

LPC-1231/1531

12.1"/15" Intel® Celeron® SoC N3000 family Processor
Fanless Rugged Touch Panel PC

Quick Reference Guide

1st Ed – 21 September 2015

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Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

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To receive the latest version of the user's manual; please visit our Web site at:

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1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.







1.2 Packing List

- 1 x LPC-1231/1531 Panel PC
- 1 x DVD-ROM contains the followings:
 - User's Manual (this manual in PDF file)
 - Ethernet driver and utilities
 - VGA drivers and utilities
 - Audio drivers and utilities
 - WiFi drivers and utilities
 - Touch controller drivers and utilities
 - Chipset drivers and utilities
- 1 x Power Adapter
- 1 x Stand for Panel PC (optional)



If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

| | | |
|---|--|-------------------------|
| Panel  | | |
| Model | LPC-1231 | LPC-1531 |
| LCD size | 12.1", 4:3 | 15", 4:3 |
| Display type | XGA | |
| Resolution | 1024 x 768 | |
| Pixel pitch | 0.240mm(H) x 0.240mm(V) | 0.297mm(H) x 0.297mm(V) |
| Luminance | 600 cd/m² | 400 cd/m² |
| Contrast ratio | 700 | |
| Viewing angle | 70(U), 70(D), 80(L), 80(R) | |
| Response time | 16 ms | |
| Backlight | LED | |
| Touch type | 5 Wires resistive | |
| Touch Light transmission | 80% | |
| Touch Controller | Onboard USB touch (EETI) | |
| System  | | |
| Board | EBM-BSW | |
| Processor | Intel® Pentium®/Celeron® processor | |
| I/O Chipset | Nuvoton NPCE388N | |
| System Memory | 1 x 204-pin DDR3L 1600MHz up to 8GB | |
| Watchdog Timer | H/W Reset, 1sec. ~ 65535sec./1sec.step | |
| H/W Status Monitor | Monitoring SYSTEM Temperature and Voltage with Auto Throttling Control | |
| Expansion  | | |
| Expansion | 1 x Mini PCIe Support mSATA | |
| | 1 x Mini PCIe Supports SIM Card | |
| Storage  | | |
| Storage | 1 x 2.5" Drive Bay | |
| | Optional onboard eMMC | |
| I/O  | | |
| USB | 4 x USB 3.0 | |
| SATA | 1 x SATA III | |
| COM Port | 2 x RS-232/422/485 (Factory Optional) | |
| Other | 1 x HDMI | |
| | 1 x Knockouts for Antenna Mounting | |
| Display  | | |
| Chipset | Intel® Braswell SoC integrated Graphics | |
| | Supports dual display | |

| | | |
|---------------------------|---|--------|
| Resolution | HDMI: Max. resolution 1920 x 1200@ 60Hz | |
| Audio | | |
| Chipset | Realtek ALC233 supports 2.1-CH Audio | |
| Audio Interface | Line out | |
| Speaker Output | N/A | 2 x 1W |
| Ethernet | | |
| Chipset | 2 x Realtek RTL8119 | |
| Ethernet Interface | 10/100/1000 Base-Tx Gbe compatible | |
| LAN Port | 2 x RJ-45 | |
| Power Requirement | | |
| Power Connector | Lockable DC Jack | |
| Power Requirement | +12V ~ +26V | |
| ACPI | Single Power ATX Support S0, S3, S4, S5 | |
| | ACPI 3.0 Compliant | |
| Power Type | AT/ATX (ATX is default setting) | |
| Adapter | Input: 100 ~ 240Vac/ 50 ~ 60Hz | |
| | Output: 60W Adapter (12V @ 5A Adapter) | |
| Mechanical & Environment | | |
| System Fan | Fanless | |
| Construction-Front | Silver Aluminum | |
| Construction-Rear | Black | |
| Dimensions | 283 x 222 x 45 mm | |
| Weight | 2.84 Kgs | |
| Operating | -10°C ~ 50°C | |
| Storage Temp. | -20°C ~ 60°C | |
| Operating Humidity | 0% ~ 90% Relative Humidity, Non-condensing | |
| Vibration Test | With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis | |
| Mounting | Wall / Stand / VESA 75mm x 75mm | |
| Shock Test | With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms | |
| Certifications | | |
| Certification Information | CE | |
| | FCC Class B | |
| Software Support | | |
| OS Information | Win 7, 8.1, 10 | |
| | Linux | |

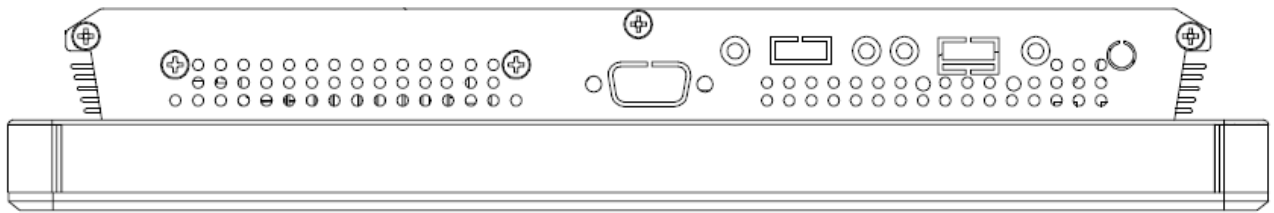


Note: Specifications are subject to change without notice.

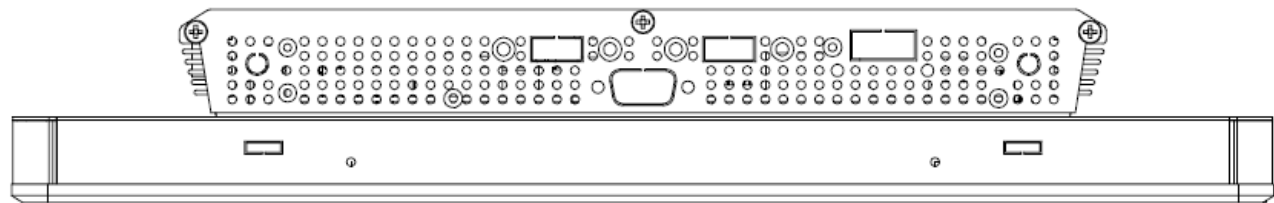
1.4 System Overview

1.4.1 Top View

LPC-1231

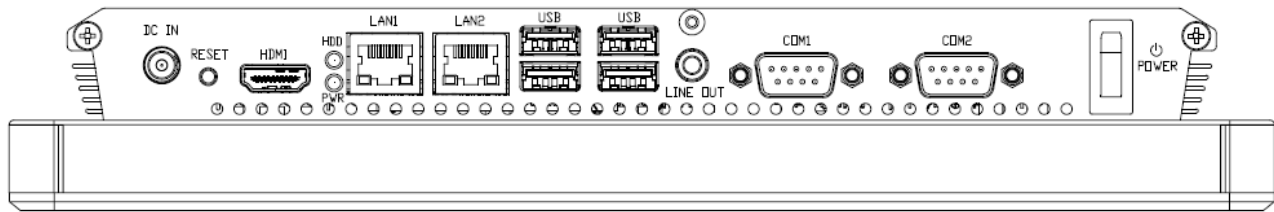


LPC-1531

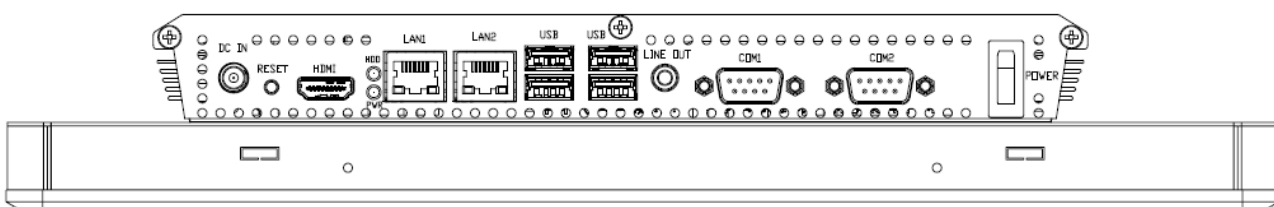


1.4.2 Bottom View

LPC-1231



LPC-1531



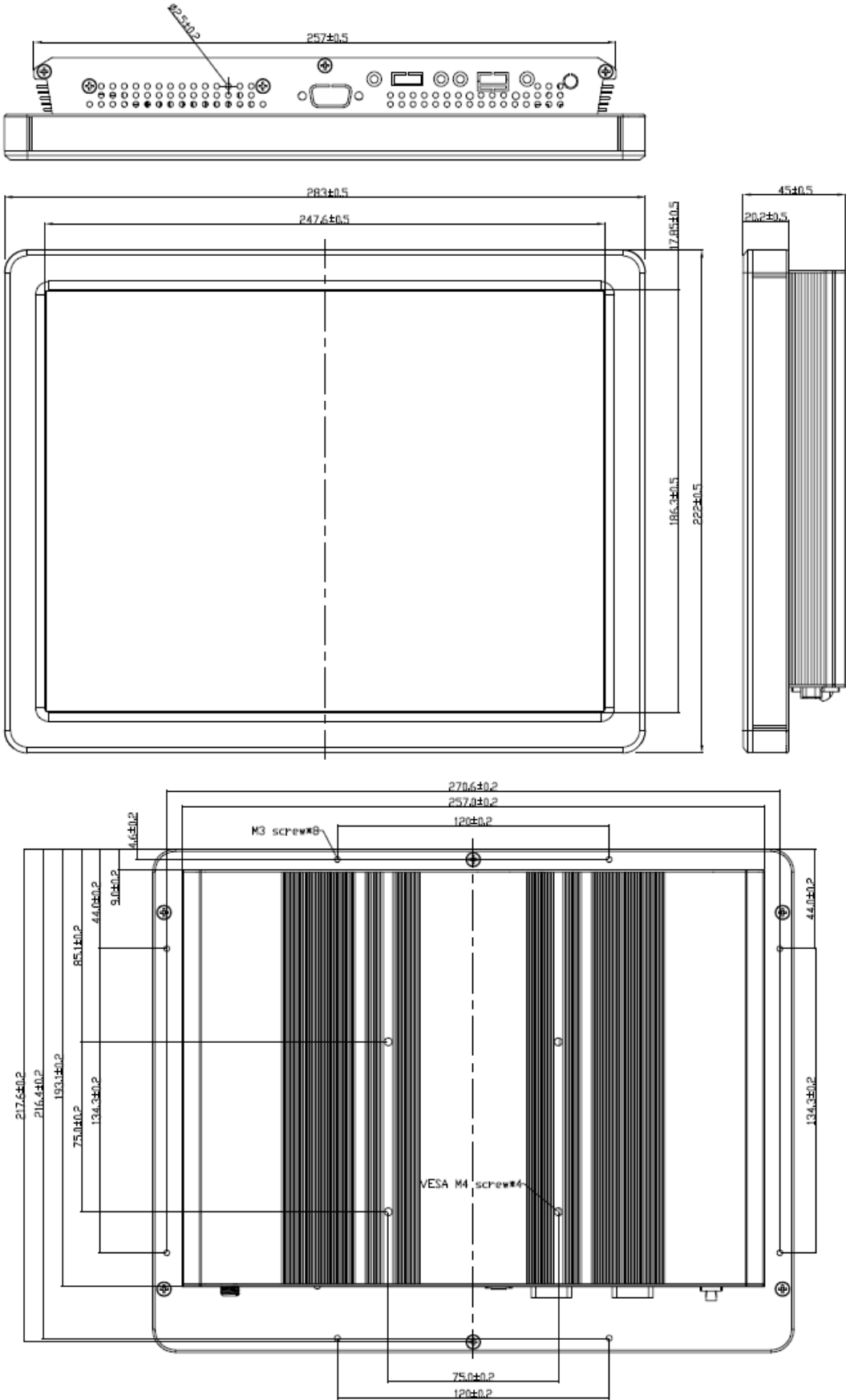
Connectors

| Label | Function | Note |
|----------|------------------------------|---------------------|
| POWER | Power on button | |
| COM1/2 | Serial port 1/2 connector | DB-9 male connector |
| LINE OUT | Line-out audio jack | |
| USB | 4 x USB 3.0 connector | Dock USB |
| LAN1/2 | RJ-45 Ethernet connector 1/2 | |
| HDD | HDD indicator | |

| | |
|--------------|------------------------|
| PWR | System power indicator |
| HDMI | HDMI connector |
| RESET | Reset button |
| DC IN | DC Power-in connector |

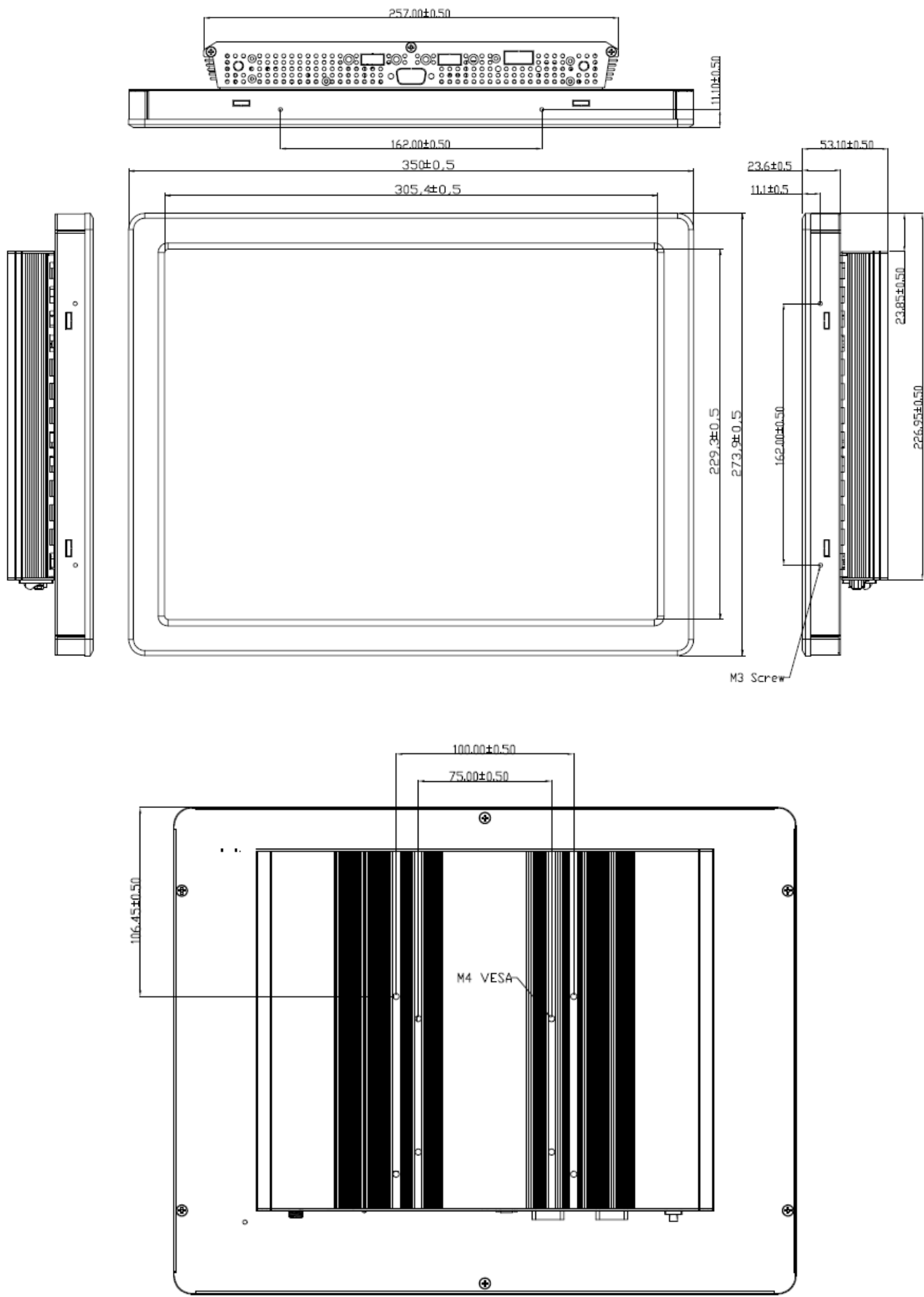
1.5 System Dimensions

1.5.1 LPC-1231 Front and Rear side



(Unit: mm)

1.5.2 LPC-1531 Front and Rear side



(Unit: mm)

2. Hardware Configuration

For advanced information, please refer to:

- 1- EBM-BSW User's Manual

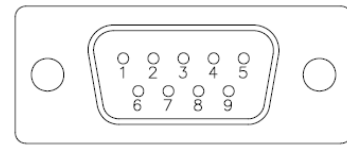
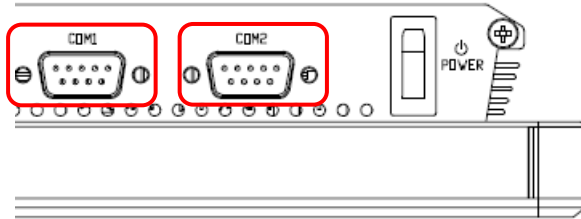


Note: If you need more information, please visit our website:

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2.1 LPC-1231/1531 connector mapping

2.1.1 Serial port 1/2 connector (COM1/2)



RS-232

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

RS-422

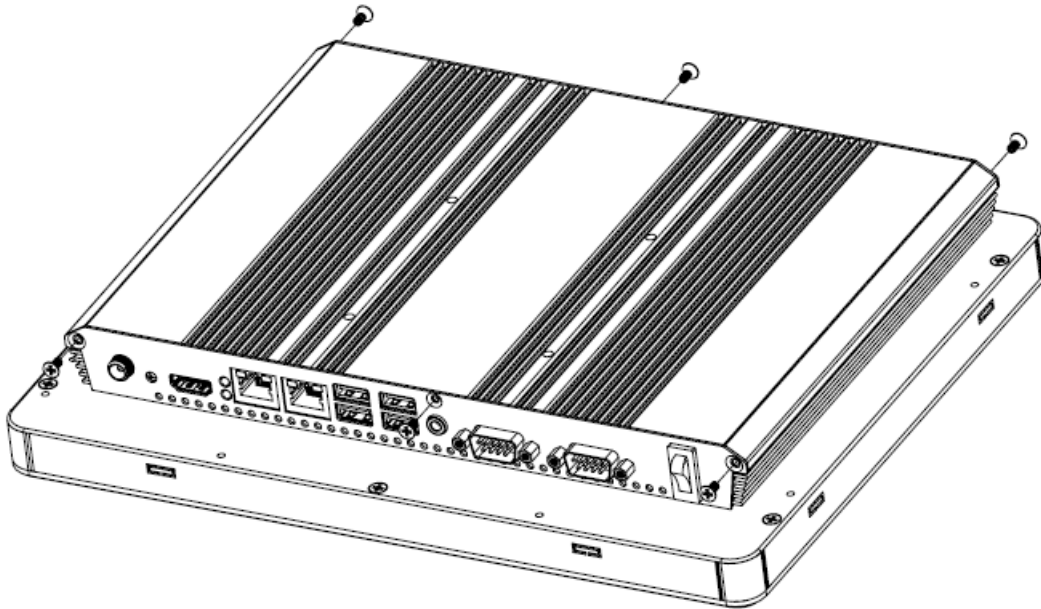
| Signal | PIN | PIN | Signal |
|---------|-----|-----|--------|
| 422_Tx- | 1 | 6 | NC |
| 422_Rx+ | 2 | 7 | NC |
| 422_Tx+ | 3 | 8 | NC |
| 422_Rx- | 4 | 9 | NC |
| GND | 5 | | |

RS-485

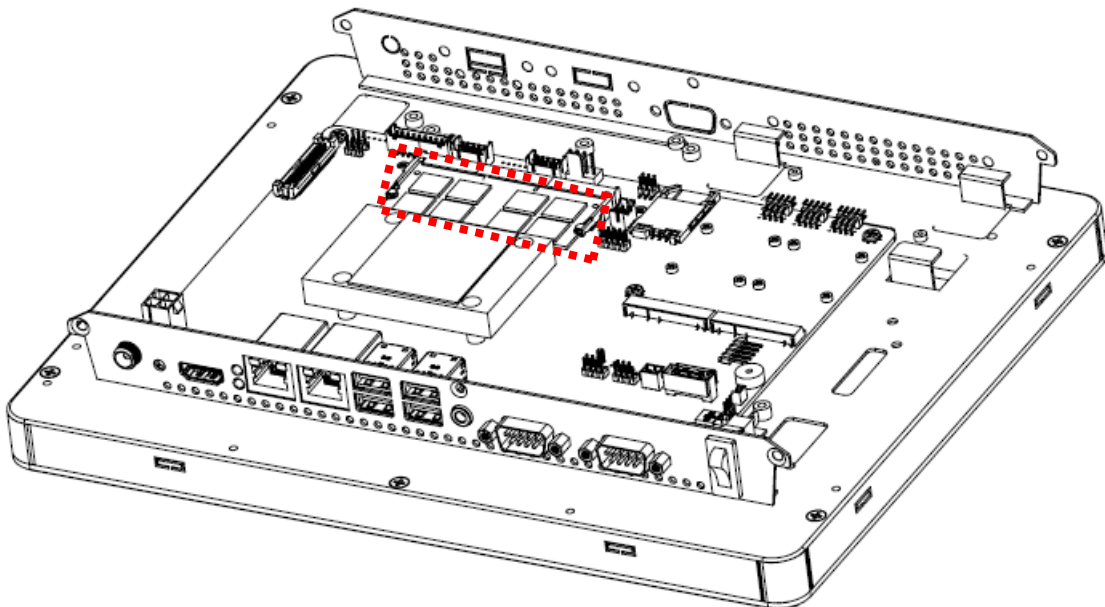
| Signal | PIN | PIN | Signal |
|---------|-----|-----|--------|
| 485_Tx- | 1 | 6 | NC |
| NC | 2 | 7 | NC |
| 485_Tx+ | 3 | 8 | NC |
| NC | 4 | 9 | NC |
| GND | 5 | | |

2.2 Installing Hard Disk & Memory (For LPC-1231)

Step 1. Unfasten 6 screws from the case. Then take off the top chassis.

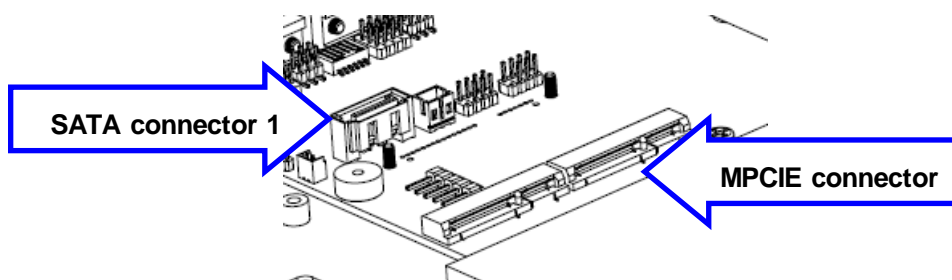


Step 2. Memory Installation: Insert the SODIMM into the memory socket.

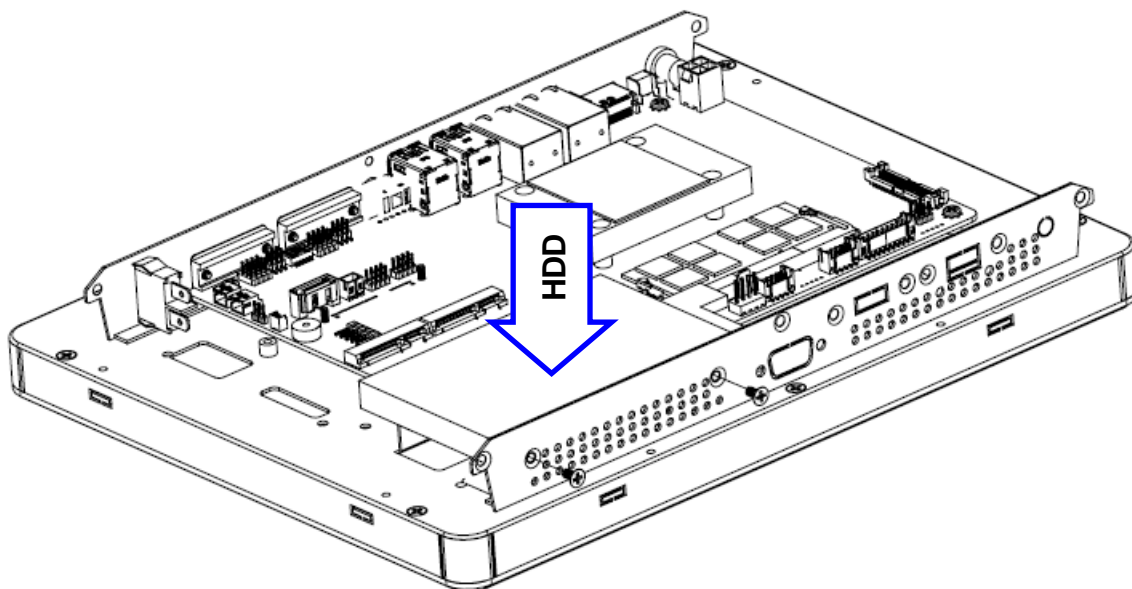


Step 3-1. SATA HDD Installation: By default, the SATA cables had been inserted to the

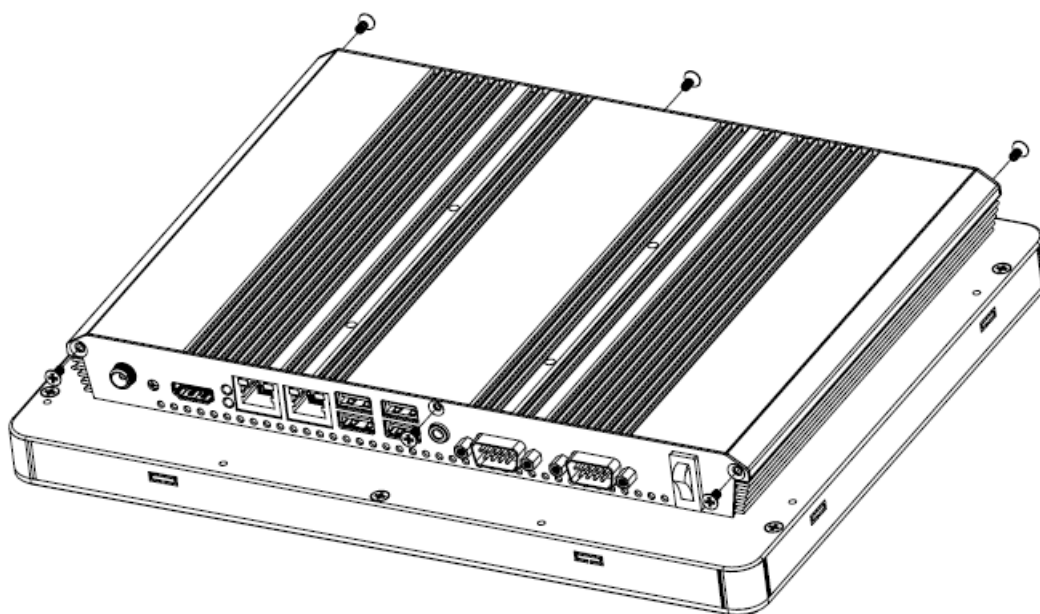
according connectors. Just connect to SATA HDD with the two cables.



Step 3-2. Insert the HDD into the Drive Bay. Remember to place the HDD down to the bottom exactly in order to screw the device tightly.

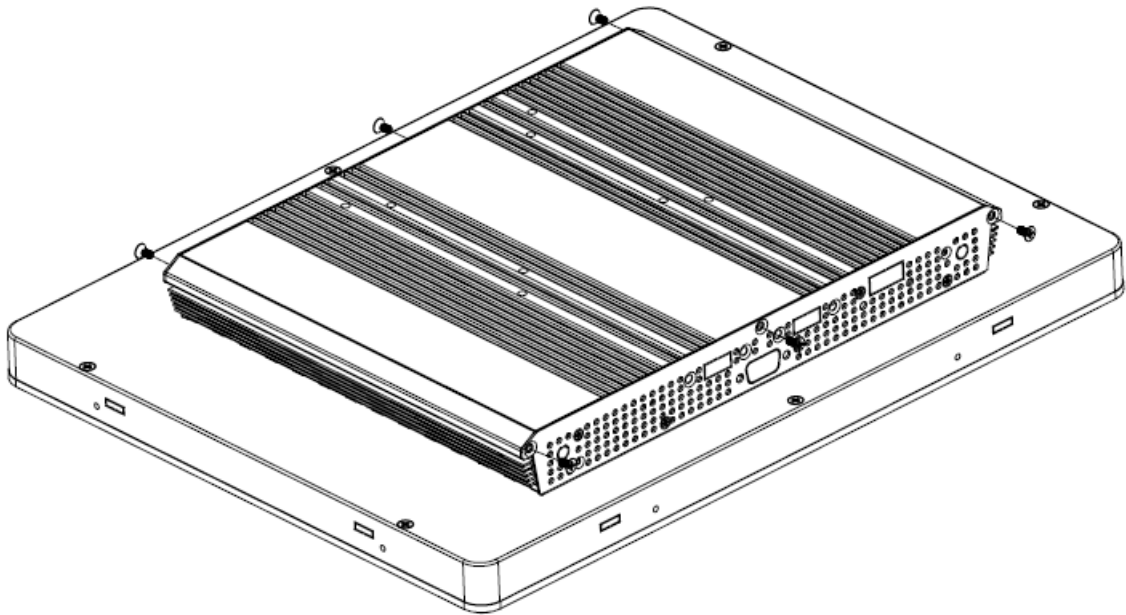


Step 4. Place back the chassis with 6 screws locked.

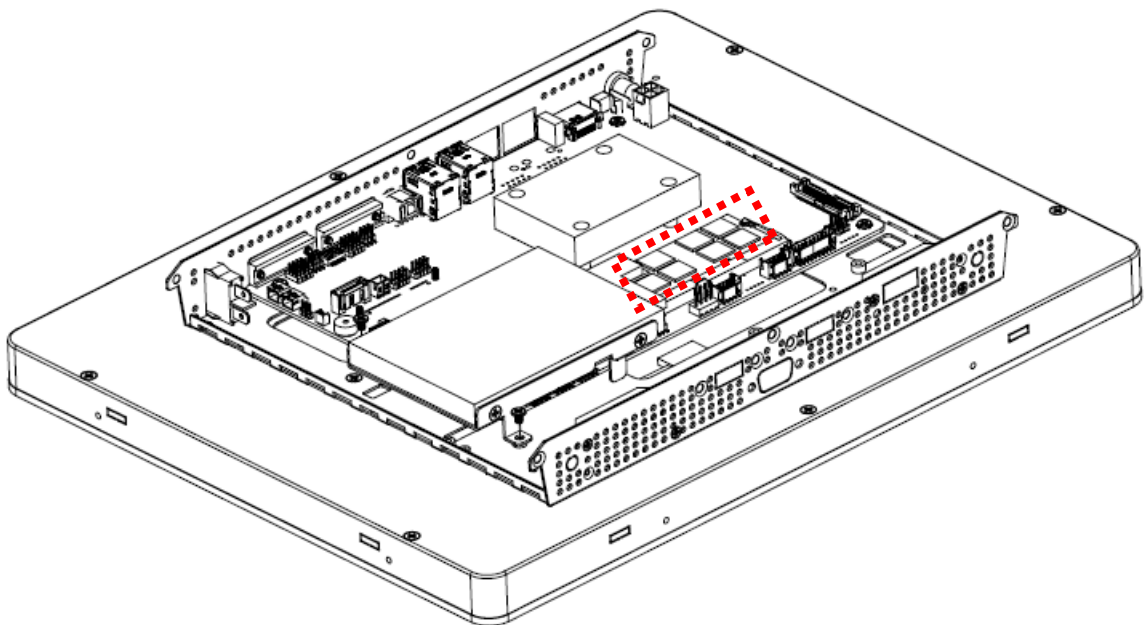


2.3 Installing Hard Disk & Memory (For LPC-1531)

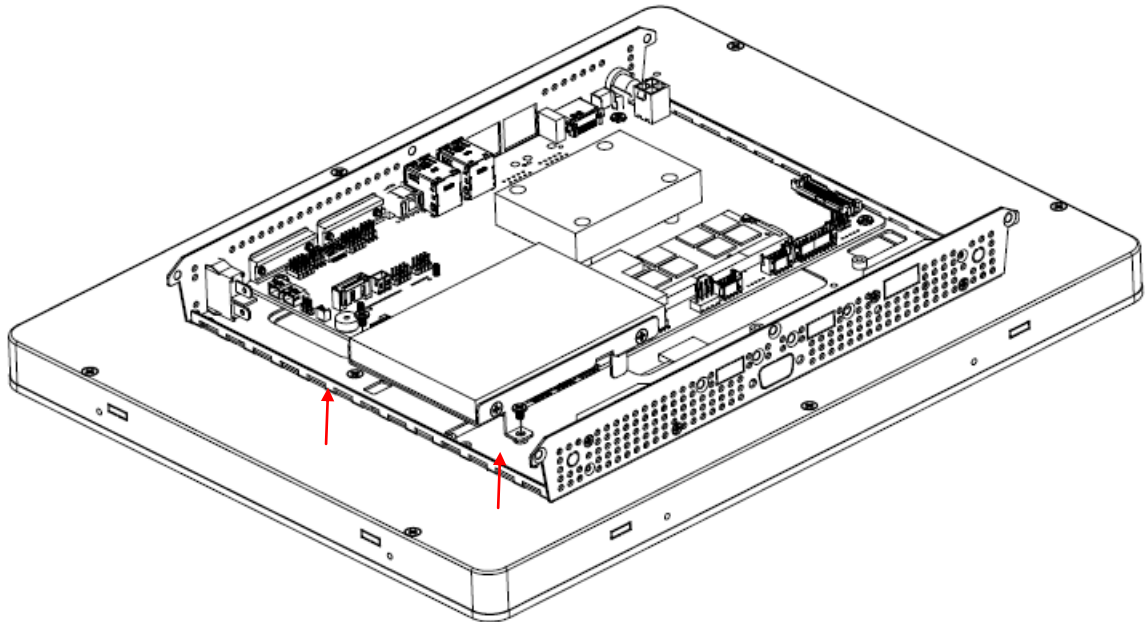
Step 1. Unfasten 6 screws from the case. Then take off the top chassis.



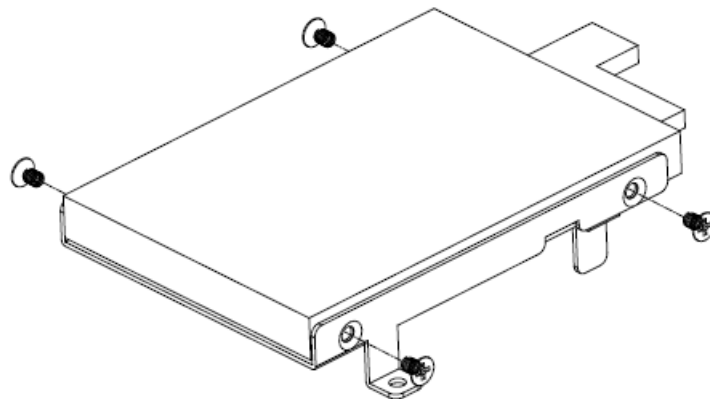
Step 2. Memory Installation: Insert the SODIMM into the memory socket.



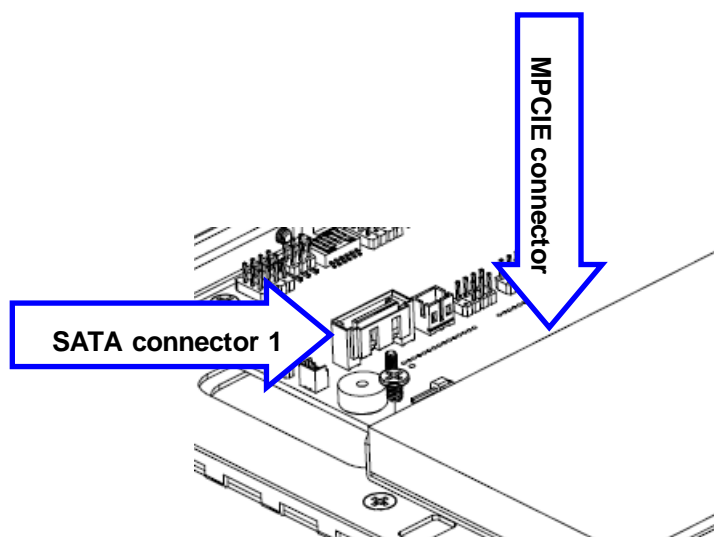
Step 3-1. HDD Installation: Unfasten 2 screws of the HDD bracket and take it off.



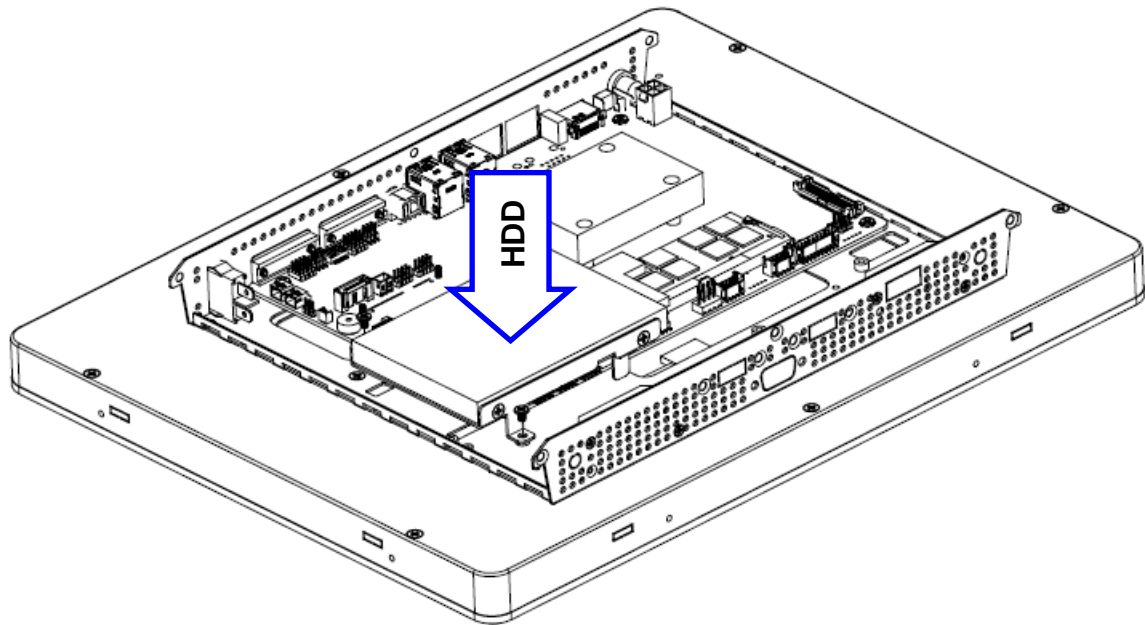
Step 3-2. Insert the HDD into the bracket and fasten 4 screws.



Step 3-3. SATA HDD Installation: By default, the SATA cables had been inserted to the according connectors. Just connect to SATA HDD with the two cables.



Step 3-4. Insert the HDD into the Drive Bay. Remember to place the HDD down to the bottom exactly in order to screw the device tightly.



Step 4. Place back the chassis with 6 screws locked.

