

# KPC-2150 Series

21.5" Fanless Panel PC  
with Intel® Celeron® J1900 Processors

## User's Guide



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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.

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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.

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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.

## Safety Instructions

- 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.



# 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.

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.

### ■ **Altitude**

Operating a system at a high altitude (low pressure) reduces the efficiency of the cooling fans to cool the system. This 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 KPC-2150 is a 21.5" Panel PC combining the Intel® Celeron® J1900 Processor for a wide range of industrial applications. Storage includes a mSATA solid-state drive (SSD). Supported interfaces include 2x GbE LAN, 2x COM port, 1x USB .3.0, 4x USB 2.0 ports, 1x HDMI, 1x VGA thus easily meeting a broad range of customer requirements. The KPC-2150 provides a compact, high-performance human-machine interface for automation demands.

### Checklist

- KPC-2150
- Power Adapter
- Power Cord
- Driver CD
- Quick installation Guide
- Optional VESA Mounting Kit
- Optional wireless LAN

### Features

- 21.1" LCD Display with 1920 x 1080 resolution
- Intel® Celeron® J1900 Processor
- Intel® HD Graphics
- IP65 approved front bezel
- 2x GbE, 2x COMs, 4x USB 2.0, 1x USB 3.0, 1x Mini-PCIe slot
- HDMI, VGA, HD Audio
- Optional Wireless LAN
- Fanless design

## ■ Product Specifications

CPU Support	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
Memory	1x DDR3L SO-DIMM 4GB
BIOS	AMI Plug & Play SPI BIOS
Graphic	Intel® HD Graphics
Touch Sensor	5-wire resistive touch sensor
LCD Display	Size: 21.5 inch, 16:9 Resolution: 1920 x 1080 Backlight: LED Contrast Ratio: 5000:1 (typical) Brightness: 250cd/m2 (typical)
External Display	1x HDMI 1x VGA
LAN	2 x Gigabit Ethernet port PXE/WOL supported
Audio	3x Audio Jack for Line-In, Line-Out and Mic-In
Storage	64GB MLC SSD (mSATA)
USB	4x USB 2.0 , 1x USB 3.0
COM	2x COM port with RS-232/422/485 selection supported
Expansion slot	1x Mini-PCIe slot
Hardware Monitor	Operating voltage, CPU temperature
Watchdog Timer	1-255 step, can be set with software on Super I/O
Power	AC 100~240V, 12V/5A, 60W
OS Support	Windows 7, Windows 8, Linux
Dimensions	542.6 x 339.2 x 64.5 mm (WxDxH)
Environment	Operating Temperature: 0°C ~ 50°C Storage Temperature: -20°C ~ 60°C Humidity: 10% ~ 80%, non-condensing
Certification	CE, FCC Class A

Table 1 KPC-2150 product specifications

## ■ System tour

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

### ■ I/Os



Figure 1 I/Os

### 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.

### Power Switch

The power switch allows powering ON and OFF the system.

### Ethernet

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

### Power Input

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.

### HDMI

HDMI connector for display output

### COM

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

### VGA

D-Sub 15 pin VGA connector for display output



### **Line-Out (Green)**

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

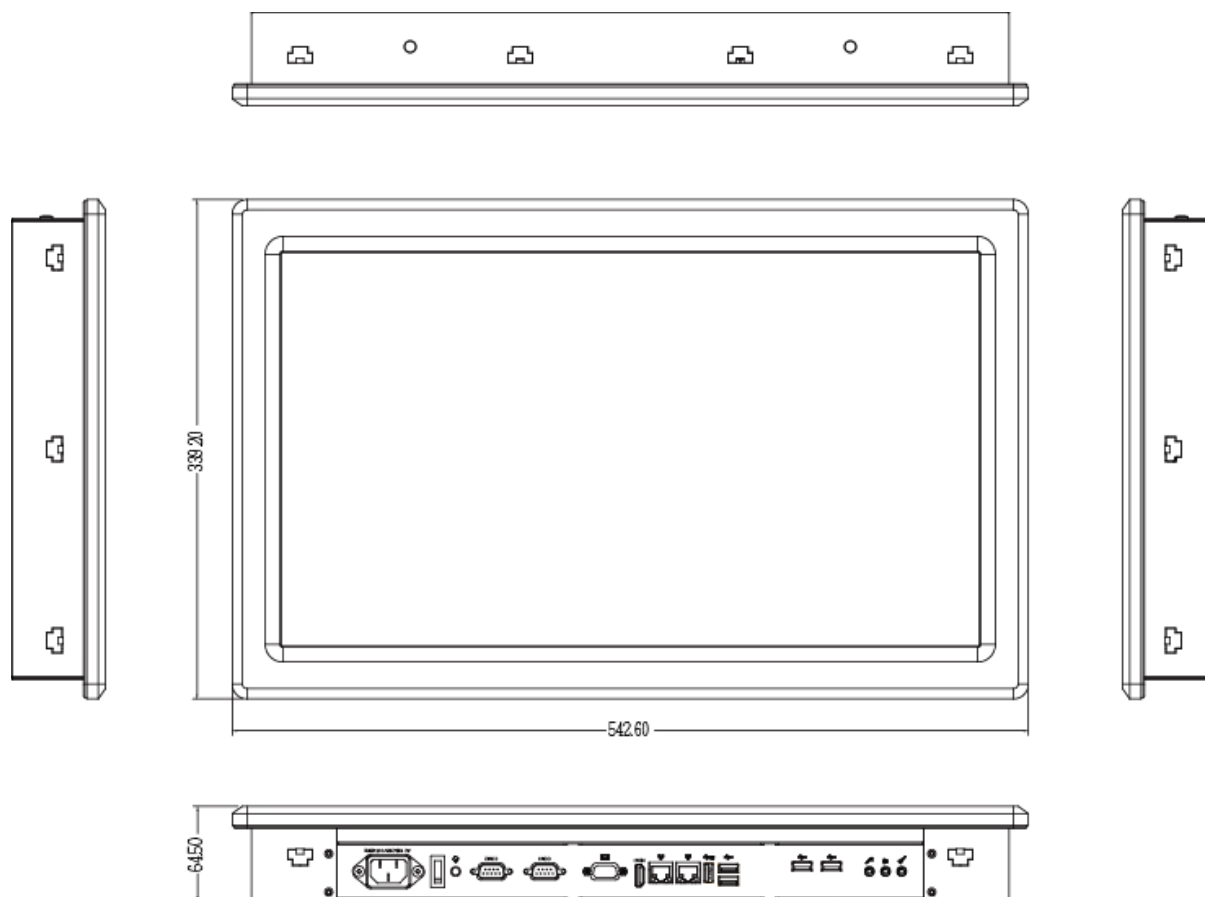
### **MIC-IN (Pink)**

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

### **Line-IN (Blue)**

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

## Mechanical Dimensions



542.6 x 339.2 x 64.5 mm ( W x D x H )

Figure 2 Mechanical Dimensions

## Chapter 2

# Getting Started

- **Setting up your PC**
- **Connecting the monitor**  
Connect the HDMI / VGA cable from your display to the HDMI / VGA port.

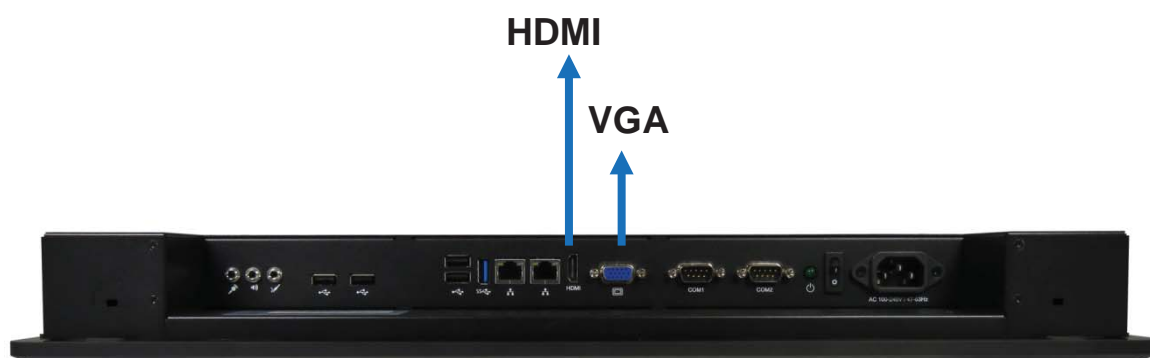


Figure 3 VGA / HDMI

### ■ Connecting USB mouse & keyboard

Your KPC-2150 does not come with a keyboard and mouse, but you can use any USB keyboard or mouse with your computer.



Figure 4 Connect USB mouse & keyboard

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#### NOTE



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

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### ■ 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.

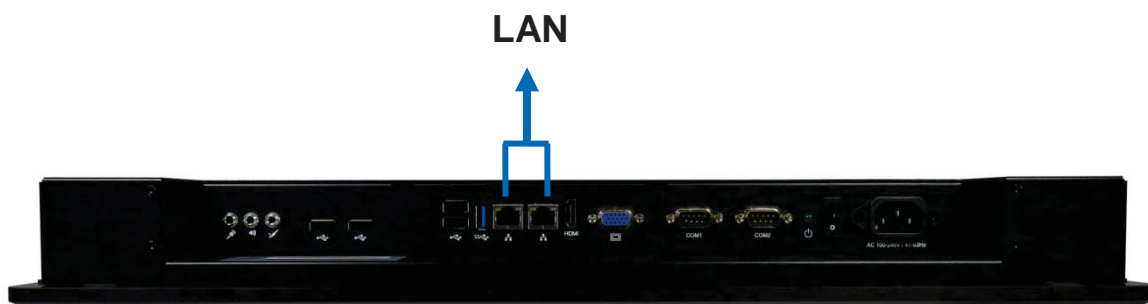
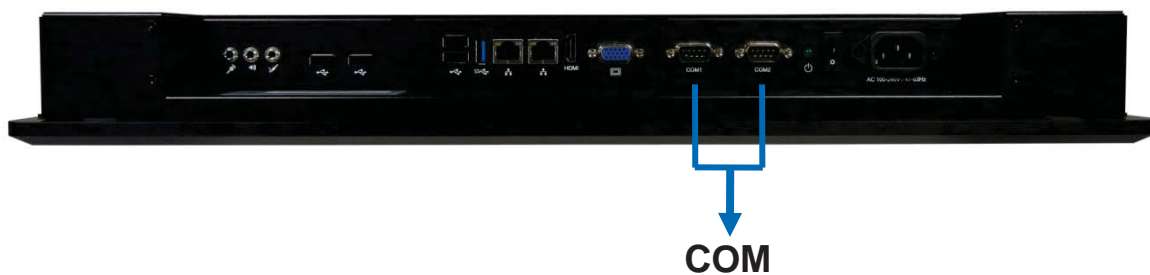


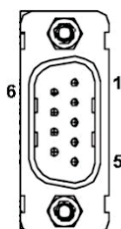
Figure 5 RJ45 connector

■ **COM ports**

COM ports with the pin definitions.



COM1~COM2 RS-232 / 422 / 485 Port DB-9



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

Figure 6 COM port

■ **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 on the front panel to turn on the system.



Figure 7 Turning on the system

## ■ VESA Mounting

The product comes with VESA FDMI 75/100 standard mounting holes as shown below. Use 4 screws with the appropriate length for your mounting bracket.

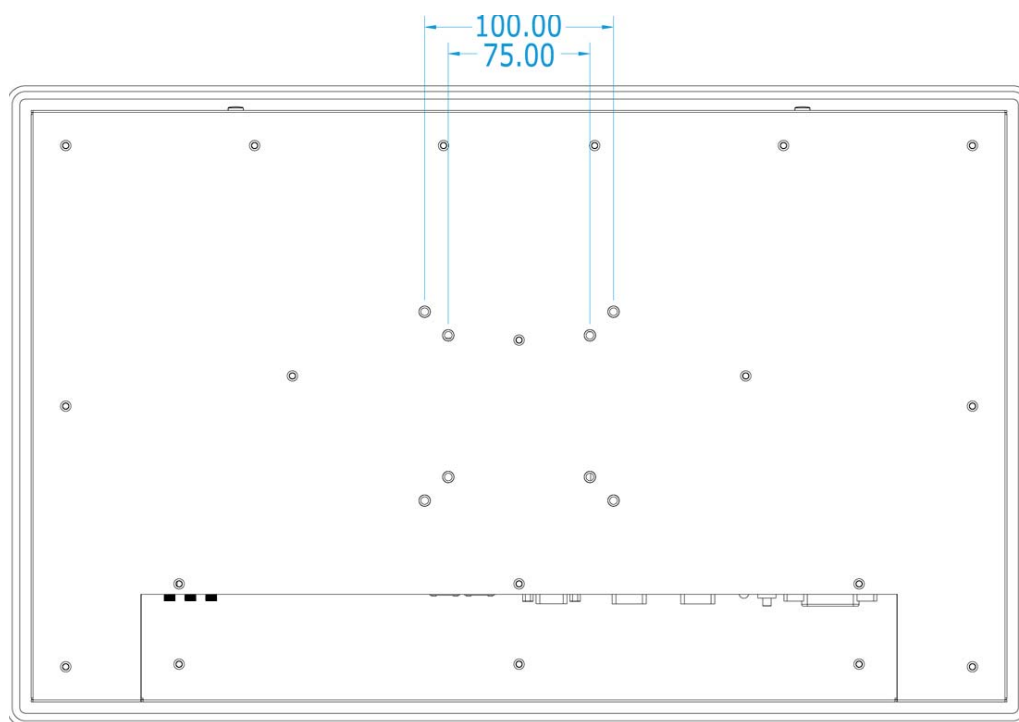


Figure 8 VESA Mounting Hole Locations

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### NOTE



To fasten the metal shelf, your monitor must comply with VESA75 or VESA100 standard. The VESA mounting kit is optional.

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## ■ Panel Mounting

The Panel PC can be panel mounted and comes with brackets and screws for this purpose. The required cutout for panel mounting and maximum panel thickness is shown below.

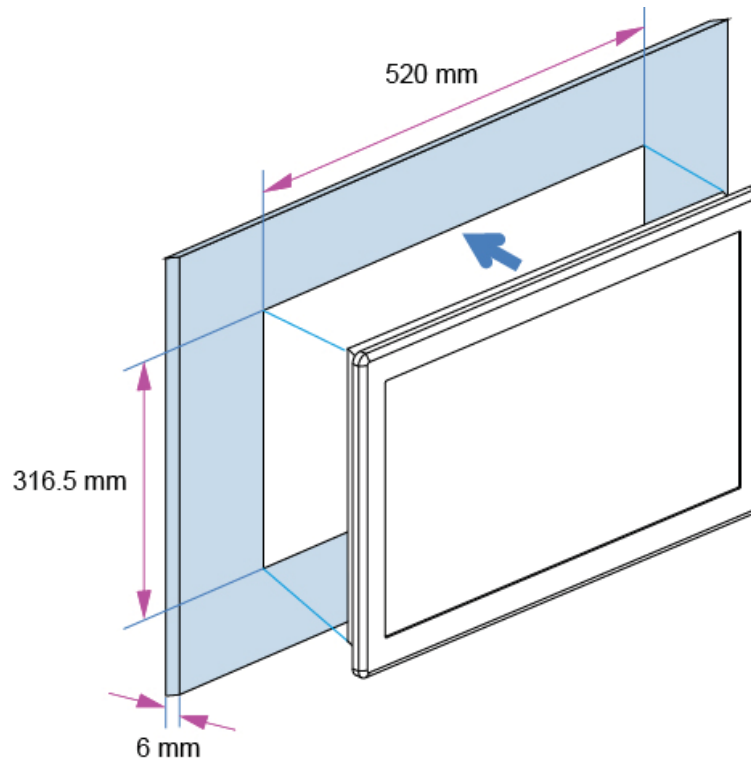


Figure 9 Panel Mount Cut-out hole and maximum panel thickness



Below are the demonstrations of how to do panel mounting.

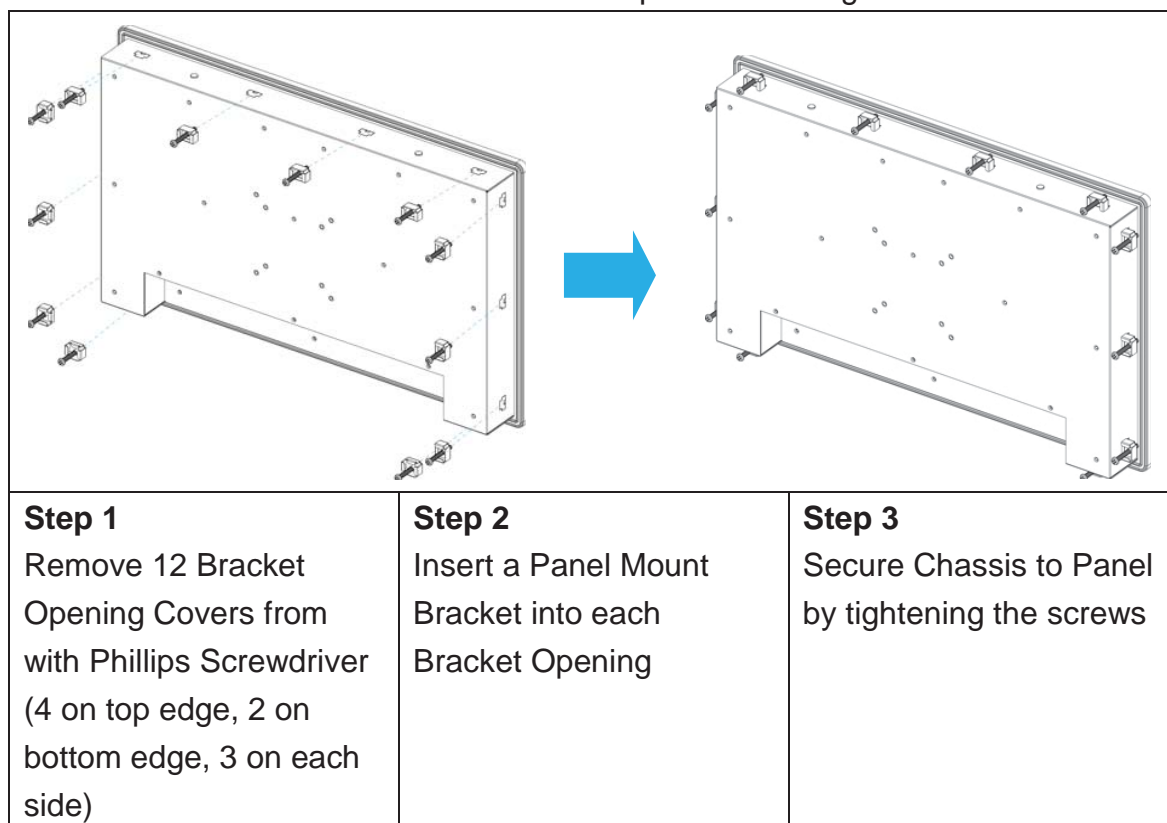


Figure 10 Panel Mounting

## 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.



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**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 KPC-2150 BIOS Main Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Product Information					
Product Name			KPC-2150		
BIOS Version			Z0.03 (x64)		
BIOS Build Date			04/09/2015		
ME FW Version			01.01.00.1089		
CPU Information					
Intel® Celeron® CPU J1900@1.99GHz					
Microcode Revision			811		
Processor Cores			4		
Memory Information					
Total Size		4096 MB (DDR3L)			
Frequency		1333 MHz			
System date		[Mon 05/26/2014]			
System time		[13:23:12]			
Access Level		Administrator			
Version 2.16.1242. Copyright (C) 2013, 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				→ ← Select Screen
	> Super IO Configuration				↑↓ Select Item
	> CPU Chipset Configuration				Enter: Select
	> SATA Configuration				+ - Change Opt.
	> USB Configuration				F1: General Help
	> DIO Configuration				F2: Previous Values
	> H/W Monitor				F3: Optimized Defaults
					F4 Save & Exit
					ESC Exit
Version 2.16.1242. Copyright (C) 2013, 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]			
Active LVDS			[Enabled]			
LVDS Panel Type			[1920x1080 24Bit 2CH]			
LVDS Backlight Control Mode			[Valtage]			
LVDS Backlight Control - Voltage			[2.5 V]			
Version 2.16.1242. Copyright (C) 2013, American Megatrends, Inc.						

**Primary Display**

Options: Auto, IGD

**UMA Frame Buffer Size**

Options: 128MB, 256MB, 512MB

**DVMT Pre-Allocated**

Options: 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, HDMI, LVDS

**Active LVDS**

Options: Enabled

**LVDS Panel Type**

Options: 1920x1080 24Bit 2CH

**LVDS Backlight Control Mode**

Options: Valtage

**LVDS Backlight Control -Voltage**

Options: 0.0V, 0.5V, 1.0V, 1.5V, 2.0V, 2.5V, 3.0V, 3.5V, 4.0V, 4.5V, 5.0V

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 >Serial Port 2 Configuration				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Version 2.16.1242. Copyright (C) 2013, 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	
RS485 Duplex Mode				F2: Previous Values	
				F3: Optimized Defaults	
				F4: Save and Exit	
				ESC: Exit	
Version 2.15.1226. Copyright (C) 2012 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 1 Type**

Options: RS232, RS422, RS485

**RS485 Duplex Mode**

Options: Half Duplex, Full Duplex

Table 7 Advanced Menu – Super IO Configuration – Serial Port 2 Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Serial Port 2 Configuration				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Serial Port Device Settings		[Enabled] IO=2F8h; IRQ=3;			
Change Settings		[Auto]			
Serial Port 2 Type		[RS232]			
RS485 Duplex Mode		[Half Duplex]			
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**Serial Port**

Options: Disabled, Enabled

**Change Settings**

Options: Auto,

IO=2F8h; IRQ=3;

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 2 Type**

Options: RS232, RS422, RS485

**RS485 Duplex Mode**

Options: Full Duplex, Half Duplex

Table 8 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]		
Limit CPUID Maximum			[Disabled]		
Execute Disable Bit			[Enabled]		
Intel Virtualization Technology			[Disabled]		
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**EIST**

Options: Disabled, Enabled

**Turbo Mode**

Options: Disabled, Enabled

**Limit CPUID Maximum**

Options: Disabled, Enabled

**Execute Disable Bit**

Options: Disabled, Enabled

**Intel Virtualization Technology**

Options: Disabled, Enabled



Table 9 Advanced Menu –SATA Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
SATA Configuration				→ ← Select Screen	
Serial-ATA (SATA)				↑↓ Select Item	
SATA Mode				Enter: Select	
Serial ATA Port 1				+- Change Opt.	
Port 1				F1: General Help	
mSATA Port 1				F2: Previous Values	
Port 1				F3: Optimized Defaults	
				F4 Save & Exit	
				ESC Exit	
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**SATA**

Options: Enabled, Disabled

**SATA Mode**

Options: IDE Mode, AHCI Mode

**Serial STS Port 1**

**Port 1**

Options: Enabled, Disabled

**mSATA Port 1**

**Port 1**

Options: Enabled, Disabled

Table 10 Advanced Menu –USB Configuration

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
USB Configuration				→ ← Select Screen	
USB Devices: 1 Keyboard, 1 Mouse, 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	
XHCI Mode				F4 Save & Exit	
				ESC Exit	
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**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

**XHCI Mode**

Options: Enabled, Smart Auto

Table 11 Advanced Menu – H/W Monitor

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
PC Health Status					→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
CPU Warning Temperature			[ Disabled ]		
CPU Temperature			: +40 C		
System Temperature			: +37 C		
+VCORE			: +0.869 V		
+VIN			: +12.164 V		
+5V			: +5.066 V		
+VMEN			: +1.349 V		
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**CPU Warning Temperature**

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

Table 12 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 On]			→ ← Select Screen
Power Saving Mode		[Disabled]			↑↓ Select Item
Resume Event Control					Enter: Select
Resume By PCIE Device		[Disabled]			+ - Change Opt.
Resume By Ring Device		[Disabled]			F1: General Help
Resume By RTC Alarm		[Disabled]			F2: Previous Values
					F3: Optimized Defaults
					F4 Save & Exit
					ESC Exit
>Watchdog Timer Configuration					
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**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

**Resume By PCIE Device**

Options: Disabled, Enabled

**Resume By Ring Device**

Options: Disabled, Enabled

**Resume By RTC Alarm**

Options: Disabled, Enabled

**Watchdog Timer Configuration**
 **WDT Function** [Disabled]

Options: Disabled, Enabled

## ■ Security Menu

Table 13 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	
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## ■ Boot Menu

Table 14 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]			
Keyboard Detect Warning		[Enabled]			
CSM Support		[Enabled]			
Boot Option Filter		[Legacy Only]			
Boot Option Priorities					
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### Full Screen LOGO Display

Options: Disabled, Enabled

### Bootup NumLock State

Options: On, Off

### Keyboard Detect Warning

Options: Enabled, Disabled

### CSM Support

Options: Enabled, Disabled

### Boot Option Filter

Options: UEFI and Legacy, Legacy only, UEFI only

## ■ Save & Exit Menu

Table 15 Save &amp; Exit Menu

BIOS SETUP UTILITY					
Main	Advanced	Power	Security	Boot	Save & Exit
Save Changes and Reset				→ ← Select Screen	
Discard Changes and Reset				↑↓ Select Item	
Save Options				Enter: Select	
Save Changes				+- Change Opt.	
Discard Changes				F1: General Help	
Restore Defaults				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 KPC-2150 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 KPC-2150 from our website and install as instructed there. For other operating systems, please contact us.