

# QBOX-100S

Fanless Box PC w/ Intel® Atom™ Processor N2600

## User's Guide



Distributed by:



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*Changes which affect the operation of the unit will be documented in the next revision of this user's guide.*



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# 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 Quanmax 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.

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### 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.



The product chassis may be hot when the system is working. Please do not touch the surface before turn off the system power and wait for about 5 minutes until the system cools down.

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### ■ 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.

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#### CAUTION



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

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### ■ 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. Quanmax strongly encourages 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):

- 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.

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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)

## ■ Voltage Ratings

The external power adaptor of the QBOX-100S has the following voltage ratings:

- Input: 100-240 VAC, 50-60 Hz
- Output: 40W, +19VDC / 2.1A output

## 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.

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#### NOTE



Driver downloads and additional information are available under Downloads on our web site: [www.quanmax.com](http://www.quanmax.com).

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### ■ 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 Quanmax customer service immediately.
3. Inspect the product for damage. If there is damage, notify Quanmax 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 for Class A Devices**

The product(s) described in this user's guide has been tested and found to comply with the 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user's guide, may cause harmful interference to radio communications. Operation of this equipment in a residential

area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense. 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 Quanmax could void the user's authority to operate the equipment.

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### 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.

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## ■ Warranty Policy

### Limited Warranty

Quanmax Inc.'s detailed Limited Warranty policy can be found under Support at [www.quanmax.com](http://www.quanmax.com). Please consult your distributor for warranty verification.

The limited warranty is void if the product has been subjected to alteration, neglect, misuse, or abuse; if any repairs have been attempted by anyone other than Quanmax or its authorized agent; or if the failure is caused by accident, acts of God, or other causes beyond the control of Quanmax or the manufacturer. Neglect, misuse, and abuse shall include any installation, operation, or maintenance of the product other than in accordance with the user's guide.

No agent, dealer, distributor, service company, or other party is authorized to change, modify, or extend the terms of this Limited Warranty in any manner whatsoever. Quanmax reserves the right to make changes or improvements in any product without incurring any obligation to similarly alter products previously purchased.

## **Return Procedure**

For any Limited Warranty return, please contact Support at [www.quanmax.com](http://www.quanmax.com) and login to obtain a Return Material Authorization (RMA) Number. If you do not have an account, send an email to [support@quanmax.com](mailto:support@quanmax.com) to apply for one.

All product(s) returned to Quanmax for service or credit must be accompanied by a Return Material Authorization (RMA) Number. Freight on all returned items must be prepaid by the customer who is responsible for any loss or damage caused by common carrier in transit. Returns for Warranty must include a Failure Report for each unit, by serial number(s), as well as a copy of the original invoice showing the date of purchase.

To reduce risk of damage, returns of product must be in a Quanmax shipping container. If the original container has been lost or damaged, new shipping containers may be obtained from Quanmax Customer Service at a nominal cost. Quanmax owns all parts removed from repaired products. Quanmax uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Quanmax repairs or replaces a product, its warranty term is not extended.

Shipments not in compliance with this Limited Warranty Return Policy will not be accepted by Quanmax.

## **Limitation of Liability**

In no event shall Quanmax be liable for any defect in hardware, software, loss, or inadequacy of data of any kind, or for any direct, indirect, incidental, or consequential damages in connection with or arising out of the performance or use of any product furnished hereunder. Quanmax's liability shall in no event exceed the purchase price of the product purchased hereunder. The foregoing limitation of liability shall be equally applicable to any service provided by Quanmax or its authorized agent.

# **■ 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.

## **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 QBOX-100S is a fanless digital signage player ideal for space critical applications. This embedded hardware platform features Intel® Atom™ Processor N2600 (1M Cache, 1.60 GHz), Intel® NM10 Express chipset, and DDR3 800/1066 SO-DIMM. It comes with 1x HDMI, 1x VGA, 6x USB2.0, 1x GbE LAN, 1x mSATA, 1x eSATA/USB. The QBOX-100S provides high reliability rugged case not only for great protection from EMI, cold and heat, but also integrated with passive cooling design for quiet fanless operation such as Transportation, Surveillance and Automation.

### Checklist

- QBOX-100S
- Power Adapter
- Power Cord
- Driver CD
- Quick installation Guide
- Optional VESA Mounting Kit
- Optional wireless LAN

### Features

- Intel® Atom™ Processor N2600
- Intel® NM10 Express Chipset
- DDR3 800/1066 MHz memory support up to 2 GB
- 1x HDMI, 1x VGA, 6x USB2.0, 1x GbE LAN, 1xLine\_Out, 1xMIC 1x mSATA,1x eSATA/USB
- Fanless design

## ■ Product Specifications

CPU Support	Intel® Atom™ Processor N2600 (1M Cache, 1.60 GHz)
Chipset	Intel® NM10 Express Chipset
Memory	1x Single Channel DDR3 800/1066 MHz SO-DIMM up ( 2 GB max )
BIOS	AMI Plug & Play SPI BIOS
External Display	1x HDMI 1x VGA
LAN	1x Gigabit Ethernet (Realtek RTL8111E) PXE / WOL supported
Audio	Realtek ALC662 HD Codec Line-Out and Mic-in supported
Storage	1x mSATA 1x eSATA/ USB
USB	6x USB 2.0
Hardware Monitor	Operating voltage, CPU temperature
Dimensions	132.60 x 80.94 x 33mm ( W x D x H )
OS Support	Windows 7
Power	DC 12V-19V Input
Environment	Operating: 0°C to 50°C Storage: -20°C to 80°C Humidity: 0% to 90%
Certifications	CE, FCC Class A

Table 1 QBOX-100S Specification



## ■ System Tour

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

## ■ IOs



Figure 1 IOs

### Power Button

The power button allows powering ON and OFF the system.

### HDD LED

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

### **Phone Jack**

#### **Audio Out**

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

#### **MIC-IN**

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

### **eSATA**

This eSATA port supports on front I/O via a USB/eSATA combo connector.

### **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.

### **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.

### **Ethernet**

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

### **HDMI**

HDMI connector for display output

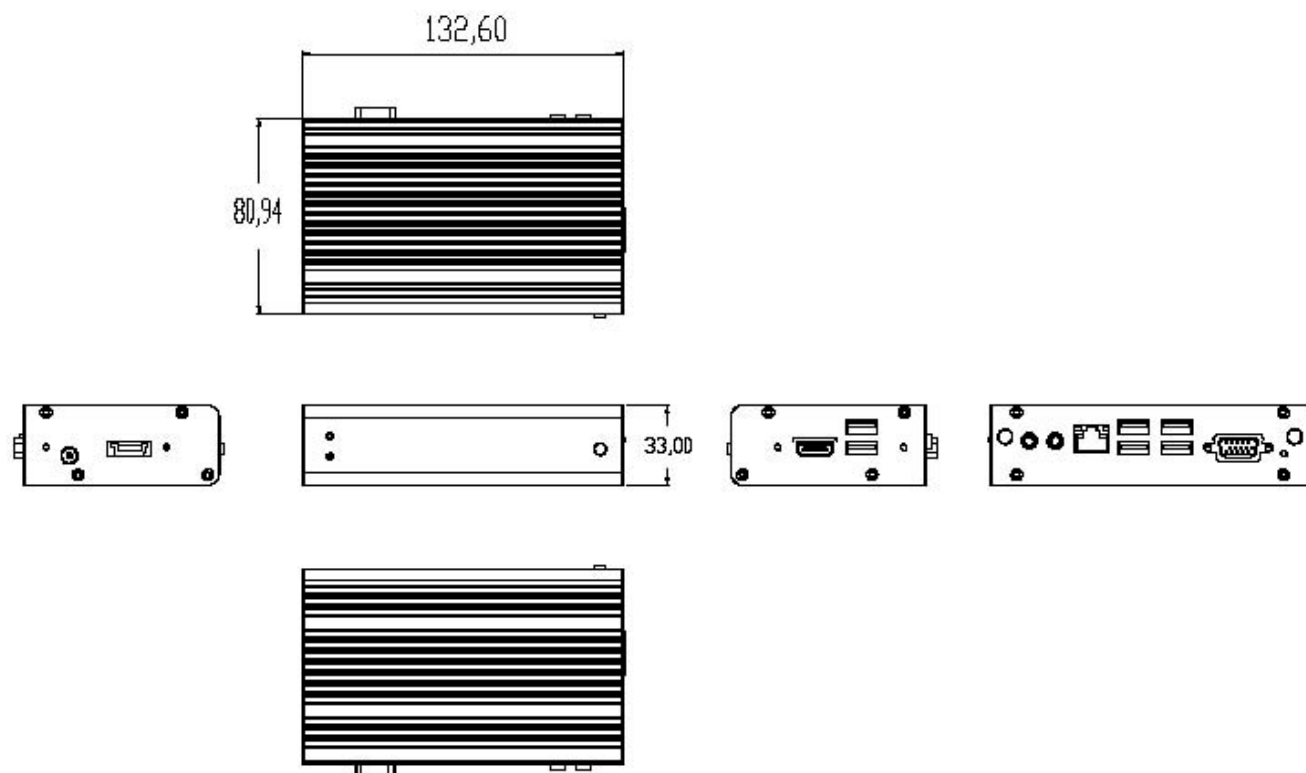
### **VGA**

D-Sub 15 pin VGA connector for display output

### **Reset Button**

1x reset button for clear CMOS.

## Mechanical Dimensions



Dimension: 132.60 x 80.94 x 33mm ( W x D x H )

*Figure 2 Mechanical Dimensions*

## Chapter 2

# Getting Started

### ■ Setting up your PC

Connect the VGA/ HDMI cable from your display to the VGA/ HDMI port.



*Figure 3 VGA/ HDMI*

---

#### NOTE

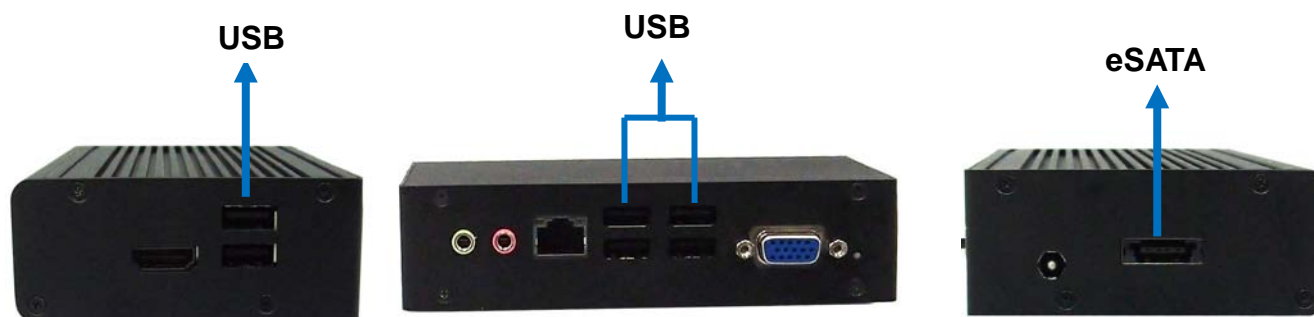


When the system reboots without connecting the DP/VGA/HDMI, there might be no image on screen when you insert the DP/VGA/HDMI cable. Please pressing <Ctrl>+<Alt>+<F4> simultaneously to show the image on screen.

---

### ■ Connect USB mouse & keyboard

Your QBOX-100S does not come with a keyboard and mouse connector, but you can use any USB keyboard or mouse to connect with your computer.



*Figure 4 Connect USB mouse & keyboard*

---

### NOTE

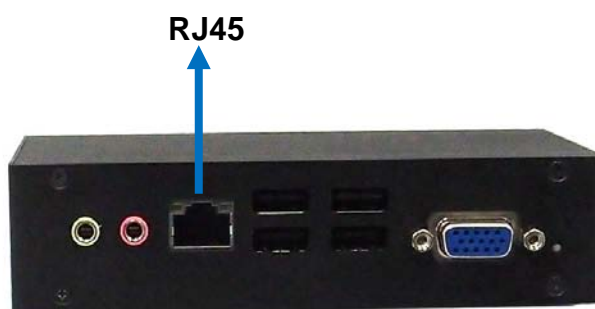


Using a third-party USB mouse or keyboard may require software drivers. Check the manufacturer's website for the latest software drivers.

---

### ■ Connect LAN port

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 5 RJ45 connector*

### ■ Turning on the system

1. Connect the power adapter cable to the DC Jack (DC IN) of the QBOX-100S
2. Connect the power cable to the power adapter
3. Connect the power cable to a power outlet
4. Press the power switch on the front panel to turn on the system



*Figure 6 Turning on the system*

## ■ Mounting your PC to a monitor

Secure the VESA mounting kit to your monitor with four screws.

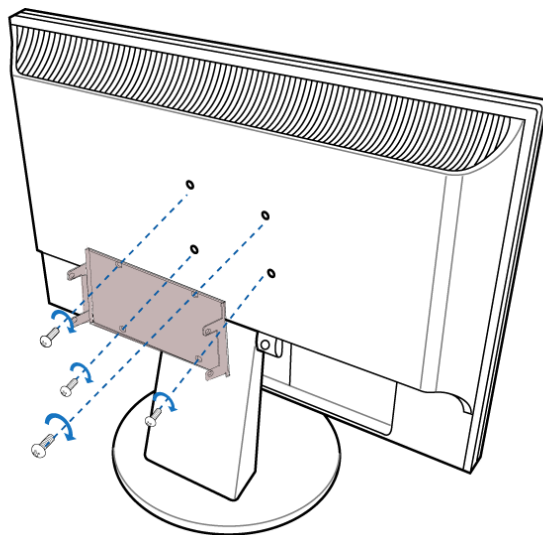


Figure 7 VESA mounting (1)

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### NOTE



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

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Place the QBOX-100S onto the monitor and secure it with the four screws properly on both sides of VESA mount kit as shown below.

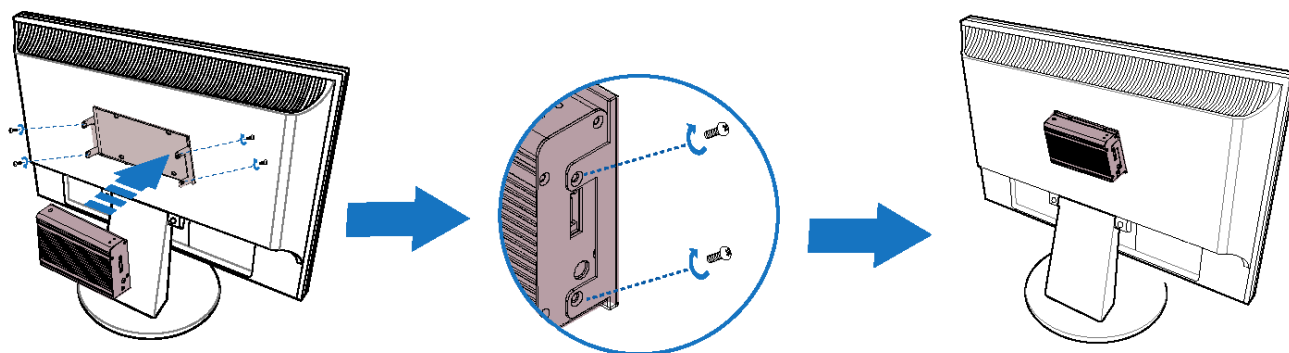


Figure 8 VESA mounting (2)

## 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 Quanmax.



**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 Quanmax

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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	Boot	Security	Save & Exit
Product Information			→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Product Name		QBOX-100S		
BIOS Version		1.00		
BIOS Build Date		09/13/2012		
CPU Information				
Intel® Atom™ CPU N2600@1.6GHz				
Microcode Revision		10d		
Processor Cores		2		
Memory Information				
Total Size		1024 MB		
Frequency		800 MHz (DDR3)		
System date		[Wed 02/01/2012]		
System time		[00:51:23]		
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.				

## ■ Advanced Menu

Table 3 Advanced Menu

BIOS SETUP UTILITY					
Main	Advanced	Boot	Security	Server Mgmt	Save & Exit
Onboard LAN Controller			[Enabled]	<div>→ ← Select Screen</div> <div>↑↓ Select Item</div> <div>Enter: Select</div> <div>+ - Change Opt.</div> <div>F1: General Help</div> <div>F2: Previous Values</div> <div>F3: Optimized Defaults</div> <div>F4 Save &amp; Exit</div> <div>ESC Exit</div>	
Onboard LAN Boot			[Disabled]		
Audio Controller			[Enabled]		
> Display Configuration					
> Power Management Configuration					
> CPU Advanced Configuration					
> SATA Configuration					
> USB Configuration					
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.					

### Onboard LAN Controller

Options: Disabled, Enabled

### Onboard LAN Boot

Options: Disabled, Enabled

### Audio Controller

Options: Disabled, Enabled

Table 4 Advanced Menu – Display Configuration

BIOS SETUP UTILITY						
Main	Advanced	Boot	Security	Server Mgmt	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	
Fixed Graphics Memory Size			[128 MB]			
IGFX – Boot Type			[VBIOS Default]			
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.						

### Fixed Graphics Memory Size

Options: 128MB, 256MB

### IGFX – Boot Type

Options: VBIOS Default, CRT, HDMI

Table 5 Advanced Menu –Power Management Configuration

BIOS SETUP UTILITY		
Main	Advanced	Boot      Security      Server Mgmt      Save & Exit
Power Management Configuration		
ACPI Sleep State	[S3 (Suspend to RAM)]	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
Restore AC Power Loss	[Power Off]	
Resume By PCIE Device	[Disabled]	
Resume By RTC Alarm	[Disabled]	
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.		

**ACPI Sleep State**

Options: Suspend Disabled, S1 (CPU Stop Clock), S3 (Suspend to RAM)

**Restore AC Power Loss**

Options: Power Off, Power On, Last State

**Resume By PCIE Device**

Options: Disabled, Enabled

**Resume By RTC Alarm**

Options: Disabled, Enabled

Table 6 Advanced Menu –CPU Advanced Configuration

BIOS SETUP UTILITY				
Main	Advanced	Boot	Security	Save & Exit
CPU Advanced Configuration				
Hyper-Treading		[Enabled]	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Execute Disable Bit		[Enabled]		
Limit CPUID Maximum		[Disabled]		
EIST		[Enabled]		
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.				

**Hyper-Treading**

Options: Disabled, Enabled

**Execute Disable Bit**

Options: Disabled, Enabled

**Limit CPUID Maximum**

Options: Disabled, Enabled

**EIST**

Options: Disabled, Enabled

Table 7 Advanced Menu –SATA Configuration

BIOS SETUP UTILITY				
Main	Advanced	Boot	Security	Save & Exit
SATA Configuration			<div>→ ← Select Screen</div> <div>↑↓ Select Item</div> <div>Enter: Select</div> <div>+ - Change Opt.</div> <div>F1: General Help</div> <div>F2: Previous Values</div> <div>F3: Optimized Defaults</div> <div>F4 Save &amp; Exit</div> <div>ESC Exit</div>	
Configure SATA as	[ AHCI ]			
SATA Port 1	Not Present			
SATA Port 2	Not Present			
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.				

**Configure SATA as**

Options: IDE, AHCI

Table 8 Advanced Menu –Trusted Computing

BIOS SETUP UTILITY				
Main	Advanced	Boot	Security	Save & Exit
Configuration			→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
TPM Support		[Disable]		
Current Status Information				
Reset Required				
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.				

## TPM Support

Options: Disable, Enable

Table 9 Advanced Menu –USB Configuration

BIOS SETUP UTILITY				
Main	Advanced	Boot	Security	Save & Exit
USB Configuration			→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
USB Devices:				
1 Keyboard, 1 Mouse				
Legacy USB Support		[Enabled]		
EHCI Hand-off		[Disabled]		
USB hardware delays and time-outs				
USB transfer time-out		[ 20 Sec]		
Device reset time-out		[ 20 Sec]		
Device Power-up delay		[Auto]		
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.				

## Legacy USB Support

Options: Disabled, Enabled, Auto

## EHCI hand-off

Options: Disabled, Enabled

## USB transfer time-out

Options: 1 Sec, 5 Sec, 10 Sec, 20 Sec

## Device reset time-out

Options: 10 Sec, 20 Sec, 30 Sec, 40 Sec

## Device Power-up delay

Options: Auto, Manual

## ■ Boot Menu

Table 10 Boot Menu

BIOS SETUP UTILITY				
Main	Advanced	Boot	Security	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]		
Boot Option Priorities				
Version 2.15.1226. Copyright (C) 2012, American Megatrends, Inc.				

### Full Screen LOGO Display

Options: Disabled, Enabled

### Bootup Numlock State

Options: On, Off

## ■ Security Menu

Table 11 Security Menu

BIOS SETUP UTILITY								
Main	Advanced	Boot	Security	Save & Exit				
<p>Password Description</p> <p>If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup</p> <p>If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights</p> <p>The password length must be in the following range:</p> <table><tr><td>Minimum Length</td><td>3</td></tr><tr><td>Maximum length</td><td>20</td></tr></table> <p>Administrator Password</p> <p>User Password</p>			Minimum Length	3	Maximum length	20	<p>→ ← Select Screen</p> <p>↑↓ Select Item</p> <p>Enter: Select</p> <p>+ - Change Opt.</p> <p>F1: General Help</p> <p>F2: Previous Values</p> <p>F3: Optimized Defaults</p> <p>F4 Save &amp; Exit</p> <p>ESC Exit</p>	
Minimum Length	3							
Maximum length	20							
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## ■ Save & Exit Menu

Table 12 Save &amp; Exit Menu

BIOS SETUP UTILITY				
Main	Advanced	Boot	Security	Save & Exit
Save Changes and Reset Discard Changes and Reset  Save Options Save Changes Discard Changes  Restore Defaults			→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
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**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 QBOX-100S 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. You can download the drivers for the QBOX-100S from the Quanmax website at [www.quanmax.com](http://www.quanmax.com) and install as instructed there. For other operating systems, please contact Quanmax.