

Acer AT3720A/3720B/3720 LCD TV

Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to <http://csd.acer.com.tw>

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on Acer LCD TV AT3720A/3720B/3720 service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

System Specifications

Features

This LCD TV was designed with the user in mind. Here are just a few of its many features:

LCD Panel

- ☐ Max. resolution: 1366x768
- ☐ Display area: 37 inches diagonal
- ☐ Display color: 16.7 M colors (8 real bits per color)
- ☐ Life time: 60,000 hours
- ☐ Input Signal: 1-ch LVDS
- ☐ Contrast ratio: 1200:1 (Typ)
- ☐ Brightness: 500 cd/m2 (Typ)
- ☐ Response Time: AUO Typ. Gray to gray Tr=Tf=35ms
- ☐ Viewing angle: 176° (L) / 176° (R), 176° (U) / 176° (D)

I/O Functions

- ☐ RCA jack (YUV and CVBS) for YPbPr, YCbCr, video and audio
- ☐ 15 pin D-Sub for VGA
- ☐ 24 pin DVI / HDCP for DVI-D (optional)
- ☐ 19 pin HDMI connector (optional)
- ☐ DIN45325 (IEC169-2) Terminal for TV / CATV input
- ☐ 3.5 mm  Earphone jack for audio line input

Video Functions

- ☐ Support PAL/NTSC/SECAM video format (for AT3720A)
- ☐ Support 480i/576i, 480p/576p, 1080i and 720p format
- ☐ Build in Dynamic adaptive smoothing filter
- ☐ Build in Dynamic temporal frame-filtering Noise Reduction
- ☐ Build in Dynamic motion and edge adaptive De-interlacing
- ☐ Film mode 3:2 and 2:2 pull down
- ☐ Screen display model 16:9 / 4:3 / panorama / zoon / PIP /POP

Mechanical

- ☐ Dimensions (W x H x D mm): 944 x 692 x 261
- ☐ Weight (kg/lbs.): 23.9/53.1
- ☐ Wall-mounting holes 400mm x 200mm

Power Source

- ☐ Input voltage: 100 ~ 240 V, 50 ~ 60 Hz
- ☐ Max. power consumption: 235W

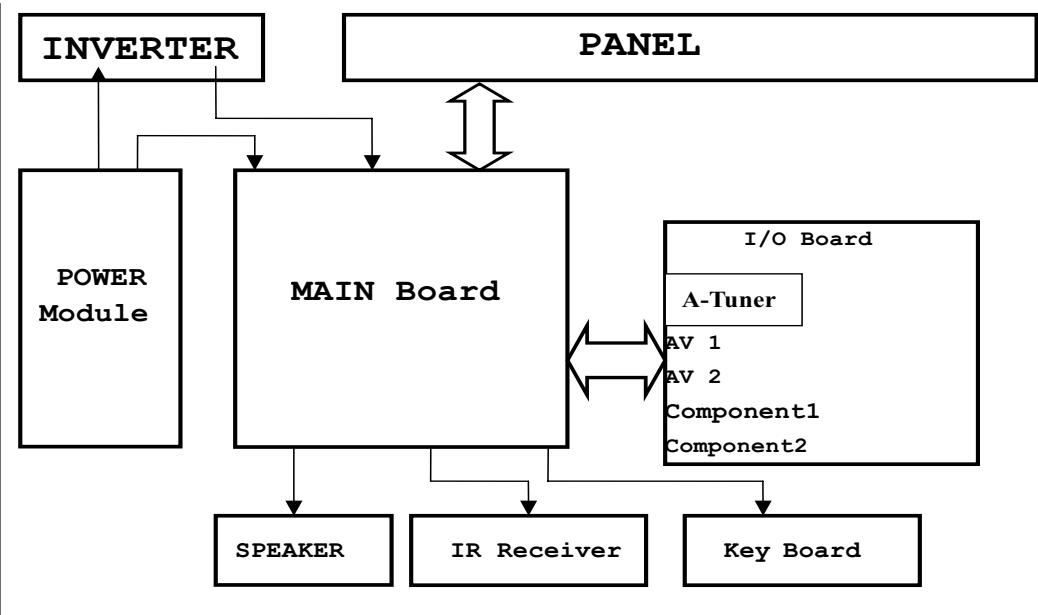
-
- ☐ Input current: 2.2A
 - ☐ Standby consumption is under 5 Watts

Speaker

- ☐ Internal speaker: 10 W * 2 stereo, volume adjustable
- ☐ Amplifier: 10W * 2 stereo, volume adjustable

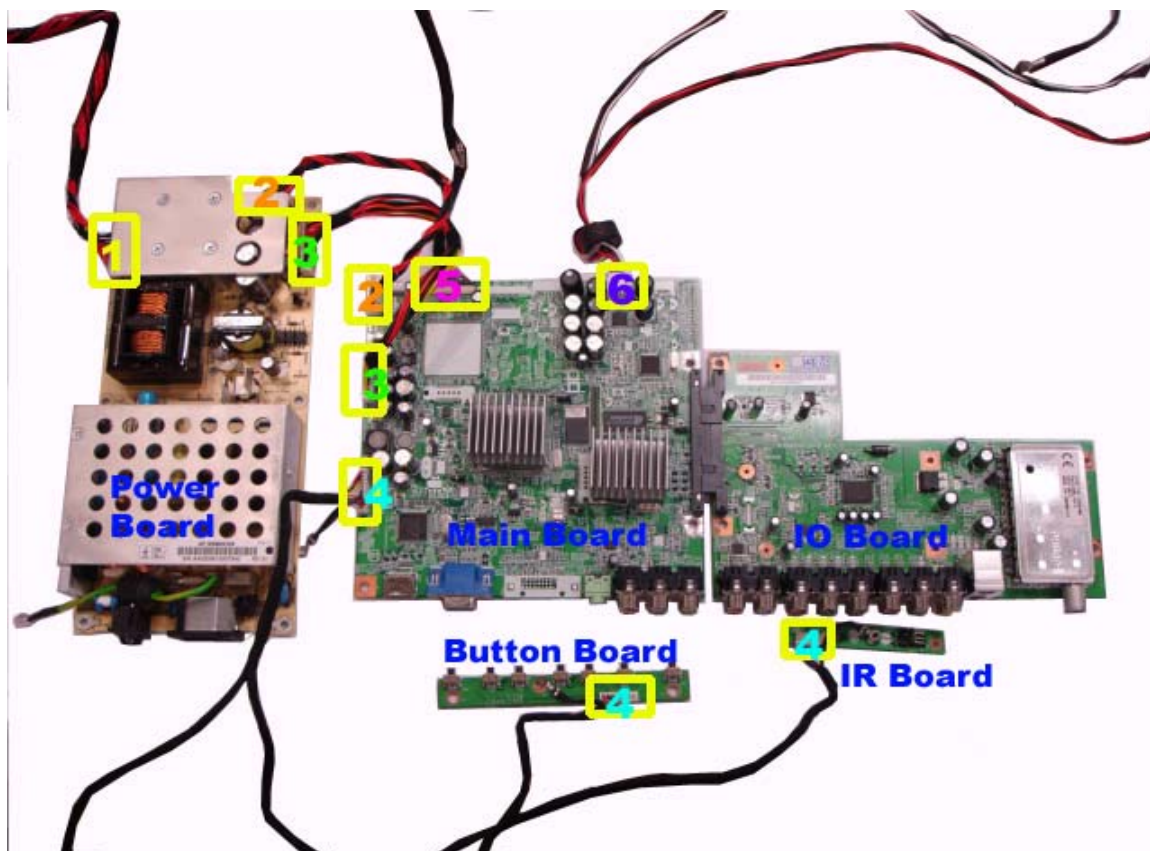
System Block Diagram

System Block and Wiring Diagram



LCD Main Board Block Diagram

Board Layout



Cable Arrangement

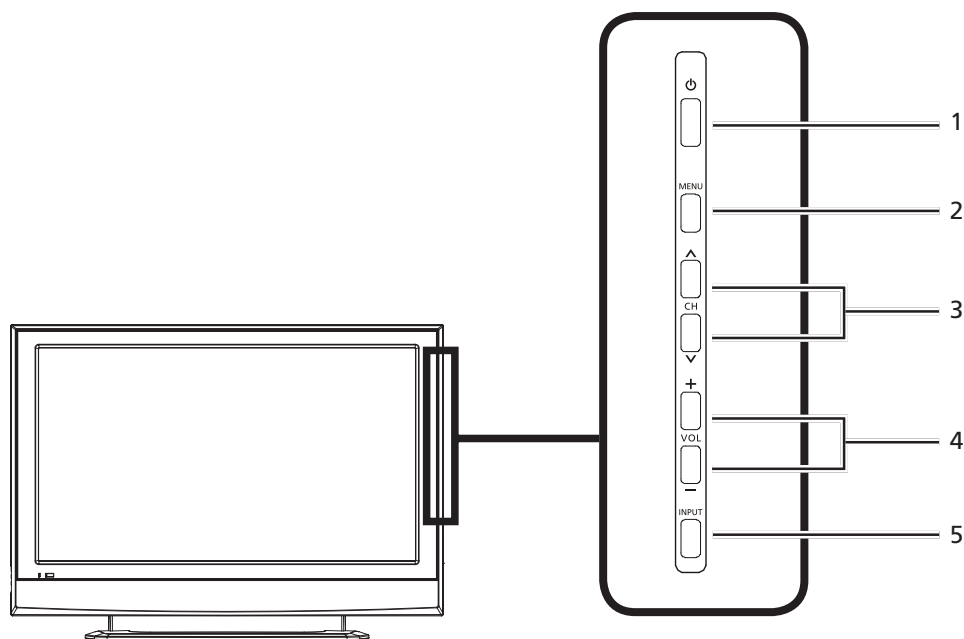
No.	Connector	Cable Description
1	CN908 (Power Board)	Inverter Cable
2	CN903 (Power Board) <--> CON15 (Main Board)	Audio Cable-Main board (audio) to power board
3	CN904 <--> CON11	Power Cable
4	CON6 (Main Board) -CN1(Button Board)-CN1 (IR Board)	Button Board-IR Board (CN1)-Main Board (CN1) Cable
5	CON17 (Main Board)	LVDS Cable
6	CON13 (Main Board)	Speaker Cable

LCD TV Overview

A general introduction to Acer LCD TV ports, functions and indicators.

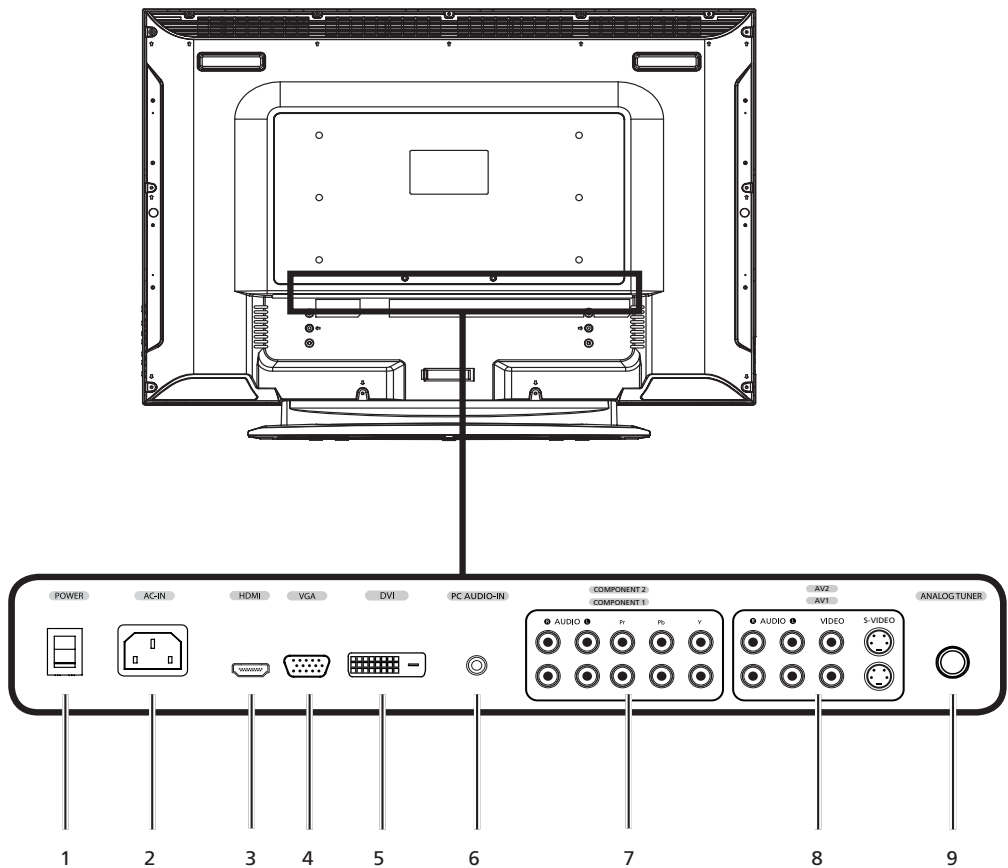
AT3720A/AT3720B/AT3720 Front panle view

The panel view below is for AT3720A/AT3720B/AT3720.



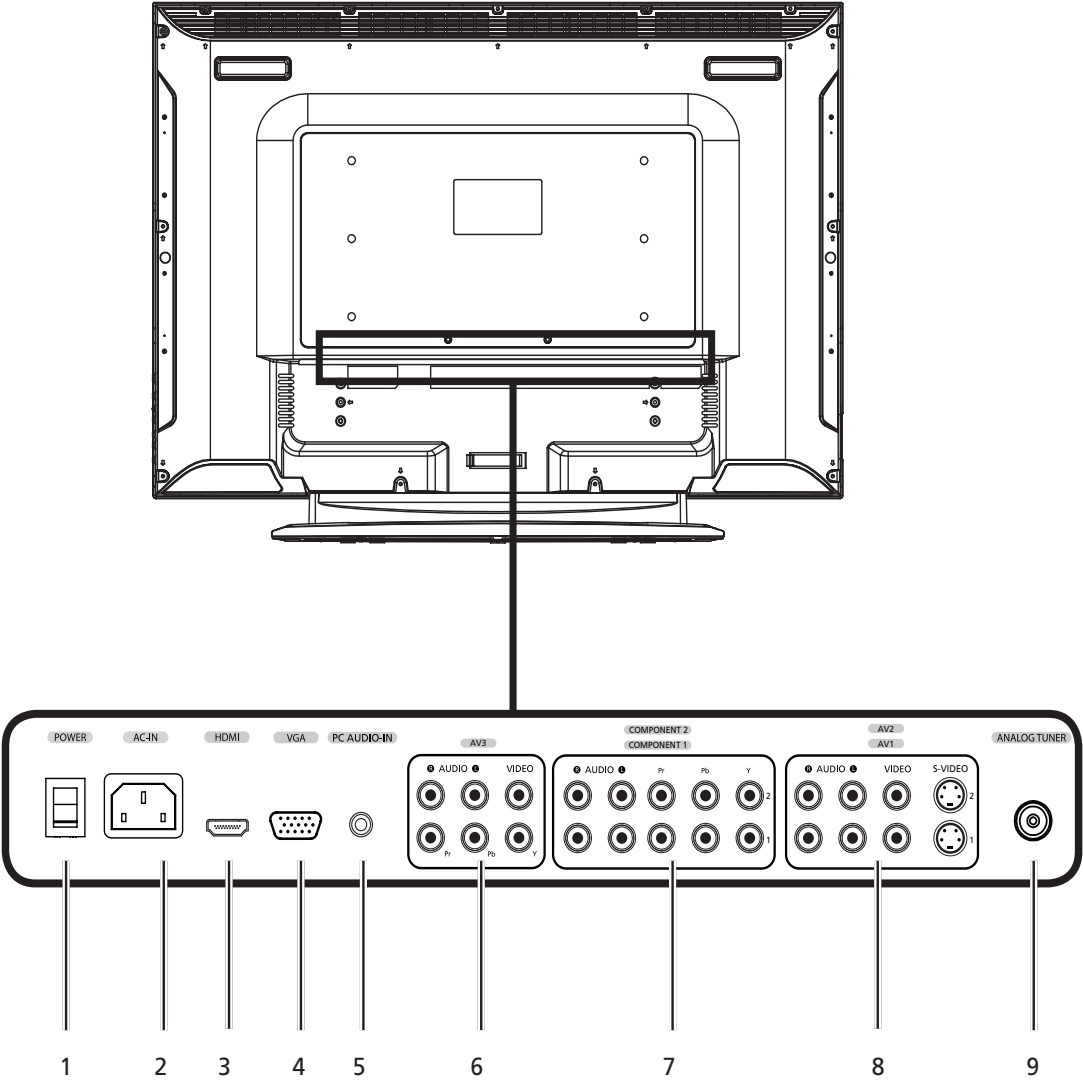
#	Item	Description
1	Power On/Off	Power on or off the LCD TV.
2	Menu key	Turn s the OSD menu On and OFF.
3	Channel up/down	Channel up: When the OSD is on, functions the same as the Up arrow. Channel down: When the OSD is on, functions the same as the Down arrow.
4	Volume +/-	Volume up: When the OSD is on, functions the same as the Right arrow. Volume down: When the OSD is on, functions the same as the Left arrow.
5	Input key	When is OSD is on, press this button to confirm selection.

T3720A Rear panel view



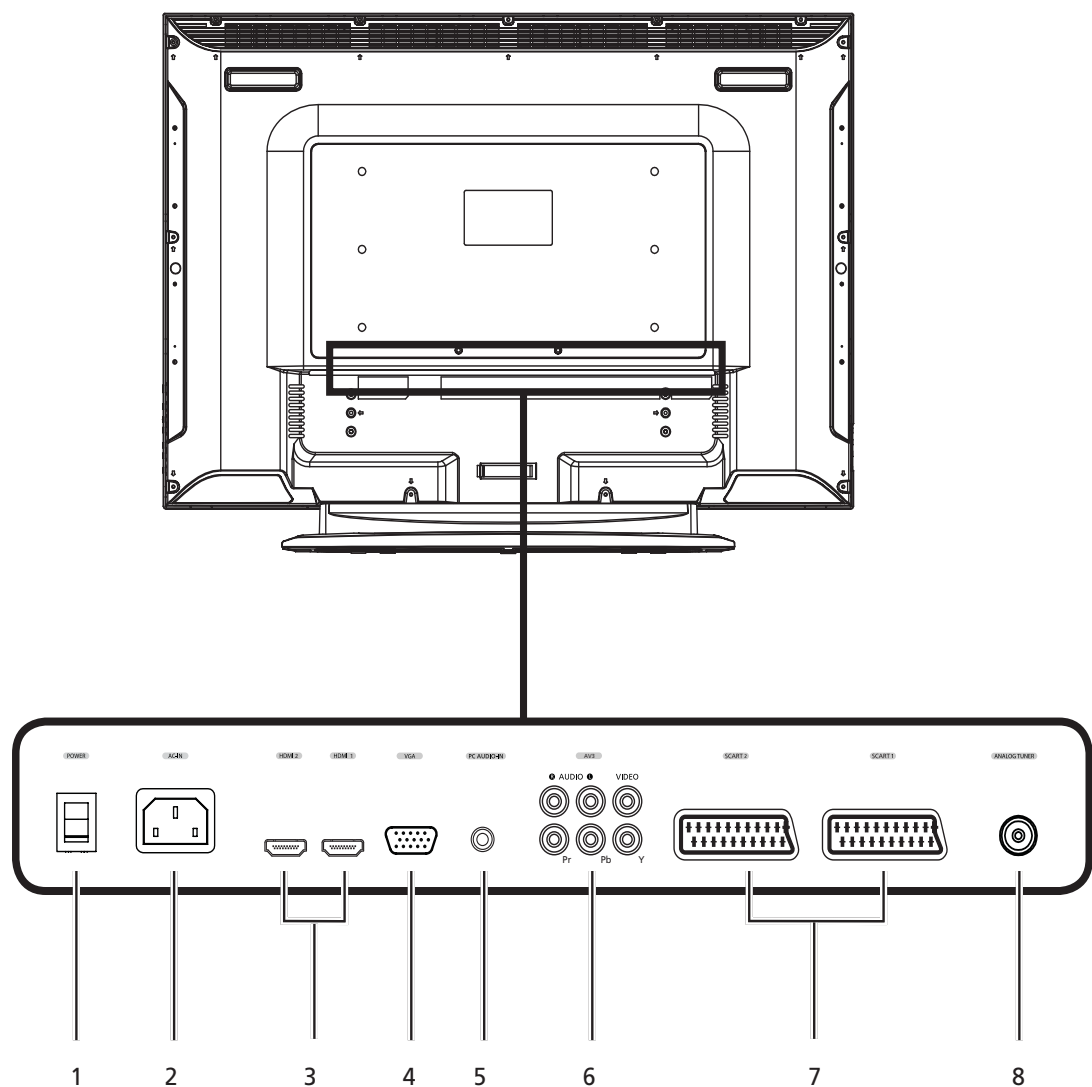
#	Item	#	Item
1	Power switch	6	PC Audio-in
2	AC-in	7	AV-Audio L/R + COMPONENT 1/2
3	HDMI	8	AV-Audio L/R + CVBS 1/2
4	VGA-in	9	Analog antenna
5	DVI-d		

AT3720B Rear panel view



#	Item	#	Item
1	Power switch	6	Audio L/R + CVBS + COMPONENT
2	AC-in	7	Audio L/R + CVBS + COMPONENT 1/2
3	HDMI	8	Audio L/R + CVBS 1/2 + S-Video
4	VGA-in	9	Analog antenna
5	PC Audio-in		

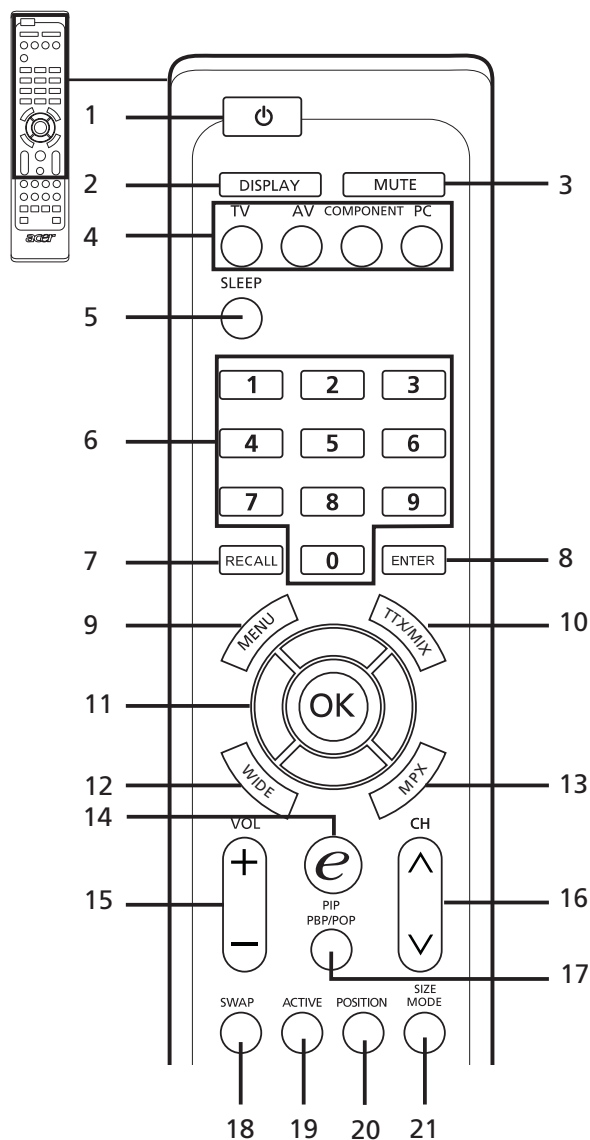
AT3720 Rear panel view



#	Item	#	Item
1	Power switch	5	PC Audio-in
2	AC-in	6	AV-Audio L/R + CVBS + COMPONENT
3	HDMI	7	SCART
4	VGA-in	8	Analog antenna

AT3720A Remote controller

General Keys

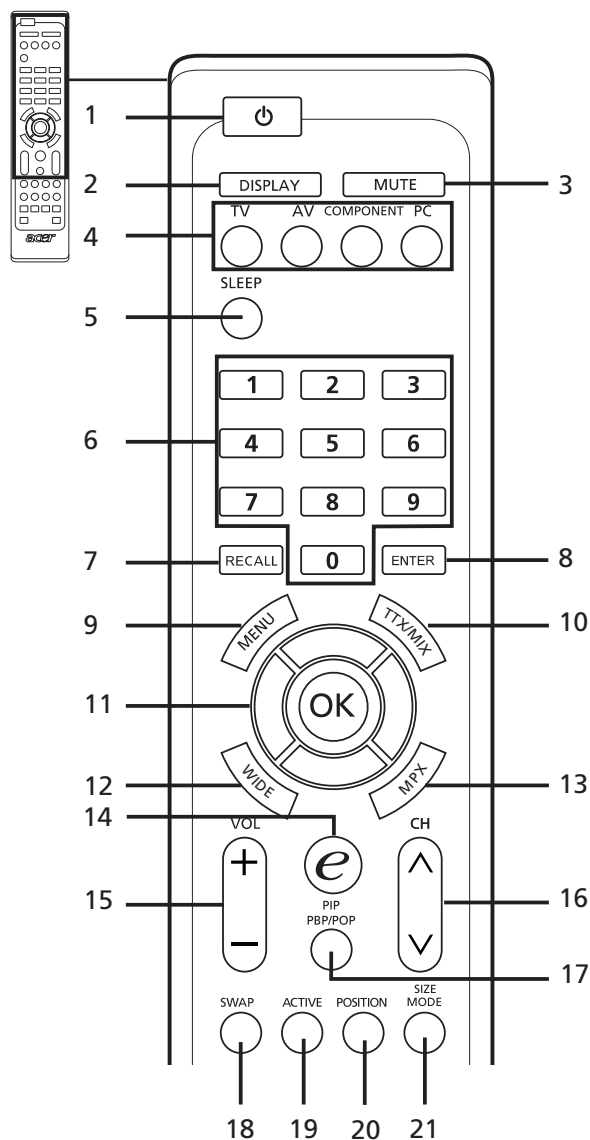


No.	Item	Description
1	POWER	Press to turn your TV on/off.
2	DISPLAY	Press to display input/channel information (dependent on input/source type).
3	MUTE	Press to toggle audio on and off.
4	Input buttons (TV/AV/ COMPONENT/PC)	Press to select correct input mode.
5	SLEEP	Press to set a time period after which the TV will switch itself to standby (15, 30, 45, 60, 90 or 120 minutes).
6	Number keys	Press to select the TV channel.
7	RECALL	Press to return to the previous channel.

8	ENTER	Press to confirm channel number selection.
9	MENU	Press to open or close the Menu.
10	CC	Press to select close caption and text service between CC1, CC2, CC3, CC4, Text1, Text2, Twxt3, Text4.
11	Directional keys/OK	N/A
12	WIDE	Press to toggle scaling mode between 4:3; 16:9, Panorama and Letterbox 1, 2, 3 modes.
13	MTS	Press to switch the sound system between stereo, main and SAP. Information is displayed in the top right-hand corner.
14	e (Empowering Technology)	Press to activate Acer Empowering Technology.
15	VOL (+/-)	Press to increase or decrease the volume.
16	CH (up/down)	Press to sequentially select the TV channel.
17	PIP/PBP/POP	Switch between PIP/PBP/POP modes.
18	SWAP	For PIP/PBP mode: Toggle between the primary and subscreens.
19	ACTIVE	Tobble between primary and subscreens.
20	POSITION	When in PIP mode: Change subscreen position.
21	SIZE/MODE	When in PIP mode: Change subscreen size. When in POP mode: Switch POP mode from 1+5 to 1+12.

AT3720B Remote controller

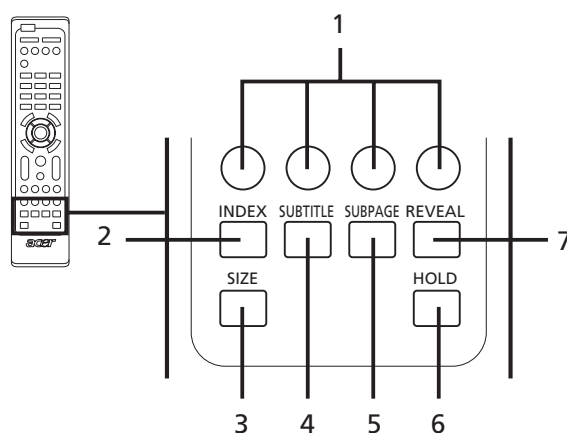
General Keys



No.	Item	Description
1	POWER	Press to turn your TV on/off.
2	DISPLAY	Press to display input/channel information (dependent on input/source type).
3	MUTE	Press to toggle audio on and off.
4	Input buttons (TV/AV/ COMPONENT/PC)	Press to select correct input mode.
5	SLEEP	Press to set a time period after which the TV will switch itself to standby (15, 30, 45, 60, 90 or 120 minutes).
6	Number keys	Press to select the TV channel.
7	RECALL	Press to return to the previous channel.

8	ENTER	Press to confirm channel number selection.
9	MENU	Press to open or close the Menu.
10	TTX/MIX (TELETEXT/MIX)	Press to return to the previous channel.
11	Directional keys/OK	N/A
12	WIDE	Press to toggle scaling mode between 4:3; 16:9, Panorama and Letterbox 1, 2, 3 modes.
13	MPX	Press to select the sound input, displayed in the top right-hand corner (mono, stereo, bilingual).
14	e (Empowering Technology)	Press to activate Acer Empowering Technology.
15	VOL (+/-)	Press to increase or decrease the volume.
16	CH (up/down)	Press to sequentially select the TV channel.
17	PIP/PBP/POP	Switch between PIP/PBP/POP modes.
18	SWAP	For PIP/PBP mode: Toggle between the primary and subscreens.
18	ACTIVE	Toggle between primary and subscreens.
20	POSITION	When in PIP mode: Change subscreen position.
21	SIZE/MODE	When in PIP mode: Change subscreen size. When in POP mode: Switch POP mode from 1+5 to 1+12.

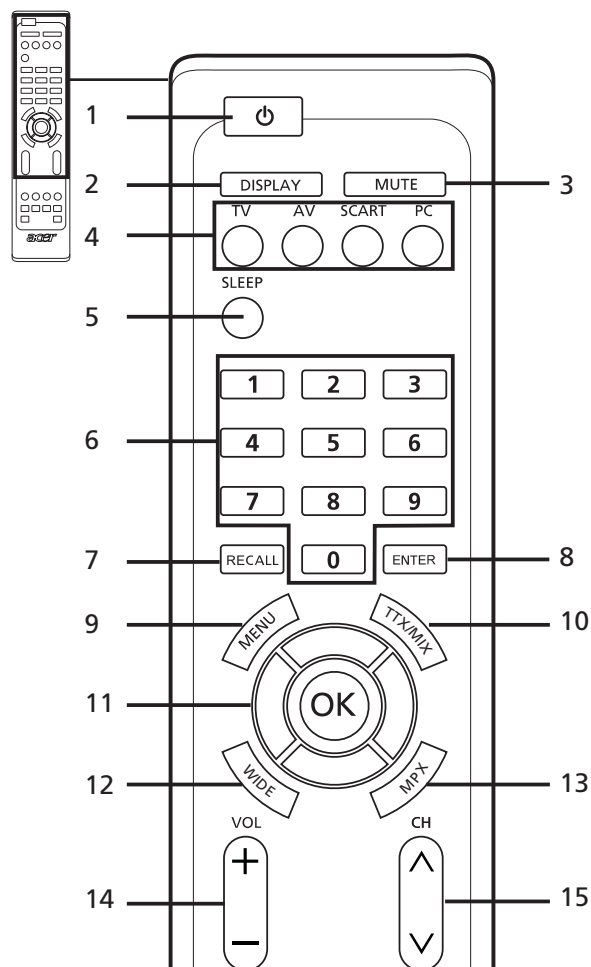
Teletext



No.	Item	Description
1	Colour buttons (R/G/Y/B)	Operates corresponding button on the teletext page.
2	INDEX	Press to go to the index page.
3	SIZE	Press once to zoom teletext page to 2X. Press again to resume.
4	SUBTITLE	Press to view subtitles on the screen.
5	SUBPAGE	Press to access the teletext's subpages directly.
6	HOLD	Press to pause the current teletext page in multi-page viewing mode.
7	REVEAL	Press to reveal hidden teletext information.

AT3720 Remote controller

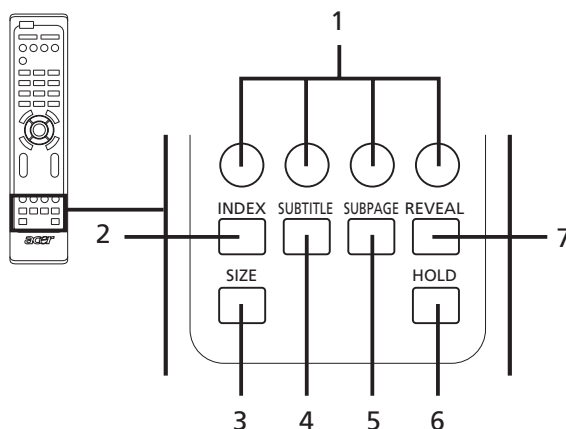
General Keys



No.	Item	Description
1	POWER	Press to turn your TV on/off.
2	DISPLAY	Press to display input/channel information (dependent on input/source type).
3	MUTE	Press to toggle audio on and off.
4	Input buttons (TV/AV/SCART/PC)	Press to select correct input mode.
5	SLEEP	Press to set a time period after which the TV will switch itself to standby (15, 30, 45, 60, 90 or 120 minutes).
6	Number keys.	Press to select the TV channel.
7	RECALL	Press to return to the previous channel.
8	ENTER	Press to confirm channel number selection.
9	MENU	Press to open or close the Menu.
10	TTX/MIX (TELETEXT/MIX)	Press to return to the previous channel.
11	Directional keys/OK	N/A

12	WIDE	Press to toggle scaling mode between 4:3; 16:9, Panorama and Letterbox 1, 2, 3 modes.
13	MPX	Press to select the sound input, displayed in the top right-hand corner (mono, stereo, bilingual).
14	VOL (+/-)	Press to increase or decrease the volume.
15	CH (up/down)	Press to sequentially select the TV channel.

Teletext



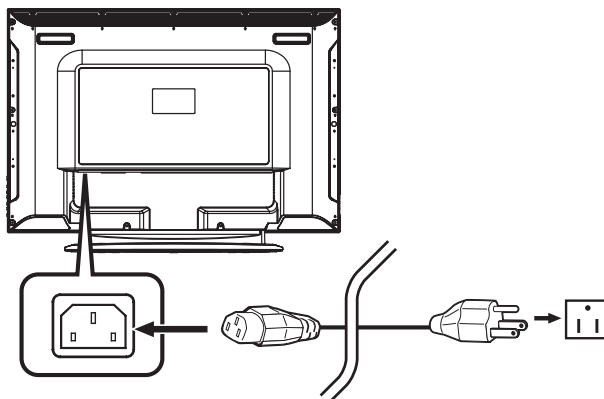
No.	Item	Description
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Basic connection

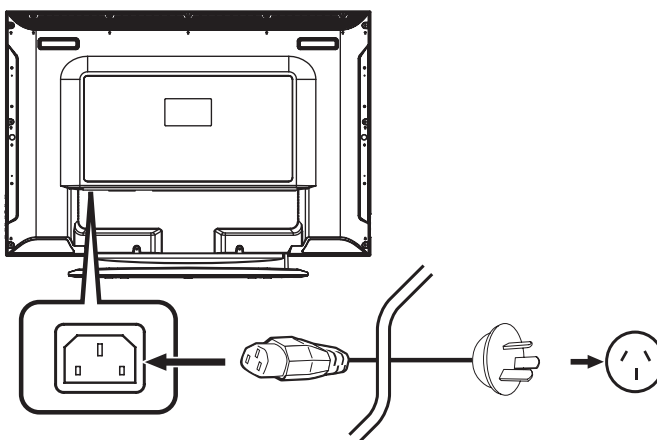
Connecting the power cord

1. Connect the AC cord into the AC input on the back of the set.
2. Connect the male plug to the wall outlet as shown.

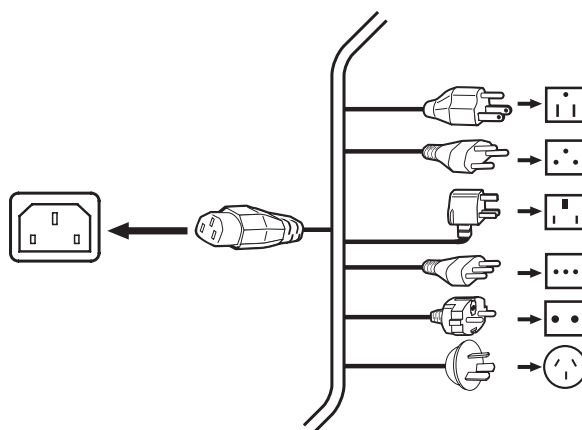
For AT3720A:



For AT3720B:

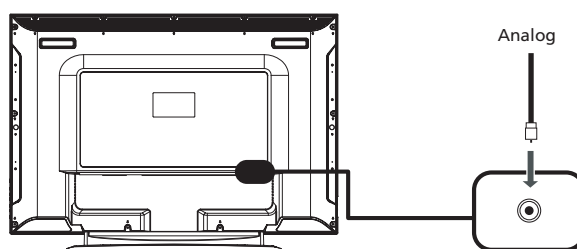


For AT3720:

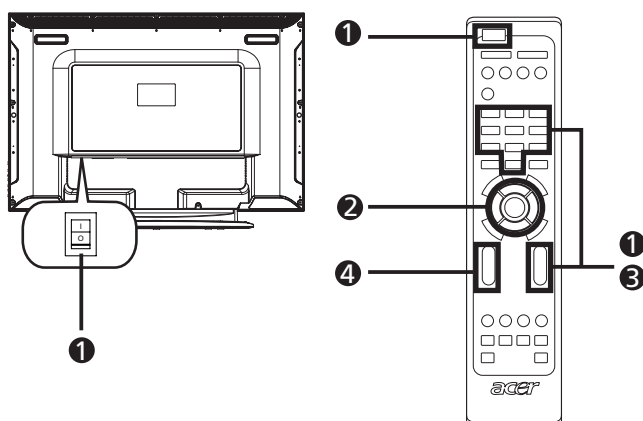


Connecting an antenna/cable

Connect the antenna cable to the appropriate antenna terminal on the back of the TV set as shown below.



Getting started watching your TV



1. Select the setup language you prefer.
2. Please select country.
3. Ensure that your co-axial cables connected correctly before proceeding.

-
4. Scan for analog channels.
 5. Setup is now complete. You are ready to begin watching TV.

If you leave the setup process before it is complete, you will be given a choice of options:

1. Resume setup
2. Resume setup wizard at next startup
3. Exit and do not remind me

Select an option and press OK to exit.

No.	Description
1	Power a. Turn on the power switch beneath the screen. b. Press the power button, number keys or channel up / down button on the remote control.
2	Setup Wizard The first time you switch on the TV, the Setup Wizard will guide you to complete the language selection and channel scanning. Press OK key to begin the setup process.
3	Changing channels a. Press 0-9 on the remote control to select a channel. The channel changes after 2 seconds. Press ENTER to select the select the channel immediately. b. Pressing the channel (CH) up/ down button on the remote control will also change the channel.
4	Adjusting the volume Adjust the volume level using the (VOL) +/- button on the remote control.

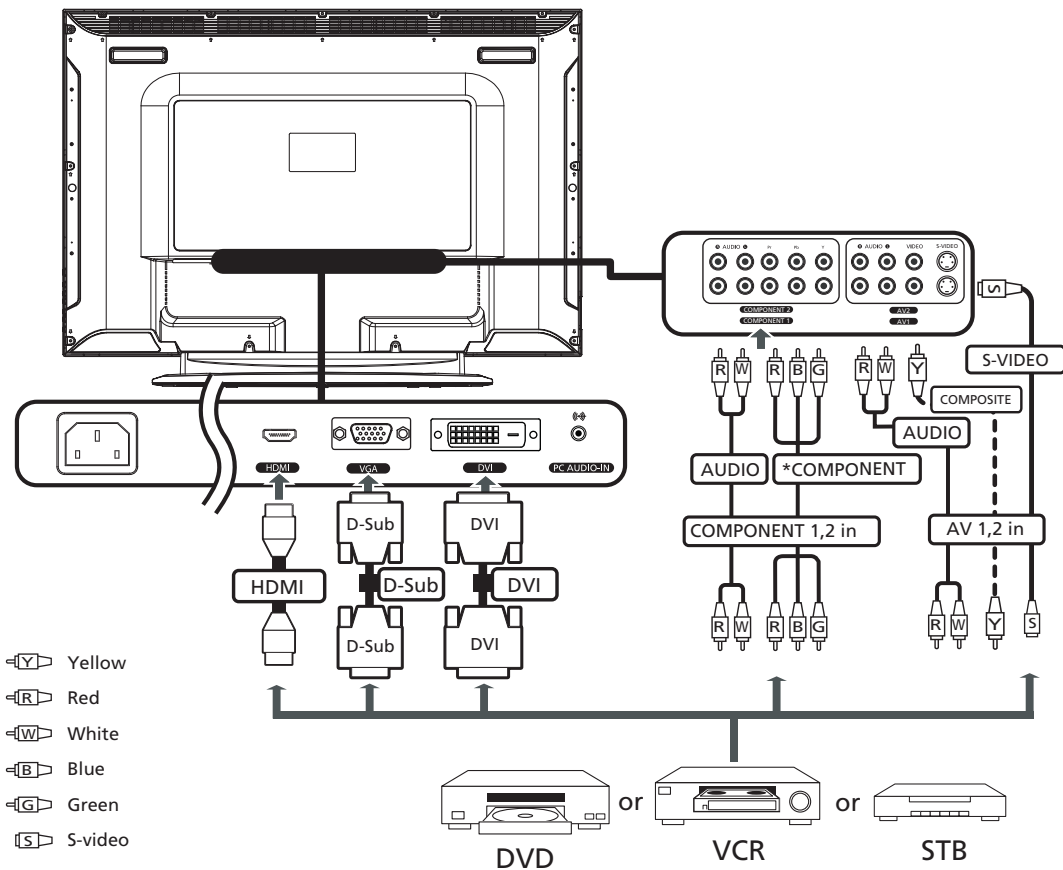
Connecting external audio/video device

Connecting a DVD, VCR, STB or audio/video equipment

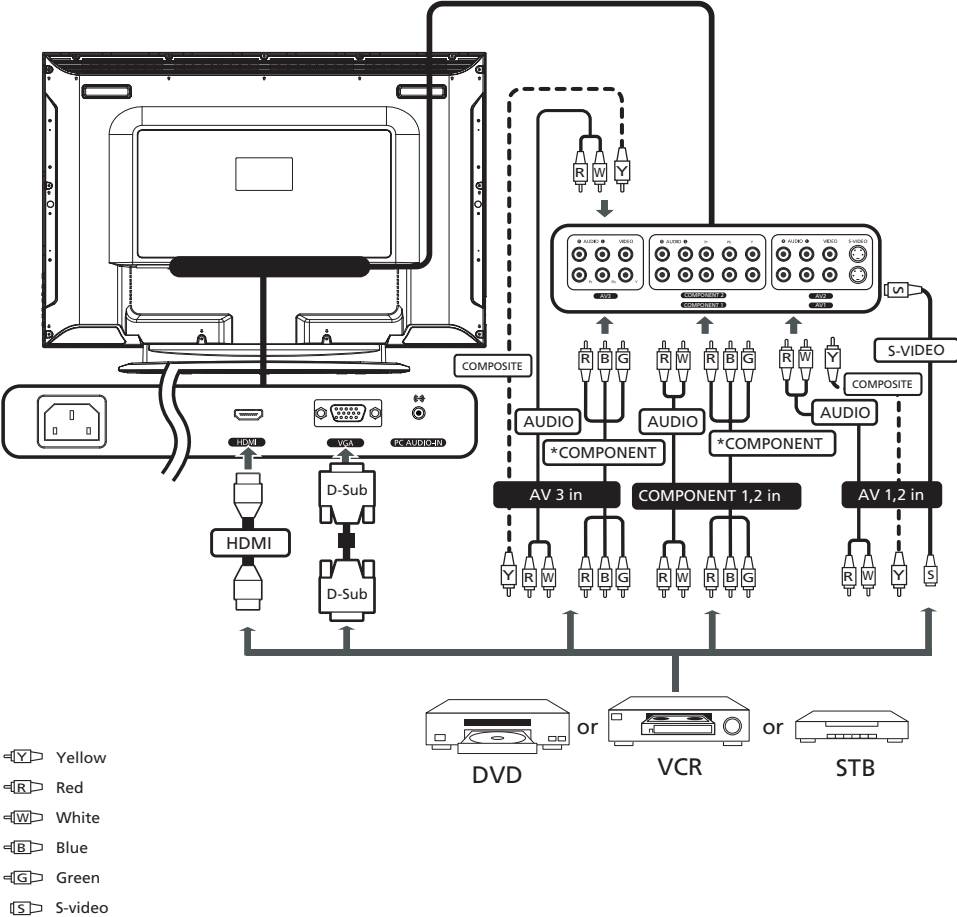
Connect your DVD player, VCR or audio/video equipment using the SCART port located at the rear of your LCD TV as shown below.

For AT3720A:

Source-IN

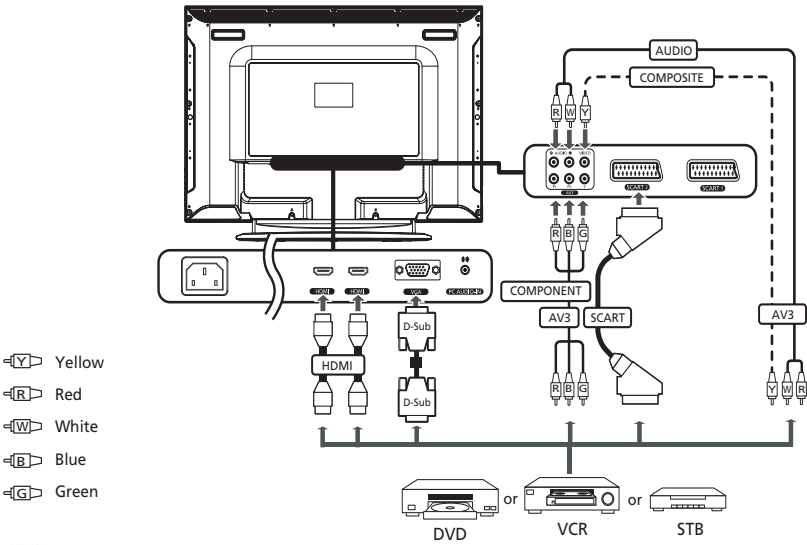


NOTE: Acer recommends the following priority for connection types: HDMI -> DVI -> D-Sub -> COMPONENT -> S-Video -> Composite.



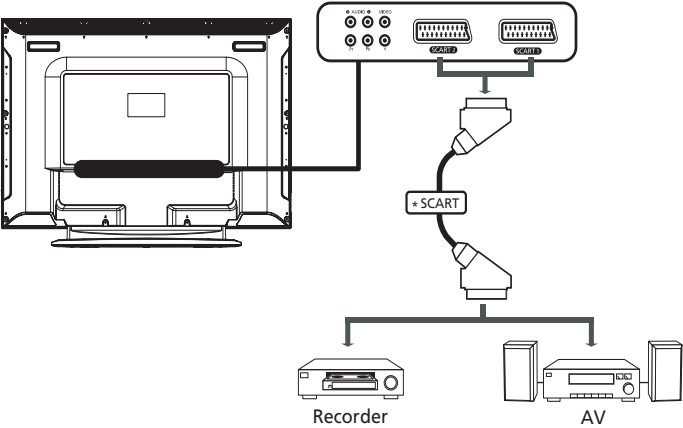
For AT3720:

Source-IN



* Acer recommends the following priority for connection types:
HDMI -> COMPONENT -> SCART -> Composite.

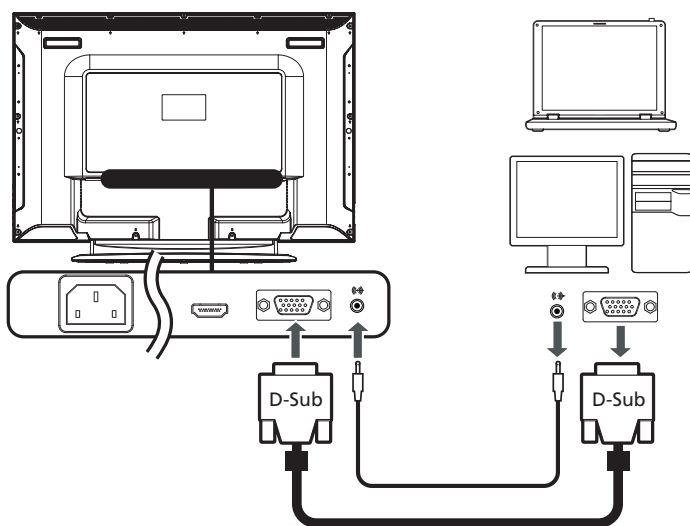
TV-OUT



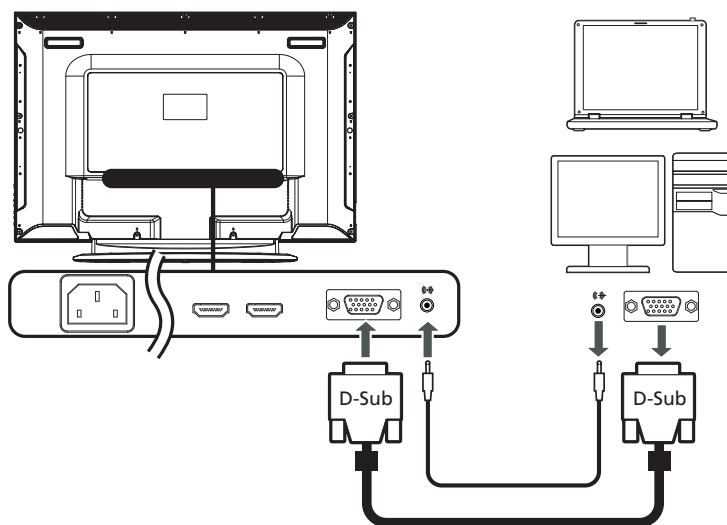
*SCART-out only works with analog broadcasts.

Connecting a camera, camcorder, video am or headphones

Connect your camera or camcorder to the video/audio ports on the rear of the TV set as shown below.



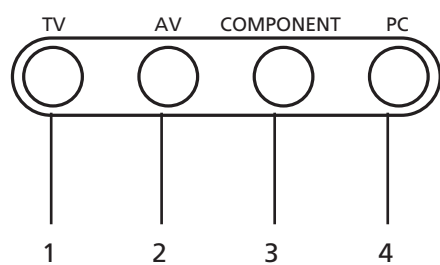
For AT3720:



Selecting the input source

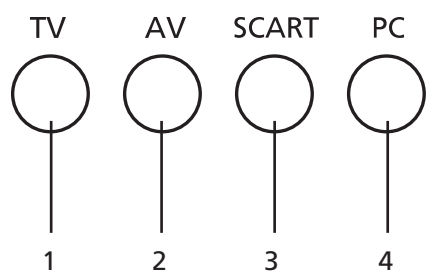
Once you have connected your antenna or external equipment to the TV, you need to select the correct input source. Press the corresponding button on the remote control to select the correct input source.

For AT3720A/AT3720B:



No	Item	Input Button Guide
1	TV key	Toggle Analog TV (ATV) between input sources.
2	AV key	Toggle AV1, AV2, AV3-CVBS* and HDMI between input sources.
3	COMPONENT key	Toggle COMPONENT 1, COMPONENT2 and AV3-COMPONENT* between input sources.
4	PC key	Toggle VGA between input sources.

For AT3720:



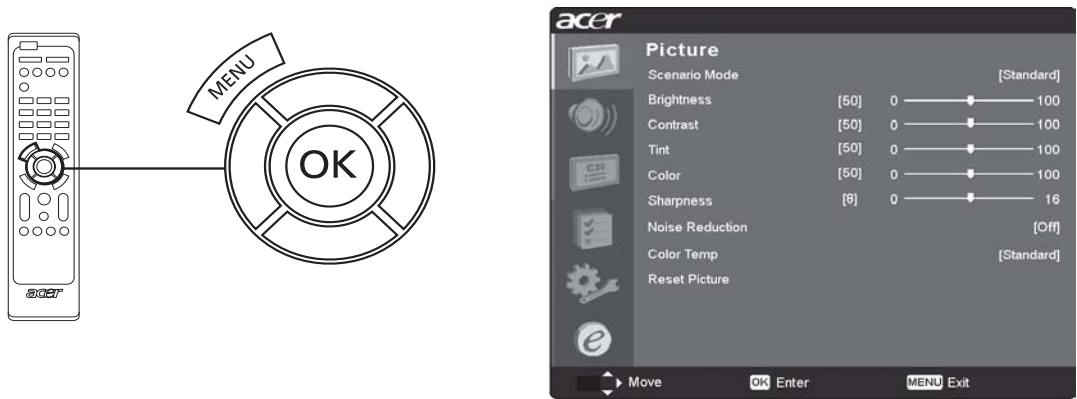
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3	COMPONENT key	Toggle COMPONENT 1, COMPONENT2 and AV3-COMPONENT* between input sources.
4	PC key	Toggle VGA between input sources.

OSD navigation

Many of the advanced settings and adjustments are available through using the OSD (onscreen display) menus, as shown in the example screenshot below.

Basic operations required to navigate these menus (Picture, Audio, Channel management, Options, Settings and Empowering) are described in this section.

Navigating the OSD with the remote control



NOTE: You can also interact with these menus using the front panel controls. Please see “Front panel view” section for AT3220A.

No.	Icon or Display	Description
There are six main OSD menus. These are: Picture, Audio, Channel management, Options, Settings and Empowering. Use the following method to navigate these menus.		
1		Press the MENU button on the remote control or the MENU button on the control panel.
2		Select your desired menu by using the up and down directional keys to switch between the six menus.
3		Use the directional keys to interact with the menu. The up / down directions will scroll through the menu options, while left / right will adjust the different settings (for example, in the Picture menus, settings such as brightness, contrast, etc.) Press MENU to exit.

Adjusting the OSD settings

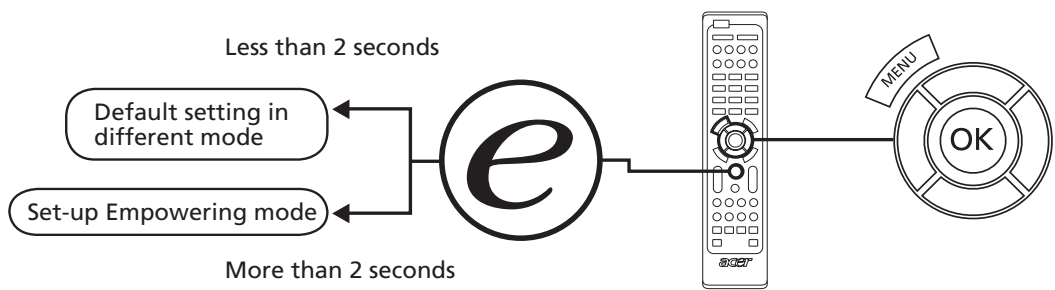
The OSD can be used for adjusting the settings of your LCD TV.

Press the MENU key to open the OSD. You can use the OSD to adjust the picture quality, audio settings, channel settings, options, general settings, and Empowering Technology. For advanced settings, please refer to following page:

Adjusting the picture quality	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Picture from the OSD. Then navigate to the picture element you wish to adjust. 3 Use the left or right keys to adjust the sliding scales. 4 The Picture menu can be used to adjust the current Scenario mode, brightness, contrast, color, sharpness and other image-related qualities.
Adjusting the audio settings	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Audio from the onscreen display. Then navigate to the feature you wish to adjust. 3 Use the left or right keys to adjust the sliding scale. Press OK to save. 4 The Audio menu can also be used to adjust the treble, balance, sound effects and other important sound-related settings.
Adjusting the channel management	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Channel management from the OSD. 3 Use the directional keys to navigate the menus. 4 The Channel management menu can be used to set channel skipped, select TV system and scan channels automatically.
Adjusting other options	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Options from the OSD. 3 Use the directional keys to navigate the menus. 4 The Options menu can be used to select the picture aspect-ratio mode, set the sleep timer and other important options.
Adjusting the settings	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Settings from the OSD. Then navigate to the feature you wish to adjust. 3 The Settings menu can be used to adjust the menu language and other important settings.

NOTE: The options available on the OSD may vary depending on the TV signal source.

Empowering Technology



The Empowering Key opens up the Acer Empowering Technology functions. In TV mode, the choice is between Scenario mode and Favorite channel.

Set-up Empowering mode

To change your Empowering Key's default setting:

1		Press and hold the Empowering Key for more than two seconds to open the menu.
2		More than 2 seconds TV mode Empowering Key settings menu
3		Press MENU to exit. Now, when you press the Empowering Key, your chosen selection will be accessed.

Default setting in different Empowering mode

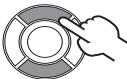
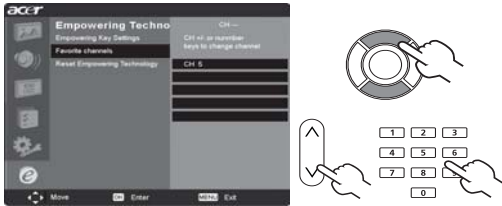
Scenario mode in TV (default setting)

Scenario mode has five preset viewing modes designed to give you the best picture quality when watching a particular kind of program. There are five pre-defined audio and video settings for optimal enjoyment of the following scenarios: Standard TV, Movie, Sport, Concert, Game, User.

	Pressing the Empowering Key for less than two second will toggle between the different modes.
Mode	Information
Standard	Standard mode allows you to watch your favorite channels with sharp, brilliant imagery via adaptive brightness and contrast adjustments, and listen to clear-sounding audio.
Movie	For comfortably enjoying movies at home, Movie mode displays dim scenes in clear detail; compensates for color; and smoothly presents motion images. This is accomplished through optimal Gamma correction plus saturation, brightness and contrast adjustments. Movie mode makes the most of high-definition movie soundtracks.
Game	Game mode carefully details the exquisite graphics of modern video games, providing lifelike entertainment while protecting your eyesight by adjusting brightness and contrast. What's more, Game mode provides a heightened audio experience.
Sports	Sports mode is suited for outdoor sports programs, with accurate background depth and clear gradation between the bright, outdoor playing field and darker auditoriums. Sports mode also brilliantly enhances colors and presents swiftly moving pictures without residual images. All of this is achieved via specific Gamma corrections and saturation adjustments. Precise audio can be heard.
Concert	Concert mode places you in a virtual concert hall, opera house or other dim environment by means of adaptive brightness and contrast adjustments. Concert mode accentuates symphonic harmonies and the tenor audio range.

Favorite channel mode in TV

Favorite channel allows you to store five of your favorite TV channels and flick between them at the touch of a single button. To set Favorite channel as the default, follow the steps on page 26.

Storing favorite channels		
1		Select your desired channel, then press the MENU key on the remote control.
2		Use the directional keys to navigate the menu and select the Empowering Technology icon.
3		Navigate to a channel slot, use CH up/down button or number key to change channel. There are a total of five slots in which you can store TV programs.
Viewing your favorite channels		
		On the remote control, if you press the Empowering Key for less than two second, the TV will toggle between the five stored TV channels sequentially according to your list of favorites.

OSD Navigation

Many of the advanced settings and adjustments are available through using the OSD (on screen display) menus, as shown in the example screenshot below.



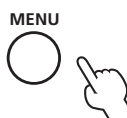
Basic operations required to navigate these menus (Picture, Audio, Settings, Options, Empowering) are described in this section. The first time you access the OSD, you will be asked to choose your language settings.

NOTE: You can also interact with these menus using the front panel controls.

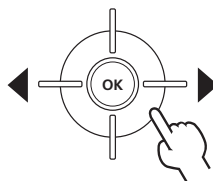
Navigating the OSD with Remote Control

There are five main OSD menus. These are: Picture , Audio , Settings , Options  and Empowering . Use the following method to easily navigate these menus.

1. Press the “Menu” button on the remote control or the “Menu” button on the control panel.



2. Select your desired menu by using the Left/Right sides of the directional pad to switch between the five menus.



3. Use the directional pad to interact with the menu. The Up/Down directions will scroll through the menu options, while Left/Right will adjust the different settings (for example, in the Picture menu, settings such as brightness, contrast, etc). If there are no adjustments, press Enter to select.

Teletext

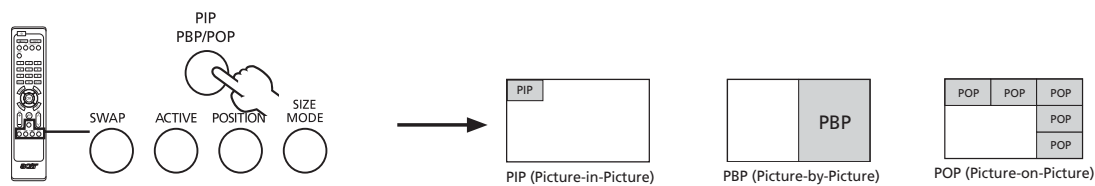
Most TV channels also broadcast information via the teletext feature. This Acer LCD TV has 252 pages of memory which will store pages and subpages, thereby reducing waiting time. The teletext buttons on the remote control are listed below.

Item	Description
INDEX	Go to index page
SUBTITLE	Show subtitle on the screen
TELETEXT	Press to switch from TV/AV to Teletext mode.
REVEAL	Press to reveal hidden teletext information.
SIZE	Press once to zoom teletext page to 2X; press again to resume.
MIX	Press to overlay teletext page on the TV image, i.e. subtitle
HOLD	Press to pause the current teletext page in multi-page viewing mode.
Color buttons (R/G/Y/B)	Operates corresponding button on the teletext page.

Advanced Features

PIP/PBP/POP

- ❑ Press the PIP/PBP button once to display activate picture-in-picture (PIP).
- ❑ Press twice to activate picture-by-picture (PBP).
- ❑ Press three times to activate picture-on-picture (POP). Then, the POP screens will display the TV Channel programs on by one.



NOTE: The OSD menu is not available in PIP/POP/PBP modes.

PIP		1a. Press the ACTIVE key to toggle between PIP screens.
		1b. Press the TV , AV , COMPONENT or PC keys, number keys or CH up or down to change the content of the active screen.
		2. Press the SWAP key to change the content between the primary and the subscreen.
		3. Press the POSITION key to select the location of the subscreens, from upper left -> upper right -> lower right -> lower left, as shown in the image.
		4. Press the SIZE/MODE key to select the size of the subscreen, from 25% -> 37.5% -> 50%, as shown in the image.

PBP		1a. Press the ACTIVE key to toggle between PBP screens.
		1b. Press the TV , AV , COMPONENT or PC keys, number keys or CH up or down to change the content of the active screen.
POP		1a. Press the ACTIVE key to toggle between POP screens.
		1b. Press the number keys or CH up or down to change the TV channel on the active screen.
		2. Press the SIZE/MODE key to access the 1 + 5 or 1+12 picture-on-picture mode as shown in the image.

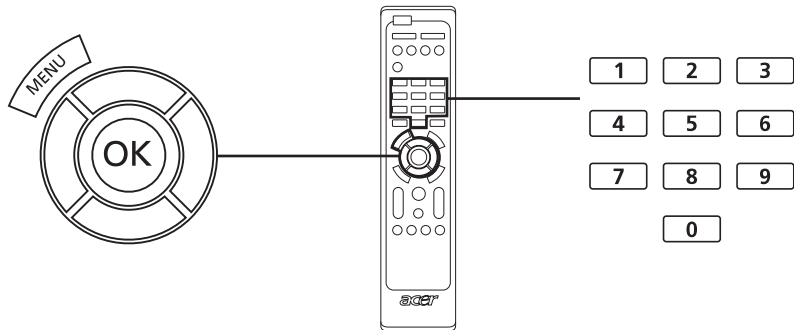
NOTE: In PIP and PBP, the VGA and DVI sources only support input up to 1360x768 pixels at 60Hz. For resolutions higher than this, “Out of Range” will be displayed.

NOTE: The POP can only support 1+12 when the main screen source is HD content or in VGA mode.

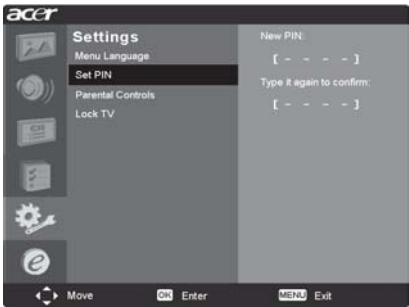
Lock TV

Locking TV content

Lock TV allows you to enter a password and effectively stop anyone without the password from watching TV..



to enable this feature:

Setting a personal PIN		
1		 Press the MENU key on the remote control to bring up the OSD.
2		Use the directional keys to navigate to the  Settings menu. Then select Set PIN . (see note)
3		Enter a four-digit password. Type it again and press OK to reconfirm.
4		Press MENU to exit.

Locking your TV		
1		 Press the MENU key on the remote control to bring up the OSD.
2		Use the directional keys to navigate to the  Settings menu. Then select Lock TV .
3		Enter your PIN. Type it again and press OK to reconfirm. (see page 16 note)

Hardware Specifications and Configurations

Electro / Optical

1. Size of screen	37 inches for AT370A/AT3720B/AT3720		
2. LCD panel supplier	AUO		
3. Screen aspect ratio			
4. Type of screen	TFT with Super MVA technology or SIPS or QSV		
5. Screen resolution	1366 x 768		
6. Display colors	16.7 M colors (8 real bits per color)		
7. Chromaticity	Red	0.638	0.335
	Green	0.271	0.597
	Blue	0.145	0.065
	White	0.275	0.298
8. Color temperature	Five models are adjustable,		
	Cold	16,000 degree K	
	Middle-cold	14,000 degree K	
	Standard	12,000 degree K	
	Middle-warm	10,000 degree K	
	Warm	8,000 degree K	
9. White uniformity	N/A		
10. White dispersion	N/A		
11. Brightness	500 Cd/m ² (typical)		
12. Contrast Ration	1200:1 (typical)		
13. Uniformity	N/A		
14. Overscan	N/A		
15. Vision angle	Ultra wide viewing angle: 176 (H), 176 (V) (CR>20)		
16. Gamma	N/A		
17. Response time (T _R / T _F)	8 ms (gray to gray)		
18. Screen (lamp + LCD) life	60,000 Hours (Lamp is not included)		
19. Panel interface	1-ch LVDS		

Mains

- | | |
|--|---|
| 1. Power supply electrical specification | <p>The power supply for this product is an internal converter, with a non-replaceable fuse internally. This converter is designed to meet CE mark requirement.</p> <ul style="list-style-type: none">• Input voltage and frequency range: <p>The operating range of line voltage is AC 90 volts to 264 volts, 47Hz to 63 Hz.</p> <ul style="list-style-type: none">• Input current: 2.2A• Line fuse: <p>The AC input is fused and becomes electrically open as a result of an unsafe current condition. This fuse is inside the power supply converter and is not use replaceable, and must be returned for replacement. This fuse is well selected to handle inrush current for all combinations of line voltage and frequency.</p> |
| 2. Stand-by consumption | 5 watts (max) |
| 3. Power consumption | 185 Watts |
| 4. Mains disturbance behaviour | <p>No disjunction during 0 to 40ms mains interrupt, with max load, min mains voltage.</p> <p>No software reboot during the test.</p> <p>No over voltage causing any damage during mains interrupt (0 to any time).</p> |
| 5. Inverter | <p>The inverter which is used to light up backlight of LCD panel is well designed to meet requirement of panel specification.</p> |

Audio / Acoustical

- | | |
|-----------------------------------|--|
| 1. Audio input | <p>Level: 500 mVrms
Type: Stereo R/L Channels
Impedance: More than 22 K ohm
Interface: RCA Jack, R: Red color, L: White color</p> |
| 2. PC Stereo Input | <p>Level: 500 mVrms
Type: Stereo R/L Channels
Impedance: More than 22 K ohm
Interface: 3.5mm stereo jack</p> |
| 3. Built-in Speaker | <p>Max. audio output (at 10% THD max.) at 500 Vrms / 1KHz input: 8W + 8W
Sound Distortion at 250 mW / KHz: 1% THD max.
Speaker: 20W (10W + 10W)
Speaker impedance: 4 ohm at 1KHz
Residual Hum at Min. Volume: 500 uW Max.
Max Hum at Max. Volume: 1000 uW Max.</p> |
| 4. acoustical noise (complete TV) | <p>Audible noise in standby mode <35dBA (ISO-7779)
Audible noise in power ON mode <35dBA (ISO-7779)
Parasitic noise due to mechanical vibration during audio sweep must be inaudible at 1m around the TV.</p> |

Hard / Soft Performance

1. Languages supported Czech, Danish, Dutch, English, French, German, Italian, Polish, Portuguese, Russian, Spanish and Swedish
2. Starting time A correct picture (color, aspect ratio, stability) can be displayed <6 second after power on
3. Wake-up behaviour The system can be waken up if the button Standby is pressed (keypad "power" or remote control "power", "0 ~ 9", "CH +/-").
4. Stand-by reason The TV pass in standby mode upon:
 - The button "power" is pressed (keypad or remote control).
 - On the selected source: no sync signal after 8 minutes.
5. Video and Audio Characteristics

No.	PARAMETER (Channel: 11)		MIN.	TYP.	MAX.	UNIT	NOTE
1	Video output level		0.8	1.0	1.2	Vp-p	1
2	Video S/N		44	48	-	dB	2
3	Noise limiting sensitivity		-	44	49	dBuV	3
4	Video amplitude frequency characteristics	1.0 MHz	-2.0	0	+2.0	dB	4
		2.0 MHz	-2.0	0	+2.0	dB	
		3.0 MHz	-3.0	-0.5	+1.0	dB	
		3.58 MHz	-4.5	-1.5	+0.5	dB	
5	Audio output level	140	140	290	440	mVrms	5
6	Audio S/N		40	48	-	dB	6

6. Scanning mode

Automatic:

Manual:

- Multi-standard, frequency based
 - Level range: 55dBuV to 100dBuV
 - Abort possible during scanning process
 - Frequency setting is available.
7. Analog TV naming function

Automatic:

Manual:

CNI recognition

5 characters
8. PIP / POP / PBP function

PIP

PIP multiple size

PIP multiple position

POP

POP source

POP (main + sub)

20%, 30%

4 corners

video / graphic (main) by ATV (sub)

1 + 5, 1 + 12

Multi Picture

Main Sub	TV	AV1	AV2	HDMI	Component 1	Component 2	VGA	DVI
TV	X	X	X	X	X	X	O	X
AV1	X	X	X	X	X	X	O	X
AV2	X	X	X	X	X	X	O	X
HDMI	X	X	X	X	X	X	O	X
Component 1	X	X	X	X	X	X	O	X
Component 2	X	X	X	X	X	X	O	X
VGA	O	O	O	O	O	O	X	O
DVI	X	X	X	X	X	X	O	X

POP

POP

- POP sub window only Analog TV support
- No auto SCART supported in POP mode
- In POP12 mode, support component1 (up to 1080i), VGA / DVI (up to 1024 x 768 @ 60Hz) and HDMI (up to 1080i)
- In POP5 mode, VGA, DVI and HDMI supported²
- Component1 can support up to 576P in POP5 mode¹.

Main Sub	TV	AV1	AV2	HDMI	Component 1	Component 2	VGA	DVI
TV	X	X	X	X	X	X	O	X
AV1	X	X	X	X	X	X	X	X
AV2	X	X	X	X	X	X	X	X
HDMI	X	X	X	X	X	X	X	X
Component 1	X	X	X	X	X	X	X	X
Component 2	X	X	X	X	X	X	X	X
VGA	X	X	X	X	X	X	X	X
DVI	X	X	X	X	X	X	X	X

9. TTX level

- FLOF level 1.5 source can be RF, DVBT or AV.
- TTX characters set must follow the country language selection.

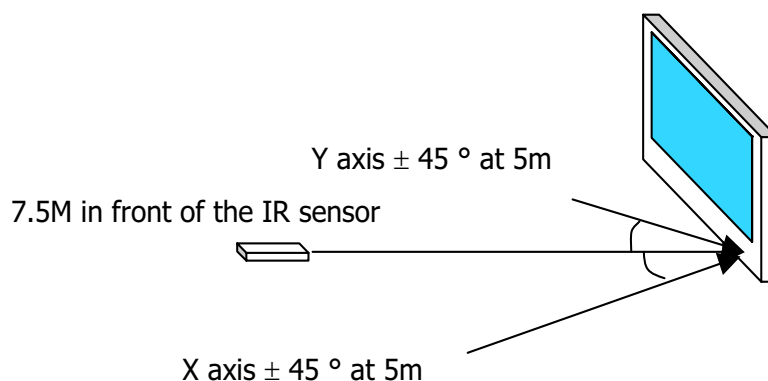
10. TTX keys function

Full screen, Subtitle, Hold, Size, 4 color keys (R, G, Y, B)

11. Video standard supported

- PAL, SECAM (automatic detection)
- PAL (4.43 M, 50Hz) B G D K
- SECAM L

12. Video ADC and processing	10 bits (chroma and luma) • Luma / chroma AGC • 10 bits processing • Noise reduction • Chroma transient improvement • Luma transient improvement • 3D comb filter • De-interlacer
13. Time to synchronize	During a source / channel change, within 4 second to obtain a stable display
14. Video management	• User adjustments: contrast, brightness, color, tint (NTSC), sharpness • Color temperature: cold, middle-cold, standard, middle-warm, warm
15. Aspect ratio	• Aspect ratio available for all the video sources • 4/3, 16/9, panorama, letterbox1, letterbox2, letterbox3 NOTE: PC & DVI only support 4/3 & 16/9
16. Scenario functions	Settings: Standard, movie, sport, concert, game, user Noise reduction: Off, Low, Middle, High
17. Audio management	User adjustment: Volume, Balance, Bass, Treble, Mute, Mono / Stereo / Sound1 / Sound2
18. Audio enhancement	Stereo, SRS, WOW, BBE
19. AV sub-format supported	CVBS, YC, RGB, YUV
20. Copy protection management	HDCP (HDMI)
21. IR performance	The reception distance indicates the distance between IR emitter and receptor which allow to recognize 85% or more IR frames. Reception distance: >7.5M perpendicular to the IR sensor >5M at 45° horizontally >5M at 45° vertically



Connectors

1. Tuner type	Analog tuner in
2. AV1 in	CVBS, S-video, Audio R/L
3. AV2 in	CVBS, S-video, Audio R/L
4. Component1	YCbCr/YPbPr, Audio R/L
5. Component2	YCbCr/YPbPr, Audio R/L
6. DVI-D	Yes (HDCP)
7. HDMI	19 pins HDMI signal link (HDCP)
8. PC D-sub in	Yes
9. PC Audio in	Yes

Environmental Requirements

The TV shall meet the following environmental requirements under normal operating conditions.

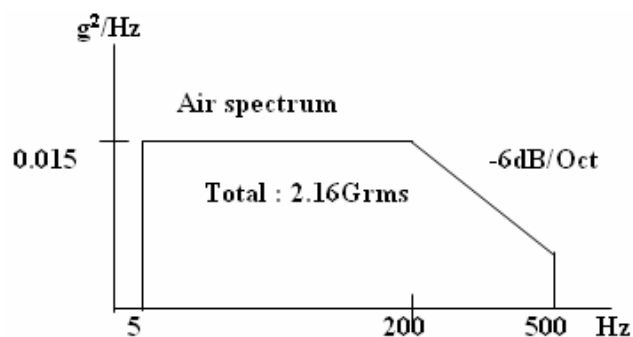
1. Operating	25° +/- 5° for purity, white point, mis-convergence, luminance measurements and white uniformity measurement
	Operating temperature: 0°C to 35°C
	Operating humidity: 10% to 90% (non-condensing)
2. Storage and Shipping	Storage temperature: -20°C to 60°C
	Shipping temperature: -20°C to 60°C
	Storage humidity: 10% to 90% (non-condensing)
	Shipping humidity: 10% to 90% (non-condensing)
3. Altitude	Operating altitude: 0 to 12,000 feet
	Shipping altitude: 0 to 40,000 feet
	Storage altitude: 0 to 40,000 feet
	Units tested at an altitude up to 12,000 feet must operate at normal conditions without exhibiting abnormal behavior such as arcing or shutdown.

Transportation

Vibration Test

The packaged display shall be capable of passing sinusoidal vibration test as specified in follows.

A. test condition as below:



B. The unit under test shall be run for a duration of 30 minute in each of following orientations.

- Top and bottom side (z axis)
- Left and right side (x axis)
- Front and rear side (y axis)

The unit shall suffer no visible cosmetic damage and should operate no degradation indisplay quality after test.

Additionally, prior to production and prior to implementation of any design or manufacturing change that might affect vibration performance, a minimum of 2 units shall be demonstrated to meet the requirements of specification.

Drop Test

The packaged display shall be capable of passing drop test as specified in following specification without any measurable degradation in performance or detectable mechanical or cosmetic damage.

Filter: 330 Hz

Dropping way: 1 corner, 3 edges, 6 flats

Dropping height: see the table below

Weight(kg)	Corner, edge, F,R,Btm(cm)	L,R,Up side(cm)
0~9	76	76
9~1	61	61
18~27	46	46
27~45	31	20
45~100	25	15

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

To disassemble the computer, you need the following tools:

- ☐ Wrist grounding strap and conductive mat for preventing electrostatic discharge
- ☐ small Philips screwdriver
- ☐ flat head screwdriver
- ☐ Philips screwdriver
- ☐ tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components. When you remove the stripe cover, please be careful not to scrape the cover.

General Information

Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.
3. Remove the battery pack.

Disassembly Procedure Flowchart

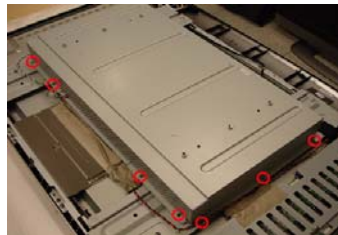
The flowchart on the succeeding page gives you a graphic representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing. For example, if you want to remove the system board, you must first remove the keyboard, then disassemble the inside assembly frame in that order.

Disassembling Steps

1. Remove the six screws fastening the stand to the LCD TV, then remove the stand.
2. Then detach the stand assembly from the LCD TV.
3. Remove the 15 screws holding the back cover.



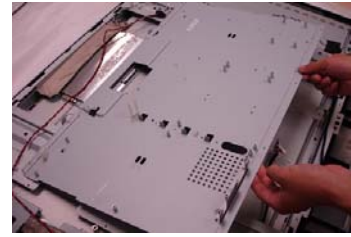
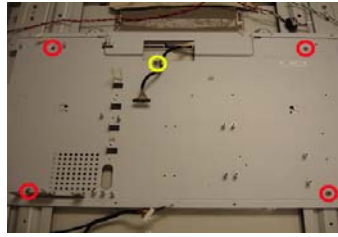
4. Detach the back cover from the LCD TV.
5. Remove seven screws holding the EMI shielding on one side.
6. Then remove another seven screws fastening the EMI shielding on the other and detach the EMI shielding.



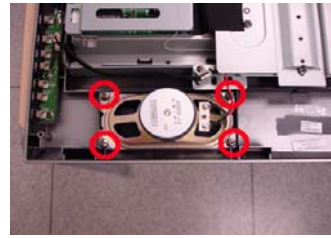
7. Remove 8 screws and 2 screw nuts holding the EMI shielding as shown and remove the EMI shielding.
8. Remove eight screws holding the power board and the screw fastening the power board ground cable. Then disconnect the cables from the power board and remove the power board.
9. Remove the four screws (highlighted in red) holding the main board and one screw (highlighted in yellow) fastening the cable on the main board. Then disconnect the cables from the main board and remove the main board.



10. Remove the four screws holding the IO tuner board and detach the IO tuner board.
11. Remove the screw (highlighted in yellow) holding the LVDS cable and remove the cable. Then remove the four screws (highlighted in red) fastening the PCB holder.
12. Detach the PCB holder.



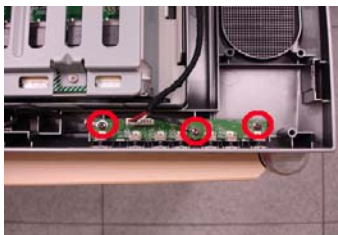
13. Remove the four screws fastening the left speaker.
14. Remove the four screws holding the right speaker.



15. Tear off the mylar cover the speaker cable and detach the speaker cable.
16. Take out the speaker cable from the clip and then take out the left and the right speaker.



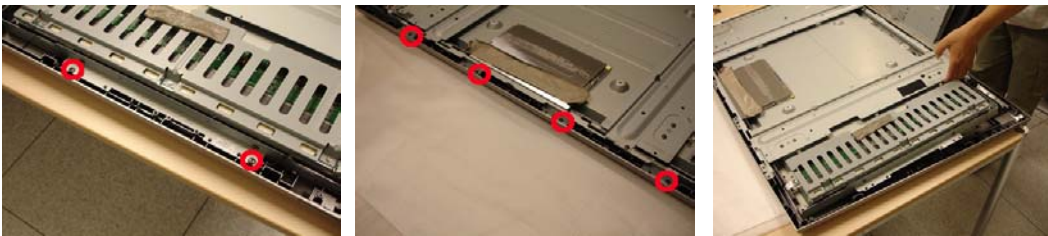
17. Remove the three screws fastening the button board then disconnect the cable and remove the board.
18. Remove the two screws holding the IR board then disconnect the IR board cable and remove the IR board.
19. Remove the three screws holding the main board-keypad-I R board cable and remove the cable.



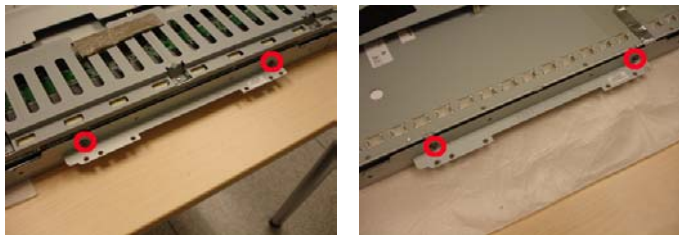
20. If you need to take out the entire LCD module from the front bezel, please remove the four screws holding the LCD module to the front bezel.
21. Remove two screws on the left as shown.



22. Remove two screws on the right as shown.
23. Remove another four screws fastening the LCD module to the front bezel.
24. Then you can hold the LCD brackets and lift the entire LCD module then take it away.



25. If you need to detach the LCD brackets from the LCD module, please remove two screws as shown.
26. Remove two screws on as shown.

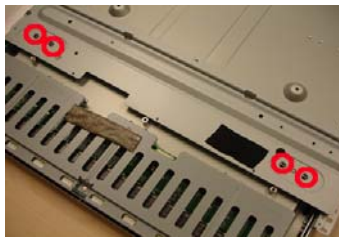


27. Remove two screws as shown.
28. Remove two screws as shown.
29. Then remove four screws holding the LCD brackets to the LCD.



30. Remove four screws holding the LCD brackets to the LCD.

31. Then detach the LCD brackets from the LCD.



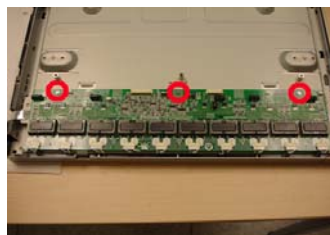
32. Remove the three screws holding the inverter bracket.

33. Detach the inverter bracket carefully.



34. Disconnect the inverter cable and backlight cables from the inverter.

35. Remove the three screws fastening the inverter and remove the inverter.



Troubleshooting

Use the following procedure as a guide for Acer LCD TV AT3720A/AT3720B and AT3720 problems.

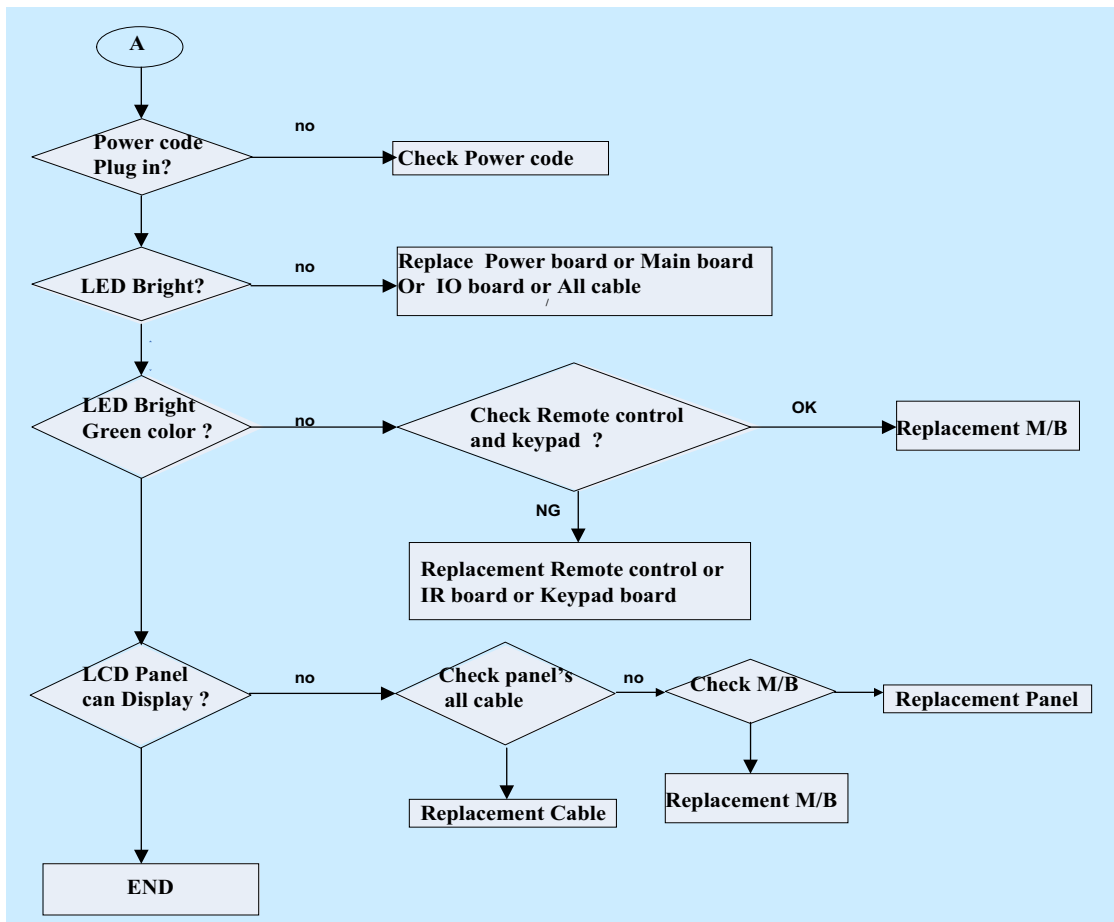
NOTE: The diagnostic tests are intended to test this model. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

1. Duplicate symptom and obtain the failing symptoms in as much detail as possible.
2. Distinguish symptom. Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
3. Disassemble and assemble the unit without any power sources.
4. If any problem occurs, you can perform visual inspection before you follow this chapter's instructions. You can check the following:
 - power cords are properly connected and secured;
 - there are no obvious shorts or opens;
 - there are no obviously burned or heated components;
 - all components appear normal.
5. Use the following flow chart determine which part to be replaced.

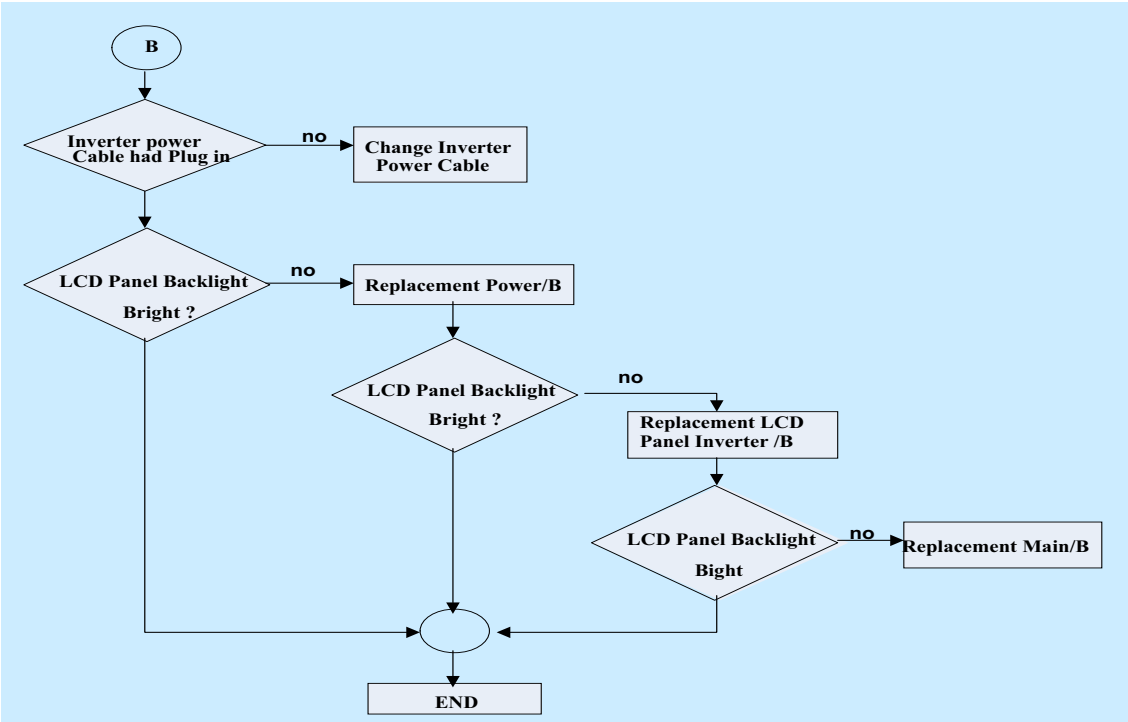
NOTE: N.G. in the below figures means "No Good".

AT3720A Troubleshooting Guideline

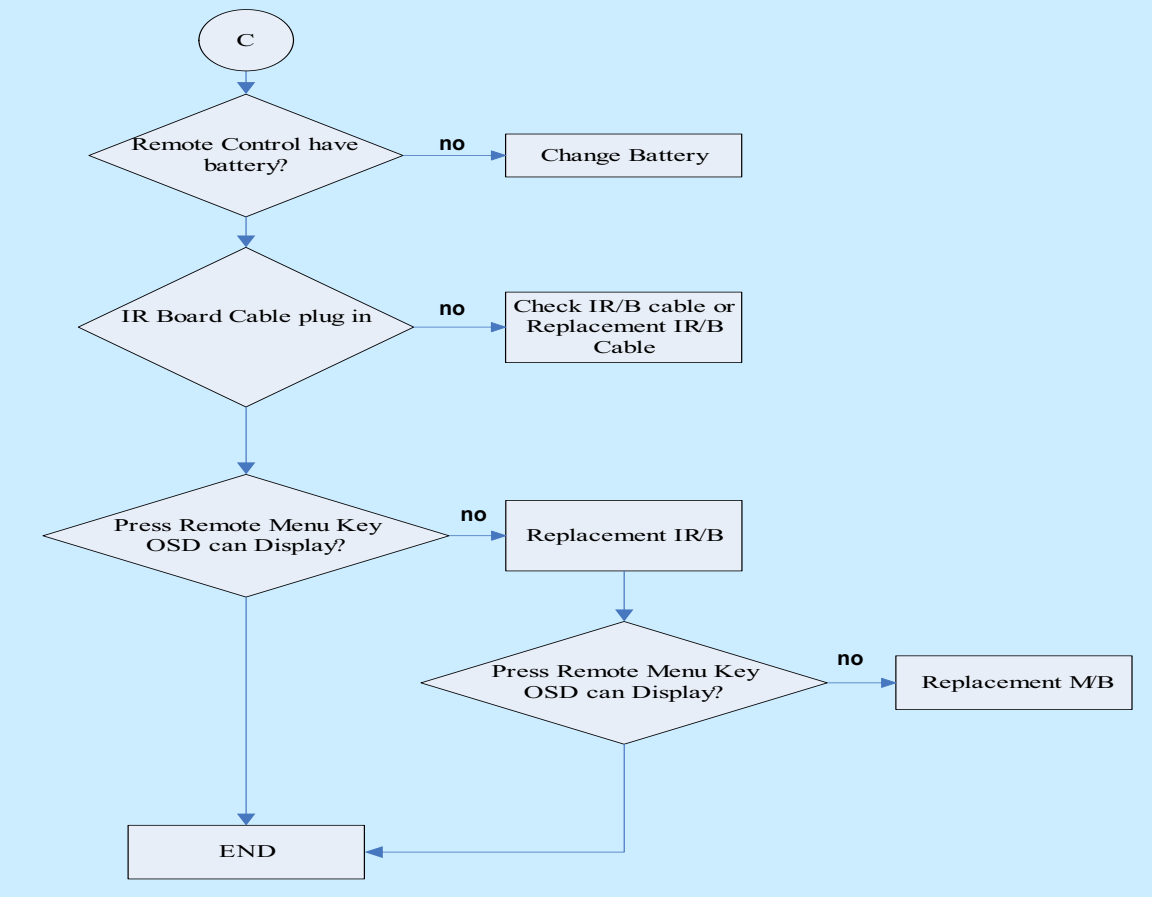
1. Can not power on



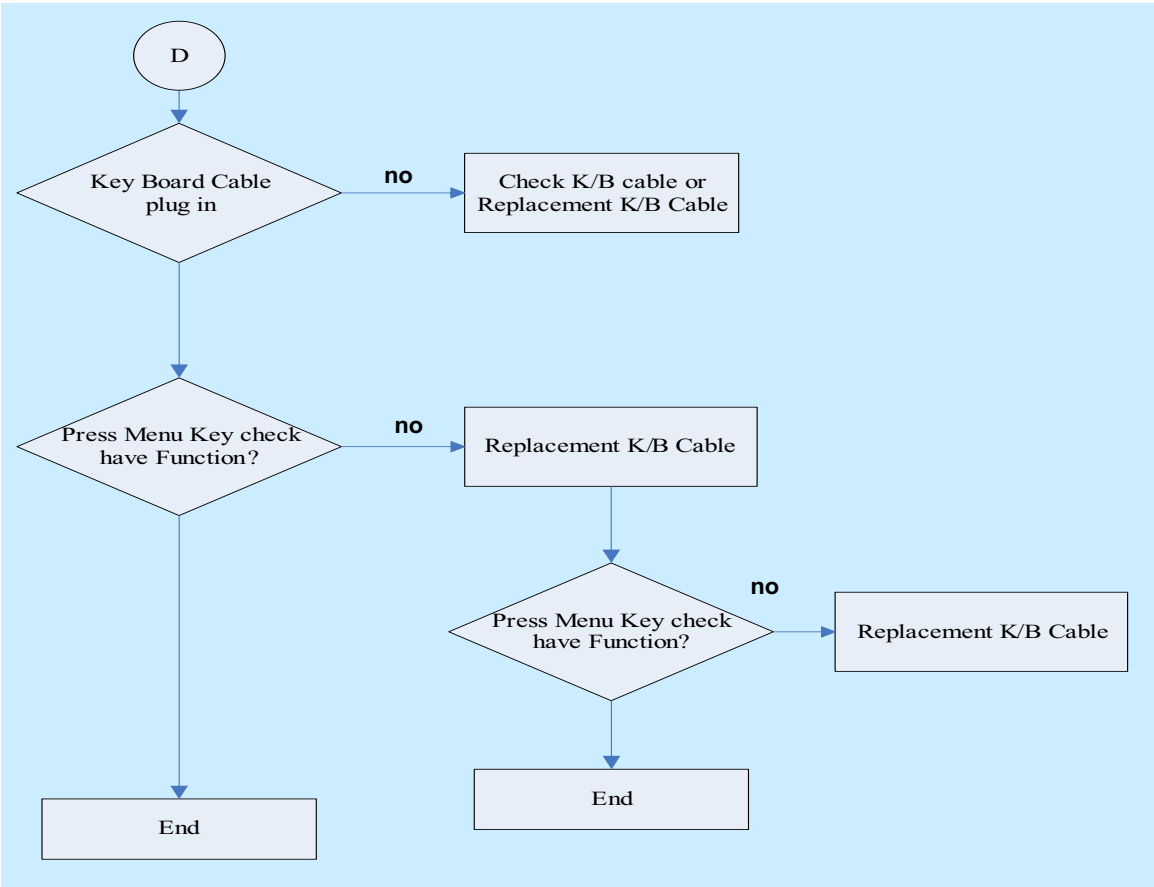
2. LCD no backligh



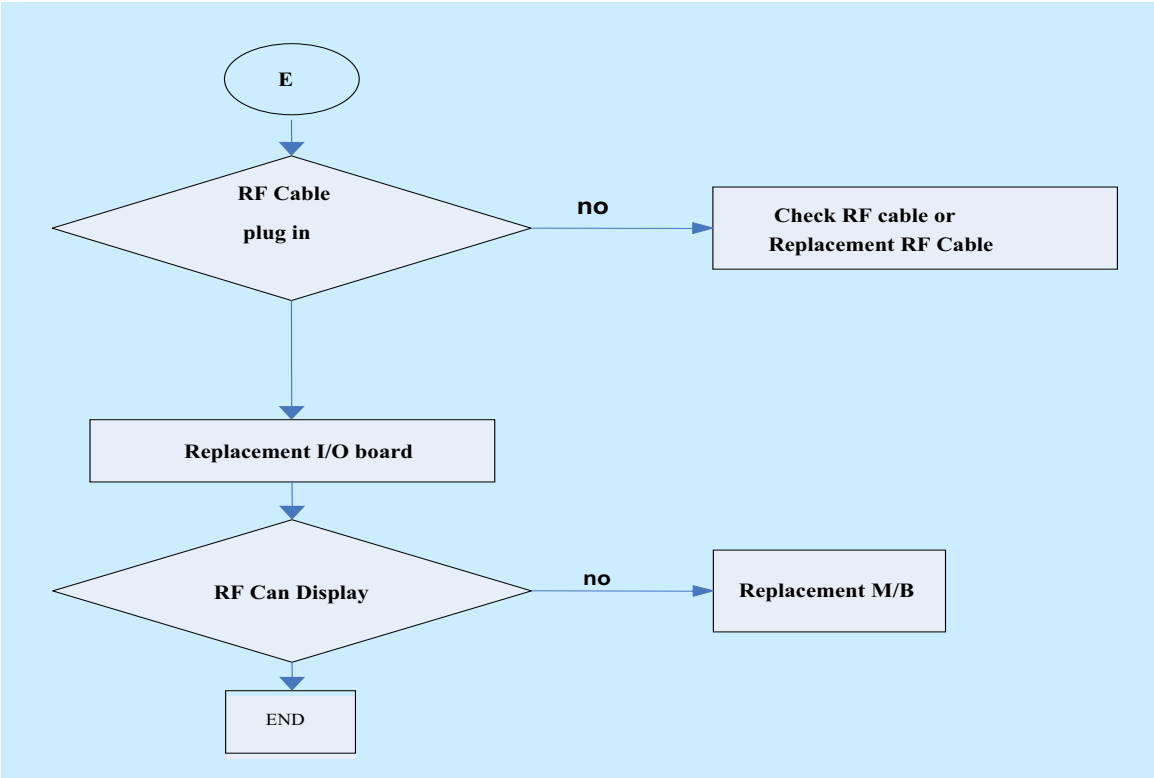
3. Remote controller does not have function



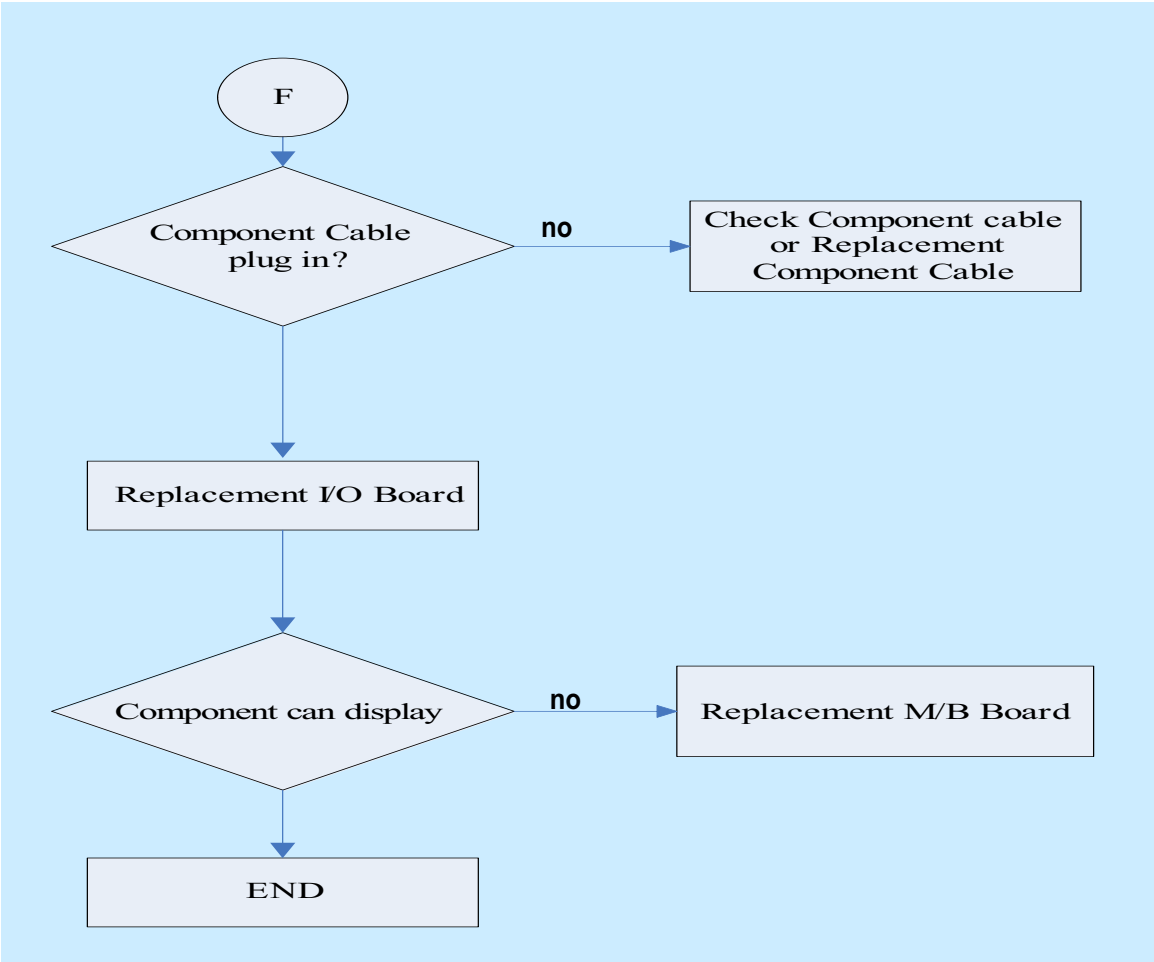
4. Button key does not have function



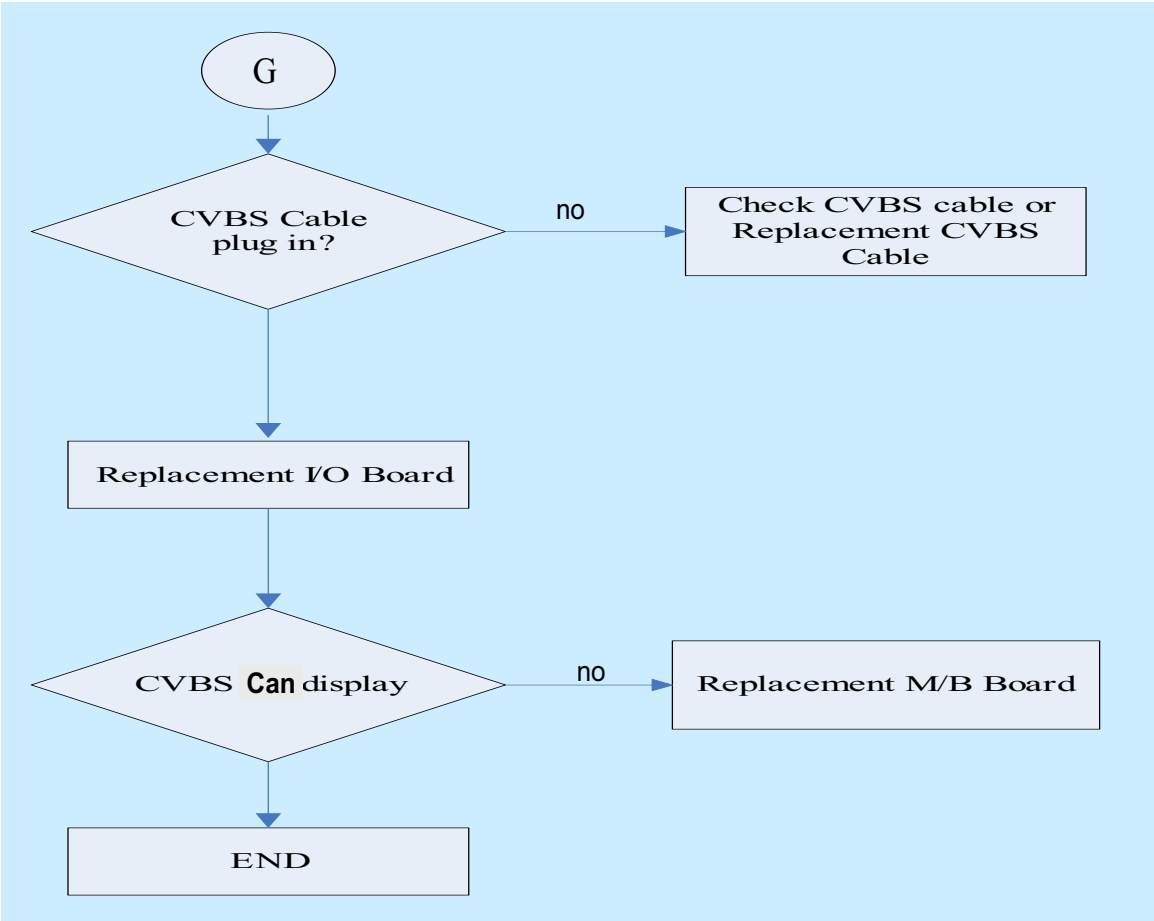
5. RF no display



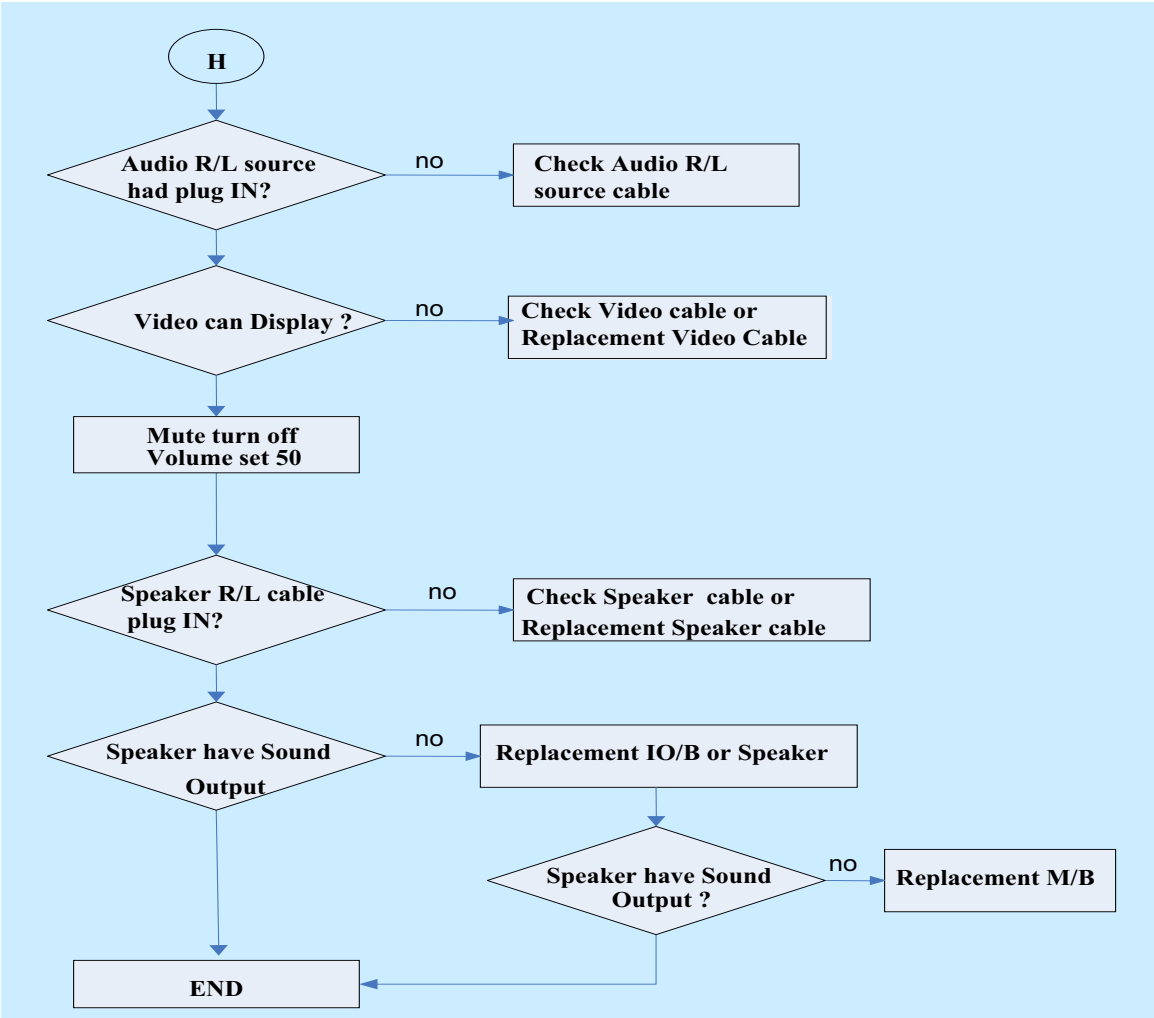
6. Component 1, 2 no display



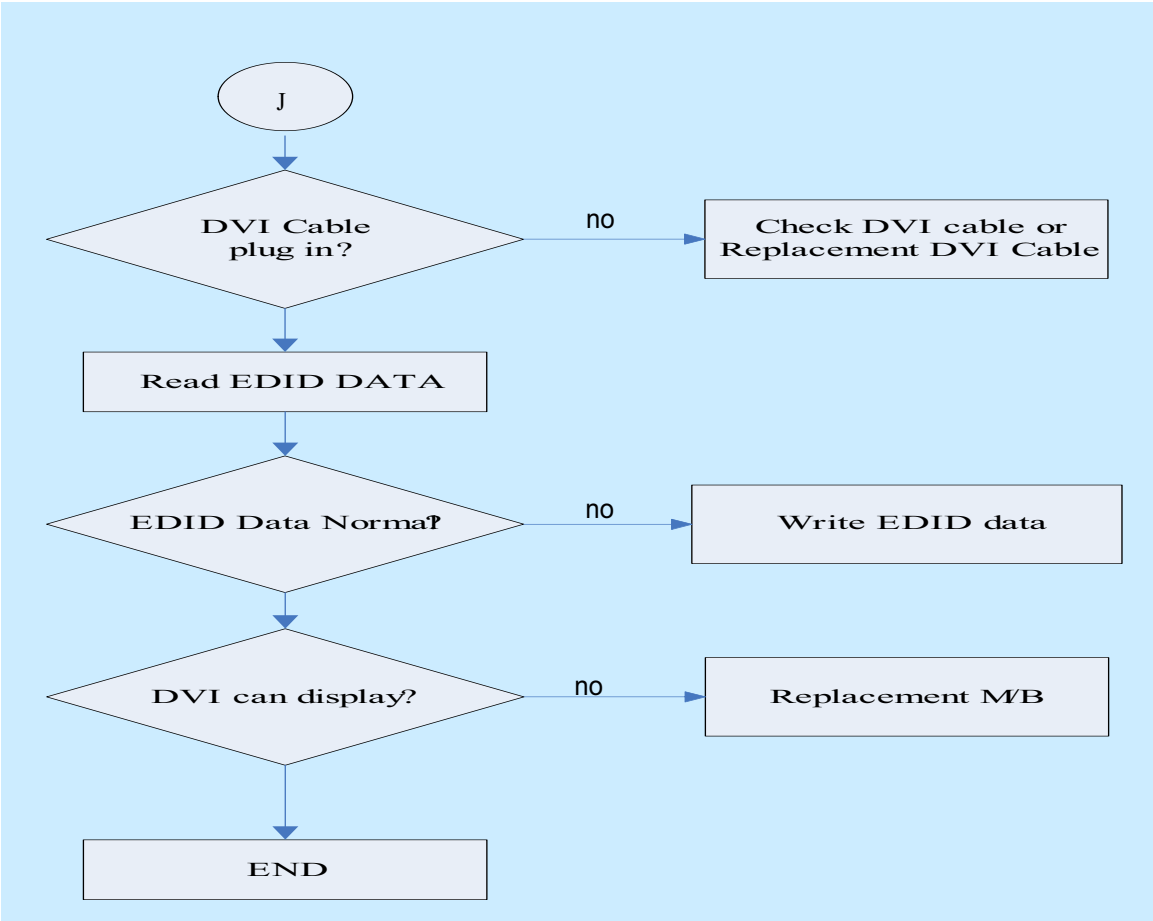
7. AV1, AV2 no display



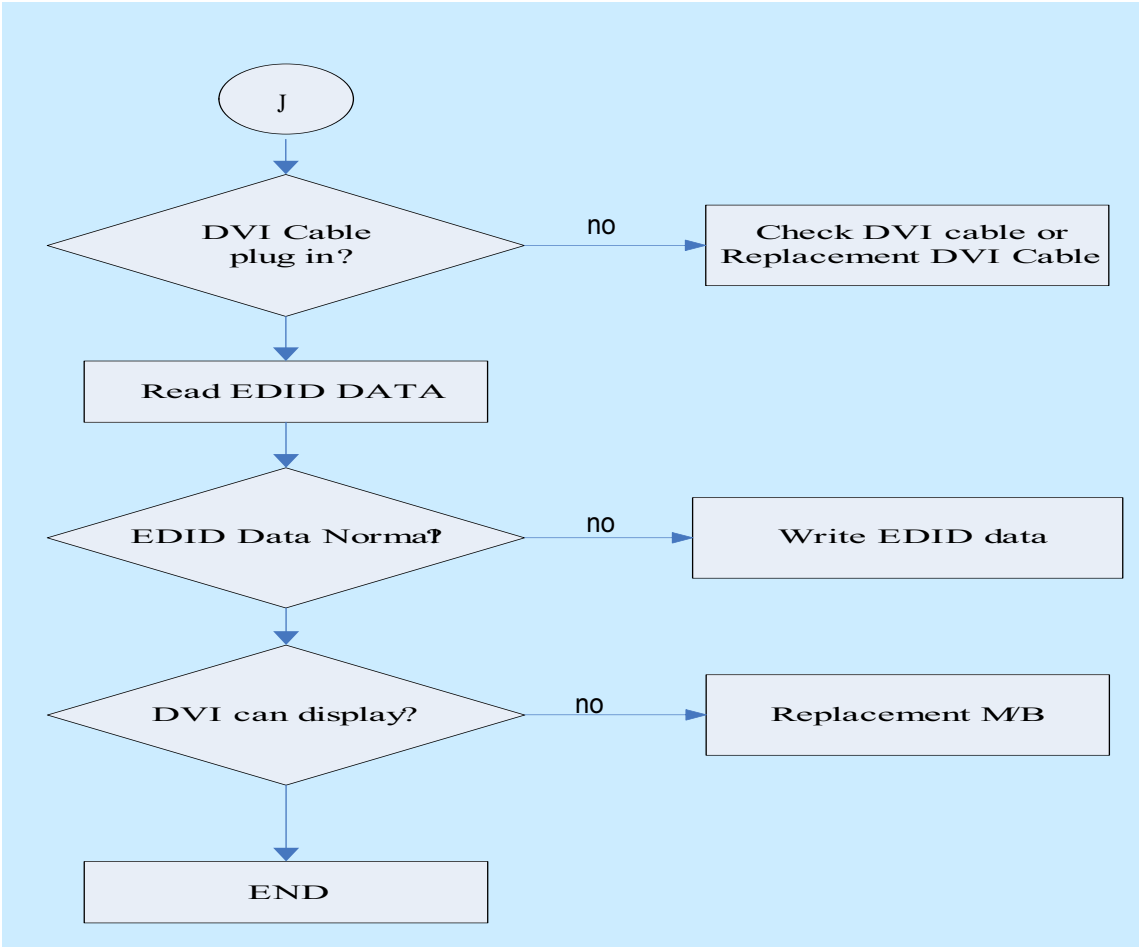
8. Speaker does not have sound



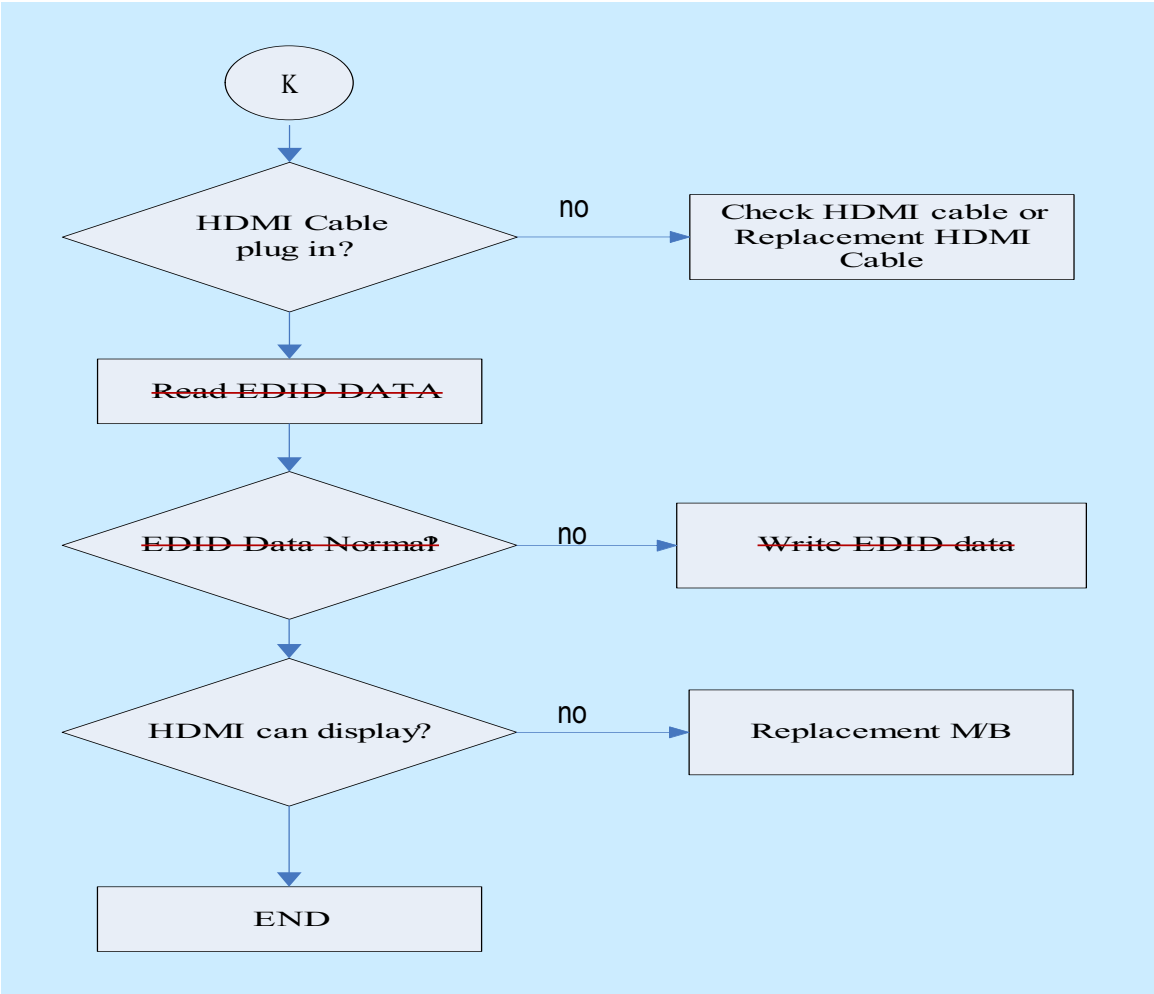
9. VGA no display



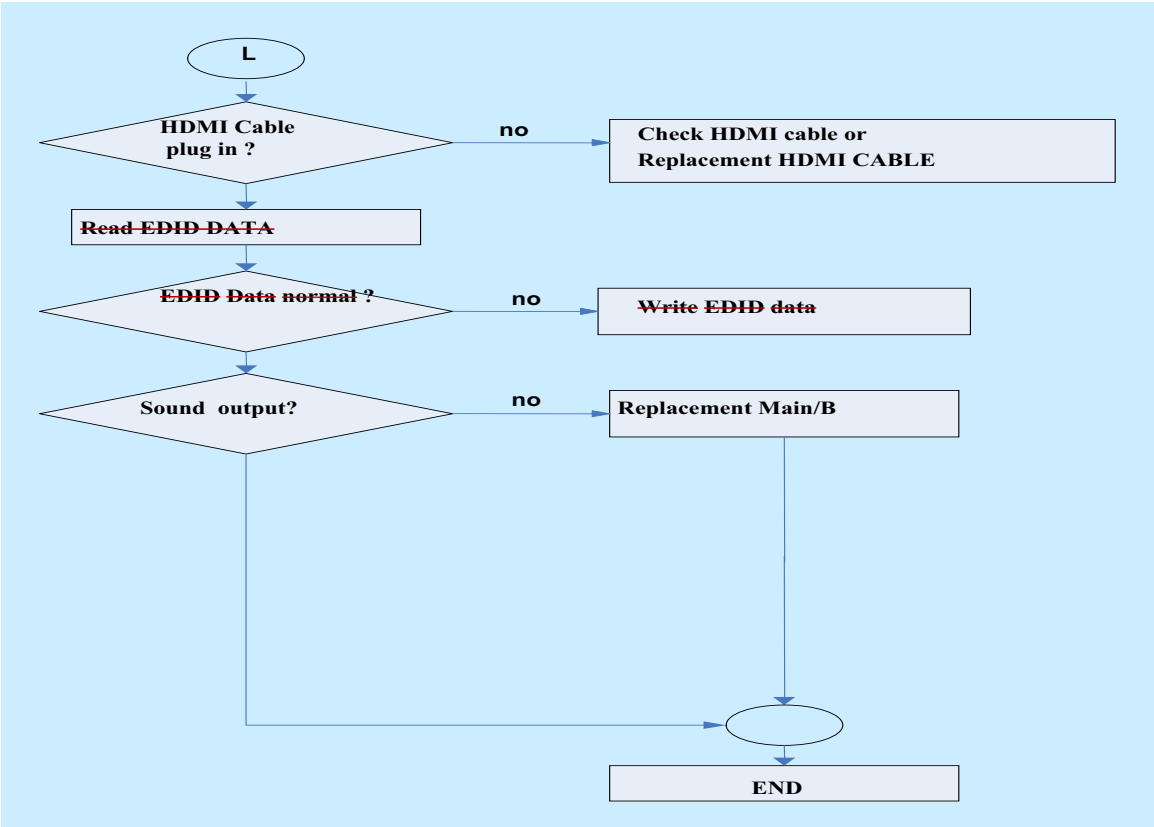
10. DVI no display

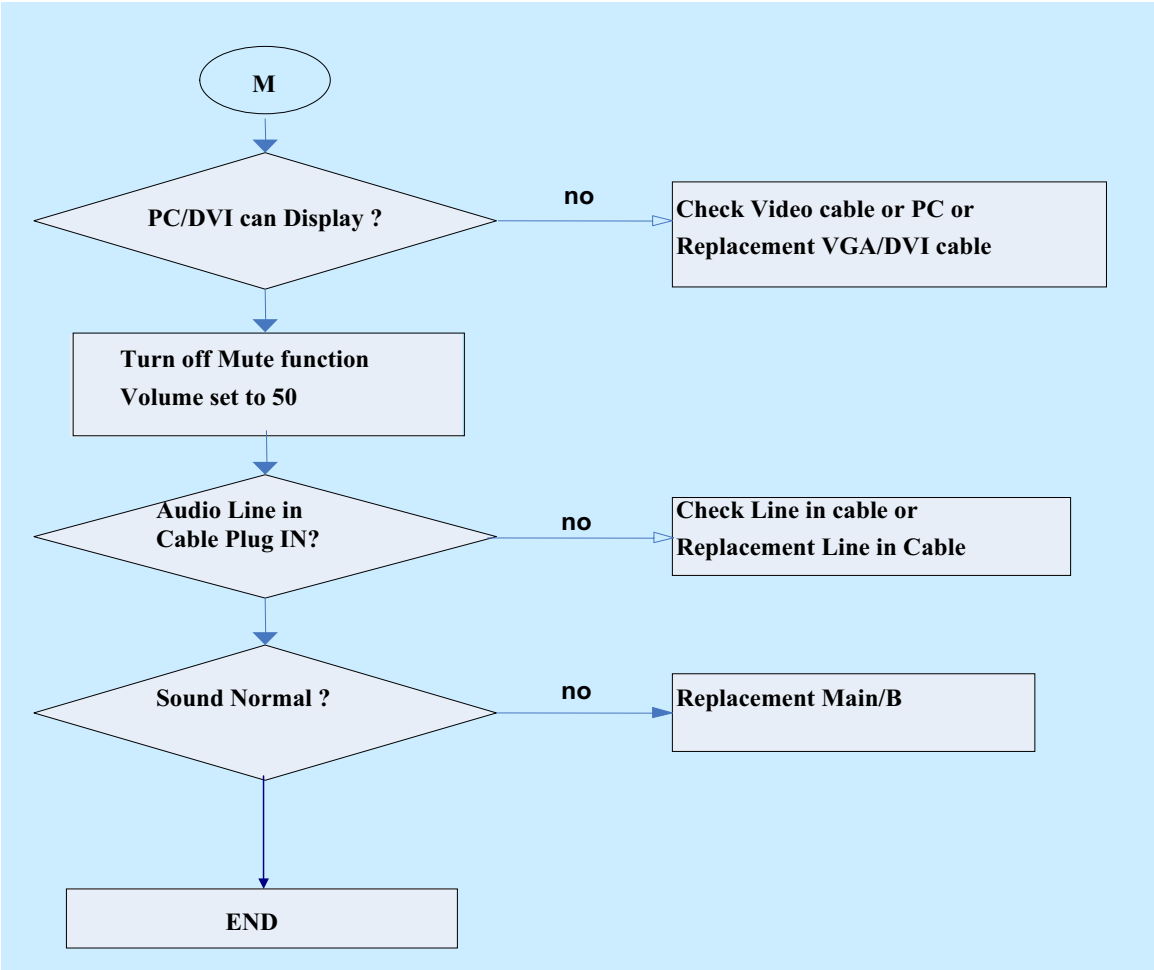


11. HDMI no display

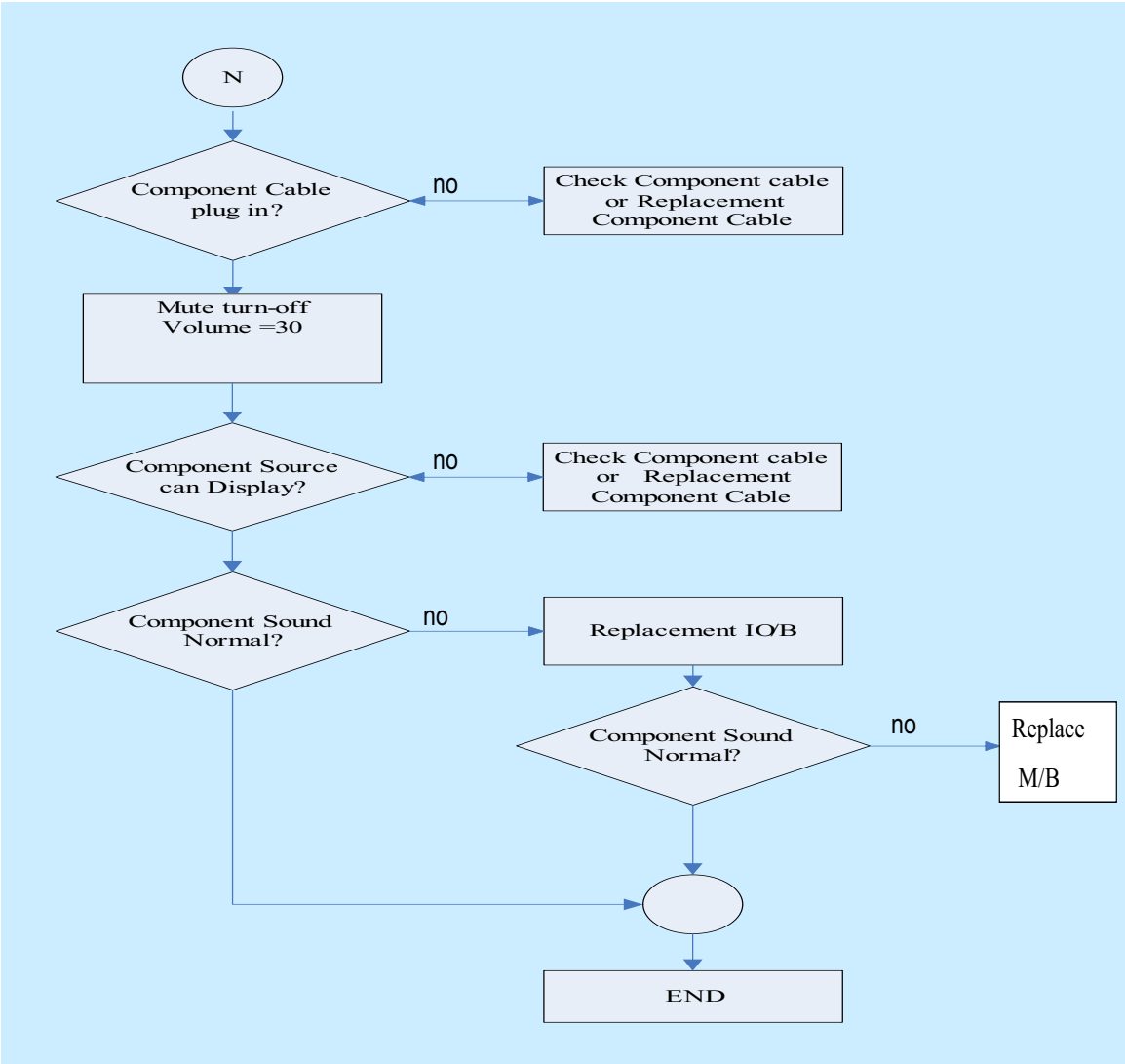


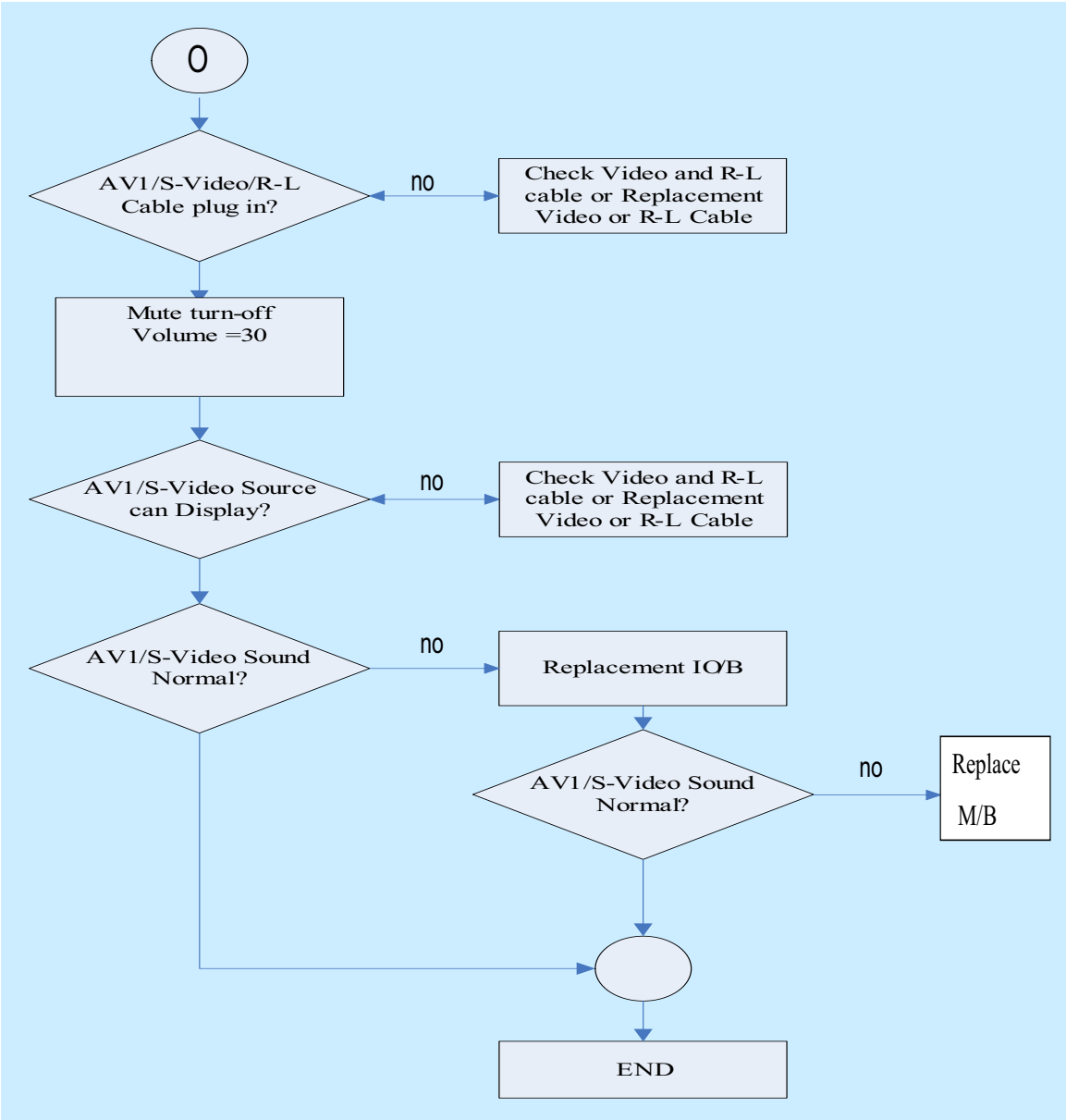
12. HDMI no sound





14. Component no sound



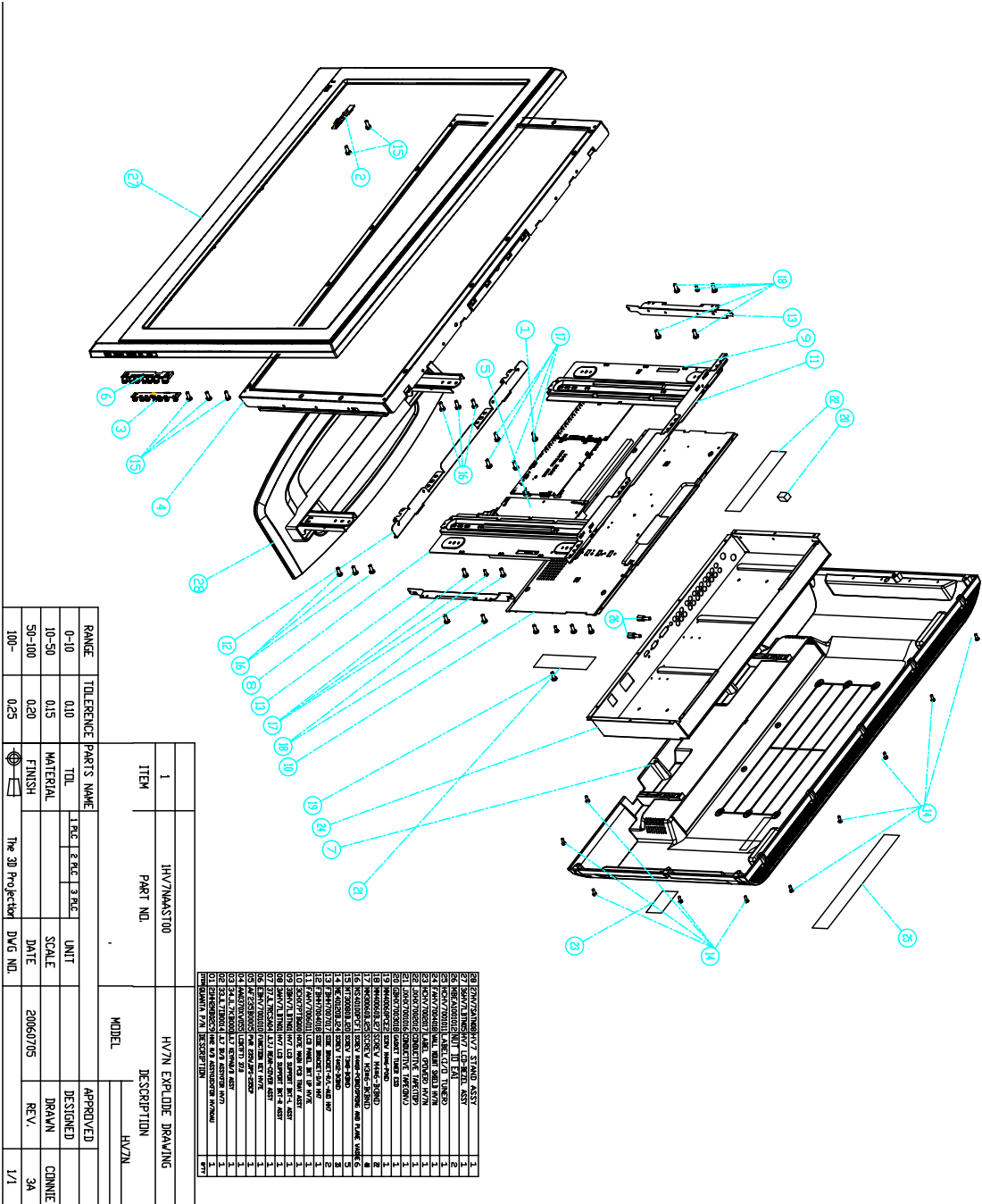


FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AT3720A/AT3720B/AT3720. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization). Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

AT3720A Exploded Diagram



AT3720A/AT3720B/AT3720 FRU List is not ready as the service guide released. We will add the FRU list as soon as possible.