

Page1-2 stands for
TCO'99 model only.
Please see back label
for model distinction.



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/>

Environmental requirements

Flame retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. Their purpose 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

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

requirement states that batteries, the color-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.

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

Operation Instructions

Thank you for purchasing this monitor, 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.

Note: If necessary, shielded interface cables and AC 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 numérique de class B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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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.
- ◆ For PLUGGABLE EQUIPMENT, the Socket-outlet shall be installed near the equipment and shall be easily accessible.

First Setup

Congratulation for purchasing this monitor of high performance!

This monitor comes with the following accessories :

- ❖ Video cable with 15 pin D-SUB connector.
- ❖ Power cable.
- ❖ Power adapter.
- ❖ User guidebook or CD-ROM (You're reading now)

Quick Installation

1. Connect video cable

Make sure both the monitor and computer are powered OFF. Connect the video cable to the computer, then to the monitor.

2. Connect power cord

Connect the power cord to a properly grounded AC outlet, then to the monitor.

3. Power-ON computer and monitor

Power-ON the computer, then Power-ON the monitor.

4. Windows users : Setting the Timing Mode (Resolution and Refresh Rate)

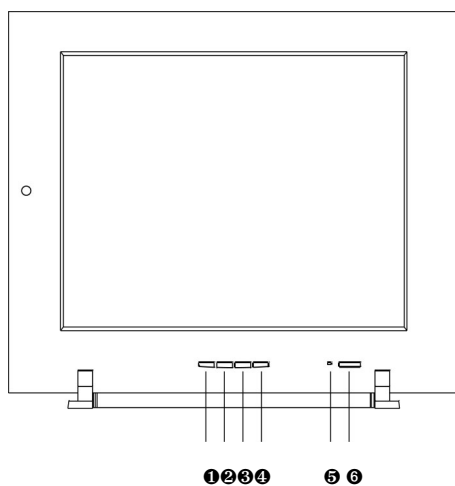
Example: 800 x 600 @ 75 Hz

Resolution Right-click on the Windows desktop > Properties > Settings > "Desktop Area". Set the resolution.

Refresh Rate (vertical frequency) See your graphic card's user guide for instructions.

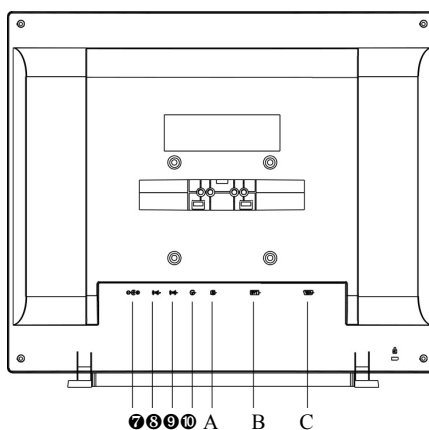


Front Panel Control



- | | | | |
|---|----------------------|---|-------------------------|
| ① | ACTIVATE/EXIT OSD | ④ | SELECT DESIRED FUNCTION |
| ② | SCROLL DOWN/DECREASE | ⑤ | LED INDICATER |
| ③ | SCROLL UP/INCREASE | ⑥ | POWER ON/OFF |

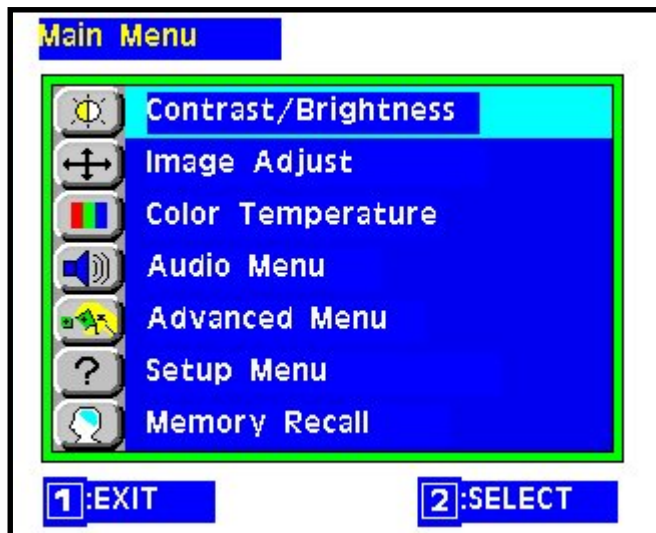
Installation



- ⑦ POWER INLET (12VPC)
- ⑧ AUDIO OUPUT
- ⑨ AUDIO INPUT
- ⑩ COMPOSITE VIDEO INPUT
- A. S-VIDEO INPUT
- B. DVI TMDs SIGNAL INPUT
- C. VGA RGB SIGNAL INPUT

Using OSD Functions

1. Press the ① button to display the main menu shown below.
2. Press the ▲ or ▼ button to scroll to the desired menu option.
3. Press the ② button to select the menu option.
4. Press the ▲ or ▼ button to select submenu option.
5. After making adjustment, press ① button to save changes and exit the screen.



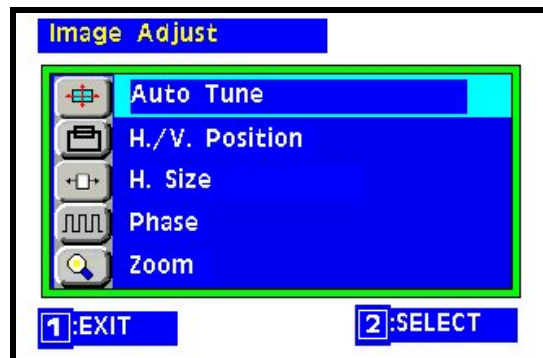
Contrast : To adjust the foreground white level of screen image.


▲ : increase contrast, ▼ : decrease contrast

Shortcut : before displaying the menu, press the ▲ or ▼ button to adjust, press button ② to toggle between contrast and brightness.

Brightness : to adjust the background black level of screen image.

▲ : increase brightness, ▼ : decrease brightness



 **Auto Tune:** automatically sizes, centers, and fine tunes the video signal to eliminate waviness and distortion. Press the ② button to obtain a sharper image.

NOTE: Auto tune works with most common video cards. If using this function does not work on your monitor, lower the video refresh rate to 60 Hz and try again (See computer or graphic card user guide to adjust refresh rate.) The panel may be manually tuned using the horizontal and vertical phase controls shown below.

 **H/V Position:** Press button ② to select H. or V. position.


Horizontal Position moves screen image left or right.

▲ : moves screen to right, ▼ : moves screen to left.


Press the button ② to toggle between H. or V. Position.

Vertical Position moves screen image up or down.

▲ : moves screen to up, ▼ : moves screen to down.

 **H. Size** adjusts the width of screen image. ▼ decreases

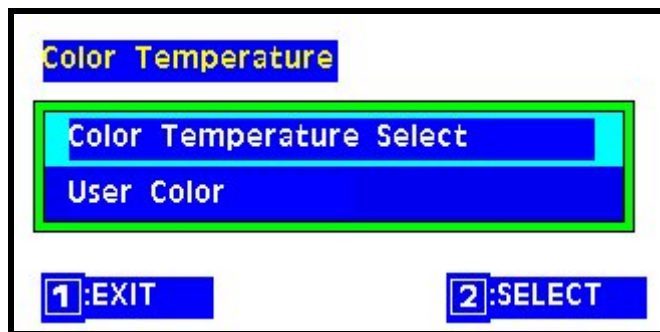
width of screen image, ▲ increases width of screen image.

 **Phase** fine tunes the video distortion. Press ▼ or ▲ to adjust

to user preference.



Zoom magnifies the displayed image. Press the ② button to select. Press ▼ or ▲ button to change the center of magnification.



Color Temperature provides four preset color adjustments: 9300K, 6500K, 5400K, 5000K for improved brightness and color saturation. Press button ② to select the preset color.

9300K--Adds blue to screen image for cooler white.

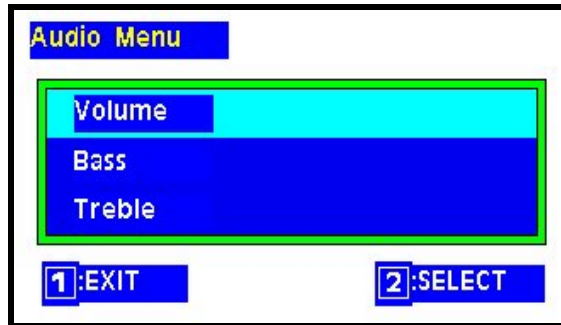
6500K--Adds to screen image for warmer white and richer red.

5400K--Adds green to screen image for a darker color.

5000K--Adds blue and green to screen image for a darker color.

User Color--Individual adjustments for red(R), green (G), blue (B).

1. Press button ② to set adjustment and select next color to adjust.
2. Press ▼ or ▲ button to adjust selected color.



*This menu is only for available the monitor with audio option.

Volume Press button ② to select volume.

Press ▼ or ▲ button to set adjustments.

Bass Press button ② to select bass

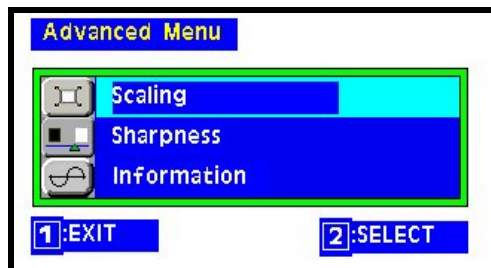
▼ : decrease the low frequency audio output.


▲ : increase the low frequency audio output.

Treble Press button ② to select treble.

▼ : decrease the high frequency audio output.

▲ : increase the high frequency audio output.



 **Scaling** adjusts the input video signal to the screen size using the following options. Press ▼ or ▲ button to select from the following options:

Fill All adjusts the video signal to fill the screen.

Fill Aspect Ratio maintains the correct video signal proportions for different resolution.

1:1 adjusts the screen image to original input resolution.



Sharpness adjusts the clarity of a non-SXGA (1280x1024)

signal. Press ▼ or ▲ button to adjust.

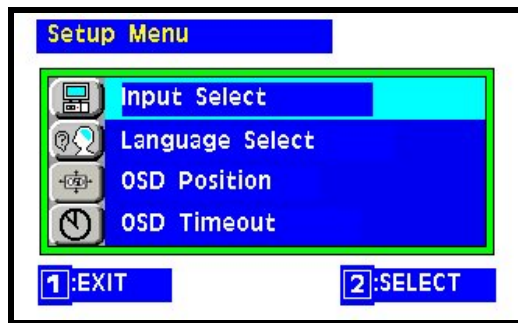
Note: Sharpness control option is only available with non-SXGA resolutions.



Information displays information regarding the current input

signal coming from the graphic card in your computer.

Note: See your graphic card user guide for more information about changing the resolution and refresh rate.



Input Select allows the user to select the current signal from

the following choices: analog RGB (15 pin) input, digital TMDS (24 pin), or Composite/S video input.

Press the ▼ or ▲ button to select one from those input.

Note: check your monitor whether with those input options or not.



Language Select allows the user to choose from available

languages.




OSD Position Press the ⌂ button to select the horizontal or

vertical OSD position.


Horizontal OSD Position horizontally repositions all OSD screens. ▲ moves OSD right, ▼ moves OSD left.

Vertical OSD Position vertically repositions all OSD screen. ▲ moves OSD up, ▼ moves OSD down.

 **OSD Timeout** sets the length of time the Onscreen Display screen is displayed before exiting.

 **Memory Recall**

Return the adjustments back to factory settings.

Press the button  to select the Memory Recall menu option.

Supporting Timing modes

VESA	720 x 400 @ 70HZ
VESA	640 x 480 @ 60HZ
VESA	640 x 480 @ 72HZ
VESA	640 x 480 @ 75HZ
VESA	640 x 480 @ 85HZ
VESA	800 x 600 @ 56HZ
VESA	800 x 600 @ 60HZ
VESA	800 x 600 @ 72HZ
VESA	800 x 600 @ 75HZ
VESA	800 x 600 @ 85HZ
VESA	1024 x 768 @ 60HZ
VESA	1024 x 768 @ 70HZ
VESA	1024 x 768 @ 75 Hz
VESA	1024 x 768 @ 85 Hz
VESA	1280 x 1024 @ 60HZ
VESA	1280 x 1024 @ 75HZ
MAC	1152 x 864 @ 75HZ

Warning : Do not set the graphic card in your computer to exceed these maximum refresh rates. Doing so may result in permanent damage to your monitor.

Technical Information

LCD	Type	17.0" TFT
	Color filter	SXGA Active Matrix, 0.264mm pixel pitch
	Glass surf.	RGB, vertical stripe Antic-static & hard coating
Input Signal	Analog	RGB Analog (0.7 – 1.0Vpp, 75 ohms) Separate H/V (TTL) , Fh:30 – 80kHz, Fv:50 – 85Hz
	Digital Video	VESA® Digital Video, DVI adapter (option) Composite/S video: NTSC, PAL (option)
Compatibility		1280x1024@ 60Hz (recommended)
Power		90 – 264 VAC 50/60 Hz, 50Watts (Maximum)
Audio		350 – 20 kHz (option)
LCD Display Color		16.7M(8 bits/color)
Viewing Angle		CR ≥ 10
	Horizontal	-80° + 80°(typical)
	Vertical	-80° + 80°(typical)
Dimensions		446mm(W)x393mm(H)x152mm(D)
Contrast Ratio		200 : 1 (typical)
Brightness		170 cd/m2 (typical)
Response Time		Tr=34 ms (typical) Tf=39 ms (typical)
Active Display Area		337.92 mm x 270.34 mm
Operating Conditions		Operating temperature: 0°C ~ +40°C Storage temperature: -20°C ~ + 60°C
Compliance		UL, TÜV/GS, CE, FCC-B, TCO99, Energy Star.
Power Savings★ LED modes		Stand By / Suspend : orange < 5W Off : orange < 3 W, On : green , 50W (maximum)

Care and Maintenance

Care

- Avoid exposing your monitor directly to sunlight or other heat source. Place your monitor away from the sun to reduce glare.
- Put your monitor in a well ventilated area. Do not place anything heavy on top of your monitor.
- Make certain your monitor is installed in a clean and moisture-free area.
- Keep your monitor away from magnets, motors, transformers, speakers, and TV sets.

Safety Tips:

- If smoke, abnormal noise or odor came out of your monitor, switch off the power immediately and call your service center.
- Never remove the rear cover of your monitor cabinet. The display unit inside contains high-voltage parts and may cause electric shock to human bodies.
- Never try to repair your monitor yourself. Always call your service center or a qualified technician to fix it.

Troubleshooting

No power

- Make sure A/C power is securely connected to the power adapter and the power supply is firmly connected to the monitor.
- Plug another electrical device into the power inlet to verify that the outlet is supplying proper voltage.
- Make sure all short cables are installed.

Power on but no screen image

- Make sure the video cable supplied with the monitor is tightly secured to the video output port on back of the computer. If not, tightly secure it.
- Adjust brightness.

Wrong or abnormal colors

- If any colors (red, green, blue) are missing, check the video cable to make sure it is securely connected. Loose or broken pins in the cable connector could cause an improper connection.
- Connect the monitor to another computer.