

PHILIPS



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electronic

107B

USER'S MANUAL



Safety and Troubleshooting Information

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Safety precautions and maintenance



WARNING: Use of controls, adjustments, or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards, and/or mechanical hazards.

Read and follow these instructions when connecting and using your computer monitor:

- Disconnect the monitor from the power supply if the monitor is not to be used for an extended period of time.
- Do not attempt to remove the back cover, as you will be exposed to a shock hazard. The back cover should only be removed by qualified service personnel.
- Do not place objects on top of the monitor cabinet, objects could fall into vents or cover them and prevent proper cooling of the monitor's electronic devices.
- To avoid the risk of shock or permanent damage to the set, do not expose the monitor to rain or excessive moisture.
- Do not use alcohol or ammonia-based liquid to clean the monitor. If necessary, clean with a slightly damp cloth. Disconnect the monitor from the power supply before cleaning.
- When positioning the monitor, make sure the power plug and outlet are easily accessible.

Consult a service technician if the monitor does not operate normally when operating instructions of this manual are followed.

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Troubleshooting

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Common Problems

Having trouble? Something not working? Before calling for help, try these suggestions.

Having this problem?

Check these items

No Picture

(Power LED not lit)

- Make sure the Power cable is plugged into the power outlet and back of the monitor.
- Power button on top of the monitor should be in the ON position.
- Disconnect the monitor from the power outlet for about one minute.

No Picture

(Power LED is amber or yellow)

- Make sure the computer is turned on.
- Make sure the monitor cable is properly connected to your computer.
- Check to see if the monitor cable has bent pins.
- The Energy Saving feature may be activated
- Make sure the Brightness and Contrast controls are set correctly.

No Picture

(Power LED is green)

- Make sure the monitor cable is properly connected to your computer.
- Check to see if the monitor cable has bent pins.
- Make sure the computer Power button is on.

Screen doesn't show

when you turn on the monitor

- Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Start Guide).
- Check to see if the monitor cable has bent pins.
- Make sure the computer is turned on.

No color or intermittent color

- If you are using a non-VESA-DDC standard video card, turn the DDC1 / 2B feature Off.

Color appears blotchy

- The picture may need degaussing.
- Remove any nearby magnetic objects.
- Face the monitor toward the East for the best picture quality.
- Check the Color Temperature.

Missing one or more colors

- Make sure the monitor cable is properly connected to your computer.
- Check to see if the monitor cable has bent pins.

Dim Picture

- Adjust the Brightness and Contrast controls.
- Check your video card and its owner's manual instructions for it may be a non-VESA-DDC Standard card.

Picture is too large or too small.

- Adjust the Horizontal and/or Vertical Size.
- Adjust the Zoom.

Edges of the picture are not square.

- Adjust the geometry.

Picture has a double image.

- Eliminate the use of a video extension cable and/or video switch box.
- Face the monitor toward the East for the best picture quality.

Picture is not sharp.

- Check to make sure Moiré is switched off.
- Adjust Sync Input.

Unstable Picture

- Increase your refresh rate.

Problem with On Screen Display

- Refer to the instructions and troubleshooting information in that chapter.

For further assistance, refer to the [Consumer Information Centers](#) list to contact your local Philips distributor.

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Regulatory Information

[TCO'92 and TCO '99 Information](#) • [TCO Environmental Requirements](#) • [Energy Star Declaration](#) • [Federal Communications Commission \(FCC\) Notice \(U.S. Only\)](#) • [Commission Federale de la Communication \(FCC Declaration\)](#) • [EN 55022 Compliance \(Czech Republic Only\)](#) • [VCCI Class 2 Notice \(Japan Only\)](#) • [MOC Notice \(South Korea Only\)](#) • [Polish Center for Testing and Certification Notice](#) • [North Europe Information](#) • [BCIQ Notice \(Taiwan Only\)](#) • [Ergonomie Hinweis \(nur Deutschland\)](#) • [Philips End-of-Life Disposal](#) • [Information for UK only](#)

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TCO'92 and TCO '99 Information

- **TCO '99** : Available on 105S10, 105S15, 105B10, 107S10, 107S15, 107B10, 107P10, 109S10, 109B10, 109P10, 201B10, 201B12, and 201P10.
- **TCO '92** : Available on 105B13, 107B13.



Congratulations! You have just purchased a TCO '92 / '99 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 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 labeling involve?

This product meets the requirements for the TCO'99 scheme which provides for international and environmental labeling of personal computers. The labeling 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.

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.

Below 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 labeled products may also be obtained via the Internet, using the address: <http://www.tco-info.com/>

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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 fetus 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 color-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 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 labeled 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 increased risks e.g. 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.

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

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

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Energy Star Declaration

PHILIPS

107B1*

This monitor is equipped with a function for saving energy which supports the VESA Display Power Management Signaling (DPMS) standard. This means that the monitor must be connected to a computer which supports VESA DPMS to fulfill the requirements in the NUTEK specification 803299/94. Time settings are adjusted from the system unit by software. From indicated inactivity to Power Saving Position A2, the total time must not be set to more than 70 minutes.

NUTEK

VESA State

LED Indicator

Power Consumption

Normal operation	ON	Green	< 90 W
Power Saving	Suspend	Yellow	< 10 W
Position A1			
Power Saving	OFF	Amber	< 2.3 W
Position A2			



As an ENERGY STAR® Partner, PHILIPS has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.



We recommend you switch off the monitor when it is not in use for quite a long time.

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Federal Communications Commission (FCC) Notice (U.S. Only)



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.



Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Use only RF shielded cable that was supplied with the monitor when connecting this monitor to a computer device.

To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or excessive moisture.

THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

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Commission Federale de la Communication (FCC Declaration)



Cet équipement a été testé et déclaré conforme aux limites des appareils numériques de class B, aux termes de l'article 15 Des règles de la FCC. Ces limites sont conçues de façon à fournir une protection raisonnable contre les interférences nuisibles dans le cadre d'une installation résidentielle. CET appareil produit, utilise et peut émettre des hyperfréquences qui, si l'appareil n'est pas installé et utilisé selon les consignes données, peuvent causer des interférences nuisibles aux communications radio. Cependant, rien ne peut garantir l'absence d'interférences dans le cadre d'une installation particulière. Si cet appareil est la cause d'interférences nuisibles pour la réception des signaux de radio ou de télévision, ce qui peut être décelé en fermant l'équipement, puis en le remettant en fonction, l'utilisateur pourrait essayer de corriger la situation en prenant les mesures suivantes:

- Réorienter ou déplacer l'antenne de réception.
- Augmenter la distance entre l'équipement et le récepteur.
- Brancher l'équipement sur un autre circuit que celui utilisé par le récepteur.
- Demander l'aide du marchand ou d'un technicien chevronné en radio/télévision.



Toutes modifications n'ayant pas reçu l'approbation des services compétents en matière de conformité est susceptible d'interdire à l'utilisateur l'usage du présent équipement.

N'utiliser que des câbles RF armés pour les connections avec des ordinateurs ou périphériques.

CET APPAREIL NUMERIQUE DE LA CLASSE B RESPECTE TOUTES LES EXIGENCES DU REGLEMENT SUR LE MATERIEL BROUILLEUR DU CANADA.

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EN 55022 Compliance (Czech Republic Only)

This device belongs to category B devices as described in EN 55022, unless it is specifically stated that it is a Class A device on the specification label. The following applies to devices in Class A of EN 55022 (radius of protection up to 30 meters). The user of the device is obliged to take all steps necessary to remove sources of interference to telecommunication or other devices.

Pokud není na typovém štítku počítače uvedeno, že spadá do do třídy A podle EN 55022, spadá automaticky do třídy B podle EN 55022. Pro zařízení zařazená do třídy A (chranné pásmo 30m) podle EN 55022 platí následující. Dojde-li k rušení telekomunikačních nebo jiných zařízení je uživatel povinen provést taková opatření, aby rušení odstranil.

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VCCI Notice (Japan Only)

This is a Class B product based on the standard of the Voluntary Control Council for Interference (VCCI) for Information technology equipment. If this equipment is used near a radio or television receiver in a domestic environment, it may cause radio Interference. Install and use the equipment according to the instruction manual.



この装置は、情報処理装置等電波障害自主規制協議会 (VCCI) の基準に基づくクラス B 情報技術装置です。この装置は家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをして下さい。

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MOC Notice (South Korea Only)

Class B Device

장치 종류	사용자 안내문
B급 기기	이 장치는 가정용으로 전자파 적합등록을 한 장치로서 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.



Please note that this device has been approved for non-business purposes and may be used in any environment, including residential areas.

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Polish Center for Testing and Certification Notice

The equipment should draw power from a socket with an attached protection circuit (a three-prong socket). All equipment that works together (computer, monitor, printer, and so on) should have the same power supply source.

The phasing conductor of the room's electrical installation should have a reserve short-circuit protection device in the form of a fuse with a nominal value no larger than 16 amperes (A).

To completely switch off the equipment, the power supply cable must be removed from the power supply socket, which should be located near the equipment and easily accessible.

A protection mark "B" confirms that the equipment is in compliance with the protection usage requirements of standards PN-93/T-42107 and PN-89/E-06251.

Wymagania Polskiego Centrum Badań i Certyfikacji

Urządzenie powinno być zasilane z gniazda z przyłączonym obwodem ochronnym (gniazdo z kolkiem). Współpracujące ze sobą urządzenia (komputer, monitor, drukarka) powinny być zasilane z tego samego źródła.

Instalacja elektryczna pomieszczenia powinna zawierać w przewodzie fazowym rezerwową ochronę przed zwarciami, w postaci bezpiecznika o wartości znamionowej nie większej niż 16A (amperów).

W celu całkowitego wyłączenia urządzenia z sieci zasilania, należy wyjąć wtyczkę kabla zasilającego z gniazdko, które powinno znajdować się w pobliżu urządzenia i być łatwo dostępne.

Znak bezpieczeństwa "B" potwierdza zgodność urządzenia z wymaganiami bezpieczeństwa użytkowania zawartymi w PN-93/T-42107 i PN-89/E-06251.

Pozostałe instrukcje bezpieczeństwa

- Nie należy używać wtyczek adapterowych lub usuwać kolka obwodu ochronnego z wtyczki. Jeżeli konieczne jest użycie przedłużacza to należy użyć przedłużacza 3-żyłowego z prawidłowo połączonym przewodem ochronnym.
- System komputerowy należy zabezpieczyć przed nagłymi, chwilowymi wzrostami lub spadkami napięcia, używając eliminatora przepięć, urządzenia dopasowującego lub bezzakłóceniewego źródła zasilania.
- Należy upewnić się, aby nie leżało na kablach systemu komputerowego, oraz aby kable nie były umieszczone w miejscu, gdzie można byłoby na nie nadeptywać lub potykać się o nie.
- Nie należy rozlewać napojów ani innych płynów na system komputerowy.
- Nie należy wpychać żadnych przedmiotów do otworów systemu komputerowego, gdyż może to spowodować pożar lub porażenie prądem, poprzez zwarcie elementów wewnętrznych.
- System komputerowy powinien znajdować się z dala od grzejników i źródeł ciepła. Ponadto, nie należy blokować otworów wentylacyjnych. Należy unikać kładzenia luźnych papierów pod komputer oraz umieszczania komputera w ciasnym miejscu bez możliwości cyrkulacji powietrza wokół niego.

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North Europe Information

Placering/Ventilation

VARNING:

FÖRSÄKRA DIG OM ATT HUVUDBRYTARE OCH UTTAG ÄR LÄTÅTKOMLIGA, NÄR DU STÄLLER DIN UTRUSTNING PÅPLATS.

Placering/Ventilation

ADVARSEL:

SØRG VED PLACERINGSFOR, AT NETLEDNINGENS STIK OG STIKKONTAKT ER NEMT TILGÆNGELIGE.

Paikka/Ilmankierto

VAROITUS:

SIJOITA LAITE SITEN, ETTÄ VERKKOJOHTO VOIDAAN TARVITTAESSA HELPOSTI IRROTTAA PISTORASIESTA.

Plassering/Ventilasjon

ADVARSEL:

NÅR DETTE UTSTYRET PLASSERES, MÅ DU PASSE PÅ AT KONTAKTENE FOR STØMTILFØRSEL ER LETTE Å NÅ.

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BCIQ Notice (Taiwan Only)

符合乙類資訊產品之標準

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Ergonomie Hinweis (nur Deutschland)

Der von uns gelieferte Farbmonitor entspricht den in der "Verordnung über den Schutz vor Schäden durch Röntgenstrahlen" festgelegten Vorschriften.

Auf der Rückwand des Gerätes befindet sich ein Aufkleber, der auf die Unbedenklichkeit der Inbetriebnahme hinweist, da die Vorschriften über die Bauart von Störstrahlern nach Anlage III α 5 Abs. 4 der Röntgenverordnung erfüllt sind.

Damit Ihr Monitor immer den in der Zulassung geforderten Werten entspricht, ist darauf zu achten, daß

1. Reparaturen nur durch Fachpersonal durchgeführt werden.
2. nur original-Ersatzteile verwendet werden.
3. bei Ersatz der Bildröhre nur eine bauartgleiche eingebaut wird.

Aus ergonomischen Gründen wird empfohlen, die Grundfarben Blau und Rot nicht auf dunklem Untergrund zu verwenden (schlechte Lesbarkeit und erhöhte Augenbelastung bei zu geringem Zeichenkontrast wären die Folge).

Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 beträgt 70dB (A) oder weniger.



ACHTUNG: BEIM AUFSTELLEN DIESES GERÄTES DARAUFGAHTEN, DAß NETZSTECKER UND NETZKABELANSCHLUß LEICHT ZUGÄNGLICH SIND.

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End-of-Life Disposal

Your new monitor contains materials that can be recycled and reused. Specialized companies can recycle your product to increase the amount of reusable materials and to minimize the amount to be disposed of.

Please find out about the local regulations on how to dispose of your old monitor from your local Philips dealer.

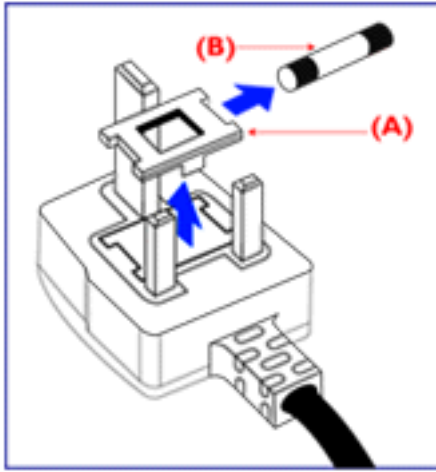
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Information for UK only

WARNING - THIS APPLIANCE MUST BE EARTHED.

Important:

This apparatus is supplied with an approved moulded 13A plug. To change a fuse in this type



of plug proceed as follows:

1. Remove fuse cover and fuse.
2. Fit new fuse which should be a BS 1362 5A, A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate 3-pin plug fitted in its place.

If the mains plug contains a fuse, this should have a value of 5A. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5A.

Note: The severed plug must be destroyed to avoid a possible shock hazard should it be inserted into a 13A socket elsewhere.

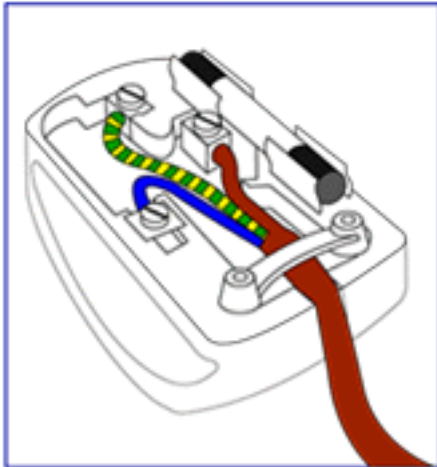
How to connect a plug


The wires in the mains lead are coloured in accordance with the following code:

BLUE - "NEUTRAL" ("N")

BROWN - "LIVE" ("L")

GREEN & YELLOW - "EARTH" ("E")



1. The GREEN AND YELLOW wire must be connected to the terminal in the plug which is marked with the letter "E" or by the Earth symbol  or coloured GREEN or GREEN AND YELLOW.

2. The BLUE wire must be connected to the terminal which is marked with the letter "N" or coloured BLACK.

3. The BROWN wire must be connected to the terminal which marked with the letter "L" or coloured RED.

Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of

the lead - not simply over the three wires.

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Other Related Information

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Information for Users in the U. S.

For units set at 115 V :

Use a UL Listed Cord Set consisting of a minimum 18 AWG, Type SVT or SJT three conductor cord a maximum of 15-feet long and a parallel blade, grounding type attachment plug rated 15 A, 125 V.

For units set at 230 V:

Use a UL Listed Cord Set consisting of a minimum 18 AWG, Type SVT or SJT three conductor cord a maximum of 15-feet long and a tandem blade, grounding type attachment plug rated 15 A, 250 V.

Information for Users outside the U.S.

For units set at 230 V:

Use a Cord Set consisting of a minimum 18 AWG cord and grounding type attachment plug rated 15 A, 250 V. The Cord Set should have the appropriate safety approvals for the country in which the equipment will be installed and / or be marked HAR.

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About This Electronic User's Manual

[About This Guide](#) • [Other Documents You May Need](#) • [Notational Descriptions](#)

About This Guide

This electronic user's guide is intended for anyone who uses the Philips 107B Color Monitor. It describes the monitor's features, setup, operation and all other information, which is the same exact information described in our printed version.

The sections are as follows:

- [Safety and Troubleshooting Information](#) provides tips and solutions for common problems, and other related information you may need.
- About This Electronic User's Manual gives overview of what information are included as well as notation icon descriptions and other documentation you can refer to.
- [Product Information](#) gives an overview of the monitor's features and as well as the technical specifications for this monitor.
- [Installing Your Monitor](#) describes the initial setup process and gives an overview of how to use the monitor.
- [On Screen Display](#) provides information on adjusting the settings on your monitor.
- [Customer Care and Warranty](#) is a list of worldwide Philips consumer information centers along with the help desk phone numbers and information on the applicable warranty of your product..
- [Glossary](#) provides more information for technical terms.
- Download Option allows you to consumer keep a copy of the entire manual in your hard drive.

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Other Documents You May Need

In addition to this *Electronic User's Guide*, you may need to refer to the following documentation:

- *Philips Color Monitor Quick Start Guide* which summarizes the steps for setting up the monitor. This is included with this product.

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Notational Descriptions

The following subsections describe notational conventions used in this document.

Notes, Cautions, and Warnings

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold type or in italic type. These blocks are notes, cautions, and warnings, and they are used as follows:



NOTE: This icon indicates important information and tips that help you make better use of your computer system.



CAUTION: This icon indicates information that tells you how to avoid either potential damage to hardware or loss of data.



WARNING: This icon indicates the potential for bodily harm and tells you how to avoid the problem.



SMART HELP: This icon indicates helpful information when adjusting the On Screen Display of your monitor.

Some warnings may appear in alternate formats and may be unaccompanied by an icon. In such cases, the specific presentation of the warning is mandated by regulatory authority.

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Product Information

[Product Features](#) • [Technical Specifications](#) • [Automatic Power Saving](#) • [Physical Specification](#) • [Pin Assignment](#) • [Product Views](#)

Product Features

107B10

- 17" -inch (16.0" VIS) color monitor with excellent front of screen performance for use with MACs and PCs
- Autoscan covers horizontal frequencies up to 92 kHz offering a maximum resolution of 1920 x 1440 with flicker free display of 1024 x 768 at up to 115 Hz
- Flat square high contrast CRT with high-resolution 0.25 mm dot pitch (0.21 hdp)
- XSD-Xtra Space Design for large screen display in a small footprint: World's shortest 17-inch monitor with maximum depth of only 368 mm/14.5" that matches most of today's 14-inch monitors.
- Outstanding ease of use thanks to CustoMax® monitor control software via USB
- Multimedia Base and USB Hub option
- TCO99, E2000, NUTEK, EPA, FCC, CE and ISO9241 certified

107B13

- 17-inch (16.0" VIS) color monitor with excellent front of screen performance for use with MACs and PCs
- Autoscan covers horizontal frequencies up to 92 kHz offering a maximum resolution of 1920 x 1440 with flicker free display of 1024 x 768 at up to 115 Hz
- Flat square High Contrast CRT with high-resolution 0.25 mm dot pitch (0.21 hdp)
- XSD-Xtra Space Design for large screen display in a small footprint: World's shortest 17-inch conventional monitor with maximum depth of only 408 mm/16.1"
- Outstanding ease of use thanks to CustoMax® monitor control software via USB
- Multimedia Base and USB Hub option
- TCO92, E2000, NUTEK, EPA, FCC, CE and ISO9241 certified

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Technical Specifications*

CRT

- | | |
|----------------------------|---|
| • Size and deflection | 17 inch / 41 cm ; 100° deflection angle |
| • Dot pitch / Grille pitch | 0.25 mm |
| • Horizontal pitch | 107B10 - 0.21 mm / 107B13 - 0.22 mm |
| • Tube type | Shadow mask, flat square, high contrast, anti-glare, anti-static, anti reflection, light transmission 46% (107B10) / 47% (107B13) |

- Phosphor P22
- Recommended display area 12.0" x 9.0" / 306 x 230 mm
- Maximum display area 12.9" x 9.7" / 327 x 245 mm

SCANNING

- Horizontal scanning 30 - 92 KHz
- Vertical scanning 50 - 160 KHz

VIDEO

- Video dot rate 234 MHz
- Input impedance
 - Video 75 ohm
 - Sync 2.2 kOhm
- Input signal levels 0.7 Vpp
 - Separate sync
 - Composite sync
- Sync input signal
 - Positive and negative
- Sync polarities

WHITE COLOR TEMPERATURE

Chromaticity CIE coordinates:

- at 9300 K degrees $x = 0.283 / y = 0.297$
- at 6500 K degrees $x = 0.313 / y = 0.329$
- at 5500 K degrees $x = 0.332 / y = 0.347$

* These information are subject to change without notice.

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Automatic Power Saving

If you have VESA's DPMS compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. And if an input from a keyboard, mouse or other input device is detected, the monitor will automatically "wake up". The following table shows the power consumption and signaling of this automatic power saving features:

Power Management Definition

VESA's Mode	Video	H-sync	V-sync	Power Used	Power Saving (%)	LED color
ON	Active	Yes	Yes	< 90W	0 %	Green
Stand-by	Blanked	No	Yes	< 10W	89%	Yellow
Suspend	Blanked	Yes	No	< 10W	89%	Yellow
OFF	Blanked	No	No	< 2.3W	97%	Amber

This monitor is ENERGY STAR® compliant. As an ENERGY STAR® Partner, PHILIPS has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

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Physical Specifications

- Dimensions
 - 107B10 - 15.7" x 16.1" x 14.5" / 399 x 410 x 368 mm (including base)
 - 107B13 - 15.7" x 16.1" x 16.1" / 399 x 410 x 408 mm (including base)
 - 107B10 - 15.7" x 14.7" x 14.5" / 399 x 373 x 368 mm (excluding base)
 - 107B13 - 15.7" x 14.7" x 16.1" / 399 x 373 x 408 mm (excluding base)
- Weight
 - 107B10 - 14.8 kg / 107B13 - 15.0 kg
- Power supply
 - 90 - 264 VAC, 50/60Hz
- Temperature (operating)
 - 0° to 40°C / 32° to 104°F
- Temperature (storage)
 - 25° to +65°C / -13° to -149°F
- Relative humidity
 - 5% to 95%

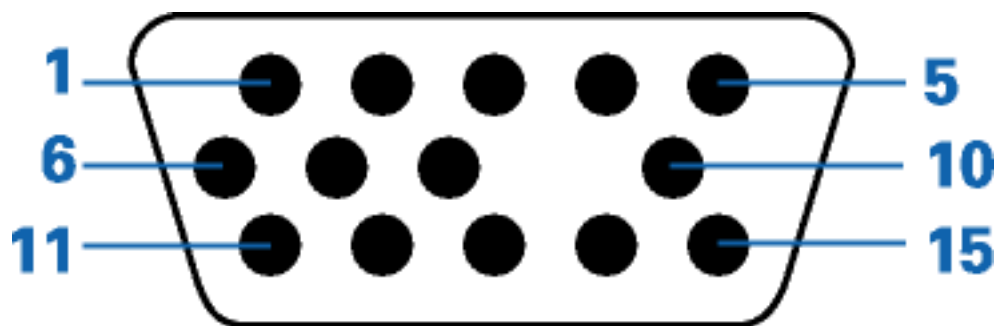
* Resolution 1280 x 1024, standard size, contrast max., brightness 50%, 9300°, full white pattern.

* These information are subject to change without notice.

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Pin Assignment

The 15-pin D-sub connector (male) of the signal cable (IBM systems):



Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	No pin
2	Green video input	10	Logic ground
3	Blue video input	11	Identical output - connected to pin 10
4	Identical output - connected to pin 10	12	Serial data line (SDA)
5	Ground	13	H. Sync / H+V
6	Red video ground	14	V. Sync (VCLK for DDC)
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		

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Views

Follow the links to see various views of the monitor and its components.

[Front View](#)

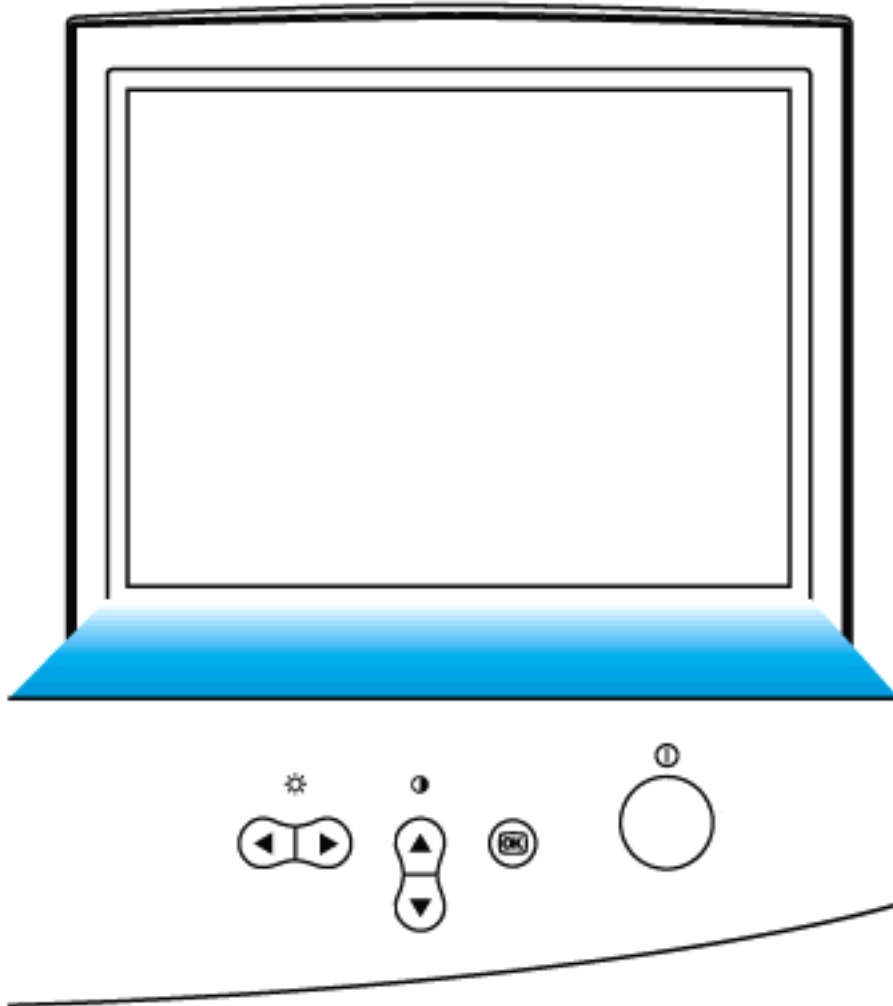
[Rear View](#)

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Installing your Monitor

[Front View](#) • [Rear View](#) • [6G3B10 Multimedia Base \(option\)](#) • [PCUH411 USB Hub \(option\)](#)

Front View



Power button switches your monitor on.



OK button which when pressed will take you to the OSD controls



Contrast hotkey. When the UP arrow is pressed, the adjustment controls for the CONTRAST will show up.



UP and DOWN buttons are used when adjusting the OSD of your monitor



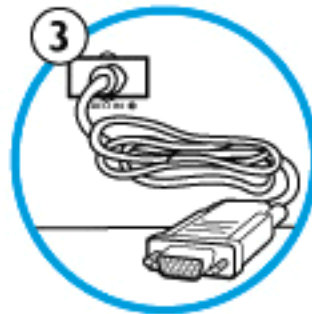
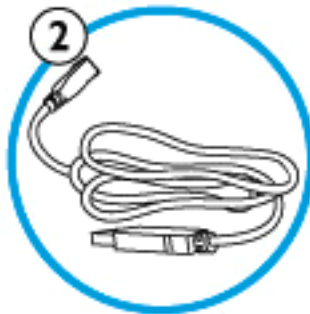
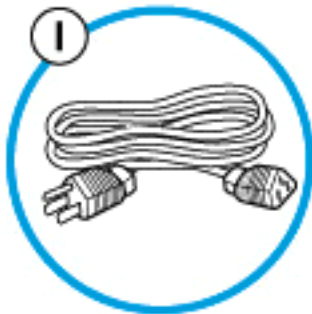
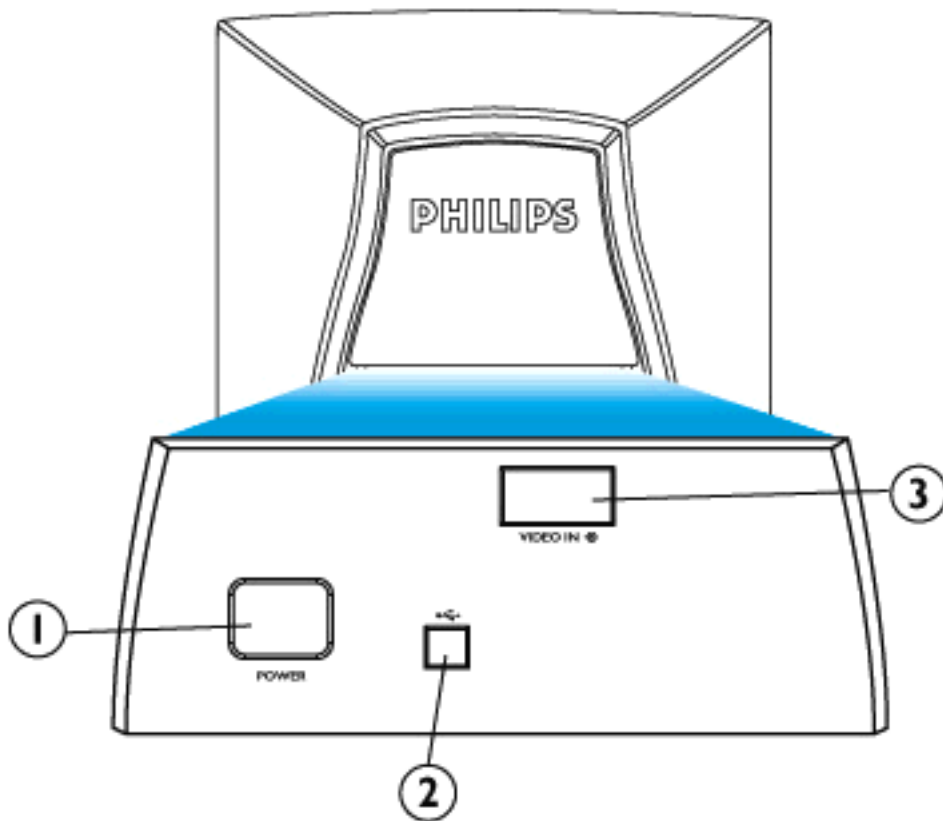
Brightness hotkey. When both the LEFT and RIGHT arrows are pressed at the same time, then the adjustment controls for BRIGHTNESS will show up.



LEFT and RIGHT buttons, like the UP and DOWN buttons, are also used in adjusting the OSD of your monitor.

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Rear View



1. Power in - attach power cable here.
2. USB Port - attach your USB Upstream cable here. *(Not available on all models.)*
3. Video In - this is a cable which is already attached to your monitor. Connect the other end of the cable to your PC.

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6G3B10 Multimedia Base (option)

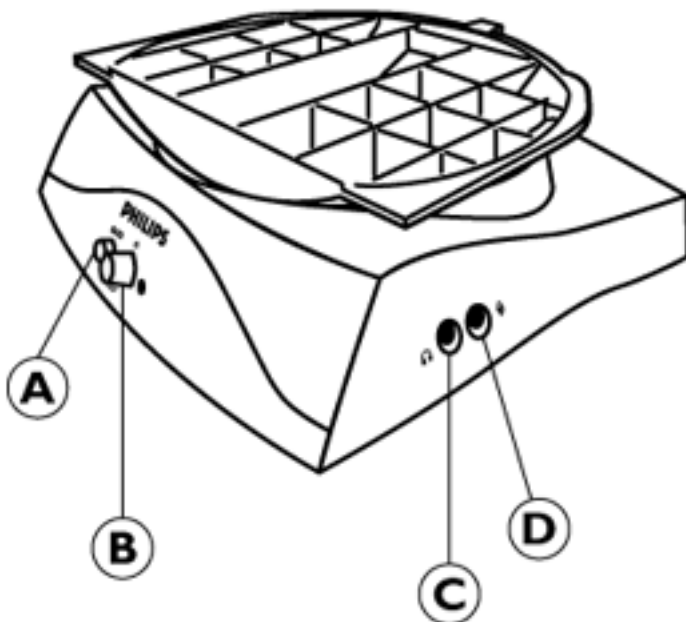
[Front View](#) • [Rear View](#) • [Technical Specifications](#) • [Description of the Controls](#) • [Installing your Multimedia Base](#)

Technical Specifications*

- | | |
|------------------------|--|
| • Output power | 2 x 1.5W RMS / 36W PMPO |
| • Bass Boost | |
| • Headphone connection | 3.5 mm jack |
| • Microphone in/out | 3.5 mm jack |
| • Includes | Audio cable and AC adapter |
| • Dimension | 9.4" x 2.1" x 8.2" / 239 x 54 x 208 mm |
| • Power consumption | 5W |

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Description of the Controls



A. Bass button

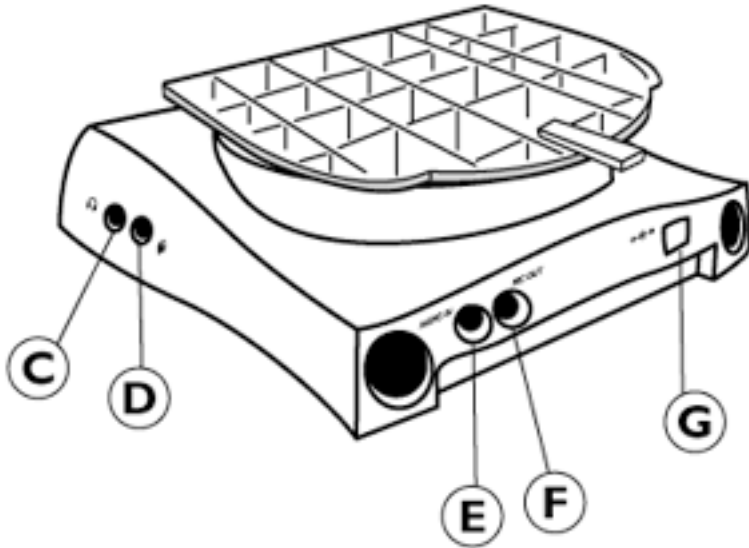
Turn on or off to enhance the Bass sound.

B. Power knob / Volume knob

Turn clockwise to switch power on. Turning the knob more will increase the volume.

C. Headphone jack

Attach your headphones here. The loudspeakers will automatically switch off once headphones are connected.



D. Microphone jack

Attach your microphone here.

E. Audio In

Connect this to the audio output of your PC.

F. MIC Out

Connect this to the microphone output of your PC.

G. DC Input

Connect power input here.

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Installing your Multimedia Pedestal



1. To INSTALL

- Slide the pedestal, aligning with the holes on the side.
- Then click the back hook into the corresponding hole on the bottom plate of your monitor.



2. To UN-INSTALL

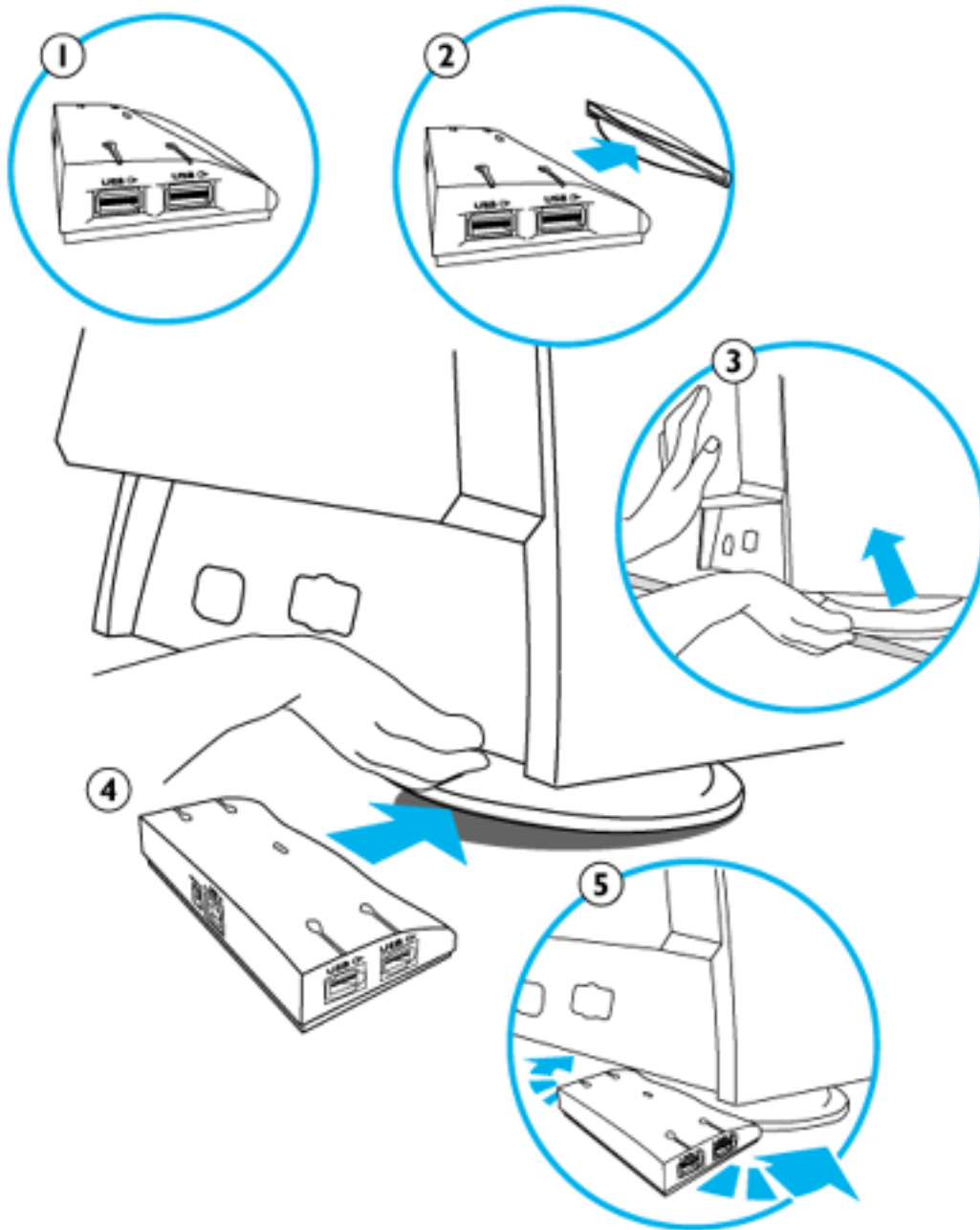
- Lift the back hook from the hole on the bottom plate of your monitor.
- Slide out the pedestal the opposite direction (from when you installed it).

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PCUH411 USB Hub (Option)

[Front View](#) • [Rear View](#) • [Installing your USB Hub](#)

Installing your USB Hub

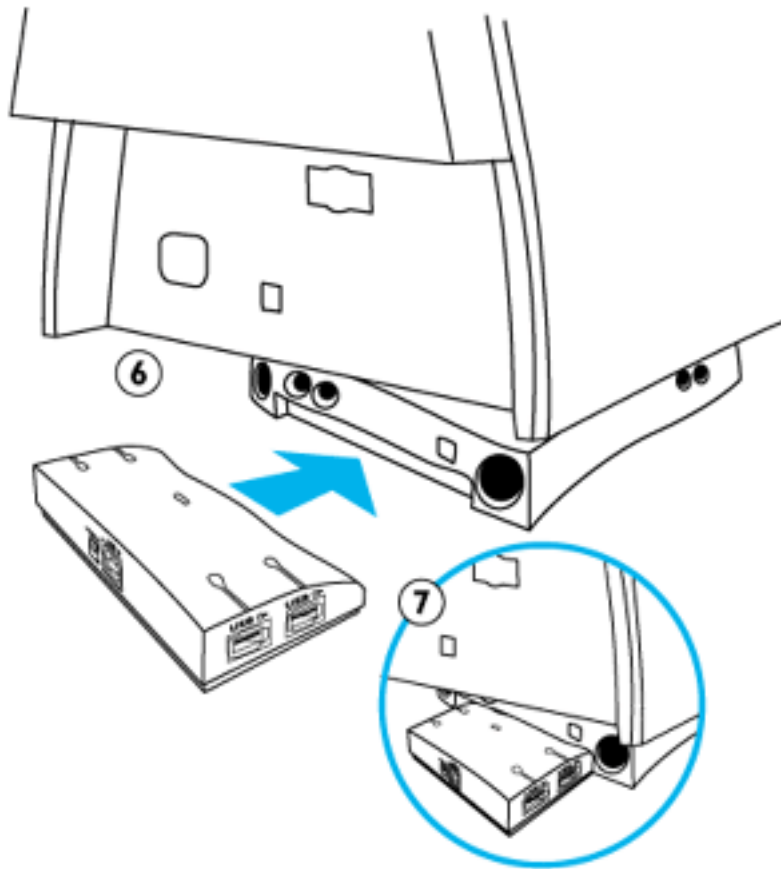


Installing on a conventional base.

1. Take out the USB hub from the box.
2. Take off the USB hub cover.
3. Slightly tilt and lift the base of your monitor.
4. Attach the USB hub by clipping into the base.
5. You can reposition the USB hub along the base to suit your needs.

Installing on the Multimedia base.

Follow Steps 1 and 2 above.



6. Position the USB hub to the back of the Multimedia Pedestal.

7. Attach the USB hub by sliding-in to the Multimedia base.

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On-Screen Display






[Description of the On-Screen Display](#) • [The OSD Tree](#) • [The OSD Controls](#)

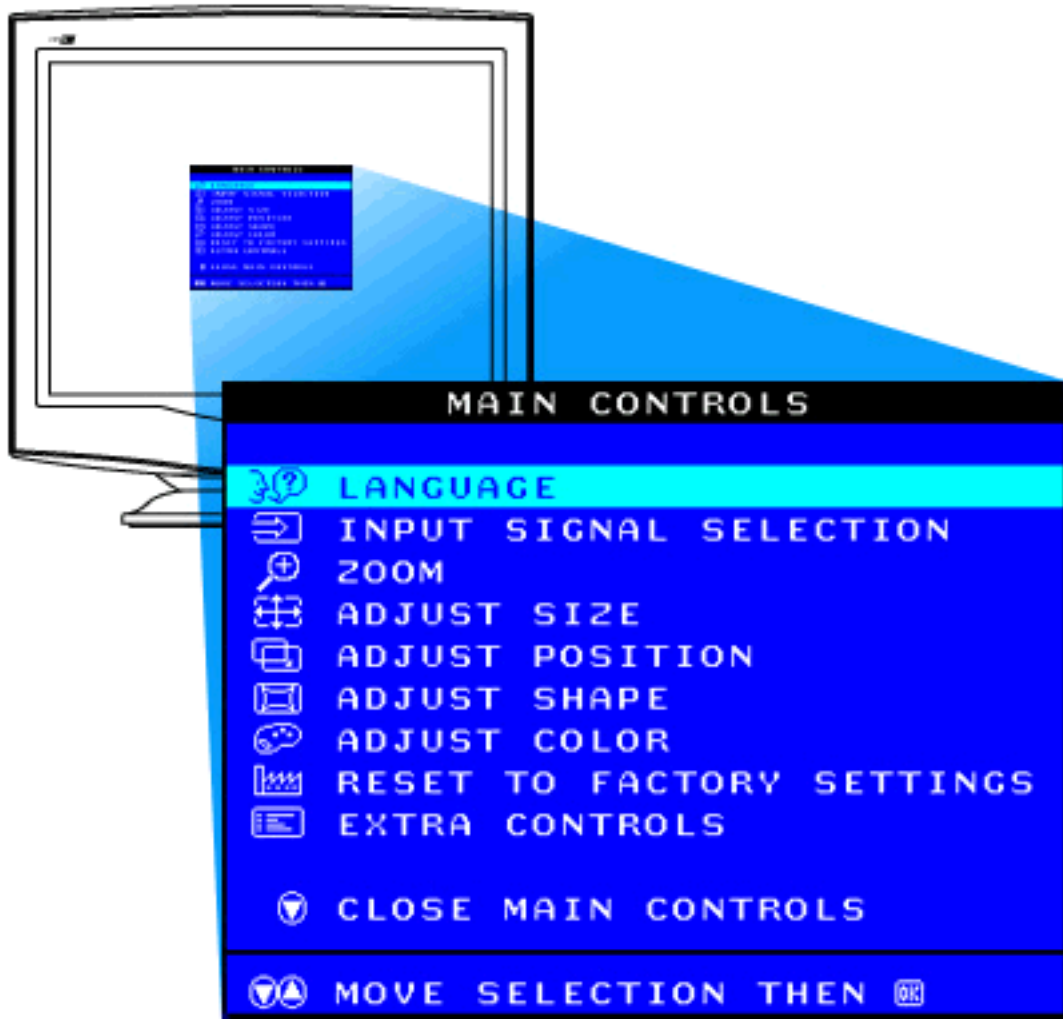
Description of the On Screen Display

What is the On-Screen Display?

This is a feature in all Philips monitors which allows an end-user to adjust screen performance of monitors directly through an on-screen instruction window. The user interface provides user-friendliness and ease-of-use when operating the monitor.

Basic and simple instruction on the control keys.

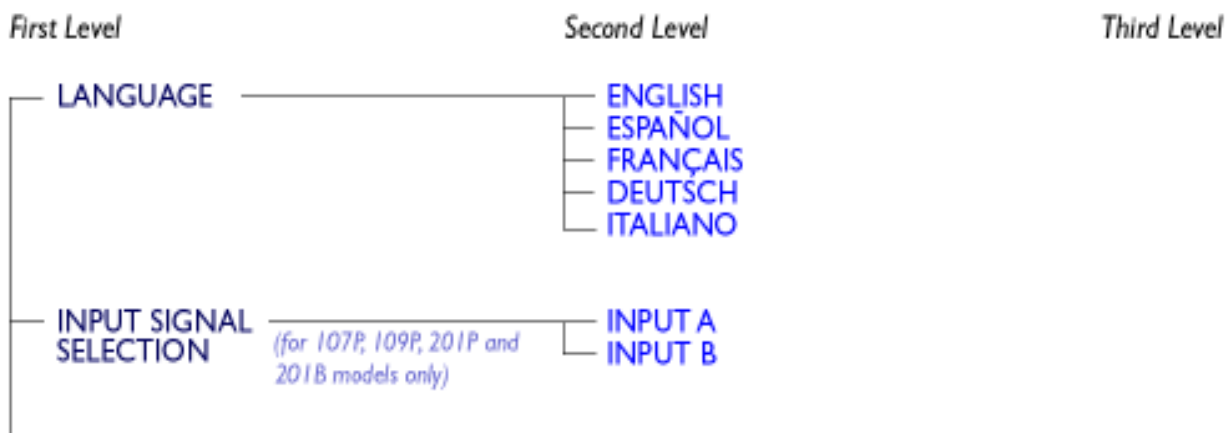
On the front controls of your monitor, once you press the  button, the On Screen Display (OSD) Main Controls window will pop up and you can now start making adjustments to your monitor's various features. Use the   or the   keys to make your adjustments within.

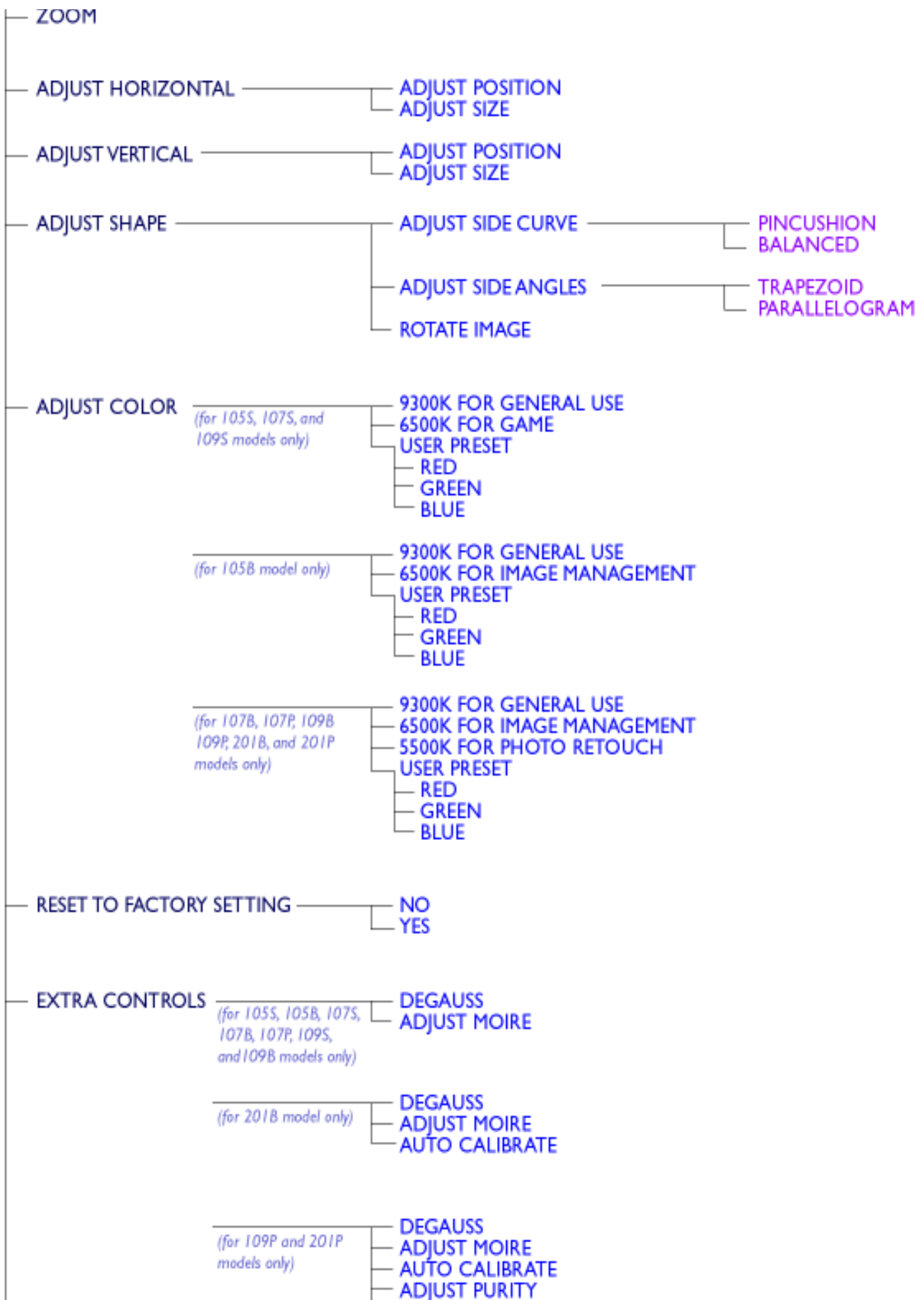


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The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as reference when you want to later on work your way around the different adjustments.





└─ ADJUST CONVERGENCE

└─ CLOSE MAIN CONTROLS

• Specifications are subject to change without prior notice.

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The OSD Controls

[Description of the On-Screen Display](#) • [The OSD Tree](#)

The OSD Controls : [Brightness \(HotKey\)](#) • [Contrast \(HotKey\)](#) • [Language](#) • [Input Signal Selection](#) • [Zoom](#) • [Adjust Horizontal](#) • [Adjust Vertical](#) • [Adjust Shape](#) • [Adjust Color](#) • [Reset to Factory Settings](#) • [Extra Controls](#) • [Close Main Controls](#)



BRIGHTNESS

To adjust your screen's brightness, follow the steps below. Brightness is the overall intensity of the light coming from the screen. A 50% brightness is recommended.

1) Press the  or  button on the monitor. The BRIGHTNESS window appears.



2) Press the  or  button to adjust the brightness.

3) When the brightness is adjusted to the level desired, stop pressing the  or  button and after three seconds the BRIGHTNESS window will disappear with the new adjustment saved.



Smart



After the BRIGHTNESS window has disappeared, to continue to the CONTRAST window, follow the steps under CONTRAST.

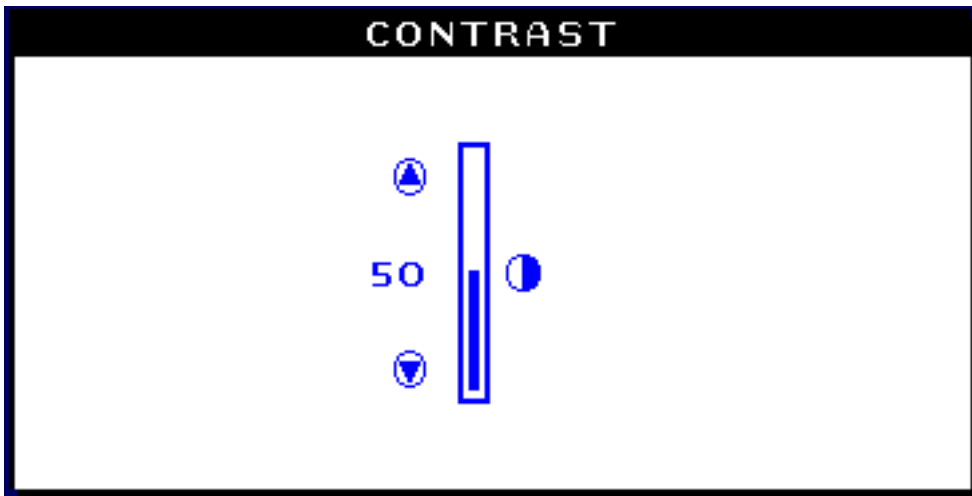
Help



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CONTRAST

To adjust your screen's contrast, follow the steps bellow. Contrast is the difference between the light and dark areas on the screen. A 100% contrast is recommended.

1) Press the  or  button on the monitor. The CONTRAST window appears.



2) Press the  or  button to adjust the contrast.

3) When the contrast is adjusted to the level desired, stop pressing the  or  button and after three seconds the CONTRAST window will disappear with the new adjustment saved.



Smart


After the CONTRAST window has disappeared, to continue to the MAIN CONTROLS, follow the steps under LANGUAGE

Help

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LANGUAGE

The ON SCREEN DISPLAY shows its settings in one of five languages. The default is English, but you can select French, Spanish, German, or Italian.


1) Press the  button on the monitor. The MAIN CONTROLS window appears. LANGUAGE should be highlighted.

2) Press the  button again. The LANGUAGE window appears.



3) Press the  or  button until the desired language is highlighted.




4) Press the  button to confirm your selection and return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted...


After returning to MAIN CONTROLS . . .



Help



Smart

. . . to continue to INPUT SIGNAL SELECTION, press the  button until INPUT SIGNAL SELECTION is highlighted. Next, follow steps 3 - 5 under INPUT SIGNAL SELECTION.

. . . to exit completely, press the  button

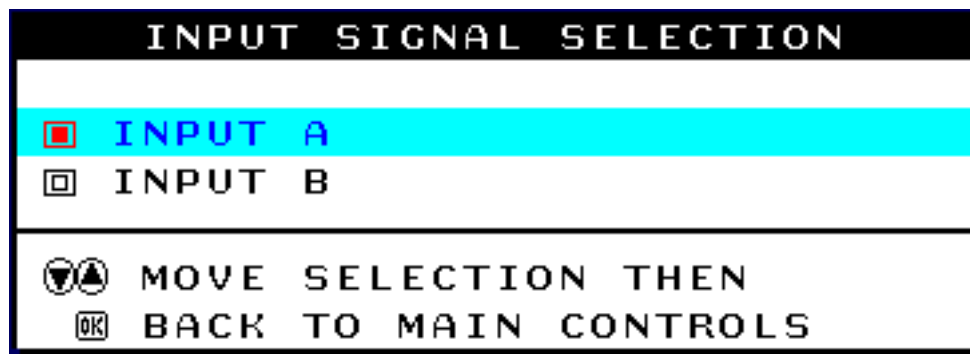
INPUT SIGNAL SELECTION *(Not available in all models)*




INPUT SIGNAL SELECTION determines what you see on the screen. The default setting is INPUT A, but if the video input signal is different than the output signal, you may want to change it to INPUT B.

- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the  button until INPUT SIGNAL SELECTION is highlighted.



- 3) Press the  button. The INPUT SIGNAL SELECTION window appears.



- 4) Press the  or  button to highlight INPUT B or INPUT A.
- 5) Press the  button to confirm your selection and return to the MAIN CONTROLS window. CLOSE

MAIN CONTROLS will be highlighted.




Help

Smart

After returning to MAIN CONTROLS . . .



. . . to continue to ZOOM, press the  button until ZOOM is highlighted. Next, follow steps 3 - 5 under ZOOM.

. . . to exit completely, press the  button

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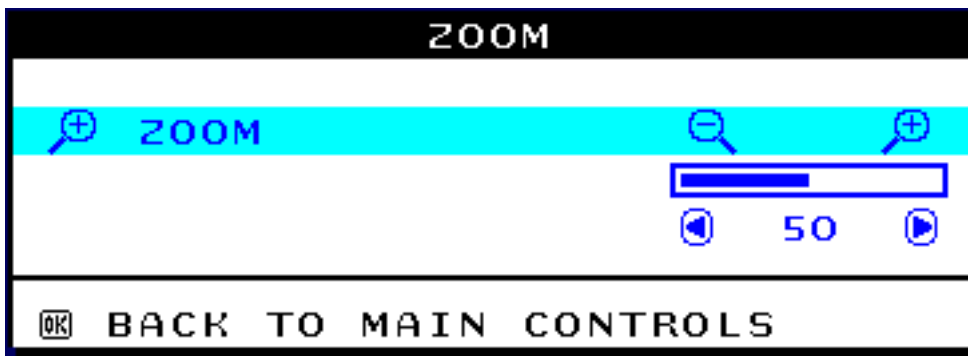
ZOOM

ZOOM increases or decreases the size of the images on your screen. To adjust the ZOOM follow the steps below.


- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the  button until ZOOM is highlighted.



- 3) Press the  button. The ZOOM window appears.



4) Press the  or  button to adjust ZOOM.


5) Press the  button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.




Help

Smart

After returning to MAIN CONTROLS . . .


. . . to continue to ADJUST HORIZONTAL, press the  button until ADJUST HORIZONTAL is highlighted. Next, follow steps 3 - 7 under ADJUST HORIZONTAL.


. . . to exit completely, press the  button

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ADJUST HORIZONTAL

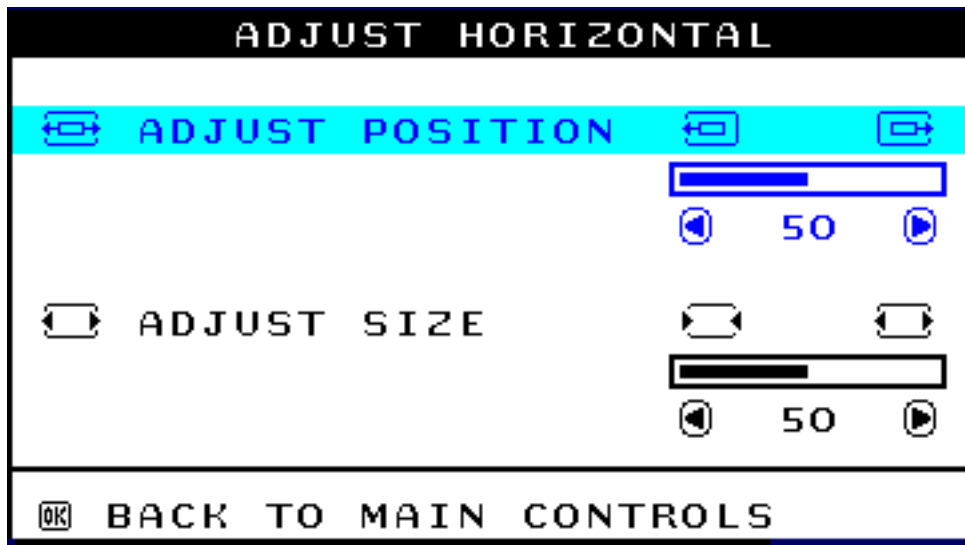
ADJUST POSITION under ADJUST HORIZONTAL shifts the image on your screen either to the left or right. Use this feature if your image does not appear centered. ADJUST SIZE under ADJUST HORIZONTAL expands or controls the image on your screen, pushing it out toward the left and right sides or pulling it in toward the center.



1) Press the  button on the monitor. The MAIN CONTROLS window appears.



2) Press the  button until ADJUST HORIZONTAL is highlighted.

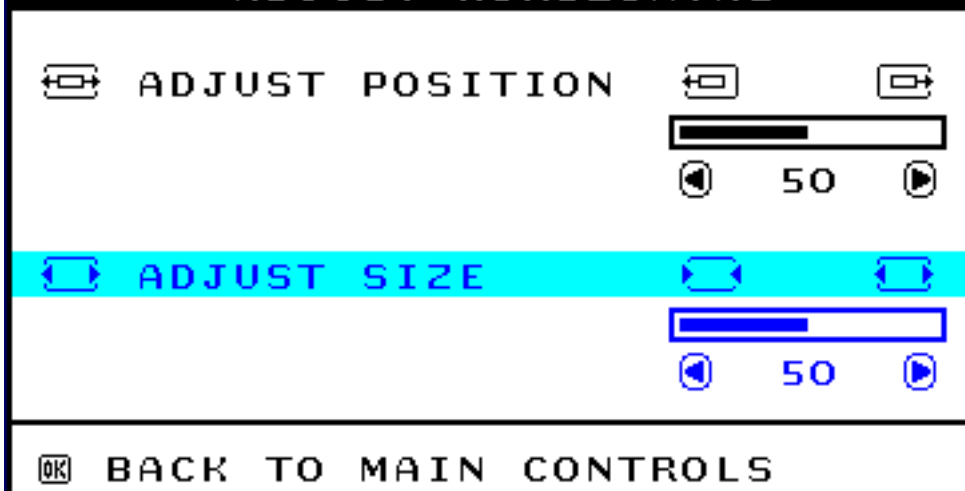




3) Press the  button. The ADJUST HORIZONTAL window appears. ADJUST POSITION should be highlighted.




4) Press the  or  button to move the image to the left or right.

5) When the position is adjusted, press the  button to return to MAIN CONTROLS window, or press the  to highlight ADJUST SIZE.

ADJUST HORIZONTAL

6) To adjust the horizontal size, press the  or  button.


7) When the size is adjusted, press the  button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.


After returning to MAIN CONTROLS . . .



Help

Smart


. . . to continue to ADJUST VERTICAL, press the  button until ADJUST VERTICAL is highlighted. Next, start with step 3 under ADJUST VERTICAL and follow the directions.

. . . to exit completely, press the  button

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ADJUST VERTICAL

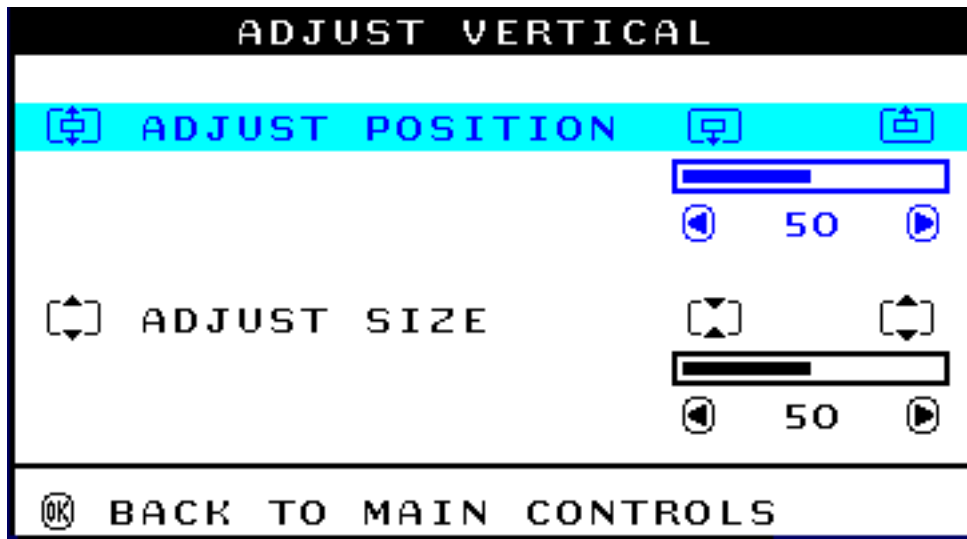
ADJUST POSITION under ADJUST VERTICAL shifts the image on your screen either up or down. Use this feature if your image does not appear centered. ADJUST SIZE under ADJUST VERTICAL expands or controls the image on your screen, pushing it out toward the top or bottom or pulling it in toward the center.



1) Press the  button on the monitor. The MAIN CONTROLS window appears.



2) Press the  button until ADJUST VERTICAL is highlighted.

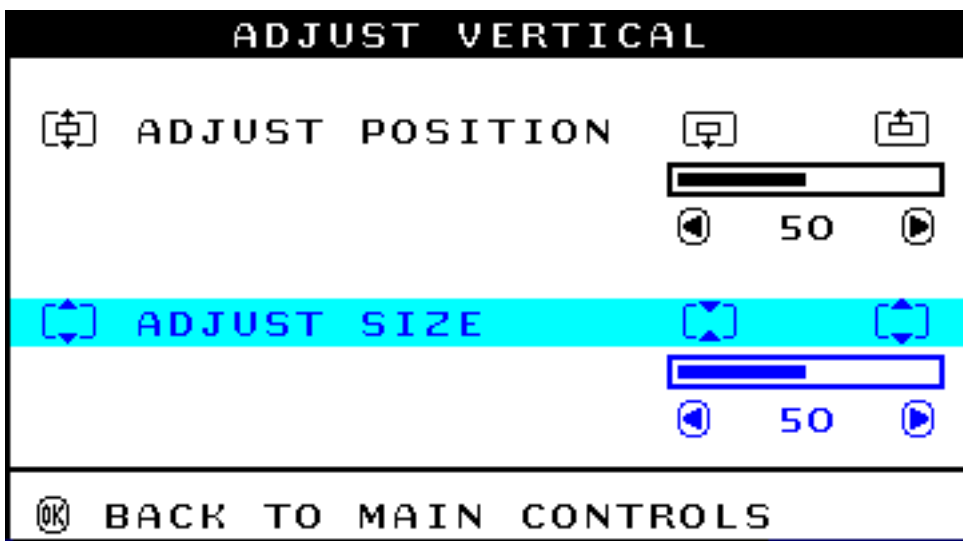




3) Press the  button. The ADJUST VERTICAL window appears. ADJUST POSITION should be highlighted.




4) Press the  or  button to move the image up or down.

5) When the position is adjusted, press the  button to return to MAIN CONTROLS window, or press the  to highlight ADJUST SIZE.



6) To adjust the vertical size, press the  or  button.


7) When the size is adjusted, press the  button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.




Help

Smart

After returning to MAIN CONTROLS . . .

. . . to continue to ADJUST SHAPE, press the  button until ADJUST SHAPE is highlighted. Next, start with step 3 under ADJUST SHAPE and follow the directions.


. . . to exit completely, press the  button

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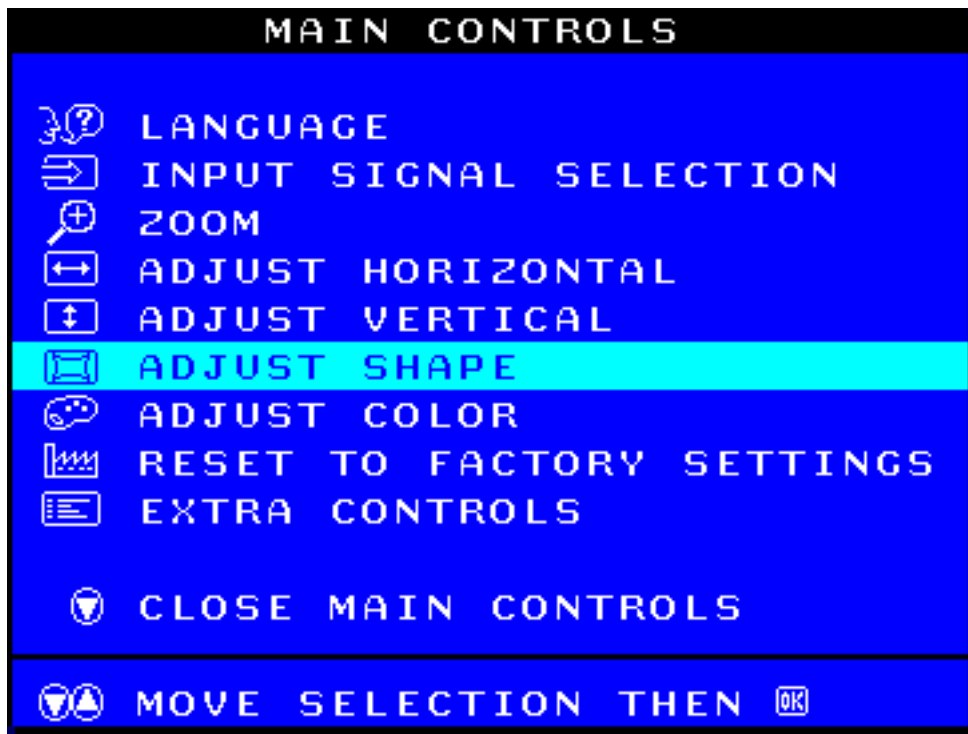
ADJUST SHAPE


ADJUST SIDE CURVE

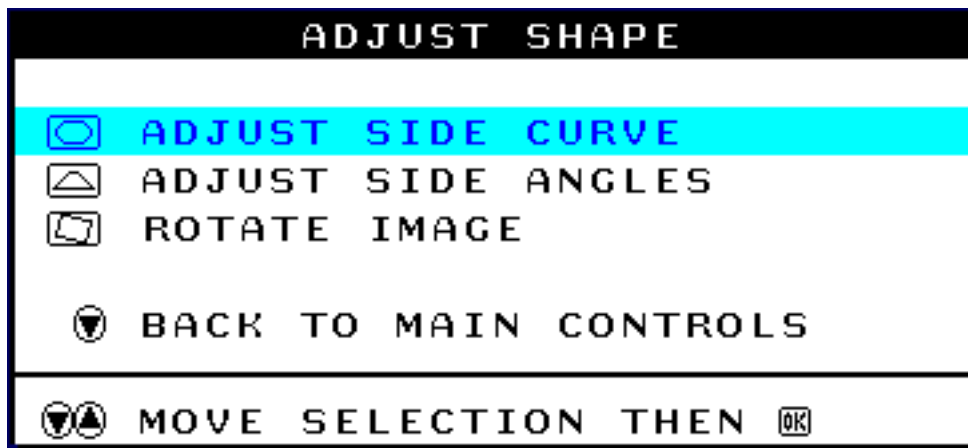
ADJUST SIDE CURVE under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are PINCUSHION and BALANCED pincushion. Note: use these features only when the picture is not square.

1) Press the  button on the monitor. The MAIN CONTROLS window appears.

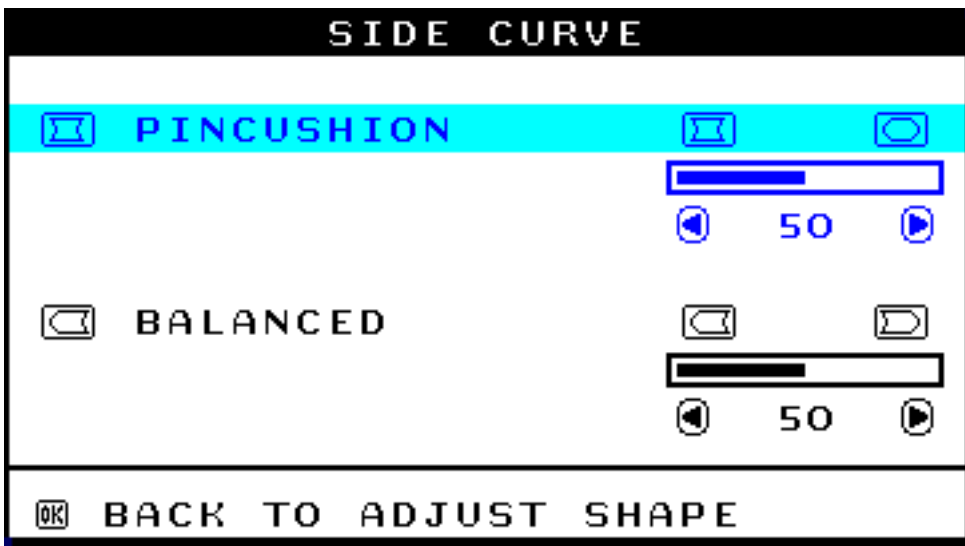
2) Press the  button until ADJUST SHAPE is highlighted.



3) Press the  button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

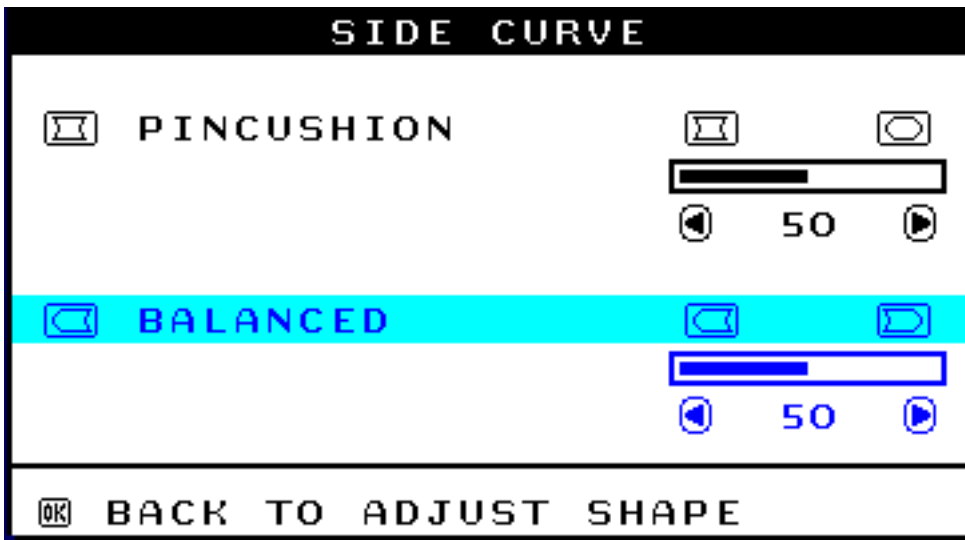


4) Press the  button. The SIDE CURVE window appears. PINCUSHION should be highlighted.



5) To adjust the pincushion, press the ◀ or ▶ button.

6) When the pincushion is adjusted, press the ▼ button to highlight BALANCED or press the [OK] button to return to the ADJUST SHAPE window.



7) To adjust the balanced pincushion, press the ◀ or ▶ button.

8) When the balanced pincushion is adjusted, press the [OK] button to return to the ADJUST SHAPE window. BACK TO MAIN WINDOWS will be highlighted.

9) Press the [OK] button to return to the MAIN CONTROLS window, or press the ▲ button until ADJUST SIDE ANGLES is highlighted.


After returning to MAIN CONTROLS . . .



Smart
Help



...to continue to ADJUST SIDE ANGLES, start with step 5 under ADJUST SIDE ANGLES and follow the directions.

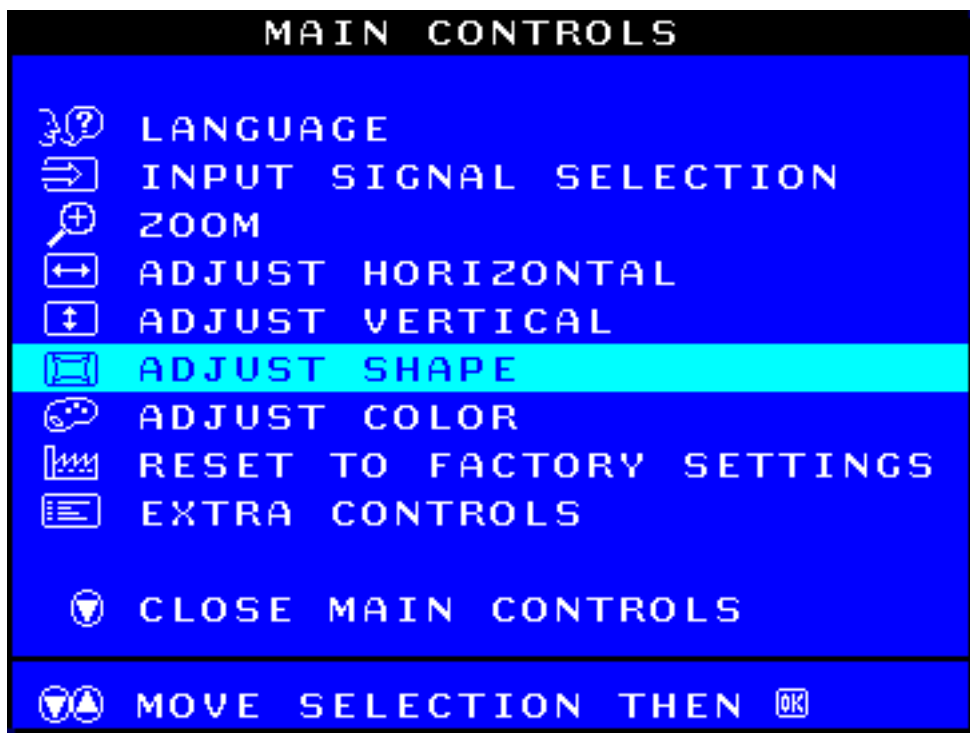
...to exit completely, press the  button twice.


...to adjust only the BALANCED pincushion, follow steps 1 - 4 above, then press the  button, and follow steps 7 - 9.

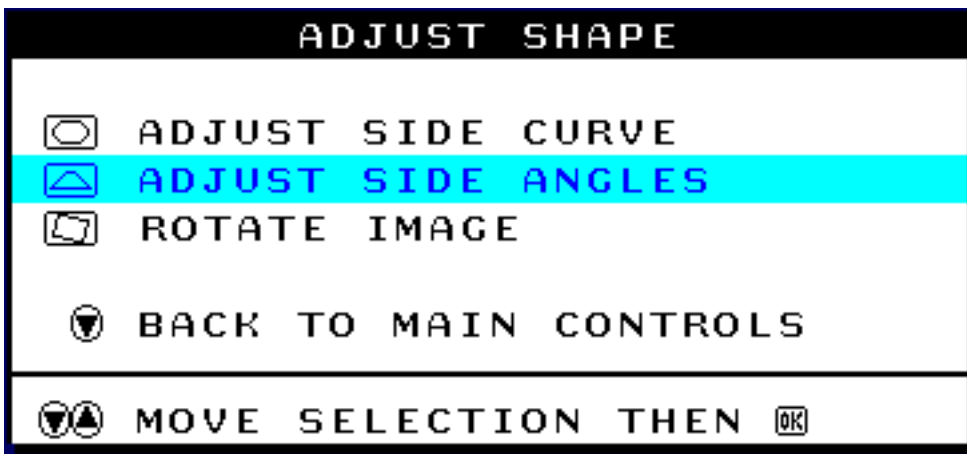
ADJUST SIDE ANGLES

ADJUST SIDE ANGLES under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are TRAPEZOID and PARALLELOGRAM. Note: use these features only when the picture is not square.

- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the  button until ADJUST SHAPE is highlighted.

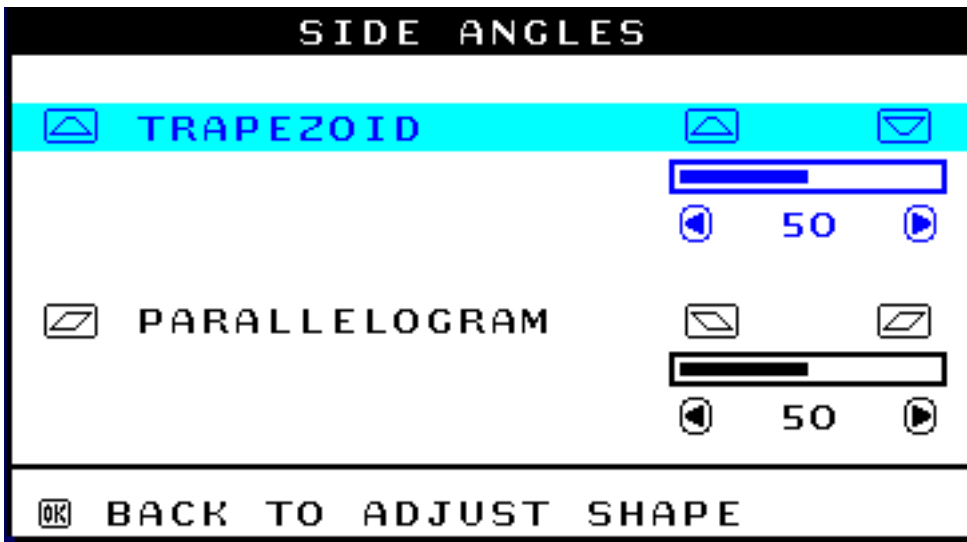




- 3) Press the  button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.





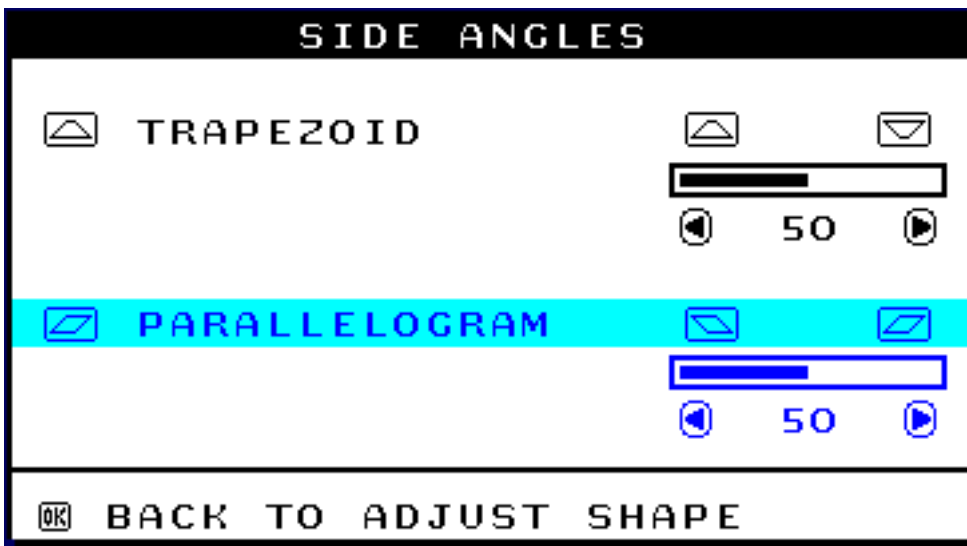
4) Press the  button to highlight ADJUST SIDE ANGLES.

5) Press the  button. The SIDE ANGLES window appears. TRAPEZOID should be highlighted.



6) To adjust the trapezoid, press the  or  button.

7) When the trapezoid is adjusted, press the  button to highlight PARALLELOGRAM or press the  button to return to the ADJUST SHAPE window.



8) To adjust the parallelogram, press the or button.

9) When the parallelogram is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN WINDOWS will be highlighted.

10) Press the button to return to the MAIN CONTROLS window, or press the button until ROTATE IMAGE is highlighted.

After returning to MAIN CONTROLS . . .



Smart

Help

...to continue to ROTATE IMAGE, start with step 5 under ROTATE IMAGE and follow the directions.

...to exit completely, press the button twice.

...to adjust only the PARALLELOGRAM, follow steps 1 - 4 above, then press the button, and follow steps 7 - 9.


ROTATE IMAGE (Not available in all models)

ROTATE IMAGE under ADJUST SHAPE allows you to adjust one of the five preset options. These two options are PINCUSHION and BALANCED pincushion. Note: use this feature only when the picture is not square.

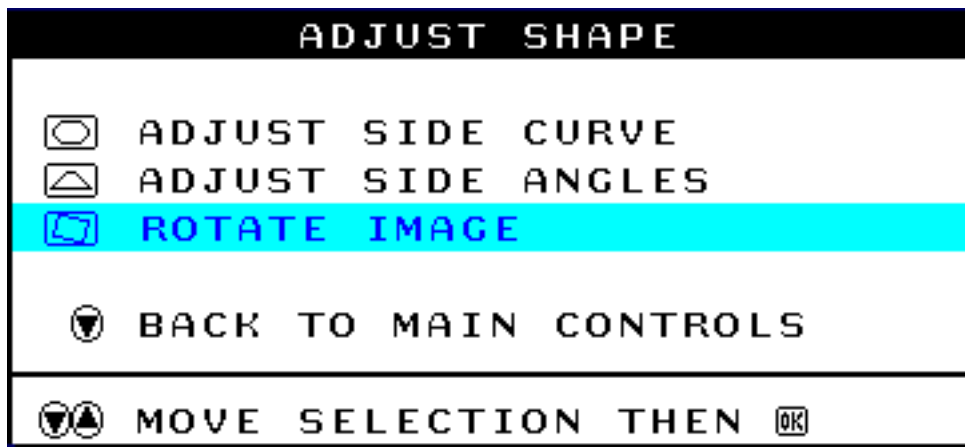
1) Press the button on the monitor. The MAIN CONTROLS window appears.


2) Press the button until ADJUST SHAPE is highlighted.

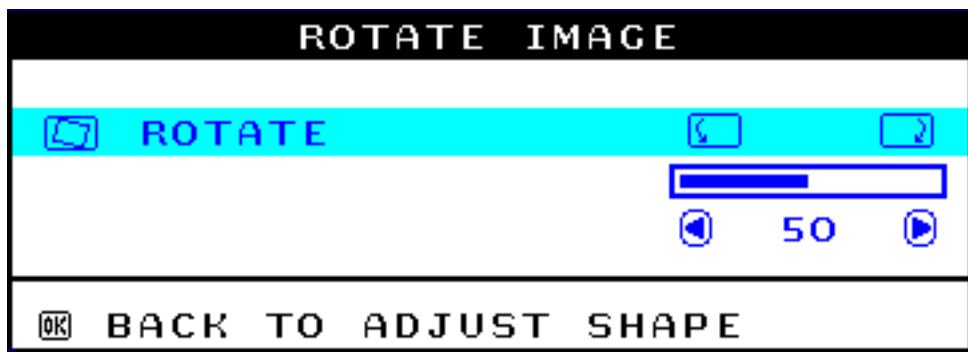






3) Press the  button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

4) Press the  arrow until ROTATE IMAGE is highlighted.



5) Press the  button. The ROTATE IMAGE window appears. ROTATE should be highlighted.




- 6) To adjust the rotation, press the  or  button.
- 7) When the rotation is adjusted, press the  button to return to the ADJUST SHAPE window. BACK TO MAIN CONTROLS should be highlighted.
- 8) Press the  button to return to MAIN CONTROLS.

After returning to MAIN CONTROLS . . .



Help

Smart



. . . to continue to ADJUST COLOR, press the  button until ADJUST COLOR is highlighted. Next, start with step 3 under ADJUST COLOR and follow the directions.

...to exit completely, press the  button twice.

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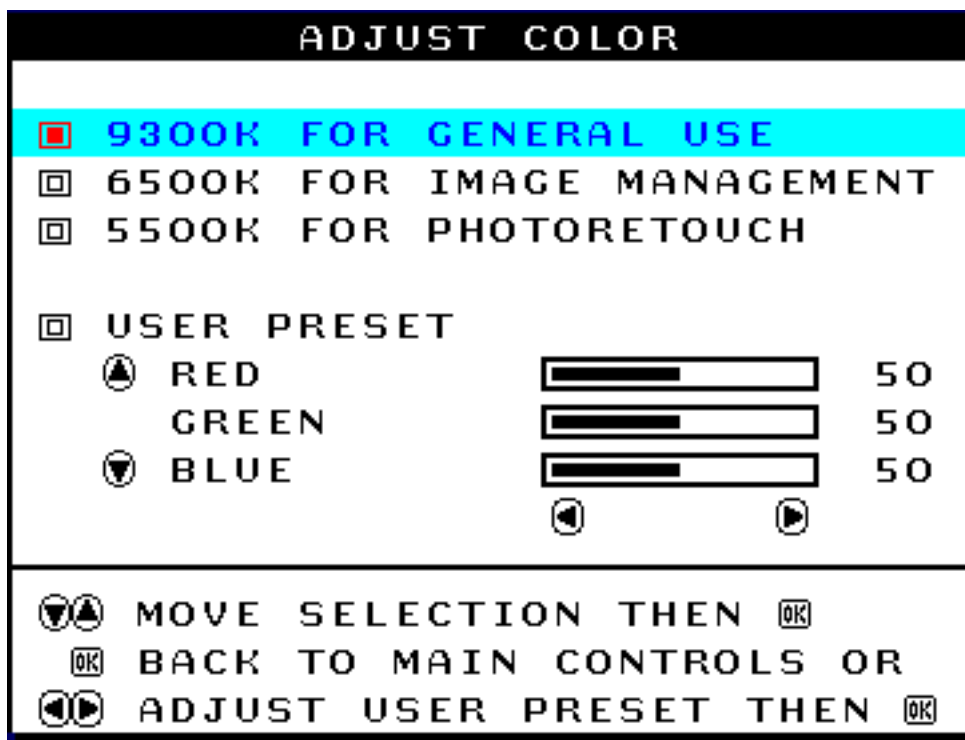
ADJUST COLOR



Your monitor has three preset options you can choose from. The first option is for GENERAL USE, which is fine for most applications. The second option is for IMAGE MANAGEMENT, which includes projects such as desktop publishing, viewing a DVD from your DVD player or pictures on the World Wide Web, and playing video games. The third option is for PHOTO RETOUCH, which is for working with pictures you have imported into your computer and want to alter. When you select one of these options, the monitor automatically adjusts itself to that option. There is also a fourth option, USER PRESET, which allows you to adjust the colors on your screen to a setting you desire.


- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the  button until ADJUST COLOR is highlighted.



3) Press the  button. The ADJUST COLOR window appears.



4) Press the  or  button to highlight 9300K for GENERAL USE, 6500K for IMAGE MANAGEMENT, 5500K for PHOTO RETOUCH, or USER PRESET.

5) Once you have highlighted GENERAL USE, IMAGE MANAGEMENT, or PHOTO RETOUCH, press the  button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

ADJUST COLOR

- 9300K FOR GENERAL USE
- 6500K FOR IMAGE MANAGEMENT
- 5500K FOR PHOTORETOUCH

USER PRESET

- | | | | |
|---|-------|--|----|
| ▲ | RED | <input style="width: 100%;" type="text" value="50"/> | 50 |
| | GREEN | <input style="width: 100%;" type="text" value="50"/> | 50 |
| ▼ | BLUE | <input style="width: 100%;" type="text" value="50"/> | 50 |
| | | ◀ ▶ | |

- ▼▲ MOVE SELECTION THEN OK
- OK BACK TO MAIN CONTROLS OR
- ◀▶ ADJUST USER PRESET THEN OK

6a) ?If USER PRESET is highlighted, press the ▼ button to highlight RED. Next, press the ◀ or ▶ button to adjust the color red.

6b) ?When finished with RED, press the ▼ button to highlight GREEN. Next, press the ◀ or ▶ button to adjust the color green.

6c) ?When finished GREEN, press the ▼ button to highlight BLUE. Next, press the ◀ or ▶ button to adjust the color blue.

6d) ?When all adjustments are complete, press the OK button to confirm your adjustments and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.



After returning to MAIN CONTROLS. . .

Help



Smart . . . to continue to RESET TO FACTORY SETTINGS, press the ▲ button until RESET TO FACTORY SETTINGS is highlighted. Next, start with step 3 under RESET TO FACTORY SETTINGS.

. . . to exit completely, press the OK button.




[RETURN TO TOP OF THE PAGE](#)

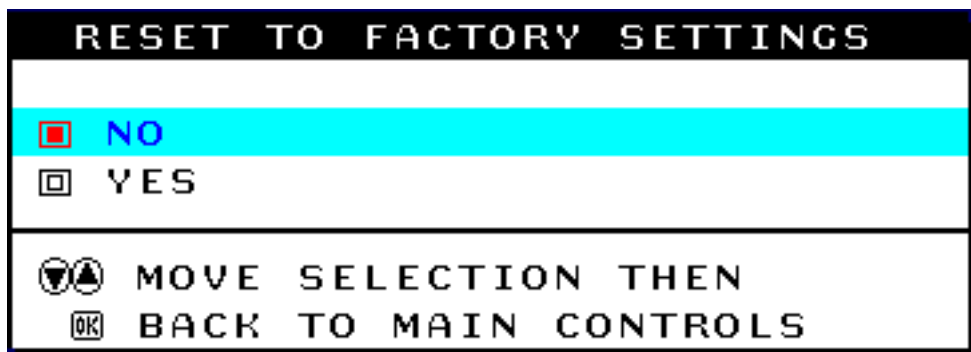
RESET TO FACTORY SETTINGS


RESET TO FACTORY SETTINGS returns everything in all the windows to factory presets.

- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the  button until RESET TO FACTORY SETTINGS is highlighted.



- 3) Press the  button. The RESET TO FACTORY SETTINGS window appears.
- 4) Press the  or  button to select YES or NO. NO is the default. YES returns all settings to their original factory adjustments.




- 5) Press the  button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.




Help

Smart

After returning to MAIN CONTROLS . . .

. . . to continue to EXTRA CONTROLS, press the  button until EXTRA CONTROLS is highlighted. Next, start with step 3 under EXTRA CONTROLS.



. . . to exit completely, press the  button.

[RETURN TO TOP OF THE PAGE](#)

EXTRA CONTROLS

DEGAUSS




EXTRA CONTROLS is a set of three features, including DEGAUSS. Degaussing removes electromagnetic build up that may distort the color on your screen.

- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the  button until EXTRA CONTROLS is highlighted.



- 3) Press the  button. The EXTRA CONTROLS window appears. DEGAUSS will be highlighted.

EXTRA CONTROLS


 **DEGAUSS**
 ADJUST MOIRE
 BACK TO MAIN CONTROLS

 MOVE SELECTION THEN 

SERIAL NUMBER TY 012345

RESOLUTION 1600/1200

FREQUENCY 107K/85HZ


4) To degauss your screen, press the  button. Your screen will be degaussed, then the MAIN CONTROLS window will reappear. CLOSE MAIN CONTROLS will be highlighted.


After returning to MAIN CONTROLS . . .



Help


Smart

. . . to continue to ADJUST MOIRE, press the  button until EXTRA CONTROLS is highlighted. Next, start with step 3 under EXTRA CONTROLS, ADJUST MOIRE.

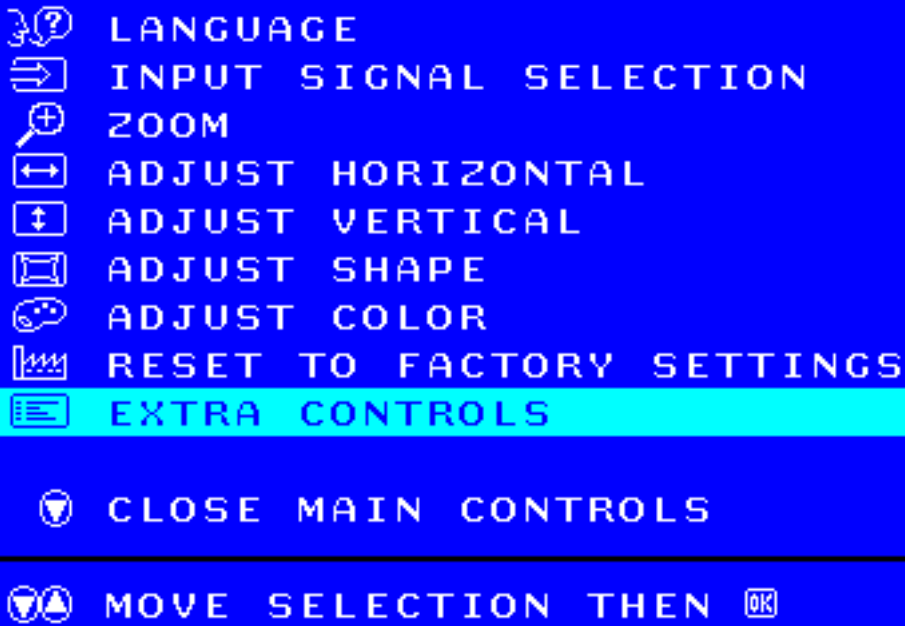
. . . to exit completely, press the  button.

ADJUST MOIRE (Not available in all models)

EXTRA CONTROLS is a set of three features, including ADJUST MOIRE. Moire is a fringe pattern arising from the interference between two superimposed line patterns. To adjust your moire, follow the steps below. Note: Use only if necessary. By activating ADJUST MOIRE, sharpness can be affected.

- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the DOWN CURSOR button until EXTRA CONTROLS is highlighted.

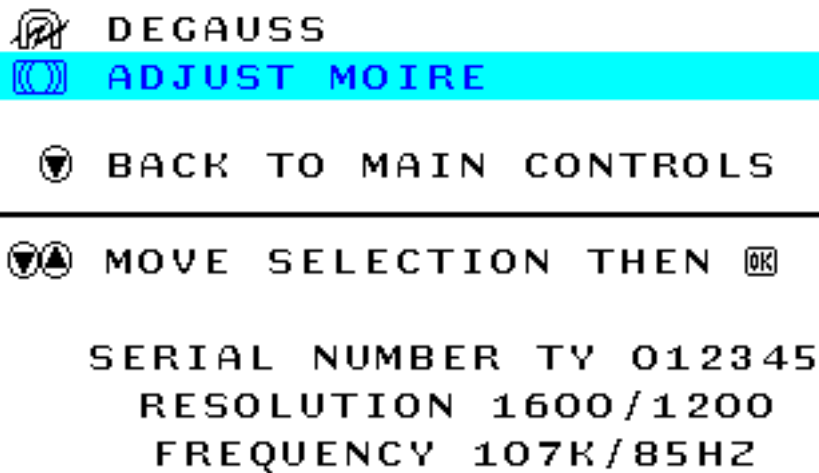
MAIN CONTROLS



3) Press the  button. The EXTRA CONTROLS window appears. DEGAUSS will be highlighted.



4) Press the  button until ADJUST MOIRE is highlighted.


EXTRA CONTROLS

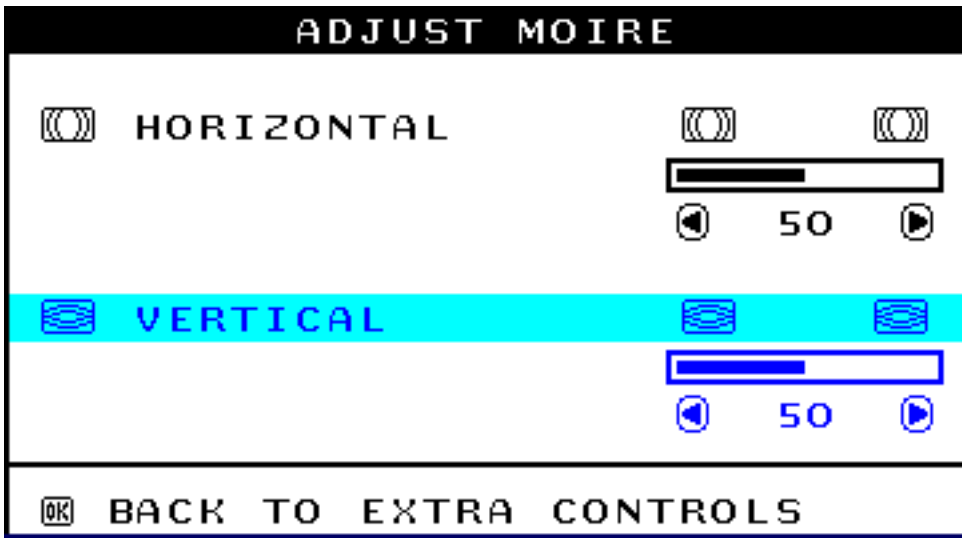




5) Press the  button. The ADJUST MOIRE window appears. HORIZONTAL will be highlighted.




6) To adjust the horizontal moire, press the  or  button.

7) When the horizontal moire is adjusted, press the  button to highlight VERTICAL.



8) To adjust the vertical moire, press the  or  button.


9) When the vertical moire is adjusted, press the  button to return to the EXTRA CONTROLS window. BACK TO MAIN CONTROLS will be highlighted.



Help

Smart

After returning to MAIN CONTROLS . . .

. . . to exit completely, press the  button.

[RETURN TO TOP OF THE PAGE](#)

CLOSE MAIN CONTROLS



[RETURN TO TOP OF THE PAGE](#)

Customer Care & Warranty

PLEASE SELECT YOUR COUNTRY TO READ THE WARRANTY COVERED:

WESTERN EUROPE: [Austria](#) • [Belgium](#) • [Cyprus](#) • [Denmark](#) • [France](#) • [Germany](#) • [Greece](#) • [Finland](#) • [Ireland](#) • [Italy](#) • [Luxembourg](#) • [the Netherlands](#) • [Norway](#) • [Portugal](#) • [Sweden](#) • [Switzerland](#) • [Spain](#) • [United Kingdom](#)

EASTERN EUROPE: [Czech Republic](#) • [Hungary](#) • [Poland](#) • [Russia](#) • [Turkey](#)

LATIN AMERICA: [Antilles](#) • [Argentina](#) • [Brasil](#) • [Chile](#) • [Colombia](#) • [Mexico](#) • [Paraguay](#) • [Peru](#) • [Uruguay](#) • [Venezuela](#)

NORTH AMERICA: [Canada](#) • [USA](#)

PACIFIC: [Australia](#) • [New Zealand](#)

ASIA: [Bangladesh](#) • [China](#) • [Hong Kong](#) • [India](#) • [Indonesia](#) • [Japan](#) • [Korea](#) • [Malaysia](#) • [Pakistan](#) • [Philippines](#) • [Singapore](#) • [Taiwan](#) • [Thailand](#)

AFRICA: [Morocco](#) • [South Africa](#)

MIDDLE EAST: [Dubai](#) • [Egypt](#)

Your International Philips F1rst Choice Warranty

Thank you for purchasing this Philips monitor.



All Philips monitors are designed and manufactured to high standards and deliver high-quality performance, ease of use and ease of installation. Should you encounter any difficulties while installing or using this product, please contact Philips directly to benefit from your Philips F1rst Choice Warranty. This three-year service warranty entitles you to a swap model on-site within 48 hours of your call being received.

An extended warranty called Philips F1rst Choice Premium is available in addition to your Philips F1rst Choice warranty. For more details contact your Philips dealer.

Before contacting Philips, please prepare the following details so we can solve your problem quickly.

- Philips type number
- Philips serial number
- Purchase date (copy of purchase may be required)
- PC environment Processor:
 - 286/386/486/Pentium Pro/Internal memory
 - Operating system (Windows, DOS, OS/2, MAC)
 - Fax/Modem/Internet program?
- Other cards installed

Having the following information available will also help speed up the process:

- Your proof of purchase indicating: date of purchase, dealer name, model and product serial number.
- The full address to which the swap model should be delivered.

Just a phone call away

Philips' customer help desks are located worldwide. You can contact Philips Monday - Friday from 08.00 - 20.00 hrs Central European Time (CET) and on Saturdays and Sundays from 10.00 to 18.00 hrs CET by using one of the toll-free numbers. Click here to access the [F1rst Choice Contact Information](#). Or you can reach us via:

Website: <http://www.pcstuff.philips.com>

F1rst Choice Contact Information

Telephone numbers:

Austria	0660 311 657*	Luxembourg	0800 30 12
Belgium	0800 735 75	Netherlands	0800 023 2011
Cyprus	0809 22 56	Norway	800 113 31
Denmark	808 800 50	Portugal	0800 831 363
France	0800 901 703	Sweden	020 798 327*
Germany	0800 181 7143	Switzerland	0800 837 062
Greece	00800 3112 1223	Spain	900 993 146
Finland	0800 113 125	United Kingdom	0800 896 324
Ireland	1 800 553 154	U.S.A.	877 835 1838
Italy	167 780 000		

* Calls charged at local rates

Your International Guarantee

Dear Customer,

Thank you for purchasing this Philips product which has been designed and manufactured to the highest quality standards.

If, unfortunately, something should go wrong with this product Philips guarantees free of charge labor and replacement parts irrespective of the country where it is repaired during a period of 12 months from date of purchase. This international Philips guarantee complements the existing national guarantee obligations to you of dealers and Philips in the country of purchase and does not affect your statutory rights as a customer.

The Philips guarantee applies provided the product is handled properly for its intended use, in accordance with its operating instructions and upon presentation of the original invoice or cash receipt, indicating the date of purchase, dealer's name and model and production number of the product.

The Philips guarantee may not apply if:

- the documents have been altered in any way or made illegible;
- the model or production number on the product has been altered, deleted, removed or made illegible;
- repairs or product modifications and alterations have been executed by unauthorized service organizations or persons;
- damage is caused by accidents including but not limited to lightning, water or fire, misuse or neglect.

Please note that the product is not defective under this guarantee in the case where modifications become necessary in order for the product to comply with local or national technical standards which apply in countries for which the product was not originally designed and/or manufactured. Therefore always check whether a product can be used in a specific country.

In case your Philips product is not working correctly or is defective, please contact your Philips dealer. In the event you require service whilst in another country a dealer address can be given to you by the Philips Consumer Help Desk in that country, the telephone and fax number of which can be found in the relevant part of this booklet.

In order to avoid unnecessary inconvenience, we advise you to read the operating instructions carefully before contacting your dealer. If you have questions which your dealer cannot answer or any related question please contact the [Philips Consumer Information Centers](#) or via:

Website: <http://www.pcstuff.philips.com>

Consumer Information Centers

[Antilles](#) ¥ [Argentina](#) ¥ [Australia](#) ¥ [Bangladesh](#) ¥ [Brasil](#) ¥ [Canada](#) ¥ [Chile](#) ¥ [China](#) ¥ [Colombia](#) ¥ [Czech Republic](#) ¥ [Dubai](#) ¥ [Egypt](#) ¥ [Hong Kong](#) ¥ [Hungary](#) ¥ [India](#) ¥ [Indonesia](#) ¥ [Japan](#) ¥ [Korea](#) ¥ [Malaysia](#) ¥ [Mexico](#) ¥ [Morocco](#) ¥ [New Zealand](#) ¥ [Pakistan](#) ¥ [Paraguay](#) ¥ [Peru](#) ¥ [Philippines](#) ¥ [Poland](#) ¥ [Russia](#) ¥ [Singapore](#) ¥ [South Africa](#) ¥ [Taiwan](#) ¥ [Thailand](#) ¥ [Turkey](#) ¥ [Uruguay](#) ¥ [Venezuela](#)

Eastern Europe

CZECH REPUBLIC

Philips Service
V Mezihorí 2180 00 Prague
Phone: (02)-6831581
Fax : (02)-66310852

HUNGARY

Philips Markaszerviz.
Kinizsi U 30-36Budapest 1092
Phone: (01)-2164428
Fax : (01)-2187885

POLAND

Philips Polska CE
UL.Marszalkowska 45/49
00-648 Warszawa
Phone: (02)-6286070
Fax : (02)-6288228

RUSSIA

Philips Representation Office
Ul. Usacheva 35a
119048 Moscow
Phone: 095-755 6900
Fax : 095-755 6923

TURKEY

Türk Philips Ticaret A.S.
Talatpasa Caddesi No 5.
80640-Gültepe/Istanbul
Phone: (0800)-211 40 36
Fax : (0212)-281 1809

Latin America

ANTILLES

Philips Antillana N.V.
Kaminda A.J.E. Kusters 4
Zeelandia, P.O. box 3523-3051
Willemstad, Curacao
Phone: (09)-4612799
Fax : (09)-4612772

ARGENTINA

Philips Antillana N.V.
Kaminda A.J.E. Kusters 4
Zeelandia, P.O. box 3523-3051
Willemstad, Curacao
Phone: (09)-4612799
Fax : (09)-4612772

BRASIL

Philips Argentina S.A.
Centro de Información al Usuario
Vedia 38921430-Buenos Aires
Phone: (01)-5442047
Fax : (01)-5452928

CHILE

Philips Chilena S.A.
Avenida Santa Maria 0760
P.O. box 2687 Santiago de Chile
Phone: (02)-730 2000
Fax : (02)-777 6730

COLOMBIA

Industrias Philips de Colombia
S.A.-Division de Servicio
Calle 13, No 51-39
Apartado 4282, Bogota
Phone: (01)-6235511/ 9800-18971 (toll free)
Fax : (01)-6234399

MEXICO

Consumer Information Centre
Norte 45 No.669
Col. Industrial Vallejo
C.P.02300, -Mexico, D.F.
Phone: (05)-3687788 / 9180050462
Fax : (05)-7284272

PARAGUAY

Philips del Paraguay S.A.
Avenida Artigas 1519
Casilla de Correos 605
Asuncion
Phone: (021)-211666
Fax : (021)-213007

PERU

Philips Peruana S.A.
Customer Desk
Comandante Espinar 719
Casilla 1841
Limab18
Phone: (01)-2412890
Fax : (01)-2412913

URUGUAY

Ind.Philips del Uruguay S.A.
Avenida Uruguay 1287
Customer Help Desk
11100 Montevideo
Phone: (02)-923392
Fax : (02)-920752

VENEZUELA

Industrias Venezolanas Philips S.A.
Apartado Postal 1167
Caracas 1010-A
Phone: (02) 2377575
Fax : (02) 2376420

Canada

CANADA

Consumer Service Division.
4977 Levy Street
Ville St.Laurent,
Quebec H4R2N9
Phone: (514)-9560120
Fax : (514)-9560828

Pacific

AUSTRALIA

Philips Consumer Service.
Customer Information Centre.
3 Figtree Drive
Homebush Bay NSW 2140
Phone: (02)-131391
Fax : (02)-97644681

NEW ZEALAND

Philips New Zealand Ltd.
Consumer Help Desk
2 Wagener Place, Mt.Albert
P.O. box 1041
Auckland
Phone: 0800 658 224 (toll free)
Fax : (09)-8497858

Asia

BANGLADESH

Philips Service Centre
100 Kazi Nazrul Islam
Avenue Kawran Bazar C/A
Dhaka-1215
Phone: (02)-812909
Fax : (02)-813062

CHINA

BEIJING
Beijing Authorized Service Centre.
Consumer Information Centre
Building 6, West Street
Chong Wen Men, Beijing, Jin Bang Co. Led.
100051 BEIJING
Phone: (010)-65122276
Fax : (010)-65226236

GUANGZHOU
Philips Authorized Service Centre
801 Dong Feng Road East
Guangzhou 510080
Phone: (020)-7766990
Fax : (020)-7766990

SHANGHAI
Philips Service Logistic Centre
Consumer Information Centre
P.O.Box 002-027, Nextage Department Store
Puding New District
200002 SHANGHAI
Phone: (021)-63511263
Fax : (021)-63510799

Philips Authorized Service Centre
Consumer Information Centre
148 Fu Jian Road M
200001 Shanghai
Phone: (02)-812909
Fax : (02)-813062

HONG KONG

Philips Hong Kong Limited
Consumer Information Centre
16/F Hopewell Centre
17 Kennedy Road, WANCHAI
Phone: 2821-5345
Fax : 2861-3104

INDIA

BOMBAY
Philips India
Customer Relation Centre
Bandbox House
254-D Dr. A Besant Road, Worli
Bombay 400 025
Phone: (022)-4926611
Fax : (022)-4941698

CALCUTTA
Customer Relation Centre
7 justice Chandra Madhab Road
Calcutta 700 020
Phone: (033)-747333
Fax : (033)-4753839

MADRAS
Customer Relation Centre
3, Haddows Road
Madras 600 006
Phone: (044)-8292221
Fax : (044)-8275208

NEW DELHI
Customer Relation Centre
68, Shivaji Marg
New Dehli 110 015
Phone: (011)-5469692
Fax : (011)-5442402

INDONESIA

Philips Group of Companies in Indonesia
Consumer Information Centre
Jl.Buncit Raya Kav. 99-100
12510 Jakarta
Phone: (021)-7940040
Fax : (021)-7940080

JAPAN

Philips Consumer Electronics
1-11-9, Ebisuminami
Shibuya-Ku
Tokyo 150
Phone: (03)-3719-2235
Fax : (03)-3715-9992

KOREA

Philips Korea Ltd.
Philips House
C.P.O. box 3680
260-199, Itaewon-Dong.
Yongsan-Ku, Seoul 140-202
Phone: (02)-5961195/1196 / (02)-5967632/76325
Fax : (02)-5959688

MALAYSIA

Philips Malaysia Sdn. Berhad
Service Dept.
No.51,sect.13 Jalan University.
46200 Petaling Jaya, Selagor.
P.O.box 12163
50768 Kuala Lumpur.
Phone: (03)-7562144
Fax : (03)-7560761

PAKISTAN

KARACHI
Philips Electrical Ind. of Pakistan
Consumer Information Centre
F-54, S.I.T.E, P.O.Box 7101
75730 KARACHI
Phone: (021)-2560071-82
Fax : (021)-2562386

Philips Consumer Service Centre
168-F, Adamjee Road
Rawalpindi Cantt
Phone: (051)-580902-3
Fax : (051)-584944

PHILIPPINES

Philips Electronics and Lighting Inc.
106 Valero St., Salcedo Village
Makati, Metro Manilla.
Phone: (02)-8100161
Fax : (02)-8173474

SINGAPORE

Philips Singapore Private Ltd.
Consumer Service Dept.
Lorong 1, Toa Payoh., P.O. box 340
Singapore 1231
Phone: 3502000
Fax : 2508037

TAIWAN

Philips Taiwan Ltd.
Consumer Information Centre
Nr 96 Section 1, Chien-Kuo N.Road
TAIPEI
Phone: (02)-382-4567
Fax : (02)-2134-2670

THAILAND

Philips Electronics (Thailand) Ltd.
Philips Service Centre
209/2 Sanpavut Road,
Bangna, Bangkok 10260
Phone : (02)-3980141/3980790
Fax : (02)-3983319

Africa

MOROCCO

Philips Electronique Maroc
304, BD Mohamed V
Casablanca
Phone: (02)-302992
Fax : (02)-303446

SOUTH AFRICA

South African Philips.
S.V. Div. 195 Main R.D.
Martindale., Johannesburg
P.O.box 58088
Newville 2114
Phone: (011)-4715000
Fax : (011)-4715034

Middle East

DUBAI

Philips Middle East B.V.
Consumer Information Centre
P.O.Box 7785
DUBAI
Phone: (04)-353666
Fax : (04)-353999

EGYPT

Philips Egypt
Consumer Information Centre
10, Abdel Rahman El Rafei
Mohandessin - Cairo, P.O.Box 242
DOKKI
Phone: (02)-3313993
Fax : (02)-3492142

LIMITED WARRANTY (Computer Monitor)

Three Years Free Labor / Three Years Free Service on Parts / One Year Exchange*

**Product will be exchanged with a new or renewed to original specifications unit within two business days for the first year. This product must be shipped in at your expense for service during years two and three.*

WHO IS COVERED?

You must have proof of purchase to receive warranty service. A sales receipt or other document showing that you purchased the product is considered proof of purchase. Attach it to this owner's manual and keep both nearby.

WHAT IS COVERED?

Warranty coverage begins the day you buy your product. *For three years thereafter*, all parts will be repaired or replaced, and labor is free. *After three years from the day of purchase*, you pay for the replacement or repair of all parts, and for all labor charges.

All parts, including repaired and replaced parts, are covered only for the original warranty period. When the warranty on the original product expires, the warranty on all replaced and repaired products and parts also expires.

WHAT IS EXCLUDED?

Your warranty does not cover:

- labor charges for installation or setup of the product, adjustment of customer controls on the product, and installation or repair of antenna systems outside of the product.
- product repair and/or part replacement because of misuse, accident, unauthorized repair or other cause not within the control of Philips Consumer Electronics.
- reception problems caused by signal conditions or cable or antenna systems outside the unit.
- a product that requires modification or adaptation to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or repair of products damaged by these modifications.
- incidental or consequential damages resulting from the product. (Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you. This includes, but is not limited to, prerecorded material, whether copyrighted or not copyrighted.)
- a product used for commercial or institutional purposes.

Where IS SERVICE AVAILABLE?

Warranty service is available in all countries where the product is officially distributed by Philips Consumer Electronics. In countries where Philips Consumer Electronics does not distribute the product, the local

Philips service organization will attempt to provide service (although there may be a delay if the appropriate spare parts and technical manual(s) are not readily available).

Where CAN I GET MORE INFORMATION?

For more information, contact the Philips Customer Care Center by calling [\(877\) 835-1838 \(U.S.A. customers only\)](tel:877-835-1838) or [\(903\) 242-4804](tel:903-242-4804).

Before Requesting Service...

Please check your owner's manual before requesting service. Adjustments of the controls discussed there may save you a service call.

TO GET WARRANTY SERVICE IN U.S.A., PUERTO RICO OR U.S. VIRGIN ISLANDS...

Contact the Philips Customer Care Center phone number listed below for product assistance and procedures for servicing:

Philips Customer Care Center

(877) 835-1838 or (903) 242-4804

(In U.S.A., Puerto Rico and U.S. Virgin Islands, all implied warranties, including implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the duration of this express warranty. But, because some states do not allow limitations on how long an implied warranty may last, this limitation may not apply to you.)

TO GET WARRANTY SERVICE IN CANADA...

Please contact Philips at:

(800) 479-6696

Three years free parts and three years free labor will be provided at Philips Canada depot or any one of its authorized service centers.

(In Canada, this warranty is given in lieu of all other warranties. No other warranties are expressed or implied, including any implied warranties of merchantability or fitness for a particular purpose. Philips is not liable under any circumstances for any direct, indirect, special, incidental or consequential damages, howsoever incurred, even if notified of the possibility of such damages.)

REMEMBER... Please record the model and serial numbers found on the product below.

MODEL # _____

SERIAL # _____

This warranty gives you specific legal rights. You may have other rights which vary from state/province to state/province.

Philips Customer Care Center, P. O. Box 2976, Longview, TX 75601

Your International Philips F1rst Choice Warranty

Thank you for purchasing this Philips monitor.



All Philips monitors are designed and manufactured to high standards and deliver high-quality performance, ease of use and ease of installation. Should you encounter any difficulties while installing or using this product, please contact Philips directly to benefit from your Philips F1rst Choice Warranty. This three-year service warranty entitles you to a swap model on-site within 48 hours of your call being received within the first year of purchase. If you have any problems with your monitor within the second or third year of purchase, we will repair it after it has been sent to the service provider at your expense and returned to you within five working days, free of charge.

An extended warranty called Philips F1rst Choice Premium is available in addition to your Philips F1rst Choice warranty. For more details contact your Philips dealer.

Before contacting Philips, please prepare the following details so we can solve your problem quickly.

- Philips type number
- Philips serial number
- Purchase date (copy of purchase may be required)
- PC environment Processor:
 - 286/386/486/Pentium Pro/Internal memory
 - Operating system (Windows, DOS, OS/2, MAC)
 - Fax/Modem/Internet program?
- Other cards installed

Having the following information available will also help speed up the process:

- Your proof of purchase indicating: date of purchase, dealer name, model and product serial number.
- The full address to which the swap model should be delivered.

Just a phone call away

Philips' customer help desks are located worldwide. You can contact Philips Monday - Friday from 08.00 - 20.00 hrs Central European Time (CET) and on Saturdays and Sundays from 10.00 to 18.00 hrs CET by using one of the toll-free numbers. Click here to access the [F1rst Choice Contact Information](#). Or you can reach us via:

Website: <http://www.pcstuff.philips.com>

Glossary

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A

Autoscan

A microprocessor-based feature of Philips Brilliance monitors is able to detect automatically horizontal and vertical frequencies of input signals with those of the installed video card. An autoscan monitor can thus operate with a wide range of video cards. MultiSync, a registered trademark of NEC, provides a similar function.

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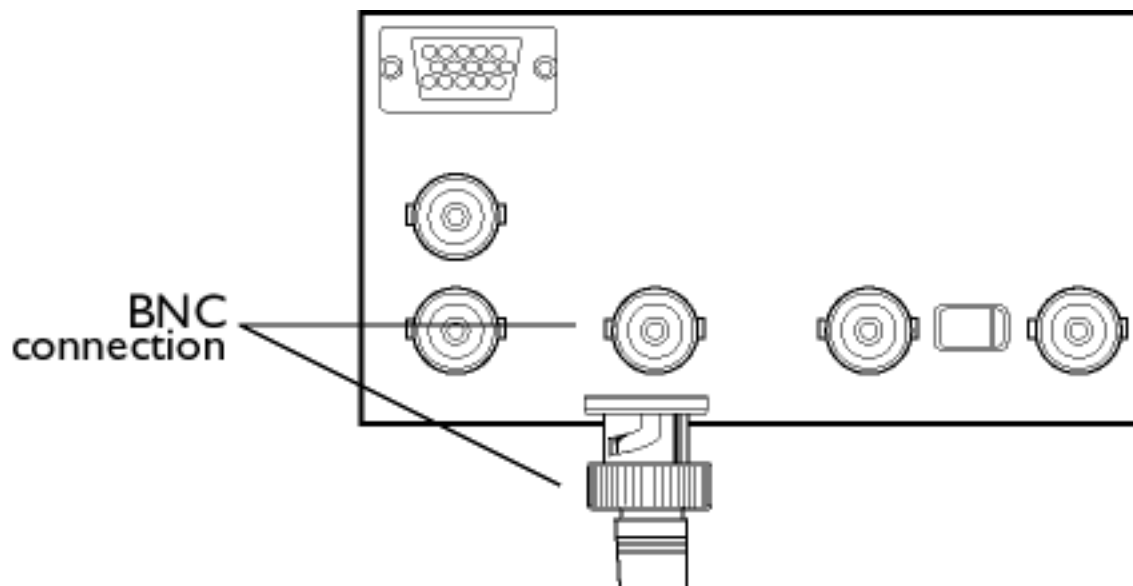
B

Balanced pincushion

See Geometric distortion

BNC connection

A special construction of connector used in some monitors with higher horizontal scanning frequency. The BNC connection can provide the optimum shielding and matching characteristic impedance of video signal path to ensure the best video performance.



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C*CE Mark*

CE mark is displayed on products per EMC and LV (low Voltage Device) directives in compliance with European Community safety, EMI and EMS requirements and is compulsory on products for sale in the European Community.

Color temperature

A way of describing the color of a radiating source in terms of the temperature (in degrees Kelvin) of a black body radiating with the same dominant frequency as the source.

Most Philips monitors offer the possibility of setting the color temperature to any desired value.

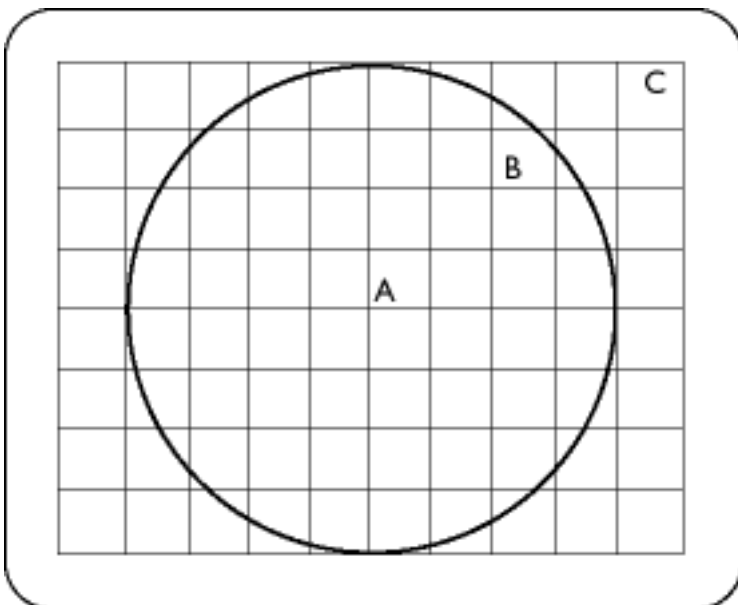
Contrast

The ratio between the brightness of the brightest and darkest parts of a picture. The darkest part of a picture is set by the brightness of the unexcited phosphor, which is governed by the degree with which ambient light is reflected. Contrast is therefore reduced in conditions of high ambient light levels. Black Matrix tubes reflect less ambient light so exhibit higher contrast than other tubes.

Convergence error

Beam misalignment causing one or more of the three beams passing through the wrong aperture in the shadow mask and striking a phosphor dot in the wrong triad.

Convergence error is expressed in mm often at three well-defined points on the screen, designated A, B and C (see figure). Also known as misconvergence.



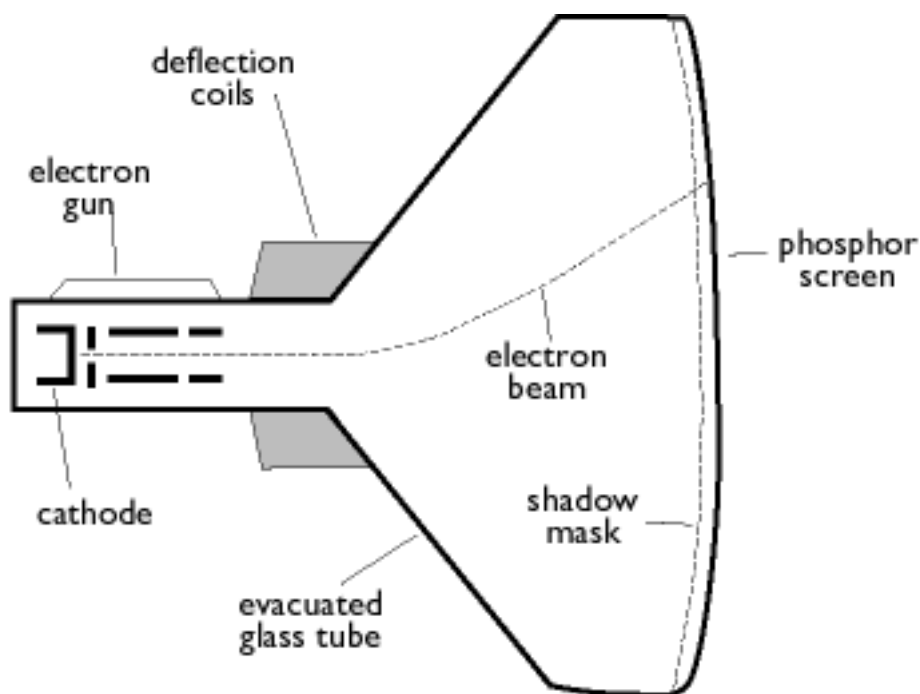
Points where convergence error is specified.

Convergence-error correction

A method of correcting for convergence error to insure that all three beams land simultaneously in the same triad. This is usually accomplished by means of special convergence-error correction coils in the deflection yoke.

CRT

Cathode-ray tube - the general term for all tubes in which one or more electron beams emitted by a cathode are periodically scanned across a phosphor screen by means of deflection circuitry. A special form of the cathode-ray tube is the TV and monitor picture tube.



CustoMax

Philips proprietary monitor control software that allows users to control parameters (e.g., Size, Color, Geometry) using software running in Windows. CustoMax is compatible with existing VGA cards. See CrystalClear FAQ and USB Bay FAQ.

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D

DDC (Display Data Channel)

DDC is a communication channel for displays and computers. The DDC feature allows the monitor controller to be automatically configured to make optimal use of the display without manual user interaction. DDC is implemented as part of the new Plug & Play approach introduced into the PC market to increase user friendliness.

The three levels developed for Plug & play are: (1) DDC1, monitor send data to the PC; (2) DDC2B, PC can request information from monitor; and (3) DDC2Bi which is a two-way communication - monitor can be addressed and PC or graphics board can give commands to monitor.

DDC 1/2B

See DDC.

DDC 2Bi

See DDC.

Degaussing

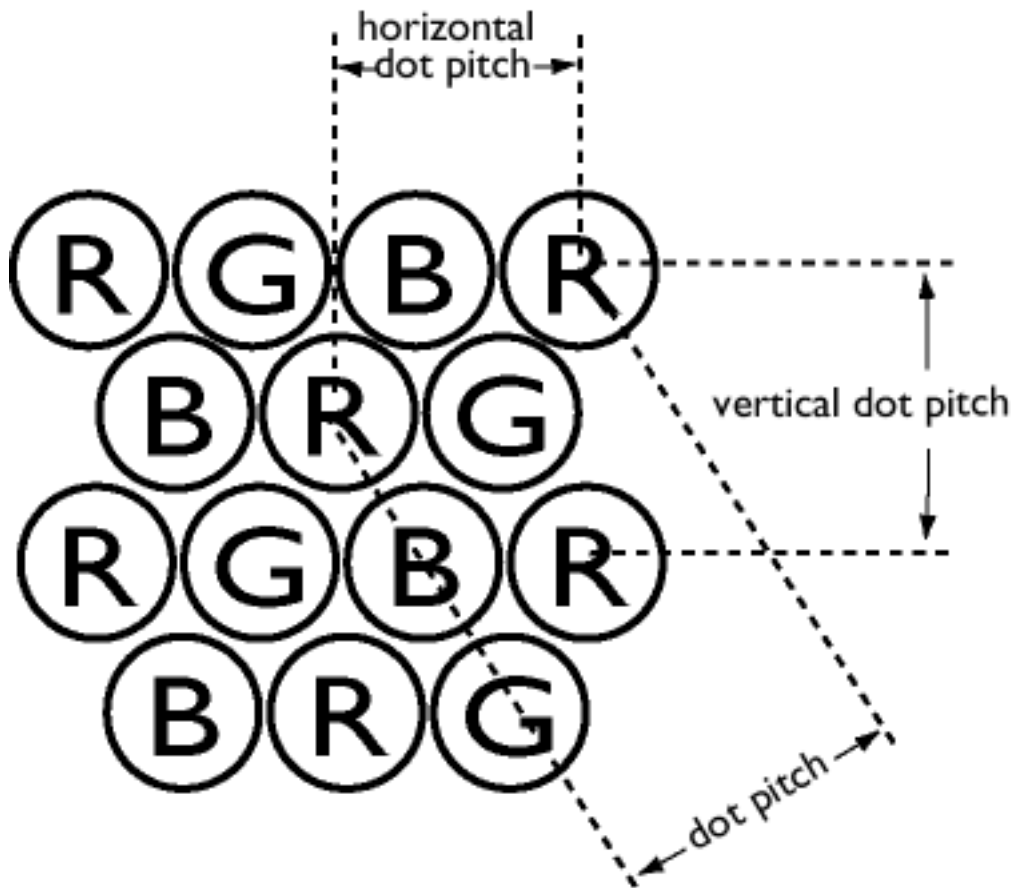
The procedure of demagnetizing the shadow mask and associated metal parts of a picture tube at switch-on to minimize picture distortion. This is usually accomplished by means of a special degaussing coil through which a decaying alternating current is passed to generate an alternating magnetic field that gradually decays to demagnetize the tube. Some monitors offer a manual degaussing facility that can be activated at any time.

Digital control

Microprocessor-based digital control of picture parameters and video modes for complete control of picture settings and modes and instant recall of all settings at the push of a button. This is a very advanced feature that allows the user to switch to any required mode at any instant without having to spend time readjusting the picture. It is currently available in most Philips monitors.

Dot pitch

The shortest distance between two phosphor dots of the same color on the screen. The smaller the dot pitch, the better the resolution of the monitor.



Dot rate

Frequency in MHz of the dot clock. It is a measure of the speed with which data is transferred between the video card and subsequent processing circuitry.

Also known as video dot rate.

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E

Electromagnetic radiation standards

International standards set to limit electromagnetic emissions from monitors. There are currently two important standards both derived from regulations originally laid down by Swedish authorities.

MPR-II

The standard originally proposed by the Swedish National Board of Measurement and Testing. It set maximum levels of electromagnetic radiation emitted by monitors, and has now been adopted as a world standard. MPR-II defines maximum permitted electrostatic, magnetic and electric field levels measured at a distance of 50 cm from the center of the monitor (see table).

TCO

In 1991, the Swedish Tjänstemannens Central Organization (TCO, Swedish confederation of Professional Employees) set a standard even more severe than MPR-II, especially for alternating electric fields (AEF). The TCO standard is more severe since not only are the permitted field levels reduced compared with MPR-II, but the measuring distance is also reduced (see table).

Electromagnetic radiation standards

EMI (Electrical Magnetic Interference)

The electrical and/or magnetic radiation coming from the working electrical or electronic equipment.

EMS (Electrical Magnetic Sustainment)

The ability of electrical or electronic equipment to function properly in the environment with electrical and/or magnetic interference.

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F

Flicker

Very rapid variations in picture intensity caused by the finite time required for the electron beam to scan a picture onto the screen. Two kinds of flicker occur: line flicker caused by the electron beam scanning-in each line of the picture; and frame flicker (or field flicker if the picture is interlaced) caused by the frame repetition rate of 50 frames/second. Frame flicker is noticeable with GUI and DTP software (which have a light background), and can be very disturbing, especially for those who work regularly with displays - contributing to eye strain, headaches, visual blurring, stress, etc. The problem can, however, be eliminated by increasing the refresh rate (number of frames/second) of the monitor to a value above around 70 Hz. Sensitivity to flicker appears to diminish with increasing age.

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H

Hertz

The unit of frequency named after the physicist Heinrich Hertz (1857-1894). 1 hertz (Hz) is equal to 1 cycle/second.

Horizontal dot pitch

See Dot pitch.

Horizontal scanning frequency

Also called line frequency and expressed in kHz, it is the number of video lines written on the screen every second (from left to right). The higher the horizontal scanning frequency, the better the resolution (i.e., the higher the resolution and/or the higher the refresh rate).

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INF File

INF file (Information File)

Information (INF) files store information in a specific format. The set-up functions retrieve information from the INF file to use when performing installation operations. Examples of the type of information stored in an INF file include INI and registry changes, file names, and locations of the source files on source media.

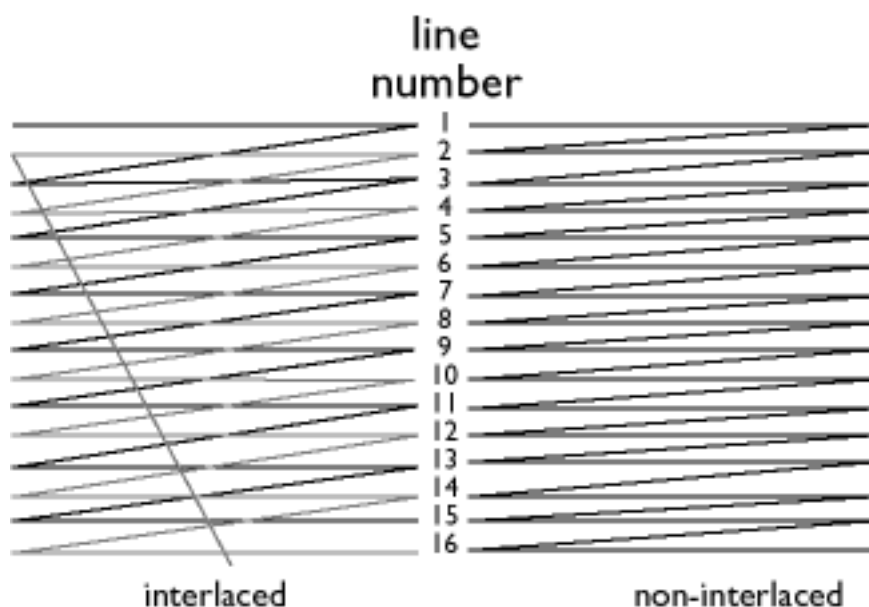
Interlaced/non-interlaced

Interlaced.

The method of writing a picture on the screen by initially writing all even lines and subsequently writing all odd lines of the picture. Result: The complete picture is composed of two interlaced half pictures (or fields). With interlacing, a vertical (or field) frequency of 50 Hz means a picture (or frame) frequency of 25 Hz.

Non-interlaced.

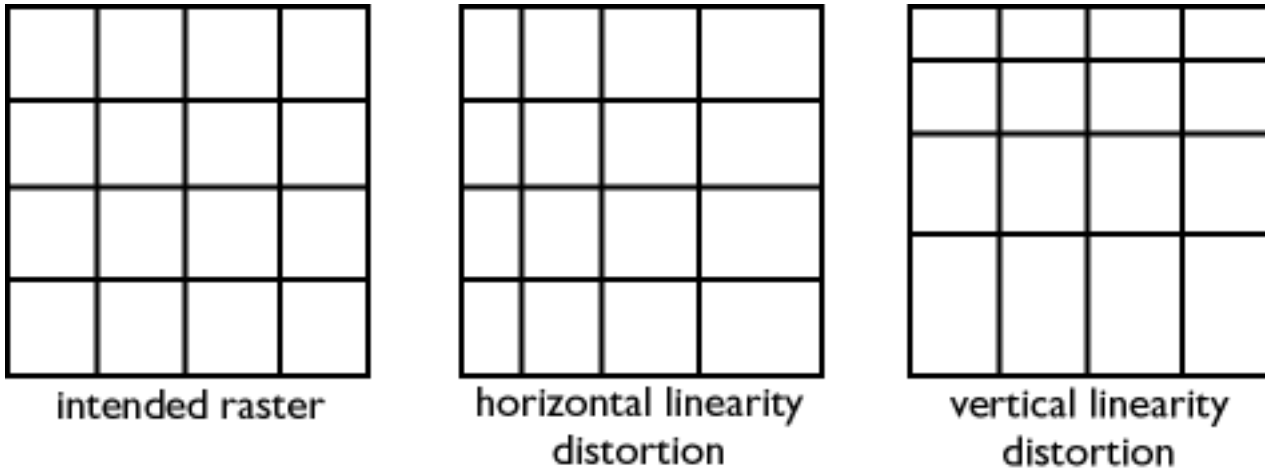
The method of writing a picture on the screen by successive video lines of the picture so that a full frame is written onto the screen in one vertical sweep of the beams. With a non-interlaced display, a vertical frequency of 50 Hz means a picture (or frame) frequency of 50 Hz. At any given resolution, non-interlaced modes are preferable to interlaced modes; however, generation of non-interlaced modes is more expensive.



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L*Linearity*

The degree to measure the actual location of a pixel on the screen corresponds with its intended location. (see figure)

*Line frequency*

See Horizontal scanning frequency.

Low-emission monitor

A monitor that complies with international standards on radiation.

See Electromagnetic radiation standards.

Low-frequency electric and magnetic fields

Alternating fields generated by the deflection yoke. These are subject to increasing attention, notably by governing authorities, the trade and the press. Although there is no scientific evidence that monitor emissions are harmful, much effort has gone into reducing emissions on the principle of better safe than sorry. Currently, there are two areas of interest: very-low frequency (VLF) electric and magnetic fields extending from 2 kHz to 400 kHz, and extreme low frequency (ELF) fields extending from 5 Hz to 2 kHz.

See also *Electromagnetic radiation standards*.

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M

Moiré effect

A fringe pattern arising from the interference between two superimposed line patterns.

In a monitor it comes from the interference between the shadow mask pattern and the video information (video moiré), and between the shadow mask pattern and the horizontal line pattern (scan moiré). It shows itself as wavy patterns on the screen and becomes more noticeable as monitor resolution increases. Since the video signal varies continuously, little can be done about video moiré. Scan moiré depends on the horizontal scanning frequency and can be alleviated by appropriate choice of frequency. Autoscan (MultiSync) monitors, which operate over a range of scanning frequencies, may sometimes exhibit moiré in certain video modes.

MPR

See Electromagnetic radiation standards.

MultiSync monitor

See Autoscan monitor.

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N

Non-interlaced

See Interlaced/non-interlaced.

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O

OSD (On Screen Display)

The feature that allows an end user to adjust screen performance and parameters of monitors directly through an on-screen instruction window. See CustoMax in CrystalClear section.

Overscan

The practice in which areas without useful video information are scanned outside the visible screen area in order to make maximum use of the screen for display of active video information. This practice is occasionally necessary because some video cards generate a video pattern that is smaller than the visible

screen area, resulting in an image that is smaller (and less legible) than it needs to be.

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P

Parallelogram Distortion

See Geometric distortion.

Phosphor

Generic name for the class of substances that exhibit luminescence. To produce a picture on screen, phosphors are deposited on the inner surface of the picture-tube screen and excited into luminescence by the electron beam. Typical examples of phosphors are P22 medium short-persistence phosphor and EBU high-color-saturation phosphor.

Pin-cushion Distortion

See Geometric distortion.

Pixel

Abbreviation for picture element, the smallest element of the picture that can be displayed on the screen. The smaller the pixel size, the better the resolution of the monitor. Pixel size is determined by the size of the electron spot on the screen and not necessarily by the phosphor dot pitch (the size of the triad). Thus, a monitor with a large electron spot covering several triads can exhibit poor resolution even though its dot pitch is small.

Pixel frequency

The number of pixels that can be written in a video line per second.

Pixel rate

See pixel frequency

Plug-and-Play

See DDC. See USB section.

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R

Raster

The area on screen that electron beam can reach.

Refresh rate

See Vertical scanning frequency.

Resolution

The number of pixels that can be displayed on the screen. The resolution is specified as the number of pixels in a line multiplied by the number of horizontal lines.

See also video graphic adapter.

Rotation function

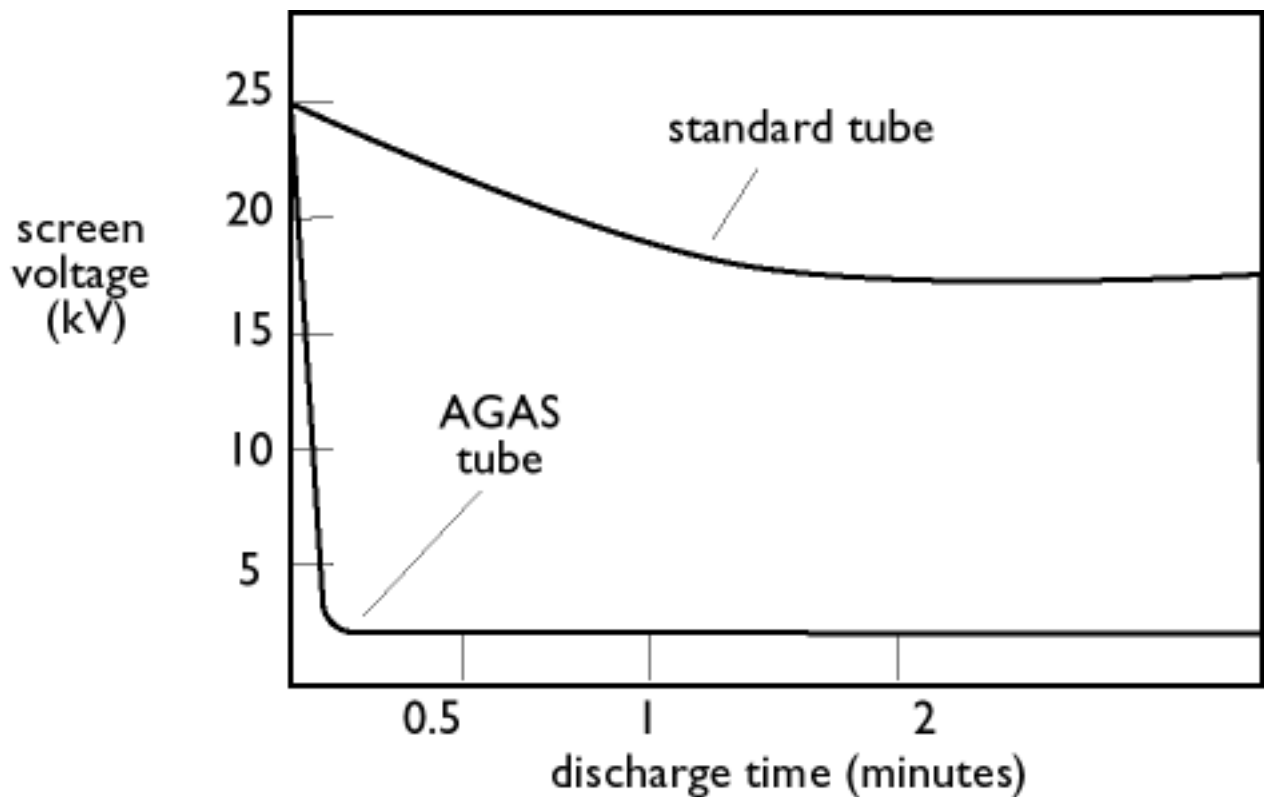
The feature that allows users to adjust the whole screen rotating to be horizontal.

Because of the magnetic field of earth, the screen of monitor will be tilt when the screen faces toward the different direction.

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S

Screen coatings



Anti-Static coatings

Due to bombardment by beam electrons, monitor screens become electrically charged when in use. Electrically charged screens surfaces can attract dust particles. An Anti-Static coating is a conductive coating deposited on the screen (or on a glass panel immediately in front of the screen) that conducts away the charge and prevents screen dust build-up.

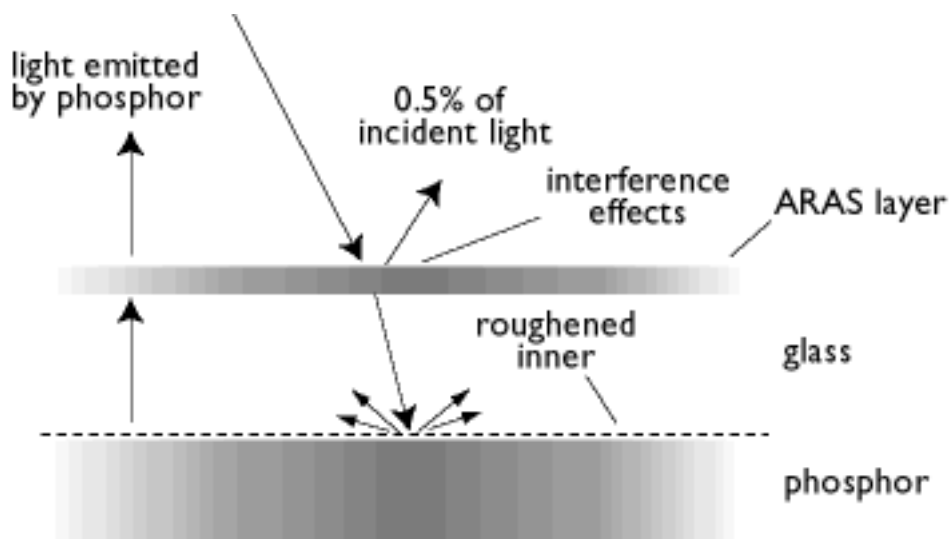
AGAS (Anti-Glare, Anti-Static) coating

AGAS is a silica coating applied to the surface of the screen by a spinning and spraying process. It operates by diffusing reflected light to blur images of light sources on the screen. To provide anti-static properties, the coating is impregnated with small conductive particles.

ARAS (Anti-Reflection, Anti-Static) coating

ARAS is one of the most effective anti-reflection/anti-static screen treatments currently available. It is composed of a multi-layer structure of transparent dielectric material that suppresses specular reflections by broadband interference effects at the screen surface. Anti-static properties are provided by a single conductive layer within the multi-layer structure.

With ARAS, the intensity of reflected light is reduced from around 4.5% of the incident light (the reflectivity of uncoated screens) to less than 0.5%. ARAS also has a major advantage over other screen treatments: It doesn't diffuse or scatter reflected light, so picture contrast and sharpness remain completely unimpaired. It's also easy to clean and tough enough to withstand commercially available cleaning agents.



The ARAS coating reflects only about 0.5% of the incident light.

AGRAS (Anti-Glare anti-Reflection Anti-Static) coating.

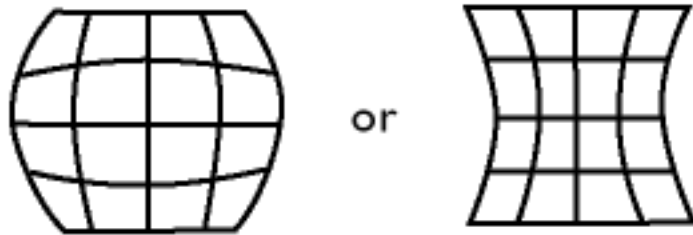
A combined anti-reflection, anti-glare, anti-static coating.

Self-test function

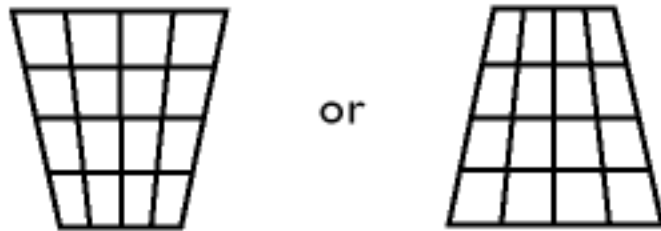
A monitor equipped with hardware or software to automatically detect cable connection status.

Shape

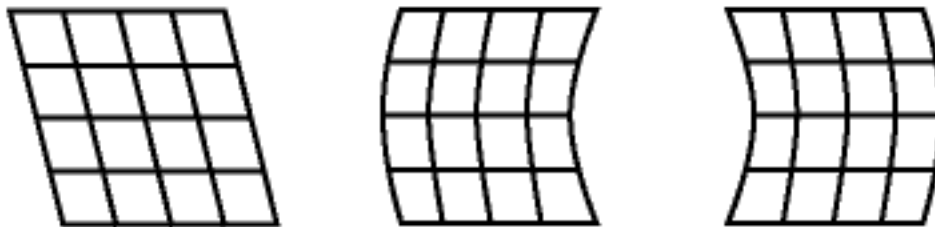
Deviation of a reproduced picture from its intended shape. The following types of distortion are most common:



pincushion distortion



trapezoid distortion

parallelogram
distortionbalanced pincushion
distortion

SOG (Synchronization On Green)

A properly functioning color monitor requires five kinds of signals: horizontal sync pulse, vertical sync pulse, red color signal, green color signal and blue color signal. Signals from a PC are transmitted to a monitor using one of three methods:

1. Separate sync: Horizontal and Vertical sync signals transmitted separately
2. Composite sync: Horizontal and vertical sync pulses mixed into a single signal train.
3. SOG: Horizontal and vertical sync pulses mixed, then combined with the green color signal.

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T

TCO

See Electromagnetic radiation standards.

Tilt function

See rotation function.

Trapezoid distortion

See Geometrical distortion.

TTL signal

A TTL (Transistor-transistor-logic) signal is a digital signal level for controlling the screen colors. With TTL driving, the red, green and blue signals can only be switched on or off or provided with an intensity signal. A TTL-driven monitor can thus display a maximum of 64 colors. Video standards such as MDA, CGA and EGA are based on TTL level.

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U

USB or Universal Serial Bus

[A smart plug for PC peripherals.](#) USB automatically determines resources (like driver software and bus bandwidth) required by peripherals. USB makes necessary resources available without user intervention.

- USB eliminates "case angst" -- the fear of removing the computer case to install add-on peripherals. And USB also eliminates adjustment of complicated IRQ settings when installing new peripherals.
- USB does away with "port gridlock." Without USB, PCs are normally limited to one printer, two Com port devices (usually a mouse and modem), one Enhanced Parallel Port add-on (scanner or video camera, for example) and a joystick. More and more peripherals for multimedia computers arrive on the market every day. With USB, up to 127 devices can run simultaneously on a computer.
- USB permits "hot plug-in." There's no need to shut down, plug in, reboot and run set-up to install peripherals. And no need to go through the reverse process to unplug a device.

In short, USB transforms today's "Plug-and-Pray" into true Plug-and-Play!

Hub

A Universal Serial Bus device that provides additional connections to the Universal Serial Bus.

Hubs are a key element in the plug-and-play architecture of USB. The Figure shows a typical hub. Hubs serve to simplify USB connectivity from the user's perspective and provide robustness at low cost and complexity.

Hubs are wiring concentrators and enable the multiple attachment characteristics of USB. Attachment points are referred to as ports. Each hub converts a single attachment point into multiple attachment points. The architecture supports concatenation of multiple hubs.

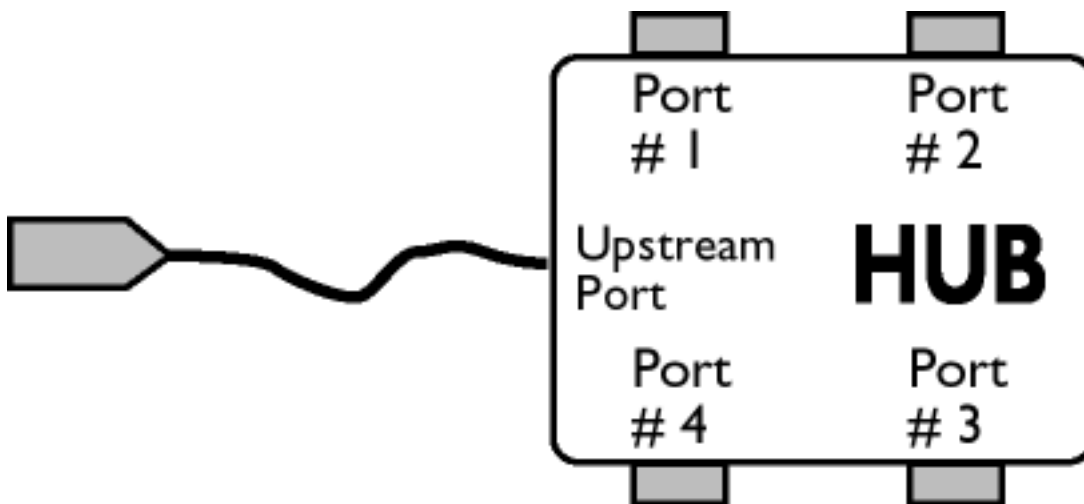
The upstream port of a hub connects the hub towards the host. Each of the other downstream ports of a hub allows connection to another hub or function. Hubs can detect, attach and detach at each downstream port and enable the distribution of power to downstream devices. Each downstream port can be individually enabled and configured at either full or low speed. The hub isolates low speed ports from full speed

signaling.

A hub consists of two portions: the Hub Controller and Hub Repeater. The repeater is a protocol-controlled switch between the upstream port and downstream ports. It also has hardware support for reset and suspend/resume signaling. The controller provides the interface registers to allow communication to/from the host. Hub specific status and control commands permit the host to configure a hub and to monitor and control its ports.

Device

A logical or physical entity that performs a function. The actual entity described depends on the context of the reference. At the lowest level, device may refer to a single hardware component, as in a memory device. At a higher level, it may refer to a collection of hardware components that perform a particular function, such as a Universal Serial Bus interface device. At an even higher level, device may refer to the function performed by an entity attached to the Universal Serial Bus; for example, a data/FAX modem device. Devices may be physical, electrical, addressable, and logical.



Downstream

The direction of data flow from the host or away from the host. A downstream port is the port on a hub electrically farthest from the host that generates downstream data traffic from the hub. Downstream ports receive upstream data traffic.

Upstream

The direction of data flow towards the host. An upstream port is the port on a device electrically closest to the host that generates upstream data traffic from the hub. Upstream ports receive downstream data traffic.

UPS (Universal Power Supply)

The monitor with UPS feature can work in different countries with various mains voltage.

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V*Vertical dot pitch*

See Dot pitch.

Vertical scanning frequency

Expressed in Hz, this is the number of fields written to the screen every second in interlaced mode. In non-interlaced mode vertical scanning frequency is the number of frames (complete pictures) written to the screen every second (also known as refresh rate).

Vertical sync pulses

A train of square shaped waveforms that define the start of a new frame.

VESA

Video Electronic Standards Association, a consortium of manufacturers formed to establish and maintain industry-wide standards for video cards and monitors. VESA was instrumental in the introduction of the Super VGA and Extended VGA video graphics standards (see Video graphics adapters) with a refresh rate of 70 Hz, minimizing flicker and helping to reduce operator eyes fatigue and stress.

Video dot rate

See Dot rate.

Video graphics adapters

A card equipped with a character or graphic generator and video memory, which maps to the screen. A microprocessor scans video memory and translates bit information from the computer into displayable video signals for the monitor. These cards comply with various standards that determine the nature and quality of the display.

[VGA \(Video Graphics Array\)](#), introduced in 1987, was the first analog card. It offered still higher resolution than EGA: 640 X 480 pixels for graphics and 720 x 400 pixels for text, and a color palette of 256 colors. VGA could also emulate EGA and CGA.

[Super VGA](#), devised by VESA in 1989, offers a resolution of 800 x 600 pixels.

[Extended VGA](#), introduced by VESA in 1991, offers a top resolution of 1024 x 768 pixels (non-interlaced) and a refresh rate slightly higher than IBM's XGA 8514A.

[High-end, graphics adapters](#), introduced over the last three years for professional workstations, offer top

resolutions from 1280 x 1024 to 1600 x 1280, horizontal line frequencies up to 90 kHz and bandwidths up to 200 MHz.

VIS (Viewable Image Size)

The real screen dimensions that users can see measured diagonally. The VIS of a monitor is always less than the so called screen size of a monitor. For example, the VIS of a 17-inch monitor is only about 16 inches. It depends on the useful screen size of CRT and the opening of a monitor's front cabinet.

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