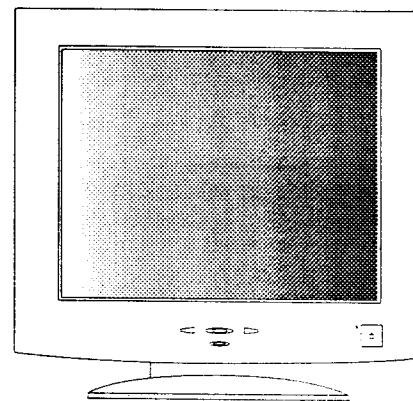


ATTACHMENT J – USER'S MANUAL

15" TFT LCD COLOR MONITOR

USER'S GUIDE MODEL NO.: LV510SN



BEFORE USING THIS COLOR MONITOR,
READ AND OBSERVE ALL OF THIS USER'S GUIDE.

Printed in Korea

P/N: M39M0057

CONTENTS

SAFETY INSTRUCTION	2
CAUTIONS	4
FCC RF INTERFERENCE STATEMENT	5
CONNECTING WITH EXTERNAL EQUIPMENT	6
RESOLUTION	7
CONTROLS AND FUNCTIONS	8
REAR VIEW	12
D-SUB CONNECTOR PIN ASSIGNMENTS	13
POWER MANAGEMENT	14
SPECIFICATIONS	15
TROUBLESHOOTING GUIDE	16
WICHTIGE HINWEISE (GERMAN)	17



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 are provided for ventilation: to ensure reliable operation of the product, 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 utilisé comme interrupteur général. La prise de courant doit être située ou installée à proximité du matériel et être facile d'accès

CAUTION TO SERVICE PERSONNEL

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

EMISSION CHARACTERISTICS TESTED BY SEMKO

THIS PRODUCT HAS BEEN TESTED AND HAS SHOWN COMPLIANCE WITH THE NATIONAL SPECIFICATIONS SUCH AS SWEDISH MPR 1990.10 (MPR 1)

CAUTIONS

▶ NEVER REMOVE THE BACK COVER

Removal of the back cover should be carried out only by qualified personnel.

▶ DO NOT USE IN HOSTILE ENVIRONMENTS

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

▶ AVOID HEAT

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

▶ TO ELIMINATE EYE FATIGUE

Do not use the unit against a bright 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.

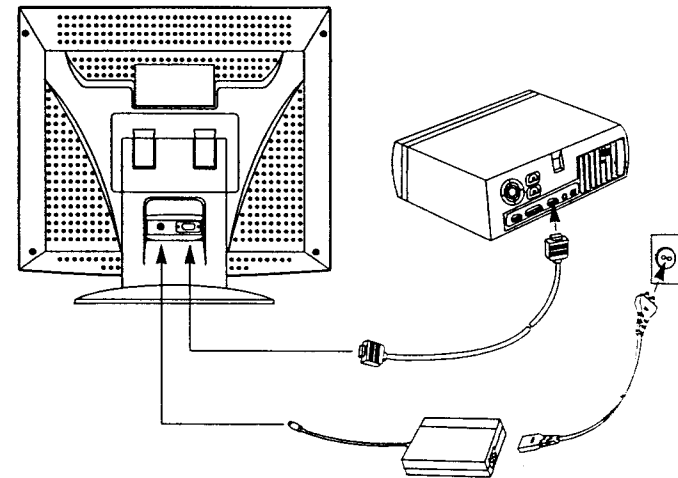
▶ AVIS DE CONFORMATION AU MDC(DOC)

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

CONNECTING WITH EXTERNAL EQUIPMENT

▶▶ CAUTION

Be sure to turn off the power of your computer before connecting the monitor.



1. CONNECT THE VIDEO SIGNAL CABLE

- A. Connect one end of the signal cable to the back panel of the monitor and connect the other end to the graphic card on back of the computer.
- B. Secure the connection with the screws on the plug.

2. CONNECT THE POWER CORD

- A. Connect the plug of the AC/DC adaptor to the monitor.
- B. Connect the female end of the power cord to the power input receptacle on the AC/DC adaptor .
Then, plug the male end of the power cord to an AC outlet or computer.

3. TURN THIS MONITOR ON AND START YOUR SYSTEM

RESOLUTION

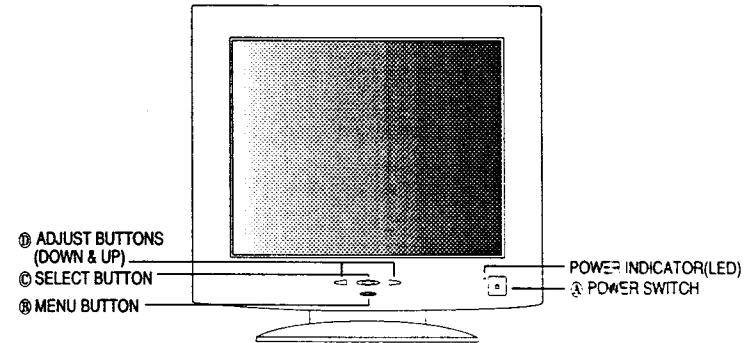
This monitor is a digitally-controlled multi-frequency monitor. It operates at horizontal frequencies of 31 to 50KHz and vertical frequencies of 60Hz.

Because of its micro processor-based designs it offers auto-synchronization and auto-sizing capabilities. This monitor offers 6 programmed settings as listed in the table below. And designs its best quality at 1024X768, 48KHz@60Hz.

These 6 preset modes cover most of the common video modes supported by popular graphic adaptors. However, each adaptors implementation of these video modes may vary slightly in timings. You may find it necessary to make minor adjustments to the display settings (i.e., horizontal position) using the On Screen Display. For further information and instructions on using the On Screen Display, please refer to "Controls and Functions."

PRESET MODES	RESOLUTION		FREQUENCY	
	H(Pixels)	V(Lines)	H(KHz)	V(Hz)
VGA	640	350	31.5	70
	720	400	31.5	70
	640	480	31.5	60
MAC	640	480	35.0	67
VESA	800	600	37.8	60
	1024	768	48.3	60

CONTROLS AND FUNCTIONS



A. POWER ON/OFF (⏻)

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

The power LED (next to the power switch) lights when the power is turned ON.

The power is turned off by pressing the power switch again and the power LED goes out.

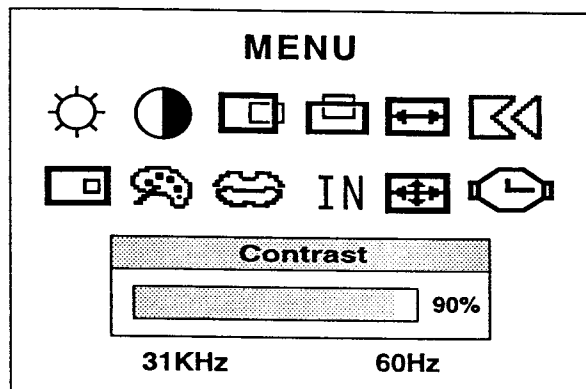
B. MENU

Activates and exits the On Screen Display. This button can also be used to move previous menu or status.

MENU: BRIGHTNESS, CONTRAST, H.POSITION, V.POSITION, H.SIZE, CLOCK-PHASE, OSD POSITION, COLOR TEMP, LANGUAGE INFORMATION, AUTO-ADJUST, OSD TIME

CONTROLS AND FUNCTIONS

MENU activates when you press the Menu button.



C. SELECT

The select button allows user to activate the desired adjustment with blinking icon.

D. ADJUST (▼, ▲)

The Adjust button allows user to choose the icons (controls) in the menu.

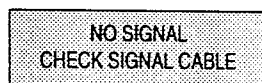
Pressing the adjust button ▼ or ▲ will step through all available adjustment icons (controls).

In addition this adjust button can be used to adjust the icons (controls) that is selected and activated (blinking) via the select button when the adjust button is pressed, the window containing an adjustment bar will increase or decrease.

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 connection, the On Screen Display will show.







CONTROLS AND FUNCTIONS

2. OSD MENU DESCRIPTION

-  : **BRIGHTNESS**
Increases(▲) or decreases(▼) the intensity(illumination) of the image.
-  : **CONTRAST**
Increases(▲) or decreases(▼) the strength(lightness or dimness) of the image.
-  : **H. POSITION (Horizontal Position)**
Moves images horizontally on screen left(▼) or right(▲).
-  : **V. POSITION (Vertical Position)**
Moves images vertically on screen up(▲) or down(▼).
-  : **H. SIZE**
Adjusts the vertical noise of screen image.
-  : **CLOCK-PHASE**
Adjusts the horizontal noise of screen image.
-  : **OSD POSITION**
Displays the OSD position menu.
Moves the OSD position to up/down or left/right.
-  : **COLOR TEMP**
Adjusts color temperature to 9300K, 6500K(notes : 9300K is factory default).
Or, for a custom color mode, select "USER" and keep pressing select key to activate the RGB Sub-menu.
This adjust the intensity of the RGB video output. Using the select button activate(blinking) the R-GAIN(Red Gain), G-GAIN(Green Gain) or B-GAIN(Blue Gain) and change color strength for a customized color mode.

CONTROLS AND FUNCTIONS

-  : **LANGUAGE**
Selects a language among ENGLISH, GERMAN, FRENCH, SPANISH, PORTUGUESE.
-  : **INFORMATION**
Displays the current mode and vertical frequency.
-  : **AUTO-ADJUST**
Automatically adjusts the contrast, the image position, and the clock-phase settings.
-  : **OSD TIME**
Selects the OSD display timing.

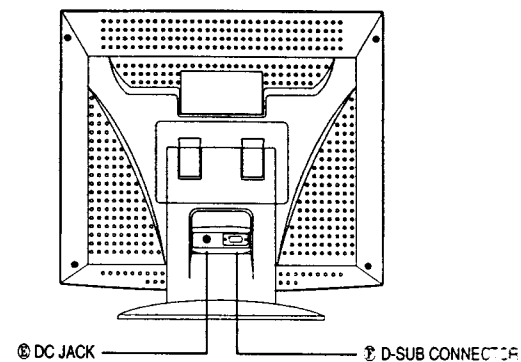
REAR VIEW

E. DC JACK

AC/DC adaptor connection.

F. D-SUB CONNECTOR

Connect to the video signal cable.



► AC/DC ADAPTOR



1	GROUND
2	DC+12V out

► ACCESSORY

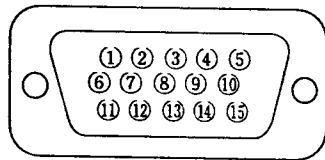
1. POWER CORD
2. INSTRUCTION MANUAL
3. AC/DC ADAPTOR
4. VIDEO SIGNAL CABLE

D-SUB CONNECTOR PIN ASSIGNMENTS

► PIN ASSIGNMENTS

Pin 1	RED VIDEO	9	
2	GREEN VIDEO	10	GROUND
3	BLUE VIDEO	11	
4		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



POWER MANAGEMENT

This monitor features a power management system to "power down" upon receipt of the VESA DPMS(The display power management signaling) from a VESA DPMS video card.

The VESA DPMS-compliant video card performs this signaling system through not sending horizontal, vertical, or sync signal.

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

POWER CONSUMPTION

MODE	POWER CONSUMPTION
ON	< 35W
STANDBY	< 5W
SUSPEND	< 5W
ACTIVE OFF	< 5W

LED INDICATOR

The power management feature of the monitor is comprised of four stages : On(Green), Standby, Suspend, Active off(Amber blinking) and Not preset mode(Amber).

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

SPECIFICATIONS

- ▶ **LCD Type**
15.0" Diagonal AM-TFT(Active-Matrix)
DOT PITCH: 0.297mm
BRIGHTNESS: 200cd/m²(Typical)
CONTRAST RATIO: 200:1(Typical)
RESPONSE TIME: 30 msec(Typical)
- ▶ **RESOLUTION(H x V)**
1024X768 @60Hz
- ▶ **FREQUENCY**
HORIZONTAL: 31-50KHz
VERTICAL: 60Hz
- ▶ **VIDEO DOT RATE**
65MHz
- ▶ **INPUT SIGNAL**
VIDEO(Analog 0.7Vp-p / 75 Ω)
SYNC(Separate and Composite TTL Level)
- ▶ **ACTIVE DISPLAY AREA (W x H)**
304mm X 228mm
- ▶ **DIMENSIONS (W x D x H)**
487mm X 250mm X 465mm (Carton Box)
- ▶ **WEIGHT**
Net Weight : 5.3Kg
Gross Weight : 7.5Kg
- ▶ **POWER SUPPLY**
INPUT: AC100 - 240Vac, 50/60Hz (auto switching)
OUTPUT: DC12V, 3.5A

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

TROUBLESHOOTING GUIDE

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

WICHTIGE HINWEISE

- ▶ Achten Sie darauf, daß 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, daß die Netzanschlusßleitung 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 funktentstört nach EN55022
- ▶ Bauartzulassung:
Die in diesem Gerät entstehende Röntgenstrahlung ist ausreichend abgeschirmt (Ortsdosis in 0.1m Abstand weniger als 1.0µS/jhr).
Die Beschleunigungsspannung beträgt maximal DC12V.
- ▶ Stellen Sie das Gerät an einem ergonomisch günstigen Ort auf und sorgen Sie dafür, daß 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 gemäß ISO 7779.

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