15"
Digital Control LED Indicator
Multiscan Color Green
Monitor

User's Guide

X-554

IMPORTANT SAFETY INFORMATION

- Read all of these instructions carefully, and save them for reference. Follow all warnings and instructions marked on the product.

- Clip the swivel base on to the monitor before installation.

- Unplug the monitor from the system unit before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

- Use only attachments recommended by the manufacturer; unapproved attachments may be hazardous.

- Do not use the monitor near water, for example near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

- Do not place the monitor on an unstable cart, stand or table. If the monitor falls, it could injure a person or cause serious damage to the appliance. Use only a cart or stand recommended by the manufacturer or sold with the monitor. If your mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follow the kit instructions.

- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.

- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.

- The monitor is equipped with a three-wire grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet. This is a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.

- Do not allow anything to rest on the power cord. Do not locate the monitor where people may walk on the cord.

- To protect the monitor during a lightening storm or when it is left unattended and unused for long periods of time, unplug it from the system unit. This will prevent damage to the monitor from lightening and power surges.

- Do not overload power outlet and extension cords. Overload can result in fire or electric shock.

- Never push any object into the slot in the monitor cabinet. It could touch dangerous voltage points or short out parts resulting in a fire or electric shock. Never spill liquid on the monitor.

- If your monitor don't operate normally, in particular if any unusual sounds or smells come from it, immediately unplug it and contact an authorized technician.

- Do not attempt to service the monitor yourself; openings or removing covers can expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

- Unplug the monitor from the system unit and refer servicing to qualified service personnel under the following conditions:
  - When the power cord or plug is damaged or frayed.
  - If liquid has been spilled into the monitor.
  - If the monitor has been exposed to rain or water.
  - If the monitor does not operate normally and you are following the operating instructions. Adjust only those controls covered by the operating instructions; improper adjustment of other controls may result in damage and may require extensive work by a qualified technician to restore the monitor to normal operation.
  - If the monitor has been dropped or the cabinet has been damaged.

- When the video monitor exhibits a distinct change in performance.

- To ensure satisfactory operation, use the monitor only with UL Listed computers which have appropriate configured receptacles marked between 100 - 240 VAC, Min. 1.2A.

- When use with external speakers, to ensures satisfactory operation use with UL Listed Class 2 adaptor which have appropriate electric rating 100 - 120 VAC or 220 - 240 VAC.

FCC Class B Radio Frequency
Interference Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules, These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications, However there is no guarantee that interference will not occur in a particular installation, If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

NOTICE
Any changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

DOC compliance notice

This digital apparatus does not exceed the C lass B limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications

"Le present appreil numerque n'emet pas de bruits radioelectriques depassant les limites applicables aux areils numeriques de class B prescrites dans le reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada."
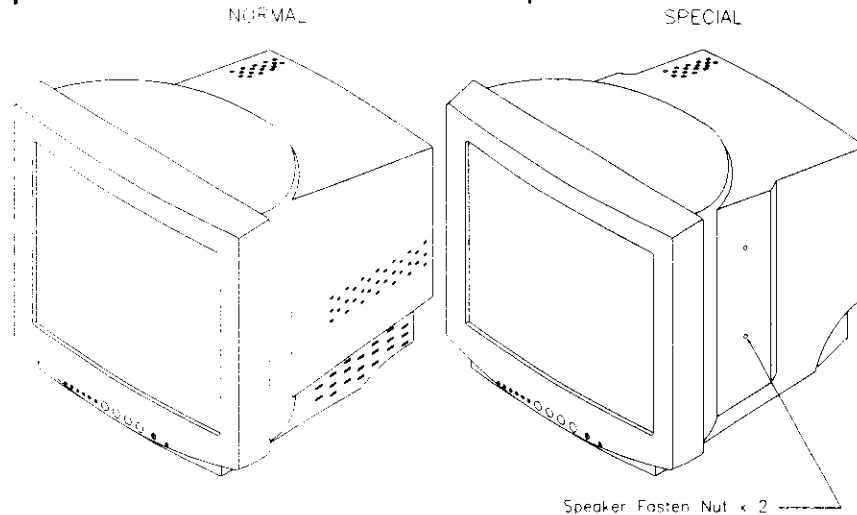
TABLE OF CONTENTS

GENERAL DESCRIPTION

This monitor is a high-performance intelligent multi-scan color monitor. It is designed to be compatible with all modes between 30 kHz and 54 kHz. (engineering design 29 - 55 kHz)

The microprocessor-based design was implemented with the user in mind, providing digital user controls for precision, autosynchronization and auto-sizing for convenience and userprogrammability for flexibility. This monitor comes with a tilt and swivel base for comfort in prolonged usage.

There are two different types of monitor housings. The special type provides **speaker fasten nuts** on two sides to fasten speakers for multi-media using.

NORMAL   SPECIAL

Speaker Fasten Nut x 2

Figure 1 Multiscan Color Monitor

NOTE: To get the most from your monitor, read through this user's guide before installing and using the monitor.

PACKAGE CONTENTS

Choose the most convenient location for your monitor and avoid using sharp object in opening the carton. Open the shipping carton and check the package contents. The package should include the following items:
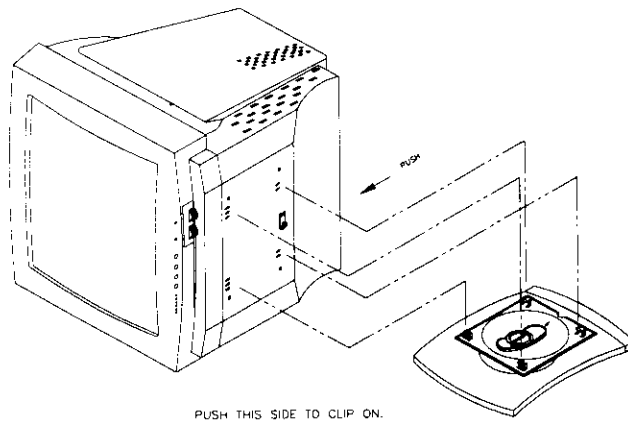- Swivel base
- Monitor
- Power cord

If any items are missing, contact your supplier immediately. Remove the monitor from its shipping carton. Save the carton and packaging materials, in case you ever need to pack and relocate the monitor.

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 on the swivel base into these cavities. Push the swivel base forward until the swivel base locks in place.
4. Turn the monitor right-side up and begin to install the monitor.

PUSH THIS SIDE TO CLIP ON.

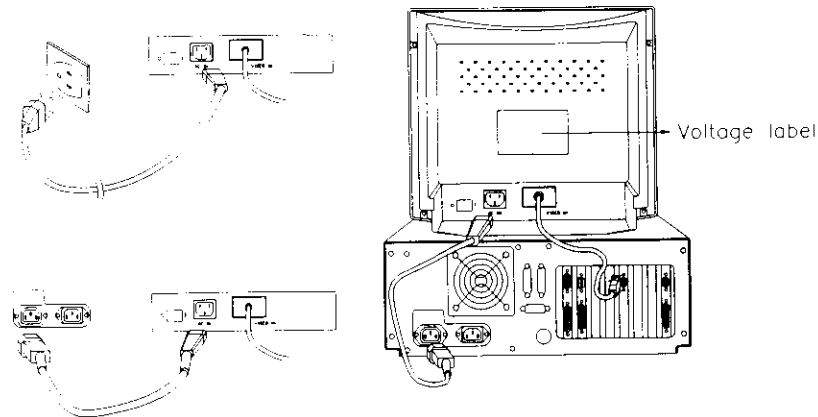**Figure 2** Installing the Swivel Base

To remove the swivel base, hold the bottom of the swivel base, then push it out. User can easily lift off the swivel base from the monitor body.

INSTALLATION

Safety Checks

Make sure the monitor and system unit power switches are off, when you start connecting cables. This monitor is set for 100-240 Vac 60/50 Hz (full range). Confirm the line voltage for your monitor by checking the voltage label on the rear panel of the monitor.

Figure 3 Connecting the Video Cable and Power Cord

Connecting the Video Cable

The monitor comes with a built-in video cable. To connect the video cable, follow the steps below:
1. Plug the signal cable's 15-pin connector into the computer's video port.
2. Tighten the two screws on the cable connector. As Figure 3.
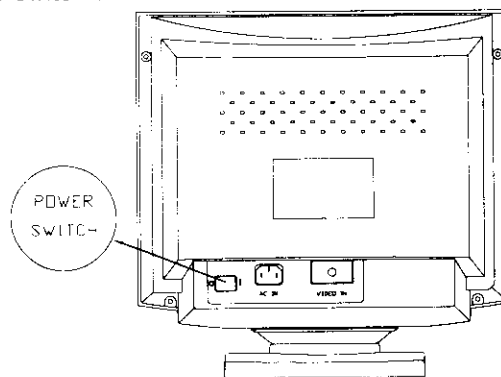
Connecting the Power Cord

This monitor comes with a power cord. See Figure 3. Plug power cord into a computer's inlet. The three-wire power cord must be provided a safety precaution to ensure proper electrical grounding.

CAUTION: If the AC inlet in your location does not provide for this type of grounded plug, make sure to install the proper adapter for a safety grounding.
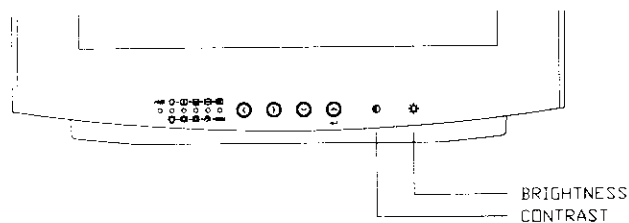
OPERATION

Turning on the Monitor

The power switch is located at the bottom of the rear side. (See Figure 4)
Press the power switch to turn the monitor on or off.

Figure 4 The Power Switch

The control knobs are located on the front side. (See Figure 5 and 6) Use
these controls to adjust the picture according to your personal preferences.
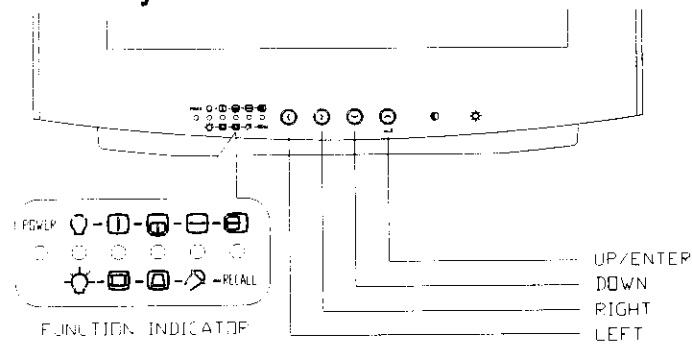

Figure 5 Brightness and Contrast Controls

Basic Adjustments

Brightness: Adjust the picture brightness of the screen. Turn the knob
clockwise to increase or counterclockwise to decrease
screen brightness.

Contrast: Adjust the picture contrast on the screen. Turn the knob
clockwise to increase or counterclockwise to decrease the

4

intensity of the screen.

Advanced Adjustments

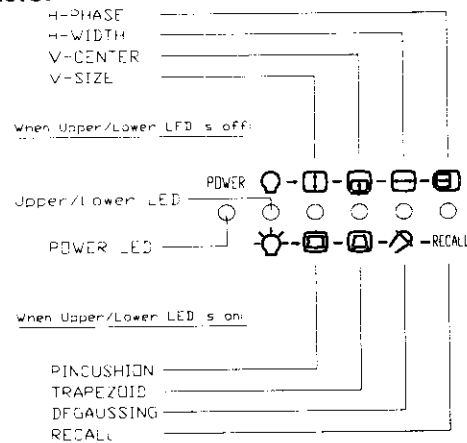
Figure 6 Function Buttons and Indicators

Up: To increase the setting of a function or to execute the function Degaussing or Recall.

Down: To decrease the setting of the function.

Right: To switch to the next function.

Left: To switch to the previous function.

Function Indicators:

Figure 7 The Function Indicator

5

How to Adjust a Setting

1. Press < or > to move the indicator to the desired function. First, the "Upper/Lower" LED does not light and you can select one of the 4 functions on the upper row (V-size, V-center, H-width and H-phase). If you press > several times, the "Upper/Lower" LED lights, and you can adjust or execute the functions on the lower row (Pincushion, Trapezoid, Degaussing and Recall). See figure 7.
2. Press ∧ or ∨ to change the adjustment of the currently chosen function. The LED will flash when the function is already adjusted to the largest or smallest value.
3. If you do not change any other setting, the function LED will go out after approx. 3 seconds and the "Upper/Lower" LED will flash, indicating that the new setting has automatically been saved.

If want to adjust other functions, repeat steps 1~3.

Example: If you want to adjust the pincushion distortion of the display, press > five times until both the "Upper/Lower" LED and the ▣ LED are lit. Then press ∧ or ∨ until the geometric pincushion distortion is corrected. After about 10 seconds, the new setting will be stored automatically in the monitor's non-volatile memory.

Degaussing: If you want to correct display distortion or discoloration due to magnetic field interference, press < or > until the "Upper/Lower" LED and the ⋗ LED are lit. Then, press ∧.

Recall Control: If you want to load the factory preset parameters(V-size, V-center, H-width, H-phase, Pincushion and Trapezoid), press < or > until the "Upper/Lower" LED and the ᴿᴱᶜᴬᴸ LED are lit. Then, press ∧.

Function and Description of the LEDs

⬭ V-size:
   To adjust the vertical size of the display.

⬭ V-center
   To adjust the vertical position of the display.

⊟ H-width
   To adjust the horizontal width of the display.

⬭ H-phase
   To adjust the horizontal position of the display.

▣ Pincushion
   To adjust Barrel and Pincushion.

6

▣ Trapezoid
   To adjust Trapezoid distortion.
🢒 Degaussing
   To correct display distortion or discoloration due to magnetic field interference in case you have moved the monitor while in operation.
◌ ⅃ Recall
   To get the factory preset parameters for V-size, V-center, H-width, H-phase, Pincushion and Trapezoid.

Auto Save Function

The monitor provides an auto save function. After you have changed any of the settings and waited for about 10 seconds, the new values will be saved in the monitor's non-volatile memory. They are stored even if you switch off the monitor.

7

POWER MANAGEMENT

This monitor meets the power management standards as set by the Video Electronics Standards Association (VESA) and /or the United States Environmental Protection Agency (EPA). This feature is des-igned to conserve electrical energy by reducing power consumption.

This function is actived by an operating system or Windows utility program which turns off the monitor display and also turns off, or changes the color of the monitor's power LED.

Mode	Signal				Power	
	Cable	H-Sync	V-Sync	Video	Indicator	Consumption
ON*	Attach	Yes	Yes	Actived	Green	$\leq$ 80W
Stand-by	Attach	No	Yes	Blanked	Amber	$\leq$ 15W
Suspend	Attach	Yes	No	Blanked	Amber	$\leq$ 15W
OFF	Attach	No	No	Blanked	Amber	$\leq$ 5W
Override	Attach	No	No	Visible background	Green	$\leq$ 80W

*   The monitor also provides two special modes for easy trouble-shooting. If one of these two modes (override and self-test mode) is enabled, the power management function is not active.

If you turn on the monitor before you turned on the computer, the power LED lights green, the function indicators flash one after another and the monitor displays a bright background. If you turn on the computer, the monitor switches to ON mode.

Note: If the input signal out of range or you turn off the computer before you turn off the monitor, the power LED lights amber, the function indicators flash one after another and the monitor goes into power management OFF mode.

TROUBLESHOOTING

This section provides solutions to minor problems you may encounter when installing or using this monitor. If the problem persists after trying the suggestions in Table 1, contact your place of purchase.

No Picture
- Check that both power and signal cable are securely connected.
- Adjust the brightness and contrast controls.

Poor Picture
- Adjust the brightness and contrast controls.
- Check your display adapter configuration. (Refer to your display adapter manual.)

Picture Locks or Center Shifts
- Adjust vertical center and horizontal phase controls.

Picture is Too Large or Small
- Adjust vertical size control or horizontal width control.

TECHNICAL INFORMATION

Precautions

- Only a qualified service technician should open the monitor case. Components inside the monitor can cause serious electric shock. Do not attempt to remove the back cover of the monitor by yourself. Contact your monitor dealer or authorized service personnel if your monitor needs to be repaired.
- To prevent fire or shock hazard, do not expose this monitor to rain or moisture.

Specifications

CRT:
1. Visible Size   : 35 cm (15") max. Screen Diagonal
2. Deflection   : 90-degree deflection
3. Dot pitch   : 0.28mm
4. Phosphor   : P22
5. Surface   : Nonglare
6. Transmission   : 57%

Video and Synchronization Signals:
1. Signal cable : 15-pin D-type connector
2. Video   : Analog levels
3. Horizontal Sync   : TTL Positive/Negative
4. Vertical Sync   : TTL Positive/Negative
5. Bandwidth   : 65 Mhz(-3dB)
6. Display Area   : 260x195 mm ±5 mm(STANDARD MODE)
7. Display Colors   : limited by VGA card
8. Video signal input : 0.7 Vpp

Display Data Channel:(option)
1. Compatibility   : VESA DDC 1/2B

Scanning Frequency:
1. Horizontal   : 30 kHz to 54 kHz
   (Engineering Design) : 29 - 55 kHz
2. Vertical   : 47 Hz to 120 Hz

Power supply:
1. Input voltage   : 100 - 240 Vac 60/50 Hz
2. Consumption   : 100 Watts maximum

Environment:
1. Operating
 - Temperature   : 0°C to 40°C
 - Humidity   : 20% to 80%
2. Nonoperating
 - Temperature   : -20°C to 65°C
 - Humidity   : 10% to 85%

Dimension:
370 mm(W)x 367 mm(H)x 390 mm(D) (with base)

Weight:
Approx. 12 Kgs(NET)

X-Radiation:
DHHS
PTB (Self Certificated)

Regulatory:
1. Optional FCC-B/UL/CSA
2. Optional TüV-GS
3. Optional MPR II (MPR 1990:10)
4. Optional NORDIC
5. Optional CE

NOTE: If discrepancy occurs between the above specification regulation and that listed on back label. use the later as standard.

11

Display Mode

Standard	Resolution	Hor/Ver Frequency	Interlaced(I) Non-Interlace(NI)
IBM/VGA	720x400	31.5 kHz / 70 Hz	NI
IBM/VGA	640x480	31.5 kHz / 60 Hz	NI
VESA/72	640x480	37.9 kHz / 72 Hz	NI
VESA/75	640x480	37.5 kHz / 75 Hz	NI
VESA/85	640x480	43.3 kHz / 85 Hz	NI
VESA/75	800x600	46.9 kHz / 75 Hz	NI
VESA/72	800x600	48.0 kHz / 72 Hz	NI
VESA/85	800x600	53.7 kHz / 85 Hz	NI
VESA/60	1024x768	48.3 kHz / 60 Hz	NI

Video Pin Assignments

D-Type 15-Pin Connector Pinout

Pin no.	Description
1	Red
2	Green
3	Blue
4	No connect
5	Ground
6	R-Ground
7	G-Ground
8	B-Ground
9	No connect
10	Ground
11	No connect
12	SDA
13	H-sync
14	V-sync
15	SCL