

## **ATTACHMENT E.**

### **- USER'S MANUAL**

## WARNING & CAUTION



### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated “ dangerous voltage ” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

“ **WARNING** - To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Apparatus To Rain Or Moisture. ”

“ Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus. ”

“ **CAUTION** - These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. ”

## Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with a dry cloth.
- 7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use the attachments/accessories specified by the manufacturer.
- 12) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## FCC (Federal communication commission) Information

This product has been tested and found to comply with the limits for a TV Broadcast Receiver, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This product 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. If this product does cause or receive interference, which can be determined by turning product off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the TV antenna.

Increase the separation between TV and other product.

Connect TV into separate outlet from other product.

Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this product.

## U.S.A.

### U.S.FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT INFORMATION TO THE USER

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 of a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modification not expressly approved by the party responsible for Compliance could void the user's authority to operate the equipment.

Connecting of peripherals requires the use of grounded shielded signal cables.

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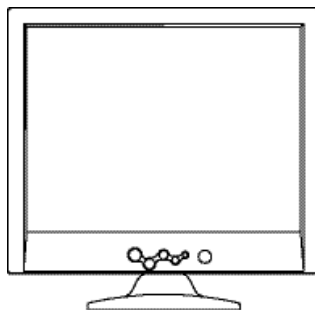
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# 1 Packing List

Your new ' LCD Monitor ' should contain the following items:

- LCD Monitor
- AUDIO CABLE
- 15pin D-SUB Signal Cable
- Owner's Instructions
- Power Cord

LM1530A



AUDIO CABLE



Power Cord



15pin D-SUB Signal Cable



Owner's Instructions

The power cord may be changed to accommodate electrical outlets worldwide.

## 2 Safety Instructions

Do not place heavy objects on the power cord.

Do not use your monitor near water.

Turn off the monitor if there is thundering and lightning.

Do not open your monitor. There are no user serviceable parts inside.

Opening the case might expose you a hazardous shock.

Do not place the monitor on an unstable table or stand.

Do not insert small conductive objects into the monitor. They might cause a short or a hazardous shock.

Adjust the height of monitor so that the top of the screen is below approximately 10 degrees.

If reflected light makes it hard to see the screen, use a glare filter.

Clean the LCD screen of the monitor surface with a lint-free, non-abrasive cloth. Avoid using any cleaner or solvent, such as benzene.

Do not operate the monitor in a place that is extremely hot, humid or dusty.

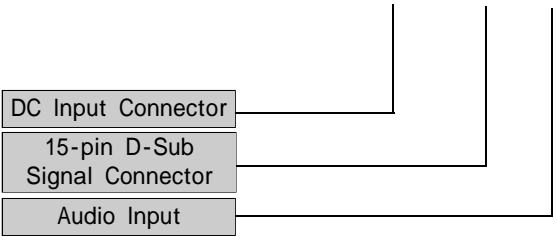
- Proper temperature: 5 ~ 35

- Humidity: 20 ~ 80 RH



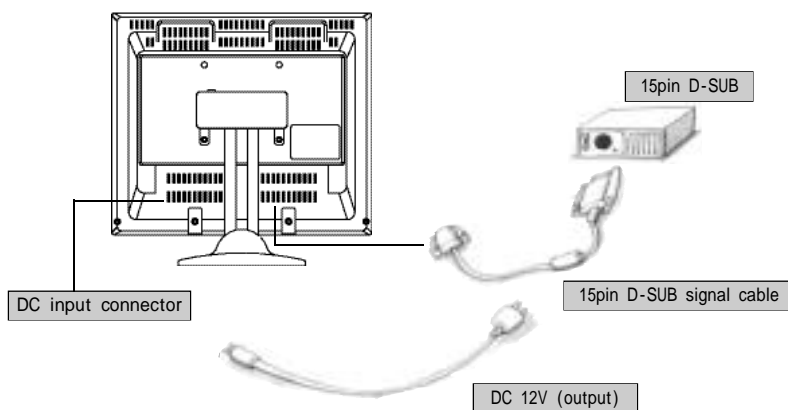
# 3 Features

- **Screen:** 15.0 " viewable XGA (1024\*768) resolution LCD module and space-saving slim design.
- **Plug and Play Function:** Implementation of DDC 1/2B(Display Data Channel 1/2B). Connected to the computer, the monitor automatically informs the host of its compatibility over DDC communication channel.
- **VESA Wall Mount:** This allows for the monitor to be mounted on the wall or an arm using any third party compliant device.
- **OSD (On Screen Display) Menu Controls:** This allows users to adjust the screen simply by selecting menu items and ranges on the monitor 's screen.
- **Auto-Adjustment Controls:** Automatically can adjust screen size, clock and clock phase, etc.
- **VESA DPMS (Display Power Management Signaling):** This provides innovative power-saving methods that allow the monitor to shift automatically to a lower power consumption mode while it has power but not in use.



## 4-2. Connecting To The Computer

1. Be sure to turn your monitor, computer and all peripheral devices off before connection.
2. Connect 15-pin D-Sub connectors to both the computer and monitor.
3. Connect the DC-input terminal to the monitor and power cord to an approved AC outlet.
4. Turn on your computer and monitor.
5. Turn off your computer and monitor after use.



### Note

<Note>Self-Diagnostic Screen

Not connecting the monitor with the computer will result in a " No Input Signal, Check Connection " message on screen. Please insure the monitor is properly connected if you see this message before calling service.

# 5 Monitor Adjustment

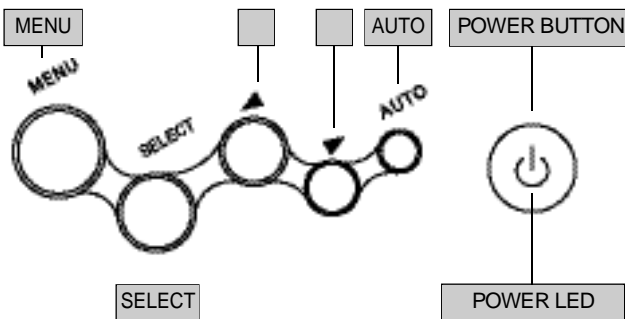
## 5-1. OSD Menu Description.

Your TFT-LCD allows you to easily adjust the characteristics of the image being displayed.

All of these adjustments are made using the control buttons on the front of the monitor

While you use these buttons to adjust the controls, an on-screen menu shows their numeric values as they change.

### OSD Menu



**Menu**

Opens the OSD.

**SELECT**

SELECT A FUNCTION FROM THE OSD.

**/**

Moves the selector left or right on the OSD

Decreases or increases values if the selected function.

Directly adjust the brightness level if pressed while the OSD is off.

**Auto**

Activates the Auto Adjustment function.

**Power Led**

Indicates the status of the monitor

GREEN : Normal Operation

AMBER Blink : Power Saving Mode or Disconnected Signal Cable.






**Power Button**

Turns the monitor on and off













## 5-2. Accessing the OSD Menu

- 1) With the OSD off, push the MENU button to display the main OSD menu.
- 2) Use the “ ” and “ ” buttons to move between the function icons.  
As you move from one icon to another, the function name changes to reflect the function or group of functions represented by that icon.
- 3) Press the Select button once to activate the highlighted function then follow the Tool Tips to select the function and adjust the value
- 4) After selecting a function, use the “ ” and “ ” buttons to make the adjustments.  
The setting sliderbar moves and the numeric value indicator change to reflect your adjustments.
- 5) Push the Menu a couple of times to return to the main menu to select another function or exit from OSD

## 5-3. OSD Menu Description

	Auto Adjust	Optimize the display settings for use with computer.
	Brightness	Adjust the brightness of the screen.
	Contrast	Adjust the display to the contrast desired.
	Frequency	To minimize any vertical bars or stripes visible on screen background. The horizontal screen size will also change.
	Phase	Adjust the focus of the screen.

### 5-3. OSD Menu Description

	Horizontal Position	Adjust the picture image on left and right.
	Vertical Position	Adjust the picture image on up and down.
	Dos Mode	Set the screen on Dos Mode.
	OSD Transparency	Change the transparency of OSD.
	OSD H-Position	Move the OSD window to the horizontal direction.
	OSD V-Position	Move the OSD window to the vertical direction.
	Color Adjust	Adjust the display color with different set of color settings.
	USER Color	Adjust the display color as user's desire.
	OSD Language	To choose the language in which the control names are displayed.
	Exit	To exit from the menu.
	Factory Reset	Discard current settings and replace corresponding parameters with the factory default values.
	Volume	Adjust the built-in speaker volume.

The following describes in sequence the options in the main menu.

## **5.4 Adjust the screen image**

If the " Auto Adjust " does not display proper image, display can be set by manual adjustment.

- 1) Type any character on the screen by using notepad or any other word program.
- 2) Adjust the H/V position for proper display.
- 3) Use the Frequency option to adjust the image focus.
- 4) Setup the color, brightness and contrast as you wish to see.
- 5) Return to normal condition by exit the OSD menu.

# 6 Specifications

## 6-1. Monitor Specification

- |              |                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------|
| ■ LCD Module | Diagonal : 15.0 "inch<br>Viewing Image Size : 15.0 "inch<br>Native Resolution (Pixel Count) : 1024X768 |
|--------------|--------------------------------------------------------------------------------------------------------|
- |                 |          |
|-----------------|----------|
| ■ Pixel Pitch : | 0.297 mm |
|-----------------|----------|
- |                |                                                           |
|----------------|-----------------------------------------------------------|
| ■ View Angle : | Typ:65/65 degree (left/right), 50/60 (up/down) (at CR>10) |
|----------------|-----------------------------------------------------------|
- |                   |                     |
|-------------------|---------------------|
| ■ Display Color : | 16.2M colors (true) |
|-------------------|---------------------|
- |                          |                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------|
| ■ Resolution Supported : | 1024X768 @60Hz-75Hz<br>800X600 @56Hz-75Hz<br>640X480 @60Hz-75Hz<br>720X400 VGA Text |
|--------------------------|-------------------------------------------------------------------------------------|
- |                            |                |
|----------------------------|----------------|
| ■ Recommended Resolution : | 1024X768 @60Hz |
|----------------------------|----------------|
- |                          |             |
|--------------------------|-------------|
| ■ Horizontal Frequency : | 30 - 61 KHz |
|--------------------------|-------------|
- |                        |            |
|------------------------|------------|
| ■ Vertical Frequency : | 55 - 75 Hz |
|------------------------|------------|
- |                    |                         |
|--------------------|-------------------------|
| ■ Input Terminal : | 15-pin D-Sub Connector. |
|--------------------|-------------------------|
- |                    |           |
|--------------------|-----------|
| ■ Voltage Rating : | 12V 3.33A |
|--------------------|-----------|
- |                      |     |
|----------------------|-----|
| ■ Power Dissipated : | 40W |
|----------------------|-----|
- |                                       |          |
|---------------------------------------|----------|
| ■ Safe Mode Dissipated Power Rating : | Below 5W |
|---------------------------------------|----------|
- |                  |                                  |
|------------------|----------------------------------|
| ■ Monitor Size : | 347.6 X 373 X 170 mm (W X H X D) |
|------------------|----------------------------------|
- |            |                                    |
|------------|------------------------------------|
| ■ Weight : | 4.3 Kg (Unpacked), 5.5 Kg (Packed) |
|------------|------------------------------------|
- |                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| ■ Environmental Considerations : | Operating Temperature : 0 ~ 35<br>Humidity : 30% ~ 80% |
|----------------------------------|--------------------------------------------------------|
- |                         |                                                      |
|-------------------------|------------------------------------------------------|
| ■ Storage Temperature : | Operating Temperature :-5 ~ 45<br>Humidity: 5% ~ 90% |
|-------------------------|------------------------------------------------------|



## 6-2. Video Input Connector

15-pin D-Sub connector is used as the input signal connector. Pin and input signals are shown in the table below.

Pin Number	Signal Name
1	RED
2	GREEN
3	BLUE
4	N.C
5	GROUND
6	RED-GROUND
7	GREEN-GROUND
8	BLUE-GROUND
9	N.C
10	GROUND
11	GROUND
12	DDC Data
13	H-Sync
14	V-Sync
15	DDC Clock

### 6-3. Resolutions Supported

No	Mode	Resolution	Horizontal		Vertical		Pixel Clock (MHz)
			Frequency	Polarity	Frequency	Polarity	
1	VGA	720×400	31.47KHz	N	70.0 Hz	P	28.322
2		640×480	31.47KHz	N	60.0 Hz	N	25.175
3		640×480	35.00KHz	N	66.7 Hz	N	30.240
4		640×480	37.86KHz	N	72.8 Hz	N	31.500
5	SVGA	800×600	35.16KHz	N/P	56.3 Hz	N/P	36.000
6		800×600	37.88KHz	P	60.3 Hz	P	40.000
7		800×600	48.08KHz	P	72.2 Hz	P	50.000
8		800×600	46.87KHz	P	75.0 Hz	P	49.500
9	XGA	1024×768	48.36KHz	N	60.0 Hz	N	65.000
10		1024×768	56.48KHz	N	70.1 Hz	N	75.000
11		1024×768	60.02KHz	P	75.0 Hz	P	78.750

# 7 Troubleshooting

If you have difficulty with the LCD monitor, check the following symptoms and recommended courses of action.

Screen Symptom	Check point	Action
Power LED is " off ", and no picture?	Is power cord connected correctly? Is " No Input Signal Going to Sleep " shown on the screen?	Please connect power cord correctly. Please check the video input terminal.
Power LED is " on ", but no picture?	Brightness or contrast is adjusted right?	Please adjust brightness and contrast correctly.
Screen 's position or size is not proper?	Screen 's position and size is adjusted correctly?	Please adjust position and size correctly.
Screen color is strange?	Your graphic card is set correctly? Changed resolution is set correctly?	Please check if graphic card is set correctly. Please check if changed resolution is set correctly.
After changing video card,color is fixed on 16 color?	Windows color setting is correct?	Please reset your new graphic card setting.
Characters on screen are not focused? Or horizontal noise occurred?	Is " Phase " adjusted correctly?	Please adjust " Phase " on the OSD Menu.
Picture at the CRTmonitor but no picture at the LCDmonitor?	Is " Out of Range " shown on the screen?	Re-configure the display timing of your system.

## 8 Descriptions of Technical Terms

### Plug and Play.

Microsoft's strategy is to be able to install new hardware devices and configure peripherals easier.

When connecting with computer, the monitor will initially adjust itself to the best screen settings automatically through its communication channel, DDC (Display Data Channel)

### DDC 1/2B(Display Data Channel 1/2B)

The International Standard VESA DDC method, through which Plug & Play supported devices can be recognized and connected with the computer easier. When you turn on the computer's power, product information, such as manufacturer, screen size, resolution, timing table, which is included in monitor circuit board, is transferred to the VGA Card. (DDC 1/2B) compatibility offers significant performance advantages by enabling monitor capabilities, including scanning frequencies and image sizing, to be communicated automatically to the operating system without the use of drivers or diskettes for installation.

### Resolution

Screen resolution is measured in pixels, or picture elements. One pixel is the smallest area that can be manipulated by the computer. Resolution is always stated as the horizontal number of pixels by the vertical number of pixels. A screen displaying 1600 x 1200 pixels has 1200 rows, each 1600 pixels wide.

### Vertical Scan Rate Or Refresh Rate

Number of complete screens displayed per second by the monitor. A 70 Hz refresh rate will provide a flicker-free image. The higher the refresh, the better the image

### Horizontal Scan Rate

Frequency that roughly corresponds to the number of horizontal lines a monitor can display per second. For 1024 x 768 pixels with a vertical refresh rate of 75 Hz, the horizontal scan rate is 59.8 KHz.

### On-Screen Display (OSD)

Newer, more advanced monitors come equipped with an On-Screen Display (OSD) that adjusts all display parameters via an on-screen control panel. OSD allows you to adjust all display set-up parameters and color temperature settings through icon-based, on-screen control panels.