



IEI Technology Corp.



MODEL:
IMK-570

**MiniKiosk with 500 MHz RMI Alchemy AU1250 CPU,
5.7" Screen, 256 MB DDR2, 1D/2D Barcode Scanner,
MSR/SCR, Four Programmable Buttons**

User Manual

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Revision

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Chapter

1

Introduction

1.1 Overview



Figure 1-1: IMK-570

The IMK-570 is a mini kiosk with multimedia functionality. The IMK-570 includes a 1D/2D barcode scanner, 2-in-1 magnetic strip / swipe card reader and is capable of playing back MPEG1/2/4, DivX and WMV9 video formats.

The IMK-570 features a 500 MHz RMI Alchemy AU1250 CPU, 256 MB DDR2 RAM and a 2 GB miniSD card.

Connectivity on the IMK-570 includes a Fast Ethernet port with Power Over Ethernet support, 802.11b/g wireless and an RS-232 port. Multimedia features include built-in stereo speakers and a stereo output jack.

1.2 Benefits

The IMK-570 is designed to enhance the customer experience and gain new customers.

- Retail
 - Reduce staff workload
 - Increase cross-selling and backend product promotion
 - Increase revenue through local advertising
- Production line
 - Easy updating of production status

IMK-570

1.3 Standard Features

Some of the standard features of the IMK-570 flat panel PC include:

- Fully self-contained, only power from the external power supply required
- Touch screen
- Wireless LAN
- Fast Ethernet
- RS-232
- RoHS compliant

1.4 External Overview

The IMK-570 consists of a screen and plastic surrounds. The front contains the screen, four programmable buttons and the barcode reader. The rear has VESA 75 mounting holes and the peripheral connectors.

1.4.1 Front Panel

The front of the IMK-570 is shown below.



Figure 1-2: IMK-570 Front Panel

1.4.2 Rear Panel

The rear of the IMK-570 is shown below.



Figure 1-3: IMK-570 Rear Panel

1.4.3 Bottom Panel

The bottom panel has the following slots, buttons and switches (**Figure 1-4**):

- 1 x Fast Ethernet (support POE)
- 2 x USB ports
- 1 x Audio line out
- 1 x RS-232
- 1 x Power input
- 1 x Reset button

IMK-570

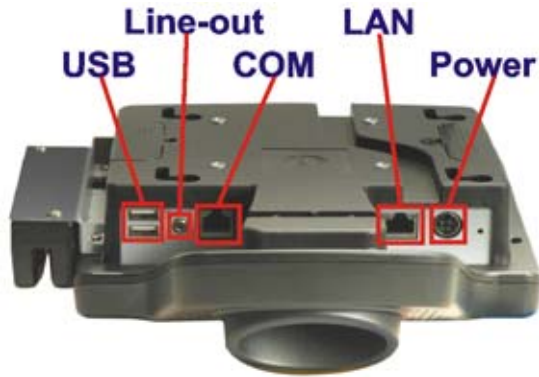


Figure 1-4: IMK-570 Bottom Panel

1.5 Specifications

The technical specifications for the IMK-570 systems are listed in **Table 1-1**.

SPECIFICATION	IMK-570
CPU	500 MHz RMI Alchemy AU1250
LCD Panel	5.7"
Resolution	640 x 480
Touch Screen	4-wire resistive touch panel
I/O	1 x Fast Ethernet (support POE) 2 x USB ports 1 x Audio line out 1 x RS-232
Power Adapter	100-240 VAC input, 12 V output
Mounting Feature	VESA 75x75
Operating Temp.	0°C ~ 40°C
Dimension (WxHxD)	210.00 x 236.31 x 63.96

Table 1-1: IMK-570 System Specifications

1.6 Dimensions

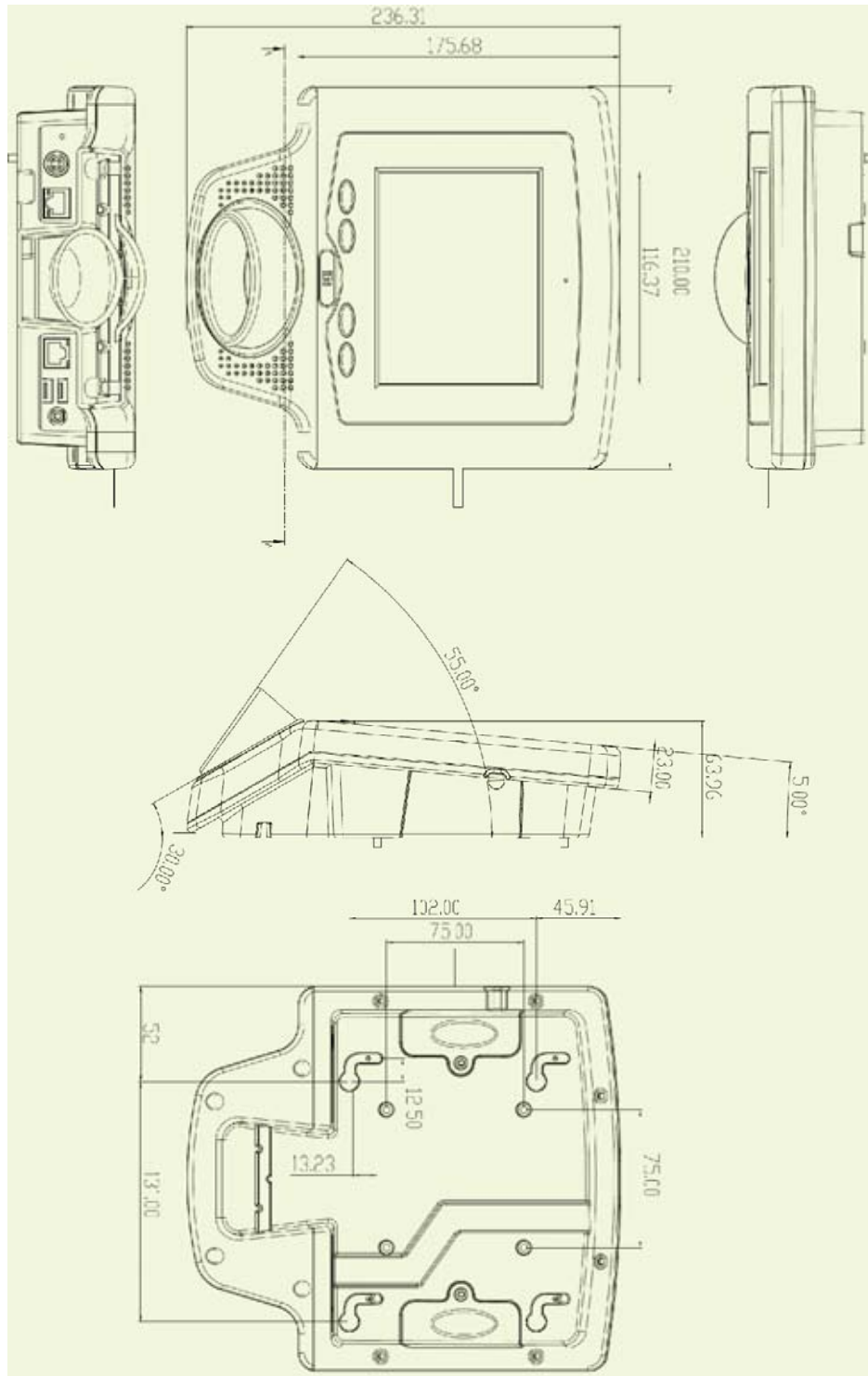


Figure 1-5: IMK-570 Dimensions (units in mm)

Chapter

2

Installation

2.1 Introduction

The installation steps below should be followed in order.

- Step 1:** Unpack the flat panel PC
- Step 2:** Check all the required parts are included
- Step 3:** Connect peripheral devices to the bottom panel of the flat panel PC
- Step 4:** Mount the flat panel PC
- Step 5:** Connect the power cable

2.2 Unpack the Panel PC

To unpack the flat panel PC, follow the steps below:



WARNING!

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

-
- Step 1:** Carefully cut the tape sealing the box. Only cut deep enough to break the tape.
 - Step 2:** Open the outside box.
 - Step 3:** Carefully cut the tape sealing the box. Only cut deep enough to break the tape.
 - Step 4:** Open the inside box.
 - Step 5:** Lift the monitor out of the boxes.
 - Step 6:** Remove the peripheral parts box from the main box.

2.3 Packing List

The IMK-570 flat panel PC is shipped with the following components:

IMK-570






Quantity	Item	Image
1	IMK-570	
1	RJ-45 to RS-232 D-sub 9-pin connector	
1	Screw set	
1	User manual CD	
1	Touch screen pen	

Table 2-1: Packing List

If any of these items are missing or damaged, contact the distributor or sales representative immediately.

2.4 Optional Items


Quantity	Item	Image
1	Wall mounting kit	

Table 2-2: Optional Items

2.5 Bottom Panel Connectors

The bottom panel connectors extend the capabilities of the panel PC but are not essential for operation (except power).



Figure 2-1: Connectors

2.5.1 LAN Connection

The RJ-45 connectors enable connection to an external network. To connect a LAN cable with an RJ-45 connector, please follow the instructions below.

- Step 1:** Locate the RJ-45 connector on the bottom panel of the IMK-570.
- Step 2:** Align the connectors. Align the RJ-45 connector on the LAN cable with one of the RJ-45 connectors on the bottom panel of the IMK-570. See **Figure 2-2**.

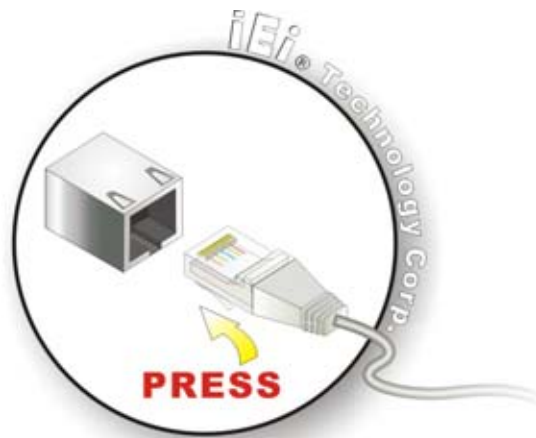


Figure 2-2: LAN Connection

- Step 3:** Insert the LAN cable RJ-45 connector. Once aligned, gently insert the LAN cable RJ-45 connector into the onboard RJ-45 port.

IMK-570

2.5.2 Serial Device Connection

The serial device connectors are for connecting serial devices to the IMK-570. Follow the steps below to connect a serial device to the IMK-570 panel PC.

Step 1: Locate the DB-9 connector. The location of the DB-9 connector is shown in **Chapter 2**.

Step 2: Insert the serial connector. Insert the DB-9 connector of a serial device into the DB-9 connector on the bottom panel. See **Figure 2-3**.

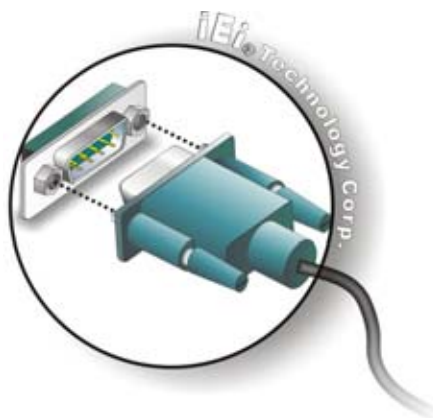


Figure 2-3: Serial Device Connector

Step 3: Secure the connector. Secure the serial device connector to the external interface by tightening the two retention screws on either side of the connector.

2.5.3 USB Device Connection

To connect USB devices to the IMK-570, please follow the instructions below.

Step 1: Located the USB connectors. The locations of the USB connectors are shown in **Chapter 2**.

Step 2: Align the connectors. Align the USB device connector with one of the connectors on the bottom panel. See **Figure 2-4**.

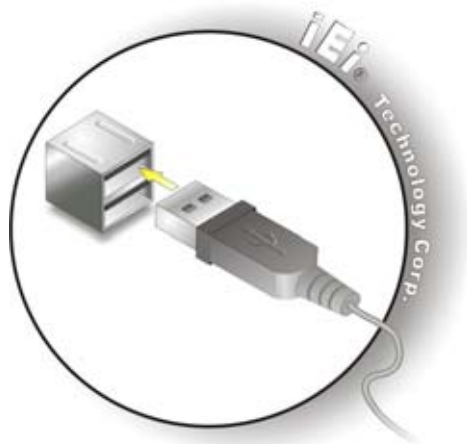


Figure 2-4: USB Device Connection

Step 3: Insert the device connector. Once aligned, gently insert the USB device connector into the onboard connector.

2.6 Mounting the System

The IMK-570 is designed to be installed on a standard VESA 75 fitting. The optional wall mounting kit makes installation very quick and easy.

2.6.1 Wall Mounting Kit

To install the IMK-570 with the wall mounting kit, follow the directions below.

IMK-570

- Step 1:** Attach the wall mounting kit to the mounting surface with the included screws.
Make sure it is attached securely.

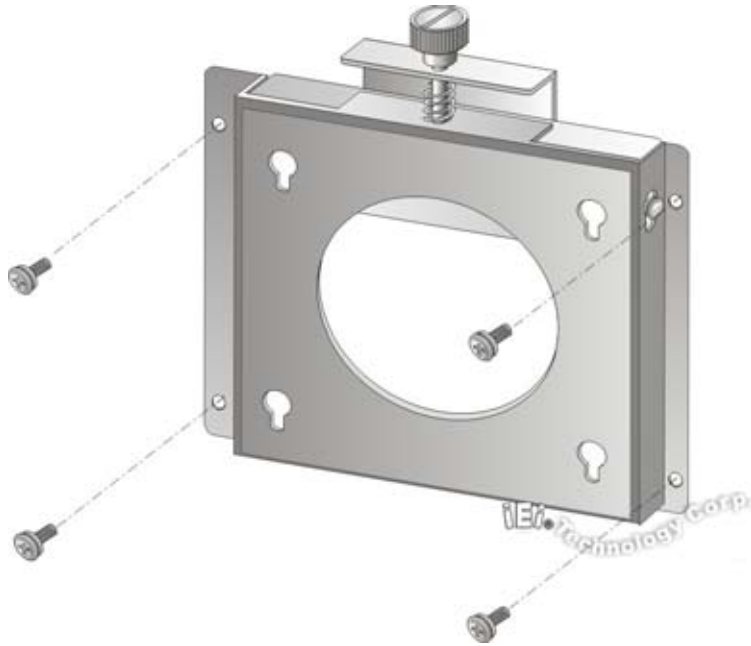


Figure 2-5: Attach Wall Mounting Kit to the Wall

Step 2: Screw the mounting screws to the mounting holes on the rear of the IMK-570.

Step 3: Hook the IMK-570 into the mounting holes on the wall mounting kit.

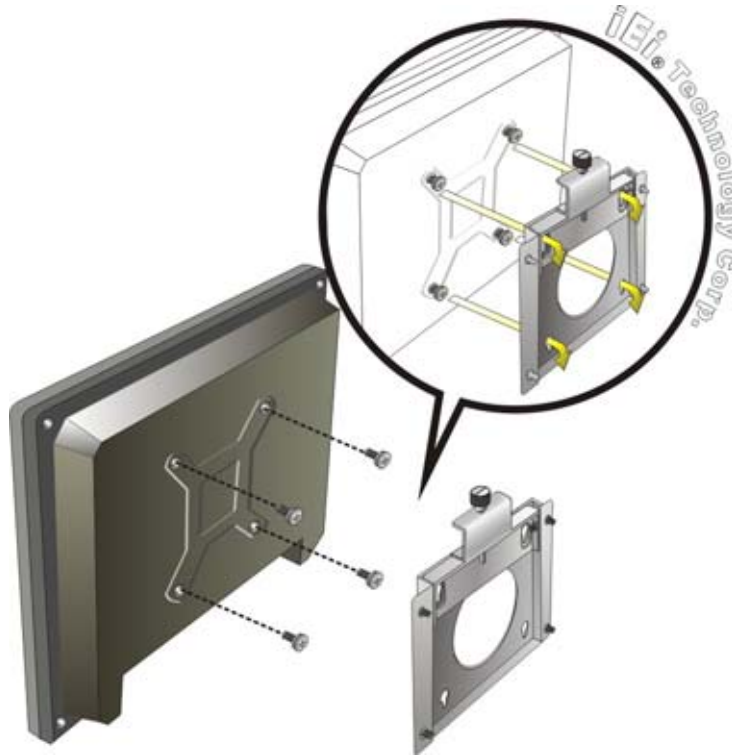


Figure 2-6: Hook Onto Wall Mounting Kit

IMK-570

Step 4: Tighten the top screw on the wall mounting kit to securely hold the IMK-570 in place. After this screw is tightened, the IMK-570 should not be able to move.

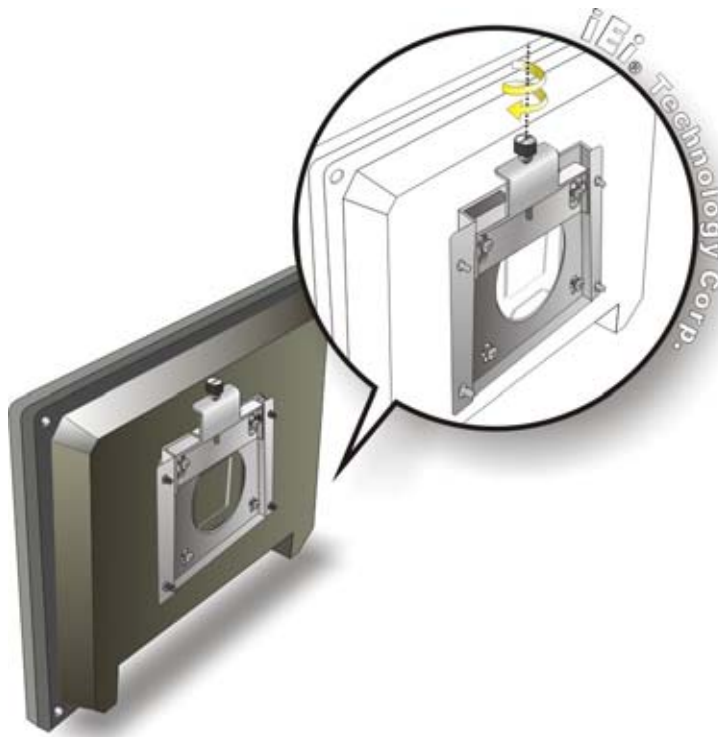


Figure 2-7: Tighten Retention Screw

2.7 Power Connection

The power supply needs to be connected to the power input on the rear of the IMK-570.



Figure 2-8: VGA Connector

Step 1: Connect the DIN plug to the IMK-570.

Step 2: Connect the other end to a 100-240 VAC single-phase power supply.

Step 3: The IMK-570 will turn on automatically when plugged in.

Chapter

3

Usage

3.1 Introduction

This section outlines the user interfaces of the IMK-570.

3.2 Front Panel Buttons

The front panel buttons are easy to access and can be programmed to perform specific functions.

By default the front panel buttons do the following:

3.2.1 F1

F1 opens the IEI demonstration program. The demonstration application demonstrates the use of the barcode scanner and card reader. The demonstration program displays the products and additional information according to the code scanned.

3.2.2 F2

F2 minimizes the IEI demonstration program. The demonstration program can be opened again by pressing F1.

3.2.3 F3

F3 opens the scanning code reader. The scanning code reader will display the code that is read from any input devices including the barcode scanner and the card reader.

3.2.4 F4

F4 reboots the system. After pressing F4, the system is rebooted.

3.3 Resetting The System

To reboot the system, press the reset button on the rear panel. Insert a long thin object into the hole to press the reset button.

Chapter

4

Software Guide

4.1 Software Setup

Html folder – contains all the elements for the product scanner program. Edit the HTML to change the layout. Also change MSRControl.ocx with html.

KeyPadFunction – sets the programs to use with key pad events.

XMLEditor – change the product lists, detailed below.

XMLEditorServerCE.exe – must be in "\Storage Card\System\XMLEditorServerCE.exe" to allow access through the XML Editor. Putting it in this directory makes it run at startup.

4.2 Starting the Barcode Reader Program

Double-click "\Storage Card\BarCodeDemo.exe" on the IMK-570.

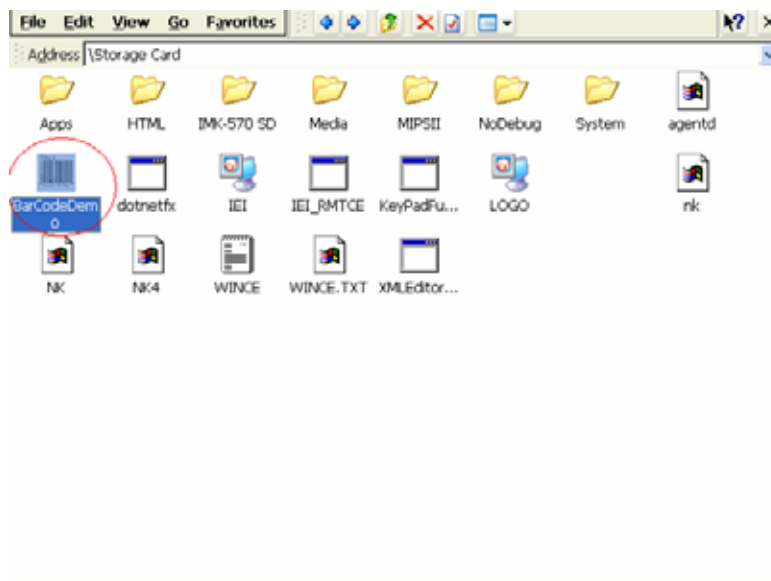


Figure 4–1: BarCodeDemo.exe



Figure 4-2: Barcode Reader Program

4.3 Starting the Keypad Program

Double-click "\\Storage Card\KeyPadFunction.exe" on the IMK-570.

- **F1:** Start BarCodeDemo.exe.
- **F2:** Go back to desktop.
- **F3:** Open MS Word.
- **F4:** Reboot system.

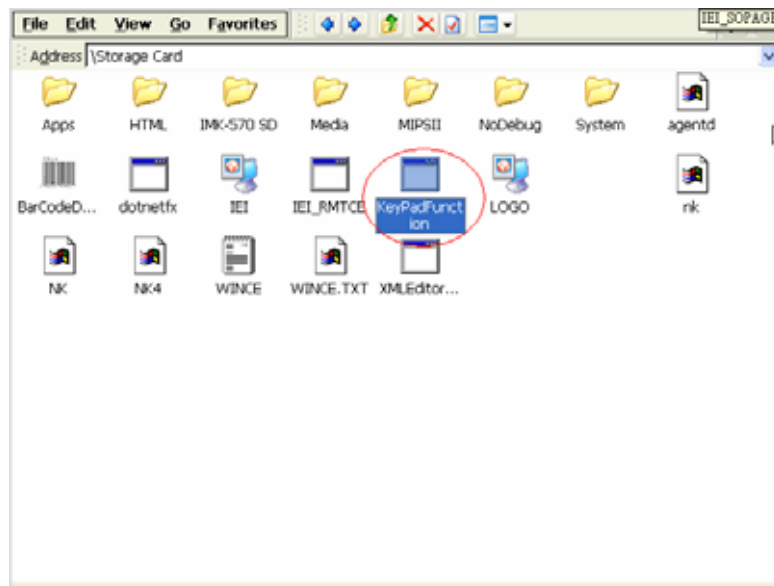


Figure 4–3: KeyPadFunction.exe

4.4 Using the XML Editor

The XML editor is for editing the product list file that stores the product codes and information on the IMK-570.

4.4.1 Starting the XML Editor

Double-click "XML Editor.exe" on the local computer to start the program.

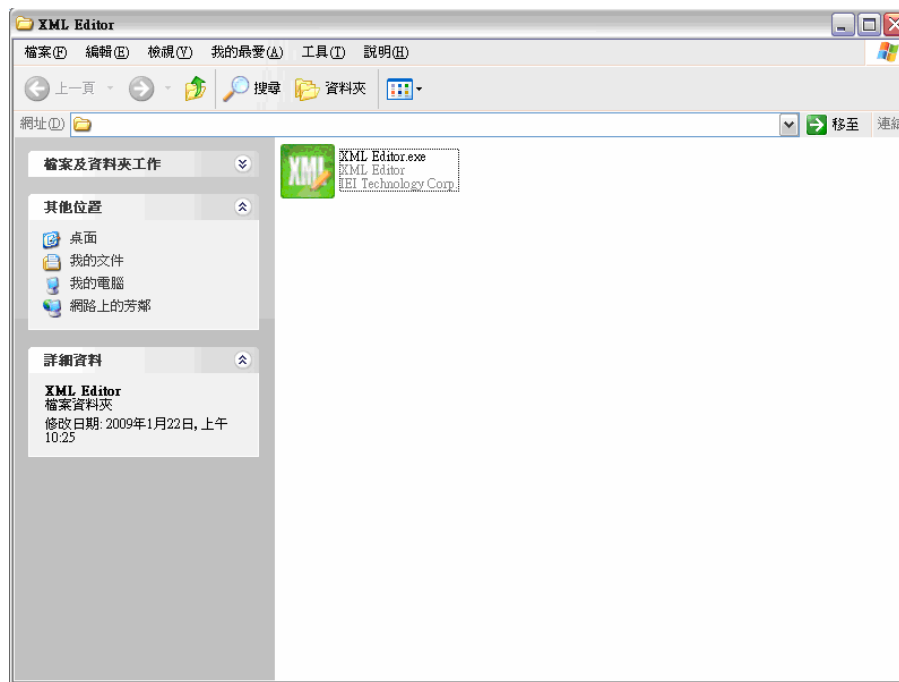


Figure 4-4: XML Editor

4.4.2 Scanning the Network

The XML Editor scans for any product list files on the current network. To scan for the files, please follow the steps below.

Step 1: Choose to scan on the automatically detected subnet, or manually enter one.

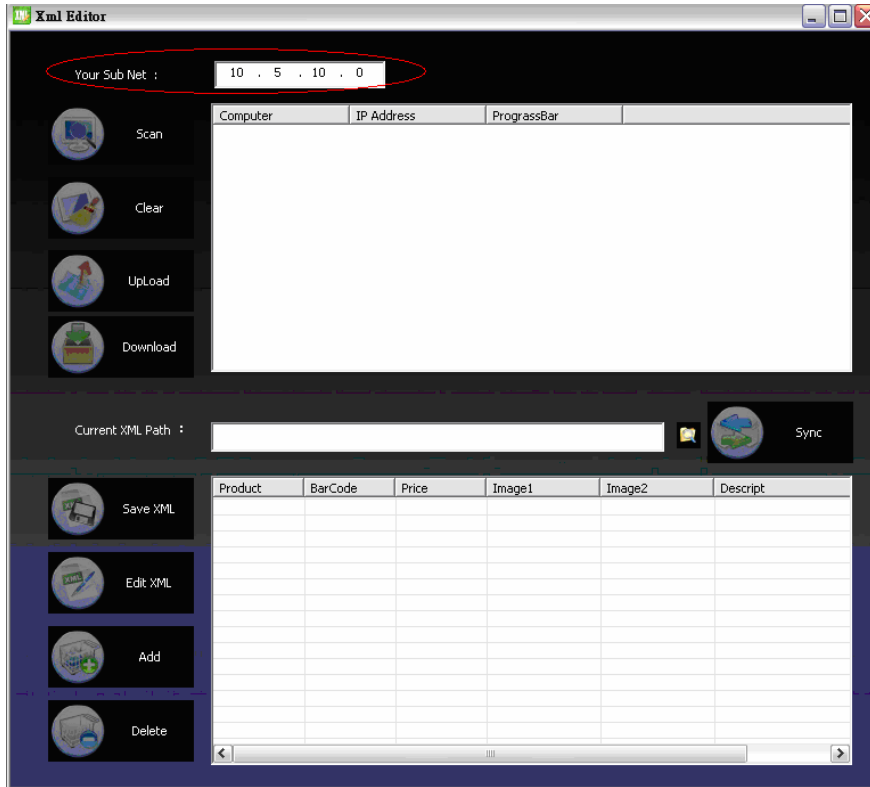


Figure 4-5: Subnet

Step 2: Click "Scan" to detect product lists on the subnet. In the current example 10.5.10.0 will scan from 10.5.10.1 to 10.5.10.255.

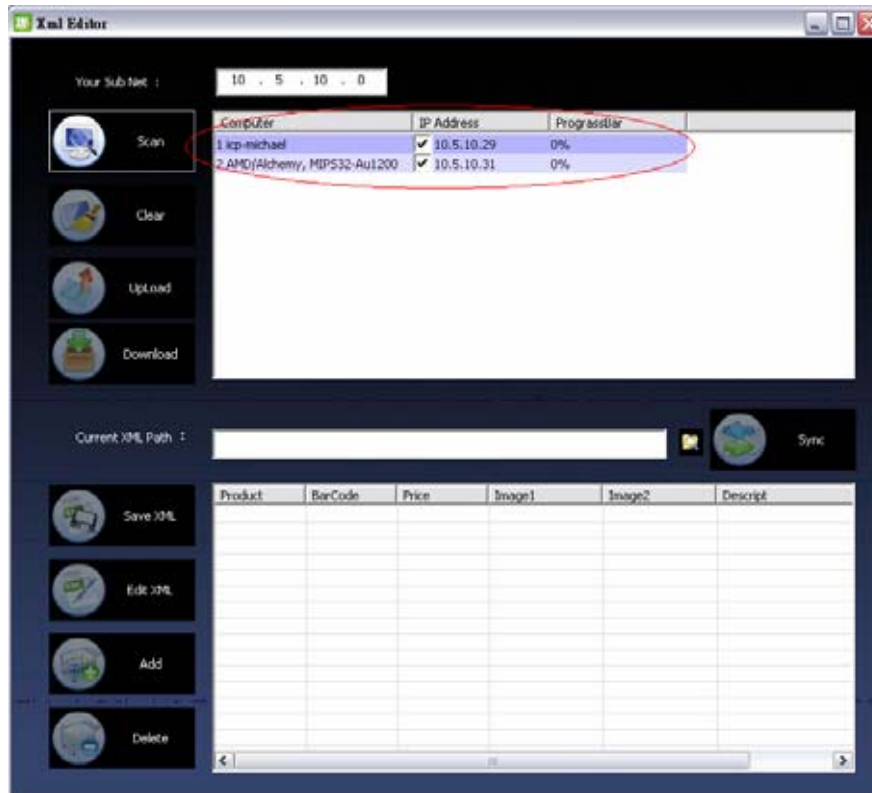


Figure 4–6: Computers With Product Lists

The computer list shows the following details of each computer on the network.

- 1st column: Displays the computer's name.
- 2nd column: Displays the IP address.
- 3rd column: Displays the download/upload progress.

Step 3: "Clear" removes all computers from the list.

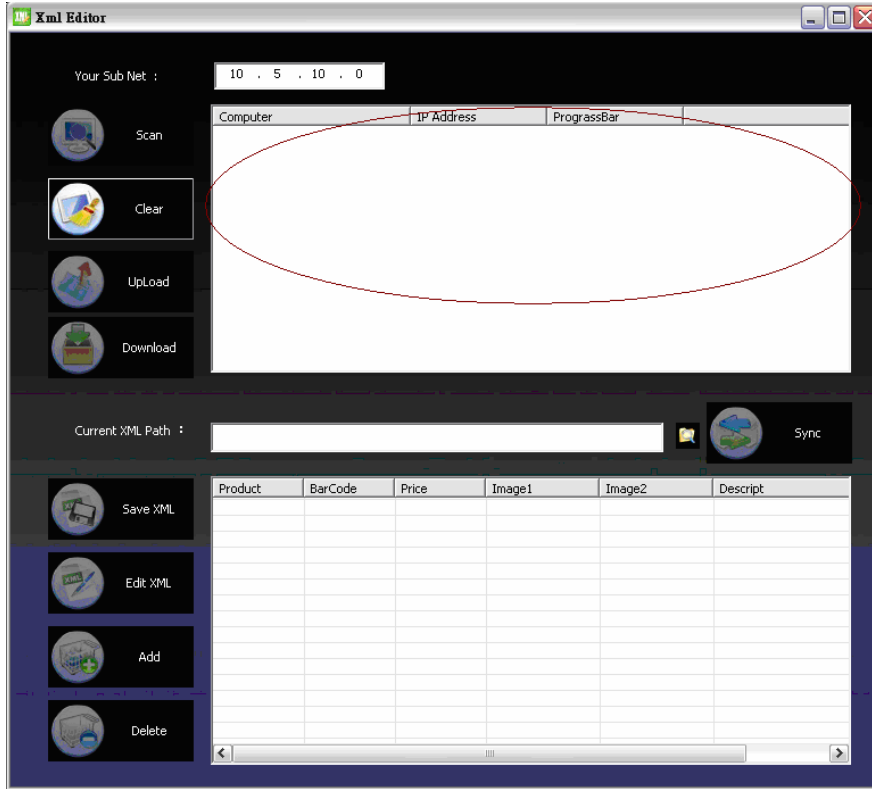


Figure 4-7: Clear Computer List

4.4.3 Downloading The Product List

To download the product list, follow the steps below.

Step 1: Click the checkbox of the computers you want to download from.

Step 2: Click "Download" to start downloading.

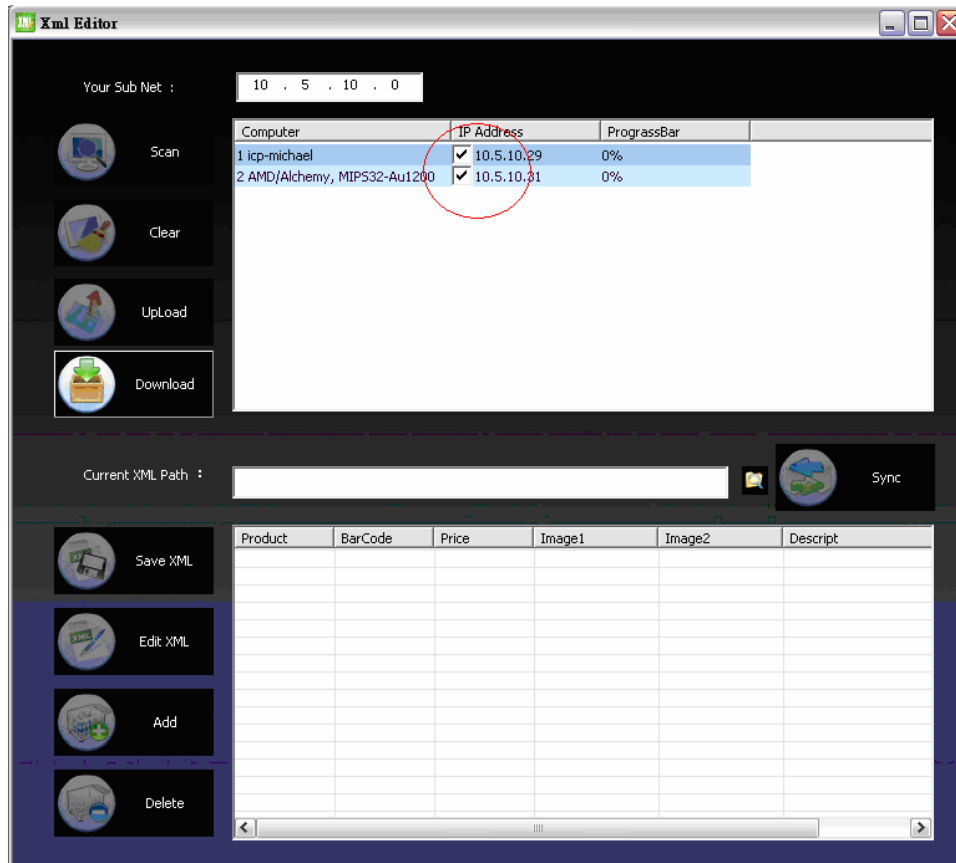


Figure 4–8: Download Product List

Step 3: Click "Yes" to start downloading ("No" to cancel).

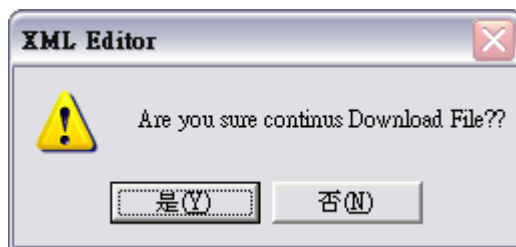


Figure 4–9: Confirm Download

Step 4: Download progress is shown in the Progress column.

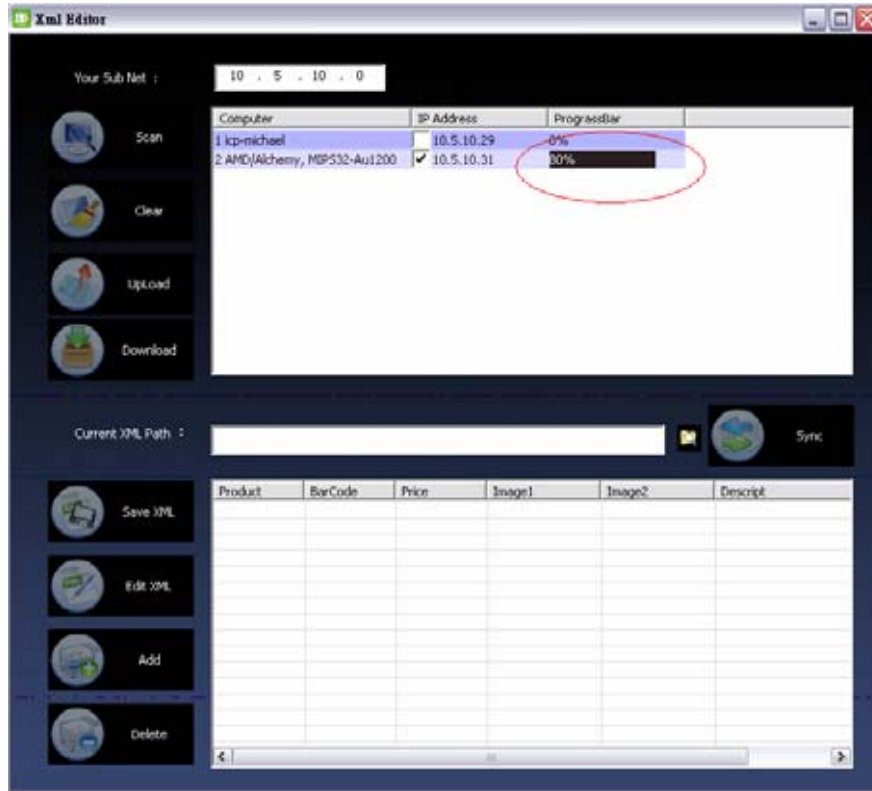


Figure 4-10: Download Progress

The downloaded product list files are stored in subdirectories of the directory where "XML Editor.exe" is. Subdirectories are named according to the IP address.

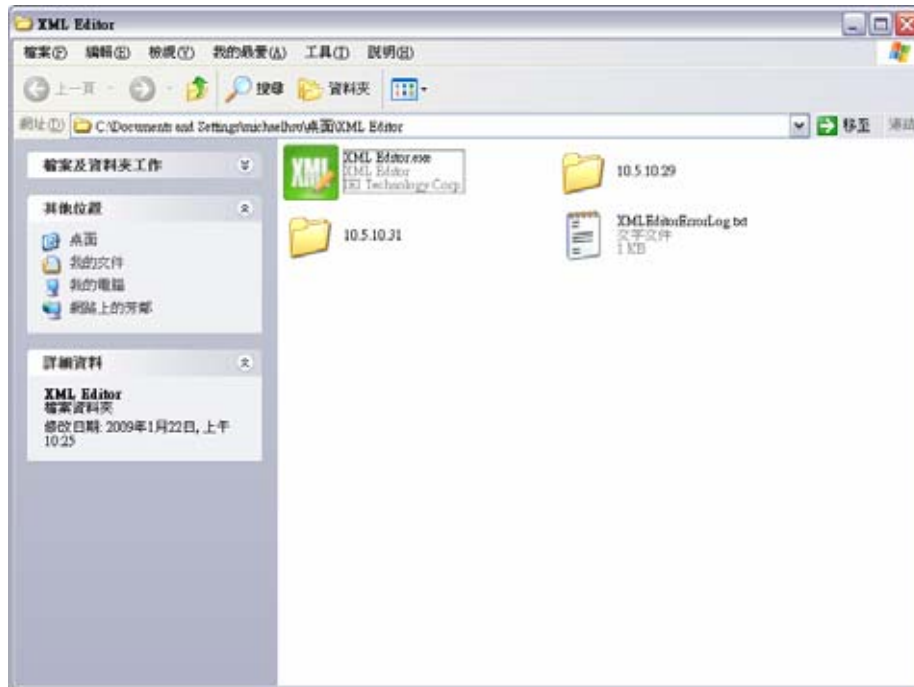


Figure 4–11: Local XML Directories

4.4.4 Modifying The Product List

To make changes to the contents of the downloaded product list files, follow the steps below.

Step 1: Click the name of the computer whose product list you want to change.

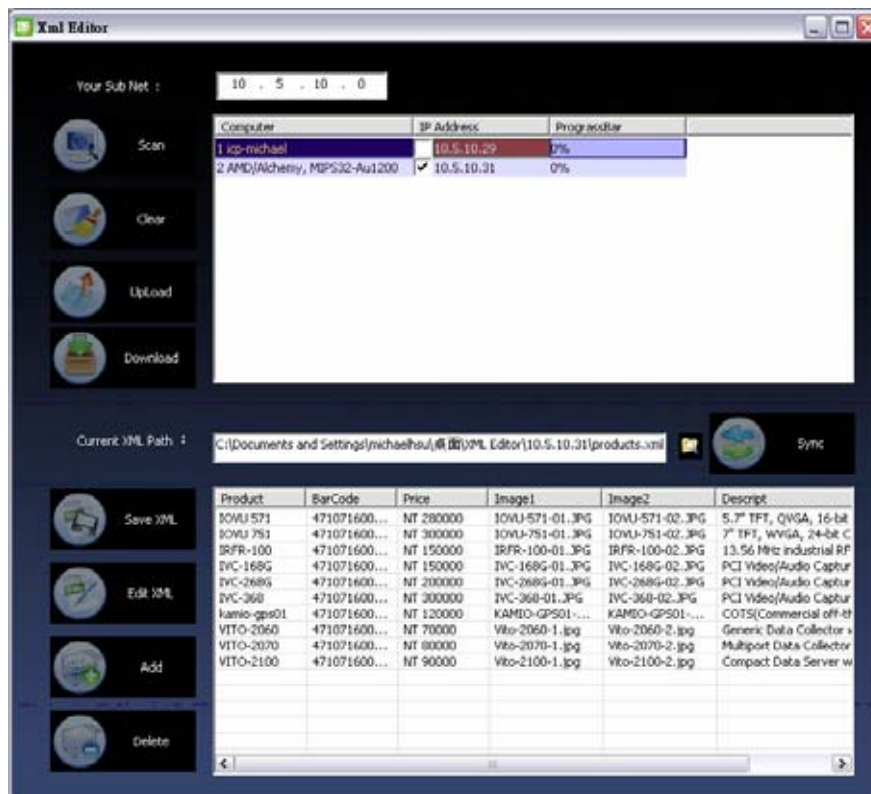


Figure 4-12: Select Computer

Step 2: Select an item in the list and click "Edit" to change the information (or double-click the item name).

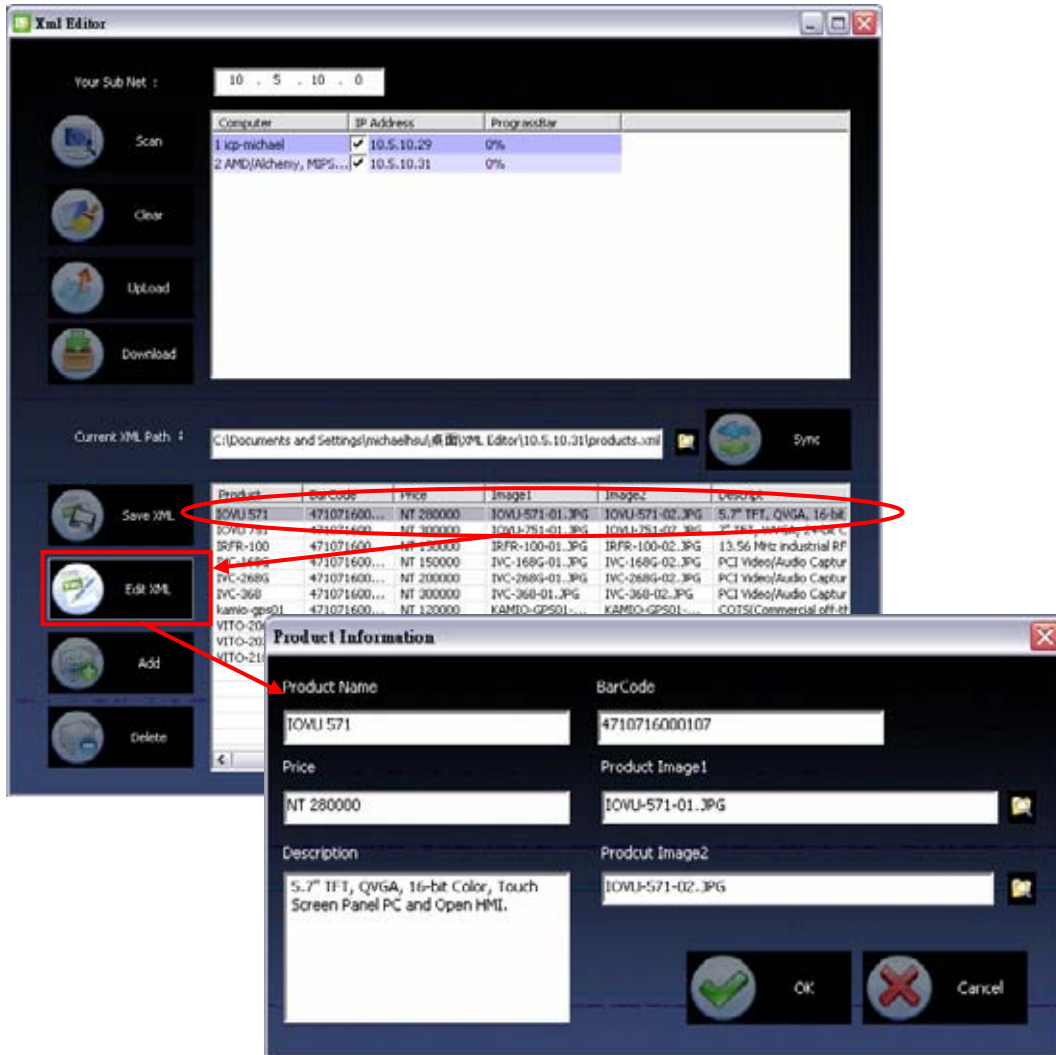


Figure 4-13: Edit List Item

Step 3: Click "Add" to add another item to the product list.

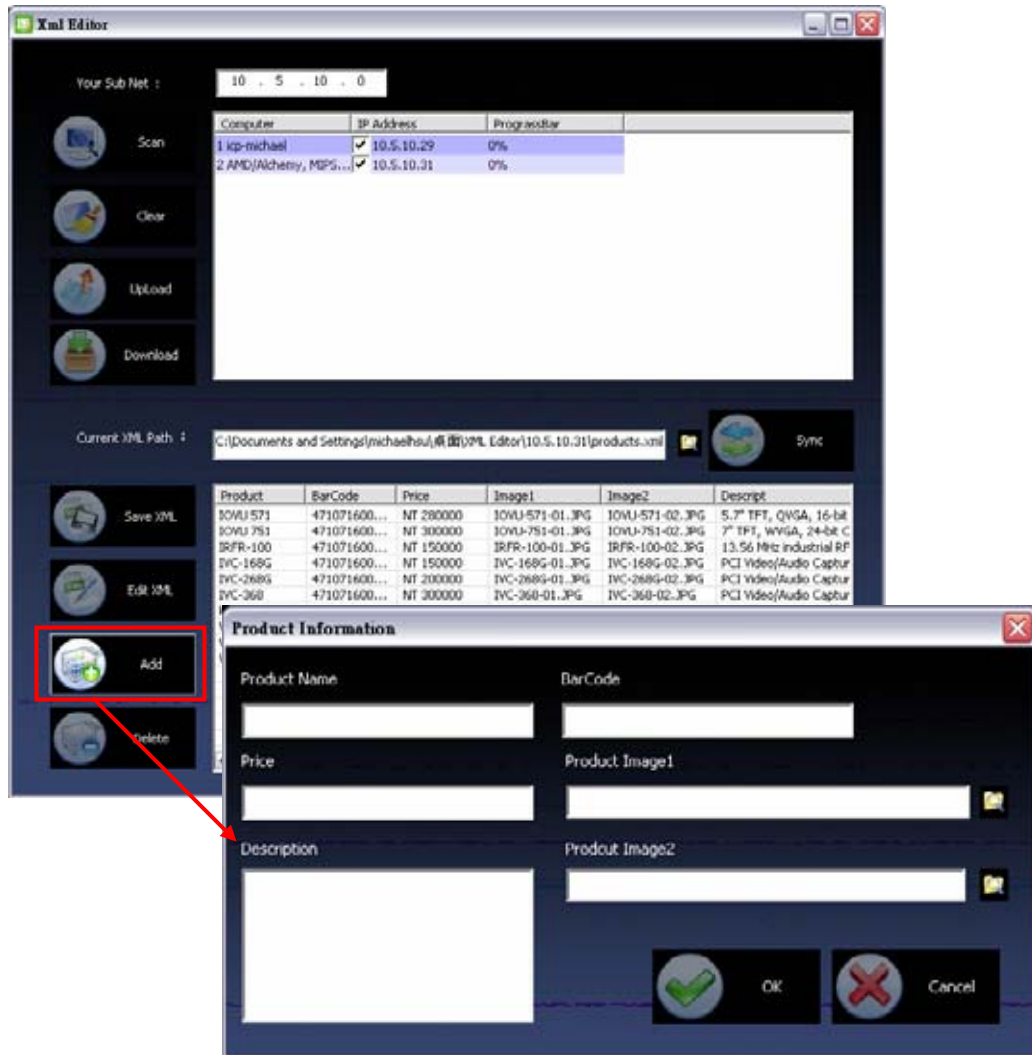


Figure 4-14: Add List Item

Step 4: Select an item and click "Delete" to remove it permanently.

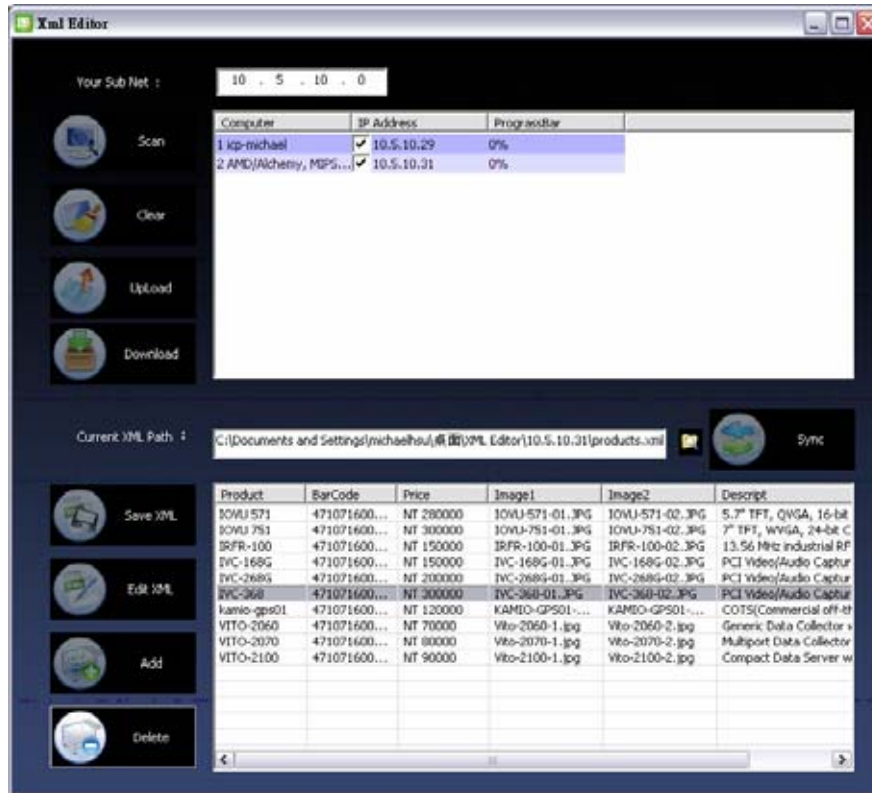


Figure 4-15: Delete List Item

Step 5: Click "Save" to save the changes locally.

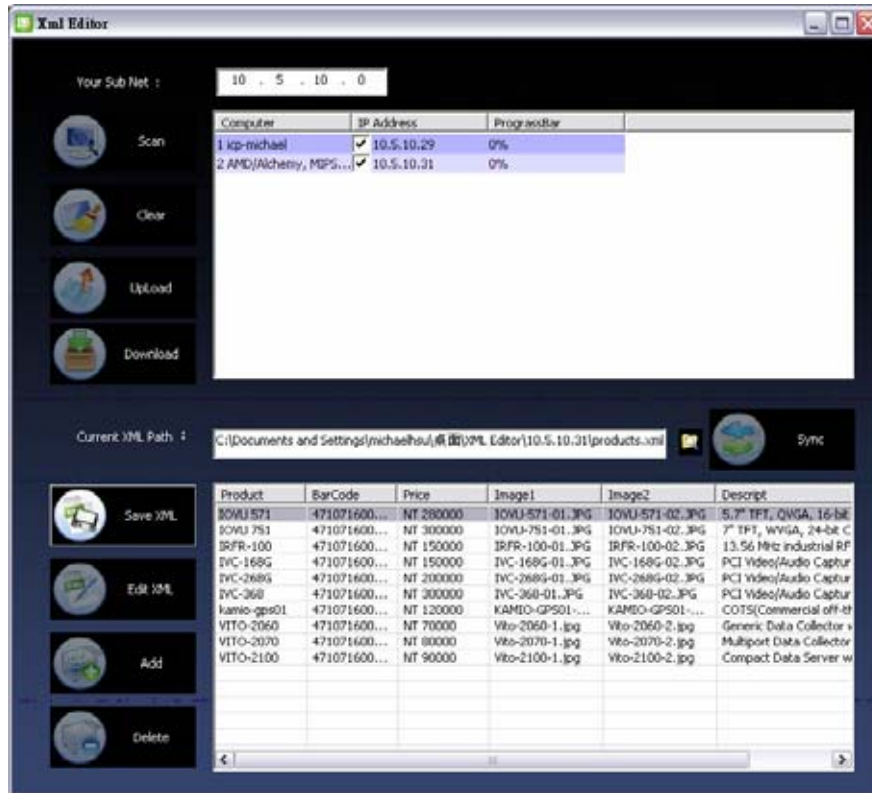


Figure 4-16: Save Current Changes

4.4.5 Syncing Product Lists

To sync product lists, follow the steps below.

Step 1: Click the name of the computer whose product list you want to copy to the other computer.

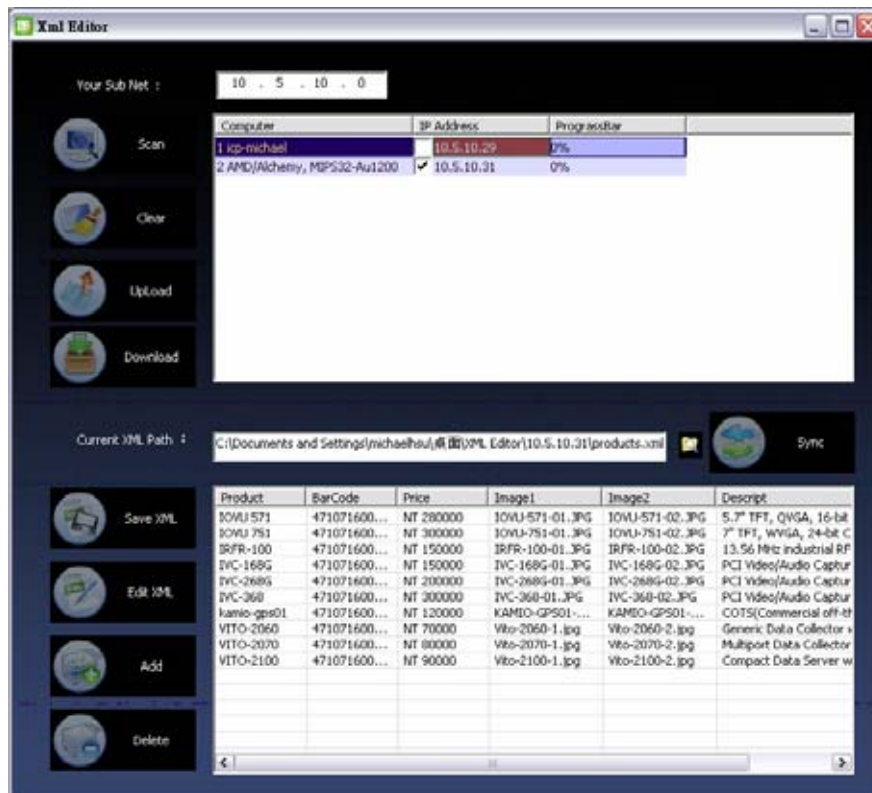


Figure 4–17: Select Source Computer

Step 2: Select the checkboxes of the computers you want the list to be copied to.

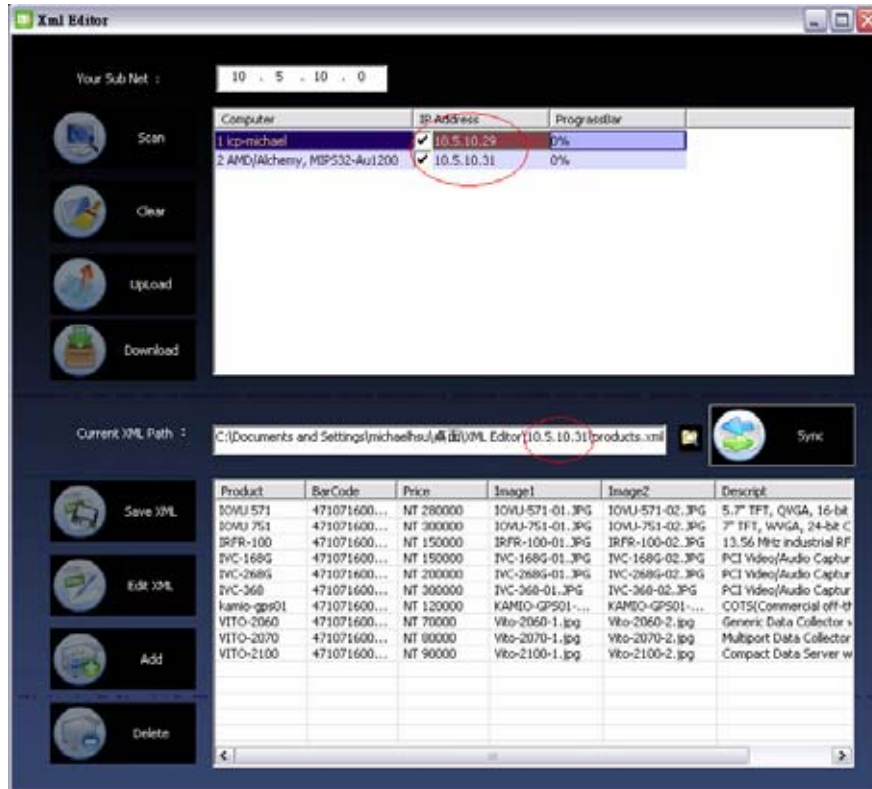


Figure 4-18: Select Target Computer

Step 3: Click "Sync" to start the syncing process.

IMK-570

4.4.6 Uploading The Product List

To upload the product list to the IMK-570, follow the steps below.

Step 1: Select the computers to upload to.

Step 2: Click upload to begin uploading.

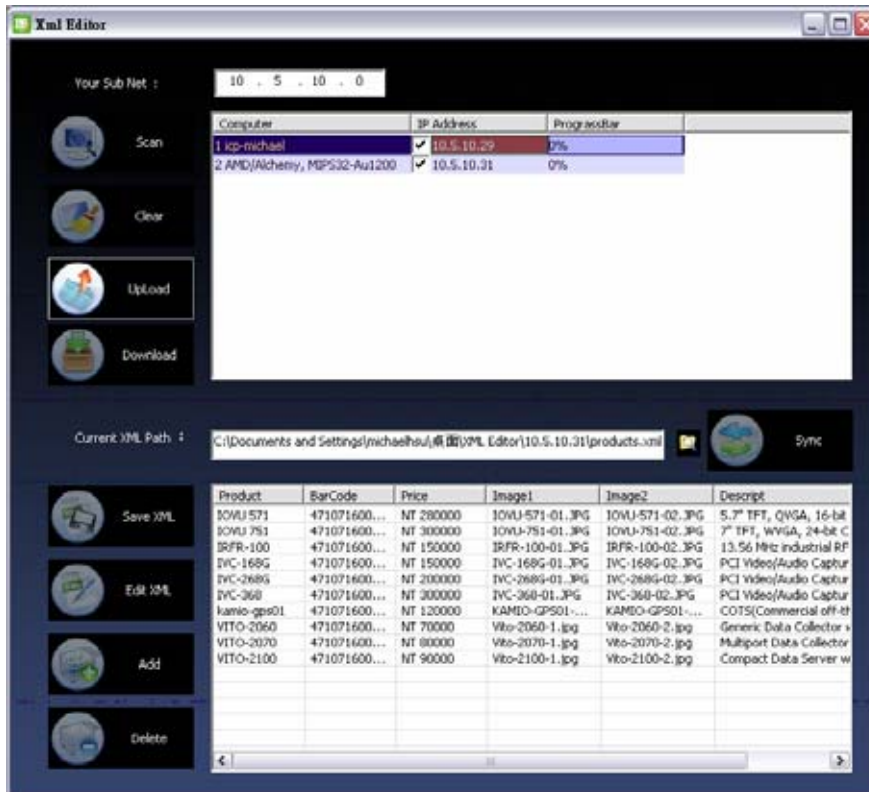


Figure 4-19: Select Files To Upload

Step 3: Click "Yes" to start the upload ("No" to cancel).



Figure 4-20: Confirm Upload

Step 4: The progress bars indicate the current upload progress.

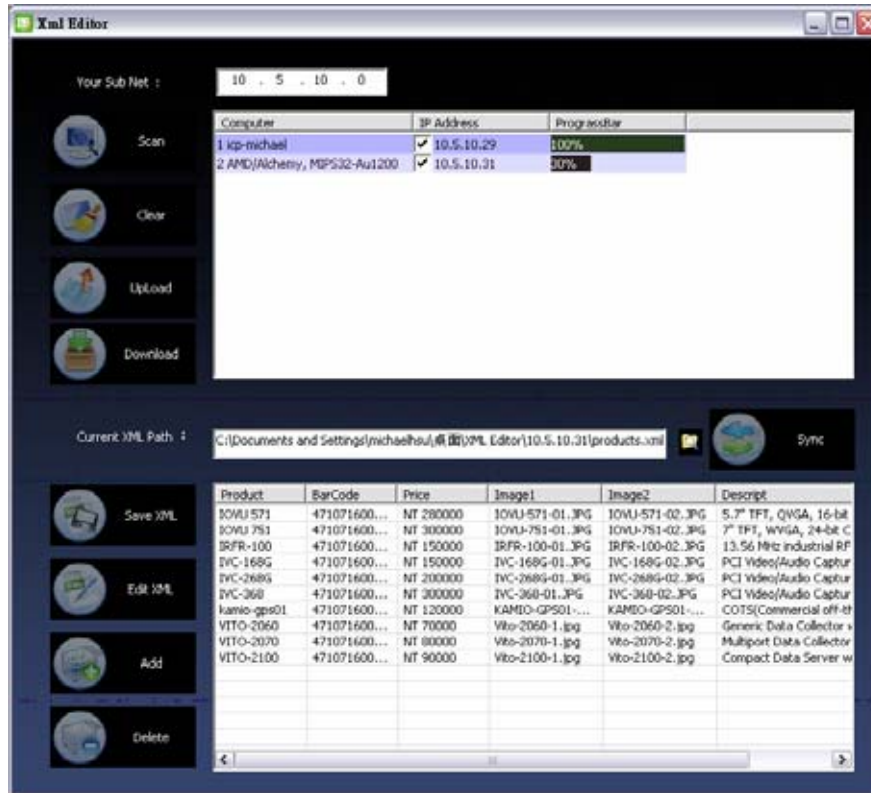


Figure 4-21: Upload Progress

Chapter

5

System Maintenance

5.1 Introduction

There are no user serviceable parts in the IMK-570. In the case system failure, please contact an IEI sales representative, reseller or system vendor for assistance.

5.2 MiniSD Card Slot

The IMK-570 has one 2 GB miniSD card inside. The MiniSD card is preinstalled, but can be accessed through the MiniSD card cover panel if necessary. The access panel is located on the rear and opened by unfastening the screw.



Figure 5-1: MiniSD Card Cover

Appendix

A

Safety Precautions

**WARNING:**

The precautions outlined in this chapter should be strictly followed. Failure to follow these precautions may result in permanent damage to the IMK-570.

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 IMK-570 is opened.
- **Make sure the power is turned off and the power cord is disconnected** whenever the IMK-570 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 IMK-570 chassis is opened when the IMK-570 is running.
- **Do not drop or insert any objects** into the ventilation openings of the IMK-570.
- **If considerable amounts of dust, water, or fluids enter the IMK-570**, turn off the power supply immediately, unplug the power cord, and contact the IMK-570 vendor.
- **DO NOT** do the following:
 - **DO NOT** drop the IMK-570 against a hard surface.
 - **DO NOT** strike or exert excessive force onto the LCD panel.
 - **DO NOT** touch any of the LCD panels with a sharp object
 - **DO NOT** use the IMK-570 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 IMK-570 may result in permanent damage to the IMK-570 and sever injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the IMK-570. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the IMK-570 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 antic-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.2 Maintenance and Cleaning Precautions

When maintaining or cleaning the IMK-570, please follow the guidelines below.

A.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the IMK-570, 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.

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

A.2.2 Cleaning Tools

Some components 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 for cleaning.

- **Cloth** – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended.
- **Water or rubbing alcohol** – A cloth moistened with water or rubbing alcohol should be used.
- **Using solvents** – The use of solvents is not recommended as they may damage the plastic parts.
- **Vacuum cleaner** – Using a vacuum specifically designed for computers is one of the best methods of cleaning. Dust and dirt can restrict the airflow and cause circuitry to corrode
- **Cotton swabs** - Cotton swabs 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

Terminology

MSR	Magnetic Strip Reader – reads the magnetic strip on cards such as credit cards.
SCR	Swipe Card Reader – reads information from swipe cards
POE	Power Over Ethernet supports both power and data through a traditional Ethernet cable. The device must support this, and the source must provide power.
USB	The Universal Serial Bus (USB) is an external bus standard for interfacing devices. USB 1.1 supports 12Mbps data transfer rates and USB 2.0 supports 480Mbps data transfer rates.

Appendix

C

Watchdog Timer


NOTE:

The following discussion applies to DOS environment. IEI support is contacted or the IEI website visited for specific drivers for more sophisticated operating systems, e.g., Windows and Linux.

The Watchdog Timer is provided to ensure that standalone systems can always recover from catastrophic conditions that cause the CPU to crash. This condition may have occurred by external EMIs or a software bug. When the CPU stops working correctly, Watchdog Timer either performs a hardware reset (cold boot) or a Non-Maskable Interrupt (NMI) to bring the system back to a known state.

A BIOS function call (INT 15H) is used to control the Watchdog Timer.

INT 15H:

AH – 6FH Sub-function:	
AL – 2:	Sets the Watchdog Timer's period.
BL:	Time-out value (Its unit-second is dependent on the item "Watchdog Timer unit select" in CMOS setup).

Table C-1: AH-6FH Sub-function

Call sub-function 2 to set the time-out period of Watchdog Timer first. If the time-out value is not zero, the Watchdog Timer starts counting down. When the timer value reaches zero, the system resets. To ensure that this reset condition does not occur, calling sub-function 2 must periodically refresh the Watchdog Timer. However, the watchdog timer is disabled if the time-out value is set to zero.

A tolerance of at least 10% must be maintained to avoid unknown routines within the operating system (DOS), such as disk I/O that can be very time-consuming.

**NOTE:**

When exiting a program it is necessary to disable the Watchdog Timer, otherwise the system resets.

Example program:

```
; INITIAL TIMER PERIOD COUNTER
```

```
;
```

```
W_LOOP:
```

```
    MOV    AX, 6F02H    ;setting the time-out value  
    MOV    BL, 30      ;time-out value is 48 seconds  
    INT    15H
```

```
;
```

```
; ADD THE APPLICATION PROGRAM HERE
```

```
;
```

```
    CMP    EXIT_AP, 1    ;is the application over?  
    JNE    W_LOOP       ;No, restart the application
```

```
    MOV    AX, 6F02H    ;disable Watchdog Timer  
    MOV    BL, 0        ;  
    INT    15H
```

```
;
```

```
; EXIT ;
```



Appendix

D

Hazardous Materials Disclosure

D.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>						

IMK-570

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。