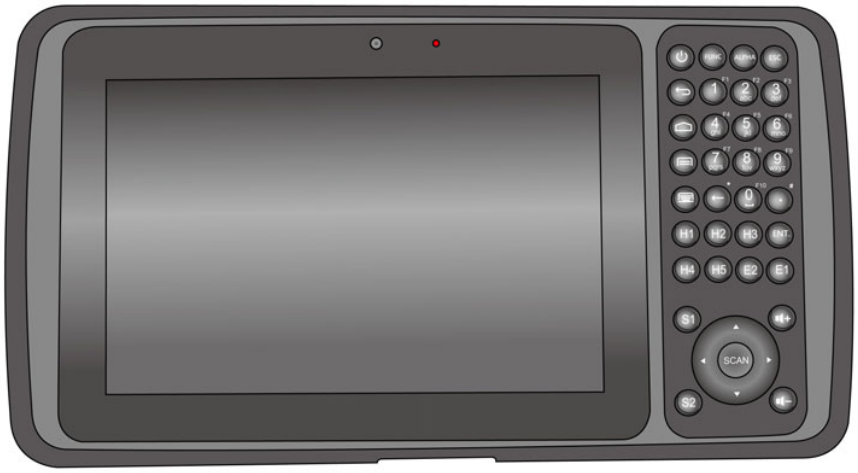
unitech
because we care

7” Rugged Tablet Computer

-TB120-



User’s Manual

401161G Version 1.1

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Change Log

Date	Change Description	Version
20151028	1. update preface 2. Add information of MSR	1.1

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Preface

About This Manual

Thank you for purchasing the unitech product.
This manual explains how to install, operate and maintain our product.
No part of this publication may be reproduced or used in any form, or by any electrical or mechanical means, such as photocopying, recording, or information storage and retrieval systems, without permission in writing from the manufacturer. The material in this manual is subject to change without notice.

Regulatory Compliance Statements

FCC Warning Statement

This device 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 with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with 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.

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1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure requirements, avoid direct contact to the transmitting antenna during transmitting.
3. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

Operation on the 5.15 - 5.25GHz frequency band is restricted to indoor use only. The FCC requires indoor use for the 5.15-5.25GHz band to reduce the potential for harmful interference to co-channel Mobile Satellite Systems. Therefore, it will only transmit on the 5.25-5.35 GHz, 5.47-5.725 GHz and 5.725 – 5.850 GHz band when associated with an access point (AP).

FCC Label Statement

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.

RF Radiation Exposure Statement

For body contact during operation, this device has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 1.5 cm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Canadian Compliance Statement

This Class B Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

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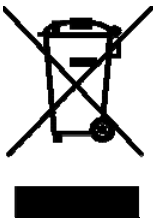
European Conformity Statement

unitech Electronics co., Ltd herewith declares that the unitech product is in compliance with the essential requirements and all other provisions of the R&TTE 1999/5/EC directive, the EMC 2004/108/EC directive and the Low Voltage 2006/95/EC directive.
The declaration of conformity is available for download at :
https://portal.unitech.eu/public/Safetyregulatorystatement

RoHS Statement

This device conforms to RoHS (Restriction of Hazardous Substances) European Union regulations that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

Waste electrical and electronic equipment (WEEE)



unitech has set up a policy and process to meet the EU directive 2002/96/EC and update 2003/108/EC concerning electronic waste disposal.
For more detailed information of the electronic waste disposal of the products you have purchased from unitech directly or via unitech's resellers, you shall either contact your local supplier or visit us at :
https://portal.unitech.eu/public/WEEE

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Taiwan NCC Warning Statement

交通部電信總局低功率電波輻射性電機管理辦法

第十二條：經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條：低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

低功率射頻電機需忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

注意事項:

1. 使用過度恐傷害視力。
2. 使用30分鐘請休息10分鐘；2歲以下幼兒不看螢幕，2歲以上每天看螢幕不要超過1小時。

SAR 標準值 2.0W/Kg，送測產品實測值為 w/Kg

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Laser Information

The unitech product is certified in the U.S. to conform to the requirements of DHHS/CDRH 21CFR Subchapter J and to the requirements of IEC 825-1. Class II and Class 2 products are not considered to be hazardous. The unitech product contains internally a Visible Laser Diode (VLD) whose emissions do not exceed the maximum limits as set forth in the above regulations. The scanner is designed so that there is no human access to harmful laser light during normal operation, user maintenance or prescribed service operations.

The laser safety warning label required by the DHHS/IEC for the unitech product's optional laser scanner module is located on the memory compartment cover, on the back of the unit.

* Laser information only applies to the products with laser components.

CAUTION! Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Use of optical instruments with the scanner, including binoculars, microscopes, and magnifying glasses, with will increase eye damage. This does not include eyeglasses worn by the user.

LED Information

The unitech product contains LED indicator(s) or LED ring whose luminance is not harmful to human eyes during normal operation, user maintenance or prescribed service operations.

*LED information only applies to the products with LED components.

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Battery Notice

1. To guarantee optimal performance, it is recommended that rechargeable batteries be replaced every year, or after 500 charging cycles are completed. It is normal for the battery to balloon or expand after one year or 500 cycles. Although it does not cause damage, it cannot be used again and must be disposed of according to the location's safe battery disposal procedures.
2. If a battery performance decreases more than 20%, the battery is at the end of its life cycle. Stop use and ensure the battery is disposed of properly.
3. The length of time that a battery lasts depends on the battery type and how the device is used. Conserve the battery life by doing the following:
   - Avoid fully uncharging the battery because this places additional strain on it. Several partial uncharges with frequent charges are better than a fully uncharged battery. Charging a partially charged battery does not cause harm to the unit.
   - Keep the battery cool. Avoid hot vehicles. For prolonged storage, keep the battery at a 40% charge level.
   - Do not leave the battery uncharged and unused for an extended period of time, the battery will wear out and the longevity of the battery will be at least half of one with frequent charges.
4. Protect battery life by not over or under charging the battery.
5. Please do not leave battery unused for long time without charging it. Despite unitech's safety precautions, the battery pack may begin to change shape. If so, stop using it immediately. Please check to see if you are using a proper power adapter to charge the battery or contact your service provider for service.
6. If you cannot charge the battery after it has been idle for an extended period of time and it begins to heat up, please do not try to charge it. It may not be functional anymore.
7. Please only use the original battery from unitech. Using a third party battery can damage our products. Please note that when such damage occurs, it is not covered by unitech's warranty policy.

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CAUTION!

- RISK OF EXPLOSION IF BATTERY IS REPLACED INCORRECTLY.
  DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- 如果更換不正確之電池行事會有爆炸的風險
  請依製造商說明書處理用過之電池
- 如果更换不正确之电池行事会有爆炸的风险
  请依制造商说明书处理用过之电池

Battery charge notice

It is important to consider temperature when the battery pack is charging. Charging is most efficient at normal room temperature or in a slightly cooler environment. It is essential that batteries are charged within the stated range of 0˚C to 40˚C. Charging batteries outside of the specified range could damage the batteries and shorten their life cycle.

CAUTION! Do not charge batteries at a temperature lower than 0˚C. This will and make the batteries unstable and dangerous. Please use a battery temperature detecting device for a charger to ensure a safe charging temperature range.

Storage and safety notice

Although charged batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens, they will require recharging prior to use. Batteries may be stored at temperatures between -20°C to 60°C, however they may deplete more rapidly at higher temperatures. It is recommended to store batteries at room temperature.

** The message above only applies to the usage of the removable batteries. For the products with non-removable batteries / without batteries, please refer to the specification of each product.*

Product Operation and Storage Notice

The unitech product has applicable operation and storage temperature conditions. Please follow the limitation of suggested temperature conditions to avoid failure, damage or malfunction.

**For applicable temperature conditions, please refer to the specification of each product.*

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Adapter Notice

1. Please do not leave the power adapter in the socket when it is not connected to your unitech product for charging.
2. Please remove the power adapter when the battery is fully recharged.
3. The bundled power adapter that comes with your unitech product is not meant to be used outdoors. An adapter exposed to water or rain, or a very humid environment can cause damage to both the adapter and the product.
4. Please only use the bundled power adapter or same specification of adapter to charge your unitech product. Using the wrong power adapter can damage your unitech product.

** The message above only applies to the product connected to the adapter. For the products without using the adapters, please refer to the specification of each product.*

Hearing Damage Warning

Zx.3 Warning

The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:

- the symbol of Figure 1 with a minimum height of 5 mm; and
- the following wording, or similar :

To prevent possible hearing damage, do not listen at high volume levels for long periods.

Figure 1 – Warning label (IEC 60417-6044)

Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.

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Worldwide Support

unitech's professional support team is available to quickly answer questions or assist with technical-related issues. Should an equipment problem occur, please contact the nearest unitech regional service representative.
For complete contact information please visit the Web sites listed below:

Taipei, Taiwan – Headquarters		Europe	
Tel:	+886-2-89121122	**Tel:**	+31-13-4609292
E-mail:	info@hq.ute.com	**E-mail:**	info@eu.ute.com
Address:	5F, No. 136, Lane 235, Baoqiao Road, Xindian District, New Taipei City 231, Taiwan (R.O.C.)	**Address:**	Kapitein Hatterasstraat 19, 5015 BB, Tilburg, the Netherlands
Website:	http://www.ute.com	**Website:**	http://eu.ute.com
China		**Japan**	
Tel:	+86-59-2310-9966	**Tel:**	+81-3-35232766
E-mail:	info@cn.ute.com	**E-mail:**	info@jp.ute.com
Address:	Room401C, 4F, RIHUA International Mansion, Xinfeng 3nd Road, Huoju Hi-tech District, Xiamen, Fujan , China	**Address:**	Kayabacho Nagaoka Building 8F.,1-5-19 Shinkawa, Chuo-Ku, Tokyo, 104-0033, Japan
Website:	http://cn.ute.com	**Website:**	http://jp.ute.com
Asia & Pacific / Middle East		**Latin America**	
Tel:	+886-2-27911556	**Tel:**	+52-55-5171-0528
E-mail:	info@apac.ute.com info@india.ute.com info@mideast.ute.com	**E-mail:**	info@latin.ute.com
Address:	4F., No. 236, ShinHu 2nd Rd., NeiHu Chiu, 114, Taipei,Taiwan	**Address:**	17171 Park Row, Suite 210 Houston, TX 77084USA (Rep.)
Website:	http://apac.ute.com / http://mideast.ute.com	**Website:**	http://latin.ute.com
North America			
Tel:	+1-714-8916400		
E-mail:	info@us.ute.com / info@can.ute.com		
Address:	6182 Katella Ave, Cypress, CA 90630, USA		
Website:	http://us.ute.com / http://can.ute.com		

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Warranty Policy

The items covered under the unitech Limited Warranty are free from defects during normal use.

The warranty period is varied from each country. Please consult with your supplier or unitech local office for actual length of warranty period to your purchased product.

Warranty becomes void if equipment is modified, improperly installed or used, damaged by accident or neglect, or if any parts are improperly installed or replaced by the users.

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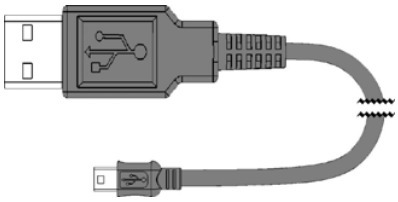
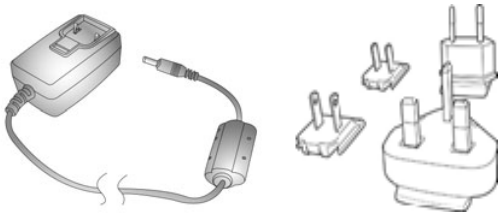
1. Package Contents

TB120

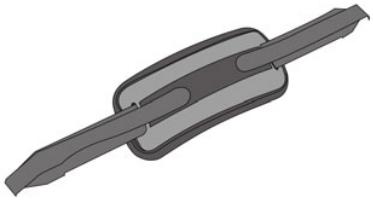


USB cable
(Standard USB to Micro USB)



Power adapter

Battery



Hand Strap

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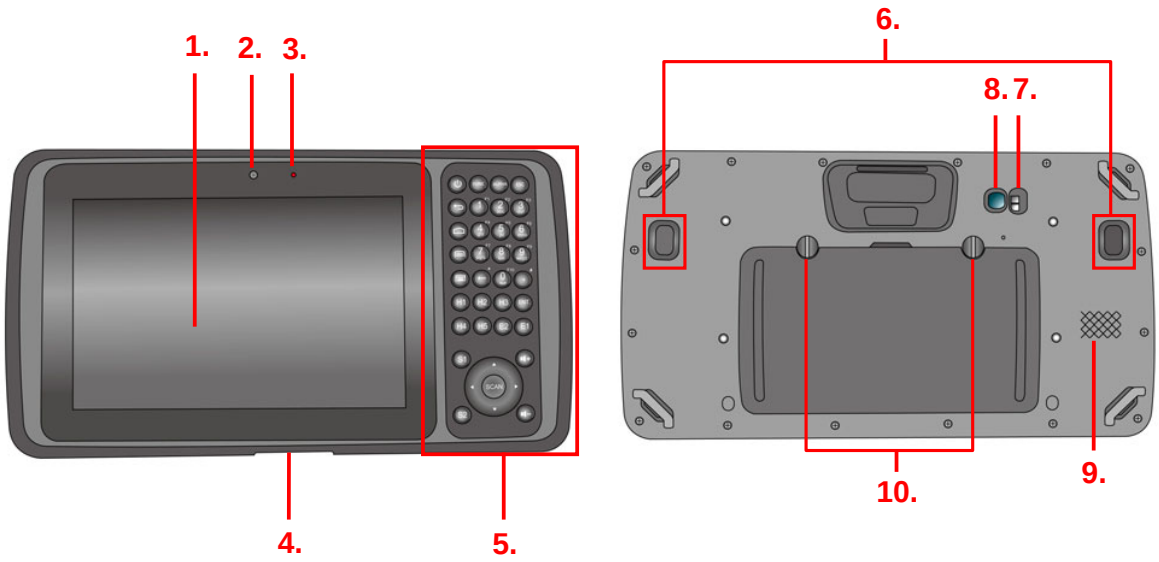
2. Getting started

unitech TB120 is an Android platform device. Android platform device has great flexibility that allows you to make customized configurations and enhancements by install and remove Apps.

With Android operation system, your device has limitless possibilities to update to latest features and improvements.

2.1 Device overview (with Bar code Scan Engine)



1. 7" LCD touchscreen	6. Trigger button
2. 2M pixels front camera	7. LED flashlight
3. LED indicator	8. 5M pixels rear camera with AF
4. Cradle connector	9. Speaker
5. Physical keyboard (37 keys)	10. Mounting screw for battery cover

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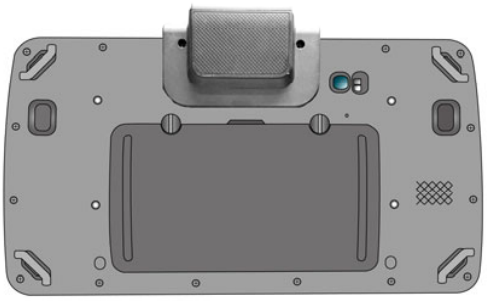
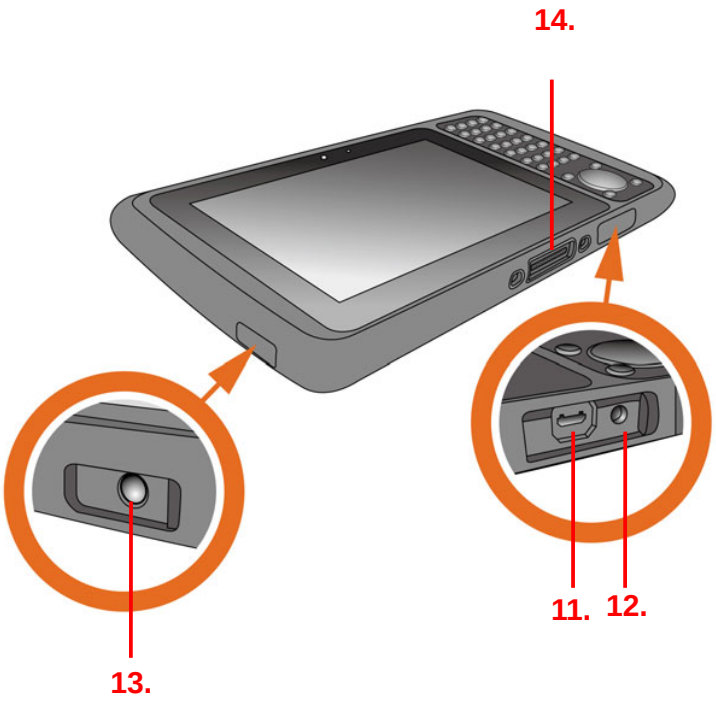
Device overview (with MSR reader)





11. Micro USB port	12. DC-IN port
13. Earphone jack	14. Cradle connector

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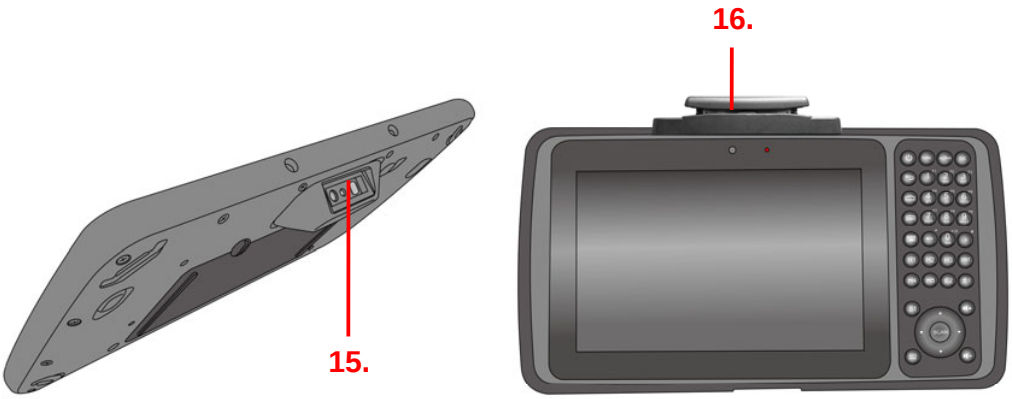

15. Bar code Scan Engine	16. MSR reader

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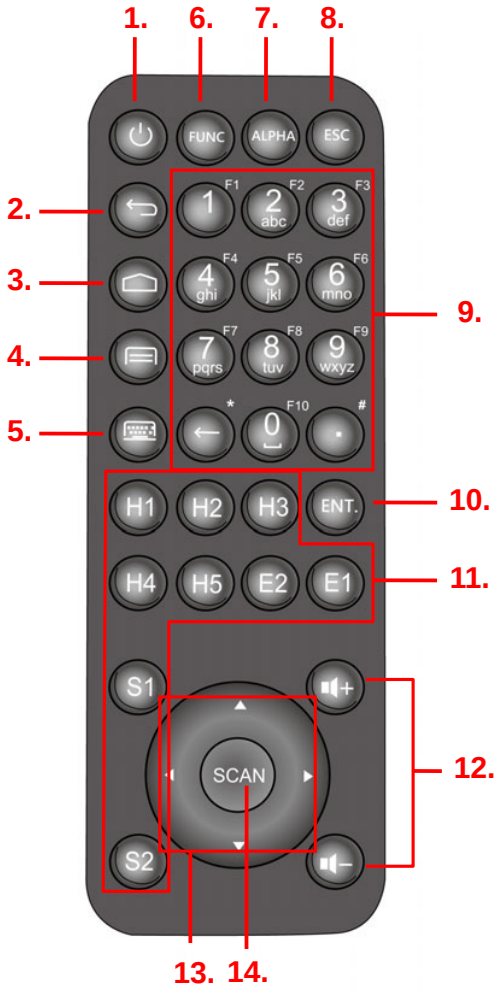
Physical keyboard overview



1. Power on/off key	8. Escape key
2. Android BACK key	9. Alpha/Numeric keys
3. Android HOME key	10. Enter key
4. Android APP List key	11. H.E.S. keys (programable)
5. Soft keypad on/off key	12. Volume up/down keys
6. Function keys to enter F1-F10	13. 4 directional keys
7. Alpha key	14. Scan key

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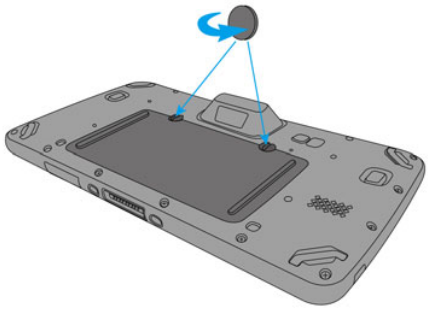
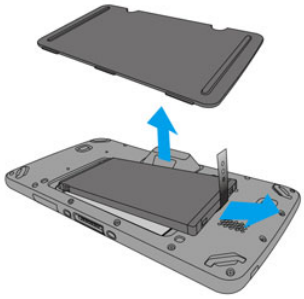
2.2 Assembly

Accessing battery, Micro SD card and SIM card

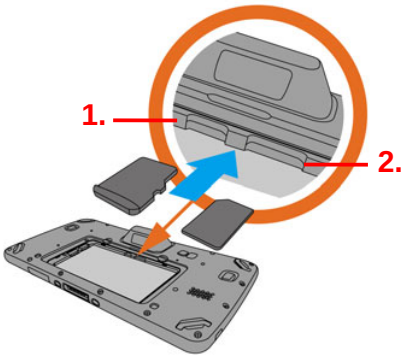
1. Using a proper tool (ex. a coin) to loosen the two screws on the battery cover by turning anticlockwise.



2. Remove the back cover and pull the battery out.



3. Now you can access the micro SD card slot and SIM card slot.



1. Micro SD card slot
2. SIM card slot

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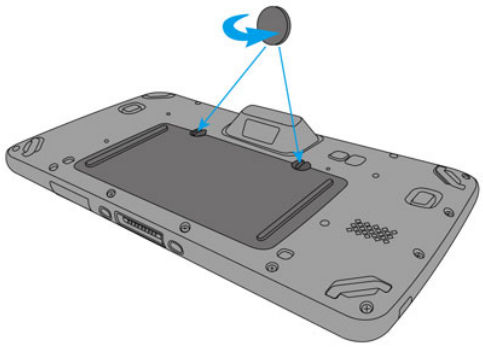
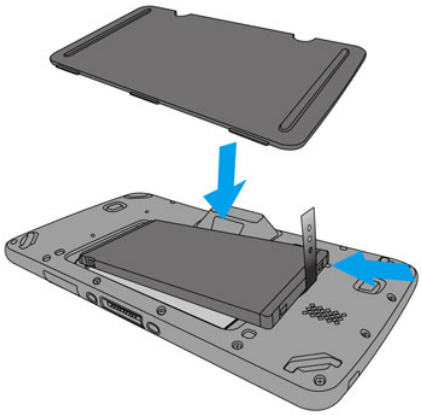
Put battery back to TB120

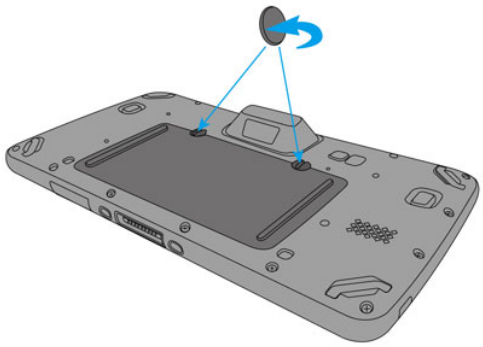
1. Using a proper tool (ex. a coin) to loosen the two screws on the battery cover by turning anticlockwise.



2. Put battery into battery compartment and put back cover.



3. Lock the two screws on the battery cover by turning clockwise.



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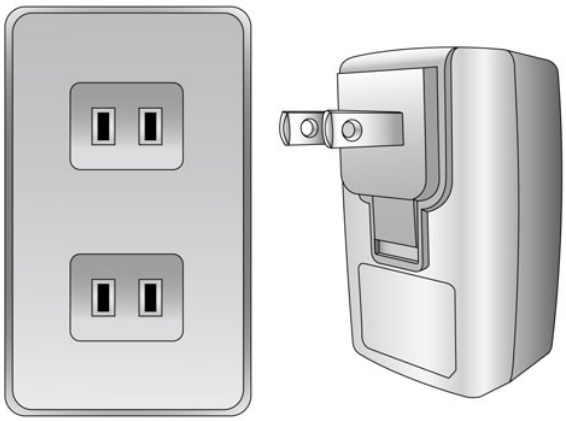
2.3 Charging the battery

Connect TB120 to the charger, it will be charged automatically.

1. Plug the power adapter into the DC-IN port at the bottom.

2. Plug the power adapter into a wall outlet. If needed, attach a plug converter onto the power adapter.



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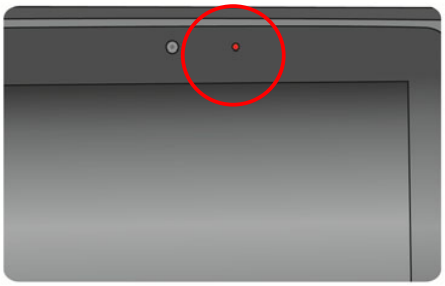
2.4 Data Communicating with PC Device

1. Connect the standard USB connector to the USB port of the PC device.

2. Connect the micro USB connector to the micro USB port at the bottom.

2.5 LED status



Green	The battery is fully charged
Lights Red	The battery is charging. The battery level is between low and full
Blue	Message is received.

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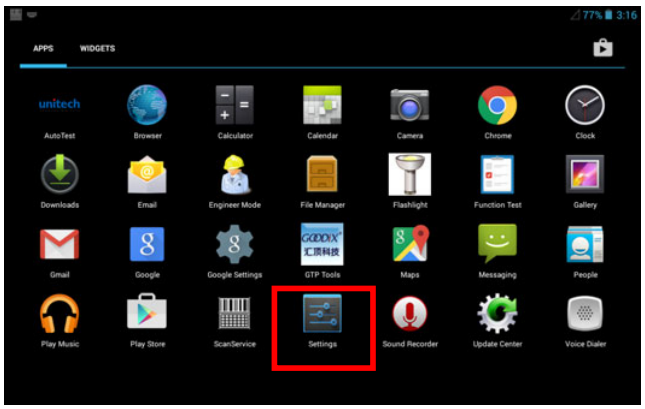
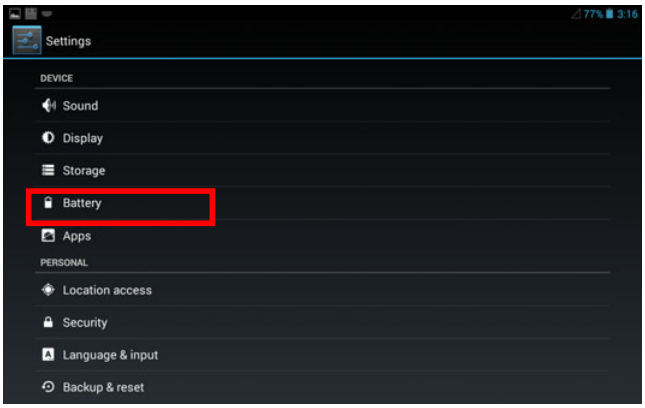
2.6 To check the battery level and to access the battery usage menu

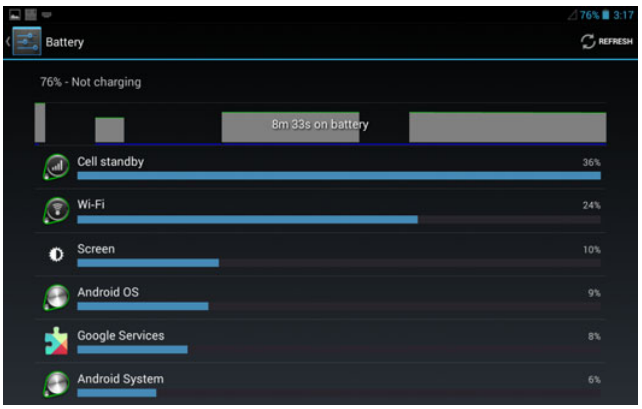
1. From your Home screen, tap .

2. Find and tap Settings.



3. Find and tap Battery.





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3. Basic Operation

3.1 Accessing and using applications

To open the Application screen

From your Home screen, tap .

To browse the Application screen

From the Application screen, flick right or left.

To create a shortcut to an application on the Home screen

1. From your Home screen, tap .
2. Touch and hold an application icon and then the Home screen opens.
3. Drag the icon to the desired page on the Home screen by flicking left or right, then release your finger.

To Remove a shortcut of an application on the Home screen

1. From your Home screen, touch and hold the icon of the desired application you want to remove
2. “**X Remove**” shows on the top of the home screen.
3. Drag the icon to be removed to the “**X Remove**”.

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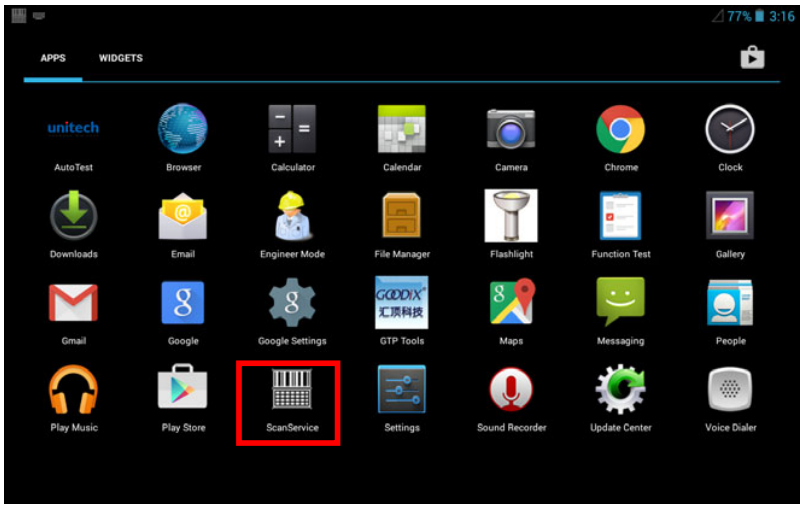
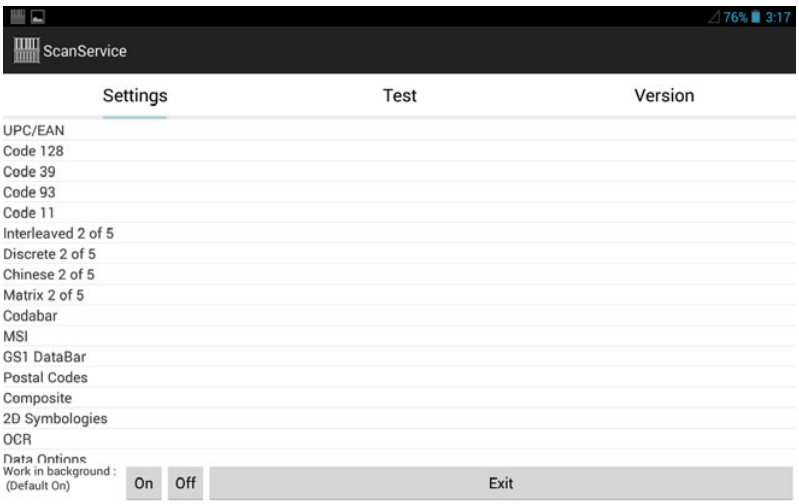
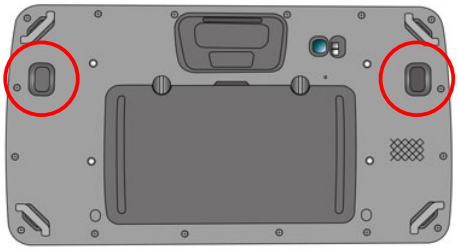
3.2 Barcode Scanning (For Imager Version only)

1. Tap the ScanService .





2. Aim the Bar code Scan Engine to the barcode and press one of two trigger buttons.



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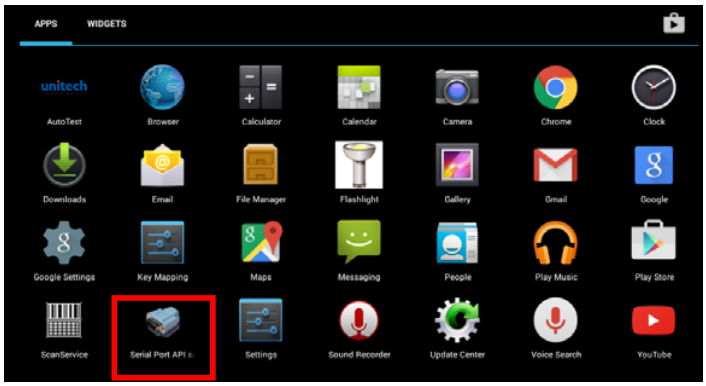
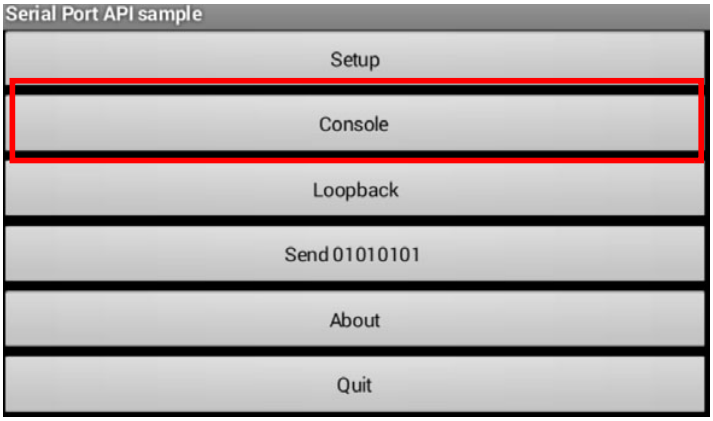
3.3 Serial Port API Sample

1. From your Home screen, tap

2. Find and tap **Serial Port API sample**



3. Find **Console**



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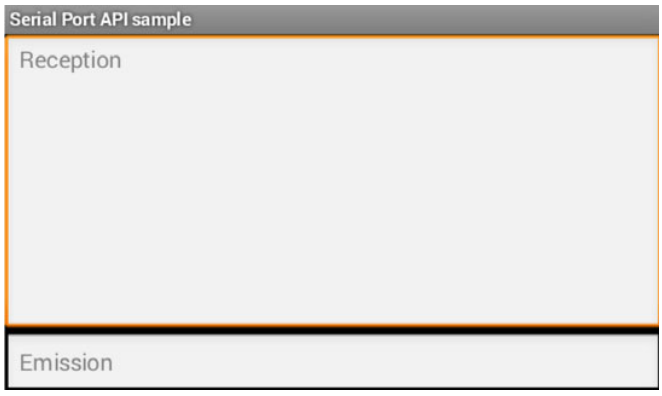
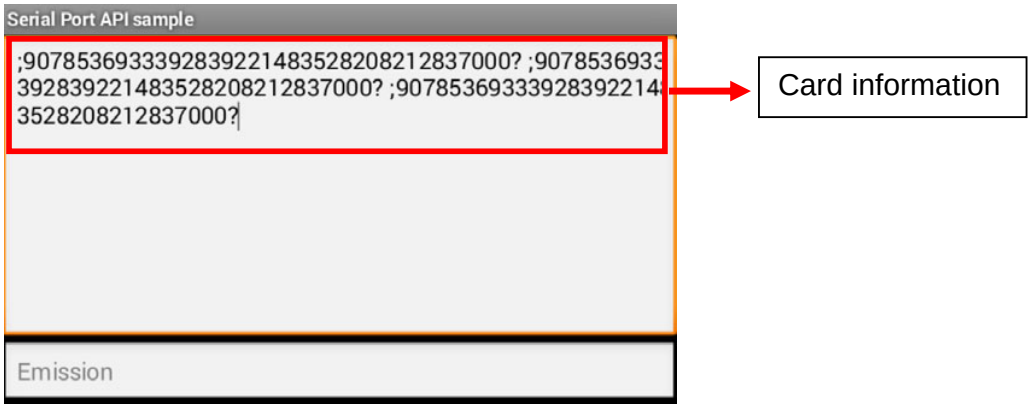
4. Please swipe your card with MSR **(Magnetic Stripe Readers)**



5. After swiping the card, the card information will be shown on the **reception** section.



6. To go back on the menu, please press .

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4. Specification

Features	
Android 4.3	
Ultra-Rugged Construction: IP65 rated, 1.2M drop and MIL-STD-810G certified	
Lightweight and compact design: Only 735g with 1D engine and battery	
Large 7-inch color multi-touch sunlight-readable display	
Built in 1D / 2D scanner, keypad, and 5 Megapixel camera	
Latest Bluetooth v4.0, GPS, Wi-Fi and wireless LAN 802.11 a/b/g/n quad-mode radios	
Swappable Battery: 5200mAh Li-ion battery pack	
System Features	
CPU	TI OMAP 4470 1.5Ghz Dual Core Processor
Memory	1GB Mobile DDR RAM 8GB eMMC Flash
OS	Android 4.3
Languages support	English, Simp. Chinese, Traditional Chinese, Japanese, Spanish, German, French
Display	
Gorilla Glass III with capacitive touch panel	
7" Color Transmissive 1280x800 dots LCD	
Keypad	
37 physical keys. Numeric and functionable keys	
1 LED indicate charge/Message Vibrator	
Optional Modules	
1D CCD Barcode scanner	
1D Barcode Engine	UPC-A/E, EAN-8/13, Codabar, Code 39, Code 39 full ASCI, Code 93,Code 32, Interleaved & Std. 2 of 5, EAN 128, Code 11,Delta, MSI/Plessey,Code 128, Toshiba, RSS expended, RSS Limited, RSS14.
2D Imager	
1D	All major codes
2D	PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode, Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal Dutch Postal (KIX)
Magnetic Stripe Reader	
MSR	SecureHead™ Encrypted Magnetic Read Head
Regulatory Approvals	
CE, NCC, FCC, BSMI, VCCI, CCC, RoHS compliance	
Communication	
Camera and Flash Light	2M Pixels Front Camera

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	5M Pixels Rear Camera CMOS Sensor Camera with Auto focus, LED flash light
External storage	Support MicroSD memory card up to 32GB
USB	USB 2.0 OTG
WLAN	IEEE 802.11 a/b/g/n
Bluetooth	Bluetooth 4.0 with Bluetooth SIG certification
WWAN	GSM/GPRS/EDGE 850/900/1800/1900 MHzUMTS 850/900/1700/1900/2100 MHz WCDMA modem, HSPA+, DL: 21Mbps/ UL: 5.76Mbps.
GPS	GPS supports MS-assisted, MS-based and autonomous operation modes
Other Sensors	eCompass Light & Proximity sensor G-sensor
RFID	Frequency: 13.56MHz Tag Support: ISO15693, ISO14443A , ISO14443B Support NFC
Power Source	
Main Battery	Swappable Battery. 19.76 Wh 3.8V @5200mAh Li-ion battery pack
Backup Battery capacity	1 hour
Enclosure	
Weight	735g (1D); 724g (No engine) with battery
Dimension	264.5x143.7x18.8 (mm)
Environmental	
Operating temperature	14°F to 122°F (-10°C to 50°C)
Storage temperature	-4°F to 140°F (-20°C to 60°C)
Charging Temperature	32°F to 104°F (0°C to 40°C)
Relative Humidity	5% ~ 95% (non-condensing)
Drop test to Concrete	1.2 meter MIL-STD 810G,Method 516.6,Procedure IV
Environmental Sealing	IP65 IEC/EN 60529 Standard
Vibration and Shock test	MIL-STD-810G, Method 514.6, Procedure I MIL-STD-810G,Method 514.6,Procedure II, Category 5
Mobile Device Management Software and Service	
MoboLink® Device Management;Application Management;Event Triggers	
Accessaries	
Accessories	
Single Slot USB Client/Host Cradle with Battery Charger	
Handstrap	
5200 mAH standard Battery	
USB Communication Cable	
Power adaptor with universal plugs	

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