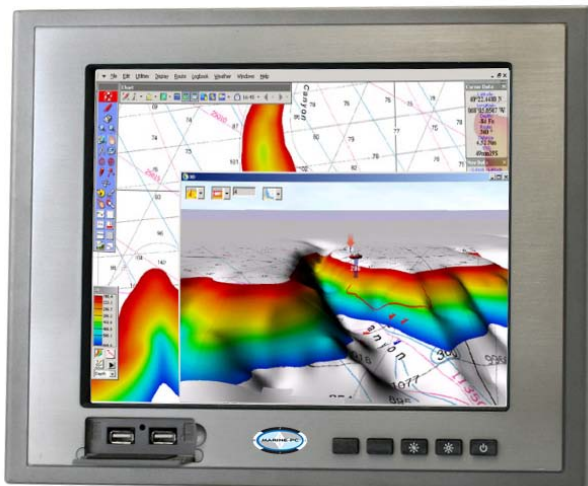




MPC-PPC12

Marine Grade 12.1" LCD Monitor
with
1.8 GHZ Dual Core Computer



MPC-PPC12 Manual
December 2012

Copyright Notice

This document is copyrighted, 2012. All rights are reserved. The original manufacturer reserves the right to make improvements to the products described in this manual at any time without notice.

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

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

MarinePC reserves the right to make changes in the product design at any time without notice to its users.

Acknowledgments

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

AMI is a trademark of American Megatrends Inc.

Intel[®], and Atom[™] are trademarks of Intel[®] Corporation.

Microsoft Windows[®] is a registered trademark of Microsoft Corp.

IBM, PC/AT, PS/2, and VGA are trademarks of International Business Machines Corporation.

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

Packing List

Before you begin operating your PC, please make sure that the following materials are enclosed:

- MPC-PPC12 Panel PC
- Power Terminal Block
- Mounting brackets and screws
- DVD-ROM for manual (in PDF format) and drivers
- Operating System Distribution Media (if Ordered)

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

Safety & Warranty

1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from power outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from excessive moisture.
6. Put this equipment on a firm surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage and polarity of the power source is correct before connecting the equipment.
9. Position the power cord so that people cannot damage on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
 - a. The power plug or any connector is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been damaged.

- d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped.
 - f. The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20°C (-4°F) OR ABOVE 70°C (158°F). IT MAY DAMAGE THE EQUIPMENT.

FCC



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

Caution:

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

NOTES

Contents

Chapter 1 General Information

1.1 Introduction.....	1-2
1.2 Specification	1-3
1.3 Dimension	1-6

Chapter 2 Hardware Installation

2.1 Panelmount Installation.....	2-2
2.2 COM 1/2 RS-232/422/485 Serial Port Connector	2-4
2.3 CompactFlash™ Installation	2-5
2.4 Hard Disk Drive Installation.....	2-6

Chapter 3 AMI BIOS Setup

3.1 System Test and Initialization	3-2
3.2 AMI BIOS Setup	3-3

Chapter 4 Driver Installation

4.1 Introduction.....	4-3
-----------------------	-----

Appendix A AHCI Setting

A.1 WINDOWS OS Installation.....	A-2
----------------------------------	-----

Chapter

1

General Information

1.1 Introduction

The MPC-PPC12 panel PC is an Intel[®] Atom™ D525 1.8 GHz processor computer that is designed to serve as a human machine interface (HMI). It is a PC-based system with 12.1" color TFT LCD display, onboard Ethernet controller, multi-COM port interfaces and an audio controller. With a built-in CompactFlash socket, the MPC-PPC12 is a compact and very user friendly multi-function computer. In addition, its "fit anywhere" design makes it very flexible and able to be used in many different kinds of installations. It can be VESA 100 arm mounted.

For system integrators, this simple, complete, compact and highly integrated system let you easily buld into a bridge console for your applications. Common applications include use as a chart plotter, vessel mangement system or NMEA2000 controller.

The MPC-PPC12 is a highly functional, flexible and cost effective way of introducing open architecture systems into the marine enviroment.

1.2 Specification

System

- CPU Onboard Intel® Atom™ D525 1.8 GHz Processor
- System Memory DDR3 SODIMM x 1, Max. 4 GB
- LCD / CRT Controller Integrated in Processor
- I/O Port
 - USB2.0 x 4
 - RS-232 x 1
 - RS-232/422/485 x 1
 - LAN x 2
 - VGA x 1
 - Line-out x 1
- Storage Disk Drive CompactFlash™ slot x 1 (Internal);
2.5" SATA Hard Disk Drive x 1
- OS Support Windows® XP, Windows® 7, Linux
Fedora, Windows® CE

Mechanical

- Construction IP-65/NEMA4 for aluminum die cast
front bezel & iron chassis
- Mounting Panel/ Wall/ VESA 100/ Desktop
- Dimension 13.6"(W) x 10.46"(H) x 3.58"(D)
(345.6mm x 265.7mm x 91mm)
- Carton Dimension 17.9"(W) x 12.6"(H) x 15.75"(D)
(455mm x 320mm x 400mm)

- Net Weight 15.4 lb (7 kg)
- Gross Weight 19.8 lb (9 kg)

Environmental

- Operating Temperature -4°F~140°F (-20°C~60°C)
- Storage Temperature -4°F~158°F (-20°C~70°C)
- Operating Humidity 10% to 95% @ 40°C, non-condensing
- Vibration 1 g rms/ 5-500Hz/ Operation—With Hard Disk Drive
- Shock 20 G peak acceleration (11 msec. duration)
- EMC CE/FCC Class A
- Power Supply 9~30V DC input ;
Over-voltage protection
Low-voltage protection
Reverse protection

LCD

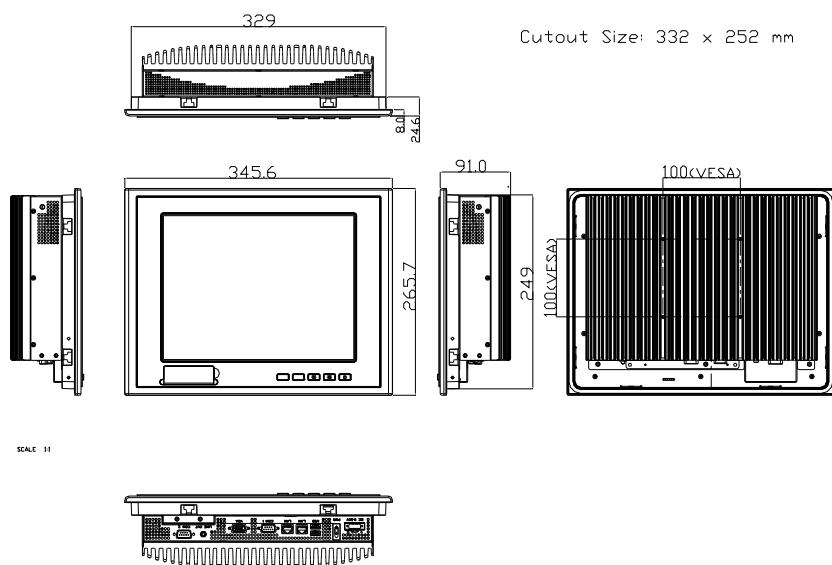
- Display Type 12.1" TFT LCD
- Max. Resolution 1024x768
- Max. Colors 262K
- Luminance (cd/m²) Standard : 500 cd/m²
Hi-Brightness : 1000 cd/m²
- Viewing Angle 160° (H), 140° (V)

- Backlight LED
- Backlight MTBF (Hours) 50,000

Touch Screen

- Type 5-wire analog resistive
- Resolution 2048x2048
- Light Transmission > 80%
- Lifetime 35 million activations

1.3 Dimension



Chapter

2

Hardware Installation

2.1 Panelmount Installation

The display panel can be mounted into the wall. You will need the screws along with the mounting brackets, which be packed in the accessory box. Follow the steps below:

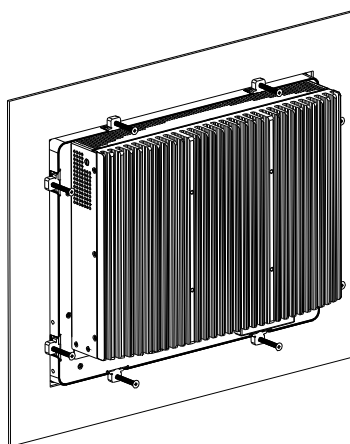
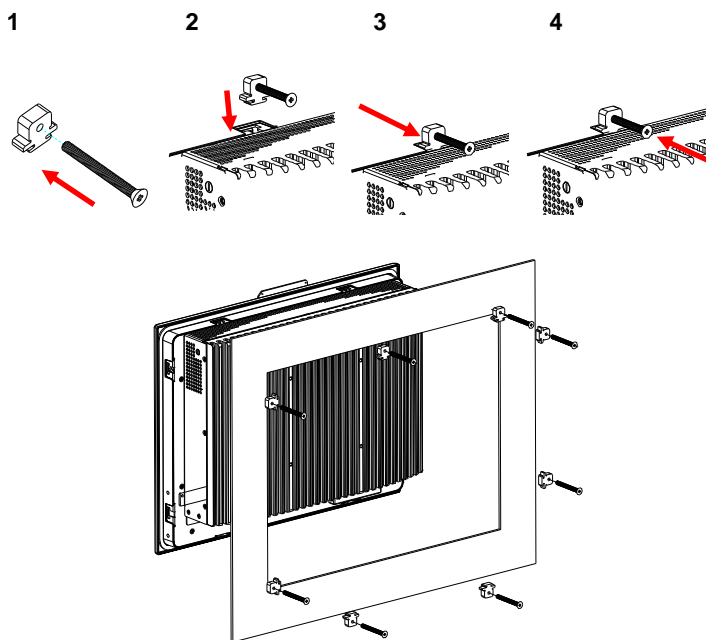
Before you start to follow the instructions, please place the display panel into the wall. See the following illustration on the left.

Step 1: Place the mounting brackets and plug the screw.

Step 2: Aim the mounting set at the hole on the monitor.

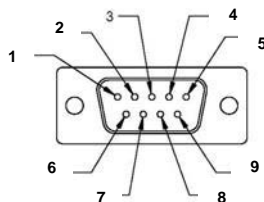
Step 3: Move the mounting set to the narrow gauge and fix it with screws.

Step 4: You've completed the preliminary when the mounting set is tightened. Next, repeat the steps and tighten all mounting set around the monitor until the monitor is firmly mounting on the wall.



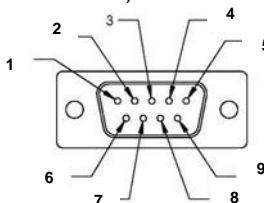
2.2 COM1/2 RS-232/422/485 Serial Port Connector

COM1 (D-sub 9 male)



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

COM2 RS-232/422/485 (D-sub 9 male)



Pin	Signal	Pin	Signal
1	DCD (422TXD-/485DATA-)	2	RXD (422RXD+)
3	TXD (422TXD+/485DATA+)	4	DTR (422RXD-)
5	GND	6	DSR
7	RTS	8	CTS
9	RI/+5Volt/+12Volt		

2.3 Hard Disk Drive Installation

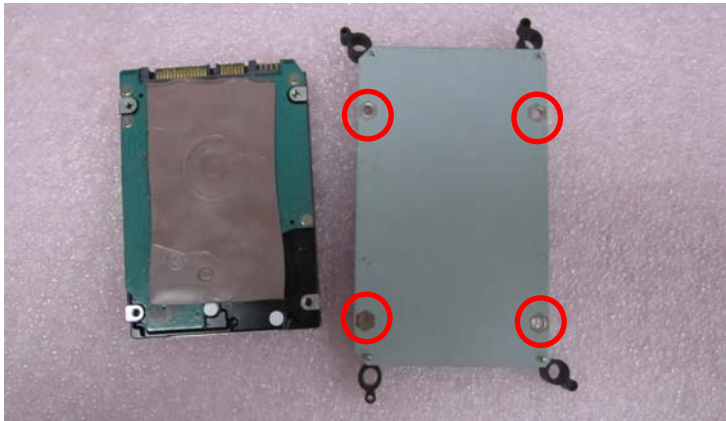
Step 1: Unfasten the screws of the heatsink



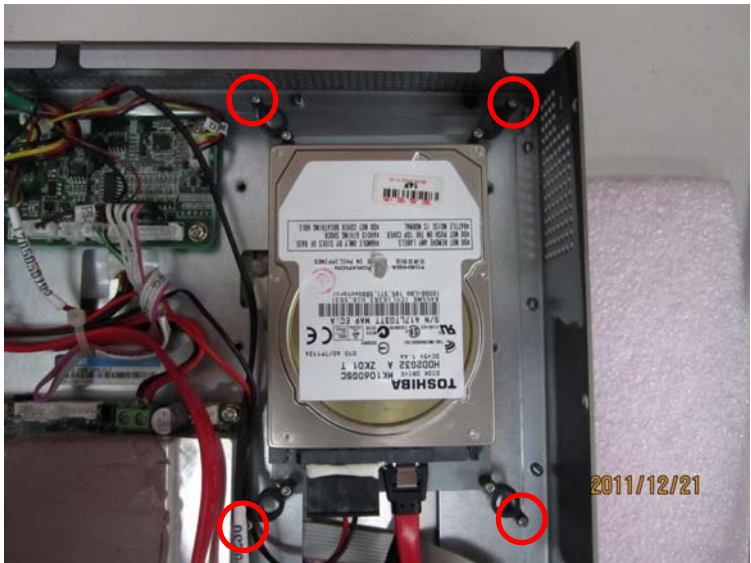
Step 2: Get the Bracket of Hard Disk Drive and Thermal Pad from the package



Step 3: Stick the Thermal Pad onto the Hard Disk Drive and fasten the Hard Disk Drive onto the bracket



Step 4: Fasten the screws of the hard disk bracket onto the MPC-PPC12



2.4 Wireless Module Installation

Follow the connecting locations of each cable showed on the picture below to install the Wireless Module.



Chapter

3

AMI BIOS Setup

3.1 System Test and Initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors.

System configuration verification

These routines check the current system configuration against the values stored in the CMOS memory. If they do not match, the program outputs an error message. You will then need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

1. You are starting your system for the first time
2. You have changed the hardware attached to your system
3. The CMOS memory has lost power and the configuration information has been erased.

The MPC-PPC12 CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs down.

3.2 AMI BIOS Setup

AMI BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press or <F2> immediately. This will allow you to enter Setup.

Main

Set the date, use tab to switch between date elements.

Advanced

Enable/disable boot option for legacy network devices.

Chipset

Host bridge parameters.

Boot

Enables/disables quiet boot option.

Security

Set setup administrator password.

Save&Exit

Exit system setup after saving the changes.

Chapter

4

Driver Installation

The MPC-PPC12 comes with a DVD-ROM that contains all drivers and utilities that meet your needs.

Follow the sequence below to install the drivers:

Step 1 – Install Chipset Driver

Step 2 – Install VGA Driver

Step 3 – Install Audio Driver

Step 4 – Install LAN Driver

Step 5 – Install Touch Panel Driver

Step 6 – Install AHCI Driver

Step 7 – Install TPM Driver

Step 8 – Install Wireless Driver (Optional)

Please read instructions below for further detailed installations.

4.1 Installation:

Insert the MPC-PPC12 User Disk into the DVD-ROM Drive, and install the drivers from Step 1 to Step 8 in order.

Step 1 – Install Chipset Driver

1. Click on the **STEP1-CHIPSET** and select the OS folder your system is
2. Double click on the **infinst_autol.exe** located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 2 – Install VGA Driver

1. Click on the **STEP2-VGA** folder and select the OS folder your system is
2. Double click on the **Setup.exe** located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 3 – Install Audio Driver

1. Click on the **STEP3-AUDIO** folder and select the OS folder your system is
2. Double click on the **Setup.exe** located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 4 – Install LAN Driver

1. Click on the **STEP4-LAN** folder and select the OS folder your system is
2. Double click on the **.exe** located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 5 – Install Touch Panel Driver

1. Click on the **STEP5-TOUCHPANEL** folder and select the OS folder your system is
2. Double click on the **setup.exe** located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 6 – Install AHCI Driver

Please refer to Appendix A AHCI Setting

Step 7 – Install TPM Driver

1. Click on the **STEP7-TPM** folder and select the OS folder your system is
2. Double click on the **Setup.exe** located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 8 – Install Wireless Driver (Optional)

1. Click on the **STEP8-Wireless (option)** folder and select the OS folder your system is.
2. Double click on the **.exe** located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Appendix

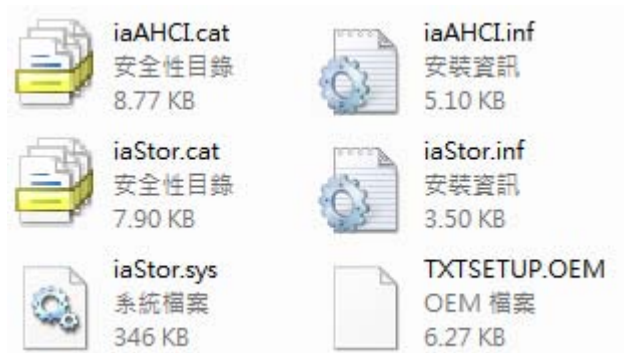
A

AHCI Setting

A.1 WIN XP OS installation

Step 1: Copy the files below from “Driver CD” -> STEP6-AHCI

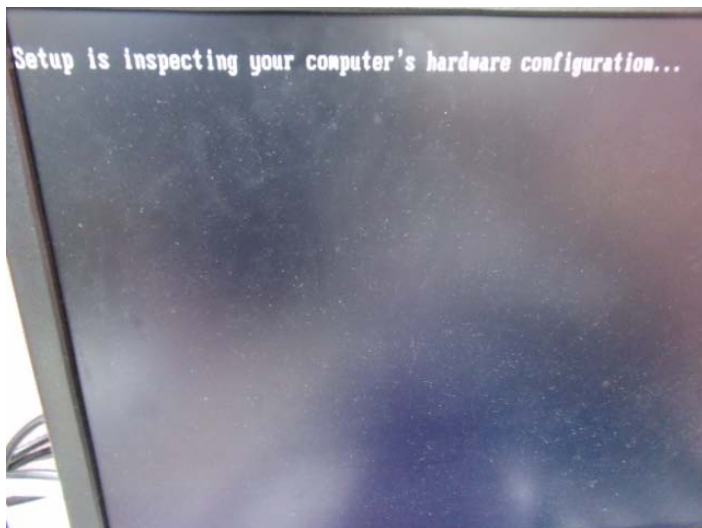
Driver\WINXP_32” To Disk



Step 2: Connect the USB floppy (disk with AHCI files) to the MPC-PPC12



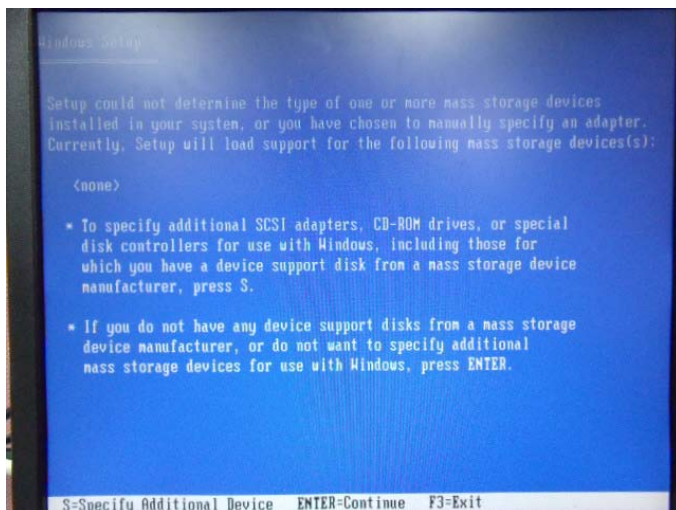
Step 3: Setup OS



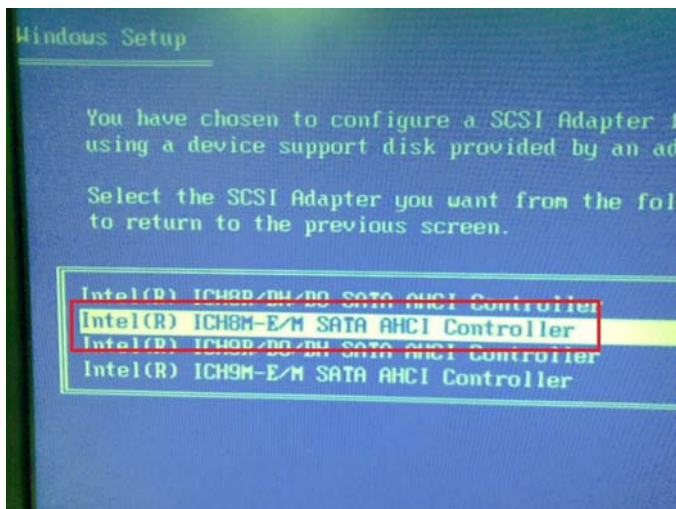
Step 4: Press **"F6"**



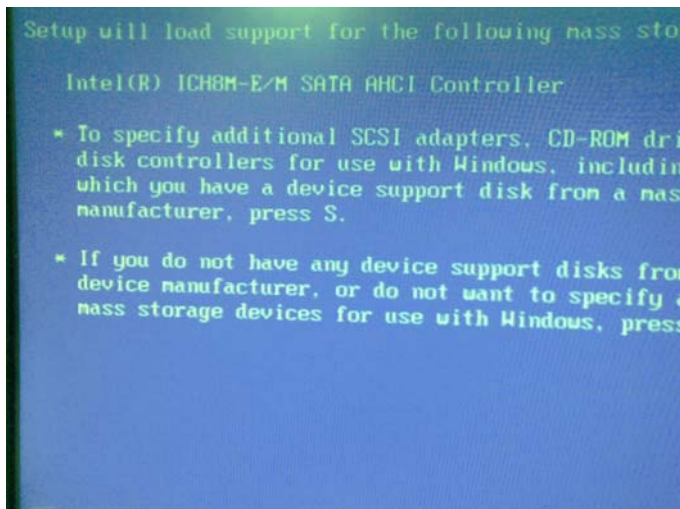
Step 5: Choose “S”



Step 6: Choose “Intel(R) ICH8M-E/M SATA AHCI Controller”



Step 7: It will show the model number you select and then press “ENTER”



Step 8: Setup is starting Windows

