

# QDSP-2090 Series

Digital Signage Player with Intel® Haswell Processor

## User's Guide



# Content

Content.....	2
Figures .....	3
Tables.....	4
Safety Instructions.....	5
<input type="checkbox"/> Before You Begin.....	5
<input type="checkbox"/> When Working Inside a Computer .....	6
<input type="checkbox"/> Preventing Electrostatic Discharge.....	6
<input type="checkbox"/> Instructions for Lithium Battery .....	7
Preface.....	8
<input type="checkbox"/> How to Use This Guide.....	8
<input type="checkbox"/> Unpacking.....	8
<input type="checkbox"/> Regulatory Compliance Statements .....	8
<input type="checkbox"/> Maintaining Your Computer .....	10
Chapter 1 Introduction .....	12
<input type="checkbox"/> Overview .....	12
<input type="checkbox"/> Product Specifications .....	13
<input type="checkbox"/> System tour .....	15
<input type="checkbox"/> Mechanical Dimensions.....	18
Chapter 2 Getting Started .....	19
<input type="checkbox"/> Setting up your PC .....	19
<input type="checkbox"/> Connecting VESA Mount on QDSP-2090 Series.....	23
<input type="checkbox"/> Mounting your PC to a monitor .....	24
Chapter 3 AMI BIOS Setup.....	25
<input type="checkbox"/> Overview .....	25
<input type="checkbox"/> Main Menu.....	26
<input type="checkbox"/> Advanced Menu.....	27
<input type="checkbox"/> Power Menu .....	34
<input type="checkbox"/> Security Menu.....	35
<input type="checkbox"/> Boot Menu .....	36
<input type="checkbox"/> Save & Exit Menu .....	37
Chapter 4 Driver Installation .....	39

# Figures

<i>Figure 1 Front IO (Upper: QDSP-2090; Lower: QDSP-2091)</i> .....	15
<i>Figure 2 Rear IO</i> .....	17
<i>Figure 3 Mechanical Dimensions</i> .....	18
<i>Figure 4 Connect the DVI-I / DP cable</i> .....	19
<i>Figure 5 Connecting USB mouse &amp; keyboard (Upper: QDSP-2090; Lower: QDSP-2091)</i> .....	20
<i>Figure 6 COM port</i> .....	21
<i>Figure 7 Network cable with RJ45 connector</i> .....	22
<i>Figure 8 Turning on the system</i> .....	22
<i>Figure 9 VESA Mount Assembly</i> .....	23
<i>Figure 10 VESA Mount on QDSP-2090 Series</i> .....	23
<i>Figure 11 VESA mounting</i> .....	24

# Tables

Table 1 QDSP-2090 Series Specification.....	14
Table 2 BIOS Main Menu .....	26
Table 3 Advanced Menu.....	27
Table 4 Advanced Menu – Display Configuration.....	28
Table 5 Advanced Menu – Super IO Configuration .....	29
Table 6 Advanced Menu –Super IO Configuration – Serial Port 1 Configuration .....	29
Table 7 Advanced Menu –CPU Chipset Configuration.....	30
Table 8 Advanced Menu – SATA Configuration .....	31
Table 9 Advanced Menu – USB Configuration .....	32
Table 10 Advanced Menu – H/W Monitor.....	33
Table 11 Power Menu.....	34
Table 12 Security Menu .....	35
Table 13 Boot Menu .....	36
Table 14 Save & Exit Menu.....	37

# Safety Instructions

## ■ Before You Begin

Before handling the product, read the instructions and safety guidelines on the following pages to prevent damage to the product and to ensure your own personal safety. Refer to the “Advisories” section in the Preface for advisory conventions used in this user’s guide, including the distinction between Warnings, Cautions, Important Notes, and Notes.

- Always use caution when handling/operating a computer. Only qualified, experienced, authorized electronics service personnel should access the interior of a computer. The power supplies produce high voltages and energy hazards, which can cause bodily harm.
- Use extreme caution when installing or removing components. Refer to the installation instructions in this user’s guide for precautions and procedures. If you have any questions, please contact our Post-Sales Technical Support.
- Access can only be gained by service persons or by users who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken; and access is through the use of a tool or lock and key, or other means of security, and is controlled by authority responsible for the location.

---

### WARNING



High voltages are present inside the chassis when the unit’s power cord is plugged into an electrical outlet. Turn off system power, turn off the power supply, and then disconnect the power cord from its source before removing the chassis cover. Turning off the system power switch does not remove power to components.

---

### ■ When Working Inside a Computer

Before taking covers off a computer, perform the following steps:

1. Turn off the computer and any peripherals.
2. Disconnect the computer and peripherals from their power sources or subsystems to prevent electric shock or system board damage. This does not apply when hot swapping parts.
3. Follow the guidelines provided in “Preventing Electrostatic Discharge” on the following page.
4. Disconnect any telephone or telecommunications lines from the computer.

In addition, take note of these safety guidelines when appropriate:

- To help avoid possible damage to system boards, wait five seconds after turning off the computer before removing a component, removing a system board, or disconnecting a peripheral device from the computer.
- When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs. If you are disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before connecting a cable, make sure both connectors are correctly oriented and aligned.

---

#### CAUTION



Do not attempt to service the system yourself except as explained in this user's guide. Follow installation and troubleshooting instructions closely.

---

### ■ Preventing Electrostatic Discharge

Static electricity can harm system boards. Perform service at an ESD workstation and follow proper ESD procedure to reduce the risk of damage to components. We strongly encourage you to follow proper ESD procedure, which can include wrist straps and smocks, when servicing equipment.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

## Safety Instructions

- When unpacking a static-sensitive component from its shipping carton, do not remove the component's antistatic packing material until you are ready to install the component in a computer. Just before unwrapping the antistatic packaging, be sure you are at an ESD workstation or grounded. This will discharge any static electricity that may have built up in your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components at an ESD workstation. If possible, use antistatic floor pads and workbench pads.
- Handle components and boards with care. Don't touch the components or contacts on a board. Hold a board by its edges or by its metal mounting bracket.
- Do not handle or store system boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.

## ■ Instructions for Lithium Battery



### WARNING

Danger of explosion when battery is replaced with incorrect type. Only replace with the same or equivalent type recommended by the manufacturer.

---

Do not dispose of lithium batteries in domestic waste. Dispose of the battery according to the local regulations dealing with the disposal of these special materials (e.g. to the collecting points for disposal of batteries)

# Preface

## ■ How to Use This Guide

This guide is designed to be used as step-by-step instructions for installation, and as a reference for operation, troubleshooting, and upgrades.

## ■ Unpacking

When unpacking, follow these steps:

1. After opening the box, save it and the packing material for possible future shipment.
2. Remove all items from the box. If any items listed on the purchase order are missing, notify our customer service immediately.
3. Inspect the product for damage. If there is damage, notify our customer service immediately. Refer to “Warranty Policy” for the return procedure.

## ■ Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices.

### **FCC Compliance Statement:**

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radiofrequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the

receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by your dealer could void the user's authority to operate the equipment.

---

**NOTE**



The assembler of a personal computer system may be required to test the system and/or make necessary modifications if a system is found to cause harmful interference or to be noncompliant with the appropriate standards for its intended use.

---

## ■ Maintaining Your Computer

### Environmental Factors

#### ■ Temperature

The ambient temperature within an enclosure may be greater than room ambient temperature. Installation in an enclosure should be such that the amount of air flow required for safe operation is not compromised.

Consideration should be given to the maximum rated ambient temperature. Overheating can cause a variety of problems, including premature aging and failure of chips or mechanical failure of devices.

If the system has been exposed to abnormally cold temperatures, allow a two-hour warm-up period to bring it up to normal operating temperature before turning it on. Failure to do so may cause damage to internal components, particularly the hard disk drive.

#### ■ Humidity

High-humidity can cause moisture to enter and accumulate in the system. This moisture can cause corrosion of internal components and degrade such properties as electrical resistance and thermal conductivity. Extreme moisture buildup inside the system can result in electrical shorts, which can cause serious damage to the system.

Buildings in which climate is controlled usually maintain an acceptable level of humidity for system equipment. However, if a system is located in an unusually humid location, a dehumidifier can be used to maintain the humidity within an acceptable range. Refer to the “Specifications” section of this user’s guide for the operating and storage humidity specifications.

#### ■ Altitude

Operating a system at a high altitude (low pressure) can cause electrical problems related to arcing and corona effects. This condition can also cause sealed components with internal pressure, such as electrolytic capacitors, to fail or perform at reduced efficiency.

### Power Protection

The greatest threats to a system's supply of power are power loss, power spikes, and power surges caused by electrical storms, which interrupt system operation and/or damage system components. To protect your system, always properly ground power cables and one of the following devices.

#### ■ **Surge Protector**

Surge protectors are available in a variety of types and usually provide a level of protection proportional with the cost of the device. Surge protectors prevent voltage spikes from entering a system through the AC power cord. Surge protectors, however, do not offer protection against brownouts, which occur when the voltage drops more than 20 percent below the normal AC line voltage level.

#### ■ **Line Conditioner**

Line conditioners go beyond the over voltage protection of surge protectors. Line conditioners keep a system's AC power source voltage at a fairly constant level and, therefore, can handle brownouts. Because of this added protection, line conditioners cost more than surge protectors. However, line conditioners cannot protect against a complete loss of power.

#### ■ **Uninterruptible Power Supply**

Uninterruptible power supply (UPS) systems offer the most complete protection against variations on power because they use battery power to keep the server running when AC power is lost. The battery is charged by the AC power while it is available, so when AC power is lost, the battery can provide power to the system for a limited amount of time, depending on the UPS system.

UPS systems range in price from a few hundred dollars to several thousand dollars, with the more expensive units allowing you to run larger systems for a longer period of time when AC power is lost. UPS systems that provide only 5 minutes of battery power let you conduct an orderly shutdown of the system, but are not intended to provide continued operation. Surge protectors should be used with all UPS systems, and the UPS system should be Underwriters Laboratories (UL) safety approved.

# Chapter 1

## Introduction

### ■ Overview

The QDSP-2090 Series is a compact size Box PC ideal for space critical applications. This embedded hardware platform features 4th Generation Intel® Core™ i3/i5/i7 Processors, Intel® H81 Express Chipset (QDSP-2090) / Intel® Q87 Express Chipset (QDSP-2091), and DDR3 SO-DIMM. It comes with a 2.5" SATA hard drive or SSD, 2x DP, 1x DVI-I, 2x RJ-45, 6x USB3.0 (QDSP-2091) / 2x USB3.0 + 4x USB2.0 (QDSP-2090), 1x COM, and HD Audio.

The QDSP-2090 provides high reliability for harsh environments, compact size, high performance and is highly suited to a wide range of industrial applications such as Digital Signage, Gaming, Transportation, Surveillance, and Thin Servers.

### Checklist

- QDSP-2090 / QDSP-2091
- Power Adapter
- Power Cord
- Driver CD
- Quick installation Guide
- VESA Mounting Kit
- Optional WiFi or 3G module

### Features

- Intel® Haswell Processor with H81 / Q87 Express chipset
- 2 x DDR3 SO-DIMM up to 16 GB
- 2x DP, 1x DVI-I, 2x GbE and 5.1 channel audio output
- 1x SATA HDD or SSD, 6x USB3.0 / 2x USB3.0 + 4x USB2.0
- Intel® iAMT 9.0 & TPM supported (QDSP-2091)
- Optional Wireless Ethernet or 3G Module

## ■ Product Specifications

<b>Construction</b>	Metal Housing
<b>System Board</b>	4th Generation Intel® Haswell Core™ i3/i5/i7 Processor Intel® H81 Express Chipset (QDSP-2090) Intel® Q87 Express Chipset (QDSP-2091)
<b>Memory</b>	2x DDR3 SO-DIMM up to 16GB
<b>I/O Panel</b>	<p>Front I/O</p> <ul style="list-style-type: none"> <li>3x 3.5mm Phone Jack, support 5.1 channel audio output</li> <li>1x S/PDIF Output</li> <li>6x USB 3.0 (QDSP-2091)</li> <li>2x USB 3.0 + 4x USB2.0 (QDSP-2090)</li> <li>1x Power Button (With Power LED)</li> <li>1x Storage status LED (HDD)</li> <li>1x Wifi status LED</li> <li>1x 3G external antenna</li> <li>1x Reset Switch</li> </ul> <p>Rear I/O</p> <ul style="list-style-type: none"> <li>1x DC JACK</li> <li>1x DVI-I for DVI-D or VGA output</li> <li>2x DP</li> <li>2x RJ-45 GbE ports</li> <li>1x COM Port support RS-232/422/485</li> <li>2x Wifi external antennas</li> </ul>
<b>BIOS</b>	AMI uEFI BIOS 1x128Mb SPI flash ROM onboard
<b>Storage</b>	1x 2.5" SATA HDD or SSD 2x mSATA mixed with mPCIe (QDSP-2091)
<b>Expansion</b>	2 x mPCIe slot (Optional for 3G/WiFi/Bluetooth module, QDSP-2090) 2 x mPCIe/mSATA slot (Optional for 3G/WiFi/Bluetooth module, QDSP-2091) 1x SIM card slot (for 3G appliance) support user accessible
<b>Power Supply</b>	Input: 100-240 VAC Output: +19V DC

<b>Cooling</b>	System Fan with smart fan function
<b>OS Support</b>	Windows 7, Windows 8, Linux
<b>Temperature / Humidity</b>	Operating: 0°C ~ 50°C / 32°F ~ 122°F, 0% ~ 90%, non-condensing Storage: -20°C ~ 80°C / -4°F ~ 176°F, 0% ~ 90%, non-condensing
<b>Dimensions</b>	200 x 153.1 x 35 mm / 7.87" x 6.03" x 1.38" (W x D x H)
<b>Weight</b>	1 Kg / 2.20 lb
<b>Mounting</b>	VESA Mount
<b>Certifications</b>	CE, FCC Class A

Table 1 QDSP-2090 Series Specification

## ■ System tour

Refer to the figures below to identify the components of the system.

### ■ Front IO

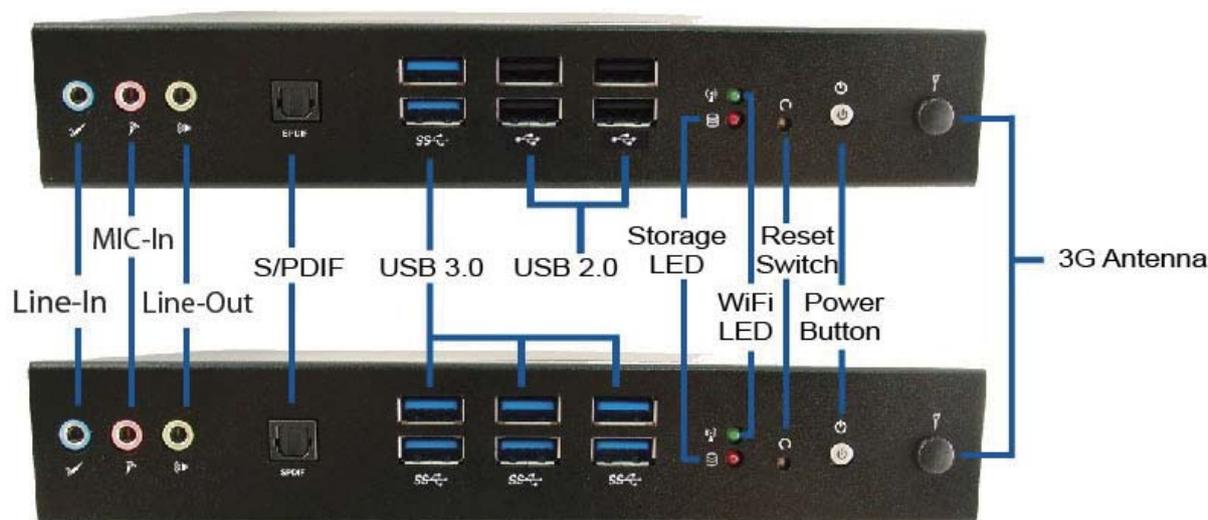


Figure 1 Front IO (Upper: QDSP-2090; Lower: QDSP-2091)

#### Power Button (with Power LED (Blue))

The power push button allows powering ON and OFF the system.  
The power LED will light when the PC is power-on.

#### Reset Switch

To clear the CMOS, use the tip of a pen to press the button briefly (for less than three seconds).

#### HDD LED (Red)

The hard disk LED blinks when data is being written into or read from the HDD.

#### WiFi LED (Green)

When the data is Transferring, the WiFi LED will blink.

#### USB

The USB (Universal Serial Bus) port is compatible with USB devices such as keyboards, mouse devices, cameras, and hard disk drives. USB allows many

devices to run simultaneously on a single computer, with some peripheral acting as additional plug-in sites or hubs.

### **S/PDIF**

S/PDIF output for carrying digital audio signals out to the device.

### **Phone Jack**

#### **Line Out**

The stereo headphone jack is used to connect the system's audio out signal to amplified speakers or headphones.

### **MIC-IN**

The microphone jack is designed to connect the microphone used for video conferencing, voice narrations, or simple audio recordings.

### **Line-IN**

The Line-in jack is designed to take input from a higher-powered sound source.

### **3G External Antenna**

Spared hole on the casing for connecting 3G external antenna

## ■ Rear Rear

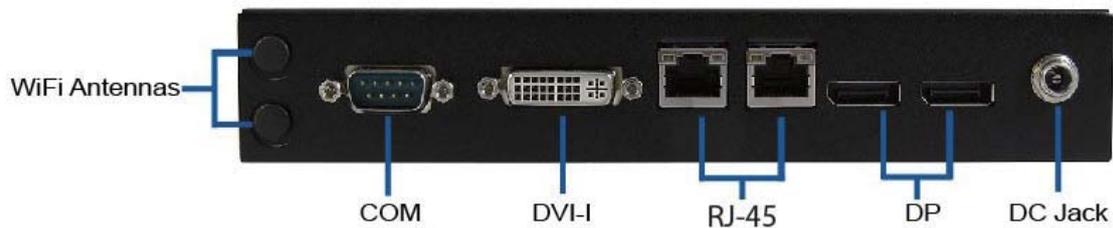


Figure 2 Rear IO

### COM

D-Sub 9 pin connector for RS-232/422/485 connection

### Ethernet

The eight-pin RJ-45 LAN port supports a standard Ethernet cable for connection to a local network.

### DP

DP is a display interface used to connect a video source to a display device such as a computer monitor or a television set.

### DVI-I

DVI-I connector for DVI-D or VGA output

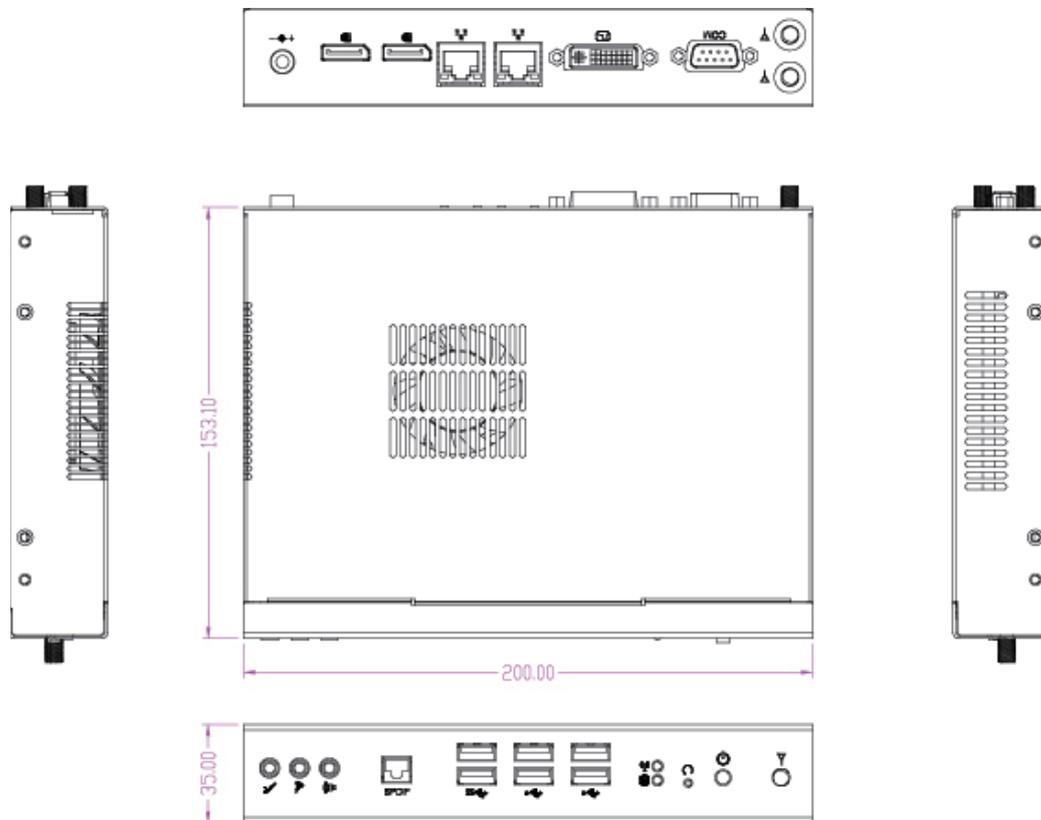
### DC Jack

The supplied power adapter converts AC power to DC for use with this jack. Power supplied through this jack supplies power to the PC. To prevent damage to the PC, always use the supplied power adapter.

### WiFi External Antenna

Spared hole on the casing for connecting WiFi external antenna

## ■ Mechanical Dimensions



Dimension: 200 x 35 x 153.1 mm (W x H x D)

Figure 3 Mechanical Dimensions

## Chapter 2

### Getting Started

#### ■ Setting up your PC

##### ■ Connect the monitor, mouse and keyboard

###### Connecting the monitor

Connect the DVI-I / DP cable from your display to the DVI-I / DP port.



Figure 4 Connect the DVI-I / DP cable

**Connecting USB mouse & keyboard**

Your QDSP-2090 Series does not come with a keyboard and mouse, but you can use any USB keyboard or mouse with your computer.

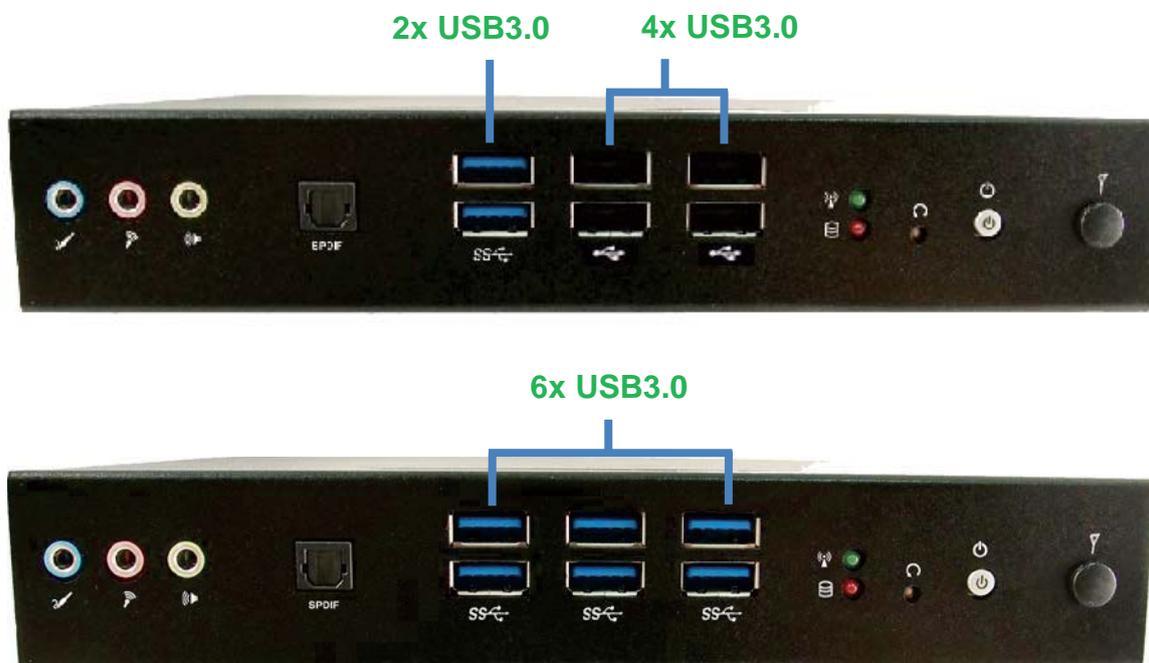


Figure 5 Connecting USB mouse & keyboard (Upper: QDSP-2090; Lower: QDSP-2091)

---

**NOTE**



Using a third-party USB mouse or keyboard may require software drivers. Check the manufacturer's website for the latest software drivers.

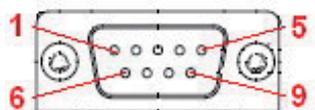
---

■ **COM port**

COM port with the pin definitions.



**COM**



Pin	RS-232	RS-422	Half Duplex RS-485	Full Duplex RS-485
1	DCD	TX-	DATA-	TX-
2	RXD	TX+	DATA+	TX+
3	TXD	RX+	NA	RX+
4	DTR	RX-	NA	RX-
5	GND	GND	GND	GND
6	DSR	NA	NA	NA
7	RTS	NA	NA	NA
8	CTS	NA	NA	NA
9	RI	NA	NA	NA

Figure 6 COM port

## ■ Connecting to a network device

Connect one end of a network cable to the LAN port on the system rear panel and the other end to a hub or switch.

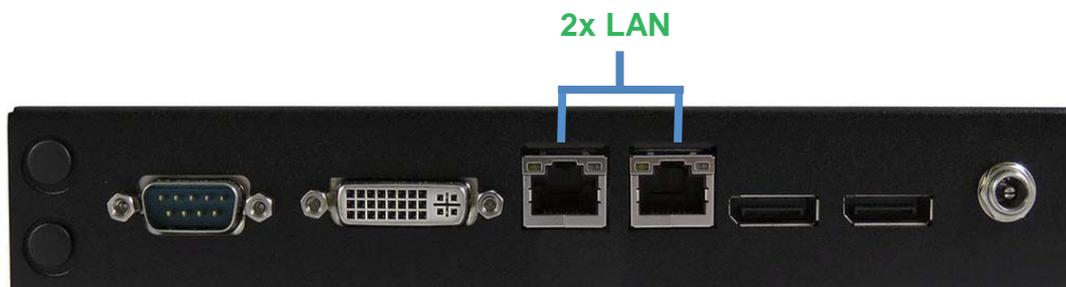


Figure 7 Network cable with RJ45 connector

## ■ Turning on the system

1. Connect the supplied AC power cord to the system AC power inlet on the I/O panel of the system.
2. Connect the other end of the AC power cord to a corresponding outlet.
3. Press the power switch to turn on the system



Figure 8 Turning on the system

## ■ Connecting VESA Mount on QDSP-2090 Series

1. Take out the VESA mounting kit from your package and facing it onto the bottom of QDSP-2090 Series.

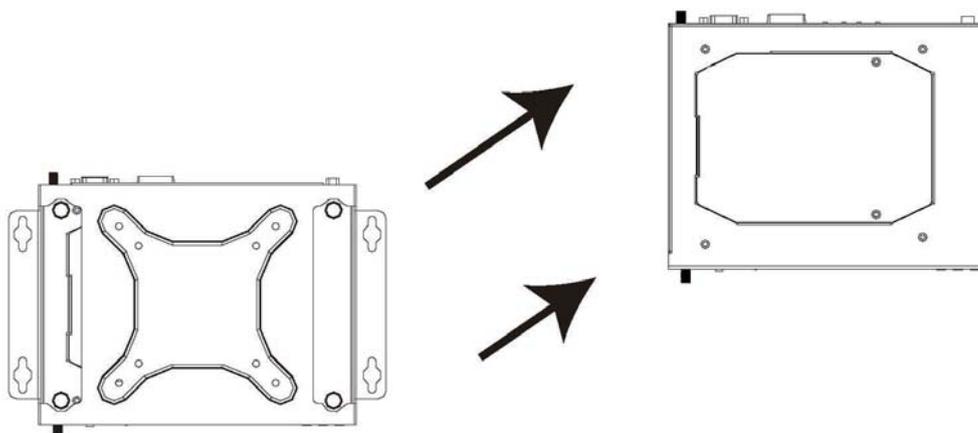


Figure 9 VESA Mount Assembly

2. Then tightening the screws on your QDSP-2090 Series as figures shown below. Following figures are the complete status when you done.

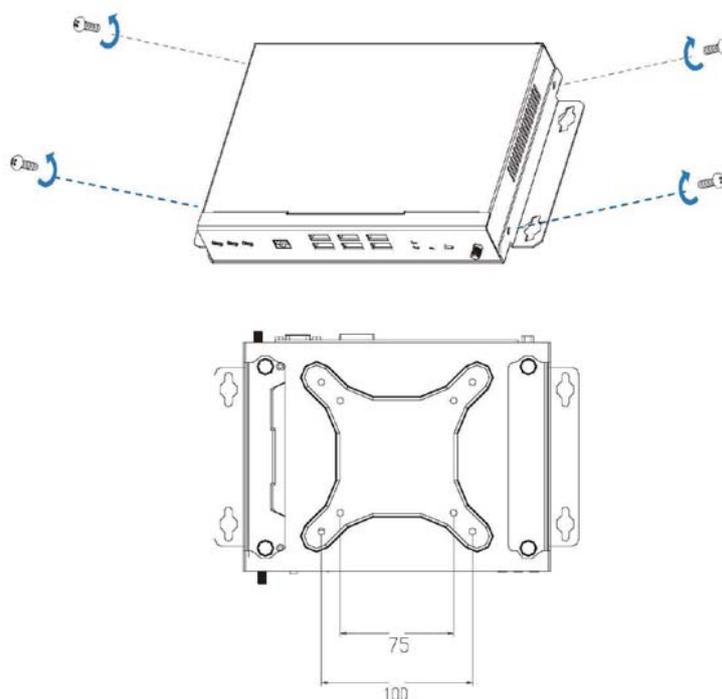


Figure 10 VESA Mount on QDSP-2090 Series

## ■ Mounting your PC to a monitor

1. Firstly, mount your VESA kit on the backside of the monitor with four screws in the package.
2. Secondly, place the QDSP-2090 Series on the VESA mounting kit and then tightening the screws from the holes on both sides of the VESA bracket - make sure the computer is fitting well on the bracket.

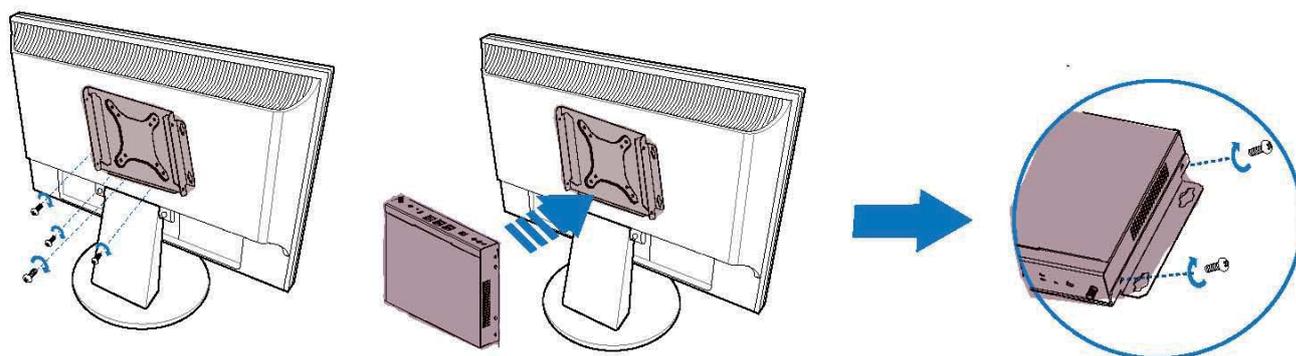


Figure 11 VESA mounting

---

### NOTE



To fasten the metal shelf, your monitor must comply with VESA75 or VESA100 standard.

---

Remarks: VESA mounting kit could be used as wall mounting kit as well.

## Chapter 3

# AMI BIOS Setup

### ■ Overview

This chapter provides a description of the AMI BIOS. The BIOS setup menus and available selections may vary from those of your product. For specific information on the BIOS for your product, please contact with your dealer.

---

#### NOTE



The BIOS menus and selections for your product may vary from those in this chapter. For the BIOS manual specific to your product, please contact with us.

---

AMI's ROM BIOS provides a built-in Setup program, which allows the user to modify the basic system configuration and hardware parameters. The modified data will be stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will not need to be changed unless there is a configuration change in the system, such as a hard drive replacement or when a device is added.

It is possible for the CMOS battery to fail, which will cause data loss in the CMOS only. If this happens you will need to reconfigure your BIOS settings.

## ■ Main Menu

The BIOS Setup is accessed by pressing the DEL key after the Power-On Self-Test (POST) memory test begins and before the operating system boot begins. Once you enter the BIOS Setup Utility, the Main Menu will appear on the screen. The Main Menu provides System Overview information and allows you to set the System Time and Date. Use the “<” and “>” cursor keys to navigate between menu screens.

Table 2 BIOS Main Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Product Information					
Product Name			QDSP-2090		
BIOS Version			R1.00 ( x64 )		
BIOS Build Date			06/02/2015		
ME FW Version			9.1.25.1005		
CPU Information					
Intel® Core™ i3-4340TE CPU @ 2.60GHz					
Microcode Revision			1d		
Processor Cores			2		
Memory Information					
Total Size		2048 MB	(DDR3)		
Frequency		1600 MHz			
System date		[Sun 01/11/2015]			
System time		[19:36:12]			
Access Level		Administrator			
→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit					
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

## ■ Advanced Menu

Table 3 Advanced Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
	Onboard LAN1 Controller		[Enabled]		
	Onboard LAN1 Boot		[Disabled]		
	Onboard LAN2 Controller		[Enabled]		
	Onboard LAN2 Boot		[Disabled]		
	Audio Controller		[Enabled]		
	> Display Configuration				
	> Super IO Configuration				
	> CPU Chipset Configuration				
	> SATA Configuration				
	> USB Configuration				
	> H/W Monitor				
					→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

### Onboard LAN 1 Controller

Options: Disabled, Enabled

### Onboard LAN 1 Boot

Options: Disabled, Enabled

### Onboard LAN 2 Controller

Options: Disabled, Enabled

### Onboard LAN 2 Boot

Options: Disabled, Enabled

### Audio Controller

Options: Disabled, Enabled

Table 4 Advanced Menu – Display Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Display Configuration				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Primary Display			[Auto]		
UMA Frame Buffer Size			[256 MB]		
DVMT Pre-Allocated			[64M]		
DVMT Total Gfx Mem			[256 M]		
Primary IGFX Boot Display			[VBIOS Default]		
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

**Primary Display**

Options: Auto, IGFX, PEG, PCIE

**UMA Frame Buffer Size**

Options: 128MB, 256MB, 512MB

**DVMT Pre-Allocated**

Options: 32M, 64M, 96M, 128M, 160M, 192M, 224M, 256M, 288M, 320M, 352M, 384M, 416M, 448M, 480M, 512M

**DVMT Total Gfx Mem**

Options: 128M, 256M, MAX

**Primary IGFX Boot Display**

Options: VBIOS Default, CRT, DVI, DP1, DP2

Table 5 Advanced Menu – Super IO Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Super IO Chip Parameters.					
>Serial Port 1 Configuration					
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

Table 6 Advanced Menu –Super IO Configuration – Serial Port 1 Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Serial Port 1 Configuration				→ ← Select Screen	
Serial Port				↑↓ Select Item	
Device Settings				Enter: Select	
Change Settings				+- Change Opt.	
Serial Port 1 Type				F1: General Help	
				F2: Previous Values	
				F3: Optimized Defaults	
				F4 Save & Exit	
				ESC Exit	
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

**Serial Port**

Options: Disabled, Enabled

**Change Settings**

Options: Auto;

IO=3F8h; IRQ=4;

IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

**Serial Port Type**

Options: RS232, RS422, RS485

Table 7 Advanced Menu –CPU Chipset Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
CPU Chipset Configuration					
EIST			[Enabled]	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Turbo Mode			[Enabled]		
Hyper-threading			[Enabled]		
VT-d			[Enabled]		
Active Processor Cores			[All]		
Limit CPUID Maximum			[Disabled]		
Execute Disable Bit			[Enabled]		
Intel® Virtualization Technology			[Disabled]		
Intel® TXT(LT) Support			[Disabled]		
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

**EIST**

Options: Disabled, Enabled

**Turbo Mode**

Options: Disabled, Enabled

**Hyper-threading**

Options: Disabled, Enabled

**VT-d**

Options: Disabled, Enabled

**Active Processor Cores**

Options: All, 1, 2, 3

**Limit CPUID Maximum**

Options: Disabled, Enabled

**Execute Disable Bit**

Options: Disabled, Enabled

**Intel® Virtualization Technology**

Options: Disabled, Enabled

**Intel® TXT(LT) Support**

Options: Disabled, Enabled

Table 8 Advanced Menu – SATA Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
SATA Configuration				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
SATA Controller(s)		[Enabled]			
SATA Mode Selection		[ AHCI]			
SATA Controller Speed		[ Default]			
Serial ATA Port 1		Empty			
Port 1		[ Enabled ]			
mSATA Port 1		Empty			
Port 1		[ Enabled ]			
mSATA Port 2		Empty			
Port 2		[ Enabled ]			
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

**SATA Controller(s)**

Options: Enabled, Disabled

**SATA Mode Selection**

Options: IDE, AHCI

**SATA Controller Speed**

Options: Default, Gen 1, Gen 2, Gen 3

**Port**

Options: Disabled, Enabled

Table 9 Advanced Menu – USB Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
USB Configuration				→ ← Select Screen	
USB Devices: 2 Hubs				↑↓ Select Item	
Legacy USB Support				Enter: Select	
XHCI Legacy Support				+- Change Opt.	
XHCI hand-off				F1: General Help	
EHCI Hand-off				F2: Previous Values	
USB Mass Storage Driver Support				F3: Optimized Defaults	
				F4 Save & Exit	
				ESC Exit	
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

**Legacy USB Support**

Options: Enabled, Disabled, Auto

**XHCI Legacy Support**

Options: Enabled, Disabled

**XHCI hand-off**

Options: Enabled, Disabled

**EHCI hand-off**

Options: Disabled, Enabled

**USB Mass Storage Driver Support**

Options: Disabled, Enabled

Table 10 Advanced Menu – H/W Monitor

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
PC Health Status CPU Warning Temperature [Disabled] CPU Temperature : +64 C System Temperature : +32 C CPU Fan Speed 4753 RPM  +VCORE : +1.757 V +VIN : +12.060 V +5V : +5.066 V +VMEN : +1.541 V				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

**CPU Warning Temperature**

Options: Disabled, 80 C, 85 C, 90 C, 95 C

## ■ Power Menu

Table 11 Power Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Power Configuration					
ACPI Sleep State		[S3 (Suspend to RAM)]			
Restore AC Power Loss		[Power Off]			
Power Saving Mode		[Disabled]			
Resume Event Control					
Resume By LAN Device		[Disabled]			
Resume By PCI-E Device		[Disabled]			
Resume By Ring Device		[Disabled]			
Resume By RTC Alarm		[Disabled]			
>WatchDog Timer Configuration					
→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit					
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

### ACPI Sleep State

Options: Suspend Disabled, S3 (Suspend to RAM)

### Restore AC Power Loss

Options: Power Off, Power On, Last State

### Power Saving Mode

Options: Disabled, EUP Enabled , DeepSx Enabled

### Resume By LAN Device

Options: Enabled, Disabled

### Resume By PCI-E Device

Options: Disabled, Enabled

### Resume By Ring Device

Options: Disabled, Enabled

### Resume By RTC Alarm

Options: Disabled, Enabled

### Watchdog Timer Configuration

#### WDT Function

Options: Disabled, Enabled

## ■ Security Menu

Table 12 Security Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	<b>Security</b>	Boot	Save & Exit
Password Description  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  Administrator Password User Password			→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit		
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

## ■ Boot Menu

Table 13 Boot Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Boot Configuration				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Full Screen LOGO Display		[Disabled]			
Setup Prompt Timeout		1			
Bootup NumLock State		[On]			
CSM Support		[Enabled]			
Boot Option Filter		[Legacy only]			
Boot Option Priorities					
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

### Full Screen LOGO Display

Options: Disabled, Enabled

### Bootup Numlock State

Options: On, Off

### CSM Support

Options: Enabled, Disabled

### Boot Option Filter

Options: UEFI and Legacy, Legacy only, UEFI only

## ■ Save & Exit Menu

Table 14 Save &amp; Exit Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Save Changes and Reset Discard Changes and Reset				→ ← Select Screen ↑↓ Select Item Enter: Select	
Save Options Save Changes Discard Changes				+- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults	
Restore Defaults				F4 Save & Exit ESC Exit	
Version 2.17.1249. Copyright (C) 2015, American Megatrends, Inc.					

### **Save Changes and Exit**

Exit system setup after saving the changes. Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. The CMOS RAM is sustained by an onboard backup battery and stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select [Yes] to save changes and exit.

### **Discard Changes and Exit**

Exit system setup without saving any changes. Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than system date, system time, and password, the BIOS asks for a confirmation before exiting.

### **Discard Changes**

Discards changes done so far to any of the setup values. This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select [Yes] to discard any changes and load the previously saved values.

### **Load Optimal Defaults**

Load Optimal Default values for all the setup values. This option allows you to load optimal default values for each of the parameters on the Setup menus, which will provide the best performance settings for your system. The F9 key can be used for this operation.

### **Load Failsafe Defaults**

Load Optimal Default values for all the setup values. This option allows you to load failsafe default values for each of the parameters on the Setup menus, which will provide the most stable performance settings. The F8 key can be used for this operation.

## Chapter 4

### Driver Installation

If your QDSP-2090 Series does not come with an operating system pre-installed, you will need to install an operating system and the necessary drivers to operate it. After you have finished assembling your system and connected the appropriate power source, power it up using the power supply and install the desired operating system. For other operating systems, please contact us.