

**AGP-3125**

Intel® Core™ i7/i5 Processor  
Rugged Touch Panel Computer  
With 12.1" TFT LCD &  
Mini Card x 1  
PCI x 2 or PCIe x 2

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## **Packing List**

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Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 AGP-3125
- 1 Jumper Cap
- 2 Easy stand & 4 screws
- 12 Panel Mount clips & screws
- 1 HDD plate & 4 anti-vibration rubbers & 4 screws
- 1 Power Cord (optional)
- 1 DVD-ROM for manual (in PDF format) and drivers

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

## Safety & Warranty

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1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from any AC 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 humidity.
6. Put this equipment on a reliable 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 of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step 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 cord or plug is damaged.
  - b. Liquid has penetrated into the equipment.
  - c. The equipment has been exposed to moisture.

- d. The equipment does not work well, or you cannot get it to work according to the users manual.
  - e. The equipment has been dropped and damaged.
  - f. The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.
16. External equipment intended for connection to signal input/output or other connectors, shall comply with relevant UL / IEC standard (e.g. UL 60950 for IT equipment and UL 2601-1 / IEC 60601 series for medical electrical equipment). In addition, all such combinations – systems – shall comply with the standard IEC 60601-1-1, Safety requirements for medical electrical systems. Equipment not complying with UL 2601-1 shall be kept outside the patient environment, as defined in the standard.

## **FCC**

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### ***Warning!***



**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.**

Below Table for China RoHS Requirements  
产品中有毒有害物质或元素名称及含量

AAEON Panel PC/ Workstation

| 部件名称            | 有毒有害物质或元素 |           |           |                 |               |                 |
|-----------------|-----------|-----------|-----------|-----------------|---------------|-----------------|
|                 | 铅<br>(Pb) | 汞<br>(Hg) | 镉<br>(Cd) | 六价铬<br>(Cr(VI)) | 多溴联苯<br>(PBB) | 多溴二苯醚<br>(PBDE) |
| 印刷电路板<br>及其电子组件 | ×         | ○         | ○         | ○               | ○             | ○               |
| 外部信号<br>连接器及线材  | ×         | ○         | ○         | ○               | ○             | ○               |
| 外壳              | ×         | ○         | ○         | ○               | ○             | ○               |
| 中央处理器<br>与内存    | ×         | ○         | ○         | ○               | ○             | ○               |
| 硬盘              | ×         | ○         | ○         | ○               | ○             | ○               |
| 液晶模块            | ×         | ○         | ○         | ○               | ○             | ○               |
| 光驱              | ×         | ○         | ○         | ○               | ○             | ○               |
| 触控模块            | ×         | ○         | ○         | ○               | ○             | ○               |
| 电源              | ×         | ○         | ○         | ○               | ○             | ○               |
|                 |           |           |           |                 |               |                 |

**O:** 表示该有毒有害物质在该部件所有均质材料中的含量均在  
SJ/T 11363-2006 标准规定的限量要求以下。

**X:** 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出  
SJ/T 11363-2006 标准规定的限量要求。

备注:

- 一、此产品所标示之环保使用期限，系指在一般正常使用状况下。
- 二、上述部件物质中央处理器、内存、硬盘、光驱、触控模块为选购品。

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Chapter

**1**

**General  
Information**

## **1.1 Introduction**

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AGP-3125 has been designed to fulfill the product line of the Rugged Expandable Touch Panel Solution series. It adopts Intel® Core™ i7/i5 processor with two DDR3 800/1066 MHz SODIMM up to 8 GB with 12.1" XGA (1024 x 768) TFT LCD Display.

### **Best performance for multimedia solution**

AAEON's AGP-3125 supports Intel® Core™ i7/i5 + QM57 chipset and the LVD/CRT Controller has been integrated in QM57. In addition, it equips versatile I/O ports, such as one RS-232, six USB2.0, one Line-out/MIC-in/Line-in, one Keyboard/Mouse, and one DVI. Therefore, AGP-3125 can be broadly implemented in several markets, such as Factory Control Center, Railway Control Center, and Transportation markets.

### **Multi-Function Intel® Core™ i7/i5 Platform**

AGP-3125 integrates 12.1" color TFT LCD. Moreover, the modular design for CPU board is easy for you to replace. With flexible expansion, you get easy access to solutions ranging from Modem, Storage, Sound Card, SCSI card, Audio/Video capture card, Wireless LAN module, to Bluetooth module. Furthermore, you may choose one Mini Card, two PCI or two PCI-Express slots for necessary expansions. If you are looking for powerful and robust Touch Panel Computer, AGP-3125 is an ideal solution for your applications.

## **1.2 Feature**

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- 12.1" XGA (1024 x 768) TFT LCD Display
- Intel® Core™ i7/i5 Processor
- Easy-To-Expand: Two PCI/PCIe Slots
- IP-65 Aluminum Die Cast Front Bezel
- Two Easy Access Front USB Ports
- 12.1" 500 Nits XGA LED Backlight  
12.1" 1000 Nits XGA LED Backlight
- Modular Design For CPU Board

### 1.3 Specification

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#### **System**

- Processor Intel® Core™ i7/i5 Processor
- Memory DDR3 800/1066 MHz SODIMM x 2, up to 8 GB
- Chipset Intel® Core™ i7/i5 + QM57
- LCD / CRT Controller Integrated in QM57
- Ethernet 10/100/1000Base-TX, RJ-45 x 2
- I/O Port RS-232 x 1, USB2.0 x 6 (2 on front, 4 on rear), Line-out/MIC-in/Line-in x 1, PS/2 x 1 for Keyboard/Mouse, DVI x 1
- Storage Disk Drive 2.5" SATA Hard Disk Drive x 1
- Expansion Slot Mini Card x 1, PCI slot x 2 or PCIe x 2
- OS Support Windows® XP, Windows® 7, Linux Fedora

#### **Mechanical**

- Construction IP-65/ NEMA4 for aluminum die cast front bezel & aluminum chassis
- Mounting Panel/ Desktop

- Dimension 13.61" x 10.46" x 4.28" (345.8mm x 265.8mm x 108.8mm)
- Carton Dimension 18.50"(L) x 16.53"(W) x 13.78" (H) (470mm x 420mm x 350mm)
- Gross Weight 15.86 lb (7.2 kg)
- Net Weight 11.89 lb (5.4 kg)

***Environmental***

- Operating Temperature 32°F ~131°F (0°C~55°C) (Ambient with airflow)
- Storage Temperature -4°F ~140°F (-20°C~60°C)
- Storage Humidity 10%~95% @ 40°C, non-condensing
- Vibration 1 g rms/ 5~500 Hz/ Random operation (HDD)
- Shock 20 G peak acceleration (11 msec. duration)
- EMC CE/FCC Class A

***Power Supply***

- AC input 250W 110/230V AC power

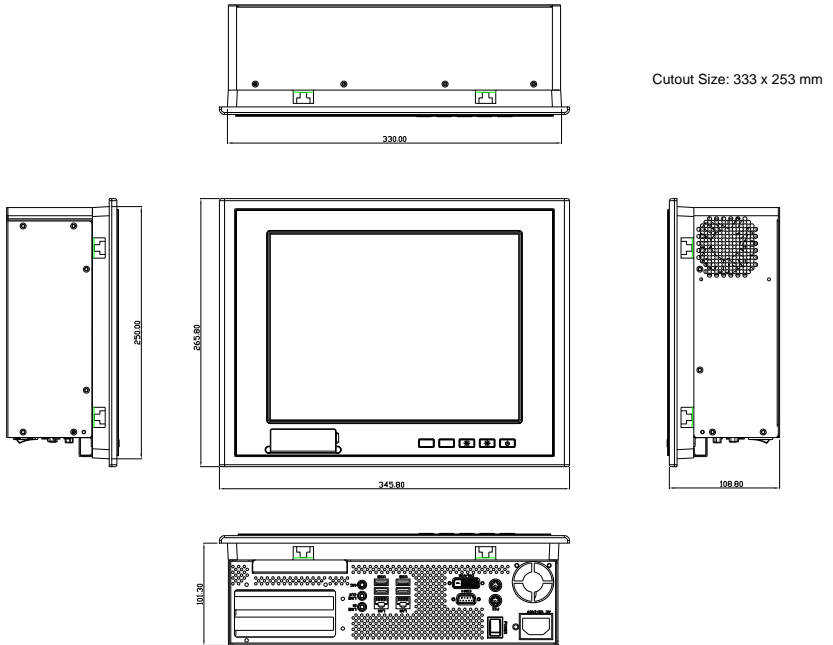
***LCD***

- Display Type 12.1" TFT LCD
- Max. Resolution 1024 x 768
- Max. Colors 262 K colors
- Luminance  
HTT: 500  
STT: 1000
- Viewing Angle  
HTT: 160°(H)/ 160°(V)  
STT: 160°(H)/ 140°(V)
- Back Light MTBF  
(Hrs) HTT: 50,000  
STT: 60,000

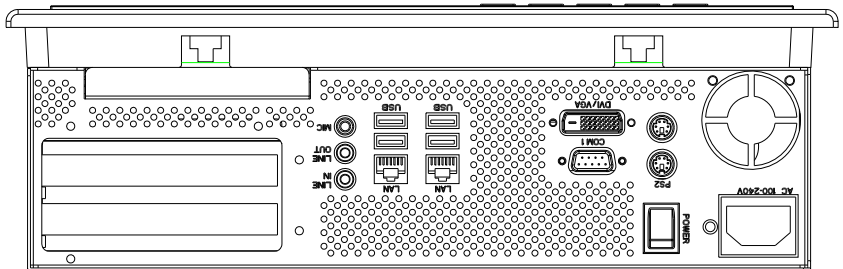
***Touch Screen***

- Type 5-wire resistive
- Light transmission 80%
- Lifetime 35 million activations

## 1.4 Dimension



## I/O interface





Chapter

**2**

**Hardware  
Installation**

## 2.1 Safety Precautions

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**Warning!**



*Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.*

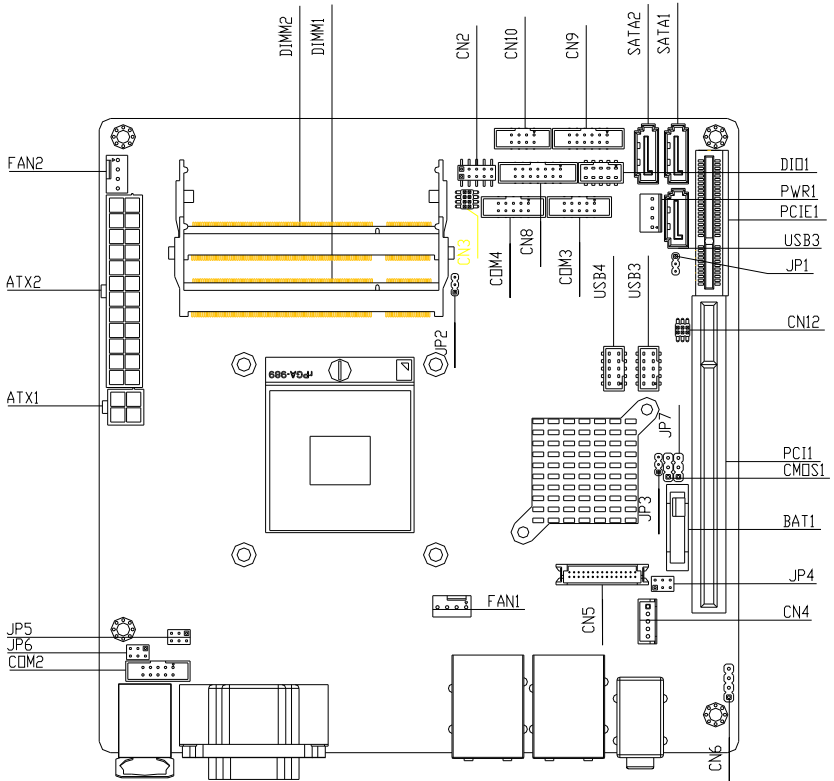
**Caution!**



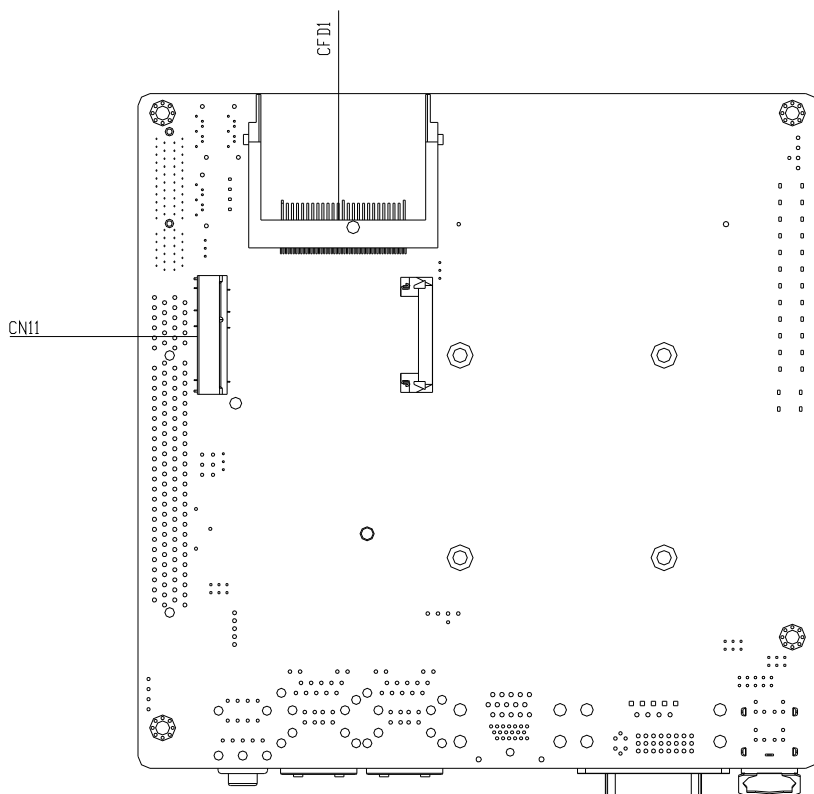
*Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis*

## 2.2 Location of Connectors and Jumpers of the Main Board

### Component Side



Solder Side



## 2.3 List of Jumpers

---

There are a number of jumpers in the board that allow you to configure your system to suit your application.

The table below shows the function of each jumper in the board:

| <b>Label</b> | <b>Function</b>               |
|--------------|-------------------------------|
| CMOS1        | CMOS Setting Selection        |
| JP1          | Auto PWRBTN Selection         |
| JP2          | CFD Voltage 3.3V/5V Selection |
| JP3          | TPM Setting Selection         |
| JP5          | COM1 +12V/+5V/RING Selection  |
| JP6          | COM2 +12V/+5V/RING Selection  |

## 2.4 List of Connectors

---

There are a number of connectors in the board that allow you to configure your system to suit your application. The table below shows the function of each connector in the board:

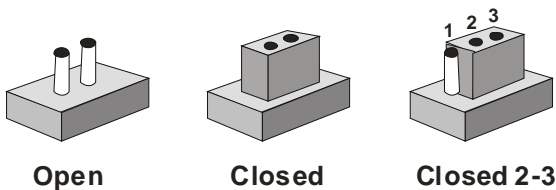
| <b>Label</b> | <b>Function</b>           |
|--------------|---------------------------|
| CN8          | COM1~2 Port LED           |
| CN9          | COM3~4 Port LED           |
| CN10         | LAN Port LED              |
| COM2         | RS-232/422/485 Pin header |
| COM3~4       | RS-232 Pin header         |
| SATA1~SATA3  | SATA Connector            |
| PWR1         | SATA Power Connector      |

## 2.5 Setting Jumpers

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You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip.

To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

## 2.6 CMOS Setting (CMOS1)

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| JP1 | Function         |
|-----|------------------|
| 1-2 | Normal (Default) |
| 2-3 | Clear CMOS       |

---

## 2.7 Auto PWRBTN Selection (JP1)

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| JP1 | Function                        |
|-----|---------------------------------|
| 1-2 | Don't use Auto PWRBTN (Default) |
| 2-3 | Use Auto PWRBTN                 |

---

## 2.8 CFD Voltage 3.3V/5V Selection (JP2)

---

| JP2 | Function      |
|-----|---------------|
| 1-2 | +3.3V         |
| 2-3 | +5V (Default) |

---

## 2.9 TPM Setting (JP3)

---

| JP3 | Function                       |
|-----|--------------------------------|
| 1-2 | Save ME RTC Register (Default) |
| 2-3 | Clear ME RTC Register          |

---

## 2.10 COM1 +12V/+5V/RING Selection (JP5)

---

| JP5 | Function       |
|-----|----------------|
| 1-2 | +12V           |
| 3-4 | Ring (Default) |
| 5-6 | +5V            |

---

### 2.11 COM2 +12V/+5V/RING Selection (JP6)

| JP6 | Function       |
|-----|----------------|
| 1-2 | +12V           |
| 3-4 | Ring (Default) |
| 5-6 | +5V            |

### 2.12 COM1~2 Port LED Connector (CN8)

| Pin | Signal         | Pin | Signal         |
|-----|----------------|-----|----------------|
| 1   | COM1_RS232_PWR | 2   | GND            |
| 3   | TX_LED_COM1    | 4   | GND            |
| 5   | RX_LED_COM1    | 6   | GND            |
| 7   | COM2_RS232_PWR | 8   | GND            |
| 9   | TX_LED_COM2    | 10  | GND            |
| 11  | RX_LED_COM2    | 12  | GND            |
| 13  | COM2_RS485_PWR | 14  | COM2_RS422_PWR |

### 2.13 COM3~4 Port LED Connector (CN9)

| Pin | Signal         | Pin | Signal |
|-----|----------------|-----|--------|
| 1   | COM3_RS232_PWR | 2   | GND    |
| 3   | TX_LED_COM3    | 4   | GND    |
| 5   | RX_LED_COM3    | 6   | GND    |
| 7   | COM4_RS232_PWR | 8   | GND    |
| 9   | TX_LED_COM4    | 10  | GND    |
| 11  | RX_LED_COM4    | 12  | GND    |

### 2.14 LAN Port LED Connector (CN10)

| Pin | Signal         | Pin | Signal            |
|-----|----------------|-----|-------------------|
| 1   | LAN1_LED_D2    | 2   | LAN1_LED_LNK#_ACT |
| 3   | LAN1_LED_1000# | 4   | LAN1_LED_100#     |



|   |             |   |              |
|---|-------------|---|--------------|
| 5 | LAN2_LED_D2 | 6 | ACT_2_LED    |
| 7 | SPD1K_2_LED | 8 | SPD100_2_LED |

### 2.15 RS-232/422/485 Pin Header (COM2)

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

### 2.16 RS-232 Pin Header (COM3~4)

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

### 2.17 SATA Connector (SATA 1~3)

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | GND    | 2   | TXP    |
| 3   | TXN    | 4   | GND    |
| 5   | RXN    | 6   | RXP    |
| 7   | GND    |     |        |

### 2.18 SATA Power Connector (PWR1)

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | +12V   | 2   | GND    |
| 3   | GND    | 4   | +5V    |

## 2.19 Hard Disk Drive Installation

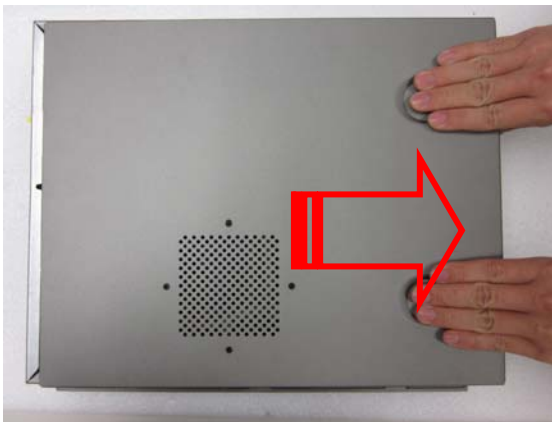
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In the following, we will guide you how to install Hard Disk Drive (HDD). Make sure that all parts are provided before you start the installation.

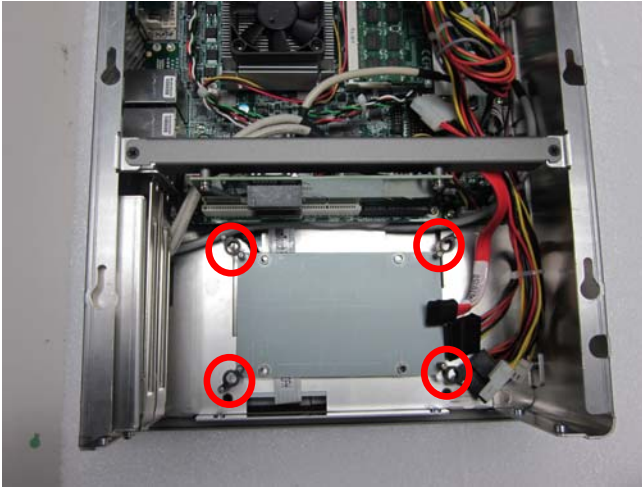
Step 1: Loose the seven screws on the back chassis of AGP-3125



Step 2: Open the back cover of the AGP-3125



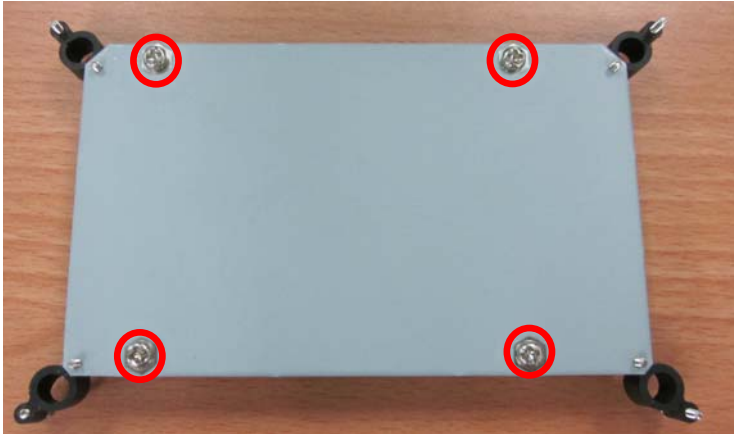
Step 3: Unfasten the four screws of the HDD bracket and get the HDD bracket from the Chassis



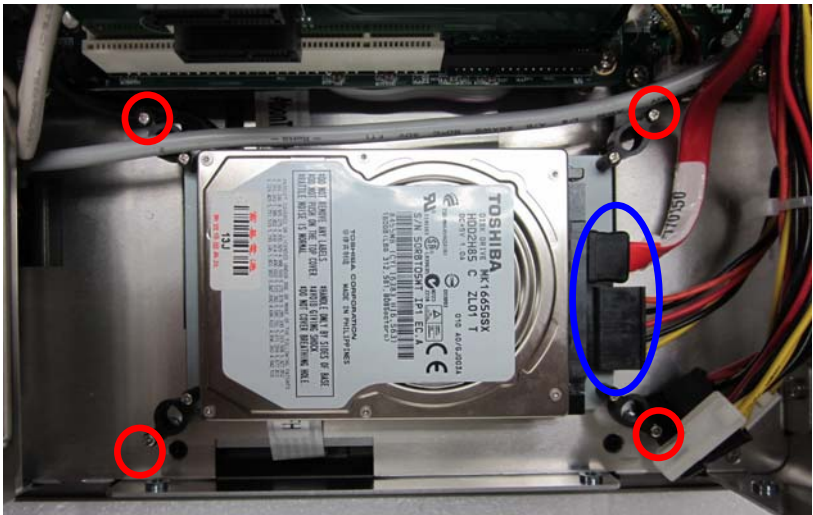
Step 4: Get the 2.5" HDD ready



Step 5: Fasten the four screws to fix the HDD with the HDD bracket



Step 6: Fasten the four screws to fix the HDD bracket and connect the SATA and Power cables to the 2.5" HDD

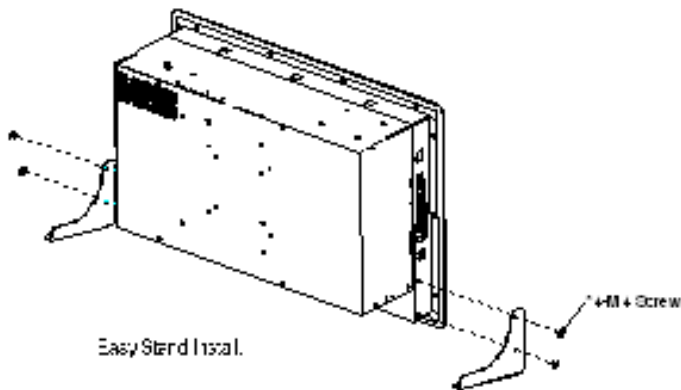


## 2.20 Easy Stand Installation

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There're two L-shaped easy stands come with the product. Refer to the following illustration to install it.

1. Fix the L-shaped easy stands with the screws on both sides of the AGP-3125. See the illustration below:



## 2.21 Panel Mount Kit Installation

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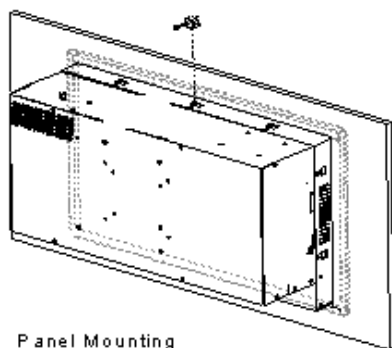
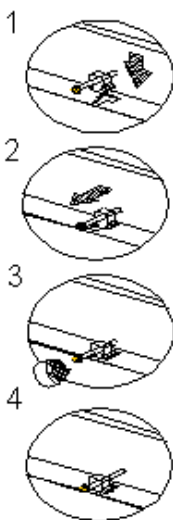
Some screw sets will come with the product for user to mount the AGP-3125 on the wall. See the steps below along with the illustration.

Step 1: Bore the screw into the screw nut.

Step 2: Locate the screw set into the hole around the monitor as the right illustration and pull it back to lock the screw set on the hole.

Step 3: Turn the screw around to make it tight until it is closed to the wall.

Step 4: Lock the monitor to the wall with the screw set and finish the installation



## 2.22 Waterproof Protection

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Step 1: Remove the non-sticky aspect of the double sided tape from the waterproof rubber border.



Step 2: Put the waterproof rubber border along the bracket of the AGP-3125 chassis.







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 AGP-3125 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 <Del> 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 AGP-3125 comes with a DVD-ROM that contains all drivers your need.

***Follow the sequence below to install the drivers:***

Step 1 – Install Chipset Driver

Step 2 – Install VGA Driver

Step 3 – Install LAN Driver

Step 4 – Install AUDIO Driver

Step 5 – Install ME Driver

Step 6 – Install Touch Panel Driver

Please read following instructions for detailed installations.

## 4.1 Installation:

---

Insert the AGP-3125 DVD-ROM into the DVD-ROM Drive. And install the drivers from Step 1 to Step 6 in order.

### Step 1 – Install Chipset Driver

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

### Step 2 – Install VGA Driver

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

### Step 3 – Install LAN Driver

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

#### Step 4 – Install AUDIO Driver

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

#### Step 5 – Install ME Driver

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

#### Step 6 – Install Touch Panel Driver

1. Click on the **STEP6-Touch Panel Driver** folder and select the OS your system is
2. Double click on **setup.exe** file located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you to install the driver automatically