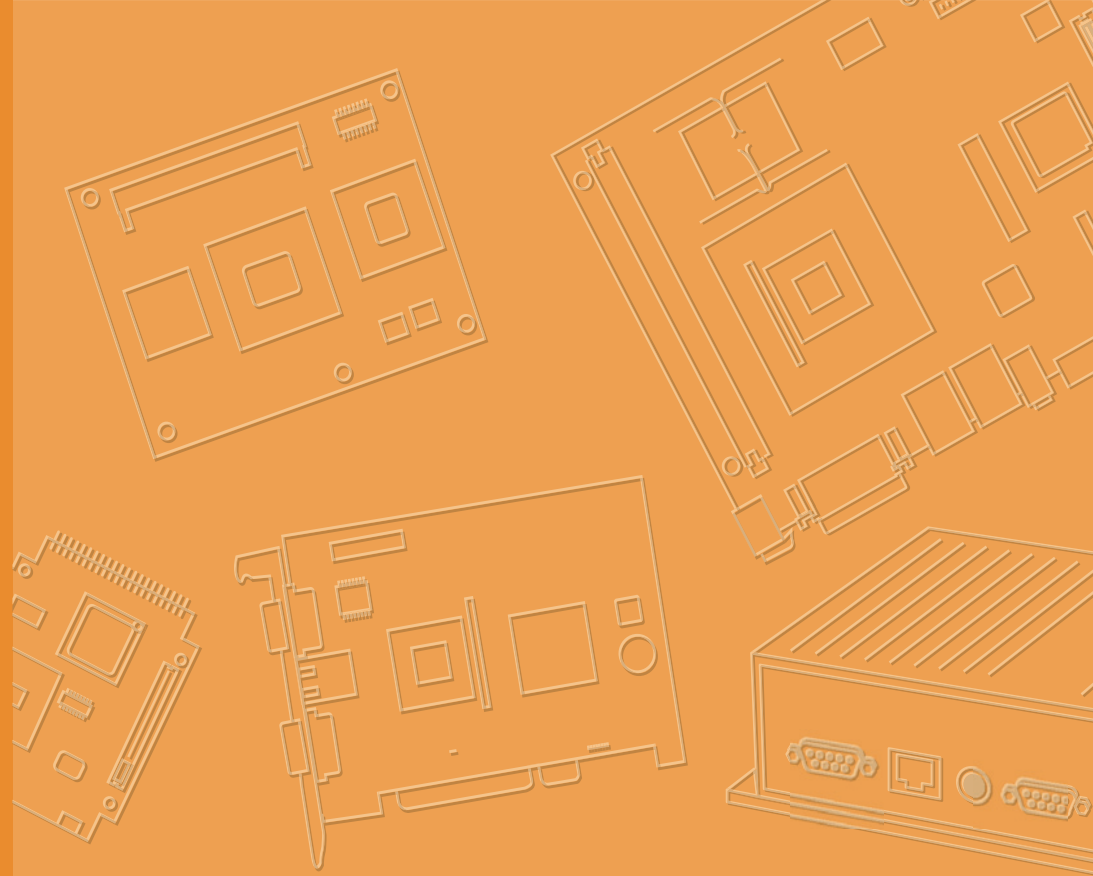


**User Manual**



# **UTC-515/520/532**

**15.6", 21.5", 32"**

**Ubiquitous Touch Computer**

**ADVANTECH**

*Enabling an Intelligent Planet*

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<http://www.advantech.com>


For technical support and service, please visit our support website at:


<http://support.advantech.com>

This manual is for the UTC-515/520/532.

# Declaration of Conformity

## FCC Class A

**Note!**  This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

**Warning!**  Any modifications made to this device that are not approved by the relevant standards authority may void the authority granted to the user by the FCC to operate this equipment.

## Packing List

Before you begin installing UTC, please make sure that the following materials have been shipped:

- UTC-515/520/532 unit
- Accessories for UTC-515/520
  - DC 12V/5A 60W adaptor (UTC-515, UTC-520 A, B & D Sku)
  - DC 12V/7A 84W adaptor (UTC-520 C & E Sku)
  - SATA cable
  - Packet of screws
- Accessories for UTC-532
  - SATA cable
  - Packet of screws
  - Antenna

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

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## 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

## Warnings

**Warning!** *Danger of explosion if battery is incorrectly replaced. 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/5A (UTC-515, UTC-520 A, B & D Sku).
  - Input voltage rated 12V/7A (UTC-520 C & E Sku).
  - Input voltage rated 100-240 VAC 50/60 Hz for UTC-532.
  - Use 3V/195mA lithium battery.
  - Packing: please carry the unit with both hands, handle with care.
  - Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator.
  - CompactFlash: Turn off power before inserting or removing CompactFlash storage card.



## Contact information

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Tel: 49-211-97477350

Fax: 49-211-97477300

# 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.**
17. **CAUTION: USE RECOMMENDED MOUNTING APPARATUS TO AVOID RISK OF DANGER.**

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.



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# Chapter 1

General Information

# 1.1 Introduction

UTC-500 Series products deliver 15.6", 21.5", and 32" fanless, low-power, all-in-one touch panel solutions suitable for many applications including control room Industrial PCs, production line industrial digital signage, showroom interactive signage, self-service kiosks, and public service terminals. They also fulfill much digital retail and hospitality service needs such as in healthcare, vending, education, entertainment and information handling. They are beautiful, durable, and reliable. The systems perform extremely well, with advanced touchscreen technology, wireless support, customized peripherals, rich I/O features, protective covers, and a full-range of installation accessories.

# 1.2 Specifications

## 1.2.1 UTC-515A/B/C

CPU	AMD® G-Series T40E Dual-core 1.0 GHZ (UTC-515A)	Intel Atom Dual Core D2550 1.8 GHZ (UTC-515B)	Intel Core™ i3 3217UE 1.6 GHz (UTC-515C)
Chipset	T40E + A50M	Intel Atom D2550 + Intel NM10	Intel QM77
L2 Cache	512 KB	1 MB	1 MB (L3, 3 MB)
Memory 1	x SO-DIMM DDR3 1066 MHz up to 4 GB	1 x SO-DIMM DDR3 1066 MHz up to 4 GB	1 x SO-DIMM DDR3/DDR3L 1333/1600 MHz up to 8 GB
SSD	Support 1 x CFast	Support 1 x CFast	
HDD	1 x 2.5 internal SATA HDD bay		
Network (LAN)	2 x Gigabit Ethernet ports (Supports Wake on LAN)		
<b>Processor System</b>	3 x RS-232 COM (RS-422/485)*	3 x RS-232 COM (RS-422/485)*	2 x RS-232 COM (RS-422/485)*
	4 x USB 2.0	4 x USB 2.0	2 x USB 2.0, 2 x USB 3.0
I/O Ports	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
	1 x VGA & HDMI	1 x VGA & HDMI	1 x VGA & HDMI
	Audio Line-out x 1, Mic-in x 1	Audio Line-out x 1, Mic-in x 1	Audio Line-out x 1, Mic-in x 1
Stereo	Speaker 1 W x 2		
Bus Expansion	Full-size MiniPCIe/mSATA		
Mounting	VESA 100 x 100 mm		
Dimensions (W x H x D)	389.81 x 240.12 x 45.20 (mm)		
Weight	4.85 kg (10.67 lb)		
<b>OS Support</b>	Windows XP/ XPE/ Embedded 7		Windows XP/ XPE/ Embedded 7
	Embedded Windows 8 Embedded Linux 3.0	Embedded Windows 7 32bit	Embedded Windows 8 Embedded Linux 3.0

<b>Environmental Specifications</b>	Operating Temperature	0 ~ 40° C (32 ~ 104° F)	
	Relative Humidity	10 ~ 95% @ 40° C non-condensing	
	Vibration	0.5G	
	Shock	5 G peak acceleration (11 msec. duration)	
	EMC/ Safety	CE, FCC, UL, CCC CB,BSMI	
	Front Panel Protection	IP65/ NEMA4 Compliant	
<b>Power Supply</b>	Input Rating	12 V/5 A (60 W ITE Adapter)	12 V/5 A (60 W ITE Adapter)
	Power Consumption	Typical 32W Max. 40W	Typical 40W Max. 50W
	Size/Type	15.6" TFT LCD	
<b>LCD Display</b>	Max. Resolution	1366 x 768	
	Max. Color	262 K	
	Pixel Pitch (mm)	248.25 (H) x 248.25 (V)	
	Brightness (cd/m <sup>2</sup> )	300	
	View Angle	170°/160°	
<b>Touch Screen Option (PE/RE/GE)</b>	Type	Projected Capacitive. Antimicrobial Corning® Gorilla® Glass / Analog Resistive 5-wires / Glass Panel	
	Light Transmission	90% ± 2% / 80% ± 5% / 90%	
	Controller	USB Interface / USB Interface / -	

## 1.2.2 UTC-515E

<b>Processor System</b>	CPU	Intel® Core™ i5-4300U (UTC-515E) Intel® Core™ i3-4010U (Available)* Intel® Celeron 2980U (Available)*
	Base Frequency	1.9 GHz (Dual-Core)
	Cache L3	Cache 3MB
	Memory	1 x SO-DIMM DDR3L 1333 / 1600 MHz up to 8 GB
	HDD	1 x 2.5 internal SATA HDD bay
	Network (LAN)	2 x Gigabit Ethernet ports (Supports Wake on LAN)
	I/O ports	2 x RS-232 COM (RS-422/485)*
		2 x USB 2.0 / 2 x USB 3.0
		2 x Gigabit Ethernet (RJ-45)
		1 x VGA & HDMI
		Audio Line-out x 1, Mic-in x 1
	Stereo Speaker	1 W x 2
	Bus expansion	Full-size MiniPCIe/mSATA
	Mounting	VESA 100 x 100 mm
	Dimensions (W x H x D)	389.81 x 240.12 x 45.20 (mm)
	Weight	4.85 kg (10.67 lb)

<b>OS Support</b>		Windows Embedded 7, Windows Embedded 8, Embedded Linux 3.0
<b>Environmental Specifications</b>	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)
	Relative Humidity	10 ~ 95% @ 40° C non-condensing
	Vibration	0.5G
	Shock	5 G peak acceleration (11 msec. duration)
	EMC/ Safety	CE, FCC, UL, CCC CB,BSMI
	Front Panel Protection	IP65/ NEMA4 Compliant
<b>Power Supply</b>	Input Rating	12 V/5 A (60 W ITE Adapter)
	Power consumption	Typical 40W Max. 50W
<b>LCD Display</b>	Size/Type	15.6" TFT LCD
	Max.Resolution	1366 x 768
	Max. Color	262 K
	Pixel Pitch (um)	248.25 (H) x 248.25 (V)
	Brightness (cd/m2)	300
	View Angle	170°/160°
<b>Touch Screen Option (PE/RE/GE)</b>	Type	Projected Capacitive. Antimicrobial Corning® Gorilla® Glass / Analog Resistive 5-wires / Glass Panel
	Light Transmission	90% ± 2% / 80% ± 5% / 90%
	Controller	USB Interface / USB Interface / -

### 1.2.3 UTC-520A/B/C

<b>Processor System</b>	CPU	AMD® G-Series T40E Dual-core 1.0 GHz (UTC-520A)	Intel Atom Dual Core D2550 1.8 GHz (UTC-520B)	Intel Core™ i7 3517UE 1.7 GHz (UTC-520C)
	Chipset	T40E + A50M	Intel Atom D2550 + Intel NM10	Intel QM77
	L2 Cache	512 KB	1 MB	1 MB (L3, 4MB)
	Memory	1 x SO-DIMM DDR3 1066 MHz up to 4 GB	1 x SO-DIMM DDR3 1066 MHz up to 4 GB	1 x SO-DIMM DDR3/DDR3L 1333/1600 MHz up to 8 GB
	SSD	Support 1 x CFast	Support 1 x CFast	
	HDD 1	x 2.5 internal SATA HDD bay		
	Network (LAN)	2 x Gigabit Ethernet ports		
	I/O Ports	3 x RS-232 COM (RS-422/485)*	3 x RS-232 COM (RS-422/485)*	2 x RS-232 COM (RS-422/485)*
		4 x USB 2.0	4 x USB 2.0	2 x USB 2.0, 2 x USB 3.0
	Stereo Speaker	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
		1 x VGA & HDMI	1 x VGA & HDMI	1 x VGA & HDMI
		Audio Line-out x 1, Mic-in x 1	Audio Line-out x 1, Mic-in x 1	Audio Line-out x 1, Mic-in x 1
	Bus Expansion	Full-size MiniPCIe/mSATA		
	Dimensions (W x H x D)	517.64 x 313.51 x 43.50 (mm) (20.38" x 12.34" x 1.71")		
Weight	8 kg (17.6 lb)			
<b>OS Support</b>	Windows XP/ XPE/ Embedded 7	Embedded Windows 7 32bit	Windows XP/ XPE/ Embedded 7	
	Embedded Windows 8 Embedded Linux 3.0	Embedded Windows 8 Embedded Linux 3.0		
<b>Environmental Specifications</b>	Operating Temperature	0 ~ 40° C (32 ~ 104° F)		
	Relative Humidity	10 ~ 95% @ 40° C non-condensing		
	Vibration	0.5G		
	Shock	5 G peak acceleration (11 msec. duration)		
	EMC	CE, FCC, UL, CCC, BSMI		
	Front Panel Protection	IP65/ NEMA4 Compliant		
<b>Power</b>	Input Rating	12 V/5 A (60 W ITE Adapter)	12 V/7 A (84 W ITE Adapter)	
	Power consumption	Typical 32W Max. 40W	Typical 45W Max. 65W	

<b>LCD Display</b>	Size/Type	21.5" TFT LCD with LED backlight
	Max. Resolution	1920 x 1080
	Max. Color	16.7 M
	Pixel Pitch (mm)	248.25 (H) x 248.25 (V)
	Brightness (cd/m2)	250 (Optional 400)
	View Angle	178°/178°
<b>Touch Screen Option (PE/RE/GE)</b>	Type	Projected Capacitive. Antimicrobial Corning® Gorilla® Glass / Analog Resistive 5-wires / Glass Panel
	Light Transmission	90% ± 2% / 80%± 5% / 90%
	Controller	USB Interface / USB Interface / -

## 1.2.4 UTC-520D/E

<b>Processor System</b>	CPU	Intel® Celeron J1900 (UTC-520D)	Intel® Core™ i5-4300U (UTC-520E) Intel® Core™ i3-4010U (Available)* Intel® Celeron 2980U (Available)*	
	Base Frequency	2 GHz (Quad-Core)	1.9 GHz (Dual-Core)	
	Cache	L2 Cache 2MB	L3 Cache 3MB	
	Memory	1 x SO-DIMM DDR3L 1333 MHz up to 8 GB	1 x SO-DIMM DDR3L 1333 / 1600 MHz up to 8 GB	
	HDD	1 x 2.5 internal SATA HDD bay	1 x 2.5 internal SATA HDD bay	
	Network (LAN)	2 x Gigabit Ethernet ports (Supports Wake on LAN)		
	I/O ports		2 x RS-232 COM (RS-422/485)*	2 x RS-232 COM (RS-422/485)*
			3 x USB 2.0 / 1 x USB 3.0	2 x USB 2.0 / 2 x USB 3.0
			2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
			1 x VGA & HDMI	1 x VGA & HDMI
			Audio Line-out x 1, Mic-in x 1	Audio Line-out x 1, Mic-in x 1
	Stereo Speaker	3 W x 2		
	Bus Expansion	Full-size MiniPCIe/mSATA		
	Mounting 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)			
<b>OS Support</b>	Windows Embedded 7, Windows Embedded 8, Embedded Linux 3.0			
<b>Environmental Specifications</b>	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		
	Relative Humidity	10 ~ 95% @ 40° C non-condensing		
	Vibration	0.5G		
	Shock	5 G peak acceleration (11 msec. duration)		
	EMC/ Safety	CE, FCC, UL, CCC CB,BSMI		
	Front Panel Protection	IP65/ NEMA4 Compliant		
<b>Power Supply</b>	Input Rating	12 V/5 A (60 W ITE Adapter)	12 V/7 A (84 W ITE Adapter)	
	Power Consumption	Typical 40W Max. 50W	Typical 45W Max. 65W	

<b>LCD Display</b>	Size/Type	21.5" TFT LCD
	Max. Resolution	1920 x 1080
	Max. Color	16.7M
	Pixel Pitch (um)	248.25 (H) x 248.25 (V)
	Brightness (cd/m2)	250 (Optional 400)
	View Angle	178°/178°
<b>Touch Screen Option (PE/RE/GE)</b>	Type	Projected Capacitive. Antimicrobial Corning® Gorilla® Glass / Analog Resistive 5-wires / Glass Panel
	Light Transmission	90% ± 2% / 80% ± 5% / 90%
	Controller	USB Interface / USB Interface / -



## 1.2.5 UTC-532A/C

<b>Processor System</b>	CPU	AMD® G-Series T40E Dual-core 1.0 GHz (UTC- 532A)	Intel Core™ i7 3517UE 1.7 GHz (UTC-532C)	
	Chipset	T40E + A50M	Intel QM77	
	L2 Cache	512 KB	1 MB (L3, 4 MB)	
	Memory	1 x SO-DIMM DDR3 1066 up to 4GB	1 x SO-DIMM DDR3/DDR3L 1333/1600 MHz up to 8 GB	
	HDD	1 x 2.5 internal SATA HDD bay		
	Network (LAN)	2 x Gigabit Ethernet ports		
	I/O Ports		3 x RS-232 COM (RS-422/485)*	2 x RS-232 COM (RS-422/485)*
			4 x USB 2.0	2 x USB 2.0, 2 x USB 3.0
			2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
			1 x VGA & HDMI	1 x VGA & HDMI
			Audio Line-out x 1, Mic-in x 1	Audio Line-out x 1, Mic-in x 1
	Stereo Speaker	3 W x 2		
	Bus Expansion	Full-size MiniPCIe/mSATA		
	Dimensions (W x H x D)	785.64 x 480.24 x 62.50 mm		
Weight 1	8 kg (39.6 lb)			
<b>OS Support</b>	Windows XP/ XPE/ Embedded 7 Embedded Windows 8 Embedded Linux 3.0			
<b>Environmental Specifications</b>	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		
	Relative Humidity	10 ~ 95% @ 40° C non-condensing		
	Vibration	0.5G		
	Shock	5 G peak acceleration (11 msec. duration)		
	EMC	CE, FCC, UL, CCC, BSMI		
	Front Panel Protection	IP65/ NEMA4 Compliant		
<b>Power</b>	Input Rating	100-240V, 3.15A Max. 50 ~ 60 Hz		
	Power Consumption	Typical 95W Max. 105W		
<b>LCD Display</b>	Size/Type	32" TFT LCD with LED backlight		
	Max.Resolution	1920 x 1080		
	Max. Color	16.7 M		
	Pixel Pitch (mm)	0.36375 (H) x 0.36375 (W)		
	Brightness (cd/m2)	300		
View Angle	178°/178°			
<b>Touch Screen (PE/GE)</b>	Type	Projected Capacitive Touch Panel (Pcap. Flat Glass) / Glass Panel (No touch function)		
	Light Transmission	90% ± 2% / 90%		
	Controller	USB Interface / -		

## 1.2.6 UTC-532D/E

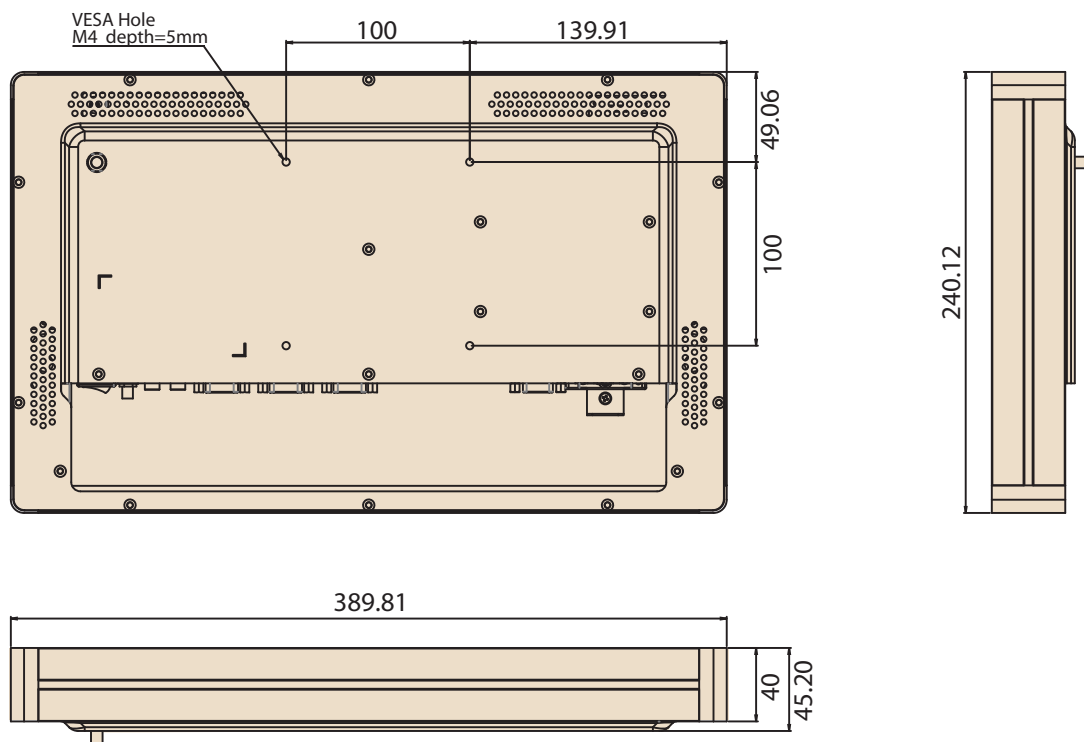
<b>Processor System</b>	CPU	Intel® Celeron J1900 (UTC-532D)	Intel® Core™ i5-4300U (UTC-532E) Intel® Core™ i3-4010U (Available)* Intel® Celeron 2980U (Available)*	
	Base Frequency	2 GHz (Quad-Core)	1.9 GHz (Dual-Core)	
	Cache	2 MB	3 MB	
	Memory	1 x SO-DIMM DDR3L 1333 MHz up to 8 GB	1 x SO-DIMM DDR3L 1333 / 1600 MHz up to 8 GB	
	HDD	1 x 2.5 internal SATA HDD bay		
	Network (LAN)	2 x Gigabit Ethernet ports		
	I/O Ports		2 x RS-232 COM (RS-422/485)*	2 x RS-232 COM (RS-422/485)*
			3 x USB 2.0 / 1 x USB 3.0	2 x USB 2.0, 2 x USB 3.0
			2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
			1 x VGA & HDMI	1 x VGA & HDMI
			Audio Line-out x 1, Mic-in x 1	Audio Line-out x 1, Mic-in x 1
	Stereo Speaker	3 W x 2		
	Bus Expansion	Full-size MiniPCIe/mSATA		
	Dimensions (W x H x D)	785.64 x 480.24 x 62.50 mm		
	Weight	18 kg (39.6 lb)		
<b>OS Support</b>	Windows Embedded 7, Windows Embedded 8, Embedded Linux 3.0			
<b>Environmental Specifications</b>	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		
	Relative Humidity	10 ~ 95% @ 40° C non-condensing		
	Vibration	0.5G		
	Shock	5 G peak acceleration (11 msec. duration)		
	EMC	CE, FCC, UL, CCC, BSMI		
	Front Panel Protection	IP65/ NEMA4 Compliant		
<b>Power</b>	Input Rating	100-240V, 3.15A Max. 50 ~ 60 Hz		
	Power Consumption	Typical 95W Max. 105W		
<b>LCD Display</b>	Size/Type	32" TFT LCD with LED backlight		
	Max.Resolution	1920 x 1080		
	Max. Color	16.7 M		
	Pixel Pitch (mm)	0.36375 (H) x 0.36375 (W)		
	Brightness (cd/m2)	300		
View Angle	178°/178°			

<b>Touch Screen (PE/GE)</b>	Type	Projected Capacitive Touch Panel (Pcap. Flat Glass) / Glass Panel (No touch function)
	Light Transmission	90% ± 2% / 90%
	Controller	USB Interface / -

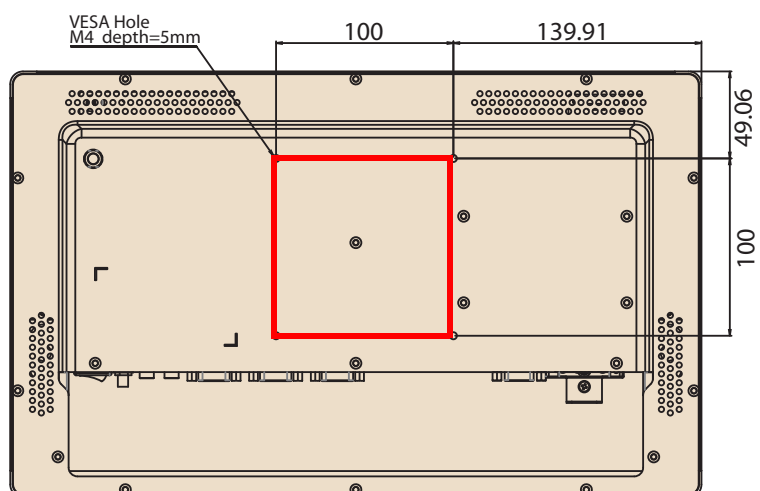
## 1.3 Dimension

### 1.3.1 UTC-515

Dimensions: 390 x 240 x 45 mm

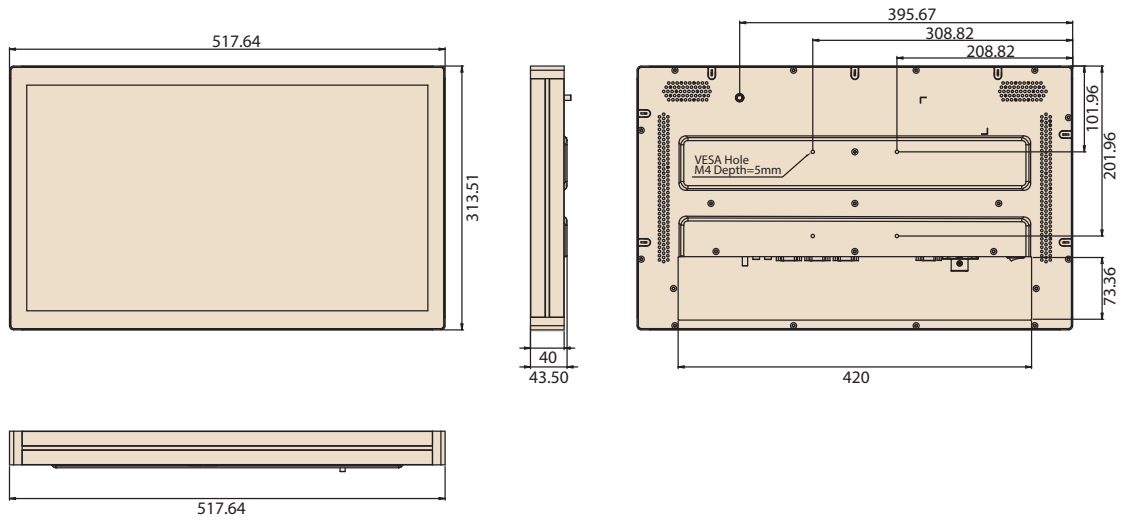


VESA Mounting: 100 x 100 mm

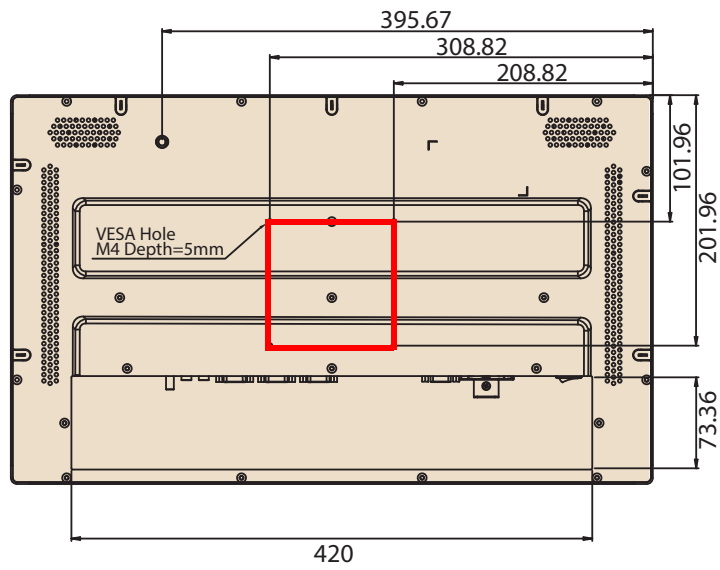


### 1.3.2 UTC-520

Dimensions: 518 x 314 x 44 mm

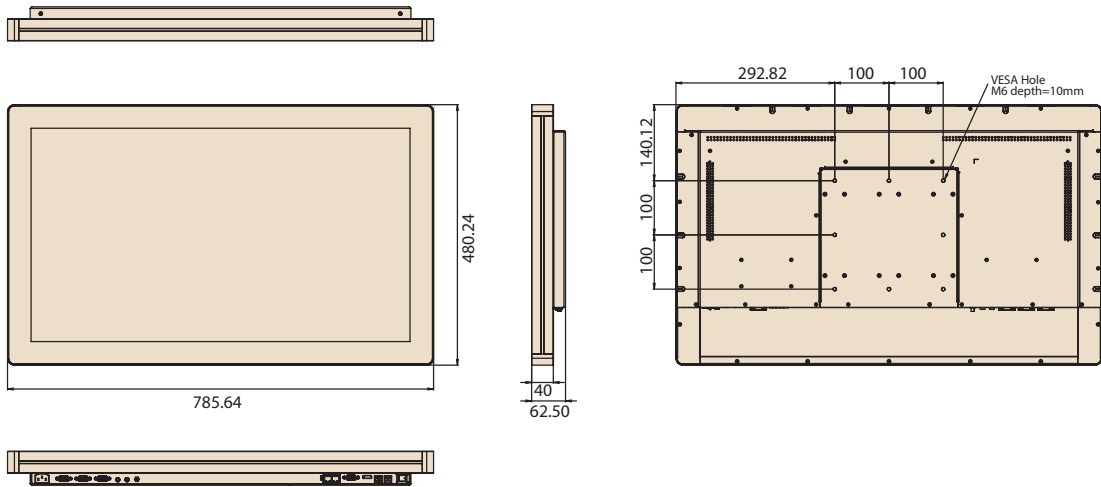


VESA Mounting: 100 x 100 mm

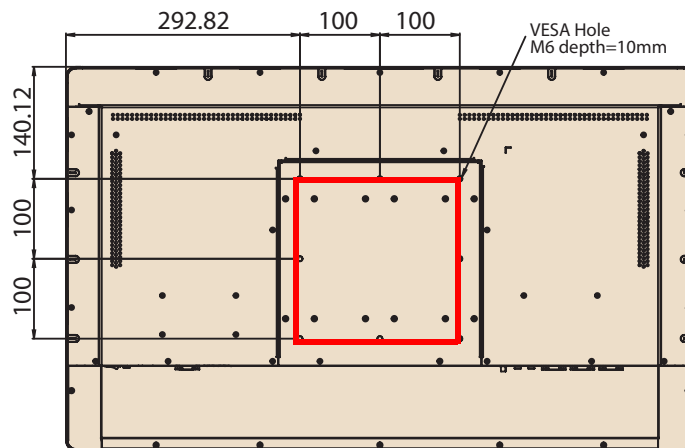


### 1.3.3 UTC-532

Dimensions: 786 x 480 x 63 mm



VESA Mounting: 200 x 200 mm





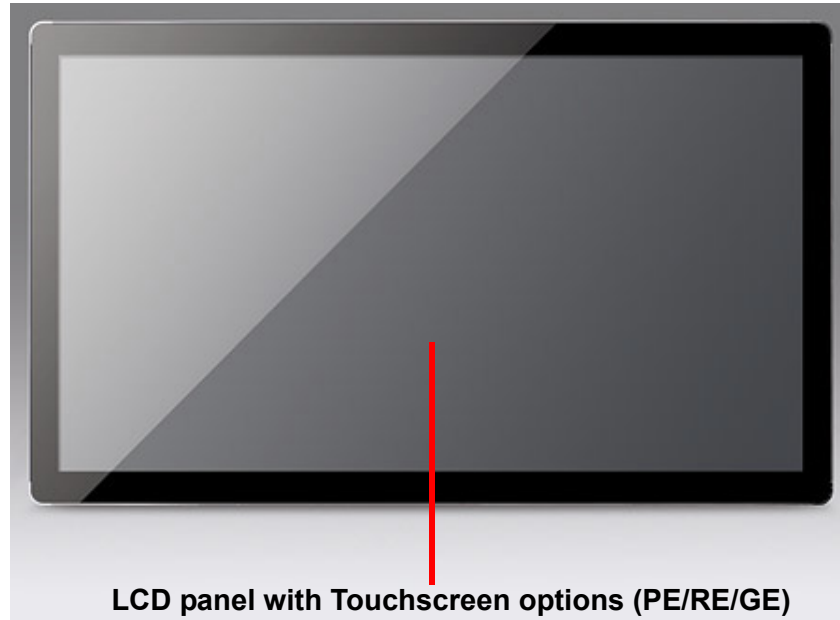
# Chapter 2

## System Setup

## 2.1 Quick Start Tour

Before starting to set up the UTC, take a moment to become familiar with the locations and functions of the connectors and features, which are illustrated in the figures below.

### 2.1.1 Front View

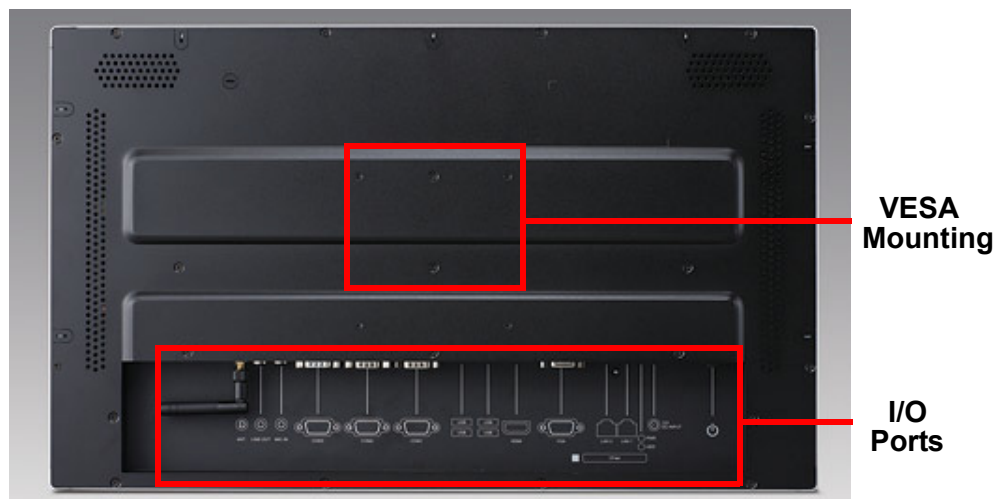


**Note!** *UTC-515 & UTC-520 PE Model featuring Antimicrobial Corning® Gorilla® Glass for Capacitive Touch Panel. Details please see Appendix C RE (Resistive) option is not available for UTC-532.*





## 2.1.2 Rear View

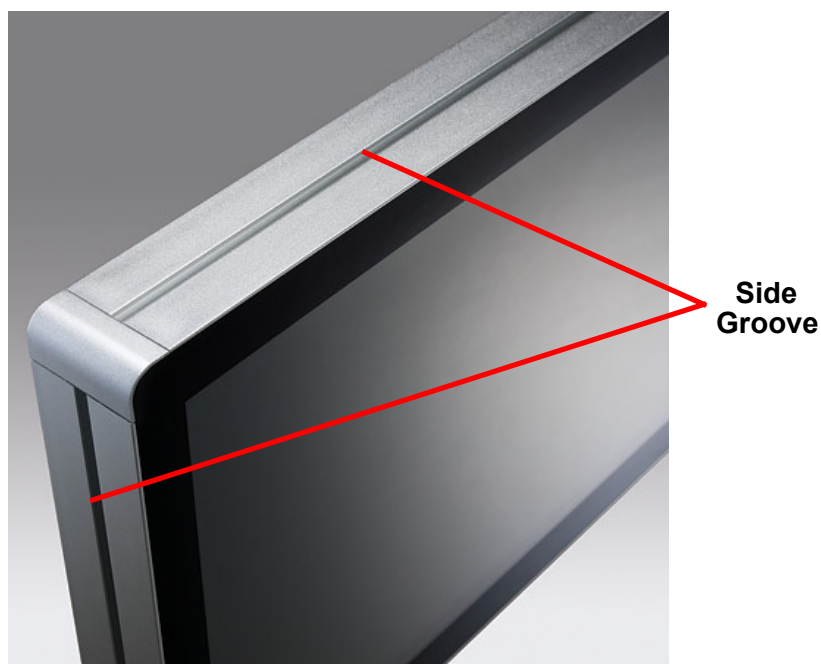


**Note!** Please use only VESA compatible mounting – Detail Floor Stand & wall mount specifications please see Appendix A.



I/O Ports SKU variance please refer to Chapter 2.2 for detail.

## 2.1.3 Side View

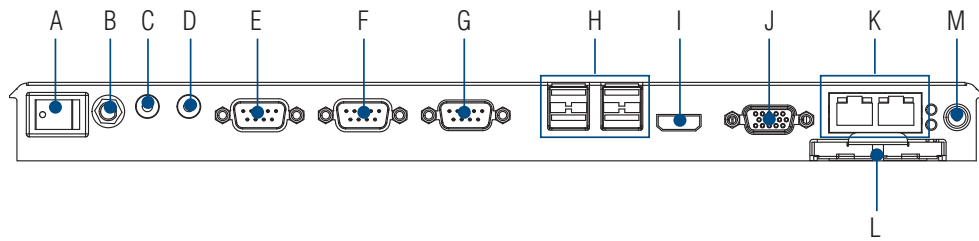


**Note!** The Side Groove is an unique feature of UTC-500 Series that holds UTC-Peripherals all around the frames with two screws. Please see Chapter 3.6 for detail installation guide.



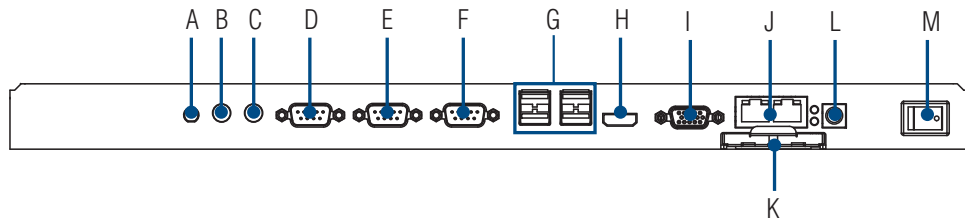
## 2.2 I/O Ports

### 2.2.1 UTC-515



- |                           |  |
|---------------------------|--|
| A. Power Switch           | H. USB 2.0 x 4<br>(USB 3.0 x 2 for UTC-515C/E) |
| B. Antenna Port           | I. HDMI Port                                   |
| C. Line-out               | J. VGA Port                                    |
| D. Mic-in                 | K. LAN Ports x 2                               |
| E. COM3 (UTC-515A/B only) | L. CFast Slot (UTC-515A/B only)                |
| F. COM2                   | M. DC input                                    |
| G. COM1                   |  |

### 2.2.2 UTC-520



- |   |                                 |
|---|---------------------------------|
| A. Antenna Port   | H. HDMI Port                    |
| B. Line-out   | I. VGA Port                     |
| C. Mic-in   | J. LAN Ports x 2                |
| D. COM3 (UTC-520A/B only)   | K. CFast Slot (UTC-520A/B only) |
| E. COM2   | L. DC Input                     |
| F. COM1   | M. Power Switch                 |
| G. USB 2.0 x 4 (USB 3.0 x 1 for UTC-520D; USB 3.0 x 2 for UTC-520C/E) |                                 |

## 2.2.3 UTC-532



- |   |                         |
|---|-------------------------|
| A. Power Switch   | F. Antenna Port         |
| B. USB 2.0 x 4<br>(USB 3.0 x 1 for UTC-532D;<br>USB 3.0 x 2 for UTC-532C/E) | G. Line-out             |
| C. HDMI Port  | H. Mic-in               |
| D. VGA Port   | I. COM3 (UTC-532A only) |
| E. LAN Ports x 2  | J. COM2                 |
|   | K.COM1                  |
|   | L. AC input             |

## 2.3 Setup Procedures

### 2.3.1 Power on UTC

1. Connect an adaptor with input voltage rated 12V/5A for all UTC-515 and UTC-520A/B/D SKUs.
2. Connect an adaptor with Input voltage rated 12V/7A for UTC-520C/E SKUs.
3. Connect an AC power cable for all UTC-532 SKUs.
4. Be sure always handle the power cords by holding the plugs ends only. Please refer to I/O Ports section above to find the DC or AC inlet and power switch.
5. Press Power On/Off. The PWR LED will turn green.

### 2.3.2 BIOS setup on UTC

In most cases, the UTC has been properly set up and configured by the dealer or SI prior to delivery. However, it may still be necessary to use the 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 currently installed. The setup program is stored in read-only memory (ROM). It can be accessed either when you turn on or reset the UTC, 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.

---

### 2.3.3 Installing System Software

Recent releases of operating systems from major vendors include setup programs that load automatically and guide you through hard disk preparation and operating system installation. Some distributors and system integrators may have already pre-installed system software prior to shipment of your UTC.

**Note!** *Installing software or drivers requires an installed storage which is sold separately from standard SKUs as options.*



### 2.3.4 Installing Drivers

After installing your system software, you will be able to set up the Ethernet, XGA, audio, and touchscreen functions.

**Note!** *The drivers and utilities used are subject to change without notice. Please download the drivers for UTC from our website: <http://support.advantech.com> or contact Advantech application engineers for further assistance.*



# Chapter 3

Hardware Upgrade &  
Installation

## 3.1 Introduction

UTC consists of a PC-based computer that is housed in an Aluminum extrusion. You can install a HDD, DRAM, and Compact Flash (A/B platform only) by removing the rear cover. Any maintenance or hardware upgrades can be easily completed after removing the rear cover.

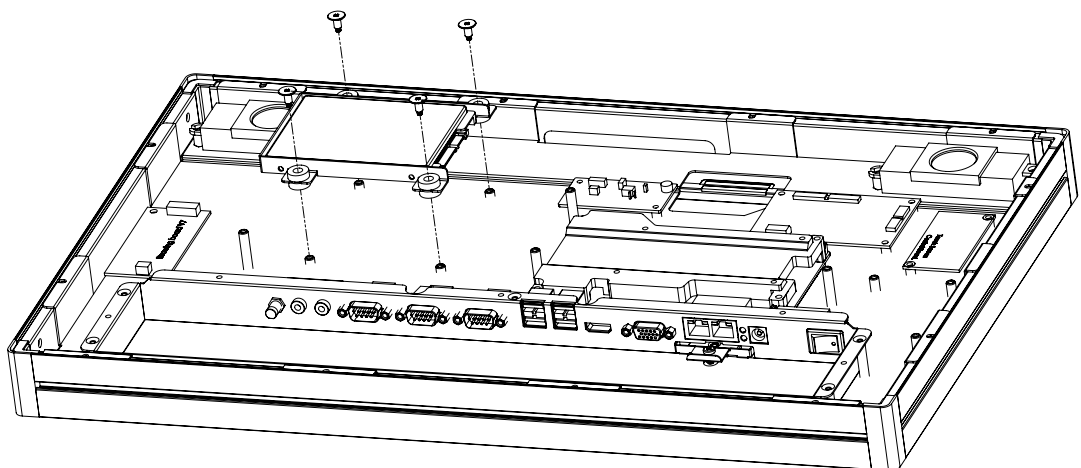
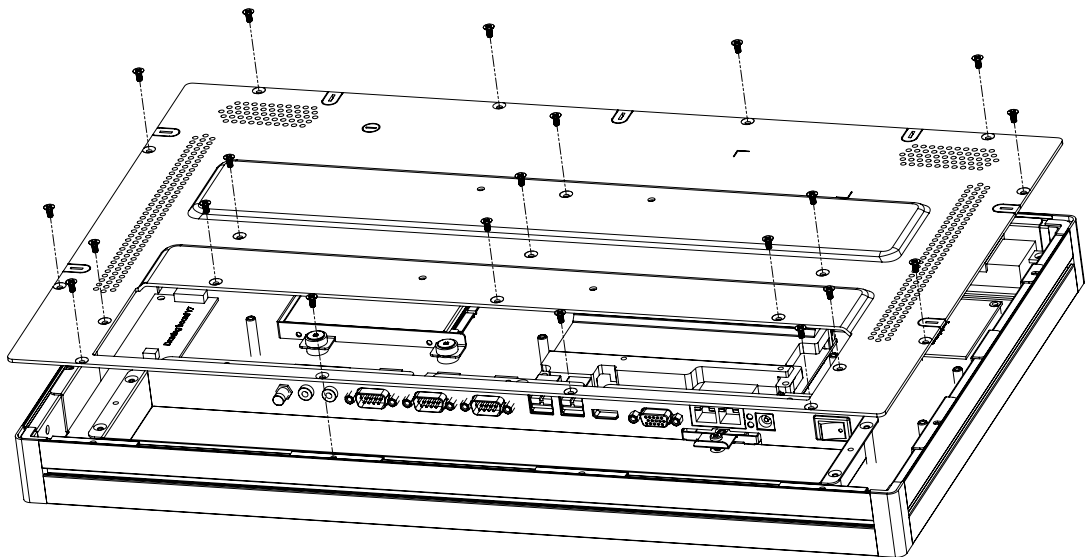
**Warning!** Do not remove the rear cover until you have verified that no power is flowing within the UTC. Power must be switched off and the power cord must be unplugged.



## 3.2 Installing the 2.5" Storage

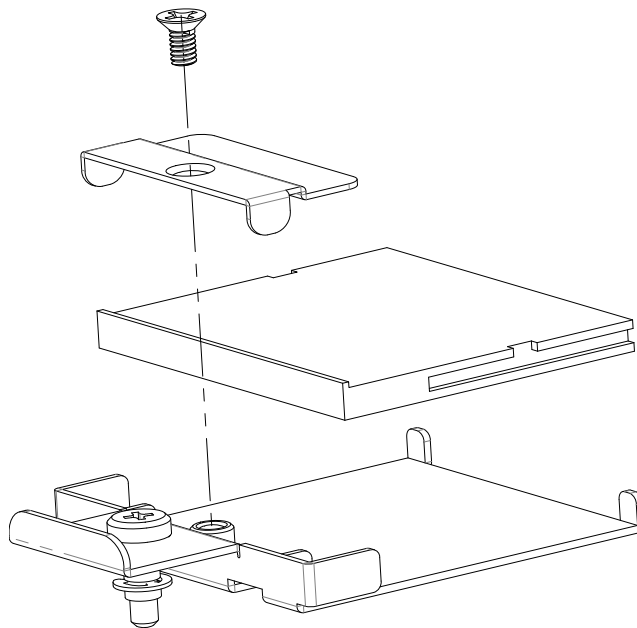
UTC reserved a 2.5" SATA Storage Bay for customization. Please refer below figures illustration for reference

1. Detach and remove the rear cover.
2. Place the Storage in the metal bracket, and tighten the screws
3. Connect SATA signal and power cable to MB and HDD/SSD
4. Put the rear cover on and tighten the screws.



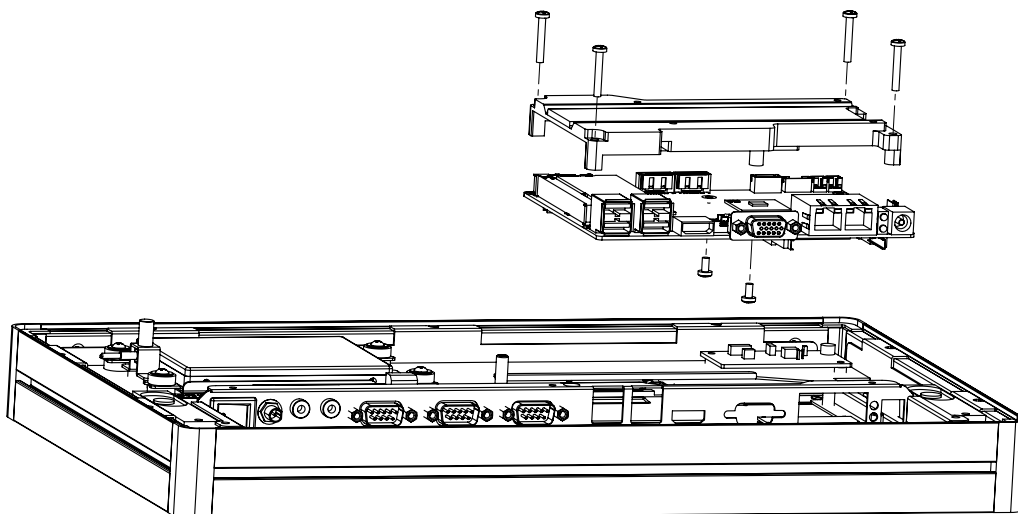
### 3.3 Installing CFAST (A/B platform only)

Please follow the CFAST Card assembly as in the following diagram. (Note the direction of the CFAST).



### 3.4 Installing the Memory

1. Detach and remove the rear cover.
2. Remove the 4 pcs screws on the Heatsink.
3. Turn to bottom side and remove the 2 pcs screws.
4. Install DRAM in the SO-DIMM socket.



## 3.5 Installing wireless LAN Card (option)

1. Detach and remove the rear cover.
2. Remove the 4 pcs screws on the heatsink.
3. Install WLAN card onto MiniPCIe Slot on the M/B bottom side.
4. Connect coaxial cable to ANT1 and ANT2 on WLAN card.
5. Finish antenna bracket/washer/nuts installation inside chassis.
6. Reassemble the back cover.
7. Install the antenna on SMA connector on chassis exterior.

**Note!** *During installation that required removing MB from chassis and detach cables and reattach, always locate pin 1 of the header by aligning red side of ribbon cable to the edge indicated by a small triangle marking on the PCB.*



## 3.6 Installing UTC peripherals (option)

1. Attach the UTC-peripheral to the side groove.
2. Fasten the 2 screws to fix the peripheral in place.
3. Connect the cable to an I/O port (USB).
4. Choose a location to place the cable clamp and attach the cable to it for simple cable routing.





# Appendix **A**

Installation  
Accessories

## A.1 Introduction

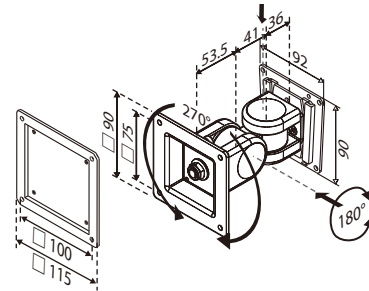
The UTC-500 Series Floor Stand & Wall Mount blends simplicity with style. It makes optimal use of space, and its compact design saves money in shipping fees. UTC-500 Series is elegantly designed to fit many different customer scenarios, from kiosks to reception areas. The slim and stylish unit is easy to store, easy to ship and easy to set up. Installation is simple; it can be done in about ten minutes and the finished result makes an attractive, one-piece solution.

## A.2 Wall Mount

PN	UTC-WALLMOUNT1E	UTC-WALLMOUNT2E	UTC-WALLMOUNT3E
Description	VESA Mount 75 /100 mm	VESA Mount 100 /200 mm	VESA Mount 75 /100 mm
VESA Mounting Patterns	75 x 75 mm; 100 x 100 mm	200 x 200 mm	75 x 75 mm; 100 x 100 mm
Weight Capacity	14 kg	35 kg	20 kg

### UTC-WALL-MOUNT1E

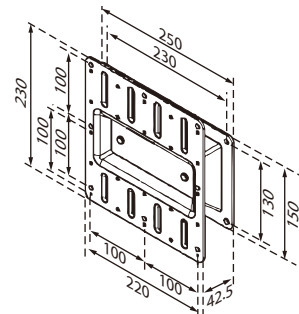
#### VESA 75/100 mm



- Firmly fix to a solid wall
- Weight capacity up to 14 kg
- Material: Steel
- Tilt: 180° up and down
- Rotation: 270° for portrait or landscape viewing
- Lift: 130.5 mm
- For UTC-515/520

### UTC-WALL-MOUNT2E

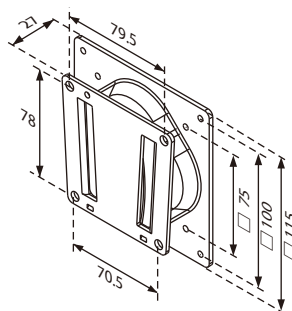
#### VESA 100/200 mm



- Flush fit without movement
- Weight capacity up to 35 kg
- Material: Steel
- Sits: 42.5 mm from the wall
- For UTC-532 only

**UTC-WALL-MOUNT3E**

**VESA 75/100 mm**



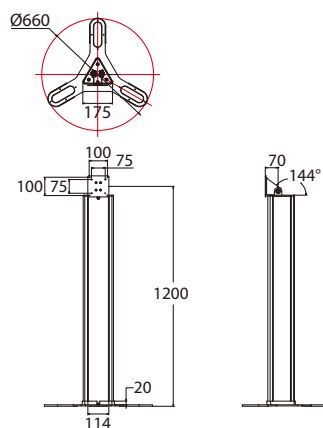
- Firmly fix to a solid wall
- Weight capacity up to 20 kg
- Material: Steel
- Sits: 27 mm from the wall
- For UTC-515/520

### A.3 Floor Stand

PN	UTC-T01-STANDE	UTC-H01-STANDE
Description	Triangle shape floor stand	H-shape floor stand
VESA Mounting Patterns	75 x 75 mm; 100 x 100 mm	75 x 75 mm; 100 x 100 mm
Height	120 cm	120 cm
Dimension	Ø660 mm 5	58 x 510 mm
Weight	10 kg	10 kg

**UTC-T01-STANDE**

**Triangle shape floor stand**



- Organized cable management
- VESA 75/100 mm
- Height: 120 cm
- Easily tilt for best viewing comfort
- Dimension: Ø660 mm
- Weight: 10 kg

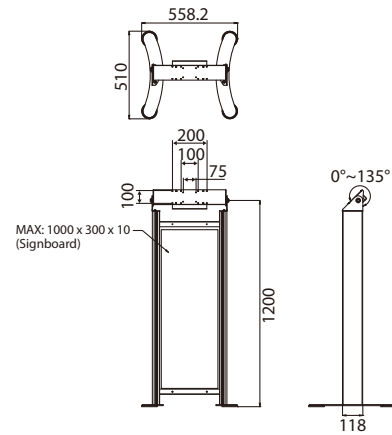
---

## UTC-H01-STANDE

---

### H-shape floor stand

---



- 
- Organized cable management
  - VESA 75/100 mm
  - Height: 120 cm
  - Easily tilt for best viewing comfort
  - Dimension: Ø660 mm
  - Weight: 10 kg
  - Acrylics signboard is excluded
-

# Appendix **B**

UTC Peripherals

## B.1 UTC-P01 (Camera Module)



### B.1.1 Specifications

<b>Interface</b>	USB (Cable Length:50cm)
<b>Image Resolution</b>	2592 (H) x 1944 (V)
<b>Focusing Range</b>	10 cm~ ∞; Supports auto focus
<b>Frame Rate</b>	640 x 480 @ 30 fps max 1280 x 1024 @ 30 fps max 1600 x 1200 @ 15 fps max 2592 x 1944 @ 15 fps max
<b>Video Format</b>	MJPEG
<b>OS Support</b>	Windows XP/7/8
<b>Dimensions</b>	130 x 35 x 40 mm
<b>Operating Temperature</b>	0 ~ 40° C

### B.1.2 Packing List

<b>Description</b>	<b>Quantity</b>
Cable Clamp	2
Camera Module Unit	1

### B.1.3 Ordering Information

<b>P/N</b>	<b>Description</b>
UTC-P01-A1E	5MP camera module for UTC-500 series

## B.2 UTC-P02 (MSR)



### B.2.1 Specifications

<b>Interface</b>	USB (Cable Length:50cm)
<b>Track Configuration</b>	TRACK 1 / IATA / 210 bpi / 79 Alphanumeric Characters
	TRACK 2 / ABA / 75 bpi / 40 Numeric Characters
	TRACK 3 / Thrift / 210 bpi / 107 Numeric Characters
<b>Card Standard</b>	ANSI, ISO, and ABA.
<b>Read Speed</b>	3 ips to 60 ips (7 cm/s to 152 cm/s)
<b>Magnetic Head Life</b>	1,000,000 times (ISO test standard)
<b>OS Support</b>	Windows 98/ME/2000/XP / Win 7
<b>Dimensions</b>	130 x 35 x 40 mm
<b>Operating Temperature</b>	0 ~ 40° C

### B.2.2 Packing List

Description	Quantity
Cable Clamp	2
Magnetic Stripe Reader Unit	1

### B.2.3 Ordering Information

P/N	Description
UTC-P02-A0E	Magnetic stripe reader For UTC-500 series

## B.3 UTC-P03 (RFID Reader)



### B.3.1 Specifications

<b>Interface</b>	USB (Cable Length:50cm)			
<b>Frequency</b>	13.56 MHz			
<b>Read Mode</b>	ISO 15693, ISO 14443A, ISO 14443B, ISO 18000- 3 Mode 1, Felica			
<b>Card Mode</b>	Simulates ISO14443A mode			
<b>P to P Mode</b>	NFCIP-1, NFCIP-2,ISO 18092, 848 kbps to 106 kps			
<b>Support Tag Specification</b>				
<b>Standard</b>	<b>Tag Model</b>	<b>UID</b>	<b>Read Write Data</b>	<b>Application</b>
ISO 15693	NXP I-Code 2(SLI)	Yes	Yes	
	TI / Tag - it	Yes	Yes	
	MStar MSR3200	Yes	Yes	Library, Medicine, Supply Chain
Other ISO15693 compatible tag	OK	Yes		
ISO 14443A	NXP Mifare Ultralight	Yes	Yes	Transportation
	NXP Mifare	Yes		Access control
ISO 14443B	ST	Yes	Yes	
	ATMEL	Yes	Yes	
ISO 14443A	SONY-Felica (Suica,Eddy card)	Yes		Japan railway
<b>Reading Range</b>	3cm ± 1cm			
<b>OS Support</b>	Windows XP/7			
<b>Dimensions</b>	130 x 35 x 40 mm			
<b>Operating Temperature</b>	0 ~ 40 °C			



### B.3.2 Packing List

Description	Quantity
Cable Clamp	2
RFID Reader Unit	1

### B.3.3 Ordering Information

P/N	Description
UTC-P03-A0E	RFID reader for UTC-500 series

## B.4 UTC-P06 (Smart Card Reader)



### B.4.1 Specifications

<b>Interface</b>	USB (Cable Length:50cm)
<b>Card Acceptor/ Reliability</b>	User card Friction Type (ID-1) , 200,000 cycles
<b>Card Reader</b>	CPU card -Complies with ISO7816-1,2,3,T=1 and T=0 protocol Memory card -Synchronous 2-line, 3-line and I2C interface
<b>LED</b>	Dual color LED indicator Complies with PC/SC version 1.0 standards
<b>OS Support</b>	Windows XP/ 7
<b>Dimensions</b>	130 x 35 x 40 mm
<b>Operating Temperature</b>	0 ~ 40 °C

### B.4.2 Packing List

<b>Description</b>	<b>Quantity</b>
Cable Clamp	2
Smart Card Reader Unit	1

### B.4.3 Ordering Information

<b>P/N</b>	<b>Description</b>
UTC-P06-A0E	Smart card reader for UTC-500 series

## B.5 UTC-P07 (Barcode Reader)



### B.5.1 Specifications

<b>Interface</b>	USB (Cable Length:50cm)			
<b>Scanning Performance</b>	Scan Rate: 2D mode: 53 images/s			
	Scan angle: 40° (Horizontal), 26° (Vertical)			
	Optical resolution: 752 (H) x 480 (V) pixels, 256 gray levels			
<b>Typical Reading Distances Standard</b>	<b>Symbology</b>	<b>Density</b>	<b>Min. Dist.</b>	<b>Max. Dist.</b>
	Code 39	0.125 mm/5 mils 4	.7 cm/1.8"	17.7 cm/7.0"
	UPC/EAN	0.25 mm/10 mils	1.7 cm/0.7"	33.2 cm/13.1"
	Data Matrix	0.254 mm/10 mils	2.7 cm /1.0"	17.1 cm/6.7"
		0.381 mm/15 mils	1.2 cm /0.5"	24.6 cm/9.7"
	PDF 417	0.254 mm/10 mils	2.2 cm /0.9"	2.2 cm /9.4"
* Minimum distance depends on symbology length and scan angle				
<b>Symbologies</b>	1D / Linear symbologies: Autodiscriminates all standard 1D codes including GS1DataBar™ linear codes.			
	2D symbologies: Aztec Code; China Han Xin Code; Data Matrix; Maxi-Code;Micro QR Code; QR Code			
	Postal codes: Australian Post; British Post; China Post; IMB; Japanese Post; KIX Post; Korea Post; Planet Code; Postnet; Royal Mail Code (RM4SCC)			
	Stacked codes: EAN/JAN Composites; GS1 DataBar Composites;GS1 DataBar Expanded Stacked; GS1 DataBar Stacked;GS1 DataBar			
	Stacked Omnidirectional; MacroPDF;MicroPDF417; PDF417; UPC A/E Composites			
<b>OS Support</b>	Windows 7 / Windows 8*			
<b>Dimensions</b>	130 x 52 x 40 mm			
<b>Operating Temperature</b>	0 ~ 40° C			

---

## B.5.2 Packing List

Description	Quantity
Cable Clamp	2
Barcode Reader Unit	1

## B.5.3 Ordering Information

P/N	Description
UTC-P07-A1E	2D Barcode Module for UTC-500 Series

## B.6 UTC-P21 (4-in1 Module)



### B.6.1 Specifications

<b>RFID</b>	13.56MHz frequency
	Read mode: ISO 15693/14443A/B/18000-3/Felica
	Reading range: 3 +/- 1cm
<b>2D Barcode Reader</b>	2D mode scan rate: 56 images
	Linear emulation scan rate: 200 images/sec
	Optical resolution: 752x480 pixels, 256 gray levels
<b>Smart Card reader</b>	User card friction type (ID-1), 200,000 cycles
	SAM card: 5000 insertion
	Compliant CPU card and memory card
<b>Magnetic Stripe Card Reader</b>	Card Standard ANSI, ISO, and ABA.
	Read Speed 3 ips to 60 ips (7 cm/s to 152 cm/s)
	Magnetic Head Life 1,000,000 times (ISO test standard)
<b>OS Support</b>	Windows XP/ 7
<b>Dimensions</b>	300 x 35 x 40 mm
<b>Operating Temperature</b>	0 ~ 40° C

### B.6.2 Packing List

Description	Quantity
Cable Clamp	2
4-in-1 Module Unit	1

### B.6.3 Ordering Information

P/N	Description
UTC-P21-A0E	4-in-1 Module for UTC-500 Series



# Appendix **C**

## Touch Screen Options

## C.1 Touch Screen Options

	Analog Resistive 5-wires	Regular Projective Capacitive	Antimicrobial Corning® Gorilla® projective Capacitive
<b>Mineral Hardness</b>	3H	7H	9H
<b>Impact Test</b>	510 g steel ball at 50 cm - pass	130g iron ball fall at 130 cm - Pass	530g iron ball fall at 130 cm - Pass
<b>Touch Point</b>	Single touch	Multiple Touch	Multiple Touch
<b>Anti-Microbial</b>	No	No	Yes
<b>Visible Light Transmission</b>	80 ±5%	90 % ± 2 %	90 % ± 2 %





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