User Manual

MICA-053

5" Medical Grade Tablet PC Series

ADVANTECH

Enabling an Intelligent Planet

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Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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Declaration of Conformity

FCC Class B

Note: 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.

Technical Support and Assistance

1. Visit the Advantech website at http://support.advantech.com where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

Warnings, Cautions and Notes

Warning! *Warnings indicate conditions, which if not observed, can cause personal injury!*



Caution! *Cautions are included to help you avoid damaging hardware or losing data. e.g.*



There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Note! *Notes provide optional additional information.*



Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it to work according to the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
16. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

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Chapter 1

Accessories

1.1 Accessories

MICA-053 Terminal	
USB cable (Standard USB to Micro USB)	
Power adapter	

Chapter 2

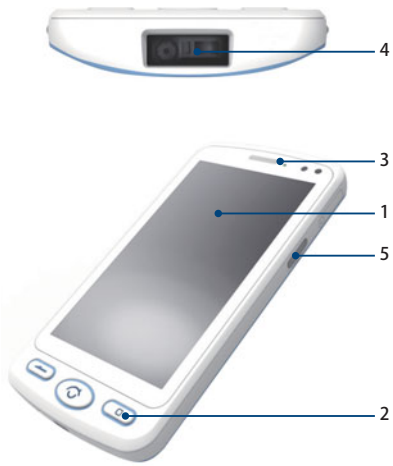
Getting Started

MICA-053 is developed based on Android system, with quad core processor and 5-inch big, high-definition screen. By adopting the industrial design, MICA-053 comes with water-proof, dust-proof(IP54), anti-dropping(1.2M) capabilities, as well as large capacity battery of over 12 hours battery life. Additionally, MICA-053 supports GPS/BD, RFID (NFC) and 1D/2D barcode scanning functions. MICA-053 can be widely used in hospital, retail, warehouse, factory, land and resources, surveying and mapping, agriculture and forestry industries.

Model name: MICA-053

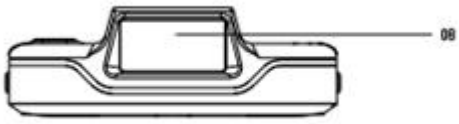
Product description:
Cotex-A53/5"/2GB/16GB/WFI/BT/GNSS/Camera/NFC/BCR/Android5.1

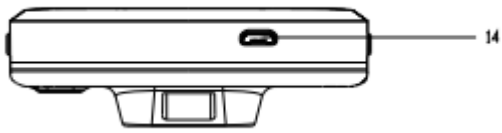
2.1 Overview





1. Touch Screen
2. Function Key
3. Receiver
4. Barcode Scanner
5. Barcode Scanner Button
6. Camera





8.	Scanning window	14.	MicroUSB Connector

2.2 Installing SIM Card and SD Card

Part Number	Configuration
MICA-053-A11-A1E	Cotex-A53/5"/2GB/16GB/WFI/BT/GNSS/Camera/NFC/BCR/ Android5.1

2.3 Charging the Battery

1. Connect USB cable to the charger.
   (Note: Battery temperature should be 0°C to 45°C.
2. Connect micro USB connector on the other end of the cable to the micro USB connector at the bottom of the device.
3. Insert AC charger to the power outlet.

Warning! *There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to replace the battery by yourself.*



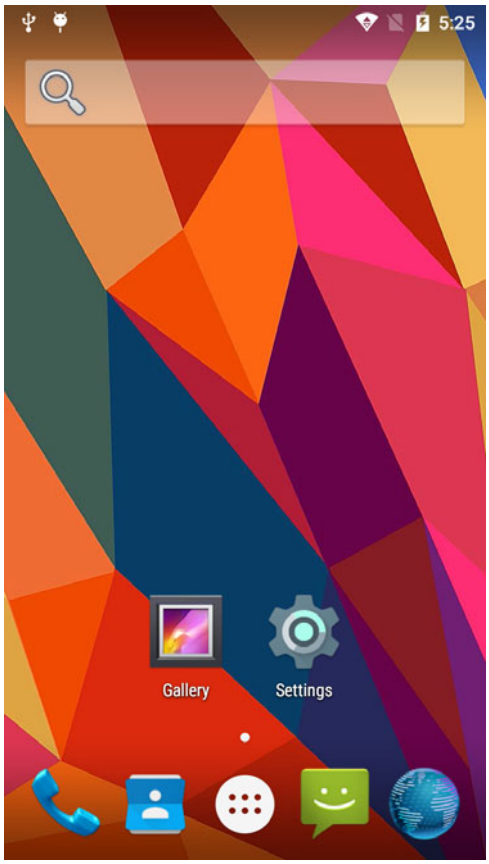
警告使用者：
這是甲類資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當對策

2.4 Data Transmission between MICA-053 and PC

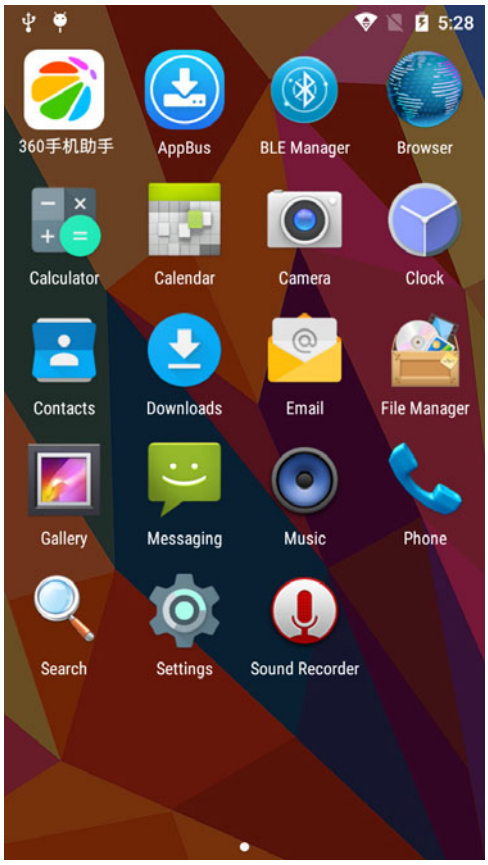
1. Connect the standard USB connector to the USB connector of PC.
2. Connect micro USB connector of the cable to the micro USB connector at the bottom of the device.
3. For better transmission between MICA-053 and PC, you can download Mobile phone management software from Android market

2.5 Checking the Battery Status and Enter Battery Capacity Menu

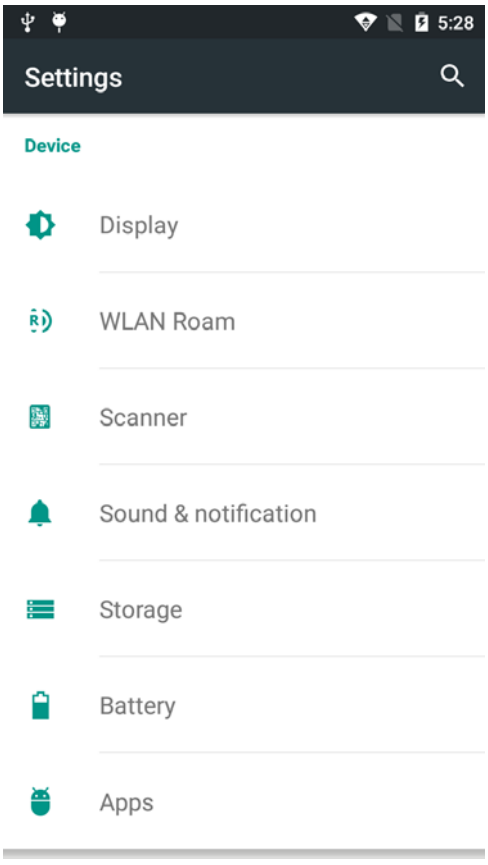
1. Click  button on the main screen.

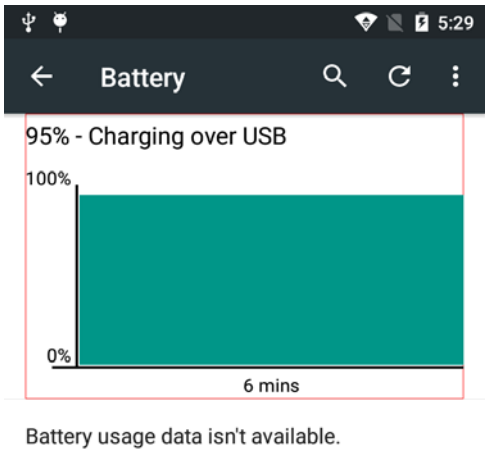


2. Click to enter the Settings page.



3. Click to enter battery.





Chapter 3

Basic Operation

3.1 Application Program

Click  button on the main screen to launch the application program.

How to connect WiFi and BT?

Click "Settings" - "WLAN" in the program to open Wi-Fi, and then select and connect to the network.

Click "Settings" - "Bluetooth" in the program to open Bluetooth, and then select and connect to the target device.

How to create a shortcut of an APP on the main screen?

1. Click  on the main screen.
2. Touch and hold the icon of the APP and then enter the main screen.
3. Drag the icon to the main screen page and loosen your finger.

How to change the system language?

Click "Settings" - "Language and Input Method" – "Language" to change the system language. Supported languages include English, Simplified Chinese, Traditional Chinese, Japanese, Spanish, German, French, etc.

App list

The table below lists all the common Apps.

	Call button. Use T9 keyboard to call or search contacts in T9 keyboard to callback the number in you contacts list.
	Send and receive message. Content can be text, images, emoji, contacts information, audio and video, etc.
	Manage contacts. Contact information can be imported from UM card, SD card and could accounts. Searching, adding editing and deleting contacts are supported.
	When e-mail account is well configured, you can use PA700 to send email. You will be notified immediately when there is a new email.
	The browser can be zoomed in or out by double clicking the page or via two fingers. Commonly used websites cam be accessed via website navigation. Multi tabs are supported and the pages can be switched by clicking the tabs. The intelligent full screen mode will provide the best viewing effect for the zone.
	Take high quality photos. Focal length can be adjusted quickly. LED fill light is available. 720P high quality video can be recorded.
	Map can be used. You locate your position quickly. find ways to the destination, or zoom in/out the page by double clicking the page or two fingers.
	Manage status of storage card via file management. Files can be browsed by category, and managed by path. The user can remotely manage phone files via WLAN.
	Set time and alarm clock. The reminder keeps being repeated. Meanwhile, alarm tag can be set.

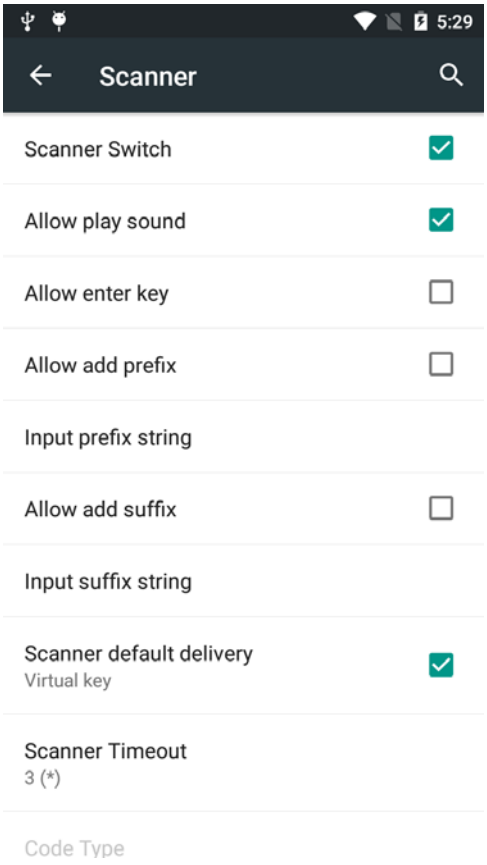
System Status Icon

The status bar displays time, battery status, signal strength, operator or notification icons,

Status icon	Description
	Shows signal strength. The more the indicator lines are, the stronger the signal are.
	No operator’s network., thus there is no signal. Only emergency calls can be supported.
	No SIM card in you phone.
	Have switched to airplane mode. calls, internet and Bluetooth are not available.
	Operator’s network is working. Internet can be accessed.
	Operator GPRS is available.
	Connected to WLAN. The more the indicator lines are, the stronger the signal are.
	Currently in mute mode.
	A certain app is using the location service.
	Alarm clock has been set.
	Bluetooth function is enabled.
	The phone has connected to other Bluetooth device.
	The phone is in network sharing mode and can access internet via the PC’s network.
	Earphone has been plugged.
	There is new emails.
	There is new message
	Guest mode is enabled.
	New device is detected via OTG connection mode.
	Data synchronization is abnormal due to some reason.
	Warning message is in the status bar, please handle it immediately.
	There are more notifications in the status bar.

3.2 Barcode Scanning

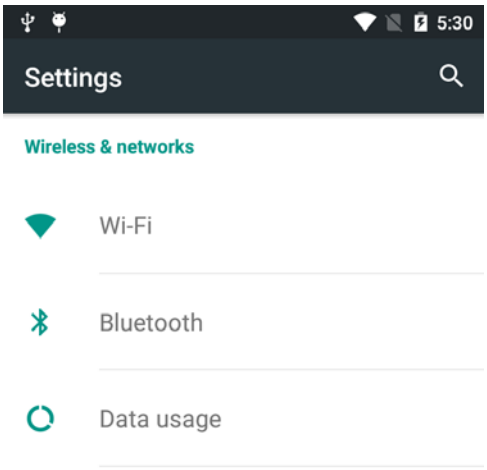
1. The scanning service will boot automatically when the device is on.
2. There are two scanning modes:
   One is simulating keyboard information. that is, open any editing zone/input zone and slick the scan button to start scanning.
   The other is Message Broadcast mechanism. This needs modifying receiving mechanism in the APP to get the current scanning result.
   Usually when Chinese characters are contained in the barcode, this way is better.
   Refer to development SDK for detailed codes and description.
3. General functions of scanning can be set in "Settings" - "Scanner".


5:29
Scanner
Scanner Switch
Allow play sound
Allow enter key
Allow add prefix
Input prefix string
Allow add suffix
Input suffix string
Scanner default delivery
Virtual key
Scanner Timeout
3 (*)
Code Type

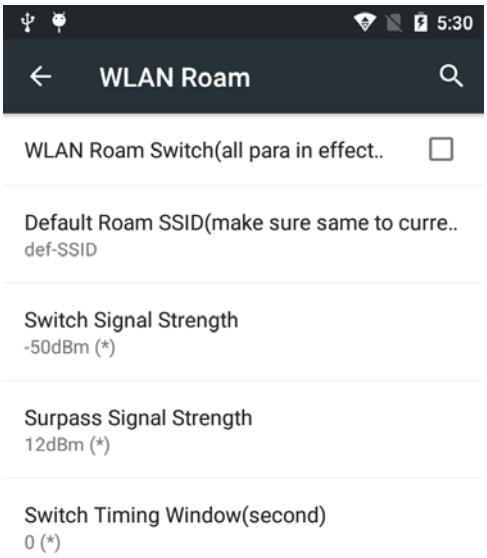
3.3 Wi-Fi Roam

Built-in Wi-Fi algorithm of MICA-053 supports WLAN roam. Usually, roam means that when a device connects to an AP, and if the signal becomes weaker and weaker, it will switch to another AP of the same SSID for a seamless connection. Two parameters are critical in Wi-Fi roam, which are "signal threshold " that triggers roam operation and "strengh" for the "better" AP signal value.

Find "Wi-Fi Roam" under system "Settings" as below:



Click to enter



WLAN roam switch: Enable/disable roam switch

Switch signal threshold: Set signal threshold for the roam

Switch signal difference value: Set the difference value between current signal and the roam AP signal

Note! *Roam threshold will directly affect efficiency and effect of the roam. Generally, the threshold should be tested and confirmed in real conditions. Please contact the local technical team when you need.*

Appendix A

Product Specifications

A.1 Product Specifications

System	Processor	Cortex™-A53, Quad-core, 1.3 GHz
	Memory	2 GB
	Operating System	Android 5.1
Storage	Flash	16 GB
Display	Type	5" LCD
	Resolution	1280 x 720 HD
	Brightness	350 cd/m2
Touchscreen	Type	Capacitive touch
	Construction	GFF
Multimedia	Speaker	1 x Internal 1W speaker
	Microphone	1 x Internal microphone
Camera	Rear	1 x 13 MP camera with LED flash and auto focus
Barcode		1D/2D
Sensors		E-compass, g-sensor. light sensor
I/O	I/O Ports	1 x Micro USB 2.0 client (via charging cable)
	Buttons	1 x Power button 2 x Scanner trigger buttons 3 x Function keys
Wireless Communication	WLAN/Bluetooth	IEEE 802.11 a/b/g/n, 2.4GHz/5GHz Bluetooth V4.1 BLE
	NFC	13.56MHz RFID Compatible with ISO 15693, ISO 14443A/B, MIFARE®
GNSS	Satellite System	GPS, GLONASS, Galileo, and BeiDou
Power System	Voltage Input	5V, 2A
	Battery	3.8V 3600mAH lithium-polymer battery (Non-swappable)
Mechanical	Dimensions (W x D x H)	82 x 161 x 22 mm
	Weight	253 g with battery
Environment	Operating Temperature	-20 ~ 60 °C/-4 ~ 140 °F (0 ~ 40 °C/32 ~ 104 °F when charging)
	Storage Temperature	-30 ~ 70 °C/-22 ~ 158 °F
	Drop	1.2M
	IP Rating	IP54
	Safety	CB, CCC, BSMI
	Certifications	CE, FCC, CCC, BSMI

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