## 18.5/21.5-INCH VALUE TFT-LCD MONITOR



## INSTRUCTION MANUAL

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## SAFETY INSTRUCTION

## Important Safety Instruction

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 dry cloth.
7. Do not block any 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.

Apolarized plug has two blades with one wider than the other.
Agrounding type plug has two blades and a third grounding prong.
The wide blade or the third prong are provided for your safety.
If the provided plug does not fit into your outlet, consult an electrician for replace ment of the bsolete 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 attachment/accessories specified by the manufacturer.
12. Use only with the 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.

## SAFETY INSTRUCTION

- The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed no the apparatus.
- Minimum distances(e.g. 10 cm ) around the apparatus for sufficient ventilation.
" WARNING - To reduce the risk of fire or electric shock, do not expose the apparatus to rain or moisture."
" The 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 |
| :---: | :---: |
| RISK OF ELECTRIC <br> SHOCK DO NOT OPEN |
| CAUTON : TO REDUCE THE RISK OF ELECTRIC SHOCK, |
| DO NOT REMOVE REAR COVER. NO USER |
| SERVICEABLE PARTS INSIDE. REFER TO |
| QUALIFIED SERVICE PERSONNEL. |



This symbol is intended to alert the user to the presence of uninsulated: dangerous voltage with in 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.

## CAUTIONS

## CAUTION

The power supply cord is used as the main disconnect device, ensure that the socket-outlet is located/installed near the equipment and is easily accessible.

## ATTENTIONN

Le cordon d`alimentation est utillsé comme interrupteur général. La prise de courant doit être située ou installée à proximité du matériel et être facile d`accès

```
CAUTION TO SERVICE PERSONNEL
POWER SUPPLY CORD IS USED AS MAIN POWER DISCONNECT DEVICE IN
THIS PRODUCT. UNPLUG THIS PRODUCT FROM THE WALL OUTLET
BEFORE REMOVING THE BACK COVER AND SERVICING
```

```
EMISSION CHARACTERISTICS TESTED BY SEMKO
THIS PRODUCT HAS BEEN TESTED AND HAS SHOWN COMPLIANCE WITH
THE NATIONAL SPECIFICATIONS SUCH AS SWEDISH MPR 1990.10.(MPR II)
```


## NEVER REMOVE THE BACK COVER

Removal of the back cover should be carried out only by qualified personnel.

## DO NOT USE IN HOSTILE ENVIRONMENTS

To prevent shock or fire hazard, do not expose the unit to rain or moisture.
This unit is designed to be used in the office or home. Do not subject the unit to vibrations, dust of corrosive gases.

- KEEP IN A WELL VENTILATED PLACE

Ventilation holes are provided on the cabinet to prevent the temperature from rising.
Do not cover the unit or place anything on the top of unit.

## - AVOID HEAT

Avoid placing the unit in direct sunshine or near a heating appliance.

## - TO ELIMINATE EYE FATIGUE

Do not use the unit against a bright back ground and where sunlight or other light sources will shine directly on the monitor.

## FCC RF INTERFERENCE STATEMENT

## NOTE

This equipment has been tested and found to comply with the limits for a Class A 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.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the users authority to operate such equipment.

## DOC COMPLIANCE NOTICE

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulation of Canadian Department of communications.

## INSTALLATION

Before setting up the monitor, ensure that the power to the monitor and other attached devices are turned off.

## Notice: Stand \& screws are optional

## A. Connecting the stand

1. Place the monitor with its front facing downward on a soft cloth.
2. Assemble the Stand Base into the Stand Body in the correct direction using the included screws in the accessory box.

3. Once assembled take the monitor up carefully and face the front side.

## B. Positioning your display

1. Adjust the position of the panel in various ways for maximum comfort. (Tilt Range: $-3^{\circ} \sim 15^{\circ}$ )


## CONNECTING WITH EXTERNAL EQUIPMENT

## A. Rear Connection

## A-1. 18.5 inch



1. PC AUDIO IN
2. AV1 and AV2 OUT
3. AV2 IN
4. AV1 IN
5. VGA(D-SUB) IN
6. HDMI IN
7. DC 12V IN

A-2. 21.5 inch


1. PC AUDIO IN
2. AV1 and AV2 OUT
3. AV2 IN
4. AV1 IN
5. VGA(D-SUB) IN
6. HDMI IN
7. DC 12V IN

## REMOTE FUNCTIONS

## B. REMOTE CONTROLLER (Option)

1. POWER (৬) : Press once to switch on your tv set and again to enter the stand-by state
2. MUTE (头) : Press once to mute the speakers and again to resume the sound.
3. MENU : Press to pop-up main menu, and press again to exit menu.
4. VOL+/- : Press to increase or decrease the volume.
5. A: Move up operation
6. 4: Move left operation
7. $\quad$ : Move right operation
8. $\boldsymbol{V}$ : Move down operation
9. OK : Confirm the selection
10. EXIT : Press to exit from the menu selecting function or the program information function.
11. INPUT : Press to select a signal source input as you like
12. INFO : Input mode information display


## CONTROL AND FUNCTIONS

## C. Bottom Key Control



## 1. SOURCE /

Select input source, and move the previous menu.

## 2. MENU

Activates and exits the On Screen Display.
This button can also be used to move previous menu or status.

## 3, 4. AUTO/ $\nabla$, $\boldsymbol{A}$

These buttons allow user to move the sub-menu of the activated function.
AUTO/ $\sqrt{ }$ : Auto geometry adjustment

## 5/6. 4 VOL

Adjust the volume and menu settings.
7. リ/I

Turns the power ON or OFF. There will be a few seconds delay before the display appears.

## 8. LED

Turned on: blue color.
Turned off: red color.

## 9. IR Sensor

Remote controller sensor.

## CONTROL AND FUNCTIONS

## Picture Menu Description

All picture, sound settings and setup for the monitor can be adjusted in the OSD menu.
(On Screen Display)
To adjust the OSD screen:

1. Press the Menu button to enter the OSD menu.
2. Press the $4 / \downarrow$ buttons to select the desired option. The selected option is highlighted.
3. Press the $\boldsymbol{\nabla}$ button to enter the submenu for adjusting items.
4. Change the value you wish to adjust by using the $\varangle / \downarrow$ buttons.
5. Press the MENU button to exit the submenu for adjusting items.
6. Press the EXIT button to exit the OSD menu.


HDMII / AV PICTURE MODE


RGB-PC PICTURE MODE

| Option | Function | Value |
| :---: | :---: | :---: |
| CONTRAST | Adjusts intensity of the image. | $0 \sim 100$ |
| BRIGHTNESS | Adjusts brightness of the screen. | $0 \sim 100$ |
| HUE ${ }^{1)}$ | Adjusts hue of the picture. | $0 \sim 100$ |
| SATURATION ${ }^{2)}$ | Adjusts saturation of the picture. | $0 \sim 100$ |
| SHARPNESS ${ }^{2)}$ | Adjusts sharpness of the picture. | $0 \sim 100$ |
| COLOR TEMP | Adjusts color temp of the picture. | See table below |
| SCALE ${ }^{3)}$ | Display picture size. | See table below |
| PICTURE MODE | Sets picture mode. | See table below |
| 3D NR ${ }^{2}$ | Reduces noise of the picture | Off / Low / Mid / High |
| MPEG NR ${ }^{2)}$ | Reduces vibration of the picture | Off / Low / High |

1) Unavailable in RGB-PC, HDMI and AV
2) Unavailable in RGB-PC
3) Unavailable in AV, HDMI.

## CONTROL AND FUNCTIONS

## 1) COLOR TEMP

| Cool | Gives the white color a bluish tint. |
| :--- | :--- |
| Normal | Gives the white color a neutral tint. |
| Warm | Gives the white color a reddish tint. |

## 2) SCALE

| Center | Sets the image size to Center |
| :--- | :--- |
| Normal | Sets the image to normal |

## 3) PICTURE MODE

| User | Applies user selected values.(Brightness, Contrast, Tint and Sharpness) |
| :--- | :--- |
| Dynamic | Provides enhanced contrast and sharpness. |
| Standard | Provides standard contrast and sharpness. |
| Soft | Provides soft contrast and sharpness. |

## CONTROL AND FUNCTIONS

## Sound Menu Description

All picture, sound settings and setup for the monitor can be adjusted in the OSD menu. (On Screen Display)
To adjust the OSD screen:

1. Press the Menu button to enter the OSD menu.
2. Press the $\mathbf{4 /}$ buttons to select the desired option. The selected option is highlighted.
3. Press the $\boldsymbol{\nabla}$ button to enter the submenu for adjusting items.
4. Change the value you wish to adjust by using the $\varangle / \downarrow$ buttons.
5. Press the MENU button to exit the submenu for adjusting items.
6. Press the EXIT button to exit the OSD menu.


SOUND MENU


| Option | Function | Value |
| :--- | :--- | :---: |
| EQUALIZER | Adjusts equalizer of the sound | See table EQ Mode |
| BALANCE | Adjusts balance of the sound | $-50 \sim 50$ |
| SOUND MODE | Applies sound mode user-selected | User-Standar-Movie-Music |
| AVC | Activates AVC function of the sound | On or Off |
| SURROUND | Activates surround function of the sound | On or Off |

## CONTROL AND FUNCTIONS

## OSD Menu Description

All picture, sound settings and setup for the monitor can be adjusted in the OSD menu. (On Screen Display)
To adjust the OSD screen:

1. Press the Menu button to enter the OSD menu.
2. Press the $4 / \downarrow$ buttons to select the desired option. The selected option is highlighted.
3. Press the $\boldsymbol{\nabla}$ button to enter the submenu for adjusting items.
4. Change the value you wish to adjust by using the $\varangle / \downarrow$ buttons.
5. Press the MENU button to exit the submenu for adjusting items.
6. Press the EXIT button to exit the OSD menu.


| Option | Function | Value |
| :---: | :--- | :---: |
| OSD-LANGUAGE | Set the language of the OSD menu. | English, Chinese |
| OSD H-POSITION | Adjusts the horizontally OSD position. | $0 \sim 100$ |
| OSD V-POSITION | Adjusts the vertically OSD position. | $0 \sim 100$ |
| OSD DURATION | Adjusts the OSD duration | $5 \sim 60$ |
| OSD HALFTONE | Adjusts the OSD half-tone | $0 \sim 50$ |
| MEM-RECALL | Resets the monitor settings to the factory default. |  |

## CONTROL AND FUNCTIONS

## Advance Menu Description

All picture, sound settings and setup for the monitor can be adjusted in the OSD menu. (On Screen Display)
To adjust the OSD screen:

1. Press the Menu button to enter the OSD menu.
2. Press the $4 / \downarrow$ buttons to select the desired option. The selected option is highlighted.
3. Press the $\boldsymbol{\nabla}$ button to enter the submenu for adjusting items.
4. Change the value you wish to adjust by using the $\varangle / \downarrow$ buttons.
5. Press the MENU button to exit the submenu for adjusting items.
6. Press the EXIT button to exit the OSD menu.


ADVANCE MENU


TIMER MENU

| Option | Function | Value |
| :--- | :--- | :---: |
| SLEEP-TIMER | Activates sleep-timer function and applies user selected time | Off, 15~60min |
| TIMER | Sets the timer so that the monitor turns itself on/off | See table Timer menu |
| IMAGE REVERSE | Activates the image reverse function. | Off / H Filp / V Filp / Reverse |

## CONTROL AND FUNCTIONS

## Geometry Menu Description

All picture, sound settings and setup for the monitor can be adjusted in the OSD menu. (On Screen Display)
To adjust the OSD screen:

1. Press the Menu button to enter the OSD menu.
2. Press the $\mathbf{4 /}$ buttons to select the desired option. The selected option is highlighted.
3. Press the $\boldsymbol{\nabla}$ button to enter the submenu for adjusting items.
4. Change the value you wish to adjust by using the $\varangle / \downarrow$ buttons.
5. Press the MENU button to exit the submenu for adjusting items.
6. Press the EXIT button to exit the OSD menu.


GEOMETRY MENU

| Option | Function | Value |
| :--- | :--- | :---: |
| H-POSITION | Adjust the image position horizontally | $0 \sim 100$ |
| V-POSITION | Adjust the image position vertically | $0 \sim 100$ |
| CLOCK | Adjusts the number of vertical picture elements | $0 \sim 100$ |
| PHASE | Adjusts the number of horizontal picture elements. | $0 \sim 100$ |
| AUTO | Adjusts the image position automatically |  |

1) Unavailable in HDMI and AV

## CONTROL AND FUNCTIONS

## PIP Menu Description

All picture, sound settings and setup for the monitor can be adjusted in the OSD menu. (On Screen Display)
To adjust the OSD screen:

1. Press the Menu button to enter the OSD menu.
2. Press the $4 / \downarrow$ buttons to select the desired option. The selected option is highlighted.
3. Press the $\boldsymbol{\nabla}$ button to enter the submenu for adjusting items.
4. Change the value you wish to adjust by using the $\varangle / \downarrow$ buttons.
5. Press the MENU button to exit the submenu for adjusting items.
6. Press the EXIT button to exit the OSD menu.


PIP MENU

|  | Main | Sub |
| :--- | :--- | :--- |
| Available <br> combination | AV1 or AV2 | RGB-PC or HDMI |
|  | RGB-PC or HDMI | AV1 or AV2 |
| Unavailable <br> combination | RGB-PC or HDMI | RGB-PC or HDMI |
|  | AV1 or AV2 | AV1 or AV2 |

SUB SOURCE TABLE

| Option | Function | Value |
| :--- | :--- | :---: |
| MULTI WINDOW | Activates the PIP feature. | Off - PIP - POP Full |
| SUB SOURCE | Selects the input source for the PIP area. | AV1 - AV2 |
| SIZE | Selects the size of PIP screen. | Large-Small-Middle |
| PIP H-POSITION | Adjusts the horizontally PIP position. | $0 \sim 100$ |
| PIP V-POSITION | Adjusts the vertically PIP position. | $0 \sim 100$ |
| BORDER COLOR | adjusts border color of the picture | Black or Blue |
| SOUND SOURCE | Selects the sound source from either the Main or PIP | Main or Sub |
| SWAP | Alternates between the main and sub picture |  |

## MOUNTING GUIDE

## Wall-mount Installation(Option)

The LCD monitor is suitable for wall mounting by using the VESA 100 standard wall mount (not included in the delivery).


## Attention!

You must use four $\mathrm{M} 4 \times 10$ screws to assemble this monitor and the wall mount bracket.

## D-SUB CONNECTOR PIN ASSIGNENTS

## - PIN ASSIGNMENTS

| Pin 1 | RED VIDEO | 9 |  |
| ---: | :--- | ---: | :--- |
| 2 | GREEN VIDEO | 10 | SIGNAL CABLE DETECT |
| 3 | BLUE VIDEO | 11 | GROUND |
| 4 | GROUND | 12 | SDA (for DDC) |
| 5 | GROUND | 13 | H-SYNC (or H+V SYNC) |
| 6 | RED GROUND | 14 | V-SYNC |
| 7 | GREEN GROUND | 15 | SCL (for DDC) |
| 8 | BLUE GROUND |  |  |

## D-SUB

> | $(1)$ | $(2)$ | $(3)$ | $(4)$ | 5 |
| :--- | :--- | :--- | :--- | :--- |
| $(6)$ | 7 | $(8)$ | $9)$ | $(10)$ |
| (11) | (12) | (13) | (14) | (15) |

## ACCESSORIES

1. Power cord
2. Power adaptor
3. User's manual
4. Cable (PC or HDMI)
5. Stereo cable (Option)
6. Remote controller (Option)
7. Batteries (Option)

## POWER MANAGEMENT

## POWER CONSUMPTION

| MODE | POWER CONSUMPTION |  |
| :---: | :---: | :---: |
|  | $18.5 "$ | $21.5^{\prime \prime}$ |
| ON | $<17.16 \mathrm{~W}$ | $<21.6 \mathrm{~W}$ |
| POWER OFF | $\fallingdotseq 1 \mathrm{~W}$ |  |

## LED INDICATOR

The power management feature of the monitor is comprised of two stages:
Turned on(Blue) and turned off(Red).

| MODE | LED COLOR | MONITOR OPERATION |
| :---: | :---: | :---: |
| Turned On | Blue | Normal Operation |
| Turned Off | Red | Not Operation |

## SPECIFICATIONS

|  | 18.5" | 21.5" |
| :---: | :---: | :---: |
| LCD-Type | 18.5" Diagonal AM-TFT(Active-Matrix) | 21.5" Diagonal AM-TFT(Active-Matrix) |
|  | Pixel pitch(mm) : $0.3(\mathrm{H}) \times 0.3(\mathrm{~V})$ | Pixel pitch(mm) : $0.24825(\mathrm{H}) \times 0.24825(\mathrm{~V})$ |
|  | Brightness : $250 \mathrm{~cd} / \mathrm{m}^{2}$ (Typical) |  |
|  | Contrast ratio : 1000:1(Typical) |  |
|  | Viewing angle : $170 \% 160^{\circ}(\mathrm{H} / \mathrm{V})$ |  |
|  | Response time : 5ms (Typ., on/off) |  |
| RESOLUTION (H x V) | 1366x768@60Hz | 1920x1080@60Hz |
| FREQUENCY | Horizontal: 31~64kHz Vertical: 56~75Hz | Horizontal: $31 \sim 80 \mathrm{kHz}$ Vertical: 56~75Hz |
| INPUT SIGNAL | VIDEO (2ch input $1.0 \mathrm{Vp}-\mathrm{p}, 75 \Omega$ terminated, loop-through out) |  |
|  | VGA (RGB-PC) |  |
|  | HDMI (High Definition Multimedia Interface) |  |
|  | PC Audio in |  |
| ACTIVE DISPLAY AREA $(\mathrm{W} \times \mathrm{H})$ | $409.8 \mathrm{~mm} \times 230.4 \mathrm{~mm}$ | $476.64 \mathrm{~mm} \times 268.11 \mathrm{~mm}$ |
| PACKING DIMENSIONS (W x D x H) | $\begin{gathered} 505 \mathrm{~mm} \times 130 \mathrm{~mm} \times 380 \mathrm{~mm} \\ \left(19.88 " \times 5.11^{\prime \prime} \times 14.96 "\right) \end{gathered}$ | $\begin{gathered} 565 \mathrm{~mm} \times 125 \mathrm{~mm} \times 415 \mathrm{~mm} \\ \left(22.24 " \times 4.92^{\prime \prime} \times 16.33^{\prime \prime}\right) \end{gathered}$ |
| WEIGHT | Net: 3.1 kg ( 6.83 lbs ) | Net: 3.81 kg (8.4 lbs) |
|  | Gross: 4.9 kg ( 10.8 lbs ) | Gross: 5.61 kg ( 12.37 lbs ) |
| ELECTRICAL RATINGS | $\begin{gathered} 12 \mathrm{~V}=-3.5 \mathrm{~A} \\ (100-240 \mathrm{~V} \sim, 50 / 60 \mathrm{~Hz}) \end{gathered}$ | $\begin{gathered} 12 \mathrm{~V}=-3.5 \mathrm{~A} \\ (100-240 \mathrm{~V} \sim, 50 / 60 \mathrm{~Hz}) \end{gathered}$ |

NOTE : Technical specifications are subject to change without notice.

## TROUBLESHOOTING GUIDE

| TROUBLE | TROUBLESHOOTING TIP |
| :--- | :--- |
| No image on display screen | 1. Check that power cord or the Monitor have been <br> connected securely into wall outlet or grounded <br> extension cable or strip <br> 2. Power switch should be in the ON position and LED is it <br> 3. Check that the Brightness and/or the Contrast adjustments <br> of the Display have not been turned down to minimum levels. |
| "NO SIGNAL" <br> message on screen | 1. The signal cable should be completely connected to the <br> video card/computer. |
| 2. The video card should be completely seated in its slot |  |
| and the computer is switched ON. |  |

## WEEE Symbols

## Correct Disposal of This Product (Waste Electrical \& Electronic Equipment) <br> (Applicable in the European Union and other European countries with separate collection systems) <br> This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. <br> To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal. <br> 

MEMO

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