



1081315-01

AD-7 Display Terminal

User's Manual

Version 1.0.0



Revision History

Version	Release Time	Description
1.0.0	20241107	Create
1.0.1	20250623	Modify “Extended Cable Definition”

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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.
-

Rechargeable Super capacitor Pack Safety

With very little care, you can optimize the Super capacitor life and maximize the lifespan of the Super capacitor. Most importantly, use only the equipment in its ideal operating temperature – do not leave it in a hot trunk during the summer.

- **Using the Equipment for the First Time**

Be sure to fully charge the equipment when charging the equipment for the first time.



- **Long-Term Storage & Maintenance**

If you are putting away the Super capacitor for more than three months, it is recommended that the Super capacitor should be stored separately and fully charged, and get recharged every three months. If you store an uncharged Super capacitor, 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 Super capacitor 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.

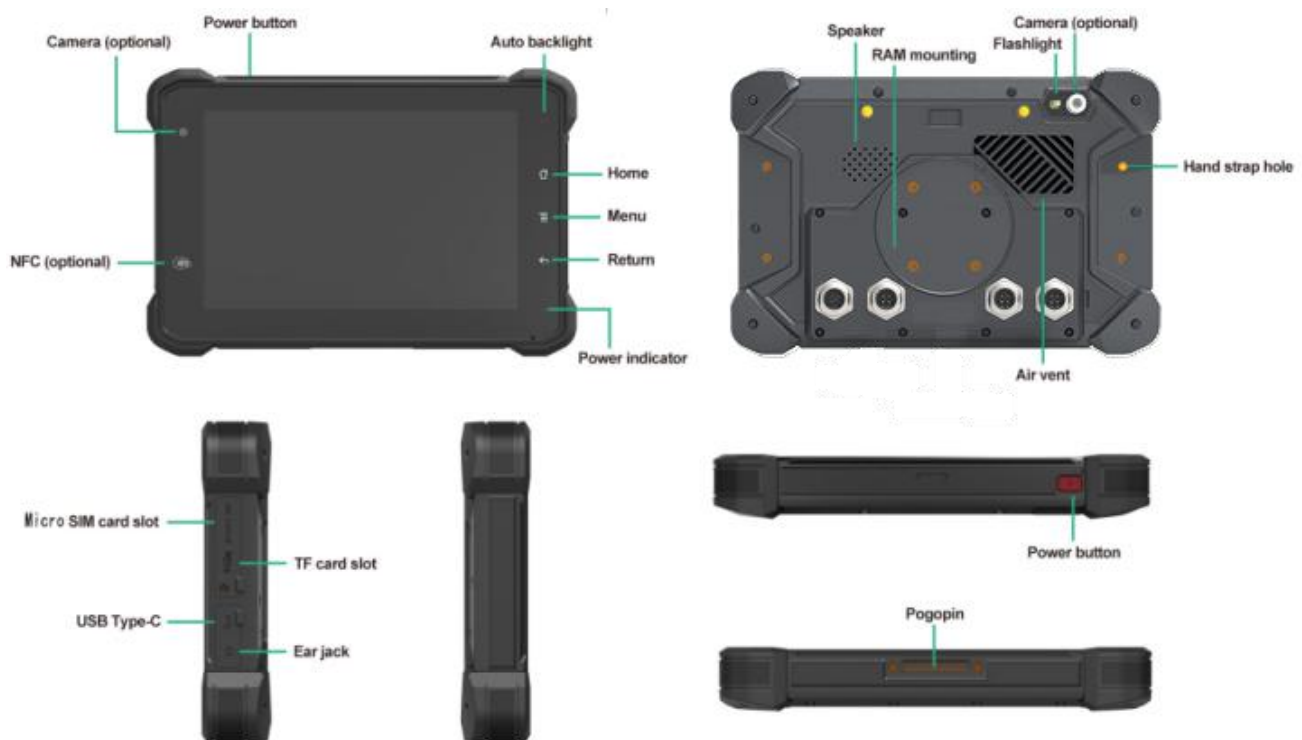
Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or emailing the account representative from vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by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

1. Introduction

1.1. Product Highlights

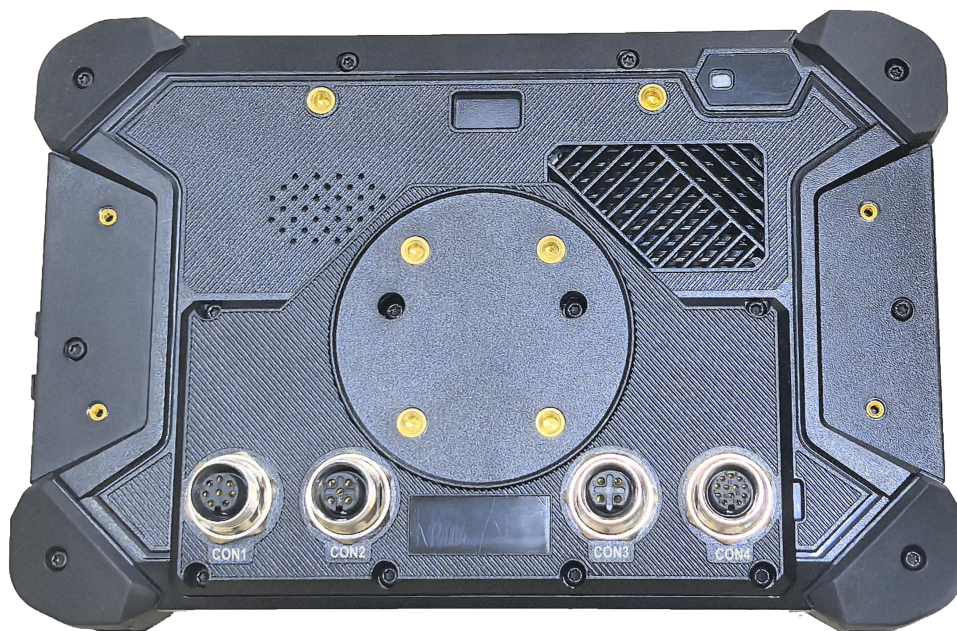
- Qualcomm Cortex-A53 64-bit Quad-Core Process 2.0 GHz
- Android 12 Operation System
- Comply with IP67 rating
- WIFI, Bluetooth, LTE, GNSS supported
- 7 Inch IPS Display, physical 1280x800 resolution, 800cd/m², multi-point capacitive touch

1.2. Parts of the Device



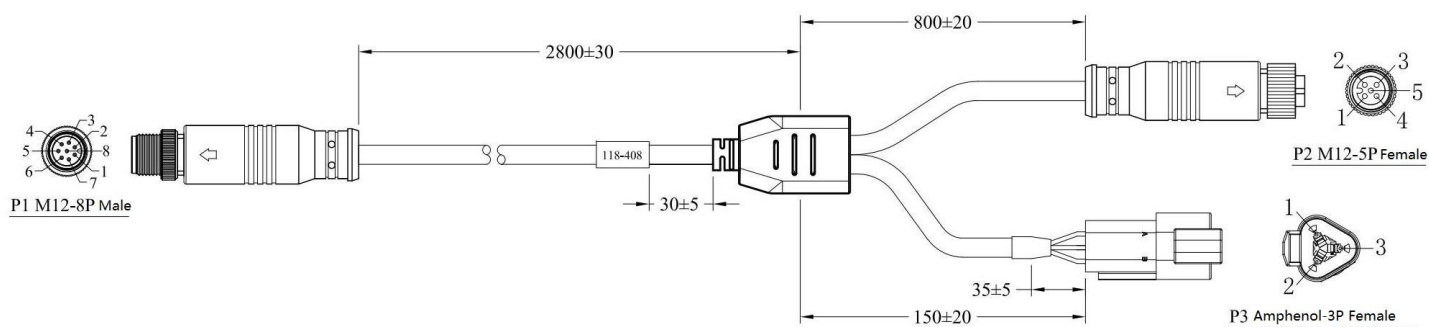
1.3. Extended Cable Definition

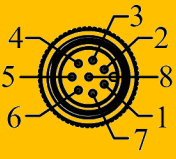
M12 Version

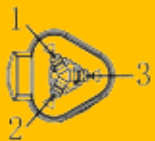


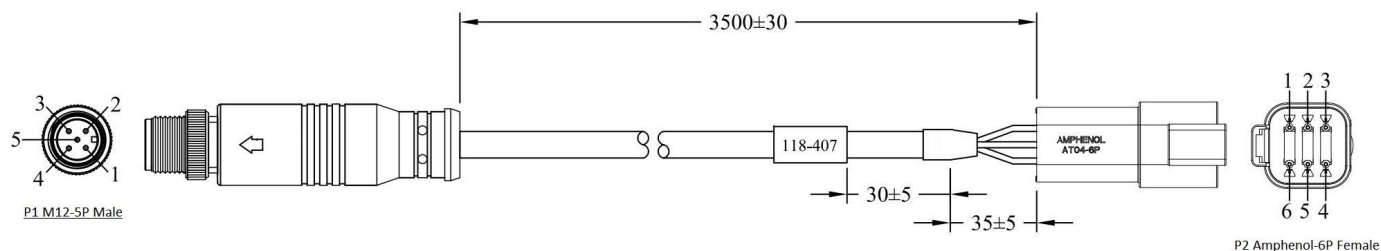
Detailed interface definition:

CON1:



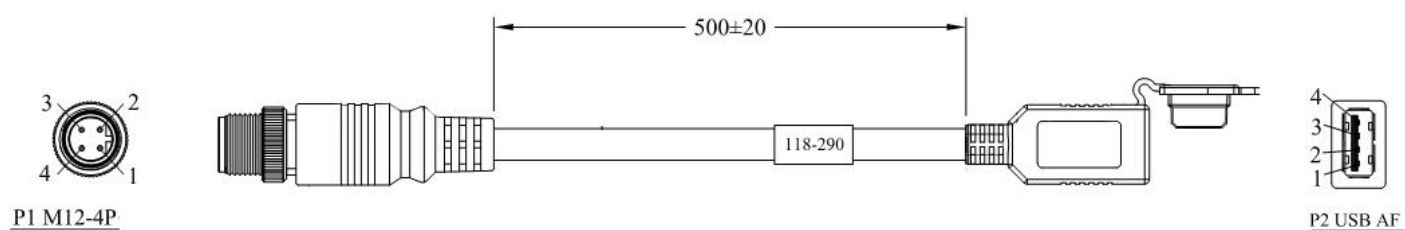
NO	Item	Definition		
P1		Pin	Color	Define
		1	/	POWER
		2	/	POWER
		3	/	P_GND
		4	/	P_GND
		5	/	ACC

		<table> <tr> <td>6</td><td>/</td><td>CAN H</td></tr> <tr> <td>7</td><td>/</td><td>CAN L</td></tr> <tr> <td>8</td><td>/</td><td>GND</td></tr> </table>	6	/	CAN H	7	/	CAN L	8	/	GND									
6	/	CAN H																		
7	/	CAN L																		
8	/	GND																		
P2	Canbus 	<table> <tr> <th>PIN</th><th>Color</th><th>Signal</th></tr> <tr> <td>1</td><td>black</td><td>SHIELD GND</td></tr> <tr> <td>2</td><td>orange</td><td>POWER+</td></tr> <tr> <td>3</td><td>blue</td><td>GND</td></tr> <tr> <td>4</td><td>green</td><td>CAN H</td></tr> <tr> <td>5</td><td>white</td><td>CAN L</td></tr> </table>	PIN	Color	Signal	1	black	SHIELD GND	2	orange	POWER+	3	blue	GND	4	green	CAN H	5	white	CAN L
PIN	Color	Signal																		
1	black	SHIELD GND																		
2	orange	POWER+																		
3	blue	GND																		
4	green	CAN H																		
5	white	CAN L																		
P3	Power 	<table> <tr> <th>PIN</th><th>Color</th><th>Signal</th></tr> <tr> <td>A</td><td>red</td><td>POWER+</td></tr> <tr> <td>B</td><td>black</td><td>GND</td></tr> <tr> <td>C</td><td>yellow</td><td>ACC</td></tr> </table> 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.	PIN	Color	Signal	A	red	POWER+	B	black	GND	C	yellow	ACC						
PIN	Color	Signal																		
A	red	POWER+																		
B	black	GND																		
C	yellow	ACC																		

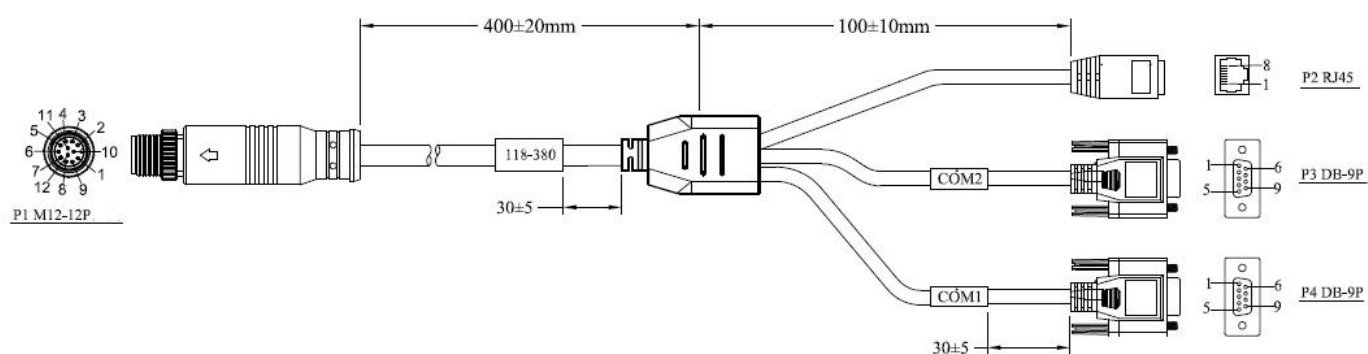
CON2:

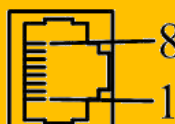
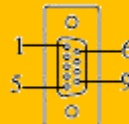
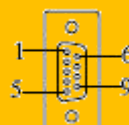
NO.	Item	Definition		
P1		Pin	Color	Define
		1	/	GPIO IN1
		2	/	GPIO OUT1
		3	/	GPIO GND
		4	/	GPIO IN2
		5	/	GPIO OUT2

P2	GPIO	Pin	Color	Define
		1	Black	GPIO IN1
		2	Orange	GPIO IN2
		3	Brown	GPIO OUT1
		4	Red	GPIO OUT2
		5	Blue	GND
		6	Green	GND

CON3:

NO.	Item	Definition	
P1		Pin	Define
		1	VUSB
		2	DM
		3	DP
		4	GND
P2		Pin	Define
		1	VUSB
		2	Data-
		3	Data+
		4	GND

CON4:

NO.	Item	Definition																														
P1		<table><tr><th>Pin</th><th>Define</th><th>Pin</th><th>Define</th><th>Pin</th><th>Define</th></tr><tr><td>1</td><td>TXP</td><td>5</td><td>NC</td><td>9</td><td>GND</td></tr><tr><td>2</td><td>TXN</td><td>6</td><td>NC</td><td>10</td><td>TXD2</td></tr><tr><td>3</td><td>RXP</td><td>7</td><td>TXD1</td><td>11</td><td>RXD2</td></tr><tr><td>4</td><td>RXN</td><td>8</td><td>RXD1</td><td>12</td><td>GND</td></tr></table>	Pin	Define	Pin	Define	Pin	Define	1	TXP	5	NC	9	GND	2	TXN	6	NC	10	TXD2	3	RXP	7	TXD1	11	RXD2	4	RXN	8	RXD1	12	GND
Pin	Define	Pin	Define	Pin	Define																											
1	TXP	5	NC	9	GND																											
2	TXN	6	NC	10	TXD2																											
3	RXP	7	TXD1	11	RXD2																											
4	RXN	8	RXD1	12	GND																											
P2	LAN 	<table><tr><th>Pin</th><th>Define</th><th>Pin</th><th>Define</th></tr><tr><td>1</td><td>TXP</td><td>5</td><td>NC</td></tr><tr><td>2</td><td>TXN</td><td>6</td><td>RXN</td></tr><tr><td>3</td><td>RXP</td><td>7</td><td>NC</td></tr><tr><td>4</td><td>NC</td><td>8</td><td>NC</td></tr></table>	Pin	Define	Pin	Define	1	TXP	5	NC	2	TXN	6	RXN	3	RXP	7	NC	4	NC	8	NC										
Pin	Define	Pin	Define																													
1	TXP	5	NC																													
2	TXN	6	RXN																													
3	RXP	7	NC																													
4	NC	8	NC																													
P3	COM2 	/dev/ttyHSL1 <table><tr><th>Pin</th><th>Define</th></tr><tr><td>2</td><td>TXD2</td></tr><tr><td>3</td><td>RXD2</td></tr><tr><td>5</td><td>GND</td></tr></table>	Pin	Define	2	TXD2	3	RXD2	5	GND																						
Pin	Define																															
2	TXD2																															
3	RXD2																															
5	GND																															
P4	COM1 	<table><tr><th>Pin</th><th>Define</th></tr><tr><td>2</td><td>TXD1</td></tr><tr><td>3</td><td>RXD1</td></tr><tr><td>5</td><td>GND</td></tr></table>	Pin	Define	2	TXD1	3	RXD1	5	GND																						
Pin	Define																															
2	TXD1																															
3	RXD1																															
5	GND																															

1.4. Specifications

System	CPU		Qualcomm Cortex-A53 64-bit Quad-Core Process 2.0 GHz
	OS		Android 12
	GPU		Adreno ™ 702
Storage	RAM		LPDDR4 3GB/ 4GB optional
	ROM		eMMC 32GB/ 64GB optional
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		GPS/ BDS/ GLONASS/Galileo/ QZSS/ SBAS
	2G/3G/4G	GL Version	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B20/B25/B26/B28/B66 LTE TDD: B34/B38/B40/B41 WCDMA: B1/B2/B4/B5/B8 GSM/EDGE:850/900/1800/1900MHz
	WIFI		802.11a/b/g/n/2.4GHz
	Bluetooth		2.1 EDR/3.0 HS/4.2

Sensor	Acceleration, Gyro sensor, Compass, Ambient light sensor	
Interface	Type-C	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
Power supply	Power	DC 8-36V
	Super-cap	5.5V/10F
Extended Interface		
Serial Port	2 x RS232	
CANBUS	1 × CAN BUS	
USB Type-A	1 × USB2.0 (USB TYPE-A and USB TYPE-C cannot be used simultaneously)	
GPIO	GPI × 2, GPO × 2	
ACC	× 1 (0-36V)	
Power	× 1 (8-36V)	
LAN	x 1 (100M)	

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 AD-1.

Table 2.1.1 AD-1 Indicator color and device status table

LED state	Device Status	
	Boot	Shutdown
Power status		
DC input	Fully charged: Green Not fully charged: Orange	Fully charged: Light off Not fully charged: Red
No DC input	Green	Light off
No internal battery	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 AD-1 start up normally.
2. Power on by connecting ACC, see the details in Chapter “3.2.3 Using ACC”.
3. Standby power: 5W (typical).
4. Shutdown State: 0.04W (After the super-cap is fully charged).
5. Maximum Power: 10W.

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: 0.8W

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 AD-1 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.



2.3. Super-Cap

2.3.1 Shutdown Status

Once the DC power is connected, the supercapacitor will start charging regardless of whether the ACC is connected or not. (Note: The Type-C port cannot charge the supercapacitor.)

If the DC power is disconnected, the supercapacitor will slowly self-discharge. During this time, all functional circuits on the M12 interface board remain powered off.

2.3.2 Powered on Status

Once the DC power is connected, the supercapacitor will start charging regardless of whether the ACC is connected. It takes approximately 3 to 5 minutes to charge to 5V.

If the DC power is disconnected, the supercapacitor will provide backup power to both the M12 interface board and the tablet's mainboard. When fully charged, the supercapacitor can sustain the tablet in an active state for 36 seconds at 50% screen brightness, with a minimum discharge voltage of 2V.

When DC power is disconnected, the microcontroller on the M12 interface board will send a high-level signal to the CPU's GPIO_0 (refer to the "Using GPIO" section). Users can utilize this GPIO signal to customize shutdown or delayed shutdown operations.

Once DC power is reconnected or restored, the supercapacitor switches back to charging mode, and the system is powered by DC. At the same time, the microcontroller on the interface board will send a low-level signal to the CPU's GPIO_0.

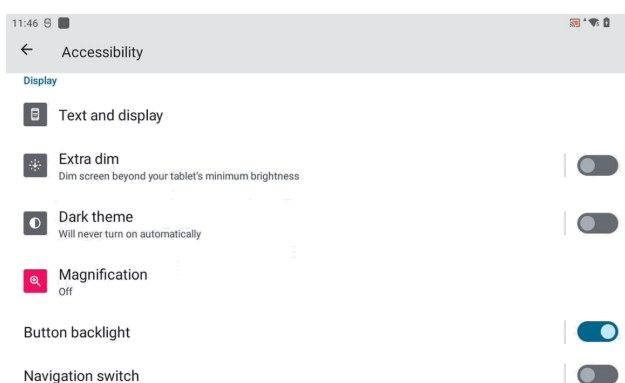
3. Using AD-1 Function

3.1. Software Function

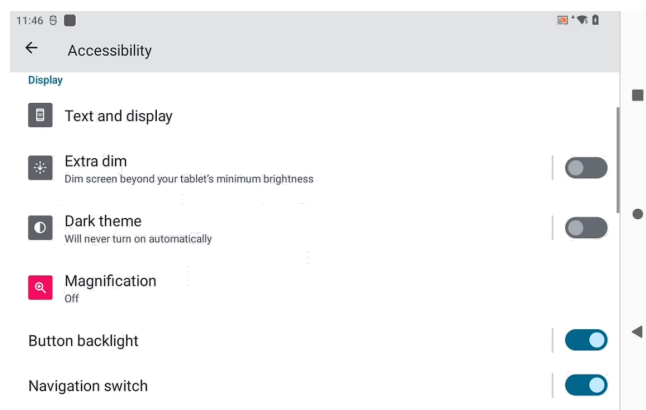
3.1.1 Virtual Button

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.



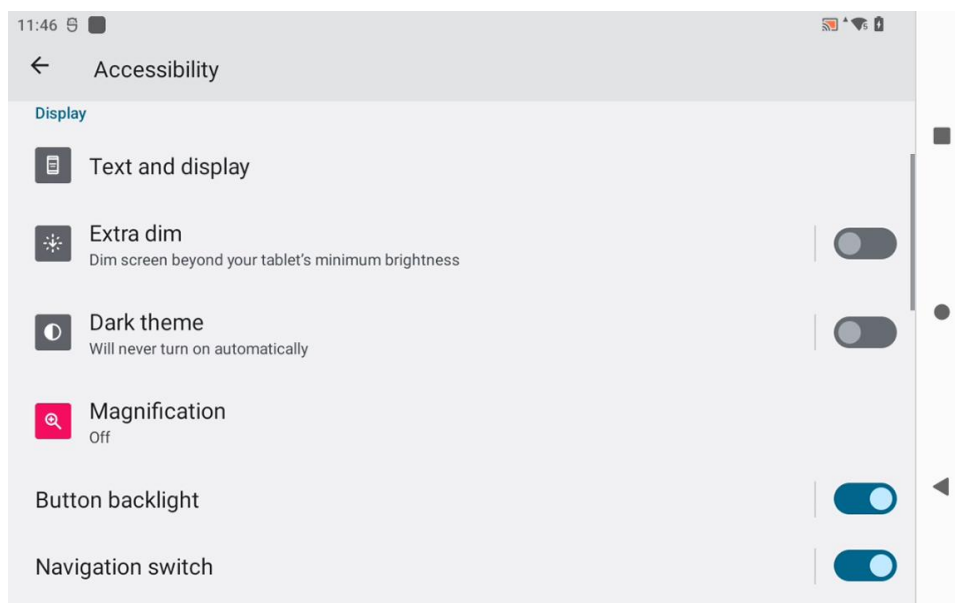
Navigation switch-OFF



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.

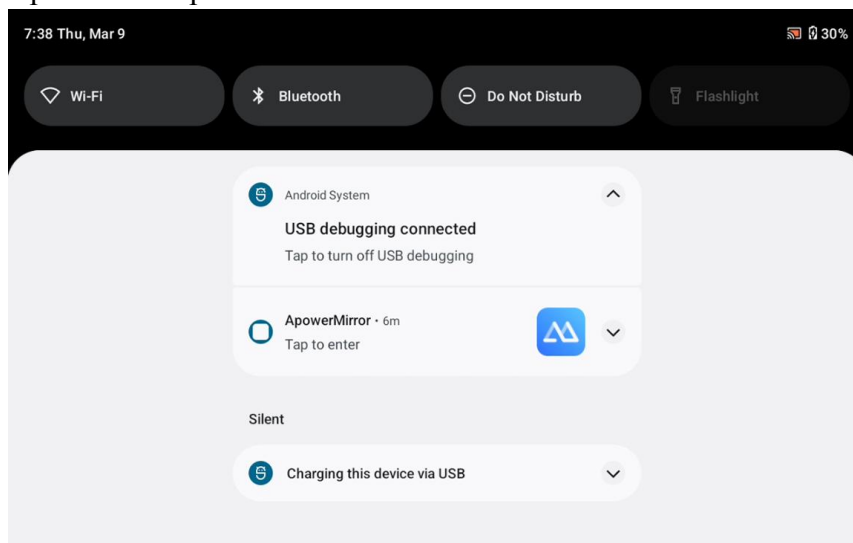


3.1.3 Using Type-C Interface

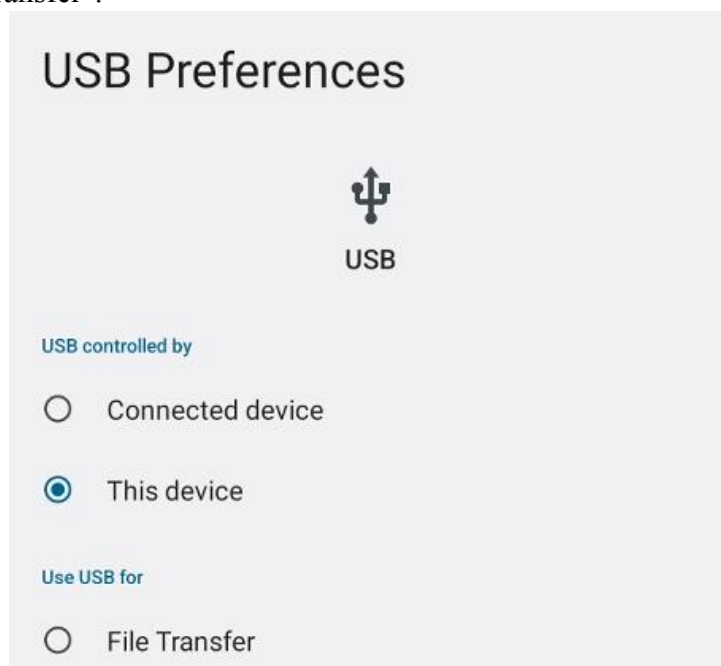
You can transfer files, such as pictures or audio files, between your computer and your device using the provided USB cable.

3.1.3.1 File Transfer

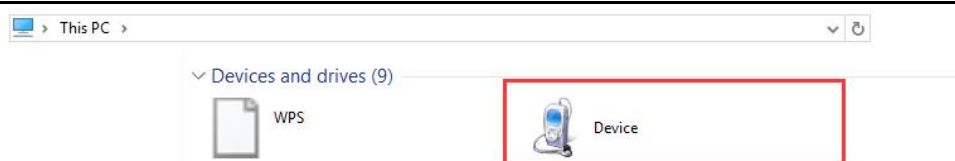
① Connect the device to the computer by using the Type-c cable to enter the USB debugging mode of the tablet, and it will show open the prompt message on the status bar. Refer to the following figure, click “charging this device via USB” to expand other options.



② Then select “File Transfer”.



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



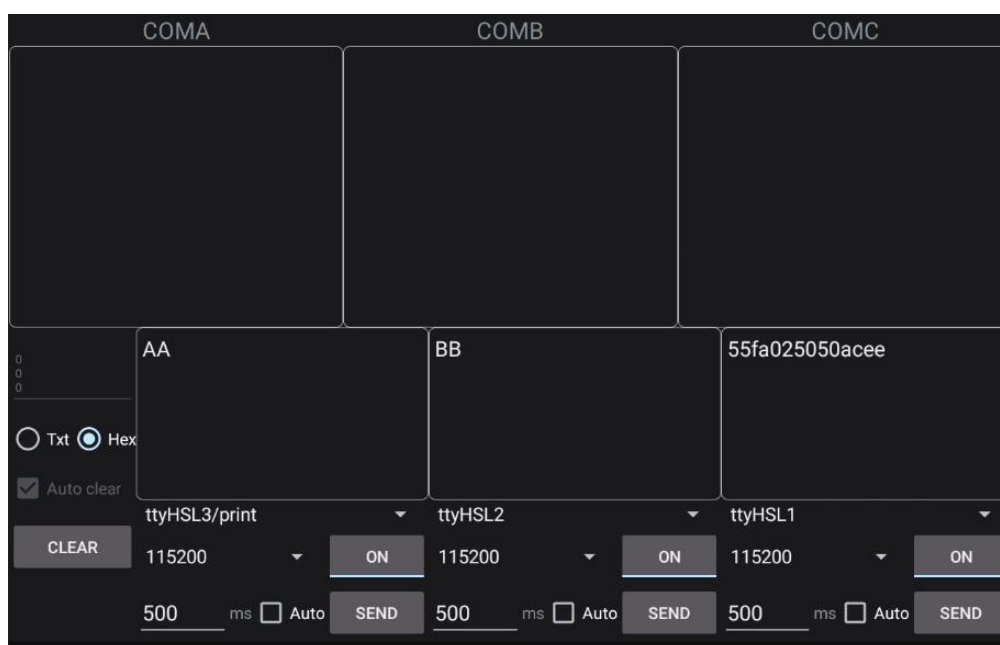
3.1.3.2 Use Instructions of USB TYPE-A

If you want to use the USB TYPE-A function of the M12 interface, you need to ensure that the tablet disconnect the Type-C wiring of the device

3.2. Hardware Function

3.2.1 Using Serial Port

3.2.1.1 Serial Port Self-test



Com Assistant DEMO Main Interface

The device is connected to the power supply and is in the startup state. Open the serial port testing software, 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 through a wire, 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.

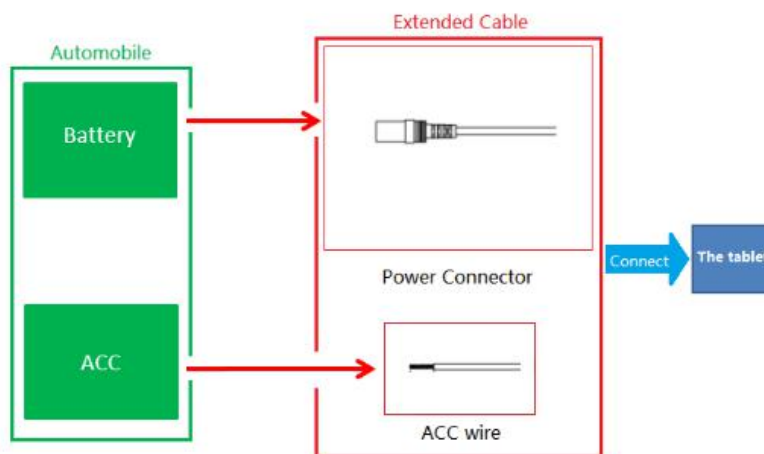
Note:

When the serial port printing function is enabled on COM1, the port cannot be used as a serial port.

3.2.2 Using ACC

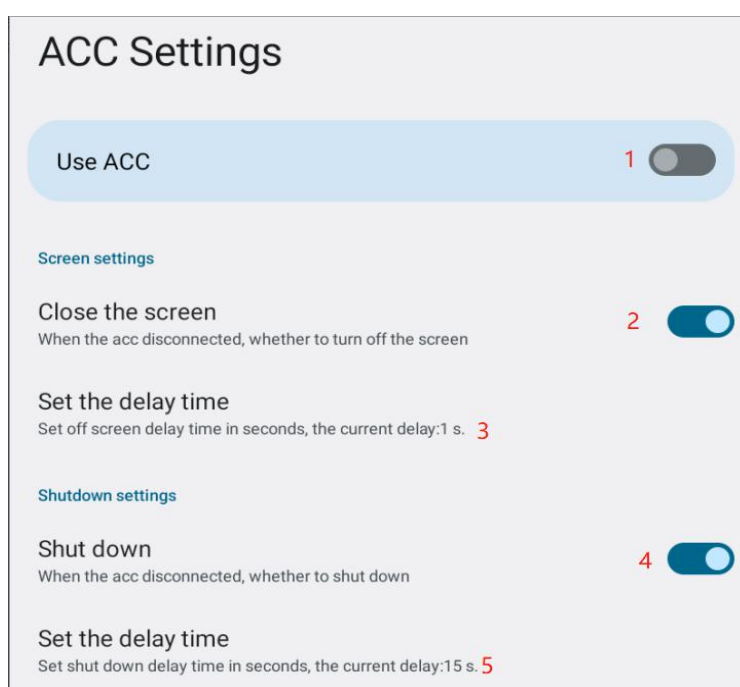
3.2.2.1 ACC Connection Instruction

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



3.2.2.2 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.

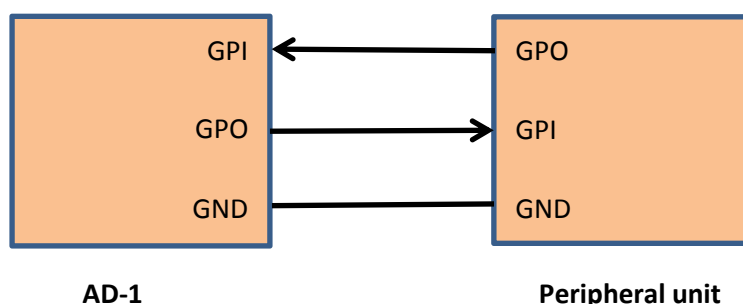
3.2.3 Using GPIO

3.2.3.1 GPIO Lines Instruction

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

3.2.3.2 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 AD-1 as shown in the following figure.



3.2.3.3 GPIO Specification

Different versions have different line colors, please refer to the actual position of the interface pin.

Negative trigger, schmitt input IOs, VT+ is 1.55~3.15V, VT- is 0.9~2.45V.

AD-1 GPIO Specification Descriptions								
PINs	Wire Color	Description	Logic Symbol	Min	TYP.	Max	Unit	Note
GPI1	Blue	Digital Input	VIH	3.15	5	30	V	Negative trigger, schmitt input Corresponding to GPIO15
			VIL	0	-	0.9	V	
GPI2	Purple	Digital Input	VIH	3.15	5	30	V	Negative trigger, schmitt input Corresponding to GPIO14
			VIL	0	-	0.9	V	
GPO1	Green	Digital Output	VOH	0	-	30	V	When the output is set high, the output voltage = power input voltage. When the output is set low, there is no voltage output. Corresponding
			VOL	0	-	0	V	

								to GPIO17
GPO2	White	Digital Output	VOH	0	-	30	V	When the output is set high, the output voltage = power input voltage. When the output is set low, there is no voltage output. Corresponding to GPIO16
			VOL	0	-	0	V	
GND Note: Ground should be connected to ground of connecting devices.	Yellow	Ground						

3.2.3.4 GPIO_DEMO Instruction

This reference software is used for developing GPIO functions of device. Please refer to the "Com Assistant Demo Instruction" for specific usage methods.

GPIO_DEMO			
Name	Direction		State
GPIO15	IN	▼	LOW
GPIO14	IN	▼	LOW
GPIO0 (CTS)	IN	▼	HIGH
GPIO17	OUT	▼	HIGH
GPIO16	OUT	▼	HIGH
GPIO1 (RTS)	OUT	▼	HIGH
READ_IN		SET_OUT_LOW	

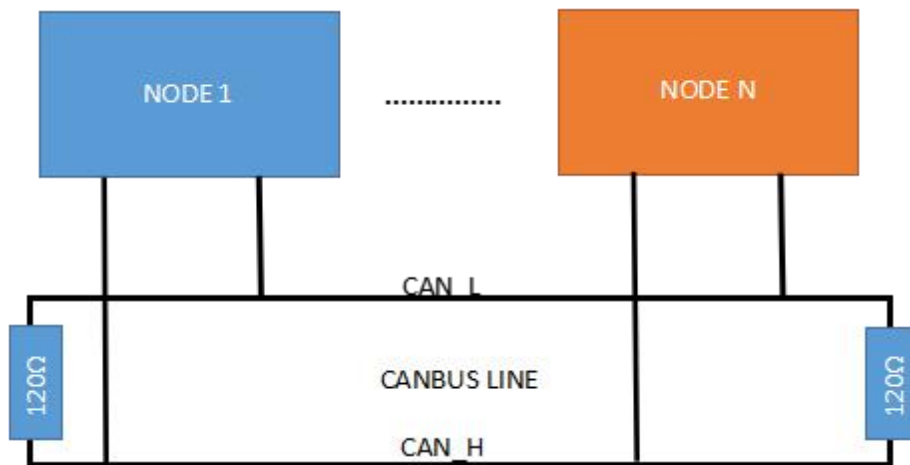
GPIO_DEMO Main Interface

3.2.4 Using CANBUS

3.2.4.1 CAN BUS Typical Connection

The CANBUS bus connection method is shown in the following figure:

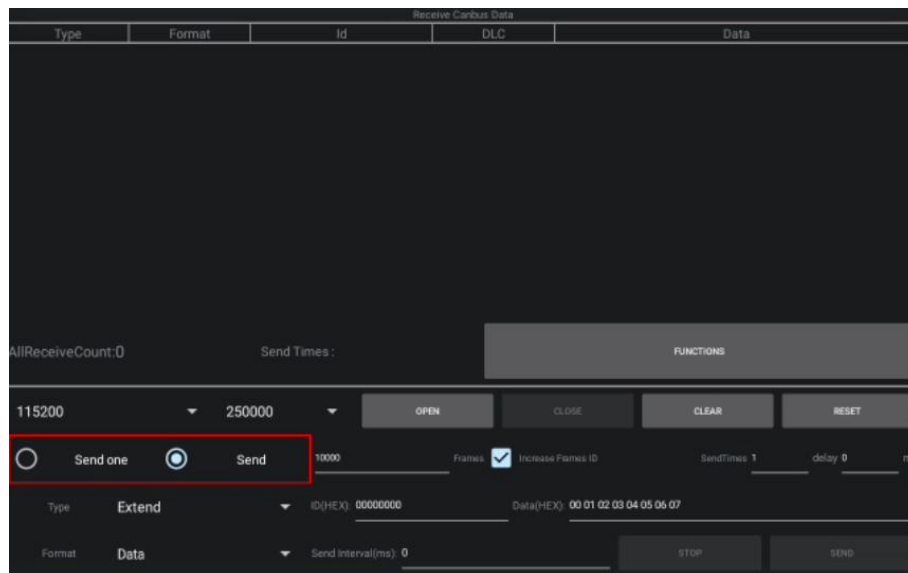
Note: The internal hardware CAN BUS port is connected to a 120ohm resistor by default.



Recommended CANBUS bus connection diagram

3.2.4.2 CANBUS_DEMO Instruction

This software is only a reference software for developing the CANBUS function of the device. Please refer to "CAN_Bus_Software_Manual" for specific usage methods.



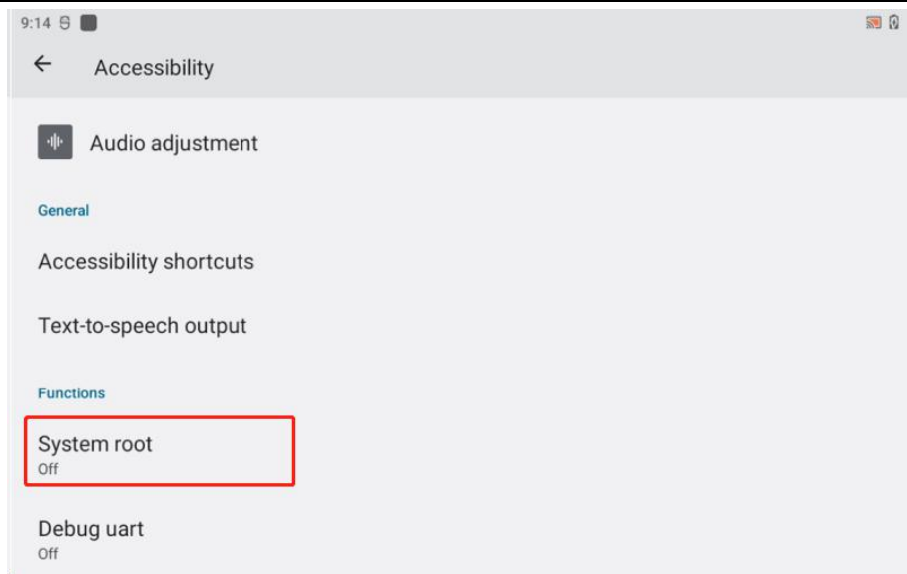
CANBUS_DEMO Main Interface

Figure 1

Figure 2

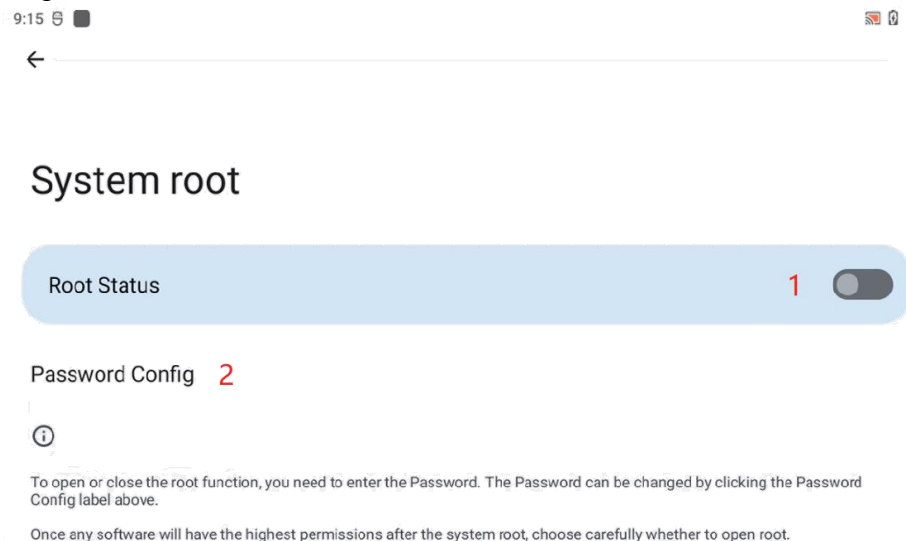
3.2.4.3 System Root Switch Usage Guide

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. Default Accessories



USB to Type-C cable

1pc

Allen Wrench

1pc

Screws for RAM

4pc

Screws for SIM card

2pc

4.2. Optional accessories



DC (12V)

1pc

RAM 1" Double Ball Mount with Backing Plate

1pc

5. Troubleshoot common problems

	Problem description	Troubleshooting
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Question 1	The device cannot identify the peripheral through the USB-A port	1. Ensure that the DC port on the tail cable is connected to the power supply 2. Use either the type-c port of the tablet or the USB port of the tail cable. Do not use the type-c port on the side of the machine at the same time 3. Check whether the USB can identify the USB flash drive and mouse 4. Please provide the specifications of peripherals to confirm whether the USB cannot be used due to excessive power of peripherals and insufficient output power of the tablet 5. Please confirm whether the extension cable of the USB connection peripheral is too long. Generally, it is suggested to add a USB hub to improve the attenuation phenomenon of transmission signal when it exceeds 2m (or inform us to realize long-distance USB signal transmission through hardware customization).
Question 2	GPIO cannot be used	GPIO input: 1. Ensure that the DC port on the tail cable is connected to the power supply 2. Check whether the voltage connected to the GPIO is within the tolerance range of the device 3. Check whether the power supply connecting to the GPIO is in the same ground as that of the device GPIO output: 1. Ensure that the DC port on the tail cable is connected to the power supply 2. Confirm GPIO output is set to high
Question 3	The tablet always shuts down after N minutes of startup	1. Please disable ACC function (setting->ACC setting) observe the phenomenon, if no recurring problem, please check the following points. 2. Ensure that the device has been connected to the ACC 3. Check whether the power supply connected to the ACC is in the same ground as the power supply of the device
Question 4	The device cannot identify the SIM card or Micro card	1. Ensure that the SIM card/Micro card works properly 2. Check whether the tablet is powered on after the SIM card is inserted If the card can be recognized and used on other devices, check whether the card slot is damaged
Question 5	The tablet screen is black and cannot be turned on	1. When the device supplies power through the tail cable or type-c port, check whether the power indicator is red. 2. Hold down the power button for 10s to restart the tablet 3. If the preceding steps do not work, check whether the device has power input.

Question 6	The tablet is stuck on the logo page during startup	Re-write the system package (before burning, ask the Manufacturer engineer whether it can be burned or not, if there is no relevant burning package, please contact the engineer)
Question 7	The USB to LAN converter is unavailable	1. Ensure that the DC port on the tail cable is connected to the power supply 2. Do not use the type-c interface on the side of the machine 3. Customers are advised to use the USB to LAN converter model we recommend If the customer wants to use their own converter, they need to provide the converter model for debugging by our engineers, which requires some time and cost.
Question 8	Android is locked, forget the screen lock password	Use the fastboot tool to erase device password data. (Contact engineers for related tools.)
Question 9	RS232 cannot be used	1. Ensure that the DC port on the tail cable is connected to the power supply 2. Check whether the baud rates of the two devices are the same 3. Short pin2 and pin3 of the port to check whether the demo software can send and receive serial port data 4. Check whether cables are correctly connected to the two communication devices. (RXD->TXD, TXD->RXD, GND->GND)
Question 10	CANBUS cannot be used	1. Ensure that the DC port on the tail cable is connected to the power supply 2. Check whether the baud rates of the two devices are the same 3. Check whether cables are correctly connected to the two communication devices. (CAN_H->CAN_H ,CAN_L->CAN_L)

***If the above problems cannot be repaired after troubleshooting, please contact our engineers!**

FCC Statement

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.

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

RF Exposure Information

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

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 6.6 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 6.6 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.

nuisibles aux systèmes mobiles par satellite cocanaux.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed with the maximum permissible gain indicated. Antenna types not

included in this
list, having again greater than the maximum gain indicated for that type, are
strictly prohibited
for use with this device.

Le présent émetteur radio a été approuvé par Industrie Canada pour fonctionner
avec les
types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les
types
d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain
maximal indiqué,
sont strictement interdits pour l'exploitation de l'émetteur.