

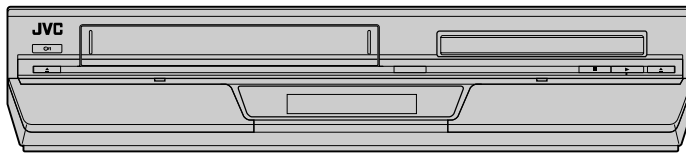
JVC

SERVICE MANUAL

DVD PLAYER & VIDEO CASSETTE RECORDER

YD055

HR-XV38SAG



HR-XV38SAG [D5PV1]

G-CODE® / SHOWVIEW™

Hi-Fi

VHS
PAL NTSC

SQPB

3D
3D-PHONIC

DVD
VIDEO™

dts
2.0+DIGITAL OUT

DOLBY
DIGITAL

COMPACT
disc
DIGITAL VIDEO

COMPACT
disc
SUPER VIDEO

COMPACT
disc
DIGITAL AUDIO

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).
Regarding service information other than these sections, refer to the service manual No. YD051 (HR-XV48EX).
Also, be sure to note important safety precautions provided in the service manual.

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SPECIFICATION

GENERAL		
Power requirement	AC 110 V - 240 V, 50 Hz/60 Hz	
Power consumption		
Power on	23 W	
Power off	4.5 W	
Temperature		
Operating	5°C to 40°C	
Storage	-20°C to 60°C	
Operating position	Horizontal only	
Dimensions (W x H x D)	435 mm x 93 mm x 272 mm	
Weight	4.2 Kg	
Format	VHS PAL/NTSC standard	
Maximum recording time		
(SP)	240 min. with E-240 video cassette(PAL/MESECAM) 160 min. with T-160 video cassette(NTSC)	
(LP)	480 min. with E-240 video cassette(PAL/MESECAM)	
(EP)	480 min. with T-160 video cassette(NTSC)	
VIDEO/AUDIO (VHS deck)		
Signal system	PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields NTSC colour and EIA monochrome signal, 525 lines/60 fields.	
Recording system	DA4 (Double Azimuth) head helical scan system	
Signal-to-noise ratio	45 dB	
Horizontal resolution	250 lines (PAL/MESECAM), 220 lines (NTSC)	
Frequency range	70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)	
Input/Output	RCA connectors: IN x 2, OUT x 1	
VIDEO/AUDIO (DVD deck)		
Signal system	NTSC 3.58	
Applicable disc	DVD (12 cm, 8 cm), CD (12 cm, 8 cm)	
Audio characteristics	DVD:4 Hz - 22 KHz	
Frequency response	CD:4 Hz - 20 KHz	
S/N Ratio	90 dB	
Wow and flutter	Below Measurable Level	
Dynamic range	90 dB	
Output		
Component-Y	(RCA) 1.0 Vp-p/75 Ω	
Component- PB /PR	(RCA) 0.7 Vp-p/75 Ω	
Audio	(RCA) 2 Vrms, 1 KΩ	
Digital Audio	-21 dBm to -15 dBm(peak)	
TUNER/TIMER(VHS deck)		
TV channel storage capacity	99 positions (+AUX position)	
Tuning system	Frequency synthesized tuner	
Channel coverage	VHF(low) : 42 MHz-175 MHz VHF(high) : 175 MHz-470 MHz UHF : 470 MHz-870 MHz	
Aerial output	UHF channels (Adjustable E28-E60)	
Program capacity	1-year programmable timer / 8 programs	
Memory backup time	Approx. 10 min.	
ACCESSORIES		
Provided accessories	RF cable, Infrared remote control unit, "R6" battery x 2	

Specifications shown are for SP mode unless otherwise specified.

E. & O.E. Design and specifications subject to change without notice.

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

"DTS" and "DTS2.0+ Digital Out" are trademarks of Digital Theater Systems, Inc.

G-CODE is a trademark of Gemstar Development Corporation and is registered in the following countries: Australia, China, Hong Kong, Japan, South Korea, New ealand, and Taiwan. SHOWVIEW is a trademark of Gemstar Development Corporation and is registered in the following countries:Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Iceland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia, Slovakia, South Africa, Spain, Sweden and Switzerland. The G-CODE/SHOWVIEW system is manufactured under license from Gemstar Development Corporation.

G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature. However, for simplicity, only the term G-CODE will be used in the instructions. If you use SHOWVIEW system, follow the same steps listed for the G-CODE system.

SECTION 1 PRECAUTION

Please refer to "HR-XV48EX No.YD051" about this section.

SECTION 2 SPECIFIC SERVICE INSTRUCTIONS

Please refer to "HR-XV48EX No.YD051" about this section except a written item.

2.1 DIFFERENT TABLE OF FEATURE

The following table indicates main different points between models HR-XV48EX and HR-XV38SAG.

MODEL NAME	HR-XV48EX	HR-XV38SAG
POWER VOLTAGE	220-240V, 50/60Hz	110-240V, 50/60Hz
POWER SAVE	DISPLAY OFF, MENU	NOT USED
HEAD CLEANER	NOT USED	USED
CONNECTOR AND BUTTON COVER	NOT USED	USED
SHUTTLE SEARCH(LATCH)-NTSC	NOT USED	SPx7, EPx21
VIDEO SYSTEM(VHS)	PAL/MESECAM(MANUAL)/NTSC PB on PAL TV with HiFi	PAL/MESECAM/NTSC3.58/4.43/NTSC PB on PAL TV with HiFi
SQPB	PAL(SP/LP)	PAL(SP)/NTSC(SP)
RECORDING & PLAYBACK SPEED	SP,LP	PAL:SP,LP/NTSC:SP,EP
REAR L-1 INPUT	SCART IN/OUT(RGB)	PIN JACK
REAR L-2 INPUT	SCART(DECODER)	NOT USED
AV OUTPUT	AUDIO(L/R)	VIDEO,AUDIO(L/R)
COMPONENT VIDEO OUTPUT	NOT USED	DVD:Y/Pb/Pr
DVD AUDIO OUT	NOT USED	AUDIO (L/R)
DVD VIDEO OUT	NOT USED	S-OUTPUT
BROADCASTING STANDARD	B/G,D/K	B/G,D/K,I
STEREO DECODER	NICAM/A2	A2(B,G),NICAM(I,B,G,D,K)
RF OUT CH/RF OUT SYSTEM[INITIAL]	22-69CH,OFF[AUTO]/G,K	28-60[36]CH,[G],H,K,I
AUTO CLOCK / JUST CLOCK	USED	NOT USED
VCR PLUS+	SHOWVIEW	G-CODE/SHOWVIEW
AUTO GUIDE CH SET	USED	NOT USED
REC LINK / INPUT	YES/L-2	YES/L-1
VPS/PDC	USED	NOT USED
OSD LANGUAGE [VHS]	13 LANGUAGES	ENGLISH/RUSSIAN/ARABIC
OSD LANGUAGE [DVD]	ENGLISH/FRENCH/GERMANY	ENGLISH/CHINESE/SPANISH
T-V LINK	USED	NOT USED
DVD PROGRESSIVE	NOT USED	USED
DVD X1.5 SPEED PLAYBACK	USED	NOT USED
DivX	USED	NOT USED
REGIONAL CODE	REGIONAL CODE : 2	REGIONAL CODE : 3

SECTION 3 DISASSEMBLY

Please refer to "HR-XV48EX No.YD051" about this section.

SECTION 4 ADJUSTMENT

Please refer to "HR-XV48EX No.YD051" about this section except a written item.

4.1 Electrical adjustment [VHS SECTION]

Adjustment procedure are changed.

4.1.1 Servo circuit

4.1.1.1 Slow tracking preset

Signal	(A1)	Ext. input
	(A2)	Color (colour) bar signal [PAL]
	(A3)	Color (colour) bar signal [NTSC]
Mode	(B1)	VHS SP
	(B2)	VHS LP (or EP)
Measuring point	(D)	TV-Monitor
Adjustment part	(F)	Jig RCU: Code "43-71" or "43-72"
Specified value	(G)	minimum noise
Adjustment tool	(H)	Jig RCU [PTU94023B]

- (1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
- (2) Set the VCR to the manual tracking mode.
- (3) Set the VCR to the FWD slow (+1/6x) mode.
- (4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
- (5) Set the VCR to the stop mode.
- (6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
- (7) Repeat steps (1) to (6) in the mode (B2).
- (8) Record the signal (A3) in the mode (B1), and play back the recorded signal.
- (9) Repeat steps (2) to (6)
- (10) Repeat steps (8) and (9) in the mode (B2).

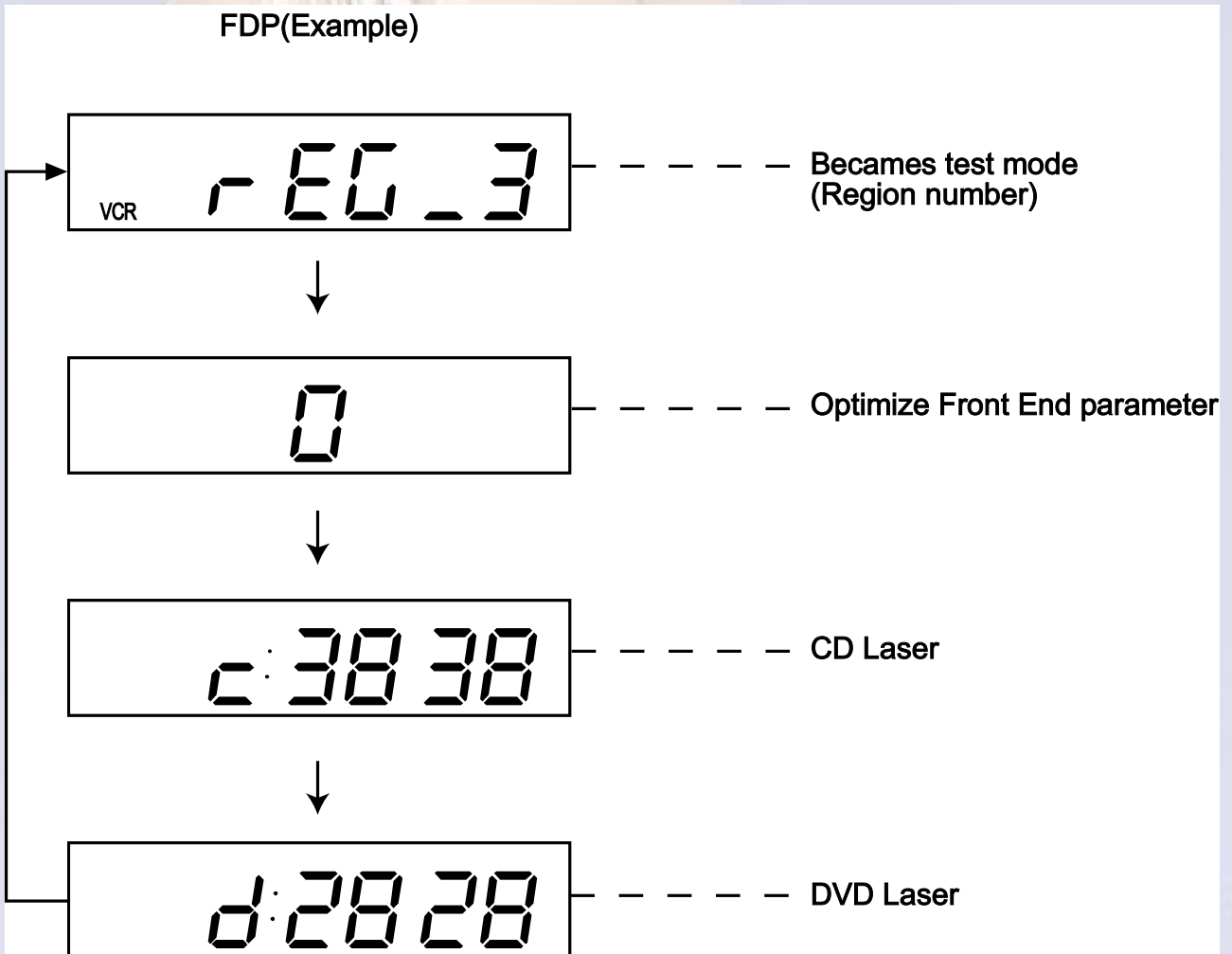
Note:

For FWD slow (+1/6x) playback, transmit the code "43-08" from the Jig RCU to enter the slow playback mode.

4.2 Electrical adjustment (DVD SECTION)

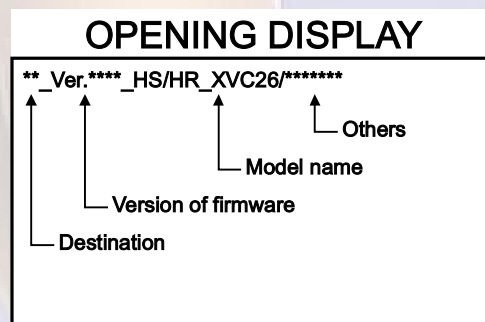
4.2.1 Test mode setting method

- (1) Press POWER button to turn off the unit.
- (2) Press the following remote keys continuously within 2seconds " SET UP " → " 2 " → " 8 " → " ENTER ".
- (3) The unit becomes JIG RCU mode.
- (4) Press POWER button then press VCR/DVD repeatedly so that the DVD indicator lights up.
- (5) Press the POWER button again to turn off the unit.
- (6) Transmit the code " 43-FA " from the Jig RCU.
- (7) The power supply of the unit turns on automatically then the FDP shows the region number.
- (8) Each pressing of DISPLAY button of the remote controller in test mode as follows.
- (9) To release test mode, press POWER key of the front panel.



4.2.2 Method of displayed version of firmware

- (1) Set the unit to the test mode.
- (2) The version number is displayed in the monitor screen.



4.2.3 Initialization method

Please initialize according to the following procedures in the following case:

- Just after you upgrade the firmware.
- After you confirm the symptoms that a customer points out. First Initialize, and then confirm whether the symptoms are improved or not.
- After servicing, before returning the main body to a customer. (Initialized unit should be returned to a customer.)
 - (1) Set the unit to the test mode.
 - (2) Press PAUSE key of the remote controller or transmit the code "43-6F" from the Jig RCU.
 - (3) When initialization is completed, the PLAY (▶). mark is indicated in the FDP.

4.2.4 All-initialization method

Please perform all-initialization according to the following procedures in the following case:

- Just after you exchange the pick-up.
- Just after you exchange the spindle motor.
- Just after you exchange the traverse mechanism base.

NOTE:

Please perform all-initialization when you exchange the parts above and also when you remove the parts above.

- (1) Set the unit to the test mode.
- (2) Press the REVERSE SKIP/INDEX (⏮) key of the remote controller for more than 2 seconds.
- (3) When initialization is completed, the PLAY (▶). mark is indicated in the FDP.

NOTE:

After all-initialization, be sure to perform optimization adjustment of Front End parameter.

4.2.5 Optimization adjustment of Front End parameter

Adjustment to optimize Front End parameter must be performed in each mechanism assembly of this model for high-speed starting. Please perform optimization according to the following procedures just after all-initialization is completed and when FDP shows anything except "0" (For example when FDP shows "1", "2", and "3") at test mode.

- (1) Set the unit to the test mode.
- (2) The FDP shows the region number first.
- (3) Press the DISPLAY key of the remote controller and check that FDP shows the number.
- (4) Press the DISPLAY key again to return the region number.

NOTE:

Status of this adjustment can be judged by the number displayed at test mode as follows:

DVD adjustment	CD adjustment	FDP at test mode
Adjusted	Adjusted	0
Not adjusted	Adjusted	1
Adjusted	Not adjusted	2
Not adjusted	Not adjusted	3

NOTE:

As for a disc used for adjustment,

- Disc should be mounted. ("Mounting" means to display "READ" after the disc is inserted and then display the disc information.) Disc need not be played.
- If you do not have test disc either VT-501 (DVD) or CTS-1000 (CD-DA), use a commercial disc (for DVD, dual-layer software) after seeing and checking that the disc is neither curved nor foreseen that it may shake at the time of playback. If you use a disc with bad features, starting time may be slow or disc may not be read.

4.2.6 Upgrading of firmware

- Firmware update disc supports CD-R media.
- When firmware update is necessary, information is available from the homepage of DIGITAL VIDEO STORAGE CATEGORY, CS group.

4.2.6.1 Creating an update disc

Please check the details of the update disc creation method by JS-NET.

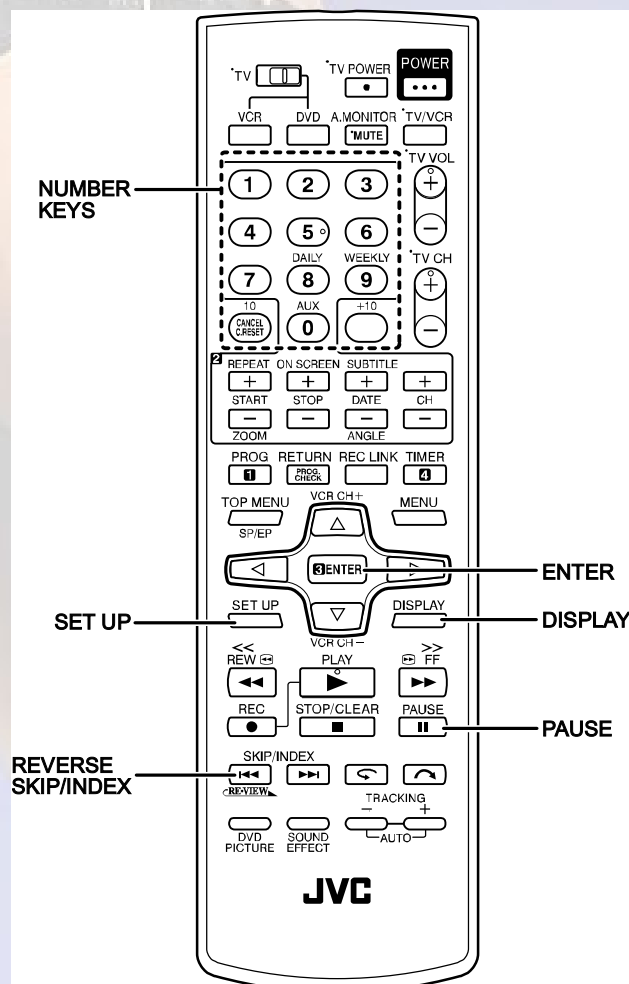
- (1) Down load the update file from JS-NET.
- (2) Write the update file into CD-R. Pay attention in the following points when writing the update disc.
 - Make sure to write in "Disc at Once".
 - Set the file compatibility to "ISO9660 format".

4.2.6.2 Update procedure

- (1) Turn the power ON. Load the update disc on the tray and close the tray.
- (2) Update of the firmware starts automatically then upgrading status is displayed in the monitor screen.
- (3) The tray opens automatically. Remove the upgrade disc.
- (4) Close the tray then press the POWER button to turn off the unit.
- (5) Confirm the version of the firmware.in the test mode.

MONITOR(Example)

```
VERSION UP DISC
PROGRAM&DESTINATION MODE
CURRENT VERSION    0434
NEW VERSION       4351
READING....
SECTOR           **
```



SECTION 5 TROUBLESHOOTING

Please refer to "HR-XV48EX No.YD051" about this section.





JVC

Victor Company of Japan, Limited

AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No. YD055)



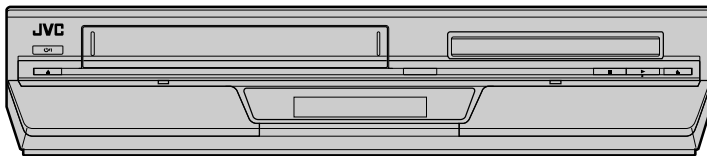
Printed in Japan
VPT

JVC



DVD PLAYER &
VIDEO CASSETTE RECORDER

HR-XV38SAG HR-XV38SAS



G-CODE® / SHOWVIEW™

Hi-Fi **VHS**
PAL NTSC

SQP/B

3D
3D-PHONIC

DVD
VIDEO™

dts
2.0+DIGITAL OUT

DOLBY
DIGITAL

COMPACT
disc
DIGITAL VIDEO

COMPACT
disc
SUPER VIDEO

COMPACT
disc
DIGITAL AUDIO



INSTRUCTIONS

LPT1016-001A

EN

Safety Precautions

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

WARNING: DANGEROUS VOLTAGE INSIDE

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION

- When you are not using the unit for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

ATTENTION (VHS deck only)

1. This recorder can also receive SECAM colour television signals for recording and playback.
2. Recordings made of SECAM television signals produce monochrome pictures if played back on another video recorder of SECAM standard, or do not produce normal colour pictures if played back on another video recorder of PAL standard.
3. SECAM prerecorded cassettes or recordings made with a SECAM video recorder produce monochrome pictures when played back with this recorder.

IMPORTANT

- Please read the various precautions on pages 2 and 3 before installing or operating the unit.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, DVDs, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

CAUTION

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

WHEN THIS DVD/VCR IS PLUGGED INTO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS DVD/VCR. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CLASS 1 LASER PRODUCT

REPRODUCTION OF LABELS

WARNING LABEL INSIDE OF THE UNIT

CAUTION: Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM.	ADVARSEL: Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling.	WARNING : Synlig och osynlig laserstråling när den öppnas och spårren är urkopplad. Betrakta ej strålen.	VARO: Avattaessa ja suojalukitus ohitettuna tai viallisena olet alittina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteeseen kohdistamista suoraan itseesi. (f)
(e)	(d)	(s)	(f)

Use only discs marked with the following.



DVD
(8 cm /12 cm disc)



Video CDs
(8 cm /12 cm disc)



Audio CDs
(8 cm /12 cm disc)



Super Video CDs
(8 cm /12 cm disc)



SQP B HQ G-CODE® SHOWVIEW™

- Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
- "DTS" and "DTS 2.0+ Digital Out" are trademarks of Digital Theater Systems, Inc.
- Cassettes marked "VHS" (or "S-VHS") can be used with this video cassette recorder. However, S-VHS recording is not possible with this model.
- This model is equipped with SQPB (S-VHS QUASI PLAYBACK) that makes it possible to play back S-VHS recordings in the SP mode with regular VHS resolution.
- HQ VHS is compatible with existing VHS equipment.
- G-CODE is a trademark of Gemstar Development Corporation and is registered in the following countries: Australia, China, Hong Kong, Japan, South Korea, New Zealand, and Taiwan. SHOWVIEW is a trademark of Gemstar Development Corporation and is registered in the following countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Iceland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia, Slovakia, South Africa, Spain, Sweden and Switzerland. The G-CODE/SHOWVIEW system is manufactured under license from Gemstar Development Corporation. G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature. However, for simplicity, only the term G-CODE will be used in the instructions. If you use SHOWVIEW system, follow the same steps listed for the G-CODE system.
- This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

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POWER SYSTEM:

This set operates on voltage of AC110 – 240 V~ (Rating), AC90 – 260 V ~ (Operating), 50Hz/60Hz with automatic switching.

The $\text{\textcircled{O}}$ /I button does not completely shut off mains power from the unit, but switches operating current on and off. “ $\text{\textcircled{O}}$ ” shows electrical power standby and “I” shows ON.

The socket outlet shall be installed near the equipment and easily accessible, or the mains plug or an appliance coupler shall remain readily operable.

Video tapes recorded with this unit in the LP (Long Play) or EP (Extended Play) mode cannot be played back on a single-speed video recorder. (VHS deck only)

When the equipment is installed in a cabinet or a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm or more on both sides, on top and at the rear.)

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

Failure to heed the following precautions may result in damage to the unit, remote control or video cassette.

- DO NOT place the unit —**
 - in an environment prone to extreme temperatures or humidity.
 - in direct sunlight.
 - in a dusty environment.
 - in an environment where strong magnetic fields are generated.
 - on a surface that is unstable or subject to vibration.
- DO NOT block the unit's ventilation openings or holes.** (If the ventilation openings or holes are blocked by a newspaper or cloth, etc., the heat may not be able to get out.)
- DO NOT place heavy objects on the unit or remote control.**
- DO NOT place anything which might spill on top of the unit or remote control.** (If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)
- DO NOT expose the apparatus to dripping or splashing.**
- DO NOT use this equipment in a bathroom or places with water.** Also **DO NOT** place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups, etc.) on top of this unit.
- DO NOT place any naked flame sources, such as lighted candles, on the apparatus.**
- AVOID violent shocks to the unit during transport.**

MOISTURE CONDENSATION

Moisture in the air will condense on the unit when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the unit turned on for a few hours to let the moisture dry.

ATTENTION

To mobile phone user:

Using a mobile phone in the vicinity of the unit may cause picture vibration on the TV screen or change the screen to a blue back display.

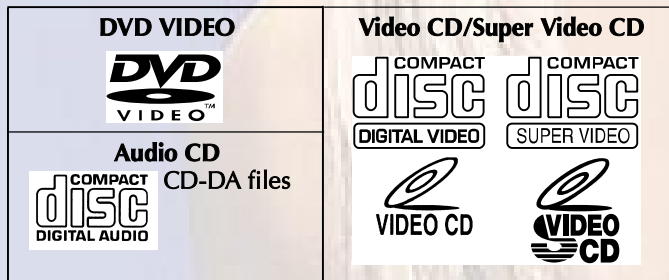
On placing the unit:

Some TVs or other appliances generate strong magnetic fields. Do not place such appliances on top of the unit as it may cause picture disturbance.

About Discs

Playable Discs

You can use discs with the following logos for playback only.



- The following discs also can be played back.
 - DVD-R/RW discs recorded in DVD VIDEO format and finalized.
 - CD-R/RW discs recorded in Video CD, SVCD (Super Video CD), or Audio CD format and finalized.
 - CD-R/RW discs written in MP3 or JPEG in accordance with the "ISO 9660" format. (See page 42 for details.)
- This unit can also play back audio signals recorded in MIX-MODE CD, CD-G, CD-EXTRA, and CD TEXT.
- The image may be sometimes poor or noisy due to defects in the disc itself.
- With some discs, operations may not be possible.

Marks of discs in this instruction manual

	Allows operation with a DVD VIDEO disc.		Allows operation with a Video CD disc.
	Allows operation with a SVCD disc.		Allows operation with an Audio CD disc.

Unplayable Discs

The following types of discs cannot be played using this unit.

- CD-ROM discs (including PHOTO-CD)
- DVD AUDIO discs
- Super Audio CDs (SACD)
- DVD-RW discs recorded in VR format
- DVD-RAM discs
- DVD-ROM discs

In addition, this unit does not play:

- Unfinalized discs
- Discs of irregular shape or discs with tape, seals, or paste on either the label side or playback side. Playing back these discs may damage the unit.

The Non-DVD side of a "DualDisc" does not comply with the "Compact Disc Digital Audio" standard. Therefore, the use of Non-DVD side of a DualDisc on this product may not be recommended.

Region Number

The world is divided into 6 regions for DVD VIDEO discs. DVD VIDEO discs are assigned a region number to indicate which region they may be played back in. A disc cannot be played back on your unit unless the region number of the disc matches the one on the rear of your unit. The region number for your unit is as follows:

HR-XV38SAG: "3"

Examples of DVD VIDEO labels which can be played back with HR-XV38SAG.



HR-XV38SAS: "2"

Examples of DVD VIDEO labels which can be played back with HR-XV38SAS.



DVD VIDEO Marks

Sometimes marks are printed on a DVD disc and/or on its packaging to indicate information regarding the contents and functions of a disc. Check marks indicating the contents and functions of a disc. Note, however, that in some cases a disc may not include a mark even for a function it supports.

Marks related to video

	Number of subtitles		Number of angles
	Recorded under the standard 4:3 aspect ratio		Screen includes black bands at top and bottom of image which has a standard 4:3 aspect ratio (letter box)
	Video playback is in Wide video mode (16:9) on wide televisions, but in letter box on televisions with standard 4:3 aspect ratio.		
	Video playback is in Wide video mode (16:9) on wide televisions, but pan and scan is used on televisions with standard 4:3 aspect ratio (either the left or right side of the image is cut-out).		

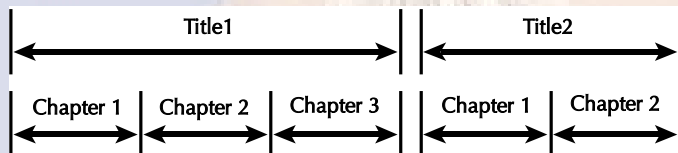
Marks related to audio

	Number of audio tracks
	Dolby Digital mark Dolby Laboratories has developed a digital surround system for the home. This mark indicates that you may enjoy 5.1-channel audio (front left and right, center, rear left and right, and a channel for LFE (Low-Frequency Effects)).
	DTS (Digital Theater System) You can enjoy DTS audio if you connect an amplifier with a built-in DTS decoder to the DIGITAL AUDIO OUT connector of the unit.

File Structure of Discs

DVD VIDEO

Typically, DVD VIDEO discs are made up of larger units called "titles." Each title has a number (title number) that can be used to select desired titles. Titles are further divided into units called "chapters." Each chapter has a number (chapter number) that can also be used to select desired chapters. Note that some discs are not divided into titles and chapters.



Audio CD/Video CD

Typically, Audio CD discs are divided into separate tracks each containing one song. Each track is assigned a number. For example, the third track is Track 3. The same is true for Video CD discs.



NOTE:

Video CD discs that support Playback Control (PBC)

The still image or motion image which follows a menu screen is called a "scene." Each scene has a scene number.

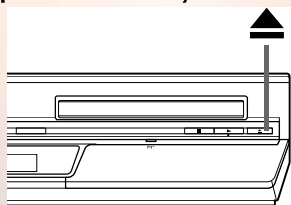
For more details, refer to "Locating a Desired Scene Using the Menu of the Video CD with Playback Control (PBC) Function" (pg. 34).

Placing a Disc

1 Open the disc tray.

Press  on the DVD deck to open the disc tray.

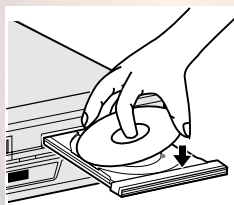
- The unit's power comes on automatically.
- Do not block the disc tray with your hand while it is opening or closing as this may result in hardware failure.
- Do not place unplayable discs or any object other than a disc in the disc tray.
- Do not press down strongly on the disc tray or place any heavy objects on it.




2 Place the disc.

Place the disc in the disc tray with the label side facing up.

- Since disc size changes depending on the disc to be played back, be sure to correctly align the disc with the grooves for its size. If the disc is not in its groove, it may be scratched or otherwise damaged.
- To insert an 8 cm disc, place it according to the inner groove.



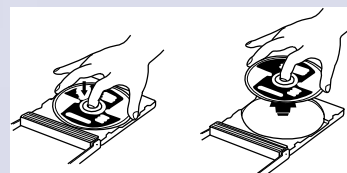
3 Press on the DVD deck to close the disc tray.

- Pressing  also closes the disc tray.
- Playback begins automatically if an auto-playback DVD disc is loaded. Although the VHS deck is selected, the DVD deck is selected automatically (except when the VHS deck is in the timer mode or the Automatic Satellite Programme Recording mode.)

Care and Handling of Discs

How to handle discs

When handling a disc, do not touch the surface of the disc. Since discs are made of plastic, they are easily damaged. If a disc gets dirty, dusty, scratched or warped, the images and sound will not be picked up correctly, and such a disc may cause the unit to malfunction.



Label side

Do not damage the label side, stick paper to or use any adhesive on its surface.

Storage

Make sure that discs are kept in their cases. If discs are piled on top of one another without their protective cases, they can be damaged. Do not put discs in a location where they may be exposed to direct sunlight, or in a place where the humidity or temperature is high. Avoid leaving discs in your car!

Maintenance of discs

If there are fingerprints or other dirt adhering to a disc, wipe with a soft dry cloth, moving from the center outwards.

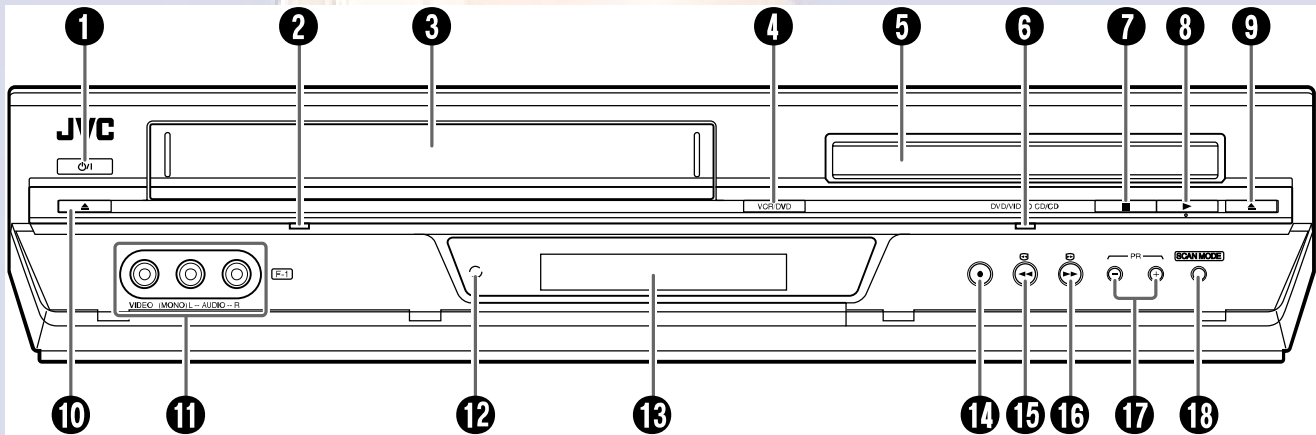
If a disc is difficult to clean, wipe with a cloth moistened with water. Never use record cleaners, petrol, alcohol or any anti-static agents.



CAUTION

Sometimes during playback, noise or images may be garbled. This is sometimes due to the disc. (It may not be up to industry standards.) These symptoms are caused by the discs, not by the malfunction of the unit.

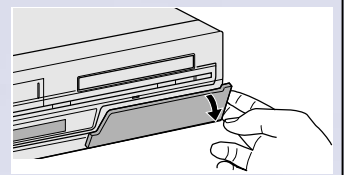
FRONT VIEW



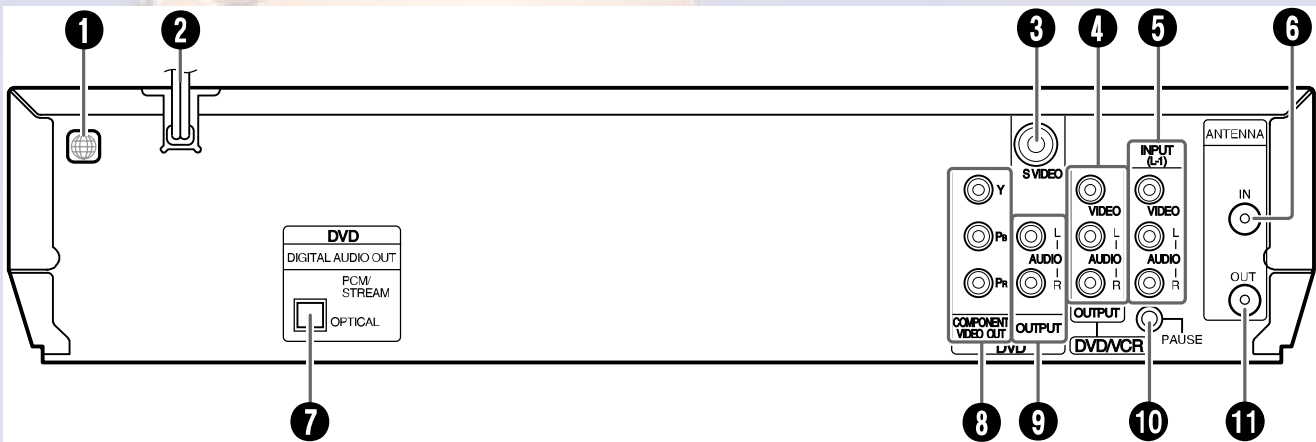
- ① STANDBY/ON Button (⏻/⏻) pg. 11, 14, 21, 49
- ② VCR Indicator pg. 20, 23
- ③ Cassette Loading Slot
- ④ VCR/DVD Button pg. 20, 23, 33, 43
- ⑤ Disc Tray pg. 5
- ⑥ DVD Indicator pg. 33
- ⑦ Stop Button (■) pg. 20, 23, 33, 43
- ⑧ Play Button (▶) pg. 20, 23, 33, 43, 49
- ⑨ DVD Open/Close Button (▲) pg. 5, 33, 43
- ⑩ Cassette Eject Button (▲) pg. 20, 21, 23
- ⑪ Video/Audio Input Connectors (F-1 VIDEO/AUDIO) pg. 45
- ⑫ Infrared Beam Receiving Window

- ⑬ Front Display Panel pg. 7
- ⑭ Record Button (●) pg. 23, 24
- ⑮ Rewind Button (◀◀) pg. 20, 21, 35
- ⑯ Fast Forward Button (▶▶) pg. 20, 21, 35
- ⑰ Programme Button (PR +/-) pg. 21, 23, 29
- ⑱ SCAN MODE Button pg. 11

To access covered connectors or buttons, pull and open the cover.



REAR VIEW

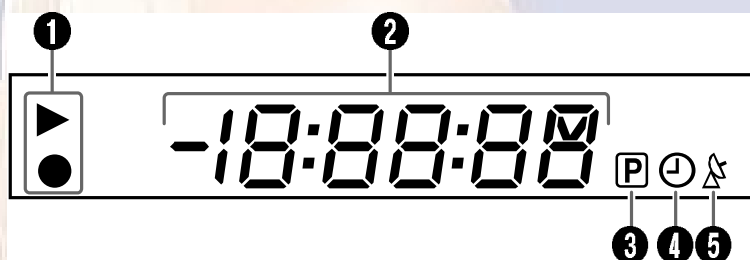


- ① Region Number Label pg. 4
- ② Mains Power Cord pg. 9, 10, 12
- ③ S-Video Output Connector (S-VIDEO OUTPUT)* pg. 12, 51
- ④ Audio/Video Output Connector (AUDIO/VIDEO OUTPUT) pg. 9, 10, 12, 46, 51
- ⑤ L-1 Input Connector (INPUT (L-1)) pg. 9, 46, 51
- ⑥ Antenna Input Connector (ANTENNA IN) pg. 9, 10, 12, 51

- ⑦ Digital Audio Output Connector (DIGITAL AUDIO OUT)* pg. 48, 52
- ⑧ Component Video Output Connectors (COMPONENT VIDEO OUT)* pg. 10
- ⑨ Audio Output Connectors (AUDIO OUT (L/R))*
- ⑩ Remote Pause Connector (PAUSE) pg. 45
- ⑪ Antenna Output Connector (ANTENNA OUT) pg. 9, 10, 12, 51

* These connectors are only for DVD deck.

FRONT DISPLAY PANEL



❶ Operation Mode Indicator

❷ Channel/Clock Display
Mode Display (L-1 or F-1)
Counter Display

Tape Speed (SP/LP or EP*) pg. 23

* EP is for NTSC only.

Multi-information window*

* The current group/title/track/chapter number(s), time and status information.

❸ Progressive Mode Indicator pg. 11

❹ "Timer" Indicator pg. 28, 29, 32

❺ Satellite Auto Recording Indicator (S) pg. 32

ON-SCREEN DISPLAY (VHS deck)

If you press **--:--** on the remote control when "O.S.D." is set to "ON" (pg. 54), various operational indicators appear on the TV screen.

For On-screen display for DVD deck, refer to "Using the on-screen bar" (pg. 40).

❽ Audio Mode Display pg. 22

❾ Tape Speed (SP/LP or EP*)

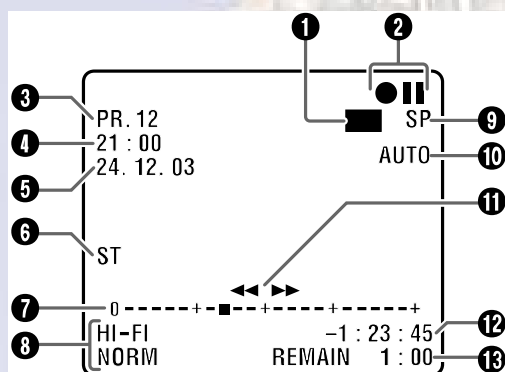
* EP is for NTSC only.

❿ Colour System Indicator pg. 54

⓫ Tape Direction

⓬ Counter Display

⓭ Tape Remaining Time Indicator pg. 24



❶ "Cassette Loaded" Mark

❷ Operation Mode Indicators

❸ Channel Position Number and Station Name/Auxiliary Input Indicator (L-1 or F-1)

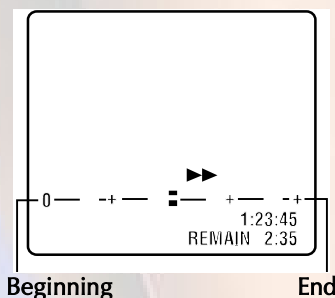
❹ Clock Display

❺ Current Day/Month/Year

❻ Type of Broadcast pg. 25

❼ Tape Position Indicator

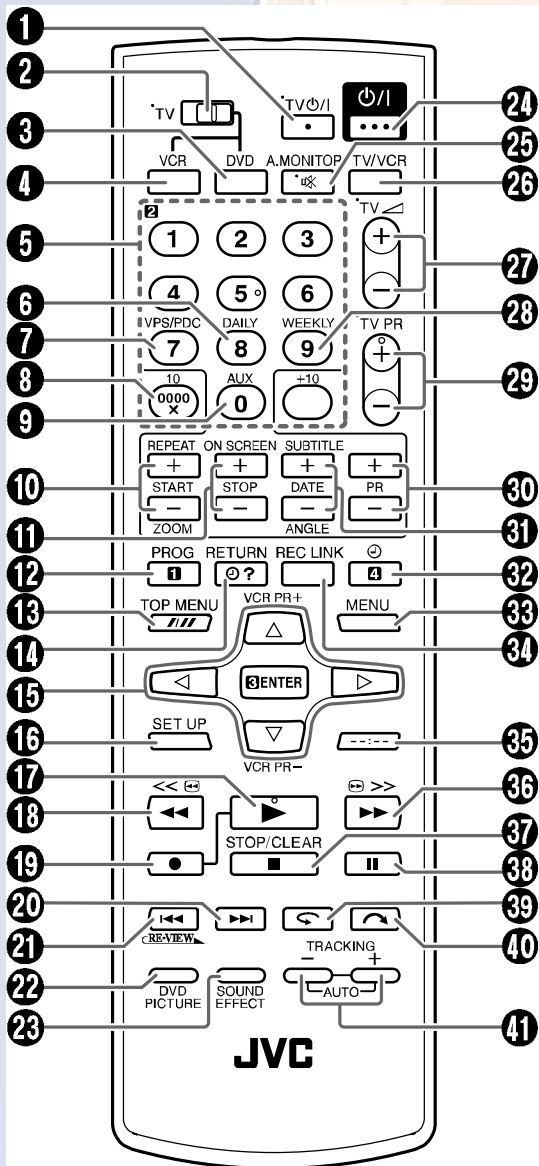
The tape position indicator appears on the TV screen when you press **◀◀** or **▶▶** from the Stop mode or perform an Index Search. (pg. 21) The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.



NOTE:

Depending on the type of tape being used, the tape position indicator may not appear correctly.

REMOTE CONTROL



Buttons with a small dot on the left side of the name can also be used to operate your JVC TV. (pg. 50)

How To Use

The remote control can operate most of your unit's functions, as well as basic functions of TV sets of JVC. (pg. 49)

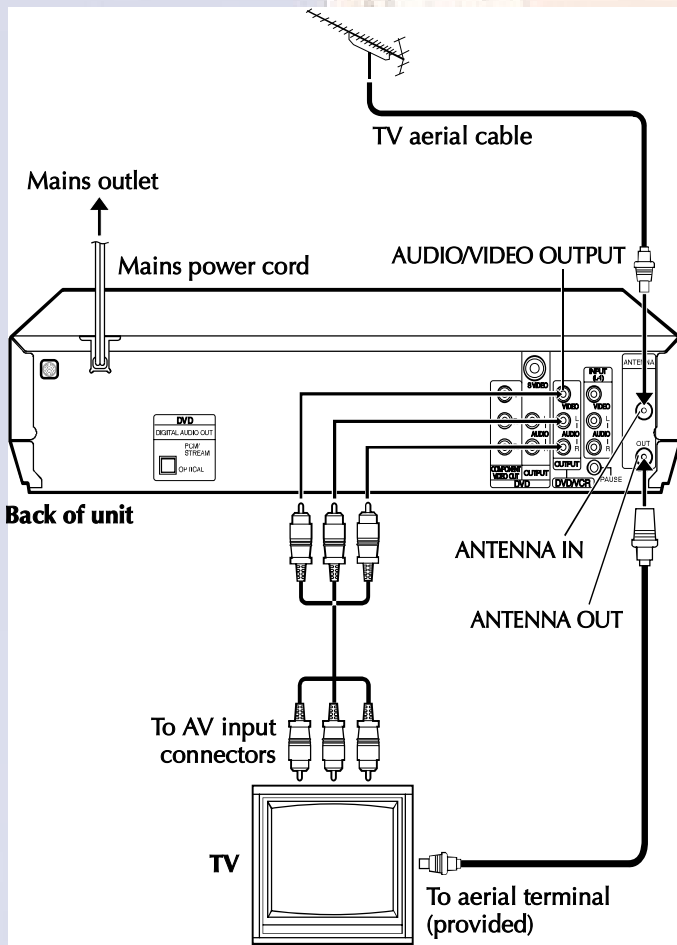
- Point the remote control toward the receiving window.
- The maximum operating distance of the remote control is about 8 m.

NOTES:

- When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.
- If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.

- 1 TV Standby/On Button (TV ψ /I) pg. 50
- 2 TV/VCR/DVD switch pg. 11, 13-16, 19, 20, 33, 43, 50
- 3 DVD Button pg. 11, 15, 33, 43, 56
- 4 VCR Button pg. 14, 16, 19, 20, 53
- 5 Number Keys
- 6 Daily Button (DAILY) pg. 28, 29, 31
- 7 VPS/PDC Button
**Does not function with this unit.*
- 8 Reset Button (0000) pg. 24
Cancel Button (X) pg. 27, 30, 31
- 9 Auxiliary Button (AUX) pg. 45
- 10 Start Time Button (START +/-) pg. 29
Repeat Button (REPEAT) pg. 36, 44
Zooming Button (ZOOM) pg. 35, 44
- 11 Stop Time Button (STOP +/-) pg. 28, 29, 30, 31
On Screen Button (ON SCREEN) pg. 40
- 12 Programming Button (PROG) pg. 27, 29, 31
- 13 Tape Speed Button *SP/LP or EP** (///) pg. 23, 27, 29, 30, 31
** EP is for NTSC only.*
- 14 Top Menu Button (TOP MENU) pg. 34
- 15 Programme Check Button (\odot ?) pg. 30
- 16 Return Button (RETURN) pg. 34
- 17 $\triangleleft \triangleright$ Button
- 18 $\triangle \nabla$ Button
- 19 ENTER Button
- 20 VCR Programme Button (VCR PR +/-)
- 21 Set Up Menu Button (SET UP) pg. 15, 19, 53, 56, 60
- 22 Play Button (\blacktriangleright) pg. 20, 23, 33, 43
- 23 Rewind Button (\blacktriangleleft) pg. 20, 21, 35
- 24 Record Button (\bullet) pg. 23, 24
- 25 Forward Skip/Index Button (\blacktriangleright) pg. 21, 34, 35
- 26 Reverse Skip/Index Button (\blacktriangleleft) pg. 21, 34, 35
- 27 Review Button (cREVIEW) pg. 22
- 28 DVD Picture Button (DVD PICTURE) pg. 39
- 29 Sound Effect Button (SOUND EFFECT) pg. 39
- 30 Standby/On Button (ψ /I) pg. 11, 14, 21
- 31 TV Muting Button (\times) pg. 50
Audio Monitor Button (A.MONITOR) pg. 22, 38
- 32 TV/VCR Button pg. 24, 50
- 33 TV Volume Button (TV \triangle +/-) pg. 50
- 34 Weekly Button (WEEKLY) pg. 28, 29, 31
- 35 TV Programme Button (TV PR +/-) pg. 50
- 36 Programme Button (PR +/-) pg. 21, 23, 29, 30, 31
- 37 Date Button (DATE +/-) pg. 29, 30, 31
Subtitle Button (SUBTITLE) pg. 37
Angle Button (ANGLE) pg. 38
- 38 Timer Button (\odot) pg. 28, 29, 30
- 39 Menu Button (MENU) pg. 34
- 40 Automatic Satellite Programming Button (REC LINK) pg. 32
- 41 Display Button ($- \text{---} -$) pg. 24, 33
- 42 Fast Forward Button ($\blacktriangleright \blacktriangleright$) pg. 20, 21, 35
- 43 Stop/Clear Button (\blacksquare) pg. 20, 23, 33, 43
- 44 Pause Button (\parallel) pg. 21, 23, 33, 35, 43
- 45 One Touch Replay Button (\curvearrowright) pg. 21, 35
- 46 Skip Search Button (\curvearrowleft) pg. 21
- 47 Tracking Button (TRACKING +/-) pg. 22

Basic Connections



It's essential that your unit be properly connected.

THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

1 Check the contents.

Make sure the package contains all of the accessories listed in "SPECIFICATIONS" on page 70.

2 Situate the unit.

Place the unit on a stable, horizontal surface.

3 Connect the unit to TV.

The connection method you use depends on the type of TV you have.

RF Connection

■ To connect to a TV with NO AV input connectors —

- 1 Disconnect the TV aerial cable from the TV.
- 2 Connect the TV aerial cable to the ANTENNA IN connector on the rear panel of the unit.
- 3 Connect the provided RF cable between the ANTENNA OUT connector on the rear panel of the unit and the TV's aerial connector.

AV Connection

■ To connect to a TV with AV input connectors —

If your TV is equipped with a AV input connectors, perform AV connection to improve picture quality during tape playback.

- 1 Connect the aerial, unit and TV as per "RF Connection."
- 2 Connect an optional AV cable between the AUDIO/VIDEO OUT connectors on the rear panel of the unit and the TV's AV input connectors.

4 Connect the unit to mains.

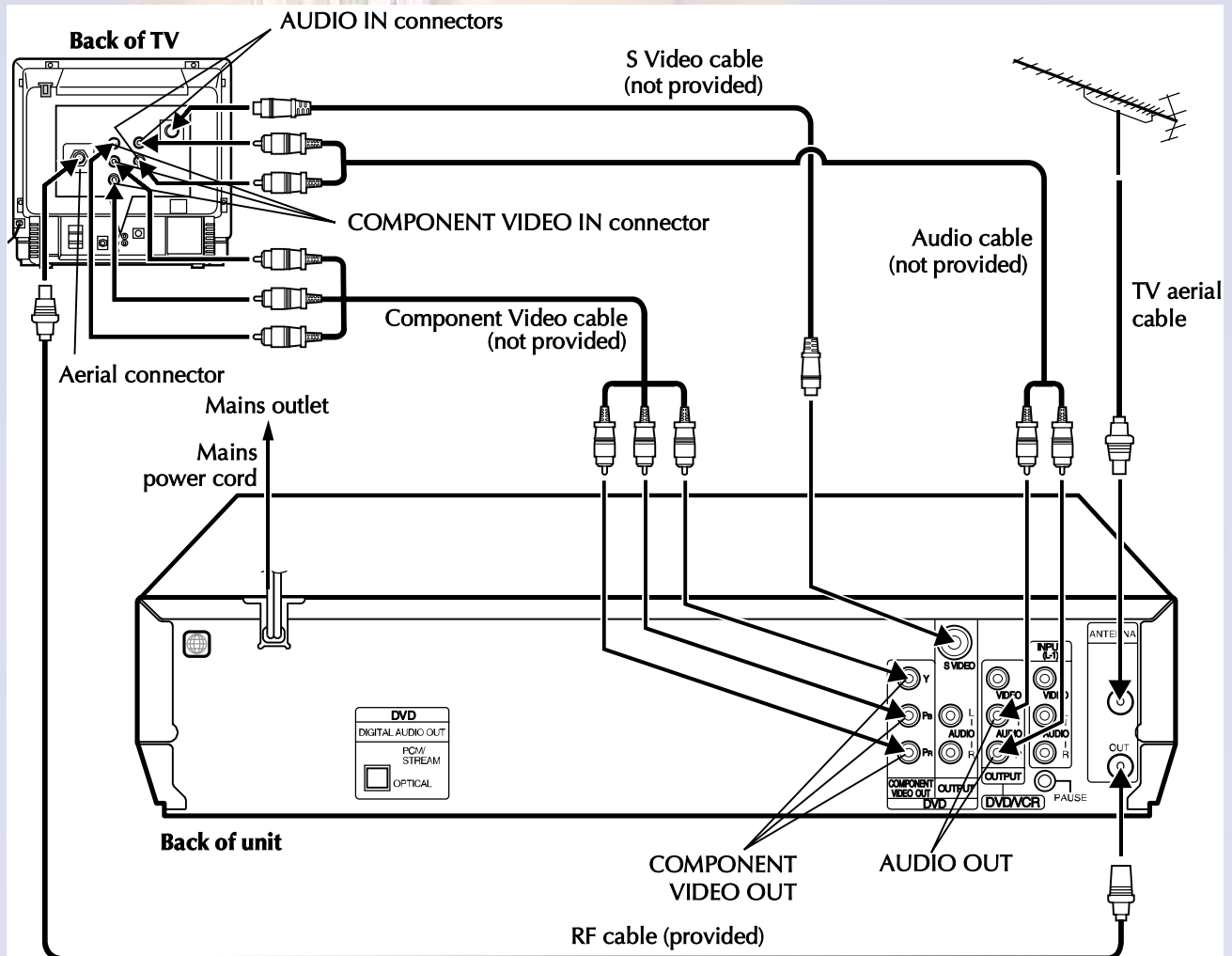
Plug the end of the mains power cord into a mains outlet.

After the connection is completed, perform "Video Channel Set" on page 13.

Component Video Connection (DVD deck)

ATTENTION

Be sure to connect the unit's VIDEO OUT or S VIDEO OUT connector to the TV's VIDEO IN or S-VIDEO IN connector.



■ To connect to a TV with COMPONENT VIDEO IN connectors . . .

1 Connect the unit to TV.

- 1 Connect the aerial, unit and TV as per "AV Connection" or "S-VIDEO Connection". (☞ pg. 12,13)
- 2 Connect the unit's COMPONENT VIDEO OUT connectors to the TV's COMPONENT VIDEO IN connectors.
- 3 Connect the unit's AUDIO OUT connectors to the TV's AUDIO IN connectors.

2 Connect the unit to mains.

Plug the end of the mains power cord into a mains outlet.

NOTES:

- You can obtain high-quality component video pictures.
- If your TV is not stereo-capable, use the unit's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction.
- For switching the TV's mode, refer to the instruction manual of your television.
- By using the component video connection, you can view the images in the progressive mode. For switching to the progressive mode, refer to "Scan Mode Set (DVD deck)" (☞ pg. 11).

After the connection is completed, perform "Video Channel Set" on page 13.

Scan Mode Set

(DVD deck)

This unit supports the progressive scan system (eg. 480p*) as well as the conventional interlaced scan system (eg. 480i*).

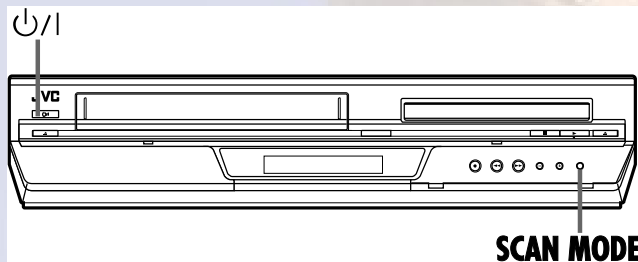
If your TV equipped with component video connectors supports the progressive video input, you can enjoy a high quality picture by setting the progressive scan mode to active.

- Refer also to the instruction manuals supplied with your TV.
- If your TV equipped with component video connectors does not support the progressive video input, do not change the scan mode to the "PROGRESSIVE."

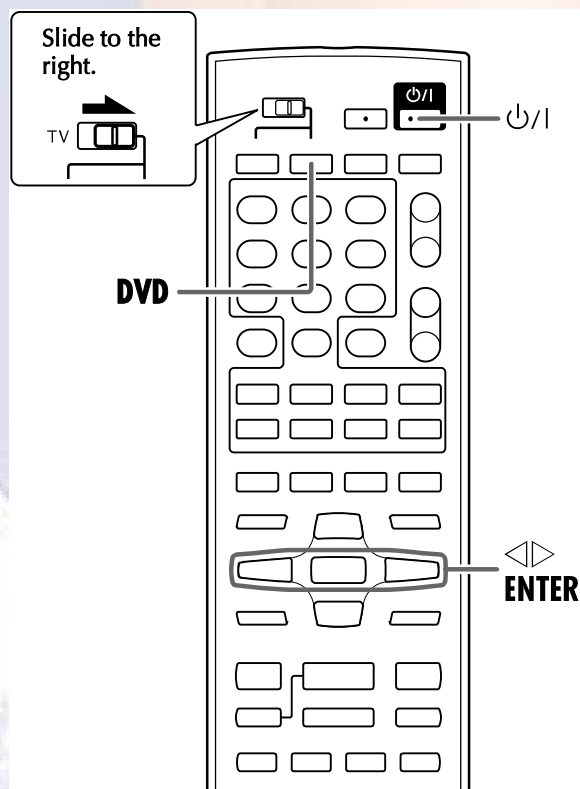
* 480p and 480i indicate the number of scanning lines and scanning format of an image signal.

- 480p indicates 480 scanning lines with progressive format.
- 480i indicates 480 scanning lines with interlaced format.

- Turn on the TV and select the VCR channel (or AV mode).
- Slide the TV/VCR/DVD switch on the Remote to the right.



SCAN MODE



1 Turn on the unit.

Press ⏻/⏪.

2 Select the DVD deck.

On the unit

Press VCR/DVD repeatedly so that the DVD indicator lights up.

On the Remote

Press DVD so that the DVD indicator lights up.

3 Switch the mode.

- 1 Press and hold SCAN MODE on the unit for more than 3 seconds.

The current scan mode blinks on the front display panel.

- 2 While the current scan mode blinks, press ◀▶ to select "ProGr" (for the progressive scan mode) or "IntEr" (for the interlaced scan mode), then press ENTER.

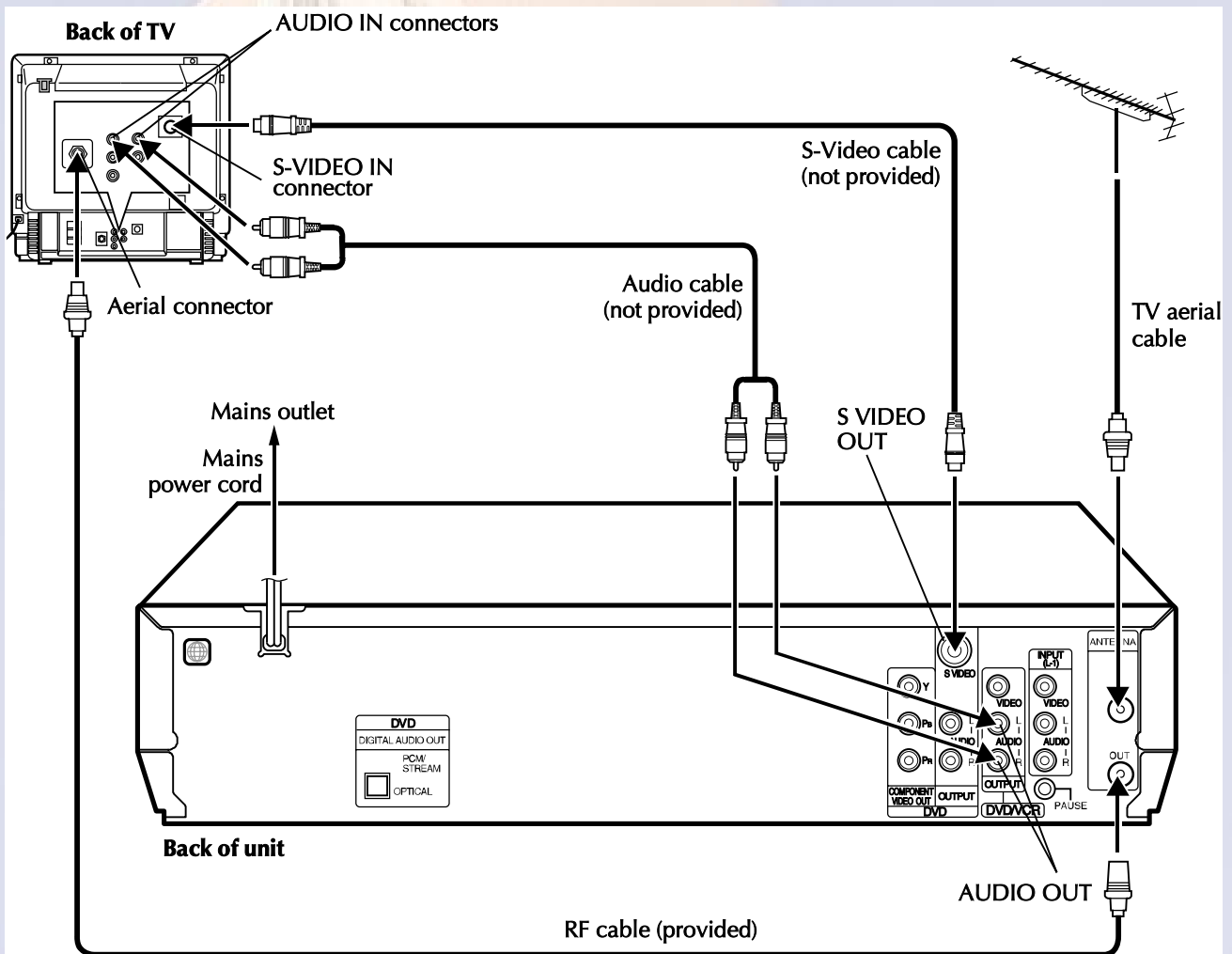
- If the current scan mode stops blinking before you make the setting, start from step 1 again.

NOTE:

When the progressive scan mode is selected, the Progressive mode indicator (Ⓟ) lights up on the front display panel.

S-VIDEO Connection

(DVD deck)



■ To connect to a TV with S-VIDEO/AUDIO IN connectors . . .

1 Connect the unit to TV.

- 1 Connect the aerial, unit and TV as per "RF Connection". (pg. 13)
- 2 Connect the unit's S VIDEO OUT connector to the TV's S-VIDEO IN connector.
- 3 Connect the unit's AUDIO OUT connectors to the TV's AUDIO IN connectors.

2 Connect the unit to mains.

Plug the end of the mains power cord into a mains outlet.

NOTES:

- You can obtain high-quality S-VHS pictures.
- If your TV is not stereo-capable, use the unit's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction.
- For switching the TV's mode, refer to the instruction manual of your television.

After the connection is completed, perform "Video Channel Set" on page 13.

Video Channel Set

Video channel (RF output channel) is the channel on which your TV receives picture and sound signals from the unit through the RF cable.

Before performing the following steps:

- Make sure there is no cassette inserted in the unit and the power is off.
- Slide the TV/VCR/DVD switch on the remote control to the right.

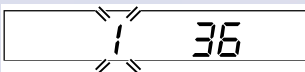
1 Access the Video Channel Set mode.

Hold down **■** on the unit until the front display panel shows the following.



2 Set the TV system (RF Connection only)

Press **PR +** or **-** on the remote control to set the appropriate TV system that matches the system of TV being used (refer to the table below).



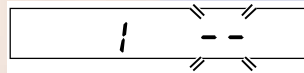
1:B/G 2:D/K 3:I 4:H

Major Countries/Areas	TV System
New Zealand, Kuwait, U.A.E., Indonesia, Singapore, Thailand, Malaysia, Iran, Saudi Arabia, Egypt, Morocco, Lebanon, Iraq	B/G
China, Mongolia, Russia	D/K
Hong Kong	I
Australia	H

3 Set the video channel.

With AV Connection

Press **ENTER**, then press **PR -** until the front display panel shows "--".

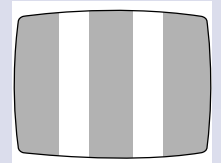


- Now the video channel is set to off.

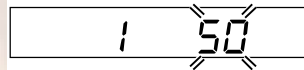
With RF Connection

Set your TV to UHF channel 36.

- If the two vertical white bars appear clearly on the TV screen as shown on the right, press **ENTER** and then go to step 4.
- If the two vertical white bars do not appear clearly, press **ENTER** and then **PR +** or **-** to set the unit to a vacant channel between 28 and 60 which is not occupied by any local station in your area.



(Example) If channel 50 is available in your area



Then set your TV to UHF channel 50 and check if the two vertical white bars appear clearly on the TV screen ; if so, go to step 4. If not, re-set the unit to another vacant channel and try again.

NOTES:

- If you set the unit to a channel which is occupied by a local station or has neighbouring channels that are occupied by local stations, the picture reception quality will be affected and some interference noise will appear on the TV screen. Be sure to select a vacant channel which has no broadcast on neighbouring channels.
- If you cannot obtain the two vertical white bars clearly with any channel between 28 and 60, consult your JVC dealer.

4 Exit the Video Channel Set mode.

Press **ENTER** on the remote control.

- If Auto Set Up (pg. 14) or Tuner Set (pg. 60) has not previously been performed, the Clock Set screen appears and Auto Set Up takes place automatically.

With AV Connection

To view picture signals from the unit, set your TV to its AV mode.

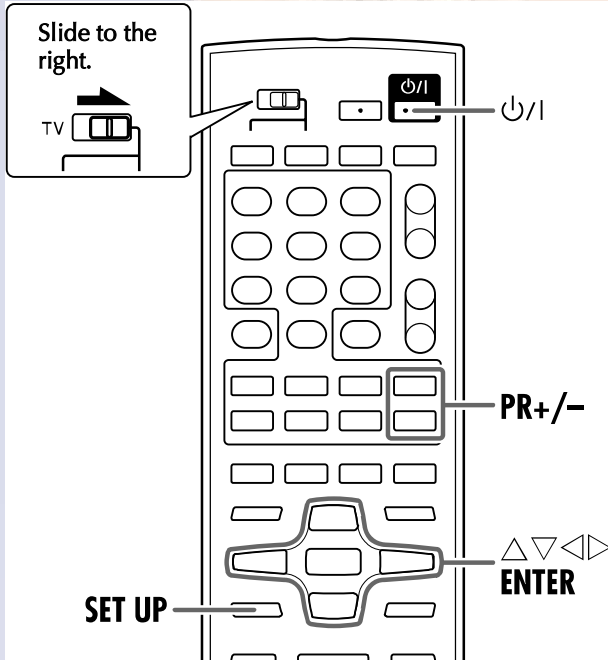
With RF Connection

The channel you have set in step 3 above is your video channel.

To view picture signals from the unit, set your TV to the video channel.

Auto Set Up

The Auto Set Up simplifies installation by guiding you through the procedures of setting the clock and tuner channels – simply follow the on-screen menus that appear.



Before starting, make sure of the following:

- The TV aerial cable should be connected to the unit.
- The unit's mains power cord should be connected to a mains outlet.
- The "Video Channel Set" (pg. 13) should be performed and the TV should be set to its AV mode (with AV connection pg. 9) or UHF channel (with RF connection pg. 9).
- Slide the TV/VCR/DVD switch on the remote control to the right.

1 Turn on the unit.

Press ϕ/I on the unit or remote control. The Language Select screen appears on the TV screen.

2 Select language

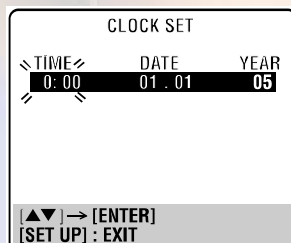
Press Δ/∇ to place the pointer next to your desired language (English, Russian or Arabic), then press **ENTER** or \triangleright .

- The Clock Set screen appears.

3 Set the date and time.

Press Δ/∇ to set the time, then press **ENTER** or \triangleright . The "DATE" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time/date, press and hold Δ/∇ to change the time by 30 minutes/15 days.



4 Select the TV system.

Press Δ/∇ to place the pointer next to the appropriate TV system (refer to the table below).

Major Countries/Areas	TV System
Australia, New Zealand, Kuwait, U.A.E., Indonesia, Singapore, Thailand, Malaysia, Iran, Saudi Arabia, Egypt, Morocco, Lebanon, Iraq	B/G
China, Mongolia, Russia	D/K
Hong Kong	I

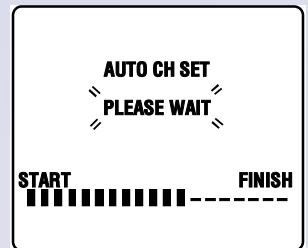
5 Start Auto Channel Set.

Press **ENTER** or \triangleright .

DO NOT press any button on the unit or remote control while Auto Set Up is in progress.

Auto Channel Set is performed next. Auto Channel Set scans all the channels that are receivable by your unit. During Auto Channel Set, the channel numbers are displayed as they are scanned and set.

- As Auto Set Up progresses, the "■" mark on the TV screen moves from left to right.
- When Auto Set Up is completed, the lowest position number will appear on the front display panel. If "SCAN COMPLETED -NO SIGNAL-" is displayed on the TV screen, make sure that the aerial cable is connected to the unit properly and press **ENTER** on the remote control. The unit will try Auto Set Up again.



NOTES:

- If there is a power cut, or if you press ϕ/I or **SET UP** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the unit power once and try again from step 1.
- If no sound accompanies the picture or the audio sounds unnatural on some channels that have been stored by Auto Set Up, the TV system setting for those channels may be incorrect. Select the appropriate TV system for those channels. "TV System Selection — When you see the picture but the audio can't be heard or sounds unnatural" (pg. 63).

ATTENTION

If you perform Auto Set Up successfully during installation, there's no need to separately perform the Clock Set or Channel Set procedures, but if adjustments become necessary, they can be performed as follows:

- Tuner setting (pg. 60)
- Clock setting (pg. 19)

Monitor Set (DVD deck)

You can select the monitor type depending on the TV used when you play back DVD VIDEO discs recorded for wide-screen TVs.

For the multi colour system TV

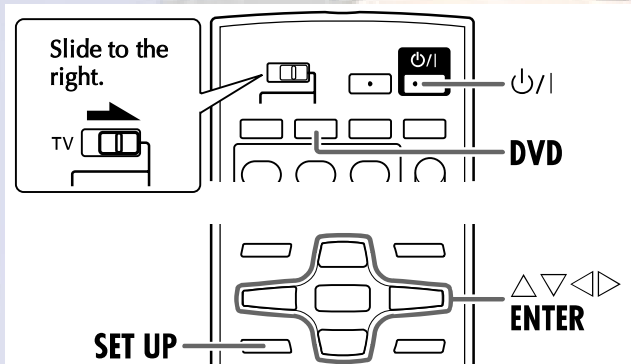
When you use a multi colour system TV, you can change the colour system of this unit automatically by selecting "MULTI" options as the monitor type. In this case, the setting of this unit is changed to match the colour system of the loaded disc regardless the TV system setting. (☞ "ATTENTION" below)

ATTENTION

How to change the TV system between PAL and NTSC

- 1 Press and hold **SCAN MODE** on the unit for more than 3 seconds while the unit is turned off. The current TV system blinks on the front display panel.
- 2 While the current TV system blinks, press **◀▶** to select "ntSc" (for NTSC) or "PAL" (for PAL), then press **ENTER**.
 - If the current TV system stops blinking before you make the setting, start from step 1 again.

- Turn on the TV and select the video channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.



1 Turn on the unit.

Press **⏻/⏻**.

2 Select the DVD deck.

On the unit

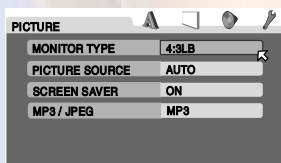
Press **VCR/DVD** repeatedly so that the DVD indicator lights up.

On the remote control

Press **DVD** so that the DVD indicator lights up.

3 Access the DVD Set Up menu screen.

- 1 Press **SET UP**.
- 2 Press **◀▶** to select "PICTURE."



4 Select the mode.

Press **△▽** to move **↔** to "MONITOR TYPE," then press **ENTER**.

5 Select the mode setting.

Press **△▽** to select the desired setting, then press **ENTER**.

6 Return to the normal screen.

Press **SET UP**.

* The default setting is **bold** in the table below.

MONITOR TYPE

16:9 NORMAL / 16:9 MULTI NORMAL (Wide television conversion):

Select this when the aspect ratio of your TV is fixed to 16:9 (wide TV). The unit automatically adjusts the screen width of the output signal correctly when playing back a picture whose aspect ratio is 4:3.

16:9 AUTO / 16:9 MULTI AUTO (Wide television conversion):

Select this when the aspect ratio of your TV is 16:9 (wide TV).

4:3 LB / 4:3 MULTI LB (Letter Box conversion):

Select this when the aspect ratio of your TV is 4:3 (conventional TV). While viewing a wide screen picture, the black bars appear on the top and the bottom of the screen.

4:3 PS / 4:3 MULTI PS (Pan&Scan):

Select this when the aspect ratio of your TV is 4:3 (conventional TV). While viewing a wide screen picture, the black bars do not appear; however, the left and right edges of the pictures will not be shown on the screen.

Pan&Scan/Letter Box

In general, DVD VIDEO disc are produced for a wide-screen TV with 16:9 aspect ratio.

Material with this ratio will not fit to a TV with 4:3 aspect ratio. There are two styles to display the image, "Pan&Scan" and "Letter Box."

Pan&Scan

The right and left side of the image are cut off. The image fills the screen.



Letter Box

Black bands appear at the top and bottom of the image. The image itself appears in 16:9 aspect ratio.

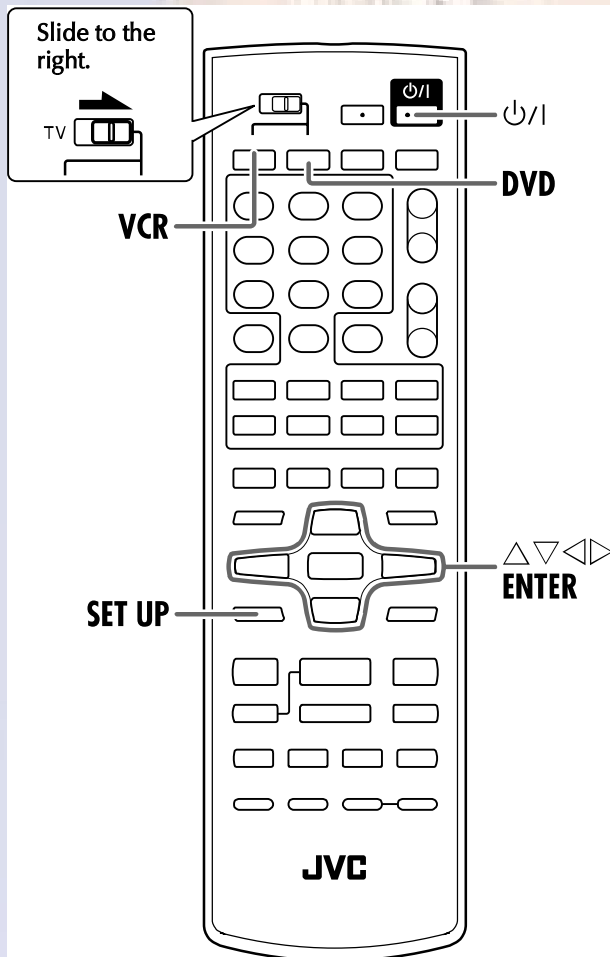


NOTES:

- Even if "4:3 PS" or "4:3 MULTI PS" is selected, the screen size may become "4:3 LB" or "4:3 MULTI LB" with some DVD VIDEO. This depends on how they are recorded.
- When you select "16:9 NORMAL" or "16:9 MULTI NORMAL" for a picture whose aspect ratio is 4:3, the picture slightly changes due to the process for converting the picture width.

Language

- Turn on the TV and select the video channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.



On-screen Language Set (VHS deck)

1 Turn on the unit.

Press P/I .

2 Select the VHS deck.

On the unit

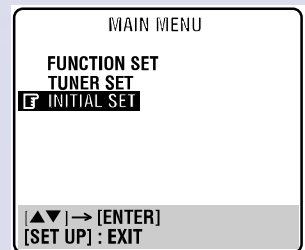
Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

On the remote control

Press **VCR** so that the VCR indicator lights up.

3 Access the Main Menu screen.

- 1 Press **SET UP**.
- 2 Press Δ/∇ to move the highlight bar (pointer) to "INITIAL SET," then press **ENTER** or \triangleright .



4 Select your country.

Press Δ/∇ to move the highlight bar (pointer) to "LANGUAGE," then press **ENTER** or \triangleright .

5 Select the language.

Press Δ/∇ to move the highlight bar (pointer) to the language of your choice (English, Russian or Arabic).



6 Return to the normal screen.

Press **SET UP**.

On-screen Language Set (DVD deck)

This DVD deck offers you the choice to view on-screen messages in 3 different languages. You can change the language setting manually as required.

1 Turn on the unit.

Press ψ/I .

2 Select the DVD deck.

On the unit

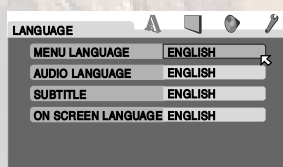
Press **VCR/DVD** repeatedly so that the DVD indicator lights up.

On the remote control

Press **DVD** so that the DVD indicator lights up.

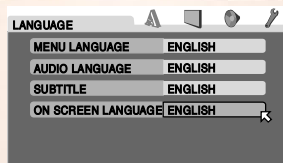
3 Access the DVD Set Up menu screen.

- 1 Press **SET UP**.
- 2 Press $\triangleleft \triangleright$ to select "**LANGUAGE**."



4 Select the mode.

Press $\triangle \nabla$ to move \boxtimes to "ON SCREEN LANGUAGE," then press **ENTER**.



5 Select the mode setting.

Press $\triangle \nabla$ to select the desired setting, then press **ENTER**.

6 Return to the normal screen.

Press **SET UP**.

Menu/Audio/Subtitle Language Set

Some DVD discs contain the DVD menu display, audio, subtitle in multiple languages. With these discs, you can set the default language as you like.

- The procedure shows how to set "MENU LANGUAGE" on the DVD menu screen as an example.

1 Turn on the unit.

Press ψ/I .

2 Select the DVD deck.

On the unit

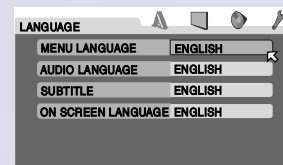
Press **VCR/DVD** repeatedly so that the DVD indicator lights up.

On the remote control

Press **DVD** so that the DVD indicator lights up.

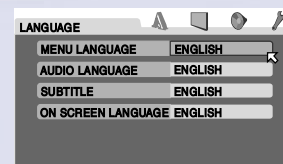
3 Access the DVD Set Up menu screen.

- 1 Press **SET UP**.
- 2 Press $\triangleleft \triangleright$ to select "**LANGUAGE**."



4 Select the mode.

Press $\triangle \nabla$ to move \boxtimes to "MENU LANGUAGE," then press **ENTER**.



5 Select the mode setting.

Press $\triangle \nabla$ to select the desired setting, then press **ENTER**.

- See "Language Code List" (pg. 18).

6 Return to the normal screen.

Press **SET UP**.

NOTE:

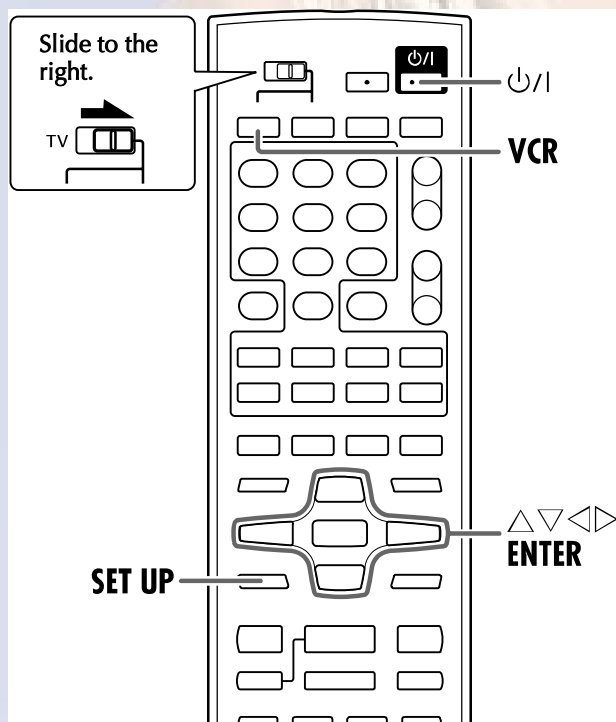
When the selected language is not available on the disc, the disc's default menu language is played back.

Language Code List

AA	Afar	IK	Inupiak	RN	Kirundi
AB	Abkhazian	IN	Indonesian	RO	Rumanian
AF	Afrikaans	IS	Icelandic	RU	Russian
AM	Ameharic	IW	Hebrew	RW	Kinyarwanda
AR	Arabic	JI	Yiddish	SA	Sanskrit
AS	Assamese	JW	Javanese	SD	Sindhi
AY	Aymara	KA	Georgian	SG	Sangho
AZ	Azerbaijani	KK	Kazakh	SH	Serbo-Croatian
BA	Bashkir	KL	Greenlandic	SI	Singhalese
BE	Byelorussian	KM	Cambodian	SK	Slovak
BG	Bulgarian	KN	Kannada	SL	Slovenian
BH	Bihari	KO	Korean (KOR)	SM	Samoan
BI	Bislama	KS	Kashmiri	SN	Shona
BN	Bengali, Bangla	KU	Kurdish	SO	Somali
BO	Tibetan	KY	Kirghiz	SQ	Albanian
BR	Breton	LA	Latin	SR	Serbian
CA	Catalan	LN	Lingala	SS	Siswati
CO	Corsican	LO	Laothian	ST	Sesotho
CS	Czech	LT	Lithuanian	SU	Sundanese
CY	Welsh	LV	Latvian, Lettish	SV	Swedish
DA	Danish	MG	Malagasy	SW	Swahili
DZ	Bhutani	MI	Maori	TA	Tamil
EL	Greek	MK	Macedonian	TE	Telugu
EO	Esperanto	ML	Malayalam	TG	Tajik
ET	Estonian	MN	Mongolian	TH	Thai
EU	Basque	MO	Moldavian	TI	Tigrinya
FA	Persian	MR	Marathi	TK	Turkmen
FI	Finnish	MS	Malay (MAY)	TL	Tagalog
FJ	Fiji	MT	Maltese	TN	Setswana
FO	Faroese	MY	Burmese	TO	Tonga
FY	Frisian	NA	Nauru	TR	Turkish
GA	Irish	NE	Nepali	TS	Tsonga
GD	Scots Gaelic	NL	Dutch	TT	Tatar
GL	Galician	NO	Norwegian	TW	Twi
GN	Guarani	OC	Occitan	UK	Ukrainian
GU	Gujarati	OM	(Afan) Oromo	UR	Urdu
HA	Hausa	OR	Oriya	UZ	Uzbek
HI	Hindi	PA	Panjabi	VI	Vietnamese
HR	Croatian	PL	Polish	VO	Volapuk
HU	Hungarian	PS	Pashto, Pushto	WO	Wolof
HY	Armenian	PT	Portuguese	XH	Xhosa
IA	Interlingua	QU	Quechua	YO	Yoruba
IE	Interlingue	RM	Rhaeto-Romance	ZU	Zulu

Clock Set

- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



1 Turn on the unit.

Press P/I .

2 Select the VHS deck.

On the unit

Press VCR/DVD repeatedly so that the VCR indicator lights up.

On the remote control

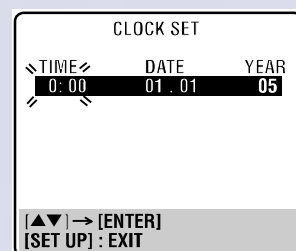
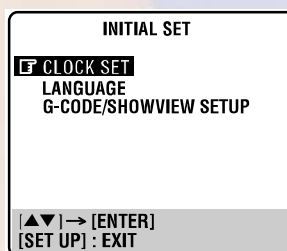
Press VCR so that the VCR indicator lights up.

3 Access the Main Menu screen, then Initial Set screen.

Press SET UP. Press Δ/∇ to place the pointer next to "INITIAL SET," then press ENTER or \triangleright .

4 Access the Clock Set screen.

Press Δ/∇ to move the highlight bar (pointer) to "CLOCK SET," then press ENTER or \triangleright . The Clock Set screen appears.



5 Set the date and time.

Press Δ/∇ to set the time, then press ENTER or \triangleright . The "DATE" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time/date, press and hold Δ/∇ to change the time by 30 minutes/15 days.

NOTE:

If the year digits are automatically cleared, it is possible that you have input February 29th in a non-leap year. Input the correct data.

6 Start the clock operation.

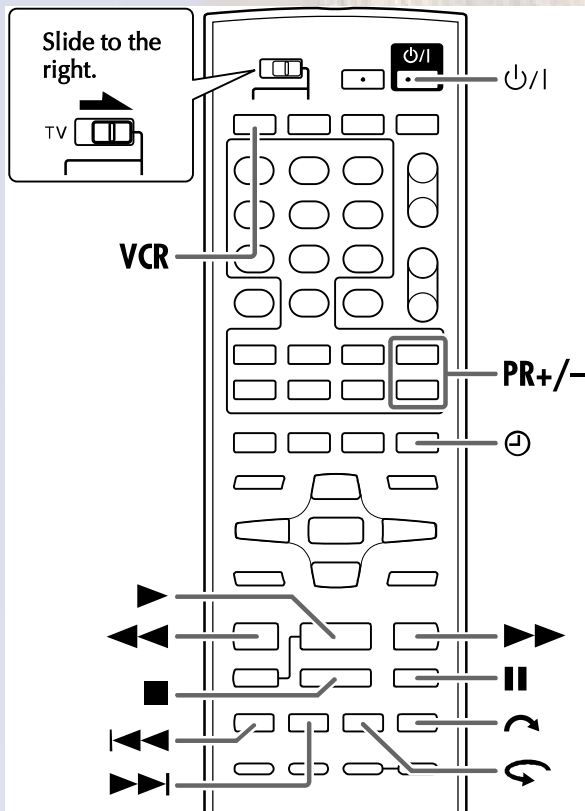
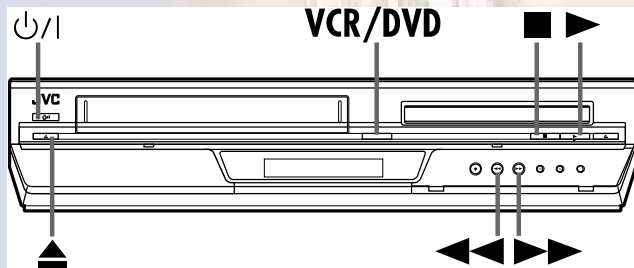
Press SET UP.

To make corrections anytime during the process

Press ENTER or \triangleright repeatedly until the item you want to change blinks, then press Δ/∇ .

Basic Playback

- Turn on the TV and select the video channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.



Clean the video heads using a dry cleaning cassette — ECL-3F — when:

- Rough, poor picture appears while a tape is played back.
- The picture is unclear or no picture appears.
- "USE CLEANING CASSETTE" appears on the screen (only with "O.S.D." set to "ON"). (pg. 54)

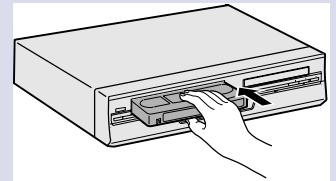
NOTE:

The heads get dirty in the following cases:

- in an environment prone to extreme temperature or humidity
- in a dusty environment
- flaw, dirt or mold on video tapes
- continuous usage for a long time

1 Load a cassette.

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the unit.



- Do not apply too much pressure when inserting.
- If the record safety tab has been removed, playback begins automatically. Although the DVD deck is selected, the VHS deck is selected automatically if the DVD deck is in stop mode.
- Select the appropriate colour system with "PAL/MESECAM" and "NTSC" in Function Set. (pg. 54)
- The unit's power comes on automatically and the counter is reset to 0:00:00.

2 Select the VHS deck.

On the unit

Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

On the remote control

Press **VCR** so that the VCR indicator lights up.

3 Find the programme start point.

If the tape is advanced past the start point, press **◀◀**. To go forward, press **▶▶**.

4 Start playback.

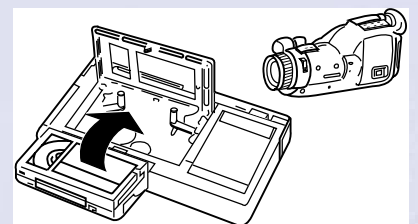
Press **▶**. "bEST" appears blinking on the front display panel during automatic tracking. (pg. 25)

5 Stop playback.

Press **■**. Then press **▲** on the VHS deck to remove the cassette.

Usable cassettes

- Compact VHS camcorder recordings can be played on this unit. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.
- This video recorder is equipped with SQPB (S-VHS QUASI PLAYBACK) that lets you watch tapes recorded in the S-VHS format and the SP mode with regular VHS resolution.
 - * SQPB does not deliver Super VHS resolution.
- This video recorder can record on regular VHS and Super VHS cassettes. However, it will record regular VHS signals only.
 - * S-VHS recording is not possible with this recorder.



Playback Features

- Turn on the TV and select the video channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.

ATTENTION

In the search, still, slow-motion or frame-by-frame playback mode,

- the picture will be distorted.
- the noise bars will appear.
- there may be a loss of colour.
- you cannot hear the sound.

Still Picture/Frame-By-Frame Playback

1 Pause during playback.

Press **II**.

- If there is vertical jitter, press **PR +/-** on the remote control to correct the picture.

2 Activate frame-by-frame playback.

Press **II**.

NOTE:

Still picture playback stops automatically after 5 minutes to protect the heads.

Slow Motion

While playback is paused, press and hold **II** for 2 seconds, then release. Press **II** and release again to return to still picture.

NOTE:

During slow motion playback, some noise may appear on the TV screen. Press **PR +** or **-** on the remote control to eliminate the noises.

Variable Speed Search

During playback, press **▶▶▶** for forward variable speed search, or **◀◀◀** for reverse variable speed search.

- The speed changes for each direction by pressing **◀◀◀** or **▶▶▶** repeatedly.

When pressing **▶▶▶**: +5x ↔ +7x/

NTSC-EP +11x ↔ +21x

When pressing **◀◀◀**: -1x ↔ -5x ↔ -7x/

NTSC-EP -1x ↔ -11x ↔ -21x

(Once **◀◀◀** is pressed, reverse search starts in -1x normal playback speed. After this process, each press of **◀◀◀** changes the search speed between -5x and -7x/NTSC-EP -11x and -21x.)

NOTE:

The search speed changes in the same way for SP, LP, and EP modes.

To resume normal playback, press **▶**.

Skip Search

During playback, press **↶** 1 to 6 times to skip over unwanted sections.

Each press initiates a 30-second period of fast-motion playback. Normal playback resumes automatically.

To resume normal playback during a Skip Search, press **▶**.

Index Search

Your unit automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.

NOTE:

Before starting, make sure the unit is in the Stop mode.

Activate Index Search.

Press **◀◀◀** or **▶▶▶**. "**◀◀◀ 1**" or "**▶▶▶ 1**" is displayed on the TV screen and search begins in the corresponding direction.

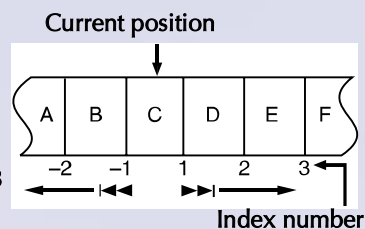
- To access index codes 2 through 9, press **◀◀◀** or **▶▶▶** repeatedly until the correct index number is displayed.

Example:

To locate the beginning of B from the current position, press **◀◀◀** twice.

To locate the beginning of D from the current position, press **▶▶▶** once.

- When the specified index code is located, playback begins automatically.



Next Function Memory

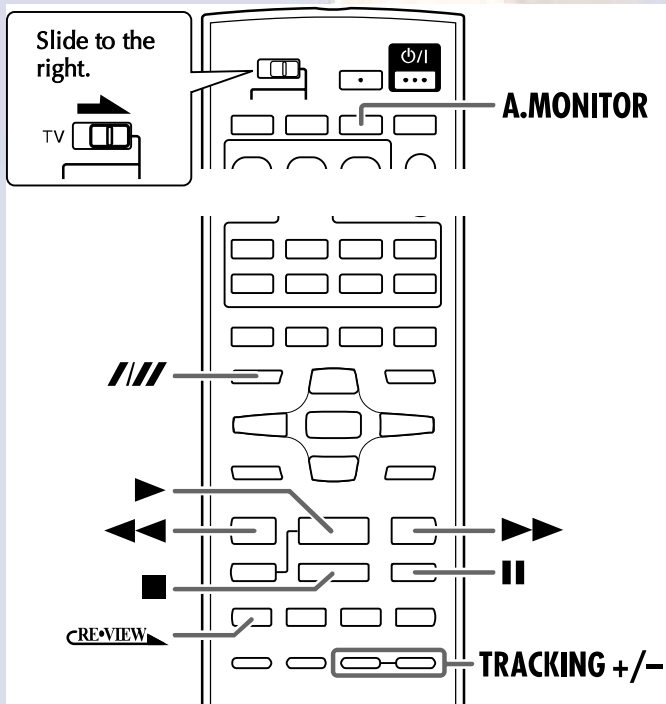
The Next Function Memory "tells" the unit what to do after rewinding. Before continuing, make sure the unit is in the Stop mode.

- For Automatic Start Of Playback
Press **◀◀◀**, then press **▶** within 2 seconds.
- For Automatic Power Off
Press **◀◀◀**, then press **⏻** within 2 seconds.
- For Automatic Timer Standby
Press **◀◀◀**, then press **⏸** within 2 seconds.
- For Automatic Cassette Ejection After Tape Rewind
Press **◀◀◀**, then press **⏏** within 2 seconds.

One Touch Replay

Press **↶** during playback.

Pressing **↶** once moves the playback position back to about 7 seconds before the current position. You can press **↶** up to 4 times each One Touch Replay.



Instant ReView

Simply by pressing a single button, the unit power comes on, rewinds, and begins playback of the last timer-recorded programme. If you have several programmes recorded, you can easily access any of them.

NOTE:

Before starting, make sure that the unit is off and that the Timer mode is disengaged.

Activate Instant ReView.

Press **REVIEW**. The unit power comes on and the unit searches for the index code indicating the start of the last timer-recorded programme. Once it's found, playback begins automatically.

- To watch the first of the 3 programmes, press **REVIEW** three times. The unit searches and begins playback automatically. You can access a programme as far as 9 index codes away from the current tape position.

Repeat Playback

Your unit can automatically play back the whole tape 100 times repeatedly.

1 Start playback.

Press **▶**.

2 Activate Repeat Playback.

Press **▶** and hold for over 5 seconds, then release.

- The Play indicator (▶) on the front display panel blinks slowly.
- After playing back a tape 100 times, the unit stops automatically.

3 Stop Repeat Playback.

Press **■** at any time.

- Pressing **▶**, **◀◀**, **▶▶** or **||** also stops Repeat Playback.

NOTE:

Repeat playback is not possible with a cassette recorded in EP mode.

Manual Tracking

Your unit is equipped with automatic tracking control. During playback, you can override this and adjust the tracking manually by pressing the **TRACKING +/-** buttons.



1 Override automatic tracking.

During playback, press **TRACKING +** and **-** at the same time.

2 Adjust the tracking manually.

Press **TRACKING +/-**.

- Press **TRACKING +** and **-** at the same time again to return to automatic tracking.

NOTE:

When a new tape is inserted, the unit enters the automatic tracking mode automatically.

Soundtrack Selection

Your unit is capable of recording three soundtracks (HI-FI L, HI-FI R and NORM) and will play back the one you select.

During Playback

Pressing **A.MONITOR** changes the soundtrack as follows:

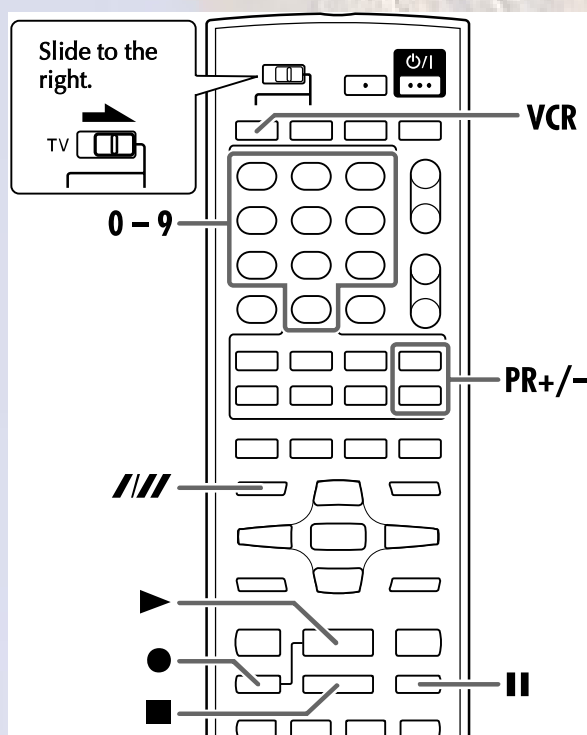
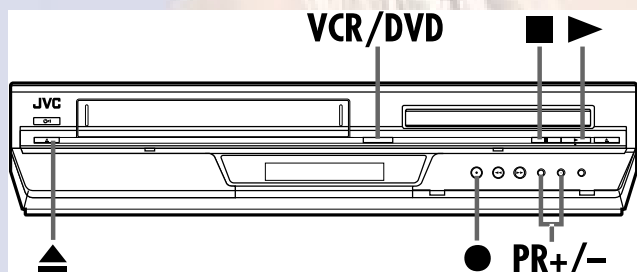
TRACK	USE
On-Screen Display	
HI FI L ▶▶ ◀◀ R	For Hi-Fi stereo tapes
HI FI L ▶▶	For main audio of Bilingual tapes
HI FI ◀◀ R	For sub audio of Bilingual tapes
NORM	For audio-dubbed tapes
HI FI NORM	For audio-dubbed tapes

NOTES:

- "HI-FI L ▶▶ ◀◀ R" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.
- For instructions on recording stereo and bilingual programmes, refer to page 25.
- "O.S.D." must be set to "ON" or the on-screen displays will not appear. (pg. 54)

Basic Recording

- Turn on the TV and select the video channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.



1 Load a cassette.

Insert a cassette with the record safety tab intact.

- The unit's power comes on automatically and the counter is reset to 0:00:00.
- Select the appropriate colour system with "PAL/MESECAM" and "NTSC" (pg. 54).

2 Select the VHS deck.

On the unit

Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

On the remote control

Press **VCR** so that the VCR indicator lights up.

3 Choose a programme.

Press **PR +/-** or the **number keys** to select the channel you wish to record.

4 Set the tape speed.

Press **///**. The current setting appears on the front display panel or TV screen. Press **///** again to change the setting while the tape speed is displayed on the TV screen.

- Each time you press **///**, the mode changes as follows.

SP ↔ LP (or EP*)

* EP is for NTSC only.

5 Start recording.

Press and hold **●** and press **▶** on the remote control, or press **●** on the unit.

B.E.S.T. works at the beginning of both the first SP and the first LP recording after inserting the cassette. (pg. 25)

6 Pause/Resume recording.

Press **■**. Press **▶** to resume recording.

- You can select channel during the Record Pause mode.

7 Stop recording.

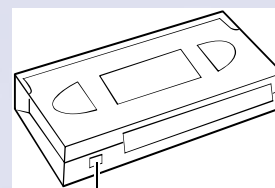
Press **■**. Then press **▲** on the VHS deck to remove the cassette.

Recording Resume Function

If there is a power outage during recording, Instant Timer Recording, or timer recording (pg. 24, 29), the recording will resume automatically when power is restored to the unit unless the unit's memory backup has expired.

Accidental erasure prevention

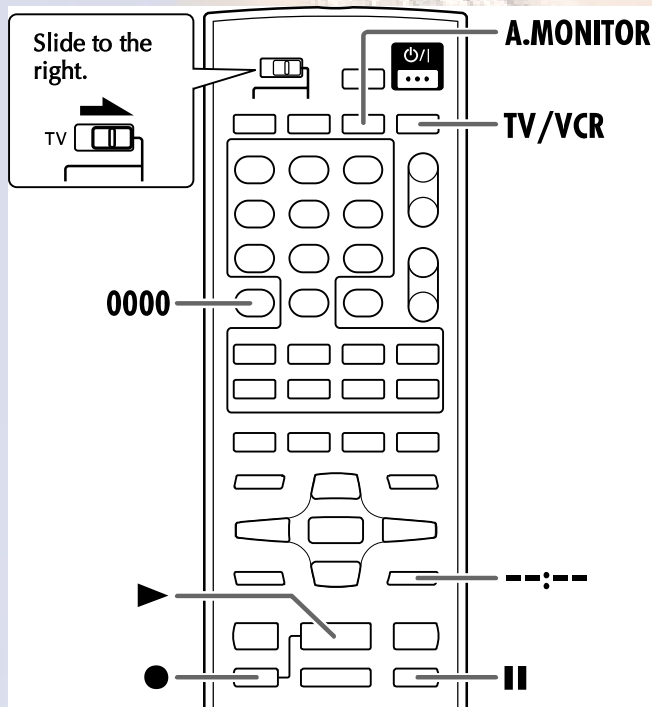
To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



Record safety tab

Recording Features

- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



Record One Programme While Watching Another

Once recording is in progress, all you need to do is to set the channel controls on the TV for the station you wish to view.

- The programme selected with the TV's channel controls appears on the TV screen, while the one selected with the unit's PR buttons is recorded on the tape.

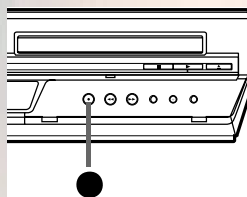
NOTE:

You can also use the DVD deck in the following cases. Before use, be sure to turn on the unit and select the DVD deck.

- During recording
- During timer recording
- During timer standby mode

Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 6 hours (selectable in 30-min. increments), and shuts the unit off after recording is finished.



1 Start recording.

Press ● on the unit.

2 Engage the ITR mode.

Press ● again. "○" blinks and "0:30" appears on the front display panel.

3 Set the recording duration.

If you want to record for more than 30 minutes, press ● to extend the time. Each press extends recording time by 30 minutes.

NOTES:

- You can only perform ITR using the ● button on the unit's front panel.
- When the end of the tape is reached during Instant Timer Recording, the unit is turned off and "○" and "▷" blink on the front display panel.
- When the end of the tape is reached during timer recording, the unit is turned off and "●", "▶" and "⊖" blink on the front display panel.

Elapsed Recording Time Indication

1 Set the counter display.

Press --:-- until a counter reading appears on the front display panel.



2 Reset the counter.

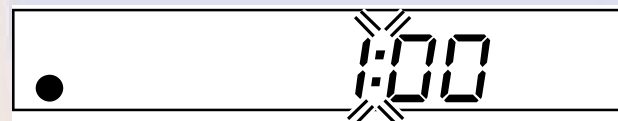
Press 0000 before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs. You can check the exact time of a recording or playback.

Tape Remaining Time

Press --:-- until the time remaining on the tape appears.

- The front display panel shows the tape remaining time with ":" displayed.



- By pressing the --:-- button, you can change the display to show the channel position, clock time, counter reading, and tape remaining time.

* The channel position is not displayed during playback.

NOTES:

- When you press --:--, the on-screen display appears on the TV screen for 5 seconds.
- Depending on the type of tape being used, the tape remaining time reading may not appear right away, or is not correct. "--:--" may sometimes appear with ":" blinking, or the display may blink on occasion.

Receiving Stereo and Bilingual Programmes

Your unit is equipped with a Sound-Multiplex decoder (A2) and a Digital stereo sound decoder (NICAM) making reception of stereo and bilingual broadcasts possible.

When the channel is changed, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
A2 Stereo	ST
A2 Bilingual	BIL.
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL. NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **A.MONITOR** until "HIFI L [L] R" appears on the TV screen.
- To listen to a bilingual programme, press **A.MONITOR** until "HIFI L [L] R" or "HIFI [L] R" appears on the TV screen.
- To listen to the standard (Regular Monaural) audio while receiving a NICAM broadcast, press **A.MONITOR** until "NORM" appears on the TV screen.

NOTE:

"O.S.D." must be set to "ON," or the on-screen displays will not appear. (pg. 54)

To Record Stereo and Bilingual Programmes (A2)

Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound).

- Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.

To Record NICAM Stereo and Bilingual Programmes

The NICAM audio programme will be recorded on the Hi-Fi audio track, and the standard audio programme will be recorded on the normal audio track.

NOTES:

- If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.
- Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" on page 22.

B.E.S.T. Picture System

The B.E.S.T. (Biconditional Equalised Signal Tracking) system checks the condition of the tape in use during playback and recording, and compensates to provide the highest-possible playback and recording pictures. You can set "B.E.S.T." to "ON" or "OFF" to your preference.

(pg. 54)

Playback

The unit assesses the quality of the tape once you initiate playback.

- The unit adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during automatic tracking. "bEST" appears blinking on the front display panel.
- "bEST" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.

Recording

The unit assesses the quality of the tape once you initiate recording.

- The unit spends approximately 7 seconds assessing the condition of the tape, then begins recording.

ATTENTION

Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after ● and ► on the remote control are pressed, or ● on the unit is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:

- 1 Press and hold **II** and press ● to engage the Record Pause mode.
- The unit then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters Record Pause mode.
- 2 Press ► to start recording.

If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF". (pg. 54)

G-CODE® / SHOWVIEW™ System Setup

The G-CODE timer programming system eliminates the need to input channel, date, start and stop time data when setting the timer record function. Simply key in the G-CODE number for the TV programme you wish to record (found in most TV listings) and the unit's timer is automatically programmed.

You have to set Guide Program numbers, which are assigned to each station for purposes of ShowView timer programming, for all the stations stored in your unit's memory to get proper results. Before G-CODE setup you must have performed Auto Set Up. (pg. 14)

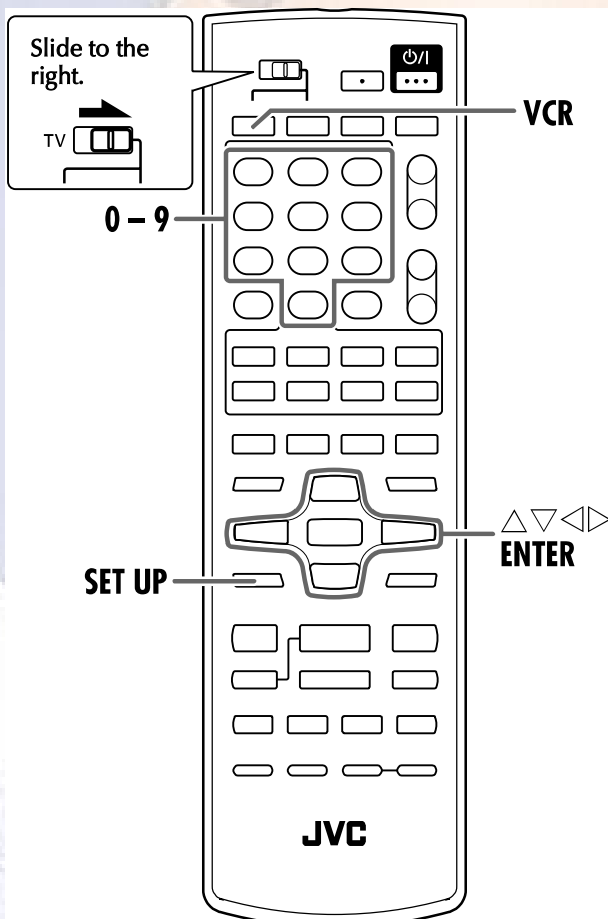
IMPORTANT

After setting the Guide Program Numbers, channel positions may be incorrect if you stored or skipped channels. In this case, re-perform Guide Program Number settings.

INFORMATION

G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature, but only the term G-CODE system will be used in the instructions. If you use the SHOWVIEW system, follow the same instructions listed for the G-CODE system.

- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



Guide Program Number Set

1 Select the VHS deck.

On the unit

Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

On the remote control

Press **VCR** so that the VCR indicator lights up.

2 Access the Main Menu screen.

Press **SET UP**.

3 Access the Initial Set screen.

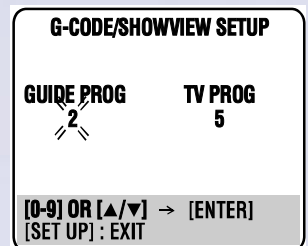
Press Δ / ∇ to move the highlight bar (pointer) to "INITIAL SETUP," then press **ENTER** or \triangleright .

4 Access the Guide Program Set screen.

Press Δ / ∇ to move the highlight bar (pointer) to "G-CODE/SHOWVIEW SETUP," then press **ENTER** or \triangleright .

5 Enter the Guide Program number.

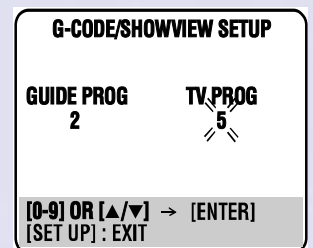
Press Δ / ∇ or **number keys** to enter the Guide Program number for the desired station as shown in the TV listings. Then press **ENTER** or \triangleright .



6 Enter the Receiving channel position number.

Then press Δ / ∇ or **number keys** to input the number of the unit's channel position on which the Guide Program number's broadcast is received by the unit. Then press **ENTER** or \triangleright .

- If the satellite broadcast is received on your unit's auxiliary channel "L-1," select "L-1" for the channel position.
- Repeat steps **5** and **6** as necessary.



7 Return to the normal screen.

Press **SET UP**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for G-CODE timer recording. The Guide Program numbers can be found in most TV listings.

G-CODE® / SHOWVIEW™ Timer Programming

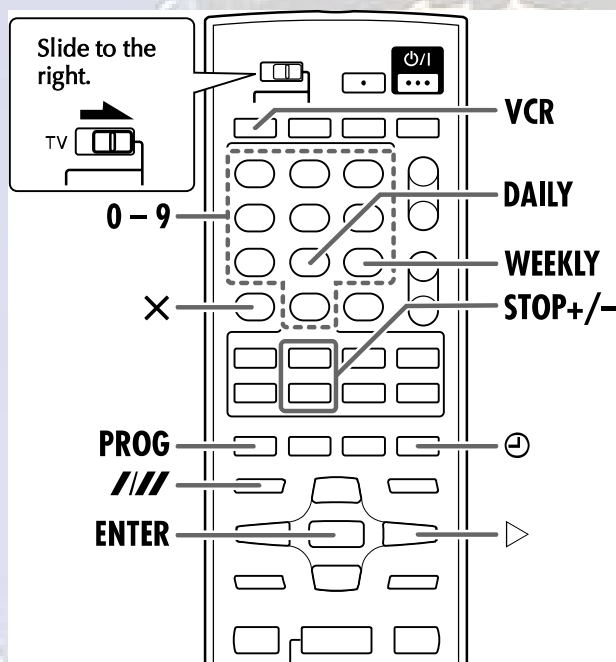
With the G-CODE®/SHOWVIEW™ system, timer programming is greatly simplified because each TV programme has a corresponding code number which your unit is able to recognize.

INFORMATION

G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature, but only the term G-CODE system will be used in the instructions. If you use the SHOWVIEW system, follow the same instructions listed for the G-CODE system.

Before performing the G-CODE®/SHOWVIEW™ Timer Programming:

- Be sure to read "G-CODE®/SHOWVIEW™ System Setup" (pg. 26)
- Make sure that the unit's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The unit will come on automatically.
- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.
- Select the appropriate color system with "PAL/MESECAM" and "NTSC." (pg. 54)



1 Select the VHS deck.

On the unit

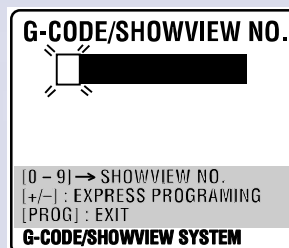
Press VCR/DVD repeatedly so that the VCR indicator lights up.

On the remote control

Press VCR so that the VCR indicator lights up.

2 Access the G-CODE/SHOWVIEW screen.

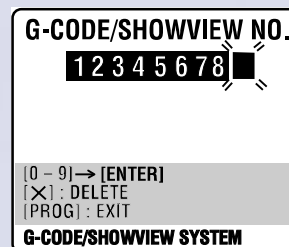
Press PROG.



3 Enter the G-CODE number.

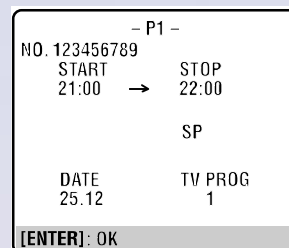
Press the **number keys** to enter the G-CODE number of a programme you wish to record.

- If you make a mistake, press X and input the correct number.



4 Access the G-CODE Program screen.

Press **ENTER**, then the G-CODE Program screen appears (if you're just starting out, "P1" appears).



IMPORTANT

Make sure the channel position number you wish to record is displayed; if not, see "G-CODE®/SHOWVIEW™ System Setup" on page 26 and set the Guide Program number correctly.

- If the number you entered is invalid, "ERROR" appears on the TV screen. Press X and input a valid G-CODE number.
- If the "G-CODE/SHOWVIEW SETUP" screen appears, see "ATTENTION" on page 28.

5 Set the tape speed.

Press **///** (SP/LP or EP*).

* EP is for NTSC only.

6 Return to the normal screen.

Press **PROG** or **ENTER**. "PROGRAM COMPLETED" appears on the TV screen for about 5 seconds, then the normal screen appears. If "PROGRAM OVERLAPPED" appears on the TV screen, see page 28.

- Repeat steps 2 – 6 for each additional programme.

7 Engage the unit's timer mode.

Press **⊖**. The unit turns off automatically and "⊖" appears on the front display panel.

- To disengage the timer mode, press **⊖** again.

NOTES:

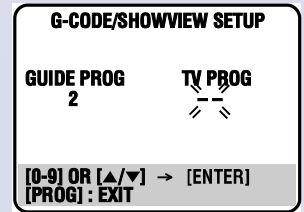
- To Change The Stop Time:
 - press **STOP +/-** after pressing **ENTER** in step 4. You can compensate for anticipated programme schedule delays.
- To Timer-Record Weekly Or Daily Serials:
 - after pressing **ENTER** in step 4, press **WEEKLY** (number key "9") for weekly serials or **DAILY** (number key "8") for daily serials (Monday — Friday). Either "WEEKLY" or "DAILY" appears on the TV screen. Pressing the button again makes the corresponding indication disappear.
- You can programme this unit to timer-record as many as 8 programmes. If you try to programme the unit to record a ninth, "PROGRAM FULL" appears on the TV screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes. (pg. 30)

ATTENTION

Guide Program Number Set

"G-CODE/SHOWVIEW SETUP" appears after performing step 4 if the Guide Program number for the G-CODE number you entered has not been set.

Press **△▽** or the **number keys** to input the channel position number on which your unit receives that station, then press **ENTER** or **▷** to set the Guide Program number. The G-CODE Program screen appears.

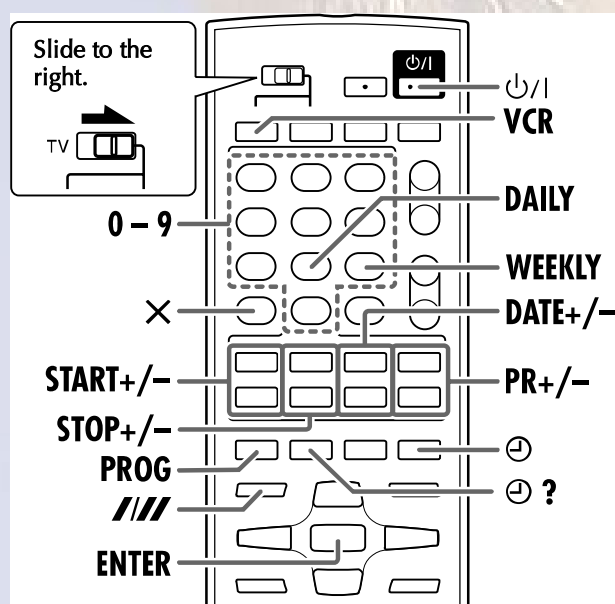


Express Timer Programming

If you do not know the G-CODE number for the programme you wish to record, use the following procedure to set your unit to timer-record the programme.

Before performing Express Timer Programming:

- Make sure that the unit's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The unit will come on automatically.
- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.
- Select the appropriate colour system with "PAL/MESECAM" and "NTSC" (pg. 54).



Example: To timer-record the programme from 21:00 to 22:00 on 25th December, on channel 1.

1 Select the VHS deck.

On the unit

Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

On the remote control

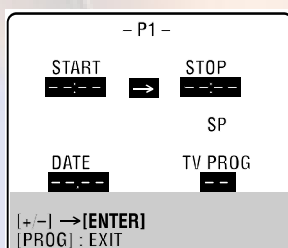
Press **VCR** so that the VCR indicator lights up.

2 Access the G-CODE/SHOWVIEW screen.

Press **PROG**.

3 Access the Programme screen.

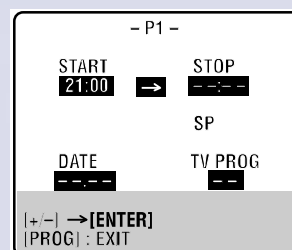
Press **START +/-**. (If you're just starting out, "P1" appears.)



4 Enter the programme start time.

Press **START +/-** to enter the time you want recording to start.

- Press and hold **START +/-** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.



5 Enter the programme stop time.

Press **STOP +/-** to enter the time you want recording to stop.

- Press and hold **STOP +/-** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

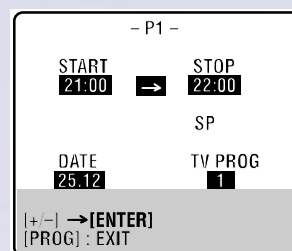
6 Enter the programme date.

Press **DATE +/-**.

- The current date appears on the TV screen. The date you enter appears in its place.

7 Enter the channel position.

Press **PR +/-**.



8 Set the tape speed.

Press **///** (SP/LP or EP*).

* EP is for NTSC only.

9 Return to the normal screen.

Press **PROG** or **ENTER**. "PROGRAM COMPLETED" appears on the TV screen for about 5 seconds, then the normal screen appears.

- If "PROGRAM OVERLAPPED" appears on the screen, see page 28.
- Repeat steps 2 – 9 for each additional programme.

10 Engage the unit's timer mode.

Press **⊖**. The unit turns off automatically and "⊖" appears on the front display panel.

- To disengage the timer mode, press **⊖** again.

To Timer-Record Weekly Or Daily Serials:

— anytime during steps 1 through 3, press **WEEKLY** (number key "9") for weekly serials or **DAILY** (number key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the TV screen. Pressing the button again makes the corresponding indication disappear.

NOTES:

- You can programme this unit to timer-record as many as 8 programmes. If you try to programme the unit to record a ninth, "PROGRAM FULL" appears on the TV screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes. (☞ "To cancel or change a programme").

Check, cancel and change programmes**1 Disengage the timer mode.**

Press \ominus , then press ψ/I .

2 Access the Programme Check screen.

Press $\ominus ?$.

PR	START	STOP	CH	DATE
1	8:00	10:00	3	24.12
2	10:00	10:45	2	25.12
3	11:30	13:00	1	25.12
4				
5				
6				
7				
8				

$\ominus ?$: NEXT

3 Access the Programme screen.

Press $\ominus ?$ again to check more information. Each time you press $\ominus ?$, the next programme's information appears.

- P1 -	
START 8:00	STOP 10:00
SP	
DATE 24.12	TV PROG 3

$\ominus ?$: NEXT

To cancel or change a programme**4 Cancel or change a programme.**

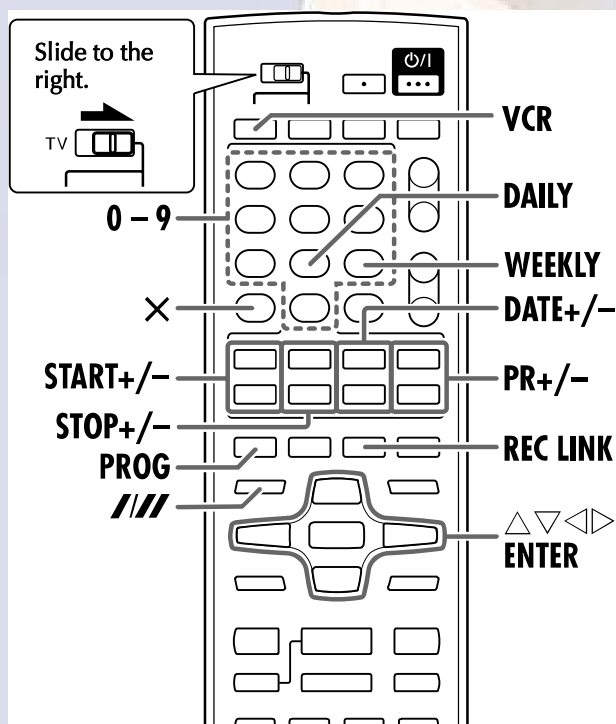
Press \times to cancel a programme. To change programme settings, press the appropriate button: **START +/-**, **STOP +/-**, **DATE +/-**, **PR +/-**, **DAILY** (number key "8"), **WEEKLY** (number key "9") and/or **///** (SP/LP or EP*)
* EP is for NTSC only.

5 Return to the normal screen.

Press $\ominus ?$ as many times as necessary. If there are still some programmes remaining, go on to step 3.

6 Return to the timer mode.

Press \ominus .



3 Cancel or change programme setting.

To cancel a programme, press **X** when the Programme screen you do not want is shown. "PROGRAM COMPLETED" appears on the TV screen for about 5 seconds, then the normal screen appears.

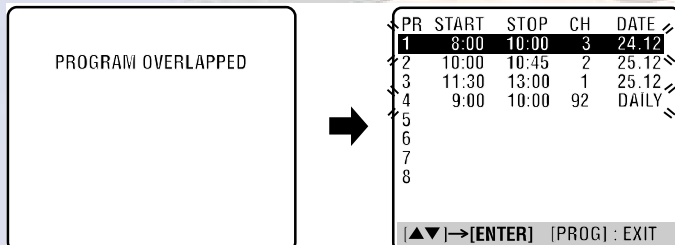
To change a programme, press the appropriate button: **START +/-**, **STOP +/-**, **DATE +/-**, **PR +/-**, **DAILY** (number key "8"), **WEEKLY** (number key "9") and/or **///** when the Programme screen on which you want to make changes is shown, then press **ENTER**. "PROGRAM COMPLETED" appears on the TV screen for about 5 seconds, then the normal screen appears.

NOTE:

If the overlap is not yet solved, or another overlap occurs with the timer programme setting after making the last correction on a programme, the conflicting programmes will be shown on the Programme Check screen again. Repeat the above steps again until the overlap is solved.

When programmes overlap each other

If "PROGRAM OVERLAPPED" appears, you have another programme overlapping the programme you have just made. The Programme Check screen appears and conflicting programmes will start blinking.



Example: Programme 1 (you have just made) and Programme 4 overlap each other.

1 Confirm the overlapping programmes.

Overlapping programmes blink on the TV screen.

2 Select the programme to modify.

Press **▲▼**, then press **ENTER** or **▷**.

- You can only select one of the overlapping programmes.

NOTE:

If you do not mind this overlap, press **PROG** to finish the timer programme setting. The programme with the lower programme number will be recorded and the other one will not be recorded correctly. If no changes are made for approximately 1 minute, the unit will return to the normal screen.

Automatic Satellite Programme Recording

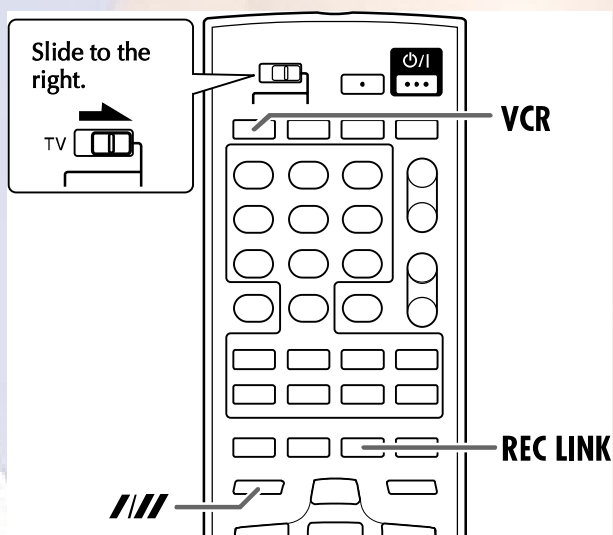
This function allows you to automatically record a satellite programme which is timer-programmed on your external satellite receiver. Connect a satellite receiver to the unit's L-1 Input Connector (INPUT (L-1)) and programme the timer on the satellite receiver. The unit starts or stops recording by the signals input from the satellite receiver. After recording, the unit's power shuts off automatically.

ATTENTION

- Be sure not to turn on the satellite receiver before the programme is executed; otherwise, the unit will start recording when the satellite receiver's power is turned on.
- If you have connected another appliance other than a satellite receiver to the L-1 Input Connector (INPUT (L-1)), be sure not to engage the Automatic Satellite Programme Recording mode; otherwise, the unit will start recording when the connected appliance's power is turned on.
- Automatic Satellite Programme Recording and timer-recording cannot be done at the same time.

Before performing the following steps:

- Make sure the satellite receiver is connected to the unit's L-1 Input Connector (INPUT (L-1)) connector.
- Programme the timer on the satellite receiver.
- Insert a cassette with the safety tab in place.
- Slide the TV/VCR/DVD switch on the remote control to the right.



2 Set the tape speed.

Press **///**.

3 Engage the Automatic Satellite Programme Recording mode.

Press and hold **REC LINK** for about 2 seconds.

- The "⏸" and "⏻" indicators light up and the unit turns off automatically.



NOTES:

- Operation on the DVD deck is not possible when the Automatic Satellite Programme Recording mode is engaged, or Timer Recording is in progress.
- To disengage the Automatic Satellite Programme Recording mode, press **REC LINK**. The "⏸" indicator goes off.
- If the unit's power is off, it is not possible to engage the Automatic Satellite Programme Recording mode.
- In step 3, if the "⏸" indicator does not light but instead blinks quickly even though your satellite receiver's power is off, Automatic Satellite Programme Recording will not work properly with that satellite receiver*.
 - * Some satellite receivers output signals even if the power is off. Automatic Satellite Programme Recording is not possible with those satellite receivers.
- The "⏸" indicator blinks while Automatic Satellite Programme Recording is in progress.
- For timer programming of the satellite receiver, refer to the instruction manual of the satellite receiver.
- Automatic Satellite Programme Recording is not possible if your satellite receiver does not have a timer.
- Pressing the unit's ⏻/I button while Automatic Satellite Programme Recording is in progress turns off the unit's power and disengages the Automatic Satellite Programme Recording mode.
- If there are more than one satellite programmes you wish to record with Automatic Satellite Programme Recording, it is not possible to set different tape speeds for each programme.
- Depending on the type of satellite receiver, the unit may not record a slight portion of the beginning of the programme or may record slightly longer than the actual length of the programme.
- If you engage the Automatic Satellite Programme Recording mode when the satellite receiver's power is on, the unit will not start Automatic Satellite Programme Recording even though the "⏸" and "⏻" indicators blink. When the satellite receiver shuts off once and is turned back on again, the unit starts recording.
- You can also record a programme from your cable system in the same way if the system has a timer.
- The B.E.S.T. system (ⓘ pg. 25) does not work while Automatic Satellite Programme Recording is in progress.

1 Select the VHS deck.

On the unit

Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

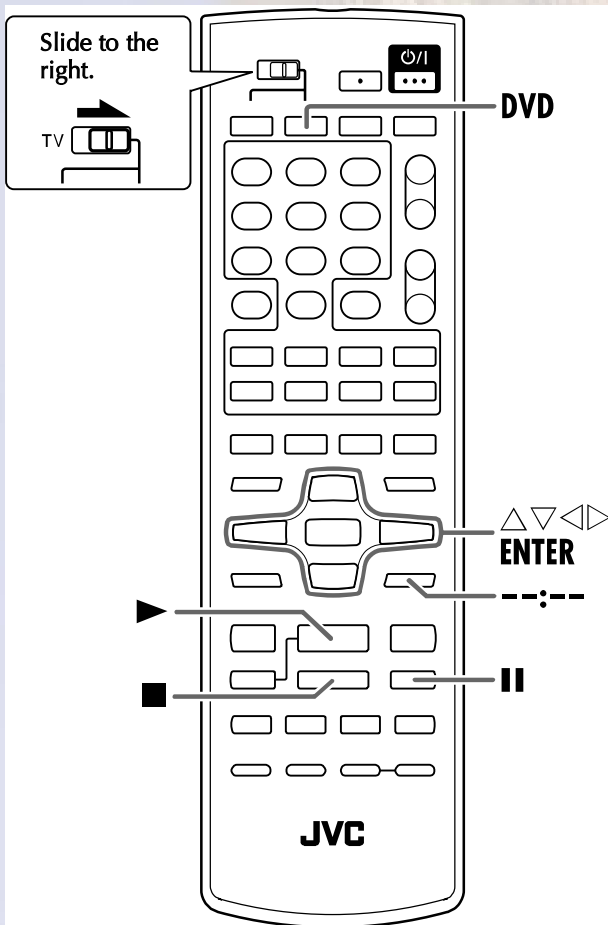
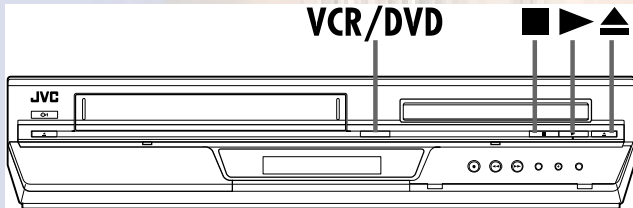
On the remote control

Press **VCR** so that the VCR indicator lights up.

Basic Playback



- Turn on the TV and select the VCR channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



ATTENTION

- You can not use the DVD deck when the VCR deck is in the Automatic Satellite Recording standby and recording mode.
- You can use the DVD deck when the VCR deck is in the timer standby mode.
- If the unit does not accept an operation, appears on the TV screen. (Operations are occasionally unacceptable even if is not displayed.)

To play back a MP3/JPEG disc, see pages 42 – 44.

1 Load the disc.

- For details, refer to “Placing a Disc” (pg. 5).

2 Select the DVD deck.

On the unit

Press **VCR/DVD** repeatedly so that the DVD indicator lights up.

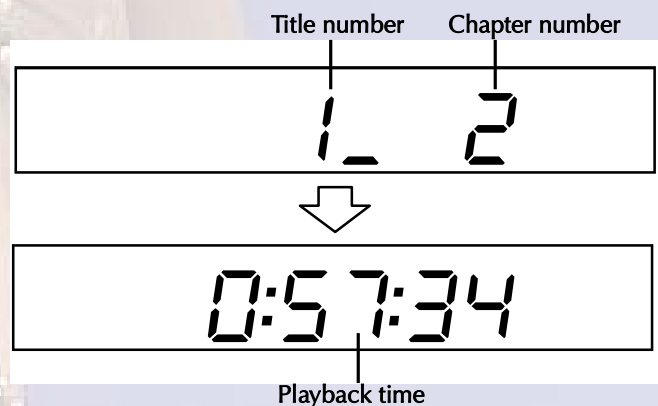
On the remote control

Press **DVD** so that the DVD indicator lights up.

3 Start playback.

Press **▶**.

Example: DVD VIDEO



- You can switch the display on the front display panel between the title/chapter/track number and the playback time by pressing **--:--**.
- It may take a few seconds to start playback.
- When inserting a DVD or Video CD disc, a menu display may appear on the TV screen. To play back from the menu, refer to “Locating a Desired Scene Using the Menu of the Video CD with Playback Control (PBC) Function” (pg. 34) or “Locating a Desired Scene Using the DVD Menu” (pg. 34).

4 Pause playback.

Press **||**.

- To resume normal playback, press **▶**.

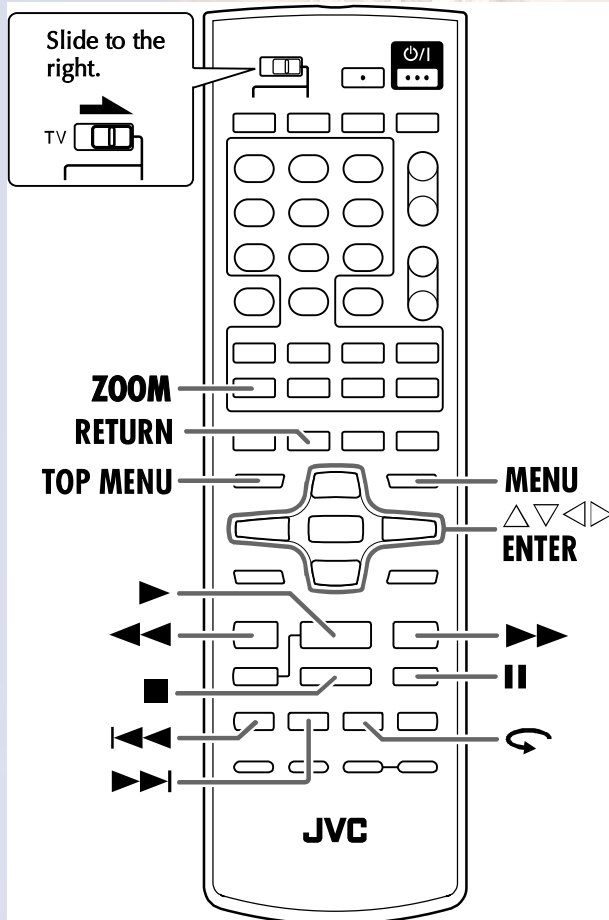
5 Stop playback.

Press **■**.

- When “RESUME” (pg. 58) is “ON,” the unit memorizes the position on the disc where you have interrupted playback.
 - To resume playback, press **▶**.
 - To stop playback completely, press **■** again.
- Press **▲** on the DVD deck to open the disc tray, then remove the disc.

Playback Features

- Turn on the TV and select the VCR channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.



Locating a Desired Scene Using the DVD Menu



DVD VIDEO discs generally have their own menus which show the disc contents. These menus contain various items such as titles of movies, names of songs, or artist information, and display them on the TV screen. You can locate a desired scene using the DVD menu.

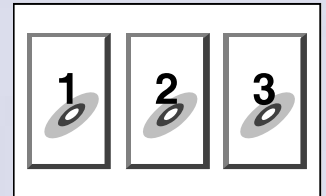
1 Access the DVD menu.

Press **TOP MENU** or **MENU**.

2 Start playback.

Press Δ ∇ \triangleleft \triangleright to select a desired item, then press **ENTER**.

- It may be possible to select the desired item using the **number keys** depending on the disc.



Example:

Locating a Desired Scene Using the Menu of the Video CD with Playback Control (PBC) Function



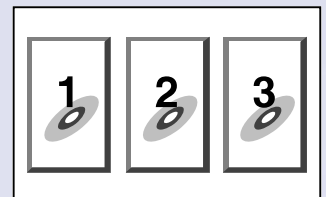
Some Video CD discs supports the PBC function. PBC is an abbreviation of "PlayBack Control." A Video CD disc recorded with PBC has its own menus, such as a list of the songs of the disc. You can locate a specific scene by using the menu.

1 Access the PBC menu.

In stop mode

Press \blacktriangleright .

- Depending on a disc, PBC menu may automatically appear on the TV screen by simply loading a disc on the unit. "Pbc" appears on the front display panel.



Example:

During playback

Press **RETURN**.

2 Start playback.

Press the appropriate **number keys**.

- The unit starts playback of the selected item.
- When "NEXT" or "PREVIOUS" appears on the TV screen:
 - Pressing $\blacktriangleright\blacktriangleright$ advances to the next page.
 - Pressing $\blacktriangleleft\blacktriangleleft$ returns to the previous page.
- The method of the operation is different depending on the disc.

To cancel PBC

Start playback by using the **number keys** instead of \blacktriangleright .

To reactivate PBC

- Press **TOP MENU** or **MENU**.
- Press \blacksquare to stop playback, then press \blacktriangleright .

Locating the Start Point of the Item or Skip the Item

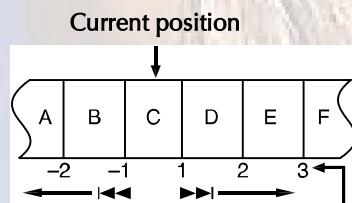


Press **◀◀** or **▶▶** during playback.

Example:

To locate the beginning of item B from the current position, press **◀◀** twice.

To locate the beginning of item D from the current position, press **▶▶** once.



The number you press the button

- When the specified item is located, playback begins automatically.

NOTE:

When you press **◀◀** or **▶▶**, the counter display may appear instead of title number/chapter number depending on the discs.

Variable Speed Search



During playback, press **▶▶** for forward variable speed search, or **◀◀** for reverse variable speed search.

- The more times you press, the faster the playback picture moves.
- To resume normal playback, press **▶**.

OR

During playback, press and hold **▶▶** for forward search, or press and hold **◀◀** for reverse search.

- While you press and hold the button, the image is played back at 5x speed.
- To resume normal playback, release **◀◀** or **▶▶**.

NOTES:

- Actual speed may be different from that displayed on the TV screen depending on the discs.
- Playback sound is not heard in any variable speed search mode.

One Touch Replay



Press **↶** while playing back a DVD VIDEO disc. The playback position moves back about 10 seconds before the current position (only within the same title).

Still Picture/Frame-By-Frame Playback



1 Pause during playback.

Press **⏸**.

2 Activate frame-by-frame playback.

Press **⏸** to advance a still picture.

- To resume normal playback, press **▶**.

Slow Motion



During playback, press **⏸**, then press **▶▶** for forward slow motion playback, or **◀◀** for reverse slow motion playback.

- Each press of **▶▶** changes the playback speed as follows: 1/32 → 1/16 → 1/8 → 1/4 → 1/2
- Each press of **◀◀** changes the playback speed as follows (only for DVD VIDEO discs): -1/32 → -1/16 → -1/8 → -1/4 → -1/2
- To resume normal playback, press **▶**.

NOTES:

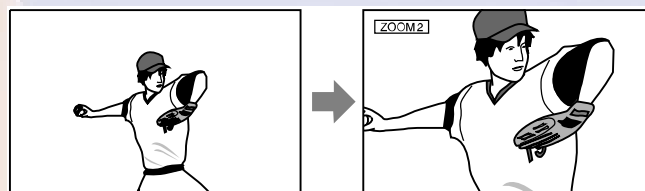
- Reverse slow motion playback is possible only with the DVD VIDEO discs.
- This function may not work for some Video CD or SVCD.

Zooming



Press **ZOOM** during playback or while paused.

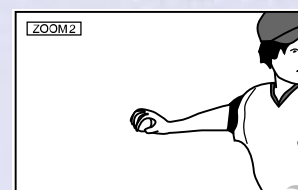
- Each press of **ZOOM** changes the magnification in the following steps: ZOOM OFF → ZOOM 1 → ZOOM 2 → ZOOM 3 → ZOOM 4 → ZOOM 5 → ZOOM 6 → (Back to the beginning)
- While zoomed, the picture may look coarse or distorted.

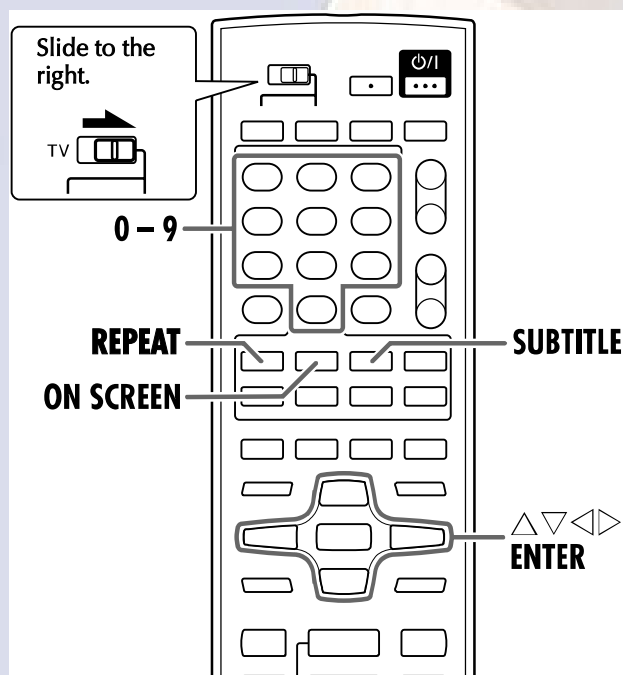


Current magnification

Zoomed-in area

Press **△▽◀▶** to move the zoomed-in scene.



**NOTES:**

- Repeat Playback is not possible with a Video CD and SVCD with PBC function.
- Repeat Playback may not work properly depending on the type of disc being used.
- You cannot select A-B Repeat Playback by pressing **REPEAT**.

A-B Repeat Playback

You can repeat the desired part.

1 Access the on-screen bar.

Press **ON SCREEN** twice. The on-screen bar appears on the TV screen.

2 Select menu item.

Press $\triangleleft \triangleright$ to highlight , then press **ENTER**.

- The following pop-up window appears under the selected item.

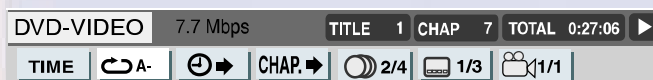
**3 Select the repeat mode.**

Press $\triangle \nabla$ repeatedly to select "A-B."

4 Select the start point.

Press **ENTER** at the beginning of the part you want to repeat (point A).

- The following display appears in the on-screen bar.

**5 Select the end point**

Press **ENTER** at the end of the part you want to repeat (point B).

- A-B Repeat Playback starts. The selected part of the disc (between point A and B) is played repeatedly.

To cancel A-B Repeat Playback

Repeat from step **1**, select "OFF" in step **3**, then press **ENTER**.

To clear the on-screen bar

Press **ON SCREEN**.

NOTE:

The points A and B must be set in the same title or track.

Repeat Playback

You can repeat playback as you like according to the type of disc.

DVD VIDEO: during playback

Audio CD: during playback or in stop mode

Video CD/SVCD: in stop mode or during playback with PBC deactivated

1 Access the repeat mode.

Press **REPEAT**.

- Repeat mode is displayed on the TV.

2 Select the repeat mode.

Press **REPEAT** repeatedly to select the desired repeat mode.

DVD VIDEO

CHAPTER \rightarrow TITLE \rightarrow OFF \rightarrow (Back to the beginning)

CHAPTER:	The current chapter is played back repeatedly.
TITLE:	The current title is played back repeatedly.
OFF:	Each title and chapter is played back once.

Video CD/SVCD/CD

TRACK \rightarrow ALL \rightarrow OFF \rightarrow (Back to the beginning)

TRACK:	The current track is played back repeatedly.
ALL:	All tracks are played back repeatedly.
OFF:	Each track is played back once.

- The pop-up window disappears if no operation is done for about 5 seconds.

To cancel Repeat Playback

Press **REPEAT** repeatedly until "OFF" appears on the TV screen.

Time Search



You can play back a disc from the desired point by specifying the elapsed time from the beginning of the current title (for DVD VIDEO) or the disc (for Audio CD/Video CD) using the Time Search.

1 Access the on-screen bar.

Press **ON SCREEN** twice. The on-screen bar appears on the TV screen.

2 Select menu item.

Press \triangleleft \triangleright to highlight $\odot \rightarrow$, then press **ENTER**.

- The following pop-up window appears under the selected item.



3 Select the time.

Press the **number keys** (0-9) to enter the time, then press **ENTER**.

Example:

To play back from a point 2 (hours): 34 (minutes): 08 (seconds) elapsed



If you have specified a wrong selection,

Press \triangleleft repeatedly until the wrong number is erased, then press **number keys** to enter the correct numbers.

- The unit starts playback from the specified time.

To clear the on-screen bar

Press **ON SCREEN**.

NOTE:

Some DVD VIDEO discs do not contain time information, and it is not possible to use the Time Search function.

Subtitle Selection



You can select subtitle language.

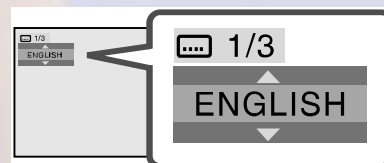
- During playback

1 Access the menu.

Press **SUBTITLE**.

- The following pop-up window appears on the TV screen.

Example (DVD): "ENGLISH" is selected out of 3 subtitle languages recorded.



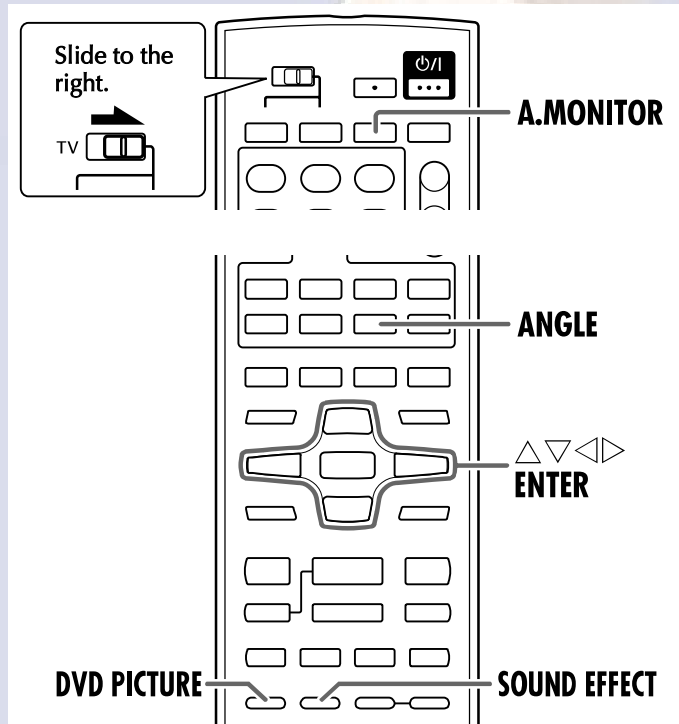
2 Select the subtitle language.

Press \triangle ∇ repeatedly to select the desired subtitle language. To turn off the subtitle, press **SUBTITLE** repeatedly until "OFF" is selected.

- Each time you press the button, the subtitle language changes.
- The pop-up window disappears if no operation is done for about 5 seconds.

NOTES:

- **For DVD VIDEO**
Some subtitle languages are abbreviated in the pop-up window. See "Language Code List" (pg. 18).
- **For SVCD**
An SVCD can contain up to four subtitles. Pressing **SUBTITLE** changes the subtitles regardless of whether the subtitles are recorded or not.



Angle Selection



You can enjoy a variety of scene angles if the DVD VIDEO disc contains "multi-angle" parts, where multiple cameras were used to shoot the same scene from different angles.

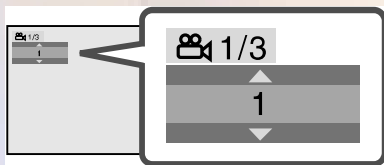
- During playback

1 Access the menu.

Press **ANGLE**.

- The following pop-up window appears on the TV screen.

Example: The first view angle is selected out of 3 view angles recorded.



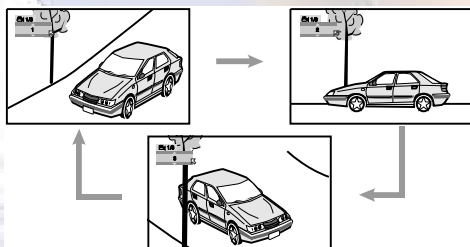
2 Select the view angle.

Press Δ / ∇ or **ANGLE** repeatedly to select the desired view angle.

- Each time you press the button, the angle of the scene changes.
- The pop-up window disappears if no operation is done for about 5 seconds.

Example:

1/3 → 2/3 → 3/3 → (Back to the beginning)



Audio Language and Sound Selection



The audio selection setting allows you to change the audio language of a movie, or to listen to karaoke with or without the vocal.

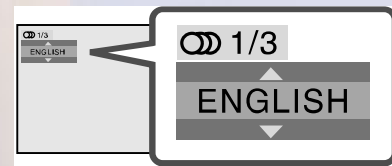
- During playback

1 Access the menu.

Press **A.MONITOR**.

- The following pop-up window appears on the TV screen.

Example: "ENGLISH" is selected out of 3 audio languages recorded during DVD VIDEO playback.



2 Select the audio setting.

Press Δ / ∇ or **A.MONITOR** repeatedly to select the desired audio language.

- Each time you press the button, the audio selection changes.
- The pop-up window disappears if no operation is done for about 5 seconds.

DVD VIDEO (example)

1/3 ENGLISH → 2/3 FRENCH → 3/3 SPANISH → (Back to the beginning)

Video CD

ST → L → R → (Back to the beginning)

ST:	To listen to normal stereo playback.
L:	To listen to L (left) audio channel only.
R:	To listen to R (right) audio channel only.

SVCD

ST 1 → ST 2 → L 1 → R 1 → L 2 → R 2 → (Back to the beginning)

ST 1/ST 2:	To listen to normal stereo playback of ST 1 or ST 2 channel.
L 1/L 2:	To listen to the L (left) 1 or 2 audio channel.
R 1/R 2:	To listen to the R (right) 1 or 2 audio channel.

NOTE:

For DVD VIDEO discs, some audio languages are abbreviated in the pop-up window. See "Language Code List" (pg. 18).

Sound Effect (3D PHONIC)



Using the Sound Effect function (3D PHONIC), you can change the sound field.

- This function works only for analog audio output.

1 Access the selection menu.

Press **SOUND EFFECT** during playback.

- The current setting appears on the TV screen.

2 Select the Sound Effect (3D PHONIC) mode.

Press **SOUND EFFECT** repeatedly to select the desired mode.

- Each time you press **SOUND EFFECT**, the Sound Effect (3D PHONIC) mode changes as follows:
OFF→ACTION→DRAMA→THEATER→(Back to the beginning)

OFF:	No effect
ACTION:	Suitable for action movies and sports programmes in which sounds dynamically move.
DRAMA:	Provides natural and warm sound. You can enjoy movies in a relaxed mood.
THEATER:	You can enjoy sound effects like in a major theater.

- The selection menu disappears if no operation is done for about several seconds.

NOTES:

- The Sound Effect (3D PHONIC) function works correctly only when playing back a DVD VIDEO disc recorded in the Dolby Digital format. With other sources, you cannot get any effect if you activate this function.
- When playing back a DVD VIDEO disc recorded with Dolby Digital that does not contain the rear signal, you cannot get a correct effect even if you activate the Sound Effect (3D PHONIC) function.

VFP function — Adjusting the picture quality



The VFP (Video Fine Processor) function enables you to adjust the picture character according to the type of programing, picture tone or personal preference.

1 Access the VFP setting menu.

Press **DVD PICTURE** during playback.

- The current setting appears on the TV screen.

NORMAL	
GAMMA	0
BRIGHTNESS	0
CONTRAST	0
SATURATION	0
TINT	0
SHARPNESS	+3

2 Select the VFP mode.

Press \triangleleft \triangleright repeatedly.

- Each time you press \triangleleft \triangleright , the VFP mode changes as follows:
NORMAL→CINEMA→USER 1→USER 2→(Back to the beginning)

NORMAL:	Select this normally.
CINEMA:	Suitable for movie.
USER 1/ USER 2:	You can adjust parameters that affect picture appearance and store settings. Go to step 3.

To adjust picture appearance manually

3 Access USER menu.

Press \triangleleft \triangleright repeatedly to select "USER 1" or "USER 2."

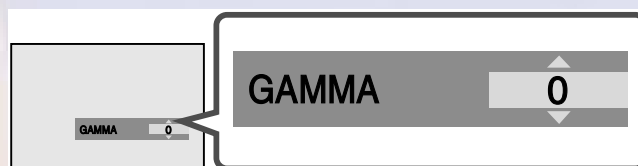
4 Select the parameter.

Press \triangle ∇ repeatedly to select a parameter you want to adjust, then press **ENTER**.

- Adjust gradually and confirm picture appearance results are as preferred.

GAMMA (-3 to +3):	Adjust this if the neutral color is bright or dark. The brightness of dark and bright portions is maintained.
BRIGHTNESS (-8 to +8):	Adjust this if the picture is bright or dark on the whole.
CONTRAST (-7 to +7):	Adjust this if the objects in far and near positions look unnatural.
SATURATION (-7 to +7):	Adjust this if the picture is whitish or blackish.
TINT (-7 to +7):	Adjust this if the appearance of flesh tone is unnatural.
SHARPNESS (-8 to +8):	Adjust this if the picture is indistinct.

- VFP menu disappears and the following pop-up window appears on the TV screen.



5 Adjust the parameter.

Press \triangle ∇ repeatedly to change the setting, then press **ENTER**.

- The current VFP settings appear again. Repeat steps 4 and 5 to adjust other parameters.

To return to the normal screen

Press **DVD PICTURE**.

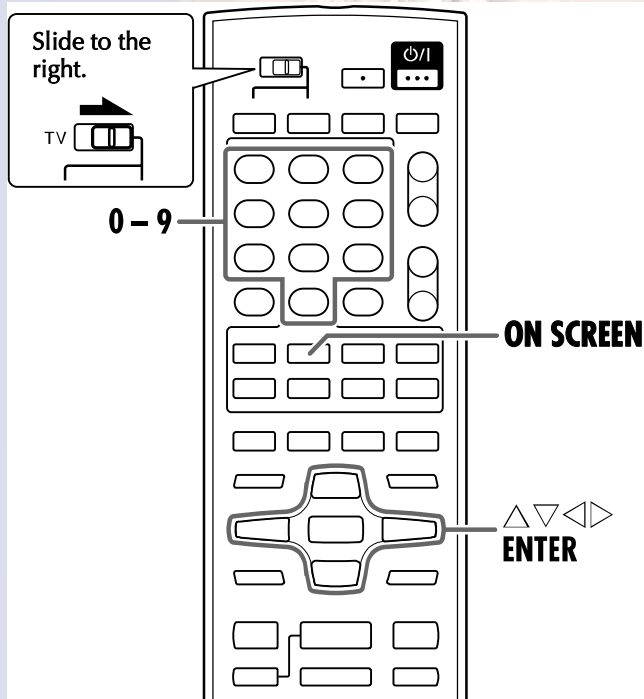
NOTE:

The VFP setting screen disappears if no operation is done for more than about 10 seconds.

Using the on-screen bar



You can check disc information while the disc is loaded and you can use some functions using the on-screen bar. The on-screen bar allows you the various playback operations.



Basic operation on the on-screen bar

During playback

1 Access the on-screen bar.

Press **ON SCREEN** twice. The on-screen bar appears on the TV screen.

- The currently selected item is highlighted.



2 Select menu item.

Press \triangle ∇ to highlight the item you want to work with, then press **ENTER**. The pop-up window appears under the selected item.

After pressing **ENTER**

- When a pull-down menu appears, press \triangle ∇ to select the setting you want, then press **ENTER**.
- When a number-entry box appears, use the **number key** to enter the number you want, then press **ENTER**.
- When changing the indication of playback time, press **ENTER** repeatedly to select the setting you want.

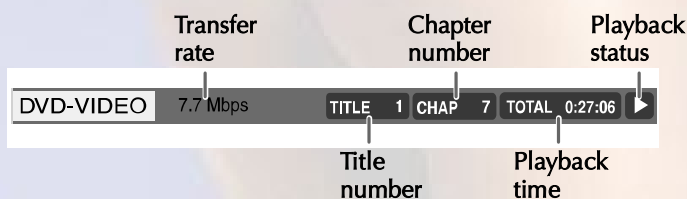
For details about each function, see page 41.

How to Access the On-Screen Bar

1 Access the status bar.

Press **ON SCREEN** when a disc is loaded. The status bar appears on the TV screen.

Example: During DVD VIDEO playback



2 Access the menu bar.

Press **ON SCREEN** again. The menu bar appears under the status bar.



To clear the on-screen bar

Press **ON SCREEN**.

Menu Bar Functions for DVD VIDEO

■ Time mode selection

During playback, selects the time mode shown in the status bar and on the front display.

- **TOTAL:** Current title elapsed time
- **T.REM:** Current title remaining time
- **TIME:** Current chapter elapsed time
- **REM:** Current chapter remaining time

■ Repeat mode (See also page 36)

Selects the repeat mode during playback.

- **CHAPTER:** Current chapter repeat
- **TITLE:** Current title repeat
- **A-B:** A-B repeat
- **OFF:** Repeat mode deactivated

■ Time search (See also page 37)

Specifies a time from the beginning of the current title as the point from which to begin playback.

■ Chapter search

During playback, specifies a desired chapter to be played back from.

■ Audio selection (See also page 38)

During playback, selects the audio language or sound track.

■ Subtitle selection* (See also page 37)

During playback, selects the subtitle language.

** It is impossible to select "OFF" when using the on-screen bar. To select "OFF", press ON SCREEN to clear the on-screen bar, then press SUBTITLE repeatedly until "OFF" is selected.*

■ Angle selection (See also page 38)

During playback, selects a desired scene angle in a multi-angle part.

Menu Bar Functions for SVCD/Video CD/Audio CD

■ Time mode selection

Selects the time mode shown in the status bar and on the front display.

- **TIME:** Current track elapsed time
- **REM:** Current track remaining time (while in stop mode, current track total time)
- **TOTAL:** Disc elapsed time
- **T.REM:** Disc remaining time (while in stop mode, disc total time)

■ Repeat mode (See also page 36)

Selects the repeat mode.

- **TRACK:** Current track repeat
- **ALL:** All track repeat
- **A-B:** A-B repeat
- **OFF:** Repeat mode deactivated

■ Time search (See also page 37)

Specifies a time from the beginning of the disc as the point from which to begin playback.

■ Audio selection (See also page 38)

During Video CD/SVCD playback, selects the audio channel(s).

■ Subtitle selection (See also page 37)

During SVCD playback, selects the subtitle.

MP3/JPEG files Playback

Control display

The control display appears on the TV screen and playback starts when an MP3 or a JPEG disc is loaded.

Outline

This unit can play back MP3 and JPEG files on a personally recorded on CD-R/RW and commercially available CD disc.

- This unit may be unable to play back the disc due to the characteristics or recording conditions.

Precautions

About files and folders (groups) on the disc

- This unit can recognize up to 99 groups and up to 150 files per group.

If a disc includes more than the files above limit, the unit stops detecting files when the number of detected files reaches the limit and ignores the subsequent files. The unit also ignores any non-MP3/JPEG file in the disc.

- Add the appropriate extension, such as "mp3" or "jpeg" to the file name.

For making your own disc:

- Use "UDF format" as the disc format for CD-R/RW.
- Use "ISO 9660" as the disc format for CD-R/RW.
- The unit does not support "packet writing" for CD-R/RW.
- The unit supports discs recorded with up to five multiple sessions.
- Finalize the disc.

For MP3 files:

MP3i and MP3 Pro are not available.

For JPEG files:

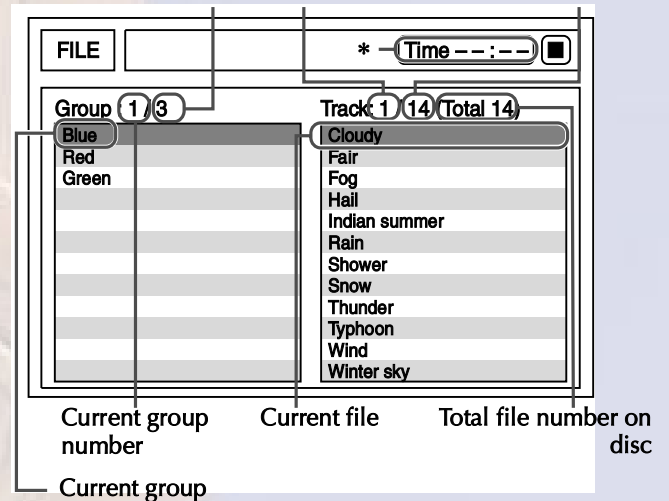
- This unit supports the JPEG files whose resolution is 32 to 8192 pixel in width and 32 to 7680 pixel in height.
- We recommend to record a file at 640 x 480 resolution. (If a file has been recorded at a resolution of more than 640 x 480, it will take a longer time to be displayed.)

NOTES:

- Because of the disc characteristics or recording condition, some discs may not be played back or it takes time to start playback.
- The unit does not support "packet writing" discs.
- If there are any files which are stored on a disc directly and do not belong to any group, the unit recognized them as belonging to an independent group.
- The unit plays back groups/files on a disc in the alphabetical order. Therefore, playback order may be different from the order recorded on a disc.
- Be sure to set "FILE TYPE" correctly when playing back a disc which contains both MP3 and JPEG files. (pg. 57)

Example: When an MP3 disc is loaded

Total group number on disc	Current file number	Total file number in current group
----------------------------	---------------------	------------------------------------



* For MP3 only

Elapsed playing time of current track

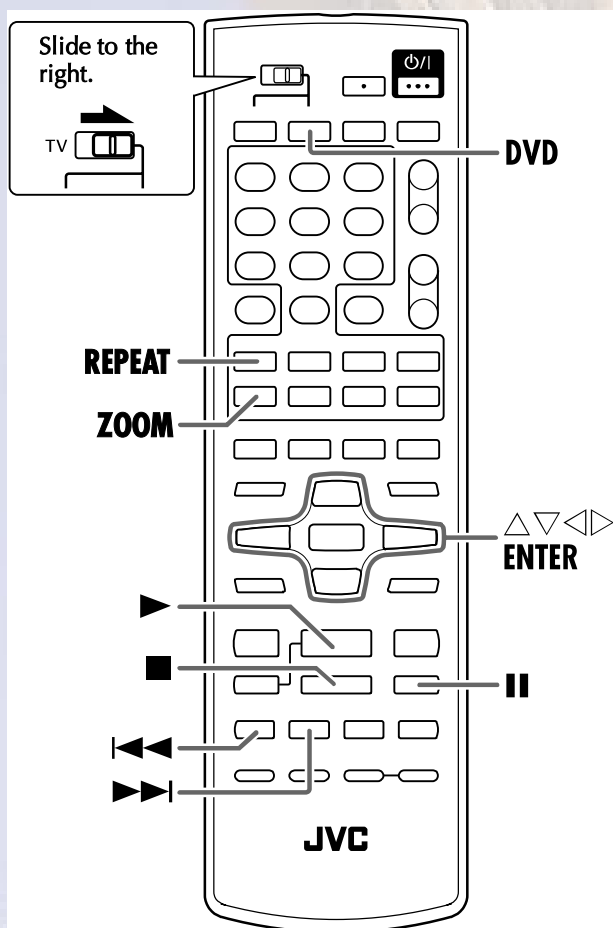
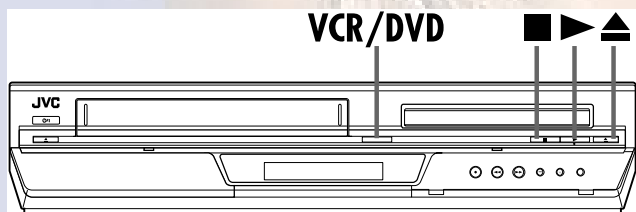
Elapsed playing time is only shown during playback.

Basic Playback

When you insert a disc with groups and files, the control display that shows the contents of the disc automatically appears on the TV screen. (pg. 42)

You can specify and play back the desired group/file from the control display using the following procedure.

- Turn on the TV and select the VCR channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



NOTES:

- ▶, ■, II, ◀◀ and ▶▶ buttons function the same as with Audio CD discs, however, ▶▶ and ◀◀ buttons do not function for MP3/JPEG files playback.
- Resume playback also does not function for MP3/JPEG files playback.

1 Load the disc.

- For details, refer to "Placing a Disc" (pg. 5).

The control display appears on the TV screen. (pg. 42)

2 Select the DVD deck.

On the unit

Press VCR/DVD repeatedly so that the DVD indicator lights up.

On the remote control

Press DVD so that the DVD indicator lights up.

3 Select the group.

Press Δ▽ to select the desired group, then press ▷.

4 Start playback.

Press Δ▽ to select the desired file, then press ENTER or ▶.

- You can skip a file across a group. Press ▶▶ to skip to the first file of the next group when the last file of the current group is selected.

When playing back a JPEG disc, the slide-show playback starts from the selected file.

- After selecting a file, press ▶ to start slide-show playback from the selected file, or press ENTER to show the selected file.
- The playback interval time of slide-show depends on the file size.

5 Pause playback.

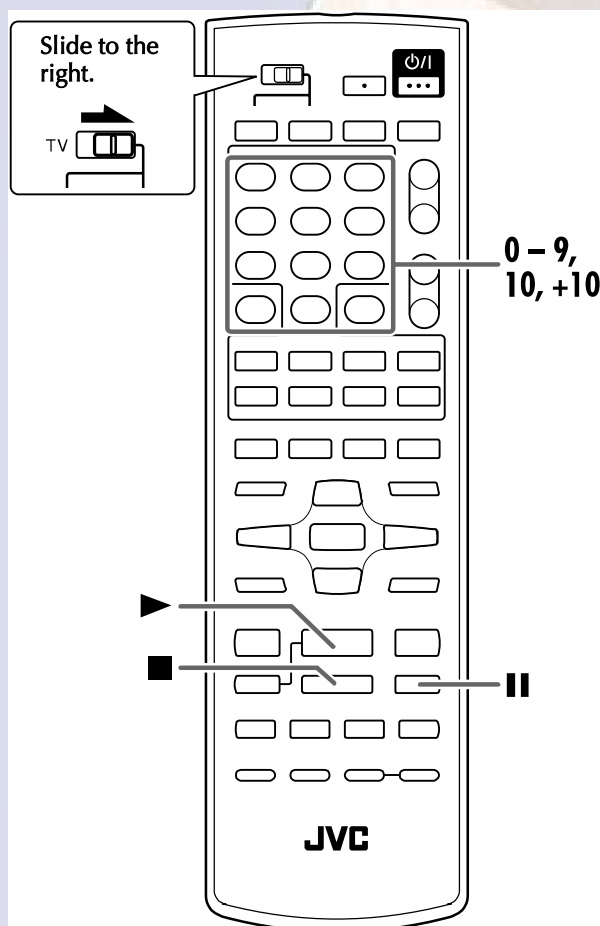
Press II.

- To resume normal playback, press ▶.

6 Stop playback.

Press ■.

- Press ▲ on the DVD deck to open the disc tray, then remove the disc.



Repeat Playback

You can repeat playback of the current group, file (only for MP3 files), or all groups.

- While the control display is on the TV screen:

1 Select the mode.

Press **REPEAT** to select the desired repeat mode.

- Each time you press **REPEAT**, the mode changes as follows:

For MP3 files playback

TRACK→GROUP→ALL→OFF (No indication)→(Back to the beginning)

TRACK:	The current file (track) is played back repeatedly.
GROUP:	All files of the current group are played back repeatedly.
ALL:	All files are played back repeatedly.
OFF (no indication):	Each file is played back once.

For JPEG files playback

GROUP→ALL→OFF (No indication)→(Back to the beginning)

GROUP:	All files of the current group are played back repeatedly.
ALL:	All files are played back repeatedly.
OFF (No indication):	Each file is played back once.

2 Start playback.

Press ▶.

To cancel Repeat Playback

Press **REPEAT** repeatedly until the repeat mode display disappears from the TV screen.

To return to the control display

Press ■.

Zooming a still picture

Press **ZOOM** while playing back a JPEG file.

- When you want to zoom the picture during slide-show playback, first press **||**, then press **ZOOM**.
- Each press of **ZOOM** changes the magnification in the following steps:
ZOOM OFF → ZOOM 1 → ZOOM 2 → (Back to the beginning)
- To resume normal playback, press **ENTER**.

Group/File Selection

To start playback by specifying the group/file number

- 1 Press the **number keys** (0-10, +10) to enter the group number.
- 2 Press the **number keys** (0-10, +10) to enter the file number.

Example:

- To select 3: Press 3.
 To select 14: Press +10, then 4.
 To select 20: Press +10, then 10.
 Or press +10 twice, then 0.
 To select 24: Press +10, +10, then 4.
 To select 110: Press +10 ten times, then 10.
 To select 150: Press +10 fourteen times, then press 10 once.

For MP3 files playback

Playback starts from the file you have specified.

For JPEG files playback

- The slide-show playback starts from the file you have specified.
- To display only the selected file, then press **ENTER**. To start slide-show playback from that file, press **ENTER** again.

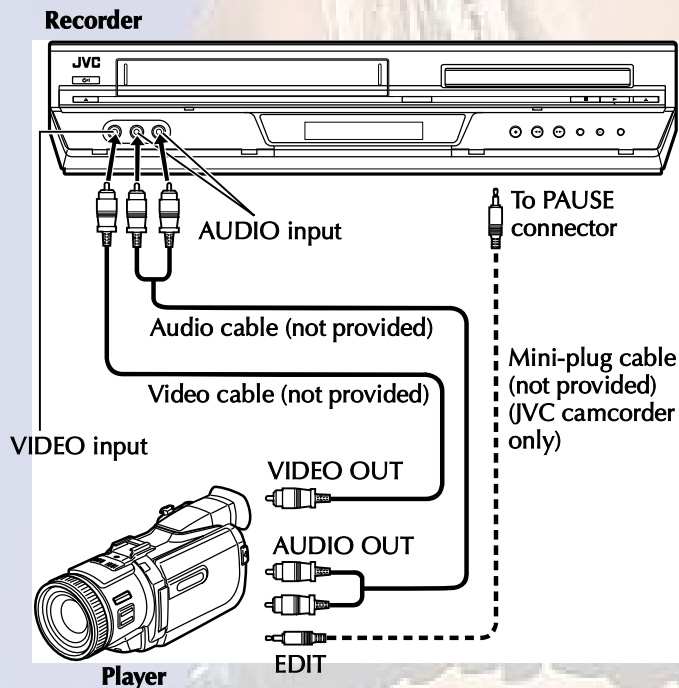
NOTE:

You cannot select 150 even if you press +10 fifteen times, then press 0 once.

Edit From A Camcorder

You can use a camcorder as the source player and your unit as the recording deck.

Slide the **TV/VCR/DVD** switch on the remote control to the right.



1 Make connections.

Connect the camcorder's AUDIO OUT and VIDEO OUT connectors to the unit's front panel AUDIO and VIDEO input connectors.

- When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your unit.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the unit. Refer to the camcorder's instruction manual for operating procedure.

2 Select the VHS deck.

On the unit

Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

On the remote control

Press **VCR** so that the VCR indicator lights up.

3 Set the unit's input mode.

Press **AUX** (number key "0") and/or **PR** to select "F-1."

4 Set the edit mode.

See "PICTURE CONTROL" on page 54.

5 Engage the Record Pause mode.

Use **▶**, **◀◀**, or **▶▶** to locate the point where you start recording, then press and hold **⏏** and press **●** to engage the Record Pause mode.

6 Start the camcorder.

Engage the Play mode of the camcorder.

7 Start the unit.

Press **▶** to engage the Record mode of the unit.

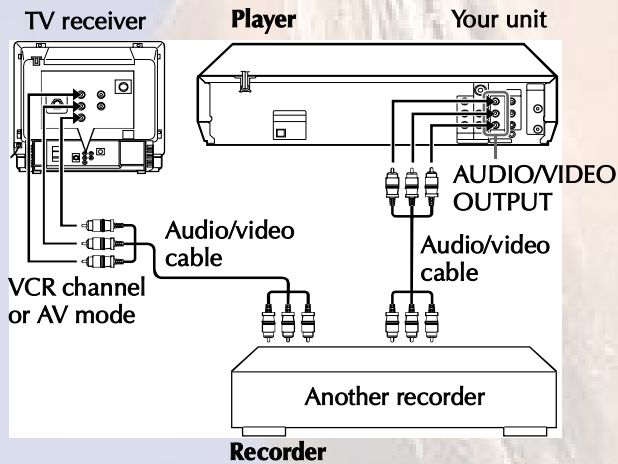
NOTES:

- All necessary cables can be obtained from your dealer.
- When you select "EDIT" to dub tapes in step 4, be sure to select "AUTO" (or "NORM" when "B.E.S.T." is set to "OFF") after you finish dubbing the tapes.

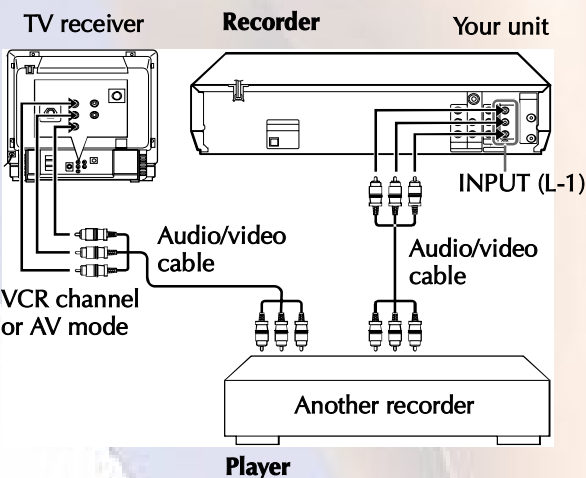
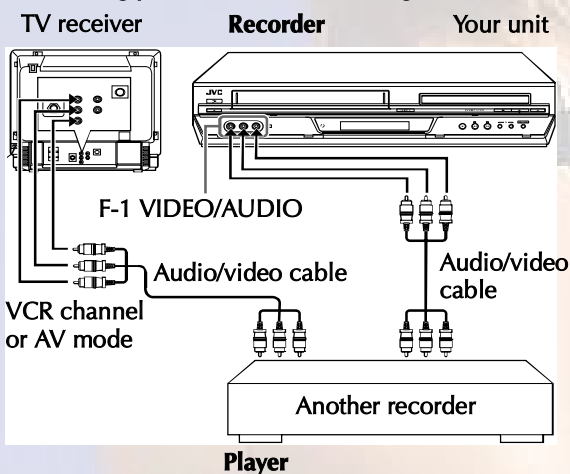
Edit To Or From Another Video Recorder

You can use your unit as the source player or as the recording deck.

1 When using your unit as the source player:



2 When using your unit as the recording deck:



Slide the TV/VCR/DVD switch on the remote control to the right.

1 Make connections.

- 1 When using your unit as the source player:
 - connect its AUDIO/VIDEO OUTPUT connectors to the recording deck.
- 2 When using your unit as the recording deck:
 - connect its L-1INPUT connector to the source player.

2 Select the VHS deck.

On the unit

Press VCR/DVD repeatedly so that the VCR indicator lights up.

On the remote control

Press VCR so that the VCR indicator lights up.

3 Set the input mode of recording deck.

With this unit, press AUX (number key "0") and/or PR to select correct external input on the recording deck.

On this unit (when using this unit as the recording deck); Select "L-1"— when connecting the other recorder to the AV input connectors on the rear panel.

Select "F-1"— when connecting the other recorder to the AV input connectors on the front panel.

- When using another recorder as the recording deck, refer to its instruction manual.

4 Set the edit mode.

See "PICTURE CONTROL" on page 54.

5 Engage the Record Pause mode of the recording deck.

Locate the point where you start recording, then engage the Record Pause mode.

6 Start the source player.

Engage the Play mode of the source player.

7 Start the recording deck.

Engage the Record mode of the recording deck.

NOTES:

- All necessary cables can be obtained from your dealer.
- When you select "EDIT" to dub tapes in step 4, be sure to select "AUTO" (or "NORM" when "B.E.S.T." is set to "OFF") after you finish dubbing the tapes.
- When you use this unit as the source player for editing, be sure to set "O.S.D." to "OFF" before starting. (pg. 54)

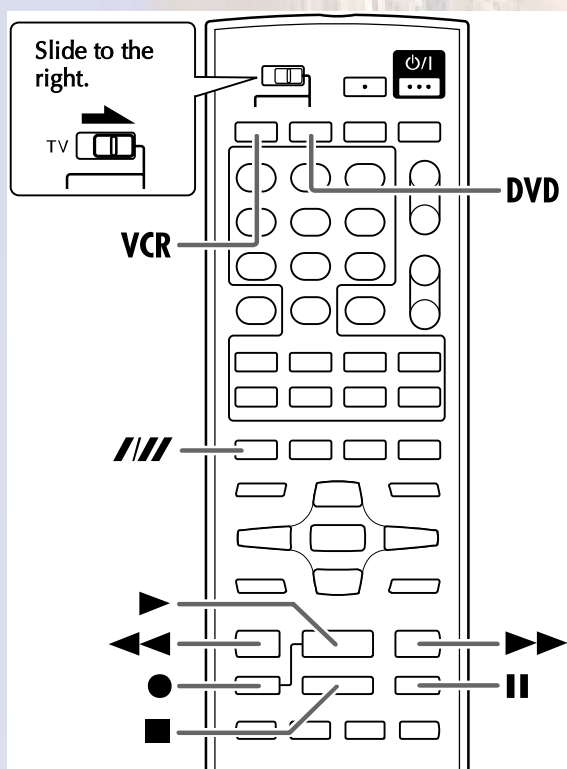
Dubbing

(from DVD to VHS)

You can dub selected scenes from the DVD disc to a cassette, starting and stopping wherever you wish.

However, it is not possible to dub copy-protected discs. In such case, "Err" appears on the front display panel.

- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



1 Load a cassette and place a disc.

For the VHS deck

Insert a cassette with the record safety tab intact.

For the DVD deck

For details, refer to "Placing a Disc" (pg. 5).

2 Prepare the VHS deck for dubbing.

- 1 Press VCR.
- 2 Press **///** to select recording speed.
- 3 Search for the point where you want to start dubbing by pressing **▶**, **▶▶** or **◀◀** then press **■**.

3 Prepare the DVD deck for dubbing.

- 1 Press DVD.
- 2 Start playback and search for the point where you want to start dubbing by pressing **▶**, **▶▶** or **◀◀**.

4 Start dubbing.

A little before the dubbing start point, press and hold **●**, then press **▶** on the remote control.

- "dub" lights on the front display panel.



5 End dubbing.

Press **■**.

- Be sure to press **■** while the VCR indicator lights up on the unit.
- If you press **■** or **▲** with the DVD deck selected, the dubbing stopped, but the opening screen is also recorded.
- When you have finished dubbing, press DVD to select the DVD deck and press **■** to stop playback.

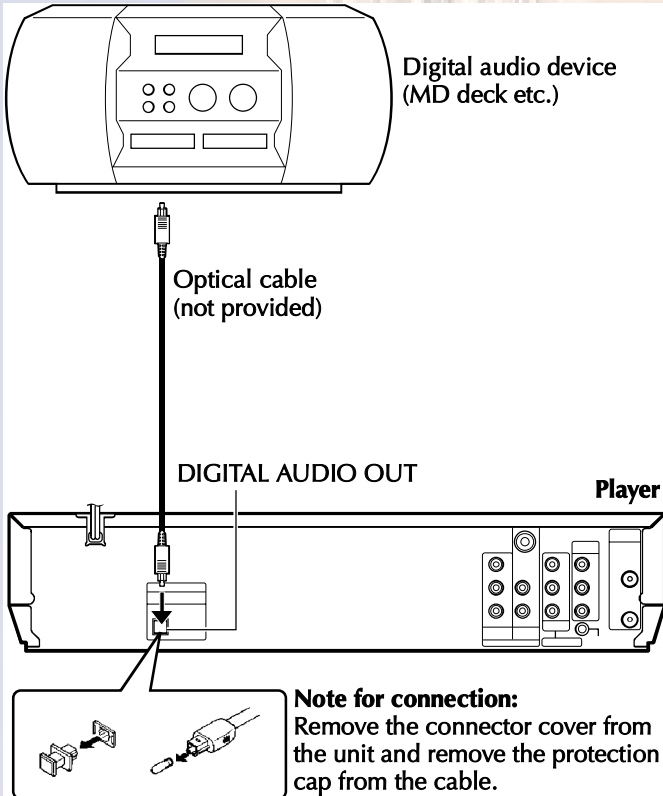
NOTES:

- Set "ON SCREEN GUIDE" to "OFF" (pg. 58) if you do not want to record the on-screen display for DVD discs during dubbing.
- There may be a discrepancy of several seconds between where you intend editing to start, and where it actually starts.
- The superimposed indication during the operation or dubbing is not recorded.
- Set "PICTURE CONTROL" to "EDIT". (pg. 54)
- When you select a setting as "MONITOR TYPE" other than "MULTI" options (pg. 15), it may not be possible to dub a DVD disc in a cassette correctly.

Digital Audio Dubbing

- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.

Recorder



You can dub selected audio from the DVD or Audio CD disc to an MD etc.

However, it is not possible to dub copy-protected discs.

Example: Dubbing to an MD

1 Make connections.

Connect the optical cable between the unit and the digital audio device.

2 Place a disc and load an MD.

For the DVD deck

- 1 Press **▲** on the DVD deck to open the disc tray.
- 2 Place the disc in the disc tray.
- 3 Press **▲** on the DVD deck to close the disc tray.

For the digital audio device

Insert an MD.

3 Prepare the DVD deck for dubbing.

- 1 Press **DVD** and select the audio to be dubbed.
- 2 Search for the point where you want to start dubbing by pressing **▶**, **▶▶** or **◀◀** then press **■**.
- 3 Press **◀◀** a little, then press **▶** to start playback.
- 4 Press **||** to pause playback a little before the start point.

4 Prepare the audio device for dubbing.

Select the input mode.

5 Start dubbing.

- 1 Press **▶** (or press **●** on the unit) to start playback on the DVD deck.
- 2 Start recording on the audio device.

6 End dubbing.

Stop recording on the audio device. Then press **■** to stop playback on the DVD deck.

NOTES:

- There may be a discrepancy of several seconds between where you intend editing to start, and where it actually starts.
- You can also dub audio from a Video CD or SVCD. Set "DIGITAL AUDIO OUTPUT" to "PCM ONLY". (pg. 57)

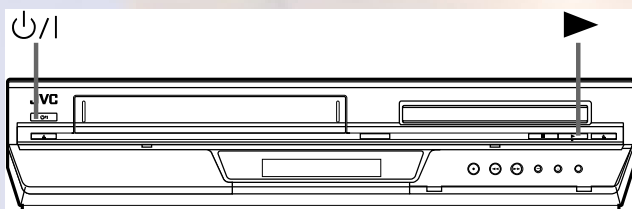
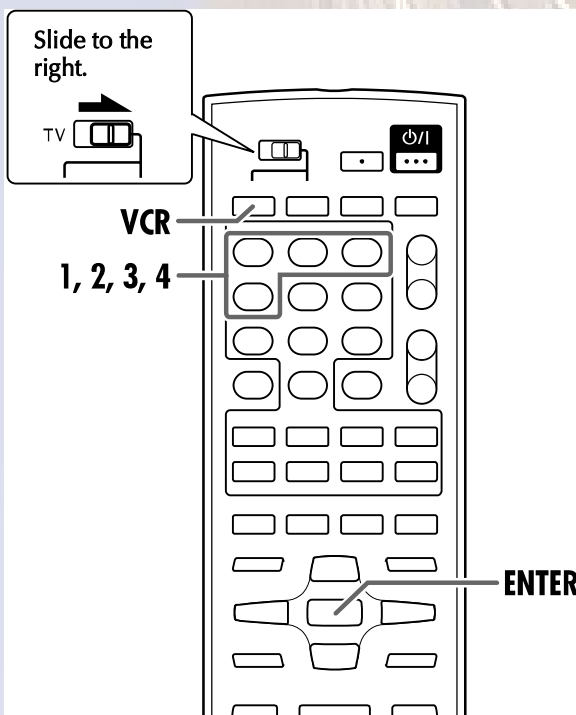
Remote Control Functions

Remote A/B/C/D Code Switching

The remote control is capable of controlling four JVC video units independently. Each of the units can respond to one of four codes (A, B, C or D). The remote control is preset to send A code signals because your unit is initially set to respond to A code signals. You can easily modify your unit to respond to B, C or D code signals.

Before performing the following steps:

Slide the TV/VCR/DVD switch on the remote control to the right.



On the remote control

Keep pressing VCR down during steps 1 – 2.

1 Change the remote control code.

Press the number key "1" for A, "2" for B, "3" for C or "4" for D.

2 Set the remote control code.

Press ENTER to set the code.

On the unit

3 Turn off the unit.

Press P/I .

4 Display the code.

Press \blacktriangleright on the unit for over 5 seconds while the unit is turned off. The code currently set appears on the front display panel.

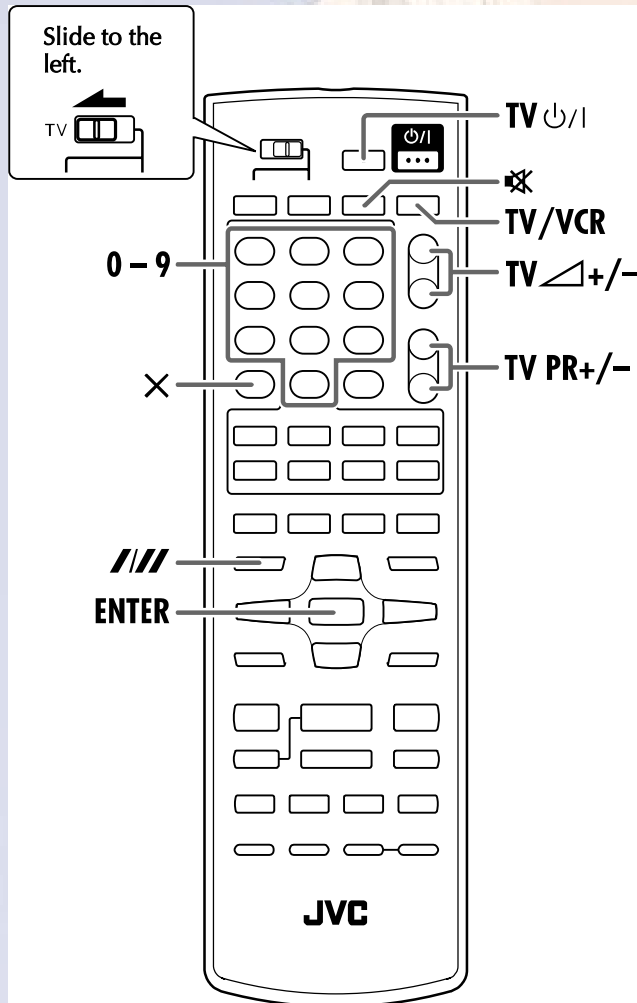
- If the code displayed on the front display panel is different from the code set on the remote control, go to step 5.

5 Change the unit's code.

Press \blacksquare on the remote control. The code currently set on the remote control will be applied to the unit.

Operating a JVC TV

Your remote control can operate the basic functions of your JVC TV set.



1 Slide the TV/VCR/DVD switch on the remote control to the left.

2 Operate the TV.

Press the corresponding button: TV 0/I, TV/VCR, TV 0-9 (Volume), TV PR +/-, X (TV Muting), **number keys**.

- For some JVC TVs, you must press **ENTER** after having pressed the **number keys**.

Control Your JVC TV Using Additional Buttons

Use the **number keys**, and the **///** button or X button to select the TV's channel.

- The **///** button corresponds to the 1-digit/2-digit entry switching button (often labelled -/-) of your TV's remote control.
- With some JVC TVs, the X button corresponds to the 10 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

IMPORTANT

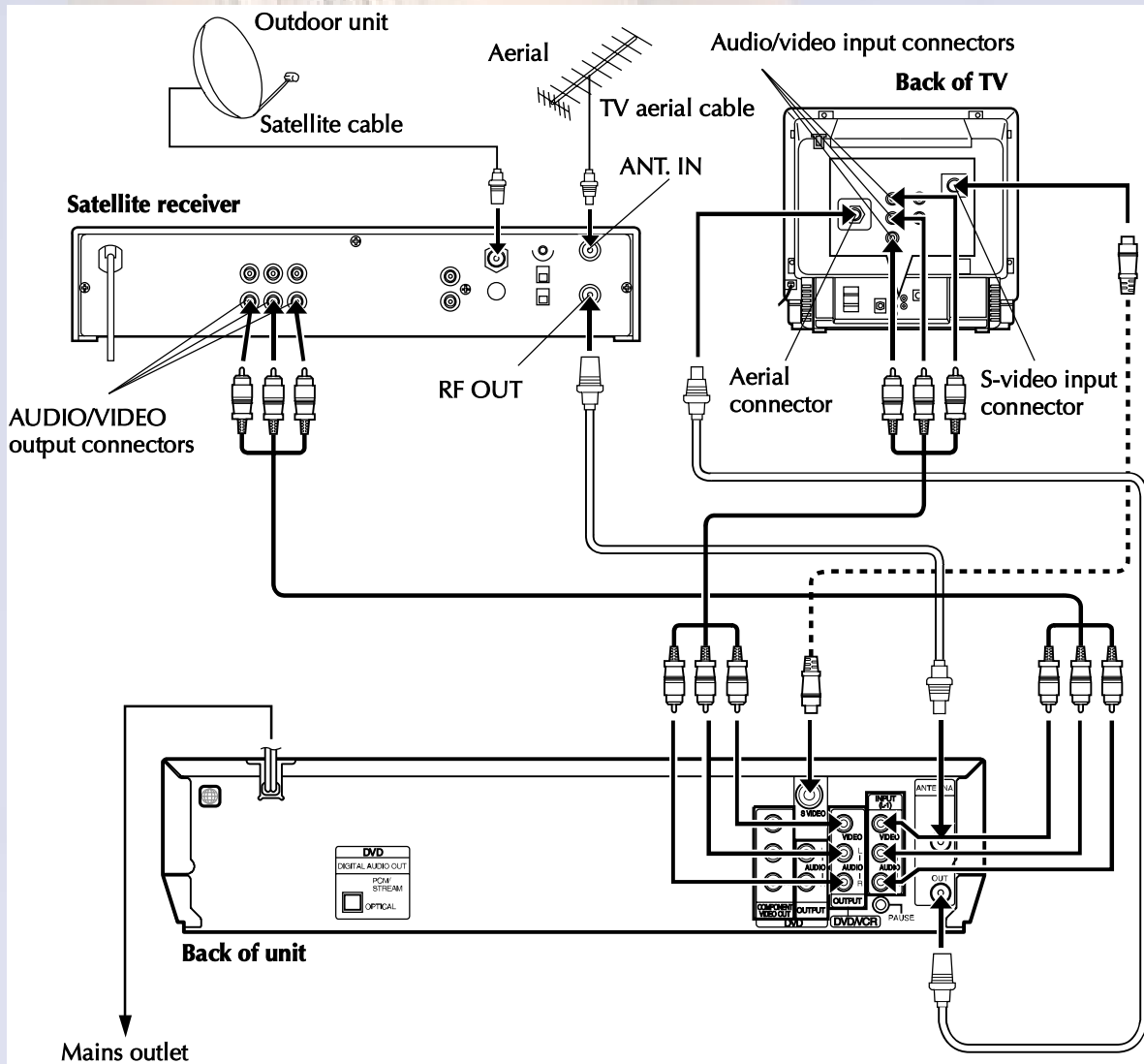
Although the provided remote control unit is compatible with JVC televisions, it may not work with your JVC TV, or in some instances, may have limited function capability.

Connecting To A Satellite Receiver

Connect the satellite receiver to the AUDIO/VIDEO IN connectors, then connect the AUDIO/VIDEO OUT or S VIDEO OUT connectors to the TV's connectors.

NOTES:

- You cannot use Automatic Satellite Programme Recording function if you connect the satellite receiver with S-video cable. (pg. 12)
- To record a programme via the satellite receiver, select L-1 or S-1 mode by pressing **AUX (number key "0")** and/or **PR** so that "L-1" or "S-1" appears on the front display panel.
- For details, refer to the instruction manual of the satellite receiver.

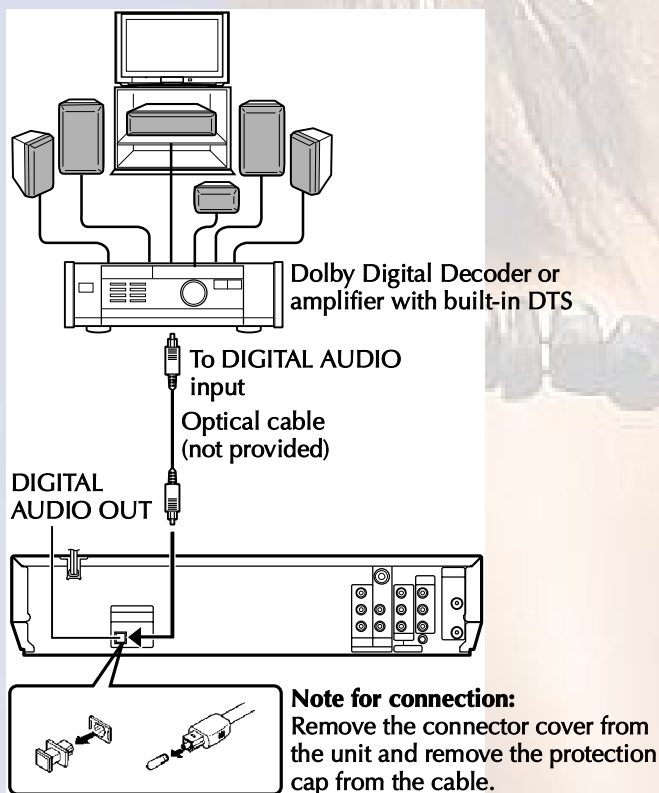


Connecting To A Dolby Digital Decoder or An Amplifier With A Built-in DTS (DVD deck)

These instructions enable you to connect your unit to a Dolby Digital Decoder or an amplifier with built-in DTS.

Make connections.

Connect the optical cable between the unit and the Dolby Digital Decoder or amplifier with a built-in DTS.



NOTES:

- For Dolby Digital sound, set "DIGITAL AUDIO OUTPUT" to "DOLBY DIGITAL/PCM". (pg. 57)
- For DTS sound, set "DIGITAL AUDIO OUTPUT" to "STREAM/PCM". (pg. 57)

CAUTIONS:

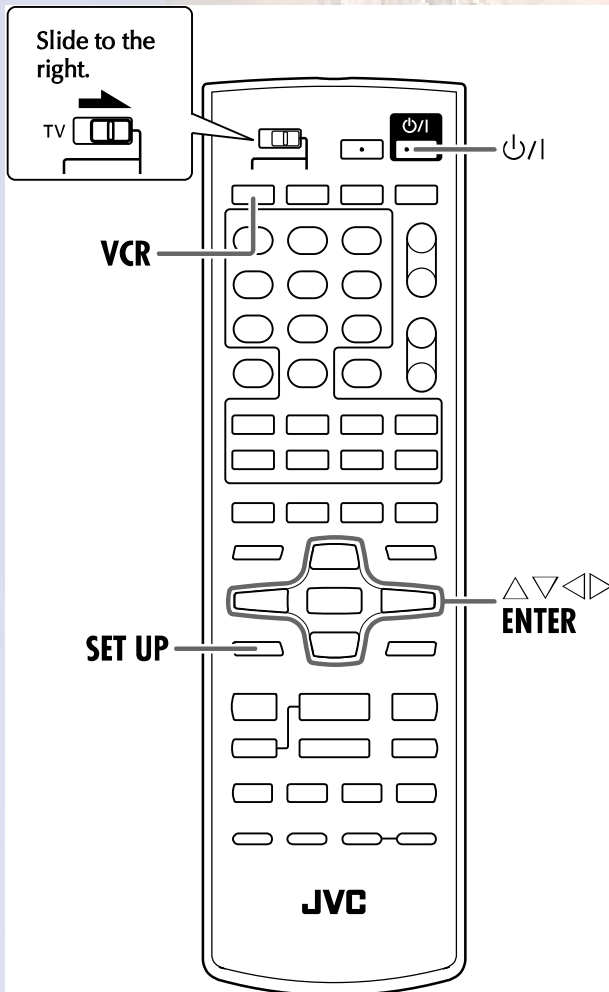
- This unit has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Function Set (VHS deck)

You can change various mode settings on the Function Set screen by following the procedure described below.

- For each mode setting, see pages 54 to 55.

- Turn on the TV and select the video channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.



1 Turn on the unit.

Press $\text{\textcircled{P}}/I$.

2 Select the VHS deck.

On the unit

Press **VCR/DVD** repeatedly so that the VCR indicator lights up.

On the remote control

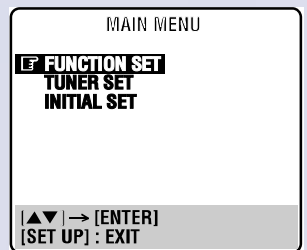
Press **VCR** so that the VCR indicator lights up.

3 Access the Main Menu screen.

Press **SET UP**.

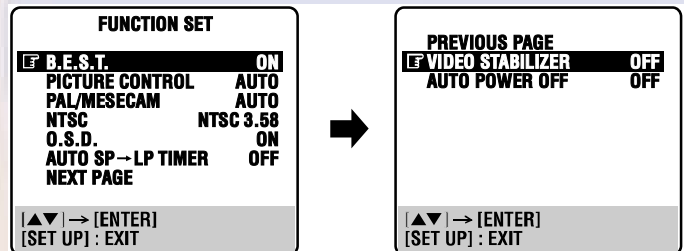
4 Access the Mode Set screen.

Press Δ / ∇ to move the highlight bar (pointer) to "FUNCTION SET," then press **ENTER** or \triangleright .



5 Select the mode.

Press Δ / ∇ to move the highlight bar (pointer) to the item you want to change.



6 Select the mode setting.

Press **ENTER** or \triangleright .

7 Return to the normal screen.

Press **SET UP**.

* The default setting is **bold** in the table below.

■ B.E.S.T. — ON / OFF

You can set the B.E.S.T. (Biconditional Equalised Signal Tracking) system to "ON" or "OFF." (☞ pg. 25)

NOTES:

- When watching a tape recorded with "B.E.S.T." set to "ON," it is recommended that you leave B.E.S.T. on during playback as well.
- When watching a rental tape or one recorded on another video recorder, or when using this unit as the player for editing, set B.E.S.T. to your preference.
- The B.E.S.T. system works for both SP and LP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.
- The B.E.S.T. system does not work while Automatic Satellite Programme Recording is in progress. (☞ pg. 32)
- In the case of timer recordings, the B.E.S.T. system works before recording is initiated.
- Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.
- Pressing the unit's ● button while "bEst" is displayed does not start Instant Timer Recording. (☞ pg. 24)

■ PICTURE CONTROL — AUTO (NORM) / EDIT / SOFT

This feature helps you to adjust the playback picture quality according to your preference. Normally select "AUTO."

AUTO (NORM): Normally select this. Picture quality is adjusted automatically. When "B.E.S.T." is "OFF," "NORM" will appear instead of "AUTO."

EDIT: Minimizes picture degradation during editing (recording and playback).

SOFT: Reduces image coarseness when viewing overplayed tapes containing a lot of noise.

NOTES:

- When you select "EDIT" or "SOFT," the selected mode will not change until you select another mode.
- When you select "EDIT" to dub tapes, be sure to select "AUTO" after you finish dubbing the tapes.
- When "B.E.S.T." is "OFF," "PICTURE CONTROL" switches automatically from "AUTO" to "NORM."

■ PAL/MESECAM — AUTO / PAL / MESECAM

Select the appropriate colour system for recording or playback.

AUTO: Usually set to this mode. The appropriate colour system (PAL or MESECAM) will be selected depending on the playback or recording signals.

If the "AUTO" mode does not work properly, select either of the following manual modes.

PAL: To record PAL signals, or playback a PAL tape.

MESECAM: To record SECAM signals, or playback a SECAM or MESECAM tape.

NOTES:

- SECAM signals will always be recorded as MESECAM. Select "AUTO" or "MESECAM" when recording SECAM signals.
- When playing back a SECAM tape, select "AUTO" or "MESECAM." The playback picture will always be monochrome.

■ NTSC — NTSC3.58 / NTSC4.43 / NTSC→PAL

To record NTSC signals or playback a NTSC tape, it will be necessary to select the appropriate mode.

NTSC3.58: To record NTSC signals or playback a NTSC tape.

NTSC4.43: To record NTSC4.43 signals or playback a NTSC4.43 tape.

NTSC→PAL: To playback a NTSC tape on PAL TV.

NOTES:

- The "NTSC→PAL" mode does not work during recording. In this mode, NTSC signals will be recorded as NTSC3.58.
- The Menu screen is distorted during playing back a NTSC tape on PAL TV. Stop playback and access the Menu screen again.
- In the "NTSC4.43" mode, with some TVs, on-screen displays (Program screen, etc.) may roll up or down and there may be a loss of colour. When this happens, select the "NTSC3.58" mode.

■ O.S.D. — ON / OFF

When this function is set to "ON," various operational indicators appear on the TV screen. Messages appear in the selected language. (☞ pg. 14, 16)

NOTES:

- When you use this unit as the source player for editing, be sure to set "O.S.D." to "OFF" before starting.
- During playback, the operation mode indicators may be disturbed depending on the type of tape being used.

■ AUTO SP→LP TIMER — ON / OFF

When this function is set to "ON," the unit automatically switches to LP mode to allow complete recording if there is not enough tape to record the entire programme while timer-recording in SP mode.

For Example:

Recording a programme of 210 minutes in length onto a 180-minute tape

Approximately 150 minutes	Approximately 60 minutes
SP mode	LP mode
Total 210 minutes	

Make sure you set this function to "ON," before the timer-recording starts.

NOTES:

- If you have programmed the unit to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON." In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.
- In order to ensure that the recording fits on the tape, this feature may leave a slight non-recorded section at the end of the tape.
- There may be some noise and sound disturbance at the point on the tape where the unit switches from SP to LP mode.
- The Auto SP→LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180, or with some tapes of shorter lengths.

■ VIDEO STABILIZER — ON / OFF

When this function is set to "ON," you can automatically correct vertical vibration in the picture when playing back unstable recordings made on another recorder.

NOTES:

- When you finish viewing a tape, be sure to set this function to "OFF."
- Regardless of the setting, this function has no effect during recording and during special effects playback.
- The on-screen display may jitter vertically when this function is set to "ON."
- To watch recordings with close-caption, set this function to "OFF."





■ AUTO POWER OFF — 3H / OFF

When this function is set to "3H," the unit is turned off automatically if no operation is done within 3 hours. "AUTO POWER OFF IN 3 MIN" appears on the screen 3 minutes before the unit is turned off.

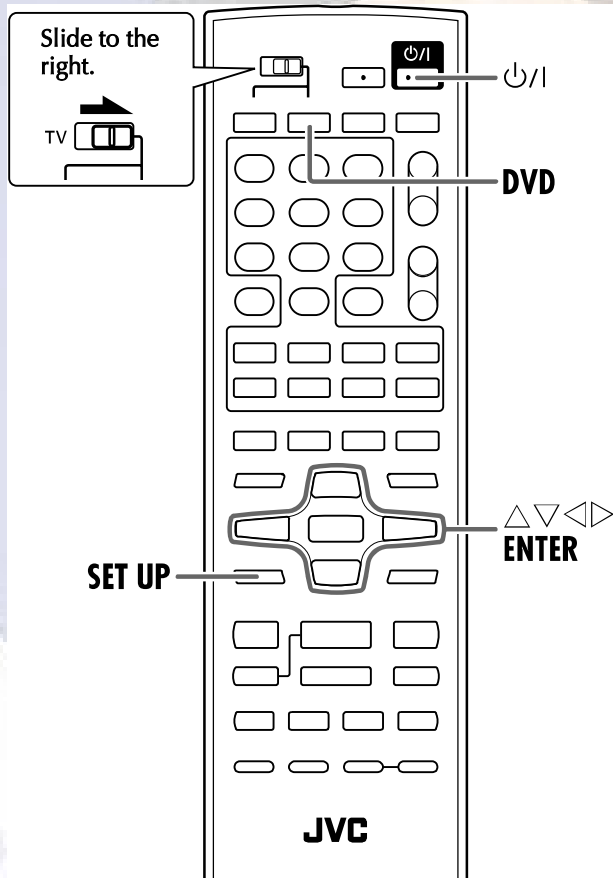
Mode Set (DVD deck)

You can change various mode settings on the Mode Set screen by following the procedure described below.

- For each mode setting, see corresponding pages.

 LANGUAGE	MENU LANGUAGE (pg. 17) AUDIO LANGUAGE (pg. 17) SUBTITLE (pg. 17) ON SCREEN LANGUAGE (pg. 17)
 PICTURE	MONITOR TYPE (pg. 15) PICTURE SOURCE (pg. 57) SCREEN SAVER (pg. 57) FILE TYPE (pg. 57)
 AUDIO	DIGITAL AUDIO OUTPUT (pg. 57) ANALOG DOWNMIX (pg. 57) D. RANGE CONTROL (pg. 57) OUTPUT LEVEL (pg. 57)
 OTHERS	RESUME (pg. 58) ON SCREEN GUIDE (pg. 58) PARENTAL LOCK (pg. 58)

- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



- The procedure shows how to set "RESUME" to "ON" on the DVD Set Up menu screen as an example.

1 Turn on the unit.

Press .

2 Select the DVD deck.

On the unit

Press VCR/DVD repeatedly so that the DVD indicator lights up.

On the remote control

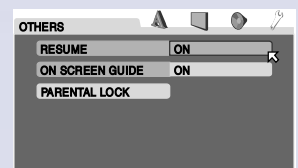
Press DVD so that the DVD indicator lights up.





3 Access the DVD Set Up menu screen.

1 Press SET UP.

2 Press   to select "OTHERS."

- Each time you press the button, the setup menus change as follows;



 LANGUAGE →  PICTURE →  AUDIO →  OTHERS
→ (Back to the beginning)

4 Select the mode.

Press   to move  to "RESUME," then press ENTER.

5 Select the mode setting.

Press   to select "ON," then press ENTER.

6 Return to the normal screen.

Press SET UP.

* The default setting is **bold** in the table below.

Picture Settings

- **MONITOR TYPE** —
16:9 NORMAL/16:9 MULTI NORMAL /
16:9 AUTO/16:9 MULTI AUTO /
4:3 LB/4:3 MULTI LB /
4:3 PS/4:3 MULTI PS

You can select the monitor type depending on the TV used when you play back DVD VIDEO discs recorded for wide-screen TVs. For more details, refer to "Monitor Set (DVD deck)" (pg. 15).

- **PICTURE SOURCE** —
VIDEO (NORMAL) / VIDEO (ACTIVE) / FILM / **AUTO**

You can obtain optimal picture quality by selecting whether the content on the disc is processed by field (video source) or by frame (film source).

Normally set to "AUTO."

VIDEO (NORMAL): Suitable for playing back a video source disc with relatively a few movements.

VIDEO (ACTIVE): Suitable for playing back a video source disc with relatively a lot of movements.

FILM: Suitable for playing back a film or progressive source disc.

AUTO: Used to play back a disc containing both video and film source materials. This unit recognizes the picture type (film or video source) of the current disc according to the disc information.

- If the playback picture is unclear or noisy, or the oblique lines of the picture are rough, try to change to other modes.

- **SCREEN SAVER** — **ON** / OFF

The TV screen may be burned out if a static picture is displayed for a long time. When this function is set to "ON," the unit automatically activates the screen saver function if a static picture, such as an on-screen display or menu is displayed for over 5 minutes.

NOTE:

This function is not available for Audio CDs and MP3 discs.

- **FILE TYPE** — **AUDIO** / STILL PICTURE

You can select files to play back, when both MP3 files and JPEG files are recorded on a disc.

AUDIO: Select this to play back MP3 files.

STILL PICTURE: Select this to play back JPEG files.

NOTE:

You cannot access the DVD Set Up screen and "⊗" appears on the TV screen if a disc is already placed.

Audio Settings

- **DIGITAL AUDIO OUTPUT** —
PCM ONLY / DOLBY DIGITAL/PCM / **STREAM/PCM**

Set to the appropriate mode according to the type of the device connected to DIGITAL AUDIO OUT connector on the rear of unit.

Set this item correctly according to the logo on the device.

It is not necessary to set this mode when you connect no device to the DIGITAL AUDIO OUT connector.

PCM ONLY: Select this when connecting to a device bearing neither Dolby Digital nor DTS logo, or a digital recorder.

DOLBY DIGITAL/PCM: Select this when connecting an amplifier or a decoder bearing Dolby Digital (without DTS) logo.

STREAM/PCM: Select this when connecting an amplifier or a decoder bearing both Dolby Digital and DTS logos.

- **ANALOG DOWNMIX** — **DOLBY SURROUND** / **STEREO**

Set to the appropriate mode according to your audio system when you play back a DVD VIDEO disc recorded with surround multichannel audio. This setting affects only the analogue audio output signal from the AUDIO OUT connectors when playing back a DVD VIDEO disc recorded with surround multichannel audio.

DOLBY SURROUND: Select this when you enjoy multichannel surround audio by connecting the unit's analogue AUDIO OUTPUT connectors (DVD) to a surround decoder or an internal amplifier.

STEREO: Select this when you enjoy conventional 2-channel stereo audio by connecting the unit's analogue AUDIO OUTPUT connectors (DVD) to a stereo amplifier/receiver or TV, or when you dub audio of a DVD VIDEO disc recorded with surround audio to your MD, cassette, etc.

- **D. RANGE CONTROL** —
WIDE RANGE / **NORMAL** / TV MODE

The dynamic range (the difference between the loudest sound and the quietest one) can be compressed during playback of a programme encoded in Dolby Digital format.

This function takes effect when a DVD VIDEO disc recorded in Dolby Digital format is played back at low or middle volume.

WIDE RANGE: Select this to inactivate this function when you enjoy wide dynamic range programme.

NORMAL: Normally select this setting to activate this function.

TV MODE: Select this when you hear the sound through the TV's speaker(s).

- **OUTPUT LEVEL** — **STANDARD** / **LOW**

You can lower the output level of analog audio to accommodate the unit to the connected A/V equipment.

STANDARD: Normally select this.

LOW: The output level of analog audio is lowered.

Playback discs	Output		
	STREAM/PCM	DOLBY DIGITAL/PCM	PCM ONLY
DVD VIDEO with 48 kHz, 16/20/24 bit linear PCM	48 kHz, 16 bit linear PCM		
DVD VIDEO with DTS	DTS bitstream	44.1 kHz, 16 bit stereo linear PCM	
DVD VIDEO with Dolby Digital	Dolby Digital bitstream		48 kHz, 16 bit stereo linear PCM
Audio CD/Video CD	44.1 kHz, 16 bit stereo linear PCM		
Audio CD with DTS	DTS bitstream	44.1 kHz, 16 bit stereo linear PCM	
MP3 disc	Linear PCM		

NOTES:

- The unit is not equipped with the DTS decoding function.
- When you play back a DVD VIDEO or Audio CD disc with DTS, use a DTS decoder to get correct signals from your speakers. Never use the unit's analog output connectors, which output incorrect signals that may damage your speakers.
- If you connect the analog outputs and digital outputs simultaneously, be sure to select the source of the amplifier correctly, or set the level control of the amplifier connected to the analog outputs to minimum.

Others Settings**RESUME — ON / OFF**

When this function is set to "ON," you can use the resume function. (pg. 33)

ON: The unit resumes playback from the position where playback has been stopped

OFF: You cannot use the resume function.

NOTE:

This function is not available for Audio CDs and MP3 discs.

ON SCREEN GUIDE — ON / OFF

When this function is set to "ON," the unit can display "on-screen guide" icons or characters which show the conditions of the unit or disc.

PARENTAL LOCK

Select this, then press **ENTER** to show the PARENTAL LOCK menu screen for limiting playback by children.

Parental Lock

This function restricts playback of DVD VIDEO discs which contains violent (and other) scenes according to the level set by the user. Scenes which are limited by this function are not played or replaced with other scenes.

COUNTRY CODE

Select the code of your country/area. (pg. 59)

SET LEVEL

Select the level of restriction. ("1" is the strictest.)

PASSWORD

Enter your password by pressing the **number keys** (0-9).

EXIT

Select this, then press **ENTER** to go back to the OTHERS menu screen.

NOTES:

- Some DVD VIDEO discs cannot be played by this function. If you try to play such a disc, the PARENTAL LOCK menu screen appears on the TV screen and asks whether you want to release the lock or not. To release the lock and play, select "TEMPORARY RELEASE," press **ENTER**, then enter your password. Otherwise, eject the disc.
- To change the setting of the limitation, you need to enter your password.
- If you forget your pass word, enter "8888."

Country/Area Code List for Parental Lock

AD	Andorra	ES	Spain	LC	Saint Lucia	SA	Saudi Arabia
AE	United Arab Emirates	ET	Ethiopia	LI	Liechtenstein	SB	Solomon Islands
AF	Afghanistan	FI	Finland	LK	Sri Lanka	SC	Seychelles
AG	Antigua and Barbuda	FJ	Fiji	LR	Liberia	SD	Sudan
AI	Anguilla	FK	Falkland Islands (Malvinas)	LS	Lesotho	SE	Sweden
AL	Albania	FM	Micronesia (Federated States of)	LT	Lithuania	SG	Singapore
AM	Armenia	FO	Faroe Islands	LU	Luxembourg	SH	Saint Helena
AN	Netherlands Antilles	FR	France	LV	Latvia	SI	Slovenia
AO	Angola	FX	France, Metropolitan	LY	Libyan Arab Jamahiriya	SJ	Svalbard and Jan Mayen
AQ	Antarctica	GA	Gabon	MA	Morocco	SK	Slovakia
AR	Argentina	GB	United Kingdom	MC	Monaco	SL	Sierra Leone
AS	American Samoa	GD	Grenada	MD	Moldova, Republic of	SM	San Marino
AT	Austria	GE	Georgia	MG	Madagascar	SN	Senegal
AU	Australia	GF	French Guiana	MH	Marshall Islands	SO	Somalia
AW	Aruba	GH	Ghana	ML	Mali	SR	Suriname
AZ	Azerbaijan	GI	Gibraltar	MM	Myanmar	ST	Sao Tome and Principe
BA	Bosnia and Herzegovina	GL	Greenland	MN	Mongolia	SV	El Salvador
BB	Barbados	GM	Gambia	MO	Macau	SY	Syrian Arab Republic
BD	Bangladesh	GN	Guinea	MP	Northern Mariana Islands	SZ	Swaziland
BE	Belgium	GP	Guadeloupe	MQ	Martinique	TC	Turks and Caicos Islands
BF	Burkina Faso	GQ	Equatorial Guinea	MR	Mauritania	TD	Chad
BG	Bulgaria	GR	Greece	MS	Montserrat	TF	French Southern Territories
BH	Bahrain	GS	South Georgia and the South Sandwich Islands	MT	Malta	TG	Togo
BI	Burundi	GT	Guatemala	MU	Mauritius	TH	Thailand
BJ	Benin	GU	Guam	MV	Maldives	TJ	Tajikistan
BM	Bermuda	GU	Guam	MW	Malawi	TK	Tokelau
BN	Brunei Darussalam	GW	Guinea-Bissau	MX	Mexico	TM	Turkmenistan
BO	Bolivia	GY	Guyana	MY	Malaysia	TN	Tunisia
BR	Brazil	HK	Hong Kong	MZ	Mozambique	TO	Tonga
BS	Bahamas	HM	Heard Island and McDonald Islands	NA	Namibia	TP	East Timor
BT	Bhutan	HN	Honduras	NC	New Caledonia	TR	Turkey
BV	Bouvet Island	HR	Croatia	NE	Niger	TT	Trinidad and Tobago
BW	Botswana	HT	Haiti	NF	Norfolk Island	TV	Tuvalu
BY	Belarus	HU	Hungary	NG	Nigeria	TW	Taiwan
BZ	Belize	ID	Indonesia	NI	Nicaragua	TZ	Tanzania, United Republic of
CA	Canada	IE	Ireland	NL	Netherlands	UA	Ukraine
CC	Cocos (Keeling) Islands	IL	Israel	NO	Norway	UG	Uganda
CF	Central African Republic	IN	India	NP	Nepal	UM	United States Minor Outlying Islands
CG	Congo	IO	British Indian Ocean Territory	NR	Nauru	US	United States
CH	Switzerland	IQ	Iraq	NU	Niue	UY	Uruguay
CI	Côte d'Ivoire	IR	Iran (Islamic Republic of)	NZ	New Zealand	UZ	Uzbekistan
CK	Cook Islands	IS	Iceland	OM	Oman	VA	Vatican City State (Holy See)
CL	Chile	IT	Italy	PA	Panama	VC	Saint Vincent and the Grenadines
CM	Cameroon	JM	Jamaica	PE	Peru	VE	Venezuela
CN	China	JO	Jordan	PF	French Polynesia	VG	Virgin Islands (British)
CO	Colombia	JP	Japan	PG	Papua New Guinea	VI	Virgin Islands (U.S.)
CR	Costa Rica	KE	Kenya	PH	Philippines	VN	Viet Nam
CU	Cuba	KG	Kyrgyzstan	PK	Pakistan	VU	Vanuatu
CV	Cape Verde	KH	Cambodia	PL	Poland	WF	Wallis and Futuna Islands
CX	Christmas Island	KI	Kiribati	PM	Saint Pierre and Miquelon	WS	Samoa
CY	Cyprus	KM	Comoros	PN	Pitcairn	YE	Yemen
CZ	Czech Republic	KN	Saint Kitts and Nevis	PR	Puerto Rico	YT	Mayotte
DE	Germany	KP	Korea, Democratic People's Republic of	PT	Portugal	YU	Yugoslavia
DJ	Djibouti	KR	Korea, Republic of	PW	Palau	ZA	South Africa
DK	Denmark	KW	Kuwait	PY	Paraguay	ZM	Zambia
DM	Dominica	KY	Cayman Islands	QA	Qatar	ZR	Zaire
DO	Dominican Republic	KZ	Kazakhstan	RE	Réunion	ZW	Zimbabwe
DZ	Algeria	LA	Lao People's Democratic Republic	RU	Romania		
EC	Ecuador	LB	Lebanon	RW	Russian Federation		
EE	Estonia						
EG	Egypt						
EH	Western Sahara						
ER	Eritrea						

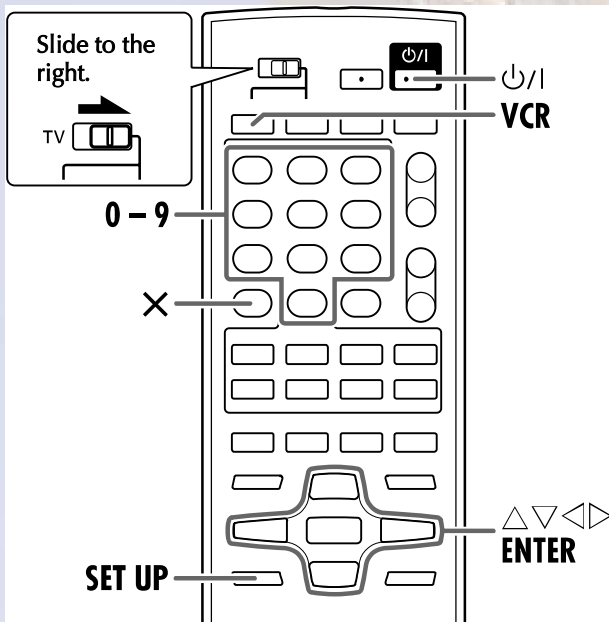
Tuner Set

IMPORTANT

Perform the following steps only if —
 — Auto Channel Set has not been set correctly by Auto Set Up. (pg. 14)
 — you have moved to a different area or if a new station starts broadcasting in your area.

Your unit needs to memorize all necessary stations in channel positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the PR buttons without going through any vacant channels.

- Turn on the TV and select the video channel (or AV mode).
- Slide the TV/VCR/DVD switch on the remote control to the right.



Auto Channel Set

1 Turn on the unit.

Press P/I .

2 Select the VCR deck.

On the unit

Press VCR/DVD repeatedly so that the VCR indicator lights up.

On the remote control

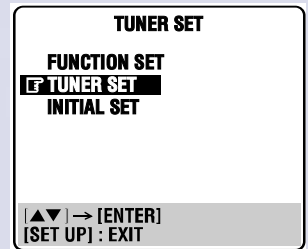
Press VCR so that the VCR indicator lights up.

3 Access the Main Menu screen.

Press SET UP.

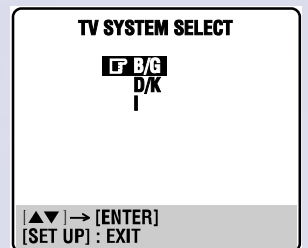
4 Access the Auto Channel Set screen.

- 1 Press Δ/∇ to move the highlight bar (pointer) to "TUNER SET," then press ENTER or \triangleright .
- 2 Press Δ/∇ to move the highlight bar (pointer) to "AUTO CH SET," then press ENTER or \triangleright .



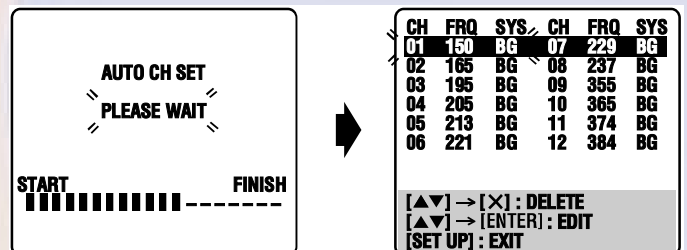
5 Select the TV system.

- 3 Press Δ/∇ to move the highlight bar (pointer) to the appropriate TV system (refer to the table below), then press ENTER or \triangleright .



Major Countries/Areas	TV System
Australia, New Zealand, Kuwait, U.A.E., Indonesia, Singapore, Thailand, Malaysia, Iran, Saudi Arabia, Egypt, Morocco, Lebanon, Iraq	B/G
China, Mongolia, Russia	D/K
Hong Kong	I

- Auto Channel Set will start.



6 Return to the normal screen.

Press SET UP.

- Using the Confirmation screen, you can delete channels, swap channel positions and fine-tune channels already stored. Refer to page 62 for the procedures.

IMPORTANT

- If no sound accompanies the picture or the audio sounds unnatural on some channels that have been stored by Auto Channel Set, the TV system setting for those channels maybe incorrect. Select the appropriate TV system for those channels. Refer to "TV System Selection – When you see the picture but the audio can't be heard or sounds unnatural" (pg. 63).
- Since your recorder memorises all detected stations even if the reception condition is poor, some of those stored stations may produce a noisy picture. To delete those stations, refer to "Delete A Channel" (pg. 62).

Manual Channel Set

Store channels that were not stored during Auto Set Up (pg. 14) or Auto Channel Set (pg. 60).

1 Access the Main Menu screen.

Press **SET UP**.

2 Access the Tuner Set screen.

Press Δ / ∇ to move the highlight bar (pointer) to "TUNER SET," then press **ENTER** or \triangleright .

3 Access the channel list.

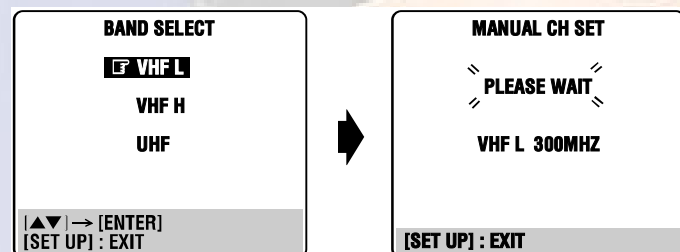
Press Δ / ∇ to move the highlight bar (pointer) to "CH EDIT," then press **ENTER** or \triangleright .

4 Select the channel position.

Press Δ / ∇ to move the highlight bar (pointer) to an open channel position, then press **ENTER** or \triangleright .

5 Select the band.

Press Δ / ∇ to move the highlight bar (pointer) to the desired band, then press **ENTER** to initiate Manual Channel Set.



6 Set the station.

The screen to the right appears when the station is detected.



If you do not want to store the detected station...

Press Δ / ∇ to move the highlight bar (pointer) to "CONTINUE" then press **ENTER** or \triangleright . Channel search will resume.

If you want to store the detected station...

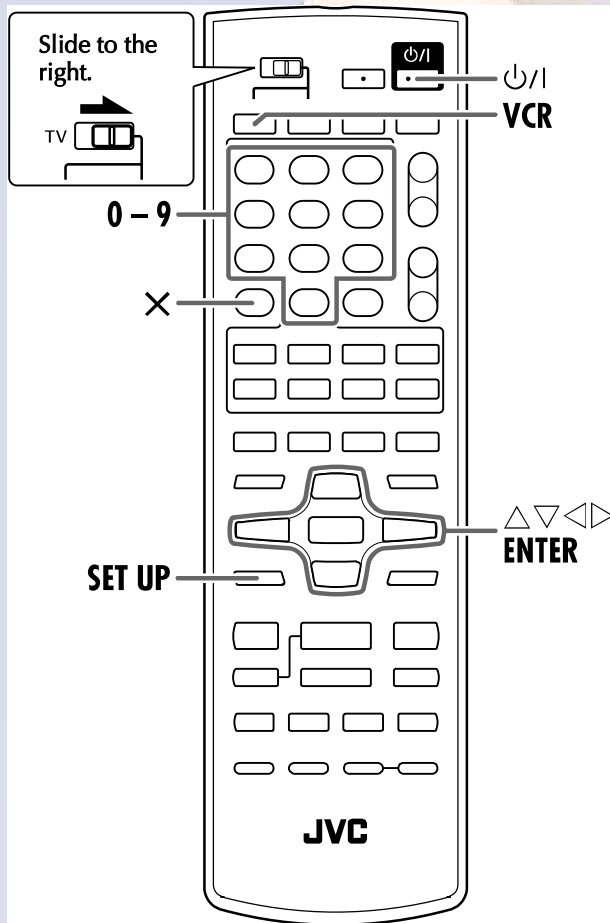
Press Δ / ∇ to move the highlight bar (pointer) to "STORE," then press **ENTER** or \triangleright . The Channel List appears again.

- The blueback screen and the TV picture currently being broadcast appear alternately for 8 seconds each.
- If you want to store another channel, repeat steps 4 – 6.
- When channel search completes for that band, the Band Select screen appears again. To set channels for other bands, select another band and start Manual Channel Set again (steps 5 and 6).

7 Return to the normal screen.

Press **SET UP**.

- To change positions, see "Swap Channel Position" (pg. 62).



Swap Channel Position

Perform steps **1** to **3** of "Manual Channel Set" on page 61 to access the Channel List screen before continuing.

1 Select the position (e.g. 03).

Press Δ/∇ until the section of CH "03" begins blinking, then press ENTER or \triangleright .

- Only "03" will blink.

2 Select the position (e.g. 09).

Press number keys to input "0" and "9."

- The two selected channels will be swapped.
- To cancel the channel swapping, press \triangleleft .

CH	FRQ	SYS	CH	FRQ	SYS	CH	FRQ	SYS	CH	FRQ	SYS
01	150	BG	07	229	BG	01	150	BG	07	229	BG
02	165	BG	08	237	BG	02	165	BG	08	237	BG
03	195	BG	09	355	BG	03	355	BG	09	195	BG
04	205	BG	10	365	BG	04	205	BG	10	365	BG
05	213	BG	11	374	BG	05	213	BG	11	374	BG
06	221	BG	12	384	BG	06	221	BG	12	384	BG

[0-9]: INPUT CH
[ENTER]: FINE TUNING
[SET UP]: EXIT

[\triangleleft]: CANCEL
[ENTER]: OK
[SET UP]: EXIT

- Repeat steps **1** and **2** as necessary.

3 Store the new position.

Press ENTER or \triangleright .

4 Return to the normal screen.

Press SET UP.

Delete A Channel

Perform steps **1** and **3** of "Manual Channel Set" on page 61 to access the channel list screen before continuing.

1 Select the channel.

Press Δ/∇ until the channel you want to delete begins blinking.

2 Delete a channel.

Press X.

- To re-store it, simply press \triangleleft .
- The item directly beneath the cancelled one moves up one line.
- Repeat steps **1** and **2** as necessary.

3 Return to the normal screen.

Press SET UP.

Fine Tuning Channels Already Stored

Perform steps 1 to 3 of "Manual Channel Set" on page 61 to access the channel list screen before continuing.

1 Select the channel to fine-tune.

Press Δ / ∇ until the channel you want to tune begins blinking, then press **ENTER** twice.

- The "FRQ" number for the channel starts blinking.

2 Perform tuning.

Press Δ / ∇ until the picture is its clearest. Then press **ENTER** or \triangleright .

- Repeat steps 1 and 2 as necessary.

3 Return to the normal screen.

Press **SET UP**.

TV System Selection — When you see the picture but the audio can't be heard or sounds unnatural

Perform steps 1 and 3 of "Manual Channel Set" on page 61 to access the Channel List screen before continuing.

1 Select the channel.

Press Δ / ∇ until the channel you want to change its TV system begins blinking, then press **ENTER** three times.

- The "SYS" display for that channel starts blinking.

CH	FRQ	SYS	CH	FRQ	SYS
01	150	BG	07	229	BG
02	165	BG	08	237	BG
03	195	BG	09	355	BG
04	205	BG	10	365	BG
05	213	BG	11	374	BG
06	221	BG	12	384	BG

[Δ / ∇] : SELECT SYSTEM
 [ENTER] : OK
 [SET UP] : EXIT

2 Select the TV system.

Press Δ / ∇ to select the appropriate TV system (B/G \rightarrow D/K \rightarrow I). Then press **ENTER** or \triangleright .

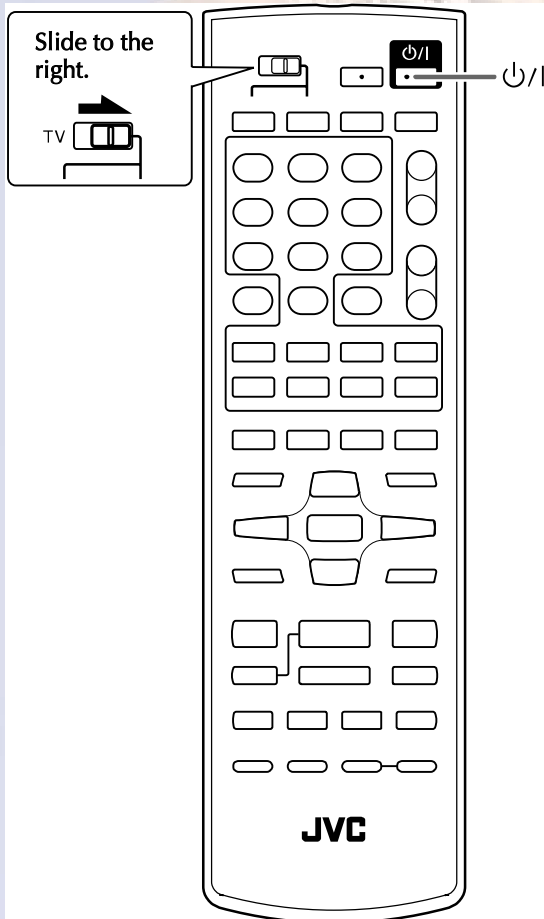
- Repeat steps 1 and 2 as necessary.

3 Return to the normal screen.

Press **SET UP**.

Child Lock

- Turn on the TV and select the video channel (or AV mode).
- Slide the **TV/VCR/DVD** switch on the remote control to the right.



You can disable the unit's operation.

1 Set the Child Lock.

Press and hold P/I on the remote control for more than 10 seconds while the unit is turned on. The unit turns off, and "CL" appears on the front display panel.



- To release the child lock, press and hold P/I on the remote control until the unit turns on.

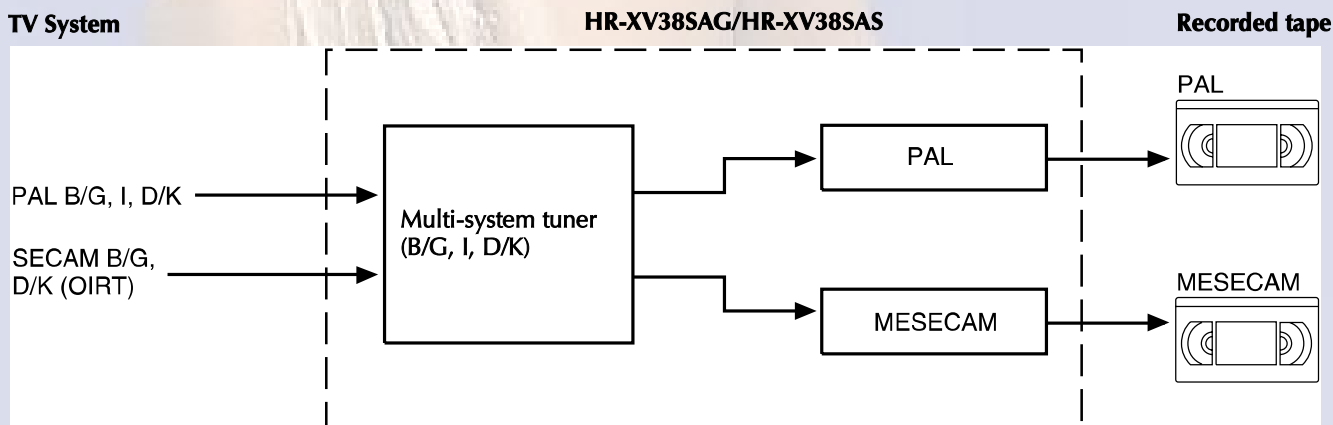
NOTES:

- When the child lock function is in use, keep the remote control out of the children's reach.
- Timer recording programmes will be performed even if the child lock function is activated.

Information on Multi-System Compatibility (VHS deck)

Off-Air Recording

The built-in multi-system tuner is capable of receiving PAL B/G, I and D/K, and SECAM B/G and D/K broadcasts.

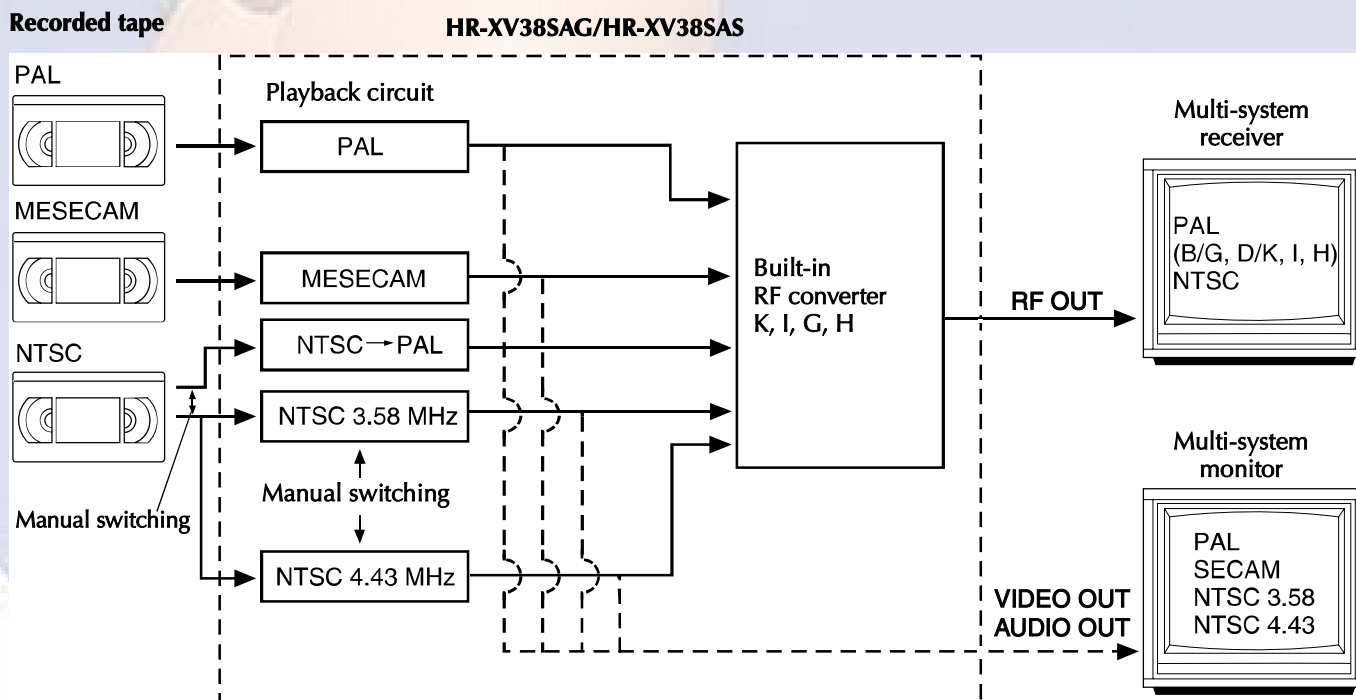


NOTE:

This model does not operate in BRAZIL (PAL-M) or ARGENTINA (PAL-N).

Playback

This unit can play all 3 types of recorded tape.



NOTES:

When viewing NTSC tapes on a PAL TV set:

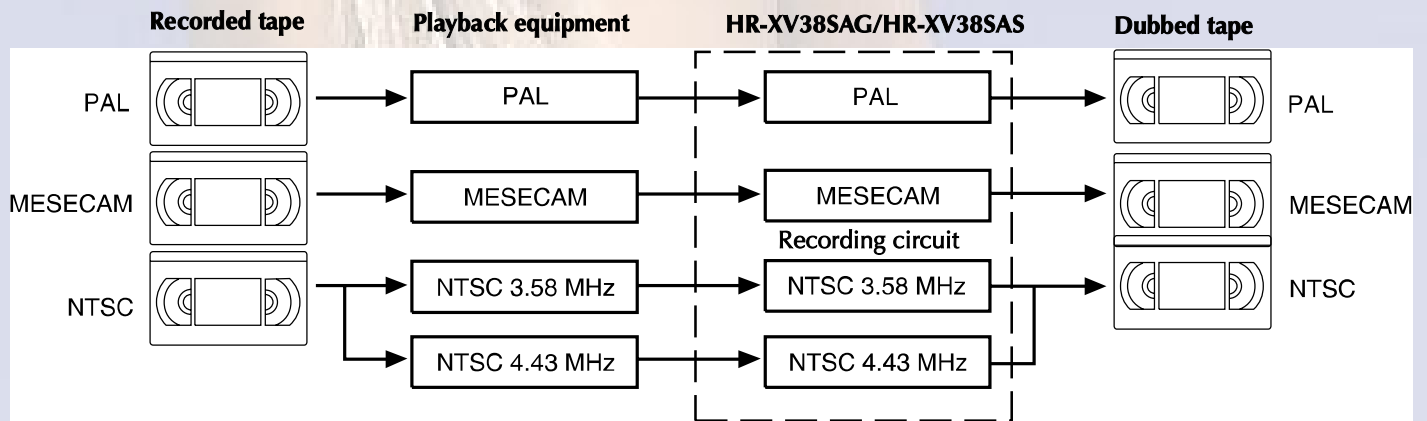
- The picture may shrink vertically with black bars appearing at the top and bottom of the screen. This is not a malfunction on the part of the nor the TV.
- The picture may roll up or down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- During search, still, or frame-by-frame playback, the picture will be distorted, and there maybe a loss of colour.

ATTENTION

When this unit is connected to a multi-system TV, the audio signal may not be heard or maybe noisy if the colour system select switch of the TV is adjusted to the AUTO position. In such a case, set the TV's colour system select switch to the appropriate position which corresponds to the TV system you have selected at the TV System Select screen.

Tape-To-Tape Editing

There are 3 different types of recorded tape, depending on the signal recorded.



Before requesting service for a problem, use this chart and see if you can repair the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your unit off for repair.

Power

No power is supplied to the unit.

- The mains power cord is disconnected.
- Connect the mains power cord.

The remote control won't function.

- The batteries are discharged.
- Replace the dead batteries with new ones.

Tape Transport (VHS deck)

During recording, the tape does not run. "●" lights up on the front display panel.

- The unit is in the Record Pause mode.
- Press ▶ to resume recording.

The tape will not rewind or fast-forward.

- The tape is already fully rewound or fast-forwarded.
- Check the cassette.

Playback (VHS deck)

The VHS deck can not be operated.

- The VHS deck is not selected.

On the unit

- Press VCR/DVD repeatedly so that the VCR indicator lights up.

On the remote control

- Press VCR so that the VCR indicator lights up.

The playback picture does not appear while the tape is running.

- If you are using the RF connection,
 - the TV receiver's channel selector is not set to the video channel.
 - the unit's video channel has not been correctly set.
- If you are using the RF connection,
 - set the TV receiver to the video channel.
 - perform "Video Channel Set" (pg. 13).
- If you are using the AV connection, the TV receiver is not set to the AV mode.
- If you are using the AV connection, set the TV to its AV mode.

Noise appears during visual search.

- This is normal.

Noise appears during normal playback.

- The automatic tracking mode is engaged.
- Try manual tracking. (pg. 22)

The playback picture is blurred or interrupted while TV broadcasts are clear or "USE CLEANING CASSETTE" message appears on the screen.

- The video heads may be dirty.
- Use a dry cleaning cassette ECL-3F, or consult your JVC dealer.

Breaks are noticeable in Hi-Fi soundtrack.

- The automatic tracking mode is engaged.
- Try manual tracking. (pg. 22)

Playback (DVD deck)

The button does not work.

- The operation is prohibited on the placed disc.

The DVD deck cannot be operated.

- The DVD deck is not selected.

On the unit

- Press VCR/DVD repeatedly so that the DVD indicator lights up.

On the remote control

- Press DVD so that the DVD indicator lights up.

"⊘" appears on the TV screen.

- The operation is prohibited on the placed disc.

"REGION CODE ERROR!" appears on the TV screen.

- The disc's region number does not match that of the unit.
- Use the discs whose region number matches with your unit. (pg. 4)

The disc cannot be played back.

- The disc's region number does not match that of the unit.
- Use the discs whose region number matches with your unit. (pg. 4)
- This type of disc cannot be played back.
- See "Unplayable Discs" (pg. 4).
- The disc is not placed properly.
- Remove the disc, then place the disc properly in the disc tray. (pg. 5, "Placing a Disc")
- The Parental Lock is engaged, and the placed disc is rated higher than the set level.
- Release the Parental Lock temporarily, or change the set level. (pg. 58)

The language is not played back as you set.

- The disc does not contain the language you set.

The playback picture does not appear while the DVD disc is played.

- Scan mode is set to PROGRESSIVE.
- Change the Scan mode to the Interlace. (pg. 11)

Changing audio/subtitle language is not possible.

- The disc does not contain audio/subtitles in multiple languages.
- With some discs, the language should be set on the top menu. (☞ pg. 34)

The subtitles do not appear on the TV screen.

- The disc does not contain subtitles.
- The subtitle display is set to off.
- Set the subtitles display to on. (☞ pg. 37)
- A-B Repeat Playback is in progress. (☞ pg. 44)
- The subtitles recorded around point A-B may not appear.

Angle cannot be changed.

- The scene is not recorded from multiple angles.

MP3/JPEG Files Playback (DVD deck)**A disc cannot be played.**

- No MP3 files or JPEG files are recorded to the disc.
- Replace to the disc with MP3 files or JPEG files are recorded.
- Files do not have the correct file extension in their file names.
- Add correct file extension to their file names.
- Files are not recorded in a format compliant with ISO 9660 Level 1 or 2.
- Replace the disc. (Record files using a compliant application.)
- The types of files other than MP3 or JPEG are recorded to the disc.
- The disc which contains the types of files other than MP3 or JPEG may not be played because of its disc characteristics or recording conditions.

When playing back a disc which contains both MP3 files and JPEG files, either MP3 files or JPEG files are played.

- When playing back a disc which contains both MP3 files and JPEG files, the selected files in the "FILE TYPE" setting are played back.
- Set "FILE TYPE" to either "AUDIO" (for MP3 files) or "STILL PICTURE" (for JPEG files) which you want to play back beforehand. (☞ pg. 57)

The control display appears on the TV screen, but no operation can be performed.

- No MP3 files or JPEG files are recorded to the disc, or the disc is an unplayable disc (such as CD-ROM).
- Replace the disc.

Recording (VHS deck)**Recording cannot be started.**

- There is no cassette loaded, or the cassette loaded has had its record safety tab removed.
- Insert a cassette, or using adhesive tape, cover the hole where the tab was removed.

TV broadcasts cannot be recorded.

- "L-1" or "F-1" has been selected as the input mode.
- Set to the desired channel.

Tape-to-tape editing is not possible.

- The source (another video recorder, camcorder) has not been properly connected.
- Confirm that the source is properly connected.
- All necessary power switches have not been turned on.
- Confirm that all units' power switches are turned on.
- The input mode is not correct.
- Set the input mode to "L-1" or "F-1."

Camcorder recording is not possible.

- The camcorder has not been properly connected.
- Confirm that the camcorder is properly connected.
- The input mode is not correct.
- Set the input mode to "L-1" or "F-1."

"●" and "▶" on the front display panel won't stop blinking.

- The end of the tape was reached during recording.
- The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.

The channel cannot be changed.

- Recording is in progress.
- Press **||** to pause the recording, change channels, then press **▶** to resume recording.

TIMER RECORDING (VHS deck)

Timer recording won't work.

- The clock and/or the timer have been set incorrectly.
→ Re-perform the clock and/or timer settings.
- The timer is not engaged.
→ Press **⏸** and confirm that "⏸" is displayed on the front display panel.

Timer programming is not possible.

- Timer recording is in progress.
→ Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.

"⏸" on the front display panel won't stop blinking.

- The timer is engaged but there's no cassette loaded.
→ Load a cassette with the record safety tab intact.

"⏸", "●" and "▶" on the front display panel won't stop blinking.

- The loaded cassette has had its record safety tab removed.
→ Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the record safety tab intact.
- The end of the tape was reached during timer recording.
→ The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.
→ Turn off the timer mode by pressing timer button or next operations cannot be carried on.

"⏸" blinks for 10 seconds and the Timer mode is disengaged.

- **⏸** has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.
→ Check the programmed data and re-program as necessary, then press **⏸** again.

The SHOWVIEW system does not timer-record properly.

- The unit's channel positions have been set incorrectly.
→ Refer to "G-CODE®/SHOWVIEW™ Timer Programming" (pg. 27) and re-perform the procedure.

"●" and "▶" on the front display panel won't stop blinking.

- The end of the tape was reached during Instant Timer Recording.
→ The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.

"▶", "●" and "▶" on the front display panel won't stop blinking.

- The loaded cassette has had its record safety tab removed.
→ Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the record safety tab intact.
- The end of the tape was reached during Automatic Satellite Programme Recording.
→ The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.
→ Turn off the timer mode by pressing REC LINK button or next operations cannot be carried on.

OTHER PROBLEMS

Whistling or howling is heard from the TV during camcorder recording.

- The camcorder's microphone is too close to the TV.
→ Position the camcorder so its microphone is away from the TV.
- The TV's volume is too high.
→ Turn the TV's volume down.

When scanning channels, some of them are skipped over.

- Those channels have been designated to be skipped.
→ If you need the skipped channels, restore them. (pg. 61)

Channel settings that were made manually seem to have changed or disappeared.

- After the manual settings were made, Auto Channel Set was performed.
→ Perform the manual settings again.

No channels are stored in the unit's memory.

- The TV aerial cable was not connected to the unit when Auto Set Up was performed.
→ Turn off the unit once and connect the TV aerial cable to the unit properly, then turn on the unit again. Then perform Auto Set Up again. (pg. 14)

ATTENTION

This unit contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the unit off and unplug the mains power cord. Then plug it in again and turn the unit on. Take out the cassette. After checking the cassette, operate the unit as usual.

GENERAL

Power requirement	: AC 110 V – 240 V~, 50 Hz/60 Hz
Power consumption	
Power on	: 23 W
Power off	: 4.5 W
Temperature	
Operating	: 5°C to 40°C
Storage	: -20°C to 60°C
Operating position	: Horizontal only
Dimensions (WxHxD)	
	: 435 mm x 93 mm x 272 mm
Weight	: 4.2 kg
Format	: VHS PAL/NTSC standard
Maximum recording time	
(SP)	: 240 min. with E-240 video cassette (PAL/MESECAM) : 160 min. with T-160 video cassette (NTSC)
(LP)	: 480 min. with E-240 video cassette (PAL/MESECAM)
(EP)	: 480 min. with T-160 video cassette (NTSC)

VIDEO/AUDIO (VHS deck)

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields NTSC colour and EIA monochrome signal, 525 lines/60 fields.
Recording system	: DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio:	45 dB
Horizontal resolution	
	: 250 lines (PAL/MESECAM) : 220 lines (NTSC)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output	: RCA connectors: IN x 2, OUT x 1

VIDEO/AUDIO (DVD deck)

Signal system	: NTSC 3.58
Applicable disc	: DVD (12 cm, 8 cm) CD (12 cm, 8 cm)
Audio characteristics	
DVD	: 4 Hz – 22 KHz
Frequency response	
CD	: 4 Hz – 20 KHz
S/N Ratio	: 90 dB
Wow and flutter	: Below Measurable Level
Dynamic range	: 90 dB
Output	
Component-Y	: (RCA) 1.0 V _{p-p} /75 ohm
Component- PB /PR	: (RCA) 0.7 V _{p-p} /75 ohm
Audio	: (RCA) 2 Vrms, 1 Kohm
Digital Audio	: -21 dBm to -15 dBm (peak)

TUNER/TIMER (VHS deck)

TV channel storage capacity	: 99 positions (+AUX position)
Tuning system	: Frequency synthesized tuner
Channel coverage	
VHF	: (low) 42 MHz – 175 MHz (high) 175 MHz – 470 MHz
UHF	: 470 MHz – 870 MHz
Aerial output	: UHF channels (Adjustable E28-E60)
Program capacity	: 1-year programmable timer / 8 programs
Memory backup time	: Approx. 10 min.

ACCESSORIES

Provided accessories	
	: RF cable, Infrared remote control unit, "R6" battery x 2

Specifications shown are for SP mode unless otherwise specified.

E.& O.E. Design and specifications subject to change without notice.

A			
A-B Repeat Playback	36	AUTO SP→LP TIMER	55
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EN

HR-XV38SAG/HR-XV38SAS

JVC

JVC

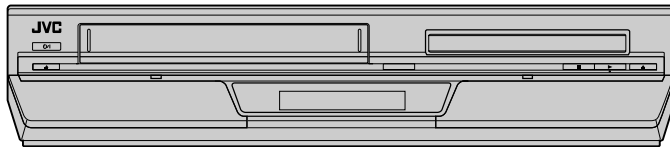
SCHEMATIC DIAGRAMS

DVD PLAYER & VIDEO CASSETTE RECORDER

200

HR-XV38SAG

CD-ROM No.SML200503



HR-XV38SAG [D5PV1]

G-CODE®/SHOWVIEW™

Hi-Fi

VHS
PAL/NTSC

SQP/B

3D
3D-PHONIC

DVD
VIDEO

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2D+DIGITAL OUT

DD DOLBY
DIGITAL

COMPACT
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DIGITAL VIDEO

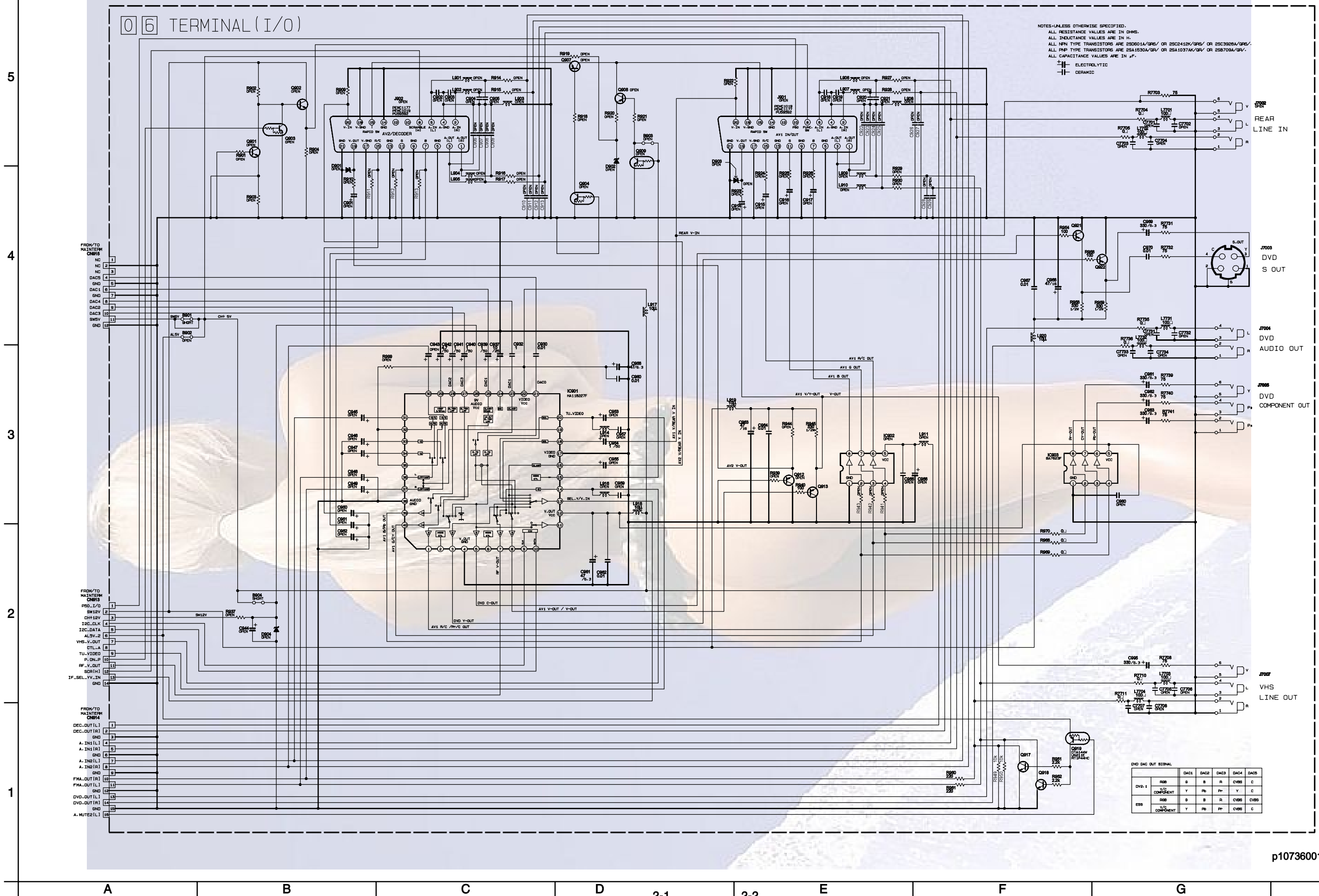
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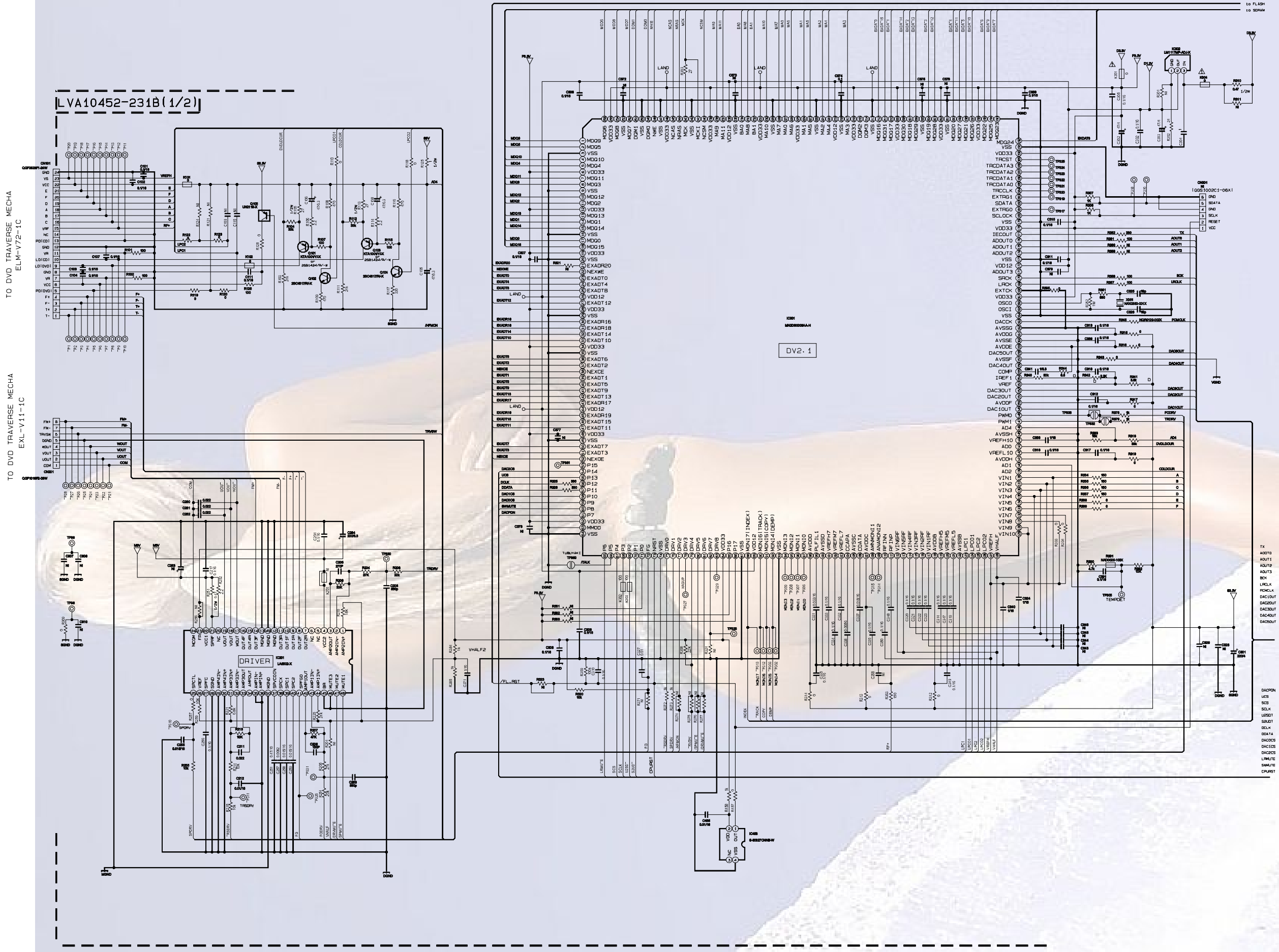
For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).
Regarding service information other than these sections, refer to the service manual No. YD051 (HR-XV48EX).
Also, be sure to note important safety precautions provided in the service manual.

CHARTS AND DIAGRAMS

■ TERMINAL(I/O) SCHEMATIC DIAGRAM



DVD SERVO CONTROL AND DECODER SCHEMATIC DIAGRAM



DVD FLASH ROM SCHEMATIC DIAGRAM

LVA10452-231B(2/2)

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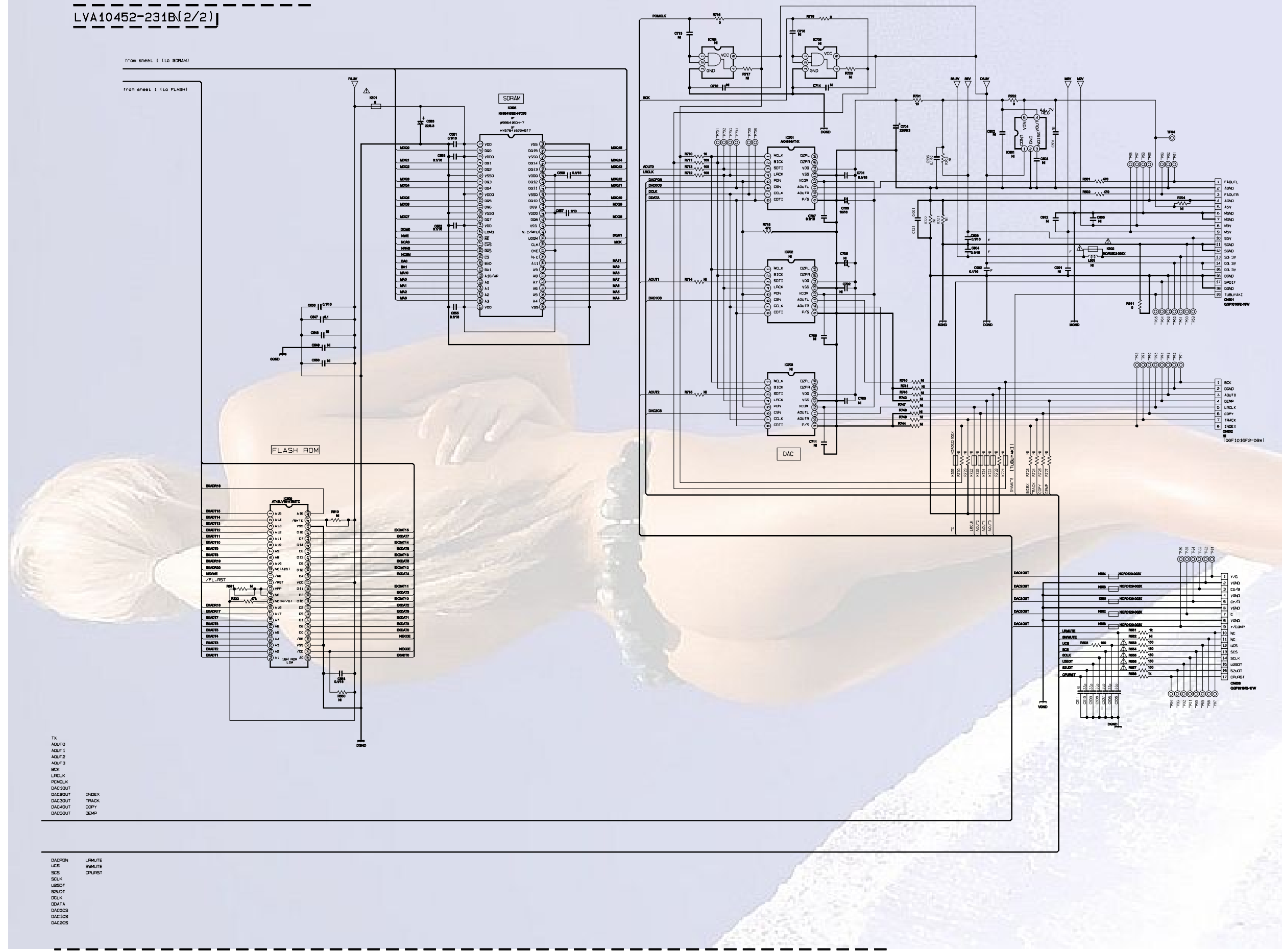
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from sheet 1 (to SDRAM)

from sheet 1 (to FLASH)



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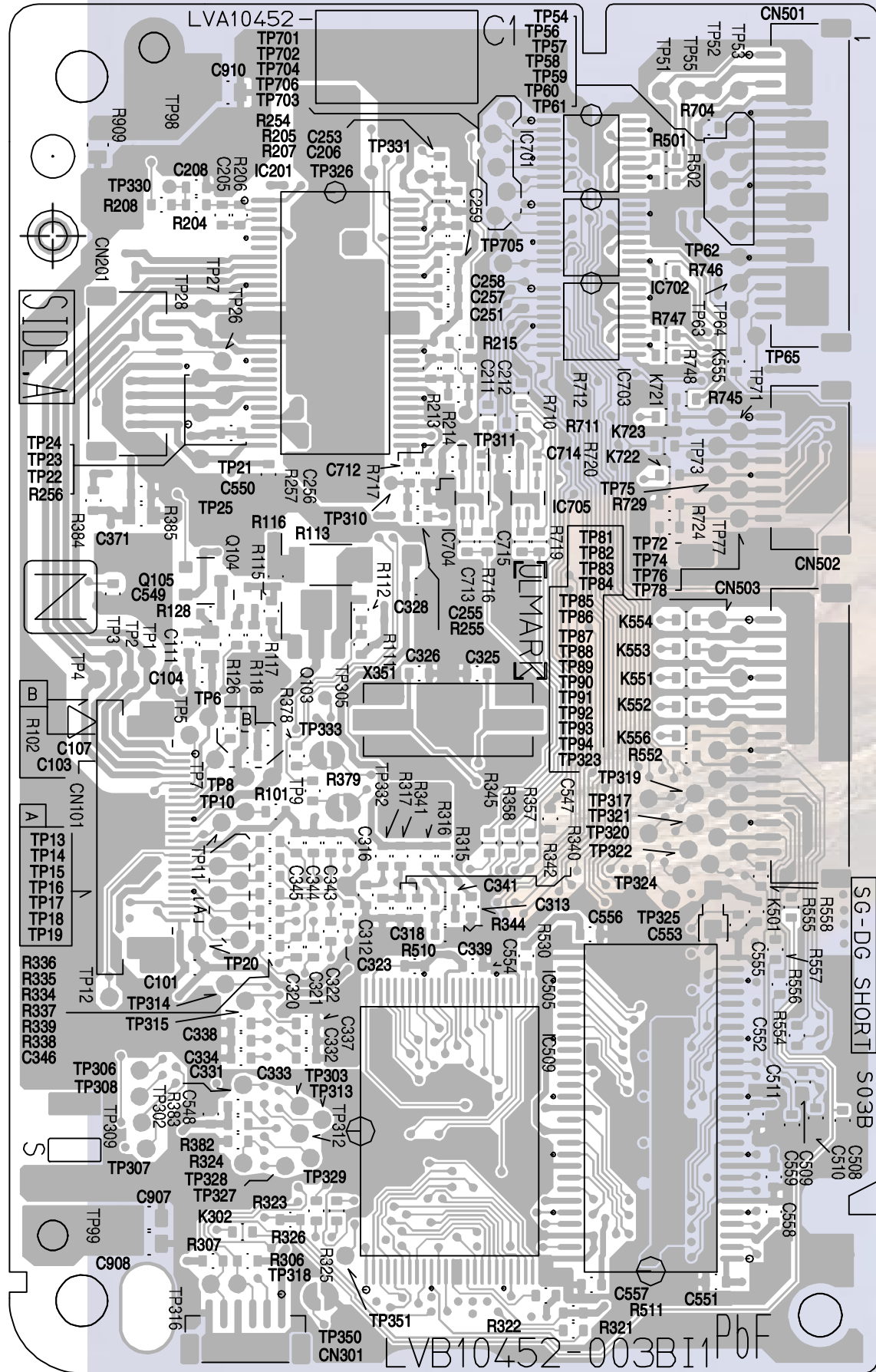
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■ DVD SERVO CONTROL CIRCUIT BOARD

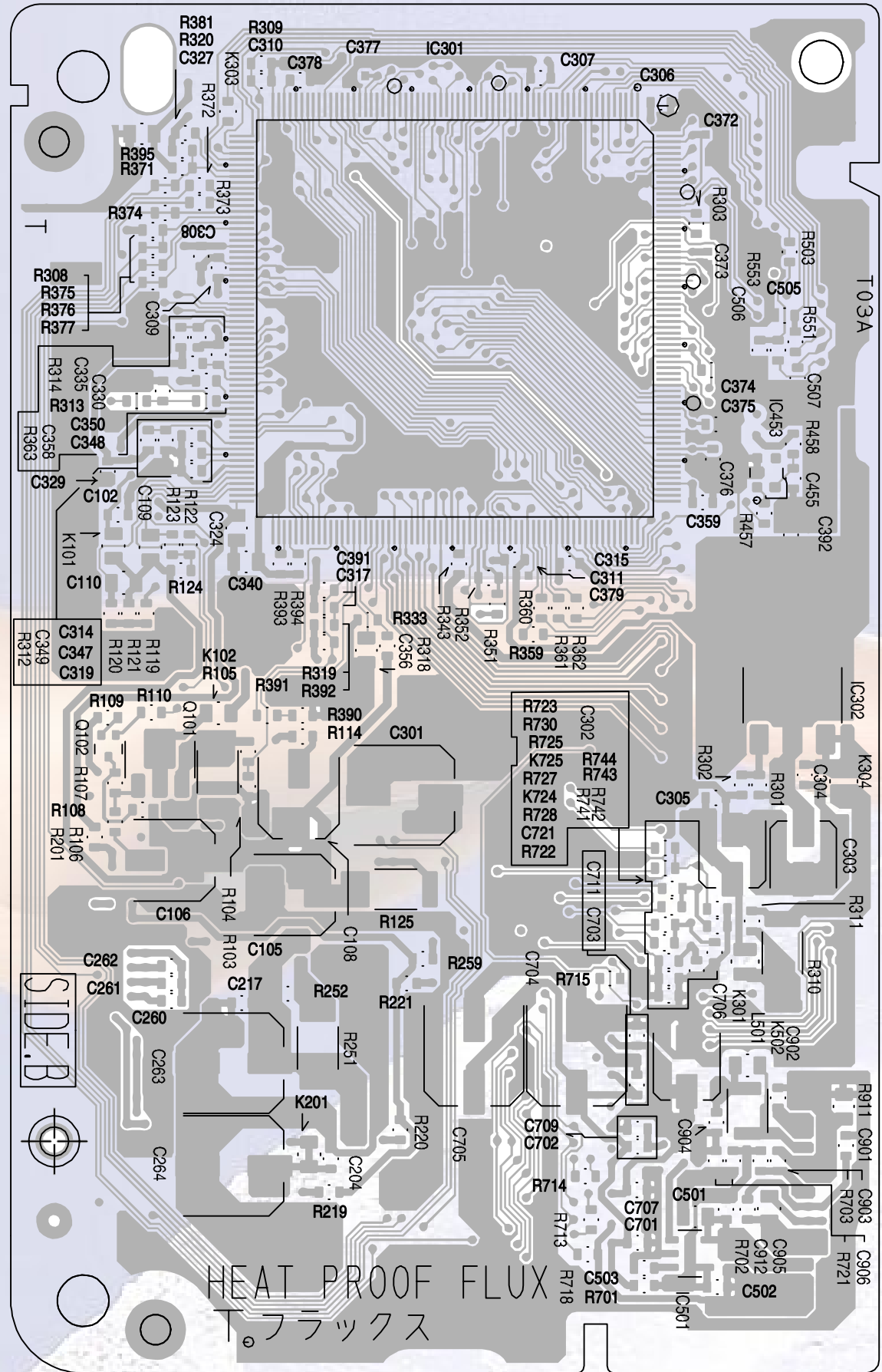
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LVB10452-003B

-COMPONENT SIDE-



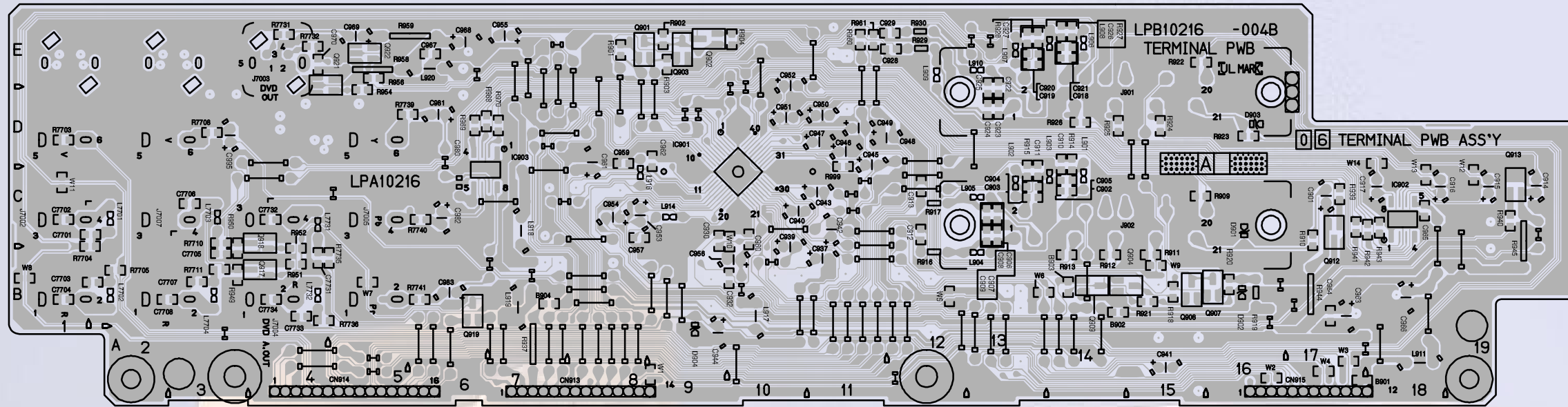
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LVB10452-003B

-FOIL SIDE-



■ **TERMINAL CIRCUIT BOARD**

<06> TERMINAL
LPB10216-004B



COMPONENT PARTS LOCATION GUIDE <TERMINAL> LPB10216-004B

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION		
CAPACITOR																							
C901	A D 17C	C922	B C 13D	C950	A D 11D	C982	A D 6C	D901	A D 16C	L914	A D 9C	Q913	B C 19C	R919	A D 16B	R951	B C 4B	R7739	B C 6D				
C902	B C 14C	C923	B C 13D	C951	A D 10D	C983	A D 6B	D902	A D 16B	L916	A D 8C	Q917	B C 4B	R920	B C 16B	R952	B C 4B	R7740	B C 6C				
C903	B C 13C	C924	B C 13D	C952	A D 10E	C985	A D 3D	D903	A D 16D	L917	A D 10A	Q918	B C 4C	R921	B C 15B	R954	B C 6D	R7741	B C 6B				
C904	B C 13C	C925	B C 13D	C953	A D 8C	C7701	B C 2C	D904	A D 9A	L918	A D 7C	Q919	B C 6B	R922	B C 15E	R956	B C 5E						
C905	B C 14C	C926	B C 14E	C954	A D 8C	C7702	B C 1C			L919	A D 7B	Q921	B C 4E	R923	B C 16D	R958	A D 5E	OTHER					
C906	B C 13C	C927	B C 13E	C955	A D 7E	C7703	B C 2B	IC		L920	A D 6E	Q922	B C 5E	R924	B C 15D	R959	A D 6E	J901	A D 14D				
C907	B C 13C	C928	B C 12E	C956	A D 10B	C7704	B C 1B	IC901	B C 10C	L7701	A D 2C			R925	B C 14D	R960	B C 11E	J902	A D 14C				
C908	B C 13C	C929	B C 12E	C957	B C 8C	C7705	B C 3B	IC902	B C 19C	L7702	A D 2B	RESISTOR		R926	B C 14D	R961	B C 11E	J7002	A D 1C				
C909	B C 13C	C930	B C 9C	C959	B C 8D	C7706	B C 3C	IC903	B C 6C	L7703	A D 3C	R901	B C 8E	R927	B C 14E	R968	B C 6D	J7003	A D 4E				
C910	B C 14D	C932	B C 10B	C960	B C 10C	C7707	B C 3B			L7704	A D 3B	R902	B C 9E	R928	B C 13E	R969	B C 6D	J7004	A D 4B				
C911	B C 13C	C937	A D 11B	C961	A D 8C	C7708	B C 2B	COIL		L7731	A D 4C	R903	B C 9E	R929	A D 12E	R970	B C 7D	J7005	A D 6C				
C912	B C 12C	C939	A D 10B	C982	B C 9D	C7731	B C 4B	L901	A D 14C	L7732	A D 4B	R904	B C 10E	R930	A D 12E	R989	B C 11D	J7007	A D 3C				
C913	B C 12C	C940	A D 10C	C983	A D 17B	C7732	B C 4C	L902	A D 13C			R909	B C 15C	R937	A D 7A	R7703	B C 1D	PC06	B C 21P				
C914	A D 20C	C941	A D 15A	C984	B C 17B	C7733	B C 4B	L903	A D 14C	TRANSISTOR		R910	B C 17C	R939	B C 17C	R7704	B C 2C						
C915	A D 19C	C942	A D 11C	C985	B C 18C	C7734	B C 4B	L904	A D 13B	Q901	B C 8E	R911	B C 15B	R940	B C 19C	R7705	B C 2B						
C916	A D 18C	C944	A D 11C	C986	A D 18B			L905	A D 13C	Q902	B C 9E	R912	B C 14B	R941	B C 17C	R7708	B C 3D						
C917	A D 18C	C945	A D 11D	C987	B C 6E	CONNECTOR		L906	A D 14E	Q903	B C 9E	R913	B C 14B	R942	B C 18C	R7710	B C 3C						
C918	B C 14E	C946	A D 11D	C988	A D 6E	CN913	A D 7A	L907	A D 14E	Q904	B C 15B	R914	B C 14D	R943	B C 18C	R7711	B C 3B						
C919	B C 13E	C947	A D 11D	C989	A D 5E	CN914	A D 4A	L908	A D 14E	Q907	B C 16B	R915	B C 13C	R944	A D 17B	R7731	B C 4E						
C920	B C 13E	C948	A D 11D	C990	B C 4E	CN915	A D 16A	L909	A D 12D	Q908	B C 15B	R916	A D 12B	R945	A D 19B	R7732	B C 4E						
C921	B C 14E	C949	A D 11D	C981	A D 6C			L910	A D 13E	Q909	B C 14B	R917	A D 12C	R949	B C 3B	R7735	B C 5B						
						DIODE		L911	A D 18A	Q912	B C 17C	R918	B C 15B	R950	B C 3B	R7736	B C 4B						





JVC

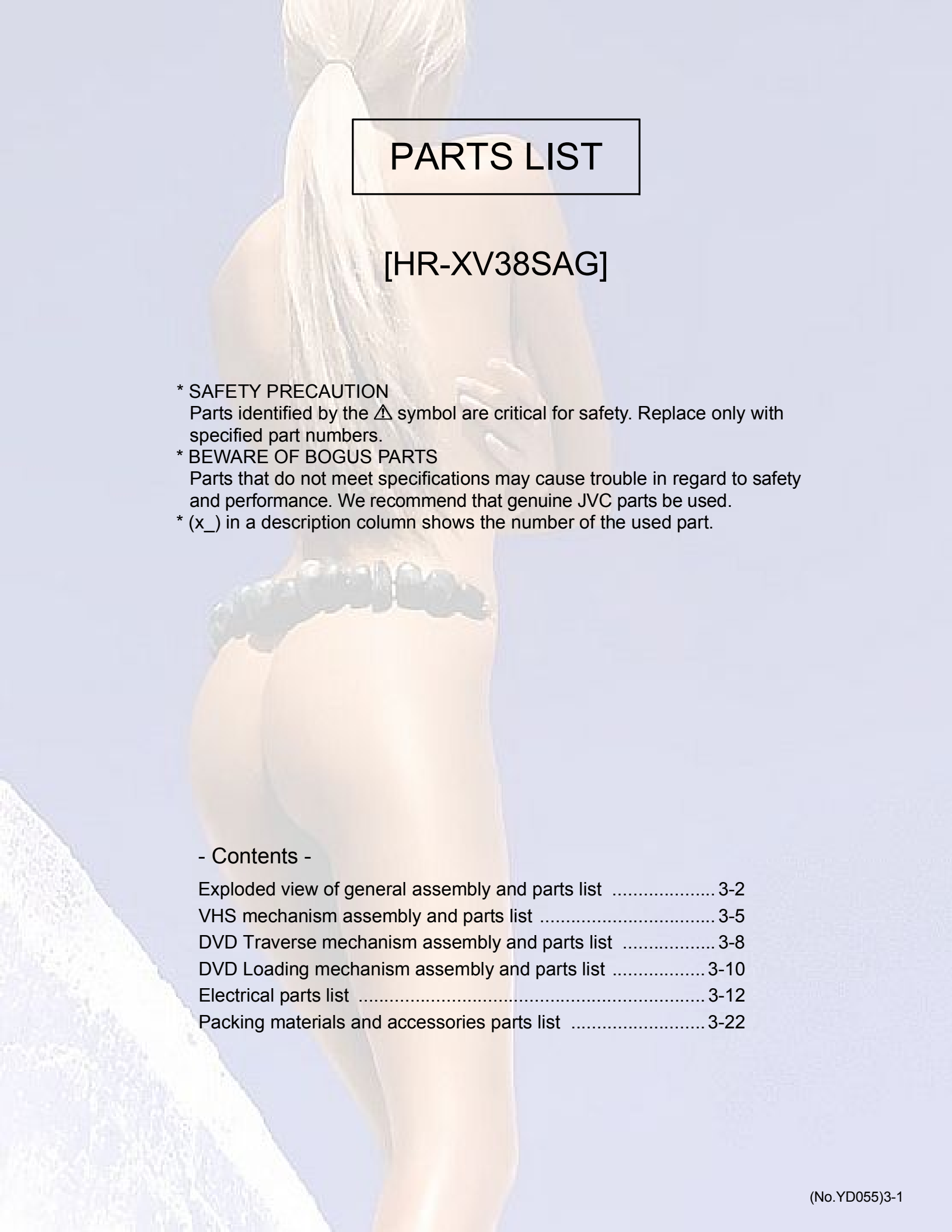
Victor Company of Japan, Limited

AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YD055)



Printed in Japan
VPT



PARTS LIST

[HR-XV38SAG]

*** SAFETY PRECAUTION**

Parts identified by the \triangle symbol are critical for safety. Replace only with specified part numbers.

*** BEWARE OF BOGUS PARTS**

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

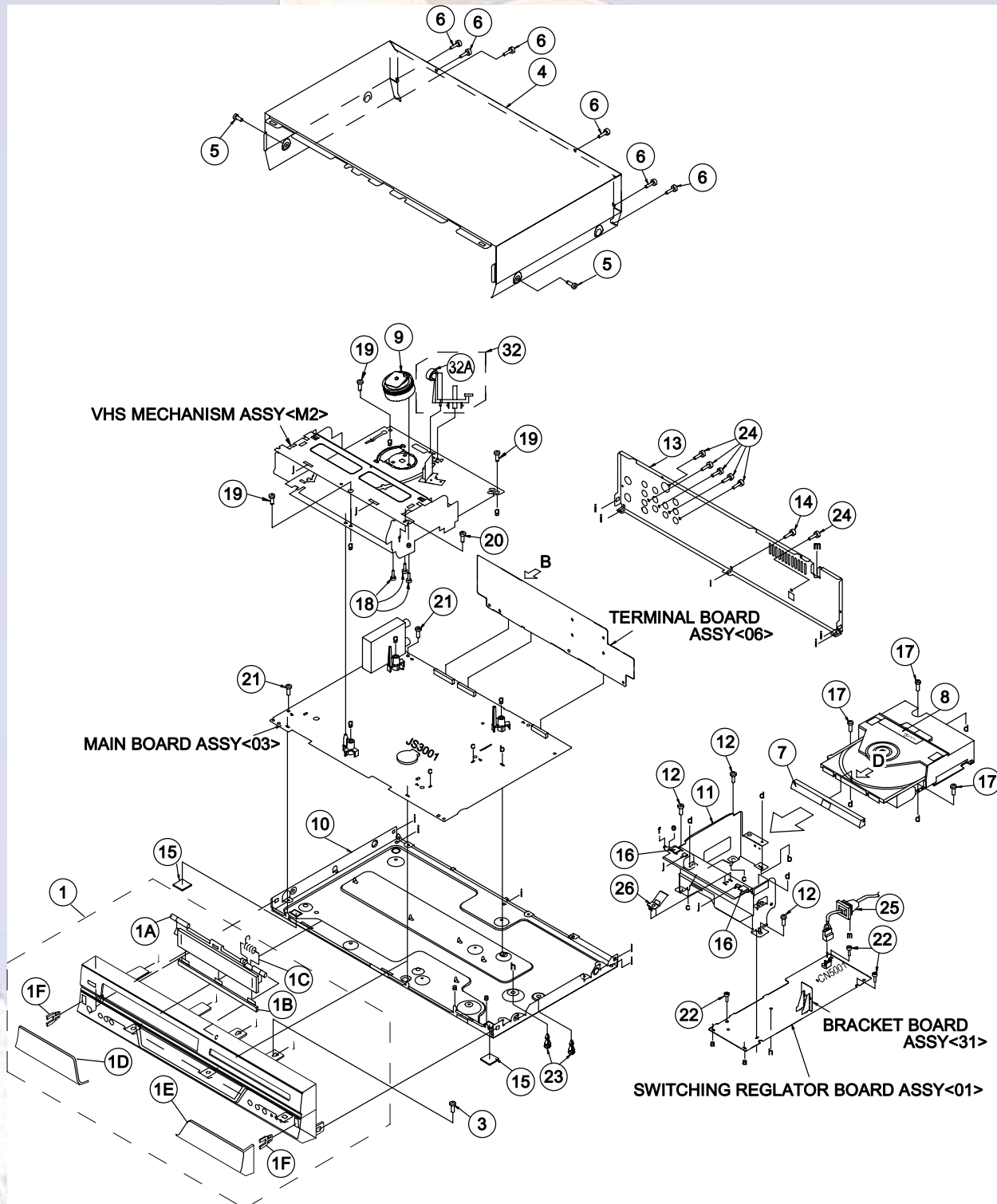
* (x_) in a description column shows the number of the used part.

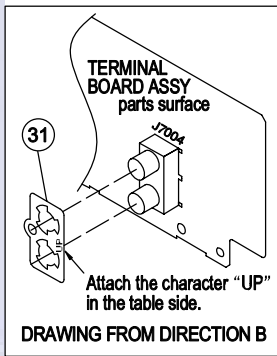
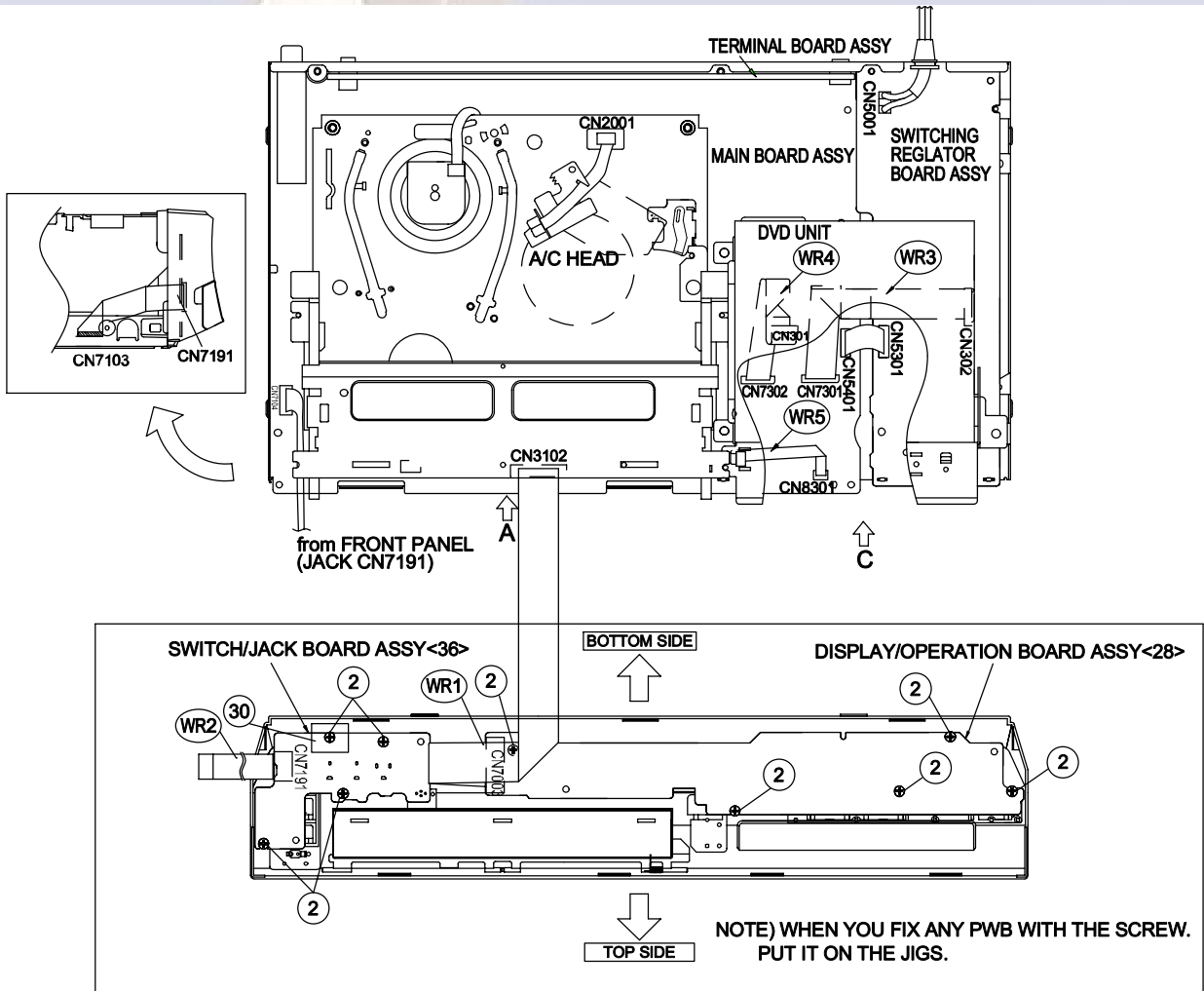
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DVD Loading mechanism assembly and parts list	3-10
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Packing materials and accessories parts list	3-22

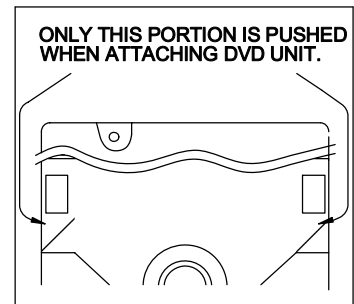
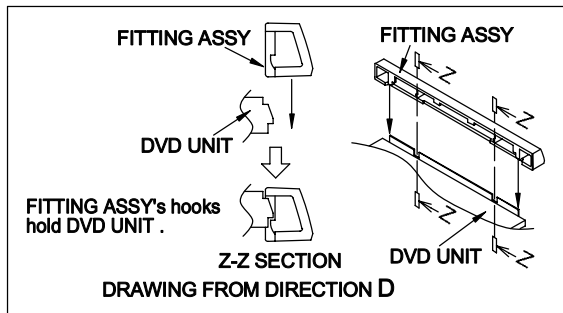
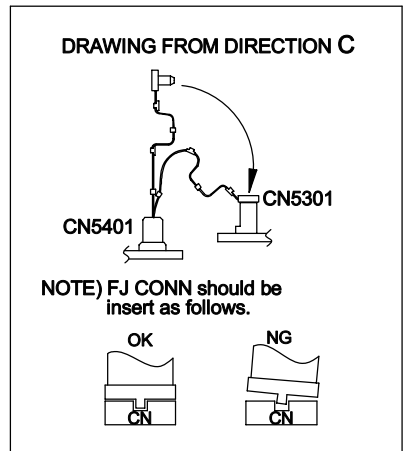
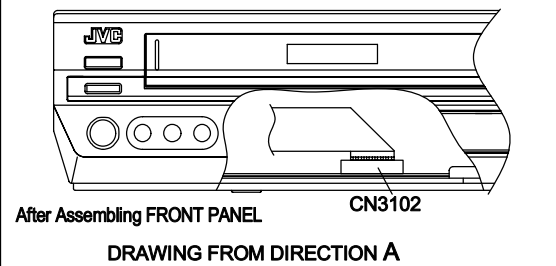
Exploded view of general assembly and parts list

Block No. M1MM





NOTE) FFC WIRE SHOULD BE POSITIONED BELOW CASSETTE DOOR. (FOR AVOID FFC WIRE DISTURB CASSETTE IN AND OUT.)



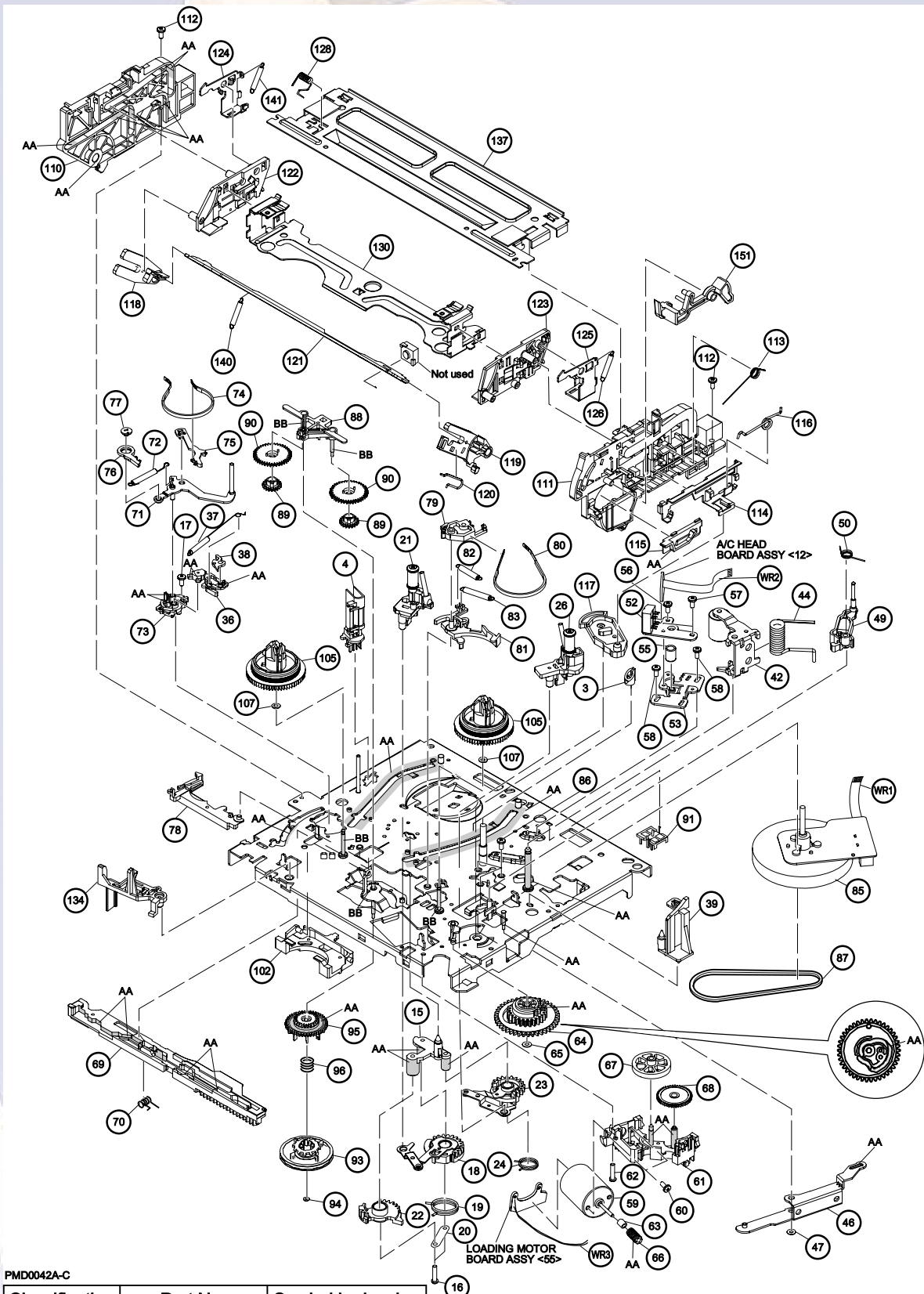
General assembly

Block No. [M][1][M][M]

Symbol No.	Part No.	Part Name	Description	Local
△ 1	LP10490-027A	FRONT PANEL ASSY		
1A	LP21181-004A	CASSETTE DOOR		
1B	LP31271-007A	ORNAMENT(CASSETTE DOOR)		
1C	PQ46448	TORSION SPRING		
1D	LP21191-027A	DOOR(L)		
1E	LP21192-006A	DOOR(R)		
1F	PU60109	CATCHER		(x2)
2	QYTDSF2608ZA	TAP SCREW	M2.6 x 8mm DISPLAY/OPERATION SWITCH/JACK(x9)	
3	LP31391-001A	SPECIAL SCREW	FRONT PANEL	
△ 4	LP10488-002C	TOP COVER		
5	QYSBSG3006NA	TAP SCREW	M3 x 6mm TOP SIDE(x2)	
6	QYSBSG3006NA	TAP SCREW	M3 x 6mm TOP REAR(x6)	
7	LP31261-001A	FITTING ASSY		
△ 8	LP41077-001A	LABEL(CAUTION)		
9	PDV2539B	DRUM FINAL ASSY		
△ 10	LP10489-001B	BOTTOM CHASSIS		
11	LP21177-001B	BRACKET(DVD)		
12	LP31391-001A	SPECIAL SCREW	BRACKET(DVD)(x3)	
△ 13	LP21178-022A	REAR COVER		
14	QYSBSG3006MA	TAP SCREW	M3 x 6mm REAR COVER	
15	LP31348-001A	FOOT	(x2)	
16	LP30002-0E5A	SPACER	(x2)	
17	QYSBSG3010ZA	TAP SCREW	M3 x 10mm DVD UNIT(x3)	
18	QYSPSPD3008ZA	SCREW	M3 x 8mm DRUM(x3)	
19	LP31391-002A	SPECIAL SCREW	MECHANISM(x3)	
20	LP31391-001A	SPECIAL SCREW	HOUSING	
21	LP31391-001A	SPECIAL SCREW	MAIN(x2)	
22	LP31391-001A	SPECIAL SCREW	SWITCHING REGULATOR(x3)	
23	LP40696-008A	HOLDER(PWB)	(x2)	
24	QYTDSF3008MA	TAP SCREW	M3 x 8mm JACK COVER(x6)	
△ 25	QMPK340-170-JC	POWER CORD	1.7m BLACK	
26	PQ44695-1-1	EARTH PLATE		
30	LP30002-0F8A	SPACER		
31	LP31345-001A	EARTH PLATE		
32	LP40910-002G	HEAD CLEANER ASSY		
32A	PQ46419-2	CLEANER		
WR1	QUQ112-2212CG-E	FFC WIRE	DISPLAY/OPERATION CN7003-MAIN CN3102	
WR2	QUQ112-1010CG-E	FFC WIRE	SWITCH/JACK CN7191-MAIN CN7104	
WR3	QUQ210-1916CC-E	FFC WIRE	DVD UNIT CN302-MAIN CN7301	
WR4	QUQ210-1716CC-E	FFC WIRE	DVD UNIT CN301-MAIN CN7302	
WR5	QUQ210-0510CC-E	FFC WIRE	DVD UNIT CN1-MAIN CN8301	

VHS mechanism assembly and parts list

Block No. M2MM



PMD0042A-C

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

VHS mechanism

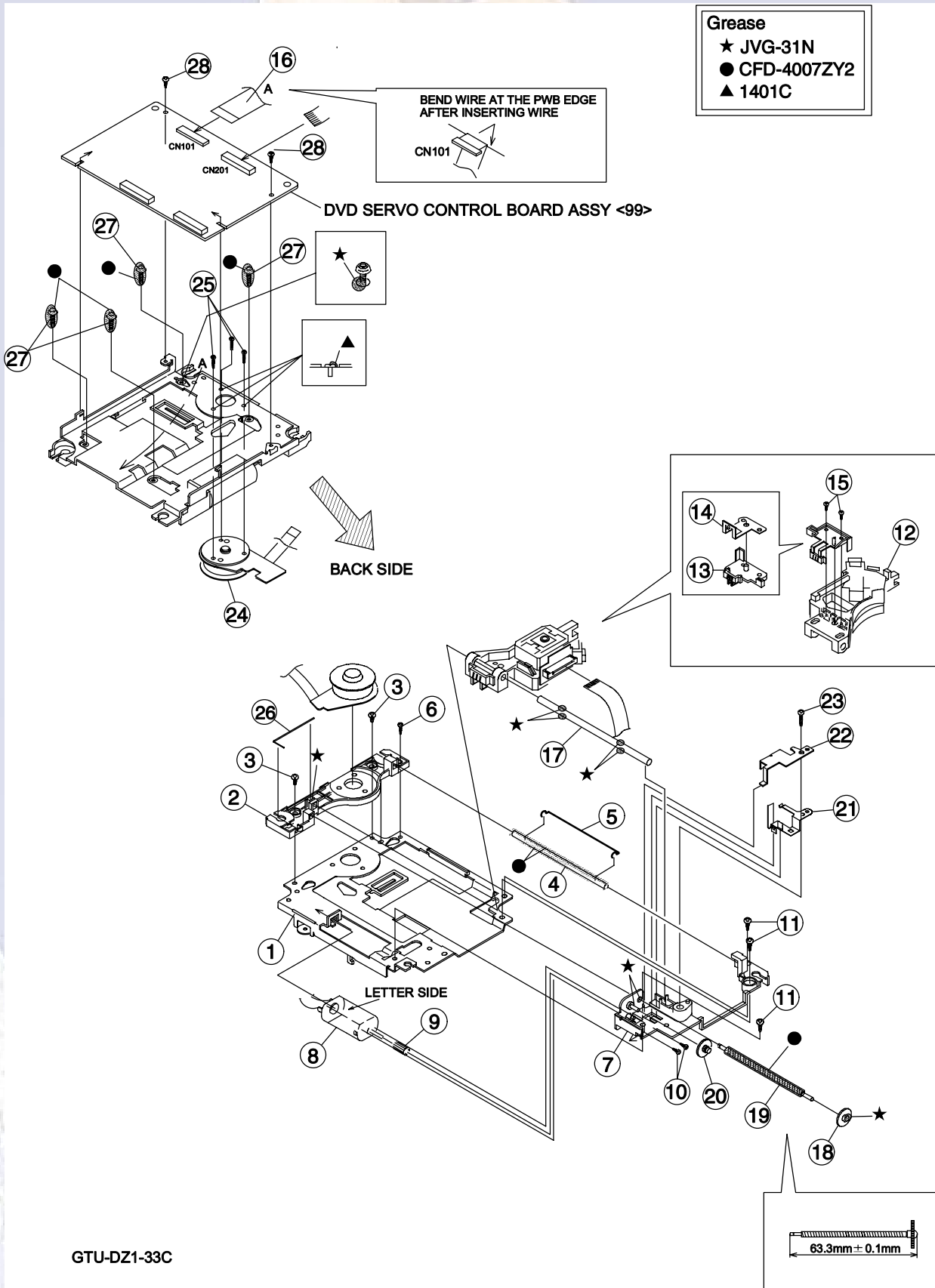
Block No. [M][2][M][M]

Symbol No.	Part No.	Part Name	Description	Local
3	LP40097-002E	GUIDE POLE CAP		
4	QAH0082-001	FULL ERASE HEAD		
15	LP30958-001B	LOADING GEAR BASE		
16	QYTPST2620ZA	TAP SCREW		M2.6 x 20mm(x2)
17	QYTDST2606ZA	TAP SCREW		M2.6 x 6mm
18	LP40798-002A	LOADING GEAR(SUPPLY) ASSY		
19	LP40837-001A	TORSION SPRING(SUPPLY)		
20	LP40903-004A	FIXING PLATE		
21	LP40806-001D	POLE BASE ASSY(SUPPLY)		
22	LP30959-001B	LOADING GEAR		
23	LP40802-002A	LOADING GEAR(TAKE UP) ASSY		
24	LP40838-001A	TORSION SPRING(TAKE UP)		
26	LP40808-001E	POLE BASE ASSY(TAKE UP)		
36	LP21055-001G	TAKE UP LEVER		
37	LP40943-001A	TENSION SPRING		
38	LP40859-001D	T-UP HEAD		
39	LP30961-001C	LID GUIDE		
42	LP40810-003A	PINCH ROLLER ARM ASSY		
44	LP40840-001E	TORSION SPRING		
46	LP30963-002A	PRESS LEVER		
47	PQM30017-24	SLIT WASHER		
49	LP40813-001D	GUIDE ARM ASSY		
50	LP40841-001A	TORSION SPRING		
52	NAH0005-001	AC HEAD		
53	LP30965-003A	HEAD BASE		
55	LP40842-001D	COMPRESSION SPRING		
56	QYTDST2006MA	TAP SCREW		M2 x 6mm
57	LP41036-002A	A/C ADJ.SCREW		(x2)
58	QYTDST2606ZA	TAP SCREW		M2.6 x 6mm(x2)
59	QAR0289-001	LOADING MOTOR		
60	QYTPSP3003ZA	SCREW		M3 x 3mm(x2)
61	LP21056-002J	MOTOR BRACKET		
62	QYTPST2620ZA	TAP SCREW		M2.6 x 20mm
63	LP40814-001B	WORM BEARING		
64	LP21044-001E	CONTROL CAM		
65	PQM30017-24	SLIT WASHER		
66	LP40815-001A	WORM GEAR		
67	LP40816-001B	HELICAL GEAR		
68	LP40817-001A	CONNECT GEAR		
69	LP10400-001N	CONTROL PLATE		
70	LP40843-001A	TORSION SPRING		
71	LP40818-002A	TENSION ARM ASSY		
72	LP40844-001F	TENSION SPRING		
73	LP21045-001E	TENSION ARM BASE		
74	LP40821-001A	TENSION BAND ASSY		
75	LP30967-001B	BAND HOLDER-1		
76	LP30968-001C	BAND HOLDER-2		
77	LP40822-002B	ADJUST PIN		
78	LP31000-005E	TENSION ARM LEVER		
79	LP21046-001C	MAIN BRAKE(TAKE UP)		
80	LP40824-001A	BAND BRAKE ASSY		
81	LP30969-002B	BRAKE LEVER		
82	LP30003-033C	TENSION SPRING		
83	LP30003-035C	TENSION SPRING		
△ 85	QAR0267-003	CAPSTAN MOTOR		
86	QYTPSG2606ZA	TAP SCREW		M2.6 x 6mm(x3)
87	LP30005-010A	BELT		CAPSTAN MOTOR
88	LP30970-001B	IDLER ARM		
89	LP40828-004A	IDLER GEAR 1		(x2)
90	LP40829-002A	IDLER GEAR 2		(x2)
91	LP31014-002A	WIRE HOLDER		
93	LP40934-001B	CLUTCH UNIT		
94	PQM30017-47	SLIT WASHER		
95	LP30973-001A	DIRECT GEAR		
96	LP40939-001A	COMPRESSION SPRING		
102	LP30974-001C	CHANGE LEVER		
105	LP21049-001A	REEL DISK		(x2)
107	LP30017-004A	SPACER		REEL DISK(x2)
110	LP10401-001L	SIDE FRAME(L)		
111	LP10402-001M	SIDE FRAME(R)		
112	QYTDST2606ZA	TAP SCREW		M2.6 x 6mm(x2)
113	LP40917-001D	TORSION SPRING		
114	LP30976-002B	SIDE PLATE		
115	LP30977-002E	LIMIT PLATE		
116	LP40846-001C	LIMIT SPRING		
117	LP31100-002A	DRIVE LEVER		
118	LP30978-001B	DRIVE ARM(L)		
119	LP30979-001S	DRIVE ARM(R)		
120	LP40847-001B	TORSION SPRING		

△ Symbol No.	Part No.	Part Name	Description	Local
121	LP30980-002A	CONNECT PLATE		
122	LP10403-001C	SIDE HOLDER(L)		
123	LP10404-001F	SIDE HOLDER(R)		
124	LP30983-002A	LOCK LEVER(L)		
125	LP30984-002A	LOCK LEVER(R)		
126	LP40924-001D	TENSION SPRING		
128	LP40857-001B	EARTH SPRING(2)		
130	LP30981-003B	CASSETTE HOLDER ASSY		
134	LP21051-002C	REC SAFETY LEVER		
137	LP21052-002A	TOP FRAME		
140	LP41153-001A	EARTH SPRING(3)		
141	LP40924-001D	TENSION SPRING		
151	LP30985-002M	DOOR OPENER		
WR1	WJT0117-001A	E-CARD WIRE		DRUM
WR2	WJT0067-001B	E-CARD WIRE		A/C HEAD CN2001
WR3	WJW0023-001A-E	E-TWISTED ASSY		LOADING MOTOR

DVD Traverse mechanism assembly and parts list

Block No. M3MM



GTU-DZ1-33C

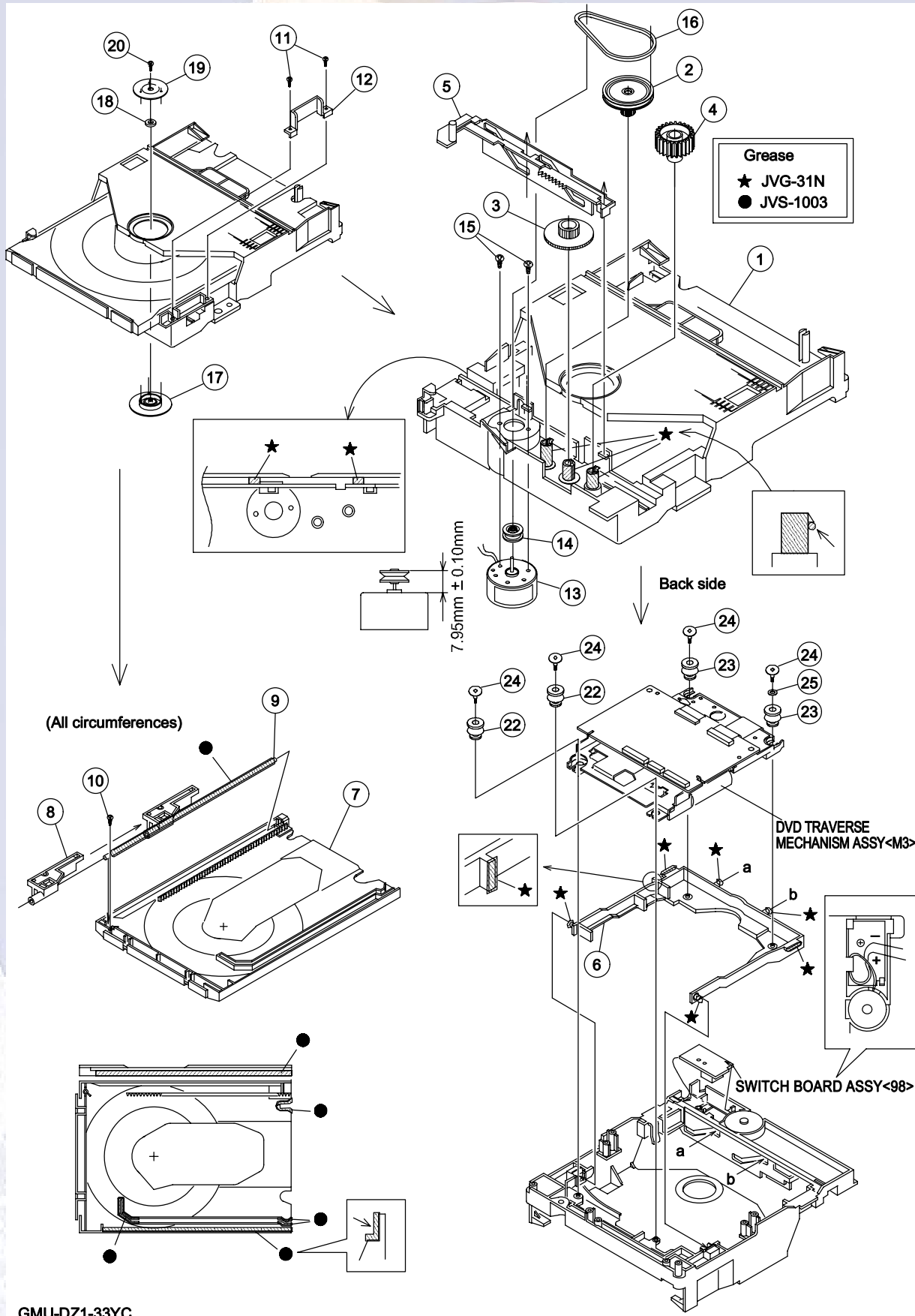
DVD Traverse mechanism

Block No. [M][3][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	LV21814-001A	MECHA BASE		
2	LE20731-002A	SPINDLE BASE		
3	QYSDST2605M	TAP SCREW		M2.6 x 5mm(x2)
4	LE40931-001A	SHAFT		
5	LE40995-001A	BAR SPRING		
6	QYSPSTU2080M	TAP SCREW		M2 x 8mm
7	LE20730-002A	FEED HOLDER		
8	QAR0165-001	FEED MOTOR		
9	LV41510-001A	FEED GEAR T		
10	QYSPSPU2040M	SCREW		M2 x 4mm(x2)
11	QYSDST2605M	TAP SCREW		M2.6 x 5mm(x3)
12	QAL0577-001	P.UP		
13	LE20732-001A	SW ACTUATOR		
14	LE31093-001A	LEAD SPRING		
15	QYSPSFU1740Z	TAP SCREW		M1.7 x 4mm(x2)
16	QUQ105-2412AC	FFC WIRE		24pin 12cm
17	LE40931-001A	SHAFT		
18	LE40855-002A	FEED GEAR E		
19	LV41517-003A	LEAD SCREW		
20	LE40930-001A	FEED GEAR M		
21	LE40928-002A	THURUST SPRING		
22	LE40927-002A	PLATE		
23	QYSDST2614Z	TAP SCREW		M2.6 x 14mm
24	QAR0334-002	S.MOTOR		
25	QYSPSPU1760Z	SCREW		M1.7 x 6mm(x3)
26	LE40994-001A	T.SPRING		(x4)
27	LE40858-002A	SPECIAL SCREW		
28	QYSDST2004Z	TAP SCREW		M2 x 4mm(x2)

DVD Loading mechanism assembly and parts list

Block No. M4MM



GMU-DZ1-33YC

DVD Loading mechanism

Block No. [M][4][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	LE10275-006A	LOADING BASE		
2	LE31043-001A	PULLEY GEAR		
3	LE31042-001A	MIDDLE GEAR		
4	LE31044-001A	IDLE GEAR		
5	LE20665-005A	SLIDE CAM		
6	LE20666-003A	ELEVATOR		
7	LE10276-002A	TRAY		
8	LE31045-001A	BUSHING		
9	LE40898-001A	SHAFT		
10	QYSSSF2008Z	TAP SCREW		M2 x 8mm
11	QYSDSF2008Z	TAP SCREW		M2 x 8mm(x2)
12	LE40937-003A	LEAF SPRING		
13	QAR0197-001	MOTOR		
14	LV42087-002A	MOTOR PULLEY		
15	QYSPSPU1730Z	SCREW		FOR MOTOR(x2)
16	LE40897-001A	BELT		
17	LE31046-003A	CLAMPER		
18	LV42930-003A	P.C.MAGNET		
19	LE40899-001A	YOKE		
20	LE40906-001A	SPECIAL SCREW		
22	LE40900-003A	INSULATOR		REAR(x2)
23	LE40900-005A	INSULATOR		FRONT(x2)
24	LE40901-001A	SPECIAL SCREW		(x4)
25	QYWFM419025	WASHER		9mm/4.1mm x 0.25mm

Electrical parts list

Switching regulator board

Block No. [0][1]

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10261-02A1	SWITCHING REGLATOR BOARD ASSY		
IC5201	UTCTL431-T	IC		
IC5201	or MM1431AT-T	IC		
IC5201	or TL431/A-T	IC		
Q5101	2SK2632	POWER MOS FET		
Q5102	2SD2144S/UW/-T	TRANSISTOR		
Q5103	2SA1530A/QR/-X	TRANSISTOR		
Q5103	or 2SB709A/QR/-X	TRANSISTOR		
Q5103	or 2SA1037AK/QR/-X	TRANSISTOR		
D5001	S1WB/A/60-7102	BRIDGE DIODE		
D5001	or S1WB/A/60-X	BRIDGE DIODE		
D5101	10ERB40-T2	FR DIODE		
D5101	or AU01-T2	SI DIODE		
D5102	10ERB40-T2	FR DIODE		
D5102	or AU01-T2	SI DIODE		
D5103	1SS133-T2	SI DIODE		
D5103	or 1SS270A-T2	SI DIODE		
D5105	1SS133-T2	SI DIODE		
D5105	or 1SS270A-T2	SI DIODE		
D5106	MTZJ33D-T2	Z DIODE		
D5106	or MTZJ33D-T2	Z DIODE		
D5202	RK14-LFB2	SB DIODE		
D5205	AU01Z-T2	FR DIODE		
D5205	or 10ERB20-T2	FR DIODE		
D5208	RK14-LFB2	SB DIODE		
D5209	AU01Z-T2	FR DIODE		
D5209	or 10ERB20-T2	FR DIODE		
D5209	or AU01Z-T2	FR DIODE		
D5209	or AU01Z-T2	FR DIODE		
D5209	or AU01Z-T2	FR DIODE		
D5209	or AU01Z-T2	FR DIODE		
D5212	RK14-LFB2	SB DIODE		
D5213	AU01Z-T2	FR DIODE		
D5213	or 10ERB20-T2	FR DIODE		
D5301	MTZJ15C-T2	Z DIODE		
D5301	or MTZJ15C-T2	Z DIODE		
△ PC5101	PC123Y22FZ	PHOTO COUPLER		
△ C5001	QFZ9073-683	MM CAPACITOR	0.068uF AC250V M	
△ C5002	QFZ9073-223	MM CAPACITOR	0.022uF AC250V M	
△ C5003	QCZ9071-101	C CAPACITOR	100pF AC400V K	
△ C5004	QCZ9071-222	C CAPACITOR	2200pF AC400V M	
C5006	QEZO375-826	E CAPACITOR	82uF 400V M	
C5101	QCZO353-101Z	C CAPACITOR	100pF 1kV K	
C5102	QCZO333-47Z	C CAPACITOR	4700pF 1kV K	
C5104	QEHR1HM-105Z	E CAPACITOR	1uF 50V M	
C5106	NCB31HK-221X	C CAPACITOR	220pF 50V K	
C5108	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C5109	NCB31HK-183X	C CAPACITOR	0.018uF 50V K	
C5202	QEZO654-567Z	E CAPACITOR	560uF 10V M	
C5204	QEZO654-567Z	E CAPACITOR	560uF 10V M	
C5205	QEZO655-397Z	E CAPACITOR	390uF 16V M	
C5207	QETN2AM-475Z	E CAPACITOR	4.7uF 100V M	
C5209	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5210	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C5211	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5212	QEZO654-567Z	E CAPACITOR	560uF 10V M	
C5213	QEZO654-567Z	E CAPACITOR	560uF 10V M	
C5214	NCB31AK-154X	C CAPACITOR	0.15uF 10V K	
R5101	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J	
R5102	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J	
R5103	QRE141J-683Y	C RESISTOR	68kΩ 1/4W J	
R5104	QRG02GJ-683	OMF RESISTOR	68kΩ 2W J	
R5106	QRT01DJ-R27X	MF RESISTOR	0.27Ω 1W J	
R5107	QRE121J-331Y	C RESISTOR	330Ω 1/2W J	
R5108	NRSA63J-202X	MG RESISTOR	2kΩ 1/16W J	
R5109	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R5110	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R5111	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R5112	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R5113	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R5201	QRE141J-221Y	C RESISTOR	220Ω 1/4W J	
R5202	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5203	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5204	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R5205	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R5206	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R5317	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
L5201	QQR1287-001	CHOKE COIL		
L5202	QQR1287-001	CHOKE COIL		
L5203	QQR1287-001	CHOKE COIL		
△ T5001	QQS0219-001	SW TRANSF		
△ CN5001	QGA7901C3-02	CONNECTOR	W-B (1-2)	
CN5301	QGB1231L1-11	CONNECTOR	B-B (1-11)	
△ F5001	QMF51W2-2R0-J8	FUSE	2A AC250V	
FC5001	QNG0006-001Z	FUSE CLIP		
FC5002	QNG0006-001Z	FUSE CLIP		
HS1	LP40621-001A	HEAT SINK	Q5101	
K5101	QQR0621-001Z	COIL		
△ LF5002	QQR1515-001	LINE FILTER		
OT1	QYTDST3008ZA	TAP SCREW	M3 x 8mm Q5101	

Main board

Block No. [0][3]

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10260-05A	MAIN BOARD ASSY		
IC1	JCP8060-MSA	IC		
IC201	LC74789N-9719	IC (OSD)		
△ IC2201	AN3651FBP	IC		
IC3001	HD6432194SXE04F	IC(MCU)	MASK	
IC3002	S-80827CNNB-G-W	IC		
IC3003	LPN0955-002B-02	IC(EEPROM)	*(REFER TO BELOW)	
IC5301	UTCTL431-T	IC		
IC5302	MM1565AF-X	IC		
IC6701	MSP3417GQGB8V3X	IC		
IC8001	HA17558AF-X	IC		
IC8001	or RC4558D-X	IC		
IC8201	MN101C30AJG	IC(MCU)		
IC8201	or MN101CP30AJG	IC(MCU)		
IC8202	SN74HCT08APW-X	IC		
IC8301	LB1641	IC		
Q7	2SC2412K/QRS/-X	TRANSISTOR		
Q7	or 2SD601A/QRS/-X	TRANSISTOR		
Q7	or 2SC3928A/QRS/-X	TRANSISTOR		
Q8	2SC2412K/QRS/-X	TRANSISTOR		
Q8	or 2SD601A/QRS/-X	TRANSISTOR		
Q8	or 2SC3928A/QRS/-X	TRANSISTOR		
Q9	2SC2412K/QRS/-X	TRANSISTOR		
Q9	or 2SD601A/QRS/-X	TRANSISTOR		
Q9	or 2SC3928A/QRS/-X	TRANSISTOR		
Q10	2SC2412K/QRS/-X	TRANSISTOR		
Q10	or 2SD601A/QRS/-X	TRANSISTOR		
Q10	or 2SC3928A/QRS/-X	TRANSISTOR		
Q2001	2SC2412K/QRS/-X	TRANSISTOR		
Q2001	or 2SD601A/QRS/-X	TRANSISTOR		
Q2001	or 2SC3928A/QRS/-X	TRANSISTOR		
Q2002	2SC2412K/QRS/-X	TRANSISTOR		
Q2002	or 2SD601A/QRS/-X	TRANSISTOR		
Q2002	or 2SC3928A/QRS/-X	TRANSISTOR		
Q2003	DTA144WKA-X	TRANSISTOR		
Q2003	or UN211E-X	DIGI TRANSISTOR		
Q2003	or RT1P44HC-X	DIGI TRANSISTOR		
Q2051	2SC2412K/QRS/-X	TRANSISTOR		
Q2051	or 2SD601A/QRS/-X	TRANSISTOR		

*The VCR goes to jig RCU mode after replacing the EEPROM and the VCR does not accept some RCU command.

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
Q2051	or 2SC3928A/QRS/-X	TRANSISTOR			D3004	10EDB20-T2	SI DIODE		
Q2052	2SA1037AK/QR/-X	TRANSISTOR			D3004	or 10EDB20-T2	SI DIODE		
Q2052	or 2SB709A/QR/-X	TRANSISTOR			D3005	10EDB20-T2	SI DIODE		
Q2052	or 2SA1530A/QR/-X	TRANSISTOR			D3005	or 10EDB20-T2	SI DIODE		
Q2053	DTC144WKA-X	DIGI TRANSISTOR			D3007	1SS355-X	SI DIODE		
Q2053	or UN221E-X	TRANSISTOR			D5305	MTZJ11C-T2	Z DIODE		
Q2054	2SA1037AK/QR/-X	TRANSISTOR			D5305	or MTZJ11C-T2	Z DIODE		
Q2054	or 2SB709A/QR/-X	TRANSISTOR			D5306	MTZJ5.6C-T2	Z DIODE		
Q2054	or 2SA1530A/QR/-X	TRANSISTOR			D5306	or MTZJ5.6C-T2	Z DIODE		
Q2055	DTC144WKA-X	DIGI TRANSISTOR			D5310	MTZJ10B-T2	Z DIODE		
Q2055	or UN221E-X	TRANSISTOR			D5310	or MTZJ10B-T2	Z DIODE		
Q2201	DTA144WKA-X	TRANSISTOR			D6002	HZ30-2L-T2	Z DIODE		
Q2201	or UN211E-X	DIGI TRANSISTOR			D6701	1SS133-T2	SI DIODE		
Q2201	or RT1P44HC-X	DIGI TRANSISTOR			D6701	or 1SS270A-T2	SI DIODE		
Q2202	DTC144WKA-X	DIGI TRANSISTOR			D7301	10EDB20-T2	SI DIODE		
Q2202	or UN221E-X	TRANSISTOR			D7301	or 10EDB20-T2	SI DIODE		
Q2203	2SC2412K/QRS/-X	TRANSISTOR			D8001	1SS133-T2	SI DIODE		
Q2203	or 2SD601A/QRS/-X	TRANSISTOR			D8001	or 1SS270A-T2	SI DIODE		
Q2203	or 2SC3928A/QRS/-X	TRANSISTOR			D8301	MTZJ5.1B-T2	Z DIODE		
Q2204	2SC2412K/QRS/-X	TRANSISTOR			D8301	or MTZJ5.1B-T2	Z DIODE		
Q2204	or 2SD601A/QRS/-X	TRANSISTOR							
Q2204	or 2SC3928A/QRS/-X	TRANSISTOR			PC3001	RPI-304J	IC(PHOTO SENSOR)		
Q2255	DTC114EKA-X	DIGI TRANSISTOR			PC3002	RPI-304J	IC(PHOTO SENSOR)		
Q2255	or UN2211-X	TRANSISTOR							
Q2255	or RT1N141C-X	DIGI TRANSISTOR			C1	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
Q3002	PTZ-NV16A	IC(PHOTO SENSOR)			C2	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
Q3003	PTZ-NV16A	IC(PHOTO SENSOR)			C4	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
Q3004	2SC2412K/QRS/-X	TRANSISTOR			C5	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q3004	or 2SD601A/QRS/-X	TRANSISTOR			C6	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q3004	or 2SC3928A/QRS/-X	TRANSISTOR			C7	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q3005	2SC2412K/QRS/-X	TRANSISTOR			C8	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
Q3005	or 2SD601A/QRS/-X	TRANSISTOR			C9	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
Q3005	or 2SC3928A/QRS/-X	TRANSISTOR			C10	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
Q3008	DTC144WKA-X	DIGI TRANSISTOR			C11	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
Q3008	or UN221E-X	TRANSISTOR			C12	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
Q4001	DTC114EKA-X	DIGI TRANSISTOR			C14	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
Q4001	or UN2211-X	TRANSISTOR			C15	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q4001	or RT1N141C-X	DIGI TRANSISTOR			C17	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q5306	2SD1302/ST/-T	TRANSISTOR			C19	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q5307	UN221E-X	DIGI TRANSISTOR			C20	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q5307	or DTA144WKA-X	TRANSISTOR			C22	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q5307	or RT1P44HC-X	DIGI TRANSISTOR			C24	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q5309	UN2211-X	TRANSISTOR			C25	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
Q5309	or DTC114EKA-X	DIGI TRANSISTOR			C26	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
Q5309	or RT1N141C-X	DIGI TRANSISTOR			C27	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
Q5310	2SD1858/QR/-T	TRANSISTOR			C30	NDC31HJ-331X	C CAPACITOR	330pF 50V J	
Q5311	2SC5739/QP/-	TRANSISTOR			C31	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
Q5312	2SC3576-JVC-T	TRANSISTOR			C32	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
Q5312	or 2SD2144S/UV/-T	TRANSISTOR			C33	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
Q5315	2SD1858/QR/-T	TRANSISTOR			C34	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
Q6030	2SB709A/QR/-X	TRANSISTOR			C35	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
Q6030	or 2SA1037AK/QR/-X	TRANSISTOR			C36	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
Q6030	or 2SA1530A/QR/-X	TRANSISTOR			C37	NDC31HJ-4R0X	C CAPACITOR	4pF 50V J	
Q8001	2SC2412K/QRS/-X	TRANSISTOR			C38	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
Q8001	or 2SD601A/QRS/-X	TRANSISTOR			C39	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
Q8001	or 2SC3928A/QRS/-X	TRANSISTOR			C40	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
Q8002	2SC2412K/QRS/-X	TRANSISTOR			C41	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q8002	or 2SD601A/QRS/-X	TRANSISTOR			C43	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
Q8002	or 2SC3928A/QRS/-X	TRANSISTOR			C44	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
Q8052	2SC2412K/QRS/-X	TRANSISTOR			C45	NCB31EK-472X	C CAPACITOR	4700pF 25V K	
Q8052	or 2SD601A/QRS/-X	TRANSISTOR			C46	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
Q8052	or 2SC3928A/QRS/-X	TRANSISTOR			C47	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
Q8053	DTA114EKA-X	DIGI TRANSISTOR			C48	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
Q8053	or UN2111-X	TRANSISTOR			C49	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
Q8053	or RT1P141C-X	DIGI TRANSISTOR			C55	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
					C56	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
D201	1SS133-T2	SI DIODE			C57	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
D202	1SS133-T2	SI DIODE			C58	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
D203	1SS133-T2	SI DIODE			C59	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
D2001	1SS133-T2	SI DIODE			C60	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
D2001	or 1SS270A-T2	SI DIODE			C61	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
D2251	1SS133-T2	SI DIODE			C62	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
D2251	or 1SS270A-T2	SI DIODE			C63	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
D3001	LNB2301L01VI	LED			C64	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
D3002	1SS133-T2	SI DIODE			C71	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
D3002	or 1SS270A-T2	SI DIODE			C201	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
D3003	MTZJ33C-T2	Z DIODE			C204	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
D3003	or MTZJ33C-T2	Z DIODE			C206	NDC31HJ-330X	C CAPACITOR	33pF 50V J	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C207	NDC31HJ-330X	C CAPACITOR	33pF 50V J		C3050	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C209	NCB31AK-224X	C CAPACITOR	0.22uF 10V K		C3054	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C214	NCB31AK-224X	C CAPACITOR	0.22uF 10V K		C3071	QEKJ1CM-336Z	E CAPACITOR	33uF 16V M	
C217	NDC31HJ-560X	C CAPACITOR	56pF 50V J		C4002	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C218	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M		C4004	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C222	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M		C4005	NCB21HK-222X	C CAPACITOR	2200pF 50V K	
C2001	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M		C4006	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2002	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M		C4008	QEQF1HM-105Z	E CAPACITOR	1uF 50V M	
C2003	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M		C4009	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C2005	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M		C4010	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C2006	NCB31EK-682X	C CAPACITOR	6800pF 25V K		C4011	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C2007	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M		C4012	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C2008	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M		C4014	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C2009	NCB31HK-102X	C CAPACITOR	1000pF 50V K		C4015	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C2010	NCB31HK-681X	C CAPACITOR	680pF 50V K		C5301	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C2011	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M		C5303	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	
C2012	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M		C5304	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C2013	NDC31HJ-331X	C CAPACITOR	330pF 50V J		C5305	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C2051	NDC31HJ-331X	C CAPACITOR	330pF 50V J		C5306	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C2052	QFV91HJ-823Z	MF CAPACITOR	0.082uF 50V J		C5307	NCB31HK-471X	C CAPACITOR	470pF 50V K	
C2053	NCB31HK-472X	C CAPACITOR	4700pF 50V K		C5308	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2054	NCB31EK-223X	C CAPACITOR	0.022uF 25V K		C5309	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C2055	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C5310	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C2201	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C5314	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C2202	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M		C5315	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C2203	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M		C5316	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C2204	QEKJ0JM-336Z	E CAPACITOR	33uF 6.3V M		C6012	QETN0JM-108Z	E CAPACITOR	1000uF 6.3V M	
C2205	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6013	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C2206	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6014	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C2207	NCB31EK-153X	C CAPACITOR	0.015uF 25V K		C6037	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C2208	NCB31EK-153X	C CAPACITOR	0.015uF 25V K		C6701	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C2209	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6707	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C2210	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6708	NDC31HJ-8R0X	C CAPACITOR	8pF 50V J	
C2211	QEKJ0JM-336Z	E CAPACITOR	33uF 6.3V M		C6709	NDC31HJ-150X	C CAPACITOR	15pF 50V J	
C2212	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M		C6713	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2214	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6714	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C2215	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6715	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C2216	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M		C6716	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C2218	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6717	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C2219	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M		C6719	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M	
C2220	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C6720	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M	
C2221	NCB31EK-223X	C CAPACITOR	0.022uF 25V K		C6721	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C2222	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C6723	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C2223	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		C6753	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
C2224	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		C7506	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C2225	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C7507	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C2226	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C7508	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C2227	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C8001	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2230	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C8002	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2231	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		C8003	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C2251	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C8004	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C2252	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C8005	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C2253	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C8006	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C2254	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M		C8007	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2255	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C8008	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2256	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C8009	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C2257	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C8010	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C2258	NDC31HJ-181X	C CAPACITOR	180pF 50V J		C8051	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C2259	QEKJ1HM-334Z	E CAPACITOR	0.33uF 50V M		C8053	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C2261	NDC31HJ-101X	C CAPACITOR	100pF 50V J		C8054	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C2262	NDC31HJ-101X	C CAPACITOR	100pF 50V J		C8055	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C3008	NDC31HJ-101X	C CAPACITOR	100pF 50V J		C8201	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3011	QETL0JM-338	E CAPACITOR	3300uF 6.3V M		C8202	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3012	QETN1EM-476Z	E CAPACITOR	47uF 25V M		C8203	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3015	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		C8301	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C3016	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		C8302	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C3020	NDC31HJ-101X	C CAPACITOR	100pF 50V J		C8303	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3021	NDC31HJ-101X	C CAPACITOR	100pF 50V J						
C3022	NCB31EK-104X	C CAPACITOR	0.1uF 25V K		R1	NRSA63J-622X	MG RESISTOR	6.2kΩ 1/16W J	
C3024	NDC31HJ-120X	C CAPACITOR	12pF 50V J		R2	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
C3025	QAT3725-300Z	TRIM CAPACITOR	30pF TIMER CLOCK		R3	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
C3027	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M		R11	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
C3030	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M		R12	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C3032	NCB31CK-473X	C CAPACITOR	0.047uF 16V K		R21	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C3033	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R22	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C3036	NDC31HJ-180X	C CAPACITOR	18pF 50V J		R36	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
C3037	NDC31HJ-120X	C CAPACITOR	12pF 50V J		R37	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
C3040	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		R38	NRSA63J-685X	MG RESISTOR	6.8kΩ 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R201	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R2255	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R202	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3011	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R203	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3013	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R204	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3014	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R208	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J		R3015	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R213	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J		R3016	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R216	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3017	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R220	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R3019	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R226	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R3020	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2003	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		R3021	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2005	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J		R3022	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2007	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J		R3025	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2008	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3026	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2010	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J		R3027	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2013	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J		R3029	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2014	NRSA63J-394X	MG RESISTOR	390kΩ 1/16W J		R3032	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2015	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J		R3036	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2016	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J		R3037	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2017	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J		R3038	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R2018	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3039	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2019	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3040	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2021	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J		R3041	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2022	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3042	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2023	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3044	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2053	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J		R3046	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2054	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J		R3047	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2055	NRSA63J-3R3X	MG RESISTOR	3.3kΩ 1/16W J		R3048	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2056	QRE141J-820Y	C RESISTOR	82Ω 1/4W J		R3049	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2057	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3050	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2058	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J		R3051	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2059	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3052	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R2060	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J		R3053	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R2201	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3054	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2202	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J		R3055	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2203	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3056	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2204	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J		R3058	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R2205	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3062	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2206	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J		R3063	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2207	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3066	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2208	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J		R3069	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R2209	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J		R3071	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2210	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3072	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2211	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		R3075	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R2212	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		R3076	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R2213	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3080	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2214	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J		R3093	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2215	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R3095	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2216	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J		R3103	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2217	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3105	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R2218	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J		R3205	QRE141J-181Y	C RESISTOR	180Ω 1/4W J	
R2219	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J		R3206	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R2220	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R3207	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R2222	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3208	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J	
R2223	NRSA63J-511X	MG RESISTOR	510Ω 1/16W J		R3209	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R2224	NRSA63J-511X	MG RESISTOR	510Ω 1/16W J		R3210	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J	
R2225	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3211	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R2226	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3212	QRE141J-474Y	C RESISTOR	470kΩ 1/4W J	
R2227	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J		R3213	NRSA63J-334X	MG RESISTOR	330kΩ 1/16W J	
R2228	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R3214	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R2229	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J		R3215	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2230	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J		R3216	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2231	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		R3217	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2232	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J		R3218	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2233	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		R3219	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2234	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		R3220	QRE141J-104Y	C RESISTOR	100kΩ 1/4W J	
R2235	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J		R3222	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2236	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J		R3223	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2237	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J		R3224	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2238	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J		R3225	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2239	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		R3229	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R2240	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		R3230	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2241	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3231	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2242	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J		R3233	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2243	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R3235	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	
R2244	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J		R3236	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	
R2251	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		R3237	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2252	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J		R3253	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2253	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		R3307	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R3308	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J		R8202	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R4003	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J		R8203	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R4004	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J		R8204	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R4005	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		R8205	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R4007	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R8206	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R4008	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R8207	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R4009	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R8214	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4010	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R8215	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4012	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J		R8216	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4013	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R8217	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4015	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		R8221	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4017	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R8222	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5311	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R8223	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5312	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R8227	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5313	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J		R8250	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R5316	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J		R8251	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R5318	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J		R8252	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R5319	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J		R8259	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R5320	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J		R8260	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R5321	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R8262	QRE141J-222Y	C RESISTOR	2.2kΩ 1/4W J	
R5325	QRE141J-101Y	C RESISTOR	100Ω 1/4W J		R8263	QRE141J-222Y	C RESISTOR	2.2kΩ 1/4W J	
R6020	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R8301	QRE141J-4R7Y	C RESISTOR	4.7Ω 1/4W J	
R6021	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J						
R6030	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J		L3	QQL29BJ-100Z	P COIL	10uH J	
R6031	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		L5	QQL29BJ-100Z	P COIL	10uH J	
R6032	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J		L6	QQL29BJ-100Z	P COIL	10uH J	
R6033	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J		L10	QQL29BJ-100Z	P COIL	10uH J	
R6050	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		L15	QQL071J-120Y	COIL	12uH J	
R6052	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		L201	QQL29BK-1R0Z	P COIL	1uH K	
R6053	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		L203	QQL29BJ-220Z	P COIL	22uH J	
R6054	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		L206	QQL071J-220Y	COIL	22uH J	
R6707	NRSA63J-330X	MG RESISTOR	33Ω 1/16W J		L2251	QQL29BJ-100Z	P COIL	10uH J	
R6708	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		L2252	QQL29BJ-151Z	P COIL	150uH J	
R6709	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		L4001	QQL231J-1R0Y	COIL	1uH J	
R6710	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		L5303	QQL231J-220Y	COIL	22uH J	
R6711	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J		L6002	QQL29BK-1R0Z	P COIL	1uH K	
R6712	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		L6003	QQL29BK-1R0Z	P COIL	1uH K	
R6713	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J		L6005	QQL071J-5R6Y	COIL	5.6uH J	
R6714	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		L6701	QQL29BJ-3R3Z	P COIL	3.3uH J	
R6715	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J		L6702	QQL29BJ-3R3Z	P COIL	3.3uH J	
R6716	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J		L7502	QQL29BK-1R0Z	P COIL	1uH K	
R6719	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		T2051	QQR0002-001	BIAS COIL		
R6720	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J						
R6721	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		B1	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7103	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J		B4	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7104	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J		B7	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7105	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J		B206	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7106	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J		B5301	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7107	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J		B5392	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7109	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J		B5393	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7111	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J		B6001	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R7112	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J		B6002	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7211	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		B6004	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7507	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		B6006	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R8001	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		B6007	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R8002	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J		B7102	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R8003	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		B7105	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R8004	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		CN1	QGF1201C2-09	CONNECTOR	FFC/FPC (1-9)	
R8005	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J		CN2001	QGF1207C1-06	CONNECTOR	FFC/FPC (1-6)	
R8006	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J		CN2002	QGB2532J1-02	CONNECTOR	B-B (1-2)	
R8007	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J		CN3001	QGB2032M4-12	CONNECTOR	B-B (1-12)	
R8008	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J		CN3102	QGF1207C1-22	CONNECTOR	FFC/FPC (1-22)	
R8009	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J		CN5401	QGB1231M1-11	CONNECTOR	B-B (1-11)	
R8010	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J		CN7101	QGB2024K1-16S	CONNECTOR	B-B (1-16)	
R8013	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J		CN7102	QGB2024K1-14S	CONNECTOR	B-B (1-14)	
R8014	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J		CN7103	QGB2024K1-09S	CONNECTOR	B-B (1-9)	
R8015	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J		CN7104	QGF1207C1-10	CONNECTOR	FFC/FPC (1-10)	
R8016	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J		CN7301	QGF1016C3-19	CONNECTOR	FFC/FPC (1-19)	
R8017	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		CN7302	QGF1016C3-17	CONNECTOR	FFC/FPC (1-17)	
R8018	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		CN8301	QGF1016C3-05	CONNECTOR	FFC/FPC (1-5)	
R8051	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		△ CP3002	NMFZ012-1R0X-M	FUSE	1A 50V	
R8054	QRE141J-473Y	C RESISTOR	47kΩ 1/4W J		△ CP3102	QMFZ054-1R5X-J1	FUSE	1.5A	
R8055	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		△ CP4002	NMFZ012-1R0X-M	FUSE	1A 50V	
R8056	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		△ CP5303	NMFZ012-1R0X-M	FUSE	1A 50V	
R8057	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		△ CP5304	NMFZ012-1R0X-M	FUSE	1A 50V	
R8058	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		J7010	TOTX147	OPT TRANSMITTER	OPTICAL	
R8059	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J		J7202	QNS0100-001	3.5 JACK	PAUSE	
R8201	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J		JS3001	NSW0238-001	ROTARY ENCODER		

Symbol No.	Part No.	Part Name	Description	Local
K2001	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
K2002	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
K2003	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
K2004	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
K6701	NQR0129-003X	FERRITE BEADS		
K6702	NQR0129-003X	FERRITE BEADS		
K6703	NQR0129-003X	FERRITE BEADS		
K6704	NQR0129-003X	FERRITE BEADS		
K6705	NQR0129-003X	FERRITE BEADS		
K6706	NQR0129-003X	FERRITE BEADS		
K7501	NQR0147-004X	FERRITE BEADS		
K7502	NQR0147-004X	FERRITE BEADS		
OT1	LP31158-001A	BOSS(MECHA) 1		
OT2	LP31185-001A	BOSS(MECHA) 2	(x2)	
S3001	QSW0602-004	PUSH SWITCH	REC.SAFETY	
SD1	LP31179-001A	SHILD PLATE(PRE/REC)		
TU6001	QAU0400-001	TUNER		
W1	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W2	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W3	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W4	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W5	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W6	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W7	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W9	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W10	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W11	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W12	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W13	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W15	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W16	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W17	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W18	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W19	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W20	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W21	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W22	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W23	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W24	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W25	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W26	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W27	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W28	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W30	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W32	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W33	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W34	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W35	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W36	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W37	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W38	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W39	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W40	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W41	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W42	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W43	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W44	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W45	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W46	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W47	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W48	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W49	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W50	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W51	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W52	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W53	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W54	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W55	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
W56	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
X1	QAX0740-001	CRYSTAL	4.433619MHz	
X2	QAX0739-001	CRYSTAL	3.57MHz	
X3001	QAX0445-001	CRYSTAL	32.768kHz	
X3002	QAX0527-001	CRYSTAL	10.000000MHz	
X6701	QAX0773-001Z	CRYSTAL	18.432000MHz	
X8201	QAX0246-001Z	C RESONATOR	8.00MHz	

Terminal board

Block No. [0][6]

Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10216-05B	TERMINAL BOARD ASSY		
IC901	HA118227F	IC		
IC903	BA7623F-X	IC		
Q913	2SA1037AK/QR/-X	TRANSISTOR		
Q913	or 2SB709A/QR/-X	TRANSISTOR		
Q913	or 2SA1530A/QR/-X	TRANSISTOR		
Q917	2SC2412K/QRS/-X	TRANSISTOR		
Q917	or 2SD601A/QRS/-X	TRANSISTOR		
Q917	or 2SC3928A/QRS/-X	TRANSISTOR		
Q918	2SC2412K/QRS/-X	TRANSISTOR		
Q918	or 2SD601A/QRS/-X	TRANSISTOR		
Q918	or 2SC3928A/QRS/-X	TRANSISTOR		
Q919	DTA144WKA-X	TRANSISTOR		
Q919	or UN211E-X	DIGI TRANSISTOR		
Q919	or RT1P44HC-X	DIGI TRANSISTOR		
Q921	2SA1037AK/QR/-X	TRANSISTOR		
Q921	or 2SB709A/QR/-X	TRANSISTOR		
Q921	or 2SA1530A/QR/-X	TRANSISTOR		
Q922	2SA1037AK/QR/-X	TRANSISTOR		
Q922	or 2SB709A/QR/-X	TRANSISTOR		
Q922	or 2SA1530A/QR/-X	TRANSISTOR		
C930	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C932	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C937	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C939	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C940	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C941	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C942	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C954	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C956	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C960	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C961	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C962	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C963	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C964	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C967	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C968	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C969	QEKJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
C970	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C980	QDYB1CM-103Y	C CAPACITOR	0.01uF 16V M	
C981	QEKJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
C982	QEKJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
C983	QEKJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
C995	QEKJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
R940	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R945	QRE121J-331Y	C RESISTOR	330Ω 1/2W J	
R949	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R950	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R951	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R952	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R954	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R956	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R958	QRE121J-331Y	C RESISTOR	330Ω 1/2W J	
R959	QRE121J-331Y	C RESISTOR	330Ω 1/2W J	
R960	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R961	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R968	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R969	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R970	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R7703	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7704	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R7705	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R7708	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7710	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R7711	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R7731	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7732	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7735	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R7736	NRSA63J-0R0X	MG RESISTOR	0.2 1/16W J	
R7739	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R7740	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7741	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
L917	QQL29BJ-100Z	P COIL	10uH J	
L918	QQL29BJ-100Z	P COIL	10uH J	
L919	QQL29BJ-100Z	P COIL	10uH J	
L920	QQL29BJ-100Z	P COIL	10uH J	
L7701	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
L7702	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
L7703	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
L7704	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
L7731	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
L7732	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
B904	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
CN913	QGB2024J1-14S	CONNECTOR	B-B (1-14)	
CN914	QGB2024J1-16S	CONNECTOR	B-B (1-16)	
CN915	QGB2024J1-09S	CONNECTOR	B-B (1-9)	
J7002	QNN0599-001	PIN JACK	INPUT(L-1)(L/R)	
J7003	QND0009-001	S JACK	DVD_S-VIDEO OUT	
J7004	QNN0295-002	PIN JACK	DVD AUDIO OUTPUT(L/R)	
J7005	QNN0599-002	PIN JACK	COMPONENT VIDEO OUT	
J7007	QNN0599-001	PIN JACK	DVD/VCR VIDEO/AUDIO OUTPUT	
W1	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W3	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W4	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W5	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W6	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W7	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W8	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W10	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W11	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	

A/C head board

Block No. [1][2]

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10158-01A1	A/C HEAD BOARD ASSY		

Display/operation board

Block No. [2][8]

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10261-02A2	DISPLAY/OPERATION BOARD ASSY		
IC7002	GP1UM281XKVF	IR DETECT UNIT		
IC7002	or PNA4652M00XB	IR DETECT UNIT		
Q7001	2SA1037AK/QR/-X	TRANSISTOR		
Q7001	or 2SB709A/QR/-X	TRANSISTOR		
Q7001	or 2SA1530A/QR/-X	TRANSISTOR		
Q7002	2SA1037AK/QR/-X	TRANSISTOR		
Q7002	or 2SB709A/QR/-X	TRANSISTOR		
Q7002	or 2SA1530A/QR/-X	TRANSISTOR		
Q7003	2SA1037AK/QR/-X	TRANSISTOR		
Q7003	or 2SB709A/QR/-X	TRANSISTOR		
Q7003	or 2SA1530A/QR/-X	TRANSISTOR		
Q7004	2SA1037AK/QR/-X	TRANSISTOR		
Q7004	or 2SB709A/QR/-X	TRANSISTOR		
Q7004	or 2SA1530A/QR/-X	TRANSISTOR		
Q7005	2SA1037AK/QR/-X	TRANSISTOR		
Q7005	or 2SB709A/QR/-X	TRANSISTOR		
Q7005	or 2SA1530A/QR/-X	TRANSISTOR		
Q7006	2SA1037AK/QR/-X	TRANSISTOR		
Q7006	or 2SB709A/QR/-X	TRANSISTOR		
Q7006	or 2SA1530A/QR/-X	TRANSISTOR		
Q7007	2SA1037AK/QR/-X	TRANSISTOR		
Q7007	or 2SB709A/QR/-X	TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local
Q7007	or 2SA1530A/QR/-X	TRANSISTOR		
Q7008	2SC2412K/QRS/-X	TRANSISTOR		
Q7008	or 2SD601A/QRS/-X	TRANSISTOR		
Q7008	or 2SC3928A/QRS/-X	TRANSISTOR		
Q7009	2SC2412K/QRS/-X	TRANSISTOR		
Q7009	or 2SD601A/QRS/-X	TRANSISTOR		
Q7009	or 2SC3928A/QRS/-X	TRANSISTOR		
Q7010	2SC2412K/QRS/-X	TRANSISTOR		
Q7010	or 2SD601A/QRS/-X	TRANSISTOR		
Q7010	or 2SC3928A/QRS/-X	TRANSISTOR		
Q7011	2SC2412K/QRS/-X	TRANSISTOR		
Q7011	or 2SD601A/QRS/-X	TRANSISTOR		
Q7011	or 2SC3928A/QRS/-X	TRANSISTOR		
Q7012	2SC2412K/QRS/-X	TRANSISTOR		
Q7012	or 2SD601A/QRS/-X	TRANSISTOR		
Q7012	or 2SC3928A/QRS/-X	TRANSISTOR		
Q7013	2SC2412K/QRS/-X	TRANSISTOR		
Q7013	or 2SD601A/QRS/-X	TRANSISTOR		
Q7013	or 2SC3928A/QRS/-X	TRANSISTOR		
Q7014	2SC2412K/QRS/-X	TRANSISTOR		
Q7014	or 2SD601A/QRS/-X	TRANSISTOR		
Q7014	or 2SC3928A/QRS/-X	TRANSISTOR		
D7006	SLR-343MC-T	LED		DVD
C7011	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
R7001	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7002	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7003	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7004	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7005	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7006	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7007	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7010	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7011	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R7012	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R7013	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7014	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R7015	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7020	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7021	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R7022	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R7023	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7031	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7032	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7033	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7034	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7035	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7036	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7037	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7040	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7041	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
CN7003	QGF1208F1-22	CONNECTOR	FFC/FPC (1-22)	
DI7001	ZDP-17902AEG-21	LED		
S7001	QSW1061-001Z	TACT SWITCH	DVD OPEN/CLOSE	
S7002	QSW1061-001Z	TACT SWITCH	SCAN MODE	
S7003	QSW1061-001Z	TACT SWITCH	PR+	
S7004	QSW1061-001Z	TACT SWITCH	FF	
S7005	QSW1061-001Z	TACT SWITCH	REW	
S7006	QSW1061-001Z	TACT SWITCH	REC	
S7010	QSW1061-001Z	TACT SWITCH	PR-	
S7013	QSW1061-001Z	TACT SWITCH	VCR/DVD	
S7016	QSW1061-001Z	TACT SWITCH	PLAY	
S7017	QSW1061-001Z	TACT SWITCH	STOP	

Bracket board

Block No. [3][1]

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10261-02A4	BRACKET BOARD ASSY		

△ Symbol No.	Part No.	Part Name	Description	Local
BK1	LP40425-001A	BRACKET(PWB)		(x2)

Switch/jack board

Block No. [3][6]

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10261-02A3	SWITCH/JACK BOARD ASSY		
D7005	SLR-343MC-T	LED		VCR
C7192	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C7193	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C7194	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C7195	NCB31HK-681X	C CAPACITOR	680pF 50V K	
R7025	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7026	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J	
R7027	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7042	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R7191	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7192	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7193	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7194	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7195	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
CN7191	QGF1201F2-10	CONNECTOR	FFC/FPC (1-10)	
J7191	QNN0591-001	PIN JACK	FRONT VIDEO/AUDIO	
S7014	QSW1061-001Z	TACT SWITCH	STANDBY/ON	
S7015	QSW1061-001Z	TACT SWITCH	CASSETTE EJECT	

Loading motor board

Block No. [5][5]

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10158-01A2	LOADING MOTOR BOARD ASSY		

Switch board

Block No. [9][8]

△ Symbol No.	Part No.	Part Name	Description	Local
CN1	QGF1016F3-05	CONNECTOR	FFC/FPC (1-5)	
S1	QSW1007-001	DETECT SWITCH		

DVD servo control board

Block No. [9][9]

△ Symbol No.	Part No.	Part Name	Description	Local
IC201	LA6502-X	IC		
IC301	MN2DS0003AA-H	IC		
IC302	LM1117MP-ADJ-X	IC		
IC453	S-80827CNNB-G-W	IC		
IC505	K4S641632H-UC75	IC		
IC505	or K4S641632H-TC75	IC(DIGITAL)		
IC505	or K4S641632F-TC60	IC		
IC505	or K4S641632F-TC75	IC(DIGITAL)		
IC509	SA16M90TF-R0062	IC(FLASH)	(SERVICE)	
IC701	AK4384ET-X	IC		

△ Symbol No.	Part No.	Part Name	Description	Local
Q101	KTA1001/Y/-X	TRANSISTOR		
Q101	or 2SB1424/R/-W	TRANSISTOR		
Q102	2SC4617/R/-X	TRANSISTOR		
Q103	KTA1001/Y/-X	TRANSISTOR		
Q103	or 2SB1424/R/-W	TRANSISTOR		
Q104	2SC4617/R/-X	TRANSISTOR		
Q105	UN2119-X	TRANSISTOR		

C101	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C102	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C103	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C104	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C105	NEAF0JM-476X	E CAPACITOR	47uF 6.3V M
C106	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M
C107	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C108	NEAF0JM-476X	E CAPACITOR	47uF 6.3V M
C111	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C204	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C205	NCB31HK-271X	C CAPACITOR	270pF 50V K
C206	NDC31HJ-151X	C CAPACITOR	150pF 50V J
C208	NCB31HK-561X	C CAPACITOR	560pF 50V K
C211	NCB31HK-223X	C CAPACITOR	0.022uF 50V K
C212	NCB31CK-103X	C CAPACITOR	0.01uF 16V K
C217	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C251	NCB31AK-474X	C CAPACITOR	0.47uF 10V K
C253	NCB31HK-561X	C CAPACITOR	560pF 50V K
C255	NCB31CK-153X	C CAPACITOR	0.015uF 16V K
C256	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C257	NCB31HK-822X	C CAPACITOR	8200pF 50V K
C258	NCB31CK-153X	C CAPACITOR	0.015uF 16V K
C259	NCB31CK-153X	C CAPACITOR	0.015uF 16V K
C260	NCB31EK-223X	C CAPACITOR	0.022uF 25V K
C261	NCB31EK-223X	C CAPACITOR	0.022uF 25V K
C262	NCB31EK-223X	C CAPACITOR	0.022uF 25V K
C264	NEAF0JM-227X	E CAPACITOR	220uF 6.3V M
C301	NEAF0GM-227X	E CAPACITOR	220uF 4V M
C302	NEAF0GM-476X	E CAPACITOR	47uF 4V M
C303	NEAF0GM-476X	E CAPACITOR	47uF 4V M
C304	NCB31CK-105X	C CAPACITOR	1uF 16V K
C305	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C306	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C307	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C308	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C309	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C310	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C311	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C312	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C313	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C314	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C315	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C316	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C317	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C318	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C319	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C320	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C321	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C322	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C323	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C324	NCB21CK-105X	C CAPACITOR	1uF 16V K
C325	NDC31HJ-180X	C CAPACITOR	18pF 50V J
C326	NDC31HJ-150X	C CAPACITOR	15pF 50V J
C327	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C330	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C331	NCB31CK-333X	C CAPACITOR	0.033uF 16V K
C332	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C333	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C334	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C335	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C337	NCB31CK-183X	C CAPACITOR	0.018uF 16V K
C338	NCB31HK-562X	C CAPACITOR	5600pF 50V K
C339	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C340	NCB21CK-105X	C CAPACITOR	1uF 16V K
C341	NCB30JK-105X	C CAPACITOR	1uF 6.3V K
C347	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C348	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C349	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C350	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C356	NCB21CK-105X	C CAPACITOR	1uF 16V K

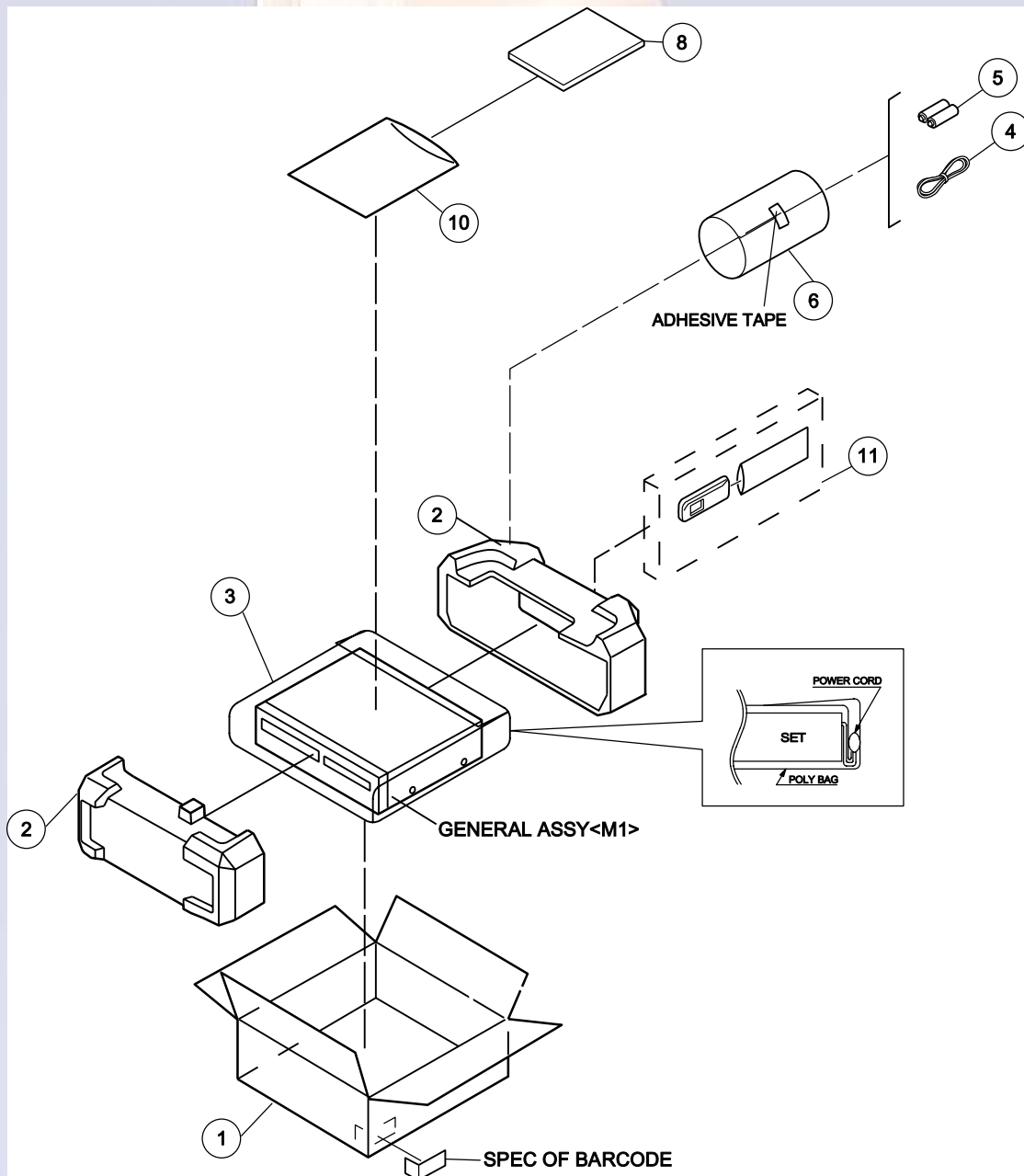
△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C359	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R308	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
C371	NCB21CK-105X	C CAPACITOR	1uF 16V K		R309	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
C374	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R310	NRS125J-R47X	MG RESISTOR	0.47Ω 1/2W J	
C391	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R312	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C392	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R313	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C455	NCB31CK-103X	C CAPACITOR	0.01uF 16V K		R314	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C505	NDC31HJ-330X	C CAPACITOR	33pF 50V J		R315	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C506	NDC31HJ-330X	C CAPACITOR	33pF 50V J		R316	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C507	NDC31HJ-330X	C CAPACITOR	33pF 50V J		R317	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C508	NDC31HJ-330X	C CAPACITOR	33pF 50V J		R318	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
C509	NDC31HJ-330X	C CAPACITOR	33pF 50V J		R319	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C510	NDC31HJ-330X	C CAPACITOR	33pF 50V J		R320	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C547	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R322	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
C551	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R325	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
C552	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R326	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
C553	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M		R333	NRSA63J-163X	MG RESISTOR	16kΩ 1/16W J	
C554	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R334	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
C555	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R335	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
C556	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R336	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
C557	NCF31AZ-105X	C CAPACITOR	1uF 10V Z		R337	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
C558	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R338	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C559	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R339	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C701	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R340	NRSA63D-303X	MG RESISTOR	30kΩ 1/16W D	
C704	NEAF0JM-227X	E CAPACITOR	220uF 6.3V M		R341	NRSA63D-362X	MG RESISTOR	3.6kΩ 1/16W D	
C706	NEAF1CM-106X	E CAPACITOR	10uF 16V M		R342	NRSA63D-222X	MG RESISTOR	2.2kΩ 1/16W D	
C707	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R343	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C721	NCB31HK-102X	C CAPACITOR	1000pF 50V K		R344	NRSA63J-6R8X	MG RESISTOR	6.8Ω 1/16W J	
C902	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R345	NQR0129-002X	FERRITE BEADS		
C903	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R351	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
C904	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R352	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
C906	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R357	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R101	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		R358	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R102	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		R361	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R103	NRSA63J-243X	MG RESISTOR	24kΩ 1/16W J		R362	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R104	NRSA63J-303X	MG RESISTOR	30kΩ 1/16W J		R363	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R105	NRS125J-180X	MG RESISTOR	18Ω 1/2W J		R372	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R106	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J		R373	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R107	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R378	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R108	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		R379	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R109	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J		R384	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R110	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R385	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R111	NRSA63J-243X	MG RESISTOR	24kΩ 1/16W J		R390	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R112	NRSA63J-303X	MG RESISTOR	30kΩ 1/16W J		R391	NAD0025-103X	N THERMISTOR	10kΩ	
R113	NRS125J-270X	MG RESISTOR	27Ω 1/2W J		R392	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R114	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J		R393	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R115	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J		R394	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R116	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		R395	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R117	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J		R457	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R118	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R458	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R119	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R501	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R120	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R502	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R122	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R503	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R123	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R551	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R125	NRS125J-1R0X	MG RESISTOR	1Ω 1/2W J		R553	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R126	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J		R554	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R128	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		R555	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R204	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J		R556	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R205	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J		R557	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R206	NRSA63J-303X	MG RESISTOR	30kΩ 1/16W J		R558	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R207	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J		R701	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R208	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J		R702	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R213	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R710	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R214	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R711	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R215	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		R712	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R219	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J		R713	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R220	NRSA63J-243X	MG RESISTOR	24kΩ 1/16W J		R716	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R221	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J		R718	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R251	NRS125J-R47X	MG RESISTOR	0.47Ω 1/2W J		R719	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R252	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J		R909	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R254	NRSA63J-203X	MG RESISTOR	20kΩ 1/16W J		R911	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R255	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		CN101	QGF0523F1-24W	CONNECTOR	FFC/FPC (1-24)	
R257	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J		CN201	QGF1016F2-08W	CONNECTOR	FFC/FPC (1-8)	
R259	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J		CN501	QGF1016F2-19W	CONNECTOR	FFC/FPC (1-19)	
R302	NRSA63J-240X	MG RESISTOR	24Ω 1/16W J		CN503	QGF1016F2-17W	CONNECTOR	FFC/FPC (1-17)	
R303	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J		K101	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R306	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		K102	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R307	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		K301	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	

Symbol No.	Part No.	Part Name	Description	Local
K302	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
K303	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
K304	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
K501	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K502	NQR0502-001X	FERRITE BEADS		
K551	NQR0129-002X	FERRITE BEADS		
K552	NQR0129-002X	FERRITE BEADS		
K553	NQR0129-002X	FERRITE BEADS		
K554	NQR0129-002X	FERRITE BEADS		
K555	NQR0022-005X	FERRITE BEADS		
K556	NQR0129-002X	FERRITE BEADS		
X351	NAX0550-001X	CRYSTAL	27.000MHz	

Packing materials and accessories parts list

The instruction manual to be provided with this product will differ according to the destination.

Block No. M5MM



Packing and accessories

Block No. [M][5][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	LP31296-013A	PACKING CASE		
2	LP31295-001B	CUSHION ASSY		
3	LP41038-001A	POLY BAG		
4	QAM0505-001	RF CABLE		
5	-----	BATTERY		R6 TYPE(x2)
6	QPC02202230P	POLY BAG		22cm x 22cm
△ 8	LPT1016-001B	INST.BOOK		(ENGLISH)
△ 8	LPT1016-002B	INST.BOOK		(RUSSIAN)
△ 8	LPT1016-003B	INST.BOOK		(ARABIC)
△ 8	LPT1016-004B	INST.BOOK		(PERSIAN)
10	QPC02503530P	POLY BAG		25cm x 35cm
11	RM-SHR004E	REMOCON		