

# *User's Guide*

Compaq P710 Color Monitor  
Compaq P910 Color Monitor  
Compaq P1210 Color Monitor



# CONTENTS

|  |   |
|--|---|
| 1. INTRODUCTION                                |   |
| Features .....                                 | 1 |
| Internal Preset Memory Capability .....        | 3 |
| Power Management Function .....                | 3 |
| DDC .....                                      | 3 |
| Location Considerations .....                  | 4 |
| Cleaning Your Monitor .....                    | 4 |
| Unpacking .....                                | 5 |
| Tilt/Swivel Base .....                         | 5 |
| Screen Position Adjustment .....               | 5 |
| Quick Operation Chart .....                    | 5 |
| 2. PART NAME                                   |   |
| Control Names .....                            | 1 |
| 3. INSTALLATION AND CONNECTION                 |   |
| AC Power Connection .....                      | 1 |
| Signal Cable Connection .....                  | 1 |
| Connecting to VGA Compatible System .....      | 1 |
| Connecting to Two Computers(22" Model) .....   | 1 |
| Installation of USB Function .....             | 3 |
| 4. OSD(On Screen Display) FUNCTIONS            |   |
| How to adjust the screen .....                 | 1 |
| Adjustment Items (22" Model) .....             | 2 |
| Adjustment Items (19" Model) .....             | 5 |
| Adjustment Items (17" Model) .....             | 8 |
| 5. TROUBLESHOOTING                             |   |
| 6. SPECIFICATIONS                              |   |
| 22" Model.....                                 | 1 |
| 19" Model.....                                 | 2 |
| 17" Model.....                                 | 3 |
| 7. APPENDIX                                    |   |
| Monitor Signal Input Connector (DB9-15P) ..... | 1 |
| SC-B104 Signal Cable .....                     | 1 |

**WARNING!**

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# 1 INTRODUCTION

Congratulations on your purchase of the high resolution color monitor. We designed this monitor to provide you with years of reliable trouble-free operation.

This guide tells you how to connect, adjust and care for your monitor. This guide also provides technical specifications and instructions for troubleshooting any basic problems you may experience with your monitor.

## Features

This monitor is an intelligent, microprocessor-based monitor compatible with most analog RGB (Red, Green, Blue) display standards available in the following sizes:

- 45 cm/17" (41cm/16" Diagonal Viewable Image)
- 50 cm/19" (46 cm/18" Diagonal Viewable Image)
- 55cm/22" (51cm/20" Diagonal Viewable Image)

It provides crisp text and vivid color graphics.

- The monitor's wide auto-scanning compatibility range makes it possible to upgrade video cards or software without purchasing a new monitor.
- Digitally controlled auto-scanning is done using an internal microprocessor. The microprocessor-based intelligence allows the monitor to operate in each frequency mode with the precision of a fixed frequency monitor. The monitor operates in the following frequencies:
  - 17" Monitor - horizontal scan frequencies between 30kHz and 96kHz, and vertical scan frequencies between 50Hz and 130Hz
  - 19" Monitor - horizontal scan frequencies between 30kHz and 108kHz, and vertical scan frequencies between 50Hz and 140Hz
  - 22" Monitor - horizontal scan frequencies between 30kHz and 121kHz, and vertical scan frequencies between 50Hz and 160Hz.
- The monitor contains resident memory for pre-programmed screen display standards and is also capable of storing additional user adjustment parameters.
- The monitor is capable of producing a non-interlaced maximum addressable resolution format of 1600 dots x 1200 lines (17" monitor), 1920 x 1440 lines (19" monitor) and 2048 dots x 1536 lines (22" monitor). This display is well suited for windowing environments.
- Because of the analog signal inputs, the monitor can display an unlimited palette of colors that can be manually adjusted to suit your specific needs.
- The monitor has a power management function accorded to VESA™-DPMS™-standard. To save energy, the monitor must be connected to a system compliant with the VESA™-DPMS™-standard. (Refer to your computer and/or video card instructions for proper operation.)
- To ensure ease of installation and ongoing use, the

monitor features On Screen Display (OSD) of all monitor set-up and adjustment functions.

- For use in a variety of applications, the monitor complies with UL 1950, CSA C22.2 No.950 and EN60950 for safety, FCC Class-B, VCCI Class-B and EN55022 Class-B for EMI, MPR-II, ISO 9241-3, ISO9241-7 and ISO9241-8 for ergonomics. The monitor also complies with TCO'99 guideline for environmental safe use.
- The world's standard DIAMONDTRON NF CRT upgraded with improved focus and convergence for super sharp and pure picture images.
- The monitor complies with Video Electronics Standards Association (VESA™) DDC™1/2B(EDID) specification. If your computer is Plug & Play compliant setup will be done automatically.
- The monitor provides:
  - fine 0.25mm aperture grille pitch/Maximum addressable resolution of 1600 x 1200 (17")
  - fine 0.24mm (for Northern hemisphere and 0.25/0.27mm for Southern hemisphere aperture grille pitch/Maximum addressable resolution of 1920 x 1440 (19")
  - fine 0.24mm aperture grille pitch/Maximum addressable resolution of 2048 x 1536 (22")
- The monitor has a contrast enhancement function (FPM: Fine Picture Mode) to accentuate pictures and graphical image.

**Internal Preset Memory Capability**

To minimize adjustment needs, the factory has preset popular display standards into the monitor, as shown in Table 1. If any of these display standards are detected by the microprocessor, the picture size and position are automatically adjusted. All of the factory presets may be overwritten by adjusting the user controls. This monitor is capable of automatically storing up to 15 additional display standards (22" model) or 16 additional display standards (17" and 19" models). The new display information must differ from any of the existing display standards by at least 1kHz for the horizontal scan frequency or 1Hz for the vertical scan frequency or the sync signal polarities must be different.

Table 1. Memory Buffer Factory Presets

**22" Model**

| PRESET |   |           | Polarity |         |   |   |
|--------|---|-----------|----------|---------|---|---|
| TIMING |   |           | Fh(kHz)  | Fv (Hz) | H | V |
| 640    | x | 480 N.I.  | 31.5     | 60.0    | - | - |
| 640    | x | 480 N.I.  | 43.3     | 85.0    | - | - |
| 720    | x | 400 N.I.  | 31.5     | 70.1    | - | + |
| 800    | x | 600 N.I.  | 46.9     | 75.0    | + | + |
| 800    | x | 600 N.I.  | 53.7     | 85.1    | + | + |
| 1024   | x | 768 N.I.  | 75.0     | 75.1    | + | + |
| 1024   | x | 768 N.I.  | 68.7     | 85.0    | + | + |
| 1152   | x | 870 N.I.  | 68.7     | 75.1    | - | - |
| 1280   | x | 1024 N.I. | 64.0     | 60.0    | + | + |
| 1280   | x | 1024 N.I. | 80.0     | 75.0    | + | + |
| 1280   | x | 1024 N.I. | 91.1     | 85.0    | + | + |
| 1600   | x | 1200 N.I. | 93.8     | 75.0    | + | + |
| 1600   | x | 1200 N.I. | 106.3    | 85.0    | + | + |
| 1792   | x | 1344 N.I. | 83.6     | 60.0    | - | + |
| 1792   | x | 1344 N.I. | 106.3    | 75.0    | - | + |
| 1800   | x | 1350 N.I. | 120.4    | 85.0    | - | - |
| 1920   | x | 1440 N.I. | 90.0     | 60.0    | - | + |
| 1920   | x | 1440 N.I. | 112.5    | 75.0    | - | + |

**19" Model**

| PRESET |   |           | Polarity |         |   |   |
|--------|---|-----------|----------|---------|---|---|
| TIMING |   |           | Fh(kHz)  | Fv (Hz) | H | V |
| 720    | x | 400 N.I.  | 31.5     | 70.0    | - | + |
| 640    | x | 480 N.I.  | 31.5     | 60.0    | - | - |
| 640    | x | 480 N.I.  | 43.3     | 85.0    | - | - |
| 800    | x | 600 N.I.  | 46.9     | 75.0    | + | + |
| 800    | x | 600 N.I.  | 53.7     | 85.1    | + | + |
| 1024   | x | 768 N.I.  | 60.0     | 75.0    | + | + |
| 1024   | x | 768 N.I.  | 68.7     | 85.0    | + | + |
| 1152   | x | 870 N.I.  | 68.7     | 75.1    | - | - |
| 1280   | x | 1024 N.I. | 80.0     | 75.0    | + | + |
| 1280   | x | 1024 N.I. | 91.1     | 85.0    | + | + |
| 1792   | x | 1344 N.I. | 106.3    | 75.0    | - | + |
| 1920   | x | 1440 N.I. | 90.0     | 60.0    | - | + |
| 1600   | x | 1200 N.I. | 93.8     | 75.0    | + | + |
| 1600   | x | 1200 N.I. | 106.3    | 85.0    | + | + |

**17" Model**

| PRESET |   |           | Polarity |         |   |   |
|--------|---|-----------|----------|---------|---|---|
| TIMING |   |           | Fh(kHz)  | Fv (Hz) | H | V |
| 640    | x | 480 N.I.  | 31.5     | 60.0    | - | - |
| 640    | x | 480 N.I.  | 43.3     | 85.0    | - | - |
| 720    | x | 400 N.I.  | 31.5     | 70.1    | - | + |
| 800    | x | 600 N.I.  | 46.9     | 75.0    | + | + |
| 800    | x | 600 N.I.  | 53.7     | 85.1    | + | + |
| 1024   | x | 768 N.I.  | 60.0     | 75.0    | + | + |
| 1024   | x | 768 N.I.  | 68.7     | 85.0    | + | + |
| 1152   | x | 870 N.I.  | 68.7     | 75.1    | - | - |
| 1280   | x | 1024 N.I. | 80.0     | 75.0    | + | + |
| 1280   | x | 1024 N.I. | 91.1     | 85.0    | + | + |
| 1600   | x | 1200 N.I. | 93.7     | 75.0    | + | + |

**Power Management Function**

The monitor has a power management function which reduces the power consumption of the monitor when not in use.

The power saving mode is invoked by a VESA DPMS-compliant computer. Check your computer's manual for setting this function.

**22" Model**

| Mode              | Power (with no USB operation) | Power-On Indicator |
|-------------------|-------------------------------|--------------------|
| Normal            | 140 W                         | Green              |
| Power Saving Mode | < or = 5 W                    | Amber              |

**19" Model**

| Mode              | Power      | Power-On Indicator |
|-------------------|------------|--------------------|
| Normal            | 120 W      | Green              |
| Power Saving Mode | < or = 5 W | Amber              |

**17" Model**

| Mode              | Power      | Power-On Indicator |
|-------------------|------------|--------------------|
| Normal            | 95 W       | Green              |
| Power Saving Mode | < or = 5 W | Amber              |

**DDC**

The monitor includes the VESA DDC<sup>TM</sup>1 and DDC<sup>TM</sup>2B feature. DDC (Display Data Channel) is a communication channel over which the monitor automatically informs the computer system about its capabilities (e.g. each supported resolution with its corresponding timing). DDC is routed through previously unused pins of the 15-pin VGA connector. The system will "Plug and Play" if both monitor and computer implement the DDC protocol.

## Location Considerations

When setting up and using the monitor, keep the following in mind:

- For optimum viewing, avoid placing the monitor against a bright background or where sunlight or other light sources may reflect on the display area of the monitor. Place the monitor just below eye level.
- Place the monitor away from strong magnetic or electromagnetic fields, such as high capacity transformers, electric motors, large current power lines, steel pillars, etc.... Magnetism can cause distortion in the picture and/or color purity.
- Avoid covering the slots or openings of the monitor. Allow adequate ventilation around the monitor so the heat from the monitor can properly dissipate. Avoid putting the monitor into any enclosure that does not have adequate ventilation.
- Avoid exposing the monitor to rain, excessive moisture, or dust, as this can cause a fire or shock hazard.
- Avoid placing the monitor, or any other heavy object, on the power cord. Damage to the power cord can cause a fire or electrical shock.
- When transporting the monitor, handle it with care.

## Cleaning Your Monitor

When cleaning the monitor, please follow these guidelines:

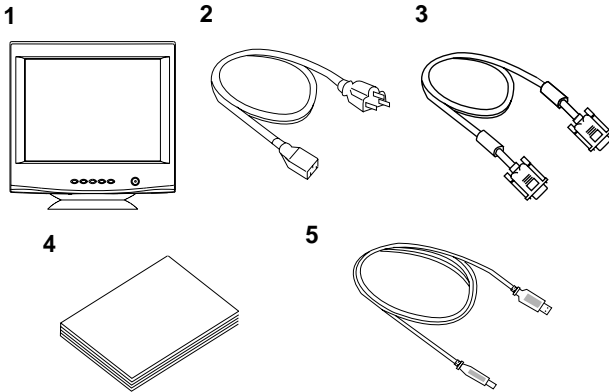
- Always unplug the monitor before cleaning.
- Wipe the screen and cabinet front and sides with a soft unspoil cloth to prevent causing imperfections.
- If the screen requires more than dusting, apply water or neutral detergent to a soft cloth to clean the monitor screen.

### CAUTION

- *Do not use benzene, thinner or any volatile substances to clean the unit as the finish may be permanently marked.*
- *Never leave the monitor in contact with rubber or vinyl for an extended time period.*
- *Do not spray directly on the screen as cleaner may drip into the monitor and damage the circuitry.*
- *Never use an abrasive cleaner on the screen surface as this will damage the anti-reflection coating.*

## Unpacking

After you unpack the box you should have all of the items indicated below. Save the box and packing materials in case you transport the monitor.



- |                  |   |
|------------------|---|
| 1. Color Monitor | 4. User's Guide<br>(this document)        |
| 2. AC Power Cord | 5. USB Upstream Cable<br>(22" model only) |
| 3. Signal Cable  |   |

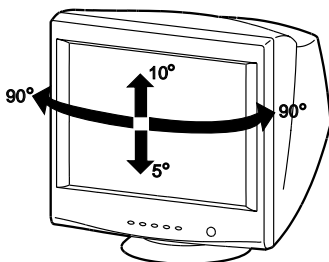
## Tilt/Swivel Base

The monitor comes with a tilt/swivel base. This enables you to position the monitor at the best angle and tilt for maximum viewing comfort.

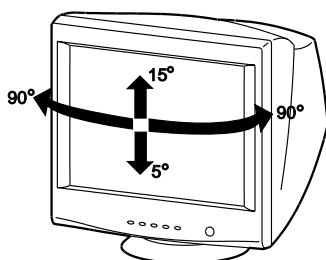
## Screen Position Adjustment

Adjust the tilt and rotation of the monitor by placing your hands at opposite sides of the case. You can adjust the monitor 90 degrees right or left, 10 degrees up or 5 degrees down (22" model), or 15 degrees up or 5 degrees down (17" and 19" models) as shown below.

### 22" Model



### 17" and 19" Models

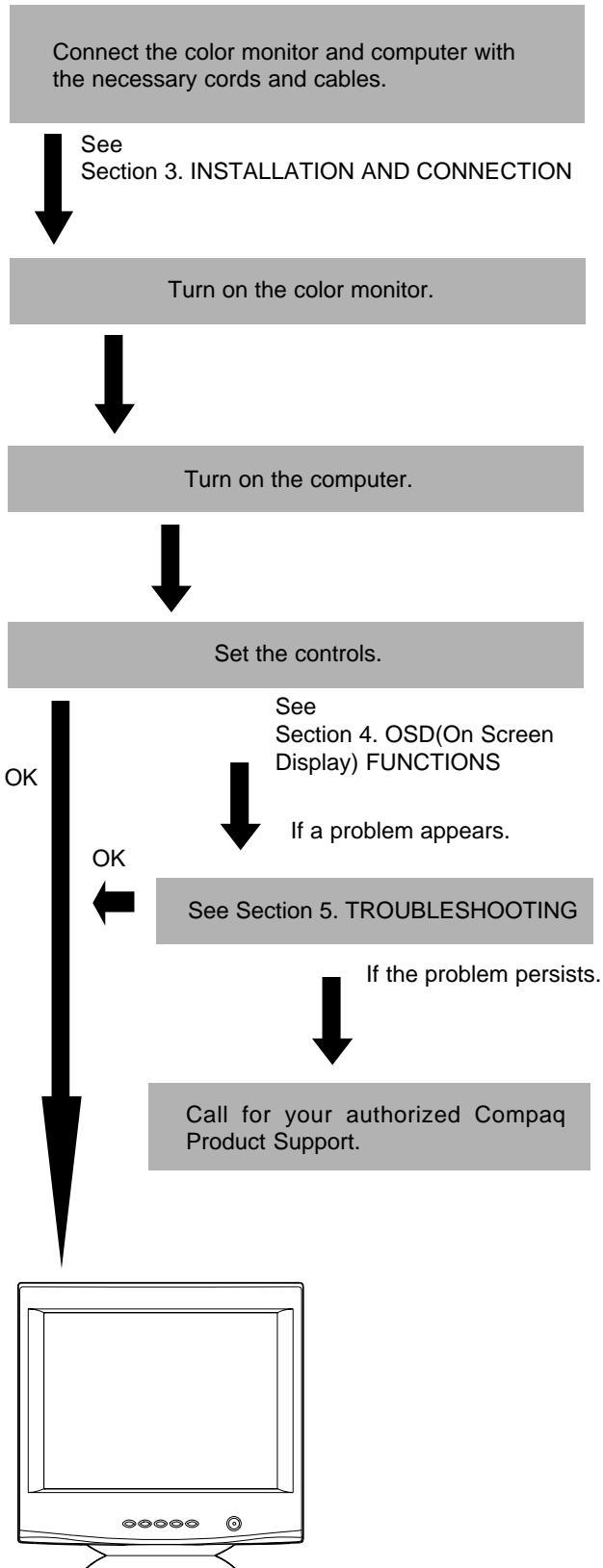


### CAUTION

Keep your fingers away from the pivot area of the tilt/swivel base.

## Quick Operation Chart

To summarize the steps in connecting your computer with the color monitor and setting the necessary controls and switches, refer to the chart below.



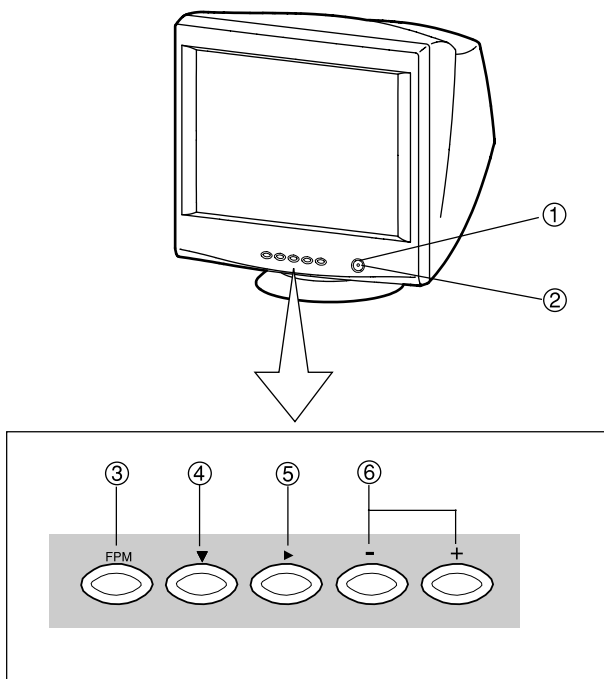
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## 2 PART NAME

### Control Names (17" & 19" Models)

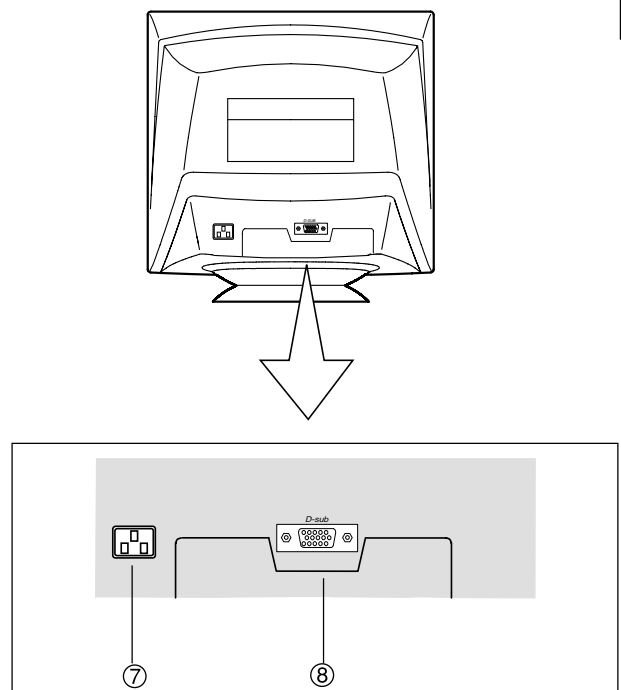
See figures below for the location of the user controls, indicator and connectors. Each part is identified by number and is described individually.

#### FRONT



1. **POWER SWITCH:** A push-on / push-off switch for AC power.
2. **POWER-ON INDICATOR:** This indicator illuminates green when AC power is on, and illuminates amber when the monitor is in the power management modes.
3. **FPM (FINE PICTURE MODE):** Push to turn FPM on and off. The normal(default) status is "off", but turning this function "on" may improve camera type image renderings. Select the status which provides the most pleasing image.  
Note that only standard color is selected when FPM is on.
4. **DOWN BUTTON:** Push to select group icon.
5. **ITEM SELECT BUTTON:** Push to select the item icon to be adjusted.
6. **FUNCTION ADJUST BUTTONS:** Push the adjust buttons to adjust the function that has been selected by the down button and item select button.

#### REAR

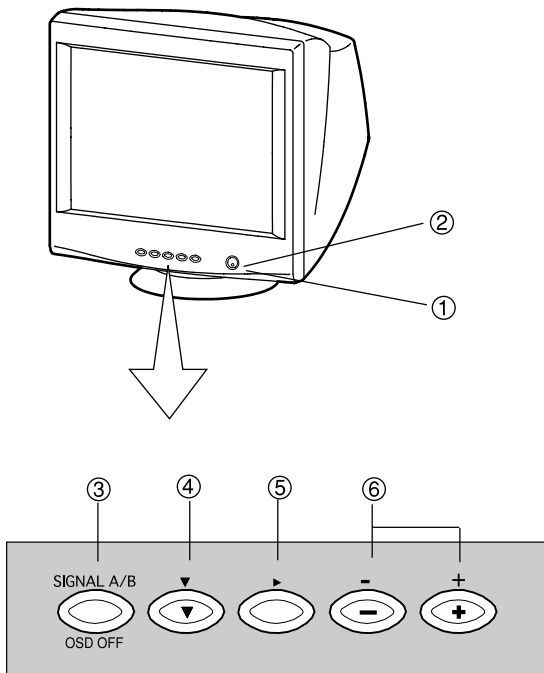


7. **AC POWER CONNECTOR**
8. **SIGNAL INPUT CONNECTOR (DB9-15P)**

## Control Names (22" Model)

See figures below for the location of the user controls, indicator and connectors.

### FRONT



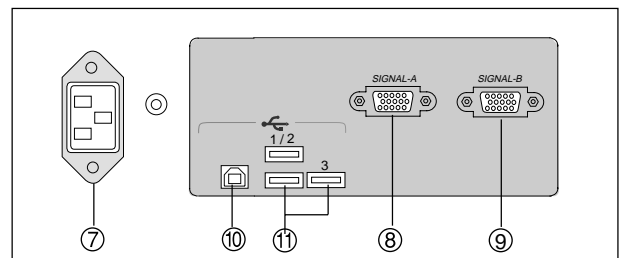
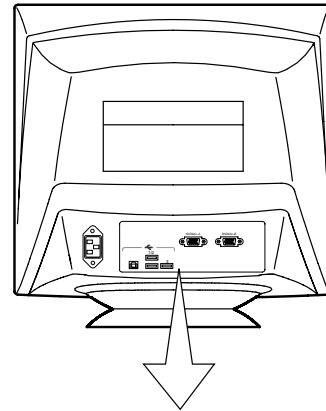
1. **POWER SWITCH:** A push-on / push-off switch for AC power.
2. **POWER-ON INDICATOR:** This indicator illuminates green when AC power is on, and illuminates amber when the monitor is in the power management modes.
3. **INPUT CONNECTOR SELECT/OSD OFF BUTTON:**
  - Without OSD screen, push to select the signal input connector, SIGNAL A or B.
  - With OSD screen, push to turn the OSD screen off.

### NOTE

If only one input is used, the monitor will select it automatically.

4. **DOWN BUTTON:** Push to select group icon.
5. **ITEM SELECT BUTTON:** Push to select the item icon.
6. **FUNCTION ADJUST BUTTONS:** Push the adjust buttons to adjust the image on the screen.

### REAR



7. **AC POWER CONNECTOR**
8. **SIGNAL INPUT CONNECTOR (SIGNAL A): DB9-15P**
9. **SIGNAL INPUT CONNECTOR (SIGNAL B): DB9-15P**
10. **USB UPSTREAM PORT:** To connect to a USB equipped computer for Monitor Control Function.
11. **USB DOWNSTREAM PORT:** To connect to USB equipped peripherals, e.g. USB camera, keyboard, printer, etc.



# 3 INSTALLATION AND CONNECTION

## 17" and 19" Models

On the back of the monitor two kinds of plug-in connections are provided: AC power connector for the AC input, DB9-15P connector for video signal input.

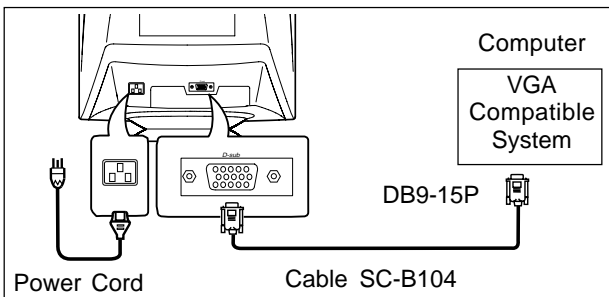
### AC Power Connection

One end of the AC power cord is connected to the AC power connector on the back of the monitor. The other end is plugged into a properly grounded three-prong AC outlet. The monitor's auto-sensing power supply can automatically detect 100-120V AC or 220-240V AC and 50 or 60Hz.

### Signal Cable Connection

The attached signal cable provides a DB9-15P connector for the VGA compatible analog RGB outputs on your computer. The figure below shows the included signal cable connection to the Video Graphics Array (VGA) port.

1. Power off, both the monitor and the computer.
2. Connect one end of the signal cable to the DB9-15P connector on the VGA controller card.
3. Connect the other end of the signal cable to the DB9-15P receptacle on the back of the monitor.
4. Power on the monitor, then the computer.
5. After using the system, power off the monitor, then the computer.



**CAUTION**

The socket-outlet shall be installed near the equipment and shall be easily accessible. During servicing, disconnect the plug from the socket-outlet.

## 22" Model

On the back of the monitor three kinds of plug-in connections are provided: AC power connector for the AC input, and two DB9-15P connectors for video signal input and USB ports for USB communication.

### AC Power Connection

One end of the AC power cord is connected to the AC power connector on the back of the monitor. The other end is plugged into a properly grounded three-prong AC outlet. The monitor's auto-sensing power supply can automatically detect 100-120V AC or 220-240V AC and 50 or 60Hz.

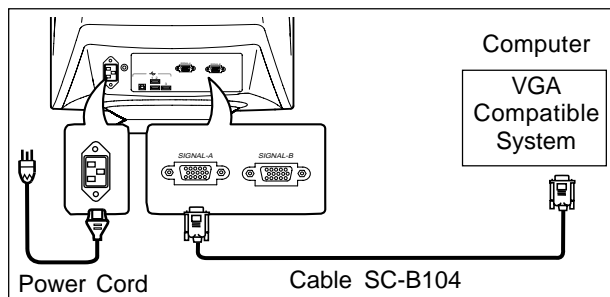
### Signal Cable Connection

The DB9-15P(VGA) connector is provided for compatible analog RGB outputs from your computer.

### Connecting to VGA Compatible System

The figure below shows the SC-B104 cable connection to the Video Graphics Array (VGA) port in any VGA compatible system.

1. Power off, both the monitor and the computer.
2. Connect the one end of the SC-B104 cable to the DB9-15P connector on the VGA controller card.
3. Connect the other end of the SC-B104 cable to the DB9-15P receptacle on the back of the monitor.
4. Power on the monitor, then the computer.
5. After using the system, power off the monitor, then the computer.

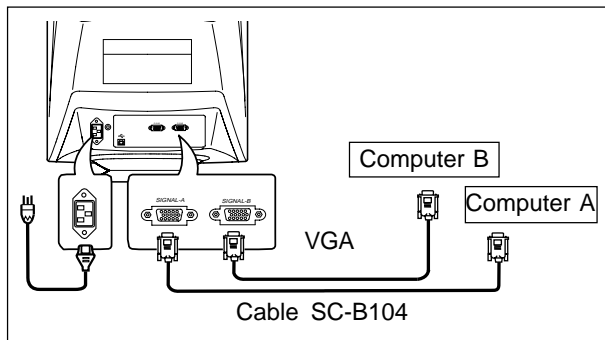


**CAUTION**

The socket-outlet shall be installed near the equipment and shall be easily accessible. During servicing, disconnect the plug from the socket-outlet.

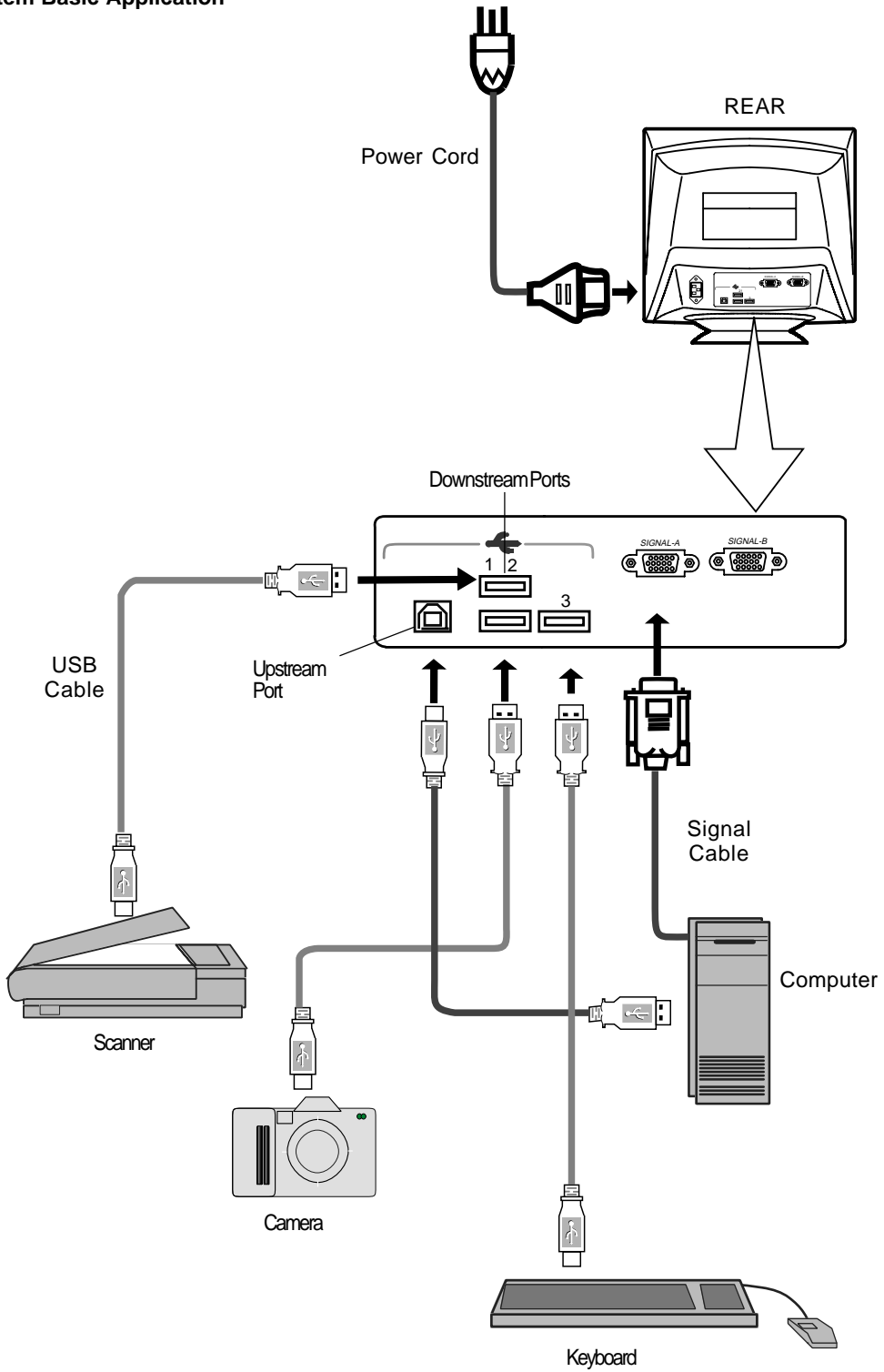
### Connecting to two computers (22" Model)

The figure below shows the connection to two computers.



22" Model

USB System Basic Application



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**NOTE**

The computer is required to have Windows® 98 or later installed and USB functions.

### Installation of USB Function

The following procedure permits your computer to recognize or "enumerate"(A USB term) the USB HUB.

1. Power on the display monitor and then the computer.
2. Start "Enumeration" from the Windows® Desktop.

**NOTE**

- During the enumeration of the USB Hub, connect the keyboard and mouse, to the computer and not to the downstream ports on the display monitor. After the enumeration, the keyboard and mouse can be used by connecting to the downstream ports, if they are USB-compliant.
- Do not unplug the USB cable during the enumerations.

- (1) Connect the computer and the display monitor with an USB cable. The screen below will appear.
- (2) Click "Next".
- (3) Click "Finish" on the second screen to complete the enumeration of the USB HUB.



You can confirm that the USB HUB is successfully enumerated with the following method.

- Open "Device Manager" tab in "System" property under "Control Panel". Confirm that "Generic USB HUB" is listed in "Universal Serial Bus Controller". If you can't confirm it, re-enumerate the USB HUB again by following (a) or (b).

- (a) Disconnect and connect the USB cable to the upstream port of the display monitor.
- (b) Cycle power of the display monitor off then on.

**NOTE**

If the mark ① appears with "Generic USB HUB", then enumeration was unsuccessful. Select "Generic USB HUB" marked with ① mark and click "Remove" and "Refresh". After that, the enumeration is automatically started.

**NOTE**

The enumeration of USB HUB may be necessary for each USB port on the computer.

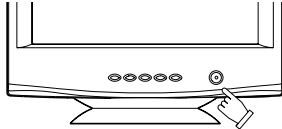


# 4 OSD (On Screen Display) FUNCTIONS

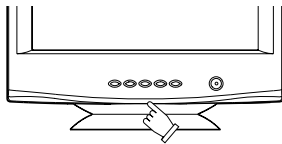
## How to adjust the screen

The monitor has an OSD(On Screen Display) function. The following procedure shows how to adjust the screen using the OSD function.

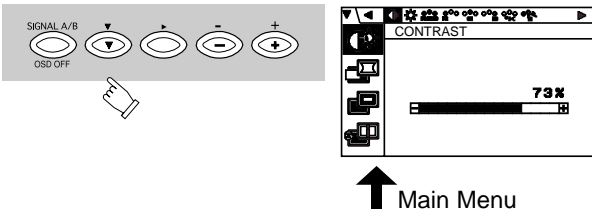
(1) Turn on the monitor.



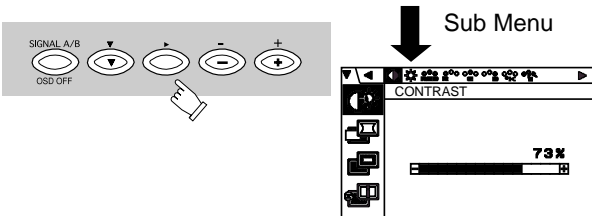
(2) Press button to display the OSD screen.



(3) Select the group icon on Main Menu by pressing .



(4) Select the item icon on Sub Menu by pressing button.



**NOTE**

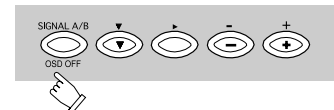
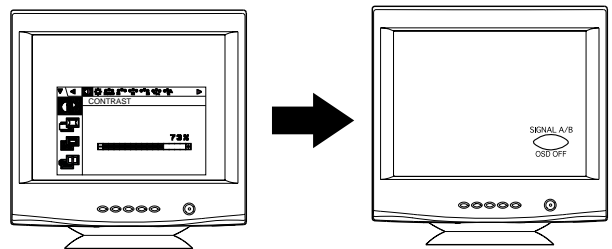
When pressing both and buttons simultaneously, moving direction of item selection becomes reverse.

(5) Adjust by pressing or button.



(6) If you don't press any button for about 12 seconds, the OSD screen will disappear.

The 22" model OSD can be turned off quickly by pressing the OSD OFF button.





**Adjustment Items  
22" Model**

X:Available












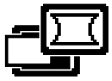















| Items                | Function   | A | B | C | D |
|----------------------|--|---|---|---|---|
| CONTRAST             | Adjusts the contrast level.  |   | X | X | X |
| BRIGHT               | Adjusts the black level of the screen  |   | X | X | X |
| COLOR NO             | Select the desired color from Color 1, Color 2, and Color 3 presets.   |   |   | X |   |
| R-GAIN               | Adjusts the red-color balances for the selected color.   |   | X | X | X |
| G-GAIN               | Adjusts the green-color balances for the selected color.   |   | X | X | X |
| B-GAIN               | Adjusts the blue-color balances for the selected color.  |   | X | X | X |
| COLOR TEMPERATURE    | Adjusts the color temperature of the image on the screen.  |   | X | X | X |
| COLOR RESET          | Restores the each color gain and color temperature to the factory preset.  | - | - | - | - |
| HORIZ-SIZE           | Adjusts the horizontal size of the image on the screen.  | X | X | X |   |
| HORIZ-PHASE          | Adjusts the horizontal position of the image on the screen.  | X | X | X |   |
| VERT-SIZE            | Adjusts the vertical size of the image on the screen.  | X | X | X |   |
| VERT-POSITION        | Adjusts the vertical position of the image on the screen.  | X | X | X |   |
| PINCUSHION           | Straightens the left and right sides of the image on the screen.   | X | X | X |   |
| KEystone             | Adjusts the parallelism of the left and right sides of the image on the screen.  | X | X | X |   |
| TOP-PIN              | Adjusts the pincushioning at the top corners of the screen.  | X | X | X |   |
| BOTTOM-PIN           | Adjusts the pincushioning at the bottom corners of the screen.   | X | X | X |   |
| PIN-BALANCE          | Adjusts the curvature of the left and right sides of the image on the screen.  | X | X | X |   |
| KEY-BALANCE          | Adjusts the vertical slant or tilt of the screen image.  | X | X | X |   |
| VERT-LIN-BALANCE     | Centers the linearity of the vertical axis of the screen.  | X | X | X |   |
| VERT-LIN             | Adjusts the linearity of the vertical axis of the screen.  | X | X | X |   |
| ROTATION             | Adjusts the rotation of the image on the screen.   |   | X | X | X |
| ZOOM                 | Zooms the screen to all sides.   | X | X | X |   |
| GEOMETRY RESET       | Restores to the factory preset level.(See "NOTE" below.)   | - | - | - | - |
| FINE PICTURE MODE    | Selects the status which provides the most pleasing image.   |   |   | X |   |
| HORIZ-CONVERGENCE    | Adjusts the horizontal alignment of the red, green and blue beams.   |   | X | X | X |
| VERT-CONVERGENCE     | Adjusts the vertical alignment of the red, green and blue beams.   |   | X | X | X |
| CORNER PURITY (TL)   | Adjusts the purity of the top-left corners of the screen.  |   | X | X | X |
| CORNER PURITY (TR)   | Adjusts the purity of the top-right corners of the screen.   |   | X | X | X |
| CORNER PURITY (BL)   | Adjusts the purity of the bottom-left corners of the screen.   |   | X | X | X |
| CORNER PURITY (BR)   | Adjusts the purity of the bottom-right corners of the screen.  |   | X | X | X |
| MOIRE CANCEL         | When setting to ON, the moire level on the screen can decreased by the MOIRE CANCEL LEVEL.   |   |   | X |   |
| MOIRE CANCEL LEVEL   | Adjusts the moire level on the screen.   |   | X | X |   |
| CLAMP PULSE POSITION | Uses this function to eliminate excessive green or white background that may occur when both Sync-On-Green and external sync signals are applied to the monitor. |   |   | X |   |
| VIDEO LEVEL          | Selects video level 1.0V or 0.7V. (0.7V Standard)  |   |   | X |   |
| DEGAUSS              | Eliminates possible color shading or impurity.   | - | - | - | - |
| POWER SAVE           | When setting to ON, the power consumption of the monitor will be reduced when not in use if your computer is set for power management.                           |   |   | X | X |
| CONTROL LOCK         | Locks the OSD function except for "BRIGHT" and "CONTRAST".   |   |   |   | X |
| OSD POSITION         | Moves the OSD screen position.   |   |   | X | X |
| ALL RESET            | Restores all items to the factory preset level.(See "NOTE" below.)   | - | - | - | - |
| GTF AUTO ADJUST      | Adjusts the screen size and distortion automatically.  | - | - | - | - |
| DIAGNOSIS            | Indicates the current scanning frequency, factory or user preset timing number, and signal input connector.  | - | - | - | - |
| LANGUAGE             | Selects the language used on OSD screen.   |   |   |   | X |
























**ENGLISH**

- A. Press "GEOMETRY RESET" to restore to the factory preset level.
- B. Press  and  buttons together, to restore to the factory preset level.
- C. Press "ALL RESET" to restore to the factory preset level.
- D. Set data does not change by the change of the signal timing.

**NOTE**

If a non-Factory Preset timing is used, "GEOMETRY RESET" and "ALL RESET" do not work.

| Group Icon  | Item Icon   | Item              | Press the Minus Button<br> | Press the Plus Button<br>    |
|---|---|-------------------|---|---|
|    |    | CONTRAST          | To decrease the contrast.   | To increase the contrast.   |
|   |    | BRIGHT            | To decrease the brightness.   | To increase the brightness.   |
|   |    | COLOR NO          | To select color 1, color 2, color 3.  |   |
|   |    | R-GAIN            | To decrease red color level of the color mode selected by "COLOR NO".                                       | To increase red color level of the color mode selected by "COLOR NO".   |
|   |    | G-GAIN            | To decrease green color level of the color mode selected by "COLOR NO".                                     | To increase green color level of the color mode selected by "COLOR NO".   |
|   |    | B-GAIN            | To decrease blue color level of the color mode selected by "COLOR NO".                                      | To increase blue color level of the color mode selected by "COLOR NO".  |
|   |    | COLOR TEMPERATURE | To decrease the color temperature of the color mode selected by "COLOR NO".                                 | To increase the color temperature of the color mode selected by "COLOR NO".                                     |
|   |    | COLOR RESET       | _____   | To restore the color-gain and color temperature of the color mode selected by "COLOR NO" to the factory preset. |
|  |    | HORIZ-SIZE        | To narrow the width of the image on the screen.   | To expand the width of the image on the screen.   |
|   |   | HORIZ-PHASE       | To move the image on the screen to the left.  | To move the image on the screen to the right.   |
|   |  | VERT-SIZE         | To narrow the height of the image on the screen.  | To expand the height of the image on the screen.  |
|   |  | VERT-POSITION     | To move the image down.   | To move the image up.   |
|   |  | PINCUSHION        | To collapse the center of the image.  | To expand the center of the image.  |
|   |  | KEystone          | To decrease the width at the top of the screen image and to increase the width at the bottom.               | To increase the width at the top of the screen image and to decrease the width at the bottom.                   |
|   |  | TOP-PIN           | To expand the width of the screen image near the corners of top.  | To narrow the width of the screen image near the corners of top.  |
|   |  | BOTTOM-PIN        | To expand the width of the screen image near the corners of bottom.   | To narrow the width of the screen image near the corners of bottom.   |
|   |  | PIN-BALANCE       | To move the top and bottom of the screen image to the right.  | To move the top and bottom of the screen image to the left.   |
|   |  | KEY-BALANCE       | To make the screen slant to the left.   | To make the screen slant to the right.  |
|   |  | VERT-LIN-BALANCE  | To vertically expand the bottom of the screen and compress the top.   | To vertically compress the bottom of the screen and expand the top.   |
|   |  | VERT-LIN          | To vertically compress the center of the screen and expand the top and bottom.                              | To vertically expand the center of the screen and compress the top and bottom.                                  |
|   |  | ROTATION          | To rotate the image counterclockwise.   | To rotate the image clockwise.  |
|   |  | ZOOM              | To narrow the screen to all sides.  | To expand the screen to all sides.  |
|   |  | GEOMETRY RESET    | _____   | To restore to factory preset level.   |

| Group Icon  | Item Icon   | Item                 | Press the Minus Button<br>  | Press the Plus Button<br> |
|---|---|----------------------|--|--|
|    |    | FINE PICTURE MODE    | To select the status which provides the most pleasing image.   |  |
|   |    | HORIZ-CONVERGENCE    | To adjust the horizontal beam alignment on the full screen area.   |  |
|   |    | VERT-CONVERGENCE     | To adjust the vertical beam alignment on the full screen area.   |  |
|   |    | CORNER PURITY(TL)    | To adjust the purity condition on the top-left corner.   |  |
|   |    | CORNER PURITY(TR)    | To adjust the purity condition on the top-right corner.  |  |
|   |    | CORNER PURITY(BL)    | To adjust the purity condition on the bottom-left corner.  |  |
|   |    | CORNER PURITY(BR)    | To adjust the purity condition on the bottom-right corner.   |  |
|   |    | MOIRE CANCEL         | To select the Moire Cancel mode off.   | To select the Moire Cancel mode on.  |
|   |    | MOIRE CANCEL LEVEL   | To decrease the level of the moire-clear wave.   |  |
|   |  | CLAMP PULSE POSITION | To eliminate an excessive green or white-back ground that may occur when both Sync-On-Green and external sync signals are applied to the monitor.<br>To clamp the video signal at the front of the H-Sync pulse. | To clamp the video signal at the back of the H-Sync pulse.   |
|   |  | VIDEO LEVEL          | To select 1.0V of video input.   | To select 0.7V of video input.   |
|  |  | DEGAUSS              | _____  | To eliminate possible color shading or impurity due to magnetic effects.                                   |
|   |  | POWER-SAVE           | To select the constant power consumption mode.   | To select the power-save mode. (Your computer must be set for power management.)                           |
|   |  | CONTROL LOCK         | To unlock the OSD function.  | To lock the OSD function except for "BRIGHT" and "CONTRAST".   |
|   |  | OSD POSITION         | To move the OSD screen position in a counter clockwise direction.  | To move the OSD screen position in a clockwise direction.  |
|   |  | ALL RESET            | _____  | To restore all items to the factory preset.  |
|   |  | GTF AUTO ADJUST      | _____  | To adjust screen size, position and distortions automatically.   |
|   |  | DIAGNOSIS            | To show the current scanning frequency, Preset No., and signal input connection.   |  |
|   |  | LANGUAGE             | To choose the language used on OSD.<br>ENG.....English, FRA.....French, ESP.....Spanish, ITA.....Italian, GER.....German, JPN.....Japanese   |  |

**NOTE**

**CONTROL LOCK:** This is to lock the OSD function to keep the OSD screen image you set. Press plus button to lock the OSD function. You can adjust only "BRIGHT" and "CONTRAST" at the condition. Press minus button to unlock the locked condition.

**GTF:** This function is available when the computer has the GTF™ function according to the VESA®GTF™ standard.

## Adjustment Items

### 19" Model

X = Available

| Items                       | Function  | X = Available |   |   |
|-----------------------------|---|---------------|---|---|
|                             |   | A             | B | C |
| <b>CONTRAST</b>             | Adjusts the contrast level.   |               | X | X |
| <b>BRIGHT</b>               | Adjusts the black level of the screen   |               | X | X |
| <b>COLOR TEMPERATURE</b>    | Adjusts the color temperature of the image on the screen.   |               | X | X |
| <b>HORIZ-SIZE</b>           | Adjusts the horizontal size of the image on the screen.   | X             |   |   |
| <b>HORIZ-PHASE</b>          | Adjusts the horizontal position of the image on the screen.   | X             |   |   |
| <b>VERT-SIZE</b>            | Adjusts the vertical size of the image on the screen.   | X             |   |   |
| <b>VERT-POSITION</b>        | Adjusts the vertical position of the image on the screen.   | X             |   |   |
| <b>PINCUSHION</b>           | Straightens the left and right sides of the image on the screen.  | X             |   |   |
| <b>KEYSTONE</b>             | Adjusts the parallelism of the left and right sides of the image on the screen.   | X             |   |   |
| <b>TOP-PIN</b>              | Adjusts the pincushioning at the top corners of the screen.   | X             |   |   |
| <b>BOTTOM-PIN</b>           | Adjusts the pincushioning at the bottom corners of the screen.  | X             |   |   |
| <b>PIN-BALANCE</b>          | Adjusts the curvature of the left and right sides of the image on the screen.   | X             |   |   |
| <b>KEY-BALANCE</b>          | Adjusts the vertical slant or tilt of the screen image.   | X             |   |   |
| <b>ROTATION</b>             | Adjusts the rotation of the image on the screen.  |               |   | X |
| <b>GEOMETRY RESET</b>       | Restores to the factory preset level.(See "NOTE" below.)  | -             | - | - |
| <b>HORIZ-STATIC</b>         | Adjusts the horizontal alignment of the red, green and blue beams.  |               | X | X |
| <b>VERT-STATIC</b>          | Adjusts the vertical alignment of the red green and blue beams.   |               | X | X |
| <b>MOIRE CANCEL LEVEL</b>   | Adjusts the moire level on the screen.  |               | X |   |
| <b>CORNER PURITY (TL)</b>   | Adjusts the purity of the top-left corners of the screen.   |               | X | X |
| <b>CORNER PURITY (TR)</b>   | Adjusts the purity of the top-right corners of the screen.  |               | X | X |
| <b>CORNER PURITY (BL)</b>   | Adjusts the purity of the bottom-left corners of the screen.  |               | X | X |
| <b>CORNER PURITY (BR)</b>   | Adjusts the purity of the bottom-right of the screen.   |               | X | X |
| <b>CLAMP PULSE POSITION</b> | Uses this function to eliminate excessive green or white background that may occur when external sync signals are applied to the monitor. |               |   |   |
| <b>VIDEO LEVEL</b>          | Selects video level 1.0V or 0.7V. (0.7V Standard)   |               |   |   |
| <b>DEGAUSS</b>              | Eliminates possible color shading or impurity.  | -             | - | - |
| <b>POWER-SAVE</b>           | When setting to ON, the power consumption of the monitor will be reduced when not in use if your computer is set for power management.    |               |   | X |
| <b>CONTROL LOCK</b>         | Locks the OSD function except for "BRIGHT" and "CONTRAST".  |               |   | X |
| <b>OSD POSITION</b>         | Moves the OSD screen position.  |               |   | X |
| <b>DIAGNOSIS</b>            | Indicates the current scanning frequency, factory or user preset timing number, and signal input connector.                               | -             | - | - |
| <b>LANGUAGE</b>             | Selects the language used on OSD screen.  |               |   | X |
























- A. Press "GEOMETRY RESET" to restore to the factory preset level.
- B. Press - and + buttons together, to restore to the factory preset level.
- C. Set data does not change by the change of the signal timing.

#### NOTE

If a non-Factory Preset timing is used, "GEOMETRY RESET" does not work.


























19" Model

| Group Icon  | Item Icon   | Item              | Press the Minus Button<br>   | Press the Plus Button<br>   |
|---|---|-------------------|---|--|
| <br>SCREEN     |    | CONTRAST          | To decrease the contrast.   | To increase the contrast.  |
|   |    | BRIGHT            | To decrease the brightness.   | To increase the brightness.  |
|   |    | COLOR TEMPERATURE | To decrease the color temperature.  | To increase the color temperature.   |
| <br>GEOMETRY |    | HORIZ-SIZE        | To narrow the width of the image on the screen.   | To expand the width of the image on the screen.  |
|   |    | HORIZ-PHASE       | To move the image on the screen to the left.  | To move the image on the screen to the right.  |
|   |    | VERT-SIZE         | To narrow the height of the image on the screen.  | To expand the height of the image on the screen.   |
|   |    | VERT-POSITION     | To move the image down.   | To move the image up.  |
|   |   | PINCUSHION        | To collapse the center of the image.  | To expand the center of the image.   |
|   |  | KEYSTONE          | To decrease the width at the top of the screen image and to increase the width at the bottom.   | To increase the width at the top of the screen image and to decrease the width at the bottom.  |
|   |  | TOP-PIN           | To expand the width of the screen image near the corners of top.  | To narrow the width of the screen image near the corners of top.   |
|   |  | BOTTOM-PIN        | To expand the width of the screen image near the corners of bottom.   | To narrow the width of the screen image near the corners of bottom.  |
|   |  | PIN-BALANCE       | To move the top and bottom of the screen image to the right.  | To move the top and bottom of the screen image to the left.  |
|   |  | KEY-BALANCE       | To make the screen slant to the left.   | To make the screen slant to the right.   |
|   |  | ROTATION          | To rotate the image counterclockwise.   | To rotate the image clockwise.   |
|   |  | GEOMETRY RESET    | _____   | To restore to factory preset level.  |

ENGLISH

19" Model

ENGLISH

| Group Icon   | Item Icon   | Item               | Press the Minus Button<br>   | Press the Plus Button<br>   |  |
|--|---|--------------------|---|--|--|
| <br>VIDEO   |    | HORIZ-STATIC       | To adjust the horizontal beam alignment on the full screen area.  |  |  |
|  |    | VERT-STATIC        | To adjust the vertical beam alignment on the full screen area.  |  |  |
|  |    | MOIRE CANCEL LEVEL | To decrease the level of the moire-clear wave.  |  |  |
|  |    | CORNER PURITY(TL)  | To adjust the purity condition on the top-left corner.  |  |  |
|  |    | CORNER PURITY(TR)  | To adjust the purity condition on the top-right corner.   |  |  |
|  |    | CORNER PURITY(BL)  | To adjust the purity condition on the bottom-left corner.   |  |  |
|  |    | CORNER PURITY(BR)  | To adjust the purity condition on the bottom-right corner.  |  |  |
|  |  | CLAMP              | CLAMPPULSEPOSITION  | To eliminate an excessive green or white-back ground that may occur when external sync signals are applied to the monitor.<br>To clamp the video signal at the front of the H-Sync pulse.  | To clamp the video signal at the back of the H-Sync pulse. |
|  |  | VIDEO LEVEL        |   | To select 1.0V of video input.   | To select 0.7V of video input.                             |
| <br>MISC. |  | DEGAUSS            | To eliminate possible color shading or impurity due to magnetic effects.  |  |  |
|  |  | POWER-SAVE         | To select the constant power consumption mode.  | To select the power-save mode. (Your computer must be set for power management.)   |  |
|  |  | CONTROL LOCK       | To permit all OSD adjustments.  | To lock the OSD function except for "BRIGHT" and "CONTRAST".   |  |
|  |  | OSD POSITION       | To move the OSD screen position in a counter clockwise direction.   | To move the OSD screen position in a clockwise direction.  |  |
|  |  | DIAGNOSIS          | Shows the current scanning frequency and Preset No..  |  |  |
|  |  | LANGUAGE           | To choose the language used on OSD.<br>ENG.....English, FRA.....French, ESP.....Spanish,<br>GER.....German, JPN.....Japanese  |  |  |



Adjustment Items

17" Model






























X: Available

ENGLISH

| Items                      | Function   | A | B | C |
|----------------------------|--|---|---|---|
| <b>CONTRAST</b>            | Adjusts the contrast level.  |   | X | X |
| <b>BRIGHT</b>              | Adjusts the black level of the screen.   |   | X | X |
| <b>COLOR TEMPERATURE</b>   | Adjusts the color temperature of the image on the screen.  |   | X | X |
| <b>HORIZ-SIZE</b>          | Adjusts the horizontal size of the image on the screen.  | X |   |   |
| <b>HORIZ-PHASE</b>         | Adjusts the horizontal position of the image on the screen.  | X |   |   |
| <b>VERT-SIZE</b>           | Adjusts the vertical size of the image on the screen.  | X |   |   |
| <b>VERT-POSITION</b>       | Adjusts the vertical position of the image on the screen.  | X |   |   |
| <b>PINCUSHION</b>          | Straightens the left and right sides of the image on the screen.   | X |   |   |
| <b>KEYSTONE</b>            | Adjusts the parallelism of the left and right sides of the image on the screen.  | X |   |   |
| <b>TOP-PIN</b>             | Adjusts the pincushioning at the top corners of the screen.  | X |   |   |
| <b>BOTTOM-PIN</b>          | Adjusts the pincushioning at the bottom corners of the screen.   | X |   |   |
| <b>PIN-BALANCE</b>         | Adjusts the curvature of the left and right sides of the screen image.   | X |   |   |
| <b>KEY-BALANCE</b>         | Adjusts the vertical slant or tilt of the screen image.  | X |   |   |
| <b>ROTATION</b>            | Adjusts the rotation of the image.   |   |   | X |
| <b>GEOMETRY RESET</b>      | Restore to the factory preset level. (Only function on factory preset timing)  | - | - | - |
| <b>*MOIRE CANCEL LEVEL</b> | Adjusts the moire level on the screen.   |   | X |   |
| <b>CLAMPULSEPOSITION</b>   | Use this function to eliminate excessive green or white background that may occur when external sync signals are applied to the monitor. |   |   |   |
| <b>VIDEO LEVEL</b>         | Selects video level 1.0V or 0.7V. (0.7V Standard)  |   |   |   |
| <b>DEGAUSS</b>             | Eliminates possible color shading or impurity.   | - | - | - |
| <b>POWER-SAVE</b>          | When setting to ON, the power consumption of the monitor will be reduced when not in use.  |   |   | X |
| <b>CONTROL LOCK</b>        | Locks the OSD function to keep the screen you desired.   |   |   | X |
| <b>DIAGNOSIS</b>           | Indicates the current scanning frequency and factory or user preset timing number.   |   |   |   |
| <b>LANGUAGE</b>            | Selects the language used on OSD screen.   |   |   | X |

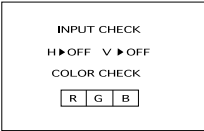
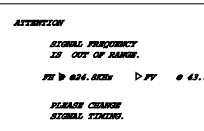
- A. Press "GEOMETRY RESET" to restore to the factory preset level.
- B. Press  and  buttons together, to restore to the factory preset level.
- C. Set data does not change by the change of the signal timing.

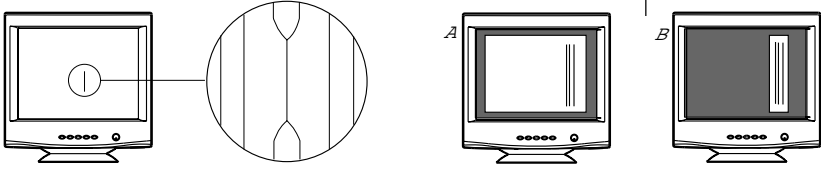
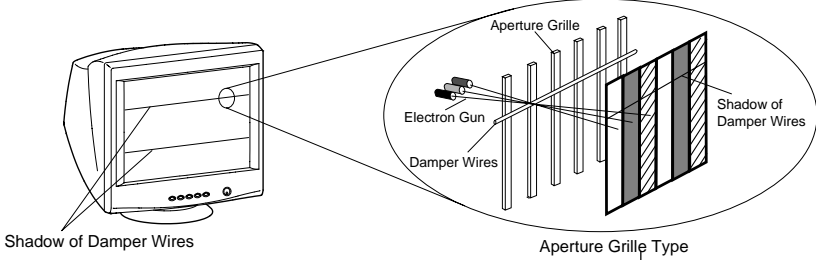
\*Moire is a series of wavy patterns caused by the interference between the aperture grille of the CRT and the raster generated by the video card. Adjust the level to the minimum value at which moire is no longer observed.

| Group Icon   | Item Icon   | Item               | Press the Minus Button<br>   | Press the Plus Button<br> |  |
|--|---|--------------------|---|--|--|
| <br>SCREEN    |    | CONTRAST           | To decrease the contrast.   | To increase the contrast.  |  |
|  |    | BRIGHT             | To decrease the brightness.   | To increase the brightness.  |  |
|  |    | COLORTEMPERATURE   | To decrease the color temperature.<br><b>NOTE</b><br>When FPM is on, the color temperature is fixed to 9300K and it is not adjustable.  | To increase the color temperature.   |  |
| <br>GEOMETRY |    | HORIZ-SIZE         | To narrow the width of the image on the screen.   | To expand the width of the image on the screen.  |  |
|  |    | HORIZ-PHASE        | To move the image to the left.  | To move the image to the right.  |  |
|  |    | VERT-SIZE          | To narrow the height of the image on the screen.  | To expand the height of the image on the screen.   |  |
|  |    | VERT-POSITION      | To move the image down.   | To move the image up.  |  |
|  |    | PINCUSHION         | To collapse the center of the image.  | To expand the center of the image.   |  |
|  |    | KEYSTONE           | To decrease the width at the top of the screen image and to increase the width at the bottom.   | To increase the width at the top of the screen image and to decrease the width at the bottom.                |  |
|  |   | TOP-PIN            | To expand the width of the screen image near the corners of top.  | To narrow the width of the screen image near the corners of top.   |  |
|  |  | BOTTOM-PIN         | To expand the width of the screen image near the corners of bottom.   | To narrow the width of the screen image near the corners of bottom.  |  |
|  |  | PIN-BALANCE        | To move the top and bottom of the screen image to the right.  | To move the top and bottom of the screen image to the left.  |  |
|  |  | KEY-BALANCE        | To make the screen slant to the left.   | To make the screen slant to the right.   |  |
|  |  | ROTATION           | To rotate the image counterclockwise.   | To rotate the image clockwise.   |  |
|  |  | GEOMETRY RESET     | _____   | To restore to factory preset level.  |  |
| <br>VIDEO   |  | MOIRE CANCEL LEVEL | To decrease the level of the moire-clear wave.  |  |  |
|  |  | CLAMPPULSEPOSITION | To eliminate an excessive green or white-back ground that may occur when external sync signals are applied to the monitor.<br>To clamp the video signal at the front of the H-Sync pulse. | To clamp the video signal at the back of the H-Sync pulse.   |  |
|  |  | VIDEO LEVEL        | To select 1.0V of video input.  | To select 0.7V of video input.   |  |
| <br>MISC.   |  | DEGAUSS            | _____   | To eliminate possible color shading or impurity.   |  |
|  |  | POWER-SAVE         | To select the constant power consumption mode.  | To select the power-save mode.   |  |
|  |  | CONTROL LOCK       | To permit all OSD adjustments.  | To lock the OSD function except for "BRIGHT" and "CONTRAST".   |  |
|  |  | DIAGNOSIS          | It shows the current scanning frequency and Preset No. or user mode.  |  |  |
|  |  | LANGUAGE           | To choose the language used on OSD.<br>ENG.....English, ESP.....Spanish, JPN.....Japanese,<br>GER.....German, FRA.....French  |  |  |

# 5 TROUBLESHOOTING

Before calling your 1-800-OK-COMPAQ for service, please check that the items below are properly connected or set. In case of using a non-standard signal, please check the pin assignments and the signal timing of your computer with the specification outlined in Section 6. SPECIFICATIONS and Section 7. APPENDIX.

| PROBLEM   |  | ITEMS TO CHECK  | LOCATION   |
|---|--|---|--|
| No picture  | LED On (Green)   | <ul style="list-style-type: none"> <li>Contrast and brightness controls.</li> </ul>   | <ul style="list-style-type: none"> <li>Front</li> </ul>  |
|   | LED Off  | <ul style="list-style-type: none"> <li>Power switch.</li> <li>AC power cord disconnected.</li> </ul>  | <ul style="list-style-type: none"> <li>Front</li> <li>Rear</li> </ul>  |
|   | LED On (Amber)   | <ul style="list-style-type: none"> <li>Signal cable disconnected.</li> <li>Computer power switch.</li> <li>Power management function is active.</li> </ul>  | <ul style="list-style-type: none"> <li>Rear</li> <li>Computer</li> <li>Press any key on the keyboard or move the mouse.</li> </ul> |
| The following message appeared.   |  | <ul style="list-style-type: none"> <li>Signal cable disconnected.</li> <li>Computer power switch.</li> <li>Power management function is active.</li> </ul>  | <ul style="list-style-type: none"> <li>Rear</li> <li>Computer</li> <li>Press any key on the keyboard or move the mouse.</li> </ul> |
|   |  |   |  |
| The following message appeared.   |  | <ul style="list-style-type: none"> <li>Input signal frequency range is too high or too low for the monitor to synchronize with.</li> </ul>  | <ul style="list-style-type: none"> <li>Check the specification of graphics adapter</li> </ul>                                      |
|  |  |   |  |
| Abnormal picture  | Display is missing, center shifts, or too small or too large of a display size | <ul style="list-style-type: none"> <li>Do "GEOMETRY-RESET" or "ALL RESET" for a standard signal.</li> <li>Adjust HORIZ-SIZE, VERT-SIZE, HORIZ-PHASE, and VERT-POSITION with non-standard signals.</li> <li>Monitor may not be able to get full-screen image depend on signal. In this case, please select other resolution, or other vertical refresh timing.</li> <li>Make sure you wait a few seconds after adjusting the size of the image before changing or disconnecting the signal.</li> </ul> | <ul style="list-style-type: none"> <li>Front (OSD)</li> <li>Front (OSD)</li> </ul>   |
|   | Display is dark or too bright  | <ul style="list-style-type: none"> <li>"VIDEO LEVEL" is not at the appropriate position for your graphics adapter output. (0.7v or 1.0Vp-p).</li> </ul>   | <ul style="list-style-type: none"> <li>Front (OSD)</li> </ul>  |

| PROBLEM  | ITEMS TO CHECK   | LOCATION  |
|--|--|---|
| <p>Abnormal Picture</p> <p>Black vertical lines are visible on the screen.</p> | <ul style="list-style-type: none"> <li>Thin vertical black lines on one or both sides of the screen. This minor condition is caused by grille element overlap which can occur during shipping.</li> </ul> <p>Position an open white window over the affected area of the screen and maximize the brightness and contrast controls. This will cause localized heating of the overlap which will clear in a few minutes. Be sure to readjust the brightness and contrast controls back to the normal viewing levels after this procedure.</p>  | <ul style="list-style-type: none"> <li>—</li> </ul> |
| <p>Two fine horizontal lines are visible on the screen.</p>                    | <ul style="list-style-type: none"> <li>The 2 very faint thin lines across the screen are normal. They are caused by the aperture grille stabilization filaments (Damper Wires) which are required for all aperture grille CRTs'.</li> </ul>   | <ul style="list-style-type: none"> <li>—</li> </ul> |
| <p>A buzzing sound when power on.</p>  | <ul style="list-style-type: none"> <li>A brief vibration or hum sound that is heard just after power up is normal. This is caused by the automatic degaussing function. This sound will be heard each time the monitor is powered up from a cold start and each time the manual degauss button is used.</li> </ul>   | <ul style="list-style-type: none"> <li>—</li> </ul> |

# 6 SPECIFICATIONS

## 22" Model

|                       |   |   |
|-----------------------|---|---|
| CRT                   | Size  | 55cm/22"(51cm/20" Diagonal Viewable Image)  |
|                       | Mask type   | Aperture grille   |
|                       | Gun   | In-line   |
|                       | Deflection angle  | 90°   |
|                       | Phosphors   | Red, Green, Blue EBU (medium short persistence)   |
|                       | Aperture grille pitch   | 0.24mm  |
|                       | Phosphor pitch  | 0.25mm  |
|                       | Face Plate  | Anti-glare, Anti-reflection and Anti-static coating   |
|                       | Focusing method   | Dynamic Beam Forming (DBF)  |
| INPUT SIGNAL          | Video   | 0.7Vp-p analog RGB  |
|                       | Sync  | Separate H, V sync.   |
| SIGNAL INTERFACE      | Input Connectors  | DB9-15P x 2   |
|                       | Input Impedance   | 75 Ω (video), 2.2k Ω (sync.)  |
| SCANNING FREQUENCY    | Horizontal  | 30 - 121kHz   |
|                       | Vertical  | 50 - 160Hz  |
| RESOLUTION (HxV)      | 2048 dots x 1536 lines Non-Interlaced maximum addressable resolution format at 75Hz |   |
| WARM-UP TIME          | 30 minutes to reach optimum performance level                                       |   |
| BRIGHTNESS            | 100cd/m <sup>2</sup> , standard full white video signal at 9300K (+ 8MPCD)          |   |
| POWER SOURCE          | AC100-120/220-240V±10% 50/60Hz 140W (typ.) < 155w (typ.) with USB operation>        |   |
| BLANKING TIME         | Horizontal  | ≥ 2.3 μsec (typ.)   |
|                       | Vertical  | ≥ 450 μsec (typ.)   |
| DISPLAY SIZE          | 393mm x 295mm(typ.)   | ratio 4:3   |
| COLOR                 | 5000K~9300K   |   |
| OPERATING ENVIRONMENT | Temperature   | 10- 35°C  |
|                       | Humidity  | 20 - 80%RH (without condensation)   |
| DIMENSIONS            | (W)19.7inch x (H)19.7inch x (D)19.0inch / (W) 500mm x (H) 500mm x (D) 482mm         |   |
| WEIGHT                | Approx. 30kg (66.14 lbs.)   |   |
| TILT/SWIVEL BASE      | Tilt Angle  | -5° - +10°  |
|                       | Swivel Angle  | ±90°  |
| REGULATIONS           | Safety  | UL1950 (UL), CSA C22.2 No.950 (C-UL)<br>EN60950 (TÜV-GS), NEMKO, SEMKO, DEMKO, FIMKO                                  |
|                       | EMC   | FCC Class-B, DOC Class-B<br>EN55022 Class-B, VCCI Class-B<br>EN50082-1, EN61000-3-2, EN61000-3-3                      |
|                       | X-Ray   | DHHS, HWC, Röv vom 8.1, 1987  |
|                       | Other   | CE-Marking, MPR-II/TCO'91<br>ISO9241-3, ISO9241-7, ISO9241-8 (TÜV-GS)<br>TCO '99<br>International ENERGY STAR Program |
| USB                   | Functional  | Self-powered HUB complying with Universal Serial Bus Specifications Rev 1.0   |
|                       | Interface   | 1 Upstream port/12 Mbps<br>3 Downstream ports/12 Mbps, 1.5 Mbps (500mA max. per each downstream port)                 |

**19" Model**

|                       |   |  |  |
|-----------------------|---|--|--|
| CRT                   | Size  | 50cm/19"(46cm/18" Diagonal Viewable Image)   |  |
|                       | Mask type   | Aperture grille  |  |
|                       | Gun   | In-line  |  |
|                       | Deflection angle  | 90°  |  |
|                       | Phosphors   | Red, Green, Blue EBU (medium short persistence)  |  |
|                       | Aperture grille pitch   | 0.24mm   |  |
|                       | Face Plate  | Anti-glare, Anti-reflection and Anti-static film   |  |
|                       | Focusing method   | Dynamic Beam Forming (DBF)   |  |
| INPUT SIGNAL          | Video   | 0.7 or 1.0Vp-p analog RGB  |  |
|                       | Sync  | Separated H, V sync. or Composite sync   |  |
| SIGNAL INTERFACE      | Input Connector   | DB9 - 15P  |  |
|                       | Input Impedance   | 75 Ω (video), 2.2k Ω (sync.)   |  |
| SCANNING FREQUENCY    | Horizontal  | 30 - 108kHz  |  |
|                       | Vertical  | 50 - 140Hz   |  |
| RESOLUTION (HxV)      | 1920dots x 1440lines Non-Interlaced maximum addressable resolution format at 60Hz<br>Recommended Resolution: 1280 dots x 1024 lines at 85Hz |  |  |
| WARM-UP TIME          | 30 minutes to reach optimum performance level   |  |  |
| BRIGHTNESS            | 110cd/m <sup>2</sup> (typ.), standard full white video signal at 9300K (+ 27MPCD)   |  |  |
| BLANKING TIME         | Horizontal  | ≥ 2.3 μsec (typ.)  |  |
|                       | Vertical  | ≥ 450 μsec (typ.)  |  |
| DISPLAY SIZE          | 350mm x 262mm(typ.)   | ratio 4:3  |  |
| COLOR TEMPERATURE     | 5000K~9300K   |  |  |
| POWER SOURCE          | AC100-120/220-240V±10% 50/60Hz 120W (typ.) (AC220-240V±10% 50/60Hz for Europe)  |  |  |
| OPERATING ENVIRONMENT | Temperature   | 10 - 35°C  |  |
|                       | Humidity  | 20 - 80%RH (without condensation)  |  |
| DIMENSIONS            | (W)17.9inch x (H)18.2inch x (D)18.0inch / (W) 454mm x (H) 462mm x (D) 456mm   |  |  |
| WEIGHT                | Approx. 23.0kg (50.7lbs.)   |  |  |
| TILT/SWIVEL BASE      | Tilt Angle  | -5° - +15°   |  |
|                       | Swivel Angle  | ±90°   |  |
| REGULATIONS           | Safety  | UL1950 (UL), CSA C22.2 No.950 (CSA)<br>EN60950 (TÜV-GS), NEMKO, SEMKO, DEMKO, FIMKO                                |  |
|                       | EMC   | FCC Class-B, DOC Class-B, VCCI Class-B<br>For only Europe:<br>EN55022 Class-B, EN50082-1, EN61000-3-2, EN61000-3-3 |  |
|                       | X-Ray   | DHHS, HWC, Röv vom 8.1, 1987   |  |
|                       | Other   | CE-Marking, MPR-II/TCO'91<br>TCO '99, ISO9241-3,-7, and -8 (TÜV-GS)<br>International ENERGY STAR Program           |  |

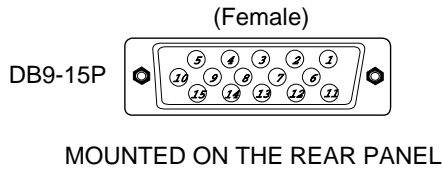


**17" Model**

|                       |  |  |
|-----------------------|--|--|
| CRT                   | Size   | 45cm/17"(41cm/16" Diagonal Viewable Image)   |
|                       | Mask type  | Aperture grille  |
|                       | Gun  | In-line  |
|                       | Deflection angle   | 90°  |
|                       | Phosphors  | Red, Green, Blue EBU (medium short persistence)  |
|                       | Aperture grille pitch  | 0.25mm   |
|                       | Face Plate   | Anti-glare, Anti-reflection and Anti-static film   |
|                       | Focusing method  | Dynamic Beam Forming (DBF)   |
| INPUT SIGNAL          | Video  | 0.7Vp-p analog RGB   |
|                       | Sync   | Separated H, V sync. or Composite sync   |
| SIGNAL INTERFACE      | Input Connector  | DB9 - 15P  |
|                       | Input Impedance  | 75 Ω (video), 2.2k Ω (sync.)   |
| SCANNING FREQUENCY    | Horizontal   | 30 - 96kHz   |
|                       | Vertical   | 50 - 130Hz   |
| RESOLUTION (HxV)      | 1600dots x 1200lines Non-Interlaced maximum addressable resolution format at 75Hz<br>Recommended Resolution: 1024 dots x 768 lines at 85Hz |  |
| WARM-UP TIME          | 30 minutes to reach optimum performance level  |  |
| BRIGHTNESS            | 110cd/m <sup>2</sup> , standard full white video signal at 9300K (+ 27MPCD)  |  |
| BLANKING TIME         | Horizontal   | > or = 2.7μsec (typ.)  |
|                       | Vertical   | > or = 500 μsec (typ.)   |
| DISPLAY SIZE          | 312mm x 234mm(typ.)  | ratio 4:3  |
| COLORTEMPERATURE      | 5000K~9300K  |  |
|                       | AC100-120/220-240V±10% 50/60Hz 95W (typ.) (AC 220-240V + or - 10% 50 Hz for Europe)  |  |
| OPERATING ENVIRONMENT | Temperature  | 10 - 35°C  |
|                       | Humidity   | 20 - 80%RH (without condensation)  |
| DIMENSIONS            | (W)16.1inch x (H)16.2inch x (D)17.1inch / (W) 410.2mm x (H) 412.6mm x (D) 435.3mm  |  |
| WEIGHT                | Approx. 17.5 kg (38.6 lbs.)  |  |
| TILT/SWIVEL BASE      | Tilt Angle   | -5° - +15°   |
|                       | Swivel Angle   | ±90°   |
| REGULATIONS           | Safety   | UL1950 (UL), CSA C22.2 No.950 (C-UL)<br>EN60950 (TÜV-GS), NEMKO, SEMKO, DEMKO, FIMKO                     |
|                       | EMC  | FCC Class-B, DOC Class-B<br>EN55022 Class-B<br>EN50082-1, EN60555-2, EN61000-3-3                         |
|                       | X-Ray  | DHHS, HWC, Röv vom 8.1, 1987   |
|                       | Other  | CE-Marking, MPR-II/TCO'91<br>TCO '99, ISO9241-3,-7, and -8 (TÜV-GS)<br>International ENERGY STAR Program |

# 7 APPENDIX

## Monitor Signal Input Connector (DB9-15P)

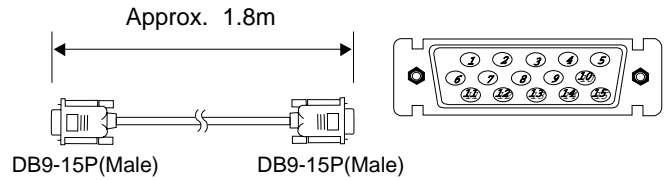


### PIN ASSIGNMENTS

| Pin No. | Signal  |
|---------|---|
| 1       | RED VIDEO   |
| 2       | GREEN VIDEO<br>or COMPOSITE SYNC with GREEN VIDEO |
| 3       | BLUE VIDEO  |
| 4       | GROUND  |
| 5       | DDC GROUND  |
| 6       | RED GROUND  |
| 7       | GREEN GROUND                                      |
| 8       | BLUE GROUND                                       |
| 9       | NC  |
| 10      | SYNC GROUND                                       |
| 11      | GROUND  |
| 12      | SDA   |
| 13      | HORIZONTAL SYNC<br>or COMPOSITE SYNC              |
| 14      | VERTICAL SYNC(VCLK)                               |
| 15      | SCL   |

DDC ..... DISPLAY DATA CHANNEL  
 SDA ..... SERIAL DATA  
 SCL ..... SERIAL CLOCK  
 NC ..... NO-CONNECTION

## SC-B104 Signal Cable



### PIN ASSIGNMENTS

| Pin No. | Signal              |
|---------|---------------------|
| 1       | RED                 |
| 2       | GREEN               |
| 3       | BLUE                |
| 4       | GROUND              |
| 5       | DDC GROUND          |
| 6       | RED GROUND          |
| 7       | GREEN GROUND        |
| 8       | BLUE GROUND         |
| 9       | NC                  |
| 10      | SYNC GROUND         |
| 11      | GROUND              |
| 12      | SDA                 |
| 13      | HORIZONTAL SYNC     |
| 14      | VERTICAL SYNC(VCLK) |
| 15      | SCL                 |

DDC ..... DISPLAY DATA CHANNEL  
 SDA ..... SERIAL DATA  
 SCL ..... SERIAL CLOCK  
 NC ..... NO-CONNECTION

# Regulatory Compliance Notices

## Federal Communications Commission Notice

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 or television technician for help.

## Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

## Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

## Declaration of Conformity for products marked with the FCC logo - United States only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, contact:

Compaq Computer Corporation  
P. O. Box 692000, Mail Stop 530113  
Houston, Texas 77269-2000

Or, call

1-800- 652-6672 (1-800-OK COMPAQ)

For questions regarding this FCC declaration, contact:

Compaq Computer Corporation  
P. O. Box 692000, Mail Stop 510101  
Houston, Texas 77269-2000

Or, call

(281) 514-3333

## Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations

## Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## European Union Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (in brackets are the equivalent international standards):

- EN55022 (CISPR 22) - Electromagnetic Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4) - Electromagnetic Immunity
- EN60950 (IEC950) - Product Safety

## Japanese Notice

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取扱説明書に従って正しい取り扱いをして下さい。

## Energy Star

Monitors that are marked with the Energy Star Logo meet the requirements of the EPA Energy Star program. As an Energy Star Partner, Compaq Computer Corporation has determined that this product meets the Energy Star guidelines for energy efficiency. Specific details on using the Energy Saving features can be found in the energy saver or power management section of the computer manual.



216028-001

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