

E553

E463

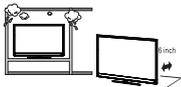
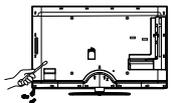
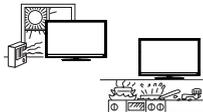
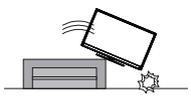
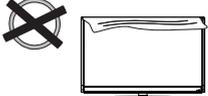
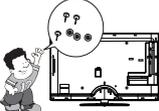
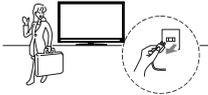
E423

E323

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Precautions And Reminders

<p>Do not place the display in confined spaces or in a box when in use. Maintain ample ventilation for the display when in use.</p> 	<p>Do not open the display cabinet.</p> 	<p>Call a NEC certified service personnel for any internal service needed for your display.</p> 
<p>Keep the display away from direct sunlight, dust, humidity, and smoke.</p> 	<p>Unplug immediately if any foreign object is put in the display or if the display falls.</p> 	<p>Unplug immediately if there is a display malfunction such as a loss of audio/video, the presence of smoke, or a bad odor coming from the display.</p> 
<p>Unplug the AC cord from the AC outlet before cleaning. Do not use liquid cleaners or aerosol cleaners to clean the display.</p> 	<p>Do not place the display near water such as a bathtub, washbasin, sink, laundry tub, swimming pool, or a damp basement.</p> 	<p>Do not cover or block any vents or openings. Inadequate ventilation may shorten the life of the display and cause overheating.</p> 
<p>Place the unit on a sturdy, even surface.</p> 	<p>Do not insert any foreign objects into the display cabinet.</p> 	<p>Unplug the power cord from the outlet when the display is not in use for long periods of time (days).</p> 



Notice for Remote Controller

<p>Avoid Liquids</p> 	<p>Avoid Aerosol Cleaners</p> 	<p>Avoid Dropping</p> 
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Important Safety Instructions

Read before operating equipment

Follow all warnings and instructions marked on this display.

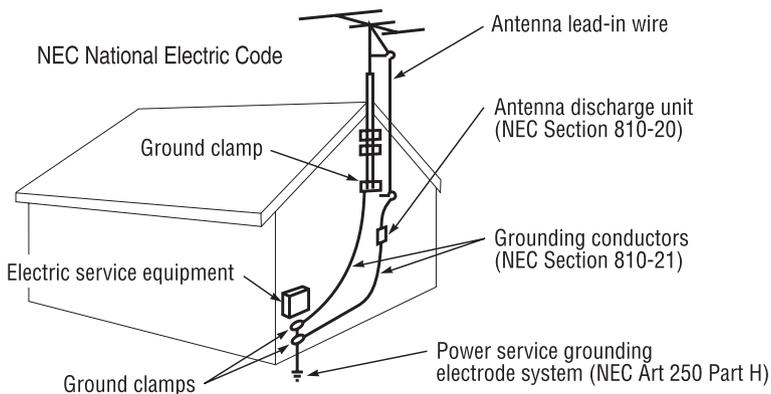
1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. The display complies with the recommended safety standards for stability. Do not put excessive force on the front or top of the cabinet. This could cause the product to tip over and cause damage and/or personal injury.
16. If monitor or glass is broken, do not come in contact with the liquid crystal and handle with care.
17. Follow instructions for wall, shelf or ceiling mounting as recommended by the manufacturer.
18. An outdoor antenna should not be located near overhead power lines or any electrical circuits.
19. If an outside antenna is connected to the receiver, confirm that the antenna system is grounded to protect against voltage surges and built up static charges. Section 810 of the National Electric Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding for the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding connectors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.
20. Rest your eyes periodically by focusing on an object at least 5 feet away. Blink often.
21. Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
22. Do not use monitor in high temperature, humid, dusty, or oily areas.
23. Do not bend, crimp or otherwise damage the power cord.

NOTE: To the display system installer: This reminder is provided to call attention to Article 820-44 of the National Electric Code that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the facility, as reasonably close to the point of cable entry as possible



Power source

This LCD display operates on 120 volts 60 Hz, AC current. Insert the power cord into a 120 volts 60 Hz outlet. The mains plug is used as the disconnect device and shall remain readily operable.

To prevent electric shock from the display, do not use with an extension cord, receptacle, or other outlet unless the blades and ground terminal can be fully inserted to prevent blade exposure.

Never connect the LCD display to 50 Hz, direct current, or anything other than the specified voltage.

CAUTION: Never remove the back cover of the LCD display as this can expose you to very high voltages and other hazards. If the display does not operate properly, unplug the LCD display and call your authorized dealer or service center.

Adjust only those controls that are covered in the instructions, as improper changes or modifications not expressly approved by NEC could void the user's warranty.

Safety Instructions

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class II 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:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

FCC CAUTION

To assure continued compliance and possible undesirable interference, ferrite cores may be used when connecting this LCD display to video equipment; and maintain at least 400mm spacing to other peripheral device.

FCC warning

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

Cables

Connections to this device must be made with shielded cables with metallic RF/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

Canadian notice

This Class II digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

"Standard Television Receiving Apparatus-Appareil de réception télévision ordinaire, Canada BETS-7 / NTMR-7".

Important Information



WARNING



TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO, DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS UNLESS THE PRONGS CAN BE FULLY INSERTED.

REFRAIN FROM OPENING THE CABINET AS THERE ARE HIGH VOLTAGE COMPONENTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



CAUTION



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, MAKE SURE POWER CORD IS UNPLUGGED FROM WALL SOCKET. TO FULLY DISENGAGE THE POWER TO THE UNIT, PLEASE DISCONNECT THE POWER CORD FROM THE AC OUTLET. DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol warns user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

CAUTION: Please use the power cord provided with this display in accordance with the table below. If a power cord is not supplied with this equipment, please contact your supplier.

Plug Type	Plug Shape	Region	Voltage
North America		U.S.A./Canada	AC 120 V

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Batteries installed warning

Caution - Danger of explosion if batteries are incorrectly replaced. Replace only with the same or equivalent type. The batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

CAUTION:

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Ventilation

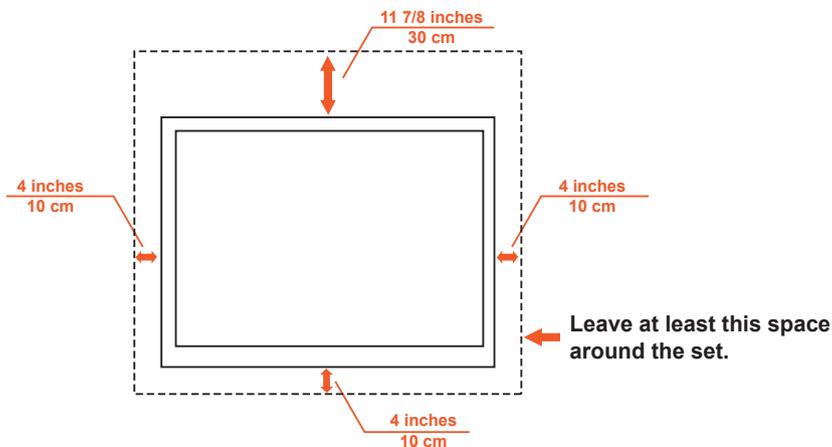
The slots and openings in the display are provided for necessary ventilation. To ensure reliable operation of the display and to protect it from overheating, these slots and openings must never be blocked or covered.

Unless proper ventilation is provided, the display may gather dust and get dirty. For proper ventilation, observe the following:

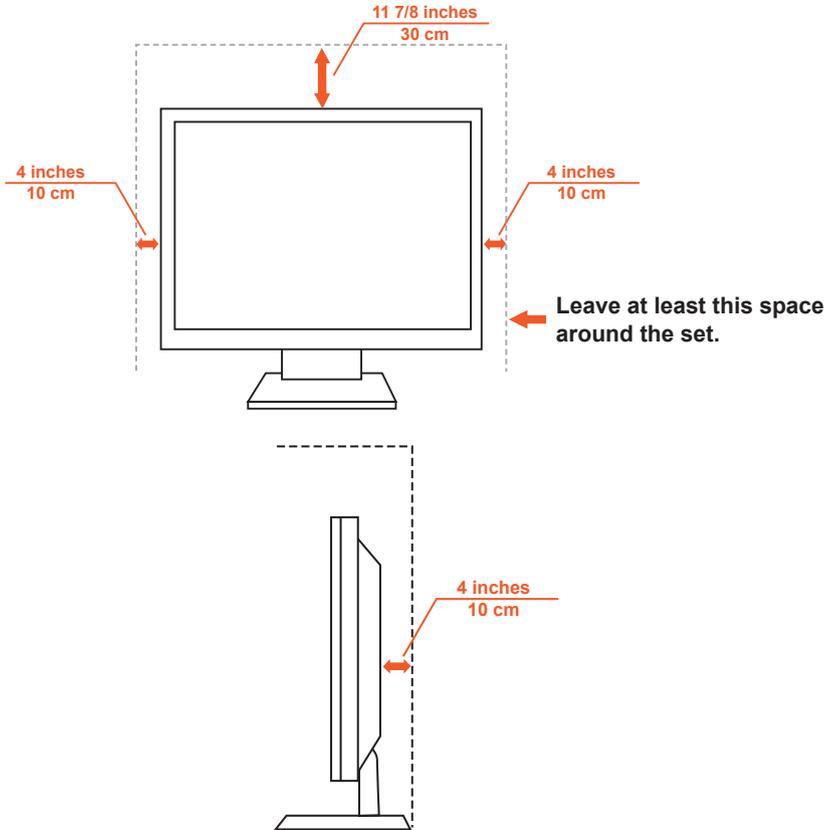
- Do not install the display face up, down or sideways.
- Do not install the display turned over or upside down.
- Never cover the slots and openings with a cloth or other materials.
- Never block the slots and openings by placing the display on a bed, sofa, rug or other similar surface.
- Never place the display in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.

Leave some space around the display set as shown below. Otherwise, air-circulation may be inadequate and will cause overheating, which may cause a fire or damage to the display set.

Install on the wall



Installed with stand



Never install the display set where air-circulation is blocked.

Objects and ventilation holes

Never push objects of any kind into the display through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or an electric shock. Do not place any objects on the display.

Declaration Of Conformity

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions. (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

U.S. Responsible Party:	NEC Display Solutions of America, Inc.
Address:	500 Park Boulevard, Suite 1100 Itasca, Illinois 60143
Tel. No.:	(630) 467-3000

Type of Product:	Digital Signage Display
Equipment Classification:	Class II Peripheral
Model:	E553 E463 E423 E323



We hereby declare that the equipment specified above conforms to the technical standards as specified in the FCC Rules.

Canadian Department of Communications Compliance Statement

- DOC:** This Class II digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
- C-UL:** Bears the C-UL Mark and is in compliance with Canadian Safety Regulations according to CAN/CSA C22.2 No. 60065-03.

FCC Information:

- Use the attached specified cables with the E323/E423/E463/E553 color monitor so as not to interfere with radio and television reception.
 - Please use the supplied power cord or equivalent to ensure FCC compliance.
 - Please use the supplied shielded video signal cable, Mini D-SUB 15 pin to Mini D-SUB 15 pin.
- This equipment has been tested and found to abide by the limits of a Class II digital device, pursuant to part 15 of the FCC Rules. These limits are intended to provide reasonable security against harmful interference in a residential deployment. 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 certain installation. If this equipment does cause damaging interference to radio or television reception, which can be determined by powering the equipment on and off, the user is encouraged to attempt correcting the interference by one or more of the following procedures:

3. following procedures:
 - Reorient or relocate the receiving display.
 - Increase the separation between the equipment and display.
 - Connect the equipment into a different outlet than the receiver.
 - Consult your dealer or an experienced radio/display technician for assistance.

If necessary, the user should contact the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: "How to Identify and Resolve Radio-display Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

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HDMI®

HIGH-DEFINITION MULTIMEDIA INTERFACE

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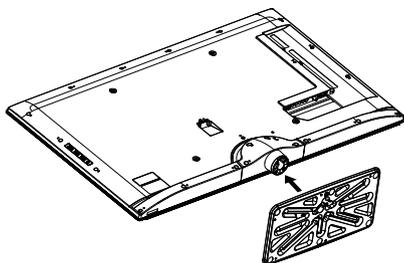
Please keep the factory default settings as shipped, in which the product can meet ENERGY STAR® requirements.

Preparation

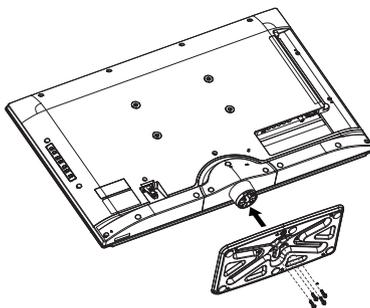
IMPORTANT: Do not apply pressure to the screen display area which may compromise the integrity of the display. The manufacturer's warranty does not cover user abuse or improper installations.

Attaching the Base

E553/E463/E423



E323

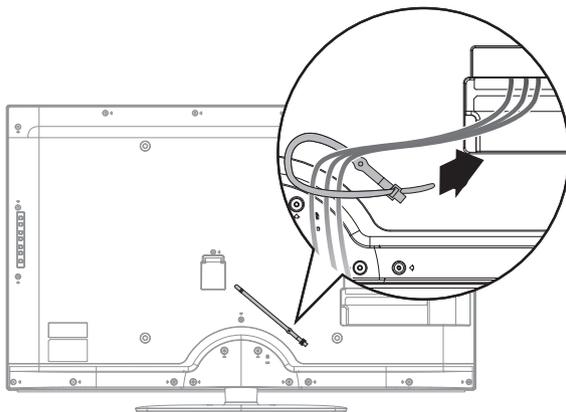


1. Place the display face down on a soft and flat surface to prevent scratching and damage.
2. Carefully align the base to the stand and fasten the screws with a cross-head screwdriver.

CAUTION: The base of the stand is very heavy. Install with care to avoid injury such as dropping the base onto one's foot.

Using Cable Clamper

Tie the cables together using the cable clamper.

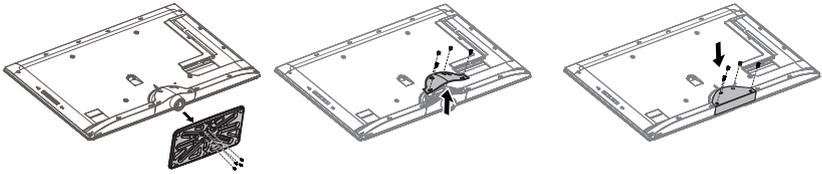


Preparing Your LCD Display For Wall

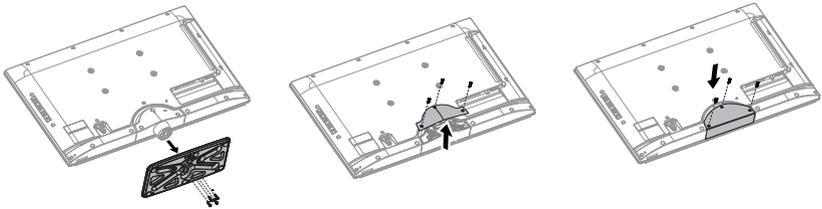
Mounting(optional)

We suggest that you keep your display at least 2.36 inches (60 mm) from the wall to prevent cable interference. Before mounting your display on the wall, you need to remove the base. For your safety, only mount with a UL listed wall mount bracket that supports the weight of the display. (Please see page 28 .) To attach a wall mount bracket to your display:

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screen size (inches)	required pitch (mm)	require mounting bolts
32	200 x 100	4 x M4
42	400 x 400	4 x M6
46	400 x 400	4 x M6
55	400 x 400	4 x M6

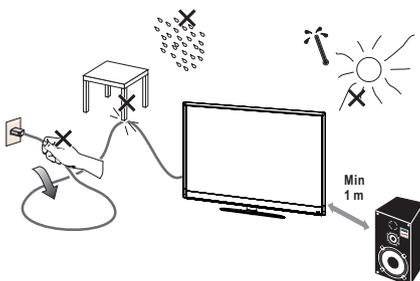
1. Loosen the screws on the back of the stand-base, and remove the base.
2. Remove the screws that secure the cover, then remove the cover.
3. Secure the flat stand cover to the back of your TV using the screws you just removed.
4. Secure the wall mount bracket to the back of your display using four M4 screws (for 32" TV only) or M6 screws(for 42"/46"/55" TV only).

Note:

Wall mounting solution is not included with the unit and is sold separately. Contact your NEC representative for details.

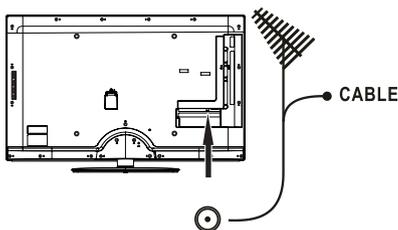
Place The Display On A Solid Surface

Ensure that the LCD display is placed in a position to allow free flow of air. Do not cover the ventilation openings on the back cover. Do not place the display near any open flames. Do not allow the display to be placed in an environment where it can be exposed to heat, direct sunlight, or rain and water. Do not expose the equipment to any liquid.



Antenna Connection

Unless your LCD display is connected to a cable TV system or to a centralized antenna system, a good outdoor color TV antenna is recommended for best television performance. However, if you are located in an exceptionally good signal area that is free from interference and multiple image ghosts, an indoor antenna may be sufficient.



When using a 75-Ohm coaxial cable system, connect the CATV coaxial cable to the AIR/CABLE (75-Ohm) terminal. Or if you have an antenna, connect the coaxial cable to the same AIR/CABLE terminal.

Battery Installation and Replacement

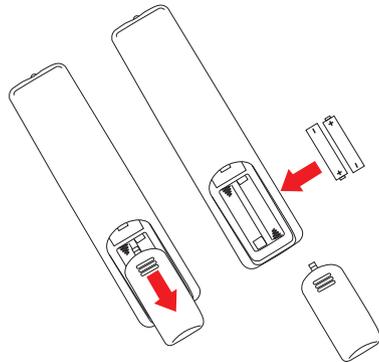
The remote control is powered by two 1.5V AAA batteries. To install or replace batteries:

1. Open the battery cover of the remote control by pushing and pulling it in the direction of the arrow.
2. Insert two new "AAA" size batteries for the remote control. When replacing old batteries, push them towards the springs and lift them out.
3. Match the batteries to the (+) and (-) marks in the battery compartment.
4. Insert the bottom of the battery, the (-) side, into the battery compartment first, push towards the springs and insert the top of the battery, the (+) side, into place. Do not force the battery into the battery compartment.
5. Close the battery cover making sure the tabs rest in the corresponding holes and push down the cover until it clicks shut.

CAUTION: Incorrect usage of batteries can result in leaks or bursting.

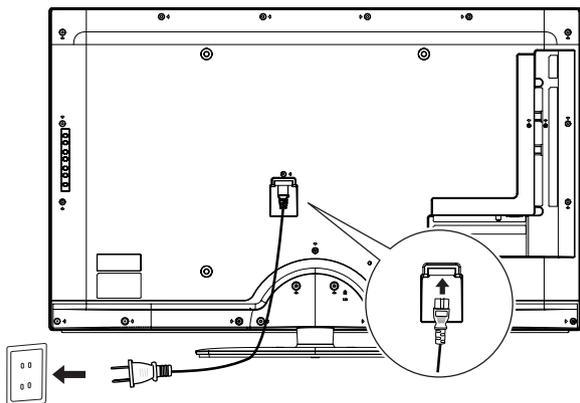
NEC recommends the following battery use:

- Do not mix battery brands.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- Do not combine new and old batteries. This can shorten the battery life or cause liquid leakage of the batteries.
- Remove dead batteries immediately to prevent battery acid from leaking into the battery compartment.
- Do not touch exposed battery acid as it may injure skin.
- Remove the batteries if you do not intend to use the remote control for a long period of time.



Connect To The Power Source

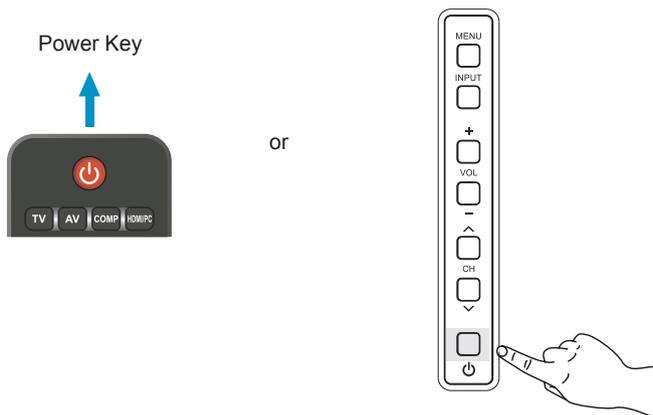
The display should be installed close to an easily accessible power outlet. Fully insert the prongs into the power outlet socket. A loose connection may cause image degradation.



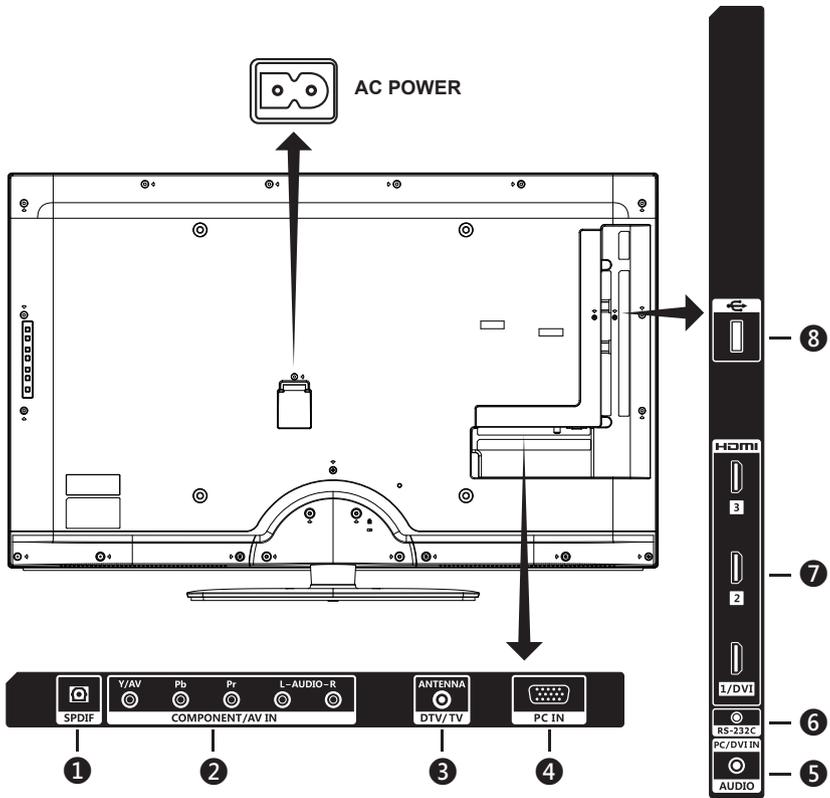
If there is power to the display, the front LED at the bottom of the display will be either blue or red. A blue LED means the display is powered on. A red LED means the display is in standby mode.

Power On/Off Your New LCD Display

Press the power key on the remote control or press the power button located on the side of the display. The display will power on.



Source Connection Guide



1. **SPDIF** - Use a digital audio cable to connect stereo home theater system.
2. **COMPONENT/AV IN** - Connect digital video equipment to the Video Green (Y), Blue (Pb), Red (Pr) jacks, and matching Audio White (L) and Red (R) jacks.
3. **ANTENNA/DTV/TV** - Connect an RF antenna or Analog Cable system.
4. **PC IN** - Connect your PC video.
5. **PC IN/AUDIO** - CPC IN/AUDIO
6. **RS-232C** - Input from external equipment such as a PC or AV control system in order to control RS-232C functions
7. **HDMI (HDMI1/DVI, HDMI2, HDMI3)** - Connect your HDMI devices.
8. **USB PORT** - Used for accessing JPEG photo files.

Once your AV device is connected, press the **Source** button on the remote control to select the relevant source to view. (ex: Press COMP button to select "Component" if you have connected a source to the Component input.)

RS-232C Port Specifications

PC control of the Display

Attach an RS-232C cable cross-type (commercially available) to the supplied Din/D-Sub RS-232C for the connections.

Note: This operation system should be used by a person who is accustomed to using computers.

Communication conditions

Set the RS-232C communication settings on the PC to match the display's communication conditions.

The display's communication settings are as follows:

Baud rate:	9,600 bps
Data length:	8 bits
Parity bit:	None
Stop bit:	1 bit

Communication procedure

Send the control commands from the PC via the RS- 232C connector.

The display operates according to the received command and sends a response message to the PC.

Do not send multiple commands at the same time. Wait until the PC receives the response before sending the next command.

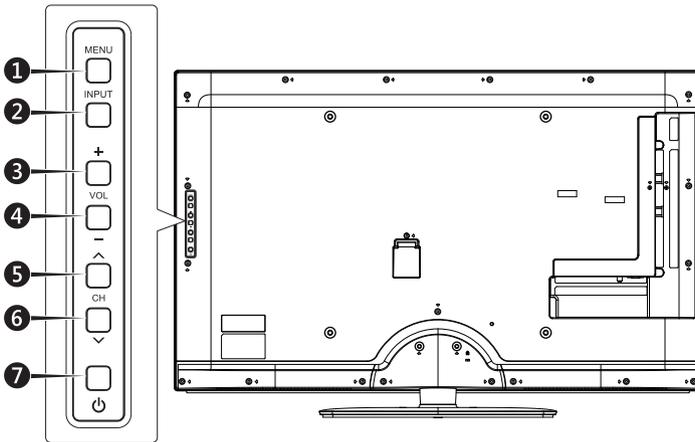
Power Mode Status

Mode	LED Status
On	None
Standby	Red
Warming up	Blinking Red

Power saving support automatically power on when signal appear.

Standby to power on by touch up remote or keypad power button.

Operating Instructions



Using The Side Panel Controls

1.	MENU	Press to open or exit the OSD (On-Screen Display) menu.
2.	INPUT	Press to select the input source.
3.	VOL +	Press to increase the volume. Press this key to shift Right in the OSD menu.
4.	VOL -	Press to decrease the volume. Press this key to shift Left in the OSD menu.
5.	CH ^	Press to increase the channel number. Press this key to shift up in the OSD menu.
6.	CH v	Press to decrease the channel number. Press this key to shift down in the OSD menu.
7.		Press to turn on / off (standby) the display.

Using The Remote Control

Power

Press to turn On/Off (standby) the power. (Note: To completely turn off the power, unplug the AC cord from the power outlet.)

TV

Press to choose ATSC/NTSC tuner source mode.

AV

Press to choose Composite source mode.

COMP

Press to choose Component source mode.

HDMI/PC

Press repeatedly to choose PC IN or HDMI source mode.

0 – 9 / - number

Press to select channel (Press ‘-’ to choose the sub-channel).

PRE CH

Press to display the previous channel.

Source

Press repeatedly to choose the various input sources.

Mute

Switch the sound On/Off.

VOL+ / VOL-

Press + or - to adjust the volume.

CH+ / CH-

Press + or - to browse through the channels.

Exit

Press to exit the OSD menu.

Display

Press to show the information about the input source and tuner channel.



FAV

Press to display the Favorite List.

Menu

Press to open the OSD menu.

▲, ▼, ◀, ▶, OK

Press to select or confirm the various function items on the menu.

Color buttons

Follow the on-screen instruction to operate.

MTS

Press to activate the NTSC tuner sounds such as Stereo, SAP, Mono-tone, and languages of the digital tuner.

Wide

Press to choose the display aspect ratio: Normal/Zoom/Wide/Cinema/Auto (Ratio availability varies by video inputs. Refer to the Picture Format Table below for details.)

Picture

Press to choose the picture mode: Dynamic/ Standard/ Energy Savings/ Theater/ Custom.

Audio

Press to choose sound mode: Standard/ Movie/ Music/ News/ Custom/ Equalizer.

Ch-List

Press to display the Channel List.

C.C.

Press to activate the Closed Caption.

Timing Table

Resolution	WXGA model		FHD model		Horizontal		Vertical		Nominal Pixel Clock (MHz)
	VGA	DVI	VGA	DVI	Nominal Freq. (KHz)	Sync Polarity	Nominal Freq. (Hz)	Sync Polarity	
640x480@60Hz	•	•	•	•	31.469	–	59.940	–	25.175
720x400@70Hz	•	•	•	•	31.469	–	70.087	+	28.322
800x600@60Hz	•	•	•	•	37.879	+	60.317	+	40.000
1024x768@60Hz	•	•	•	•	48.363	–	60.004	–	65.000
1280x720@60Hz	•	•	•	•	44.772	–	59.855	+	74.500
1280x800 @60Hz	•	•	•	•	49.702	–	59.810	+	83.500
1360x768@60Hz	•	•	•	•	47.712	+	60.015	+	85.500
1920x1080@60Hz			•	•	67.500	+	60.000	+	148.500

Resolution	WXGA model		FHD model	
	HDMI	Component	HDMI	Component
720x480i 59.94/60Hz	•	•	•	•
720x480P 59.94/60Hz	•	•	•	•
720P 59.94/60Hz	•(Native)	•	•	•
1080i 59.94/ 60Hz	•	•	•	•
1080P 24Hz	•		•	
1080P 30Hz	•		•	
1080P 60Hz	•		•(Native)	

Navigating The On-Screen Menu

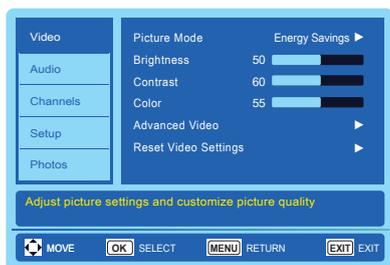
Press the Menu button to display and Exit to close the main menu.

Use the Navigation Ring to navigate, select, adjust or confirm an item on the OSD (On Screen Display) menu.

Note: Some features may only be available in a particular source mode.

Video Menu

This menu adjusts video items.



1. Picture Mode

Enter this menu to select from preset picture settings to optimize your display's performance: Dynamic/ Standard/ Energy Savings/ Theater/ Game(E553 only)/ Custom.

2. Brightness

Adjust picture brightness from 0 — 100.

3. Contrast

Adjust picture contrast from 0 — 100.

4. Color

Adjust picture color from 0 — 100.

5. Advanced Video

Select advanced video settings.

[Dynamic Backlight(DCR)]

Enhance the contrasts between darkness and brightness to optimization picture.

[Color Temperature]

Selects a choice of Cool, Normal, or Warm.

[Noise Reduction]

Set to reduce video noise.

[Tint]

Adjust the hue(Red, Yellow, Green) of the picture from R50 — G50.

[Sharpness]

adjust object edges to optimize picture detail from 0 — 100.

[Adaptive Contrast]

Set to automatically adjust the picture detail and brightness.

[Aspect Ratio]

Adjust how the picture fills the screen.

[Overscan (On/Off)]

Set "OFF" to show the full image on the display when connecting a computer.

Set "ON" to show the full image on the display when not connected with a computer.

[Backlight]

Set the backlight brightness.

[Motion 120Hz]

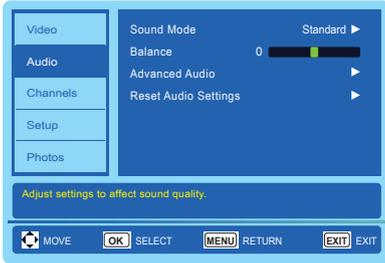
(E553 only). Eliminates motion blur with clear detail and smooth motion.

6. Reset Video Settings

Reset Video settings to factory default settings.

Audio Menu

The Audio menu provides an audio adjustment for user to modify the audio setting.



1. Sound Mode

Select preset audio modes. The options are: **Standard/ Movie/ Music/ News/ Custom/ Equalizer.**

2. Balance

Adjust the audio balance for the display's internal left and right speakers from L50 — R50.

3. Advanced Audio

Select advanced audio settings.

[Bass]

Enhance the low frequencies.

[Treble]

Enhance the high frequencies.

[Equalizer]

Adjust the audio frequencies in five preset ranges: 130Hz, 400Hz, 1.2KHz, 4KHz, 9.5KHz.

[Internal Speakers]

Select "Off" if you don't need the internal speakers.

[Digital Output]

Select optical output options: RAW or PCM (available for digital channel and HDMI).

[Audio Source]

Select audio sources among Stereo/ Mono/ SAP in analog channels.

[Audio Language]

Select language options in digital channels.

4. Reset Audio Settings

Reset Audio settings to factory default settings.

Channels Menu

The channel menu sets your signal source options. According to various requirements in different source modes, certain features could be hidden (disabled) on the menu.



1. Auto Channel Scan

Automatically search the available channels.

2. Signal Strength

Access signal strength meter to help you adjust your antenna installation to optimize signal reception. (available for digital channel).

3. Add/Skip Channels

Manually add or skip channels to the display's program list.

4. Favorite Channels

Add channels to create your favorite list.

5. Channel Labels

Create labels to any channel.

6. Audio Only

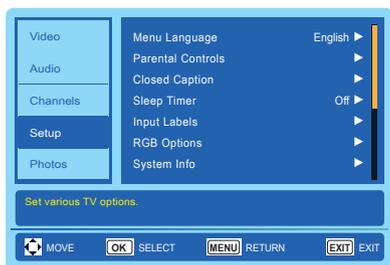
Play the audio only with picture turned off. Any press of the button except the [POWER] button on the remote control will turn on the picture.

7. Auto Aspect

Automatically adjust the picture aspect ratio according to the TV program.

Setup Menu

The Setup menu in TV mode is shown below. According to various requirements in different source modes, certain features could be hidden (disabled) on the menu.



1. Menu Language

Select the menu display language. (English/Español/Français)

2. Parental Controls

Set TV parental controls. This function blocks out the picture and sound of the selected rating levels.

The factory preset password to enter the Parental Controls feature is a 4-digit number **0000**.

[Panel Lock]

Lock or unlock all buttons on the display's panel.

[Block Unrated TV]

Block or unblock the unrated programs.

[US]

Set the parental control level using the Movie or TV Rating.

[Canadian]

Set the parental control level using the Canadian English or Canadian French.

[Change Password]

Change the 4-digit password. You will have to enter the new password first and then enter again the new password to confirm. Make sure to keep your new password.

[Region 5]

Use Region 5 to block various types of movies and television programs based on ratings systems used in the USA that you feel may be inappropriate due to its content. The Region 5 option will operate for Digital Channels (ATSC) only.

[Reset Region 5]

Clear the downloaded RRT5 rating information and restore to the factory default settings.

3. Closed Caption

Adjust the Closed Caption settings. The options are: **Caption Display, Analog Captions, Digital Captions, Digital Caption Options.**

4. Sleep Timer

Select how long the display will take to automatically turn itself off. The options are: Off, 5, 10, 15, 30, 60, 90, 120, 180, and 240 minutes.

5. **Input Labels-- only for Non TV input**

Create labels for the devices connected to your display.

6. **RGB Options**

Only available for VGA input, and when there is VGA signal input.

[Auto Adjust]

Automatically adjusts the image settings such as position.

[H-Position]

Adjusts horizontal position.

[V-Position]

Adjusts vertical position.

[Clock]

Sets to the minimum level if noise occurs.

[Phase]

Eliminates flicker and distortion.

[Reset RGB Options]

Reset RGB Options to factory default settings.

7. **System Info**

Indicate the display information.

8. **Energy Options**

Select the power saving modes. The **Home** mode is intended for home use, and will save much energy.

The **Retail** mode sets the display to a more energy consuming mode.

9. **Monitor ID**

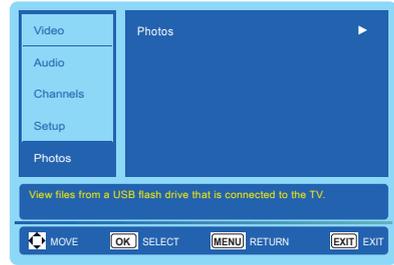
Set the monitor ID number from 1-100, All or Group A-J.

10. **Reset AV & Setup**

Reset all Audio, Video, and Setup settings to factory default settings.

Photos Menu

You could easily browse images from USB device.



If no USB device is detected, display the message: "Please Insert USB flash driver."

1. **Browse Photos**

Find photos on the USB drive.

2. **Favorite Photos**

Select only your favorite photos to show.

3. **View Slideshow**

View your photos in a slideshow manner.

4. **Settings**

Change the slidwshow settings. The options are: **Repeat/ Shuffle/Speed/ Transition.**

To control while in photo folder:

- Press **UP/DOWN/LEFT/RIGHT** to browse the photo files.
- Press **OK** to open a folder or a photo file which will be viewed on the full screen.
- Press **MENU** to return to USB Main Menu.
- Press **FAVORITE** to add a photo file to favorite list or delete from favorite list.

To control while in full-screen**photo show:**

- Press **RIGHT** to go to the next image. Press **LEFT** to go to the previous image.
- Press **OK** to rotate the image clockwise. When press enter to rotate the photo, the rotation situation will change to Zoom Fill style.
- Press **Wide** to zoom the image. The zoom function will switch between the 4 styles by cycle and "x1" "x2" "x4" "Fill" info bar will appear on the right/down corner of screen (If the image resolution over size will not aspect "x1").
- Press **MENU** to return to the Folder/Photo List View.

To control while in photo**slideshow:**

- Press **OK** to play or pause slideshow.
- Press **MENU** to stop the slideshow and return to photo browser.

Data Format for USB Photo Viewer

Data format	JPEG, JPG, JPE
Max. folder layer	9
Max. number of photos	1200
Max. number of favorite photos	250
Min. image resolution	75 x 75 pixels
Max. image resolution (Progressive DCT)	1024 x 768 pixels
Max. image resolution (Baseline Sequential DCT)	15360 x 8640 pixels
Supported file system	FAT32

CAUTION:

- USB photo viewer only supports USB Mass storage class devices.
- A JPEG image modified with PC may not be displayed.
- Partly degraded files might be displayed at a reduced resolution.
- Not guaranteed to support all USB devices.
- Do not use a USB Hub.
- Do not support multi-partition USB.

NOTES:

- The folder and file names may be different depending on the digital camera used.
- Support USB 2.0 Type A connector (DC5V, max. 500mA). For USB device over 500mA, we suggest to use adaptor or external power.

Tips

Care Of The Screen

Do not rub or strike the screen with anything hard as this may scratch, mar, or even damage the screen permanently. Unplug the power cord before cleaning the screen. Dust the display by wiping the screen and the cabinet with a soft, clean cloth. If the screen requires additional cleaning, use a clean, damp cloth. Do not use liquid cleaners, aerosol cleaners, or solvents of any kind.

Mobile Telephone Warning

Keep your mobile telephone away from your display to avoid disturbances in the picture or sound, possibly causing permanent damage to your display.

End Of Life Directives

In an effort to produce environmentally friendly products, your new display contains materials that can be recycled and reused. At the end of your displays life, specialized companies can minimize display waste by separating the reusable materials from non-reusable materials. Please ensure you dispose of your display according to local regulations.

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Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Product Specification

This model complies with the specifications listed below.

Reorient or relocate the receiving display.

Designs and specifications are subject to change without notice.

This model may not be compatible with features and/or specifications that may be added in the future.

Model Name	E323	E423	E463	E553
DISPLAY				
Viewable	32"	42"	46"	55"
Television System	NTSC Standard, ATSC Standard (8-VSB, Clear-QAM)			
Channel Coverage	VHF: 2 through 13 UHF: 14 through 69 Cable TV: Mild band (A - 8 through A - 1, A through I), Super band (J through W), Hyper band (AA through ZZ, AAA, BBB), Ultra band (65 through 94, 100 through 125)			
CONNECTIONS				
Connectors	Downward			
	AIR/CABLE SPDIF DIGITAL OUT Component and L/R Audio Input Composite(share with component) PC IN: D-SUB			
	Side			
	HDMI 1, HDMI 2, HDMI 3 PC IN: PC Audio RS-232C(use earphone jack) USB			
WEIGHT & DIMENSION				
Dimensions w/ Stand (W x H x D) (inch)	29.34 x 20.2 x 7.09	38.51 x 25.3 x 9.06	41.96 x 27.36 x 9.05	49.65 x 32.7 x 10.43
Dimensions w/o Stand and Base (W x H x D) (inch)	29.34 x 18.36 x 2.28	38.51 x 23.54 x 2.28	41.96 x 25.46 x 2.28	49.65 x 30.7 x 1.97
Weight w/ Stand (lbs)	20.26	30.79	36.34	56.59
Weight w/o Stand and Base (lbs)	17.61	27.29	32.82	50.02

Model Name	E323	E423	E463	E553
WALL MOUNTING				
VESA-compatible wall bracket (W x H)	200 x 100 mm	400 x 400 mm	400 x 400 mm	400 x 400 mm
Screw type	Metric 4 x 18 mm	Metric 6 x 18 mm	Metric 6 x 18 mm	Metric 6 x 18 mm
POWER				
Power Consumption	51 W	81 W	107 W	135 W
Standby	< 1 W			
Power	AC 120V, 60Hz			
AUDIO POWER				
Power Consumption	2 x 10 W	2 x 10 W	2 x 10 W	2 x 10 W
OPERATING ENVIRONMENT				
Temperature	0°C – 40°C / 32°F – 104°F			
Humidity	10% – 85%			
Height	3000m			
STORAGE ENVIRONMENT				
Temperature	-10°C – 50°C / 14°F – 122°F			
Relative Humidity	5% – 85%			
Absolute Air Humidity	1–25 g/m3			
Max. Change of Temp.	0.5°C/min (max. 10°C/30min)			
Air Pressure	700 – 1060 mbar (70–106Kpa)			
Radiation Solar Heat	700 W/m2			
PACKAGE CONTENTS				
Supplied Accessories	1x Display 1x Power Cord 1x D-sub Cable 1x Stand Base 1x Remote Control 1x Mini jack to D-sub(9 pin) cable 2x 1.5V AAA Size Batteries 4x Stand Screws 1x User Manual 1x cover stand			

All specifications, weights, and dimensions are subject to change without prior notice. Please access www.necdisplay.com for detailed specifications and dimensions for custom installations.

Before Calling Service

Please make these simple checks before calling service. These tips may save you time and money as charges for receiver installation and adjustments of customer controls are not covered under your warranty.

Symptoms	Items To Check And Actions To Follow
"Ghost" or double image when using the tuner	<ul style="list-style-type: none"> This may be caused by an obstruction to the antenna due to high rise buildings or hills. Using a highly directional antenna may improve the picture.
No power	<ul style="list-style-type: none"> Check to see if the display's AC power cord is plugged into the outlet. Unplug the display and after 60 seconds reinsert the plug into the outlet and power on the display.
No picture	<ul style="list-style-type: none"> At the rear of the display make sure the antenna connection is properly attached. Check to see if there is a station broadcast problem by trying multiple channels. Adjust the contrast and brightness settings. Check the Closed Caption settings as some text modes may block the visibility of the images on the display.
Good picture but no sound	<ul style="list-style-type: none"> Increase the VOLUME. Confirm that the display is not muted by pressing the MUTE button on the remote control.
Good sound but poor color	<ul style="list-style-type: none"> Adjust the contrast, color and brightness settings.
Poor picture	<ul style="list-style-type: none"> Poor picture quality may occur when an activated S-VHS camera or camcorder is connected to your display and another peripheral at the same time. Switch off one of the peripherals.
Snowy picture and noise when using the tuner	<ul style="list-style-type: none"> Check the antenna connection and signal.
Presence of a horizontal dotted line	<ul style="list-style-type: none"> This may be caused by electrical interference (e.g. hairdryer, nearby neon lights, etc.). Power cycle the equipment by turning off and then turning back on.
Display not responding via the remote control	<ul style="list-style-type: none"> Determine if the batteries are working and replace batteries if necessary. Clean the remote control sensor lens on the display. If necessary, utilize the buttons located on the side of the display. Select the TV mode to ensure your remote control is set in the TV mode.

Glossary

HDTV

HDTV displays are technically defined as being capable of displaying a minimum of 720p or 1080i active scan lines.

HDMI Inputs

High-Definition Multimedia Interface Audio / Video Inputs are located on the rear of the receiver. These connectors are used for the input of audio and video signals. Designed to receive higher picture resolution and offer sound connection options.

Menu

An on-screen listing of features shown on the display screen is made available for user adjustments.

MPAA

Motion Picture Association of America

Multichannel Television sound (MTS)

The broadcasting standard, which allows stereo sounds to be transmitted with the display picture.

RF

Radio Frequency or modulated signal design used by the carrier for television broadcasts.

Second Audio Program (SAP)

Another or additional audio channel provided for in the Multichannel Television Sound (MTS) broadcast standard. A monaural soundtrack included within the recorded or video signal (usually containing a second language translation for the displayed program).

Sleep Timer

You can set a time period for which the display will automatically turn off.

Limited Warranty

NEC Display Solutions of America, Inc. (hereinafter "NEC DISPLAY SOLUTIONS") warrants this Product to be free from defects in material and workmanship and, subject to the conditions set forth below, agrees to repair or replace (at NEC DISPLAY SOLUTIONS' sole option) any part of the enclosed unit which proves defective for a period of three (3) years from the date of first consumer purchase. Spare parts are warranted for ninety (90) days, Replacement parts of unit may be new or refurbished and will meet specifications of the original parts or unit. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state, this warranty is limited to the original purchaser of the Product and is not transferable.

This warranty covers only NEC DISPLAY SOLUTIONS supplied components. Service required as a result of third party components is not covered under this warranty. In order to be covered under this warranty, the Product must have been purchased in the U.S.A. or Canada by the original purchaser. This warranty only covers Product distribution in the U.S.A. or Canada by NEC DISPLAY SOLUTIONS. No warranty service is provided outside of the U.S.A. or Canada, Proof of Purchase will be required by NEC DISPLAY SOLUTIONS to substantiate date of purchase. Such proof of purchase must be an original bill of sale or receipt containing name and address of seller, purchaser, and the serial number of the product.

It shall be your obligation and expense to have the Product shipped, freight prepaid, or delivered to the authorized reseller from whom it was purchased or other facility authorized by NEC DISPLAY SOLUTIONS to render the services provided hereunder in either the original package or a similar package affording an equal degree of protection. All Products returned to NEC DISPLAY SOLUTIONS for service MUST have prior approval, which may be obtained by calling 1-800-632-4662. The Product shall not have been previously altered, repaired, or serviced by anyone other than a service facility authorized by NEC DISPLAY SOLUTIONS to render such service. The serial number of the product shall not have been altered or removed. In order to be covered by this warranty the Product shall not have been subjected to displaying of fixed images for long periods of time resulting in image persistence (afterimage effects), accident, misuse or abuse or operated contrary to the instructions contained in the User's Manual. Any such conditions will void this warranty.

NEC DISPLAY SOLUTIONS SHALL NOT BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHER TYPES OF DAMAGES RESULTING FROM THE USE OF ANY NEC DISPLAY SOLUTIONS PRODUCT OTHER THAN THE LIABILITY STATED ABOVE. THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR WARRANTIES OR THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE EXCLUSIONS OR LIMITATIONS MAY NOT APPLY TO YOU.

This Product is warranted in accordance with the terms of this limited warranty. Consumers are cautioned that Product performance is affected by system configuration, software, the application, customer data, and operator control of the system, among other factors, While NEC DISPLAY SOLUTIONS Products are considered to be compatible with many systems, specific functional implementation by the customers of the Product may vary. Therefore, suitability of a Product for a specific purpose or application must be determined by consumer and is not warranted by NEC DISPLAY SOLUTIONS.

For the name of your nearest authorized NEC Display Solutions of America, Inc. service facility, contact NEC Display Solutions of America, Inc. at 1-800-632-4662.

References

NEC Monitor Customer Service & Support

Customer Service and Technical Support

Parts and Accessories (800) 632-4662
(888) 634-4662 Fax (800) 695-3044

Warranty Information

www.necdisplay.com

Online Technical Support

www.necdisplay.com

Sales and Product Information

Sales information Line
(888) 632-6487

Canadian Customers

(866) 771-0266, Ext#: 4037

Government Sales

(800) 284-6320

Government Sales email

gov@necdisplay.com

Electronic Channels

<http://www.necdisplay.com>

Product Registration

<http://www.necdisplay.com>

Drivers and Downloads

<http://www.necdisplay.com>