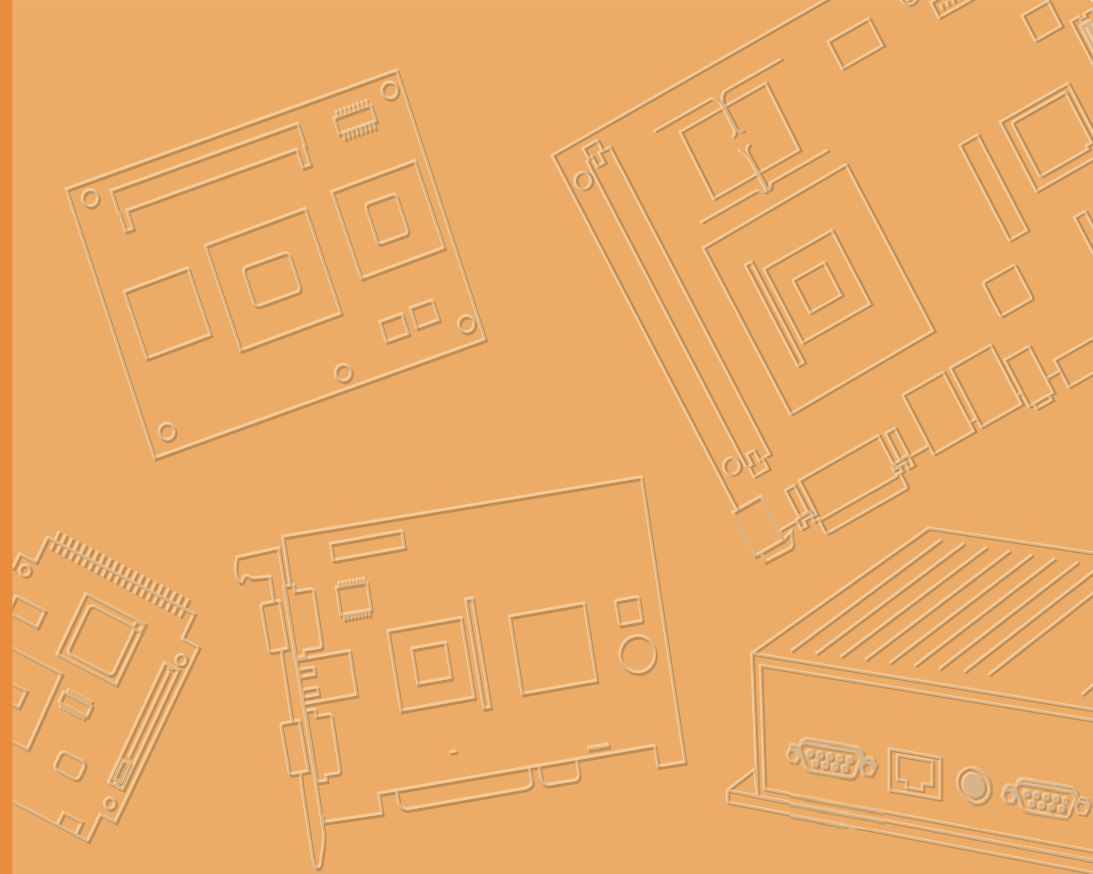


User Manual



UBX-310D

Fanless Embedded Box PC

ADVANTECH

Enabling an Intelligent Planet

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Acknowledgements

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Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Warnings, Cautions and Notes

Warning! Warnings indicate conditions, which if not observed, can cause personal injury!



Caution! Cautions are included to help you avoid damaging hardware or losing data. e.g.



There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Note! Notes provide optional additional information.



Document Feedback

To assist us in making improvements to this manual, we would welcome comments and constructive criticism. Please send all such - in writing to: support@advantech.com

Technical Support and Assistance

1. Visit the Advantech website at <http://support.advantech.com> where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Packing List

Before setting up the system, check that the items listed below are included and in good condition.

- UBX-310D
 - Warranty card
 - Adaptor
 - User manual
 - DC-IN interface fixing bracket

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

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located 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 may 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 overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment does not work well, or you cannot get it to work according to the user's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on.
- Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

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Chapter 1

General Information

This chapter gives background information on UBX-310D.

Sections include:

- Introduction
- Specifications
- Dimensions

1.1 Introduction

UBX-310D is an intelligent fanless embedded box PC with Intel® quad-core Celeron J1900 low power processor and rich I/O interfaces. Compared to last generation Intel® Atom™ dual-core processor, the computing performance and graphic performance of Intel® Celeron J1900 has been improved by three times. The low power platform provides energy-efficient and environmental solution for a diversity of applications, including factory automation, machine automation, kiosk and self-service applications.

1.2 Specifications

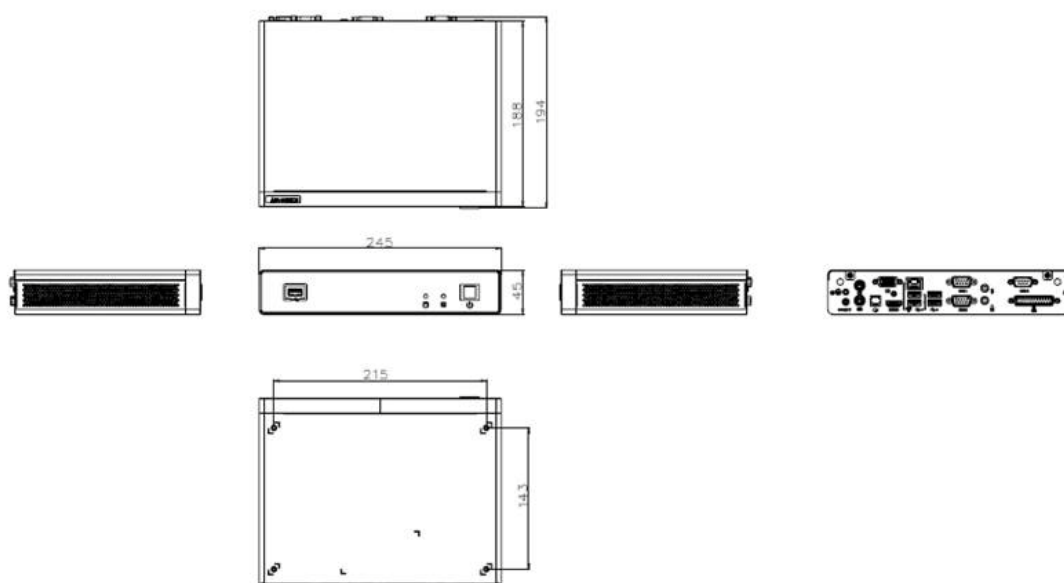
1.2.1 General Specifications

- **Dimensions (W x H x D):** 245 x 45 x 188 mm
- **Weight:** 1.5 kg
- **Power supply:** +12 VDC @ 60 W (Max.)
- **Storage:** Supports 1 x internal MiNi SATA slot
- **CPU:** Intel® Atom™ BayTrail Celeron J1900 2.0 GHz
- **System chipset:** Intel® Atom™ Bay Trail J1900 2.0 GHz
- **L2 cache:** 2 MB
- **RAM:** System memory, 204 pin DDR3L 1333 Mhz SO-DIMM x, up to 8 GB
- **Serial ports:** 3 x COM ports
- **USB:** Supports up to 5 x USB interfaces, compliant with V 2.0
- **Battery:** 3 V @ 195 mA lithium battery

1.2.2 Environmental Specifications

- **Operating Temperature:** 0 ~ 40°C (32 ~ 104°F)
- **Storage Temperature:** -20 ~ 60°C
- **Relative humidity:** 10 ~ 95% @ 40°C (non-condensing)
- **Shock:** 10 G peak acceleration (11 ms duration)
- **Vibration:** 5 ~ 500 Hz 0.5 G RMS randomly
- **Certification:** CCC

1.3 Dimensions



Chapter 2

System Setup

This chapter details system setup on UBX-310D.

Sections include:

- A Quick Tour of the Computer Box
- Installation Procedures
- Running the BIOS Setup Program
- Installing System Software

2.1 A Quick Tour of the Computer Box

Before starting to set up the Computing Box, take a moment to become familiar with the locations and functions of the controls, drivers, connectors and ports on front panel, which are illustrated as Figure 2.1.

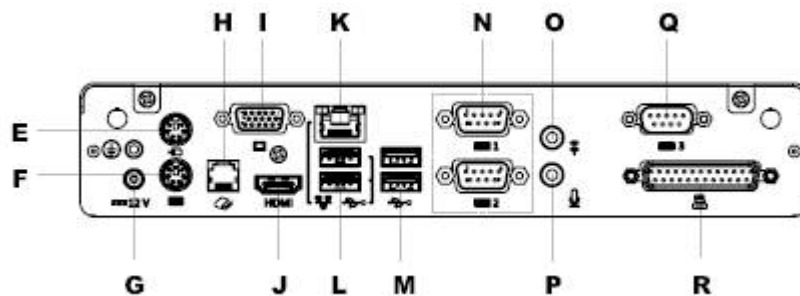


Figure 2.1 Front view of UBX-310D

Turn the computer to see the I/O section, as in Figure 2.2 (I/O interfaces include serial ports, USB interfaces, audio in jack, etc.)



Figure 2.2 Rear view of UBX-310D

A.USB	G.DC JACK IN	M. USBx2
B.HDD LED	H.RJ11	N.COM1/2
C.Power LED	I.VGA	O.LINE OUT
D. Power Switch	J.HDMI	P.MIC
E. Mouse	K.LAN	Q.COM3
F.Keyboard	L.USBx2	R. LPT

2.2 Installation Procedures

2.2.1 Connecting the Power Cord

This product only supports DC power plug (12 VDC, max. 60 W). Be sure to always handle the power cords by holding the plug ends only.

2.2.2 Connecting the Mouse and Keyboard

Connect the USB mouse and keyboard to the USB ports in the rear I/O section of the computer.

2.2.3 Turn on the power source.

2.3 Running the BIOS Setup Program

In most cases, the computer will have been properly set up and configured by the dealer or SI prior to delivery. However, it may still be necessary to adjust some of the computer's BIOS (Basic Input-Output System) setup programs to change the system configuration data, like the current date and time, or the specific type of hard drive currently installed. The setup program is stored in read-only memory (ROM). It can be accessed either when turning on or resetting the computer, by pressing the "Del" key on the keyboard immediately after powering up the computer.

2.4 Installing System Software

Recent releases of operating systems from major vendors include setup programs which load automatically and guide users through the entire process of operating system installation. The guidelines below help to determine the steps necessary to install your operating system on the computer hard drive.

Note! *Some distributors and system integrators may have already pre-installed system software prior to shipment of your Mounted Computer*



When necessary, insert the OS CD into the diskette until the release button pops up. The BIOS of the computer supports system boots-up directly from the USB-CDROM drive. You can directly insert the OS CD into the USB-CDROM drive.

Power on the computer, or reset the system by pressing the "Ctrl" + "Alt" + "Del" keys simultaneously.

Select **Boot->Boot Configuration->Operation System Select** to install the proper OS.



After clicking "Save & Exit", the computer will automatically load the operating system from the diskette or USB-CDROM drive.

When presented with the opening screen of a setup / installation program, simply follow the onscreen instructions. The setup program guides users through preparations of the hard drive, and installation of the operating system.

Note!



The drivers and utilities used for the UBX-310D are subject to change without notice. If in doubt, check Advantech's website or contact our application engineers for the latest information regarding drivers and utilities.



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Please verify specifications before quoting. This guide is intended for reference purposes only.

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