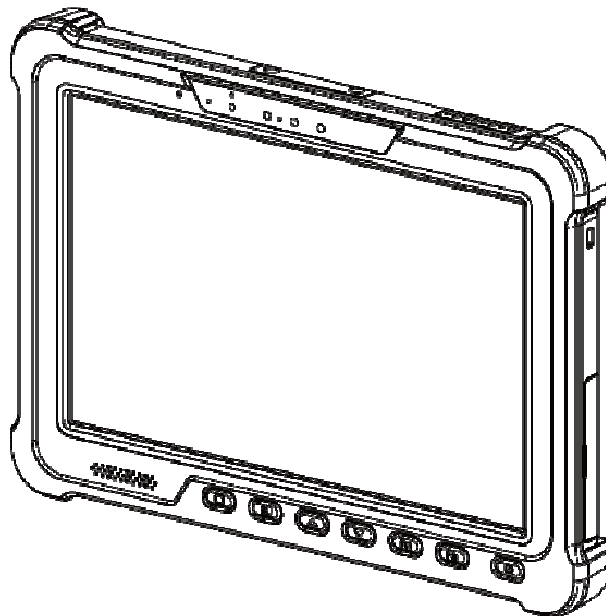


USER MANUAL

Version 1.1 February 2022

M285



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Manual Version 1.1

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Safety

Regulatory Information

Caution: Only use approved and UL Listed accessories, battery packs and battery chargers. Do NOT attempt to charge damp/wet mobile computers or batteries. All components must be dry before connecting to an external power source.

Power Supply

Use only the approved power supply output rated 19 Vdc and minimum 2.37 A. The power supply is certified to EN60950-1 or EN62368-1 with LPS outputs. Use of alternative power supply will invalidate any approval given to this device and may be dangerous.

This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.

Warning for Use of Wireless Devices

Please observe all warning notices with regard to the usage of wireless devices.

Potentially Hazardous Atmospheres

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants etc. and areas where the air contains chemicals or particles (such as grain, dust, or metal powders) and any other area where you would normally be advised to turn off your vehicle engine.

Safety in Aircraft

Switch off your wireless device whenever you are instructed to do so by airport or airline staff.

Pacemakers

Pacemaker manufacturers recommended that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers

Persons with Pacemakers should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON and hence they should not carry the device in a breast pocket .

Should use the ear furthest from the pacemaker to minimize the potential for interference.

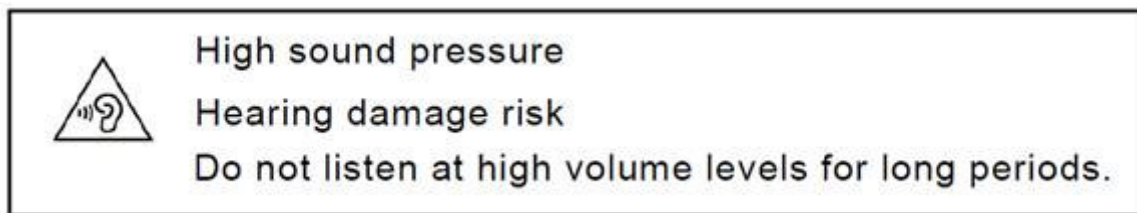
If you have any reason to suspect that interference is taking place, turn OFF your device.

Hearing Aids

The wireless device may interfere with some hearing aids. In the event of interference you may want to consult your hearing aid supplier to discuss solutions.

Other Medical Devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.



FCC/EU RF Exposure Guidelines

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.

This device complies with FCC SAR exposure limits set forth for an uncontrolled environment.

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.

Caution!

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE Marking and European Economic Area

The use of 2.4GHz WLAN's, for use through the EEA, have the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 -2.4835 GHz
- France, outside usage is restricted to 2.4 - 2.454 GHz.
- Italy requires a user license for outside usage.

For class 2 device (supporting WLAN 5GHz: 5150-5350 MHz)

The device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range in the following countries:

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK

Bluetooth® Wireless Technology for use through the EEA has the following restrictions:

- Maximum radiated transmit power of 100mW EIRP in the frequency range 2.400 -2.4835 GHz
- France, outside usage is restricted to 10mW EIRP
- Italy requires a user license for outside usage.

Battery Information

Our rechargeable battery packs are designed and constructed to the highest standards within the industry.

However, there are limitations to how long a battery can operate or be stored before needing replacement.

Many factors affect the actual life cycle of a battery pack, such as heat, cold, harsh

environmental conditions and severe drops.

When batteries are stored over six (6) months, some irreversible deterioration in overall battery quality may occur. Store batteries discharged in a dry, cool place, removed from the equipment to prevent loss of capacity, rusting of metallic parts and electrolyte leakage. When storing batteries for one year or longer, they should be charged and discharged at least once a year. If an electrolyte leakage is observed, avoid any contact with affected area and properly dispose of the battery. Batteries must be charged within the 32° to 95° F (0° to +35° C) ambient temperature range.

Replace the battery when a significant loss of run time is detected.

Battery Caution

Risk of explosion if battery is replaced by an incorrectly type.

Dispose of used battery according to the local disposal instructions.



Waste Electrical and Electronic Equipment (WEEE)

English: For EU Customers: All products at the end of their life must be returned to the reseller for recycling.

Notational Conventions

The following conventions are used in this document:

- Italics are used to highlight specific items in the general text, and to identify chapters and sections in this and related documents.
- bullets (•) indicate:
 - action items
 - lists of alternatives
 - lists of required steps that are not necessarily sequential
 - Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.

NOTE This symbol indicates something of special interest or importance to the reader. Failure to read the note will not result in physical harm to the reader, equipment or data.

CAUTION This symbol indicates that if this information is ignored, the possibility of data or material damage may occur.

WARNING! This symbol indicates that if this information is ignored the possibility that serious personal injury may occur.

EX30 Long Distance 2D Scanner Information

Wavelength: 645-660nm

Beam divergence: laser aimer pattern (see below figures 1 & 2)

Pulse duration: Max. 16.8ms

Repetition rate: Max. 16.8ms

Maximum power or energy output: Max. laser power 1mW



Figure 1.

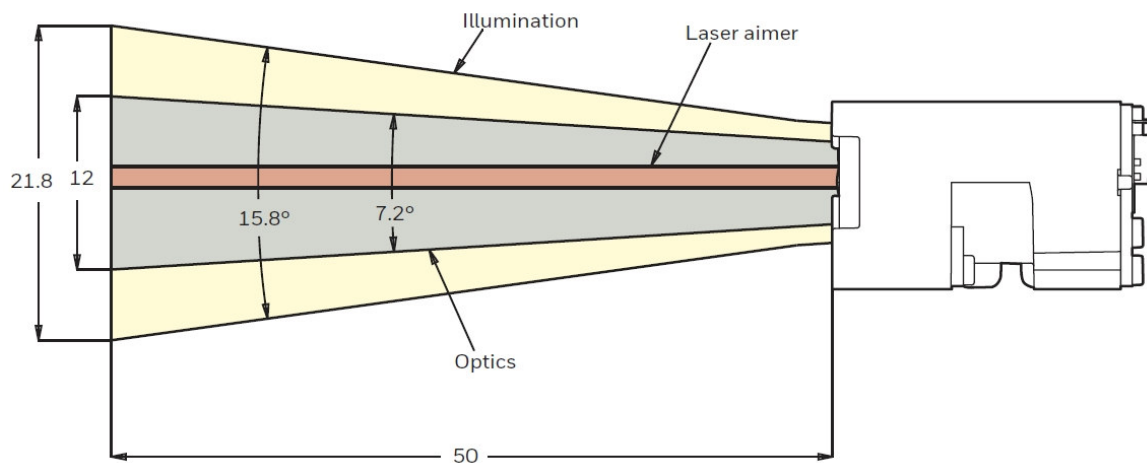
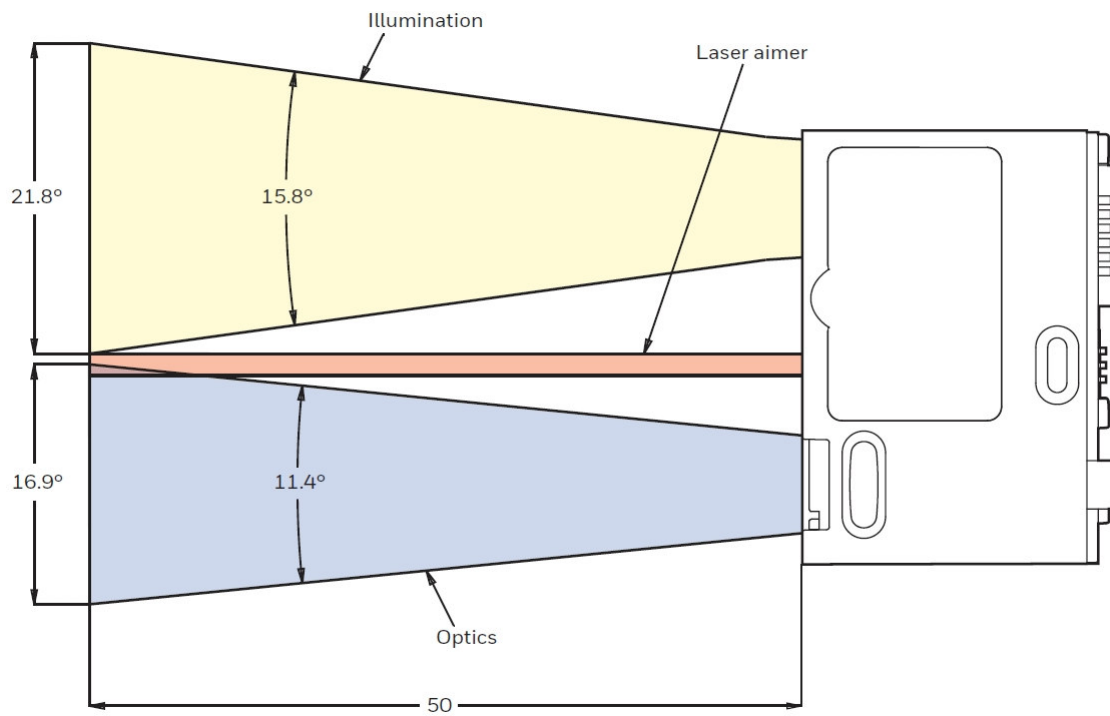


Figure 2.



Revision History

Version	Date	Description
1.0	January 2022	Initial release
1.1	February 2022	● SIM card installation added ● Battery shipping mode description added ● BIOS setup added

Table of Contents

- 1 Item Checklist.....10**
 - 1-1 Standard Items..... 10
 - 1-2 Optional Items 11

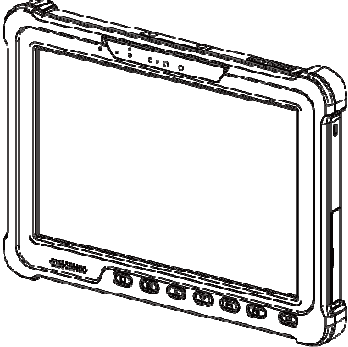
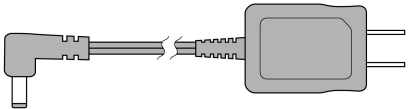
- 2 System View12**
 - 2-1 Front View 12
 - 2-2 Rear View 13
 - 2-3 Specification..... 14

- 3 Getting Started16**
 - 3-1 Power on/off the System 16
 - 3-2 Replacing the Battery..... 17
 - 3-3 Installing the SIM Card..... 18
 - 3-4 Installing the Peripherals Kits 19
 - 3-5 Installing the Hand Strap.....20

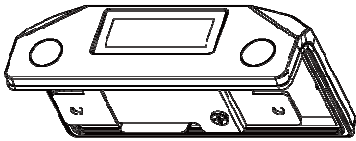
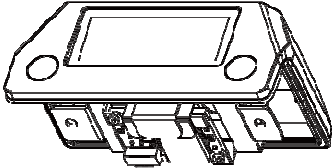
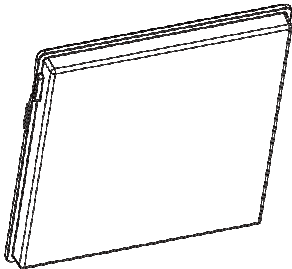
- 4 Configuration21**

1 Item Checklist

1-1 Standard Items

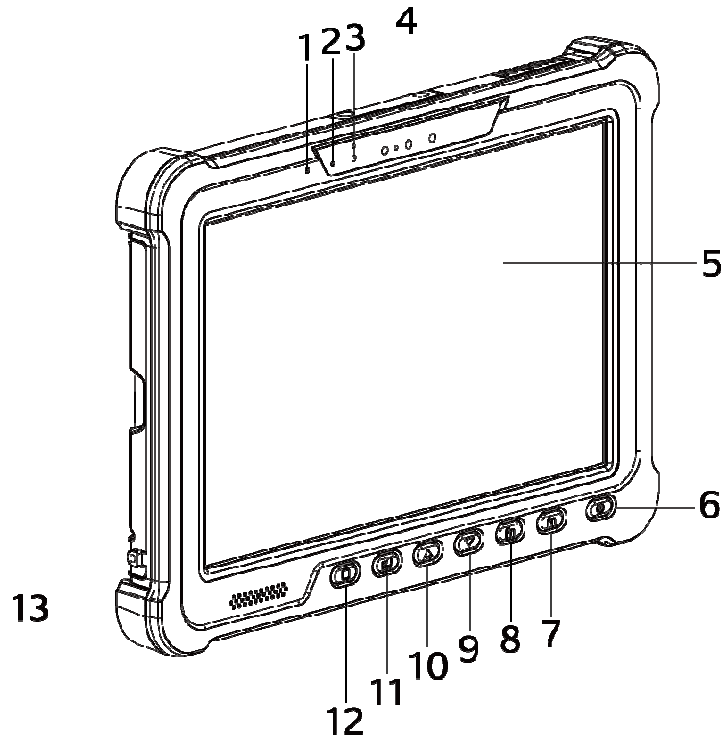
	
a. Tablet (10.1")	b. 19V / 2.37A 45W power adapter

1-2 Optional Items

	
a. 2D scanner kit	b. Long distance 2D scanner kit
	
c. Large capacity battery	

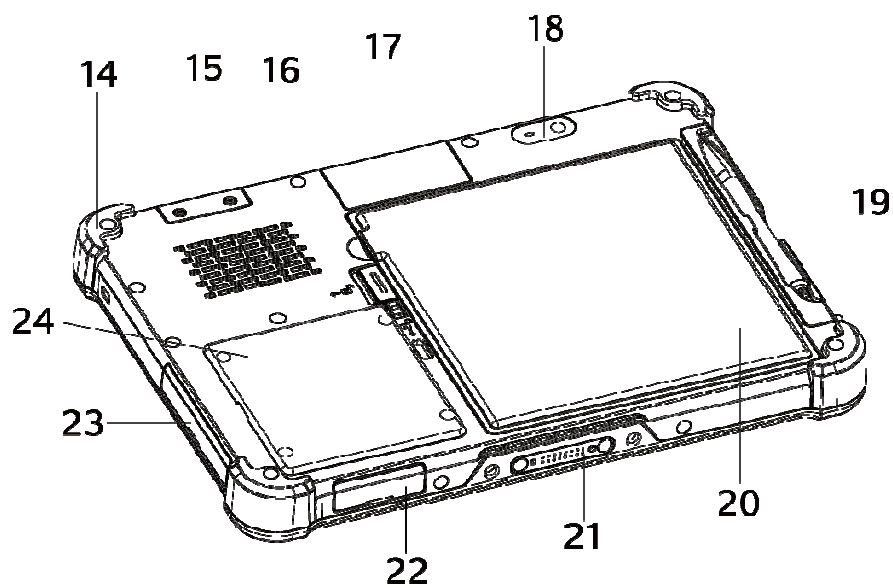
2 System View

2-1 Front View



No.	Description
1	Mic
2	LED indicator
3	Light sensor
4	2MP IR camera (support Windows Hello)
5	Touch screen
6	Power on/off button
7	Programmable button (2D scanner)
8	Programmable button
9	Volume down
10	Volume up
11	Touch mode switch
12	Home
13	Speaker

2-2 Rear View



No.	Description
14	Bumper protector
15	Fan cover
16	Ventilation
17	Dummy cover of peripheral kits
18	8MP rear camera
19	Stylus
20	Battery box
21	Docking connector
22	Access cover for MicroSD, and expansion GPS antenna
23	Access cover for HDMI, audio jack, USB 3.0 and charging connector
24	Service door (access to Nano SIM, SSD card, WIFI card, and LTE card)

2-3 Specification

System	M285	
CPU	Intel Tiger Lake Celeron 6305E	Intel Tiger Lake Core i5-1135G7
System memory	4G DDR4	8G DDR4
Storage	128G M.2 SSD	256G M.2 SSD
	0~70 °C (-40~85 °C by project) support SATA, PCIE (NVMe)	
LCD Touch Panel		
LCD size	10.1” IPS LCD	
Brightness	800 nits	
Resolution	1920*1200	
Touch screen	PCAP 10-point multi-touch • support glove mode, rain mode, hand mode (normally) • Anti-reflective (AR), anti-glare(AG) screen treatments Gorilla III Glass	
I/O Ports		
USB type A	USB 3.1	
Mic	1	
Audio jack w/mic	1	
DC charging connector	1	
HDMI	1	
SIM card slot	1 (Nano SIM type)	
MicroSD card slot	1	
GNSS MCX	1x High-gain antenna GNSS pass-through	
Stylus	1	
Control / Indicator		
Tablet button	7 (1*power, 1*home, 1*touch mode switch, 2*volume, 2*programmable)	
Sensor	G-sensor, Gyro, light sensor, digital compass	
Vibration	vibration motor	
LED indicator	1 (power/ battery)	
Camera		
Front camera	2MP IR camera support Windows Hello	
Rear camera	8MP w/LED	
Audio		
Speaker	1x 2W	
Wireless Networking		
Wi-Fi / BT	Wi-Fi 6, 802.11 a/b/g/n/ax fast roaming, BT5.2	
LTE	Sierra EM7411(US)/EM7421 (EMEA)	
GNSS	NEO M8Q	
Antenna pass through	High-gain antenna GNSS pass through (GPS)	
Battery & Power		
Battery	11.4V /4630mAh 52W Li-polymer (3S1P)	
Hot swap battery	3.7V 1100mAh The highest specified charging temperature of SWAP battery pack is 50+/-3 °C. The lowest specified charging temperature of SWAP battery pack is 0+/-3 °C.	
Power adapter	19V / 2.37A 45W	

System	M285
Peripherals (option)	
Dual high capacity batteries	1
2D scanner	Honeywell N4680 & EX30 long distance
RFID	MTI UHF 900MHz (by project)
Smart card reader	1 (by project)
Accessories (option)	
Stylus	Active, 1.8mm
Hand strap	Yes
Vehicle dock	Yes (by project)
Office dock	Yes (by project)
Battery charging cradle	3 bay battery charging cradle
Certificate	
EMC & safety	FCC, CE/LVD EMI Class B, ESD 8kV contact discharge, 15kV air discharge, Criteria A EMC MIL-STD-461G
Environment	
Operating temperature	0°C ~ 40°C (charging)
Storage temperature	-51°C~ 71°C
IP	IP65 certified, dustproof and waterproof
Shock	MIL-STD_810H, Method 516.8, Procedure I
Vibration	MIL-STD_810H, Method 514.8, Procedure I (Transportation)
Altitude	MIL-STD_810H, Method 500.6, Procedure I MIL-STD_810H, Method 500.6, Procedure II
Temperature	High temperature MIL-STD_810H, Method 501.7, Procedure I (storage) High temperature MIL-STD_810H, Method 501.7, Procedure II (operation) High temperature MIL-STD_810H, Method 501.7, Procedure III (standby to operational)
	Low temperature MIL-STD_810H, Method 502.7, Procedure I (storage) Low temperature MIL-STD_810H, Method 502.7, Procedure II (Operation)
	Temperature shock MIL-STD_810H, Method 503.7, Procedure I
Rain	MIL-STD_810H, Method 506.6, Procedure I (rain and blowing rain)
	MIL-STD_810H, Method 506.6, Procedure III (drip)
Sand & dust	MIL-STD_810H, Method 510.7, Procedure I (blowing dust)
	MIL-STD_810H, Method 510.7, Procedure II (blowing sand)
Freeze & thaw	MIL-STD_810H, Method 524, Procedure III (rapid temperature change)
Humidity	MIL-STD_810H, Method 507.6, Procedure II (aggravated)
Size	
Dimension	269.8 x 193.7 x 22.5 mm
Weight	1300g
OS Support	
Windows	Windows 10 IoT Enterprise Entry/Value

FLYTECH TECHNOLOGY CO., LTD.

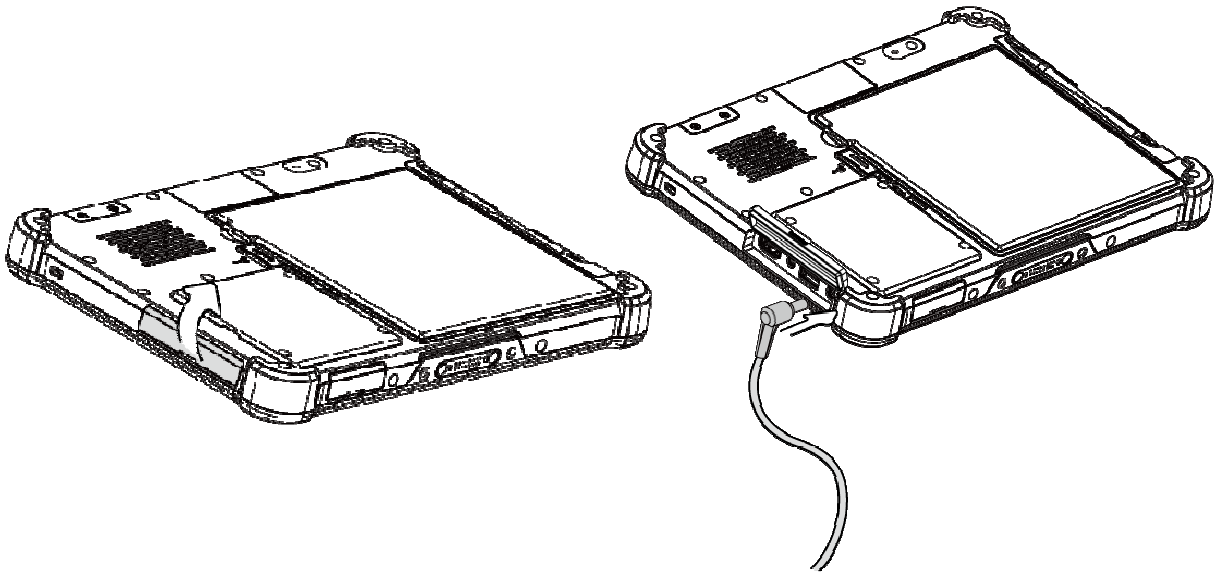
No. 168, Sing-Ai Rd., Neihu District 11494, Taipei City, Taiwan

3 Getting Started

3-1 Power on/off the System

When the tablet is shipped from the factory, the battery pack is in **shipping mode** for reducing battery consumption during shipment. You must take the battery pack out of shipping mode before the battery pack can be charged and used.

To release the battery from shipping mode, please follow the steps:

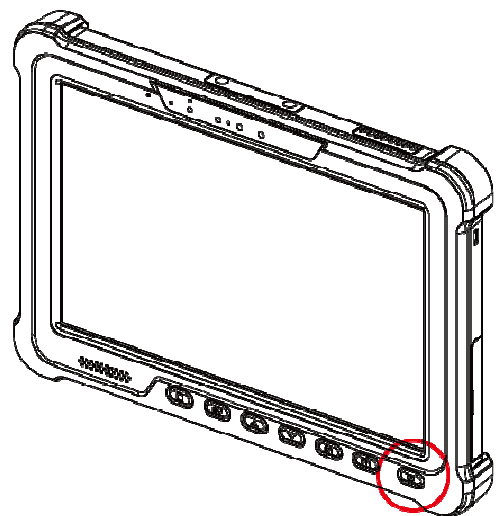


1. Pry open the rubber cover protecting the charging port and plug in the charging cable supplied with the tablet.

***Fully charge the battery when you charge for the first time**

2. Press the power button for 1 second to turn on the system. The battery is released from shipping mode after powering on the tablet. If you want to power off the tablet, long press the power button for 4 seconds

Note: For the best touch performance, remove the protective plastic overlay from the touch screen by peeling it away from one of the corners. Be sure to use a soft pointing device or finger tip to avoid scratching the screen during normal use.

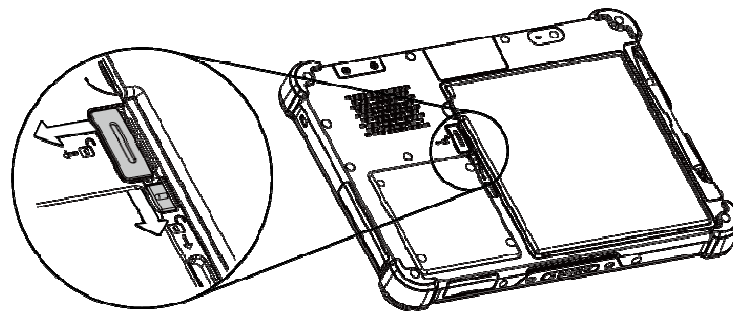


3-2 Replacing the Battery

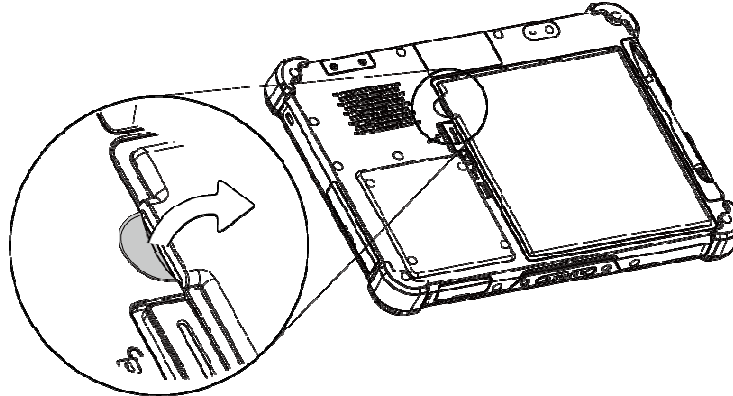
You can replace the battery either when the tablet is turned off or when the tablet is still on and running on battery power. Changing a tablet battery without powering off the tablet is called "hot swapping". To hot swap the battery, please follow the steps:

- Press the "Home" button of the tablet for two seconds to enter hot swapping mode, the display will get dimmer.
- The LED indicator starts to blink and you will hear the beeping sound. This is the time to replace the battery. **You have four minutes to hot swap the battery.**

NOTE: The system will remind you after three minutes by rapid beeping sound. If you do not insert the charged battery within four minutes, the tablet will turn off automatically.

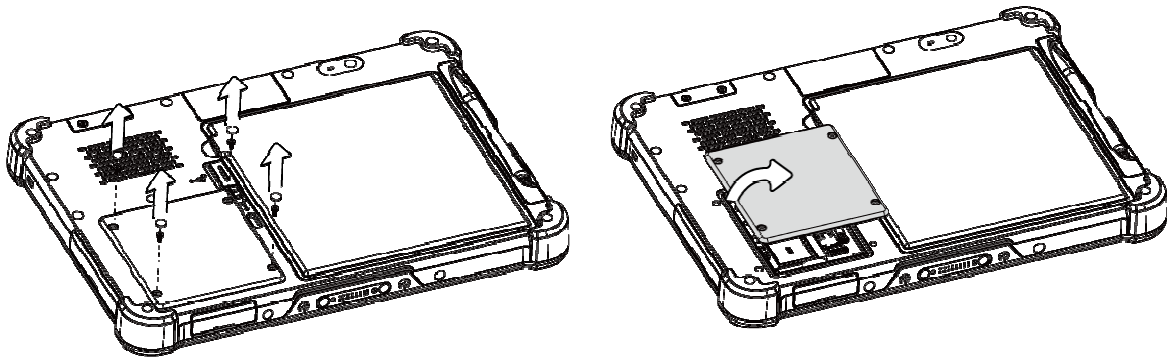


1. Place the tablet face down on a flat surface. Next, slide the small latch down first then slide the big latch left as shown to unlock the battery cover.



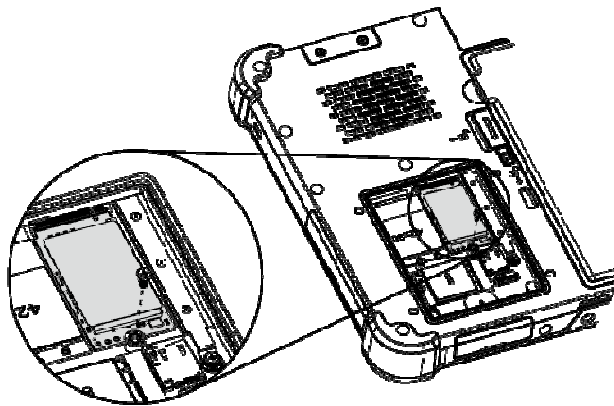
2. Place a coin or your fingernails at the battery cover notch and gently lift the battery box to release it from the tablet.

3-3 Installing the SIM Card

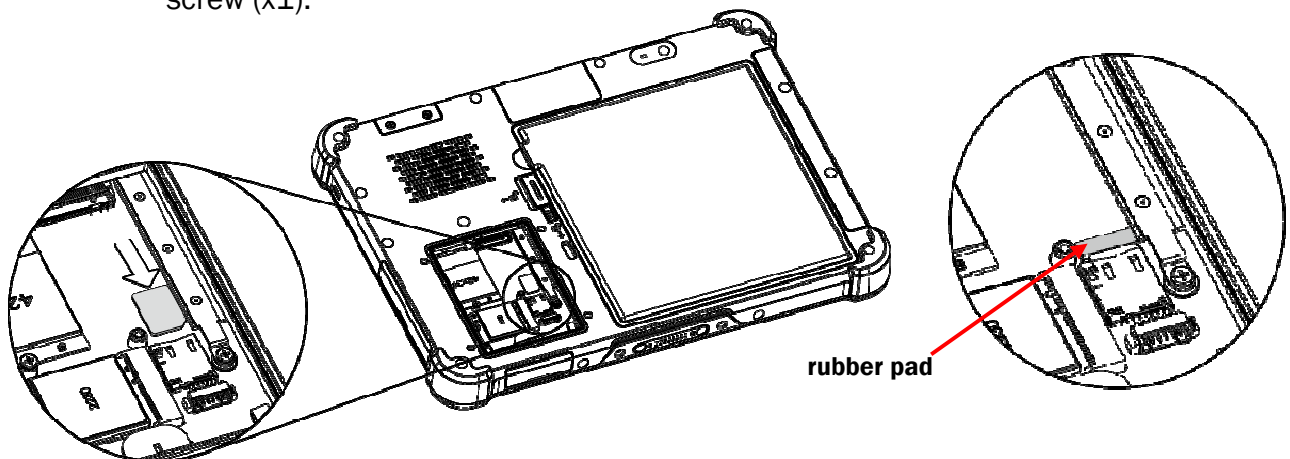


1. Remove the screws (x4) and rubber pads (x4) of the service door. Gently lift the service door and be careful not to pull off the cables connecting to the motherboard.

** Reverse the steps above to attach the service door to the system.*



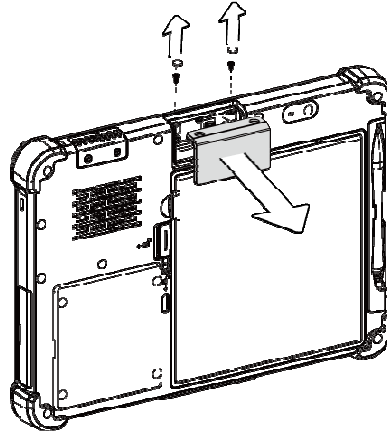
2. To install the SIM card, you need to remove the SSD card first by removing the screw (x1).



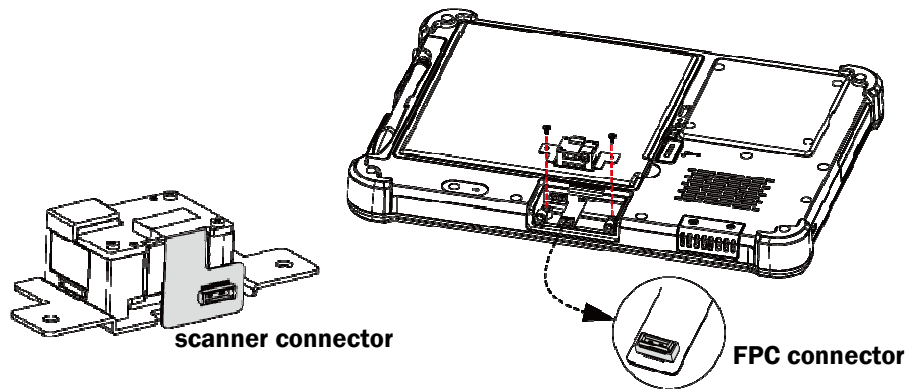
3. With the SIM card's gold contacts facing down and its cut-off corner facing in, insert the SIM card all the way into the SIM card slot. Then push the SIM card in until it clicks into place.
4. Attach the rubber pad on the rear of the SIM card to ensure that the SIM card fits securely into the slot.

3-4 Installing the Peripherals Kits

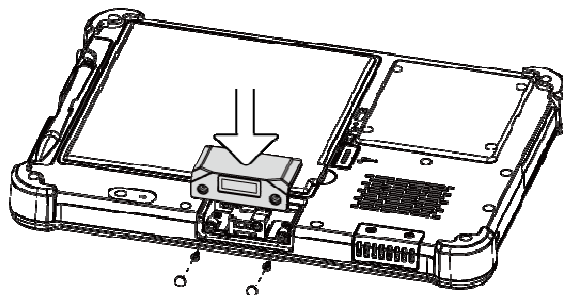
You can expand the capabilities of tablet by connecting the peripheral devices: 2D scanner kit, Long distance 2D scanner kit, COM kit, LAN kit, and USB kit.



1. To install the 2D scanner kit, remove the screws (x2) and rubber pads (x2) to release the dummy cover first.

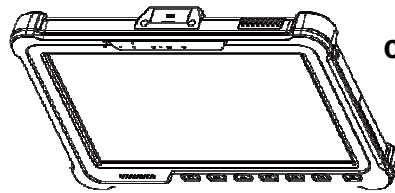


2. Connect the 2D scanner module to the FPC connector on the tablet, then attach the module in place and fasten the screws (x2) to secure it.

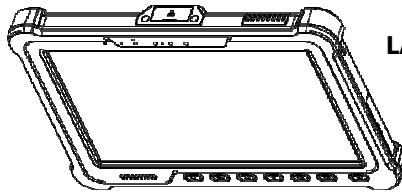


3. Attach the 2D scanner cover and fasten the screws (x2). Last, put on the rubber pads (x2).

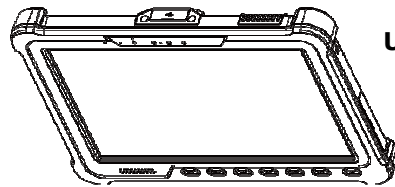
COM, LAN, and USB kits installation steps are the same as 2D scanner kit, but the slight difference is you need to place a foam tape pad under the FPC connector on the tablet before connecting the kits. This will ensure the kits can be easily connected to the FPC connector



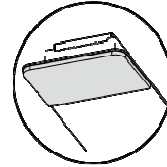
COM kit



LAN kit



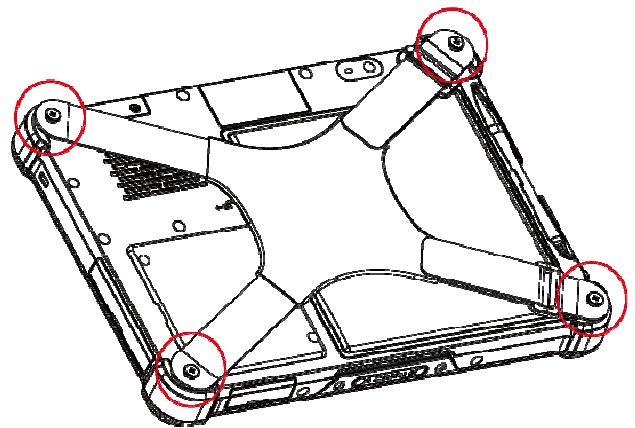
USB kit



Adjust the height difference between different kits by placing a foam tape pad here.

3-5 Installing the Hand Strap

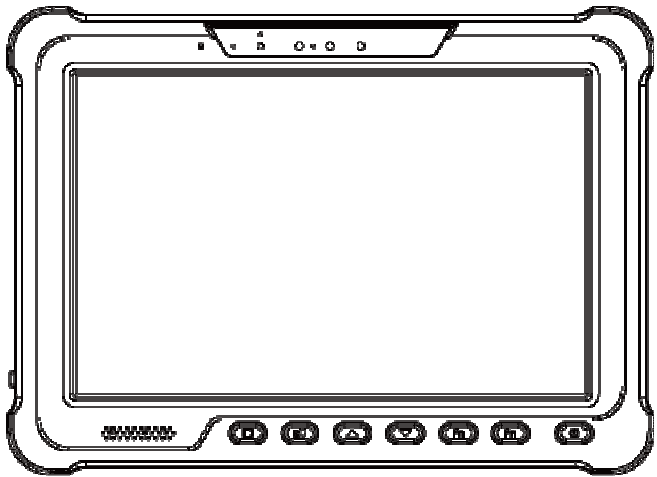
1. Align and attach the hand strap to the back side of the tablet and fasten the screws (x4) to secure it.



4 Configuration

Enter Shell Mode to setup BIOS

- 1. The system features programmable buttons that can be assigned to any given function. To enter BIOS shell mode, long press of the [HOME] button until you are prompted to BIOS screen.
- 2. After entering the BIOS Setup menu, use the corresponding buttons to select the system functions.



Button Icon							
General Setting	Home	Touch mode switch	Volume up	Volume down	Programmable button	2D scanner trigger	Power on/off
Shell Mode	ESC/DEL	Enter	Up	Down	Left	Right	