SANYO

LCD TV

MODEL   LCD-32CA9S
         LCD-37CA9S
         LCD-42CA9S

Owner's Manual

TO THE OWNER

Before operating this LCD TV, read this manual thoroughly and operate the LCD TV properly.

This LCD TV provides many convenient features and functions. Operating the LCD TV properly enables you to manage those features and maintains it in better condition for a considerable time.

Improper operation may result in not only shortening the product-life, but also malfunctions, fire hazard, or other accidents.

If your LCD TV seems to operate improperly, read this manual again, check operations and cable connections and try the solutions in the "Troubleshooting" section on page 36 of this booklet. If the problem still persists, contact the dealer where you purchased the LCD TV or the service center.

Safety Precaution

WARNING :   TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

● Install the LCD TV in a proper position. If not, it may result in a fire hazard.

● Provide appropriate space on the top, sides and rear of the LCD TV cabinet for allowing air circulation and cooling the LCD TV. Minimum clearance must be maintained. If the LCD TV is to be built into a compartment or similarly enclosed, the minimum distances must be maintained. Do not cover the ventilation slot on the LCD TV. Heat build-up can reduce the service life of your LCD TV, and can also be dangerous.

SIDE and TOP   REAR
10 cm
10 cm   10 cm
6 cm

● If the LCD TV is not to be used for an extended time, unplug the LCD TV from the power outlet.
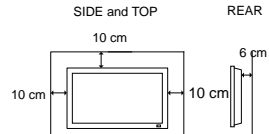
READ AND KEEP THIS OWNER'S MANUAL FOR LATER USE.

Caution In Installing

● Handle the LCD TV carefully when installing it and do not drop.

● Locate set away from heat, excessive dust, and direct sunlight.

● For correct installation and mounting it is strongly recommended to use a trained, authorized dealer. Failure to follow correct mounting procedures could result in damage to the equipment or injury to the installer.

NOTE :
When LCD TV is not used for a long period of time, unlighted dots may be observed. This is caused by characteristic of the LCD TV. If this occurs, turn the LCD TV on and leave it on about 1 hour. These dots will gradually disappear.

	CAUTION	
	RISK OF ELECTRIC SHOCK **DO NOT OPEN**	
CAUTION :	**TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**	
	THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.	THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE OWNER'S MANUAL WITH THIS UNIT.

2

⚠ SAFETY INSTRUCTIONS

All the safety and operating instructions should be read before the product is operated.

Read all of the instructions given here and retain them for later use. Unplug this LCD TV from AC power supply before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

Follow all warnings and instructions marked on the LCD TV.

For added protection to the LCD TV during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage due to lightning and power line surges.

Do not expose this unit to rain or use near water... for example, in a wet basement, near a swimming pool, etc...

Do not use attachments not recommended by the manufacturer as they may cause hazards.

Do not place this LCD TV on an unstable cart, stand, or table. The LCD TV may fall, causing serious injury to a child or adult, and serious damage to the LCD TV. Use only with a cart or stand recommended by the manufacturer, or sold with the LCD TV. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturers.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Slots and openings in the back and bottom of the cabinet are provided for ventilation, to insure reliable operation of the equipment and to protect it from overheating.

The openings should never be covered with cloth or other materials, and the bottom opening should not be blocked by placing the LCD TV on a rug, or other similar surface. This LCD TV should never be placed near or over a radiator or heat register.

This LCD TV should not be placed in a built-in installation such as a book case unless proper ventilation is provided.

Never push objects of any kind into this LCD TV through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the LCD TV.

Do not place items such as vases containing liquid on top of the LCD TV.

Do not install the LCD TV near the ventilation duct of air-conditioning equipment.

This LCD TV should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized dealer or local power company.

Do not overload wall outlets and extension cords as this can result in fire or electric shock. Do not allow anything to rest on the power cord. Do not locate this LCD TV where the cord may be damaged by persons walking on it.

Do not attempt to service this LCD TV yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Unplug this LCD TV from wall outlet and refer servicing to qualified service personnel under the following conditions:
a. When the power cord or plug is damaged or frayed.
b. If liquid has been spilled into the LCD TV.
c. If the LCD TV has been exposed to rain or water.
d. If the LCD TV does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the LCD TV to normal operation.
e. If the LCD TV has been dropped or the cabinet has been damaged.
f. When the LCD TV exhibits a distinct change in performance-this indicates a need for service.

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or injury to persons.

Upon completion of any service or repairs to this LCD TV, ask the service technician to perform routine safety checks to determine that the LCD TV is in safe operating condition.

TABLE

HDMI is registered trademarks of HDMI Licensing, LLC.

TRADEMARKS

● Apple, Macintosh, and PowerBook are trademarks or registered trademarks of Apple Computer,Inc.

● IBM and PS/2 are trademarks or registered trademarks of International Business Machines, Inc.

● Each name of corporations or products in the owner's manual is a trademark or a registered trademark of its respective corporation.

Feature and Design

◆ Picture

● High Definition LCD Panel

1366 x 768 pixel HD LCD Panel with high contrast ratio and wide viewing angle.

● VIZON Engine

VIZON Engine, SANYO High Quality Image Processing Technology reproduces clear, dynamic, natural and realistic picture along with HD LCD Panel Technology.

◆ Sound

● NICAM/A2 Stereo

It's the Stereo Sound PAL Color TV Broadcasting System upgrading mono-sound TV service to stereo or dual-language sound. (see page 18)

● Bass Expander

Bass Expander reinforces bass effect to improve overall sound quality. (see page 17)

◆ Feature

● Sport Mode

Just by pressing the button, sport mode optimizes picture settings suitable for each sport program. (see page 19)

■ **Colorful World**
Dynamic picture performance setting (default setting).

■ **Green Field**
Suitable setting for Football, Golf program etc.

■ **Snow World**
Suitable setting for Skiing, Ice Skating program etc.

■ **Water World**
Suitable setting for Swimming, Diving program etc.

■ **Indoor Sport**
Suitable setting for Basketball, Boxing program etc.

● PIP (1 tuner)

Picture in Picture displays two seperate source (e.g., PC and Video) at the same time. (see page 20)

◆ Compatibilty

● Full Multy System

PAL, SECAM, NTSC, NTSC 4.43 system can be connected. (see page 17)

● HD-Ready

1080p, 1080i, 720, High Definition signals are receivable.

● HDMI

HDMI provides complete transmission of digital image and sound signals without any quality deterioration.
DVI can be connected to HDMI. (see page 9)

● PC Input

Personal Computer/Laptop can be connected with automatic resolution adjustment.

● Terminals

HDMI for BluRay Player etc.
D-SUB 15-pin for PC input etc.
Component Video for DVD
S-Video/Video for VCR/DVD

◆ Others

● Wall Mounting

It's designed for VESA Standard wall hanging bracket.

● Light Commertial Mode

By entering Dealer mode, Volume Lock, Sart Mode, OSD, RC, Reset, AC Power Mode can be selected.
Convenient for placing in Hotel, Hospital, School, Store, Bank etc. (see page 34)

PREPARATION

PART NAMES AND FUNCTIONS

FRONT

Panel

Side Controls

Indicator

INDICATORS

Power Indicator

Timer Indicator

Infrared Remote Receiver
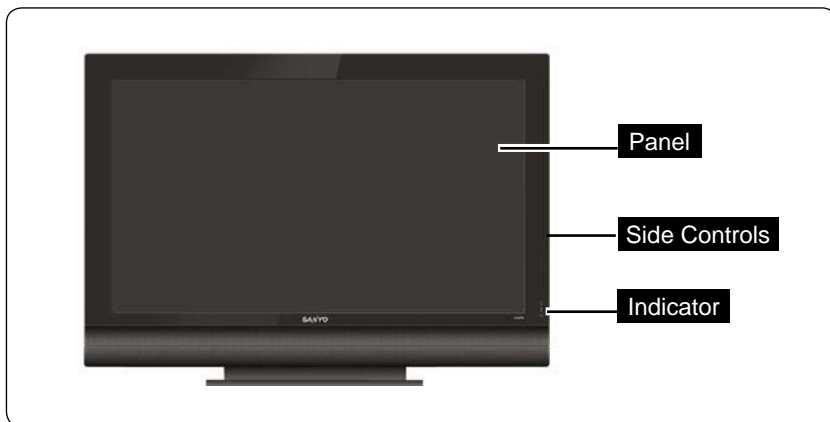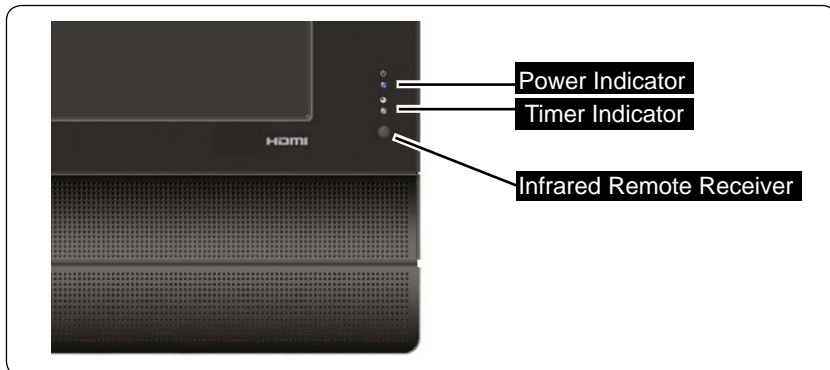
CARE FOR USING LCD TV

- Do not bump or scratch the panel surface as this causes flaws on the surface of the screen.
- There may be some tiny black points and/or blight points on the **SCREEN**. These points are normal.

SIDE CONTROLS
(Each button on the control panel has the same function with its counterpart on the remote control.)

CHANNEL UP/DOWN (▲▼) button
Used to Change channels.
Used to select items.

VOLUME (+/-) buttons
Used to adjust the volume.
Used to adjust the value of the selected item on On- Screen Menu.
Used to execute the selected menu on On-screen menu.

INPUT MODE button
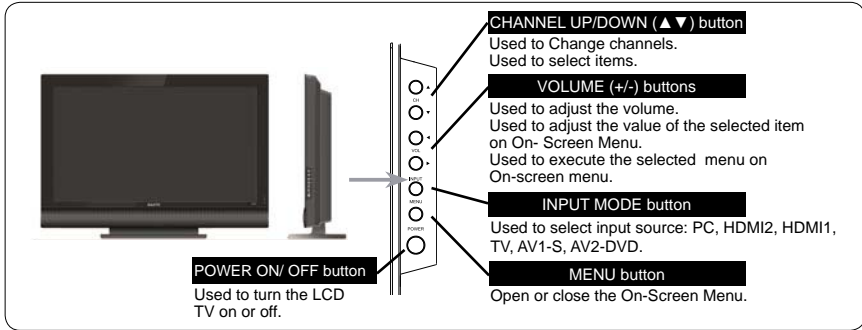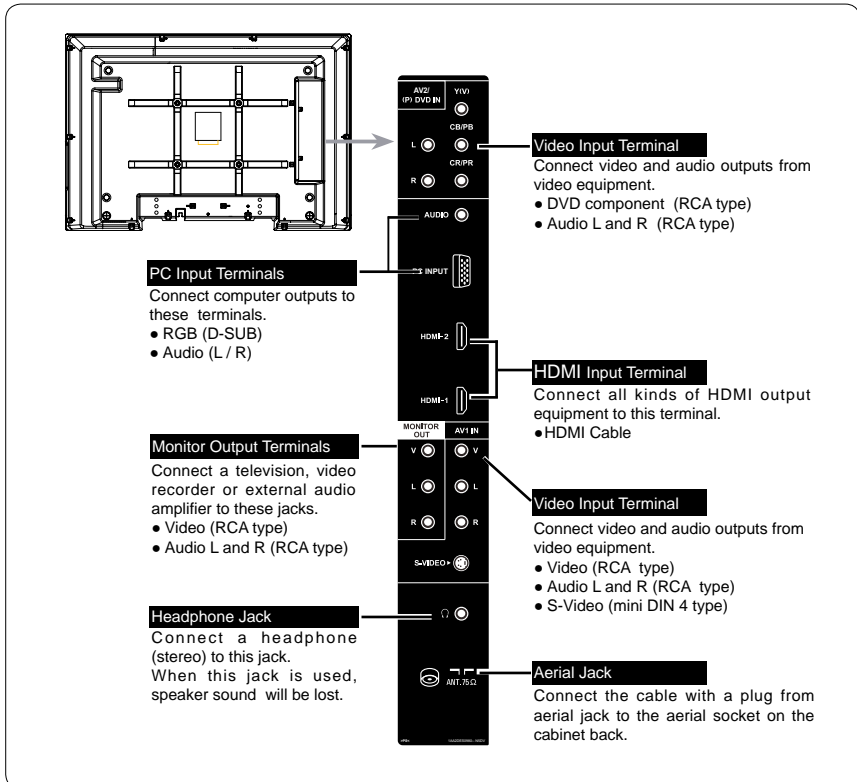Used to select input source: PC, HDMI2, HDMI1, TV, AV1-S, AV2-DVD.

MENU button
Open or close the On-Screen Menu.

POWER ON/ OFF button
Used to turn the LCD TV on or off.

SIDE TERMINALS

AV2/ (P) DVD IN   Y(V)
CB/PB
CR/PR
L   R
AUDIO
PC INPUT
HDMI-2
HDMI-1
MONITOR OUT   AV1 IN
V   V
L   L
R   R
S-VIDEO
ANT.75Ω

Video Input Terminal
Connect video and audio outputs from video equipment.
● DVD component (RCA type)
● Audio L and R (RCA type)

PC Input Terminals
Connect computer outputs to these terminals.
● RGB (D-SUB)
● Audio (L / R)

HDMI Input Terminal
Connect all kinds of HDMI output equipment to this terminal.
●HDMI Cable

Monitor Output Terminals
Connect a television, video recorder or external audio amplifier to these jacks.
● Video (RCA type)
● Audio L and R (RCA type)

Video Input Terminal
Connect video and audio outputs from video equipment.
● Video (RCA type)
● Audio L and R (RCA type)
● S-Video (mini DIN 4 type)

Headphone Jack
Connect a headphone (stereo) to this jack.
When this jack is used, speaker sound will be lost.

Aerial Jack
Connect the cable with a plug from aerial jack to the aerial socket on the cabinet back.
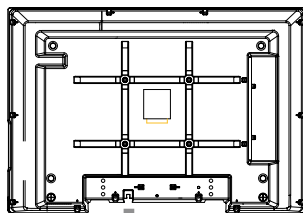
CONNECTING LCD TV

CONNECTING THE AC POWER CORD

This LCD TV uses nominal input voltages of 110-242V AC. This LCD TV automatically selects the correct input voltage. It is designed to work with single-phase power systems. To reduce risk of electrical shock, do not plug into any other type of power system. Consult your authorized dealer or service station if you are not sure of the type of power being supplied.
Connect the LCD TV with all peripheral equipment before turning the LCD TV on.
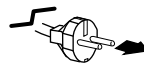
⚠ CAUTION

For safety, unplug AC power cord when the LCD TV is not in use.

AC POWER CORD

To the AC Outlet (110 - 242V AC) Pulls the AC power cord out from the LCD TV. The AC outlet must be near this equipment and must be easily accessible.
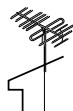
CONNECTING OUTDOOR AERIAL

Cable used for connection (This cable is not supplied with this LCD TV.)
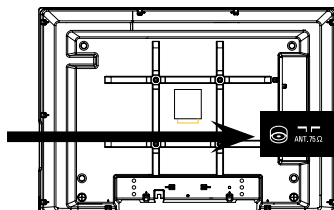● Aerial Cable

NOTE:
For all aerial circuit problems please consult your local dealer.

Outdoor Aerial

ANT.75Ω

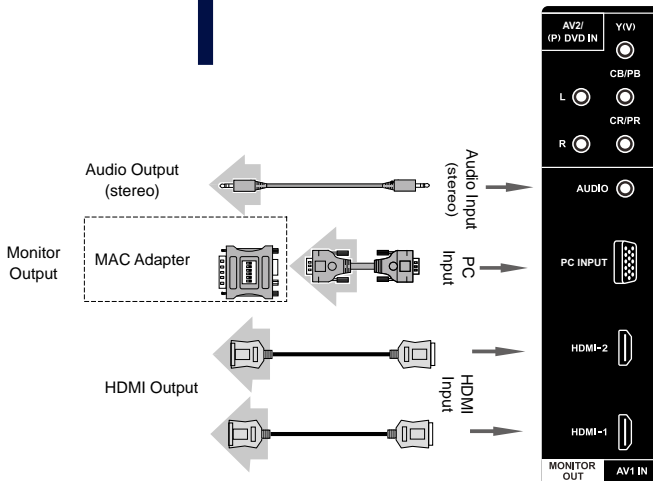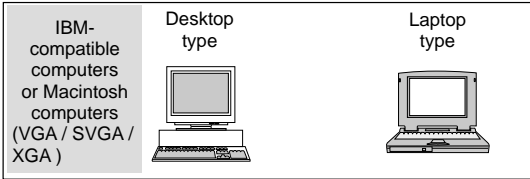Aerial Cable

CONNECTING A COMPUTER

Cable used for connection (This cable is not supplied with this LCD TV.)

● PC/VGA Cable (D-SUB 15pin)
● HDMI Cable: HDMI Input
● MAC Adapter (in the case of connecting Macintosh computer)
● Audio Cable [Mini Plug (L/R)]

⚠ NOTE:
When connecting the cable, AC Power Cords of both LCD TV and external equipment should be disconnected from AC outlet. Turn LCD TV and peripheral equipment on before your computer is switched on.

IBM-compatible computers or Macintosh computers (VGA / SVGA / XGA)	Desktop type	Laptop type

Audio Output (stereo)

Monitor Output   MAC Adapter

HDMI Output

Audio Input (stereo)

PC Input

HDMI Input

AV2/(P) DVD IN   Y(V)
CB/PB
L   CR/PR
R

AUDIO

PC INPUT

HDMI-2

HDMI-1

MONITOR OUT   AV1 IN

NOTE : You can connect the DVI source to HDMI input terminal by using the DVI to HDMI converter, and you just can watch image, but without sound.

CONNECTING LCD TV

CONNECTING VIDEO EQUIPMENT

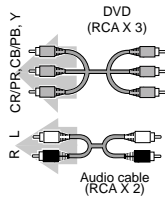Cables used for connection (These cables are not supplied with this LCD TV.)
● Video Cable(RCA X1), S-Video Cable, Audio Cable (RCA X2) : Video 1 or Video 2
● Video Cable(RCA X3), Audio Cable (RCA X2) : DVD (Component Video)
● Video Cable(RCA X1), Audio Cable (RCA X2) : Monitor Outputs
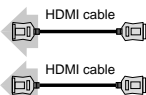● HDMI Cable: HDMI Input

⚠ NOTE : When connecting the cable, AC Power Cords of both LCD TV and external equipment should be disconnected from AC outlet.

Component Video Source (example)

DVD video equipment. (such as DVD player or high-definition TV source)

DVD Player

CR/PR,CB/PB, Y

R   L

DVD (RCA X 3)

Audio cable (RCA X 2)

AV2/ (P) DVD IN — Y(V)
CB/PB
L — CR/PR
R
AUDIO
PC INPUT
HDMI-2
HDMI-1

HDMI cable

HDMI Output

HDMI cable

Composite Video and Audio Output

Audio Amplifier

Audio Speaker (stereo)

External monitor

External Audio Equipment

Video cable (RCA x1)

Audio cable (RCA x 2)

MONITOR OUT — AV1 IN
V — V
L — L
R — R
S-VIDEO
○ ○
ANT.75Ω
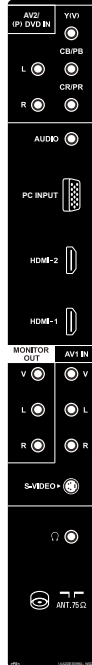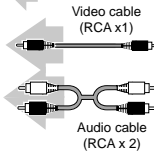
Video and Audio cable (RCA x 3)

R L V

S-Video

S-Video output

S-Video Cable

Video Source (example)

Video Cassette Recorder

Video Disc Player
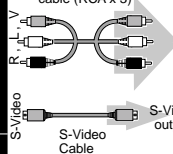
MONITOR OUT

Note : Video (RCA) output is for TV, AV or S-VIDEO only.

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OPERATION OF REMOTE CONTROL

Left labels	Right labels
POWER ON/OFF button	INPUT button
PIP button	MAIN/SUB button
CHANGE button	ECO button
NUMERIC buttons	TIMER button
DIGIT button	Display button
POINT ▲/▼/◄/► button	MUTE button
STILL button	CHANNEL RECALL button
SOUND SYSTEM button	MENU button
WIDE button	BACK button
STEREO/MONO button	COLOUR SYSTEM button
SPORTS button	VIDEO MODE button
BASS button	AUDIO MODE button
	TXT/TV button

Note: 1. "USB", "POP", "WOW HD" and "WOOFER" buttons are not used.
    2. In different mode, some buttons have different functions. (For details, please refer to page 21.)

BEFORE OPERATION

Point Remote Control toward LCD TV (Infrared Remote Receiver) whenever pressing the buttons. Maximum operating range for Remote Control is about 16.4' (5m) in front, about 30° to the left or the right, about 15° for up or down.

15°
15°

30°   30°

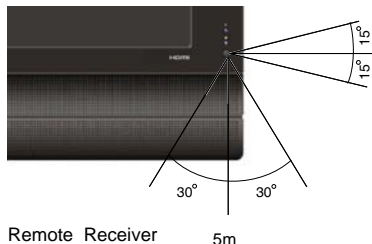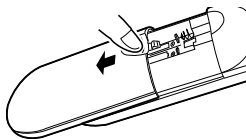Infrared Remote Receiver   5m

REMOTE CONTROL BATTERIES INSTALLATION

1 Remove the battery compartment cover .

2 Insert two size AAA batteries (1.5V) according to "+" and "-" polarity markings inside the battery compartment.
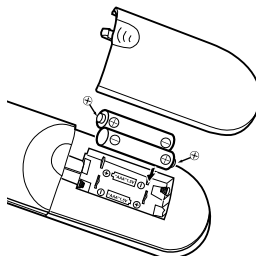
3 Close the battery compartment cover.
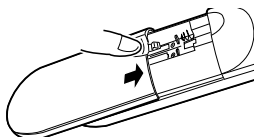
To insure safe operation, please observe the following precautions:
● Use (2) AAA, alkaline batteries.
● Replace two batteries at the same time.
● Do not use a new battery with a used battery.
● Avoid contacting with water or liquid.
● Do not expose the Remote Control to moisture, or heat.
● Do not drop the Remote Control.
● If a battery has leaked on the Remote Control, carefully wipe case clean and install new batteries.
● Risk of explosion if battery is replaced by an incorrect type.
● Dispose of used batteries according to the instructions.

ON-SCREEN MENU

TV/AV MODE MENU LIST

Note: "CHANNEL" menu is only active in TV mode.

MAIN MENU (CHANNEL MENU)

```
                    CHANNEL
AUTO SEARCH              ►
SEMI-AUTO SEARCH        ►
MANUAL SEARCH           ►
COLOUR SYSTEM       ◄   AUTO   ►
SOUND SYSTEM        ◄   D/K    ►
SKIP                ◄   ON     ►
CHANNEL SWAP            ►

  SEL      ADJ    BACK BACK   MENU EXIT
```
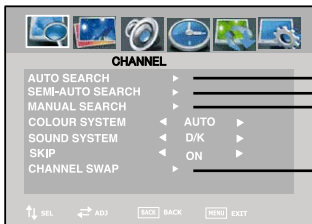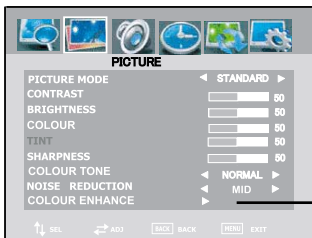
```
AUTO SEARCHING, PLEASE WAIT...
 78.75  MHZ          CH    3

                          BACK  BACK
```

CHANNEL MENU

```
                    CHANNEL
AUTO SEARCH              ►
SEMI-AUTO SEARCH        ►
MANUAL SEARCH           ►
COLOUR SYSTEM       ◄   AUTO   ►
SOUND SYSTEM        ◄   D/K    ►
SKIP                ◄   ON     ►
CHANNEL SWAP            ►

  SEL      ADJ    BACK BACK   MENU EXIT
```

```
SEMI-AUTO SEARCH
 CHANNEL           3
 SEARCH                        78.75 MHZ
 STORE           OK
```

```
MANUAL SEARCH
 CHANNEL           3
 SEARCH                        78.75 MHZ
 STORE           OK
```

```
                    CHANNEL
              CHANNEL SWAP
CHANNEL             ◄   1   ►
TARGET CHANNEL      ◄   0   ►
SWAPPING               ►

  SEL      ADJ    BACK BACK   MENU EXIT
```

PICTURE MENU

```
                    PICTURE
PICTURE MODE        ◄   STANDARD  ►
CONTRAST                        50
BRIGHTNESS                      50
COLOUR                          50
TINT                            50
SHARPNESS                       50
COLOUR TONE         ◄   NORMAL  ►
NOISE  REDUCTION    ◄   MID     ►
COLOUR ENHANCE         ►

  SEL      ADJ    BACK BACK   MENU EXIT
```

```
                    PICTURE
              COLOUR ENHANCE
RED                             8
GREEN                           8
BLUE                            8
CYAN                            8
MAGENTA                         8
YELLOW                          8
FLESH                           8
  SEL      ADJ    BACK BACK   MENU EXIT
```

SOUND MENU

```
                    SOUND
SOUND MODE          ◄   STANDARD  ►
BASS                            50
TREBLE                          50
BALANCE                         50

  SEL      ADJ    BACK BACK   MENU EXIT
```

BEFORE OPERATION

ON-SCREEN MENU

TV/AV MODE MENU LIST

MAIN MENU (CHANNEL MENU)


```
                    CHANNEL
AUTO SEARCH            ►
SEMI-AUTO SEARCH      ►
MANUAL SEARCH         ►
COLOUR SYSTEM        ◄    AUTO    ►
SOUND SYSTEM         ◄    D/K     ►
SKIP                 ◄    ON      ►
CHANNEL SWAP          ►

↑↓ SEL    ⇄ ADJ    BACK BACK    MENU EXIT
```

TIMER MENU


```
                    TIMER
OFF TIMER            ◄    OFF    ►
ON TIMER                 - - : - -
ON TIMER CH              29

↑↓ SEL    ⇄ ADJ    BACK BACK    MENU EXIT
```

OSD MENU


```
                    OSD
LANGUAGE             ◄   ENGLISH   ►
H-POSITION                       50
V-POSITION                       50
DURATION             ◄   15 SEC   ►
TRANSPARENCE                     50
TTX LANGUAGE         ◄   WESTERN   ►

↑↓ SEL    ⇄ ADJ    BACK BACK    MENU EXIT
```

SYSTEM MENU


```
                    SYSTEM
ECO                  ◄    OFF    ►
CHILD LOCK           ◄    ON     ►
PC ADJUST             ►

↑↓ SEL    ⇄ ADJ    BACK BACK    MENU EXIT
```
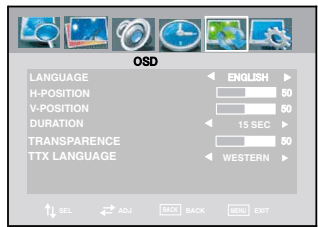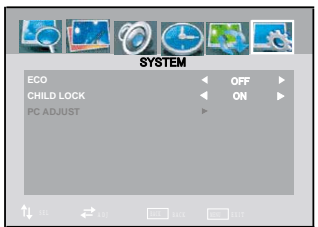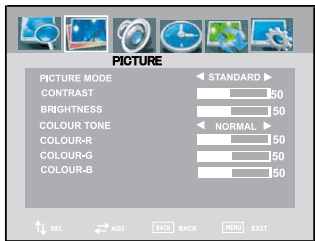
ON-SCREEN MENU

PC/HDMI MODE MENU LIST

MAIN MENU (PICTURE MENU)

SYSTEM MENU

Note: 1. "PC ADJUST" is only active in PC mode.
2. SOUND/ TIMER/ OSD menu in PC/ HDMI mode is the same as TV/AV mode, please refer to pages 13~14.

BASIC OPERATION

TURNING ON / OFF LCD TV

1 Complete the peripheral connections before turning on LCD TV. (Please refer to "CONNECTING LCD TV".)

2 Connect LCD TV's AC Power Cord into an AC outlet.

3 Press POWER ON/OFF button on Side Controls of LCD TV or on Remote Control to turn it ON. The POWER indicator will light up (green). Press POWER ON/OFF button again to shift it to stand-by status, the POWER indicator will become red.

NO SIGNAL SHUT OFF

This TV set incorporates the NO SIGNAL SHUT OFF function. If no signal is input in TV mode, "OFF 00:10" will display for about 10 minutes and TV will be turned off automatically.

SELECTING INPUT SOURCE

Select mode "PC", "HDMI2", "HDMI1", "TV", "AV1-S", or "AV2-DVD" by pressing INPUT button on Remote Control or on Side Controls.

```
SOURCE
PC
HDMI2
HDMI1
TV
AV1-S
AV2-DVD
⇆ : OK
```

CHANNEL SELECTION

There are 256 channels can be selected on the LCD TV.

DIRECT SELECTION

For direct access to programmes using the (0-9) numeric button.

1) For selection of channel position 0 - 9. Example: For channel position 8, press the "8" button.
2) For selection of channel position 10 - 99. For channel position 25, press the DIGIT button to display "- -", then press "2" and "5" buttons.
3) For selection of channel position 100 - 199. For channel position 125, press the DIGIT button twice to display "1 - -", then press "2" and "5" buttons.
4) For selection of channel position 200 - 255. For channel position 235, press the DIGIT button three times to display "2 - -", then press "3" and "5" buttons.

CHANNEL UP/ DOWN

Press POINT ▲/ ▼ buttons on Side Controls or on Remote Controls to select programs.

● Press POINT ▲ button to select next channel.
● Press POINT ▼ button to select previous channel.

CHANNEL RECALL

Press CHANNEL RECALL button to switch between the previous channel and the current channel.
For example, now you are watching channel "4", but you watched channel "2" previously. If you press CHANNEL RECALL button, channel "2" will appear immediately.
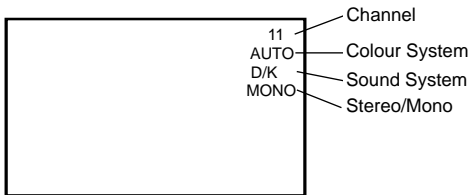
SOUND SYSTEM

Press SOUND SYSTEM button repeatedly to select "D/K", "I", "M" or "B/G" until the best sound effect is reached.

COLOUR SYSTEM

Press COLOUR SYSTEM button repeatedly to select "AUTO", "PAL", "SECAM", "NTSC" or "NTSC4.43" until the best colour effect is reached.

DISPLAY

Press DISPLAY button on Remote Control to display the status of LCD TV. Press again to remove the display.

VOLUME CONTROL

To adjust the volume value desired by pressing POINT ◄ ► buttons on Remote Control or on Side Controls. The volume dialogue box will appear on the screen for a short while.
POINT ► button to increase volume, and POINT ◄ button to decrease volume.

VOLUME ████████████ 50

ECO

This function is used to automatically adjust panel's brightness by ambient brightness.
Press ECO button on Remote Control to set "ECO ON" or "ECO OFF".

BASS EXPANDER

Press BASS button on Remote Control to set "BASS EXPANDER ON" or "BASS EXPANDER OFF".

BASIC OPERATION

VIDEO MODE

Simply press VIDEO MODE button on Remote Control to select the following video signals:

PERSONAL

User presets picture adjustment in Picture mode.
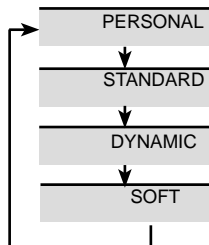
STANDARD

Natural and splendid picture level preset on this LCD TV.

DYNAMIC

Bright and dynamic picture. It is suitable for nice playback, such as DVD program.

SOFT

Inhibit strong contrast and colour, it is beneficial for eye protection.

PERSONAL
↓
STANDARD
↓
DYNAMIC
↓
SOFT

AUDIO MODE

Simply press AUDIO MODE button on Remote Control to select the following audio signals:

STANDARD
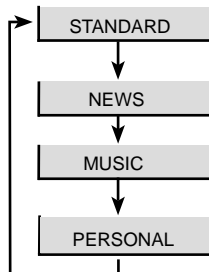
Normal sound state preset on LCD TV.

NEWS

Select this mode for talk programs.

MUSIC

Select this mode for music programs.

PERSONAL

Select this mode for user to call out the preset sound adjustment in SOUND menu.

STANDARD
↓
NEWS
↓
MUSIC
↓
PERSONAL

STILL

Press STILL button to switch the still function On or Off.
When in PIP mode, still function can still main picture.

To cancel "Still" function:
Press STILL button or PIP button to cancel the function, or you can switch the input source to cancel it also.

Note: ● When the still function is On, the picture will still, but the sound will be remain.

● The function doesn't work when the input signal is 1080p.

STILL ON

STEREO/MONO

Simply press STEREO/MONO button to select the following audio signals: "STEREO", "MONO", "NICAM", "A" and "B".

WIDE

Select screen size among "Full", "Zoom", "Zoom[Caption-IN]", "Normal" and "Natural Wide" by pressing WIDE button on Remote Controls.

* Only "Full" mode can be selected when the input mode is "VGA" , "HDMI" or "DVD" and the input signal is 1080i, 720p or 1080p.

Full

Provides image to fit width of screen by expanding image width uniformly. This function can be used for enjoying a squeezed video signal with wide video aspect ratio of 16 : 9 screen.
When your video equipment (such as DVD) has 16 : 9 output mode, select 16 : 9 and select "Full" to provide better quality.

Zoom

Provides image to fit screen size (16 : 9 aspect ratio) by expanding image width and height uniformly. This function can be used for enjoying a letter box mode picture (4 : 3 aspect picture with black bar on top and bottom edges) with wide video aspect of 16 : 9 screen.

Zoom [Caption-IN]

Provides the image that is expanded as "Zoom" mode and moved up to show more image to include captions. This function can be used for enjoying a letter box picture with captions.
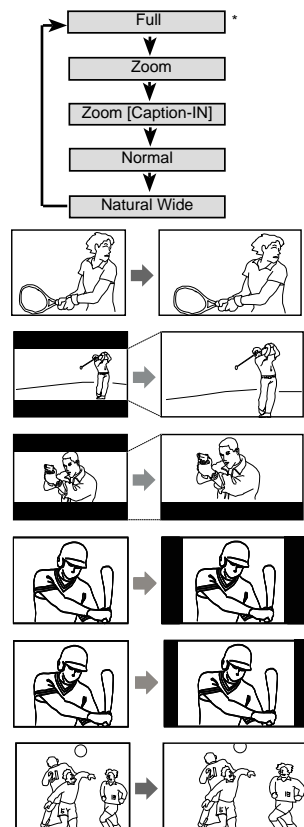
Normal

Provides real 4 : 3 image on 16 : 9 screen.

Natural Wide

Provides image to fit width of screen by expanding up/down/left/right of image. This function is suitable to enjoy a normal video signal (4 : 3 aspect ratio) with wide video aspect ratio of 16 : 9 screen.

WIDE button

Full *
↓
Zoom
↓
Zoom [Caption-IN]
↓
Normal
↓
Natural Wide

SPORTS

Select sports mode "Colorful World", "Green Field", "Snow World", "Water World" and "Indoor Sport" by pressing SPORTS button repeatly on Remote Controls.

COLORFUL WORLD

Return to normal picture.

GREEN FIELD

Use to watch football program, golf program or etc.

SNOW WORLD

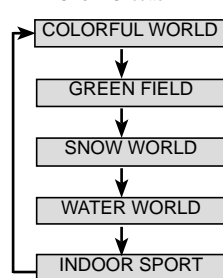Use to watch skiing program or etc.

WATER WORLD

Use to watch swimming program, diving program or etc.

INDOOR SPORT

Use to watch basketball program, badminton program or etc.

SPORTS button

COLORFUL WORLD
↓
GREEN FIELD
↓
SNOW WORLD
↓
WATER WORLD
↓
INDOOR SPORT

BASIC OPERATION

OFF TIMER

To set OFF TIMER by pressing TIMER button on Remote Control. The timer dialogue box will appear on the screen for a short while.

To select "0 min", "30 min", "60 min", "90 min" or "120 min" with TIMER buttons.

PIP OPERATION

Using PIP function, you can enjoy a TV program and an image such as DVD input from a rear terminal at the same time.

1   Press PIP button to display sub picture.

2   Each time PIP button is pressed, the location of sub picture is changed as follows.

3   During PIP mode, pressing the MAIN/SUB button will switch main and sub picture.
The sound on the main picture and the sub-picture also changes at the same time.

4   Press CHANGE button in PIP mode can switch input source in Sub picture. (Refer to this page "PIP Combination".

5   Press PIP button or POWER ON/OFF button to exit PIP mode.

Sub Picture   Main Picture
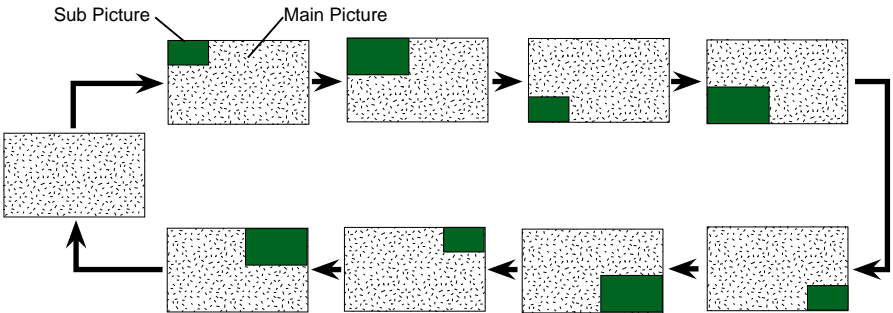
Note: The controls belongs to the picture which is TV input in PIP mode. Otherwise, it belongs to the main picture.

Combination of the Main-picture and Sub-picture

The following combination (Main and Sub picture) in the PIP mode, "✓" indicates that it is possible for combination, and "X" indications that it is impossible for combination.

Note: DVD input terminal should be connected so that AV2-DVD in the following table can be combined with TV or AV1-S, otherwise it cannot be combined with TV or AV1-S.

MAIN / SUB	PC	HDMI 2	HDMI 1	TV	AV1-S	AV2-DVD
PC	X	✓	✓	✓	✓	✓
HDMI 2	✓	X	X	✓	✓	✓
HDMI 1	✓	X	X	✓	✓	✓
TV	✓	✓	✓	X	X	✓
AV1-S	✓	✓	✓	X	X	✓
AV2-DVD	✓	✓	✓	✓	✓	X

OPERATION OF REMOTE CONTROL (IN TEXT MODE)

POWER ON/OFF button

TEXT INDEX button

NUMERIC buttons

TEXT SUBCODE button

PAGE UP (▲) button

VOLUME (◄) button

TEXT HOLD button

TEXT RED button

TEXT GREEN button

TEXT CANEL button

TEXT REVEAL button

MUTE_button

TEXT SIZE button

VOLUME (►) button

PAGE DOWN (▼) button

TXT/TV button

TEXT BLUE button

TEXT YELLOW button

Note: In different mode, some buttons have different functions. (For details, please refer to page 11.)

BASIC OPERATION

TEXT/ TV

Press TXT/TV button to select teletext. Press again will display:

- TV mode: TV → TEXT mode → MIX mode → TV
- AV mode: AV → TEXT mode → MIX mode → AV

Note:
- TEXT mode: TEXT screen is displayed.
- MIX mode: TV/AV (broadcast image) screen and the contents of TEXT(it superimposed) are displayed simultaneously.
- CANCEL mode: TEXT/MIX MODE is canceled temporarily and broadcast image is displayed. However, the available key are the same as TEXT mode.
- In the following state, the TXT/TV button is invalid.
  - RF non-signal (Auto shut off)
  - AV non-signal (Blue back)
- The TXT/TV button is pressed during the CANCEL mode. The CANCEL mode will be canceled, and it will become a TEXT screen.

TEXT REVEAL

- Press REVEAL button to reveal hidden items on the text page.
- Some pages such as quiz pages have the answers hidden. The button may have to be held to keep the answer on the screen, or press again to remove the answer.
- In REVEAL OFF, this indication is not given.
- REVEAL button does not work except a text function. (The recall button usually operates.)

TEXT CANCEL

- When press the TEXT CANCEL button in TEXT or MIX mode, the TV picture appears on the screen.
- CANCEL mode will be canceled if the button pressed once again.
  CANCEL mode is also canceled by the TXT/TV button.
- In CANCEL mode, "CAN" is always displayed on the screen upper left.

TEXT INDEX

Press the INDEX button to select the teletext index page in TEXT, MIX, CANCEL mode.

TEXT SUBCODE

1. Press TEXT SUBCODE button, "110/. . . ." will be displayed (e.g. the current page is 110).
2. Press the NUMERIC buttons(0-9) to enter the sub page. For example, to select sub page 4, press NUMERIC buttons 0-0-0-4, and "110/0004" will be displayed.

TEXT SIZE

Press TEXT SIZE button to enlarge the top half of the text page.
Press TEXT SIZE button again to enlarge the bottom half of the text page.
Press TEXT SIZE button again to return to the normal size page.

Normal → top half enlargement → bottom half enlargement → normal

Note:
- During the top half enlargement or the bottom half enlargement mode, if a page request is performed by [0] - [9] button and the TEXT INDEX button, it will become the normal mode and a page will be requested.
- If HOLD ON / OFF is performed during the top half enlargement mode, it will still at the top half enlargement mode. (A HOLD symbol display)
- If HOLD ON / OFF is performed during the bottom half enlargement mode, it will still at the bottom half enlargement mode. (A HOLD symbol not display)

TEXT HOLD

Press TEXT HOLD button to stop page request and updating .
- HOLD ON: The symbol ▦ will appear instead of the page number.
  Update of TELETEXT is forbidden. It stops on the TEXT screen display now.
- HOLD OFF: A status display will be page number display.
- TELETEXT page data is updated.
  - A screen is updated by reception of the UPDATE signal.
  - A screen is eliminated by reception of an ERASE signal.
  - TEXT HOLD button does not work except a text function.

TEXT RED

The page of a red prompt is required. (also cancel mode)

TEXT GREEN

The page of a green prompt is required. (also cancel mode)
This button does't work except for TEXT mode .

TEXT YELLOW

The page of a yellow prompt is required. (also cancel mode)
This button does't work except for TEXT mode .

TEXT BLUE

The page of a blue prompt is required. (also cancel mode)

MENU OPERATION (TV/ AV mode)

CHANNEL

⚠ Note:

- The CHANNEL menu doesn't work except for TV mode.
- In PIP mode, the CHANNEL mode doesn't work except for the main picture is TV mode .

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "CHANNEL", and will display CHANNEL menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.

■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

AUTO SEARCH

All receivable channels are automatically tuned in and memorized in consecutive programme position.

● After all receivable channels have been found and stored, the TV set will automatically return to programme position "1".

SEMI-AUTO SEARCH

Use to preset a receivable channel in any desired programme position, e.g. the position with the same number as the channel.

1 Select channel "3".

2 Enter into "CHANNEL" menu, pressing POINT ▲▼ buttons to select "SEMI-AUTO SEARCH".

3 Press POINT ◄ ► to start the channel searching.

4 Press POINT ► button will move tuning toward the higher frequencies, and press POINT ◄ will move tuning toward the lower frequencies.

Press and release POINT ◄ or POINT ► button to search for required TV station. Once a station is located, searching will automatically stop. Continue till desired channel is located.

■ Press BACK button to return to the previous menu.

■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

MANUAL SEARCH

Manual search a channel if it cannot be automatically tuned, such as when the signal is poor.

1 Select channel "3".

2 Enter into "CHANNEL" menu, pressing POINT ▲▼ buttons to select "MANUAL SEARCH".

3 Press POINT ◄ ► to start the channel searching.

4 Press and hold POINT ◄ or POINT ► button to search for required TV station.

■ Press BACK button to return to the previous menu.

■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

SCREEN MENU

AUTO SEARCH MENU

SEMI-AUTO SEARCH MENU

MANUAL SEARCH MENU

COLOUR SYSTEM

The setting for colour system is only active in TV or AV mode.

Usually, the colour system is set to the position of "AUTO". In case of abnormal colour, repeatedly press POINT ◄ ► buttons to select "AUTO", "PAL", "SECAM", "NTSC" or "NTSC4.43" until the best colour effect is reached.

SOUND SYSTEM

The setting for sound system is only active in TV mode.

Press POINT ◄ ► buttons repeatedly to select "D/K", "I", "M" or "B/G" until the best sound effect is reached.

SKIP

This feature is used to remove unwanted channels from the channel scanning memory.

You can skip the unused or undesired channels when you are selecting a channel using POINT ▲▼ buttons.

This function is only active in TV mode.

The settings for sound system, colour system or skip are automatically memorized in the programme position.

CHANNEL SWAP

To swap the channels between two stored programme positions.

1 Press MENU button to display the main menu.

2 POINT ◄ ► buttons to select "CHANNEL", and will display CHANNEL menu. Press POINT ▲▼ buttons to select CHANNEL SWAP.

3 Press POINT ◄ ► buttons to enter into the Channel Swap menu. Press POINT ▲▼ buttons to select the CHANNEL or TARGET CHANNEL, then Press POINT ◄ ► buttons to set the swap channel. And then press POINT ▲▼ buttons to select SWAPPING item, then press POINT ◄ ► buttons to select "OK".

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.
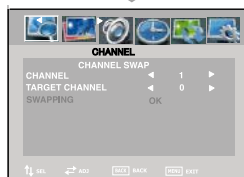
MENU OPERATION (TV/ AV mode)

PICTURE

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "PICTURE", and will display PICTURE menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

⚠ Note:
- TINT cannot be adjusted when HDMI input.
- TINT cannot be adjusted except in NTSC / NTSC 4.43 system.

PICTURE MODE

Select "PERSONAL", "STANDARD", "DYNAMIC" or "SOFT" by pressing POINT ◄ ► buttons.
- PERSONAL: User presets picture adjustment in PICTURE MODE.
- STANDARD: Natural and splendid picture level preset on LCD TV.
- DYNAMIC: Bright and dynamic picture. It is suitable for nice playback, such as DVD program.
- SOFT: Inhibit strong contrast and colour, it is beneficial for eye protection.

CONTRAST

Press POINT ◄ button to decrease contrast, and POINT ► button to increase contrast. (0~100)

BRIGHTNESS

Press POINT ◄ button to adjust image darken, and POINT ► button to adjust image brighten. (0~100)

COLOUR

Press POINT ◄ button to lighten colour, and POINT ► button to darken colour. (0~100)

TINT

Press POINT ◄ ► buttons to obtain proper colour. (0~100)

SHARPNESS

Press POINT ◄ button to soften the image, and POINT ► button to sharpen the image. (0~100)

COLOUR TONE

This function is used for selecting colour temperature. Select "NORMAL", "WARM" or "COOL" with POINT ◄ ► buttons.
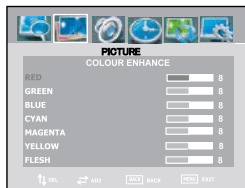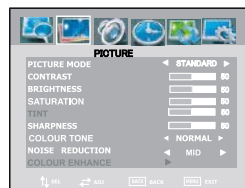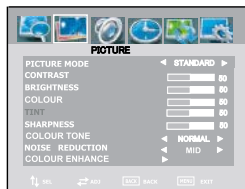
NOISE REDUCTION

This function is used for reducing noise interference on the screen. Select "LOW", "MID", "HIGH" or "OFF" with POINT◄ ► buttons.

COLOUR ENHANCE

This function can adjust seven kinds of colour. They are RED, GREEN, BLUE, CYAN, MAGENTA, YELLOW and FLESH. Press POINT ► button to lighter colour, and POINT ◄ button to darker colour. (0~15)
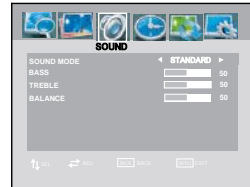
SCREEN MENU

SOUND

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "SOUND", and will display SOUND menu.

2 Press POINT ▲ ▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

SOUND MODE
Press POINT ◄ ► buttons to select "STANDARD", "NEWS", "MUSIC" or "PERSONAL".

BASS
Press POINT ◄ button to decrease low frequency sound, and POINT ► button to increase low frequency sound. (0~100)

TREBLE
Press POINT ◄ button to decrease high frequency sound, and POINT ► button to increase high frequency sound. (0~100)

BALANCE
Adjust the balance of the left and right channels. (0~100)

SCREEN MENU

27

MENU OPERATION (TV/ AV mode)

TIMER

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "TIMER", and will display TIMER menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

OFF TIMER

Once OFF TIMER has been set, when the set time is reached, the TV will shift to stand-by status.

To select "OFF", "30 min", "60 min", "90 min" or "120 min" with POINT ◄ ► buttons.

To cancel "OFF TIMER ", you can choose any option by the following ways.

● Setting "OFF" in OFF TIMER.
● Pressing POWER ON/OFF button on Side Controls or on Remote Control.

ON TIMER

Once ON TIMER has been set, you won't miss any opportunity to watch the program you like.

To set ON TIMER, you can set any time by NUMERIC buttons.

To cancel "ON TIMER MODE", you can choose any option by the following ways.

● Setting "- - : - -" in ON TIMER by press "0" button repeatedly.
● Disconnecting the AC power cord.

ON TIMER CH

This function is only active that ON TIMER has been set. When ON TIMER is reach, the TV will turn on and enter the channel position you set directly .

To set channel position, you can set any channel position by NUMERIC buttons (Refer to "DIRECT SELECTION" on page 16.).

⚠ Note:
- ● OFF TIMER and ON TIMER will be automatically cancelled during searching channels.
- ● The settings for OFF TIMER and ON TIMER will be automatically cancelled after the settings has been operated for one time.
- ● The LCD TV will turn off automatically if it has not been executed any operation in 2 hours.

SCREEN MENU

MENU OPERATION (TV/ AV mode)

OSD

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "OSD", and will display OSD menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

LANGUAGE
Press POINT ◄ ► buttons to choose ENGLISH, ARABIC or RUSSIAN.

H-POSITION
OSD moves to the left side when POINT ◄ button is pressed.
OSD moves to the right side when POINT ► button is pressed. (0~100)

V-POSITION
OSD moves up when POINT ◄ button is pressed.
OSD moves down when POINT ► button is pressed. (0~100)

DURATION
Use this function to set the display time of the MENU when there is no operation on the TV.
Press POINT ◄ button to decrease time, press POINT ► button to increase time. (5~60 seconds)

TRANSPARENCE
The background of OSD darkens when POINT ◄ button is pressed. The background of OSD lightens when POINT ► button is pressed. (0~100)

TTX LANGUAGE
Press POINT ◄ ► buttons to choose WESTERN, EASTERN, RUSSIAN, ARABIC, FARSI for Language display in Teletext mode.
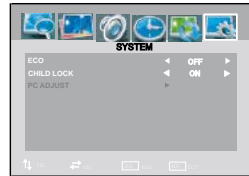
SCREEN MENU

MENU OPERATION (TV/ AV mode)

SYSTEM

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "SYSTEM", and will display SYSTEM menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

SCREEN MENU

ECO
This function can automatically adjust panel's brightness by ambient brightness.
Press POINT ◄ ► buttons to set "ON" or "OFF".

CHILD LOCK
When CHILD LOCK is set "ON", the Side Control buttons will be locked except for POWER ON/OFF button .

⚠ Note:
● "PC ADJUST" can not be selected except for PC mode.

MENU OPERATION (PC/HDMI mode)

PICTURE

Note: The screen menu in HDMI mode will be displayed
       differently under different condition.

1. When the set cannot be received HDMI signal in HDMI mode,
   the screen menu will be displayed as right picture.

2. But when the set can be received HDMI signal in HDMI mode,
   the screen menu is different, and the details please refer to
   page 26.

1 Press MENU button and the main menu will appear. Press
POINT ◄ ► buttons to select "PICTURE", and will display
PICTURE menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to
"DURATION" on page 29) to exit menu operation.

PICTURE MODE

Select "PERSONAL", "STANDARD", "DYNAMIC" or "SOFT" by
pressing POINT ◄ ► buttons.

● PERSONAL: User presets picture adjustment in PICTURE
  MODE.
● STANDARD: Natural and splendid picture level preset on LCD TV.
● DYNAMIC: Bright and dynamic picture. It is suitable for nice
  playback, such as DVD program.
● SOFT: Inhibit strong contrast and colour, it is beneficial for eye
  protection.

CONTRAST

Press POINT ◄ button to decrease contrast, and POINT ► button
to increase contrast. (0~100)

BRIGHTNESS

Press POINT ◄ button to adjust image darken, and POINT ►
button to adjust image brighten. (0~100)

COLOUR TONE

This function is used for selecting colour temperature. Select
"NORMAL", "WARM", "COOL" or "PERSONAL" with POINT ◄ ►
buttons.

COLOUR-R

Press POINT ◄ button to lighten red tone, and POINT ► button to
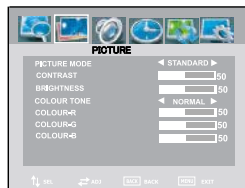deepen red tone. (0~100)

COLOUR-G

Press POINT ◄ button to lighten green tone, and POINT ► button
to deepen green tone. (0~100)

COLOUR-B

Press POINT ◄ button to lighten blue tone, and POINT ► button to
deepen blue tone. (0~100)

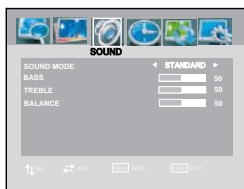SCREEN MENU

MENU OPERATION (PC/HDMI mode)

SOUND

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "SOUND", and will display SOUND menu.

2 Press POINT▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

Note: For the details, please refer to "SOUND" on page 27.

SCREEN MENU

TIMER

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "TIMER", and will display TIMER menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

Note: For the details, please refer to "TIMER" on page 28.

SCREEN MENU

OSD

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "OSD", and will display OSD menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

Note: For the details, please refer to "OSD" on page 29.

SCREEN MENU

MENU OPERATION (PC/HDMI mode)

SYSTEM

1 Press MENU button and the main menu will appear. Press POINT ◄ ► buttons to select "SYSTEM", and will display SYSTEM menu.

2 Press POINT ▲▼ buttons to select the item desired.

3 Press POINT ◄ ► buttons to adjust value.

■ Press BACK button to return to the previous menu.
■ Press MENU button or wait for 5~60 seconds (refer to "DURATION" on page 29) to exit menu operation.

ECO

This function can automatically adjust panel's brightness by ambient brightness.
Press POINT ◄ ► buttons to set "ON" or "OFF".

CHILD LOCK

When CHILD LOCK is set "ON", the Side Control buttons will be locked except for POWER ON/OFF button .

PC ADJUST

This function is used to adjust the position of image displayed on screen. It can be selected when the LCD TV could be received PC signal and in PC mode. (Refer to "SIGNAL MODE COLUMN" on page 38.)

Press POINT ◄ ► buttons to enter PC SCREEN menu. It can be select "AUTO", "H-POSITION", "V-POSITION", "CLOCK" or "PHASE" to adjust.

AUTO ADJUST

Press POINT ◄ ► buttons, and the TV automatically detects incoming signal, and adjust itself to optimize its performance. If the image is not displayed properly, a manual adjustment is required (Refer to following adjustments).

H-POSITION

The horizontal picture position will be moved to the left side by pressing POINT ◄ button. And it will be moved to the right side by pressing POINT ► button. (0~100)

V-POSITION

The vertical picture position will be moved down side by pressing POINT ◄ button. And it will be moved up side by pressing POINT ► button. (0~100)

CLOCK

Eliminate flicker from the image. Press POINT ◄ ► buttons to adjust CLOCK. (0~100)

PHASE

Eliminate disorder from the image. Press POINT ◄ ► buttons to adjust PHASE. (0~100)

SCREEN MENU

MENU OPERATION

DEALER MODE

The Dealer Mode has 7 different modes: VOLUME LOCK, TUNING LOCK, START MODE, OSD, RC, RESET and AC POWER MODE.

VOLUME LOCK

This function is used to limit the maximal volume.

TUNING LOCK

The way to prevent user from executing the Tuning function.

START MODE

The LCD TV will automatically enter to the setting mode while being turned on. You can select "OFF", "TV", "AV1-S", "AV2-DVD", "PC", "HDMI 1" or "HDMI 2" in START MODE. When it is set "OFF", it will keep the mode before being turning off.

OSD

When it is set "OFF", Corresponding OSD cannot display on the screen while operating.

RC

When it is set "OFF", the Remote Control will be locked and cannot be used.

RESET

This function returns all setting values to the factory default settings.

AC POWER MODE

You can set "STANDBY", "ON" or "LAST" in AC POWER MODE.
When LCD TV is connected to an outlet with AC power cord, it will enter the status as setting.

TO DISPLAY DEALER MODE:
Press and hold Menu button on Side Controls, and then press DISPLAY button on remote controls to display Dealer mode menu.
Take the way of setting VOLUME LOCK for example:

1 Press POINT◄ ► buttons to select a maximal volume.

2 Press and hold Menu button on Side Controls, and press DISPLAY button on remote controls to display Dealer mode menu.

3 VOLUME LOCK will be the default selection. (When you adjust others, press POINT ▲▼ buttons to select the item desired.)

4 Press POINT ◄ ► buttons to select "ON". (The maximal volume is the set value by step 1.)

5 Press menu button to exit menu operation.

REMOTE CONTROLS

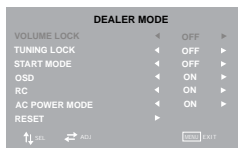Press POINT ▲/▼/◄/► buttons

DISPLAY button

SIDE CONTROLS

MENU button
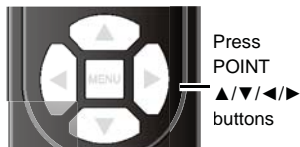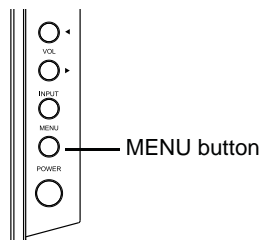
DEALER MODE MENU

CLEANING LCD TV

Be sure to disconnect the AC Power cord from AC outlet before cleaning the LCD TV.
Clean your LCD TV as follows:

● Gently wipe the screen and cabinet with dry soft cloth.
● The screen is likely to be damaged if it is not maintained properly. Do not use hard objects like a hard
   cloth or paper. Do not use solvents or abrasions.

CAUTION :
Do not use benzene, thinner, or any volatile substances to clean the LCD TV. These chemicals may
damage the cabinet finish.

FUNCTION OF PRODUCT SAFETY FEATURE

For protecting product safety, protection feature provided inside LCD TV. Refer to the following please.

AUTO POWER OFF

When a trouble is detected in the LCD TV, the protection function works and turn the LCD TV OFF
automatically. When the LCD TV is turned OFF with this function, the POWER indicator becomes red and
LCD TV's power cannot be turned ON.
Disconnect Power cord and contact sales dealer where you purchased the LCD TV or the service center.

To turn on LCD TV again for checking:
1) Disconnect Power cord from AC outlet and plug it on again.
2) Refer to "TURNING ON/OFF LCD TV" on Page 15 to attempt to turn on LCD TV.
   If LCD TV is not turned on, disconnect Power cord and contact to service center.

APPENDIX

TROUBLESHOOTING

Before calling your dealer or service center for assistance, check the matters below once again.

1. Make sure you have connected LCD TV to your equipment as described in the section "CONNECTING LCD TV".
2. Check cable connection. Verify that all external equipment and power cords are properly connected.
3. Verify that all power is switched on.
4. If LCD TV still does not produce an image, re-start the external equipment.
5. If the image still does not appear, unplug LCD TV from the external equipment and check the external equipment. The problem may be with your graphics controller rather than with LCD TV. (When you reconnect LCD TV, remember to turn the external equipment and TV off before you power up LCD TV. Power the equipment back on in order of : LCD TV and external equipment.)
6. If the problem still exists, check the following chart.

Problem:	Try these Solutions
NO POWER	● Plug this LCD TV into the AC outlet. ● Press ON/STAND-BY button on SIDE Control or on Remote Control to open this LCD TV. ● Check POWER Indicator. If this indicator flashes, LCD TV has any trouble.
Remote Control does not work	● Check the batteries. ● Make sure nothing is between the Remote Receiver and the Remote Control. ● Make sure you are not too far from LCD TV when using Remote Control. Maximum operating range is 16.4' (5m). ● Is direct sunlight or strong artificial light shining on LCD TV's Infrared Remote Receiver? Eliminate the light by closing curtains, pointing the light in a different direction, etc.
No image	● Check the connection between the external equipment and LCD TV. ● When turning LCD TV on, it takes a few seconds to display the image. ● Check the system that you select is corresponding with the external equipment or the video equipment. ● Make sure the temperature is not out of the Operating Temperature (0°C ~ 40°C). ● Turn off power, then turn on again, re-start LCD TV.
No sound	● Check Audio cable connection from Audio input source. ● Adjust the Audio source. ● Press VOLUME (+) button. ● Press MUTE button.
There are tiny black points and/or bright point on the TV	● Dark or bright points of light (red, green, or blue) may appear on the screen. This is a characteristic of the LCD panels, not a malfunction of the LCD TV. ● LCD panel is being produced with very high accuracy technology. There is 99.99% or more dot pixel, but there is also 0.01 % or less of dot pixel lack or dot pixel that is constantly lighted. This is not defect. ● Regarding LCD panel characteristic, it may occur picture remain (look like a mirror) when the screen is changed if it displays same screen for a long time. Changing the picture or turn-off the power supply may recover. ● Stripe pattern (moire, interference stripes) may show up on the screen depend on the reflected picture.
Abnormal colour of image	● Adjust the value of colour. ● Select different colour system.

WARNING :
High voltages are used to operate this LCD TV. Do not attempt to open the cabinet.

If the problem still persists after following all operating instructions, contact the sales dealer where you purchased LCD TV or the service center. Give the model number and explain the difficulty. We will advise you how to obtain service.

TECHNICAL SPECIFICATIONS

Model	LCD-32CA9S / LCD-37CA9S / LCD-42CA9S
Maximum Visible Range	LCD-32CA9S: 81cm (Screen Diagonal Size);
	LCD-37CA9S: 94cm (Screen Diagonal Size);
	LCD-42CA9S: 106cm (Screen Diagonal Size);
Picture Resolution	1366(H) x 768(V)
Viewable Angle(L$_\circ$ /3)	L/R:+/- 89D, U/D:+/- 89D
Brightness	500cd/m²
Contrast	1500:1
Definition	RF Analog Signals: Horizontal≥300; Vertical≥400
Degree of Colour Coverage	≥30%
Mobile Trailer Time	6.5ms (grey to grey)
Voltage	AC110-242V 50/60Hz
Power Consumption	LCD-32CA9S: 144W ; LCD-37CA9S: 172W ; LCD-42CA9S: 187W
Power Management	VESA DPMS
Colour System	PAL/SECAM/NTSC/NTSC4.43
Sound System	D/K, I, M, B/G
Channel Coverage	- VHF: E2-E12, R1-R12, K1-K9, J1-J12, A2-A13
	- UHF: 21-69, A14-A69, J13-J62
	- CATV: S1-S41, X, Y, Z, Z+1, Z+2
Aerial input impedance	75Ω
Speaker Size	Mains: 6cm x 12cm x 2pcs
Sound speciality	Maximum Output Power is 10W+10W
	Total Harmonic Distortion(THD)≤10%
Input terminals	VGA Terminal : RGB X 1 HDMI terminal: x2
	Audio: Mini stereo jack x 1 (Audio input of PC)
	Video: Composite video terminals x1 (1Vp-p, 75Ω)
	S-VIDEO input: x 1 (DIN 4-pin, Y/C separate signal input)
	DVD input: Component video input Y, CB/PB, CR/PR input x 1
	Audio input: (R/L) x 4 (400mVrms)
Output terminals	Video Monitor Output: x1 (1Vp-p, 75Ω)
	Audio Monitor Output: R/L x 1(400mVrms, ≤1KΩ)
	Headphone Jack : Mini stereo jack x1
Dimensions	
(Width x Height x Depth)	LCD-32CA9S: 819mm x 624mm x 271mm
(Including Stand)	LCD-37CA9S: 935mm x 694mm x 271mm
	LCD-42CA9S: 1049mm x 758mm x 271mm
Net Weight	
(Including Stand)	LCD-32CA9S: approx. 14.9 KG
	LCD-37CA9S: approx. 19.6 KG
	LCD-42CA9S: approx. 25.4 KG
Operating Environment	
Operating Temperature	0ºC~40ºC (32ºF~104ºF)
Operating Humidity	20~80%
Storage Temperature	-10ºC~50ºC (14ºF~122ºF)
Storage Humidity	20~80%

■ Specifications are subject to change without notice.

■ The On-Screen Menu and figures in this manual may differ slightly from the product.
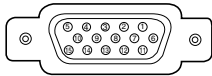
APPENDIX

CONFIGURATIONS OF VGA TERMINALS

VGA IN (D-SUB) TERMINAL

Terminal : D-SUB15 PIN

Connect video output terminal of LCD TV to this terminal with VGA Cable (not supplied). When connecting Macintosh computer, the MAC Adapter (not supplied) is required.

Pin Configuration

1	Red Input	9	No Connect
2	Green Input	10	Ground (Vert.sync.)
3	Blue Input	11	Sense 0
4	Sense 2	12	Sense 1
5	Ground (Horiz.sync.)	13	Horiz. sync.
6	Ground (Red)	14	Vert. sync.
7	Ground (Green)	15	Reserved
8	Ground (Blue)		

MAC ADAPTER (NOT SUPPLIED)

Set slide switches as shown in the table below depending on RESOLUTION MODE that you want to use before you turn on LCD TV and computer.

Slide Switches (1-6)

ON

OFF
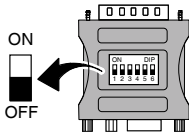
	1	2	3	4	5	6
13" Mode (640x480)	ON	ON	OFF	OFF	OFF	OFF
16" Mode (832x624)	OFF	ON	OFF	ON	OFF	OFF
19" Mode (1024x768)	OFF	ON	ON	OFF	OFF	OFF

SIGNAL MODE COLUMN (recommended)

This LCD TV can correspond to the signals below. After connecting with the computer, LCD TV can automatically recognize the signal from the connected PC(computer)/ HDMI.

PC SIGNAL MODE COLUMN (recommended)

SYSTEM MODE	PIXELS	V-Freq.(HZ)	H-Freq.(KHz)	STANDARD	SYSTEM MODE	PIXELS	V-Freq.(HZ)	H-Freq.(KHz)	STANDARD
VGA	640*350	85	37.9	VESA	SVGA	800*600	75	46.9	VESA
VGA	640*400	85	37.9	VESA	SVGA	800*600	85	53.7	VESA
VGA	720*400	85	37.9	VESA	XGA	1024*768	60	48.4	VESA
VGA	640*480	60	31.5	VESA	XGA	1024*768	70	56.5	VESA
VGA	640*480	72	37.9	VESA	XGA	1024*768	75	60	VESA
VGA	640*480	75	37.5	VESA	XGA	1152*864	75	67.5	VESA
VGA	640*480	85	43.3	VESA	WXGA	1280*768	60	47.7	VESA-GTF
SVGA	800*600	56	35.1	VESA	SXGA	1280*960	60	60	VESA
SVGA	800*600	60	37.9	VESA	SXGA	1280*1024	60	64	VESA
SVGA	800*600	72	48.1	VESA	UXGA	1600*1200	60	75	VESA

Note:
● In case LCD TV can not display properly due to the connecting cable or the graphic hardware, please make adjustments about phase, clock and so on.
● In principle, LCD TV can not display the signal mode which not described in the above column. But sometimes it can display a signal very similar with one of the signal described.
● If you want to change the definition and colour of PC, please select one from the column.
● It is not the trouble of LCD TV if interference appears on the picture while switching the signal mode.
● It is different from CRT Monitor that it is no blink of the picture when the V-Freq. of the signal is 60Hz. It is recommended to select 60Hz V-Freq. of your computer to display better pictures.
● The Dot Clock of the computer's signal must be less than 100 MHz.
● Specifications are subject to change without notice.
In case of the following things, some messages will display on the screen.
● When the input signal from PC is out of the display range, "Out of range " will display.

APPENDIX

When input signal is digital from DVD terminal, refer to the chart below.

SYSTEM MODE	PIXELS	V-Freq. (HZ)	H-Freq. (KHz)
480I	720*480	60	15.75
576I	720*576	50	15.6
480P	720*480	60	31.5
576P	720*576	50	31.2
720P	1280*720	60	45
720P	1280*720	50	37.5
1080I	1920*1080	60	33.7
1080I	1920*1080	50	28.1
1080P	1920*1080	50	56.2
1080P	1920*1080	60	67.5

When input signal is digital from HDMI terminal, refer to the chart below.

NO.	Resolution	H-Freq. (KHz)	Frame Frequency
1	1920x1080	33.75KHz	30.00Hz
2	1920x1080	67.50KHz	60.00Hz
3	1920x1080	28.13KHz	25.00Hz
4	1920x1080	56.25KHz	50.00Hz
5	1280x720	45.00KHz	60.00Hz
6	1280x720	37.50KHz	50.00Hz
7	720x480	31.50KHz	59.98Hz
8	720x576	31.25KHz	50.00Hz
Audio Freq. Format : 16bit/20bit/24bit			
HDMI™ (V.1.3 with Deep Color)			

TABLE OF TOXIC ELEMENT FOR PRODUCTION

Parts Name	Toxic Element					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
Plastic	○	○	○	○	○	○
Display Screen	╳	╳	○	○	○	○
Circuit Board	╳	○	╳	○	○	○
Hardware	○	○	○	○	○	○
Copper Alloy	╳	○	○	○	○	○
Remote Control	╳	○	○	○	○	○
Other Parts (eg. :paster,line etc)	○	○	○	○	○	○

○:The symbol means the content of toxic materials in all of homogeneous materials must meet requirement of SJ/T11363-2006 standard.
╳:The symbol means the content of toxic materials in all of homogeneous materials beyonds SJ/T11363-2006 standard.

APPENDIX

Uninstalling Stand Base

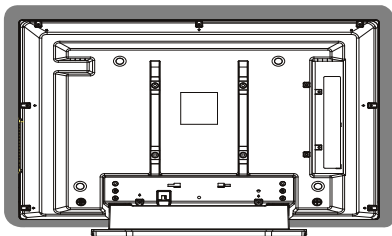### ⚠ CAUTION IN UNINSTALLING STAND BASE

- Through in uninstalling work, handling with more than two people is recommended.
- When holding (moving or lifting) the LCD Display, hold the display's body. Do not handle the LCD TV by holding the attached accessory parts (speakers), otherwise it may result in damage.
- Before uninstalling, provide a desk (or a part of it) which is strong enough to support the weight of the LCD TV and this stand. The desk must be larger than the LCD Display screen size. The desk's surface must be flat and maintained with soft material (such as a blanket) for protecting the screen surface.
- Before putting the LCD Display on the desk, make sure there is no object on it. Leaving any object under the screen may cause damage on the screen.
- The LCD TV with this stand should be uninstalled on flat and level place. Do not place on such as an non flat, unlevel or unstable cart or stand. The display may fall, causing not only serious damage to the products but serious injury to a person.
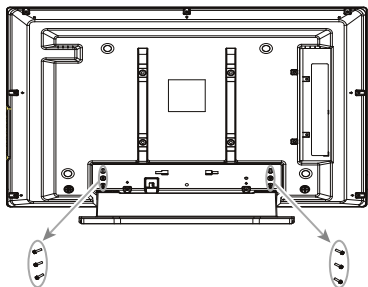
⚠ SAFETY NOTE

For correct installing, mounting and uninstalling LCD TV Stand, it is strongly recommended to use a trained, authorized dealer. Failure to follow correct procedures could result in damage to the equipment or injury to the installer.
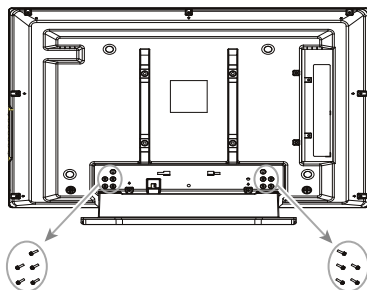
Uninstalling Stand Base

1 Place the LCD TV screen facing down on a flat surface place where maintained with soft materials (such as a blanket) for protecting the display screen.
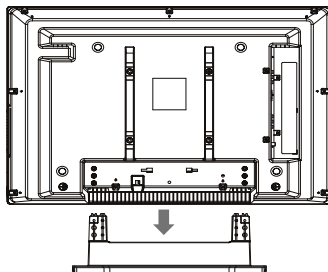
Note: For model LCD-42CA9S, release screw in 10 holes with screw driver.

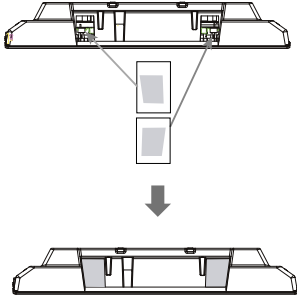*2* Release screw in 6 holes with screw driver.

3 Pull the stand base out from the cabinet after all screws already removed.

Uninstalling Stand Base (Continued)

4 Cover the holes where you remove the stand base from the dust etc. by paste the deck label (supplied) to these holes.

5 Uninstalling the stand base is completed now.

Note

SANYO

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