



TABLET
RUGGED • RELIABLE • READY

VT-7A

In-Vehicle Display Terminal

User's Manual

Version 1.1.5



Revision History

Version	Release Time	Description
1.0.0	20230402	Create
1.0.1	20230408	Modify
1.0.2	20230421	Modify
1.0.4	20230512	Modify
1.0.5	20230516	Modify
1.0.6	20230527	Modify
1.0.7	20230530	Modify “5.2.Optional accessories”
1.0.8	20230627	Modify “1.4 Specifications”
1.0.9	20230920	Modify“1.4 Specifications” NFC
1.1.0	20231107	Modify
1.1.1	20231207	Modify
1.1.2	20240120	Modify
1.1.3	20240617	Add “1.3.1 M12 Version”
1.1.4	20240706	Add Instructions for using 4G functionality when debugging tablets on a PC of “2.2. Installing Micro SD Card and Micro SIM Card” &modify ”1.3.1 M12 version”
1.1.5	20250217	Modify “1.4. Specifications”

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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

The CE symbol on your product indicates that it is in compliance with the directives of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables.

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.

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 Instructions



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.



Read the safety instructions carefully and thoroughly. All cautions and warnings on the equipment or user's manual should be noted.



The openings on the enclosure are used for air convection and to prevent the equipment from overheating. Do not cover the openings.



- Make sure the correct voltage (8-36VDC) is connected to the equipment.
 - If the equipment will not be used for a long time, disconnect it from the power source to avoid damage by transient over voltage.
-



- 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.
 - 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.
-



For pluggable equipment, the socket outlet should be near the equipment and should be easily accessible.



Place this equipment on a reliable surface when installing. Dropping it or letting it fall may cause damage.



Do not scratch or rub the screen with a hard object.



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.
-

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

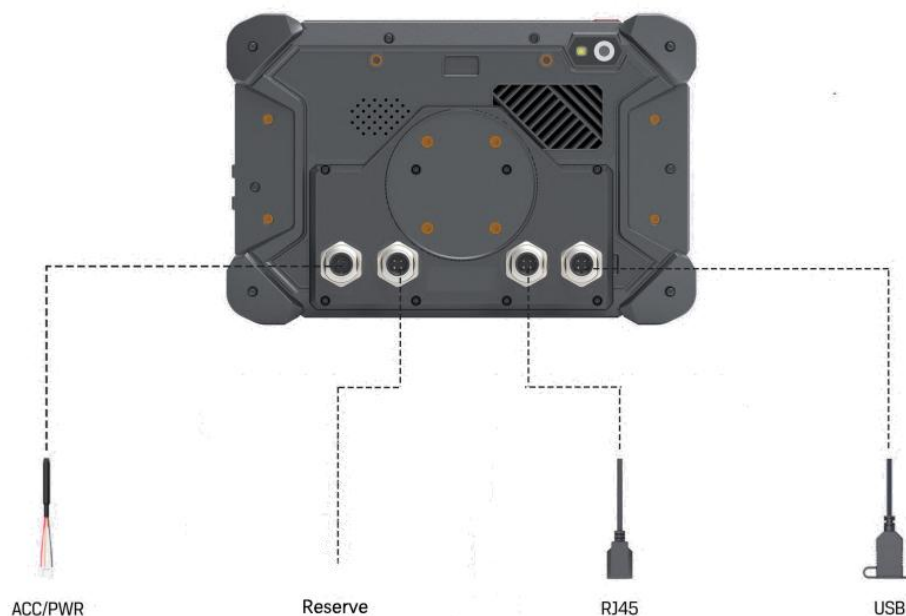
- Qualcomm Cortex-A53 64-bit Quad-Core Process 2.0 GHz
- Android 12 Operation System
- Comply with IP67 rating
- WIFI, Bluetooth, LTE, GNSS supported
- 7 Inch IPS Display, physical 1280x800 resolution, 800cd/m², multi-point capacitive touch

1.2. Parts of the Device

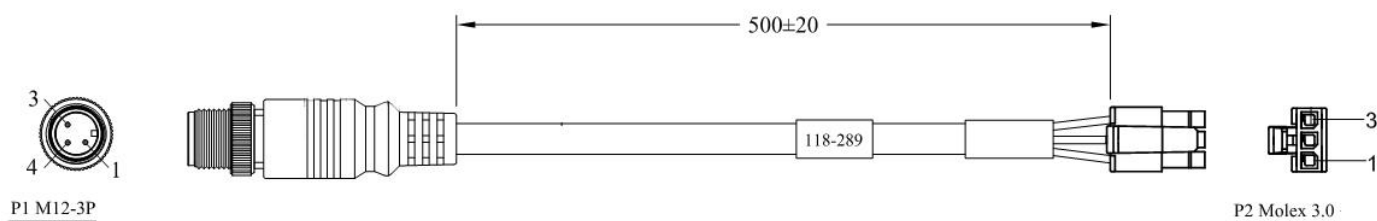


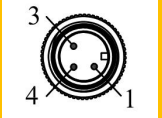
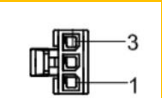
1.3. Extended Cable Definition

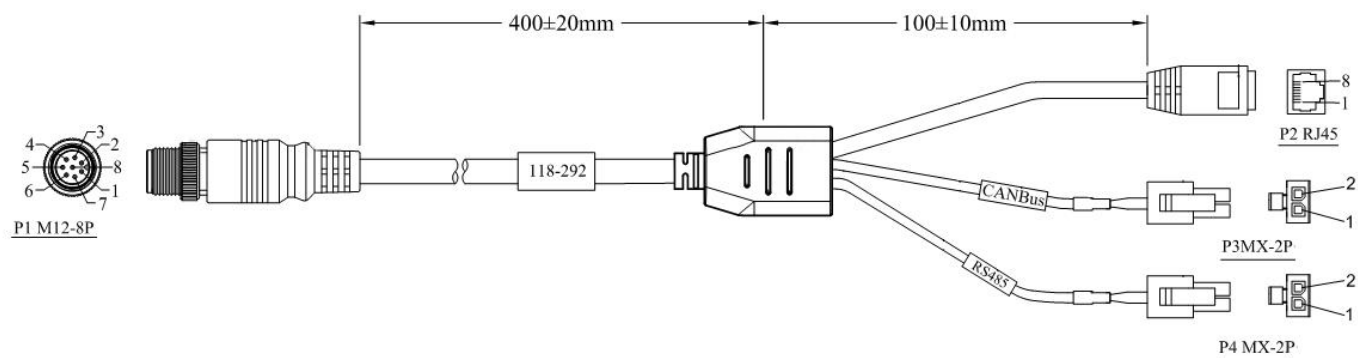
1.3.1. M12 Version

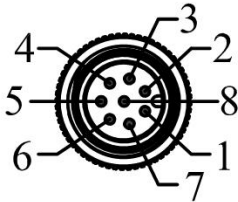
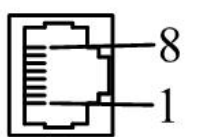


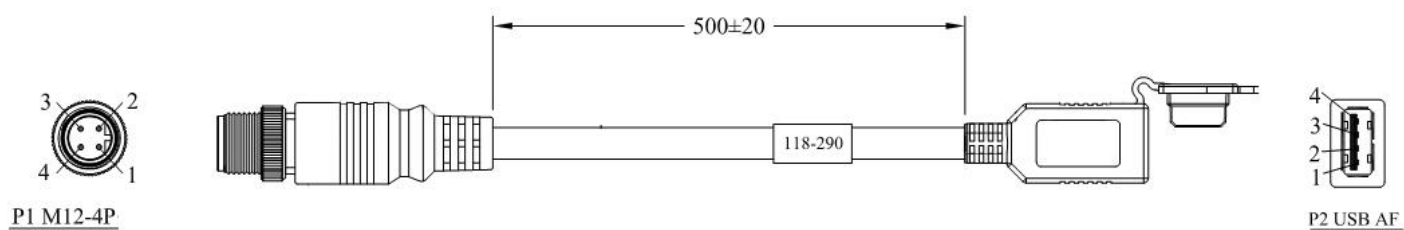
Detailed interface definition:

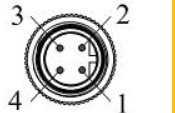


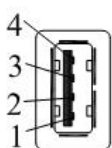
NO.	Item	Definition	
P1		Pin	Define
		1	Power
		3	GND
		4	ACC
P2		Pin	Define
		1	Power
		2	GND
		3	ACC
		Connect with vehicle ACC power. Voltage range: 0-36V. Positive trigger, V(IH) threshold is 2.5V. Note: With ACC function, the tablet could be start up automatically once wire ACC received a voltage more than 2.5Volts and DC power supply is between 8~36V.	



NO.	Item	Definition			
P1		Pin	Define	Pin	Define
		1	RXP	5	NO USE
		2	RXN	6	NO USE
		3	TXP	7	NO USE
		4	TXN	8	NO USE
P2	LAN 	Pin	Define	Pin	Define
		1	TXP	5	NC
		2	TXN	6	RXN
		3	RXP	7	NC
		4	NC	8	NC
P3	Reverse	No use			
P4	Reverse	No use			



NO.	Item	Definition	
P1		Pin	Define
		1	VUSB
		2	DM
		3	DP
		4	GND

P2	USB	Pin	Define
		1	VUSB
		2	Data-
		3	Data+
		4	GND

1.4. Specifications

Tablet			
System	CPU		Qualcomm Cortex-A53 64-bit Quad-Core Process 2.0 GHz
	OS		Android 12
	GPU		Adreno™ 702
Storage	RAM		LPDDR4 4GB
	ROM		eMMC 64GB
Display	LCD		7 Inch Digital IPS Panel, 1280 × 800, 800 nits
	screen		Multi-point Capacitive Touch Screen
Audio	Integrated microphone		
	Integrated speaker 8Ω/2W		
Communication	GNSS		NA version: GPS/BeiDou/GLONASS/Galileo/QZSS/SBAS/NavIC, L1 + L5; Internal Antenna EM version: GPS/BeiDou/GLONASS/Galileo/QZSS/SBAS, L1 ;, Internal Antenna
	4G	US Version North America	LTE FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B66/B71 LTE-TDD: B41
	WIFI		802.11a/b/g/n/ac; 2.4GHz&5GHz
	Bluetooth		2.1 EDR/3.0 HS/4.2 BLE/5.0 BLE
	NFC		● ISO/IEC 14443A, ISO/IEC 14443B PICC mode ● ISO/IEC 14443A, ISO/IEC 14443B PCD mode designed according to NFC Forum ● digital protocol T4T platform and ISO-DEP ● FeliCa PCD mode ● MIFARE PCD encryption mechanism (MIFARE 1K/4K) ● NFC Forum tags T1T, T2T, T3T, T4T and T5T NFCIP-1, NFCIP-2 protocol ● NFC Forum certification for P2P, reader and card mode ● FeliCa PICC mode ● ISO/IEC 15693/ICODE VCD mode ● NFC Forum-compliant embedded T4T for NDEF short record
Sensor	Acceleration, Gyro sensor, Compass, Ambient light sensor		

Interface	Type-C (5V)	TYPE-C (USB TYPE-A and USB TYPE-C cannot be used simultaneously)
	Micro SD Slot	1 × Micro SD card slot, Support up to 512GB
	SIM Socket	1 × Micro SIM Card slot
	Earphone Jack	3.5mm headphone jack compliant with CTIA standard
Camera	Front: 5.0 megapixel camera	
	Rear: 16.0 megapixel camera	
Environmental reliability	Drop test	1.2m drop-resistance
	IP rating	IP67
	Vibration test	MIL-STD-810G
	Operating temperature	-10°C ~ 65°C (14°F ~ 149°F)
	Storage temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Extended Interface (M12)		
USB Type-A	1 × USB2.0 (USB TYPE-A and USB TYPE-C cannot be used simultaneously)	
LAN	× 1 (100Mbps)	
ACC	× 1 (0-36V)	
Power	× 1 (8-36V)	

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-7A.

Table 2.1.1 VT-7A Indicator color and device status table

Power status	LED state	Device Status	
		Boot	Shutdown
DC input	Green		Light off
No DC input	Green		Light off

When a red or green light flashes, the device experiences an abnormality. Please immediately cut off the external power supply and contact the factory.

2.1.1. Power on the Device

1. Long press the power button for more than 2 seconds, It needs around 35 seconds to start the system. The indicator is on when VT-7A start up normally.
2. Power on by connecting ACC, see the details in Chapter “3.2.3 Using ACC”.
3. Standby power: 5w (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 “3.2.3 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 “3.2.3 Using ACC”
- d. Short press to wake
- e. Wake by ACC, see the details in Chapter “3.2.3 Using ACC”
- f. The average of power consumption in sleep status:
Powered by DC power supply or USB: 0.78W

2.2. Installing Micro SD Card and Micro SIM Card



Note: When using a computer to connect the USB Type-C debugging equipment, it needs to disable the mobile network function of the computer, to ensure the 4G function of VT-7A can be used normally.

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.



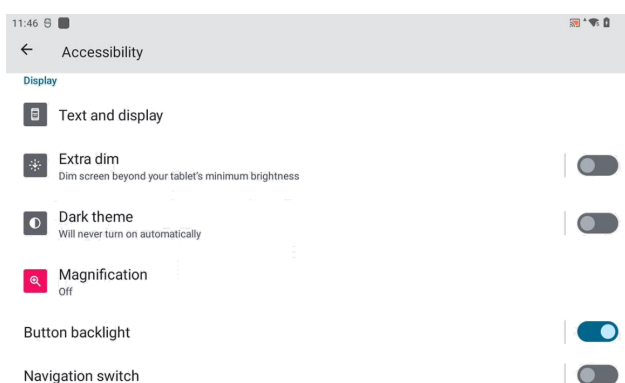
3. Using VT-7A Function

3.1. Software Function

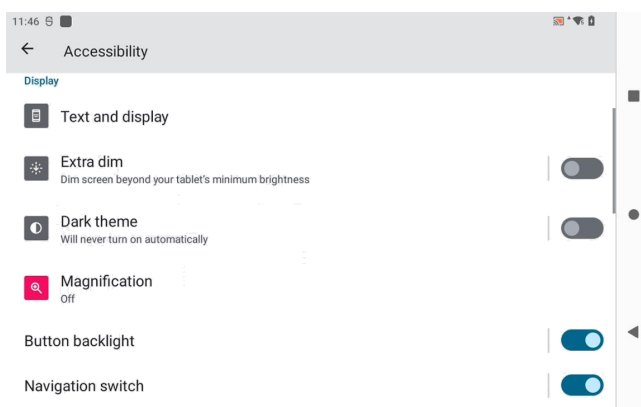
3.1.1. Virtual Button

Find the “System navigation” switch button in the “Settings→Accessibility→ Navigation switch” to control the display or hide the virtual buttons on the right side of the screen.

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



Navigation switch-OFF

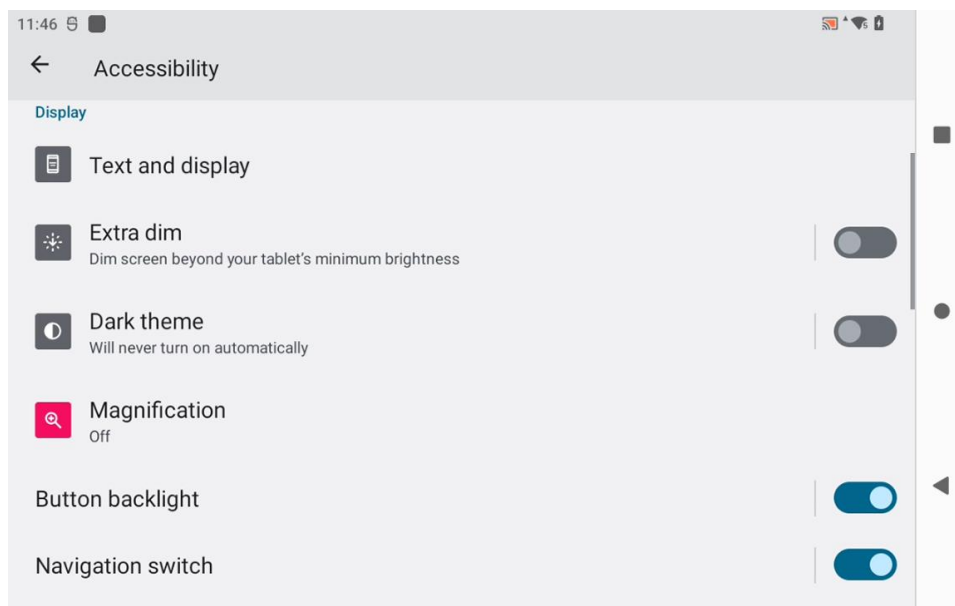


Navigation switch-ON

3.1.2. Button Backlight

Find the Lights switch in “Settings→Accessibility→Button backlight”. 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.

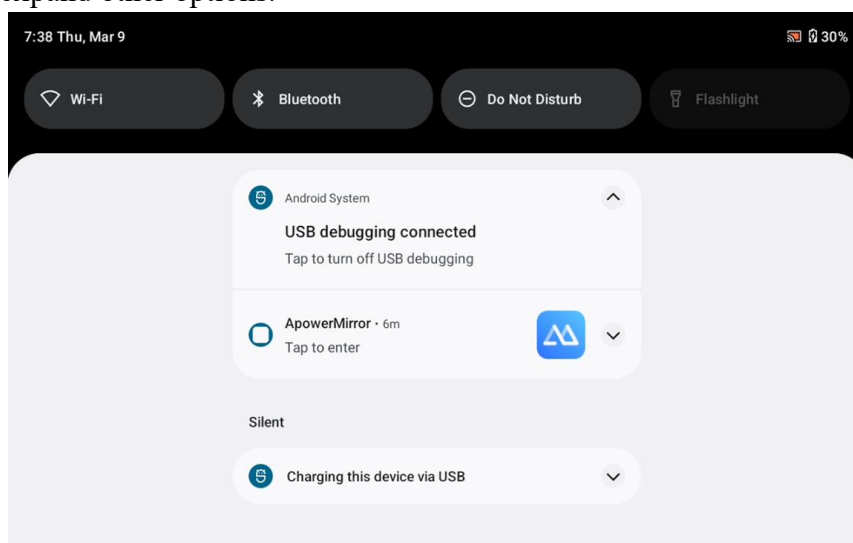


3.1.3. Using Type-C Interface

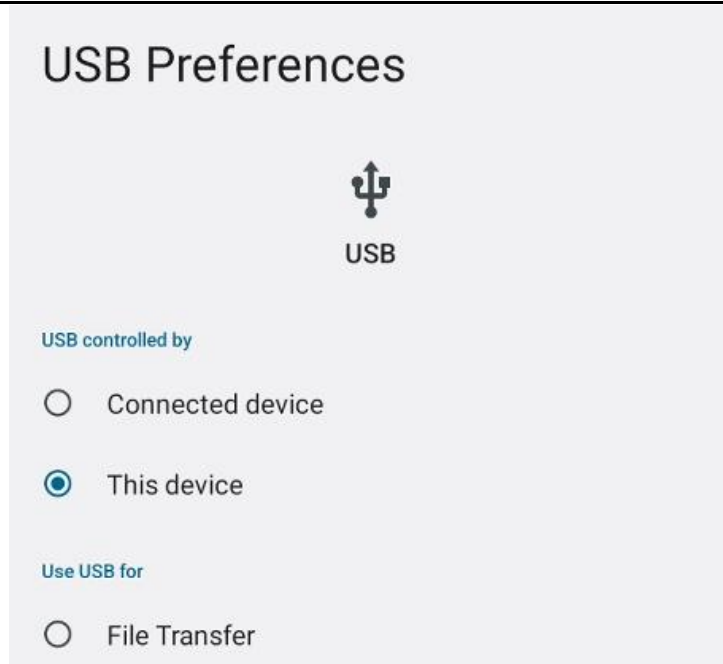
You can transfer files, such as pictures or audio files, between your computer and your device using the provided USB cable.

3.1.3.1. File Transfer

① Connect the device to the computer by using the Type-c cable to enter the USB debugging mode of the tablet, 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”.



3.1.3.2. Use Instructions of USB TYPE-A

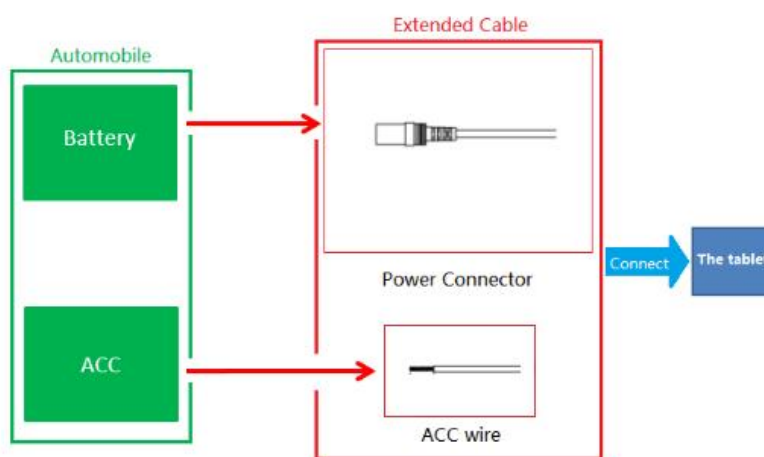
If you want to use the USB TYPE-A function, you need to ensure that the tablet was disconnect the Type-C wiring of the device

3.2. Hardware Function

3.2.1. Using ACC

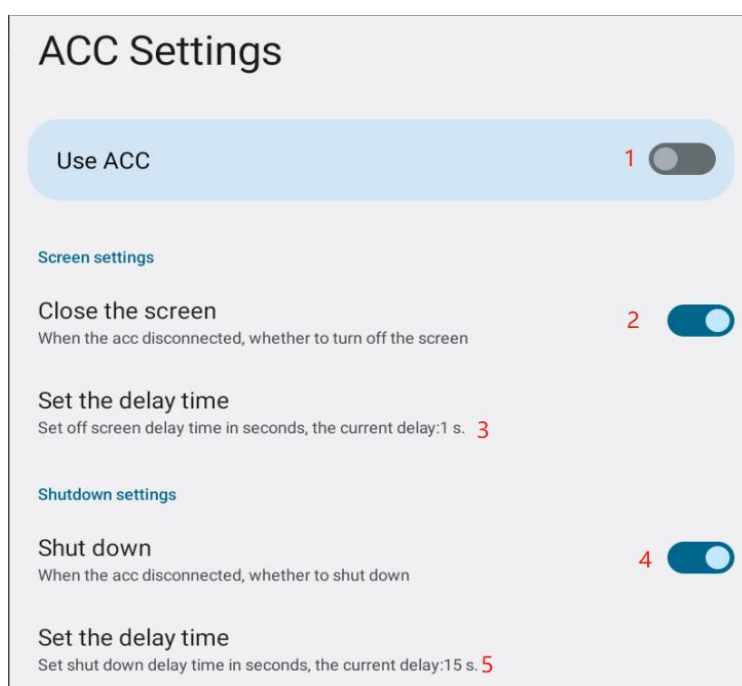
3.2.1.1. ACC Connection Instruction

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



3.2.1.2.ACC Functions

Find the ACC function settings in the system settings, and the path is: Settings-> ACC Settings



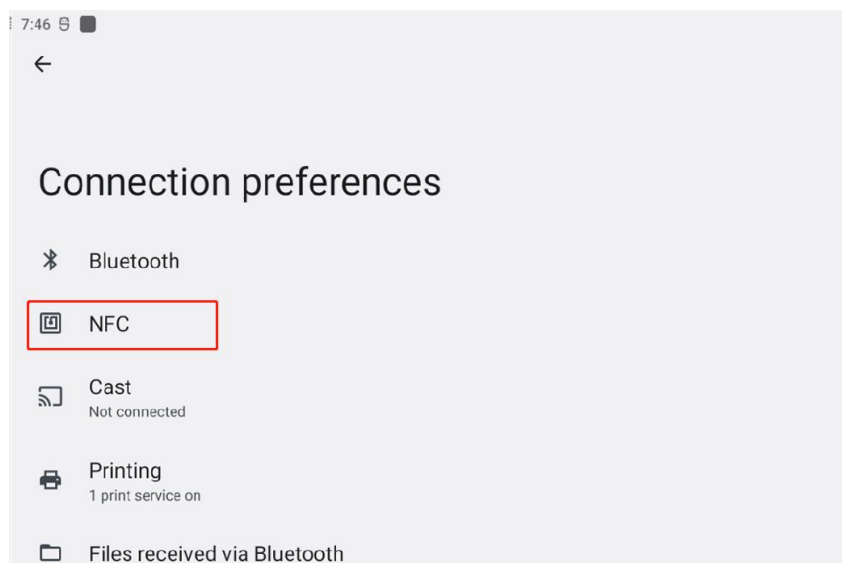
- 1.ACC controls switch to turning off the screen and shut down the tablet;
- 2.ACC switch to turn off the screen function;
- 3.Set the delay time to turn off the screen after ACC is disconnected;
- 4.ACC switch to turn off the tablet;
- 5.Set the delay time for shutdown after ACC is disconnected.

Note:

When the tablet is not connected to the rack, the ACC function will not take effect regardless of whether the ACC function switch is turned on or off, and the tablet remains in normal use.

3.2.2. 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

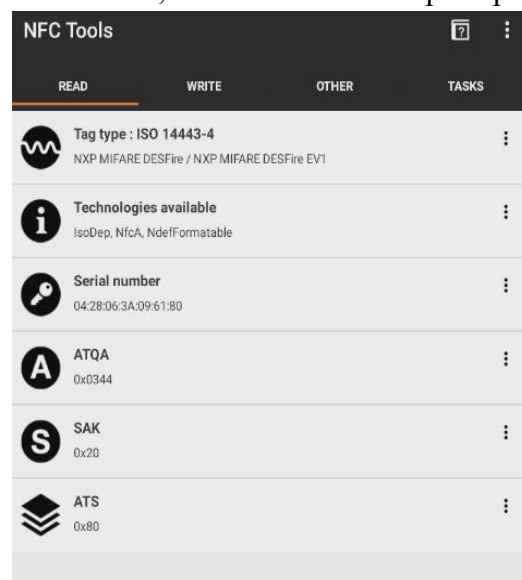
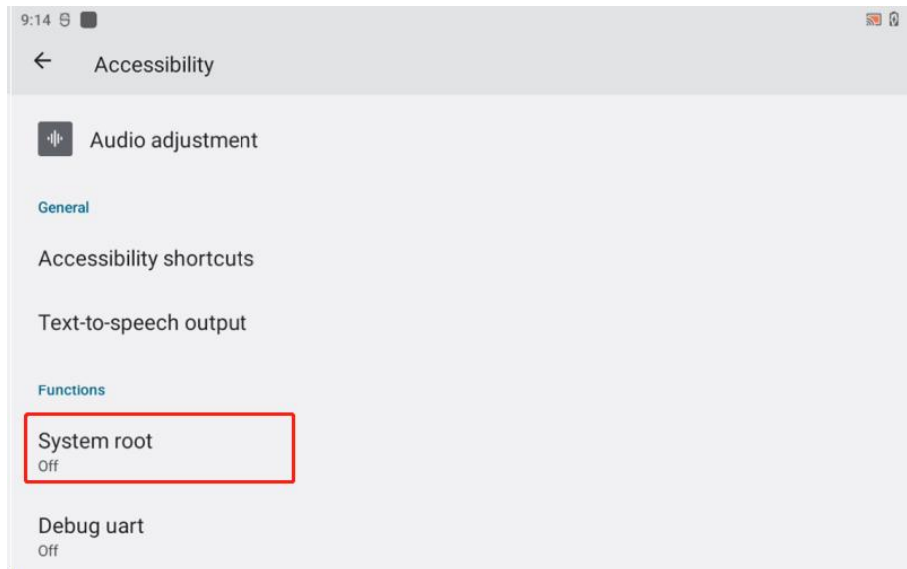


Figure 2

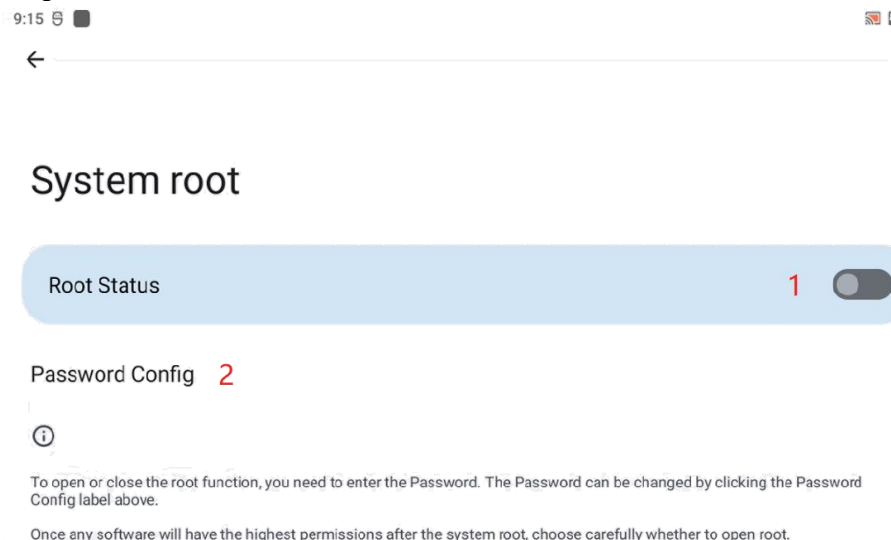
3.2.3. System Root Switch Usage Guide

Root switch setting path: setting>Accessibility>System root



The root switch setting interface is as follows.

1. The Root permission (on/off) switcher. Initial password: qwertyuiop
2. Modify the switch password of the root state.



Note:

If restore the factory settings, the root switch state will be reset to OFF, and the password is restored to the initial.

4. Accessories

4.1. Accessories



1. USB to Type-C cable
2. Removal tools (including T6/T8/T20 torx wrench, fixing screw for RAM and SIM card interface plug)

4.2. Optional Accessories



- | | |
|--|-----|
| 1. DC (12V) | 1pc |
| 2. RAM 1" Double Ball Mount with Backing Plate | 1pc |

FCC Caution:

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.

Any changes or modifications not expressly approved by the party responsible for compliance 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 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.

RF Exposure

This device 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.

ISED Statement

English: This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

French: Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada.

L'exploitation est soumise aux deux conditions suivantes :

- (1) Cet appareil ne doit pas provoquer d'interférences.
- (2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

L'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 6.3 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 6.3 du cnr -

102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'exposition aux rayonnements du Canada établies pour un environnement non contrôlé.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.