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This Monitor was
Manufactured by ISO 9001
Certified Factory

SAFETY INSTRUCTION

1. Read all of these instructions.
2. Save these instructions for later use.
3. Follow all warnings and instructions marked on the product.
4. Unplug this product from the wall outlet before cleaning.
   Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable cart, stand or table.
   The product may fall, causing serious damage to the product.
7. Slots and openings in the cabinet and the back or bottom are provided for ventilation: to ensure reliable operation of the product and to protect it from overheating these openings must not be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a heat register.
   This product should not be placed in a built-in installation unless proper ventilation is provided.
8. This product should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available consult your dealer or local power company.
9. This product is equipped with a 3 wire grounding type plug having a third(grounding) pin. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
10. Do not allow anything to rest on the power cord.
    Do not locate this product where persons will walk on the cord.
11. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
12. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill any kind of liquid on the product.
13. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks.
    Refer all servicing to service personnel.

SAFETY INSTRUCTION

14. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions.
    A. When the power cord or plug is damaged or frayed.
    B. If liquid has been spilled into the product.
    C. If the product has been exposed to rain or water.
    D. If the Product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore normal operation.
    E. If the product has been dropped or the cabinet has been damaged.
    F. If the product exhibits a distinct change in performance, indicating a need for service.

▶▶**CAUTION**

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

▶▶**ATTENTION**

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

CAUTION TO SERVICE PERSONNEL

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

EMISSION CHARACTERISTICS TESTED BY SEMKO

THIS PRODUCT HAS BEEN TESTED AND HAS SHOWN COMPLIANCE WITH THE NATIONAL SPECIFICATIONS SUCH AS SWEDISH MPR 1990:10.(MPR Ⅱ)

CAUTIONS

▶ **NEVER REMOVE THE BACK COVER**

Removal of the back cover should be carried out only by qualified personnel. This display monitor contains high voltage inside.

▶ **DO NOT USE IN HOSTILE ENVIRONMENTS**

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

▶ **KEEP IN A WELL VENTILATED PLACE**

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

▶ **AVOID HEAT**

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

▶ **BE CAREFUL OF MAGNETIC FIELDS**

Do not place a magnet, speaker system, floppy disc drive or anything which will generate magnetism near the unit. A magnetic field may cause blurred colors or distortion of the displayed pattern.

▶ **TO ELIMINATE EYE FATIGUE**

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

▶ **BE CAREFUL OF HEAVY OBJECT**

Neither the monitor itself nor any other heavy object should rest on the power cord. Damage to a power cord can cause fire or electrical shock.

FCC RF INTERFERENCE STATEMENT

▶▶ **NOTE :**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio, TV technician for help.

- Only shielded interface cable should be used.

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

▶ **DOC COMPLIANCE NOTICE**

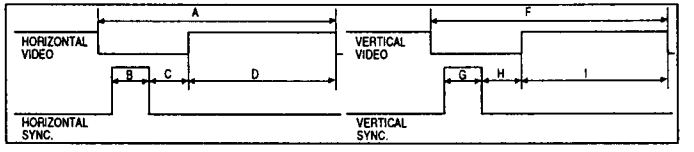
This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the radio interference regulation of Canadian Department of Communications.

▶ **AVIS DE CONFORMATION AU MDC(DOC)**

Le présent appareil numérique n´émet pas de bruits radio-électriques dépassant les limites appliqués aux appareils numériques de Class B d´après les règlements sur le brouillage radio-électrique conçuent par le ministère des communications du Canada.

BASIC CONCEPT OF ADJUSTMENT

1. RECOMMENDED SIGNAL TIMING CHART



D-SUB INPUT SIGNAL

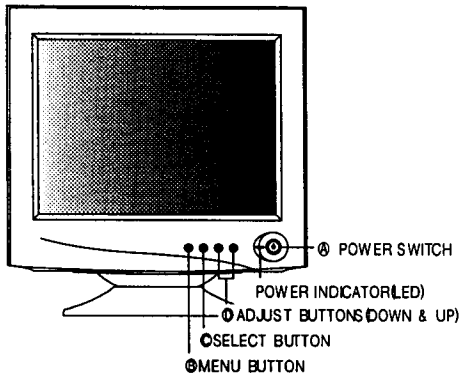
NO.			1	2	3	4	5	6	7	8	9	10
RESOLUTION	H		640	720	640	640	800	800	800	1024	1024	1280
	V		350	400	480	480	600	600	600	768	768	1024
SYNC	H		POSI	NEGA	NEGA	NEGA	POSI	POSI	POSI	NEGA	POSI	POSI
	V		NEGA	POSI	NEGA	NEGA	POSI	POSI	POSI	NEGA	POSI	POSI
H	FREQ.		KHz	31.469	31.469	31.469	43.269	37.879	46.875	53.674	48.363	68.677	63.981
	PERIOD	A	us	31.777	31.777	31.777	23.111	26.400	21.333	18.631	20.677	14.561	15.630
	SYNC	B	us	3.813	3.813	3.813	1.556	3.200	1.616	1.138	2.092	1.016	1.037
	BACKP.	C	us	1.907	1.907	1.907	2.222	2.200	3.232	2.702	2.462	2.201	2.296
	ACTIVE	D	us	25.422	25.422	25.422	17.778	20.0	16.162	14.222	15.754	10.836	11.852
V	FREQ.		Hz	70.087	70.087	59.941	85.008	60.317	75.000	85.061	60.004	84.997	60.020
	PERIOD	F	ms	14.268	14.268	16.683	11.764	16.579	13.333	11.756	16.666	11.765	16.661
	SYNC	G	ms	0.064	0.064	0.064	0.069	0.106	0.064	0.056	0.124	0.044	0.047
	BACKP.	H	ms	1.907	1.080	1.049	0.578	0.607	0.448	0.503	0.600	0.524	0.594
	ACTIVE	I	ms	11.122	12.711	15.253	11.093	15.840	12.800	11.179	15.880	11.183	16.005
DOT RATE			MHz	25.175	28.322	25.175	36.000	40.000	49.500	56.250	65.000	94.5	108.00
INTERLACE?				NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Also it has 10 user setting modes which you can store except for factory setting mode. Displaying user mode except for factory setting modes(You can see "NOT PRESET" when you select the memory recall), please adjust the monitor screen for yourself. After that, the screen data is stored to the memory with in micro processor.

2. THE WAY OF ADJUSTMENT

When you want to adjust the screen, please refer to function of controls.
Those screen data are automatically stored to the memory with in micro processor.

CONTROLS AND FUNCTIONS



A. POWER ON/OFF(⏻)

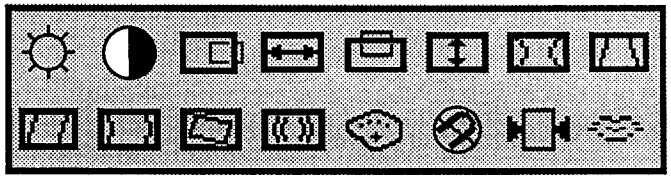
Turns the power ON or OFF. There will be 2 seconds delay before the display appears.
The power LED(next to the power switch) lights when the power is turned ON.
The power is turned off by pressing the power switch again and the power LED goes out.

B. MENU

Activates and exits the On Screen Display.
There are two OSD menu screens.
They are USER CONTROL(BRIGHTNESS, CONTRAST, H-POSITION, H-SIZE, V-POSITION, V-SIZE, PINCUSHION, TRAPEZOID, PARALLELOGRAM, PIN-BALANCE, ROTATION, MOIRE, COLOR-TEMP, DEGAUSS, RECALL, LANGUAGE).

FRONT CONTROLS

USER CONTROL(activates when you press the Menu button)



C. SELECT

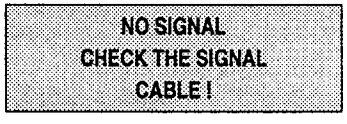
The select button allows user to activate the desired adjustment with changing icon-color.

D. ADJUST (▼ ▲)

The Adjust button allows user to choose the icons(controls)in the menu.
Pressing the adjust button "▼" or "▲" will step through all available adjustment icons(controls).
In addition this adjust button can be used to adjust the icons(controls) that is selected and activated via the select button.
Press the Adjust button.
After completing all the desired adjustments, the On Screen Display will disappear with pressing the menu button.

1. SELF-TEST DISPLAY

When there is no signal input(No connection), the On Screen Display will show.



FRONT CONTROLS

2. AUTO REGISTRATION

This monitor has 10 preset modes. If the current video is one of the preset modes, the monitor will automatically store any custom display settings into the permanent memory.
There are also 10 user modes that allow you to save the custom display settings made to any video mode that is not one of the preset video modes.
Adjustments are automatically registered without pressing any buttons.
Up to 10 user modes are stored automatically on a "First-In-First-Out" basis.

3. OSD MENU DESCRIPTION

BRIGHTNESS
Increase or decrease the intensity(illumination) of the image.

CONTRAST
Increase or decreases the strength(lightness or dimness) of the image.

H. POSITION(Horizontal position)
Moves images horizontally on-screen left(▼) or right(▲).

H. SIZE(Horizontal Size)
Increase(▲) or decrease(▼) Size of image horizontally.

V. POSITION(Vertical position)
Moves images vertically on-screen up(▲) or down(▼).

V. SIZE(Vertical Size)
Increase(▲) or decrease(▼) Size of image Vertically.

PINCUSHION
Adjust the side Pin-cushion or barrelling.

TRAPEZOID
Adjust the display sides to be parallel.

FRONT CONTROLS

PARALLELOGRAM
Adjust the tilt of the display sides.

PIN-BALANCE
Adjust the curvature of the left and right sides of the screen image.

ROTATION
Adjust the tilt of image.

MOIRE
Adjust the moire level of the screen.
(Reduces the optical effect of wavy lines on the display image.
These effects are usually more noticeable on large gray areas or on black & white check board patterns)

COLOR-TEMP
Adjust the color-temperature.
If select the icon of color-temperature, the control menu panel of color-temperature is displayed.
Select the 9300K or 6500K by "DOWN" "UP" button.
To change the color of R,G,B screen, select the "USER" then, press the "SELECT" button and select "RED" "GREEN" or "BLUE" and adjust the "UP" "DOWN" button.

DEGAUSS
Manually demagnetizes the CDT. This can be used if the display becomes discolored.
Allow a minimum of 20 minutes to elapse between each degauss.
The monitor also will automatically degauss when power is applied.

RECALL
Resets the control functions back to the original factory preset values.
In order for the Recall function to work, the timing must fall under one of the factory preset timing modes.

LANGUAGE
Select a language among ENGLISH, DEUTSCH, FRENCH, SPANISH, PORTUGUESE.

REAR VIEW

E. AC INLET

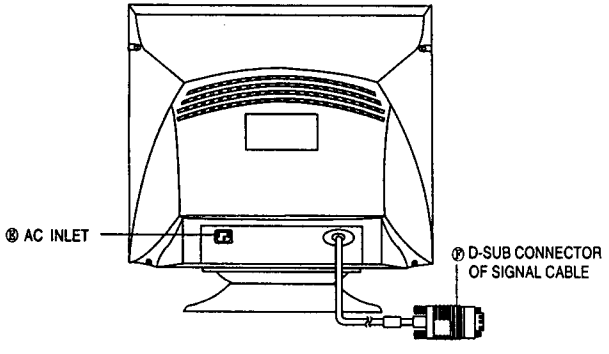
Power cord connection.

▶▶ **NOTE:**

Power cord is used as main power disconnect device in this product.

F. D-SUB CONNECTOR OF SIGNAL CABLE

Connect to the analog RGB signal output connector of IBM PS/2, or compatible computer.



▶ ACCESSORY

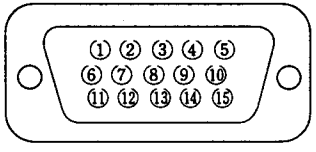
1. POWER CORD
2. INSTRUCTION MANUAL

D-SUB CONNECTOR PIN ASSIGNMENTS

▶ PIN ASSIGNMENTS

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

D-SUB



MAKING THE RIGHT CONNECTIONS

1. Make sure the power to this monitor and the computer system is turned OFF.
2. Connect the D-SUB connector of signal cable to system.
3. Connect one end of the power cord to this monitor and the other end to the wall outlet.
4. Turn this monitor ON.
5. Start your system.

SPECIFICATIONS

- **PICTURE TUBE**
  19 ″ (18V) diagonal measurement
  Dot Type 0.26mm Pitch Black Matrix Screen··· High resolution screen
  Dark Faceplate Glass··· High contrast screen
  90° Deflection and 29.1mm Diameter Neck··· Lower power consumption
  18 ″ Visual Screen Diagonal··· Full-square type screen
  Anti-Static Charge Face··· Electro static charge eliminated
  Hi-view(Silica coat, Anti-Glare, Anti-Reflection) Surface··· Glare problem eliminated
  Invar Shadow Mask.
- **INPUT SIGNAL**
  D-SUB INPUT
  Analog RGB Video: 0.7Vpp / 75 Ω
  Sync.: TTL Level
- **SWEEP FREQUENCY**
  Horizontal: 30-70KHz(Automatically)
  Vertical: 50-150Hz(Automatically)
- **VIDEO BANDWIDTH**
  110MHz Max.
- **DISPLAY AREA(18 ″ Viewable Size)**
  Preset : 346mm X 255mm
  Full : 366mm X 275mm
- **POWER INPUT**
  AC 100-240V, 50/60Hz(FREE VOLTAGE)
- **POWER CONSUMPTION**
  110Watts(Max.)
  Power Saving: Less than 5W
- **Dimensions (W x D x H)**
  570mm X 565mm X 565mm (Caton Box)
- **WEIGHT**
  Net Weight : 21Kg
  Gross Weight : 24Kg
- **RESOLUTION**
  1280 dots x 1024 lines(Max.)
- **DDC 1/2B**
- **OSD(On Screen Display)**

▶▶ **NOTE :**
Technical specifications are subject to change without notice.

HOW TO INSTALL OR REMOVE A TILT/SWIVEL STAND

CAREFULLY SET THE MONITOR UPSIDE DOWN

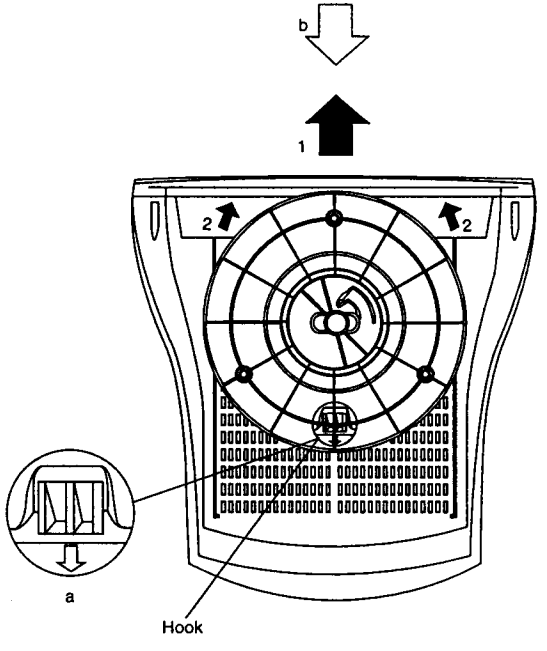
A. INSTALLING THE TILT/SWIVEL STAND

1. Align the stand with the slots in the bottom of the monitor and insert the Tilt/Swivel Stand into the slots.
2. Push the Tilt/Swivel Stand firmly toward the front of the monitor until the latches click into the locked position.

B. REMOVING THE TILT/SWIVEL STAND

a. Push the hook of the cover back downward.

b. Pull the stand to the rear of the monitor and lift the stand.



TROUBLE SHOOTING GUIDE

PROBLEM	CHECK THESE ITEMS
No Picture (Not in power saving mode)	The video card should be completely seated in its slot. Power switch and computer power switch should be in the ON position. The signal cable should be completely connected to the video card/computer. Check connector for bent or pushed-in pins.
LED on the monitor is not lit	Power switch should be in the ON position and the power cord should be connected.
Display image is not centered, too small or too large	Adjust size and position controls to adjust the image.
Display size and position were not saved	Wait approximately ten seconds after making adjustments before changing or disconnection the signal or powering OFF the monitor.
Image is scrolling or unstable	Signal cable should be completely attached to the computer. Check the pin assignments and signal timmings of the monitor and your video card.
Picture bounces or a wave pattern is present in the picture	Move electrical that may be causing electrical interference away from the monitor.
Edges of the display image are curved either inward or outward	Adjust the side pin-cushion control.

FOR GERMAN

WICHTIGE HINWEISE

- Achten Sie darauf, daβ das Gerät nur in eine 240V(220V) Schuko-Steckdose eingesteckt wird.
- Die Steckdose sollte jederzeit frei zugänglich sein, um bei einem evtl. auftretenden Notfall das Gerät schnell von der Stromversorgung zu trennen.
- Achten Sie desweiteren darauf, daβ die Netzanschluβleitung nicht mechanisch beansprucht noch sonstwie beschädigt wird.
- Öffnen Sie niemals das Gerät! Im Inneren befinden sich Teile mit gefährlicher Spannung.
- Bevor Sie das Gerät reinigen, ziehen Sie bitte den Netzstecker aus der Steckdose. Säubern Sie das Gerät dann mit einem feuchten (keinesfalls tropfnassen) Lappen.
- Das Gerät ist funkentstört nach EN55022
- Bauartzulassung:
  Die in diesem Gerät entstehende Röntgenstrahlung ist ausreichend abgeschirmt (Ortsdosis in 0.1m Abstand weniger als 1.0μsv/h).
  Die Beschleunigungsspannung beträgt maximal 28KV.
- Stellen Sie das Gerät an einem ergonomisch günstigen Ort auf und sorgen Sie dafür, daβ der Betrieb des Monitors mit nach ISO9241-3.7.8 geprüfter Peripherie sichergestellt ist.
- Maschinenlärminformationsverordnung 3. GSGV, 18.01.91 : Der arbeitsplatzbezogene Schalldruckpegel beträgt 70dB(A) oder weniger gemäβ ISO 7779.

Falls Sie dennoch Fragen haben, auf die Bedienungsanleitung keine Antwork geben kann, so kontaktieren Sie bitte den nächsten Fachhändler.