



In-Vehicle Display Terminal

VT-7 GE

User's Manual

Version 1.0.6



Revision History

Version	Release Time	Description
1.0.0	20220407	Create
1.0.1	20220422	Modified
1.0.2	20220511	Modified
1.0.3	20220518	Modified
1.0.4	20220520	Modified
1.0.5	20220528	Modified
1.0.6	20220621	Modified

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Under no circumstances will the manufacturer be liable for any direct, indirect, special, incidental, or consequential damages arising from the use or inability to use the product or documentation, even if advised of the possibility of such damages.

About This Manual

This user's manual provides the general information and installation instructions for the product. The manual is meant for the experienced users and integrators with hardware knowledge of personal computers. If you are not sure about any description in this manual, consult your vendor before further handling.

We recommend that you keep one copy of this manual for the quick reference for any necessary maintenance in the future. Thank you for choosing 3RTablet products.

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Declaration of Conformity

CE

Specifications

Hardware Version: LLP-BND-R70 V2.1

Software Version: full_tb8768p1_64_bsp-user.2022050917 release-keys

Bluetooth Version: V5.0

Manufacturer: ZHANGZHOU 3RTABLET TECHNOLOGY CO., LTD

Address: No.26 Fu Qi North Road, Long Wen District, Zhang Zhou, Fu Jian, China

Importer: XXXXX

Address: XXXXX

FCC Class B

This device complies with Part 15 of the FCC Rules. Any changes or modifications not expressly approved by the guarantee of this device could void the user's authority to operate the equipment.

FCC Statement

In-Vehicle Display Terminal 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Specific Absorption Rate (SAR) information:

In-Vehicle Display Terminal meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial

safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: Communicator has also been tested against this SAR limit. This device was tested for typical body-worn operations with the back of the phone kept 00mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain an 0mm separation distance between the user's body and the back of the phone. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

RoHS

3RTablet Corp. certifies that all components in its products are in compliance and conform to the European Union's Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2011/65/EU.

Safety Symbols



This symbol of "CAUTION" indicates that there is a danger of injury to the user or a risk of damage to the product, should warning notices be disregarded.



Battery Recycle



This symbol indicates electrical warning.

Important Safety Instructions

Read these safety instructions carefully:

- ▶ Read all cautions and warnings on the equipment.
- ▶ Place this equipment on a reliable surface when installing. Dropping it or letting it fall may cause damage.
- ▶ Make sure the correct voltage is connected to the equipment.
- ▶ For pluggable equipment, the socket outlet should be near the equipment and should be easily accessible.
- ▶ Keep this equipment away from humidity.
- ▶ Disconnect this equipment from the A/C outlet before cleaning it. Use a moist cloth. Do not use liquid or sprayed detergent for cleaning.
- ▶ Do not scratch or rub the screen with a hard object.
- ▶ Never use any of the solvents, such as Thinner Spray-type cleaner, Wax, Benzene, Abrasive cleaner, Acid or Alkaline solvent, on the display. Harsh chemicals may cause damage to the cabinet and the touch sensor.
- ▶ Remove the dirt with a lightly moistened cloth and a mild solvent detergent. Then wipe the cabinet with a soft dry cloth.
- ▶ If the equipment will not be used for a long time, disconnect it from the

- power source to avoid damage by transient over voltage.
- ▶ Never pour any liquid into openings. This may cause fire or electrical shock.
 - ▶ If one of the following situations arises, get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.
 - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped or damaged.
 - f. The equipment has obvious signs of breakage.

Rechargeable Battery Pack Safety

With very little care, you can optimize the battery life and maximize the lifespan of the battery. Most importantly, use only the equipment in its ideal operating temperature (as described in 1.4 Specifications) – do not leave it in a hot trunk during the summer.

- **Using the Equipment for the First Time**
Be sure to fully charge (approx. 4 hours) the equipment when charging the equipment for the first time.
- **Long-Term Storage & Maintenance**
If you are putting away the battery for more than three months, it is recommended that the battery should be stored separately and fully charged, and get recharged every three months. If you store an uncharged battery, it could fall into a deep worn-out state which would render it incapable of holding any charge. Be sure to store the equipment and battery at the proper temperature.

Additional Information & Technical Support

You can download the related technical documents such as data sheet and user's manual as well as driver on our website.

Please do not hesitate to call or e-mail our customer service when you still cannot get the information you need. www.3Rtablet.com

Warranty

This product is warranted to be in good working order during the warranty period. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it according to 3Rtablet after-sale-service terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

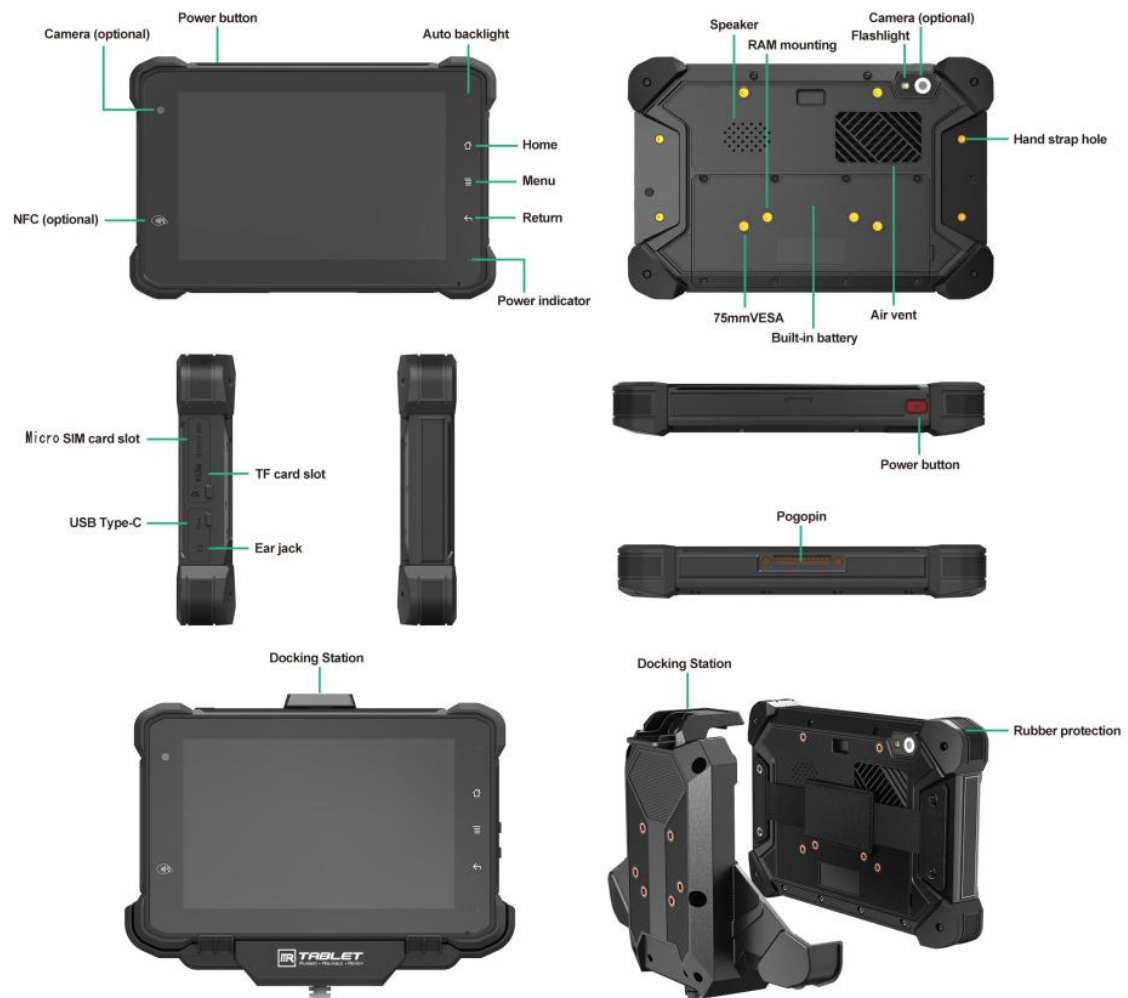
Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or emailing the account representative from vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

1. Introduction

1.1. Product Highlights

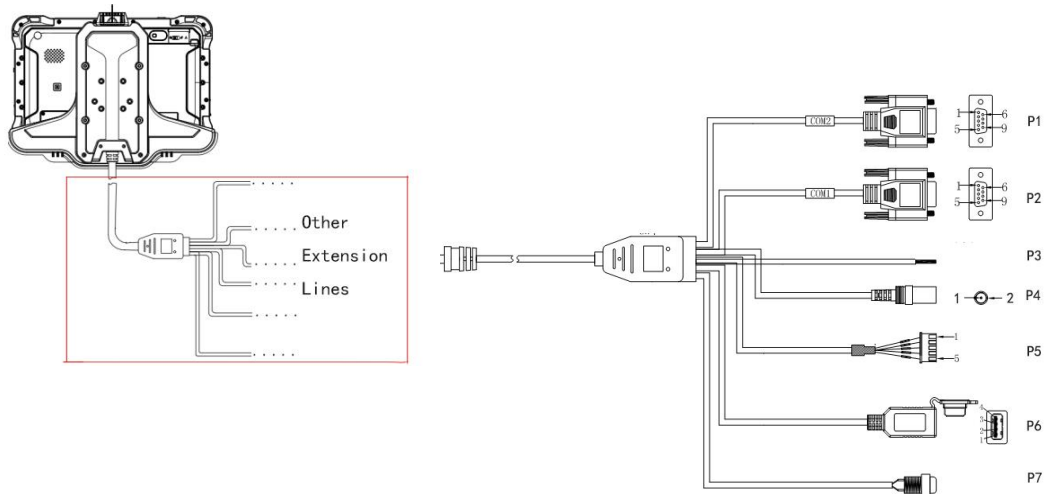
- MT8768 Octa-core A53 2.0GHz+1.5GHz
- Android 11.0 Operation System (GMS)
- Comply with IP67 rating
- WIFI, Bluetooth, LTE, GNSS and 5000mAh rechargeable battery supported
- 7 Inch IPS Display, physical 1280x800 resolution, 800cd/m², multi-point capacitive touch
- Portable with Docking Station

1.2. Parts of the Device



1.3. Extended Cable Definition

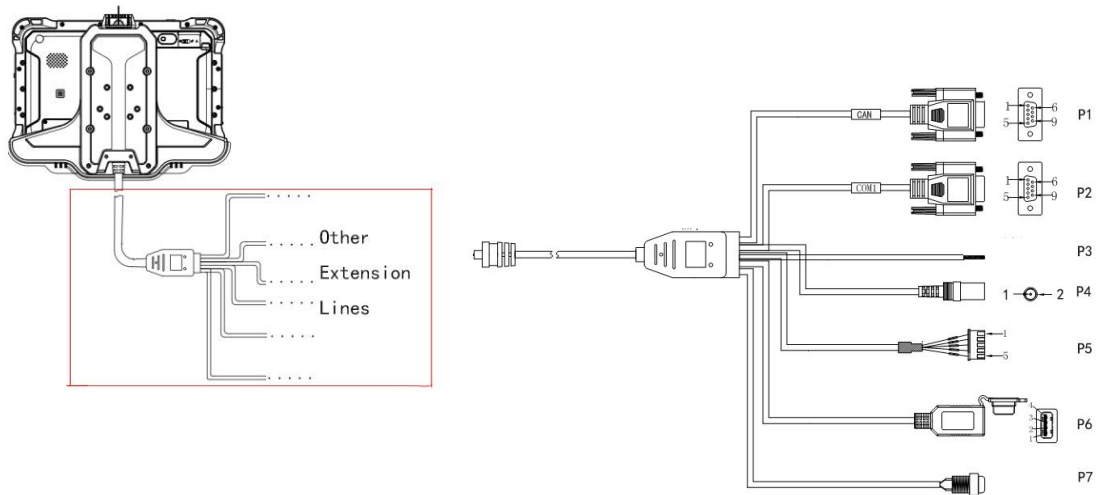
1.1.1. Standard Version



NO.	Pin	Definition	Color
P1 DB9(Female) Com2	1	NC	
	2	RS232-TXD2(default)	Green
	3	RS232-RXD2(default)	Green & Black
	4	NC	
	5	GND/Shielded Line	Black
	6	NC	
	7	NC	
	8	NC	
	9	NC	
P2 DB9(Female) Com2	1	NC	
	2	RS232-TXD1	Green
	3	RS232-RXD1	Green & Black
	4	NC	
	5	GND	Black
	6	NC	
	7	NC	
	8	NC	
	9	NC	
P3	1	ACC	Yellow
P4 DC	1	Main power input 8~36V	Red
	2	common GND	Black
	1	Input1	Red
	2	Input2	Grey

P5 GPIO	3	Output1	Orange
	4	Output2	Orange & white
	5	GND	Black
P6 USB	1	+5V	Red
	2	DATA-	White
	3	DATA+	Green
	4	GND	Black
P7	1	SW	Red
	2	GND	Black

1.1.2.CANBUS Version



NO.	Pin	Definition	Color
P1 DB9(Female) Com2	1	NC	
	2	CAN_L(optional)	Green
	3	CAN_H(optional)	Green & Black
	4	NC	
	5	GND/Shielded Line	Black
	6	NC	
	7	NC	
	8	NC	
	9	NC	
P2 DB9(Female) Com1	1	NC	
	2	RS232-TXD1	Green
	3	RS232-RXD1	Green & Black
	4	NC	
	5	GND	Black
	6	NC	
	7	NC	

	8	NC	
	9	NC	
P3	1	ACC	Yellow
P4 DC	1	Main power input 8~36V	Red
	2	common GND	Black
P5 GPIO	1	Input1	Red
	2	Input2	Grey
	3	Output1	Orange
	4	Output2	Orange & white
	5	GND	Black
P6 USB	1	+5V	Red
	2	DATA-	White
	3	DATA+	Green
	4	GND	Black
P7	1	SW	Red
	2	GND	Black

1.4. Specifications

Durability Features	
IP67 Rating Certified	
1.2m drop-resistance	
Raised bezel for LCD impact protection	
LCD Display	
Size	7 Inch Digital IPS Panel
Resolution	1280 x 800
Brightness	800 cd/m ²
Touch screen	
Type	Five-point Capacitive Touch screen
System	
CPU	MT8768 Octa-core A53 2.0GHz+1.5GHz
OS	Android 11.0 (GMS)
RAM	LPDDR4 3GB
ROM	eMMC 32GB
GPU	GE8320
Audio	Built-in MIC
	Built-in 4Ω 2W speaker
	Standard 3.5mm earphone connector
Sensor	Accelerometer &Gyro sensor、Compass、ambient light sensor

NFC	Supports Type A,B, FeliCa, ISO15693 etc.
Camera	Front: 5.0 megapixel camera(optional)
	Rear: 16.0 megapixel camera(optional)
Mounting (optional)	
RAM Mount	1.912 Inch RAM mount compatible (AMPS holes)
VESA Bracket	VESA 75mm Folder Bracket
Interface (standard version)	
Serial Port	2 x RS232
USB Port	1 xUSB2.0 (Host) , 1 x USB TYPE-C(USB 2.0)
SD Slot	1 x TF Card slot, Support up to 512G
SIM Socket	1 x Micro SIM Card slot, 1.8v / 2.95v
GPIO	GPIO×2 Input, GPIO×2 Output
ACC	x 1
Interface (CAN Bus version)	
Serial Port	1 x RS232
CANBUS	1 x CANBUS
USB Port	1 xUSB2.0 (Host) , 1 x USB TYPE-C(USB 2.0)
SD Slot	1 x TF Card slot, Support up to 512G
SIM Socket	1 x Micro SIM Card slot, 1.8v / 2.95v
GPIO	GPIO×2 Input, GPIO×2 Output
ACC	x 1
Power Supply	
Battery	Li-ion Polymer Battery
	Field replaceable (for maintenance)
	3.7V, 5000mAh battery
AC/DC Adapter	Input: AC 100-240v~50-60Hz
	Output: 12V 2A
Power Consumption	The average power consumption (charging status) : 8.4W External power supply, power consumption after shutdown and full charge, about 1W. No external power supply, power consumption of the battery is 0.1mA after shutdown.
Mechanical & Environmental	
Operating Temp.	-20°C ~ 45°C (14°F ~ 149°F)
Storage Temp.	-20°C ~ 70°C (-4°F ~ 158°F)

Operating Humidity	40-75% (non-condensing)
Dimensions (W x H x D)	207.4 x 137.4 x 30.1 mm
Weight	Tablet: 766g
	Docking station: 514g

2. Getting Started

2.1. Power On/Off and Sleep/Wake

This Chapter is describing how to power on/off the device, put the device into sleep mode (screen saver) and force restart.

Proper operation of power on/off the device will be beneficial to ensure the stability of the system. The device status indicated by the color of the indicator is as described in the following table for the standard VT-7GA/VT-7GE.

Table 2.1.1 VT-7GA/VT-7GE Indicator color and device status table

Indicator LED status	Device Status	
	Power supply present	No power supply present
Green	On: Full charged Off: Charging	On: Power on Off: Shutdown
Red	On: Charging Off: Full charged	Off
Red or Green light blinking	The device is abnormal, please cut off the external power supply immediately and contact the factory.	

Note:

1. After turning off, the Type-c of the tablet is connected to the 5V power supply, and the percentage of battery charging can be seen by pressing the tablet's power button.
2. By default, after the ACC is disconnected, the docking station will continue to supply power to the tablet for one hour, and then disconnect the DC 5V power supply to the tablet to save the consumption of the car battery after shutdown.
3. if the NTC temperature of the battery exceeds 0~55 °C, the tablet will stop charging to ensure charging safety.

2.1.1. Power on the Device

1. Long press the power button for more than 2 seconds until the boot screen displayed. It needs around 30 seconds to start the system. The indicator is

- on when VT-7GA/VT-7GE start up normally.
- 2. The first startup will enter the Google Setup wizard interface, which can be set according to the actual usage of the user. The setting items can be skipped.
- 3. Power on by connecting ACC, see the details in Chapter “3.2.5 Using ACC”.
- 4. Power consumption during operation: 4w (typical)

2.1.2. Power off the Device

- 1. Power off by pressing the button: In the status of working on the device desktop, long press the power button for more than 2 seconds until the shutdown prompt pop-up then click the “POWER OFF” option.
- 2. Power off by ACC, see the details in the Chapter “3.2.5 Using ACC”.

2.1.3. Sleep and Wake the Device

- a. Auto sleep, the sleep time can be set up in the settings.
- b. Short press power button to sleep.
- c. Sleep by ACC, see the details in Chapter “3.2.5 Using ACC”
- d. Short press to wake
- e. Wake by ACC, see the details in Chapter “3.2.5 Using ACC”
- f. The average of power consumption in sleep status:
 - Powered by DC power supply or USB: 1.8W
 - Powered by battery: 0.6W

2.2. Installing Micro SD Card and Micro SIM Card

To install the micro SD card or Micro SIM card:

- a. Find the Micro SIM card slot or the Micro SD card slot. The following graphics illustrates the correct cards orientation, which the card chips is facing into the display orientation:
- b. To install the Micro SIM card or the Micro SD card, orient the card as indicated, and fully insert the card into the slot until it locks into place.
- c. Lock the interface cover with screws.



2.3. Charging the Battery

The battery is partially drained during the transportation. Be sure to charge the battery to full when you are charging it for the first time.

Tips:

Please keep the DC in charging status at work if available. In order to ensure the life and performance of the battery, if your tablet has been stored in the warehouse for more than three months, it is recommended to charge the battery every three months.

2.3.1. Charging with the Power Adapter

To charge the battery with the provided power adapter:

- If the device with an optional docking station, then mount the VT-7GA/VT-7GE tablet with docking station, connect the power adapter to the DC port of Docking Station.
- The VT-7GA/VT-7GE could be powered by 5V charger adapter through a type-C cable.
- The DC power supply voltage input range of the docking station is 8-36V, and the DC power supply of the tablet is 5V. Please note that the adapter must be of the corresponding specification when supplying power to the tablet or the docking station.

Note:

1. Tablet powered via docking station

When the docking station is connected to 8~36V power supply, and the ACC

wiring is connected to a power supply above 5~36V, the docking station can keep supplying power to the tablet;

When the Docking station is connected to 8~36V power supply, and the voltage of the ACC wiring drops from 5~36V to below 4V, the docking station will continue to supply power to the tablet for one hour, and then stop supplying power to the tablet. This is to simulate the situation that the car is turned off, to prevent the tablet from continuing to consume a large amount of vehicle battery power, resulting in the car not being able to ignite and start;

When the docking station is connected to 8~36V power supply, and the connection voltage of the ACC wiring is always less than 4V, the docking station will not supply power to the tablet;

2. Tablet powered via Type-C

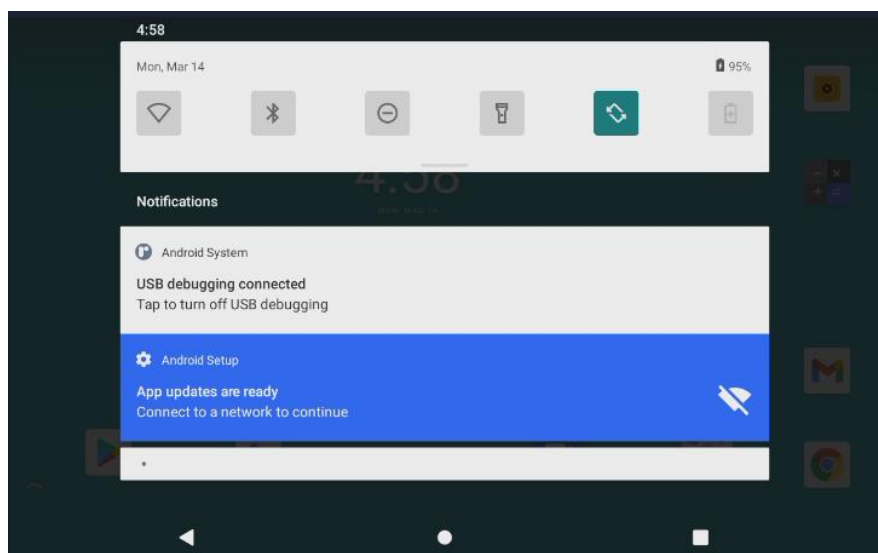
The voltage requirement range is 4.75~5.25V, and a 5V/2A power adapter is recommended.

Note:

The power supply of the docking station has priority over the Type-C power supply. When both power sources are present, the tablet will automatically switch to be powered by the docking station.

2.3.2. Checking the Battery Level

a. When the charging is in process, a battery indicator will appear in the status bar showing the charging percentage. To view the charge percentage, swipe down the Status Bar and you will see the charging percentage.



b. When the battery is fully charged, you can disconnect the DC input or USB type-c cable. If available, please keep the device in charging by DC power supply.

2.3.3. Installing/Replacing the Battery

In case you need to install or replace the battery, follow the steps below to access the battery chamber and replace the battery.

1. Place the device on a flat surface, with the rear side facing up. Loosen the retaining screws on the back cover by using a Hexagon socket screwdriver with flat head.



2. To install a new battery, orient the new battery so that the contact pins are aligned correctly.



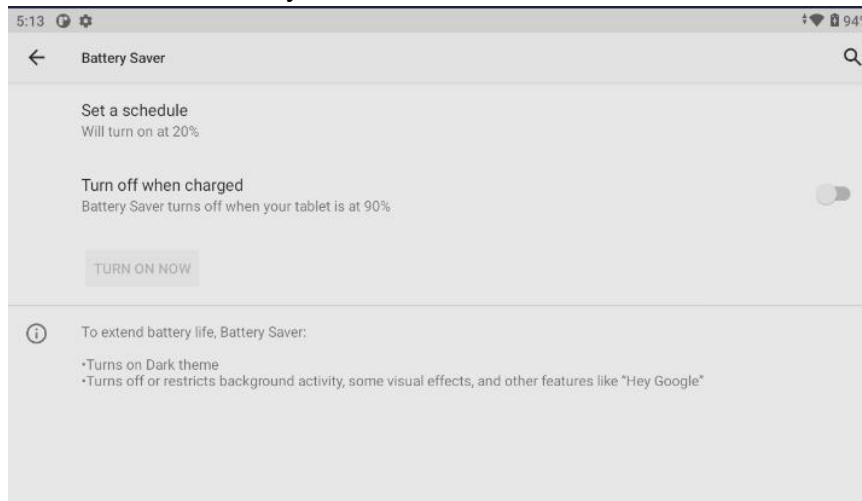
3. Assemble the battery cover and secure the retaining screws by using a Hexagon socket screwdriver with flat head.

2.4. Optimizing Battery Life

If the VT-7GA/VT-7GE is unable to keep charging by DC power supply, to optimize the operating time of the battery, it is recommended that you do the following:

- Decrease the LCD display brightness.
- Set a shorter timeout of inactivity to allow the screen enter sleep mode.

- Turn off the display if you are not using it.
- Turn off Wi-Fi, Bluetooth or GPS function if you are not using it.
- Set a battery protection plan to automatically turn on battery protection when the battery is below the set threshold.



3. Using VT-7GA/VT-7GE Function

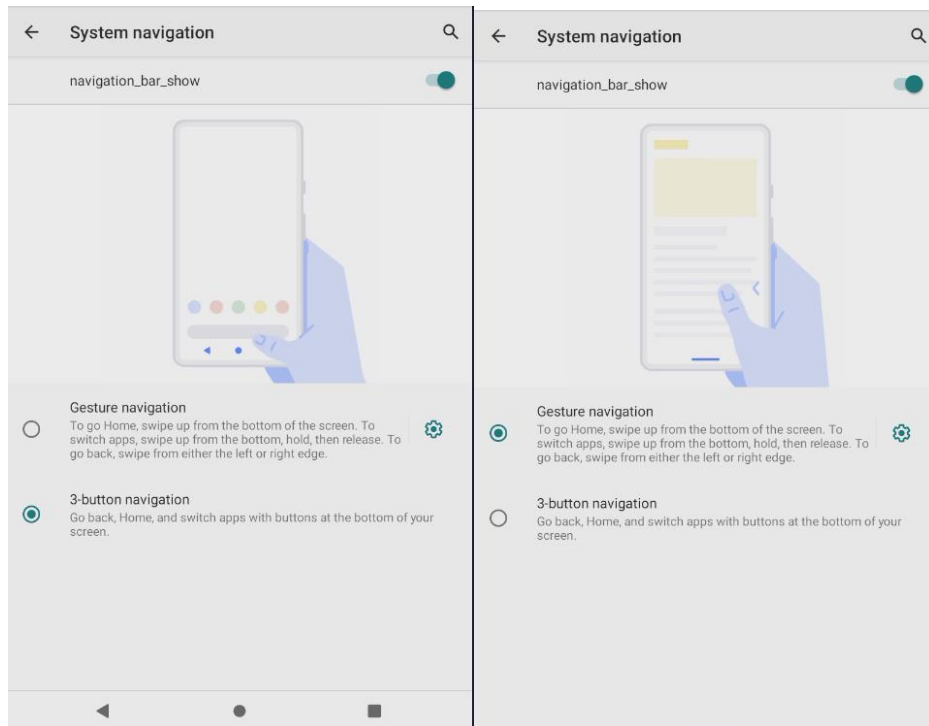
3.1. Software Function

3.1.1. Virtual Button

Find the "navigation_bar_show" switch button in the "Settings- » Accessibility- » System navigation" to control the display or hide the virtual buttons.

When the switch is on, you can use gestures or three virtual buttons to return, return to the main interface, and switch APP operations in the background.

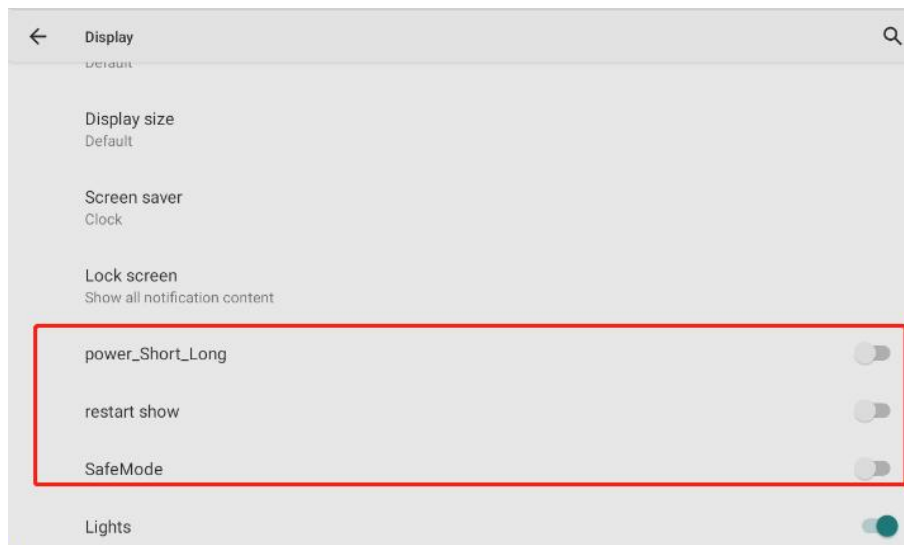
When the switch is off, the function of returning and returning to the main interface can only be realized through the return key and the home key of the panel.



3.1.2. Power Menu

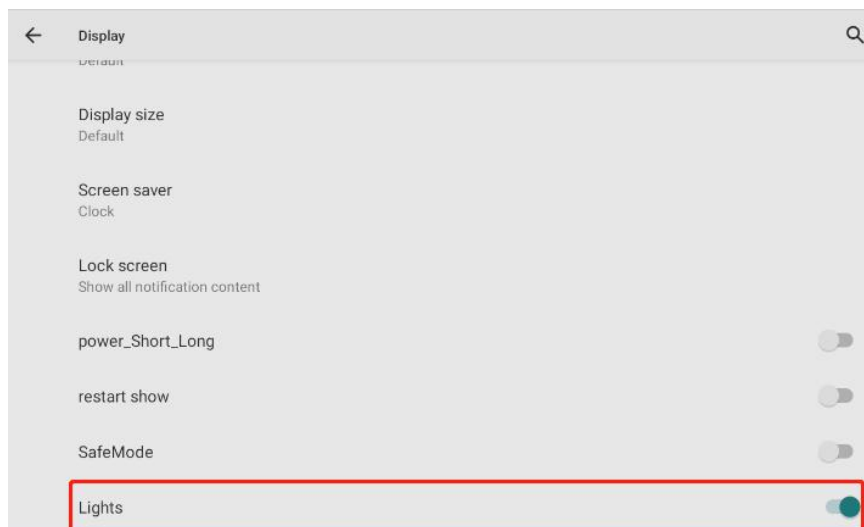
Find the following three function buttons in "Settings→Display":

1. Power_Short_Long---Enable or disable the long press/short press function of the power button, which is off by default (not disabled). In order to improve the customer experience, after the power button function is disabled, the function of short-pressing the power button to wake up the screen is still retained when the tablet is in sleep mode).
2. Restart Show—Shield the restart button of "long press the power button to pop up the menu", it is off by default (not shielded), and the restart button in the power menu is hidden after it is turned on;
3. SafeMode—Enable the power menu to enter safe mode, which is turned off (disabled) by default. After opening, long press the shutdown button/restart button in the power menu to enter safe mode.



3.1.3. Button Backlight

Find the Lights switch in "Settings→ Display". If the switch is turned on, the screen wakes up/off and the button backlight is on/off at the same time; if the switch is turned off, the button backlight is off whenever the screen is waked up or turned off.



3.1.4. Using Type-C Interface

You can transfer files, such as pictures or audio files, between your computer and your device using the provided USB cable.

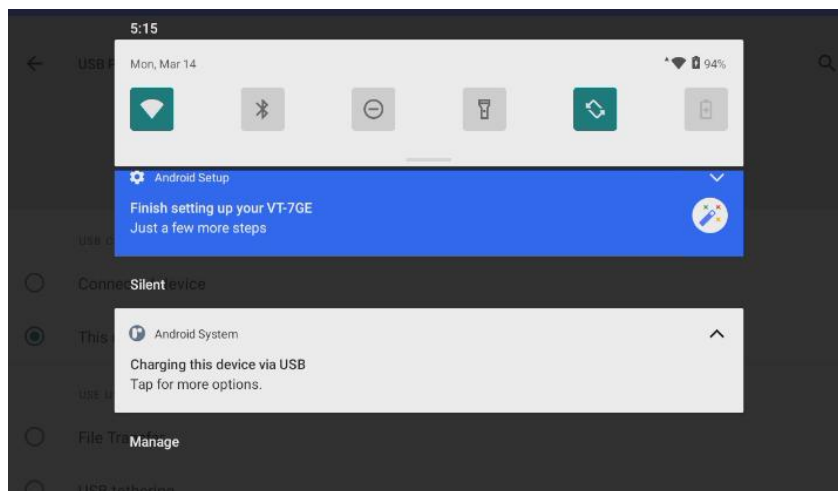
3.1.4.1. Enter USB Debugging Mode

To enter the USB debugging mode of the tablet, you need to do the following steps:

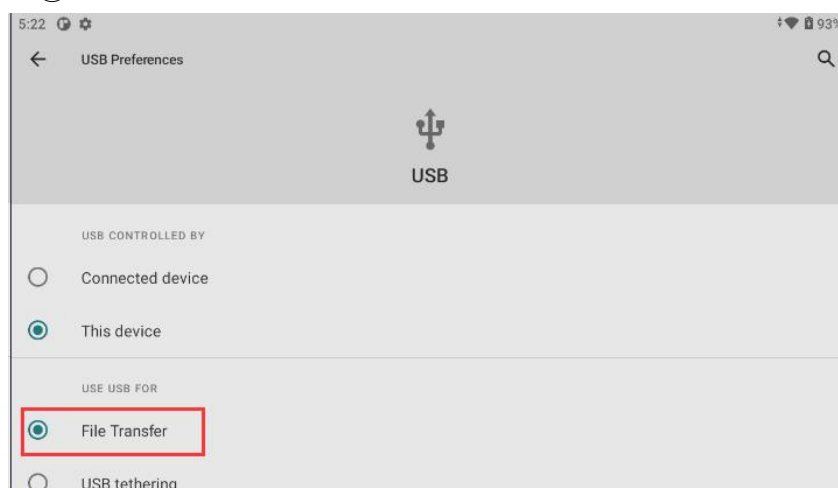
1. Turn on the USB debugging switch of the Android system of the tablet;
2. Disconnect the power supply of the docking station or leave the docking station switch in an open circuit state (this operation is required when the tablet is placed on the docking station).
3. Connect the USB cable to the Type-C port of the tablet.

3.1.4.2. File Transfer

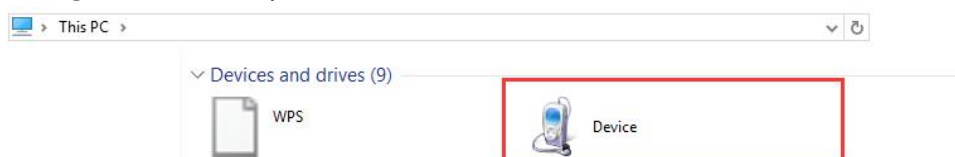
① Connect the device to the computer by using the Type-c cable, and it will show open the prompt message on the status bar. Refer to the following figure, click “charging this device via USB” to expand other options.



② Then select “File Transfer”.



③ On the computer find out the “Device” in “This PC”.



3.1.4.3. Use Instructions of USB TYPE-A

If you want to use the USB TYPE-A function of the docking station, you need to ensure that the tablet and the docking station are in the following states:

1. The DC power supply of the docking station is connected
2. docking station Switch is closed circuit state
3. Disconnect the Type-C wiring of the device

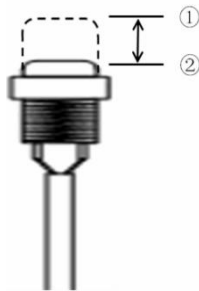
3.2. Hardware Function

3.2.1. Docking station

When placing the device on the docking station, it will be better to disconnect the DC power of the docking station first, and then connect the DC power of the docking station after installation.

3.2.2. The usage of the docking station Switch

- ① Open circuit state: shut off the docking station 5V power to the tablet
- ② Closed circuit state: Allow the docking station supply 5V power to the tablet



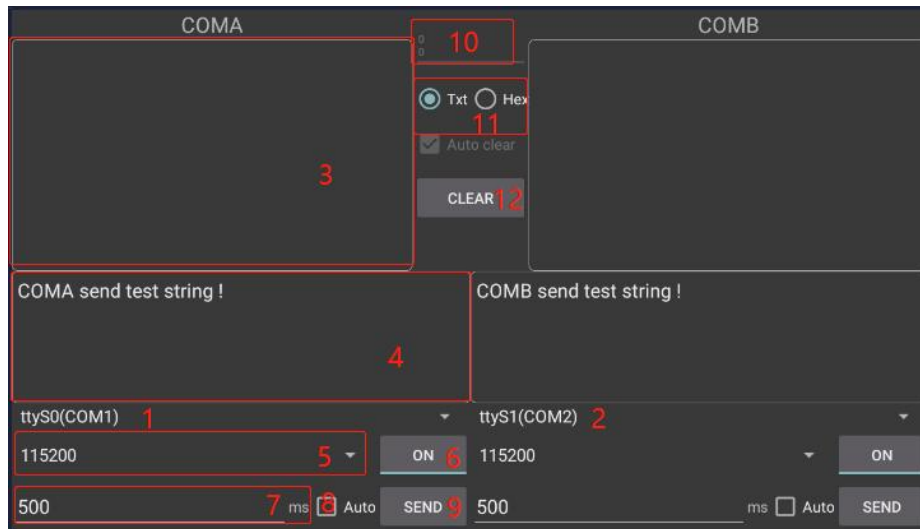
3.2.3. Using Serial Port Demo App

3.2.3.1. Serial Port Test Software Interface Description:

Serial Port ID: COM1, COM2

Correspondence between RS232 tail line and device node.

1. COM1=/dev/ttyS0.
2. COM2=/dev/ttyS1.



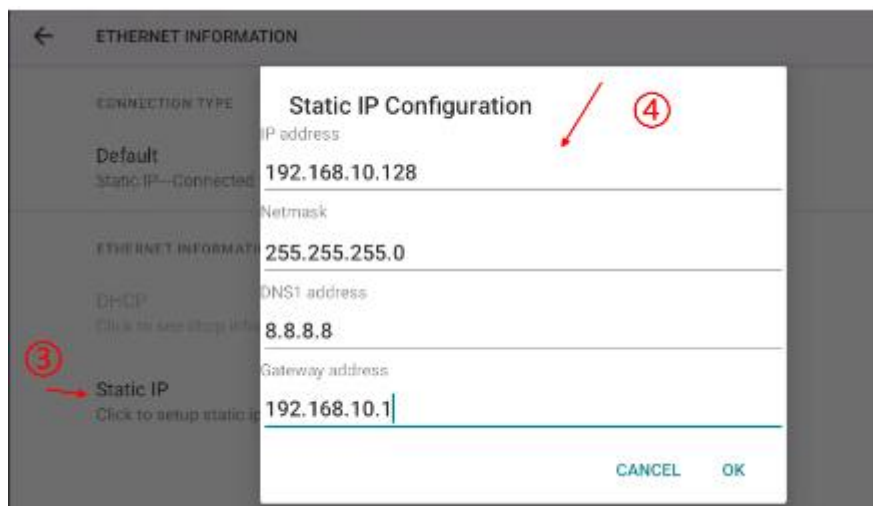
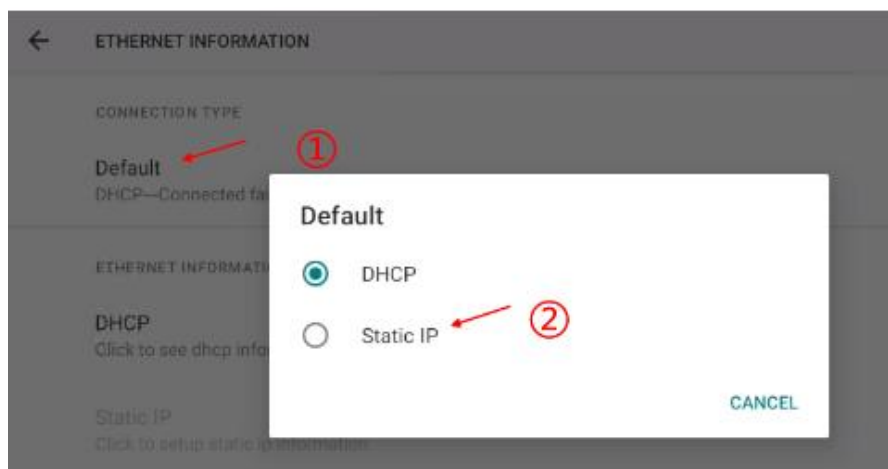
3. Receiving window, to display content received from corresponding COM port.
4. Sending window, to input content to be sent to corresponding COM port.
5. Baud rate.
6. on/off control of COM port.
7. Interval time setting for COM automatically send operation.
8. Auto send operation selection.
9. Single send button.
10. Counts of received character number of COMA and COMB.
11. Format selection of content to be sent and received.
12. button for clearing the receiving data area.

3.2.3.2. Serial Port Self-test

The serial port function requires the docking station DC must be connected to 8~36V power supply. Check the Auto checkbox in the test software interface, click the "SEND" button, and connect Pin2 and Pin3 of the COM1 (or COM2) interface together via , then the receiving window will display the Received data of the port. The received data is consistent with the sent data, indicating that the serial port can communicate normally.

3.2.4. Using USB Ethernet (Optional)

Enter the settings and click "Network&internet" to enter the following interface, find "Ethernet"



- A. The device has a dynamic IP by default, after connecting the router through the network cable, the bracket is powered on with DC power(refer to Note C), and the network port function can be used normally after waiting for 20s.
- B. If you need to connect to a static IP, click and enter to select a static IP
- C. After selecting, click static IP information

- D. Fill in the IP address, subnet mask, DNS address, and gateway in the pop-up window, and then click "OK" to perform the same operation (refer to Note C), and then the network port function can be used normally after waiting for 20s.

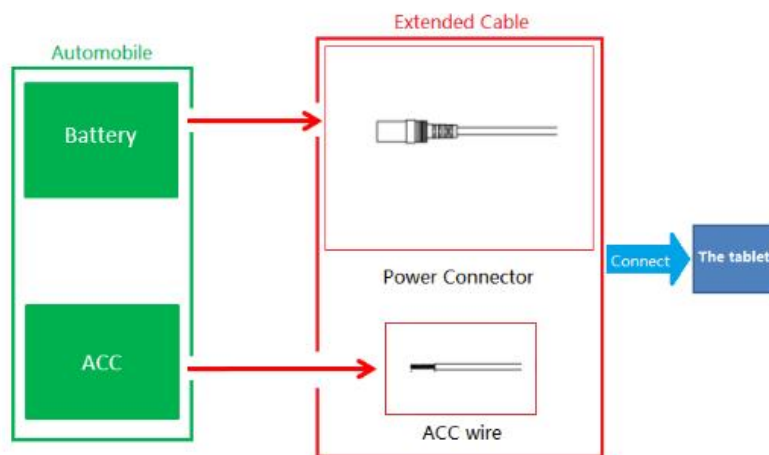
Note:

- A. The network port function requires that the bracket has a customized USB network port, or the customer purchases a USB-A to LAN port adapter with a specified chip (the device Type-c does not support OTG, so the Type-C to LAN port adapter cannot be used).
- B. Priority: WIFI>4G>Ethernet, when using Ethernet, you need to disconnect WIFI and close the 4G connection (just close the Mobile data in the status bar).
- C. When using Ethernet, the Type-c port of the tablet cannot be connected to other devices, the bracket needs to be connected to DC power and the bracket switch is closed circuit state.

3.2.5. Using ACC

3.2.5.1. ACC Connection Instruction

Connecting the tablet with vehicle power supply through extended cable or docking station, and connecting ACC wire on extended cable of the tablet with ACC of vehicle.



3.2.5.2. ACC Functions

- I. Power on the tablet if ACC rise above 5V.
- II. Wake up tablet from sleep mode once ACC voltage rise above 5V.
- III. Close the screen and enter sleep mode after a setting delay time once

ACC voltage follow below 4V.

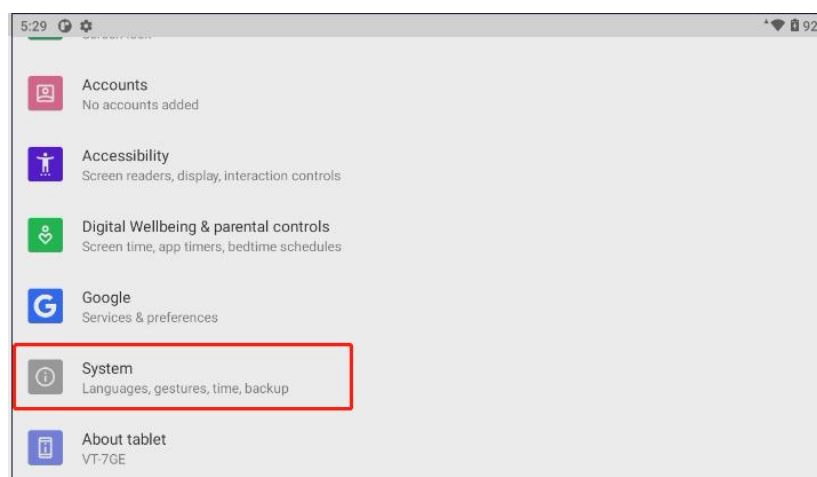
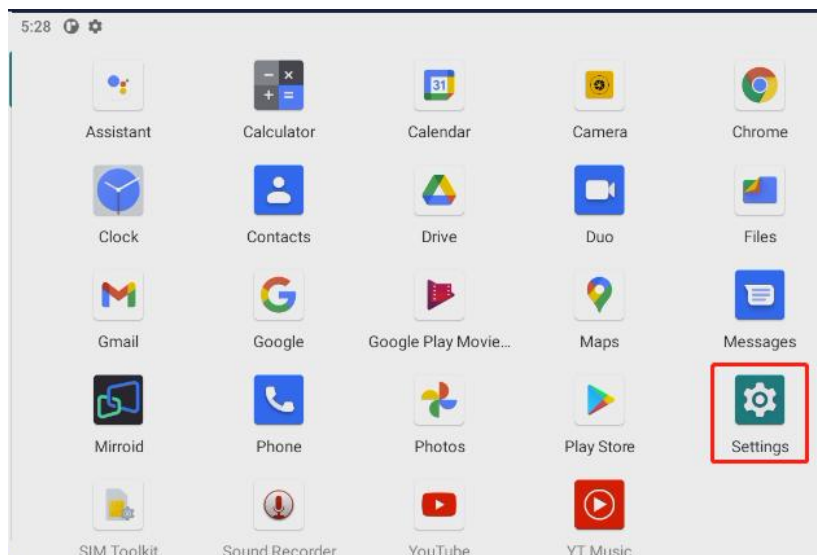
- IV. To shut down the tablet via ACC after a setting delay time once ACC voltage follow below 4V.
- V. Docking station will automatically cut off power supply to tablet if ACC has been disconnected or fall below 5V more than one hour.

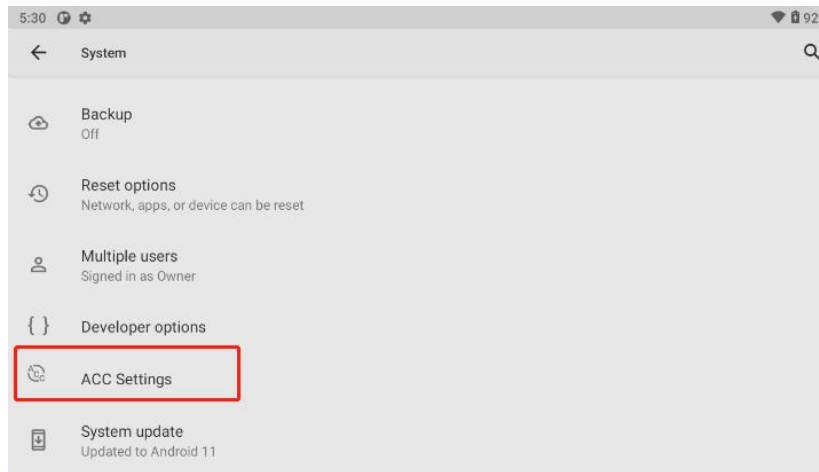
Note:

If ACC signal recovers to above 5V, the delay time count will be cleared.

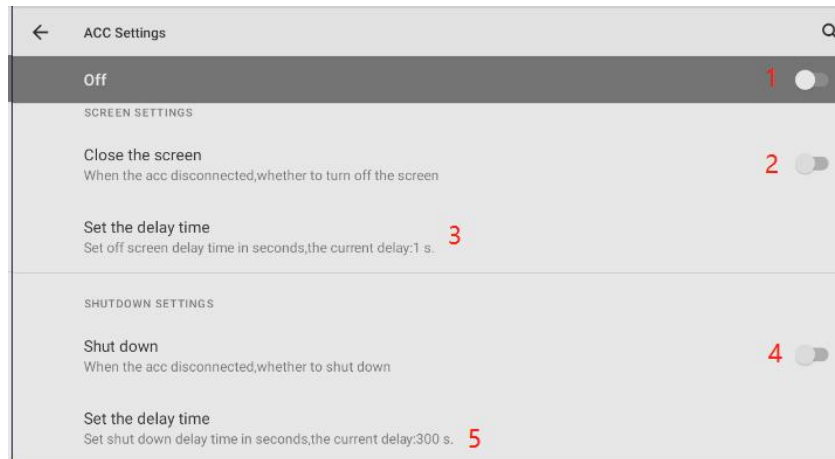
3.2.5.3. ACC Settings Path

Find ACC Settings from Settings as the Figures shown:





3.2.5.4. ACC Settings



1. ACC controls switch to turning off the screen and shut down the tablet;
2. ACC switch to turn off the screen function;
3. set the delay time to turn off the screen after ACC is disconnected;
4. ACC switch to turn off the tablet;
5. set the delay time for shutdown after ACC is disconnected.

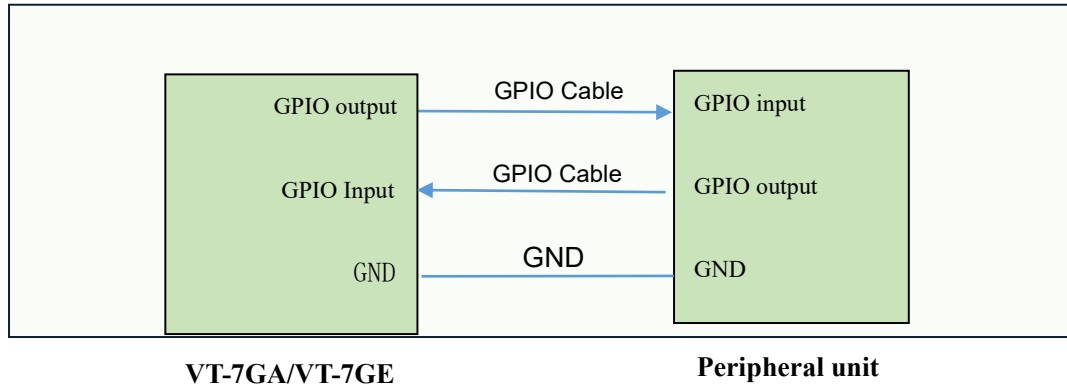
3.2.6. GPIO

3.2.6.1. GPIO Lines Instruction

Regarding the definition diagram of GPIO interface, please see the details in Chapter “1.3Extended Cable Definition”.

3.2.6.2. GPIO Typical Connection

The following figure is a typical connection method of GPIO. In order to ensure communicate normally, please connect the GPIO interface of VT-7GA/VT-7GE as shown in the following figure.



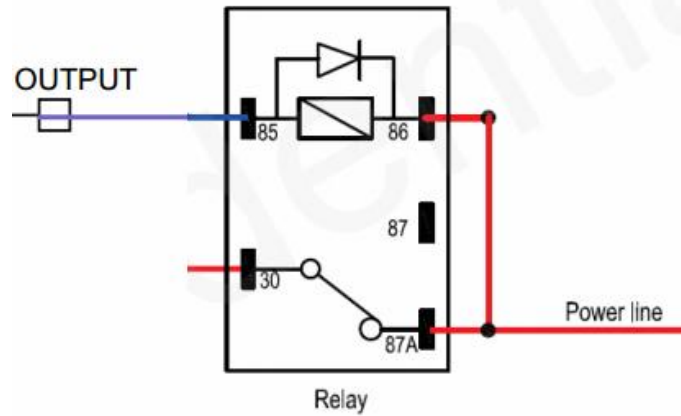
3.2.6.3. GPIO Specification

VT-7GA/VT-7GE GPIO Specification Descriptions								
PINs	Wire Color	Description	Logic Symbol	Min	TYP.	Max	Unit	Note
GPIO1	Red	Digital Input	VIH	3	5	30	V	Positive Trigger input
			VIL	0		0.6	V	
GPIO2	While	Digital Input	VIH	3	5	30	V	Positive Trigger input
			VIL	0		0.6	V	
GPIO3	Green	Digital Output	VOH		-	50	V	Open drain
			VOL	0	-	1.2	V	
GPIO4	Yellow	Digital Output	VOH		-	50	V	Open drain
			VOL	0	-	1.2	V	
GND	Black	Ground						

Note: Black wire (Ground) should be connected to ground of connecting devices.

The maximum sink current rating of GPIO output is 300mA.

In case of inductive load of motor, relay, and so on, be sure to use a clamp diode in parallel with external coil. Generation of the counter electromotive force that exceeds the output rating is prevented by discharging through the clamp diode. Relay application circuit is shown in the following figure.



3.2.6.4. GPIO_DEMO Instruction

a) Introduction

This software is used for developing GPIO functions of device.

b) GPIO_DEMO Main Interface

GPIO_DEMO		
Name	Direction	State
Docking Detection	IN	1
gpio_1	IN	LOW
gpio_2	IN	HIGH
gpio_3	OUT	HIGH
gpio_4	OUT	HIGH
READ_IN		SET_OUT_LOW

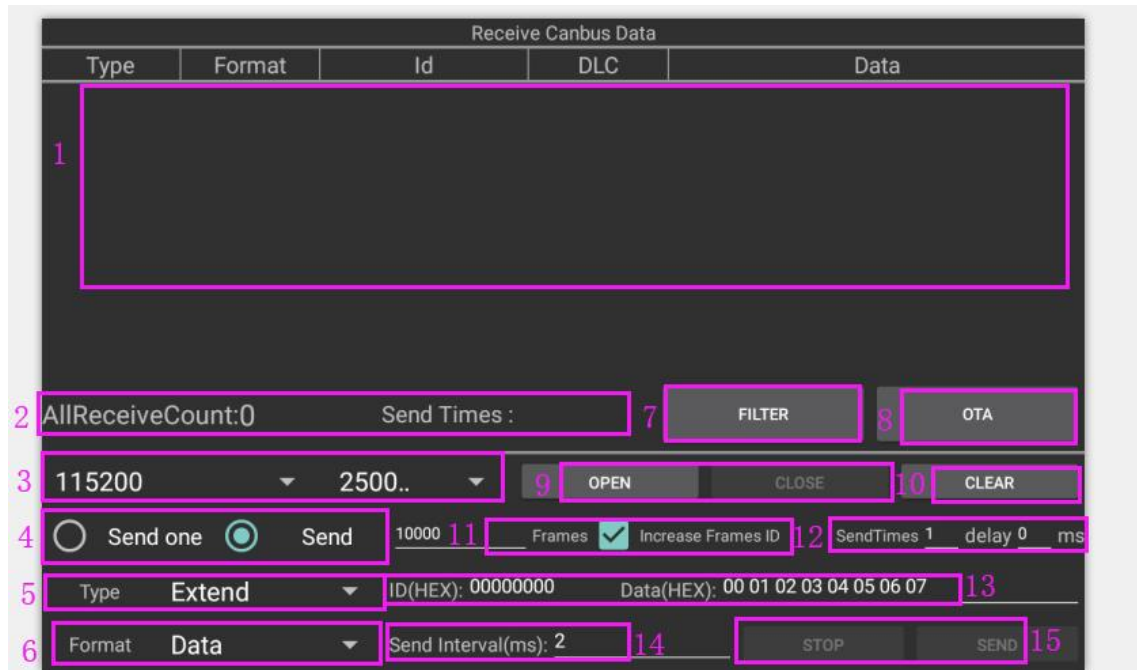
GPIO_DEMO Main Interface

c) Introduction of Main Components

GPIO_DEMO		
Name 1	Direction 2	State 3
Docking Detection	IN	1 4
gpio_1	IN	HIGH 6
gpio_2	IN	LOW
gpio_3	OUT	HIGH
gpio_4	OUT	HIGH
READ_IN 5		SET_OUT_LOW 7

1. Name: means the Pin names of GPIO.
2. Direction: means the input or output direction of the Pins.
3. State: means the current level state of the GPIO Pins.
4. Bracket installation detection: When the tablet is installed on the bracket, press "READ_IN", the status will change from 0 (the tablet is not connected to the bracket) to 1 (the tablet is detected to be connected to the bracket).
5. The button can read the value at once, when GPIO is set as the input direction.
6. The read value of GPIO_1 and GPIO_2 is LOW by default. When a high level is input to GPIO_1/GPIO_2, press the READ_IN button to read the state of GPIO_1/GPIO_2 changed from LOW to HIGH.
7. The button used to set the high or low of GPIO output at once. When the output of docking station is set to low.

3.2.7. CANBUS

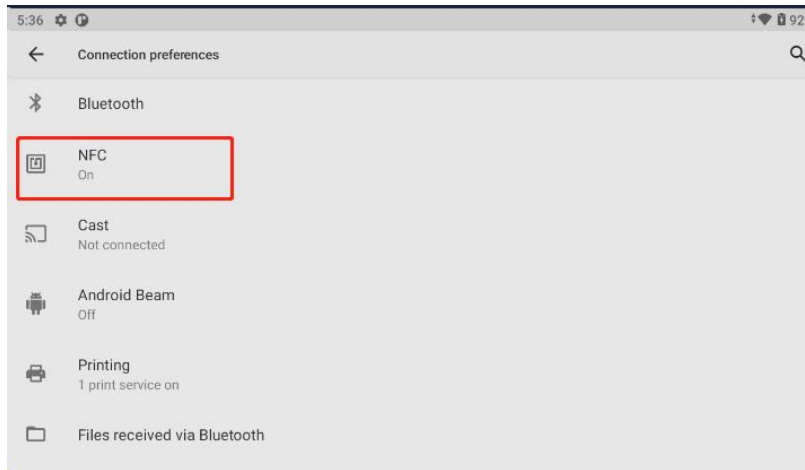


The Main Interface Diagram of CANBUS

- ① Real-time display of received data values
- ② Calculate the data frame sent and the total time of the data frame
- ③ Baud rate selection: serial port baud rate on the left, CAN baud rate on the right
- ④ Sending frame number selection mode: only one frame is sent on the left, and the set number of data frames is sent on the right
- ⑤ Types of data frames sent: mainly extended frames and standard frames
- ⑥ The format of sending data frame: data and Remote
- ⑦ ID filter settings
- ⑧ OTA upgrade mode
- ⑨ Choose to turn on or turn off the serial port
- ⑩ Clear real-time display
- ⑪ The left is the setting of the total number of frames sent (users can set it by themselves), and the right is to select whether the number of frames sent each time is superimposed or not
- ⑫ Delay between sending times, unit: ms
- ⑬ The form setting of sending CAN data frame
- ⑭ Delay between sending data frame interval, unit: ms
- ⑮ The left is the mode to stop sending data frames, and the right is the mode to send data frames

3.2.8. Using NFC Function

NFC setting path: setting>Connected devices>Connection preferences>NFC



After activating NFC function and open NFC Tools App, place the NFC card close to the induction area (as Figure 1 shows). A prompt tone would be heard if the card is successfully identified. If the card contains some information (such as manufacturer's information), there will be an interface popped up as shown in Figure 2.

Note:

If the card has been identified, it does not always pop up an interface, but there must be a prompt tone.



Figure 1

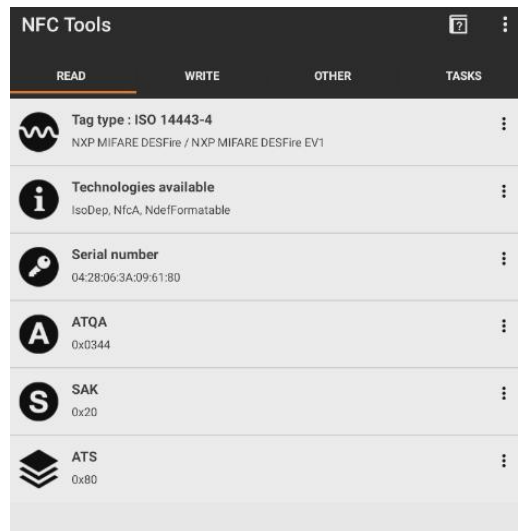


Figure 2

4. Docking Station Using Instruction

4.1. Docking Station Install Steps

4.1.1 Align the VT-7GA/VT-7GE to the limit slot of docking station as Figure 1 shown.

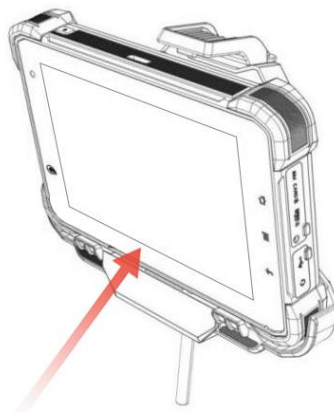


Figure 1

4.1.2 Pull the buckle up as the Figure 2 shown.

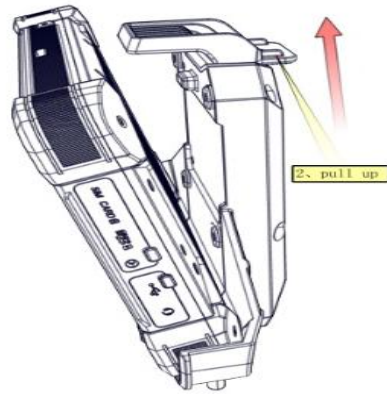


Figure 2

4.1.3 Push VT-7GA/VT-7GE to make it attached the docking via snap joint, as Figure 3 shown.

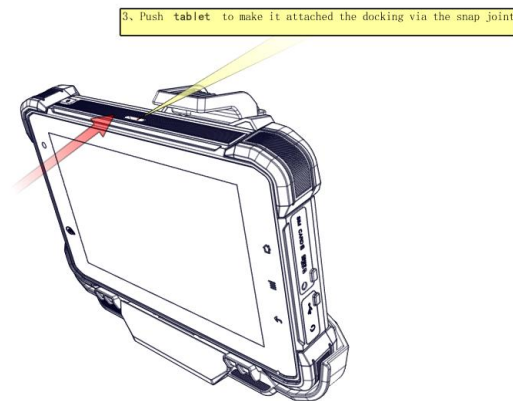


Figure 3

4.1.4 Release and finish the installation as Figure 4 shown.

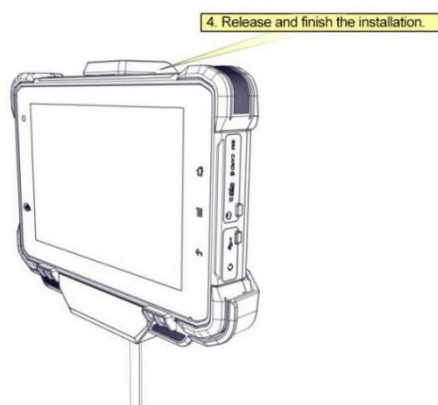


Figure 4

4.2. Docking Station Disassemble Steps

4.2.1 Stretch upwards the buckle to release it from the device, as Figure 5 shown.

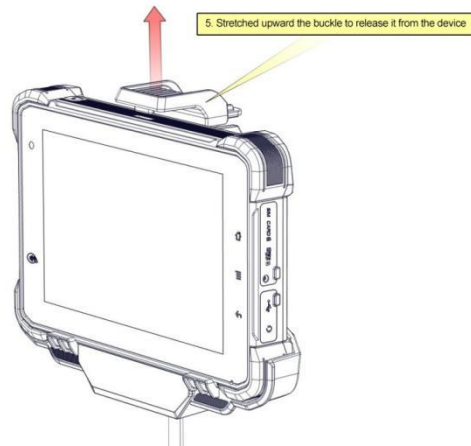


Figure 5

4.2.2. Take out the device as Figure 6 shown.

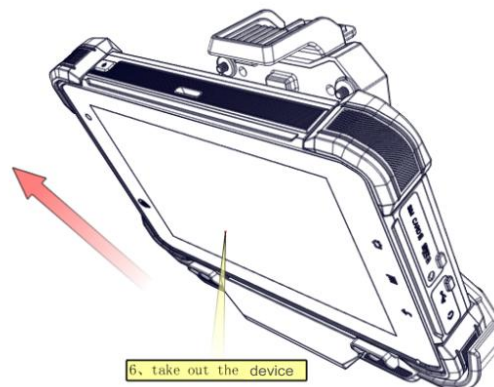


Figure 6

5. Accessories

5.1. Accessories



Docking Station
USB to Type-C cable

1pc
1pc

Allen Wrench	1pc
Screws for RAM	4pc
Screws for SIM card	2pc

5.2. Optional accessories



1. Docking Station Lock	1pc
2. DC (12V)	1pc