SERVICE GUIDE

Model No.: **LTV-32w4 HDC**
LTV-40w1 HDC

LCD TV DVD Combo

Westinghouse

Table of Contents

1. Precautions and Safety Notices

Prior to using this manual, please ensure that you have carefully followed all the procedures outlined in the user manual for this product.

- Read all of these instructions.

- Save these instructions for later use.

- Follow all warnings and instructions marked on the product.

- Do not use this product near water.

- This display should be installed on a solid horizontal base.

- When cleaning, use only a neutral detergent cleaner with a soft damp cloth. Do not spray with liquid or aerosol cleaners.

- Do not expose this display to direct sunlight or heat. Hot air may cause damage to the cabinet and other parts.

- Adequate ventilation must be maintained to ensure reliable and continued operation and to protect the display from overheating. Do not block ventilation slots and openings with objects or install the display in a place where ventilation may be hindered.

- Do not install this display near a motor or transformer where strong magnetism is generated. Images on the display will become distorted and the color irregular.

- Do not allow metal pieces or objects of any kind to fall into the display from ventilation holes.

- Only for playing 12cm (4.75") disc. When playing the 8cm disc , you need an adapter.

- Do not touch the playback side of disc and attach paper or tape to discs.

Slots and openings in the cabinet and the back or bottom are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, those openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.

2. Specifications

2.1 LTV-32w4 HDC Specifications

	Item	Specifications for LTV-32w4 HDC	
	Display Area	32" Viewable Diagonal	
	Resolution	1360x768 Native 1280x1024, 800x600, 1024x768, 720x400, 832x624, 640x480 480i, 480p, 720p, 1080i	
	Aspect Ratio	16:9	
	Lamp Life	60,000 hrs	
Display Panel	Display Color	16.7 M	
	Transmissive Mode	Normally black	
	Viewing Angle	176° (H) / 176° (V)	
	Brightness (Luminance)	400cd/m²	
	Contrast Ratio	1000:1	
	Response Time	10 ms	
	Separate Sync	TTL Level	
	Horizontal Sync	Positive/Negative	
	Vertical Sync	Positive/Negative	
		Composite (Video In)	1 x A/V RCA
		S-Video In	1 x S-Video
		Component In	2 x YPbPr
		VGA In	1 x VGA (RGB)
Graphic	Connectors	Antenna In	1 x RF
		HDMI In	1 x HDMI
		Audio In (Dual RCA)	4 x RCA (Red/White) (Audio L/R In)
		Audio In (Mini)	1 x 3.5mm Stereo (Headphone)
		Audio Out (Dual RCA)	1 x RCA (Red/White) (Audio L/R Out)
Compatibility	Color System	ATSC & NTSC	
Audio Output	Built-in Speaker	2 x 10 watt speakers	
	Physical Dimensions	31.3" (W) x 25.5" (H) x 7.5" (D)	
	Weight	36.0 lbs (w/Base)	
Other	Power Adapter	Input – AC 100-120 VAC	
	Power Consumption	Normal Mode: <180W, Power off Mode : < 3W	
	Operating Temperature	32°F to 95°F (0°C to 35°C)	
Regulation	Safety/EMC	FCC-B, UL/cUL	
DDC	Plug & Play	VESA DDC1 and DDC2B	
Function	Function Key	7 + 4 keys	

Preset Timing Mode (Pre-adjusted to reduce blinking: 1360 x 768 at 60Hz)

Warning: Do not set the graphics card in your computer to exceed these refresh rates; doing so may result in permanent damage to the LCD TV.

Note: Product Specifications are subject to change without notice.

DVD Player	1	12.7mm-high , Intermal Type , Slot Load Mechanism
	2	Support ISO/IEC 11172 MPEG-1,13818 MPEG-2, 14496-2 MPEG-4 Video Sources
	3	Support Dolby Digital, MPEG-I/II Layer 1/2, PCM, LPCM, WMA Audio Formats

	4	Playback discs :
		    DVD-Video, DVD-Audio, DVD+RW, DVD+R, DVD-RW, DVD-R, CD-DA, VCD, SVCD,
		    ISO9600 (MP3, JPEG, WMA, MPEG4), CD-R, CD-RW

	5	Disc Diameter: 12cm (does not support 8cm Disc

2.2 LTV-40w1 HDC Specifications

Item		Specifications for LTV-40w1 HDC	
Display Panel	Display Area	40" Viewable Diagonal	
	Resolution	1360 x 768 Native 1280 x 1024, 1024 x 768, 848 x 480, 832 x 624, 800 x 600, 720 x 400, 640 x 480 480i, 480p, 720p, 1080i	
	Aspect Ratio	16:9	
	Lamp Life	60,000 hrs	
	Display Color	16.7 M	
	Transmissive Mode	Normally black	
	Viewing Angle	176° (H) / 176° (V)	
	Brightness (Luminance)	500cd/m²	
	Contrast Ratio	1200:1	
	Response Time	8 ms	
Graphic	Separate Sync	TTL Level	
	Horizontal Sync	Positive/Negative	
	Vertical Sync	Positive/Negative	
	Connectors	Composite (Video In)	1 x A/V RCA
		S-Video In	1 x S-Video
		Component In	2 x YPbPr
		VGA In	1 x VGA (RGB)
		Antenna In	1 x RF
		HDMI In	1 x HDMI-HDCP
		Audio In (Dual RCA)	4 x RCA (Red/White) (Audio L/R In)
		Audio In (Mini)	1 x 3.5mm Stereo (Headphone)
		Audio Out (Dual RCA)	1 x RCA (Red/White) (Audio L/R Out)
Compatibility	Color System	NTSC & ATSC	
Audio Output	Built-in Speaker	2 x 9 watt speakers	
Other	Physical Dimensions	41.4" (W) x 28.3" (H) x 8.9" (D)	
	Weight	61.7 lbs	
	Power Adapter	Input – AC 100-120 VAC 60 Hz, 3A (Max)	
	Power Consumption	Normal Mode: 290W Power off Mode : < 3W	
	Operating Temperature	32°F to 95°F (0°C to 35°C)	
Regulation	Safety/EMC	FCC-B, CSA (CUL)	
DDC	Plug & Play	VESA DDC1 and DDC2B	
Function	Function Key	7 keys	

Preset Timing Mode (Pre-adjusted to reduce blinking: 1366 x 768 at 60Hz)

Warning: Do not set the graphics card in your computer to exceed these refresh rates; doing so may result in permanent damage to the LCD TV.
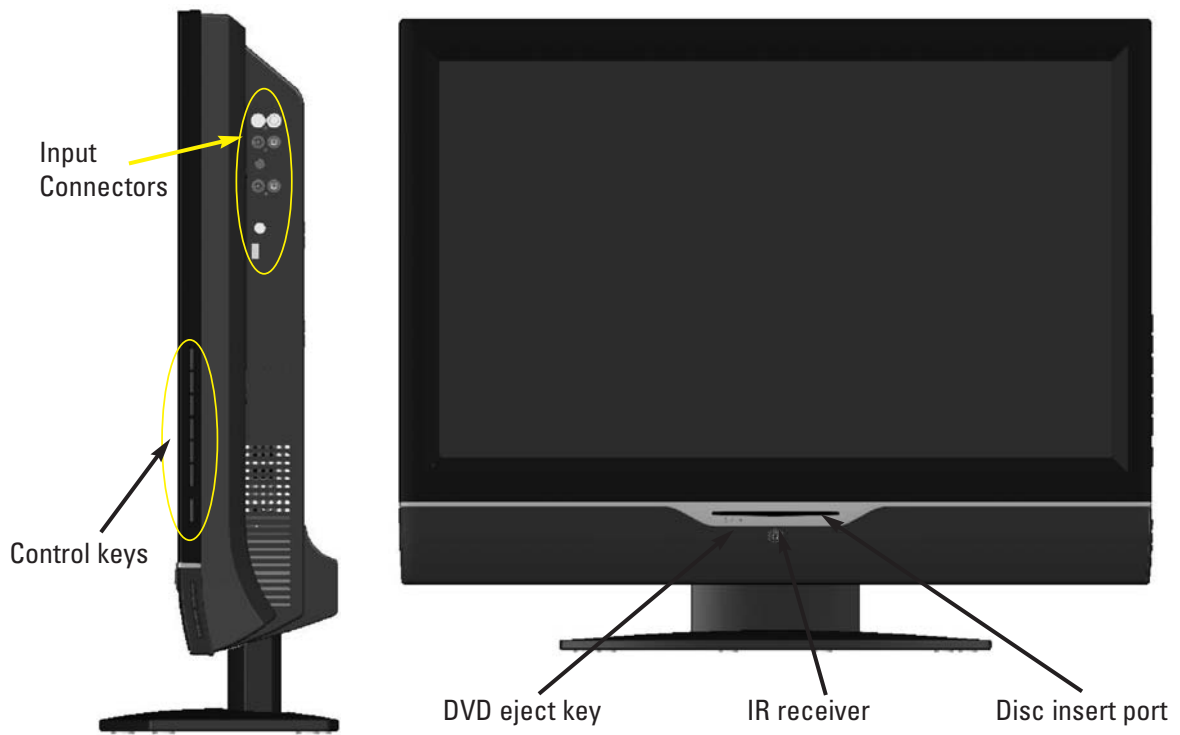
Note: Product Specifications are subject to change without notice.

DVD Player	1	12.7mm-high , Intermal Type , Slot Load Mechanism
	2	Support ISO/IEC 11172 MPEG-1,13818 MPEG-2, 14496-2 MPEG-4 Video Sources
	3	Support Dolby Digital, MPEG-I/II Layer 1/2, PCM, LPCM, WMA Audio Formats
	4	Playback discs : DVD-Video, DVD-Audio, DVD+RW, DVD+R, DVD-RW, DVD-R, CD-DA, VCD, SVCD, ISO9600 (MP3, JPEG, WMA, MPEG4), CD-R, CD-RW
	5	Disc Diameter: 12cm (does not support 8cm Disc

3. User Controls & Connectors
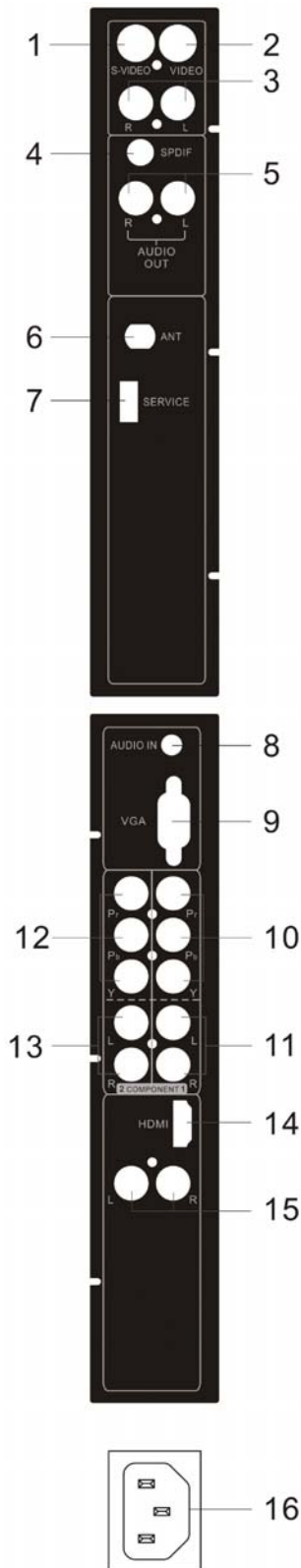
3.1 User Control

User controls to access the On Screen Display menu can be found on the right side of the LCD TV or by using the remote control to display the OSD. The OSD menu is defined in a following section.

Input Connectors

Control keys

DVD eject key   IR receiver   Disc insert port

Control Keys

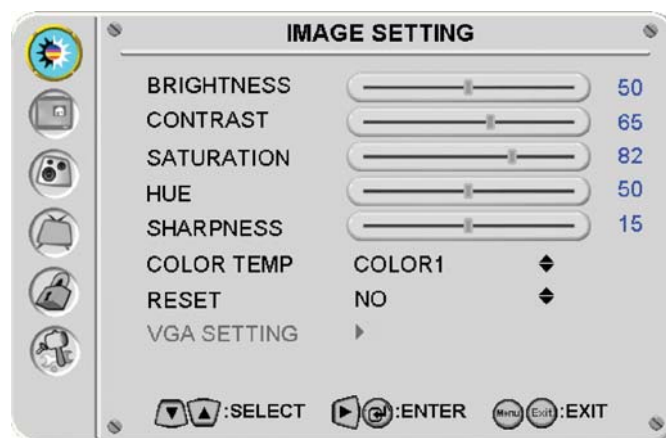| MENU	1. Menu	Turn OSD Menu ON/OFF
+ VOL -	2. Volume + / -	Increase/Decrease sound volume or adjust a highlighted control while in the OSD Menu
+ CH -	3. Channel + / -	Channel up/down when input is TV or highlight a control while in the OSD Menu
INPUT	4. Input source	Select Active Video Input or choose a selection while in the OSD MENU
⏻	5. Power	Power ON/OFF
►ll	Play/Pause	Play & Pause button, to play, pause or resume play back
l◄◄	Chapter Forward	Push once for Fast Forward; Push and hold for Chapter Forward
►►l	Chapter Reverse	Push once for Fast Reverse; Push and hold for Chapter Reverse
■	STOP	Push once to stop and remember last position; Push twice to stop and return to top menu

3.2 Connectors

1. **S-Video Input**
Connect to an external video device such as a digital cable/satellite receiver, VCR, DVD or video game system.

2. **Video Input**
Connect the Composite Video to an external video device such as VCR, DVD and video game system.

3. **AV & S-Video Audio Input (Right / Left)**
Connect an external audio source to this jack (Audio (R/L). This connection supports either S-Video or AV input.

4. **SPDIF Output**
Connect this output to an external audio receiver with SPDIF function.

5. **Audio Output (Right / Left)**
Connect this output to an external audio receiver.

6. **ANT (RF-input)**
Connect the LCD TV to an antenna or cable service.

7. **SERVICE**
For ATSC software update source.

8. **VGA Audio IN**
Connect to the Audio out (blue) from a computer.

9. **VGA**
Using a 15-pin VGA cable, connect to a computer or other device with a VGA output.

10. **YPbPr1 Input**
Connect an external video device with component output to these jacks.

11. **YPbPr1 Audio 1 Input (Left / Right)**
Connect an external audio source to this jack.

12. **YPbPr2 Input**
Connect an external video device with component output to these jacks.

13. **YPbPr2 Audio 2 Input (Left / Right)**
Connect an external audio source to this jack.

14. **HDMI input**
Connect external video devices with HDMI output to this jack.

15. **HDMI Audio Input (Left / Right)**
Connect an external audio source to these jacks.

16. **AC IN (Power)**
Connect the power cord from AC IN to a power source.

3.3 On-Screen Display Menu (OSD):

All the functions can be adjusted either by the remote control or using the control keys on the right side of LCD TV DVD combo.
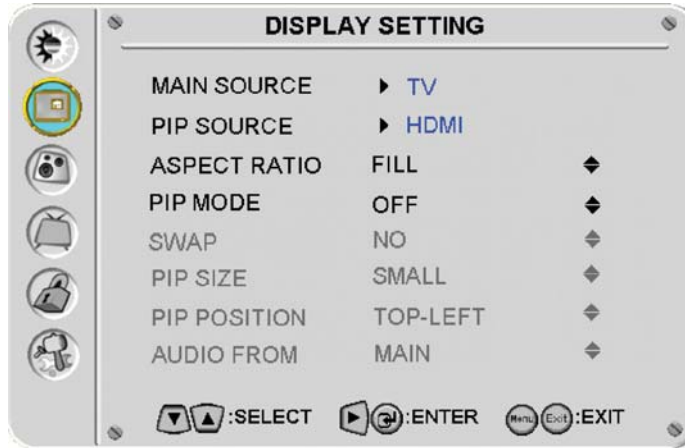
To display the OSD main menu, press the Menu button on the right side of front control keys of the LCD TV DVD combo or the MENU key on the remote control. Press ▲ / ▼ arrow keys to select desired OSD Menu and ◄ / ► arrow keys to select desired OSD sub-menu.

IMAGE SETTING:

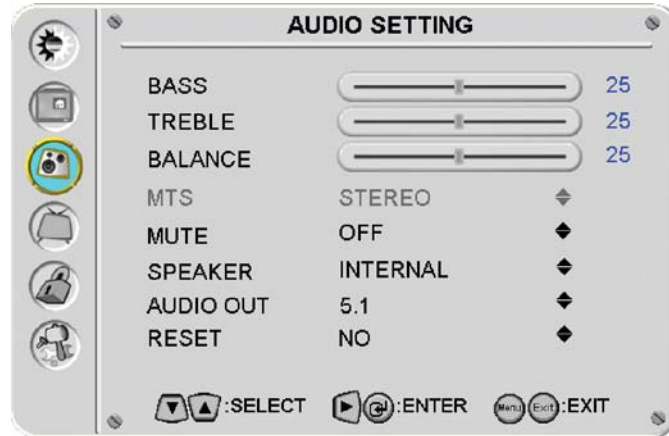| Function Name	Function
BRIGHTNESS	Brightness adjustment
CONTRAST	Contrast adjustment
SATURATION	Saturation adjustment
HUE	Hue adjustment
SHARPNESS	Sharpness adjustment (Sharpness cannot be adjusted in PC mode)
COLOR TEMP	Color temperature adjustment (Color 1, Color 2, Color 3)
RESET	Select "YES" to call the factory default setting for image setting Select "NO" to keep your picture adjusts setting
VGA SETTING	VGA setting adjustment

DISPLAY SETTING:

Function Name	Function
MAIN SOURCE	Select main screen sources: "TV","HDTV", "VIDEO", "S-VIDEO", "YPbPr1", "YPbPr2", "VGA", "DVD", "HDMI"
PIP SOURCE	Select sub screen sources
ASPECT RATIO	Select "STANDARD", "FILL"
PIP MODE	Select "OFF", "PIP", "PBP", "POP".
SWAP	Swap main screen and sub-screen source.
PIP SIZE	Sub screen display size adjust ("SMALL", "MEDIUM", "LARGE")
PIP POSITION	Sub screen display horizontal /vertical position adjustment.
AUDIO FROM	Select main screen or sub screen audio sources.

Table 1:

Main \ SUB	VGA	HDTV	Video	DVD	S Video	YPbPr1	YPbPr2	TV	HDMI
VGA	X	X	X	0	X	X	X	X	0
HDTV	X	X	X	0	X	X	X	X	0
Video	X	X	X	0	X	X	X	X	0
S Video	X	X	X	0	X	X	X	X	0
YPbPr1	X	X	X	0	X	X	X	X	0
YPbPr2	X	X	X	0	X	X	X	X	0
TV	X	X	X	0	X	X	X	X	0
DVD	0	0	0	X	0	0	0	0	X
HDMI	0	0	0	X	0	0	0	0	X

AUDIO SETTING:

Function Name	Function
BASS	Bass adjustment
TREBLE	Treble adjustment
BALANCE	Balance adjustment
MTS	Select STEREO, MONO, or SAP
MUTE	Select audio "OFF" or "ON"
SPEAKER	Select "internal", "external", or "Both" speakers
AUDIO OUT	Select SPDIF OUT for 2.1 channel or 5.1 channel
RESET	Select "YES" to recall the audio default setting, "NO" to keep current audio adjusts setting

TV/HDTV SETTING:

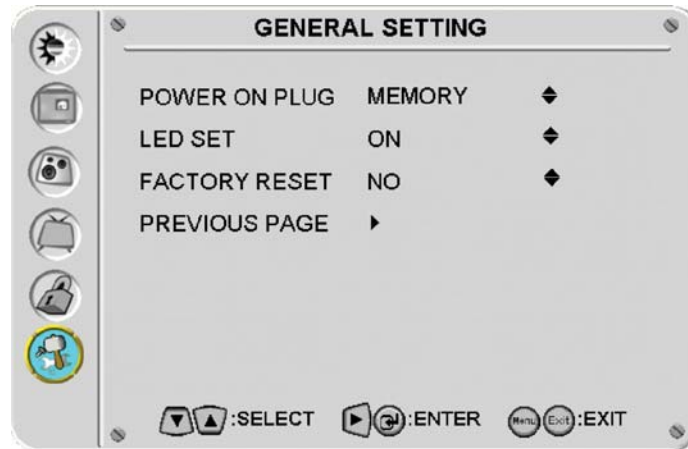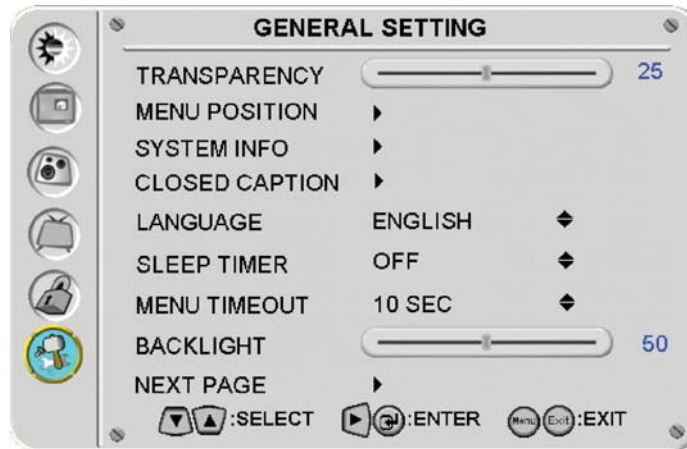| Function Name	Function
TV SYSTEM	CABLE STD ▶ CABLE IRC ▶ ANTENNA
AUTO SCAN	Select "NO" or "YES"
CHANNEL EDIT	Select "ADD" or "DELETE"
LOCAL TIME	Select local time: "CANADA", "EASTERN", "CENTRAL", "MOUNTAIN", "PACIFIC","ALASKA","HAWAII", "SAMOA", "NEWFOUNDLAND"
DAYLIGHT SAV	Day light saving: On mode: "daylight saving" times to begin Off mode: "daylight saving" is over

PARENTAL CONTROL:

The parental controls feature prevents viewers from watching programs that are not age-appropriate, such as programs containing violence or adult language.

Function Name	Function
PASSWORD	The factory default password is "0000". Use remote control to key in the number and enter the parental controls sub-menu.
TV PG RATING	Select "TV-MA", "TV-Y", "TV-Y7", "TV-G", "TV-PG", "TV-14", "TV-MA" or "OFF".
MPAA RATING	Select "G", "PG-13", "R", "NC-17", "X", or "OFF"
DVD RATING	Select "KID SAFE", ADULT ONLY", or "OFF"
PASSWORD EDIT	Enter new password

TV PG Rating		MPAA Rating	
TV Y	All children	NONE	Not available
YTV Y7	For elder children	G	General audience
TV G	General audience	PG	Parental guidance suggested
TV PG	Parental guidance suggested	PG-13	Parents strongly cautioned
TV 14	Parents strongly cautioned	R	Restricted
TV MA	Mature audience only	NC 17	No one 17 and under admitted
OFF	None	X	Adult audience only
		OFF	None

GENERAL SETTING:

Function Name	Function
TRANSPARENCY	Set OSD transparency level
MENU POSITION	OSD horizontal/vertical position adjustment
SYSTEM INFO	Display input source, type and signal
CLOSED CAPTION	Turn the closed caption OFF or CC1, CC2, CC3, CC4, TEXT1, TEXT2, TEXT3, TEXT4
LANGUAGE	OSD language selection
SLEEP TIMER	Set sleep timer to turn off the power automatically
MENU TIMEOUT	Set the time to turn off the OSD
BACKLIGHT	Backlight adjustment
NEXT PAGE	Select to next page
POWER ON PLUG	Memory: To memorize the DC power status. If last DC power status is on, TV will power on automatically when plugged back in. OFF: turn off POWER ON PLUG function.
LED SET	ON: Turn on TV indicator LED. OFF: Turn off TV indicator LED.
FACTORY RESET	YES: recall OSD default setting. NO: skip the change.
PREVIOUS PAGE	Return to previous GENERAL SETTING page.

DVD SETTING

Function Name	Function
DOWN MIX	Select DVD audio STEREO → LT/RT
REPEAT	Press ENTER to scroll repeat options: CHAPTER, TITLE, ALL
DEMO MODE	ON: auto play disc and repeat playback OFF: Turn off auto play disc and repeat playback
SUBTITLE	To display disc subtitle, only available for DVD
AUTO WAKE	ON: Turn on auto wake function OFF: Turn off auto wake function
AUTO SELECT	To select Audio Language, only available for DVD
RESET	Slect "YES" to recall the factory default setting of DVD, "NO" to skip the setting

4. Servicing Environment & Tools

Servicing Environment

1. This LCD TV DVD COMBO should be used only with the power source type identified on the package and User's Guide

2. Service the LCD TV DVD COMBO in a room with low humidity and free of dust.

3. Place the LCD TV DVD COMBO on a firm, level surface. Subjecting the LCD TV DVD COMBO to a drop or sharp impact may cause severe damage to thin glass, plastic surface materials, and internal components.

4. If necessary, clean the LCD TV DVD COMBO with a slightly damp cloth using clean water. Disconnect the LCD TV DVD COMBO from the power source before cleaning. DO NOT use ammonia-based cleaning products.

5. In the event that the powered LCD rapidly heats, or emits unusual smells or noises, immediately disconnect the LCD TV DVD COMBO From the power source.

6. To avoid electrical hazard, make sure that the LCD TV DVD COMBO is fully assembled, the casing closed, and the screws tightened completely before plugging in LCD TV DVD COMBO for testing.

7. Internal components of LCD display may be damaged by electrostatic discharge(ESD). Carry out repairs in an ESD-protected workshop If no such workshop is available, wear an antistatic wrist strap or touch a highly conductive metal object.

8. Before opening the housing, disconnect the product from all power source and remove any connecting cable. If the display has not been disconnected from the power outlet before being opened, there is a danger to life through electric shock. There is also a risk of damage to the components.

Volt Meter (Fig. 1)

Screwdriver Set (Fig. 2)