

USER'S MANUAL

**15" DIGITAL COLOR MONITOR
DIGITALE R 15"-FARBMONITOR
MONITEUR COULEUR NUMÉRIQUE À 15"
MONITOR DIGITAL A COLOR**

FCC ID : AMPLS1A

Operation Instructions

Thank you for purchasing this LCD monitor!
Please read this guide thoroughly before installation.

FCC RADIO FREQUENCY INTERFERENCE STATEMENT WARNING: (FOR FCC CERTIFIED MODELS)

This monitor has been tested and found compliant with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide proper protection against harmful interference to a residential installation. This monitor generates, uses, and can radiate radio frequency energy. Harmful interference to radio communication may be led as a result if it's not properly installed and used. However, there is no guarantee that interference will not occur in a particular installation. If this monitor does cause serious interference to radio or television reception, resetting the monitor may determine it. Moreover, users are encouraged to correct interference by doing one or more of the following:

- Reorient or relocate the receiving antenna.
- Move the monitor and the receiver further away from each other.
- Connect the monitor into an outlet on a circuit different from that to which the receiver is connected.
- Consult your local dealer or an qualified technician.

FCC Warning:

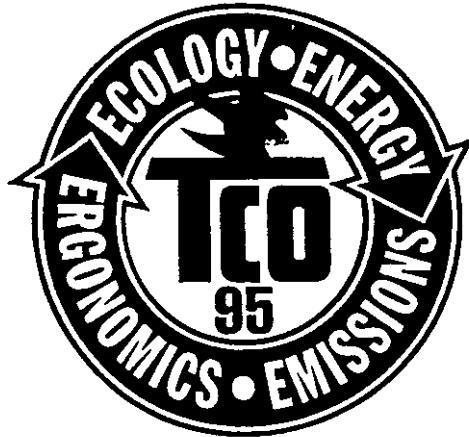
To assure a continued FCC compliance, a user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to this monitor would void the user's authority to operate this device.

EMI Certification

The Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulation.

Cet appareil numerique de class B respecte toutes les exigences du Reglement sur le materiel brouilleur du Canada.

*Page 1-2 stands for TCO'95 models only. Please see back label for model distinction.



Congratulations! You have just purchased a TCO'95 approved and labeled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also, to the further development of environmentally adapted electronics products.

Why do we have environmentally labeled computers?

In many countries, environmental labeling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during the manufacturing. Since it has not been possible for the majority of electronics equipment to be recycled in a satisfactory way, most of these potentially damaging substances sooner or later enter Nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Since all methods of conventional electricity generation have a negative effect on the environment (acidic and climate-influencing emissions, radioactive waste, etc.), it is vital to conserve energy. Electronics equipment in offices consume an enormous amount of energy since they are often left running continuously.

What does labeling involve?

This product meets the requirements for the TCO'95 scheme which provides for international and environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Naturskyddsforeningen (The Swedish Society for Nature Conservation) and NUTEK (The National Board for Industrial and Technical Development in Sweden).

The requirements cover a wide range of issues: environment, ergonomics, usability, emission of electrical and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands concern restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons) and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental plan which must be adhered to in each country where the company implements its operational policy.

The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the computer shall be reasonable for the user.

Labeled products must meet strict environmental demands, for example, in respect of the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

On the back page of this folder, you will find a brief summary of the environmental requirements met by this product. The complete environmental criteria document may be ordered from:

TCO Development Unit

S-114 94 Stockholm

Sweden

Fax: +46 8 782 92 07

Email (Internet): development@tco.se

Current information regarding TCO'95 approved and labelled products may also be obtained via the Internet, using the address:

<http://www.tco-info.com/>

TCO'95 is a co-operative project between TCO (The Swedish Confederation of Professional Employees), Naturskyddsforeningen (The Swedish Society for Nature Conservation) and NUTEK (The National Board for Industrial and Technical Development in Sweden).

Environmental Requirements

Brominated flame retardants

Brominated flame retardants are present in printed circuit boards, cables, wires, casings and housings. In turn, they delay the spread of fire. Up to thirty percent of the plastic in a computer casing can consist of flame retardant substances. These are related to another group of environmental toxins, PCBs, which are suspected to give rise to similar harm, including reproductive damage in fish-eating birds and mammals, due to the bio-accumulative* processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

TCO'95 demand requires that plastic components weighing more than 25 grams must not contain organically bound chlorine and bromine.

Lead**

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning.

TCO'95 requirement permits the inclusion of lead since no replacement has yet been developed.

Cadmium**

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses.

TCO'95 requirement states that batteries may not contain more than 25 ppm (parts per million) of cadmium. The colour-generating layers of display screens must not contain any cadmium.

Mercury**

Mercury is sometimes found in batteries, relays and switches. Mercury damages the nervous system and is toxic in high doses.

TCO'95 requirement states that batteries may not contain more than 25 ppm (parts per million) of mercury. It also demands that no mercury is present in any of the electrical or electronics components concerned with the display unit.

CFCs (freons)

CFCs (freons) are sometimes used for washing printed circuit boards and in the manufacturing of expanded foam for packaging. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on Earth of ultraviolet light with consequent increased risks of skin cancer (malignant melanoma).

The relevant TCO'95 requirement: Neither CFCs nor HCFCs may be used during the manufacturing of the product or its packaging.

* Bio-accumulative is defined as substances which accumulate within living organisms

** Lead, Cadmium and Mercury are heavy metals which are Bio-accumulative.

TABLE OF CONTENTS

General Description.....	4
Features.....	5
OSD Function.....	7
Signal Timing.....	9
Safety Precautions.....	10
D-SUB Connector.....	11
Specifications.....	12

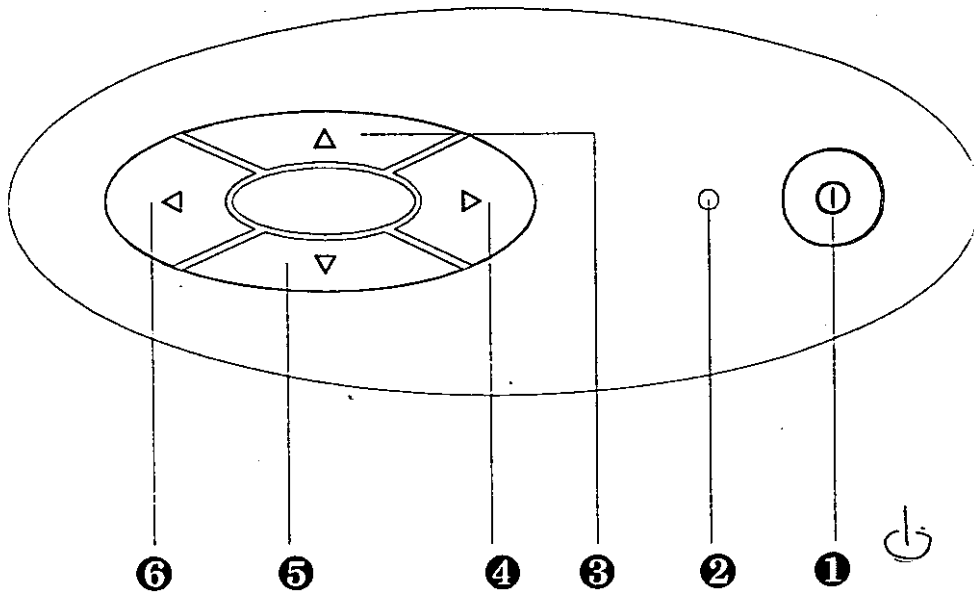
GENERAL DESCRIPTION

This LCD monitor is a microprocessor controlled multi-frequency system device. It is compatible with many standard graphic formats, including VGA, SVGA, and XGA. The key features include:

- Support for graphic cards with VESA compatible DDC1/2B (Display Data Channel 1/2B) interface for monitor-to-PC communication.
- Easy to use On Screen Display (OSD) adjustment interface.
- Support EPA, NUTEK A/B, VESA compatible 4-staged power management systems.

FEATURES

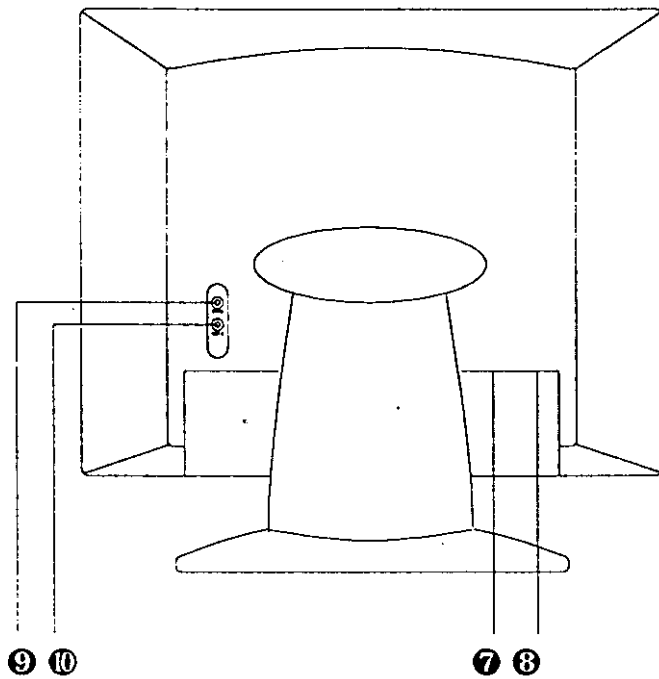
A. Front Exterior



- ❶ POWER ON/OFF
- ❷ POWER INDICATOR
- ❸ SCROLL UP

- ❹ INCREASE
- ❺ SCROLL DOWN
- ❻ DECREASE

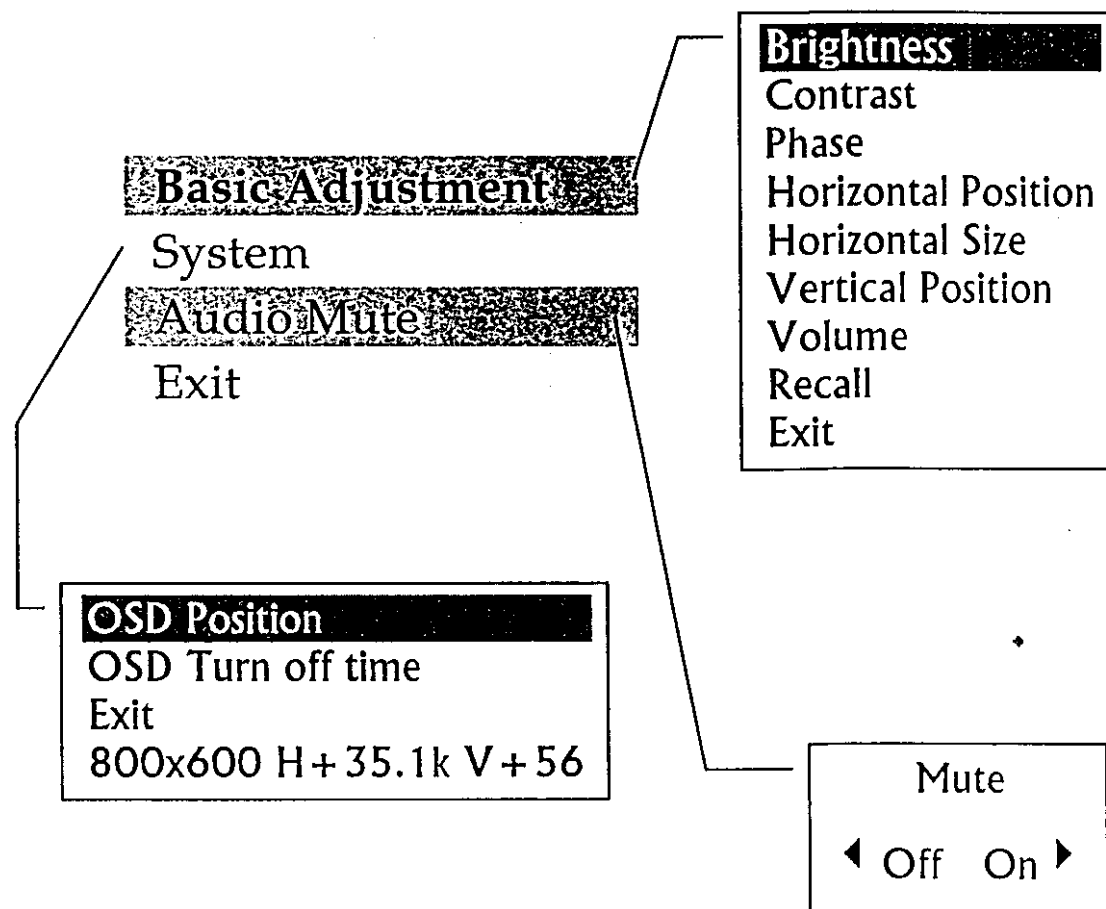
B. Installation



- ⑦ 12 V DC SUPPLY INPUT (power cable)
- ⑧ SIGNAL CABLE (computer cable)
- ⑨ EARPHONE
- ⑩ AUDIO IN

USING OSD FUNCTIONS

- Press $\blacktriangle$, $\blacktriangledown$ to activate OSD functions and scroll with $\blacktriangleleft$, $\blacktriangleright$ buttons and adjust the value.
- OSD Main Menu and Sub menus:



● **Function Description:**

Brightness	Controls the brightness of the image.
Contrast	Controls the contrast between the foreground and the background.
Phase	Controls the phase lock loop to stabilize the image.
Horizontal Position	Press ◀ and ▶ to adjust the horizontal position and size of the image.
Horizontal Size	
Vertical Position	Press ◀ and ▶ to adjust the vertical position of the image.
Volume	Controls the volume of the speakers.
OSD Position	Controls the position of the OSD menu display. Choose one from Top Right, Top Left, Center, Bottom Right.
OSD Turn off time	Select one from 15, 30, 60, 120 seconds.
Exit	Scroll here in any menu to close.

SIGNAL TIMING

This monitor has 10 factory preset timing modes.

Horizontal Resolution	Vertical Resolution	Horizontal Refresh rate	Vertical Refresh rate	Pixel
640	480	31.5 Khz	60 Hz	25.175 Mhz
640	480	37.9 Khz	72 Hz	31.500 Mhz
640	480	37.5 Khz	75 Hz	31.500 Mhz
800	600	35.1 Khz	56 Hz	36.000 Mhz
800	600	37.9 Khz	60 Hz	40.000 Mhz
800	600	48.1 Khz	72 Hz	50.000 Mhz
800	600	46.9 Khz	75 Hz	49.500 Mhz
1024	768	48.4 Khz	60 Hz	65.000 Mhz
1024	768	56.5 Khz	70 Hz	75.000 Mhz
1024	768	60.0 Khz	75 Hz	78.750 Mhz

SAFETY PRECAUTIONS

This monitor is manufactured and tested on a ground principle that a user's safety comes first. However, improper use or installation may cause damage to the monitor as well as to the user. Carefully go over the following WARNINGS before installation and keep this guide handy.

WARNINGS:

- ◆ This monitor should be operated only at the correct power sources indicated on the label on the rear end of the monitor. If you're unsure of the power supply in your residence, consult your local dealer or power company.
- ◆ Do not try to repair the monitor yourself as it contains no user-serviceable parts. The monitor should only be repaired by a qualified technician.
- ◆ Do not remove the monitor cabinet. There is high-voltage parts inside that may cause electric shock to human bodies, even when the power cord is disconnected .
- ◆ Stop using the monitor if the cabinet is damaged. Have it checked by a service technician.
- ◆ Put your monitor only in a clean, dry environment. Unplug the monitor immediately if gets wet and consult your service technician.
- ◆ Always unplug the monitor before cleaning it. Clean the cabinet with a clean, dry cloth. Apply non-ammonia based cleaner onto the cloth, not directly onto the glass screen.
- ◆ Keep the monitor away from magnetic objects, motors, TV sets, and transformer.
- ◆ Do not place heavy objects on the cable or power cord.

Specifications

LCD Panel

14.5" TFT
15.1" TFT

Power Management

Energy Star compliant VESA
DPMS compatible
< 5 W

Displayable Resolution

XVGA 1024 x 768 max.

Pixel Dimension

0.288 x 0.288 mm (14.5")
0.300 x 0.300 mm (15.1")

LCD Display Color

262, 144 Color Max. (18 bit)

Viewing Angle

	15.1" (typical)	14.5" (typical)
	CR ≥ 5	CR ≥ 10
Horizontal	-80° + 80°	-60°, + -60°
Vertical	-55° + 60°	-50° + 55°
Tilt	+20°, -5°	

Tilt

Contrast Ratio
Brightness

200 : 1 (14.5") ; 300 : 1 (15.1")
200 cd/m² (14.5") ; 250 cd/m² (15.1")

Response Time

28 ms (typical)

Active Display Area

294.9 mm x 221.2 mm (14.5")
307.2 mm x 230.4 mm (15.1")

Temperature

Operating: 0°C ~ + 35°C
Storage: -20°C ~ + 60°C

Compliance

UL, TUV, CE, FCC-B, Energy Star, TCO (check back label)

Power

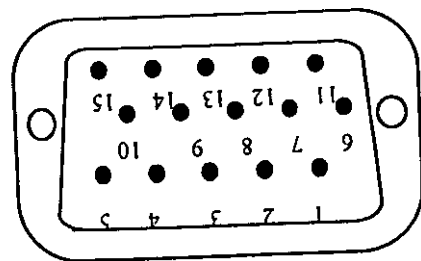
Voltage 100-240 V
Consumption 30 Watts (TYP)

Weight

Net 5.5 kgs
Gross 7.5 kgs

D-SUB CONNECTOR

15-PIN D-SUB CONNECTOR



- | | | |
|--------|---------|-------------|
| 1. R | 6. GND | 11. GND |
| 2. G | 7. GND | 12. SDA |
| 3. B | 8. GND | 13. H. SYNC |
| 4. GND | 9. NC | 14 V. SYNC |
| 5. NC | 10. GND | 15. SCL |

SIGNAL LEVEL

CONNECTOR	SIGNAL	DESCRIPTION
R	RED	0.7 VP-P(VIDEO)
G	GREEN	0.7 VP-P(VIDEO)
B	BLUE	0.7 VP-P(VIDEO)
H	H/SYNC	TTL positive or negative
V	V/SYNC	TTL positive or negative
SDA	DDCI/2B	TTL
SCL	DDCI/2B	TTL