF]	Intel(R) 8 Series/C220 Series SMBus Controller - 8C22
[00000000F7D3A000 - 00000000F7D3A7FF]	Intel(R) 8 Series/C220 Chipset Family SATA AHCI Controller
[00000000F7D3B000 - 00000000F7D3B3FF]	Intel(R) 8 Series/C220 Series USB EHCI #1 - 8C26
[00000000F7D3C000 - 00000000F7D3C3FF]	Intel(R) 8 Series/C220 Series USB EHCI #2 - 8C2D
[00000000F7D3D000 - 00000000F7D3DFFF]	Intel(R) Ethernet Connection I217-LM
[00000000F7D3E000 - 00000000F7D3EFFF]	Intel(R) Active Management Technology - SOL (COM3)
[00000000F7D4000 - 00000000F7D400FF]	Intel(R) Management Engine Interface
[00000000F7DFD000 - 00000000F7DFDFFF]	Motherboard resources
[00000000F7FE0000 - 00000000F7FEFFFF]	Motherboard resources
[00000000F8000000 - 00000000FBFFFFF]	Motherboard resources
[00000000FED00000 - 00000000FED003FF]	High precision event timer
[00000000FED10000 - 00000000FED17FFF]	Motherboard resources
[00000000FED18000 - 00000000FED18FFF]	Motherboard resources
[00000000FED19000 - 00000000FED19FFF]	Motherboard resources
[00000000FED1C000 - 00000000FED1FFFF]	Motherboard resources
[00000000FED20000 - 00000000FED3FFFF]	Motherboard resources
[00000000FED40000 - 00000000FED44FFF]	System board
[00000000FED45000 - 00000000FED8FFFF]	Motherboard resources
[00000000FED90000 - 00000000FED93FFF]	Motherboard resources
[00000000FEE00000 - 00000000FEEFFFFF]	Motherboard resources
[00000000FF000000 - 00000000FFFFFFF]	Intel(R) 82802 Firmware Hub Device
[00000000FF000000 - 00000000FFFFFFF]	Motherboard resources

### A.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) 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) 0x0000000A (10)	Intel(R) 8 Series/C220 Series SMBus Controller - 8C22
	(PCI) 0x00000010 (16)	Asmedia 106x SATA Controller
	(PCI) 0x00000010 (16)	Intel(R) 8 Series/C220 Series USB EHCI #2 - 8C2D
	(PCI) 0x00000010 (16)	Intel(R) Management Engine Interface
	(PCI) 0x00000011 (17)	Asmedia 106x SATA Controller
	(PCI) 0x00000012 (18)	Asmedia 106x SATA Controller
	(PCI) 0x00000013 (19)	Asmedia 106x SATA Controller
	(PCI) 0x00000013 (19)	Intel(R) Active Management Technology - SOL (COM3)
	(PCI) 0x00000016 (22)	High Definition Audio Controller
	(PCI) 0x00000017 (23)	Intel(R) 8 Series/C220 Series USB EHCI #1 - 8C26
	(PCI) 0xFFFFFFFF (-18)	Intel(R) I211 Gigabit Network Connection
	(PCI) 0xFFFFFFFF (-17)	Intel(R) I211 Gigabit Network Connection
	(PCI) 0xFFFFFFFF (-16)	Intel(R) I211 Gigabit Network Connection
	(PCI) 0xFFFFFFFF (-15)	Intel(R) I211 Gigabit Network Connection
	(PCI) 0xFFFFFFFF (-14)	Intel(R) I211 Gigabit Network Connection
	(PCI) 0xFFFFFFFF (-13)	Intel(R) I211 Gigabit Network Connection
	(PCI) 0xFFFFFFFF (-12)	Intel(R) Ethernet Connection I217-LM
	(PCI) 0xFFFFFFFF (-11)	Intel(R) USB 3.0 eXtensible Host Controller
	(PCI) 0xFFFFFFFF (-10)	Intel(R) HD Graphics 4600
	(PCI) 0xFFFFFFFF (-9)	Intel(R) 8 Series/C220 Chipset Family SATA AHCI Controller
	(PCI) 0xFFFFFFFF (-8)	Intel(R) 8 Series/C220 Series PCI Express Root Port #8 - 8C1E
	(PCI) 0xFFFFFFFF (-7)	Intel(R) 8 Series/C220 Series PCI Express Root Port #7 - 8C1C
	(PCI) 0xFFFFFFFF (-6)	Intel(R) 8 Series/C220 Series PCI Express Root Port #6 - 8C1A
	(PCI) 0xFFFFFFFF (-5)	Intel(R) 8 Series/C220 Series PCI Express Root Port #5 - 8C18
	(PCI) 0xFFFFFFFF (-4)	Intel(R) 8 Series/C220 Series PCI Express Root Port #4 - 8C16
	(PCI) 0xFFFFFFFF (-3)	Intel(R) 8 Series/C220 Series PCI Express Root Port #1 - 8C10
	(PCI) 0xFFFFFFFF (-2)	Intel(R) Xeon(R) processor E3-1200 v3/4th Gen Core processor PCI Express x16 Controller - 0C01

## A.4 DMA Channel Assignments

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