

***HANDHELD COMPUTER***

***DF8A***

***USER'S GUIDE***

## Notice

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Revision History:

| Revision | Date       | Changes          | Author      |
|----------|------------|------------------|-------------|
| 1.0.0    | 2016/MM/DD | Official release | Janice Liao |

## **Radiation Exposure Statement**

RF exposure warning :The equipment complies with FCC RF exposure limits set forth for a uncontrolled environment. The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

## **Regulatory Information/ Disclaimers**

Installation and use of this computer must be in strict accordance with the instructions included in the user documentation provided with the product. 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.

The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

### **FCC RF Exposure Statement --**

Your device contains a radio transmitter and receiver. The radiated output power is far below the international radio frequency exposure limits. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on the safety standards previously set by international standards bodies: I American National Standards Institute (ANSI) IEEE. C95.1-1992. I National Council on Radiation Protection and Measurement (NCRP). Report 86. 1986. I Int'l Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996.

I Ministry of Health (Canada), Safety Code 6. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

SAR: 1.38w/kg Use of unauthorized or modified antennas may impair call quality and damage the phone, causing loss of performance. To assure optimal phone performance and ensure human exposure to RF energy is within the guidelines set forth in the relevant standards; always use your device only in its normal-use position. Avoiding contact with the antenna area when the device is IN USE optimizes the antenna performance.

## FCC (Federal Communications Commission) Statement

This equipment has been tested and found to comply with the limits for a Class-B digital device pursuant 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 radiates radio frequency energy. If not being installed and used in accordance with the instructions, it 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:

- Re-orient 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 Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

### **FCC Caution**

*To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example: use only shielded interface cables when connecting to computer or peripheral devices).*

## CE

Products with the CE Marking comply with both the EMC Directive (2014/30/EU) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

|                |                                                                                                                                                       |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EN55022</b> | CISPR 22 Radio Frequency Interference                                                                                                                 |
| <b>EN55024</b> | EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6,<br>EN61000-4-8, EN61000-4-11, EN61000-3-2, EN61000-3-3,<br>Generic Immunity Standard |
| <b>LVD</b>     | EN 60950-1: 2006+ A12: 2011+ AC: 2011<br>IEC 60950-1: 2005+AM1:2009                                                                                   |

## R&TTE (CE) Manual Regulatory Requirement

### WLAN - IEEE 802.11 b/g/n

802.11 b/g/n Restrictions:

European standards dictate maximum radiated transmit power of 100 mW EIRP and frequency range 2.400-2.4835 GHz.

## CE Declaration of Conformity



It is confirmed to comply with the requirements set out in the Council Directive on the approximation of the laws of the member states relating to Electromagnetic Compatibility Directive (2014/30/EU), Low-voltage Directive (2006/95/EC) and the procedures given in R&TTE Directive (99/5/EC).

The equipment was passed, and the equipment test was performed according to the following European standards:

**EN 300 328 V1.8.1 (2012)**

**EN 301 489-1 V1.9.2 (2011)**

**EN 301 489-17 V2.2.1 (2012)**

**EN 62311:2008**

**EN 300 440 V1.6.1 (2010)**

**UL, TÜV**

AC Adapter (TÜV includes **LVD EN60950-1**)

## Power Conservation

This handheld computer consumes less power compared to conventional consumer computers. The power consumption may be further reduced by properly configuring the Power Management Setup.

It is recommended that the power saving features be enabled even when not running on battery power. Power Management features can conserve power without degrading system performance.

## Power Safety

There are specific power requirements for your handheld computer:

- Only use an approved AC adapter designed for this handheld computer.
- There is a 3-prong grounded plug for the AC adapter. The 3<sup>rd</sup> prong is an important mechanism for ensuring product safety. Please do not neglect the importance of this mechanism. If you are unable to access a compatible outlet, please hire a qualified electrician to install a compatible outlet for you.
- When unplugging the AC power cord, please make sure to disconnect the cord by pulling from the plug head instead of pulling from the wire to prevent wire damage.
- Make sure the power outlet and any other extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the handheld computer, please make sure it is disconnected from any external power source.



### **Warning**

*Before any upgrade procedures, make sure the power is turned off, and all the cables are disconnected. Also, it is advisable to remove your battery to prevent your handheld computer from accidentally turning on.*

## Battery Precautions

- Only use batteries designed for this handheld computer. Using incompatible battery types may cause explosion, leakage or damage to the computer.
- Do not remove the battery from the computer while the computer is powered on.
- Do not continuously use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer is able to continuously work with a damaged battery, the circuit damage may occur and possibly cause fire.
- Always use the charger designed for this computer to recharge the battery. Incorrect recharging may cause the battery to explode.
- Do not try to repair a battery by yourself. For battery service or replacement, please contact with your service representatives.
- Please dispose damaged battery promptly and carefully. Explosion or leakage may occur, if the battery is improperly handled or discarded.



### **Battery Disposal & Caution**

*The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its service life, under federal state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal. Danger of explosion may possibly occur, if the battery is incorrectly replaced. Replace only with the same or the equivalent battery recommended by the manufacturer. Discard the used battery according to the manufacturer's instructions.*

## Environmental Information, Material Safety & Recycling

All materials used in the manufacturing of this equipment are recyclable or environmentally friendly. Please recycle the packing materials in accordance with local regulations at the end of the product's service life.

### Notice:

- The equipment may contain insignificant amount of hazardous substances for health and environment below control level.
- To avoid spreading such substances into the eco system and to minimize the pressure on the natural environment, you are encouraged to reuse or recycle most of the materials in a safe way after an end of the product life.
- For more information on collection, reuse and recycle of materials, please consult local or regional waste administrations for more information. You can also contact your dealer for more information on the environmental details of the equipment.
- The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Please check local regulations for disposal of electronic products.



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# Chapter 1 - Getting Started

## Unpacking

The following list of items are packaged and shipped along with your handheld computer. If any of these items is missing or damaged, please notify your dealer immediately.

- Handheld Computer Unit
- 25W AC Adapter
- Quick Guide

**Note:**

- *The protective film attached on the screen is for shipping protection only. Please tear off the film before using to ensure that all of the functions can be operated normally.*

## **Workplace**

A clean and moisture-free environment is preferred. Make room for air circulation. Remember to avoid areas from:

- Sudden or extreme changes in temperature.
- Extreme heat.
- Strong electromagnetic fields (Near television set, motor rotation area, etc.).
- Dust or high humidity.

If this handheld computer is required to work in a hostile environment, please maintain your handheld computer regularly by cleaning dust, water, and etc. to keep it in an optimal operating condition.

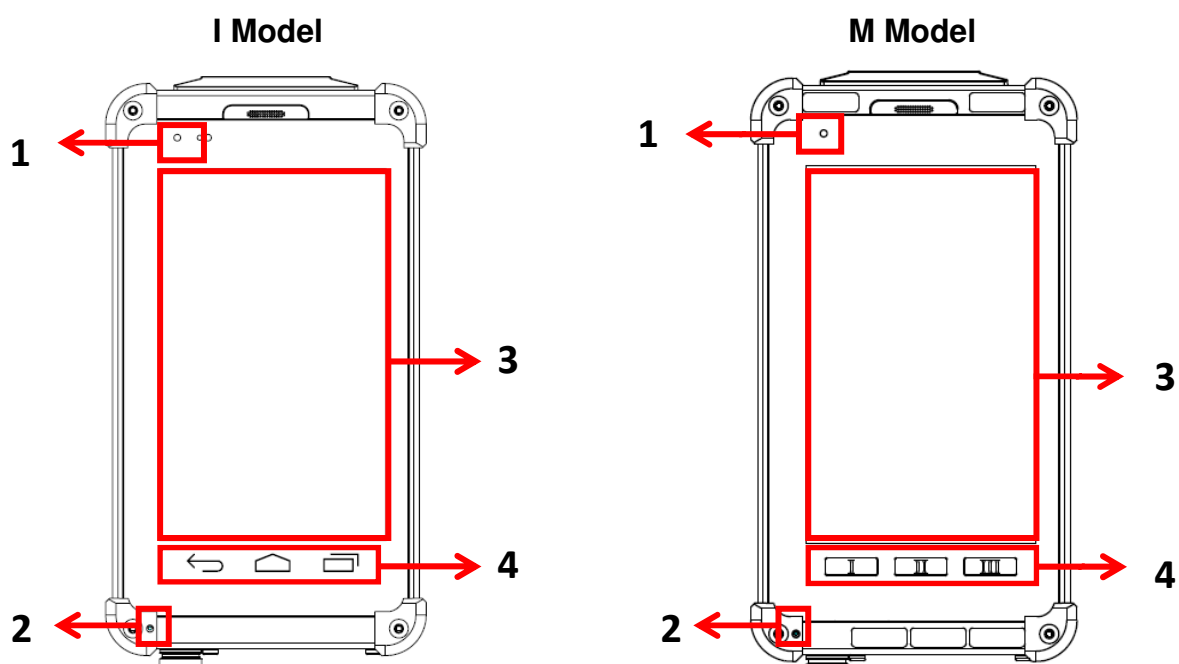
## **Ruggedness**

This handheld computer is designed with rugged features, such as vibration, shock, dust, and rain/water protection. However, it is still necessary to provide appropriate protection while operating in hostile environments.

## Appearance Overview

Before starting to use your handheld computer, it is advisable that you take a quick glance to familiarize yourself with the locations of your device's external buttons and components. Note, the following illustrations show optional devices which may not on your device.

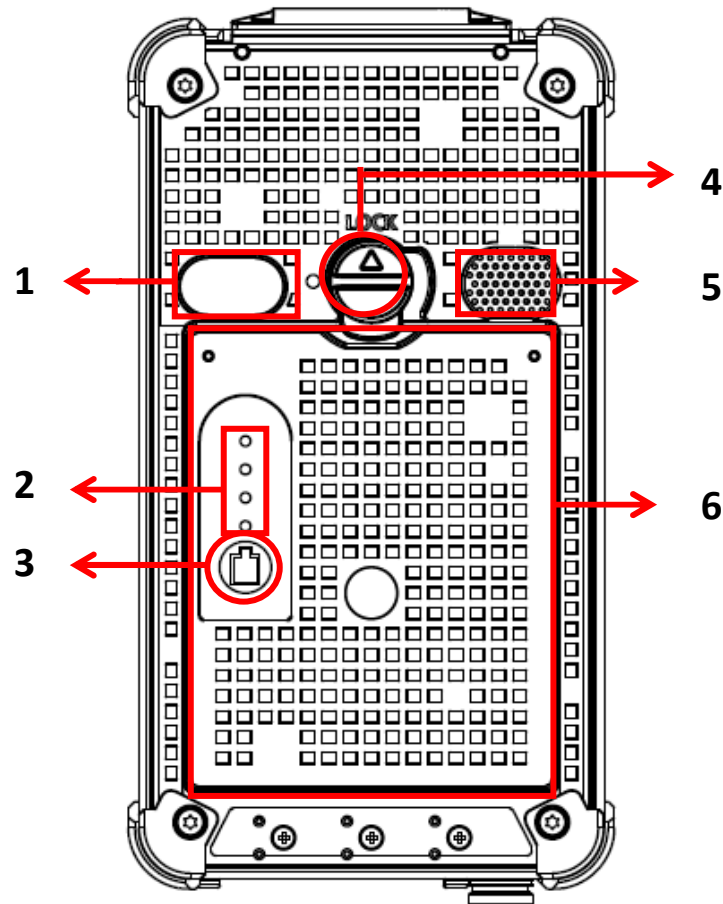
### Front View



| No. | Feature                 | Functional Description                                                                                                                                    | Remark |
|-----|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1   | <b>Charge Indicator</b> | LED lights up (orange) when charging begins and off when charging is finished.                                                                            |        |
| 2   | <b>Built-in Mic</b>     | Microphone for recording                                                                                                                                  |        |
| 3   | <b>Touch Screen</b>     | Displays and receives information for the device.<br><b>I Model:</b><br>Capacitive Multi Touch Screen<br><b>M Model:</b><br>Resistive Single Touch Screen |        |

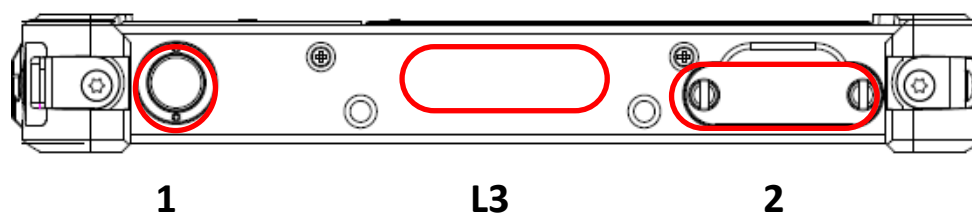
| No. | Feature       | Functional Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Remark |
|-----|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 4   | Function Keys | <p><b>I Model:</b></p> <p>Back/Home/Menu</p> <p>Back:</p> <p>Press to return to the previous screen.</p> <p>Home:</p> <p>Press to return to the Home screen.</p> <p>Press and hold to show applications recently used.</p> <p>Menu:</p> <p>Press to open the menu.</p> <p><b>M Model:</b></p> <p>I / II / III</p> <p>I:</p> <p>Press to return to the previous screen.</p> <p>II:</p> <p>Press to return to the Home screen.</p> <p>Press and hold to show applications recently used.</p> <p>III:</p> <p>Press to open the menu.</p> |        |

## Rear View



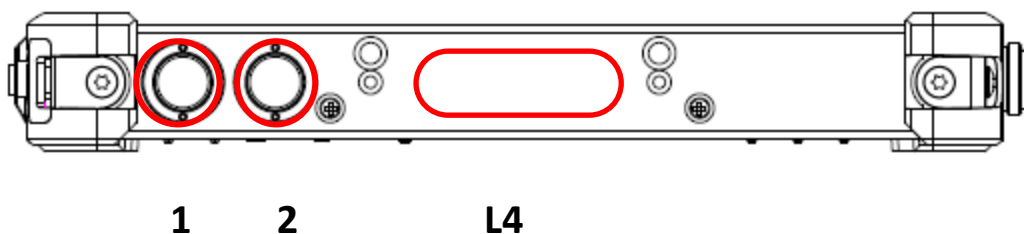
| No. | Feature                   | Functional Description                                                                        | Remark |
|-----|---------------------------|-----------------------------------------------------------------------------------------------|--------|
| 1   | <b>Optional Camera</b>    | Takes still pictures or records video clips. The rear camera supports 5 MP (mega pixel).      |        |
| 2   | <b>Battery indicators</b> | Show battery capacity. The number of indicators light up (green) depends on battery capacity. |        |
| 3   | <b>Battery Button</b>     | Trigger battery indicators to show battery capacity.                                          |        |
| 4   | <b>Battery Lock</b>       | Slot-type head for locking the battery.                                                       |        |
| 5   | <b>Speaker</b>            | Mono Speaker for audio output.                                                                |        |
| 6   | <b>Battery Pack</b>       | Provides power source to device.                                                              |        |

## Right View



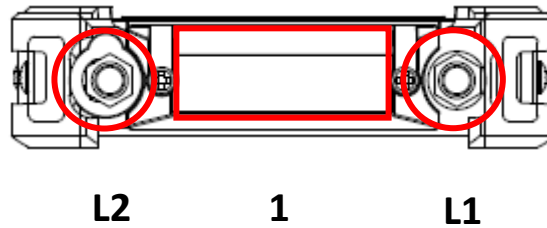
| No. | Feature                           | Functional Description                                     | Remark |
|-----|-----------------------------------|------------------------------------------------------------|--------|
| 1   | Power Button                      | Turn the device ON/OFF.<br>Put the device to suspend mode. |        |
| 2   | Micro SD Card Slot                | Removable storage media.                                   |        |
| L3  | Optional Expansion POGO Connector | For expanding functions.                                   |        |

## Left View



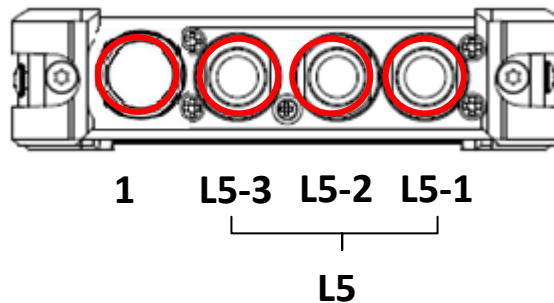
| No. | Feature                        | Functional Description      | Remark |
|-----|--------------------------------|-----------------------------|--------|
| 1   | Volume up button               | Increases the sound volume. |        |
| 2   | Volume down button             | Decreases the sound volume. |        |
| L4  | Optional Cradle POGO Connector | For expanding functions.    |        |

## Top View



| No. | Feature                | Functional Description                      | Remark               |
|-----|------------------------|---------------------------------------------|----------------------|
| 1   | Optional Embedded ANT. | Embedded GPS ANT.                           |                      |
| L1  | Optional SMA ANT.      | SMA ANT. function:<br>WiFi & Bluetooth, GPS | Refer to<br>Appendix |
| L2  | Optional SMA ANT.      | SMA ANT. function:<br>WiFi & Bluetooth, GPS | Refer to<br>Appendix |

## Bottom View



| No. | Feature                    | Functional Description                                                                                               | Remark               |
|-----|----------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------|
| 1   | DC-in/USB client           | Standard: Sealed DC-in 5V with LEMO 8 pin Connector<br>Optional: Sealed DC-in 10~32V (BVA) with LEMO 8 pin Connector | Refer to<br>Appendix |
| L5  | Optional Fischer connector | Choose 1 out of 5 for each connector:<br>RS232, USB, MLAN, Headset, VGA                                              | Refer to<br>Appendix |

## Ready for Use

After taking a quick look at your handheld computer, the following illustrations will help you setup your handheld computer ready for operations.

### Mounting the Battery

- A. Mount the battery into the battery bay.      B. Turn clockwise and lock firmly with a slot screwdriver or a coin.



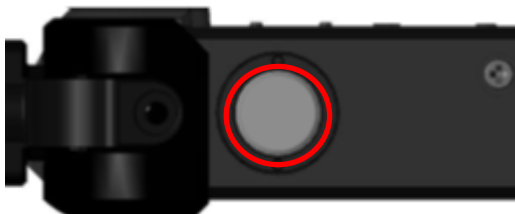
## Connecting the AC Adapter

1. Insert the end of LEMO connector to the DC-in connector.
2. Plug the AC cord into the AC adapter, and firmly lock the connect clockwise.
3. Plug the AC power plug into an electrical outlet.



## Turning ON the Power

1. Make sure the battery is securely mounted, or connect all power cords properly.
2. Turn on the power of your handheld computer by pressing and holding the Power Button for a few seconds.



*Press and hold the Power Button a few seconds to turn on the power of your handheld computer.*

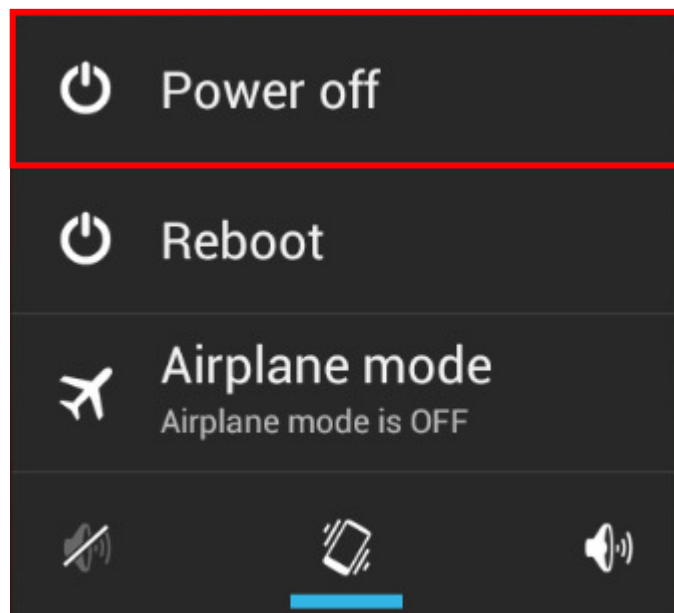
### **Note:**

- You can turn on the power of your handheld computer without a mounted battery if your handheld computer is directly attached to an external power source.

## Turning Off the Power

To power off your handheld computer, follow the steps below:

1. If the display is off, please press the Power Button to turn on the backlight, and then unlock the screen.
2. Press and hold the Power Button for about 2 seconds.
3. Tap “Power off” on options menu (as the image below), and then tap OK. Your handheld will be powered off.



On Power Off state, your handheld device is completely turned off. All applications are terminated, no wireless connectivity is established and all unsaved data are lost.

Power Off is an ideal state for your handheld device when you do not need to operate your device for an extended period of time.

**Note:**

- *If you lose power during operation (i.e. running out of battery), all unsaved work and data will be lost.*

## Chapter 2 - Operating Information

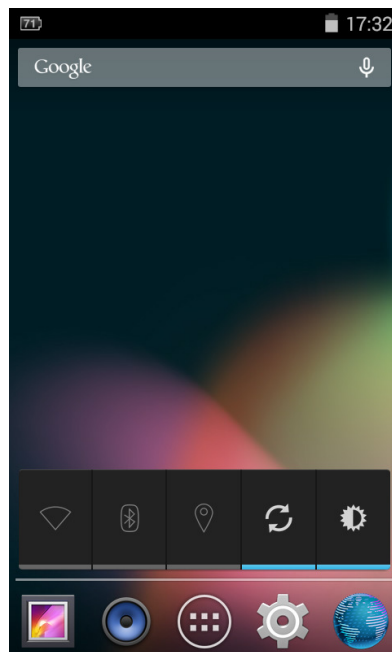
### Start Using Your Handheld Computer

Turn on your handheld computer by pressing the power button few seconds until the display lights up. After turning on the power of your handheld computer, the device will boot up with Android system.

### Boot Up

When turning on the power, you will see “LOADING” on the screen and your handheld computer will start to load the required boot up files and processes for operation. This start-up procedure is called “boot up”. Your handheld computer requires approximately 30 seconds of Boot Up time before the OS is fully loaded.

After boot up, you will be presented with the desktop screen as below. You can create short-cuts of applications to your desktop, change the background wallpaper, as well as modify the display font size, etc.



## Suspend Mode

To conserve your device battery life, you may place your device into Suspend mode. By pressing the power button, the display of your handheld computer will be turned off, and the device will enter Suspend mode.

Suspend mode is an ideal state for your device when you want to conserve more battery life, do not need to stop wireless connectivity, and keep your device ready to resume back to work on a moment's notice.

To resume your device from Suspend mode, press the power button again.

## Factory Reset



### **Caution**

*Factory reset will delete the data, files and apps in your device. Before performing the factory reset, you are advised to back up data and files you would like to keep.*

In some conditions, you may encounter some unsolved issues on your handheld computer, or you would like to erase your personal data and files. Factory reset is a method to restore your device to the original manufacturer state. To perform the factory reset, please follow the instructions below:

1. Tap **Settings**
2. Tap **Backup & reset**
3. Tap **Factory data reset**
4. Tap **Reset tablet**
5. Tap **Erase everything**
6. Tap **OK**

## Using the Touchscreen

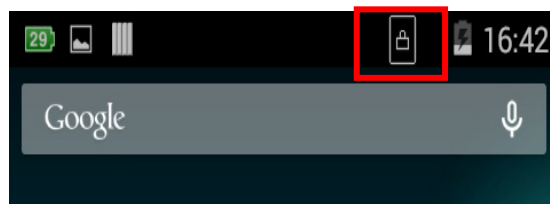
### Basic Operation

Your handheld computer is equipped with a highly sensitive touch screen, allowing you to navigate on the touch screen easily without using other external devices. A list of operating tips is provided below to help you operate the touch screen more effectively.

| Desired Operation     | Action                                                                                                                              |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tap</b>            | Tap the screen with your finger when you want to select onscreen items such as application, icons, or onscreen buttons.             |
| <b>Press and hold</b> | To open the available options for an item (for example, a contact or link in a webpage), just press and hold the item.              |
| <b>Swipe</b>          | Swiping your finger in light, quicker strokes, such as moving right and left of the tabs, is an efficient way to navigate the apps. |

### Touch Lock

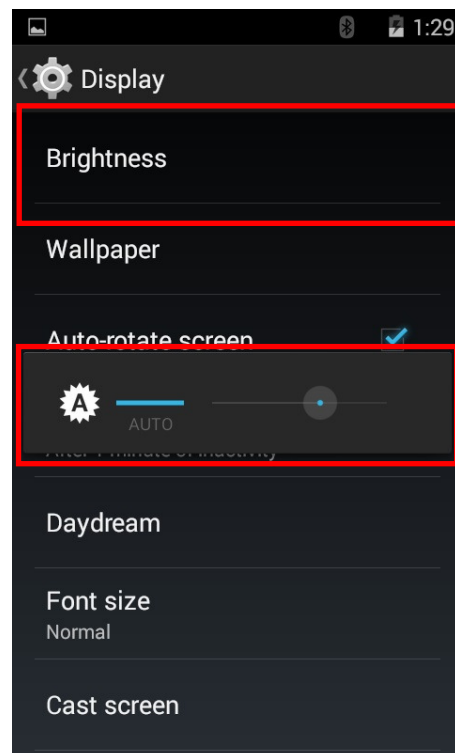
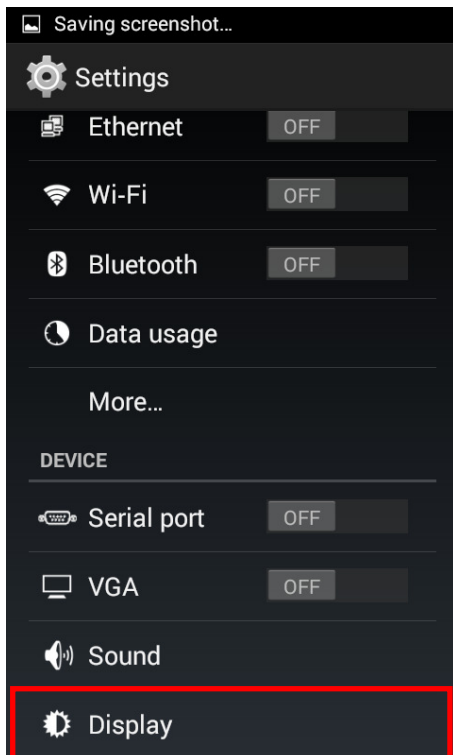
You can press “Volume up button” and “Power button” simultaneously to lock your touch screen and function keys. When touch function is locked, an icon  will appear on the task bar. Press the same buttons again to cancel the lock.



## Brightness Adjustment

DF8A provides an alternative way to adjust the brightness by pressing volume up/down buttons. Please follow the steps below to set up:

Settings => Tap Display => Brightness => Tap AUTO or drag the bar to adjust the brightness



**Note:**

- The range of brightness on DF8A is from 20 to 450 nits.

## Using Function Keys

DF8A provides three function keys for both I & M model. The following table shows basic features of using function keys.

### I Model

| Function Keys | Functions                                                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Back</b>   | Press to return to the previous screen.                                                                                                               |
| <b>Home</b>   | <ul style="list-style-type: none"> <li>- Press to return to the Home screen.</li> <li>- Press and hold to show applications recently used.</li> </ul> |
| <b>Menu</b>   | Press to open the menu.                                                                                                                               |

### M Model

| Function Keys | Functions                                                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>I</b>      | Press to return to the previous screen.                                                                                                               |
| <b>II</b>     | <ul style="list-style-type: none"> <li>- Press to return to the Home screen.</li> <li>- Press and hold to show applications recently used.</li> </ul> |
| <b>III</b>    | Press to open the menu.                                                                                                                               |

## Audio Features

Your handheld computer is equipped with an audio codec for sound playback. To adjust the volume of your device, please use the volume up/down button located at the upper left side of your device (as the image below).

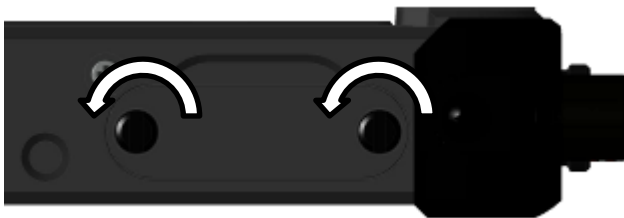


By pressing the volume up/down button, you can increase/lower the volume, or adjust to silent mode and vibration mode to suit your preference.

## Manage Micro SD Card

Your handheld computer has a Micro SD card slot for storage expansion. The Micro SD card slot supports card capacity up to 32 GB with SDHC/SDXC format.

The card slots are located at the bottom-right side of your handheld computer. To remove the card slot cover, please use a slot head screwdriver or a suitable sized coin. Turn counterclockwise to unlock.

**Note:**

*Turn counterclockwise to unlock*

The location of micro SD card slot is shown as the image below.

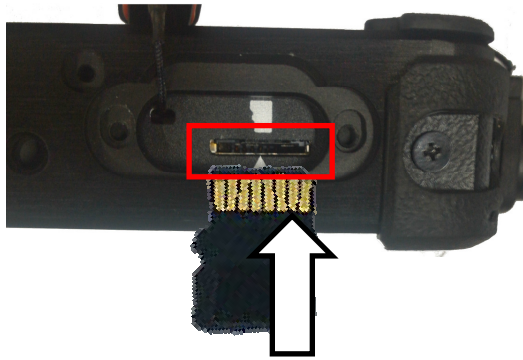
**Note:**

*Image shown with LCD facing down*

Please notice the card slot differences to prevent the insertion of incompatible card types, and do not attempt to force the cards into wrong card slots to prevent from damages of your handheld computer.

## Inserting Micro SD Card

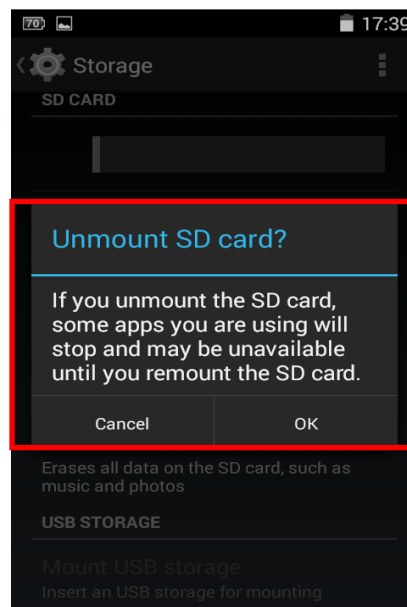
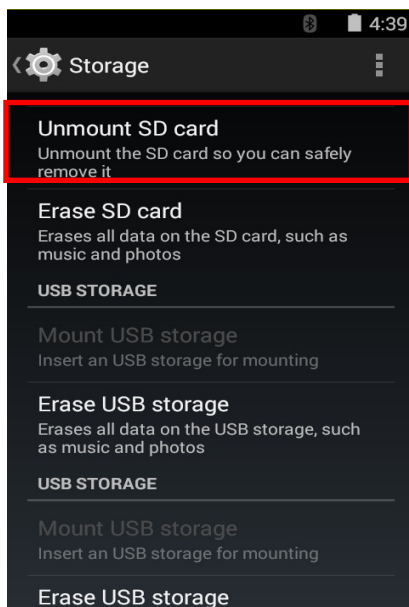
The design of micro SD card slots is foolproof; if you encounter difficulty in inserting the cards, please turn/reverse the cards and try again. When insert micro SD card, the connector pins of your cards should be **facing up**.

**Note:**

Insert Micro SD card into the bottom card slot with pins facing **up**.

## Removing Micro SD Card

To remove micro SD card, it is suggested to safely remove it by **Tap Settings => Storage => Unmount SD card => OK**, as the following image shows.

**Note:**

- Do not suddenly remove SD cards when the device is turned on. Such an action may cause data loss.

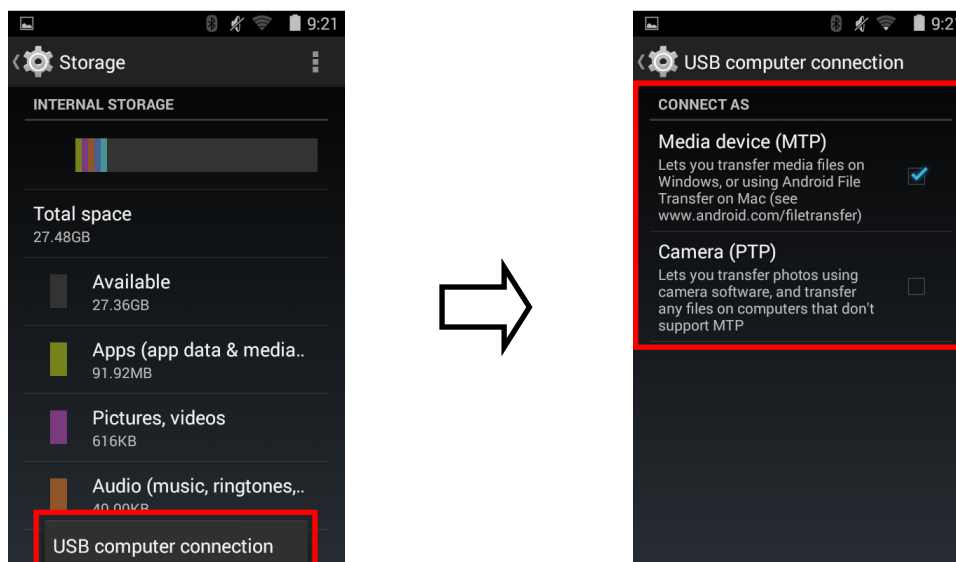
## USB Connection

You can connect your handheld computer to a computer by the optional LEMO to USB cable to transfer files. Before using the function, please follow the steps below to set up the connection.

1. Connect the device to a computer with LEMO to USB cable.



2. Then, tap **Settings** => **Storage** => Press **Menu key**  => Tap **USB computer connection** => **Connect as Media device/camera**



Now, the setting is completed and your handheld computer is connected to the other computer, and you can transfer files and data between the two devices.

**Note:**

- *LEMO to USB cable is an optional accessory.*
- *Before tapping “USB computer connection,” your device needs to connect to a computer first. Otherwise, tapping “USB computer connection” will be no reaction.*
- *Battery remaining capacity is suggested to be at least 30% when using USB connection to transfer data and files.*

## WiFi (Option)

The Wi-Fi module of your handheld computer supports IEEE 802.11 b/g/n. To activate your Wi-Fi function, please follow the steps below:

1. Tap **Settings**



2. Slide the bar to the **ON** position to turn on Wi-Fi connection.



3. Tap **Wi-Fi** to select a network for connection

You may be required to insert passwords to set up and enable the connection, especially if you select a secured network.

When your device is connected to Wi-Fi, the Wi-Fi icon  will appear on the Status bar. When you want to disconnect Wi-Fi, slide the bar to OFF position in step 2.

## Bluetooth (Option)

Bluetooth® v4.0 is supported on your handheld computer. This module is backward compatible with v1.1/1.2/2.0/2.1 devices and provides your handheld computer with a short-range wireless communication protocol to connect with other compatible devices. To activate your Bluetooth functions, please follow the instructions below.

### 1. Tap *Settings*

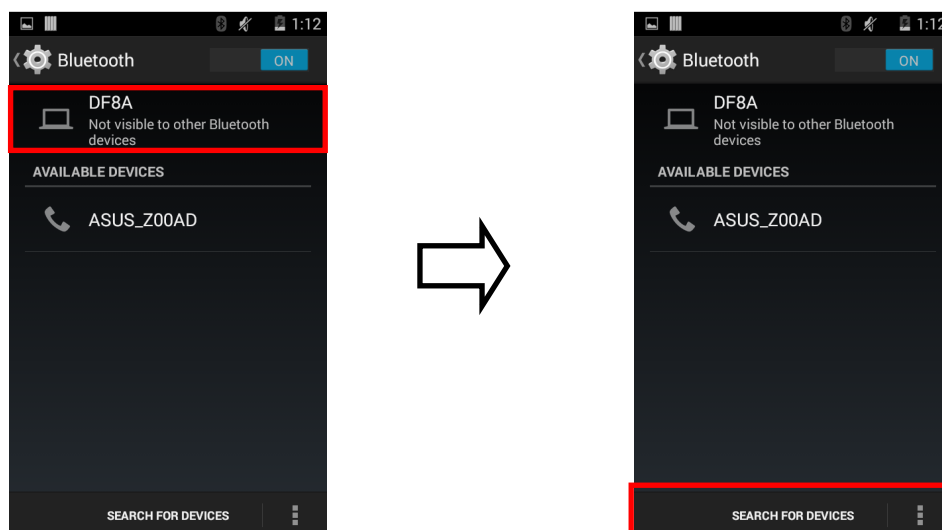


### 2. Slide the bar to the ON position to turn on Bluetooth

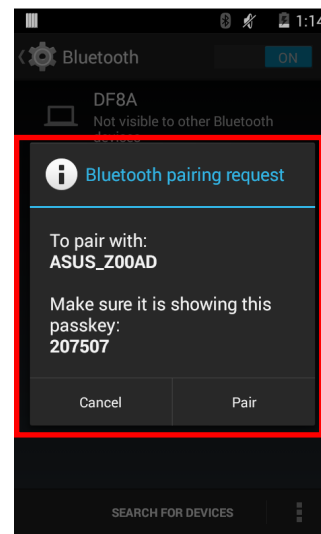
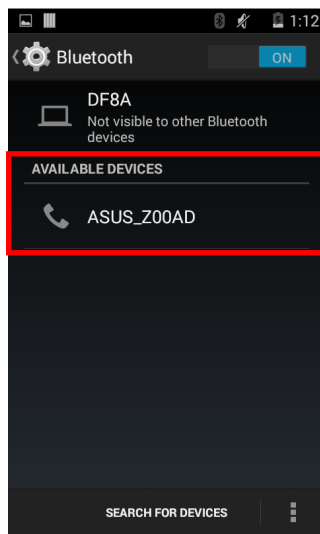


When turn on Bluetooth, the Bluetooth icon  appears on the Status bar.

### 3. Tap *Bluetooth* => Tap *DF8A* to make your device visible => Tap *SEARCH FOR DEVICES*



4. Tap the name of the available device that you would like to pair with. Then check the passkey and start to pair.



**Note:**

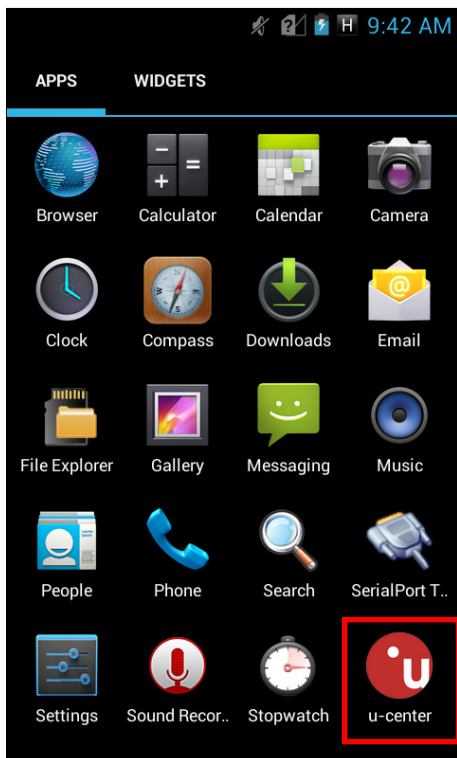
*Please make sure that the device you would like to pair with is discoverable. Otherwise, it will not show on the available device list.*

5. DF8A will automatically pair with the device. Now, you can follow the on-screen instructions to connect devices and transfer data and files.

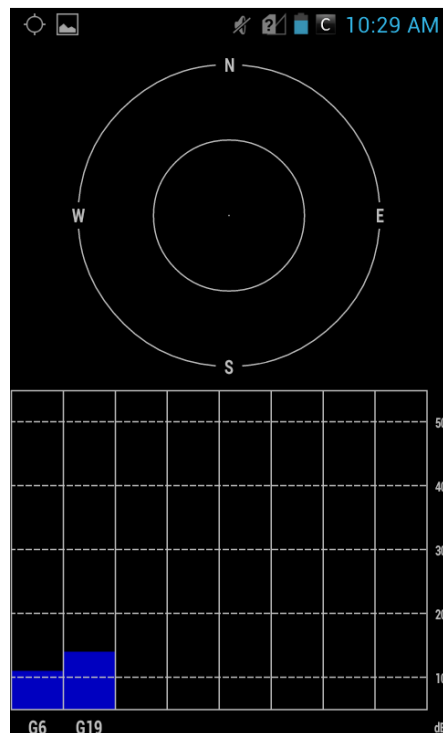
## GPS (Option)

GPS is an optional module for your handheld computer. The GPS module allows you to locate your position through satellites. To make sure that it can function normally, please use the device outside with a clear view of the sky and do not cover the antenna. To activate your GPS functions, please tap the GPS APP, and the device will search the satellite automatically. Please follow the instructions below.

1. Tap *u-center* APP.



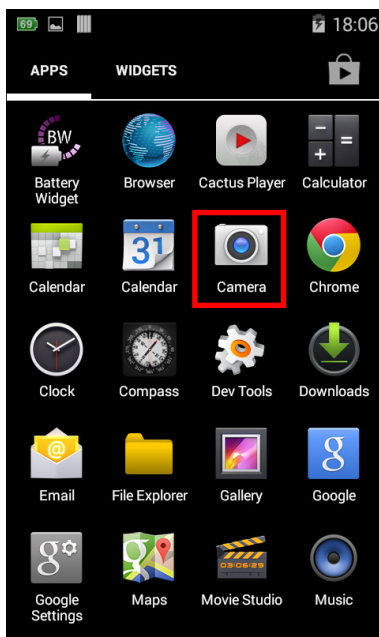
2. The device will search satellites automatically.



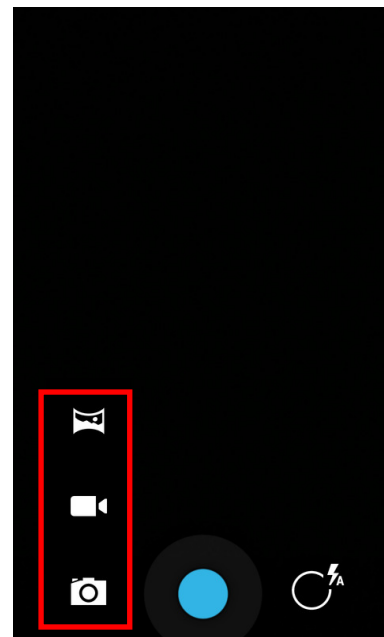
## Camera (Option)

Camera is an optional module for your handheld computer. The Camera application allows you to take pictures and shoot videos. To use camera app please follow the instructions below.

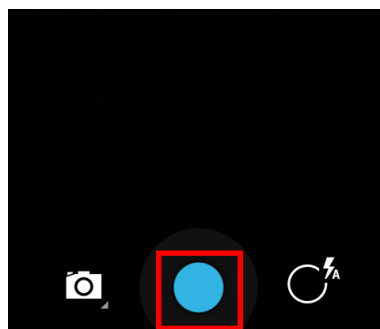
### 1. Tap *Camera APP*.



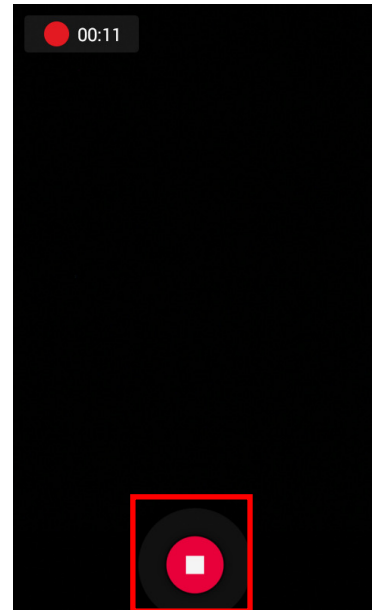
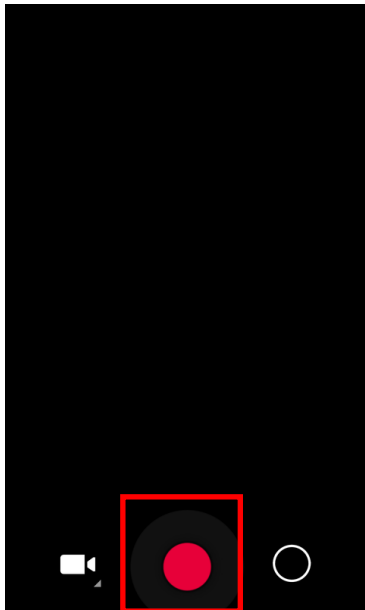
### 2. Tap to change mode



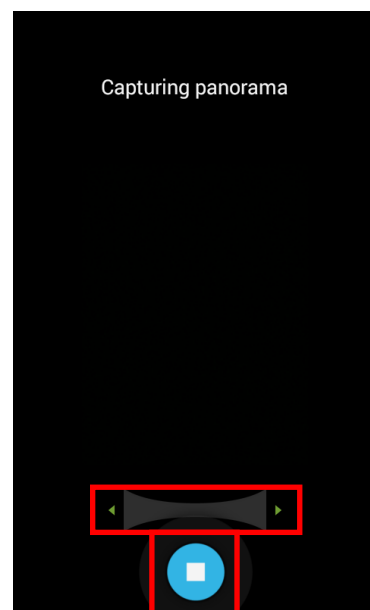
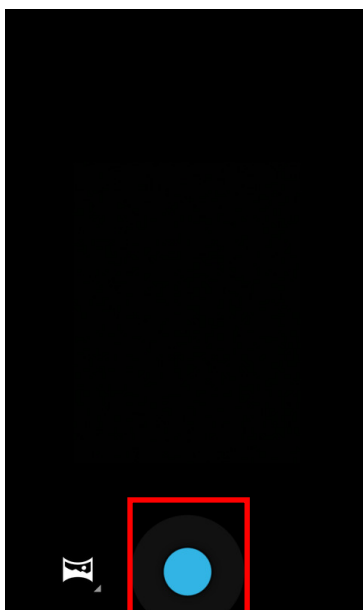
### 3. Taking pictures: Tap to take pictures.



4. Shooting videos: Tap  to start shooting. To stop shooting tap .



5. Taking Panoramic Pictures: Tap  to start. Slowly pan your device toward the other side. The status bar  shows your progress. Tap  to stop.



## Chapter 3- Managing Power

### AC Adapter

The AC adapter performs two functions:

- It powers the computer from an external AC source.
- It charges the computer battery.

The adapter automatically detects the AC line voltage (100V or 240V) and adjusts accordingly.

The following are recommended when using the AC adapter:

- Use a properly grounded AC outlet.
- Use one AC outlet exclusively for the computer. Having other appliances on the same line may cause interference.
- Use a power strip with built-in surge protection.

**Connecting the AC adapter:**

- Insert the end of LEMO to the LEMO CONN.
- Connect the end of the AC cord to the AC adapter.
- Plug the AC cord into an electrical outlet.

**AC Adapter Indicator:**

The green LED indicates that AC power is ready.

**Note:**

- *To ensure system stability, please connect your computer to an external power source when operating at -20 °C ambient temperature.*
- *The battery will not be charged if an incompatible AC adapter is chosen.*

## Battery

The power source of your handheld computer will automatically switch to battery when external power source (such as AC adapter or optional vehicle adapter) is disconnected. The following section provides battery related information, operation, as well as power-saving tips.

### Battery Low

When the battery is nearly exhausted, “Battery Low” warning message will be shown and the battery charge indicator will flash. Once the Battery Low warning occurs, please:

- Save and close the files you are currently working on.
- Plug in the AC adapter to recharge the battery.



#### **Caution**

*When battery capacity is very low, your handheld computer will shut down automatically and any unsaved data might be lost.*

### Charging the Battery

Plug in the AC adapter to start battery charging. If the battery is at full capacity, the internal sensing circuitry will stop high current charge within several minutes.

Additionally, if you would like to charge more than one battery at the same time, optional Multi-Battery Charger (MCDF) is available for the convenience of charging.

#### **Note:**

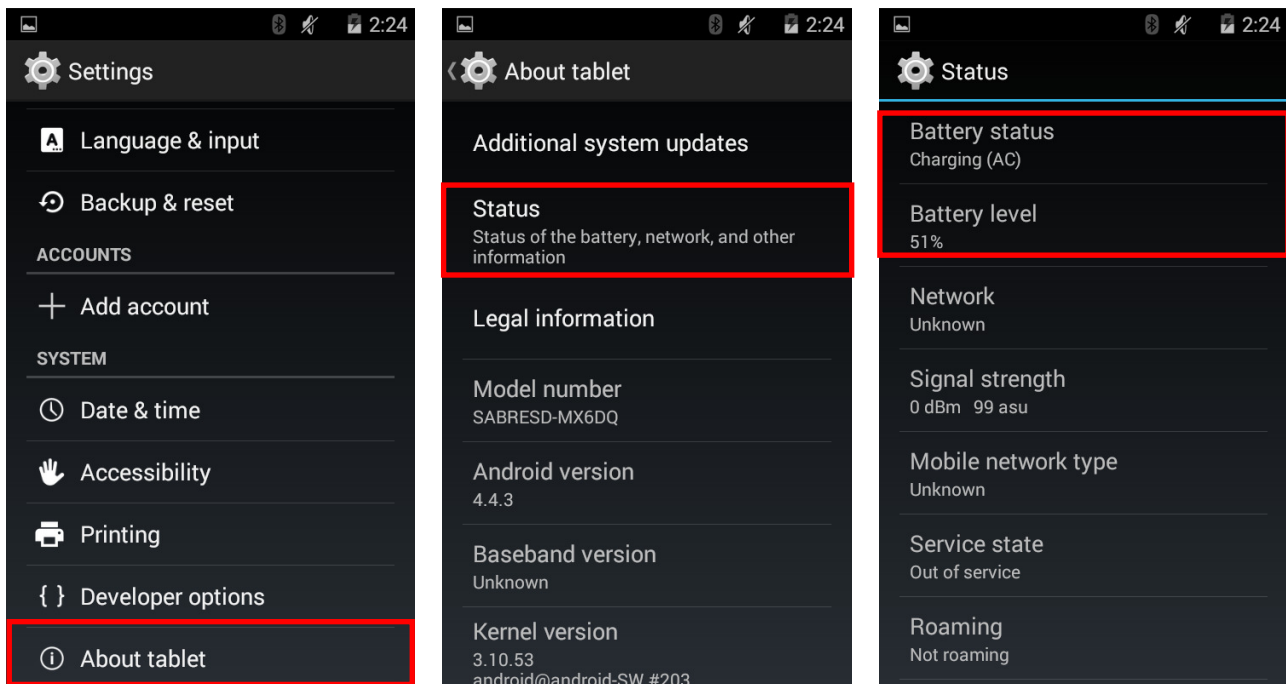
- *The battery will not be charged if an incompatible AC adapter is chosen.*
- *For more information about Multi-Battery Charger (MCDF), please refer to Multi-Battery Charger (MCDF) section.*

## Battery Gauge

For checking battery status, please do the following step:

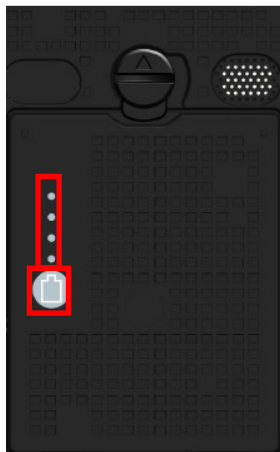
Tap *Settings* => Tap *About tablet* => Tap *Status*

Then, the remaining battery capacity will be shown.



There is a quick alternative way to check approximate battery level by using the battery button on battery pack.

The indicators will light up (green) after pressing the battery button. (Each indicator corresponds to 25% battery level.)



| Quantity of light up indicators<br>(from bottom) | Battery capacity |
|--------------------------------------------------|------------------|
| 1                                                | <25%             |
| 2                                                | 25% ~ 50%        |
| 3                                                | 50% ~ 75%        |
| 4                                                | >75%             |

## Battery Power Saving Tips

You may extend the battery life of your handheld computer by:

- Lower the LCD display brightness using backlight control.
- Put your device into suspend by pressing the power button to conserve battery life.
- Power off the handheld computer when the device will not be used for an extended period of time.

## Replacing Battery

When the battery is nearly exhausted, you can continue operating your device by either connecting to an external power source (such as AC adapter), or replacing the battery.



Turn counterclockwise with a slot screwdriver or a coin to unlock the Battery Lock, and then replace the battery.

**Note:**

- *Always remember to turn OFF the power of your handheld computer before changing the battery.*

## Chapter 4- Specifications

### Processor

- Freescale i.MX6 FCPBGA 624
- ARM Cortex-A9 Quad Core 1GHz

### Memory

- RAM: 2 GB LPDDR2 RAM
- ROM: 32 GB (eMMC)

### External Storage

Micro SD Card (support SDHC/SDXC up to 32G)

### OS

Android™ 4.4.3 (KitKat)

### Audio

- Mono Speaker (Back Side)
- Built-in Microphone for sound recording
- Headset

## Display

- 5" WVGA (480 x 800 pixel) with LED B/L
- Anti-glare screen treatments
- Optical bonding
- Sunlight Readable screen
- **I model**
  - Capacitive Multi Touch
  - Brightness (min.~Typ.): 400~450 nits
- **M model**
  - Resistive Single Touch
  - Brightness (min.~Typ.): 280~336 nits

## Wireless Communication Devices

### Wi-Fi:

- IEEE 802.11b/g/n (2.4GHz)

### Bluetooth:

- IEEE 802.15.1 (2.4GHz)
- Bluetooth 4.0

### Optional GPS:

- u-blox Neo-M8N

## Camera (option)

- 5M Pixel
- Auto Focus and LED Flash Camera

## Sensors

### Sensors provide 5 features:

- Magnetic, Accelerometer, Gyro, Light, Proximity

## I/O Ports

**Right:**

- Micro SD card slot
- Optional Expansion POGO 20 pin (L3)

**Left:**

- Optional Cradle POGO 20 pin (L4)

**Top:**

- Optional SMA ANT for WLAN/BT, GPS.

**Bottom:**

- DC-in/USB client:
  - Standard: Sealed DC-in 5V with LEMO Conn. (8 pin)
  - Optional: Sealed DC-in 10~32V (BVA) with LEMO Conn. (8 pin)
- L5: Optional Sealed Fischer Connector L5-1~L5-3  
Choose 1 out of 5 for each connector
  - RS232 x 1
  - USB x 1
  - MLAN x 1
  - Headset x 1
  - VGA x 1

**Note:**

- *For sealed Fischer connectors, each function can only be chosen once.*
- *Connectors are no foolproof design.*
- *L3, L4, L5 trade-off with each other.*
- *When DC-in 10~32V (BVA) is chosen, it needs to work with 36W AC Adapter. Also, the BVA module will trade-off with L5-1.*

## **Battery**

- 3.7V 3520 mAh Lithium-ion Battery pack(BD61C)
- Battery button and indicators (For checking battery capacity)
- Weight: 100g
- 4.5 hours Battery life (Depends on your usage and device settings)

## **Double Capacity Battery (Option)**

- 3.7V, 7040mAh Li-ion battery pack (BD61D)
- Weight: 175g
- 9 hours Battery life (Depends on your usage and device settings)

## **AC Adapter**

- Standard 25W AC Adapter:
  - Input: AC 100V-240V 50/60 Hz
  - Output: 5V/5A
- Optional 36W AC Adapter:
  - Input: AC 100V-240V 50/60 Hz
  - Output: 12V/3A
  - \*Need to choose 36W AC Adapter with LEMO conn.(8pin)

## Dimensions & Weight

- 169 mm (W) x 90 mm (D) x 24.5 mm (H) (w/o bumpers)
- 171 mm (W) x 94 mm (D) x 28 mm (H) (with bumpers)
- Weight: 405 g (Including WiFi and GPS module, but without battery)

**Note:**

➤ *Weight varies by configuration and manufacturing process.*

## Operating & Storage Temperature

- Operating temp: I: 0 °C to 40 °C  
M: -20 °C to 60 °C
- Storage temp: -40 °C to 70 °C

## Case Materials and Color

|                |                                                                                                                                                          |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Cover: | Recyclable UL grade PC + ABS GE C2800 or C6200                                                                                                           |
| Body:          | Magnesium Alloy AZ91D + Recyclable UL grade PC + ABS GE C2800 or C6200                                                                                   |
| Buttons:       | Silicon Rubber                                                                                                                                           |
| PCB:           | FR-4, UL 94V-0                                                                                                                                           |
| Battery:       | Rechargeable Lithium Ion<br>(Electrochemistry system: $\text{LiCoO}_2 + \text{C} = \text{Li}_1 - \text{XCoO}_2 + \text{CLiX}$ )                          |
| Packing:       | Carton: Recycled/Recyclable Paper (unbleached)<br>Cushion: Recyclable EPE<br>Carrying Bag: Recyclable PE Fiber<br>Quick Guide: Recycled/Recyclable Paper |
| Color:         | Black                                                                                                                                                    |

## Certification

- CE
- FCC
- WEEE
- REACH
- RoHS2.0
- IP66
- MIL-STD-810G
- MIL-STD-461F

## Accessories

- Optional 36W AC Adapter
- Optional 1M USB Cable (LEMO 8p to USB)
- Optional Carry Bag (Same as DB6)
- Optional 1M VGA Test Cable (Fischer 9p to DB15)
- Optional 1M RS232 Test Cable (Fischer 9p to DB9)
- Optional 1M MLAN Test Cable (Fischer 5p to RJ45)
- Optional 20cm USB Test Cable (Fischer 5p to USB)
- Optional 20cm Headset Test Cable (Fischer 5p to Audio Jack 3.5Φ)

(There is no holster or beltclip )

**Multi-Charger MCDF (Option)****INDICATORS AND PORTS**

- Indicators:
- Power Indicator: Show green light when attaching 90W AC Adapter.
- Charger Indicator: Show orange light when charging battery, or OFF for fully charged.
- Battery Charging Ports x 4
- Applicable Batteries:
  - BD61C: 3.7V, 3520mAh Li-ion battery pack
  - BD61D: 3.7V, 7040mAh Li-ion battery pack

**PHYSICAL CHARACTERISTICS**

- Dimension: 250(L) x 250(W) x 132(H) mm
- Weight: 795 g

**ELECTRONIC CHARACTERISTICS**

- DC Input Range: 12 ~ 32V
- DC Power Jack: DC-in 2-pin
- Charging Time:
  - 3 hours for BD61C
  - 7~8 hours for BD61D

**CE/FCC Certified****ENVIRONMENTAL RATINGS**

- Battery Charging Temperature: 0 ~ 40 °C

## Chapter 5 - Maintenance and Service

### Cleaning

**ALWAYS** turn off the power, unplug the power cord and remove the battery before cleaning.

The exterior of the device and display may be wiped with a clean, soft, and lint-free cloth. If there is difficulty removing dirt, apply non-ammonia, non-alcohol based glass cleaner to the cloth and wipe clean.

An air gun is recommended for cleaning water and dust. For salty water please clean with fresh water then blow-dry with an air gun. Be sure not to turn the computer up-side down while there is water being applied.

### Troubleshooting

Should the computer fail to function properly, this section presents common problems and the solutions. If troubleshooting solutions are unsuccessful, please refer to RMA Service section below.

#### Power Problems

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power Problems</b> | <p><b>When I turn on the Handheld computer, it does not respond.</b></p> <ul style="list-style-type: none"><li>- If you are using battery power, check if the battery is charged</li><li>- If you are using AC power, ensure that the connection of AC adapter is correct.</li></ul> <p><b>I cannot return from Hibernation while on battery power</b></p> <ul style="list-style-type: none"><li>- The battery might be drained. Please plug the Handheld into AC power.</li></ul> |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Networking Problems**

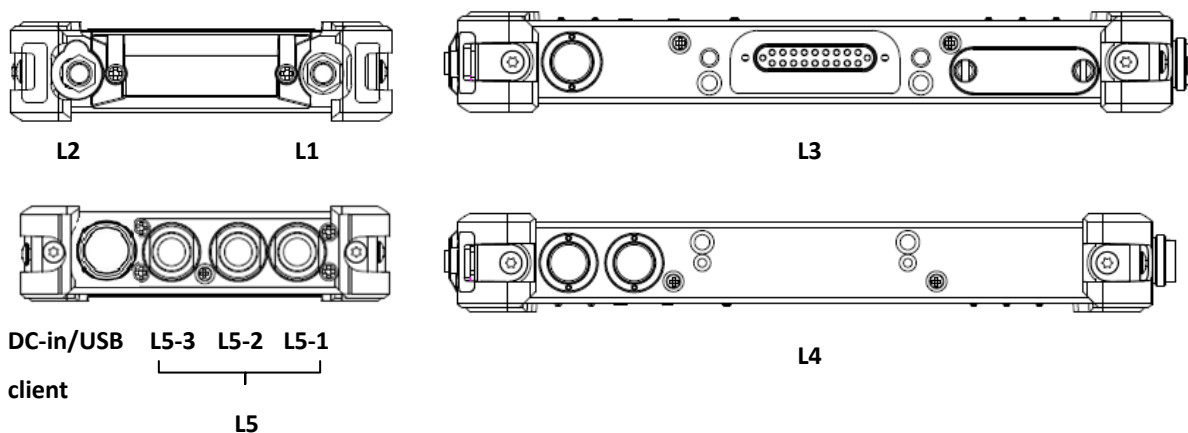
|                  |                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Wi-Fi</b>     | <b>I cannot connect to a wireless Wi-Fi network</b> <ul style="list-style-type: none"><li>• Make sure that:<ul style="list-style-type: none"><li>- Your handheld computer is within the range of a wireless access point.</li><li>- Check if the Wi-Fi has been turned on.</li></ul></li></ul>                                                                                                            |
| <b>Bluetooth</b> | <b>I cannot connect to another device with Bluetooth network</b> <ul style="list-style-type: none"><li>• Ensure that:<ul style="list-style-type: none"><li>- Both devices have Bluetooth turned on.</li><li>- The distance between the two devices is not over 10 meters/32 feet and that there are no large obstructions between the devices.</li><li>- Both devices are compatible.</li></ul></li></ul> |
| <b>GPS</b>       | <b>I cannot connect to a mobile broadband network</b> <ul style="list-style-type: none"><li>• Do the following:<ul style="list-style-type: none"><li>- Check if GPS has been turned on.</li><li>- If you are outdoors, please move away from buildings or obstructions, and expose your device to open sky.</li><li>- If you are indoors, please move closer to a window.</li></ul></li></ul>             |

## **RMA Service**

1. If troubleshooting steps are unsuccessful, consult your dealer for RMA.
2. Shipping instructions:
3. Remove any personal data.
4. Use the original shipping container and packing materials, if possible.
5. If the original packing materials are not available, wrap the equipment with soft material (e.g. PU/PE form) then put the wrapped equipment into a hard cardboard shipping box.
6. Include a sheet with the following information: (Note: Please keep a copy of this sheet for your records)
  - Name
  - Address
  - Unit serial number
  - Place and date of purchase or the original invoice number
  - Date of failure
7. A DETAILED Description of the problems you have encountered
8. A list of the hardware/software configuration, if applicable.
9. Clearly mark the outside of the shipping box with the RMA #. If RMA # is not present on the shipping box, receiving will be unable to identify it and it might be returned.
10. Unless prior arrangements have been made, the customer is responsible for all shipping costs. Unauthorized use of the company's shipping accounts is not permitted.

## Appendix:

### Options for the expansion of your handheld computer



| Location | Feature                   | Functional Description                                                                                                                                                                                                                                                                                                     |
|----------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | DC-in/USB client          | <input type="checkbox"/> Standard sealed DC-in 5V with LEMO<br><input type="checkbox"/> Optional sealed DC-in 10~32V (BVA) with LEMO Conn.                                                                                                                                                                                 |
| L1       | SMA                       | Select one:<br><input type="checkbox"/> WiFi & BT ANT <input type="checkbox"/> GPS                                                                                                                                                                                                                                         |
| L2       | SMA                       | Select one:<br><input type="checkbox"/> WiFi & BT ANT <input type="checkbox"/> GPS                                                                                                                                                                                                                                         |
| L3       | POGO conn.                | <input type="checkbox"/> Expansion POGO 20pin                                                                                                                                                                                                                                                                              |
| L4       | POGO conn.                | <input type="checkbox"/> Cradle POGO 20pin                                                                                                                                                                                                                                                                                 |
| L5-1     | Fischer connector (8 pin) | The following choices are for L5-1, L5-2, and L5-3 Fischer Connectors. Choose 1 out of 5 for each connector. <b>Note, one function can only be chosen once.</b><br><input type="checkbox"/> RS232 <input type="checkbox"/> USB <input type="checkbox"/> MLAN <input type="checkbox"/> Headset <input type="checkbox"/> VGA |
| L5-2     | Fischer connector (8 pin) |                                                                                                                                                                                                                                                                                                                            |
| L5-3     | Fischer connector (8 pin) |                                                                                                                                                                                                                                                                                                                            |

**Note:**

- *L3, L4, and L5 are trade-off with each other.*
- *If Fischer Connector is chosen for L5-1, .it will be a little extended than the other two Fischer Connectors, as the following illustration shows.*

