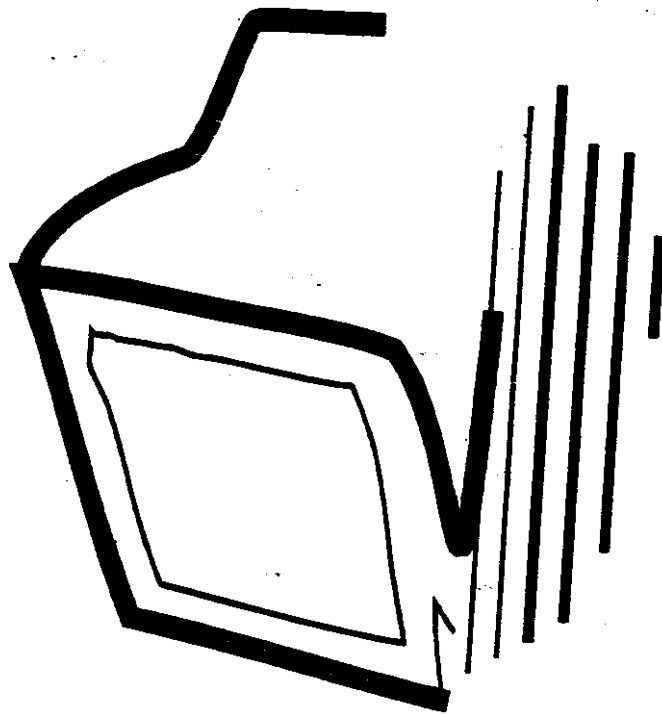


**USER'S MANUAL**



**PROFESSIONAL  
DISPLAY SYSTEM**

FCC ID: IJE 986

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## WICHTIGE SICHERHEITSHINWEISE

1. Bitte Lesen Sie sich diese Hinweise sorgfältig durch.
2. Heben Sie diese Anleitung für den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie keine flüssigen oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
4. Um eine Beschädigung des Gerätes zu vermeiden, die vom Hersteller zugelassen sind.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten, Ein Kippen oder Fallen könnte Verletzungen hervorrufen. Verwenden Sie nur sichere Standorte und beachten Sie die Aufstellhinweise des Herstellers.
7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor Überhitzung schützt. Sorgen Sie dafür, daß diese Öffnungen nicht abgedeckt werden.
8. Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.
9. Die Netzanschlußsteckdose muß aus Gründen der elektrischen Sicherheit einen Schutzleiterkontakt haben.
10. Verlegen Sie die Netzanschlußleitung so, daß niemand darüberfallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.
11. Alle Hinweise und Warnungen die sich am Gerät befinden sind zu beachten.
12. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
13. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. elektrischen Schlag auslösen.
14. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.

# Introduction

## 1. Introduction

### 1.1 General Information

This monitor is a high-performance intelligent multi-scan color monitor. It is designed to be compatible with all display modes between the working frequency.

The OSD control allows you to easily and simply make precise screen format adjustment, while user programmability provides cross platform compatibility. The visible image area (VIA), which is the actual viewing area of the screen, is 13.00 inches on the 14-inch monitor and 13.70 inches on the 15-inch monitor and 15.70 inches on the 17-inch monitor and 17.90 inches on the 19-inch monitor.

### 1.2 Features

- Multi-scanning at horizontal frequencies of 30KHz to 54KHz (14-inch), 30KHz to 70KHz (15-inch), 30KHz to 75KHz (17-inch), 30KHz to 86KHz (19-inch), and vertical frequency from 50Hz to 150Hz for all kinds of monitor.
- Microprocessor-based design with OSD (On Screen Display) control.
- Compatible with standard IBM VGA, EXTENDED VGA, super VGA, IBM XGA modes, as well as VESA resolution standards.
- Universal power supply.
- MPR II compliant (optional).
- TCO 95 compliant (optional).
- EPA Energy Star compliant power saving.
- VESA Display Power Management (DPMS) compatible.

15. Wenn folgende Situationen auftreten, ist das Gerät das Gerät vom Stromnetz trennen und von einer qualifizierten Servicestelle zu überprüfen:

- a. Netzkable oder Netzstecker sind beschädigt.
- b. Flüssigkeit ist in das Gerät eingedrungen.
- c. Das Gerät war Feuchtigkeit ausgesetzt.
- d. Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
- e. Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
- f. Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.

16. Bei Reparaturen dürfen nur Originalersatzteile bzw. den Originalteilen entsprechende Teile verwendet werden. Der Einsatz von ungeeigneten Ersatzteilen kann eine weitere Beschädigung hervorrufen.

17. Wenden Sie sich mit allen Fragen, die Service und Reparatur betreffen, an Ihren Servicepartner. Somit stellen Sie die Betriebssicherheit des Gerätes sicher.

18. Der Arbeitsplatzbezogene Schalldruckpegel naccch DIN 45 635 beträgt 70dB(A0) oder weniger.

19. Die Steckdose muß nahe dem Gerät angebracht und leicht zugänglich sein.

20. Es wird aus ergonomischen Gründen empfohlen, die Grundfarbe blau nicht auf dunklem Untergrund zu verwenden (schlechte Lesbarkeit und erhöhte Augenbelastung bei zu geringem Zeichenkontrast wäre die Folge).

21. ZH11/618/10.80 for ergonomics.

22. Zum Netzanschluß dieses Gerätes ist eine geprüfte Leitung zu verwenden. Für einen Nennstrom bis 6A und einem Geratgewicht größer 3kg ist eine Leitung nicht leichter als H05VV-F mit einem Leitungsquerschnitt von 0.75mm<sup>2</sup> einzusetzen.

23. Funkentst. it nach DBP vfg 243 / 1991

## Introduction

- Microsoft Windows 95/Windows 98 compatible & VESA Display Data Channel (DDC) 1/2B compatible.
- Side-mount provision for optional speakers (AR-200.AR/AK-500.PROE-10).
- 5 country language on OSD which you can choose.it includes English.Spanish. German.France. Chinese.
- Built-in microphone to optimize speakerphone functionality. (Optional)

### 1.3 Check list

Before operating this monitor, please make sure that all of the following items are included:

- your monitor
- Tilt & swivel base
- This user's manual
- Power cord

If any of these items are missing, please contact your dealer for technical support and customer service.

**NOTE :** Be sure to save original box and all packing material for future transport of the monitor.

## Installing the monitor

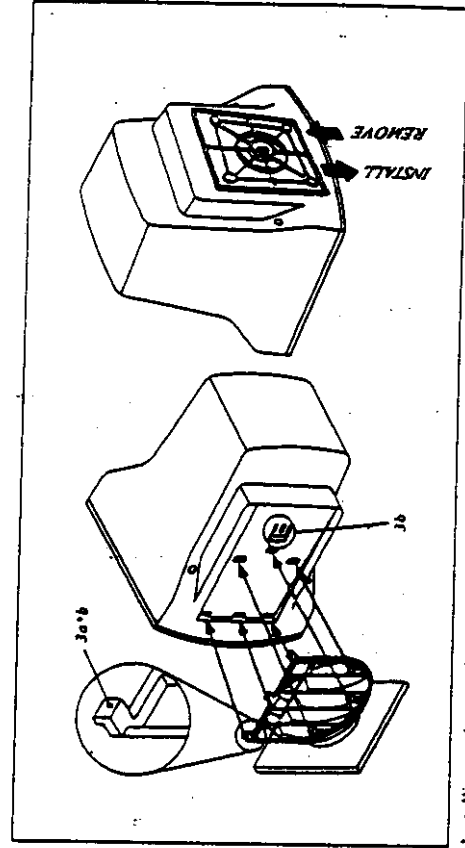
### 2. Installing the monitor

To install the monitor, ensure that the power to the monitor computer system, and other attached devices is turned off, and follow these steps:

#### 2.1 Installing and removing the swivel base.

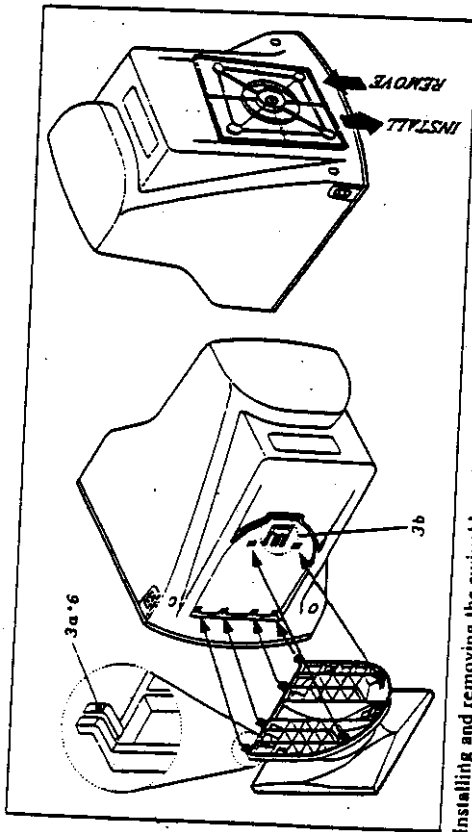
To attach the swivel base to the monitor, do the following:

1. Carefully turn the monitor on its side or upside - down.
2. Locate the cavities at the bottom front of the monitor.
3. Insert the pegs "3a" on the swivel base into these cavities. Push firmly toward (CRT direction) the main unit until the latch "3b" at the bottom of the monitor clicks shut. This locks the swivel base to its place.
4. To remove the swivel base, use thumb to push the "3b" swivel base and pull down the latch properly. The base removes from the attached position.
5. The socket-outlet shall be installed near the equipment and shall be easily accessible section.

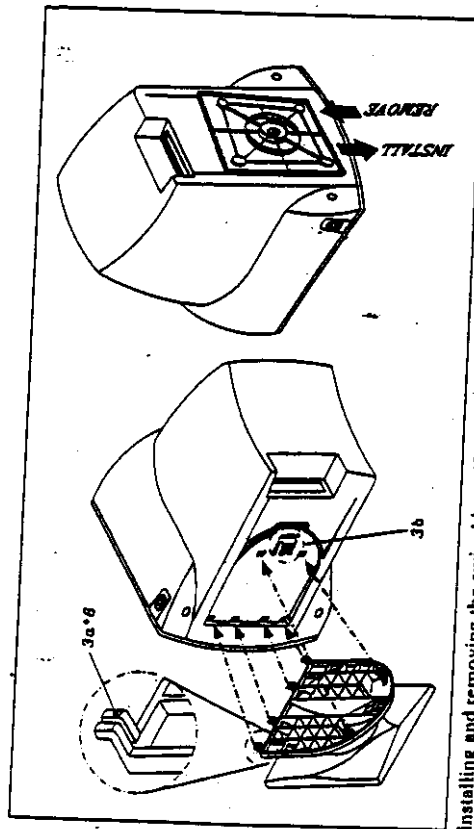


Installing and removing the swivel base (For PA/SA series)

## Installing the monitor



Installing and removing the swivel base ( For Px/Pro series)



Installing and removing the swivel base (for Ez Series)

## 2.2 Power cable connection

Plug power cord into the power supply of PC or into the wall outlet of the power. A three - wire cord is provided as a safety precaution to ensure proper electrical grounding.

## Installing the monitor

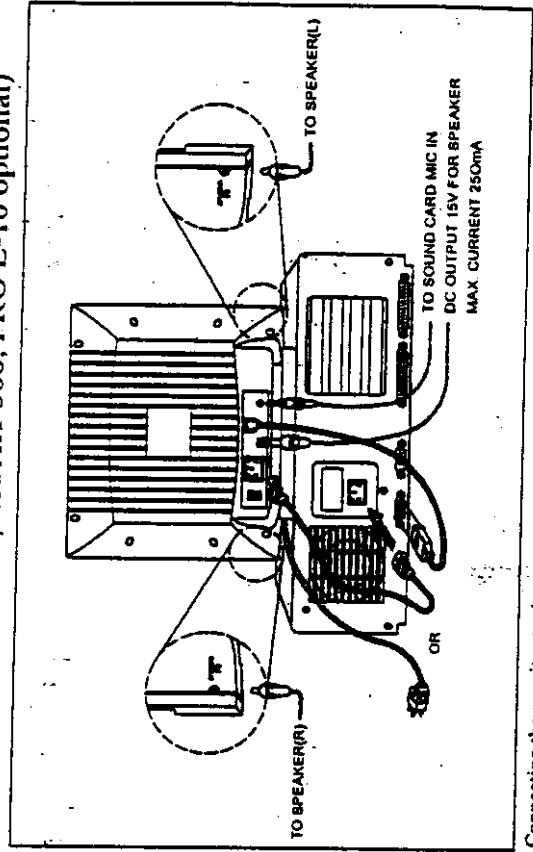
### 2.3 Signal cable connection

The monitor has an built - in signal cable with a male 15-pin mini D-sub connector. Attach this connector to the female 15-pin receptacle of your video adapter and lock the two screws to ensure firm grounding.

### 2.4 Microphone and speaker cables connection (optional)

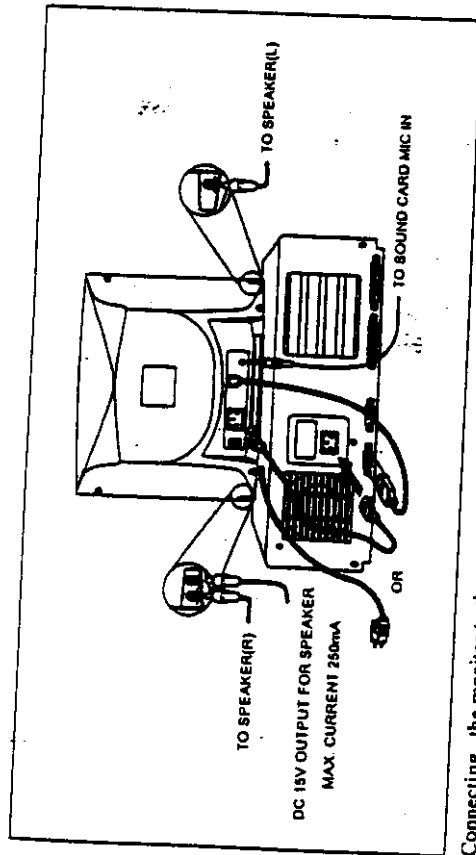
1. Connect one end of the microphone cable to the connector on the back of the monitor and the other end to the sound card of computer.
2. Connect two of the speaker cables to each side of speakers connector of monitor and the third speaker cable to the sound card of computer.
3. DC 15V output (optional): DC 15V/250mA  
The DC 15V output provides power only for multimedia speaker. To connect the DC 15V output from monitor to speaker sets.

(MODEL NO.: AR-200, AR/AK-500, PRO E-10 optional)

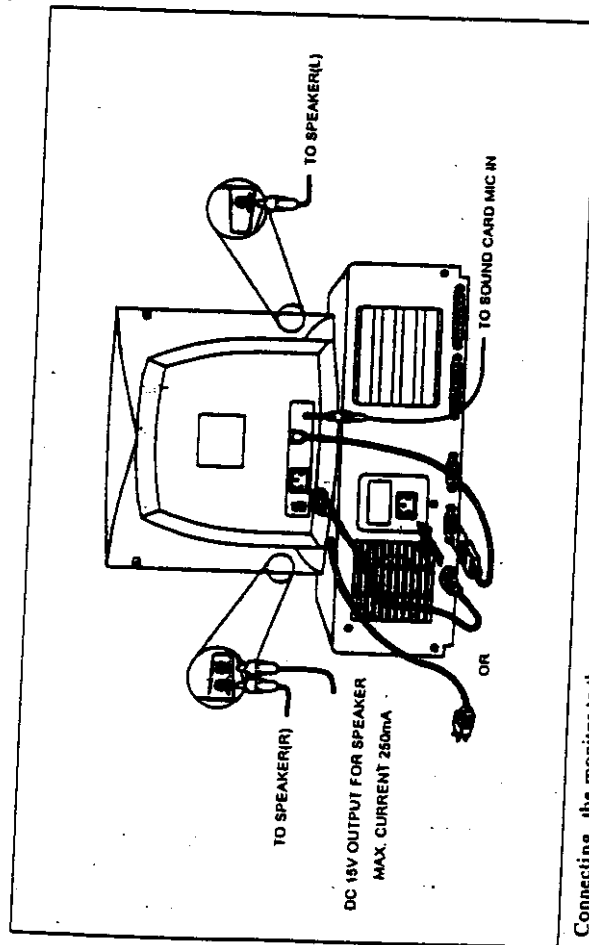


Connecting the monitor to the computer and the power supply (For PA/SA series)

# Installing the monitor

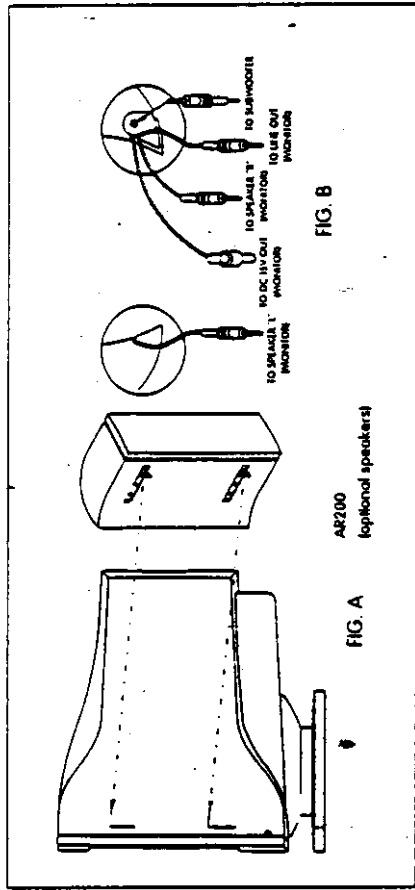


Connecting the monitor to the computer and the power supply (For PX/PK/PRO series)

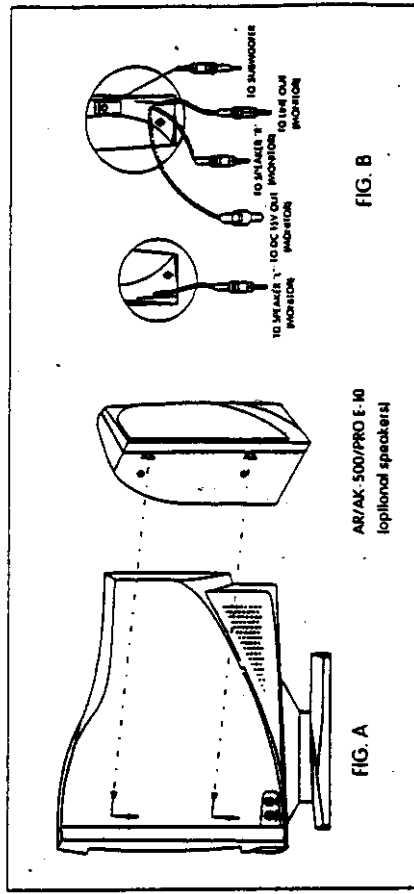


Connecting the monitor to the computer and the power supply (For EZ series)

# Installing the monitor



Connecting the speakers and speaker cables (For PA/SA series)



Connecting the speakers and speaker cables (For PX/PK/PRO series)

## Installing the monitor

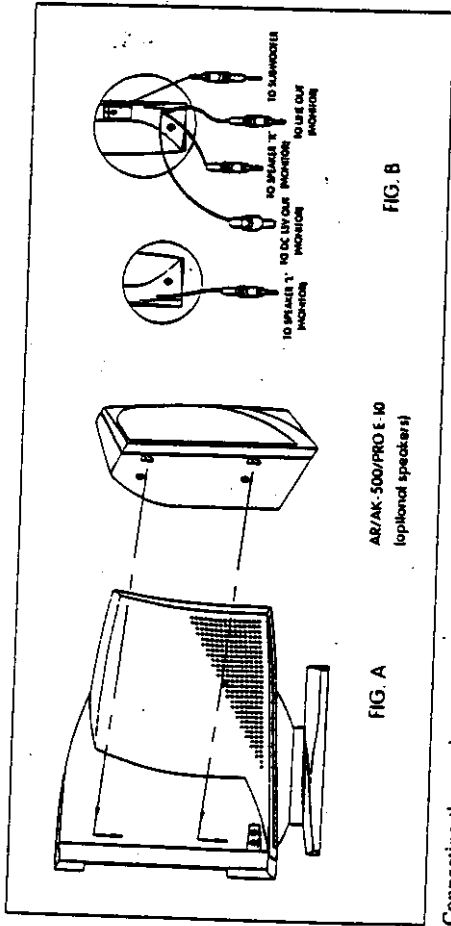


FIG. A

AR/AK-500/PRO E-10  
(optional speakers)

FIG. B

Connecting the speakers and speaker cables (For EZ series)

**NOTE:** How to attach and connect the optional speakers to your monitor. Please refer to the user's manual of speakers. Installing the monitor

### 2.5 Power ON

Switch ON the power to both the monitor and your computer. After the monitor is power ON, the LED lights up green. If the LED become to flash, check the video cable connection.

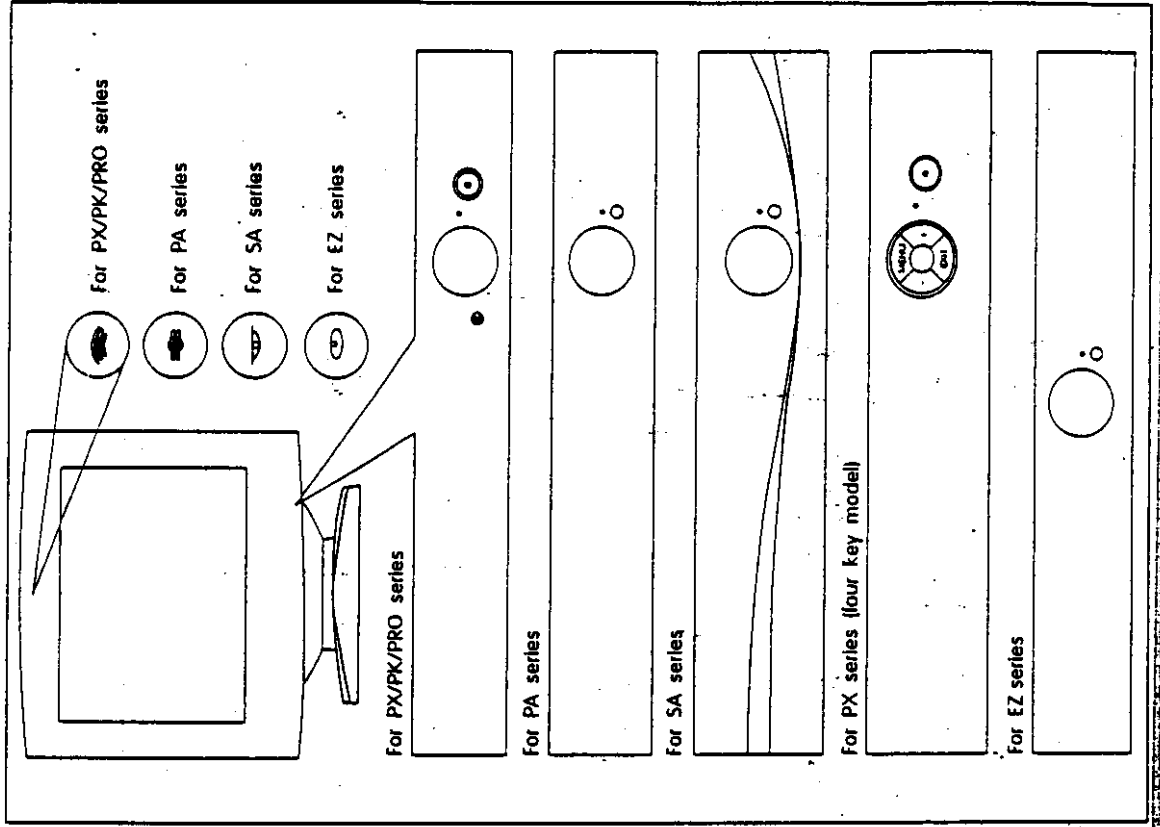
### 2.6 Adjust the picture

Adjusting the picture is necessary to obtain the best visual display. A complete description of the control functions is covered in the next section. "OPERATION."

## Operation

### 3. Operation

The front control panel is shown in the following illustration.





## Operation

### 3.1 Power on/off switch.

This button is used to turn the monitor on and off

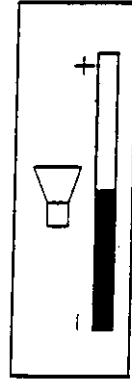
### 3.2 Power (DPMS) indicator

This indicator lights up green when the monitor operates normally. If the monitor is energy saving (stand-by / suspend / power off), this LED become to flash.

### 3.3 Using the volume and OSD control

This OSD control knob is a multi-function controller.

1. There is no menu on screen, turning the knob clockwise or counter-clockwise which causes the volume bar appears. At this time, turn the knob clockwise to increase or counterclockwise to decrease the volume up and down. Then press and release the knob to cause volume bar disappear.



2. Please following the procedure of selection and adjusting an item using the OSD system as below steps for main functions adjustment.

#### a. For one key model

**Step 1 :** Press and release the OSD control knob to activate the OSD menu.

**Step 2 :** Turn the knob to scroll the highlight around the main-function list.

**Step 3 :** When the desired function is highlight , press and release the knob a second time. the highlight will stay at first icon of sub-

## Operation

menu Which is at bottom of menu.

**Step 4 :** Turn the knob clockwise or counterclockwise to choose the function that you need.

When the desired function is highlight, press and release the knob a third time, The scroll bar will change the color from green to blue.

**Step 5 :** To make you adjustments turn the knob clockwise to increase or counterclockwise to decrease the setting .

**Step 6 :** Press and release the knob again to store the adjustment. The scroll bar will change to green. You can select other function to make adjustment by the knob. Also you can select EXIT icon and press the knob again to go back main menu .

**Step 7 :** Repeat step 2 through 6 to make further adjustment .

#### b. For four key model

**Step 1 :** Press "MENU" key to activate the OSD menu .

**Step 2 :** Press "+" or "-" to scroll the highlight around the main-functions list .

**Step 3 :** When the desired function is highlight, press "MENU" key the highlight will stay at first icon of sub-menu which is at bottom of menu.

**Step 4 :** Press "+" or "-" key to scroll the highlight through the sub-menu.

**Step 5 :** Press "MENU" key again . the scroll bar will change the color from green to blue.

**Step 6 :** To make adjustment . Press "+" key to increase or press "-" key to decrease the setting .

**Step 7 :** Press "MENU" key again to store the change. the scroll bar will

## Operation

change to green . You can select other function to make adjustments. Also you can select EXIT icon and press "MENU" key to go back main menu .

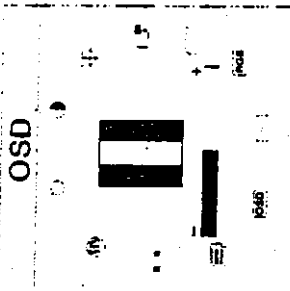
**Step 8 :** Repeat step 2 through step 7 to make further adjustments .


**Step 9 :** Press "EXIT" key in any step . you can exit the OSD menu .


### 3.4 OSD menus


#### 1. Main menu

OSD main menu of controls give you an overview of the selection of controls available .



**RESET** (  ): Resets the currently highlighted control to the factory setting . You must be using factory preset video mode when using this function .

**DEGAUSS** (  ): Eliminates the build-up of stray magnetic fields which alter the correct scan of the electron beams and affect the purity of the screen colors, focus, and convergence. When pressed, your image will jump and waver a bit, as the screen is demagnetized. (optional)

**EXIT** (  ): Exit the OSD controls. (Turning off the OSD window. ) There are addition information in the top and bottom of main menu . the descriptions as below:

#### a. Function explanation

At top of menu. Give the highlight icon a function explanation in five Language.

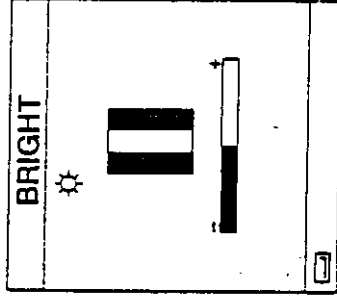
b. There is sub-menu at bottom of main menu.

## Operation

### 2. Sub-menu

You can choose the function you need according to 3.3. each function detail are described as following.

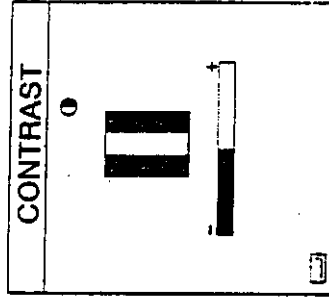
#### a. Brightness and contrast.



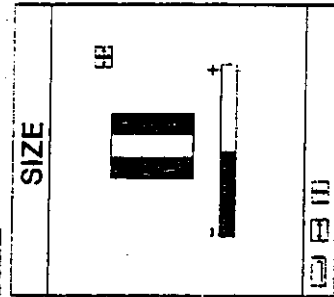
You can adjust brightness and contrast after press knob.

**CONTRAST:** Adjust the image brightness in relation to the background.

**BRIGHTNESS:** Adjust the overall image and background screen Bright.



#### b. SIZE



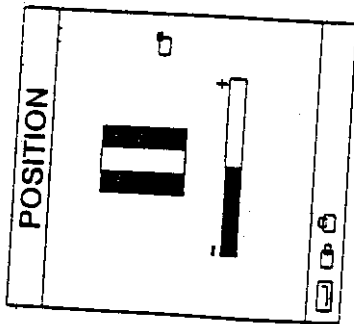
**H-SIZE:** To increase or decreases the horizontal size of the image.

**V-SIZE:** To increase or decreases the vertical size the image.

**EXIT:** Exit to the main menu.

## Operation

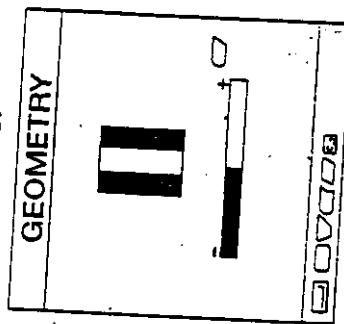
### c. POSITION:



**H-Position:** To move the picture image horizontally left or right.

**V-Position:** To move the picture image vertically up or down.

### d. GEOMETRY:



**PINCUSHION:** To increase or decrease the curvature of the sides either inward or outward.

**TRAPEZOIDAL:** To increase or decrease the bottom of the screen to be the same as the top.

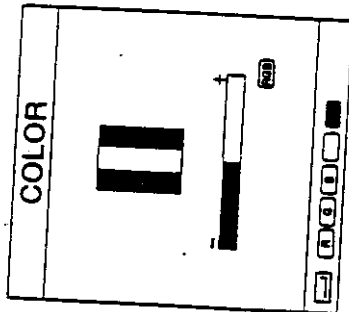
**PARALLELOGRAM:** To increase or decrease the tilt of the sides either to the left or right.

**UNBALANCE:** To increase or decrease the curvature of the sides either to the left or right.

**ROTATION:** Rotates the entire display clockwise or counterclockwise.

## Operation

### e. COLOR:



This control adjusts the color temperature of the screen image. 9300°K and 6500°K are preset by factory. You can not to adjustment.

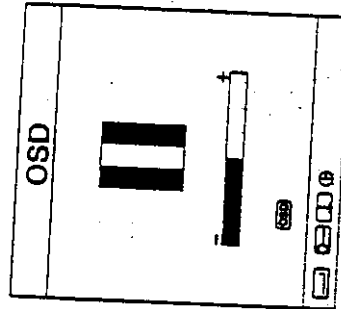
**RED/GREEN/BLUE:** user color

**9300°K :** Which is bluer and brighter .

**6500°K :** Which is redder and closer to paper white.

You can adjust the individual color gun intensity by yourself. Increases or decreases red, green, or blue depending upon which is selected.

### f. OSD:



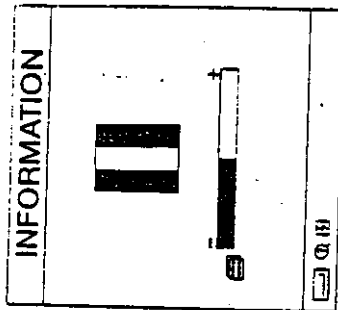
**H-Position:** To move the picture image horizontally left or right.

**V-Position:** To move the picture image vertically up or down.

**OSD-time:** If don't press any key, after this time, the adjustment set will be saved and **OSD** will disappear.

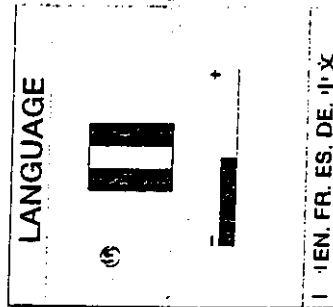
# Operation

## g. INFORMATION:



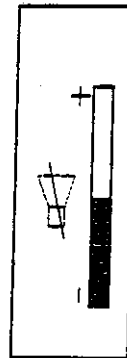
**INFORMATION:** Display present mode resolution and vertical frequency.

## h. LANGUAGE:



This control allows the user to choose the language to explain the function that you adjust.

## 3.5 VOLUME MUTE (optional function)



Press the key turn the speakers and headphone terminal sound ON or OFF.

## 3.6 Built-in-Microphone

Built-in microphone to optimize speakerphone functionality. When used with multimedia computers. (optional)

# Operation

## 3.7 Timing Guide

This multi-scanning monitor can automatically detect and display several video modes. This monitor offers 12 factory preset modes that cover most of the common video modes supported by popular graphics adapters. If the monitor recognizes one of the preset timing signals, it will recall that mode and any stored display adjustments you have made.

Standard	Resolution	Horizontal Frequency (KHz)	Vertical Frequency (.Hz)
IBM/VGA	720 X 400	31.47	70
IBM/VGA	640 X 480	31.47	60
VESA/75	640 X 480	37.50	75
VESA/60	800 X 600	37.88	60
VESA/SVGA	800 X 600	48.08	72
VESA/75	800 X 600	46.88	75
IBM/XGA	1024 X 768	48.39	60
VESA/85	800 X 600	53.67	85
* VESA/75	1024 X 768	60.02	75
* VESA/60	1280 X 1024	63.98	60
* VESA/85	1024 X 768	68.67	85
# VESA/60	1600 X 1200	75.00	60
! VESA/85	1280 X 960	86.00	85

\* For 15-inch, 17-inch and 19-inch monitor.

# For 17-inch and 19-inch monitor.

! For 19-inch monitor only.

## 3.8 Plug and Play

This monitor features the VESA DDC (Display Data Channel) standard which, when used with a DDC compatible video card, will simplify the monitor's set up. With VESA DDC 1/2B, When the

## Operation

monitor is powered up, it will automatically notify a Windows 95/Windows 98 host computer of its scanning frequencies, capabilities and characteristics. Windows 95/Windows 98 will automatically recognize the connection of the monitor and select the appropriate display resolution.

### 3.9 Power management

This monitor meets VESA DPMS (Display power management signaling) standards, and complies with both the EPA's energy star requirements and Europe's TCO NUTEK'S power management requirement. The following is the description of the power indicator for the power saving modes.

POWER Management Definition						
MODE	VESA DPMS		POWER SAVING STATES		POWER INDICATOR	
	VIDEO	H-SYNC	V-SYNC	POWER USED POWER SAVING(%)		
ON	Active	Yes	Yes	<110 watts	0%	Normal
Stand-by	Blanked	No	Yes	<15 watts	> 86%	Flash every 0.7second
suspend	Blanked	Yes	No	<15 watts	> 86%	Flash every 0.7second
OFF	Blanked	No	No	<8 watts	> 93%	Flash every 2second

- NOTE:** 1. This monitor is Energy Star compliant when used with a computer equipped with DPMS
2. The monitor automatically goes through the power management step when it is idle. To release the monitor from the power saving condition, press any key on the keyboard or mouse.



## Technical Information

### 4. Technical Information

#### 4.1 Products Specifications

Picture Tube Diagonal visible image area	14 INCH 13.00 inches	15 INCH 13.70 inches
	Active Display Area (Factory setting)	255 x 190mm 10.03 x 7.48inches
Synchronization Range Horizontal	30 - 54KHz	30 - 70KHz
	Vertical	50 - 150Hz
Max. Resolution	1024 x 768	1280 x 1024
Max. Video Bandwidth	85MHz	110MHz
Dimension(LxWxH)	409 x 359 x 384mm 384 x 359 x 371mm	409 x 359 x 384mm 384 x 359 x 371mm
	Weight net gross	11.0Kg(24.2Lb.) 12.5Kg(27.5Lb.)
Power consumption (max.)	80 Watts	85 Watts
Input Signal	Video : Analog 0.7Vp-p / 75 Ohms Sync. : Separate sync. TTL level.	
Display Analog Input	Unlimited Number of colors (depends upon video card)	
Power Supply	AC 100 - 240 volts 60/50 Hz	
Environmental	Operating Temperature	5°C to 40°C
	Humidity	20% to 80%
Environmental	Storage Temperature	-20°C to 60°C
	Humidity	10% to 90%

NOTE: All technical specifications are subject to change without notice.

## Technical Information

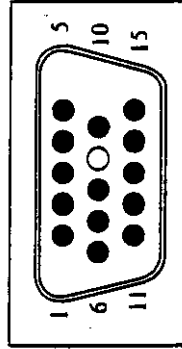
Picture Tube Diagonal visible image area	17 INCH 15.70 inches	19 INCH 17.90 inches
Active Display Area (Factory setting)	300 x 225mm 11.81 x 8.85inches	360 x 270mm 14.71 x 10.63inches
Synchronization Range Horizontal	30-75KHz	30-86KHz
Vertical	50 -150Hz	50 -150Hz
Max. Resolution	1600 X 1200	1600 x 1200
Max. Video Bandwidth	110MHz	120MHz
Dimension(L×W×H)	406 x 357 x 435mm(EZ) 420 x 406 x 408mm(PA/SA/PK/PX)	446 x 400 x 475mm(EZ) 455 x 446 x 452mm(PA/SA/PX/PK)
Weight net gross	16.5Kg(36.3Lb.) 19Kg(41.8Lb)	19.6Kg(43.1Lb.) 23Kg(50.6Lb.)
Power consumption (max.)	110 Watts	120 Watts
Input Signal	Video : Analog 0.7Vp-p / 75 Ohms Sync. : Separate sync. TTL level.	
Display Analog Input	Unlimited Number of colors (depends upon video card)	
Power Supply	AC 100 - 240 volts 60/50 Hz	
Environmental	Operating Temperature 5C to 40C Humidity 20% to 80% Storage Temperature -20C to 60C Humidity 10% to 90%	

NOTE: All technical specifications are subject to change without notice.

## Technical Information

### 4.2 Signal connector pin assignment

PIN	Signal (D sub)	PIN	Signal(D-sub)
1	Red	9	No connection
2	Green	10	Ground
3	Blue	11	Ground
4	Ground	12	SDA (FOR DDC)
5	Self Test	13	H. Sync
6	Red Ground	14	V. Sync
7	Green Ground	15	SCL (FOR DDC)
8	Blue Ground		



signal connector

### 4.3 Troubleshooting

If your monitor is not performing properly, use the following troubleshooting for quick solutions to common problems. If the problem persists, call the dealer where you purchased the monitor.

## Technical Information

### No Picture:

Please check these items

Power cord and signal cable are securely connected.

Monitor in power save mode ?

Adjust the brightness and contrast controls.

### Display image is too large or small:

Use the OSD controls to adjust the image.

### Picture is scrolling or unstable:

Signal cable should be completely attached to the computer.

Check the signal cable pin assignments incorrect ?

### Color is abnormal:

Magnetic object nearby ?

Signal cable pin assignments incorrect ?

Signal cable properly connected ?

### The built-in microphone does not operate:

Please connect the microphone cable correctly.

Speak distance is too far. Speak into the microphone  
is a normal voice from a distance of 30 - 50 cm.(12"-20")

### Image is not correctly shaped:

A new video mode is selected.

User control has not yet been adjusted. Used the OSD  
controls to adjust image.

## FEDERAL COMMUNICATIONS COMMISSION (F.C.C.) STATEMENT

This equipment has been tested and found to comply with the limits of 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 area. 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 one or more of the following measures:

1. Reorient/Relocate the receiving antenna
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

**CAUTION :** Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

**NOTE :** The use of a non-shielded interface cable with this equipment is prohibited.