50 Series
BX2250/BX2250N/ BX2350 /BX2450L/ BX2450/BX2450N

TSDR

Monitor Group

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1. Product Specification

*. Feature

-. Panel : 250cd/m2, 2ms, DCR1000:1, 170/160(CR>10)

-. DPMS : <0.3W

-. HDMI with HDCP

-. Windows Vista/Windows 7 authentication

-. Picture：a screen size desire

-. Off-Timer function for reducing standby power usages

-. Supported Color Effect: Off/Grayscale/Green/Aqua/Sepia

-. Supported Magic Bright3/ Picture Mode/Magic Eco/Magic Angle/Magic Return off timer/Image Size/Color Effect

1. Product Specification

Key Specification				
Model	BX2450(BX2450N)	BX2450L	BX2350	BX2250(BX2250N)
Size	24"	23.6"	23"	21.5"
Resolution	1920*1080@60Hz	1920*1080@60Hz	1920*1080@60Hz	1920*1080@60Hz
Brightness	250cd/㎡	250cd/㎡	250cd/㎡	250cd/㎡
Contrast Ratio	1000:1	1000:1	1000:1	1000:1
Dynamic Contrast	MEGA(Typ.)	MEGA(Typ.)	MEGA(Typ.)	MEGA(Typ.)
Supported Resolution	VGA ~ WSXGA+	VGA ~ WSXGA+	VGA ~ WSXGA+	VGA ~ WSXGA+
Horizontal Frequency	30~81kHz	30~81kHz	30~81kHz	30~81kHz
Vertical Frequency	56~75Hz	56~75Hz	56~75Hz	56~75Hz
Sync Type	Sep./Comp./SOG	Sep./Comp./SOG	Sep./Comp./SOG	Sep./Comp./SOG
Response Time (GTG)	2ms（5ms）	2ms	2ms	2ms（5ms）
Viewing Angle (CR>10)	170º/160º	170º/160º	170º/160º	170º/160º
Signal Input	Analog/2*HDMI with HDCP（Analog）	Analog/2*HDMI with HDCP	Analog/2*HDMI with HDCP	Analog/2*HDMIwith HDCP（Analog）
Power Consumption (ON)	27W（DV SET）	27W（DV SET）	30W（DV SET）	22W（DV SET）
Power Consumption (DPMS)	<0.3 Watt	<0.3 Watt	<0.3 Watt	<0.3 Watt

2. Product Image

1.   Connect the power cord for your monitor to the power port on the back of the monitor.
Plug the power cord for the monitor into a nearby outlet.

2-1.   Using the D-sub (Analog) connector on the video card.
Connect the signal cable to the 15-pin, D-sub connector on the back of your monitor.

2-2.   Using the HDMI connector on the video card.
Connect the HDMI Cable to the HDMI 1 Port on the back of your Monitor.

2-3.   Using HDMI connector on the video card.
Connect the HDMI Cable to the HDMI 2Port on the back of your Monitor.

2. Product Image

1. **MENU**

2. **Customized Key / Down Button**

3. **Up Button / Brightness**

4. **Enter / Source Button**

5. **Auto**

6. **Power Button**

2. Product Image

(1) **MENU Button** : Open the OSD menu. Use this button to exit the OSD or go to the upper OSD menu.

(2) **Customized Button** : Press this button to adjust MagicBright™ when select PC Mode.
MagicBright™ is a monitor that fits to various user environments such as editing documents and playing games, etc. It has more than double the brightness and screen quality of existing monitors. The dedicated buttons on the front of the monitor allow users to easily implement five different sets of brightness and clearness settings that fit the environment

-. Custom **:** The Custom mode provides refined brightness and clearness levels. However, it may not be comfortable on the eyes depending on the user's preferences. In this case, adjust the brightness and clearness using the menu.

-. Standard **:** Standard mode provides the same brightness level of general monitors appropriate for text editing and text readability appropriate to the Internet environment.

-. Game **:** Game mode provides a brightness level appropriate for playing games where there are a lot of graphics and fast screen switching.

-. Cinema **:** Cinema mode provides excellent brightness and cleanness levels for the entertainment (movies, DVD, TV, etc.) environment, at the same level as a TV.

-. Dynamic Contrast **:** Dynamic Contrast is to automatically detect distribution of inputted visual signal and adjust to create optimum contrast

Note: Users can set the Customized Key (in SETUP&RESET) to one of the following functions: MagicBright/MagicAngle/MagicEco/Image Size.
If the user presses the Customized Key after setting it, the configured function will be performed .For the others introduction ,please refer to the following contents.

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2. Product Image

（2）**Customized Button** : Press this button to adjust Picture Mode when select AV Mode by HDMI Input.
Picture Mode is a monitor that fits to various user environments such as editing
documents and playing games, etc. It has more than double the brightness and screen quality of
existing monitors. The dedicated buttons on the front of the monitor allow users to easily implement
five different sets of brightness and clearness settings that fit the environment.

-. **Dynamic** **:** Select this mode to view a sharper image than in Standard mode.

-. **Standard** **:** Select this mode when the surroundings are bright. This also provides a sharp image.

-. **Movie** **:** Select this mode when the surroundings are dark. This will save power and reduce eye
fatigue.

-. **Custom** **:** Select this mode when you want to adjust the image according to your preferences

Note: Users can set the Customized Key (in SETUP&RESET) to one of the following functions: MagicBright/MagicAngle/MagicEco/Image Size（PC
Mode）; Picture Mode /MagicAngle/MagicEco/Image Size（AV Mode）.
If the user presses the Customized Key after setting it, the configured function will be performed .For the others introduction ,please refer to the
following contents.

2. Product Image

3) Up Button / Brightness   : Use this button to adjust the brightness of the screen when Analog input.
                                          Use this button to adjust the volume of the HDMI sound when HDMI input.

4) Enter/ Source Button   : Press this button to select a function and video source.

5) Auto Button   : If Button is pressed. Auto adjustment function operates automatically.
(Only in analog mode)

6) Power Button   : Press this button to turn the monitor on or off.

3. OSD Adjustment (Picture)

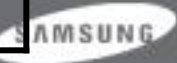| Menu	Description
Brightness	Controls the screen brightness. ✎ This menu is unavailable when <MagicBright> is set to <Dynamic Contrast> mode. ✎ This menu is unavailable when <MagicEco> is set.
Contrast	Controls the contrast of the pictures displayed on the screen ✎ This menu is unavailable when <MagicBright> is set to <Dynamic Contrast> or <Cinema> mode. ✎ This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode. ✎ This menu is unavailable when <Color Effect> is set.
Sharpness	Controls the clarity of details of pictures displayed on the screen ✎ This menu is unavailable when <MagicBright> is set to <Dynamic Contrast>&<Cinema> mode. ✎ This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode. ✎ This menu is unavailable when <Color Effect> is set.

3. OSD Adjustment (Picture)

Menu	Description
MagicBright	Provides preset picture settings optimized for various user environments such as editing a document, surfing the Internet, playing games, watching sports or movies and so on. • <Custom> If the preset picture modes are not sufficient, users can configure the <brightness> and <Contrast> directly using this mode. • <Standard> This mode provides the picture setting appropriate for editing a document and surfing the Internet (text + picture). • <Game> This mode provides the picture setting appropriate for playing games that include lots of graphics and that require a fast screen refresh rate. • <Cinema> This mode provides brightness and sharpness settings similar to those of a TV for the best entertainment environment (movie, DVD, etc.). • <Dynamic Contrast> Controls the picture contrast automatically so that bright and dark pictures are balanced overall. ✎ This menu is unavailable when <MagicAngle> or <MagicEco> is set. ✎ This can only be set when<PC/AV Mode> is set to <PC>.

Picture Mode	The Monitor has four automatic picture settings (<Custom>, <Dynamic>, <Standard> and <Movie>) that are preset at the factory. You can activate either Custom, Dynamic, Standard or Movie. You can select Custom which automatically recalls your personalized picture settings.
	• <Dynamic>
	  Select this mode to view a sharper image than in Standard mode.
	• <Standard>
	  Select this mode when the surroundings are bright. This also provides a sharp image.
	• <Movie>
	  Select this mode when the surroundings are dark. This will save power and reduce eye fatigue.
	• <Custom>
	  Select this mode when you want to adjust the image according to your preferences
	✎ This menu is unavailable when <MagicAngle> or <MagicEco> is set.
	✎ This can only be set when the external input is connected through HDMI/DVI and <PC/AV Mode> is set to <AV>.

3. OSD Adjustment (Picture)

MagicAngle	This feature allows you to see optimal screen quality according to your viewing position • <Off> ① :Select when viewing from the front position. • <Lean Back Mode 1>② :Select when viewing from a slightly lower position • <Lean Back Mode 2>③ :Select when viewing from the lower position • <Standing Mode>④ :Select when viewing from the upper position • <Side Mode>⑤ :Select when viewing from the left or right position • <Custom> : When this function is selected ,setting for <Lean Back Mode 1> is applied by default .Users can set suitable picture quality as needed • <Group View Mode> :Select when two or more person view among ①, ④, ⑤ position at the same time. ✎ This menu is unavailable when <MagicBright> is set to <Dynamic Contrast> or <Cinema> mode. This menu is unavailable when <MagicColor> or <Color Effect>is set.
Coarse	Removes vertical noise lines (line pattern) from the screen. The location of the screen may be changed after the adjustment. In this case, move the screen so that the ✎ screen is displayed at the center of the display panel using the <H-Position> menu. This function is only available in analog mode.
Fine	Removes horizontal noise lines (line pattern) from the screen. If you cannot remove the noise completely with the <Fine> function, adjust the <Coarse> and then use the ✎ <Fine> function again. This function is only available in analog mode.
HDMI Black Level	When watching with a DVD or set-top box connecting to the product via HDMI, image quality deterioration (black level, lower-quality contrast, lighter color tone, etc.) may occur depending on the connected external device. • <Normal> ✎ <Low> This function is active only when the external device is connected via <HDMI>. The <HDMI Black Level> function may not be compatible with all external devices.

3. OSD Adjustment (Color)

The color menu is unavailable when <MagicBright> is set to <Dynamic Contrast> or <Cinema> mode.

3. OSD Adjustment (Color)

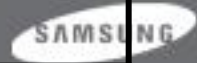| Menu	Description
MagicColor	Expresses natural colors more clearly without changing the picture quality using proprietary digital picture quality improvement technology developed by Samsung Electronics. • <Off> - Turns the MagicColor function off. • <Demo> - You can compare the pictures processed by MagicColor with the original pictures. • <Full> - Provides a clearer picture including areas corresponding to skin color. • <Intelligent> - Improves the chroma of pictures except for areas corresponding to skin color. ✎ This menu is unavailable when <MagicAngle> is set. ✎ This menu is unavailable when <Color Effect> is set.
Red	You can adjust the red color value of pictures according to your preference. ✎ This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode. ✎ This menu is unavailable when <Color Effect> is set.
Green	You can adjust the green color value of pictures according to your preference. ✎ This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode. ✎ This menu is unavailable when <Color Effect> is set.
Blue	You can adjust the blue color value of pictures according to your preference. ✎ This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode. ✎ This menu is unavailable when <Color Effect> is set.
Color Tone	You can set the color temperature according to your preference. • <Cool> - Sets the color temperature of the screen to a cooler color. • <Normal> - Sets the color temperature of the screen to the standard color temperature. • <Warm> - Sets the color temperature of the screen to a warmer color. • <Custom> - Select this menu to set the color temperature manually. If you do not like the preset color temperatures, you can manually adjust the colors of <Color Effect>. ✎ This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode. ✎ This menu is unavailable when <MagicAngle> is set. ✎ This menu is unavailable when <Color Effect> is set.

3. OSD Adjustment (Color)

Color Effect	You can change the overall atmosphere by changing the color of pictures. • <Off> - Turns the color effect function off. • <Grayscale> -Displays pictures in black and white. • <Green> - Displays pictures in green mono color. • <Aqua> - Displays pictures in aqua mono color. • <Sepia> - Displays pictures in sepia mono color. ✎ This menu is unavailable when <MagicAngle> is set. ✎ This menu is unavailable when <MagicColor> is set.
Gamma	Using this menu, you can change the intensity of the colors of medium brightness. ✎ This menu is unavailable when <MagicAngle> is set.

3. OSD Adjustment (SIZE&POSITION)

3. OSD Adjustment (SIZE&POSITION)

Menu	Description
H-Position	Moves the position of the display area on the screen horizontally. 🖉 This function is only available in analog mode.
V-Position	Moves the position of the display area on the screen vertically. 🖉 This function is only available in analog mode.
Image Size	**PC signals** • <Auto> - The picture is displayed at the aspect ratio of the input signal. • <Wide> - The picture is displayed in full screen regardless of the aspect ratio of the input signal. 🖉 • A signal not in the standard mode table is not supported. • If the resolution is set to the optimal resolution, the aspect ratio does not change whether the <Image Size> is set to <Auto> or <Wide>. **AV signals** • <4 : 3> - Displays pictures at the 4 : 3 aspect ratio. • <16 : 9> - Displays pictures at the 16 : 9 aspect ratio. 🖉 • This can only be set when <PC/AV Mode> is set to <AV>.
Menu H-Position	You can adjust the horizontal position of the OSD.
Menu V-Position	You can adjust the vertical position of the OSD.

3. OSD Adjustment (SETUP&RESET)

3. OSD Adjustment (SETUP&RESET)

Menu	Description
Reset	Use this function to restore the visual quality and color settings to the factory defaults. • <No> - <Yes>
Language	Select a language for the OSD. • **English, Deutsch, Español, Français, Italiano, Svenska, Русский , Português , Türkçe** ✎The selected language is only applied to the product OSD. This setting does not affect the other functions of the PC.
MagicReturn	Only works in Windows 7 and recommended when using multiple monitors. • <Off> When<Off>is selected, the<MagicReturn >function is turned off. • <On> When<On>is selected, the<MagicReturn >function is turned on. ✎• The function is available in Windows 7 only.When use the other OS,it is recommended to set this function to <Off>. • This function is not available for analog signal input. • This function may be unavailable for some graphics cards. These graphics cards don't support the international EDID standard. (DDWG DVI Standard) It is recommended to set this function to <Off>. • Press and hold down the ▼ key for 5 seconds while the <Check Signal Cable> OSD is displayed,<MagicReturn> will be automatically set to <Off>.
MagicEco	This function provides user a low power mode which is realized by lowering the controlling current of the display panel. • <100%> - When<100%>is selected,1the power consumption is 100% of default setting. • <75%> - When<75%>is selected,1the power consumption is 75% of default setting. • <50%> - When<50%>is selected,1the power consumption is 50% of default setting. • <Power Saving Off> - When <Power Saving Off>is selected,the function is turned Off. ✎This menu is unavailable when <MagicBright> is set to <Dynamic Contrast> mode.
Off Timer On/Off	You can turn the Off Timer on or off. • <Off> - <On>
Off Timer Setting	Turns the power off automatically when the configured time is reached. ✎ When <On> of <Off Timer On/Off> is selected,This function is available only.
Key Repeat time	Accelerate • 1 second • 2 second • No repeat
Customized Key	You can set the function of the Customized Key to one of the following. • <MagicBright> - <MagicAngle> - <MagicEco> - <Image Size>
Auto Source	• <Auto> - The monitor automatically selects an input signal. • <Manual> - Users have to manually select an input signal. ✎Not applicable to analog (D-SUB) or digital (DVI) dedicated models.

3. OSD Adjustment (SETUP&RESET)

Menu	Description
PC/AV Mode	Set to PC when connected to a PC. Set to AV when connected to an PC device. 📝 This function does not support analog mode. 　　Supplied for the wide models only such as 16:9 or 16:10.
Display Time	The OSD automatically disappears if no action is taken by the user. You can determine the time to wait before the OSD is hidden. • <5 sec> - <10 sec> - <20 sec> - <200 sec>
Menu Transparency	You can select the transparency of the OSD. • <Off> - <On>

3. OSD Adjustment (INFORMATION)

Menu	Description
INFORMATION	Shows the frequency and resolution set on the PC. 📝 For models with an Analog interface only, <Analog/Digital/HDMI> is not shown in the<Information>.

OSD Lock

Menu	Description
OSD Lock & UnLock	After pushing the "MENU" button more than 5 seconds, OSD function is locked (unlocked). ※ You can also adjust the brightness and contrast of the monitor with the OSD adjustment locking feature

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3. OSD Adjustment (Factory Mode)

Factory Mode

Menu	Description
Factory Mode	To enter the Service Function, set the Brightness /Contrast to 0 and press and hold the ENTER /SOURCE key for 5 seconds.

4. Product Characteristics

	BX2450[BX2450N]	BX2450L	BX2350	BX2250(BX2250N)
Resolution	1920*1080	1920*1080	1920*1080	1920*1080
Input	Analog RGB/2*HDMI [Analog]	Analog RGB/2*HDMI	Analog RGB/2*HDMI	Analog RGB/2*HDMI [Analog]
R/T	2ms (GTG) [5ms (BTB)]	2ms (GTG)	2ms (GTG)	2ms (GTG) [5ms (BTB)]
Viewing	170/160(CR>10)	170/160(CR>10)	170/160(CR>10)	170/160(CR>10)
Brightness	250cd/m^2	250cd/m^2	250cd/m^2	250cd/m^2
Contrast Ratio	1000:1	1000:1	1000:1	1000:1
MagicBright	5 step	5 step	5 step	5 step
Wall mount	NONE	NONE	NONE	NONE
Feature	Magic Bright3 * Magic Return(BX2450 only) Magic Angle Magic ECO	Magic Bright3 Magic Return Magic Angle Magic ECO	Magic Bright3 Magic Return Magic Angle Magic ECO	Magic Bright3 * Magic Return(BX2250 only) Magic Angle Magic ECO

Symptom	Check List	Solutions
No images on the screen. I cannot turn on the monitor.	Is the power cord connected properly?	Check the power cord connection and supply.
	Can you see "Check Signal Cable" on the screen?	(Connected using the D-sub cable) Check the signal cable connection.
		(Connected using the DVI cable) If you still see an error message on the screen when the monitor is connected properly, check to see if the monitor status is set to analog. Press ⊡/ SOURCE button to have the monitor double-check the input signal source.
	If the power is on, reboot the computer to see the initial screen(the login screen), which can be seen.	If the initial screen (the login screen) appears, boot the computer in the applicable mode (the safe mode for Windows ME/XP/2000) and then change the frequency of the video card. (Refer to the Preset Timing Modes)
		If the initial screen (the login screen) does not appear, contact the Service Center or your dealer.
	Can you see "Not Optimum Mode", "Recommended Mode1920x1080@ 60 Hz" on the screen?	You can see this message when the signal from the video card exceeds the maximum resolution and frequency that the monitor can handle properly.
		Adjust the maximum resolution and frequency that the monitor can handle properly.
		If the display exceeds SXGA or 75 Hz, a "Not Optimum Mode", "Recommended Mode 1920x1080 60 Hz" message is displayed. If the display exceeds 85 Hz, the display will work properly but the "Not Optimum Mode", "Recommended Mode 1920x1080 60 Hz" message appears for one minute and then disappears. Please change to the recommended mode during this one-minute period. (The message is displayed again if the system is rebooted.)

5.
Q&A

There is no image on the screen. Is the power indicator on the monitor blinking at 1 second intervals?	The monitor is in PowerSaver mode. Press a key on the keyboard to activate the monitor and restore the image on the screen. If there is still no image, press the ⊡/ SOURCE button. Then press any key on the keyboard again to activate the monitor and restore the image on the screen.
Connected using the DVI cable?	You may get a blank screen if you boot the system before you connect the DVI cable, or disconnect and then reconnect the DVI cable while the system is running as certain types of graphic cards do not send out video signals. Connect the DVI cable and then reboot the system.

5. Q&A

I cannot see the On Screen Display.	Have you locked the On Screen Display (OSD) Menu to prevent changes?	Unlock the OSD by pressing the [MENU / ⅢⅡ] button for at least 5 seconds.
The screen shows strange colors or just black and white.	Is the screen displaying only one color as if looking at the screen through a cellophane paper?	Check the signal cable connection. Make sure the video card is fully inserted in it's slot.
	Have the screen colors become strange after running a program or due to a crash between applications?	Reboot the computer.
	Has the video card been set properly?	Set the video card by referring to the video card manual.

5. Q&A

The screen suddenly has become unbalanced.	Have you changed the video card or the driver?	Adjust screen image position and size using the OSD.
	Have you adjusted the resolution or frequency to the monitor?	Adjust the resolution and frequency at the video card. (Refer to the Preset Timing Modes).
	The screen can be unbalanced due to the cycle of the video card signals. Readjust Position by referring to the OSD.	
The screen is out of focus or OSD cannot be adjusted.	Have you adjusted the resolution or frequency on the monitor?	Adjust the resolution and frequency of the video card. (Refer to the Preset Timing Modes).
LED is blinking but no images on the screen.	Is the frequency properly adjusted when checking the Display Timing on the menu?	Adjust the frequency properly by referring to the video card manual and the Preset Timing Modes. (The maximum frequency per resolution may differ from product to product.)
There are only 16 colors shown on the screen. The screen colors have changed after changing the video card.	Have the Windows colors been set properly?	Windows XP : Set the resolution in the Control Panel → Appearance and Themes → Display → Settings. Windows ME/2000 : Set the resolution in the Control Panel → Display → Settings.
	Has the video card been set properly?	Set the video card by referring to the video card manual.

There is a message that reads "Unrecognized monitor, Plug & Play (VESA DDC) monitor found".	Have you installed the monitor driver?	Install the monitor driver according to the Driver Installation Instructions.
	See the video card manual to see if the Plug & Play (VESA DDC) function can be supported.	Install the monitor driver according to the Driver Installation Instructions.
Check when MagicTune™ does not function properly.	MagicTune™ feature is found only on PC (VGA) with Window OS that supports Plug and Play.	* To check whether your PC is available for MagicTune™ feature, follow the steps below (When Windows is XP); Control Panel → Performance and Maintenance → System → Hardware → Device Manager → Monitors → After deleting Plug and Play monitor, find 'Plug and Play monitor' by searching new Hardware. MagicTune™ is an additional software for the monitor. Some graphic cards may not support your monitor. When you have a problem with the graphic card, visit our website to check the compatible graphic card list provided. http://www.samsung.com/monitor/magictune
MagicTune™ doesn't work properly.	Have you changed your PC or video graphic card?	Download the latest program. The program can be downloaded http://www.samsung.com/monitor/magictune
	Did you install the program?	Reboot the computer after installing the program for the first time. If a copy of the program is already installed, remove it, reboot the computer, and then install the program again. You need to reboot the computer for it to operate normally after installing or removing the program.

5. Q&A

▶ Check the following items if there is trouble with the monitor.

- ▶ Check if the power cord and the video cables are properly connected to the computer.

- ▶ Check if the computer beeps more than 3 times when booting.
(If it does, ask the service center to check the main board of the computer.)

- ▶ If you installed a new video card or if you assembled the PC, check if the installed the adapter(video) driver and the monitor driver.

- ▶ Check if the scanning ratio of the video screen is set to between 56 Hz ~ 75 Hz.
(Do not exceed 75 Hz when using the maximum resolution.)

- ▶ If you have problems in installing the adapter (video) driver, boot the computer in Safe Mode, remove the Display Adapter at the "Control Panel → System → Device Administrator" and then reboot the computer to reinstall the adapter (video) driver.

5. Q&A

Question	Answer
How can I change the frequency?	The frequency can changed by reconfiguring the video card. Note that video card support can vary, depending on the version of the driver used. (Refer to the computer or the video card manual for details.)
How can I adjust the resolution?	Windows XP: Set the resolution in the Control Panel->Appearance and Themes->Display->Setting Windows ME/2000: Set the resolution in the Control Panel->Display->Settings Windows Vista Set the resolution in the Control Panel->Personalization -> Display Setting Windows7 Set the resolution in the Control Panel->All Control Panel Items -> Personalization -> Display -> Screen Resolution ※ Contact the video card manufacturer for details
How can I set the Power Saving function?	Windows XP: Set the resolution in the Control Panel-> Appearance and Themes->Display->Screen Saver. Set the function in the BIOS-SETUP of the computer. Windows ME/2000: Set the resolution in the Control Panel->Display->Screen Saver. Windows Vista / 7 : Set the resolution in the Control Panel->Power Options->Power savers ※Refer to the Windows/Computer Manual
How can I clean the outer case/LCD Panel?	Disconnect the power cord and then clean the monitor with a soft cloth,using either a cleaning solution or plain water. **Do not leave any detergent or scratches on the case.** **Do not let any water enter the monitor**

5. Q&A

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly.

▶ Self-Test Feature Check ▲

❶ Turn off both your computer and the monitor.

❷ Unplug the video cable from the back of the computer.

❸ Turn on the monitor.

If the monitor is functioning properly, you will see a box in the illustration below.

Check Signal Cable
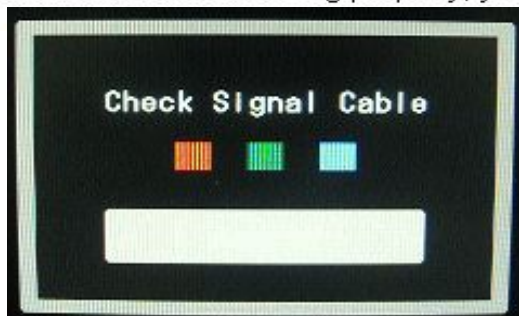
This box appears during normal operation if the video cable becomes disconnected or damaged.

❹ Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after using the previous procedure, check your video controller and computer system; your monitor is functioning properly.

5. Q&A
BX2450/BX2450N/BX2450L/BX2350/BX2250/BX2250N

▷ Useful Tips ▲

▷ A monitor recreates visual signals received from the computer. Therefore, if there is a problem with the computer or the video card, this can cause the monitor to become blank, have poor coloring, become noisy, and video mode not supported, etc. In this case, first check the source of the problem, and then contact the Service Center or your dealer.

▷ Judging the monitor's working condition

If there is no image on the screen or a "Not Optimum Mode", "Recommended Mode **1920X 1080 60Hz**" message comes up, disconnect the cable from the computer while the monitor is still powered on.

▸ If there is a message coming up on the screen or if the screen goes white, this means the monitor is in working condition.
▸ In this case, check the computer for trouble.

5. Q&A

▶ Warning Messages ▲

If there is something wrong with the input signal, a message appears on the screen or the screen goes blank although the power indicator LED is still on. The message may indicate that the monitor is out of scan range or that you need to check the signal cable.

Check Signal Cable
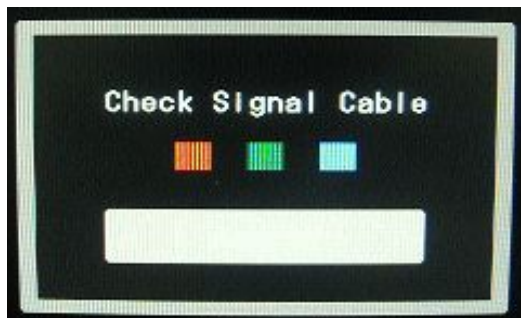
▶ Environment ▲

◘ The location and the position of the monitor may influence the quality and other features of the monitor.

▸ If there are any sub woofer speakers near the monitor, unplug and relocate the woofer to another room.
Remove all electronic devices such as radios, fans, clocks and telephones that are within 3 feet (one meter) of the monitor.

5. Q&A

Preset Timing Modes(BX2250)

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.94	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+
VESA, 1600 X 1200	75.000	60.000	162.000	+/+
VESA, 1680 X 1050	65.290	59.954	146.250	-/+
VESA, 1920 X 1080	67.500	60.000	148.500	+/+

5.
Q&A

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.94	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+
VESA, 1600 X 1200	75.000	60.000	162.000	+/+
VESA, 1680 X 1050	65.290	59.954	146.250	-/+
VESA, 1920 X 1080	67.500	60.000	148.500	+/+

5. Q&A

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.94	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+
VESA, 1600 X 1200	75.000	60.000	162.000	+/+
VESA, 1680 X 1050	65.290	59.954	146.250	-/+
VESA, 1920 X 1080	67.500	60.000	148.500	+/+

5. Q&A

Preset Timing Modes(BX2450L)

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.94	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+
VESA, 1600 X 1200	75.000	60.000	162.000	+/+
VESA, 1680 X 1050	65.290	59.954	146.250	-/+
VESA, 1920 X 1080	67.500	60.000	148.500	+/+

5.
Q&A

Preset Timing Modes(BX2450)

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.94	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+
VESA, 1600 X 1200	75.000	60.000	162.000	+/+
VESA, 1680 X 1050	65.290	59.954	146.250	-/+
VESA, 1920 X 1080	67.500	60.000	148.500	+/+

5.
Q&A

Preset Timing Modes(BX2450N)

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/ V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.94	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+
VESA, 1600 X 1200	75.000	60.000	162.000	+/+
VESA, 1680 X 1050	65.290	59.954	146.250	-/+
VESA, 1920 X 1080	67.500	60.000	148.500	+/+