Operation Instructions

Thank you for purchasing this 17”, a high-resolution multi-scan color 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.

If necessary, shielded interface cables and A.C. power cord must be used to meet the emission level limits.

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.

*Page1-2 stand for TCO'99 model only. Please See back label for model

Congratulations!

You have just purchased a TCO'99 approved and labelled 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 labelled computers?

In many countries, environmental labelling 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 their manufacture. Since it is not so far possible to satisfactorily recycle the majority of electronics equipment, 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 electricity generation have a negative effect on the environment (e.g. acidic and climate-influencing emissions, radioactive waste), it is vital to save energy. Electronics equipment in offices is often left running continuously and thereby consumes a lot of energy.

What does labelling involve?

This product meets the requirements for the TCO'99 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), Svenska Naturskyddsforeningen (The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).

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

The environmental demands impose 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 policy 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.

Labelled 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

SE-114 94 Stockholm, Sweden

Fax: +46 8 782 92 07
Email (Internet): development@tco.se
Current information regarding TCO'99 approved and labelled products may also be obtained via the Internet, using the address: http://www.tco-info.com/

Flame retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. Their purpuse is to prevent, or at least to delay the spread of fire. Up to 30% of the plastic in a computer casing can consist of flame retardant substances. Most flame retardants contain bromine or chloride, and those flame retardants are chemically related to another group of environmental toxins, PCBs. Both the flame retardants containing bromine or chloride and the PCBs are suspected of giving rise to severe health effects, 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.

The relevant TCO'99 demand requires that plastic components weighing more than 25 grams must not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed circuit boards since no substitutes are available.

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. The relevant TCO'99 requirement states that batteries, the colour-generating layers of display screens and the electrical or electronics components must not contain any cadmium.

Mercury**

Mercury is sometimes found in batteries, relays and switches. It damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries may not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labelled unit.

CFCs (freons)

The relevant TCO'99 requirement states that neither CFCs nor HCFCs may be used during the manufacture and assembly of the product.CFCs (freons) are sometimes used for washing printed circuit boards. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on earth of ultraviolet light with e.g. increased risks of skin cancer (malignant melanoma) as a consequence.

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. The relevant TCO´99 requirement permits the inclusion of lead since no replacement has yet been developed.

GENERAL DESCRIPTION

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

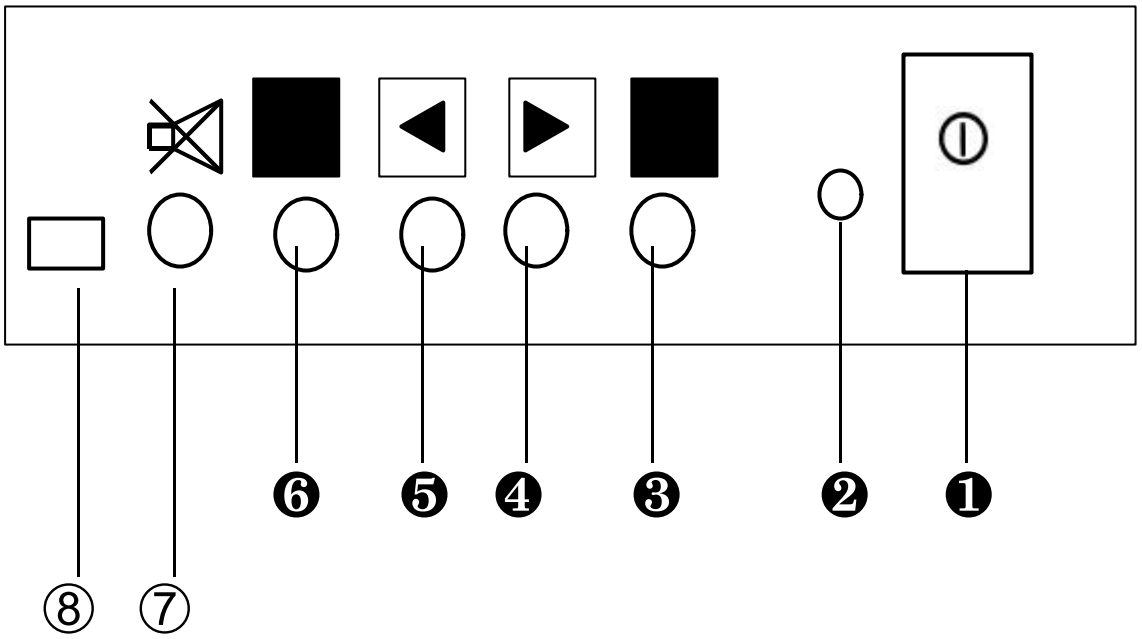
** *Lead, Cadmium and Mercury are heavy metals which are Bio-accumulative.*

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

- 17” CRT color display with resolutions up to 1280x1024 pixels.
- 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.
- Supports EPA, NUTEK A/B, VESA compatible 4-staged power management systems.

FEATURES

A. Front Panel

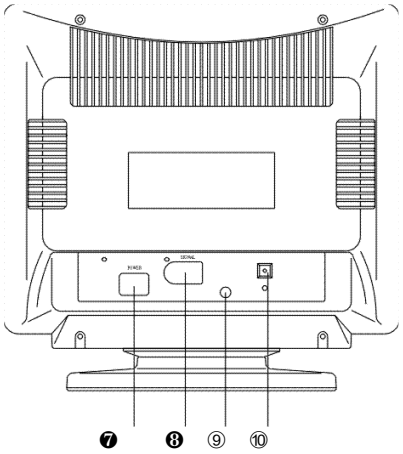


❶ POWER ON / OFF SWITCH
❷ POWER ON / OFF INDICATOR
❸ FUNCTION 2
❹ INCREASE BUTTON
❺ DECREASE BUTTON
❻ FUNCTION 1

Features ⑦ and ⑧ are exclusive on Multimedia models.

⑦ AUDIO MUTE
⑧ AUDIO MUTE LED

B. Rear Exterior



❼ AC SOCKET
❽ 15 PIN D-TYPE CONNECTOR

Features ⑨ and ⑩ are exclusive on Multimedia models.
⑨ AUDIO IN
⑩ MICROPHONE OUT

FUNCTION

A. External Control

SYMBOL	ITEM	DESCRIPTION
	❶ Power switch	-Controls Power on / off.
	❷ Power Indicator	-Green light gives confirmation of power on. Orange light gives confirmation of power saving mode.
	❸ Active function	-Press to activate selected functions / sub-menu.
	❹ Increase	-Press to select function items toward right. -Increases function parameter.
	❺ Decrease	-Press to select function items toward left. -Decreases function parameter.
	❻ OSD on / off	-Activates / Inactivates OSD functions
	⑦ Audio Mute	-Mute audio output. (Multimedia models only)
	⑧ Audio Mute Indicator	- Green light gives confirmation of audio muted. (Multimedia models only)

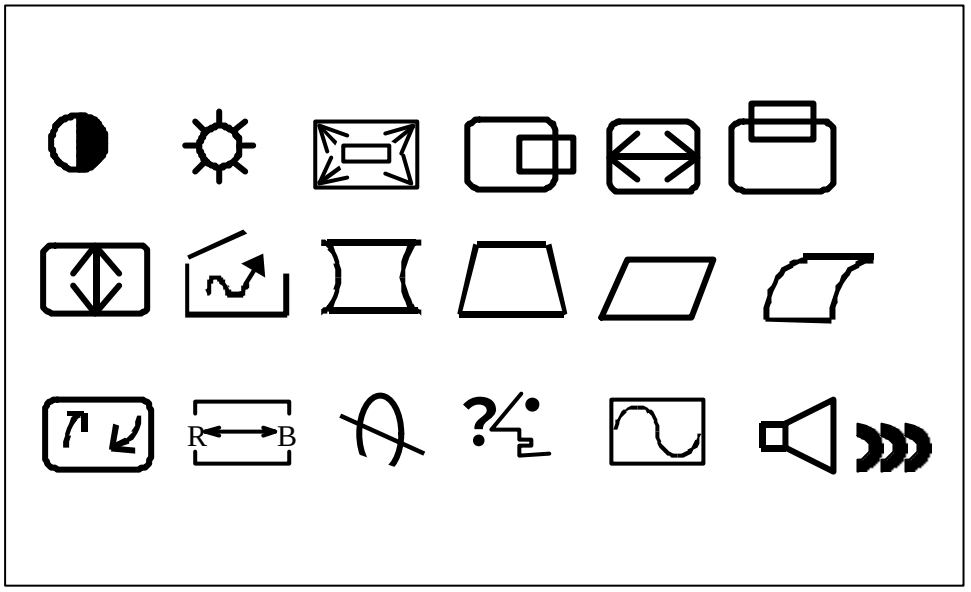
B. Digital Features

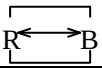
1. This monitor has an adapted advance CPU to control the Contrast, Brightness, Zoom, H-phase, H-size, V-center, V-Size, Pincushion, Trapezoid, Parallelogram, Pin-balance, Rotation, Color temperature. It also auto saves the configuration set up by users.
2. This monitor has 12 sets of factory preset timing and 16 sets of user definable timing.

USING OSD FUNCTIONS

- Press **1** **2** function buttons to activate OSD functions and adjust with ◀ ▶ to change function parameter.

- OSD icons:



ICON	ITEM	DESCRIPTION
	CONTRAST	Increases / decreases video gain.
	BRIGHTNESS	Increases / decreases raster black level.
	ZOOM	Zoom In or Zoom Out the video pattern.
	HORIZONTAL PHASE	Adjusts the H-phase of the picture.
	HORIZONTAL WIDTH	Adjusts the H-width of the picture.
	VERTICAL POSITION	Adjusts the vertical placement of the picture .
	VERTICAL HEIGHT	Adjusts the vertical size of the picture .
	RECALL	When use PRESET MODE press - or + to recall the factory default .
	PINCUSHION	Controls the side distortion.
	TRAPEZIOD	Controls the top of the H-width equal to the bottom of the picture .
	PARALLELOGRAM	Controls the vertical line on both sides to become slope and symmetry.
	PIN-BALANCE	Controls the vertical line on both sides to become parabola and symmetry.
	ROTATION	Controls the tilt of the display image .
	COLOR TEMPERATURE	Selects color temperature & adjust user color mode.
	DEGAUSS	Degausses the screen.
	LANGUAGE	Multi-language select. Use - and + key to select OSD display language.
	MODEL DISPLAY	Shows current horizontal & vertical frequency & mode type.
	AUDIO VOLUME	Controls the audio volume. (Multimedia models only)

***There's no pin-balance control in multimedia models.**

Timing modes of 72KHz

Industry	640 x 350 @ 70HZ
Industry	640 x 480 @ 60HZ
VESA	720 x 400 @ 70HZ
VESA	640 x 480 @ 75HZ
VESA	720 x 400 @ 85HZ
VESA	640 x 480 @ 85HZ
VESA	800 x 600 @ 72HZ
VESA	800 x 600 @ 75HZ
VESA	1024 x 768 @ 60HZ
VESA	800 x 600 @ 85HZ
VESA	1024 x 768 @ 75HZ
VESA	1024 x 768 @ 85HZ

Timing modes of 87KHz

VGA	640 x 400 @ 70HZ
VESA	640 x 480 @ 85HZ
VESA	800 x 600 @ 75HZ
VESA	800 x 600 @ 85HZ
VESA	1024 x 768 @ 75HZ
VESA	1024 x 768 @ 85HZ
VESA	1280 x 1024 @ 60HZ
VESA	1280 x 1024 @ 75HZ
VESA	1600 x 1200 @ 65HZ
Macintosh	832 x 624 @75HZ
Macintosh	1024 x 768 @75HZ
Macintosh	1152 x 870 @75HZ

USER TIMING MODE SETUP

The monitor is capable of storing up to 28 modes for total, with 12 factory programmed, this leaves 16 available set spaces for users.

To successfully install a new timing mode, some certain things have to be considered.
The new mode must have a horizontal frequency difference of 1 KHz. Minimum or a vertical frequency difference of 3Hz. minimum from any single mode previously installed. For example:

Assuming the timing requirements are met, the new mode is automatically installed when the monitor is connected to the signal source. Thus the front panel controls for horizontal / vertical display and position can be adjusted. The last made horizontal / vertical adjustment last will always be stored with the current timing mode.

After 16 user modes are installed, the first installed ones will be removed when any more modes are added. However, the factory preset modes will not be affected.

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 result danger 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.

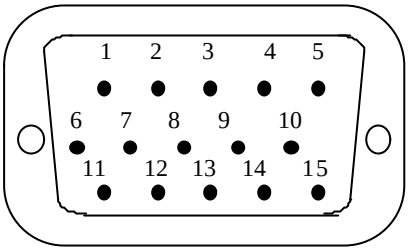
- Always unplug the monitor before cleaning it. Clean the cabinet with a clean, dry cloth. Apply non-ammonia based cleaner onto the cloth, not directly onto the glass screen.

- Keep the monitor away from magnetic objects, motors, TV sets, and transformer.

- Do not place heavy objects on the cable or power cord.

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	DDC1/2B	TTL
SCL	DDC1/2B	TTL

SPECIFICATIONS

CRT	Size Viewable Size Dot Pitch Deflection	17-Inch Diagonal Flat Square Type Specified on carton box. Specified on carton box. 90°
Display	Size Color Resolution Pixel Rate	300mm x 225mm. Unlimited Colors Up to 1280 x 1024 110 MHz
Input Signal	Video Signal Sync. Signal Scanning Freq.	RGB Analogue 0.7 Vpp 75 Ohms H/V. Separated, TTL. Level Positive or Negative. 30 KHz to 70 KHz for Horizontal 50 Hz to 120 Hz for Vertical
Power Source	Power Supply Power Consumption	AC 100-240 V, 60 Hz/50 Hz. 120W Max.
Dimensions		Specified on carton box.
Weight		Specified on carton box.

POWER MANAGEMENT

The Power Management states are controlled by the presence and /or absence of horizontal and vertical sync signals according to the following:

State	H. Sync.	V. Sync.	Power (nominal)	LED
ON	ON	ON	<100 WATTS	GREEN
STANDBY	OFF	ON	<15 WATTS	ORANGE
SUSPEND	ON	OFF	<15 WATTS	ORANGE
OFF	OFF	OFF	<05 WATTS	ORANGE