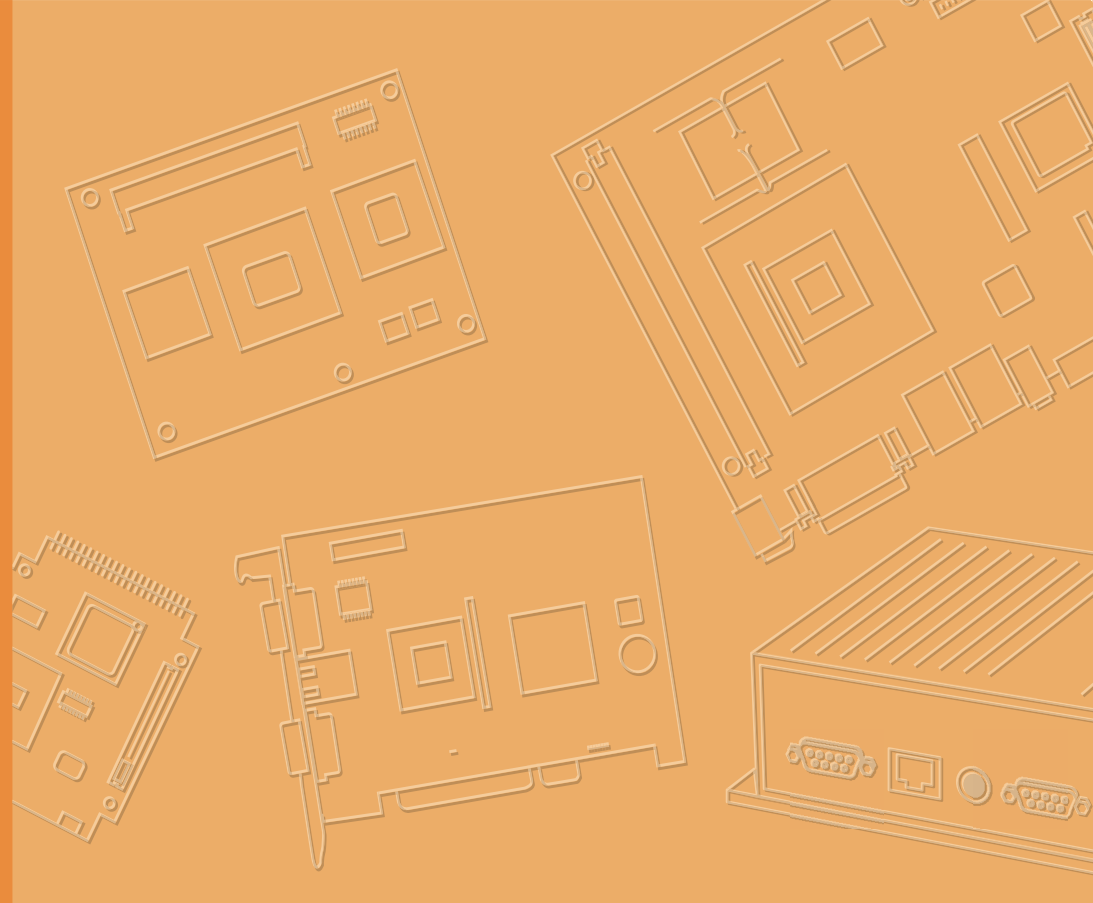




User Manual



UTC-310

**Intel® Celeron® N3350/
Pentium® N4200- based Fanless
Multifunctional Computer with
10.1" Widescreen Capacitive
Touch LCD**

ADVANTECH

Enabling an Intelligent Planet

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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.

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Declaration of Conformity

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class B

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FM

This equipment has passed the FM certification. According to the National Fire Protection Association, work sites are classified into different classes, divisions and groups, based on hazard considerations. This equipment is compliant with the specifications of Class I, Division 2, Groups A, B, C and D indoor hazards.

BSMI

警告使用者：

這是甲類測試產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取些適當的對策

BSMI 關於 Panel 類產品使用說明：

- 使用過度恐傷害視力；
- 使用 30 分鐘請休息 10 分鐘；
- 未滿 2 歲幼兒不看螢幕，2 歲以上每天看螢幕不要超過 1 小時。

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 web site 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 you begin installing UTC-310, please make sure that the following materials have been shipped:

- UTC-310 unit
- Accessories
 - Adapter
 - Cable, packet of screws

If any of these items are missing or damaged, 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 in the device. 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.

UTC-310 Series Models

UTC-310GP-ATB0E

UTC-310GP-ATB1E

UTC-310GP-ATW0E

UTC-310GP-ATW1E

UTC-310GG-ATB0E

UTC-310GG-ATB1E

UTC-310GG-ATW0E

UTC-310GG-ATW1E

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Chapter 1

General Information

This chapter gives background information on the UTC-310.

Sections include:

- Introduction
- General Specifications
- LCD Specifications
- Dimensions

1.1 Introduction

Powered by Intel Atom processor, UTC-310 is the multi-purpose all-in-one computing system equipped with 10.1" wide format capacitive touch LCD. UTC-310 is not only cost-effective, but can be used in a variety of applications to meet market demands. The hotkeys on the front panel support real-time access, while also enabling a simple and elegant combination of industrial design and electronic service solutions.

1.2 General Specifications

1.2.1 General

- **Dimensions:** 252 x 120 x 32 mm
- **Weight:** 1.12 kg(2.46 lbs)
- **Power:** +12 V_{DC}, 3A, 36 W (max.) /optional PoE+ 30W (max.)
- **Storage:** 1 x internal M.2 socket
- **Front panel:** IP65/NEMA4 compliant
- **Rating:** 12-24Vdc, 3.0A-1.5A(below)
- **CPU:** Intel® Celeron® Apollo Lake N3350 1.10 GHz
Intel® Pentium® Apollo Lake N4200 1.10 GHz
- **L2 cache:** 2 MB
- **BIOS:** AMI 16 MB SPI Serial Flash BIOS
- **RAM:** System memory 204-pin DDR3L 1866 Mhz SO-DIMM x, up to 8 GB
- **Serial:** 2 x COM ports
- **USB:** Up to 2 x USB ports, compliant with V 2.0 standard, 1 x USB3.0
- **Battery:** 3 V @ 195 mA lithium battery

1.2.2 HDMI

- **Graphic:** Only LVDS, no HDMI

1.2.3 Audio Function

- **Chipset:** Realtek ALC892
- **Audio connector:** Mic in, line out, speaker (L), speaker (R)

1.2.4 Optional Modules

- **System memory:** DDR3L 4GB/8GB
- **Storage:** 1 x M.2 SSD card

1.2.5 Environment

- **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 Random vibration
- **Certification:**
 - EMC: BSMI, CE, FCC Class B, CCC
 - Safety: CB, CE, UL

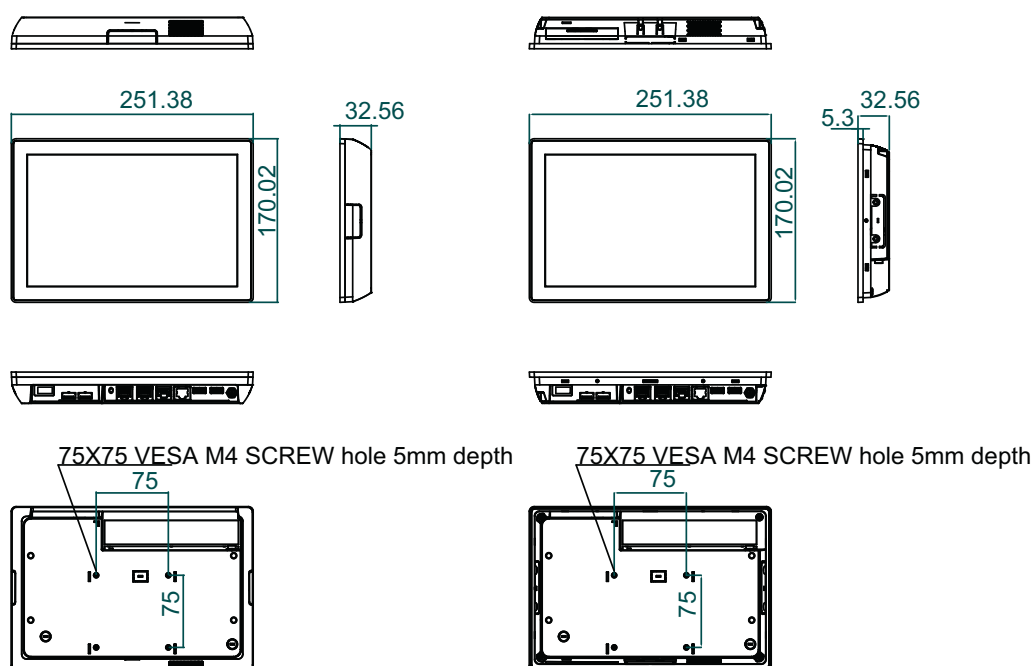
1.3 LCD Specifications

- **Display type:** 10.1" LED backlight panel
- **Max. resolution:** 1200 x 800
- **Colors:** 16.7M
- **Pixel Pitch (um):** 169.5 x 169.5
- **View Angle:** 170°/170°
- **Luminance:** 450 cd/m²
- **Temperature:** 0 ~ 50° C
- **VR control:** Brightness

Note! *The color LCD display installed in the UTC-310 is high-quality and reliable. However, it may contain a few defective pixels which do not always illuminate. With current technology, it is impossible to completely eliminate defective pixels. Advantech is actively working to improve this technology.*



1.4 Dimensions



Note! *Fixed VESA screw: M4, screw depth: 6.0mm (max.).*



Chapter 2

System Setup

This chapter details system setup on the UTC-310.

Sections include:

- A Quick Tour of the UTC-310
- Installation procedures
- Running the BIOS Setup Program
- Installing System Software
- Installing the Drivers

2.1 A Quick Tour of the UTC-310

Before you start to set up the UTC-310, take a moment to become familiar with the locations and purposes of the controls, drives, connectors and ports. The front panel appears as shown in Figure 2.1.

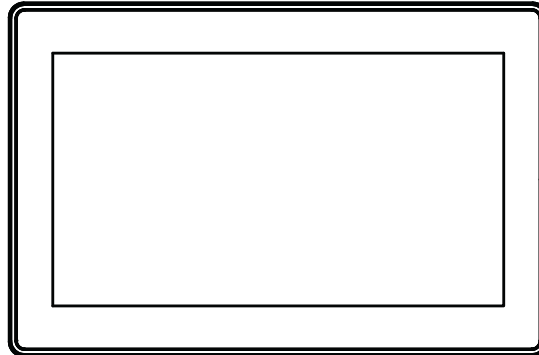
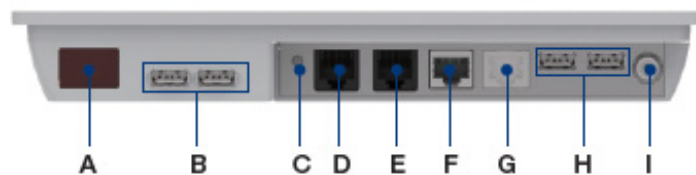


Figure 2.1 Front view of UTC-310

When you turn the UTC-310 around, you will find the I/O section as shown in Fig. 2.2. (The I/O section includes various I/O ports, including serial ports, USB ports, audio connectors etc.)



- | | |
|------------------------------|------------------|
| A. Barcode Reader (Optional) | F. LAN Port |
| B. USB 3.0 x 2 (Optional) | G. LAN/PoE Port |
| C. POWER BUTTON | H. USB 3.0 x 2 |
| D. COM W/RS232 | I. DC Power Jack |
| E. COM W/RS-232/422/485 | |

Figure 2.2 Rear view of UTC-310

2.2 Installation Procedures

2.2.1 Connecting the power cord

UTC-310

System Power On

1. For the UTC-310 model, connect the system to a power adaptor with 12V/3A input voltage.
2. Hold power cords by the plugs ends only. Refer to the figures above for the location of the DC power input and power switch.

UTC-310 (PoE)

1. Make sure that the PoE PSE is compliant with the IEEE802.3at standard.
2. Connect the PoE PSE LAN cable to the UTC-310 (PoE) LAN/PoE port.
3. Refer to the figures above for the location of the DC power input and power switch.

2.2.2 Connecting the keyboard or mouse

Before you start the computer, please connect the USB port of the I/O area on the back of the computer with a USB mouse and keyboard.

2.2.3 Switching on the power

2.3 Running the BIOS Setup Program

Your UTC-310 is likely to have been properly set up and configured by your dealer prior to delivery. You may still find it necessary to use the UTC-310's BIOS (Basic Input-Output System) setup program to change system configuration information, such as the current date and time or your type of hard drive. The setup program is stored in read-only memory (ROM). It can be accessed either when you turn on or reset the UTC-310, by pressing the "Del" key on your keyboard immediately after powering on the computer.

The settings you specify with the setup program are recorded in a special area of memory called CMOS RAM. This memory is backed up by a battery so that it will not be erased when you turn off or reset the system. Whenever you turn on the power, the system reads the settings stored in CMOS RAM and compares them to the equipment check conducted during the power on self-test (POST). If an error occurs, an error message will be displayed on screen, and you will be prompted to run the setup program.

2.4 Installing System Software

Recent releases of operating systems from major vendors include setup programs which load automatically and guide you through hard disk preparation and operating system installation. The guidelines below will help you determine the steps necessary to install your operating system on the UTC-310 hard drive.

Note! *Some distributors and system integrators may have already pre-installed system software prior to shipment of your UTC-310.*



If required, insert your operating system's installation or setup diskette into the diskette drive until the release button pops out.

The BIOS of UTC-310 supports system boot-up directly from the CD-ROM drive. You may also insert your system installation CD-ROM into the CD-ROM drive.

Power on your UTC-310 or reset the system by pressing the "Ctrl+Alt+Del" keys simultaneously. The UTC-310 will automatically load the operating system from the diskette or CD-ROM.

If you are presented with the opening screen of a setup or installation program, follow the instructions on screen. The setup program will guide you through preparation of your hard drive, and installation of the operating system. If you are presented with an operating system command prompt, such as A:\>, then you must partition and format your hard drive, and manually copy the operating system files to it. Refer to your operating system user manual for instructions on partitioning and formatting a hard drive.

2.5 Installing the Drivers

After installing your system software, you will be able to set up the Ethernet, SVGA, audio and touchscreen functions. All the drivers are stored in a CD-ROM disc labeled "Drivers and Utilities". The CD-ROM can be found in your accessory box.

The various drivers and utilities in the CD-ROM disc which help users install the drivers and understand their functions. These files are a very useful supplement to the information in this manual.

Note! *The drivers and utilities used for the UTC-310 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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