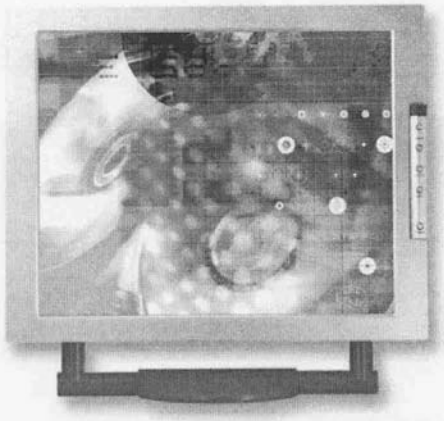
NFREN

http://www.nfren.com

17" TFT LCD MONITOR

NF-1700MAF

USER'S GUIDE



This equipment has been registered to comply with the regulations on electromagnetic waves, so it can be used in all installations, including a residential installation.

Before using this equipment, be sure to read 'Safety Precautions' and use it correctly according to it. The written warranty for this product is included.

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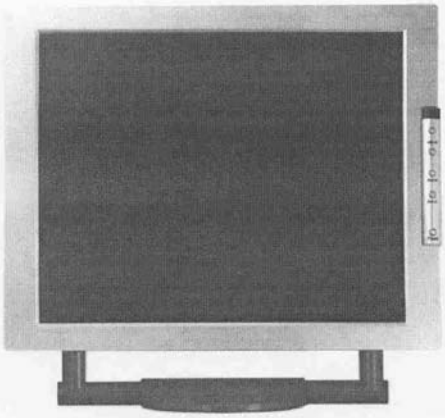

Notes

This is a top class product, made with the LCD panel manufactured by a leading LCD maker in the nation that is proud of its world-class quality. This LCD panel is composed of over two million picture elements. So, it is likely to get bad picture elements in use intrinsically. In addition, the perfect LCD with no bad picture element may be too expensive for end-users to buy. We are producing LCD monitors by using LCD panels of A class that limit bad picture elements to the minimum level, but we think that bad picture elements below a certain number may have no relation with the performance of the product for end-users in fact, and end-users may use it with no great dissatisfaction. Globally, almost all companies hold the same view with us. However, we sell LCD monitors with five or less bad picture elements as normal products. So, our products may not be returned or repaid. Please don't forget it.

INFORMATION TO THE USER (Part 15.105(b))

INFORMATION TO THE USER

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 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.

WARNING (Part 15.21)

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

"Note: The manufacturer is not responsible for any Radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment."

Guidelines for using your LCD monitor safely

Be sure to read carefully the following sheet to use the monitor safely.

◉ Precautions on installing the monitor

- Install the monitor in the place where is no interference of electromagnetic waves
- Put your LCD monitor in a clean and dry location
- This monitor should be placed 10 cm or more away from the wall. If you put the LCD monitor near the wall, high internal temperature may cause fire.
- Do not install the monitor near heat sources, such as heaters. The system may be deformed and the covering of the cable may be melted to cause electric shock or fire.
- Openings in the LCD monitor should not be blocked or covered. It should be placed in wide and well-ventilated places.
- Don't place your LCD monitor in direct sunlight.
- 모니터는 무겁습니다. 낙하의 위험이 없는 안정된 곳에 설치하십시오.
- Do not place the power cord or the signal cable in the passageway. It may hinder passersby and passengers may trip over those cables. It may cause electric shock, fire, system breakdown, or injury.
- Do not block openings for ventilation in your LCD monitor with tablecloth or curtains. High internal temperature may cause fire.
- Desiccant or packing vinyl, used when packing the product, should be kept carefully in the place where children cannot touch it. It is very dangerous to eat desiccant. So, if someone eats it, let him/her vomit it immediately and go to see a doctor in the nearest hospital. Furthermore, you may be suffocated by packing vinyl.

◉ Precautions on Power

- Be sure to use the power cord that is grounded correctly.
- Use it with the specified voltage.
- Disconnect the power cord and the signal cable from the system when it is thundering and lightning.
- Do not use the outlet on the same circuit with other electronic device or electric heater. Be sure to use a grounded multi-socket for a computer. If many electronic devices are connected to a multi-socket, overheating may cause fire.
- Do not disconnect the power cord from your monitor while operating it. Electrical shock may damage the monitor.
- Never touch the power plug with wet hands. Also, if the pins of the cord are wet or dusty, be sure to use it after drying or cleaning it completely. It may cause electric shock.
- Unplug the LCD monitor when it is going to be left unused for an extended period of time. Deterioration of insulating material may cause electric leakage, electric shock, and fire.
- Plug the power cord firmly so that even the end part of the plug may not be shaken. Be sure to hold the plug, not the cord, when disconnecting the monitor from the outlet. Some of core wire in the cord may be cut to cause electric shock or fire.
- Do not insert any conductor such as a chopstick into the slot on one end of the power cord while the other end of it is connected into a wall plug. You may be shocked electrically. In addition, do not touch the power cord immediately after disconnecting it from the outlet. You may be shocked by any residual current.

◉ Precautions on moving the monitor

- Do not forget to turn the monitor off before moving it.
- Be sure to disconnect any cable from the monitor before moving it.
- The monitor should not be shocked when moving it.
- Save the original box and all packing material for future shipping needs.

- When moving it, face the panel forward and hold it firmly with both hands. If you drop it, it may be damaged to cause fire or electric shock. If it is damaged in such way, be serviced at our service center before using.

◉ Precautions on using the monitor

- If using the monitor for a long time, it is efficient to take rest periodically.
- To protect your eyes, it is good to relieve fatigue of them by relaxing frequently.
- Please always keep your monitor clean.
- To reduce fatigue of your muscles, it is recommended to work in convenient and comfortable posture.
- Do not press or scratch the panel strongly with hands or sharp material (for example, nails, pencils, or pens). It may damage the panel to cause malfunction of it.
- Never dissemble or modify the monitor. It may cause fire or electric shock, and you cannot be serviced free of charge.
- Refer the user's guide of the monitor to use it with recommended vertical frequency. If you set it with incorrect vertical frequency, images may be output abnormally, for example, it may appear to vibrate.
- To clean your monitor, please use only exclusive detergents (Do not use benzene, thinner, or alcohol).
- Never insert anything into the openings or ventilating slots. It may cause malfunction of the system, personal injury, or damage of properties.
- When cleaning the surface of the panel, please unplug the LCD monitor first, and wipe it with soft cloth to prevent scratching. Never wipe it with damp cloth. If you do so, moisture may soak in through breaks on the outer case to cause electric shock or serious malfunction of it.

◉ Operating temperature and humidity ➡ based on Vendor specification

- Operating temperature : 5~35℃
- Storage temperature: -10~ 55℃
- Operating humidity: 30% ~ 80% RH
- Storage temperature: 20%~90% RH

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Product Warranty / Service

Chapter 1

Installing LCD Monitor

1.1 Safety Precautions

1.2 Descriptions of Parts

1.3 Basic Components

1.1 Safety Precautions

Be sure to observe 'safety precautions' to use the product safely and correctly and to prevent safety accident in advance. 'Safety precautions' are divided into 'Warnings' and 'Cautions', and the meanings of them are as follows:

Warning

▶ If you don't observe the instruction, it is likely to cause serious injuries or deaths.

Caution

▶ If you don't observe the instruction, it is likely to cause injuries or damages to the product that are not serious.

After reading this user's guide, always keep it near the monitor, so that you can refer it when you need it at any time.

Never dissemble or reconstruct the monitor without qualified servicemen.
If you want to check, calibrate, or repair the monitor, contact our agent or service center.

Avoid exposing your monitor to direct sunlight or another heat source such as stoves or electric heaters.

▶The product may be deformed or fire may occur.

Never insert or drop anything conductive (for example, coins, hairpins, or ironware) or inflammables such as matches or paper into the monitor.

▶Doing so may cause electric shock or fire.

Plug the power cord firmly so that the plug may not be shaken, and do not use an impaired power cord or a loose outlet.

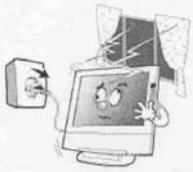
▶Unstable connection may cause fire or electric shock.

Do not install your monitor in any place exposed to the outside or wet places such as a place where water is sprinkled.

▶ It may cause trouble, deformation,electric shock, or fire.

Do not sprinkle water directly to any part of your monitor when cleaning it, and never touch the power plug with wet hands.

▶It may cause fire or electric shock.



When it is thundering or lightning, disconnect the power plug and never touch it.

▶It may cause electric shock or fire.

Unplug the monitor from the outlet when it is going to be left unused for an extended period of time.

▶A dusty monitor may cause heating, ignition, electric shock, electric leak, or fire.

Place the monitor at a certain distance from the wall, so that it may be well-ventilated.

▶High internal temperature in your monitor may cause fire.

Place your monitor in a stable place.

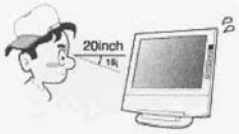
▶If it is dropped from any unstable place, the product may be damaged or broken, or its operator may be injured.

When moving your monitor, never fail to switch the power off and disconnect any cable such as the signal cable of the monitor. In addition, check that the power plug is disconnected from the outlet before moving the monitor.

▶The product may be damaged, or it may cause fire or electric shock due to any impaired cord.

Be sure to hold the power plug, not the cord, when disconnecting it from an electric socket.

▶If you disconnect it by pulling the cord, some of core wire in the cord may be cut. If so, the power may not be supplied to the equipment, or it may cause heating or fire.



The distance between the screen of your monitor and your eyes should be about 50 cm, and your eyes should facing downward about 0 ~ 15 degree from the top of the monitor.

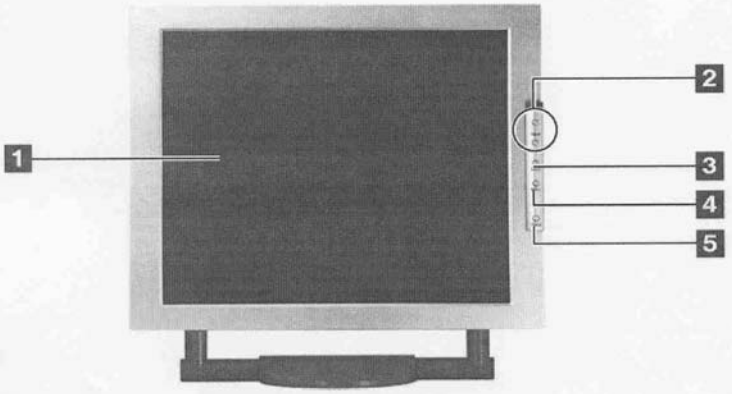
▶If you use your monitor at close range for a long time and with incorrect postures, your eyesight may be failing little by little.

When cleaning your monitor and the surface of the LCD panel, unplug the power cord and wipe it with soft cloth. Do not wipe it with damp cloth and do not use any chemicals, for example, industrial brightener, abrasive, wax, benzene, alcohol, thinner, antirust, lubricant, or detergent.

▶The product may be discolored, dissolved, or cracked.

1.2 Descriptions of Parts

Main Body (Front Side)



1 **LCD Panel**

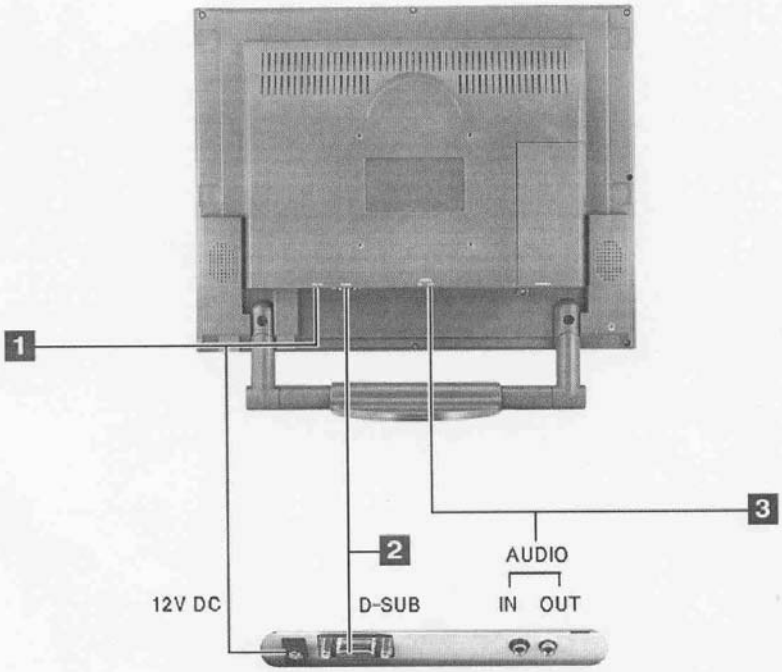
2 **Adjust Button**
Used to adjust values of the selected menu item.

3 **Select Button**
Used to open the menu for adjusting your monitor's screen and to navigate among menu items.

4 **Menu Button**

5 **Power Button**
Used to turn the monitor on or off.

Main Body (Rear Side)



1 Power Input

Used to connect the adapter of the power supply.

2 D-SUB Port

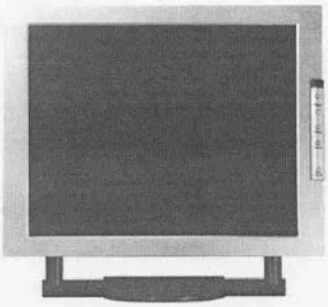
Used to connect the D-SUB signal cable.

3 SPEAKER Port

Used to connect to the speaker output of a sound card in PC.

1.3 Basic Components

After opening the box, check there are the following components supplied with the monitor.
If anything is missing, contact to your dealer where you bought the product.



LCD Monitor

Power Cord

D-SUB Signal Cable

User's Guide

Audio Cable

Adaptor

Monitor Driver Diskette

Chapter 2

Connecting to Computers

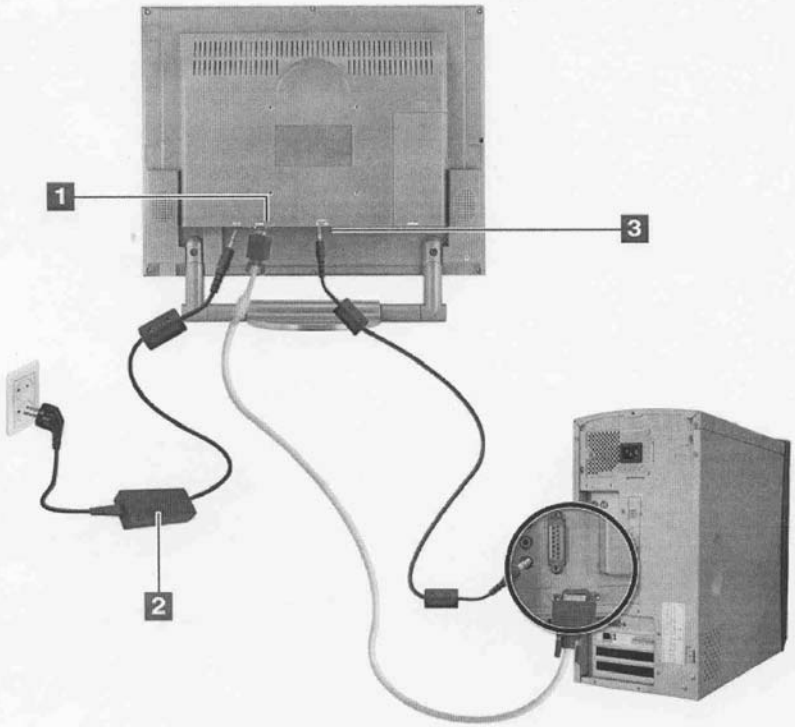
2.1 Connecting to PC

2.1 Connecting to PC

Check that there are all cables to connect to your LCD monitor, and connect it to your computer.

Caution

Turn off your computer and all peripherals before connecting the monitor.



1 Connecting to power source

This monitor should be used with 220V or 110V (The voltage is selected automatically.).

2 Connecting to PC

You should connect the D-SUB signal cable between D-SUB connectors of PC and your monitor.

3 Connecting to Speakers

The audio cable is connected to AUDIO IN port of the monitor and SPEAKER port of the sound card in PC.

Chapter 3

Using Monitor

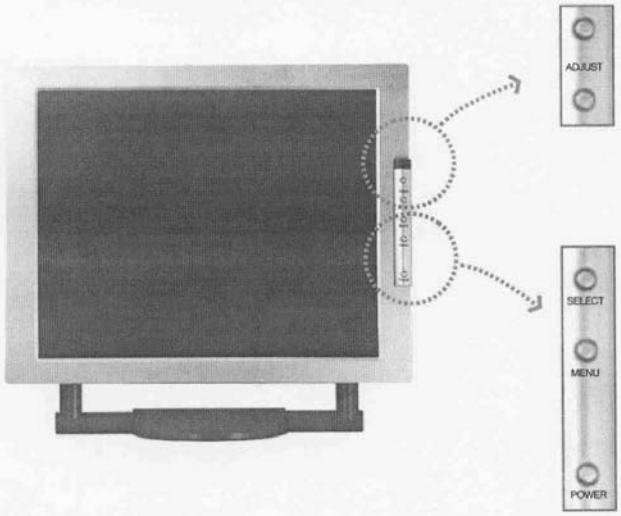
3.1 Functions of Monitor

3.2 Functional Buttons and Indicators

3.3 Items in Adjust menu and menu screens

3.1 Functions of Monitor

To setup the monitor means to save the hardware configuration in 'BIOS Setup'. This setup is saved in CMOS RAM of the system, and maintains by its in-built battery even when it is disconnected from the power source.



Front side buttons of the monitor

There are four functional buttons in the right side of the NF-1700MAF model.

This product is set to its optimum setting at factory, so you need not to adjust anything. However, if you want to set it into any other condition, read the following description carefully and modify the setting.

Two buttons on the upper part of the side are used to open the menu screen or to navigate to any item you want to modify in the menu.

Two buttons on the lower part of the side are used to adjust the value after moving to an item you want to modify.

In subsequent sections, we will describe which item in 'Main menu' and 'Sub menu' adjust which function and the way to modify it

3.2 Functional Buttons and Indicators

To setup the monitor means to save the hardware configuration in 'BIOS Setup'. This setup is saved in CMOS RAM of the system, and maintains by its in-built battery even when it is disconnected from the power source.

MUNU Button

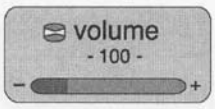
Used to open and close the Main menu on the screen. In addition, you can select any sub-directory with this button.

SELECT BUTTON

This screen is to reset the optimum setting automatically. Pressing the 'SELECT' button once again adjusts it to the optimum setting.

ADJUST (▼, ▲) Button

- Used to move between items.
- Used to move upward or downward among items in the sub-directory.
- Used to adjust values in any item.
- It is operated as a hot key to open the following screen when the main menu is not opened in the screen. Then, you can adjust the volume of the speaker.



Indicators

If you turn the monitor on, the light green indicator turns on near the 'power' button.

If the VGA cable is disconnected or the suspended-mode is on, this light green indicator is blinking regularly.

3.3 Items in Adjust menu and menu screens

You can select and adjust any menu in the OSD window fit for your environment.

Description of adjustment items on the upper part of OSD Screen

(PICTURE) : As an adjustment item regarding the screen, it is possible to adjust the brightness, contrast, fine tuning and position.

(Advanced) : Can finely adjust red, green, blue(RGB), sharpness and color temperature.

(Option) : Can adjust each item on the menu of the screen, such as location, transparency, OSD TMEOUT of menu screen.

(Utilities) : Can stop the screen image, select the language, and adjust the volume and factory reset.

Basic menu screen on each mode

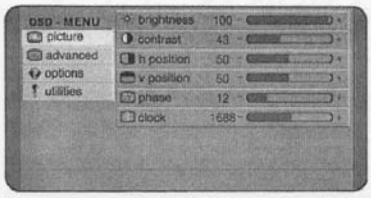


Figure1.Basic Menu Screen when using PC Monitor

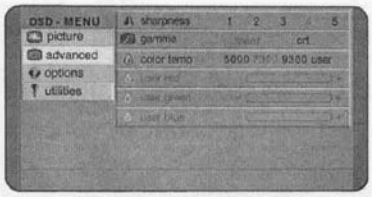


Figure2.Basic Menu Screen when using ADVANCE

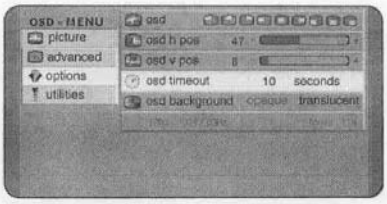


Figure3.Basic Menu Screen when using OPTION

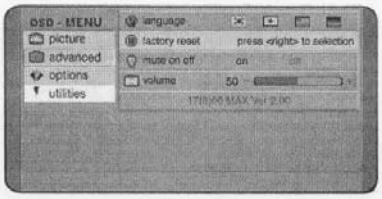


Figure4.Basic Menu Screen when using UTILITIES

Menus when using PC monitor

1) PICTURE

- BRIGHTNESS : Adjust the brightnes of screen. Value of adjustment ranges from 0 to 100.
- CONTRAST : Adjust the contrast in screen quality. Value of adjustment ranges from 0 to 100.
- H-POSITION : Move the entire screen to the left or right.
- V-POSITION : Move the entire screen below or upper.
- PHASE : Fine tuning of the screen even though it is not easily distinguishable with naked eyes. Value of adjustment ranges from 0~31.
- CLOCK : Adjust the horizontal - size(size of horizontal screen) of the entire screen.

2) Advanced

- SHARPNESS : Finely or smoothly adjust the screen image.
- GAMMA : Adjust the coordinates of color.
- COLOR TEMP : Adjust the color temperature, which is not distinguishable with naked eyes. (Adjust the value of red, green and blue when the user selects).

3) OSD Adjust

- OSD : Adjust the position of OSD screen to 9 positions designated in the window screen.
- OSD H-POS : Move the OSD Menu position in the center of screen to the left or right.
- OSD V-POS : Move the OSD Menu position in the center of screen to the upper or lower.
- OSD TOMEOUT : Means the time to set the OSD menu to automatically disappear when there is touch. Unit of timeout is second and it is possible to set in the unit of 5 seconds.
- OSD BACKGROUND : Function to display the OSD menu in transparent and opaque status.

4) Utilities

- LANGUAGE : Select one of 4 languages including Korean, English, Japanese and Germant for OSD menu.
- FACTORY RESET : Return to initial factory release status.
- MUTE ON OFF
- VOLUME : Adjust size of volume by pressing the Left/Right Key.

Appendix A

Appendix

A.1 Checkpoints before requiring after-sale service

A.1 Checkpoints before requiring after-sale service

If you have troubles with your LCD monitor, please check the following items.

Symptoms	Checkpoints	Solutions
Is the power indicator off and the screen blank?	▶ Is the power cord connected correctly? ▶ Did you check the power button of the monitor?	▶ Connect the power cord correctly. ▶ Turn the power of the monitor on.
Is the power indicator on and the screen blank?	▶ Is the signal cable of the monitor (D-SUB) connected correctly?	▶ Connect the signal cable of the monitor (D-SUB) correctly.
Is the position and the size of the screen abnormal?	▶ Is the position and the size of the screen adjusted correctly?	▶ On the Main menu, perform AUTO ADJUSTMENT.
Is the color of the screen uneven and abnormal?	▶ Is the resolution of the video card set correctly?	▶ Set the settings or resolution of the video card properly. ▶ Adjust the color properly by using COLOR in SUB MENT.
Is the screen too bright or too dark?	▶ Is the brightness of the monitor adjusted correctly?	▶ Adjust the brightness properly by using BRIGHTNESS and CONTRAST in SUB MENU.
Is the character on the screen dimmed or out of focus and is there screen noise?	▶ Is CLOCK PHASE set properly?	▶ Adjust PHASE in MAIN MENU to optimize the screen noise.

Product Warranty

We provide the warranty service for each product based on the regulation to compensate for consumers' damage as follows.

If you want to repair your monitor, please submit this warranty where the day of purchase is written. Furthermore, you should keep this warranty well. We don't reissue this warranty. If this product goes wrong, please contact BTC Korea

Name of Product				Model	
	년	월	일	Serial No	
Date of Purchase	Address				
Customer Information	Name			Phone	
Place of Purchase		Phone		Contact	

This warranty for the product is applied based on the information written in the warranty. The period of free-of-charge service is fixed up based on the day of purchase. Please check the day of purchase is recorded in the warranty.When it is impossible to confirm the day of purchase, we regard the warranty period starts at 6 months after the day of manufacture.If the supply is based on any extra agreement, we apply the warranty according to the main agreement.

This warranty is valid only in Korea. You should keep this warranty well with this user's guide. We don't reissue this warranty.

BTC Korea

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