User's Manual

Vantron

UCTTA-42

Rockchip ARM Cortex™-A17 RK3288 with Quad ARM Cortex A17 (64bit) @ 1.6GHz high performance processor;

Hardware Manual

Rev 2.0

2021/12/27

Chengdu Vantron Technology, Ltd.

Revision record

Rev.	Date	Change Description	Editor
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1 Foreword

1.1 Copyright Notice

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Vantron Technology (Vantron)

E-mail: sales@vantrontech.com

1.2 Notes

Applicable notes are listed in the following table:

Sign	Notice Type	Description
	Notice	Important information and regulations
	Caution	Caution for latent damage to system or harm to personnel

1.3 Statement

It is recommended to read and comply with this manual before operating board, which provides important guidance and helps decreasing the danger of injury, electric shock, fire, or any damage to the device.

1.4 Disclaimer

Vantron assumes no legal liability of accidents resulting from failure of conforming to the safety instructions.

1.5 Limitation of Liability/Non-warranty

For direct or indirect damage to this device or other devices of Vantron caused by failure of conforming to this manual or the safety instructions on device label, Vantron assumes neither warranty nor legal liability even if the device is still under warranty.

1.6 Safety Instructions

- ✧ Keep and comply with all operation instructions, warnings, and information.
- ✧ Pay attention to warnings on this device.
- ✧ Read the following precautions so as to decrease the danger of injury, electric shock, fire, or any damage to the device.

1.7 Precautions

- ✧ Pay attention to the product labels/safety instructions printed on silk screens.
- ✧ Do not try repairing this product unless declared in this manual.
- ✧ Keep away from heat source, such as heater, heat dissipater, or engine casing.
- ✧ Do not insert other items into the slot (if any) of this device.
- ✧ Keep the ventilation slot ventilated for cooling.
- ✧ System fault may arise if other items are inserted into this device.
- ✧ Installation: ensure correct installation according to instructions from the manufacturer with recommended installation tools.
- ✧ Ensure ventilation and smoothness according to relevant ventilation standard.

1.8 Safety Instructions for Power Cables and Accessories

 Proper power source only

Start only with power source that satisfies voltage label and the voltage necessary according to this manual. Please contact technical support personnel of Vantron for any uncertainty about the requirements of necessary power source.

Warning：Avertissement：

□ This battery cannot mix with deposal or twice- recycled batteries in use. Otherwise, for its abnormal charge and discharge, it will cause over-heated, distort, smoke or burning.

□ Cette batterie ne peut pas se mélanger avec des batteries deposal ou deux fois recyclées en

cours d'utilisation. Sinon, pour sa charge et sa décharge anormales, il provoquera une surchauffe, une déformation, de la fumée ou une brûlure.

□ Keep the battery out of children's reach and prevent them biting or swallowing the battery.

□ Gardez la batterie hors de la portée des enfants et empêchez-les de mordre ou d'avaler la batterie.

□ Risk of fire or explosion if the battery is replaced by an incorrect type

□ Risque d'incendie ou d'explosion si le type de batterie est incorrect

 Use tested power source

This product still contains a button lithium battery as a real-time clock after its external power source is removed and therefore should not be short-circuited during transportation or placed under high temperature.

 Place cables properly:

Do not place cables at any place with extrusion danger.

 Cleaning Instructions

✧ Please power off before cleaning the device.

✧ Do not use spray detergent.

✧ Clean with a damp cloth.

✧ Do not try cleaning exposed electronic components unless with a dust collector.

✧ Support for special fault: Power off and contact technical support personnel of Vantron in case of the following faults:

- ➢ The device is damaged.
- ➢ The temperature is excessively high.
- ➢ Fault is still not solved after the operation according to the manual.

2 Over View

2.1 Introduction

Thank you for choosing Vantron. It is our commitment to provide our valued customers with the embedded devices equipped with the state-of-the-art technology and the best product services.

Tablet enables the interaction between operators/users and applications, connects industrial control products such as wireless, transducer, battery inside, storage, etc. Tablet adopts a display for displaying and input units such as touch screen, keyboard, audio, kind of sensors etc. for writing working parameters or inputting operation commands. As a digital device for realizing information interaction between human and machine, Tablet is composed of hardware and software. Based on its ample function interfaces and powerful user operational interface, it is very suitable for control units such as medical device, intelligent transportation, industrial field, etc.

Vantron's Embedded Computer products are based on the most advanced ARM and Rockchip processors and have low-power consumption and high integration. The products are designed for applications such as industrials, medicals, and transportations etc.

2.2 Features

Processor	RK3288W, CPU: Quad-core Cortex-A17, up to 1.6GHz
	GPU: Mali-T764, up to 500MHz
RAM	2GB DDR3-1866 (Optional 4GB)
Flash	32GB eMMC 5.1 (Optional 8GB or 16GB)
Storage	1xMicro SD (Internal) (Optional)
EEPROM	1Kb
Video Decoder	Real-time video decoder， MPEG-2, MPEG-4, H.264, VP8
	H.264: 2160p @24fps (3840x2160)
	MPEG-4: 1080p@60fps (1920x1080)
	MPEG-2: 1080p@60fps (1920x1080)
Video Encoder	Support video encoder for H.264
	Image size is to FHD (1920x1080)
	Maximum frame rate is up to1920x1080@30fps
LCD	27" TFT LCD
Resolution	1920x1080
Contrast Ratio	3000:1
LCM Luminance	300 cd/m^2 (Typ.)
Support Color	16.7M colors
View Angle	U/D 178° / R/L 178°
LED Life Time	30000 hours (Typ.)
Touch Screen	Cap-touch, support for 10 touch.
accelerometer	3-axis accelerometer
TF card	1 x TF card Slot (Memory capacity to be determined) (Internal)
Debug	1 x 3.5mm Headphone jack (Internal)
HDMI	1 x HDMI 2.0 (Internal)
USB	2 x USB HOST (TYPE A), standard USB 2.0 (Internal)
	1 x Micro USB, standard USB 2.0; supports OTG (Internal)
Button	1 x Recovery button (Internal)
WIFI&BT	WIFI: IEEE 802.11 a/b/g/n/ac; BT: 5.0
Speaker	2 x 3W speaker, Drill hole on frame a lower side. (Internal)
RTC	Supported
OS	Android 6.0.1
Applications	Provide SDK
AC Input	110V/220V (50/60Hz)
Dimensions	674 x 413.15 x 60.3mm
Weight	TBD
Temperature	Operation: 0 ~ 50℃, Storage -20 ~ 60℃
Humidity	Operation: 20% ~ 80%, Storage: 10% ~ 90%
	12" AC cable

2.3 Order information

Order Part Example

UCTTA-42 (CHA-G80-U682)	RK3288W ARM Quad-core, Cortex-A17 1.6GHz WIFI 802.11 a/b/g/n/ac, BT 5.0.

Note: please contact Vantorn for other order information.

3 Hardware Instructions

3.1 Appearance

3.1.1 Appearance

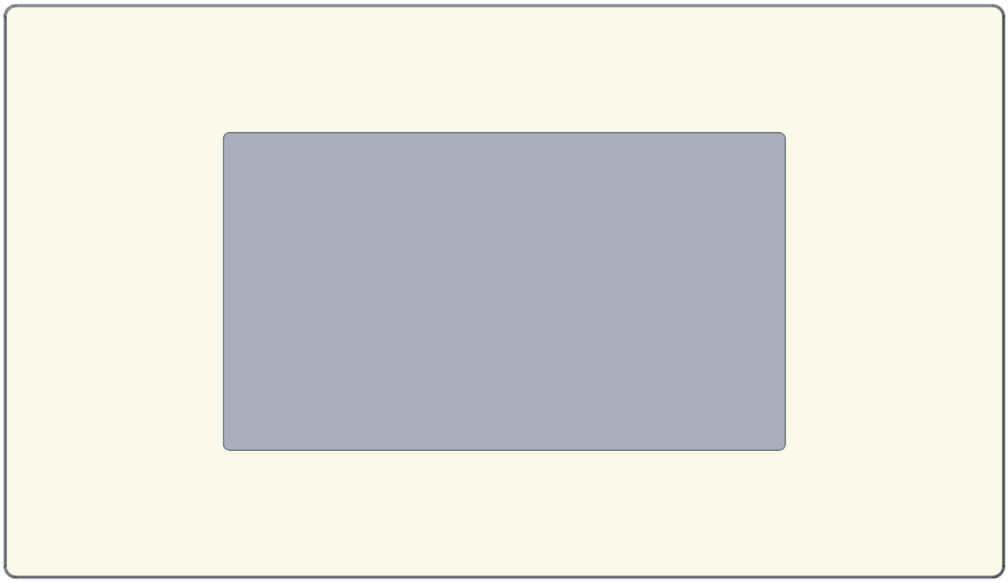


Figure 3-1 : Front view

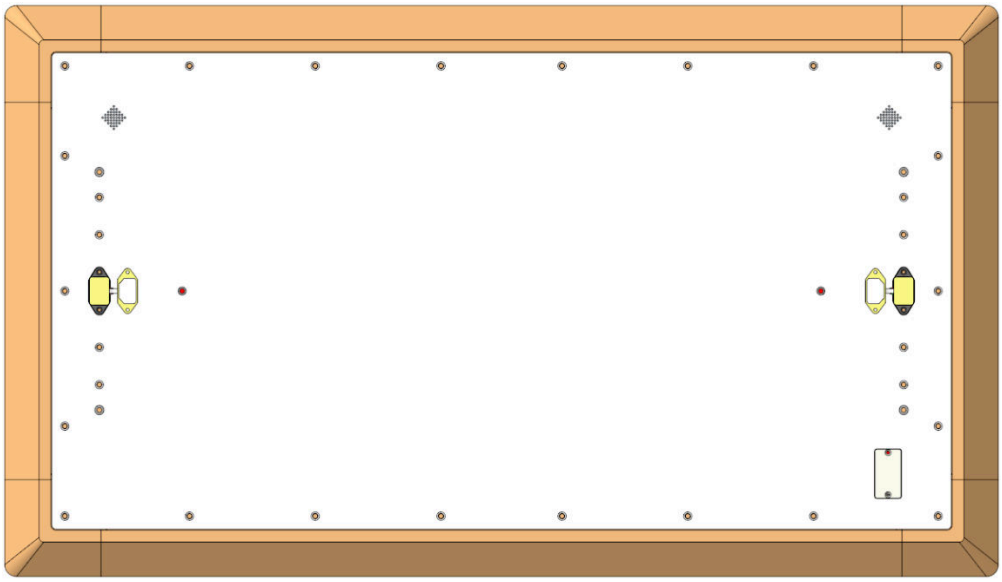


Figure 3-2 : Back view

3.2 Interface Description

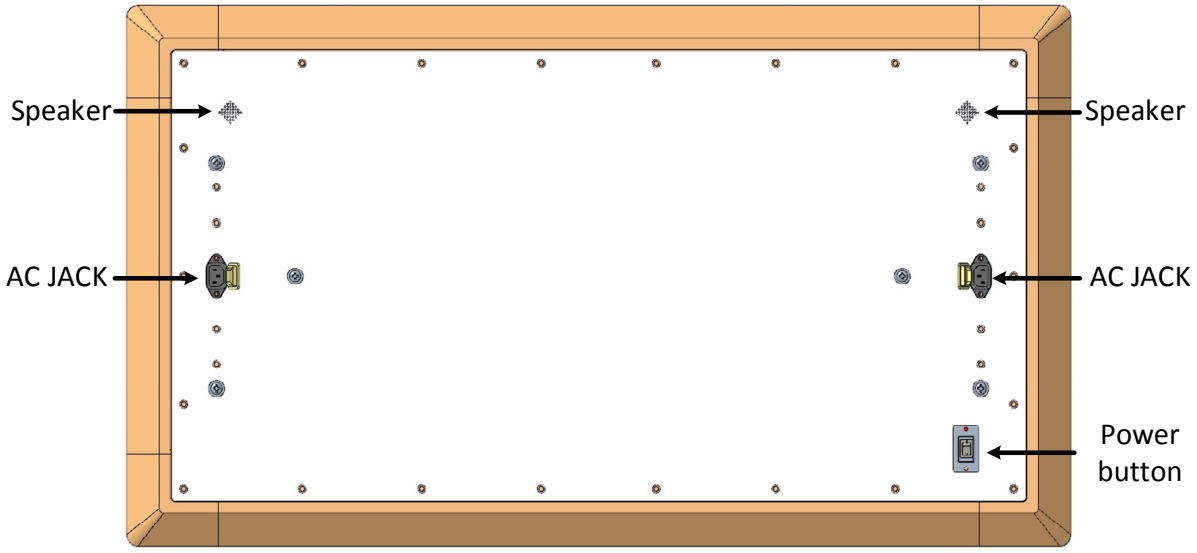


Figure 3-2-1 : Interface

3.3 Structure

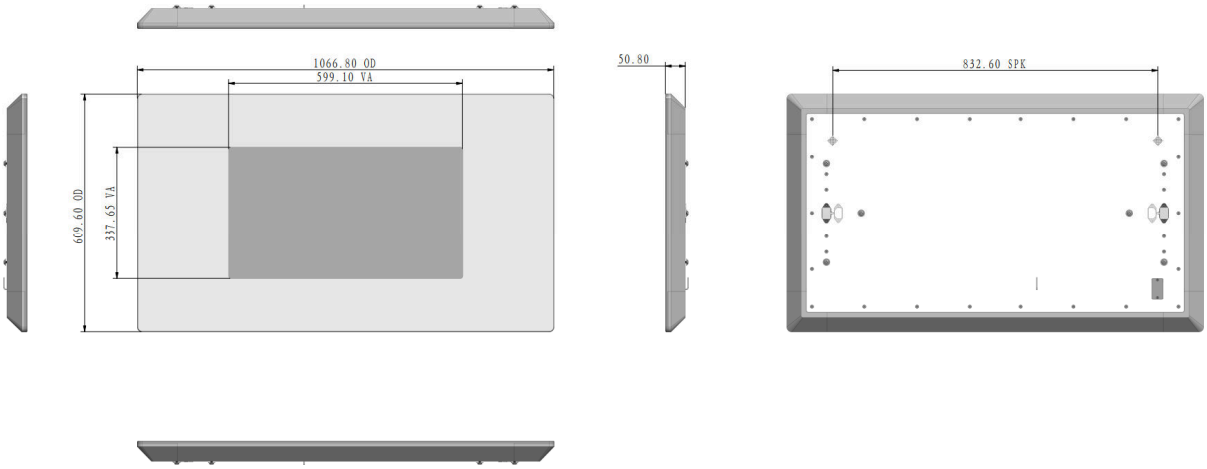


Figure 3-3-1

4 Hardware Description

This chapter describes the hardware Features, include switch, jumper, connector and PIN function.

The interface description ought to consult the connector sketch map. And attach necessary message such as picture. Indicate the figure, PIN1 and match jack.

4.1 Connectors Description

This table is the respective describe valid signal of connector on UCTTA-42 board.

Figure type:

N/C	Not connect
GND	Ground
/	active low signal
+	Positive of difference signal
-	negative of difference signal

Signal type:

I	Input
O	Output
I/O	input/output
P	Power or ground
A	Analog
OD	Open drain
CMOS	3.3 V CMOS
LVCMOS	Low Voltage CMOS
LVTTL	Low Voltage TTL
3.3V	3.3 V signal level
5V	5 V signal level
USB	5 V tolerant signal
NC	No Connection

4.1.1 Power button

This button used for power on/off the display plane.


This status is power off.

4.1.2 AC Jack

This port plug in a AC100V~240V cable.

Notice：Only one of the two power connectors can be connected. After one of the power connectors is powered on, the other connector is powered on, so Please do not open the lid.

Warning：**Avertissement**：

□ Installation Statement: AC INLET is not accessible during normal use.

□ Déclaration d'installation : AC INLET n'est pas accessible en cas d'utilisation normale.

□ Installed by a professional, it is fixed after installation, and the AC inlet is wrapped inside the corner of the installation table.

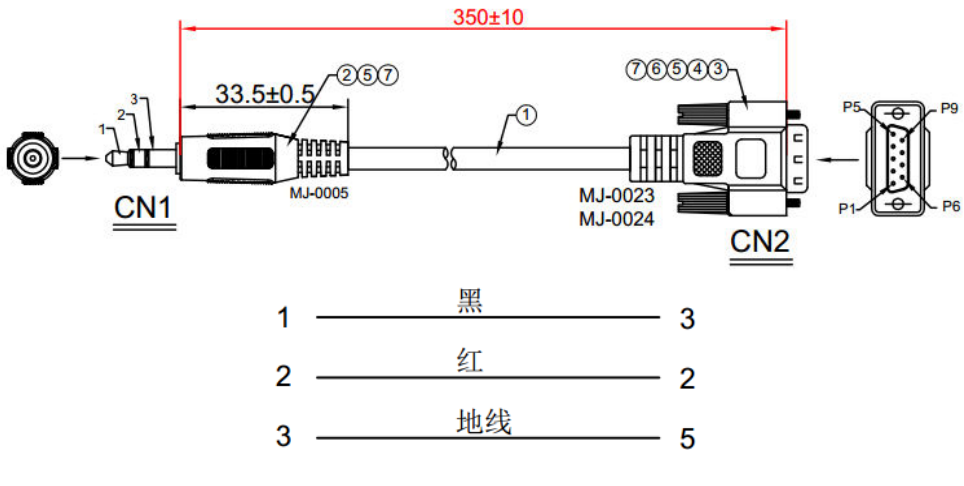
□ Installé par un professionnel, il est fixé après l'installation et l'entrée CA est enveloppée dans le coin de la table d'installation.

4.1.3 Recovery button (Internal)

This button function is for update. While push the recovery button and power on the display plane, it will work at recovery mode. At this time, user can update the display plane with a micro USB-B cable.

4.1.4 Debug interface (Internal)

The debug interface is reserved for UCTTA-42 display the debug information and communicate with PC, use the debug cable.



4.1.5 Micro USB (Internal)

This jack is micro USB-B, used for update.

4.1.6 Ethernet (Internal)

This jack is 1000M Ethernet, communicate with PC or other equitments.

4.1.7 USB 2.0 (Internal)

This jack is double TYPE-A USB2.0, both them worked at host mode, can connected USB device.

4.1.8 Video (Internal)

This jack is TYPE-A HDMI, output video and voice.

5 Tips

 Waste Disposal

It is recommended to disassemble the device before abandoning it in conformity with local regulations. Please ensure that the abandoned batteries are disposed according to local regulations on waste disposal. Do not throw batteries into fire (explosive) or put in common waste canister. Products or product packages with the sign of "explosive" should not be disposed like household waste but delivered to specialized electrical&electronic waste recycling/disposal center. Proper disposal of this sort of waste helps avoiding harm and adverse effect upon surroundings and people's health. Please contact local organizations or recycling/disposal center for more recycling/disposal methods of related products.

Comply with the following safety tips:

 Do not use in combustible and explosive environment

Keep away from combustible and explosive environment for fear of danger.

 Keep away from all energized circuits.

Operators should not remove enclosure from the device. Only the group or person with factory certification is permitted to open the enclosure to adjust and replace the structure and components of the device. Do not change components unless the power cord is removed. In some cases, the device may still have residual voltage even if the power cord is removed. Therefore, it is a must to remove and fully discharge the device before contact so as to avoid injury.

 Unauthorized changes to this product or its components are prohibited.

In the aim of avoiding accidents as far as possible, it is not allowed to replace the system or change components unless with permission and certification. Please contact the technical department of Vantron or local branches for help.

 Pay attention to caution signs.

Caution signs in this manual remind of possible danger. Please comply with relevant safety tips below each sign. Meanwhile, you should strictly confirm to all safety tips for operation environment.

Notice

Considering that reasonable efforts have been made to assure accuracy of this manual, Vantron assumes no responsibility of possible missing contents and information, errors in contents, citations, examples, and source programs.

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FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the followin g two conditions: (1) this device may not cause harmful interference, and (2) this device mus t accept any interference received, including interference that may cause undesired o peration.

Changes or modifications not expressly approved by the party responsible for complian ce could void the user's authority to operate the equipment.

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 equipme nt generates uses and can radiate radio frequency energy and, if not installed and used in acc ordance with the instructions, may cause harmful interference to radio communications. Ho wever, there is no guarantee that interference will not occur in a particular installation. If thi s equipment does cause harmful interference to radio or television reception, which can be d etermined by turning the equipment off and on, the user is encouraged to try to correct the in terference 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 important announcement

Radiation Exposure Statement

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 and your body.

ISED Statement

This device complies with contains license-exempt transmitter(s)/receiver(s) that co mply with Innovation, Science and Economic Development Canada'
s licence-exempt RSS standard(s).
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 ca use undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est confo rme aux CNR d'Innovation, Sciences et Développement économique Canada applicable s aux appareils radio exempts de licence.
L'exploitation est autorisée aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radiation Exposure Statement

This equipment complies with Canada 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.

Déclaration d'exposition aux radiations

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

les dispositifs fonctionnant dans la bande de 5150 à 5250MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

Vantron

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