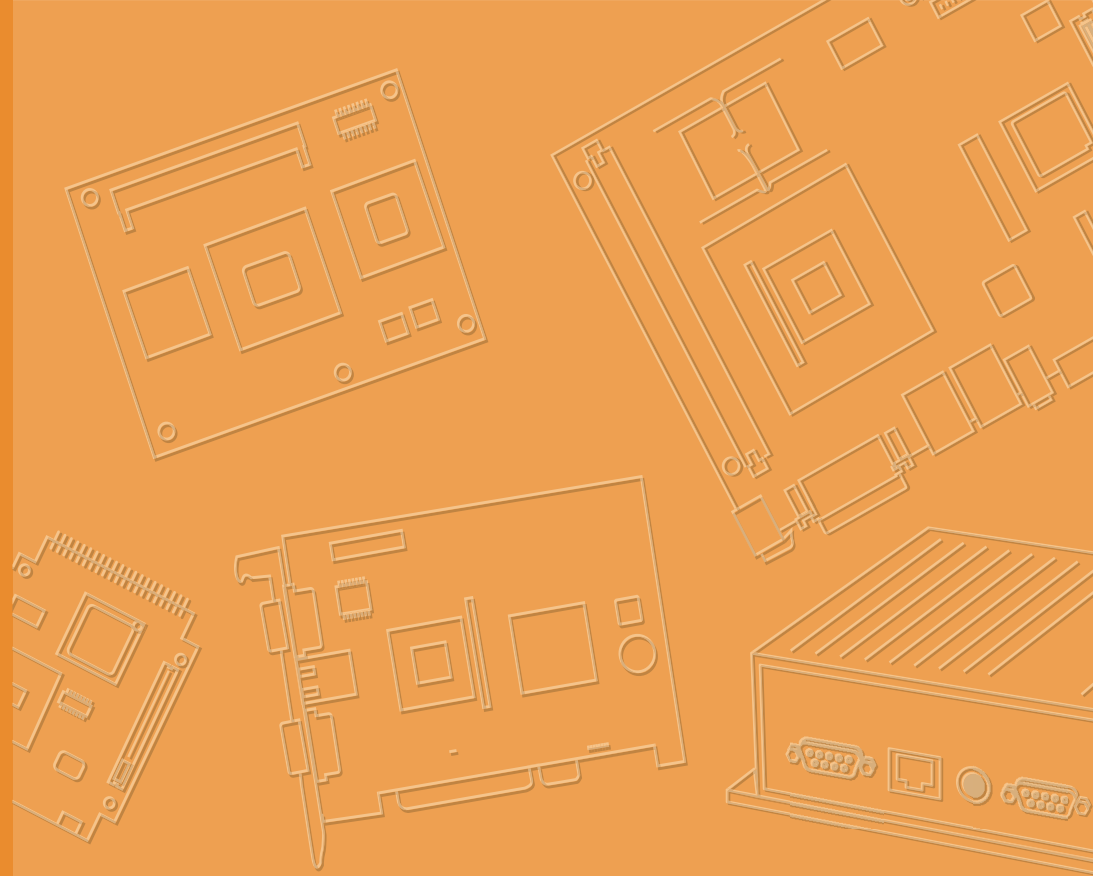


User Manual



UTC-520FP-IKA0E

**21.5”
Ubiquitous Touch Computer**

ADVANTECH

Enabling an Intelligent Planet

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For technical support and service, please visit our support website at <http://support.advantech.com>

This manual is for UTC-520FP-IKA0E.

Declaration of Conformity

FCC Class B

15.19

- 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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

15.105

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.

15.21

- Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.
- This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
- End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.
- For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible

FCC RF Radiation Exposure Statement:

Mobile Device

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Packing List

Before installing the UTC system, check that the following materials have been included in the shipment:

- UTC-520FP-IKA0E unit
- Accessories for UTC-520FP-IKA0E
 - DC 12V/7A 84W adaptor

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

Technical Support and Assistance

1. Visit the Advantech website at <http://support.advantech.com> to obtain the latest product information.
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 calling:
 - 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

Warnings

Warning! *Batteries are at risk of exploding if incorrectly installed. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.*



Warning!

- *Input voltage rated 12V/7A (UTC-520FP-IKA0E)*
- *Use a 3V/195mA lithium battery*
- *Packing: The unit should be carried with both hands and handled with care.*
- *Maintenance: Use only approved products or a dry applicator to clean and maintain the surfaces.*
- *CompactFlash: Turn off the system power before inserting or removing the CompactFlash storage card.*



Contact information

Manufacturer

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Safety Instructions

1. Read these safety instructions carefully.
2. Retain this user manual for future reference.
3. Disconnect the equipment from all AC outlets before cleaning. Use only a damp cloth for cleaning. Do not use liquid or spray detergents.
4. For pluggable equipment, the power outlet socket must be located near the equipment and easily accessible.
5. Protect the equipment from humidity.
6. Place the equipment on a reliable surface during installation. Dropping or letting the equipment fall may cause damage.
7. The openings of the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
8. Ensure that the voltage is correct before connecting the equipment to a power outlet.
9. Position the power cord away from high-traffic areas. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If unused for a long time, disconnect the equipment from the power source to avoid damage from transient overvoltage.
12. Never pour 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 occurs, have the equipment checked by authorized service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated the equipment.
 - The equipment has been exposed to moisture.
 - The equipment is malfunctioning or does not operate according to the user manual.
 - The equipment has been dropped and damaged.
 - The equipment shows obvious signs of breakage.
15. Do not store the equipment in an environment where the temperature fluctuates below -20 °C (-4 °F) or above 60 °C (140 °F) as this may cause damage. The equipment should be stored in a controlled environment.
16. Batteries are at risk of exploding if incorrectly installed. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
17. Use only the recommended mounting apparatus to avoid damage due to falling.
18. The sound pressure level at the operator position does not exceed 70 dB (A) in accordance with the IEC 704-1:1982.

DISCLAIMER: These instructions are provided according to IEC 704-1 standards. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Warning! *Because of the risk of electric shock, do not remove the equipment cover during operation or when connected to a power outlet.*



Caution! *To avoid short circuits and otherwise damaging the device, do not allow fluids to come in contact with the device. If fluids are accidentally spilled on the equipment, remove the affected unit from service as soon as possible and contact service personnel to verify that personal safety is not compromised. If the computer clock is unable to maintain accurate time or the BIOS configuration resets to default, check the battery.*



Caution! *Do not replace the battery yourself. Contact a qualified technician or your retailer. The computer is equipped with a battery-powered real-time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.*



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Chapter 1

General Information

1.1 Introduction

Advantech's UTC-520FP-IKA0E is a fanless, low-power, all-in-one touch panel computers suitable for use as control room computing devices, production line industrial digital signage, showroom interactive signage, self-service kiosks, and public service terminals, as well as to support diverse digital retail, hospitality, healthcare, education, entertainment, and information processing applications. Featuring a protective enclosure, advanced touchscreen technology, wireless capabilities, and rich I/O, the high-performance UTC series can also be integrated with a wide range of optional peripherals and accessories according to specific application requirements.

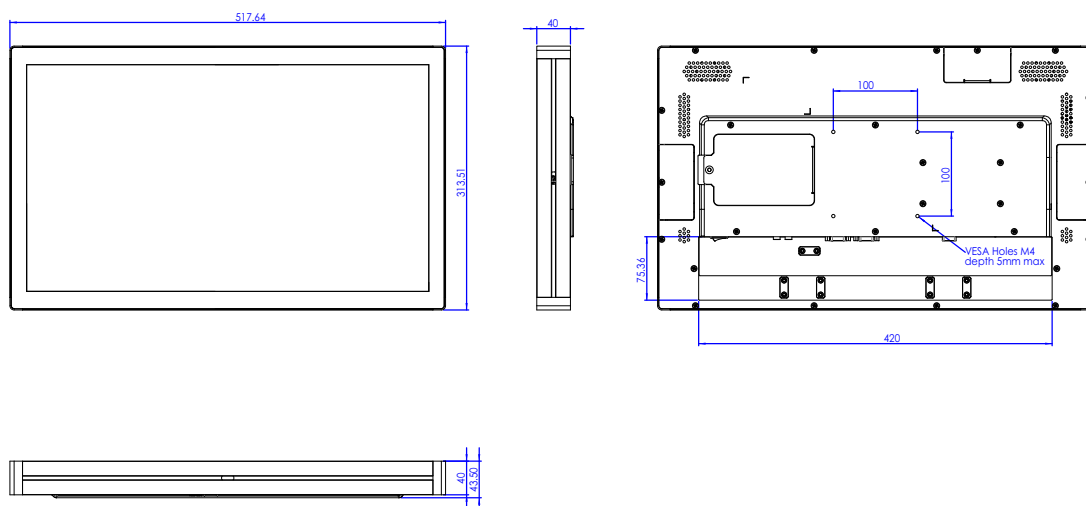
1.2 Specifications

System	CPU	Intel® Core™ i5-6300U (UTC-520FP-IKA0EF)	
	Base Frequency	2.6GHz (dual-core)	
	Cache	L3 cache 4 MB	
	Memory	2 x SODIMM DDR3L 1600 MHz, up to 16 GB	
	HDD	1 x 2.5 internal SATA HDD bay	
	Network (LAN)	2 x Gigabit Ethernet ports (with Wake-on-LAN support)	
	I/O	2 x RS-232 COM (RS-422/485 optional) 3 x USB 2.0/2 x USB 3.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA/HDMI 1 x Audio Line-Out 1 x Mic-In 1 x USB for Bottom Peripheral	
	Stereo Speaker	2 x 3W	
	Bus Expansion	1 x Full-size mini PCIe/mSATA	
	Mounting VESA	VESA 100 x 100 mm	
	Dimensions (W x H x D)	517.64 x 313.51 x 43.50 mm	
	Weight	8 kg (17.6 lb)	
	OS Support	Windows Embedded 7/8, Windows 10 IoT Enterprise	
	Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)
Relative Humidity		10 ~ 95% @ 40 °C non-condensing	
Vibration		0.5 Grms	
Shock		5 G peak acceleration (11 msec. duration)	
EMC/Safety		CE, FCC, UL, CCC CB,BSMI	
Power Supply	Front Panel Protection	IP65/NEMA4 compliant	
	Input Rating	12 V/7 A (84W ITE adapter)	
	Power Consumption	Typical 40W Max. 50W	

LCD Panel	Size/Type	21.5" TFT LCD with LED backlight
	Max.Resolution	1920 x 1080
	Max. Color	16.7M
	Pixel Pitch (H x V)	248.25 x 248.25 um
	Brightness	250 cd/m2 (400 cd/m2 optional)
	Viewing Angle	178°/178°
Touchscreen (PE/RE/GE)	Type	Glass panel with projected capacitive/5-wire analog resistive touch
	Light Transmission	90% ± 2% / 80% ± 5% / 90%
	Controller	USB interface

1.3 Dimensions

1.3.1 UTC-520FP-IKA0E



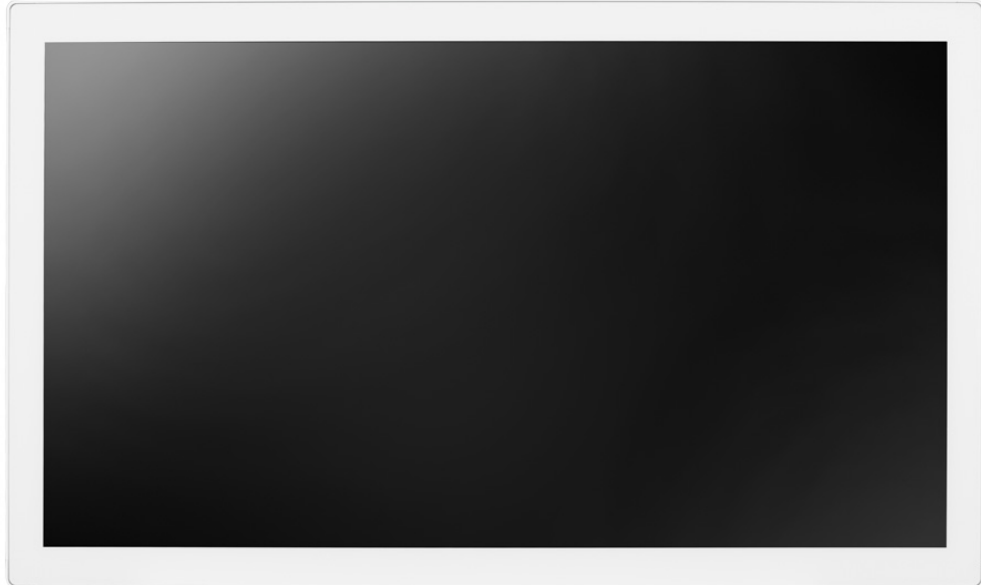
Chapter 2

System Setup

2.1 Quick Start Tour

Before beginning system setup, take a moment to become familiar with the connector locations and functions, as shown in the figures below.

2.1.1 Front View



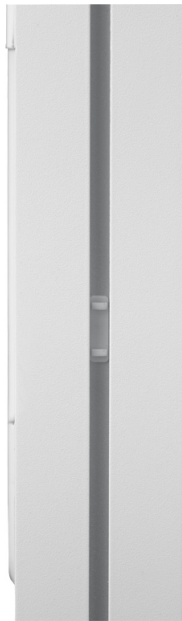
2.1.2 Rear View



Note! Use only VESA-compatible floor, stand, and wall mount kits.
See Appendix A for additional details.
Refer to Section 2.2 regarding system I/O according to UTC model.

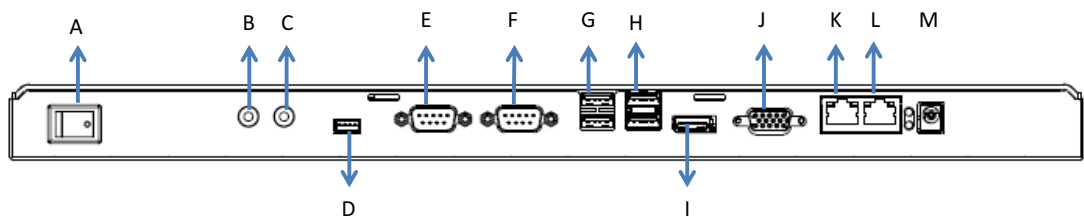


2.1.3 Side View



2.2 I/O Ports

2.2.1 UTC-520FP-IKA0E



- | | |
|--|----------------|
| A. Power Switch | H. USB 3.0 x 2 |
| B. Line-Out | I. HDMI |
| C. Mic-In | J. VGA |
| D. USB for bottom side peripheral module | K. LAN 1 |
| E. COM2 | L. LAN 2 |
| F. COM1 | M. DC Input |
| G. USB 2.0 x 2 | |

2.3 Setup Procedures

2.3.1 System Power On

1. For the UTC-520FP-IKA0E models, a 12V/7A power adaptor.
2. Hold power cords by the plugs ends only. Refer to Section 2.2 for the location of the DC/AC power input and power switch.
3. Press the power switch to activate the system. The PWR LED should emit a green light.

2.3.2 BIOS Setup

For most UTC series, the system setup and configuration will be completed by the dealer or system integrator prior to delivery. However, users may still need to access the BIOS setup program to adjust the system configuration, such as the date/ time or hard drive type. The setup program is stored in read-only memory (ROM) and can be accessed following system reset or by pressing the “Del” key after powering on the computer. The settings selected in the setup program are recorded in CMOS RAM memory, which is backed up by a battery to ensure the settings are retained after the system is powered off. When booting up, the system compares the settings stored in CMOS RAM with the POST self test results. If a discrepancy is found, an error message is displayed on screen and users are prompted to run the setup program.

2.3.3 System Software Installation

Recent releases of operating systems from major vendors include setup programs that load automatically and guide users through hard disk preparation and operating system installation. Some distributors and system integrators may have already installed software prior to shipping the product.

Note! *Before software or driver installation, the system must be equipped with additional storage that users must purchase separately.*



2.3.4 Driver Installation

After installing the system software, users can set up the Ethernet, XGA, audio, and touchscreen functions.

Note! *The relevant drivers and utilities are subject to change without notice. Download the latest drivers for UTC series products from the Advantech website at <http://support.advantech.com> or contact our application engineers for further assistance.*



Chapter 3

Upgrades and
Installation

3.1 Introduction

Advantech's UTC series systems are PC-based computers housed in an aluminum enclosure. To perform system maintenance or hardware upgrades, such as installing an HDD, DRAM, or CompactFlash (A/B models only), simply remove the unit's rear cover.

Warning! *Do not remove the rear cover until you have verified that power is not flowing within the device. The system power should be switched off and the power cord unplugged before opening the device enclosure.*



3.2 Installing Peripherals (Optional)

3.2.1 UTC-520FP-IKA0E

1. Switch off the unit.
2. Locate the peripheral cable port you want to use.
3. Remove the rubber cap.
4. Open the peripheral cover accordingly.
5. Route the cable from the peripheral module through the cable port inside the unit.
6. Connect the cable to the USB port.
7. Attach the peripheral module to the groove rail and let the cable sink into the groove.
8. Fasten the 2 screws to fix the peripheral module in place.
9. Close the peripheral cover.





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