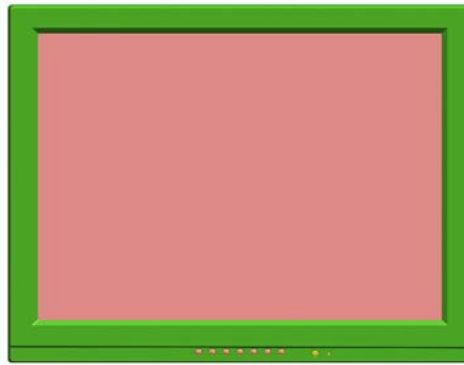


20-INCH TFT-LCD MONITOR



20RTC

INSTRUCTION MANUAL



TOA ELECTRONICS, INC.

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Please read this manual thoroughly before use, and keep it handy for future reference.

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This Monitor was
Manufactured by ISO 9001
Certified Factory

SAFETY INSTRUCTION

1. Read all of these instructions.
2. Save these instructions for later use.
3. Follow all warnings and instructions marked on the product.
4. Unplug this product from the wall outlet before cleaning.
Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable cart, stand or table.
The product may fall, causing serious damage to the product.
7. Please keep the below conditions.
 - A. Minimum distances(10Cm) around the apparatus for sufficient ventilation.
 - B. The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc..
 - C. No naked flame sources, such as lighted candles, should be placed on the apparatus.
 - D. Attention should be drawn to the environmental aspects of battery disposal.
 - E. The use of apparatus in tropical and/or moderate climates.
8. This product should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
9. This product is equipped with a 3 wire grounding type plug having a third(grounding) pin. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
10. Do not allow anything to rest on the power cord.
Do not locate this product where persons will walk on the cord.
11. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 10 amperes.
12. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.
Never spill any kind of liquid on the product.

SAFETY INSTRUCTION

13. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks.

Refer all servicing to service personnel.

14. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions.

A. When the power cord or plug is damaged or frayed.

B. If liquid has been spilled into the product.

C. If the product has been exposed to rain or water.

D. If the Product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore normal operation.

E. If the product has been dropped or the cabinet has been damaged.

F. If the product exhibits a distinct change in performance, indicating a need for service.

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.

ATTENTION

Le cordon d'alimentation est utilisé 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)

CAUTIONS

▶ **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 or 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 background and where sunlight or other light sources will shine directly on the monitor.

▶ **BE CAREFUL OF HEAVY OBJECT**

Neither the monitor itself nor any other heavy object should rest on the power cord.

Damage to a power cord can cause fire or electrical shock.

FCC RF INTERFERENCE STATEMENT

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.*
- Only shielded interface cable should be used.*

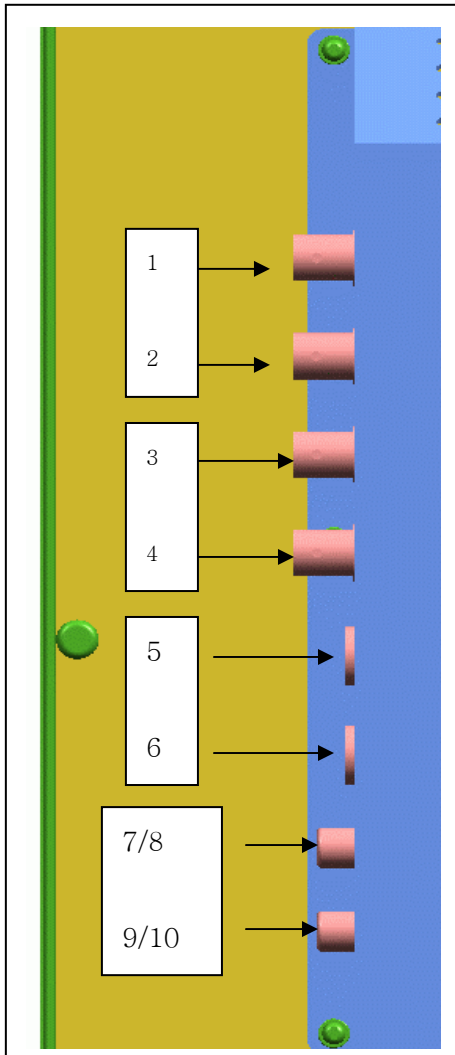
Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the users authority to operate such equipment.

► DOC COMPLIANCE NOTICE

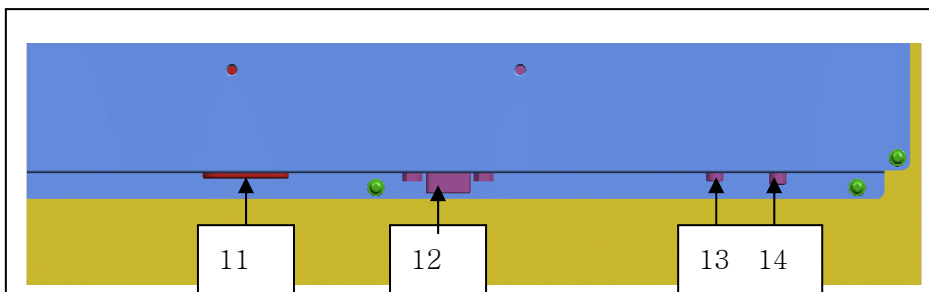
This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulation of Canadian Department of communications.

CONNECTING WITH EXTERNAL EQUIPMENT

A. BACK PANEL CONTROL



- 1 VIDEO 1 IN**
Composite signal Input for VIDEO 1
- 2 VIDEO 1 OUT**
Video looping output for VIDEO 1
- 3 VIDEO 2 IN**
Composite signal Input for VIDEO 2
- 4 VIDEO 2 OUT**
Video looping output for VIDEO 2
- 5 Y/C IN (SVHS)**
Y/C separated signal input
- 6 Y/C OUT (SVHS)**
Y/C separated signal looping output
- 7,8 AUDIO 1/2 IN**
Stereo Audio Signal Input, this input is for AV1, Y/C or AV2
- 9,10 AUDIO 1/2 OUT**
Stereo Audio Signal Output, this Output is for AV1, Y/C or AV2
- 11 AC POWER IN**
- 12 PC VGA IN**
- 13 PC STEREO IN**
- 14 PC STEREO OUT (Ear-phone OUT)**



REMOTE FUNCTIONS

F. REMOTE CONTROLLER

1. POWER()

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

2. SOURCE

Select pc or video(PC / AV1 / AV2 / S-Video) sources.

3. MUTE

Mute the sound.

4. MENU

Activates and exits the On Screen Display.

5. VOL()

Increases or decreases the level of audio volume.

6. UP/DOWN()

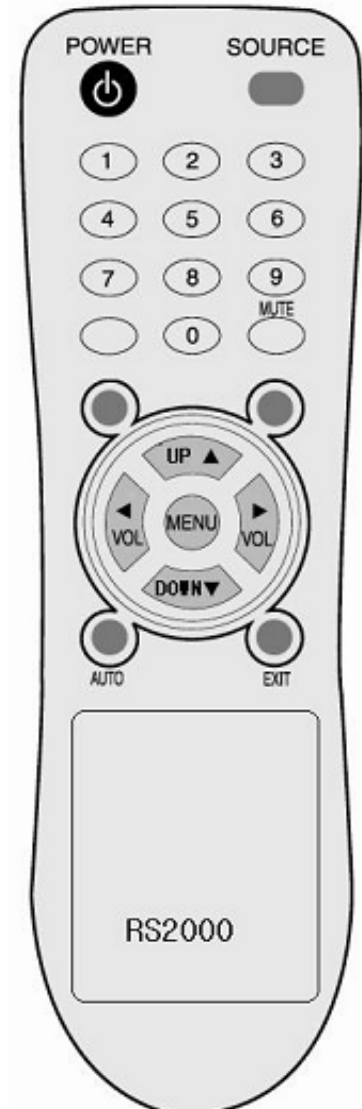
Move to OSD menu.

7. AUTO

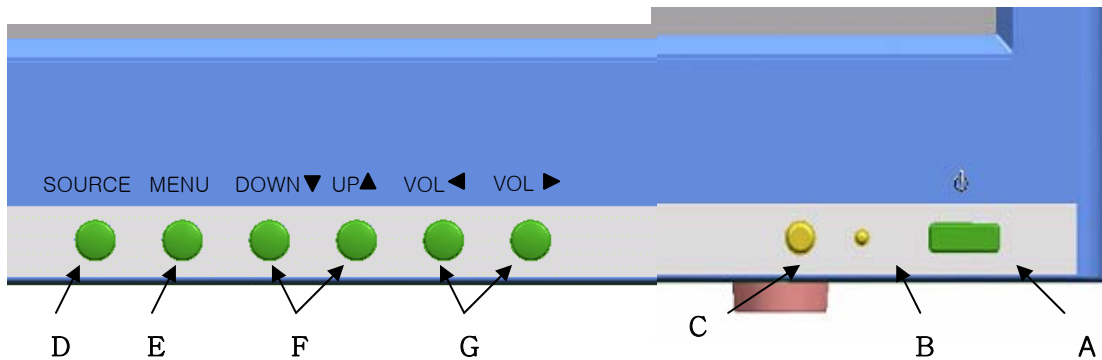
Auto geometry adjustment in PC Source.

8. EXIT

Exit the On Screen Display.



CONTROLS AND FUNCTIONS



A. POWER ON/OFF ()

Turns the power ON or OFF. There will be a few seconds delay before the display appears. The power LED(next to the power switch) lights with green when the power is turned ON. The power is turned off by pressing the power switch again and the power LED goes Red.

B. POWER LED

Power ON : GREEN
Stand-by : AMBER
Power OFF : RED

C. IR Sensor

Remote controller sensor.

D. SOURCE ()

Change input Source one by one
(PC, AV1, AV2,S-VIDEO)

E. MENU ()

Activates and exits the On Screen Display.

This button can also be used to move previous menu or status.

OSD MENU(MAIN) : Input Source, Screen, Audio, OSD, Color, Utility, Exit.

F. DOWN / UP ()

This button allows user to enter the sub-menu of the activated function when down key is pressed on the main menu.

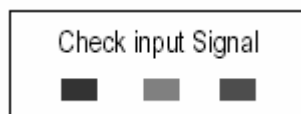
CONTROLS AND FUNCTIONS

GE. VOLUME (◀▶)

Adjust the volume / Adjust menu settings.

1. SELF-TEST DISPLAY

When there is no connection at PC, the On Screen Display will show for 3 seconds.

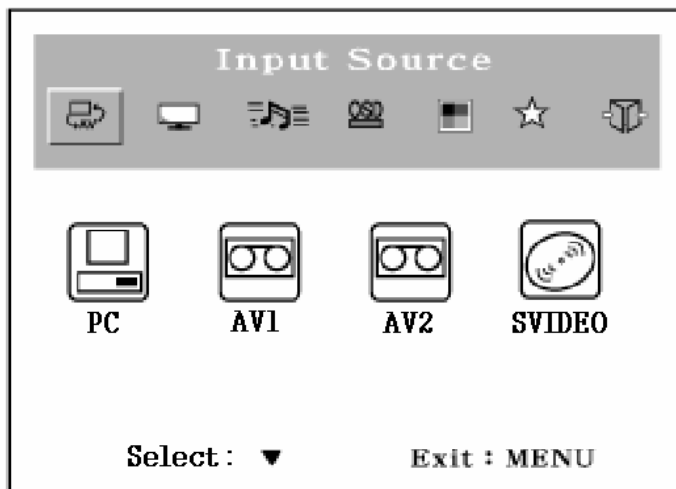


2. OSD MENU DESCRIPTION



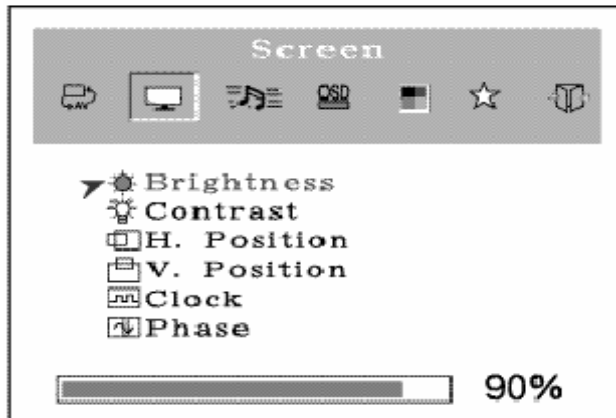
Input Source

Select PC or AV1, AV2, SVIDEO.



CONTROLS AND FUNCTIONS

 : Screen




 : **Brightness**


Increase or decrease the intensity of the image.

 : **Contrast**

Increase or decrease the intensity (lightness or dimness) of the image.

 : **H. position (PC Mode Only)**

Move image horizontally on screen right or left.

 : **V. position (PC Mode Only)**

Move image vertically on screen up or down.

 : **Clock (PC Mode Only)**

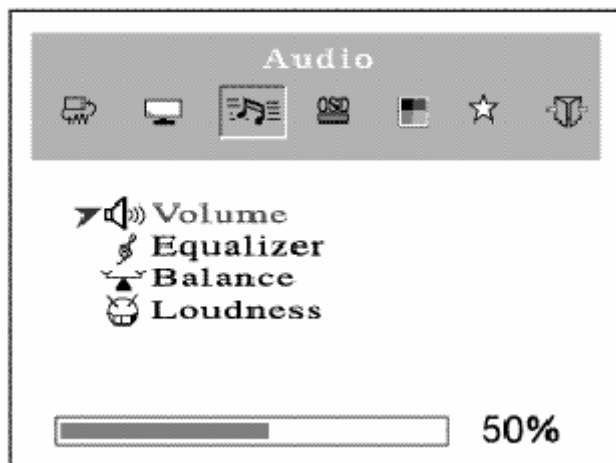
Adjust the vertical noise of screen image.

 : **Phase (PC Mode Only)**

Adjust the number of horizontal picture elements.

CONTROLS AND FUNCTIONS

: Audio



: Volume

Adjust audio volume.

: Equalizer (Loudspeaker Only)

Boost / Cut specific frequency or compensate for frequency distortion of the sound.

Select preferred Sound setting: flat, music, movie, speech and Adjust the level of the Sound frequency in user mode.

: Balance (Loudspeaker Only)

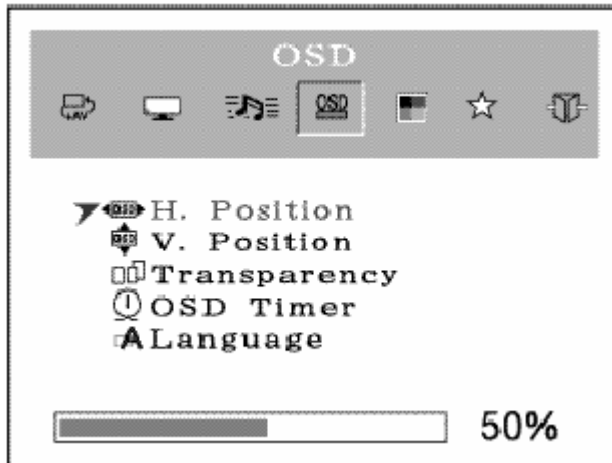
Adjust the balance of left and right speaker sound.

: Loudness (Loudspeaker Only)

Compensate the sound to consider the frequency sensitivity of human ear.

CONTROLS AND FUNCTIONS

OSD
: OSD



↔ : **H. Position**

Move the OSD position to right(▶) or left(◀).

↕ : **V. Position**

Move the OSD position to up(▶) or down(◀).

□□ : **Transparency**

Select the OSD background.

🕒 : **OSD Timer**

Select the OSD display timing.

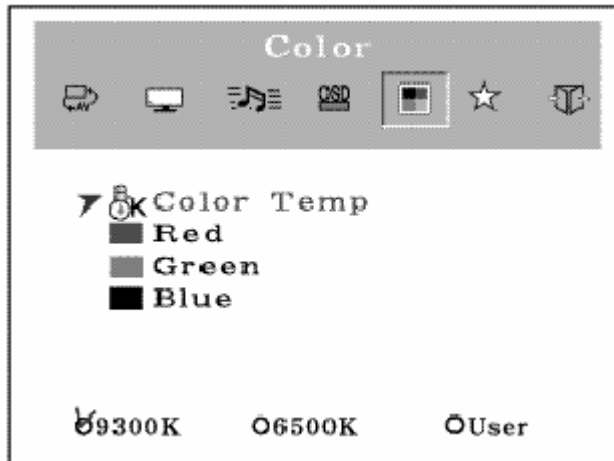
A : **Language**

Select a language among English, Français, Deutsch, Español, Danish, Italiano.

CONTROLS AND FUNCTIONS



: Color (PC Mode)



: Color Temp

Adjust color temperature to 9300, 6500, user.

(note : 9300 is factory default)



: Red

Adjust red color for user.



: Green

Adjust green color for user.

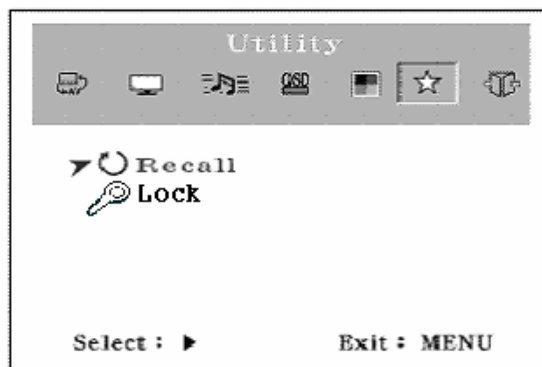


: Blue

Adjust blue color for user.

CONTROLS AND FUNCTIONS

☆ : Utility



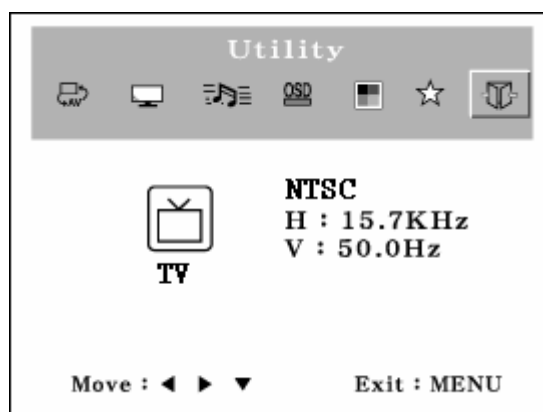
↻ : Recall

Select to reset all setting to the factory default values.

🔑 : Lock

Select ON or OFF (ON : Control key lock. OFF : Control key unlock)

📺 : Exit



📺 : Exit

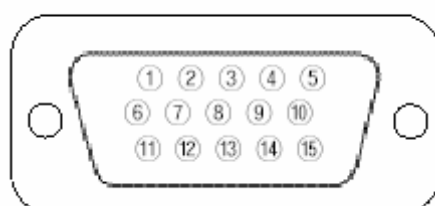
Turn off OSD Menu.

D-SUB CONNECTOR PIN ASSIGNMENTS

► 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



► ACCESSORY

1. POWER CORD
2. USER'S MANUAL
3. PC cable
4. Remote Control
5. Batteries
6. Wall mount (Option)
7. Rack mount (Option)

POWER MANAGEMENT

This monitor features a power management system to “power down” upon receipt of the VESA DPMS(The display power management signaling) from a VESA DPMS video card. The VESA DPMS-compliant video card performs this signaling system through not sending horizontal, vertical, or sync signal.

This monitor enters an appropriate mode through identifying each of the three modes of the signaling system.

POWER CONSUMPTION

MODE	POWER CONSUMPTION
ON	< 50W
STANDBY	< 5W
SUSPEND	< 5W
ACTIVE OFF	< 5W

LED INDICATOR

The power management feature of the monitor is comprised of four stages : On(Green), Standby, Suspend, Active off(Amber) and Unsupported mode(Green).

MODE	LED COLOR	MONITOR OPERATION
ON	GREEN	Normal Operation
STANDBY	AMBER	Screen blanks after preset idle time and some electronic circuits or all circuitry in the monitor shut down.
SUSPEND		
ACTIVE OFF		
UNSUPPORTED MODE	GREEN	Normal operation but the on screen display will show error message.
POWER OFF	RED	Not operation

SPECIFICATIONS

▶ LCD Type

20.1" Diagonal AM-TFT(Active-Matrix)

Pixel pitch(mm) : 0.51(H) X 0.51(V)

BRIGHTNESS: 450cd/m² (Typical)

CONTRAST RATIO: 500:1(Typical)

RESPONSE TIME: Tr -5msec, Tf-11msec(Typical)

▶ RESOLUTION(H x V)

800X600 @75Hz

▶ FREQUENCY

HORIZONTAL: 31-48KHz

VERTICAL: 56-75Hz

▶ INPUT SIGNAL

VIDEO(Analog 0.7Vp-p / 75Ω)

SYNC(Separate TTL Level)

S-VIDEO, AV(Composite, Sound L/R)

PC Stereo Sound

▶ ACTIVE DISPLAY AREA (W x H)

408mm X 306mm

▶ PACKING DIMENSIONS (W x D x H)

535mm X 175mm X 480mm(21.07" X 6.89" X18.90")

▶ WEIGHT

Net Weight : 8.7Kg (19.2lbs)

Gross Weight : 11.7Kg (25.8 lbs)

▶ ELECTRICAL RATINGS

AC100 - 240V, 50/60Hz (auto switching)

▶▶ NOTE :

Technical specifications are subject to change without notice.

TROUBLESHOOTING GUIDE

TROUBLE	TROUBLESHOOTING TIP
No image on display screen	<ol style="list-style-type: none"> 1. Check that power cord of the Monitor have been connected securely into wall outlet or grounded extension cable or strip. 2. Power switch should be in the ON position and LED is lit. 3. Check that the Brightness and/or the Contrast adjustments of the Display have not been turned down to minimum levels.
"Check Input Signal" message on screen	<ol style="list-style-type: none"> 1. The signal cable should be completely connected to the video card/computer. 2. The video card should be completely seated in its slot and the computer is switched ON.
Display image is not centered, too small or too large in PC mode	Push the down key in front side or Auto key in remoon.
Vertical or Horizontal noise is present in the picture	Adjust Clock and Phase in the OSD.

WEEE Symbols

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

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. 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.



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