

TOSHIBA

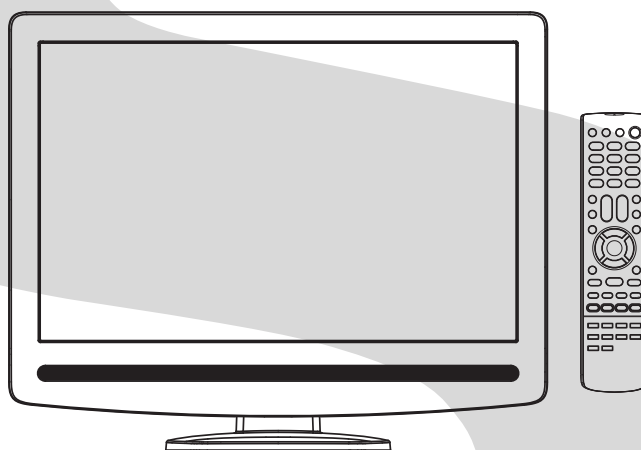
FILE NO. 810-200898GR

SERVICE MANUAL



22-inch Diagonal LCD TV/ DVD COMBINATION

22DV555DB
22DV555DG
22DV556DB



The above models are classified as green products (*1), as indicated by the underlined serial numbers. This Service Manual describes replacement parts for the green products. When repairing these green product(s), use the part(s) described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

(*1)

GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

(*2)

LEAD-FREE SOLDER

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING

This product is manufactured using lead free solder.

DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT !

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product — especially when soldering large components, through-hole pins, and on PCBs — as the level of heat required to melt lead-free solder is high.

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"This product is marked with "CE" and complies therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC and the EMC Directive 2004/108/EC."

Responsible for CE-marking is TOSHIBA INFORMATION SYSTEMS (U.K.) LTD,
Toshiba Court, Weybridge Business Park, Addlestone Road, Weybridge,
Surrey, KT15 2UL, United Kingdom

Following information is only for EU-member states:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Following information is only valid for EU-member States:**Disposal of batteries and/or accumulators**

The crossed out wheeled dust bin symbol indicates that batteries and/or accumulators must be collected and disposed of separately from household waste.

If the battery or accumulator contains more than the specified values of lead (Pb), mercury (Hg), and/or cadmium (Cd) defined in the Battery Directive (2006/66/EC), then the chemical symbols for lead (Pb), mercury (Hg) and/or cadmium (Cd) will appear below the crossed out wheeled dust bin symbol.

By participating in separate collection of batteries, you will help to assure the proper disposal of products and batteries and thus help to prevent potential negative consequences for the environment and human health.

For more detailed information about the collection and recycling programmes available in your country, please contact your local city office or the shop where you purchased the product.



J51Z101A SH 08/10

TOSHIBA**19/22-inch* Diagonal LCD TV/DVD COMBINATION**

19DV555DB
19DV556DB
22DV555DB
22DV556DB

OWNER'S MANUAL

Illustration of 19DV555DB

©2008 Toshiba Corporation
Before operating the unit, please read this manual thoroughly.
*Screen size is approximate.

Owner's Record

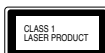
The model number and serial number are on the back of your TV/DVD. Record these numbers in the spaces below. Refer to these numbers whenever you communicate with your Toshiba dealer about this TV/DVD.

Model number: _____
Serial number: _____

Precautions**CAUTION:**

THIS UNIT IS A CLASS 1 LASER PRODUCT. HOWEVER THIS UNIT USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

THE FOLLOWING CAUTION LABEL IS LOCATED ON THE REAR PANEL OF THE UNIT.



WHEN THIS UNIT IS PLUGGED INTO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENINGS TO LOOK INTO THE INSIDE OF THIS UNIT.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

Headphone Warning

Loud music can damage your hearing irreversibly, therefore do not set the volume to a high level when listening through headphones, particularly for extended listening periods.

Information for the DVB-T function

- Any function relative to the digital television (with the DVB logo) is available only within the country or area where such signals are transmitted. Verify with the salesman if it is possible to receive a DVB-T signal in the zone where you live.
- Even if the television conforms to the DVB-T specifications, the compatibility to future digital DVB-T transmissions is not guaranteed.
- Some digital television functions may not be available in some countries.
- The DVB-T system present in this device is FTA (Free to air).
- The "HD ready" Logo is a trademark of EICTA.
- DVB is a registered trademark of the DVB Project. This logo indicates that the product is compliant with European Digital Broadcasting.

Possible Adverse Effects on LCD Screen: If a fixed (non-moving) pattern remains on the LCD screen for long periods of time, the image can become permanently engrained in the LCD TV panel and cause subtle but permanent ghost images. This type of damage is NOT COVERED BY YOUR WARRANTY. Never leave your TV on for long periods of time while it is displaying the following formats or images:

- Fixed Images, such as stock tickers, video game patterns, TV station logos, and websites.
- Special Formats that do not use the entire screen. For example, viewing letterbox style (16:9) media on a normal (4:3) display (Black bars at top and bottom of screen); or viewing normal style (4:3) media on a widescreen (16:9) display (Black bars on left and right sides of screen).

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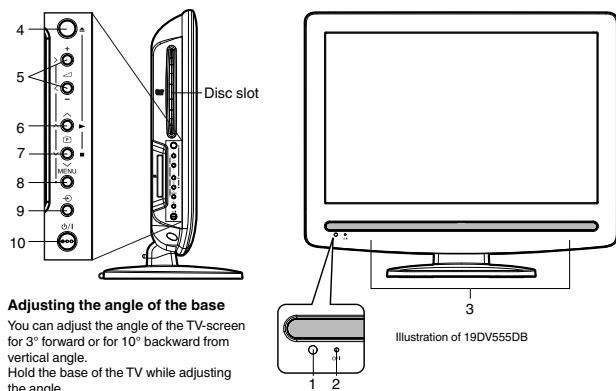
Important safety information

This unit has been produced according to all current safety regulations. The following safety tips should safeguard users against careless use and the dangers connected with such use.

- Although this appliance has been carefully manufactured and rigorously checked prior to leaving the factory, as with all electrical appliances it is possible for problems to develop. If you notice smoke, an excessive build-up of heat or any other unexpected phenomena, you should disconnect the plug from the mains power socket immediately.
- Ensure that the unit is sufficiently ventilated! Never place next to or underneath curtains!
- This set should be only be connected to an AC 220-240V / 50Hz mains power supply - do not attempt to connect it to any other type of supply.
- The apparatus must be connected to a main socket outlet with a protective earthing connection.
- The socket-outlet must be installed near the equipment and easily accessible.
- Any repairs must be carried out by qualified service personnel only.
- Do not open this unit. A non-expert attempting to repair the unit could be dangerous and potentially cause a fire hazard.
- Keep away from rodents. Rodents (and also cockatiels) enjoy biting into electric flexes.
- The animal can cause a short cut (fire hazard!) and receive a fatal electric shock.
- Always hold plug when pulling out plug from power mains supply system. Do not pull on flex. The flex can become overloaded and cause a short cut.
- Never wet clean. Only use a damp cloth, the same as when cleaning furniture.
- Set up unit so that no one is able to trip over the flex.
- Only use the unit on a stable, shock-free base in order to avoid any danger from falling.
- Take note that toddlers can pull the unit down from the table or cupboard by means of its flex. Children can hurt themselves when doing this.
- Do not use the unit near heat sources. The casing and flex could be damaged by the impact of heat.
- The screen is made of glass and can break if damage is done to it. Be careful when collecting sharp-edged glass splitters.
- You could be hurt or the unit could be damaged.
- If the unit is mounted on the wall, contact the shop where you purchased the unit for advice, and leave the installation work to experts. Incomplete installation work can cause you injuries.
- When installing the set on a wall, allow at least 10 cm clearance between the rear of the set and the wall. Clearance of less than 10 cm will obstruct the vents and cause the interior of the set to overheat, resulting in faults or damage to the set.
- Taking fall-prevention measures
 - If these measures are not taken, the unit can fall and you could be injured.
 - Contact the shop where you purchased the unit to obtain full details of the measures.
- When a TV stand is used,
 - Ensure the unit is fully on the stand and placed in the centre.
 - Do not leave the stand doors open.
 - You could be hurt as a result of the unit falling or breaking, or your fingers being caught or jammed. Take extra precautions if you have children.
- Avoid placing the unit on any surfaces that may be subject to vibrations or shocks.
- To protect the unit during a thunder storm unplug the AC power cord and disconnect the aerial. Caution: Do not touch the aerial connector.
- When you leave your home for a long period of time, unplug the AC power cord for safety reasons.
- The unit becomes warm when in operation. Do not place any covers or blankets on the unit in order to prevent overheating. The ventilation holes are not to be blocked. Do not set up near radiators. Do not place in direct sunshine. When placing on a shelf leave 10 cm free space around the whole unit.
- Make some space around TV (Correct shelf assembly).
- The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- Liquids spilled into the unit can cause serious damage. Switch the set OFF and disconnect the mains power supply, then consult a qualified service person before attempting to use the unit again.
- Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day. Drops of water form on the outside of the glass. In the same way, moisture may condense on the optical pick-up lens inside this unit, one of the most crucial internal parts of the unit.
- Moisture condensation occurs during the following cases.
 - When you bring the unit directly from a cold place to a warm place.
 - When you use the unit in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
 - In summer, when you use the unit in a hot and humid place just after you move the unit from an air conditioned room.
 - When you use the unit in a humid place.
- Do not use the unit when moisture condensation may occur.
- If you use the unit in such a situation, it may damage discs and internal parts. Remove the disc, connect the mains lead of the unit to the mains power outlet, turn on the unit, and leave it for two or three hours. After two or three hours, the unit will have warmed up and evaporated any moisture. Keep the unit connected to the mains power outlet and moisture condensation will seldom occur.

4

Location of controls



Description of Indicators and Controls

- Remote sensor**
- ⏻ / (Power) indicator:** The LED indicator lights up red in standby mode, orange in standby mode when the timer is activated, and green in the power ON mode.
- Loudspeakers**
- ▲ (EJECT):** Eject a disc.
- ⏮ (Volume) +/- buttons / In Menu: Setting.**
- ⏮ (Channel) / (PLAY) (▶) button:** Press ▲ to change to a higher numbered channel set into memory. DVD mode: Playback. In Menu: Setting. In Standby: Turning on the unit.
- ⏮ (Channel) / (STOP) (■) button:** Press ▼ to change to a lower numbered channel set into memory. DVD mode: Stop. In Menu: Setting. In Standby: Turning on the unit.
- MENU button:** To display the analogue menu screen.
- ⏮ (INPUT SELECT) button:** Select input mode for ATV/DTV/AV1/AV2/COMPONENT/HDMI/PC/DVD. In Menu: Using as ENTER button.
- ⏻ / (Power)-button:** Preparation: Connect power-cable to 230V/50Hz.
 - If standby-LED is red, you may power-off. To power-off, press power-button 1x and release. For confirmation, standby-LED will turn off.
 - If standby-LED is off, you may power-on. To power-on, press power-button 1x and release. For confirmation, standby-LED will change to red and about 1 second later to green.
 - If the TV is currently working, press power-button 1x and release to power-off. For confirmation, standby-LED will turn off.In power-off-condition, the unit cannot be power-on by pressing ⏻ / on the remote control. In power-off-condition, the TV's power-consumption is approx. 1 Watt. If total disconnection from the mains is required, please unplug.

6

Important safety information

Where to install

Locate the television away from direct sunlight and strong lights, soft, indirect lighting is recommended for comfortable viewing. Use curtains or blinds to prevent direct sunlight falling on the screen.

Place on a sturdy platform, the mounting surface should be flat and steady. It should then be secured to the wall with a sturdy tie using the clip on the back of the stand, or secured to the platform using the fixing strap located underneath the table top stand, this will prevent it from falling over.

The LCD display panels are manufactured using an extremely high level of precision technology, however sometimes some parts of the screen may be missing picture elements or have luminous spots. This is not a sign of a malfunction.

Make sure the television is located in a position where it cannot be pushed or hit by objects, as pressure will break or damage the screen, and that small items cannot be inserted into slots or openings in the case.

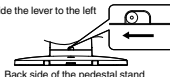
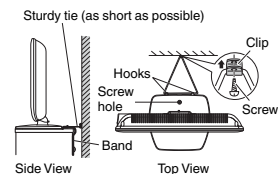
Retractable pedestal stand and locating the LCD TV

Observe the following safety precautions:

- Ensure that unpacking and transfer of the unit is carried out by two or more people.
- Put the LCD TV on a large level area in a recumbent posture.
- Grab the pedestal stand and lift the display up. Confirm the pivot is locked.
- Place the TV on a sturdy, level surface that can support the weight of the TV.
- Be sure to secure the TV to a wall stud, pillar, surface, or other immovable structure. To secure the TV in this manner: (1) attach a clip to an immovable structure, then (2) pass a sturdy strap through the clip and attach each end to the hooks located at the back of the TV. Be sure to leave at least 10 cm between the TV and the wall or similar structure for ventilation.

To fold the pedestal stand

- Slide the lever on the back side of the pedestal stand to the left.
- Lay the display down.



NOTE: Do not operate the LCD TV when the pedestal stand is folded. The pedestal stand should not be folded at any time except for packing purposes.

Please take note

EXCLUSION CLAUSE

Toshiba shall under no circumstances be liable for loss and/or damage to the product caused by:

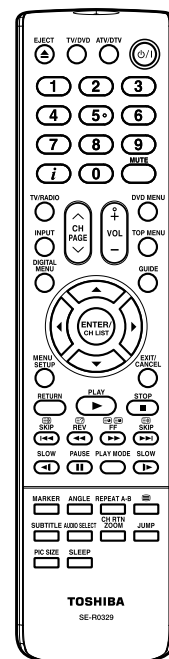
- fire;
- earthquake;
- accidental damage;
- intentional misuse of the product;
- use of the product in improper conditions;
- loss and/or damage caused to the product whilst in the possession of a third party;
- any damage or loss caused as a result of the owner's failure and/or neglect to follow the instructions set out in the owner's manual;
- any loss or damage caused directly as a result of misuse or malfunction of the product when used simultaneously with associated equipment;

Furthermore, under no circumstances shall Toshiba be liable for any consequential loss and/or damage including but not limited to the following, loss of profit, interruption of business, the loss of recorded data whether caused during normal operation or misuse of the product.

If stationary images generated by text services, channel identification logos, computer displays, video games, on screen menus, etc. are left on the television screen for any length of time they could become conspicuous, it is always advisable to reduce both the brightness and contrast settings.

5

Remote Control



	Function	Page
	Eject a disc	33
	Select to operate TV/DVD	11, 32
	Switches between the analogue TV and the digital TV	11, 20
	Enter standby mode or turn on the power	10
	Select channel	14
	Select Teletext page	15
	Enter password	25, 50
	Activate the channel organizer function	22
	Display program position number	14, 27, 28, 39
	Teletext time display	14
	Turn the sound on/off	14
	Toggle between the TV and radio mode	27
	Select an input source	11
	Change the TV channel or Teletext page up or down	14, 15
	In Standby: Turn on the power	11
	Volume	14
	Select menu of a DVD disc	38
	Select title of a DVD disc	38
	Activate the digital menu	20
	Display the EPG (Electronic Progr. Guide)	29, 30
	Cursor buttons	10
	Memorize Teletext page 100	10
	Call Setup menu	15
	Activate the analogue menu	14
	Exit the menu screen	47
	Cancel marking	11
	Remove DVD set up menu	36
	Play	47, 51
	Stop	32
	Hold the text page	32
	Skip chapter to reverse direction	15
	Reveal quiz page answers	34
	Review playback	34
	Sub page selection	15
	Forward playback	34
	Teletext enlargement	15
	Skip chapter to forward direction	34
	Fasttext/TOPEX buttons	15
	DVD control buttons	34, 37
	Marking desired scene	36
	Change playback angle of a DVD disc	38
	Repeat playback between A and B (DVD/CD)	37
	Teletext ON/OFF	15
	Display the subtitle	28, 39
	Select between the available broadcast audio	16
	Display the multi audio menu	28
	Change sound track language of DVD	39
	Switches between the present channel and the last selected channel	14
	Zoom (for DVD playback)	35
	Locating desired scene	35
	Select picture format	17
	Sleep timer	14

7

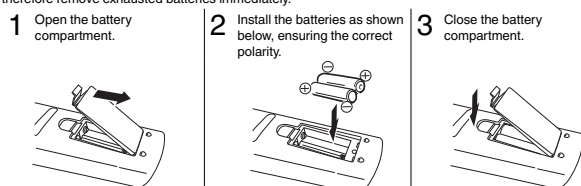
Remote Control

Install the batteries

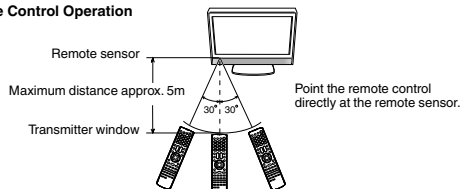
Use batteries type UM4/R03 (AAA-Size). Do not use old or weak batteries. The remote control may not work properly with a weak voltage from such batteries. Replace exhausted batteries with new ones. Never try to recharge normal batteries - this could cause an explosion.

Note:

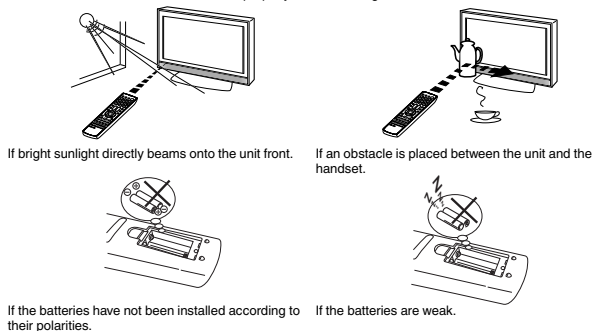
Exhausted batteries can leak corrosive electrolyte, which may cause damage to the remote control - therefore remove exhausted batteries immediately.



Distance of Remote Control Operation



The remote control handset will not work properly in the following cases:



8

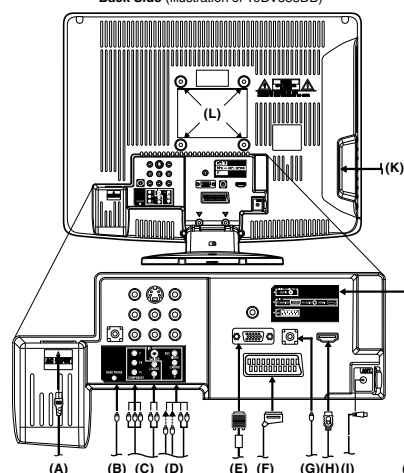
Aerial connection

Note: Before you connect other appliances:

- To avoid potentially damaging your set, make sure all items are switched off and disconnected from the mains power when you make the connections.
- Arrange the desired connection.
- When you have finished making the connections, reconnect the mains power to the unit and switch it back on.

Connect your aerial as shown below. Connections to other equipment is explained further on pages 55-57. If you have problems with reception, consult a specialist of aerial.

Back Side (Illustration of 19DV555DB)



- (A) **Power supply:** Connect the supplied power cable to an AC 220-240V/50Hz mains power supply only - do not attempt to connect it to any other type of supply. Never try to repair a damaged AC power cord with isolation-tape - this should be repaired by a specialist or replaced. Do not let your pet loose near the cable. Animals biting into the cable could receive a fatal electric shock, and could cause a hazard to others.
- (B) **HEADPHONE jack:** Plug headphones with a mini plug (3.5 mm) into this jack.
- (C) **COMPONENT input:** See page 57.
- (D) **AV2 input:** Input for analogue A/V-Signal (Composite or S-Video). See page 57.
- (E) **PC MONITOR input (PC):** See page 53.
- (F) **Scart socket (AV1):** For the connection of scart cable. See pages 55-57.
- (G) **PC AUDIO input:** See pages 53, 54.
- (H) **HDMI input:** See page 54.
- (I) **Aerial input socket:** Connect the outdoor aerial to the aerial input socket as shown.
- (J) **Digital audio output:** Digital output for CD/DVD & DVB-T (see page 56).
- (K) **C.I. slot:** The Common Interface allows you to insert CAM (Conditional Access Module) and a suitable Smart Card to give you access to additional Pay-TV services. (See page 26) Before inserting the module, make sure to turn off the main power and then insert the module all the way into the slot until it is flushed with the side panel buttons.
- (L) **Bracket holes:** Fix a wall mounting bracket (not supplied) here.

9

Auto setup

Your unit has an Automatic installation which makes installation in your unit easy. When you turn on the unit for the first time, the Automatic installation routine is activated. Using this routine, you can select the on-screen language and automatically search for and store all the receivable analogue and digital (DVB) channels. The Automatic station presetting feature is for the set's built-in tuner only. If you have a device such as a digital decoder (eg. Satellite or Digital Terrestrial) connected (see page 55), you would need to tune it in separately according to its own instructions.

Preparation: Press $\odot$ /I (Power) on the unit or press $\odot$ /I (On/Standby) on the remote control.

- AUTO INSTALLATION** menu will appear. Press $\blacktriangle$ or $\blacktriangledown$ to select LANGUAGE, then press **ENTER**. Press $\blacktriangle$ or $\blacktriangledown$ to select desired language. Then press **ENTER**.

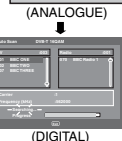
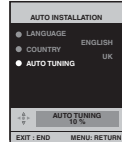
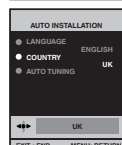
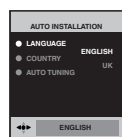
- Press $\blacktriangle$ or $\blacktriangledown$ to select COUNTRY, then press **ENTER**. Press $\blacktriangle$ or $\blacktriangledown$ to select your country. Then press **ENTER**.

- Press $\blacktriangle$ or $\blacktriangledown$ to select AUTO TUNING, then press **ENTER**. The confirmation screen will be displayed. Press **ENTER** to start automatic tuning. Your TV will now automatically tune in all available channels. Your TV will tune the analogue channels first, then tune the digital channels.

Note:

- Please be patient - the Auto Tuning process can take several minutes to complete.

When the programme on the screen stops changing and the sound comes on, the search process is complete.



Note:

- To cancel the Auto Tuning, press **EXIT** during the process.
- If on the "AUTO INSTALLATION (COUNTRY)" screen "UK" is selected, "Move To" cannot be used in UK (see page 23).

THE AUTOMATIC TUNING PROCESS WILL ONLY START BY ITSELF THE FIRST TIME YOU SWITCH THE SET ON. HOWEVER YOU CAN RESTART THIS PROCESS VIA THE MENU SYSTEM (see page 12 for analogue channels, and page 20 for digital channels).

10

Quick guide for ANALOG MENU operation/Selecting the video input source/On-screen Language Selection

Make sure the aerial connection and power supply are connected as per the description on previous page.

Preparations:

- Turn on the unit with the $\odot$ /I (Power) button on the unit. The $\odot$ /I (Power) indicator will light up in green. To change the unit to standby mode, press $\odot$ /I (Power) on the remote control. $\odot$ /I (Power) indicator will change from green to red. To turn on the unit from standby mode, press $\odot$ /I on the remote control again. In standby mode, you can also turn the unit on with $\odot$ (Channel) $\blacktriangle$ or $\blacktriangledown$ on the unit or **PAGE** $\blacktriangle$ / $\blacktriangledown$ on the remote control. To turn off the unit press $\odot$ /I (Power) button on the unit - to completely switch it off, disconnect the mains power supply.
- Press **TV/DVD** to select the TV mode.
- Press **ATV/DTV** to select the analogue TV mode.



Note:

- If no buttons are pressed for more than approx. 60 seconds, the MENU disappears automatically.

Quick guide for ANALOG MENU operation Call ANALOG MENU and for example: Select AUTO TUNING.

- Press **INPUT**. Select **ATV**. Press **MENU**.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **ATV**.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

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- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

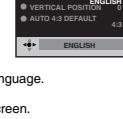
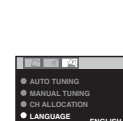
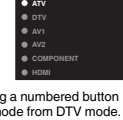
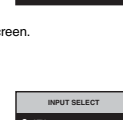
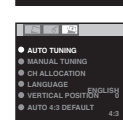
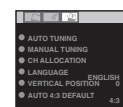
- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

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- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.



11

Automatic station presetting with the built-in Tuner/ Changing the order of stored channels

Automatic station presetting with the built-in Tuner
Perform this feature to search for and store new analogue TV programmes after the Automatic installation. (see page 10)

Preparation:
Make sure your antenna is connected to the aerial input (see page 9). Select ATV (see page 11). Then press **MENU**.

1 Select **AUTO TUNING**, then press **ENTER**.

2 Select **COUNTRY**, then press **ENTER**.
Press **▲** or **▼** to select your country, then press **ENTER**.

3 Select **START**. Then press **ENTER**.

The automatic tuning will search for available broadcasts and should store the channels in the correct order. During the search the sound is muted. When all programs have been stored, the normal TV screen will appear.

Changing the order of stored channels
The Automatic station presetting stores the stations in a specific order. However, this order can be changed if you wish.

1 Select **CH ALLOCATION**. Then press **ENTER**.

2 Select desired option, then press **ENTER**.

3 After setting the each option, press **MENU** to return to **CH ALLOCATION** menu.

4 Press **EXIT** to return to the normal screen.

Description about the each setting option:

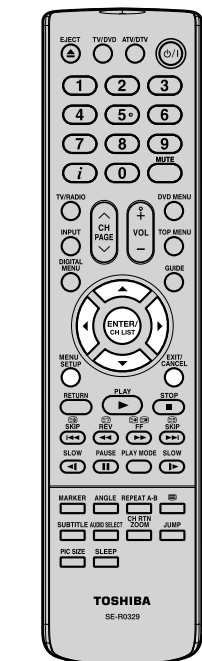
SORT: Press **▲** or **▼** to select the channel that you want to move, then press **ENTER**.

Press **▲** or **▼** to select the position that you want to move the channel to, then press **ENTER**.

ERASE PROGRAM: Press **▲** or **▼** to select the channel that you want to erase, then press **ENTER**.

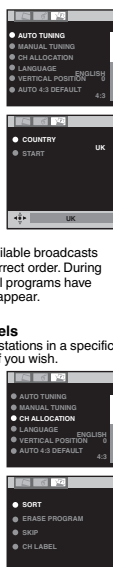
SKIP: Press **▲** or **▼** to select the channel that you want to skip, then press **ENTER**. * mark will appear.

CH LABEL: Press **▲** or **▼** to select channel that you want to rename, then press **ENTER**. Press **▲** or **▼** to select character, then press **▲** or **▼**. The cursor will move to the next position. Press **ENTER** to set the channel label.



Note:

- To restart digital auto tuning, see page 20.
- When the **COUNTRY** is set to UK, the automatic tuning will search for UHF broad-casts only.
- When changing the order of the channels, it is best to start with CH1.



Manual TV station presetting

If you like, you may manually tune a certain station into a selected program position, without deleting or modifying program position's contents. Example: Store the BBC 2 into program position 2.

1 **Preparation:** connect aerial cable. Select program position 2. Press 2 (see page 14). OSD will indicate "2" in right upper corner. Eventually recently stored TV-channel's name might also appear.

2 Press **MENU**. Press **▲** or **▼** to select tool-page (see right). Press **▲** or **▼** to select **MANUAL TUNING**. Press **ENTER**.

3 Press **▲** or **▼** to select **COLOUR SYSTEM**, then press **ENTER**. Press **▲** or **▼** to select **AUTO**, **PAL** or **SECAM**, then press **ENTER**. Please note that **PAL** should be selected for use in UK.

4 Press **▲** or **▼** to select **SOUND SYSTEM**, then press **ENTER**. Press **▲** or **▼** to select **AUTO**, **B/G**, **I**, **D/K** or **L/L**, then press **ENTER**.

5 Press **▲** or **▼** to select **SEARCH**. Press **ENTER**. Press **▲** or **▼** to start tuning. Tuning will stop automatically at next available station. If this does not happen to be the BBC 2, press **▲** or **▼** again to continue tuning for the BBC 2. Then press **ENTER**.

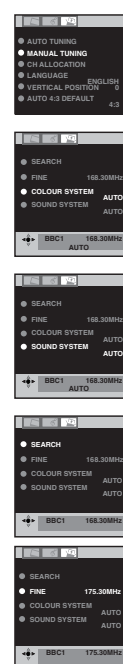
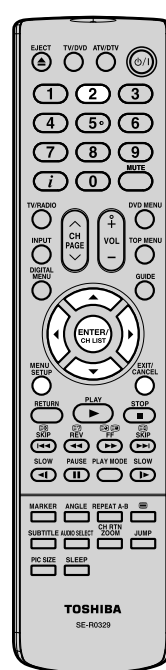
6 If you like to use fine-tuning, select **FINE** and press **ENTER**. Press **▲** or **▼** to fine tune. See the note on this page.

7 To store other stations in additional memory-cells, repeat steps 1 to 6.

8 Press **EXIT** to return to the normal screen.

Note:

- Usually fine tuning is not necessary, due to tuning's automatically stopping at the very best position. If you fine-tune anyway, proper working of teletext-reception with built-in tuner is no longer guaranteed.



Basic Operation

Channel selection

With the **numbered buttons**.

Example:

- No. 2: Press 0 and within 2 seconds, press 2.
- No. 29: Press 2 and within 2 seconds, press 9.

Press **CH ▲** or **▼** to change up or down a channel. This takes approx. 2 seconds. If the auto search only stored 5 stations, only these 5 will appear. Skipped channels will not appear (see page 12).

The **CH LIST** shows a list of all receivable programmes.

They are located in channels 1 to 99.

Press **CH LIST** to display the **CH LIST**.

Press **▲** or **▼** to select the desired channel.

Press **CH LIST** to display the selected channel. Press **EXIT** to exit.

QuickView

CH RTN button allows you to go back to the last selected channel.

Volume adjusting

Press **VOL +** or **-** to adjust the volume. The volume level indicator disappears after 4 seconds.

MUTE

Press **MUTE**. The sound will be cut off. **MUTE** will appear for approx. 4 seconds.

The muting can be released by pressing **MUTE** again or **VOL +** or **-**.

Information display

In the analogue TV mode:

Press **i**. Channel number

and picture size setting

will appear for approx. 4

seconds.

In the digital TV mode:

Press **i**. The program

information will appear (see

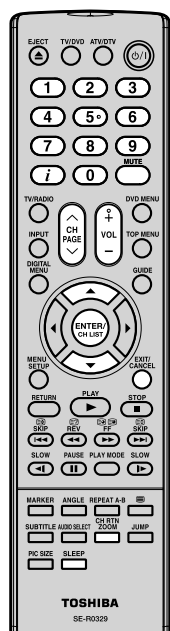
'Channel banner' on page 27).

SLEEP TIMER

To set the sleep timer press **SLEEP**. **SLEEP** and the minutes will appear. Each time you press **SLEEP**, the **SLEEP** time shown will change in the order of 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, 20, 10, 0. When the displayed time runs out, the unit will switch to standby. The display will disappear after approx. 4 seconds.

To cancel the sleep timer:

Press **SLEEP** repeatedly until '0' appears.



Note:

- If the built-in tuner does not receive anything (e.g. if no antenna is connected) during TV-operation, then the TV-unit will change to standby after approx. 15 minutes.



Teletext

Teletext is sent page by page. This unit is able to automatically store up to 256 pages, but they can only be accessed once they have been stored. This can take a few moments.

Fastext/TOPText

The **Fastext/TOPText** is teletext with a special directory.

On the lower part of the screen there are four different coloured fields (red, green, yellow and blue). These fields lead directly to the pages shown within. The coloured buttons on the remote correspond to the coloured fields. Press the appropriate coloured button in order to activate the desired colour field.

Switch on / off Teletext

Teletext is not transmitted by all channels.

Select a channel that shows teletext.

Press **≡**. You will now see a teletext page. (If "100" is shown without any text information, it may mean that the channel you have selected does not support teletext.)

Press **≡** again in order to switch off teletext.

Press **≡** again in order to switch on teletext again.

The last page which was stored is now shown.



Note:

- You cannot select any other channels as long as teletext is switched on. Switch teletext off when you want to switch over to another channel.

Select Page

Press **CH ▲** or **▼** until the page you desire appears. Or... enter the requested page number by using the **10 Number Buttons**. And if you mistype something, just enter the complete 3-digit wrong page number then enter the desired number again. Or... press one of the coloured teletext buttons so that a page from **Fastext/TOPText** is shown.

Hold Pages

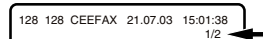
Some pages are divided up into subpages by the channel.

Subpages are automatically shown in turn, as they are transmitted. In order to hold the page, press **≡**. Press **≡** again in order to display the next subpage.

Directly Select Subpages

You can directly select the subpages if required.

Example:
Page 128 from Teletext comprises of 2 subpages. In the right upper corner you will, for example, see 1/2. That means that page one of 2 subpages is being shown at the moment.



Press **≡** in order to select subpage 2. 4 dashes (----) are shown. Enter **0 0 2**. It can take a minute before subpage 0002 appears.

Press **≡** again in order to switch off the subpage feature.

You can only select other teletext pages when the subpage feature is switched off.

Enlargement

In order to enlarge the display, press **≡**.

Either the upper or lower half of the screen is enlarged.

Each time you press **≡** you switch between the display of the upper or lower half of the screen or the full picture.

Answering Quiz Questions

Some pages contain quiz questions with concealed answers.

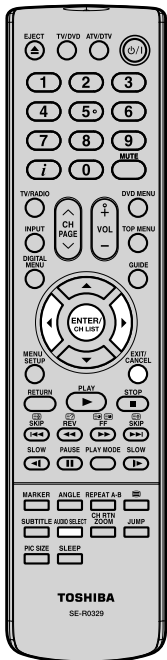
Press **≡** in order to show the answers.

Page 100

Press **ENTER** in order to show page 100.

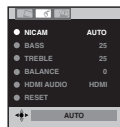
Stereo reception with the built-in analogue tuner

The built-in Tuner can detect and receive NICAM stereo broadcasts automatically.



NICAM stereo sound reception:

- 1 Select **NICAM**, then press **ENTER**. Press **◀** or **▶** to select **AUTO** or **OFF**. Select **OFF** if you do not want to receive NICAM sound.



- 2 Press **EXIT** to return to the normal screen.

The following types of broadcast are possible with NICAM transmissions

'NICAM ST' illuminates for approx. 4 seconds when a NICAM STEREO broadcast signal is received.



'NICAM M1' illuminates for approx. 4 seconds when a NICAM MONO A broadcast signal is received.



'NICAM M1/M2' illuminates for approx. 4 seconds when a NICAM MONO A and MONO B broadcast signal is received.



This will be displayed for approx. 4 seconds if a NICAM signal is received when the 'NICAM OFF' option is selected.



Stereo reception in Germany

'STEREO' illuminates for approx. 4 seconds when a STEREO broadcast signal is received.



When 2-channel sound reception is available, you can select your preferred audio with the **AUDIO SELECT** button.

Each time you press **AUDIO SELECT**, the sound channel will switch to the alternative channel available.

NICAM 2-channel sound reception (not available in Germany)



2-channel sound reception in Germany



Note:

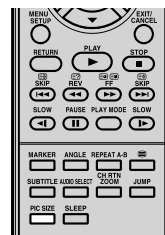
- In case of bad reception, the stereo sound also can be disturbed.

Picture format

The broadcaster may transmit a Wide Screen Signalling (WSS) signal which can determine the correct picture width and set it automatically when the AUTO setting is used. If you want to change this setting, you can select from the formats listed below.

AUTO

Press **PIC SIZE** repeatedly until **AUTO** appears.



Notes:

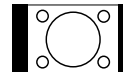
- When the **PICTURE SIZE** is set to **AUTO**, the aspect ratio will automatically change according to the Wide Screen Signalling (WSS) signal, if it is available. This may be either transmitted by the broadcasting TV channel, or via a recording from a VCR etc. Any WSS signal received will only be effective in the **AUTO** mode - however, some DVD players / Digital Decoders etc. will automatically switch the aspect ratio via the **SCART** input (Pin 8 switching), even if **AUTO** is not selected. In any case if you want to change to a different aspect ratio to the one selected automatically, you can change it by pressing **PIC SIZE**.
- In PC mode, the **PICTURE SIZE** feature is available only for 16:9 or 4:3 format. (In 'WGA INPUT' mode, the **PICTURE SIZE** feature is not available.)
- In HDMI or COMPONENT mode of scanning rate: 720p and 1080i, the **PICTURE SIZE** feature is available only for 16:9 format.
- Using the special functions to change the size of the displayed image (i.e. changing the height/width ratio) for the purposes of public display or commercial gain may infringe on copyright laws.

Manual format setting

Pressing **PIC SIZE** repeatedly scrolls through the following options.

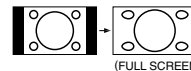
4:3

This mode shows a 4:3 picture in its original size and shape with vertical bands on the left and right side.



FULL SCREEN

Stretches the left and right hand sides of a 4:3 picture horizontally to fill the screen, while leaving the centre of the picture unstretched.

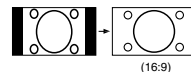


Note:

- In this mode the picture is geometrically distorted on the left and the right sides of the screen.

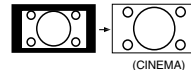
16:9

This mode is used with 16:9 signals from a Digital decoder, DVD player or other external source. This uniformly stretches a 4:3 image horizontally to fill the screen (For example, a 16:9 image is often stored "anamorphically" on a DVD, where the 16:9 image is stored as a horizontally compressed 4:3 image - this mode restores the image to its correct 16:9 proportions).



CINEMA:

This mode is used to zoom-in on (expand) 4:3 'letterbox' format pictures (with black bars at the top and bottom) so that they fill more of the screen.

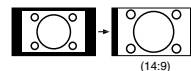


Note:

- In the **CINEMA** mode, part of the picture may be slightly cut off due to the expansion. However, it is possible to scroll the picture up or down to view the top or bottom part of the picture (see page 18).

14:9

This enlarges a 4:3 picture to the 14:9 format.



Other convenience functions

You can change the default settings to convenience use.

Icon	Selected Items	Setup hint
	PICTURE PREFERENCE	SPORTS: Bright and dynamic picture (factory-set) STANDARD: Standard picture quality (factory-set) MOVIE: Movie-like picture setting (factory-set) MEMORY: Your personal preferences
	BRIGHTNESS / CONTRAST / COLOUR / TINT (NTSC) / SHARPNESS	You can adjust the picture to your preference. The 'TINT (NTSC)' option can be selected if an NTSC 3.58MHz or NTSC 4.43MHz signal is input through one of the AV sockets, and NTSC or AUTO has been selected for the AV COLOUR option.
	COLOUR TEMPERATURE	Bluish (COOL) / Neutral (MEDIUM) / Reddish (WARM)
	BLUE BACK	ON / OFF: You can set the TV to automatically change to a blue screen and mute the sound if the signal is weak or absent.
	BACKLIGHT	You can use the Back light feature to adjust the screen brightness for improved picture clarity.
	RESET	Select "RESET" to reset PICTURE PREFERENCE, BRIGHTNESS, CONTRAST, COLOUR, TINT (NTSC), SHARPNESS, COLOUR TEMPERATURE and BACKLIGHT to the factory preset values.
	NICAM	See page 16.
	BASS / TREBLE / BALANCE	You can adjust the sound quality to your preference.
	HDMI AUDIO	See page 54.
	RESET	Select "RESET" to reset BASS, TREBLE and BALANCE to the factory preset values.
	AUTO TUNING	See page 12.
	MANUAL TUNING	See page 13.
	CH ALLOCATION	See page 12.
	LANGUAGE	See page 11.
	VERTICAL POSITION	When the CINEMA mode is selected (see page 17), you can adjust the vertical picture position. Press ◀ or ▶ to adjust the vertical position of the picture by up to +10 and downwards by up to -10.
	AUTO 4:3 DEFAULT *	This option selects the default way that a 4:3 signal is shown - either as normal "4:3" or expanded in the "16:9" mode, according to your preferences.
	AV1 OUTPUT	See page 58.
	AV COLOUR	See page 58.
	REC SCREEN STATUS	ON / OFF: This function is used in conjunction with the Timer function that is included as part of the Digital EPG. It determines whether the TV screen switches on or not when a programmed Timer setting begins - see page 30 for further details.
	RESET TV SETTING	Press ENTER to enter the RESET TV SETTING screen. Press ▲ or ▼ to select "YES", then press ENTER . Reset the TV function will now begin, and this unit will automatically turn off. As the power is not automatically turned on, press ⏻ / I to watch TV.

Note:

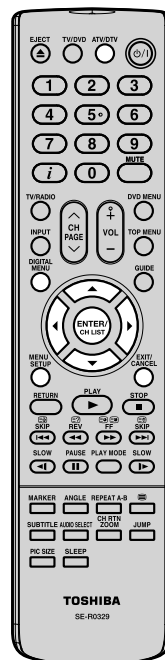
- * AUTO 4:3 DEFAULT is available only for AUTO picture size setting.
- * In COMPONENT mode, AUTO 4:3 DEFAULT is available only for 480i/576i mode.

Guide to using the Digital Menu system

When the set is in the digital mode, you can access the main menu by pressing **DIGITAL MENU** on the remote control. This main menu contains several options,

- Language Setup
- Channel Organizer
- Installation
- System Configuration
- Technical Information
- Common Interface

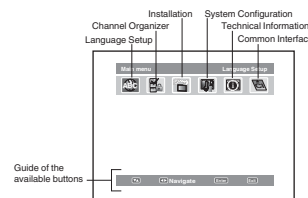
The main menu is the gateway for all the other 'sub' menus. You can navigate between the different options in the main menu by pressing **◀** or **▶**. The **DIGITAL MENU** button will also function like an 'EXIT' button, i.e. when any menu is active, pressing the **DIGITAL MENU** button will return to the previous stage.



Preparation:

Press **ATV/DTV** to select the digital TV mode.

- 1 Press **DIGITAL MENU** to display the Main menu. Press **◀** or **▶** to select desired options. (Example: selecting the Language Setup option.)



2 Press ENTER.

The selected menu will appear.

Some of the options have a sub menu.

Press **▲** or **▼** to select desired sub menu, then press **ENTER**.

(Example: sub menu in the Installation option.)

- 3 When you have finished making adjustments, press **EXIT** to return to the normal screen.

Note:

In analogue TV mode, **DIGITAL MENU** will not work. Please press **ATV/DTV** to select digital TV mode to display the digital menu. However, it is possible to use the **MENU** in the digital TV mode. The analogue menu includes some general settings for this TV that apply to both modes, and it will be displayed over the digital TV screen.

Language Setup/Auto Scan

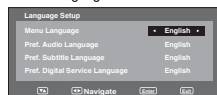
Language Setup

Preparation:
Switch on appliance. Press **TV/DVD** to select the TV mode, then press **ATV/DTV**.
The appliance switches over to DVB-T mode.
Menu languages supported are English, French, German, Italian, Spanish, Russian, Portuguese, Dutch, Polish, Swedish, Turkish, Finnish, Greek, Danish and Norwegian. (Welsh and Gaelic are available only for Digital Service Language.)

1 Press **DIGITAL MENU**, the menu will appear on the screen. Press **4** or **5** to select Language Setup option, then press **ENTER**.



2 Language Setup menu will appear. Press **▲** or **▼** to select the item you want to change. Press **◀** or **▶** to select desired language.



3 When all changes are decided, press **EXIT** to return to the normal screen.

Auto Scan

Preparation:
Please ensure that all the connections have been made correctly (see page 9).

1 Press **▲** or **▼** to select 'Auto Scan' then press **ENTER**.



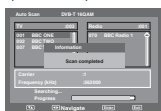
2 The confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER**.

3 The Auto Scan process will now begin. The scanning process will be displayed in the progress bar.



Note:

- If "FINLAND" is selected on the "AUTO INSTALLATION (COUNTRY)" screen, two languages are displayed for each item and the first selected language has priority. The language output depends on the languages contained in the broadcast.
- All the channels will be deleted before the scanning process begins.
- You can cancel the scan process at any time by pressing **EXIT**. The carriers and the services stored before **EXIT** is pressed will be stored.
- When the signal from the broadcasting station is being updated and you are watching a digital broadcast, the channel will be automatically updated. The list of services screen will appear while updating, and the 'Scan completed' message will be shown after the update is complete.



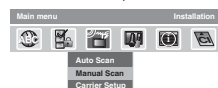
20

Manual Scan/ Carrier Setup

Manual Scan

With the Manual Scan option, you can tune one carrier at a time, by entering the carrier parameters manually.

1 Press **▲** or **▼** to select 'Manual Scan', then press **ENTER**.



2 You can choose the carrier number from the Channel list by using **▲** or **▼** and the corresponding frequency set for the carrier will be set for tuning. Otherwise you can also directly enter the frequency value to start the tuning.



3 After setting the carrier, press **ENTER** to start the scanning. During the scan process, the list of services (TV/Radio) collected for the carrier will be listed.

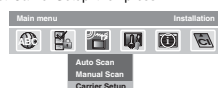
4 Then the confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER**.

5 Press **EXIT** to return to the normal screen.

Carrier Setup

The Carrier setup option menu lists all the carriers (multiplexes) that are currently available and allows you to Rename, Delete or Rescan carriers individually.

1 Press **▲** or **▼** to select 'Carrier Setup' then press **ENTER**.



2 All the carriers are listed with their frequency and service information - the user can scroll through the carrier list and select each one individually to Rename, Delete or Rescan.

3 **Rename:**
Select carrier, then press **Red** button. The alphanumeric keypad will appear. You can rename a service as per your preference (see page 23).

Delete:

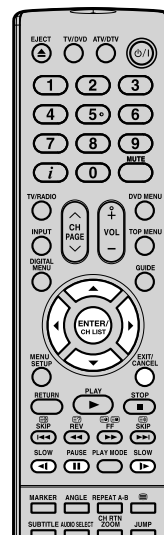
Select carrier, then press **Green** button. The check mark (✓) will be displayed for selected carrier. Then press **ENTER**. The confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER**. If the option 'Yes' is selected then all the serviced carriers will be deleted from the list.

Rescan:

Rescan allows to tune the already tuned carrier, to collect any new programmes that are currently available in the stream. Press **Blue** button, to rescan the current selected carrier.

Note:

- If on the 'AUTO INSTALLATION (COUNTRY)' screen 'FINLAND' is selected, 'Frequency (kHz)' cannot be used.
- When the Country is set to 'FINLAND' in the 'AUTO INSTALLATION (COUNTRY)' If there is a Channel List in the data after Auto Scan or Manual Scan, Channel Type Selection Menu will be displayed and available to set Channel List Type. Select the Channel List Type by pressing **◀** or **▶** and press **ENTER**.
- If "FINLAND" is selected on the "AUTO INSTALLATION (COUNTRY)" screen, Data is displayed on the "Carrier Setup" screen.



21

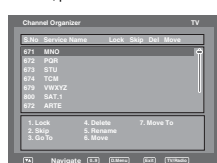
Channel Organizer

The Channel Organizer feature provides options to organise the channels. The following options are supported: Lock, Skip, Go To, Delete, Rename, Move, Move To.

1 Press **◀** or **▶** to select 'Channel Organizer', then press **ENTER**.

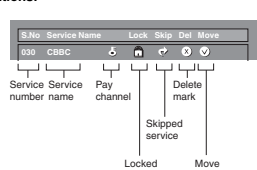


2 The Channel Organizer menu will appear. The available programmes will be listed, depending on the current mode. The selected programme will be highlighted. To toggle within the service list, press **▲** or **▼**.



3 By pressing the corresponding **Number Button (1-7)** or the **ENTER** you can activate the following functions from this menu for each channel: Lock, Skip, Go To, Delete, Rename, Move and Move To. (You can deactivate each of these functions by pressing the same number again.) See page 23 for setting details.

Indications:



Note:

- While in TV mode, only TV programmes will be displayed and only radio programmes will be displayed while in radio mode.
- The displays of Channel / Service name will be abbreviated depend on its size of the letter.

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Channel Organizer

Setting details

Lock	When the service is locked, you must enter your PIN whenever you tune to the service. ① Press ▲ or ▼ to select the desired service. ② Press 1 on the remote control. If you already set the PIN, enter it here. If not, enter the factory preset PIN "0000". An icon displays indicating the service is locked. • Pressing 1 will turn the lock icon on and off. (PIN entry is required.) ③ Press DIGITAL MENU .
Skip	Services that are set to skip will not be picked up when pressing CH / ▲ / ▼ . ① Press ▲ or ▼ to select the desired service. ② Press 2 on the remote control. An icon displays indicating the service to be skipped. • Pressing 2 will turn the skip icon on and off. ③ Press DIGITAL MENU . • To view services that are set to be skipped, use 0-9 or select from the Channel List.
Go To	Use this function to jump to the specific service in one step. This is useful when there are many services displayed on screen to scroll through. ① Press 3 on the remote control. Now you can change the service number on the left side of the screen. ② Enter the number using 0-9 , and then press ENTER . The highlight moves to the selected service.
Delete	Delete the selected service(s) from the memory. ① Press ▲ or ▼ to select the desired service. ② Press 4 on the remote control. An icon displays indicating the service to be deleted. • Pressing 4 will turn the delete icon on and off. ③ Press DIGITAL MENU . A confirmation message displays. ④ Press ◀ or ▶ to select "Yes", and then press ENTER .
Rename	Change individual service names. ① Press ▲ or ▼ to select the desired service. ② Press 5 on the remote control. A character set screen displays. ③ Press Yellow button to enter a new name for the service. • Press ▲ or ▼ to move the cursor, then press ENTER to confirm the input of a character. ④ Press DIGITAL MENU . A confirmation message displays. ⑤ Press ◀ or ▶ to select "Yes", and then press ENTER .
Move	Sort the order of the selected service by moving the service position. ① Press ▲ or ▼ to select the desired service. ② Press 6 on the remote control. An icon displays indicating the service to be moved. • Pressing 6 will turn the move icon on and off. ③ Move the selected service to the desired position using ▲ or ▼ , and then press ENTER to register the change.
Move To *	Sort the order of the selected service by modifying the service number. ① Press ▲ or ▼ to select the desired service. ② Press 7 on the remote control. Now you can change the service number on the left side of the screen. ③ Enter the number using 0-9 , and then press ENTER . The service moves to the new position.

Note:

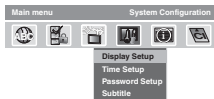
- If on the "AUTO INSTALLATION(COUNTRY)" screen "UK" is selected, "Move To" cannot be used in U.K.

23

Display Setup/Time Setup

Display Setup

- Press **▲** or **▼** to select 'Display Setup', then press **ENTER**.



- Display Setup menu will appear. Press **▲** or **▼** to select the item you want to change. Then you can change each setting by pressing **◀** or **▶**.

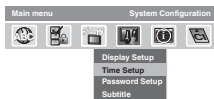
Banner timeout	1 Sec, 2 Sec..... 7 Sec.	Select how long the service banner information appears on screen.
Banner position	Top Bottom	Select whether the service banner information appears on top or bottom of the screen.

- After all the changes are made, press **EXIT** to return to the normal screen.

Time Setup

If the time displayed on the Channel banner differs from the actual time, it can be corrected.

- Press **▲** or **▼** to select 'Time Setup', then press **ENTER**.

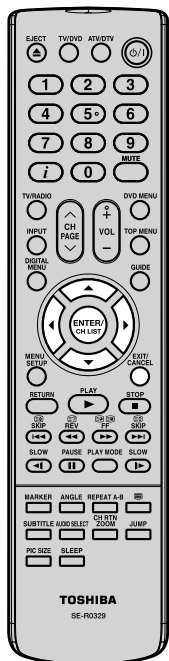


- Time Setup menu will appear. If the time displayed on the Channel banner differs from the actual time, adjust the time offset with the **◀** or **▶** button until the correct time is shown.

Note:

- Normally, this would be done by selecting "Auto".

- After all the changes are made, press **EXIT** to return to the normal screen.



Password Setup (Parental lock)

Password Setup (Parental lock)

This feature allows you to have a parental control of the service viewing as per your preference. Once a service is protected with a password, it cannot be viewed unless the correct password is provided.

- Press **▲** or **▼** to select 'Password Setup', then press **ENTER**.



- 'Enter Password' will appear. Press '0 0 0 0' using the **Number Buttons**. (This is the default password.)
- Press **▲** or **▼** to select 'Parental Lock', then press **◀** or **▶** to select desired parental rating (see note). Then press **EXIT** to return to the normal screen.

- You can also change the password using the next option. Press **▲** or **▼** to select 'Change password'.

Then enter your chosen new password (0 to 9), be sure to remember this password. After you have entered the new password for the first time, you need to enter the same password again for confirmation. The information banner will then appear.

Press **EXIT** to return to the normal screen.

While toggling between channels, if a service which has a parental rating is selected then you will be asked to enter the correct password to view that channel. If the channel you are currently watching supports a parental rating then the rating will also be displayed in the Channel banner menu (see page 27).

Note:

- There are 15 age-based ratings, ranging from '4' (years old) to '18' (years old) and 'None'. Eg. If the Parental Lock is set to '8' (years old), only the services which have the parental rating of '8' (years old) or under will be viewable without entering the Password.
- You will be prompted to enter the password, when you set new parental rating. You can set the new parental rating only when you enter the password correctly, otherwise the old parental code will be retained.

IMPORTANT NOTE ON RESETTING THE PASSWORD

We suggest that you remove the following instruction from the operating instructions to prevent children from reading it.

If you forget your password, follow steps below to reset the password.
1. Press **ATV/DTV** to select the digital TV mode.
2. Press **MENU** to display the analogue menu, then press **◀** or **▶** to select **[SETUP]**.
3. Press **i** 4 times within 5 seconds.
The password is reset to '0000'.

Version/Software Upgrade/Common Interface

Version

You can check the software and hardware versions.

- Press **▲** or **▼** to select 'Version', then press **ENTER**. The hardware and software versions are displayed.



- Press **EXIT** to return to the normal screen.

Software Upgrade

Software Upgrade allows you to download the latest software available on the Engineering channel.

- Press **▲** or **▼** to select 'Software upgrade', then press **ENTER**.



- If a software upgrade is available from an Over-Air-Download (OAD) then the message 'S/W available, do you want to download?' will be displayed - you can then select 'Yes' or 'No' by pressing **◀** or **▶**, then press **ENTER**.

- If you select the option 'Yes' then the Software Upgrade process will be initiated. It will take about 20 minutes and after this process is complete, the TV will be rebooted automatically.

If you select the option 'No' you can continue to watch TV programmes as before.

Common Interface

You can access the Common Interface module information from this menu option.

Preparations

Insert CAM into the DVB Common Interface slot on the backside of the TV (see page 9).

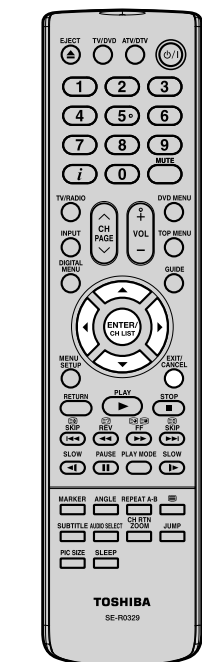
- Press **▲** or **▼** to select 'Common Interface', then press **ENTER**.



- The CAM module name will be displayed. You have to press **ENTER** to view further information.

- In the CI Menu, CAM specific information such as Module information, Smart card information, Language and Software Download are shown. Press **▲** or **▼** to select information, then press **ENTER** to see detail.

- Press **EXIT** to return to the normal screen.



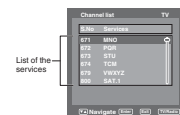
Note:

- During the Software Updating process, do not turn off the unit. At this time you cannot use any of the buttons, apart from **⏻** (Power).
- After the Software Updating process, the Digital Menu memory settings will be lost, so it is necessary to go through the setting up procedures again.

Channel list/Channel banner

Channel list

- Press **CH LIST** to display the Channel list menu.



- Select the Services:

List of the services present under the selected Channel group will be displayed in the left side of the menu. Press **▲** or **▼** to toggle within the service list, then press **ENTER**.

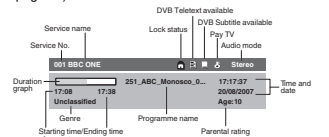
Toggle between the list of TV and Radio services:

The **TV/RADIO** is used to toggle between the TV and Radio mode. If you press **CH LIST** when you are in Radio mode then the channel list menu will display the list of Radio services. If you wish to view the list of TV services without exiting the current menu, **TV/RADIO** should be pressed once.

Channel banner

When you change from one channel to another, the Channel banner will be displayed for the selected service. In the channel banner menu, information such as current date & time, channel name, etc. will be displayed.

- While watching the service, press **i** to display the Channel banner at any time. It will disappear after the Banner timeout value (this can be adjusted to your preferred value, see page 24).



- Press **i** again to display the Basic Service Information.

You can verify the signal strength and quality of the selected service here. If necessary, adjust the direction of the antenna to obtain the maximum signal strength.

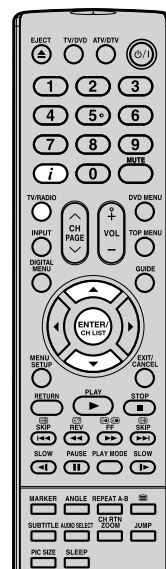
- When the Country setting has been set to FINLAND, press **i** once more to display the advanced detailed information.

- To remove the Channel banner immediately, press **i** again.



Note:

- If any Channel group doesn't have any service at the time, 'No services' and 'No Information' will be displayed in the menu.
- Channel / Service names can only be displayed up to about 16 characters - if the name is longer than this, it will be abbreviated. The Basic Service Information screen (Step 2) displays the full Channel/Service names, not the abbreviated names.
- Subtitles are displayed on the channel banner. Some broadcasts may not provide this service.

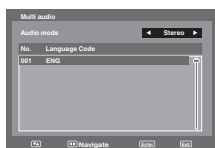
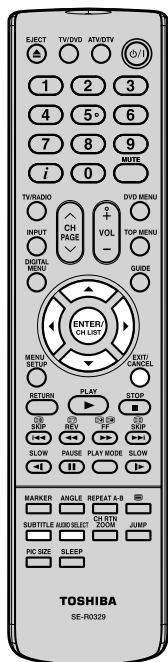


Multi audio

You can select your preferred Audio mode and DVB (digital TV) subtitle Language.

The Multi audio menu will display the Audio mode and Language options available with the current broadcast.

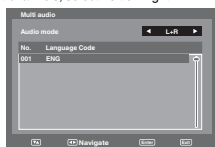
- 1 Press **AUDIO SELECT** to display the Multi audio menu. The Audio mode and Language code will be displayed if available.



- 2 To select Audio mode, press **◀** or **▶**. In general the below audio modes will be supported in a service. Stereo, Left, Right and L + R.

To select a Language code, press **▲** or **▼** to select code within Language code list.

- When completely different audio tracks are being broadcast from the left and right channels, select Left or Right.

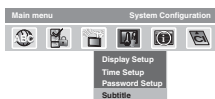


- 3 Press **EXIT**. Your selected audio preferences will be saved.

DVB-Subtitle

DVB-Subtitle is a feature supported in DVB (Digital Video Broadcasting) applications in which the service shown can be accompanied by a text display on the screen in parallel with the corresponding audio service. The DVB-Subtitle feature can be enabled or disabled at anytime.

- 1 Press **▲** or **▼** to select "Subtitle", then press **ENTER**.



- 2 Press **◀** or **▶** to select your desired subtitle language from the available languages.



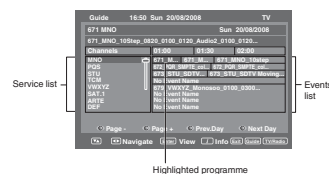
- 3 To turn off the DVB-Subtitle, press **◀** or **▶** repeatedly until 'Off' appears in the Subtitle menu. Press **EXIT**. Your selected subtitle language will be saved.

Note:

- DVB-Subtitle can also be changed by pressing of **SUBTITLE** repeatedly.

The Guide menu shows the available programme listings for the next 8 days only, including today. However, the guide menu will show 'No Event Name' for programmes which are more than 8 days ahead, or for programmes within the 8 days when no programme information is available.

- 1 Press **GUIDE** to display the Guide menu.

**Service list :**

Lists all the services that are currently available.

As you scroll through the service list by pressing **▲** or **▼**, the Event list will be refreshed accordingly, and you will see the programme information for the currently highlighted programme.

To scroll through the service list page by page, press **Red** or **Green** button.

Events list :

List the events in a grid of rows and columns.

Each row shows the list of events that are available, for the corresponding service in the service list. Within each row, you can press **◀** or **▶** to navigate through the rest of the events.

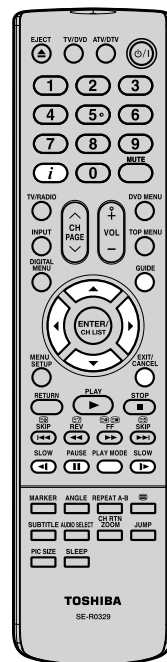
You can easily move to the Previous day or Next day in the Events List by pressing **Yellow** or **Blue** button (the date of the programme information you are currently viewing is shown in the top right hand corner).

The full Event name along with the duration of the event will be displayed in the bar above. Event title will be displayed only if available otherwise 'No Description' message will be displayed.

- 2 From within the Guide menu, you can open the Description, menu for the currently highlighted programme by pressing **i**.

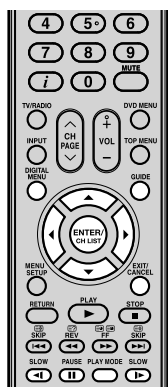
The Guide/Description menu shows the extended event description of an event. You can scroll and view the complete event description of the event using **▲** or **▼**.

To return to the Guide menu, press **i**.
To clear the menu screen, press **EXIT**.

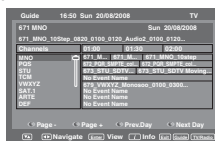


EPG Timer

You can choose whether or not the screen switches on when the timer event begins - please see page 18 (Rec screen status (LCD Power on/off)). This is so that if you are using the timer to make a recording to your VCR or other device, the TV screen will not switch on unless you want it to. If you try to switch to another channel while a timer event is in progress, the following message will appear: 'WARNING: CHANGING THE CHANNEL WILL INTERRUPT YOUR EVENT TIMER. ARE YOU SURE YOU WANT TO PROCEED? YES/NO'. Select Yes or No according to your wishes.



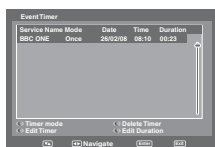
- 1 Press **GUIDE** to display the Guide menu. Then press **▲** or **▼** to highlight the programme you want to set as a timer event, then press **ENTER**.

**Note:**

- If you select an event which has already started, the selected program will be displayed on the screen, as you cannot set the timer for a programme which has already started.
- To display the stored timer events, press **GUIDE** twice. The Event Timer menu (see step 3 below) will appear. You can also delete or change the frequency (Once / Daily / Weekly) of the stored timer events (but please note that you cannot edit the time details that have been set from the EPG).

- 2 The confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER** (the selected option is shown in blue).

- 3 The Event Timer menu will appear. Press the **Red** button to set the Timer mode for a selected event.



- 4 The Timer mode specifies the frequency of Timer wake-up which can be set as Once, Daily or Weekly. Press **ENTER** to save the selected Timer mode.

Note:

- To delete a timer event, select the specified event, then press the **Green** button.

- 5 To return to the Guide menu, press **DIGITAL MENU**. To clear the menu screen, press **EXIT**.

Note:

- When the EPG Timer starts, the message "Event Timer Started" will appear.
- A maximum of eight Timers can be programmed.
- If the EPG Timer starts when it is already switched on, it will start at the exact time that is set. If it starts from the standby mode, it will begin 20 seconds in advance of the stated time.
- You cannot hasten the start time from the original start time of the Event.
- You cannot set with the same date and time of another Event.
- Press the **Yellow** button to change the start time of the event.
- Press the **Blue** button to change the time duration of the event.
- If the EPG Timer begins during standby mode, the **(P)** (Power) indicator on the unit will be lit in orange. This is to indicate that an EPG Timer event has begun in standby mode.
- When in power-off-condition, EPG Timer cannot be activated.

Disc

DVD discs must be Region 2 or Region ALL type to play on this unit. The suitable disc formats are: DVD-Video, DVD-R/RW (Video format only), Audio CD, CD-R/CD-RW and Video CD.

Some CD-R/RW discs may be incompatible.

- This unit can play an 8cm disc. Please do not use a disc adapter. It may cause trouble.
- Please do not insert any disc of an irregular shape into the unit, as it may interfere with the function of the unit. You may not be able to remove it.
- Please do not use after market accessories, such as a ring protector, as this may cause trouble with the operation of the unit.

Do not play DVD-ROM, DVD-Audio, CD-G, Photo CD or SVCD to prevent accidental erasure of prerecorded material.

Title

When two or more movies are recorded on a disc, the disc is divided into two or more sections. Each section is called a "TITLE".

Chapter

The titles can be subdivided into many sections. Each section is called a "CHAPTER".

Track

Video CD/Audio CD can contain several items. These are assigned to tracks.

Removing Disc from Case

Be sure to hold the edge of disc. Do not touch the surface of the disc.

- Pick up the disc gently from the case.
- Do not scratch the disc.
- Do not get dirt on the surface of the disc.
- Do not stick a label or adhesive tape on the disc.
- Do not drop or bend the disc.

Storing Disc

- Store the disc in the case to avoid risk of scratches, dirt or damage.
- Do not leave disc exposed to direct sunlight or in hot or humid places.

Cleaning Disc

Wipe the disc with a clean, dry cloth from center to edge.

- Do not wipe in circular direction.
- Do not use liquid or aerosol cleaners.

On Video CDs

This unit supports Video CDs equipped with the PBC (Version 2.0) function.

(PBC is the abbreviation of Playback Control.) You can enjoy two playback variations depending on types of discs.

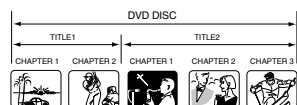
- Video CD not equipped with PBC function (Version 1.1) Sound and movie can be played on this TV/DVD in the same way as an audio CD.
- Video CD equipped with PBC function (Version 2.0) In addition to operation of a Video CD not equipped with the PBC function, you can enjoy playback of interactive software with search function by using the menu displayed on the TV screen (Menu Playback). Some of the functions described in this owner's manual may not work with some discs.

To turn off the PBC

1. Press **PLAY MODE** in the Stop mode.
2. Press **▲** or **▼** to select "Mode", then press **ENTER** repeatedly until "Off" appears.
3. Press **PLAY MODE** again to clear the screen.

To turn on the PBC

Follow the above step 1-2, then press **ENTER** repeatedly until "PBC" appear.



This section shows you the basics on how to play a disc.

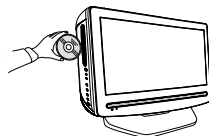
Basic playback (DVD/VCD/Audio CD)

Preparation

Make sure that the (Power) switch on the unit is pushed in (ON). (The (Power) indicator lights up.)

1 Press **TV/DVD** on the remote control to select the DVD mode.

2 Place the disc in the disc slot with the label side facing forward.
(If the disc has a label.)



- Do not place a disc which is unplayable in this unit.

3 On the TV-screen, changes to "Reading" and then playback commences.
• A menu screen will appear on the TV screen if the disc has a menu feature.
• Press / to select title, then press **ENTER**. Title is selected and play commences.



4 Press to end playback.
• The unit records the stopped point, depending on the disc. appears on the screen. Press **PLAY** () to resume playback (from the scene point).
• If you press again (appears on the screen.), the unit will clear the stopped point.

To start playback in the stop mode

Press **PLAY** ()

Note:

- If the unit does not operate properly:
Static electricity, etc., may affect the player's operation.
Disconnect the AC power cord once, then connect it again.
- If a disc is inserted during some modes other than DVD mode, it may switch to DVD mode and then playback may be begun automatically.

To pause playback (still mode)

Press during playback.
To resume normal playback, press **PLAY** ()

- The sound is muted during still mode.

To stop playback

Press

To remove the disc

Press

Remove the disc after the disc comes out.

Note:

- If a non-compatible disc is loaded, "Incorrect Disc", "Region Code Error" or "Parental Error" will appear on the TV screen according to the type of loaded disc. In this case, check your disc again (see pages 31 and 50).
- Some discs may take a minute or so to start playback.
- When you set a single-faced disc label backwards (i.e. the wrong way), "Reading" will appear on the display for a few minutes and then "Incorrect Disc" will continue to be displayed.
- Some discs may not work the resuming facility.
- Resuming cannot function when you play a PBC-featured Video CD while the PBC is on. To turn off the PBC, see page 31.
- Some playback operations of DVDs may be intentionally fixed by software producers. Since this unit plays DVDs according to the disc contents the software producers designed, some playback features may not be available. Also refer to the instructions supplied with the DVDs.
- Do not move the unit during playback. Doing so may damage the disc.
- In many instances, a menu screen will appear after playback of a movie is completed. Prolonged display of an on-screen menu may damage your television set, permanently etching that image onto its screen. To avoid this, be sure to press on your remote control once the movie is completed.
- There may be a slight delay between the button is pressed and the function activates.

Playing a disc

You can play discs at various speeds.

Playing in fast reverse or fast forward directions (DVD/VCD/Audio CD)

Press or during playback.

: Fast reverse playback

: Fast forward playback

Each time you press or , the playback speed changes.

To resume normal playback

Press **PLAY** ()

Note:

- The unit mutes sound during reverse and forward scan of DVD/VCD/Audio CD discs.
- The playback speed may differ depending on the disc.
- You can use fast reverse/fast forward playback for DivX® CD.

Playing frame by frame (DVD/VCD)

Press during still playback.

Each time you press , the picture advances one frame.

To resume normal playback

Press **PLAY** ()

Note:

- You can use frame by frame playback for DivX® CD.
- The sound is muted during frame by frame playback.

Playing in slow-motion (DVD/VCD)

Press or during playback.

Each time you press or , the slow-motion speed changes.

To resume normal playback

Press **PLAY** ()

Note:

- The sound is muted during slow-motion playback.
- You can use slow motion playback for DivX® CD.
- Reverse slow () does not work on VCD and DivX® CD.

Locating a chapter or track (DVD/VCD/Audio CD)

Press **SKIP** () or repeatedly to display the chapter or track number you want.

Playback starts from the selected chapter or track.

To locate succeeding chapters or tracks, press **SKIP** .

Playback starts from the beginning of the current chapter or track.
To locate the preceding chapter or track, press **SKIP** twice in quick succession. Playback starts from the beginning of the preceding chapter or track.

Note:

- A prohibition symbol "X" may appear at the upper right of the screen. This symbol means either the feature you tried is not available on the disc, or the unit cannot access the feature at this time. This does not indicate a problem with the unit.

Zooming/Locating desired scene

Zooming (DVD/VCD)

This unit will allow you to zoom in the frame image. You can then make selections by switching the position of the frame.

1 Press **ZOOM** during playback.



The centre part of the image will be zoomed in.
Each press of **ZOOM** will change the ZOOM Q1(x 1.3), Q2 (x 1.5) and Q3 (x 2.0).

2 Press / to view a different part of the frame.

You may move the frame from the centre position to UP, DOWN, LEFT or RIGHT direction.

3 In the zoom mode, press **ZOOM** repeatedly to return to a 1:1 view (Off).

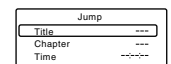
Note:

- You can select the Pause or Slow in the zoom mode.
- Some discs may not respond to zoom feature.
- Zoom function can be used for DivX® CD.

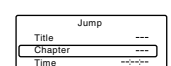
Locating desired scene (DVD/VCD/Audio CD)

Use the title, chapter and time recorded on the DVD disc to locate the desired point to playback. In the case of VCD/Audio CD discs, time and track are used to locate the desired point to playback. To check the title, chapter/track and time, press **i**.

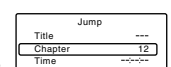
1 Press **JUMP** during playback or resume stop mode.



2 Press or to select the "Title/Track", "Chapter" or "Time".



3 Press **Number buttons (0-9)** to input the number.



- If you input a wrong number, press **CANCEL**.
- Refer to the package supplied with the disc to check the numbers.

4 Press **ENTER**. Playback starts.

- When you change the title, playback starts from Chapter 1 of the selected title.
- Some discs may not work in the above operation.

Note:

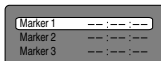
- In case of the Audio CD and Video-CD, only Track and Time can be selected.
- In case of the Video-CD playback with PBC, the JUMP does not work. Turn off the PBC (see page 31).
- Only Time search function can be used for DivX® CD.

Marking desired scenes

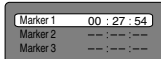
Marking the scenes (DVD/VCD/Audio CD)

The unit stores the points that you want to watch again up to 3 points. You can resume playback from each scene.

- 1 Press **MARKER** during playback.



- 2 Select the blank Marker using **▲** or **▼**. Then press **ENTER** at the desired scene.

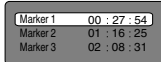


- Repeat this procedure to set the other 2 scenes.

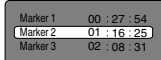
- 3 Press **MARKER** to clear this display.

Returning to the scenes (DVD/VCD/Audio CD)

- 1 Press **MARKER** during playback or stop mode.



- 2 Press **▲** or **▼** to select the Marker 1-3.

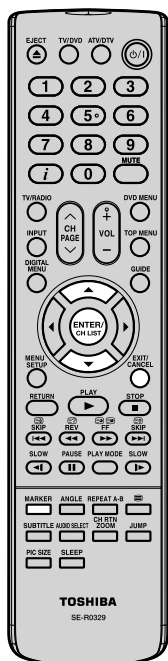


- 3 Press **ENTER**.

Playback starts from the marked scene.

To cancel the Marker

Follow the above steps 1-2, then press **CANCEL**.



Note:

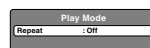
- Some discs may not work with the marking operation.
- The marking is cancelled when you eject the disc or turn the power off.
- Some subtitles recorded around the marker may fail to appear.
- In case of Video CD with PBC, Marker function is prohibited.
- Marker function does not work with MP3/JPEG CD/DivX® CD.

Repeat playback/A-B Repeat playback

Repeat playback (DVD/VCD)

- 1 Press **PLAY MODE** during playback or stop mode.

- 2 Press **ENTER** repeatedly to select "Chapter" or "Title".



The unit automatically starts repeat playback after finishing the current title or chapter.

[Video CD]

Press **▼** to select "Repeat".

Press **ENTER** to select "Track" or "All".

- If you set the repeat mode during stop mode, press **PLAY** (**▶**) to start Repeat playback.

- 3 Press **PLAY MODE** again to clear the screen.

To resume normal playback

Select Repeat : "Off" in step 2.

Note:

- Some discs may not work with the repeat operation.
- In case of Video CD with PBC, Repeat functions are prohibited during playback.
- Chapter/Track repeat function is cancelled whenever **SKIP** (**◀**) or **SKIP** (**▶**) is pressed.

A-B Repeat playback (DVD/VCD/Audio CD)

A-B repeat playback allows you to repeat selection between two selected points.

- 1 Press **REPEAT A-B** during playback. The start point is selected.



- 2 Press **REPEAT A-B** again.



The end point is selected. Playback starts at the point that you selected. Playback stops at the end point and returns to Point A automatically, then starts again.

To resume normal playback

Press **REPEAT A-B** again.

"Off" appears on the screen.

Note:

- In A-B Repeat mode, subtitles near the A or B locations may not be displayed.
- You may not be able to set A-B Repeat for the scenes that include multiple angles.
- A-B Repeat playback does not work when Repeat playback is activated.
- You may not be able to set A-B Repeat during certain scenes of the DVD.
- A-B Repeat does not work with an interactive DVD and MP3/JPEG CD.
- In case of Video CD with PBC, A-B Repeat is prohibited.

Changing angles/Title selection/DVD menu

Changing angles (DVD)

When playing back a disc recorded with multi-angle facility, you can change the angle that you are viewing the scene from.

- 1 Press **ANGLE** during playback. The current angle will appear.



- 2 Press **ANGLE** repeatedly until the desired angle is selected.

Note:

- Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the DVD.

Title selection (DVD)

Two or more titles are recorded on some discs. If the title menu is recorded on the disc, you can select the desired title.

- 1 Press **TOP MENU** during playback. Title menu appears on the screen.
- 2 Press **▲/▼/◀/▶** to select the desired title.
- 3 Press **ENTER** or **PLAY** (**▶**). The playback of the selected title will start.

Note:

- Depending on the DVD, you may not be able to select the title. Depending on the DVD, a "title menu" may simply be called a "menu" or "title" in the instructions supplied with the disc.

DVD menu (DVD)

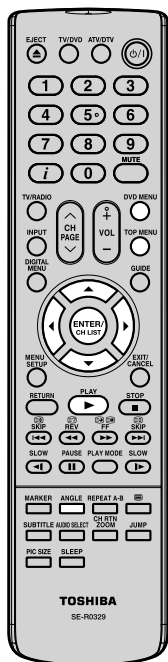
Some DVDs allow you to select the disc contents using the menu.

When you playback these DVDs, you can select the subtitle language, soundtrack language, etc. using the menu.

- 1 Press **DVD MENU** during playback. The DVD menu appears on the screen.
 - Press **DVD MENU** again to resume playback at the scene when you pressed **DVD MENU**.
- 2 Press **▲/▼/◀/▶** to select the desired item.
- 3 Press **ENTER**. The menu continues to another screen. Repeat steps 2 and 3 to set the item completely.

Note:

- Depending on the DVD, you may not be able to resume playback from the scene point when you press **DVD MENU**.

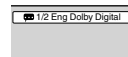


Changing soundtrack language/Subtitles/Disc status

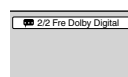
Changing Soundtrack Language (DVD/VCD)

You can select the language when you play a multilingual disc.

- 1 Press **AUDIO SELECT** during playback. The current soundtrack language will appear.



- 2 Press **AUDIO SELECT** repeatedly until the desired language is selected.
 - The on screen display will disappear after a few seconds.



In case of Video CD playback

Audio type changes as follows each time you press **AUDIO SELECT**.



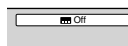
Subtitles (DVD)

When playing back a disc recorded with subtitles, you can select the subtitle language or turn the subtitle off.

- 1 Press **SUBTITLE** repeatedly during playback until the desired language is selected.



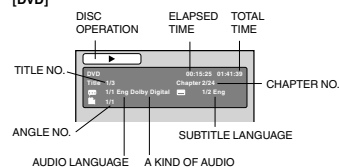
- 2 To turn off the subtitle, press **SUBTITLE** until "Off" appears.
 - The on screen display will disappear after a few seconds.



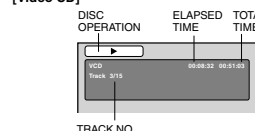
Disc status (DVD/VCD)

With press of **i**, the status of the disc will appear on the screen. To cancel the display, press **f** again.

[DVD]



[Video CD]



Note:

- If the desired language is not heard after pressing the button several times, the language is not recorded on the disc.
- The selected soundtrack language is cancelled when you eject the disc. The initial default language or available language will be heard if the disc is played back again.
- Depending on the DVD, you may not be able to change subtitles, or to turn subtitles on or off.
- While playing a DVD, the subtitle may change when you loaded or eject the disc.
- In some cases, a selected subtitle language may not be changed immediately.

MP3/JPEG/DivX® and Audio CD operation

This unit can playback the MP3/JPEG/DivX®-data which has been recorded on CD-R/RW. Audio CD also can be played back. To produce the MP3/JPEG/DivX®-data, you need a Windows-PC with CD-RW drive and a MP3/JPEG/DivX®-encoding Software (not supplied). The Apple-HFS-System cannot be played. This unit requires discs/recordings to meet certain technical standards in order to achieve optimal playback quality.

There are many different types of recordable disc formats (including CD-R containing MP3 files). Not all recordable discs will produce optimal playback quality. The technical criteria set forth in this instruction manual are meant only as a guide. Use of CD-RW for MP3 files is not recommended.

MP3/JPEG/DivX® - data information

Limitations on MP3/JPEG/DivX® playback

- MP3/JPEG/DivX® CD are standardized by ISO9660, its file name must include following extensions; ".mp3", ".jpg", ".div", ".divx", ".avi".
- MP3/JPEG/DivX® CD must be corresponded to the ISO standardized files.
- This unit can read 2000 files per disc. If one disc has more than 2000 files, it reads up to 2000 files, the remaining files will be omitted.
- MP3/JPEG/DivX® CDs cannot be used for the purpose of recording on this unit.
- It may take more than one minute for this unit to read MP3/JPEG/DivX® files depending on its structure.
- Music recorded by "Joliet Recording Specification" can be played back.
- The music files recorded by "Hierarchical File System" (HFS) cannot be played.

Limitations on displaying of the file name.

- The maximum number for display is 15 characters. Long file names will be condensed.
- Available characters for display are the following:
capital or small alphabets of A through Z, numbers of 0 through 9, and _ (under score).
- Other characters than those above are replaced in hyphen.

To playback MP3/JPEG/DivX® CD in the recorded order.

- Use MP3/JPEG/DivX® software that records data alphabetically or numerically.
- Insert two or three digit number in the head of file name. (ex. "01" "02" or "001" "002").
- Refrain from making too many sub-folders.

CAUTION:

- Some MP3/JPEG/DivX® CDs cannot be played back depending on the recording conditions.
- The CD-RW that has no music data or non MP3/JPEG/DivX® files cannot be played back.

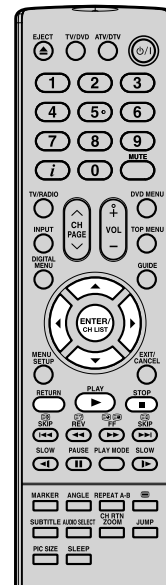
Standard sampling frequency and the bit rate:

MP3

MPEG-1 Audio
32kHz, 44.1kHz, 48kHz
32kbps ~ 320kbps (constant bit rate or variable bit rate)
The recommend recording setting for a high-quality sound is 44.1kHz of sampling frequency and 128kbps of constant bit rate.

DivX® video

DivX® version: DivX® 3, 4, 5, and 6 (specifically 3.1.1, 4.1.2, 5.0.2, 5.0.5, 5.1.1, 5.2.1, 6.0 at Home Theater profile).
Audio format: MPEG1 Layer2 (MP2), MPEG1 Layer3 (MP3)
Sampling frequencies: 32kHz, 44.1kHz, 48kHz
Bit rate: 32kbps ~ 320kbps
Resolution: Max 720 x 576 (at 25fps), Max 720 x 480 (at 30fps)



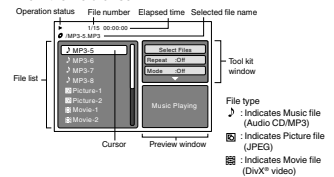
Note:

- MP3 file on the Kodak Picture CD is not recognized on this unit.
- During MP3/JPEG-Playback, you cannot use JUMP and A-B Repeat functions.
- You can use Repeat (Track or All), Random functions and Program playback for MP3/JPEG/DivX®-Playback (See pages 44, 45)

MP3/JPEG/DivX® and Audio CD operation

Loading CD

- Load a MP3/JPEG/DivX® CD or an Audio CD into the disc slot.
- A file browser screen will appear on the screen.
 - In case the current directory includes 9 files or more, press ▲ or ▼ to scroll in the list.
 - To see contents in folder, select the folder and then press ENTER. To return to the parent directory, select "Go Up" then press ENTER.
 - In case of a CD containing a mixture of MP3, JPEG and DivX® files, the files are played back by selecting them from the file browser.



MP3 and Audio CD playback

- In the file browser, press ▲/▼ to select the desired file.

When **PLAY** (▶) is pressed after displaying file browser displayed, playback begins automatically starting from the first file. In this case, if the first file is an MP3 file, only MP3 files are played back in order.

If the first file is a JPEG file, the first JPEG file is played back. If the first file is a DivX® file, the first DivX® file is played back. If there is no file at a root directory, playback does not begin automatically.

- Press **ENTER**.
The selected file starts playing back.
- Press **STOP** (■) to end playback.
 - The unit records the stopped point. "■" appears on the screen. Press **PLAY** (▶) to resume playback (from the scene point).
 - If you press **STOP** again or unload the disc, the unit will clear the stopped point.

Select Files

The file type to make it display in the file browser can be chosen.
1. Press ◀ or ▶ to select "Select Files" at right column in the file browser. ("Select Files" is not applicable to Audio CD.)
2. Press **ENTER**, then press ▲ or ▼ to select file type from the list (Music, Picture or Movie).
3. Press **ENTER** to add/remove check mark. Checked file type will be displayed in the file browser.
4. Press **RETURN** to save the setting.

MP3/JPEG/Divx® and Audio CD operation

JPEG playback

- In the file browser, press ▲/▼ to select the desired JPEG file.
To display a thumbnail list, press **DVD MENU**.
Press ▲/▼/▶ to select the desired file.
(To return to the file browser, press **TOP MENU**.)

When **PLAY** (▶) is pressed after displaying the file browser, playback begins automatically starting from the first file. In this case, if the first file is a JPEG file, the first JPEG file is played back.

If the first file is an MP3 file, only MP3 files are played back in order. If the first file is a DivX® file, the first DivX® file is played back. If there is no file at a root directory, playback does not begin automatically.

- Press **ENTER**. The selected picture appears on the screen.

Rotating an image

You can rotate an image by 90 degrees.
Press **ANGLE** during playback of the image.
"■", "■", "■" or "■" appears on the screen.

Zooming an image

Zoom function also can be used in viewing JPEG files.
Press **ZOOM** (See "Zooming" on page 35).

- Press **STOP** (■) to end playback.
The file browser appears on the screen. If you want to watch the other file, repeat steps 1 ~ 2.

Slide show playback

The slide show enables you to view pictures (files) one after another automatically.

Preparation

Set "JPEG Interval" setting to "Off", "5 Seconds", "10 Seconds" or "15 Seconds" (See page 49).

- Select your desired starting file for the slide show in step 1 above.
- Press **ENTER** or **PLAY** (▶) to start slide show from the selected file.
 - If you press **STOP** (■) during the slide show, the slide show stops temporarily. "■" appears briefly on the screen. Press **PLAY** (▶) or **SKIP** (▶▶) again to resume the slide show.
 - If the picture appears upside down or sideways, press **ANGLE** repeatedly until it's right side up. "■", "■", "■" or "■" appears on the screen.
 - When the slide show playback finished, the file list appears.
 - To stop the slide show, press **STOP** (■). The file list appears.

Note:

- During JPEG playback, you cannot use Jump and A-B Repeat functions.
- When an image exceeds 5760 x 3840 pixels, the entire image (preview window or thumbnail list) may not be displayed on a screen.
- It may have a longer interval due to the size of data.

MP3/JPEG/Divx® and Audio CD operation

DivX® playback

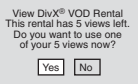
- In the file browser, press ▲/▼ to select the desired file.
When **PLAY** (▶) has been pressed after the file browser displayed, playback begins automatically starting from the first file. In this case, if the first file is a JPEG file, the first JPEG file is played back. If the first file is a DivX® file, the first DivX® file is played back. If the first file is an MP3 file, only MP3 file are played back in order. If there is no file at a root directory, playback does not begin automatically.

- Press **ENTER** or **PLAY** (▶). The selected DivX® movie will be played back on the TV screen.
- Press **STOP** (■) to end playback.
 - The unit records the stopped point. "■" appears on the TV screen. Press **PLAY** (▶) to resume playback (from the scene point).
 - If you press **STOP** (■) again or unload the disc, the unit will clear the stopped point. To watch the other file, repeat steps 1 ~ 2.

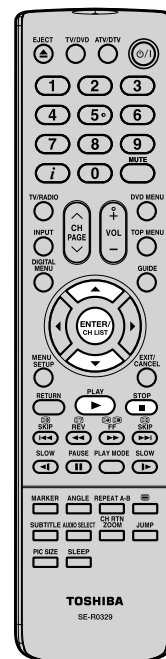
Playing DivX® VOD content

DivX® VOD content is protected by DRM (Digital Rights Management) system. This restricts playback of content to specific registered devices.

If the incorrect DRM file is loaded, "Authorization Error This player is not authorized to play this video." will appear on the screen. When you attempt to play DivX® VOD, the number of plays is limited and the right message will appear on the screen. If you wish to play it, select "Yes".

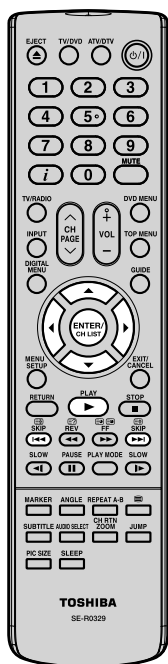


- If the number of plays goes over the limit, then "Rental Expired" will be displayed. In this case, the file will not be played.



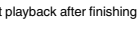
Note:

- In order to play DivX® VOD content on this unit, you first need to register the unit with registration code. See page 50.
- Depending on the recording conditions of DivX® file, you may not be able to use fast reverse/forward playback or JUMP function. See pages 34, 35.

**Note:**

- The repeat or random function is cancelled when you eject the disc or turn the power off.
- The track repeat function is cancelled when **REPEAT** or **REPEAT A-B** is pressed.
- In case of Audio CD, the function of A-B Repeat also can be used. See "A-B Repeat playback" (See page 37).

Repeat playback (Audio CD/MP3/JPEG/DivX®)

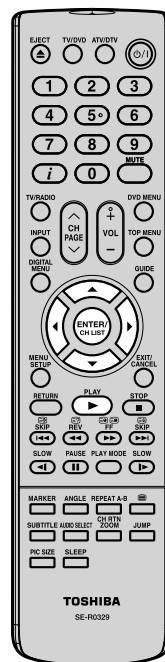
- In the file browser, press **▲/▼/◀/▶** to select "Repeat" during stop mode.
 
- Press **ENTER** repeatedly to select "Track" or "All".
 
- Press **PLAY** (**▶**). The unit automatically starts repeat playback after finishing the current track.
 

To resume normal playback
Select Repeat : "Off" in step 2.

Random playback (Audio CD/MP3/JPEG/DivX®)

- In the file browser, press **▲/▼/◀/▶** to select "Mode" during stop mode.
 
- Press **ENTER** to select "Random".
 
- Press **PLAY** (**▶**). The Random playback will start.
 

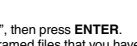
To resume normal playback
Select Mode : "Off" in step 2.

**Program playback (Audio CD/MP3/JPEG/DivX®)**

- In the file browser, press **▲/▼/◀/▶** to select "Edit Mode", then press **ENTER**.
 

When "Edit Mode" is black color, you can mark the files which you want to add into Program list.
- Press **▲/▼/◀/▶** to select the file you want to add into the program list.
 

Press **ENTER**. Selected file was marked. Repeat this procedure to select the other files.
- Press **▲/▼/◀/▶** to select "Add To Program". Then press **ENTER**. All marked files are added into the program list. (The maximum number of files can be added is 30.)
 

When you finish storing the files you want into the Program list, select "Edit Mode" again and press **ENTER** to release edit mode.
- Press **▲/▼** to select "Program View", then press **ENTER**. Program View shows only the programmed files that you have added in Step 2.
 

Browser View

Program View



- In the Program View, press **PLAY** (**▶**). The files start to playback in programmed order that were added by you.

To remove file from program list in stop mode

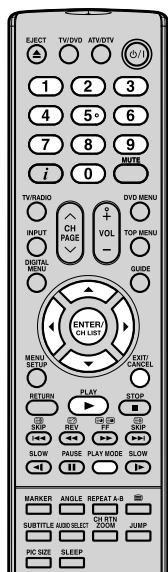
In the Edit Mode, switch to Program View. Select the files you want to remove, then press **ENTER**. Select "Clear Program" and press **ENTER**. Marked file is removed from program list.

Note:

- The program function is cancelled when you eject the disc or turn the power off.

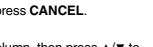
Program playback/Random playback

You can arrange the playback order of tracks or files on the disc. And the unit can also select tracks or files at random and playback them. These feature works for Video CD. For Audio CD and MP3/JPEG/DivX® CD, please see "Random playback (Audio CD/MP3/JPEG/DivX®)" on page 44 and "Program playback (Audio CD/MP3/JPEG/DivX®)" on page 45.

**Note:**

- In case of Video CD with PBC, you cannot set Program playback.
- The program is cancelled when you eject the disc or turn the power off.
- In case of Video CD with PBC, you cannot set Random function during playback.

Program playback (VCD)

- Press **PLAY MODE** during stop mode.
 
- Press **▲/▼** to select "Mode", then press **ENTER** to select "Program".
 
- Press **◀/▶** to select the programming position. Use **Number buttons (0-9)** to input the track numbers on sequentially.
 
 - If you input a wrong number, press **CANCEL**.
- Press **◀/▶** to return to the left column, then press **▲/▼** to select the "Program Playback" and press **ENTER**.
 

The programs you selected will start to playback in order.

- To resume normal playback, select Mode "Off" in step 2.

To change the program

- Select Mode to "Program" (as step 2), press **▲/▼/◀/▶** to select the track number you want to change, then press **CANCEL**.
- Press **Number buttons (0-9)** to overwrite the new track number.

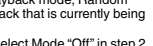
To clear the program one by one

Select Mode to "Program", press **▲/▼/◀/▶** to select the track number. Then press **CANCEL**.

To clear all the programs

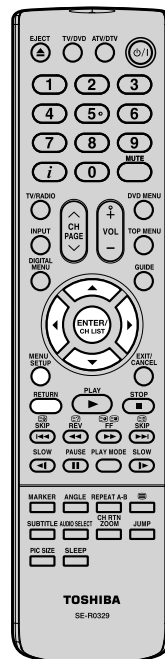
In the above column, press **▲/▼** to select "Clear Program". Then press **ENTER**.

Random playback (VCD)

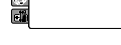
- Press **PLAY MODE** during playback or stop mode.
 
- Press **▲/▼** to select "Mode", then press **ENTER** to select "Random".
 
- Press **PLAY** (**▶**). The Random Playback will start.
 
 - If you set "Random" during playback mode, Random playback will begin after the track that is currently being played has ended.
 - To resume normal playback, select Mode "Off" in step 2.

Customizing The Function Settings

You can change the default settings to customize performance to your preference.

**Setting procedure**

- Press **SETUP** in stop mode.
 

The following on-screen display appears.
- Press **▲** or **▼** to select the desired section, then press **▶** or **ENTER**.
 
- First option will be highlighted. Press **▲** or **▼** to select the desired option.
 
- Then press **▶** or **ENTER**. The selectable settings will appear.
 
- Change the selection using **▲** or **▼**, by referring to the corresponding pages 48 ~ 50. Press **ENTER** to save the setting.
 
 - Repeat steps 3 and 5 to change other option.
 - To select another section, go back to step 2 by pressing **◀** or **RETURN** repeatedly.
- To clear SETUP screen, press **SETUP** or press **RETURN** repeatedly.

Setting details

Section	Option	Details	Page
	Menu	To select the language of "Menu".	48
	Subtitle	"Subtitle" and "Audio" if more than one languages are available on the disc.	
	OSD	To select a preferred language for on screen display.	49
	TV Screen	To select a picture size according to the aspect ratio of your TV.	
	Display	To turn On or Off the operational status display on the screen.	50
	Picture Mode	To select a preferred picture mode from "Video", "Film" or "Auto".	
	JPEG Interval	To select a preferred setting for the slide show playback.	51
	Night Mode	To select On or Off for Night Mode.	
	Digital Out	To select a digital output sound format corresponding to your system connection.	52
	Parental	To select a preferred parental level for the parental setting.	
	Password	To change the password.	53
	DivX(R) VOD	To display your 8-character registration code.	

Customizing The Function Settings



Menu, Subtitle, Audio

You can select the language of "Menu", "Subtitle" and "Audio" if more than one language is recorded onto the disc.

English, Français, Español, Deutsch, Italiano:
The selected language will be heard or seen.

Other:
Other languages can be selected (see "Language Code List" on page 52).

Off (Subtitle):
Subtitles do not appear.

Original (Audio):
The unit will select the first priority language of each disc.

Note:
• If the selected language is not recorded on the disc, the first-priority language is selected.

OSD
The setup language can be selected.

English: To display OSD language is English
Français: To display OSD language is French
Español: To display OSD language is Spanish
Deutsch: To display OSD language is German
Italiano: To display OSD language is Italian

TV Screen

You have the following screen sizes to choose from:

4:3 (Letterbox)

When playing back a wide screen-DVD disc, it displays the wide picture with black bands at the top and bottom of screen.

4:3 (Panscan)

It displays the wide picture on the whole screen with left and right edges automatically cut off.

16:9 (Wide screen)

A wide screen picture is displayed full size, although the image on the screen may be geometrically distorted in this mode because the TV screen has an aspect ratio of 4:3 not 16:9.

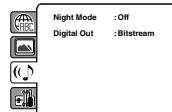
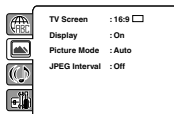
Note:
• If the DVD disc is not formatted in the pan & scan style, it displays 4:3 style.

Display

On screen display can be switched on or off when you press any buttons.

Off: On screen displays do not appear when you press any buttons except **SUBTITLE**, **PLAY MODE**, **MARKER**, **i**, **AUDIO SELECT** and **JUMP**.

On: On screen displays appear when you press the buttons (factory setting).



Customizing The Function Settings

Picture Mode

There are two types of source content in pictures recorded in DVD video discs: film content (pictures recorded from films at 24 frames per second) and video content (video signals recorded at 30 frames per second). Make this selection according to the type of content being viewed.

Auto: Select this selection normally.

The DVD player automatically detects source content, film or video of playback source, and converts that signal in an appropriate method.

Film: The DVD player converts film content pictures appropriately. Suitable for playback of film content pictures.

Video: The DVD player filters video signal, and converts it appropriately. Suitable for playback of video content pictures.

Note:
• Depending on the disc, pictures may be cut off or doubled. In this case, select "Video".

JPEG Interval

You can continuously playback all JPEG files automatically. After the selection below, the disc will start playback on JPEG files which have been recorded.

Off: Plays back one file at a time.

5 Seconds: Plays back images in the form of a slide show at 5 second intervals.

10 Seconds: Plays back images in the form of a slide show at 10 second intervals.

15 Seconds: Plays back images in the form of a slide show in 15 second intervals.

Night Mode

Night Mode enables you to control the dynamic range so as to achieve a suitable sound for your equipment.

Off: It plays back at the recording level on the disc.

On: Loud sound such as explosion is toned down slightly when played back. This is suitable when it is connected to a stereo.

Note:
• This function works only when the disc recorded with Dolby Digital is played back.
• The level of Night Mode may differ depending on DVD video disc.

Digital Out

You can select the digital output sound format corresponding to your system connection.

Off: There is no sound output from DIGITAL AUDIO OUT jack.

PCM: Change Dolby Digital to PCM for the output. Select when connected to a 2 channel digital stereo amplifier.

Bitstream: Disc audio bitstream data will be output.

Note:
• Even if you select "Bitstream", MPEG Audio will be output in PCM format.

Customizing The Function Settings



Parental

Some discs are specified as not suitable for children. Such discs can be limited not to playback with the unit.

- 1) Press **▲** or **▼** to select "Parental", then press **ENTER**. "Enter Password" screen will appear.
- 2) Press "0000" using **Number buttons (0-9)**. (Please note, this is pre-setting password of this unit). Then press **ENTER**. The parental level list will appear.

Level 1: DVD software for adults cannot be played back.

Level 8: Virtually all DVD software can be played back.

Level Off: The parental control setting does not function.

- 3) Press **▲** or **▼** to select from the level 1 to level 8. The limitation will be more severe as the level number is lower. Then press **ENTER**.
- 4) Press **▲** to activate Parental control setting.

Note:

- If each setup (pages 48 ~ 50) has been completed, the unit can always work under the same condition (especially with DVD discs). Each setup will be retained in the memory even if you turn the power off.
- Depending on the discs, the unit cannot limit playback.
- Some discs may not be encoded with specific rating level information though its disc jacket says "adult." For those discs, the age restriction will not work.
- The password is required every time when you change the parental level.
- If you input a wrong number, press **CANCEL**.

Password

- 1) Press **▲** or **▼** to select "Password", then press **ENTER**. "Enter Current Password" screen will appear.
- 2) Press **Number buttons (0-9)** to input the current password (If the password has not been set yet after you purchase this unit, it is "0000").
- 3) Then press **ENTER**. "Enter New Password" screen will appear. Press **Number buttons (0-9)** to input the new password.
- 4) Press **ENTER**. Now your new password has been set. Be sure to remember this number!

If you forget the password.

- 1) Press **▲** to remove the disc.
- 2) While holding **7** down on the remote control and at the same time press **STOP** (DVD) on the side panel. "Password Clear" appears on the screen. Now the password has been returned to the initial value ("0000").

DivX(R) VOD

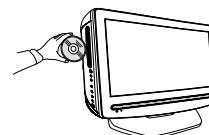
In order to play DivX® VOD (Video On Demand) content on this unit, you first need to register the unit with your DivX® VOD content provider. You do this by generating a DivX® VOD registration code, which you submit to your provider.

- 1) Press **▲** or **▼** to select "DivX(R) VOD". Then press **ENTER**. Your 8-character registration code is displayed. Make a note of the code as you will need it when you register with a DivX® VOD provider. Then press **ENTER** to select Done.

Temporary cancel the rating level by DVD disc

Depending on the DVD disc, the disc may try to temporarily cancel the rating level that you have set. It is up to you to decide whether to cancel the rating level or not.

- 1 Load a DVD disc.



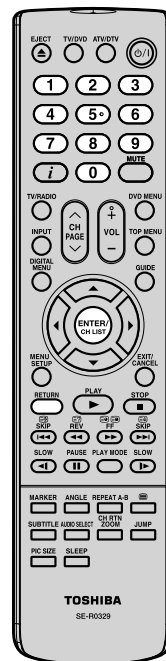
- 2 If the DVD disc has been designed to temporarily cancel the Rating level, the screen which follows the "Reading" screen will change, depending on which disc is played. If you select "YES" with the **ENTER**, password input screen will then appear.

- 3 Enter the password with **Number buttons (0-9)**. Then press **ENTER**.



To exit from the entry, press **RETURN**.

- 4 Playback will commence if the entered password was correct.



Note:

- This temporary cancellation of rating level will be kept until the disc is ejected. When the disc is ejected, the original rating level will be set again automatically.

Language Code List

Enter the appropriate code number for the initial settings "Menu", "Subtitle" and/or "Audio" (see pages 48).

Language Name	Code	Language Name	Code	Language Name	Code
Abkhazian	1112	Fiji	1620	Lingala	2224
Afar	1111	Finnish	1619	Lithuanian	2230
Afrikaans	1116	French	1628	Macedonian	2321
Albanian	2927	Frisian	1635	Malagasy	2317
Amharic	1123	Galician	1722	Malay	2329
Arabic	1128	Georgian	2111	Malayalam	2322
Armenian	1835	German	1415	Maltese	2330
Assamese	1129	Greek	1522	Maori	2319
Aymara	1135	Greenlandic	2122	Marathi	2328
Azerbaijani	1136	Guarani	1724	Moldavian	2325
Bashkir	1211	Gujarati	1731	Mongolian	2324
Basque	1531	Hausa	1811	Nauru	2411
Bengali; Bangla	1224	Hebrew	1933	Nepali	2415
Bhutan	1436	Hindi	1819	Norwegian	2425
Bihari	1218	Hungarian	1831	Oriya	2528
Breton	1228	Icelandic	1929	Panjabi	2611
Bulgarian	1217	Indonesian	1924	Pashto, Pushto	2629
Burmese	2335	Interlingua	1911	Persian	1611
Byelorussian	1215	Irish	1711	Polish	2622
Cambodian	2123	Italian	1930	Portuguese	2630
Catalan	1311	Japanese	2011	Quechua	2731
Chinese	3618	Javanese	2033	Rhaeto-Romance	2823
Corsican	1325	Kannada	2124	Romanian	2825
Croatian	1828	Kashmiri	2129	Russian	2831
Czech	1329	Kazakh	2121	Samoan	2923
Danish	1411	Kirghiz	2135	Sanskrit	2911
Dutch	2422	Korean	2125	Scots Gaelic	1714
English	1524	Kurdish	2131	Serbian	2928
Esperanto	1525	Laotian	2225	Serbo-Croatian	2918
Estonian	1530	Latin	2211	Shona	2924
Faroese	1625	Latvian, Lettish	2232	Sindhi	2914
				Zulu	3631

PC connection

As PCs are sometimes supplied with a 'conventional' CRT monitor, you may need to adjust the display settings of your PC's graphics card, otherwise the pictures may not appear correctly. Switch on your PC (still with your original monitor) - select '1360 x 768' for the screen resolution, and select 60 Hz for the on-screen refresh rate. Switch off your PC, then connect it to your LCD TV while both items are still switched off.

Monitor Display modes

MODE	Resolution	V. Frequency	H. Frequency	Pixel Clock Frequency
VGA	640 x 480	60.000Hz	31.500kHz	25.200MHz
SVGA	800 x 600	60.317Hz	37.879kHz	40.000MHz
XGA	1024 x 768	60.004Hz	48.363kHz	65.000MHz
WXGA	1280 x 720	59.870Hz	47.776kHz	79.500MHz
WXGA	1280 x 768	59.939Hz	44.955kHz	74.175MHz
WXGA	1360 x 768	60.015Hz	47.712kHz	85.500MHz

(according to Graphic card)

Select PC input

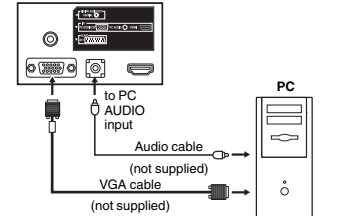
Switch on the LCD-TV.
Select the PC input mode (see page 11).

Note:

- If there is no video signal from the computer when the unit is in PC mode, "NO SIGNAL" will appear on the TV screen.
- Digital PC connection via HDMI input is not supported. If you try to connect your PC digitally anyway, the TV-operation might freeze. TV will stop to respond properly on user commands.
- Countermeasure:** Switch-off your TV and disconnect from the 220-240V power-supply. Disconnect the digital PC connection. Now you may retry operating your TV.
- If a digital PC connection does show a picture, proper working is not guaranteed. Digital PC connection is not granted for this TV.

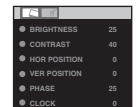
Use a PC-VGA cable (not supplied) to connect the LCD-Monitor to your PC. Make the connections carefully so as not to break or bend the contacts inside the plug.

TV (Back side view)



Example: Adjust the contrast.

- During PC mode press **MENU**. The Menu will appear on the screen.



- Select **CONTRAST**, then press **ENTER**. Press **◀** or **▶** to adjust **CONTRAST**.
- Press **EXIT** to return to the normal screen.

Description about the each setting option:

PICTURE Menu

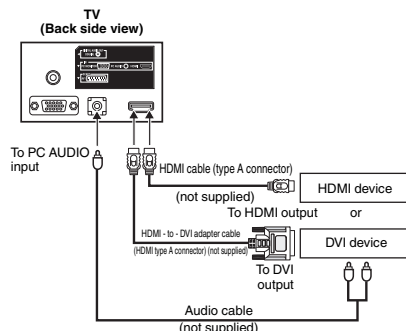
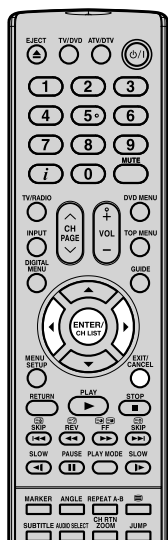
BRIGHTNESS and CONTRAST: You can adjust these according to your personal preferences.
HOR POSITION and VER POSITION: to adjust the horizontal and vertical placing of the image.
PHASE and CLOCK: eliminates the horizontal (PHASE) and vertical (CLOCK) interfering lines.
RED/GREEN/BLUE: influences the colour balance.
BACKLIGHT: Press **◀** or **▶** to adjust the level you require.
WXGA INPUT: When you input an WXGA signal, set this option to 'ON'.
RESET: Press **ENTER** to reset BRIGHTNESS, CONTRAST, RED, GREEN, BLUE and BACKLIGHT to the factory preset values.

AUDIO Menu

BASS/TREBLE/BALANCE: Tone setting menu.
RESET: Press **ENTER** to reset BASS, TREBLE and BALANCE to the factory preset values.

Connecting an HDMI or a DVI device to the HDMI input

The HDMI input receives digital audio and uncompressed video from a HDMI equipped device or uncompressed digital video from a DVI equipped device.
When you connect to a DVI device with a HDMI-to-DVI adapter cable, it only transfers the video signal, so it is necessary to use separate analogue leads to transfer the audio signals.
Select the HDMI input mode (see page 11).



Selecting the HDMI audio input source

You must choose the appropriate HDMI audio input setting for each connection, depending on whether the source is equipped with a DVI or HDMI socket.

- Select HDMI AUDIO then press **ENTER**. Press **◀** or **▶** to select HDMI or DVI.



- Press **EXIT** to return to the normal screen.

Note:

- Follow the user's manual that came with the HDMI-system, which you try to connect to this TV. If there is no picture available via HDMI-connection, do connect via SCART-cable first. Use the HDMI-system's remote-control to call the HDMI-system's setup-menu onto the screen.
- Follow the HDMI-system's manual, to set its video-output to HDMI.
- When successfully set to HDMI, select this TV's HDMI-input, as described in here on page 11 (Select Video Input).

Note:

- This set is classed as "HD-Ready". This means that it is capable of displaying HD (High Definition) signals when connected to a suitable HD source, such as an HD receiver or DVD player that has HD capability, via HDMI, DVI, or Component Video connections.
- Some devices may not operate properly with the TV.

HDMI

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

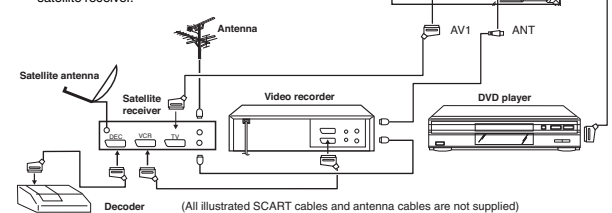
Connection to other equipment

1. Connecting other units to your TV

Caution. Before connecting:

- Make sure to disconnect the appliance from the power supply in order to avoid any potential damage from occurring.
- Make sure to establish the required connection.
- Make sure that connections are properly and correctly attached before connecting the appliances to the power supply.

Connect with Satellite receiver as shown below.
Select the TV-Program at the satellite receiver.
To do this, use the remote control of the satellite receiver. You cannot store the same station once again additionally in LCD-Monitor which already stored in satellite receiver.

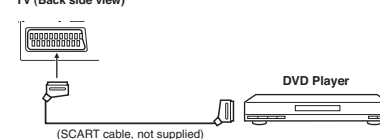


Note:

S-Video signals can be played back through the AV2 input (see page 57).

2. Connecting a DVD player

TV (Back side view)



To ensure optimum picture quality, select RGB for the DVD player's output signal (see Owner's manual of the DVD player). AV1 SCART is compatible with RGB signal. Select AV1 input mode to view (see page 11).

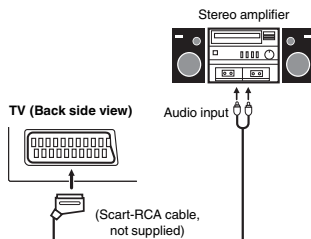
Connection to other equipment

3. Connecting an audio system

You can supply the TV sound to the stereo equipment with the scart socket. Use a special scart cable for the connection which sold at the accessory shop. (please consult your hi-fi instructions for details).

Note:

- The Bass/Treble/Balance adjustments (see P.18) only function with the sound from the TV speakers - it does not affect the audio output sockets.



4. Connection of a digital amplifier or digital AV receivers

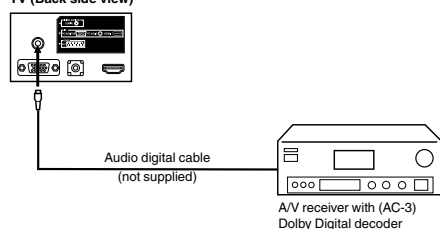
(with DTS or Dolby Digital Decoder)

DTS and Dolby Digital are two different systems. DTS-DVDs cannot be played with a Dolby Digital receiver. Please use in this case a decoder that matches your DVDs.

Note:

- In earlier years Dolby Digital was known as AC-3. Nowadays only the name has changed. To enjoy Dolby Digital you may still use your "old" AC-3 decoder. Also the commercially available AC-3 DVDs can still be played with any Dolby Digital DVD player.

TV (Back side view)



- After connecting a Dolby Digital decoder please select in the DVD menu the Dolby Digital (DD) sound track option.
- Several DVDs may be pre-recorded on both sides however only one side contains the Dolby Digital sound track. Please insert the correct DVD side.
- When a DTS sound track is played the integrated loudspeakers are mute. The DTS sound can only be played digitally using the digital outlet. DTS decoder is necessary for hearing.
- Digital audio output is active only when receiving DVB-T, not when receiving analogue cable TV broadcasting.

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Connection to other equipment

5. Connecting Video camera and Video recorder

Select the "MONITOR" option in the SETUP menu (see No.7 on page 58).

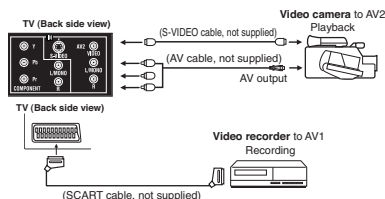
Select the AV2 input mode (see page 11). You can see the playback picture from video camera.

This signal is output via AV1 and can be recorded by video recorder.

With this arrangement, Video recorder will record exactly what is shown on the screen.

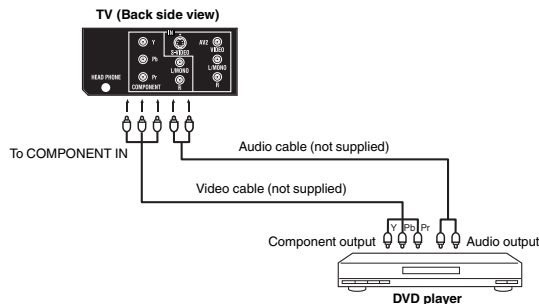
Note:

- If you have a camcorder with S-video, use an S-video cable instead of a standard video cable. Do not connect both a standard video cable and an S-video cable at the same time, or the picture performance will be unacceptable.
- When you input the PAL-M signal to AV2 input, select AV COLOUR setting to AUTO, otherwise the monochrome images will be displayed.



6. Connecting to a DVD player or other AV device with Component Video outputs

If your DVD player (or other device) has Component Video output jacks, use a suitable set of leads (RCA/Phono) to connect these to the Component Video inputs on this TV as shown - it can greatly enhance the picture quality and performance. Please remember that you will also need to connect separate leads (RCA/Phono) for the audio signals. Select the COMPONENT input mode (see page 11).



Note:

- The Component Video input of this unit are for use with equipment which outputs interlaced signals (PAL: 576i/1080i or NTSC: 480i/1080i) and progressive signals (PAL: 576p/720p or NTSC: 480p/720p).

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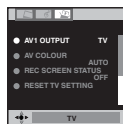
Connection to other equipment

7. Setting of Scart socket

1 In **AV2**, select AV1 OUTPUT, then press **ENTER**.

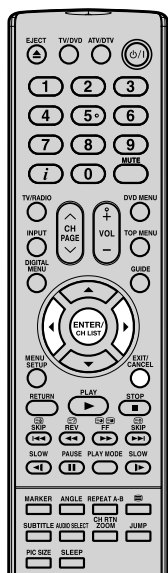
2 This determines whether the AV1 outputs the signal from the internal tuner or whatever input is shown on the screen. Press **◀** or **▶** to select TV or MONITOR.

TV: Outputs the last channel position selected.
MONITOR: The picture displayed on TV-screen



3 Press **EXIT** to return to the normal screen.

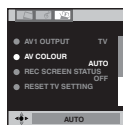
AV colour adjustment



The AV Colour setting only applies when viewing devices connected to the AV inputs.

1 In **AV2**, select AV COLOUR, then press **ENTER**.

2 Press **◀** or **▶** to select AUTO.



3 If AUTO option does not work, press **◀** or **▶** to select desired colour (e.g. NTSC 3.58).

4 Press **EXIT** to return to the normal screen.

Note:

- PAL is the colour system used in Germany. NTSC 3.58 is used in the USA, PAL 60 used in Germany handled video recorders, which play NTSC video tape recording.

If the picture shows horizontal stripes:
Set to AUTO as the description above.

Status message

Information/Status message	Cause
Invalid entry	The channel does not exist. (e.g., "000")
No radio services	Cannot change to Radio mode because there is no radio service in the channel list.
No TV services	Cannot change to TV mode because there is no TV service in the channel list.
No services	There are no services in the received signal.
No subtitles	There are no subtitles in the received signal.
No video No audio	The signal does not contain audio or video.
Audio stream not available	The Multi Audio Menu cannot be displayed because there is no sound.
Descrambling not possible	The services for the selected channel are not available for this card.
CI card initialized	CI card is initializing.
CAM module has been removed	CAM module has been removed. (CAM is used for inserting the CI card.)
Database empty	There are no services in the TV.
No signal	There are no signal inputs.
Locked service	The service is locked with the channel organizer.
Scrambled service	The service is scrambled and unavailable.
Digital Service	Not available.
Not Running	Broadcasting has been suspended.
HD service	This service is for HD.
New service added ...	A new service has been added.
Upgrading available service details	Service information has been changed. The channel list is updating.
Duplicate carrier found	The same signal has already been set.
Invalid Stream	Contains a video format that is not supported by this TV.

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Troubleshooting table

Please check the following list before requesting service.

Symptom	Possible solution	Page
TV		
No picture, no sound	Switch on the set.	6
	Check that the mains power outlet is properly connected.	9
	Select appropriate input mode. Unplug unit for 1 minute, then plug it back in.	11
No reception	Have you tuned in the TV stations?	10, 11
	Connect the antenna.	9
	Make sure the set is ON and not in Standby mode	9
The TV switches off with missing antenna input signal	This is normal.	14
	15 minutes after the antenna signal has disappeared, the set will change to standby mode.	
In  menu, the TUNING option cannot be selected.	The unit is set to AV mode. Press 1 on the remote control.	11
Wrong Colours	Colour and Brightness errors can occur when the viewing angle / ambient air temperature (see technical specifications) are exceeded.	–
While viewing a DVB (digital) channel, there is sound but no picture.	Some channel offers audio content only. It is normal.	–
Blocky image or image stops intermittently.	Check all antenna connections. Move the antenna away from areas of possible interference. Try using an antenna booster.	9
Some digital channels cannot be viewed.	Contact the service provider to subscribe.	–
"Database empty" message appears on the screen.	Check all antenna connections and try auto tuning again.	9, 20
DVD		
The playback picture has occasional distortion.	The disc is dirty. Eject the disc and clean it.	31, 32
	Some times a small amount of picture distortion may appear. This is not a malfunction.	
The unit does not start playback.	No disc is inserted. Insert a disc.	32
	An unplayable disc is inserted. Insert a playable disc (Check the disc type and colour system).	31
	Place the disc in the disc slot with the label side facing forward.	32
	The disc is dirty. Clean the disc.	31
	Cancel the parental lock function or change the parental lock level.	50, 51
 appears on the screen.	The function is prohibited with the unit or the disc.	34

- The LCD panel is a very high technology product, giving you fine picture details. Occasionally, a few nonactive pixels may appear on the screen as a fixed point of blue, green or red. Please note that this does not affect the performance of your product.
- This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.
- Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
-  is a trademark of DVD Format/Logo Licensing Corporation.
- Manufactured under license under U.S. Patent #: 5,451,942 & other U.S. and worldwide patents issued & pending. DTS and DTS Digital Out are registered trademarks and the DTS logos and Symbol are trademarks of DTS, Inc. © 1996-2007 DTS, Inc. All Rights Reserved.
- Unauthorized recording of copyrighted television programs, films, video cassettes and other materials may infringe the rights of copyright owners and be contrary to copyright laws.
- DivX, DivX Certified, and associated logos are trademarks of DivX, Inc. and are used under license.

Specifications

Model	19DV555DB/19DV556DB		22DV555DB/22DV556DB
TV			
System:	Analogue: PAL UK, IR, CCIR, FRENCH System, B/G, D/K, I/I, L Digital: DVB-T (OFDM 2k/8k 16QAM/64QAM)		
Video Colour System:	PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60		
Preset channels:	Analogue channels (99) + Digital channels (Carrier 200/Service1000)		
Frequency Range:	Analogue: I-reE2–E4, X–Z+2, S1–S10, E5–E12, S11–S41, E21–E69 Digital: E5–E12, ItaD–H2, Fra1–F6, Rus6–12, E21–E69		
LCD:	18.95" TYPE (48.14 cm visible) TFT low-glass Active Matrix Colour LCD, 1440 x 900 Pixel	22" TYPE (55.8 cm visible) TFT low-glass Active Matrix Colour LCD, 1680 x 1050 Pixel	
HDMI input:	HDMI compliant (type A connector) HDCP compliant Suggested scan rates: PAL: 576i/576p/720p/1080i NTSC: 480i/480p/720p/1080i PC Audio: 2-channel PCM, 32/44.1/48 kHz sampling frequency 16/20/24 bits per sample		
Audio Output Power:	approx. 1.5W (MAX) x 2		
DVD			
Signal system:	NTSC, PAL (Region 2)		
Applicable disc:	DVD (12cm, 8cm), CD (12cm, 8cm)		
Output:	Audio : (RCA) –12.0 dBm, 1 k Ω Digital Audio : 0.5Vp-p/75 Ω		
Pickup:	CD : Wavelength: 775 - 805 nm Maximum output power: 0.5 mW DVD : Wavelength: 640 - 660 nm Maximum output power: 1.0 mW		
GENERAL			
Power Source:	AC 220-240V, 50Hz		
Power Consumption:	Operation: approx. 60W at 230V, 50Hz Standby: approx. 1W at 230V, 50Hz	Operation: approx. 65W at 230V, 50Hz Standby: approx. 1W at 230V, 50Hz	
Weight:	5.2 kg	6.2 kg	
Dimensions:	47.2(W)x40.1(H)x20.7(D)cm	53.7(W)x44(H)x20.7(D)cm	
Surrounding temperature:	Operation: 5°C ~ 40°C/Storage: –20°C ~ 60°C		
ACCESSORIES			
2 batteries (AAA/R03/UM-4)/Remote control unit/Aerial cable/AC cord			

Weight and Dimensions are approximate. Because we continually strive to improve our products we may change specifications and designs without prior notice.



"This product is marked with "CE" and complies therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC and the EMC Directive 2004/108/EC."

Responsible for CE-marking is TOSHIBA INFORMATION SYSTEMS (U.K.) LTD,
Toshiba Court, Weybridge Business Park, Addlestone Road, Weybridge,
Surrey, KT15 2UL, United Kingdom

Following information is only for EU-member states:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Following information is only valid for EU-member States:**Disposal of batteries and/or accumulators**

The crossed out wheeled dust bin symbol indicates that batteries and/or accumulators must be collected and disposed of separately from household waste.

If the battery or accumulator contains more than the specified values of lead (Pb), mercury (Hg), and/or cadmium (Cd) defined in the Battery Directive (2006/66/EC), then the chemical symbols for lead (Pb), mercury (Hg) and/or cadmium (Cd) will appear below the crossed out wheeled dust bin symbol.

By participating in separate collection of batteries, you will help to assure the proper disposal of products and batteries and thus help to prevent potential negative consequences for the environment and human health.

For more detailed information about the collection and recycling programmes available in your country, please contact your local city office or the shop where you purchased the product.



J51Z0231A SH 08/10

TOSHIBA**19/22-inch* Diagonal LCD TV/DVD COMBINATION****19DV555DG
19DV556DG
22DV555DG****OWNER'S MANUAL**

Illustration of 19DV555DG

©2008 Toshiba Corporation
Before operating the unit, please read this manual thoroughly.
*Screen size is approximate.

Owner's Record

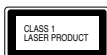
The model number and serial number are on the back of your TV/DVD. Record these numbers in the spaces below. Refer to these numbers whenever you communicate with your Toshiba dealer about this TV/DVD.

Model number: _____
Serial number: _____

Precautions**CAUTION:**

THIS UNIT IS A CLASS 1 LASER PRODUCT. HOWEVER THIS UNIT USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

THE FOLLOWING CAUTION LABEL IS LOCATED ON THE REAR PANEL OF THE UNIT.



WHEN THIS UNIT IS PLUGGED INTO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENINGS TO LOOK INTO THE INSIDE OF THIS UNIT.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

Headphone Warning

Loud music can damage your hearing irreversibly, therefore do not set the volume to a high level when listening through headphones, particularly for extended listening periods.

Information for the DVB-T function

- Any function relative to the digital television (with the DVB logo) is available only within the country or area where such signals are transmitted. Verify with the salesman if it is possible to receive a DVB-T signal in the zone where you live.
- Even if the television conforms to the DVB-T specifications, the compatibility to future digital DVB-T transmissions is not guaranteed.
- Some digital television functions may not be available in some countries.
- The DVB-T system present in this device is FTA (Free to air).
- The "HD ready" Logo is a trademark of EICTA.
- DVB is a registered trademark of the DVB Project. This logo indicates that the product is compliant with European Digital Broadcasting.

Possible Adverse Effects on LCD Screen: If a fixed (non-moving) pattern remains on the LCD screen for long periods of time, the image can become permanently engrained in the LCD TV panel and cause subtle but permanent ghost images. This type of damage is NOT COVERED BY YOUR WARRANTY. Never leave your TV on for long periods of time while it is displaying the following formats or images:

- Fixed Images, such as stock tickers, video game patterns, TV station logos, and websites.
- Special Formats that do not use the entire screen. For example, viewing letterbox style (16:9) media on a normal (4:3) display (Black bars at top and bottom of screen); or viewing normal style (4:3) media on a widescreen (16:9) display (Black bars on left and right sides of screen).

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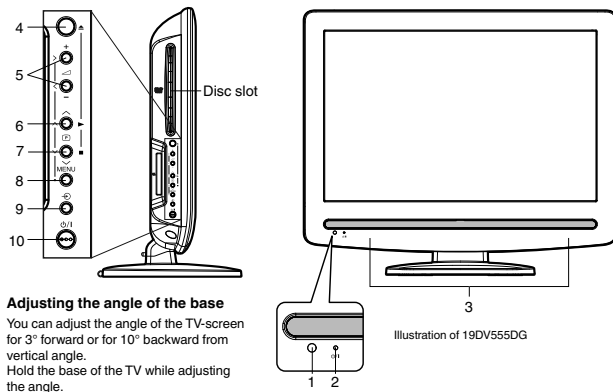
Important safety information

This unit has been produced according to all current safety regulations. The following safety tips should safeguard users against careless use and the dangers connected with such use.

- Although this appliance has been carefully manufactured and rigorously checked prior to leaving the factory, as with all electrical appliances it is possible for problems to develop. If you notice smoke, an excessive build-up of heat or any other unexpected phenomena, you should disconnect the plug from the mains power socket immediately.
- Ensure that the unit is sufficiently ventilated! Never place next to or underneath curtains!
- This set should be only be connected to an AC 220-240V / 50Hz mains power supply - do not attempt to connect it to any other type of supply.
- The apparatus must be connected to a main socket outlet with a protective earthing connection.
- The socket-outlet must be installed near the equipment and easily accessible.
- Any repairs must be carried out by qualified service personnel only.
- Do not open this unit. A non-expert attempting to repair the unit could be dangerous and potentially cause a fire hazard.
- Keep away from rodents. Rodents (and also cockatiels) enjoy biting into electric flexes.
- The animal can cause a short cut (fire hazard!) and receive a fatal electric shock.
- Always hold plug when pulling out plug from power mains supply system. Do not pull on flex. The flex can become overloaded and cause a short cut.
- Never wet clean. Only use a damp cloth, the same as when cleaning furniture.
- Set up unit so that no one is able to trip over the flex.
- Only use the unit on a stable, shock-free base in order to avoid any danger from falling.
- Take note that toddlers can pull the unit down from the table or cupboard by means of its flex. Children can hurt themselves when doing this.
- Do not use the unit near heat sources. The casing and flex could be damaged by the impact of heat.
- The screen is made of glass and can break if damage is done to it. Be careful when collecting sharp-edged glass splitters.
- You could be hurt or the unit could be damaged.
- If the unit is mounted on the wall, contact the shop where you purchased the unit for advice, and leave the installation work to experts. Incomplete installation work can cause you injuries.
- When installing the set on a wall, allow at least 10 cm clearance between the rear of the set and the wall. Clearance of less than 10 cm will obstruct the vents and cause the interior of the set to overheat, resulting in faults or damage to the set.
- Taking fall-prevention measures
 - If these measures are not taken, the unit can fall and you could be injured.
 - Contact the shop where you purchased the unit to obtain full details of the measures.
- When a TV stand is used,
 - Ensure the unit is fully on the stand and placed in the centre.
 - Do not leave the stand doors open.
 - You could be hurt as a result of the unit falling or breaking, or your fingers being caught or jammed. Take extra precautions if you have children.
- Avoid placing the unit on any surfaces that may be subject to vibrations or shocks.
- To protect the unit during a thunder storm unplug the AC power cord and disconnect the aerial. Caution: Do not touch the aerial connector.
- When you leave your home for a long period of time, unplug the AC power cord for safety reasons.
- The unit becomes warm when in operation. Do not place any covers or blankets on the unit in order to prevent overheating. The ventilation holes are not to be blocked. Do not set up near radiators. Do not place in direct sunshine. When placing on a shelf leave 10 cm free space around the whole unit.
- Make some space around TV (Correct shelf assembly).
- The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- Liquids spilled into the unit can cause serious damage. Switch the set OFF and disconnect the mains power supply, then consult a qualified service person before attempting to use the unit again.
- Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day. Drops of water form on the outside of the glass. In the same way, moisture may condense on the optical pick-up lens inside this unit, one of the most crucial internal parts of the unit.
- Moisture condensation occurs during the following cases.
 - When you bring the unit directly from a cold place to a warm place.
 - When you use the unit in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
 - In summer, when you use the unit in a hot and humid place just after you move the unit from an air conditioned room.
 - When you use the unit in a humid place.
- Do not use the unit when moisture condensation may occur.
- If you use the unit in such a situation, it may damage discs and internal parts. Remove the disc, connect the mains lead of the unit to the mains power outlet, turn on the unit, and leave it for two or three hours. After two or three hours, the unit will have warmed up and evaporated any moisture. Keep the unit connected to the mains power outlet and moisture condensation will seldom occur.

4

Location of controls



Description of Indicators and Controls

- Remote sensor**
- ⏻ / (Power) indicator:** The LED indicator lights up red in standby mode, orange in standby mode when the timer is activated, and green in the power ON mode.
- Loudspeakers**
- ▲ (EJECT):** Eject a disc.
- ⏮ (Volume) +/- buttons / In Menu: Setting.**
- ⏮ (Channel) / (PLAY) (▶) button:** Press ▲ to change to a higher numbered channel set into memory. DVD mode: Playback. In Menu: Setting. In Standby: Turning on the unit.
- ⏮ (Channel) / (STOP) (■) button:** Press ▼ to change to a lower numbered channel set into memory. DVD mode: Stop. In Menu: Setting. In Standby: Turning on the unit.
- MENU button:** To display the analogue menu screen.
- ⏮ (INPUT SELECT) button:** Select input mode for ATV/DTV/AV1/AV2/COMPONENT/HDMI/PC/DVD. In Menu: Using as ENTER button.
- ⏻ / (Power)-button:** Preparation: Connect power-cable to 230V/50Hz.
 - If standby-LED is red, you may power-off. To power-off, press power-button 1x and release. For confirmation, standby-LED will turn off.
 - If standby-LED is off, you may power-on. To power-on, press power-button 1x and release. For confirmation, standby-LED will change to red and about 1 second later to green.
 - If the TV is currently working, press power-button 1x and release to power-off. For confirmation, standby-LED will turn off.In power-off-condition, the unit cannot be power-on by pressing ⏻ / on the remote control. In power-off-condition, the TV's power-consumption is approx. 1 Watt. If total disconnection from the mains is required, please unplug.

6

Important safety information

Where to install

Locate the television away from direct sunlight and strong lights, soft, indirect lighting is recommended for comfortable viewing. Use curtains or blinds to prevent direct sunlight falling on the screen.

Place on a sturdy platform, the mounting surface should be flat and steady. It should then be secured to the wall with a sturdy tie using the clip on the back of the stand, or secured to the platform using the fixing strap located underneath the table top stand, this will prevent it from falling over.

The LCD display panels are manufactured using an extremely high level of precision technology, however sometimes some parts of the screen may be missing picture elements or have luminous spots. This is not a sign of a malfunction.

Make sure the television is located in a position where it cannot be pushed or hit by objects, as pressure will break or damage the screen, and that small items cannot be inserted into slots or openings in the case.

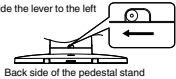
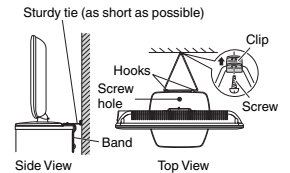
Retractable pedestal stand and locating the LCD TV

Observe the following safety precautions:

- Ensure that unpacking and transfer of the unit is carried out by two or more people.
- Put the LCD TV on a large level area in a recumbent posture.
- Grab the pedestal stand and lift the display up. Confirm the pivot is locked.
- Place the TV on a sturdy, level surface that can support the weight of the TV.
- Be sure to secure the TV to a wall stud, pillar, surface, or other immovable structure. To secure the TV in this manner: (1) attach a clip to an immovable structure, then (2) pass a sturdy strap through the clip and attach each end to the hooks located at the back of the TV. Be sure to leave at least 10 cm between the TV and the wall or similar structure for ventilation.

To fold the pedestal stand

- Slide the lever on the back side of the pedestal stand to the left.
- Lay the display down.



NOTE: Do not operate the LCD TV when the pedestal stand is folded. The pedestal stand should not be folded at any time except for packing purposes.

Please take note

EXCLUSION CLAUSE

Toshiba shall under no circumstances be liable for loss and/or damage to the product caused by:

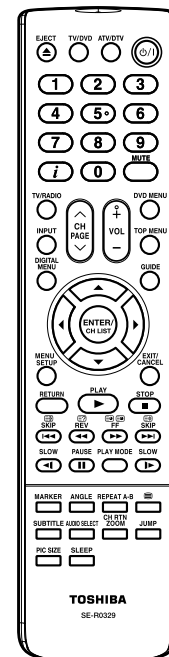
- fire;
- earthquake;
- accidental damage;
- intentional misuse of the product;
- use of the product in improper conditions;
- loss and/or damage caused to the product whilst in the possession of a third party;
- any damage or loss caused as a result of the owner's failure and/or neglect to follow the instructions set out in the owner's manual;
- any loss or damage caused directly as a result of misuse or malfunction of the product when used simultaneously with associated equipment;

Furthermore, under no circumstances shall Toshiba be liable for any consequential loss and/or damage including but not limited to the following, loss of profit, interruption of business, the loss of recorded data whether caused during normal operation or misuse of the product.

If stationary images generated by text services, channel identification logos, computer displays, video games, on screen menus, etc. are left on the television screen for any length of time they could become conspicuous, it is always advisable to reduce both the brightness and contrast settings.

5

Remote Control



	Function	Page
	Eject a disc	33
	Select to operate TV/DVD	11, 32
	Switches between the analogue TV and the digital TV	11, 20
	Enter standby mode or turn on the power	10
	Select channel	14
	Select Teletext page	15
	Enter password	25, 50
	Activate the channel organizer function	22
	Display program position number	14, 27, 28, 39
	Teletext time display	14
	Turn the sound on/off	14
	Toggle between the TV and radio mode	27
	Select an input source	11
	Change the TV channel or Teletext page up or down	14, 15
	In Standby: Turn on the power	11
	Volume	14
	Select menu of a DVD disc	38
	Select title of a DVD disc	38
	Activate the digital menu	20
	Display the EPG (Electronic Progr. Guide)	29, 30
	Cursor buttons	10
	Memorize Teletext page 100	10
	Call Setup menu	15
	Activate the analogue menu	14
	Exit the menu screen	47
	Cancel marking	11
	Remove DVD set up menu	36
	Play	47, 51
	Stop	32
	Hold the text page	32
	Skip chapter to reverse direction	15
	Reveal quiz page answers	34
	Review playback	34
	Sub page selection	15
	Forward playback	34
	Teletext enlargement	15
	Skip chapter to forward direction	34
	Fasttext/TOPText buttons	15
	DVD control buttons	34, 37
	Marking desired scene	36
	Change playback angle of a DVD disc	38
	Repeat playback between A and B (DVD/CD)	37
	Teletext ON/OFF	15
	Display the subtitle	28, 39
	Select between the available broadcast audio	16
	Display the multi audio menu	28
	Change sound track language of DVD	39
	Switches between the present channel and the last selected channel	14
	Zoom (for DVD playback)	35
	Locating desired scene	35
	Select picture format	17
	Sleep timer	14

7

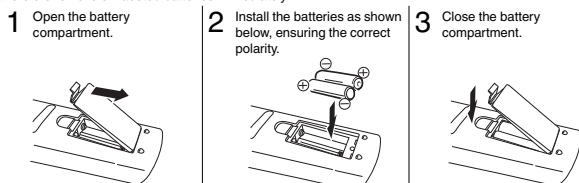
Remote Control

Install the batteries

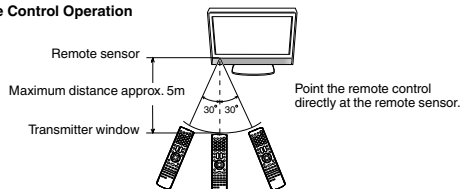
Use batteries type UM4/R03 (AAA-Size). Do not use old or weak batteries. The remote control may not work properly with a weak voltage from such batteries. Replace exhausted batteries with new ones. Never try to recharge normal batteries - this could cause an explosion.

Note:

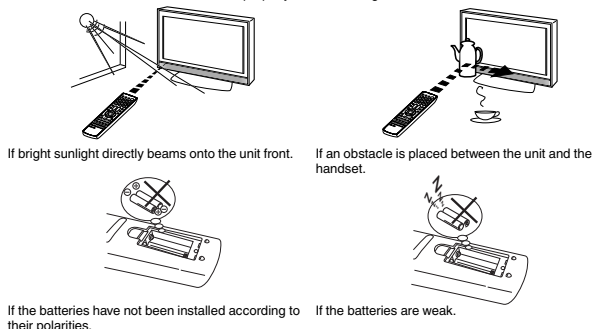
Exhausted batteries can leak corrosive electrolyte, which may cause damage to the remote control - therefore remove exhausted batteries immediately.



Distance of Remote Control Operation



The remote control handset will not work properly in the following cases:



8

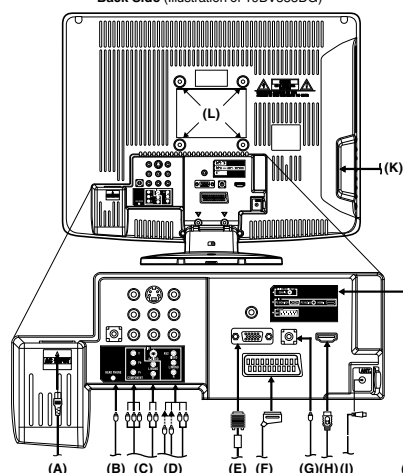
Aerial connection

Note: Before you connect other appliances:

- To avoid potentially damaging your set, make sure all items are switched off and disconnected from the mains power when you make the connections.
- Arrange the desired connection.
- When you have finished making the connections, reconnect the mains power to the unit and switch it back on.

Connect your aerial as shown below. Connections to other equipment is explained further on pages 55-57. If you have problems with reception, consult a specialist of aerial.

Back Side (Illustration of 19DV555DG)



- (A) **Power supply:** Connect the supplied power cable to an AC 220-240V/50Hz mains power supply only - do not attempt to connect it to any other type of supply. Never try to repair a damaged AC power cord with isolation-tape - this should be repaired by a specialist or replaced. Do not let your pet loose near the cable. Animals biting into the cable could receive a fatal electric shock, and could cause a hazard to others.
- (B) **HEADPHONE jack:** Plug headphones with a mini plug (3.5 mm) into this jack.
- (C) **COMPONENT input:** See page 57.
- (D) **AV2 input:** Input for analogue A/V-Signal (Composite or S-Video). See page 57.
- (E) **PC MONITOR input (PC):** See page 53.
- (F) **Scart socket (AV1):** For the connection of scart cable. See pages 55-57.
- (G) **PC AUDIO input:** See pages 53, 54.
- (H) **HDMI input:** See page 54.
- (I) **Aerial input socket:** Connect the outdoor aerial to the aerial input socket as shown.
- (J) **Digital audio output:** Digital output for CD/DVD & DVB-T (see page 56).
- (K) **C.I. slot:** The Common Interface allows you to insert CAM (Conditional Access Module) and a suitable Smart Card to give you access to additional Pay-TV services. (see page 26) Before inserting the module, make sure to turn off the main power and then insert the module all the way into the slot until it is flushed with the side panel buttons.
- (L) **Bracket holes:** Fix a wall mounting bracket (not supplied) here.

9

Auto setup

Your unit has an Automatic installation which makes installation in your unit easy. When you turn on the unit for the first time, the Automatic installation routine is activated. Using this routine, you can select the on-screen language and automatically search for and store all the receivable analogue and digital (DVB) channels. The Automatic station presetting feature is for the set's built-in tuner only. If you have a device such as a digital decoder (eg. Satellite or Digital Terrestrial) connected (see page 55), you would need to tune it in separately according to its own instructions.

Preparation: Press $\odot$ /I (Power) on the unit or press $\odot$ /I (On/Standby) on the remote control.

- AUTO INSTALLATION** menu will appear. Press $\blacktriangle$ or $\blacktriangledown$ to select LANGUAGE, then press **ENTER**. Press $\blacktriangle$ or $\blacktriangledown$ to select desired language. Then press **ENTER**.

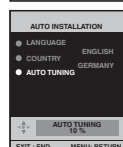
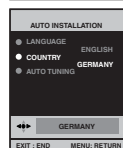
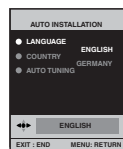
- Press $\blacktriangle$ or $\blacktriangledown$ to select COUNTRY, then press **ENTER**. Press $\blacktriangle$ or $\blacktriangledown$ to select your country. Then press **ENTER**.

- Press $\blacktriangle$ or $\blacktriangledown$ to select AUTO TUNING, then press **ENTER**. The confirmation screen will be displayed. Press **ENTER** to start automatic tuning. Your TV will now automatically tune in all available channels. Your TV will tune the analogue channels first, then tune the digital channels.

Note:

- Please be patient - the Auto Tuning process can take several minutes to complete.

When the programme on the screen stops changing and the sound comes on, the search process is complete.



Note:

- To cancel the Auto Tuning, press **EXIT** during the process.
- If on the "AUTO INSTALLATION (COUNTRY)" screen "UK" is selected, "Move To" cannot be used in UK (see page 23).

THE AUTOMATIC TUNING PROCESS WILL ONLY START BY ITSELF THE FIRST TIME YOU SWITCH THE SET ON. HOWEVER YOU CAN RESTART THIS PROCESS VIA THE MENU SYSTEM (see page 12 for analogue channels, and page 20 for digital channels).

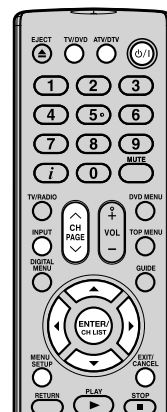
10

Quick guide for ANALOG MENU operation/Selecting the video input source/On-screen Language Selection

Make sure the aerial connection and power supply are connected as per the description on previous page.

Preparations:

- Turn on the unit with the $\odot$ /I (Power) button on the unit. The $\odot$ /I (Power) indicator will light up in green. To change the unit to standby mode, press $\odot$ /I on the remote control. $\odot$ /I (Power) indicator will change from green to red. To turn on the unit from standby mode, press $\odot$ /I on the remote control again. In standby mode, you can also turn the unit on with $\odot$ (Channel) $\blacktriangle$ or $\blacktriangledown$ on the unit or **PAGE** $\blacktriangle$ / $\blacktriangledown$ on the remote control. To turn off the unit press $\odot$ /I (Power) button on the unit - to completely switch it off, disconnect the mains power supply.
- Press **TV/DVD** to select the TV mode.
- Press **ATV/DTV** to select the analogue TV mode.



Note:

- If no buttons are pressed for more than approx. 60 seconds, the MENU disappears automatically.

Quick guide for ANALOG MENU operation Call ANALOG MENU and for example: Select AUTO TUNING.

- Press **INPUT**. Select **ATV**. Press **MENU**.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **LANGUAGE**.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **LANGUAGE**, then press **ENTER** to enter the AUTO TUNING menu.

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- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

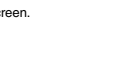
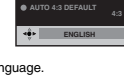
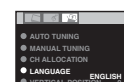
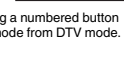
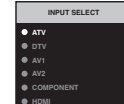
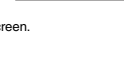
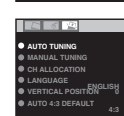
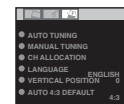
- Press $\blacktriangle$ or $\blacktriangledown$ to select **LANGUAGE**, then press **ENTER** to enter the AUTO TUNING menu.

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- Press $\blacktriangle$ or $\blacktriangledown$ to select **AUTO TUNING**, then press **ENTER** to enter the AUTO TUNING menu.

- Press $\blacktriangle$ or $\blacktriangledown$ to select **LANGUAGE**, then press **ENTER** to enter the AUTO TUNING menu.



11

Automatic station presetting with the built-in Tuner/ Changing the order of stored channels

Automatic station presetting with the built-in Tuner
Perform this feature to search for and store new analogue TV programmes after the Automatic installation. (see page 10)

Preparation:
Make sure your antenna is connected to the aerial input (see page 9). Select ATV (see page 11). Then press **MENU**.

1 Select **AUTO TUNING**, then press **ENTER**.

2 Select **COUNTRY**, then press **ENTER**.
Press **▲** or **▼** to select your country, then press **ENTER**.

3 Select **START**. Then press **ENTER**.

The automatic tuning will search for available broadcasts and should store the channels in the correct order. During the search the sound is muted. When all programs have been stored, the normal TV screen will appear.

Changing the order of stored channels
The Automatic station presetting stores the stations in a specific order. However, this order can be changed if you wish.

1 Select **CH ALLOCATION**. Then press **ENTER**.

2 Select desired option, then press **ENTER**.

3 After setting the each option, press **MENU** to return to **CH ALLOCATION** menu.

4 Press **EXIT** to return to the normal screen.

Description about the each setting option:

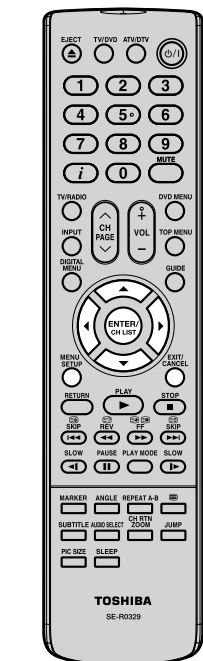
SORT: Press **▲** or **▼** to select the channel that you want to move, then press **ENTER**.

Press **▲** or **▼** to select the position that you want to move the channel to, then press **ENTER**.

ERASE PROGRAM: Press **▲** or **▼** to select the channel that you want to erase, then press **ENTER**.

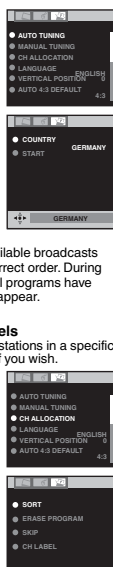
SKIP: Press **▲** or **▼** to select the channel that you want to skip, then press **ENTER**. * mark will appear.

CH LABEL: Press **▲** or **▼** to select channel that you want to rename, then press **ENTER**. Press **▲** or **▼** to select character, then press **▲** or **▼**. The cursor will move to the next position. Press **ENTER** to set the channel label.



Note:

- To reset digital auto tuning, see page 20.
- When the **COUNTRY** is set to UK, the automatic tuning will search for UHF broad-casts only.
- When changing the order of the channels, it is best to start with CH1.



If you like, you may manually tune a certain station into a selected program position, without deleting or modifying program position's contents. Example: Store the BBC 2 into program position 2.

1 **Preparation:** connect aerial cable. Select program position 2. Press 2 (see page 14). OSD will indicate "2" in right upper corner. Eventually recently stored TV-channel's name might also appear.

2 Press **MENU**. Press **▲** or **▼** to select tool-page (see right). Press **▲** or **▼** to select **MANUAL TUNING**. Press **ENTER**.

3 Press **▲** or **▼** to select **COLOUR SYSTEM**, then press **ENTER**. Press **▲** or **▼** to select **AUTO**, **PAL** or **SECAM**, then press **ENTER**. Please note that **PAL** should be selected for use in UK.

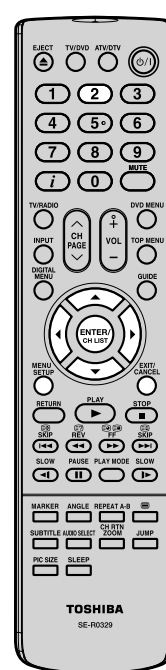
4 Press **▲** or **▼** to select **SOUND SYSTEM**, then press **ENTER**. Press **▲** or **▼** to select **AUTO**, **B/G**, **I**, **D/K** or **L/L**, then press **ENTER**.

5 Press **▲** or **▼** to select **SEARCH**. Press **ENTER**. Press **▲** or **▼** to start tuning. Tuning will stop automatically at next available station. If this does not happen to be the BBC 2, press **▲** or **▼** again to continue tuning for the BBC 2. Then press **ENTER**.

6 If you like to use fine-tuning, select **FINE** and press **ENTER**. Press **▲** or **▼** to fine tune. See the note on this page.

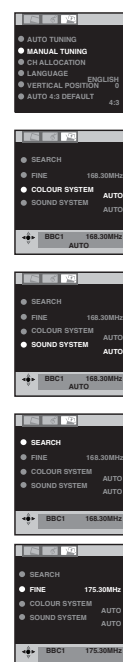
7 To store other stations in additional memory-cells, repeat steps 1 to 6.

8 Press **EXIT** to return to the normal screen.



Note:

- Usually fine tuning is not necessary, due to tuning's automatically stopping at the very best position. If you fine-tune anyway, proper working of teletext-reception with built-in tuner is no longer guaranteed.



Basic Operation

Channel selection

With the **numbered buttons**.

Example:

- No. 2: Press 0 and within 2 seconds, press 2.
- No. 29: Press 2 and within 2 seconds, press 9.

Press **CH ▲** or **▼** to change up or down a channel. This takes approx. 2 seconds. If the auto search only stored 5 stations, only these 5 will appear. Skipped channels will not appear (see page 12).

The **CH LIST** shows a list of all receivable programmes.

They are located in channels 1 to 99.

Press **CH LIST** to display the **CH LIST**.

Press **▲** or **▼** to select the desired channel.

Press **CH LIST** to display the selected channel. Press **EXIT** to exit.

QuickView

CH RTN button allows you to go back to the last selected channel.

Volume adjusting

Press **VOL +** or **-** to adjust the volume. The volume level indicator disappears after 4 seconds.

MUTE

Press **MUTE**. The sound will be cut off. **MUTE** will appear for approx. 4 seconds.

The muting can be released by pressing **MUTE** again or **VOL +** or **-**.

Information display

In the analogue TV mode:

Press **i**. Channel number

and picture size setting

will appear for approx. 4

seconds.

In the digital TV mode:

Press **i**. The program

information will appear (see

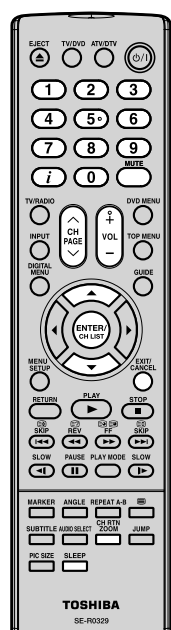
'Channel banner' on page 27).

SLEEP TIMER

To set the sleep timer press **SLEEP**. **SLEEP** and the minutes will appear. Each time you press **SLEEP**, the **SLEEP** time shown will change in the order of 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, 20, 10, 0. When the displayed time runs out, the unit will switch to standby. The display will disappear after approx. 4 seconds.

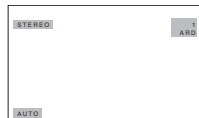
To cancel the sleep timer:

Press **SLEEP** repeatedly until '0' appears.



Note:

- If the built-in tuner does not receive anything (e.g. if no antenna is connected) during TV-operation, then the TV-unit will change to standby after approx. 15 minutes.



Teletext

Teletext is sent page by page. This unit is able to automatically store up to 256 pages, but they can only be accessed once they have been stored. This can take a few moments.

Fastext/TOPText

The **Fastext/TOPText** is teletext with a special directory.

On the lower part of the screen there are four different coloured fields (red, green, yellow and blue). These fields lead directly to the pages shown within. The coloured buttons on the remote correspond to the coloured fields. Press the appropriate coloured button in order to activate the desired colour field.

Switch on / off Teletext

Teletext is not transmitted by all channels.

Select a channel that shows teletext.

Press **≡**. You will now see a teletext page. (If "100" is shown without any text information, it may mean that the channel you have selected does not support teletext.)

Press **≡** again in order to switch off teletext.

Press **≡** again in order to switch on teletext again.

The last page which was stored is now shown.



Note:

- You cannot select any other channels as long as teletext is switched on. Switch teletext off when you want to switch over to another channel.

Select Page

Press **CH ▲** or **▼** until the page you desire appears. Or... enter the requested page number by using the **10 Number Buttons**.

And if you mistype something, just enter the complete 3-digit wrong page number then enter the desired number again. Or... press one of the coloured teletext buttons so that a page from **Fastext/TOPText** is shown.

Hold Pages

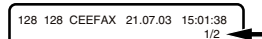
Some pages are divided up into subpages by the channel.

Subpages are automatically shown in turn, as they are transmitted. In order to hold the page, press **≡**. Press **≡** again in order to display the next subpage.

Directly Select Subpages

You can directly select the subpages if required.

Example:
Page 128 from Teletext comprises of 2 subpages. In the right upper corner you will, for example, see 1/2. That means that page one of 2 subpages is being shown at the moment.



Press **≡** in order to select subpage 2. 4 dashes (---) are shown. Enter **0 0 2**. It can take a minute before subpage 0002 appears.

Press **≡** again in order to switch off the subpage feature.

You can only select other teletext pages when the subpage feature is switched off.

Enlargement

In order to enlarge the display, press **≡**.

Either the upper or lower half of the screen is

enlarged.

Each time you press **≡** you switch between the display of the upper or lower half of the screen or the full picture.

Answering Quiz Questions

Some pages contain quiz questions with concealed answers.

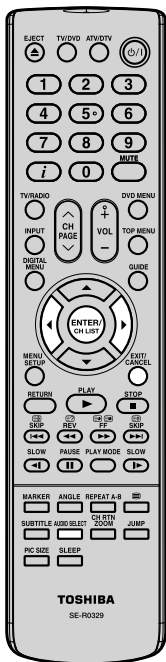
Press **≡** in order to show the answers.

Page 100

Press **ENTER** in order to show page 100.

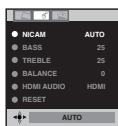
Stereo reception with the built-in analogue tuner

The built-in Tuner can detect and receive NICAM stereo broadcasts automatically.



NICAM stereo sound reception:

- 1 Select **NICAM**, then press **ENTER**. Press **◀** or **▶** to select **AUTO** or **OFF**. Select **OFF** if you do not want to receive NICAM sound.



- 2 Press **EXIT** to return to the normal screen.

The following types of broadcast are possible with NICAM transmissions

'NICAM ST' illuminates for approx. 4 seconds when a NICAM STEREO broadcast signal is received.



'NICAM M1' illuminates for approx. 4 seconds when a NICAM MONO A broadcast signal is received.



'NICAM M1/M2' illuminates for approx. 4 seconds when a NICAM MONO A and MONO B broadcast signal is received.



This will be displayed for approx. 4 seconds if a NICAM signal is received when the 'NICAM OFF' option is selected.



Stereo reception in Germany

'STEREO' illuminates for approx. 4 seconds when a STEREO broadcast signal is received.



When 2-channel sound reception is available, you can select your preferred audio with the **AUDIO SELECT** button.

Each time you press **AUDIO SELECT**, the sound channel will switch to the alternative channel available.

NICAM 2-channel sound reception (not available in Germany)



2-channel sound reception in Germany



Note:

- In case of bad reception, the stereo sound also can be disturbed.

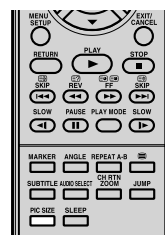
16

Picture format

The broadcaster may transmit a Wide Screen Signalling (WSS) signal which can determine the correct picture width and set it automatically when the AUTO setting is used. If you want to change this setting, you can select from the formats listed below.

AUTO

Press **PIC SIZE** repeatedly until **AUTO** appears.



Notes:

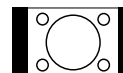
- When the **PICTURE SIZE** is set to **AUTO**, the aspect ratio will automatically change according to the Wide Screen Signalling (WSS) signal, if it is available. This may be either transmitted by the broadcasting TV channel, or via a recording from a VCR etc. Any WSS signal received will only be effective in the **AUTO** mode - however, some DVD players / Digital Decoders etc. will automatically switch the aspect ratio via the **SCART** input (Pin 8 switching), even if **AUTO** is not selected. In any case if you want to change to a different aspect ratio to the one selected automatically, you can change it by pressing **PIC SIZE**.
- In PC mode, the **PICTURE SIZE** feature is available only for 16:9 or 4:3 format. (In 'WGA INPUT' mode, the **PICTURE SIZE** feature is not available.)
- In **HDMI** or **COMPONENT** mode of scanning rate: 720p and 1080i, the **PICTURE SIZE** feature is available only for 16:9 format.
- Using the special functions to change the size of the displays to change (i.e. changing the height/width ratio) for the purposes of public display or commercial gain may infringe on copyright laws.

Manual format setting

Pressing **PIC SIZE** repeatedly scrolls through the following options.

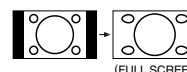
4:3

This mode shows a 4:3 picture in its original size and shape with vertical bands on the left and right side.



FULL SCREEN

Stretches the left and right hand sides of a 4:3 picture horizontally to fill the screen, while leaving the centre of the picture unstretched.

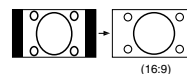


Note:

- In this mode the picture is geometrically distorted on the left and the right sides of the screen.

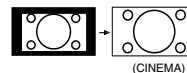
16:9

This mode is used with 16:9 signals from a Digital decoder, DVD player or other external source. This uniformly stretches a 4:3 image horizontally to fill the screen (For example, a 16:9 image is often stored "anamorphically" on a DVD, where the 16:9 image is stored as a horizontally compressed 4:3 image - this mode restores the image to its correct 16:9 proportions).



CINEMA:

This mode is used to zoom-in on (expand) 4:3 'letterbox' format pictures (with black bars at the top and bottom) so that they fill more of the screen.

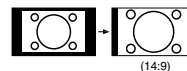


Note:

- In the **CINEMA** mode, part of the picture may be slightly cut off due to the expansion. However, it is possible to scroll the picture up or down to view the top or bottom part of the picture (see page 18).

14:9

This enlarges a 4:3 picture to the 14:9 format.



17

Other convenience functions

You can change the default settings to convenience use.

Icon	Selected Items	Setup hint
	PICTURE PREFERENCE	SPORTS: Bright and dynamic picture (factory-set) STANDARD: Standard picture quality (factory-set) MOVIE: Movie-like picture setting (factory-set) MEMORY: Your personal preferences
	BRIGHTNESS / CONTRAST / COLOUR / TINT(NTSC) / SHARPNESS	You can adjust the picture to your preference. The 'TINT(NTSC)' option can be selected if an NTSC 3.58MHz or NTSC 4.43MHz signal is input through one of the AV sockets, and NTSC or AUTO has been selected for the AV COLOUR option.
	COLOUR TEMPERATURE	Bluish (COOL) / Neutral (MEDIUM) / Reddish (WARM)
	BLUE BACK	ON / OFF: You can set the TV to automatically change to a blue screen and mute the sound if the signal is weak or absent.
	BACKLIGHT	You can use the Back light feature to adjust the screen brightness for improved picture clarity.
	RESET	Select "RESET" to reset PICTURE PREFERENCE, BRIGHTNESS, CONTRAST, COLOUR, TINT(NTSC), SHARPNESS, COLOUR TEMPERATURE and BACKLIGHT to the factory preset values. See page 16.
	NICAM	
	BASS / TREBLE / BALANCE	You can adjust the sound quality to your preference. See page 54.
	HDMI AUDIO	
	RESET	Select "RESET" to reset BASS, TREBLE and BALANCE to the factory preset values.
	AUTO TUNING	See page 12.
	MANUAL TUNING	See page 13.
	CH ALLOCATION	See page 12.
	LANGUAGE	See page 11.
	VERTICAL POSITION	When the CINEMA mode is selected (see page 17), you can adjust the vertical picture position. Press ◀ or ▶ to adjust the vertical position of the picture by up to +10 and downwards by up to -10.
	AUTO 4:3 DEFAULT *	This option selects the default way that a 4:3 signal is shown - either as normal "4:3" or expanded in the "16:9" mode, according to your preferences.
	AV1 OUTPUT	See page 58.
	AV COLOUR	See page 58.
	REC SCREEN STATUS	ON / OFF: This function is used in conjunction with the Timer function that is included as part of the Digital EPG. It determines whether the TV screen switches on or not when a programmed Timer setting begins - see page 30 for further details.
	RESET TV SETTING	Press ENTER to enter the RESET TV SETTING screen. Press ▲ or ▼ to select "YES", then press ENTER . Reset the TV function will now begin, and this unit will automatically turn off. As the power is not automatically turned on, press ⏻ / I to watch TV.

Note:

- * AUTO 4:3 DEFAULT is available only for AUTO picture size setting.
- In **COMPONENT** mode, AUTO 4:3 DEFAULT is available only for 480i/576i mode.

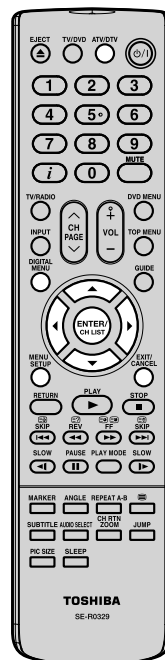
18

Guide to using the Digital Menu system

When the set is in the digital mode, you can access the main menu by pressing **DIGITAL MENU** on the remote control. This main menu contains several options,

- Language Setup
- Channel Organizer
- Installation
- System Configuration
- Technical Information
- Common Interface

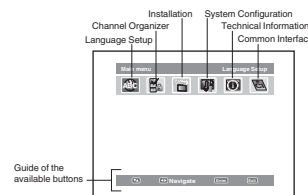
The main menu is the gateway for all the other 'sub' menus. You can navigate between the different options in the main menu by pressing **◀** or **▶**. The **DIGITAL MENU** button will also function like an 'EXIT' button, i.e. when any menu is active, pressing the **DIGITAL MENU** button will return to the previous stage.



Preparation:

Press **ATV/DTV** to select the digital TV mode.

- 1 Press **DIGITAL MENU** to display the Main menu. Press **◀** or **▶** to select desired options. (Example: selecting the Language Setup option.)



2 Press ENTER.

The selected menu will appear.

Some of the options have a sub menu.

Press **▲** or **▼** to select desired sub menu, then press **ENTER**.

(Example: sub menu in the Installation option.)

- 3 When you have finished making adjustments, press **EXIT** to return to the normal screen.

Note:

In analogue TV mode, **DIGITAL MENU** will not work. Please press **ATV/DTV** to select digital TV mode to display the digital menu. However, it is possible to use the **MENU** in the digital TV mode. The analogue menu includes some general settings for this TV that apply to both modes, and it will be displayed over the digital TV screen.

19

Language Setup/Auto Scan

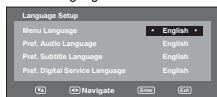
Language Setup

Preparation:
Switch on appliance. Press **TV/DVD** to select the TV mode, then press **ATV/DTV**.
The appliance switches over to DVB-T mode.
Menu languages supported are English, French, German, Italian, Spanish, Russian, Portuguese, Dutch, Polish, Swedish, Turkish, Finnish, Greek, Danish and Norwegian. (Welsh and Gaelic are available only for Digital Service Language.)

1 Press **DIGITAL MENU**, the menu will appear on the screen. Press **◀** or **▶** to select 'Language Setup', then press **ENTER**.



2 Language Setup menu will appear. Press **▲** or **▼** to select the item you want to change. Press **◀** or **▶** to select desired language.

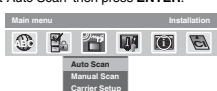


3 When all changes are decided, press **EXIT** to return to the normal screen.

Auto Scan

Preparation:
Please ensure that all the connections have been made correctly (see page 9).

1 Press **▲** or **▼** to select 'Auto Scan' then press **ENTER**.



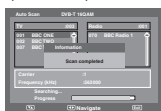
2 The confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER**.

3 The Auto Scan process will now begin. The scanning process will be displayed in the progress bar.



Note:

- If "FINLAND" is selected on the "AUTO INSTALLATION (COUNTRY)" screen, two languages are displayed for each item and the first selected language has priority. The language output depends on the languages contained in the broadcast.
- All the channels will be deleted before the scanning process begins.
- You can cancel the scan process at any time by pressing **EXIT**. The carriers and the services stored before **EXIT** is pressed will be stored.
- When the signal from the broadcasting station is being updated and you are watching a digital broadcast, the channel will be automatically updated. The list of services screen will appear while updating, and the 'Scan completed' message will be shown after the update is complete.



20

Manual Scan/ Carrier Setup

Manual Scan

With the Manual Scan option, you can tune one carrier at a time, by entering the carrier parameters manually.

1 Press **▲** or **▼** to select 'Manual Scan', then press **ENTER**.



2 You can choose the carrier number from the Channel list by using **◀** or **▶** and the corresponding frequency set for the carrier will be set for tuning. Otherwise you can also directly enter the frequency value to start the tuning.



3 After setting the carrier, press **ENTER** to start the scanning. During the scan process, the list of services (TV/Radio) collected for the carrier will be listed.

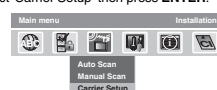
4 Then the confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER**.

5 Press **EXIT** to return to the normal screen.

Carrier Setup

The Carrier setup option menu lists all the carriers (multiplexes) that are currently available and allows you to Rename, Delete or Rescan carriers individually.

1 Press **▲** or **▼** to select 'Carrier Setup' then press **ENTER**.



2 All the carriers are listed with their frequency and service information - the user can scroll through the carrier list and select each one individually to Rename, Delete or Rescan.

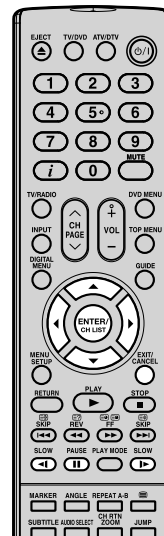
3 **Rename:**
Select carrier, then press **Red** button. The alphanumeric keypad will appear. You can rename a service as per your preference (see page 23).

Delete:

Select carrier, then press **Green** button. The check mark (✓) will be displayed for selected carrier. Then press **ENTER**. The confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER**. If the option 'Yes' is selected then all the serviced carriers will be deleted from the list.

Rescan:

Rescan allows to tune the already tuned carrier, to collect any new programmes that are currently available in the stream. Press **Blue** button, to rescan the current selected carrier.



Note:

- If on the 'AUTO INSTALLATION (COUNTRY)' screen 'FINLAND' is selected, 'Frequency (kHz)' cannot be used.
- When the Country is set to 'FINLAND' in the 'AUTO INSTALLATION (COUNTRY)' If there is a Channel List in the data after Auto Scan or Manual Scan, Channel Type Selection Menu will be displayed and available to set Channel List Type. Select the Channel List Type by pressing **◀/▶** and press **ENTER**.
- If "FINLAND" is selected on the "AUTO INSTALLATION (COUNTRY)" screen, Data is displayed on the "Carrier Setup" screen.

21

Channel Organizer

The Channel Organizer feature provides options to organise the channels. The following options are supported: Lock, Skip, Go To, Delete, Rename, Move, Move To.

1 Press **◀** or **▶** to select 'Channel Organizer', then press **ENTER**.

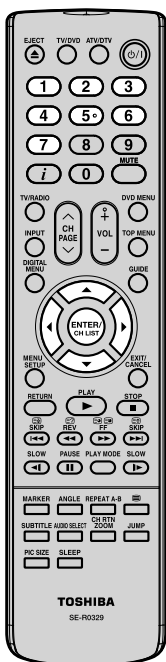
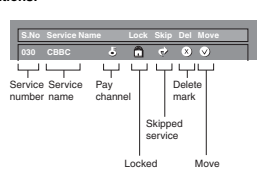


2 The Channel Organizer menu will appear. The available programmes will be listed, depending on the current mode. The selected programme will be highlighted. To toggle within the service list, press **▲** or **▼**.



3 By pressing the corresponding **Number Button (1-7)** or the **ENTER** you can activate the following functions from this menu for each channel: Lock, Skip, Go To, Delete, Rename, Move and Move To. (You can deactivate each of these functions by pressing the same number again.) See page 23 for setting details.

Indications:



Note:

- While in TV mode, only TV programmes will be displayed and only radio programmes will be displayed while in radio mode.
- The displays of Channel / Service name will be abbreviated depend on its size of the letter.

22

Channel Organizer

Setting details

Lock	When the service is locked, you must enter your PIN whenever you tune to the service. ① Press ▲/▼ to select the desired service. ② Press 1 on the remote control. If you already set the PIN, enter it here. If not, enter the factory preset PIN "0000". An icon displays indicating the service is locked. • Pressing 1 will turn the lock icon on and off. (PIN entry is required.) ③ Press DIGITAL MENU .
Skip	Services that are set to skip will not be picked up when pressing CH ▲/▼ . ① Press ▲/▼ to select the desired service. ② Press 2 on the remote control. An icon displays indicating the service to be skipped. • Pressing 2 will turn the skip icon on and off. ③ Press DIGITAL MENU . • To view services that are set to be skipped, use 0-9 or select from the Channel List.
Go To	Use this function to jump to the specific service in one step. This is useful when there are many services displayed on screen to scroll through. ① Press 3 on the remote control. Now you can change the service number on the left side of the screen. ② Enter the number using 0-9 , and then press ENTER . The highlight moves to the selected service.
Delete	Delete the selected service(s) from the memory. ① Press ▲/▼ to select the desired service. ② Press 4 on the remote control. An icon displays indicating the service to be deleted. • Pressing 4 will turn the delete icon on and off. ③ Press DIGITAL MENU . A confirmation message displays. ④ Press ◀/▶ to select "Yes", and then press ENTER .
Rename	Change individual service names. ① Press ▲/▼ to select the desired service. ② Press 5 on the remote control. A character set screen displays. ③ Press Yellow button to enter a new name for the service. • Press ▲/▼/◀/▶ to move the cursor, then press ENTER to confirm the input of a character. ④ Press DIGITAL MENU . A confirmation message displays. ⑤ Press ◀/▶ to select "Yes", and then press ENTER .
Move	Sort the order of the selected service by moving the service position. ① Press ▲/▼ to select the desired service. ② Press 6 on the remote control. An icon displays indicating the service to be moved. • Pressing 6 will turn the move icon on and off. ③ Move the selected service to the desired position using ▲/▼ , and then press ENTER to register the change.
Move To *	Sort the order of the selected service by modifying the service number. ① Press ▲/▼ to select the desired service. ② Press 7 on the remote control. Now you can change the service number on the left side of the screen. ③ Enter the number using 0-9 , and then press ENTER . The service moves to the new position.

Note:

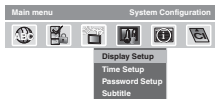
- If on the "AUTO INSTALLATION(COUNTRY)" screen "UK" is selected, "Move To" cannot be used in U.K.

23

Display Setup/Time Setup

Display Setup

- Press **▲** or **▼** to select 'Display Setup', then press **ENTER**.



- Display Setup menu will appear. Press **▲** or **▼** to select the item you want to change. Then you can change each setting by pressing **◀** or **▶**.

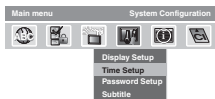
Banner timeout	1 Sec, 2 Sec..... 7 Sec.	Select how long the service banner information appears on screen.
Banner position	Top Bottom	Select whether the service banner information appears on top or bottom of the screen.

- After all the changes are made, press **EXIT** to return to the normal screen.

Time Setup

If the time displayed on the Channel banner differs from the actual time, it can be corrected.

- Press **▲** or **▼** to select 'Time Setup', then press **ENTER**.

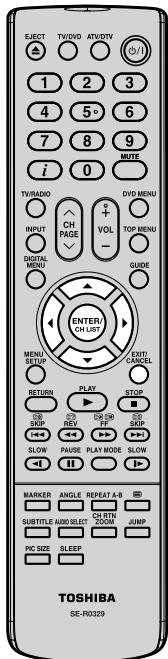


- Time Setup menu will appear. If the time displayed on the Channel banner differs from the actual time, adjust the time offset with the **◀** or **▶** button until the correct time is shown.

Note:

- Normally, this would be done by selecting "Auto".

- After all the changes are made, press **EXIT** to return to the normal screen.

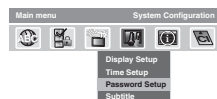


Password Setup (Parental lock)

Password Setup (Parental lock)

This feature allows you to have a parental control of the service viewing as per your preference. Once a service is protected with a password, it cannot be viewed unless the correct password is provided.

- Press **▲** or **▼** to select 'Password Setup', then press **ENTER**.



- 'Enter Password' will appear. Press '0 0 0 0' using the **Number Buttons**. (This is the default password.)
- Press **▲** or **▼** to select 'Parental Lock', then press **◀** or **▶** to select desired parental rating (see note). Then press **EXIT** to return to the normal screen.

- You can also change the password using the next option. Press **▲** or **▼** to select 'Change password'.

Then enter your chosen new password (0 to 9), be sure to remember this password. After you have entered the new password for the first time, you need to enter the same password again for confirmation. The information banner will then appear.

Press **EXIT** to return to the normal screen.

While toggling between channels, if a service which has a parental rating is selected then you will be asked to enter the correct password to view that channel. If the channel you are currently watching supports a parental rating then the rating will also be displayed in the Channel banner menu (see page 27).

Note:

- There are 15 age-based ratings, ranging from '4' (years old) to '18' (years old) and 'None'. Eg. If the Parental Lock is set to '8' (years old), only the services which have the parental rating of '8' (years old) or under will be viewable without entering the Password.
- You will be prompted to enter the password, when you set new parental rating. You can set the new parental rating only when you enter the password correctly, otherwise the old parental code will be retained.

IMPORTANT NOTE ON RESETTING THE PASSWORD

We suggest that you remove the following instruction from the operating instructions to prevent children from reading it.

If you forget your password, follow steps below to reset the password.
1. Press **ATV/DTV** to select the digital TV mode.
2. Press **MENU** to display the analogue menu, then press **◀** or **▶** to select **[SETUP]**.
3. Press **i** 4 times within 5 seconds.
The password is reset to '0000'.

Version/Software Upgrade/Common Interface

Version

You can check the software and hardware versions.

- Press **▲** or **▼** to select 'Version', then press **ENTER**. The hardware and software versions are displayed.



- Press **EXIT** to return to the normal screen.

Software Upgrade

Software Upgrade allows you to download the latest software available on the Engineering channel.

- Press **▲** or **▼** to select 'Software upgrade', then press **ENTER**.



- If a software upgrade is available from an Over-Air-Download (OAD) then the message 'S/W available, do you want to download?' will be displayed - you can then select 'Yes' or 'No' by pressing **◀** or **▶**, then press **ENTER**.

- If you select the option 'Yes' then the Software Upgrade process will be initiated. It will take about 20 minutes and after this process is complete, the TV will be rebooted automatically.

If you select the option 'No' you can continue to watch TV programmes as before.

Common Interface

You can access the Common Interface module information from this menu option.

Preparations

Insert CAM into the DVB Common Interface slot on the backside of the TV (see page 9).

- Press **▲** or **▶** to select 'Common Interface', then press **ENTER**.

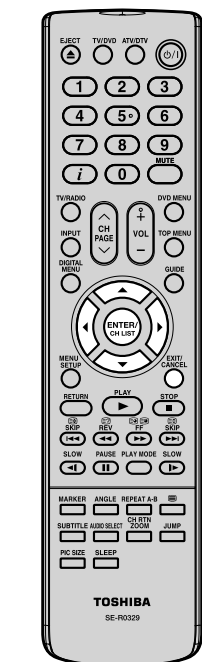


- The CAM module name will be displayed. You have to press **ENTER** to view further information.

- In the CI Menu, CAM specific information such as Module information, Smart card information, Language and Software Download are shown.

Press **▲** or **▼** to select information, then press **ENTER** to see detail.

- Press **EXIT** to return to the normal screen.



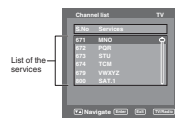
Note:

- During the Software Updating process, do not turn off the unit. At this time you cannot use any of the buttons, apart from **⏻** (Power).
- After the Software Updating process, the Digital Menu memory settings will be lost, so it is necessary to go through the setting up procedures again.

Channel list/Channel banner

Channel list

- Press **CH LIST** to display the Channel list menu.



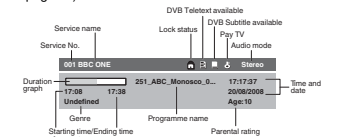
- Select the Services:
List of the services present under the selected Channel group will be displayed in the left side of the menu. Press **▲** or **▼** to toggle within the service list, then press **ENTER**.

Toggle between the list of TV and Radio services:
The **TV/RADIO** is used to toggle between the TV and Radio mode. If you press **CH LIST** when you are in Radio mode then the channel list menu will display the list of Radio services. If you wish to view the list of TV services without exiting the current menu, **TV/RADIO** should be pressed once.

Channel banner

When you change from one channel to another, the Channel banner will be displayed for the selected service. In the channel banner menu, information such as current date & time, channel name, etc. will be displayed.

- While watching the service, press **i** to display the Channel banner at any time. It will disappear after the Banner timeout value (this can be adjusted to your preferred value, see page 24).



- Press **i** again to display the Basic Service Information.

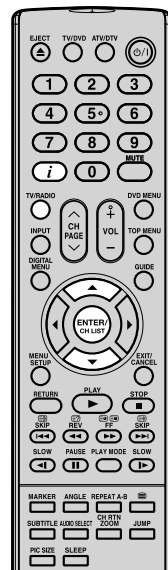
You can verify the signal strength and quality of the selected service here. If necessary, adjust the direction of the antenna to obtain the maximum signal strength.
• When the Country setting has been set to FINLAND, press **i** once more to display the advanced detailed information.



- To remove the Channel banner immediately, press **i** again.

Note:

- If any Channel group doesn't have any service at the time, 'No services' and 'No Information' will be displayed in the menu.
- Channel / Service names can only be displayed up to about 16 characters - if the name is longer than this, it will be abbreviated. The Basic Service Information screen (Step 2) displays the full Channel/Service names, not the abbreviated names.
- Subtitles are displayed on the channel banner. Some broadcasts may not provide this service.

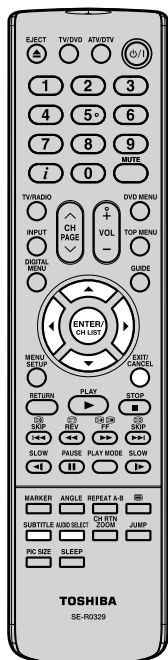


Multi audio

You can select your preferred Audio mode and DVB (digital TV) subtitle Language.

The Multi audio menu will display the Audio mode and Language options available with the current broadcast.

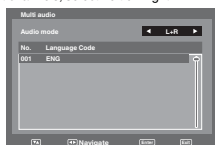
- 1 Press **AUDIO SELECT** to display the Multi audio menu. The Audio mode and Language code will be displayed if available.



- 2 To select Audio mode, press **◀** or **▶**. In general the below audio modes will be supported in a service. Stereo, Left, Right and L + R.

To select a Language code, press **▲** or **▼** to select code within Language code list.

- When completely different audio tracks are being broadcast from the left and right channels, select Left or Right.

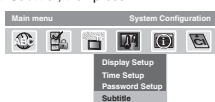


- 3 Press **EXIT**. Your selected audio preferences will be saved.

DVB-Subtitle

DVB-Subtitle is a feature supported in DVB (Digital Video Broadcasting) applications in which the service shown can be accompanied by a text display on the screen in parallel with the corresponding audio service. The DVB-Subtitle feature can be enabled or disabled at anytime.

- 1 Press **▲** or **▼** to select "Subtitle", then press **ENTER**.



- 2 Press **◀** or **▶** to select your desired subtitle language from the available languages.



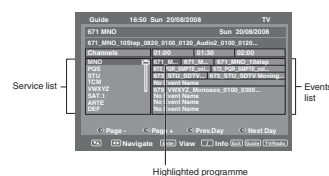
- 3 To turn off the DVB-Subtitle, press **◀** or **▶** repeatedly until 'Off' appears in the Subtitle menu. Press **EXIT**. Your selected subtitle language will be saved.

Note:

- DVB-Subtitle can also be changed by pressing of **SUBTITLE** repeatedly.

The Guide menu shows the available programme listings for the next 8 days only, including today. However, the guide menu will show 'No Event Name' for programmes which are more than 8 days ahead, or for programmes within the 8 days when no programme information is available.

- 1 Press **GUIDE** to display the Guide menu.

**Service list :**

Lists all the services that are currently available.

As you scroll through the service list by pressing **▲** or **▼**, the Event list will be refreshed accordingly, and you will see the programme information for the currently highlighted programme.

To scroll through the service list page by page, press **Red** or **Green** button.

Events list :

List the events in a grid of rows and columns.

Each row shows the list of events that are available, for the corresponding service in the service list. Within each row, you can press **◀** or **▶** to navigate through the rest of the events.

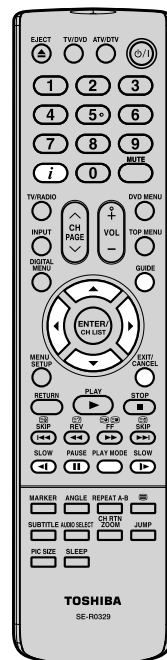
You can easily move to the Previous day or Next day in the Events List by pressing **Yellow** or **Blue** button (the date of the programme information you are currently viewing is shown in the top right hand corner).

The full Event name along with the duration of the event will be displayed in the bar above. Event title will be displayed only if available otherwise 'No Description' message will be displayed.

- 2 From within the Guide menu, you can open the Description, menu for the currently highlighted programme by pressing **i**.

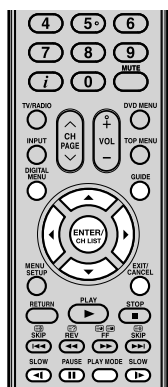
The Guide/Description menu shows the extended event description of an event. You can scroll and view the complete event description of the event using **▲** or **▼**.

To return to the Guide menu, press **i**.
To clear the menu screen, press **EXIT**.



EPG Timer

You can choose whether or not the screen switches on when the timer event begins - please see page 18 (Rec screen status (LCD Power on/off)). This is so that if you are using the timer to make a recording to your VCR or other device, the TV screen will not switch on unless you want it to. If you try to switch to another channel while a timer event is in progress, the following message will appear: 'WARNING: CHANGING THE CHANNEL WILL INTERRUPT YOUR EVENT TIMER. ARE YOU SURE YOU WANT TO PROCEED? YES/NO'. Select Yes or No according to your wishes.



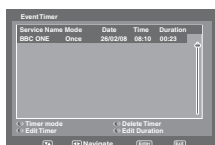
- 1 Press **GUIDE** to display the Guide menu. Then press **▲** or **▼** to highlight the programme you want to set as a timer event, then press **ENTER**.

**Note:**

- If you select an event which has already started, the selected program will be displayed on the screen, as you cannot set the timer for a programme which has already started.
- To display the stored timer events, press **GUIDE** twice. The Event Timer menu (see step 3 below) will appear. You can also delete or change the frequency (Once / Daily / Weekly) of the stored timer events (but please note that you cannot edit the time details that have been set from the EPG).

- 2 The confirmation banner will be displayed. Press **◀** or **▶** to select 'Yes' or 'No', then press **ENTER** (the selected option is shown in blue).

- 3 The Event Timer menu will appear. Press the **Red** button to set the Timer mode for a selected event.



- 4 The Timer mode specifies the frequency of Timer wake-up which can be set as Once, Daily or Weekly. Press **ENTER** to save the selected Timer mode.

Note:

- To delete a timer event, select the specified event, then press the **Green** button.

- 5 To return to the Guide menu, press **DIGITAL MENU**. To clear the menu screen, press **EXIT**.

Note:

- When the EPG Timer starts, the message "Event Timer Started" will appear.
- A maximum of eight Timers can be programmed.
- If the EPG Timer starts when it is already switched on, it will start at the exact time that is set. If it starts from the standby mode, it will begin 20 seconds in advance of the stated time.
- You cannot hasten the start time from the original start time of the Event.
- You cannot set with the same date and time of another Event.
- Press the **Yellow** button to change the start time of the event.
- Press the **Blue** button to change the time duration of the event.
- If the EPG Timer begins during standby mode, the **(P)** (Power) indicator on the unit will be lit in orange. This is to indicate that an EPG Timer event has begun in standby mode.
- When in power-off-condition, EPG Timer cannot be activated.

Disc

DVD discs must be Region 2 or Region ALL type to play on this unit. The suitable disc formats are: DVD-Video, DVD-R/RW (Video format only), Audio CD, CD-R/CD-RW and Video CD.

Some CD-R/RW discs may be incompatible.

- This unit can play an 8cm disc. Please do not use a disc adapter. It may cause trouble.
- Please do not insert any disc of an irregular shape into the unit, as it may interfere with the function of the unit. You may not be able to remove it.
- Please do not use after market accessories, such as a ring protector, as this may cause trouble with the operation of the unit.

Do not play DVD-ROM, DVD-Audio, CD-G, Photo CD or SVCD to prevent accidental erasure of prerecorded material.

Title

When two or more movies are recorded on a disc, the disc is divided into two or more sections. Each section is called a "TITLE".

Chapter

The titles can be subdivided into many sections. Each section is called a "CHAPTER".

Track

Video CD/Audio CD can contain several items. These are assigned to tracks.

Removing Disc from Case

Be sure to hold the edge of disc. Do not touch the surface of the disc.

- Pick up the disc gently from the case.
- Do not scratch the disc.
- Do not get dirt on the surface of the disc.
- Do not stick a label or adhesive tape on the disc.
- Do not drop or bend the disc.

Storing Disc

- Store the disc in the case to avoid risk of scratches, dirt or damage.
- Do not leave disc exposed to direct sunlight or in hot or humid places.

Cleaning Disc

Wipe the disc with a clean, dry cloth from center to edge.

- Do not wipe in circular direction.
- Do not use liquid or aerosol cleaners.

On Video CDs

This unit supports Video CDs equipped with the PBC (Version 2.0) function.

(PBC is the abbreviation of Playback Control.) You can enjoy two playback variations depending on types of discs.

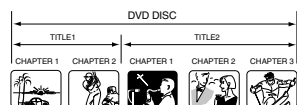
- Video CD not equipped with PBC function (Version 1.1) Sound and movie can be played on this TV/DVD in the same way as an audio CD.
- Video CD equipped with PBC function (Version 2.0) In addition to operation of a Video CD not equipped with the PBC function, you can enjoy playback of interactive software with search function by using the menu displayed on the TV screen (Menu Playback). Some of the functions described in this owner's manual may not work with some discs.

To turn off the PBC

1. Press **PLAY MODE** in the Stop mode.
2. Press **▲** or **▼** to select "Mode", then press **ENTER** repeatedly until "Off" appears.
3. Press **PLAY MODE** again to clear the screen.

To turn on the PBC

Follow the above step 1-2, then press **ENTER** repeatedly until "PBC" appear.



This section shows you the basics on how to play a disc.

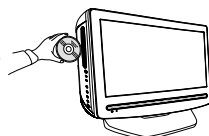
Basic playback (DVD/VCD/Audio CD)

Preparation

Make sure that the  (Power) switch on the unit is pushed in (ON). (The  (Power) indicator lights up.)

1 Press **TV/DVD** on the remote control to select the DVD mode.

2 Place the disc in the disc slot with the label side facing forward.
(If the disc has a label.)



- Do not place a disc which is unplayable in this unit.

3 On the TV-screen,  changes to "Reading" and then playback commences.
A menu screen will appear on the TV screen if the disc has a menu feature.
Press / to select title, then press **ENTER**. Title is selected and play commences.



4 Press  to end playback.
The unit records the stopped point, depending on the disc.  appears on the screen. Press **PLAY** () to resume playback (from the scene point).
If you press  again ( appears on the screen.), the unit will clear the stopped point.

To start playback in the stop mode

Press **PLAY** ()

Note:

- If the unit does not operate properly:
Static electricity, etc., may affect the player's operation.
Disconnect the AC power cord once, then connect it again.
- If a disc is inserted during some modes other than DVD mode, it may switch to DVD mode and then playback may be begun automatically.

To pause playback (still mode)

Press  during playback.

To resume normal playback, press **PLAY** ()

- The sound is muted during still mode.

To stop playback

Press 

To remove the disc

Press 

Remove the disc after the disc comes out.

Note:

- If a non-compatible disc is loaded, "Incorrect Disc", "Region Code Error" or "Parental Error" will appear on the TV screen according to the type of loaded disc. In this case, check your disc again (see pages 31 and 50).
- Some discs may take a minute or so to start playback.
- When you set a single-faced disc label backwards (i.e. the wrong way), "Reading" will appear on the display for a few minutes and then "Incorrect Disc" will continue to be displayed.
- Some discs may not work the resuming facility.
- Resuming cannot function when you play a PBC-featured Video CD while the PBC is on. To turn off the PBC, see page 31.
- Some playback operations of DVDs may be intentionally fixed by software producers. Since this unit plays DVDs according to the disc contents the software producers designed, some playback features may not be available. Also refer to the instructions supplied with the DVDs.
- Do not move the unit during playback. Doing so may damage the disc.
- In many instances, a menu screen will appear after playback of a movie is completed. Prolonged display of an on-screen menu may damage your television set, permanently etching that image onto its screen. To avoid this, be sure to press  on your remote control once the movie is completed.
- There may be a slight delay between the button is pressed and the function activates.

You can play discs at various speeds.

Playing in fast reverse or fast forward directions (DVD/VCD/Audio CD)

Press  or  during playback.

: Fast reverse playback

: Fast forward playback

Each time you press  or , the playback speed changes.

To resume normal playback

Press **PLAY** ()

Note:

- The unit mutes sound during reverse and forward scan of DVD/VCD/Audio CD discs.
- The playback speed may differ depending on the disc.
- You can use fast reverse/fast forward playback for DivX® CD.

Playing frame by frame (DVD/VCD)

Press  during still playback.

Each time you press , the picture advances one frame.

To resume normal playback

Press **PLAY** ()

Note:

- You can use frame by frame playback for DivX® CD.
- The sound is muted during frame by frame playback.

Playing in slow-motion (DVD/VCD)

Press  or  during playback.

Each time you press  or , the slow-motion speed changes.

To resume normal playback

Press **PLAY** ()

Note:

- The sound is muted during slow-motion playback.
- You can use slow motion playback for DivX® CD.
- Reverse slow () does not work on VCD and DivX® CD.

Locating a chapter or track (DVD/VCD/Audio CD)

Press **SKIP** ( or ) repeatedly to display the chapter or track number you want.

Playback starts from the selected chapter or track.

To locate succeeding chapters or tracks, press **SKIP** .
Playback starts from the beginning of the current chapter or track.

To locate the preceding chapter or track, press **SKIP**  twice in quick succession. Playback starts from the beginning of the preceding chapter or track.

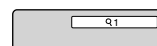
Note:

- A prohibition symbol "X" may appear at the upper right of the screen. This symbol means either the feature you tried is not available on the disc, or the unit cannot access the feature at this time. This does not indicate a problem with the unit.

Zooming (DVD/VCD)

This unit will allow you to zoom in the frame image. You can then make selections by switching the position of the frame.

1 Press **ZOOM** during playback.



The centre part of the image will be zoomed in.
Each press of **ZOOM** will change the ZOOM Q1 (x 1.3), Q2 (x 1.5) and Q3 (x 2.0).

2 Press / to view a different part of the frame.

You may move the frame from the centre position to UP, DOWN, LEFT or RIGHT direction.

3 In the zoom mode, press **ZOOM** repeatedly to return to a 1:1 view (Q Off).

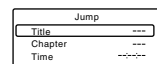
Note:

- You can select the Pause or Slow in the zoom mode.
- Some discs may not respond to zoom feature.
- Zoom function can be used for DivX® CD.

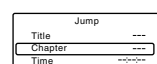
Locating desired scene (DVD/VCD/Audio CD)

Use the title, chapter and time recorded on the DVD disc to locate the desired point to playback. In the case of VCD/Audio CD discs, time and track are used to locate the desired point to playback. To check the title, chapter/track and time, press **i**.

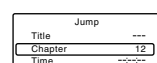
1 Press **JUMP** during playback or resume stop mode.



2 Press  or  to select the "Title/Track", "Chapter" or "Time".



3 Press **Number buttons (0-9)** to input the number.



- If you input a wrong number, press **CANCEL**.
- Refer to the package supplied with the disc to check the numbers.

4 Press **ENTER**. Playback starts.

- When you change the title, playback starts from Chapter 1 of the selected title.
- Some discs may not work in the above operation.

Note:

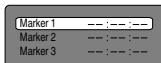
- In case of the Audio CD and Video-CD, only Track and Time can be selected.
- In case of the Video-CD playback with PBC, the JUMP does not work. Turn off the PBC (see page 31).
- Only Time search function can be used for DivX® CD.

Marking desired scenes

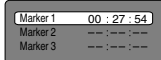
Marking the scenes (DVD/VCD/Audio CD)

The unit stores the points that you want to watch again up to 3 points. You can resume playback from each scene.

- 1 Press **MARKER** during playback.



- 2 Select the blank Marker using **▲** or **▼**. Then press **ENTER** at the desired scene.

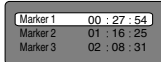


- Repeat this procedure to set the other 2 scenes.

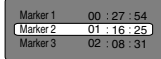
- 3 Press **MARKER** to clear this display.

Returning to the scenes (DVD/VCD/Audio CD)

- 1 Press **MARKER** during playback or stop mode.



- 2 Press **▲** or **▼** to select the Marker 1-3.

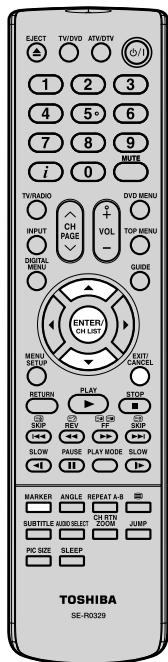


- 3 Press **ENTER**.

Playback starts from the marked scene.

To cancel the Marker

Follow the above steps 1-2, then press **CANCEL**.



Note:

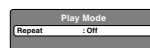
- Some discs may not work with the marking operation.
- The marking is cancelled when you eject the disc or turn the power off.
- Some subtitles recorded around the marker may fail to appear.
- In case of Video CD with PBC, Marker function is prohibited.
- Marker function does not work with MP3/JPEG CD/DivX® CD.

Repeat playback/A-B Repeat playback

Repeat playback (DVD/VCD)

- 1 Press **PLAY MODE** during playback or stop mode.

- 2 Press **ENTER** repeatedly to select "Chapter" or "Title".



The unit automatically starts repeat playback after finishing the current title or chapter.

[Video CD]

Press **▼** to select "Repeat".

Press **ENTER** to select "Track" or "All".

- If you set the repeat mode during stop mode, press **PLAY** (**▶**) to start Repeat playback.

- 3 Press **PLAY MODE** again to clear the screen.

To resume normal playback

Select Repeat : "Off" in step 2.

Note:

- Some discs may not work with the repeat operation.
- In case of Video CD with PBC, Repeat functions are prohibited during playback.
- Chapter/Track repeat function is cancelled whenever **SKIP** (**◀◀**) or **SKIP** (**▶▶**) is pressed.

A-B Repeat playback (DVD/VCD/Audio CD)

A-B repeat playback allows you to repeat selection between two selected points.

- 1 Press **REPEAT A-B** during playback. The start point is selected.



- 2 Press **REPEAT A-B** again.



The end point is selected. Playback starts at the point that you selected. Playback stops at the end point and returns to Point A automatically, then starts again.

To resume normal playback

Press **REPEAT A-B** again.

"Off" appears on the screen.

Note:

- In A-B Repeat mode, subtitles near the A or B locations may not be displayed.
- You may not be able to set A-B Repeat for the scenes that include multiple angles.
- A-B Repeat playback does not work when Repeat playback is activated.
- You may not be able to set A-B Repeat during certain scenes of the DVD.
- A-B Repeat does not work with an interactive DVD and MP3/JPEG CD.
- In case of Video CD with PBC, A-B Repeat is prohibited.

Changing angles/Title selection/DVD menu

Changing angles (DVD)

When playing back a disc recorded with multi-angle facility, you can change the angle that you are viewing the scene from.

- 1 Press **ANGLE** during playback. The current angle will appear.



- 2 Press **ANGLE** repeatedly until the desired angle is selected.

Note:

- Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the DVD.

Title selection (DVD)

Two or more titles are recorded on some discs. If the title menu is recorded on the disc, you can select the desired title.

- 1 Press **TOP MENU** during playback. Title menu appears on the screen.
- 2 Press **▲/▼/◀▶** to select the desired title.
- 3 Press **ENTER** or **PLAY** (**▶**). The playback of the selected title will start.

Note:

- Depending on the DVD, you may not be able to select the title. Depending on the DVD, a "title menu" may simply be called a "menu" or "title" in the instructions supplied with the disc.

DVD menu (DVD)

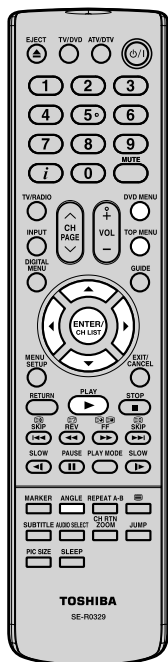
Some DVDs allow you to select the disc contents using the menu.

When you playback these DVDs, you can select the subtitle language, soundtrack language, etc. using the menu.

- 1 Press **DVD MENU** during playback. The DVD menu appears on the screen.
- 2 Press **▲/▼/◀▶** to select the desired item.
- 3 Press **ENTER**. The menu continues to another screen. Repeat steps 2 and 3 to set the item completely.

Note:

- Depending on the DVD, you may not be able to resume playback from the scene point when you press **DVD MENU**.

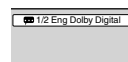


Changing soundtrack language/Subtitles/Disc status

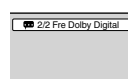
Changing Soundtrack Language (DVD/VCD)

You can select the language when you play a multilingual disc.

- 1 Press **AUDIO SELECT** during playback. The current soundtrack language will appear.



- 2 Press **AUDIO SELECT** repeatedly until the desired language is selected.



In case of Video CD playback Audio type changes as follows each time you press **AUDIO SELECT**.



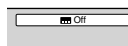
Subtitles (DVD)

When playing back a disc recorded with subtitles, you can select the subtitle language or turn the subtitle off.

- 1 Press **SUBTITLE** repeatedly during playback until the desired language is selected.



- 2 To turn off the subtitle, press **SUBTITLE** until "Off" appears.

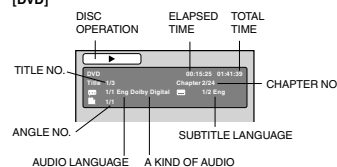


- The on screen display will disappear after a few seconds.

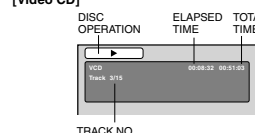
Disc status (DVD/VCD)

With press of **i**, the status of the disc will appear on the screen. To cancel the display, press **f** again.

[DVD]



[Video CD]



Note:

- If the desired language is not heard after pressing the button several times, the language is not recorded on the disc.
- The selected soundtrack language is cancelled when you eject the disc. The initial default language or available language will be heard if the disc is played back again.
- Depending on the DVD, you may not be able to change subtitles, or to turn subtitles on or off.
- While playing a DVD, the subtitle may change when you loaded or eject the disc.
- In some cases, a selected subtitle language may not be changed immediately.

MP3/JPEG/DivX® and Audio CD operation

This unit can playback the MP3/JPEG/DivX®-data which has been recorded on CD-R/RW. Audio CD also can be played back. To produce the MP3/JPEG/DivX®-data, you need a Windows-PC with CD-RW drive and a MP3/JPEG/DivX®-encoding Software (not supplied). The Apple-HFS-System cannot be played. This unit requires discs/recordings to meet certain technical standards in order to achieve optimal playback quality.

There are many different types of recordable disc formats (including CD-R containing MP3 files). Not all recordable discs will produce optimal playback quality. The technical criteria set forth in this instruction manual are meant only as a guide. Use of CD-RW for MP3 files is not recommended.

MP3/JPEG/DivX® - data information

Limitations on MP3/JPEG/DivX® playback

- MP3/JPEG/DivX® CD are standardized by ISO9660, its file name must include following extensions; ".mp3", ".jpg", ".div", ".divx", ".avi".
- MP3/JPEG/DivX® CD must be corresponded to the ISO standardized files.
- This unit can read 2000 files per disc. If one disc has more than 2000 files, it reads up to 2000 files, the remaining files will be omitted.
- MP3/JPEG/DivX® CDs cannot be used for the purpose of recording on this unit.
- It may take more than one minute for this unit to read MP3/JPEG/DivX® files depending on its structure.
- Music recorded by "Joliet Recording Specification" can be played back.
- The music files recorded by "Hierarchical File System" (HFS) cannot be played.

Limitations on displaying of the file name.

- The maximum number for display is 15 characters. Long file names will be condensed.
- Available characters for display are the following: capital or small alphabets of A through Z, numbers of 0 through 9, and _ (under score).
- Other characters than those above are replaced in hyphen.

To playback MP3/JPEG/DivX® CD in the recorded order.

- Use MP3/JPEG/DivX® software that records data alphabetically or numerically.
- Insert two or three digit number in the head of file name. (ex. "01" "02" or "001" "002").
- Refrain from making too many sub-folders.

CAUTION:

- Some MP3/JPEG/DivX® CDs cannot be played back depending on the recording conditions.
- The CD-RW that has no music data or non MP3/JPEG/DivX® files cannot be played back.

Standard sampling frequency and the bit rate:

MP3

MPEG-1 Audio
32kHz, 44.1kHz, 48kHz
32kbps ~ 320kbps (constant bit rate or variable bit rate)
The recommend recording setting for a high-quality sound is 44.1kHz of sampling frequency and 128kbps of constant bit rate.

DivX® video

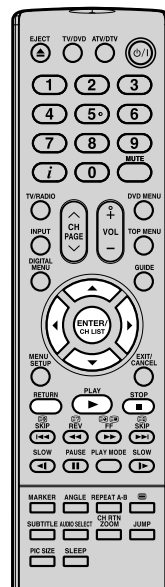
DivX® version: DivX® 3, 4, 5, and 6 (specifically 3.1.1, 4.1.2, 5.0.2, 5.0.5, 5.1.1, 5.2.1, 6.0 at Home Theater profile).

Audio format: MPEG1 Layer2 (MP2), MPEG1 Layer3 (MP3)

Sampling frequencies: 32kHz, 44.1kHz, 48kHz

Bit rate: 32kbps ~ 320kbps

Resolution: Max 720 x 576 (at 25fps), Max 720 x 480 (at 30fps)



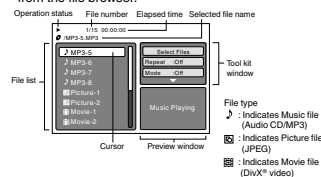
Note:

- MP3 file on the Kodak Picture CD is not recognized on this unit.
- During MP3/JPEG-Playback, you cannot use JUMP and A-B Repeat functions.
- You can use Repeat (Track or All), Random functions and Program playback for MP3/JPEG/DivX®-Playback (See pages 44, 45)

MP3/JPEG/DivX® and Audio CD operation

Loading CD

- Load a MP3/JPEG/DivX® CD or an Audio CD into the disc slot.
- A file browser screen will appear on the screen.
 - In case the current directory includes 9 files or more, press **▲** or **▼** to scroll in the file list.
 - To see contents in folder, select the folder and then press **ENTER**. To return to the parent directory, select **Go Up**, then press **ENTER**.
 - In case of a CD containing a mixture of MP3, JPEG and DivX® files, the files are played back by selecting them from the file browser.



MP3 and Audio CD playback

- In the file browser, press **▲/▼** to select the desired file.

When **PLAY** (**▶**) is pressed after displaying file browser displayed, playback begins automatically starting from the first file. In this case, if the first file is an MP3 file, only MP3 files are played back in order.

If the first file is a JPEG file, the first JPEG file is played back. If the first file is a DivX® file, the first DivX® file is played back. If there is no file at a root directory, playback does not begin automatically.

- Press **ENTER**.

The selected file starts playing back.

- Press **■** to end playback.

- The unit records the stopped point. **■** appears on the screen. Press **PLAY** (**▶**) to resume playback (from the scene point).
- If you press **■** again or unload the disc, the unit will clear the stopped point.

Select Files

The file type to make it display in the file browser can be chosen.

- Press **◀** or **▶** to select "Select Files" at right column in the file browser. ("Select Files" is not applicable to Audio CD.)
- Press **ENTER**, then press **▲** or **▼** to select file type from the list (Music, Picture or Movie).
- Press **ENTER** to add/remove check mark. Checked file type will be displayed in the file browser.
- Press **RETURN** to save the setting.

MP3/JPEG/Divx® and Audio CD operation

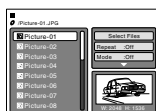
JPEG playback

- In the file browser, press **▲/▼** to select the desired JPEG file.

To display a thumbnail list, press **DVD MENU**. Press **▲/▼/▶/◀** to select the desired file. (To return to the file browser, press **TOP MENU**.)

When **PLAY** (**▶**) is pressed after displaying the file browser, playback begins automatically starting from the first file. In this case, if the first file is a JPEG file, the first JPEG file is played back.

If the first file is an MP3 file, only MP3 files are played back in order. If the first file is a DivX® file, the first DivX® file is played back. If there is no file at a root directory, playback does not begin automatically.



- Press **ENTER**. The selected picture appears on the screen.

Rotating an image

You can rotate an image by 90 degrees.

Press **ANGLE** during playback of the image.

■, **■**, **■**, **■** or **■** appears on the screen.

Zooming an image

Zoom function also can be used in viewing JPEG files.

Press **ZOOM** (See "Zooming" on page 35).

- Press **■** to end playback.

The file browser appears on the screen. If you want to watch the other file, repeat steps 1 ~ 2.

Slide show playback

The slide show enables you to view pictures (files) one after another automatically.

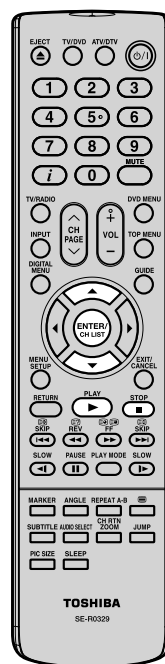
Preparation

Set "JPEG Interval" setting to "Off", "5 Seconds", "10 Seconds" or "15 Seconds" (See page 49).

- Select your desired starting file for the slide show in step 1 above.
- Press **ENTER** or **PLAY** (**▶**) to start slide show from the selected file.
 - If you press **■** during the slide show, the slide show stops temporary. **■** appears briefly on the screen. Press **PLAY** (**▶**) or **SKIP** (**▶▶**) again to resume the slide show.
 - If the picture appears upside down or sideways, press **ANGLE** repeatedly until it's right side up. **■**, **■**, **■**, **■**, **■** or **■** appears on the screen.
 - When the slide show playback finished, the file list appears.
 - To stop the slide show, press **■**. The file list appears.

Note:

- During JPEG playback, you cannot use Jump and A-B Repeat functions.
- When an image exceeds 5760 x 3840 pixels, the entire image (preview window or thumbnail list) may not be displayed on a screen.
- It may have a longer interval due to the size of data.



Note:

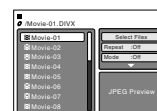
- In order to play DivX® VOD content on this unit, you first need to register the unit with registration code. See page 50.
- Depending on the recording conditions of DivX® file, you may not be able to use fast reverse/forward playback or JUMP function. See pages 34, 35.

MP3/JPEG/Divx® and Audio CD operation

DivX® playback

- In the file browser, press **▲/▼** to select the desired file.

When **PLAY** (**▶**) has been pressed after the file browser displayed, playback begins automatically starting from the first file. In this case, if the first file is a JPEG file, the first JPEG file is played back. If the first file is a DivX® file, the first DivX® file is played back. If the first file is an MP3 file, only MP3 file are played back in order. If there is no file at a root directory, playback does not begin automatically.



- Press **ENTER** or **PLAY** (**▶**). The selected DivX® movie will be played back on the TV screen.

- Press **STOP** (**■**) to end playback.

- The unit records the stopped point. **■** appears on the TV screen. Press **PLAY** (**▶**) to resume playback (from the scene point).
- If you press **STOP** (**■**) again or unload the disc, the unit will clear the stopped point. To watch the other file, repeat steps 1 ~ 2.

Playing DivX® VOD content

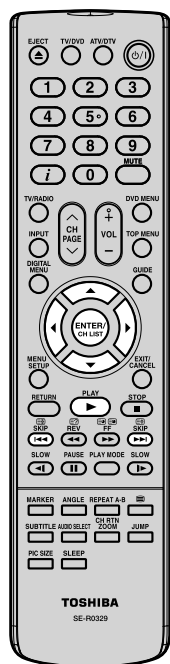
DivX® VOD content is protected by DRM (Digital Rights Management) system. This restricts playback of content to specific registered devices.

If the incorrect DRM file is loaded, "Authorization Error This player is not authorized to play this video." will appear on the screen. When you attempt to play DivX® VOD, the number of plays is limited and the right message will appear on the screen. If you wish to play it, select "Yes".

View DivX(R) VOD Rental
This rental has 5 views left.
Do you want to use one of your 5 views now?

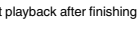
Yes No

- If the number of plays goes over the limit, then "Rental Expired" will be displayed. In this case, the file will not be played.

**Note:**

- The repeat or random function is cancelled when you eject the disc or turn the power off.
- The track repeat function is cancelled when **REPEAT** or **REPEAT A-B** is pressed.
- In case of Audio CD, the function of A-B Repeat also can be used. See "A-B Repeat playback" (See page 37).

Repeat playback (Audio CD/MP3/JPEG/DivX®)

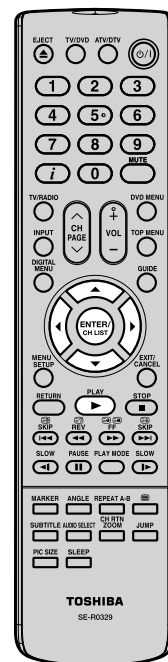
- In the file browser, press **▲/▼/◀/▶** to select "Repeat" during stop mode.
 
- Press **ENTER** repeatedly to select "Track" or "All".
 
- Press **PLAY** (▶). The unit automatically starts repeat playback after finishing the current track.
 

To resume normal playback
Select Repeat : "Off" in step 2.

Random playback (Audio CD/MP3/JPEG/DivX®)

- In the file browser, press **▲/▼/◀/▶** to select "Mode" during stop mode.
 
- Press **ENTER** to select "Random".
 
- Press **PLAY** (▶). The Random playback will start.
 

To resume normal playback
Select Mode : "Off" in step 2.

**Program playback (Audio CD/MP3/JPEG/DivX®)**

- In the file browser, press **▲/▼/◀/▶** to select "Edit Mode", then press **ENTER**.
 

When "Edit Mode" is black color, you can mark the files which you want to add into Program list.
- Press **▲/▼/◀/▶** to select the file you want to add into the program list.
 

Press **ENTER**. Selected file was marked. Repeat this procedure to select the other files.
- Press **▲/▼/◀/▶** to select "Add To Program". Then press **ENTER**. All marked files are added into the program list. (The maximum number of files can be added is 30.)
 

When you finish storing the files you want into the Program list, select "Edit Mode" again and press **ENTER** to release edit mode.
- Press **▲/▼** to select "Program View", then press **ENTER**. Program View shows only the programmed files that you have added in Step 2.
 
- In the Program View, press **PLAY** (▶). The files start to playback in programmed order that were added by you.

To remove file from program list in stop mode

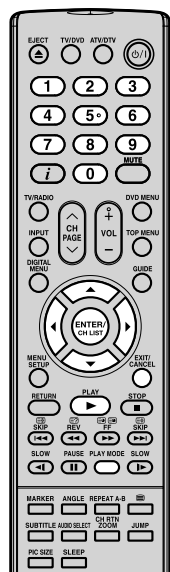
In the Edit Mode, switch to Program View. Select the files you want to remove, then press **ENTER**. Select "Clear Program" and press **ENTER**. Marked file is removed from program list.

Note:

- The program function is cancelled when you eject the disc or turn the power off.

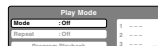
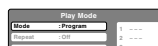
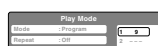
Program playback/Random playback

You can arrange the playback order of tracks or files on the disc. And the unit can also select tracks or files at random and playback them. These feature works for Video CD. For Audio CD and MP3/JPEG/DivX® CD, please see "Random playback (Audio CD/MP3/JPEG/DivX®)" on page 44 and "Program playback (Audio CD/MP3/JPEG/DivX®)" on page 45.

**Note:**

- In case of Video CD with PBC, you cannot set Program playback.
- The program is cancelled when you eject the disc or turn the power off.
- In case of Video CD with PBC, you cannot set Random function during playback.

Program playback (VCD)

- Press **PLAY MODE** during stop mode.
 
- Press **▲/▼** to select "Mode", then press **ENTER** to select "Program".
 
- Press **◀/▶** to select the programming position. Use **Number buttons (0-9)** to input the track numbers on sequentially.
 
 - If you input a wrong number, press **CANCEL**.
- Press **◀/▶** to return to the left column, then press **▲/▼** to select the "Program Playback" and press **ENTER**.
 

The programs you selected will start to playback in order.

- To resume normal playback, select Mode "Off" in step 2.

To change the program

- Select Mode to "Program" (as step 2), press **▲/▼/◀/▶** to select the track number you want to change, then press **CANCEL**.
- Press **Number buttons (0-9)** to overwrite the new track number.

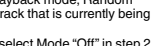
To clear the program one by one

Select Mode to "Program", press **▲/▼/◀/▶** to select the track number. Then press **CANCEL**.

To clear all the programs

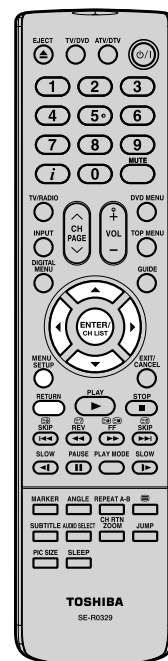
In the above column, press **▲/▼** to select "Clear Program". Then press **ENTER**.

Random playback (VCD)

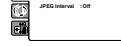
- Press **PLAY MODE** during playback or stop mode.
 
- Press **▲/▼** to select "Mode", then press **ENTER** to select "Random".
 
- Press **PLAY** (▶). The Random Playback will start.
 
 - If you set "Random" during playback mode, Random playback will begin after the track that is currently being played has ended.
 - To resume normal playback, select Mode "Off" in step 2.

Customizing The Function Settings

You can change the default settings to customize performance to your preference.

**Setting procedure**

- Press **SETUP** in stop mode.
 

The following on-screen display appears.
- Press **▲** or **▼** to select the desired section, then press **▶** or **ENTER**.
 
- First option will be highlighted. Press **▲** or **▼** to select the desired option.
 
- Then press **▶** or **ENTER**. The selectable settings will appear.
 
- Change the selection using **▲** or **▼**, by referring to the corresponding pages 48 ~ 50. Press **ENTER** to save the setting.
 
 - Repeat steps 3 and 5 to change other option.
 - To select another section, go back to step 2 by pressing **◀** or **RETURN** repeatedly.
- To clear SETUP screen, press **SETUP** or press **RETURN** repeatedly.

Setting details

Section	Option	Details	Page
	Menu	To select the language of "Menu".	48
	Subtitle	To select a preferred language for on screen display.	
	TV Screen	To select a picture size according to the aspect ratio of your TV.	49
	Display	To turn On or Off the operational status display on the screen.	
	Picture Mode	To select a preferred picture mode from "Video", "Film" or "Auto".	50
	JPEG Interval	To select a preferred setting for the slide show playback.	
	Night Mode	To select On or Off for Night Mode.	51
	Digital Out	To select a digital output sound format corresponding to your system connection.	
	Parental	To select a preferred parental level for the parental setting.	52
	Password	To change the password.	
	DivX(R)	To display your 8-character registration code.	53
	VOD	To display your 8-character registration code.	

Customizing The Function Settings



Menu, Subtitle, Audio

You can select the language of "Menu", "Subtitle" and "Audio" if more than one language is recorded onto the disc.

English, Français, Español, Deutsch, Italiano:
The selected language will be heard or seen.

Other:

Other languages can be selected (see "Language Code List" on page 52).

Off (Subtitle):

Subtitles do not appear.

Original (Audio):

The unit will select the first priority language of each disc.

Note:

- If the selected language is not recorded on the disc, the first-priority language is selected.

OSD

The setup language can be selected.

English: To display OSD language is English
Français: To display OSD language is French
Español: To display OSD language is Spanish
Deutsch: To display OSD language is German
Italiano: To display OSD language is Italian

TV Screen

You have the following screen sizes to choose from:

4:3 (Letterbox)

When playing back a wide screen-DVD disc, it displays the wide picture with black bands at the top and bottom of screen.

4:3 (Panscan)

It displays the wide picture on the whole screen with left and right edges automatically cut off.

16:9 (Wide screen)

A wide screen picture is displayed full size, although the image on the screen may be geometrically distorted in this mode because the TV screen has an aspect ratio of 4:3 not 16:9.

Note:

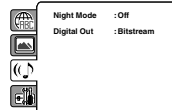
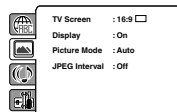
- If the DVD disc is not formatted in the pan & scan style, it displays 4:3 style.

Display

On screen display can be switched on or off when you press any buttons.

Off: On screen displays do not appear when you press any buttons except **SUBTITLE**, **PLAY MODE**, **MARKER**, **i**, **AUDIO SELECT** and **JUMP**.

On: On screen displays appear when you press the buttons (factory setting).



Customizing The Function Settings

Picture Mode

There are two types of source content in pictures recorded in DVD video discs: film content (pictures recorded from films at 24 frames per second) and video content (video signals recorded at 30 frames per second). Make this selection according to the type of content being viewed.

Auto: Select this selection normally.

The DVD player automatically detects source content, film or video of playback source, and converts that signal in an appropriate method.

Film: The DVD player converts film content pictures appropriately. Suitable for playback of film content pictures.

Video: The DVD player filters video signal, and converts it appropriately. Suitable for playback of video content pictures.

Note:

- Depending on the disc, pictures may be cut off or doubled. In this case, select "Video".

JPEG Interval

You can continuously playback all JPEG files automatically. After the selection below, the disc will start playback on JPEG files which have been recorded.

Off: Plays back one file at a time.

5 Seconds: Plays back images in the form of a slide show at 5 second intervals.

10 Seconds: Plays back images in the form of a slide show at 10 second intervals.

15 Seconds: Plays back images in the form of a slide show in 15 second intervals.

Night Mode

Night Mode enables you to control the dynamic range so as to achieve a suitable sound for your equipment.

Off: It plays back at the recording level on the disc.

On: Loud sound such as explosion is toned down slightly when played back. This is suitable when it is connected to a stereo.

Note:

- This function works only when the disc recorded with Dolby Digital is played back.
- The level of Night Mode may differ depending on DVD video disc.

Digital Out

You can select the digital output sound format corresponding to your system connection.

Off: There is no sound output from DIGITAL AUDIO OUT jack.

PCM: Change Dolby Digital to PCM for the output. Select when connected to a 2 channel digital stereo amplifier.

Bitstream: Disc audio bitstream data will be output.

Note:

- Even if you select "Bitstream", MPEG Audio will be output in PCM format.

Customizing The Function Settings



Parental

Some discs are specified as not suitable for children. Such discs can be limited not to playback with the unit.

- Press **▲** or **▼** to select "Parental", then press **ENTER**. "Enter Password" screen will appear.
- Press "0000" using **Number buttons (0-9)**. (Please note, this is pre-setting password of this unit). Then press **ENTER**. The parental level list will appear.

Level 1: DVD software for adults cannot be played back.

Level 8: Virtually all DVD software can be played back.

Level Off: The parental control setting does not function.

- Press **▲** or **▼** to select from the level 1 to level 8. The limitation will be more severe as the level number is lower. Then press **ENTER**.
- Press **▲** to activate Parental control setting.

Note:

- If each setup (pages 48 ~ 50) has been completed, the unit can always work under the same condition (especially with DVD discs). Each setup will be retained in the memory even if you turn the power off.
- Depending on the discs, the unit cannot limit playback.
- Some discs may not be encoded with specific rating level information though its disc jacket says "adult." For those discs, the age restriction will not work.
- The password is required every time when you change the parental level.
- If you input a wrong number, press **CANCEL**.

Password

- Press **▲** or **▼** to select "Password", then press **ENTER**. "Enter Current Password" screen will appear.
- Press **Number buttons (0-9)** to input the current password (If the password has not been set yet after you purchase this unit, it is "0000").
- Then press **ENTER**. "Enter New Password" screen will appear. Press **Number buttons (0-9)** to input the new password.
- Press **ENTER**. Now your new password has been set. Be sure to remember this number!

If you forget the password.

- Press **▲** to remove the disc.
- While holding **7** down on the remote control and at the same time press **STOP** (DVD) on the side panel. "Password Clear" appears on the screen. Now the password has been returned to the initial value ("0000").

DivX(R) VOD

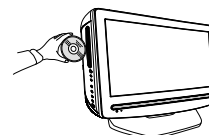
In order to play DivX® VOD (Video On Demand) content on this unit, you first need to register the unit with your DivX® VOD content provider. You do this by generating a DivX® VOD registration code, which you submit to your provider.

- Press **▲** or **▼** to select "DivX(R) VOD". Then press **ENTER**. Your 8-character registration code is displayed. Make a note of the code as you will need it when you register with a DivX® VOD provider. Then press **ENTER** to select Done.

Temporary cancel the rating level by DVD disc

Depending on the DVD disc, the disc may try to temporarily cancel the rating level that you have set. It is up to you to decide whether to cancel the rating level or not.

- Load a DVD disc.



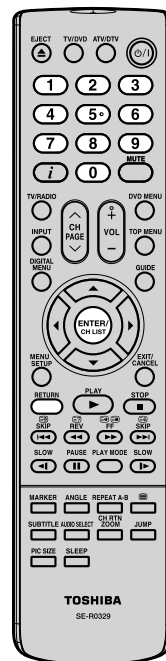
- If the DVD disc has been designed to temporarily cancel the Rating level, the screen which follows the "Reading" screen will change, depending on which disc is played. If you select "YES" with the **ENTER**, password input screen will then appear.

- Enter the password with **Number buttons (0-9)**. Then press **ENTER**.



To exit from the entry, press **RETURN**.

- Playback will commence if the entered password was correct.



Note:

- This temporary cancellation of rating level will be kept until the disc is ejected. When the disc is ejected, the original rating level will be set again automatically.

Language Code List

Enter the appropriate code number for the initial settings "Menu", "Subtitle" and/or "Audio" (see pages 48).

Language Name	Code	Language Name	Code	Language Name	Code
Abkhazian	1112	Fiji	1620	Lingala	2224
Afar	1111	Finnish	1619	Lithuanian	2230
Afrikaans	1116	French	1628	Macedonian	2321
Albanian	2927	Frisian	1635	Malagasy	2317
Amharic	1123	Galician	1722	Malay	2329
Arabic	1128	Georgian	2111	Malayalam	2322
Armenian	1835	German	1415	Maltese	2330
Assamese	1129	Greek	1522	Maori	2319
Aymara	1135	Greenlandic	2122	Marathi	2328
Azerbaijani	1136	Guarani	1724	Moldavian	2325
Bashkir	1211	Gujarati	1731	Mongolian	2324
Basque	1531	Hausa	1811	Nauru	2411
Bengali; Bangla	1224	Hebrew	1933	Nepali	2415
Bhutan	1436	Hindi	1819	Norwegian	2425
Bihari	1218	Hungarian	1831	Oriya	2528
Breton	1228	Icelandic	1929	Panjabi	2611
Bulgarian	1217	Indonesian	1924	Pashto, Pushto	2629
Burmese	2335	Interlingua	1911	Persian	1611
Byelorussian	1215	Irish	1711	Polish	2622
Cambodian	2123	Italian	1930	Portuguese	2630
Catalan	1311	Japanese	2011	Quechua	2731
Chinese	3618	Javanese	2033	Rhaeto-Romance	2823
Corsican	1325	Kannada	2124	Romanian	2825
Croatian	1828	Kashmiri	2129	Russian	2831
Czech	1329	Kazakh	2121	Samoan	2923
Danish	1411	Kirghiz	2135	Sanskrit	2911
Dutch	2422	Korean	2125	Scots Gaelic	1714
English	1524	Kurdish	2131	Serbian	2928
Esperanto	1525	Laotian	2225	Serbo-Croatian	2918
Estonian	1530	Latin	2211	Shona	2924
Faroese	1625	Latvian, Lettish	2232	Sindhi	2914
				Zulu	3631

PC connection

As PCs are sometimes supplied with a 'conventional' CRT monitor, you may need to adjust the display settings of your PC's graphics card, otherwise the pictures may not appear correctly. Switch on your PC (still with your original monitor) - select '1360 x 768' for the screen resolution, and select 60 Hz for the on-screen refresh rate. Switch off your PC, then connect it to your LCD TV while both items are still switched off.

Monitor Display modes

MODE	Resolution	V. Frequency	H. Frequency	Pixel Clock Frequency
VGA	640 x 480	60.000Hz	31.500kHz	25.200MHz
SVGA	800 x 600	60.317Hz	37.879kHz	40.000MHz
XGA	1024 x 768	60.004Hz	48.363kHz	65.000MHz
WXGA	1280 x 720	59.870Hz	47.776kHz	79.500MHz
WXGA	1280 x 768	59.939Hz	44.955kHz	74.175MHz
WXGA	1360 x 768	60.015Hz	47.712kHz	85.500MHz

(according to Graphic card)

Select PC input

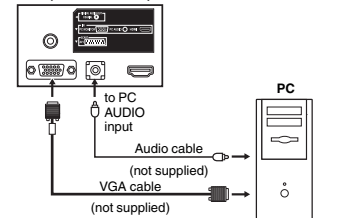
Switch on the LCD-TV.
Select the PC input mode (see page 11).

Note:

- If there is no video signal from the computer when the unit is in PC mode, "NO SIGNAL" will appear on the TV screen.
- Digital PC connection via HDMI input is not supported. If you try to connect your PC digitally anyway, the TV-operation might freeze. TV will stop to respond properly on user commands.
Countermeasure: Switch-off your TV and disconnect from the 220-240V power-supply. Disconnect the digital PC connection. Now you may retry operating your TV.
- If a digital PC connection does show a picture, proper working is not guaranteed. Digital PC connection is not granted for this TV.

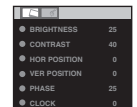
Use a PC-VGA cable (not supplied) to connect the LCD-Monitor to your PC. Make the connections carefully so as not to break or bend the contacts inside the plug.

TV (Back side view)



Example: Adjust the contrast.

- During PC mode press **MENU**. The Menu will appear on the screen.



- Select **CONTRAST**, then press **ENTER**. Press **◀** or **▶** to adjust **CONTRAST**.
- Press **EXIT** to return to the normal screen.

Description about the each setting option:

PICTURE Menu

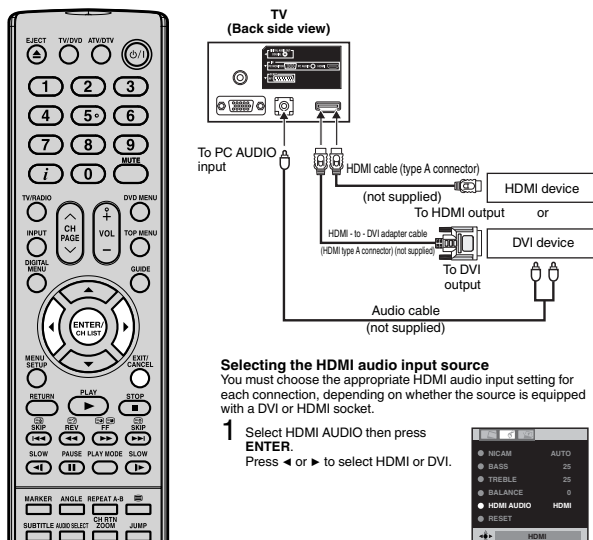
BRIGHTNESS and CONTRAST: You can adjust these according to your personal preferences.
HOR POSITION and VER POSITION: to adjust the horizontal and vertical placing of the image.
PHASE and CLOCK: eliminates the horizontal (PHASE) and vertical (CLOCK) interfering lines.
RED/GREEN/BLUE: influences the colour balance.
BACKLIGHT: Press **◀** or **▶** to adjust the level you require.
WXGA INPUT: When you input an WXGA signal, set this option to 'ON'.
RESET: Press **ENTER** to reset BRIGHTNESS, CONTRAST, RED, GREEN, BLUE and BACKLIGHT to the factory preset values.

AUDIO Menu

BASS/TREBLE/BALANCE: Tone setting menu.
RESET: Press **ENTER** to reset BASS, TREBLE and BALANCE to the factory preset values.

Connecting an HDMI or a DVI device to the HDMI input

The HDMI input receives digital audio and uncompressed video from a HDMI equipped device or uncompressed digital video from a DVI equipped device.
When you connect to a DVI device with a HDMI-to-DVI adapter cable, it only transfers the video signal, so it is necessary to use separate analogue leads to transfer the audio signals.
Select the HDMI input mode (see page 11).



Selecting the HDMI audio input source

You must choose the appropriate HDMI audio input setting for each connection, depending on whether the source is equipped with a DVI or HDMI socket.

- Select HDMI AUDIO then press **ENTER**. Press **◀** or **▶** to select HDMI or DVI.



- Press **EXIT** to return to the normal screen.

Note:

- Follow the user's manual that came with the HDMI-system, which you try to connect to this TV. If there is no picture available via HDMI-connection, do connect via SCART-cable first. Use the HDMI-system's remote-control to call the HDMI-system's setup-menu onto the screen.
- Follow the HDMI-system's manual, to set its video-output to HDMI.
- When successfully set to HDMI, select this TV's HDMI-input, as described in here on page 11 (Select Video Input).

Note:

- This set is classed as "HD-Ready". This means that it is capable of displaying HD (High Definition) signals when connected to a suitable HD source, such as an HD receiver or DVD player that has HD capability, via HDMI, DVI, or Component Video connections.
- Some devices may not operate properly with the TV.

HDMI

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

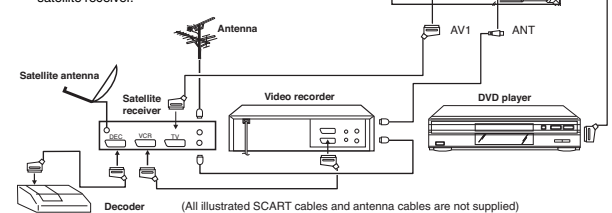
Connection to other equipment

1. Connecting other units to your TV

Caution. Before connecting:

- Make sure to disconnect the appliance from the power supply in order to avoid any potential damage from occurring.
- Make sure to establish the required connection.
- Make sure that connections are properly and correctly attached before connecting the appliances to the power supply.

Connect with Satellite receiver as shown below. Select the TV-Program at the satellite receiver. To do this, use the remote control of the satellite receiver. You cannot store the same station once again additionally in LCD-Monitor which already stored in satellite receiver.

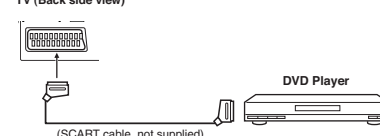


Note:

S-Video signals can be played back through the AV2 input (see page 57).

2. Connecting a DVD player

TV (Back side view)



To ensure optimum picture quality, select RGB for the DVD player's output signal (see Owner's manual of the DVD player). AV1 SCART is compatible with RGB signal. Select AV1 input mode to view (see page 11).

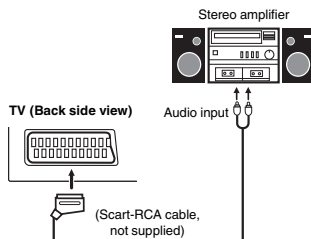
Connection to other equipment

3. Connecting an audio system

You can supply the TV sound to the stereo equipment with the scart socket. Use a special scart cable for the connection which sold at the accessory shop. (please consult your hi-fi instructions for details).

Note:

- The Bass/Treble/Balance adjustments (see P.18) only function with the sound from the TV speakers - it does not affect the audio output sockets.



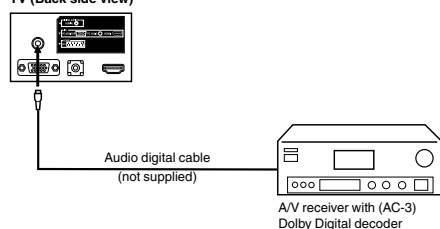
4. Connection of a digital amplifier or digital AV receivers (with DTS or Dolby Digital Decoder)

DTS and Dolby Digital are two different systems. DTS-DVDs cannot be played with a Dolby Digital receiver. Please use in this case a decoder that matches your DVDs.

Note:

- In earlier years Dolby Digital was known as AC-3. Nowadays only the name has changed. To enjoy Dolby Digital you may still use your "old" AC-3 decoder. Also the commercially available AC-3 DVDs can still be played with any Dolby Digital DVD player.

TV (Back side view)



- After connecting a Dolby Digital decoder please select in the DVD menu the Dolby Digital (DD) sound track option.
- Several DVDs may be pre-recorded on both sides however only one side contains the Dolby Digital sound track. Please insert the correct DVD side.
- When a DTS sound track is played the integrated loudspeakers are mute. The DTS sound can only be played digitally using the digital outlet. DTS decoder is necessary for hearing.
- Digital audio output is active only when receiving DVB-T, not when receiving analogue cable TV broadcasting.

Connection to other equipment

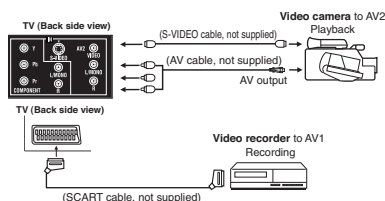
5. Connecting Video camera and Video recorder

Select the "MONITOR" option in the SETUP menu (see No.7 on page 58). Select the AV2 input mode (see page 11). You can see the playback picture from video camera. This signal is output via AV1 and can be recorded by video recorder.

With this arrangement, Video recorder will record exactly what is shown on the screen.

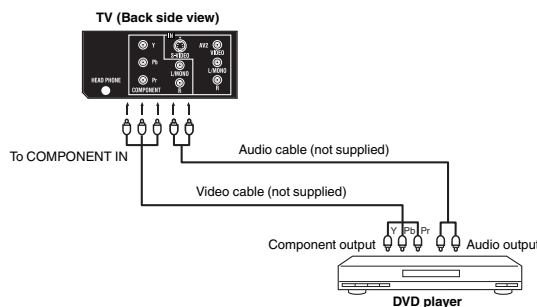
Note:

- If you have a camcorder with S-video, use an S-video cable instead of a standard video cable. Do not connect both a standard video cable and an S-video cable at the same time, or the picture performance will be unacceptable.
- When you input the PAL-M signal to AV2 input, select AV COLOUR setting to AUTO, otherwise the monochrome images will be displayed.



6. Connecting to a DVD player or other AV device with Component Video outputs

If your DVD player (or other device) has Component Video output jacks, use a suitable set of leads (RCA/Phono) to connect these to the Component Video inputs on this TV as shown - it can greatly enhance the picture quality and performance. Please remember that you will also need to connect separate leads (RCA/Phono) for the audio signals. Select the COMPONENT input mode (see page 11).



Note:

- The Component Video input of this unit are for use with equipment which outputs interlaced signals (PAL: 576i/1080i or NTSC: 480i/1080i) and progressive signals (PAL: 576p/720p or NTSC: 480p/720p).

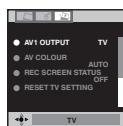
Connection to other equipment

7. Setting of Scart socket

1 In **AV2** select AV1 OUTPUT, then press **ENTER**.

2 This determines whether the AV1 outputs the signal from the internal tuner or whatever input is shown on the screen. Press **◀** or **▶** to select TV or MONITOR.

TV: Outputs the last channel position selected.
MONITOR: The picture displayed on TV-screen



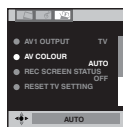
3 Press **EXIT** to return to the normal screen.

AV colour adjustment

The AV Colour setting only applies when viewing devices connected to the AV inputs.

1 In **AV2** select AV COLOUR, then press **ENTER**.

2 Press **◀** or **▶** to select AUTO.



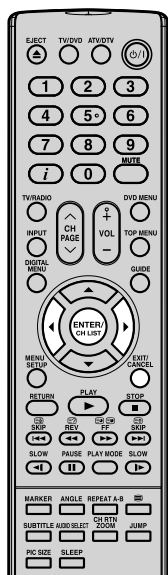
3 If AUTO option does not work, press **◀** or **▶** to select desired colour (e.g. NTSC 3.58).

4 Press **EXIT** to return to the normal screen.

Note:

- PAL is the colour system used in Germany. NTSC 3.58 is used in the USA, PAL 60 used in Germany handled video recorders, which play NTSC video tape recording.

If the picture shows horizontal stripes:
Set to AUTO as the description above.



Status message

Information/Status message	Cause
Invalid entry	The channel does not exist. (e.g., "000")
No radio services	Cannot change to Radio mode because there is no radio service in the channel list.
No TV services	Cannot change to TV mode because there is no TV service in the channel list.
No services	There are no services in the received signal.
No subtitles	There are no subtitles in the received signal.
No video No audio	The signal does not contain audio or video.
Audio stream not available	The Multi Audio Menu cannot be displayed because there is no sound.
Descrambling not possible	The services for the selected channel are not available for this card.
CI card initialized	CI card is initializing.
CAM module has been removed	CAM module has been removed. (CAM is used for inserting the CI card.)
Database empty	There are no services in the TV.
No signal	There are no signal inputs.
Locked service	The service is locked with the channel organizer.
Scrambled service	The service is scrambled and unavailable.
Digital Service	Not available.
Not Running	Broadcasting has been suspended.
HD service	This service is for HD.
New service added ...	A new service has been added.
Upgrading available service details	Service information has been changed. The channel list is updating.
Duplicate carrier found	The same signal has already been set.
Invalid Stream	Contains a video format that is not supported by this TV.

Troubleshooting table

Please check the following list before requesting service.

Symptom	Possible solution	Page
TV		
No picture, no sound	Switch on the set. Check that the mains power outlet is properly connected. Select appropriate input mode. Unplug unit for 1 minute, then plug it back in.	6 9 11
No reception	Have you tuned in the TV stations? Connect the antenna. Make sure the set is ON and not in Standby mode	10, 11 9 9
The TV switches off with missing antenna input signal	This is normal. 15 minutes after the antenna signal has disappeared, the set will change to standby mode.	14
In  menu, the TUNING option cannot be selected.	The unit is set to AV mode. Press 1 on the remote control.	11
Wrong Colours	Colour and Brightness errors can occur when the viewing angle / ambient air temperature (see technical specifications) are exceeded.	–
While viewing a DVB (digital) channel, there is sound but no picture.	Some channel offers audio content only. It is normal.	–
Blocky image or image stops intermittently.	Check all antenna connections. Move the antenna away from areas of possible interference. Try using an antenna booster.	9
Some digital channels cannot be viewed.	Contact the service provider to subscribe.	–
"Database empty" message appears on the screen.	Check all antenna connections and try auto tuning again.	9, 20
DVD		
The playback picture has occasional distortion.	The disc is dirty. Eject the disc and clean it. Some times a small amount of picture distortion may appear. This is not a malfunction.	31, 32
The unit does not start playback.	No disc is inserted. Insert a disc.	32
	An unplayable disc is inserted. Insert a playable disc (Check the disc type and colour system).	31
	Place the disc in the disc slot with the label side facing forward.	32
	The disc is dirty. Clean the disc.	31
X appears on the screen.	Cancel the parental lock function or change the parental lock level.	50, 51
	The function is prohibited with the unit or the disc.	34

- The LCD panel is a very high technology product, giving you fine picture details. Occasionally, a few nonactive pixels may appear on the screen as a fixed point of blue, green or red. Please note that this does not affect the performance of your product.
- This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.
- Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
-  is a trademark of DVD Format/Logo Licensing Corporation.
- Manufactured under license under U.S. Patent #: 5,451,942 & other U.S. and worldwide patents issued & pending. DTS and DTS Digital Out are registered trademarks and the DTS logos and Symbol are trademarks of DTS, Inc. © 1996-2007 DTS, Inc. All Rights Reserved.
- Unauthorized recording of copyrighted television programs, films, video cassettes and other materials may infringe the rights of copyright owners and be contrary to copyright laws.
- DivX, DivX Certified, and associated logos are trademarks of DivX, Inc. and are used under license.

Specifications

Model	19DV555DG/19DV556DG		22DV555DG
TV			
System:	Analogue: PAL UK, IR, CCIR, FRENCH System, B/G, D/K, I/I, L Digital: DVB-T (OFDM 2k/8k 16QAM/64QAM)		
Video Colour System:	PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60		
Preset channels:	Analogue channels (99) + Digital channels (Carrier 200/Service1000)		
Frequency Range:	Analogue: IreE2–E4, X–Z+2, S1–S10, E5–E12, S11–S41, E21–E69 Digital: E5–E12, ItaD–H2, Fra1–6, Rus6–12, E21–E69		
LCD:	18.95" TYPE (48.14 cm visible) TFT low-glass Active Matrix Colour LCD, 1440 x 900 Pixel	22" TYPE (55.8 cm visible) TFT low-glass Active Matrix Colour LCD, 1680 x 1050 Pixel	
HDMI input:	HDMI compliant (type A connector) HDCP compliant Suggested scan rates: PAL: 576i/576p/720p/1080i NTSC: 480i/480p/720p/1080i PC Audio: 2-channel PCM, 32/44.1/48 kHz sampling frequency 16/20/24 bits per sample		
Audio Output Power:	approx. 1.5W (MAX) x 2		
DVD			
Signal system:	NTSC, PAL (Region 2)		
Applicable disc:	DVD (12cm, 8cm), CD (12cm, 8cm)		
Output:	Audio : (RCA) –12.0 dBm, 1 k Ω Digital Audio : 0.5Vp-p/75 Ω		
Pickup:	CD : Wavelength: 775 - 805 nm Maximum output power: 0.5 mW DVD : Wavelength: 640 - 660 nm Maximum output power: 1.0 mW		
GENERAL			
Power Source:	AC 220-240V, 50Hz		
Power Consumption:	Operation: approx. 60W at 230V, 50Hz Standby: approx. 1W at 230V, 50Hz	Operation: approx. 65W at 230V, 50Hz Standby: approx. 1W at 230V, 50Hz	
Weight:	5.2 kg	6.2 kg	
Dimensions:	47.2(W)x40.1(H)x20.7(D)cm	53.7(W)x44(H)x20.7(D)cm	
Surrounding temperature:	Operation: 5°C ~ 40°C/Storage: –20°C ~ 60°C		
ACCESSORIES			
2 batteries (AAA/R03/UM-4)/Remote control unit/Aerial cable/AC cord			

Weight and Dimensions are approximate. Because we continually strive to improve our products we may change specifications and designs without prior notice.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  mark, the designated parts must be used.

4. BE CAREFUL WITH THE LCD PANEL

Avoid a shock to the panel while servicing. Take enough care to deal with it.

5. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

6. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Headphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER

The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.

2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

IMPORTANT

When you exchange IC and Transistor with a heat sink, apply silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damage to the IC and Transistor).

WHEN REPLACING DVD DECK

[When removing the DVD Deck]

Before removing Pick Up PCB and DVD MT PCB connector, short circuit the position shown in Fig. 1 using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.

[When installing the DVD Deck]

Remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD MT PCB connector.

NOTE

- Before your operation, please read "PREPARATION OF SERVICING".
- Use the Lead Free solder.
- Manual soldering conditions
 - Soldering temperature: $320 \pm 20^{\circ}\text{C}$
 - Soldering time: Within 3 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
- When Soldering/Removing of solder, use the draw in equipment over the Pick Up Unit to keep the Flux smoke away from it.

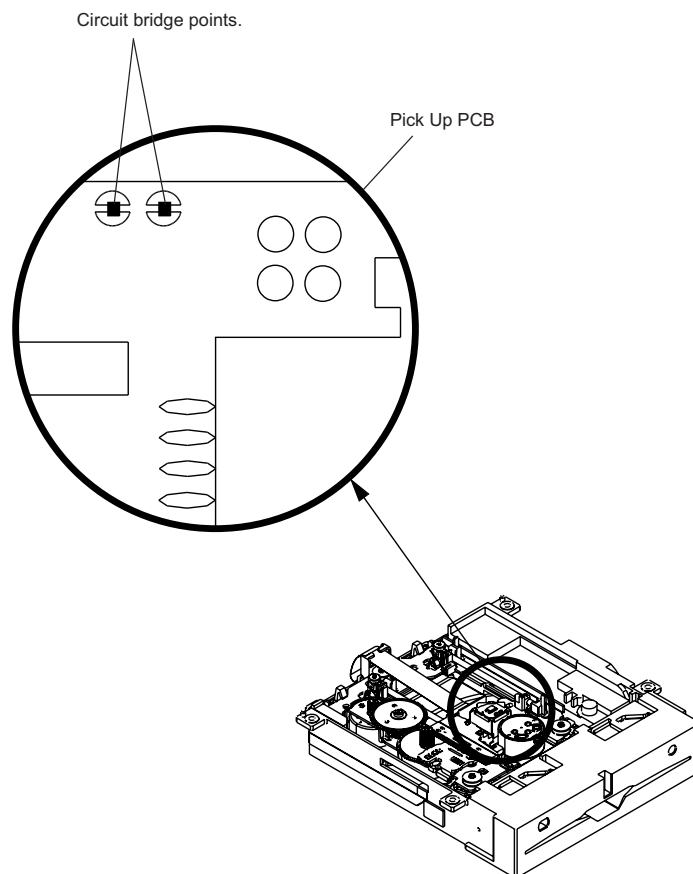


Fig. 1

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet and Angle Deck. (Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)
2. Slide the Belt Loading toward the arrow direction by hand to release the lock. (Refer to Fig. 1)
3. Take out the Disc from the DVD Deck. Be careful not to scratch on the Disc.

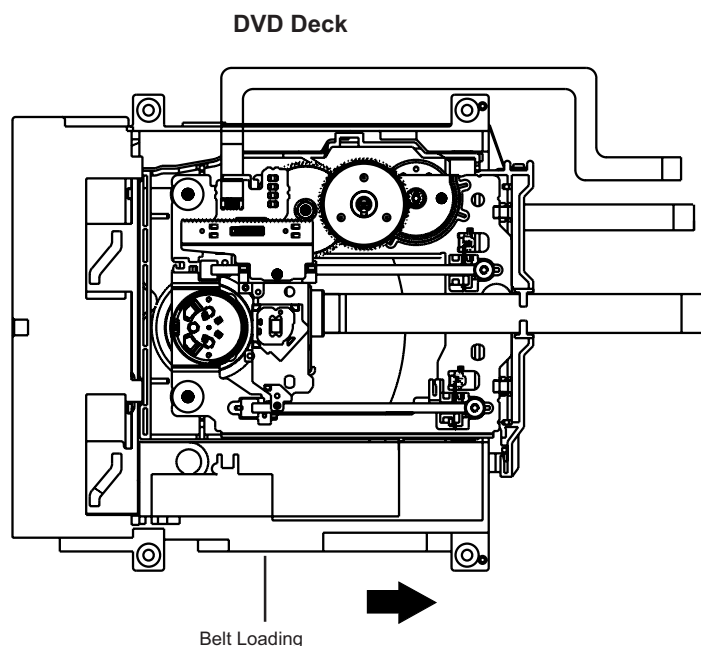


Fig. 1

PARENTAL CONTROL - RATING LEVEL 4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Check that 'No disc' is displayed on the screen.
4. Press and hold the 'STOP' button on the front panel.
5. Simultaneously press and hold the '7' key on the remote control unit.
6. Hold both keys for more than 2 seconds.
7. The On Screen Display message 'PASSWORD CLEAR' will appear.
8. The 4 digit password has now been cleared.

TRAY LOCK

The disk cannot be taken out by setting the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Press it in order of "SETUP", "SUBTITLE", "3", "AUDIO SELECT" and "0" key of a remote control unit.
4. The On Screen Display message "🔒" will appear.
5. The Tray Lock has now been set up.

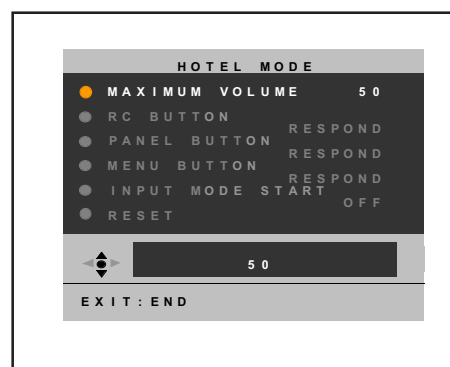
To unlock the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Press it in order of "SETUP", "SUBTITLE", "3", "AUDIO SELECT" and "0" key of a remote control unit.
4. The On Screen Display message "🔒" will appear.
5. The Tray Lock has now been cleared.

HOTEL MODE FUNCTION

To set the Hotel mode, please follow the steps below.

1. In power on mode, set the VOLUME to minimum.
2. Press and hold the VOLUME DOWN button on the side panel.
3. Simultaneously press and hold the channel button (7) on the remote control for more than 2 seconds.
4. The Hotel mode setting menu will appear.
5. Using the UP/DOWN button on the remote control, select the desired mode. Then press the ENTER button.
6. Using the LEFT/RIGHT button on the remote control, set the mode to desired setting.
7. The Hotel mode has now been set up.



To reset the Hotel mode, please follow the steps below.

1. In power on mode, set the VOLUME to minimum.
2. Press and hold the VOLUME DOWN button on the side panel.
3. Simultaneously press and hold the channel button (7) on the remote control for more than 2 seconds.
4. The Hotel mode setting menu will appear.
5. Using the UP/DOWN button on the remote control, select the RESET. Then press the ENTER button.
6. The setting items has now been returned to initial value.

Setting item	Setting value	Initial value	FUNCTION
Maximum volume	0~50	50	Setting of the maximum volume value.
RC button	RESPOND/ NO RESPOND	RESPOND	Effective/invalid setting of remote control key operation. (*Note 1)
Panel button			Effective/invalid setting of main key operation. (*Note 2)
Menu button			Effective/invalid setting of Menu key operation of set and remote control. (*Note 2)
Input mode start	1~99ch/DTV/AV1/ AV2/COMPO- NENT/HDMI/PC/ DVD/OFF	OFF	Setting of input source at power supply On. (*Note 3). If setting except "OFF". (*Note 4)
Reset	——	——	Various settings of the Hotel mode function return initial State.

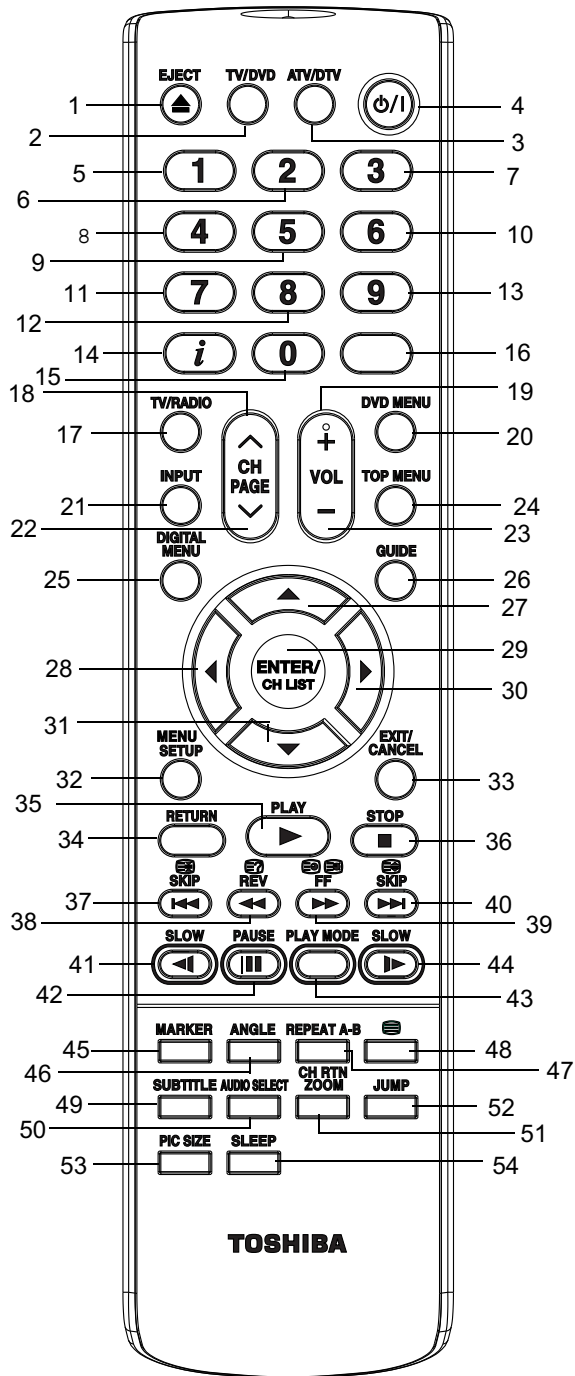
Note 1) Even if setting it to "No Respond", the remote control key operation in Hotel mode and service mode function are effective.

Note 2) Even if setting it to "No Respond", the service mode function are effective.

Note 3) If setting it to "OFF", it start up in same input source when you turn off the power before.

Note 4) Except "OFF" MENU Auto Tuning/ Manual Tuning/ CH Allocation/ Reset TV Setting can not select.

REMOTE CONTROL KEY CODE



NEC Format

Custom Code : 40-BF H, 44-BB H, 45-BA H, 45-BC H

No.	Key Name	Custom Code	Key Code
1	EJECT	45 BA	F5
2	TV/DVD	45 BC	B3
3	TV/DTV	40 BF	44
4	POWER	40 BF	12
5	1	40 BF	01
6	2	40 BF	02
7	3	40 BF	03
8	4	40 BF	04
9	5	40 BF	05
10	6	40 BF	06
11	7	40 BF	07
12	8	40 BF	08
13	9	40 BF	09
14	DISPLAY	40 BF	1C
15	0	40 BF	00
16	MUTE	40 BF	10
17	TV/RADIO	40 BF	47
18	CH/PAGE ↑	40 BF	3E
19	VOLUME +	40 BF	1A
20	DVD MENU	40 BF	19
21	INPUT	40 BF	0F
22	CH/PAGE ↓	40 BF	3F
23	VOLUME -	40 BF	1E
24	TOP MENU	44 BB	DF
25	DIGITAL MENU	40 BF	0A
26	GUIDE (EPG)	40 BF	45
27	CH/PAGE ↑	44 BB	80
28	LEFT	44 BB	51
29	ENTER/CHANNEL LIST	40 BF	3D
30	RIGHT	44 BB	4D
31	CH/PAGE ↓	44 BB	81
32	MENU/SETUP	40 BF	0E
33	EXIT/CANCEL	44 BB	EF
34	RETURN	44 BB	5D
35	PLAY	44 BB	15
36	STOP	44 BB	14
37	SKIP- /HOLD	45 BA	23
38	REVEAL / SEARCH-	45 BA	19
39	SUB PAGE / SEARCH+	45 BA	13
40	F/T/B / SKIP+	45 BA	24
41	RED / SLOW-	45 BA	0E
42	GREEN / PAUSE	45 BA	15
43	YELLOW / PLAY MODE	45 BA	E0
44	BLUE / SLOW+	45 BA	0D
45	MARKER	45 BA	EC
46	ANGLE	44 BB	96
47	REPEAT A-B	44 BB	5C
48	TEXT/TV	45 BA	79
49	SUBTITLE	44 BB	87
50	AUDIO SELECT	44 BB	53
51	ZOOM/CH RTN	45 BA	40
52	JUMP	44 BB	9B
53	PICTURE SIZE	40 BF	59
54	SLEEP	40 BF	15

GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size	22.0 inch / 558.00mmV
			LCD Type	Color TFT LCD
			Number of Pixels	1680(H) x 1050(V)
			View Range	85/85 degree
			Left/Right Up/Down	80/80 degree
			Bright Dot Zero Bright Dot Ratio	$n \leq 0$ --
		Color System		PAL / SECAM
G-2	DVD System	Speaker	Position	2 Speaker
			Size	Front
			Impedance	1.5 x 2.8 inch
				8 ohm
		Sound Output	MAX	1.5W + 1.5W
			10%(Typical)	---
		NTSC3.58+4.43 /PAL60Hz		Yes
G-3	Tuning System	Color System		NTSC, PAL
		Disc		DVD, CD-DA, CD-R/RW, Video CD
				DVD-R/RW (Video Format Only)
		Disc Diameter		120 mm , 80 mm
		Drive		DSM-2
		Search speed	Fwd	4 step
			Actual	2-45 times (DVD/Video CD)
				4-40 times (CD)
			Rev	4 step
			Actual	2-45 times (DVD/Video CD)
G-4	Signal			4-40 times (CD)
		Slow speed	Fwd	1/7 -1/2 times
			Actual	--
			Rev	1/7 -1/2 times
			Actual	--
		Broadcasting System	Analog	U.K., I.R., CCIR, FRENCH System
			Digital	B/G, D/K, I/I, L
		Tuner and Receive CH	System	DVB-T (OFDM 2k/8k
		CH Coverage	Destination	16QAM/64QAM)
			Analog	1Tuner (Analog+Digital)
G-5	Power		Digital	UK, I.R., CCIR Hyper+France CATV
		Intermediate Frequency	Analog	IreE2~E4, X~Z+2, S1~S10, E5~E12,S11~S41,E21~E69
			Picture(FP)	E5~E12, ItaD~H2, Fra1~6, Rus6~12, E21~E69
			Sound(FS)	BG / II / DK, L / L' (SECAM VL)
			FP-FS	38.9 / 38.9 / 38.9 / 33.9MHz
			Digital	33.4 / 32.9 / 32.4 / 40.4MHz
				5.5 / 6.0 / 6.5 / 6.5MHz
		Auto Tuning Method		36.167MHz
		Preset CH	Analog	ALL Band (Not C.C.I.R. CH Plan)
			Digital	99
G-6	Regulation	Stereo/Dual TV Sound		Carrier 200 / Service 1000
		Tuner Sound Muting		Nicam/A2 Dual
		Video Signal	Input Level	Yes
			Output Level	1 V p-p/75 ohm
			S/N Ratio (Weighted)	1 V p-p/75 ohm
			Horizontal Resolution at DVD Mode	65dB
		RGB Signal	Output Level	400 Lines
		Audio Signal	Input Level	--
			Output Level	-8.0dBm/50k ohm
			at DVD	-12.0dBm/1k ohm (-20dBFS 0dBFS=2.0Vrms)
G-5	Power		at TV	-8 dBm/1k ohm (0dBm=0.775Vrms)
			Digital Output Level	0.5 V p-p/75 ohm
			S/N Ratio at DVD (Weighted)	85dB
			Harmonic Distortion	0.02% (1KHz)
			Frequency Response :	0.02% (1KHz)
			at DVD	4Hz - 22kHz
			at Video CD	4Hz - 20kHz
			at SVCD	--
			at CD	4Hz - 20kHz
		Power Source	AC	220-240V AC 50Hz
G-5	Power		DC	---
		Power Consumption	at AC	65 W at AC 230 V 50 Hz
			at DC	--
		Stand by (at AC)	w/ EPG Timer	5 W at 230V 50Hz
			w/o EPG Timer	1 W at 230V 50Hz
			Per Year	-- kWh/Year
		Protector	Power Fuse	Yes
			Safety	CE(EN60065:2002)
			Radiation	CE
			X-Radiation	---

GENERAL SPECIFICATIONS

G-7	Temperature	Operation	+5°C ~ +40°C
		Storage	-20°C ~ +60°C
		Space Around Unit	100 mm(4inch)
G-8	Operating Humidity		Less than 80% RH
G-9	OSD Language	(TV)	English, Spanish, German, French, Italian, Swedish, Dutch, Russian, Portuguese, Turkish, Greek, Finnish, Polish, Danish, Norwegian
		(DVD)	English, Spanish, German, French, Italian
G-10	Clock and Timer	Sleep Timer	Max Time Step
		On/Off Timer	Program(On Timer / Off Timer)
		Wake Up Timer	-- Program
		Timer Back-up (at Power Off Mode)	more than -- Min Sec No
G-11	Remote Control	Unit	RC-QJ
		Glow in Dark Remocon	No
		Remocon Format	TOSHIBA
		Format	TOSHIBA
		Custom Code	40-BF h ,44-BB h ,45-BA h ,45-BC h
		Power Source	Voltage(D.C) UM size x pcs
		Total Keys	UM-4 x 2 pcs 54 Keys
		Keys	Power (Stand By)
			Yes
		Information/(Display)	Yes
		Analog Menu / Setup	Yes
		Digital Menu	Yes
		Input Select	Yes
		ATV/DTV	Yes
		Guide/(EPG)	Yes
		Picture Size	Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0	Yes
		Sleep	Yes
		Mute	Yes
		Volume Up	Yes
		Volume Down	Yes
		↑	Yes
		↓	Yes
		←	Yes
		→	Yes
		Enter / CH List	Yes
		Exit / Cancel	Yes
		Freeze frame	No
		TV/Radio	Yes
		Subtitle	Yes
		Play	Yes
		Stop	Yes
		Eject	Yes
		TV / DVD	Yes
		Return	Yes
		DVD Menu	Yes
		Top Menu	Yes
		Marker	Yes
		Angle	Yes
		Repeat A-B	Yes
		Audio Select	Yes
		CH RTN(Quick View) / Zoom	Yes
		Jump	Yes
		T*TEXT Keys	TEXT / TV
			Yes
			HOLD / Skip-
			Yes
			Reveal / Search-
			Yes
			Sub Page / Search+
			Yes
			F.T.B / Skip+
			Yes
			Red / Slow-
			Yes
			Green / Pause
			Yes
			Yellow / Play Mode
			Yes
			Cyan / Slow+
			Yes
			CH Up / Page Up
			Yes
			CH Down / Page Down
			Yes

GENERAL SPECIFICATIONS

G-12	Features	Power On Memory	Yes
		Auto Shut Off	Yes
		Just Clock Function	No
		Game Position	No
		DNR	Yes
			3D
		Comb Filter	Yes
			3D
		Auto Set Up (Fast installation)	Yes
		Auto tuning (Analog tuner)	Yes
		CH sort	Yes
		ATS	Yes
		Auto clock (Analog tuner)	No
		Plug in start	Yes
		Picture Setting(TV)	Picture Preference
			Yes
		Brightness , Contrast , Color	Yes
		Tint	Yes
		Sharpness	Yes
		DNR	No
		Color Temperature	Yes
		Blue Back	Yes
		Backlight Control	Yes
		Film Mode	No
		Picture Setting(PC)	BRIGHTNESS , CONTRAST
			Yes
		HOR POSITION , VER POSITION	Yes
		PHASE , CLOCK	Yes
		AUTO ADJUST	No
		RED , GREEN , BLUE	Yes
		Backlight	Yes
		WXGA INPUT	Yes
		WVGA INPUT	No
		Audio	Nicam
			Yes
		Tone Control (Bass/Treble/Balance)	Yes
		Surround	No
		BBE	No
		SRS WOW (SRS 3D/Focus/Tru Bass)	No
		Variable Audio Out	No
		Tuning	Auto Tuning
			Yes
		Manual Tuning	Yes
		CH Allocation	Yes
		Lock (Analog)	Panel Lock
			No
		Channel Lock	No
		Hotel Lock	Yes
		Screen Saver	Inversion
			No
		Full White	No
		Screen Saver	No
		Static Image	No
		Black Side Panel	No
		CH Label	Yes
		T*Text	Yes
		Text type	Fasttext / Toptext
		Text Language	English , French, Swedish, Hungarian Turkish, German, Portuguese, Spanish, Italian, Greek, Slovakian, Russian, Polish, Czech, Rumanian, Estonian, Lettish, Lithuanian, Ukrainian, Croatian, Slovenian, Latvian
		Wide Mode (AUTO/4:3/FULL SCREEN/16:9/CINEMA/14:9)	Yes
		Reset TV Setting	Yes
		HD Zoom	No
		Picture Scroll (Vertical Position)	Yes
		PFC(Power Factor circuit)	No
		Freeze frame	No
		HD-Ready	Yes
		Plug and Play	No
		Scart Spec	Scart1
			AV in
			Yes
			AV out
			Yes (A.Tuner/D.Tuner/Monitor)
			S-Video in
			No
			RGB in
			Yes
			Scart2
			AV in
			No
			AV out
			No
			S-Video in
			No
			RGB in
			No

GENERAL SPECIFICATIONS

	Digital Text (VBI teletext)		Yes
	MHEG-5		Yes
	MHP		No
	EPG (BBC type 8Days Digital tuner only)		Yes
	OAD (Over Air Download)		Yes
	Common Interface (Digital tuner only)		Yes
	Rec Screen Status		Yes
	Ch sorting based on Ch List (Digital/Germany only)		Yes
	Rename Carrier (Digital)		Yes
	Edit Event Timer		Yes
	Software Update via CI Slot		Yes
	Preference Language (Audio/Subtitle/Digital Service)(Digital)		Yes
	Ch Organizer (Lock, Skip, Go To, Delete, Rename, Move, Move to)		Yes
	Parental Lock (Digital)		Yes
	Time Setup		Yes
	DVB Subtitle (Digital)		Yes
	PC Monitor Input		Yes
		VGA (640x480)	Yes (60Hz)
		VGA (720x400)	No
		WVGA (848x480)	No
		SVGA (800x600)	Yes (60Hz)
		XGA (1024x768)	Yes (60Hz)
		WXGA (1280x768)	Yes (60Hz)
		WXGA (1280x720)	Yes (60Hz)
		WXGA (1360x768)	Yes (60Hz)
		SXGA (1280x1024)	No
	HDMI Input		Yes
		VGA (640x480)	Yes (60Hz)
		720x480i (4:3)	Yes (60Hz)
		720x480i (16:9)	Yes (60Hz)
		720x480p (4:3)	Yes (60Hz)
		720x480p (16:9)	Yes (60Hz)
		720x576i (4:3)	Yes (50Hz)
		720x576i (16:9)	Yes (50Hz)
		720x576p (4:3)	Yes (50Hz)
		720x576p (16:9)	Yes (50Hz)
		1280x720p	Yes (50/60Hz)
		1920x1080i	Yes (50/60Hz)
	Component Input		Yes
		720x480i (4:3)	Yes (60Hz)
		720x480i (16:9)	Yes (60Hz)
		720x480p (4:3)	Yes (60Hz)
		720x480p (16:9)	Yes (60Hz)
		720x576i (4:3)	Yes (50Hz)
		720x576i (16:9)	Yes (50Hz)
		720x576p (4:3)	Yes (50Hz)
		720x576p (16:9)	Yes (50Hz)
		1280x720p	Yes (50/60Hz)
		1920x1080i	Yes (50/60Hz)
	Wall Mount	Size W x H(mm)	Yes (100 x 100)
		Screw Size	M4 x 10
Features (DVD)	Tray Lock		Yes
	WMA		No
	JPEG		Yes
	Video CD Playback		Yes
	SVCD Playback		No
	MP3 Playback		Yes
	Divx Playback		Yes
	Digital Out	DMF Support	No
		(Dolby Digital)	Yes
		(MPEG)	Yes
		(PCM)	Yes
	Down Mix Out	(DTS)	Yes
		(Dolby Digital)	Yes
		(DTS)	No
	3D Surround		No
	Closed Caption		No
	Screen Saver		No
	Audio DAC		192kHz / 24bit

GENERAL SPECIFICATIONS

G-13	Accessories	Owner's Manual	Language w/Guarantee Card	English	No
		Remote Control Unit		Yes	
		Rod Antenna			No
			Poles	-	
			Terminal	-	
		Loop Antenna (W/ Antenna Change Plug)	Terminal	-	No
		U/V Mixer			No
		DC Car Cord (Center+)			No
		Guarantee Card			No
		Warning Sheet			No
		Registration Card		Yes	
		Circuit Diagram			No
		Antenna Change Plug			No
		Service Facility List			No
		Important Safeguard			No
		Dew/AHC Caution Sheet			No
		Quick Set-up Sheet		Yes	
		My Movie stream (Free DVD redemption voucher)			No
		Carbon Neutral Certificate			No
		Battery		Yes	
			UM size x pcs	UM-4 x 2 pcs	
			OEM Brand		No
		AC Adapter			No
		AC Cord (for AC Adapter)			No
		AC Cord		Yes	
		AV Cord (2Pin-1Pin)			No
		RF Cable		Yes	
		HDMI-DVI Cable			No
		Helpline Sheet		Yes	
		300 ohm to 75 ohm Antenna Adapter			No
G-14	Interface	Switch	Side	Power (Tact)	Yes
				System Select	No
				Main Power SW	No
				Channel Up / Play / Menu Up	Yes
				Channel Down / STOP / Menu Down	Yes
				Volume Up / Menu>	Yes
				Volume Down / Menu<	Yes
				Play	No (CH+ Alternative)
				Eject	Yes
				Skip+, Search+	No
				Skip-, Search-	No
				Stop	No (CH- Alternative)
				Input Select / Enter	Yes
				Menu	Yes
		Indicator		Power/Stand-by/EPG Timer	Yes(GREEN / RED / ORANGE)
				On Timer	No
		Terminals	Side	CI Card Slot	Yes
			Rear	Video Input 1	RCA x 1 (AV2)
				Audio Input 1	RCA x 2(L/MONO, R) (AV2)
				S- Input 1	Yes (AV2)
				Video Input 2	No
				Audio Input 2	No
				S- Input 2	No
				Video Output	No
				Audio Output	No
				Digital Audio Out (Coaxial)	Yes
				Component In	Yes
				Audio Input (Component In use)	RCA x 2(L/MONO, R)
				Sub Woofer Output	No
				Diversity	No
				Ext Speaker	No
				DC Jack 12V(Center +)	No
				Other Terminal	Headphone
				VHF/UHF Antenna Input	DIN Type
				AC Inlet	Yes
				Euro Scart (21Pin)	1Scart (AV1)
				PC Monitor Input (D-Sub)	Yes
				Audio Input	Mini Pin Jack(φ 3.5), STEREO
				HDMI Input 1	Yes
				Audio Input (HDMI/DVI In use)	PC Monitor Audio Input Alternative
				HDMI Input 2	No
				Audio Input (HDMI/DVI In use)	No

GENERAL SPECIFICATIONS

G-15	Set Size	Approx. W x D x H (mm)	536.5 x 207 x 439.5
		w/o Stand,Handle Approx. W x D x H (mm)	536.5 x 67 x 403
G-16	Weight	Net Approx.	6.2kg (13.7 lbs)
		Net w/o Stand,Handle Approx.	5.5kg (12.1 lbs)
		Gross Approx.	8.3kg (18.3 lbs)
G-17	Carton	Master Carton	No
		Content	----
		Material	-- /--
		Dimensions W x D x H(mm)	-- x -- x --
		Description of Origin	No
		Gift Box	Yes
		Material	Double/Full Color
		Dimensions W x D x H(mm)	598 x 595 x 181
		W/Color Photo Label	No
		Description of Origin	Yes
		Drop Test	'6 Surfaces
		Height (cm)	80
		Container Stuffing	776 Sets/40' container
		w/Pallet	Yes
		w/Wrapping	Yes
G-18	Material	Cabinet Cabinet Front	PC+ABS 94V0 NON-HALOGEN
		Cabinet Rear	PS 94V0 NON-DECABROM
		PCB Non-Halogen	No
		Eyelet	Yes
G-19	Environment	Environmental standard requirement	Green procurement of TOSHIBA
		Pb- Free	Phase3(PHASE3A)
		Measures for Whisker	Yes
		WEEE	Yes

GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size	22.0 inch / 558.00mmV
			LCD Type	Color TFT LCD
			Number of Pixels	1680(H) x 1050(V)
			View Range	85/85 degree
			Left/Right Up/Down	80/80 degree
			Bright Dot Zero Bright Dot Ratio	$n \leq 0$ --
G-2	DVD System	Color System		PAL / SECAM
		Speaker	Position	2 Speaker
			Size	Front
			Impedance	1.5 x 2.8 inch
				8 ohm
		Sound Output	MAX	1.5W + 1.5W
			10%(Typical)	---
		NTSC3.58+4.43 / PAL60Hz		Yes
		Color System		NTSC, PAL
		Disc		DVD, CD-DA, CD-R/RW, Video CD
G-3	Tuning System			DVD-R/RW (Video Format Only)
		Disc Diameter		120 mm , 80 mm
		Drive		DSM-2
		Search speed	Fwd	4 step
			Actual	2-45 times (DVD/Video CD)
				4-40 times (CD)
			Rev	4 step
			Actual	2-45 times (DVD/Video CD)
				4-40 times (CD)
		Slow speed	Fwd	1/7 -1/2 times
G-4	Signal			--
			Rev	1/7 -1/2 times
			Actual	--
		Broadcasting System	Analog	U.K., I.R., CCIR, FRENCH System
			Digital	B/G, D/K, I/I, L
				DVB-T (OFDM 2k/8k 16QAM/64QAM)
		Tuner and Receive CH	System	1Tuner (Analog+Digital)
		CH Coverage	Destination	UK, I.R., CCIR Hyper+France CATV
			Analog	IreE2~E4, X~Z+2, S1~S10, E5~E12, S11~S41, E21~E69
			Digital	E5~E12, ItaD~H2, Fra1~6, Rus6~12, E21~E69
G-5	Power	Intermediate Frequency	Analog	BG / II / DK, L / L' (SECAM VL)
			Picture(FP)	38.9 / 38.9 / 38.9 / 33.9MHz
			Sound(FS)	33.4 / 32.9 / 32.4 / 40.4MHz
			FP-FS	5.5 / 6.0 / 6.5 / 6.5MHz
			Digital	36.167MHz
		Auto Tuning Method		ALL Band (Not C.C.I.R. CH Plan)
		Preset CH	Analog	99
			Digital	Carrier 200 / Service 1000
		Stereo/Dual TV Sound		Nicam/A2 Dual
		Tuner Sound Muting		Yes
G-6	Regulation	Video Signal	Input Level	1 V p-p/75 ohm
			Output Level	1 V p-p/75 ohm
			S/N Ratio (Weighted)	65dB
			Horizontal Resolution at DVD Mode	400 Lines
		RGB Signal	Output Level	--
		Audio Signal	Input Level	-8.0dBm/50k ohm
			Output Level at DVD	-12.0dBm/1k ohm (-20dBFS 0dBFS=2.0Vrms)
			at TV	-8 dBm/1k ohm (0dBm=0.775Vrms)
			Digital Output Level	0.5 V p-p/75 ohm
			S/N Ratio at DVD (Weighted)	85dB
G-5	Power		Harmonic Distortion	0.02% (1KHz)
			Frequency Response :	4Hz - 22kHz
			at DVD	4Hz - 20kHz
			at Video CD	--
			at SVCD	--
			at CD	4Hz - 20kHz
G-5	Power	Power Source	AC	220-240V AC 50Hz
			DC	---
		Power Consumption	at AC	65 W at AC 230 V 50 Hz
			at DC	--
		'Stand by (at AC)	w/ EPG Timer	5 W at 230V 50Hz
			w/o EPG Timer	1 W at 230V 50Hz
G-5	Power		Per Year	-- kWh/Year
		Protector	Power Fuse	Yes
G-6	Regulation		Safety	CE(EN60065:2002)
			Radiation	CE
			X-Radiation	---

GENERAL SPECIFICATIONS

G-7	Temperature	Operation	+5°C ~ +40°C
		Storage	-20°C ~ +60°C
		Space Around Unit	100 mm(4inch)
G-8	Operating Humidity		Less than 80% RH
G-9	OSD Language	(TV)	English, Spanish, German, French, Italian, Swedish, Dutch, Russian, Portuguese, Turkish, Greek, Finnish, Polish, Danish, Norwegian
		(DVD)	English, Spanish, German, French, Italian
G-10	Clock and Timer	Sleep Timer	Max Time Step
		On/Off Timer	Program(On Timer / Off Timer)
		Wake Up Timer	-- Program
		Timer Back-up (at Power Off Mode)	more than
			-- Min Sec
G-11	Remote Control	Unit	RC-QJ
		Glow in Dark Remocon	No
		Remocon Format	TOSHIBA
		Format	TOSHIBA
		Custom Code	40-BF h ,44-BB h ,45-BA h ,45-BC h
		Power Source	Voltage(D.C) UM size x pcs
			3V UM-4 x 2 pcs
		Total Keys	54 Keys
		Keys	Power (Stand By)
			Yes
		Information/(Display)	Yes
		Analog Menu / Setup	Yes
		Digital Menu	Yes
		Input Select	Yes
		ATV/DTV	Yes
		Guide/(EPG)	Yes
		Picture Size	Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0	Yes
		Sleep	Yes
		Mute	Yes
		Volume Up	Yes
		Volume Down	Yes
		↑	Yes
		↓	Yes
		←	Yes
		→	Yes
		Enter / CH List	Yes
		Exit / Cancel	Yes
		Freeze frame	No
		TV/Radio	Yes
		Subtitle	Yes
		Play	Yes
		Stop	Yes
		Eject	Yes
		TV / DVD	Yes
		Return	Yes
		DVD Menu	Yes
		Top Menu	Yes
		Marker	Yes
		Angle	Yes
		Repeat A-B	Yes
		Audio Select	Yes
		CH RTN(Quick View) / Zoom	Yes
		Jump	Yes
		T*TEXT Keys	TEXT / TV
			Yes
		HOLD / Skip-	Yes
		Reveal / Search-	Yes
		Sub Page / Search+	Yes
		F.T.B / Skip+	Yes
		Red / Slow-	Yes
		Green / Pause	Yes
		Yellow / Play Mode	Yes
		Cyan / Slow+	Yes
		CH Up / Page Up	Yes
		CH Down / Page Down	Yes

GENERAL SPECIFICATIONS

G-12	Features	Power On Memory	Yes
		Auto Shut Off	Yes
		Just Clock Function	No
		Game Position	No
		DNR	Yes
			3D
		Comb Filter	Yes
			3D
		Auto Set Up (Fast installation)	Yes
		Auto tuning (Analog tuner)	Yes
		CH sort	Yes
		ATS	Yes
		Auto clock (Analog tuner)	No
		Plug in start	Yes
		Picture Setting(TV)	Picture Preference
			Yes
		Brightness , Contrast , Color	Yes
		Tint	Yes
		Sharpness	Yes
		DNR	No
		Color Temperature	Yes
		Blue Back	Yes
		Backlight Control	Yes
		Film Mode	No
		Picture Setting(PC)	BRIGHTNESS , CONTRAST
			Yes
		HOR POSITION , VER POSITION	Yes
		PHASE , CLOCK	Yes
		AUTO ADJUST	No
		RED , GREEN , BLUE	Yes
		Backlight	Yes
		WXGA INPUT	Yes
		WVGA INPUT	No
		Audio	Nicam
			Yes
		Tone Control (Bass/Treble/Balance)	Yes
		Surround	No
		BBE	No
		SRS WOW (SRS 3D/Focus/Tru Bass)	No
		Variable Audio Out	No
		Tuning	Auto Tuning
			Yes
		Manual Tuning	Yes
		CH Allocation	Yes
		Lock (Analog)	Panel Lock
			No
		Channel Lock	No
		Hotel Lock	Yes
		Screen Saver	Inversion
			No
		Full White	No
		Screen Saver	No
		Static Image	No
		Black Side Panel	No
		CH Label	Yes
		T*Text	Yes
			Text type
			Fasttext / Toptext
			Text Language
			English , French, Swedish, Hungarian
			Turkish, German, Portuguese, Spanish,
			Italian, Greek, Slovakian, Russian, Polish,
			Czech, Rumanian, Estonian, Lettish,
			Lithuanian, Ukrainian, Croatian, Slovenian,
			Latvian
		Wide Mode (AUTO/4:3/FULL SCREEN/16:9/CINEMA/14:9)	Yes
		Reset TV Setting	Yes
		HD Zoom	No
		Picture Scroll (Vertical Position)	Yes
		PFC(Power Factor circuit)	No
		Freeze frame	No
		HD-Ready	Yes
		Plug and Play	No
		Scart Spec	Scart1
			AV in
			Yes
			AV out
			Yes (A.Tuner/D.Tuner/Monitor)
			S-Video in
			No
			RGB in
			Yes
			Scart2
			AV in
			No
			AV out
			No
			S-Video in
			No
			RGB in
			No

GENERAL SPECIFICATIONS

	Digital Text (VBI teletext)		Yes
	MHEG-5		Yes
	MHP		No
	EPG (BBC type 8Days Digital tuner only)		Yes
	OAD (Over Air Download)		Yes
	Common Interface (Digital tuner only)		Yes
	Rec Screen Status		Yes
	Ch sorting based on Ch List (Digital/Germany only)		Yes
	Rename Carrier (Digital)		Yes
	Edit Event Timer		Yes
	Software Update via CI Slot		Yes
	Preference Language (Audio/Subtitle/Digital Service)(Digital)		Yes
	Ch Organizer (Lock, Skip, Go To, Delete, Rename, Move, Move to)		Yes
	Parental Lock (Digital)		Yes
	Time Setup		Yes
	DVB Subtitle (Digital)		Yes
	PC Monitor Input		Yes
	VGA (640x480)	Yes (60Hz)	
	VGA (720x400)	No	
	WVGA (848x480)	No	
	SVGA (800x600)	Yes (60Hz)	
	XGA (1024x768)	Yes (60Hz)	
	WXGA (1280x768)	Yes (60Hz)	
	WXGA (1280x720)	Yes (60Hz)	
	WXGA (1360x768)	Yes (60Hz)	
	SXGA (1280x1024)	No	
	HDMI Input		Yes
	VGA (640x480)	Yes (60Hz)	
	720x480i (4:3)	Yes (60Hz)	
	720x480i (16:9)	Yes (60Hz)	
	720x480p (4:3)	Yes (60Hz)	
	720x480p (16:9)	Yes (60Hz)	
	720x576i (4:3)	Yes (50Hz)	
	720x576i (16:9)	Yes (50Hz)	
	720x576p (4:3)	Yes (50Hz)	
	720x576p (16:9)	Yes (50Hz)	
	1280x720p	Yes (50/60Hz)	
	1920x1080i	Yes (50/60Hz)	
	Component Input		Yes
	720x480i (4:3)	Yes (60Hz)	
	720x480i (16:9)	Yes (60Hz)	
	720x480p (4:3)	Yes (60Hz)	
	720x480p (16:9)	Yes (60Hz)	
	720x576i (4:3)	Yes (50Hz)	
	720x576i (16:9)	Yes (50Hz)	
	720x576p (4:3)	Yes (50Hz)	
	720x576p (16:9)	Yes (50Hz)	
	1280x720p	Yes (50/60Hz)	
	1920x1080i	Yes (50/60Hz)	
	Wall Mount		Yes (100 x 100)
	Size W x H(mm)	Yes (100 x 100)	
	Screw Size	M4 x 10	
Features (DVD)	Tray Lock		Yes
	WMA		No
	JPEG		Yes
	Video CD Playback		Yes
	SVCD Playback		No
	MP3 Playback		Yes
	Divx Playback		Yes
	DMF Support		No
	Digital Out	(Dolby Digital)	Yes
		(MPEG)	Yes
		(PCM)	Yes
	Down Mix Out	(DTS)	Yes
		(Dolby Digital)	Yes
		(DTS)	No
	3D Surround		No
	Closed Caption		No
	Screen Saver		No
	Audio DAC		192kHz / 24bit

GENERAL SPECIFICATIONS

G-13	Accessories	Owner's Manual	(Full)	Language	English, French, German
			(Simplified)		Italian, Spanish, Dutch, Danish, Norwegian, Swedish, Finnish, Czech, Greek
		w/Guarantee Card			No
		Remote Control Unit			Yes
		Rod Antenna			No
			Poles		-
			Terminal		-
		Loop Antenna (W/ Antenna Change Plug)			No
			Terminal		-
		U/V Mixer			No
		DC Car Cord (Center+)			No
		Guarantee Card			No
		Warning Sheet			No
		Circuit Diagram			No
		Antenna Change Plug			No
		Service Facility List			No
		Important Safeguard			No
		Dew/AHC Caution Sheet			No
		Quick Set-up Sheet			Yes
		My Movie stream (Free DVD redemption voucher)			No
		Carbon Neutral Certificate			No
		Battery			Yes
			UM size x pcs		UM-4 x 2 pcs
			OEM Brand		No
		AC Adapter			No
		AC Cord (for AC Adapter)			No
		AC Cord			Yes
		AV Cord (2Pin-1Pin)			No
		RF Cable			Yes
		HDMI-DVI Cable			No
Helpline Sheet			No		
300 ohm to 75 ohm Antenna Adapter			No		
G-14	Interface	Switch	Side	Power (Tact)	Yes
				System Select	No
				Main Power SW	No
				Channel Up / Play / Menu Up	Yes
				Channel Down / STOP / Menu Down	Yes
				Volume Up / Menu>	Yes
				Volume Down / Menu<	Yes
				Play	No (CH+ Alternative)
				Eject	Yes
				Skip+, Search+	No
				Skip-, Search-	No
				Stop	No (CH- Alternative)
				Input Select / Enter	Yes
				Menu	Yes
		Indicator		Power/Stand-by/EPG Timer	Yes(GREEN / RED / ORANGE)
				On Timer	No
		Terminals	Side	CI Card Slot	Yes
			Rear	Video Input 1	RCA x 1 (AV2)
				Audio Input 1	RCA x 2(L/MONO, R) (AV2)
				S- Input 1	Yes (AV2)
				Video Input 2	No
				Audio Input 2	No
				S- Input 2	No
				Video Output	No
				Audio Output	No
				Digital Audio Out (Coaxial)	Yes
				Component In	Yes
				Audio Input (Component In use)	RCA x 2(L/MONO, R)
				Sub Woofer Output	No
				Diversity	No
				Ext Speaker	No
				DC Jack 12V(Center +)	No
				Other Terminal	Headphone
				VHF/UHF Antenna Input	DIN Type
				AC Inlet	Yes
				Euro Scart (21Pin)	1Scart (AV1)
				PC Monitor Input (D-Sub)	Yes
				Audio Input	Mini Pin Jack(ϕ 3.5), STEREO
				HDMI Input 1	Yes
				Audio Input (HDMI/DVI In use)	PC Monitor Audio Input Alternative
				HDMI Input 2	No
				Audio Input (HDMI/DVI In use)	No

GENERAL SPECIFICATIONS

G-15	Set Size	Approx. W x D x H (mm)	536.5 x 207 x 439.5
		w/o Stand,Handle Approx. W x D x H (mm)	536.5 x 67 x 403
G-16	Weight	Net Approx.	6.2kg (13.7 lbs)
		Net w/o Stand,Handle Approx.	5.5kg ' (12.1 lbs)
		Gross Approx.	8.7kg ' (19.2 lbs)
G-17	Carton	Master Carton	No
		Content	---- Sets
		Material	-- /--
		Dimensions W x D x H(mm)	-- x -- x --
		Description of Origin	No
		Gift Box	Yes
		Material	Double/Full Color
		Dimensions W x D x H(mm)	598 x 595 x 181
		W/Color Photo Label	No
		Description of Origin	Yes
		Drop Test	'6 Surfaces
		Height (cm)	80
		Container Stuffing	776 Sets/40' container
		w/Pallet	Yes
		w/Wrapping	Yes
G-18	Material	Cabinet Cabinet Front	PC+ABS 94V0 NON-HALOGEN
		Cabinet Rear	PS 94V0 NON-DECABROM
		PCB Non-Halogen	No
		Eyelet	Yes
G-19	Environment	Environmental standard requirement	Green procurement of TOSHIBA
		Pb- Free	Phase3(PHASE3A)
		Measures for Whisker	Yes
		WEEE	Yes

GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size	22.0 inch / 558.00mmV
			LCD Type	Color TFT LCD
			Number of Pixels	1680(H) x 1050(V)
			View Range	85/85 degree
			Left/Right Up/Down	80/80 degree
			Bright Dot Zero Bright Dot Ratio	$n \leq 0$ --
		Color System		PAL / SECAM
G-2	DVD System	Speaker	Position	2 Speaker Front
			Size	1.5 x 2.8 inch
			Impedance	8 ohm
		Sound Output	MAX	1.5W + 1.5W
			10%(Typical)	---
		NTSC3.58+4.43 /PAL60Hz		Yes
		Color System		NTSC, PAL
		Disc		DVD, CD-DA, CD-R/RW, Video CD DVD-R/RW (Video Format Only)
		Disc Diameter		120 mm , 80 mm
		Drive		DSM-2
G-3	Tuning System	Broadcasting System	Analog	U.K., I.R., CCIR, FRENCH System B/G, D/K, I/I, L
			Digital	DVB-T (OFDM 2k/8k 16QAM/64QAM)
		Tuner and Receive CH	System	1Tuner (Analog+Digital)
		CH Coverage	Destination	UK, I.R., CCIR Hyper+France CATV
			Analog	IreE2~E4, X~Z+2, S1~S10, E5~E12, S11~S41, E21~E69
			Digital	E5~E12, ItaD~H2, Fra1~6, Rus6~12, E21~E69
		Intermediate Frequency	Analog	BG / II / DK, L / L' (SECAM VL)
			Picture(FP)	38.9 / 38.9 / 38.9 / 33.9MHz
			Sound(FS)	33.4 / 32.9 / 32.4 / 40.4MHz
			FP-FS	5.5 / 6.0 / 6.5 / 6.5MHz
G-4	Signal		Digital	36.167MHz
		Auto Tuning Method		ALL Band (Not C.C.I.R. CH Plan)
		Preset CH	Analog	99
			Digital	Carrier 200 / Service 1000
		Stereo/Dual TV Sound		Nicam/A2 Dual
		Tuner Sound Muting		Yes
		Video Signal	Input Level	1 V p-p/75 ohm
			Output Level	1 V p-p/75 ohm
			S/N Ratio (Weighted)	65dB
			Horizontal Resolution at DVD Mode	400 Lines
G-5	Power	RGB Signal	Output Level	--
		Audio Signal	Input Level	-8.0dBm/50k ohm
			Output Level at DVD	-12.0dBm/1k ohm (-20dBFS 0dBFS=2.0Vrms)
			at TV	-8 dBm/1k ohm (0dBm=0.775Vrms)
			Digital Output Level	0.5 V p-p/75 ohm
			S/N Ratio at DVD (Weighted)	85dB
			Harmonic Distortion	0.02% (1KHz)
			Frequency Response : at DVD	4Hz - 22kHz
			at Video CD	4Hz - 20kHz
			at SVCD	--
G-6	Regulation		at CD	4Hz - 20kHz
		Power Source	AC	220-240V AC 50Hz
			DC	---
		Power Consumption	at AC	65 W at AC 230 V 50 Hz
			at DC	--
		Stand by (at AC)	w/ EPG Timer	5 W at 230V 50Hz
			w/o EPG Timer	1 W at 230V 50Hz
			Per Year	-- kWh/Year
		Protector	Power Fuse	Yes
			Safety	CE(EN60065:2002)
G-6	Regulation		Radiation	CE
			X-Radiation	---

GENERAL SPECIFICATIONS

G-7	Temperature	Operation	+5°C ~ +40°C
		Storage	-20°C ~ +60°C
		Space Around Unit	100 mm(4inch)
G-8	Operating Humidity		Less than 80% RH
G-9	OSD Language	(TV)	English, Spanish, German, French, Italian, Swedish, Dutch, Russian, Portuguese, Turkish, Greek, Finnish, Polish, Danish, Norwegian
		(DVD)	English, Spanish, German, French, Italian
G-10	Clock and Timer	Sleep Timer	Max Time Step
		On/Off Timer	Program(On Timer / Off Timer)
		Wake Up Timer	-- Program
		Timer Back-up (at Power Off Mode)	more than -- Min Sec
G-11	Remote Control	Unit	RC-QJ
		Glow in Dark Remocon	No
		Remocon Format	TOSHIBA
		Format	TOSHIBA
		Custom Code	40-BF h ,44-BB h ,45-BA h ,45-BC h
		Power Source	Voltage(D.C) UM size x pcs
			3V UM-4 x 2 pcs
		Total Keys	54 Keys
		Keys	Power (Stand By)
			Yes
		Information/(Display)	Yes
		Analog Menu / Setup	Yes
		Digital Menu	Yes
		Input Select	Yes
		ATV/DTV	Yes
		Guide/(EPG)	Yes
		Picture Size	Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0	Yes
		Sleep	Yes
		Mute	Yes
		Volume Up	Yes
		Volume Down	Yes
		↑	Yes
		↓	Yes
		←	Yes
		→	Yes
		Enter / CH List	Yes
		Exit / Cancel	Yes
		Freeze frame	No
		TV/Radio	Yes
		Subtitle	Yes
		Play	Yes
		Stop	Yes
		Eject	Yes
		TV / DVD	Yes
		Return	Yes
		DVD Menu	Yes
		Top Menu	Yes
		Marker	Yes
		Angle	Yes
		Repeat A-B	Yes
		Audio Select	Yes
		CH RTN(Quick View) / Zoom	Yes
		Jump	Yes
		T*TEXT Keys	TEXT / TV
			Yes
		HOLD / Skip-	Yes
		Reveal / Search-	Yes
		Sub Page / Search+	Yes
		F.T.B / Skip+	Yes
		Red / Slow-	Yes
		Green / Pause	Yes
		Yellow / Play Mode	Yes
		Cyan / Slow+	Yes
		CH Up / Page Up	Yes
		CH Down / Page Down	Yes

GENERAL SPECIFICATIONS

G-12	Features	Power On Memory	Yes
		Auto Shut Off	Yes
		Just Clock Function	No
		Game Position	No
		DNR	Yes
			3D
		Comb Filter	Yes
			3D
		Auto Set Up (Fast installation)	Yes
		Auto tuning (Analog tuner)	Yes
		CH sort	Yes
		ATS	Yes
		Auto clock (Analog tuner)	No
		Plug in start	Yes
		Picture Setting(TV)	Picture Preference
			Yes
		Brightness , Contrast , Color	Yes
		Tint	Yes
		Sharpness	Yes
		DNR	No
		Color Temperature	Yes
		Blue Back	Yes
		Backlight Control	Yes
		Film Mode	No
		Picture Setting(PC)	BRIGHTNESS , CONTRAST
			Yes
		HOR POSITION , VER POSITION	Yes
		PHASE , CLOCK	Yes
		AUTO ADJUST	No
		RED , GREEN , BLUE	Yes
		Backlight	Yes
		WXGA INPUT	Yes
		WVGA INPUT	No
		Audio	Nicam
			Yes
		Tone Control (Bass/Treble/Balance)	Yes
		Surround	No
		BBE	No
		SRS WOW (SRS 3D/Focus/Tru Bass)	No
		Variable Audio Out	No
		Tuning	Auto Tuning
			Yes
		Manual Tuning	Yes
		CH Allocation	Yes
		Lock (Analog)	Panel Lock
			No
		Channel Lock	No
		Hotel Lock	Yes
		Screen Saver	Inversion
			No
		Full White	No
		Screen Saver	No
		Static Image	No
		Black Side Panel	No
		CH Label	Yes
		T'Text	Yes
		Text type	Fasttext / Toptext
		Text Language	English , French, Swedish, Hungarian Turkish, German, Portuguese, Spanish, Italian, Greek, Slovakian, Russian, Polish, Czech, Rumanian, Estonian, Lettish, Lithuanian, Ukrainian, Croatian, Slovenian, Latvian
		Wide Mode (AUTO/4:3/FULL SCREEN/16:9/CINEMA/14:9)	Yes
		Reset TV Setting	Yes
		HD Zoom	No
		Picture Scroll (Vertical Position)	Yes
		PFC(Power Factor circuit)	No
		Freeze frame	No
		HD-Ready	Yes
		Plug and Play	No
	Scart Spec	Scart1	AV in
			Yes
			AV out
			Yes (A.Tuner/D.Tuner/Monitor)
		Scart2	S-Video in
			No
			RGB in
			Yes
		Scart2	AV in
			No
			AV out
			No
		Scart2	S-Video in
			No
		Scart2	RGB in
			No

GENERAL SPECIFICATIONS

	Digital Text (VBI teletext)		Yes
	MHEG-5		Yes
	MHP		No
	EPG (BBC type 8Days Digital tuner only)		Yes
	OAD (Over Air Download)		Yes
	Common Interface (Digital tuner only)		Yes
	Rec Screen Status		Yes
	Ch sorting based on Ch List (Digital/Germany only)		Yes
	Rename Carrier (Digital)		Yes
	Edit Event Timer		Yes
	Software Update via CI Slot		Yes
	Preference Language (Audio/Subtitle/Digital Service)(Digital)		Yes
	Ch Organizer (Lock, Skip, Go To, Delete, Rename, Move, Move to)		Yes
	Parental Lock (Digital)		Yes
	Time Setup		Yes
	DVB Subtitle (Digital)		Yes
	PC Monitor Input		Yes
		VGA (640x480)	Yes (60Hz)
		VGA (720x400)	No
		WVGA (848x480)	No
		SVGA (800x600)	Yes (60Hz)
		XGA (1024x768)	Yes (60Hz)
		WXGA (1280x768)	Yes (60Hz)
		WXGA (1280x720)	Yes (60Hz)
		WXGA (1360x768)	Yes (60Hz)
		SXGA (1280x1024)	No
	HDMI Input		Yes
		VGA (640x480)	Yes (60Hz)
		720x480i (4:3)	Yes (60Hz)
		720x480i (16:9)	Yes (60Hz)
		720x480p (4:3)	Yes (60Hz)
		720x480p (16:9)	Yes (60Hz)
		720x576i (4:3)	Yes (50Hz)
		720x576i (16:9)	Yes (50Hz)
		720x576p (4:3)	Yes (50Hz)
		720x576p (16:9)	Yes (50Hz)
		1280x720p	Yes (50/60Hz)
		1920x1080i	Yes (50/60Hz)
	Component Input		Yes
		720x480i (4:3)	Yes (60Hz)
		720x480i (16:9)	Yes (60Hz)
		720x480p (4:3)	Yes (60Hz)
		720x480p (16:9)	Yes (60Hz)
		720x576i (4:3)	Yes (50Hz)
		720x576i (16:9)	Yes (50Hz)
		720x576p (4:3)	Yes (50Hz)
		720x576p (16:9)	Yes (50Hz)
		1280x720p	Yes (50/60Hz)
		1920x1080i	Yes (50/60Hz)
	Wall Mount	Size W x H(mm)	Yes (100 x 100)
		Screw Size	M4 x 10
Features (DVD)	Tray Lock		Yes
	WMA		No
	JPEG		Yes
	Video CD Playback		Yes
	SVCD Playback		No
	MP3 Playback		Yes
	Divx Playback		Yes
	Digital Out	DMF Support	No
		(Dolby Digital)	Yes
		(MPEG)	Yes
		(PCM)	Yes
	Down Mix Out	(DTS)	Yes
		(Dolby Digital)	Yes
		(DTS)	No
	3D Surround		No
	Closed Caption		No
	Screen Saver		No
	Audio DAC		192kHz / 24bit

GENERAL SPECIFICATIONS

G-13	Accessories	Owner's Manual	Language w/Guarantee Card	English
		Remote Control Unit		No
		Rod Antenna		Yes
			Poles	No
			Terminal	-
		Loop Antenna (W/ Antenna Change Plug)		-
			Terminal	No
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Registration Card		Yes
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		Quick Set-up Sheet		Yes
		My Movie stream (Free DVD redemption voucher)		No
		Carbon Neutral Certificate		No
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
			OEM Brand	No
		AC Adapter		No
		AC Cord (for AC Adapter)		No
		AC Cord		Yes
		AV Cord (2Pin-1Pin)		No
		RF Cable		Yes
		HDMI-DVI Cable		No
		Helpline Sheet		Yes
		300 ohm to 75 ohm Antenna Adapter		No
G-14	Interface	Switch	Side	Power (Tact)
				System Select
				Main Power SW
				Channel Up / Play / Menu Up
				Channel Down / STOP / Menu Down
				Volume Up / Menu>
				Volume Down / Menu<
				Play
				Eject
				Skip+, Search+
				Skip-, Search-
				Stop
				Input Select / Enter
				Menu
		Indicator		Power/Stand-by/EPG Timer
				On Timer
		Terminals	Side	CI Card Slot
			Rear	Video Input 1
				Audio Input 1
				S- Input 1
				Video Input 2
				Audio Input 2
				S- Input 2
				Video Output
				Audio Output
				Digital Audio Out (Coaxial)
				Component In
				Audio Input (Component In use)
				Sub Woofer Output
				Diversity
				Ext Speaker
				DC Jack 12V(Center +)
				Other Terminal
				VHF/UHF Antenna Input
				AC Inlet
				Euro Scart (21Pin)
				PC Monitor Input (D-Sub)
				Audio Input
				HDMI Input 1
				Audio Input (HDMI/DVI In use)
				HDMI Input 2
				Audio Input (HDMI/DVI In use)

GENERAL SPECIFICATIONS

G-15	Set Size	Approx. W x D x H (mm)	536.5 x 207 x 439.5
		w/o Stand,Handle Approx. W x D x H (mm)	536.5 x 67 x 403
G-16	Weight	Net Approx.	6.2kg (13.7 lbs)
		Net w/o Stand,Handle Approx.	5.5kg (12.1 lbs)
		Gross Approx.	8.3kg (18.3 lbs)
G-17	Carton	Master Carton	No
		Content	--- Sets
		Material	-- /--
		Dimensions W x D x H(mm)	-- x -- x --
		Description of Origin	No
		Gift Box	Yes
		Material	Double/Full Color
		Dimensions W x D x H(mm)	598 x 595 x 181
		W/Color Photo Label	No
		Description of Origin	Yes
		Drop Test	'6 Surfaces
		Height (cm)	80
		Container Stuffing w/Pallet	776 Sets/40' container
G-18	Material	Cabinet	PC+ABS 94V0 NON-HALOGEN
		Cabinet Rear	PS 94V0 NON-DECABROM
		PCB	No
		Non-Halogen	No
		Eyelet	Yes
G-19	Environment	Environmental standard requirement	Green procurement of TOSHIBA
		Pb- Free	Phase3(PHASE3A)
		Measures for Whisker	Yes
		WEEE	Yes

DISASSEMBLY INSTRUCTIONS

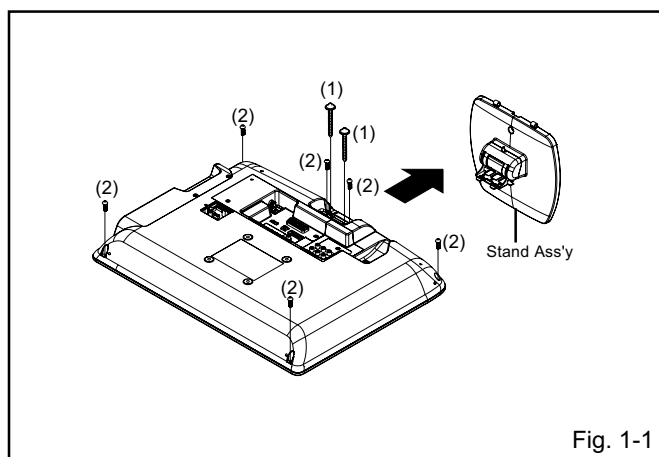
1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

CAUTION:

- Never lift the LCD Panel more than 90°, the LCD Panel or the connector will be damaged.
- **High voltages exist in the set (especially the back-light) which can cause injury or death.**
Please disconnect the AC power during repair to prevent serious shock or death.

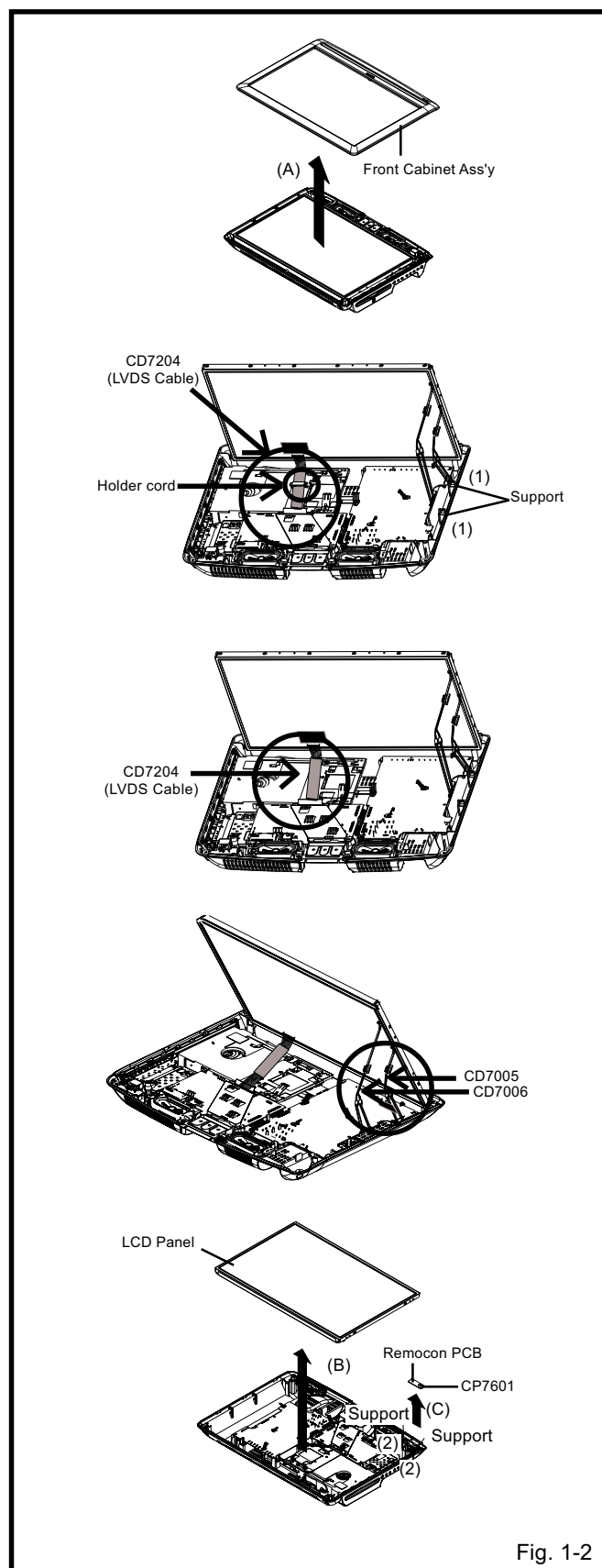
1-1: STAND ASS'Y (Refer to Fig. 1-1)

1. Remove the 2 screws (1).
2. Remove the Stand Ass'y in the direction of arrow.
3. Remove the 6 screws (2).



1-2: FRONT CABINET ASS'Y, LCD PANEL AND REMOCON PCB (Refer to Fig. 1-2)

1. Remove the Front Cabinet Ass'y in the direction of arrow (A).
2. Unlock the 2 supports (1).
3. Lift the LCD Panel within to angle 45°, then remove the Holder cord.
4. Lift the LCD Panel within to angle 85°.
5. Disconnect the following connectors: **(CD7005, CD7006 and CD7204).**
6. Remove the LCD PANEL in the direction of arrow (B).
7. Disconnect the following connector: **(CP7601).**
8. Unlock the 2 supports (2).
9. Remove the Remocon PCB in the direction of arrow (C).



DISASSEMBLY INSTRUCTIONS

1-3: POWER PCB AND OPERATION PCB (Refer to Fig. 1-3)

1. Disconnect the following connector: **(CP2201)**.
2. Remove the 3 screws (1).
3. Remove the Operation PCB in the direction of arrow (A).
4. Remove the Holder Pcb in the direction of arrow (B).
5. Disconnect the following connectors:
(CP501 and CP8101).
6. Remove the 7 screws (2).
7. Remove the Power PCB in the direction of arrow (C).

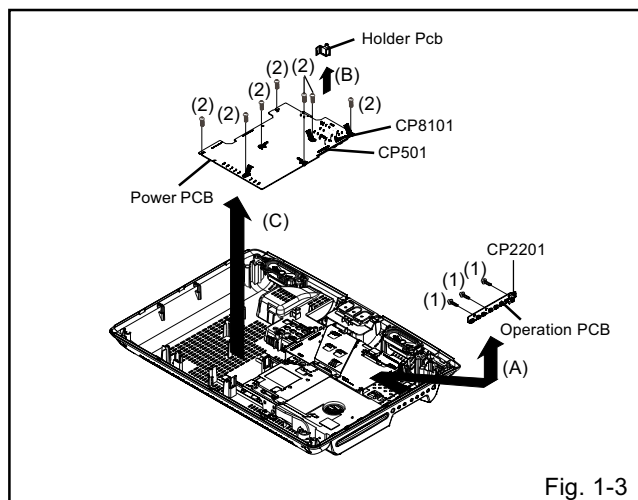


Fig. 1-3

1-4: MAIN PCB AND TUNER PCB (Refer to Fig. 1-4)

1. Disconnect the following connector: **(CP5803)**.
2. Remove the 2 screws (1).
3. Remove the Tuner PCB in the direction of arrow (A).
4. Remove the 4 screws (2).
5. Remove the Spring Earth 1 in the direction of arrow (B).
6. Disconnect the following connectors: **(CP6401, CP6501)**.
7. Remove the 2 screws (3).
8. Remove the Main PCB in the direction of arrow (C).

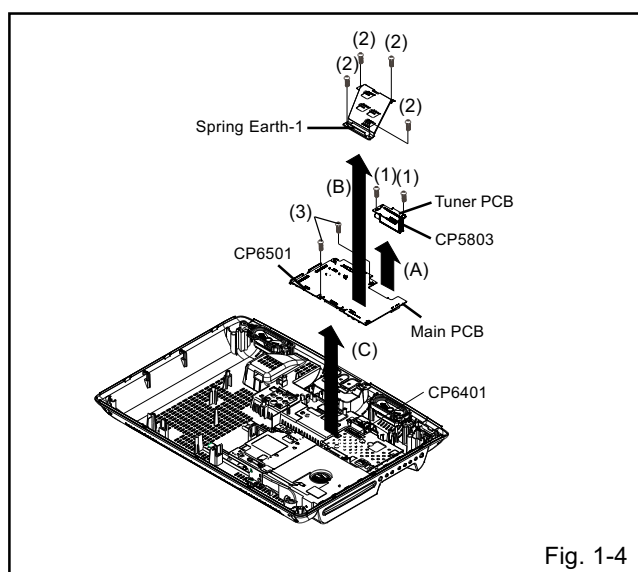


Fig. 1-4

1-5: DIGITAL PCB (Refer to Fig. 1-5)

1. Remove the screw (1).
2. Remove the Angle PCB Ass'y in the direction of arrow (A).
3. Remove the Digital PCB in the direction of arrow (B).
4. Remove the Shield Ci Card in the direction of arrow (C).

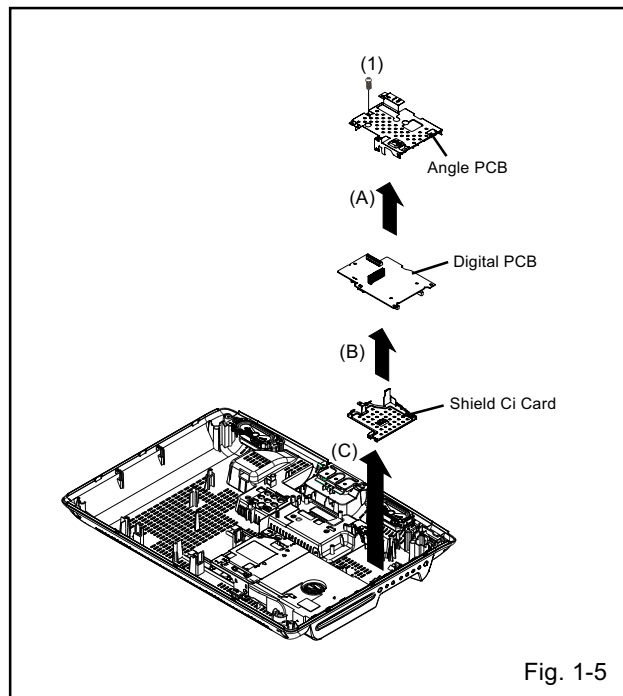


Fig. 1-5

DISASSEMBLY INSTRUCTIONS

1-6: DVD DECK (Refer to Fig. 1-6)

1. Short circuit the position shown in **Fig. 1-6** using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Remove the 4 screws (1).
3. Remove the DVD Deck in the direction of arrow (A).
4. Disconnect the following connectors:
(CP2301, CP2302 and CP2303).
5. Remove the 2 screws (2).
6. Remove the Angle Mpeg in the direction of arrow (B).
7. Remove the 4 screws (3).
8. Remove the DVD MT PCB in the direction of arrow (C).

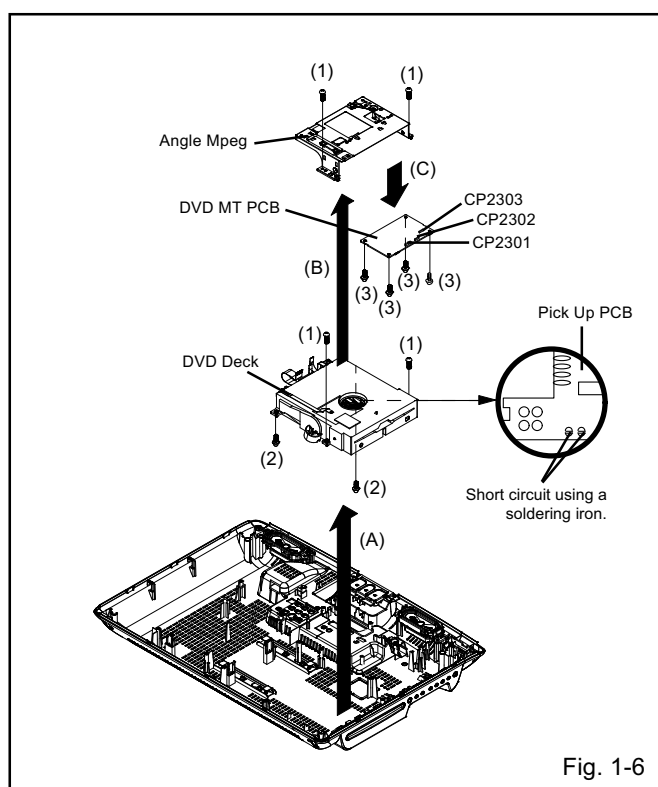


Fig. 1-6

NOTE

1. Before your operation, please read "PREPARATION OF SERVICING"
2. Use the Lead Free solder.
3. Manual soldering conditions
 - Soldering temperature: $320 \pm 20^{\circ}\text{C}$
 - Soldering time: Within 3 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
4. When Soldering/Removing of solder, use the drawing equipment over the Pick Up Unit to keep the Flux smoke away from it.
5. When installing the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD MT PCB connector.

DISASSEMBLY INSTRUCTIONS

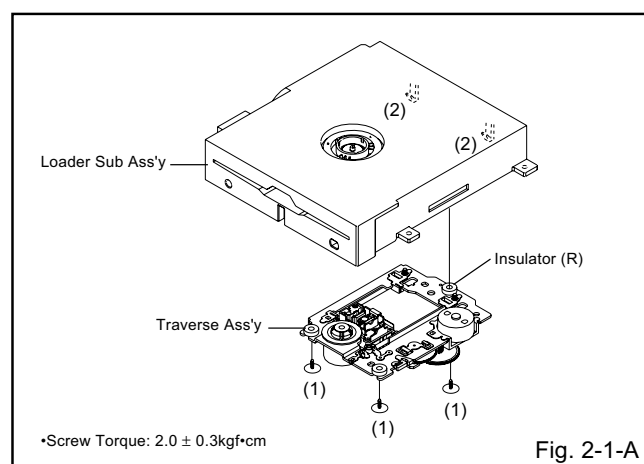
2. REMOVAL OF DVD DECK PARTS

NOTE

1. Disassemble only the DVD DECK PARTS parts listed here. Minute adjustments are needed if the disassembly is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

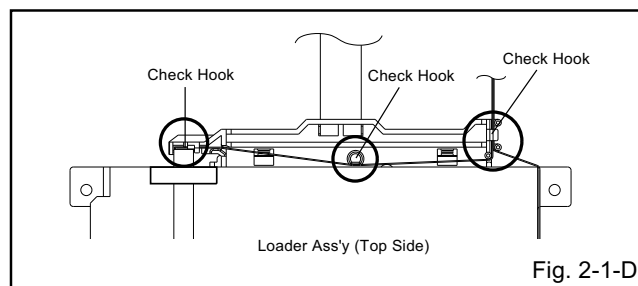
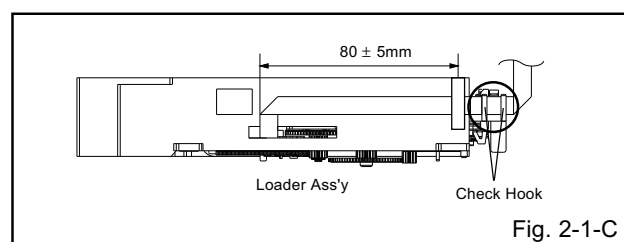
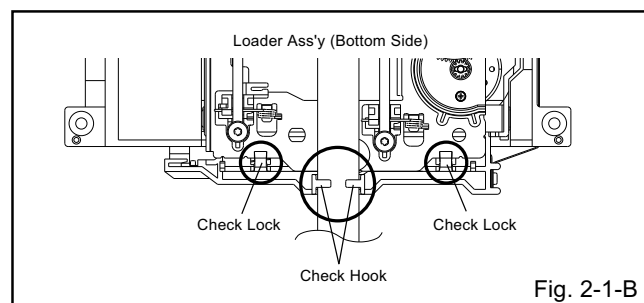
2-1: TRAVERSE ASS'Y (Refer to Fig. 2-1-A)

1. Remove the 3 screws (1).
2. Unlock the 2 supports (2).
3. Remove the Insulator (R) from the Loader Sub Ass'y.
4. Remove the Traverse Ass'y.



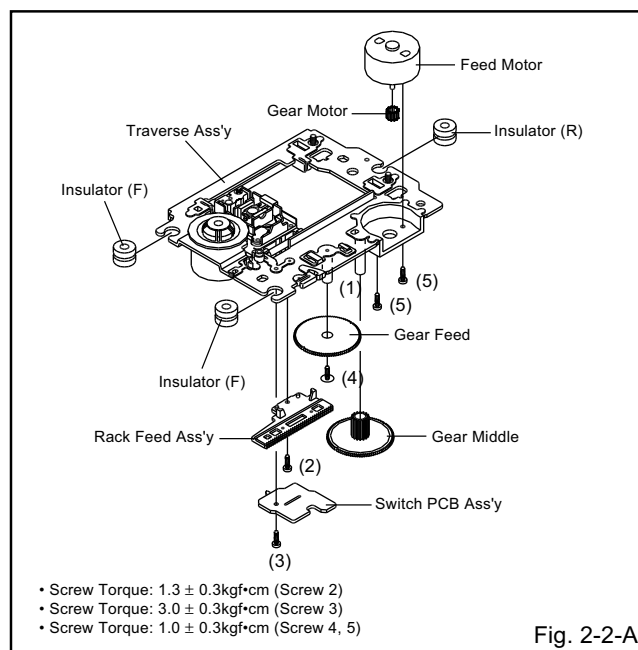
NOTE

1. In case of the Traverse Ass'y installation, hook the wire on the Loader Ass'y as shown Fig. 2-1-B to Fig. 2-1-C.



2-2: SWITCH PCB ASS'Y/GEAR MIDDLE/GEAR FEED/RACK FEED ASS'Y/FEED MOTOR (Refer to Fig. 2-2-A)

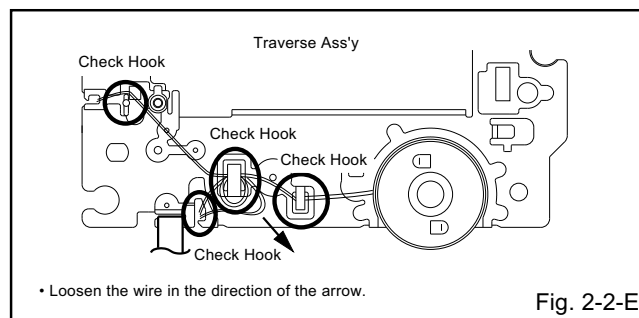
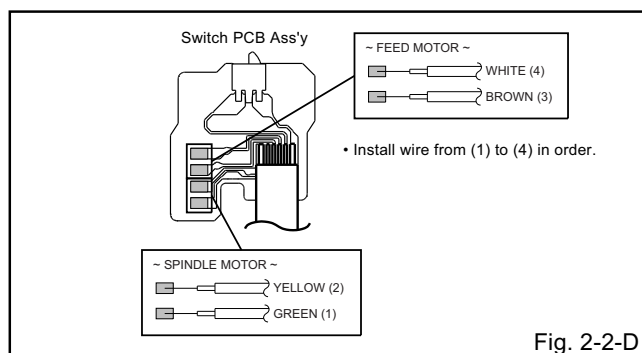
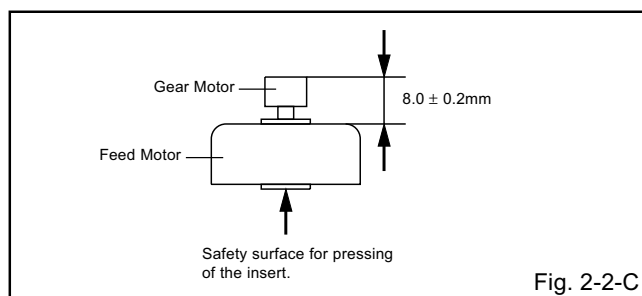
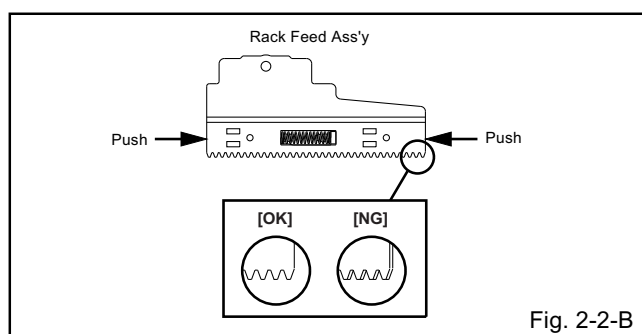
1. Remove the Insulator (F).
2. Remove the Insulator (R).
3. Unlock the support (1).
4. Remove the Gear Middle.
5. Remove the screw (2).
6. Remove the Rack Feed Ass'y.
7. Remove the screw (3).
8. Remove the Switch PCB Ass'y.
9. Remove the screw (4).
10. Remove the Gear Feed.
11. Remove the 2 screws (5).
12. Remove the Feed Motor.
13. Remove the Gear Motor.



DISASSEMBLY INSTRUCTIONS

NOTE

1. When installing the Rack Feed Ass'y, push both ends to align the teeth as shown Fig. 2-2-B. Then install it.
2. In case of the Gear Motor installation, check if the value of the Fig. 2-2-C is correct.
3. When installing the wire of the Switch PCB Ass'y, install it correctly as Fig. 2-2-D.
Manual soldering conditions
 - Soldering temperature: $320 \pm 20^{\circ}\text{C}$
 - Soldering time: Within 3 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
4. After the assembly of the Traverse Ass'y, hook the wire on the Traverse Ass'y as shown Fig. 2-2-E.

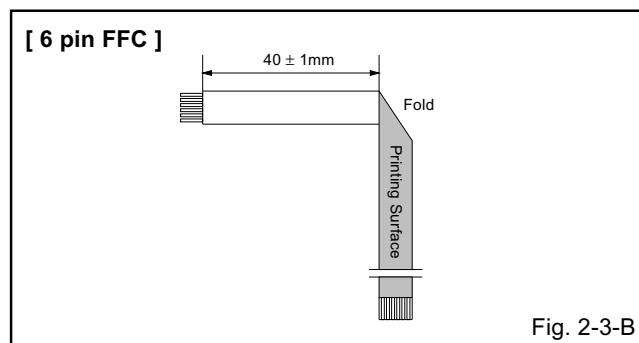
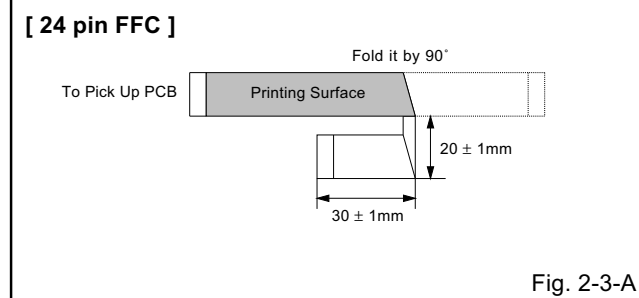


2-3: FFC WIRE HANDLING

1. When installing the FFC, fold it correctly and install it as shown from Fig. 2-3-A to Fig. 2-3-B.

NOTE

1. Do not make the folding lines except the specified positions for the FFC.



DISASSEMBLY INSTRUCTIONS

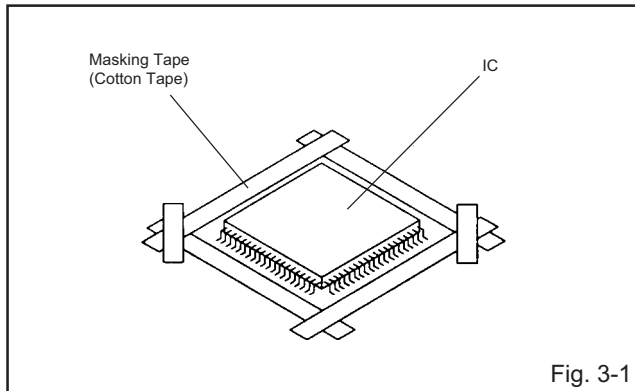
3. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 3-1.)

NOTE

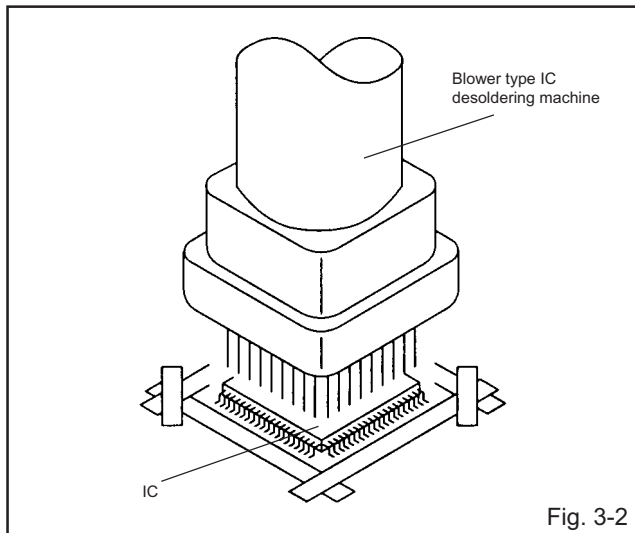
Masking is carried out on all the parts located within 10 mm distance from IC leads.



2. Heat the IC leads using a blower type IC desoldering machine. (Refer to Fig. 3-2.)

NOTE

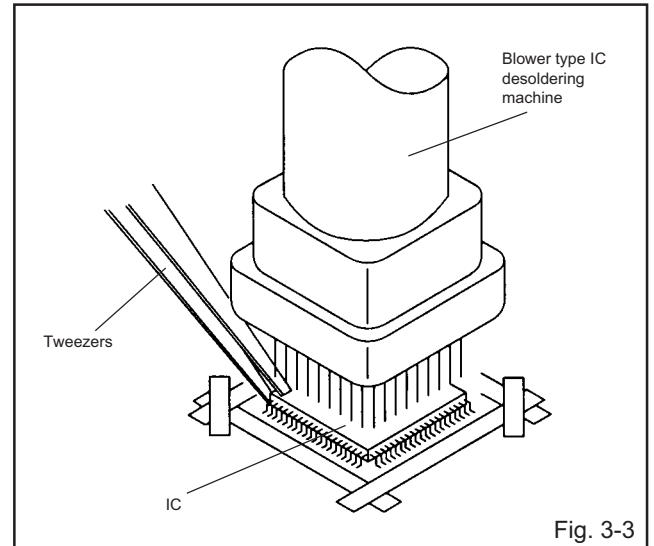
Do not rotate or move the IC back and forth, until IC can move back and forth easily after desoldering the leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 3-3.)

NOTE

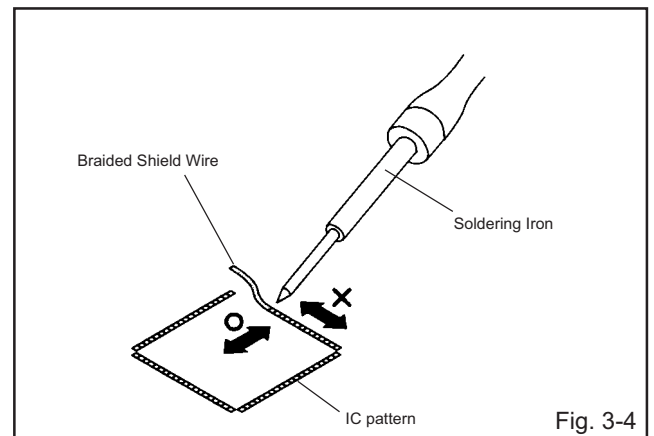
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 3-4.)

NOTE

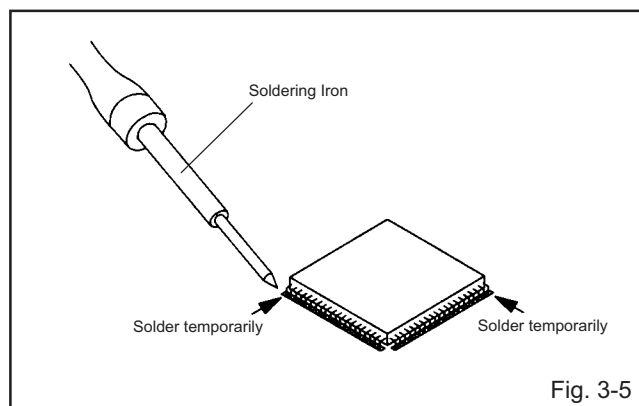
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



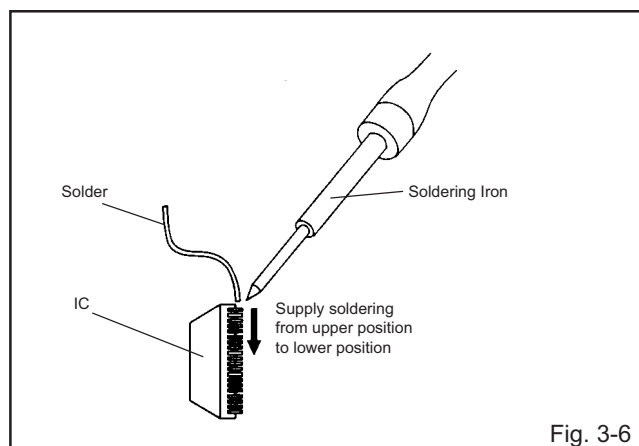
DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. (Refer to Fig. 3-5.)



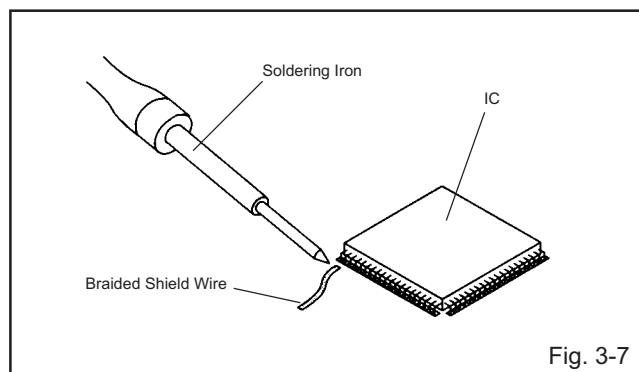
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 3-6.)



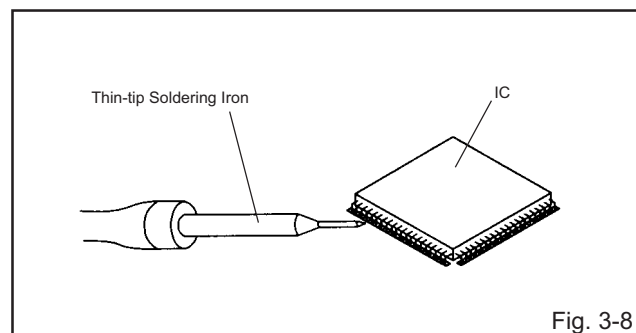
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 3-7.)

NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. (Refer to Fig. 3-8.)



5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass. Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

NOTE

When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, always be sure to replace the IC in this case.

SERVICE MODE LIST

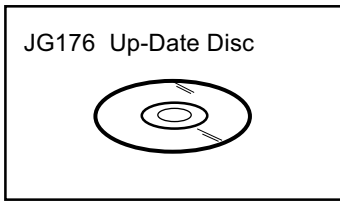
This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than a the standard time in the appropriate condition. (See below chart.)

Set Condition	Set Key	Remocon Key	Standard Time	Operations
TV mode	VOL. DOWN (Minimum)	1	2 sec.	Initialization of factory TV data. NOTE: If you set factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
TV mode	VOL. DOWN (Minimum)	2	2 sec.	Check of the SUM DATA and MICON VERSION on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
DVD mode (No disc)	VOL. DOWN (Minimum)	4	2 sec.	Initialization of factory DVD data.
DVD mode (No disc)	VOL. DOWN (Minimum)	5	2 sec.	DVD Write mode. Refer to the "RE-WRITE FOR DVD FIRMWARE".
TV mode	VOL. DOWN (Minimum)	6	2 sec.	POWER ON total hours are displayed on the screen. Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
TV mode	VOL. DOWN (Minimum)	7	2 sec.	Releasing of HOTEL MODE FUNCTION. Refer to the "HOTEL MODE FUNCTION".
ALL mode	VOL. DOWN (Minimum)	9	2 sec.	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
DVD mode (No disc)	STOP	1	2 sec.	Region setting. Refer to the "RE-WRITE FOR DVD FIRMWARE".
DVD mode (No disc)	STOP	7	2 sec.	Releasing of PARENTAL LOCK. Refer to the "PARENTAL CONTROL - RATING LEVEL".

Method	
Press the following remocon keys continuously. SETUP → SUBTITLE → 3 → AUDIO SELECT → 0	The disk cannot be taken out. Refer to the "TRAY LOCK".

SERVICING FIXTURES AND TOOLS



Ref. No.	Part No.	Parts Name	Remarks
JG176	APJG176145	Up-Date Disc	Up-Date of the Firmware

RE-WRITE FOR DVD FIRMWARE

1. Turn on the power, and set the DVD mode.
2. Confirm that the "No Disc" will be appeared on the screen.
3. Press both VOL. DOWN button on the set and Channel button (5) on the remote control for more than 2 seconds.
4. Press VOL. UP/DOWN button on the unit to check if all the keys on the unit do not function.

NOTE: To check if DVD Write mode is set.

When inserting Up-Date Disc at Non DVD Write mode, the read error will happen.

5. Insert the Up-Date Disc. (Refer to **SERVICING FIXTURE AND TOOLS**)
6. Automatic read will start and "Firmware upgrade Please Wait" will be displayed on the screen.
At this time, the horizontal noise lines may appear. But no problem.

NOTE: Do not turn off the unit on the way or operate the keys on the unit and remocon.

Up-Date error will happen and can not be done with the Up-Date of Up-Date Disc.

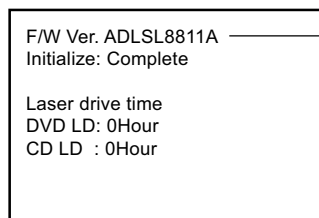
7. After the Up-Date, Logo screen will appear.
8. Unplug the AC cord, then plug it in.

After the write, set to the initializing of shipping.

9. Turn on the power, and set the DVD mode.
10. Press both VOL. DOWN button on the set and Channel button (4) on the remote control for more than 2 seconds.
The "INITIALIZE 5 ----> COMPLETE" will appear on the screen.
11. Then unplug the AC cord, and plug it in.

CHECK FOR THE FIRMWARE VERSION

12. Turn on the power, and set the DVD mode.
13. Press both Channel button (1) on the remote control and the STOP button on the set for more than 2 seconds.
Firmware version will be displayed on the top left of the screen.



A D L S L 8 8 1 1 A

Fixed

Released times on the same date
Release date (Example: 2008.8.11)

When the changed version displays, the Re-write will be completed.

A = October
B = November
C = December

14. Turn off the power

WHEN REPLACING EEPROM (MEMORY) IC

CONFIRMATION OF CHECK SUM, POWER ON TOTAL HOURS AND MICON VERSION

Initial total of MEMORY IC, POWER ON total hours and MICON VERSION can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

Please refer to "CONFIRMATION OF INITIAL DATA" when SUM DATA is not corresponding.

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(2)** on the remote control for more than 2 seconds.
4. After the confirmation of each check sum, turn off the power.

NOTE: The each item value might be different according to each set.

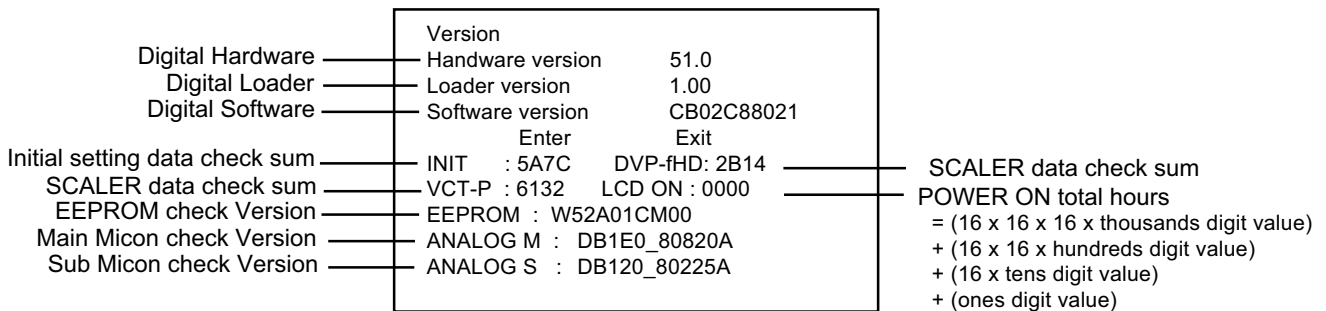


FIG. 1

CONFIRMATION OF INITIAL DATA

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to INITIAL SETTING TABLE (Attached "INITIAL DATA").

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds.
ADDRESS and DATA should appear as FIG 2.

NOTE: No need to set data other position than 0D00~0E3F and 1900~7FFF

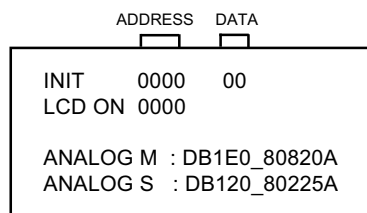


FIG. 2

4. ADDRESS is now selected and should "blink". Using the UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press LEFT/RIGHT button to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
7. Pressing LEFT/RIGHT button will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 6 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

After the data input, set to the initializing of shipping.

10. Turn on the POWER.
11. Set the VOLUME to minimum.
12. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
13. After the finishing of the initializing of shipping, the unit will turn off automatically.
The unit will now have the correct DATA for the new MEMORY IC.

WHEN REPLACING EEPROM (MEMORY) IC

CONFIRMATION OF CHECK SUM, POWER ON TOTAL HOURS AND MICON VERSION

Initial total of MEMORY IC, POWER ON total hours and MICON VERSION can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

Please refer to "CONFIRMATION OF INITIAL DATA" when SUM DATA is not corresponding.

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(2)** on the remote control for more than 2 seconds.
4. After the confirmation of each check sum, turn off the power.

NOTE: The each item value might be different according to each set.

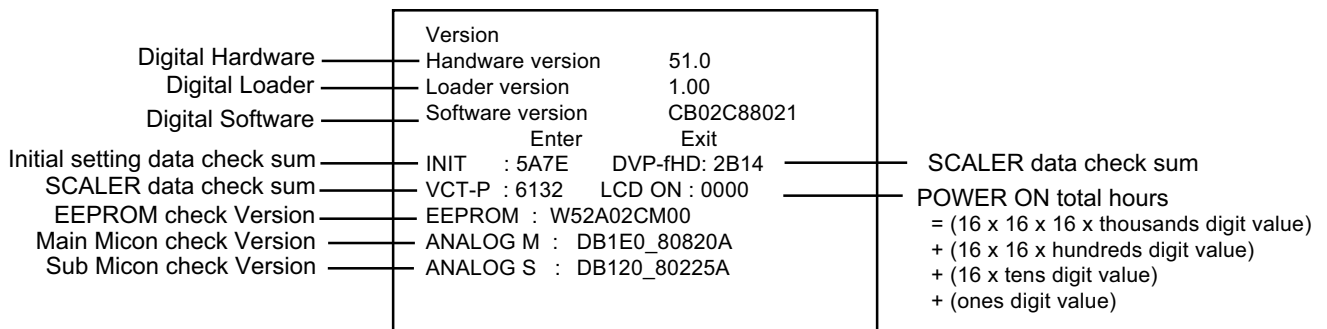


FIG. 1

CONFIRMATION OF INITIAL DATA

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to INITIAL SETTING TABLE (Attached "INITIAL DATA").

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds.
ADDRESS and DATA should appear as FIG 2.

NOTE: No need to set data other position than 0D00~0E3F and 1900~7FFF

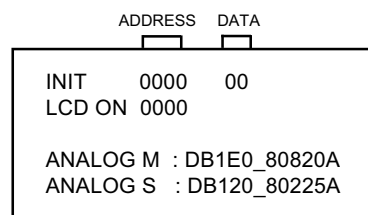


FIG. 2

4. ADDRESS is now selected and should "blink". Using the UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press LEFT/RIGHT button to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
7. Pressing LEFT/RIGHT button will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 6 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

After the data input, set to the initializing of shipping.

10. Turn on the POWER.
11. Set the VOLUME to minimum.
12. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
13. After the finishing of the initializing of shipping, the unit will turn off automatically.
The unit will now have the correct DATA for the new MEMORY IC.

ELECTRICAL ADJUSTMENTS

1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

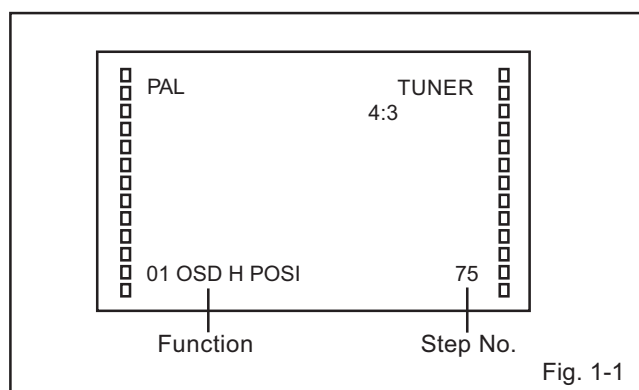
- Use an isolation transformer when performing any service on this chassis.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor with a heat sink, apply silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damage to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Pattern Generator

On-Screen Display Adjustment

1. Set the VOLUME to minimum.
2. Press the VOL. DOWN button on the set and the channel button **(9)** on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in **Fig. 1-1**.



3. Use the UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2**.
4. Press the MENU SETUP button on the remote control to end the adjustments.
5. To display the adjustment screen for TUNER, AV, COMPONENT, HDMI, PC and DVD mode, press the INPUT button on the remote control to set to the TUNER, AV, COMPONENT, HDMI, PC and DVD mode.
6. Receive the DIGITAL broadcasting.
7. To display the adjustment screen for DTV mode, press the ATV/DTV button on the remote control to set to the DTV mode.
8. Press the VOL.DOWN button on the set and the channel **(9)** on the remote control for more than 2 seconds.

NO.	FUNCTION	NO.	FUNCTION
01	OSD H POSI	24	V POSI
02	OSD V POSI	25	V POSI MAX
03	R DRIVE(N)	26	V POSI MIN
04	R CUTOFF(N)	27	BACKLIGHT CENTER
05	G DRIVE(N)	28	BACKLIGHT MAX
06	G CUTOFF(N)	29	BACKLIGHT MIN
07	B DRIVE(N)	30	BRIGHT CENTER
08	B CUTOFF(N)	31	BRIGHT MAX
09	R DRIVE(C)	32	BRIGHT MIN
10	R CUTOFF(C)	33	TINT CENTER
11	G DRIVE(C)	34	CONTRAST CENTER
12	G CUTOFF(C)	35	CONTRAST MAX
13	B DRIVE(C)	36	CONTRAST MIN
14	B CUTOFF(C)	37	CONTRAST 40
15	R DRIVE(W)	38	COLOR CENTER
16	R CUTOFF(W)	39	COLOR MAX
17	G DRIVE(W)	40	COLOR MIN
18	G CUTOFF(W)	41	TEXT H POSI
19	B DRIVE(W)	42	TEXT V POSI
20	B CUTOFF(W)		
21	H POSI		
22	H POSI MAX		
23	H POSI MIN		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: WHITE BALANCE

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Press the INPUT button on the remote control to set to the AV mode.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "R DRIVE(N)".
6. Press the PAGE UP/DOWN button on the remote control to select the "R DRIVE(N)", "R CUTOFF(N)", "B DRIVE(N)", "B CUTOFF(N)", "R DRIVE(C)", "R CUTOFF(C)", "B DRIVE(C)", "B CUTOFF(C)", "R DRIVE(W)", "R CUTOFF(W)", "B DRIVE(W)" or "B CUTOFF(W)".
7. Adjust the LEFT/RIGHT button on the remote control to whiten the R DRIVE(N), R CUTOFF(N), B DRIVE(N), B CUTOFF(N), R DRIVE(C), R CUTOFF(C), B DRIVE(C), B CUTOFF(C), R DRIVE(W), R CUTOFF(W), B DRIVE(W) and B CUTOFF(W) at each step tone sections equally.
8. Perform the above adjustments 6 and 7 until the white achieved.

ELECTRICAL ADJUSTMENTS

2-2: CONTRAST MAX

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "CONTRAST MAX".
5. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "53".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "CONTRAST MAX".
11. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "51".
12. Check if the picture is normal.
13. Receive the color bar pattern. (AV RGB Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT button on the remote control to set to the AV(RGB) mode.
16. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "CONTRAST MAX".
17. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "49".
18. Receive the color bar pattern. (S-VIDEO Input)
19. Using the remote control, set the brightness and contrast to normal position.
20. Press the INPUT button on the remote control to set to the AV(Y/C) mode.
21. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "CONTRAST MAX".
22. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "49".
23. Check if the picture is normal.
24. Receive the color bar pattern. (COMPONENT Input)
25. Using the remote control, set the brightness and contrast to normal position.
26. Press the INPUT button on the remote control to set to the COMPONENT mode.
27. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "CONTRAST MAX".
28. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "52".
29. Check if the picture is normal.
30. Receive the color bar pattern. (HDMI Input)
31. Using the remote control, set the brightness and contrast to normal position.
32. Press the INPUT button on the remote control to set to the HDMI mode.
33. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "CONTRAST MAX".
34. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "52".
35. Check if the picture is normal.

ELECTRICAL ADJUSTMENTS

2-3: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each of the adjustment item is set correctly referring below. (TUNER/AV/COMPONENT/HDMI/PC/DVD/DTV)

NO.	FUNCTION	TUNER	AV			COMPONENT(NTSC)				COMPONENT (PAL)				HDMI (NTSC)				HDMI (PAL)				PC						DVD	DTV	
			CVBS	Y/C	RGB	480i	480p	720p	1080i	576i	576p	720p	1080i	480i	480p	VGA	720p	1080i	576i	576p	720p	1080i	640x480	800x600	1024x768	1280x720	1280x768			1360x768
STEP NO.																														
1	OSD H POSI	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
2	OSD V POSI	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	
3	R DRIVE(N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
4	R CUT OFF(N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
5	G DRIVE(N)	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	
6	G CUT OFF(N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7	B DRIVE(N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
8	B CUTOFF(N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
9	R DRIVE(C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
10	R CUT OFF(C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
11	G DRIVE(C)	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	
12	G CUT OFF(C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	B DRIVE(C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
14	B CUTOFF(C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
15	R DRIVE(W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
16	R CUT OFF(W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
17	G DRIVE(W)	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	768	
18	G CUT OFF(W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	B DRIVE(W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
20	B CUTOFF(W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
21	H POSI 50Hz 4:3/14:9/Full_S	604	604	604	609	-	-	-	-	624	289	-	-	-	-	-	-	206	6	-	-	-	-	-	-	-	-	-	614	592
	H POSI 50Hz 4:3 /14:9/Full_S SECAM	630	630	630	609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	H POSI 50Hz 16:9	684	684	684	689	-	-	-	-	690	324	337	301	-	-	-	-	278	42	166	75	-	-	-	-	-	-	-	689	656
	H POSI 50Hz 16:9 SECAM	710	710	710	689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	H POSI 50Hz CINEMA	737	737	737	742	-	-	-	-	746	352	-	-	-	-	-	-	335	70	-	-	-	-	-	-	-	-	-	748	714
	H POSI 50Hz CINEMA SECAM	764	764	764	742	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	H POSI 60Hz 4:3/14:9/Full_S	540	540	540	545	561	268	-	-	-	-	-	-	158	7	36	-	-	-	-	-	-	-	-	-	-	-	-	540	-
	H POSI 60Hz 16:9	630	630	630	636	624	304	338	301	-	-	-	-	226	42	68	118	76	-	-	-	-	-	-	-	-	-	-	630	-
	H POSI 60Hz CINEMA	673	673	673	673	681	330	-	-	-	-	-	-	286	70	94	-	-	-	-	-	-	-	-	-	-	-	-	673	-
	H POSI PC 4:3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	190	277	162	300	340	-	-
22	H POSI PC 16:9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	190	277	-	-	-	-	-	
	H POSI MAX (PC)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	240	327	212	400	390	-	-	
	H POSI MIN (PC)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	140	227	112	200	290	-	-	
	V POSI 50Hz 16:9	27	27	27	25	-	-	-	-	27	54	8	8	-	-	-	-	15	42	11	6	-	-	-	-	-	-	-	27	27
	V POSI 50Hz FULL SCREEN/4:3	27	27	27	25	-	-	-	-	27	54	-	-	-	-	-	-	15	42	-	-	-	-	-	-	-	-	-	27	27
	V POSI 50Hz Cinema	61	61	61	59	-	-	-	-	61	123	-	-	-	-	-	-	50	110	-	-	-	-	-	-	-	-	-	61	61
	V POSI 50Hz 14:9	45	45	45	43	-	-	-	-	46	91	-	-	-	-	-	-	34	79	-	-	-	-	-	-	-	-	-	45	46
	V POSI 60Hz 16:9	21	21	21	19	20	43	6	7	-	-	-	-	10	29	32	8	5	-	-	-	-	-	-	-	-	-	-	22	-
	V POSI 60Hz FULL SCREEN/4:3	21	21	21	19	20	43	-	-	-	-	-	-	10	29	32	-	-	-	-	-	-	-	-	-	-	-	-	22	-
	V POSI 60Hz Cinema	50	50	50	48	50	103	-	-	-	-	-	-	39	87	90	-	-	-	-	-	-	-	-	-	-	-	-	52	-
23	V POSI 60Hz 14:9	36	36	36	34	36	75	-	-	-	-	-	-	26	61	64	-	-	-	-	-	-	-	-	-	-	-	-	37	-
	V POSI PC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	25	25	18	25	21	-	-	
	V POSI MAX 50Hz CINEMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	V POSI MAX 60Hz CINEMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	V POSI MAX PC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	50	51	50	50	42	-	-	
	V POSI MIN 50Hz CINEMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	V POSI MIN 60Hz CINEMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	V POSI MIN PC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	1	0	0	0	-	-	
	BACKLIGHT CENTER	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	BACKLIGHT MAX	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
BACKLIGHT MIN	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	
BRIGHT CENTER	+	+	+	+	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	0	0	0	0	0	0	0	-5	-15	
BRIGHT MAX	+	+	+	+	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	20	70	
BRIGHT MIN	+	+	+	+	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-80	-80	-80	-80	-80	-80	-80	-80	-64	
TINT CENTER	+	+	+	+	-4	-6	-6	-4	-4	-4	-4	-4	-4	-6	-6	-6	-6	-6	-6	-6	0	0	0	0	0	0	0	0	-6	
CONTRAST CENTER	+	+	+	+	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*								

ELECTRICAL ADJUSTMENTS

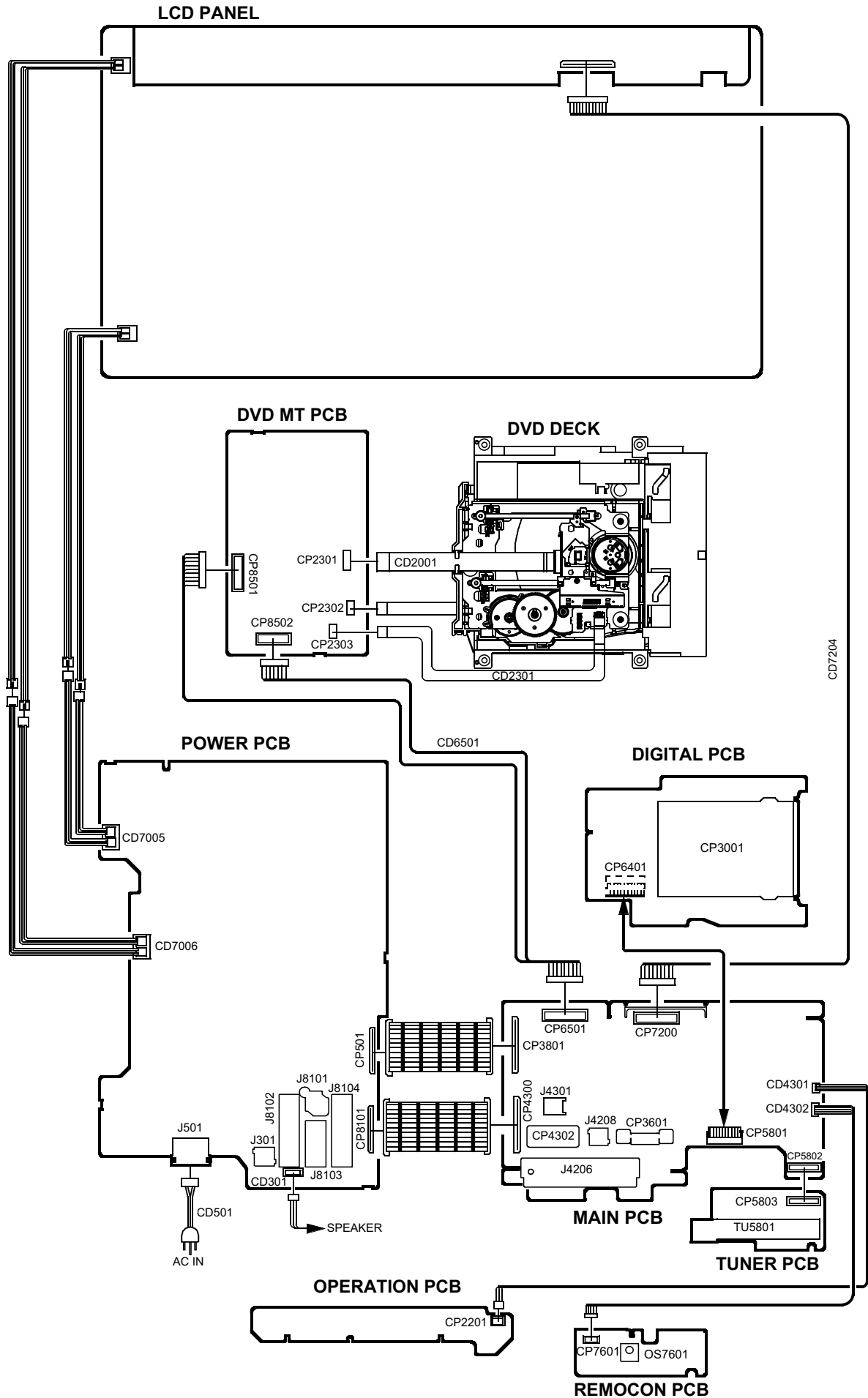
2-4: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each of the adjustment item is set correctly referring below. (TUNER/AV)

NO.	FUNCTION	TUNER			AV1					AV2(RCA)					AV2(RCA)					AV1				
					CVBS					CVBS					S(Y/C)					RGB				
		576i			576i			480i		576i			480i		576i			480i		576i			480i	
		PAL50	PAL60	SECAM	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43
STEP NO.																								
30	BRIGHT CENTER	-5	0	-5	-5	0	0	-5	0	-5	0	0	-5	0	0	0	0	0	0	0	0	0	0	0
31	BRIGHT MAX	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
32	BRIGHT MIN	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80
33	TINT CENTER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	CONTRAST CENTER	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
35	CONTRAST MAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
36	CONTRAST MIN	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
37	CONTRAST 50	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
38	COLOR CENTER	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
39	COLOR MAX	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
40	COLOR MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

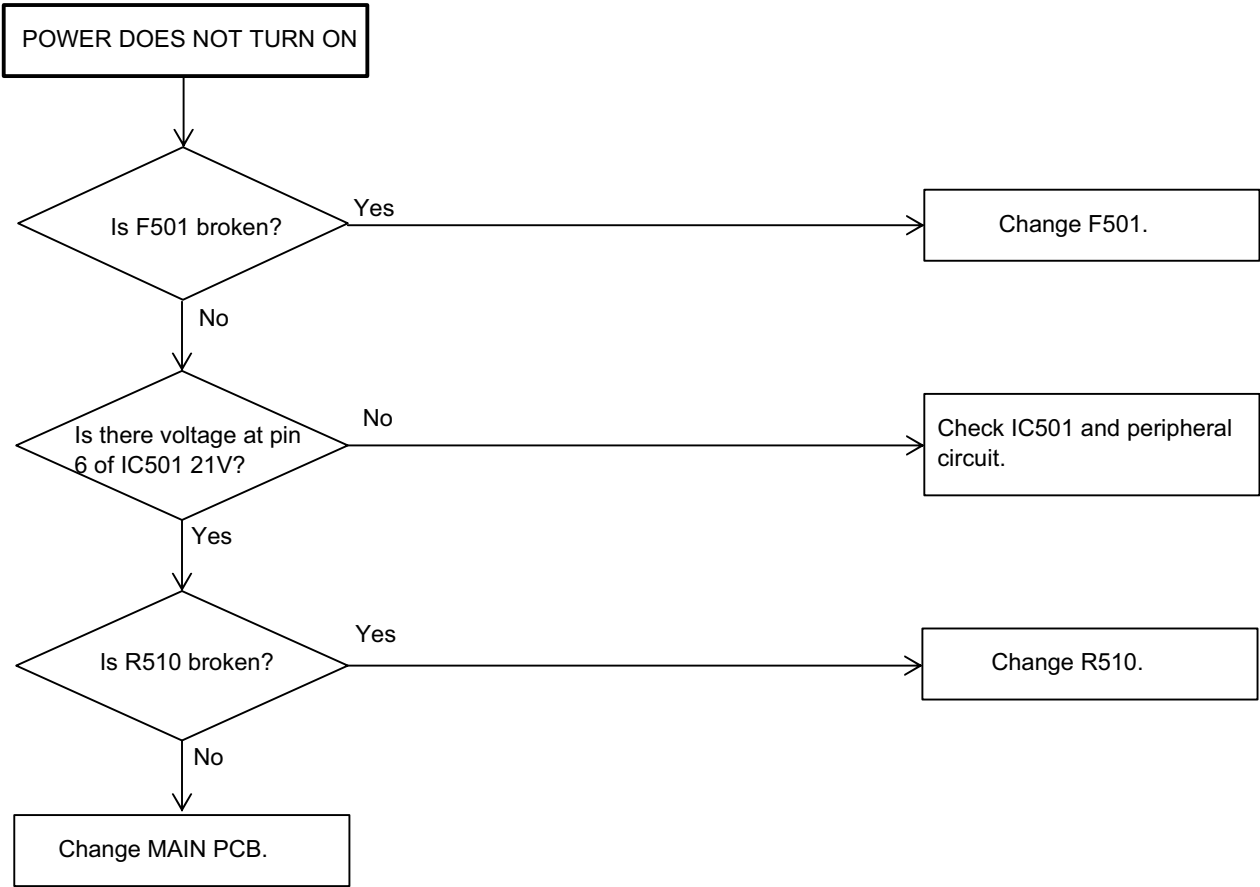
NOTE: For the step no. with * mark, please adjust it according to the situation of the set.

ELECTRICAL ADJUSTMENTS

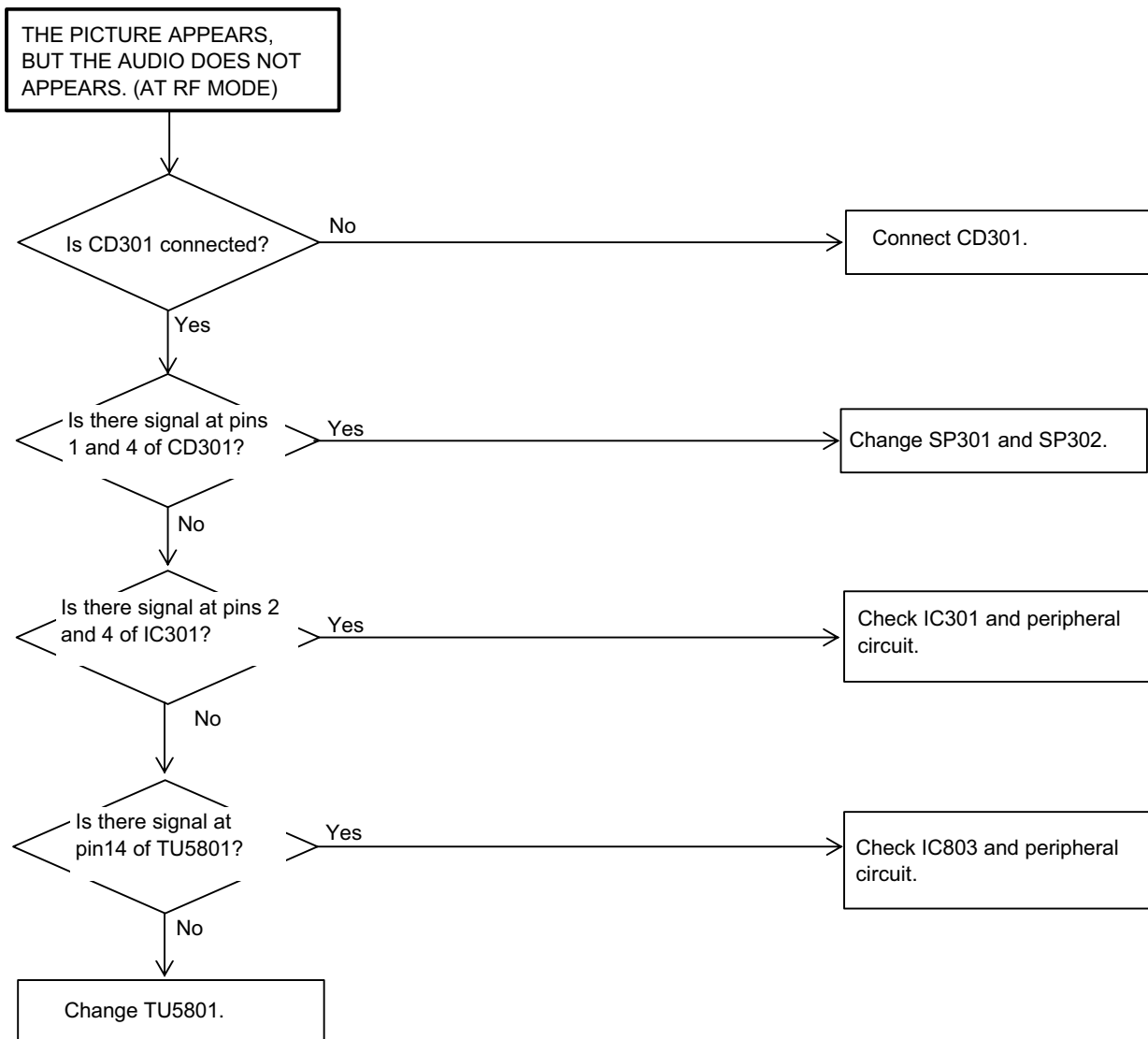


TROUBLESHOOTING GUIDE

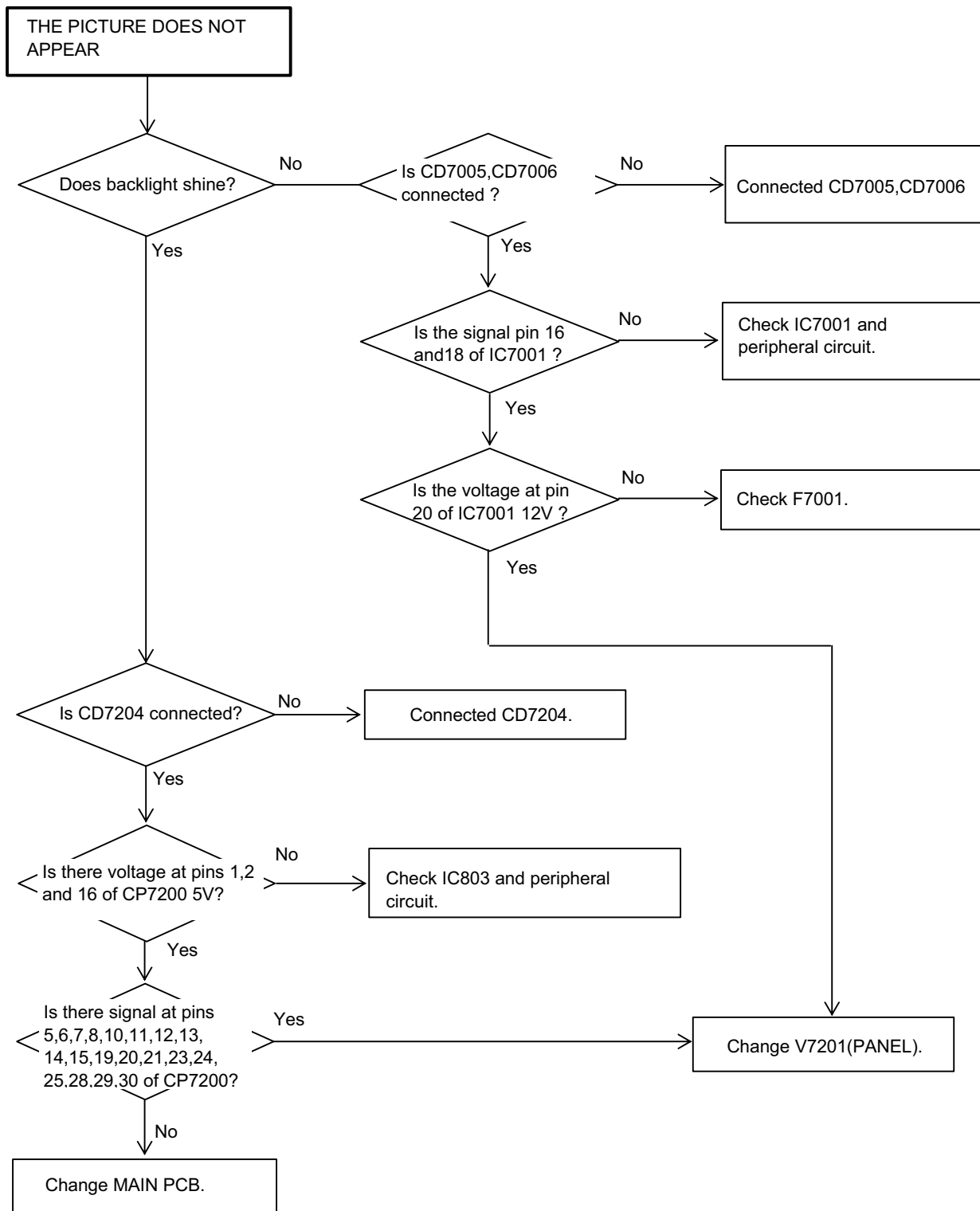
(LCD SECTION)



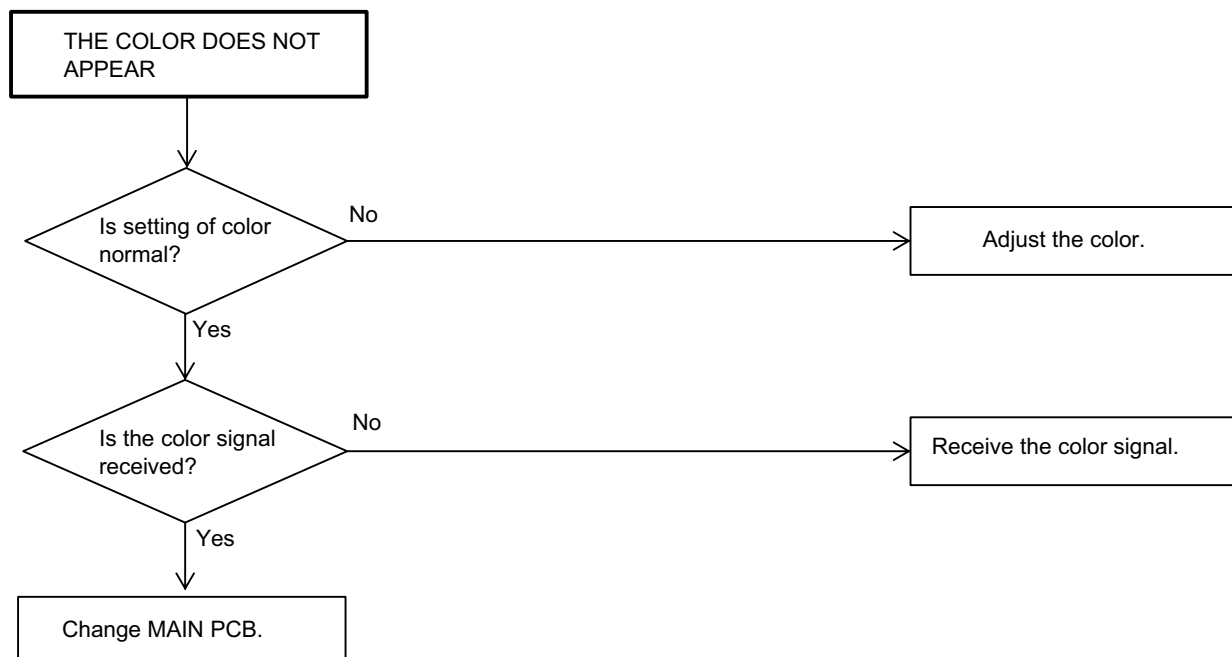
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE

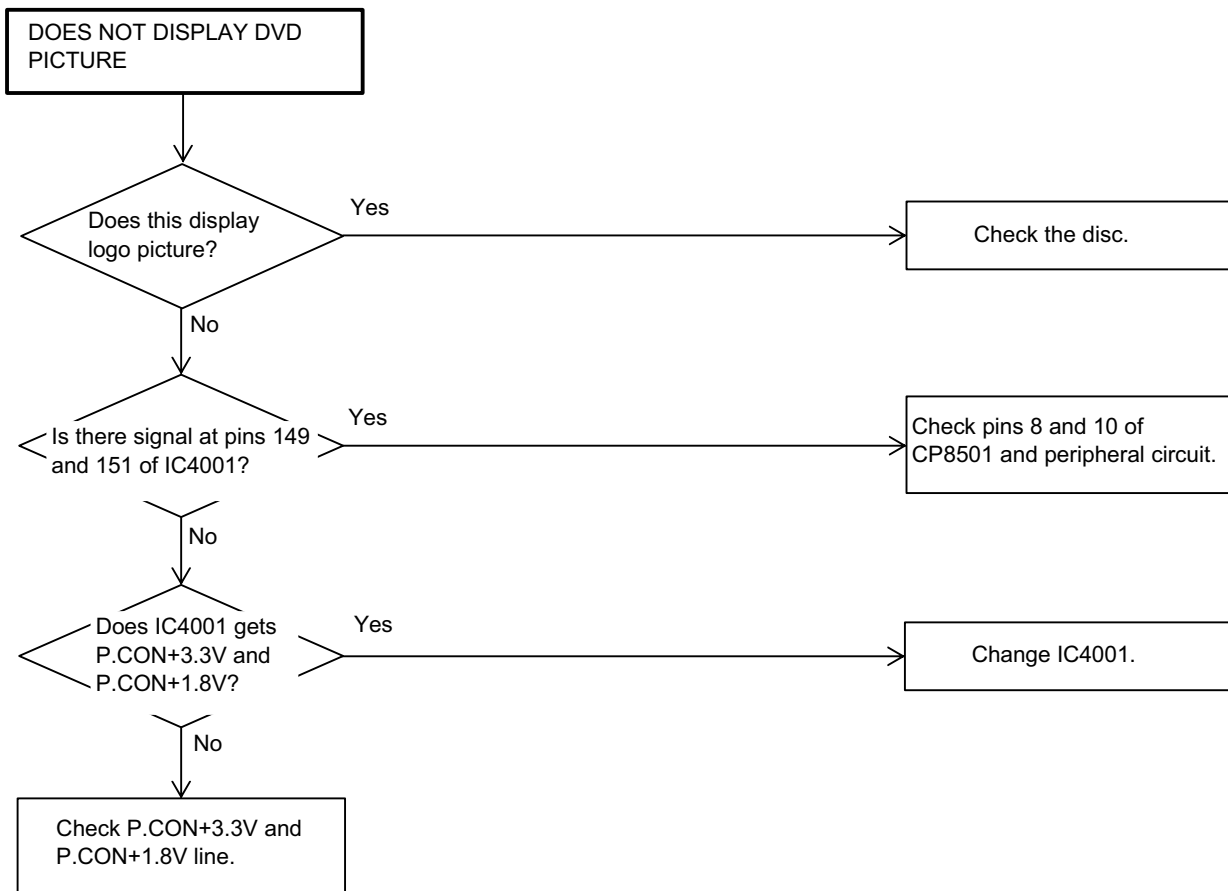


TROUBLESHOOTING GUIDE

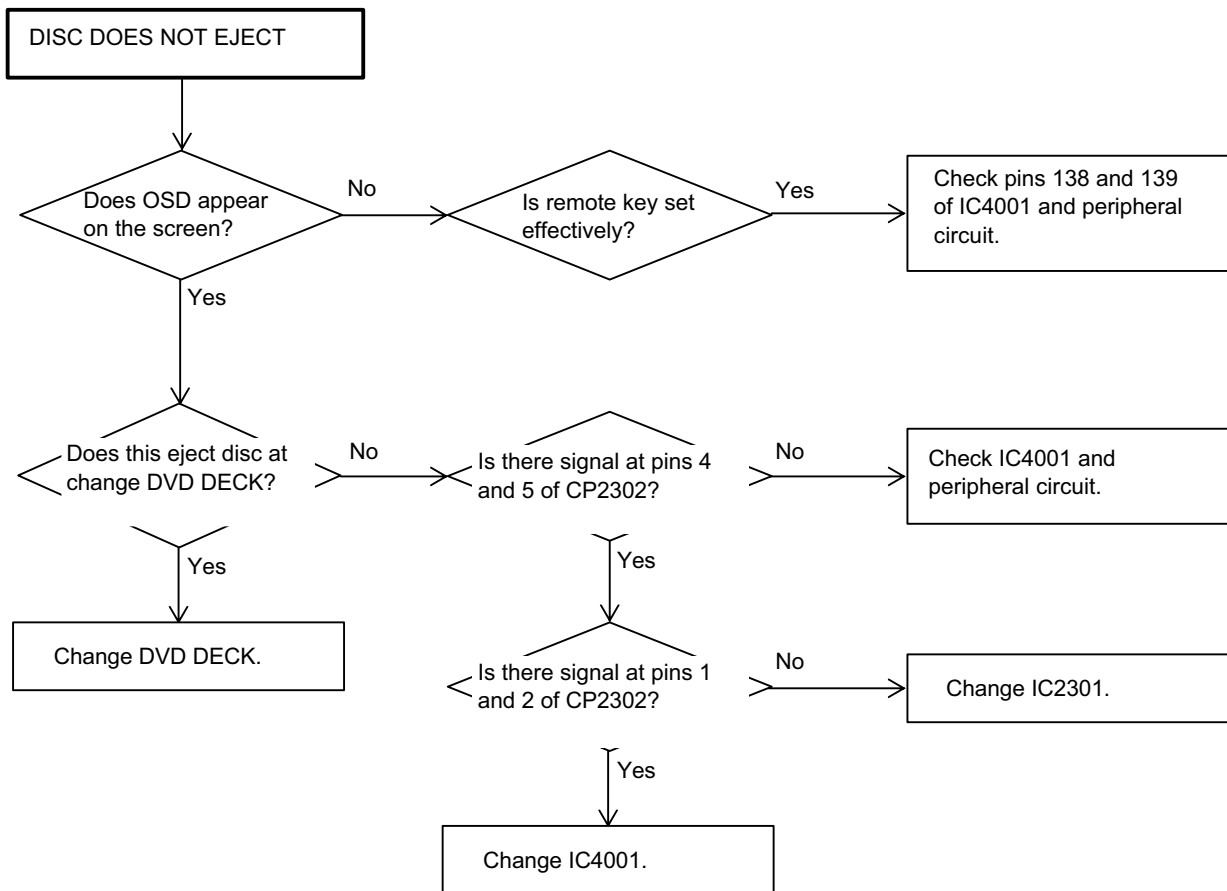


TROUBLESHOOTING GUIDE

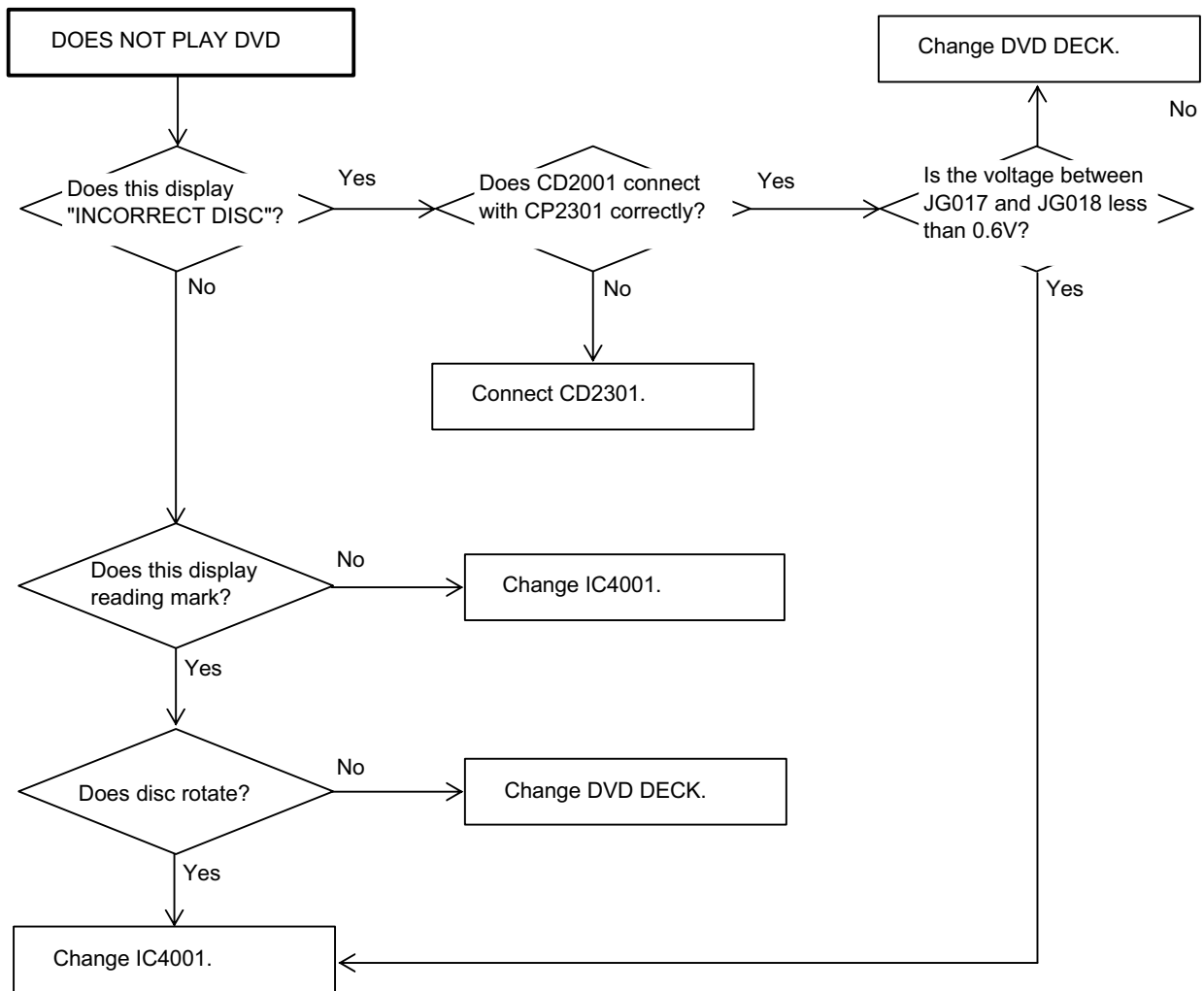
(DVD SECTION)



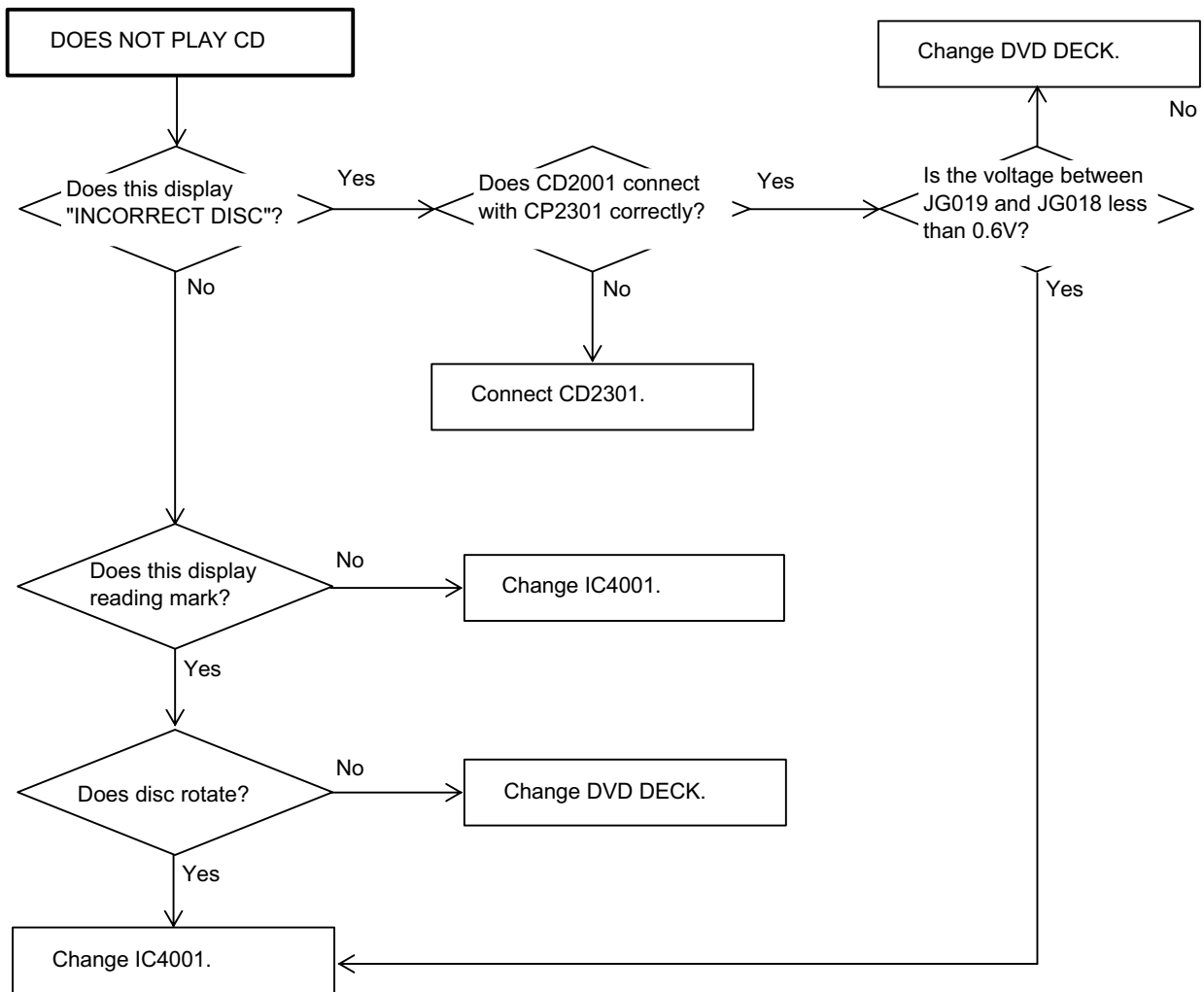
TROUBLESHOOTING GUIDE



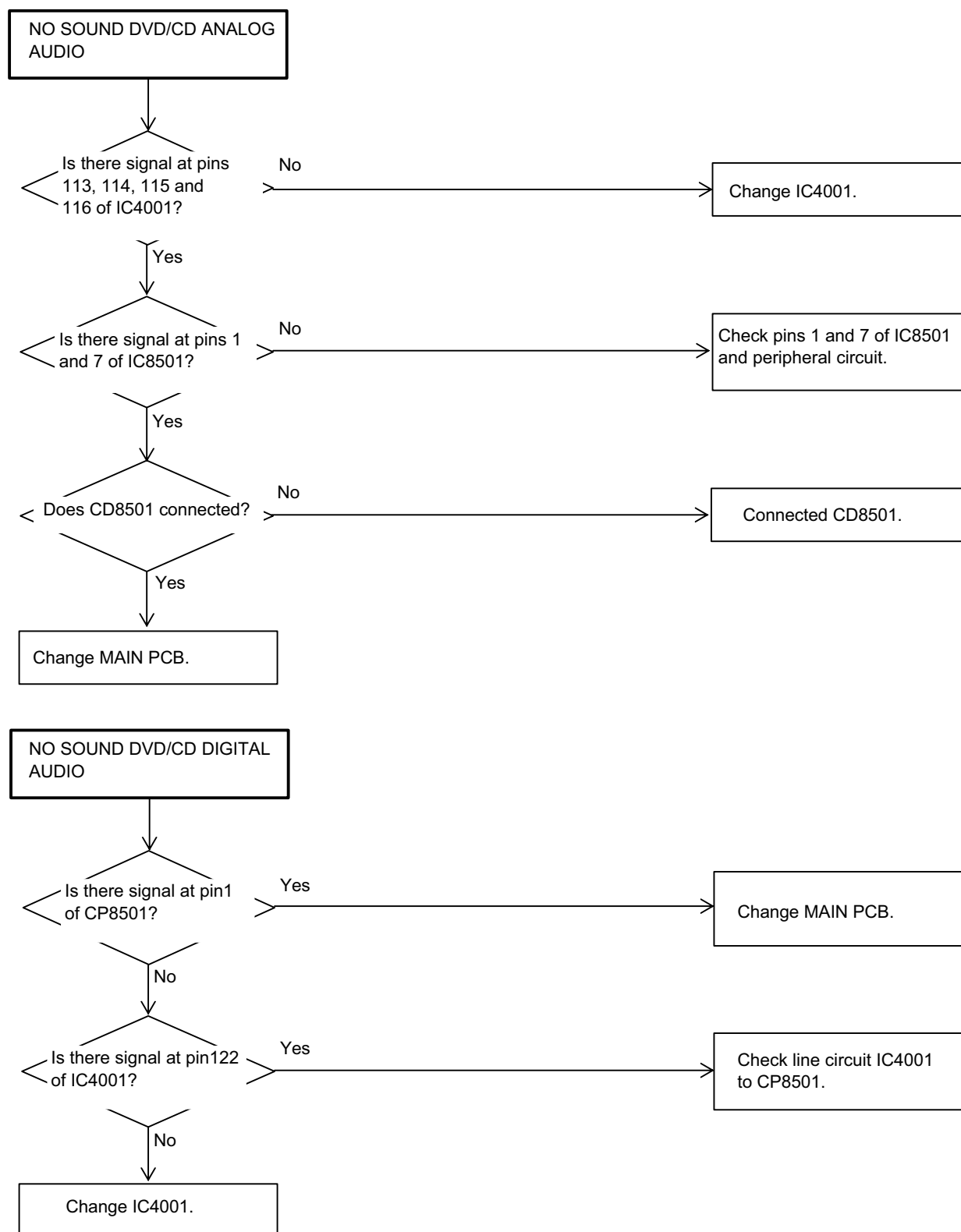
TROUBLESHOOTING GUIDE



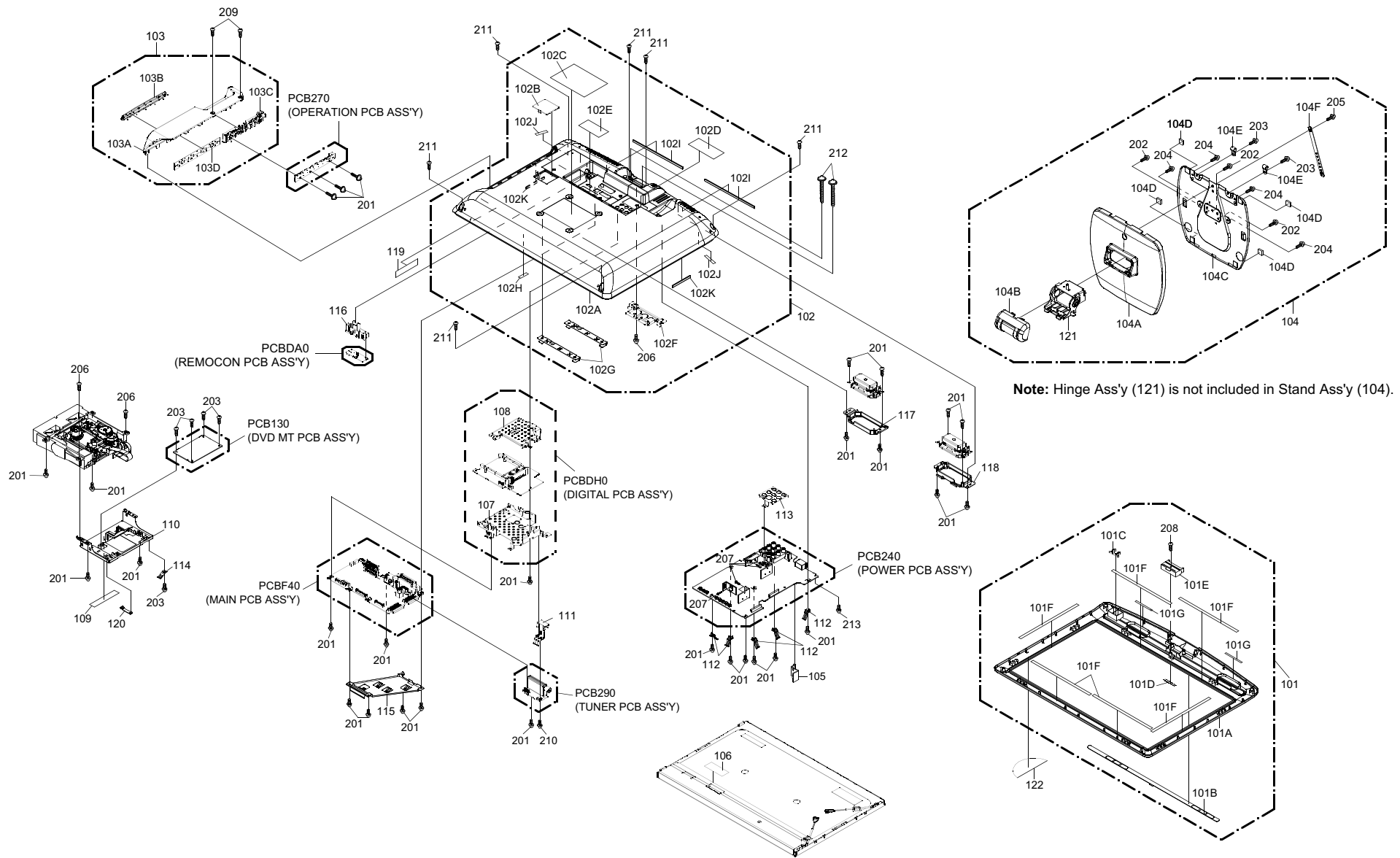
TROUBLESHOOTING GUIDE



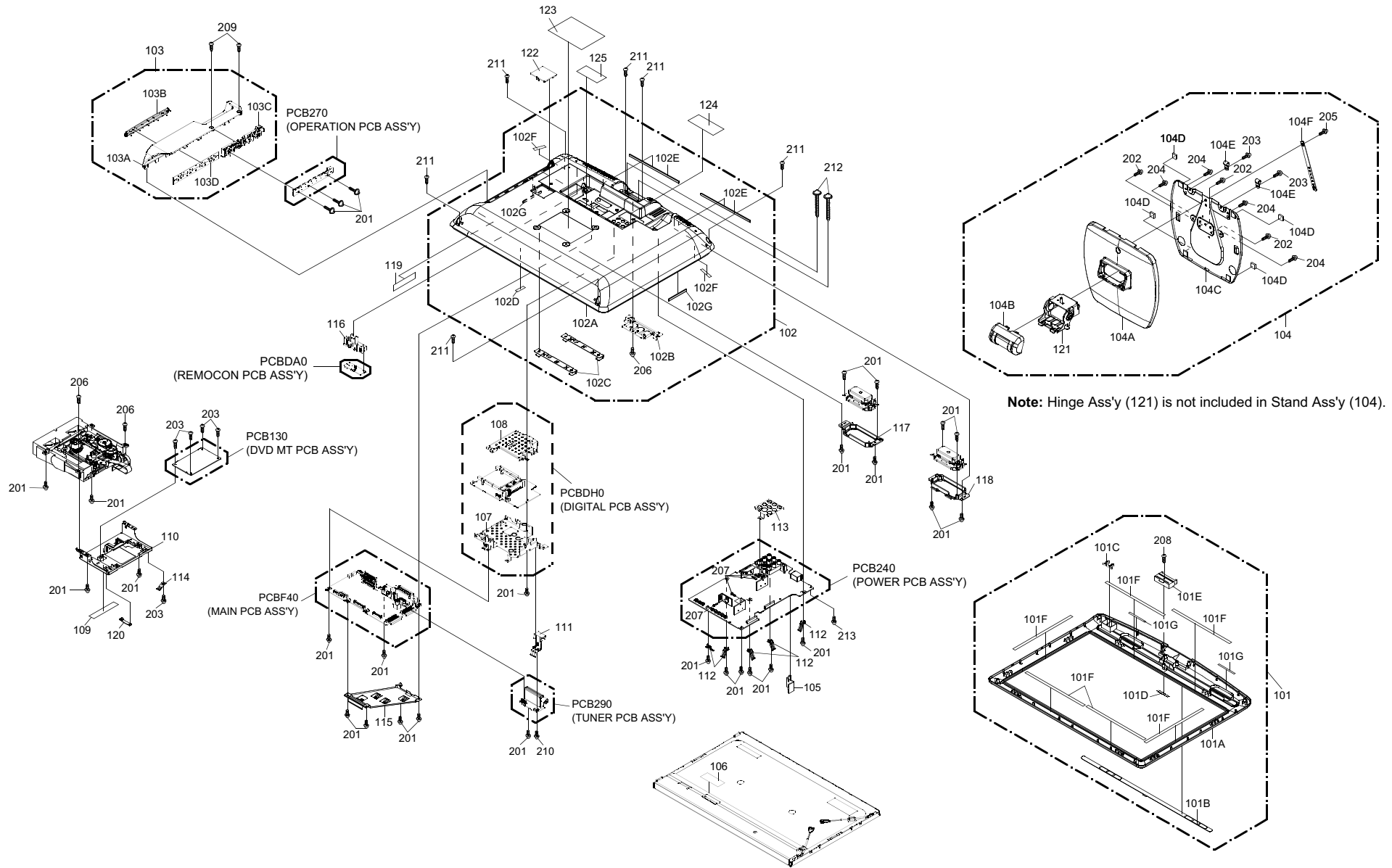
TROUBLESHOOTING GUIDE



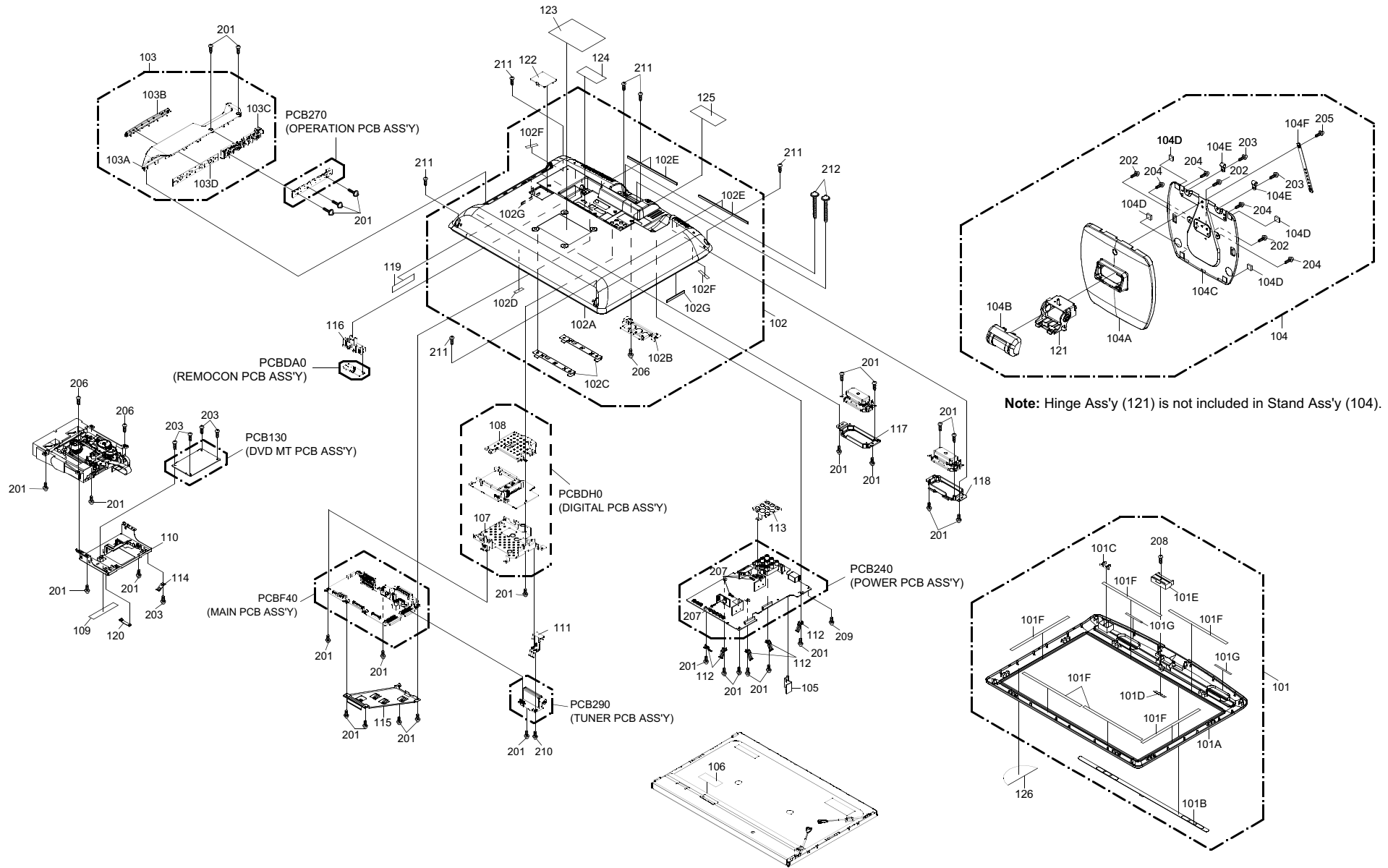
MECHANICAL EXPLODED VIEW



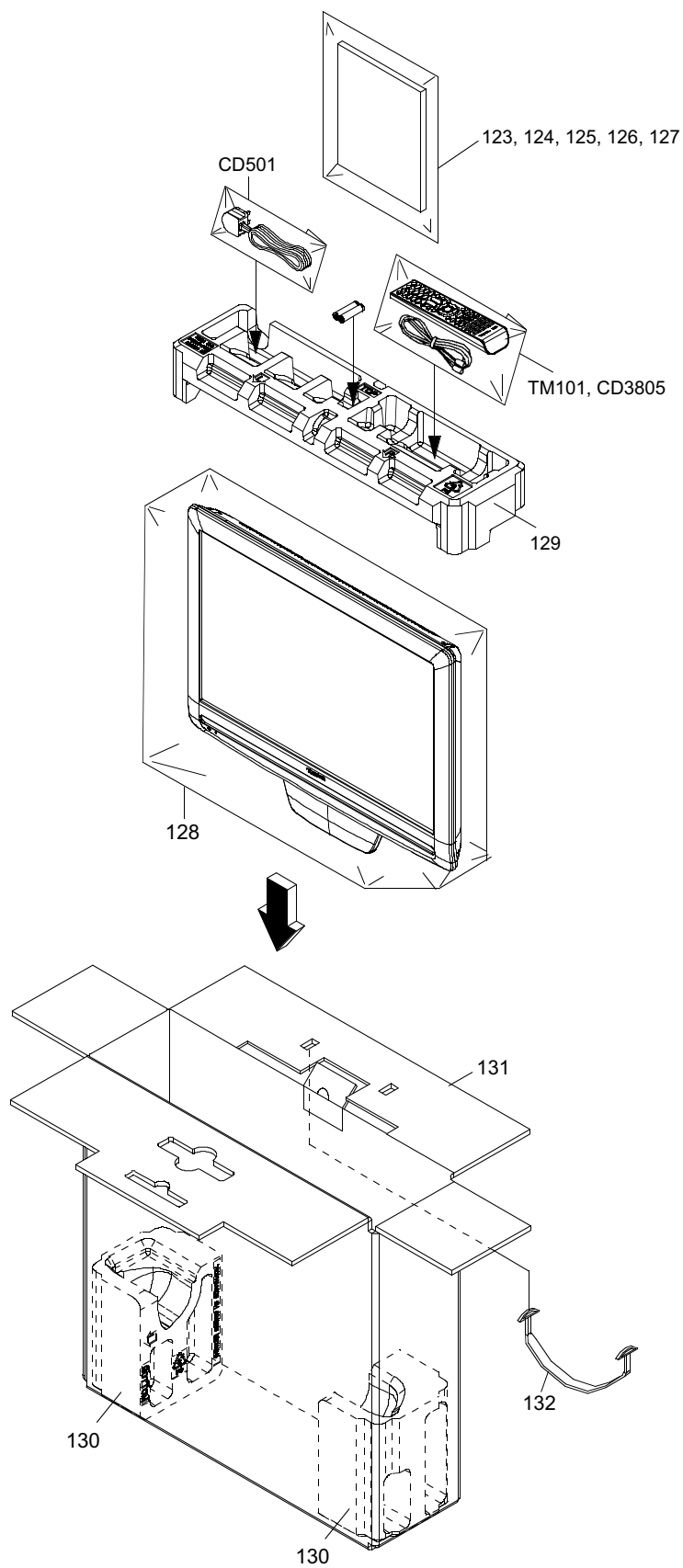
MECHANICAL EXPLODED VIEW



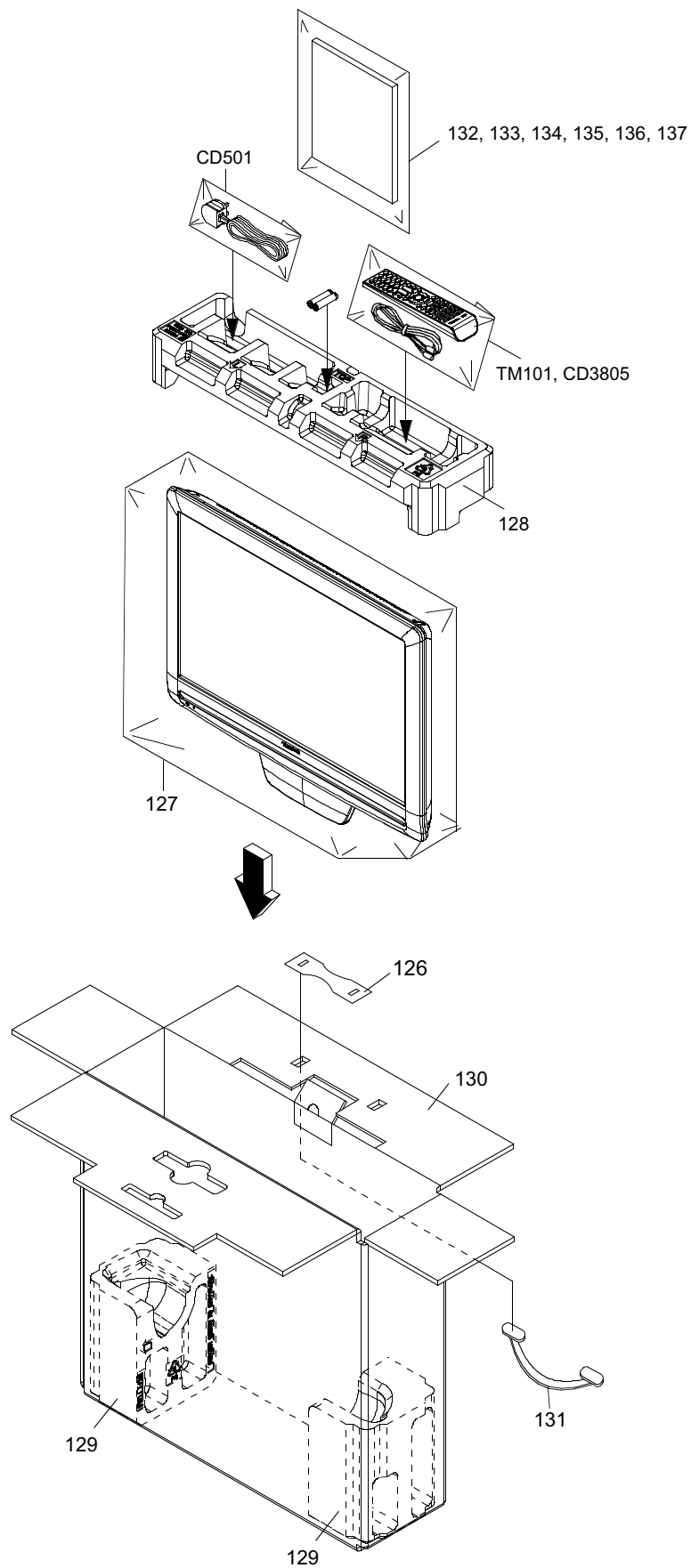
MECHANICAL EXPLODED VIEW



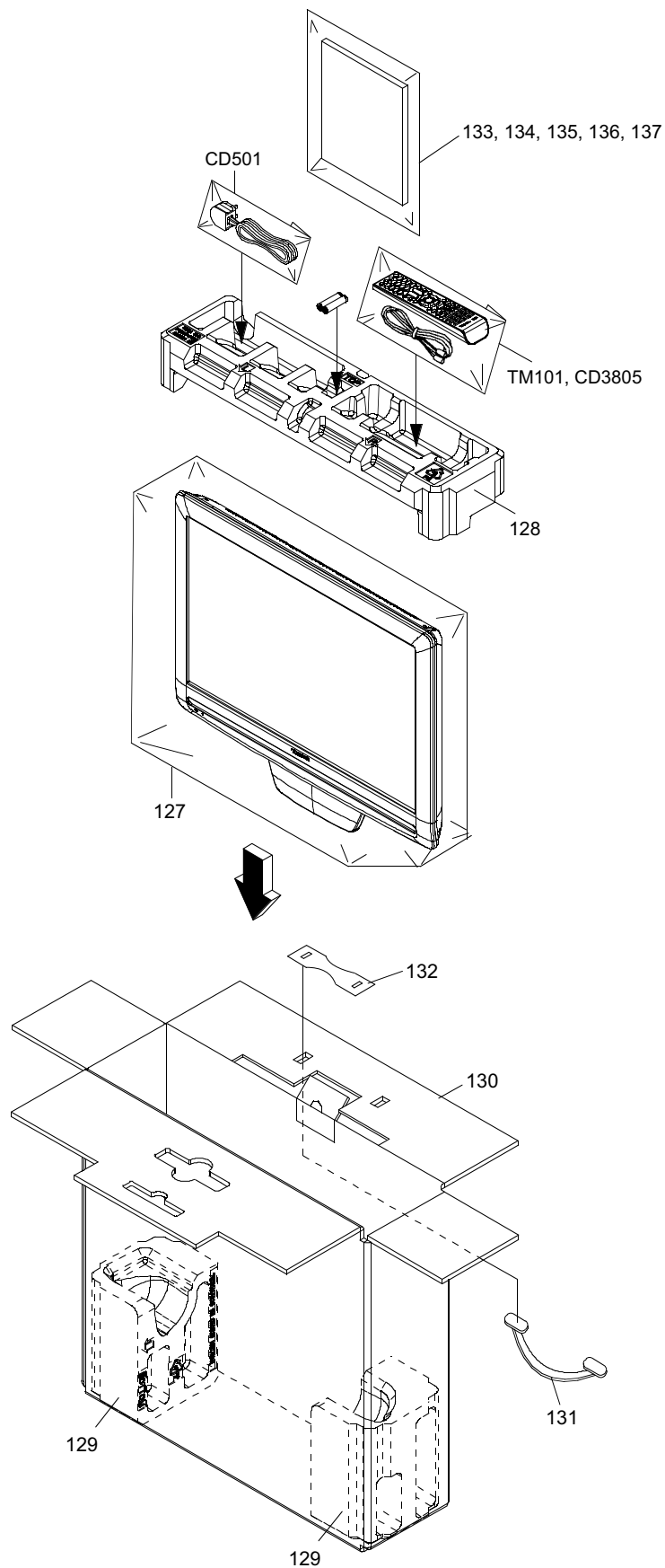
MECHANICAL EXPLODED VIEW (PACKING DIAGRAM)



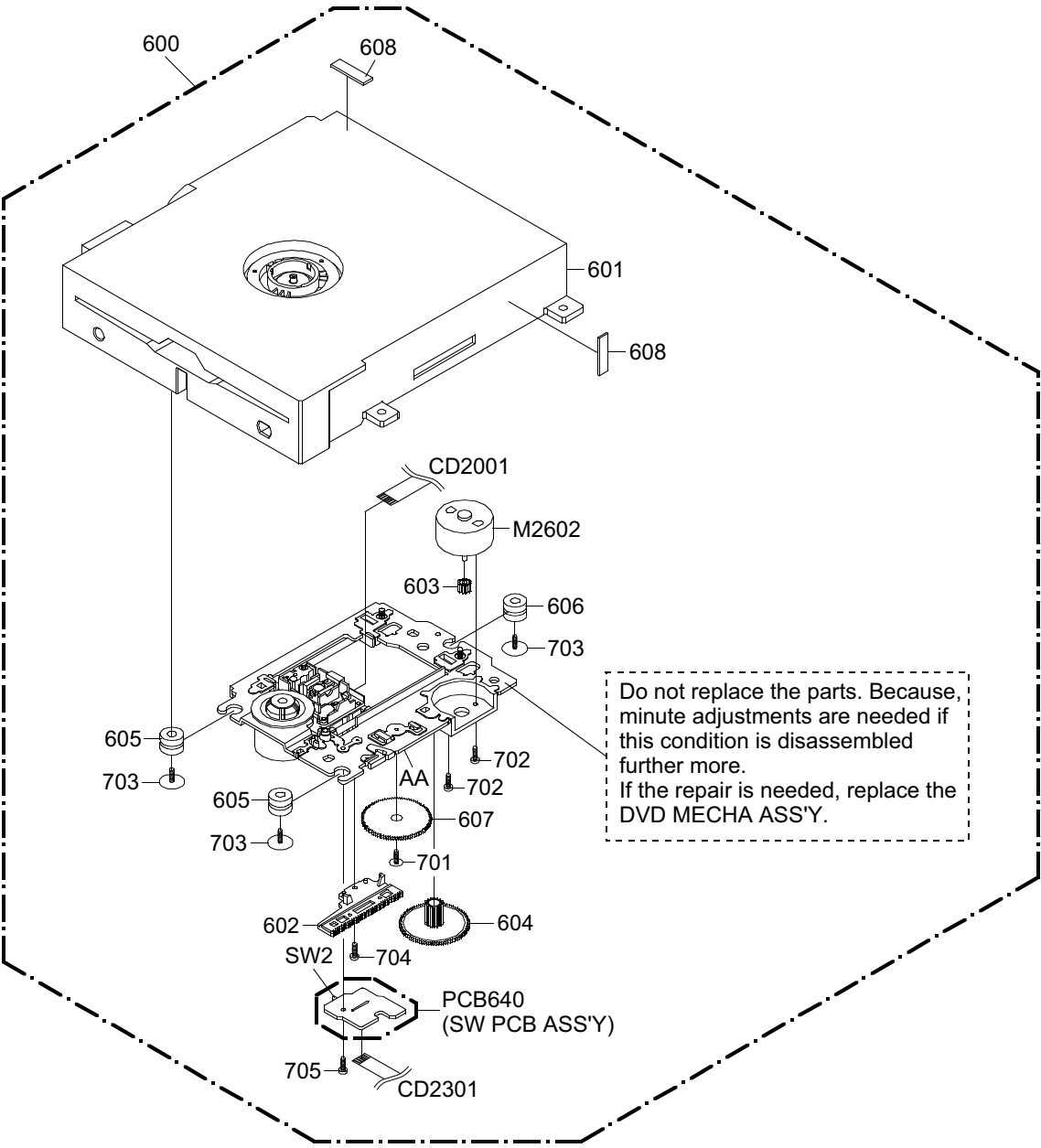
MECHANICAL EXPLODED VIEW (PACKING DIAGRAM)



MECHANICAL EXPLODED VIEW (PACKING DIAGRAM)



DVD DECK EXPLODED VIEW



CLASS	MARK
GREASE	AA

NOTE: Applying positions AA for the grease are displayed for this section. Check if the correct grease is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
101	AE016611	7A708A039A	FRONT CABI ASS'Y
101A	AE016612	708WPDA030	CABINET FRONT
101B	AE009670	702WNAA006	SHEET SPEAKER
101C	AE009571	713WPAA280	GLASS LED
101D	AE007694	7235490068	BADGE BRAND
101E	AE009572	761WPAA177	COVER STAND
101F	AE009671	800WQ0A073	FELT SHEET
101G	AE009679	800WQ0A119	FELT SHEET
102	AE016613	7A702A649A	BACK CABI ASS'Y
102A	AE016614	702WPAB311	CABINET BACK
102B	AE009591	706WPA0031	COVER CONNECTOR
102C	AE016615	722549A743	SHEET RATING
102D	AE016616	723000E032	SHEET JACK-1
102E	AE016532	723000E046	SHEET JACK-2
102F	AE009577	761WSAA102	ANGLE HINGE
102G	AE009578	761WSA0634	ANGLE BACK
102H	AE003190	800WQ0A067	FELT SHEET
102I	AE003026	800WQ0A079	FELT SHEET
102J	AE016527	800WQ0A094	FELT SHEET
102K	AE007708	800WQ00095	FELT SHEET
103	AE016569	7A711A096A	PANEL SIDE ASS'Y
103A	AE016570	711WPDA806	PANEL SIDE
103B	AE009581	711WPEA001	SLOT DVD
103C	AE009582	735WPAB101	BUTTON FRAME
103D	AE008459	800WQ00105	FELT SHEET
104	AE016571	7A704A128A	STAND ASS'Y
104A	AE009585	704WPAA066	STAND
104B	AE009586	761WPAA181	COVER HINGE
104C	AE009587	761WSBA014	ANGLE STAND
104D	AE009624	800SRA0002	CUSHION LEG VEB1349-A
104E	AE008947	899NAGCL14	CABLE CLAMP
104F	AE007710	89900FB118	BAND
105	AE009629	761WPA0515	HOLDER PCB
106	AE009796	800WQ00134	FELT SHEET 40*60*T0.5
107	AE016572	7G7520054A	ANGLE PCB ASS'Y
108	AE016573	752WSA0713	SHIELD CI CARD
109	AE008287	726000A139	SHEET CAUTION
110	AE009790	761WSA0679	ANGLE MPEG
111	AE009763	744WUA0035	SPRING EARTH TUNER
112	AE009784	744WUA0038	SPRING EARTH-3
113	AE009786	752WSA0716	SHIELD JACK
114	AE009841	752WSA0723	SPRING,EARTH
115	AE009858	753WUA0101	SPRING EARTH-1
116	AE009600	761WPAA180	HOLDER REMOCON
117	AE009676	761WPAA185	HOLDER SPEAKER-L
118	AE009677	761WPAA188	HOLDER SPEAKER-R
119	AE005468	800WQ0A055	FELT SHEET
120	AE009627	899RFPC25V	HOLDER CORD
121	AE009590	706KSAA001	HINGE ASS'Y
122	AE016617	723549A093	POP LABEL
123	AE016583	JB5PD000	POLYBAG,INSTRUCTION(RED CAUTION)
124	AE016584	J51Z0101A	INSTRUCTION BOOK(E)
125	AE016580	J51Z0107A	QUICK SET-UP SHEET(E)
126	AE016581	J51Z0117A	REGISTRATION CARD
127	AE016582	J51Z0141A	HELPLINE SHEET
128	AE009842	791WHAA240	LAMIFILM BAG
129	AE016618	792PHAA025	PACKAGE TOP
130	AE016619	792PHAA026	PACKAGE BOTTOM
131	AE016620	793PCDA103	GIFT BOX
132	AE016579	794PHAA001	HANDLE
201	AE004849	8109230A0U	SCREW TAP TITE(B) BIND 3*10 CH
202	AE005140	810A14080U	SCREW WASHER(A) M4*8 CH
203	AE005675	810923060U	SCREW TAP TITE(B) BIND 3*6 CH
204	AE009612	8110K3080U	SCREW TAP TITE(P) LAMI HEAD 3*8 CH
205	AE007747	814623080U	SCREW TAP TITE(B) BIND 3*5.7+4*2.3 CH
206	AE003526	810923080U	SCREW TAP TITE(B) BIND 3*8 CH
207	AE003524	8109I30A0U	SCREW TAP TITE(B) WH7 3*10 CH
208	AE003528	8110630A0U	SCREW TAP TITE(P) BRAZIER 3*10 CH
209	AE009613	8109230A0S	SCREW TAP TITE(B) BIND 3*10 BK
210	AE004851	810223080U	SCREW BIND M3*8 CH
211	AE009614	8109230A4S	SCREW TAP TITE(B) BIND 3*14 BK
212	AE016206	8117540A6S	SCREW TAPPING(B0) TRUSS 4*16 BK
213	AE005473	8109D30A0U	SCREW TAP TITE(B) WH8 3*10 CH

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
101	AE016653	7A708A069A	FRONT CABI ASS'Y
101A	AE016612	708WPDAA030	CABINET FRONT
101B	AE009670	702WNA006	SHEET SPEAKER
101C	AE009571	713WPAA280	GLASS LED
101D	AE007694	7235490068	BADGE BRAND
101E	AE009572	761WPAA177	COVER STAND
101F	AE009671	800WQ0A073	FELT SHEET
101G	AE009679	800WQ0A119	FELT SHEET
102	AE016657	7A702A745A	BACK CABI ASS'Y
102A	AE016614	702WPAB311	CABINET BACK
102B	AE009577	761WSAA102	ANGLE HINGE
102C	AE009578	761WSA0634	ANGLE BACK
102D	AE003190	800WQ0A067	FELT SHEET
102E	AE003026	800WQ0A079	FELT SHEET
102F	AE016527	800WQ0A094	FELT SHEET
102G	AE007708	800WQ00095	FELT SHEET
103	AE016569	7A711A096A	PANEL SIDE ASS'Y
103A	AE016570	711WPDAA06	PANEL SIDE
103B	AE009581	711WPEA001	SLOT DVD
103C	AE009582	735WPAB101	BUTTON FRAME
103D	AE008459	800WQ00105	FELT SHEET
104	AE009584	7A704A085A	STAND ASS'Y
104A	AE009585	704WPAA066	STAND
104B	AE009586	761WPAA181	COVER HINGE
104C	AE009587	761WSBA014	ANGLE STAND
104D	AE009624	800SRA0002	CUSHION LEG VEB1349-A
104E	AE008947	899NAGCL14	CABLE CLAMP
104F	AE007710	89900FB118	BAND
105	AE009629	761WPA0515	HOLDER PCB
106	AE009796	800WQ00134	FELT SHEET 40*60*T0.5
107	AE016572	7G7520054A	ANGLE PCB ASS'Y
108	AE016573	752WSA0713	SHIELD CI CARD
109	AE008287	726000A139	SHEET CAUTION
110	AE009790	761WSA0679	ANGLE MPEG
111	AE009763	744WUA0035	SPRING EARTH TUNER
112	AE009784	744WUA0038	SPRING EARTH-3
113	AE009786	752WSA0716	SHIELD JACK
114	AE009841	752WSA0723	SPRING,EARTH
115	AE009858	753WUA0101	SPRING EARTH-1
116	AE009600	761WPAA180	HOLDER REMOCON
117	AE009676	761WPAA185	HOLDER SPEAKER-L
118	AE009677	761WPAA188	HOLDER SPEAKER-R
119	AE005468	800WQ0A055	FELT SHEET
120	AE009627	899RFPC25V	HOLDER CORD
121	AE009590	706KSAA001	HINGE ASS'Y
122	AE009591	706WPA0031	COVER CONNECTOR
123	AE016660	722549A757	SHEET RATING
124	AE016616	723000E032	SHEET JACK-1
125	AE016532	723000E046	SHEET JACK-2
126	AE009604	794WHA0004	HANDLE STOPPER
127	AE009842	791WHAA240	LAMIFILM BAG
128	AE016663	792WHAA287	PACKAGE TOP
129	AE016664	792WHAA288	PACKAGE BOTTOM
130	AE016665	793WCDD965	GIFT BOX
131	AE009603	794WHA0003	HANDLE
132	AE009609	JB5ND000	POLYBAG,INSTRUCTION(RED CAUTION)
133	AE016667	J51Z1107A	QUICK SET-UP SHEET(E)
134	AE016668	J51Z1110A	INSTRUCTION BOOK(9 LANG.)
135	AE016670	J51Z1131A	INSTRUCTION BOOK(E)
136	AE016672	J51Z1132A	INSTRUCTION BOOK(G)
137	AE016674	J51Z1133A	INSTRUCTION BOOK(F)
201	AE004849	8109230A0U	SCREW TAP TITE(B) BIND 3*10 CH
202	AE005140	810A14080U	SCREW WASHER(A) M4*8 CH
203	AE005675	810923060U	SCREW TAP TITE(B) BIND 3*6 CH
204	AE009612	8110K3080U	SCREW TAP TITE(P) LAMI HEAD 3*8 CH
205	AE007747	814623080U	SCREW TAP TITE(B) BIND 3*5.7+4*2.3 CH
206	AE003526	810923080U	SCREW TAP TITE(B) BIND 3*8 CH
207	AE003524	8109I30A0U	SCREW TAP TITE(B) WH7 3*10 CH
208	AE003528	8110630A0U	SCREW TAP TITE(P) BRAZIER 3*10 CH
209	AE009613	8109230A0S	SCREW TAP TITE(B) BIND 3*10 BK
210	AE004851	810223080U	SCREW BIND M3*8 CH
211	AE009614	8109230A4S	SCREW TAP TITE(B) BIND 3*14 BK
212	AE016206	8117540A6S	SCREW TAPPING(B0) TRUSS 4*16 BK
213	AE005473	8109D30A0U	SCREW TAP TITE(B) WH8 3*10 CH

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
101	AE016654	7A708A072A	FRONT CABI ASS'Y
101A	AE016655	708WPDA039	CABINET FRONT
101B	AE016656	702WNBA018	SHEET SPEAKER
101C	AE009571	713WPAA280	GLASS LED
101D	AE007694	7235490068	BADGE BRAND
101E	AE009684	761WPAA196	COVER STAND
101F	AE009671	800WQ0A073	FELT SHEET
101G	AE009679	800WQ0A119	FELT SHEET
102	AE016658	7A702A748A	BACK CABI ASS'Y
102A	AE016659	702WPAB333	CABINET BACK
102B	AE009577	761WSAA102	ANGLE HINGE
102C	AE009578	761WSA0634	ANGLE BACK
102D	AE003190	800WQ0A067	FELT SHEET
102E	AE003026	800WQ0A079	FELT SHEET
102F	AE016527	800WQ0A094	FELT SHEET
102G	AE007708	800WQ00095	FELT SHEET
103	AE016643	7A711A099A	PANEL SIDE ASS'Y
103A	AE016644	711WPDA807	PANEL SIDE
103B	AE009581	711WPEA001	SLOT DVD
103C	AE009645	735WPAB117	BUTTON FRAME
103D	AE008459	800WQ00105	FELT SHEET
104	AE009866	7A704A115A	STAND ASS'Y
104A	AE009647	704WPAA068	STAND
104B	AE009648	761WPAA189	COVER HINGE
104C	AE009587	761WSBA014	ANGLE STAND
104D	AE009624	800SRA0002	CUSHION LEG VEB1349-A
104E	AE008947	899NAGCL14	CABLE CLAMP
104F	AE007710	89900FB118	BAND
105	AE009629	761WPA0515	HOLDER PCB
106	AE009796	800WQ00134	FELT SHEET 40*60*T0.5
107	AE016572	7G7520054A	ANGLE PCB ASS'Y
108	AE016573	752WSA0713	SHIELD CI CARD
109	AE008287	726000A139	SHEET CAUTION
110	AE009790	761WSA0679	ANGLE MPEG
111	AE009763	744WUA0035	SPRING EARTH TUNER
112	AE009784	744WUA0038	SPRING EARTH-3
113	AE009786	752WSA0716	SHIELD JACK
114	AE009841	752WSA0723	SPRING,EARTH
115	AE009858	753WUA0101	SPRING EARTH-1
116	AE009600	761WPAA180	HOLDER REMOCON
117	AE009676	761WPAA185	HOLDER SPEAKER-L
118	AE009677	761WPAA188	HOLDER SPEAKER-R
119	AE005468	800WQ0A055	FELT SHEET
120	AE009627	899RFPC25V	HOLDER CORD
121	AE009590	706KSAA001	HINGE ASS'Y
122	AE009650	706WPA0034	COVER CONNECTOR
123	AE016661	722549A756	SHEET RATING
124	AE016608	723000E045	SHEET JACK-2
125	AE016662	723000E062	SHEET JACK-1
126	AE016617	723549A093	POP LABEL
127	AE009842	791WHAA240	LAMIFILM BAG
128	AE016663	792WHAA287	PACKAGE TOP
129	AE016664	792WHAA288	PACKAGE BOTTOM
130	AE016666	793WCDD964	GIFT BOX
131	AE009603	794WHA0003	HANDLE
132	AE009604	794WHA0004	HANDLE STOPPER
133	AE009609	JB5ND000	POLYBAG,INSTRUCTION(RED CAUTION)
134	AE016669	J51Z0801A	INSTRUCTION BOOK(E)
135	AE016671	J51Z0807A	QUICK SET-UP SHEET(E)
136	AE016673	J51Z0817A	REGISTRATION CARD
137	AE016675	J51Z0841A	HELPLINE SHEET
201	AE004849	8109230A0U	SCREW TAP TITE(B) BIND 3*10 CH
202	AE005140	810A14080U	SCREW WASHER(A) M4*8 CH
203	AE005675	810923060U	SCREW TAP TITE(B) BIND 3*6 CH
204	AE009612	8110K3080U	SCREW TAP TITE(P) LAMI HEAD 3*8 CH
205	AE007747	814623080U	SCREW TAP TITE(B) BIND 3*5.7+4*2.3 CH
206	AE003526	810923080U	SCREW TAP TITE(B) BIND 3*8 CH
207	AE003524	8109I30A0U	SCREW TAP TITE(B) WH7 3*10 CH
208	AE003528	8110630A0U	SCREW TAP TITE(P) BRAZIER 3*10 CH
209	AE005473	8109D30A0U	SCREW TAP TITE(B) WH8 3*10 CH
210	AE004851	810223080U	SCREW BIND M3*8 CH
211	AE009655	8109230A4U	SCREW TAP TITE(B) BIND 3*14 CH
212	AE004847	8117540A6U	SCREW TAPPING(B0) TRUSS 4*16 CH

DVD DECK REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
△ 600	AE009615	A50N01P650	DVD MECHA ASS'Y	A50N01P650
601	AE008499	92SBB0033A	LOADER SUB ASS'Y	DLM1D29-31
602	AE005815	92AAA0017A	FEED RACK ASS'Y	
603	AE003551	92P100088A	GEAR,MOTOR	
604	AE005805	92P100117A	GEAR,MIDDLE	
605	AE008500	92P200017A	INSULATOR, F	
606	AE008501	92P200018A	INSULATOR, R	
607	AE005816	92P100116A	GEAR,FEED	
608	AE016078	800WFAA008	CUSHION C	
701	AE005817	92P700007A	SCREW,GEAR FEED	
702	AE003554	814011723U	SCREW,PAN M1.7*2.3 P3 CH	
703	AE003555	816112080U	SEMS.TAP TITE(P) PAN W10 2*8 CH	
704	AE005006	813381750U	SCREW,T-TITE(B)CAMERA PAN M1.7*5.0 P3 CH	
705	AE003557	811022080U	SCREW,TAP TITE(P) BIND 2*8 CH	
CD2001	AE009434	12C14O1602	CORD JUMPER	FFC05241600408T1-A04
CD2301	AE003558	122H062102	CORD JUMPER	2H062102
M2602	AE009616	1515T98006	MOTOR	WRF-300CA-10460A
PCB640	AE008503	A5X002C640	SW PCB ASS'Y	DED020A
SW2	AE001158	0500101036	PUSH SWITCH	ESE22MH22

DVD DECK REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
△ 600	AE009615	A50N01P650	DVD MECHA ASS'Y A50N01P650
601	AE008499	92SBB0033A	LOADER SUB ASS'Y DLM1D29-31
602	AE005815	92AAA0017A	FEED RACK ASS'Y
603	AE003551	92P100088A	GEAR,MOTOR
604	AE005805	92P100117A	GEAR,MIDDLE
605	AE008500	92P200017A	INSULATOR, F
606	AE008501	92P200018A	INSULATOR, R
607	AE005816	92P100116A	GEAR,FEED
608	AE016078	800WFAA008	CUSHION C
701	AE005817	92P700007A	SCREW,GEAR FEED
702	AE003554	814011723U	SCREW,PAN M1.7*2.3 P3 CH
703	AE003555	816112080U	SEMS.TAP TITE(P) PAN W10 2*8 CH
704	AE005006	813381750U	SCREW,T-TITE(B)CAMERA PAN M1.7*5.0 P3 CH
705	AE003557	811022080U	SCREW,TAP TITE(P) BIND 2*8 CH
CD2001	AE009434	12C14O1602	CORD JUMPER FFC05241600408T1-A04
CD2301	AE003558	122H062102	CORD JUMPER 2H062102
M2602	AE009616	1515T98006	MOTOR WRF-300CA-10460A
PCB640	AE008503	A5X002C640	SW PCB ASS'Y DED020A
SW2	AE001158	0500101036	PUSH SWITCH ESE22MH22

DVD DECK REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
△ 600	AE009615	A50N01P650	DVD MECHA ASS'Y A50N01P650
601	AE008499	92SBB0033A	LOADER SUB ASS'Y DLM1D29-31
602	AE005815	92AAA0017A	FEED RACK ASS'Y
603	AE003551	92P100088A	GEAR,MOTOR
604	AE005805	92P100117A	GEAR,MIDDLE
605	AE008500	92P200017A	INSULATOR, F
606	AE008501	92P200018A	INSULATOR, R
607	AE005816	92P100116A	GEAR,FEED
608	AE016078	800WFAA008	CUSHION C
701	AE005817	92P700007A	SCREW,GEAR FEED
702	AE003554	814011723U	SCREW,PAN M1.7*2.3 P3 CH
703	AE003555	816112080U	SEMS.TAP TITE(P) PAN W10 2*8 CH
704	AE005006	813381750U	SCREW,T-TITE(B)CAMERA PAN M1.7*5.0 P3 CH
705	AE003557	811022080U	SCREW,TAP TITE(P) BIND 2*8 CH
CD2001	AE009434	12C14O1602	CORD JUMPER FFC05241600408T1-A04
CD2301	AE003558	122H062102	CORD JUMPER 2H062102
M2602	AE009616	1515T98006	MOTOR WRF-300CA-10460A
PCB640	AE008503	A5X002C640	SW PCB ASS'Y DED020A
SW2	AE001158	0500101036	PUSH SWITCH ESE22MH22

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
RESISTORS				
△ R503	75006901	RC31X1126J	RC	12M OHM 1W
△ R505	AE009485	R63884330J	R,FUSE	33 OHM 1/4W
△ R506	AE002150	R803R9333J	RC	33K OHM 1/16W
△ R509	AE009486	RC31X1125J	RC	1.2M OHM 1W
△ R510	AE005735	R63881R22J	R,FUSE	0.22 OHM 1W
△ R518	AE012427	R002T4101J	RC	100 OHM 1/4W
△ R522	AE006025	R3K58A010J	R,METAL OXIDE	1 OHM 2W
△ R544	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R545	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R546	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R547	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R7038	AE009711	R63882220J	R,FUSE	22 OHM 1/2W
△ R7039	AE009711	R63882220J	R,FUSE	22 OHM 1/2W
CAPACITORS				
△ C501	AE001725	CS0PB0413K	CC	0.001 UF 50V B
△ C502	AE009804	E8E52H121D	CE	120 UF 400V
△ C503	AE011287	CS0PCH4L2J	CC	330 PF 50V CH
△ C504	AE008913	E7EYF2102M	CE	1000 UF 16V
△ C505	AE001732	CS0PCH4H1J	CC	22 PF 50V CH
△ C506	AE012287	P2122B224M	CMP	0.22 UF 275V ECQUL
△ C507	AE011227	CD39E0M13M	CC	0.001 UF 250V
△ C508	AE012286	P2122B104M	CMP	0.1 UF 275V ECQUL
△ C510	AE011227	CD39E0M13M	CC	0.001 UF 250V
△ C513	AE011392	C03L0R7Q2K	CC	470 PF 2KV R
△ C514	AE009491	CD39E0MQ2K	CC	470 PF 250V
C518	AE009492	P332E4223J	CPP	0.022 UF 400V
△ C520	75007051	E8E2U54R7D	CE	4.7 UF 50V
△ C522	AE009830	E7EYS3681M	CE	680 UF 25V
△ C525	AE008913	E7EYF2102M	CE	1000 UF 16V
C7006	AE008913	E7EYF2102M	CE	1000 UF 16V
C7020	AE008913	E7EYF2102M	CE	1000 UF 16V
C7026	AE009700	C234SLB11J	CC	10 PF 6KV SL
C7029	AE009700	C234SLB11J	CC	10 PF 6KV SL
C7030	AE009700	C234SLB11J	CC	10 PF 6KV SL
C7033	AE009700	C234SLB11J	CC	10 PF 6KV SL
DIODES				
D107	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
△ D504	AE009461	D6C047110A	DIODE VARISTA	ENE471D-10A
△ D505	AE008372	D2LT001F50	DIODE SILICON	1F5-E
D506	AE008319	D4AT01H3E0	DIODE RECTIFIER	1H3-E
△ D507	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
△ D508	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D509	AE009494	DE7RB3302B	DIODE ZENER	UDZSNP33B TE-17
△ D510	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
△ D511	AE008319	D4AT01H3E0	DIODE RECTIFIER	1H3-E
D512	AE002133	D2BXARS010	DIODE SILICON	SARS01-V1
△ D514	AE011461	D28F21DQN9	DIODE SCHOTTKY	21DQ09N-FC4
△ D515	AE009803	D28A10A080	DIODE SCHOTTKY BARRIER	FCHS10A08
△ D516	AE008319	D4AT01H3E0	DIODE RECTIFIER	1H3-E
D517	AE011502	D97U01601B	DIODE ZENER	MTZJ16B T-77
△ D518	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
△ D523	AE009829	D28A10A040	DIODE SCHOTTKY BARRIER	FCQ10A04
D525	AE016538	D2BRJPAL30	DIODE SCHOTTKY BARRIER	SJPA-L3-VL
D804	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D805	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D1001	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D1002	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D2303	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D2304	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D2402	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D3201	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
△ D3202	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D3600	AE016508	D28R0QY040	DIODE SCHOTTKY BARRIER	EP10QY04-TE8L3
D3601	AE004937	D77R1A1R10	DIODE VARISTA	AVRL161A1R1NT
D3603	AE004937	D77R1A1R10	DIODE VARISTA	AVRL161A1R1NT
D3605	AE016508	D28R0QY040	DIODE SCHOTTKY BARRIER	EP10QY04-TE8L3
D3630	AE004795	DE7RB5R62B	DIODE ZENER	UDZSNP5.6B TE-17
△ D3801	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
△ D3802	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D3804	AE008906	D28R11FS20	DIODE	EC11FS2-TE12L
△ D3805	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
△ D3806	AE008906	D28R11FS20	DIODE	EC11FS2-TE12L
D3807	AE009716	DE7RB1302B	DIODE ZENER	UDZSNP13B TE-17
D3809	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4002	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4003	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4005	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4008	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4211	AE008091	DE7RB4R72B	DIODE ZENER	UDZSNP4.7B TE-17
D4305	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6401	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
DIODES				
D6402	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6403	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D6407	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6409	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6411	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6412	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6413	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D7001	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7002	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7003	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7004	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7005	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7006	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7007	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7008	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7009	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7010	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7011	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7012	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7013	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7014	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7015	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7016	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7017	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7018	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7019	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7020	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7021	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7022	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7023	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7024	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7025	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7026	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7601	AE000288	0021E9Q010	LED	LTL-1BEFJ-002A
D8510	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
ICS				
IC101	AE009809	S51B03JM02	MEMORY DATA 52PIN FLASH MICOM ROM 16K	R5F21244SNFP
IC105	AE011998	I9UF032290	RESET IC 2.9V TYPE	PST3229NR
△IC301	AE008430	I03SP20520	SOUND AMP 5W 2CH	LA42052-E
△IC501	AE009499	ICAD055310	LOW STANDBY POWER IC CONTROL	FA5531P-A2
△IC502	AE011889	I1KJ9A431A	VARIABLE SHUNT REGULATOR TAPE	KIA431A-AT
IC504	AE016539	I0BD981050	VIN=30V IO=3.5A	SI-8105QL
△IC505	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC801	AE016621	S52A01CE01	MEMORY DATA EEPROM 256K 12C	AT24C256BN-10SU-1.8
IC802	AE011998	I9UF032290	RESET IC 2.9V TYPE	PST3229NR
IC803	AE016509	S51Z01AM01	MEMORY DATA SCALER LIMITED O/R	VCT6973G-FA-B3-000
△IC2301	AE008194	I03FV65650	5CH MOTOR DRIVER IC	LA6565VR-TLM-E
IC2401	AE011746	I5PK05ALC0	MPEG DECODER	STI5105ALC
IC2402	AE011999	I9UF032310	RESET IC 3.1V TYPE	PST3231NR
IC2403	AE009449	ICLJ022EC5	DDR-400 256M CL=3	HY5DU561622ETP-D43-C
IC2404	AE016543	S51Z01AF02	MEMORY DATA NOR FLASH 16M B00T	S29AL016D70TFI010
IC2409	AE008922	I5PJ0064W0	EEPROM 64K 12C	M24C64WMN6TP
IC3001	75007780	I55F045FT0	8BIT BUS TRANSCEIVER	TC74LCX245FT(EL)
IC3002	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3003	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3004	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3005	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3006	75007781	I55J0CX020	2 INPUT NOR GATE	TC74LCX02FT(EL)
IC3007	75007779	I55F0125F0	BUS BUFFER	TC7SH125FU(TE85L,F
△IC3201	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△IC3202	AE008435	I1LF010150	DC-DC CONVERTER CONTROLLER	AL1015
△IC3203	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△IC3204	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△IC3205	AE004653	I1KF98D050	REGULATOR 5V	KIA78D05F
△IC3206	AE016513	I5HJ9B19U0	REGULATOR VO=1.9V IO=800MA	S-1170B19UC-OTETFG
IC3207	AE009832	I5HJ9B15U0	REGULATOR VO=1.5V IO=800MA	S-1170B15UC-OTATFG
IC3605	75007789	IG1F090250	144PIN TQFP HDMI RECEIVER	SI9025CTU
IC3606	AE011981	S51Z01AE02	MEMORY DATA EEPROM 2K 12C	S-24CS02AFJ-TB-GE
△IC3801	AE007825	I07F0C0WF0	1A REGULATOR	BA00BC0WFP-E2
△IC3806	AE009719	I5HJ950UC0	REGULATOR VO=5.0V IO=800MA	S-1170B50UC-QUJTFG
IC4001	AE009720	ICQK06966A	VADDIS9 MPEG/MICON/DSP/RF-AMP	ZR36966ELCG-D-G
IC4005	AE008324	IF9J0164AG	1M*16*4BANK(64M) 143MHZ SDRAM	M12L64164A-7TG
IC4007	AE016515	S51Z01AF01	MEMORY DATA NOR FLASH 16M B00T	SST39VF1601-70-4C-EKE
IC4201	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC4205	AE004651	I0QF025840	A/V SW 2INPUT 1OUTPUT	NJM2584AM(Te1)
IC4302	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC4303	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC5801	75007776	I0CJ040530	ANALOG SW 3IN-2OUT	SN74LV4053APWR
IC6101	75007784	I5PK003620	DVB-T SINGLE CHIP RECEIVER	STV0362
△IC6401	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△IC6402	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
ICS				
△ IC6403	AE016545	I5HJ9B34U0	REGULATOR VO=3.4V IO=800MA	S-1170B34UC-OTTTFG
△ IC6404	AE016545	I5HJ9B34U0	REGULATOR VO=3.4V IO=800MA	S-1170B34UC-OTTTFG
△ IC6405	AE016546	I5HJ9B26U0	REGULATOR VO=2.6V IO=800MA	S-1170B26UC-OTLTFG
IC6406	AE002504	I0QF0580V0	AUDIO OPERATION AMP	NJM4580V(Te1)
△ IC6407	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
IC6500	AE008921	I5CJ031570	A/V SW 2INPUT 1OUTPUT	SN74LVC1G3157DCKR
IC6501	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6502	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6503	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6504	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC7001	AE009512	I07F098820	19WLCD INVERTER IC	BD9882FV-E2
IC7002	AE009513	I0CF0902D0	QUAND OPERATIONNAL AMPLIFILE	LM2902DR
IC7200	AE009831	I56K066550	SCALER IC	R8A66655FP
IC8501	AE009365	I0QF045650	DUAL OPEAMP	NJM4565M(Te1)
△ IC8502	AE009805	I1YF9117A0	VO=ADJ IO=1A TAPING	LD1117AL-ADJ-AA3-A-R
TRANSISTORS				
Q101	AE009515	T27T030190	FET	2SK3019_TL
Q102	AE009515	T27T030190	FET	2SK3019_TL
Q301	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q302	AE013010	TNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△ Q501	AE009722	T41GK35320	FET	2SK3532-01MR
Q505	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q801	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q802	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1000	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1001	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q1002	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1003	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1004	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q1005	AE013031	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q1006	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2301	AE008330	TAAA1505SY	TRANSISTOR SILICON	KTA1505S-Y-RTK/P
Q2302	AE008330	TAAA1505SY	TRANSISTOR SILICON	KTA1505S-Y-RTK/P
Q2401	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q3002	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3003	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3004	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
△ Q3200	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3201	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3202	AE004665	TS3M000044	COMPOUND TRANSISTOR	CPH6312-TL-E
Q3203	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3204	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3205	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3206	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3601	AE009515	T27T030190	FET	2SK3019_TL
Q3602	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3603	AE009515	T27T030190	FET	2SK3019_TL
Q3604	AE009515	T27T030190	FET	2SK3019_TL
Q3605	AE009515	T27T030190	FET	2SK3019_TL
Q3618	AE009515	T27T030190	FET	2SK3019_TL
△ Q3801	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q3802	AE013010	TNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3803	AE013010	TNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3804	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3805	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
△ Q3806	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3807	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3808	AE013010	TNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△ Q3809	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q3810	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q4200	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4201	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4205	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4210	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4214	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4217	AE013033	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
Q4218	AE013010	TNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4224	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4303	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4304	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4305	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q4306	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4307	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4308	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q4309	AE013010	TNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4310	AE013011	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q5801	AE009515	T27T030190	FET	2SK3019_TL
Q5802	AE009515	T27T030190	FET	2SK3019_TL
Q5805	AE013010	TNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q7003	AE009515	T27T030190	FET	2SK3019_TL
△ Q7004	AE009516	T250A06J30	FET	TK30A06J3(ORION.Q)

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
TRANSISTORS				
△ Q7005	AE009516	T250A06J30	FET	TK30A06J3(ORION.Q)
COILS & TRANSFORMERS				
△ L501	AE009366	029X000121	COIL,LINE FILTER	SS24H-K08240-CH
L504	AE016622	02167E4R7M	COIL	4.7 UH
L505	AE016623	021U0L100M	COIL	10 UH
L2401	AE008874	0216SD2R2J	COIL	2.2 UH
L2404	AE008874	0216SD2R2J	COIL	2.2 UH
L2406	AE008874	0216SD2R2J	COIL	2.2 UH
L3001	AE008874	0216SD2R2J	COIL	2.2 UH
L3002	AE008874	0216SD2R2J	COIL	2.2 UH
L3201	AE013322	02167E100K	COIL	10 UH
L3202	AE009723	0216MG220M	COIL	22 UH
L3601	AE009519	02D1000119	COIL CHOKE	EXC28CG900U
L3602	AE009519	02D1000119	COIL CHOKE	EXC28CG900U
L4204	AE013298	0216SD220J	COIL	22 UH
L4205	AE013298	0216SD220J	COIL	22 UH
L4206	AE013298	0216SD220J	COIL	22 UH
L4207	AE013298	0216SD220J	COIL	22 UH
L6101	AE008874	0216SD2R2J	COIL	2.2 UH
L6102	AE008874	0216SD2R2J	COIL	2.2 UH
L6103	AE008874	0216SD2R2J	COIL	2.2 UH
L6104	AE008874	0216SD2R2J	COIL	2.2 UH
L6401	AE008985	0216SD100J	COIL	10 UH
L6406	AE008874	0216SD2R2J	COIL	2.2 UH
L6408	AE007760	0216SD4R7J	COIL	4.7 UH
L6409	AE007760	0216SD4R7J	COIL	4.7 UH
L6410	AE007760	0216SD4R7J	COIL	4.7 UH
L7001	AE013322	02167E100K	COIL	10 UH
L8501	AE008874	0216SD2R2J	COIL	2.2 UH
L8502	AE006570	0216SD1R0J	COIL	1 UH
△ T501	AE009819	0481330224	TRANSFORMER,SWITCHING	81330224
△ T7001	AE009660	048135113G	TRANSFORMER,SWITCHING	8135113G
△ T7002	AE009660	048135113G	TRANSFORMER,SWITCHING	8135113G
JACKS				
△ J301	AE009522	060R131024	HEADPHONE JACK	PJ-364H
△ J501	AE009725	064Q1A0011	JACK,AC	CCT2302-0701C
J4206	AE009726	063D100067	SOCKET,21PIN	MRC-021H-02PC(O87)
J4208	AE009522	060R131024	HEADPHONE JACK	PJ-364H
J4301	AE009524	060R401140	RCA JACK	RCA-101HT(OR)
J8101	AE009526	062R750007	PLUG	DIN-417HA-01
J8102	AE009527	060R411058	RCA JACK	RCA-341H(NI)-09
J8103	AE009528	060R431039	RCA JACK	RCA-228H(3)NI-02
J8104	AE009529	060R431040	RCA JACK	RCA-341H(2)NI-06
SWITCHES				
SW2201	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2202	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2203	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2204	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2205	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2206	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2207	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2208	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
P.C.BOARD ASSEMBLIES				
PCB130	AE016587	A52A01C130L	DVD MT PCB ASS'Y	DMG097A
PCB240	AE016541	A52A01C240L	POWER PCB ASS'Y	CEG362A
PCB270	AE016542	A52A01C270L	OPERATION PCB ASS'Y	CEG363A
PCB290	AE016588	A52A01C290L	TUNER PCB ASS'Y	CEG367A
PCBDA0	AE016544	A52A01CDA0L	REMOCON PCB ASS'Y	CEG364A
PCBDH0	AE016589	A52A01CDH0L	DIGITAL PCB ASS'Y	CEG365A
PCBF40	AE016590	A52A01CF40L	MAIN PCB ASS'Y	CMG130A
MISCELLANEOUS				
B101	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B303	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B307	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B308	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B501	AE013373	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B801	AE013364	024AC5330J	CORE,BEADS	BLM18PG330SN1D
B802	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B803	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B804	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B805	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B806	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B807	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B808	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B809	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B810	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B811	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B812	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B813	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B818	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B819	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
			MISCELLANEOUS
B820	AE009773	024AC8102T	CORE,BEADS
B821	AE009773	024AC8102T	CORE,BEADS
B2305	AE008552	024NC51021	CORE,BEADS
B2401	AE008395	024HC56005	CORE,BEADS
B2402	AE008395	024HC56005	CORE,BEADS
B2403	AE008395	024HC56005	CORE,BEADS
B2404	AE008395	024HC56005	CORE,BEADS
B2405	AE008395	024HC56005	CORE,BEADS
B2406	AE008395	024HC56005	CORE,BEADS
B2407	AE008395	024HC56005	CORE,BEADS
B3001	AE008395	024HC56005	CORE,BEADS
B3002	AE008395	024HC56005	CORE,BEADS
B3201	AE007761	024AC5181J	CORE,BEADS
B3601	AE007761	024AC5181J	CORE,BEADS
B3602	AE007761	024AC5181J	CORE,BEADS
B3603	AE007761	024AC5181J	CORE,BEADS
B3604	AE007761	024AC5181J	CORE,BEADS
B3605	AE008395	024HC56005	CORE,BEADS
B3606	AE008609	024HC51023	CORE,BEADS
B3608	AE008609	024HC51023	CORE,BEADS
B3609	AE007761	024AC5181J	CORE,BEADS
B3610	AE007761	024AC5181J	CORE,BEADS
B3613	AE007761	024AC5181J	CORE,BEADS
B3802	AE007761	024AC5181J	CORE,BEADS
B3803	AE007761	024AC5181J	CORE,BEADS
B3804	AE007761	024AC5181J	CORE,BEADS
B3805	AE007761	024AC5181J	CORE,BEADS
B3807	AE007761	024AC5181J	CORE,BEADS
B3808	AE007761	024AC5181J	CORE,BEADS
B3809	AE007761	024AC5181J	CORE,BEADS
B3810	AE007761	024AC5181J	CORE,BEADS
B4001	AE008552	024NC51021	CORE,BEADS
B4002	AE008552	024NC51021	CORE,BEADS
B4003	AE008552	024NC51021	CORE,BEADS
B4005	AE008552	024NC51021	CORE,BEADS
B4006	AE008552	024NC51021	CORE,BEADS
B4008	AE008552	024NC51021	CORE,BEADS
B4010	AE008552	024NC51021	CORE,BEADS
B4015	AE008552	024NC51021	CORE,BEADS
B4016	AE008552	024NC51021	CORE,BEADS
B4202	AE008395	024HC56005	CORE,BEADS
B4203	AE008879	024HC56013	CORE,BEADS
B4204	AE007761	024AC5181J	CORE,BEADS
B4205	AE007761	024AC5181J	CORE,BEADS
B4206	AE007761	024AC5181J	CORE,BEADS
B4228	AE008395	024HC56005	CORE,BEADS
B4303	AE008395	024HC56005	CORE,BEADS
B4304	AE008395	024HC56005	CORE,BEADS
B4305	AE008395	024HC56005	CORE,BEADS
B4308	AE007761	024AC5181J	CORE,BEADS
B4312	AE008609	024HC51023	CORE,BEADS
B4317	AE007761	024AC5181J	CORE,BEADS
B4322	AE008609	024HC51023	CORE,BEADS
B5802	AE008879	024HC56013	CORE,BEADS
B5803	AE013364	024AC5330J	CORE,BEADS
B6101	AE008395	024HC56005	CORE,BEADS
B6102	AE008395	024HC56005	CORE,BEADS
B6103	AE008395	024HC56005	CORE,BEADS
B6401	AE008609	024HC51023	CORE,BEADS
B6402	AE008609	024HC51023	CORE,BEADS
B6404	AE008609	024HC51023	CORE,BEADS
B6405	AE008609	024HC51023	CORE,BEADS
B6406	AE008609	024HC51023	CORE,BEADS
B6407	AE008609	024HC51023	CORE,BEADS
B6408	AE008609	024HC51023	CORE,BEADS
B6409	AE008609	024HC51023	CORE,BEADS
B6410	AE008609	024HC51023	CORE,BEADS
B6411	AE008609	024HC51023	CORE,BEADS
B6501	AE008609	024HC51023	CORE,BEADS
B6502	AE007761	024AC5181J	CORE,BEADS
B6503	AE008609	024HC51023	CORE,BEADS
B6504	AE007761	024AC5181J	CORE,BEADS
B7200	AE007761	024AC5181J	CORE,BEADS
B7201	AE007761	024AC5181J	CORE,BEADS
B7202	AE008610	024HC51513	CORE,BEADS
B7203	AE008610	024HC51513	CORE,BEADS
B7204	AE008610	024HC51513	CORE,BEADS
B7205	AE008610	024HC51513	CORE,BEADS
B8501	AE008394	024BC5121J	CORE,BEADS
B8502	AE008552	024NC51021	CORE,BEADS
B8503	AE008394	024BC5121J	CORE,BEADS
			BLM15AG102SN1D
			BLM15AG102SN1D
			EBMS160808A102_RDC45
			FCM1608CF-600T06
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ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
B8504	AE008552	024NC51021	CORE,BEADS	EBMS160808A102_RDC45
BT001	AE016522	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
BT002	AE016522	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
CD301	AE009666	06E8142403	CORD CONNECTOR	E8142403
△ CD501	AE016555	120S145802	CORD SET AC	0S145802
CP101	AE009735	06GG270029	CONNECTOR PCB SIDE	A2001WV-7A
CP501	AE008882	06977NM020	CONNECTOR PCB SIDE	127301123K2
CP503	AE013859	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP801	AE013951	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CP802	AE009736	06GG260029	CONNECTOR PCB SIDE	A2001WV-6A
CD3805	AE006481	06CPL02011	CABLE,PAL	TD-OR0157F
CD4301	AE009541	06CH231204	CORD CONNECTOR	CH231204
CD4302	AE016624	06E8251301	CORD CONNECTOR	E8251301
CD6501	AE009704	06E82M1102	CORD CONNECTOR	E82M1102
CD7005	AE009849	06E82E1303	CORD CONNECTOR	E82E1303
CD7006	AE009849	06E82E1303	CORD CONNECTOR	E82E1303
CD7204	AE009821	06EA2U2505	CORD CONNECTOR	EA2U2505
CP2201	AE013944	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP2301	AE008156	069KYOT159	CONNECTOR PCB SIDE	LD07T2-24ND-03
CP2302	AE009544	069EV5T060	CONNECTOR PCB SIDE	04_6232_105_015_800+
CP2303	AE009545	069EV6T060	CONNECTOR PCB SIDE	04_6232_106_015_800+
CP2401	AE016557	069S2A0739	CONNECTOR PCB SIDE	A2006WV0-2X5P
CP2402	AE009743	06GG250029	CONNECTOR PCB SIDE	A2001WV-5A
CP3001	AE016558	0636800007	HOLDER,IC	A01K1B108007P00
CP3601	AE009550	06GDYL3038	CONNECTOR PCB SIDE	1A0300030
CP3801	AE008886	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1
CP4300	AE008886	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1
CP4302	AE009551	06G7S21501	CONNECTOR PCB SIDE	WD-00021-R
CP5801	AE016559	06972U3010	CONNECTOR PCB SIDE	TKC-W30P-U1 BLK ST
CP5802	AE009741	06GF2G0020	CONNECTOR PCB SIDE	WD-00028-R
CP5803	AE009742	06GF2G0010	CONNECTOR PCB SIDE	WD-00027-R
CP6401	75007827	06972UT018	CONNECTOR PCB SIDE	125622330K3
CP6501	AE009549	069S2M0079	CONNECTOR PCB SIDE	A2006WV0-2X11P
CP7200	AE009548	069S2U0739	CONNECTOR PCB SIDE	A2006WV0-2X15P
CP7601	AE013948	069S250639	CONNECTOR PCB SIDE	A2001WR2-5P
CP8101	AE008882	06977NM020	CONNECTOR PCB SIDE	127301123K2
△ CP8501	AE009553	06GG2E0019	CONNECTOR PCB SIDE	A2001WR-14A
CP8502	AE013951	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CUS151	AE016076	800WFAA006	CUSHION A	
EL2401	AE014351	124116281A	EYE LET	XRY16X28BD
△ F501	AE002112	080NT2R504	FUSE	50T025H
△ F7001	AE004626	083LA05007	FUSE	1206FA5A-T
FH501	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
NR2401	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2402	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2403	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2404	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2405	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2406	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2407	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2420	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2421	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2422	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR3001	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3002	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3003	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3004	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3005	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3006	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3007	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3008	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3009	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3010	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3011	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3601	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3602	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3603	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3604	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3605	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3606	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR7204	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7205	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7206	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7207	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7208	AE009822	110P4103M5	R.NETWORK	4D02WGJ0103TCE
NR7209	AE009822	110P4103M5	R.NETWORK	4D02WGJ0103TCE
NR7210	AE009822	110P4103M5	R.NETWORK	4D02WGJ0103TCE
NR7211	AE009557	11074470M7	R.NETWORK	CRA108470JV
OS7601	AE008414	077A033001	REMOTE RECEIVER	ROM-V338TAO
SH501	AE009776	126D000045	TERMINAL PIN	YQ-12

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
△ SP301	AE009558	070Y433004	SPEAKER	S0308F01
△ SP302	AE009558	070Y433004	SPEAKER	S0308F01
SH8501	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8502	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8503	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8504	AE009776	126D000045	TERMINAL PIN	YQ-12
△ TH501	AE009559	DSQDNE5R0L	THERMISTOR	5D2-08LCS
TM101	AE016562	076D0QJ011	TRANSMITTER	000-103000560
△ TU5801	75007843	0164Y03002	DIGITAL TUNER	TDTG-S156D
△ V7201	AE009667	09EA122001	LCD	T220SW01_VO
X101	AE009387	100GT01616	CRYSTAL	B16000E011
X801	AE009388	100DT02007	CRYSTAL	DSX840GA
X2401	AE008161	100GT02720	CRYSTAL	B27000C005
X3602	AE008624	100DT02801	CRYSTAL	SMD-49
X4001	AE009566	100GT02727	CRYSTAL	SMD-49 C27000J029
X6101	AE008161	100GT02720	CRYSTAL	B27000C005
X7200	AE009563	100GT02728	CRYSTAL	SMD-49 C27000B030

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
RESISTORS				
△ R503	75006901	RC31X1126J	RC	12M OHM 1W
△ R505	AE009485	R63884330J	R,FUSE	33 OHM 1/4W
△ R506	AE002150	R803R9333J	RC	33K OHM 1/16W
△ R509	AE009486	RC31X1125J	RC	1.2M OHM 1W
△ R510	AE005735	R63881R22J	R,FUSE	0.22 OHM 1W
△ R518	AE012427	R002T4101J	RC	100 OHM 1/4W
△ R522	AE006025	R3K58A010J	R,METAL OXIDE	1 OHM 2W
△ R544	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R545	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R546	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R547	AE009833	R861R42R2F	RC	2.2 OHM 1/4W
△ R7038	AE009711	R63882220J	R,FUSE	22 OHM 1/2W
△ R7039	AE009711	R63882220J	R,FUSE	22 OHM 1/2W
CAPACITORS				
△ C501	AE001725	CS0PB0413K	CC	0.001 UF 50V B
△ C502	AE009804	E8E52H121D	CE	120 UF 400V
△ C503	AE011287	CS0PCH4L2J	CC	330 PF 50V CH
△ C504	AE008913	E7EYF2102M	CE	1000 UF 16V
△ C505	AE001732	CS0PCH4H1J	CC	22 PF 50V CH
△ C506	AE012287	P2122B224M	CMP	0.22 UF 275V ECQUL
△ C507	AE011227	CD39E0M13M	CC	0.001 UF 250V
△ C508	AE012286	P2122B104M	CMP	0.1 UF 275V ECQUL
△ C510	AE011227	CD39E0M13M	CC	0.001 UF 250V
△ C513	AE011392	C03L0R7Q2K	CC	470 PF 2KV R
△ C514	AE009491	CD39E0MQ2K	CC	470 PF 250V
C518	AE009492	P332E4223J	CPP	0.022 UF 400V
△ C520	75007051	E8E2U54R7D	CE	4.7 UF 50V
△ C522	AE009830	E7EYS3681M	CE	680 UF 25V
△ C525	AE008913	E7EYF2102M	CE	1000 UF 16V
C7006	AE008913	E7EYF2102M	CE	1000 UF 16V
C7020	AE008913	E7EYF2102M	CE	1000 UF 16V
C7026	AE009700	C234SLB11J	CC	10 PF 6KV SL
C7029	AE009700	C234SLB11J	CC	10 PF 6KV SL
C7030	AE009700	C234SLB11J	CC	10 PF 6KV SL
C7033	AE009700	C234SLB11J	CC	10 PF 6KV SL
DIODES				
D107	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
△ D504	AE009461	D6C047110A	DIODE VARISTA	ENE471D-10A
△ D505	AE008372	D2LT001F50	DIODE SILICON	1F5-E
D506	AE008319	D4AT01H3E0	DIODE RECTIFIER	1H3-E
△ D507	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
△ D508	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D509	AE009494	DE7RB3302B	DIODE ZENER	UDZSNP33B TE-17
△ D510	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
△ D511	AE008319	D4AT01H3E0	DIODE RECTIFIER	1H3-E
D512	AE002133	D2BXARS010	DIODE SILICON	SARS01-V1
△ D514	AE011461	D28F21DQN9	DIODE SCHOTTKY	21DQ09N-FC4
△ D515	AE009803	D28A10A080	DIODE SCHOTTKY BARRIER	FCHS10A08
△ D516	AE008319	D4AT01H3E0	DIODE RECTIFIER	1H3-E
D517	AE011502	D97U01601B	DIODE ZENER	MTZJ16B T-77
△ D518	AE011441	D2WTRM11C0	DIODE SILICON	RM11C-EIC
△ D523	AE009829	D28A10A040	DIODE SCHOTTKY BARRIER	FCQ10A04
D525	AE016538	D2BRJPAL30	DIODE SCHOTTKY BARRIER	SJPA-L3-VL
D804	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D805	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D1001	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D1002	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D2303	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D2304	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D2402	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D3201	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
△ D3202	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D3600	AE016508	D28R0QY040	DIODE SCHOTTKY BARRIER	EP10QY04-TE8L3
D3601	AE004937	D77R1A1R10	DIODE VARISTA	AVRL161A1R1NT
D3603	AE004937	D77R1A1R10	DIODE VARISTA	AVRL161A1R1NT
D3605	AE016508	D28R0QY040	DIODE SCHOTTKY BARRIER	EP10QY04-TE8L3
D3630	AE004795	DE7RB5R62B	DIODE ZENER	UDZSNP5.6B TE-17
△ D3801	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
△ D3802	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D3804	AE008906	D28R11FS20	DIODE	EC11FS2-TE12L
△ D3805	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
△ D3806	AE008906	D28R11FS20	DIODE	EC11FS2-TE12L
D3807	AE009716	DE7RB1302B	DIODE ZENER	UDZSNP13B TE-17
D3809	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4002	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4003	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4005	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4008	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D4211	AE008091	DE7RB4R72B	DIODE ZENER	UDZSNP4.7B TE-17
D4305	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6401	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
DIODES				
D6402	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6403	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D6407	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6409	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6411	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6412	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6413	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D7001	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7002	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7003	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7004	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7005	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7006	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7007	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7008	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7009	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7010	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7011	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7012	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7013	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7014	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7015	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7016	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7017	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7018	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7019	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7020	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7021	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7022	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7023	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7024	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7025	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7026	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7601	AE000288	0021E9Q010	LED	LTL-1BEFJ-002A
D8510	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
ICS				
IC101	AE009809	S51B03JM02	MEMORY DATA 52PIN FLASH MICOM ROM 16K	R5F21244SNFP
IC105	AE011998	I9UF032290	RESET IC 2.9V TYPE	PST3229NR
△ IC301	AE008430	I03SP20520	SOUND AMP 5W 2CH	LA42052-E
△ IC501	AE009499	ICAD055310	LOW STANDBY POWER IC CONTROL	FA5531P-A2
△ IC502	AE011889	11KJ9A431A	VARIABLE SHUNT REGULATOR TAPE	KIA431A-AT
IC504	AE016539	I0BD981050	VIN=30V IO=3.5A	SI-8105QL
△ IC505	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC801	AE016683	S52A01CE02	MEMORY DATA EEPROM 256K 12C	AT24C256BN-10SU-1.8
IC802	AE011998	I9UF032290	RESET IC 2.9V TYPE	PST3229NR
IC803	AE016509	S51Z01AM01	MEMORY DATA SCALER LIMITED O/R	VCT6973G-FA-B3-000
△ IC2301	AE008194	I03FV65650	5CH MOTOR DRIVER IC	LA6565VR-TLM-E
IC2401	AE011746	I5PK05ALC0	MPEG DECODER	STI5105ALC
IC2402	AE011999	I9UF032310	RESET IC 3.1V TYPE	PST3231NR
IC2403	AE009449	ICLJ022EC5	DDR-400 256M CL=3	HY5DU561622ETP-D43-C
IC2404	AE016543	S51Z01AF02	MEMORY DATA NOR FLASH 16M B00T	S29AL016D70TFI010
IC2409	AE008922	I5PJ0064W0	EEPROM 64K 12C	M24C64WMN6TP
IC3001	75007780	I55F045FT0	8BIT BUS TRANSCEIVER	TC74LCX245FT(EL)
IC3002	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3003	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3004	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3005	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3006	75007781	I55J0CX020	2 INPUT NOR GATE	TC74LCX02FT(EL)
IC3007	75007779	I55F0125F0	BUS BUFFER	TC7SH125FU(TE85L,F
△ IC3201	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC3202	AE008435	I1LF010150	DC-DC CONVERTER CONTROLLER	AL1015
△ IC3203	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC3204	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC3205	AE004653	I1KF98D050	REGULATOR 5V	KIA78D05F
△ IC3206	AE016513	I5HJ9B19U0	REGULATOR VO=1.9V IO=800MA	S-1170B19UC-OTETFG
IC3207	AE009832	I5HJ9B15U0	REGULATOR VO=1.5V IO=800MA	S-1170B15UC-OTATFG
IC3605	75007789	IG1F090250	144PIN TQFP HDMI RECEIVER	SI9025CTU
IC3606	AE011981	S51Z01AE02	MEMORY DATA EEPROM 2K 12C	S-24CS02AFJ-TB-GE
△ IC3801	AE007825	I07F0C0WFO	1A REGULATOR	BA00BC0WFP-E2
△ IC3806	AE009719	I5HJ950UC0	REGULATOR VO=5.0V IO=800MA	S-1170B50UC-OUJTFG
IC4001	AE009720	ICQK06966A	VADDIS9 MPEG/MICON/DSP/RF-AMP	ZR36966ELCG-D-G
IC4005	AE008324	IF9J0164AG	1M*16*4BANK(64M) 143MHZ SDRAM	M12L64164A-7TG
IC4007	AE016515	S51Z01AF01	MEMORY DATA NOR FLASH 16M B00T	SST39VF1601-70-4C-EKE
IC4201	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC4205	AE004651	I0QF025840	A/V SW 2INPUT 1OUTPUT	NJM2584AM(TE1)
IC4302	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC4303	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC5801	75007776	I0CJ040530	ANALOG SW 3IN-2OUT	SN74LV4053APWR
IC6101	75007784	I5PK003620	DVB-T SINGLE CHIP RECEIVER	STV0362
△ IC6401	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC6402	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
ICS				
△ IC6403	AE016545	I5HJ9B34U0	REGULATOR VO=3.4V IO=800MA	S-1170B34UC-OTTTFG
△ IC6404	AE016545	I5HJ9B34U0	REGULATOR VO=3.4V IO=800MA	S-1170B34UC-OTTTFG
△ IC6405	AE016546	I5HJ9B26U0	REGULATOR VO=2.6V IO=800MA	S-1170B26UC-OTLTFG
IC6406	AE002504	I0QF0580V0	AUDIO OPERATION AMP	NJM4580V(Te1)
△ IC6407	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
IC6500	AE008921	I5CJ031570	A/V SW 2INPUT 1OUTPUT	SN74LVC1G3157DCKR
IC6501	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6502	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6503	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6504	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC7001	AE009512	I07F098820	19WLCD INVERTER IC	BD9882FV-E2
IC7002	AE009513	I0CF0902D0	QUAND OPERATIONNAL AMPLIFILE	LM2902DR
IC7200	AE009831	I56K066550	SCALER IC	R8A66655FP
IC8501	AE009365	I0QF045650	DUAL OPEAMP	NJM4565M(Te1)
△ IC8502	AE009805	I1YF9117A0	VO=ADJ IO=1A TAPING	LD1117AL-ADJ-AA3-A-R
TRANSISTORS				
Q101	AE009515	T27T030190	FET	2SK3019_TL
Q102	AE009515	T27T030190	FET	2SK3019_TL
Q301	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q302	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△ Q501	AE009722	T41GK35320	FET	2SK3532-01MR
Q505	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q801	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q802	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1000	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1001	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q1002	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1003	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1004	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q1005	AE013031	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q1006	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2301	AE008330	TAAA1505SY	TRANSISTOR SILICON	KTA1505S-Y-RTK/P
Q2302	AE008330	TAAA1505SY	TRANSISTOR SILICON	KTA1505S-Y-RTK/P
Q2401	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q3002	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3003	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3004	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
△ Q3200	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3201	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3202	AE004665	TS3M000044	COMPOUND TRANSISTOR	CPH6312-TL-E
Q3203	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3204	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3205	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3206	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3601	AE009515	T27T030190	FET	2SK3019_TL
Q3602	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3603	AE009515	T27T030190	FET	2SK3019_TL
Q3604	AE009515	T27T030190	FET	2SK3019_TL
Q3605	AE009515	T27T030190	FET	2SK3019_TL
Q3618	AE009515	T27T030190	FET	2SK3019_TL
△ Q3801	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q3802	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3803	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3804	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3805	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
△ Q3806	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3807	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3808	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△ Q3809	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q3810	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q4200	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4201	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4205	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4210	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4214	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4217	AE013033	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
Q4218	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4224	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4303	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4304	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4305	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q4306	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4307	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4308	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q4309	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4310	AE013011	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q5801	AE009515	T27T030190	FET	2SK3019_TL
Q5802	AE009515	T27T030190	FET	2SK3019_TL
Q5805	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q7003	AE009515	T27T030190	FET	2SK3019_TL
△ Q7004	AE009516	T250A06J30	FET	TK30A06J3(ORION.Q)

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
TRANSISTORS				
△ Q7005	AE009516	T250A06J30	FET	TK30A06J3(ORION.Q)
COILS & TRANSFORMERS				
△ L501	AE009366	029X000121	COIL,LINE FILTER	SS24H-K08240-CH
L504	AE016622	02167E4R7M	COIL	4.7 UH
L505	AE016623	021U0L100M	COIL	10 UH
L2401	AE008874	0216SD2R2J	COIL	2.2 UH
L2404	AE008874	0216SD2R2J	COIL	2.2 UH
L2406	AE008874	0216SD2R2J	COIL	2.2 UH
L3001	AE008874	0216SD2R2J	COIL	2.2 UH
L3002	AE008874	0216SD2R2J	COIL	2.2 UH
L3201	AE013322	02167E100K	COIL	10 UH
L3202	AE009723	0216MG220M	COIL	22 UH
L3601	AE009519	02D1000119	COIL CHOKE	EXC28CG900U
L3602	AE009519	02D1000119	COIL CHOKE	EXC28CG900U
L4204	AE013298	0216SD220J	COIL	22 UH
L4205	AE013298	0216SD220J	COIL	22 UH
L4206	AE013298	0216SD220J	COIL	22 UH
L4207	AE013298	0216SD220J	COIL	22 UH
L6101	AE008874	0216SD2R2J	COIL	2.2 UH
L6102	AE008874	0216SD2R2J	COIL	2.2 UH
L6103	AE008874	0216SD2R2J	COIL	2.2 UH
L6104	AE008874	0216SD2R2J	COIL	2.2 UH
L6401	AE008985	0216SD100J	COIL	10 UH
L6406	AE008874	0216SD2R2J	COIL	2.2 UH
L6408	AE007760	0216SD4R7J	COIL	4.7 UH
L6409	AE007760	0216SD4R7J	COIL	4.7 UH
L6410	AE007760	0216SD4R7J	COIL	4.7 UH
L7001	AE013322	02167E100K	COIL	10 UH
L8501	AE008874	0216SD2R2J	COIL	2.2 UH
L8502	AE006570	0216SD1R0J	COIL	1 UH
△ T501	AE009819	0481330224	TRANSFORMER,SWITCHING	81330224
△ T7001	AE009660	048135113G	TRANSFORMER,SWITCHING	8135113G
△ T7002	AE009660	048135113G	TRANSFORMER,SWITCHING	8135113G
JACKS				
△ J301	AE009522	060R131024	HEADPHONE JACK	PJ-364H
△ J501	AE009725	064Q1A0011	JACK,AC	CCT2302-0701C
J4206	AE009726	063D100067	SOCKET,21PIN	MRC-021H-02PC(O87)
J4208	AE009522	060R131024	HEADPHONE JACK	PJ-364H
J4301	AE009524	060R401140	RCA JACK	RCA-101HT(OR)
J8101	AE009526	062R750007	PLUG	DIN-417HA-01
J8102	AE009527	060R411058	RCA JACK	RCA-341H(NI)-09
J8103	AE009528	060R431039	RCA JACK	RCA-228H(3)NI-02
J8104	AE009529	060R431040	RCA JACK	RCA-341H(2)NI-06
SWITCHES				
SW2201	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2202	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2203	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2204	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2205	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2206	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2207	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2208	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
P.C.BOARD ASSEMBLIES				
PCB130	AE016684	A52A06C130L	DVD MT PCB ASS'Y	DMG097A
PCB240	AE016685	A52A06C240L	POWER PCB ASS'Y	CEG362A
PCB270	AE016686	A52A06C270L	OPERATION PCB ASS'Y	CEG363A
PCB290	AE016687	A52A06C290L	TUNER PCB ASS'Y	CEG367A
PCBDA0	AE016688	A52A06CDA0L	REMOCON PCB ASS'Y	CEG364A
PCBDH0	AE016689	A52A06CDH0L	DIGITAL PCB ASS'Y	CEG365A
PCBF40	AE016690	A52A06CF40L	MAIN PCB ASS'Y	CMG130A
MISCELLANEOUS				
B101	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B303	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B307	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B308	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B501	AE013373	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B801	AE013364	024AC5330J	CORE,BEADS	BLM18PG330SN1D
B802	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B803	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B804	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B805	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B806	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B807	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B808	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B809	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B810	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B811	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B812	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B813	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B818	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B819	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
MISCELLANEOUS			
B820	AE009773	024AC8102T	CORE,BEADS
B821	AE009773	024AC8102T	CORE,BEADS
B2305	AE008552	024NC51021	CORE,BEADS
B2401	AE008395	024HC56005	CORE,BEADS
B2402	AE008395	024HC56005	CORE,BEADS
B2403	AE008395	024HC56005	CORE,BEADS
B2404	AE008395	024HC56005	CORE,BEADS
B2405	AE008395	024HC56005	CORE,BEADS
B2406	AE008395	024HC56005	CORE,BEADS
B2407	AE008395	024HC56005	CORE,BEADS
B3001	AE008395	024HC56005	CORE,BEADS
B3002	AE008395	024HC56005	CORE,BEADS
B3201	AE007761	024AC5181J	CORE,BEADS
B3601	AE007761	024AC5181J	CORE,BEADS
B3602	AE007761	024AC5181J	CORE,BEADS
B3603	AE007761	024AC5181J	CORE,BEADS
B3604	AE007761	024AC5181J	CORE,BEADS
B3605	AE008395	024HC56005	CORE,BEADS
B3606	AE008609	024HC51023	CORE,BEADS
B3608	AE008609	024HC51023	CORE,BEADS
B3609	AE007761	024AC5181J	CORE,BEADS
B3610	AE007761	024AC5181J	CORE,BEADS
B3613	AE007761	024AC5181J	CORE,BEADS
B3802	AE007761	024AC5181J	CORE,BEADS
B3803	AE007761	024AC5181J	CORE,BEADS
B3804	AE007761	024AC5181J	CORE,BEADS
B3805	AE007761	024AC5181J	CORE,BEADS
B3807	AE007761	024AC5181J	CORE,BEADS
B3808	AE007761	024AC5181J	CORE,BEADS
B3809	AE007761	024AC5181J	CORE,BEADS
B3810	AE007761	024AC5181J	CORE,BEADS
B4001	AE008552	024NC51021	CORE,BEADS
B4002	AE008552	024NC51021	CORE,BEADS
B4003	AE008552	024NC51021	CORE,BEADS
B4005	AE008552	024NC51021	CORE,BEADS
B4006	AE008552	024NC51021	CORE,BEADS
B4008	AE008552	024NC51021	CORE,BEADS
B4010	AE008552	024NC51021	CORE,BEADS
B4015	AE008552	024NC51021	CORE,BEADS
B4016	AE008552	024NC51021	CORE,BEADS
B4202	AE008395	024HC56005	CORE,BEADS
B4203	AE008879	024HC56013	CORE,BEADS
B4204	AE007761	024AC5181J	CORE,BEADS
B4205	AE007761	024AC5181J	CORE,BEADS
B4206	AE007761	024AC5181J	CORE,BEADS
B4228	AE008395	024HC56005	CORE,BEADS
B4303	AE008395	024HC56005	CORE,BEADS
B4304	AE008395	024HC56005	CORE,BEADS
B4305	AE008395	024HC56005	CORE,BEADS
B4308	AE007761	024AC5181J	CORE,BEADS
B4312	AE008609	024HC51023	CORE,BEADS
B4317	AE007761	024AC5181J	CORE,BEADS
B4322	AE008609	024HC51023	CORE,BEADS
B5802	AE008879	024HC56013	CORE,BEADS
B5803	AE013364	024AC5330J	CORE,BEADS
B6101	AE008395	024HC56005	CORE,BEADS
B6102	AE008395	024HC56005	CORE,BEADS
B6103	AE008395	024HC56005	CORE,BEADS
B6401	AE008609	024HC51023	CORE,BEADS
B6402	AE008609	024HC51023	CORE,BEADS
B6404	AE008609	024HC51023	CORE,BEADS
B6405	AE008609	024HC51023	CORE,BEADS
B6406	AE008609	024HC51023	CORE,BEADS
B6407	AE008609	024HC51023	CORE,BEADS
B6408	AE008609	024HC51023	CORE,BEADS
B6409	AE008609	024HC51023	CORE,BEADS
B6410	AE008609	024HC51023	CORE,BEADS
B6411	AE008609	024HC51023	CORE,BEADS
B6501	AE008609	024HC51023	CORE,BEADS
B6502	AE007761	024AC5181J	CORE,BEADS
B6503	AE008609	024HC51023	CORE,BEADS
B6504	AE007761	024AC5181J	CORE,BEADS
B7200	AE007761	024AC5181J	CORE,BEADS
B7201	AE007761	024AC5181J	CORE,BEADS
B7202	AE008610	024HC51513	CORE,BEADS
B7203	AE008610	024HC51513	CORE,BEADS
B7204	AE008610	024HC51513	CORE,BEADS
B7205	AE008610	024HC51513	CORE,BEADS
B8501	AE008394	024BC5121J	CORE,BEADS
B8502	AE008552	024NC51021	CORE,BEADS
B8503	AE008394	024BC5121J	CORE,BEADS

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
B8504	AE008552	024NC51021	CORE,BEADS	EBMS160808A102_RDC45
BT001	AE016522	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
BT002	AE016522	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
CD301	AE009666	06E8142403	CORD CONNECTOR	E8142403
△ CD501	AE009734	120Q155804	CORD AC	P205-1324-4
CP101	AE009735	06GG270029	CONNECTOR PCB SIDE	A2001WV-7A
CP501	AE008882	06977NM020	CONNECTOR PCB SIDE	127301123K2
CP503	AE013859	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP801	AE013951	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CP802	AE009736	06GG260029	CONNECTOR PCB SIDE	A2001WV-6A
CD3805	AE006481	06CPL02011	CABLE,PAL	TD-OR0157F
CD4301	AE009541	06CH231204	CORD CONNECTOR	CH231204
CD4302	AE016624	06E8251301	CORD CONNECTOR	E8251301
CD6501	AE009704	06E82M1102	CORD CONNECTOR	E82M1102
CD7005	AE009849	06E82E1303	CORD CONNECTOR	E82E1303
CD7006	AE009849	06E82E1303	CORD CONNECTOR	E82E1303
CD7204	AE009821	06EA2U2505	CORD CONNECTOR	EA2U2505
CP2201	AE013944	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP2301	AE008156	069KYOT159	CONNECTOR PCB SIDE	LD07T2-24ND-03
CP2302	AE009544	069EV5T060	CONNECTOR PCB SIDE	04_6232_105_015_800+
CP2303	AE009545	069EV6T060	CONNECTOR PCB SIDE	04_6232_106_015_800+
CP2401	AE016557	069S2A0739	CONNECTOR PCB SIDE	A2006WV0-2X5P
CP2402	AE009743	06GG250029	CONNECTOR PCB SIDE	A2001WV-5A
CP3001	AE016558	0636800007	HOLDER,IC	A01K1B108007P00
CP3601	AE009550	06GDYL3038	CONNECTOR PCB SIDE	1A0300030
CP3801	AE008886	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1
CP4300	AE008886	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1
CP4302	AE009551	06G7S21501	CONNECTOR PCB SIDE	WD-00021-R
CP5801	AE016559	06972U3010	CONNECTOR PCB SIDE	TKC-W30P-U1 BLK ST
CP5802	AE009741	06GF2G0020	CONNECTOR PCB SIDE	WD-00028-R
CP5803	AE009742	06GF2G0010	CONNECTOR PCB SIDE	WD-00027-R
CP6401	75007827	06972UT018	CONNECTOR PCB SIDE	125622330K3
CP6501	AE009549	069S2M0079	CONNECTOR PCB SIDE	A2006WV0-2X11P
CP7200	AE009548	069S2U0739	CONNECTOR PCB SIDE	A2006WV0-2X15P
CP7601	AE013948	069S250639	CONNECTOR PCB SIDE	A2001WR2-5P
CP8101	AE008882	06977NM020	CONNECTOR PCB SIDE	127301123K2
△ CP8501	AE009553	06GG2E0019	CONNECTOR PCB SIDE	A2001WR-14A
CP8502	AE013951	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CUS151	AE016076	800WFAA006	CUSHION A	
EL2401	AE014351	124116281A	EYE LET	XRY16X28BD
△ F501	AE002112	080NT2R504	FUSE	50T025H
△ F7001	AE004626	083LA05007	FUSE	1206FA5A-T
FH501	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
NR2401	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2402	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2403	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2404	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2405	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2406	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2407	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2420	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2421	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR2422	AE016560	11074560M7	R.NETWORK	CRA108560JV
NR3001	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3002	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3003	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3004	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3005	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3006	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3007	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3008	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3009	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3010	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3011	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR3601	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3602	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3603	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3604	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3605	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR3606	AE016524	11074330M7	R.NETWORK	CRA108330JV
NR7204	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7205	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7206	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7207	AE009557	11074470M7	R.NETWORK	CRA108470JV
NR7208	AE009822	110P4103M5	R.NETWORK	4D02WVGJ0103TCE
NR7209	AE009822	110P4103M5	R.NETWORK	4D02WVGJ0103TCE
NR7210	AE009822	110P4103M5	R.NETWORK	4D02WVGJ0103TCE
NR7211	AE009557	11074470M7	R.NETWORK	CRA108470JV
OS7601	AE008414	077A033001	REMOTE RECEIVER	ROM-V338TAO
SH501	AE009776	126D000045	TERMINAL PIN	YQ-12

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
△ SP301	AE009558	070Y433004	SPEAKER	S0308F01
△ SP302	AE009558	070Y433004	SPEAKER	S0308F01
SH8501	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8502	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8503	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8504	AE009776	126D000045	TERMINAL PIN	YQ-12
△ TH501	AE009559	DSQDNE5R0L	THERMISTOR	5D2-08LCS
TM101	AE016627	076D0QJ031	TRANSMITTER	000-103000580
△ TU5801	75007843	0164Y03002	DIGITAL TUNER	TDTG-S156D
△ V7201	AE009667	09EA122001	LCD	T220SW01_VO
X101	AE009387	100GT01616	CRYSTAL	B16000E011
X801	AE009388	100DT02007	CRYSTAL	DSX840GA
X2401	AE008161	100GT02720	CRYSTAL	B27000C005
X3602	AE008624	100DT02801	CRYSTAL	SMD-49
X4001	AE009566	100GT02727	CRYSTAL	SMD-49 C27000J029
X6101	AE008161	100GT02720	CRYSTAL	B27000C005
X7200	AE009563	100GT02728	CRYSTAL	SMD-49 C27000B030

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
RESISTORS			
△ R503	75006901	RC31X1126J	RC
△ R505	AE009485	R63884330J	R,FUSE
△ R506	AE002150	R803R9333J	RC
△ R509	AE009486	RC31X1125J	RC
△ R510	AE005735	R63881R22J	R,FUSE
△ R518	AE012427	R002T4101J	RC
△ R522	AE006025	R3K58A010J	R,METAL OXIDE
△ R544	AE009833	R861R42R2F	RC
△ R545	AE009833	R861R42R2F	RC
△ R546	AE009833	R861R42R2F	RC
△ R547	AE009833	R861R42R2F	RC
△ R7038	AE009711	R63882220J	R,FUSE
△ R7039	AE009711	R63882220J	R,FUSE
CAPACITORS			
△ C501	AE001725	CS0PB0413K	CC
△ C502	AE009804	E8E52H121D	CE
△ C503	AE011287	CS0PCH4L2J	CC
△ C504	AE008913	E7EYF2102M	CE
△ C505	AE001732	CS0PCH4H1J	CC
△ C506	AE012287	P2122B224M	CMP
△ C507	AE011227	CD39E0M13M	CC
△ C508	AE012286	P2122B104M	CMP
△ C510	AE011227	CD39E0M13M	CC
△ C513	AE011392	C03L0R7Q2K	CC
△ C514	AE009491	CD39E0MQ2K	CC
C518	AE009492	P332E4223J	CCP
△ C520	75007051	E8E2U54R7D	CE
△ C522	AE009830	E7EYS3681M	CE
△ C525	AE008913	E7EYF2102M	CE
C7006	AE008913	E7EYF2102M	CE
C7020	AE008913	E7EYF2102M	CE
C7026	AE009700	C234SLB11J	CC
C7029	AE009700	C234SLB11J	CC
C7030	AE009700	C234SLB11J	CC
C7033	AE009700	C234SLB11J	CC
DIODES			
D107	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER
△ D504	AE009461	D6C047110A	DIODE VARISTA
△ D505	AE008372	D2LT001F50	DIODE SILICON
D506	AE008319	D4AT01H3E0	DIODE RECTIFIER
△ D507	AE011441	D2WTRM11C0	DIODE SILICON
△ D508	AE011441	D2WTRM11C0	DIODE SILICON
D509	AE009494	DE7RB3302B	DIODE ZENER
△ D510	AE011441	D2WTRM11C0	DIODE SILICON
△ D511	AE008319	D4AT01H3E0	DIODE RECTIFIER
D512	AE002133	D2BXARS010	DIODE SILICON
△ D514	AE011461	D28F21DQN9	DIODE SCHOTTKY
△ D515	AE009803	D28A10A080	DIODE SCHOTTKY BARRIER
△ D516	AE008319	D4AT01H3E0	DIODE RECTIFIER
D517	AE011502	D97U01601B	DIODE ZENER
△ D518	AE011441	D2WTRM11C0	DIODE SILICON
△ D523	AE009829	D28A10A040	DIODE SCHOTTKY BARRIER
D525	AE016538	D2BRJPAL30	DIODE SCHOTTKY BARRIER
D804	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER
D805	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER
D1001	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER
D1002	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER
D2303	AE009006	DGERMA1110	DIODE SILICON
D2304	AE009006	DGERMA1110	DIODE SILICON
D2402	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER
D3201	AE004643	D28R1QS040	DIODE
△ D3202	AE004643	D28R1QS040	DIODE
D3600	AE016508	D28R0QY040	DIODE SCHOTTKY BARRIER
D3601	AE004937	D77R1A1R10	DIODE VARISTA
D3603	AE004937	D77R1A1R10	DIODE VARISTA
D3605	AE016508	D28R0QY040	DIODE SCHOTTKY BARRIER
D3630	AE004795	DE7RB5R62B	DIODE ZENER
△ D3801	AE004643	D28R1QS040	DIODE
△ D3802	AE004643	D28R1QS040	DIODE
D3804	AE008906	D28R11FS20	DIODE
△ D3805	AE004643	D28R1QS040	DIODE
△ D3806	AE008906	D28R11FS20	DIODE
D3807	AE009716	DE7RB1302B	DIODE ZENER
D3809	AE009006	DGERMA1110	DIODE SILICON
D4002	AE009006	DGERMA1110	DIODE SILICON
D4003	AE009006	DGERMA1110	DIODE SILICON
D4005	AE009006	DGERMA1110	DIODE SILICON
D4008	AE009006	DGERMA1110	DIODE SILICON
D4211	AE008091	DE7RB4R72B	DIODE ZENER
D4305	AE009006	DGERMA1110	DIODE SILICON
D6401	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER
			12M OHM 1W
			33 OHM 1/4W
			33K OHM 1/16W
			1.2M OHM 1W
			0.22 OHM 1W
			100 OHM 1/4W
			1 OHM 2W
			2.2 OHM 1/4W
			2.2 OHM 1/4W
			2.2 OHM 1/4W
			2.2 OHM 1/4W
			22 OHM 1/2W
			22 OHM 1/2W
			0.001 UF 50V B
			120 UF 400V
			330 PF 50V CH
			1000 UF 16V
			22 PF 50V CH
			0.22 UF 275V ECQUL
			0.001 UF 250V
			0.1 UF 275V ECQUL
			0.001 UF 250V
			470 PF 2KV R
			470 PF 250V
			0.022 UF 400V
			4.7 UF 50V
			680 UF 25V
			1000 UF 16V
			1000 UF 16V
			1000 UF 16V
			10 PF 6KV SL
			10 PF 6KV SL
			10 PF 6KV SL
			10 PF 6KV SL
			BAT54WS
			ENE471D-10A
			1F5-E
			1H3-E
			RM11C-EIC
			RM11C-EIC
			UDZSNP33B TE-17
			RM11C-EIC
			1H3-E
			SARS01-V1
			21DQ09N-FC4
			FCHS10A08
			1H3-E
			MTZJ16B T-77
			RM11C-EIC
			FCQ10A04
			SJPA-L3-VL
			BAT54WS
			BAT54WS
			BAT54WS
			BAT54WS
			MA111-(TX)
			MA111-(TX)
			BAT54WS
			EC31QS04-TE12L
			EC31QS04-TE12L
			EP10QY04-TE8L3
			AVRL161A1R1NT
			AVRL161A1R1NT
			EP10QY04-TE8L3
			UDZSNP5.6B TE-17
			EC31QS04-TE12L
			EC31QS04-TE12L
			EC11FS2-TE12L
			EC31QS04-TE12L
			EC11FS2-TE12L
			UDZSNP13B TE-17
			MA111-(TX)
			MA111-(TX)
			MA111-(TX)
			MA111-(TX)
			MA111-(TX)
			UDZSNP4.7B TE-17
			MA111-(TX)
			BAT54WS

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
DIODES				
D6402	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6403	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D6407	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D6409	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6411	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6412	AE009498	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
D6413	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D7001	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7002	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7003	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7004	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7005	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7006	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7007	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7008	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7009	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7010	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7011	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7012	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7013	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7014	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7015	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7016	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7017	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7018	AE011421	D1VT001330	DIODE,SILICON	1SS133T-77
D7019	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7020	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7021	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7022	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7023	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7024	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7025	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7026	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
D7601	AE000288	0021E9Q010	LED	LT1-1BEFJ-002A
D8510	AE009006	DGERMA1110	DIODE SILICON	MA111-(TX)
ICS				
IC101	AE009809	S51B03JM02	MEMORY DATA 52PIN FLASH MICOM ROM 16K	R5F21244SNFP
IC105	AE011998	I9UF032290	RESET IC 2.9V TYPE	PST3229NR
△ IC301	AE008430	I03SP20520	SOUND AMP 5W 2CH	LA42052-E
△ IC501	AE009499	ICAD055310	LOW STANDBY POWER IC CONTROL	FA5531P-A2
△ IC502	AE011889	I1KJ9A431A	VARIABLE SHUNT REGULATOR TAPE	KIA431A-AT
IC504	AE016539	I0BD981050	VIN=30V IO=3.5A	SI-8105QL
△ IC505	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC801	AE016621	S52A01CE01	MEMORY DATA EEPROM 256K 12C	AT24C256BN-10SU-1.8
IC802	AE011998	I9UF032290	RESET IC 2.9V TYPE	PST3229NR
IC803	AE016509	S51Z01AM01	MEMORY DATA SCALER LIMITED O/R	VCT6973G-FA-B3-000
△ IC2301	AE008194	I03FV65650	5CH MOTOR DRIVER IC	LA6565VR-TLM-E
IC2401	AE011746	I5PK05ALC0	MPEG DECODER	STI5105ALC
IC2402	AE011999	I9UF032310	RESET IC 3.1V TYPE	PST3231NR
IC2403	AE009449	ICLJ022EC5	DDR-400 256M CL=3	HY5DU561622ETP-D43-C
IC2404	AE016543	S51Z01AF02	MEMORY DATA NOR FLASH 16M B00T	S29AL016D70TFI010
IC2409	AE008922	I5PJ0064W0	EEPROM 64K 12C	M24C64WMN6TP
IC3001	75007780	I55F045FT0	8BIT BUS TRANSCEIVER	TC74LCX245FT(EL)
IC3002	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3003	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3004	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3005	75007782	I55J0X2440	20PIN LOW VOLTAGE BUS BUFFER	TC74LCX244FT(EL,K)
IC3006	75007781	I55J0CX020	2 INPUT NOR GATE	TC74LCX02FT(EL)
IC3007	75007779	I55F0125F0	BUS BUFFER	TC7SH125FU(TE85L,F
△ IC3201	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC3202	AE008435	I1LF010150	DC-DC CONVERTER CONTROLLER	AL1015
△ IC3203	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC3204	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC3205	AE004653	I1KF98D050	REGULATOR 5V	KIA78D05F
△ IC3206	AE016513	I5HJ9B19U0	REGULATOR VO=1.9V IO=800MA	S-1170B19UC-OTETFG
IC3207	AE009832	I5HJ9B15U0	REGULATOR VO=1.5V IO=800MA	S-1170B15UC-OTATFG
IC3605	75007789	IG1F090250	144PIN TQFP HDMI RECEIVER	SI19025CTU
IC3606	AE011981	S51Z01AE02	MEMORY DATA EEPROM 2K 12C	S-24CS02AFJ-TB-GE
△ IC3801	AE007825	I07F0C0WF0	1A REGULATOR	BA00BC0WFP-E2
△ IC3806	AE009719	I5HJ950UC0	REGULATOR VO=5.0V IO=800MA	S-1170B50UC-OUJTFG
IC4001	AE009720	ICQK06966A	VADDIS9 MPEG/MICON/DSP/RF-AMP	ZR36966ELCG-D-G
IC4005	AE008324	IF9J0164AG	1M*16*4BANK(64M) 143MHZ SDRAM	M12L64164A-7TG
IC4007	AE016515	S51Z01AF01	MEMORY DATA NOR FLASH 16M B00T	SST39VF1601-70-4C-EKE
IC4201	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC4205	AE004651	I0QF025840	A/V SW 2INPUT 1OUTPUT	NJM2584AM(TE1)
IC4302	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC4303	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC5801	75007776	I0CJ040530	ANALOG SW 3IN-2OUT	SN74LV4053APWR
IC6101	75007784	I5PK003620	DVB-T SINGLE CHIP RECEIVER	STV0362
△ IC6401	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
△ IC6402	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
ICS				
△ IC6403	AE016545	I5HJ9B34U0	REGULATOR VO=3.4V IO=800MA	S-1170B34UC-OTTTFG
△ IC6404	AE016545	I5HJ9B34U0	REGULATOR VO=3.4V IO=800MA	S-1170B34UC-OTTTFG
△ IC6405	AE016546	I5HJ9B26U0	REGULATOR VO=2.6V IO=800MA	S-1170B26UC-OTLTFG
IC6406	AE002504	IQQF0580V0	AUDIO OPERATION AMP	NJM4580V(Te1)
△ IC6407	AE008431	I07F078200	VARIABLE REG LOW INPUT IO=1A	BD7820FP-E2
IC6500	AE008921	I5CJ031570	A/V SW 2INPUT 1OUTPUT	SN74LVC1G3157DCKR
IC6501	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6502	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6503	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC6504	AE011796	I0UF015010	A/V SW 2INPUT 1OUTPUT	MM1501XNRE
IC7001	AE009512	I07F098820	19WLCD INVERTER IC	BD9882FV-E2
IC7002	AE009513	IOCF0902D0	QUAND OPERATIONNAL AMPLIFILE	LM2902DR
IC7200	AE009831	I56K066550	SCALER IC	R8A66655FP
IC8501	AE009365	IQQF045650	DUAL OPEAMP	NJM4565M(Te1)
△ IC8502	AE009805	I1YF9117A0	VO=ADJ IO=1A TAPING	LD1117AL-ADJ-AA3-A-R
TRANSISTORS				
Q101	AE009515	T27T030190	FET	2SK3019_TL
Q102	AE009515	T27T030190	FET	2SK3019_TL
Q301	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q302	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△ Q501	AE009722	T41GK35320	FET	2SK3532-01MR
Q505	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q801	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q802	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1000	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1001	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q1002	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1003	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q1004	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q1005	AE013031	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q1006	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2301	AE008330	TAAA1505SY	TRANSISTOR SILICON	KTA1505S-Y-RTK/P
Q2302	AE008330	TAAA1505SY	TRANSISTOR SILICON	KTA1505S-Y-RTK/P
Q2401	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q3002	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3003	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3004	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
△ Q3200	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3201	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3202	AE004665	TS3M000044	COMPOUND TRANSISTOR	CPH6312-TL-E
Q3203	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3204	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3205	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3206	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3601	AE009515	T27T030190	FET	2SK3019_TL
Q3602	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3603	AE009515	T27T030190	FET	2SK3019_TL
Q3604	AE009515	T27T030190	FET	2SK3019_TL
Q3605	AE009515	T27T030190	FET	2SK3019_TL
Q3618	AE009515	T27T030190	FET	2SK3019_TL
△ Q3801	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q3802	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3803	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3804	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ Q3805	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
△ Q3806	AE009621	TL4A01664Y	TRANSISTOR SILICON	KTA1664-Y(GP)
Q3807	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3808	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△ Q3809	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q3810	AE009514	TJ7T35P020	FET	RTQ035P02-TR
Q4200	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4201	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4205	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4210	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4214	AE012926	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4217	AE013033	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
Q4218	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4224	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4303	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4304	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4305	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q4306	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4307	AE012951	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4308	AE013032	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q4309	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4310	AE013011	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q5801	AE009515	T27T030190	FET	2SK3019_TL
Q5802	AE009515	T27T030190	FET	2SK3019_TL
Q5805	AE013010	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q7003	AE009515	T27T030190	FET	2SK3019_TL
△ Q7004	AE009516	T250A06J30	FET	TK30A06J3(ORION.Q)

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
TRANSISTORS				
△ Q7005	AE009516	T250A06J30	FET	TK30A06J3(ORION.Q)
COILS & TRANSFORMERS				
△ L501	AE009366	029X000121	COIL,LINE FILTER	SS24H-K08240-CH
L504	AE016622	02167E4R7M	COIL	4.7 UH
L505	AE016623	021U0L100M	COIL	10 UH
L2401	AE008874	0216SD2R2J	COIL	2.2 UH
L2404	AE008874	0216SD2R2J	COIL	2.2 UH
L2406	AE008874	0216SD2R2J	COIL	2.2 UH
L3001	AE008874	0216SD2R2J	COIL	2.2 UH
L3002	AE008874	0216SD2R2J	COIL	2.2 UH
L3201	AE013322	02167E100K	COIL	10 UH
L3202	AE009723	0216MG220M	COIL	22 UH
L3601	AE009519	02D1000119	COIL CHOKE	EXC28CG900U
L3602	AE009519	02D1000119	COIL CHOKE	EXC28CG900U
L4204	AE013298	0216SD220J	COIL	22 UH
L4205	AE013298	0216SD220J	COIL	22 UH
L4206	AE013298	0216SD220J	COIL	22 UH
L4207	AE013298	0216SD220J	COIL	22 UH
L6101	AE008874	0216SD2R2J	COIL	2.2 UH
L6102	AE008874	0216SD2R2J	COIL	2.2 UH
L6103	AE008874	0216SD2R2J	COIL	2.2 UH
L6104	AE008874	0216SD2R2J	COIL	2.2 UH
L6401	AE008985	0216SD100J	COIL	10 UH
L6406	AE008874	0216SD2R2J	COIL	2.2 UH
L6408	AE007760	0216SD4R7J	COIL	4.7 UH
L6409	AE007760	0216SD4R7J	COIL	4.7 UH
L6410	AE007760	0216SD4R7J	COIL	4.7 UH
L7001	AE013322	02167E100K	COIL	10 UH
L8501	AE008874	0216SD2R2J	COIL	2.2 UH
L8502	AE006570	0216SD1R0J	COIL	1 UH
△ T501	AE009819	0481330224	TRANSFORMER,SWITCHING	81330224
△ T7001	AE009660	048135113G	TRANSFORMER,SWITCHING	8135113G
△ T7002	AE009660	048135113G	TRANSFORMER,SWITCHING	8135113G
JACKS				
△ J301	AE009522	060R131024	HEADPHONE JACK	PJ-364H
△ J501	AE009725	064Q1A0011	JACK,AC	CCT2302-0701C
J4206	AE009726	063D100067	SOCKET,21PIN	MRC-021H-02PC(Q87)
J4208	AE009522	060R131024	HEADPHONE JACK	PJ-364H
J4301	AE009524	060R401140	RCA JACK	RCA-101HT(OR)
J8101	AE009526	062R750007	PLUG	DIN-417HA-01
J8102	AE009527	060R411058	RCA JACK	RCA-341H(NI)-09
J8103	AE009528	060R431039	RCA JACK	RCA-228H(3)NI-02
J8104	AE009529	060R431040	RCA JACK	RCA-341H(2)NI-06
SWITCHES				
SW2201	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2202	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2203	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2204	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2205	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2206	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2207	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
SW2208	AE013551	0504101T34	SWITCH,TACT	EVQ21505R
P.C. BOARDS ASSEMBLIES				
PCB130	AE016676	A52A07C130L	DVD MT PCB ASS'Y	DMG097A
PCB240	AE016677	A52A07C240L	POWER PCB ASS'Y	CEG362A
PCB270	AE016678	A52A07C270L	OPERATION PCB ASS'Y	CEG363A
PCB290	AE016679	A52A07C290L	TUNER PCB ASS'Y	CEG367A
PCBDA0	AE016680	A52A07CDA0L	REMOCON PCB ASS'Y	CEG364A
PCBDH0	AE016681	A52A07CDH0L	DIGITAL PCB ASS'Y	CEG365A
PCBF40	AE016682	A52A07CF40L	MAIN PCB ASS'Y	CMG130A
MISCELLANEOUS				
B101	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B303	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B307	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B308	AE009535	024HC13914	CORE,BEADS	HCB3216KF-391T20
B501	AE013373	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B801	AE013364	024AC5330J	CORE,BEADS	BLM18PG330SN1D
B802	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B803	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B804	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B805	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B806	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B807	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B808	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B809	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B810	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B811	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B812	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B813	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B818	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B819	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D

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Location No.	TSB P/N	Reference No.	Description
MISCELLANEOUS			
B820	AE009773	024AC8102T	CORE,BEADS
B821	AE009773	024AC8102T	CORE,BEADS
B2305	AE008552	024NC51021	CORE,BEADS
B2401	AE008395	024HC56005	CORE,BEADS
B2402	AE008395	024HC56005	CORE,BEADS
B2403	AE008395	024HC56005	CORE,BEADS
B2404	AE008395	024HC56005	CORE,BEADS
B2405	AE008395	024HC56005	CORE,BEADS
B2406	AE008395	024HC56005	CORE,BEADS
B2407	AE008395	024HC56005	CORE,BEADS
B3001	AE008395	024HC56005	CORE,BEADS
B3002	AE008395	024HC56005	CORE,BEADS
B3201	AE007761	024AC5181J	CORE,BEADS
B3601	AE007761	024AC5181J	CORE,BEADS
B3602	AE007761	024AC5181J	CORE,BEADS
B3603	AE007761	024AC5181J	CORE,BEADS
B3604	AE007761	024AC5181J	CORE,BEADS
B3605	AE008395	024HC56005	CORE,BEADS
B3606	AE008609	024HC51023	CORE,BEADS
B3608	AE008609	024HC51023	CORE,BEADS
B3609	AE007761	024AC5181J	CORE,BEADS
B3610	AE007761	024AC5181J	CORE,BEADS
B3613	AE007761	024AC5181J	CORE,BEADS
B3802	AE007761	024AC5181J	CORE,BEADS
B3803	AE007761	024AC5181J	CORE,BEADS
B3804	AE007761	024AC5181J	CORE,BEADS
B3805	AE007761	024AC5181J	CORE,BEADS
B3807	AE007761	024AC5181J	CORE,BEADS
B3808	AE007761	024AC5181J	CORE,BEADS
B3809	AE007761	024AC5181J	CORE,BEADS
B3810	AE007761	024AC5181J	CORE,BEADS
B4001	AE008552	024NC51021	CORE,BEADS
B4002	AE008552	024NC51021	CORE,BEADS
B4003	AE008552	024NC51021	CORE,BEADS
B4005	AE008552	024NC51021	CORE,BEADS
B4006	AE008552	024NC51021	CORE,BEADS
B4008	AE008552	024NC51021	CORE,BEADS
B4010	AE008552	024NC51021	CORE,BEADS
B4015	AE008552	024NC51021	CORE,BEADS
B4016	AE008552	024NC51021	CORE,BEADS
B4202	AE008395	024HC56005	CORE,BEADS
B4203	AE008879	024HC56013	CORE,BEADS
B4204	AE007761	024AC5181J	CORE,BEADS
B4205	AE007761	024AC5181J	CORE,BEADS
B4206	AE007761	024AC5181J	CORE,BEADS
B4228	AE008395	024HC56005	CORE,BEADS
B4303	AE008395	024HC56005	CORE,BEADS
B4304	AE008395	024HC56005	CORE,BEADS
B4305	AE008395	024HC56005	CORE,BEADS
B4308	AE007761	024AC5181J	CORE,BEADS
B4312	AE008609	024HC51023	CORE,BEADS
B4317	AE007761	024AC5181J	CORE,BEADS
B4322	AE008609	024HC51023	CORE,BEADS
B5802	AE008879	024HC56013	CORE,BEADS
B5803	AE013364	024AC5330J	CORE,BEADS
B6101	AE008395	024HC56005	CORE,BEADS
B6102	AE008395	024HC56005	CORE,BEADS
B6103	AE008395	024HC56005	CORE,BEADS
B6401	AE008609	024HC51023	CORE,BEADS
B6402	AE008609	024HC51023	CORE,BEADS
B6404	AE008609	024HC51023	CORE,BEADS
B6405	AE008609	024HC51023	CORE,BEADS
B6406	AE008609	024HC51023	CORE,BEADS
B6407	AE008609	024HC51023	CORE,BEADS
B6408	AE008609	024HC51023	CORE,BEADS
B6409	AE008609	024HC51023	CORE,BEADS
B6410	AE008609	024HC51023	CORE,BEADS
B6411	AE008609	024HC51023	CORE,BEADS
B6501	AE008609	024HC51023	CORE,BEADS
B6502	AE007761	024AC5181J	CORE,BEADS
B6503	AE008609	024HC51023	CORE,BEADS
B6504	AE007761	024AC5181J	CORE,BEADS
B7200	AE007761	024AC5181J	CORE,BEADS
B7201	AE007761	024AC5181J	CORE,BEADS
B7202	AE008610	024HC51513	CORE,BEADS
B7203	AE008610	024HC51513	CORE,BEADS
B7204	AE008610	024HC51513	CORE,BEADS
B7205	AE008610	024HC51513	CORE,BEADS
B8501	AE008394	024BC5121J	CORE,BEADS
B8502	AE008552	024NC51021	CORE,BEADS
B8503	AE008394	024BC5121J	CORE,BEADS

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
B8504	AE008552	024NC51021	CORE,BEADS	EBMS160808A102_RDC45
BT001	AE016522	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
BT002	AE016522	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
CD301	AE009666	06E8142403	CORD CONNECTOR	E8142403
△ CD501	AE016636	120Q135803	CORD AC	P318-0161-1
CP101	AE009735	06GG270029	CONNECTOR PCB SIDE	A2001WV-7A
CP501	AE008882	06977NM020	CONNECTOR PCB SIDE	127301123K2
CP503	AE013859	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP801	AE013951	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CP802	AE009736	06GG260029	CONNECTOR PCB SIDE	A2001WV-6A
CD3805	AE006481	06CPL02011	CABLE,PAL	TD-OR0157F
CD4301	AE009541	06CH231204	CORD CONNECTOR	CH231204
CD4302	AE016624	06E8251301	CORD CONNECTOR	E8251301
CD6501	AE009704	06E82M1102	CORD CONNECTOR	E82M1102
CD7005	AE009849	06E82E1303	CORD CONNECTOR	E82E1303
CD7006	AE009849	06E82E1303	CORD CONNECTOR	E82E1303
CD7204	AE009821	06EA2U2505	CORD CONNECTOR	EA2U2505
CP2201	AE013944	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP2301	AE008156	069KYOT159	CONNECTOR PCB SIDE	LD07T2-24ND-03
CP2302	AE009544	069EV5T060	CONNECTOR PCB SIDE	04_6232_105_015_800+
CP2303	AE009545	069EV6T060	CONNECTOR PCB SIDE	04_6232_106_015_800+
CP2401	AE016557	069S2A0739	CONNECTOR PCB SIDE	A2006WV0-2X5P
CP2402	AE009743	06GG250029	CONNECTOR PCB SIDE	A2001WV-5A
CP3001	AE016558	0636800007	HOLDER,IC	A01K1B108007P00
CP3601	AE009550	06GDYL3038	CONNECTOR PCB SIDE	1A0300030
CP3801	AE008886	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1
CP4300	AE008886	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1
CP4302	AE009551	06G7S21501	CONNECTOR PCB SIDE	WD-00021-R
CP5801	AE016559	06972U3010	CONNECTOR PCB SIDE	TKC-W30P-U1 BLK ST
CP5802	AE009741	06GF2G0020	CONNECTOR PCB SIDE	WD-00028-R
CP5803	AE009742	06GF2G0010	CONNECTOR PCB SIDE	WD-00027-R
CP6401	75007827	06972UT018	CONNECTOR PCB SIDE	125622330K3
CP6501	AE009549	069S2M0079	CONNECTOR PCB SIDE	A2006WV0-2X11P
CP7200	AE009548	069S2U0739	CONNECTOR PCB SIDE	A2006WV0-2X15P
CP7601	AE013948	069S250639	CONNECTOR PCB SIDE	A2001WR2-5P
CP8101	AE008882	06977NM020	CONNECTOR PCB SIDE	127301123K2
△ CP8501	AE009553	06GG2E0019	CONNECTOR PCB SIDE	A2001WR-14A
CP8502	AE013951	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CUS151	AE016076	800WFAA006	CUSHION A	
EL2401	AE014351	124116281A	EYE LET	XRY16X28BD
△ F501	AE002112	080NT2R504	FUSE	50T025H
△ F7001	AE004626	083LA05007	FUSE	1206FA5A-T
FH501	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
NR2401	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2402	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2403	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2404	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2405	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2406	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2407	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2420	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2421	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR2422	AE016560	11074560M7	R,NETWORK	CRA108560JV
NR3001	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3002	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3003	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3004	AE009557	11074470M7	R,NETWORK	CRA108470JV
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NR3007	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3008	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3009	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3010	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3011	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR3601	AE016524	11074330M7	R,NETWORK	CRA108330JV
NR3602	AE016524	11074330M7	R,NETWORK	CRA108330JV
NR3603	AE016524	11074330M7	R,NETWORK	CRA108330JV
NR3604	AE016524	11074330M7	R,NETWORK	CRA108330JV
NR3605	AE016524	11074330M7	R,NETWORK	CRA108330JV
NR3606	AE016524	11074330M7	R,NETWORK	CRA108330JV
NR7204	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR7205	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR7206	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR7207	AE009557	11074470M7	R,NETWORK	CRA108470JV
NR7208	AE009822	110P4103M5	R,NETWORK	4D02WGJ0103TCE
NR7209	AE009822	110P4103M5	R,NETWORK	4D02WGJ0103TCE
NR7210	AE009822	110P4103M5	R,NETWORK	4D02WGJ0103TCE
NR7211	AE009557	11074470M7	R,NETWORK	CRA108470JV
OS7601	AE008414	077A033001	REMOTE RECEIVER	ROM-V338TAO
SH501	AE009776	126D000045	TERMINAL PIN	YQ-12

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
△ SP301	AE009558	070Y433004	SPEAKER	S0308F01
△ SP302	AE009558	070Y433004	SPEAKER	S0308F01
SH8501	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8502	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8503	AE009776	126D000045	TERMINAL PIN	YQ-12
SH8504	AE009776	126D000045	TERMINAL PIN	YQ-12
△ TH501	AE009559	DSQDNE5R0L	THERMISTOR	5D2-08LCS
TM101	AE016637	076D0QJ021	TRANSMITTER	000-103000570
△ TU5801	75007843	0164Y03002	DIGITAL TUNER	TDTG-S156D
△ V7201	AE009667	09EA122001	LCD	T220SW01_VO
X101	AE009387	100GT01616	CRYSTAL	B16000E011
X801	AE009388	100DT02007	CRYSTAL	DSX840GA
X2401	AE008161	100GT02720	CRYSTAL	B27000C005
X3602	AE008624	100DT02801	CRYSTAL	SMD-49
X4001	AE009566	100GT02727	CRYSTAL	SMD-49 C27000J029
X6101	AE008161	100GT02720	CRYSTAL	B27000C005
X7200	AE009563	100GT02728	CRYSTAL	SMD-49 C27000B030

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
 CE..... ALUMI ELECTROLYTIC CAPACITOR
 CP..... POLYESTER CAPACITOR
 CPP..... POLYPROPYLENE CAPACITOR
 CPL..... PLASTIC CAPACITOR
 CMP..... METAL POLYESTER CAPACITOR
 CMPL..... METAL PLASTIC CAPACITOR
 CMPP..... METAL POLYPROPYLENE CAPACITOR

TOSHIBA CORPORATION

1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

TOSHIBA

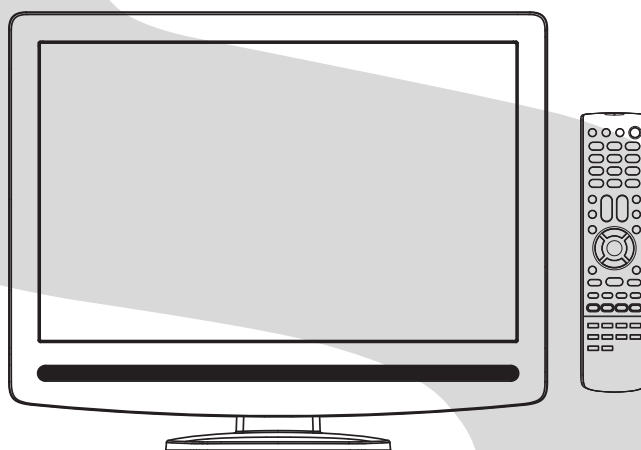
FILE NO. 810-200898GR

SERVICE MANUAL



22-inch Diagonal LCD TV/ DVD COMBINATION

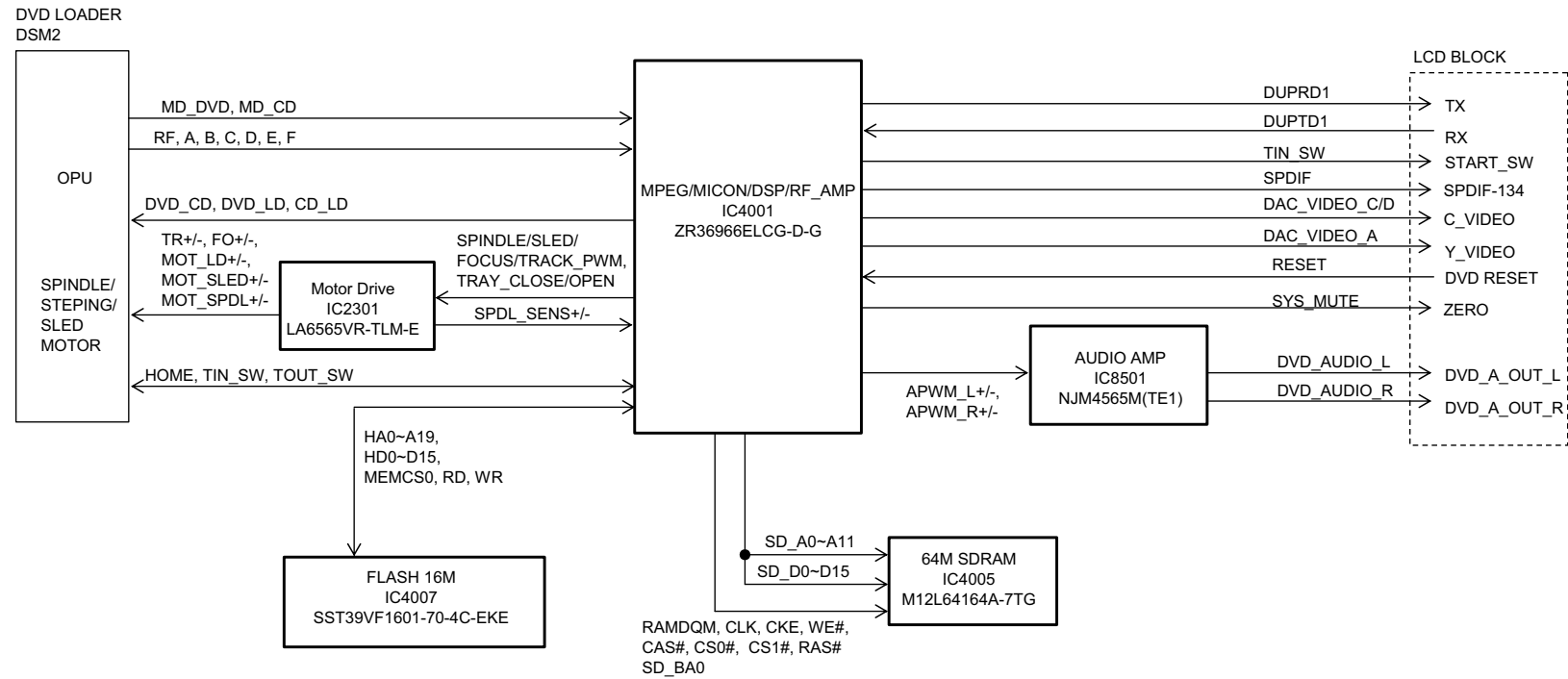
22DV555DB
22DV555DG
22DV556DB



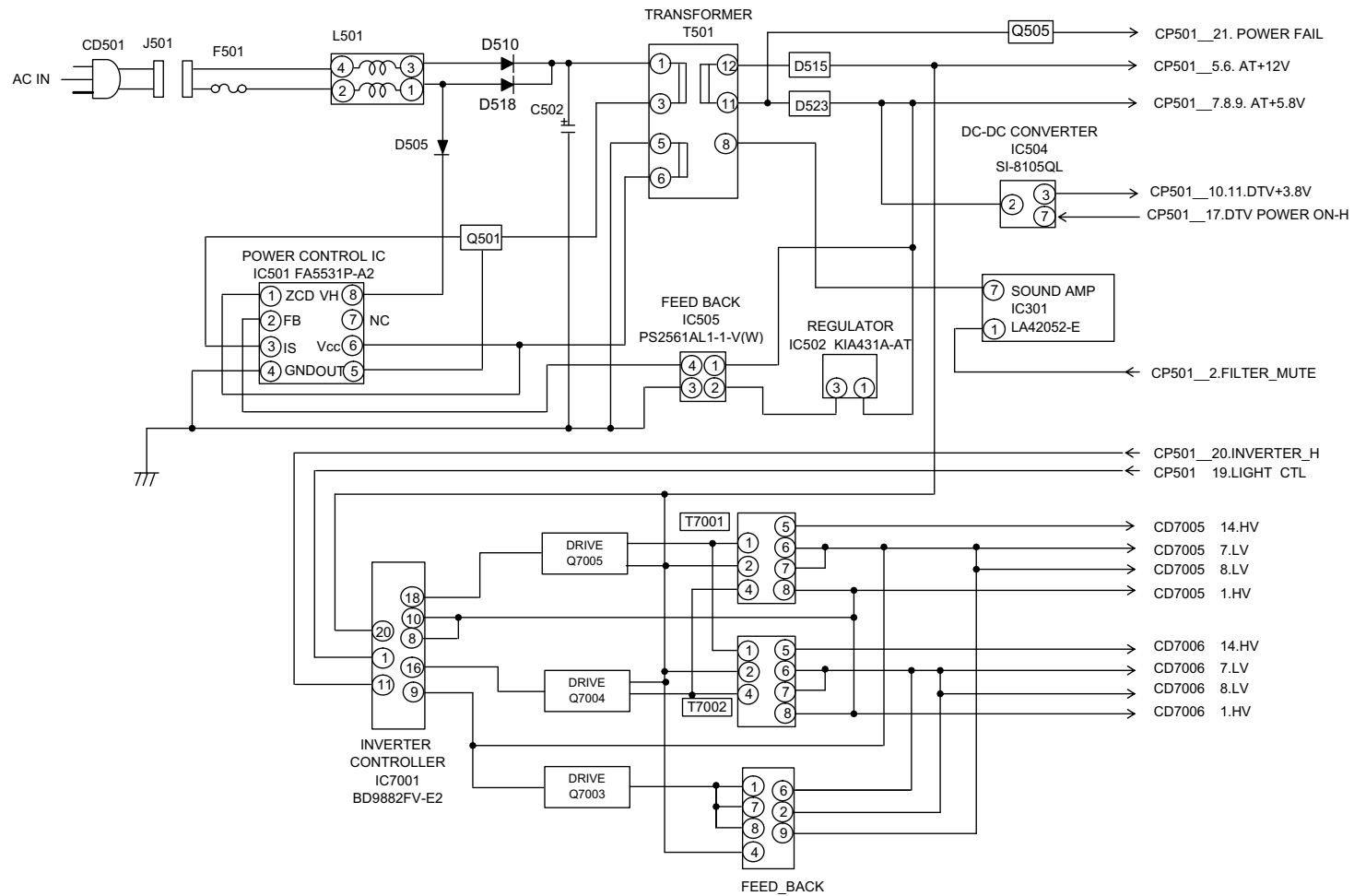
The above models are classified as green products (*1), as indicated by the underlined serial numbers. This Service Manual describes replacement parts for the green products. When repairing these green product(s), use the part(s) described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

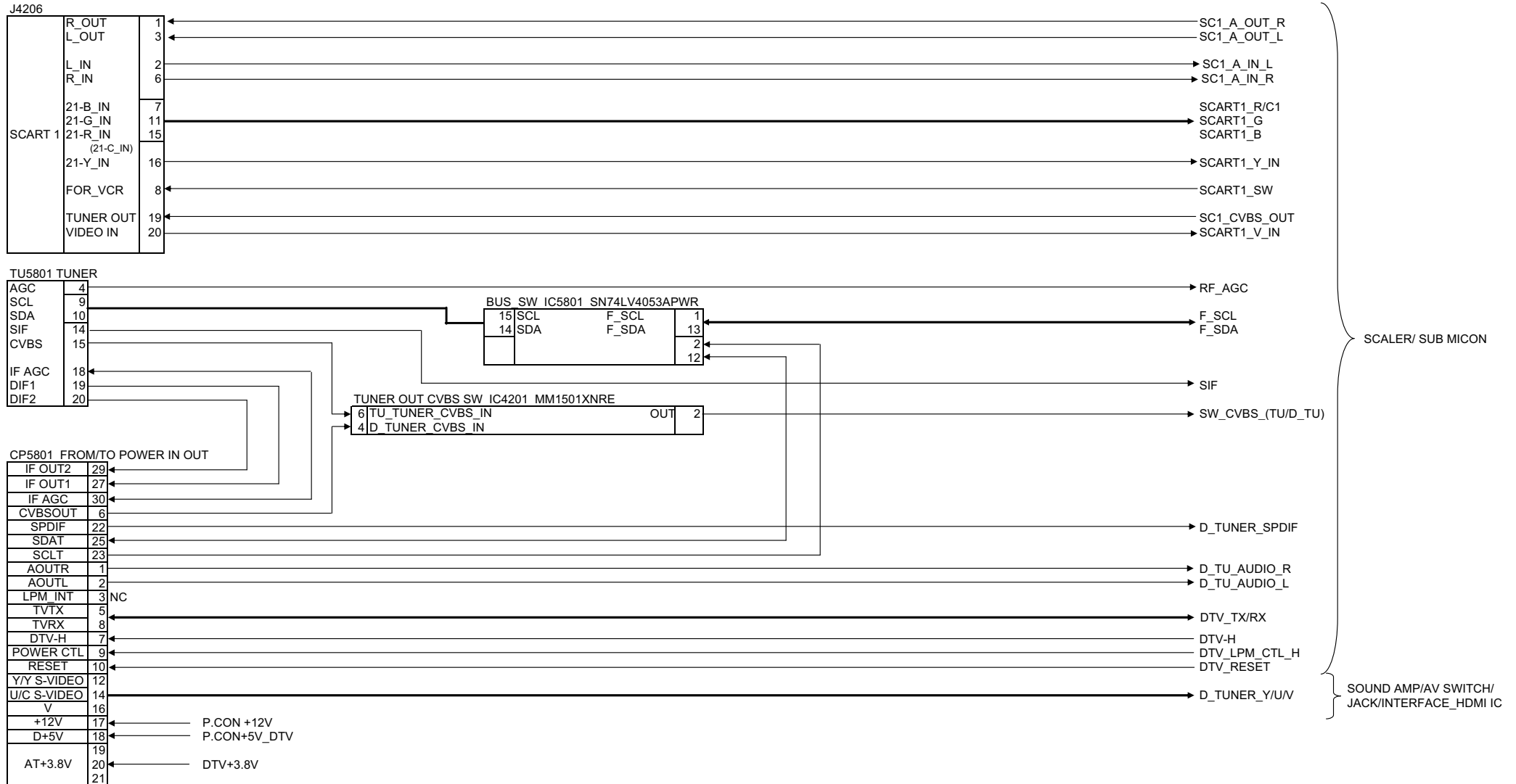
DVD BLOCK DIAGRAM



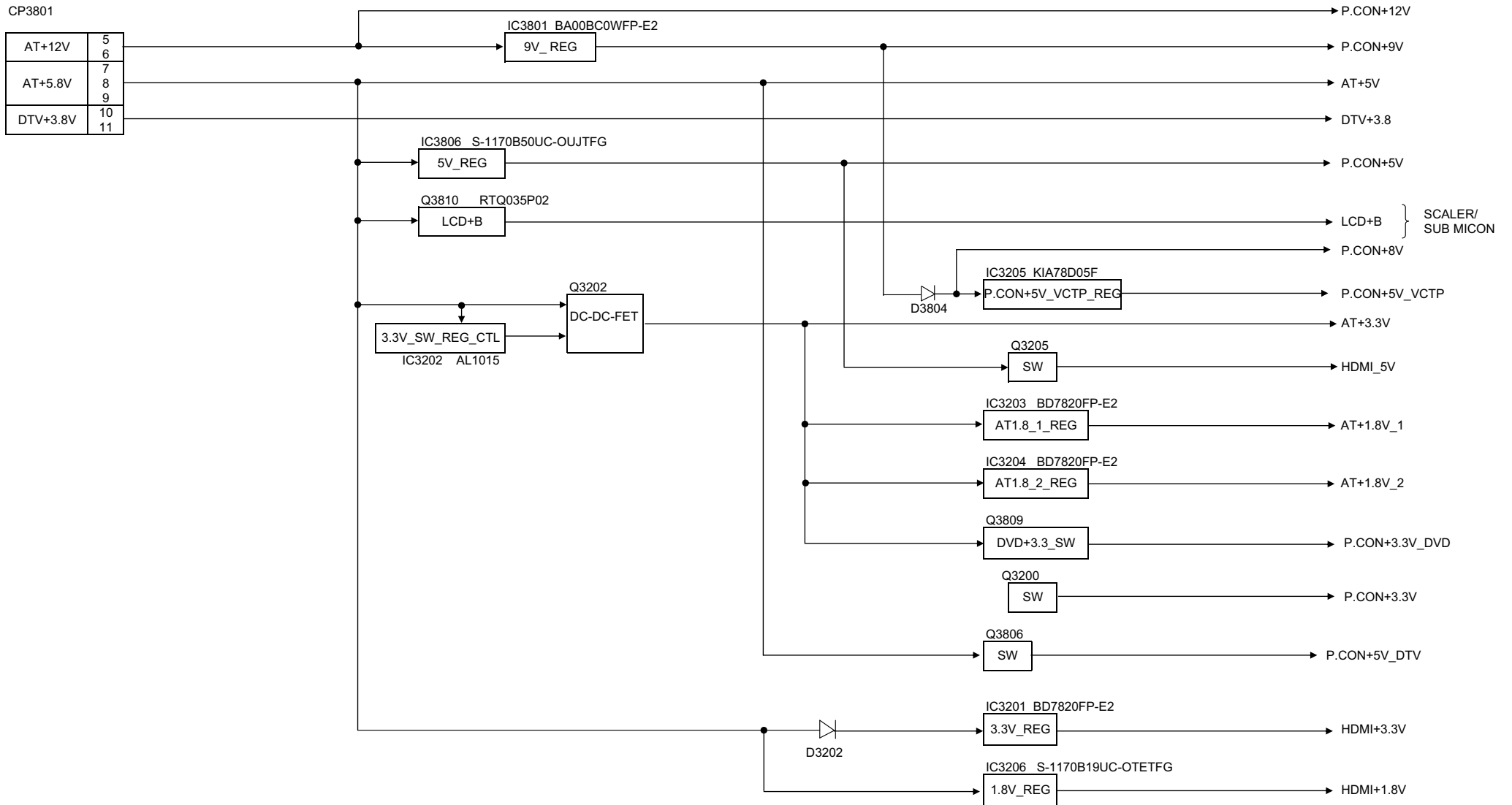
POWER BLOCK DIAGRAM



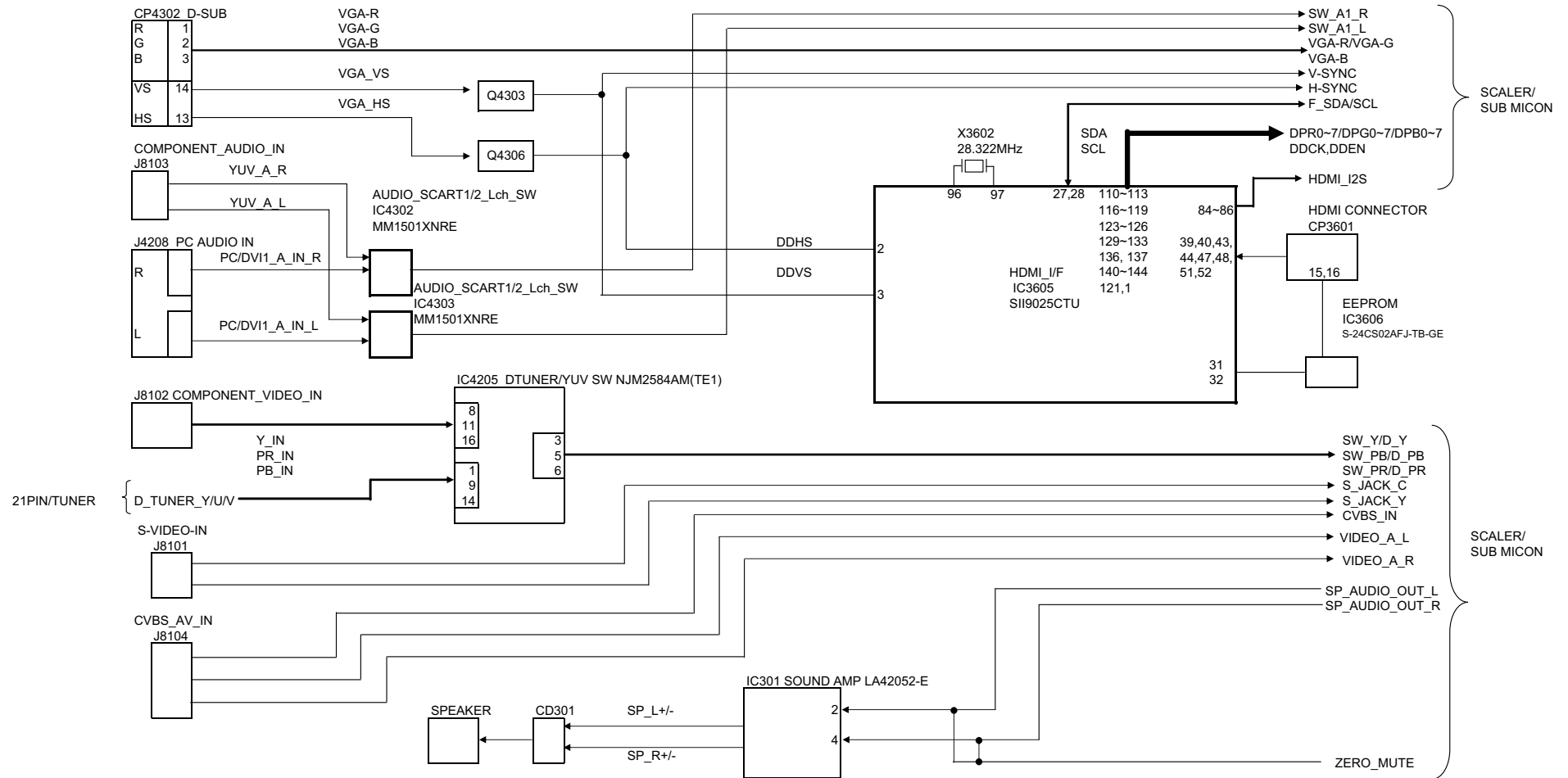
21PIN/TUNER BLOCK DIAGRAM



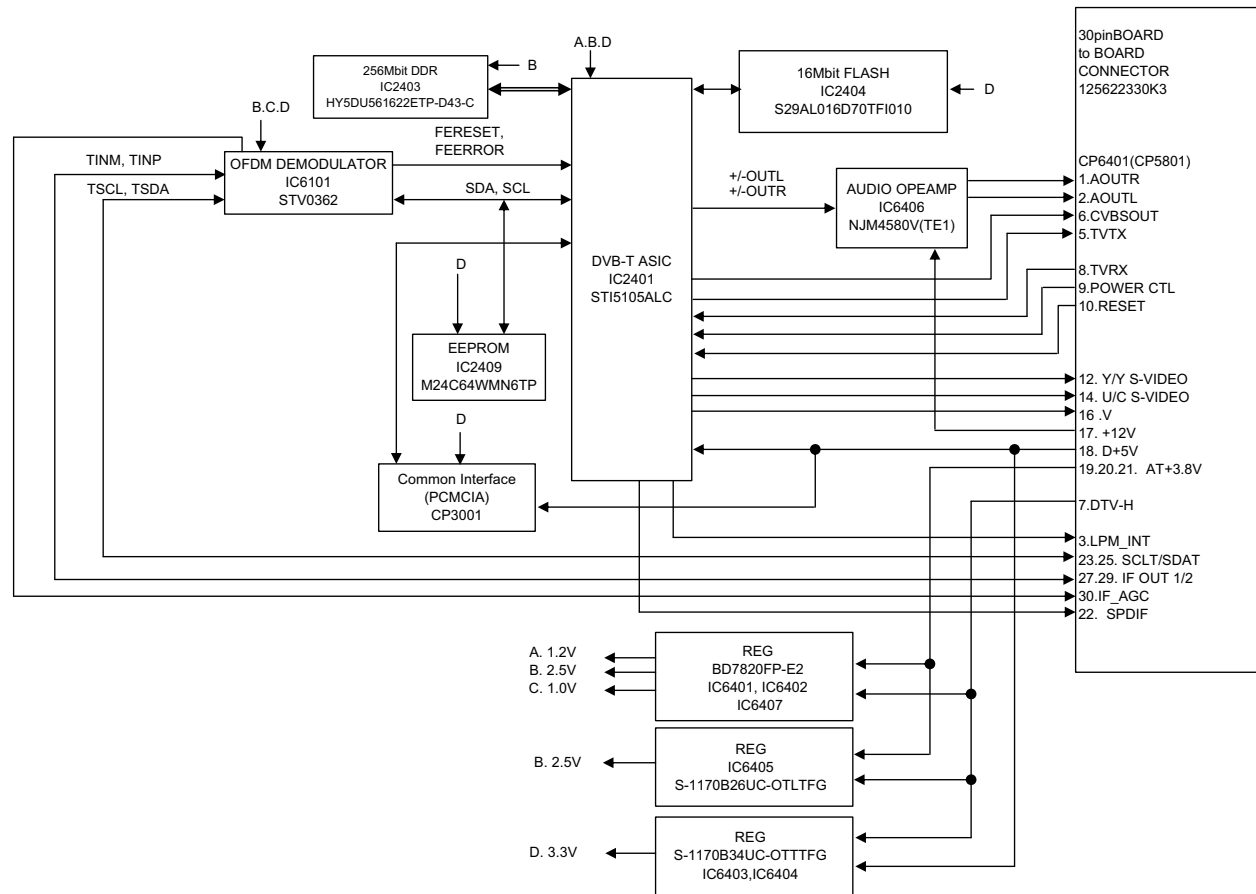
REGULATOR BLOCK DIAGRAM



SOUND AMP/AV SWITCH/JACK/INTERFACE_HDMI IC BLOCK DIAGRAM

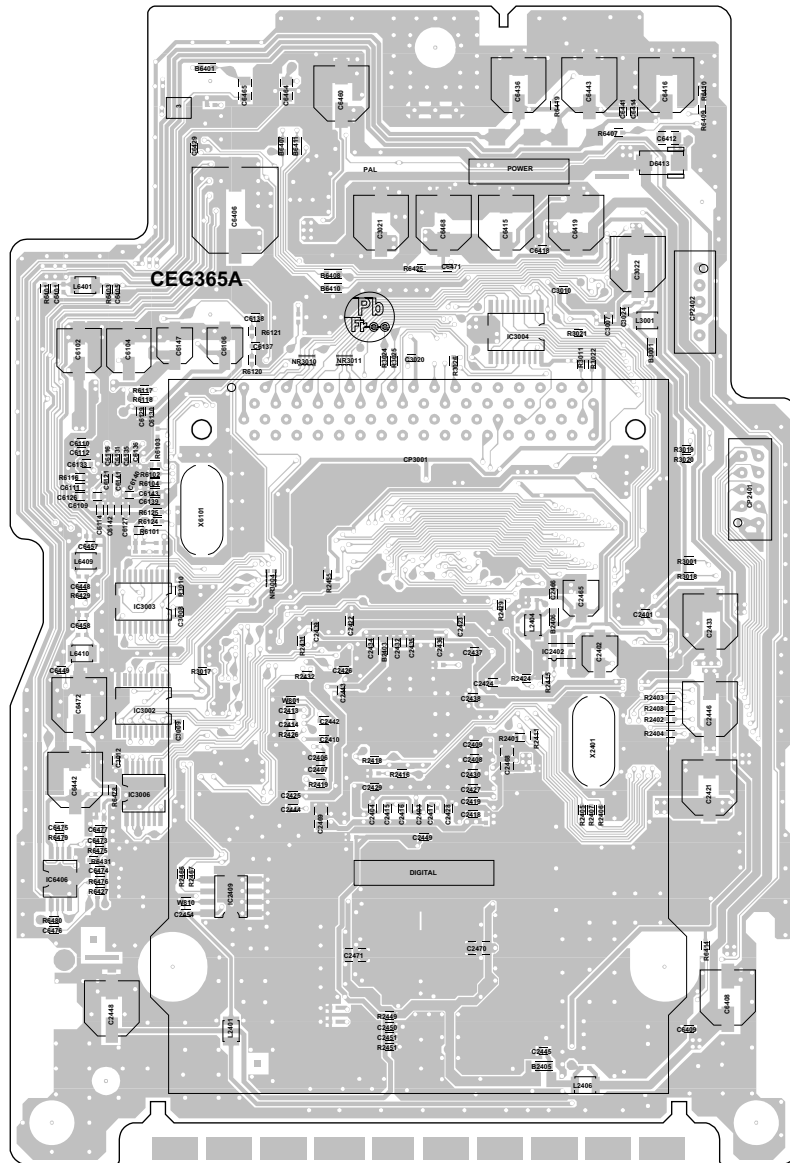


DIGITAL BLOCK DIAGRAM

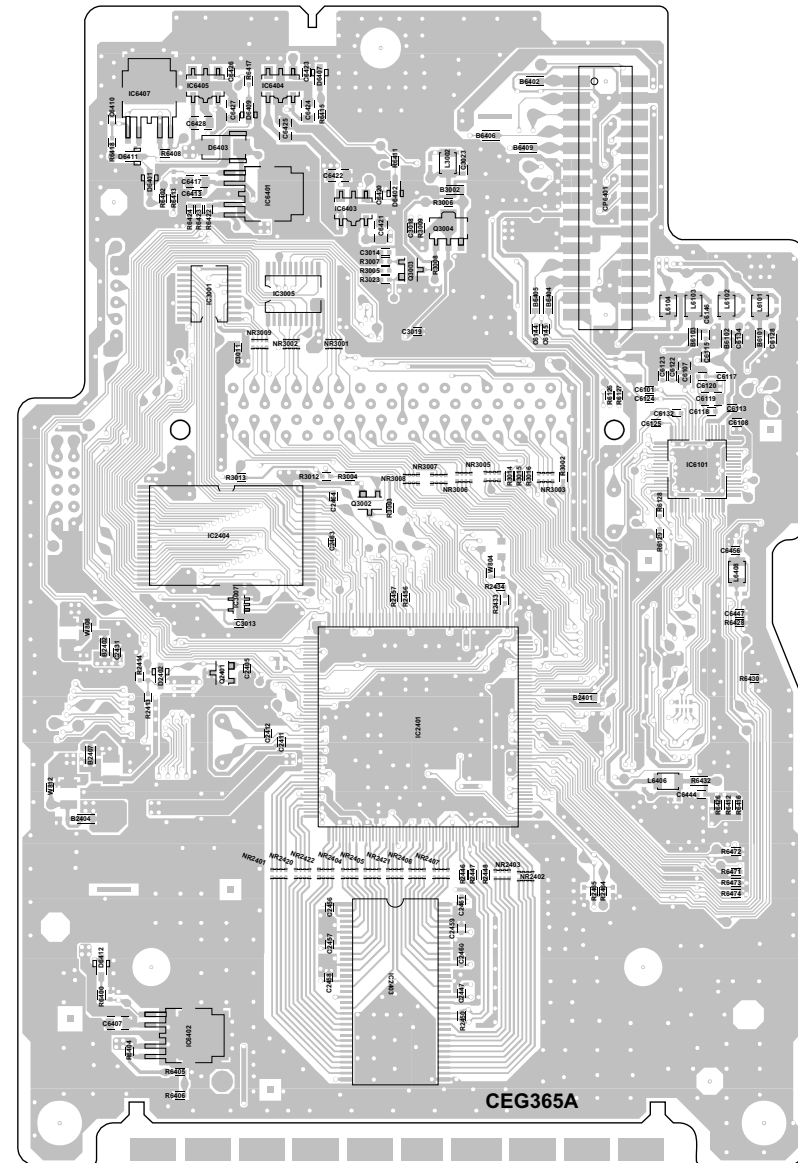


PRINTED CIRCUIT BOARDS

DIGITAL (TOP SIDE)

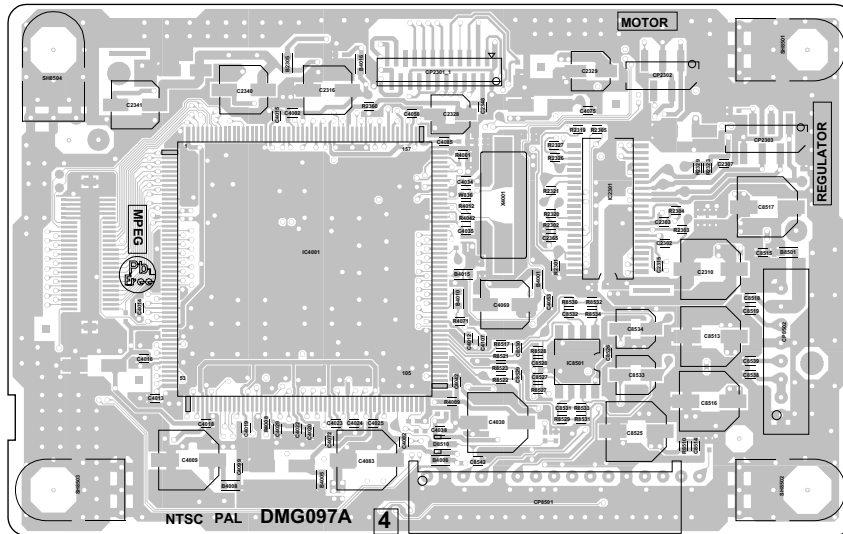


DIGITAL (BOTTOM SIDE)

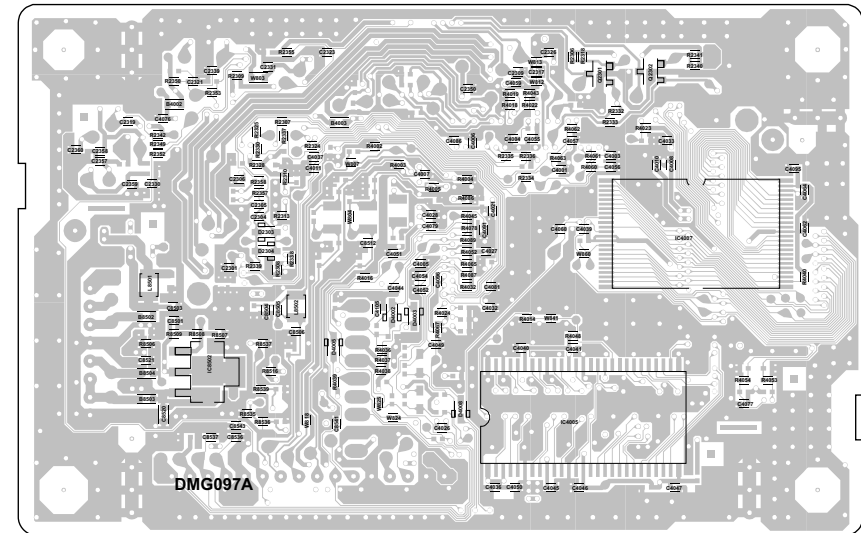


PRINTED CIRCUIT BOARDS

DVD MT (TOP SIDE)

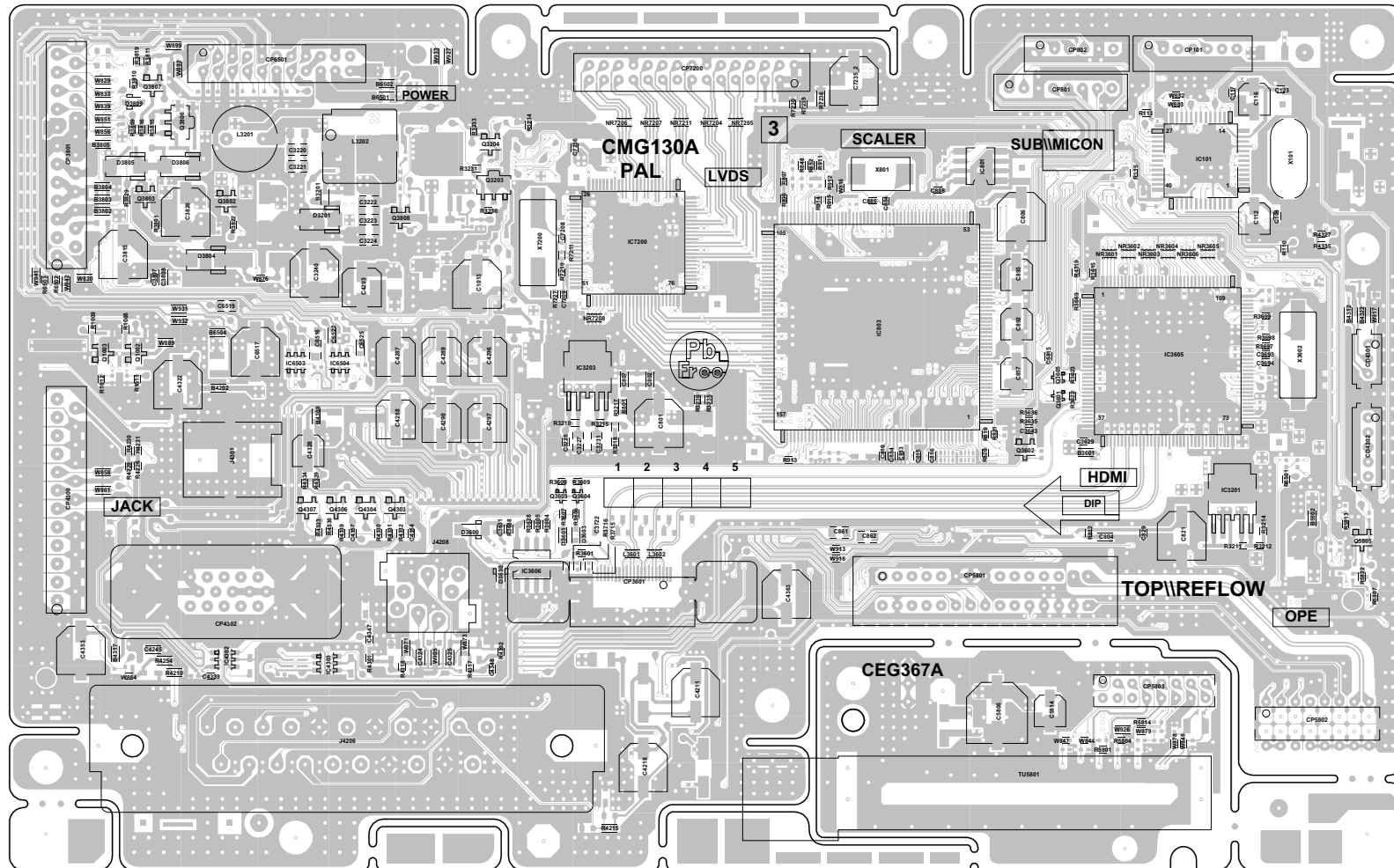


DVD MT (BOTTOM SIDE)

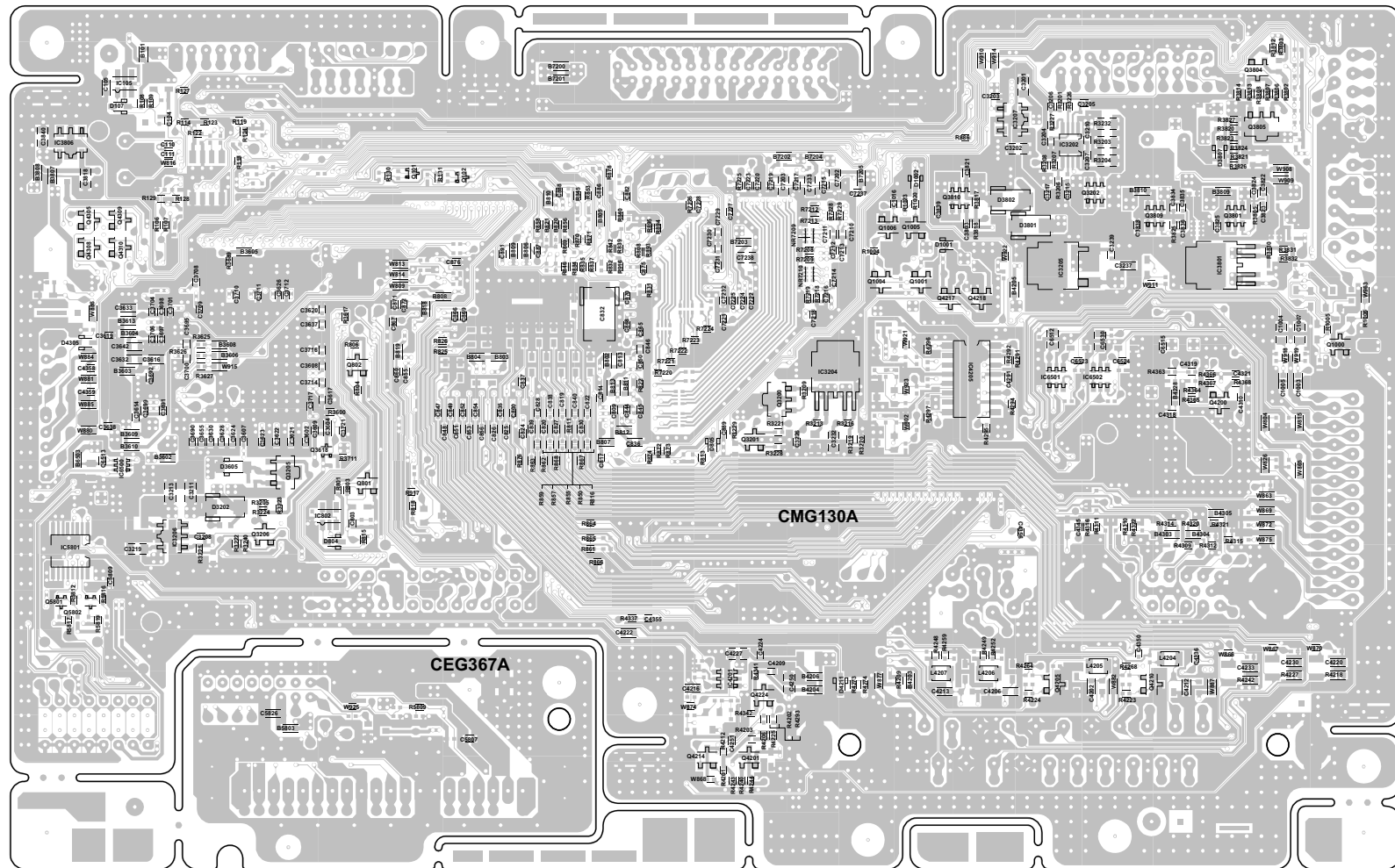


PRINTED CIRCUIT BOARDS

MAIN/TUNER (TOP SIDE)



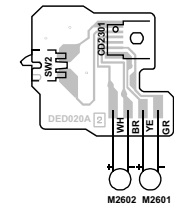
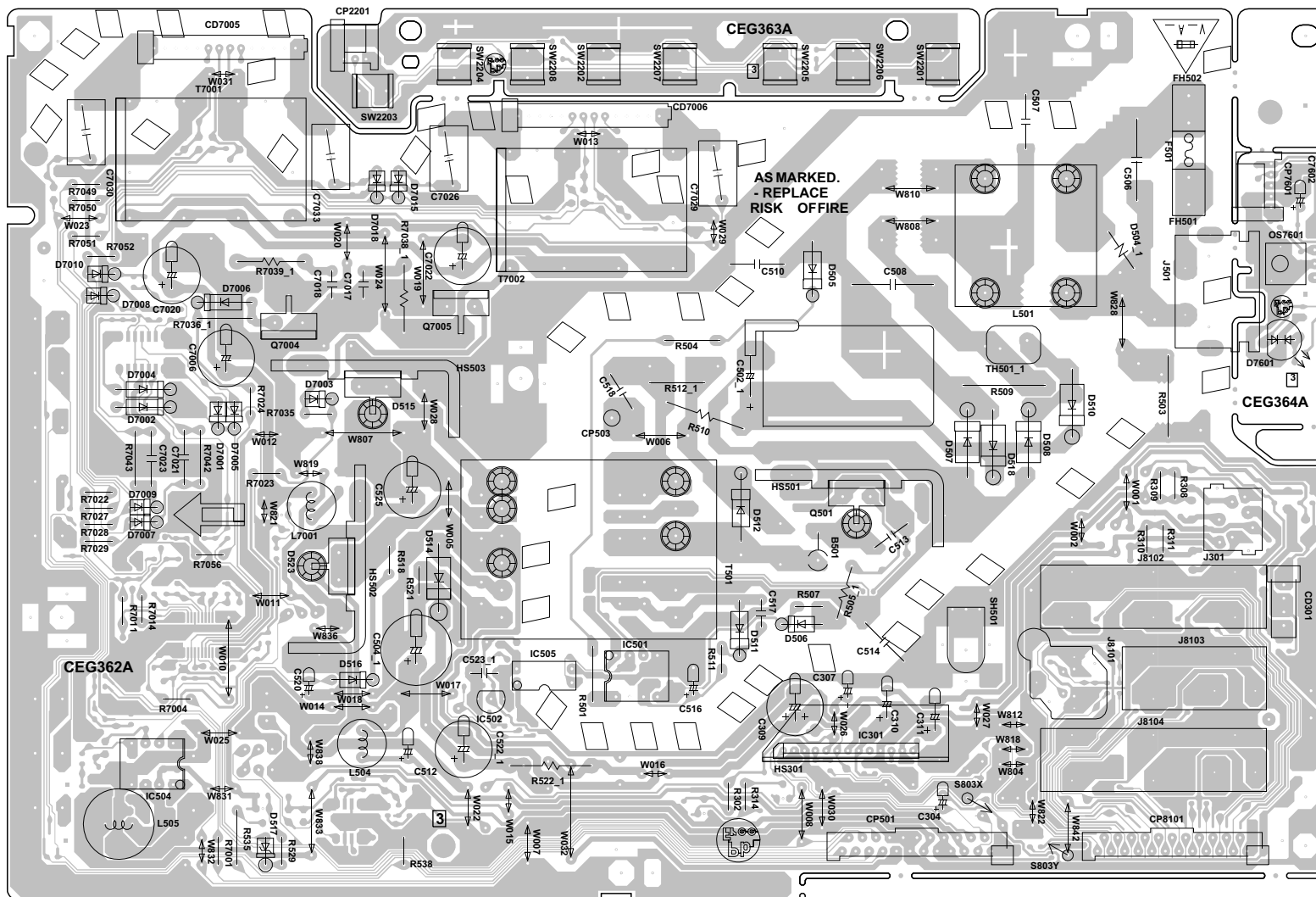
PRINTED CIRCUIT BOARDS
MAIN/TUNER (BOTTOM SIDE)



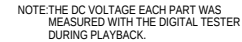
PRINTED CIRCUIT BOARDS

POWER/OPERATION/REMOCON (INSERTED PARTS) SOLDER SIDE

SW SOLDER SIDE

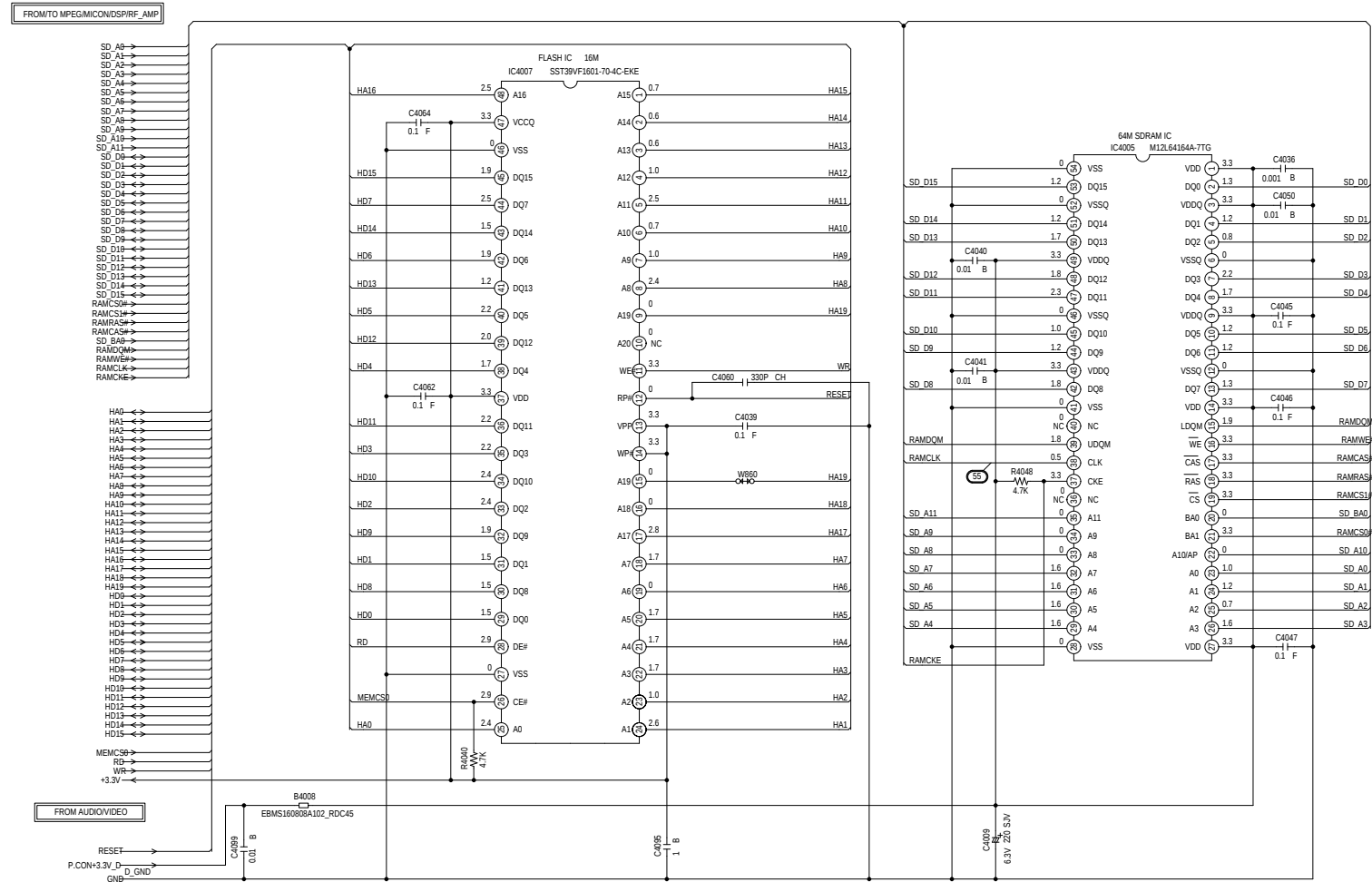


(DVD MT PCB)



MEMORY SCHEMATIC DIAGRAM

(DVD MT PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

PCB130
DMG207

MOTOR DRIVE SCHEMATIC DIAGRAM (DVD MT PCB)

DSM2(06SD)

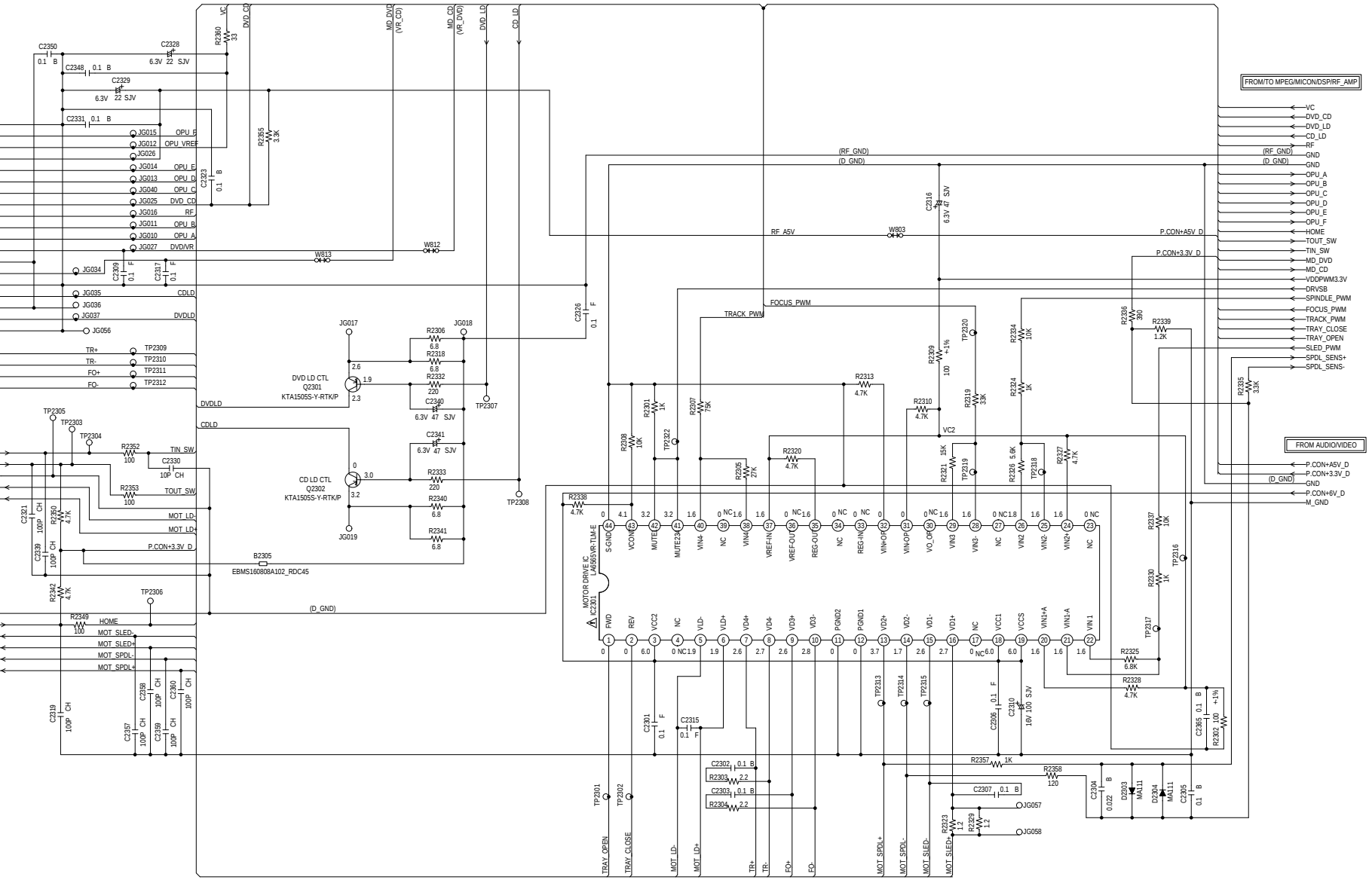
FROM TO LOADER

CP2301 1	LD0772-24ND-03
1	GND
2	F
3	Vref
4	VCC
5	E
6	D
7	C
8	SW1(DVD/CD)
9	VR(FRF_OUT)
10	B
11	A
12	VR(DVD)
13	VR COM
14	VR(CD)
15	GND
16	LD(CD)
17	PD(GND)
18	LD(DVD)
19	GND
20	NC
21	TRV
22	TRTN
23	FRV
24	FRTN

CP2302	04_6232_105_015_800+
5	CLOSE
4	OPEN
3	GND(D)
2	LD-
1	LD+

CP2303	04_6232_105_015_800+
6	SW(GND)
5	LIMIT SW
4	SLD-
3	SLD+
2	SP1-
1	SP1+

CP2304	04_6232_105_015_800+
6	HOME
5	MOT SLED-
4	MOT SLED+
3	MOT SPDL-
2	MOT SPDL+



CAUTION THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIECES REPAREES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE NUTILISER QUE CELLS DECRIITES DANS LA NOMENCLATURE DES PIECES

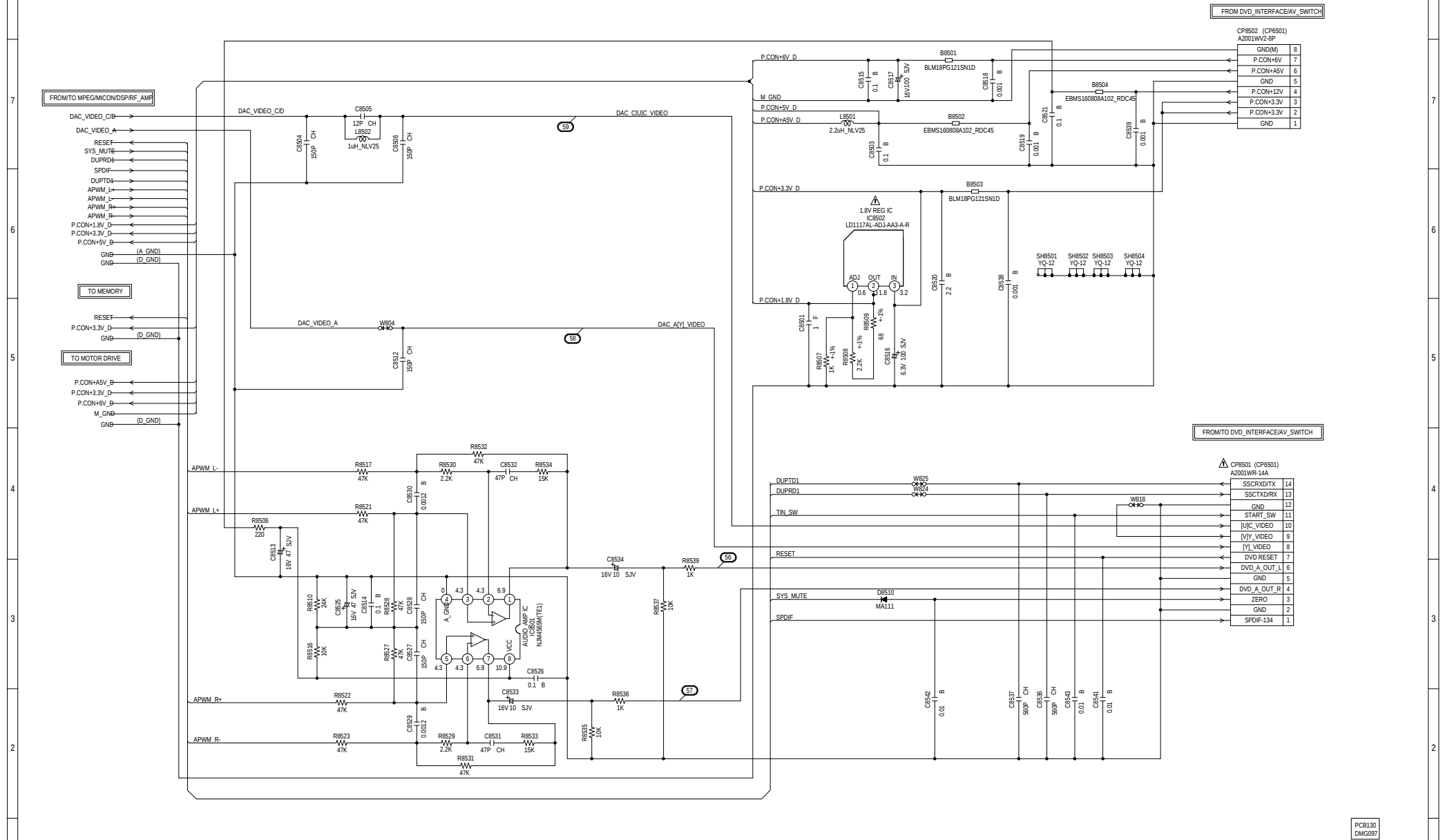
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

PCB130 DMG097

AUDIO/VIDEO SCHEMATIC DIAGRAM

(DVD MT PCB)



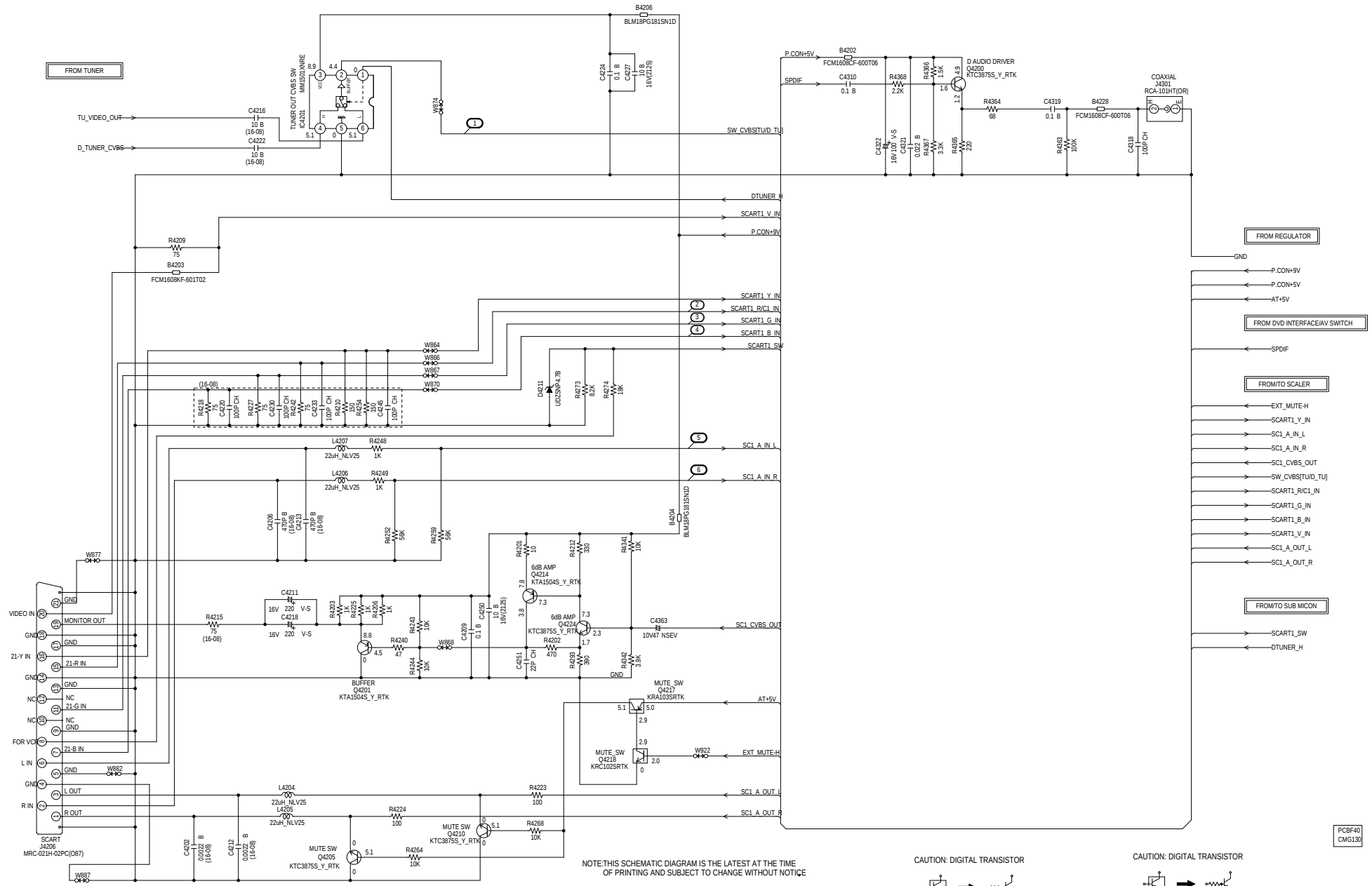
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION:INCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION:LES PIECES REPARÉES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE,UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

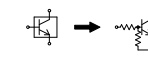
21PIN SCHEMATIC DIAGRAM (MAIN PCB)



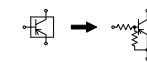
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

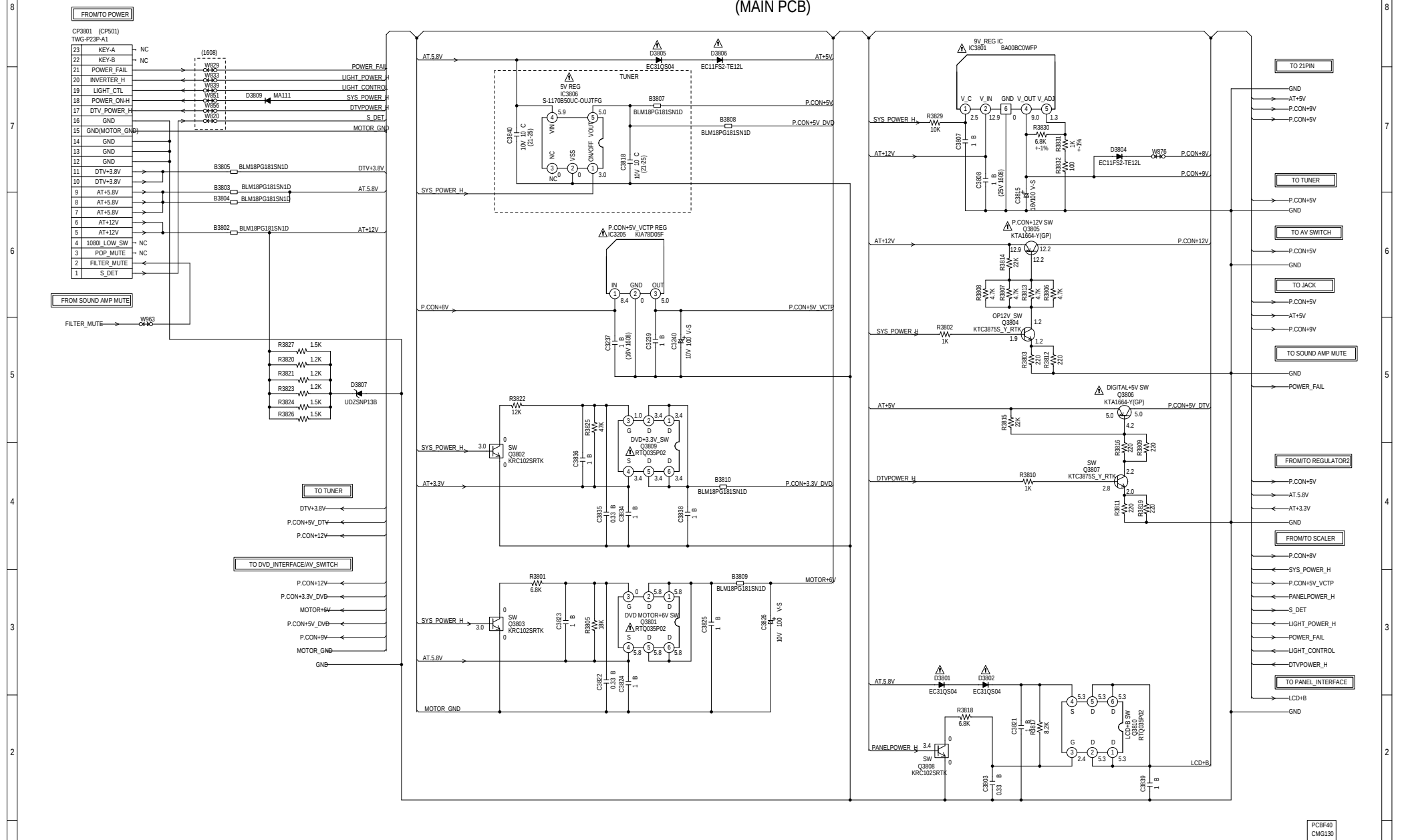


CAUTION: DIGITAL TRANSISTOR



REGULATOR SCHEMATIC DIAGRAM

(MAIN PCB)



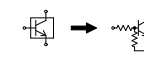
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

CAUTION: DIGITAL TRANSISTOR



REGULATOR2 SCHEMATIC DIAGRAM (MAIN PCB)

CAUTION: THESE PARTS MARKED WITH A TRIANGLE ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIÈCES RÉPARÉES PAR UN TRIANGLE ÉTANT DANGEREUSES À UN POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMÉNCIATURE DES PIÈCES.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

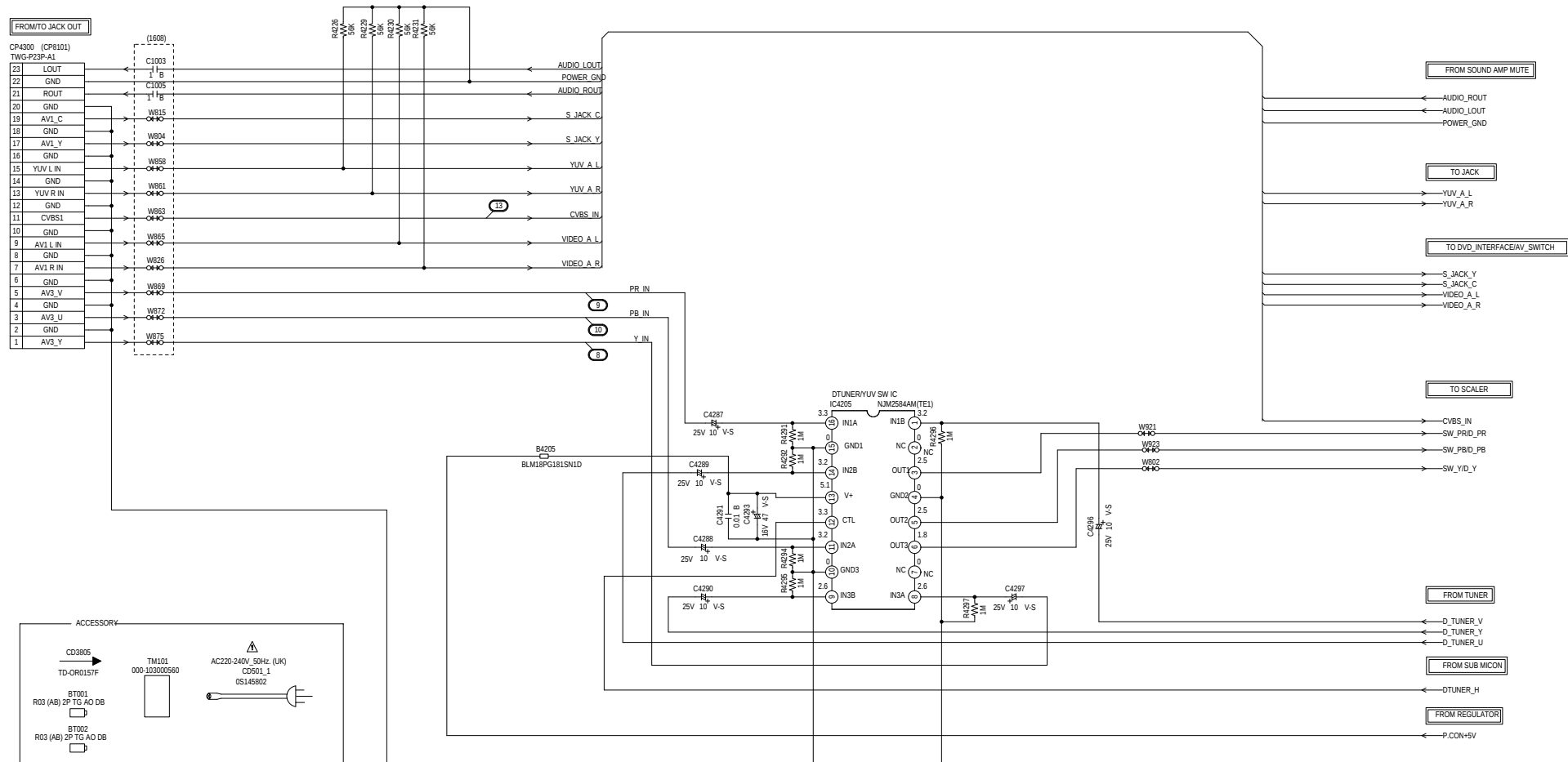
PCBF40
CMG130

22DV555DB/22DV555DG/22DV556DB

PCBF40
CMG130

AV SWITCH SCHEMATIC DIAGRAM

(MAIN PCB)



CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

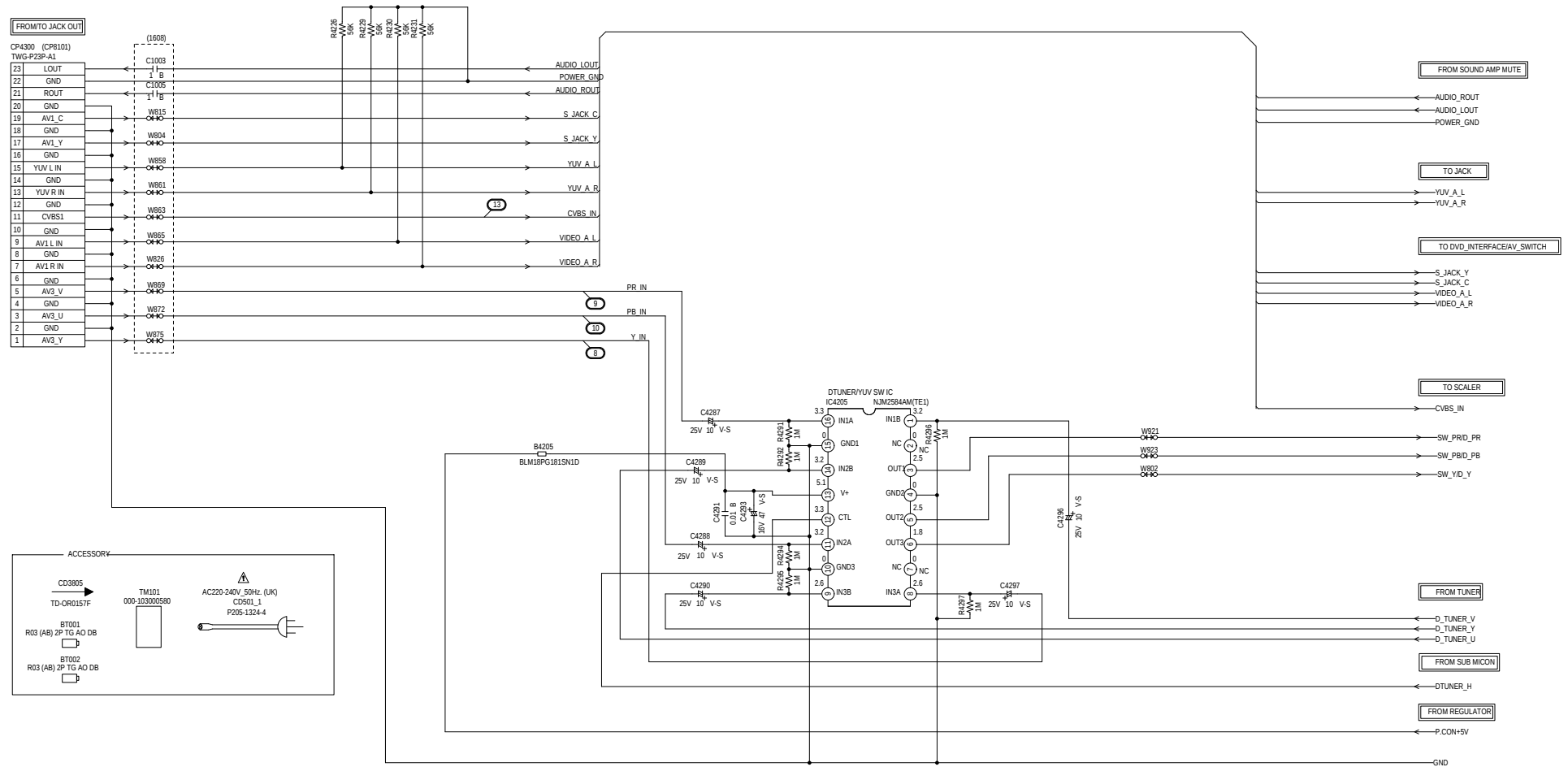
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

PCBF40
CMG130

AV SWITCH SCHEMATIC DIAGRAM

(MAIN PCB)



CAUTION SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

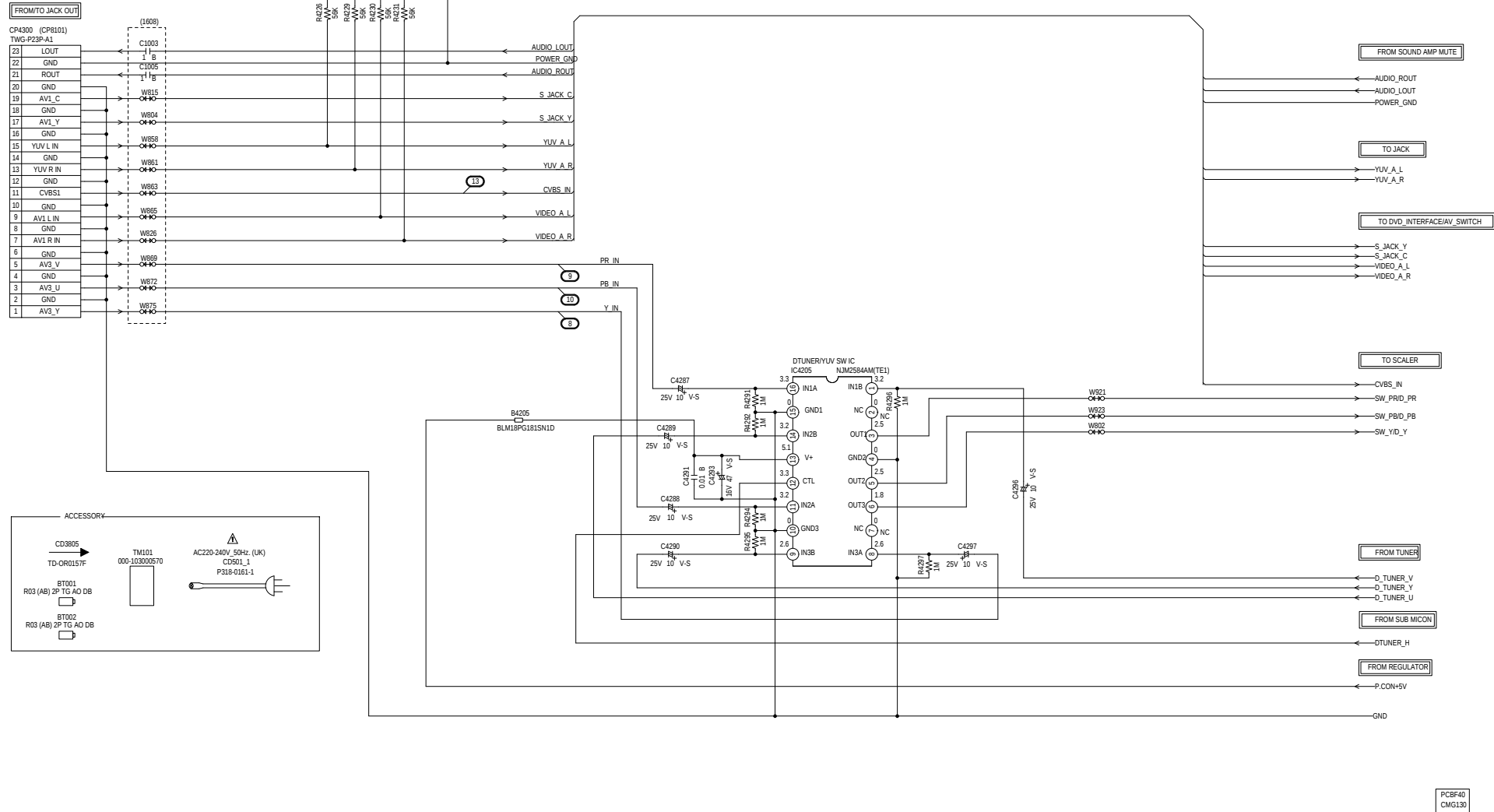
ATTENTION LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

PCBF40
CMG130

(MAIN PCB)



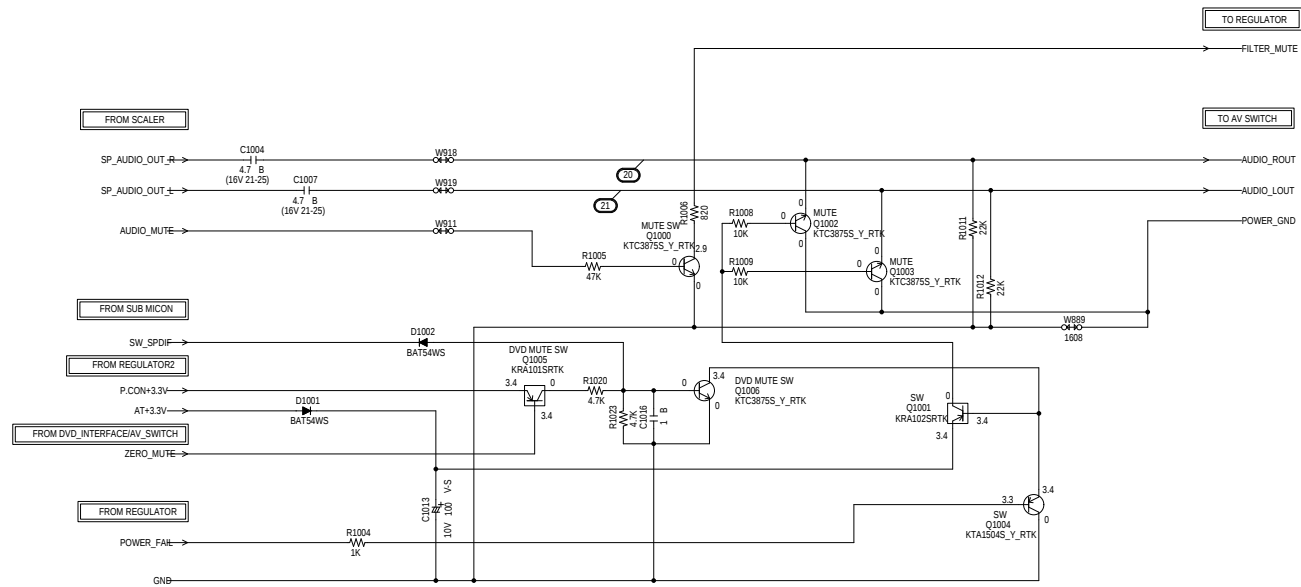
CAUTION SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIÈCES REPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

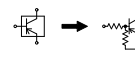
SOUND AMP MUTE SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

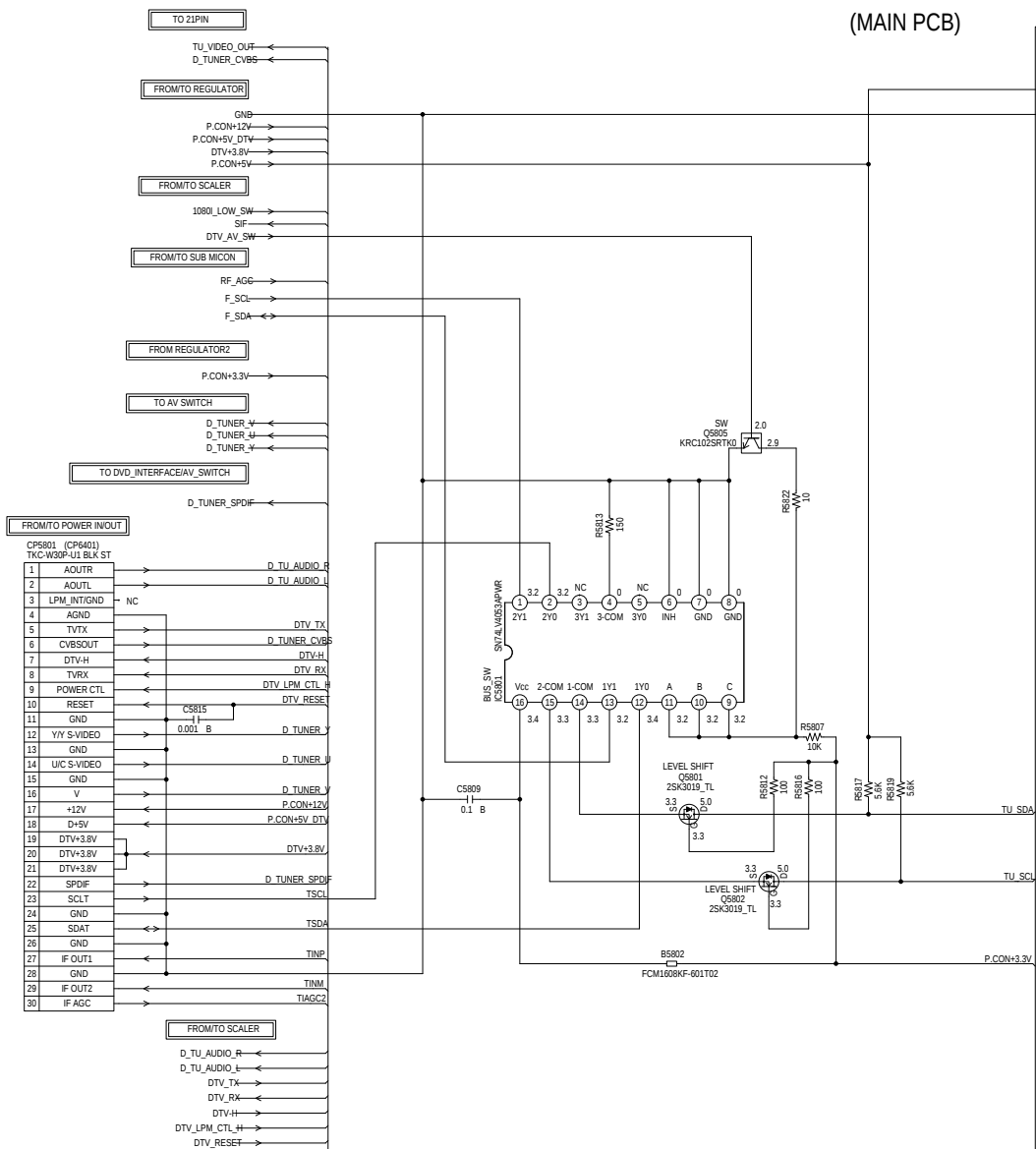
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR



PCB40
CMG130

TUNER SCHEMATIC DIAGRAM (MAIN PCB)



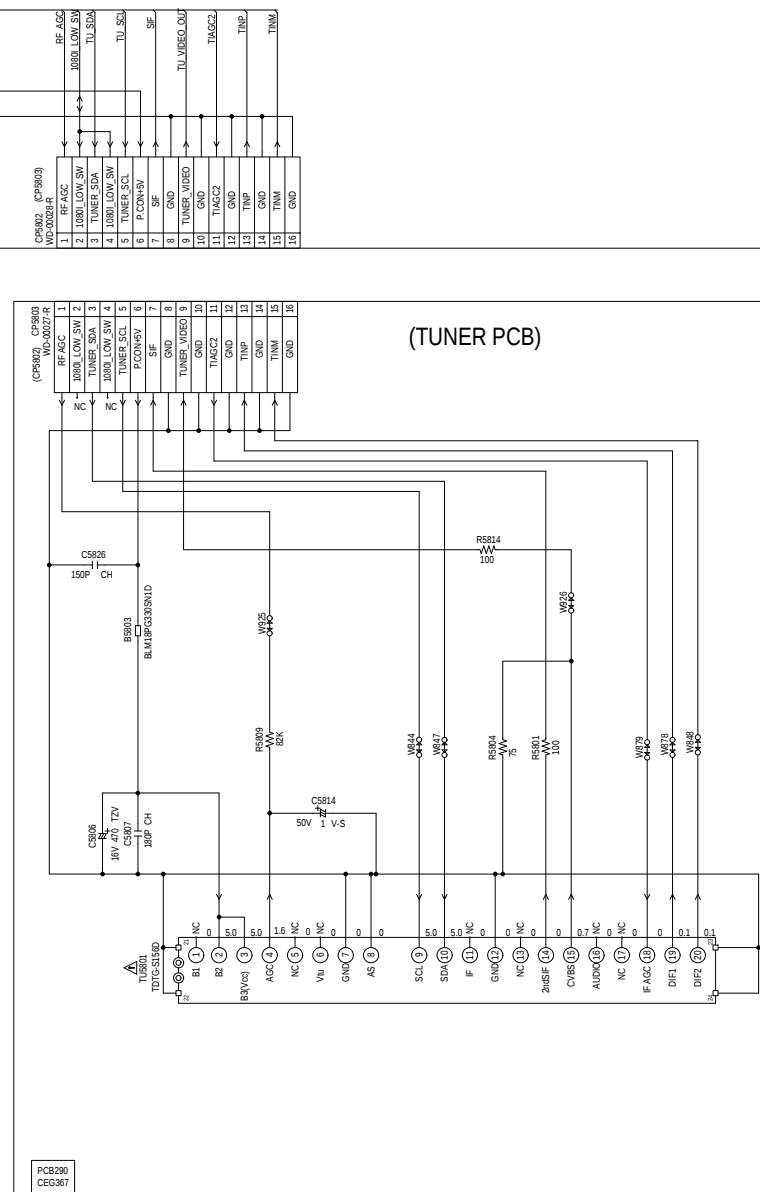
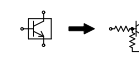
CAUTION SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIÈCES REPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

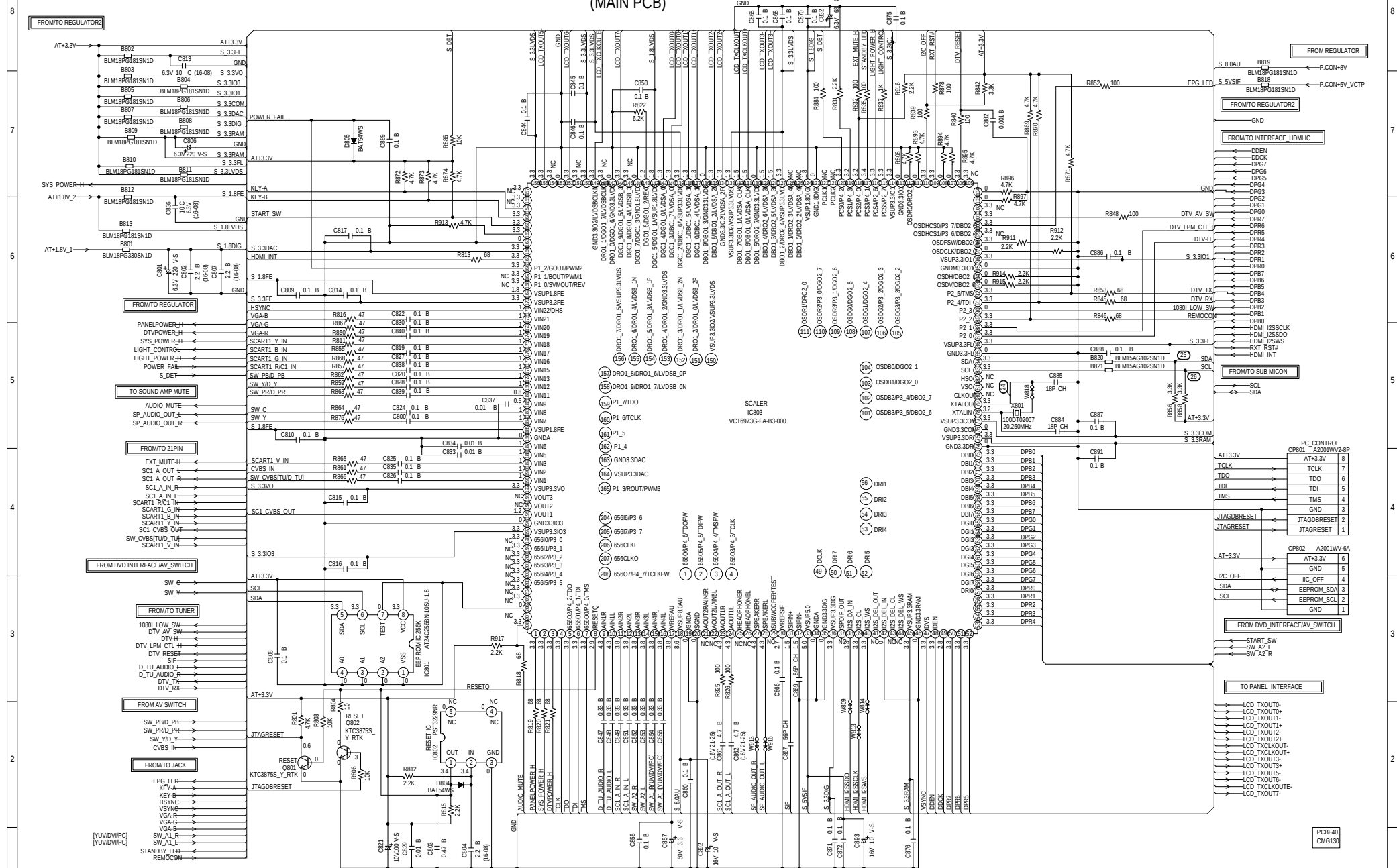
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR



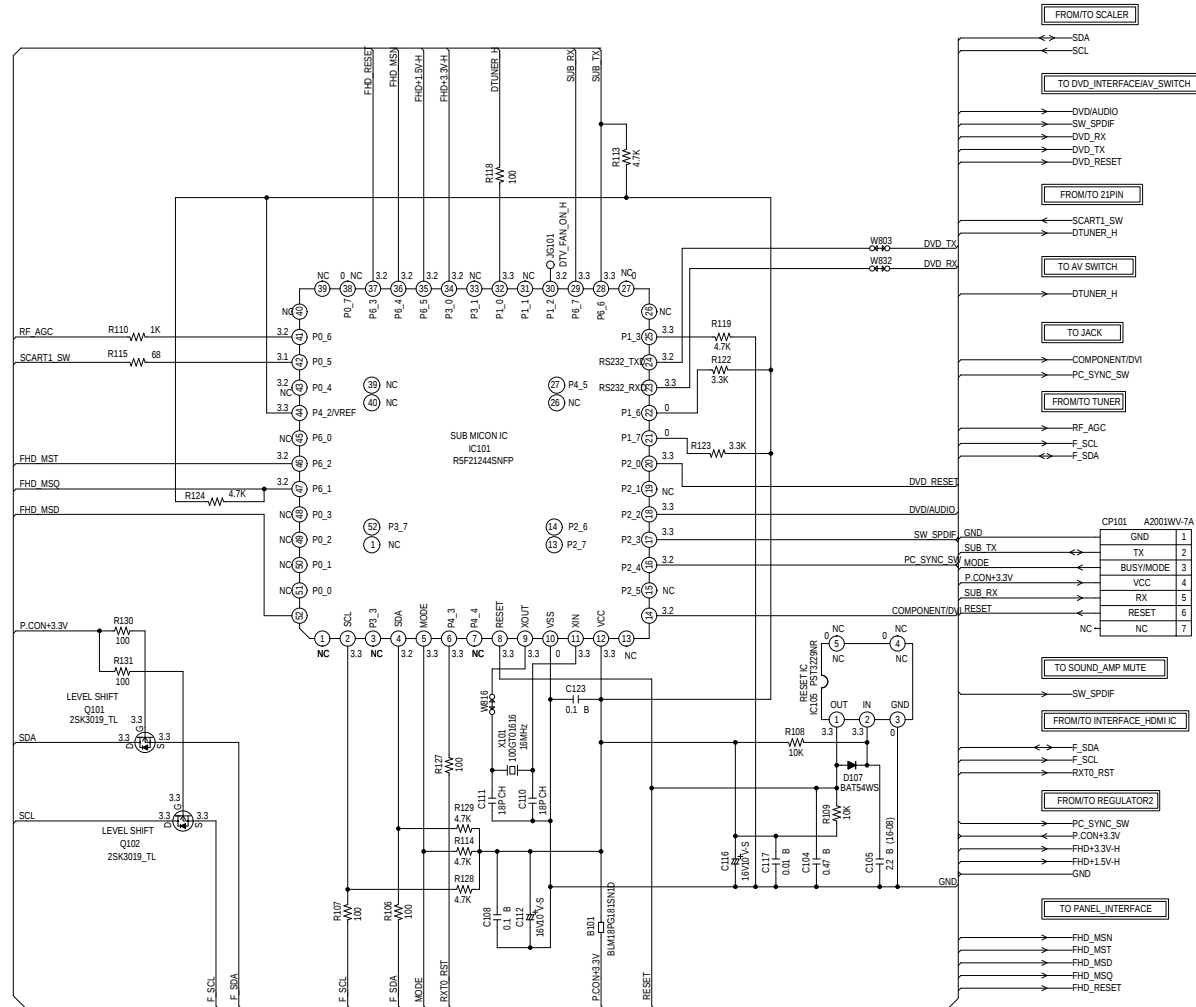
SCALER SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

(MAIN PCB)

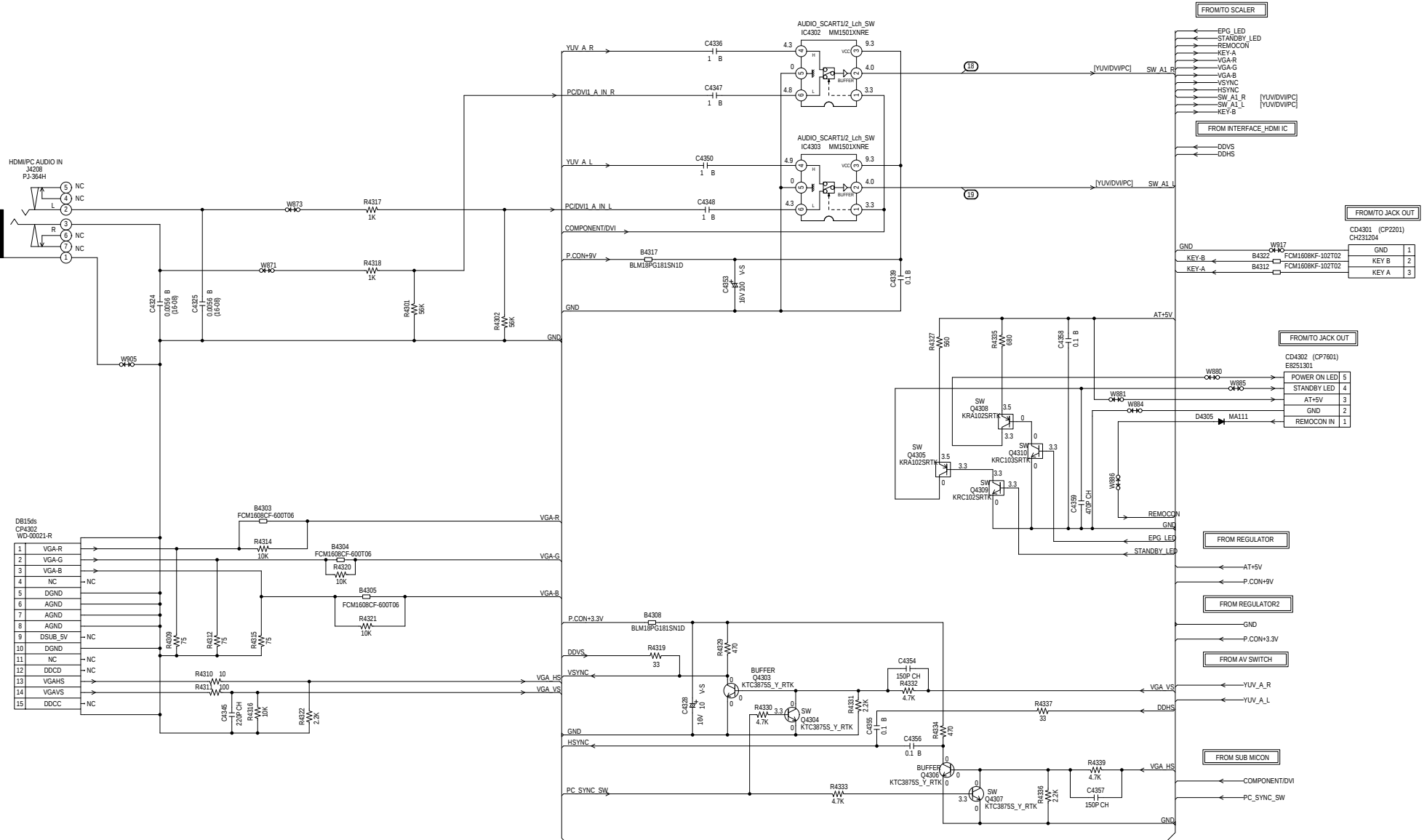


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

PCBF40
CMG130

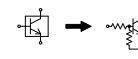
JACK SCHEMATIC DIAGRAM (MAIN PCB)



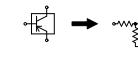
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

CAUTION: DIGITAL TRANSISTOR

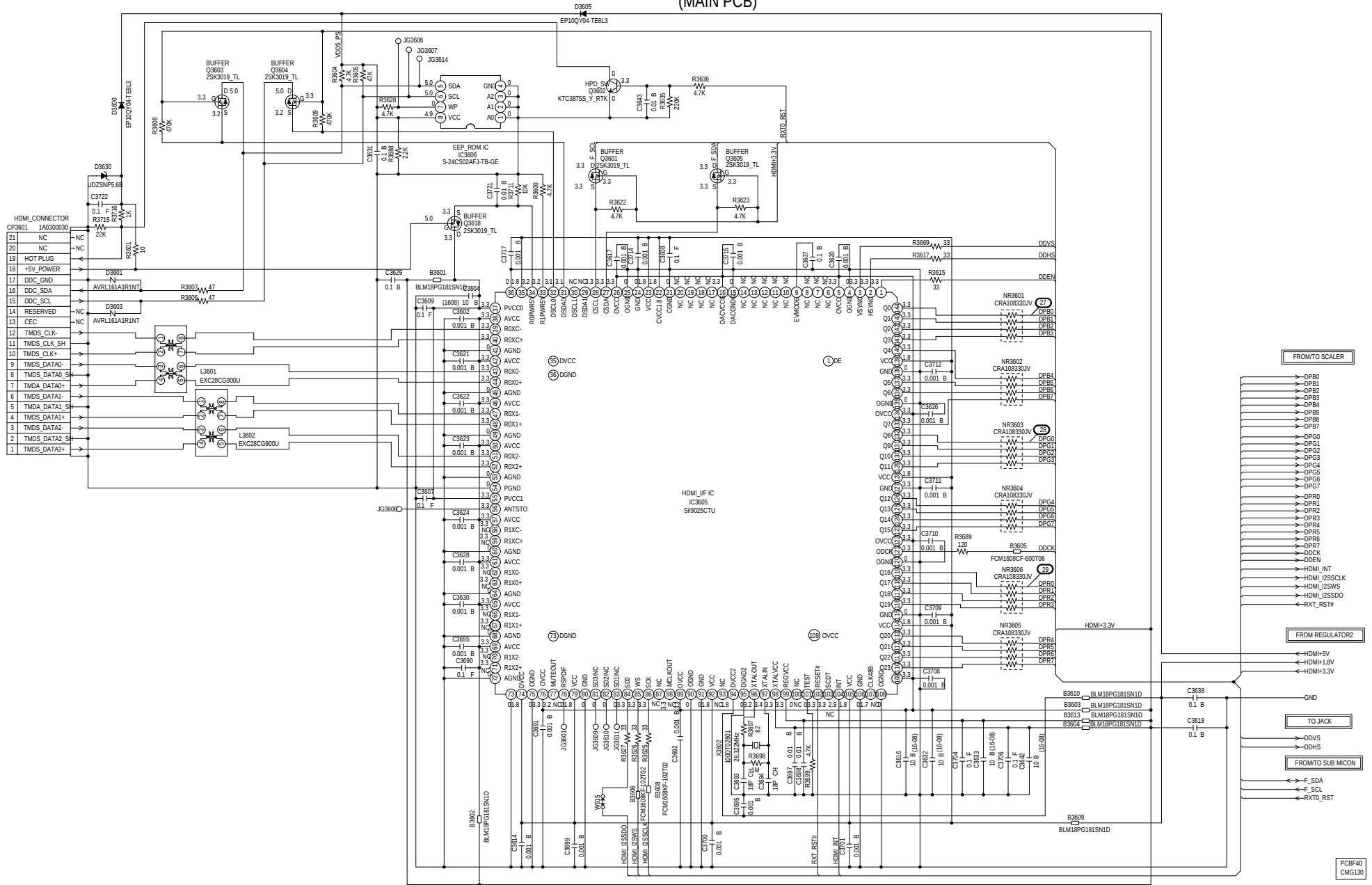


CAUTION: DIGITAL TRANSISTOR



PCB#40
CMG130

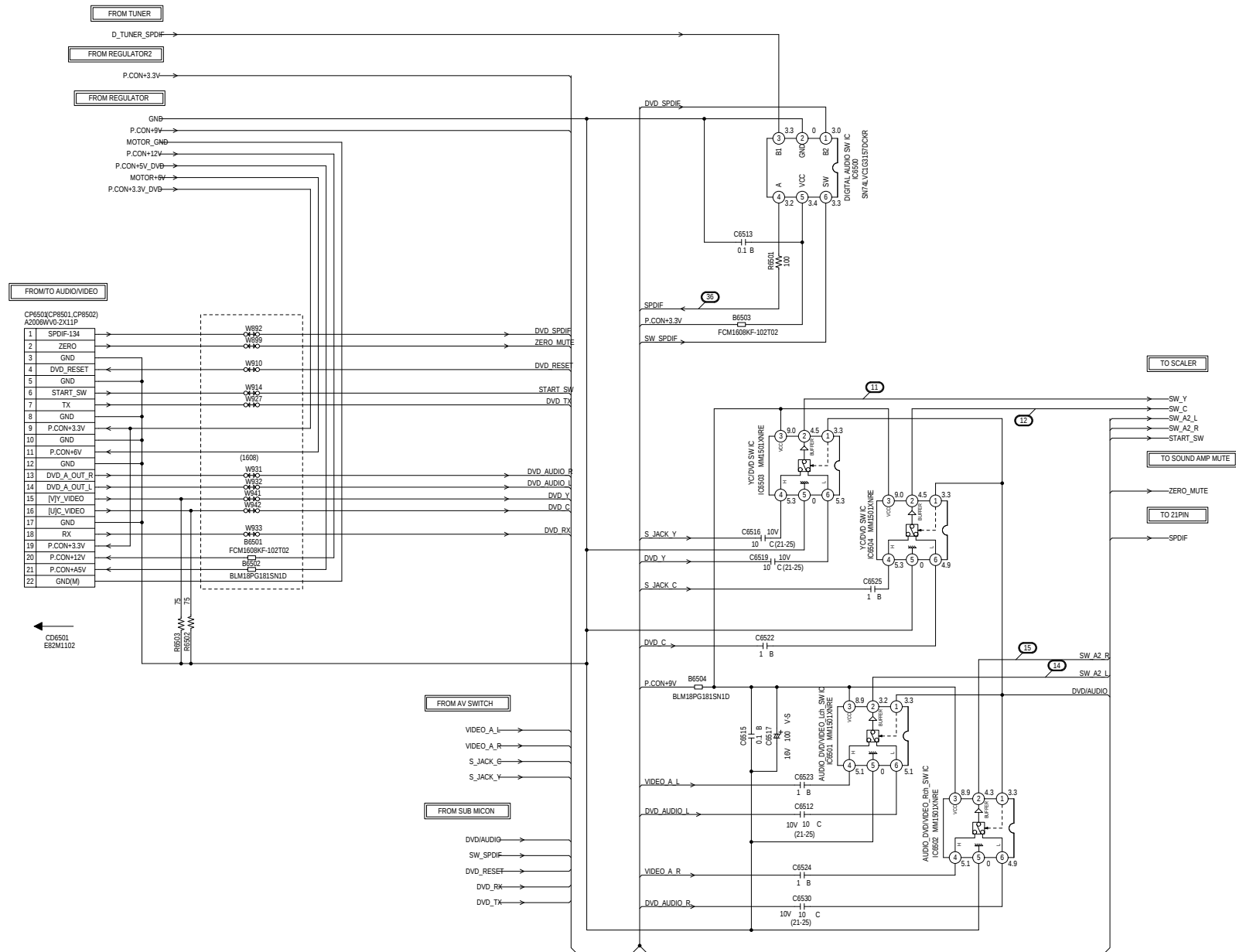
INTERFACE_HDMI IC SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

DVD_INTERFACE/AV_SWITCH SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PANEL_INTERFACE SCHEMATIC DIAGRAM (MAIN PCB)

FROM REGULATOR

FROM REGULATOR

FROM TO SCALER

FROM SUB_MICON

FHD_MSN
FHD_MST
FHD_MSB
FHD_MSD
FHD_RESET

CAUTION SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AN POINT DE VUE SÉCURITÉ, N'UTILISER QUE CELLES DÉCRITES DANS LA NOMÉCLATURE DES PIÈCES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

LCD PANEL
V7201
T220SW01_VO
CD7204
EA2U2505

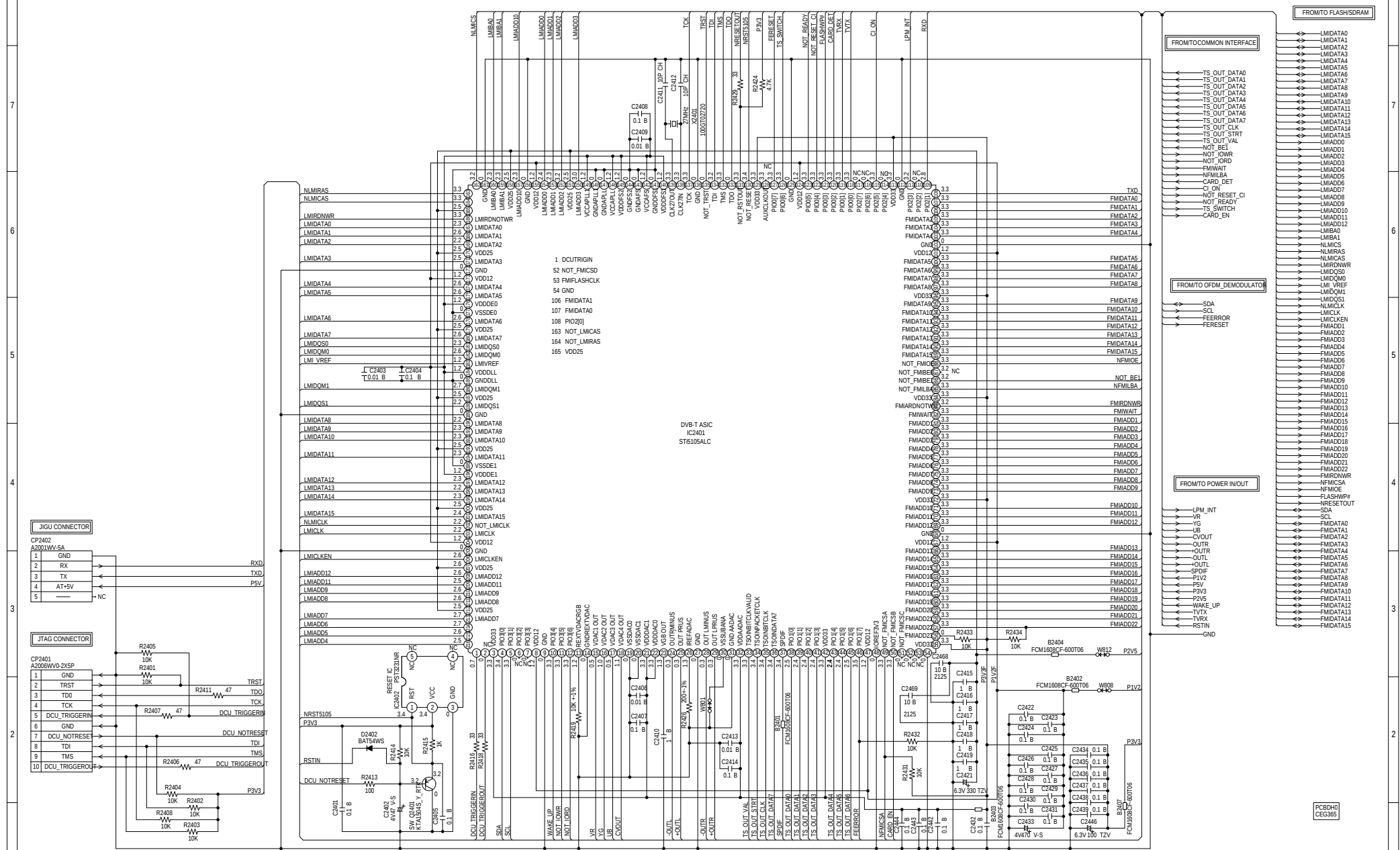
FROM TO PANEL

CP7200
A2008WV0-2X15P

RX00+ 30
RX01- 29
RX02- 28
GND 27
RX0C+ 26
RX03+ 25
RXE3- 24
RXEC+ 23
GND 22
RXE2- 21
RXE1- 20
RXED- 19
NC (GND) 18
NC (GND) 17
VDD+5V+3.3V 16
RX00+ 15
RX01+ 14
RX02+ 13
RX03- 12
RXE3+ 10
GND 9
RXEC- 8
RXE2+ 7
RXE1+ 6
RXED+ 5
GND 4
NC (GND) 3
VDD+5V+3.3V 2
VDD+5V+3.3V 1

PCBF40
CMG130

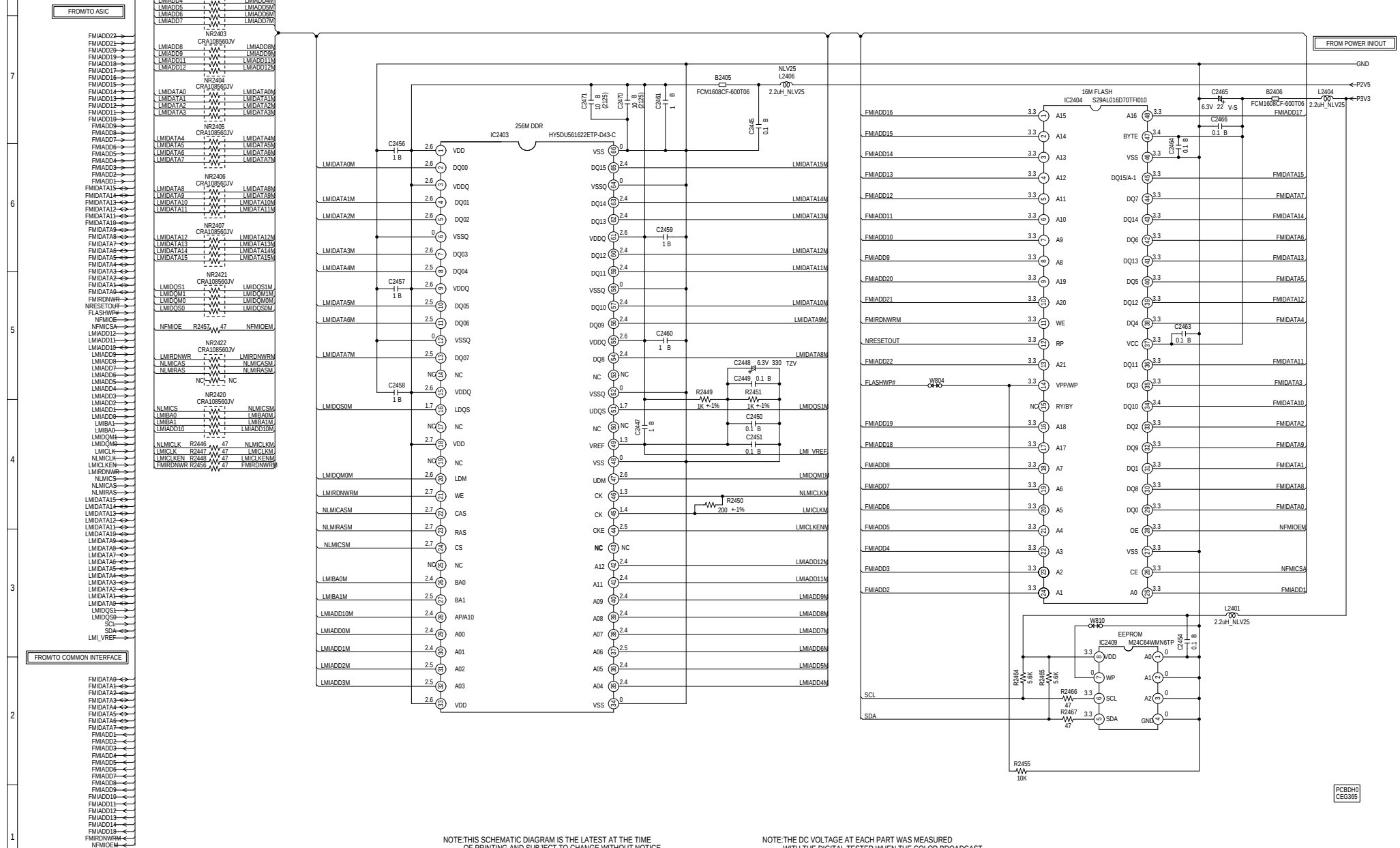
ASIC SCHEMATIC DIAGRAM (DIGITAL PCB)



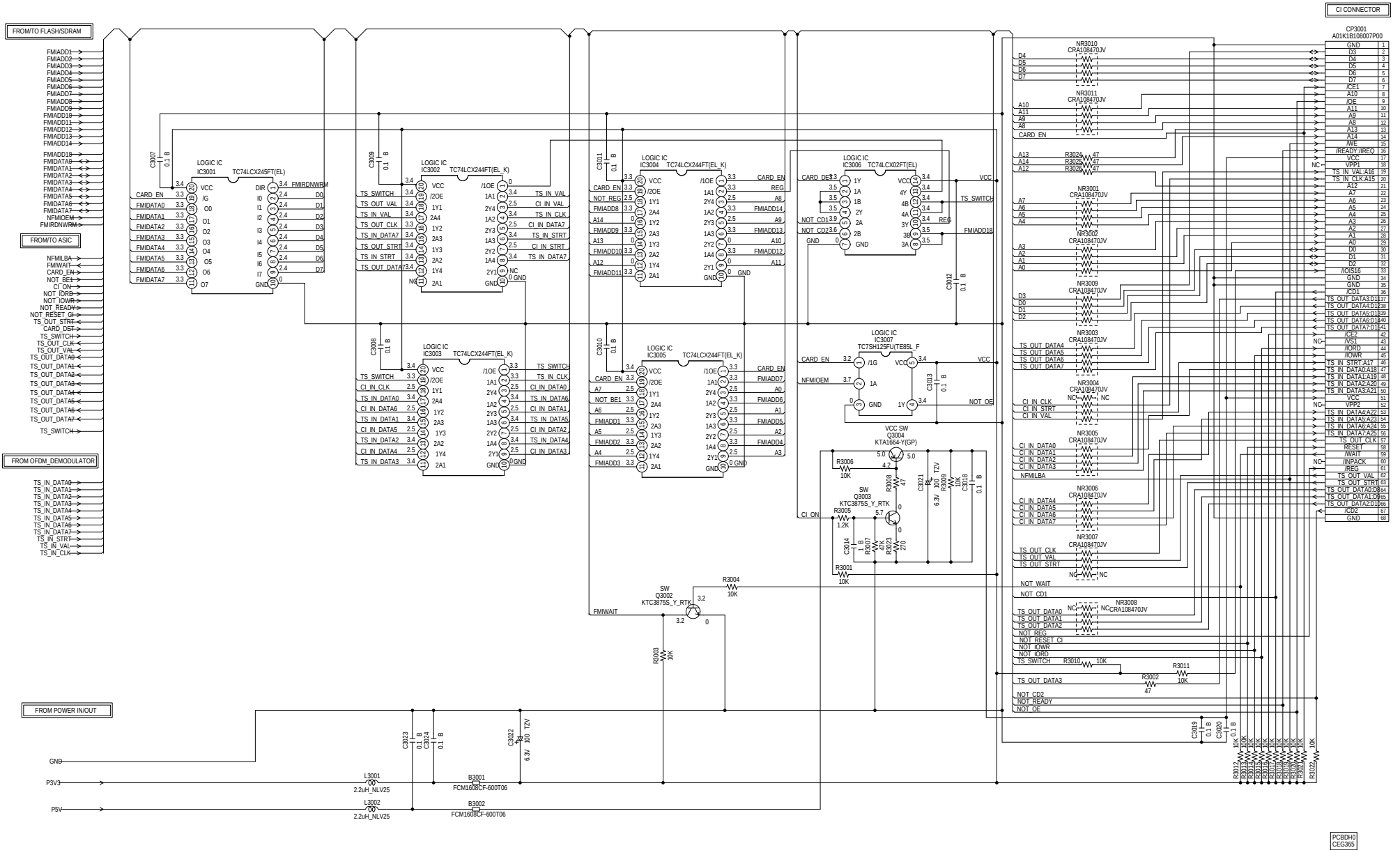
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

FLASH/SDRAM SCHEMATIC DIAGRAM (DIGITAL PCB)



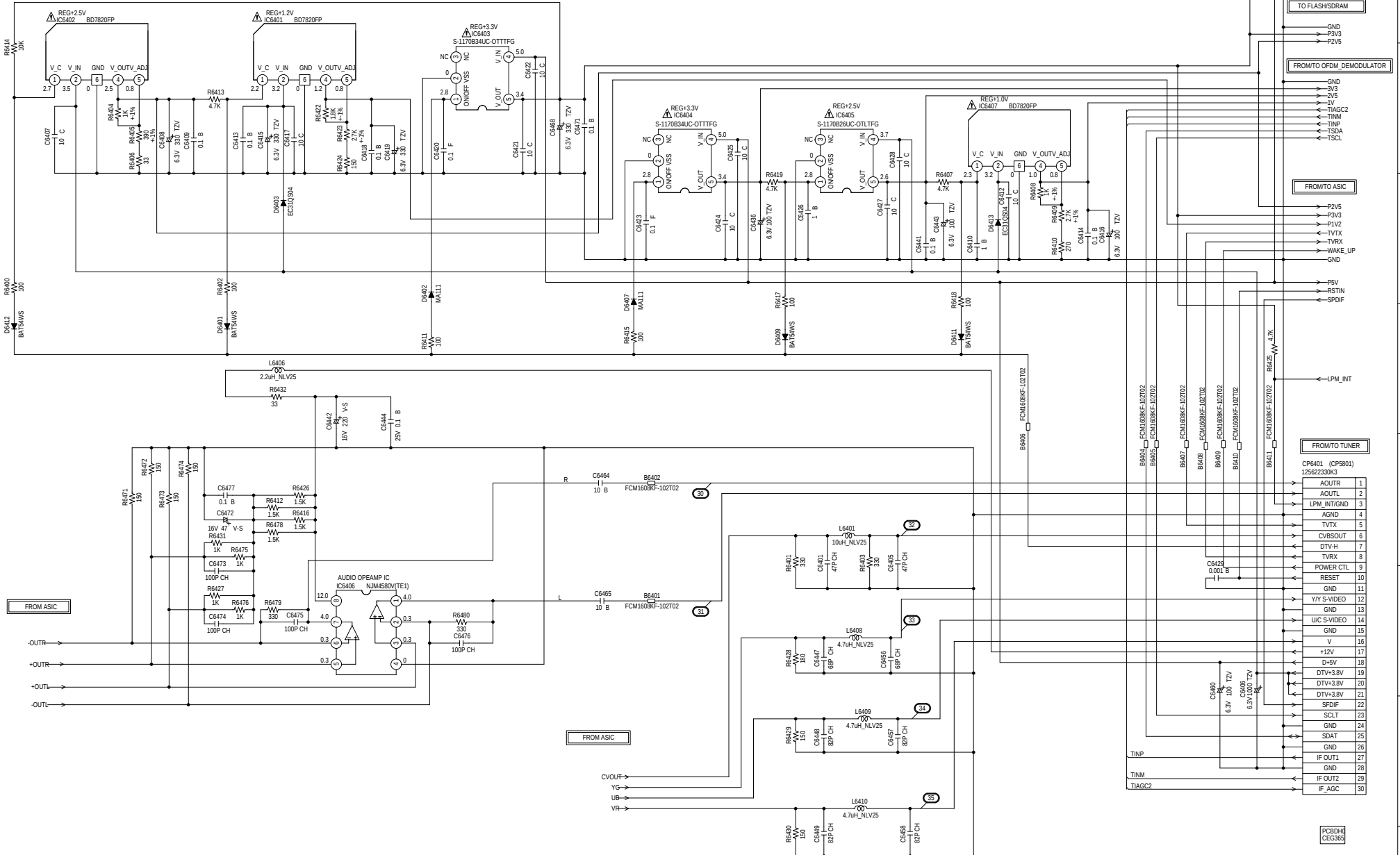
(DIGITAL PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

POWER IN/OUT SCHEMATIC DIAGRAM (DIGITAL PCB)



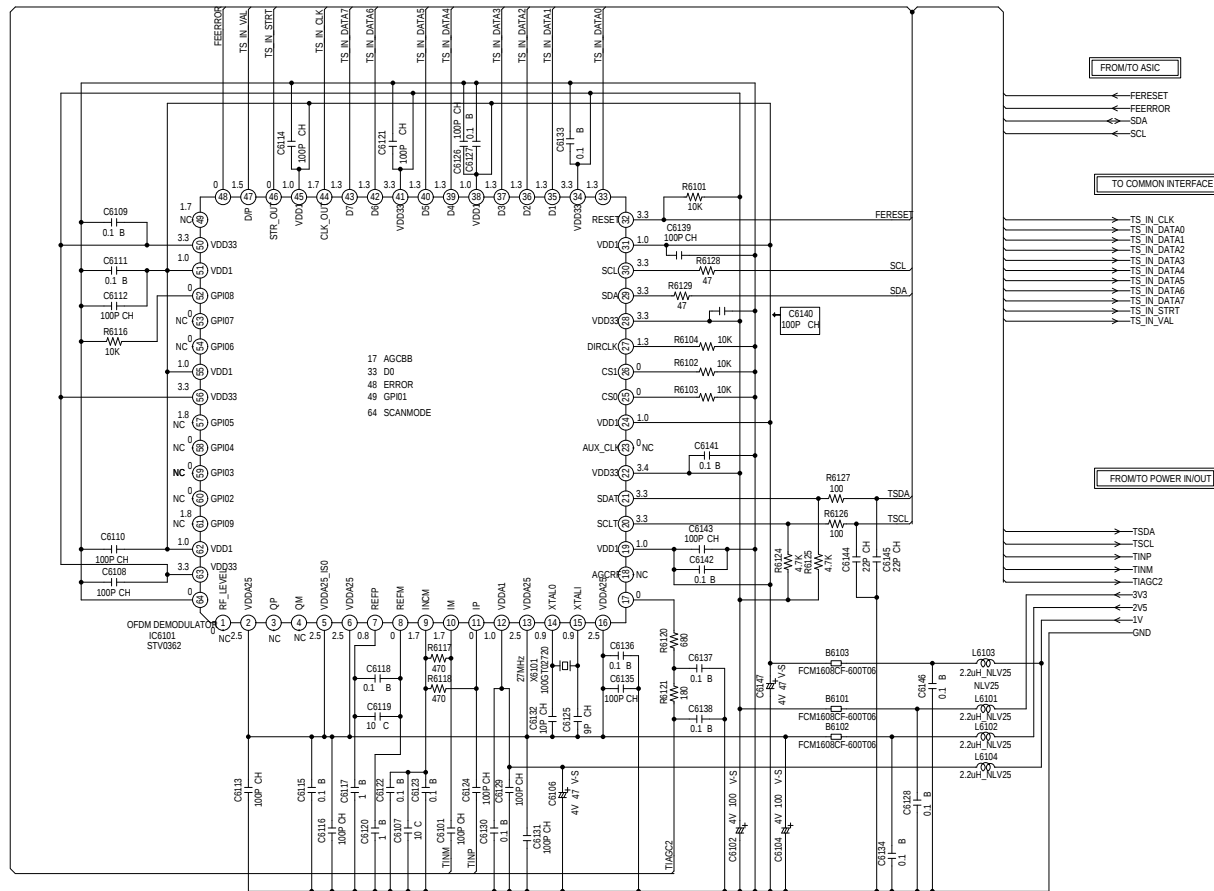
CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIECES REPAREES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE NUTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

OFDM_DEMODULATOR SCHEMATIC DIAGRAM (DIGITAL PCB)

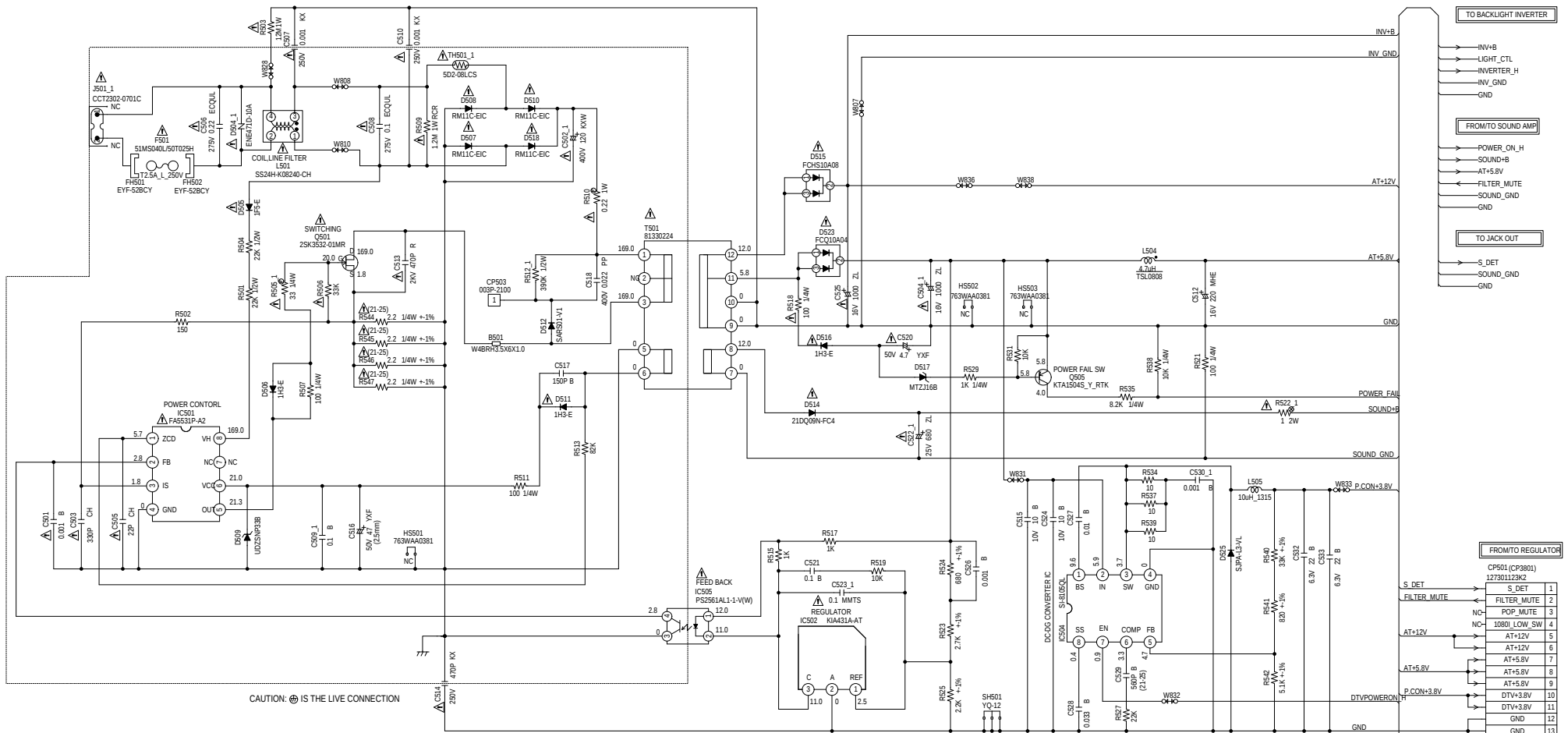


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PCB040
CEG365

POWER SCHEMATIC DIAGRAM (POWER PCB)



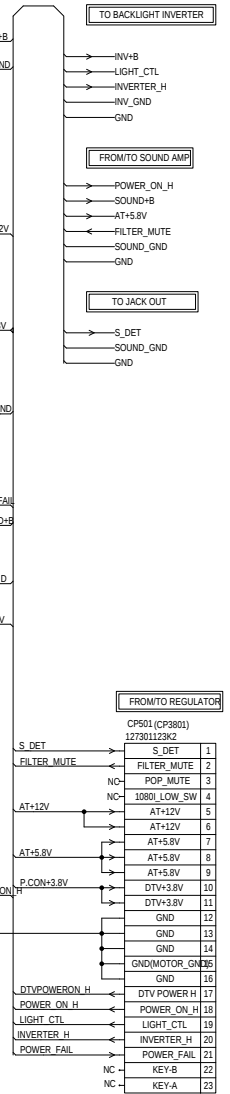
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

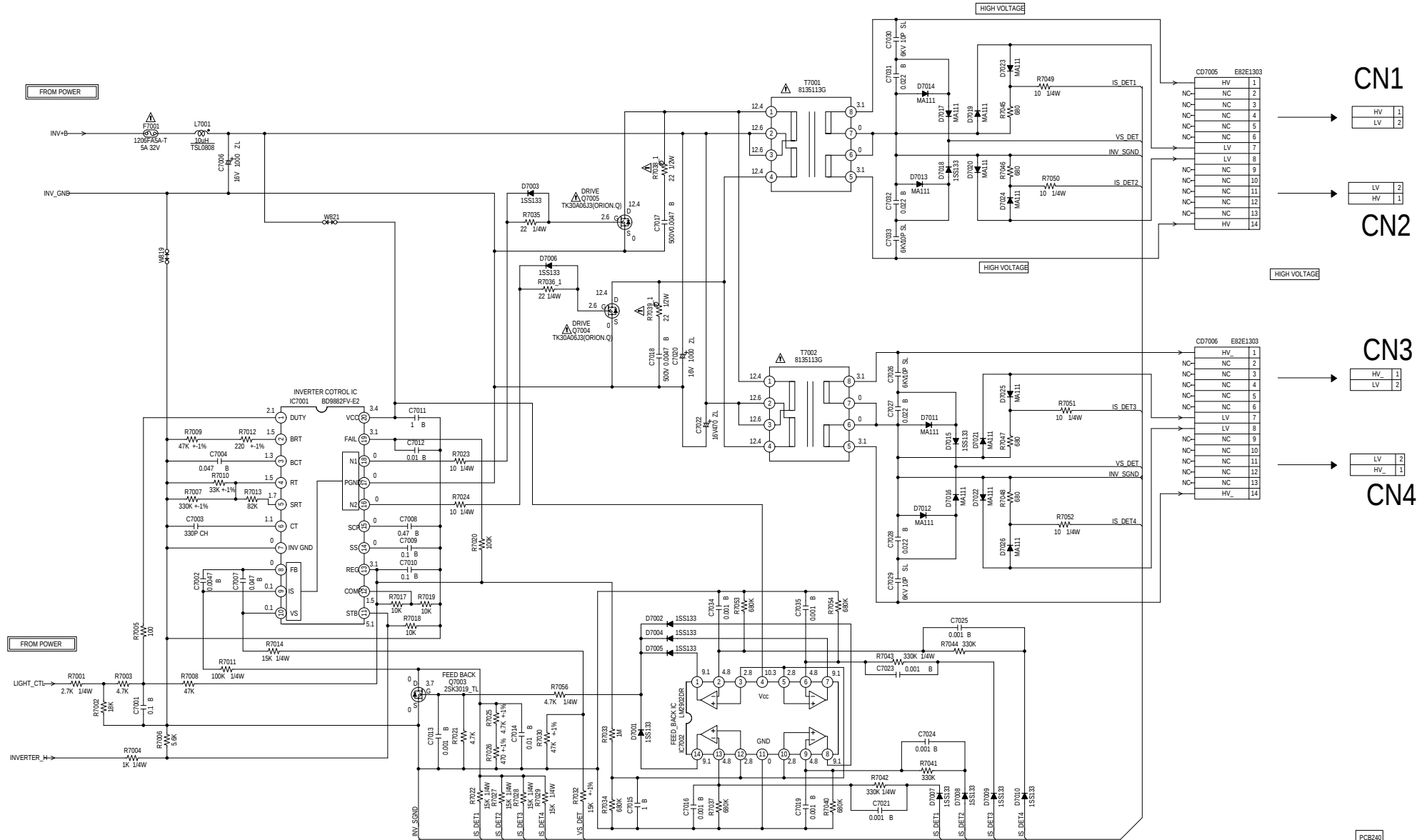
ATTENTION: LES PIÈCES RÉPARÉES PAR UN AT ÉTANT DANGEREUSES À UN POINT DE VUE SÉCURITÉ, N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.



PCB040
CE330

BACKLIGHT INVERTER SCHEMATIC DIAGRAM (POWER PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

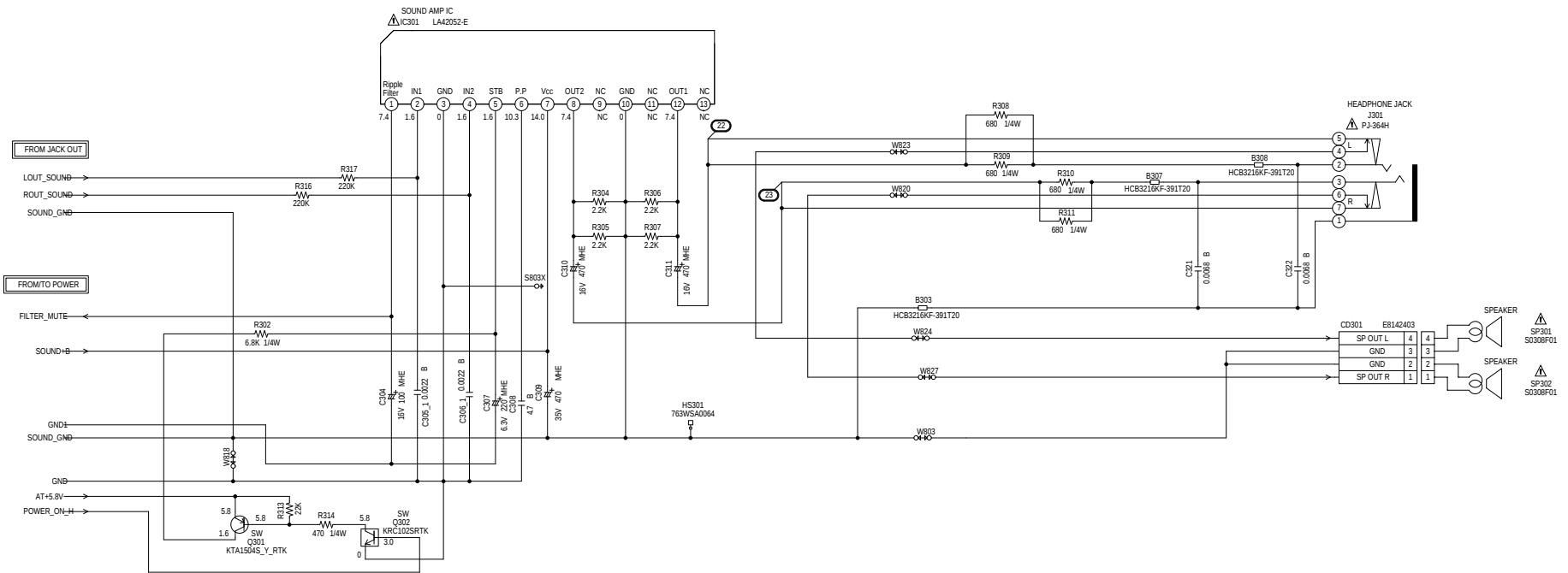
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

CAUTION SINCE THESE PARTS MARKED WITH ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIECES REPAREES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE, N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

SOUND AMP SCHEMATIC DIAGRAM (POWER PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

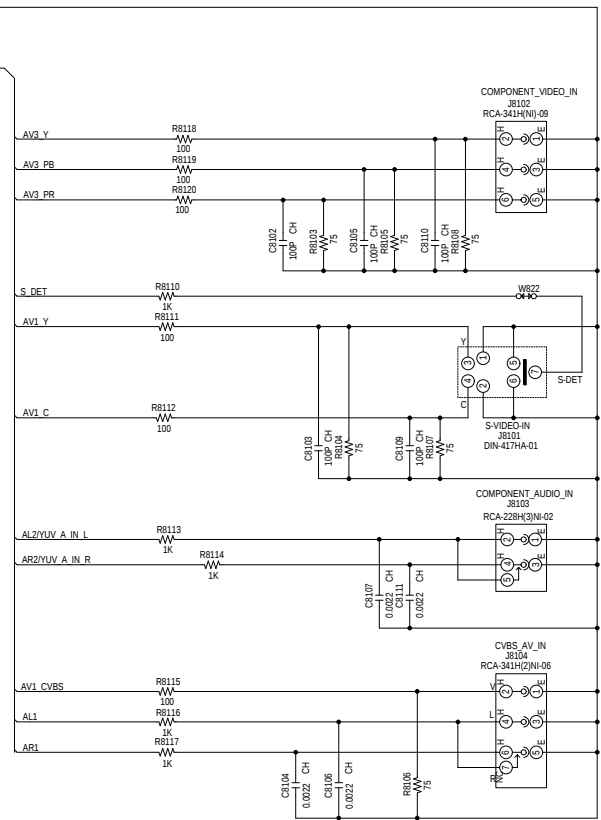
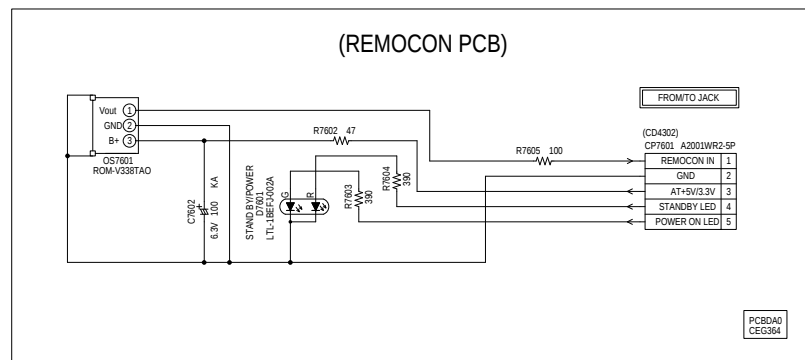
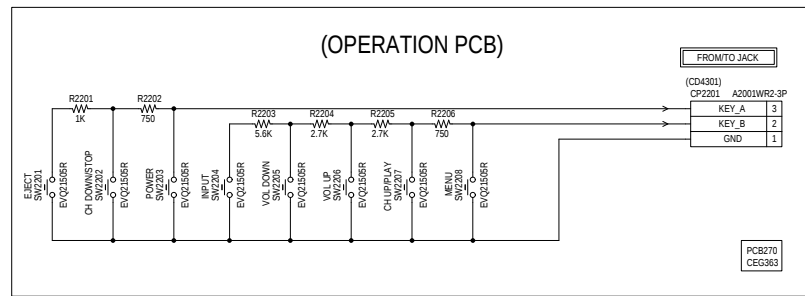
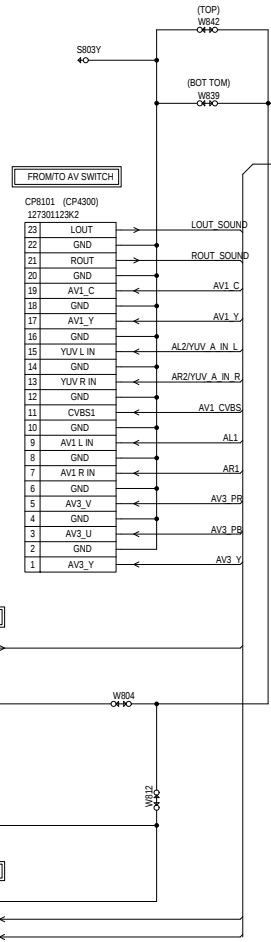
CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE NUTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

CAUTION: DIGITAL TRANSISTOR

PCB240
CEC390

JACK OUT SCHEMATIC DIAGRAM (POWER PCB)

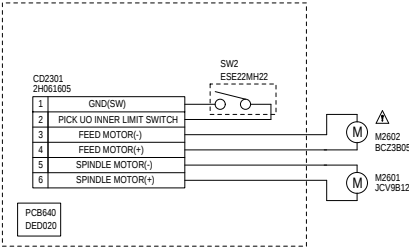


NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

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SW SCHEMATIC DIAGRAM

(SW PCB)



CAUTION SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY .

ATTENTION LES PIECES REPARÉES PAR UN  ETANT DANGEREUSES AU POINT DE VUE SECURITE, N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

INTERCONNECTION DIAGRAM

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

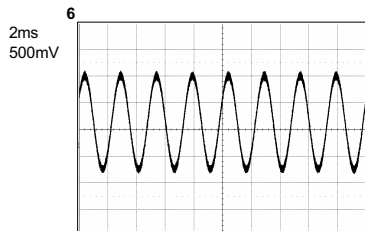
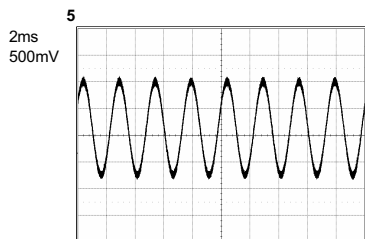
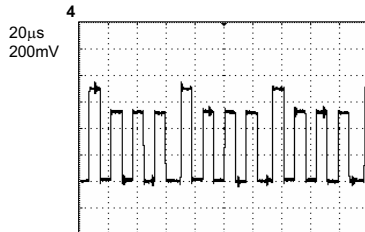
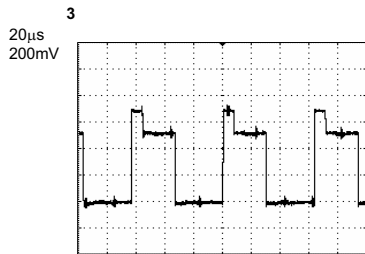
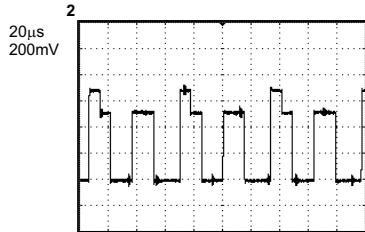
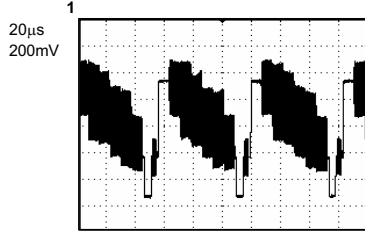
CAUTION SINCE THESE PARTS MARKED BY A ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION LES PIÈCES RÉPARÉES PAR UN A ETANT DANGEREUSES AN POINT DE VUE SECURITE UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIÈCES

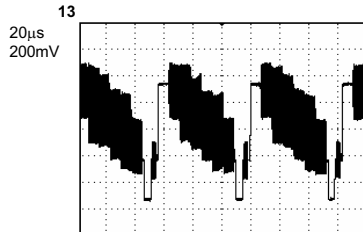
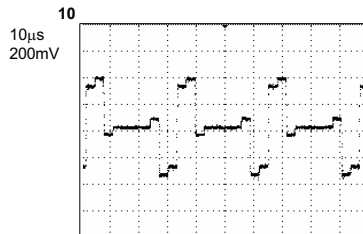
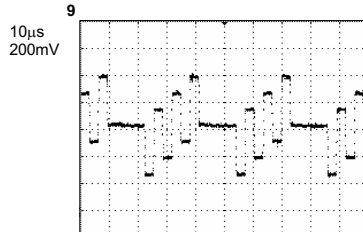
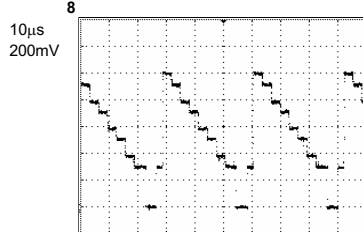
ATTENTION LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMÉNCLEATURE DES PIÈCES

WAVEFORMS

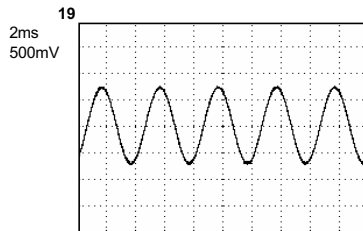
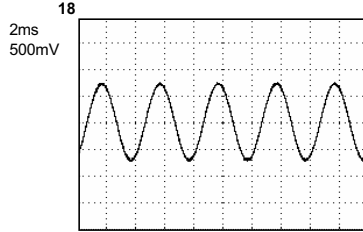
21PIN



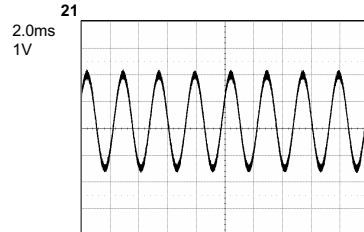
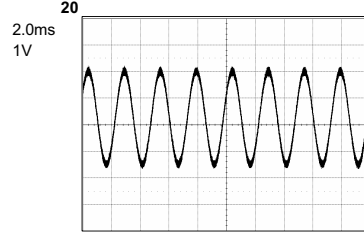
AV SWITCH



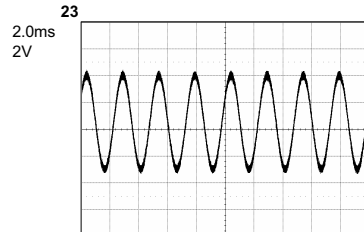
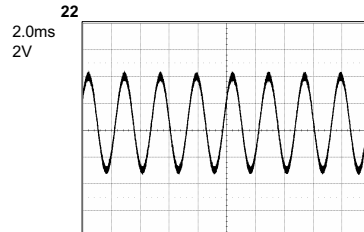
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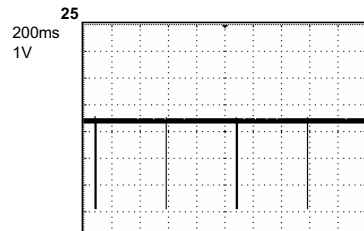
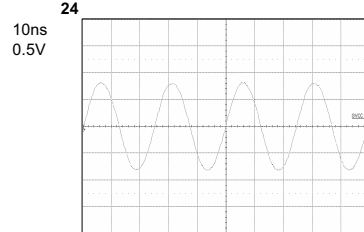
SOUND AMP MUTE



SOUND AMP

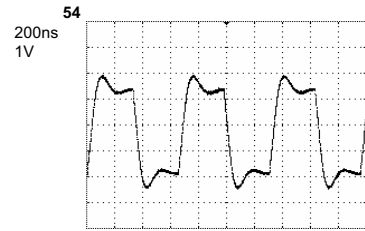
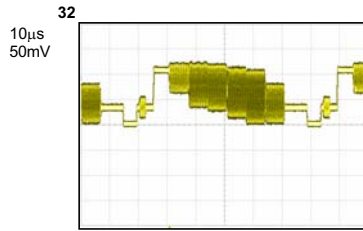
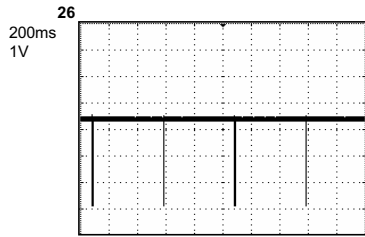


SCALER

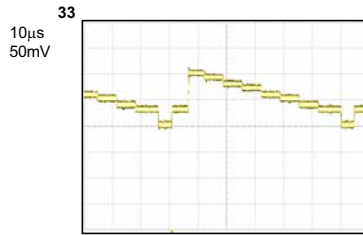
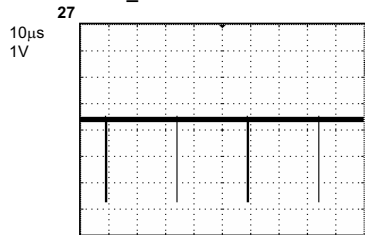


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

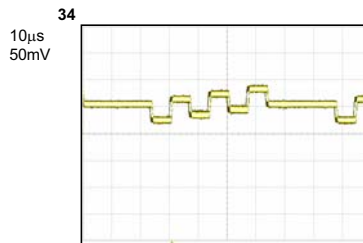
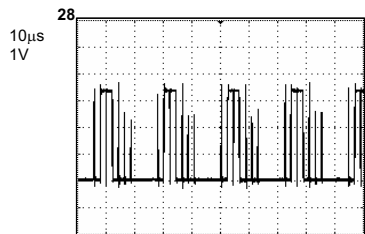
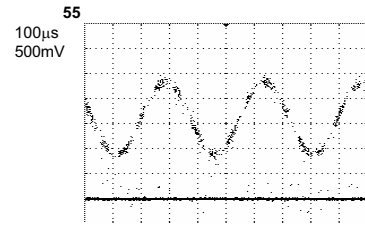
WAVEFORMS



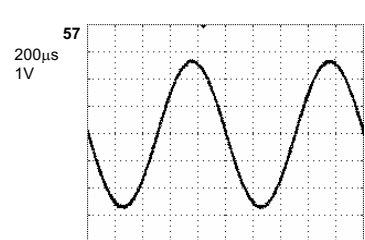
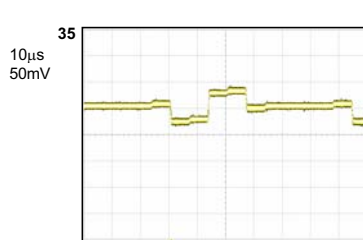
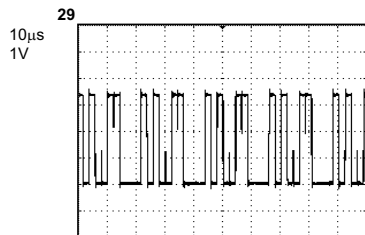
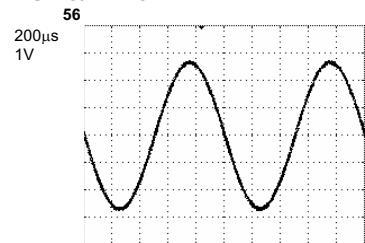
INTERFACE_HDMI IC



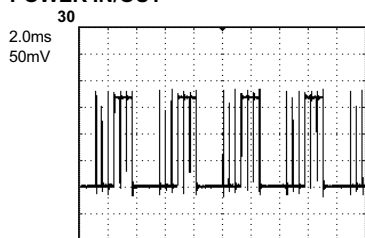
MEMORY



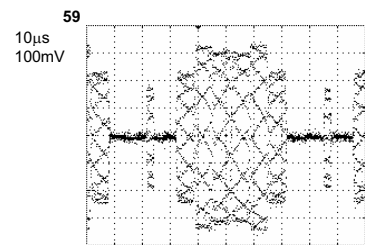
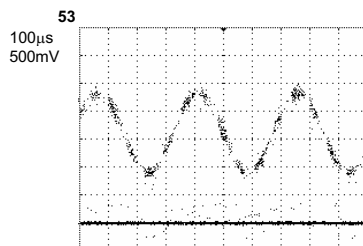
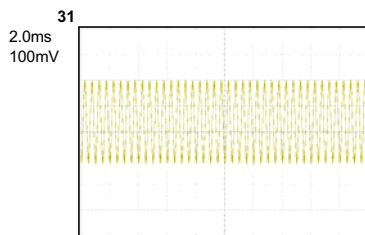
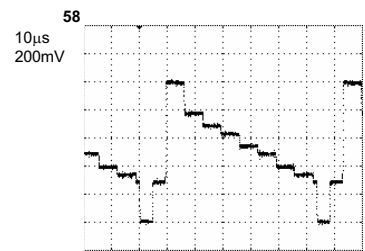
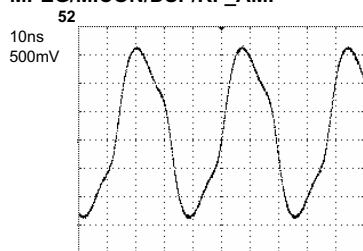
AUDIO/VIDEO



POWER IN/OUT



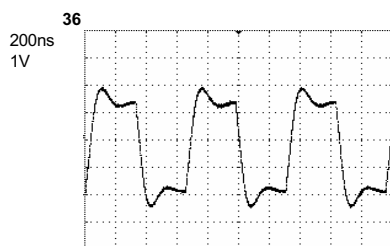
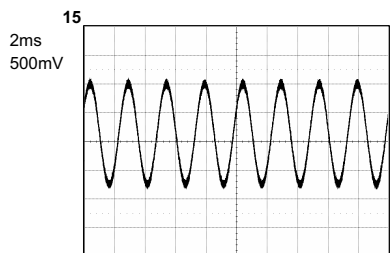
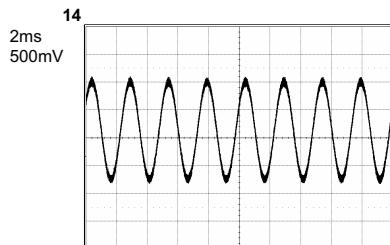
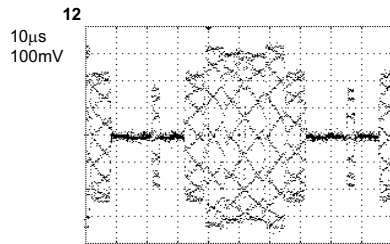
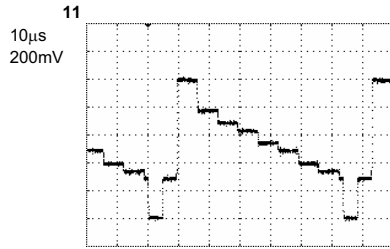
MPEG/MICON/DSP/RF_AMP



NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

DVD INTERFACE/AV SWITCH



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