



DigiHeal

**T10L MCA**

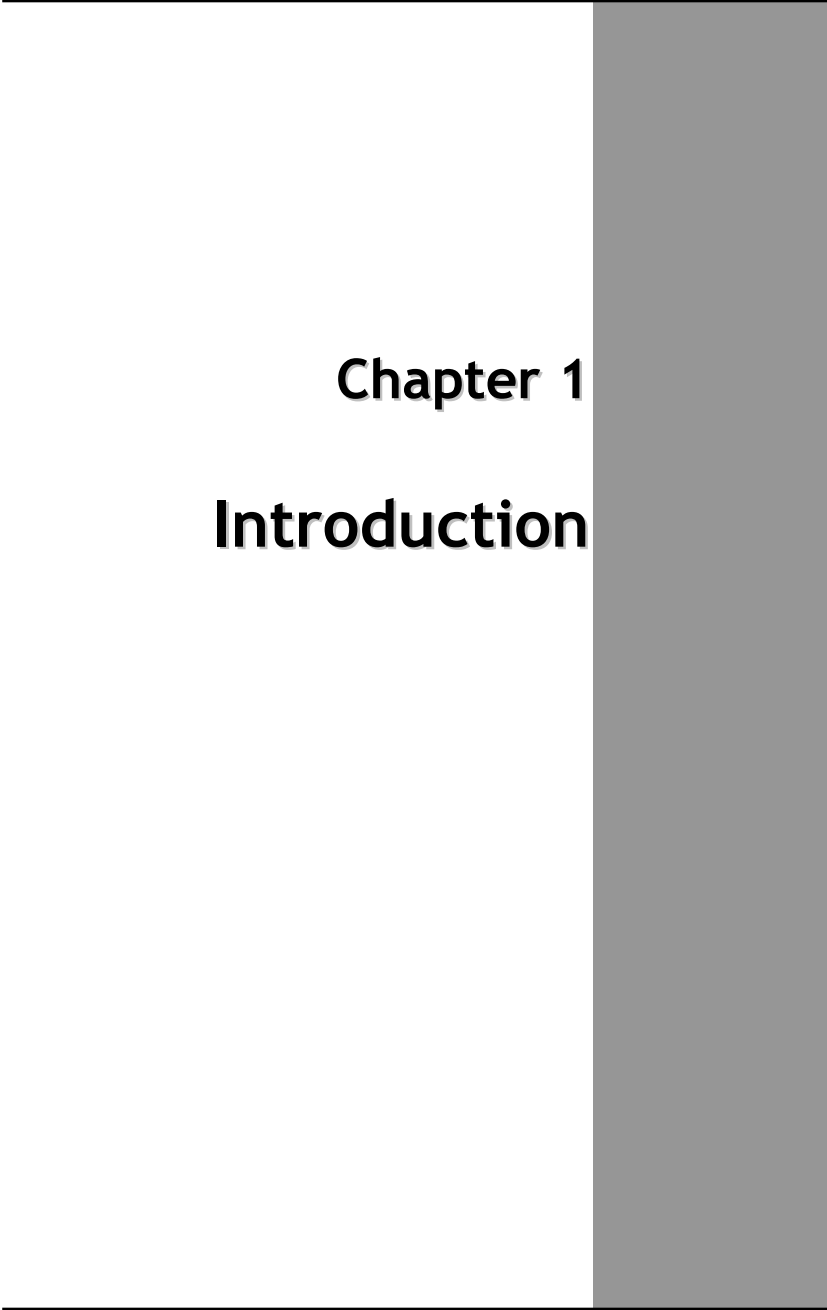
**User's Manual**

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**Chapter 1**  
**Introduction**



## Getting Started

Congratulations on your purchase of a MCA. The mobile clinical assistant (MCA) is a category of mobile computing platform developed by Intel® to be a new usage model that is customized for healthcare-specific use at the point of care, supporting the workflow of nurses and clinicians. This **mobile clinical assistant (MCA)** integrates technology from **Intel® Health**.

With your MCA you will be able to organize and access important clinical information anywhere, anytime. In addition, you will be able to use the biometric fingerprint reader or authenticate your badge with the RFID reader.

This Manual contains all the information you need to set up and use your MCA. It describes all the features of the MCA in an easy-to-read yet thorough manner.



The Intel® Health brand signals the company's specialization in healthcare and commitment to the healthcare industry while drawing on Intel's rich heritage as a technology innovator. Intel is a trusted name associated with innovation, reliability, quality, and speed — attributes that resonate with key decision makers in the healthcare sector.

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## Inventory

This MCA is designed for years of productive and pleasurable computing. Use this section to keep details of your purchase. This information will be required should you need to make repairs to your MCA during the warranty period. Update this section when you add new options.

**DATE OF PURCHASE:** \_\_\_\_\_

**PLACE OF PURCHASE:** \_\_\_\_\_

**DEALER'S NAME:** \_\_\_\_\_

**DEALER'S ADDRESS:** \_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**E-MAIL ADDRESS/WWW:** \_\_\_\_\_

**CONTACT PERSON:** \_\_\_\_\_

**MODEL NUMBER:** \_\_\_\_\_

**SERIAL NUMBER:** \_\_\_\_\_



## Safety and Maintenance

You can use your MCA under a wide range of environmental conditions. However, to ensure long use and continued high performance, consider the following factors when setting up your MCA:

- Follow all warnings and instructions noted in this documentation and in the Windows Help program.
- The first time you use your MCA, we recommend that you carefully read the Making Connections section of this manual and initialize the battery to ensure optimum battery performance.
- Unplug the MCA from the power outlet before cleaning. Use a damp cloth for cleaning. Do not use aerosols, solvents, or strong detergents.
- Slots and openings in the system cabinet are for ventilation purposes. Do not block or cover these openings or the system could overheat. Do not use or store the MCA near a source of heat or dust.
- On the base or rear panel of this MCA, there is a label with information on the power requirements of this system. These requirements must be followed. If you are unsure of your local power supply, consult your dealer or local Power Company.
- Do not step on or place anything on the power cord.
- If you use the MCA with an extension cord, ensure that the total ampere ratings of all the devices sharing the extension do not exceed the rating of the extension cord or the rating of the wall outlet.
- Never push foreign objects into the MCA through any of the slots or openings. Dangerous voltages are present, which could cause electric shock or fire, or damage sensitive components.

## Cleaning the MCA

To clean the MCA, wipe its surface gently using a soft cotton cloth slightly dampened with alcohol or disinfecting products.

The device's outer surfaces (plastic shell, seal, touch panel, buttons, docking base connector, barcode scanner window, etc) can resist (80% or less) Alcohol, bleach, iodine and common hospital disinfectants.



## Checklists

After opening the package, carefully inspect the contents. If any of the items is missing or appear damaged, contact your dealer. The shipping carton should contain the following:

### STANDARD

- A MCA with a hard disk drive
- Two standard batteries
- An AC adapter with power cord  
(I.T.E. AC power or Medical AC power)(Option)
- User's Manual (Installed in Hard Disk)
- Driver CD (Installed in Hard Disk)

### OPTIONS

The following items are normally optional, but some vendors may include them in the standard package. Some items may not be available in some countries, or some vendors may choose not to carry all the items.

- Additional battery
- 3G module
- RFID reader
- Barcode scanner
- 2 mega pixels camera module
- Docking station



**Caution:** When purchasing any of the accessories listed above, purchase only those accessories that are approved for use with your MCA. The above accessories are proprietary items. Your system vendor can obtain these approved accessories. If you use items that are not approved for use with this MCA, you may cause your MCA to malfunction, or to emit or receive electro-magnetic radiation in excess of local regulations. For non-proprietary accessories such as PC cards or printers, ensure that the accessory functions properly in your MCA before making the purchase. Your system vendor may be able to recommend reliable brands and models.

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## **Features**

### **Software Included**

Windows® XP Tablet PC Edition which includes:

- Microsoft® Internet Explorer
- Microsoft® Outlook Express
- Microsoft® Windows Media Player

Windows Vista® Business (Optional)

### **High performance Processors**

- Intel® Intel PineView-M N450 CPU or above (FSB 667MHz)

### **Smart Display**

Automatic screen orientation & brightness adjustment

### **Smart Touch**

Fingertip & stylus accessible, automatically timing control & palm rejection implemented

### **Comprehensive Network Connection**

- PAN: Bluetooth 2.1
- LAN: Wireless LAN 802.11 /b/g/n
- MAN: 3G module (optional)

### **Versatile Integration**

RFID Reader, Barcode Scanner, Fingerprint Reader, Webcam and Microphone Array

### **Unburdened Consideration**

Slim, light weight, no noise (fanless), and “grip & go” ergonomic handle

### **Rugged Enhancement**

Sustainable from the free drop (3 feet height) and severe ingress level (IP54)

### **Flexible Battery Supply**

Long power supply up to 4.5 hrs

### **Extended Access Control**

3 user programmable keys available to define

### **Rugged Standard**

Drop Resistant:

26 drops of 36 inches to plywood over concrete with unit on  
2 units to pass.

Water Sealing:

Rain chamber to operate at no less than 40 PSIG and no less than 4  
in/hr. 10 min per axis, 6 axes, Unit is non-operating.

### **Environmental**

#### **Tablet PC & Docking Station**

Operating Environment Temperature : 0°C ~50°C

Storage Environment Temperature : -20°C ~60°C

Transportation Environment Temperature : -20°C ~75°C

Operating Humidity : 10% ~ 90%

#### **Power Supply**

\* Operating Temperature 0°C to 40°C with no deracinating

\* Storage temperature -25°C to +70°C

\* Relative humidity 10% to 95% non-condensing

\* Cooling Convectonal - non vented case

## Where to Look For Information

### About Your MCA

This User's Manual describes the key elements of your MCA. New users can find a simple step-by-step orientation in the Quick Start section of this chapter.

### About Windows

**Windows Online Help**, found on the Start menu, offers extensive Windows assistance. **Welcome to Windows** offers an online orientation for new Windows users. Find it in:

*Start/Programs/Accessories/System Tools.*

## Quick Start

### Turning on the MCA for the First Time



1. Connect the power cord to the AC/ DC adapter.
2. Connect the AC/ DC adapter to the DC power port on the right hand side of your MCA.
3. Connect the power cord to an AC outlet.
4. Press the power button to turn on the power.

**AC Adaptor features:**

I.T.E. AC power

Input: 100V-240V, 50Hz-60Hz

Output: 65W, 19V

Medical AC power

Input: 100V-240V, 47Hz-63Hz

Output: 78W, 18V

**Manufacturer:** Ault Korea CO., LTD.

**Model:** JMW180KA1800F02

**Type:** Medical Power Supply

**INPUT:** AC 100 - 240V, 50 - 60Hz, 1.5A~0.75A

**OUTPUT:** +18VDC at 4.33A



**Note:** The battery is not fully charged. Allow your battery to fully charge before using it (i.e., before disconnecting AC power). Calibrating the battery before use is also highly recommended. Refer to Chapter of *Power Management*, for further information.



**Warning:** The operator not to touch a part and the patient simultaneously.

---

## Loading Windows

The following section is for installing the Windows operating system only. If you are installing a different operating system, please check with your vendor for installation details.

Your MCA will begin loading Windows once you turn on the power. Wait a few seconds for Windows setup to load. The Windows setup will prompt you for the product key number, shown to the right:



Product key number

---

**Note:** The product key is on a sticker adhered inside of the battery compartment of the MCA.

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1. Type your name, and, if applicable, the name of your company.
2. Read the End User's License Agreement. Click **Next** to accept it.
3. Enter the product key number. You can find this on the Certificate of Authenticity on a sticker attached to the MCA. Click **Finish**.
4. The Start Wizard will prompt you to set the date, and your local time.

After the Start Wizard updates your system settings, the Welcome to Windows screen will appear. You may disable this feature by clearing the check box labeled **show this screen each time Windows starts**.

Some software comes preloaded with Windows. New users can familiarize themselves with this software by selecting Programs from the start menu, then clicking on programs to run them.

## Adjusting the Volume

You can adjust the volume with hot key:

- Fn On + Navigation Key with pressing it upward: volume up
- Fn On + Navigation Key with pressing it downward: volume down

Alternatively, you can adjust the volume with the Windows volume control applet located on the taskbar.



## Adjusting the Brightness

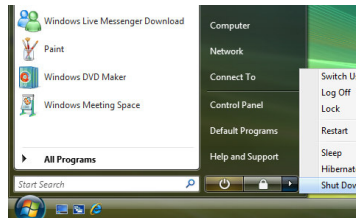
Use the following hot key combinations to adjust the LCD panel brightness:

- Fn On + Navigation Key toward left: decreases the brightness
- Fn On + Navigation Key toward right: increases the brightness

## Turning off Your MCA

Turning off the MCA properly is important to maintaining your MCA.

1. On the Start menu, click **Shut Down**.
2. Click the radio button next to **Shut Down** in the Shut Down Windows screen, and then click **OK**.

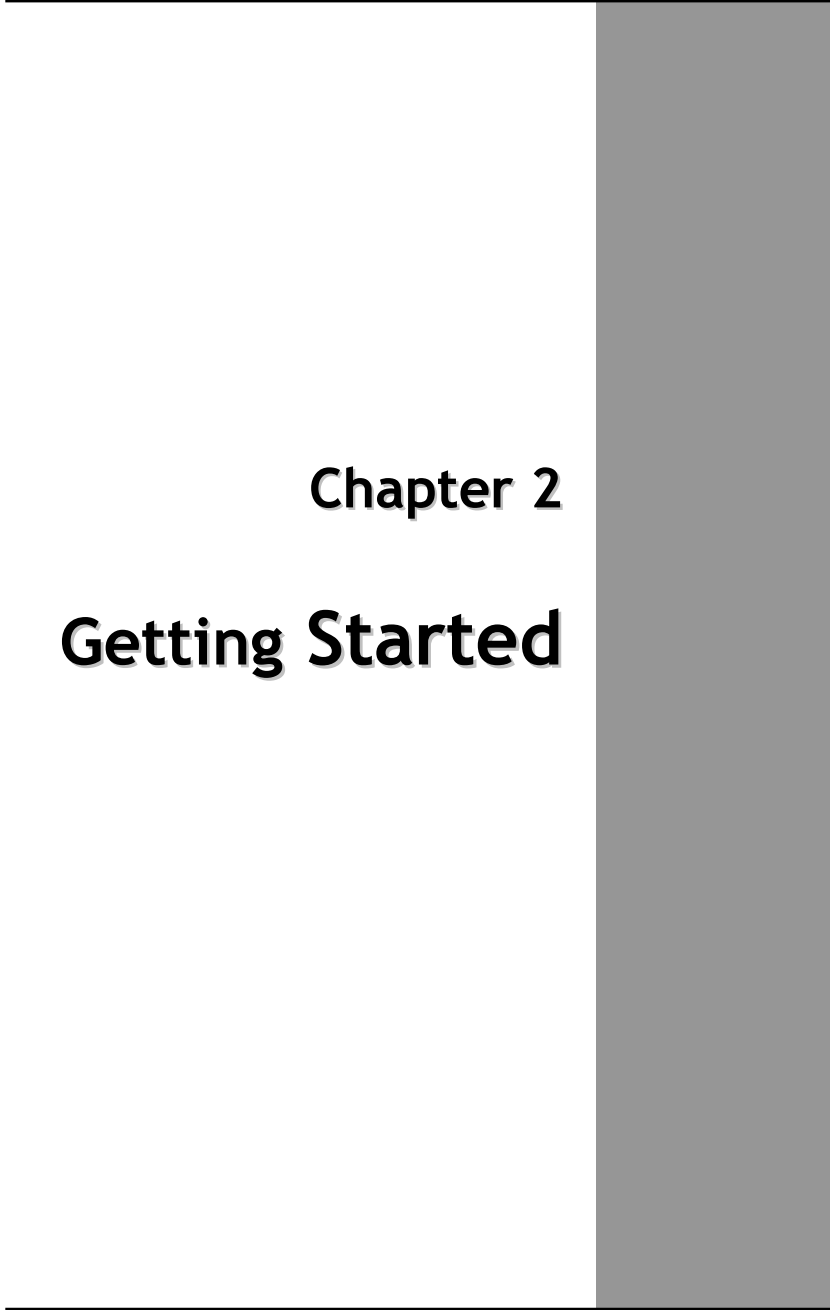


If you are going to be away from the MCA for a short period, there are ways of conserving power without shutting down the system.



**Warning:** Shutting off the MCA improperly may result in data loss.





## **Chapter 2**

# **Getting Started**





## **Hardware and Software**

This chapter introduces the different components and controls of your MCA, including the hardware components, the software, and the audio and video systems.

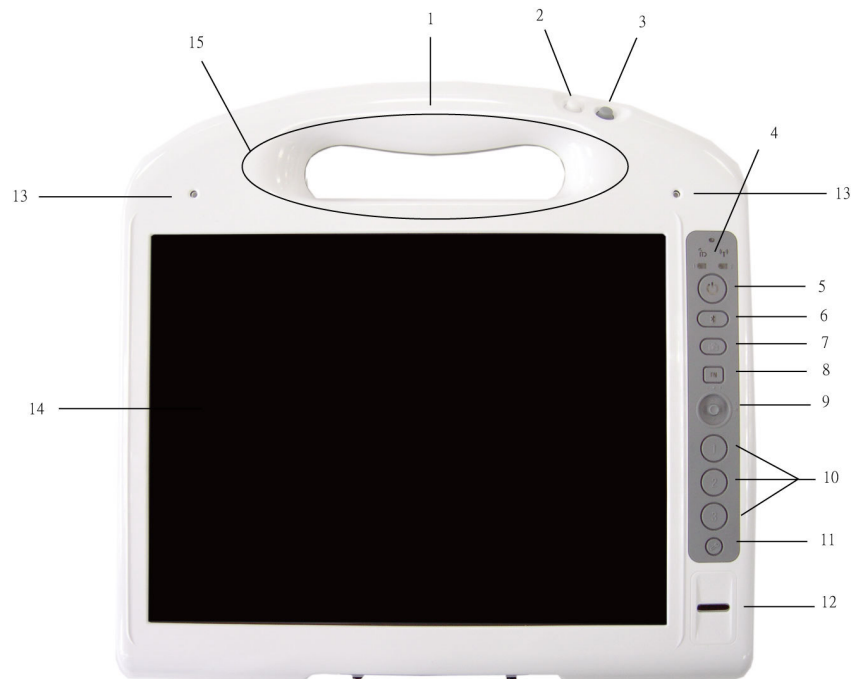
### ***Getting Started***

Before you begin using your MCA, read this chapter to familiarize yourself with the main components installed in the system.



## Front View

1. Tablet handle
2. RFID reader trigger
3. Barcode scanner trigger
4. Status indicator
5. Power button
6. Bluetooth On/Off button
7. Camera capture
8. Function key
9. Navigation & Enter key
10. User programmable keys
11. Security key
12. Finger printer scanner
13. Internal microphone array
14. Touch Screen panel
15. Internal RFID reader antenna



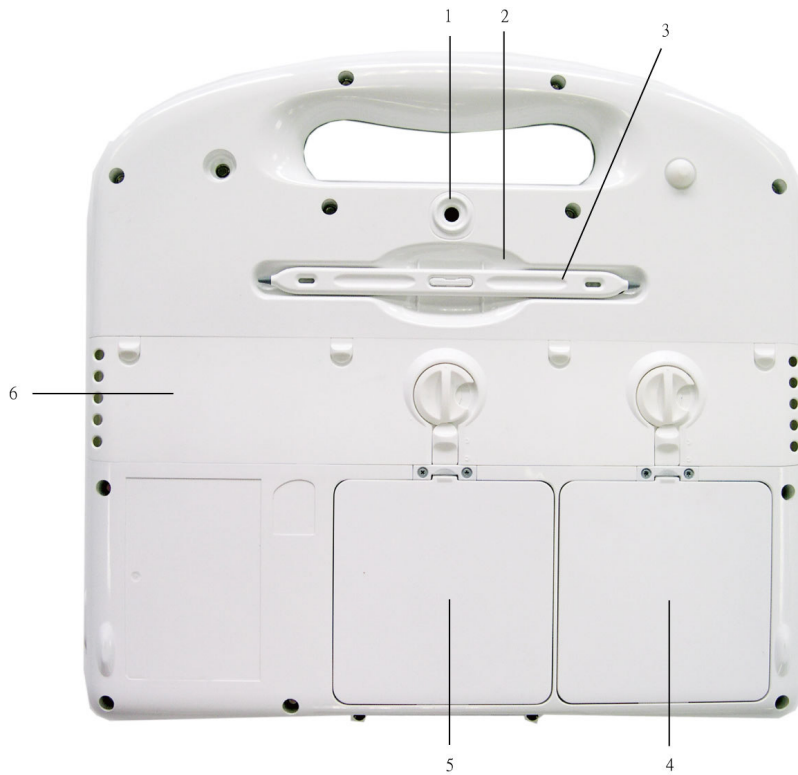
## Right View

1. LCD panel
2. Barcode scanner sensor
3. DC power jack
4. Docking connector







## Bottom View

1. Camera lens
2. Touch pen holder
3. Touch pen
4. 1st battery
5. 2nd battery
6. Internal speaker



## Power Indicators








The power indicators show which power source the system is using. They also show battery status and low battery power alerts. The power indicators remain active and viewable even when the LCD panel is closed.



Icon	Light	Description
	Green	Wireless LAN is in use
	Green	RFID is in use
	Green	Battery fully charged
	Orange	Battery charging
	Red	When battery capacity is low than 10%
	Flashing Orange	When OTP (over temperature protection) of the battery is activated
	Green	Power is on and the battery is in use
	Flashing Green	Power is in suspend mode



## Buttons

The eleven hot keys are unique features of your MCA. The function as follows:

Icon	Function
	<b>Suspend/Power on-off button</b> The Power button turns system on and goes into standby automatically. If the unit has been sitting unused for a while. Press momentarily to turn on the system or to exit from standby. Press and hold for at least 3-4 seconds to turn off the system. These settings can be changed.
	<b>RFID reader trigger</b> Through setting in Intel MCA SDK (White button on handle).
	<b>Barcode scanner trigger (grey)</b> Through setting in Intel MCA SDK (Grey button on handle).
	<b>Bluetooth On/Off button</b> Press to wakeup built-in Bluetooth module, Bluetooth module will be power down after certain time set by user if no more activities.
	<b>Camera Capture</b> Through setting in Intel MCA SDK
	<b>Function Button</b> Alternative definition for navigation, user programmable and security button.
	<b>Navigation &amp; Enter Key</b> 5 ways button for Up/Down/Left/Right/Enter.

	<p><b>Security key</b> Similar function as pressing Ctrl+Alt+Delete on a standard keyboard.</p>
	<p><b>3 user programmable keys</b> Press to launch specific program defined by user through Intel MCA SDK (software development kit)</p>

## Function Keys

Press the Fn key first and then press the function key.

Function key	Description
<b>Fn on + Down</b>	Volume down
<b>Fn on + Up</b>	Volume up
<b>Fn on + Left</b>	Brightness decrease
<b>Fn on + Right</b>	Brightness increase
<b>Fn on + button 3</b>	Enable/ disable the 3G module
<b>Fn on + button 2</b>	To rotate screen 90 degree
<b>Fn on + Enter key</b>	To unlock the docking station manually
*User may also choose to lock the touchscreen automatically after some idle time. See page 23 for detailed setting.	



## Touch pen

You can use the touch pen to replace a mouse when using a MCA. Store the pen in the pen holder when not in use. To put the pen in the pen holder, press it until it clicks into place. To remove the pen, press down on one end, grab the other end, and remove from the holder.



## Disk Drives

Your MCA comes with component for reading and writing (recording) information.

### ***Hard Disk Drive***

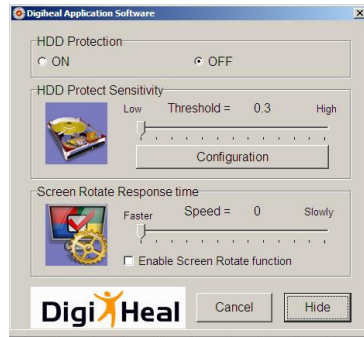
The hard disk provides high-capacity storage and fast access. Windows OS and most programs are stored here. Your MCA identifies the hard disk drive as drive C. In order to protect your precious data, this MCA features a G-sensor which "parks" the hard drive when it senses a dropping motion.

### **Operation instructions on the HDD protection application.**

Click the HDD protection icon to launch HDD protection application.



You will see the program screen as:



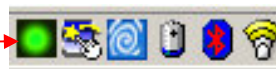
“HDD protection OFF” is checked as default. If you are using default parameters, just click the “ON” tag under “HDD protection” to activate hard disk protection function.

When HDD protection is activated, there will be a pop-up window shown on the screen once a free fall or abrupt motion detected.



At this situation, all disk access requests will be blocked. Certain application may detect some error if they set timer when accessing files. But others are just waiting their disk I/O to complete. User may release the hard disk by pressing OK button. Otherwise HDD will be released automatically after some preset time period (5 seconds by default) if no more free-fall or movements is detected.

You may also find the HDD protection icon at the task bar.



When the icon shows green, it means that the HDD protection function is on. When the icon shows red, it means that the HDD protection function is off.

## LCD Screen

- 10.4" XGA (1024x768) TFT LCD
- LED Backlight
- Luminance: 165 nit (minimum), 240 nit (typical)
- Contrast ratio: 120 (minimum), 250 (typical)

- **Light Sensor**

The built in ambient light sensor is to adjust the brightness of LCD. This will be performed automatically while in battery mode for saving power, and can be enabled/ disabled through setting in the BIOS.

▪ Advanced Menu

BIOS SETUP UTILITY

Main <b>Advanced</b> Boot Security Exit	
<b>Advanced Setting</b>	<b>Options</b> Configuration settings related to Trusted Computing innovations
▶ <b>Trusted Computing</b>	
ATA/IDE Configuration [Compatible] Legacy IDE Channels [PATA Only]	
<b>Devices Configuration</b>	
Enable Bluetooth Timeout [Enable] Bluetooth Timeout Timer [10 Mins] Enable Light Sensor [Enable]	←→ Select Screen ↑↓ Select Item + - Change Option F1 General Help F10 Save and Exit ESC Exit
V02.56 ©Copyright 1985-2004, American Megatrends, Inc.	



## Touch Screen

- Calibration software will be provided for use by users
- Calibration and precision will be retained at least 72 hours of full time use, except for below:
  1. Frequently abnormal power the unit off
  2. Reinstall the OS on the unit
  3. Expose the unit to the environment which has great temperature difference than the one performs the calibration
  
- **Palm rejection**

This MCA features palm rejection function which refers to the touch screen's resistance to making the cursor jump when you inadvertently touch the screen with the palm of your hand.

- **To lock/unlock the touch screen**  
**(Factory Default: Lock Touch Function Time UNSELECTED)**

To lock: 1. Manually (FN + SAS key)

2. Automatically (after some idle time presetting by user)

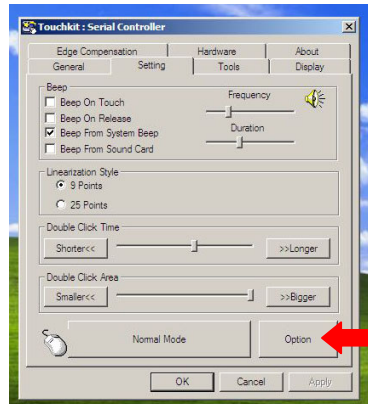
To unlock: Manually (FN + SAS key)

\*If you want to lock the touch screen automatically, you need to follow following instruction:

(1) Double click the Touchkit icon to launch Touchkit application.

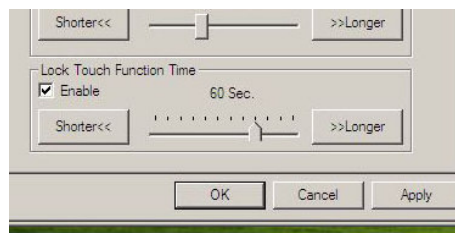


(2) Select [Setting] → [Option]



(3) You will find [Lock Touch Function Time] section on the bottom.

Select [Enable] to activate this function. You can also adjust the idle time in this section.



## Information about Fingerprint function

With use of fingerprint authentication, you can log on to Windows by only authenticating fingerprints that have previously been registered.

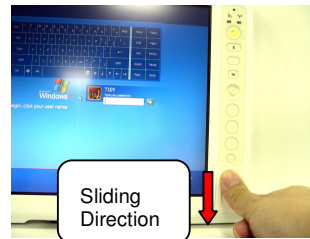


With fingerprint authentication, you can omit entering a user name and a password by just sliding your finger onto the fingerprint sensor at the time of logging in homepages or logging on Windows.

### Tips:

*\*Hold your finger and scan at the same angle each time.*

*\*Don't swipe too fast or too slow or it will make a capture unsuccessful.*



User will find an icon  on Windows task bar.

Please double click on it to execute fingerprint software.



*\*Up to 10 sets of fingerprint data can be saved in the system. Users who use fingerprint authentication can be added and deleted.*

## Information about Barcode scanner

Barcode scanner with red light scanning, supports 1D/2D barcode.

### 1D symbologies:

EAN/UPC, RSS, Code 39, Code 128, ISBN, ISBT, Interleaved, Matrix, Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, Postal Codes

### 2D symbologies:

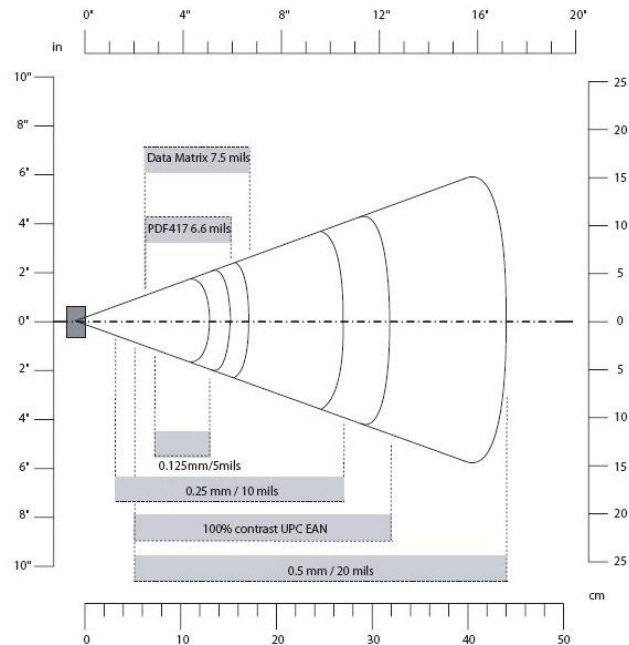
Data Matrix, PDF417, Micro PDF 417, Maxicode, QR, Aztec, EAN, UCC composite

---

### Reading Distances

All distances are measured from the front of a non-integrated imager using **Grade A** symbologies. An exit window reduces reading distances by about 4%.

### Typical Reading Distances



**Typical Reading Distances:** These distances are measured in an office

environment (250 lux).

**Typical Reading Distances**

<b>Symbology</b>	<b>Density</b>	<b>Minimum Distance</b>	<b>Maximum Distance</b>
Code 39	0.125 mm (5 mils)	7.2 cm (2.8 in)	13.1 cm (5.1 in)
	0.20 mm (8 mils)	3.8 cm (1.5 in)	22.5 cm (8.8 in)
	0.25 mm (10 mils)	3.4 cm (1.3 in)	27 cm (10.5 in)
	0.5 mm (20 mils)	5 cm (2 in)	44 cm (17.2 in)
	1 mm (40 mils)	8 cm (3.1 in)	83 cm (32.4 in)
UPC/EAN	0.33 mm (13 mils)	5 cm (2 in)	32 cm (12.5 in)
Data Matrix	0.191 mm (7.5 mils)	6.3 cm (2.5 in)	17.3 cm (6.7 in)
	0.254 mm (10 mils)	4.8 cm (1.9 in)	22 cm (8.6 in)
	0.381 mm (15 mils)	*	29 cm (11.3 in)
PDF417	0.16 mm (6.6 mils)	6.2 cm (2.4 in)	15.4 cm (6 in)
	0.254 mm (10 mils)	4.5 cm (1.8 in)	23 cm (9 in)
	0.381 mm (15 mils)	4 cm (1.6 in)	37 cm (14.4 in)

\*Minimum distance depends on symbology length and scan angle.