ICS-6270

Industrial DIN Rail Network Appliance

User's Manual 6th Ed

Copyright Notice

This document is copyrighted, 2025. All rights are reserved. The original manufacturer reserves the right to make improvements to the products described in this manual at any time without notice.

No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without the prior written permission of the original manufacturer. Information provided in this manual is intended to be accurate and reliable. However, the original manufacturer assumes no responsibility for its use, or for any infringements upon the rights of third parties that may result from its use.

The material in this document is for product information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, AAEON assumes no liabilities resulting from errors or omissions in this document, or from the use of the information contained herein.

AAEON reserves the right to make changes in the product design without notice to its users.

Acknowledgement

All other products' name or trademarks are properties of their respective owners.

- Microsoft Windows is a registered trademark of Microsoft Corp.
- Intel, Pentium and Celeron are registered trademarks of Intel Corporation
- ITE is a trademark of Integrated Technology Express, Inc.
- IBM, PC/AT, PS/2, and VGA are trademarks of International Business Machines Corporation.

All other product names or trademarks are properties of their respective owners.

Packing List

Before setting up your product, please make sure the following items have been shipped:

Item	Quantity
ICS-6270	1
DIN Rail Kit	1
SATA Cable	1
SATA Power Cable	1
2 Pin Phoenix Contact Connector (Male)	1

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

About this Document

This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the AAEON.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. All cables and adapters supplied by AAEON are certified and in accordance with the material safety laws and regulations of the country of sale. Do not use any cables or adapters not supplied by AAEON to prevent system malfunction or fires.
3. Make sure the power source matches the power rating of the device.
4. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
5. Always completely disconnect the power before working on the system's hardware.
6. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
7. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
8. Always disconnect this device from any AC supply before cleaning.
9. While cleaning, use a damp cloth instead of liquid or spray detergents.
10. Make sure the device is installed near a power outlet and is easily accessible.
11. Keep this device away from humidity.
12. Place the device on a solid surface during installation to prevent falls
13. Do not cover the openings on the device to ensure optimal heat dissipation.
14. Watch out for high temperatures when the system is running.
15. Do not touch the heat sink or heat spreader when the system is running
16. Never pour any liquid into the openings. This could cause fire or electric shock.

17. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.
18. If any of the following situations arises, please the contact our service personnel:
    i. Damaged power cord or plug
    ii. Liquid intrusion to the device
    iii. Exposure to moisture
    iv. Device is not working as expected or in a manner as described in this manual
    v. The device is dropped or damaged
    vi. Any obvious signs of damage displayed on the device
19. DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.

FCC Statement

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte.
Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量

AAEON System QO4-381 Rev.A2

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	×	○	○	○	○	○
液晶模块	×	○	○	○	○	○
光驱	×	○	○	○	○	○
触控模块	×	○	○	○	○	○
电源	×	○	○	○	○	○
电池	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○：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 GB/T 26572 标准规定的限量要求以下。

×：表示该有害物质的某一均质材料超出了 GB/T 26572 的限量要求，然而该部件仍符合欧盟指令 2011/65/EU 的规范。

环保使用期限(EFUP (Environmental Friendly Use Period)) : 10 年

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、光驱、电源为选购品。

三、上述部件物质液晶模块、触控模块仅一体机产品适用。

China RoHS Requirement (EN)

Name and content of hazardous substances in product

AAEON System QO4-381 Rev.A2

Part Name	Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚(PBDE)
PCB Assemblies	×	O	O	O	O	O
Connector and Cable	×	O	O	O	O	O
Chassis	O	O	O	O	O	O
CPU and Memory	×	O	O	O	O	O
Hard Disk	×	O	O	O	O	O
LCD Modules	×	O	O	O	O	O
CD-ROM/DVD-ROM	×	O	O	O	O	O
Touch Modules	×	O	O	O	O	O
Power	×	O	O	O	O	O
Battery	×	O	O	O	O	O

The table is prepared in accordance with the provisions of SJ/T 11364.

O：Indicates that said hazardous substance contained in all of the homogenous materials for this product is below the limit requirement of GB/T 26572.

×：Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572. But this product still be compliance with 2011/65/EU Directive (allowed with 2011/65/EU Annex III of RoHS exemption with number 6(c),7(a),7(c)-1).

EFUP (Environment Friendly Use Period) value: 10 years.

Notes：

1. This product defined period of use is under normal condition.
2. In above part, CPU/Memory/ Hard Disk/CD-ROM/DVD-ROM/ Power are optional.
3. In above part, LCD Modules/ Touch Modules are for all-in-one product model.

Table of Contents

Chapter 1 – Product Specifications 1
1.1 Specifications 2
Chapter 2 – Hardware Information 5
2.1 Dimensions 6
2.2 Jumpers and Connectors 9
2.3 List of Jumpers 11
2.3.1 CMOS Setting Selection (CN1) 12
2.3.2 Auto PWRBTN Selection (JP1) 12
2.4 List of Connectors 13
2.4.1 Digital I/O (CN3) 14
2.4.2 DC-In (CN1) 14
2.4.3 COM Port (CN23) 14
2.5 List of Connectors for T461 Type A 15
2.5.1 COM Port (CN9) 15
2.6 Hard Disk Drive Installation 16
2.7 DIMM Sink Installation 20
Chapter 3 – AMI BIOS Setup 25
3.1 System Test and Initialization 26
3.2 AMI BIOS Setup 27
3.3 Setup Submenu: Main 28
3.4 Setup Submenu: Advanced 29
3.4.1 Trusted Computing 30
3.4.2 CPU Configuration 32
3.4.3 SATA Drives 33
3.4.4 USB Configuration 34
3.4.5 Hardware Monitor 35

3.4.6 SIO Configuration 36
3.4.6.1 Serial Port 1 Configuration 37
3.4.6.2 Serial Port 2 Configuration 38
3.4.7 Serial Port Console Redirection 39
3.4.7.1 Console Redirection Settings 40
3.4.7.2 Legacy Console Redirection Settings 43
3.4.7.3 Serial Port for OOB Mgmt/Windows EMS 44
3.4.8 LAN Bypass Configuration 46
3.4.9 Digital IO Port Configuration 48
3.5 Setup Submenu: Chipset 49
3.5.1 North Bridge 50
3.5.1.1 AMI Graphic Output Protocol Policy 51
3.6 Setup Submenu: Security 52
3.7 Setup Submenu: Boot 53
3.8 Setup Submenu: Exit 54
Chapter 4 – Driver Installation 55
4.1 Driver Installation 56
Appendix A – Watchdog Timer Programming 58
A.1 Watchdog Timer Initial Program 59
Appendix B – I/O Information 65
B.1 I/O Address Map 66
B.2 Memory Address Map 68
B.3 IRQ Mapping Chart 69
Appendix C – Standard LAN Bypass Platform Setting 78
C.1 Introduction to LED 79
C.1.1 Status LED Configuration 79
C.1.2 Sample Code 80
C.2 Introduction to LAN Bypass 82

C.2.1 LAN Bypass 82
C.2.2 Sample Code 84
C.3 Introduction to Software Reset Button Configuration 86
C.3.1 Soft Reset Button Configuration 86
C.3.2 Sample Code 87

Chapter 1

Product Specifications

1.1 Specifications

System	
Form Factor	DIN Rail/Desktop
Processor	Intel® Celeron® Processor N3350 SoC
System Memory	DDR3L 1866MHz Single-Channel SODIMM x 1 (Max. 8GB, up to 1600MHz)
Chipset	—
Ethernet	Intel® i211 GbE x 6
Bypass	Supports up to 2 pairs
BIOS	AMI SPI Flash BIOS
SATA	SATA III x 1
CFast/mSATA	CFast™ Socket x 1 (colay mSATA)
Expansion Interface	Mini Card x 1 with SIM
USB	USB 3.0 x 2
Serial Port	COM Port x 2 for RS-232/422/485
Watchdog Timer	1~255 steps by software programmable
RTC	Internal RTC
System Fan	Fanless
Color	Dark Grey
Power Supply	2-Pin Terminal Block
Dimension	4.96" x 2.93" x 5.74" (126mm x 74.5mm x 146mm)
Power Requirement	+9 ~ 36V via 2-Pin Terminal Block
MTBF (Hours)	101,292

Note: To avoid random non-booting issue caused by the incompatibility of Intel® Pentium® Processor N Series with certain unstable 1866MHz memories, memory with frequency greater than 1600MHz will automatically fix to 1600MHz, while memory that runs at a speed lower than 1600MHz will maintain its original speed.

Display	
Chipset	Intel® HD Graphics 500
Interface	VGA x 1

I/O	
Front I/O Panel	RJ-45 GbE x 6, COM Port x 2 for RS-232/422/485 VGA x 1 USB 3.0 x 2 Software Programmable Button x 1 Power LED x 1 HDD LED x 1 Status LED x 1 Bypass LED x 2
Rear I/O Panel	DIN Rail/Wallmount Lock
Top Panel	+9~36VDC 2-Pin Terminal Block x 1

Environmental Parameters and Dimensions

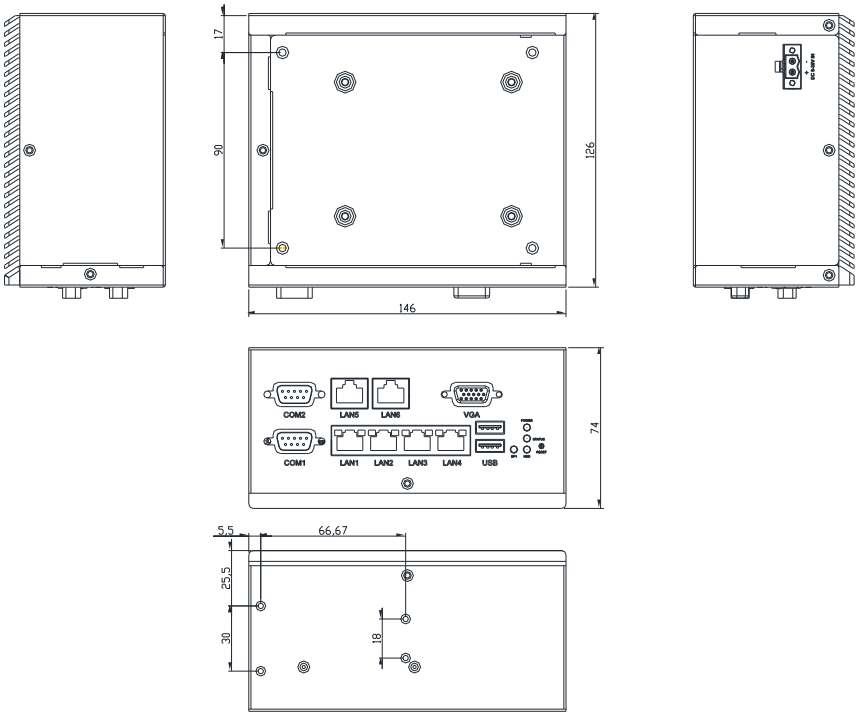
Operating Temperature	-40°F ~ 156°F (-40°C ~ 75°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing
Storage Humidity	10% ~ 80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (SSD)
	1.5 Grms/ 5 ~ 500Hz / non-operation
Shock	10 G peak acceleration (11 m sec. duration), operation
	20 G peak acceleration (11 m sec. duration), non-operation

Chapter 2

Hardware Information

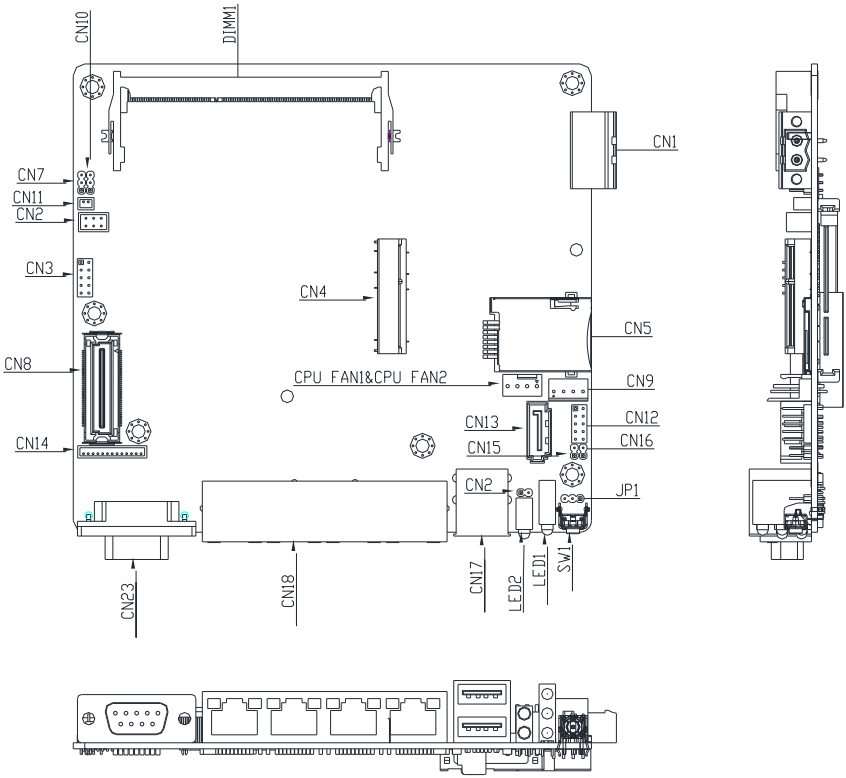
2.1 Dimensions

System

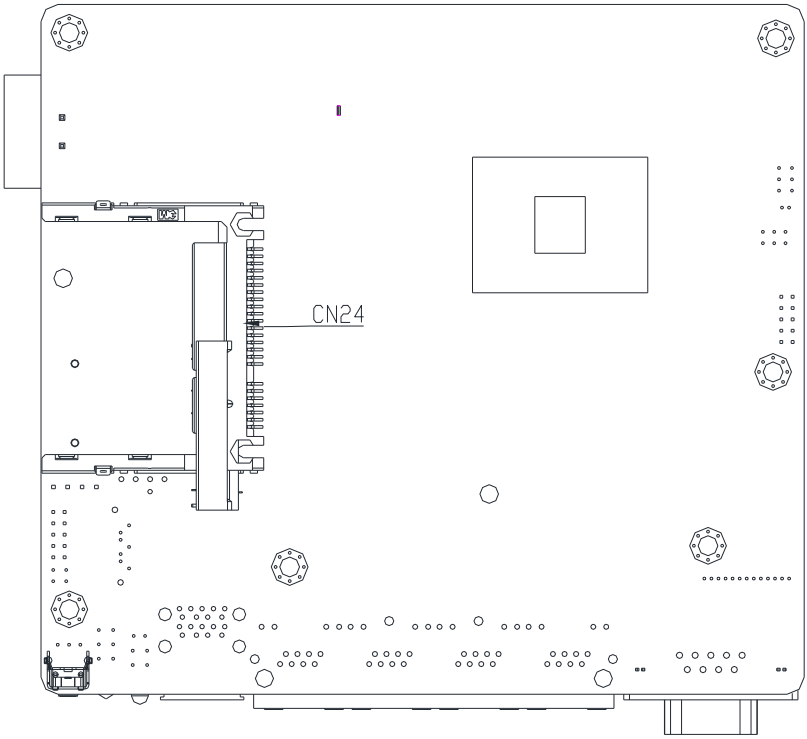


Board

Component Side

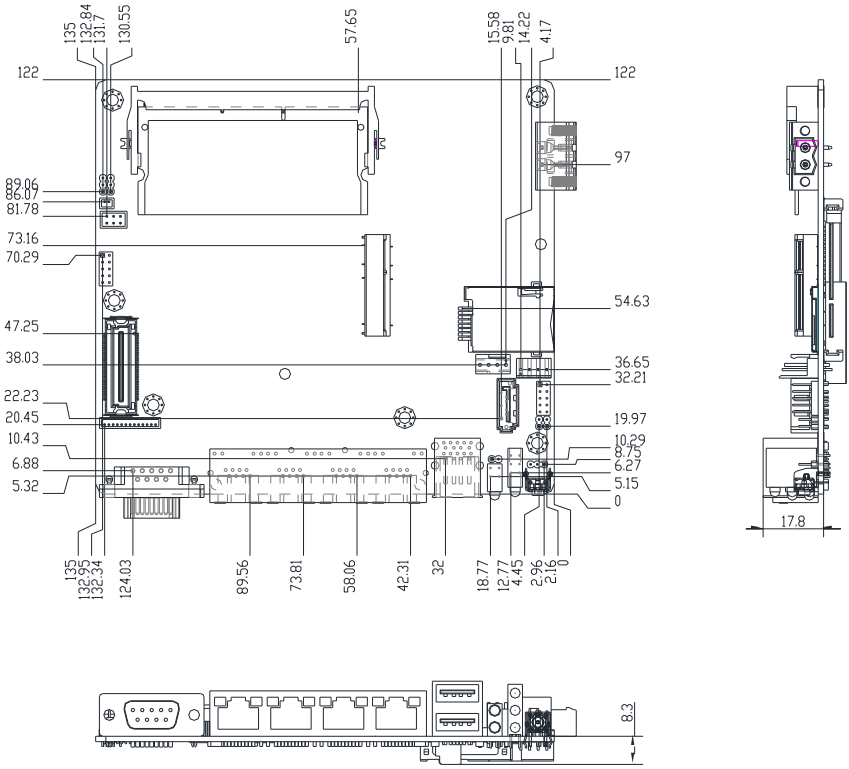


Solder Side

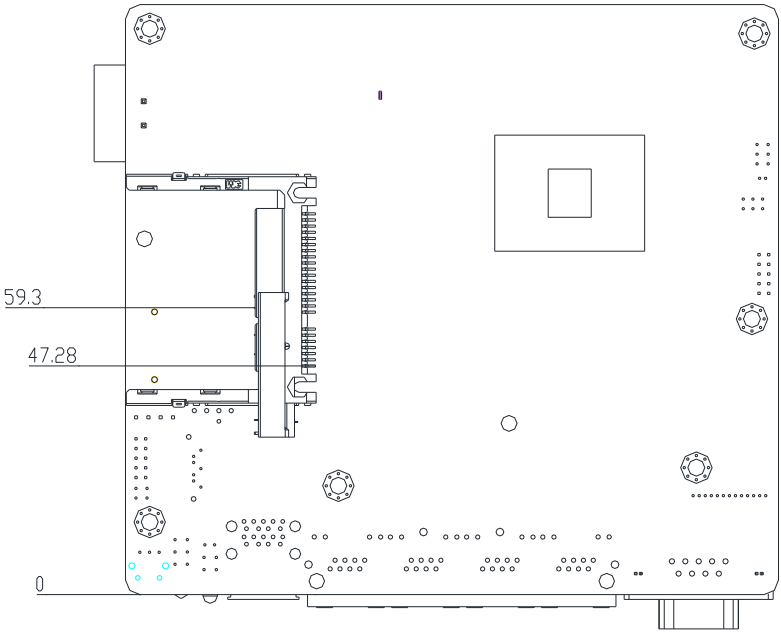


2.2 Jumpers and Connectors

Component Side



Solder Side

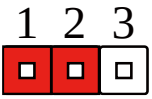


2.3 List of Jumpers

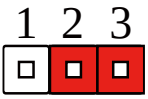
Please refer to the table below for all of the board's jumpers that you can configure for your application.

Label	Function
JP1	Auto PWRBTN Selection
CN7	CMOS Setting Selection

2.3.1 CMOS Setting Selection (CN1)

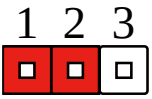


Normal (**Default**)

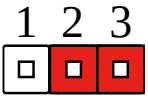


Clear CMOS

2.3.2 Auto PWRBTN Selection (JP1)



Don't use Auto PWRBTN



Use Auto PWRBTN

2.4 List of Connectors

Please refer to the table below for all of the board's connectors that you can configure for your application

Label	Function
DIMM1	DDR3L SODIMM Socket
CPU_FAN1	4P Smart Fan
CN2	KB/MS
CN23	COM Port for RS232/RS422/RS485
CN13	SATA Interface
CN9	SATA Power
CN4	Mini PCIe
CN24	CFast Card
CN5	SIM Card
CN15	Reset
CN16	Power Button
CN17	Dual USB 3.0 Port
CN3	Digital I/O
CN18	LAN 1-4
CN1	DC-In

2.4.1 Digital I/O (CN3)

This connector offers 4-pair of digital I/O functions and address is 801H. The pin definitions are illustrated below:

Pin	Signal	Pin	Signal
1	Digital- IN/OUT1	2	Digital- IN/OUT2
3	Digital- IN/OUT3	4	Digital- IN/OUT4
5	Digital- IN/OUT5	6	Digital- IN/OUT6
7	Digital- IN/OUT7	8	Digital- IN/OUT8
9	+5V	10	GND

2.4.2 DC-In (CN1)

Pin	Signal	Pin	Signal
1	GND	2	POWER

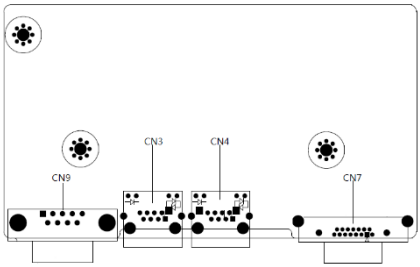
2.4.3 COM Port (CN23)

Pin	Signal	Pin	Signal
1	DCD/ RS422_TX-/ RS485_D-	2	RXD/RS422_TX+/ RS485_D+
3	TXD/ RS422_RX+	4	DTR/ RS422_RX-
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

2.5 List of Connectors for T461 Type A

Please refer to the table below for all of the board's connectors that you can configure for your application.

Label	Function
CN3	GbE LAN
CN4	GbE LAN
CN7	VGA
CN9	COM 2 for RS232/RS422/RS485

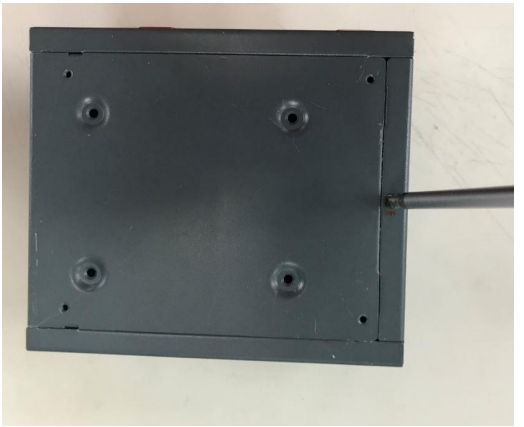


2.5.1 COM Port (CN9)

Pin	Signal	Pin	Signal
1	DCD/ RS422_TX-/ RS485_D-	2	RXD/RS422_TX+/ RS485_D+
3	TXD/ RS422_RX+	4	DTR/ RS422_RX-
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

2.6 Hard Disk Drive Installation

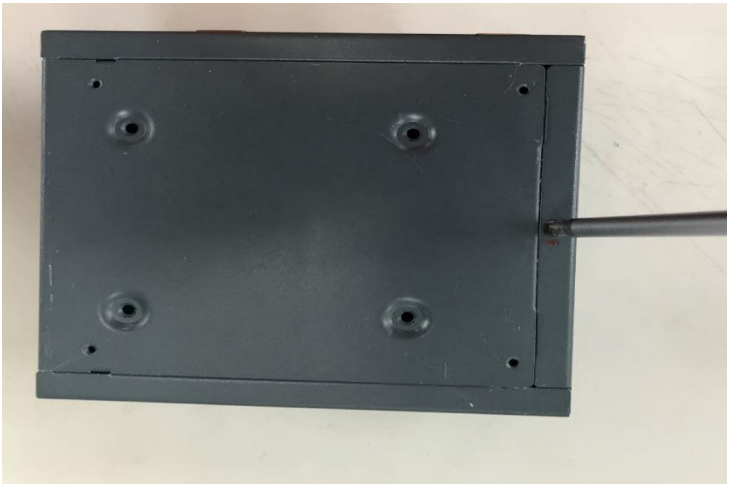
1. Loosen the screw and remove the top case from the lower side.



2. Place the SATA Cable and the Power cable onto the motherboard.

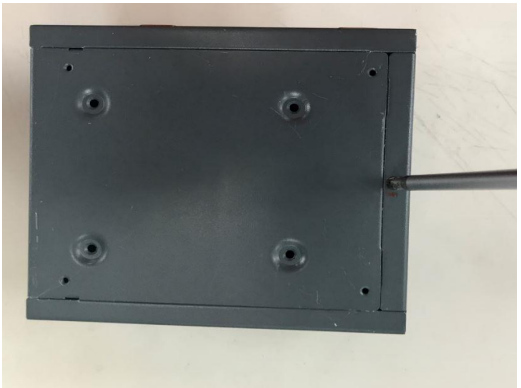
3. Put the SSD together and fasten tightly with screws.

4. Put the lid back on and fasten the screws securely.



2.7 DIMM Sink Installation

1. Unscrew and remove the cover.

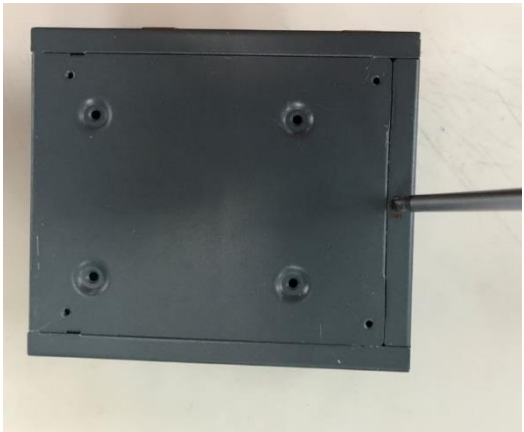


2. Place the DIMM onto the motherboard.

3. Glue the sink onto the pad.

4. Put the sink together and fasten them securely with screws.

5. . Put the lid back on and fasten the screws securely.



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 ICS-6270 CMOS memory has an integral lithium battery backup for data retention. You have to replace the battery 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 <Del>or <Esc> immediately. This will allow you to enter Setup.

Main

Basic information and set Date & Time.

Advanced

Major feature configuration (e.g.: CPU, Super IO, Hardware Monitor, Digital I/O, etc.).

Chipset

Configuration for Chipset features.

Security

Set BIOS Administrator/User password.

Boot

Adjust Boot configuration/priorities.

Save& Exit

Save changes/restore defaults and exit system setup.

3.3 Setup Submenu: Main

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Main  Advanced  Chipset  Security  Boot  Save & Exit

BIOS Information
    ICS-6270 R1.0 (S270AM10)(08/15/2017)

BIOS Vendor                    American Megatrends
Compliancy                     UEFI 2.5; PI 1.4

System Date                    [Tue 08/15/2017]
System Time                    [11:48:48]

Access Level                   Administrator

Set the Date. Use Tab to
switch between Date elements.
Default Ranges:
Year: 2005-2099
Months: 1-12
Days: dependent on month

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

3.4 Setup Submenu: Advanced

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Main  Advanced  Chipset  Security  Boot  Save & Exit

▶ Trusted Computing                    Trusted Computing Settings
▶ CPU Configuration
▶ SATA Drives
▶ USB Configuration
▶ Hardware Monitor
▶ SIO Configuration
▶ Serial Port Console Redirection
▶ LAN Bypass Configuration

  AAEON Features
▶ Digital IO Port Configuration

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

3.4.1 Trusted Computing

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

TPM20 Device Found                                  Enables or Disables BIOS
Vendor: IFX                                         support for security device.
Firmware Version: 5.51                              O.S. will not show Security
                                                    Device. TCG EFI protocol and
Security Device Support          [Enable]           INT1A interface will not be
Active PCR banks                 SHA-1,SHA256       available.
Available PCR banks              SHA-1,SHA256

SHA-1 PCR Bank                   [Enabled]
SHA256 PCR Bank                  [Enabled]

Pending operation                [None]
Platform Hierarchy               [Enabled]          →←: Select Screen
Storage Hierarchy                [Enabled]          ↑↓: Select Item
Endorsement Hierarchy            [Enabled]          Enter: Select
TPM2.0 UEFI Spec Version         [TCG_2]            +/-: Change Opt.
Physical Presence Spec Version   [1.3]              F1: General Help
TPM 20 InterfaceType             [TIS]              F2: Previous Values
Device Select                    [Auto]             F3: Optimized Defaults
                                                    F4: Save & Exit
                                                    ESC: Exit

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Security Device Support	Disabled
	Enabled
Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.	
SHA-1 PCR Bank	Disabled
	Enabled
Enable or Disable SHA-1 PCR Bank.	
SHA256 PCR Bank	Disabled
	Enabled
Enable or Disable SHA256 PCR Bank.	
Pending operation	None
	TPM Clear
Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device.	

Options Summary	
Platform Hierarchy	Disabled
	Enabled
Enable or Disable Platform Hierarchy.	
Storage Hierarchy	Disabled
	Enabled
Enable or Disable Storage Hierarchy.	
Endorsement Hierarchy	Disabled
	Enabled
Enable or Disable Endorsement Hierarchy.	
TPM2.0 UEFI Spec Version	TCG_1_2
	TCG_2
Select the TCG2 Spec Version Support. TCG_1_2: The Compatible mode for Win8/Win10. TCG_2: Support new TCG2 protocol and event format for Win10 or later.	
Physical Presence Spec Version	1.2
	1.3
Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3.	
Device Select	TPM 1.2
	TPM 2.0
	Auto
TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support to TPM 2.0 devices. Auto will support both with the default set to TPM 2.0 devices if not found. TPM 1.2 devices will be enumerated.	

3.4.2 CPU Configuration

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

CPU Configuration                                   When enabled, a VMM can
                                                    utilize the additional
Intel(R) Pentium(R) CPU N4200 @ 1.10GHz             hardware capabilities provided
CPU Signature                    506C9              by Vanderpool Technology
Microcode Patch                  28
Max CPU Speed                    1100 MHz
Min CPU Speed                    800 MHz
Processor Cores                  4
Intel HT Technology              Not Supported
Intel VT-x Technology            Supported

L1 Data Cache                    24 kB x 4
L1 Code Cache                    32 kB x 4
L2 Cache                         1024 kB x 2        →←: Select Screen
L3 Cache                         Not Present        ↑↓: Select Item
                                                    Enter: Select
Speed                            1100 MHz           +/-: Change Opt.
64-bit                           Supported          F1: General Help
                                                    F2: Previous Values
Intel Virtualization Technology  [Enabled]          F3: Optimized Defaults
VT-d                             [Enabled]          F4: Save & Exit
EIST                             [Disabled]         ESC: Exit

CPU Power Management Configuration
Power Limit 1 Enable             [Disabled]
```

Options Summary	
Intel Virtualization Technology	Disabled
	Enabled
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.	
VT-d	Disabled
	Enabled
Enable/Disable CPU VT-d.	
EIST	**Disabled**
	Enabled
Enable/Disable Intel SpeedStep.	
Power Limit 1 Enable	**Disabled**
	Enabled
Enable/Disable Power Limit 1.	

3.4.3 SATA Drives

```
Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
Advanced

SATA Configuration                                  Enables or Disables the
                                                    Chipset SATA Controller.  The
 Chipset SATA                    [Enable]           Chipset SATA controller
                                                    supports the 2 black internal
SATA Port                        [Not Installed]    SATA ports (up to 3Gb/s
                                                    supported per port).
CF/CFast                         [Not Installed]

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Chipset SATA	Disabled
	Enabled
Enables or Disables the Chipset SATA Controller. The Chipset SATA controller supports the 2 black internal SATA ports (up to 3Gb/s supported per port).	

3.4.4 USB Configuration

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

USB Configuration                                  Enables Legacy USB support.
                                                   AUTO option disables legacy
Legacy USB Support                  [Enabled]      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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Legacy USB Support	Disabled
	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.	

3.4.5 Hardware Monitor

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

CPU DTS Temperature                    : +42 ℃
System Temperature                     : +35 ℃

VCORE                                  : +1.188 V
VMEM                                   : +1.236 V
+12V                                   : +12.096 V
+5V                                    : +4.999 V
5VDUAL                                 : +4.999 V
VBAT                                   : +3.000 V

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

3.4.6 SIO Configuration

```
Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
Advanced

AMI SIO Driver Version :   A5.05.03

Super IO Chip Logical Device(s) Configuration
▶ [*Active*]  Serial Port  1
▶ [*Active*]  Serial Port  2

WARNING: Logical Devices state on the left side of the

View and Set Basic properties
of the SIO Logical device.
Like IO Base, IRQ Range, DMA
Channel and Device Mode.

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

3.4.6.1 Serial Port 1 Configuration

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

Serial Port  1 Configuration                    Enable or Disable this Logical
                                                Device.
Use This Device                  [Enabled]

Logical Device Settings:
Current :     IO=3F8h; IRQ=4;

Possible:                        [Use Automatic Settings]
Mode    :                        [RS232]

WARNING: Disabling SIO Logical Devices may have unwanted...

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Use This Device	Disabled
	Enabled
Enable or Disable this Logical Device.	
Possible:	Use Automatic Settings
	IO=2F8h; IRQ=3;
	IO=3F8h; IRQ=4;
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.	
Mode:	RS232
	RS422
	RS485
UART RS232, 422, 485 selection.	

3.4.6.2 Serial Port 2 Configuration

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

Serial Port  2 Configuration                    Enable or Disable this Logical
                                                Device.
Use This Device                  [Enabled]

Logical Device Settings:
Current :     IO=2F8h; IRQ=3;

Possible:                        [Use Automatic Settings]
Mode    :                        [RS232]

WARNING: Disabling SIO Logical Devices may have unwanted...

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Use This Device	Disabled
	Enabled
Enable or Disable this Logical Device.	
Possible:	Use Automatic Settings
	IO=2F8h; IRQ=3;
	IO=3F8h; IRQ=4;
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.	
Mode:	RS232
	RS422
	RS485
UART RS232, 422, 485 selection	

3.4.7 Serial Port Console Redirection

```
Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
Advanced

COM0                                                  Console Redirection Enable or
Console Redirection                [Enabled]          Disable.
▶ Console Redirection Settings

Legacy Console Redirection
▶ Legacy Console Redirection Settings

Serial Port for Out-of-Band Management/
Windows Emergency Management Services (EMS)
Console Redirection                [Disabled]
▶ Console Redirection Settings

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Console Redirection	Disabled
	Enabled
Console Redirection Enabled or Disabled.	

3.4.7.1 Console Redirection Settings

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

COM0
Console Redirection Settings

Terminal Type                        [ANSI]
Bits per second                      [115200]
Data Bits                            [8]
Parity                               [None]
Stop Bits                            [1]
Flow Control                         [None]
VT-UTF8 Combo Key Support            [Enabled]
Recorder Mode                        [Disabled]
Resolution 100x31                    [Disabled]
Legacy OS Redirection Resolution     [80x24]
Putty KeyPad                         [VT100]
Redirection After BIOS POST          [Always Enable]

Emulation: ANSI: Extended
ASCII char set. VT100: ASCII
char set. VT100+: Extends
VT100 to support color,
function keys, etc. VT-UTF8:
Uses UTF8 encoding to map
Unicode chars onto 1 or more
bytes.

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Terminal Type	VT100
	VT100+
	VT-UTF8
	ANSI
Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.	
Bits per second	9600
	19200
	38400
	57600
	115200
Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.	

Options Summary	
Data Bits	7
	8
Data Bits.	
Parity	**None**
	Even
	Odd
	Mark
	Space
A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection.	
Stop Bits	**1**
	2
Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.	
Flow Control	**None**
	Hardware RTS/CTS
Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.	
VT-UTF8 Combo Key Support	Disabled
	Enabled
Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.	
Recorder Mode	**Disabled**
	Enabled
On this mode enabled only text will be send. This is to capture Terminal data.	
Resolution 100x31	**Disabled**
	Enabled
Enables or disables extended terminal resolution.	
Legacy OS Redirection Resolution	**80x24**
	80x25
On Legacy OS, the Number of Rows and Columns supported redirection.	

Options Summary	
Putty KeyPad	VT100
	LINUX
	XTERMR6
	SCO
	ESCN
	VT400
Select FunctionKey and KeyPad on Putty.	
Redirection After BIOS POST	Always Enable
	BootLoader
The Setting Specify if BootLoader is selected than Legacy console redirection is disabled before booting to Legacy OS. Default value is Always Enable which means Legacy console Redirection is enabled for Legacy OS.	

3.4.7.2 Legacy Console Redirection Settings

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

Legacy Serial Redirection Port        [COM0]

Select a COM port to display
redirection of Legacy OS and
Legacy OPROM Messages

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Legacy Serial Redirection Port	COM0
Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages.	

3.4.7.3 Serial Port for OOB Mgmt/Windows EMS

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

Out-of-Band Mgmt Port          COM0
Terminal Type                  [VT-UTF8]
Bits per second                [115200]
Flow Control                   [None]
Data Bits                      8
Parity                         None
Stop Bits                      1

VT-UTF8 is the preferred terminal type for out-of-band management. The next best choice is VT100+ and then VT100. See above, in Console Redirection Settings page, for more Help with Terminal Type/Emulation.

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Terminal Type	VT100
	VT100+
	VT-UTF8
	ANSI
VT-UTF8 is the preferred terminal type for out-of-band management. The next best choice is VT100+ and then VT100. See above, in Console Redirection Settings page, for more Help with Terminal Type/Emulation.	
Bits per second	9600
	19200
	57600
	115200
Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.	

Options Summary	
Flow Control	None
	Hardware RTS/CTS
	Software Xon/Xoff
Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.	
Data Bits	7
	8
Data Bits.	
Parity	None
	Even
	Odd
	Mark
	Space
A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection.	
Stop Bits	1
	2
Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.	

3.4.8 LAN Bypass Configuration

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

LAN Bypass Configuration                          Configure LAN Bypass Status
                                                  LED.
LAN Bypass Status LED              [LED OFF]

LAN Bypass Kit 1 Configuration
  Mode for Power-on                [PassTru]
  Mode for Power-off               [PassTru]
LAN Bypass Kit 2 Configuration
  Mode for Power-on                [PassTru]
  Mode for Power-off               [PassTru]

WDT Configuration                  [System Reset]

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
STATUS LED CTRL	LED OFF
	RED LED ON
	RED LED BLINK
	RED LED FAST BLINK
	GREEN LED ON
	GREEN LED BLINK
	GREEN LED FAST BLINK
Configure LAN Bypass Status LED.	
LAN kit Power ON	Bypass
	PassTru
Setting LAN kit function behavior when power on. (Bypass/Pass Through).	
LAN kit Power Off	Bypass
	PassTru

Options Summary	
Setting LAN kit function behavior when power off. (Bypass/Pass Through).	
WDT configuration	Force Bypass
	SystemReset
Configure WDT behavior, System Reset Force Bypass	

3.4.9 Digital IO Port Configuration

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Advanced

Digital IO Port Configuration                    Set DIO as Input or Output

DIO Port1                        [Output]
  Output Level                   [High  ]
DIO Port2                        [Output]
  Output Level                   [High  ]
DIO Port3                        [Output]
  Output Level                   [High  ]
DIO Port4                        [Output]
  Output Level                   [High  ]
DIO Port5                        [Input ]
DIO Port6                        [Input ]
DIO Port7                        [Input ]
DIO Port8                        [Input ]

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
DIO_P#1~4	Input
	Output
Set DIO as Input or Output.	
DIO_P#5~8	**Input**
	Output
Set DIO as Input or Output.	
DIO_P#1~4 Direction	Low
	High
Set output level when DIO pin is output.	

3.5 Setup Submenu: Chipset

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Main  Advanced  Chipset  Security  Boot  Save & Exit

▶ North Bridge                    North Bridge Parameters

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

3.5.1 North Bridge

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Chipset

Memory Information                                  Select which of IGD/PCI
                                                    Graphics device should be
Total Memory                    8192 MB (LPDDR3)    Primary Display

Primary Display                 [IGD]
▶ AMI Graphic Output Protocol Policy

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Primary Display	IGD
	PCIe
Select which of IGD/PCI Graphics device should be Primary Display.	

3.5.1.1 AMI Graphic Output Protocol Policy

```
Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
Chipset

Intel(R) Graphics Controller                    Output Interface
Intel(R) GOP Driver [10.0.1036]
Output Select                    [DP2]

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Output Select	DP2
Output Interface.	

3.6 Setup Submenu: Security

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Main  Advanced  Chipset  Security  Boot  Save & Exit

Password Description                          Set Setup Administrator
                                              Password
If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length                    3
Maximum length                    20

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Change User/Supervisor Password

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

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

Removing the Password

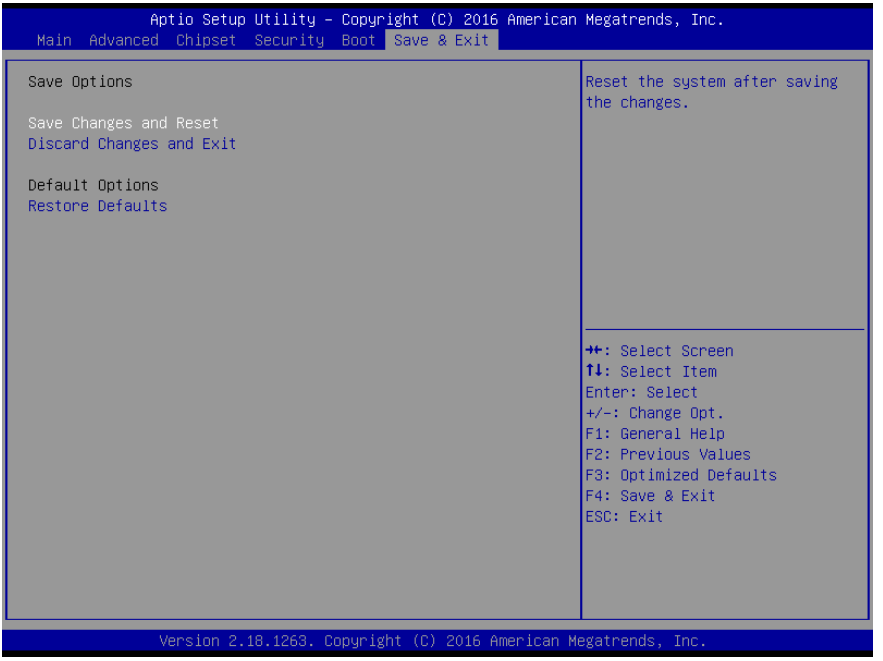
Highlight this item and type in the current password. At the next dialog box press Enter to disable password protection.

3.7 Setup Submenu: Boot

```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
Main  Advanced  Chipset  Security  Boot  Save & Exit

Boot Configuration                                  Enables or disables Quiet Boot
                                                    option
Quiet Boot                    [Enabled]
Network Stack                 [Disabled]

Boot Option Priorities
Boot Option #1                [UEFI: ADATA USB Fla...]

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

Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.
```

Options Summary	
Quite Boot	Disabled
	Enabled
Enables or disables Quiet Boot option.	
Network Stack	Disabled
	Enabled
Enable/Disable UEFI Network Stack.	

3.8 Setup Submenu: Exit



Chapter 4

Driver Installation

4.1 Driver Installation

Please download the driver from AAEON website. It contains all the drivers and utilities you need to setup your product. Follow the steps below to install the drivers.

https://www.aaeon.com/en/p/network-appliance-ics-6270

Step 1 – Install Chipset Drivers

1. Open the **Step 1 - Chipset** folder followed by the **SetupChipset.exe** file
2. Follow the instructions
3. Drivers will be installed automatically

Step 2 – Install Graphics Driver

1. Open the **Step 2 - Graphics** folder followed by **Setup.exe** file
2. Follow the instructions
3. Drivers will be installed automatically

Step 3 – Install TXE Driver

1. Open the **Step 3 - TXE** folder, followed by the **SetupTXE.exe** file
2. Follow the instructions
3. Drivers will be installed automatically

Step 4 – Install LAN Driver

1. Open the **Step 4 – LAN** folder and select your OS
2. Open the **.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 5 – Install Serial IO Driver

1. Open the **Step 5 – Serial IO** folder and select your OS
2. Open the **.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Appendix A

Watchdog Timer Programming

A.1 Watchdog Timer Initial Program

Table 1: Super I/O Relative Register Table		
	Default Value	Note
Index	0x2E(Note1)	SIO MB PnP Mode Index Register 0x2E or 0x4E
Data	0x2F(Note2)	SIO MB PnP Mode Data Register 0x2F or 0x4F

Table 2: Watchdog Relative Register Table					
	LDN	Register	BitNum	Value	Note
Timer Counter	0x07(Note3)	0x73(Note4)		(Note24)	Time of watchdog timer (0~255) This register is byte access
Counting Unit	0x07(Note5)	0x72(Note6)	7(Note7)	1(Note8)	Select time unit. 1: second 0: minute
Watchdog Enable (KRST)	0x07(Note9)	0x72(Note10)	6(Note11)	1(Note12)	0: Disable 1: Enable
Timeout Status	0x07(Note13)	0x71(Note14)	0(Note15)	1	1: Clear timeout status

```
*****************************************************************************************
// SuperIO relative definition (Please reference to Table 1)
#define byte   SIOIndex   //This parameter is represented from Note1
#define byte   SIOData   //This parameter is represented from Note2
#define   void   IOWriteByte(byte IOPort, byte Value);
#define   byte   IOReadByte(byte IOPort);
// Watch Dog relative definition (Please reference to Table 2)
#define byte   TimerLDN   //This parameter is represented from Note3
#define byte   TimerReg   //This parameter is represented from Note4
#define byte   TimerVal   // This parameter is represented from Note24
#define byte   UnitLDN   //This parameter is represented from Note5
#define byte   UnitReg   //This parameter is represented from Note6
#define byte   UnitBit   //This parameter is represented from Note7
#define byte   UnitVal   //This parameter is represented from Note8
#define byte   EnableLDN   //This parameter is represented from Note9
#define byte   EnableReg   //This parameter is represented from Note10
#define byte   EnableBit   //This parameter is represented from Note11
#define byte   EnableVal   //This parameter is represented from Note12
#define byte   StatusLDN   // This parameter is represented from Note13
#define byte   StatusReg   // This parameter is represented from Note14
#define byte   StatusBit   // This parameter is represented from Note15
*****************************************************************************************
```

```
*****************************************************************************
VOID   Main(){
        // Procedure : AaeonWDTConfig
        // (byte)Timer : Time of WDT timer.(0x00~0xFF)
        // (boolean)Unit : Select time unit(0: second, 1: minute).
        AaeonWDTConfig();

        // Procedure : AaeonWDTEnable
         // This procudure will enable the WDT counting.
        AaeonWDTEnable();
}
*****************************************************************************
```

```
*****************************************************************************************
// Procedure : AaeonWDTEnable
VOID    AaeonWDTEnable (){
        WDTEnableDisable(EnableLDN, EnableReg, EnableBit, 1);
}

// Procedure : AaeonWDTConfig
VOID    AaeonWDTConfig (){
        // Disable WDT counting
        WDTEnableDisable(EnableLDN, EnableReg, EnableBit, 0);
        // Clear Watchdog Timeout Status
        WDTClearTimeoutStatus();
        // WDT relative parameter setting
        WDTParameterSetting();
}

VOID    WDTEnableDisable(byte LDN, byte Register, byte BitNum, byte Value){
        SIOBitSet(LDN, Register, BitNum, Value);
}

VOID    WDTParameterSetting(){
        // Watchdog Timer counter setting
        SIOByteSet(TimerLDN, TimerReg, TimerVal);
        // WDT counting unit setting
        SIOBitSet(UnitLDN, UnitReg, UnitBit, UnitVal);
}

VOID    WDTClearTimeoutStatus(){
        SIOBitSet(StatusLDN, StatusReg, StatusBit, 1);
}
*****************************************************************************************
```

```
*****************************************************************************
VOID   SIOEnterMBPnPMode(){
        Switch(SIOIndex){
                Case 0x2E:
                        IOWriteByte(SIOIndex, 0x87);
                        IOWriteByte(SIOIndex, 0x01);
                           IOWriteByte(SIOIndex, 0x55);
                           IOWriteByte(SIOIndex, 0x55);
                           Break;
                Case 0x4E:
                        IOWriteByte(SIOIndex, 0x87);
                        IOWriteByte(SIOIndex, 0x01);
                           IOWriteByte(SIOIndex, 0x55);
                           IOWriteByte(SIOIndex, 0xAA);
                        Break;
        }
}

VOID   SIOExitMBPnPMode(){
        IOWriteByte(SIOIndex, 0x02);
        IOWriteByte(SIOData, 0x02);
}

VOID   SIOSelectLDN(byte LDN){
         IOWriteByte(SIOIndex, 0x07); // SIO LDN Register Offset = 0x07
        IOWriteByte(SIOData, LDN);
}
*****************************************************************************
```

```
*****************************************************************************
VOID   SIOBitSet(byte LDN, byte Register, byte BitNum, byte Value){
        Byte TmpValue;

        SIOEnterMBPnPMode();
         SIOSelectLDN(byte LDN);
        IOWriteByte(SIOIndex, Register);
        TmpValue = IOReadByte(SIOData);
        TmpValue &= ~(1 << BitNum);
        TmpValue |= (Value << BitNum);
        IOWriteByte(SIOData, TmpValue);
        SIOExitMBPnPMode();
}

VOID   SIOByteSet(byte LDN, byte Register, byte Value){
        SIOEnterMBPnPMode();
         SIOSelectLDN(LDN);
        IOWriteByte(SIOIndex, Register);
         IOWriteByte(SIOData, Value);
         SIOExitMBPnPMode();
}
*****************************************************************************
```

Appendix B

I/O Information

B.1 I/O Address Map

Input/output (IO)

- [0000000000000000 - 000000000000006F] PCI Express Root Complex
- [0000000000000020 - 0000000000000021] Programmable interrupt controller
- [0000000000000024 - 0000000000000025] Programmable interrupt controller
- [0000000000000028 - 0000000000000029] Programmable interrupt controller
- [000000000000002C - 000000000000002D] Programmable interrupt controller
- [000000000000002E - 000000000000002F] Motherboard resources
- [0000000000000030 - 0000000000000031] Programmable interrupt controller
- [0000000000000034 - 0000000000000035] Programmable interrupt controller
- [0000000000000038 - 0000000000000039] Programmable interrupt controller
- [000000000000003C - 000000000000003D] Programmable interrupt controller
- [0000000000000040 - 0000000000000043] System timer
- [000000000000004E - 000000000000004F] Motherboard resources
- [0000000000000050 - 0000000000000053] System timer
- [0000000000000060 - 0000000000000060] Standard PS/2 Keyboard
- [0000000000000061 - 0000000000000061] Motherboard resources
- [0000000000000063 - 0000000000000063] Motherboard resources
- [0000000000000064 - 0000000000000064] Standard PS/2 Keyboard
- [0000000000000065 - 0000000000000065] Motherboard resources
- [0000000000000067 - 0000000000000067] Motherboard resources
- [0000000000000070 - 0000000000000070] Motherboard resources
- [0000000000000070 - 0000000000000077] System CMOS/real time clock
- [0000000000000078 - 0000000000000CF7] PCI Express Root Complex
- [0000000000000080 - 000000000000008F] Motherboard resources
- [0000000000000092 - 0000000000000092] Motherboard resources
- [00000000000000A0 - 00000000000000A1] Programmable interrupt controller
- [00000000000000A4 - 00000000000000A5] Programmable interrupt controller
- [00000000000000A8 - 00000000000000A9] Programmable interrupt controller
- [00000000000000AC - 00000000000000AD] Programmable interrupt controller
- [00000000000000B0 - 00000000000000B1] Programmable interrupt controller
- [00000000000000B2 - 00000000000000B3] Motherboard resources
- [00000000000000B4 - 00000000000000B5] Programmable interrupt controller
- [00000000000000B8 - 00000000000000B9] Programmable interrupt controller
- [00000000000000BC - 00000000000000BD] Programmable interrupt controller
- [00000000000002F8 - 00000000000002FF] Communications Port (COM2)
- [00000000000003F8 - 00000000000003FF] Communications Port (COM1)
- [0000000000000400 - 000000000000047F] Motherboard resources
- [00000000000004D0 - 00000000000004D1] Programmable interrupt controller
- [0000000000000500 - 00000000000005FE] Motherboard resources
- [0000000000000680 - 000000000000069F] Motherboard resources
- [0000000000000A00 - 0000000000000A2F] Motherboard resources
- [0000000000000A30 - 0000000000000A3F] Motherboard resources
- [0000000000000A40 - 0000000000000A4F] Motherboard resources
- [0000000000000D00 - 000000000000FFFF] PCI Express Root Complex
- [0000000000009000 - 0000000000009FFF] PCI-to-PCI Bridge
- [0000000000009000 - 000000000000BFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5ADB
- [0000000000009000 - 000000000000BFFF] PCI-to-PCI Bridge
- [000000000000A000 - 000000000000AFFF] PCI-to-PCI Bridge
- [000000000000B000 - 000000000000BFFF] PCI-to-PCI Bridge

[000000000000C000 - 000000000000CFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5ADA
[000000000000D000 - 000000000000DFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD9
[000000000000E000 - 000000000000EFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD8
[000000000000F000 - 000000000000F03F] Intel(R) HD Graphics
[000000000000F040 - 000000000000F05F] Intel(R) Celeron(R)/Pentium(R) Processor SMBUS - 5AD4
[000000000000F060 - 000000000000F07F] Standard SATA AHCI Controller
[000000000000F080 - 000000000000F083] Standard SATA AHCI Controller
[000000000000F090 - 000000000000F097] Standard SATA AHCI Controller

B.2 Memory Address Map

Memory

- [000000007B800001 - 000000007BFFFFFF] PCI Express Root Complex
- [000000007C000001 - 000000007FFFFFFF] PCI Express Root Complex
- [0000000080000000 - 000000008FFFFFFF] Intel(R) HD Graphics
- [0000000080000000 - 00000000CFFFFFFF] PCI Express Root Complex
- [0000000090000000 - 0000000090FFFFFF] Intel(R) HD Graphics
- [0000000091000000 - 00000000910FFFFF] High Definition Audio Controller
- [0000000091100000 - 00000000913FFFFF] PCI-to-PCI Bridge
- [0000000091100000 - 00000000917FFFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5ADB
- [0000000091100000 - 00000000917FFFFF] PCI-to-PCI Bridge
- [00000000912FC000 - 00000000912FFFFF] Intel(R) I210 Gigabit Fiber Network Connection
- [0000000091300000 - 00000000913FFFFF] Intel(R) I210 Gigabit Fiber Network Connection
- [0000000091400000 - 00000000916FFFFF] PCI-to-PCI Bridge
- [00000000915FC000 - 00000000915FFFFF] Intel(R) I210 Gigabit Fiber Network Connection #2
- [0000000091600000 - 00000000916FFFFF] Intel(R) I210 Gigabit Fiber Network Connection #2
- [0000000091700000 - 00000000917FFFFF] PCI-to-PCI Bridge
- [00000000917DC000 - 00000000917DFFFF] Intel(R) I211 Gigabit Network Connection #4
- [00000000917E0000 - 00000000917FFFFF] Intel(R) I211 Gigabit Network Connection #4
- [0000000091800000 - 00000000918FFFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5ADA
- [00000000918DC000 - 00000000918DFFFF] Intel(R) I211 Gigabit Network Connection
- [00000000918E0000 - 00000000918FFFFF] Intel(R) I211 Gigabit Network Connection
- [0000000091900000 - 00000000919FFFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD9
- [00000000919DC000 - 00000000919DFFFF] Intel(R) I211 Gigabit Network Connection #3
- [00000000919E0000 - 00000000919FFFFF] Intel(R) I211 Gigabit Network Connection #3
- [0000000091A00000 - 0000000091AFFFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD8
- [0000000091ADC000 - 0000000091ADFFFF] Intel(R) I211 Gigabit Network Connection #2
- [0000000091AE0000 - 0000000091AFFFFF] Intel(R) I211 Gigabit Network Connection #2
- [0000000091B00000 - 0000000091B0FFFF] Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)
- [0000000091B10000 - 0000000091B13FFF] High Definition Audio Controller
- [0000000091B14000 - 0000000091B15FFF] Standard SATA AHCI Controller
- [0000000091B16000 - 0000000091B160FF] Intel(R) Celeron(R)/Pentium(R) Processor SMBUS - 5AD4
- [0000000091B17000 - 0000000091B177FF] Standard SATA AHCI Controller
- [0000000091B18000 - 0000000091B180FF] Standard SATA AHCI Controller
- [0000000091B1B000 - 0000000091B1BFFF] Intel(R) Trusted Execution Engine Interface
- [00000000D0C00000 - 00000000D0C00653] Intel(R) Serial IO GPIO Host Controller - INT3452
- [00000000D0C40000 - 00000000D0C40763] Intel(R) Serial IO GPIO Host Controller - INT3452
- [00000000D0C50000 - 00000000D0C5076B] Intel(R) Serial IO GPIO Host Controller - INT3452
- [00000000D0C70000 - 00000000D0C70673] Intel(R) Serial IO GPIO Host Controller - INT3452
- [00000000E0000000 - 00000000EFFFFFFF] Motherboard resources
- [00000000E0000000 - 00000000EFFFFFFF] PCI Express Root Complex
- [00000000FEA00000 - 00000000FEAFFFFF] Motherboard resources
- [00000000FED00000 - 00000000FED003FF] High precision event timer
- [00000000FED01000 - 00000000FED01FFF] Motherboard resources
- [00000000FED03000 - 00000000FED03FFF] Motherboard resources
- [00000000FED06000 - 00000000FED06FFF] Motherboard resources
- [00000000FED08000 - 00000000FED09FFF] Motherboard resources
- [00000000FED1C000 - 00000000FED1CFFF] Motherboard resources
- [00000000FED40000 - 00000000FED44FFF] Trusted Platform Module 2.0
- [00000000FED80000 - 00000000FEDBFFFF] Motherboard resources
- [00000000FEE00000 - 00000000FEEFFFFF] Motherboard resources

B.3 IRQ Mapping Chart

Interrupt request (IRQ)

(ISA) 0x00000000 (00)	System timer
(ISA) 0x00000001 (01)	Standard PS/2 Keyboard
(ISA) 0x00000003 (03)	Communications Port (COM2)
(ISA) 0x00000004 (04)	Communications Port (COM1)
(ISA) 0x00000008 (08)	High precision event timer
(ISA) 0x0000000C (12)	PS/2 Compatible Mouse
(ISA) 0x0000000E (14)	Intel(R) Serial IO GPIO Host Controller - INT3452
(ISA) 0x0000000E (14)	Intel(R) Serial IO GPIO Host Controller - INT3452
(ISA) 0x0000000E (14)	Intel(R) Serial IO GPIO Host Controller - INT3452
(ISA) 0x0000000E (14)	Intel(R) Serial IO GPIO Host Controller - INT3452
(ISA) 0x00000036 (54)	Microsoft ACPI-Compliant System
(ISA) 0x00000037 (55)	Microsoft ACPI-Compliant System
(ISA) 0x00000038 (56)	Microsoft ACPI-Compliant System
(ISA) 0x00000039 (57)	Microsoft ACPI-Compliant System
(ISA) 0x0000003A (58)	Microsoft ACPI-Compliant System
(ISA) 0x0000003B (59)	Microsoft ACPI-Compliant System
(ISA) 0x0000003C (60)	Microsoft ACPI-Compliant System
(ISA) 0x0000003D (61)	Microsoft ACPI-Compliant System
(ISA) 0x0000003E (62)	Microsoft ACPI-Compliant System
(ISA) 0x0000003F (63)	Microsoft ACPI-Compliant System
(ISA) 0x00000040 (64)	Microsoft ACPI-Compliant System
(ISA) 0x00000041 (65)	Microsoft ACPI-Compliant System
(ISA) 0x00000042 (66)	Microsoft ACPI-Compliant System
(ISA) 0x00000043 (67)	Microsoft ACPI-Compliant System
(ISA) 0x00000044 (68)	Microsoft ACPI-Compliant System
(ISA) 0x00000045 (69)	Microsoft ACPI-Compliant System
(ISA) 0x00000046 (70)	Microsoft ACPI-Compliant System
(ISA) 0x00000047 (71)	Microsoft ACPI-Compliant System
(ISA) 0x00000048 (72)	Microsoft ACPI-Compliant System
(ISA) 0x00000049 (73)	Microsoft ACPI-Compliant System
(ISA) 0x0000004A (74)	Microsoft ACPI-Compliant System
(ISA) 0x0000004B (75)	Microsoft ACPI-Compliant System
(ISA) 0x0000004C (76)	Microsoft ACPI-Compliant System
(ISA) 0x0000004D (77)	Microsoft ACPI-Compliant System
(ISA) 0x0000004E (78)	Microsoft ACPI-Compliant System
(ISA) 0x0000004F (79)	Microsoft ACPI-Compliant System
(ISA) 0x00000050 (80)	Microsoft ACPI-Compliant System
(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
(ISA) 0x000000BF (191)	Microsoft ACPI-Compliant System
(ISA) 0x000000C0 (192)	Microsoft ACPI-Compliant System
(ISA) 0x000000C1 (193)	Microsoft ACPI-Compliant System

(ISA) 0x000000C2 (194)	Microsoft ACPI-Compliant System
(ISA) 0x000000C3 (195)	Microsoft ACPI-Compliant System
(ISA) 0x000000C4 (196)	Microsoft ACPI-Compliant System
(ISA) 0x000000C5 (197)	Microsoft ACPI-Compliant System
(ISA) 0x000000C6 (198)	Microsoft ACPI-Compliant System
(ISA) 0x000000C7 (199)	Microsoft ACPI-Compliant System
(ISA) 0x000000C8 (200)	Microsoft ACPI-Compliant System
(ISA) 0x000000C9 (201)	Microsoft ACPI-Compliant System
(ISA) 0x000000CA (202)	Microsoft ACPI-Compliant System
(ISA) 0x000000CB (203)	Microsoft ACPI-Compliant System
(ISA) 0x000000CC (204)	Microsoft ACPI-Compliant System
(ISA) 0x00000100 (256)	Microsoft ACPI-Compliant System
(ISA) 0x00000101 (257)	Microsoft ACPI-Compliant System
(ISA) 0x00000102 (258)	Microsoft ACPI-Compliant System
(ISA) 0x00000103 (259)	Microsoft ACPI-Compliant System
(ISA) 0x00000104 (260)	Microsoft ACPI-Compliant System
(ISA) 0x00000105 (261)	Microsoft ACPI-Compliant System
(ISA) 0x00000106 (262)	Microsoft ACPI-Compliant System
(ISA) 0x00000107 (263)	Microsoft ACPI-Compliant System
(ISA) 0x00000108 (264)	Microsoft ACPI-Compliant System
(ISA) 0x00000109 (265)	Microsoft ACPI-Compliant System
(ISA) 0x0000010A (266)	Microsoft ACPI-Compliant System
(ISA) 0x0000010B (267)	Microsoft ACPI-Compliant System
(ISA) 0x0000010C (268)	Microsoft ACPI-Compliant System
(ISA) 0x0000010D (269)	Microsoft ACPI-Compliant System
(ISA) 0x0000010E (270)	Microsoft ACPI-Compliant System
(ISA) 0x0000010F (271)	Microsoft ACPI-Compliant System
(ISA) 0x00000110 (272)	Microsoft ACPI-Compliant System
(ISA) 0x00000111 (273)	Microsoft ACPI-Compliant System
(ISA) 0x00000112 (274)	Microsoft ACPI-Compliant System
(ISA) 0x00000113 (275)	Microsoft ACPI-Compliant System
(ISA) 0x00000114 (276)	Microsoft ACPI-Compliant System
(ISA) 0x00000115 (277)	Microsoft ACPI-Compliant System
(ISA) 0x00000116 (278)	Microsoft ACPI-Compliant System
(ISA) 0x00000117 (279)	Microsoft ACPI-Compliant System
(ISA) 0x00000118 (280)	Microsoft ACPI-Compliant System
(ISA) 0x00000119 (281)	Microsoft ACPI-Compliant System
(ISA) 0x0000011A (282)	Microsoft ACPI-Compliant System
(ISA) 0x0000011B (283)	Microsoft ACPI-Compliant System
(ISA) 0x0000011C (284)	Microsoft ACPI-Compliant System
(ISA) 0x0000011D (285)	Microsoft ACPI-Compliant System
(ISA) 0x0000011E (286)	Microsoft ACPI-Compliant System
(ISA) 0x0000011F (287)	Microsoft ACPI-Compliant System
(ISA) 0x00000120 (288)	Microsoft ACPI-Compliant System
(ISA) 0x00000121 (289)	Microsoft ACPI-Compliant System
(ISA) 0x00000122 (290)	Microsoft ACPI-Compliant System
(ISA) 0x00000123 (291)	Microsoft ACPI-Compliant System
(ISA) 0x00000124 (292)	Microsoft ACPI-Compliant System
(ISA) 0x00000125 (293)	Microsoft ACPI-Compliant System
(ISA) 0x00000126 (294)	Microsoft ACPI-Compliant System
(ISA) 0x00000127 (295)	Microsoft ACPI-Compliant System

(ISA) 0x00000128 (296)	Microsoft ACPI-Compliant System
(ISA) 0x00000129 (297)	Microsoft ACPI-Compliant System
(ISA) 0x0000012A (298)	Microsoft ACPI-Compliant System
(ISA) 0x0000012B (299)	Microsoft ACPI-Compliant System
(ISA) 0x0000012C (300)	Microsoft ACPI-Compliant System
(ISA) 0x0000012D (301)	Microsoft ACPI-Compliant System
(ISA) 0x0000012E (302)	Microsoft ACPI-Compliant System
(ISA) 0x0000012F (303)	Microsoft ACPI-Compliant System
(ISA) 0x00000130 (304)	Microsoft ACPI-Compliant System
(ISA) 0x00000131 (305)	Microsoft ACPI-Compliant System
(ISA) 0x00000132 (306)	Microsoft ACPI-Compliant System
(ISA) 0x00000133 (307)	Microsoft ACPI-Compliant System
(ISA) 0x00000134 (308)	Microsoft ACPI-Compliant System
(ISA) 0x00000135 (309)	Microsoft ACPI-Compliant System
(ISA) 0x00000136 (310)	Microsoft ACPI-Compliant System
(ISA) 0x00000137 (311)	Microsoft ACPI-Compliant System
(ISA) 0x00000138 (312)	Microsoft ACPI-Compliant System
(ISA) 0x00000139 (313)	Microsoft ACPI-Compliant System
(ISA) 0x0000013A (314)	Microsoft ACPI-Compliant System
(ISA) 0x0000013B (315)	Microsoft ACPI-Compliant System
(ISA) 0x0000013C (316)	Microsoft ACPI-Compliant System
(ISA) 0x0000013D (317)	Microsoft ACPI-Compliant System
(ISA) 0x0000013E (318)	Microsoft ACPI-Compliant System
(ISA) 0x0000013F (319)	Microsoft ACPI-Compliant System
(ISA) 0x00000140 (320)	Microsoft ACPI-Compliant System
(ISA) 0x00000141 (321)	Microsoft ACPI-Compliant System
(ISA) 0x00000142 (322)	Microsoft ACPI-Compliant System
(ISA) 0x00000143 (323)	Microsoft ACPI-Compliant System
(ISA) 0x00000144 (324)	Microsoft ACPI-Compliant System
(ISA) 0x00000145 (325)	Microsoft ACPI-Compliant System
(ISA) 0x00000146 (326)	Microsoft ACPI-Compliant System
(ISA) 0x00000147 (327)	Microsoft ACPI-Compliant System
(ISA) 0x00000148 (328)	Microsoft ACPI-Compliant System
(ISA) 0x00000149 (329)	Microsoft ACPI-Compliant System
(ISA) 0x0000014A (330)	Microsoft ACPI-Compliant System
(ISA) 0x0000014B (331)	Microsoft ACPI-Compliant System
(ISA) 0x0000014C (332)	Microsoft ACPI-Compliant System
(ISA) 0x0000014D (333)	Microsoft ACPI-Compliant System
(ISA) 0x0000014E (334)	Microsoft ACPI-Compliant System
(ISA) 0x0000014F (335)	Microsoft ACPI-Compliant System
(ISA) 0x00000150 (336)	Microsoft ACPI-Compliant System
(ISA) 0x00000151 (337)	Microsoft ACPI-Compliant System
(ISA) 0x00000152 (338)	Microsoft ACPI-Compliant System
(ISA) 0x00000153 (339)	Microsoft ACPI-Compliant System
(ISA) 0x00000154 (340)	Microsoft ACPI-Compliant System
(ISA) 0x00000155 (341)	Microsoft ACPI-Compliant System
(ISA) 0x00000156 (342)	Microsoft ACPI-Compliant System
(ISA) 0x00000157 (343)	Microsoft ACPI-Compliant System
(ISA) 0x00000158 (344)	Microsoft ACPI-Compliant System
(ISA) 0x00000159 (345)	Microsoft ACPI-Compliant System
(ISA) 0x0000015A (346)	Microsoft ACPI-Compliant System

(ISA) 0x0000015B (347)	Microsoft ACPI-Compliant System
(ISA) 0x0000015C (348)	Microsoft ACPI-Compliant System
(ISA) 0x0000015D (349)	Microsoft ACPI-Compliant System
(ISA) 0x0000015E (350)	Microsoft ACPI-Compliant System
(ISA) 0x0000015F (351)	Microsoft ACPI-Compliant System
(ISA) 0x00000160 (352)	Microsoft ACPI-Compliant System
(ISA) 0x00000161 (353)	Microsoft ACPI-Compliant System
(ISA) 0x00000162 (354)	Microsoft ACPI-Compliant System
(ISA) 0x00000163 (355)	Microsoft ACPI-Compliant System
(ISA) 0x00000164 (356)	Microsoft ACPI-Compliant System
(ISA) 0x00000165 (357)	Microsoft ACPI-Compliant System
(ISA) 0x00000166 (358)	Microsoft ACPI-Compliant System
(ISA) 0x00000167 (359)	Microsoft ACPI-Compliant System
(ISA) 0x00000168 (360)	Microsoft ACPI-Compliant System
(ISA) 0x00000169 (361)	Microsoft ACPI-Compliant System
(ISA) 0x0000016A (362)	Microsoft ACPI-Compliant System
(ISA) 0x0000016B (363)	Microsoft ACPI-Compliant System
(ISA) 0x0000016C (364)	Microsoft ACPI-Compliant System
(ISA) 0x0000016D (365)	Microsoft ACPI-Compliant System
(ISA) 0x0000016E (366)	Microsoft ACPI-Compliant System
(ISA) 0x0000016F (367)	Microsoft ACPI-Compliant System
(ISA) 0x00000170 (368)	Microsoft ACPI-Compliant System
(ISA) 0x00000171 (369)	Microsoft ACPI-Compliant System
(ISA) 0x00000172 (370)	Microsoft ACPI-Compliant System
(ISA) 0x00000173 (371)	Microsoft ACPI-Compliant System
(ISA) 0x00000174 (372)	Microsoft ACPI-Compliant System
(ISA) 0x00000175 (373)	Microsoft ACPI-Compliant System
(ISA) 0x00000176 (374)	Microsoft ACPI-Compliant System
(ISA) 0x00000177 (375)	Microsoft ACPI-Compliant System
(ISA) 0x00000178 (376)	Microsoft ACPI-Compliant System
(ISA) 0x00000179 (377)	Microsoft ACPI-Compliant System
(ISA) 0x0000017A (378)	Microsoft ACPI-Compliant System
(ISA) 0x0000017B (379)	Microsoft ACPI-Compliant System
(ISA) 0x0000017C (380)	Microsoft ACPI-Compliant System
(ISA) 0x0000017D (381)	Microsoft ACPI-Compliant System
(ISA) 0x0000017E (382)	Microsoft ACPI-Compliant System
(ISA) 0x0000017F (383)	Microsoft ACPI-Compliant System
(ISA) 0x00000180 (384)	Microsoft ACPI-Compliant System
(ISA) 0x00000181 (385)	Microsoft ACPI-Compliant System
(ISA) 0x00000182 (386)	Microsoft ACPI-Compliant System
(ISA) 0x00000183 (387)	Microsoft ACPI-Compliant System
(ISA) 0x00000184 (388)	Microsoft ACPI-Compliant System
(ISA) 0x00000185 (389)	Microsoft ACPI-Compliant System
(ISA) 0x00000186 (390)	Microsoft ACPI-Compliant System
(ISA) 0x00000187 (391)	Microsoft ACPI-Compliant System
(ISA) 0x00000188 (392)	Microsoft ACPI-Compliant System
(ISA) 0x00000189 (393)	Microsoft ACPI-Compliant System
(ISA) 0x0000018A (394)	Microsoft ACPI-Compliant System
(ISA) 0x0000018B (395)	Microsoft ACPI-Compliant System
(ISA) 0x0000018C (396)	Microsoft ACPI-Compliant System
(ISA) 0x0000018D (397)	Microsoft ACPI-Compliant System

(ISA) 0x0000018E (398)	Microsoft ACPI-Compliant System
(ISA) 0x0000018F (399)	Microsoft ACPI-Compliant System
(ISA) 0x00000190 (400)	Microsoft ACPI-Compliant System
(ISA) 0x00000191 (401)	Microsoft ACPI-Compliant System
(ISA) 0x00000192 (402)	Microsoft ACPI-Compliant System
(ISA) 0x00000193 (403)	Microsoft ACPI-Compliant System
(ISA) 0x00000194 (404)	Microsoft ACPI-Compliant System
(ISA) 0x00000195 (405)	Microsoft ACPI-Compliant System
(ISA) 0x00000196 (406)	Microsoft ACPI-Compliant System
(ISA) 0x00000197 (407)	Microsoft ACPI-Compliant System
(ISA) 0x00000198 (408)	Microsoft ACPI-Compliant System
(ISA) 0x00000199 (409)	Microsoft ACPI-Compliant System
(ISA) 0x0000019A (410)	Microsoft ACPI-Compliant System
(ISA) 0x0000019B (411)	Microsoft ACPI-Compliant System
(ISA) 0x0000019C (412)	Microsoft ACPI-Compliant System
(ISA) 0x0000019D (413)	Microsoft ACPI-Compliant System
(ISA) 0x0000019E (414)	Microsoft ACPI-Compliant System
(ISA) 0x0000019F (415)	Microsoft ACPI-Compliant System
(ISA) 0x000001A0 (416)	Microsoft ACPI-Compliant System
(ISA) 0x000001A1 (417)	Microsoft ACPI-Compliant System
(ISA) 0x000001A2 (418)	Microsoft ACPI-Compliant System
(ISA) 0x000001A3 (419)	Microsoft ACPI-Compliant System
(ISA) 0x000001A4 (420)	Microsoft ACPI-Compliant System
(ISA) 0x000001A5 (421)	Microsoft ACPI-Compliant System
(ISA) 0x000001A6 (422)	Microsoft ACPI-Compliant System
(ISA) 0x000001A7 (423)	Microsoft ACPI-Compliant System
(ISA) 0x000001A8 (424)	Microsoft ACPI-Compliant System
(ISA) 0x000001A9 (425)	Microsoft ACPI-Compliant System
(ISA) 0x000001AA (426)	Microsoft ACPI-Compliant System
(ISA) 0x000001AB (427)	Microsoft ACPI-Compliant System
(ISA) 0x000001AC (428)	Microsoft ACPI-Compliant System
(ISA) 0x000001AD (429)	Microsoft ACPI-Compliant System
(ISA) 0x000001AE (430)	Microsoft ACPI-Compliant System
(ISA) 0x000001AF (431)	Microsoft ACPI-Compliant System
(ISA) 0x000001B0 (432)	Microsoft ACPI-Compliant System
(ISA) 0x000001B1 (433)	Microsoft ACPI-Compliant System
(ISA) 0x000001B2 (434)	Microsoft ACPI-Compliant System
(ISA) 0x000001B3 (435)	Microsoft ACPI-Compliant System
(ISA) 0x000001B4 (436)	Microsoft ACPI-Compliant System
(ISA) 0x000001B5 (437)	Microsoft ACPI-Compliant System
(ISA) 0x000001B6 (438)	Microsoft ACPI-Compliant System
(ISA) 0x000001B7 (439)	Microsoft ACPI-Compliant System
(ISA) 0x000001B8 (440)	Microsoft ACPI-Compliant System
(ISA) 0x000001B9 (441)	Microsoft ACPI-Compliant System
(ISA) 0x000001BA (442)	Microsoft ACPI-Compliant System
(ISA) 0x000001BB (443)	Microsoft ACPI-Compliant System
(ISA) 0x000001BC (444)	Microsoft ACPI-Compliant System
(ISA) 0x000001BD (445)	Microsoft ACPI-Compliant System
(ISA) 0x000001BE (446)	Microsoft ACPI-Compliant System
(ISA) 0x000001BF (447)	Microsoft ACPI-Compliant System
(ISA) 0x000001C0 (448)	Microsoft ACPI-Compliant System

(ISA) 0x000001C1 (449)	Microsoft ACPI-Compliant System
(ISA) 0x000001C2 (450)	Microsoft ACPI-Compliant System
(ISA) 0x000001C3 (451)	Microsoft ACPI-Compliant System
(ISA) 0x000001C4 (452)	Microsoft ACPI-Compliant System
(ISA) 0x000001C5 (453)	Microsoft ACPI-Compliant System
(ISA) 0x000001C6 (454)	Microsoft ACPI-Compliant System
(ISA) 0x000001C7 (455)	Microsoft ACPI-Compliant System
(ISA) 0x000001C8 (456)	Microsoft ACPI-Compliant System
(ISA) 0x000001C9 (457)	Microsoft ACPI-Compliant System
(ISA) 0x000001CA (458)	Microsoft ACPI-Compliant System
(ISA) 0x000001CB (459)	Microsoft ACPI-Compliant System
(ISA) 0x000001CC (460)	Microsoft ACPI-Compliant System
(ISA) 0x000001CD (461)	Microsoft ACPI-Compliant System
(ISA) 0x000001CE (462)	Microsoft ACPI-Compliant System
(ISA) 0x000001CF (463)	Microsoft ACPI-Compliant System
(ISA) 0x000001D0 (464)	Microsoft ACPI-Compliant System
(ISA) 0x000001D1 (465)	Microsoft ACPI-Compliant System
(ISA) 0x000001D2 (466)	Microsoft ACPI-Compliant System
(ISA) 0x000001D3 (467)	Microsoft ACPI-Compliant System
(ISA) 0x000001D4 (468)	Microsoft ACPI-Compliant System
(ISA) 0x000001D5 (469)	Microsoft ACPI-Compliant System
(ISA) 0x000001D6 (470)	Microsoft ACPI-Compliant System
(ISA) 0x000001D7 (471)	Microsoft ACPI-Compliant System
(ISA) 0x000001D8 (472)	Microsoft ACPI-Compliant System
(ISA) 0x000001D9 (473)	Microsoft ACPI-Compliant System
(ISA) 0x000001DA (474)	Microsoft ACPI-Compliant System
(ISA) 0x000001DB (475)	Microsoft ACPI-Compliant System
(ISA) 0x000001DC (476)	Microsoft ACPI-Compliant System
(ISA) 0x000001DD (477)	Microsoft ACPI-Compliant System
(ISA) 0x000001DE (478)	Microsoft ACPI-Compliant System
(ISA) 0x000001DF (479)	Microsoft ACPI-Compliant System
(ISA) 0x000001E0 (480)	Microsoft ACPI-Compliant System
(ISA) 0x000001E1 (481)	Microsoft ACPI-Compliant System
(ISA) 0x000001E2 (482)	Microsoft ACPI-Compliant System
(ISA) 0x000001E3 (483)	Microsoft ACPI-Compliant System
(ISA) 0x000001E4 (484)	Microsoft ACPI-Compliant System
(ISA) 0x000001E5 (485)	Microsoft ACPI-Compliant System
(ISA) 0x000001E6 (486)	Microsoft ACPI-Compliant System
(ISA) 0x000001E7 (487)	Microsoft ACPI-Compliant System
(ISA) 0x000001E8 (488)	Microsoft ACPI-Compliant System
(ISA) 0x000001E9 (489)	Microsoft ACPI-Compliant System
(ISA) 0x000001EA (490)	Microsoft ACPI-Compliant System
(ISA) 0x000001EB (491)	Microsoft ACPI-Compliant System
(ISA) 0x000001EC (492)	Microsoft ACPI-Compliant System
(ISA) 0x000001ED (493)	Microsoft ACPI-Compliant System
(ISA) 0x000001EE (494)	Microsoft ACPI-Compliant System
(ISA) 0x000001EF (495)	Microsoft ACPI-Compliant System
(ISA) 0x000001F0 (496)	Microsoft ACPI-Compliant System
(ISA) 0x000001F1 (497)	Microsoft ACPI-Compliant System
(ISA) 0x000001F2 (498)	Microsoft ACPI-Compliant System
(ISA) 0x000001F3 (499)	Microsoft ACPI-Compliant System

(ISA) 0x000001F4 (500) Microsoft ACPI-Compliant System
(ISA) 0x000001F5 (501) Microsoft ACPI-Compliant System
(ISA) 0x000001F6 (502) Microsoft ACPI-Compliant System
(ISA) 0x000001F7 (503) Microsoft ACPI-Compliant System
(ISA) 0x000001F8 (504) Microsoft ACPI-Compliant System
(ISA) 0x000001F9 (505) Microsoft ACPI-Compliant System
(ISA) 0x000001FA (506) Microsoft ACPI-Compliant System
(ISA) 0x000001FB (507) Microsoft ACPI-Compliant System
(ISA) 0x000001FC (508) Microsoft ACPI-Compliant System
(ISA) 0x000001FD (509) Microsoft ACPI-Compliant System
(ISA) 0x000001FE (510) Microsoft ACPI-Compliant System
(ISA) 0x000001FF (511) Microsoft ACPI-Compliant System
(PCI) 0x00000019 (25) High Definition Audio Controller
(PCI) 0xFFFFFFDF (-33) Intel(R) I210 Gigabit Fiber Network Connection #2
(PCI) 0xFFFFFFE0 (-32) Intel(R) I210 Gigabit Fiber Network Connection #2
(PCI) 0xFFFFFFE1 (-31) Intel(R) I210 Gigabit Fiber Network Connection #2
(PCI) 0xFFFFFFE2 (-30) Intel(R) I210 Gigabit Fiber Network Connection #2
(PCI) 0xFFFFFFE3 (-29) Intel(R) I210 Gigabit Fiber Network Connection #2
(PCI) 0xFFFFFFE4 (-28) Intel(R) I210 Gigabit Fiber Network Connection #2
(PCI) 0xFFFFFFE5 (-27) Intel(R) I211 Gigabit Network Connection #4
(PCI) 0xFFFFFFE6 (-26) Intel(R) I211 Gigabit Network Connection #4
(PCI) 0xFFFFFFE7 (-25) Intel(R) I211 Gigabit Network Connection #4
(PCI) 0xFFFFFFE8 (-24) Intel(R) I211 Gigabit Network Connection #4
(PCI) 0xFFFFFFE9 (-23) Intel(R) I211 Gigabit Network Connection
(PCI) 0xFFFFFFEA (-22) Intel(R) I211 Gigabit Network Connection
(PCI) 0xFFFFFFEB (-21) Intel(R) I211 Gigabit Network Connection
(PCI) 0xFFFFFFEC (-20) Intel(R) I211 Gigabit Network Connection
(PCI) 0xFFFFFFED (-19) Intel(R) I211 Gigabit Network Connection #3
(PCI) 0xFFFFFFEE (-18) Intel(R) I211 Gigabit Network Connection #3
(PCI) 0xFFFFFFEF (-17) Intel(R) I211 Gigabit Network Connection #3
(PCI) 0xFFFFFFF0 (-16) Intel(R) I211 Gigabit Network Connection #3
(PCI) 0xFFFFFFF1 (-15) Intel(R) I211 Gigabit Network Connection #2
(PCI) 0xFFFFFFF2 (-14) Intel(R) I211 Gigabit Network Connection #2
(PCI) 0xFFFFFFF3 (-13) Intel(R) I211 Gigabit Network Connection #2
(PCI) 0xFFFFFFF4 (-12) Intel(R) I211 Gigabit Network Connection #2
(PCI) 0xFFFFFFF5 (-11) Intel(R) I210 Gigabit Fiber Network Connection
(PCI) 0xFFFFFFF6 (-10) Intel(R) I210 Gigabit Fiber Network Connection
(PCI) 0xFFFFFFF7 (-9) Intel(R) I210 Gigabit Fiber Network Connection
(PCI) 0xFFFFFFF8 (-8) Intel(R) I210 Gigabit Fiber Network Connection
(PCI) 0xFFFFFFF9 (-7) Intel(R) I210 Gigabit Fiber Network Connection
(PCI) 0xFFFFFFFA (-6) Intel(R) I210 Gigabit Fiber Network Connection
(PCI) 0xFFFFFFFB (-5) Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)
(PCI) 0xFFFFFFFC (-4) Intel(R) Trusted Execution Engine Interface
(PCI) 0xFFFFFFFD (-3) Intel(R) HD Graphics
(PCI) 0xFFFFFFFE (-2) Standard SATA AHCI Controller

Appendix C

Standard LAN Bypass Platform Setting

C.1 Introduction to LED

ICS-6270 provides a LED indicator which can change the LED status by AAEON SDK. User is able to program the LED status to express different status.

C.1.1 Status LED Configuration

The LED status indicator of ICS-6270 is programmable with AAEON SDK for your application.

Table 1: Table of Status LED

STA_LED2	STA_LED2	STA_LED2	STA_LED2
0	0	0	LED Off
0	0	1	Red
0	1	0	Red Blinking (Slowly)
0	1	1	Red Blinking (Quickly)
1	0	0	Reserved
1	0	1	Green Blinking (Slowly)
1	1	0	Green Blinking (Quickly)
1	1	1	Green

Table 2: Status LED Relative Register Mapping Table

CPLD Slave Address 0x90 (Note1)				
	Attribute	Offset (SMBUS)	BitNum	Value
STA_LED2	R/W	0x00 (Note2)	2	(Table 1)
STA_LED1	R/W	0x00 (Note2)	1	(Table 1)
STA_LED0	R/W	0x00 (Note2)	0	(Table 1)

C.1.2 Sample Code

```
*****************************************************************************************
*****
#define ByteCPLD_SLAVE_ADDRESS   //This parameter is represented from Note1
#define ByteOFFSET                //This parameter is represented from Note2
*****************************************************************************************
*****
bData = aaeonSmbusReadByte(CPLD_SLAVE_ADDRESS, OFFSET);

switch( LED_FLAG)
{
case 0:
{
        //LED Off
        //BIT2=0, BIT1=0, BIT0=0
        bData = bData & 0xF8;
        break;
}
case 1:
{
        //Red LED On
        //BIT2=0, BIT1=0, BIT0=1
        bData = (bData & 0xF8) | 0x01;
        break;
}
case 2:
{
        //Red LED Blink
        //BIT2=0, BIT1=1, BIT0=0
        bData = (bData & 0xF8) | 0x02;
        break;
}
case 3:
{
        //Red LED Fast Blink
        //BIT2=0, BIT1=1, BIT0=1
        bData = (bData & 0xF8) | 0x03;
        break;
}
case 4:
```

```
{
        //Green LED On
        //BIT2=1, BIT1=1, BIT0=1
        bData = (bData & 0xF8) | 0x07;
        break;
}
case 5:
{
        //Green LED Blink
        //BIT2=1, BIT1=0, BIT0=1
        bData = (bData & 0xF8) | 0x05;
        break;
}
case 6:
{
        //Green LED Fast Blink
        //BIT2=1, BIT1=1, BIT0=0
        bData = (bData & 0xF8) | 0x06;
        break;
}
default:
        break;
}
SmbusWriteByte(CPLD_SLAVE_ADDRESS, 0x00, bData);
*****************************************************************************************
*****
```

C.2 Introduction to LAN Bypass

ICS-6270 provides LAN Bypass kit and allow uninterrupted network traffic even if a single in-line appliance is shut down or hangs.

C.2.1 LAN Bypass

Table 1: LAN Kit ID Select

LAN_ID2	LAN_ID1	LAN_ID0	LAN kit selected
0	0	0	LAN Kit 1 Selected
0	0	1	LAN Kit 2 Selected

Table 2: LAN Bypass Register Table

Function	Description
LAN_ID3 LAN_ID2 LAN_ID1 LAN_ID0	Use for selecting which LAN kit will be configured, refer to Table 1 of ID Select table of LAN kit. They should be set before ACT_EN.
PWR_ON	Use for configuring LAN Bypass function behavior to LAN kit, when system power on. 1: Bypass 0: Pass Through
PWR_OFF	Use for configuring LAN Bypass function behavior to LAN kit, when system power off. 1: Bypass 0: Pass Through
WDT_EN	Use for configuring WDT function behavior to LAN kit, when WDT triggered. 0: Normal WDT reset (Default) 1: Force Bypass
ACT_EN	Use for activating programming of LAN kit. It is edge triggering (falling edge 1 to 0) and should be set to high(1) as its normal state.

Table 3: LAN Bypass Register Mapping Table

CPLD Slave Address 0x90 (Note1)				
	Attribute	Offset (SMBUS)	BitNum	Value
LAN_ID3	R/W	0x01(Note2)	3	(Table 1)
LAN_ID2	R/W	0x01(Note2)	2	(Table 1)
LAN_ID1	R/W	0x01(Note2)	1	(Table 1)
LAN_ID0	R/W	0x01(Note2)	0	(Table 1)
PWR_ON	R/W	0x01(Note2)	6	(Table 2)
PWR_OFF	R/W	0x01(Note2)	5	(Table 2)
WDT_EN	R/W	0x01(Note2)	4	(Table 2)
ACT_EN	R/W	0x01(Note2)	7	(Table 2)

C.2.2 Sample Code

```
*****************************************************************************************
*****
#define ByteCPLD_SLAVE_ADDRESS   //This parameter is represented from Note1
#define ByteOFFSET                //This parameter is represented from Note2
*****************************************************************************************
*****
// Select Lan Pair
BYTE bLanSel = LAN_PAIR;

BYTE bData = SmbusReadByte(CPLD_SLAVE_ADDRESS, OFFSET);
// Set Reg01h bit3
if(bLanSel & 0x08)
        bData = bData | 0x08;
else
        bData = bData & 0xF7;
// Set Reg01h bit2
if(bLanSel & 0x04)
        bData = bData | 0x04;
else
        bData = bData & 0xFB;
// Set Reg01h bit1
if(bLanSel & 0x02)
        bData = bData | 0x02;
else
        bData = bData & 0xFD;
// Set Reg01h bit0
if(bLanSel & 0x01)
        bData = bData | 0x01;
else
        bData = bData & 0xFE;

// Power On Action (Reg01h bit6)
if(SET_PASS_THROUGH)   // Pass Through
        bData = bData & 0xBF;
else                              // Bypass
        bData = bData | 0x40;

// Power Off Action (Reg01h bit5)
if(SET_PASS_THROUGH)   // Pass Through
```

```
        bData = bData & 0xDF;
else                                    // Bypass
        bData = bData | 0x20;

// WDT Action (Reg01h bit4)
if(SET_WDT_RESET)// Reset
        bData = bData & 0xEF;
else                            // Bypass
        bData = bData | 0x10;

SmbusWriteByte(CPLD_SLAVE_ADDRESS, OFFSET, bData);

// Apply Settings (Reg01h bit7)
bData = SmbusReadByte(CPLD_SLAVE_ADDRESS, OFFSET);
SmbusWriteByte(CPLD_SLAVE_ADDRESS, OFFSET, bData & 0x7F);
Sleep(500);
bData = SmbusReadByte(CPLD_SLAVE_ADDRESS, OFFSET);
SmbusWriteByte(CPLD_SLAVE_ADDRESS, OFFSET, bData | 0x80);
*******************************************************************************
```

C.3 Introduction to Software Reset Button Configuration

ICS-6270 provides a general propose input button which status get by AAEON SDK.

C.3.1 Soft Reset Button Configuration

Table 1: Soft Reset Button Register Mapping Table

	Attribute	Register(I/O)	BitNum	Value	Attribute
BTN_STS	R	0xA05(Note1)	4(Note2)	(Note3)	BTN_STS

Table 2: LAN Bypass Relative Register Table

Function	Description
BTN_STS	Reading this register returns the pin level status which is normal high active low. 0: Pin Level States Low. 1: Pin Level States High.

C.3.2 Sample Code

```
*****************************************************************************
#define Word        BTN_STS        //This parameter is represented from Note1
#define ByteBTN_STS_R              //This parameter is represented from Note2
*****************************************************************************
Byte   GET_Value (Word IoAddr, Byte BitNum,Byte Value){
        BYTE  TmpValue;

        TmpValue = inportb (IoAddr);
         return   (TmpValue & (1 << BitNum))
}
*****************************************************************************
VOID   Main(){
        Byte RstBtn;

        RstBtn = GET_Value (BTN_STS, BTN_STS_R);  // Active Low
}
*****************************************************************************
```