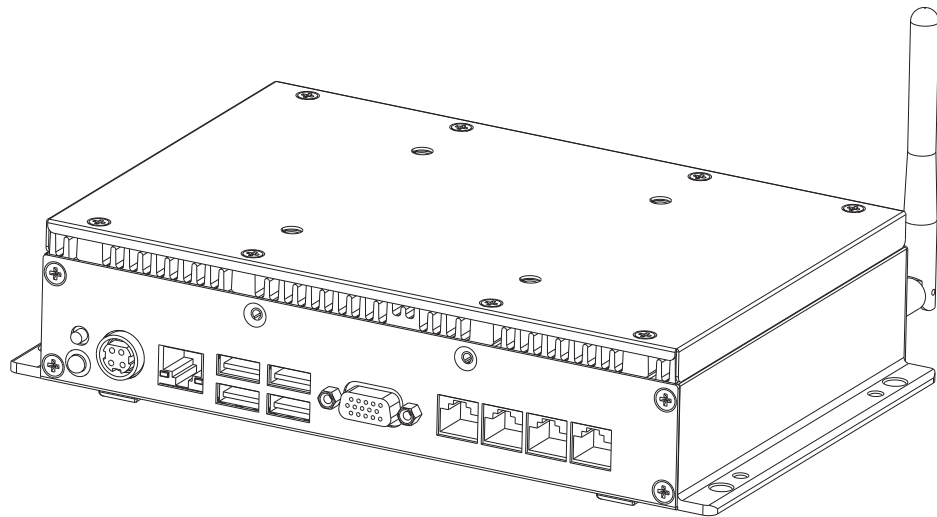


# USER MANUAL

VERSION V1.0 March 2011

## *Saturn Plus*



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## Safety

### IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrical power supply, turn off the power switch and remove the power cord plug from the wall socket. The wall socket must be easily accessible and in close proximity to the machine.
2. Read these instructions carefully. Save these instructions for future reference.
3. Follow all warnings and instructions marked on the product.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.



This device complies with the requirements of the EEC directive 2004/108/EC with regard to “Electromagnetic compatibility” and 2006/95/EC “Low Voltage Directive”.



This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

## CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.



### Battery Caution

Risk of explosion if battery is replaced by an incorrectly type. Dispose of used battery according to the local disposal instructions.



### Safety Caution

Note: To comply with IEC60950-1 Clause 2.5 (limited power sources, L.P.S) related legislation, peripherals shall be 4.7.3.2 “Materials for fire enclosure” compliant.

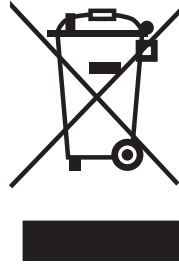
#### 4.7.3.2 Materials for fire enclosures

For MOVABLE EQUIPMENT having a total mass not exceeding 18kg.the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of V-1 CLASS MATERIAL or shall pass the test of Clause A.2.

For MOVABLE EQUIPMENT having a total mass exceeding 18kg and for all STATIONARY EQUIPMENT, the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of 5VB CLASS MATERIAL or shall pass the test of Clause A.1

## LEGISLATION AND WEEE SYMBOL

2002/96/EC Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.



The crossed dust bin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

# Revision History

Changes to the original user manual are listed below:

Revision	Description	Date
1.0	• Initial release	2011 March

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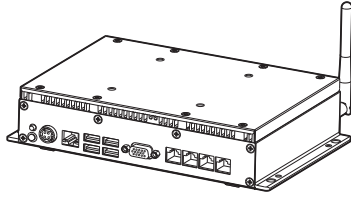
## **Appendix: Drivers Installation .... 15**

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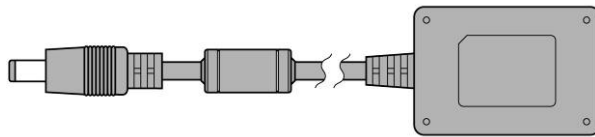
# 1. Packing List

## 1-1. Standard Items

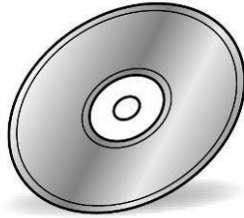
a. Saturn Plus



d. Power adapter



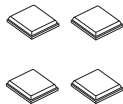
b. Driver bank



e. Power cord



c. Rubber Pads (x4)



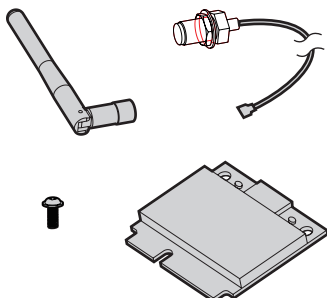
f. RJ45 to DB9 cable (x2)



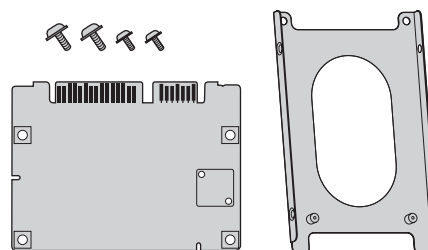
**Note:** Several types of power cord are available depending on regional difference.

## 1-2. Optional Items

a. WLAN card  
(with external antenna)

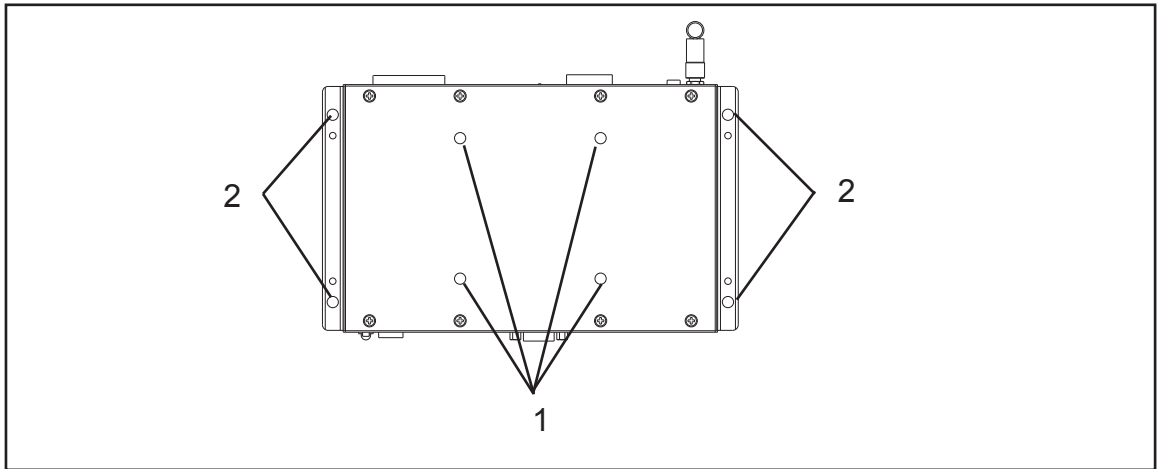


b. pSSD Card



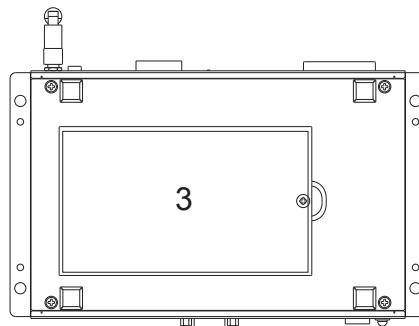
# 2. System View

## 2-1. Top View



Item No.	Description
1	Standard VESA Holes 75x75mm
2	Wall Mounting Holes

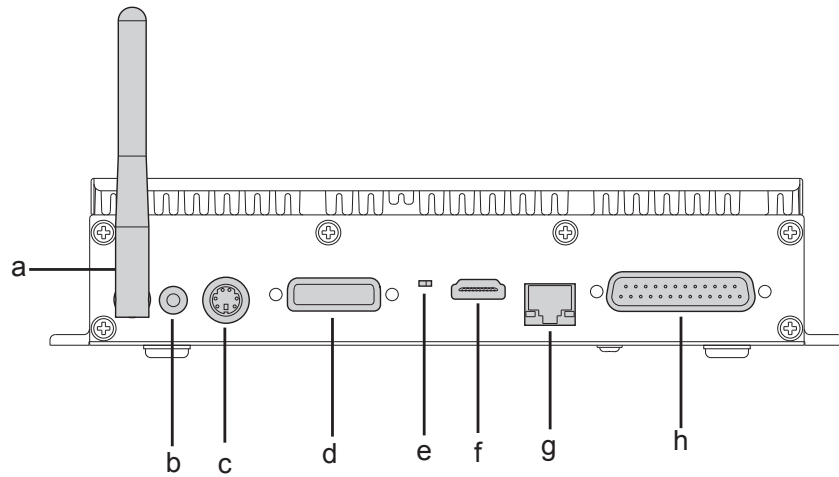
## 2-2. Bottom View



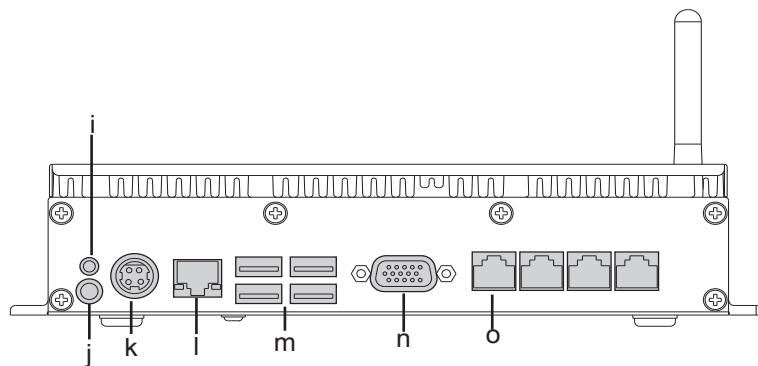
Item No.	Description
3	HDD Door

## 2-3. I/O Ports View

### 2-3-1. Front I/O

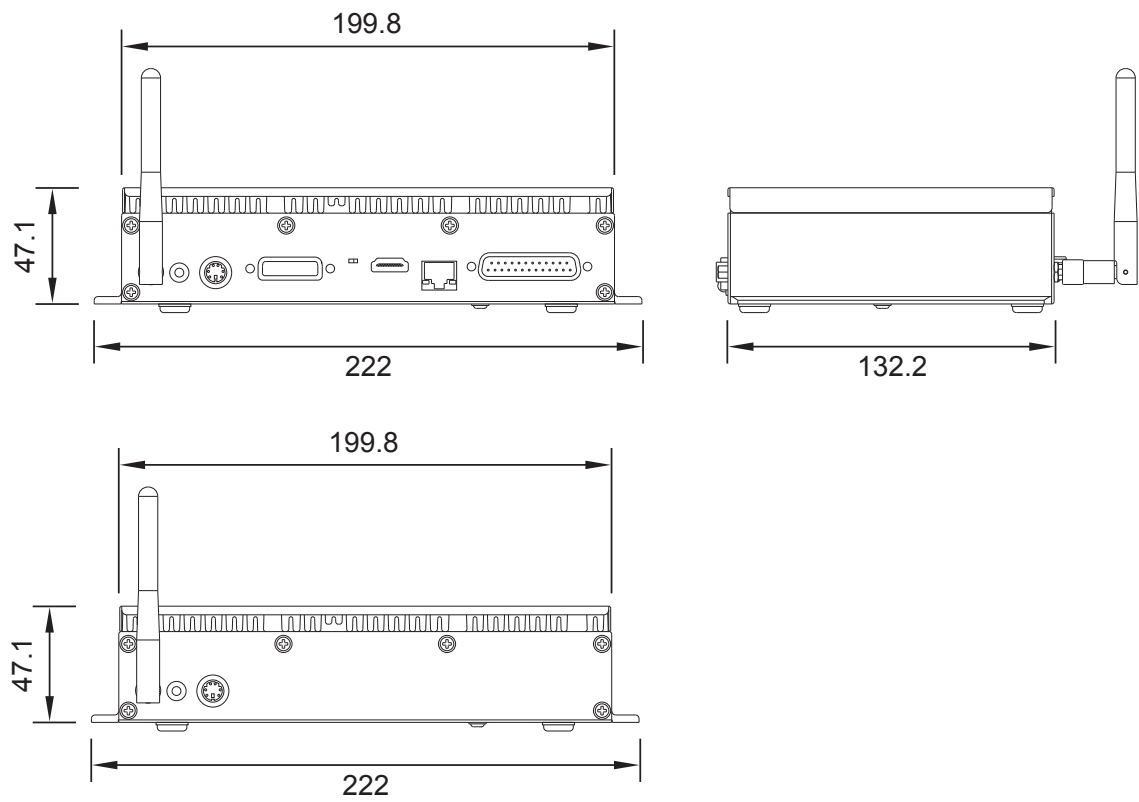


### 2-3-2. Rear I/O



Item No.	Description
a	Antenna
b	Audio-out
c	PS/2
d	DVI-D
e	HDMI/DVI-D Switch (turn to right:HDMI ; turn to left:DVI ) *You can switch it while the unit is turned on
f	HDMI
g	2nd LAN (optional)
h	Printer Port
i	Power Button
j	Power LED Indicator
k	DC Jack
l	LAN (10/100/1000)
m	USB (x4)
n	2nd VGA
o	Serial Port (x4)

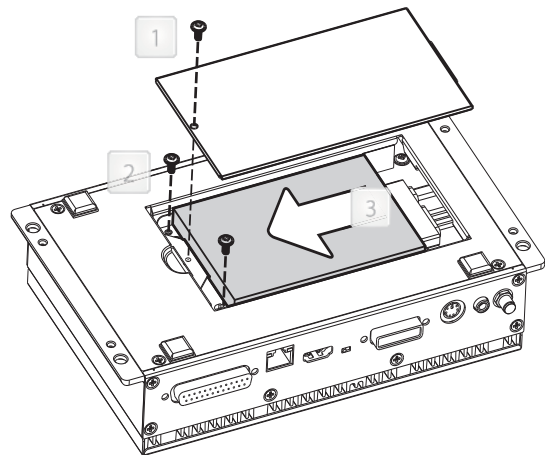
## 2-4. System Dimension



# 3. System Assembly & Disassembly

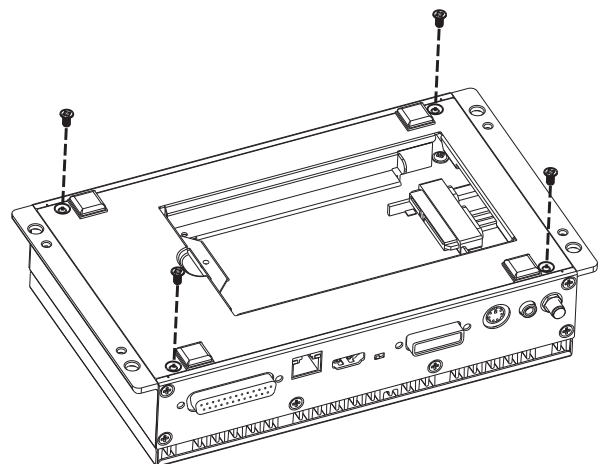
## 3-1. Replace HDD

1. Loosen the screw (x1) to open the HDD cover.
2. Remove the screws (x2) on the HDD bracket.
3. Take out the HDD, and disconnect the HDD cable.



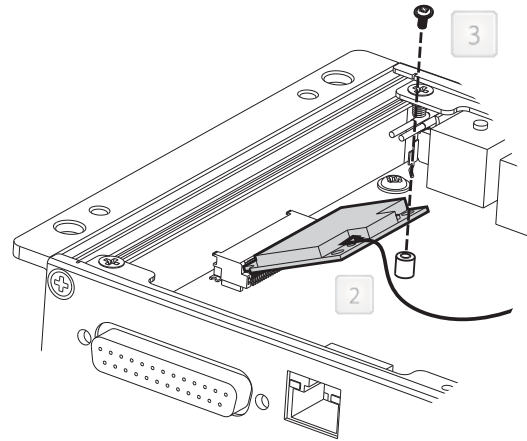
## 3-2. Open the Saturn Plus

1. Remove HDD. (see Chapter 3-1)
2. Loosen the screws (x4) to open the rear cover.

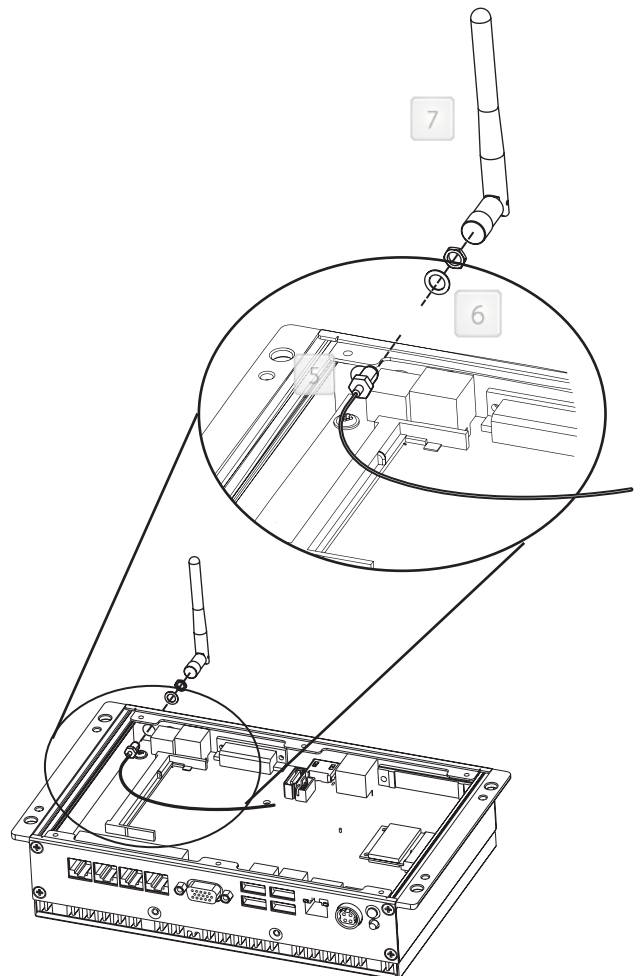


## 3-3. Install a WLAN

1. Remove HDD and open the box PC. (see Chapter 3-1, 3-2)
2. Connect WLAN cable to “Main Connector” on the WLAN card.
3. Insert WLAN card to the card slot. Push down the card and fasten the screw(x1) onto the motherboard.

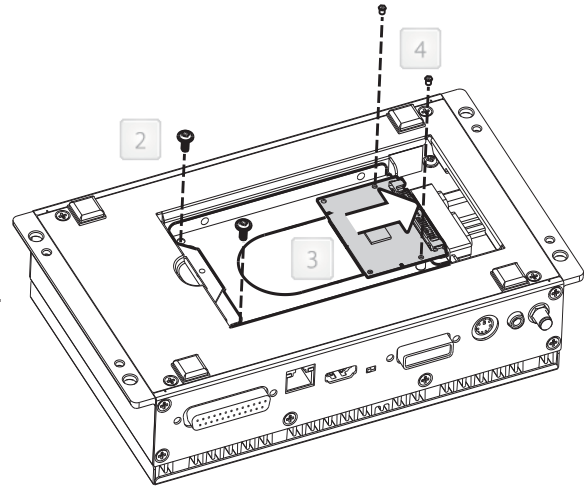


4. Open the blind hole on the Saturn Plus.
5. Thread the other end of the WLAN cable through the blind hole.
6. Rotate the washer to fix the cable to box PC.
7. Screw the external antenna.



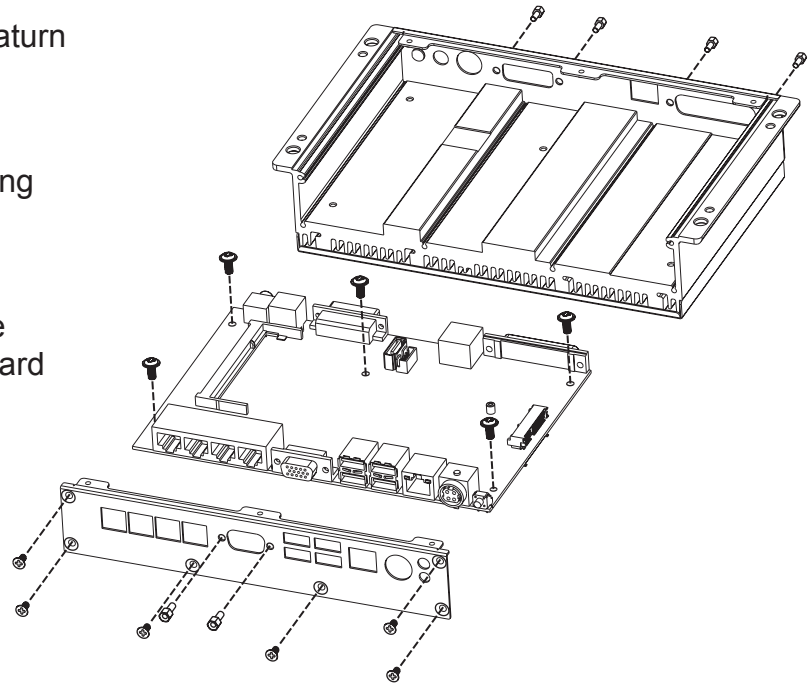
## 3-4. Install a pSSD Card

1. Remove HDD. (see Chapter 3-1)
2. Fix pSSD metal bracket to the rear cover frame by screws(x2).
3. Insert pSSD Card to the connector.
4. Fasten screws (x2) near the golden finger side to fix the pSSD card onto the bracket.



## 3-5. Replace the Motherboard

1. Remove HDD and open the Saturn Plus. (see Chapter 3-1, 3-2)
2. Disconnect all connectors linking to motherboard.
3. Loose all screws shown on the right to disassemble motherboard from the system.  
(x5 on Motherboard,  
x8 on DC Jack side,  
x4 on Antenna side)



# 4. Specification

Model Name	<b>Saturn Plus</b>
Motherboard	<b>C36 C</b>
Processor	Intel® Atom™ N270 processor 1.6GHz L2 512K FSB 533MHz
Chipset	Intel® 945GSE + ICH7M
System Memory	1 x DDR2 DIMM up to 2GB
Graphic Memory	Intel® GMA 950 share system memory up to 224MB
Storage Device	
Hard Drive	1 x 2.5" slim SATA HDD
Flash Memory	1 x 2.5" SSD (option)
Expansion	
Mini PCI-E Slot	2
Front I/O	
Line-out	1
PS2	1 (KBD/Mouse)
DVI / HDMI	either one option, selected by Switch
LAN Port	1 x RJ-45 (10/100/1000Mbps Giga LAN)
Parallel Port	1
Optional Front I/O	
Antenna Jack	1
Rear I/O	
USB Port	4 x USB 2.0
Serial Port	4 x RJ-45 (COM3 / COM4 with 5V / 12V power)
LAN Port	1 x RJ-45 (10/100/1000Mbps Giga LAN)
VGA	1 x DB-15F
DC Jack	1 x DC-19V
Power LED Indicator	1
Power Button	1
Power	Adapter (DC 65W, 19V, 3.4A)
Certificate	
EMC & Safety	FCC Class A / CE Mark / LVD
Environment	
Operating Temperature	5°C ~ 35°C (41°F ~ 95°F)
Storage Temperature	-20°C ~ 55°C (-4°F ~ 140°F)
Operating Humidity	20% ~ 80% RH non-condensing
Storage Humidity	20% ~ 85% RH non-condensing
Communication	
Wireless LAN	Mini PCI-E (Half Size) wireless LAN card 802.11 b/g and antenna (option)

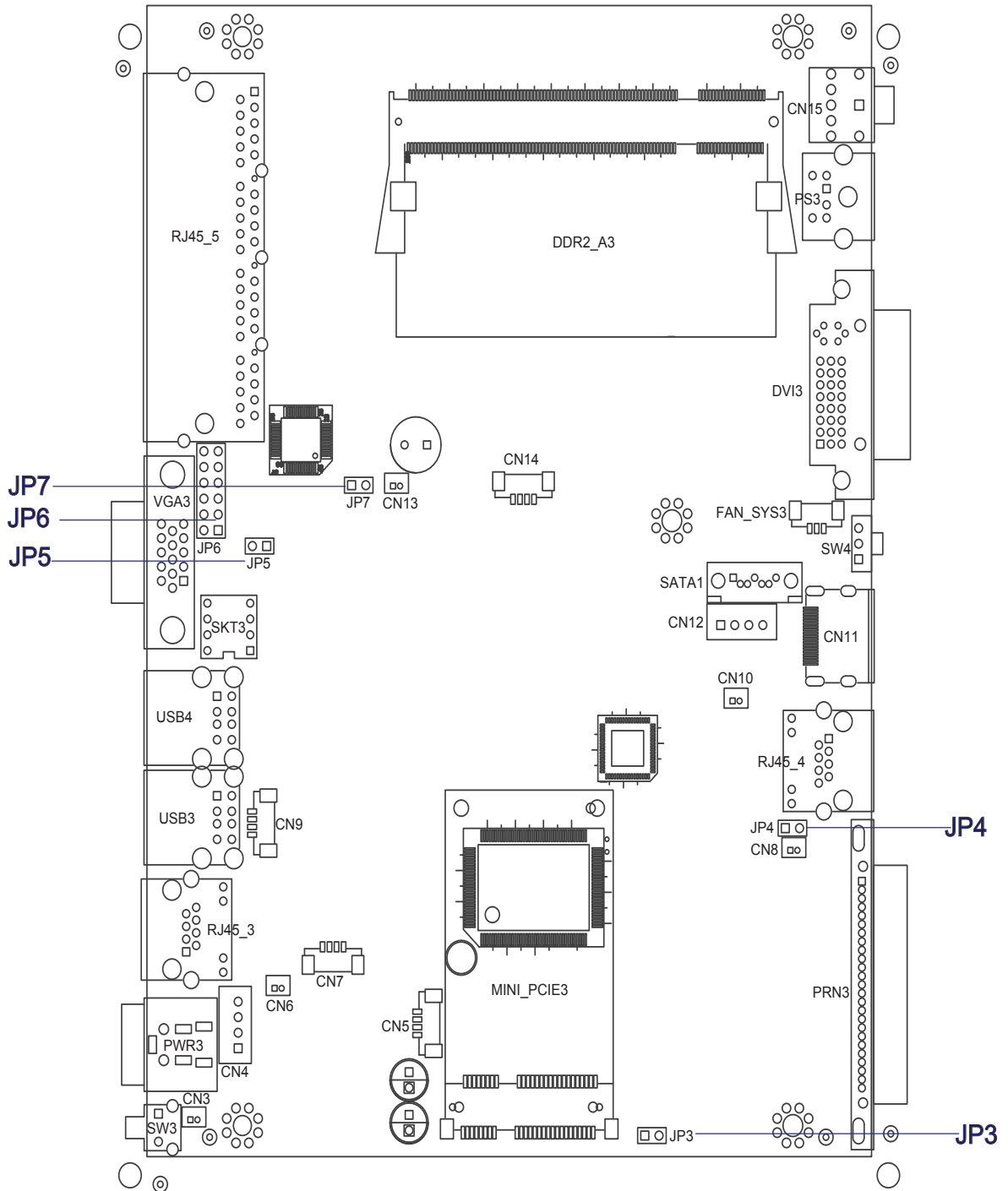
VGA Accelerator	Mini PCI-E (Full Size) Upgrade to 1080i For Atom (option)
Dimension (W x D x H)	222 x 138 x 45 mm (PCB 185 x 130 mm)
Weight	1.6kg
Mounting	75mm x 75mm Standard VESA
OS Supported	Windows® XP Pro, Windows® XP Embedded, Windows® CE, Linux, Windows7

\* This specification is subject to change without prior notice.

# 5. Jumper Setting

## 5-1. C36 Motherboard Jumper Setting

### 5-1-1. Motherboard Layout



## 5-1-2. Connectors & Functions

Connector	Purpose
CN3	Internal Power On Switch Connector
CN4	Internal DC-JACK Connector
CN5	IrDA Connector
CN6	LAN LED
CN7	USB Connector
CN8	Power LED
CN9	USB Connector
CN10	LAN LED
CN11	HDMI
CN12	Power Connector for HDD
CN13	CMOS Battery Connector
CN15	Line-out
DDR2_A3	DDR2 SO-DIMM
DVI3	DVI
PRN3	LPT Port
PS3	PS2 Connector
PWR3	+19V Power Adaptor
RJ45_3	LAN Port
RJ45_4	2nd LAN Port
RJ45_5	COM1, COM2, COM3, COM4
FAN-SYS3	FAN
MINI_PCIE3	Mini PCI-E Socket
SATA1	SATA connector
SKT3	SPI ROM
SW3	Power On Button
SW4	HDMI & DVI Switch
USB3	USB Port
USB4	USB Port
VGA3	VGA Port
JP3	Hardware Reset
JP4	ATX/AT Setting
JP5	VGA Power Setting
JP6	COM3 & COM4 Power Setting
JP7	CMOS Operation Mode

### 5-1-3. Jumper Setting

#### COM3 & COM4 Power Setting

Function		JP6												
COM3 PIN10	▲RI	<table border="1"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> </table>	1	3	5	7	9	11	2	4	6	8	10	12
	1	3	5	7	9	11								
	2	4	6	8	10	12								
+5V	<table border="1"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> </table>	1	3	5	7	9	11	2	4	6	8	10	12	
1	3	5	7	9	11									
2	4	6	8	10	12									
+12V	<table border="1"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> </table>	1	3	5	7	9	11	2	4	6	8	10	12	
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COM4 PIN10	▲RI	<table border="1"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> </table>	1	3	5	7	9	11	2	4	6	8	10	12
	1	3	5	7	9	11								
	2	4	6	8	10	12								
+5V	<table border="1"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> </table>	1	3	5	7	9	11	2	4	6	8	10	12	
1	3	5	7	9	11									
2	4	6	8	10	12									
+12V	<table border="1"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> </table>	1	3	5	7	9	11	2	4	6	8	10	12	
1	3	5	7	9	11									
2	4	6	8	10	12									

#### CMOS Operation Mode

Function	JP7		
▲CMOS Normal	<table border="1"> <tr><td>1</td></tr> <tr><td>2</td></tr> </table>	1	2
1			
2			
CMOS Reset	<table border="1"> <tr><td>1</td></tr> <tr><td>2</td></tr> </table>	1	2
1			
2			

▲ = Manufacturer Default Setting

### Power Mode Setting

Function	JP4		
▲ ATX Power	<table border="1"><tr><td>1</td></tr><tr><td>2</td></tr></table>	1	2
1			
2			
AT Power	<table border="1"><tr><td>1</td></tr><tr><td>2</td></tr></table>	1	2
1			
2			

### VGA Power Setting

Function	JP5		
▲ No Power	<table border="1"><tr><td>1</td></tr><tr><td>2</td></tr></table>	1	2
1			
2			
+12V	<table border="1"><tr><td>1</td></tr><tr><td>2</td></tr></table>	1	2
1			
2			

### System Reset

Function	JP3		
▲ System Normal	<table border="1"><tr><td>1</td></tr><tr><td>2</td></tr></table>	1	2
1			
2			
System Reset	<table border="1"><tr><td>1</td></tr><tr><td>2</td></tr></table>	1	2
1			
2			

▲ = Manufacturer Default Setting

# Appendix: Drivers Installation

The shipping package includes a Driver CD. You can find every individual driver and utility that enables you to install the drivers in the Driver CD.

Please insert the Driver CD into the drive and double click on the “index.htm” to pick up the models. You can refer to the drivers installation guide for each driver in the “Driver/Manual List”.