Content

Important information

	This symbol alerts the user to the important literatures concerning operating and maintenance has been included with the display unit.
Caution **Risk of electronic shock** **Do not open**	
To reduce the risk of electronic shock, do not remove cover (or back). No user-serviceable parts inside. Refer service to qualified service personnel.	This symbol indicates that the high voltage is present inside. It is dangerous to make any contact with any inside part of the display unit.

Caution

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the display unit. and cart combination to overturn.

Caution

To prevent electric shock, match wide blade of plug to wide slot, fully insert.

Caution

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. Prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

Warning

FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Important safety precautions

❙ Cleaning

Remember to unplug the AC cord from the AC outlet before cleaning the display unit. And do not use liquid cleaners or aerosol cleaners to clean the display.
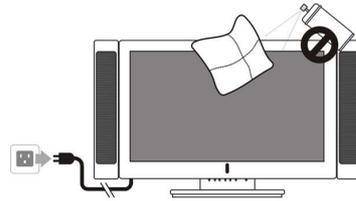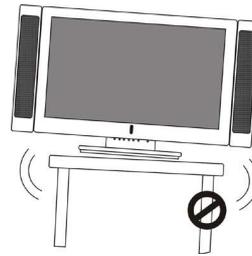
❙ Stand

Do not place the display unit on an unstable place. It can cause the display unit to fall, resulting in serious personal injuries as well as damage to the display unit.

❙ Ventilation

Do not cover or block these vents and openings, because inadequate ventilation may shorten the display unit life and cause overheating. Do not place the display unit in an enclosed place such as a bookcase or build-in cabinet, unless proper ventilation is provided or the manufacturer's instructions are followed. Keep the distance of 10cm at lease between the display unit and wall. Never install the display unit as the picture below.

Air circulation is blocked   Air circulation is blocked
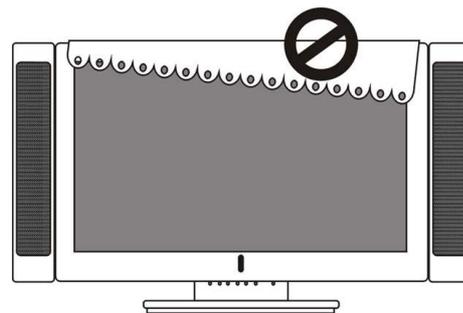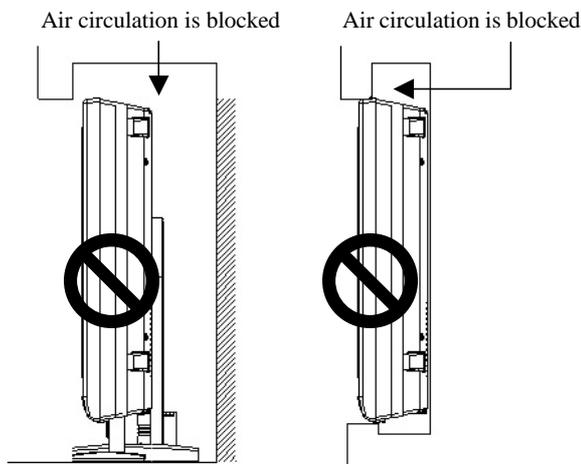
❙ Never insert objects and liquids into the display unit

Never insert any object into the display unit through openings or spill liquid on the display unit. High voltage flows in the display unit, and inserting an object can cause electric shock and/or short internal parts.
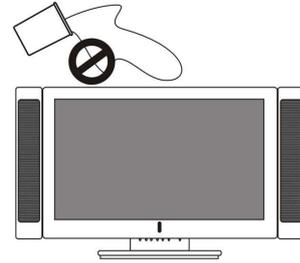
❙ Keep away from water and moisture

Do not place the display near water. Like bathtub, washbasin, kitchen sink and laundry tub, swimming pool and in a wet basement.

❙ Keep away from heat sources

Keep the display unit away from heat sources such as radiators, heaters, stoves and other heat-generating products.

❙ The liquid crystal panel used in this product is made of glass

Do not hit the panel. Be careful to prevent from getting hurt by broken glass pieces in case the panel breaks.

❙ Follow operating instructions

All operating instructions must be followed.

❙ Precautions when transporting the display

When transporting the display, do not carry it by holding onto the speakers. Carrying the display requires two or more people.

❙ Attachments

Do not use attachments not recommended by the manufacturer. Use of inadequate attachments can result in accidents.

❙ Power source

This product must operate on a power source specified on the specification label. If you are not sure of the type of power supply used in your home, consult your dealer or local power company. For units designed to operate on batteries or another power source, refer to the operating instructions.

❙ AC cord protection

The AC cords must be routed properly to prevent people from stepping on them or objects from resting on them. Check the cords at the plugs and product.

❙ Overloading

Do not overload AC outlets or extension cords. It can cause fire or electric shock.

❙ Wall mounting

Be sure to install the display unit according to the method recommended by the manufacturer. Use only the mounting hardware recommended by the manufacturer.

❙ Servicing

Do not attempt to service the display unit yourself. Removing covers expose you to high voltage and other dangerous conditions. Request a qualified service person to perform servicing.

❙ **Replacement parts**

In case the display unit needs replacement parts, make sure that the service person uses replacement parts specified by the manufacturer, or those with the same characteristics and performance as the original parts. Use of unauthorized parts can result in fire, electric shock and/or other danger.

❙ **Safety checks**

Upon completion of service or maintenance, request the service technician to perform safety checks to ensure that the display unit is in proper operating condition.

❙ **Repair**

When the display unit displays an abnormal condition, any noticeable abnormality in the display unit indicates that the display unit needs servicing. If any of the following conditions occurs, unplug the AC cord from the AC outlet, and request a qualified service person to perform repairs. The AC cord or plug is damaged.

1.   A liquid was spilled on the display unit or objects have fallen into the display unit.
2.   The display unit has been exposed to rain or water.
3.   The display unit has been dropped or damaged.

❙ **Environment**

The display unit only   operates within the temperature $0°$ C to $40°$ C environment. Do not operate it out of this range.

FCC Statement

❙ FCC notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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.

Modifications not expressly approved by the manufacturer could void the user's authority to operated the equipment under FCC rules. This device complies with part 15 of the 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.
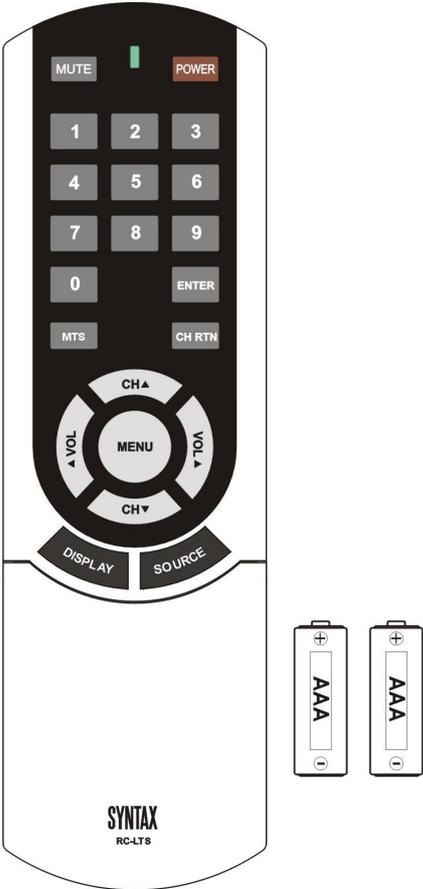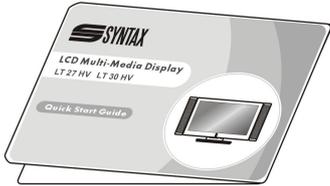
❙ For Canadian model

This Class B digital apparatus complies with Canadian ICES-003.
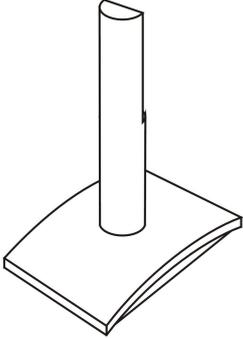
Approval

Safety approval	UL / cUL, TUV, CB, Energy star
EMC approval	FCC, CE

Accessories

l   Supplied accessories

Remote control & batteries (AAA x 2)	Power cord x 1	VGA cable (D-Sub 15) x 1

Speaker wire x 2
Speaker wires are connected on the display unit.

Screen clean cloth x 1

SYNTAX
ÖLEVIA

[Properties]

Ÿ   The front surface(side w/ logo) is designed for fine particles removal and dust clean.

Ÿ   The reverse side (side w/o logo) is designed to clean fingerprint, grease and etc.

Ÿ   Even the fringe is scratch-proof to all LCD panels and surface.

Ÿ   Cloth is without chemicals, it is washable and can be re-used.

[Attention]

Ÿ Please be sure to use front surface for dust cleaning, and the reverse surface for fingerprint, grease removing.

Ÿ This product is specially designed for 3C products. It is not intended for use with other non-3C product.

Ÿ Use ph-neutral liquid agent for washing. Safe to washing machine.

Ÿ After using/ cleaning, please wash the cloth to get rid of residue.(Do not use the softeners or bleaching cream)

Quick start guide x 1	User manual CD-Rom x 1	User manual booklet x 1

l   Optional accessories

Speaker stand	AV cable with RCA connector
	S-video cable
Wall mount set	**DVI cable**
	Audio cable with RCA connector
	Audio cable with stereo mini jack
	Use the proper cable for the device.
	(Stereo mini jack cable)
	(Stereo mini jack to RCA cable)
Mounting instructions included in wallmount box.	**Component cable with RCA connector**
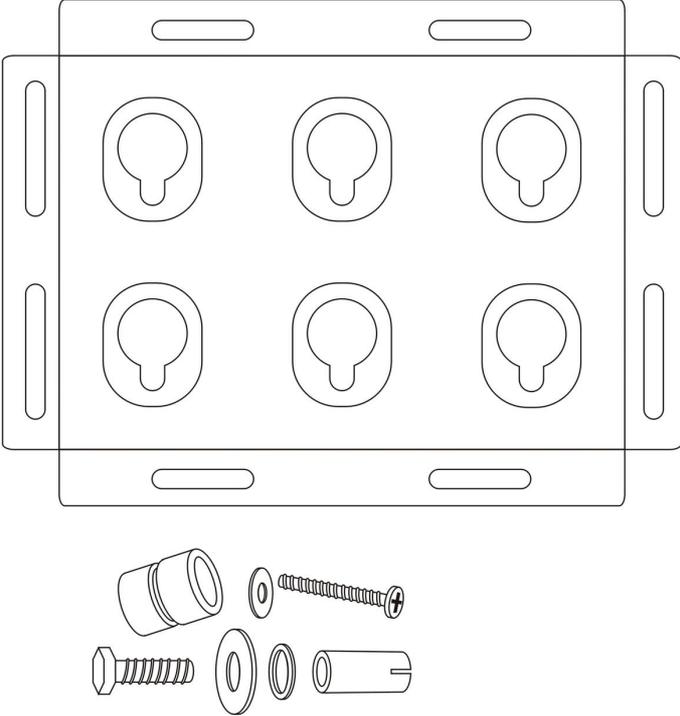
Front and rear panel

| **Front panel**

Source   VOL-   VOL+   CH-   CH+   Menu   Power
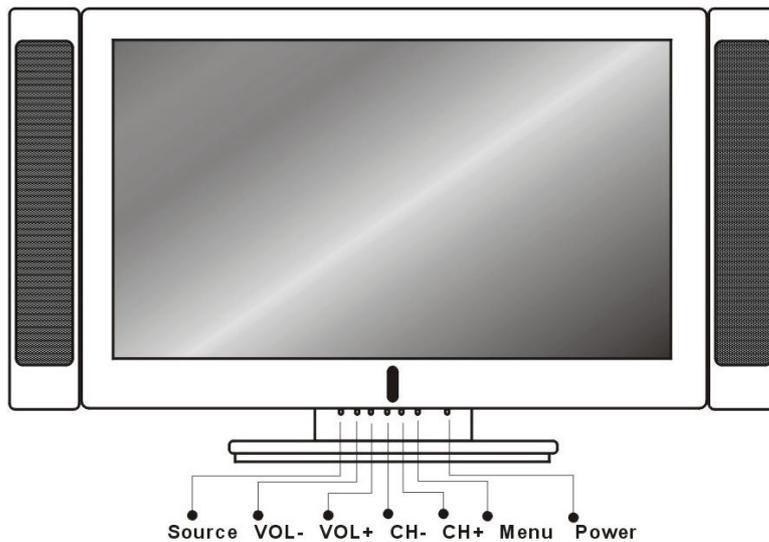
Items	Function
POWER	Press "POWER" button to turn on/off the display
MENU	Press "MENU" button to display the OSD menu. In OSD menu, press it to back to pre-phase.
CH▲ / CH▼	Press "CH▲" and "CH▼" buttons to directly adjust the program channel. In the OSD menu, press those two keys to select options.
VOL+/VOL-	Press " VOL+" and " VOL- " buttons to adjust volume. In the OSD menu, press those two keys to adjust options.
Source	Press to switch the input sources. (TV, AV, S-video, Y/Pb/Pr, VGA, DVI, Y/Cb/Cr)

| **Rear panel**

There are three detachable back covers on the rear side of the panel. (Back cover A, B, and C shown as the figure below). There are different ports and jacks for different devices connection behind all three panels. .

Back cover A

Back cover B

Back cover C

1. Remove the back cover
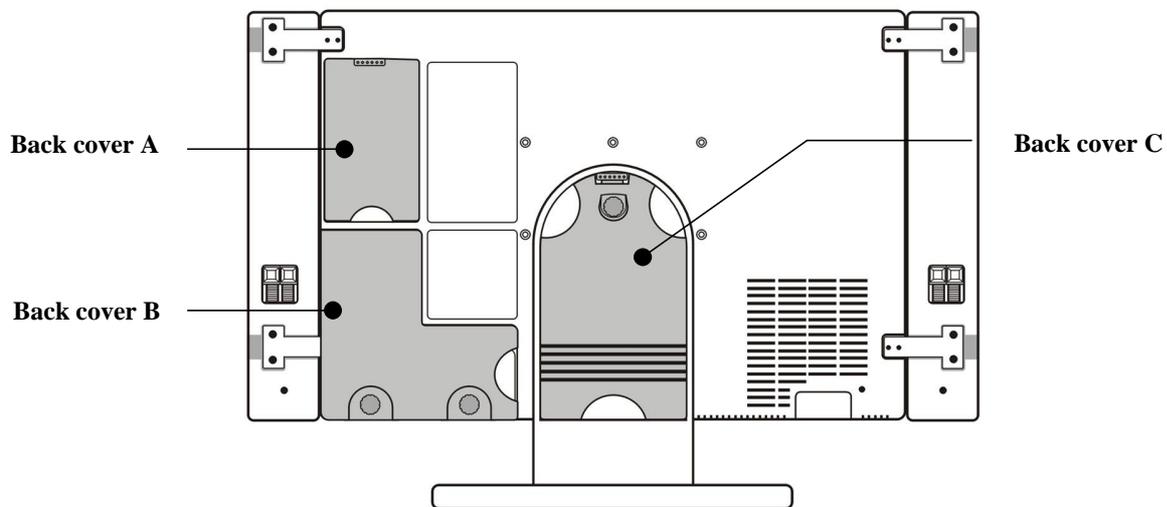
Back cover A

Back cover B
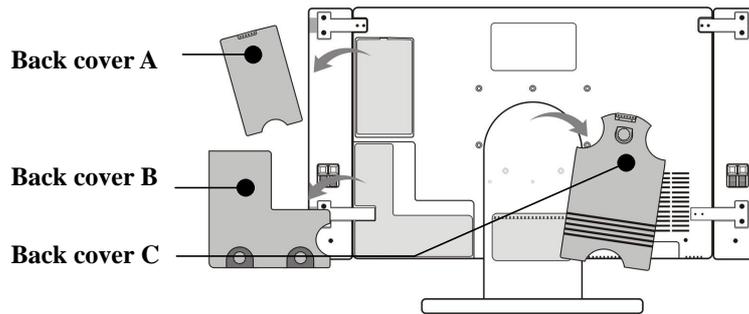
Back cover C

There are three detachable back covers. Remove them before installing the devices.

Push the fastener on back cover A and pull it out carefully to remove it. Loosen the screws on back cover B (or C) and take it off carefully.(Refer to appendix)

2. Graphic port (Back cover A)

Behind the "back cover A" are graphic ports. They are DVI terminal, VGA terminal, audio in, service port and speaker out (speaker connecter).

1) DVI / HDCP: Connect the DVI signal terminal on the display to the output of the signal equipment, such as a satellite gateway or a decoder, which has DVI interface through DVI cable.

2) VGA (RGB signal connection): Connect the VGA signal terminal on the display to the output of the signal equipment, such as a personal computer (PC), which has D-sub interface through D-sub 15 pin cable.

3) Audio in: Connect this terminal on the display to the output of PC equipment through audio cable, usually utilizing with VGA or DVI application.

4) Service port: It's a terminal can be accessed by a service professional only. Unauthorized access this port may seriously damage the firmware of this display unit.

5) Speaker out: Connect the terminal to speakers' speaker out terminal through speaker wires.

3. AV port (Back cover B)

Behind the "back cover B" are "AV ports", including the terminals of S-video input, CVBS (composite video input), audio input (R/L x2), sub-woofer line out, audio out (R/L x1) and the headphone Jack.

1) S-video Input: Connect this terminal to the S-video output terminal from a signal equipment, such as a DVD player or other video source.

2) CVBS (Composite video input): Connect this terminal to the composite video output terminal of your DVD player or other device with video source.

3) Audio input (R/L x2): Connect those terminals to the sound output terminal of your DVD player or other audio source. Those terminals are for composite, S-video signals.

4) Component input (Y/Cb/Cr, Y/Pb/Pr): Connect this terminal to the component video output (color differential output) of a progressive, standard DVD player or HDTV unit.

5) Audio Input (R/L x2): Connect this terminal to the sound output terminal of your DVD player or other audio source. The terminal are for component signals.

6) Sub-woofer out: Connect this terminal to input terminal of sub-woofer which has inner active amplifier with audio cable.

7) Audio out (R/L x1): Connect the terminals to input terminal of audio system.

8) Earphone out: Plug your earphone to this terminal.

Installation

❙ AV connection

1. Connect the composite video terminal (CVBS) of the display to the output of video equipment through AV cable with RCA connector and

2. Connect the audio in (R/L) terminals (under CVBS terminal) of the display to the audio output of video equipment through audio cable with RCA connector as illustrated.
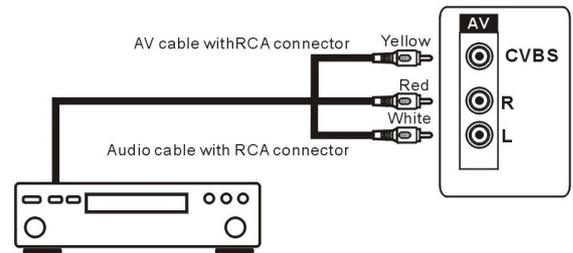
❙ S-video signal connection

1. Connect S-video terminal of the display to the signal output of video equipment through S-video cable, and

2. Connect the audio in (R/L) terminals (under S-video terminal) of the display to the audio output of video equipment through audio cable with RCA connector as illustrated.
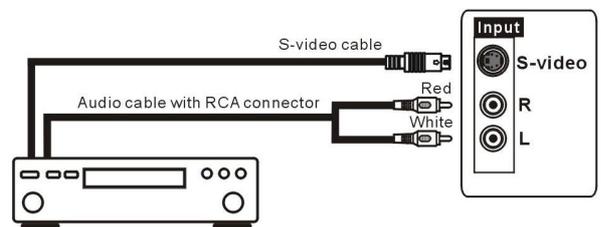
Note:

S-video signal has higher quality than composite video signal. Using sources such as satellite receivers, high-quality VCRs and DVD players (without component output) S-video can produce a cleaner and sharper signal.

❙ Component signal connection

1. Connect the output of a progressive DVD Player to component input (Y/Pb/Pr) or connect the output of a standard DVD Player to the component input (Y/Cb/Cr) through component cable.

2. Connect the audio in (R/L) terminals (near by component signal terminals) of the display to the audio output of video equipment through audio cable with RCA connector as illustrated.
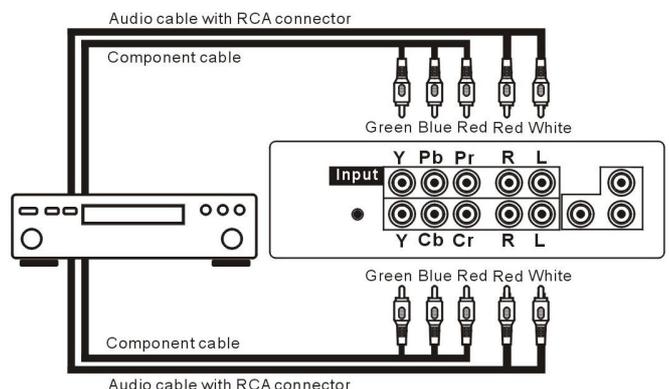
Note:

Component video signal is considered the best type of all video signals in terms of in picture quality.

❙ DVI /HDCP connection

1. Connect the DVI/ HDCP input terminal on the display to the DVI output terminal of the equipment (such as Set top box, DVD player and PC) through DVI cable.

2. Connect an audio cable with stereo mini jack, which matches the audio output terminal on the equipment.
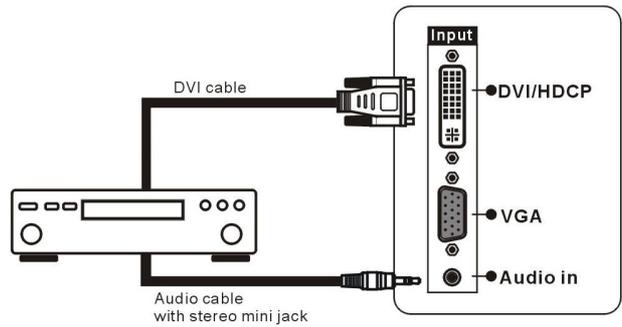
❙ VGA connection

1. Connect the VGA RGB signal input terminal on the display to the VGA output terminal of equipment (such as Set top box, DVD player and PC) through D-sub 15 pin cable as illustrated.

2. Connect an audio cable with stereo mini jack, which matches the audio output terminal on the equipment.
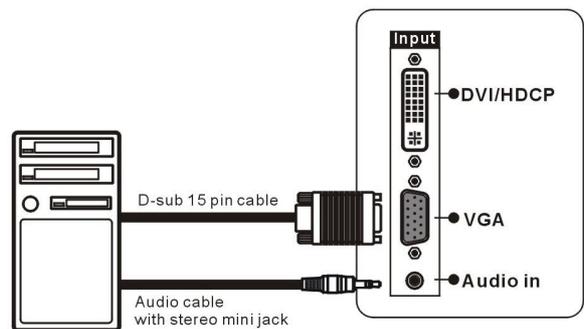
❙ Listening with a headphone set

Plug the earphone mini-plug into the earphone jack located on the AV port of the display to listen with a "headphone" set.

6
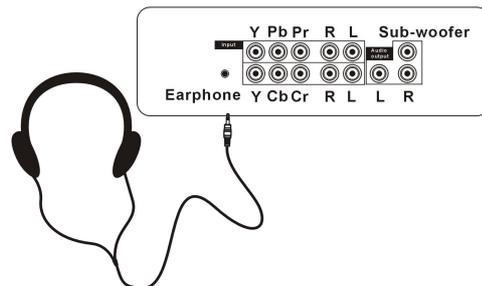
| Connect the speakers

The speakers are designed to be detachable from the display. You may place the speakers separately as you desired. You may also create your own Home Theater System by adding your own audio system.

1. Detach the speakers of display

1) Loosen the screws by a Phillips head screwdriver to disassemble both speakers.

2) Assemble the speaker stands and speakers. Secure the screw on rear of speakers.

3) Adjust the length of speaker wire and place the speakers at the designated location.
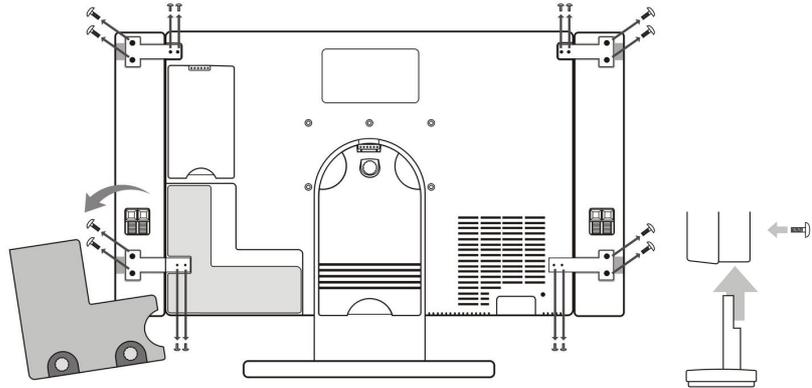
2. Connect the subwoofer and other speakers

1) The "sub-woofer" output terminal of the display is available for connection via a set of audio cable to the input terminal of sub-woofer, which must have a built-in active amplifier.

2) Connect "audio out" terminal of the display to the input terminal on the audio system with audio cable that has RCA connector.
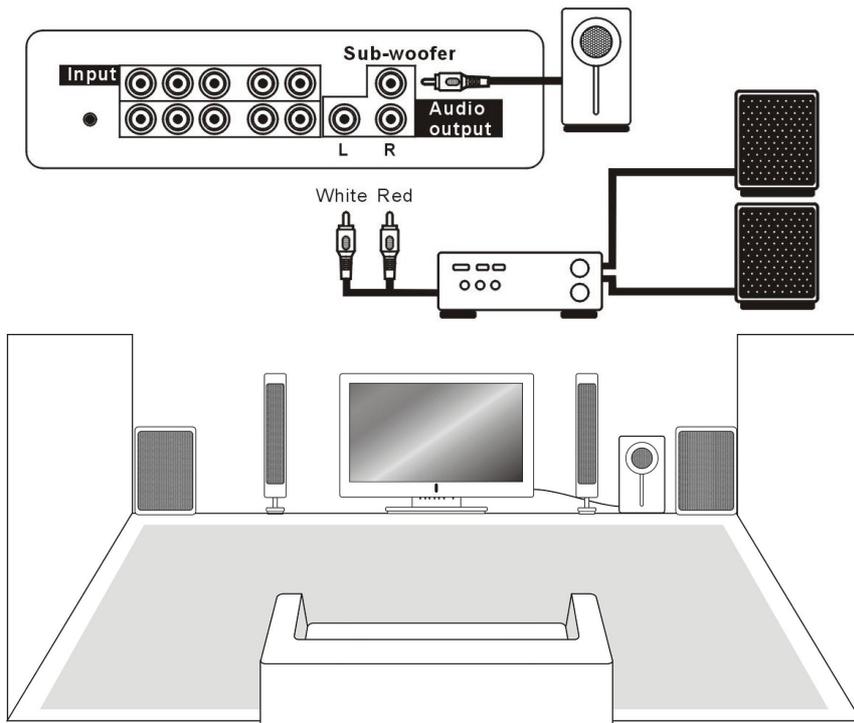
Remote control

❙ Function keys
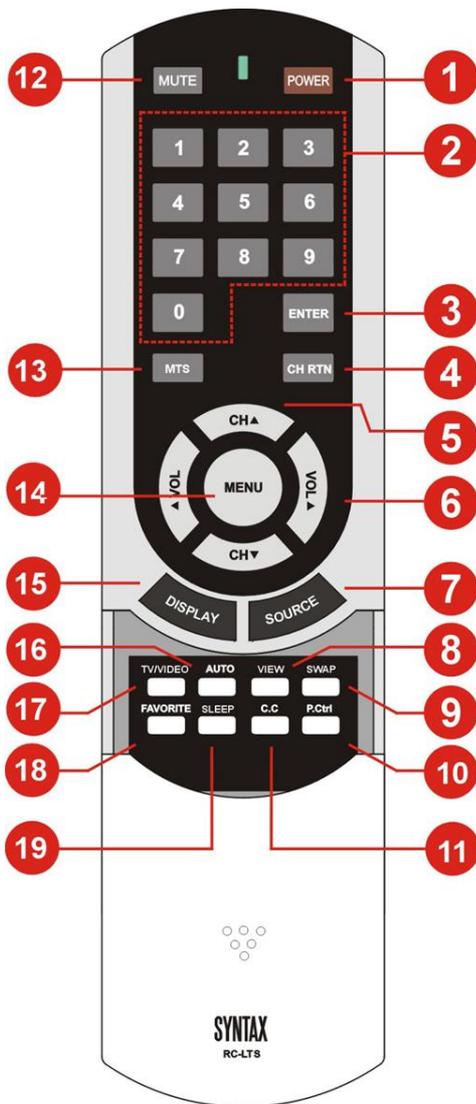
1. **Power**

   Press to turn on /off the display

2. **Number buttons**

   Press the number buttons to select channels on the display directly.

3. **ENTER**

   Press to enter the channel number.

4. **CH RTN (Channel return)**

   Press to return the previous-channel.

5. **CH+ ▲ and CH- ▼**

   Press to select and switch from all available program channels.

6. **◀ VOL- and VOL+ ▶**

   Press to adjust volume.

7. **Source**

   Press to switch the input sources. (TV, AV, S-video, YPbPr, VGA, DVI, YCbCr)

8. **View**

   Press to select and program PIP, POP3, Split screen or POP12 viewing options.

9. **Swap**

   Press to select TV channels between main and sub screen.(This key is functional only in PIP and Split screen mode.)

10. **P. Ctrl (Parental control)**

    Press to program the parental locks.

11. **C.C (Closed caption)**

    Press to select and set caption option .

12. **Mute**

    Press to mute the sound.

13. **MTS**

    Press to select from SAP, Mono or Stereo mode.

14. **Menu**

    Press to show the On Screen Display menu.

15. **Display**

    Press to display the information of current channel number and time.

16. **Auto (Auto adjustment)**

    Under VGA mode, the screen position could be automatically adjusted by pressing "Auto" button, when the screen image is slanted.

17. **TV/Video**

    Press to select a video signal from different sources (AV, S-Video, YCbCr, and YPbPr) .

18. **Favorite**

    Press to select the favorite channels. Which can be pre-set in the OSD menu.

19. **Sleep**

    Press to set a preset time interval for automatic shutoff.

❙ Battery installation

Follow the steps to install batteries on the remote control before operating the display.

1. Pull the cover out as illustrated below
2. Place the batteries with the (+) and (−) terminals corresponding to the (+) and (−) indications in the battery compartment.
3. Push the cover back and make sure the cover " snap" into the remote control.
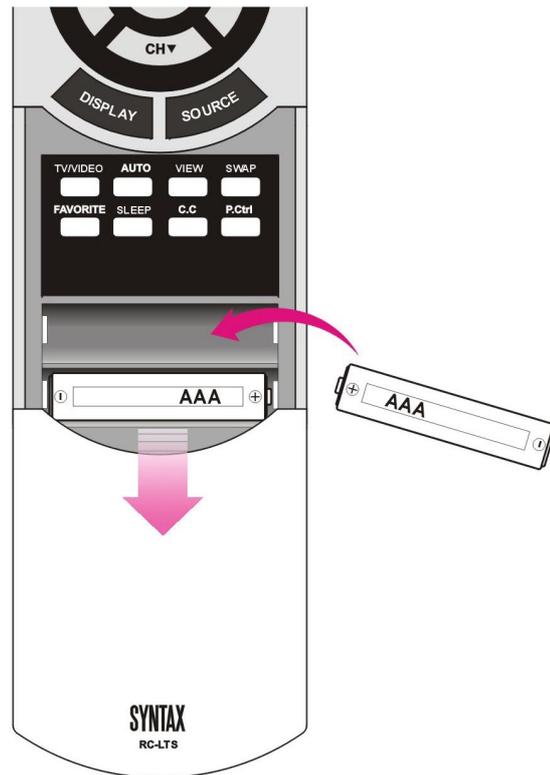
Note:
1. The display unit comes with two new AAA batteries as accessories. However, due to some uncontrollable causes, electricity of the accessorized batteries may partially or completely drain. We do not warrant the quality of the batteries in any case since many uncontrollable causes. If replacement is needed, please purchase the type AAA batteries.
2. Keep the remote control away from wet. If the incident happens, please wipe it dry immediately. However, depends on how severe the wetness incident, a replacement of remote control may required.
3. If you do not use the remote control for a long period of time, please remove the batteries and store in a cool and no direct lighting area.
4. Do not mix new and used or different types of batteries for operation.

On screen display (OSD) adjustment

l Illustration
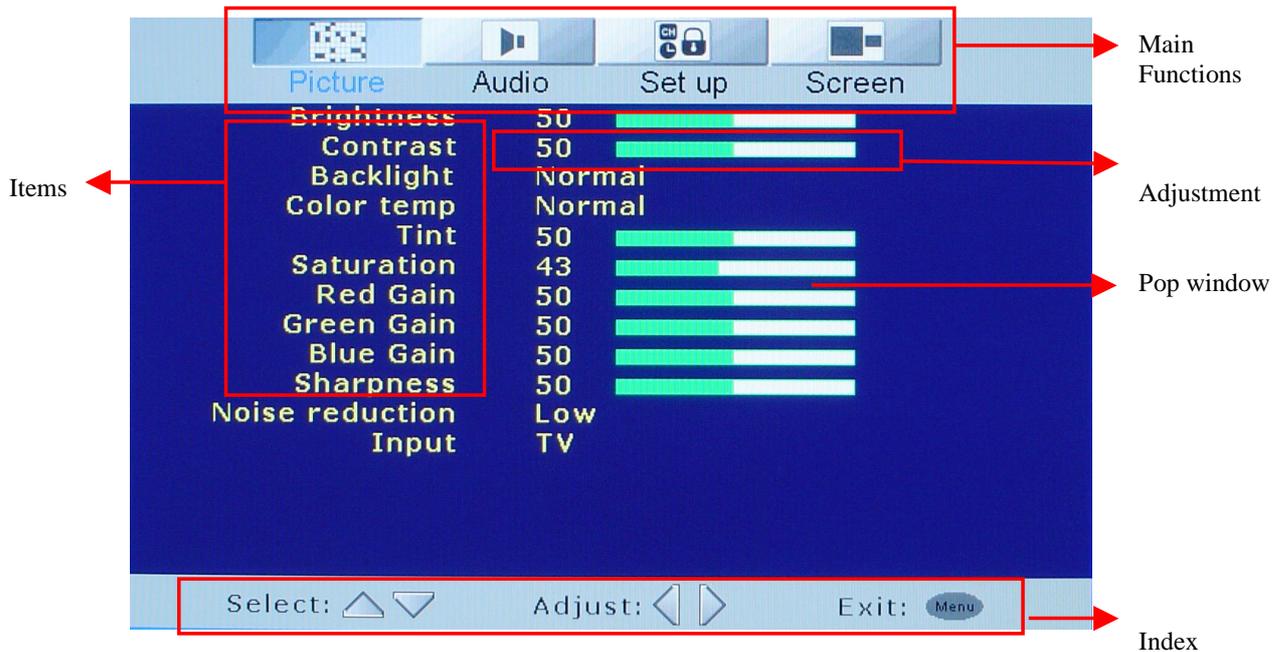
Item	Function
Main functions	There are four main functions, "Picture", "Audio", "Set up" and "Screen".
Adjustment	Defines each selection by increasing or decreasing value.
Pop window	The OSD menu is designed to show the preset option only. The pop window displays all current options.
Index	1. Select the options in the pop window by pressing " CH+▲ " and "CH-▼ ". 2. Adjust the value by pressing "◀ VOL - " and " VOL+ ▶ ". 3. Press "Menu" to exit.

l Operation

1. Press "Menu" button to enter OSD menu mode.
2. Use the keys "◀ VOL - " and " VOL+ ▶" to select between the main functions.
3. When the function you want is selected, press " CH+▲" and "CH-▼" to move the item.
4. Press " VOL+ ▶" to go to next phase. Adjust the value bar with "◀ VOL - " and " VOL+ ▶".
5. After setting, press "Menu" to exit and back to last picture.
6. To exit the OSD menu, press "Menu" again and again until exit the OSD menu, or without action for 12 seconds

l **Picture**
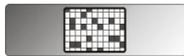
1. Source:

This display supports seven different types of SOURCE source. You can select a SOURCE source from this page. There are two other methods to select SOURCE:

1）Simply press the "SOURCE" hotkey on the remote control.

2）Press "SOURCE" key on the front panel of the display.

2. Auto adjustment:

In VGA mode, the picture could be slanted and smaller than a full screen. Select the item "Auto adjustment" to correct the picture. You may also press the "Auto" hotkey on the remote control.

Picture		
Item	**Adjustment**	**Function**
Brightness	0 – 100	Adjust brightness of picture.
Contrast	0 – 100	Adjust contrast of picture.
Backlight	Soft / Normal / Bright	Adjusts the panel backlight.
Color temp	Cool / Normal / Warm	Adjusts Image color temperature.
		1.)Warm: More red-tinged colors.
		2.)Normal: Standard color temperature
		3.)Cool: More blue-tinged colors
Tint	0 – 100	Adjust skin color to a natural tone.
Sharpness	0 – 100	Adjust the picture sharpness
Saturation	0 – 100	Adjust the saturation degree
Red gain	0 – 100	Adjust the color control
Green gain	0 – 100	Adjust the color control
Blue gain	0 – 100	Adjust the color control
Noise reduction	OFF / Low / High	Adjust the different level of noise reduction
Source	TV / AV / S-Video / YPbPr/ VGA / DVI/ YCbCr / Card reader(Optional)	Select the SOURCE source. The card reader source only display in the model with card reader module.
Auto adjustment (Only display under VGA mode)		Correct the image position according to an SOURCE source automatically.

11

l Audio

There are three adjustments include: Treble, Bass and Balance in this page. This page allows to adjust those items to meet the optimum audio preference.

Audio		
Item	**Adjustment**	**Function**
Treble	-12 to +12	Adjusts Treble (high sounds)
Bass	-12 to +12	Adjusts Bass (low sounds)
Balance	-15 to +15	Adjusts volume balance

l Set up

In this page, you can pre-select favorite channels, edit the setting of channels adjustment and selections include: display "time" and "language", setting "alarm clock", "caption" option, "Parental control" and "OSD background type". "Factory Default" option will reset all setting back to factory default.

Set up		
Item	**Adjustment**	**Function**
Channel-Favorite	24 favorite channels setting	Store the favorite channels
Channel-Edit	Add / Skip	Set up available channels.
		Add : To add available channel.
		Skip: To cancel available channel
Channel-Source	CATV / TV	Choose the source from RF.
Channel-Fine tune	Frequency adjustment	

Channel-Auto scan		Select to auto scan the available cannels of the TV or CATV.
Alarm	ON /OFF	Set the alarm on /off
Alarm time	Hour and minute adjustments	Adjust the alarm time.
Clock	Hour and minute adjustments	Adjust the clock.
Sleep	OFF/ 30 min / 60min / 90 min	Set a preset time interval for automatic shutoff.
Closed Caption	CC1/CC2/CC3/CC4/ Text1/ Text2/ Text3/ Text4/OFF	Switch different type of caption or cancel caption function.
Parental Control	**MPAA** G/PG/PG-13/R/NC-17/X **TV(Child)** TV-Y/ TV-Y7/ TV-Y7-FV **TV(Entire Audience)** TV-G/ TV-PG(V,S,L,D)/ TV-14(V,S,L,D) / TV-MA(V,S,L) **Password**	Set up the parental locks.
Language	English / Deutsch / Français / Español / Italiano / Português / Svenska / 繁體中文 / 簡中	Switch the OSD language
Background	Opaque / Translucent	Switch the OSD background.
Factory Default		Press to reset OSD setting to default.

1. **Favorite channel setting**

You can preset 24 favorite channels in this page. User can also access this function by pressing ⭕Favorite ,the " Favorite" hotkey on the remote control and select or switch between your favorite channels .

1) Press " VOL +▶ " to enter "Channel-Favorite" mode, you can see a pop window for favorite channel setting.

2) Press "CH +▲" and "CH -▼" to adjust the channel, at the same time, you can see the selected channel displays in real time.

3) Press "Enter" to exit when complete.

2. **Closed caption**

Close Caption option can be set On/Off from the OSD page. This function also can be access by pressing ⭕C.C , "C.C " hotkey on the remote control.

1) Not all programs offer the Closed Caption option. Please refer to the " CC " symbol to ensure the caption option is available.

2) Closed Caption may not be seen clearly (white blocks, strange characters, etc.) if the signal condition is poor, or the technical difficulty from broadcast source.

3) If no TEXT broadcast is being received while viewing in the [TEXT] mode, the screen may become dark and blank for some programs. Switch Off the Closed Caption mode.   .

3. Parental control

1) This function allows programs to be restricted and controlled by parents based on FCC regulation. It prevents children from watching program contents that may be prohibited by parents.

2) Restriction of programs is based on three Rating Systems: MPAA Rating, TV (Child) Rating and TV (Entire Audience) Rating. The MPAA Rating restricts based on age. TV (Child) rating and TV (Entire Audience) Rating restrict based on age and contents.

3) When you block the lower rating, the higher age-based ratings are blocked automatically.

4) When you enter "Parental control" mode, those messages display for different state.

Unblock parental lock	Illustration
No password, Set it before use / New password ____	The message displays when you use "Parental control". Enter 4 numbers for the password setting.
Confirm password ____	Press the password again to confirm the password.
Wrong password	The message displays when you enter the wrong number.
The program is blocked, / Enter password ____	The message displays when you try to unblock the block program. Enter password to unblock it.
The program is unblocked	The message displays when you unblock the program successfully.
Change password	Illustration
Enter password ____	When you select "Change password ", the message displays. Enter the pre-set password.
Change password, / Enter new password ____	After enter the original password successfully, the message displays. Then press four numbers to set up the new password.
Password changed	The message displays when you change password successfully.

5) If you forget the password, press "9999" to lift the lock and enter the sub-page .

‖ Screen

In this page, you can see two options: "Aspect " and " View ". Choose one of the viewing modes (PIP, Split screen, POP3 or POP12) from the "View" option. You may select the SOURCE source when you entered the PIP option.

Screen		
Item	**Adjustment**	**Function**
Aspect	Full screen / 4:3 / zoom	Alter the aspect ratio of picture Ÿ **Full screen**: Sets the picture to 16:9 wide mode Ÿ **4:3**: Return the 4:3 picture to its original size. Ÿ **Zoom**: Enlarge (zoom-in) the size of 4:3 picture on screen as geometric ratio.
View	PIP / Split screen / POP3 / POP12	Select the view mode.

1. Aspect

There are three aspect ratios: Full Screen (16:9), 4:3 and Zoom. See the pictures below.
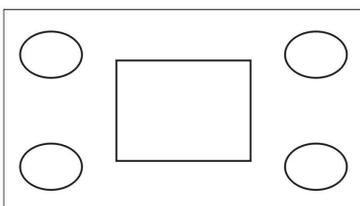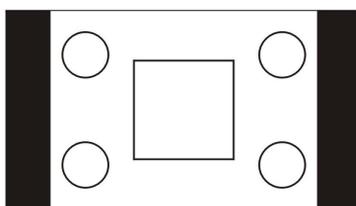
Full screen	**4:3**	**Zoom**
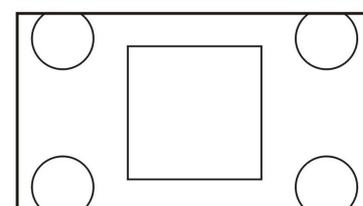
2. View modes

There are four view types: PIP, Split screen, POP3 and POP12. They are illustrated below.

PIP mode		
Item	**Adjustment**	**Function**
PIP Position	Upper Left / Upper Right / Lower Left / Lower Right	Change the position of Picture 2
PIP-Pic1	Available sources	Switch the source of Picture 1.
PIP-Pic2	Available sources	Switch the source of Picture 2

Split Screen mode		
Item	**Adjustment**	**Function**
Pic1	Available sources	Switch the source of Picture 1.
Pic2	Available sources	Switch the source of Picture 2
POP3 mode		
Item	**Adjustment**	**Function**
POP3-Pic1	Available sources	Switch the source of Picture 1
POP3-Pic2	Channel setting	Switch the channel of Picture 2
POP3-Pic3	Channel setting	Switch the channel of Picture 3
POP3-Pic4	Channel setting	Switch the channel of Picture 4
POP12 mode		
Item	**Adjustment**	**Function**
Pic1-Pic13	Channel setting	Switch channel of each picture

PIP
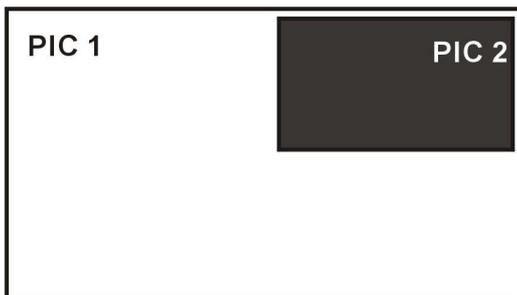
Split screen
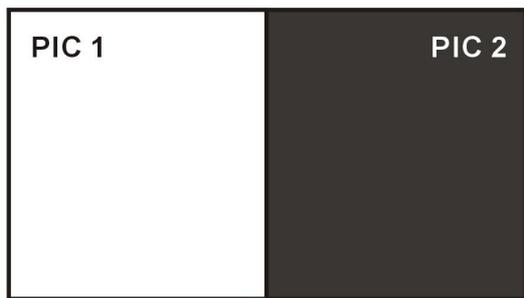
POP3
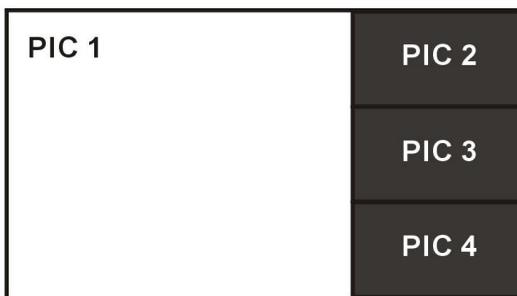
POP12
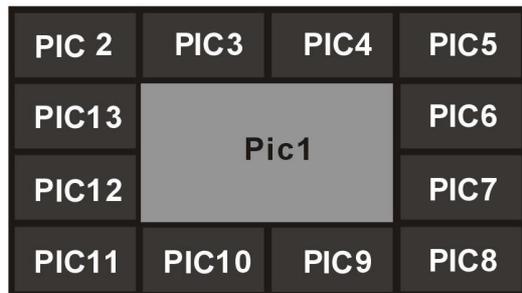
3. **The available sources of pictures in different viewing modes.**

There are two groups of sources:

Group A: TV, AV, S-video, YCbCr;

Group B: TV, VGA, DVI, YPbPr

If the SOURCE source preset as one of those two source groups, the other one group is the available sources of Pic2.

Troubleshooting

Many symptoms can be easily resolved by users. Please refer the following suggested solutions for the symptoms. .

| Symptoms	Possible solution
Power On failed	Power plug is securely inserted into the socket.
No picture or sound	1. Check LCD TV power status. 2. Check if the terminal is properly connected and the SOURCE mode has a right connection. 3. Check if the cable is well connected between the video source and the TV.
Full of spots or noise on the screen	Check if any interference from automobiles, trains, high-voltage transmission lines, neon signs or other potential sources of interference.
Poor color display	Check OSD and adjust in "Picture" function
Image distortion	Check aspect ratio in "Screen" function.
The image is blue	Check the setting of source in the TV and set it in the right type.
The image is too bright, and the image is saturation in the brightest areas.	1. Check if the contrast setting is too high. 2. The DVD player is set for a high-level output.
The screen shows searching for signal but no image.	1. Check if the signal cable is disconnected 2. Check if the terminal is properly connected and the SOURCE mode has a right connection..
Out of range	Check if SOURCE signal is suitable to the display.
Remote control does not work	1. Check if the batteries are properly installed. 2. Check if the batteries are out of power. 3. Check both distance and angle from the TV's infrared (IR receiver) to remote control. 4. Check if any object is in between remote control and IR receiver. 5. Check if the IR is under strong fluorescent lighting.
No sound	1. Check if the display's sound volume is set on "mute" or set to minimum. 2. Check if the headphone is connected. 3. Check if audio cable is properly connected. 4. Check is the speaker wires are both properly connected. .
Stripes on the screen	Check if any interference from the radiation wave. Any antenna of radio or cell phone may also cause interference. Keep display away from those devices

Supported operating modes

Source	Resolution	Timing name	Horizontal frequency (Khz)	Vertical frequency(Hz)	Pixel rate (MHZ)
YPbPr	480p	HDTV_480p	59.94	31.469	27
	720p	HDTV_720p	60	45	74.25
	1080i	HDTV_1080i	60	33.75	74.25
VGA	512 x 384	Mac_12M	60.147	24.48	15.667
	640 x 350	VGA VESA 85	85	37.861	31.5
	640 x 400	VGA VESA 85	85	37.861	31.5
		NECPC400	56	24.823	21.05
		PGA-400	59	30.296	24.964
	640x480	PGA-480	59	30.295	25.024
		MAC_13c	66	35	30.24
		MAC_13Lc	66	34.975	31.34
		MAC_13m	66	35	30.24
		VGA VESA 72	72	37.861	31.5
		VGA VESA 75	75	37.5	31.5
		XGA-6475	75	39.375	31.5
		VGA VESA 85	85	43.269	36
	720 x 350	VGA-m1	70	31.469	28.32
	720 x 400	VGA-m2	70	31.469	28.32
		VESA 85	85	37.927	35.5
		XGA2	87	39.444	35.5
	800 x 600	SVGA VESA 56	56	35.156	36
		SVGA VESA 60	60	37.879	40
		SVGA VESA 72	72	48.077	50
		SVGA VESA 75	75	46.875	49.5
		SVGA VESA 85	85	53.674	56.25
	832 x 624	Mac 16	74.6	49.725	55
	1024 x 768	VGA-m4	86	35.522	44.9
		MAC_1960	59	48.193	64
		HP1060	60	47.699	64.1
		XGA VESA 60	60	48.363	65
		HP1070(VESA 70)	70	56.476	75
		XGA_m5	70	56.287	77
		SON1072	71	57.87	75
		HP1075B	75	60.241	80

Source	Resolution	Timing name	Horizontal frequency (Khz)	Vertical frequency(Hz)	Pixel rate (MHZ)
VGA	1024 x 768	MAC-19	75	60.241	80
		HP1075A	75	62.937	84.6
		XGA1076	75	61.08	86
		XGA VESA 75	75	60.023	78.75
		SUN1077	77	62.04	84.4
		XGA VESA 85	85	68.677	94.5
	1053 x 754	XGA-m4a	86.907	35.414	45.5
	1056 x 768	XGA-m4b	86.939	35.602	45.57
	1120X750	NECPC750	80.042	32.857	47.8
	1152 x 864	DMT1170	70.012	63.851	94.5
		SXGA VESA 75	75	67.5	108
	1152 x 870	MAC-21	75.062	68.681	100
	1152 x 900	SUN1166	65.95	61.795	92.9
		SUN116B	66.004	61.846	94.5
		SUN1176	76.047	71.713	105.6
		SUN117B	76.149	71.809	108
	1024 x 1024	IBM6km1	60	63.36	89.2
		SUN1061	61.399	65.286	92.9
	1280x 960	SXGA VESA 60	60	60	108
	1280 x 720	1280x720-60	60	45	74.25
DVI	1024 x 768	1024x768-50D	50.014	48.363	32.5
		1024x768-56D	56.041	48.363	32.5
	1280 x 720	1280x720-60D	60	45	74.25
	800 x 600	SVGA-60D	60.317	37.879	40
	1400 x 788	JVC_0.7_16:9	60	65.52	54
	1400 x 1050	JVC_4:3D	60	65.52	54
	1024 x 768	1024x768-60D	60.004	48.363	65
	1388 x 780	JVC_16:9D	60	65.52	54

Dimensional drawing

141mm

497mm

558mm

450mm

890mm

220mm

21
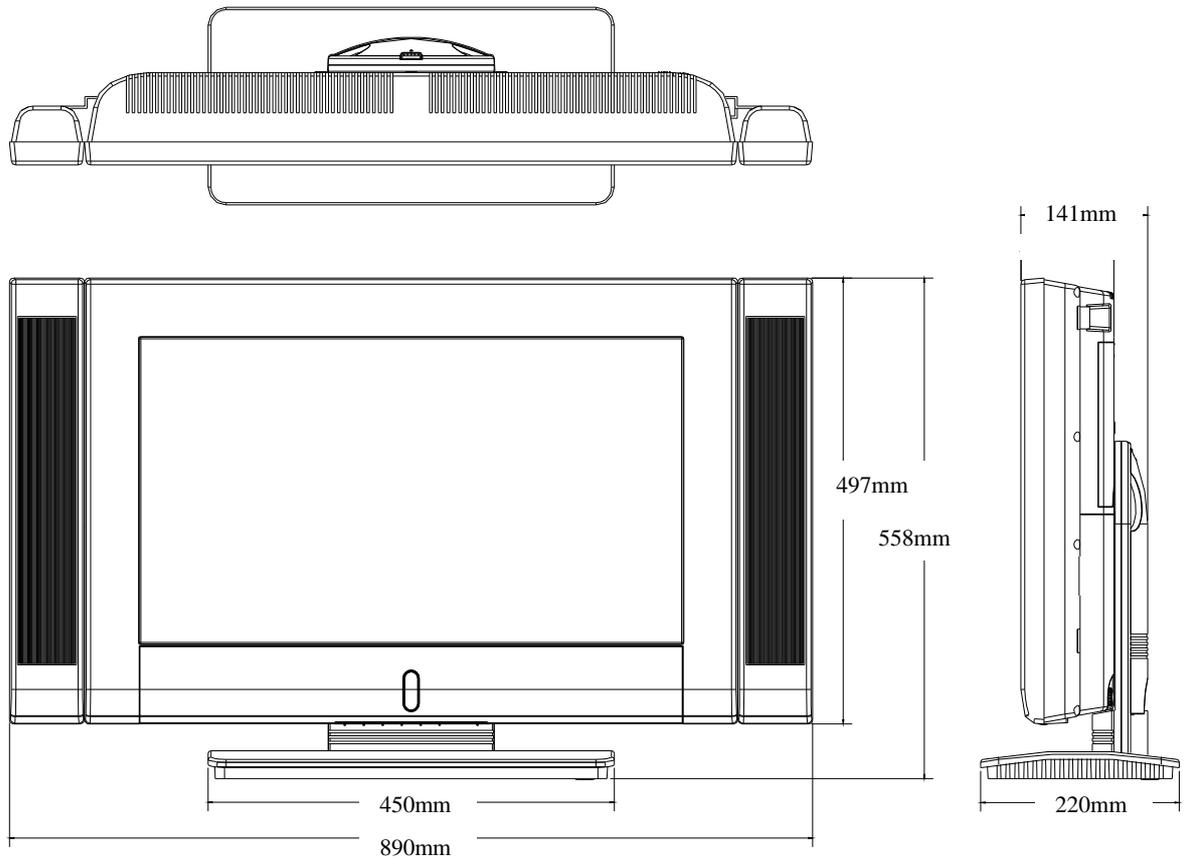
Appendix

❙ Tuner port (Optional) installation

Tuner port (optional) has double build-in tuners and a RF terminal. (See the figure right).

Connect RF terminal (optional) to the set from terrestrial broadcasting or CATV with the 75- ohm coaxial cable.
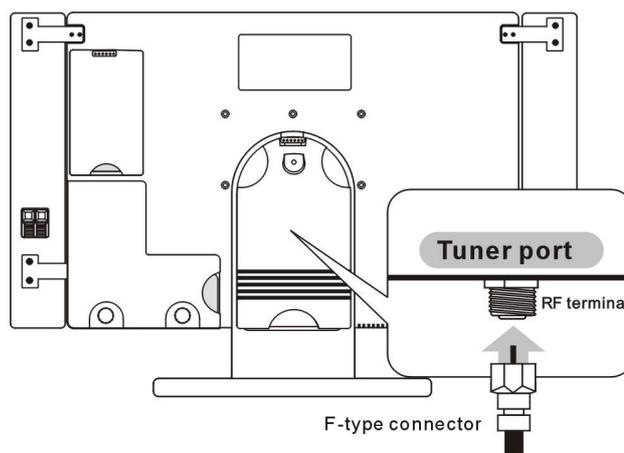
❙ CATV connection

A 75-ohm coaxial cable connector is built into the set for easy hookup. When connecting the 75- ohm coaxial cable to the set, screw the 75-ohm cable to the RF terminal.(Optional)

Some cable TV companies offer "premium pay channels". Since the signals of these premium pay channels are scrambled, a cable TV converter/ descrambler is generally provided to the subscriber by the cable TV company.

This converter/descrambler is necessary for normal viewing of the scrambled channels. For more specific instructions on installing cable TV, consult your cable TV company. One possible method of utilizing the converter/ descrambler provided by your cable TV company is explained below. An RF switch provided with two SOURCEs (A and B) is required (not supplied).

1. "A" position on the RF switch (not supplied) : You can view all unscrambled channels by using the TV's channel keys.
2. "B" position on the RF switch (not supplied) : You can view the scrambled channels via the converter / descrambler by using the converter's channel keys.
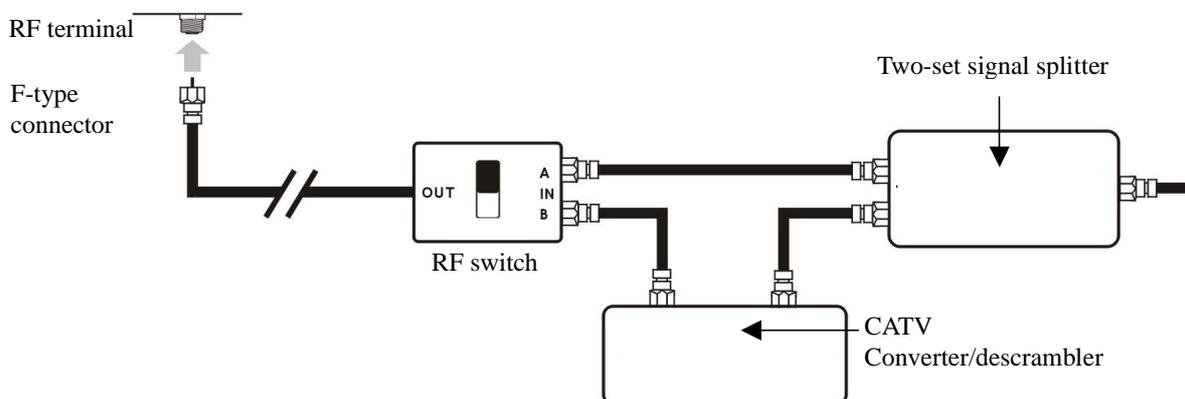
❙ VHF and UHF antenna connection

The antenna requirements for good color TV reception are more important than those for black & white TV reception. That's the reason why a good quality outdoor antenna is strongly recommended. A 75-ohm system is generally a round cable with F-type connector that can easily be attached to a terminal without tools (not supplied).

1. Antenna

The antenna requirements for good color television reception are more important than those for black and white TV reception. For this reason, a good quality outdoor antenna is strongly recommended. There are two types of connection provided with the various antenna systems.

1) A 75-ohm system is generally a round cable with F-type connector that can easily be attached to a terminal without tools (not supplied).
2) A 300-ohm system is a flat "twin-lead" cable that can be attached to a 75-ohm terminal through a 300-75-ohm adapter (not supplied).

2. Outdoor antenna connection

Connect the outdoor antenna cable lead-in to the RF terminal (optional) on the display. (see the figure below)
1) Using a VHF/UHF combination outdoor antenna.
2) Using separate VHF and/or UHF outdoor antennas.
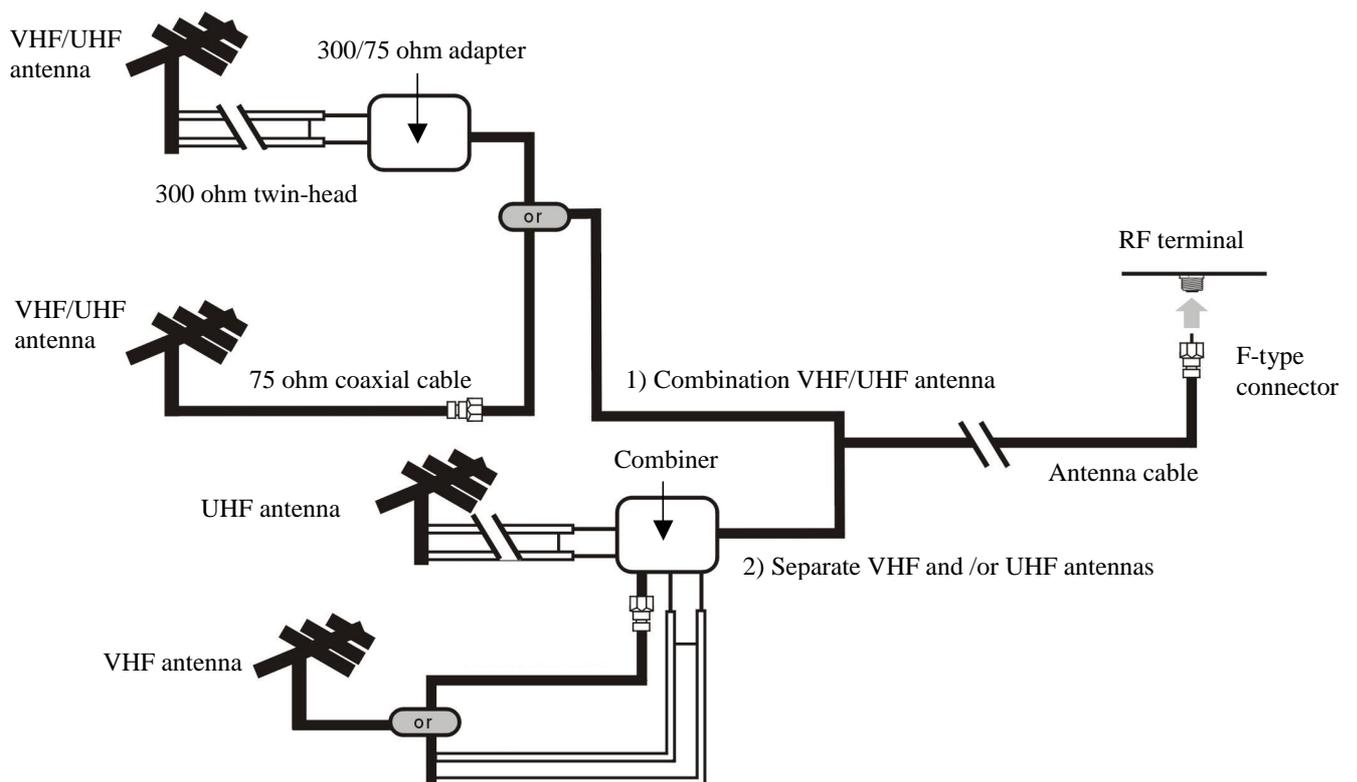
Glossary

1080i
1080 lines of interlaced video (540 lines per field). Usually refers to 1920x1080 resolution in 1.78 aspect ratio.

3D digital comb filter. A circuit that processes composite video signals, stripping the color signal (chrominance) apart from the black-and-white signal (luminance). To maintain picture quality, this filter compares each horizontal scanning line with the lines above and below—and with the corresponding lines on the previous and subsequent video frames. You get higher horizontal resolution, higher vertical resolution and reduced video noise.

480i. The conventional, Standard Definition television signal. This contains 480 active scanning lines (of a total 525 lines) displayed at 30 frames per second. Interlaced ("i") scanning divides each frame into two fields of 240 lines. Each field lasts for 1/60 second.

480p. Enhanced definition TV signal with 480 active scanning lines, progressive ("p") scanning and a rate of 60 frames per second. Used in both digital television broadcasting and progressive scan DVD players.

720p. High Definition TV signal with 720 active scanning lines and progressive ("p") scanning. Used in digital television broadcasting.

Active Matrix TFT
The most common type of LCD, used in most laptops, and most LCD panels and projectors. A typical active matrix TFT display is a single panel of LCD glass that modulates all three primary colors. Most of these offer contrast ratios up to 100:1 for good color dynamics, and just enough \"speed\" to handle video and 30 fps multimedia with little or barely distinguishable hesitation (jerkiness.)

Artifacts
Undesired viewable objects in the picture generated by disturbances in transmission.

Aspect Ratio
The width-to-height ratio of an image. A 4:3 aspect ratio means the horizontal size is a third again wider than the vertical size. Standard television ratio is 4:3 (or 1.33:1). Widescreen DVD and HTDV aspect ratio is 16:9 (or 1.78:1). Common film aspect ratios are 1.85:1 and 2.35:1. Aspect ratios normalized to a height of 1 are often abbreviated by leaving off the :1.

Audio In (Stereo SOURCE)
The jack or jacks (typically standard RCA jacks) to plug in sound coming from a computer or video source. (Most projectors have multiple audio SOURCEs, since they often support at least one computer and one to two video sources.)

Audio Out (Stereo Out)
The jack or jacks to hook up external (powered) speakers or a PA system. Most projectors allow their remote to control the volume of their internal speaker(s) and the external systems.

A/V SOURCEs: For connecting external audio/video equipment, including VCRs, DVD players, A/V receivers.

Brightness
The dimension of color that is referred to an achromatic scale, ranging from black to white, also called lightness or luminous reflectance. Because of confusion with saturation, the use of this term should be discouraged.

Built-in Tuner
Allows you to access and guide through TV channels without having to add an additional source. Without a built-in tuner, you will need to use your VCRs tuner to use the Picture-in-Picture feature.

Chromatic Aberration: An optical defect of a lens which causes different colors or wave lengths of light to be focused at different distances from the lens. It is seen as color fringes or halos along edges and around every point in the image.

Chromaticity: The color quality of light that is defined by the wavelength (hue) and saturation. Chromaticity defines all the qualities of color except its brightness.

Chrominance. The color component of a video signal, abbreviated C. Chrominance is combined with the black-and-white signal (luminance) in composite video connections, but kept apart in S-Video and component connections. For higher quality, the single chrominance signal can also be divided into B-Y and R-Y components in Y/PB/PR component connections, or into the primary colors of Red, Green and Blue for R/G/B component connections.

Closed Caption
Textual video overlays that are not normally visible, as opposed to open captions, which are a permanent part of the picture. Captions are usually a textual representation of the spoken audio. In the United States, the official NTSC Closed Caption standard requires that all TVs larger than 13 inches include circuitry to decode and display caption information stored on line 21 of the video signal. DVD-Video can provide closed caption data, but the subpicture format is preferred for its versatility.

Coaxial digital output. A method of connecting high-quality digital audio from a source component to an A/V receiver.

Channel Skip
This feature allows viewers to surf through other channels during program commercials. It will automatically return to the viewing channel after a programmed time.

Component Video

A video system containing three separate color component signals, either red/green/blue (RGB) or chroma/color difference (YCbCr, YPbPr, YUV), in analog or digital form. The MPEG-2 encoding system used by DVD is based on color-difference component digital video. Very few televisions have component video SOURCEs.

Y/Pb/Pr used most often with progressive can video devices progressive scan video devices. Separates a video signal into three separate channels using progressive scan (non-interlaced). These channels reduce interference to produce better picture quality. This format can handle 30K of information.

Y/Cb/Cr used most often with standard interlaced scan video devices. Separates a video signal into three separate channels for better picture quality. This format can handle 15K of information.

Composite Video
An analog video signal in which the luma and chroma components are combined (by frequency multiplexing), along with sync and burst. Also called CVBS. Most televisions and VCRs have composite video connectors, which are usually colored yellow.

Contrast Ratio
The difference in luminance between a white square centered on the screen and the black surrounding area. The larger the contrast ratio the greater the ability of a projector to show subtle color details and tolerate extraneous room light. There are two methods used by the projection industry: 1) *Full On/Off* contrast measures the ratio of the light output of an all white image (full on) and the light output of an all black (full off) image. 2) *ANSI* contrast is measured with a pattern of 16 alternating black and white rectangles. The average light output from the white rectangles is divided by the average light output of the black rectangles to determine the *ANSI contrast ratio*. When comparing the contrast ratio of projectors make sure you are comparing the same type of contrast. *Full On/Off* contrast will always be a larger number than *ANSI* contrast for the same projector.

Decoder
A circuit that decodes compressed audio or video, taking an encoded SOURCE stream and producing output such as audio or video. DVD players use the decoders to recreate information that was compressed by systems such as MPEG-2 and Dolby Digital; 2) a circuit that converts composite video to component video or matrixed audio to multiple channels.

Digital Television (DTV). The US system for over-the-air broadcasting gives stations 18 options in signal format, six of which are designated as true High Definition.

Display Area
In the viewing area of the LCD glass, the dimensions of the perimeter of the conductive area.

Display Scanning Format
You will find that the display format is often followed by the letter "i" or "p" which stands for interlaced scanning or progressive scanning. Some TVs can have different display formats with both scanning method to produce an image.

DTV
Digital television. In general, any system that encodes video and audio in digital form. In specific, the Digital Television System proposed by the ATSC or the digital TV standard proposed by the Digital TV Team founded by Microsoft, Intel, and Compaq.

Dual Tuner
Dual tuner allows you to view two different channels simultaneously without using an external video source like VCR or DVD.

DVI: DVI means Digital Visual Interface. DVI is a standard that defines the digital interface between digital devices such as projectors and personal computers. For devices that support DVI, a digital to digital connection can be made that eliminates the conversion to analog and thereby delivers an unblemished image. Specifications on DVI are available at www.ddwg.org.

DVI-HDTV. An interface that enables spectacular, uncompressed digital-to-digital transport of a video signal from an HDTV receiver to a "high scanning," "High Definition monitor" or "High Definition upgradeable" television. The connection is also secured by HDCP technology to protect the signal from piracy.

Energy Star Compatible
EPA rating given to TVs with low power consumption. Products with this rating benefit the environment and cost less to operate since they use less energy.

Flat Screen
While the TVs we all grew up with bowed out like a bubble, many of today's tube TVs have completely flat screens that give a truer, more accurate image and can be viewed from a wider angle. While they cost a bit more than TVs with older tube technology, many think the picture quality is well worth it.

HDTV
High-definition television. A video format with a resolution approximately twice that of conventional television in both the horizontal and vertical dimensions, and a picture aspect ratio of 16:9. Used loosely to refer to the U.S. DTV System. Contrast with EDTV and IDTV.

High Gain Screen: A screen that uses one of many methods to collect light and reflect it back to the audience, which dramatically increase the brightness of the image over a white wall or semi-matte screen. Technologies used include curved screens, special me tal foil screens (some polarized), and certain glass bead screens. Prices and performance vary tremendously, but attention to the screen can make a big difference, particularly in "tough" environments such as trade shows.

Infra-red Remote: The traditional remote control, it transmits infra-red, like a television remote.

Interlaced Scanning
Interlaced scanning is a method that creates TV picture with alternating lines of information and is the cause for flickering. Progressive scanning is a method that creates a TV picture with consecutive lines of information that results in flicker-free picture quality.

International Power Supply: A unit that can operate under a international selection of power requirements. Some units are "self-switching" they will automatically switch to whatever power source you plug it into. Others will have to be switched (internally or externally to accommodate a difference volt age or cycle range.

Letter Box
The black box that appears when a 16:9 aspect ratio picture is displayed on a 4:3 screen.

Liquid-Crystal Display (LCD)
Created by sandwiching an electrically reactive substance between two electrodes, LCDs can be darkened or lightened by applying and removing current. Large numbers of LCDs grouped closely together can act as pixels in a flat-panel display.

Luminance. The black-and-white component of a video signal, abbreviated Y. Luminance is combined with the color signal (chrominance) in composite video connections, but kept apart in S-Video and component connections.

MOIRE
An optical illusion that occurs when many parallel curved lines are placed near each other to produce a pattern in the eye of the viewer that does not exist in reality.

Multimedia
Information in more than one form, such as text, still images, sound, animation, and video. Usually implies that the information is presented by a computer.

Noise. Random, unwanted interference with the signal to which you're trying to watch or listen. In audio, noise takes the form of hiss or static. In video, noise is picture "snow," random flecks or specks of unwanted color.

NTSC
National Television Systems Committee. A committee organized by the Electronic Industries Association (EIA) that developed commercial television broadcast standards for the United States. The group first established black-and-white TV standards in 1941, using a scanning system of 525 lines at 60 fields per second. The second committee standardized color enhancements using 525 lines at 59.94 fields per second. NTSC refers to the composite color-encoding system. The 525/59.94 scanning system (with a 3.58-MHz color subcarrier) is identified by the letter M, and is often incorrectly referred to as NTSC. The NTSC standard is also used in Canada, Japan, and other parts of the world. NTSC is facetiously referred to as meaning never the same color because of the system's difficulty in maintaining color consistency.

OSD
The on-screen display (OSD) module converts programmed character addresses and control information into digital color and blanking outputs to display user defined characters on a television screen for on-screen programming and closed-captioning applications.

PAL
A European and international broadcast standard for video and broadcasting. Higher resolution than NTSC.

Panel Link: An all digital interface used to transmit computer video from a PC/Notebook to a projector. Supports resolutions from 640x480(VGA) up to 1600x1200(UXGA). This digital interface might someday replace the analog VGA interface typically used to connect projectors to computers.

Parental Controls
Allows parents to \"lock out\" children\'s access to certain functions or to the entire set with remote control access codes. In some DVD players, parents may also control a child\'s access by film rating codes. (i.e. PG but not R). It is also known as the V-Chip.

PIP (Picture In Picture)
This feature allows you to watch two images at once on your TV screen by placing one image in a small box within the larger picture. TVs with PIP as well as dual tuners can tune into two channels simultaneously. TVs without a dual tuner can place images from another video source, such as a VCR, in the smaller picture.

Pitch
The centre-to-centre distance between subpixels of the same color.

Pixel
The smallest information building block of an on-screen image. The resolution of a monitor is determined by the number of pixels covering the width and height of the complete on-screen image.

Pixel Resolution
The number rows of horizontal and vertical pixels that create the picture. The more pixels on the projection TV, the sharper the picture image.

Plug and Play
Hardware or software that can immediately be used after being installed is known as plug & play. Non plug & play hardware or software will require configuration.

Progressive Scan
A video scanning system that displays all lines of a frame in one pass. Contrast with interlaced scan.

QXGA: QXGA is used to define a specific display resolution. Resolution is defined by the number of individual dots that a display uses to create an image. These dots are called pixels. A QXGA display has 2048 horizontal pixels and 1536 vertical pixels giving a total display resolution of 3,145,728 individual pixels that are used to compose the image delivered by a projector. A QXGA display has 4 times the resolution of an XGA display.

Refresh Rate
\"Vertical Refresh Rate\" or \"Vertical Scan Rate\" is the maximum number of frames that can be displayed on a monitor in a second, expressed in Hertz.

Resolution. A measure of video signal detail for source material, transmission channels, recorders and displays. Resolution can be measured in pixels or in "lines of resolution."

RF Coaxial Output
This is a standard cable output of a video/audio signal. Signals using this type of output are limited to a maximum of 330 lines of resolution, so it is not a good hookup to use with high resolution sources like DVD players or satellite dishes. It does allow hookup to older TV\'s without other types of SOURCEs.

RGB (Red, Green, Blue)
The basic components of the color television system. They are also the primary colors of light, not to be confused with Cyan, Magenta, and Yellow, the primary pigments.

S-Video
A video interface standard that carries separate luma and chroma signals, usually on a four-pin mini-DIN connector. Also called Y/C. An encoded video that separates the brightness from color in a transmission. The S-Video connection can vastly improve picture quality when used in conjunction with video courses such as DVD, VCD, Laser Discs. The quality of s-video is significantly better than composite video since it does not require a comb filter to separate the signals, but it's not quite as good as component video. Most high-end televisions have s-video SOURCEs. S-video is often erroneously called S-VHS.

SECAM
A French and international broadcast standard for video and broadcasting. Higher resolution than NTSC.

Set-Top Box
A box similar in appearance to a cable box that can receive and decode digital transmission for a receiver.

Surround Sound
Instead of the traditional feature where sound is generated from a single source, surround sound uses multiple channels and speakers to amplify sound and audio depth. The five types of surround sound are: Simulated, Dolby Surround, Matrix Surround, Dolby ProLogic and Dolby Digital.

SVGA: An SVGA display has 800 horizontal pixels and 600 vertical pixels giving a total display resolution of 480,000 individual pixels that are used to compose the image delivered by a projector.

SXGA: An SXGA display has 1280 horizontal pixels and 1024 vertical pixels giving a total display resolution of 1,310,720 individual pixels that are used to compose the image delivered by a projector.

Thin-Film Transistor (TFT)
A technology for building the LCD screens that are commonly found on laptop computers. TFT screens are brighter and more readable than dual-scan LCD screens, but consume more power and are generally more expensive.

Timers (on-off/sleep)
Some sets have on/off timers that are useful to give your home that lived-in look when you\'re away. Many TVs also feature a timer to turn the set off after a set time, should you happen to fall asleep while watching TV.

V-Chip (see Parental Control)

VGA (Video Graphics Array)
A standard analog monitor interface for computers. Also a video graphics resolution of 640 x 480 pixels.

Video Components
Video components are used to increase the picture quality. The three types of video component SOURCEs are: Composite Video, S-Video and Component Video. Most projection TVs are equipped with Composite Video and S-Video SOURCEs.

Viewing Angles
Refers to the angle from which you can still view the picture on the screen. TVs with wide viewing angles mean that you don\'t need to be positioned directly in front of the set to see the ideal picture your TV is capable of.

Wall Mount
Flat-panel displays present you with a number of mounting options because of their slim size. They can be mounted close to the wall like a picture, or tilt-mounted, allowing for ventilation and clearance behind the display. Tilt-mounting can also add depth to your display.

Widescreen
A video image wider than the standard 1.33 (4:3) aspect ratio. When referring to DVD or HDTV, widescreen usually indicates a 1.78 (16:9) aspect ratio.

WXGA: WXGA defines a class of XGA displays with a width resolution sufficient to create an aspect ratio of 16:9. Resolution is defined by the number of individual dots that a display uses to create an image. These dots are called pixels. A WXGA display has 1366 to 1280 horizontal pixels and 768 to 720 vertical pixels respectively that are used to compose the image delivered by the projector.

XGA Resolution
A resolution of 1024x 768, this is now the most common used resolution on laptops and desktops, and as such has replaced SVGA and the current \"standard\". Higher resolutions are available as well, including SXGA and UXGA