

TOSHIBA

FILE NO. 810-200638GR

SERVICE MANUAL

COLORSTREAM® HD

DOLBY
DIGITAL

DVD
VIDEO

COMPACT
disc
DIGITAL VIDEO

dts
DIGITAL OUT

THEATERWIDE HD

DIVX®

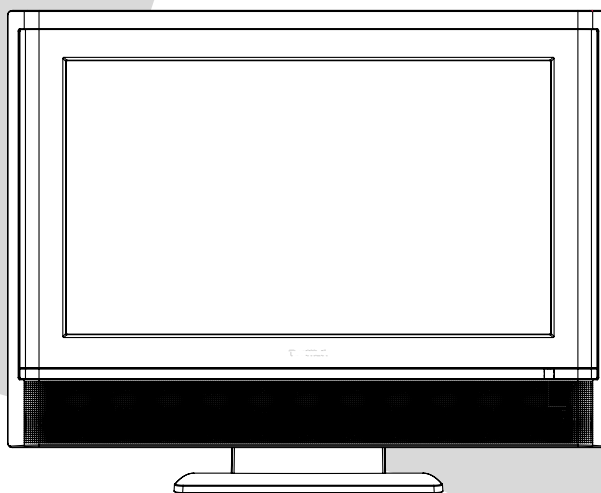
HDMI

HDTV
MONITOR

LC-DVD™

LCD TV/DVD COMBINATION

20HLV86



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

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

DOCUMENT CREATED IN JAPAN, April, 2006 GREEN

(*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.

TOSHIBA AMERICA CONSUMER PRODUCTS, L.L.C.
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 82 Totowa Road, Wayne, NJ 07470
National Service Division
 1420B Toshiba Drive, Lebanon, TN 37087

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 LC-DVD and GameTimer are trademarks of Toshiba America Consumer Products, L.L.C.



TOSHIBA

Printed in Thailand

TOSHIBA



OWNER'S MANUAL

LCD TV/DVD Combination



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: _____

20HLV86

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Introduction

Connecting your TV/DVD

Setting up your TV/DVD

Using the TV/DVD's Features

DVD Playback

Appendix

Introduction

Always read and understand the **PRODUCT WARNINGS** and **USER DIRECTIONS** that are contained in this manual before attempting to use your television, to help ensure its safe use. Always store this manual near your television for convenient future reference.

Dear Customer,

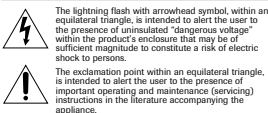
Thank you for purchasing this Toshiba television. You must carefully read and understand all of the safety instructions contained in this manual before you attempt to use this product in order to avoid potential hazards that could cause bodily injury or property damage or could damage your television. We hope that you are completely satisfied with your Toshiba television and that it will give you long and enjoyable service. We look forward to providing you with additional Toshiba products to serve all of your entertainment needs in the future.

Safety Precautions

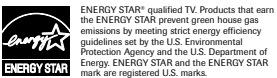
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



CAUTION: To reduce the risk of electric shock, do not use the polarized plug with an extension cord, receptacle, or other outlet unless the blades can be inserted completely to prevent blade exposure.



ENERGY STAR® qualified TV. Products that earn the ENERGY STAR prevent green house gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. ENERGY STAR and the ENERGY STAR mark are registered U.S. marks.

WARNING: If you decide to wall mount this television, always use a UL-approved wall bracket appropriate for the size and weight of this television. The use of any wall bracket other than a UL-approved wall bracket appropriate for the size and weight of this television for wall mounting this television could result in serious bodily injury and/or property damage.

NOTE TO CATV INSTALLERS

This is a reminder to call the CATV system installer's attention to Article 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to grounding system of the building, as close to the point of cable entry as practical. For additional antenna grounding information, see item 27 on page 5.

Child Safety

It Makes A Difference

Where Your TV Stands

Congratulations on your purchase!

As you enjoy your new TV, keep these safety tips in mind:

The Issue

- If you are like most consumers, you have a TV in your home. Many homes, in fact, have more than one TV.
- The home theater entertainment experience is a growing trend, and larger TVs are popular purchases; however, they are not always supported on the proper TV stands.
- Sometimes TVs are improperly secured or inappropriately situated on dressers, bookcases, shelves, desks, audio speakers, chests, or carts. As a result, TVs may fall over, causing unnecessary injury.

Toshiba Cares!

- The consumer electronics industry is committed to making home entertainment enjoyable and safe.
- The Consumer Electronics Association formed the Home Entertainment Support Safety Committee, comprised of TV and consumer electronics furniture manufacturers, to advocate children's safety and educate consumers and their families about television safety.

Tune Into Safety

- One size does NOT fit all! Use appropriate furniture large enough to support the weight of your TV (and other electronic components).
- Use appropriate angle braces, straps, and anchors to secure your furniture to the wall (but never screw anything directly into the TV).
- Carefully read and understand the other enclosed instructions for proper use of this product.
- Do not allow children to climb on or play with furniture and TVs.
- Avoid placing any item on top of your TV (such as a VCR, remote control, or toy) that a curious child may reach for.
- Remember that children can become excited while watching a program and can potentially push or pull a TV over.
- Share our safety message about this hidden hazard of the home with your family and friends. Thank you!



FCC compliance information

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

Federal Communications Commission (FCC):

This equipment complies with Part 15 of the FCC rules.

FCC Declaration of Conformity Compliance Statement (Part 15):

The Toshiba 20HLV86, LCD TV/DVD Combination complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The party responsible for compliance to these rules is:

Toshiba America Consumer Products, L.L.C.
 82 Totowa Rd. Wayne, NJ 07470.
 P/N: (800) 631-3811 or visit TACP's website at www.tacp.toshiba.com

NOTE:

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

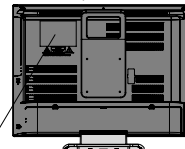
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications to this equipment not expressly approved by Toshiba could void the user's authority to operate this equipment.

CAUTION: THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM. TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS OWNER'S MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION. USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking

The rating sheet and the safety caution are the rear of the unit.



CERTIFICATION: COMPLIES WITH FDA RADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

ON DISPOSAL

This product contains mercury. Disposal of mercury may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronic Industrial Alliance: www.eiae.org.

Introduction

Connecting your TV/DVD

Setting up your TV/DVD






Using the TV/DVD's Features

DVD Playback




Appendix

IMPORTANT SAFEGUARDS

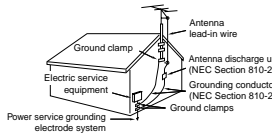
Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
 
- 10) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
 
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
 
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
 
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
 
- 14a) CAUTION: If the TV is dropped and the cabinet or enclosure surface has been damaged or the TV does not operate normally, take the following precautions:
 - ALWAYS turn off the TV and unplug the power cord to avoid possible electric shock or fire.
 - To prevent personal injury, never handle the damaged television.
 - ALWAYS contact a service technician to inspect the TV any time it has been damaged or dropped.
- 15) 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.

Installation, Care, and Service

- Installation**
Follow these recommendations and precautions and heed all warnings when installing your TV:
- 16) Never modify this equipment. Changes or modifications may void: a) the warranty, and b) the user's authority to operate this equipment under the rules of the Federal Communications Commission.
 - 17) **⚠ DANGER: RISK OF SERIOUS PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE!** Never place the TV on an unstable cart, stand, or table. The TV may fall, causing serious personal injury, death, or serious damage to the TV.
 
 - 18) Never place items such as vases, aquariums, or candles on top of the TV.
 - 19) Always place the TV on the floor or a sturdy, level, stable surface that can support the weight of the unit. Use a sturdy tie between the TV's rear hook and the rear wall, pillar, etc., to secure the TV. If you use a TV stand, fix the TV by using the attached band.
 
 - 20) Never expose the apparatus to dripping or splashing liquid or place items such as vases, aquariums, any other item filled with liquid, or candles on top of the TV.
 - 21) Never block or cover the slots or openings in the TV cabinet back, bottom, and sides.
 
 - on a bed, sofa, rug, or similar surface;
 - too close to drapes, curtains, or walls; or
 - in a confined space such as a bookcase, built-in cabinet, or any other place with poor ventilation.
 The slots and openings are provided to protect the TV from overheating and to help maintain reliable operation of the TV. Leave a space of at least 4 inches around the TV.
 - 22) Always place the back of the television at least one (1) inch away from any vertical surface (such as a wall) to allow proper ventilation.
 - 23) Never allow anything to rest on or roll over the power cord, and never place the TV where the power cord is subject to wear or abuse.
 - 24) Never overload wall outlets and extension cords.
 - 25) Always operate the TV with a 120V AC, 60Hz power source only.
- CAUTION:** To reduce the risk of electric shock, do not use the polarized plug with an extension cord, receptacle, or other outlet unless the blades can be inserted completely with three-wire grounding type to prevent blade exposure.

Installation (cont. from previous page)

- 26) Always make sure the antenna system is properly grounded to provide adequate protection against voltage surges and built-up static charges (see Section 810 of the National Electric Code.)
 

⚠ DANGER: RISK OF SERIOUS PERSONAL INJURY OR DEATH

- Use extreme care to make sure you are never in a position where your body (or any item you are in contact with, such as a ladder or screw-driver) can accidentally touch overhead power lines. Never locate the antenna near overhead power lines or other electrical circuits.
- Never attempt to install any of the following during lightning activity: a) an antenna system; or b) cables, wires, or any home theater component connected to an antenna or phone system.

Care

- For better performance and safer operation of your TOSHIBA TV, follow these recommendations and precautions:
- 28) Always unplug the TV before cleaning. Wipe the display panel surface gently using only the supplied wiping cloth or a soft cloth (cotton, flannel, etc.). A hard cloth may damage the surface of the panel. Avoid contact with alcohol, thinner, benzene, acidic or alkaline solvent cleaners, abrasive cleaners, or chemical cloths, as the surface may be impaired.
 - 29) **⚠ WARNING: RISK OF ELECTRIC SHOCK!** Never spill liquids or push objects of any kind into the TV cabinet slots.
 - 30) While it is thundering, do not touch the connecting cables or apparatus.
 - 31) For added protection of your TV from lightning and power surges, always unplug the power cord and disconnect the antenna from the TV if you leave the TV unattended or unused for long periods of time.
 - 32) During normal use, the TV may make occasional snapping or popping sounds. This is normal, especially when the unit is being turned on or off. If these sounds become frequent or continuous, unplug the power cord and contact a Toshiba Authorized Service Center.

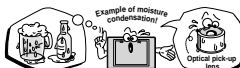
Care (cont. from previous column)

- 33) **Possible Adverse Effects on TV display** If a fixed (non-moving) pattern or image remains on the TV display for extended periods of time, the image can become permanently ingrained in the display of the TV and cause subtle but permanent ghost images. **This type of damage is NOT COVERED BY YOUR WARRANTY.** Never leave the TV on for extended periods of time while it is displaying the following images or formats:
 - **Fixed (non-moving) images**, including but not limited to PIP/POP windows, closed captions, video game patterns, TV station logos, stock tickers, and websites.
 - **Special formats** that do not use the entire screen, including but not limited to widescreen or letterbox format media viewed on a 4:3 aspect ratio display (with gray or black bars at the top and bottom of the screen) and 4:3 aspect ratio format media viewed on a widescreen/16:9 aspect ratio display (with gray or black bars on the left and right sides of the screen.)
 - 34) Keep your fingers well clear of the disc slot as it is closing. Failure to do so may cause serious personal injury.
 - 35) When you use headphones, keep the volume at a moderate level. Using headphones continuously at a high volume may cause hearing damage.
 - 36) Do not look into the opening of the disc slot or ventilation opening of the product to see the source of the laser beam. Doing so may cause sight damage.
 - 37) Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.
 - 38) Do not press on or jolt the LCD panel. Doing so may cause the LCD panel glass to break and injury may occur. Should the LCD panel be broken and liquid leaks out, do not inhale or swallow it. Doing so may cause poisoning. If you have got it into your mouth, wash it out and consult your doctor. If your hands or clothes have touched it, wipe them with alcohol and a cleaning cloth and then wash them well.
- Service**
- 39) **⚠ WARNING: RISK OF ELECTRIC SHOCK!** Never attempt to service the TV yourself. Opening and removing the covers may expose you to dangerous voltage or other hazards. Refer all servicing to a Toshiba Authorized Service Center.
 - 40) If you have the TV serviced:
 - Ask the service technician to use only replacement parts specified by the manufacturer.
 - Upon completion of service, ask the service technician to perform routine safety checks to determine that the TV is in safe operating condition.
 - 41) When the TV reaches the end of its useful life, ask a qualified service technician to properly dispose of the TV.

Precautions

Important notes about your LCD TV

The following symptoms are technical limitations of LCD Display technology and are not an indication of malfunction. Therefore, Toshiba is not responsible for perceived defects resulting from these symptoms.

- 1) An afterimage (ghost) may appear on the screen if a fixed, nonmoving image is displayed for a long period of time. The afterimage is not permanent and will disappear in a short period of time.
- 2) The LCD panel contained in this TV is manufactured using an extremely high level of precision technology; however, there may be an occasional pixel (dot of light) that does not operate properly (does not light, remains constantly lit, etc.). This is a structural property of LCD technology, is not a sign of malfunction, and is not covered under your warranty. Such pixels are not visible when the picture is viewed from a normal viewing distance.
 

Note: Interactive video games that involve shooting a "gun" type of joystick at an on-screen target may not work on this TV.

Notes on handling

- Do not subject the LCD panel to physical shock, such as dropping it. It may cause unit damage and malfunction.
- When shipping the unit, the original shipping carton and packing materials come in handy. For fully protection, repack the unit as it was originally packed at the factory.
- Do not use volatile liquids, such as insecticide, near the unit. Do not leave rubber or plastic products in contact with the unit for prolonged periods of time. Doing so will leave marks on the finish.
- The top and rear panels of the unit may become warm after a long period of use. This is not a malfunction.
- When the unit is not in use, always remove the disc and turn off the power.
- If you do not use the unit for a long period, the unit may not function properly in the future. Turn on and use the unit occasionally.

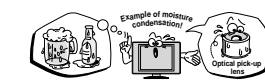
Notes on locating the unit

- When you place this unit near a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. In this case, place the unit away from the TV, radio, or VCR.
- To avoid damage to this product, never place or store the TV/DVD in direct sunlight; hot, humid areas; or areas subject to excessive dust or vibration.

Notes on moisture condensation

Moisture condensation damages the unit. Please read the following carefully.

Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day and drops of water form on the outside of the glass. In the same way, moisture may condense on this unit's internal optical pickup lens, one of the most crucial internal parts of the unit.



Moisture condensation may occur in the following situations:

- When you move the unit from a cold area to a warm area.
- When you use the unit in a room in which the heat was just turned on.
- When you use the unit in an area where cold air from an air conditioner directly hits the unit.
- When you use the unit in a humid area.



Never use the unit when moisture condensation may occur.

Using the unit when moisture condensation exists may damage discs and internal parts. Remove the disc, connect the power cord of the unit to the wall 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 wall outlet and moisture condensation will seldom occur.



Note on cleaning

- Use a soft, dry cloth for cleaning.
- Do not use any type of solvent, such as thinner and benzene, as they may damage the surface of the unit.

Notes on discs

On handling discs

- Do not touch the playback side of the disc. For example, handle the disc so that it is shown in figure below.



- Do not attach paper or tape to discs.



On cleaning discs

- Fingerprints and dust on the disc cause picture and sound deterioration. Wipe the disc from the center outwards with a soft cloth. Always keep the disc clean.



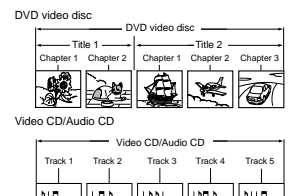
- Do not use any type of solvent such as thinner, benzene, commercially available cleaners or antistatic spray for vinyl LPs. It may damage the disc.

On storing discs

- Do not store discs in a place subject to direct sunlight or near heat sources.
- Do not store discs in places subject to moisture and dust such as a bathroom or near a humidifier.
- Store discs vertically in a case. Stacking or placing objects on discs outside of their case may cause warping.

Structure of disc contents

Normally, DVD video discs are divided into titles, and the titles are sub-divided into chapters. Video CDs and Audio CDs are divided into tracks.



Each title, chapter or track is assigned a number, which is called "title number", "chapter number" or "track number" respectively. Some discs may not have these numbers.

Notes on copyright

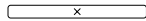
The unauthorized recording, use, distribution, or revision of television programs, video tapes, DVDs, and other materials is prohibited under the Copyright Laws of the United States and other countries, and may subject you to civil and criminal liability.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

About this owner's manual

This owner's manual explains the basic instructions of this unit. Some DVD video discs are produced in a manner that allows specific or limited operation during playback. As such, the unit may not respond to all operating commands. This is not a defect in the unit. Refer to instruction notes of discs.

The following symbol may appear on the TV screen during operation.



It means that the operation is not permitted by the TV/DVD or the disc.

For example, sometimes it is unable to stop the playback of copyright message of the disc when the STOP (■) button is pressed. Alternatively, this symbol may also indicate that the feature is not available for the disc.

Notes on region numbers

The region number of this unit is 1. If region numbers, which stand for their playable area, are printed on your DVD video disc and you do not find (1) or (2), disc playback will not be allowed by the player. (In this case, the unit will display a message on-screen.) Some DVDs that have no region code label may still be subject to area restrictions and therefore are not playable.

On Video CDs

The DVD player contained in this LCD TV 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 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.

Playable discs

This unit can play the following discs.

	Disc Mark	Contents	Disc Size	Maximum playback time
DVD video discs		Audio + Video (moving pictures)	12 cm	Approx. 4 hours (single sided disc)
			8 cm	Approx. 8 hours (double sided disc)
		8 cm	Approx. 80 minutes (single sided disc)	
Video CDs		Audio + Video (moving pictures)	12 cm	Approx. 74 minutes (single sided disc)
			8 cm	Approx. 20 minutes (single sided disc)
Audio CDs		Audio	12 cm	Approx. 74 minutes (single sided disc)
			8 cm	Approx. 20 minutes (single sided disc)

The following discs are also available.

- DVD-R/RW discs of DVD video format
- CD-R/CD-RW discs of CD-DA, Video CD, MP3, WMA, JPEG or DivX® format
- Kodak Picture CD and FUJICOLOR CD format

Some of these discs may be incompatible.

- You cannot play discs other than those listed above.
- You cannot play discs of DVD-RAM, DVD-ROM, Photo CD, etc., or non-standardized discs even if they may be labeled as above.
- Some CD-R/RWs cannot be played back depending on the recording conditions.
- This unit uses the NTSC color system, and cannot play DVD video discs recorded in any other color system (PAL, SECAM, etc.).
- 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.

Because of problems and errors that can occur during the creation of DVD and CD Software and/or the manufacture of DVD and CD discs, Toshiba cannot assure that the DVD player contained in this TV will successfully play every disc bearing the DVD and CD logos. If you happen to experience any difficulty playing a DVD and/or CD disc on the DVD player contained in this TV, please contact Toshiba Customer Service.

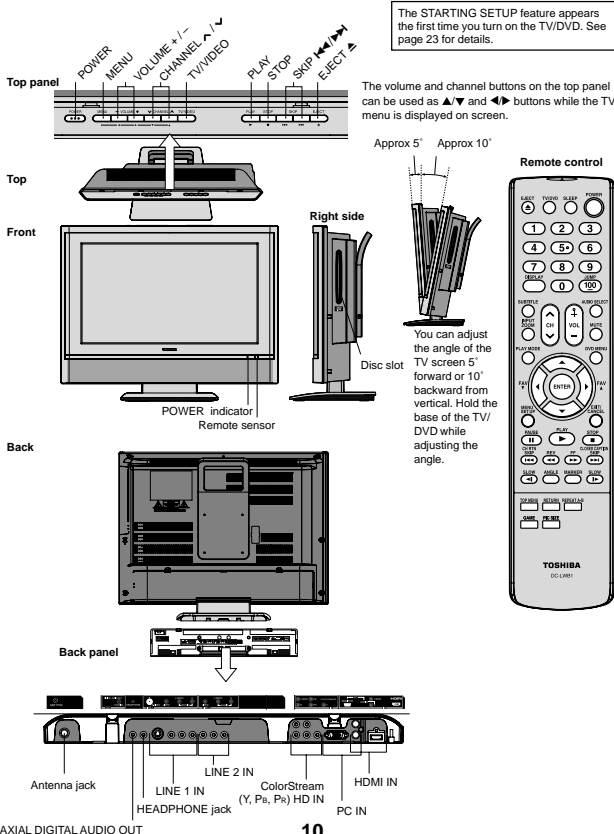
DVD is a trademark of DVD Format/Logo Licensing corporation.

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Exploring your new TV/DVD

You can operate your TV/DVD by using the buttons on the top panel or the remote control. The side and back panels provide the terminals to connect other equipment to your TV/DVD.

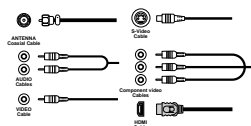


Selecting a location for the TV/DVD

- Place the TV/DVD on the floor or on a sturdy platform in a location where light does not directly hit the screen.
- Place the TV/DVD far enough from the walls to allow proper ventilation. Inadequate ventilation may cause overheating, which may damage the TV/DVD.

Connecting your TV/DVD

- A coaxial cable is the standard cable that comes in from your antenna or cable converter box. Coaxial cables use "F" connectors.
- Standard A/V (audio/video) cables are usually color coded according to use: yellow for video and red and white for audio. The red audio cable is for the stereo right channel, and the white audio cable is for the stereo left (or mono) channel. If you look at the rear panel of the TV/DVD, you will see that the terminals are color coded in the same manner as the cables.
- S-video cables provide better picture performance than standard video cables. S-video cables can only be used with S-video compatible components.
- Component video cables provide better picture performance than S-video cables. Component video cables can only be used with component video compatible components.
- HDMI (High Definition Multimedia Interface) cable is for use with video equipment that has HDMI output (see page 17).

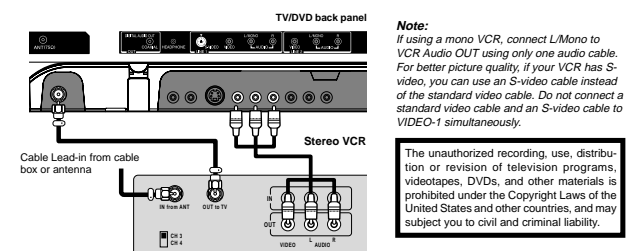


NOTE: DO NOT CONNECT A PC USING THE HDMI INPUT.
ALWAYS use the VGA port provided to connect a PC.

Connecting a VCR

This connection allows you to watch local channels and video programs, play or record on the VCR while watching TV, and record from one channel while watching another channel.

- You will need:
- two coaxial cables
 - one set of standard A/V cables



Note:
If using a mono VCR, connect L/Mono to VCR Audio OUT using only one audio cable. For better picture quality, if your VCR has S-video, you can use an S-video cable instead of the standard video cable. Do not connect a standard video cable and an S-video cable to VIDEO-1 simultaneously.

The unauthorized recording, use, distribution or revision of television programs, videotapes, DVDs, and other materials is prohibited under the Copyright Laws of the United States and other countries, and may subject you to civil and criminal liability.

Connecting a cable converter box or Antenna

This television has an extended tuning range and can tune most cable channels without using a cable company supplied converter box. Some cable companies offer "premium pay channels" in which the signal is scrambled. Descrambling these signals for normal viewing requires the use of a descrambler device, which is generally provided by the cable company.

Option 1: For Subscribers to Basic Cable TV Service

For basic cable service not requiring a Converter/Descrambler box, connect the incoming 75 ohm Coaxial Cable directly to the Antenna Jack on the back of the television.

Option 2: For Subscribers to Scrambled Cable TV Service

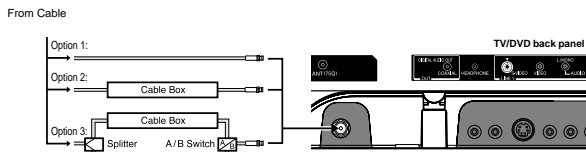
If you subscribe to a cable service that requires the use of a Converter/Descrambler box, connect the incoming cable to the Converter/Descrambler box and connect the output of the box to the Antenna Jack on the back of the television. Follow the connections shown below. Set the television to the output of the Converter/Descrambler box (usually channel 3 or 4) and use the Converter/Descrambler box to select channels.

Option 3: For Subscribers to Unscrambled Basic Cable with Scrambled Premium Channels

If you subscribe to a cable service in which basic cable channels are unscrambled and premium channels require the use of a Converter/Descrambler box, you may wish to use a two-set signal splitter (sometimes called a "two-set coupler") and an A/B Switch box from the cable installer or an electronics supply store. Follow the connections shown below. With the switch in the "B" position, you can directly tune any unscrambled channels on your TV/DVD. With the switch in the "A" position, tune your TV/DVD to the output of the Converter/Descrambler box (usually channel 3 or 4) and use the box to tune scrambled channels.

Note:

When you use a converter box with your TV/DVD, there may be features that you cannot program using the remote control, such as labeling channels, blocking channels, and programming your favorite channels.



Connecting a DVD player with ColorStream® (component video) and a VCR

This connection allows you to watch DVD, VCR, or TV programs and record TV programs. You can record from one source while watching a program from another source. Your TV/DVD is capable of using ColorStream (component video). Connecting your TV/DVD to a component video compatible DVD player, such as a Toshiba DVD player with ColorStream®, can greatly enhance picture quality and performance.

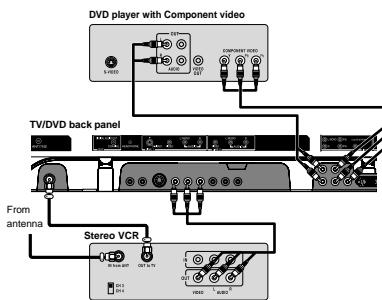
You will need:

- two coaxial cables
- one set of standard A/V cables
- one set of component video cables
- one pair of standard audio cables

Note:

The ColorStream HD jacks can be used with Progressive (480p, 720p) and Interlaced (480i, 1080i) scan systems. A 1080i signal will provide the best picture performance.

The unauthorized recording, use, distribution, or revision of television programs, videotapes, DVDs, and other materials is prohibited under the Copyright Laws of the United States and other countries, and may subject you to civil and criminal liability.



Connecting a satellite receiver and a VCR

This connection allows you to watch satellite, VCR, or TV programs. You can record from the satellite receiver and TV, as well as record one TV channel while watching another channel.

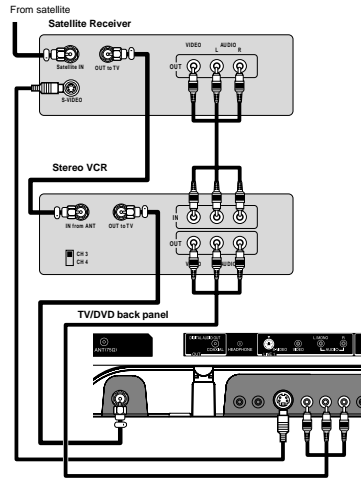
You will need:

- three coaxial cables
- two sets of standard A/V cables
- one S-video cable

Note:

You can use a standard video cable instead of the S-video cable, but the picture quality will decrease. If you use an S-video cable between the TV/DVD and DVD player/satellite receiver, make the audio connections but remove the standard video cable. Do not connect both an S-video and a standard video cable to VIDEO1 at the same time or the picture performance will be unacceptable.

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Connecting a DTV receiver/set-top box with ColorStream® (component video) and a VCR

This connection allows you to watch DTV (digital TV), VCR, and TV programs, and record DTV and TV programs. Your TV/DVD has ColorStream® (component video) inputs. Connecting your TV/DVD to a DTV receiver with component video can greatly enhance picture quality and realism.

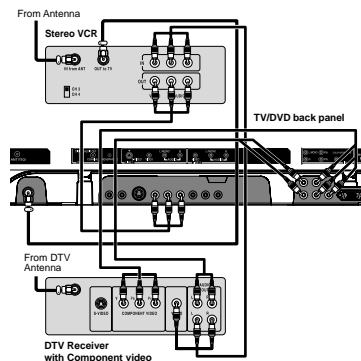
You will need:

- three coaxial cables
- two sets of standard A/V cables
- one set of standard audio cables
- one set of component video cables

Note:

The ColorStream HD jacks and HDMI jacks can be used with Progressive (480p, 720p) and Interlaced (480i, 1080i) scan systems. If your DTV receiver does not have component video, use the S-video and standard audio connections instead. Do not connect both an S-video and a standard video cable to VIDEO1 at the same time or the picture performance will be unacceptable. For an HDMI connection, see page 17.

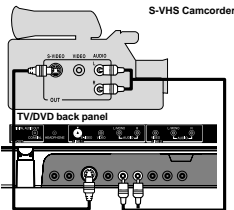
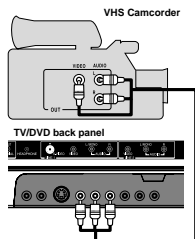
The unauthorized recording, use, distribution, or revision of television programs, videotapes, DVDs, and other materials is prohibited under the Copyright Laws of the United States and other countries, and may subject you to civil and criminal liability.



Connecting a camcorder

This connection allows you to watch videos recorded on a camcorder.

- You will need:
- one set of standard AV cables

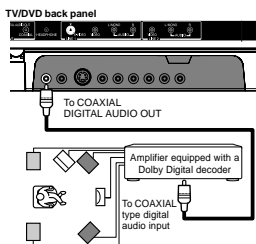


- You will need:
- one S-video cable
 - one pair of standard audio cables

Note:
For better picture quality, if your camcorder has S-video, you can use an S-video cable (plus the standard audio cables) 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.

Connecting an amplifier equipped with a Dolby® Digital decoder

Dolby Digital
Dolby Digital is the surround sound technology used in theaters showing the latest movies, and is now available to reproduce this realistic effect in the home. You can enjoy motion picture and live concert DVD video discs encoded via the Dolby Digital recording system with this dynamic realistic sound by connecting the TV/DVD to a 6 channel amplifier equipped with a Dolby Digital decoder or Dolby Digital processor. If you have a Dolby Surround Pro Logic decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1-channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark.



- You will need:
- one coaxial cable
- Notes:**
- DO NOT connect the COAXIAL DIGITAL AUDIO OUT jack of the TV/DVD to the AC-3 RF input of a Dolby Digital Receiver. This input on your A/V Receiver is reserved for Laserdisc use only and is incompatible with the COAXIAL DIGITAL AUDIO OUT jack of the TV/DVD.
 - Connect the COAXIAL DIGITAL AUDIO OUT jack of the TV/DVD to the "COAXIAL" input of a Receiver or Processor.
 - Refer to the owner's manual of the connected equipment as well.
 - The output sound of the TV/DVD has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
 - Turn off the amplifier before you connect or disconnect the TV/DVD's power cord. If you leave the amplifier power on, the speakers may be damaged.

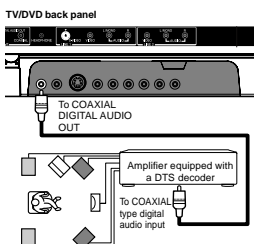
Manufactured under license from Dolby Laboratories. Dolby, Pro Logic, and the double-D symbol are trademarks of Dolby Laboratories.

- You will need:
- one coaxial cable
- Notes:**
- Connect the COAXIAL DIGITAL AUDIO OUT jack of the TV/DVD to the "COAXIAL" input of a Receiver or Processor.
 - Refer to the owner's manual of the connected equipment as well.
 - The output sound of the TV/DVD has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
 - Turn off the amplifier before you connect or disconnect the TV/DVD's power cord. If you leave the amplifier power on, the speakers may be damaged.

DTS and DTS Digital Out are trademarks of Digital Theater Systems, Inc.

Connecting an amplifier equipped with a DTS® decoder

Digital Theater Systems (DTS)
DTS is a high quality surround technology used in theaters and now available for home use, on DVD video discs or audio CDs. If you have a DTS decoder or processor, you can obtain the full benefit of 5.1 channel DTS encoded sound tracks on DVD video discs or audio CDs.



Connecting an HDMI™ or a DVI device

The HDMI input on your TV receive digital audio and uncompressed digital video from an HDMI source device, or uncompressed digital video from a DVI (Digital Video Interface) source device.

This input is designed to accept HDCP (High-Bandwidth Digital-Content Protection) program material in digital form from EIA/CEA-861/861B-compliant^[1] consumer electronic devices (such as a set-top box or DVD player with HDMI or DVI output).

The HDMI input is designed for best performance with high definition video signals. They will accept and display 480p, 720p and 1080i signals.

NOTE: DO NOT CONNECT A PC USING THE HDMI INPUT.
ALWAYS use the VGA port provided to connect a PC.

- To connect an HDMI device, you will need:
- one HDMI cable (type A connector)

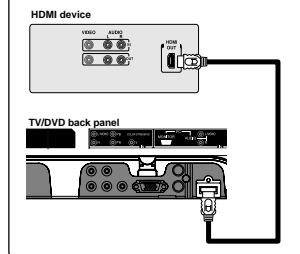
For proper operation, it is recommended that you use as short an HDMI cable as possible. You should not encounter difficulty if you use an HDMI cable that is shorter than 16.4 ft (5m).

HDMI cable transfers both video and audio. Separate analog audio cables are not required (see illustration below).

You must set the HDMI audio input setting to "HDMI" in the AUDIO menu (see page 42).

Some DVDs (Video CDs) may not output digital audio signals. In that case, you may hear sound by connecting analog audio cables. If you do use analog audio cables for this reason, you will need to set the HDMI audio input setting to "DVI" to hear the analog audio (see page 42).

Note: If you connect an HDMI device and analog audio cables and play media with digital audio output, to hear digital audio you must set the HDMI audio input setting to "HDMI" (page 42).



[1] EIA/CEA-861/861B compliance covers the transmission of uncompressed digital video with high-bandwidth digital content protection, which is being standardized for reception of high-definition video signals. Because this is an evolving technology, it is possible that some devices may not operate properly with the TV.

To ensure that the HDMI or DVI device is reset properly, it is recommended that you follow these procedures:

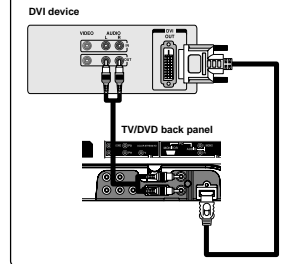
- When turning on your electronic components, turn on the TV/DVD first, and then the HDMI or DVI device.
- When turning off your electronic components, turn off the HDMI or DVI device first, and then the TV/DVD.

- To connect a DVI device, you will need:
- one HDMI-to-DVI adapter cable (HDMI type A connector)

For proper operation, the length of an HDMI-to-DVI adapter cable should not exceed 9.8 ft (3m). The recommended length is 6.6 ft (2m).

- one pair of standard analog audio cables
- An HDMI-to-DVI adapter cable transfers only video. Separate analog audio cables are required (see illustration below).

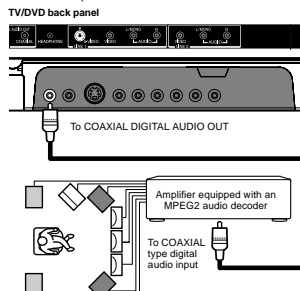
You must set the HDMI audio input setting to "DVI" in the AUDIO menu (see page 42).



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

Connecting an amplifier equipped with an MPEG audio decoder

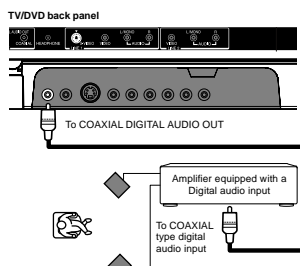
MPEG2 sound
You can enjoy motion picture and live concert DVD video discs encoded via the MPEG2 recording system with dynamic realistic sound by connecting an amplifier equipped with an MPEG2 audio decoder or MPEG2 audio processor.



- You will need:
- one coaxial cable
- Notes:**
- Connect the COAXIAL DIGITAL AUDIO OUT jack of the TV/DVD to the "COAXIAL" input of a Receiver or Processor.
 - Refer to the owner's manual of the connected equipment as well.
 - The output sound of the TV/DVD has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
 - Turn off the amplifier before you connect or disconnect the TV/DVD's power cord. If you leave the amplifier power on, the speakers may be damaged.

Connecting an amplifier equipped with a digital audio input

2 channel digital stereo
You can enjoy the dynamic sound of 2 channel digital stereo by connecting an amplifier equipped with a digital audio input and speaker system (right and left front speakers).



- You will need:
- one coaxial cable
- Notes:**
- PCM audio is limited to DVD or CD playback.
 - Connect the COAXIAL DIGITAL AUDIO OUT jack of the TV/DVD to the "COAXIAL" input of a Receiver or Processor.
 - Refer to the owner's manual of the connected equipment as well.
 - The output sound of the TV/DVD has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
 - Turn off the amplifier's before you connect or disconnect the TV/DVD's power cord. If you leave the amplifier power on, the speakers may be damaged.

Connecting a PC (personal computer)

Before you connect this TV/DVD to your PC, change the adjustment of your PC's Resolution and Refresh rate. See "Monitor display modes" on right.

Connect one end of a (male to male) VGA cable to the video card of the computer and the other end to the VGA connector PC at the side of the TV/DVD. Fix the connectors firmly with the screws on the plug. In case of a Multimedia computer, connect the audio cables to the audio outputs of your Multimedia computer and to the AUDIO L and R connectors of the PC IN jacks of the TV/DVD.

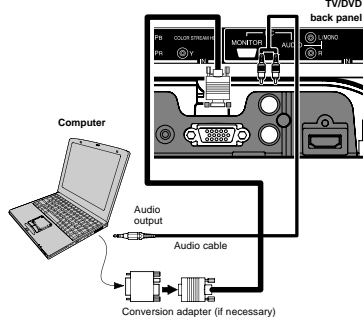
Set the video input source to PC mode (see "Selecting the video input source" on page 31 and "Picture/Audio adjustments in the PC mode" on page 43). The TV/DVD can be used as a computer monitor.

- You will need:
- one VGA (15-pin) computer cable
 - one PC audio cable

Monitor display modes		
Mode	Resolution	Refresh rate
VGA	640x480	60Hz
VGA	720x400	70Hz
WVGA	848x480	60Hz
SVGA	800x600	60Hz
XGA	1024x768	60Hz
WXGA	1280x720	60Hz
WXGA	1280x768	60Hz
WXGA	1360x768	60Hz

- Notes:**
- Some PC models cannot be connected to this TV.
 - An adapter is not needed for computers with a DOS/TV compatible mini D-sub 15-pin terminal.
 - The on-screen displays will have a different appearance in PC mode than in TV mode.
 - If your PC display output corresponds to a WVGA or a WXGA resolution as indicated in the chart above (example: WXGA 1360 x 768), you must set the WVGA INPUT or WXGA INPUT to the ON position in the PC Picture menu in the TV (see page 43).

! NOTE: DO NOT CONNECT A PC USING THE HDMI INPUT.
ALWAYS use the VGA port provided to connect a PC.

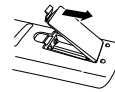


Setting up your TV/DVD

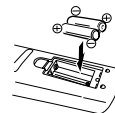
Using the remote control

Installing the remote control batteries

- To install the batteries:
1. Open the battery cover on the back of the remote control.



2. Install two "AAA" size batteries. Match the + and - signs on the batteries to the signs on the battery compartment.



3. Close the battery cover on the remote control until the lock snaps.

Note:

The TV/DVD remote control may not operate your VCR, DVD player, or cable TV converter. Refer to the owner's manual supplied with your other devices to see which features may be available. Additionally, the remote control for this TV/DVD may not support certain features available on the original remote controls for your other devices, in which case it is suggested that you use the original remote control for the applicable device.

Caution:

- Never throw batteries into a fire.

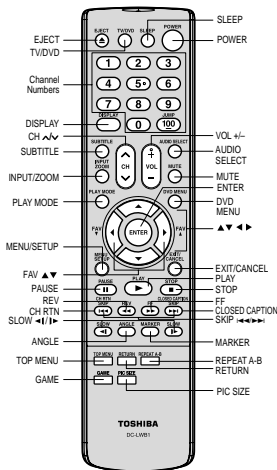
Notes:

- Be sure to use AAA size batteries.
- Dispose of batteries in a designated disposal area.
- Batteries should always be disposed of with the environment in mind. Always dispose of batteries in accordance with applicable laws and regulations.
- If the remote control does not operate correctly, or if the operating range becomes reduced, replace batteries with new ones.
- When necessary to replace batteries in the remote control, always replace both batteries with new ones. Never mix battery types or use new and used batteries in combination.
- Always remove the batteries from the remote control if they are dead or if the remote control is not to be used for an extended period of time. This will prevent battery acid from leaking into the battery compartment.

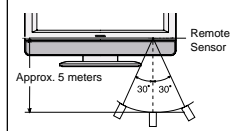
Learning about the remote control

- POWER** turns the TV/DVD on and off
- EJECT** eject a disc (page 45)
- TV/DVD** switches between TV/Video input/PC and DVD
- CHANNEL NUMBERS** allow direct access to channels
- CH** / **V** cycles through programmed channels (page 24)
- VOL +/-** - adjusts the volume level
- ENTER** sets programmed menu information (page 23)
- EXIT/CANCEL** exits programming menus or resets information in the menu (pages 23, 47)
- INPUT** selects the video input source (page 31)
- PICTURE SIZE** cycles through the five picture sizes: Natural, TheaterWide 1, TheaterWide 2, TheaterWide 3 and full (page 33)
- GAME** game mode (page 24)
- MENU/SETUP** allows access to programming menus (page 23)
- DISPLAY** displays status information on-screen (page 42)
- SLEEP** programs the TV/DVD to turn off at a set time (page 37)
- MUTE** turns off the sound (page 40)
- CLOSED CAPTION** switch between TV/Caption/Text in Closed Caption mode (page 37)
- SUBTITLE** sets subtitle (page 52)
- AUDIO SELECT** switches the sound of TV/DVD and changes sound track languages (page 52)
- DVD MENU** allows access to DVD menu or display a thumbnail list for JPEG (pages 51,56)
- TOP MENU** allows access to DVD Top menu or display a file browser screen for JPEG (pages 51,56)
- PLAY MODE** sets repeat playback (page 49)
- RETURN** clears DVD setup menu (page 59)
- MARKER** index of DVD/VCD (page 48)
- REPEAT A-B** repeats playback between A and B (page 49)
- ANGLE** changes playback angle (page 51)
- JUMP** locates the desired point to play back (page 47)
- CH RTN** returns to the last viewed channel (page 25).
- ZOOM** allows you to zoom in on the frame image (page 47)
- SKIP** **<|>** skips chapter/track (page 46)

- FF** fast forwards a DVD, VCD, CD Audio, forwards playback
- PLAY** plays a DVD, VCD, CD Audio
- REV** rewinds a DVD, VCD, CD Audio, reviews playback
- STOP** stops a DVD, VCD, CD Audio
- PAUSE** pauses a DVD, VCD, CD Audio
- SLOW <|>** plays forward/reverse slowmotion



- Aim the remote control at the TV/DVD's remote sensor (see Illustration) and press the buttons to operate.
- Operate the remote control within a 30 degree on either side of the remote sensor, up to a distance of approx. 16 ft. (5m).



Starting setup

The STARTING SETUP feature appears the first time you turn on the TV/DVD, and helps you select the menu language, specify the TV/CABLE setting, and program channels automatically.

IMPORTANT: Make sure that the antenna or cable TV system is connected.

1. Press POWER to turn on the TV/DVD. The starting setup function begins and the language setup menu appears on the screen. Press **▲** or **▼** to select your desired language, then press ENTER.
2. Press **▲** or **▼** to select "TV" or "CABLE", then press ENTER.
3. Press **▲** or **▼** to select "START", then press ENTER. If you select "CANCEL" and press ENTER, the STARTING SETUP stops and changes to the TV screen.
4. Now the "CH PROGRAM" starts. After the starting setup is completed, the TV channel appears on the screen.
 - If you press the EXIT button in the process of "CH PROGRAM" the STARTING SETUP stops and changes to the TV screen.



After you have installed the batteries and programmed the remote control, you need to set some preferences on the TV/DVD using the menu system. You can access the menu system with the buttons on the remote control.

- When you make a menu selection, your changes are immediate. You do not have to press MENU or EXIT to see your changes.
- After one minute, the menu screen will automatically close if you do not make a selection. Your changes will still be saved.
- When you have finished programming the menus, press EXIT.

Changing the on-screen display language

You can choose from three different languages (English, French and Spanish) for the on screen displays. Adjustment menus and messages will appear in the language of your choice.

To select a language:

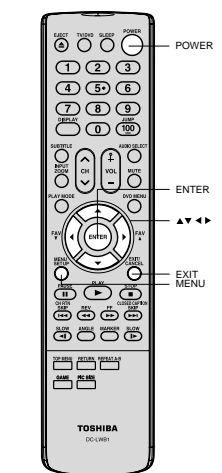
1. Press MENU, then press **◀** or **▶** until the SETUP menu appears.



2. Press **▲** or **▼** to highlight LANGUAGE.



3. Press **◀** or **▶** to highlight your desired language.



Note:

The position and size of the on-screen menus may change for some program formats (such as 1080i or 720p).

Adding channels to the TV/DVD's memory

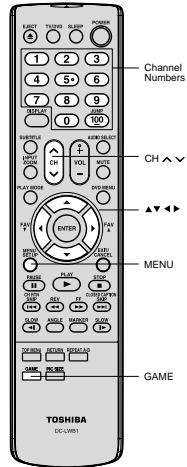
When you press CH \wedge / \vee , your TV/DVD will stop only on the channels you have stored in the TV/DVD's channel memory. Follow the steps below to program channels into the channel memory.

Programming channels automatically

Your TV/DVD can automatically detect all active channels and store them in its memory. After the TV/DVD has stored the channels in its memory automatically, you can add or erase channels manually.

To add channels automatically:

1. Press MENU, then press \blacktriangleleft or \blacktriangleright to display the SETUP menu.
2. Press \blacktriangle or \blacktriangledown until the TV/CABLE selection is highlighted.
3. Press \blacktriangleleft or \blacktriangleright to highlight either TV or CABLE, depending on which you use.
If you use an antenna, choose TV.
If you use cable, choose CABLE.
4. Press \blacktriangledown until the CH PROGRAM selection is highlighted.
5. Press \blacktriangleleft or \blacktriangleright to start channel programming. The TV/DVD will automatically cycle through all the TV or Cable channels (depending on which you selected), and store all active channels in the channel memory.
While the TV/DVD is cycling through the channels, the message "PROGRAMMING NOW-PLEASE WAIT" appears.
6. When channel programming is complete, the message "COMPLETED" appears.
7. Press CH \wedge / \vee to view the programmed channels.



In addition to cycling through your programmed channels, the CH \wedge / \vee buttons will also cycle through the video input sources (page 31) in the order illustrated below.

ANT (programmed channel) \leftrightarrow VIDEO1 \leftrightarrow VIDEO2
 \uparrow \downarrow
 PC \leftrightarrow HDMI \leftrightarrow ColorStream HD \leftrightarrow GAME

Adding and erasing channels manually

After you have programmed the channels automatically, you can add or erase specific channels manually.

To add or erase channels manually:

1. Select the channel you want to add or erase. If adding channels, you must select the channel to add using the Channel Number buttons.
2. Press MENU, then press \blacktriangleleft or \blacktriangleright to display the SETUP menu.
3. Press \blacktriangle or \blacktriangledown to highlight ADD/ERASE.
4. Press \blacktriangleleft or \blacktriangleright to select ADD or ERASE, whichever function you want to perform.
5. Repeat steps 1-4 for other channels you want to add or erase.



Changing channels

To change to the next programmed channel:

Press Channel \wedge / \vee on the TV/DVD or CH \wedge / \vee on the remote control.

To change to a specific channel (programmed or unprogrammed):

Press the Channel Number buttons (0-9 and 100) on the remote control. For example, to select channel 125, press 100, 2, 5.

Game mode

After connecting a TV Game to the unit, press GAME. The TV screen changes to the Game mode.

- The Game mode screen is adjusted to the suitable brightness for your eyes.
- If GAME is pressed during standby mode, the unit turns on automatically and the Game mode screen appears on the screen.

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Using the TV/DVD's features

Adjusting the channel settings

Switching between two channels

You can switch between two channels without entering an actual channel number each time.

To switch between two channels:

1. Select the first channel you want to view.
2. Select a second channel using the Channel Number buttons (0-9 and 100).
3. Press CH RTN. The previous channel will be displayed. Each time you press CH RTN, the TV/DVD will switch back and forth between the two channels.

Programming your favorite channels

You can preset up to 12 of your favorite channels using the Favorite Channel Programming feature. Because this feature scans through only your favorite channels, it allows you to skip other channels you do not normally watch. You can still use CH \wedge / \vee to scan through all the channels you programmed in the TV's memory.

To program your favorite channels:

1. Select a channel you want to program.
2. Press MENU, then press \blacktriangleleft or \blacktriangleright to display the OPTION menu.
3. Press \blacktriangle or \blacktriangledown to highlight FAVORITE CH.



4. Press \blacktriangleleft or \blacktriangleright to display the FAVORITE CH menu. SET/CLEAR will be highlighted.



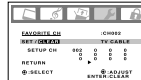
5. Press \blacktriangleleft or \blacktriangleright to highlight SET and press ENTER.
6. Press EXIT to return to normal viewing.
7. Repeat steps 1-6 for up to 12 channel.

To select your favorite channels:

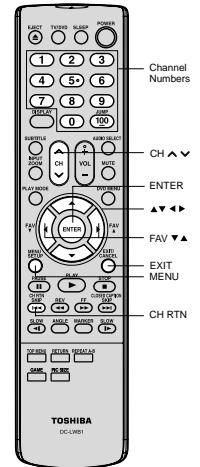
Press the FAV \blacktriangle / \blacktriangledown buttons on the remote control to select your favorite channels. The FAV \blacktriangle / \blacktriangledown buttons will not work until you have programmed your favorite channels.

To clear your favorite channels:

1. Select a channel you want to clear.
2. Press MENU, then press \blacktriangleleft or \blacktriangleright to display the OPTION menu.
3. Press \blacktriangle or \blacktriangledown to highlight FAVORITE CH.
4. Press \blacktriangleleft or \blacktriangleright to display the FAVORITE CH menu. SET/CLEAR will be highlighted.
5. Press \blacktriangleleft or \blacktriangleright to highlight CLEAR.



6. Press ENTER until "0" replaces the channel number you want to erase.
7. Press EXIT to return to normal viewing.
8. Repeat steps 1-7 for the other channels.



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Using the LOCKS menu

Note: The V-Chip feature is available for the U.S. V-Chip system only. The Canadian V-Chip Feature system is not supported. You can prevent others from viewing certain programs or channels by blocking them using the V-Chip feature.

Selecting a password

Before you can use the V-Chip Feature to block programs and channels, you must select a password. The password you select prevents others from changing the rating limits you set.

To select your password and access the LOCKS menu:

1. Press MENU, then press \blacktriangleleft or \blacktriangleright to highlight the LOCKS menu.
2. Press \blacktriangle or \blacktriangledown to display the password entering mode.



3. Use the Channel Number buttons (0-9) to enter your password. If you are accessing the LOCKS menu for the first time, select a four-digit number to be your password. Press ENTER.



4. Enter the password again to confirm it, and then press ENTER. The LOCKS menu appears. If the wrong password is entered, "ERROR" blinks about 4 seconds.

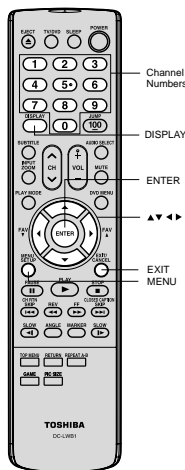


5. You may now set up the LOCKS menu. See "Using the V-Chip (parental control) feature" (page 27), "Locking channels" (page 28), "Locking the video inputs" (page 28), "Setting the GameTimer" (page 29) or "Using the panel lock feature" (page 29).

To change your password:

1. Press MENU, then press \blacktriangleleft or \blacktriangleright to display the LOCKS menu.
2. Press \blacktriangle or \blacktriangledown to display the password entering mode.
3. Use the Channel Number buttons (0-9) to enter your password. Press ENTER. The LOCKS menu appears.
4. Press \blacktriangle or \blacktriangledown to highlight NEW PASSWORD and press \blacktriangleleft or \blacktriangleright to display the NEW PASSWORD menu.
5. Use the Channel Number buttons (0-9) to enter a new code. Press ENTER.
6. Enter the password again to confirm it, and then press ENTER.
7. Press EXIT to return to normal viewing.

Note:
The password you programmed is also used in the LOCKS menu; see pages 27-29.



Note:
If you forget your password, press DISPLAY four times within five seconds while the TV/DVD is in password entering mode. This allows you to reset your password.

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Using the V-Chip (parental control) feature

The Motion Picture Association of America (MPAA) uses a rating system to qualify motion picture content. Television broadcasters employ a rating system to qualify the content of television programs, as well. The TV and MOVIE ratings work with the V-Chip feature and allow you to block programs according to the rating limits you set.

To use the V-Chip to block programs by rating:

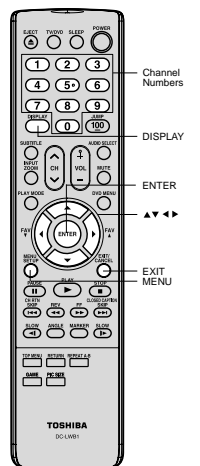
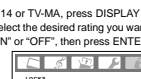
1. Press MENU, then press \blacktriangleleft or \blacktriangleright to display the LOCKS menu.
2. Press \blacktriangle or \blacktriangledown to display the password entering mode.
3. Use the Channel Number buttons (0-9) to enter your password. Press ENTER. The LOCKS menu appears.
4. Press \blacktriangle or \blacktriangledown to highlight V-CHIP.
• Press \blacktriangleleft or \blacktriangleright to highlight ON to enable V-Chip program blocking by rating.
• Press \blacktriangleleft or \blacktriangleright to highlight OFF to disable V-Chip program blocking by rating.
5. Press \blacktriangle or \blacktriangledown to highlight TV RATING. Then, press \blacktriangleleft or \blacktriangleright to display the desired rating.



- OFF** : TV RATING is not set
TV-Y : All children
TV-Y7 : 7 years old and above
TV-G : General audience
TV-PG : Parental guidance
TV-14 : 14 years old and above
TV-MA : 17 years old and above
- When you select TV-Y7, TV-PG, TV-14 or TV-MA, press DISPLAY to explain the rating. Press \blacktriangle or \blacktriangledown to select the desired rating you want. Press \blacktriangleleft or \blacktriangleright to select the setting "ON" or "OFF", then press ENTER.



6. Press \blacktriangle or \blacktriangledown to highlight MOVIE RATING. Then, press \blacktriangleleft or \blacktriangleright to display the desired rating.
OFF : MOVIE RATING is not set
 (no movies will be blocked)
G : All ages
PG : Parental guidance
PG-13 : Parental guidance less than 13 years old
R : Under 17 years old Parental guidance suggested
NC17 : 17 years old and above
X : Adult only
7. When you are done selecting the ratings, press EXIT to return to normal viewing.



When you try to view a program with a ratings block, a message will appear listing the program's ratings. The program can still be viewed if you press MUTE and then enter your password to temporarily bypass the block.

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Locking channels

With the CH LOCK feature, you can lock specific channels. You will not be able to tune locked channels unless you clear the setting. You can choose to lock up to nine TV channels and nine cable channels.

To lock channels:

- Use the Channel Number buttons (0-9 and 100) to display the television channel you wish to lock.
- Press MENU, then press ◀ or ▶ to display the LOCKS menu.
- Press ▲ or ▼ to display the password entering mode.
- Use the Channel Number buttons (0-9) to enter your password, then press ENTER. The LOCKS menu appears.
- Press ▲ or ▼ to highlight CH LOCK and press ◀ or ▶ to display the CH LOCK menu.
- Press ◀ or ▶ to select the following:
 - SET— to set the channel as one to be locked. Then press ENTER.
 - CLEAR— to clear all channels from the list of locked channels. Then press ENTER.
- Repeat steps 1 through 6 to lock other channels. When you have finished locking channels, press EXIT to return to normal viewing.

If you try to tune a locked channel, the TV/DVD will not display it, but will display the nearest unlocked channel.

To unlock channels:

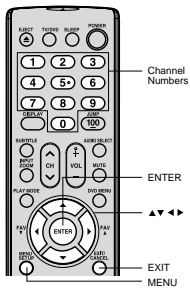
- Press MENU, then press ◀ or ▶ to display the LOCKS menu.
- Press ▲ or ▼ to display the password entering mode.
- Use the Channel Number buttons (0-9) to enter your password, then press ENTER. The LOCKS menu appears.
- Press ▲ or ▼ to highlight CH LOCK and press ◀ or ▶ to display the CH LOCK menu.
- Press ◀ or ▶ to highlight CLEAR and clear all channels from the list of locked channels. Press ENTER.
- Press EXIT to return to normal viewing.

Locking the video inputs

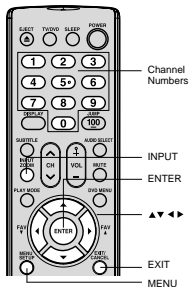
With the VIDEO LOCK feature, you can lock out the input sources (VIDEO-1, VIDEO-2, COLORSTREAM HD, HDMI, PC, GAME) and channels 3 and 4. You will not be able to select the input sources with the INPUT button or Channel buttons unless you clear the setting.

To set up the video lock:

- Press MENU, then press ◀ or ▶ to display the LOCKS menu.
- Press ▲ or ▼ to display the password entering mode.
- Use the Channel Number buttons (0-9) to enter your password, then press ENTER. The LOCKS menu appears.
- Press ▲ or ▼ to highlight VIDEO LOCK.
- Press ◀ or ▶ to select:
 - OFF: Unlocks all video input sources.
 - VIDEO: Locks VIDEO-1, VIDEO-2, COLORSTREAM HD, HDMI, PC, GAME.
 - VIDEO+: Locks VIDEO-1, VIDEO-2, COLORSTREAM HD, HDMI, PC, GAME, channel 3 and channel 4. This option should be used if you use the antenna terminal to play a video tape.
- Press EXIT to return to normal viewing.



Note:
After programming CH LOCK, change channels before turning off the television.



Note:
After programming VIDEO LOCK, change channels or press the INPUT key before turning off the TV/DVD.

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Labeling channels

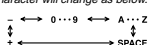
Channel labels appear above the channel number display each time you turn on the TV/DVD, select a channel, or press the DISPLAY button. You can choose any four characters to identify a channel.

To create channel labels:

- Select a channel you want to label.
- Press MENU, then press ◀ or ▶ until the OPTION menu appears.
- Press ▲ or ▼ to highlight CH LABEL.
- Press ◀ or ▶ to display the CH LABEL menu. SET/CLEAR will be highlighted.
- Press ◀ or ▶ to highlight SET.
- Press ENTER to highlight LABEL.
- Press ◀ or ▶ to enter a character in the first space. Press the button repeatedly until the character you want appears on the screen. Press ENTER.
- Repeat step 7 to enter the rest of the characters. If you would like a blank space in the label name, you must choose an empty space from the list of characters; otherwise, a dash will appear in that space.
- Repeat steps 1-8 for other channels. You can assign a label to each channel.
- Press EXIT to return to normal viewing.

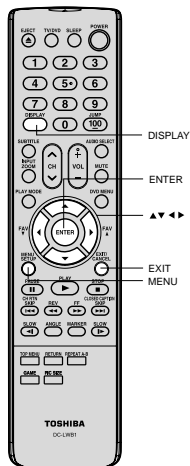
Note:

The character will change as below.



To erase channel labels:

- Select a channel with a label.
- Press MENU, then press ◀ or ▶ until the OPTION menu appears.
- Press ▲ or ▼ to highlight CH LABEL.
- Press ◀ or ▶ to display the CH LABEL menu. SET/CLEAR will be highlighted.
- Press ◀ or ▶ to highlight CLEAR.
- Press ENTER.
- Repeat steps 1-6 to erase other channel labels.



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To unlock the video inputs:

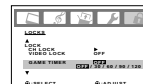
- Press MENU, then press ◀ or ▶ to display the LOCKS menu.
- Press ▲ or ▼ to display the password entering mode.
- Use the Channel Number buttons (0-9) to enter your password, then press ENTER. The LOCKS menu appears.
- Press ▲ or ▼ to highlight VIDEO LOCK and press ◀ or ▶ to highlight OFF.
- Press EXIT to return to normal viewing.

Setting the GameTimer™

With the GameTimer™ feature, you can automatically activate the VIDEO LOCK feature (VIDEO setting) to set a time limit for playing a video game (30, 60, 90 or 120 minutes).

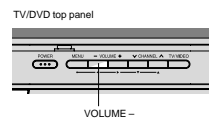
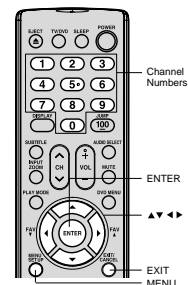
To set up the GameTimer:

- Press MENU, then press ◀ or ▶ to display the LOCKS menu.
- Press ▲ or ▼ to display the password entering mode.
- Use the Channel Number buttons (0-9) to enter your password, then press ENTER. The LOCKS menu appears.
- Press ▲ or ▼ to highlight GAME TIMER.
- Press ▲ or ▼ to select a time limit (30 minutes, 60 minutes, 90 minutes, 120 minutes or OFF).
- Press EXIT to return to normal viewing. After the GameTimer is programmed, the display will appear briefly every ten minutes to remind you that the GameTimer is operating. When the programmed time is reached, the TV/DVD will change channels automatically and enter VIDEO LOCK mode.



Note:

You can enjoy playing video games on this TV/DVD; however, certain video games that utilize so-called "light gun" joysticks for shooting at on-screen targets may not work with this TV/DVD.



Using the panel lock feature

You can lock the top panel controls to prevent your settings from being changed accidentally (by children, for example). When the panel lock is in ON, all control buttons on the TV/DVD top panel (except POWER) do not operate.

To lock the panel controls:

- Press MENU, then press ◀ or ▶ to display the LOCKS menu.
- Press ▲ or ▼ to display the password entering mode.
- Use the Channel Number buttons (0-9) to enter your password, then press ENTER. The LOCKS menu appears.
- Press ▲ or ▼ to highlight PANEL LOCK and press ◀ or ▶ to highlight ON.



If a button on the top panel is pressed, the message "NOT AVAILABLE" appears.

You also can unlock the panel controls using the menus:

- Press MENU, then press ◀ or ▶ to display the LOCKS menu.
- Press ▲ or ▼ to display the password entering mode.
- Use the Channel Number buttons (0-9) to enter your password, then press ENTER. The LOCKS menu appears.
- Press ▲ or ▼ to highlight PANEL LOCK, and then press ◀ or ▶ to highlight OFF.

To unlock the panel controls using the TV/DVD controls:

Press and hold the VOLUME - button on the TV/DVD top panel for about 10 seconds until the message "PANEL LOCK:OFF" appears on-screen.

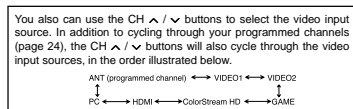
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Selecting the video input source

Press INPUT to view a signal from another device connected to your TV/DVD, such as a VCR or DVD player. You can select ANT, VIDEO-1, VIDEO-2, ColorStream HD, HDMI or PC, depending on which input jacks you used to connect your devices (see "Connecting your TV/DVD" on page 11).



Press INPUT on the remote control to display the current signal source (press INPUT again or 0-5 to change)



Labeling the video input sources

The video label feature allows you to label each input source for your TV/DVD from the following preset list of labels:

- VCR : Video cassette recorder
- DVD : DVD video
- DTV : Digital TV set-top box
- SAT : Satellite box
- CBL : Cable box
- HD : HDMI equipment

To label the video input sources:

- Press MENU, then press ◀ or ▶ to display the OPTION menu.
- Press ▲ or ▼ to highlight VIDEO LABEL.
- Press ◀ or ▶ to display the VIDEO LABEL menu.
- Press ▲ or ▼ to highlight the video source you want to label.
- Press ◀ or ▶ to select the desired label for that input source.
- Press EXIT to return to normal viewing.



Setting the clock

You must set the clock before you can program the ON timer.

To set the clock: (Example: 8:30 AM)

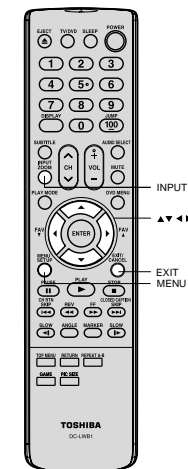
- Press MENU, then press ◀ or ▶ to display the SETUP menu.
- Press ▲ or ▼ to highlight CLOCK SET.
- Press ◀ or ▶ to highlight the hour position.
- Press ▲ or ▼ to set the hour, then press ▶ to highlight the minute position.
- Press ▲ or ▼ to set the minutes, then press EXIT to return to normal viewing.



Please note the following regarding the HDMI source selection:

NOTE: DO NOT CONNECT A PC USING THE HDMI INPUT.

See "Connecting an HDMI™ or DVI device" on page 17 and "Connecting a PC (personal computer)" on page 20 for details.



Note:

If the power source for the TV/DVD is interrupted (for example, the power cord is unplugged or a power failure occurs), you will need to reset the clock.

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Setting the ON timer

This feature allows you to program the TV/DVD to turn on automatically at a set time. If you program the ON TIMER to "DAILY," the TV/DVD will turn on every day at the same time until you clear the ON TIMER.

To set the on timer: (Example: Turning on the TV/DVD to channel 012 at 6:30 AM, DAILY)

1. Set the clock, if you have not already done so (see page 31).
2. Press MENU, then press ◀ or ▶ to display the OPTION menu.
3. Press ▲ or ▼ to highlight ON TIMER.
4. Press ◀ or ▶ to highlight SET, then press ENTER. The ON TIMER menu appears. Press ◀ or ▶ to set the time.
5. Press ▲ or ▼ to set the desired hour, then press ▶.



6. Set the desired minutes and channel, as in step 5.

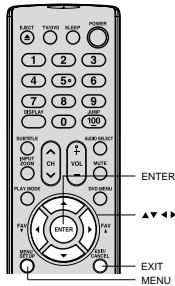


7. Press ◀ or ▶ to select ONCE or DAILY.
8. Press EXIT to return to normal viewing.



To cancel the on timer:

- Select CLEAR in step 7 above.
- Press EXIT to return to normal viewing.



Note:
After a power failure or disconnection of the power, the timer settings will be lost.

32

Viewing the wide-screen picture formats (480i and 480p signals only)

You can view 480i and 480p format programs in a variety of picture sizes—Natural, TheaterWide1, TheaterWide2, TheaterWide3 and Full. The way the image displays in any of the picture sizes will vary depending on the format of the program you are viewing. Select the picture size that displays the current program the way that looks best to you.

Selecting the picture size

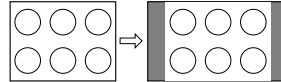
1. Press PIC SIZE on the remote control.
2. Press the corresponding number button (0-4) to select the desired picture size, as described below and on page 34.



Natural picture size

- The image is displayed close to its originally formatted proportion. Some program formats will display with side bars and/or bars at the top and bottom.

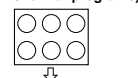
Natural picture size example: The way the image displays will vary depending on the format of the program you are currently watching.



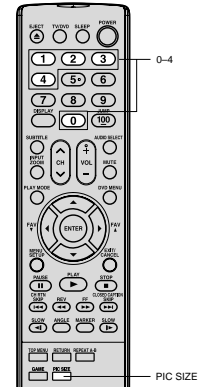
Conventional (4:3) picture on a conventional TV screen Conventional (4:3) picture in Natural size on your wide-screen TV

TheaterWide 1 picture size (for 4:3 format programs)

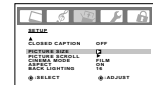
- The center of the picture remains close to its original proportion, but the left and right edges are stretched wider to fill the screen.
- The top and bottom edges of the picture may be hidden; however, this mode cannot be scrolled.



TheaterWide 1 picture size example



Note:
You also can change the picture size by selecting PICTURE SIZE in the SETUP menu.

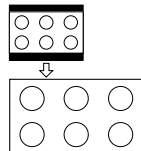


Using these functions to change the picture size (i.e., changing the height/width ratio) for any purpose other than your private viewing may be prohibited under the Copyright Laws of the United States and other countries, and may subject you to civil and criminal liability.

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TheaterWide 2 picture size (for letter box programs)

- The picture is stretched the same amount both wider and taller (retains its original proportion).
- The top and bottom edges of the picture may be hidden. To view the hidden areas, see "Scrolling the TheaterWide picture" on page 35.

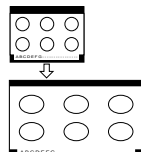


TheaterWide 2 picture size example

Note:
If you select TheaterWide 2 or 3, the top and bottom edges of the picture may be hidden. To see the hidden edges, either scroll the picture (see page 35) or try viewing the program in Full picture size.

TheaterWide 3 picture size (for letter box programs with subtitles)

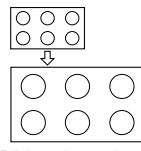
- The picture is stretched wider to fill the width of the screen, but only slightly stretched taller.
- The top and bottom edges of the picture may be hidden. To view the hidden areas (such as subtitles or captions), see "Scrolling the TheaterWide picture" on page 35.



TheaterWide 3 picture size example

Full picture size (for 16:9 source programs)

- If receiving a 16:9 format program, the picture is displayed in its original proportion.
- If receiving a 4:3 format program, the picture is stretched wider to fill the width of the screen, but not stretched taller.
- None of the picture is hidden.



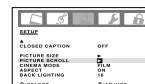
Full picture size example

Using these functions to change the picture size (i.e., changing the height/width ratio) for any purpose other than your private viewing may be prohibited under the Copyright Laws of the United States and other countries, and may subject you to civil and criminal liability.

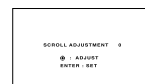
34

Scrolling the TheaterWide® picture (TheaterWide 2 and 3 only)

1. Press PIC SIZE to select the TheaterWide 2 or 3 mode.
2. Press MENU, and then press ◀ or ▶ until the SETUP menu appears.
3. Press ▲ or ▼ to highlight PICTURE SCROLL.



4. Press ◀ or ▶ to display the Scroll Adjustment mode.



5. Press ▲ or ▼ to adjust the vertical position of the picture.

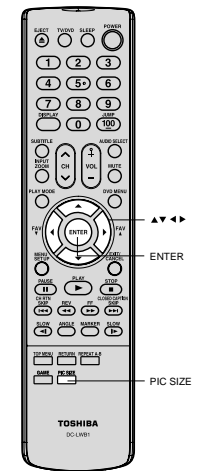
- Normal (center) position



- To raise the picture, press ▲.



- To lower the picture, press ▼.



Note:
You can scroll the picture in TheaterWide 2 and TheaterWide 3 only. The scroll amounts are as follows:

- 480i/480p signal source:
 - Wide 1 - Not adjustable
 - Wide 2 - -10 to +20
 - Wide 3 - -10 to +20

35

Selecting the cinema mode

When you view a DVD movie (3:2 pulldown processed) from a DVD player connected to the ColorStream (component video) inputs on the TV/DVD, smoother and more natural motion can be obtained by setting the CINEMA MODE to FILM.

To set the CINEMA MODE to FILM:

1. Press MENU, then press ◀ or ▶ until the SETUP menu appears.
2. Press ▲ or ▼ to highlight CINEMA MODE, then press ◀ or ▶ to select FILM.



To set the CINEMA MODE to VIDEO:

Press ◀ or ▶ to select VIDEO in step 2 above.

Using the ASPECT feature

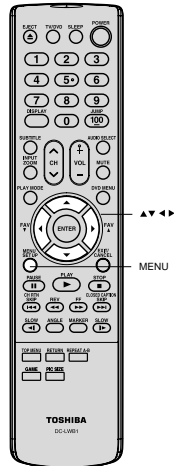
When the ASPECT feature is set to ON and the TV/DVD receives a 480i signal, the picture size is automatically selected (as described in the following table).

Aspect ratio of signal source	Automatic aspect size (automatically selected when ASPECT is ON)
4:3 Normal	Natural
16:9 Full	Full
4:3 Letter box	TheaterWide
Not defined	User-set mode

If the signal does not include aspect information, the picture size you selected on pages 33 is displayed.

To turn on the ASPECT feature:

1. Press MENU, then press ◀ or ▶ until the SETUP menu appears.
2. Press ▲ or ▼ to highlight ASPECT, then press ◀ or ▶ to select ON.



Setting the sleep timer

You can set the TV/DVD so it turns off automatically.

To set the sleep timer:

Press SLEEP on the remote control repeatedly to set the length of time until the TV/DVD turns off. The clock will count up 10 minutes for each press of the SLEEP button (0h00m, 0h10m, ..., 1h50m, 2h00m). After the sleep timer is programmed, the display will appear briefly every ten minutes to remind you that the sleep timer is operating.

To confirm the sleep timer setting:

Press SLEEP one time. The remaining time will be momentarily displayed.

To cancel the sleep timer:

Press SLEEP repeatedly until the display turns to 0h00m.

Using the closed caption feature

The Closed Caption feature has two options:

- Captions—An on-screen display of the dialogue, narration, and sound effects of programs and videos that are closed-captioned (usually identified as "CC").
- Text—An on-screen display of information not related to the viewing program, such as weather or stock data (if available in your viewing area).

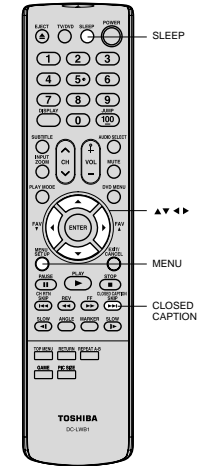
To view captions or text:

1. Tune the TV/DVD to the desired program.
2. Press MENU, then press ◀ or ▶ to display the SETUP menu.
3. Press ▲ or ▼ to highlight CLOSED CAPTION.



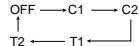
4. Press ◀ or ▶ to select the desired Closed Caption mode, as follows:

- To view captions, select C1 or C2 (C1 displays translation of the primary language in your area).
Note: If the program or video you selected is not closed-captioned, no captions will display on-screen.
- To view text, select T1 or T2.
Note: If text is not available in your viewing area, a black rectangle may appear on-screen. If this happens, set the Closed Caption feature to OFF. If this happens, set the Closed Caption feature to OFF, highlight OFF in the Closed Caption menu.



Notes:

- A closed caption signal may not be decoded in the following situations:
 - when a video tape has been dubbed
 - when the signal reception is weak
 - when the signal reception is non-standard
- You also can use the CLOSED CAPTION button to view caption or text.



Adjusting the picture

Selecting the picture mode

You can select four picture modes—Sports, Standard, Movie, and Memory—as described in the following table:

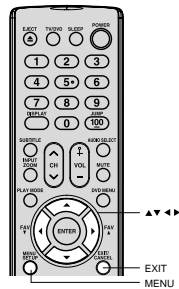
Mode	Picture Quality
SPORTS	Bright and dynamic picture (factory-set)
STANDARD	Standard picture quality (factory-set)
MOVIE	Movie-like picture setting (factory-set)
MEMORY	Your personal preferences (set by you; see "Adjusting the picture quality" below)

To select the picture mode:

1. Press MENU, then press ◀ or ▶ to display the PICTURE menu.
2. Press ▲ or ▼ to highlight MODE.



3. Press ◀ or ▶ to highlight the mode you prefer.
4. Press EXIT to return to normal viewing.



Note:
You cannot select "MODE" in the Game mode.

Adjusting the picture quality

You can adjust the picture quality to your personal preferences, including the brightness, contrast, color, tint, and sharpness. The qualities you choose will be stored automatically in your TV/DVD's memory so you can recall them at any time.

To adjust the picture quality:

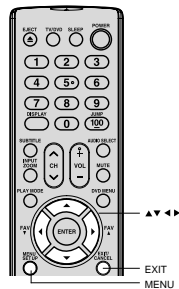
1. Press MENU, then press ◀ or ▶ to display the PICTURE menu.
2. Press ▲ or ▼ until the item you want to adjust is highlighted.



3. Press ◀ or ▶ to adjust the level.

Selection	Pressing ▶
BRIGHTNESS	darker lighter
CONTRAST	lower higher
COLOR	deeper
TINT	reddish greenish
SHARPNESS	softer sharper

4. Press EXIT to return to normal viewing.



Note:
The CONTRAST default setting is set to maximum (+50) at the factory.

Using the CableClear® feature

CableClear® reduces visible interference in your TV/DVD picture. This is useful when receiving a broadcast with a weak signal (especially a Cable channel) or playing a video cassette or disc damaged by repeated use.

To turn on the CableClear® feature:

1. Press MENU, then press ◀ or ▶ to display the PICTURE menu.
2. Press ▲ or ▼ to highlight CableClear.



3. Press ◀ or ▶ to select ON.

To turn off the CableClear® feature:

Select OFF in step 3.

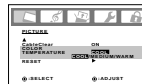
Selecting the color temperature

Change the picture quality by selecting from three preset color temperatures—cool, medium, and warm—as described in the following table:

Mode	Picture Quality
COOL	Blueish
MEDIUM	Neutral
WARM	Reddish

To select the color temperature:

1. Press MENU, then press ◀ or ▶ to display the PICTURE menu.
2. Press ▲ or ▼ to highlight COLOR TEMPERATURE.



3. Press ◀ or ▶ to highlight the mode you prefer.
4. Press EXIT to return to normal viewing.

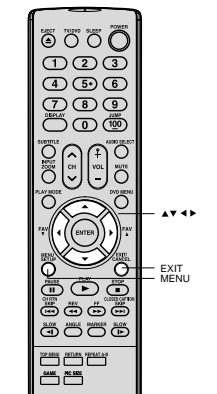
Resetting your picture adjustments

The RESET function returns your picture quality adjustments to the following factory settings:

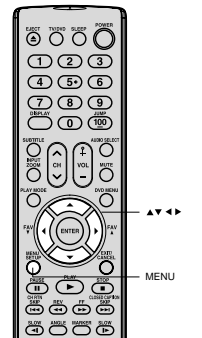
Mode	..... sports	Tint	..... center (0)
Brightness	..... center (25)	Sharpness	..... center (25)
Contrast	..... max (50)	Color temperature	.. cool
Color	..... center (25)		

To reset your picture adjustments:

1. Press MENU, then press ◀ or ▶ to display the PICTURE menu.
2. Press ▲ or ▼ to highlight RESET, and then press ◀ or ▶.



Note:
You cannot select "COLOR TEMPERATURE" in the Game mode.



Adjusting the sound

Muting the sound

Press MUTE to temporarily turn off the sound. While the sound is off, the TV screen will display "MUTE" in the lower right-hand corner. To restore the sound, press MUTE again.

Selecting stereo/SAP broadcasts

The multi-channel TV sound (MTS) feature provides high-fidelity stereo sound. MTS also can transmit a second audio program (SAP) containing a second language or other audio information.

Note: The MTS feature is only available in ANT input source. When the TV/DVD receives a stereo or SAP broadcast, the "STEREO" or "SAP" displays on-screen every time you turn the TV/DVD on, change the channel, or press DISPLAY.

To listen to stereo sound:

1. Press MENU, then press ◀ or ▶ to display the AUDIO menu.
2. Press ▲ or ▼ to highlight MTS.
3. Press ◀ or ▶ to highlight STR (stereo).

Notes:

- In general, you can leave your TV/DVD in stereo mode because the TV/DVD automatically outputs the type of sound being broadcast (stereo or mono).
- If the stereo sound is noisy, select MONO to reduce the noise.



4. Press EXIT to return to normal viewing.

To listen to a second audio program (SAP):

1. Press MENU, then press ◀ or ▶ to display the AUDIO menu.
2. Press ▲ or ▼ to highlight MTS.
3. Press ◀ or ▶ to highlight SAP. The TV/DVD speakers will output the second audio program instead of normal audio.
4. Press EXIT to return to normal viewing.

Adjusting the sound quality

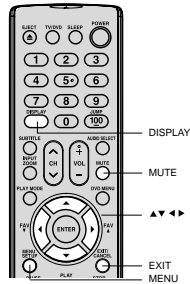
You can change the sound quality of your TV/DVD by adjusting the bass, treble, and balance.

To adjust the sound quality:

1. Press MENU, then press ◀ or ▶ until the AUDIO menu.
2. Press ▲ or ▼ to highlight the item you want to adjust.



3. Press ◀ or ▶ to adjust the level.
 - ◀ makes the sound quality weaker or decreases the balance in the right channel, depending on the item selected.
 - ▶ makes the sound quality stronger or decreases the balance in the left channel, depending on the item selected.



Note:

A second audio program (SAP) can be heard only on those TV stations that offer it. For example, a station might broadcast music as a second audio program. If you have SAP on, you will see the current program on the screen but hear music instead of the program's normal audio.

However, if you have SAP on, and the station you are watching is not currently broadcasting a second audio program, the station's normal audio will be output; however, occasionally there is no sound at all in SAP mode. If this happens, set the MTS feature to STEREO mode.

Note:

Adjusting the sound quality (bass, treble and balance) does not affect the sound that is output from the headphone jack.

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Resetting your audio adjustments

The RESET function returns the audio adjustments to the following factory settings:

Bass center (25)
 Treble center (25)
 Balance center (0)

To reset your audio adjustments:

1. Press MENU, then press ◀ or ▶ to display the AUDIO menu.
2. Press ▲ or ▼ to highlight RESET, and then press ◀ or ▶.



Using the StableSound® feature

The StableSound feature limits the highest volume level to prevent extreme changes in volume when the signal source is changed.

To turn on the StableSound® feature:

1. Press MENU, then press ◀ or ▶ to display the AUDIO menu.
2. Press ▲ or ▼ to highlight STABLE SOUND.
3. Press ◀ or ▶ to highlight ON.



To turn off the StableSound® feature:

Highlight OFF in step 3 above.

Using the surround sound feature

The surround sound feature expands the audio listening field wider and deeper to create exceptional sound quality from the TV's speakers. The feature uses stereo signals from a TV broadcast or video input.

To turn on the surround sound feature:

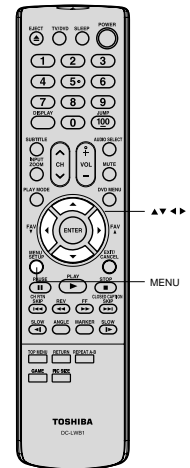
1. Select the STEREO mode, if available (see "Selecting stereo/SAP broadcasts" on page 40).
2. Press MENU, then press ◀ or ▶ to display the AUDIO menu.
3. Press ▲ or ▼ to highlight SURROUND.
4. Press ◀ or ▶ to highlight ON.



To turn off the surround sound feature:

Highlight OFF in step 4 above.

In general, you can leave your TV in surround mode because it will automatically output the type of sound being broadcast (surround stereo or monaural).



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Selecting the HDMI audio input source

See "Connecting an HDMI™ or a DVI device" on page 17 for connection information.

If you connect a DVI device, you must also connect the analog audio cables to the HDMI audio IN jacks (see page 17) to hear audio. Set the HDMI audio input setting to "DVI" with this connection.

If you connect an HDMI device and play media with digital audio output, set the HDMI audio input setting to "HDMI" with this connection to hear digital audio.

If you connect an HDMI device but play media with analog audio output (for example, certain DVDs do not output digital audio), you must also connect the analog audio cables to the HDMI audio IN jacks (see page 17) to hear audio. Set the HDMI audio input setting to "DVI" with this connection.

To select the HDMI audio input source:

1. Press MENU, then press ◀ or ▶ to display the AUDIO menu.
2. Press ▼ or ▲ to highlight HDMI.
3. Press ◀ or ▶ to select HDMI or DVI.



Adjusting the back lighting feature

If your TV/DVD is in a bright room, the screen image may be difficult to see. You can use the BACK LIGHTING feature to adjust the screen brightness for improved picture clarity.

To adjust the back lighting:

1. Press MENU, then press ◀ or ▶ until the SETUP menu appears.
2. Press ▲ or ▼ to highlight BACK LIGHTING.



3. Press ◀ or ▶ to adjust the screen brightness.

Displaying on-screen information

Press DISPLAY to display the following on-screen information:

- Clock
- Channel number or Video input mode selected
- Channel label (if preset)
- Stereo or SAP (second audio program) audio status
- Content rating
- On timer, Sleep timer (if preset)
- Picture size



Auto power off

The TV/DVD will automatically turn off after approximately 15 minutes if it is tuned to a vacant channel or a station that completes its broadcast for the day and stops broadcasting on that channel. This feature does not work in Video input/PC/DVD mode.

Understanding the Power Return feature

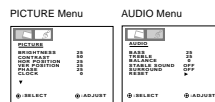
If the power is cut off while you are viewing the TV/DVD and the power is resupplied, the Power Return feature will turn the TV/DVD on automatically.

If the power is going to be off for a long time or you are going to be away from home for a long time, unplug the power cord from the wall outlet to prevent the TV/DVD from turning on in your absence.

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Picture/Audio adjustments in PC mode

There are a number of picture settings you can adjust to optimize the performance of the TV/DVD in PC mode.



Example: Adjust the contrast.

1. In PC mode, press MENU, then press ◀ or ▶ to display the PICTURE menu.
2. Press ▲ or ▼ to select CONTRAST.
3. Press ◀ or ▶ to adjust the contrast level.
4. Press EXIT to return to normal viewing.

PICTURE menu settings:

- BRIGHTNESS:** To adjust the brightness of PC Monitor screen.
- CONTRAST:** To adjust the contrast of PC Monitor screen.
- HOR POSITION:** To adjust the horizontal position of the image on the PC Monitor screen. Each video standard will require a different value for this setting.
- VER POSITION:** To adjust the vertical position of the image on the PC Monitor screen. Each video standard will require a different value for this setting. This must be adjusted after the frequency has been set to optimize picture quality.
- PHASE:** To minimize any vertical bars or stripes visible on the screen background.
- CLOCK:** To adjust the color temperature of the PC Monitor screen.
- RED/GREEN/BLUE:** To adjust the color temperature of the PC Monitor screen.
- WVGA INPUT:** Set to ON, when you select the WVGA mode on the PC.
- WXGA INPUT:** Set to ON, when you select the WXGA mode on the PC.

AUDIO menu settings:

- BASS/TREBLE/BALANCE:** To adjust the sound quality of PC mode.
- STABLE SOUND:** To turn on or off the StableSound® feature in PC mode.
- SURROUND:** To turn on or off the surround effect in PC mode.

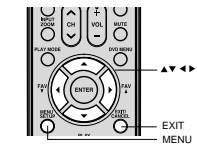
Resetting your picture/audio adjustments in PC mode

The RESET function returns your picture quality adjustments to the following factory settings:

PICTURE menu	AUDIO menu
Brightness center (25)	Bass center (25)
Contrast max (50)	Treble center (25)
Red center (25)	Balance center (0)
Green center (25)	
Blue center (25)	

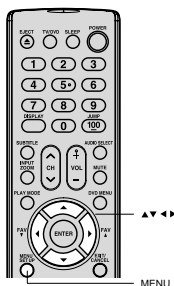
To reset your picture adjustments:

1. Press MENU in PC mode.
2. Press ◀ or ▶ to select the desired menu.
3. Press ▲ or ▼ to highlight RESET, and then press ◀ or ▶.



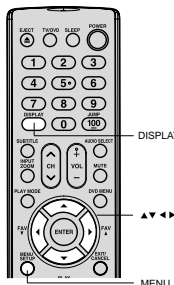
Notes:

- If you wish to change the on-screen language, follow the steps 1-3 on page 23.
- If no buttons are pressed for more than approx. 60 seconds, the PC Monitor Menu screen will return to normal Monitor screen automatically.
- The PC Monitor Menu settings are not effective for normal TV mode DVD mode or external input mode.



Note:

The cold cathode fluorescent lamp used for the back light on this TV/DVD has a limited life. When areas on the screen darken, flicker, or no longer light up, the lamp may be at the end of its life. Contact your nearest Toshiba Authorized Service Station.



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DVD Playback

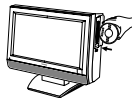
Playing a disc

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

Basic playback

Preparations: When connecting to other equipment, turn the power off.

1. Press POWER on the unit or on the remote control to turn on the unit.
The Power indicator will light.
• Every time you press POWER, the TV/DVD starts from TV mode.
• When using an amplifier, switch on the amplifier.
2. Press TV/DVD on the remote control to select DVD mode.
The DVD startup screen will appear on the screen. (If DVD disc has already loaded, playback will start automatically.)



3. Load a disc in the disc slot with the label side facing forward. (If the disc has a label.) Hold the disc without touching either of its surfaces, align it with the guides, and place it in position.

4. 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 ▲/▼ or ◀/▶ to select title, then press ENTER. Title is selected and play commences.

5. Press VOL + or - to adjust the volume.



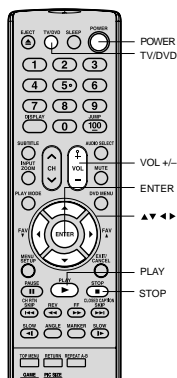
6. Press STOP to end playback.

Resume feature

- Depending on the disc you are playing, when you press STOP one time, the TV/DVD remembers the scene that was playing (■ appears on screen). Press PLAY to resume playback from the stopped scene.
- If you press STOP again, the unit will clear the stopped scene (■ appears on screen).

CAUTION

Keep your fingers well clear of the disc slot when disc is loading or unloading. Neglecting to do so may cause serious personal injury.









Note:

Static electricity may affect the DVD player's operation and cause it to not work properly. If this happens, turn OFF the POWER, disconnect and then reconnect the AC power cord, and turn ON the unit again.

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About

The    icons on the heading bar show the playable discs for the function described under that heading.

- : You can use this function with DVD Video discs.
- : You can use this function with Video CDs.
- : You can use this function with Audio CDs and CD-R/RW discs.

To start playback in the stop mode

Press PLAY.

To pause playback (still mode)

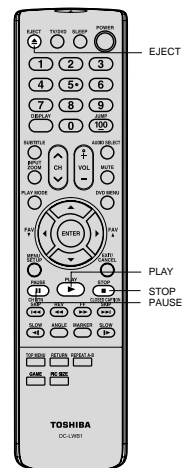
Press PAUSE during playback.
To resume normal playback, press PLAY.
• The sound is muted during still mode.

To stop playback

Press STOP.

To remove the disc

Press EJECT.
Remove the disc after the disc comes out.



Notes:

- 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 8 and 61).
- Some discs may take a minute or so to start playback.
- When you set a single-faced disc label downwards (ie. the wrong way up), "Reading" will appear on the display for a few minutes and then "Incorrect Disc" will continue to be displayed.
- Some discs may not resume playing the same scene after stopping.
- Resuming cannot function when you play a PBC-featured Video CD while the PBC is on. To turn off the PBC, see page 53.
- 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.
- Use EJECT on the unit to unload and eject the disc.
- Do not put any objects other than discs in the disc slot. Doing so may cause the unit to malfunction.
- There may be a slight delay between the button is pressed and the function activates.
- When an 8 cm disc is loaded in the disc slot, and the playback picture or menu screen does not appear, press PLAY.

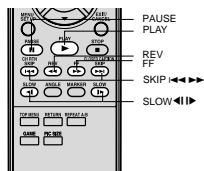
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Playing in fast reverse or fast forward directions

Press REV or FF during playback.
REV: Fast reverse playback
FF: Fast forward playback
Each time you press REV or FF, the playback speed changes.

To resume normal playback

Press PLAY.



Notes:

- The TV/DVD mutes sound during reverse and forward scan of DVD and Video CD discs. However, the TV/DVD plays sound during fast forward or fast reverse play of audio CDs.
- The playback speed may differ depending on the disc.

Playing frame by frame

Press PAUSE during still playback.
Each time you press PAUSE, the picture advances one frame.

To resume normal playback

Press PLAY.

Playing in slow-motion

Press SLOW ◀ (REVERSE) or ▶ (FORWARD) during playback.
Each time you press the button, the slow-motion speed changes.

To resume normal playback

Press PLAY.

Note:

The sound is muted during frame by frame playback.

Notes:

- The sound is muted during slow-motion playback.
- The Video CD cannot play Reverse Slow.

Locating a chapter or track

Press SKIP ◀ or ▶ repeatedly to display the chapter or track number you want.
Playback starts from the selected chapter or track.

SKIP ▶▶: To locate succeeding chapters or tracks.

SKIP ◀◀: Playback starts from the beginning of the current chapter or track. When you press twice in quick successions, playback starts from the beginning of the preceding chapter or track.

Note:

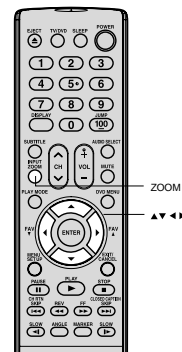
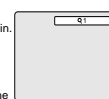
A "Prohibition" symbol X may appear at the upper right of the screen. This symbol means either the feature you tried is not available on the disc, or the TV/DVD cannot access the feature at this time. This does not indicate a problem with the TV/DVD.

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Zooming

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

1. Press ZOOM during playback.
The center part of the image will be zoomed in. Each press of ZOOM will change the ZOOM Q.1 (x 1.3), Q.2 (x 1.5) and Q.3 (x 2.0).
2. Press ▲/▼/◀/▶ to view a different part of the frame.
You may move the frame from the center 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).



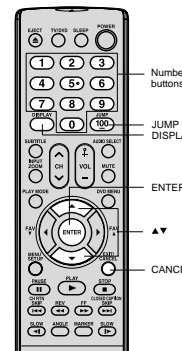
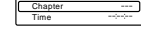
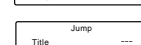
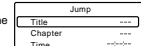
Notes:

- You can select the Pause, Slow or Search playback in the zoom mode.
- Some discs may not respond to zoom feature.

Locating desired scene

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

1. Press JUMP during playback or resume stop mode.
Title Chapter Time
Jump --- --- ---
2. Press ▲ or ▼ to select the "Time", "Title/Track" or "Chapter".
Title Chapter Time
Jump --- --- ---
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.
Title Chapter Time
Jump --- --- ---
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 Video-CD playback with PBC, the JUMP does not work. To turn off PBC, see page 53.

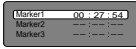
47

Marking desired scenes (DVD/VCD)

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

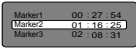
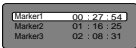
Marking the scenes

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.



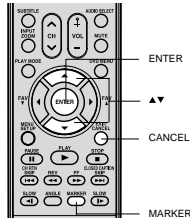
Returning to the scenes

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.



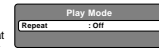
Notes:

- Some discs may not work with the marking operation.
- The marking is canceled 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, the MARKER is prohibited.

48

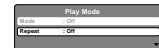
Repeat playback (DVD/VCD)

1. Press PLAY MODE during playback or stop mode.
2. [DVD] Press ENTER to select "Chapter" or "Title". The unit automatically starts repeat playback after finishing the current title or chapter.



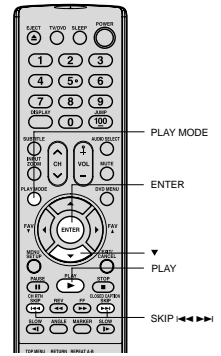
[Video CD]

- Press ▼ to select "Repeat". Press ENTER to select "Track" or "All". The unit automatically starts repeat playback after finishing the current track.
- If you set the repeat mode during stop mode, press PLAY to start Repeat playback.
- [Audio CD and MP3/WMA CD] Please see "Repeat playback" (page 58).
3. Press PLAY MODE again to clear the screen.



To resume normal playback

Select Repeat: "Off" in step 2.



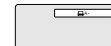
Notes:

- 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 canceled whenever SKIP (◀▶) is pressed.

A-B Repeat playback (DVD/VCD)

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

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

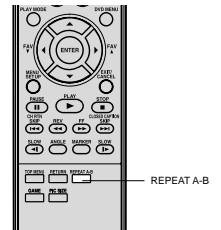


2. Press REPEAT A-B again. The end point is selected. Playback starts at the point that you selected. Playback stops at the end point and returns to Point A automatically, then starts again.



To resume normal playback

Press REPEAT A-B again. "Off" appears on the screen.



Notes:

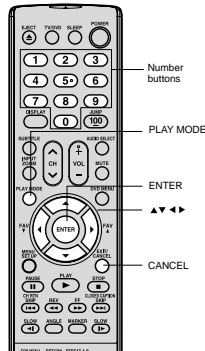
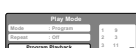
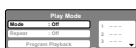
- In A-B Repeat mode, subtitles near the A or B locations may not be displayed.
- You cannot set the A-B Repeat for the scenes that include multiple angles.
- A-B Repeat playback does not work when Repeat playback is activated.
- You may not be able to set A-B Repeat during certain scenes of the DVD.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

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Program playback (VCD)

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/WMA CD, please see "Program playback" on page 58.

1. Press PLAY MODE in the stop mode.
2. Press ▲ or ▼ to select "Mode", then press ENTER to select "Program".
3. Press ◀ or ▶ to select the programming position. Use Number buttons (0-9) to input the Track on sequentially.
 - To program others, repeat step 3.
 - If you input a wrong number, press CANCEL.
4. Press ◀ or ▶ to return to the left column, then press ▲ or ▼ 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.



Notes:

- The program is canceled when you eject the disc or turn the power off.
- In playing back the Video CD with PBC, you cannot set Program playback.

To change the program

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

To clear the program one by one

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

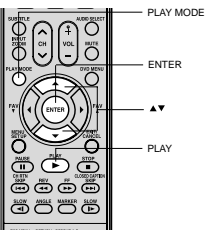
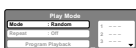
To clear all the programs

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

Random playback (VCD)

The unit selects tracks or files at random and playback. For Audio CD and MP3/WMA CD, please see "Random playback" on page 58.

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



Note:

In case of Video CD with PBC, you cannot set Random function during playback.

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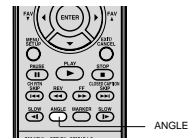
Changing angles (DVD)

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.



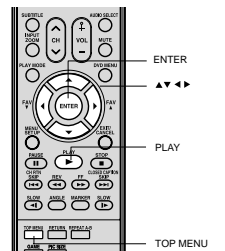
Note:

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.



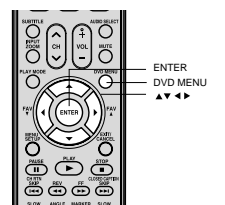
Note:

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 and sound-track 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:

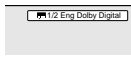
Depending on the DVD, you may not be able to resume playback from the scene point when you pressed DVD MENU.

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Changing soundtrack language (DVD/VCD)

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

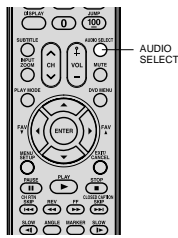
1. Press AUDIO SELECT during playback. The current soundtrack language will appear.



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.



- Notes:**
- 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 canceled when you eject the disc. The initial default language or available language will be heard if the disc is played back again.
 - If you select DTS in playing DTS-encoded disc, no sound will be heard from the TV/DVD's speakers.

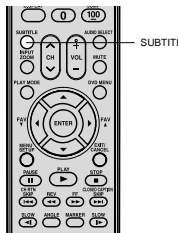
Subtitles (DVD)

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 selected.



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

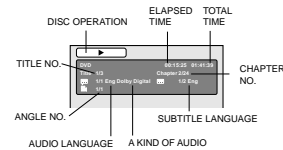


- Notes:**
- Depending on the DVD, you may not be able to change subtitles, or to turn subtitles on or off.
 - While playing a DVD, the subtitle may change when you loaded or eject the disc.
 - In some cases, a selected subtitle language may not be changed immediately.

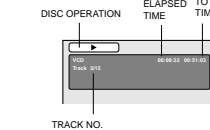
Disc status (DVD/VCD)

With each press of DISPLAY, the status of the disc will appear on the screen and change as follows.

DVD

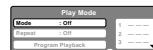


Video CD



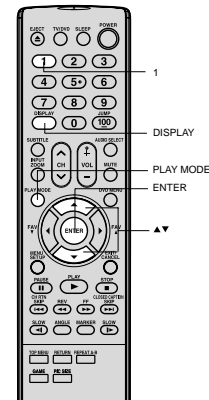
To turn off the PBC (VCD)

1. Press PLAY MODE in the stop mode.
2. Press ▲/▼ to select "Mode", then press ENTER repeatedly until "Off" appear.
3. Press PLAY MODE again to clear the screen.



To turn on the PBC

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



Note: You can also turn off the PBC by pressing the number button 1 and ENTER in the stop mode.

MP3/WMA/JPEG/DivX® and Audio CD operation

This player can playback the MP3/WMA/JPEG/DivX® data which has been recorded on CD-R/RW. To produce the MP3/WMA/JPEG/DivX® data, you need a Windows-PC with CD-RW drive and a MP3/WMA/JPEG/DivX®-encoding Software (not supplied). The Apple-HFS-System cannot be played.

This player 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/WMA files). Not all recordable discs will produce optimal playback quality. The technical criteria set forth in this owner's manual are meant only as a guide. Use of CD-RW for MP3 files is not recommended.

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MP3/WMA/JPEG/DivX® CD information

Limitations on MP3/WMA/JPEG/DivX® CD playback

- MP3/WMA/JPEG/DivX® CD is the disc that is standardized by ISO9660, its file name must include 3-digits extension letters, ".mp3", ".wma", ".jpg", ".div", ".divx", ".avi".
- MP3/WMA/JPEG/DivX® CD must be correspond to the ISO standardized files.
- This unit can read 600 files per disc. If one directory has more than 600 files, it reads up to 600 files, the remaining files will be omitted.
- The unit is able to recognize up to a maximum of 50 directories per disc.
- MP3/WMA/JPEG/DivX® CDs cannot be used for the purpose of recording.
- If the CD has both CDA audio tracks and MP3/WMA/JPEG/DivX® files, only the CDA audio tracks will be played.
- It may take more than one minute for this unit to read MP3/WMA/JPEG/DivX® files depending on its structure.
- Music recorded by "Joliet Recording Specification" can be played back, the file name is displayed (within 15 letters) on the screen. Long file names will be condensed.
- The music files recorded by "Hierarchical File System" (HFS) cannot be played.

Limitations on display

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

Notes on MP3/WMA/JPEG/DivX® files

- To playback MP3/WMA/JPEG/DivX® CD in the recorded order.
- Use MP3/WMA/JPEG/DivX® software that records data alphabetically or numerically.
- Name each file including two-digit or three-digit number (ex. "01" "02" or "001" "002").
- Refrain from making too many sub-folders.

CAUTION:

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

WMA

- WMA version 7, and 8
- 32kHz/48kbps, 44.1kHz/48kbps~192kbps, 48kHz/128kbps~192kbps
- The file recorded by mono, 48kHz, 48 kbps is not available to this unit.

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)

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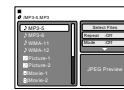
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MP3/WMA CD and Audio CD playback (CD)

1. Load an Audio CD or a disc on which MP3 or WMA files have been recorded in the disc slot.

2. A file browser screen will appear on the screen. Press ▲/▼ or ENTER to select folder.



3. Press ▲/▼ to select the desired file.
 - In case the folder includes more than 8 files, press ▲ or ▼ to display next file list.
 - To see contents in folder, select the folder and then press ENTER. To return to the upstairs directory, select "Go Up ..." then press ENTER.

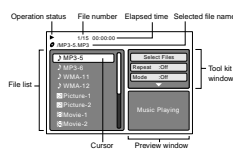


- When PLAY is pressed after the file browser displayed, playback begins automatically starting from the first file. In this case, if the first file is an MP3/WMA file, only MP3/WMA files are played back in order. If the first file is a JPEG file, the first JPEG file is played back. If the first file 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.

4. Press ENTER. The selected file starts playing back.

5. 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.

About file menu



- File type
 - Indicates Music file (Audio/MP3/WMA)
 - Indicates Picture file (JPEG)
 - Indicates Movie file (DivX®/Video)

Notes:

- During MP3/WMA/JPEG playback, you cannot use JUMP, A-B Repeat functions.
- You can use Repeat (Track or All), Random functions and Program playback for MP3/WMA/JPEG/DivX® CD playback (see page 58).
- The picture menu is displayed when the FLUICOLOR CD or the Kodak Picture CD are played. To display the file menu, press TOP MENU.
- In the case of a CD containing a mixture of MP3, WMA, JPEG and DivX® files, the files are played back by selecting them from the file menu.
- MP3 or WMA file on the Kodak Picture CD is not recognized on this unit.

Select Files

The file type to make it display in the file browser can be chosen.

1. Press ◀ or ▶ to highlight "Select Files" at right column in the file browser.
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.

JPEG CD playback

You can select your desired JPEG file on the file menu and picture menu. The selected JPEG file is automatically adjusted to the TV screen. (When the aspect ratio of a JPEG file is different from that of the TV screen, the black bars will appear at the top, bottom, and/or sides of the TV screen.)

1. Load a JPEG disc in the disc slot.
2. A file browser screen will appear on the screen.



3. Press **▲/▼** to select the desired file. To display a thumbnail list, press DVD MENU. (To return to a file browser, press TOP MENU.) Press **◀/▶/▲/▼** to select the desired file.
 - 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 a DivX® file, the first DivX® file is played back. If the first file is an MP3/WMA file, only MP3/WMA files are played back in order. If there is no file at a root directory, playback does not begin automatically.
4. Press ENTER or PLAY. The selected picture appears on the screen.



Rotating an image

You can rotate an image by 90 degrees. Pressing ANGLE during playback of the image. "▲", "▼", "▶", "◀" or "■" appears briefly on the screen.

Zooming an image

Zoom function also can be used in viewing JPEG files. Press ZOOM (See "Zooming" page 47).

5. Press STOP to end playback. The file browser appears on the screen. If you want to watch the other file, repeat steps 3 - 4.

Slide show playback

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

Preparation:

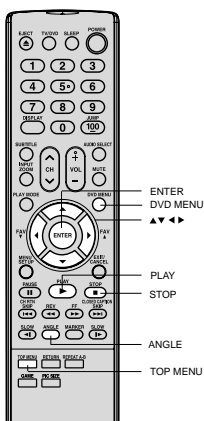
- Set "JPEG Interval" setting to "5 Seconds", "10 Seconds" or "15 Seconds". (See page 60.)

1. Select your desired starting file for the slide show in the step 3 on the above.
2. Press ENTER or PLAY to start slide show from the selected file.
 - If you press PAUSE during the slide show, the slide show stops temporarily. "II" appears briefly on the screen. If the picture appears upside down or sideways, press ANGLE repeatedly until it's right side up.
 - "▲", "▼", "▶", "◀", "■" or "■" appears briefly on the screen.

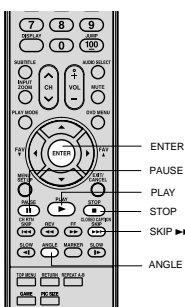
Press PLAY or SKIP **▶▶** again to resume the slide show.

- When slide show playback finished, the file browser appears.
- To stop the slide show, press STOP. The file browser appears.

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Note:
During JPEG playback, you cannot use Jump and A-B Repeat functions.



DivX® CD playback

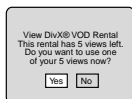
1. Load a DivX® disc in the disc slot.
2. A file browser screen will appear on the screen.
3. Press **▲/▼** to select the desired file. When PLAY has been pressed after displaying the file browser, playback begins automatically starting from the first file. In this case, if the first file is a JPEG file, the first JPEG file is played back. If the first file is a DivX® file, the first DivX® file is played back. If the first file is an MP3/WMA file, only MP3/WMA file are played back in order. If there is no file at a root directory, playback does not begin automatically.
4. Press ENTER or PLAY. The selected DivX® movie will be played back on the screen.
5. Press STOP to end playback. The file browser appears on the screen. If you want to watch the other file, repeat steps 3 - 4.



Playing DivX® VOD content

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

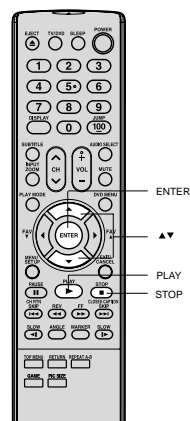
If the incorrect DRM file is loaded, "Authorization Error This player is not authorized to play this video." will appear on the screen. When you attempt to play DivX® VOD, the number of plays is limited and the right message will appear on the screen. If you wish to play it, select "YES".



- 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 61.

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Repeat and program playback using file browser

Repeat playback

1. In the file browser, press **◀/▶** or **▲/▼** to select "Repeat" in stop mode.
2. Press ENTER to select "Track" or "All".
3. 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

1. In the file browser, press **◀/▶** or **▲/▼** to select "Mode" in stop mode.
2. Press ENTER to select "Random".
3. Press PLAY. The Random playback will start.

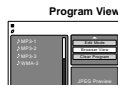
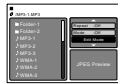


To resume normal playback

Select Mode : "Off" in step 2.

Program playback

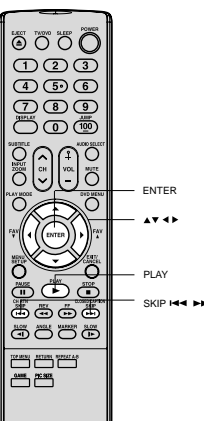
1. In the file browser, press **◀/▶** or **▲/▼** to select "Edit Mode", then press ENTER. When "Edit Mode" is in black screen, the files which you want to add into Program list can be marked.
2. Press **◀/▶** or **▲/▼** to select file you want to add into the program list. Press ENTER. Selected file was marked. Repeat this procedure to select the other files.
3. Press **◀/▶** or **▲/▼** to select "Add To Program". Then press ENTER. All marked files are added into the program list. When you finish store all files which you want into the Program list, select "Edit Mode" and press ENTER to release Edit Mode.
4. Press **◀/▶** or **▲/▼** to select "Program View", then press ENTER. Program View shows only the programmed files that you have added in step 2.
5. In the Program View, press PLAY. The files start to playback in programmed order that were added by you.



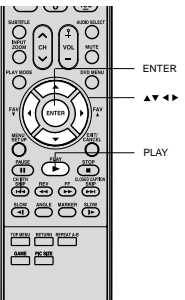
To remove file from program list

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

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Notes:
 • The Repeat, Random and Program functions are canceled when you eject the disc or turn the power off.
 • In case of Audio CD, the function of A-B Repeat can be used. See "A-B Repeat playback" on page 49.
 • Track repeat function is canceled whenever SKIP **◀◀** or **▶▶** is pressed.



DVD function setup

Customizing the function settings

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

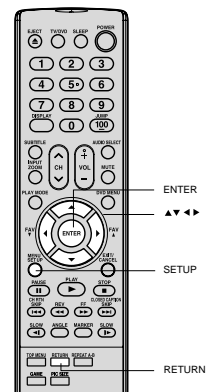
Setting procedure

1. Press SETUP during stop mode. The following on-screen display appears.
 - Menu : English
 - Subtitle : English
 - Audio : English
2. Press **▲** or **▼** to select the desired section, then press **▶**.
3. Press **▲** or **▼** to select the desired option.
4. Then press **▶** or ENTER. The selectable settings will appear.
5. Change the selection using **▲** or **▼**, by referring to the corresponding pages 60 to 61. 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 **◀** repeatedly.
6. To clear SETUP screen, press SETUP or RETURN.



Section	Option	Details	Page
	Menu	To select the language of "Menu", "Subtitle" and "Audio" if more than one language are available on the disc.	60
	Subtitle		
	TV Screen	To select a picture size according to the aspect ratio of your TV.	60
	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".	
	JPEG Interval	To select a preferred setting for the slide show playback.	61
	DRC	To select On or Off for DRC (Dynamic Range Control).	
	Parental	To select a preferred parental level for the parental setting.	61
	Password	To select a preferred password to set the parental level.	
	DivX(R) VOD	To display your 8-character registration code.	

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Setting details

Language



Display

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

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

Off: On screen displays do not appear when you press any buttons.

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 position normally.

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

Film: The DVD player converts film content pictures in the progressive output format appropriately. Suitable for playback of film content pictures. The progressive output feature will be most effective under this selection.

Video: The DVD player filters video signal, and converts it in the progressive output format 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 setting below, the disc will start playback on which JPEG files 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.

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:

The selected language will be heard or seen.

Other:

Other language can be selected (see "Language code list" page 63).

Off (Subtitle):

Subtitles do not appear.

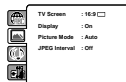
Original (Audio):

The unit will select the first priority language of each disc.

Notes:

- If the selected language is not recorded on the disc, the first-priority language is selected.
- If you want to change the OSD language, you can perform it by TV SETUP MENU (see page 23).

Picture



Tv Screen

You have the following screen sizes to choose from:

4:3 (Letter box):

Select this mode when connecting to a conventional TV. 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 (Pan & scan):

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

16:9 (Wide):

A wide screen picture is displayed full size.

Note:

If the DVD disc is not formatted in the pan & scan style, it will display 4:3 style.

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Setting details

Sound



DRC

DRC (Dynamic Range Control) enables you to control the dynamic range so as to achieve a suitable sound for your equipment.

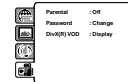
On: Loud sound such as explosion is toned down slightly when played back. This is suitable when it is connected to a stereo.

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

Notes:

- This function works only during playback of Dolby Digital recorded discs.
- The level of Dynamic Range Reduction may differ depending on DVD video disc.

Parental



Parental control setting

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 Off:** The parental control setting does not function.
 - Level 8:** Virtually all DVD software can be played back.
 - Level 1:** DVD software for adults cannot be played back.
- 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.

Notes:

- 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.

Set the new 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 forgot the password.

- Press EJECT to remove the disc.
- While holding 7 down on the remote control and at the same time press STOP on the front 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.

Note:

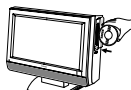
If each setup (pages 60 to 61) has completed, the unit can always work under the same condition (especially with DVD discs). Each setup will be retained in the memory even if you turn the power off.

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Temporary cancel the rating level by DVD disc

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

- Load a DVD disc.

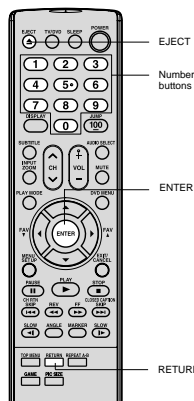


- If the DVD disc has been designed to temporarily cancel the Rating level, the screen which follows the "Reading" screen will change, depending on which disc is played. If you select "YES" with the ENTER key, password input screen will then appear.
 - If "NO" is selected, press EJECT to remove the disc.

- 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 is correct.



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

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Appendix

Language code list

Enter the appropriate code number for the initial settings "Menu", "Subtitle" and/or "Audio." See page 60.

Language Name Code	Language Name Code	Language Name Code	Language Name Code
Abkhazian	1112	Fiji	1620
Afar	1111	Finnish	1619
Afrikaans	1116	French	1628
Albanian	2927	Frisian	1635
Amharic	1123	Galician	1722
Arabic	1128	Georgian	2111
Armenian	1835	German	1415
Assamese	1129	Greek	1522
Aymara	1135	Greenlandic	2122
Azerbaijani	1136	Guarani	1724
Bashkir	1211	Gujarati	1731
Basque	1531	Hausa	1811
Bengali; Bangla	1224	Hebrew	1933
Bhutanian	1436	Hindi	1819
Bihari	1218	Hungarian	1831
Breton	1228	Icelandic	1929
Bulgarian	1217	Indonesian	1924
Burmese	2335	Interlingua	1911
Byelorussian	1215	Irish	1711
Cambodian	2123	Italian	1930
Catalan	1311	Japanese	2011
Chinese	3618	Javanese	2033
Corsican	1325	Kannada	2124
Croatian	1828	Kashmiri	2129
Czech	1329	Kazakh	2121
Danish	1411	Kirghiz	2135
Dutch	2422	Korean	2125
English	1524	Kurdish	2131
Esperanto	1525	Laothian	2225
Estonian	1530	Latin	2211
Faroese	1625	Latvian, Lettish	2232
		Lingala	2224
		Lithuanian	2230
		Malay	2329
		Malayalam	2322
		Maltese	2330
		Maori	2319
		Marathi	2328
		Moldavian	2325
		Mongolian	2324
		Nauru	2411
		Nepali	2415
		Norwegian	2425
		Oriya	2528
		Panjabi	2611
		Pashto, Pushto	2629
		Persian	1611
		Polish	2622
		Portuguese	2630
		Quechua	2731
		Rhaeto-Romance	2823
		Romanian	2825
		Russian	2831
		Samoan	2923
		Sanskrit	2911
		Scots Gaelic	1714
		Serbian	2928
		Serbo-Croatian	2918
		Shona	2924
		Sindhi	2914
		Singhalese	2919
		Slovak	2921
		Slovenian	2922
		Somali	2925
		Spanish	1529
		Sundanese	2931
		Swahili	2933
		Swedish	2932
		Tagalog	3022
		Tajik	3017
		Tamil	3011
		Tatar	3030
		Telugu	3015
		Thai	3018
		Tibetan	1225
		Tigrinya	3019
		Tonga	3025
		Turkish	3028
		Turkmen	3021
		Twi	3033
		Ukrainian	3121
		Urdu	3128
		Uzbek	3136
		Vietnamese	3219
		Volapük	3225
		Welsh	1335
		Wolof	3325
		Xhosa	3418
		Yiddish	2019
		Yoruba	3525
		Zulu	3631

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Appendix

Troubleshooting

Before calling a service technician, please check the following table for a possible cause of the symptom and some solutions.

Symptom	Solution
TV will not turn on	<ul style="list-style-type: none"> Make sure the AC cord is connected securely and then press POWER. The remote control batteries may be dead. Replace the batteries.
No picture, no sound	<ul style="list-style-type: none"> Check the antenna/cable connections.
No sound, picture OK	<ul style="list-style-type: none"> The sound may be muted. Press VOL +/-. The station may have broadcast difficulties. Try another channel. The MTS feature may be in SAP mode. Select STR or MONO in the MTS menu.
Poor sound, picture OK	<ul style="list-style-type: none"> The station may have broadcast difficulties. Try another channel. The MTS feature may be in SAP mode. Select STR or MONO in the MTS menu.
Poor picture, sound OK	<ul style="list-style-type: none"> Check the antenna connections. The station may have broadcast difficulties. Try another channel. Adjust the PICTURE menu.
Picture and sound are out of sync	<p>As with all products that contain a digital display, in rare instances, when viewing certain content (e.g., television broadcasts, video games, DVDs), you may notice that the sound and picture are slightly out of sync. This phenomenon can be caused by various factors including, without limitation, video processing within the TV, video processing in an attached gaming system, and video processing/different compression rates used by broadcasters in their programming. You may want to try one or more of the following suggestions, which may help to reduce the effect of this phenomenon:</p> <ul style="list-style-type: none"> If the TV is connected to an external A/V device (e.g., DVD player, video game system, set-top-box, etc.) always try to use the Color Stream video jacks and corresponding audio jacks or the HDMI input (if available on your TV) for connection to such external A/V device. If the TV is connected to an A/V receiver that has a programmable audio delay feature, use this feature to help synchronize the sound to the picture. If connected to a video game system and your TV has the Game Mode feature (see owner's manual for more information), enable this feature. If you notice this phenomenon only on certain TV channels, please contact your local broadcast, cable, or satellite provider to inform them of this issue.
Poor reception of broadcast channels	<ul style="list-style-type: none"> The station may have broadcast difficulties. Try another channel. Check the antenna connections.
Cannot receive above channel 13	<ul style="list-style-type: none"> Make sure TV/CABLE is set to CABLE mode.
Unable to select a certain channel	<ul style="list-style-type: none"> The channel may be blocked by the V-Chip feature or CH LOCK feature, or erased with the add/erase feature.
Cannot access signal input sources (Video1, Video2, ColorStream HD, HDMI and PC) and/or Channels 3 and 4	<ul style="list-style-type: none"> Check the VIDEO LOCK feature.
Multiple images	<ul style="list-style-type: none"> The station may have broadcast difficulties. Try another channel. Use a highly directional outdoor antenna.
Poor color or no color	<ul style="list-style-type: none"> The station may have broadcast difficulties. Try another channel. Adjust the TINT and/or COLOR in the PICTURE menu.
Black box on screen	<ul style="list-style-type: none"> Select OFF in the Closed Caption menu to turn off the Closed Caption Text mode.
No stereo or SAP sound from a known MTS broadcast	<ul style="list-style-type: none"> Make sure the MTS feature is set properly (AUDIO menu).
The V-Chip password does not work (U.S. V-Chip system only)	<ul style="list-style-type: none"> Change or reset your password.
The remote control does not operate	<ul style="list-style-type: none"> Remove all obstructions between the remote control and the TV. The remote control batteries may be dead. Replace the batteries.
The top panel buttons do not operate	<ul style="list-style-type: none"> Check the PANEL LOCK feature.

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Troubleshooting (continued)

Symptom of DVD	Solution
Playback doesn't start	<ul style="list-style-type: none"> No disc is loaded. The disc may be dirty. Clean the disc. The unit cannot play CD-ROMs, etc.
No picture	<ul style="list-style-type: none"> TV/DVD selector is not set correctly.
No sound	<ul style="list-style-type: none"> Make sure the input selector of the amplifier is set properly. The unit is in the special playback mode. Select the correct Audio Output/Input position on AV amplifier.
Picture is distorted during fast reverse/forward playback	<ul style="list-style-type: none"> The picture will be distorted occasionally.
Stopping playback, search, slow-motion play, repeat play, or program play, etc. cannot be performed	<ul style="list-style-type: none"> Some discs may not perform certain functions.
No on-screen display	<ul style="list-style-type: none"> Set Display to On.
No surround sound	<ul style="list-style-type: none"> The setup does not match your stereo system.
The unit or remote operation key is not functioning	<ul style="list-style-type: none"> Turn off the unit and unplug the AC power cord for several minutes, then replug it.
Playback does not start when the title is selected	<ul style="list-style-type: none"> Check the Parental level setup.
Audio soundtrack and/or subtitle language is not changed when you playback a DVD	<ul style="list-style-type: none"> Multilingual language is not recorded on the DVD disc.
No subtitle	<ul style="list-style-type: none"> Some discs have no subtitles. Subtitles are cleared. Press SUBTITLE.
Angle cannot be changed	<ul style="list-style-type: none"> Multi-angles are not recorded on the DVD discs.
"X" appears on the screen	<ul style="list-style-type: none"> The function is prohibited with the unit or its disc.

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Specifications

- Notes:**
- This model complies with the specifications listed below.
 - Designs and specifications are subject to change without notice.
 - This model may not be compatible with features and/or specifications that may be added in the future.

Television	
LCD panel	20.04 inches (508.9 mm diagonal) (approx.) (Screen size is approximate.)
Display method	Color TFT LCD
Number of pixels	1366 (Horizontal) x 768 (Vertical)
Television system	NTSC standard
Tuner type	F-Synth
Channel coverage	VHF: 2 - 13 UHF: 14 - 69 Cable TV: 4A, A-5 - A-1, A-1, J - W, W+1 - W+84
Antenna input	VHF/UHF 75 ohm
Power source	120V AC, 60 Hz
Power consumption	100 W
Audio power	2.5 W + 2.5 W
Speaker type	1.8 x 3.9 inches (45.7 x 99.1 mm), 8 ohm x 2
Video/Audio terminals	<p>S-VIDEO INPUT</p> <ul style="list-style-type: none"> Y-INPUT: 1V (p-p), 75 ohm, negative sync., Mini DIN 4pin x 1 C-INPUT: 0.286V (p-p) (burst signal), 75 ohm <p>VIDEO/AUDIO INPUT</p> <ul style="list-style-type: none"> VIDEO: 1V (p-p), 75 ohm, negative sync., pin jack x 2 AUDIO: -8dBm, 50k ohm, negative sync., pin jack (L/R) x 4 <p>ColorStream® (component video) INPUT</p> <ul style="list-style-type: none"> V: 1V (p-p), 75 ohm P+: 0.7V (p-p), 75 ohm P-: 0.7V (p-p), 75 ohm <p>DIGITAL AUDIO OUTPUT (Coaxial) DVD mode only</p> <ul style="list-style-type: none"> 0.5V (p-p), 75 ohm, pin jack x 1 <p>HEADPHONE</p> <ul style="list-style-type: none"> Ø3.5mm stereo mini jack x 1 <p>HDMI INPUT: HDMI compliant (type A connector)</p> <ul style="list-style-type: none"> HDCP compliant E-EDID* compliant Suggested scan rates: 1080i, 480p, 480i, 720p HDMI Audio: 2-channel PCM 32/44.1/48 kHz sampling frequency 16/20/24 bits per sample <p>PC Monitor Input</p> <ul style="list-style-type: none"> Mini-Dsub 15pin x 1
Dimensions	<p>Width: 21-13/16 inches (544 mm)</p> <p>Height: 17-5/8 inches (448 mm)</p> <p>Depth: 8-11/16 inches (220 mm)</p>
Weight	19.3 lbs. (9.0 kg)
Supplied accessories	Remote control (DC-LV1B1) with two size "AAA" batteries Owner's Manual (This booklet)
DVD/CD Player	
Signal system	NTSC
Applicable disc	1. DVD (12cm, 8cm) 2. CD (12cm, 8cm)
Pickup	1-Lens, 2-Beams System

* E-EDID = Enhanced-Extended Display Identification.

WARNING: If you decide to wall mount this television, always use a UL-approved wall bracket appropriate for the size and weight of this television. The use of any wall bracket other than a UL-approved wall bracket appropriate for the size and weight of this television for wall mounting this television could result in serious bodily injury and/or property damage.

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Limited United States Warranty

LCD TV/DVD Combination - Depot Repair Warranty

Toshiba America Consumer Products, L.L.C. ("TACP") makes the following limited warranties to original consumers in the United States. THESE LIMITED WARRANTIES EXTEND TO THE ORIGINAL CONSUMER PURCHASER OR ANY PERSON RECEIVING THIS LCD TV/DVD COMBINATION AS A GIFT FROM THE ORIGINAL CONSUMER PURCHASER AND TO NO OTHER PURCHASER OR TRANSFEREE.

LCD TV/DVD COMBINATIONS PURCHASED IN THE U.S.A. AND USED ANYWHERE OUTSIDE OF THE U.S.A., INCLUDING, WITHOUT LIMITATION, CANADA AND MEXICO, ARE NOT COVERED BY THESE WARRANTIES.

LCD TV/DVD COMBINATIONS PURCHASED ANYWHERE OUTSIDE OF THE U.S.A., INCLUDING, WITHOUT LIMITATION, CANADA AND MEXICO, AND USED IN THE U.S.A., ARE NOT COVERED BY THESE WARRANTIES.

Limited One (1) Year Warranty on Parts and Labor
TACP warrants this LCD TV/DVD Combination and its parts against defects in materials or workmanship for a period of one (1) year after the date of original retail purchase. DURING THIS PERIOD, TACP WILL AT TACP'S OPTION, REPAIR OR REPLACE A DEFECTIVE PART WITH A NEW OR REFURBISHED PART WITHOUT CHARGE TO YOU.

Rental Units
The warranty for LCD TV/DVD Combination rental units begins on the date of the first rental or thirty (30) days after the date of shipment to the rental firm, whichever comes first.

Commercial Units
LCD TV/DVD Combinations sold and used for commercial purposes have a limited warranty for all parts and labor, which warranty begins on the date of original retail purchase and ends on the date that is ninety (90) days thereafter.

Owner's Manual and Product Registration Card
Read this owner's manual thoroughly before operating this LCD TV/DVD Combination.

Complete and mail the enclosed product registration card or register your LCD TV/DVD Combination on-line at <http://www.tacp.toshiba.com/service> as soon as possible. By registering your LCD TV/DVD Combination you will enable TACP to bring you new products specifically designed to meet your needs and help us to contact you in the unlikely event a safety notification is required under the U.S. Consumer Product Safety Act. Failure to complete and return the product registration card does not diminish your warranty rights.

Your Responsibility
THE ABOVE WARRANTIES ARE SUBJECT TO THE FOLLOWING CONDITIONS:

- You must retain your bill of sale or provide other proof of purchase.
- All warranty servicing of this LCD TV/DVD Combination must be made by the Depot Warranty Repair Center specified by the TACP Consumer Solutions Center.
- The warranties from TACP are effective only if the LCD TV/DVD Combination is purchased and operated in the Continental U.S.A. or Puerto Rico.
- Labor service charges for set installation, setup, adjustment of customer controls, and installation or repair of antenna systems are not covered by this warranty. Reception problems caused by inadequate antenna systems, misaligned satellite dishes, cable television distribution, VCRs, DVD players/recorders,

personal computer level IEEE-1394 devices, and any other connected signal source device are your responsibility.

- Warranties extend only to defects in materials or workmanship as limited above, and do not extend to any LCD TV/DVD Combination or parts that have been lost or discarded by you or to damage to the LCD TV/DVD Combination or parts caused by fires, misuse, accident, Acts of God (such as lightning or fluctuations in electric power), improper installation, improper maintenance, or use in violation of instructions furnished by TACP; use or malfunction through simultaneous use of this LCD TV/DVD Combination and connected equipment; or to units that have been modified or had the serial number removed, altered, defaced, or rendered illegible.

How to Obtain Warranty Services

If, after following all of the operating instructions in this manual and checking the section "Troubleshooting," you find that service is needed:

- For instructions on how to obtain warranty service for your LCD Television, contact TACP's Consumer Solution Center toll free at 1-800-631-3811.
- You must include a copy or original bill of sale or other proof of purchase along with the entire LCD TV/DVD Combination to the Depot Warranty Repair Center specified by the TACP Consumer Solutions Center. You are responsible for inbound transportation and insurance charges for the LCD TV/DVD Combination to the Depot Warranty Repair Center specified by the TACP Consumer Solutions Center.

For additional information, visit TACP's website: www.tacp.toshiba.com

ALL WARRANTIES IMPLIED BY THE LAW OF ANY STATE OF THE U.S.A., INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THE LIMITED WARRANTIES SET FORTH ABOVE, WITH THE EXCEPTION OF ANY WARRANTIES IMPLIED BY THE LAW OF ANY STATE OF THE U.S.A. AS HEREBY LIMITED, THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, AGREEMENTS, AND SIMILAR OBLIGATIONS OF TACP WITH RESPECT TO THE REPAIR OR REPLACEMENT OF ANY PARTS. IN NO EVENT SHALL TACP BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, BUSINESS INTERRUPTION, OR MODIFICATION OR ERASURE OF RECORDED DATA CAUSED BY USE, MISUSE OR INABILITY TO USE THIS LCD TV/DVD COMBINATION).

No person, agent, distributor, dealer, or company is authorized to change, modify, or extend the terms of these warranties in any manner whatsoever. The time within which an action must be commenced to enforce any obligation of TACP arising under the warranty or under any statute or law of the United States or any state thereof is hereby limited to ninety (90) days from the date you discover, or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE IN THE U.S.A. SOME STATES OF THE U.S.A. DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, WHEN AN ACTION MAY BE BROUGHT, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE PROVISIONS MAY NOT APPLY TO YOU UNDER SUCH CIRCUMSTANCES.

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Limited Canada Warranty
LCD TV/DVD (from for 14" to 32" Television Models)

Toshiba of Canada Limited ("TCL") makes the following limited warranties to original consumers in Canada. THESE LIMITED WARRANTIES EXTEND TO THE ORIGINAL CONSUMER PURCHASER OR ANY PERSON RECEIVING THIS LCD TV/DVD AS A GIFT FROM THE ORIGINAL CONSUMER PURCHASER AND TO NO OTHER PURCHASER OR TRANSFEREE.

PRODUCTS PURCHASED IN THE U.S.A. AND USED IN CANADA ARE NOT COVERED BY THESE WARRANTIES.

PRODUCTS PURCHASED IN CANADA AND USED IN THE U.S.A. ARE NOT COVERED BY THESE WARRANTIES.

Limited One (1) Year Warranty on Parts and Labor*

TCL warrants this LCD TV/DVD and its parts against defects in materials or workmanship for a period of one (1) year after the date of original retail purchase. DURING THIS PERIOD, TCL WILL, AT TCL'S OPTION, REPAIR OR REPLACE A DEFECTIVE PART WITH A NEW OR REFURBISHED PART WITHOUT CHARGE TO YOU FOR PARTS OR LABOR. YOU MUST DELIVER THE ENTIRE LCD TV/DVD TO AN AUTHORIZED TCL SERVICE DEPOT. YOU MUST PAY FOR ALL TRANSPORTATION AND INSURANCE CHARGES FOR THE TELEVISION TO AND FROM THE SERVICE DEPOT.

Rental Units

The warranty for rental units begins with the date of first rental or thirty (30) days from the date of shipment to the rental firm, whichever comes first.

***Limited Warranty for Commercial Units**

TCL warrants LCD TV/DVD units sold and used for commercial purposes as follows: all parts are warranted against defects in materials or workmanship for a period of ninety (90) days after the date of original purchase. DURING THIS PERIOD, TCL WILL, AT TCL'S OPTION, REPAIR OR REPLACE A DEFECTIVE PART WITH A NEW OR REFURBISHED PART WITHOUT CHARGE TO YOU. YOU MUST DELIVER THE ENTIRE TELEVISION TO AN AUTHORIZED TCL SERVICE DEPOT. YOU MUST PAY FOR ALL TRANSPORTATION AND INSURANCE CHARGES FOR THE TELEVISION TO AND FROM THE SERVICE DEPOT.

Owner's Manual and Product Registration

Read this owner's manual thoroughly before operating this television.

Register your product online at www.toshiba.ca as soon as possible. By registering your product you will enable TCL to provide you with better customer service and improved product support. Failure to register your product does not diminish your warranty rights.

Your Responsibility

THE ABOVE WARRANTIES ARE SUBJECT TO THE FOLLOWING CONDITIONS:

- (1) You must provide your bill of sale or other proof of purchase.
- (2) All warranty servicing of this LCD TV/DVD must be performed by an Authorized TCL Service Depot.
- (3) These warranties from TCL are effective only if the LCD TV/DVD is purchased in Canada from an authorized TCL dealer and operated in Canada.
- (4) Labor charges for installation, setup, adjustment of customer controls, and installation or repair of antenna systems are not covered by these warranties. Reception problems caused by inadequate antenna systems are your responsibility.

- (5) Warranties extend only to defects in materials or workmanship as limited above, and do not extend to any television or parts that have been lost or discarded by you or to damage to the television or parts caused by fires, misuse, accident, Acts of God (such as lightning or fluctuations in electric power), improper installation, improper maintenance, or use in violation of instructions furnished by TCL; use or malfunction through simultaneous use of this product and connected equipment; or to units that have been modified or had the serial number removed, altered, defaced, or rendered illegible.

How to Obtain Warranty Services

If, after following all of the operating instructions in this manual and checking the "Troubleshooting" section, you find that service is needed:

- (1) To find the nearest TCL Authorized Service Depot, visit TCL's web site at www.toshiba.ca.
- (2) Present your bill of sale or other proof of purchase to the Authorized Service Depot.

For additional information, visit TCL's web site: www.toshiba.ca

ALL WARRANTIES IMPLIED BY THE LAW OF ANY PROVINCE OF CANADA, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THE LIMITED WARRANTIES SET FORTH ABOVE. WITH THE EXCEPTION OF ANY WARRANTIES IMPLIED BY THE LAW OF ANY PROVINCE OF CANADA AS HEREBY LIMITED, THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, AGREEMENTS, AND SIMILAR OBLIGATIONS OF TCL WITH RESPECT TO THE REPAIR OR REPLACEMENT OF ANY PARTS. IN NO EVENT SHALL TCL BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, BUSINESS INTERRUPTION, OR MODIFICATION OR ERASURE OF RECORDED DATA CAUSED BY USE, MISUSE, OR INABILITY TO USE THIS PRODUCT).

No person, agent, distributor, dealer, or company is authorized to change, modify, or extend the terms of these warranties in any manner whatsoever. The time within which action must be commenced to enforce any obligation of TCL, arising under this warranty or under any law of Canada or of any province thereof is hereby limited to 90 days from the date you discover, or should have discovered, the defect. This limitation does not apply to implied warranties arising under the law of any province of Canada.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH MAY VARY FROM PROVINCE TO PROVINCE IN CANADA. SOME PROVINCES OF CANADA DO NOT ALLOW LIMITATIONS ON THE DURATION OF AN IMPLIED WARRANTY, LIMITATIONS ON THE TIME WITHIN WHICH AN ACTION MAY BE BROUGHT, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. THEREFORE, THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU UNDER SUCH CIRCUMSTANCES.

MEMO

Introduction

Connecting your TV/DVD

Setting up your TV/DVD

Using the TV/DVD's Features

DVD Playback

Appendix

MEMO

MEMO

Introduction

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Appendix

CAUTION

THIS LCD COLOR TELEVISION EMPLOYS A LASER SYSTEM.

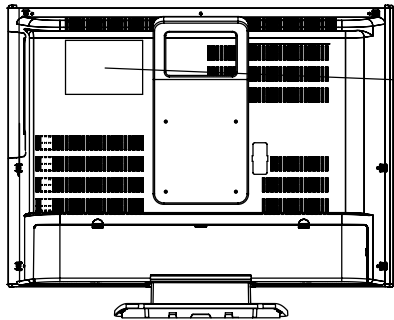
TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS SERVICE MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

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

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking

The rating sheet and the safety caution are on the rear of the unit.



CERTIFICATION: COMPLIES WITH FDA
RADIATION PERFORMANCE STANDARDS,
21 CFR SUBCHAPTER J.

PREPARATION OF SERVICING

The laser diode used for a pickup head may be destroyed with external static electricity. Moreover, even if it is operating normally after repair, when static electricity discharge is received at the time of repair, the life of the product may be shortened. Please perform the following measure against static electricity, be careful of destruction of a laser diode at the time of repair.

- Place the unit on a workstation equipped to protect against static electricity, such as conductive mat.
- Soldering iron with ground wire or ceramic type is used.
- A worker needs to use a ground conductive wrist strap for body.

IMPORTANT SERVICE SAFETY INFORMATION

Safety precautions to be followed during servicing:

1. Parts marked with an \triangle are critical parts for safety. Replace only with the one described in the parts list.
2. Before returning the DVD product to the customer, make the appropriate leakage current check or resistance measurements to ensure that exposed parts are properly insulated from the supply circuit.

A leakage current check is recommended for this unit. Plug the AC line cord directly into a 120V 60Hz AC outlet (do not use an isolation transformer for this check). Use a leakage current tester (Fig. 1) or a metering system which complies with Underwriters Laboratories (UL 1492P). Measure for current from all exposed metal parts of the cabinet to a known earth ground: particularly, any exposed metal part having a return path to the chassis. Any current measured must not exceed 0.5mA. Any measurement not within the limits outlined above are indicative of a potential shock hazard and corrective action must be taken before returning the unit to the customer.

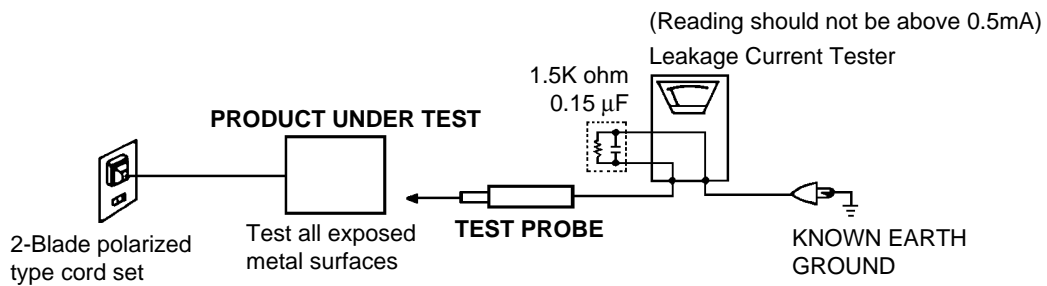


Fig. 1 AC Leakage Test

IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS

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

2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

4. FOLLOW INSTRUCTIONS

All operating and use instructions should be followed.

5. CLEANING

Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. ATTACHMENTS

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

7. WATER AND MOISTURE

Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

8. ACCESSORIES

Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer.

- 8A.** An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. VENTILATION

Slots and openings in the cabinet and in the back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. POWER SOURCES

This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.

11. GROUNDING OR POLARIZATION

This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. If your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. LIGHTNING

To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.

14. POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

15. OVERLOADING

Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.

16. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3126A

17. OUTDOOR ANTENNA GROUNDING

If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

18. SERVICING

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

19. DAMAGE REQUIRING SERVICE

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the unit.
- c. If the unit has been exposed to rain or water.
- d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
- e. If the unit has been dropped or the cabinet has been damaged.
- f. When the unit exhibits a distinct change in performance, this indicates a need for service.

20. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

22. WALL OR CEILING MOUNTING

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

23. HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

24. DISC TRAY

Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.

25. CONNECTING

When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.

26. SOUND VOLUME

Reduce the volume to the minimum level before you turn on the product. Otherwise, sudden high volume sound may cause hearing or speaker damage.

27. SOUND DISTORTION

Do not allow the product output distorted sound for a longtime. It may cause speaker overheating and fire.

28. HEADPHONES

When you use the headphones, keep the volume at a moderate level. If you use the headphones continuously with high volume sound, it may cause hearing damage.

29. LASER BEAM

Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.

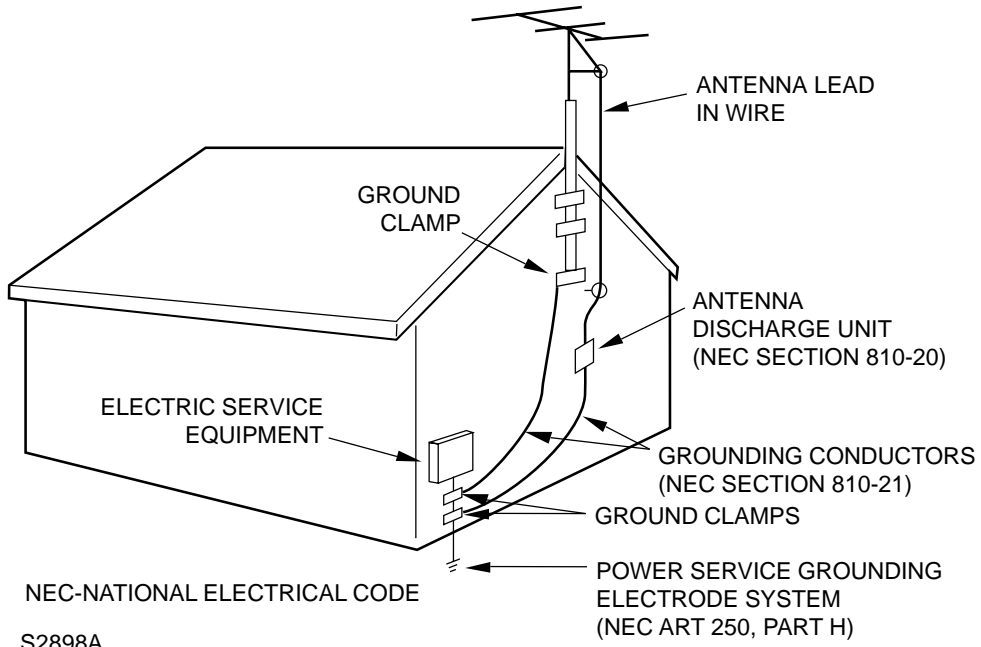
30. DISC

Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.

31. NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE



WHEN REPLACING DVD DECK

[When removing the DVD Deck]

Before removing Pick Up PCB and DVD PCB connector, the 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 PCB connector.

NOTE

- Before your operation, please read "PREPARATION OF SERVICING".
- Use the Lead Free solder.
- Manual soldering conditions
 - Soldering temperature: $350 \pm 5^{\circ}\text{C}$
 - Soldering time: Within 2 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.

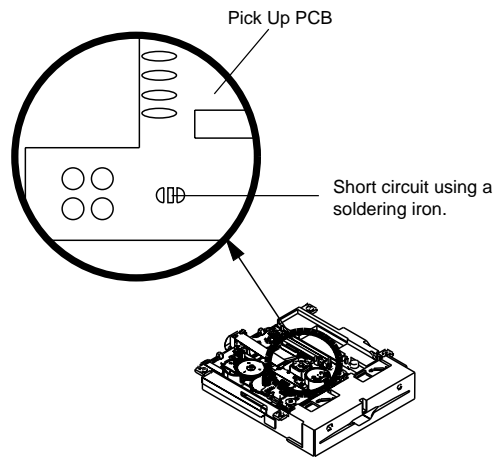


Fig. 1

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.

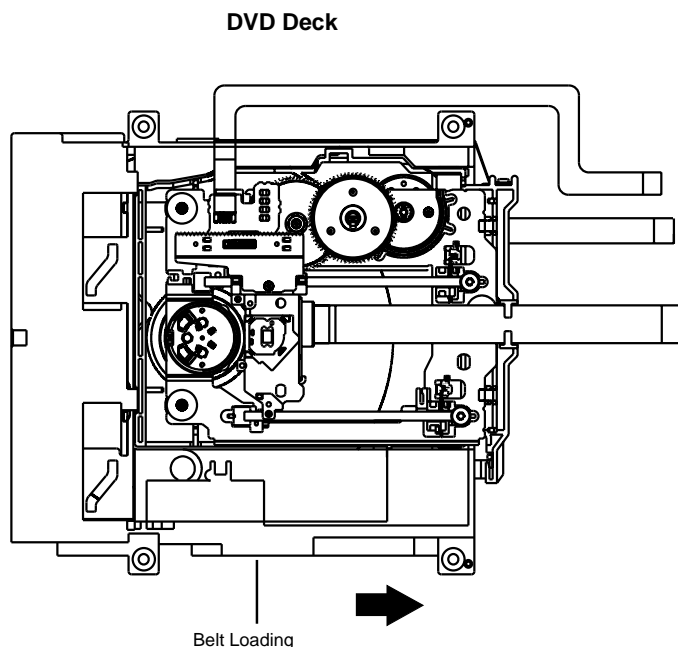


Fig. 1

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' 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' and '0' key of a remote control unit.
4. The On Screen Display message '🔒' will appear.
5. The Tray Lock has now been cleared.

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GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size	20.04 inch / 508.9mmV	
			LCD Type	Color TFT LCD	
			Number of Pixels	1366(H) x 768(V)	
			View Range	89/89 degree	
				Left/Right Up/Down	89/89 degree
		Color System		NTSC	
		Speaker	Position	2 Speaker	
			Size	Front	
			Impedance	1.8 x 3.9 inch	
		Sound Output	Max	8 ohm	
			10%(Typical)	2.5W + 2.5W	

G-2	DVD System	Color System		NTSC	
		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)
			4-40 times (CD)		
	Slow speed	Fwd		1/7 -1/2 times	
			Actual	--	
		Rev		1/7 -1/2 times	
			Actual	--	
G-3	Tuning System	Broadcasting System		US System M	
		Tuner and Receive CH	System	1Tuner	
			Destination	US (W/CABLE)	
			CH Coverage	2-69, 4A, A-5-A-1, A-I, J-W, W+1-W+84	
		Intermediate Frequency	Picture(FP)	45.75MHz	
			Sound(FS)	41.25MHz	
			FP-FS	4.50MHz	
		Preset CH		No	
	Stereo/Dual TV Sound		US-Stereo		
	Tuner Sound Muting		Yes		
G-4	Signal	Video Signal	Input Level	1 V p-p/75 ohm	
			Output Level	--	
			S/N Ratio (Weighted)	--	
			Horizontal Resolution at DVD Mode	--	
				--	
		RGB Signal	Output Level	--	
		Audio Signal	Input Level	-8.0dBm/50k ohm	
			Output Level	at DVD	
				at TV	
				--	
			Digital Output Level	0.5 V p-p/75 ohm	
			S/N Ratio at DVD (Weighted)	--	
			Harmonic Distortion	--	
			Frequency Response :	at DVD	
		at Video CD			
		at SVCD			
		at CD			
		--			
G-5	Power	Power Source	AC	120V, 60Hz	
			DC	--	
		Power Consumption		at AC	
				at DC	
			Stand by (at AC)		1W at 120V 60Hz
			Energy Star Per Year		Yes
			-- kWh/Year		
	Protector	Power Fuse		Yes	
		Safety Circuit		Yes	
		IC Protector(Micro Fuse)		Yes	
G-6	Regulation	Safety		UL/CSA	
		Radiation		FCC/IC	
		Laser		DHHS	
G-7	Temperature	Operation		+5oC ~ +40oC	
		Storage		-20oC ~ +60oC	
G-8	Operating Humidity			Less than 80% RH	

GENERAL SPECIFICATIONS

G-9	Clock and Timer	Clock	Yes	
		Sleep Timer	120 Min	
		Max Time Step	10 Min	
		On Timer	Program	Yes
		Off Timer	Program	No
		Game Timer		Yes
		Wake Up Timer		No
	Timer Back-up (at Power Off Mode)	more than	-- Min Sec	
G-10	Remote Control	Unit	RC-LT	
		Glow in Dark Remocon	Yes	
		Remocon Format	TOSHIBA	
		Format	TOSHIBA	
		Custom Code	40-BF h ,44-BB h ,45-BA h ,45-BC h	
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-4 x 2 pcs
		Total Keys		49 Keys
		Keys	Power	Yes
			EJECT	Yes
			SLEEP	Yes
			TV/DVD	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			100 / JUMP	Yes
			DISPLAY	Yes
			SUBTITLE	Yes
			AUDIO SELECT	Yes
			INPUT / ZOOM	Yes
			MUTE	Yes
			CH +	Yes
			CH -	Yes
			VOL +	Yes
			VOL -	Yes
			PLAY MODE	Yes
			DVD MENU	Yes
			UP	Yes
			LEFT / FAV -	Yes
			ENTER	Yes
			RIGHT / FAV +	Yes
			DOWN	Yes
			TV MENU/SETUP	Yes
			EXIT / CANCEL	Yes
			GAME	Yes
			PIC SIZE	Yes
			PAUSE	Yes
			PLAY	Yes
			STOP	Yes
			CH RTN /<SKIP	Yes
			SEARCH -	Yes
			SEARCH +	Yes
	Closed Caption / SKIP>	Yes		
	< SLOW	Yes		
	ANGLE	Yes		
	Marker	Yes		
	SLOW >	Yes		
	TOP MENU	Yes		
	RETURN	Yes		
	REPEAT A-B	Yes		

GENERAL SPECIFICATIONS

G-11	Features (TV)	Auto Shut Off	Yes	
		Auto Search	No	
		Power On Memory	Yes	
		Comb Filter	Yes 3 -D	
		Game Position	Yes	
		Auto Setup(Language/CH Program)	Yes	
		Picture Setting(TV)	Yes	
			Mode(Picture Preference)	Yes
			Brightness , Contrast , Color	Yes
			Tint	Yes
			Sharpness	Yes
			Color Temperature	Yes
			Cable Clear	Yes
		Picture Setting(PC)		Yes
			BRIGHTNESS , CONTRAST	Yes
			HOR POSITION , VER POSITION	Yes
			PHASE , CLOCK	Yes
			AUTO ADJUST	No
			RED , GREEN , BLUE	Yes
		Audio	MTS	Yes
			Tone Control (Bass/Treble/Balance)	Yes
			Stable Sound	Yes
			Surround	Yes
			BBE	No
			SRS WOW (SRS 3D/Focus/Tru Bass)	No
			Variable Audio Out	No
		Tuning	CH Program	Yes
			TV/Cable	Yes
			ADD/DELETE	Yes
		Label	CH Label	Yes
			Video Label	Yes
		Favorite CH		Yes
		V-Chip	Type	Yes USA Type
		RRT Setup		No
		Lock	Hotel Lock	No
			Channel Lock	Yes
			Video Lock	Yes
			Panel Lock	Yes
		OSD Language		English French Spanish
		Closed Caption		Yes
		CC Advanced		No
		Picture Size		Yes
Picture Scroll		Yes		
Cinema Mode		Yes		
Aspect		Yes		
Backlight		Yes		
PFC(Power Factor circuit)		No		
Freeze frame		No		
PIP/POP		No		
Direct Input Selection		Yes		
PC Monitor Input		Yes		
	VGA (640x480)	Yes (60Hz)		
	VGA (720x400)	Yes (70Hz)		
	WVGA (848x480)	Yes (60Hz)		
	SVGA (800x600)	Yes (60Hz)		
	XGA (1024x768)	Yes (60Hz)		
	WXGA (1280x768)	Yes (60Hz)		
	WXGA (1280x720)	Yes (60Hz)		
	WXGA (1360x768)	Yes (60Hz)		
	SXGA (1280x1024)	No		

GENERAL SPECIFICATIONS

	HDMI Input	VGA (640x480)	Yes	
		720x480i (4:3)	Yes (60Hz)	
		720x480i (16:9)	Yes (60Hz)	
		720x480p (4:3)	Yes (60Hz)	
		720x480p (16:9)	Yes (60Hz)	
		720x576i (4:3)	No	
		720x576i (16:9)	No	
		720x576p (4:3)	No	
		720x576p (16:9)	No	
		1280x720p	Yes (60Hz)	
		1920x1080i	Yes (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)	No
			720x576i (16:9)	No
			720x576p (4:3)	No
			720x576p (16:9)	No
	1280x720p		Yes (60Hz)	
	1920x1080i	Yes (60Hz)		
	Features (DVD)	Tray Lock		Yes
		Video CD Playback		Yes
		SVCD Playback		No
			Overlay Graphics And Text	No
			Command List	No
			Entry Point Jump	No
		MP3 Playback		Yes
		Divx Playback		Yes
			DMF Support	No
		JPEG		Yes
		WMA		Yes
		Digital Out	(Dolby Digital)	Yes
			(MPEG)	Yes
(PCM)			Yes	
(DTS)			Yes	
Down Mix Out	(Dolby Digital)	Yes		
	(DTS)	No		
Closed Caption		Yes		
Screen Saver		No		
Audio DAC		192kHz / 24bit		
G-12 Accessories	Owner's Manual	Language	English / French	
		w/Guarantee Card	Yes	
	Remote Control Unit		Yes	
	Rod Antenna		No	
		Poles	--	
		Terminal	--	
	Loop Antenna		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		No	
	Battery		Yes	
		UM size x pcs	UM-4 x 2 pcs	
		OEM Brand	No	
	AC Adapter		No	
	AC Cord (for AC Adapter)		No	
	AV Cord (2Pin-1Pin)		No	
	Registration Card (NDL Card)		Yes	
	300ohm to 75ohm Antenna Adapter		No	
	Sheet Information (Return)		Yes (USA version, Canada version)	
	Sheet Information (HDMI)		No	
	Screw for wall hanging		No	

GENERAL SPECIFICATIONS

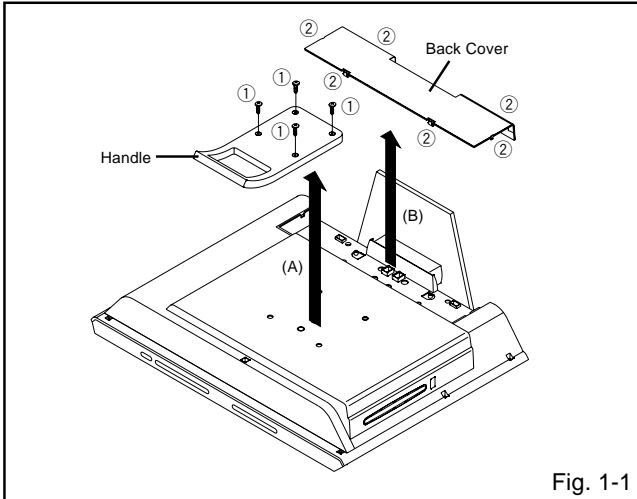
G-13	Interface	Switch	Top	Power (Tact)	Yes
				Channel Up/Menu Up	Yes
				Channel Down/Menu Down	Yes
				Volume Up/Menu >	Yes
				Volume Down/Menu <	Yes
				Menu	Yes
				Play	Yes
				Eject	Yes
				Skip+, Search+	Yes
				Skip-, Search-	Yes
				Still/Pause	No
				Stop	Yes
				Main Power SW	No
				Input Select	Yes
				Indicator	Power / Stand-by	Yes(GREEN / RED)
		Power	No		
		Stand-by	No		
		Terminals	Rear	Video Input 1	RCA x 1
				Audio Input 1	RCA x 2(L/MONO, R)
				S - Input 1	Yes
				Video Input 2	RCA x 1
				Audio Input 2	RCA x 2(L/MONO, R)
				S- Input 2	No
				Video Output	No
				Audio Output	No
				Component Input	RCA x 3
				Analog Audio	RCA x 2(L/MONO, R)
				HDMI Input	HDMI x 1
				Analog Audio	PC Monitor Audio Input Alternative
				PC Monitor Input	Dsub15pin x 1
Analog Audio	RCA x 2(L/MONO, R)				
Digital Audio Output	Coaxial (DVD Only)				
DC Jack	No				
VHF/UHF Antenna Input	F Type				
Other Terminal	Headphone				
AC Outlet	No				
Side	Video Input 2	No			
	Audio Input 2	No			
	PC Monitor Input(w/ Analog Audio L/R)	No			
	Other Terminal	No			
G-14	Set Size		Approx. W x D x H (mm)	554 x 220 x 448	
			w/o Handle, Stand Approx. W x D x H (mm)	554 x 110 x 403	
G-15	Weight		Net (Approx.)	9.5kg (20.9 lbs)	
			Net w/o Handle, Stand (Approx.)	8.0kg (17.6 lbs)	
			Gross (Approx.)	11.5kg (25.3 lbs)	
G-16	Carton	Master Carton		No	
		Content		--- Sets	
		Material		--- / ---	
		Dimensions W x D x H(mm)		---	
		Description of Origin		---	
		Gift Box		Double/ Brown	
		Material		No	
		W/Color Photo Label		No	
		W/Handle		No	
		Dimensions W x D x H(mm)		654 x 338 x 565	
		Description of Origin		No(Assembled In Thailand)	
		Drop Test		2 Corner / 2 Edges / 2 Surfaces	
		Height (cm)		65	
		Container Stuffing (40' container)		492 Sets	
G-17	Material	Cabinet	Front	PS 94V0 DECABROM	
			Rear	PS 94V0 DECABROM	
		PCB	Non-Halogen Demand	No	
			Eyelet Demand	Yes	
G-18	Environment	Environmental standard requirement (by buyer)		Green PROCUREMENT of TOSHIBA	
		Pb-Free		Phase 3 (Phase 3A)	
		Measures for Whisker		Yes	

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

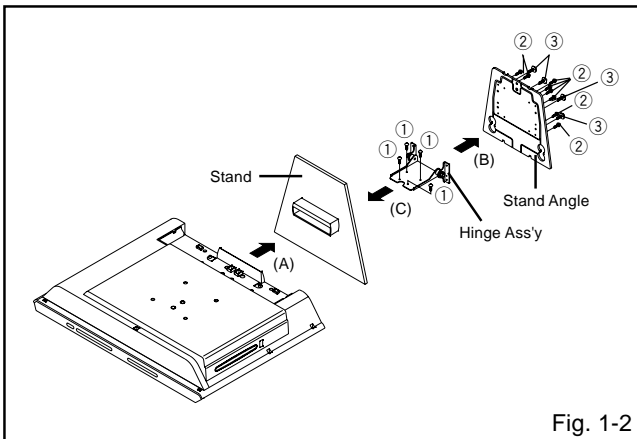
1-1: HANDLE/BACK COVER (Refer to Fig. 1-1)

1. Remove the 4 screws ①.
2. Remove the Handle in the direction of arrow (A).
3. Unlock the 6 supports ②.
4. Remove the Back Cover in the direction of arrow (B).



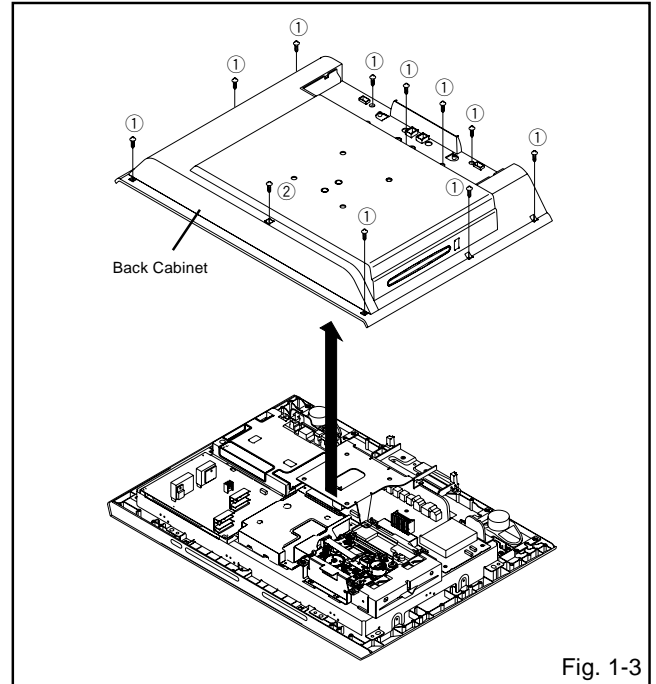
1-2: HINGE ASS'Y (Refer to Fig. 1-2)

1. Remove the 4 screws ①.
2. Remove the Stand in the direction of arrow (A).
3. Remove the 8 screws ②.
4. Remove the Stand Angle in the direction of arrow (B).
5. Remove the 4 screws ③.
6. Remove the Hinge Ass'y in the direction of arrow (C).



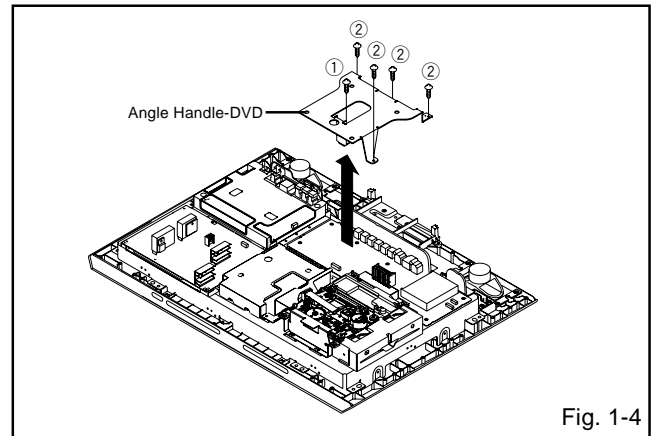
1-3: BACK CABINET (Refer to Fig. 1-3)

1. Remove the 10 screws ①.
2. Remove the screw ②.
3. Remove the Back Cabinet in the direction of arrow.



1-4: ANGLE HANDLE-DVD (Refer to Fig. 1-4)

1. Remove the screw ①.
2. Remove the 4 screws ②.
3. Remove the Angle Handle-DVD in the direction of arrow.



DISASSEMBLY INSTRUCTIONS

1-5: DVD DECK (Refer to Fig. 1-5)

1. Short circuit the position shown in **Fig. 1-5** using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Disconnect the following connectors:
(**CP2301, CP2302 and CP2303**).
3. Remove the 4 screws ①.
4. Remove the DVD Deck in the direction of arrow (A).
5. Remove the 2 screws ②.
6. Remove the Angle Deck-R in the direction of arrow (B).
7. Remove the 2 screws ③.
8. Remove the Angle Deck-L in the direction of arrow (C).

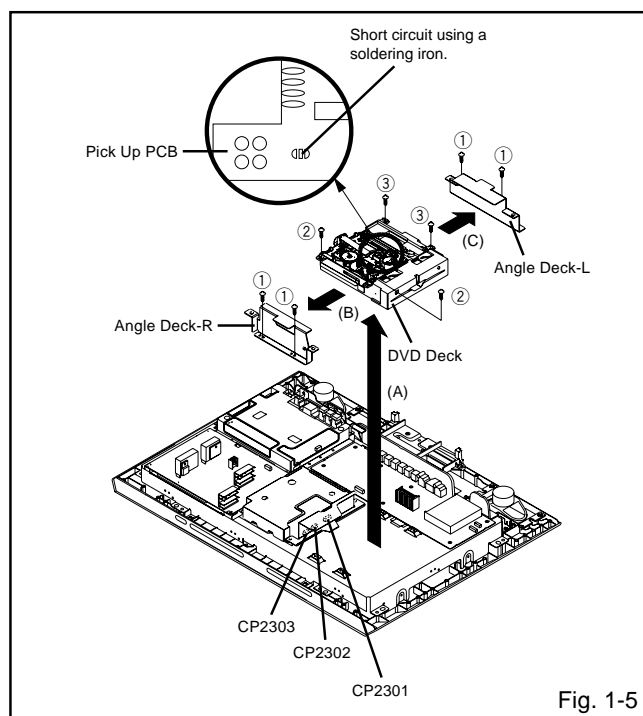


Fig. 1-5

NOTE

1. Before your operation, please read "PREPARATION OF SERVICING".
2. Use the Lead Free solder.
3. Manual soldering conditions
 - Soldering temperature: $350 \pm 5^{\circ}\text{C}$
 - Soldering time: Within 2 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 PCB connector.

1-6: DVD MT PCB (Refer to Fig. 1-6)

1. Disconnect the following connectors:
(**CP3808, CP4401 and CP4303**).
2. Remove the 4 screws ①.
3. Remove the Shield FFC, Shield MPEG and DVD MT PCB in the direction of arrow.

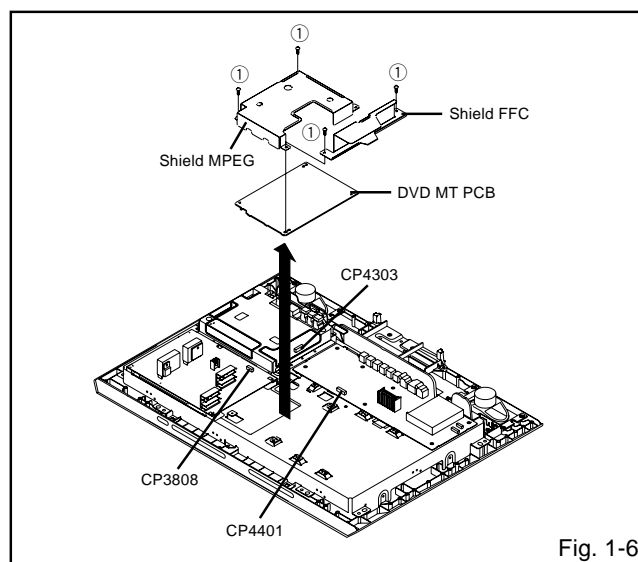


Fig. 1-6

1-7: POWER PCB (Refer to Fig. 1-7)

1. Disconnect the following connectors:
(**CP3807, CP3810 and CP3811**).
2. Remove the 4 screws ①.
3. Remove the Power PCB in the direction of arrow.

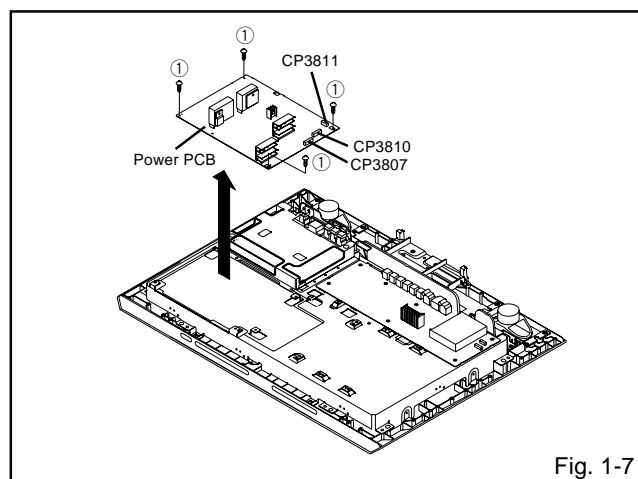


Fig. 1-7

DISASSEMBLY INSTRUCTIONS

1-8: SCALER PCB (Refer to Fig. 1-8)

1. Disconnect the following connectors:
(CP802, CP803, CP2200, and CP3201).
2. Remove the 2 screws ①.
3. Remove the 3 screws ②.
4. Remove the screw ③.
5. Remove the Plate Jack-3 in the direction of arrow (A).
6. Remove the 4 screws ④.
7. Remove the Shield Scaler in the direction of arrow (B).
8. Remove the 4 screws ⑤.
9. Remove the Scaler PCB in the direction of arrow (C).

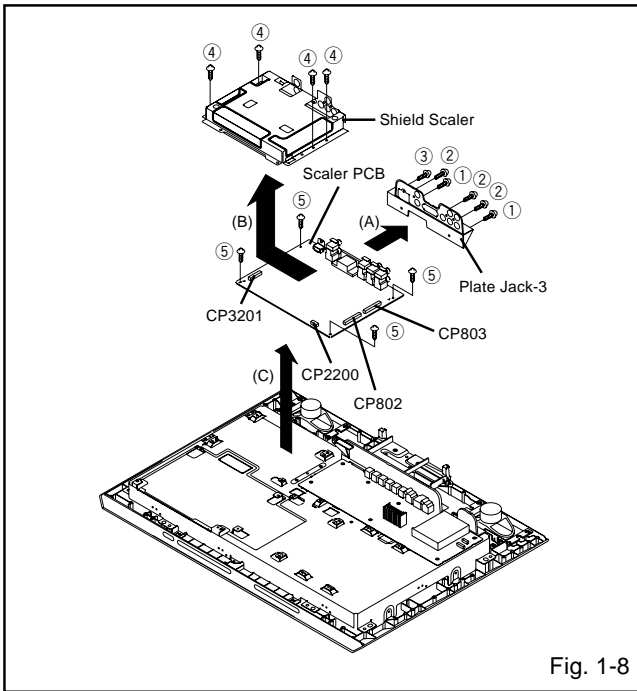


Fig. 1-8

1-9: AV PCB (Refer to Fig. 1-9)

1. Disconnect the following connectors:
(CP301, and CP4202).
2. Remove the screw ①.
3. Remove the screw ②.
4. Remove the Plate Jack-1 and Shield Jack-1 in the direction of arrow (A).
5. Remove the 3 screws ③.
6. Remove the 2 screws ④.
7. Remove the Plate Jack-2 and Shield Jack-2 in the direction of arrow (B).
8. Remove the 6 screws ⑤.
9. Remove the AV PCB in the direction of arrow (C).

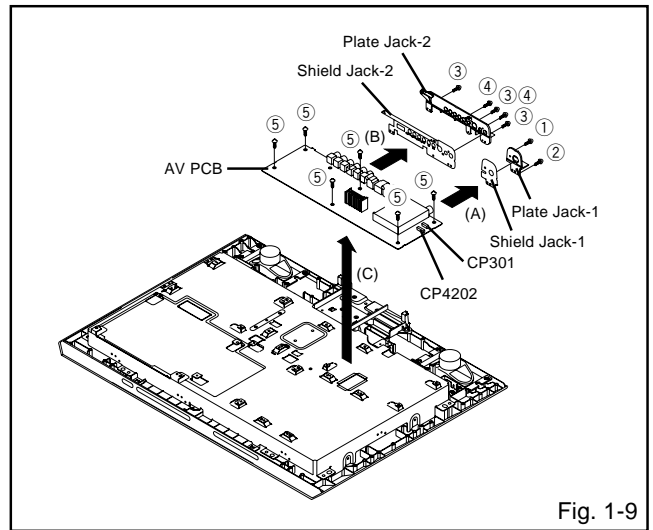


Fig. 1-9

1-10: OPERATION PCB/OPERATION 2 PCB/ REMOCON PCB (Refer to Fig. 1-10)

1. Disconnect the following connector: (CP2251).
2. Remove the 2 screws ①.
3. Remove the Holder PCB-DVD in the direction of arrow (A).
4. Remove the 2 screws ②.
5. Remove the Operation 2 PCB in the direction of arrow (B).
6. Remove the 2 screws ③.
7. Remove the Holder PCB-TV in the direction of arrow (C).
8. Remove the 2 screws ④.
9. Remove the Operation PCB in the direction of arrow (D).
10. Remove the 2 screws ⑤.
11. Remove the Remocon PCB in the direction of arrow (E).

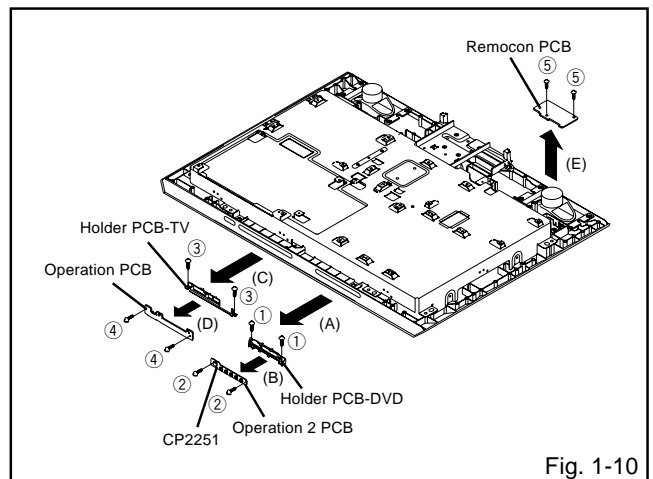
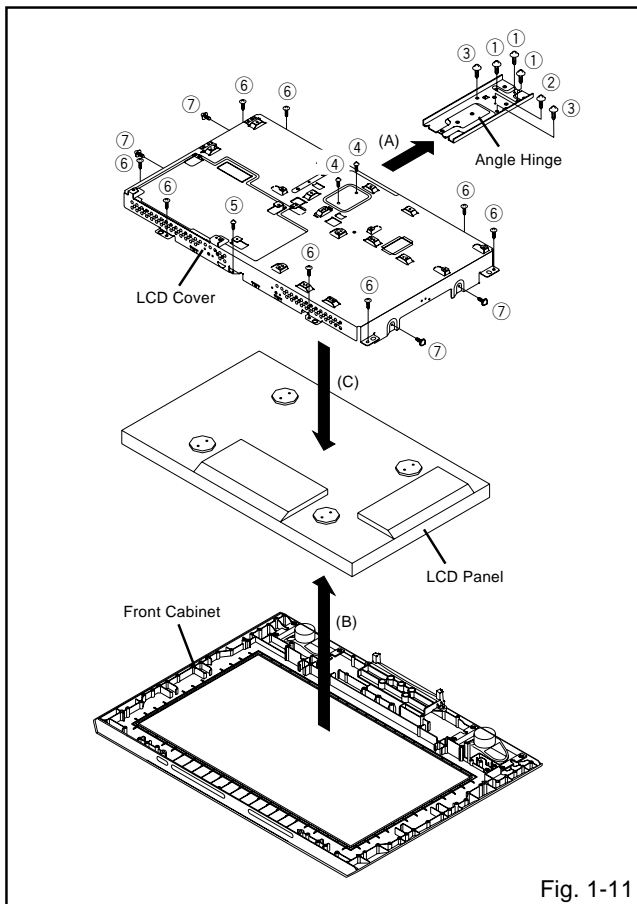


Fig. 1-10

DISASSEMBLY INSTRUCTIONS

1-11: LCD COVER/LCD PANEL (Refer to Fig. 1-11)

1. Remove the 3 screws ①.
2. Remove the screw ②.
3. Remove the 2 screws ③.
4. Remove the 2 screws ④.
5. Remove the Angle Hinge in the direction of arrow (A).
6. Remove the screw ⑤.
7. Remove the 8 screws ⑥.
8. Remove the LCD Cover in the direction of arrow (B).
9. Remove the 4 screws ⑦.
10. Remove the LCD Panel in the direction of arrow (C).



DISASSEMBLY INSTRUCTIONS

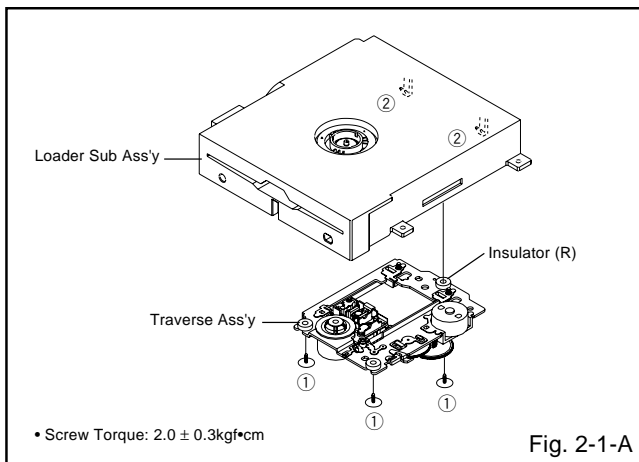
2. REMOVAL OF DVD DECK PARTS

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.

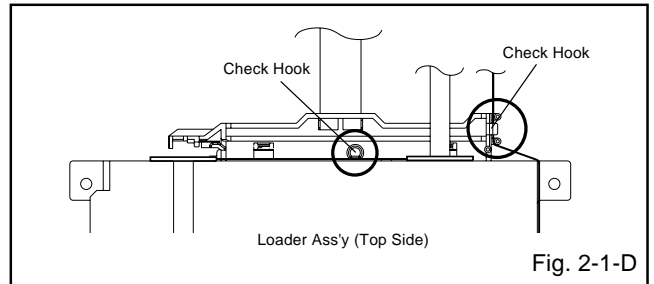
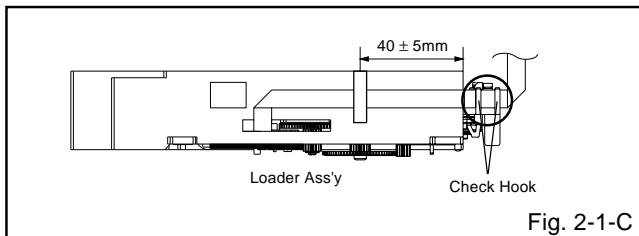
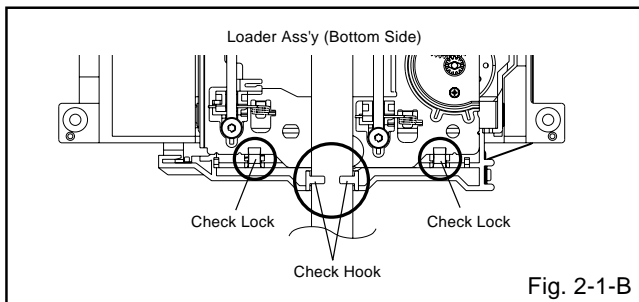
2-1: TRAVERSE ASS'Y (Refer to Fig. 2-1-A)

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.



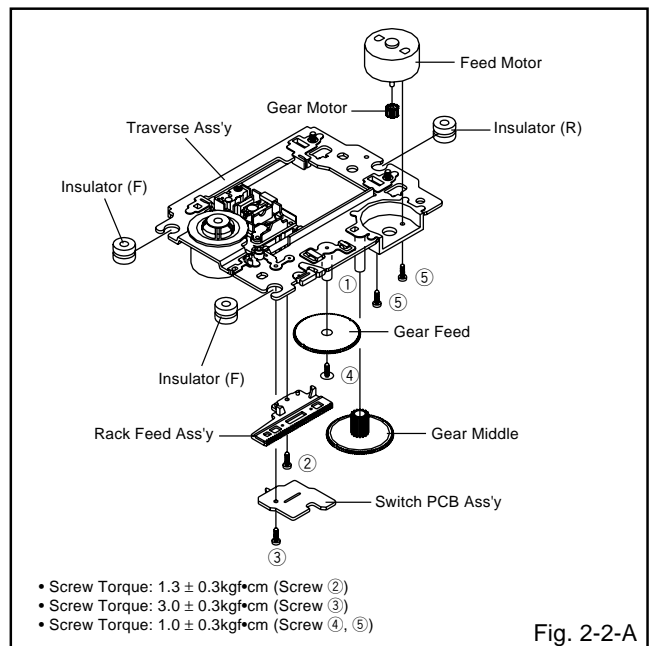
NOTE

1. In case of the Traverse Ass'y installation, hook the wire on the Loader Ass'y as shown Fig. 2-2-B to Fig. 2-2-D.



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: $350 \pm 5^\circ\text{C}$
 - Soldering time: Within 4 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.

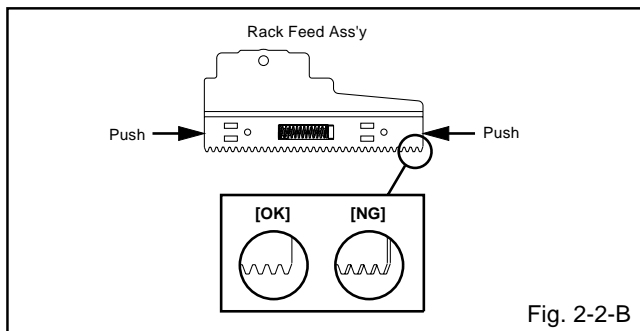


Fig. 2-2-B

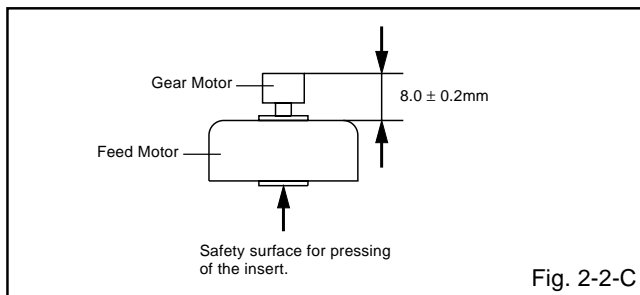


Fig. 2-2-C

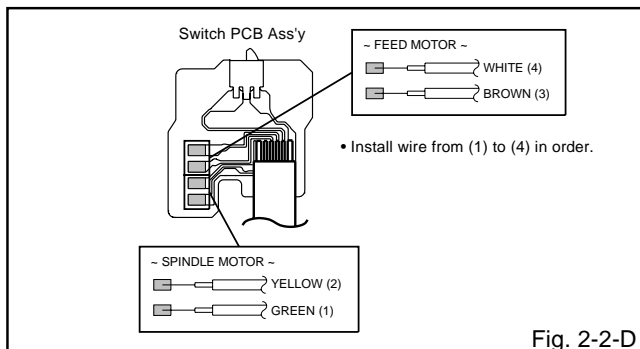


Fig. 2-2-D

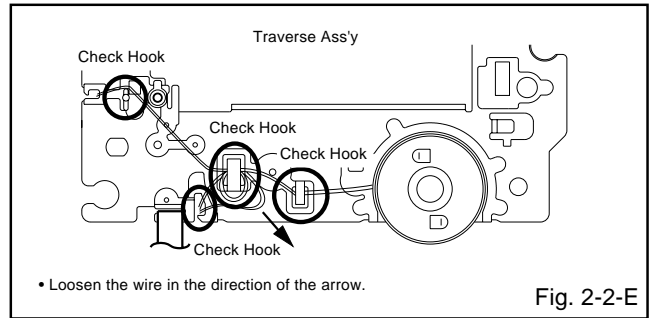


Fig. 2-2-E

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.

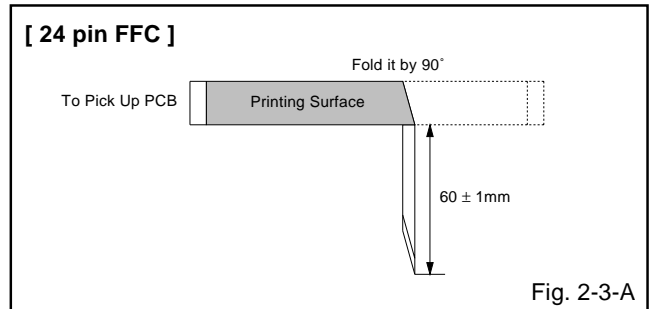


Fig. 2-3-A

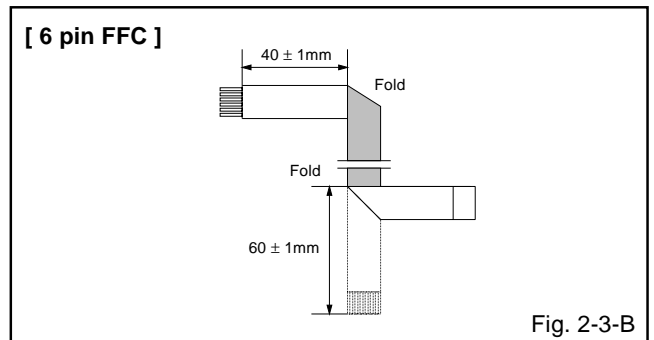


Fig. 2-3-B

DISASSEMBLY INSTRUCTIONS

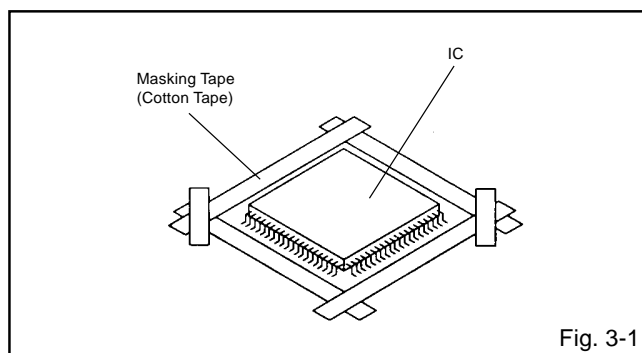
3. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 3-1.)

NOTE

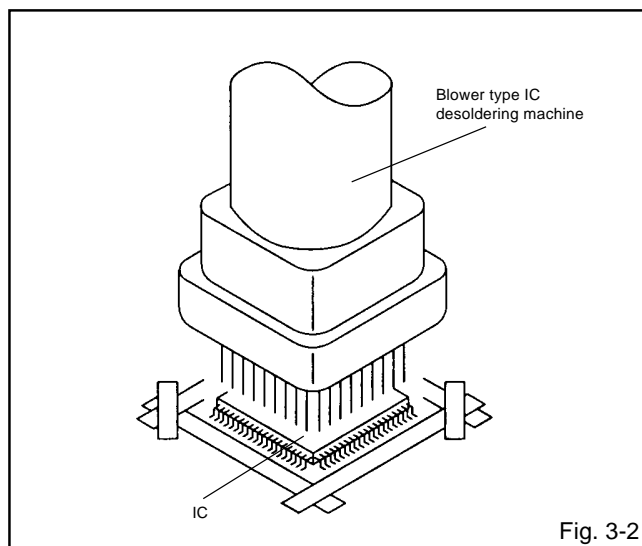
Masking is carried out on all the parts located within 10 mm distance from IC leads.



2. Heat the IC leads using a blower type IC desoldering machine. (Refer to Fig. 3-2.)

NOTE

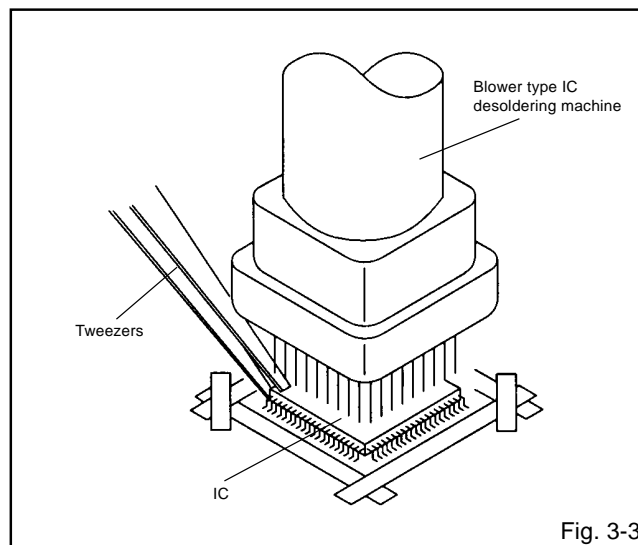
Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 3-3.)

NOTE

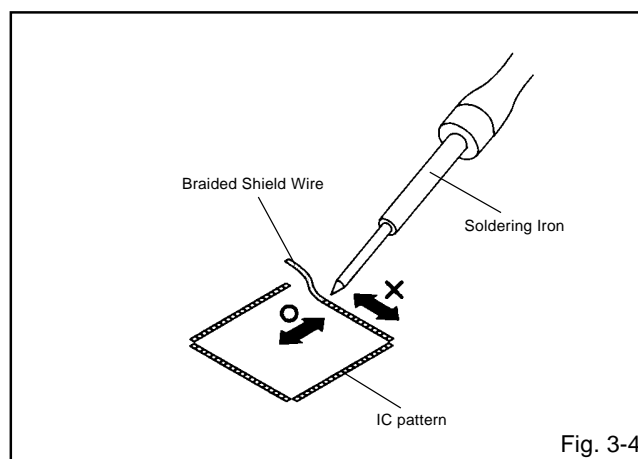
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



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

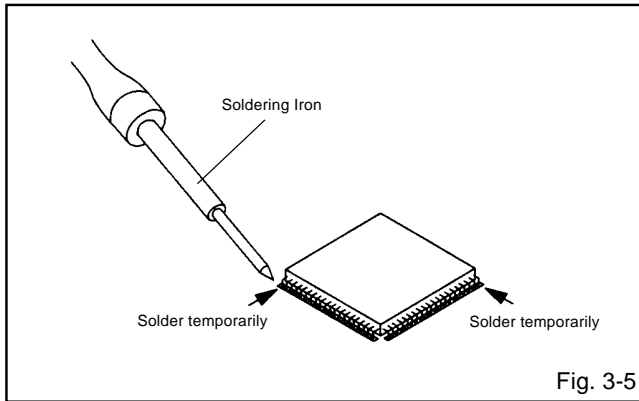
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



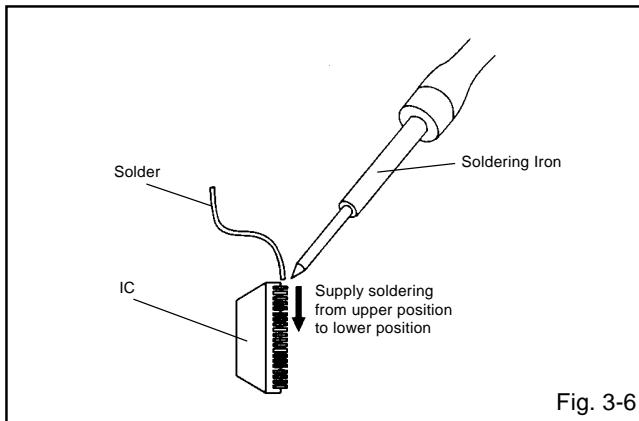
DISASSEMBLY INSTRUCTIONS

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.)



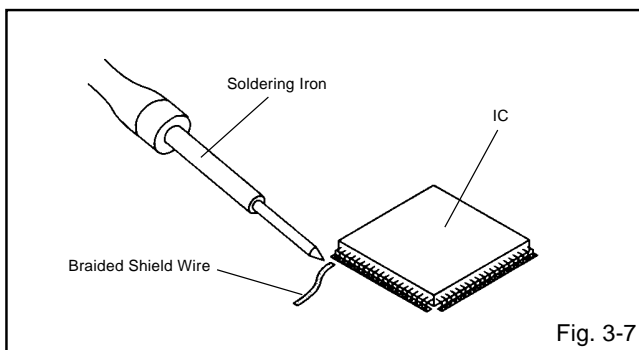
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 3-6.)



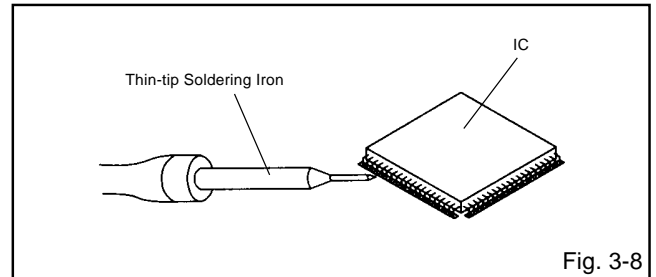
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 3-7.)

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, be always sure to replace the IC in this case.

SERVICE MODE LIST

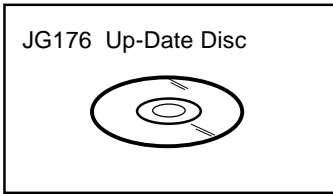
This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

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)	0	2 sec.	Releasing of V-CHIP PASSWORD.
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.
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)	8	2 sec.	Check of the SUM DATA and MICON VERSION on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
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 → 0	The disk cannot be taken out. Refer to the "TRAY LOCK".

SERVICING FIXTURES AND TOOLS



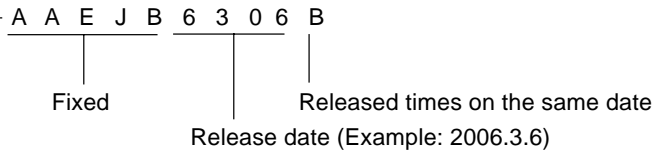
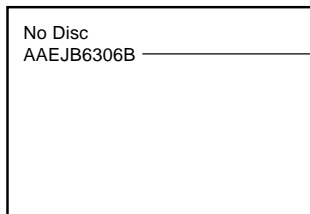
Ref. No.	Part No.	Parts Name	Remarks
JG176	APJG176099	Up-Date Disc	Up-Date of the Firmware

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.



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 **(8)** on the remote control for more than 2 seconds.
4. After the confirmation of each check sum, turn off the power.

*1 DVP1 is different according to each set.

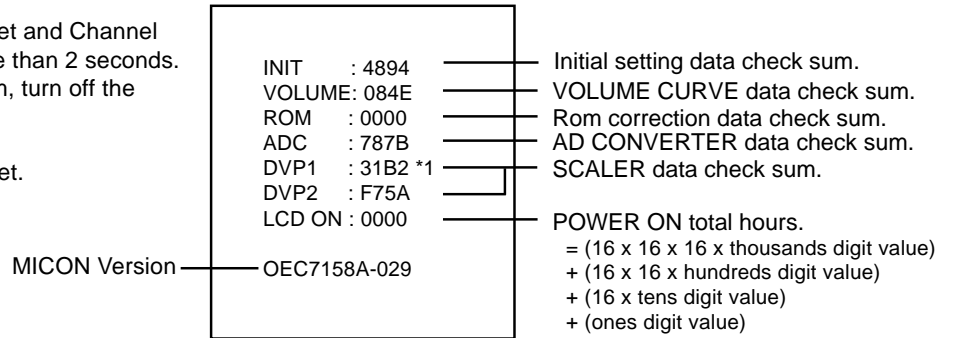


FIG. 1

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 1.

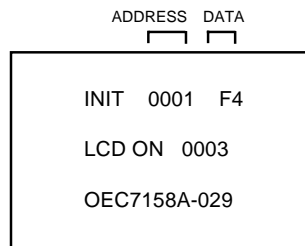


FIG. 1

4. ADDRESS is now selected and should "blink". Using the UP/DOWN button on the remote, step through the ADDRESS until Press RIGHT/LEFT button to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
6. Pressing RIGHT/LEFT button will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 4 to 6 until all data has been checked.
8. 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.

9. Turn POWER on.
 10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
 11. 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.

09F0	20	04	0F	02	00	00	00	01	00	00	00	00	00	00	00	
0A00	6B	30	18	F0	07	14	44	D0	D0	D0	7F	7F	7F	6F	66	B5
2000	60	00	88	80	2C	00	2C	00	89	80	88	00	50	00	00	00
2010	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2020	60	00	88	80	2C	00	2C	00	89	80	88	00	50	00	00	00
2030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2040	60	00	88	80	2C	00	2C	00	88	80	33	00	50	01	00	00
2050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2060	60	00	88	80	2C	00	2C	00	88	80	77	00	50	06	00	00
2070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2080	60	00	88	80	2C	00	2C	00	88	80	88	00	50	00	00	00
2090	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20A0	60	00	88	80	2C	00	2C	00	88	80	88	00	50	00	00	00
20B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20C0	18	71	38	05	00	6E	9C	02	00	00	00	00	00	00	00	00
20D0	18	71	38	05	00	6E	9C	02	00	00	00	00	00	00	00	00
20E0	18	71	38	05	00	6E	9C	02	00	00	00	00	00	00	00	00
20F0	18	71	38	05	00	6E	9C	02	00	00	00	00	00	00	00	00
2100	00	00	78	05	00	6E	9E	02	00	00	00	00	00	00	00	00
2110	EC	54	5C	05	20	6E	AE	02	00	00	00	00	00	00	00	00
2120	EC	54	5C	05	20	6E	AE	02	00	00	00	00	00	00	00	00
2130	EC	90	5C	05	20	6E	AE	02	00	00	00	00	00	00	00	00
2140	EC	70	5C	05	20	6E	AE	02	00	00	00	00	00	00	00	00
2150	EC	AC	5C	05	20	6E	AE	02	00	00	00	00	00	00	00	00
2160	38	05	19	00	18	01	00	98	0C	05	00	A0	9C	02	CF	0B
2170	58	05	19	00	26	02	00	98	0C	05	00	A0	9C	02	CF	0B
2180	38	05	1A	00	18	01	00	98	0C	05	00	A0	9C	02	CF	0B
2190	58	05	19	00	26	02	00	98	0C	05	00	A0	9C	02	CF	0B
21A0	78	05	37	00	20	01	00	98	0C	05	00	A0	9E	02	CF	0B
21B0	38	05	38	00	26	02	00	98	0C	05	00	A0	9C	02	CF	0B
21C0	9C	02	38	00	26	02	00	98	0C	05	00	A0	9C	02	CF	0B
21D0	38	05	38	00	26	02	00	98	0C	05	00	A0	9C	02	CF	0B
21E0	9C	02	38	00	26	02	00	98	0C	05	00	A0	9C	02	CF	0B
21F0	9C	02	7C	00	9C	01	00	98	0C	05	00	A0	9C	02	CF	0B
2200	C4	04	26	00	B0	02	00	98	0C	05	00	A0	C4	04	CF	0B
2210	22	07	20	00	08	02	00	98	0C	05	BC	F2	22	07	CF	0B
2220	22	07	20	00	08	02	00	98	0C	05	BC	F2	22	07	CF	0B
2230	68	05	15	00	EC	00	00	98	0C	05	00	A0	B8	02	CF	0B
2240	68	05	15	00	EC	00	00	98	0C	05	00	A0	AC	02	CF	0B

2660	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2670	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2680	96	0F	CA	B3	92	24	C0	C2	24	0B	5C	8A	22	36	00	30
2690	A0	1B	3C	A0	3C	3C	32	58	E9	00	00	54	00	00	06	00
26A0	F8	08	5A	CA	1E	68	00	C0	10	42	02	44	0C	40	0C	10
26B0	08	6C	00	00	A1	38	50	A8	02	00	00	00	EE	04	00	00
26C0	03	00	D1	04	60	00	10	24	7D	28	1F	70	00	00	00	00
26D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
26E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
26F0	96	0F	CA	B3	92	24	C0	C2	24	0B	5C	8A	22	36	00	30
2700	A0	1B	3C	A0	3C	3C	32	58	E9	00	00	54	00	00	06	00
2710	F8	08	5A	CA	1E	68	00	C0	10	42	02	44	0C	40	0C	10
2720	08	6C	00	00	A1	38	50	A8	02	00	00	00	EE	04	00	00
2730	03	00	D1	04	60	00	10	24	7D	28	1F	70	00	00	00	00
2740	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2750	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2760	96	0F	C8	B3	92	24	B4	C2	18	0B	50	8A	19	36	00	30
2770	A0	1B	A0	A0	A0	A0	6E	2B	EC	00	00	54	00	00	06	00
2780	EC	08	5A	CA	1E	68	00	C0	10	82	04	84	18	40	18	10
2790	08	2C	00	00	21	39	50	A8	08	00	00	00	EE	04	00	00
27A0	03	00	D1	06	24	00	10	04	7D	18	1F	70	00	00	00	00
27B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
27C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
27D0	96	0F	CA	B3	92	24	C0	C2	24	0B	5C	8A	22	36	00	30
27E0	A0	1B	3C	A0	3C	3C	32	58	E9	00	00	54	00	00	06	00
27F0	F8	08	5A	CA	1E	68	00	80	10	42	02	44	0C	40	0C	10
2800	08	6C	00	00	A1	38	50	A8	02	00	00	00	EE	04	00	00
2810	03	00	DD	04	60	00	10	24	7D	28	1F	70	00	00	00	00
2820	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2830	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2840	96	0F	CA	B3	92	24	C0	C2	24	0B	5C	8A	22	36	00	30
2850	A0	1B	3C	A0	3C	3C	32	58	E9	00	00	54	00	00	06	00
2860	F8	08	5A	CA	1E	68	00	80	10	42	02	44	0C	40	0C	10
2870	08	6C	00	00	A1	38	50	A8	02	00	00	00	EE	04	00	00
2880	03	00	DD	04	60	00	10	24	7D	28	1F	70	00	00	00	00
2890	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
28A0	00	00	00	00	00	00	00	00	B0	00	00	00	00	00	00	00
28B0	96	0F	CA	B3	92	24	B4	C2	18	0B	50	8A	19	36	00	30
28C0	A0	1B	3C	A0	3C	3C	32	58	EC	00	00	54	00	00	06	00

29A0	A0	1B	3C	A0	3C	3C	32	58	E9	00	00	54	00	00	06	00
29B0	EC	08	5A	CA	1E	68	00	A0	10	82	04	84	18	40	18	10
29C0	08	2C	00	00	21	39	50	A8	02	00	00	00	EE	04	00	00
29D0	03	00	D5	04	60	00	10	24	7D	28	1F	70	00	00	00	00
29E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
29F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
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2A10	A0	1B	A0	A0	A0	A0	6E	2B	EC	00	00	54	00	00	06	00
2A20	EC	08	5A	CA	1E	68	00	C0	10	82	04	84	18	40	18	10
2A30	08	2C	00	00	21	39	50	A8	08	00	00	00	EE	04	00	00
2A40	03	00	D1	06	24	00	10	04	7D	18	1F	70	00	00	00	00
2A50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2A60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
2A70	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2A80	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2A90	53	00	2E	08	2B	08	02	08	0C	00	05	00	98	E1	2B	01
2AA0	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2AB0	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2AC0	53	00	2E	08	2B	08	02	08	0C	00	05	00	98	E1	2B	01
2AD0	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2AE0	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2AF0	53	00	2E	08	2B	08	02	08	0C	00	05	00	98	E1	2B	01
2B00	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2B10	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2B20	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2B30	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2B40	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2B50	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	41
2B60	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2B70	22	08	40	08	10	00	0F	00	01	08	00	00	24	E2	32	01
2B80	22	08	40	08	10	00	0F	00	01	08	00	00	24	C2	32	41
2B90	22	08	40	08	10	00	0F	00	01	08	00	00	24	62	32	41
2BA0	22	08	40	08	10	00	0F	00	01	08	00	00	24	62	32	41
2BB0	22	08	40	08	10	00	0F	00	01	08	00	00	24	62	32	41
2BC0	22	08	40	08	10	00	0F	00	01	08	00	00	24	62	32	41
2BD0	22	08	40	08	10	00	0F	00	01	08	00	00	24	62	32	41
2BE0	22	08	40	08	10	00	0F	00	01	08	00	00	24	62	32	41
2BF0	22	08	40	08	10	00	0F	00	01	08	00	00	24	22	32	41
2C00	00	20	00	40	00	F0	00	F0	00	F0	00	F0	00	00	00	00

3020	12	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3040	00	10	9C	02	00	00	00	00	00	10	26	02	26	02	9C	02
3050	00	00	26	02	01	00	5A	08	3F	00	4E	00	27	00	9C	02
3060	26	02	6A	00	29	00	9C	02	26	02	DF	00	1E	00	00	00
3070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3080	12	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3090	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30A0	00	10	9C	02	00	00	00	00	00	10	26	02	26	02	9C	02
30B0	00	00	26	02	01	00	5A	08	3F	00	4E	00	26	00	9C	02
30C0	26	02	6A	00	29	00	9C	02	26	02	FF	00	1E	00	00	00
30D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30E0	12	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00
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82F0	00	00	00	00	00	00	00	00	00	00	50	28	00	00	73	01
8300	80	80	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
8310	57	00	00	00	50	28	3C	00	00	00	28	14	1E	00	00	00
8320	00	00	00	00	00	00	00	00	00	00	50	28	00	00	73	01
8330	80	80	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
8340	57	00	00	00	50	28	3C	00	00	00	28	14	1E	00	00	00
8350	00	00	00	00	00	00	00	00	00	00	50	28	00	00	73	01
8360	80	80	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
8370	57	00	00	00	50	28	3C	00	00	00	28	14	1E	00	00	00
8380	00	00	00	00	00	00	00	00	00	00	50	28	00	00	73	01
8390	80	80	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
83A0	59	00	00	00	50	28	3C	00	00	00	28	14	1E	00	00	00
83B0	00	00	00	00	00	00	00	00	00	00	50	28	00	00	73	01
83C0	80	80	80	80	80	80	00	00	40	A0	80	20	00	00	00	00

84A0	00	00	00	00	00	00	00	00	00	00	50	28	00	00	71	01
84B0	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
84C0	AB	00	00	00	50	28	3C	00	00	00	28	14	1E	00	00	00
84D0	00	00	00	00	00	00	00	00	00	00	50	28	00	00	71	01
84E0	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
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8510	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
8520	71	00	00	00	50	28	3C	00	00	00	28	14	1E	00	00	00
8530	00	00	00	00	00	00	00	00	00	00	50	28	00	00	71	01
8540	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
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8570	D2	D2	7E	80	7E	80	00	00	40	A0	80	20	00	00	00	00
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85D0	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
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8630	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
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8660	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
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86C0	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
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86F0	D2	D2	80	80	80	80	00	00	40	A0	80	20	00	00	00	00
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8B50	A8	07	54	08	54	08	05	00	6E	06	44	00	80	02	00	03
8B60	44	00	56	05	00	03	6E	06	26	03	05	00	00	10	09	00
8B70	0A	C0	40	00	00	00	10	04	00	10	82	00	56	05	9B	B2
8B80	39	C7	EA	00	40	00	56	05	14	00	14	00	A4	01	76	02
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8BD0	44	00	56	05	00	03	6E	06	26	03	05	00	00	10	09	00
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8BF0	39	C7	EA	00	40	00	56	05	14	00	14	00	A4	01	76	02
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8C20	80	00	56	05	02	07	4E	06	7E	06	99	06	DD	06	0C	07
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8C40	44	00	56	05	00	03	6E	06	26	03	05	00	00	10	09	00
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8C60	39	C7	EA	00	40	00	56	05	14	00	14	00	A4	01	76	02
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8D20	44	00	56	05	00	03	6E	06	26	03	05	00	00	10	09	00
8D30	0A	C0	40	00	00	00	10	04	00	10	82	00	56	05	9B	B2
8D40	39	C7	EA	00	40	00	56	05	14	00	14	00	A4	01	76	02
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8D70	14	00	00	00	64	00	50	00	01	10	7D	00	00	04	06	03
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8E60	00	00	00	00	00	00	61	01	00	00	00	00	00	00	00	00
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8E80	00	00	E4	00	01	00	C8	02	C7	02	AE	00	E6	00	00	02
8E90	FF	2B	00	00	00	02	00	00	00	00	00	00	00	00	00	00
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8EB0	CA	3E	AE	00	00	00	00	00	00	10	E6	00	E6	00	AC	00
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8ED0	FF	2B	00	00	00	0A	00	00	00	00	00	00	00	00	00	00
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8EF0	CA	3E	AE	00	00	00	00	00	00	10	E6	00	E6	00	AC	00
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8F20	00	00	00	00	00	00	61	01	00	00	00	00	00	00	00	00
8F30	D2	04	1C	00	D0	02	00	98	08	05	00	A0	CE	04	CF	0B
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8F90	00	10	CE	04	00	00	00	00	00	10	D0	02	D0	02	CE	04
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9000	00	04	08	0C	10	14	18	1C	20	24	28	2C	30	34	38	3C
9010	40	44	48	4C	50	54	58	5C	60	64	68	6C	70	74	78	7C
9020	80	84	88	8C	90	94	98	9C	A0	A4	A8	AC	B0	B4	B8	BC
9030	C0	C4	C8	CC	D0	D4	D8	DC	E0	E4	E8	EC	F0	F4	F8	FC
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9050	40	44	48	4C	50	55	59	5D	61	65	69	6D	71	75	79	7D
9060	81	85	89	8D	91	95	99	9D	A1	A5	A9	AD	B1	B5	B9	BD
9070	C1	C5	C9	CD	D1	D5	D9	DD	E1	E5	E9	ED	F1	F5	F9	FD
9080	01	05	09	0D	11	15	19	1D	21	25	29	2D	31	35	39	3D
9090	41	45	49	4D	51	55	59	5D	61	65	69	6D	71	75	79	7D
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90B0	C2	C6	CA	CE	D2	D6	DA	DE	E2	E6	EA	EE	F2	F6	FA	FE
90C0	02	06	0A	0E	12	16	1A	1E	22	26	2A	2E	32	36	3A	3E

91A0	81	85	89	8D	91	95	99	9D	A1	A5	AA	AE	B2	B6	BA	BE
91B0	C2	C6	CA	CE	D2	D6	DA	DE	E2	E6	EA	EE	F2	F6	FA	FE
91C0	02	06	0A	0E	12	16	1A	1E	22	26	2A	2E	32	36	3A	3E
91D0	42	46	4A	4E	52	56	5A	5E	62	66	6A	6E	72	76	7A	7E
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91F0	C2	C6	CA	CE	D2	D6	DA	DE	E2	E6	EA	EE	F2	F6	FA	FF
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9210	40	44	48	4C	50	54	58	5C	60	64	68	6C	70	74	78	7C
9220	80	84	88	8C	90	94	98	9C	A0	A4	A8	AC	B0	B4	B8	BC
9230	C0	C4	C8	CC	D0	D4	D8	DC	E0	E4	E8	EC	F0	F4	F8	FC
9240	00	04	08	0C	10	14	18	1C	20	24	28	2C	30	34	38	3C
9250	40	44	48	4C	50	55	59	5D	61	65	69	6D	71	75	79	7D
9260	81	85	89	8D	91	95	99	9D	A1	A5	A9	AD	B1	B5	B9	BD
9270	C1	C5	C9	CD	D1	D5	D9	DD	E1	E5	E9	ED	F1	F5	F9	FD
9280	01	05	09	0D	11	15	19	1D	21	25	29	2D	31	35	39	3D
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92A0	81	85	89	8D	91	95	99	9D	A1	A5	AA	AE	B2	B6	BA	BE
92B0	C2	C6	CA	CE	D2	D6	DA	DE	E2	E6	EA	EE	F2	F6	FA	FE
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92F0	C2	C6	CA	CE	D2	D6	DA	DE	E2	E6	EA	EE	F2	F6	FA	FF
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9320	0C	05	00	A0	AC	02	CF	0B	E0	73	77	1B	FF	3F	00	10
9330	3C	05	49	00	D0	01	00	98	0C	05	00	A0	C2	02	CF	0B
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9350	0C	05	00	A0	C2	02	CF	0B	E0	73	77	1B	FF	3F	00	10
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9380	01	05	09	0D	11	15	19	1D	21	25	29	2D	31	35	39	3D
9390	41	45	49	4D	51	55	59	5D	61	65	69	6D	71	75	79	7D
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93D0	42	46	4A	4E	52	56	5A	5E	62	66	6A	6E	72	76	7A	7E
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93F0	C2	C6	CA	CE	D2	D6	DA	DE	E2	E6	EA	EE	F2	F6	FA	FF
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A1E0	D0	02	88	00	20	00	CE	04	D0	02	00	00	2B	00	01	10
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A200	12	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A210	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
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A230	00	00	D0	02	02	00	6E	06	3F	00	6C	00	20	00	CE	04
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A250	01	00	00	03	56	05	00	00	00	00	D0	02	CE	04	01	00
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A290	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
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A320	FF	FF	FF	FF	FF	FF	FF	FF	40	A0	80	20	FF	FF	FF	FF
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A340	77	08	23	09	23	09	05	00	3F	06	44	00	56	05	00	03
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A370	39	C7	EA	00	40	00	56	05	1E	00	1E	00	76	02	6A	04
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A3E0	39	C7	EA	00	40	00	56	05	1E	00	1E	00	76	02	6A	04
A3F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A400	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A410	80	00	56	05	40	0E	34	07	64	07	7F	07	C3	07	F2	07
A420	77	08	23	09	23	09	05	00	3F	06	44	00	56	05	00	03
A430	44	00	56	05	00	03	6E	06	26	03	05	00	3E	0E	09	00
A440	0A	C0	40	00	00	00	10	04	00	10	82	00	60	05	1B	B4

A520	0A	C0	40	00	00	00	10	04	00	10	82	00	60	05	1B	B4
A530	39	C7	EA	00	40	00	56	05	1E	00	1E	00	76	02	6A	04
A540	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A550	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A560	14	00	00	00	14	00	00	00	00	00	00	00	00	00	00	00
A570	00	00	00	00	00	00	00	00	7F	20	26	20	FF	FF	FF	FF
A580	FF	FF	02	00	00	00	18	28	00	00	30	00	00	00	14	00
A590	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A5A0	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A5B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A5C0	00	00	00	00	00	00	45	00	00	00	00	00	00	00	00	00
A5D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A5E0	44	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A5F0	01	01	60	60	93	53	00	00	00	00	00	00	00	00	00	00
A600	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A610	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A620	80	06	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A630	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A640	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A650	80	06	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A660	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A670	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A680	80	06	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A690	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A6A0	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A6B0	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A6C0	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A6D0	FF	FF	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A6E0	80	06	03	50	00	6C	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A6F0	20	00	00	CE	8C	79	FF	3F	10	00	00	CE	82	79	FF	3F
A700	30	00	00	CE	85	79	FF	3F	30	00	00	CE	85	79	FF	3F
A710	10	00	00	CE	88	79	FF	3F	10	00	00	CE	88	79	FF	3F
A720	10	00	00	CE	88	79	FF	3F	10	00	00	CE	88	79	FF	3F
A730	10	00	00	CE	88	79	FF	3F	10	00	00	CE	88	79	FF	3F
A740	10	00	00	CE	88	79	FF	3F	10	00	00	CE	88	79	FF	3F
A750	10	00	00	CE	88	79	FF	3F	10	00	00	CE	88	79	FF	3F
A760	10	00	00	CE	88	79	FF	3F	10	00	00	CE	88	79	FF	3F
A770	80	80	80	80	00	00	00	00	00	00	00	00	00	00	00	00
A780	01	00	11	00	00	01	08	00	80	00	00	00	08	01	1E	0F

D6E0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D6F0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D700	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D710	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D720	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D730	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D740	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D750	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D760	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D770	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D780	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D790	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D7A0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D7B0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D7C0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D7D0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D7E0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D7F0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D800	01	01	00	00	00	00	02	00	02	02	00	00	00	00	02	00
D810	03	03	00	00	00	00	00	00	04	04	00	00	00	00	00	00
D820	05	05	00	00	00	00	02	00	06	06	00	00	00	00	02	00
D830	07	07	00	00	00	00	00	00	08	08	00	00	00	00	00	00
D840	09	09	00	00	00	00	02	00	0A	0A	00	00	00	00	02	00
D850	0B	0B	00	00	00	00	02	00	0C	0C	00	00	00	00	00	00
D860	0D	0D	00	00	00	00	00	00	0E	0E	00	00	00	00	00	00
D870	0F	0F	00	00	00	00	02	00	10	10	00	00	00	00	02	00
D880	11	11	00	00	00	00	00	00	12	12	00	00	00	00	02	00
D890	13	13	00	00	00	00	02	00	14	14	00	00	00	00	02	00
D8A0	15	15	00	00	00	00	02	00	16	16	00	00	00	00	00	00
D8B0	17	17	00	00	00	00	00	00	18	18	00	00	00	00	02	00
D8C0	19	19	00	00	00	00	00	00	1A	1A	00	00	00	00	02	00
D8D0	1B	1B	00	00	00	00	02	00	1C	1C	00	00	00	00	02	00
D8E0	1D	1D	00	00	00	00	02	00	1E	1E	00	00	00	00	02	00
D8F0	1F	1F	00	00	00	00	00	00	20	20	00	00	00	00	02	00
D900	21	21	00	00	00	00	02	00	22	22	00	00	00	00	02	00
D910	23	23	00	00	00	00	02	00	24	24	00	00	00	00	00	00
D920	25	25	00	00	00	00	00	00	26	26	00	00	00	00	02	00
D930	27	27	00	00	00	00	02	00	28	28	00	00	00	00	02	00
D940	29	29	00	00	00	00	02	00	2A	2A	00	00	00	00	02	00

ELECTRICAL ADJUSTMENTS

1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

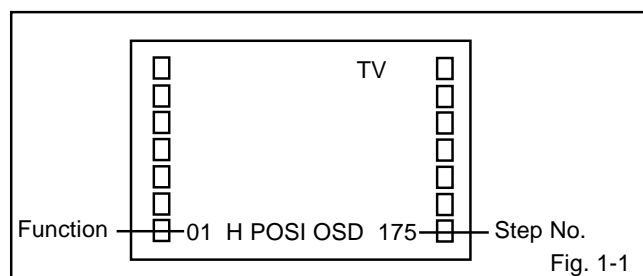
- Use an isolation transformer when performing any service on this chassis.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor with a heat sink, apply silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages 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 Channel UP/DOWN button or Channel button (0-9) on the remote control to select the options shown in Fig. 1-2.
4. Press the INPUT button on the remote control to end the adjustments.
5. To display the adjustment screen for TV, AV, GAME, YUV, HDMI, DVD and PC mode, press the INPUT button on the remote control to set to the TV, AV, GAME, YUV, HDMI, DVD and PC mode. 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	H POSI OSD	22	H POSI 60Hz
02	V POSI OSD	24	V POSI 60Hz
03	R DRIVE(N)	25	BAK LIGHT CENT
04	R CUT OFF(N)	26	BAK LIGHT MAX
05	G DRIVE(N)	27	BAK LIGHT MIN
06	G CUT OFF(N)	28	BRIGHT CENT
07	B DRIVE(N)	29	BRIGHT MAX
08	B CUT OFF(N)	30	BRIGHT MIN
09	R DRIVE(C)	31	TINT
10	R CUT OFF(C)	32	SHARP CENTER
11	G DRIVE(C)	33	SHARP MAX
12	G CUT OFF(C)	34	SHARP MIN
13	B DRIVE(C)	35	CONTRAST CENTER
14	B CUT OFF(C)	36	CONTRAST MAX
15	R DRIVE(W)	37	CONTRAST MIN
16	R CUT OFF(W)	38	COLOR CENT
17	G DRIVE(W)	39	COLOR MAX
18	G CUT OFF(W)	40	COLOR MIN
19	B DRIVE(W)		
20	B CUT OFF(W)		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONTRAST MAX

1. Receive the monoscope pattern. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (36) on the remote control to select "CONTRAST MAX".
4. Press the LEFT/RIGTH button on the remote control until the contrast step No. becomes "212"
5. Check if the picture is normal.
6. Receive the monoscope pattern. (VIDEO Input)
7. Press the INPUT button on the remote control to set to the AV mode.
8. Using the remote control, set the brightness and contrast to normal position.
9. Activate the adjustment mode display of Fig. 2-1 and press the channel button (36) on the remote control to select "CONTRAST MAX".
10. Press the LEFT/RIGTH button on the remote control until the contrast step No. becomes "216".
11. Check if the picture is normal.
12. Playback the DVD(480i) disc. (COMPONENT Input)
13. Press the INPUT button on the remote control to set to the YUV mode. Then perform the above adjustments 8~11.
14. Playback the DVD(480i) disc. (HDMI Input)
15. Press the INPUT button on the remote control to set to the HDMI mode.
16. Using the remote control, set the brightness and contrast to normal position.
Activate the adjustment mode display of Fig. 1-1 and press
17. the channel button (36) on the remote control to select "CONTRAST MAX".
18. Press the LEFT/RIGTH button on the remote control until the contrast step No. becomes "160".
19. Check if the picture is normal.

ELECTRICAL ADJUSTMENTS

2-2: 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. 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 **(03)** on the remote control to select "R DRIVE(N)".
5. Press the CH. UP/DOWN button on the remote control to select the "R CUT OFF(N)", "B DRIVE(N)", "B CUT OFF(N)", "R DRIVE(C)", "R CUT OFF(C)", "B DRIVE(C)", "B CUT OFF(C)", "R DRIVE(W)", "R CUT OFF(W)", "B DRIVE(W)" or "B CUT OFF(W)".
6. Adjust the LEFT/RIGHT button on the remote control to whiten the R CUT OFF(N), B DRIVE(N), B CUT OFF(N), R DRIVE(C), R CUT OFF(C)", B DRIVE(C), B CUT OFF(C), R DRIVE(W), R CUT OFF(W), B DRIVE(W) or B CUT OFF(W) at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white achieved.

ELECTRICAL ADJUSTMENTS

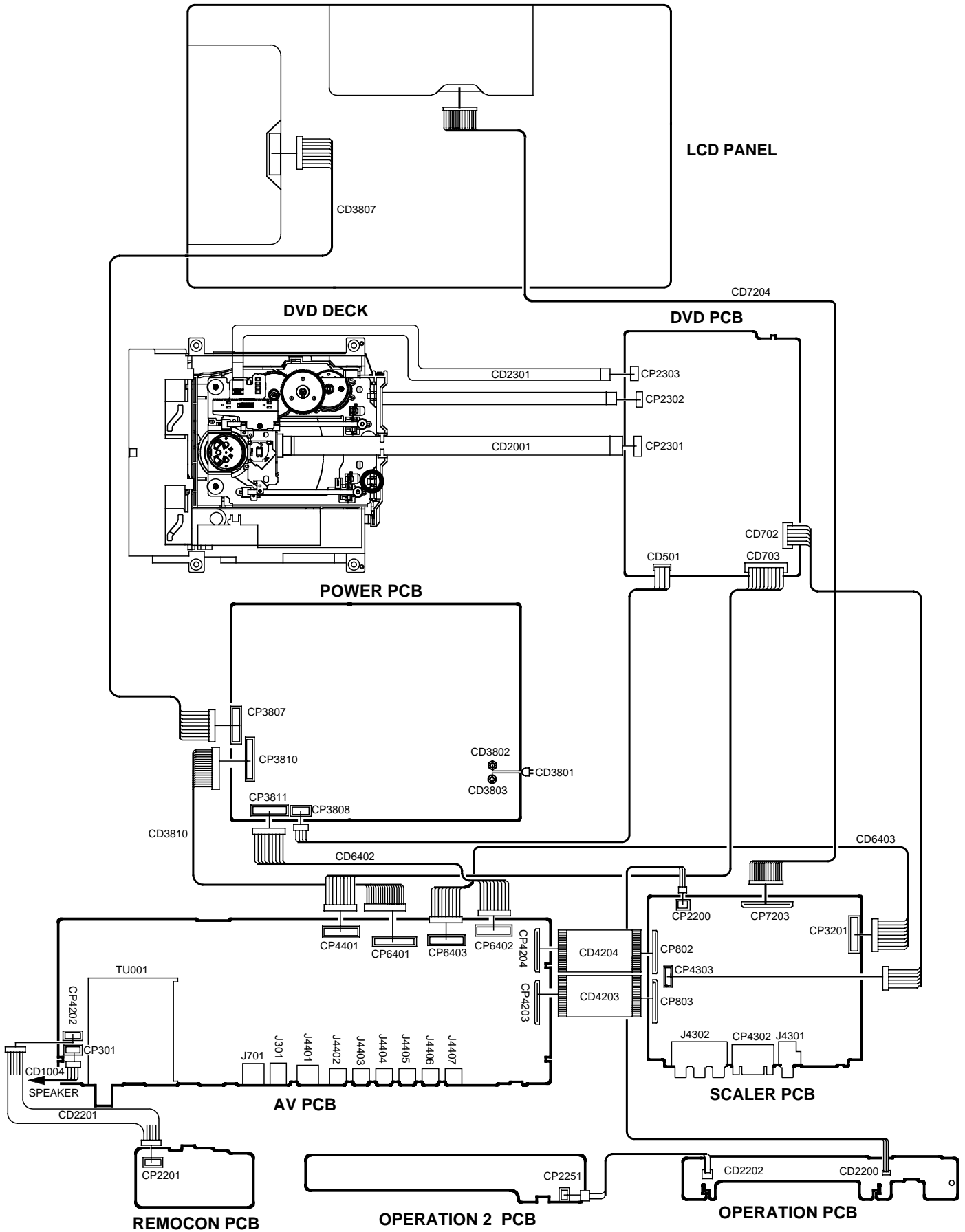
2-3: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each of the adjustment items are set correctly referring below.
(TV/AV/GAME/YUV/HDMI/DVD/PC)

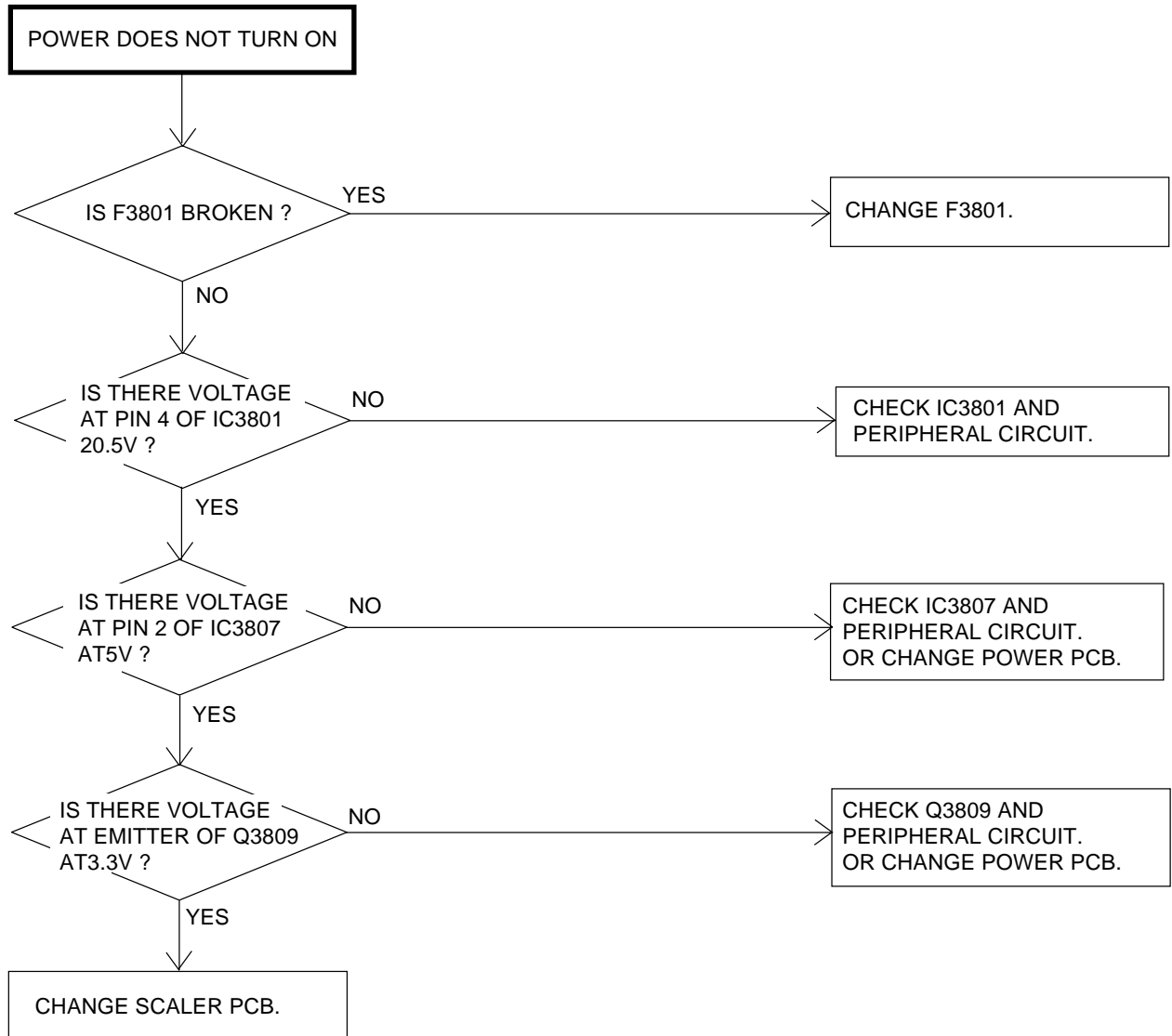
NO.	FUNCTION	TV	AV/ GAME	YUV				HDMI				VGA	DVD	PC
				480i	480p	720P	1080i	480i	480p	720P	1080i			
Step No.														
1	H POSI OSD	344	344	344	344	344	344	344	344	344	344	344	344	344
2	V POSI OSD	83	83	83	83	83	83	83	83	83	83	83	83	83
3	R DRIVE(N)	...	...	...	...	...	...	...	...	...	...	...	...	120
5	G DRIVE(N)	...	...	...	...	...	...	...	...	...	...	...	...	120
7	B DRIVE(N)	...	...	...	...	...	...	...	...	...	...	...	...	120
22	H POSI	284	284	284	145	320	122	284	145	280	228	156	288	158
24	V POSI	35	35	35	35	55	36	35	35	50	31	33	35	24
25	BAK LIGHT CENT	128	128	128	128	128	128	128	128	128	128	128	128	128
26	BAK LIGHT MAX	255	255	255	255	255	255	255	255	255	255	255	255	255
27	BAK LIGHT MIN	00	00	00	00	00	00	00	00	00	00	00	00	00
28	BRIGHT CENT	132	128	128	128	128	128	128	128	128	128	128	128	128
29	BRIGHT MAX	156	156	156	156	156	156	156	156	156	156	156	156	168
30	BRIGHT MIN	70	70	70	70	70	70	70	70	70	70	70	70	80
31	TINT	125	125	131	125	125	125	125	125	125	125	125	125	...
35	CONTRAST CENTER	161	165	165	107	107	106	104	104	104	105	104	165	100
36	CONTRAST MAX	212	216	216	140	140	140	160	160	160	160	160	219	140
37	CONTRAST MIN	50	50	50	50	50	50	50	50	50	50	50	50	60
38	COLOR CENT	86	64	83	120	120	120	70	70	70	70	70	64	...
39	COLOR MAX	127	127	127	180	180	180	127	127	127	127	127	127	...
40	COLOR MIN	00	00	00	00	00	00	00	00	00	00	00	00	00

ELECTRICAL ADJUSTMENTS

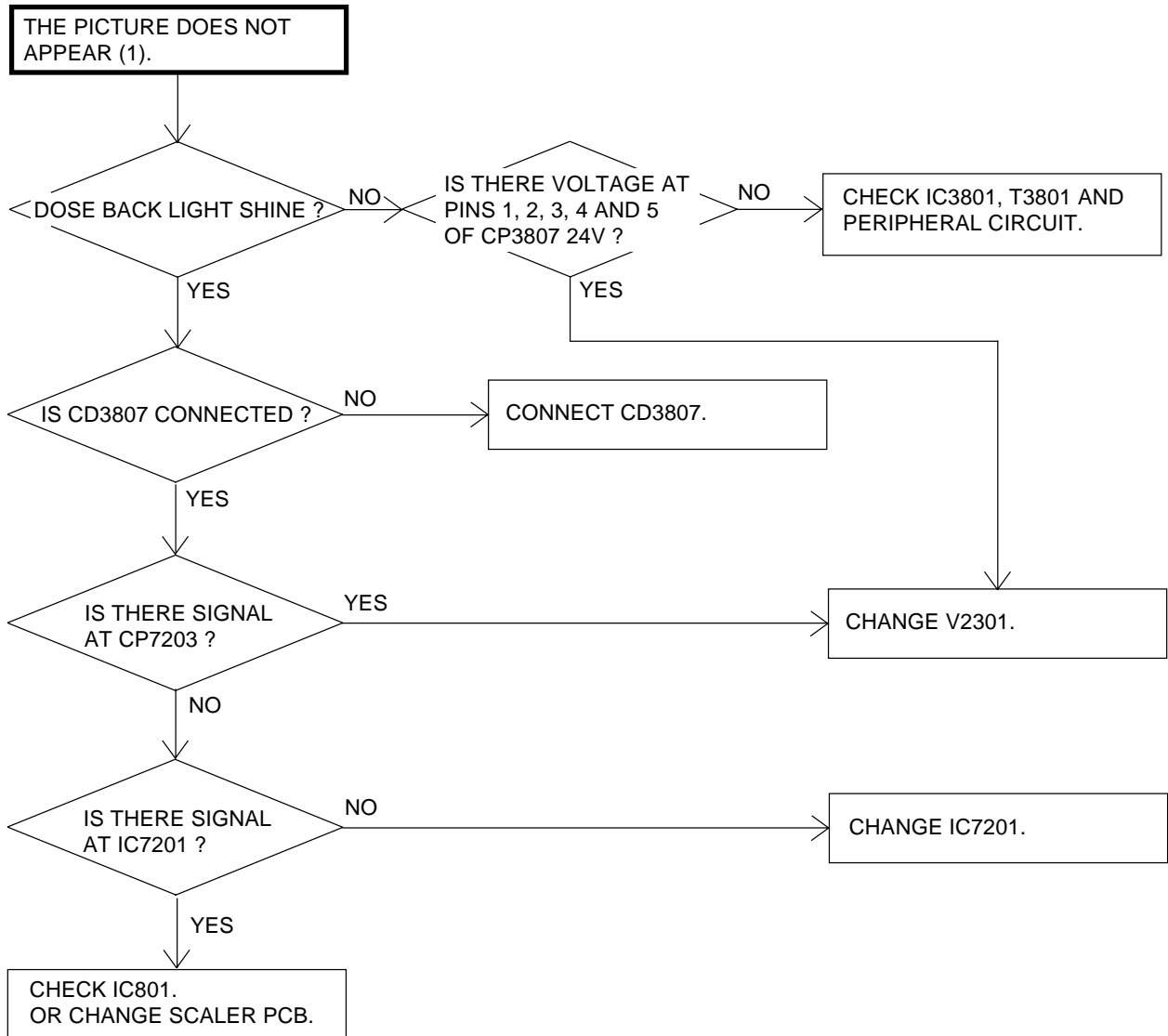
3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



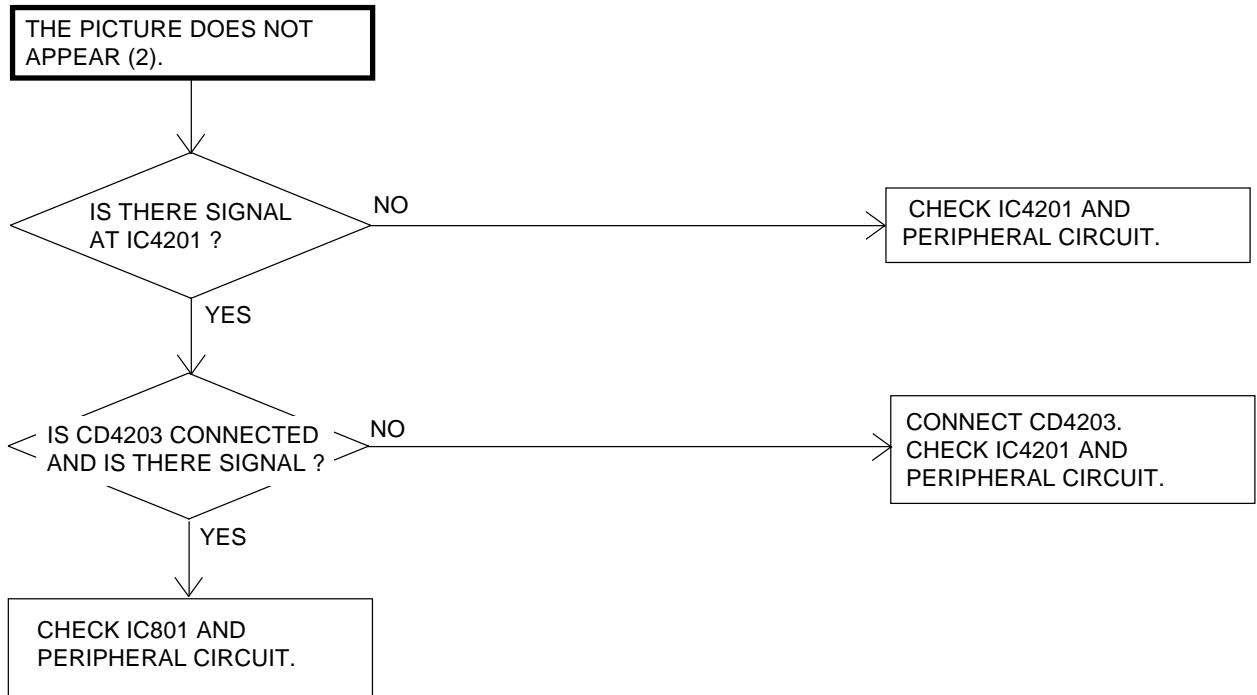
TROUBLESHOOTING GUIDE



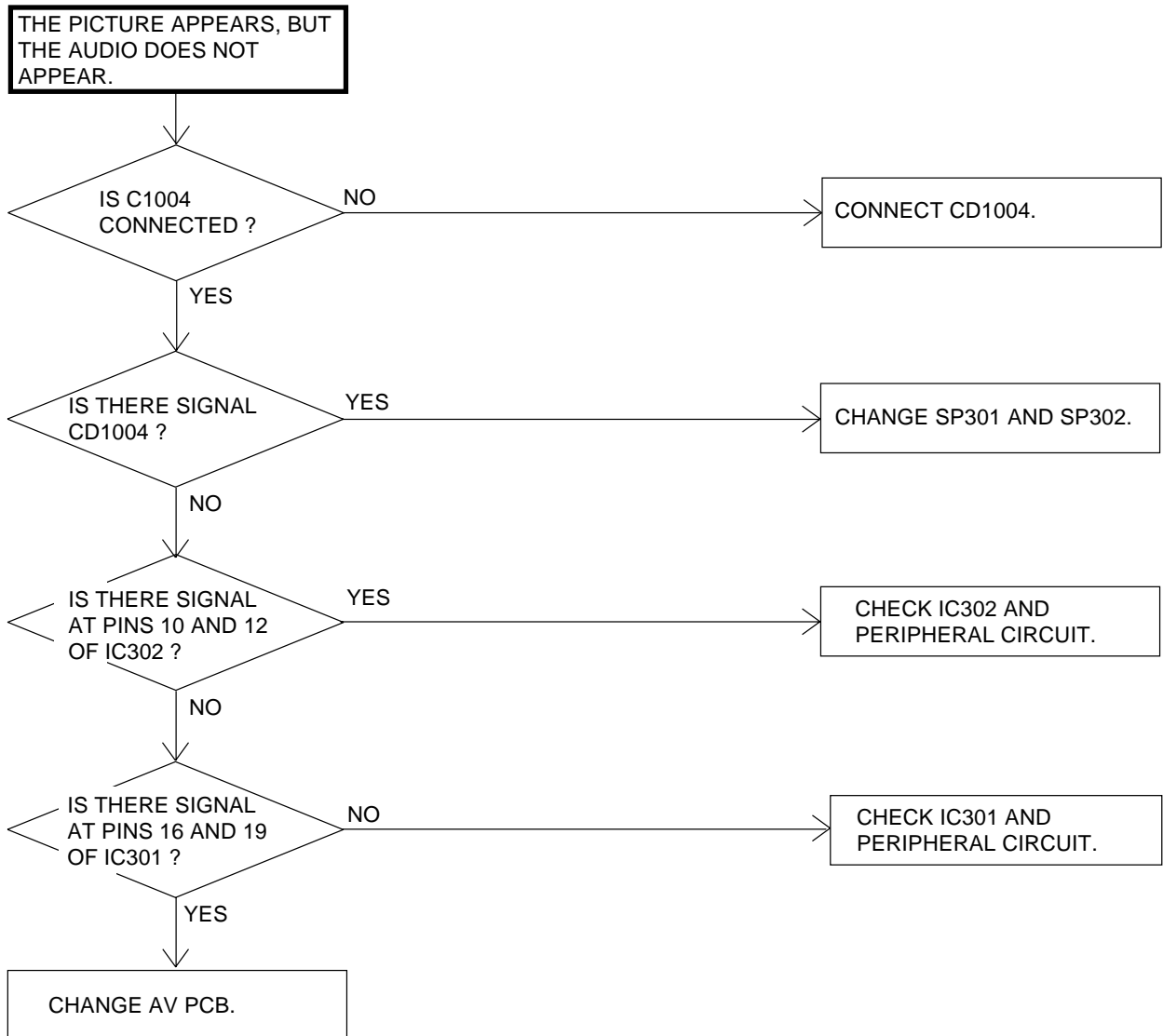
TROUBLESHOOTING GUIDE



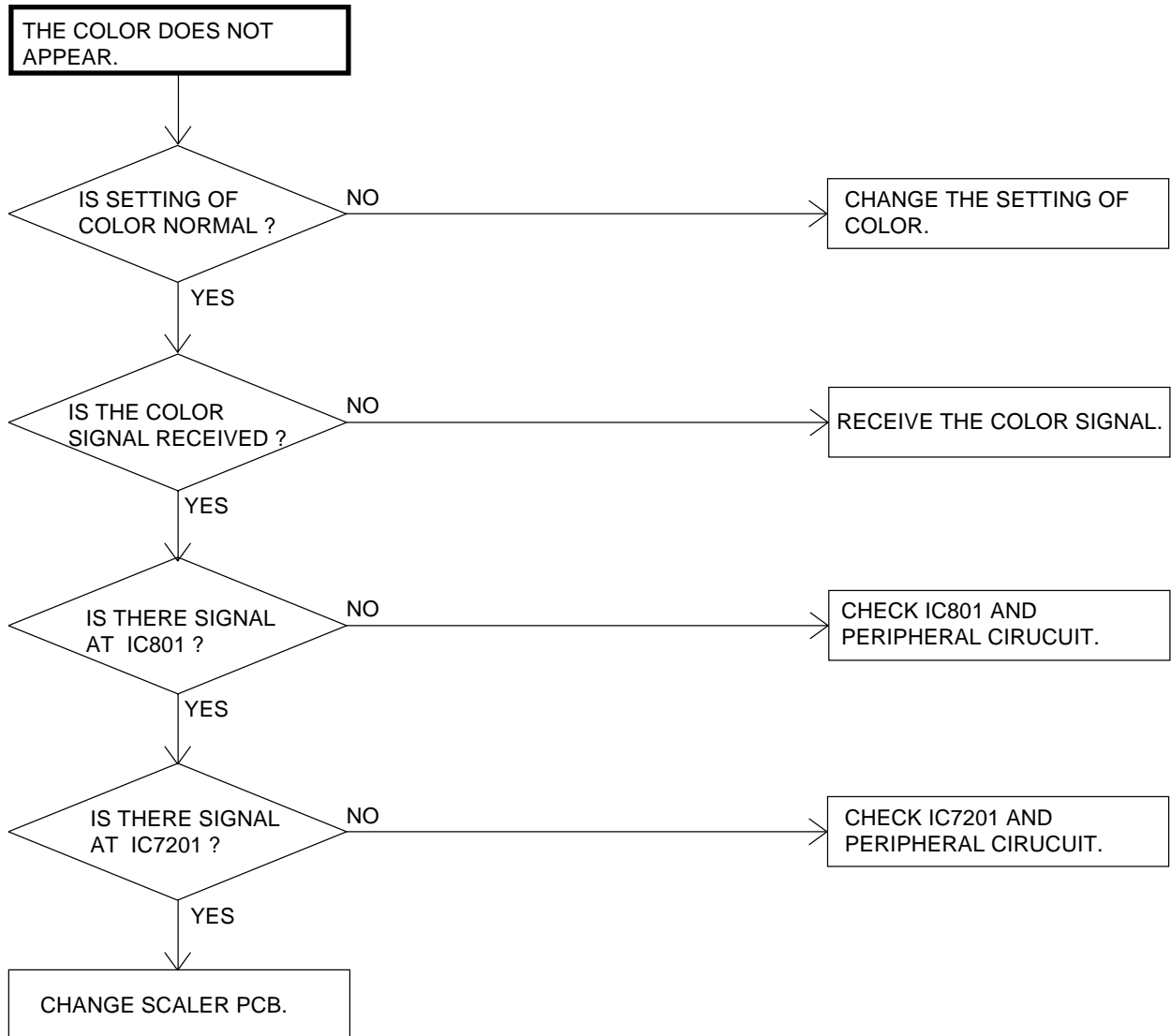
TROUBLESHOOTING GUIDE



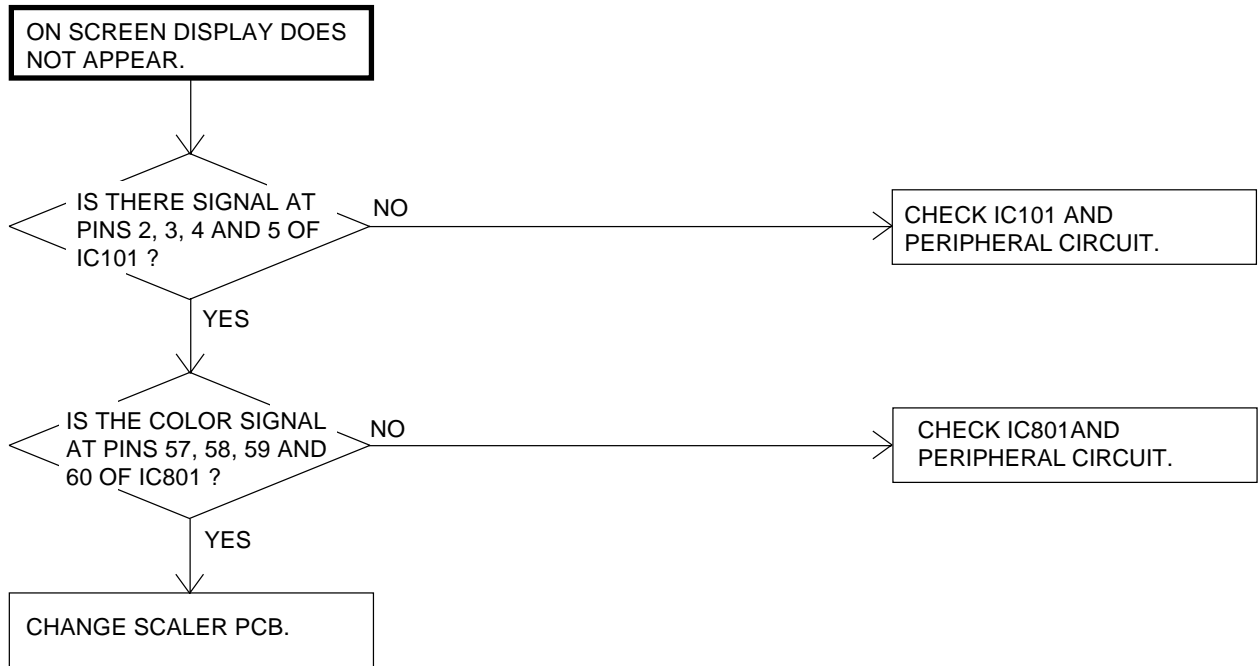
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE

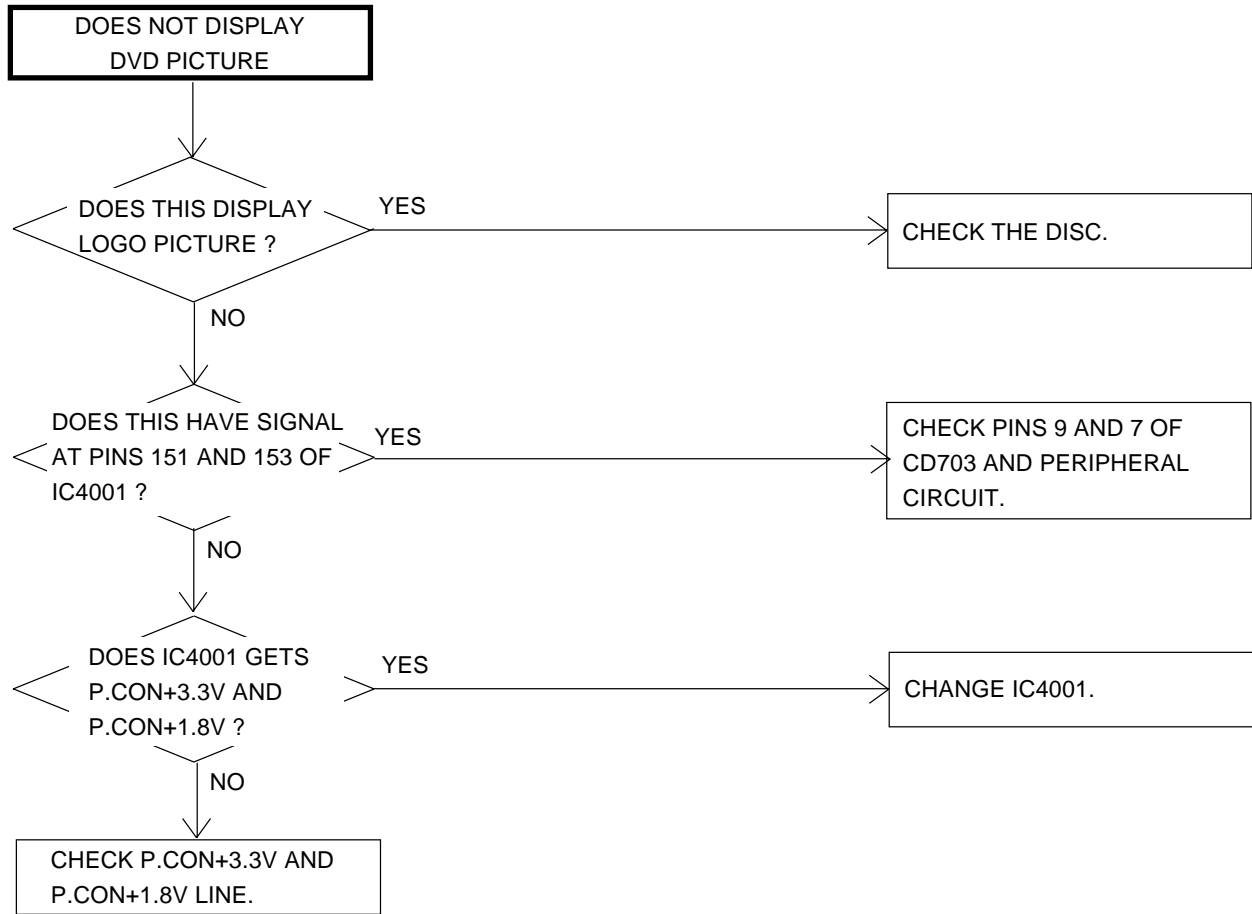


TROUBLESHOOTING GUIDE

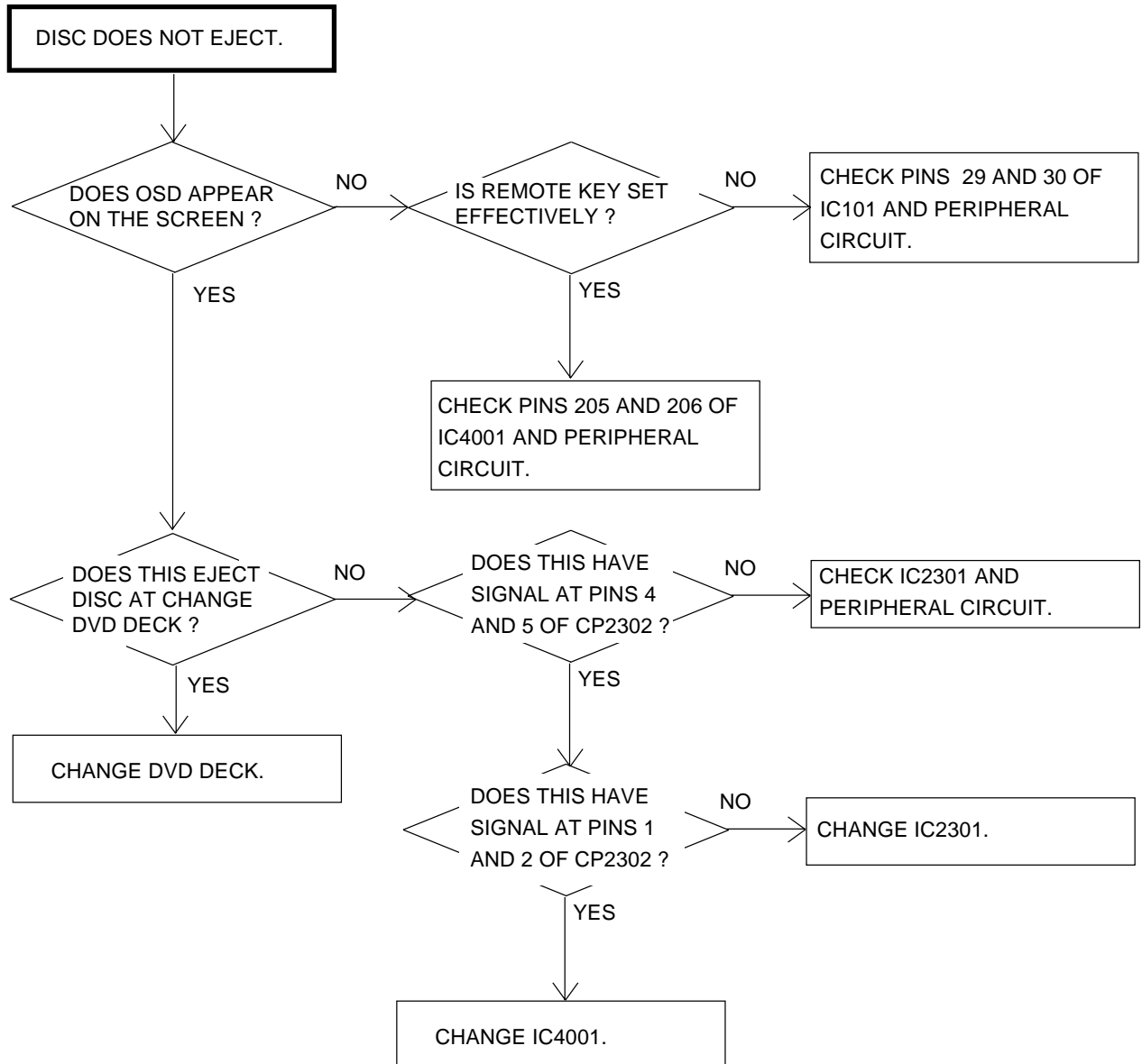


TROUBLESHOOTING GUIDE

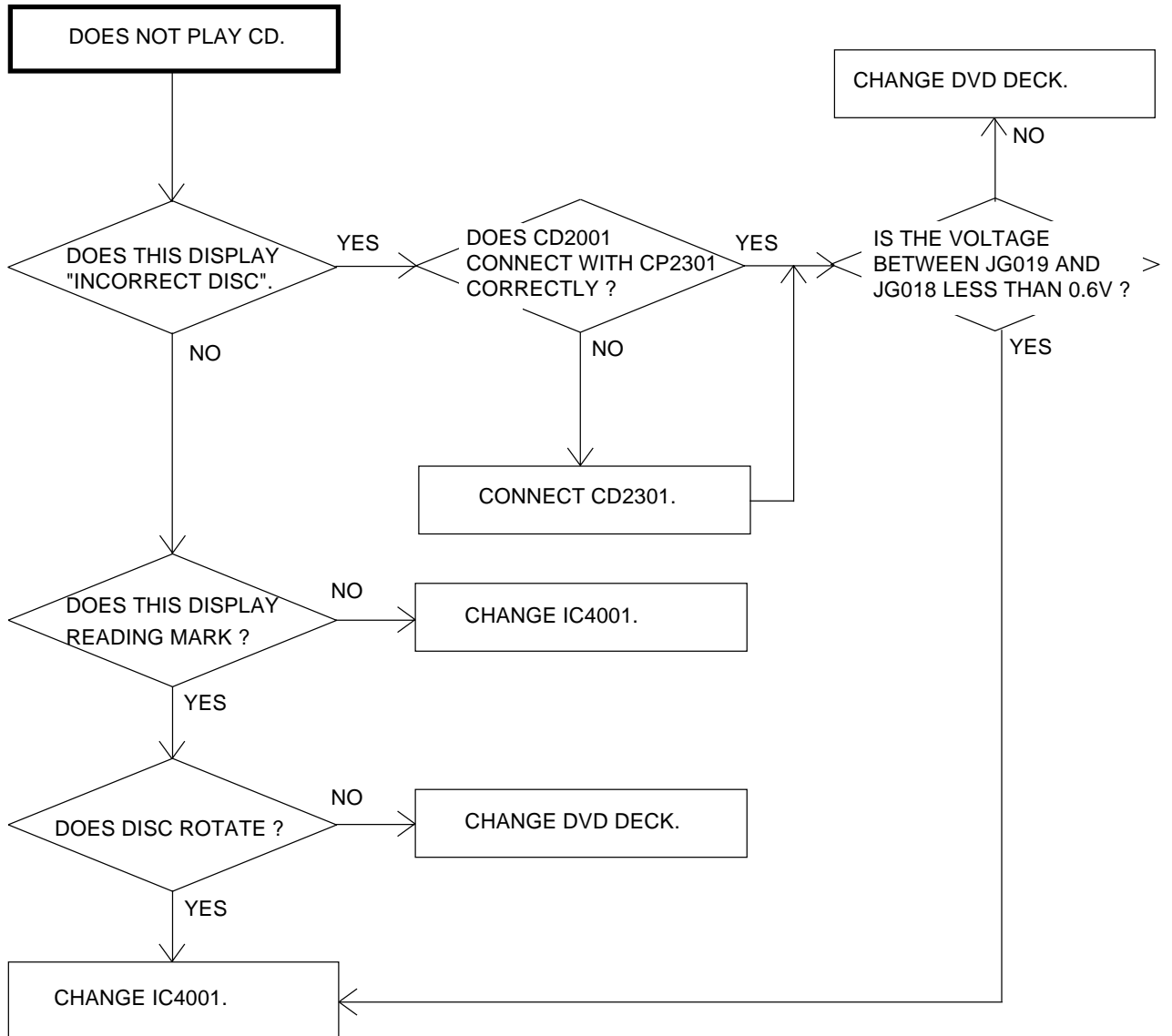
(DVD SECTION)



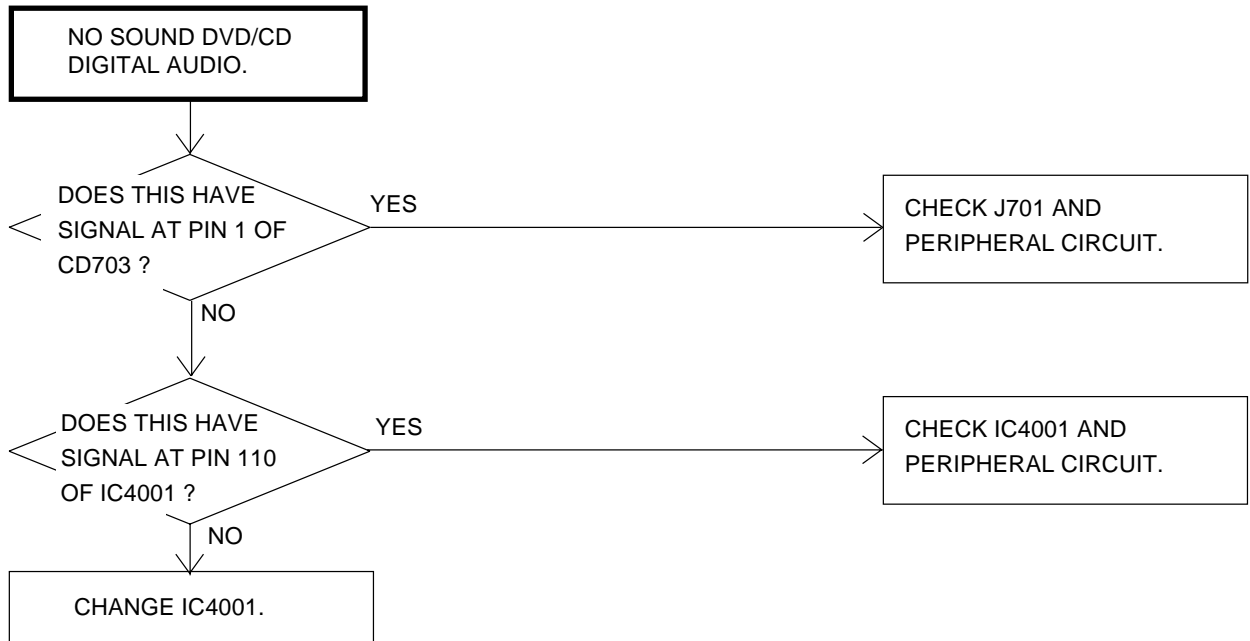
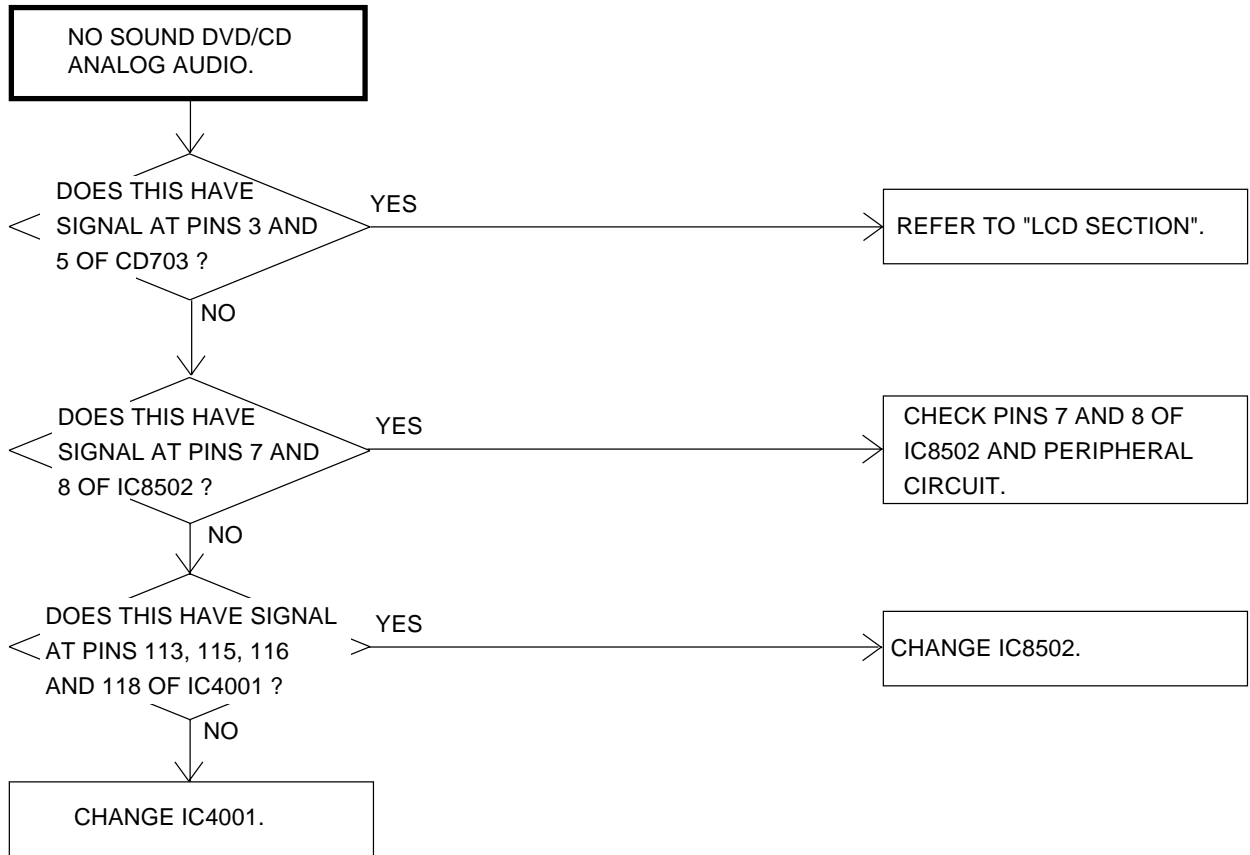
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE

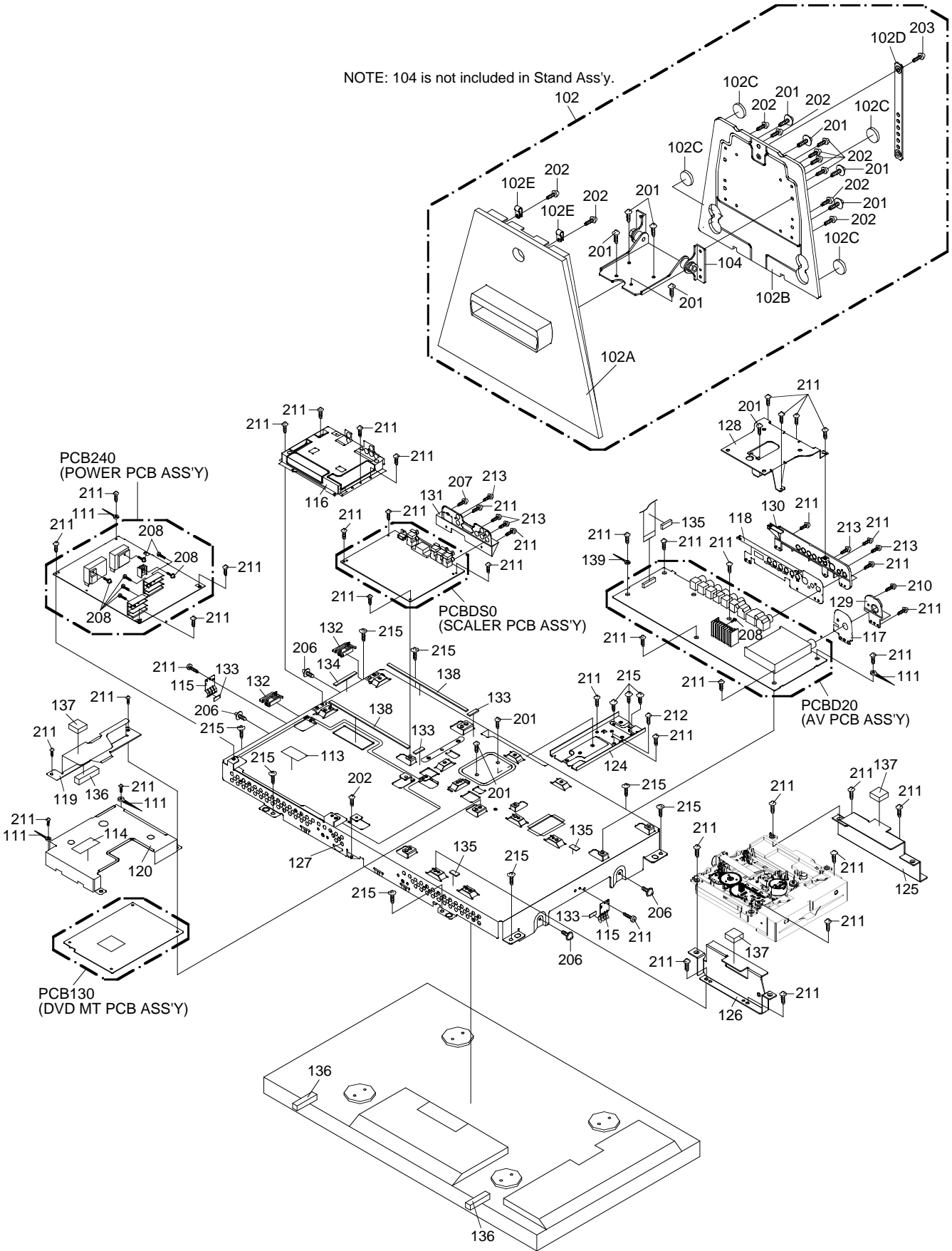


TROUBLESHOOTING GUIDE

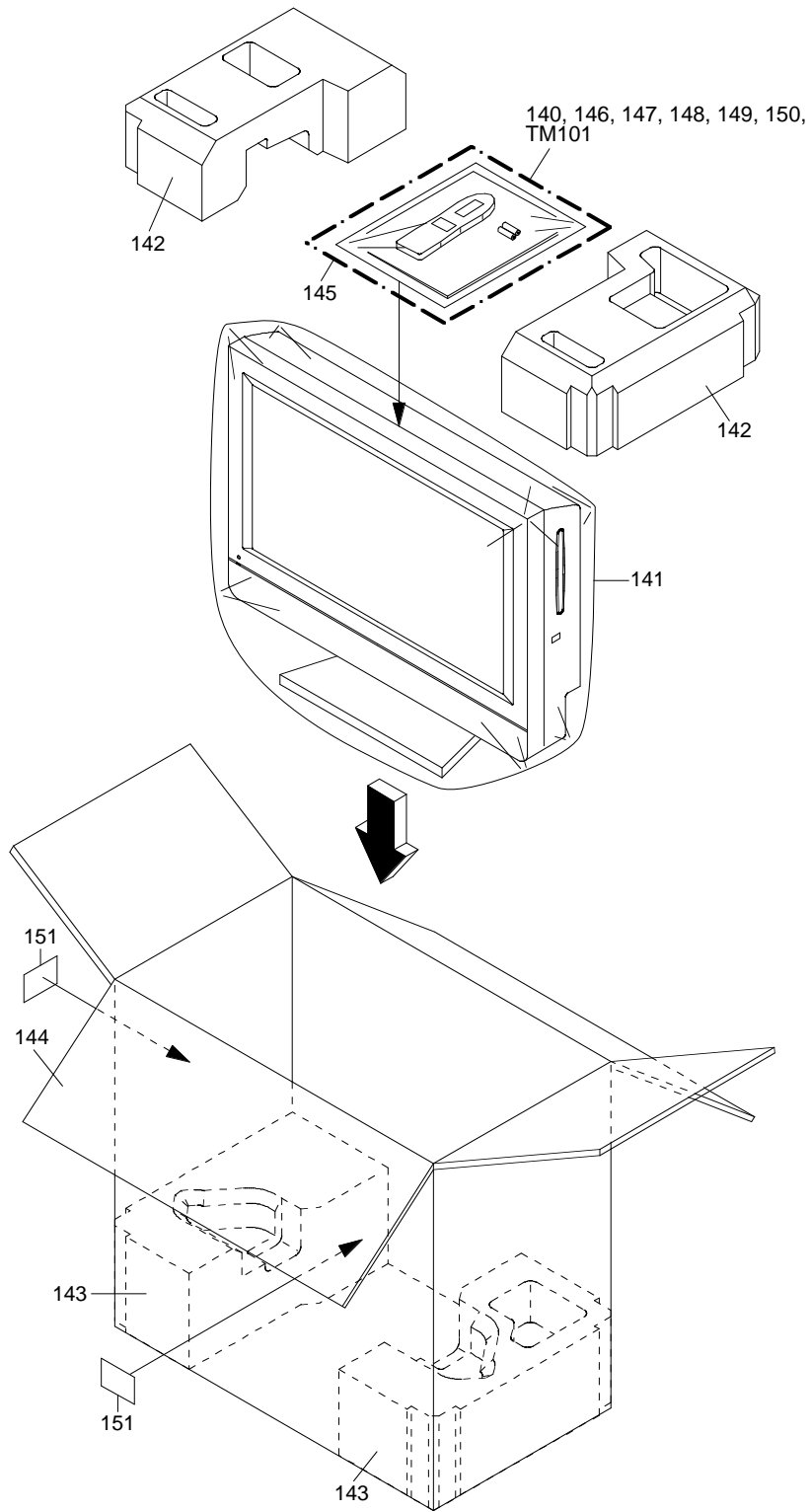


MECHANICAL EXPLODED VIEW

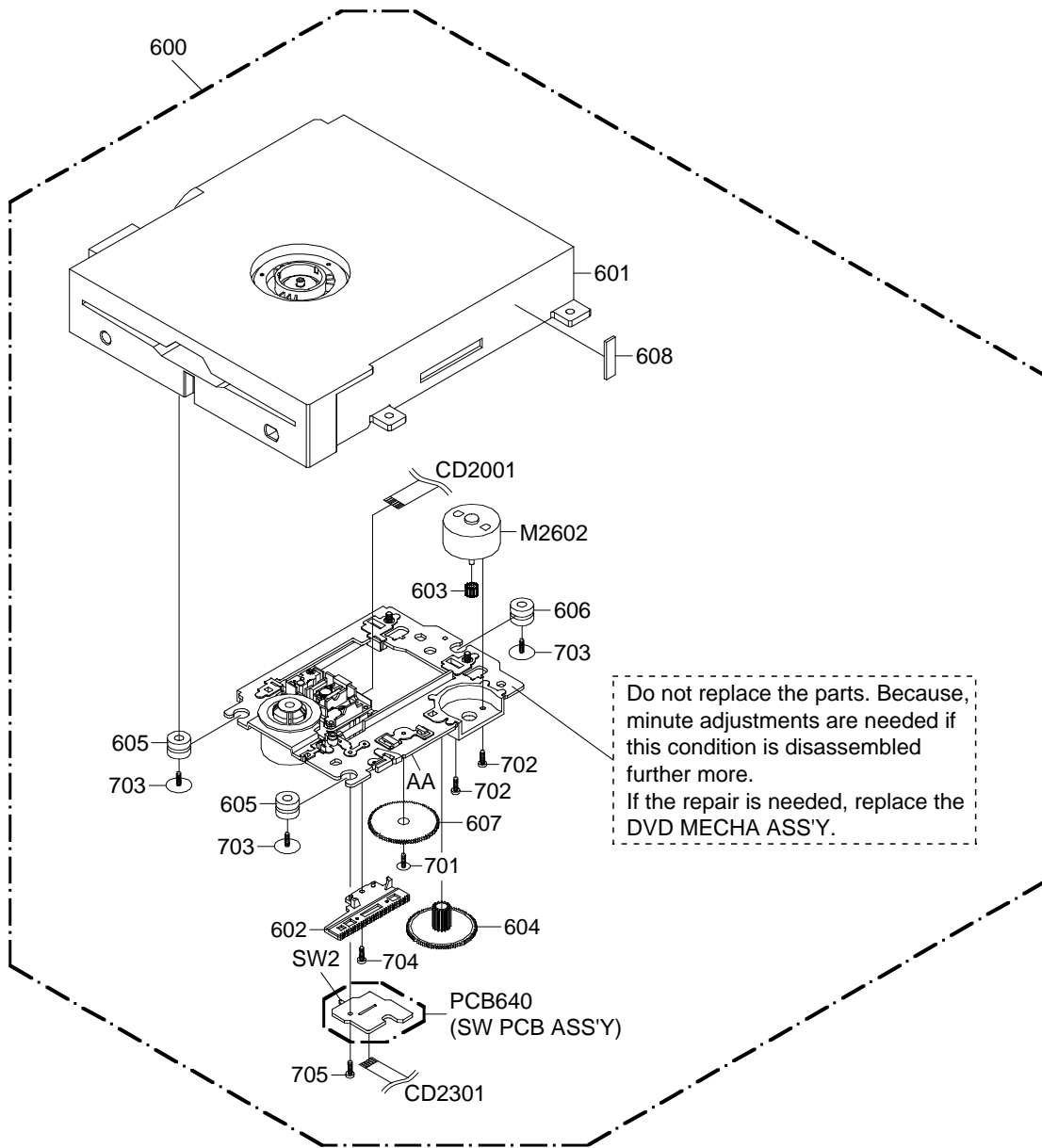
NOTE: 104 is not included in Stand Ass'y.



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	AE008506	7A7010234A	FRONT CABI ASS'Y
101A	AE008652	701WPJ1450	CABINET,FRONT
101B	AE008653	702WPB0101	COVER,HINGE
101C	AE007691	711WPA0242	PLATE,FRONT
101D	AE008654	711WPK0001	PLATE TOP ASS'Y
101E	AE008655	713WPA0404	GLASS,LED
101F	AE007694	7235490068	BADGE BRAND
101G	AE007695	7290000158	DOUBLE,FACE-TAPE
101H	AE007696	735WPE0048	BUTTON,CAP-1
101I	AE008656	735WPE0051	BUTTON,CAP-2
101J	AE008657	735WPE0052	BUTTON,CAP-3
101K	AE008658	738WPA0200	BUTTON,FRAME-TV
101L	AE008659	738WPA0201	BUTTON,FRAME-DVD
101M	AE008660	752WSA0563	SHIELD,BUTTON
101N	AE005451	800WQ0A049	FELT SHEET
101O	AE007702	800WQ00094	FELT,SHEET
102	AE008661	7A7040018A	STAND ASS'Y
102A	AE008662	704WPBA010	STAND
102B	AE007736	761WSB0008	ANGLE STAND
102C	AE007737	800WFA0078	CUSHION LEG
102D	AE007710	89900FB118	BAND
102E	AE007711	899000NK4N	CABLE CLAMPS
103	AE008663	7A7020097A	BACK CABI ASS'Y
103A	AE008664	702WPJ0054	CABINET,BACK
103B	AE008457	704WPE0003	SLOT DVD
103C	AE008458	706WPBA004	COVER CONNECTOR
103D	AE008665	774WPA0009	HOLDER CORD
103E	AE003069	800WQ0A070	FELT SHEET
103F	AE007707	800WQ0A110	FELT SHEET
103G	AE008459	800WQ00105	FELT SHEET
104	AE008460	706JSA0015	HINGE ASS'Y
105	AE008666	702WPB0100	COVER,BACK
106	AE008667	705WPBA011	HANDLE
107	AE008668	7225490252	SHEET RATING
108	AE008669	7230008153	SHEET,JACK-1
109	AE008670	7230008155	SHEET,JACK-3
110	AE008671	7230008204	SHEET JACK-2
111	BZ710039	8995034000	CORD CLIP UL CO.
112	AE008672	7235490089	POP,LABEL
113	AE008673	7240001124	SHEET PC
114	AE005122	726000A073	SHEET CAUTION
115	AE008674	744WUA0022	SPRING EARTH
116	AE008675	752WSA0575	SHIELD SCALER
117	AE008676	752WSA0589	SHIELD,JACK-1
118	AE008677	752WSA0590	SHIELD,JACK-2
119	AE008471	752WSA0595	SHIELD FFC
120	AE008678	752WSA0607	SHIELD MPEG
121	AE008679	753WEA0040	SHEET CU
122	AE008680	761WPA0429	HOLDER,PCB-TV
123	AE008476	761WPA0430	HOLDER PCB-DVD
124	AE007717	761WSA0264	ANGLE,HINGE
125	AE008481	761WSA0364	ANGLE DECK-L
126	AE008482	761WSA0365	ANGLE DECK-R
127	AE008681	761WSA0382	COVER,LCD
128	AE008682	761WSA0394	ANGLE,HANDLE-DVD
129	AE008683	771WPB0072	PLATE,JACK-1

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
130	AE008684	771WPB0073	PLATE,JACK-2
131	AE008685	771WPB0074	PLATE,JACK-3
132	AE000164	774WPA0005	HOLDER WIRE-2
133	AE008686	8965TS0230	CUSHION W6/H2/L30
134	AE008687	8965TS0260	CUSHION W6/H2/L60
135	AE008688	8965TS1030	CUSHION W10/H10/L30
136	AE007726	8965TS1060	CUSHION W10/H10/L60
137	AE008689	8965TS2015	CUSHION W20/H15/L20
138	AE008690	8965TS2180	CUSHION W6/H2/L180
139	AD301370	899EFBA002	WIRING-CLIP
140	AE008691	J5X20310A	INSTRUCTION BOOK(F)
141	AE002901	791WHDA001	LAMIFILM BAG
142	AE008692	792WHA0676	PACKAGE TOP
143	AE008693	792WHA0677	PACKAGE BOTTOM
144	AE008694	793WCD1768	GIFT BOX
145	AE008695	A5X203D975	INSTRUCTION BOOK KIT
146	AE008696	JA4ND500	POLYBAG,INSTRUCTION(RED CAUTION)
147	AE007451	J3N51617A	REGISTRATION CARD
148	AE007852	J5N00629A	INFORMATION SHEET(CND)
149	AE007627	J5S10229A	INFORMATION SHEET(USA)
150	AE008697	J5X20301A	INSTRUCTION BOOK(E)
151	AE008698	7230008156	SHEET,BARCODE
201	AE005338	810A140A0U	SCREW WASHER(A) M4*10 CH
202	AE003528	8110630A0U	SCREW TAP TITE(P) BRAZIER 3*10 CH
203	AE007747	814623080U	SCREW TAP TITE(B) BIND 3*5.7+4*2.3 CH
204	AE003529	811063080U	SCREW TAP TITE(P) BRAZIER 3*8 CH
205	AE005472	8159130A0S	SCREW,TAPPING(B) WASHER12 PAN 3*10 BLACK
206	AE007748	810A13050U	SCREW WASHER(A) M3*5 CH
207	AE005214	810213080U	SCREW,PAN M3*8
208	AE003524	8109I30A0U	SCREW TAP TITE(B) WH7 3*10 CH
209	AE005471	8102240A2U	SCREW,BIND M4*12 CH
210	AE005987	810723060U	SCREW TAP TITE(S) BIND 3*6 CH
211	AE003526	810923080U	SCREW TAP TITE(B) BIND 3*8 CH
212	AE005470	8110230A4U	SCREW TAP TITE(P) BIND 3*14 CH
213	AE007749	811023080U	SCREW TAP TITE(P) BIND 3*8 CH
214	AE005832	8110630A2U	SCREW TAP TITE(P) BRAZIER 3*12 CH
215	AE004847	8117540A6U	SCREW TAP TITE(B0) TRUSS 4*16 CH

DVD DECK REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
△600	AE008498	A5X002C650	DVD MECHA ASS'Y A5X002C650
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	BZ710149	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	AE008502	122J4O1603	CORD JUMPER 127000-2933
CD2301	AE003558	122H062102	CORD JUMPER 2H062102
SW2	AE001158	0500101036	PUSH SWITCH ESE22MH22
PCB640	AE008503	A5X002C640	SW PCB ASS'Y DED020A
△M2602	AE005821	1515S98004	MOTOR BCZ3B05

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
RESISTORS			
R338	BZ210191	R3X28B010J	R,METAL OXIDE 1 OHM 3W
△R3801	BZ210206	R002T2155J	RC 1.5M OHM 1/2W
△R3805	BZ210063	R3X181R22J	R,METAL OXIDE 0.22 OHM 1W
△R3812	BZ210078	R65584101J	R,FUSE 100 OHM 1/4W
△R3813	AE007372	R3K58A104J	R,METAL OXIDE 100K OHM 2W
△R3815	AE008642	R63884102J	R,FUSE J 1K OHM 1/4W
△R3818	AE005735	R63881R22J	R,FUSE 0.22 OHM 1W
CAPACITORS			
C339	AE006603	E61FF3102D	CE 1000 UF 25V
△C3801	BZ110025	P2122B224M	CMP 0.22 UF 275V ECQUL
△C3803	BZ110035	P2122B104M	CMP 0.1 UF 275V ECQUL
△C3806	AE000950	CD39E0ME3M	CC 0.0015UF 250V
△C3807	AE005071	E61FT2681D	CE 680 UF 16V
△C3810	BZ110025	P2122B224M	CMP 0.22 UF 275V ECQUL
△C3817	AE008632	CD39B0ML2K	CC 330 PF 250V
△C3821	AE004934	CD39B0MH2K	CC 220 PF 250V
C3826	AE005071	E61FT2681D	CE 680 UF 16V
△C3827	AE008635	E71LFC591D	CE 590 UF 200V
C3829	BZ110182	C03LOR713K	CC 0.001 UF 2KV R
C3836	AE002229	P411F4393J	CMPP 0.039 UF 400V ECWF
△C3839	AE004934	CD39B0MH2K	CC 220 PF 250V
C3841	BZ110175	C03LOR7H2K	CC 220 PF 2KV R
△C3842	AE007807	E61FF4122D	CE 1200 UF 35V
△C3843	AE007807	E61FF4122D	CE 1200 UF 35V
C3847	AE000471	E5EZU5100M	CE 10 UF 50V
C3849	AE007807	E61FF4122D	CE 1200 UF 35V
△C3853	AE006603	E61FF3102D	CE 1000 UF 25V
△C3857	AE002708	E5EZU2101M	CE 100 UF 16V
△C3862	AE002708	E5EZU2101M	CE 100 UF 16V
DIODES			
D101	AE004795	DE7RB5R62B	DIODE,ZENER UDZS5.6B TE-17
D105	AE007801	DD7R20S300	DIODE,SCHOTTKY BARRIER RB520S-30-TE61
D106	AE004795	DE7RB5R62B	DIODE,ZENER UDZS5.6B TE-17
D109	AE007801	DD7R20S300	DIODE,SCHOTTKY BARRIER RB520S-30-TE61
D301	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D802	AE004795	DE7RB5R62B	DIODE,ZENER UDZS5.6B TE-17
D803	AE004795	DE7RB5R62B	DIODE,ZENER UDZS5.6B TE-17
D805	AE004795	DE7RB5R62B	DIODE,ZENER UDZS5.6B TE-17
D807	BZ410086	DD7R0S3550	DIODE,SILICON 1SS355 TE-17
D808	BZ410086	DD7R0S3550	DIODE,SILICON 1SS355 TE-17
D2202	AE000288	0021E9Q010	LED LTL-1BEFJ-002A
D2303	BZ410086	DD7R0S3550	DIODE,SILICON 1SS355 TE-17
D2304	BZ410086	DD7R0S3550	DIODE,SILICON 1SS355 TE-17
D3001	AE008321	DD7RB051L0	DIODE,SCHOTTKY RB051L-40_TE25
D3002	AE008321	DD7RB051L0	DIODE,SCHOTTKY RB051L-40_TE25
D3003	AE008321	DD7RB051L0	DIODE,SCHOTTKY RB051L-40_TE25
D3206	AE004643	D28R1QS040	DIODE EC31QS04-TE12L
D3207	AE004643	D28R1QS040	DIODE EC31QS04-TE12L
D3209	AE004643	D28R1QS040	DIODE EC31QS04-TE12L
D3600	AE004643	D28R1QS040	DIODE EC31QS04-TE12L
D3601	AE004793	DD7R60L400	DIODE,SCHOTTKY RB160L-40-TE25
D3602	AE004795	DE7RB5R62B	DIODE,ZENER UDZS5.6B TE-17
D3603	AE004793	DD7R60L400	DIODE,SCHOTTKY RB160L-40-TE25
D3606	AE004643	D28R1QS040	DIODE EC31QS04-TE12L
D3609	AE004794	DE7RB3R32B	DIODE,ZENER UDZS3.3B TE-17
D3613	AE004794	DE7RB3R32B	DIODE,ZENER UDZS3.3B TE-17
△D3801	BZ410031	D6CE24110A	DIODE,VARISTA ENE241D-10A-Q6
△D3803	AE004936	D6E027110A	DIODE,VARISTA ENE271D-10A
D3804	AE004643	D28R1QS040	DIODE EC31QS04-TE12L
△D3806	AE008634	DOU033020M	DIODE,VARISTA DSS-302M-S00B
D3809	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3811	AE008319	D4AT01H3E0	DIODE,RECTIFIER 1H3-E
△D3812	AE008633	D2B0BV6080	DIODE,BRIDGE RBV-608
D3813	BZ410006	D1VT001330	DIODE,SILICON 1SS133T-77
D3814	BZ410066	D97U06R21B	DIODE,ZENER MTZJ6.2B T-77
D3815	AE002133	D2BXARS010	DIODE,SILICON SARS01-V1
D3817	AE008319	D4AT01H3E0	DIODE,RECTIFIER 1H3-E
D3818	AE008319	D4AT01H3E0	DIODE,RECTIFIER 1H3-E
△D3819	AE005173	D2BAMX22S0	DIODE,SCHOTTKY FMX-22S
△D3820	AE005173	D2BAMX22S0	DIODE,SCHOTTKY FMX-22S
△D3824	AE007800	D2CA2C15R0	DIODE,SCHOTTKY BARRIER YG862C15R
D3825	AE008319	D4AT01H3E0	DIODE,RECTIFIER 1H3-E
D3826	BZ410109	D97U02001B	DIODE,ZENER MTZJ20B T-77
D3827	AD302208	D97U03R31B	DIODE,ZENER MTZJ3.3B T-77
D3828	BZ410020	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
DIODES				
D3829	BZ410064	D97U03R91B	DIODE,ZENER	MTZJ3.9B T-77
D3831	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3832	AD302208	D97U03R31B	DIODE,ZENER	MTZJ3.3B T-77
D3834	BZ410084	D97U01101B	DIODE,ZENER	MTZJ11B T-77
D4002	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4003	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4005	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4008	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4209	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D4301	AE004795	DE7RB5R62B	DIODE,ZENER	UDZS5.6B TE-17
D4302	AE004795	DE7RB5R62B	DIODE,ZENER	UDZS5.6B TE-17
D4310	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D6401	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D6402	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D6403	AE008319	D4AT01H3E0	DIODE,RECTIFIER	1H3-E
D8509	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D8510	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
ICS				
IC101	AE008648	S5X203DM01	MEMORY DATA	OEC7158A
IC102	79097849	I9UF032290	IC	PST3229NR
IC103	AE008644	S5X203DE02	MEMORY DATA	AT24C256N-10SU-2.7
IC104	AE008643	S5X203DE01	MEMORY DATA	AT24C256N-10SU-2.7
IC301	AD301983	I01FF58910	IC	AN5891SA-E1V
△IC302	AE008430	I03SP20520	IC	LA42052-E
IC303	AE002504	I0QF0580V0	IC	NJM4580V(Te1)
IC801	AE008638	I56K07A720	IC	R8J66607A72FP
IC901	AE004647	I01FF58320	IC	AN5832SA-E1V
IC2101	AE005610	IFSK0883C0	IC	MST9883C-LF-110
△IC2301	AE008194	I03FV65650	IC	LA6565VR-TLM-E
△IC3001	AE004650	I07F097430	IC	BA9743AFV-E2
△IC3002	AE006395	I0GF91ZPH0	IC	PQ070XZ01ZPH
△IC3003	AE004653	I1KF98D050	IC	KIA78D05F
△IC3201	AE007825	I07F0C0WF0	IC	BA00BC0WFP-E2
△IC3202	AE008431	I07F078200	IC	BD7820FP-E2
IC3600	AE008431	I07F078200	IC	BD7820FP-E2
IC3601	AE008646	S5X203DE04	MEMORY DATA	BR24L02F-WE2
IC3602	AE007825	I07F0C0WF0	IC	BA00BC0WFP-E2
IC3603	AE008640	IG1F090110	IC	SI9011CLU
IC3604	AE001295	I0QJ045800	IC	NJM4580M(Te1)
IC3605	AE008641	IG4F020210	IC	CM2021-00TR
IC3607	AE004802	I1FF043340	IC	CS4334-KSZR
IC3608	AE008645	S5X203DE03	MEMORY DATA	BR24L32F-WE2
IC3611	AE008639	ICMF089E50	IC	SST89E58RD2-40-C-TQJE
△IC3801	AE007826	I0BT0X6730	IC	STR-X6737
△IC3802	AE008636	I03T057740	IC	LA5774-E
IC3803	AE008593	I0GA9120R0	IC	PQ120RDA1SZH
△IC3805	AD302211	I1KJ9A431A	IC	KIA431A-AT
△IC3806	AE007827	I0GA9090R0	IC	PQ090RDA1SZH
△IC3807	AE008637	I0GA9050R0	IC	PQ050RDA1SZH
△IC3808	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC4001	AE008196	ICQK068821	IC	ZR36882ELCG
IC4005	AE008377	IG2J081657	IC	EM638165TS-7G
IC4007	AE008647	S5X203DF01	MEMORY DATA	SST39VF1601-70-4C-EKE
IC4201	AE002728	I01F05853B	IC	AN15853B-E1
IC4202	AE001295	I0QJ045800	IC	NJM4580M(Te1)
IC4203	AD301988	I0UF015010	IC	MM1501XNRE
IC4204	AD301988	I0UF015010	IC	MM1501XNRE
IC4301	AD301988	I0UF015010	IC	MM1501XNRE
IC4302	AD301988	I0UF015010	IC	MM1501XNRE
IC4303	AD301988	I0UF015010	IC	MM1501XNRE
IC4304	AD301988	I0UF015010	IC	MM1501XNRE
△IC6401	AE008435	I1LF010150	IC	AL1015
IC6402	AE007842	TJ7M50P030	FET	RSS050P03_TB
△IC6403	AE004648	I03D979950	IC	LA7995M-TLM
IC7201	AE008438	IF8F0385A0	IC	ICSV385AGLFT
IC8103	AD301988	I0UF015010	IC	MM1501XNRE
IC8104	AE004651	I0QF025840	IC	NJM2584AM(Te1)
IC8502	AE003584	I17F017530	IC	PCM1753DBQR
TRANSISTORS				
Q101	BZ510067	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q104	AE008379	T2AA5132E0	FET	KTK5132E-RTK/P
Q105	BZ510072	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
Q106	AE008379	T2AA5132E0	FET	KTK5132E-RTK/P
Q301	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q302	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
TRANSISTORS				
Q303	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q304	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q305	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q306	BZ510107	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q709	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q2101	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q2301	AE008330	TAAA1505SY	TRANSISTOR,SILICON	KTA1505S-Y-RTK/P
Q2302	AE008331	TAAA1544T0	TRANSISTOR,SILICON	KTA1544T-RTK/P
Q2303	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q2304	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q2305	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3001	AE008441	TAAA01664Y	TRANSISTOR,SILICON	KTA1664-Y-RTF/P
Q3002	BZ510071	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3003	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3004	BZ510112	T67J1036K0	TRANSISTOR,SILICON	2SA1036KT146
Q3005	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3006	BZ510112	T67J1036K0	TRANSISTOR,SILICON	2SA1036KT146
△Q3007	AE004663	TJ5M081090	FET	TPC8109(T2LORION_Q)
△Q3008	AE004663	TJ5M081090	FET	TPC8109(T2LORION_Q)
△Q3205	AE008441	TAAA01664Y	TRANSISTOR,SILICON	KTA1664-Y-RTF/P
Q3206	BZ510071	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3209	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3210	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3600	AE008379	T2AA5132E0	FET	KTK5132E-RTK/P
Q3601	BZ510088	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q3605	AE008379	T2AA5132E0	FET	KTK5132E-RTK/P
Q3606	AE008379	T2AA5132E0	FET	KTK5132E-RTK/P
Q3607	BZ510088	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q3608	BZ510107	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q3609	BZ510088	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q3610	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3611	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3612	BZ510107	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q3613	BZ510088	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q3801	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3804	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q3805	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q3808	BZ510071	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3809	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q4201	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4202	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4203	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4204	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4205	AE008379	T2AA5132E0	FET	KTK5132E-RTK/P
Q4206	AE008379	T2AA5132E0	FET	KTK5132E-RTK/P
Q4207	BZ510088	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q4208	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4209	BZ510107	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q4210	BZ510067	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q4231	BZ510072	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
Q4233	BZ510071	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4301	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4302	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4304	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4305	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q6401	BZ510067	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q6402	BZ510071	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q8101	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q8102	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8103	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8105	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q8106	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
COILS & TRANSFORMERS				
L001	AD300613	02167F150J	COIL	15 UH
L002	BZ310041	02167F101J	COIL	100 UH
L003	AE005592	0216S8330K	COIL	F 33 UH
L301	BZ310041	02167F101J	COIL	100 UH
L302	AD300613	02167F150J	COIL	15 UH
L703	BZ310041	02167F101J	COIL	100 UH
L901	BZ310041	02167F101J	COIL	100 UH
L2101	AE005284	0216S8220K	COIL	F 22 UH
L2102	AE005284	0216S8220K	COIL	F 22 UH
L2103	AE005285	0216S8470K	COIL	F 47 UH
L2106	AE008606	0216S42R2J	COIL	2.2 UH
L2107	AE005284	0216S8220K	COIL	F 22 UH

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
COILS & TRANSFORMERS				
L3001	AE004593	021404101L	COIL	1A 100 UH
L3002	AE004593	021404101L	COIL	1A 100 UH
L3003	BZ310191	02167F2R2J	COIL	2.2 UH
L3004	BZ310150	02167E220K	COIL	R7 22 UH
L3802	AE008607	02186I6R8L	COIL	6.8 UH
L3803	BZ310150	02167E220K	COIL	R7 22 UH
▲L3804	AE005594	029X000122	COIL,LINE FILTER	SS28V-R22110-CH
L3805	AE008608	021W0G330M	COIL	33 UH
▲L3807	AE005594	029X000122	COIL,LINE FILTER	SS28V-R22110-CH
L4201	BZ310040	02167F470J	COIL	47 UH
L4202	BZ310040	02167F470J	COIL	47 UH
L4203	BZ310040	02167F470J	COIL	47 UH
L4206	BZ310040	02167F470J	COIL	47 UH
L4207	BZ310040	02167F470J	COIL	47 UH
L4301	AE005285	0216S8470K	COIL	F 47 UH
L4306	AE005284	0216S8220K	COIL	F 22 UH
L4307	AE005284	0216S8220K	COIL	F 22 UH
L6401	BZ310150	02167E220K	COIL	R7 22 UH
L6402	AE007757	021404470M	COIL	70A 47 UH
L7201	AE005285	0216S8470K	COIL	F 47 UH
L7202	AE005285	0216S8470K	COIL	F 47 UH
L7203	AE005285	0216S8470K	COIL	F 47 UH
L8102	AE005285	0216S8470K	COIL	F 47 UH
L8104	AE005285	0216S8470K	COIL	F 47 UH
L8105	AE005284	0216S8220K	COIL	F 22 UH
L8502	AE000828	02167F1R0K	COIL	1 UH
L8503	AE000828	02167F1R0K	COIL	1 UH
▲T3801	AE008611	0481400814	TRANSFORMER,SWITCHING	81400814
JACKS				
▲J301	AE003431	060J131016	HEADPHONE JACK	MSJ-2000_AG
J701	AE008402	060R401122	RCA JACK	RCA-117-01
J4301	AE008612	060J431025	RCA JACK	MSD-242VA1-03_NI_FE_LF
J4302	AE008613	060K431027	RCA JACK	AV6-57B03-01H
J4401	AE008558	063Y700014	JACK	DIN-409B
J4402	AE008398	060K421056	RCA JACK	AV-5A-66H
J4403	AE008400	060K421058	RCA JACK	AV-5A-68H
J4404	AE008399	060K421057	RCA JACK	AV-5A-67H
J4405	AE008398	060K421056	RCA JACK	AV-5A-66H
J4406	AE008400	060K421058	RCA JACK	AV-5A-68H
J4407	AE008399	060K421057	RCA JACK	AV-5A-67H
SWITCHES				
SW2201	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2202	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2203	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2204	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2206	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2208	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2209	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2251	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2252	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2253	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2254	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2255	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
P.C.BOARD ASSEMBLIES				
PCB130	AE008625	A5X203D130	DVD MT PCB ASS'Y	DMF066A
PCB240	AE008626	A5X203D240	POWER PCB ASS'Y	CEF198A
PCB270	AE008627	A5X203D270	OPERATION PCB ASS'Y	CEF201A
PCB280	AE008628	A5X203D280	OPERATION 2 PCB ASS'Y	DEF092A
PCBD20	AE008629	A5X203DD20	AV PCB ASS'Y	CMF087A
PCBDA0	AE008630	A5X203DDA0	REMOCON PCB ASS'Y	CEF202A
PCBDS0	AE008631	A5X203DDS0	SCALER PCB ASS'Y	CEF170A
MISCELLANEOUS				
B701	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B702	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B801	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B802	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B803	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B804	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B805	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B2101	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B2301	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B2302	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B2304	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B2305	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B3001	AE008394	024BC5121J	CORE,BEADS	BLM18PG121SN1D

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
B3201	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B3202	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B3203	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B3204	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B3206	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B3207	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B3208	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B3601	AE008610	024HC51513	CORE,BEADS	FCM1608KF-151T06
B3602	AE008610	024HC51513	CORE,BEADS	FCM1608KF-151T06
B3603	AE008610	024HC51513	CORE,BEADS	FCM1608KF-151T06
B3604	AE008610	024HC51513	CORE,BEADS	FCM1608KF-151T06
B3605	AE008610	024HC51513	CORE,BEADS	FCM1608KF-151T06
B3608	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B3609	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B3610	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B3611	AE008609	024HC51023	CORE,BEADS	FCM1608KF-102T02
B3613	AE008609	024HC51023	CORE,BEADS	FCM1608KF-102T02
B3614	AE008610	024HC51513	CORE,BEADS	FCM1608KF-151T06
B3615	AE008610	024HC51513	CORE,BEADS	FCM1608KF-151T06
B3802	BZ310129	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B3804	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B4001	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4002	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4003	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4004	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4005	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4006	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4007	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4008	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4009	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4010	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4011	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4012	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4013	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4014	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4015	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4016	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4018	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4303	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B4304	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B4305	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B4307	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B4308	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
B6402	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B6403	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B6404	AE007761	024AC5181J	CORE,BEADS	BLM18PG181SN1D
B7201	AE008395	024HC56005	CORE,BEADS	FCM1608CF-600T06
B8503	AE005476	0246C51024	CORE,BEADS	MMZ1608R102CT
BT001	AE008217	141U004016	BATTERY,MANGAN	MNAAA(R03)
BT002	AE008217	141U004016	BATTERY,MANGAN	MNAAA(R03)
△CD501	AE008615	06CH241602	CORD,CONNECTOR	CH241602
CD702	AE004616	06CU261503	CORD,CONNECTOR	CU261503
CD703	AE008622	06CU291703	CORD,CONNECTOR	CU291703
CP101	AD300752	069S250629	CONNECTOR PCB SIDE	A2001WV2-5P
CP102	BZ614213	069S2A0629	CONNECTOR PCB SIDE	A2001WV2-10P
CP103	BZ614485	069S270629	CONNECTOR PCB SIDE	A2001WV2-7P
CP301	AD301045	069S140419	CONNECTOR PCB SIDE	A2502WV2-4P
CP802	AE006528	069EVU3030	CONNECTOR PCB SIDE	00_6232_030_006_800+
CP803	AE007769	069EVT3030	CONNECTOR PCB SIDE	00_6232_029_006_800+
CD1004	AE008618	06CU147404	CORD,CONNECTOR	CU147404
CD2200	AE008620	06CU233002	CORD,CONNECTOR	CU233002
CD2201	AE008621	06CU251003	CORD,CONNECTOR	CU251003
CD2202	AE005289	06CU220702	CORD,CONNECTOR	CU220702
△CD3801	AE005639	1209414909	CORD,AC BUSH	9414909
CD3807	AE008617	06CH2E4401	CORD,CONNECTOR	CH2E4401
CD3810	AE008619	06CU1E2001	CORD,CONNECTOR	CU1E2001
CD4203	AE007786	122H0T0801	CORD,JUMPER	2H0T0801
CD4204	AE007787	122H0U0802	CORD,JUMPER	2H0U0802
CD6402	AE008616	06CH281501	CORD,CONNECTOR	CH281501
CD6403	AE008623	06CU2B3401	CORD,CONNECTOR	CU2B3401
CD7204	AE007779	06CHRU3401	CORD,CONNECTOR	CHRU3401
CP2200	BZ614350	069S230629	CONNECTOR PCB SIDE	A2001WV2-3P
CP2201	AD300752	069S250629	CONNECTOR PCB SIDE	A2001WV2-5P
CP2251	AE005287	069S220639	CONNECTOR PCB SIDE	A2001WR2-2P
CP2301	AE008156	069KYOT159	CONNECTOR PCB SIDE	LD07T2-24ND-03

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
CP2302	AE005934	069EV53030	CONNECTOR PCB SIDE	00_6232_005_006_800+
CP2303	AE005935	069EV63030	CONNECTOR PCB SIDE	00_6232_006_006_800+
CP3201	BZ614214	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP3601	AE004763	069HYJ3010	CONNECTOR PCB SIDE	DC1R019JDA
CP3604	BZ614458	069S290629	CONNECTOR PCB SIDE	A2001WV2-9P
CP3802	BZ614016	069W01001A	CONNECTOR PCB SIDE	003P-2100
△CP3805	BZ614016	069W01001A	CONNECTOR PCB SIDE	003P-2100
CP3807	BZ614459	069S2E0629	CONNECTOR PCB SIDE	A2001WV2-14P
CP3808	AD301998	069S240629	CONNECTOR PCB SIDE	A2001WV2-4P
CP3810	AE008614	069S1E0019	CONNECTOR PCB SIDE	A2501WV2-14P
CP3811	AD301796	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CP4202	AD300752	069S250629	CONNECTOR PCB SIDE	A2001WV2-5P
CP4203	AE007769	069EVT3030	CONNECTOR PCB SIDE	00_6232_029_006_800+
CP4204	AE006528	069EVU3030	CONNECTOR PCB SIDE	00_6232_030_006_800+
CP4302	AE007768	0694S15017	CONNECTOR PCB SIDE	1-1734344-1
CP4303	BZ614242	069S260629	CONNECTOR PCB SIDE	A2001WV2-6P
CP4401	BZ614458	069S290629	CONNECTOR PCB SIDE	A2001WV2-9P
CP6401	AE008614	069S1E0019	CONNECTOR PCB SIDE	A2501WV2-14P
CP6402	AD301796	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
△CP6403	BZ614214	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CPU7203	AE005151	069HVWT04A	CONNECTOR PCB SIDE	FI-X30S-HF-NPB
CUS911	BZ710148	800WFAA007	CUSHION B	
EL2401	BZ614043	124116281A	EYE LET	XRY16X28BD
EL2402	BZ614044	124120301A	EYE LET	XRY20X30BD
△F3001	AE004626	083LA05007	FUSE	1206FA5A-T
△F3801	BZ614504	081PC05005	FUSE	51MS050L
FH3801	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH3803	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
NR801	AE006386	110P4000M4	R,NETWORK	4D03WGJ0000T5E
NR802	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR803	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR804	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR805	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR806	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR807	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR808	AE008077	110P4103M4	R,NETWORK	4D03WGJ0103T5E
NR809	AE008077	110P4103M4	R,NETWORK	4D03WGJ0103T5E
NR2101	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR2102	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR2103	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR2104	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR2105	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR2106	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR3601	AE008078	110P4330M4	R,NETWORK	4D03WGJ0330T5E
NR3602	AE006386	110P4000M4	R,NETWORK	4D03WGJ0000T5E
NR3604	AE006386	110P4000M4	R,NETWORK	4D03WGJ0000T5E
NR3605	AE006386	110P4000M4	R,NETWORK	4D03WGJ0000T5E
NR3606	AE006386	110P4000M4	R,NETWORK	4D03WGJ0000T5E
NR3607	AE006386	110P4000M4	R,NETWORK	4D03WGJ0000T5E
NR3608	AE006386	110P4000M4	R,NETWORK	4D03WGJ0000T5E
NR7201	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR7202	AE005937	110P4470M4	R,NETWORK	4D03WGJ0470T5E
OS2201	AE008414	077A033001	REMOTE RECEIVER	ROM-V338TAO
△SP301	AE006459	070N546012	SPEAKER	YDP4010-2
△SP302	AE006459	070N546012	SPEAKER	YDP4010-2
SH8501	AE008418	126R000038	TERMINAL PIN	TP00370-21
TM101	AE007781	076D0LT010	TRANSMITTER	ORV205N1505026-J
△TU001	AE008392	0162300048	RF UNIT	115-V-LA35ARH
△TH3801	AE007804	DSR0LDNB00	THERMISTOR	NTPAA2R2LDNB0
TR3801	BZ310181	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14
TR3803	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
TR3804	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
TR3805	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
TR3806	BZ310181	02A6B2E0A1	CORE,FERRITE	W5T29X7.5X19
△V2301	AE007783	09ES120001	LCD	LC200WX1-SL01
X101	AE004780	100WT01611	CRYSTAL	HC-49/U-S
X801	AE007784	100YT05401	CRYSTAL	FCX-03
X3601	AE004779	100CT01101	CRYSTAL	HC-49/U-S
X3602	AE008624	100DT02801	CRYSTAL	SMD-49
X4001	AE008161	100GT02720	CRYSTAL	B27000C005

ELECTRICAL REPLACEMENT PARTS LIST

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