

LDT-10X / MDT-80X Series

10 / 8 Inch Rugged Android Vehicle Display Terminal

User Manual



Revision History

Version	Release Time	Description
1.0	May 2023	Initial Release
2.0	July 2023	Update in cradle cabling
3.0	June 2024	General update specs
4.0	October 2025	General update specs

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About This Manual

This user's manual provides the general information and installation instructions for the PaceBlade LDT-101, MDT-801 and MDT-805 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 the PaceBlade products.

Safety Precautions

Please charge and discharge the device as one cycle at room temperature when devices are stored for more than 3 months or above.

Do not attempt to repair, customize, or disassemble the device without the appropriate knowledge and pre-cautions may lead to dangerous situations with chance on damaging the product. If any repair or customization is needed, please contact your vendor.

Do not use in extreme conditions such as high and low temperatures, it may damage the battery and have an impact on the product life time. pls avoid long-time exposure to sunlight.

Please always make sure to turn off the power before removing the battery, which is important because it helps prevent any damage to the device.

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Chapter 1: Introduction

1.1 Product Highlights

- MediaTek Cortex-A55 64-bit Octa-core processor 2.0G
- Android 12/14 Operation System
- Compliant with IP67 rating
- WIFI, Bluetooth, LTE, GNSS and 7600mAh / 8000mAh rechargeable battery supported
- 10 Inch / 8 Inch MIPI Display, physical 1920x1200 / 1280x800 resolution, 400cd/m², multi-point capacitive touch.
- 2 in 1 cradle which can be used as a vehicle cradle or desktop cradle

1.1.1 Parts of the Device



MDT-80X (8inch)



1.1.2 Parts of the Accessories

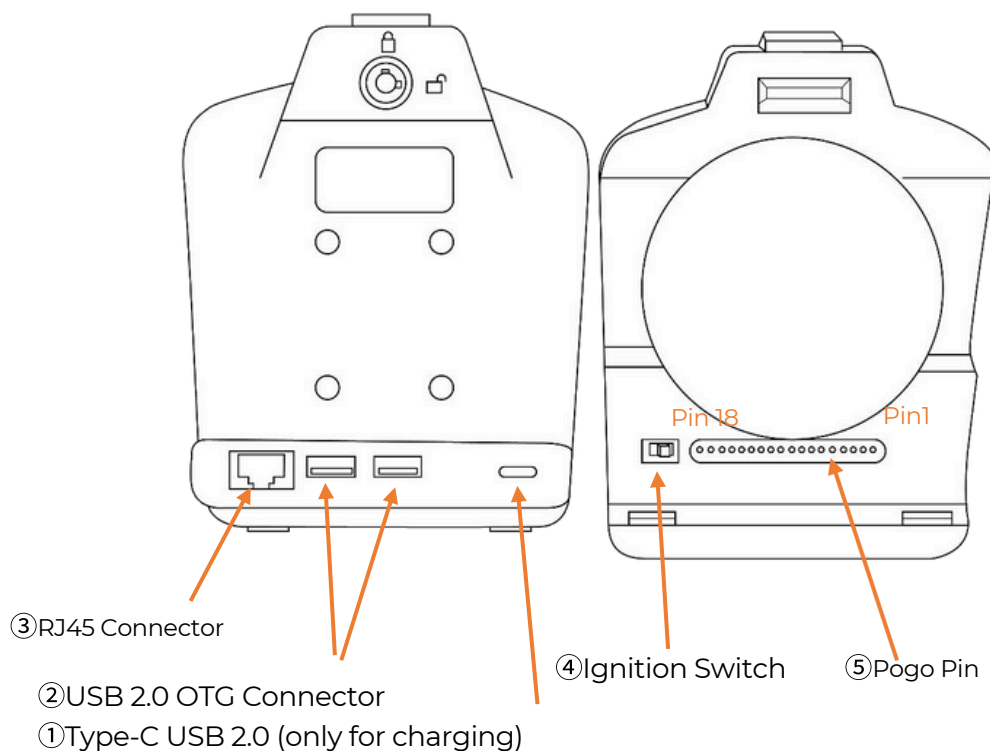


1. Vehicle cradle or Desktop docking station
2. Shoulder strap (optional)
3. Hand strap

4. Metal Mount
5. Metal Stand (only use it when the cradle is being used as a desktop station) (optional)
6. Tape is provided to hide the non-used ports (RJ-45, USB, etc)
7. NFC card
8. Keys to lock the device into the cradle (kensington lock)
9. Screws for fixating the Tablet/cradle
10. Home adapter (cradle may not work with other adapters) (optional)
11. Car charger (cradle may not work with other adapters) (optional)
12. Type C to C USB cable
13. Screwdriver for MDT-801 for SIM/SD cover
14. Full feature cradle cable (CAB-MB-FULL) (plug to the bottom side of the cradle and lock it with the screws) (optional)
15. Full feature cradle extension cable (CAB-EX-FULL) (optional)
16. Basic feature cradle cable (CAB-MB-BASIC) (plug to the bottom side of the cradle and lock it with the screws)
17. Basic feature Cradle extension cable (CAB-EX-BASIC)
18. Camera hub cable (CAB-EX-HUB), connected to the camera hub HH420 (optional)
19. Metal Clip to fixate the cradle cabling (optional)

1.2 Cradle Definition

1.2.1 Full Features Docking Station

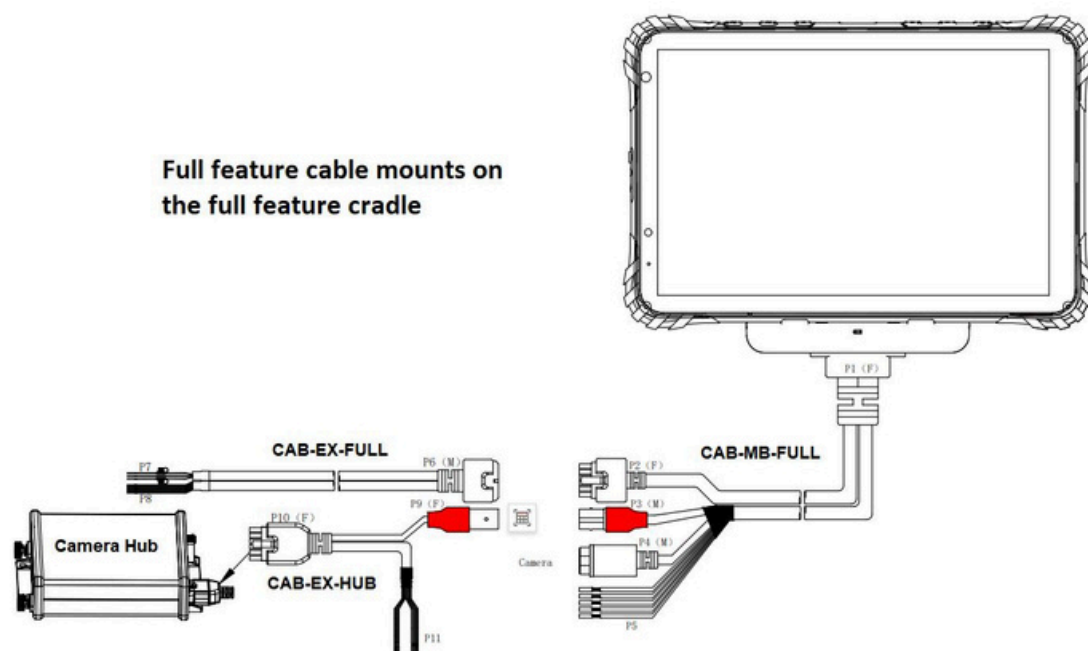


Full features cradle interface

Vehicle Input: DC12V to 32V, ignition control with optional switch in the cradle

- ① Fast-charging AC adapter or charge input 5V/3A, 9V/2A, 12V/2A with Type-C USB connector.
- ② USB 2.0 OTG Connector x 2
- ③ RJ45 connector used for Ethernet
- ④ Ignition switch: the ignition switch is switched to the right side, charging is independent of ignition ON/OFF. If ignition switch is switched to the left side, charging is dependent of ignition ON.

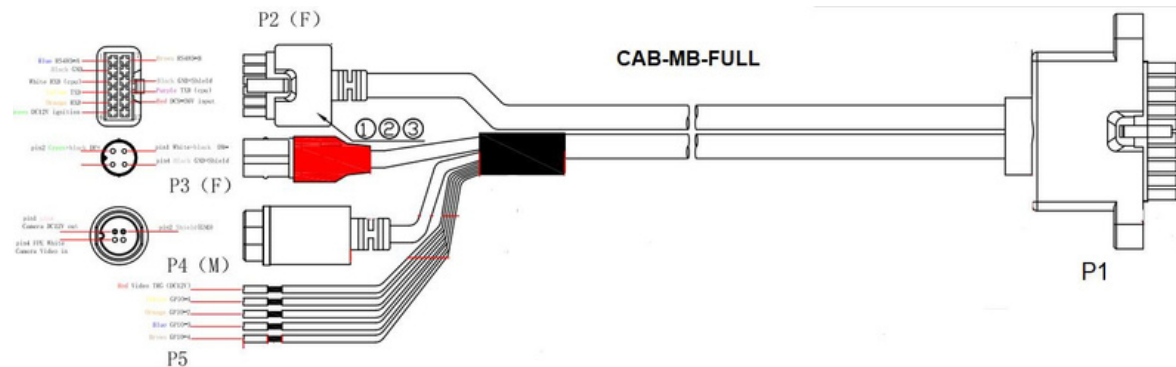
Full features cradle cable pin assignment overview



The cradle cabling can offer the below functionalities in the full feature cradle:

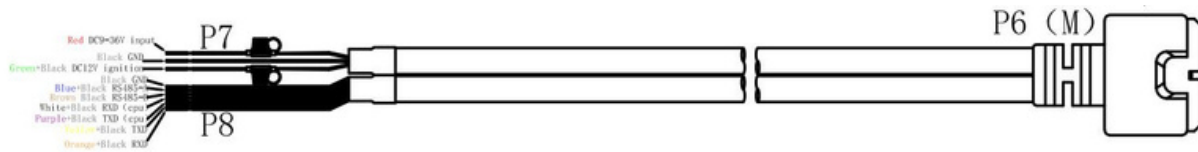
- Vehicle Input: DC 12V to 32V, ignition control with optional switch in the cradle
- Serial port: RS485 x 1, RS232 x 2
- Support one channel video input (Support AHD 720P, 1080P and Analog camera)
- Support four channels video input, connect to Camera Hub by extension cable (Refer to the Camera Hub manual), with 4 trigger input
- GPIO: Analog input ADC x 1, Digital input x 2, Digital output x 1

1. Full features Cradle cable (CAB-MB-FULL)



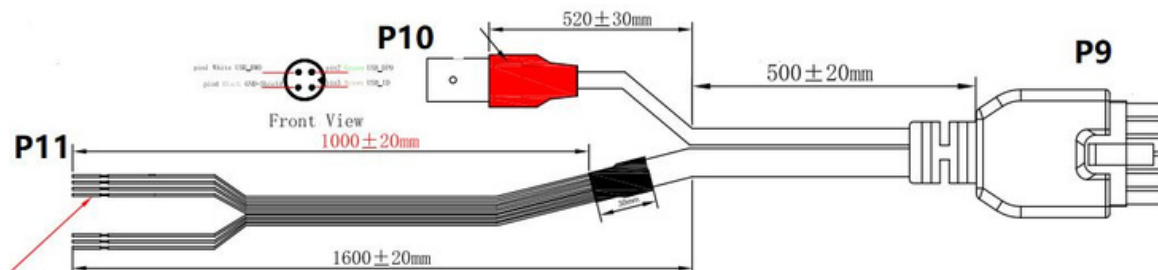
No	Item	Definition				
P1	20pin Micro-Fit connector	Connect to the full feature cradle				
P2	12pin Micro-Fit connector	Connect to the extension cable (CAB-EX-FULL)				
		Pin1	Pin2	Pin3	Pin4	Pin5
		RS485-A	GND	RXD (CPU)	TXD (USB)	RXD (USB)
		Pin6	Pin7	Pin9	Pin10	Pin11
		ACC ignition	RS485-B	GND	TXD (CPU)	VCC 12-32V input
P3	4pin BMW Connector F	Connect to the 4pin BMW connector on the camera hub cable (CAB-EX-HUB)				
		Pin1		Pin2	Pin4	
		DM-		DP+	GND	
P4	4pin Circular Connector M	Connect to the camera (Support Analog, AHD720P, AHD1080P camera)				
		Pin1		Pin2	Pin4	
		DC12V output		GND	Camera video input	
P5	GPIO Wires	GPIO-1 (Yellow)	GPIO-2 (Orange)	GPIO-3 (Blue)	GPIO-4 (Brown)	Red wire
		Input1	Input2	output	ADC	Video Trigger
		Input 3-32V=High Input 0-2V=Low		Output the voltage from the Tablet. 2mA current.	Analog Digital Converter. Read the Input voltage.	

2. Cradle extension cable (CAB-EX-FULL)



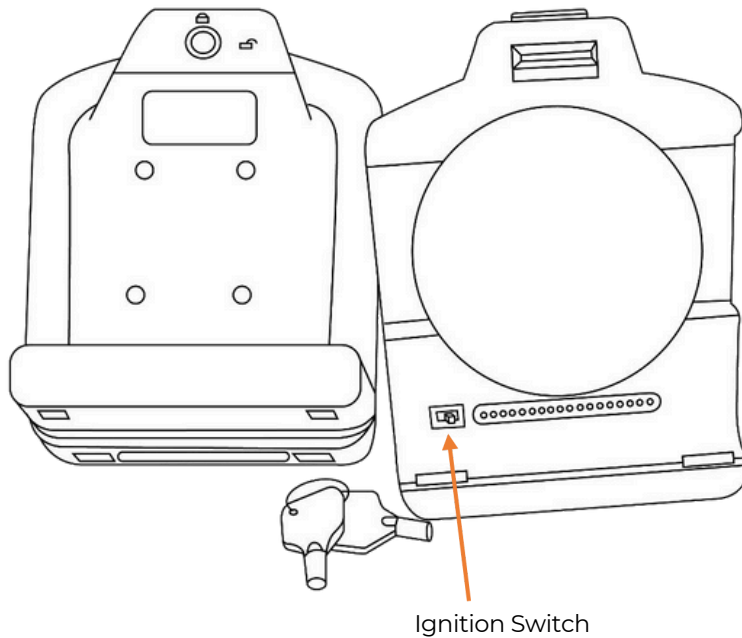
No	Item	Definition						
P6	12pin Micro-Fit connector	Connect to the P2 connector on the cradle cable (CAB-MB-FULL)						
P7	Power Supply wires	Connect to the vehicle' battery.						
		Red	Green		Black			
		VCC 12-32V input	ACC ignition (9-32V DC)		GND			
P8	Serial port wires	1 x RS485, 2 x RS232 (White/Purple RS232 same as model MDT760/MDT860 serial port)						
		Blue	Brown	Yellow	Orange	White	Purple	Black
		RS485-A	RS485-B	TXD(USB)	RXD(USB)	RXD(CPU)	TXD(CPU)	GND

3. Camera hub cable (CAB-EX-HUB)



No	Item	Definition						
P9	12pin Micro-Fit connector	Connect to the Camera Hub HH421.						
P10	4pin BMW Connector M	Connect to the 4pin BMW connector on the full feature cradle cable (CAB-MB-FULL).						
		Pin1	Pin2	Pin3	Pin4			
		DM-	DP+	ID	GND			
P11	Trigger wires	4 channels trigger for camera.						
		Pink	Blue	Purple	Orange	Black	Yellow	Red
		CVBS_DET1	CVBS_DET2	CVBS_DET3	CVBS_DET4	GND	ACC ignition	VCC 12-32V input

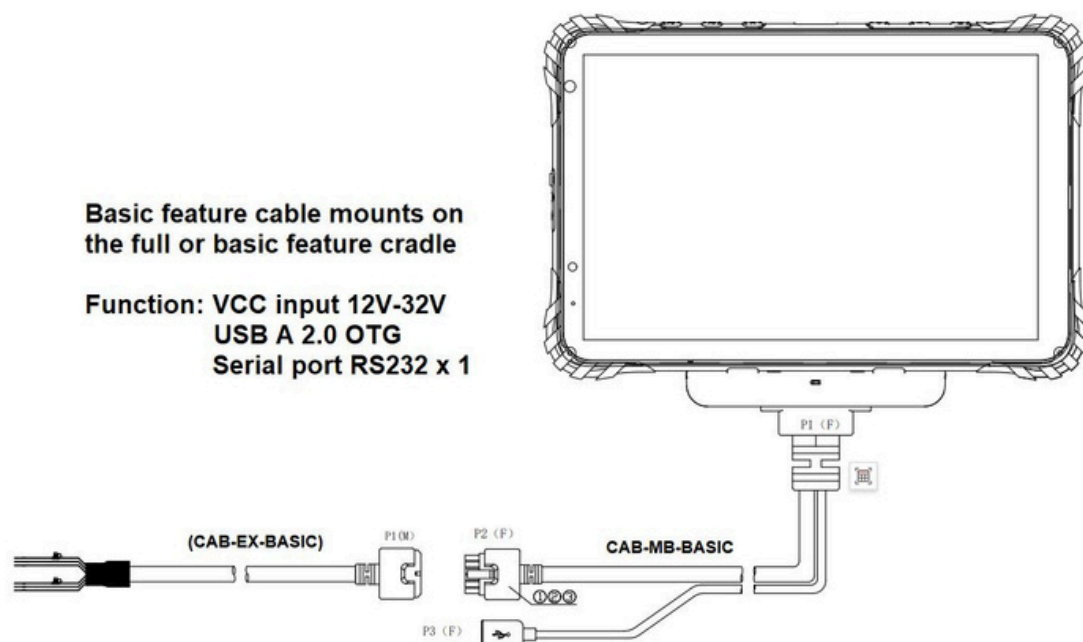
1.2.2 Basic Features Docking Station



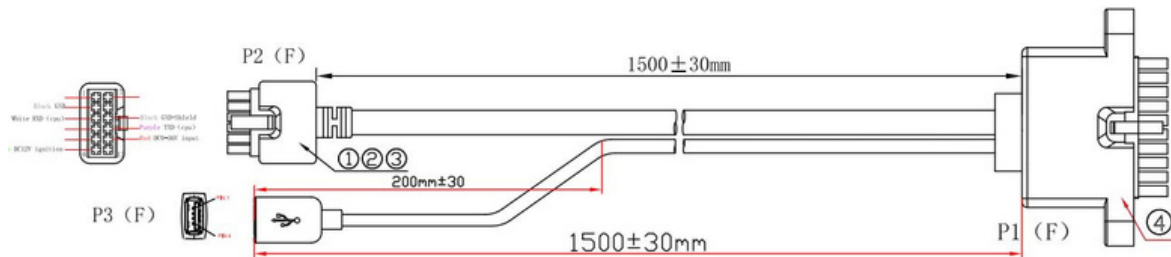
The basic feature cradle can offer the below functionalities.

Vehicle Input: DC 12V to 32V, ignition control with optional switch in the cradle

Basic features cradle cable pin assignment overview

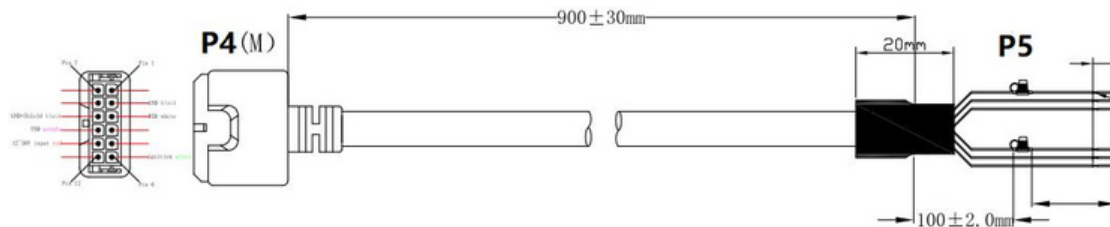


1. Basic features Cradle cable (CAB-MB-BASIC)



No	Item	Definition							
P1	Cradle Connector	Pin3	Pin8	Pin9	Pin10	Pin13	Pin18	Pin19	Pin8
		Ignition (9-32V)	RXD	GND	D+	VCC 12-32V input	TXD	VBUS 5V	D-
P2	Power Connector	Pin2	Pin3	Pin6	Pin9	Pin10	Pin11		
		GND	RXD	Ignition (9-32V)	GND	TXD	VCC 12-32V input		
P3	USB	USB Type-A (cannot be used simultaneously with USB Type-C on the device)							

2. Basic features Cradle extension cable (CAB-EX-BASIC)

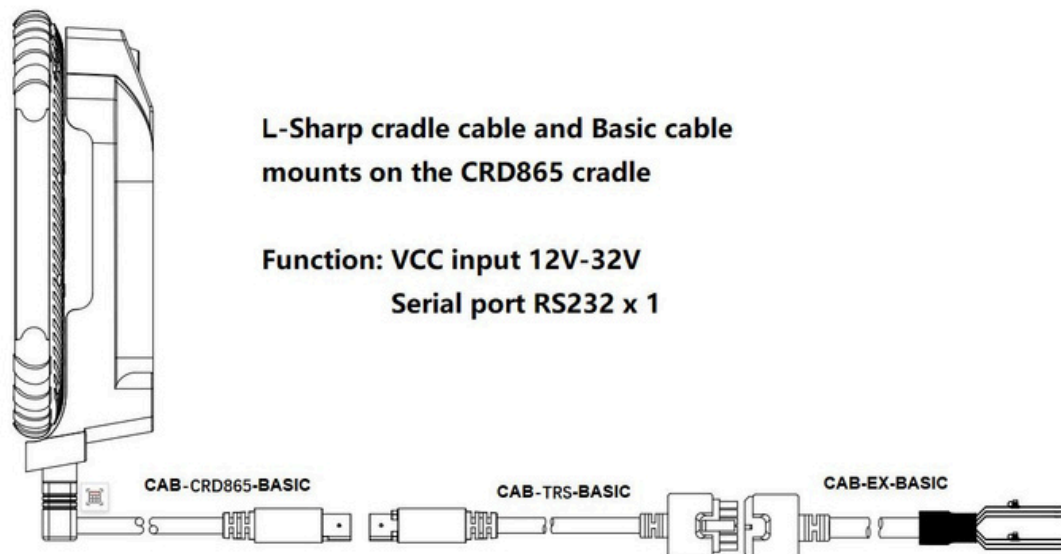


No	Item	Definition				
P4	12pin Micro-Fit connector	Connect to the basic feature cradle cable P2 connector.				
P5	Power Supply and Serial port wires	It can be connected to the vehicle battery.				
		Red	Green	Black	White	Purple
		VCC12-32Vinput	ACC ignition (9-32V)	GND	RXD	TXD

Side note: These two basic feature cables can also be used in combination with the full feature cradle.

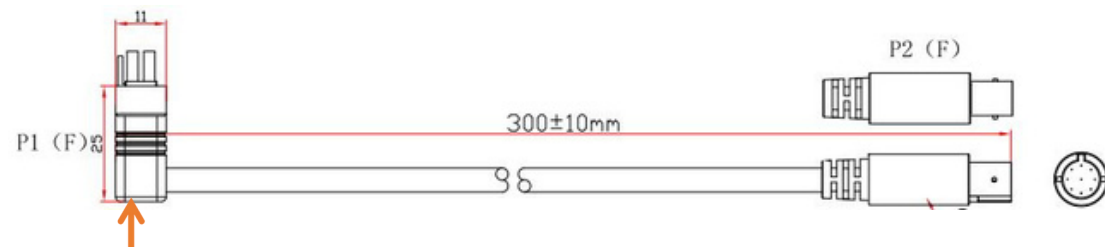
L-Sharp cradle cable assignment overview

L-Sharp cradle cable can be used for both full and basic feature cradle (MDT-80X)



The Basic feature extension cable (CAB-EX-BASIC) is optional.

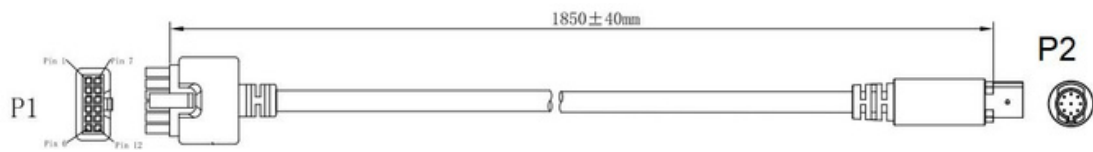
1. L-Sharp cradle cable for MDT-80X (CAB-CRD865-BASIC)



This is the L-sharp cable (thickness around 25mm)

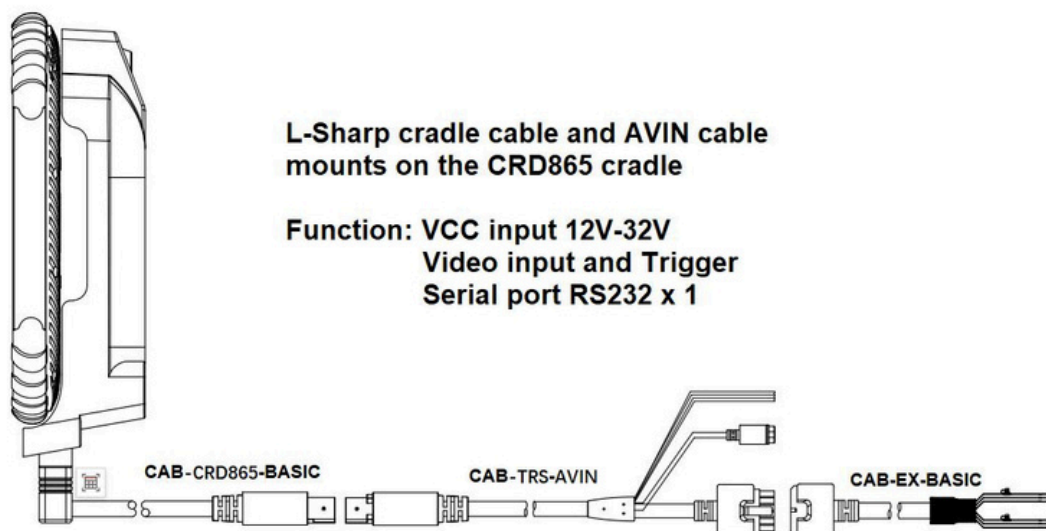
No	Item	Definition					
P1	Cradle Connector	Pin1	Pin2	Pin3	Pin8	Pin9	Pin11
		Shield	VideoTrigger	ACC ignition	RXD	GND	Video input
		Pin12		Pin13	Pin18		
		Camera DC12V output		VCC 12-32V input	TXD		
P2	9 pin BMW Connector F	Pin1		Pin2	Pin3		Pin4
		VCC 12-32V input		ACC ignition	Video Trigger		Video input
		Pin5	Pin6	Pin7	Pin8	Pin9	
		RXD	TXD	Shield	GND	Camera DC12V output	

2. Basic feature Cradle cable for MDT-80X (CAB-TRS-BASIC)



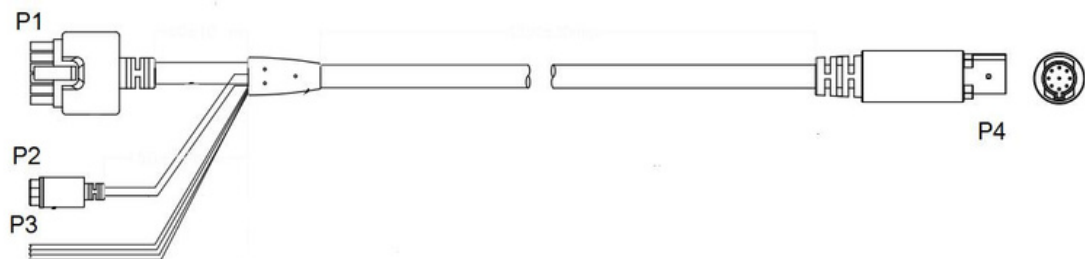
No	Item	Definition						
P1	Power Connector	Pin2	Pin3	Pin6	Pin9	Pin10	Pin11	
		GND	RXD	ACC ignition	Shield	TXD	VCC 12-32V input	
P2	9 pin BMW Connector M	Pin1		Pin2	Pin5	Pin6	Pin7	Pin8
		VCC 12-32V input		ACC ignition	RXD	TXD	Shield	GND

L-Sharp cradle cable for connecting to the AVIN cable pin
Assignment overview



The Basic feature extension cable (CAB-EX-BASIC) is optional.

3. Video input features Cradle cable for MDT-80X (CAB-TRS-AVIN)



No	Item	Definition					
P1	Power Connector	Pin2	Pin3	Pin6	Pin9	Pin10	Pin11
		GND	RXD	ACC ignition	Shield	TXD	VCC 12-32V input
P2	4 pin Circular Connector M	Pin1		Pin2	Pin4		
		Camera DC12V output		GND	Video input		
p3	Wires	Black	Yellow				
		GND	VideoTrigger				
P4	9 pin BMW Connector M	Pin1		Pin2	Pin3		Pin4
		VCC 12-32V input		ACC ignition	Video Trigger		Video input
		Pin5	Pin6	Pin7	Pin8	Pin9	
		RXD	TXD	Shield	GND	Camera DC 12V output	

Chapter 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 do a 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 described in the following table as standard.

Table 2.1.1 Indicator color and device status table

LEDs Behavior	Device Status
Red light on	Charging
Green light on	Fully charged
Light off	High temperature causes stop charging
Red light on	High temperature causes shutdown
Red or Green light blinking	Notification (Sleep when charging)

1. Power on the Device

- Power on by pressing the power button: Long press the power button for more than 2 seconds until the boot screen displays. It needs around 20 seconds to start the system.
- Power consumption during operation: 15W (typical).

2. Power off the Device

- 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 appears, then click the “Power off” option.
- The consumption during power off (with docking station): around 250mW.

3. Sleep and Wake the Device

- a. Auto sleep, the sleep time can be set up in the settings.
- b. Short press button to sleep.
- c. Short press to wake.
- d. Wake up by ignition ON.

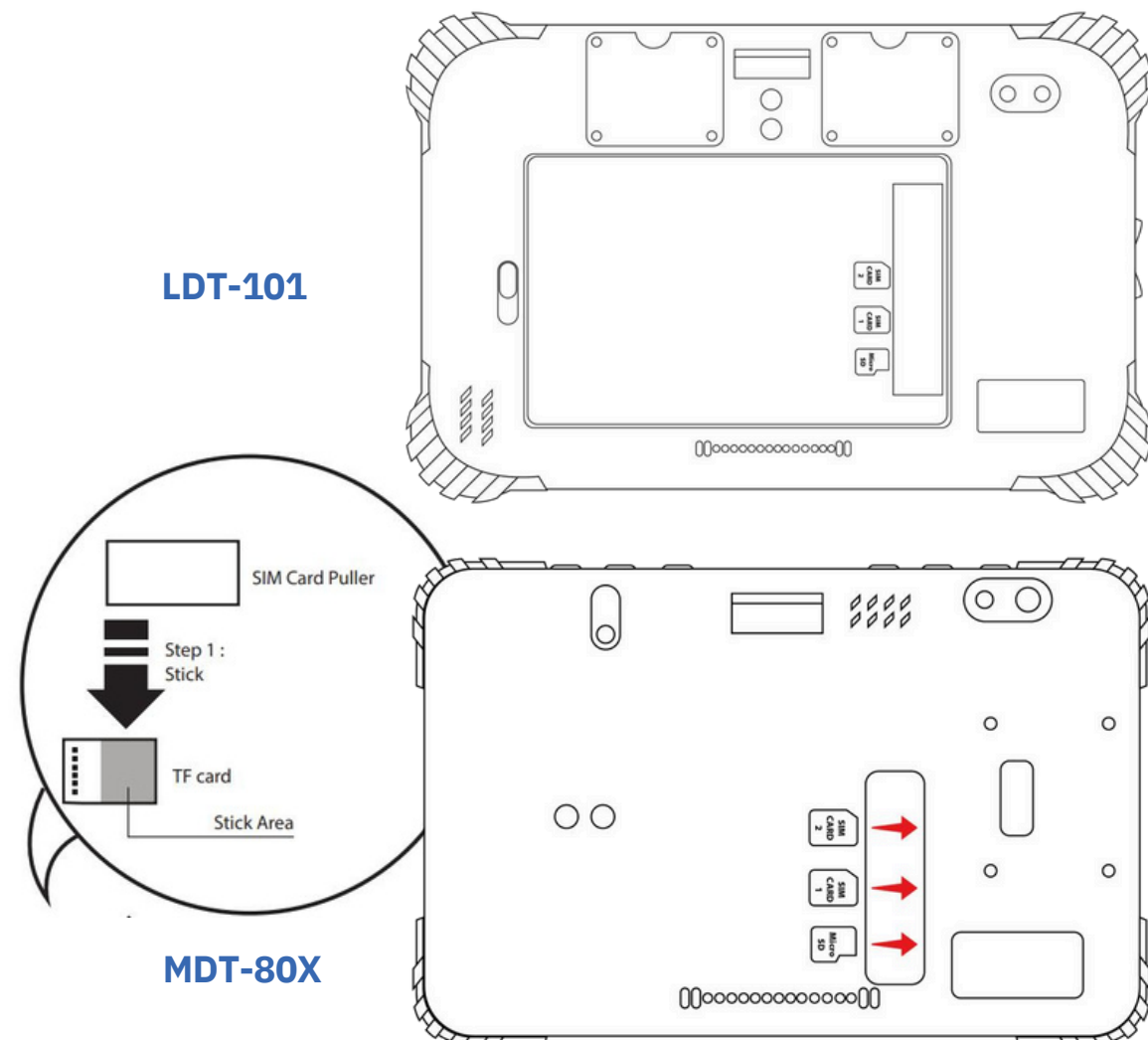
4. Restart the device

Restart 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 prompt pop-up appears, then click the “Restart” option.

2.2 Installing Micro SD and SIM Card

To install the Micro SD card and/or Nano SIM card.

- a. Find the Nano SIM card slot and the Micro SD card slot. The following graphics illustrates the correct cards orientation.
- b. For a easier way of removing the Nano SIM card and Micro SD card from the inside card slot, please assist with the Nano SIM card and Micro SD card tape as shown in the picture.
- c. SIM card and Micro SD card cover can be locked by screws for preventing loss or theft.





2.3 Charging the Battery

The LDT-101 battery is removable, which greatly facilitates the user's use of disassembly and installation.

(Note: Please shut down before removing the battery.)

Icon introduction:

- ② : The switch is on the top to lock the battery.
- ② : The switch is on the bottom to unlock the battery, and the battery can be removed.

The MDT-80X battery is built-in and cannot be removed by the user itself.

The battery is partially drained during the transportation. Make sure to charge the battery to 100% when you are using it for the first time.

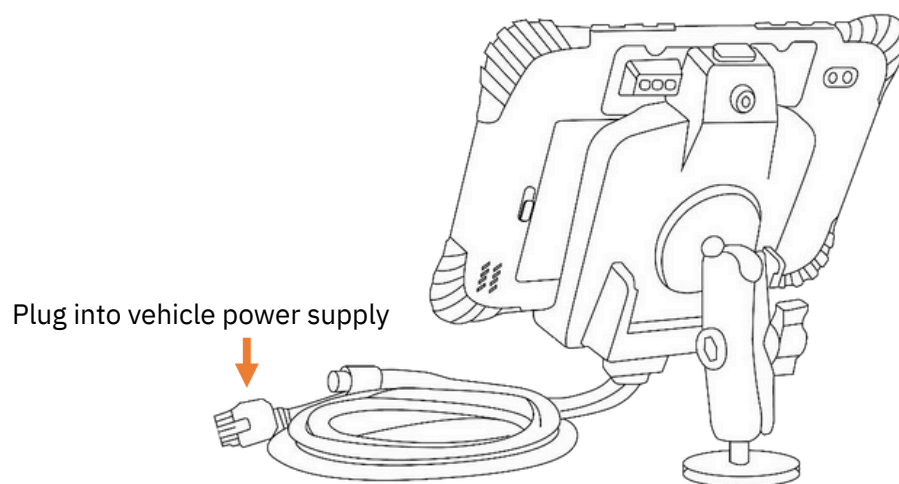
Tip:

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 at least once every three months.

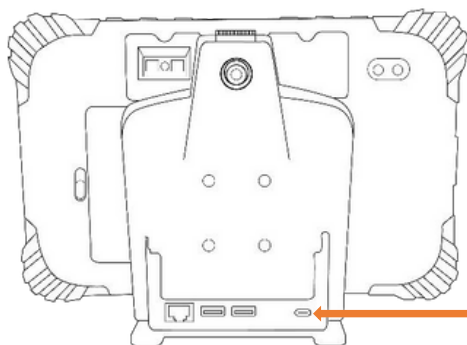
2.4 Charging with the vehicle power supply

To charge the battery with the vehicle power supply:

- a. Place the device in the vehicle cradle, then mount the tablet with docking station via the Metal mount, now connect the docking station to the vehicle power supply.



- b. The LDT-101/MDT-801/MDT-805 could be charged by a PD fast-charging Adapter or car charger (5V/3A,9V/2A,12/2A) by Type C to C USB cable.



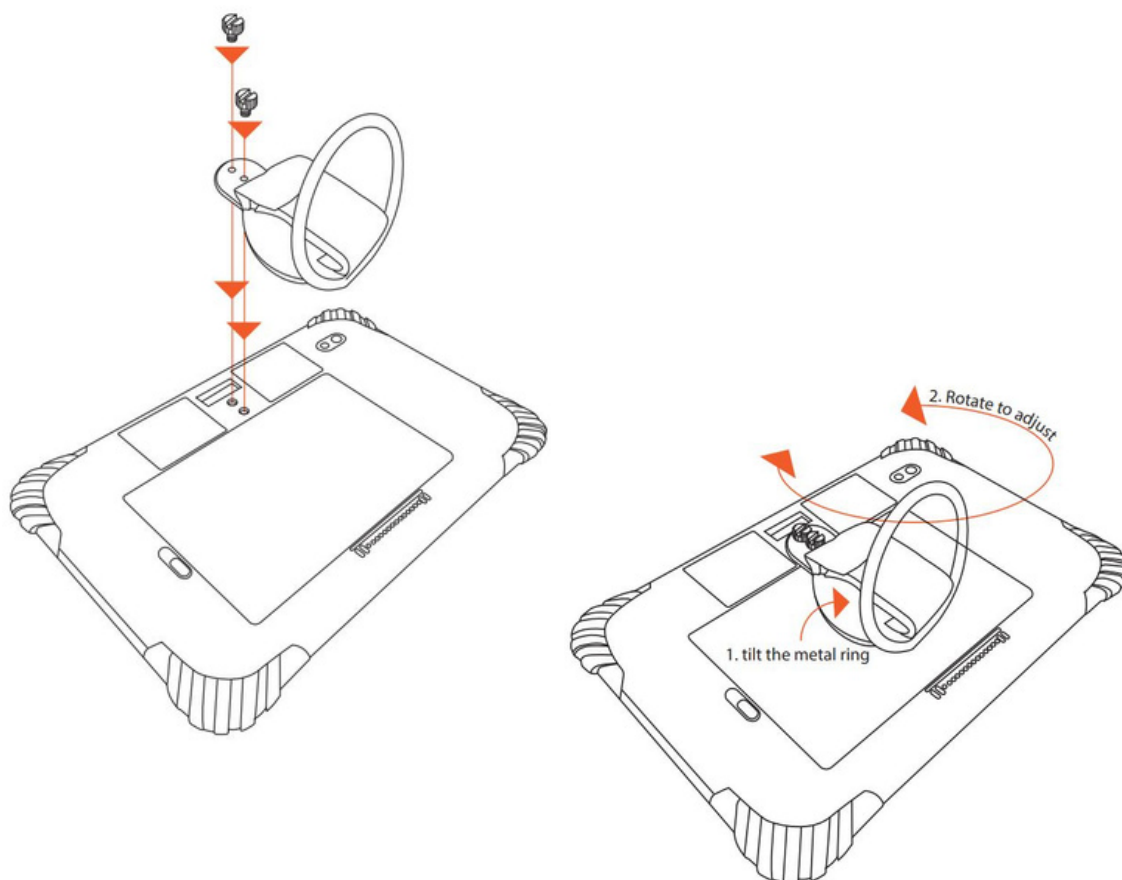
Warning:

Please ensure that the input voltage of the docking station is within the range of 12V~32V. If the input voltage of the docking station is outside this range, the LDT-101/MDT-801/MDT-805 may be unable to charge and can get damaged. It may cause that the warranty will be invalid.

Chapter 3: Hand strap and shoulder strap mode

3.1 Hand strap

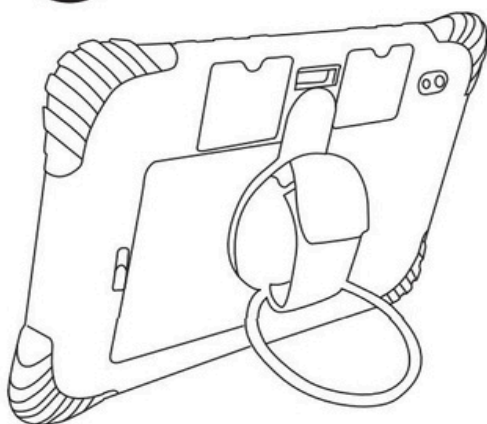
1. How to install



2. How to use

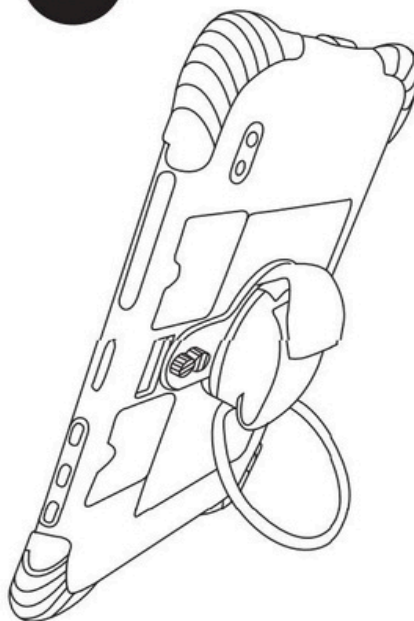
1

Horizontal viewing stand

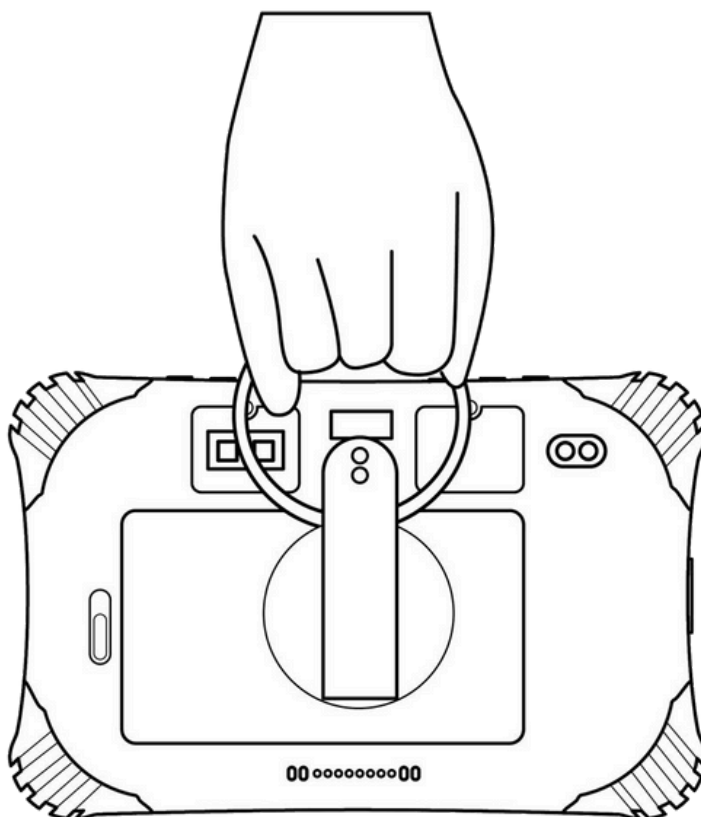


2

Vertical viewing stand

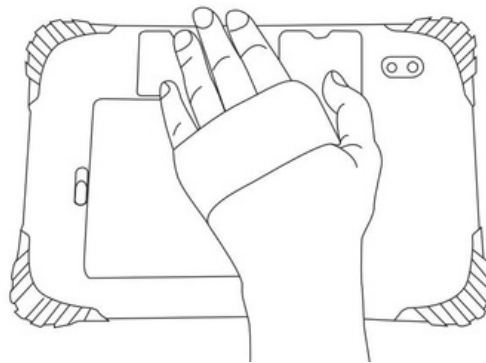
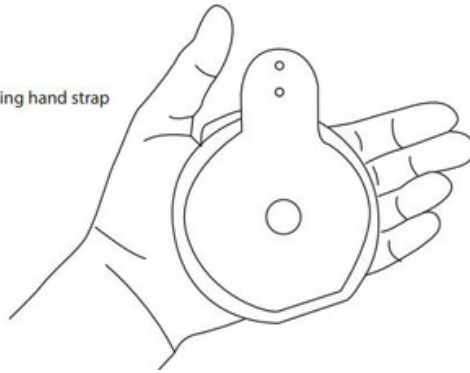


Easy to carry



3

Adjustable viewing hand strap



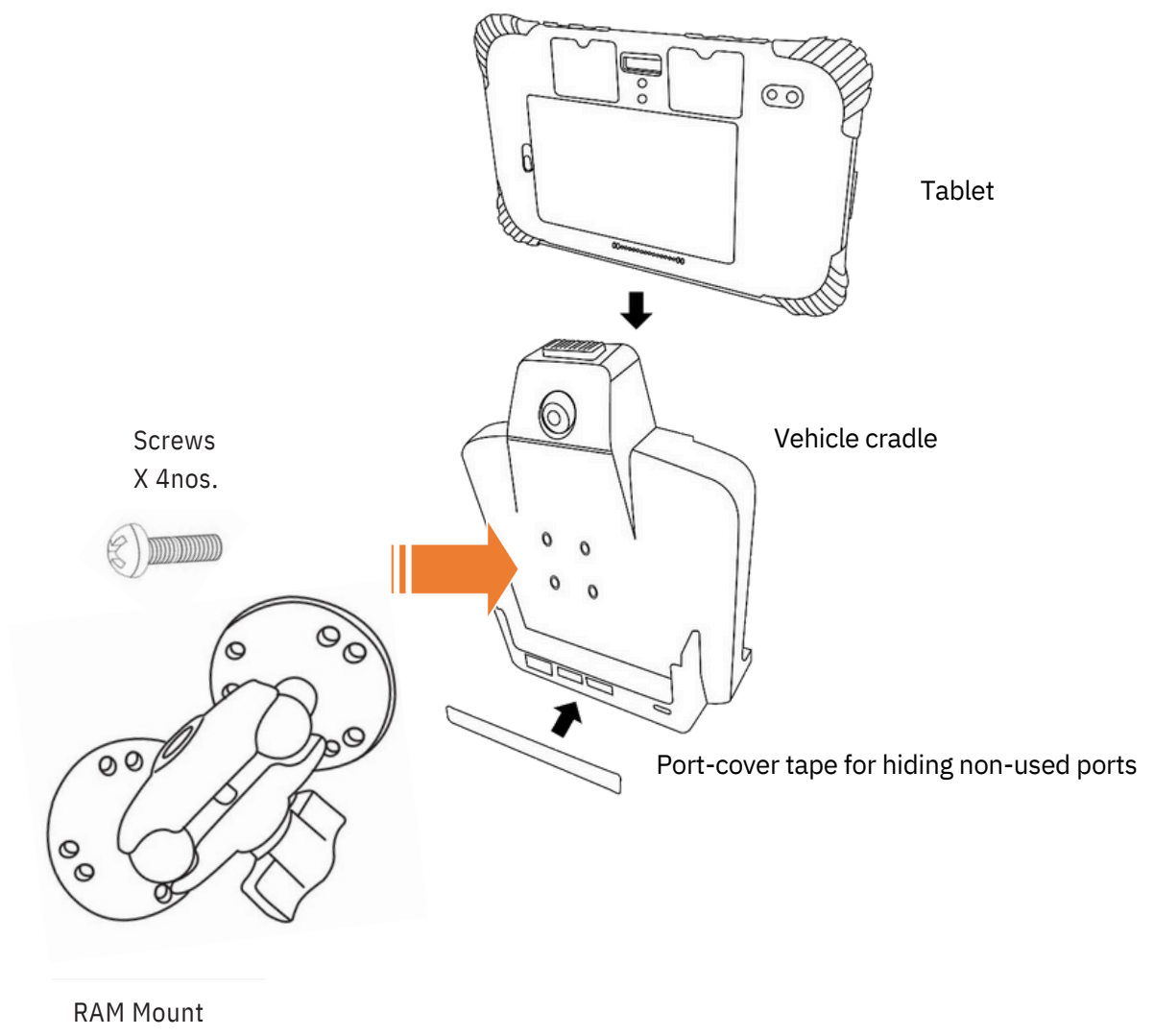
3.2 shoulder strap mode



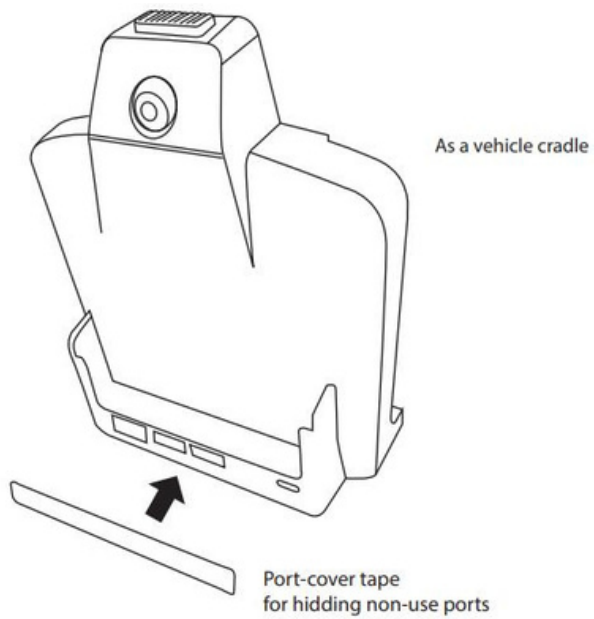
Chapter 4: Docking Station Using Instructions

4.1 Vehicle cradle

1. Mounting the RAM and Cradle Assemble with cradle (Vehicle cradle)

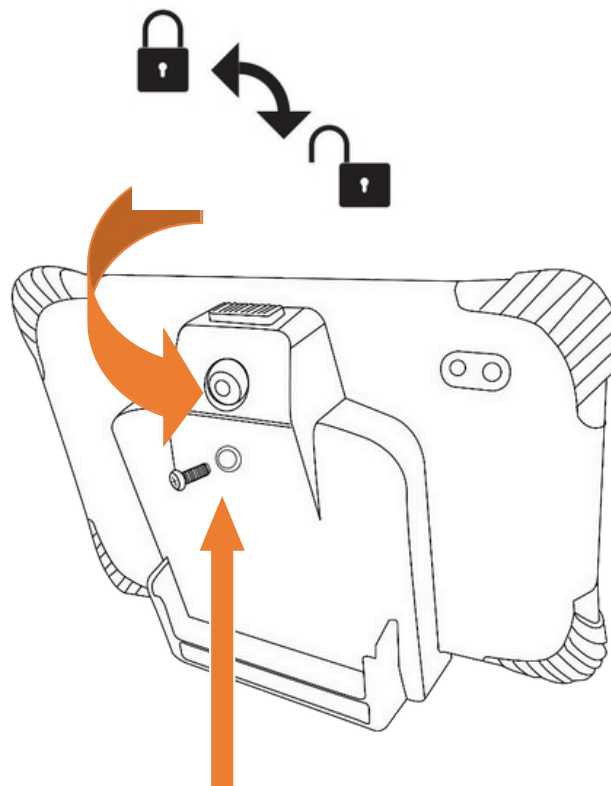


For full-feature vehicle cradle or desktop dock, the port cover tape is being used to hide non-used ports.



2. Locking Device & Unlocking device

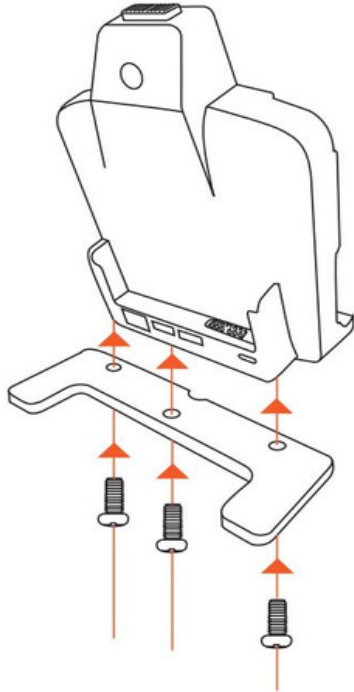
Insert the key to lock or unlock the device



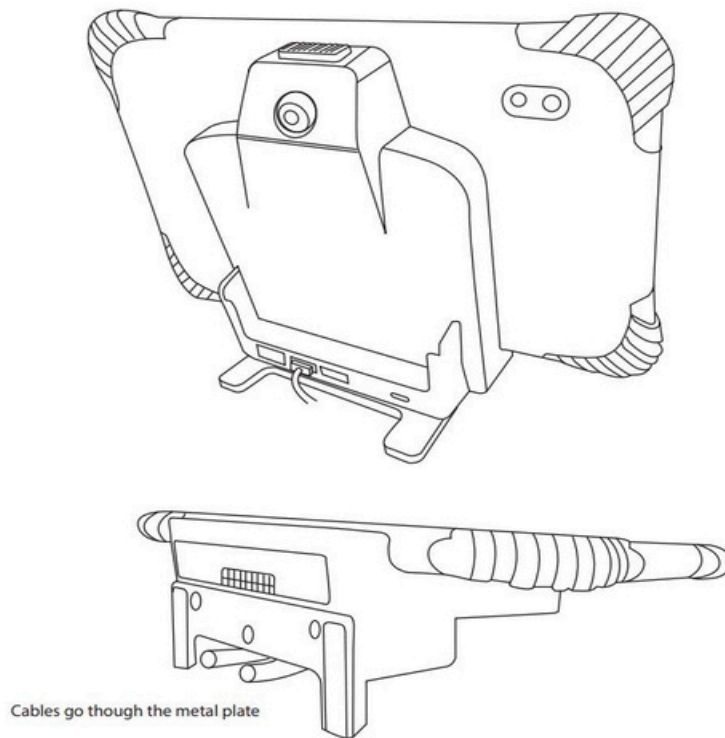
Screw-in the screws to make the lock more secure

4.2 Desktop docking station

1. Install the Metal Stand



2. Assemble with cradle (Desktop docking station)

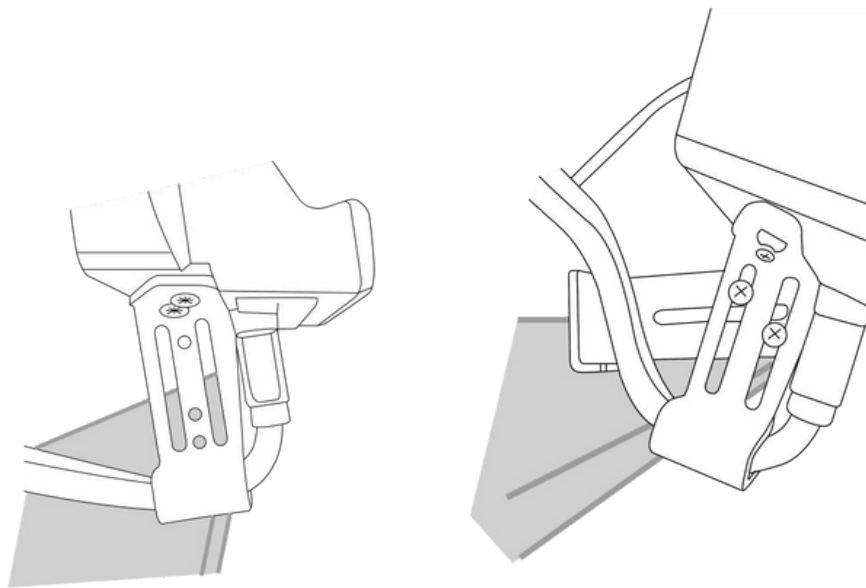


3. Metal clip for fixating the cradle cabling

When installing in a vehicle, please always use the below metal parts.
It has 2 purposes.

1. To direct the cradle cabling behind the dashboard to the rear side.
2. It will be a support for the weight of the LDT-101.

There are a few options for installation. See the below pictures and videos.



The length of the metal clip is adjustable from 50mm to 80mm

https://drive.google.com/file/d/1ybp_Ji3AL1t94PQ_KVtJO9mk_J8UiY8Q/view?usp=sharing

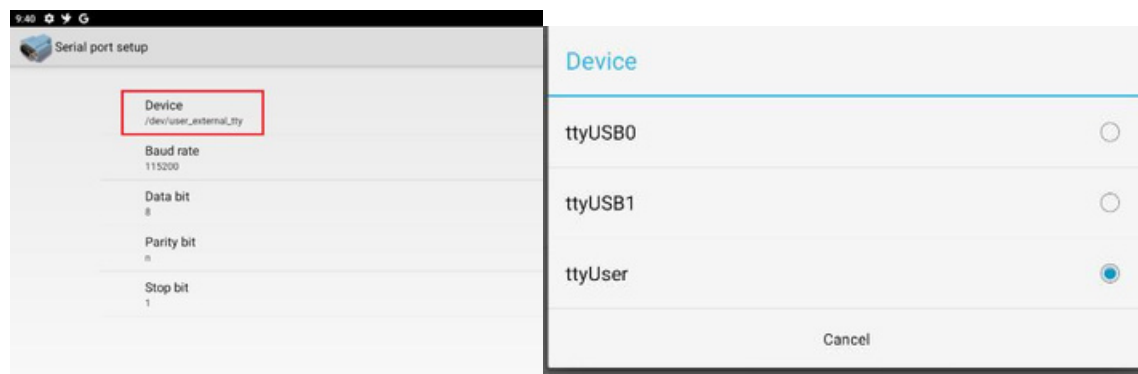
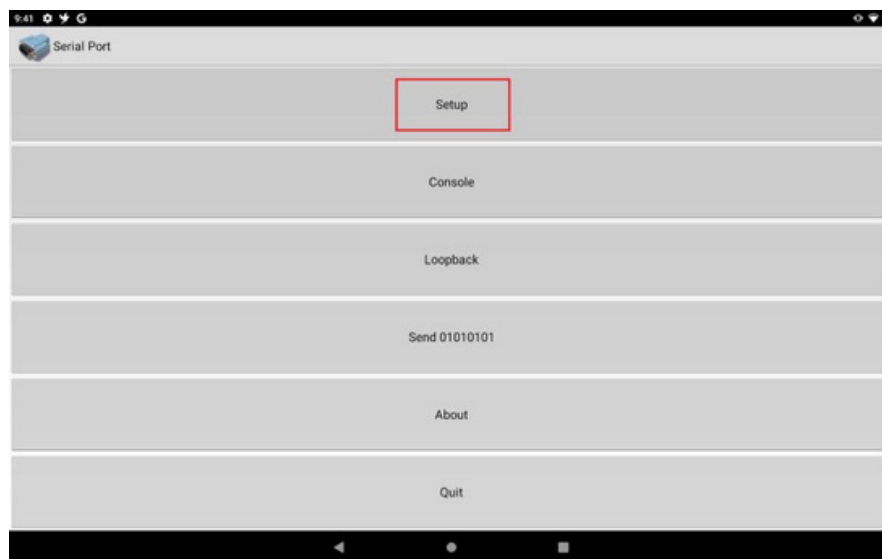
https://drive.google.com/file/d/1ybp_Ji3AL1t94PQ_KVtJO9mk_J8UiY8Q/view?usp=sharing

Chapter 5: Using Hardware Interface

5.1 Using Serial Port

1. RS232 purple/white wires are from the CPU. it works the same as the MDT-860/870 and MDT-760/770. It can work even without connecting an external power supply.
2. RS232 orange/yellow wires and RS485 blue/brown wires are converted from the USB Hub and will only work if there is an external power supply connected.

Wires color	Definition	Device tty ports
White	RS232 RXD (CPU)	ttyUser
Purple	RS232 TXD (CPU)	
Orange	RS232 RXD (USB)	ttyUSB0
Yellow	RS232 TXD (USB)	
Blue	RS485-A	ttyUSB1
Brown	RS485-B	



5.2 Using GPIO

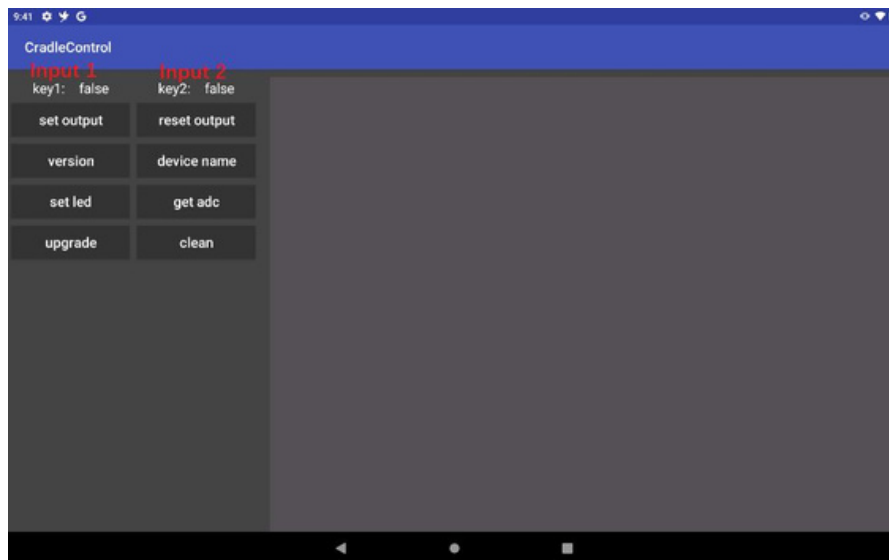
1. GPIO Tail Line Instructions

Regarding the definition diagram of GPIO interface, please see the details in Chapter 1 “1.2 Cable definition”.

2. GPIO_DEMO Instruction

This software is used for testing the GPIO functions of device only, and isn't suitable for the user's standard software.

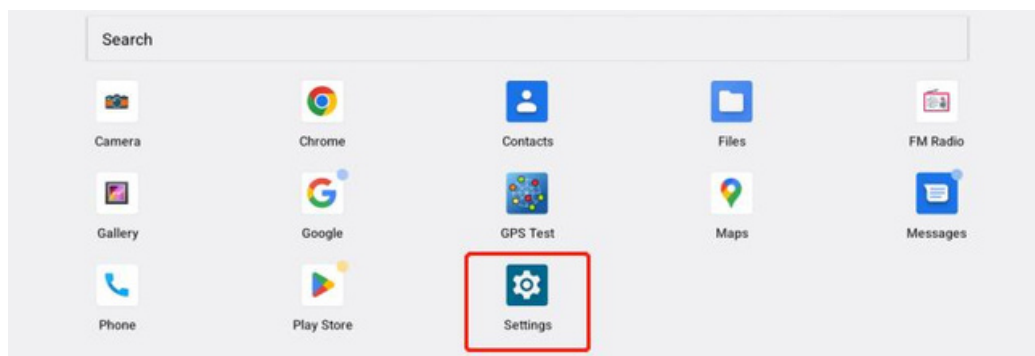
- If the input1 or input2 is connected to a high power, key1 or key2 will display “true”.
- Press set output button to open output, and press reset output button to close output.
- Press get adc button to read the input voltage.
- Press upgrade button to update the MCU firmware.



5.3 Using NFC Function

1. NFC Activation Method

Activate the NFC function according to Figure.



Settings

🔍 Search settings

📶 Network & internet
Mobile, Wi-Fi, hotspot

📱 Connected devices
Bluetooth, pairing

📦 Apps
Recent apps, default apps

Connected devices

+ Pair new device

Previously connected devices

> See all

🔗 Connection preferences
Bluetooth, Android Auto, NFC



Visible as "mdt865" to other devices

Connection preferences

📶 Bluetooth

📱 NFC
On

📺 Cast
Not connected

🤖 Android Beam
Off

NFC

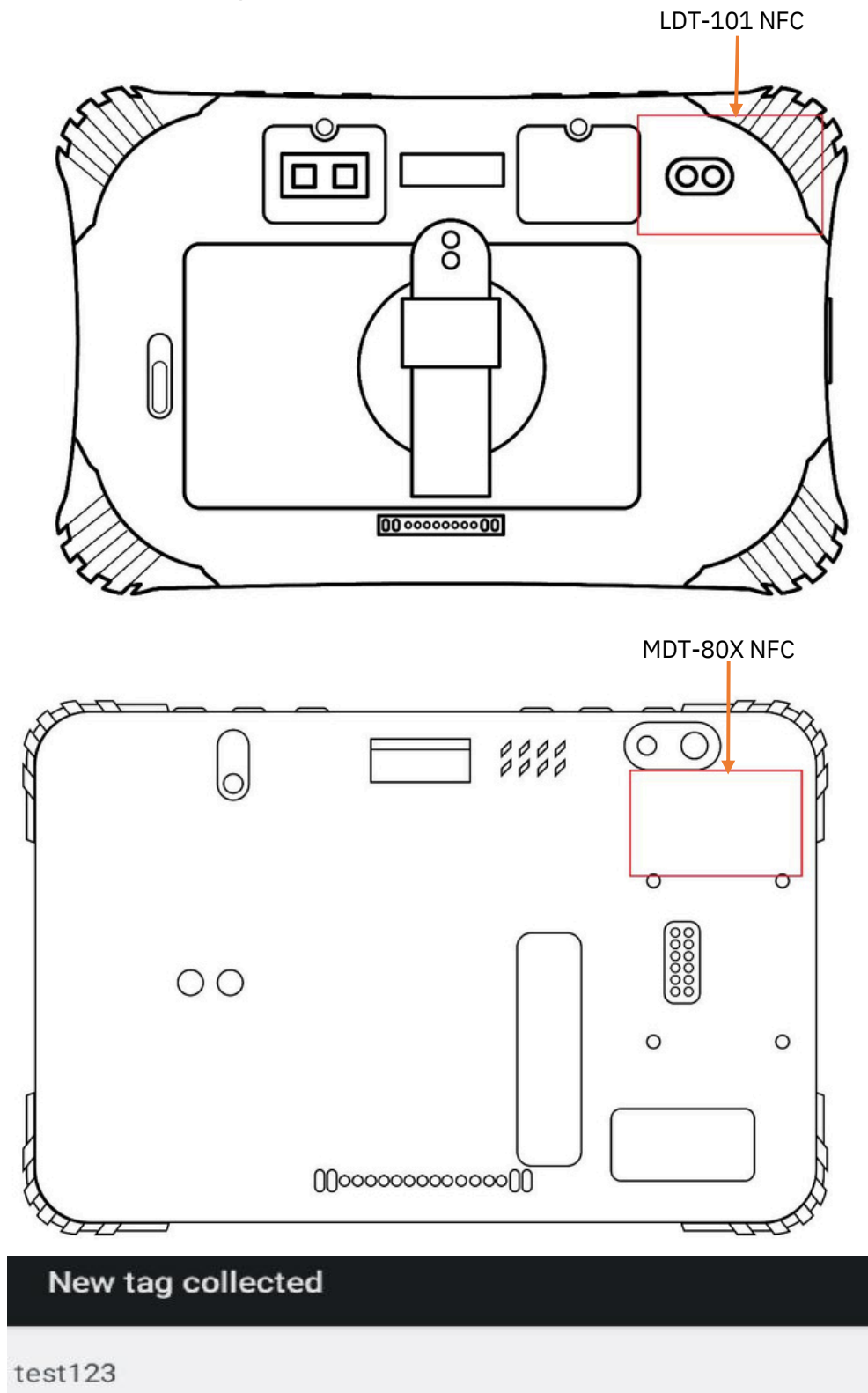
Use NFC



Contactless payments
To use, first install a payment app

2. NFC Usage Demo

After activating the NFC function, place the NFC card close to the induction area. 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 the below image.



Chapter 6: Software Support

Demo application and source code available

We can provide demo applications such as AVIN camera, Serial port, GPIO and NFC etc. Please contact our Sales for details.

Customization Services

PaceBlade's Device Management server is developed to allow customers to update differential firmware as well as create a kiosk mode function:

- BOOT ANIMATION
- INSTALL APK
- ADD APN
- DEFAULT SETTING
- CUSTOMIZED BUTTON

Chapter 7: Safety and regulatory compliance

FCC RF Exposure Information and Statement

This device 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.

The SAR limit of USA (FCC) is 1.6 W/kg averaged.

Device types: portable device has also been tested against this SAR limit.

SAR information on this and other pad can be viewed on-line at

<http://www.fcc.gov/oet/ea/fccid/>.

Please use the device FCC ID number for search.

This device was tested simulation typical 0mm to body.

To maintain compliance with FCC RF exposure requirements, use accessories should maintain a separation distance between the user's bodies mentioned above.

FCC Warning

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
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: 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 on and off, 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.

NOTE 2: Any changes or modification to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE

The product shall only be connected to a USB interface of version USB2.0 and that the connection to a power USB is allowed. Use carefully with the earphone; excessive sound pressure from earphones and headphones can cause hearing loss.



CAUTION
RISK OF EXPLOSION IF BATTERY IS REPLACED
BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING
TO THE INSTRUCTIONS

IC Warning

This device contains license-exempt transmitter(s) that comply with Innovation, Science and Economic Development Canada's license-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.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. 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. The SAR limit of IC is 1.6 W/kg averaged.

Device: Tablet (IC: 21087-MDT1065) has also been tested against this SAR limit.

This device was tested simulation typical 0 mm to body. To maintain compliance with RF exposure requirements, the use accessories should not contain metallic components in its assembly, the use of accessories that do not satisfy these requirements may not comply with RF exposure requirements, and should be avoided. The highest reported SAR value for body condition for separate function is 1.183W/kg respectively.

L'équipement est conforme aux limites d'exposition aux rayonnements ambiants non contrôlés spécifiées dans le document IC RSS - 102. Ces lignes directrices sont fondées sur des critères établis par des organisations scientifiques indépendantes par le biais d'évaluations périodiques et approfondies de la recherche scientifique. Ces normes comportent une marge de sécurité importante et visent à assurer la sécurité de tous, quel que soit leur âge ou leur état de santé. La limite SAR pour IC est en moyenne de 1,6W/ kg. Équipement: Tablet (IC: 21087-MDT1065) a également été testée conformément à cette limite SAR. L'appareil a fait l'objet d'essais de simulation, généralement à une distance de 0 mm. Afin de maintenir la conformité aux exigences en matière d'exposition aux radiofréquences, les composants qui utilisent des accessoires ne doivent pas contenir de pièces métalliques et les accessoires qui ne satisfont pas à ces exigences peuvent ne pas être conformes aux exigences en matière d'exposition aux radiofréquences et doivent être évités. Les valeurs SAR les plus élevées rapportées pour l'état physique des fonctions individuelles étaient respectivement de 1.183W/kg.



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