



IEI Technology Corp.

**MODEL:  
MODAT-200**



**Order Entry PDA for Table Service,  
Quick Registration, Inspection, On-line Sales**

## **User Manual**

**Rev. 1.01 – 13 October, 2011**





# Revision

Date	Version	Changes
13 October, 2011	1.01	Updated Section 2.3: Charging the System Added Section 2.5: Synchronized with Windows 7 System Added text size adjustment information
12 November, 2010	1.00	Initial release

# Copyright

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## **TRADEMARKS**

All registered trademarks and product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

**WARNING**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

**IMPORTANT NOTE:**

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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Chapter

1

# Introduction

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## 1.1 Overview



**Figure 1-1: MODAT-200**

The MODAT-200, built-in Windows Mobile 6.5, offers real-time information for staff to provide their guests with better, faster service and more information.

The MODAT-200 links the staff to real-time, online data to serve customers with better, faster service through Wi-Fi and connected Bluetooth devices such as headsets and thermal printers. A built-in vibrator can alert the wait staff that an order is ready to be served.

## 1.2 Feature

The MODAT-200 features the following:

- 667 MHz ARM11 CPU with built-in hardware codec (H.264/MPEG4/VC-1) and 2D/3D graphics acceleration
- 3.5" sunlight readable high brightness transfective TFT touchscreen with stylus input
- MicroSD Slot
- USB Host 1.1/Client 2.0
- Wi-Fi 802.11b/g

## MODAT-200

- Bluetooth 2.0 + EDR
- IP 54 compliant
- Windows Mobile 6.5 preinstalled
- Support Visual Studio .NET and .NET Compact Framework development tools
- Mobile application downloads: Windows Marketplace for Mobile (<http://www.windowsmarketplace.com>)

### 1.3 Applications

The MODAT-200 can be applied in the following places:

- Table service
- Quick registration
- Inspection
- On-line sales

### 1.4 External Overview

The MODAT-200 combines its features in a stylish enclosure. The MODAT-200 consists of a screen, rear panel, top panel, bottom panel and two side panels (left and right). The panels are described in detail in the following sections.

#### 1.4.1 Front Panel

The front panel of the MODAT-200 is shown below.

- 1 x Speaker
- 1 x Wi-Fi/Bluetooth status LED
- 1 x Battery charging LED
- 4 x Touch keys

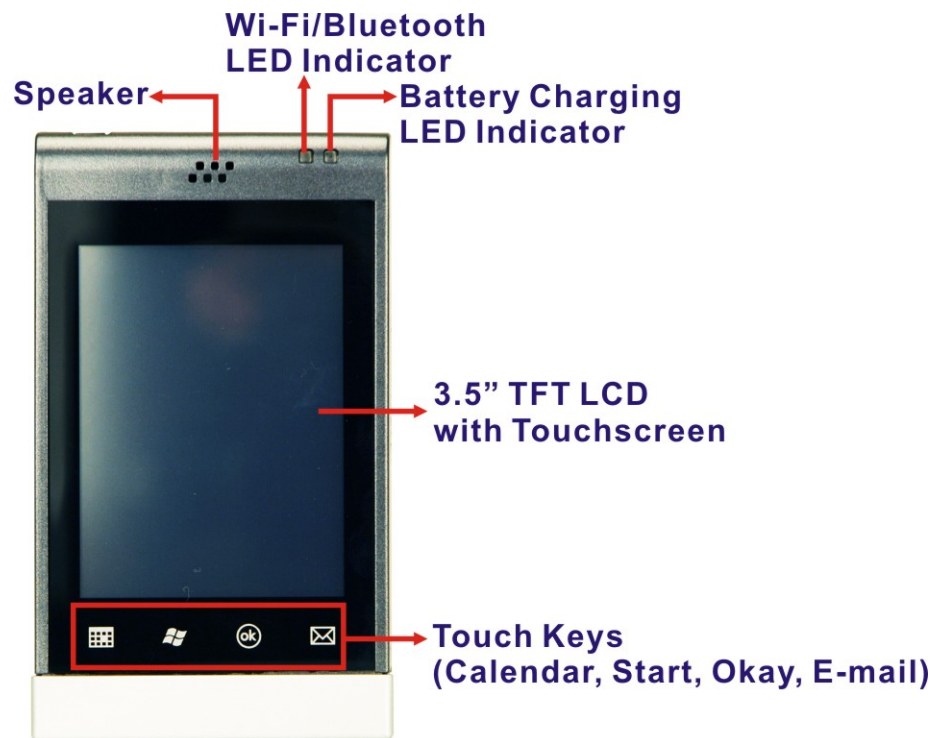


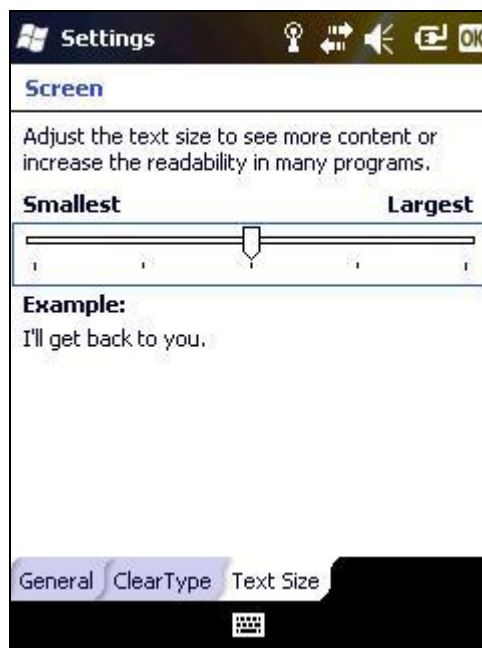
Figure 1-2: MODAT-200 Front Panel

The two LEDs on the front panel indicate Wi-Fi, Bluetooth and battery status as described below.

	Wi-Fi/Bluetooth LED (Left)	Battery Charging LED (Right)
<b>Charging</b>	--	Red
<b>Bluetooth On</b>	Blue	--
<b>Wi-Fi On</b>	Green	--
<b>Bluetooth &amp; Wi-Fi</b>	Switch between blue and green	--

**NOTE:**

The user can adjust the text size showed on the screen by going to “Start” → “Settings” → “System” → “Screen”.



### 1.4.2 Left Panel

The left panel of the MODAT-200 is shown below.

- 1 x Scrolling key
- 1 x MicroSD card slot
- 1 x Reset button



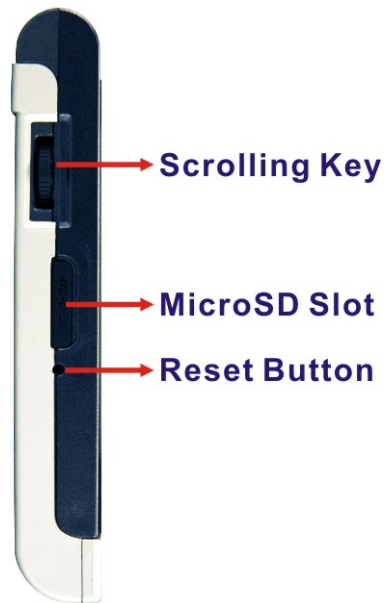


Figure 1-3: MODAT-200 Left Panel

### 1.4.3 Top Panel

The top panel of the MODAT-200 has a power button as shown in **Figure 1-4**.



Figure 1-4: MODAT-200 Top Panel

### 1.4.4 Bottom Panel

The bottom panel of the MODAT-200 is shown below.

- 1 x Digital microphone
- 1 x Earphone connector
- 1 x Mini USB connector
- 1 x Power charging cradle connector

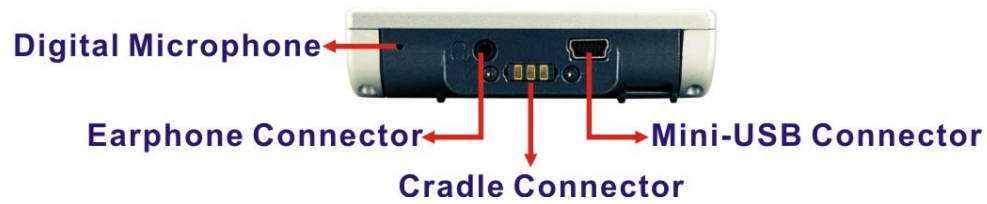


Figure 1-5: MODAT-200 Bottom Panel

### 1.4.5 Rear Panel

The rear panel of the MODAT-200 is shown below.

- 1 x Hanger
- 1 x Hand strap clip



Figure 1-6: MODAT-200 Rear Panel

## 1.5 Specifications

The technical specifications for the MODAT-200 systems are listed in Table 1-1.

Specification	MODAT-200
<b>Microprocessor</b>	Samsung 6410 ARM11 667 MHz
<b>OS</b>	Windows Mobile 6.5
<b>Memory</b>	128 MB SDRAM 128 MB NAND Flash
<b>Display</b>	3.5" (89mm) TFT LCD <ul style="list-style-type: none"> <li>▪ QVGA (240 x 320)</li> <li>▪ 64 K color</li> <li>▪ LED backlight</li> <li>▪ Resistive touchscreen</li> </ul>
<b>Communication</b>	Wi-Fi 802.11 b/g Bluetooth 2.0 + EDR USB Host 1.1/Client 2.0
<b>Storage</b>	One MicroSD slot (customer-accessible)
<b>Audio</b>	1 x Speaker 1 x Microphone 1 x Audio jack for the earphone with microphone
<b>Buttons/Keys</b>	1 x Power on/off button 1 x Rolling key 4 x Touch keys on front panel (calendar, start, OK, message)
<b>Indicators</b>	1 x Battery charging LED 1 x Wi-Fi/Bluetooth connection LED
<b>Vibrator</b>	Yes
<b>Power</b>	3.7 V 1880 mAh battery (built-in, non-swappable)
<b>Power Adapter</b>	Input: 90 V AC to 264 V AC Output: 5 V DC, 1 A (max.)

## MODAT-200

Specification	MODAT-200
Temperature	Operating: -10°C ~ +50°C Storage: -20°C ~ +70°C
Humidity	5%~95%, non-condensing
Drop Survival	1.2 m
Protection	IP 54
Electrostatic Discharge	+/- 15 kVdc air discharge +/- 8 kVdc contact discharge
Dimensions (LxWxD)	125 mm x 174 mm x 18.7 mm
Net Weight	200 g
Certifications	CE, FCC, BSMI

Table 1-1: MODAT-200 System Specifications

## 1.6 Dimensions

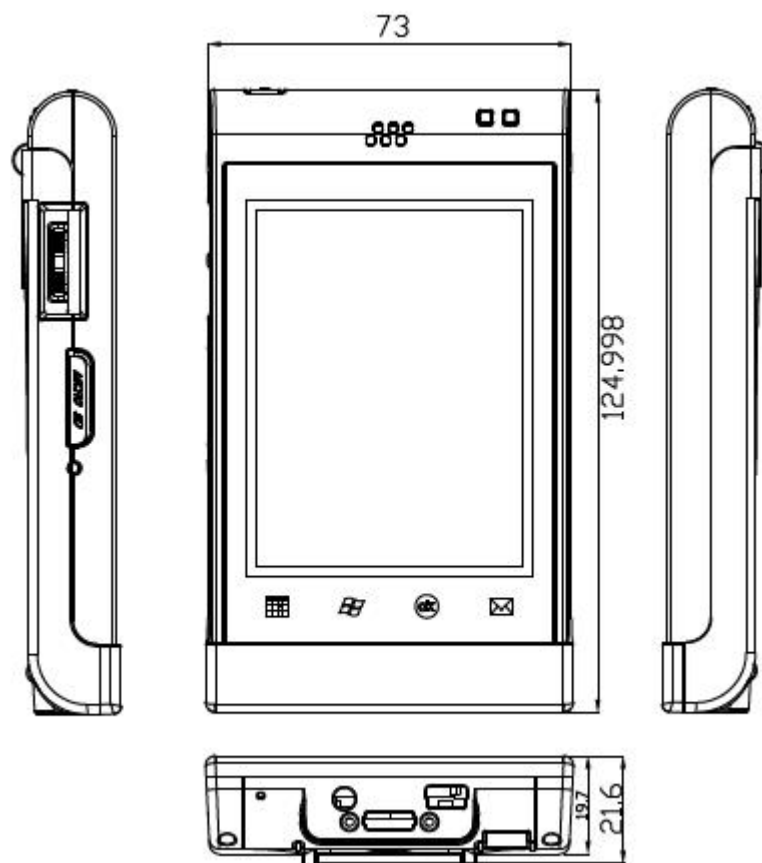


Figure 1-7: MODAT-200 Dimensions (units in mm)



Chapter

2

# Installation

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The installation steps below should be followed in order.

**Step 1:** Unpack the device

**Step 2:** Check all parts are included

**Step 3:** Charge the MODAT-200.

**Step 4:** Power up the system

## 2.1 Unpack the Device



### **WARNING!**

Only remove the protective plastic cover stuck to the front screen after installation. The plastic layer protects the screen surface during installation process.

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To unpack the MODAT-200, follow these steps:

**Step 1:** Cut the sealing tape. Only cut deep enough cut the tape.

**Step 2:** Open the box.

**Step 3:** Lift out the device.



**Step 4:** Remove all the peripheral parts from the box.

## MODAT-200

### 2.2 Packing List

The MODAT-200 is shipped with the following components:

Quantity	Item	Image
1	MODAT-200	
1	USB cable	
1	AC-DC Adapter 90 V~264 V AC input 5 V DC output, 1 A (max.)	
1	Earphone with microphone	
1	Leather bag	
1	Stylus	

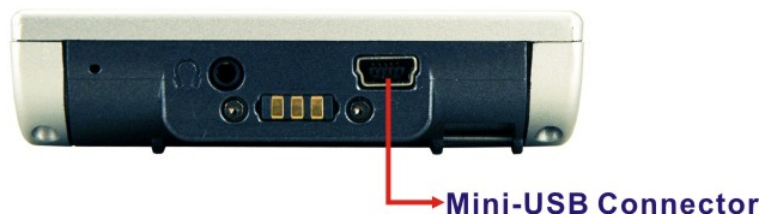
Quantity	Item	Image
1	Hand strap	
1	Charging cradle (optional) (P/N: Modat-200-CR1-R10)	

**Table 2-1: Packing List**

## 2.3 Charging the System

To start using the MODAT-200, the user must charge the MODAT-200 by the power adapter. To charge the MODAT-200, please follow the steps below.

**Step 1:** Connect the mini-USB plug of the USB cable to the mini-USB connector on the bottom panel of the MODAT-200.



**Figure 2-1: MODAT-200 Mini-USB connector**

**Step 2:** Connect the USB cable to the USB connector of the power adapter (**Figure 2-2**). Then, plug the power adapter to a power source.

**Or** directly connect the USB cable to a computer installed with the Windows XP operating system (the MODAT-200 is only supported by the USB driver from the Windows XP system).

**MODAT-200****Figure 2-2: Power Adapter USB Connector**

**Step 3:** The battery LED lights up in red and indicates the battery is being charged.

When the battery is fully charged, the battery LED will turn off.

**Figure 2-3: Battery LED****2.3.1 Using Cradle (Optional)**

To charge the MODAT-200 using the optional charging cradle, follow the steps below.

**Step 1:** Connect the mini-USB plug of the USB cable to the mini-USB connector on the rear side of the charging cradle.





**Figure 2-4: Mini-USB Connector of the Cradle**

**Step 2:** Connect the USB cable to the USB connector of the power adapter. Then, plug the power adapter to a power source.

**Or** connect the USB cable to the USB connector of a computer installed with the Windows XP operating system (the MODAT-200 is only supported by the USB driver from the Windows XP system).



**Figure 2-5: Power Adapter USB Connector**

**Step 3:** Place the MODAT-200 on the cradle and start charging the battery.

## MODAT-200



Figure 2-6: Connect the MODAT-200 to the Charging Cradle

## 2.4 Power-On/Off Procedure

To power-on/off the MODAT-200 please follow the steps below:

**Power-On:** Push the power button until the screen shows up.

**Power-Off:** Push the power button for around 6 seconds until the screen shuts off.



Figure 2-7: Power Button

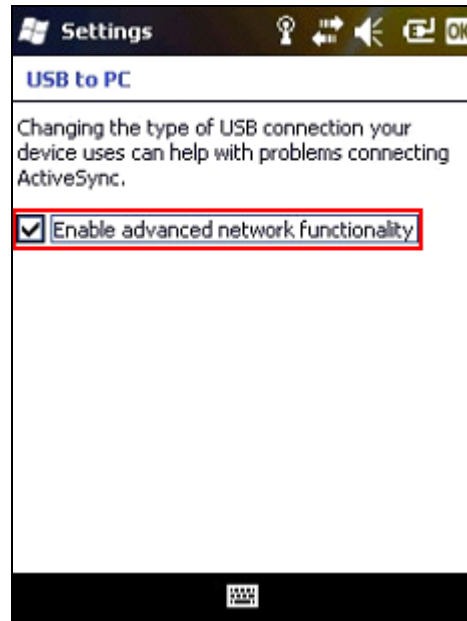
## 2.5 Synchronized with Windows 7 System

The MODAT-200 can be synchronized with a PC through USB connection. To synchronize with the Windows 7 system, please make sure to switch the USB mode to RNDIS mode (USB to PC) in the MODAT-200. To switch the USB mode, follow the steps below:

**Step 1:** Power-on the MODAT-200.

**Step 2:** Go to “Start” → “Settings” → “Connections” → “USB to PC”.

**Step 3:** Check the “Enable advanced network functionality” option.



**Figure 2-8: USB to PC Window**

Appendix

**A**

# Safety Precautions

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**WARNING:**

The built-in 1880mAh Li-ion battery of the MODAT-200 is a non-swappable battery. The user can not open the back cover and remove the battery.


**WARNING:**

The precautions outlined in this chapter should be strictly followed. Failure to follow these precautions may result in permanent damage to the MODAT-200.

## A.1 Safety Precautions

Please follow the safety precautions outlined in the sections that follow:

### A.1.1 General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

- ***Follow the electrostatic precautions*** outlined below whenever the MODAT-200 is opened.
- ***Make sure the power is turned off and the power cord is disconnected*** whenever the MODAT-200 is being installed, moved or modified.
- ***Do not apply voltage levels that exceed the specified voltage range.*** Doing so may cause fire and/or an electrical shock.
- ***Electric shocks can occur*** if the MODAT-200 chassis is opened when the MODAT-200 is running.
- ***Do not drop or insert any objects*** into the ventilation openings of the MODAT-200.
- ***If considerable amounts of dust, water, or fluids enter the MODAT-200,*** turn off the power supply immediately, unplug the power cord, and contact the MODAT-200 vendor.



## MODAT-200

- **DO NOT:**
  - Drop the MODAT-200 against a hard surface.
  - Strike or exert excessive force onto the LCD panel.
  - Touch any of the LCD panels with a sharp object
  - In a site where the ambient temperature exceeds the rated temperature

### A.1.2 Anti-static Precautions



#### **WARNING:**

Failure to take ESD precautions during the installation of the MODAT-200 may result in permanent damage to the MODAT-200 and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the MODAT-200. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the MODAT-200 is opened and any of the electrical components are handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband:*** Wearing a simple anti-static wristband can help to prevent ESD from damaging any electrical component.
- ***Self-grounding:*** Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad:*** When configuring or working with an electrical component, place it on an anti-static pad. This reduces the possibility of ESD damage.
- ***Only handle the edges of the electrical component:*** When handling the electrical component, hold the electrical component by its edges.

### A.1.3 Product Disposal

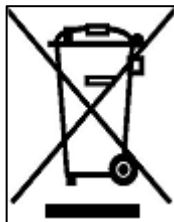


#### **CAUTION:**

Risk of explosion if battery is replaced by and incorrect type.

Dispose of used batteries according to instructions and local regulations.

- Outside the European Union - If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union:



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords.

When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

## A.2 Maintenance and Cleaning Precautions

When maintaining or cleaning the MODAT-200, please follow the guidelines below.

### A.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the MODAT-200, please read the details below.

- Except for the LCD panel, never spray or squirt liquids directly onto any other components. To clean the LCD panel, gently wipe it with a piece of soft dry cloth or a slightly moistened cloth.

## MODAT-200

- The interior of the MODAT-200 does not require cleaning. Keep fluids away from the MODAT-200 interior.
- Be cautious of all small removable components when vacuuming the MODAT-200.
- Turn the MODAT-200 off before cleaning the MODAT-200.
- Never drop any objects or liquids through the openings of the MODAT-200.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the MODAT-200.
- Avoid eating, drinking and smoking within vicinity of the MODAT-200.

### A.2.2 Cleaning Tools

Some components in the MODAT-200 may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the MODAT-200.

- **Cloth** – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the MODAT-200.
- **Water or rubbing alcohol** – A cloth moistened with water or rubbing alcohol can be used to clean the MODAT-200.
- **Using solvents** – The use of solvents is not recommended when cleaning the MODAT-200 as they may damage the plastic parts.
- **Vacuum cleaner** – Using a vacuum specifically designed for computers is one of the best methods of cleaning the MODAT-200. Dust and dirt can restrict the airflow in the MODAT-200 and cause its circuitry to corrode.
- **Cotton swabs** - Cotton swaps moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- **Foam swabs** - Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.



Appendix

**B**

# International Standards Compliance

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## MODAT-200

### B.1 UL 60601-1 AND CAN/CSA C22.2 NO. 601.1



MEDICAL EQUIPMENT  
WITH RESPECT TO ELECTRIC SHOCK,  
FIRE AND MECHANICAL HAZARDS ONLY  
IN ACCORDANCE WITH UL 60601-1,  
IEC/EN 60601-1, CAN/CSA C22.2 No. 601.1

Authentication sign of Standard Inspection Bureau for U.S.A. Complies with UL 60601-1  
AND CAN/CSA C22.2 NO. 601.1.

### B.2 EN 60601-1



TUV Rheinland Product Safety safety mark for compliance with EN 60601-1.

### B.3 EN 60601-1, EN 60601-2



The LCD monitor complies with the EN 60601-1 and EN 60601-2 of related European standards.

### B.4 FCC



We hereby declare that the equipment specified above conforms to the technical standards as specified in the FCC Rules.





Appendix

C

# Hazardous Materials Disclosure

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## **C.1 Hazardous Materials Disclosure Table for IPB Products Certified as RoHS Compliant Under 2002/95/EC Without Mercury**

The details provided in this appendix are to ensure that the product is compliant with the Peoples Republic of China (China) RoHS standards. The table below acknowledges the presences of small quantities of certain materials in the product, and is applicable to China RoHS only.

A label will be placed on each product to indicate the estimated “Environmentally Friendly Use Period” (EFUP). This is an estimate of the number of years that these substances would “not leak out or undergo abrupt change.” This product may contain replaceable sub-assemblies/components which have a shorter EFUP such as batteries and lamps. These components will be separately marked.

Please refer to the table on the next page.

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Housing	X	O	O	O	O	X
Display	X	O	O	O	O	X
Printed Circuit Board	X	O	O	O	O	X
Metal Fasteners	X	O	O	O	O	O
Cable Assembly	X	O	O	O	O	X
Fan Assembly	X	O	O	O	O	X
Power Supply Assemblies	X	O	O	O	O	X
Battery	O	O	O	O	O	O
<p>O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in SJ/T11363-2006</p> <p>X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in SJ/T11363-2006</p>						

## MODAT-200

此附件旨在确保本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有“环境友好使用期限”的标签，此期限是估算这些物质“不会有泄漏或突变”的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯 醚 (PBDE)
壳体	X	O	O	O	O	X
显示	X	O	O	O	O	X
印刷电路板	X	O	O	O	O	X
金属螺帽	X	O	O	O	O	O
电缆组装	X	O	O	O	O	X
风扇组装	X	O	O	O	O	X
电力供应组装	X	O	O	O	O	X
电池	O	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。  
X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。