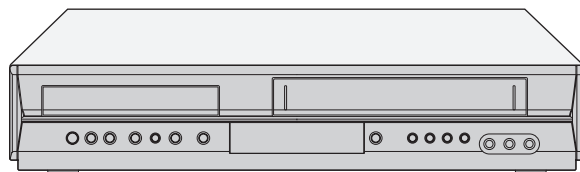


# JVC

## SERVICE MANUAL

DVD PLAYER & VIDEO CASSETTE RECORDER

**HR-XV28SEF, HR-XV28SEK,  
HR-XV28SER, HR-XV28SEU,  
HR-XV28SEY, HR-XV28SEZ**



**VIDEO Plus+**  
(EK model)

**SHOWVIEW**<sup>TM</sup>  
(EU, EY, EZ models)

**VHS**  
PAL

**SHOWVIEW**<sup>®</sup>  
(EF, ER models)

**VHS**  
PAL SECAM  
(EF model)

**DVD**  
VIDEO<sup>TM</sup>

**DOLBY**  
DIGITAL

**dts**  
DIGITAL OUT

**COMPACT**  
**disc**  
DIGITAL VIDEO

**COMPACT**  
**disc**  
SUPER VIDEO

**COMPACT**  
**disc**  
DIGITAL AUDIO

HR-XV28SEF,HR-XV28SEK,HR-XV28SER,HR-XV28SEU,HR-XV28SEY,HR-XV28SEZ [D5PV0]

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# SPECIFICATION

	HR-XV28SEF	HR-XV28SEK	HR-XV28SER/SEU/SEY/SEZ
<b>General</b>			
Power requirement	AC 200V - 240V, 50 Hz		
Power consumption	17 W		
Dimensions (approx.)	430 × 78.5 × 265 mm (w/h/d)		
Mass (approx.)	4.2 kg		
Operating temperature	5°C to 35°C (41°F to 95°F)		
Operating humidity	5 % to 90 %		
Timer	24 hours display type		
RF Modulator	-	UHF 22-68 (Adjustable)	
<b>System</b>			
Laser	Semiconductor laser, wavelength 650 nm		
Video Head system	Double azimuth 6 heads, helical scanning.		
Signal system	PAL		
Frequency response	DVD (PCM 96 kHz): 8 Hz to 44 kHz, DVD (PCM 48 kHz): 8 Hz to 22 kHz, CD: 8 Hz to 20 kHz		
Signal-to-noise ratio	More than 100 dB (ANALOG OUT connectors only)		
Harmonic distortion	Less than 0.008%		
Dynamic range	More than 100 dB (DVD), More than 95 dB (CD)		
<b>Inputs (VCR)</b>			
Audio	-6.0 dBm, more than 10 kΩ (SCART), -6.0 dBm, more than 47 kΩ (RCA)		
Video	1.0 V (p-p), 75 Ω, unbalanced (SCART/RCA)		
<b>Outputs (DVD)</b>			
VIDEO OUT	1 Vp-p 75 Ω, sync negative		
Audio output (digital audio)	0.5 V (p-p), 75 Ω, RCA jack × 1		
Audio output (analog audio)	2.0 Vrms (1 kHz, 0 dB), 600 Ω, RCA jack (L, R) × 1/SCART (TO TV)		
<b>Outputs (VCR/DVD)</b>			
Audio	-6.0 dBm, less than 1 kΩ (SCART)		
Video	1.0 V (p-p), 75 Ω, unbalanced (SCART)		



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- Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.
- DTS and DTS Digital Out are trademarks of Digital Theater Systems, Inc.
- SHOWVIEW is a trademark of Gemstar Development Corporation. The SHOWVIEW system is manufactured under license from Gemstar Development Corporation.(EF/ER/EU/EY/EZ models)
- VIDEO Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VIDEO Plus+ system is manufactured under license from Gemstar Development Corporation.(EK model)

# SECTION 1 PRECAUTION

## 1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

### 1.1.1 Precautions during Servicing

- (1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.
- (2) Parts identified by the  symbol and shaded (  ) parts are critical for safety. Replace only with specified part numbers.

#### NOTE :

**Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.**

- (3) Fuse replacement caution notice.  
Caution for continued protection against fire hazard.  
Replace only with same type and rated fuse(s) as specified.
- (4) Use specified internal wiring. Note especially:
  - Wires covered with PVC tubing
  - Double insulated wires
  - High voltage leads
- (5) Use specified insulating materials for hazardous live parts. Note especially:
  - Insulation Tape
  - PVC tubing
  - Spacers
  - Insulation sheets for transistors
  - Barrier
- (6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

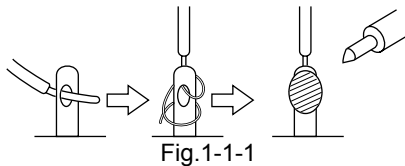


Fig.1-1-1

- (7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
- (8) Check that replaced wires do not contact sharp edged or pointed parts.
- (9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

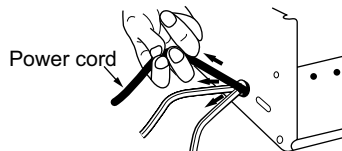


Fig.1-1-2

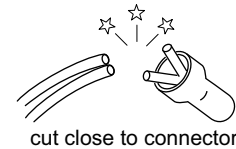
- (10) Also check areas surrounding repaired locations.
- (11) Products using cathode ray tubes (CRTs) In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission.

Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

- (12) Crimp type wire connector In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

- **Connector part number** :E03830-001
- **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
- **Replacement procedure**

- a) Remove the old connector by cutting the wires at a point close to the connector. Important : Do not reuse a connector (discard it).



cut close to connector

Fig.1-1-3

- b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

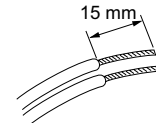


Fig.1-1-4

- c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

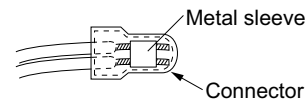


Fig.1-1-5

- d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

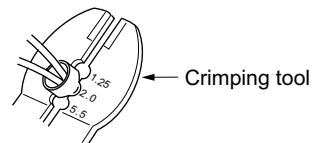


Fig.1-1-6

- e) Check the four points noted in Fig.1-1-7.

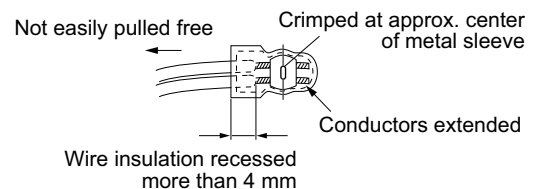


Fig.1-1-7

### 1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

#### (1) Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

#### (2) Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

#### (3) Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

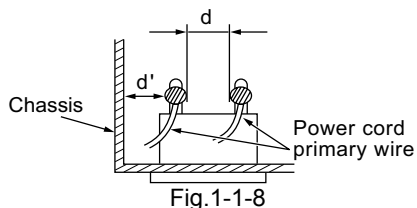


Fig.1-1-8

#### (4) Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON) Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

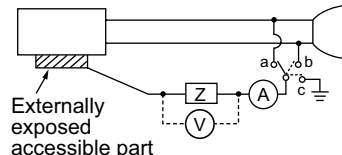
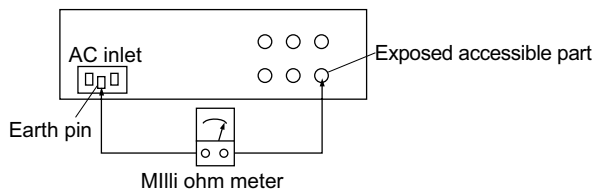


Fig.1-1-9

#### (5) Grounding (Class 1 model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.). Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V 200 to 240 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	$d \geq 4 \text{ mm}$ $d' \geq 8 \text{ mm}$ (Power cord) $d' \geq 6 \text{ mm}$ (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ and $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Fig.1-1-12

#### NOTE :

These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

## 1.2 Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

### 1.2.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players.

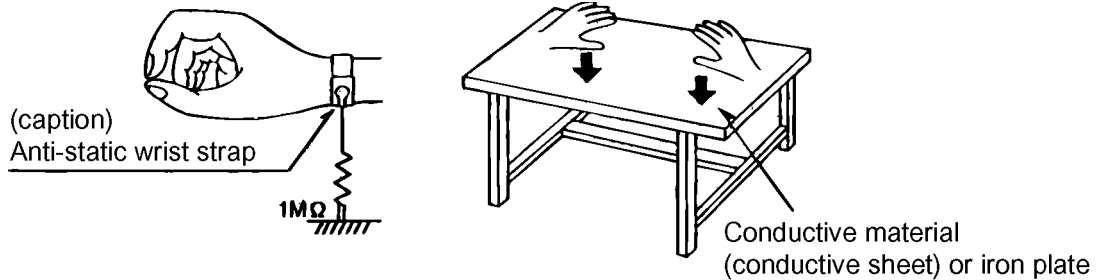
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup

- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

## SECTION 2

### SPECIFIC SERVICE INSTRUCTIONS

#### 2.1 DIFFERENT TABLE OF FEATURE

The following table indicates main different points between models HR-XV28SEF, HR-XV28SEK, HR-XV28SER, HR-XV28SEU and HR-XV28SEY/EZ.

MODEL NAME	HR-XV28SEF	HR-XV28SEK	HR-XV28SER
SCART CABLE	PROVIDED	←	OPTIONAL
BROADCASTING SYSTEM	PAL B/G, SECAM L	PAL I, I/I, B/G, SECAM D/K, K1	←
RF OUT CH/RF OUT SYSTEM [INITIAL]	NOT USED	22-68CH,[36CH]/I	22-68CH,[36CH]/K
OSD LANGUAGES	ENGLISH/GERMANY/FRENCH/ ITALIAN/SPANISH/DUTCH	ENGLISH/GERMANY/ITALIAN/ SPANISH/GREEK/PORTU- GUESE	ENGLISH/RUSSIAN
REGIONAL CODE	REGIONAL CODE : 2	←	REGIONAL CODE : 5

MODEL NAME	HR-XV28SEU	HR-XV28SEY/EZ
SCART CABLE	OPTIONAL	←
BROADCASTING SYSTEM	PAL I, I/I, B/G, SECAM D/K, K1	←
RF OUT CH/RF OUT SYSTEM [INITIAL]	22-68CH,[36CH]/G	←
OSD LANGUAGES	ENGLISH/GERMANY/ITALIAN/ SPANISH/GREEK/PORTU- GUESE	ENGLISH/POLISH/CZECH/ HUNGARIAN/SWEDISH/GER- MANY
REGIONAL CODE	REGIONAL CODE : 2	←

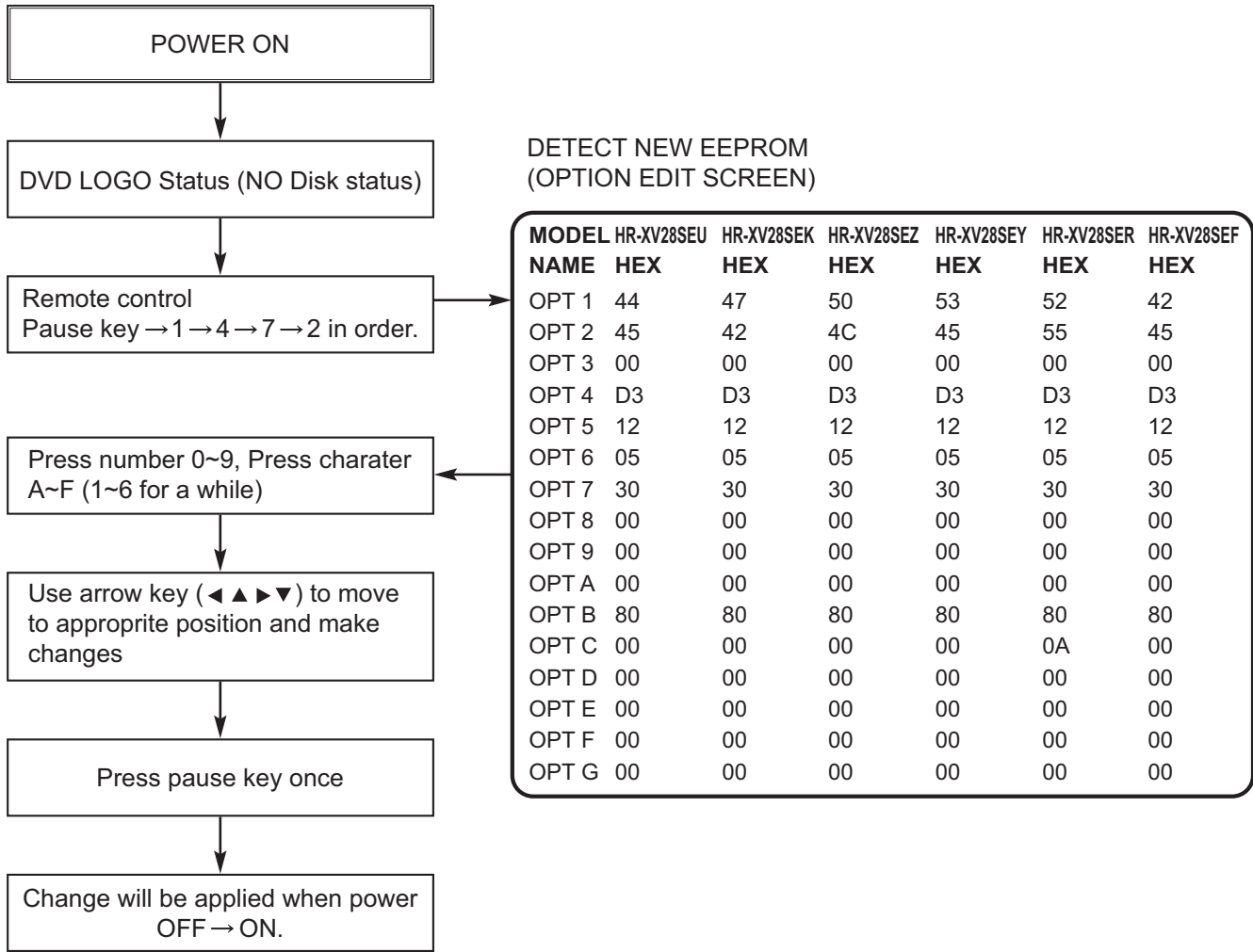
**Note:**

Mark ← is same as left.

## 2.2 SERVICE INFORMATION FOR EEPROM IC SETTING(VCR)

EEPROM option code No. setting			EEPROM option code No. setting procedure
NAME	HEX	BINARY	<ol style="list-style-type: none"> <li>1. DETECT NEW EEPROM (OPTION EDIT SCREEN) <ul style="list-style-type: none"> <li>- Eeprom EDIT screen automatically appears if replacing Eeprom.</li> <li>- Setup option data using the cursor Up/Down key of a remote control. (Setup upon BOM depending on OPT0~OPT5 model)</li> <li>▪ Since an initial remote control is set to LG for LG model, appropriately set optiona data using the cursor Up/Down key.</li> </ul> </li> <li>2. EEPROM WRITED AND EEPROM INITIAL <ul style="list-style-type: none"> <li>- Writes data on EEPROM by using REMOCON "OK" + FRONT PLAY KEY FOR MORE THAN 5 SECONDS.</li> </ul> </li> <li>3. PG ADJUST <ol style="list-style-type: none"> <li>1) Payback the SP standard tape</li> <li>2) Press the "OK" key on the Remote controller and the "PLAY" key on the Front Panel the same time, then it goes in to Tracking initial mode.</li> <li>3) Repeat the above step(No.2), then it finishes the PG adjusting automatically.</li> <li>4) Stop the playback, then it goes out to PG adjusting mode after mony the PG data.</li> </ol> </li> <li>4. BUYER SELECTION <ul style="list-style-type: none"> <li>- Font ejection key + open/close key for more than 5 seconds.</li> <li>- Option code is displayed in TV</li> <li>- First byte of OPT0 is changed whenever front eject key + open/close key.</li> <li>- JVC remote conroller No.0.</li> </ul> </li> </ol>
OPT0	00	00000000	
OPT1	00	00000000	
OPT2	00	00000000	
OPT3	00	00000000	
OPT4	00	00000000	
OPT5	00	00000000	
12/26 -	00	V00 ← μ-COM Ver.	
	ID : LG		
	VERSION : 05 ROM		
	DATE : 02.17.05	Correction Ver.	
MODEL	NAME	HEX	BINARY
HR-XV28SEU	OPT0	00	00000000
	OPT1	54	00000000
	OPT2	60	00000000
	OPT3	47	00000000
	OPT4	03	00000000
HR-XV28SEK	OPT5	0B	00000000
	OPT0	00	00000000
	OPT1	54	00000000
	OPT2	21	00000000
	OPT3	87	00000000
HR-XV28SEZ	OPT4	0D	00000000
	OPT5	0B	00000000
	OPT0	00	00000000
	OPT1	54	00000000
	OPT2	63	00000000
HR-XV28SEY	OPT3	47	00000000
	OPT4	0D	00000000
	OPT5	0B	00000000
	OPT0	00	00000000
	OPT1	54	00000000
HR-XV28SER	OPT2	63	00000000
	OPT3	47	00000000
	OPT4	0B	00000000
	OPT5	0B	00000000
	OPT0	09	00000000
HR-XV28SEF	OPT1	54	00000000
	OPT2	A3	00000000
	OPT3	47	00000000
	OPT4	0D	00000000
	OPT5	0B	00000000
HR-XV28SEF	OPT0	00	00000000
	OPT1	5C	00000000
	OPT2	E8	00000000
	OPT3	47	00000000
	OPT4	01	00000000
	OPT5	0B	00000000
WR : OK I : EXIT MOVE : ◀▶			
EDIT : ▲▼			

### 2.3 SERVICE INFORMATION FOR EEPROM (DVD)



**\* OPTION**

- NTSC model does not have VCR option and use DVD option B~F as VCR option. (only DVD exist)
- PAL model has another separate VCR option. (Both VCR and DVD exist)



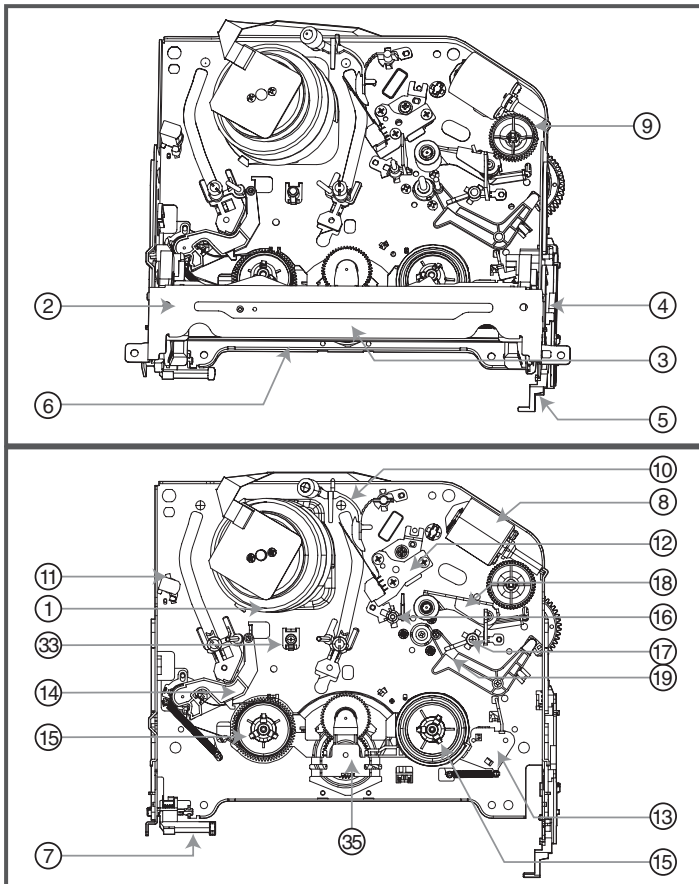
## **SECTION 3 DISASSEMBLY**

This service manual does not describe DISASSEMBLY.

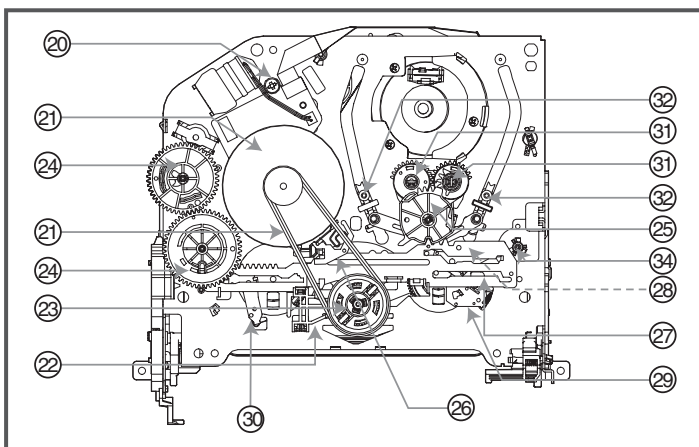
## SECTION 4 ADJUSTMENT

### 4.1 POSITION DRAWING OF DECK MECHANISM PARTS (VCR)

#### • Top View



#### • Bottom View



Order Of Dis-assembly Parts firstly Disassembled	Part	Fixing Type	Ref. Draw-ings	Posi-tion
1	Drum Assembly	3 screws	A-1	T
2	Plate Top	2 hooks	A-2	T
2	3 Holder Assembly CST	6 chasses	A-2	T
2,3	4 Gear Assembly Rack F/L	1 hook	A-2	T
2,3,4	5 Opener Door	Chassis Hole	A-2	T
2,3,4,5	6 Arm Assembly F/L	Chassis Hole	A-2	T
	7 Lever Assembly S/W	Chassis Hole, 1 hook	A-2	T
	8 Motor Assembly L/D	1 screw	A-3	T
	9 Gear Wheel	2 hooks	A-3	T
	10 Arm Assembly Cleaner	Chassis Embossing	A-3	T
	11 Head F/E	Chassis Embossing	A-3	T
	12 Base Assembly A/C Head	1 screw	A-3	T
2,3	13 Brake Assembly T	1 hook	A-4	T
2,3	14 Arm Assembly Tension	1 hook	A-4	T
2,3,13,14	15 Reel S / Reel T	Shaft	A-4	T
	16 Base Assembly P4	Chassis Embossing	A-5	T
	17 Opener Lid	Chassis Embossing	A-5	T
17	18 Arm Assembly Pinch	Shaft	A-5	T
17	19 Arm T/up	1 hook	A-5	T
	20 Supporter, capstan	Chassis Hole	A-6	B
17,18	21 Belt Capstan/Motor Capstan	3 screws	A-6	B
	22 Lever F/R	Tab	A-6	B
21,22	23 Clutch Assembly D37	Washer	A-6	B
	24 Gear Drive/Gear Cam	Washer/Hook	A-7	B
	25 Gear Sector	Hook	A-7	B
21	26 Brake Assembly Capstan	Chassis Hole	A-7	B
21,22,23, 24,25,26	27 Plate Slider	Chassis Guide	A-7	B
21,22,23, 24,25,26,27	28 Lever Tension	1 Hook	A-7	B
21,22,23, 24,25,26,27	29 Lever Spring	1 Hook	A-7	B
21,22,23, 24,25,26,27	30 Lever Brake	1 Hook	A-7	B
25	31 Gear Assembly P2/ Gear Assembly P3	Bass	A-8	B
2,3,14, 25,31	32 Base Assembly P2 /Base Assembly P3	6 Chasses	A-8	B
25,31	33 Base Loading	3 Hooks	A-8	B
2,3,14	34 Base Tension	Chassis Embossing	A-9	B
	35 Arm Assembly Idler Jog	Locking Tab	A-9	B

T:Top, B:Bottom

**NOTE : Assembly order is a reverse of disassembly order.**

- (1) For assembly, check the assembly mode is accurate.
- (2) Parts firstly disassembled indicate parts firstly disassembled in disassembly of related parts.

## 4.2 DISASSEMBLY AND ASSEMBLY OF DECK MECHANISM (VCR)

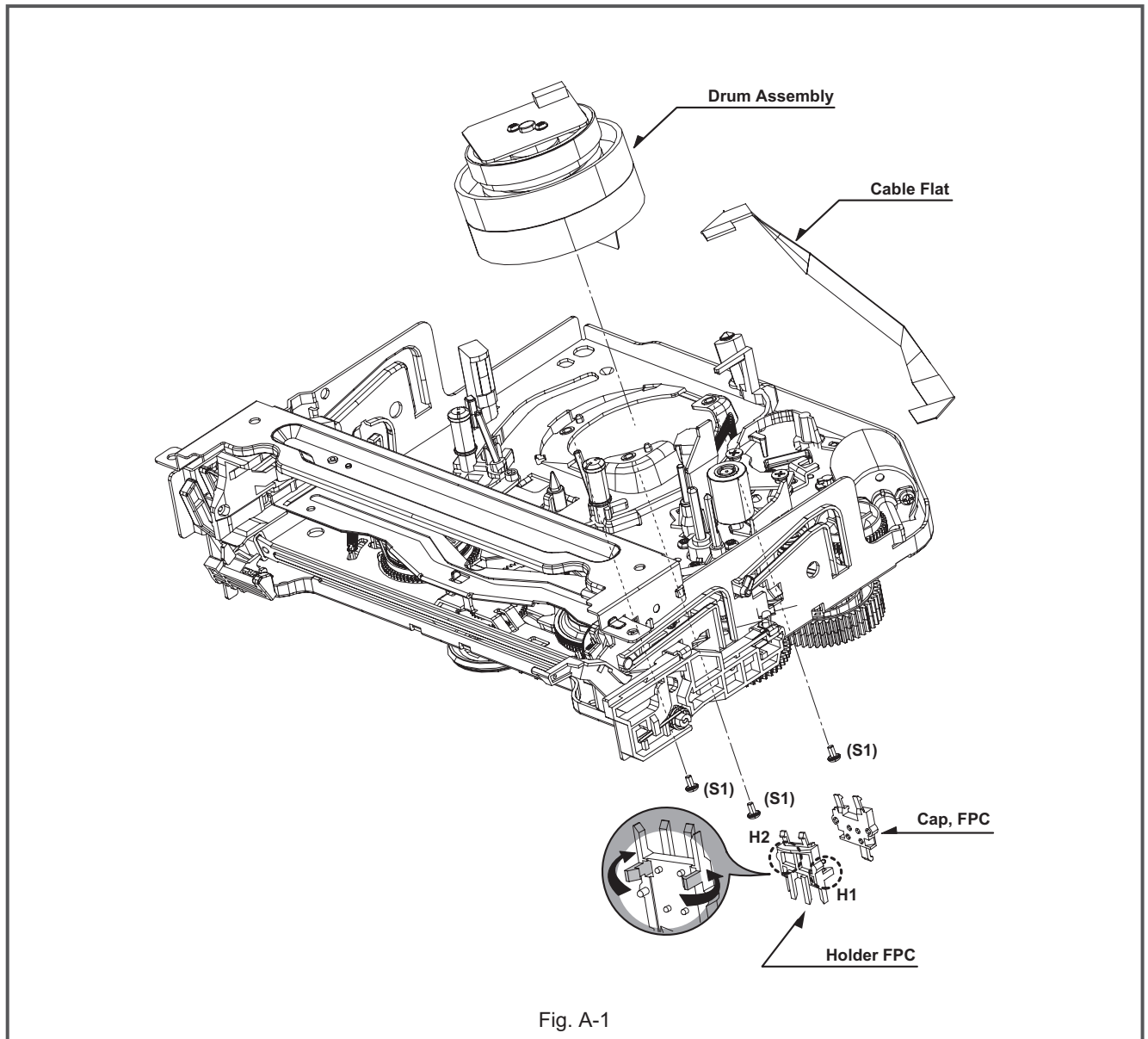
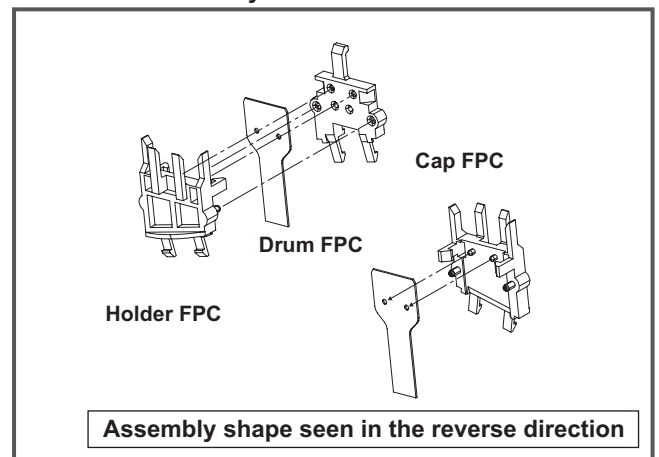


Fig. A-1

### 1. Disassembly of Drum Assembly (Figure A-1)

- 1) Separate cable flat from the Drum FPC and the Capstan Motor.
- 2) Release 3 screws (S1) on the bottom side of the chassis, and separate the drum assembly.
- 3) Release the hooks (H1, H2) and separate both the holder FPC and the Cap FPC (disassemble if necessary).

### Cautions in assembly of FPC



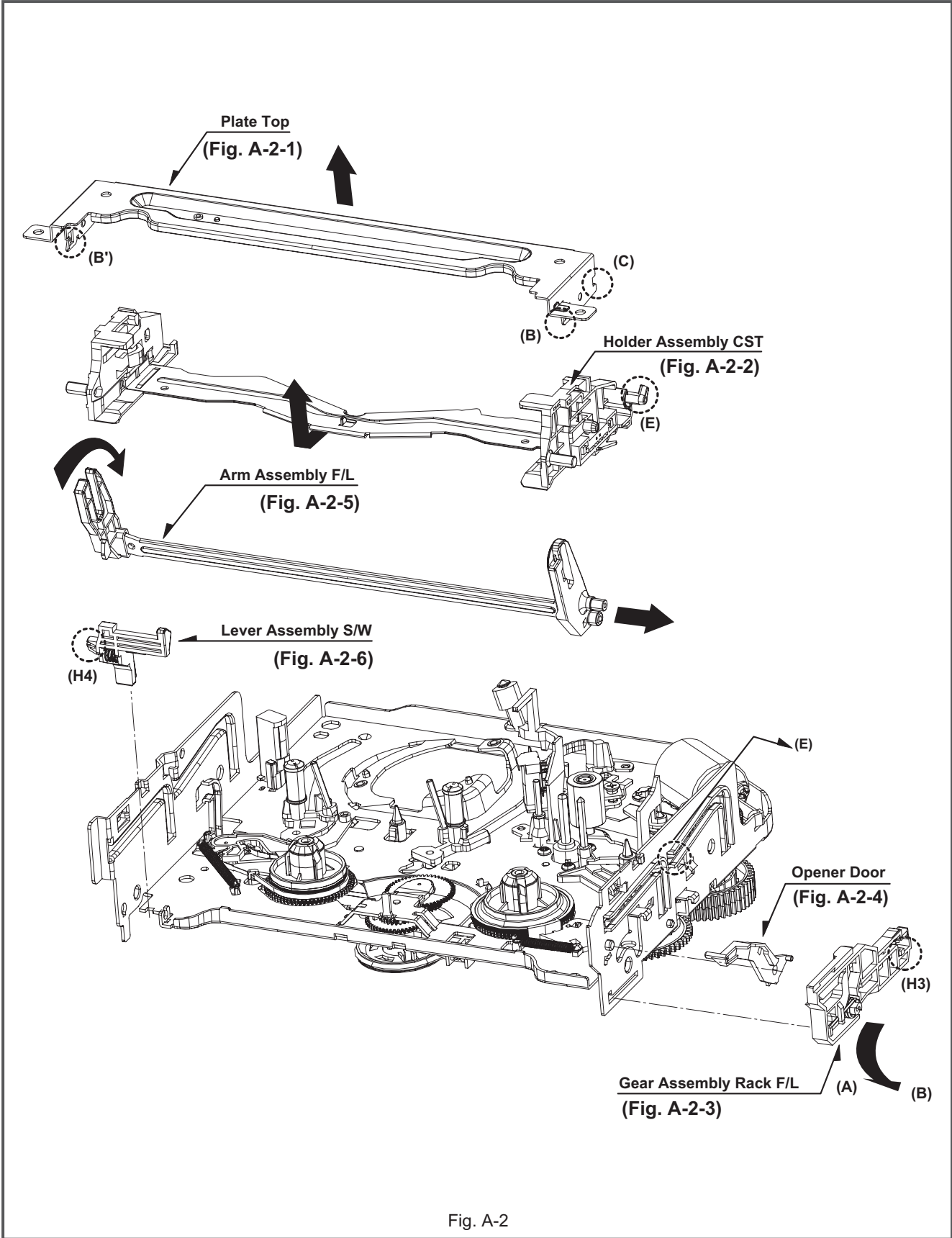


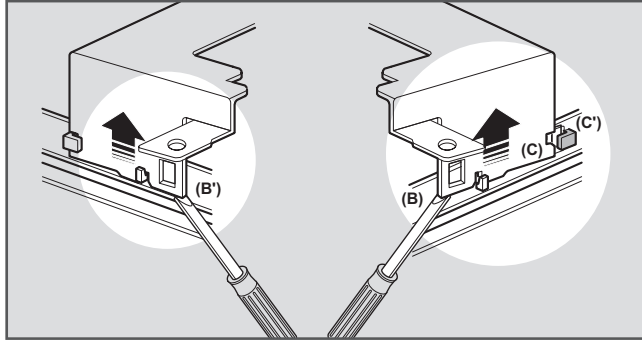
Fig. A-2

## 2. Disassembly of Plate Top (Fig. A-2-1)

- 1) Separate the right part while leaning back the (B) part of the plate top toward the arrow direction.
- 2) Separate the left part while leaning back the (B f) part of the plate top toward the arrow direction.  
(Tool used: Tool such as (-) driver, auger, etc with pointed or flat end)

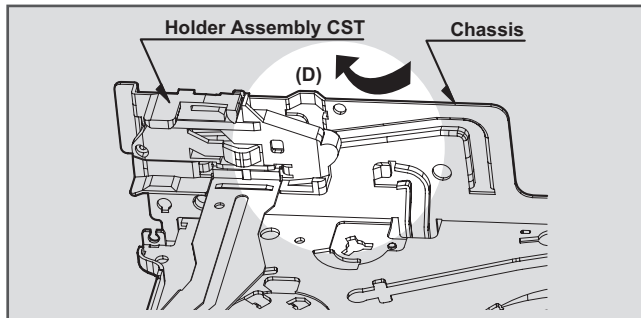
### CAUTIONS

Assemble while pressing the (C), (C') part after corresponding them as in drawing.



## 3. Holder Assembly CST (Fig. A-2-2)

- 1) Firstly separate the left part from the groove on the (D) part of chassis while moving the holder assembly CST toward the arrow direction.



- 2) Separate the right part from each groove of chassis

### CAUTIONS

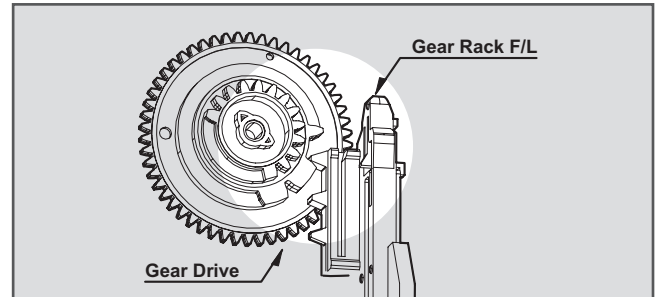
Assemble by inserting the left part after firstly inserting the (E) part of the holder assembly CST into the groove on the (E') part of chassis.

## 4. Disassembly of Gear Assembly Rack F/L (Fig. A-2-3)

- 1) Separate the hook (H3) while leaning ahead the hook (3) after moving the gear assembly rack F/L toward the arrow (A) direction.
- 2) Separate the gear assembly rack F/L toward the arrow (B) direction.

### CAUTIONS

For the assembly, correspond the gear part of gear assembly rack F/L to the gear drive.



## 5. Opener Door (Fig. A-2-4)

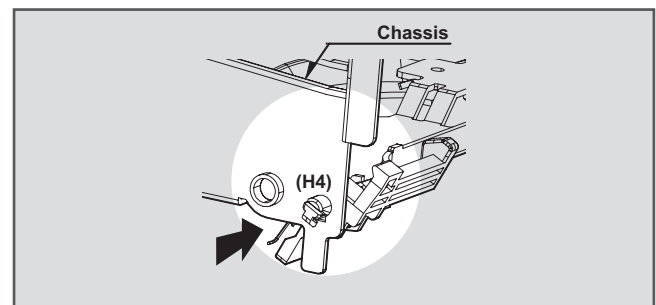
- 1) Separate the opener door ahead from the guide hole of chassis while turning it clockwise.

## 6. Arm Assembly F/L (Fig. A-2-5)

- 1) Firstly separate the left part of the arm assembly F/L from the groove of chassis while pushing the arm assembly F/L toward the arrow direction.
- 2) Separate the right part from the groove of chassis.)

## 7. Lever Assembly S/W (Fig. A-2-6)

- 1) Separate the lever assembly S/W while pushing it toward the arrow direction after removing the hook (4) on the left side of chassis.



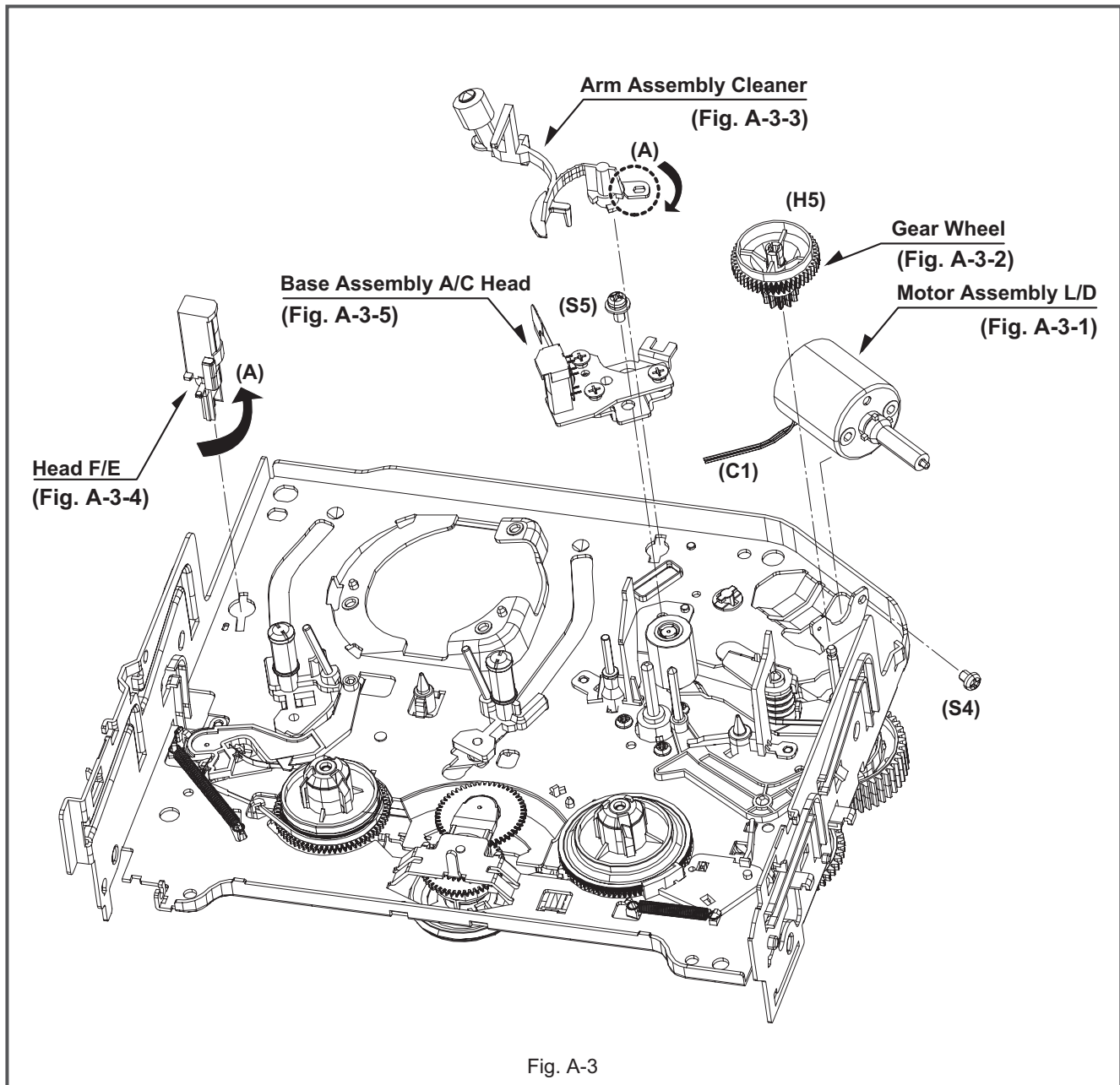


Fig. A-3

**8. Motor Assembly L/D (Fig. A-3-1)**

- 1) Take the connector (C1) connected to the Capstan motor PCB out.
- 2) Remove a screw (S4) of the chassis (S4) and step backward, and disassemble it while holding it up.

**9. Gear Wheel (Fig. A-3-2)**

- 1) Release the hook (H5) of the gear wheel and disassemble it upward.

**10. Arm Assembly Cleaner (Fig. A-3-3)**

- 1) Separate the (A) part of Fig. A-3-1 from the embossing of chassis, and hold it up while turning it anti-clockwise.

**11. Head F/E (Fig. A-3-4)**

- 1) Separate the (A) part of the head F/E from the embossing of chassis, and hold it up while turning it anti-clockwise.

**12. Base Assembly A/C Head (Fig. A-3-5)**

- 1) Release a screw (S5) and disassemble while holding it up.

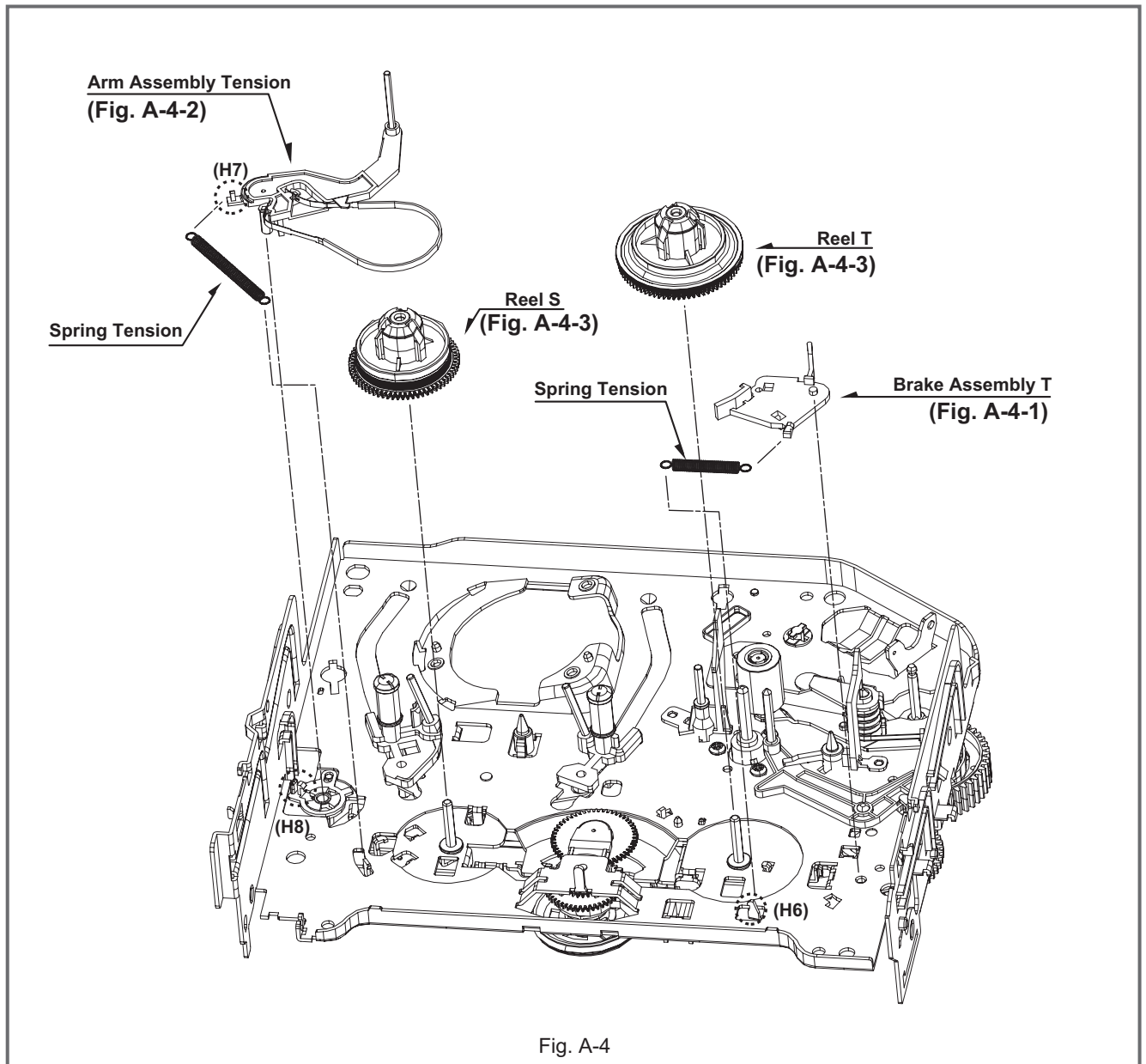


Fig. A-4

**13. Brake Assembly T (Fig. A-4-1)**

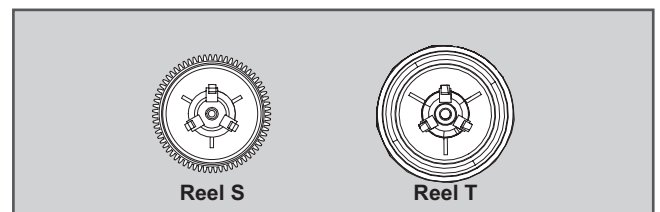
- 1) Release the spring tension from the lever spring hook (H6).
- 2) Disassemble the brake assembly T while holding it upward.

**14. Arm Assembly Tension (Fig. A-4-2)**

- 1) Release the spring tension the hook (H7) from the arm assembly tension.
- 2) After releasing the hook (H8) of the base tension, separate it while holding it up.

**15. Reel S/Reel T (Fig. A-4-3)**

- 1) Disassemble the reel S/ reel T while holding it up (comparison between Reel S and Reel T)



**CAUTIONS**

Spring used for both brake assembly T and arm assembly tension is used (2EA used).

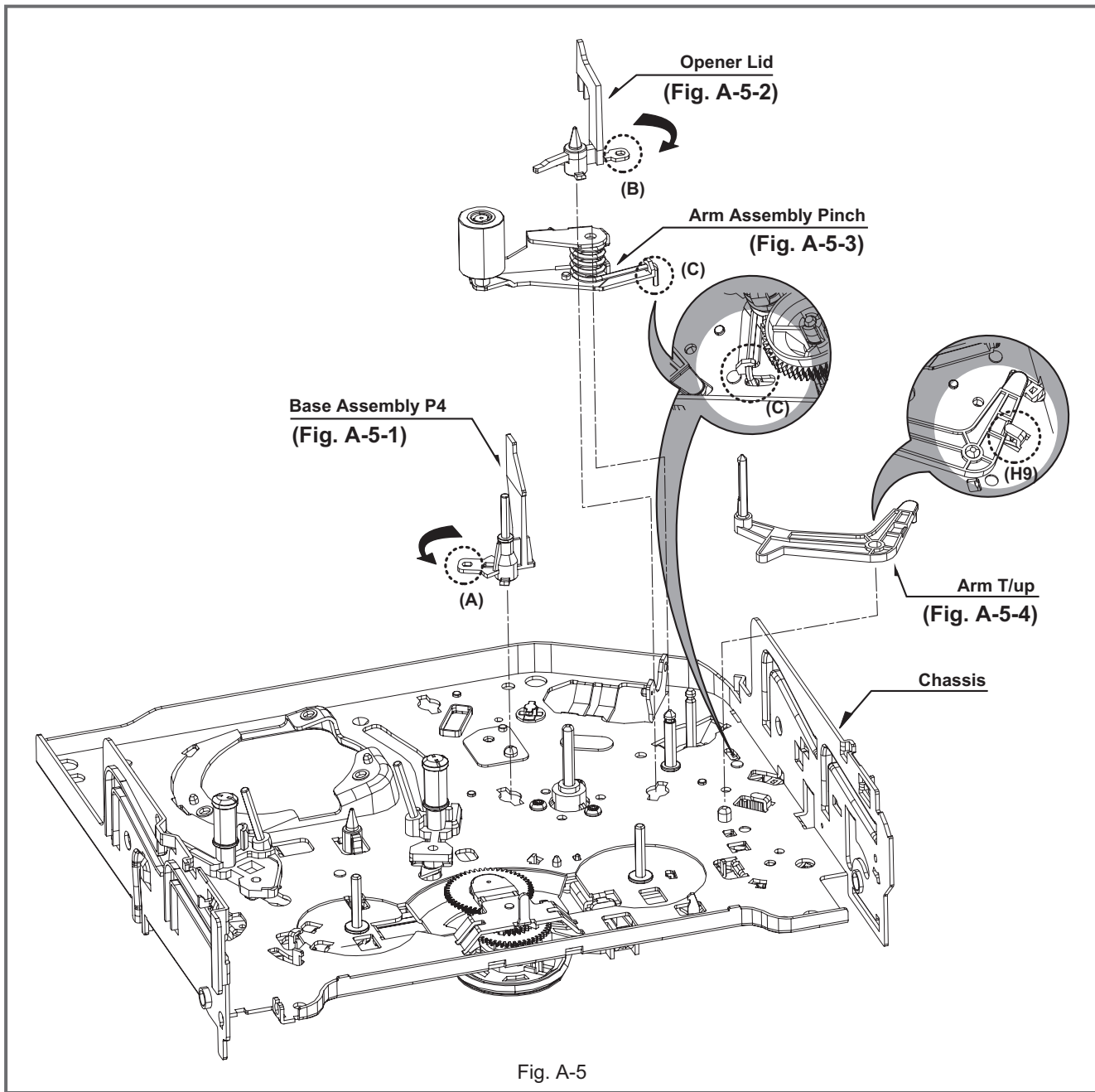


Fig. A-5

**16. Base Assembly P4 (Fig. A-5-1)**

- 1) Release the (A) part of the base assembly P4 from the embossing of chassis.
- 2) Hold the base assembly P4 up while turning it anti-clockwise.

**17. Opener Lid (Fig. A-5-2)**

- 1) Release the (B) part of the opener lid from the embossing of chassis.
- 2) Disassemble the opener lid upward while turning it anticlockwise.

**18. Arm Assembly Pinch (Fig. A-5-3)**

- 1) Hold the arm assembly pinch up.

**19. Arm T/up (Fig. A-5-4)**

- 1) Turn the arm T/up to release the anchor jaw (H9) part of chassis and then hold it upward.

**CAUTIONS**

For the assembly, check the (C) part of the arm assembly pinch is assembled as in drawing.

**- REVERSE THE MECHANISM.**



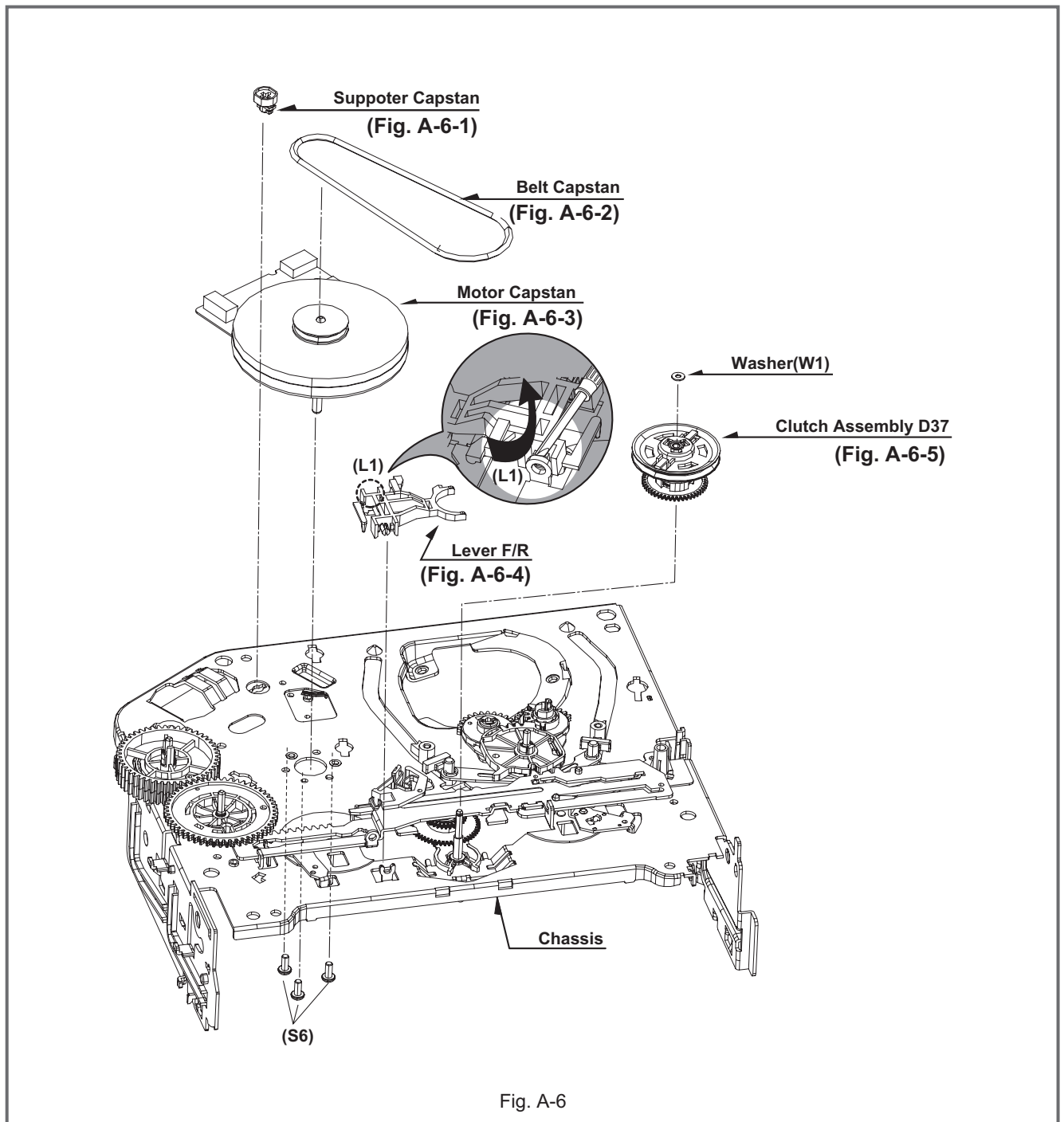


Fig. A-6

**20. Supporter, Capstan (Fig. A-6-1)**

- 1) Turn the supporter and Capstan by 90 deg. clockwise with a driver for disassembly.

**21. Belt Capstan (Fig. A-6-2) / Motor Capstan (Fig. A-6-3)**

- 1) Separate the belt Capstan.
- 2) Undo 3 screws (S6) on the bottom side of chassis and disassemble it upward.

**22. Lever F/R (Fig. A-6-4)**

- 1) Release the locking tab (L1) and then disassemble it upward.

**23. Clutch Assembly D37 (Fig. A-6-5)**

- 1) Remove the washer (W1) and then disassemble it upward.

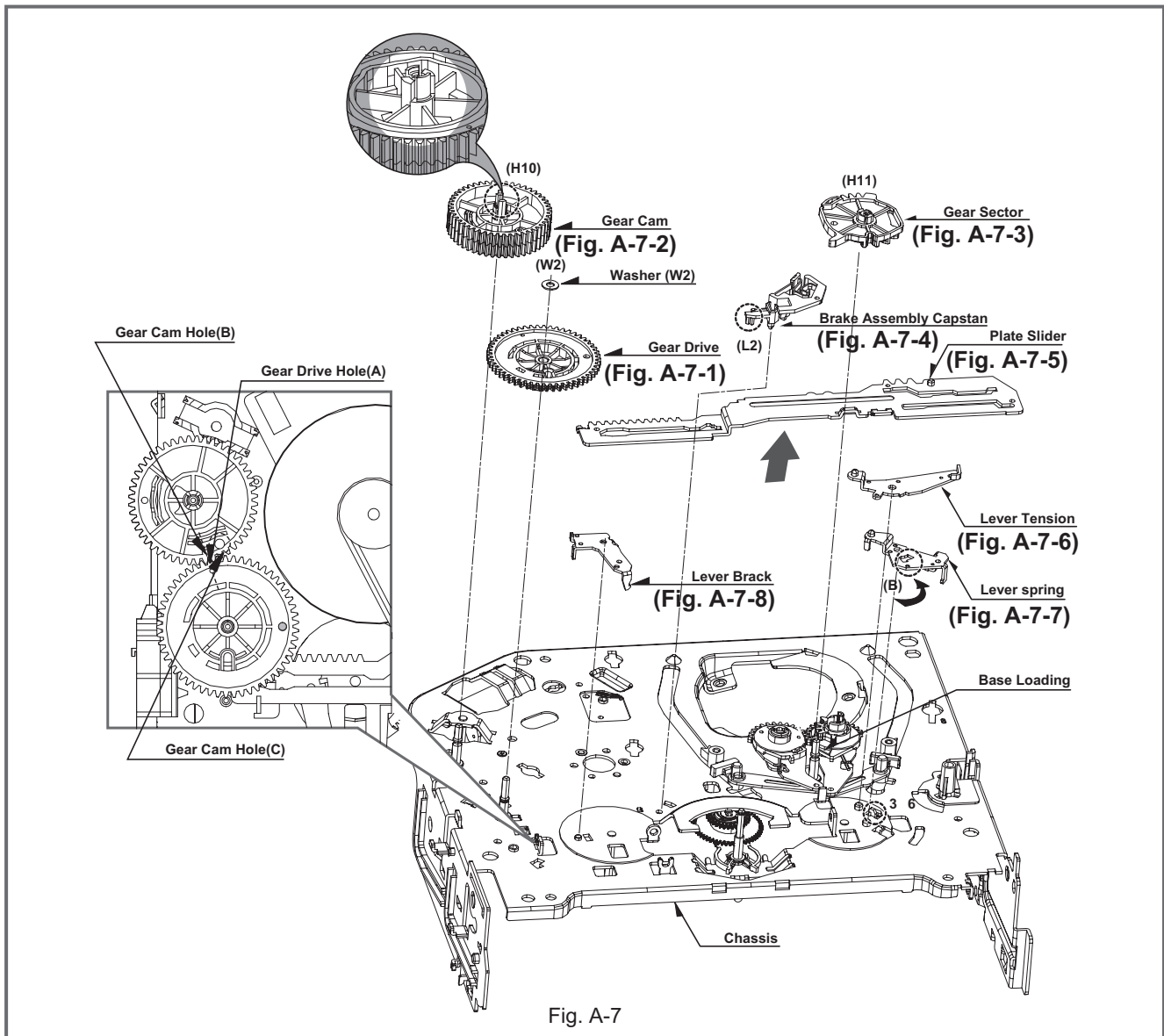


Fig. A-7

**24. Gear Drive (Fig. A-7-1)/Gear Cam (Fig. A-7-2)**

- 1) Remove the washer (W2) and then disassemble the gear drive.
- 2) Release the hook (H10) of the gear cam and then disassemble it upward.

**CAUTIONS**

For the assembly, adjust both the gear driver hole (A) and the gear cam hole (B) straightly and then correspond the gear cam hole (C) to the chassis hole.

**25. Gear Sector (Fig. A-7-3)**

- 1) Release the hook (H11) of the gear sector and then hold the gear sector upward.

**26. Brake Assembly Capstan (Fig. A-7-4)**

- 1) Release the locking tab (L2) on the bottom side of the plate slider and then disassemble it upward.

**27. Plate Slider (Fig. A-7-5)**

- 1) Disassemble the plate slider while holding it up.

**28. Lever Tension (Fig. A-7-6)**

- 1) Release the lever tension from the guide (A) of chassis while turning it anti-clockwise.
- 2) Disassemble the lever tension while holding it up.

**29. Lever Spring (Fig. A-7-7)**

- 1) Release the (B) part of the lever spring from the guide (A) of chassis while turning it anti-clockwise.
- 2) Disassemble the lever tension while holding it up.

**30. Lever Brake (Fig. A-7-8)**

- 1) Disassemble the lever brake while holding it up.

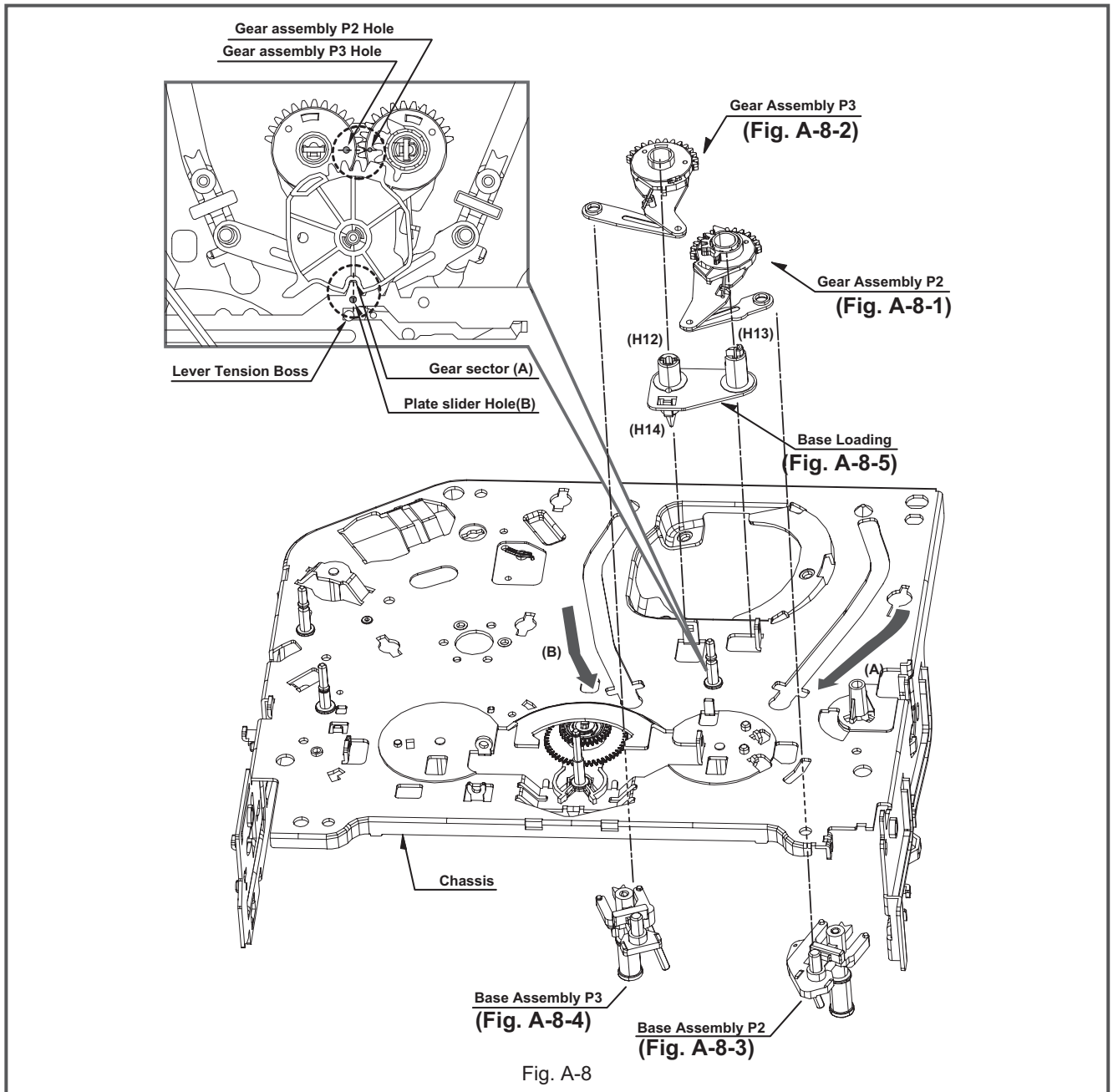


Fig. A-8

**31. Gear Assembly P2 (Fig. A-8-1)/  
Gear Assembly P3 (Fig. A-8-2)**

- 1) Hold the gear assembly P2 upward.
- 2) Hold the gear assembly P3 upward.

**CAUTIONS**

For the assembly, check the holes of both the gear assembly P2 and the P3 are adjusted straightly, and then correspond the gear section groove (A) to the plate slider hole (B).

**32. Base Assembly P2 (Fig. A-8-3)/  
Base Assembly P3 (Fig. A-8-4)**

- 1) Disassemble the base assembly P2 downward while moving it toward the arrow (A) direction along with the guide hole of chassis.
- 2) Disassemble the base assembly P2 downward while moving it toward the arrow (B) direction along with the guide hole of chassis.

**33. Base Loading (Fig. A-8-5)**

- 1) Release 3 hooks (H12, 13, 14) of the base loading, and then disassemble them upward.

**- REVERSE THE MECHANISM.**

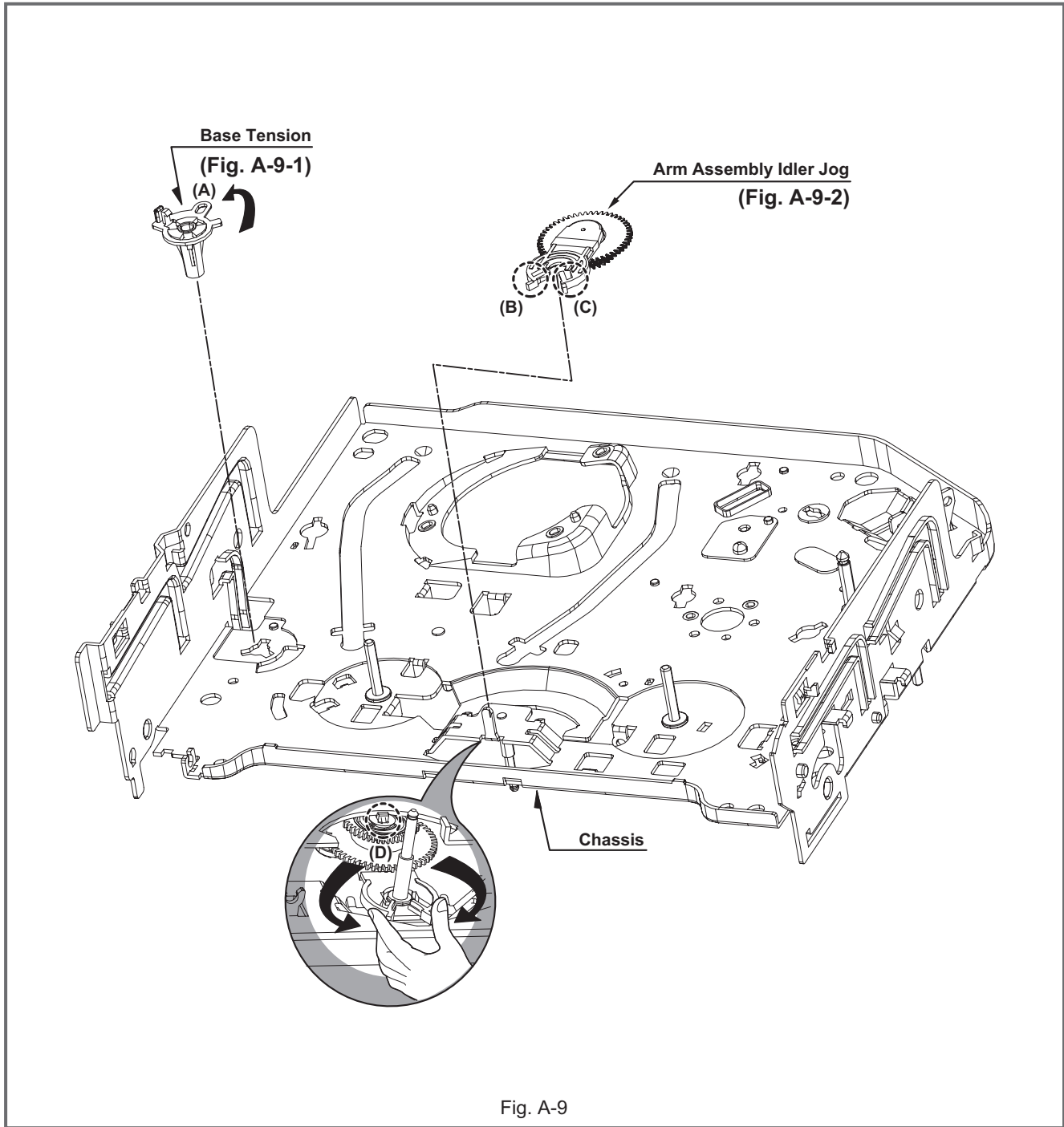


Fig. A-9

**34. Base Tension (Fig. A-9-1)**

- 1) Release the (A) part of the base tension from the embossing of chassis.
- 2) Hold the base tension upward while turning it anti-clockwise.

**35. Arm assembly Idler Jog (Fig. A-9-2)**

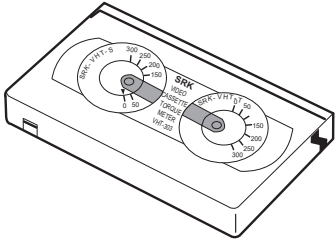
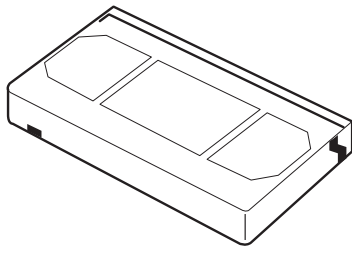
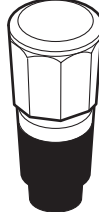
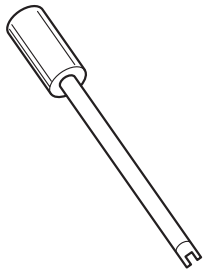
- 1) Push both (B), (C) parts in Fig. A-9-2 toward the arrow direction.
- 2) Disassemble the arm assembly idler upward.

**CAUTIONS**

Take care to ensure that the (D) part in the drawing is not hung to chassis in disassembly.

**4.3 DECK MECHANISM ADJUSTMENT (VCR)**

**4.3.1 Tools and Fixfures for Service**

<p><b>1. Cassette Torque Meter PUJ42881</b></p>  <p>A rectangular cassette torque meter with two circular gauges on top. The left gauge is labeled 'SRK' and 'NTSC: MHP' with a scale from 0 to 300. The right gauge is labeled 'SRK' and 'PAL: MHPE' with a scale from 0 to 300. The device has a small port on the left side.</p>	<p><b>2. Alignment Tape NTSC: MHP PAL: MHPE</b></p>  <p>A rectangular alignment tape with a central slot and two smaller slots on either side. It has a small port on the left side.</p>	<p><b>3. Torque Gauge PUJ48075-2</b></p>  <p>A cylindrical torque gauge with a black base and a silver top section. It has a hexagonal shape in the middle section.</p>
<p><b>5. Post Height Adjusting Driver (Roller driver) PTU94002</b></p>  <p>A long, thin metal driver with a cylindrical handle at the top and a small hook-like end at the bottom.</p>		

### 4.3.2 Mechanism Assembly Mode Check

**Purpose of adjustment : To make tools normally operate by positioning tools accurately.**

Fixtures and tools used	VCR (VCP) status	Checking Position
• Blank Tape (empty tape)	• Eject Mode (with cassette withdrawn)	• Mechanism and Mode Switch
1) Turn the VCR on and take the tape out by pressing the eject button. 2) Separate both top cover and plate top, and check both the hole (A) of gear cam and the hole (A') of chassis correspond (Fig. C-2). 3) If it is done as in the paragraph 2): Turn the gear cam as in No.2) after mantling the motor assembly L/D. 4) Undo the screw fixing the deck and the main frame, and separate the deck assembly. Check both the hole (A) of gear cam and the hole (A') of chassis correspond (Fig. C-1). 5) Check the mode S/W on the main P.C. board locates at a proper position as in (B) of the Fig. (C-1). 6) Connect the deck to the main P.C. board and perform all types of test.		

#### CHECK DIAGRAM

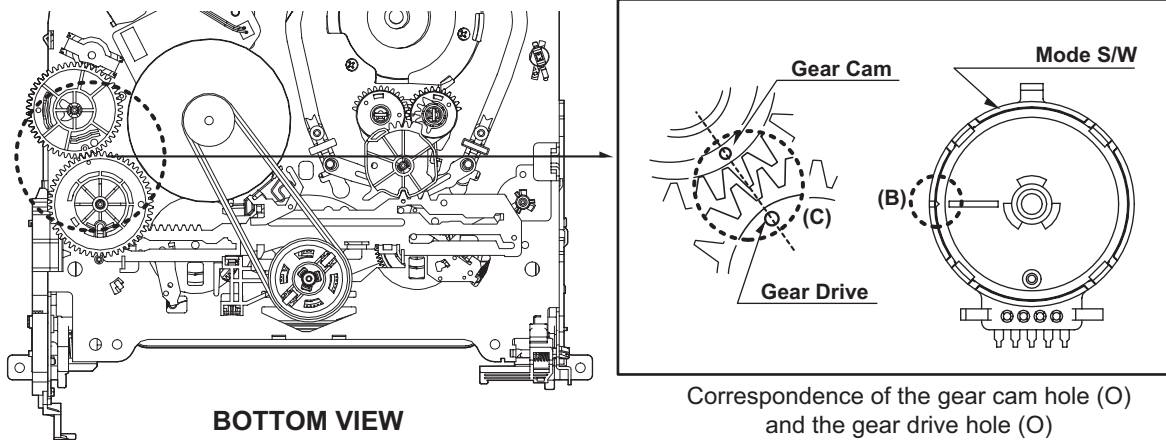


Fig. C-1

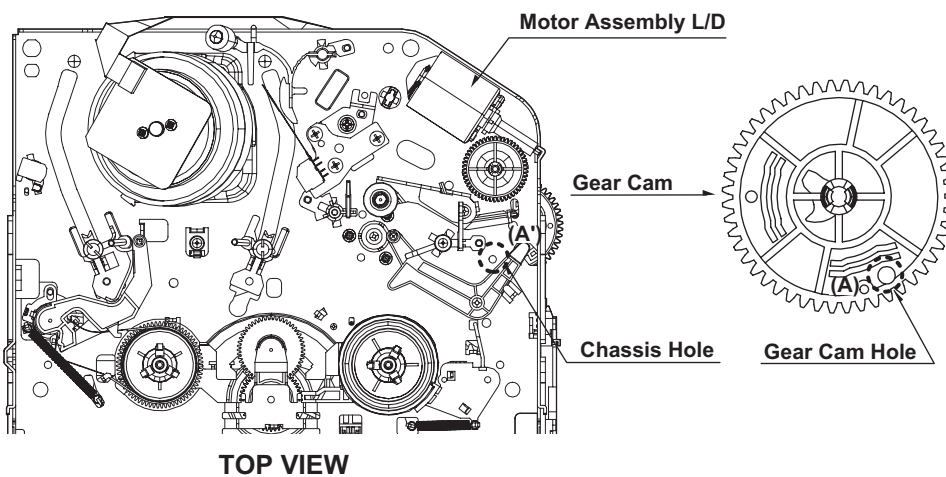


Fig. C-2

### 4.3.3 Previous Preparation for Deck Adjustment

(Preparation to load the VCR (VCP) with cassette tape not inserted)

- (1) Take the power cord from the consent.
- (2) Separate the top cover and the plate assembly top.
- (3) Insert the power cord into again.
- (4) Turn the VCR (VCP) on and load the cassette while pushing the lever stopper of the holder assembly CST backward. In this case, clog both holes on the housing rail part of chassis to prevent detection of the end sensor.

If doing so, proceeding to the stop mode is done. In this status, input signals of all modes can be received. However, operation of the Rewind and the Review is impossible since the take-up reel remains at stop status and so cannot detect the reel pulse (however, possible for several seconds).

### 4.3.4 Torque Measuring

**Purpose of Measuring :** To measure and check the reel torque on the take-up part and the supply part that performs basic operation of the VCR (VCP) for smoothly forwarding the tape.  
**Measure and check followings when the tape is not smoothly wound or the tape velocity is abnormally proceeded:**

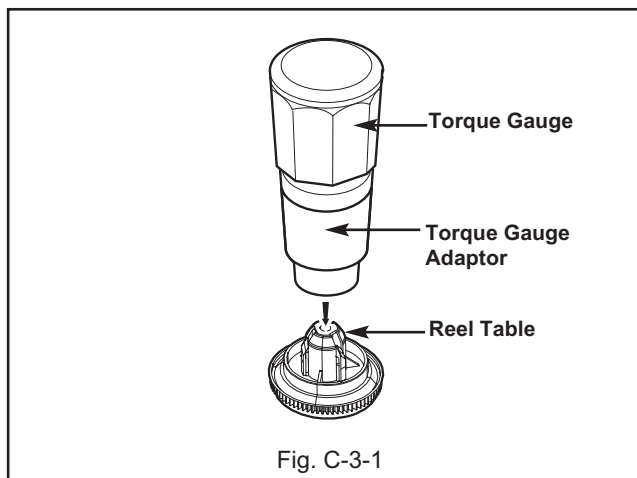
Fixtures and tools used	VCR (VCP) status	Measuring method
<ul style="list-style-type: none"> <li>• Torque Gauge (600 g.cm ATG)</li> <li>• Torque Gauge Adaptor</li> <li>• Cassette Torque Meter</li> </ul>	<ul style="list-style-type: none"> <li>• Play (FF) or Review (REW) Mode</li> </ul>	<ul style="list-style-type: none"> <li>• Try to operate the VCR (VCP) per mode with the tape not inserted (See 4.3.3 Prior Preparation for Deck Adjustment).</li> <li>• Measure after adhering and fixing the torque gauge adaptor to the torque gauge (Fig. C-3-1)</li> <li>• Read scale of the supply or take-up part of the cassette torque meter (Fig. C-3-2).</li> </ul>

Item	Mode	Instruments	Reel Measured	Measuring Value
Fast forward Torque	Fast Forward	Torque Gauge	Take-Up Reel	More than 400g°cm
Rewind Torque	Rewind	Torque Gauge	Supply Reel	More than 400g°cm
Play Take-Up Torque	Play	Cassette Torque Meter	Take-Up Reel	40~100g°cm
Review Torque	Review	Cassette Torque Meter	Supply Reel	40~210g°cm

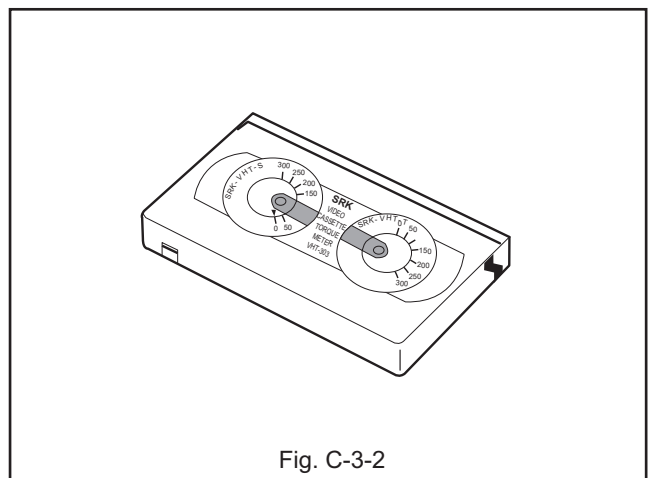
#### NOTE

Adhere the torque gauge adaptor to the torque gauge for measuring the value.

#### • Torque Gauge (600g.cm ATG)



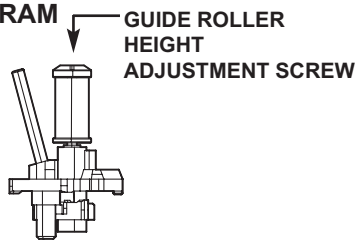
#### • Cassette Torque Meter



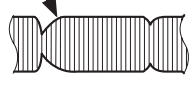

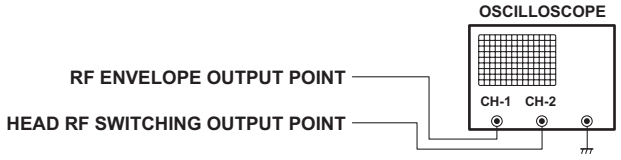


### 4.3.5 Guide Roller Height Adjustment

**Purpose of adjustment :** To ensure that the bottom surface of the tape can travel along with the tape lead line of the lower drum by constantly and adjusting and maintaining the height of the tape.

#### 4.3.5.1 Prior Adjustment

Fixtures and tools used	VCR (VCP) status	Adjustment position
• Post Height Adjusting Driver	• Play or Review Mode	• The guide roller height adjusting screw on the supply guide roller and the take-up guide roller
<b>Adjustment Procedure</b> 1) Travel the tape and check the bottom surface of the tape travels along with the guide line of the lower drum. 2) If the tape travels toward the lower part of guide line on the lower drum, turn the guide roller height adjusting screw to the left 3) If it travels to the upper part, turn it to the right. 4) Adjust the height of the guide roller to ensure that the tape is guided on the guide line of the lower drum at the inlet/outlet of the drum. (Fig. C-4-1)		<b>ADJUSTMENT DIAGRAM</b>  Fig. C-4-1

#### 4.3.5.2 Fine Adjustment

Fixtures and tools used	Measuring tools and connection position	VCR (VCP) status	Adjustment position
• Oscilloscope • Alignment tape • Post height adjusting driver	• CH-1: PB RF Envelope • CH-2: NTSC : SW 30Hz PAL : SW 25Hz • Head switching output point • RF Envelope output point	• Play the standard test tape.	• Guide roller height adjusting screw
1) Play the Alignment tape after connecting the probe of oscilloscope to the RF envelope output point and the head switching output point. 2) Tracking control (playback) : Locate it at the center (Set the RF output to the maximum value via the tracking control when such adjustment is completed after the drum assembly is replaced.) 3) Height adjusting screw: Flatten the RF waveform. (Fig. C-4-2) 4) Move the tracking control (playback) to the right/left. (Fig. C-4-3) 5) Check the start and the end of the RF output reduction width are constant.		<b>Waveform</b> P2 POST ADJUSTMENT  P3 POST ADJUSTMENT  Fig. C-4-2 Flatten the waveform by lightly turning the guide roller height adjusting screw.	
<b>CAUTIONS</b> There must exist no crumpling and folding of the tape due to excess adjustment or insufficient adjustment.		<b>Connection Diagram</b>  OSCILLOSCOPE RF ENVELOPE OUTPUT POINT HEAD RF SWITCHING OUTPUT POINT	
When the tracking control locates at the center. 		When turning the tracking control to both sides. 	
		Fig. C-4-2	



#### 4.3.6 Audio/Control (A/C) Head Adjustment

**Purpose of adjustment :** To ensure that audio and control signals can be recorded and played according to the contract tract by constantly maintaining distance between tape and head, and tape tension between the P3 post and the P4 post.

##### 4.3.6.1 Prior Adjustment (performed only when no audio output appears in play of the standard test tape)

Fixtures and tools used	VCR (VCP) status	Adjustment position
<ul style="list-style-type: none"> <li>• Blank Tape</li> <li>• Driver (+) Type 5mm</li> </ul>	<ul style="list-style-type: none"> <li>• Play the blank tape</li> </ul>	<ul style="list-style-type: none"> <li>• Tilt adjusting screw (C)</li> <li>• Height adjusting screw (B)</li> <li>• Azimuth adjusting screw (A)</li> </ul>

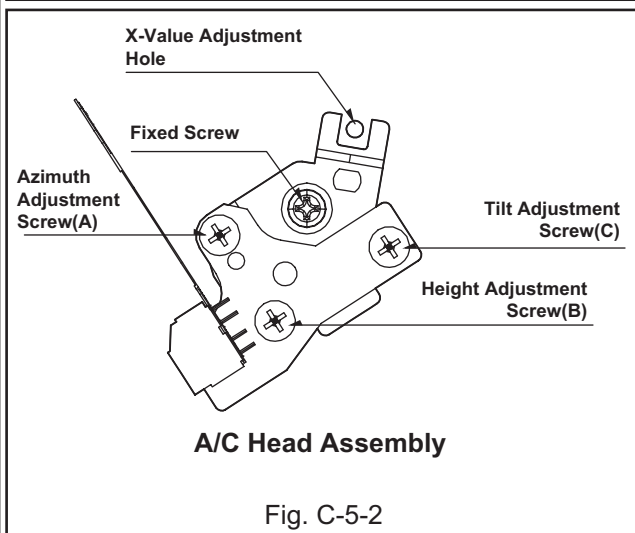
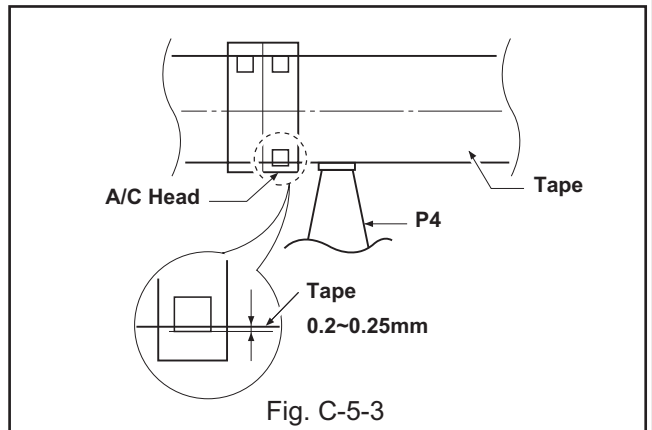
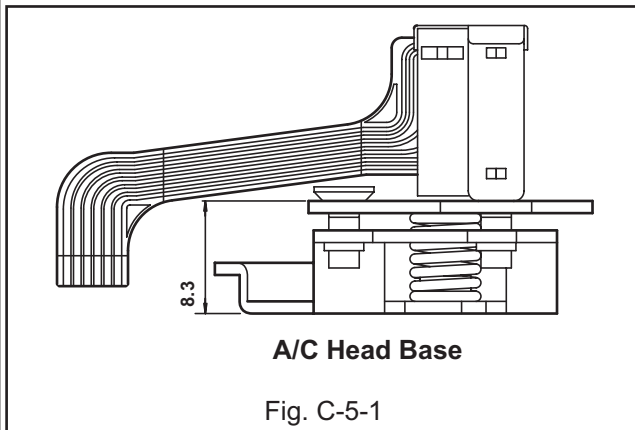
##### Adjustment Procedure/Adjustment Diagrams

- 1) Basically use the A/C head assembly adjusted as in SPEC.
- 2) Check there is crumpling and folding of the tape around the A/C head. If it is, Turn and adjust the tilt adjusting screw to ensure that the tape corresponds to the bottom guide of the P4, and recheck the tape path after proceeding play for 4-5 seconds.

- 3) Where the tape bottom is not equal to Fig. C-5-3, Adjust the height by using the height adjusting screw (B) and then readjust it by using the tilt adjusting screw (C).

##### CAUTIONS

Always check the height of the A/C head since most ideal height of A/C head can be obtained when the bottom part of the tape is away 0.2 ~ 0.25mm from the bottom part of the A/C head.



#### 4.3.6.2 Tape Path Check between Pinch Roller and Take up Guide (Check in the Rev Mode)

- 1) Check the tape pass status between the pinch roller and the take-up guide. (Check there is crumpling of the tape pass and folding of the take-up guide.)
  - (1) When holding of the take-up guide bottom occurs  
Turn the tilt adjusting screw (C) clockwise and travel it stably to ensure there is no crumbling or folding of the tape.
  - (2) When holding of the take-up guide top occurs  
Turn the tilt adjusting screw (C) anti-clockwise and travel it stably to ensure there is no crumbling or folding of the tape.

- 2) Check there is folding of the tape at the bottom or top of the take-up guide in cutting-off the REV mode

#### CAUTIONS

If the RF waveform is changed after adjusting the A/C head, perform fine adjustment to ensure the RF waveform is flattened.

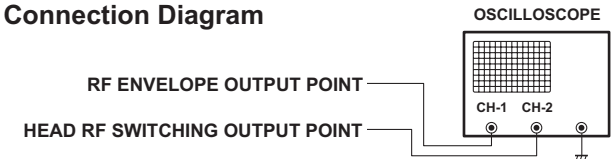
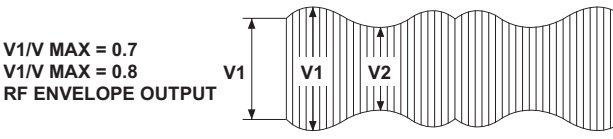
#### 4.3.6.3 Fine Adjustment (Azimuth Adjustment)

Fixtures and tools used	Connection position	VCR (VCP) status	Adjustment position
<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• Standard test tape (only for SP)</li> <li>• Driver (+) Type 4mm</li> </ul>	<ul style="list-style-type: none"> <li>• Audio Output Jack</li> </ul>	<ul style="list-style-type: none"> <li>• Play the Alignment tape</li> <li>• 1KHz, 7KHz.</li> </ul>	<ul style="list-style-type: none"> <li>• Azimuth Adjusting Screw (A)</li> <li>• Height Adjusting Screw (B)</li> </ul>
<b>Adjustment Procedure</b> <ol style="list-style-type: none"> <li>1) Connect the probe of Oscilloscope to the audio output jack.</li> <li>2) Ensure that Audio 1KHz, 7KHz output is flattened at the maximization point by adjusting the Azimuth adjusting screw (A).</li> </ol>			

#### 4.3.7 X-Value Adjustment

Purpose of adjustment : To maintain compatibility with other VCR (VCP).			
Fixtures and tools used	Connection position	VCR (VCP) status	Adjustment position
<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• Standard test tape (only for SP)</li> <li>• Driver (+) Type 4mm</li> </ul>	<ul style="list-style-type: none"> <li>• CH-1: PB RF Envelope</li> <li>• CH-2: NTSC ; SW 30Hz PAL:SW 25Hz</li> <li>• Head switching output point</li> <li>• RF Envelope output point</li> </ul>	<ul style="list-style-type: none"> <li>• Play the Alignment tape</li> </ul>	
<b>Adjustment Procedure</b> <ol style="list-style-type: none"> <li>1) After releasing the auto tracking, lightly turn the fixing screw. Turn the (+) type driver on the X-distance adjusting hole to the right or left. Adjust the RF envelope level to the maximum point and then fix the fixing screws.</li> <li>2) For the 31 μm head, adjust it with the SP tape recorded in the width of 31 μm since the head travels on the tape track only for SP with the width of 58 μm.</li> </ol>		<b>Connection Diagram</b>	

#### 4.3.8 Adjustment after Drum Assembly (Video Heads)

Purpose of adjustment : To adjust and stabilize the height change, X-distance change, etc depending on the guide roller after assembling the drum.			
Fixtures and tools used	Connection position	VCR (VCP) status	Adjustment position
<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• Alignment tape (only for SP)</li> <li>• Post Height Adjusting Driver</li> <li>• Driver (+) Type 5mm</li> </ul>	<ul style="list-style-type: none"> <li>• CH-1: PB RF Envelope</li> <li>• CH-2: NTSC : SW 30Hz PAL:SW 25Hz</li> <li>• Head switching output point</li> <li>• RF Envelope output point</li> </ul>	<ul style="list-style-type: none"> <li>• Play the blank tape.</li> <li>• Play the Alignment tape.</li> </ul>	<ul style="list-style-type: none"> <li>• Fine adjustment of guide roller</li> <li>• Switching Point</li> <li>• Tracking Preset</li> <li>• X-value</li> </ul>
<b>Checking/Adjustment Procedure</b> <ol style="list-style-type: none"> <li>1) Play the blank tape and check whether the guide roller crumbles or wrinkles the tape and adjust it if necessary.</li> <li>2) Check that the RF envelope output waveform is flat, and adjust the height of the guide roller while playing the alignment tape.</li> <li>3) Adjust the switching point.</li> <li>4) Check the RF envelope output is the maximum when the tracking control locates at the center. If not maximum, set up to ensure that RF envelope output becomes the maximum by turning the (+) type driver on the base A/C groove.</li> </ol>		<b>Connection Diagram</b>  <b>Waveform</b> 	

#### 4.3.9 Check of Traveling Device after Deck Assembly

##### 4.3.9.1 Audio, RF Normalization Time (Locking Time) Check in Play after CUE or REV

Fixtures and tools used	Measuring standard	Connection position	VCR (VCP) status
<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• Alignment tape (Colour bar)</li> <li>• Stop Watch</li> </ul>	<ul style="list-style-type: none"> <li>• RF Locking Time: Within 5 seconds</li> <li>• Audio Locking Time : Within 10 seconds</li> </ul>	<ul style="list-style-type: none"> <li>• CH-1: PB RF Envelope</li> <li>• CH-2: Audio output</li> <li>• RF Envelope output point</li> <li>• Audio output jack</li> </ul>	<ul style="list-style-type: none"> <li>• Play the Alignment tape (Colour bar)</li> </ul>
<b>Checking Procedure</b> <ol style="list-style-type: none"> <li>1) Check that locking time of the RF and Audio waveform is fallen within the measuring standard in conversion of the play mode from the CUE or the REV mode.</li> </ol>		<ol style="list-style-type: none"> <li>2) Readjust the paragraph 4.3.6 and 4.3.7 if it deviates from the standard.</li> </ol>	

##### 4.3.9.2 Check of Tape Curl and Jam Status

Fixtures and tools used	Fixtures and tools used	Fixtures and tools used
<ul style="list-style-type: none"> <li>• E-240 Tape</li> <li>• E-160 Tape</li> </ul>	<ul style="list-style-type: none"> <li>• There must be no jam or curl at the first, middle and end position of tape.</li> </ul>	<ul style="list-style-type: none"> <li>• Travel the tape at the position of its first and end.</li> </ul>
<b>Checking Procedure</b> <ol style="list-style-type: none"> <li>1) Check there is no abnormality of every traveling post status.</li> <li>2) There must be no abnormal operation of the counter in</li> </ol>		<ol style="list-style-type: none"> <li>occurrence of folding of the bottom tape. There must be not abnormality of audio signal in damage of the top tape.</li> <li>3) If there is abnormality, readjust the adjustment paragraph 4.3.5 and 4.3.6.</li> </ol>

#### 4.4 PROTECTION, MAINTENANCE AND CHECK OF VIDEO FUNCTION (VCR)

##### 4.4.1 Checking Points prior to Repair

Following abnormal phenomena may be repaired by removal of foreign materials and oil supply. Check oiling is required at the checking set or cleaning status is complete.

Determine that necessity of checking and repair the set exists after checking the using period of the set together with the user. In this case, followings must be checked:

Phenomena	Checking Points and Cause	Replacement
Color beat	Pollution of Full-Erase Head	○
S/N, Color Faded	Pollution of Video Head	○
Horizontal, Vertical Jitte	Pollution of Video Head or Tape Transport System	○
Poor Sound, Low Sound	Pollution of Audio/Control Head	○
No tape wound or tape wound loosely. FF or REW impossible, or slow turning	Pollution of Pinch Roller or Belt Capstan	○
Tape loosely wound in REV or Unloading	Deterioration of Clutch Assembly D37 Torque	○
	Pollution of Drum and Traveling Device	Fig. C-9-3

F/E Head

Video Head

A/C Head

Pinch Roller

Belt Capstan

Clutch Assembly A37

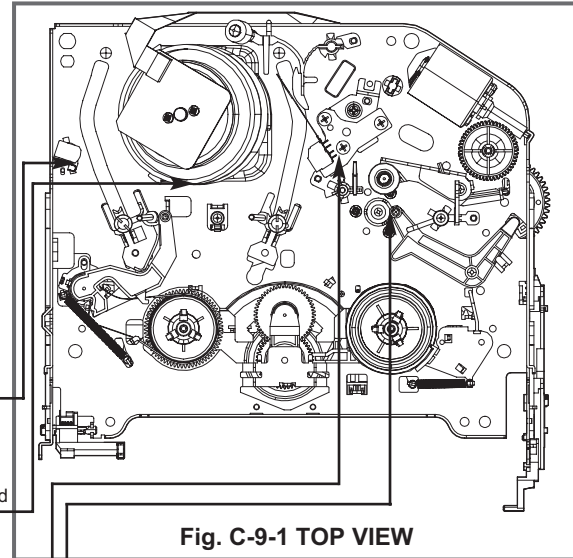


Fig. C-9-1 TOP VIEW

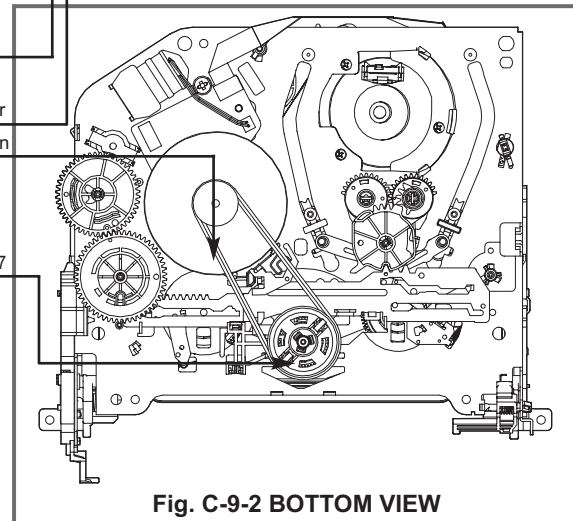


Fig. C-9-2 BOTTOM VIEW

#### CAUTIONS

If operation of the position with (O) mark is abnormal even after removing cause, replace it with substitute product since it shows damage or wearing.

\* No. (1) ~ (12) shows sequence that the tape moves from the supply reel to the take-up reel.)

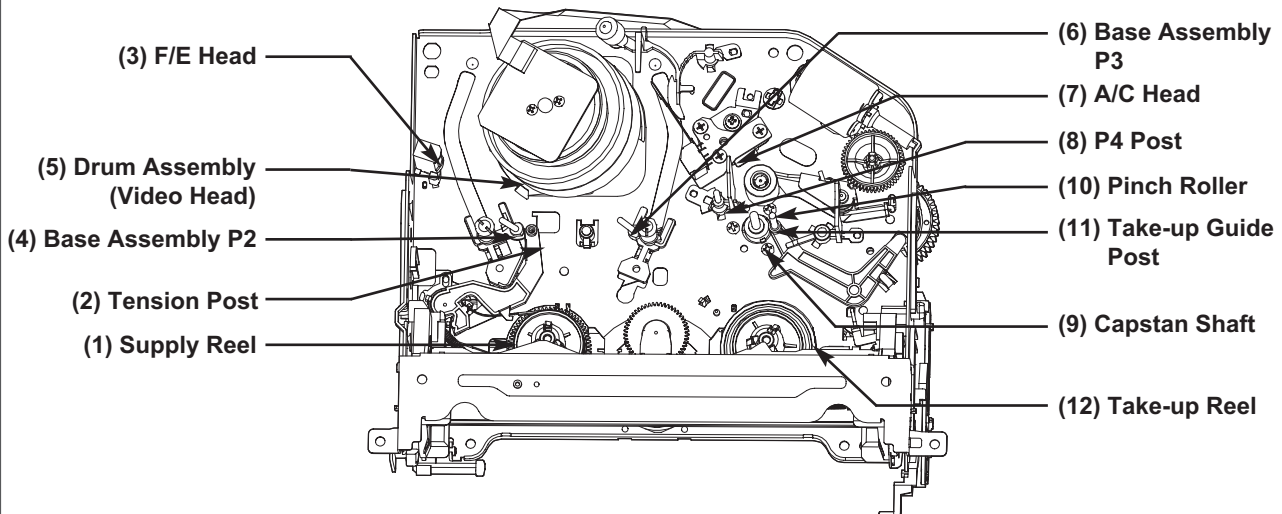


Fig. C-9-3 Tape Transport System

#### 4.4.2 Essential Check and Repair

Recording density of the video is far higher than the audio. Therefore video parts are very precise so as to allow only error of 1/1000mm or so in order to maintain compatibility with other videos.

If one of these parts is polluted or old, same phenomena will appear as they are damaged.

To maintain clear screen, regular check, replacement of old and damaged parts and oil supply, etc are essential.

#### 4.4.3 Regular Check and Repair

Check and repair schedule is not constant since they vary depending on method that the consumer uses video and environment where the video is installed at.

However, for the video used by common household, good screen will be maintained if regular check and repair per 1,000 hour is performed. The following chart shows relationship between using time and checking time:

Time Requiring Checking	About 1 year	About 18 months	About 3 years
Average hours used per day	▲	▲	▲
One hour	[Bar chart showing increasing frequency]		
Two hours	[Bar chart showing increasing frequency]		
Three hours	[Bar chart showing increasing frequency]		

#### 4.4.4 Tools for Check and Repair

- (1) Grease: Floil G-3114 (KANTO) or equivalent grease (Green)
- (2) Grease: Kanto G-754, PL-433 (Yellow)
- (3) Alcohol (Isopropyl Alcohol)
- (4) Cleaning Patch (cloth)

#### 4.4.5 Maintenance Process

##### 4.4.5.1 Removal of Foreign Material

- (1) Removal of foreign material from video head (Fig. C-9-4)
  - Firstly try to use a cleaning tape.
  - Use a cleaning patch if foreign materials are not removed with the cleaning tape due to severe dirty of the head.
  - Soak the cleaning patch in alcohol and put it to the head tip.
  - Smoothly turn the drum (turning cylinder) to the right or left (In this case, the cleaning patch must not be moved vertically).
  - After completely drying the head, test the traveling status of the tape.
  - If alcohol (Isopropyl Alcohol) remains at the video head, the tape may be damaged when this solution touches with the head surface.

**Never use a cloth bar (commercial sale)**

- (2) Wipe the tape transport system and the drive system with the cleaning patch soaked in alcohol (Isopropyl Alcohol) when removing foreign materials from them.
  - 1) The part touched with the traveling tape is called as tape transport system. The drive system consists of parts to travel the tape.
  - 2) Care must be exercised so that unreasonable force to change the pattern will be applied to the tape transport system during removal of foreign materials.

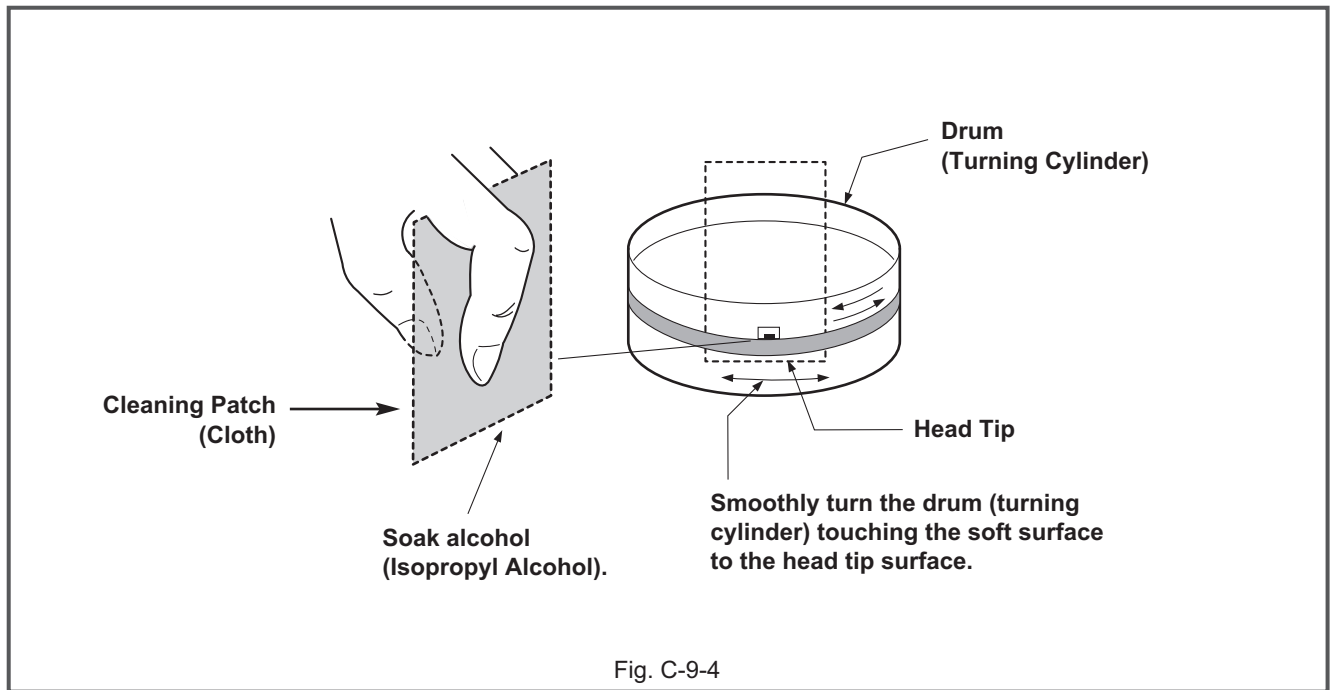


Fig. C-9-4

### 4.4.5.2 Grease Applications

#### (1) Grease Application Method

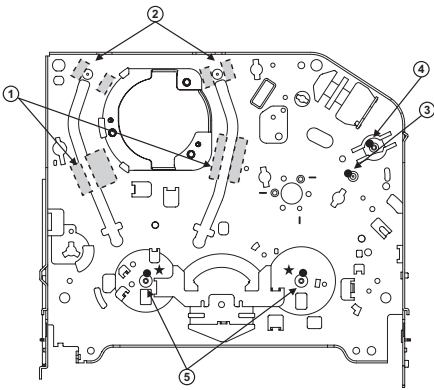
Apply grease by using a cloth swab or brush. Care must be exercised so that excess quantity should not be used. If the excessive quantity is applied, wipe it with the gauze soaked in alcohol (Isopropyl Alcohol).

#### (2) Regular Grease Application

Apply grease to the designated application position every 500 hour.

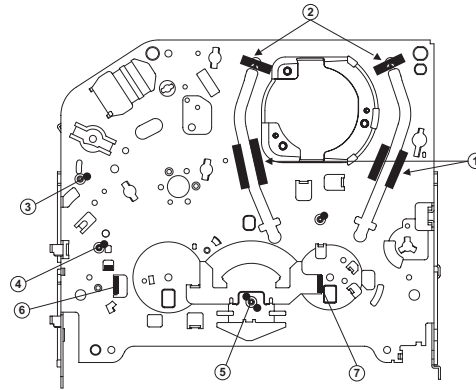
#### NOTE: POSITION OF GREASE APPLICATION

- |  |                                  |
|--|----------------------------------|
| (1) Inner Side Surface and Top Surface of Loading Path | (4) Gear Wheel Shaft             |
| (2) Stable Adhesion Part of Base P2, P3                | (5) Reel S. T. Shaft             |
| (3) Arm Pinch Shaft                                    | (1) (2) (3) (4): KG-684G (Green) |
|  | (5): PL-433 (Yellow)             |



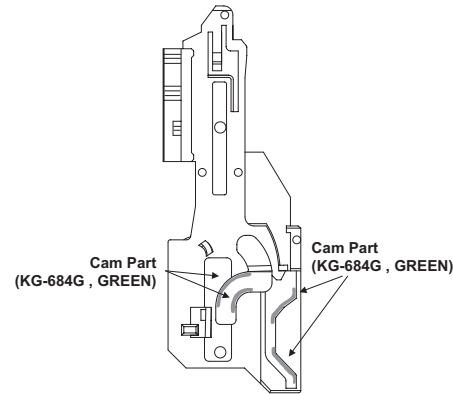
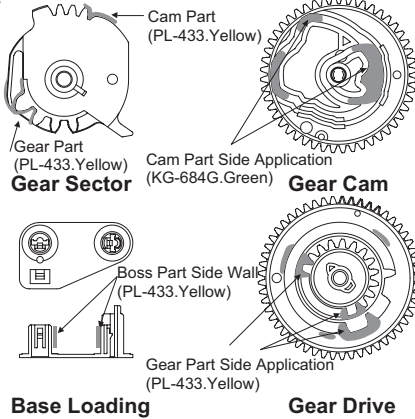
**Chassis (TOP)**

- |  |  |
|--|--|
| (1) Inner Side Surface and Top Surface of Loading Path | (6) Guide Part on the Plate Slider Side Wall (Left)  |
| (2) Stable Adhesion Part of Base P2, P3 Coil           | (7) Guide Part on the Plate Slider Side Wall (Right) |
| (3) Gear Cam Shaft                                     | (1) (2) (3) (4) (5) (6) (7): KG-684G (Green)         |
| (4) Gear Drive Shaft                                   |  |
| (5) Clutch Shaft Groove                                |  |

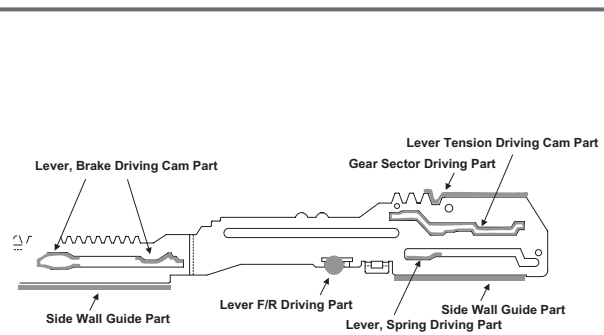
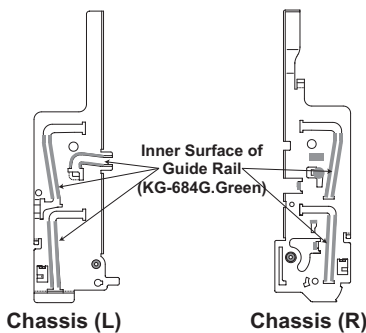


**Chassis (Bottom)**

#### Gear Part

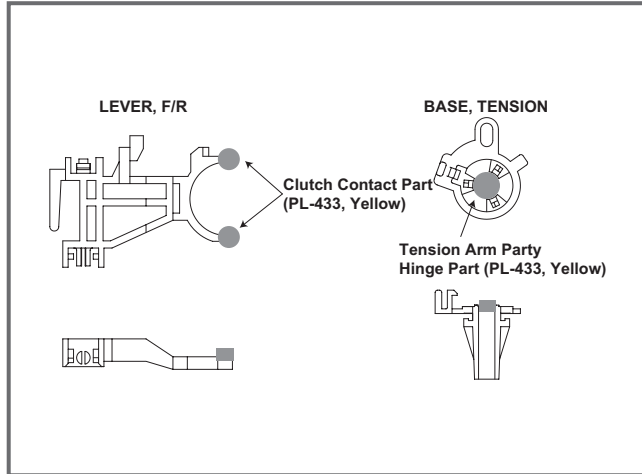


**Gear Rack F/L**

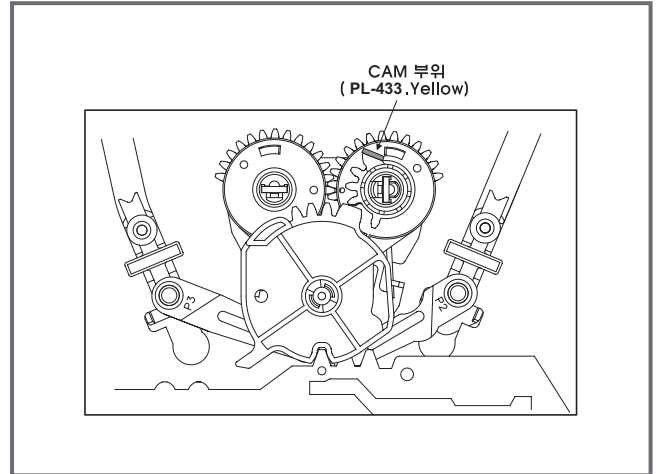


**Plate Slider**

### Lever, F/R, Base, Tension



### GEAR AY, P2 & P3



## 4.5 ELECTRICAL ADJUSTMENT PROCEDURES (VCR)

### 4.5.1 Servo Adjustment

- 1) PG Adjustment
  - Test Equipment

a) OSCILLOSCOPE	b) Alignment tape (SP, stairstep)
-----------------	-----------------------------------

- Adjustment And Specification

MODE	MEASUREMENT POINT	ADJUSTMENT POINT	SPECIFICATION
PLAY	V.Out H/SW(TP)	R/C TRK JIG KEY	$6.5 \pm 0.5H$

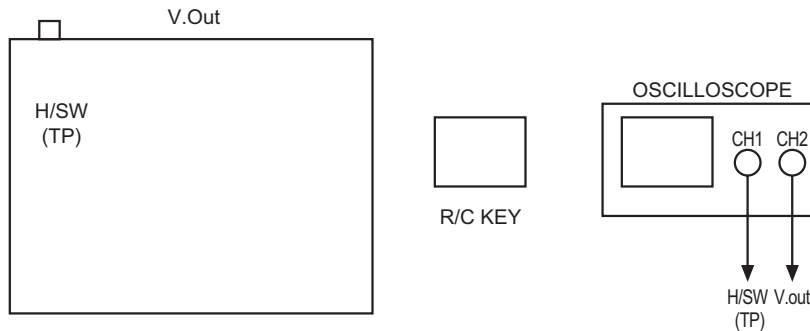
#### ▪ Adjustment Procedure

- a) Insert the Alignment Tape and play.  
 Note - Adjust the distance of X, pressing the Tracking(+) or Tracking(-) when the "ATR" is blink after the Alignment Tape is inserted.
- b) Connect the CH1 of the oscilloscope to the H/SW(TP) and CH2 to the Video Out for the VCR.
- c) Trigger the mixed Combo Video Signal of CH2 to the CH1 H/SW(TP) and then check the distance (time difference), which is from the selected A(B) Head point of the H/SW(TP) signal to the starting point of the vertical synchronized signal, to  $6.5H \pm 0.5H$  ( $412\mu s$ ,  $1H=63\mu s$ ).

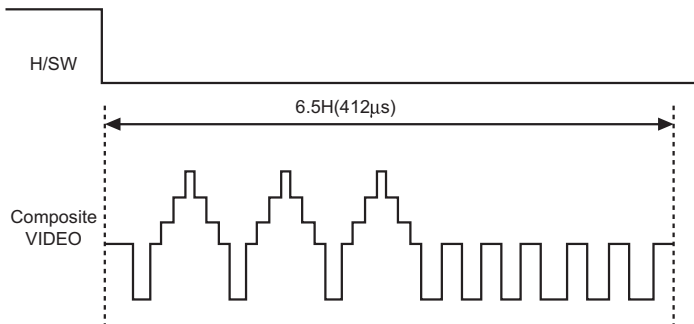
#### ▪ PG Adjustment Method

- a-1) Playback the Alignment tape
- b-2) Press the "OK(ENTER)" key on the Remote controller and the "REC" key on the Front Panel the same time, then it goes in to Tracking initial mode.
- c-3) Repeat the above step(No.b-2), then it finishes the PG adjusting automatically.
- d-4) Stop the playback, then it goes out to PG adjusting mode after many the PG data.

#### ▪ CONNECTION



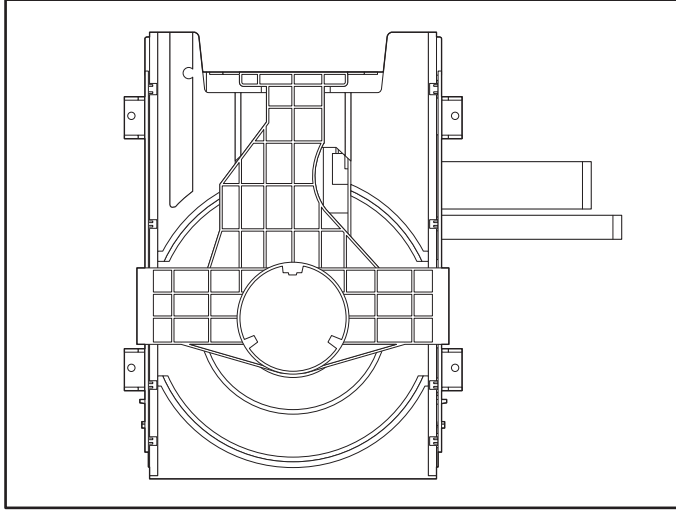
#### ▪ WAVEFORM



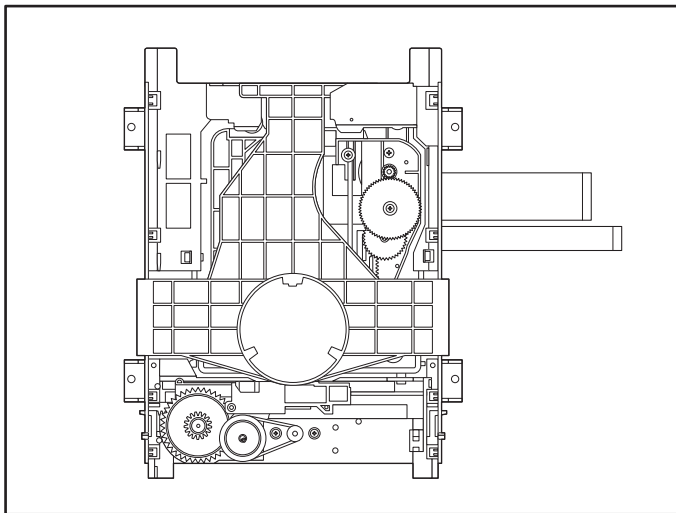


#### 4.6 DECK MECHANISM PARTS LOCATION (DVD)

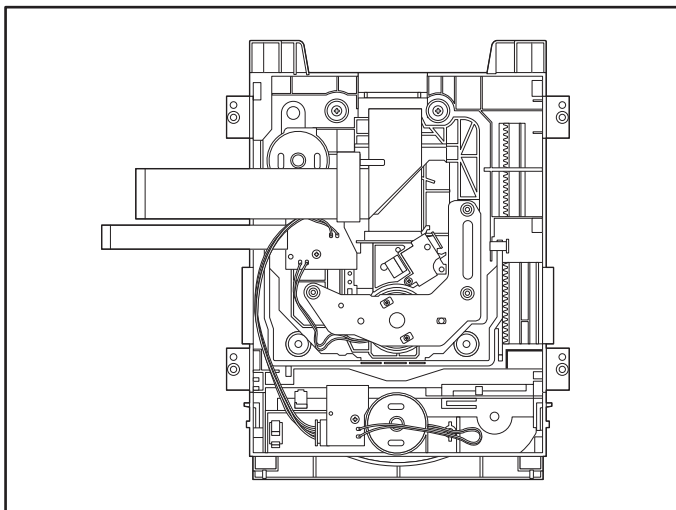
##### Top View (With Tray)



##### Top View (Without Tray)



##### Bottom View



Procedure Starting No.	Parts	Fixing Type	Disassembly	Figure
1	Main Base			5-1
1	Clamp Assembly Disc			5-1
1, 2	Plate Clamp			5-1
1, 2, 3	Magnet Clamp			5-1
1, 2, 3, 4	Clamp Upper			5-1
1	Tray Disc			5-2
1, 6	Base Assembly Sled			5-3
1, 2, 6	Gear Feed	4 Screws, 1 Connector 1 Locking Tabs		5-3
1, 2, 6, 8	Gear Middle			5-3
1, 2, 6, 8, 9	Gear Rack	1 Screw		5-3
1, 2, 7	Rubber Rear			5-3
1, 2, 7	Frame Assembly Up/Down	1 Screw	Bottom	5-4
1, 2	Belt Loading	1 Locking Tab		5-4
1, 2, 13	Gear Pulley			5-4
1, 2, 13, 14	Gear Loading	1 Locking Tab		5-4
1, 2, 7, 12, 13, 14	Guide Up/Down			5-4
1, 2, 13	PWB Assembly Loading	1 Locking Tab 1 Hook 2Screw	Bottom	5-4
1, 2, 7, 12, 13, 14, 15, 16, 17	Base Main	2 Locking Tabs		5-4

##### Note

When reassembling, perform the procedure in reverse order.

The "Bottom" on Disassembly column of above Table indicates the part should be disassembled at the Bottom side.

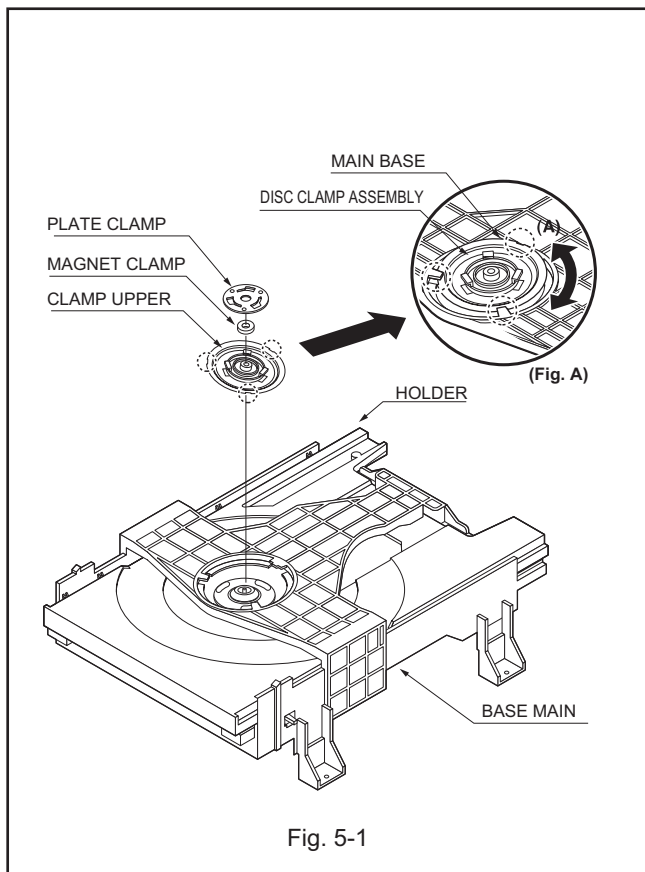


Fig. 5-1

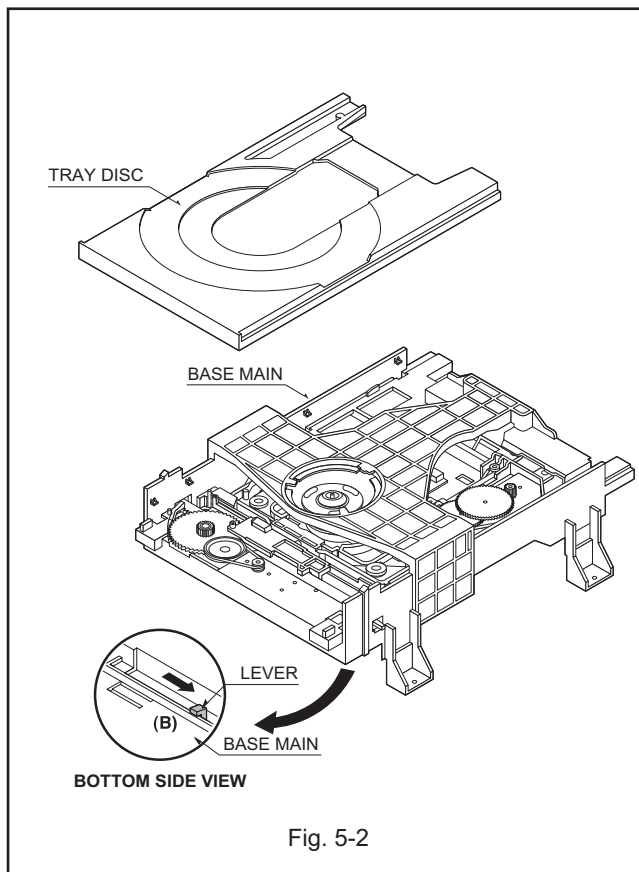


Fig. 5-2

## 1. Main Base (Fig. 5-1)

### 1-1. Clamp Assembly Disc

- 1) Place the Clamp Assembly Disc as Fig. (A)
- 2) Lift up the Clamp Assembly Disc in direction of arrow(A).
- 3) Separate the Clamp Assembly Disc from the Holder Clamp.

### 1-1-1. Plate Clamp

- 1) Turn the Plate Clamp to counterclockwise direction and then lift up the Plate Clamp.

### 1-1-2. Magnet Clamp

### 1-1-3. Clamp Upper

## 2. Tray Disc (Fig. 5-2)

- 1) Insert and push a Driver in the emergency eject hole(A) at the right side, or put the Driver on the Lever(B) of the Gear Emergency and pull the Lever(B) in direction of arrow so that the Tray Disc is ejected about 15~20mm.
- 2) Pull the Tray Disc until it is separated from the Base Main completely.

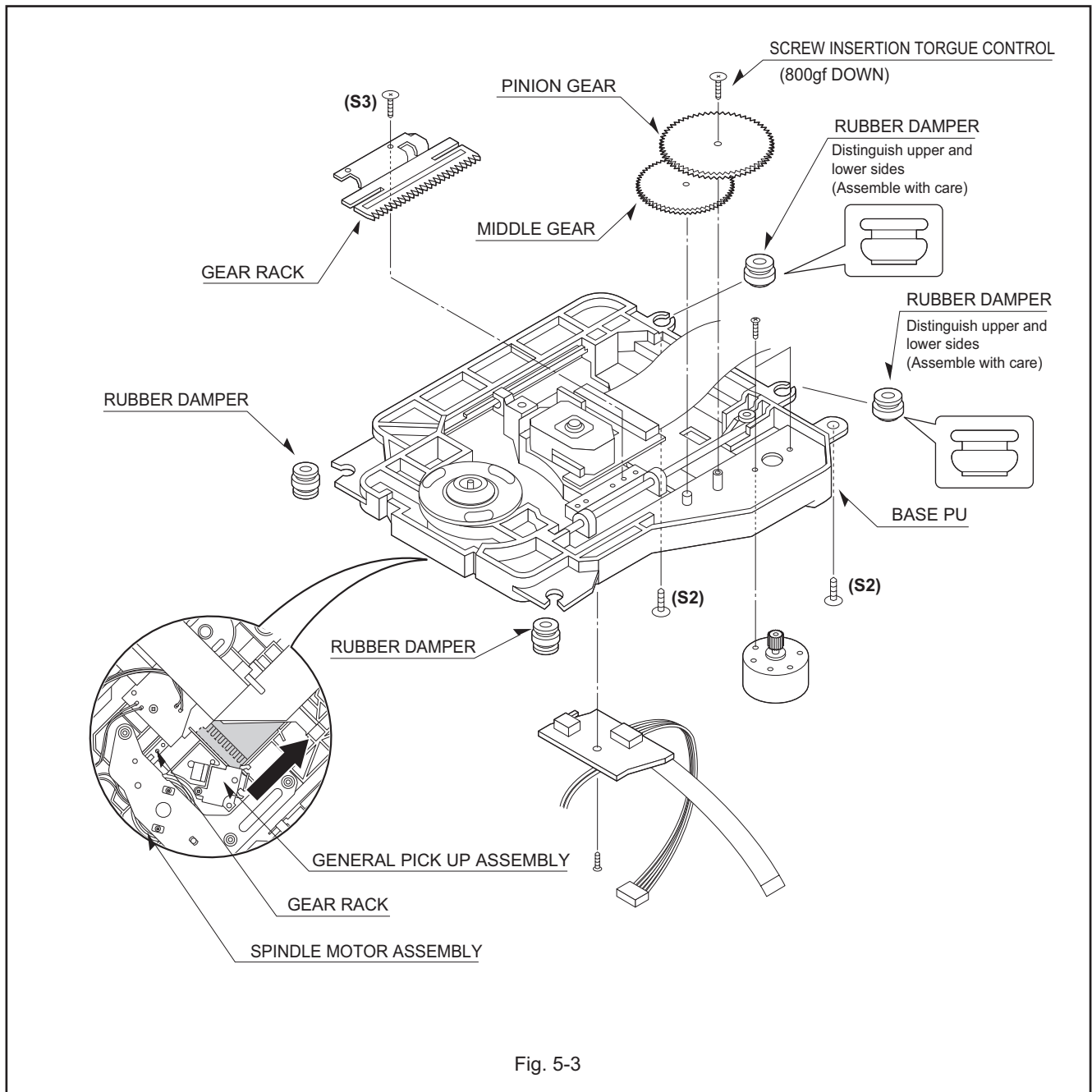


Fig. 5-3

**3. Base Assembly Sled (Fig. 5-3)**

- 1) Release 4 Screw(S2).
- 2) Disconnect the FFC Connector(C1)

**3-1. Gear Feed**

**3-2. Gear Middle**

**3-3. Gear Rack**

- 1) Release the Screw(S3)

**4. Rubber Rear (Fig. 5-3)**

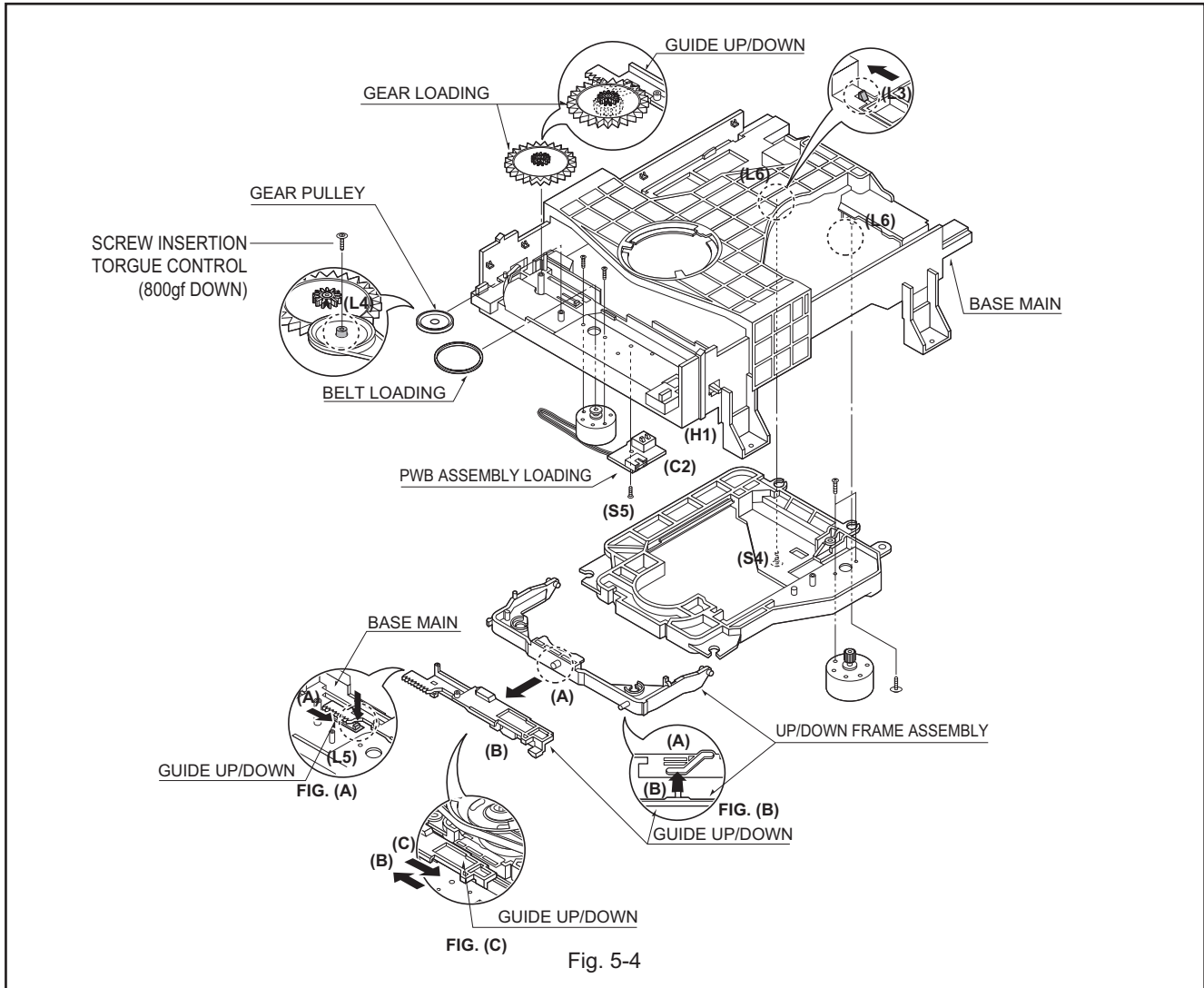


Fig. 5-4

**5. Frame Assembly Up/Down (Fig. 5-4)**

**Note**

Put the Base Main face down(Bottom Side)

- 1) Release the screw(S4)
- 2) Unlock the Locking Tab(L3) in direction of arrow and then lift up the Frame Assembly Up/Down to separate it from the Base Main.

**Note**

- When reassembling move the Guide Up/Down in direction of arrow(C) until it is positioned as Fig.(C).
- When reassembling insert (A) portion of the Frame Assembly Up/Down in the (B) portion of the Guide Up/Down as Fig.(B)

**6. Belt Loading(Fig. 5-4)**

**Note**

Put the Base Main on original position(Top Side)

**7. Gear pulley (Fig. 5-4)**

- 1) Unlock the Locking Tab(L4) in direction of arrow(B) and then separate the Gear Pulley from the Base Main.

**8. Gear Loading (Fig. 5-4)**

**9. Guide Up/Down (Fig. 5-4)**

- 1) Move the Guide Up/Down in direction of arrow(A) as Fig.(A)
- 2) Push the Locking Tab(L5) down and then lift up the Guide Up/Down to separate it from the Base Main.

**Note**

When reassembling place the Guide Up/Down as Fig.(C) and move it in direction arrow(B) until it is locked by the Locking Tab(L5). And confirm the Guide Up/Down as Fig.(A)

**10. PWB Assembly Loading (Fig. 5-4)**

**Note**

Put the Base Main face down(Bottom Side)

- 1) Release 1 Screws(S5)
- 2) Unlock the Loading Motor (C2) from the Hook (H1) on the Base Main.
- 3) Unlock 2 Locking Tabs(L6) and separate the PWB Assembly Loading from the Base Main.

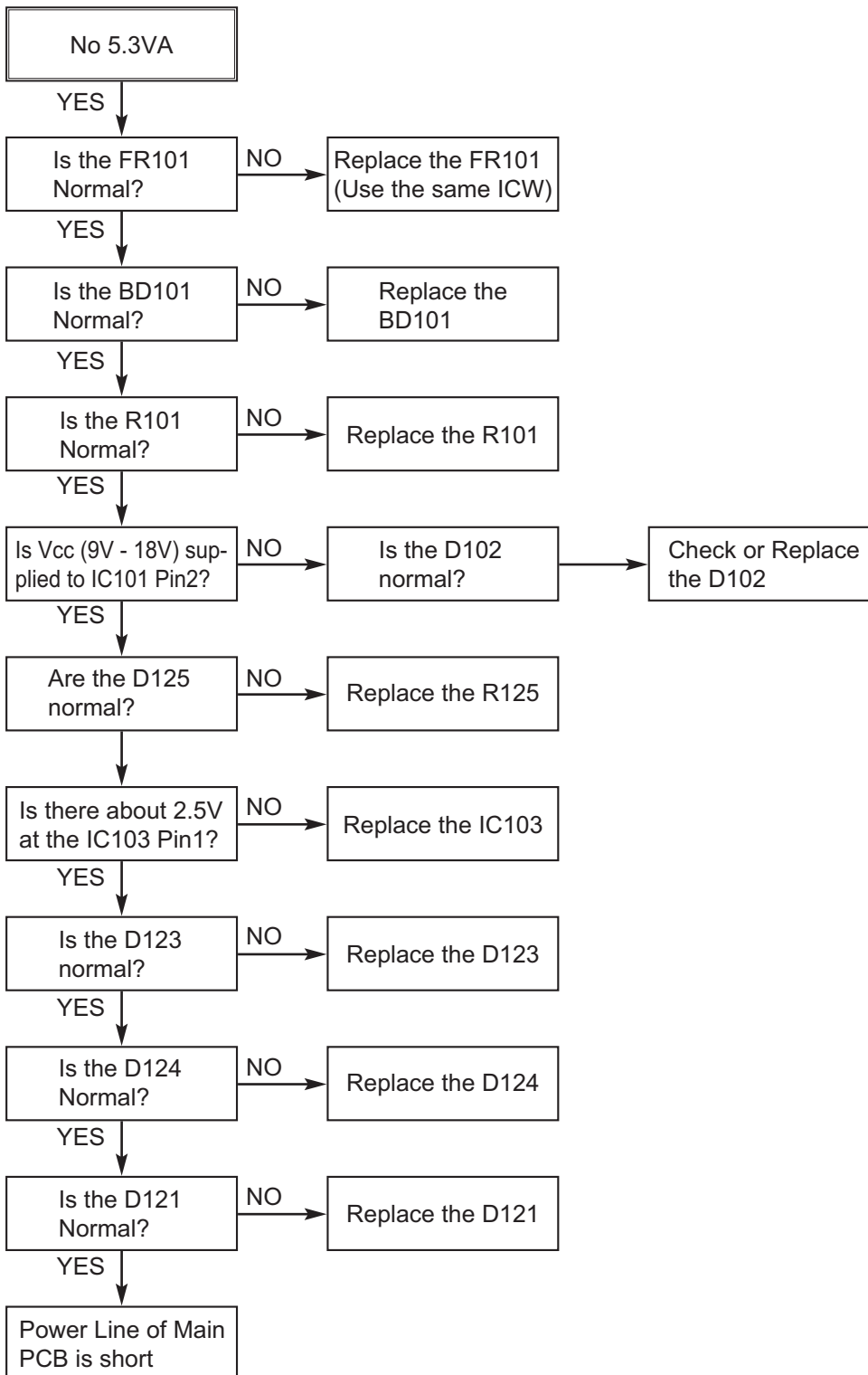
**11. Base Main(Fig. 5-4)**

# SECTION 5 TROUBLESHOOTING

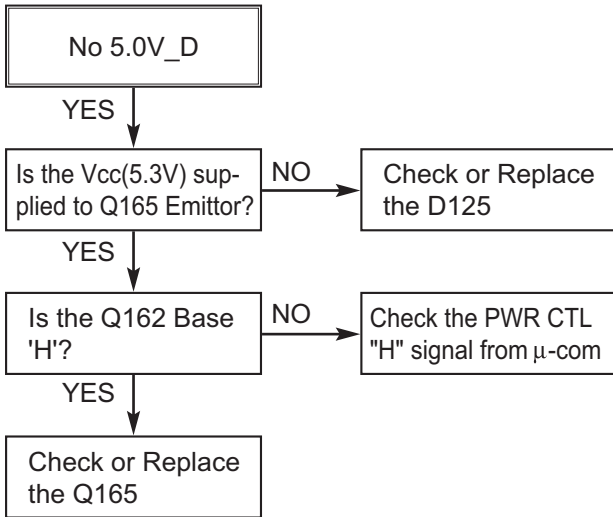
## 5.1 ELECTRICAL TROUBLESHOOTING GUIDE (VCR PART)

### 5.1.1 Power(SMPS) CIRCUIT

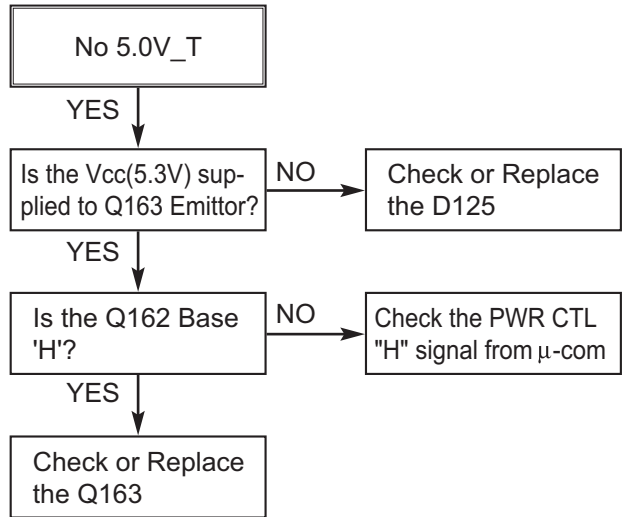
(1) No 5.3VA



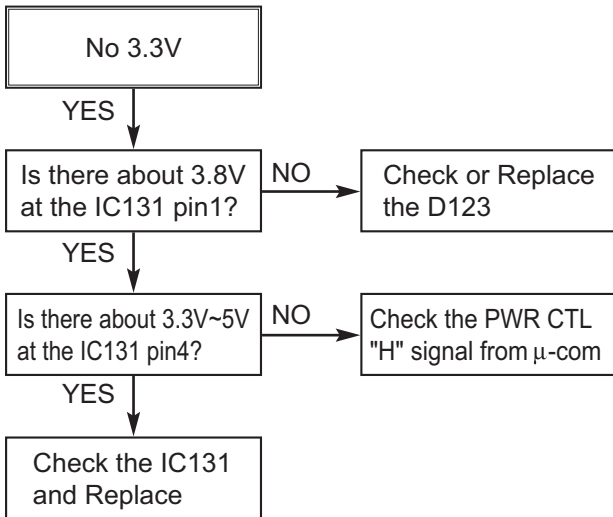
(2) No 5.0V\_D



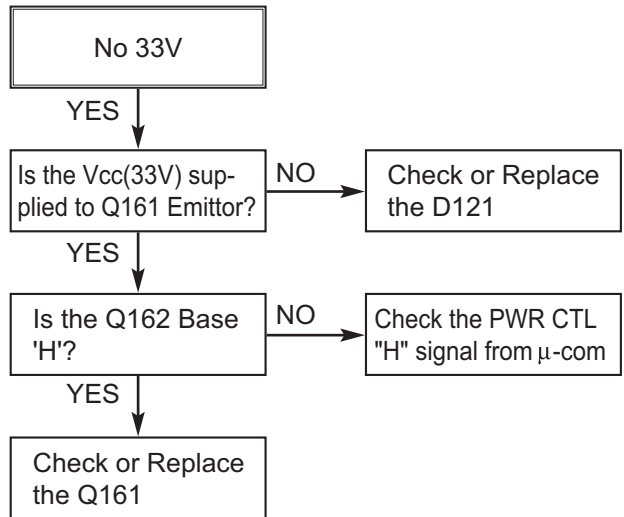
(3) No 5.0V\_T



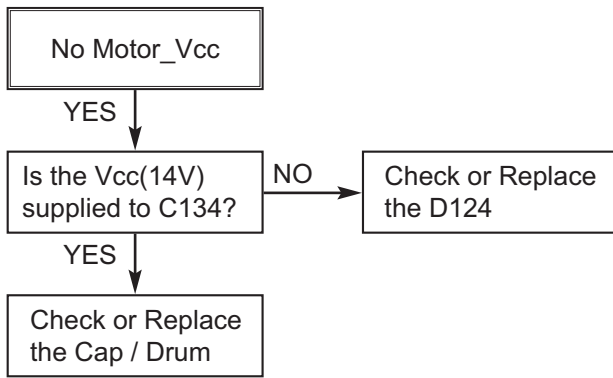
(4) No 3.3V



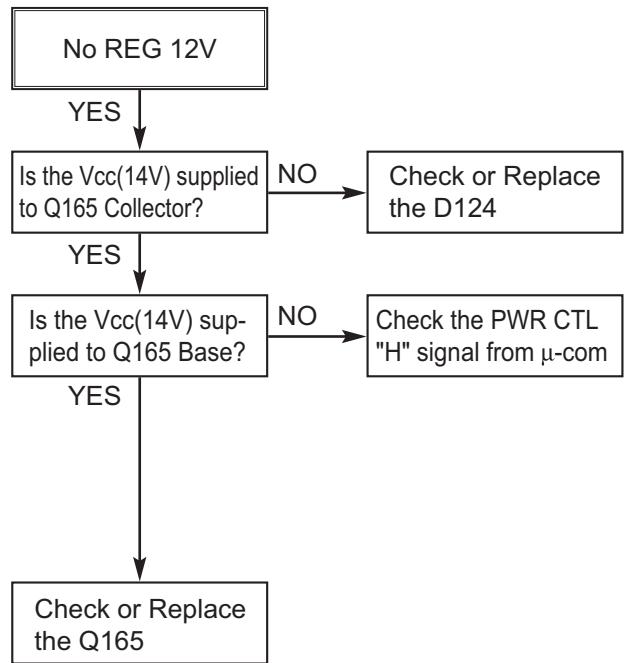
(5) No 33V



(6) No Motor\_Vcc (To Cap, Drum Motor )

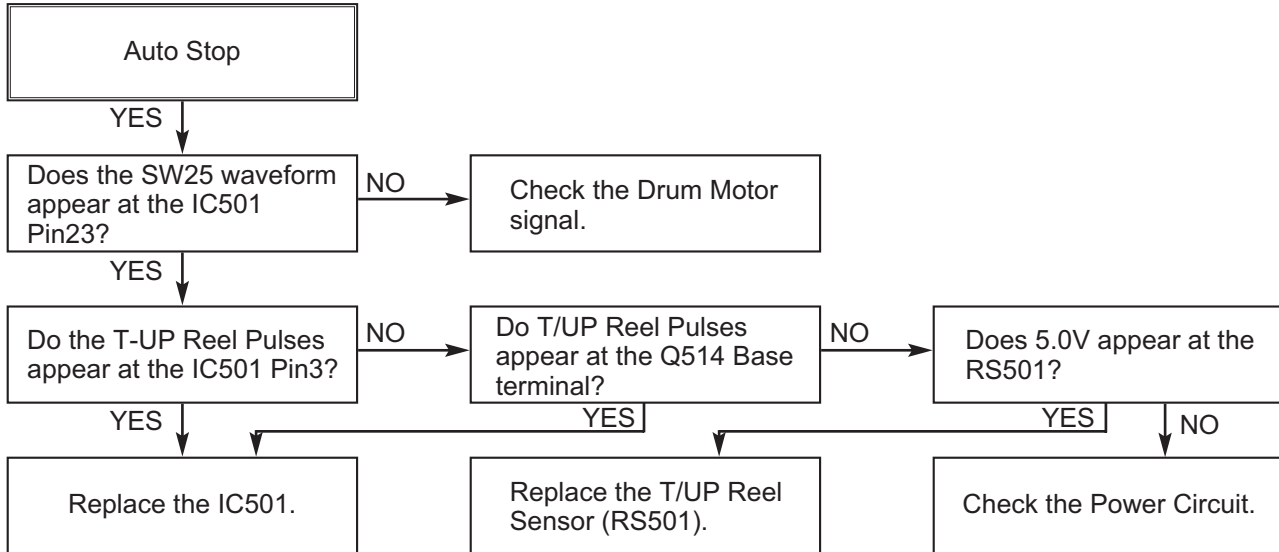


(7) No REG 12V

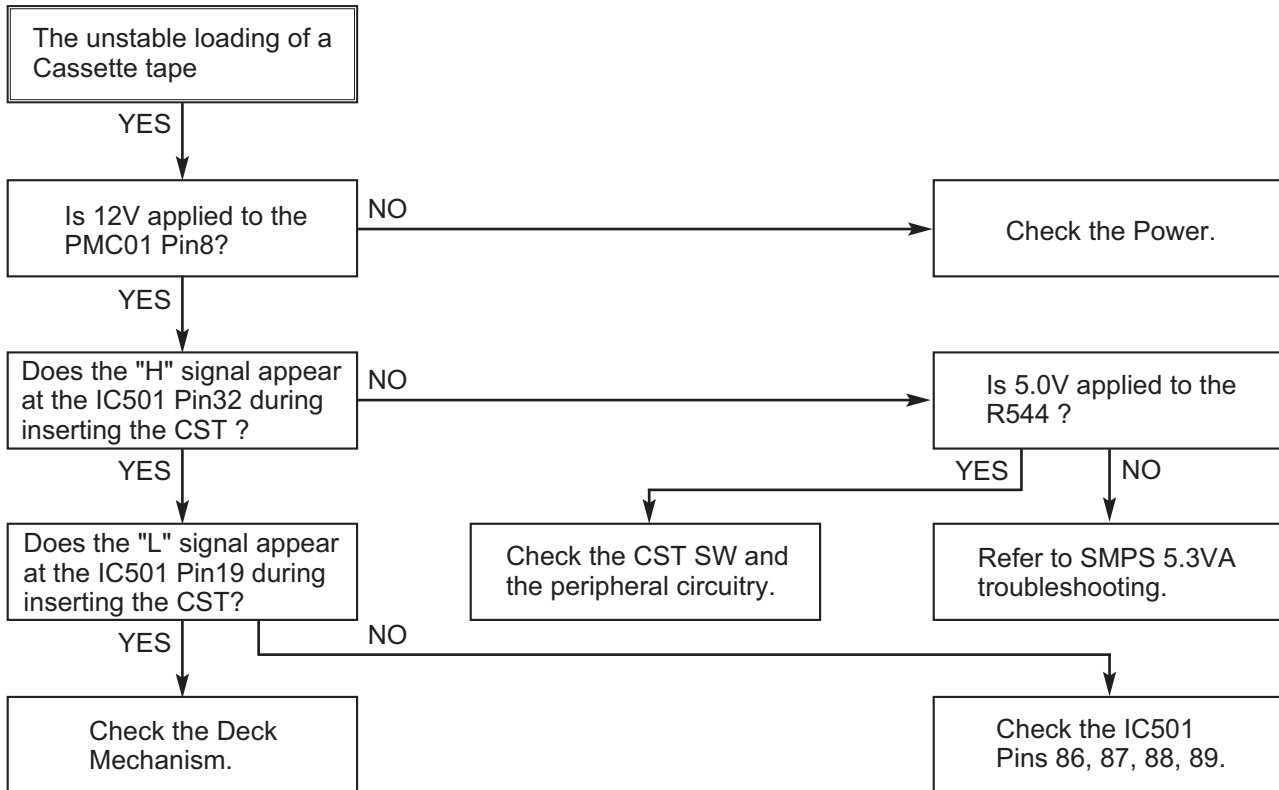


## 5.1.2 SYSTEM/KEY CIRCUIT

### (1) AUTO STOP



### (2) The unstable loading of a Cassette tape

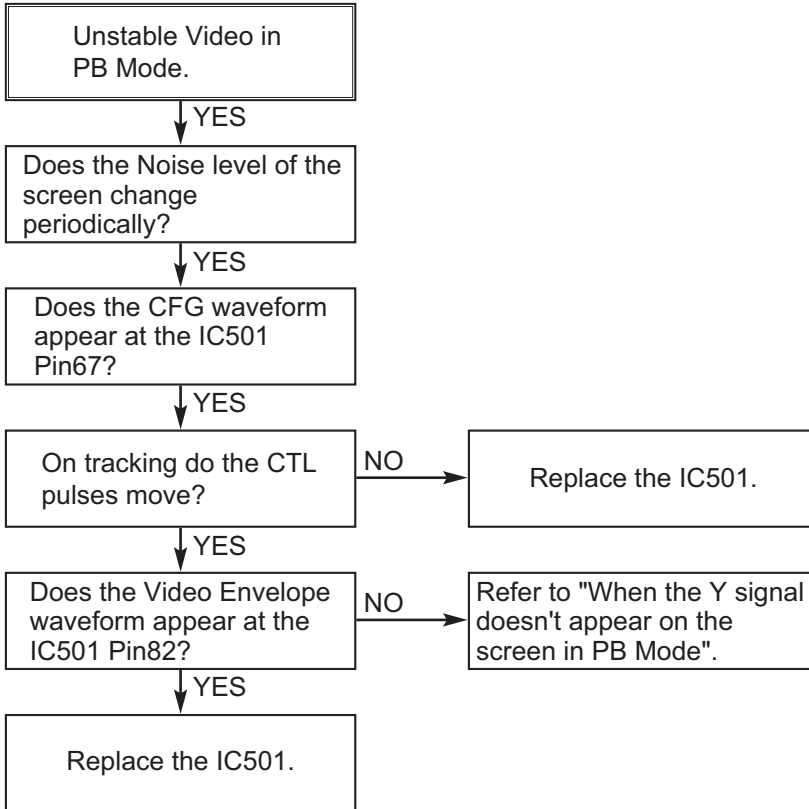


**Caution :** Auto stop can occur because Grease or Oil is dried up

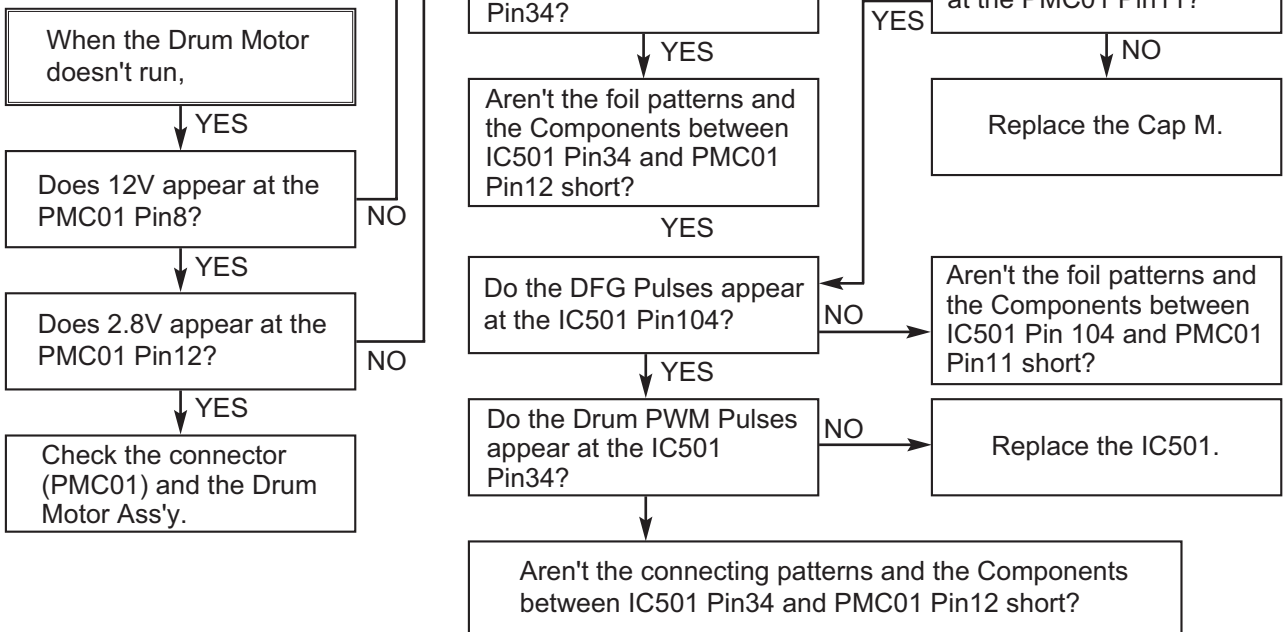


**5.1.3 SERVO CIRCUIT**

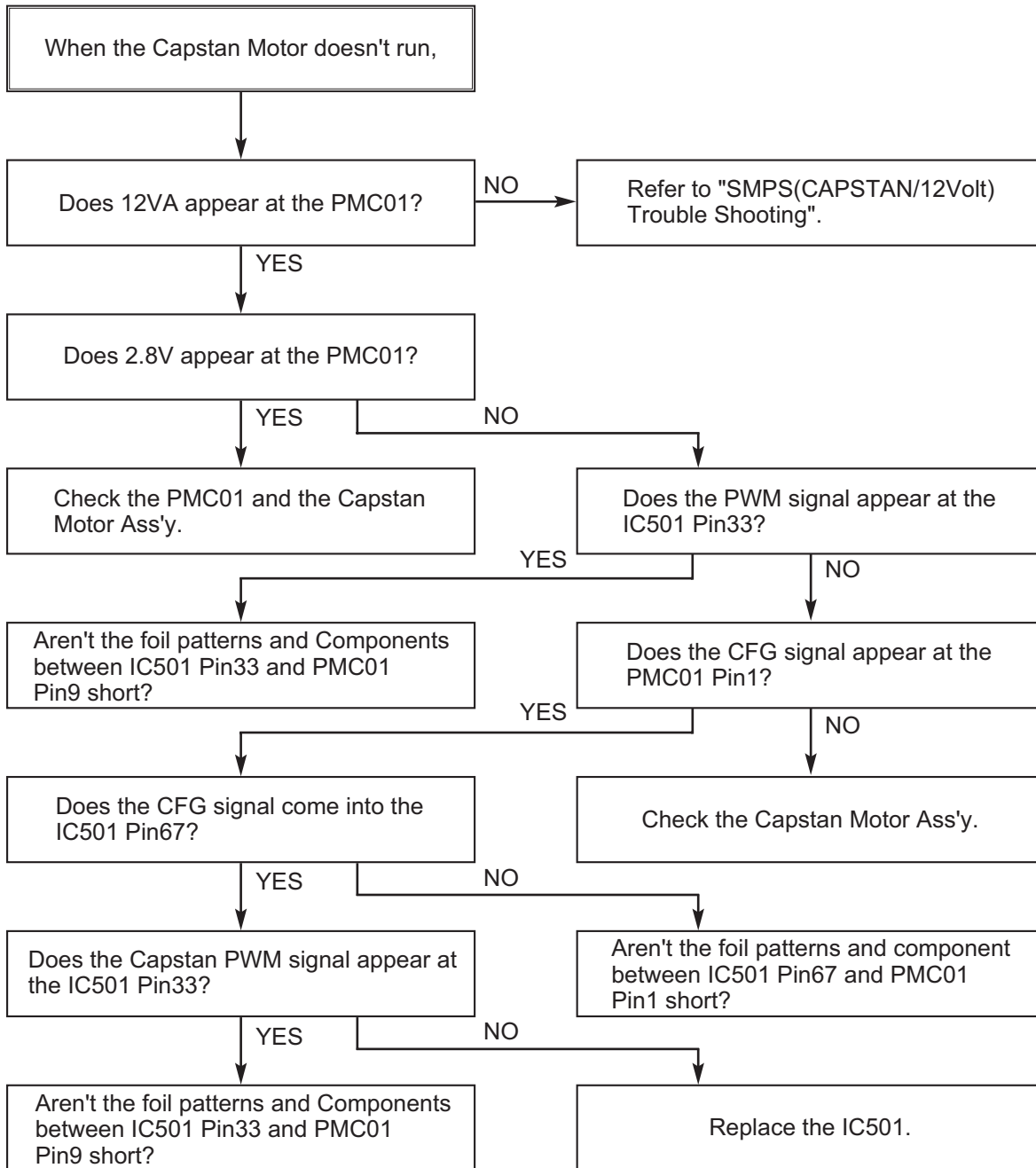
(1) Unstable Video in PB MODE



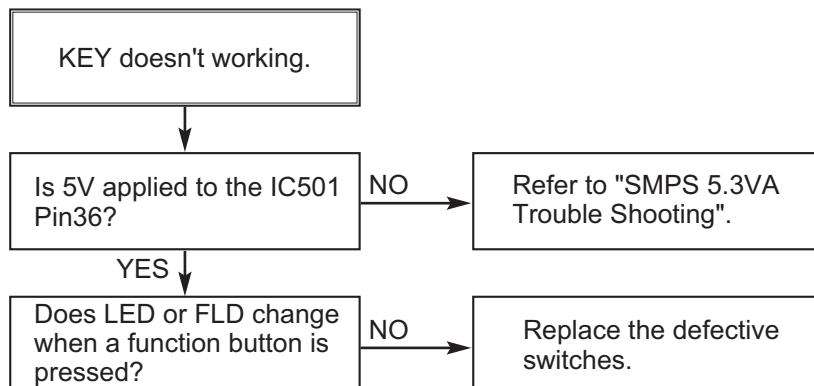
(2) When the Drum Motor doesn't run.



(3) When the Capstan Motor doesn't run,

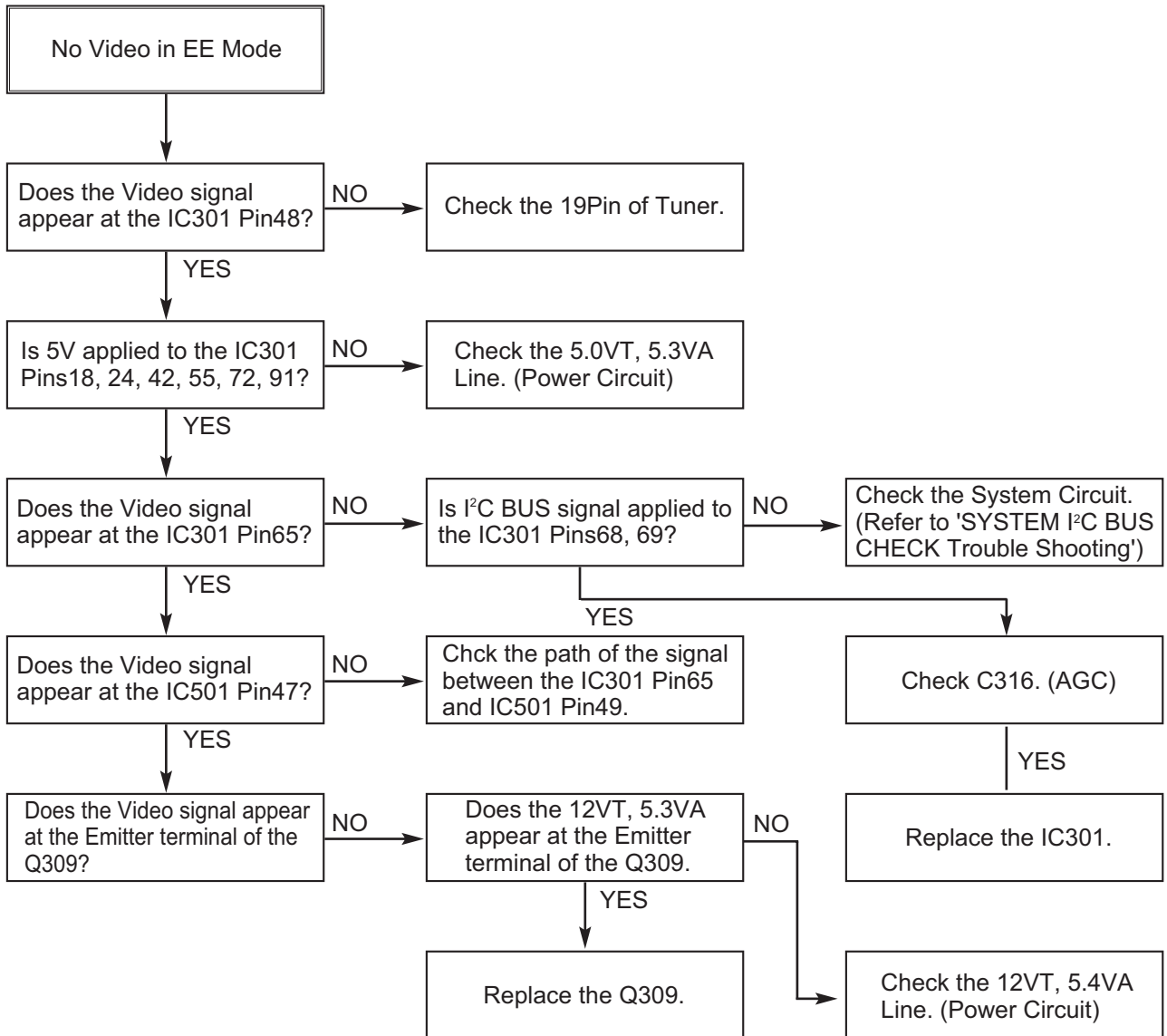


(4) KEY doesn't working

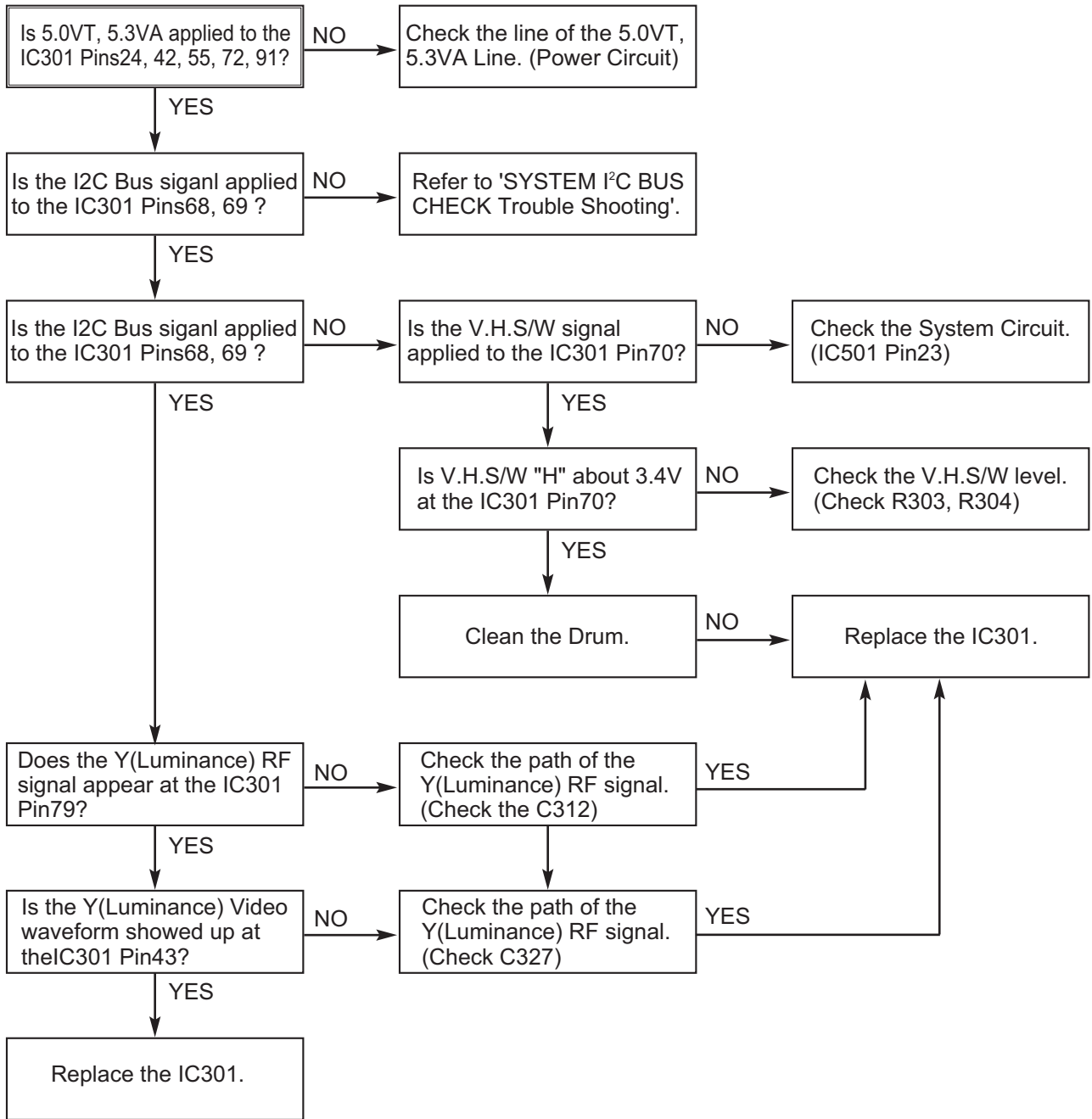


### 5.1.4 Y/C CIRCUIT

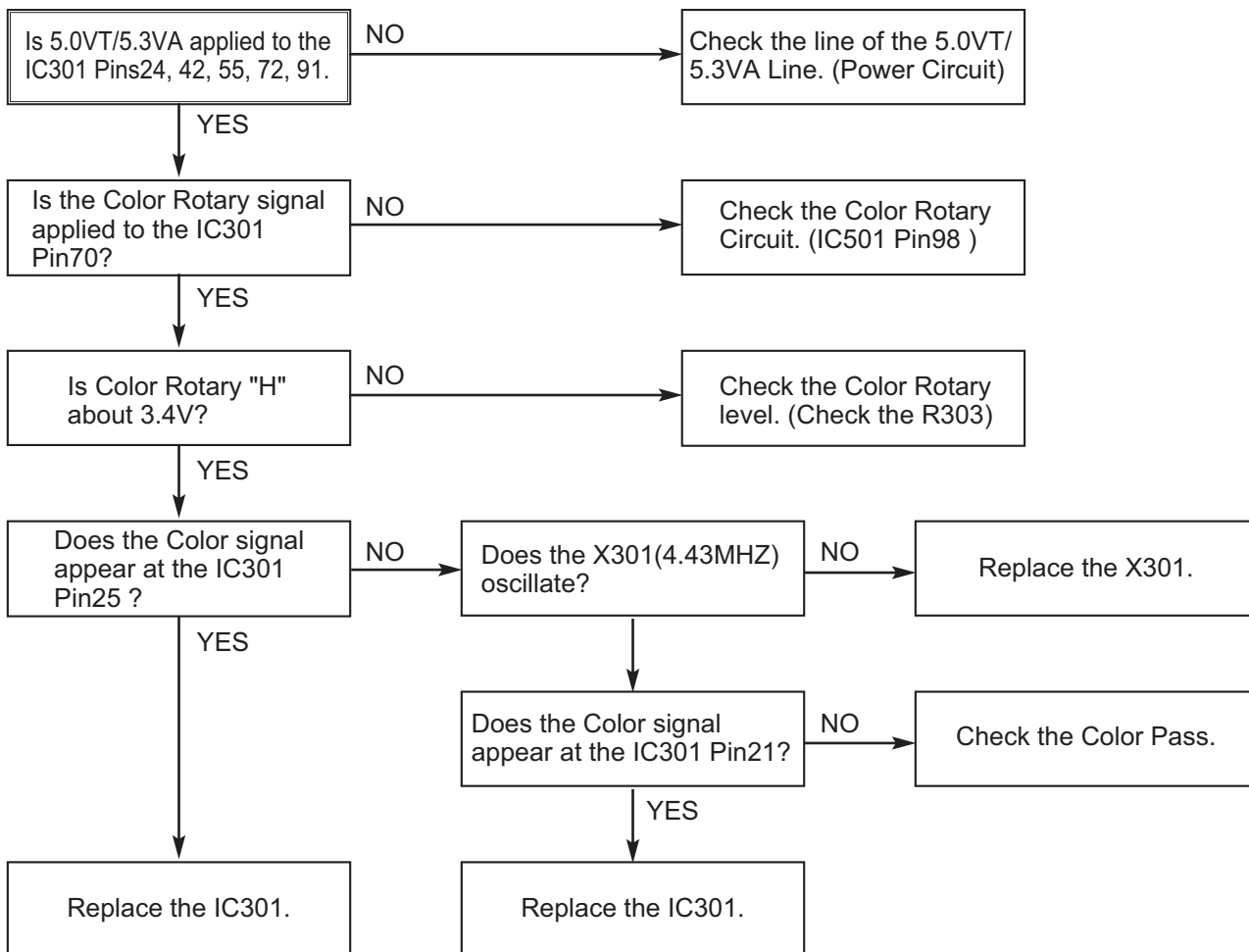
(1) No Video in EE Mode,



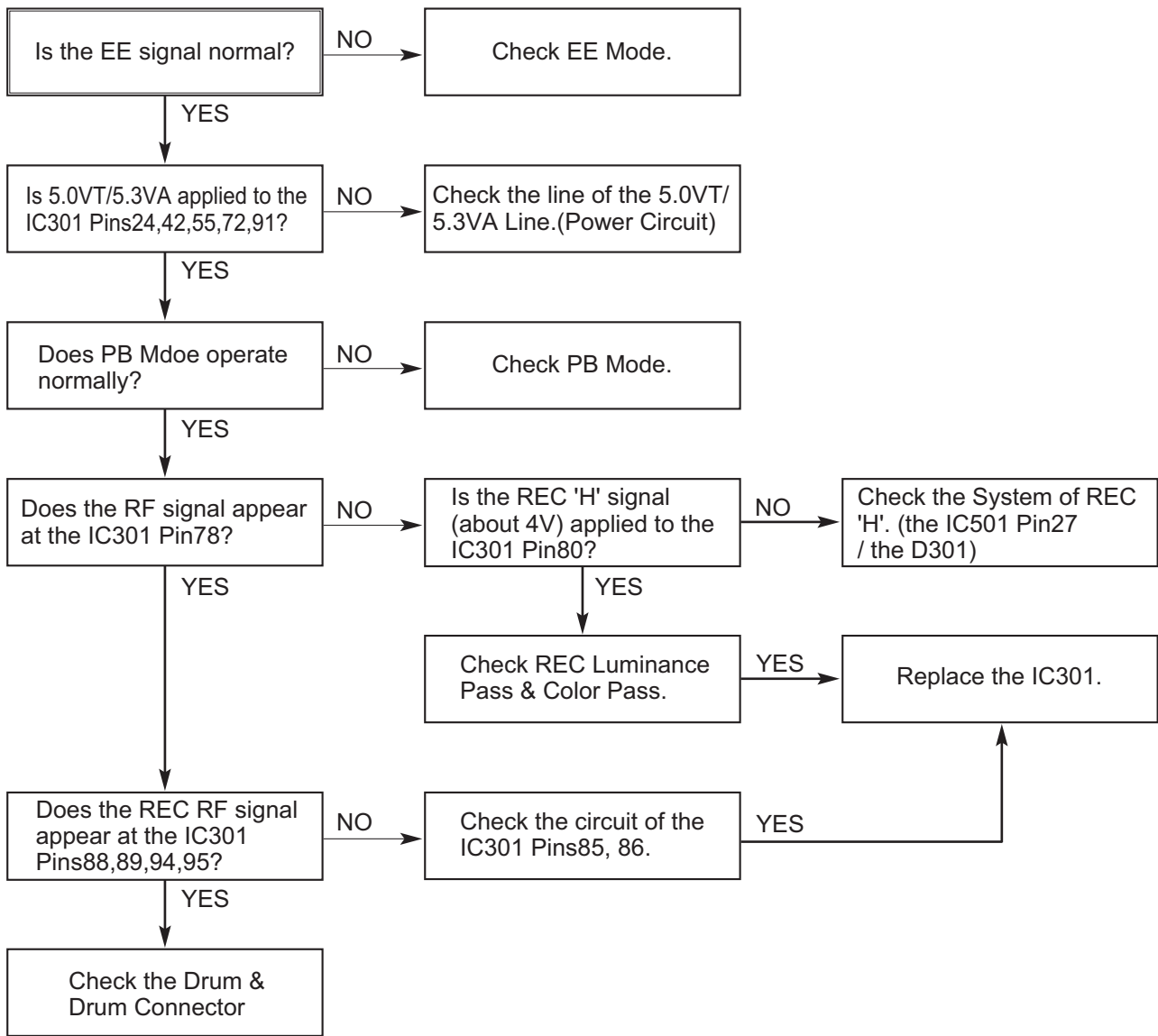
(2) When the Y(Luminance) signal doesn't appear on the screen in PB Mode,



(3) When the C(Color) signal doesn't appear on the screen in PB Mode,

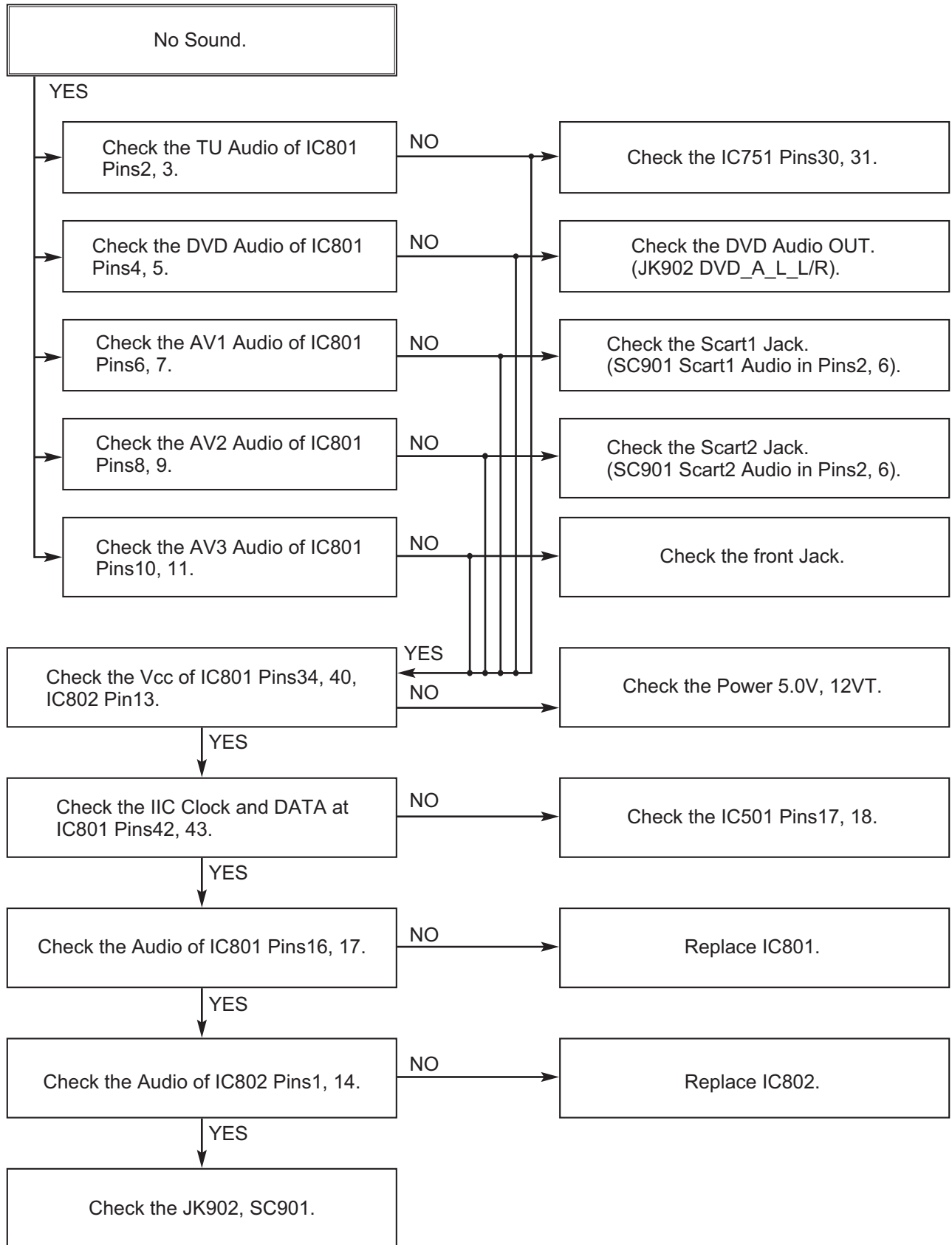


(4) When the Video signal doesn't appear on the screen in REC Mode,

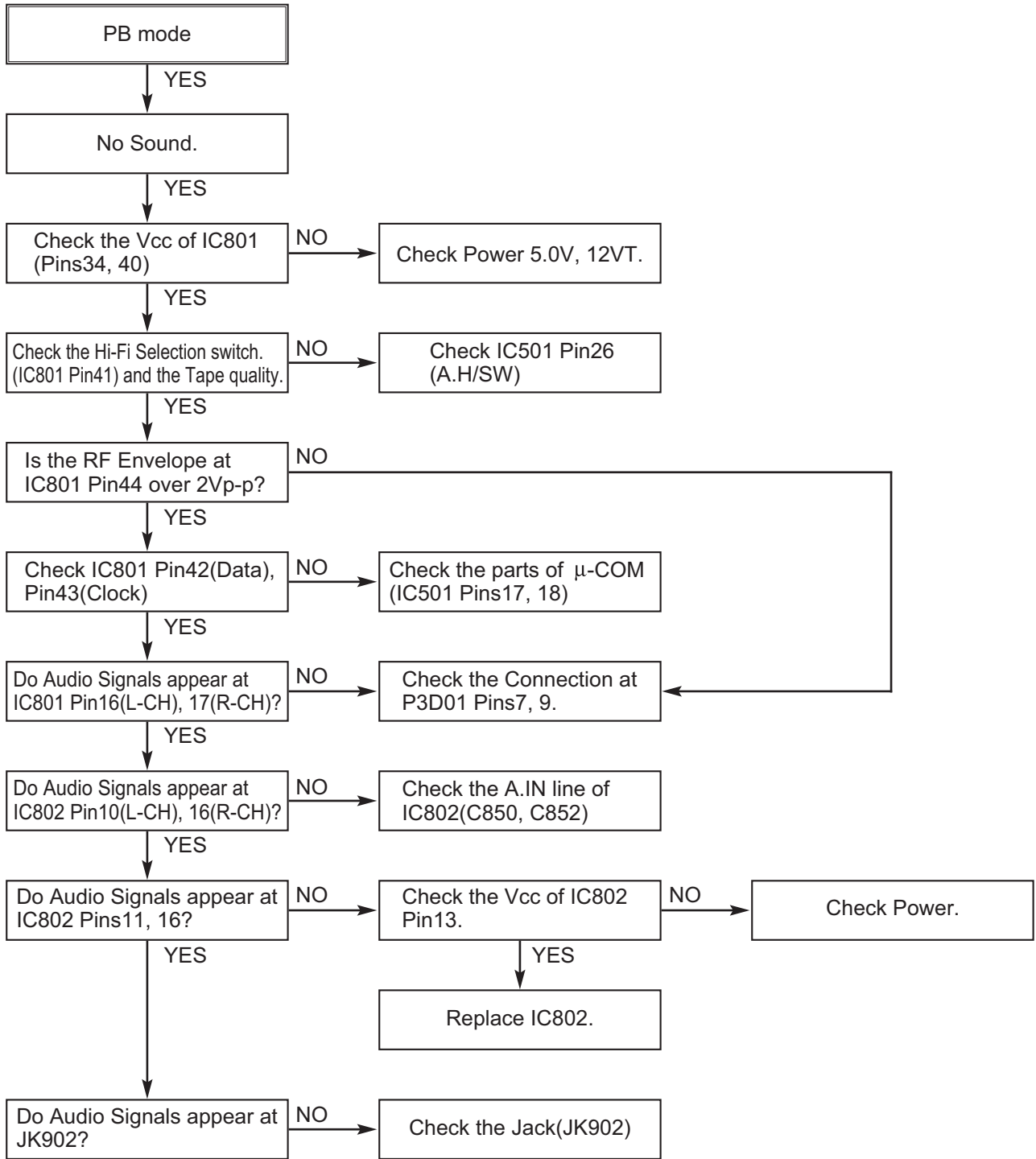


### 5.1.5 Hi-Fi CIRCUIT

(A) No Sound(EE Mode)

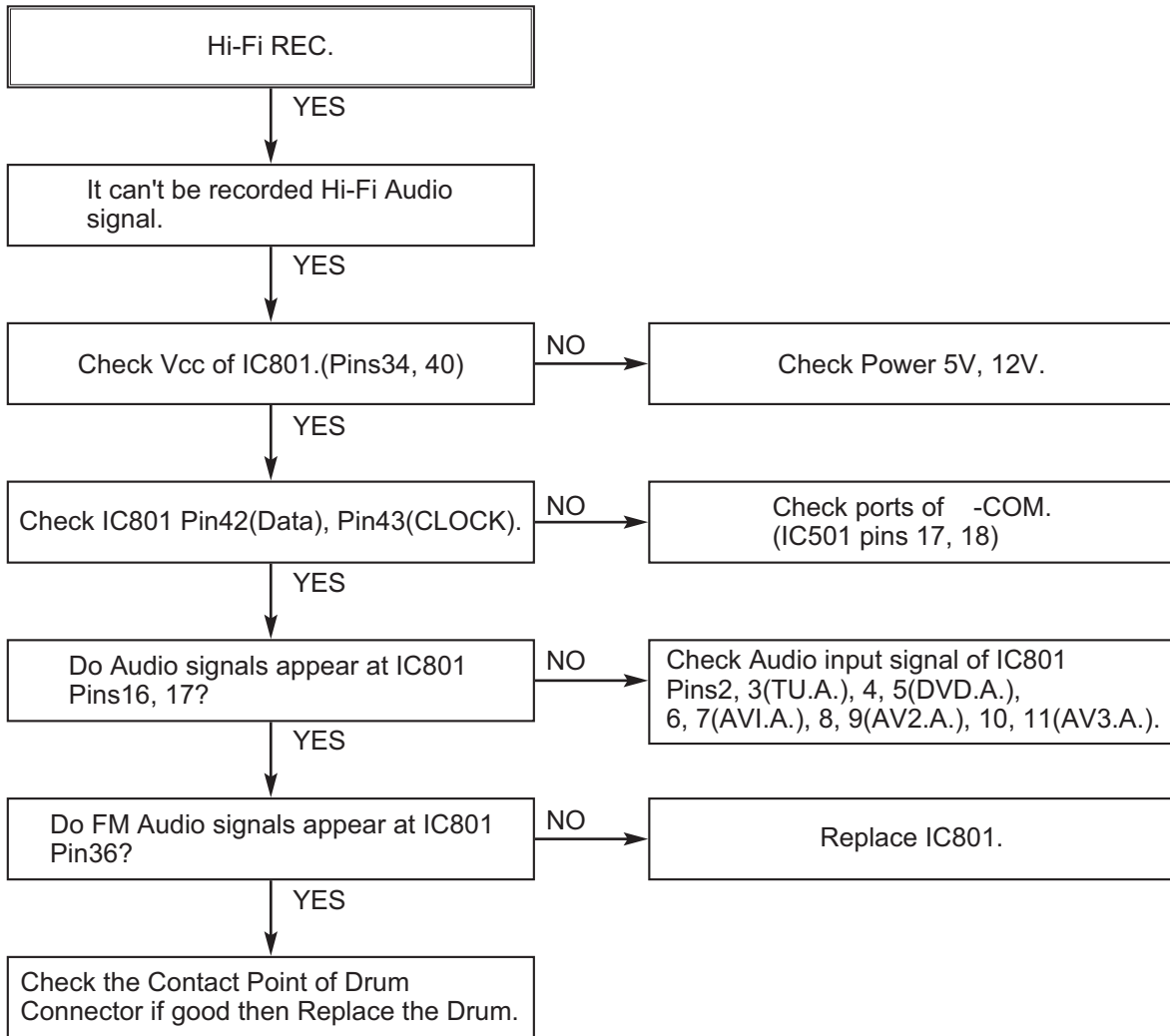


(B) Hi-Fi Playback



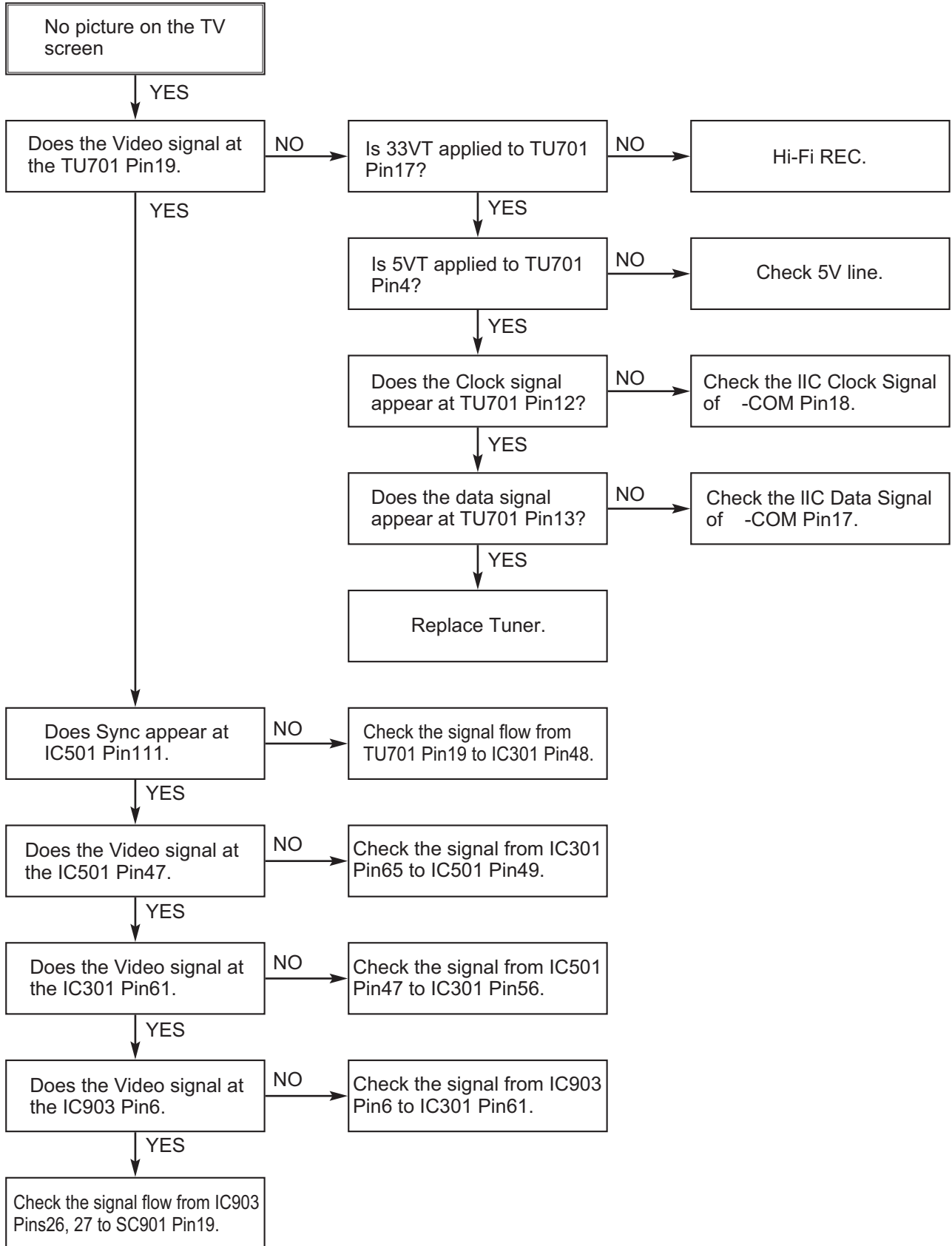


(C)

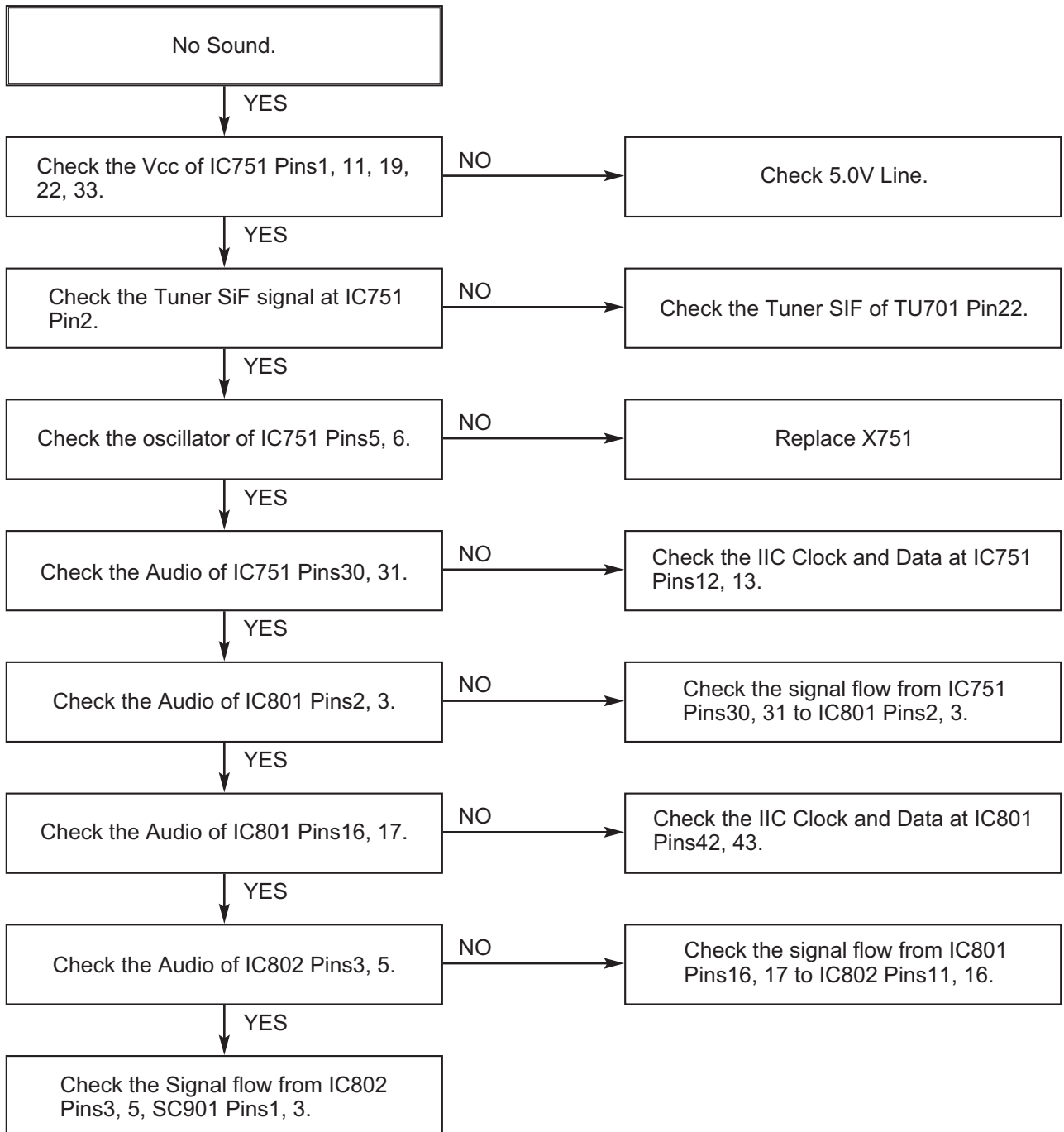


### 5.1.6 Tuner/IF CIRCUIT

(A) No Picture on the TV screen



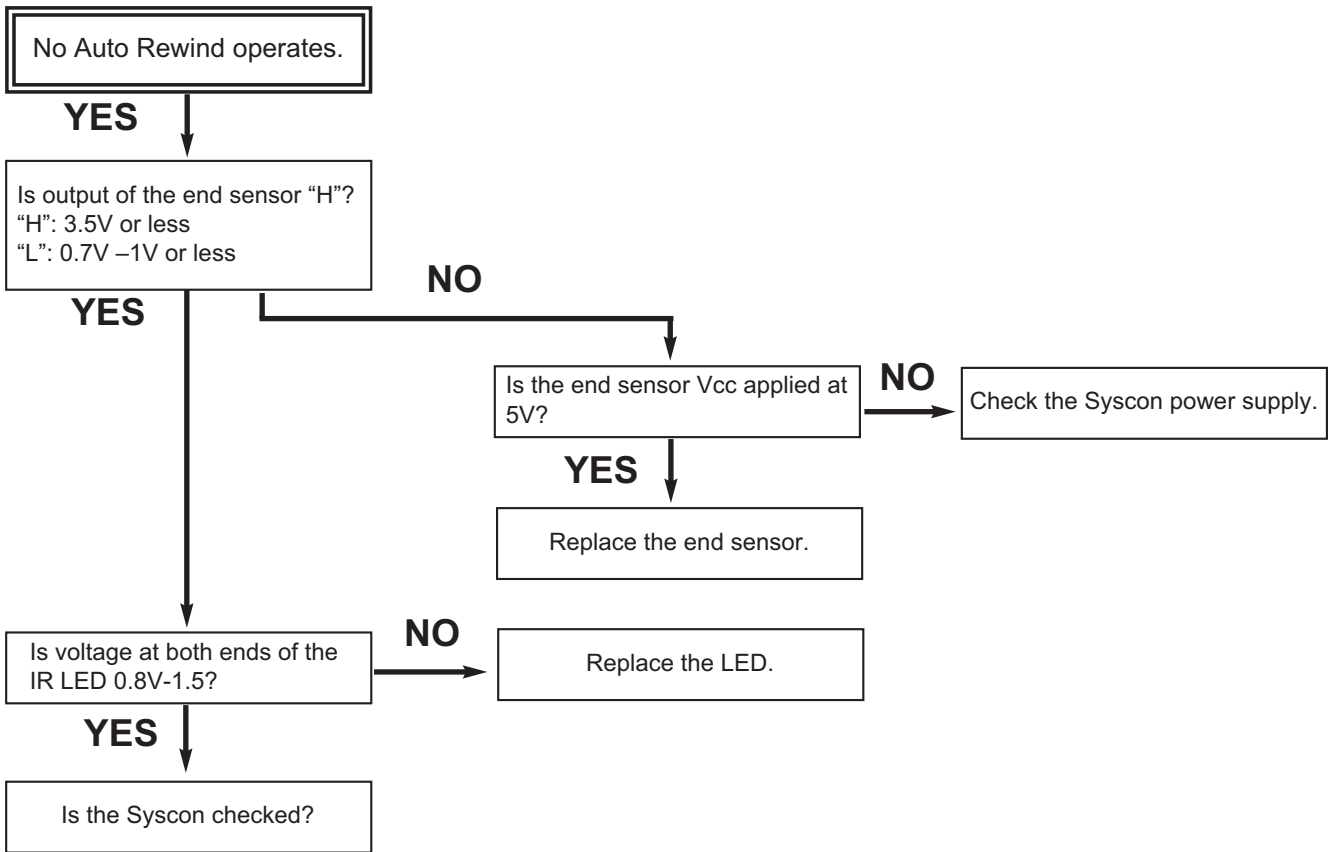
(B) No Sound



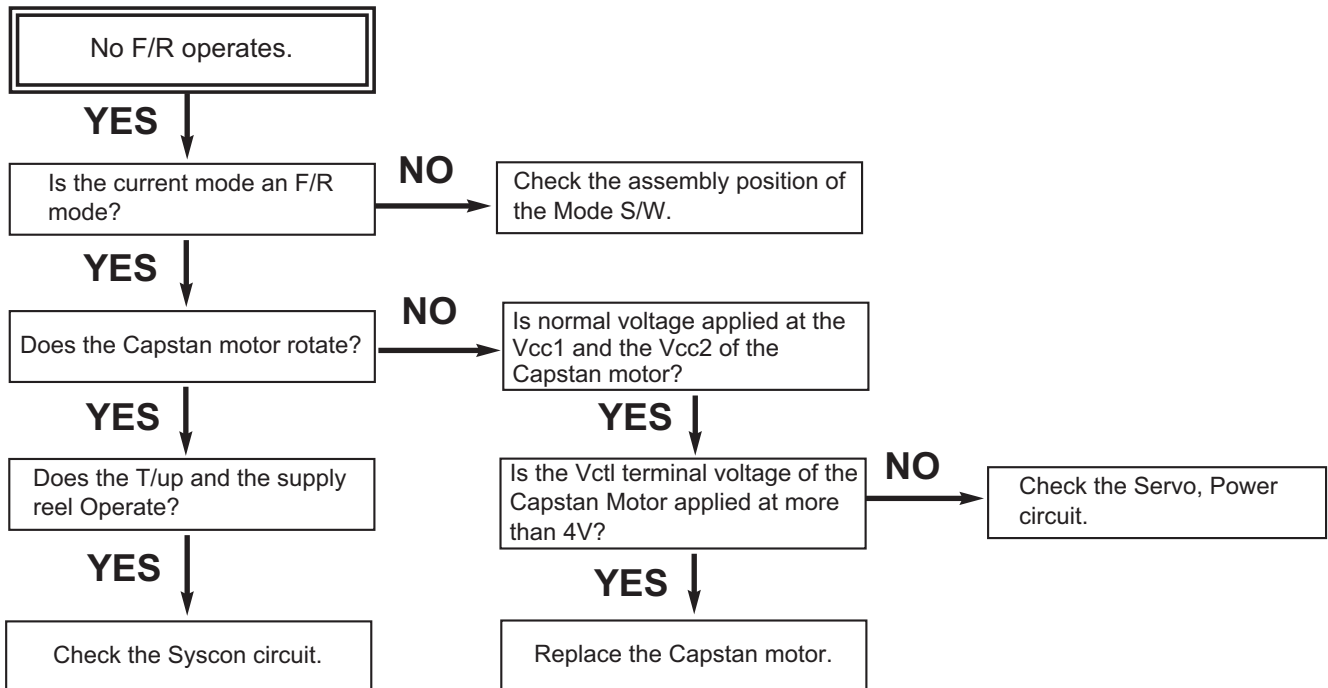
## 5.2 MECHANISM TROUBLESHOOTING GUIDE (VCR PART)

### 5.2.1 Deck Mechanism

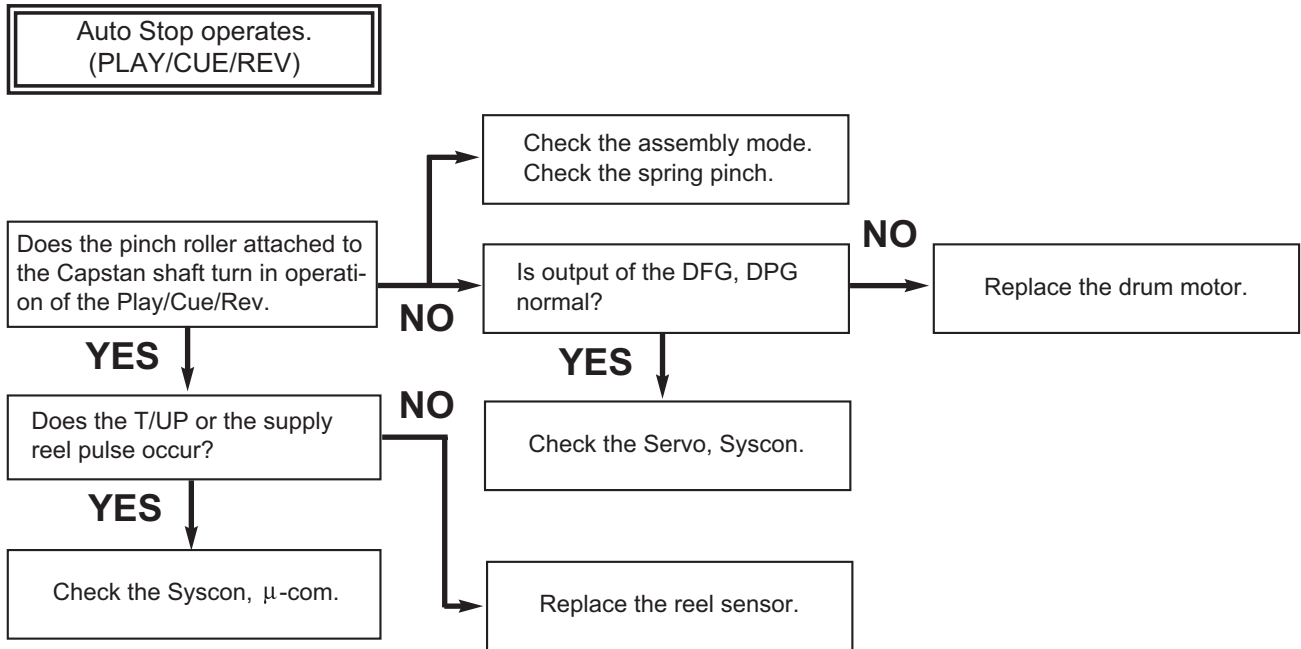
A.



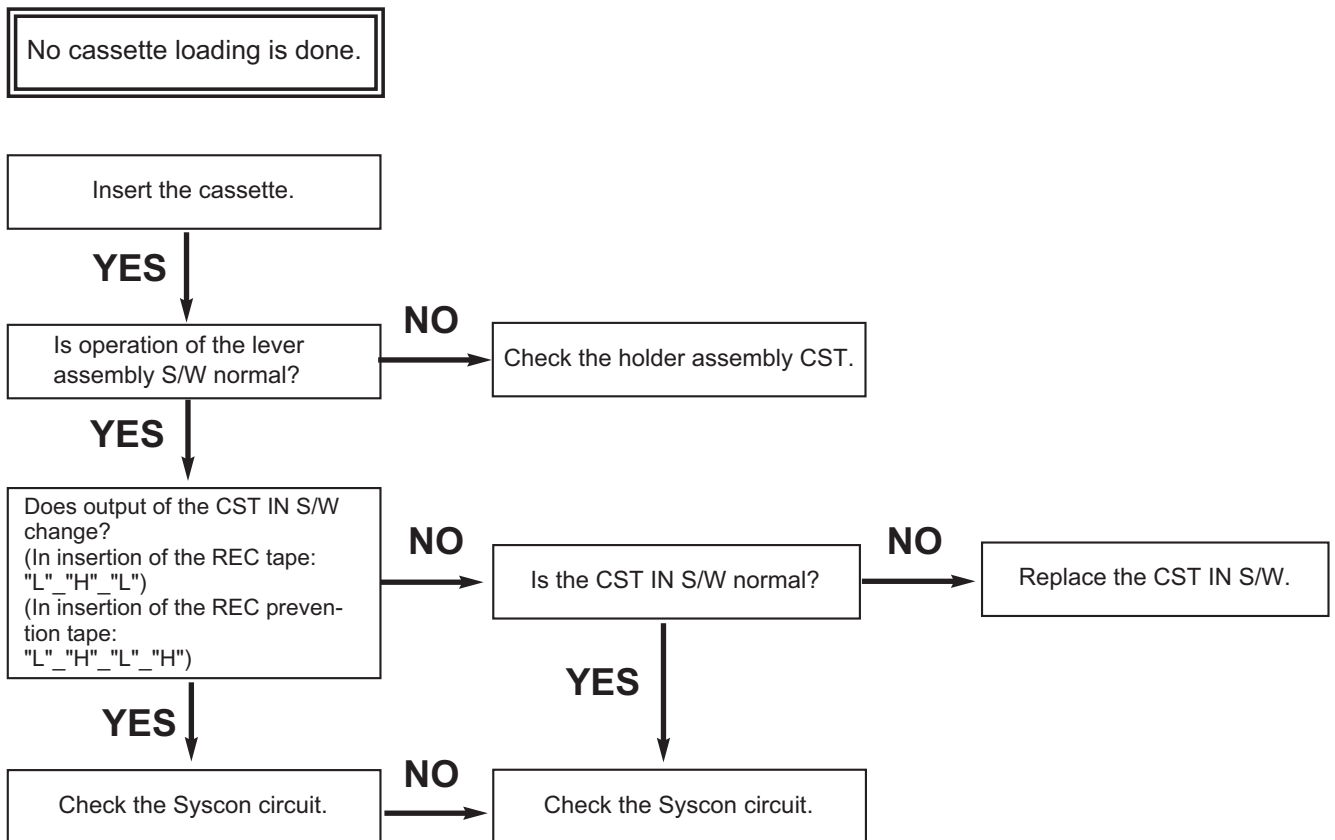
B.



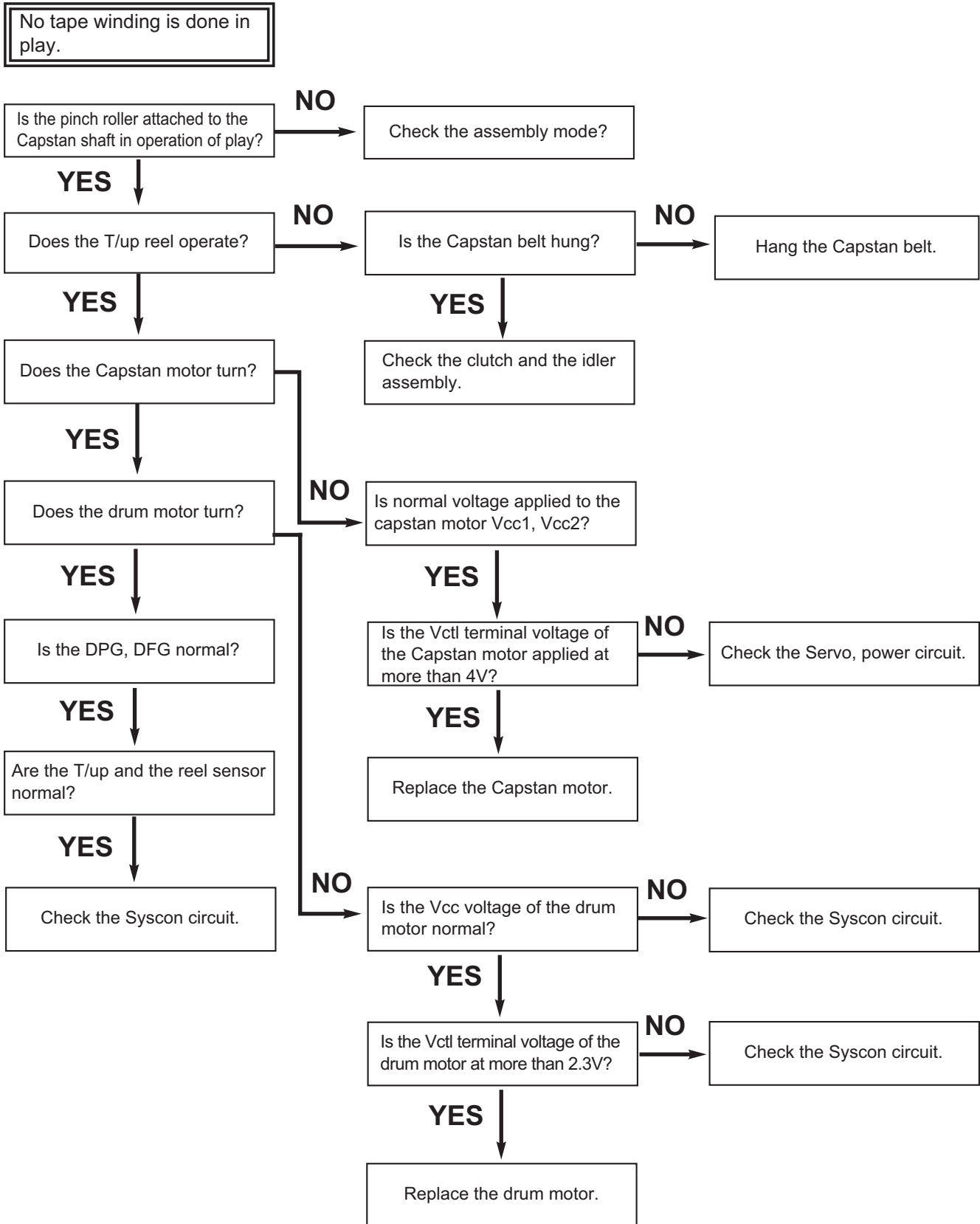
**C.**



**D.**

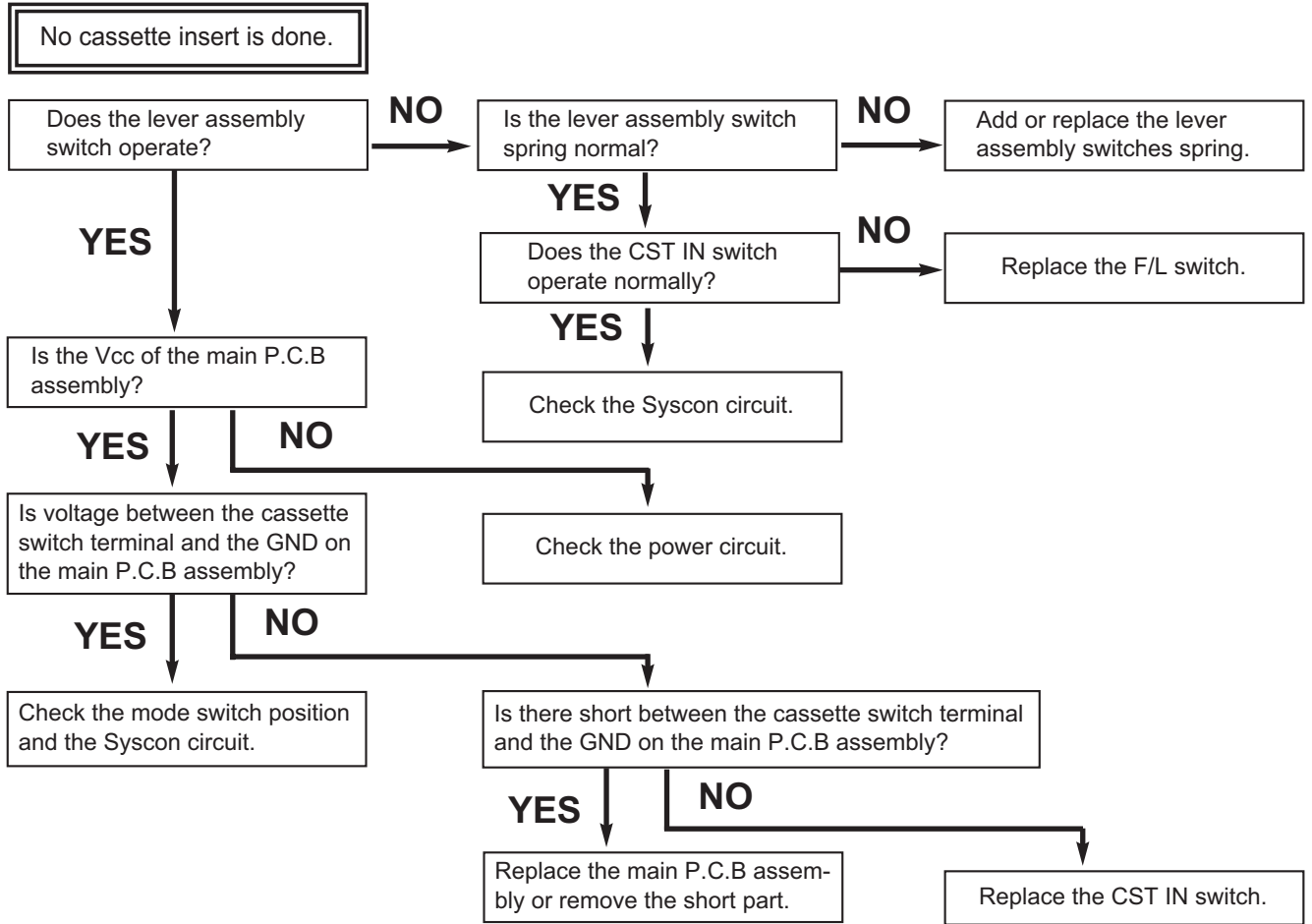


E.

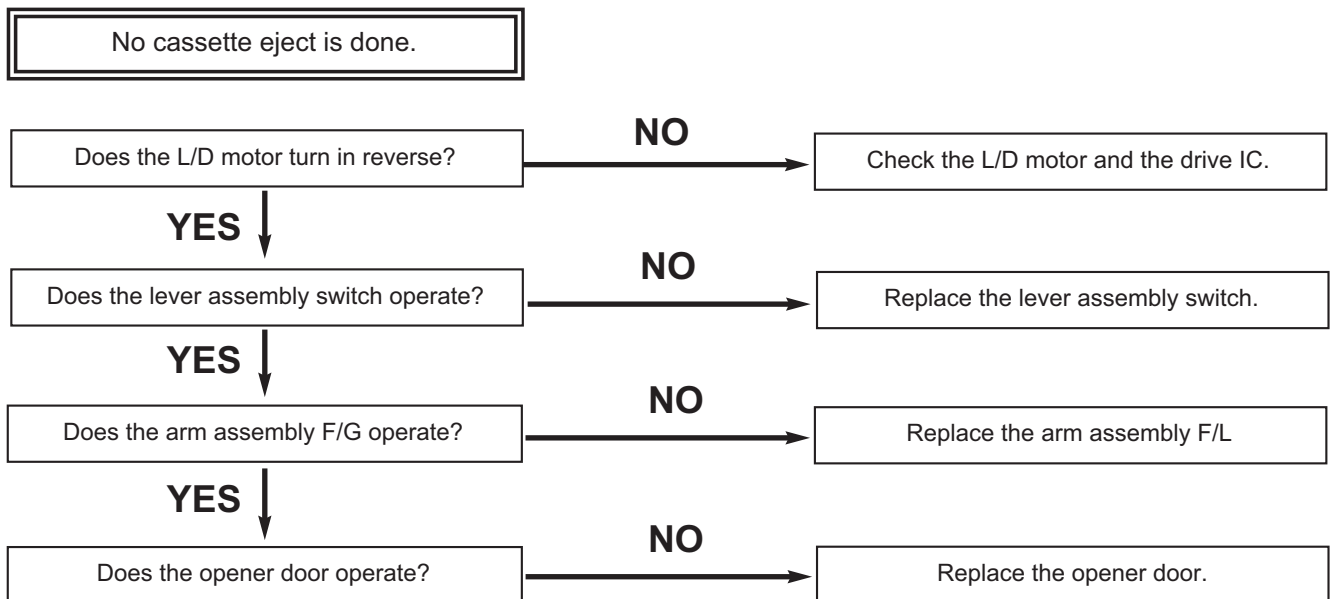


### 5.2.2 Front Loading Mechanism

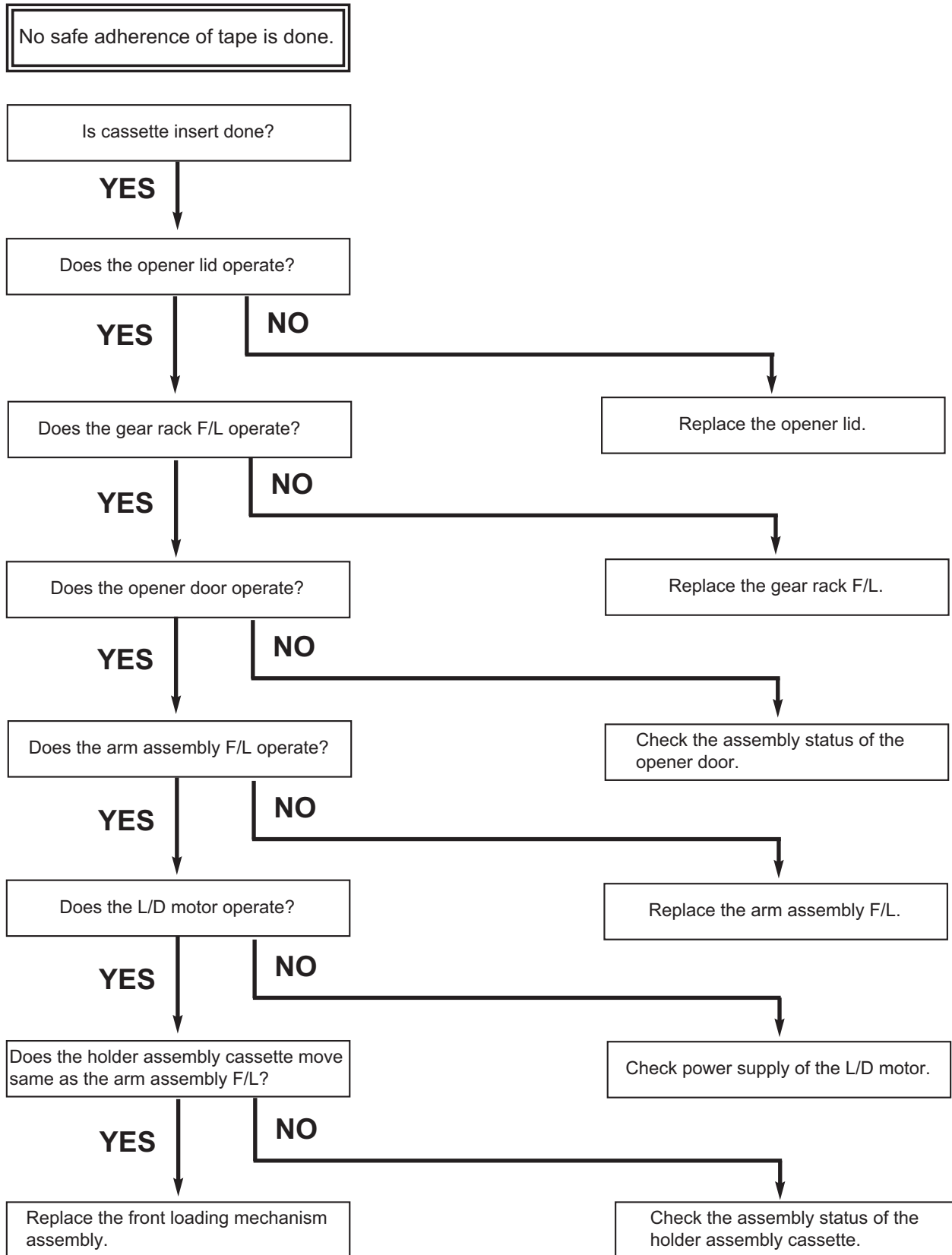
A.



B.



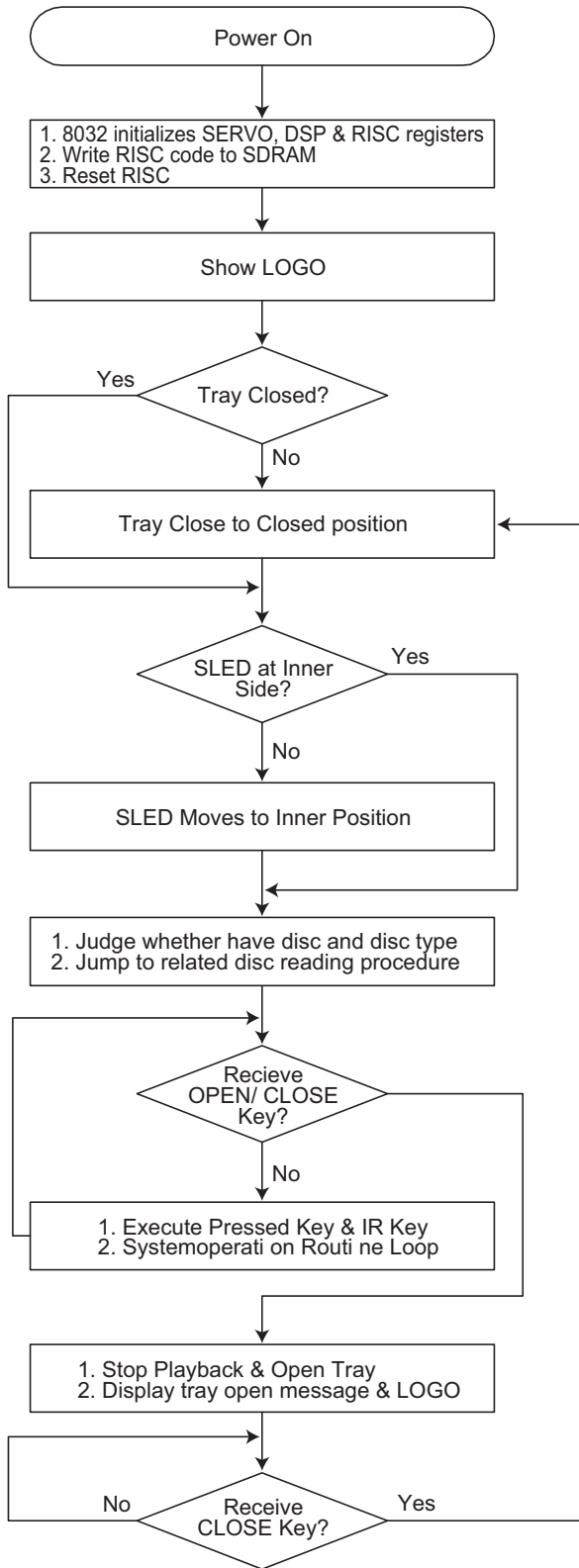
C.



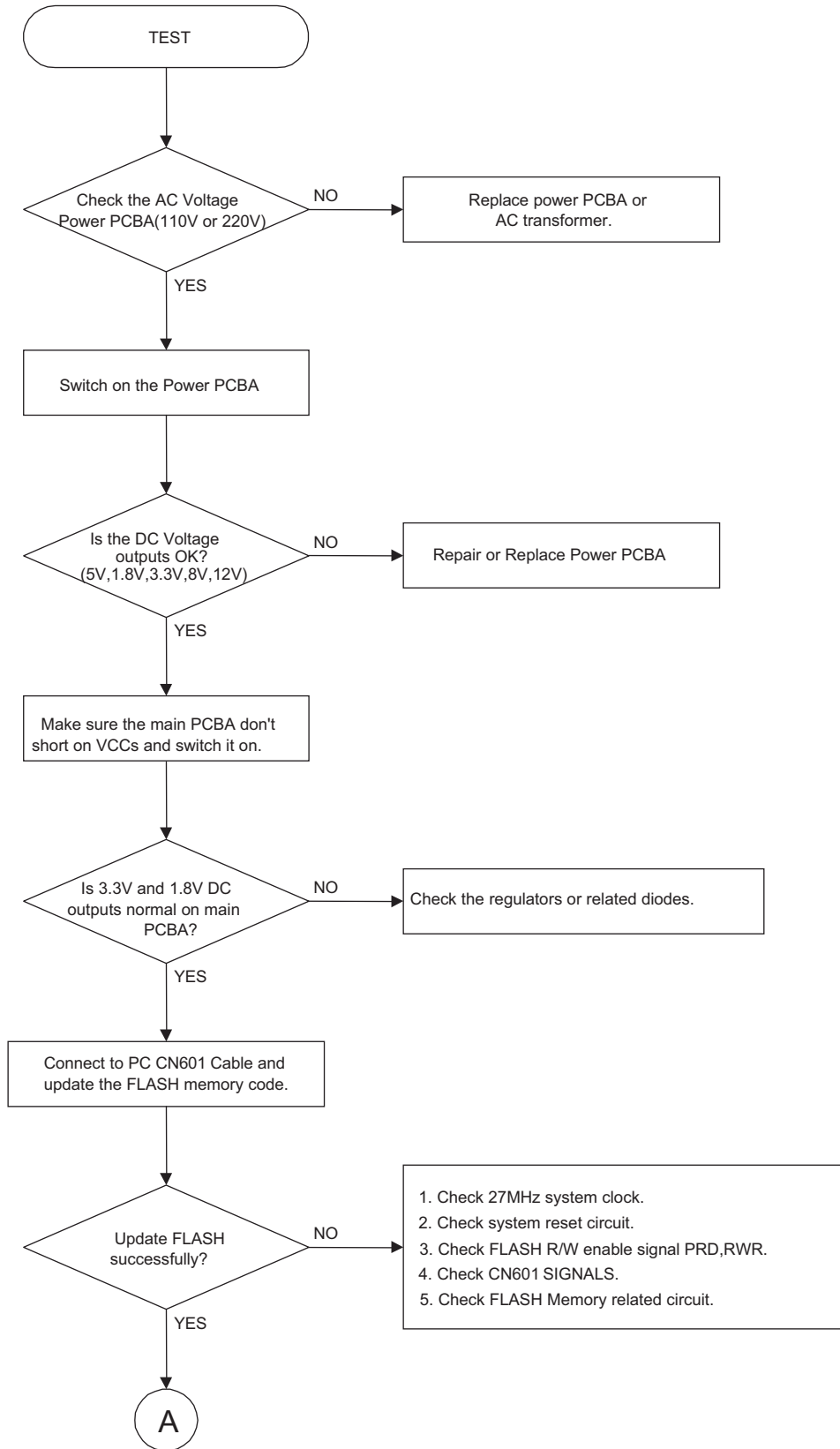


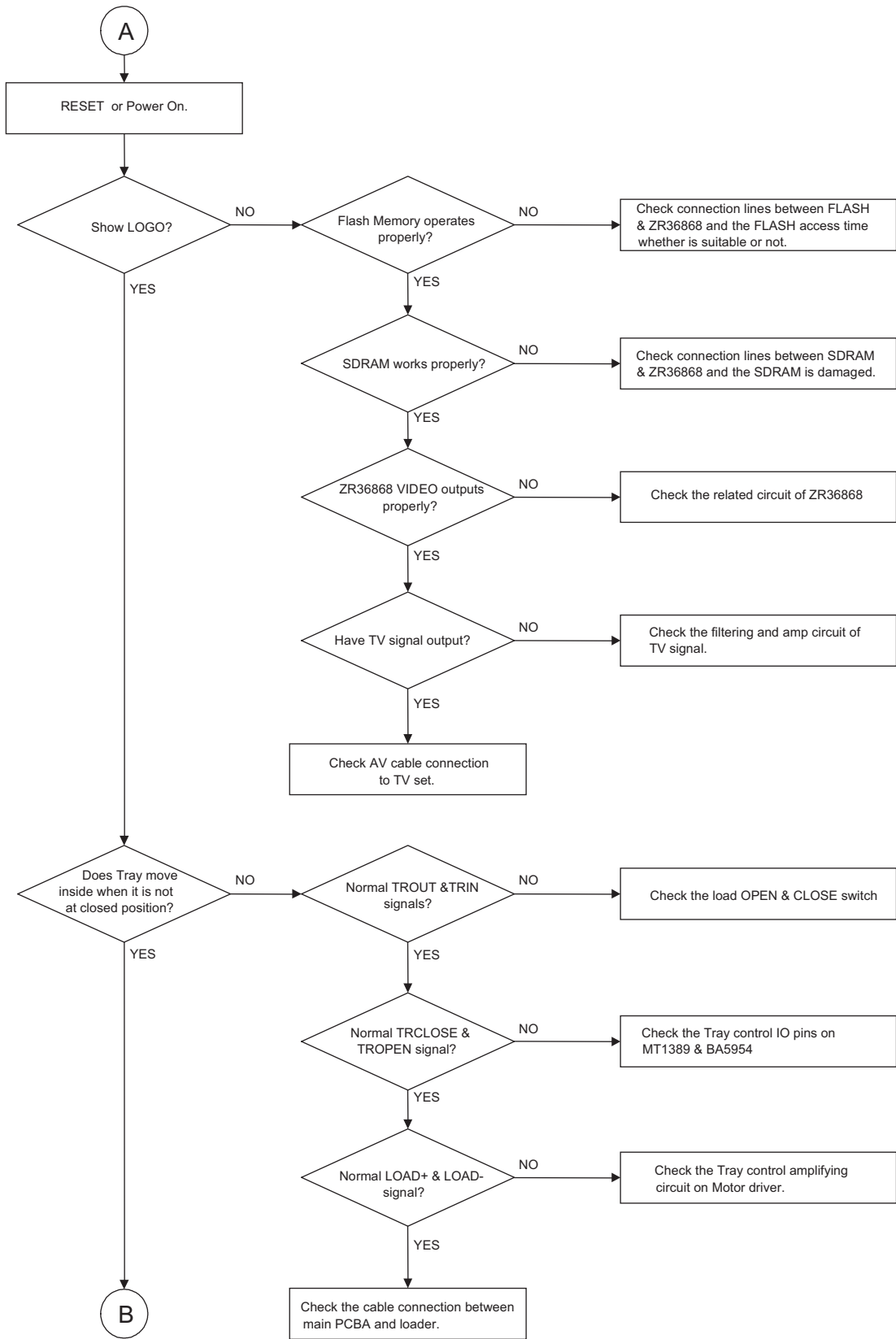
### 5.3 ELECTRICAL TROUBLESHOOTING GUIDE (DVD PART)

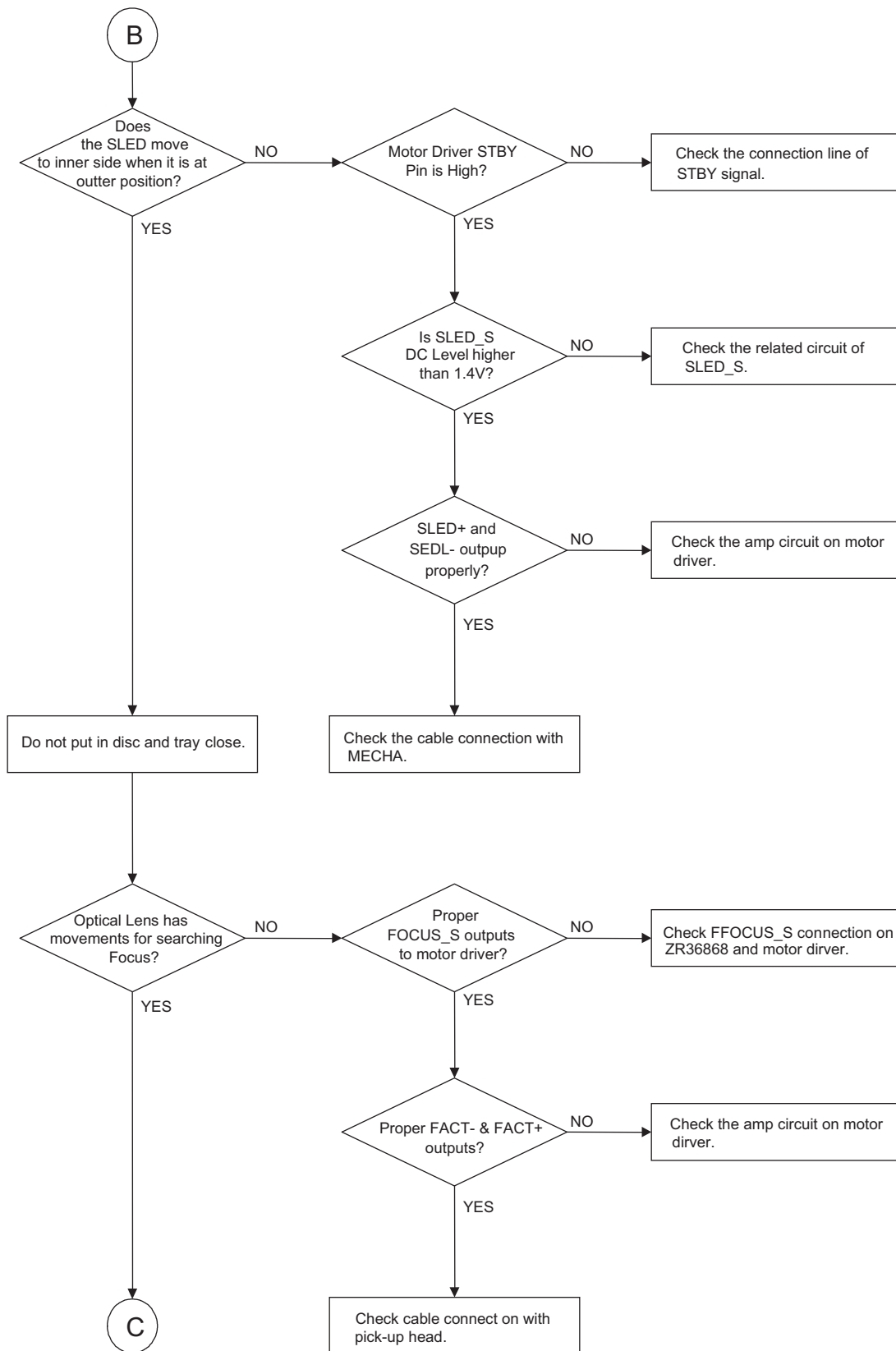
#### 5.3.1 System operation flow

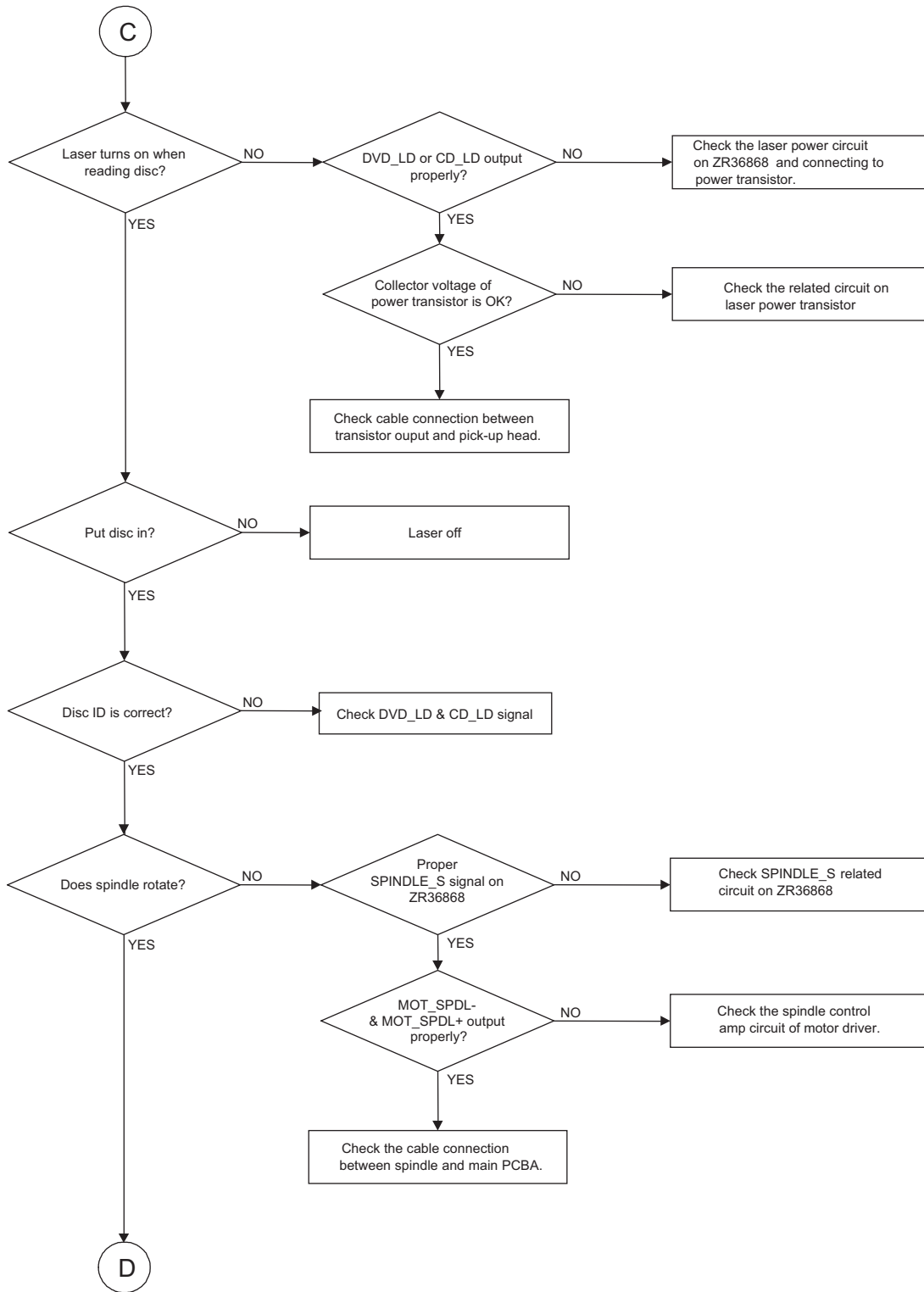


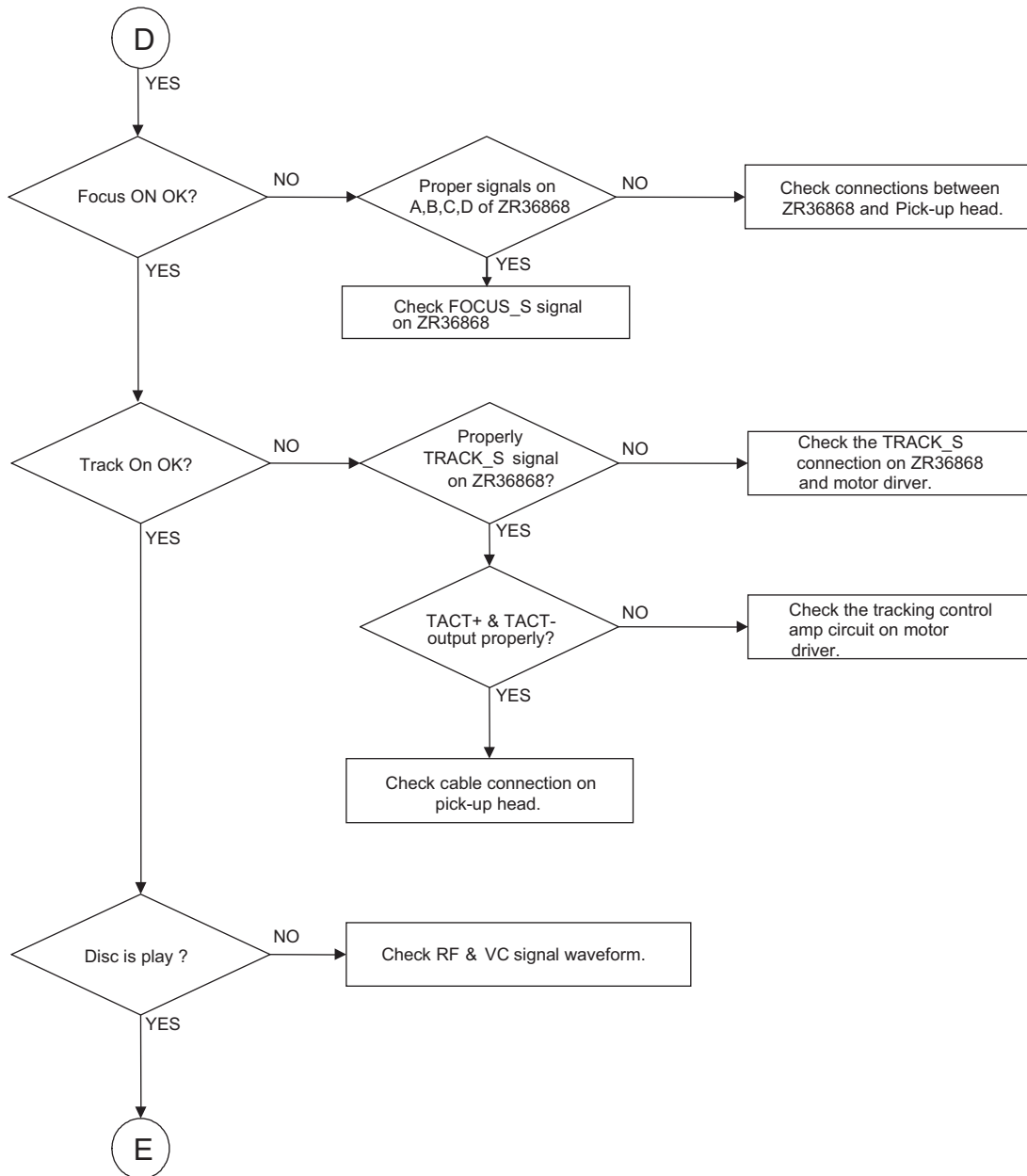
### 5.3.2 SYSTEM Test flow

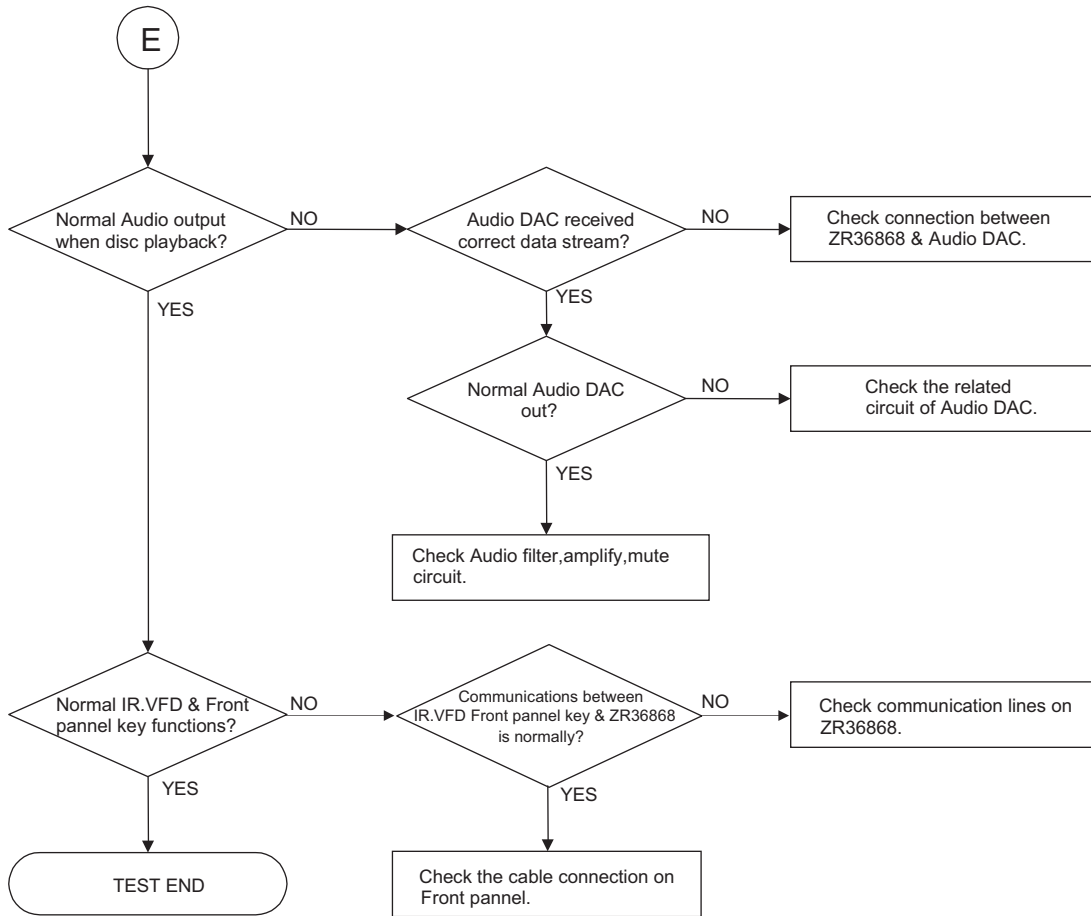












## 5.4 DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

### 5.4.1 SYSTEM 27MHz CLOCK, RESET, FLASH R/W SIGNAL

#### 1) ZR36868 main clock is at 27MHz(X501)

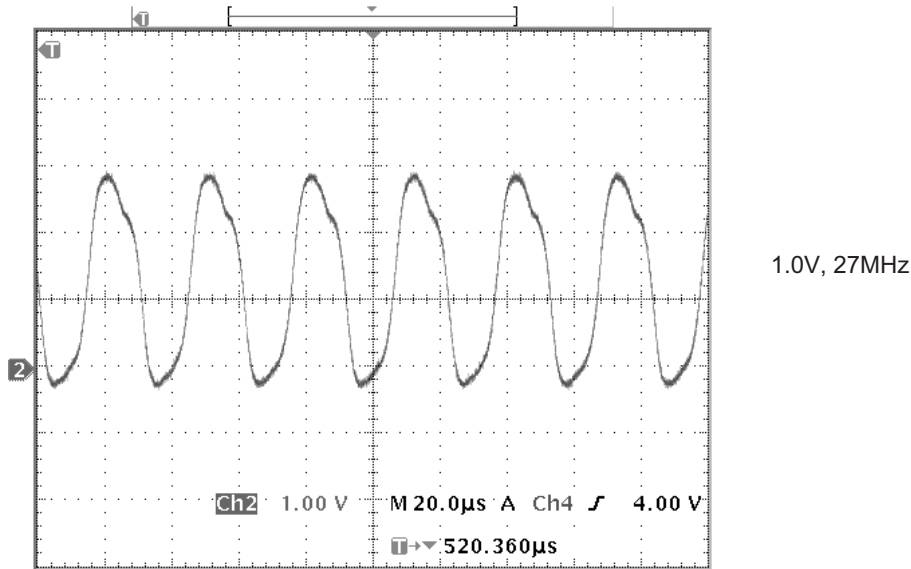


FIG 1-1

#### 2) ZR36868 reset is low active

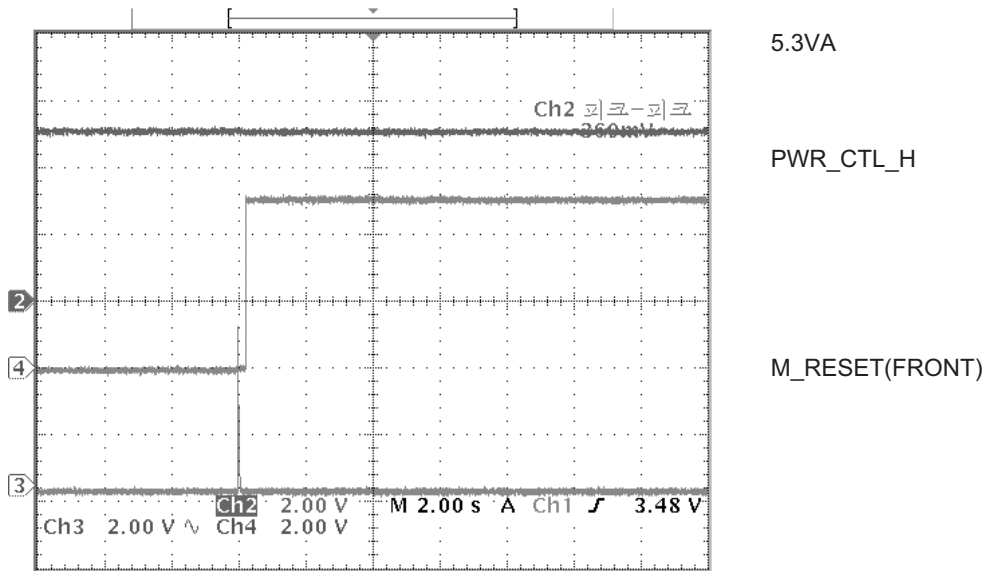


FIG 1-2



### 3) CN601 waveform during procedure(Downloading)

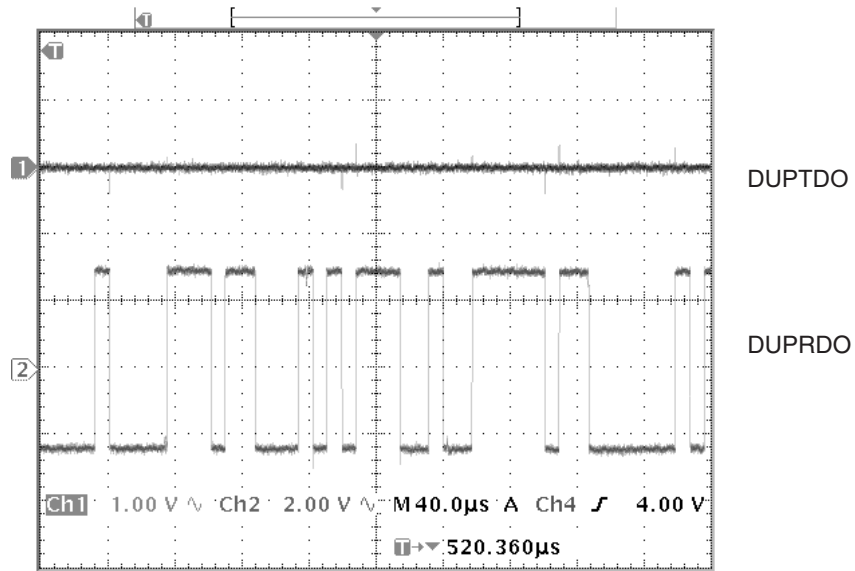


FIG 1-3

### 4) Flash R/W enable signal during download(Downloading)

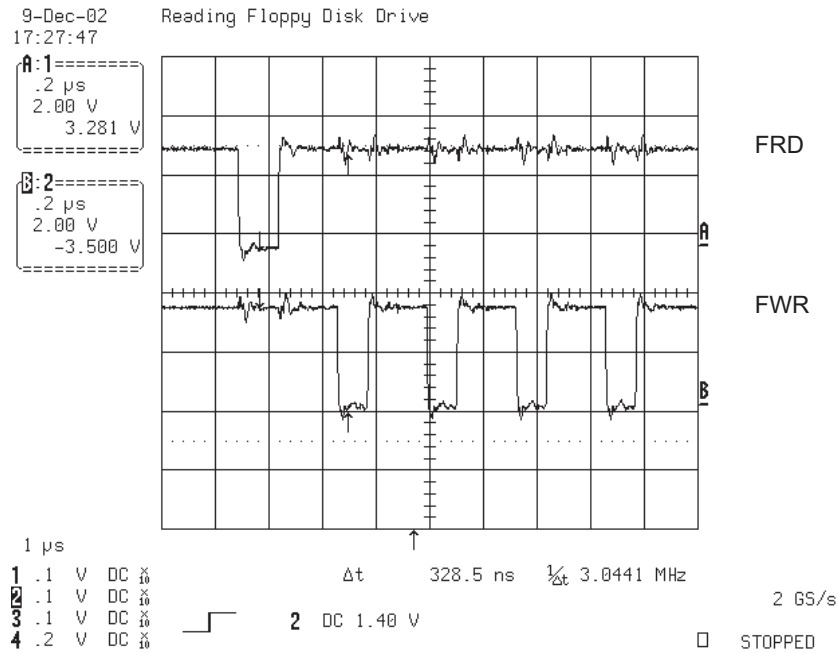


FIG 1-4

## 5.4.2 SDRAM CLOCK

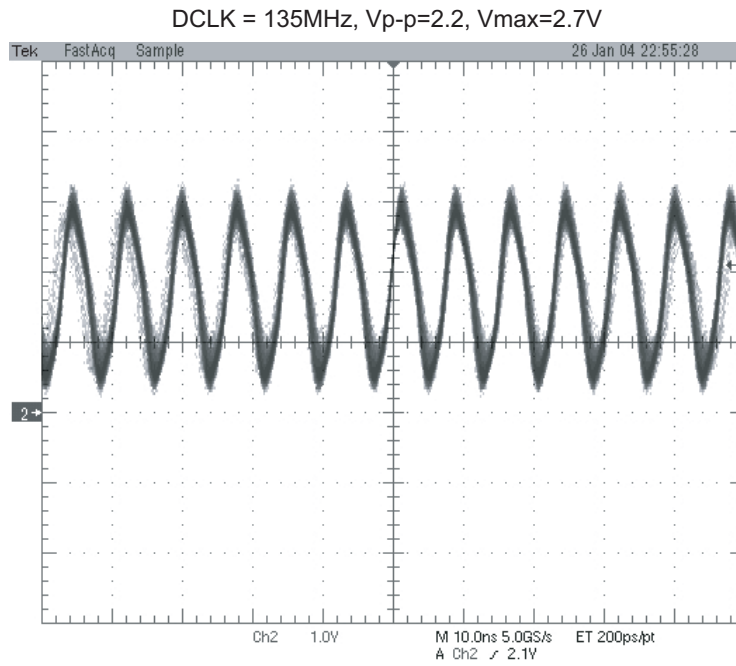


FIG 2-1

## 5.4.3 TRAY OPEN/CLOSE SIGNAL

### 1) Tray open/close waveform

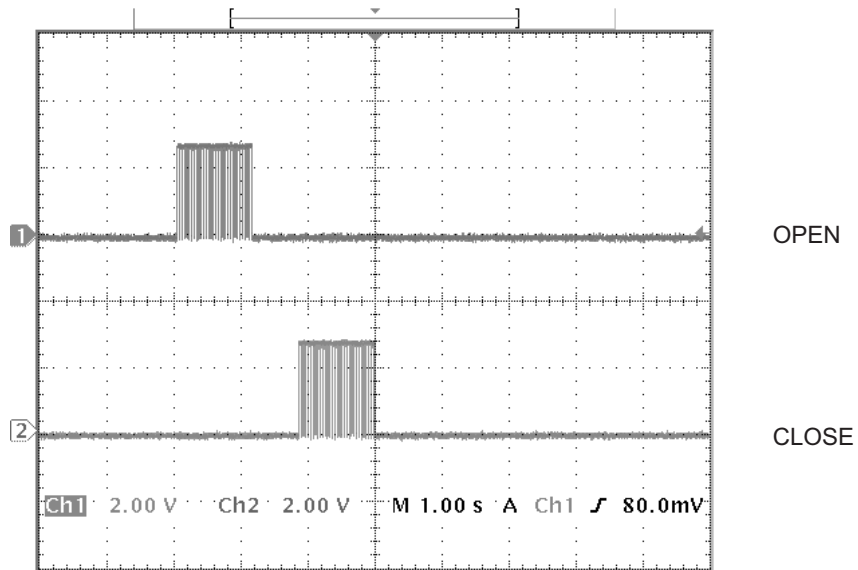


FIG 3-1

#### 5.4.4 SLED CONTROL RELATED SIGNAL (NO DISC CONDITION)

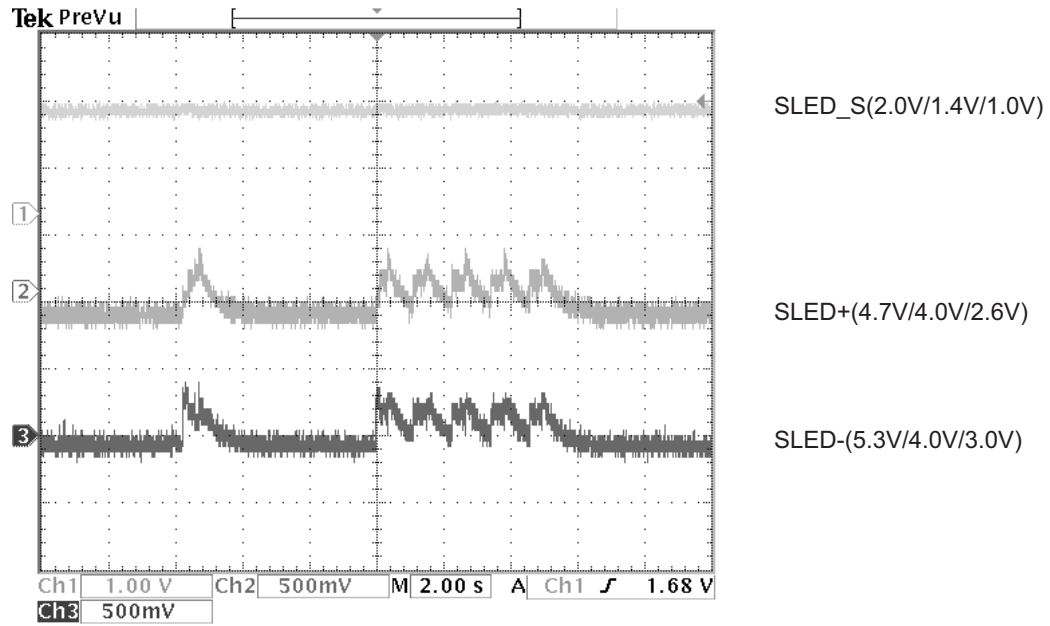


FIG 4-1

#### 5.4.5 LENS CONTROL RELATED SIGNAL(NO DISC CONDITION)

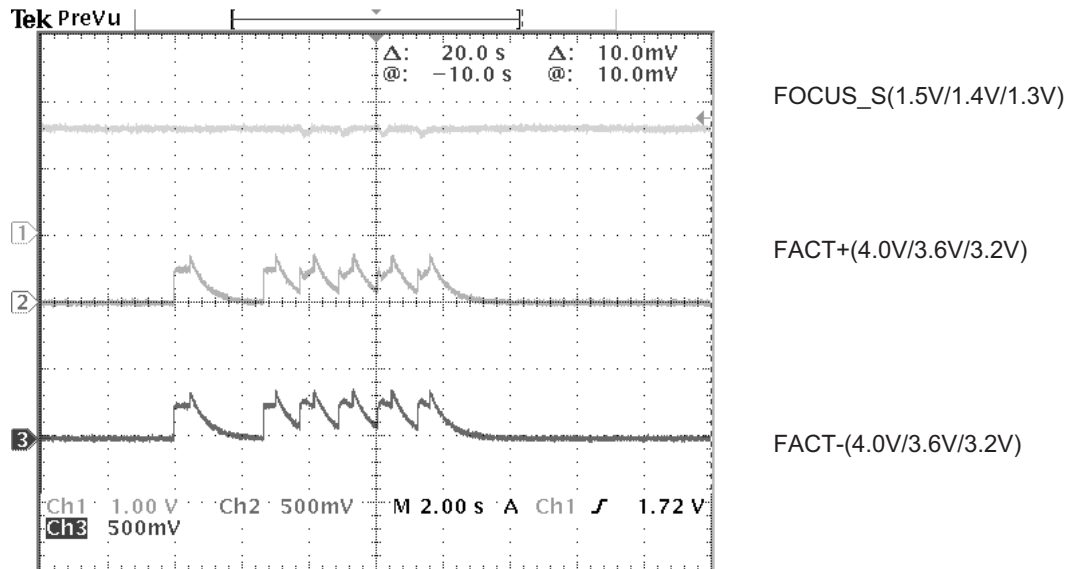


FIG 5-1

### 5.4.6 LASER POWER CONTROL RELATED SIGNAL(NO DISC CONDITION)

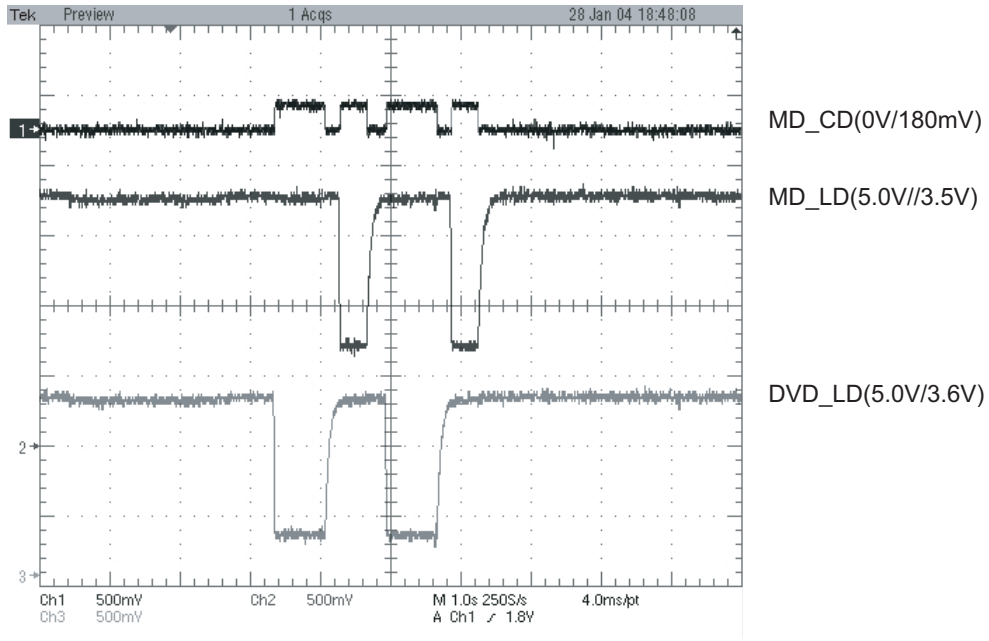


FIG 6-1

### 5.4.7 DISC TYPE JUDGEMENT WAVEFORM

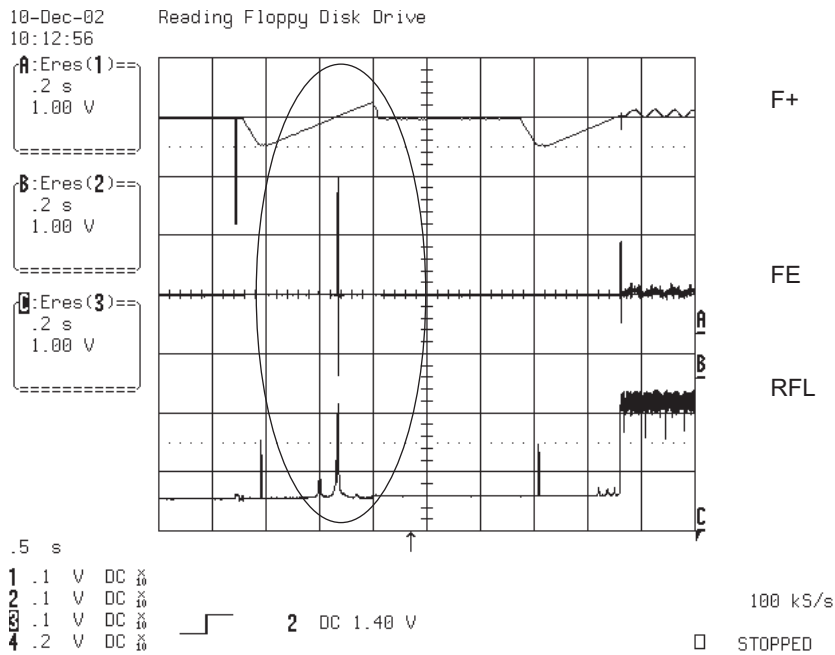


FIG 7-1 (DVD)

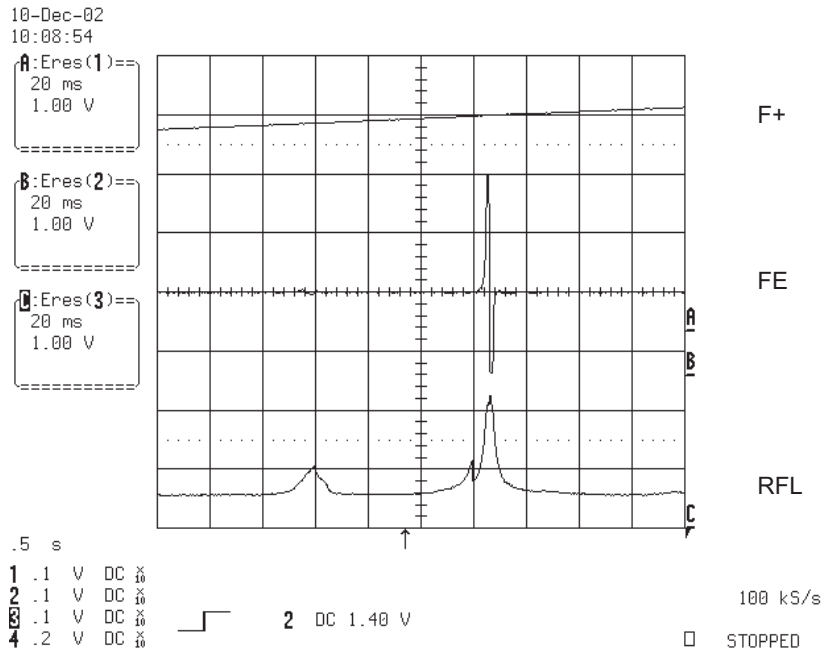


FIG 7-2 (DVD)

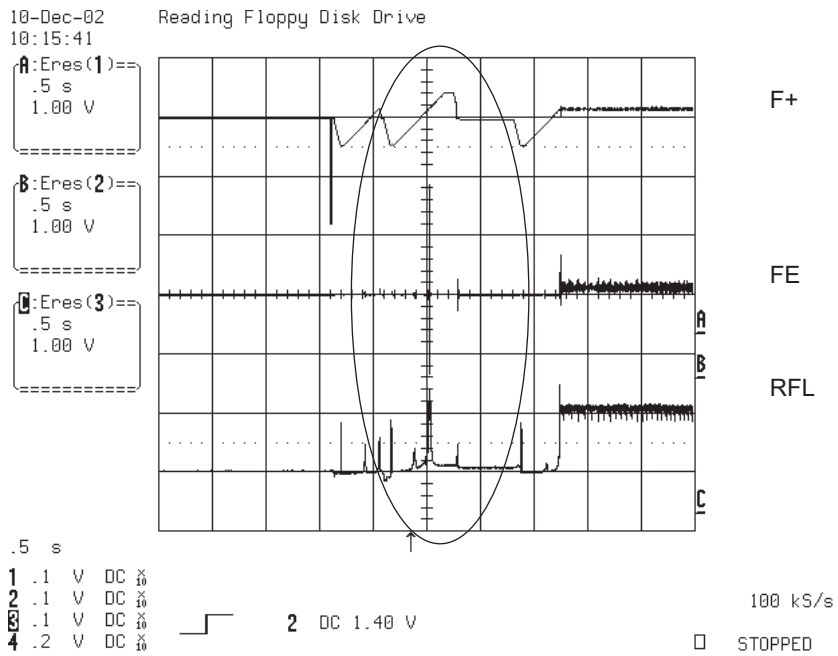


FIG 7-3 (CD)

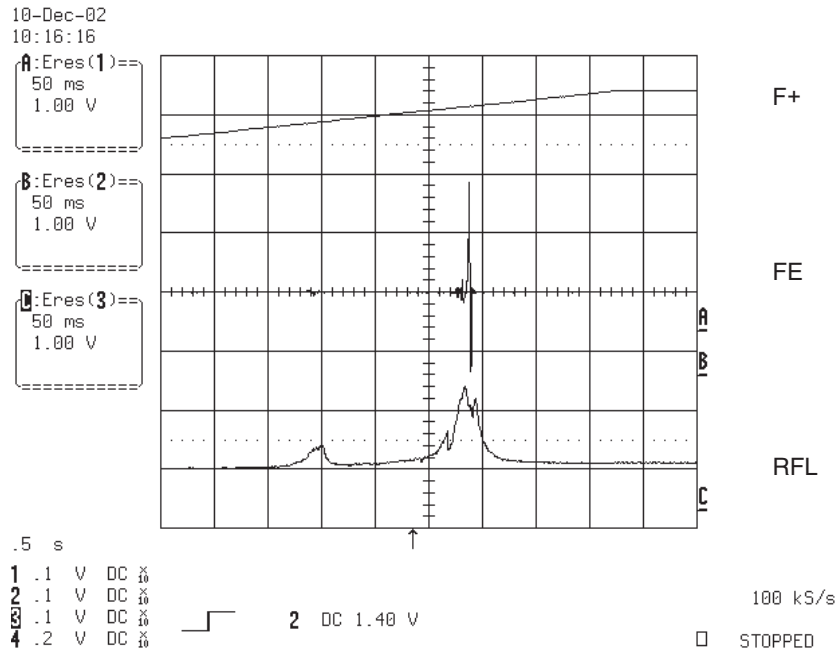


FIG 7-4 (CD)

5.4.8 FOCUS ON WAVEFORM

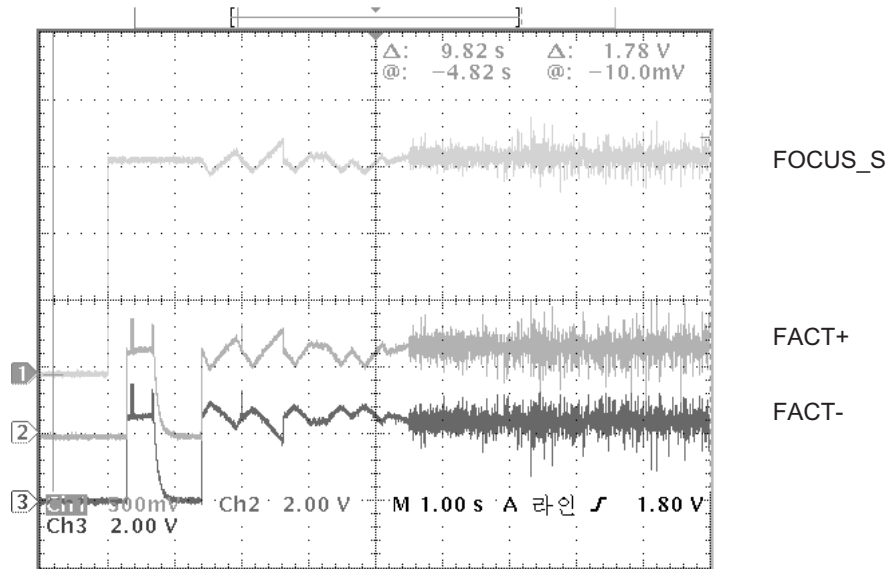


FIG 8-1 (DVD)

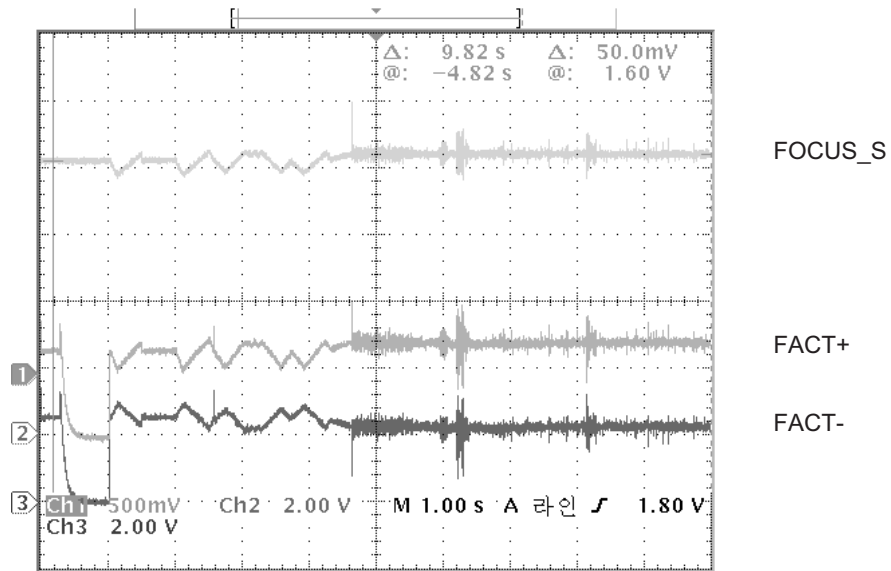


FIG 8-2 (CD)

5.4.9 SPINDLE CONTROL WAVEFORM (NO DISC CONDITION)

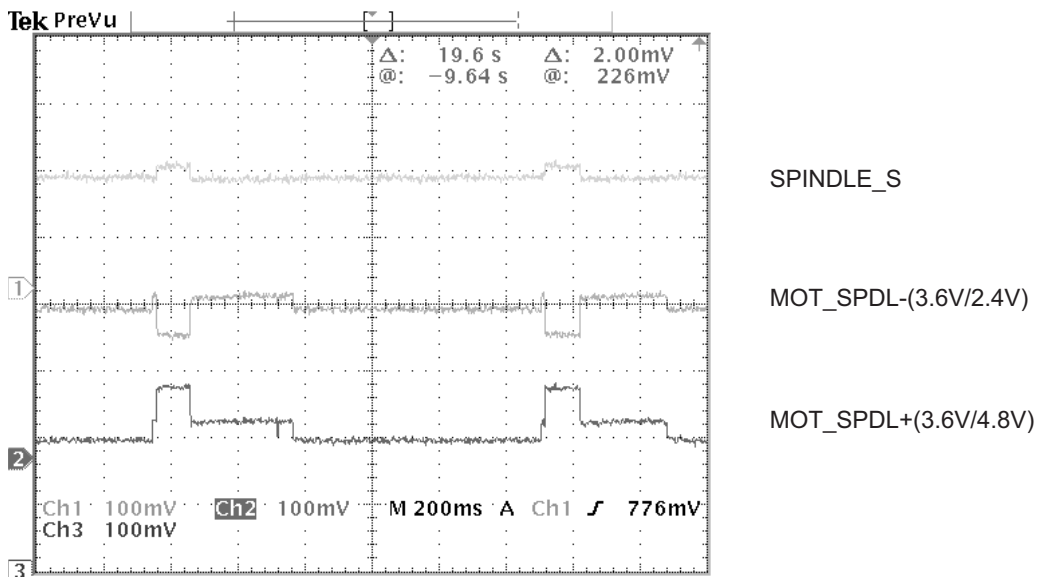


FIG 9-1

### 5.4.10 TRACKING CONTROL RELATED SIGNAL(System checking)

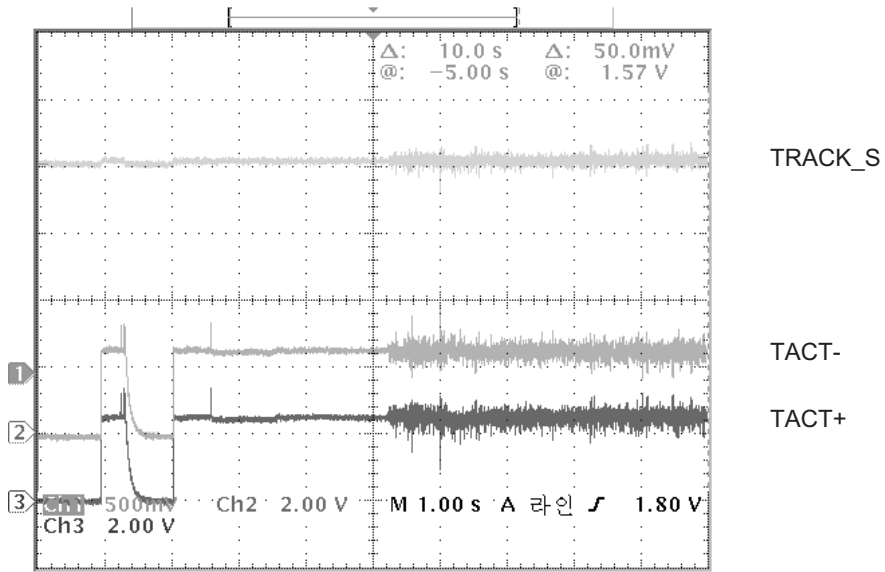


FIG 10-1(DVD)

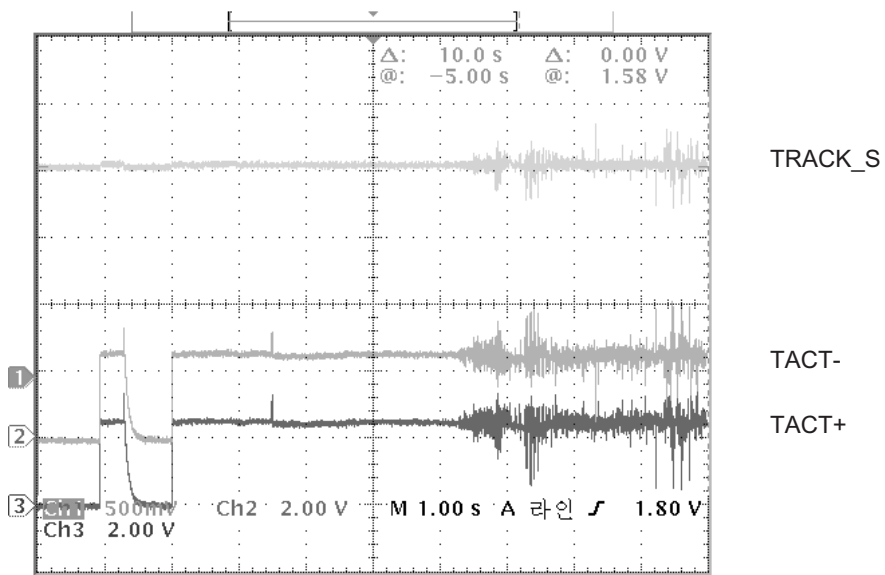


FIG 10-2(CD)



### 5.4.11 ZR36868 AUDIO OPTICAL AND COAXIAL OUTPUT(SPDIF)

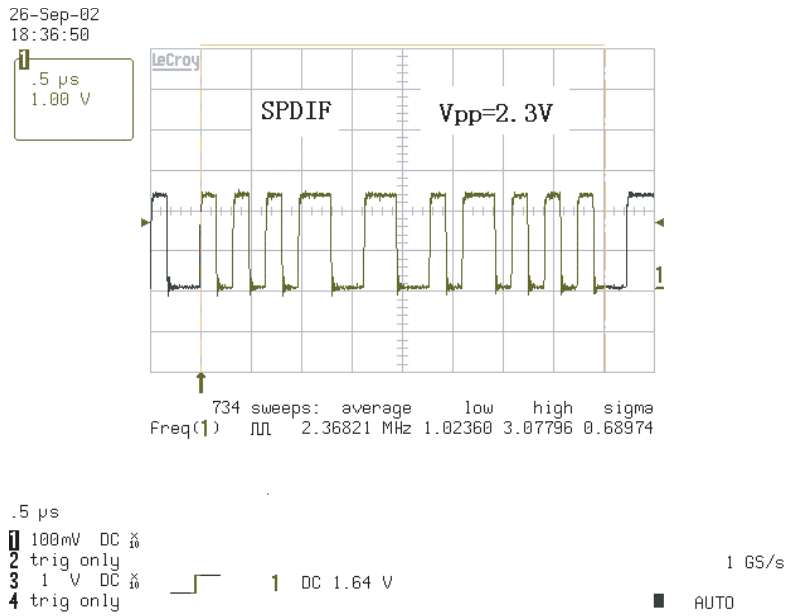


FIG 11-1

### 5.4.12 ZR36868 VIDEO OUTPUT WAVEFORM

1) 100%

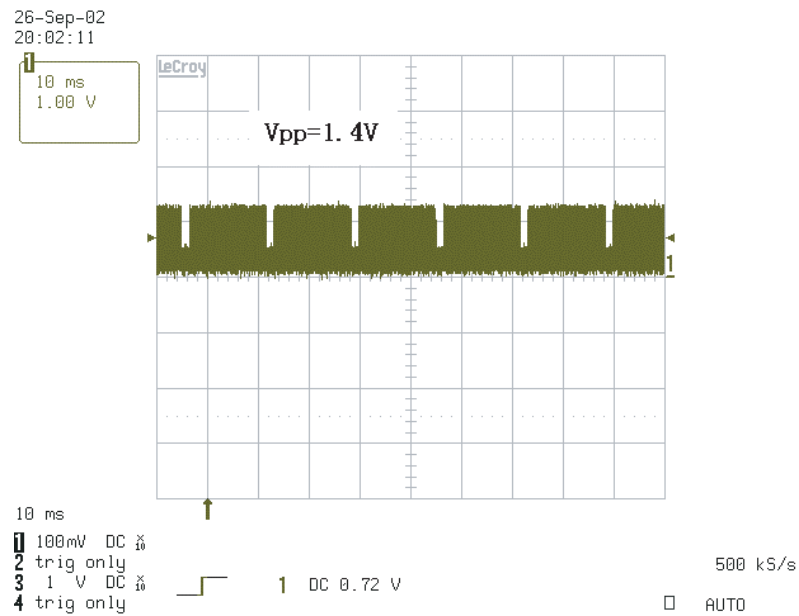


FIG 12-1

## 2) COMPOSITE VIDEO SIGNAL

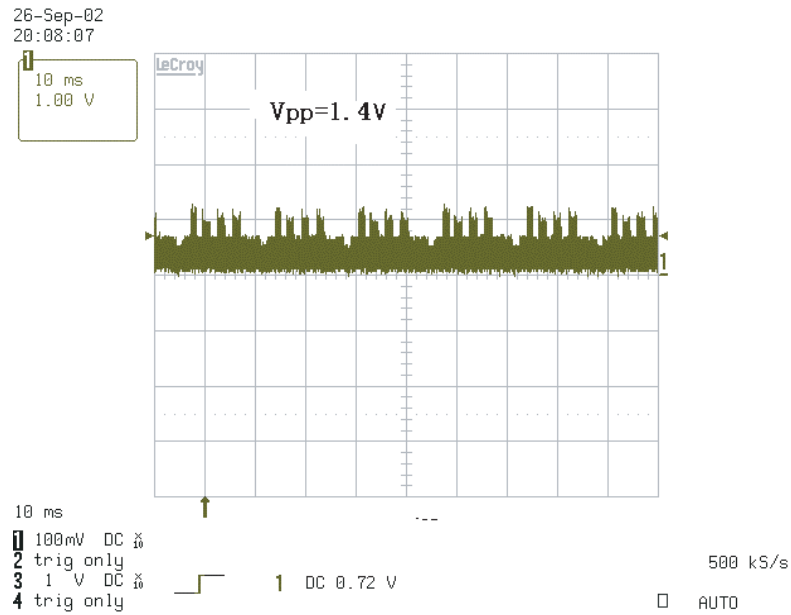


FIG 12-2

## 5.4.13 ZR36868 AUDIO OUTPUT TO AUDIO DAC

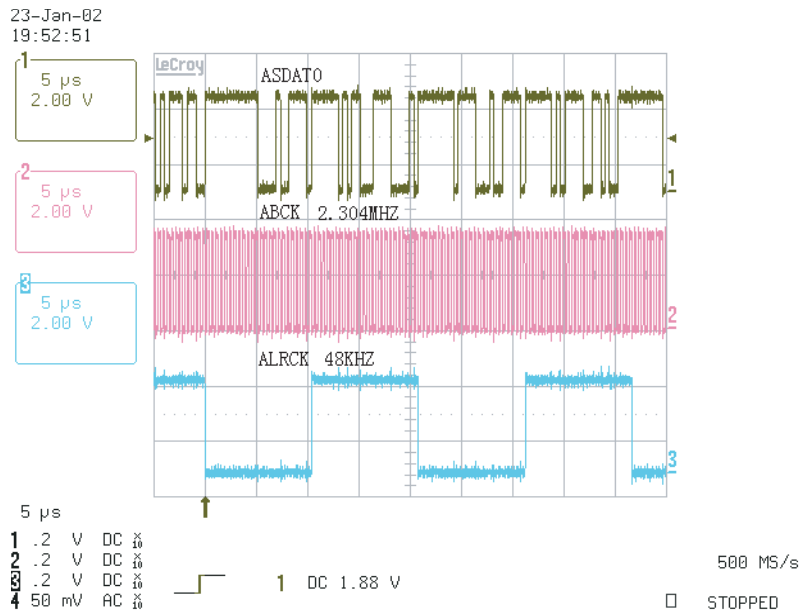


FIG 13-1

### 5.4.14 AUDIO OUTPUT FROM AUDIO DAC

23-Jan-02  
20:03:39

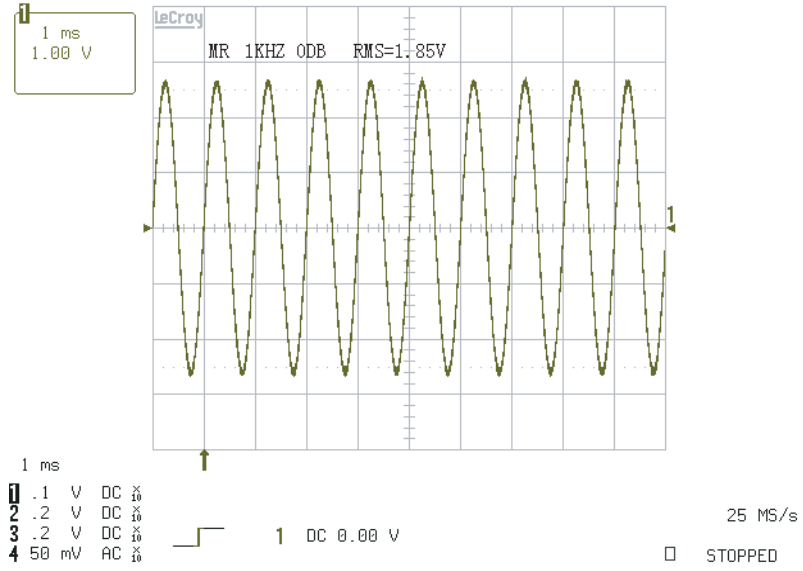


FIG 14-1



**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.YD068)



Printed in Japan  
VPT

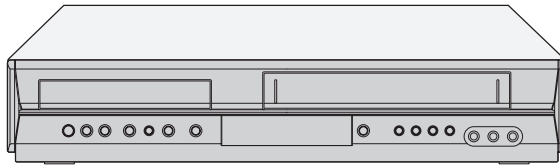
# JVC

## SCHEMATIC DIAGRAMS

DVD PLAYER & VIDEO CASSETTE RECORDER

### HR-XV28SEF, HR-XV28SEK, HR-XV28SER, HR-XV28SEU, HR-XV28SEY, HR-XV28SEZ

CD-ROM No.SML200505



**VIDEO Plus+**<sup>®</sup>  
(EK model)

**SHOWVIEW**<sup>™</sup>  
(EU, EY, EZ models)

**VHS**

**SHOWVIEW**<sup>®</sup>  
(EF, ER models)

**VHS**

PAL SECAM  
(EF model)

**DVD**  
VIDEO

**DOLBY**  
DIGITAL

**dts**<sup>®</sup>  
DIGITAL OUT

**COMPACT**  
**disc**  
DIGITAL VIDEO

**COMPACT**  
**disc**  
SUPER VIDEO

**COMPACT**  
**disc**  
DIGITAL AUDIO


HR-XV28SEF, HR-XV28SEK, HR-XV28SER, HR-XV28SEU, HR-XV28SEY, HR-XV28SEZ [D5PV0]



# CHARTS AND DIAGRAMS

## NOTES OF SCHEMATIC DIAGRAM

### Safety precautions

The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

### 1. Units of components on the schematic diagram

Unless otherwise specified.

- All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).  
Chip resistors are 1/16 W.  
K: KΩ(1000Ω), M: MΩ (1000KΩ)
- All capacitance values are in μF, (P: PF).
- All inductance values are in μH, (m: mH).
- All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

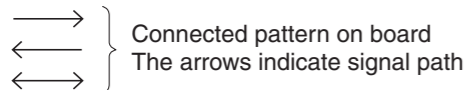
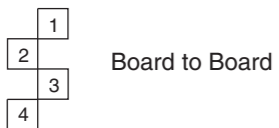
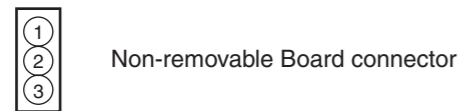
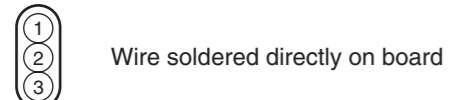
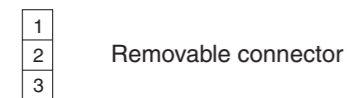
**Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.**

### 2. Indications of control voltage

AUX : Active at high.

$\overline{\text{AUX}}$  or AUX(L) : Active at low.

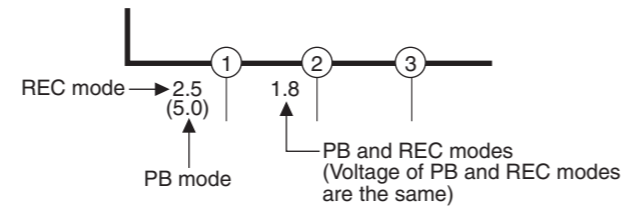
### 3. Interpreting Connector indications



**Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"**

### 4. Voltage measurement

- Regulator (DC/DC CONV) circuits  
REC : Colour bar signal.  
PB : Alignment tape (Colour bar).  
— : Unmeasurable or unnecessary to measure.
- Indication on schematic diagram  
Voltage indications for REC and PB mode on the schematic diagram are as shown below.

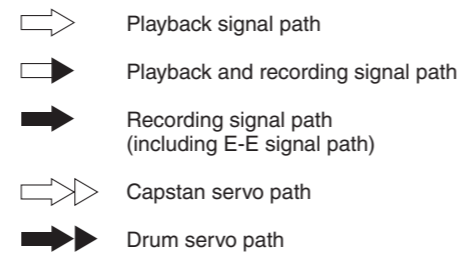


**Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.**

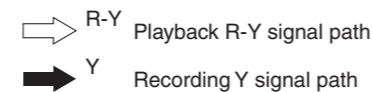
### 5. Signal path Symbols

The arrows indicate the signal path as follows.

**NOTE : The arrow is DVC unique object.**



(Example)



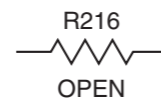
### 6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



### 7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



## CIRCUIT BOARD NOTES

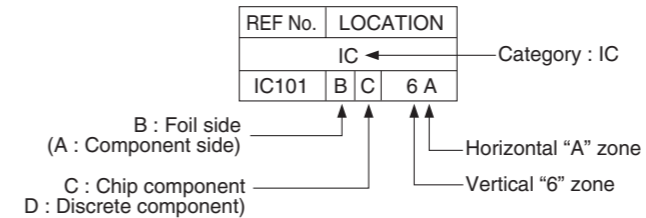
### 1. Foil and Component sides

- Foil side (B side) :  
Parts on the foil side seen from foil face (pattern face) are indicated.
- Component side (A side) :  
Parts on the component side seen from component face (parts face) indicated.

Parts location are indicated by guide scale on the circuit board.

### 2. Parts location guides

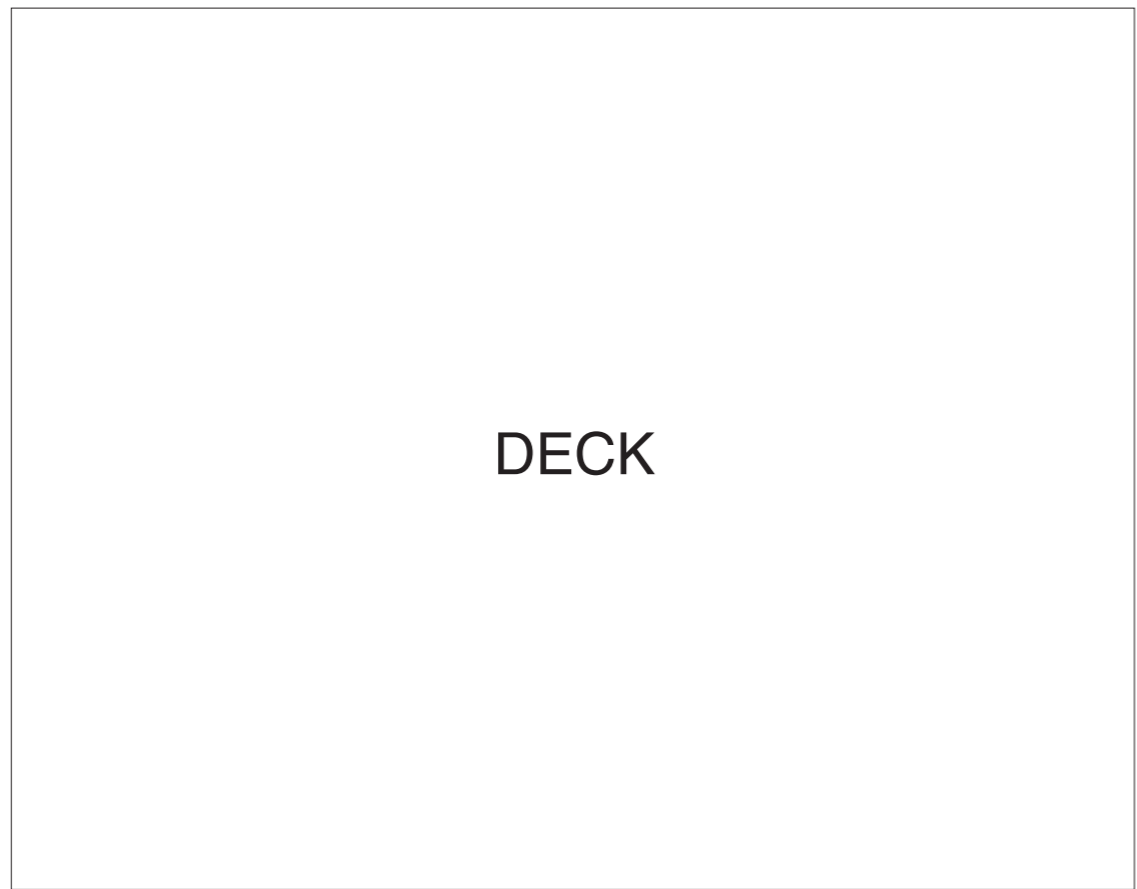
Parts location are indicated by guide scale on the circuit board.



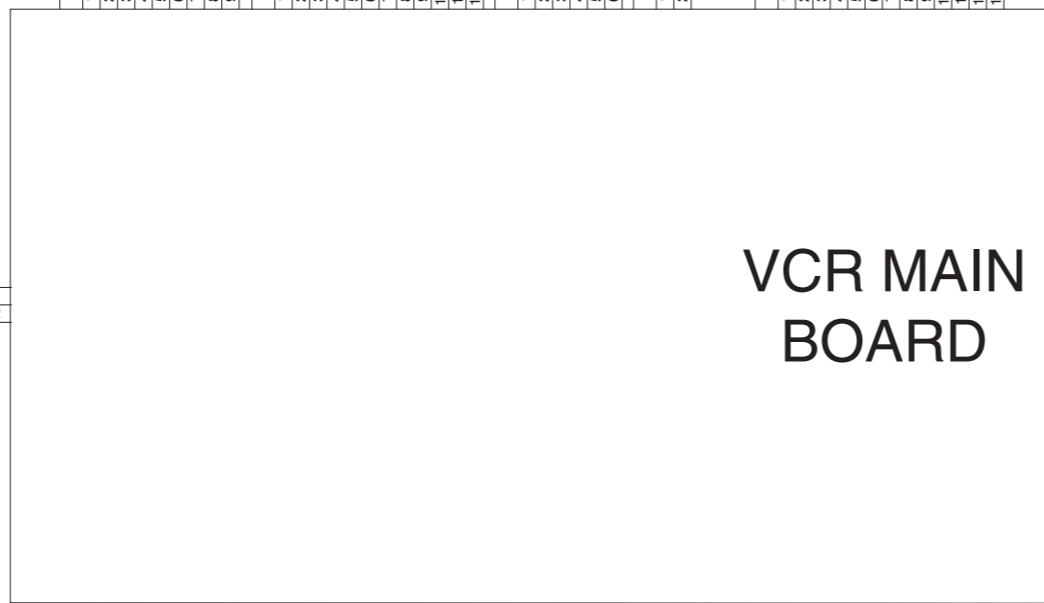
**Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).**

OVERALL WIRING DIAGRAM

5  
4  
3  
2  
1



1	K-RTN2	1
2	GND	2



AV	Page2-7	SHEET 2
SYSTEM	Page2-9	SHEET 3
TUNER/IF	Page2-11	SHEET 4
HiFi AUDIO	Page2-13	SHEET 5
SCART(JACK)	Page2-15	SHEET 6
DVD SERVO	Page2-17	SHEET 7
DVD AV/JACK	Page2-19	SHEET 8
DVD SYSTEM	Page2-21	SHEET 9

**P3D01**

1	SP PB A	1
2	SP REC	2
3	SP PB B	3
4	EP PB B	4
5	EP REC	5
6	EP PBA	6
7	Hi-Fi PBA	7
8	Hi-Fi REC	8
9	Hi-Fi PB B	9

**PMC01**

1	CFG	1
2	12VA(CAP)	2
3	5.2VA	3
4	CAP REVH	4
5	I-limit	5
6	MOTOR GND	6
7	GND	7
8	12VA(DRUM)	8
9	CAP CTL	9
10	LD IN	10
11	DFG/FG	11
12	DRUM CTL	12

**P3D02**

1	CTL(+)	1
2	CTL(-)	2
3	AE(+)	3
4	AE(-)	4
5	A.REC	5
6	A.PB	6

**P3D03**

1	GND	1
2	FULL ERASE	2

**PPM01**

1	MOTOR_Vcc	1
2	REG 12V	2
3	REG 9V	3
4	GND	4
5	8V	5
6	GND	6
7	3.3V	7
8	PWF CTL'H'	8
9	33V	9
10	GND	10
11	5.3VA	11
12	5V	12
13	MEV/5VT	13

**PMD01** **PMD02**

1	Vcc(HF)	1
2	RF	2
3	DVD LD	3
4	DVD PD	4
5	VOL(DVD)	5
6	GND	6
7	VC INPUT	7
8	Vcc(HF)	8
9	F	9
10	E	10
11	A	11
12	D	12
13	C	13
14	B	14
15	F(+)	15
16	T(-)	16
17	T(+)	17
18	F(-)	18
19	Vcc	19
20	GND	20
21	CD LD	21
22	CD PD	22
23	VOL(CD)	23

**PMD03**

1	SPM +	1
2	SPM -	2
3	FM +	3
4	FM -	4
5	LM -	5
6	LM +	6
7	SW(OPEN)	7
8	SW(CLOSE)	8
9	GND	9
10	SW(LEAD IN)	10
11	GND	11

A | B | C | 2-3 D | 2-4 | E | F | G



# POWER(SMPS) CIRCUIT DIAGRAM

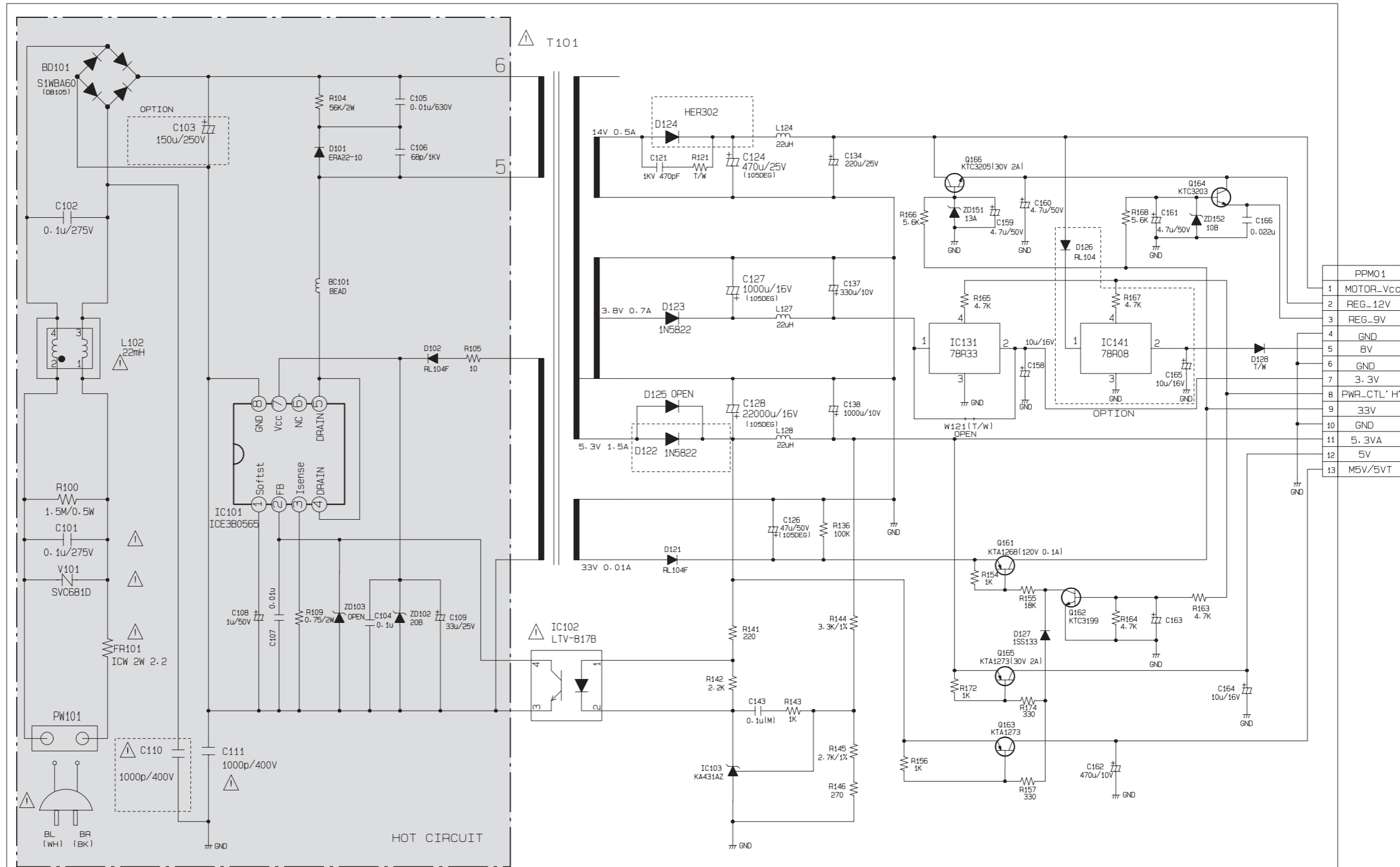
## IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE JVC ELECTRONICS CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIR-

CUIT. SPECIAL COMPONENTS ARE SHADED ON THE SCHEMATIC FOR EASY IDENTIFICATION. THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

## NOTE :

1. Shaded(■) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.



NOTES ⊥ Symbol denotes AC ground.  
⌞ Symbol denotes DC chassis ground.

NOTE) ▲ Warning  
Parts that are shaded are critical  
With respect to risk of fire or  
electrical shock.

	C103
WIDE	68u/400V
NARROW	150u/250V
C1S:INDO-S:AFRICA	68u/450V

	D124	D122
WIDE	UF9402	D3SEM
NARROW	HER302	1N5822

	C110
N. T	1000p/400V
PAL	OPEN

	D126	R167	IC141	C165
ZORAN	OPEN	OPEN	OPEN	OPEN
M. T. K	RL104	4.7K	78R08	10u/16V

# A/V CIRCUIT DIAGRAM

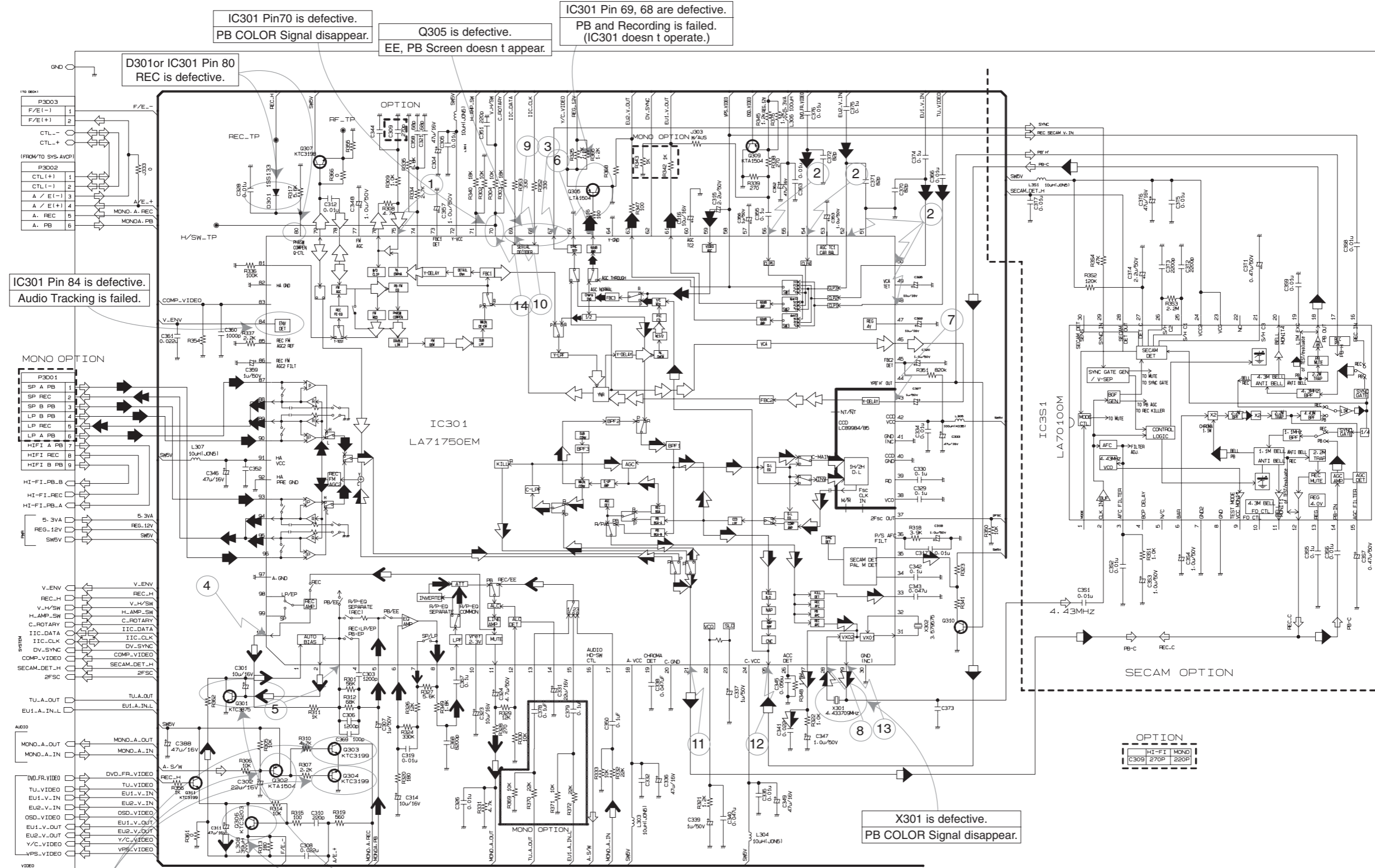
5

4

3

2

1



IC301 Pin 84 is defective.  
Audio Tracking is failed.

IC301 Pin70 is defective.  
PB COLOR Signal disappear.

Q305 is defective.  
EE, PB Screen doesn't appear.

IC301 Pin 69, 68 are defective.  
PB and Recording is failed.  
(IC301 doesn't operate.)

D301 or IC301 Pin 80  
REC is defective.

MONO OPTION

IC301  
LA71750EM

SECAM OPTION

OPTION  
C309 270P MONO  
220P

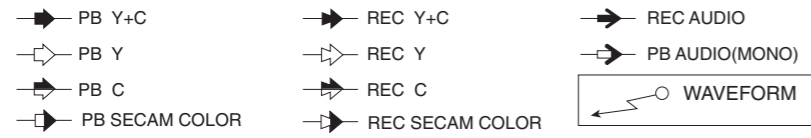
X301 is defective.  
PB COLOR Signal disappear.

Q302, Q303, Q314  
are defective.  
No mono Audio Signal  
in PB MODE.

Q301, Q306 are defective.  
Normal Audio signal is not recorded.

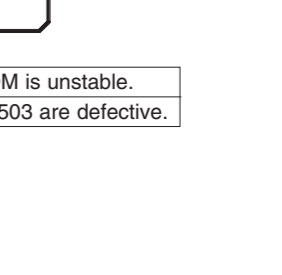
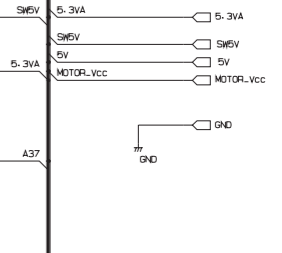
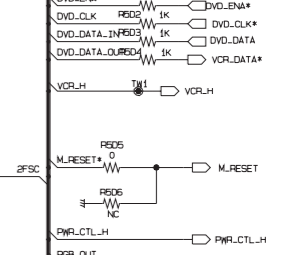
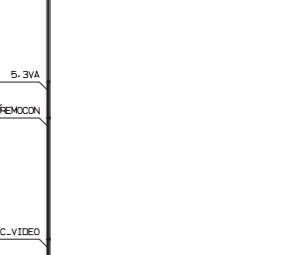
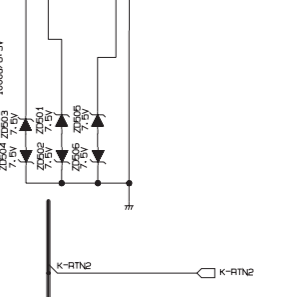
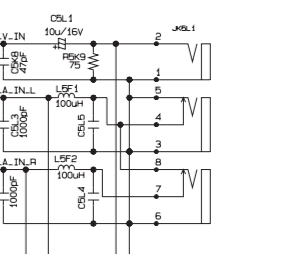
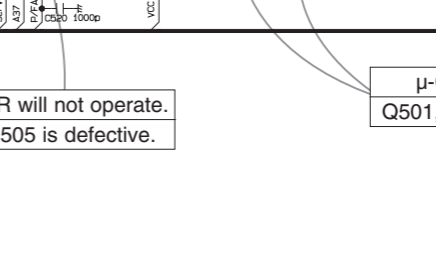
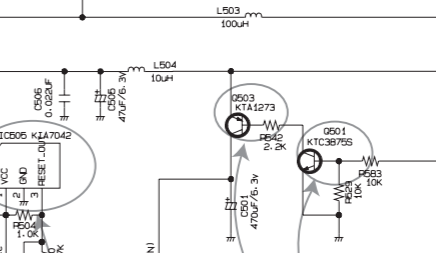
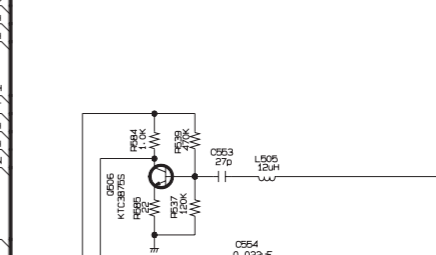
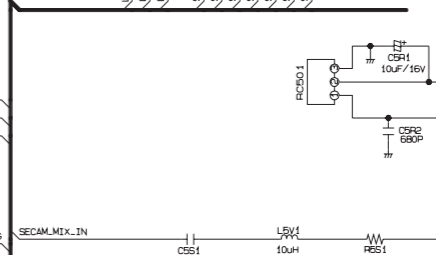
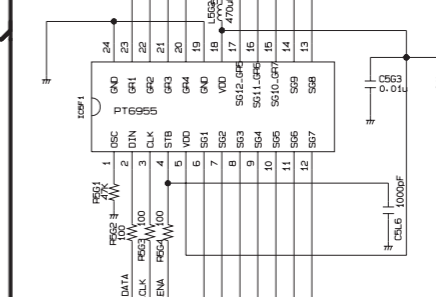
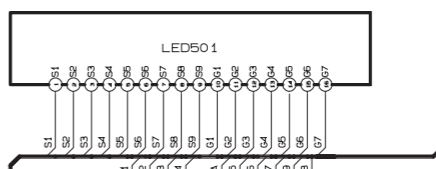
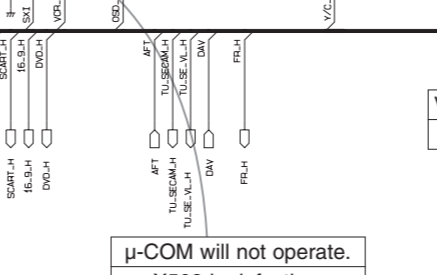
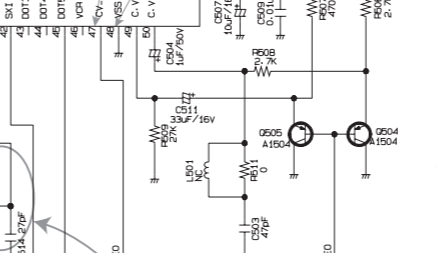
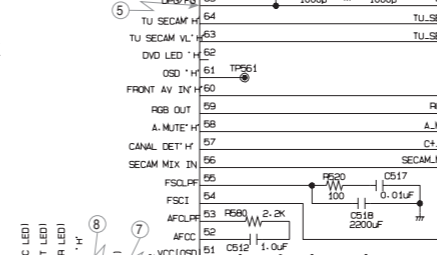
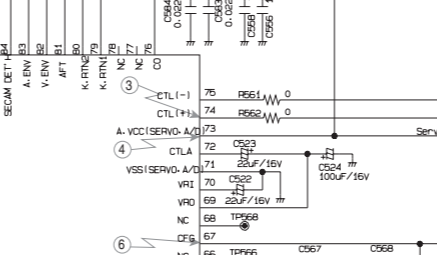
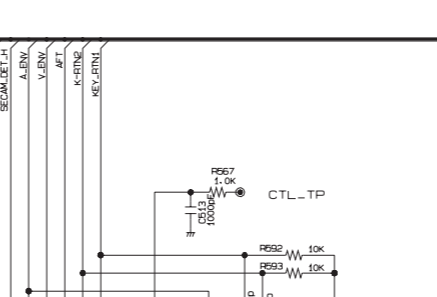
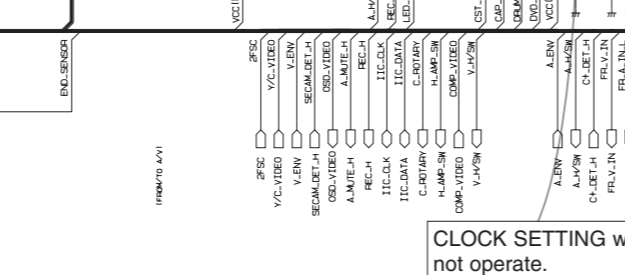
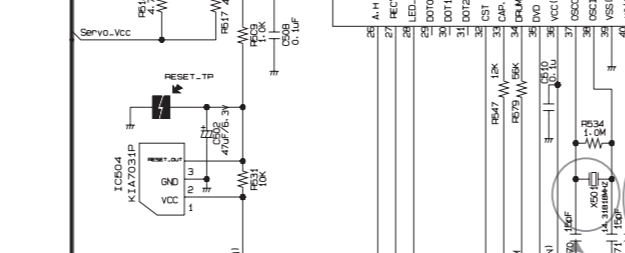
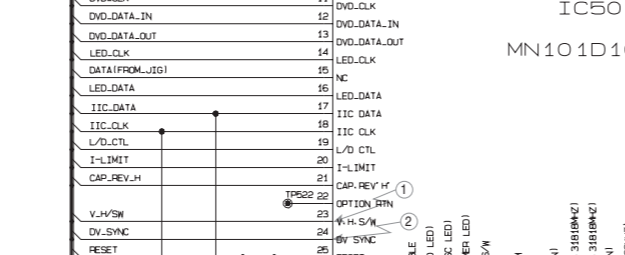
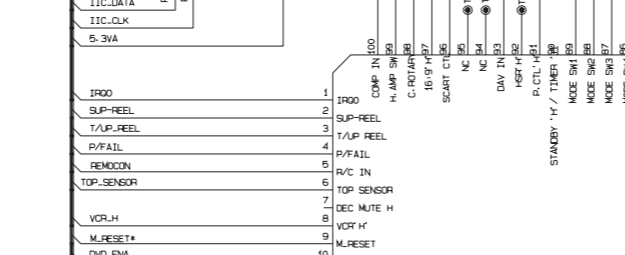
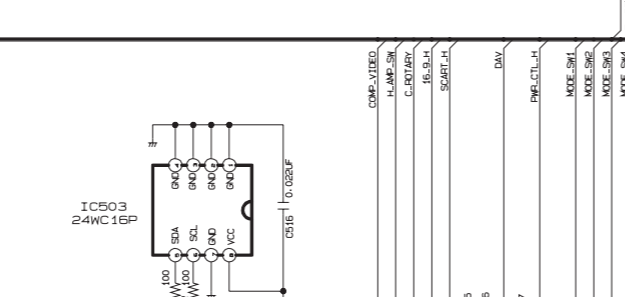
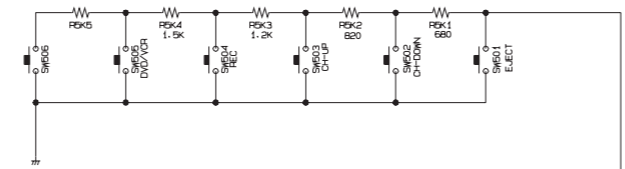
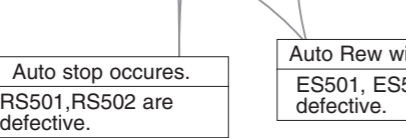
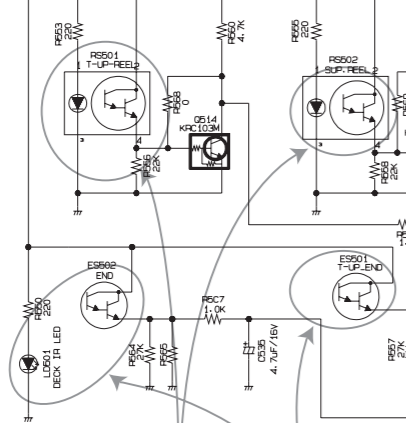
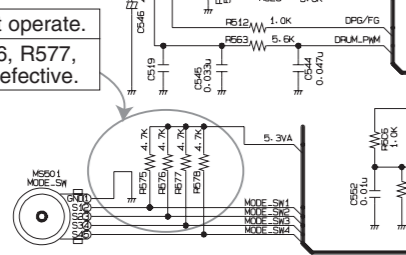
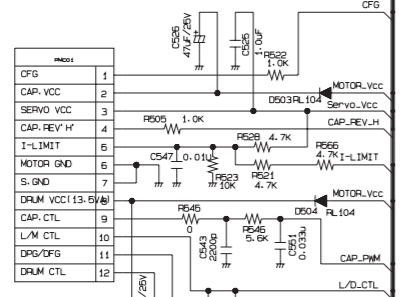
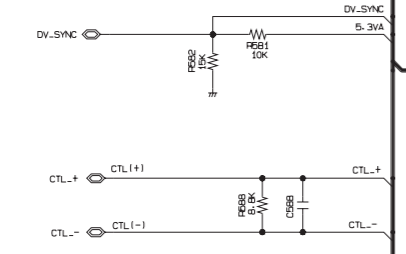
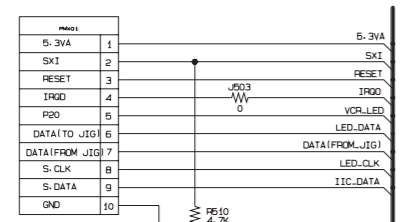
OPTION

	HI-FI	MONO
C378	X	O
C379	X	O
R369	X	O
R370	X	O
R371	X	O
R372	X	O
R343	1K	O
R342	1K	O



SYSTEM CIRCUIT DIAGRAM

5  
4  
3  
2  
1



Deck will not operate.  
R575, R576, R577,  
R578 are defective.

Auto stop occurs.  
RS501, RS502 are  
defective.

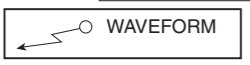
Auto Rew will not working.  
ES501, ES502, LD501 are  
defective.

CLOCK SETTING will  
not operate.  
X501 is defective.

μ-COM will not operate.  
X502 is defective.

VCR will not operate.  
IC505 is defective.

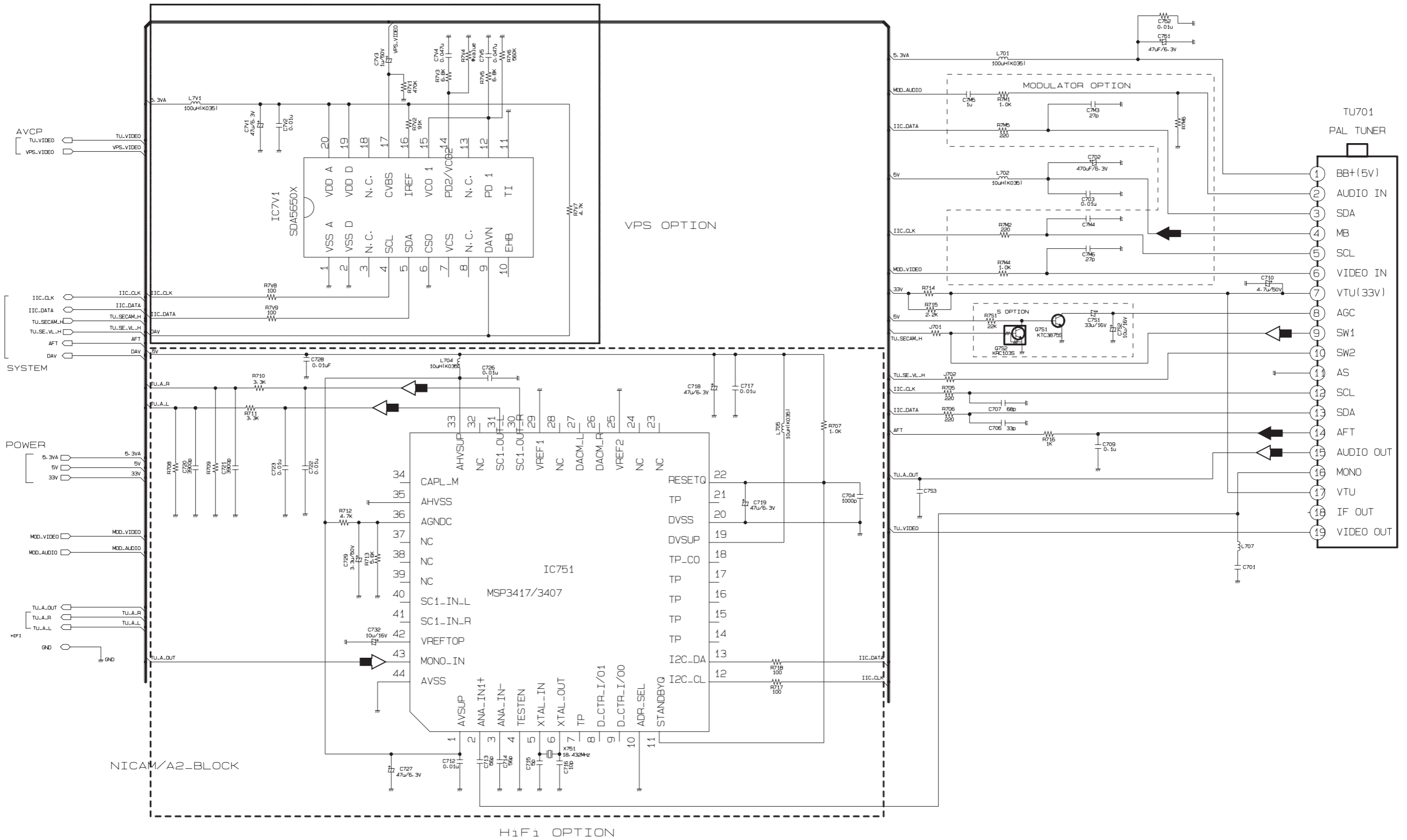
μ-COM is unstable.  
Q501, Q503 are defective.



A B C D E F G

# TUNER/IF CIRCUIT DIAGRAM

5  
4  
3  
2  
1



- ➡ EE MODE (VIDEO)
- ➡ TU MODE (AUDIO)

A B C D E F G

2-11 D 2-12 E

# Hi-Fi AUDIO CIRCUIT DIAGRAM

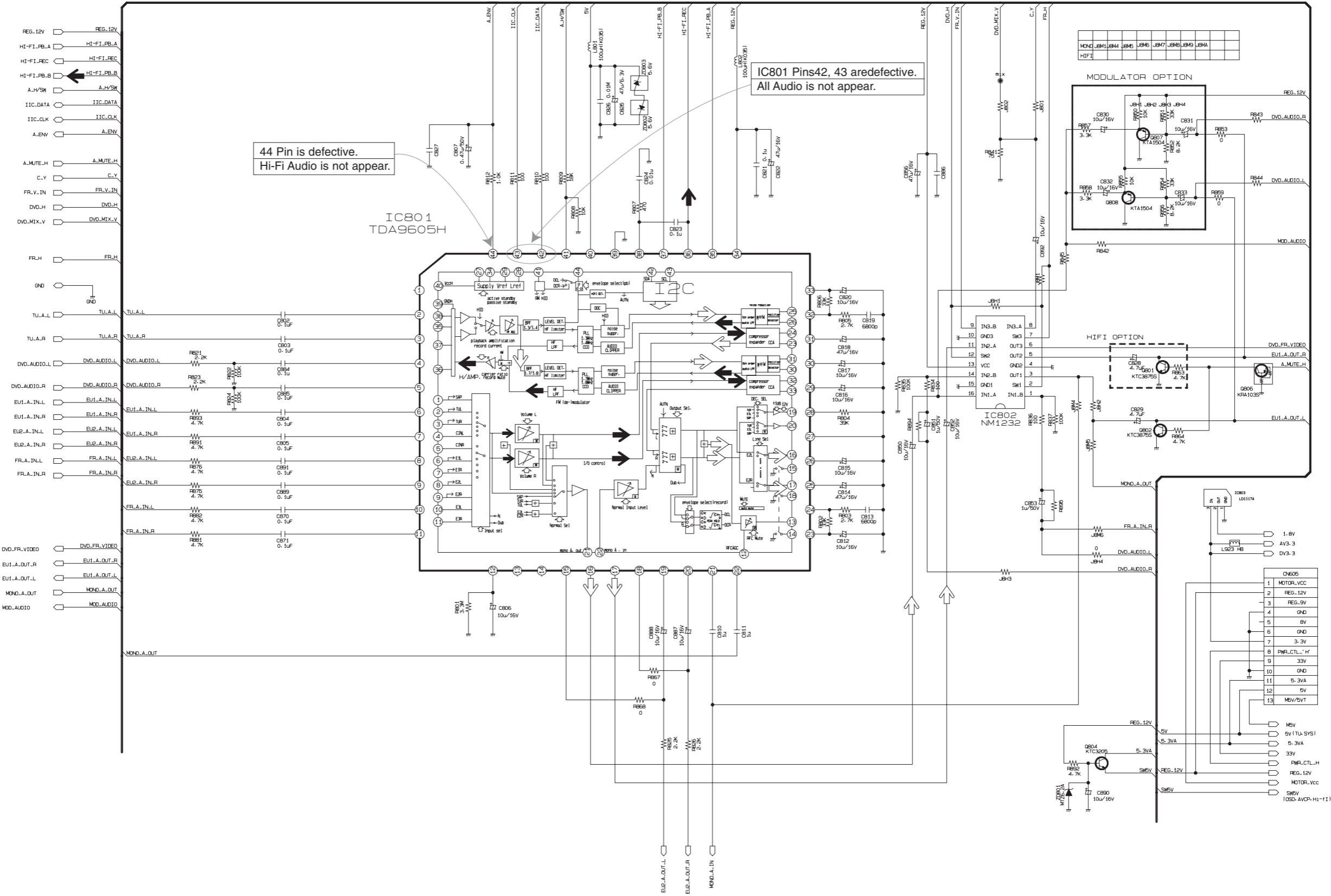
5

4

3

2

1



44 Pin is defective.  
Hi-Fi Audio is not appear.

IC801 Pins 42, 43 are defective.  
All Audio is not appear.

IC801  
TDA9605H

IC802  
NM1232

MODULATOR OPTION

HIFI OPTION

Pin	Signal
1	MOTOR_VCC
2	REG_12V
3	REG_5V
4	GND
5	5V
6	GND
7	3-3V
8	PMR_CTL_H
9	33V
10	GND
11	5-3VA
12	5V
13	MBV/5V7

1	REG_12V
2	5V
3	5-3VA
4	33V
5	REG_12V
6	MOTOR_VCC
7	5V7
8	5-3VA
9	5V
10	5V7
11	5-3VA
12	5V
13	5V7



A

B

C

2-13

2-14

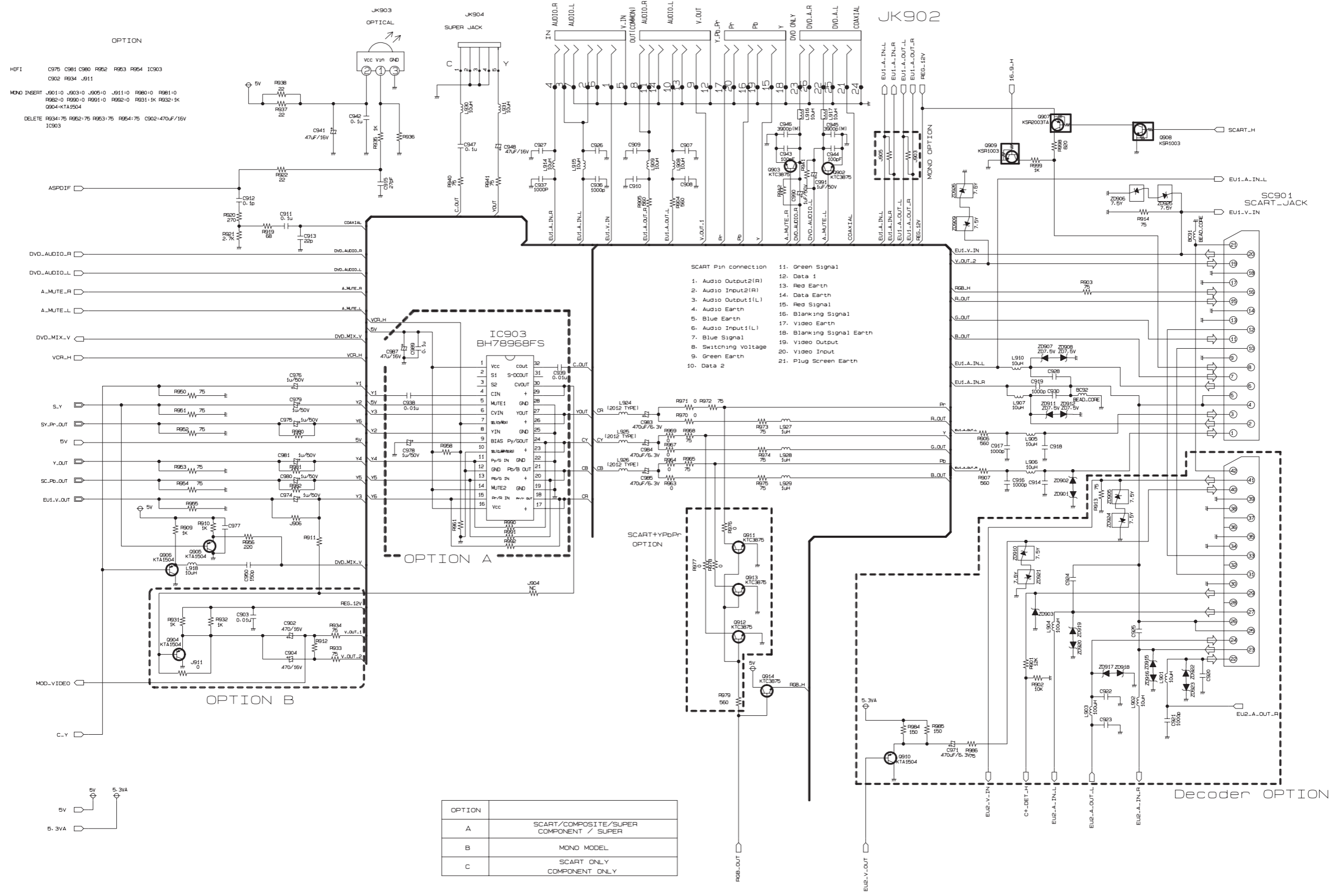
E

F

G

# SCART(JACK) CIRCUIT DIAGRAM

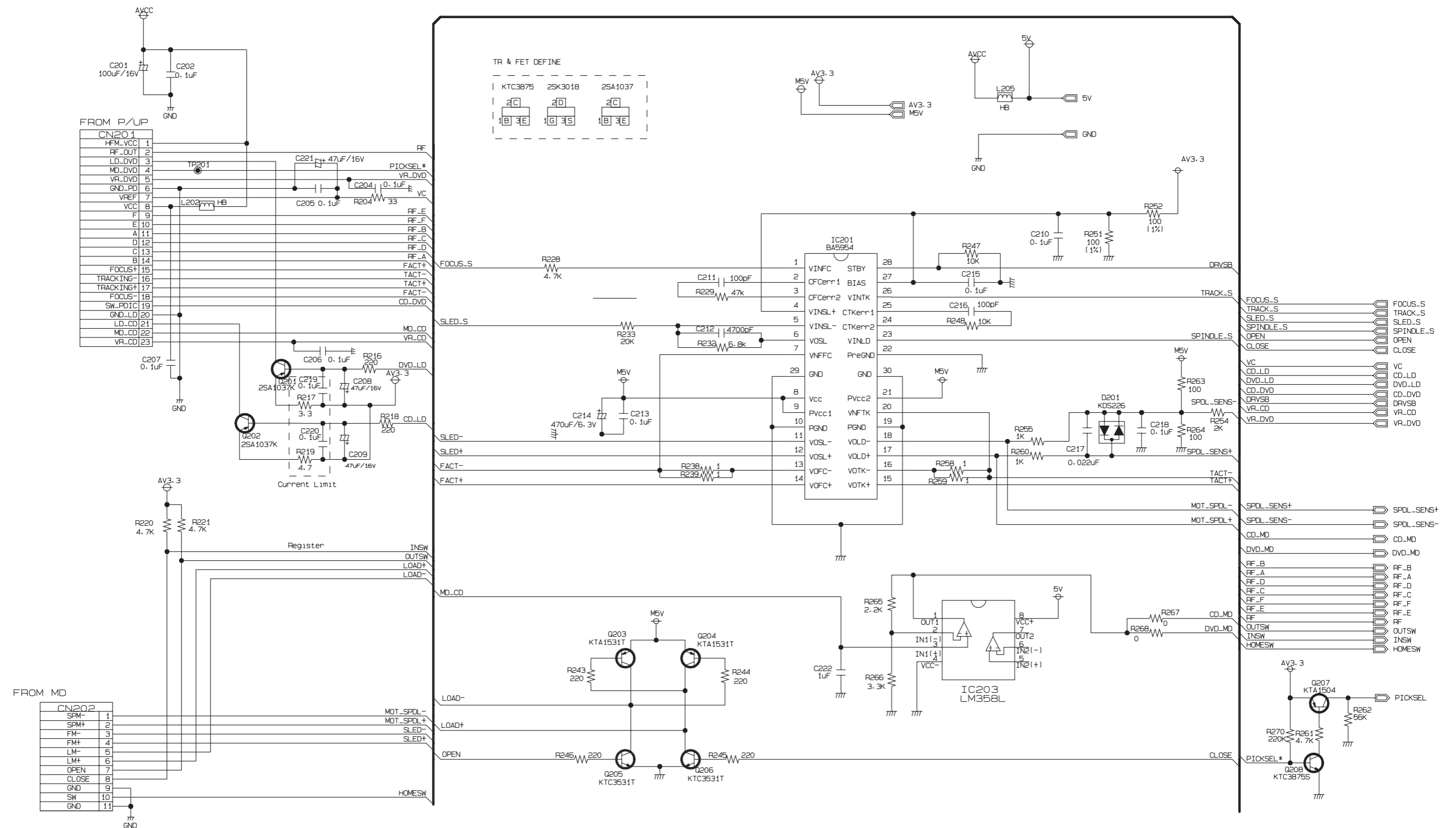
5  
4  
3  
2  
1



OPTION	
A	SCART/COMPOSITE/SUPER COMPONENT / SUPER
B	MONO MODEL
C	SCART ONLY COMPONENT ONLY

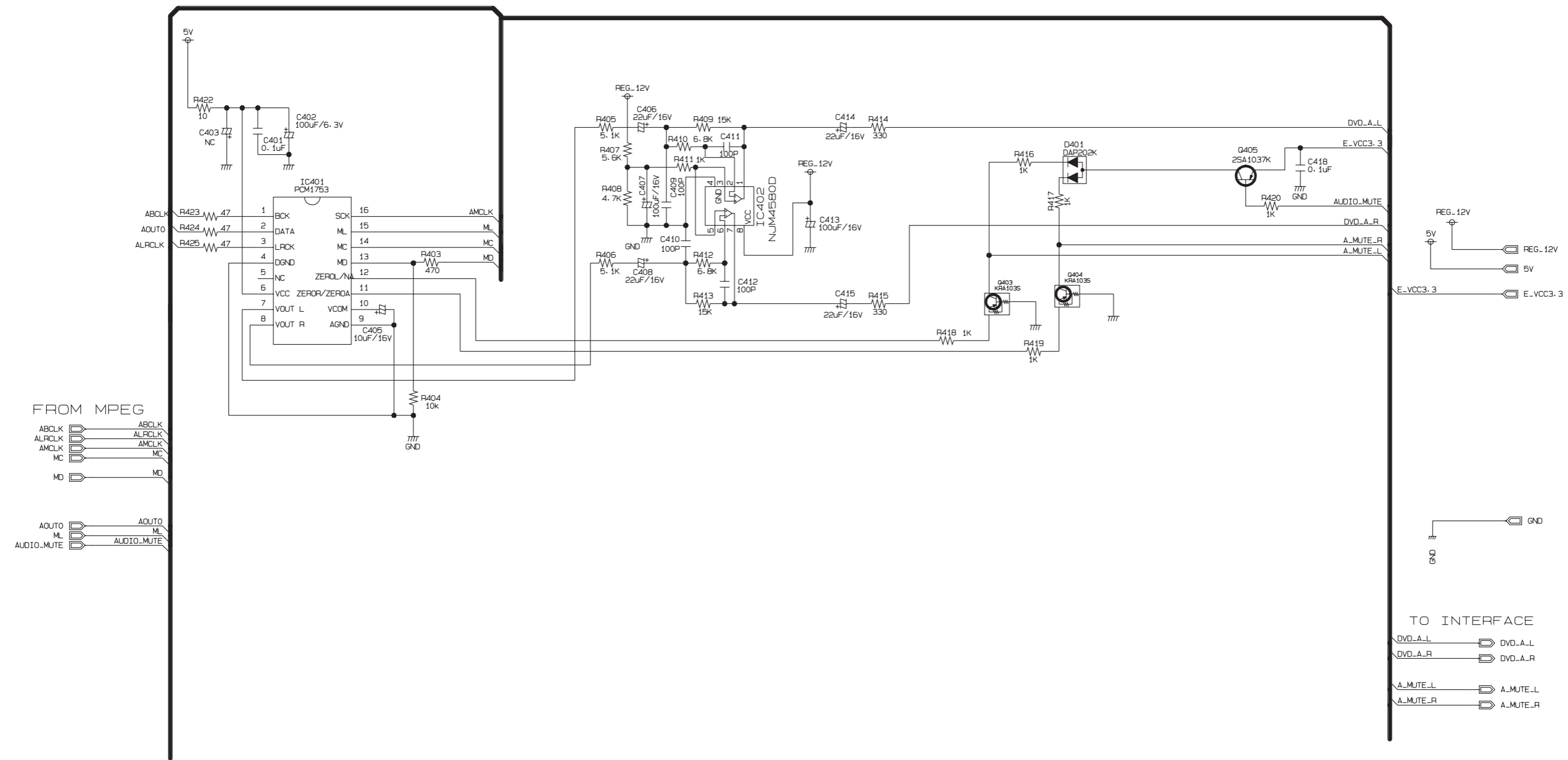
# DVD SERVO CIRCUIT DIAGRAM

5  
4  
3  
2  
1



# DVD AV/JACK CIRCUIT DIAGRAM

5  
4  
3  
2  
1



FROM MPEG

ABCLK  
ALRCLK  
AMCLK  
MC  
MD

AOUT0  
ML  
AUDIO\_MUTE

TO INTERFACE

DVD\_A-L  
DVD\_A-R  
A\_MUTE\_L  
A\_MUTE\_R

A B C D E F G



DVD SYSTEM CIRCUIT DIAGRAM

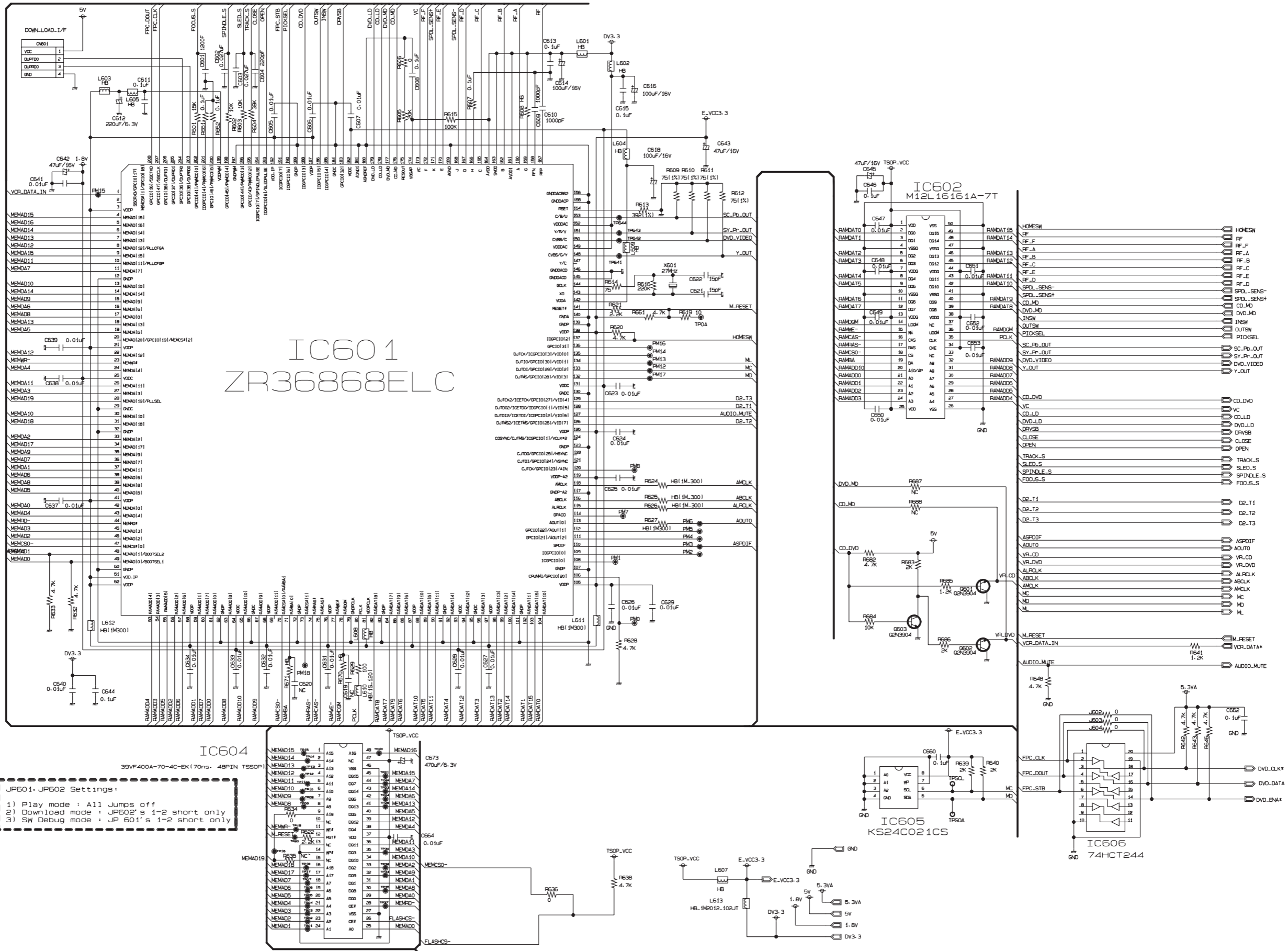
5

4

3

2

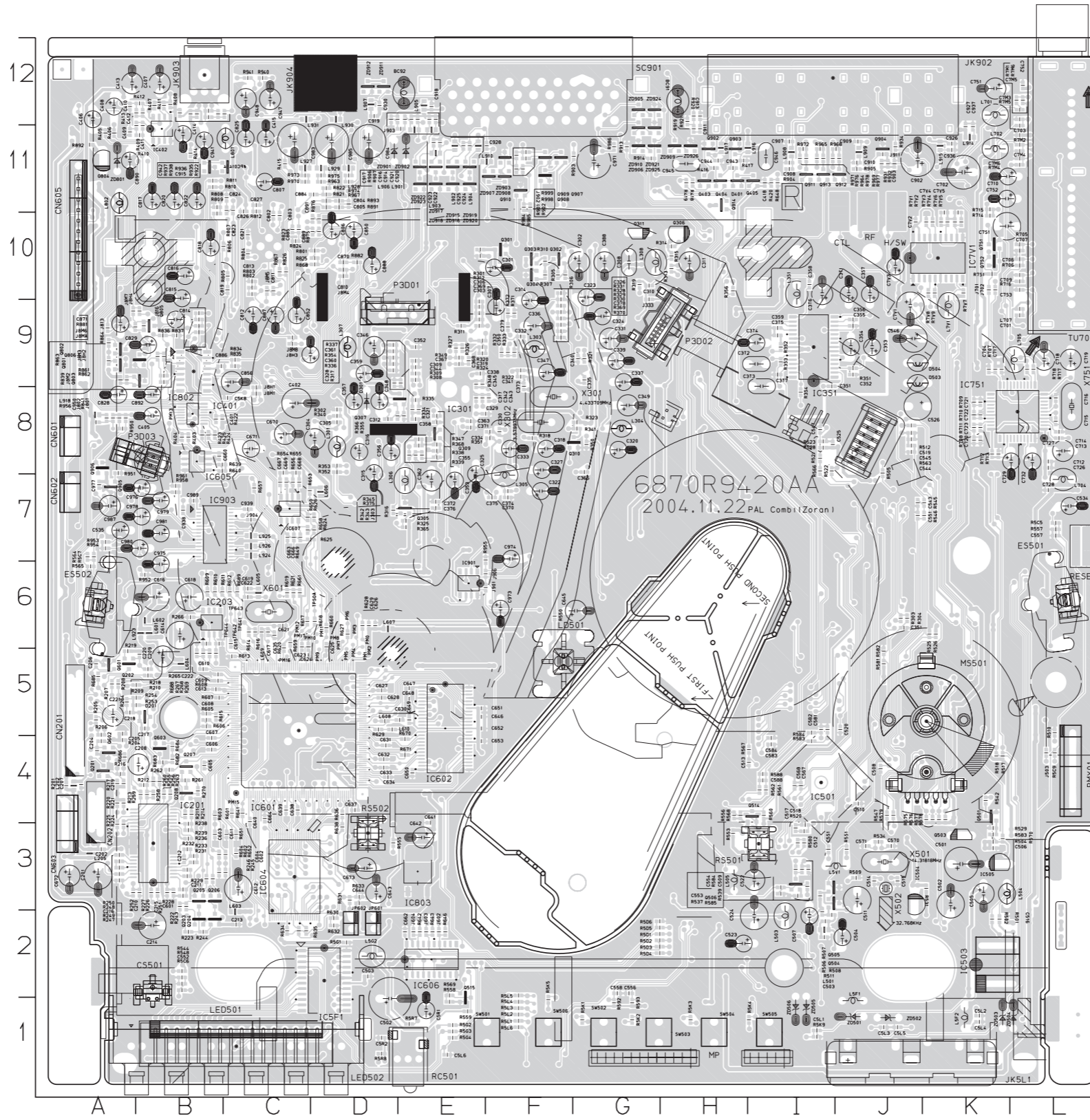
1



JP601, JP602 Settings:

- 1) Play mode : All Jumps off
- 2) Download mode : JP502's 1-2 short only
- 3) SW Debug mode : JP 601's 1-2 short only

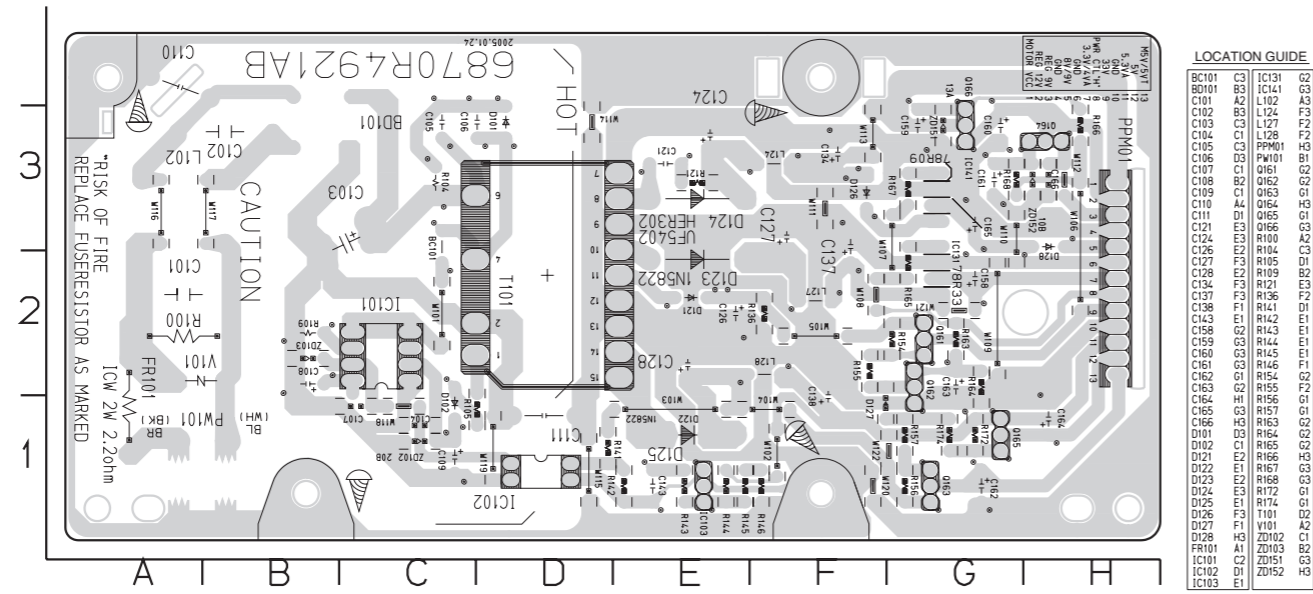
-TOP SIDE-



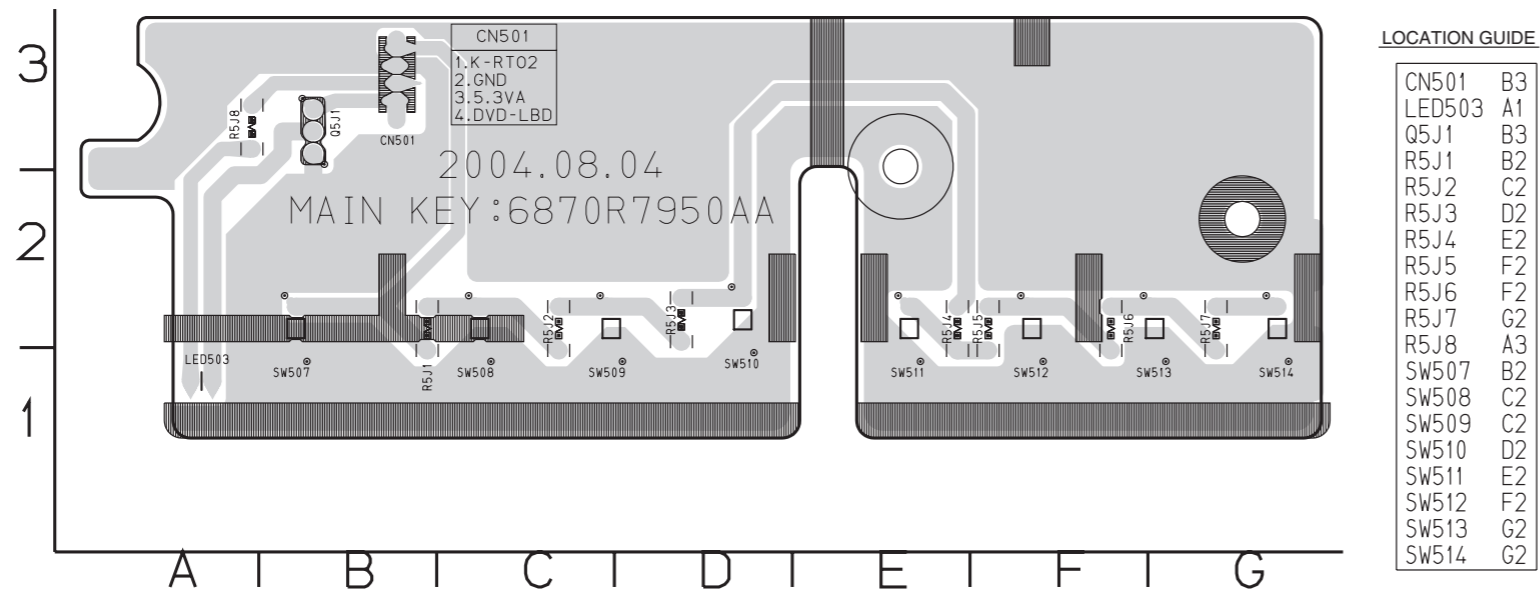




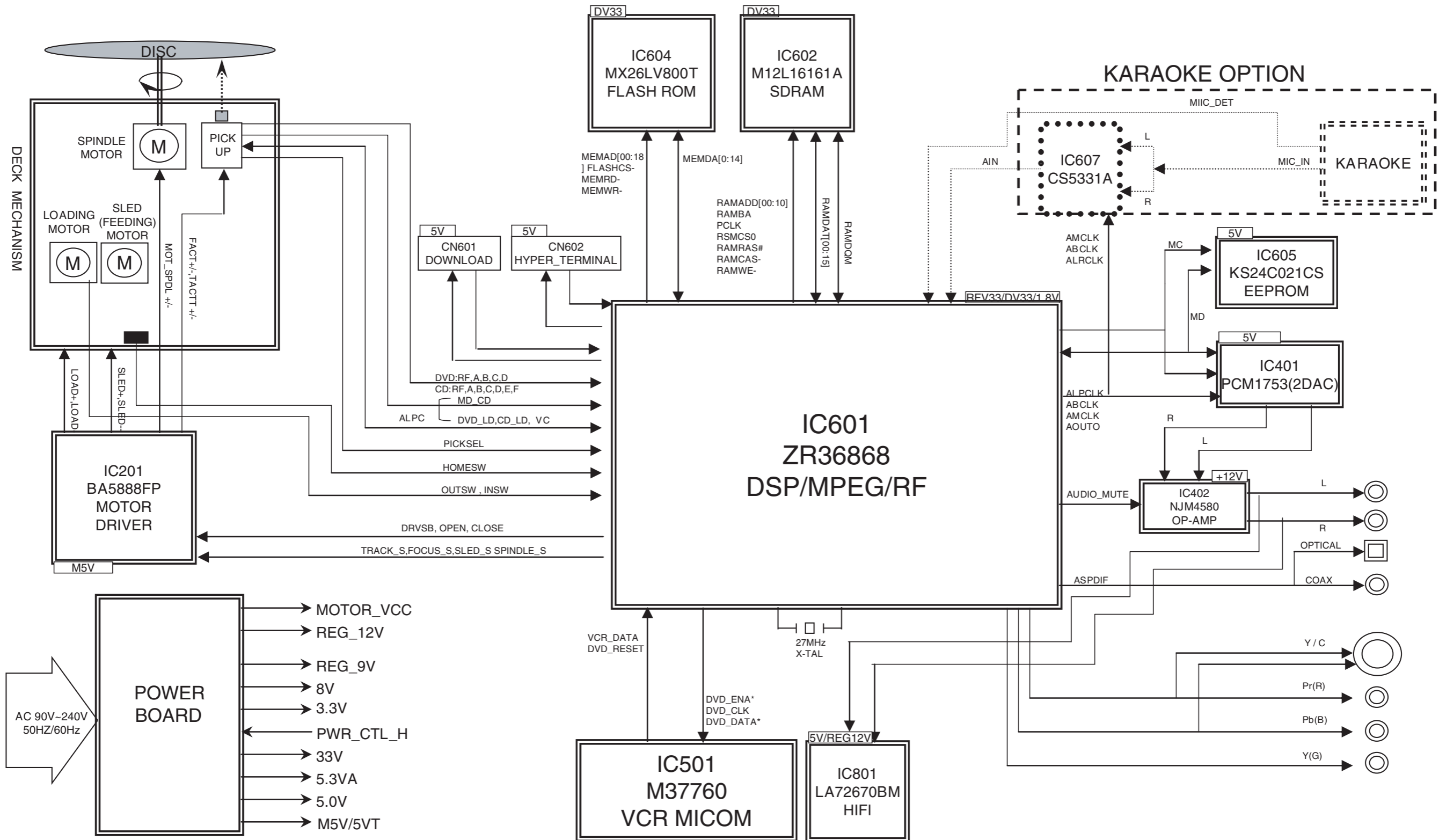
■ POWER BOARD



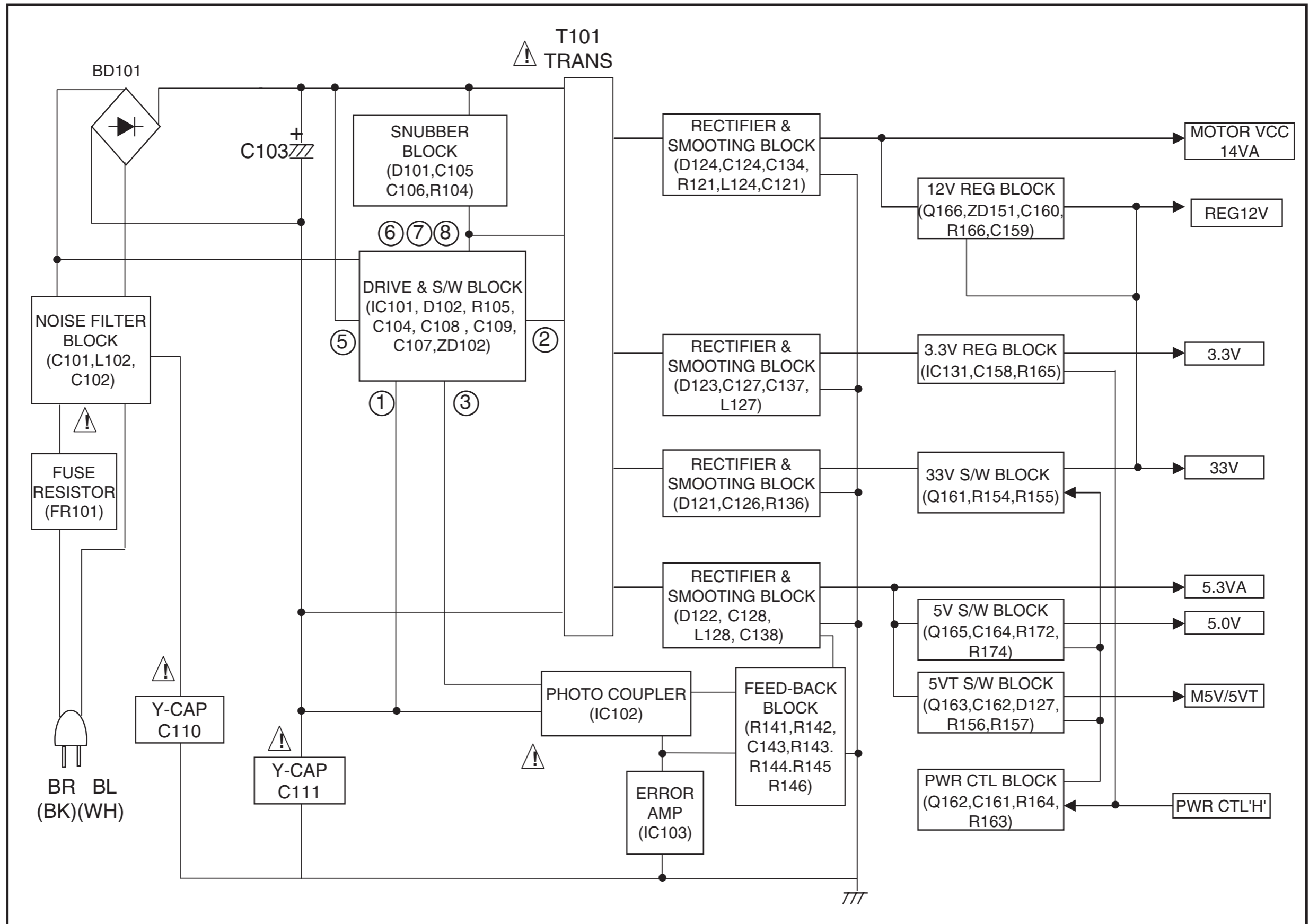
■ KEY BOARD



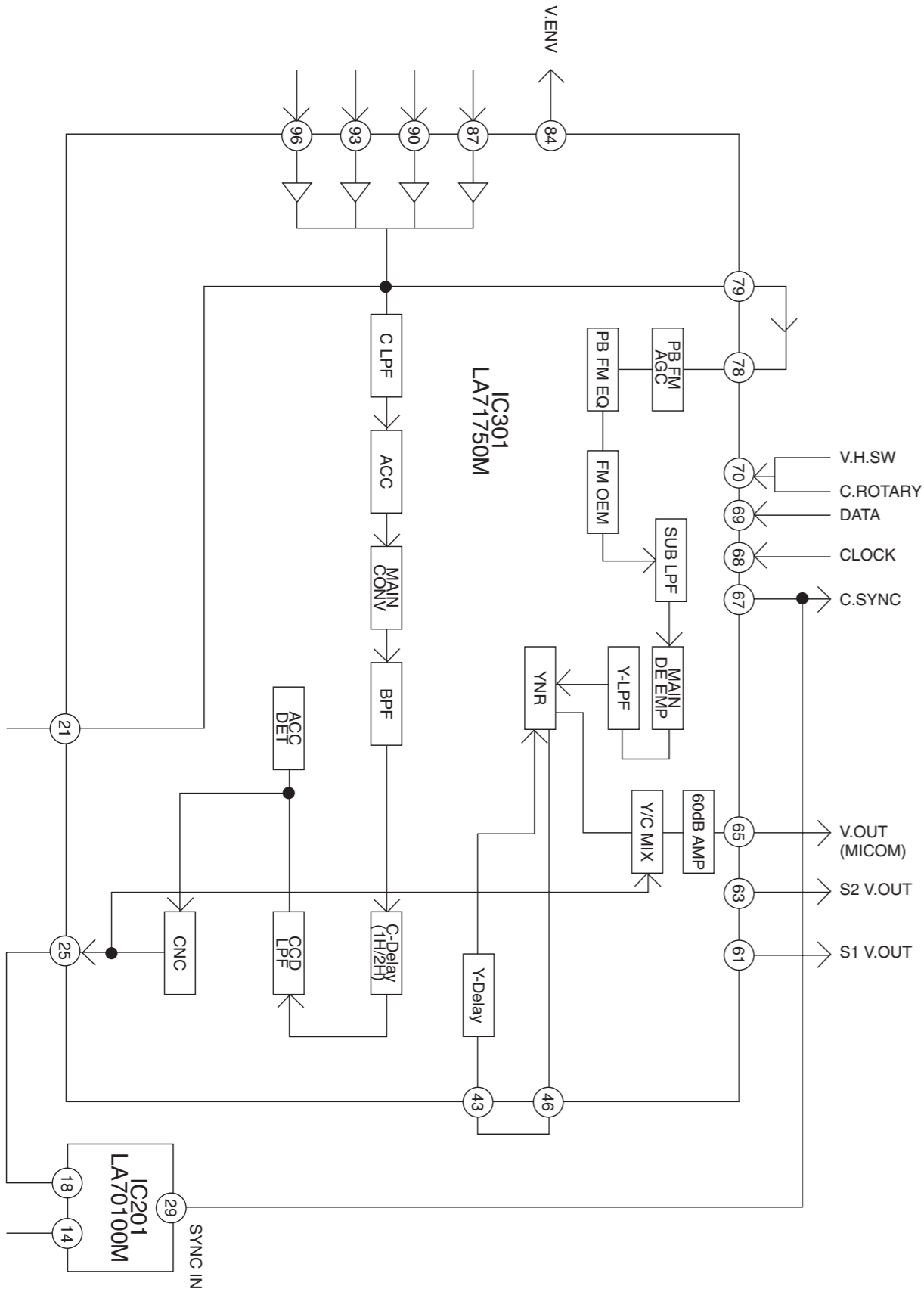
OVERALL BLOCK DIAGRAM



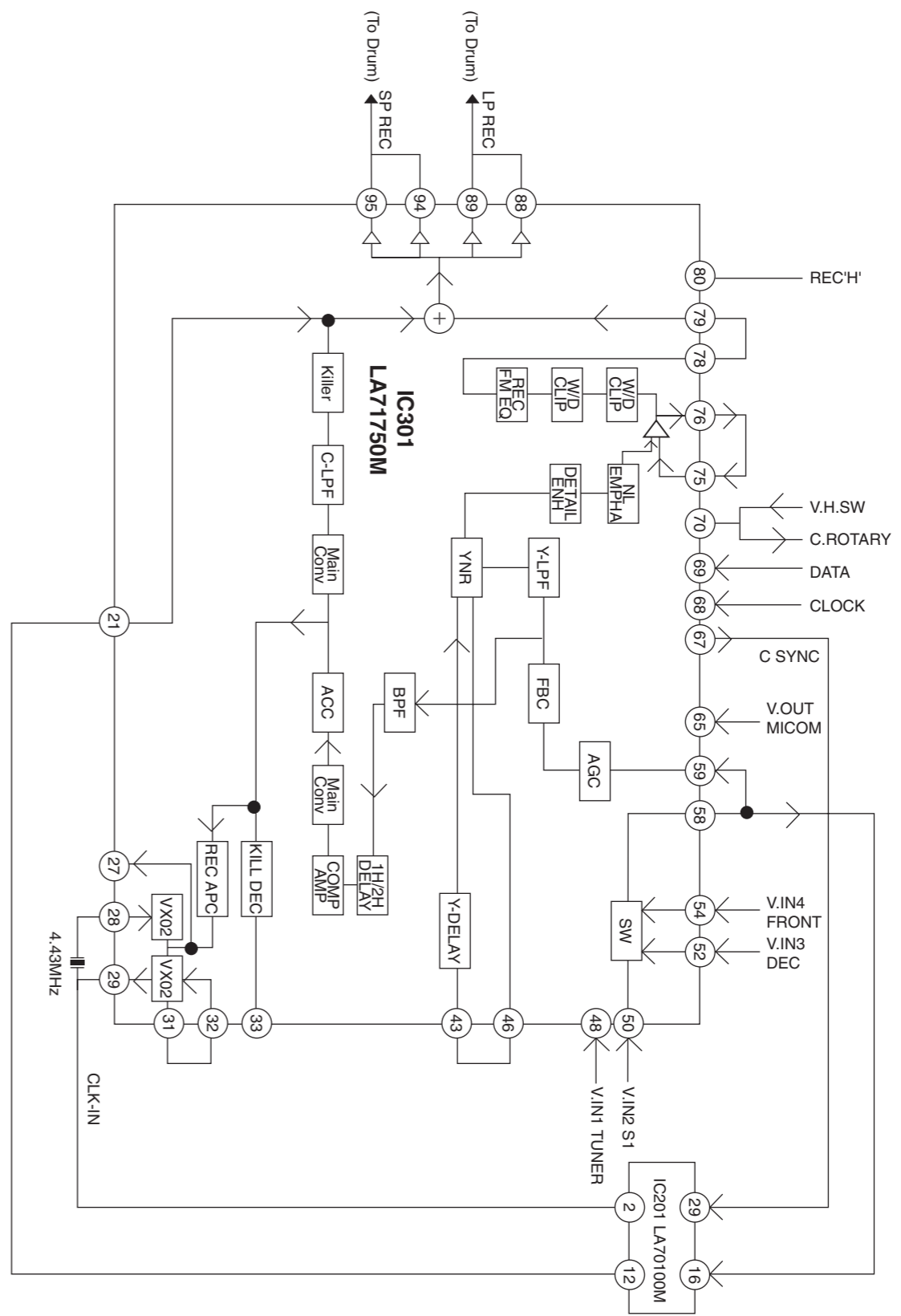
■ POWER(SMPS) BLOCK DIAGRAM



■ Y/C BLOCK DIAGRAM  
(PB Mode)



(REC Mode)

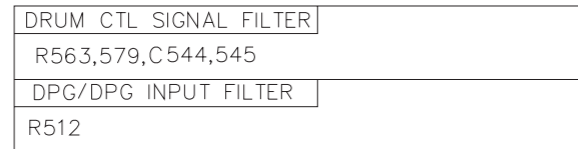




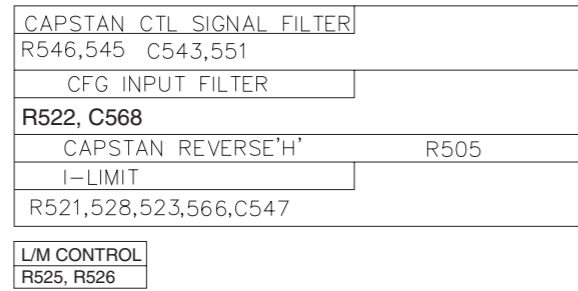
SYSTEM BLOCK DIAGRAM

PMCO1	
CFG	1
CAP.Vcc(13/24VA)	2
5.4VA	3
CAR.REV "H"	4
I-Limit	5
MOTOR GND	6
S.GND	7
DRUM(L/M) Vcc	8
CAP.CONTROL	9
L/M CONTROL	10
DPG/DFG	11
DRUM CTL	12

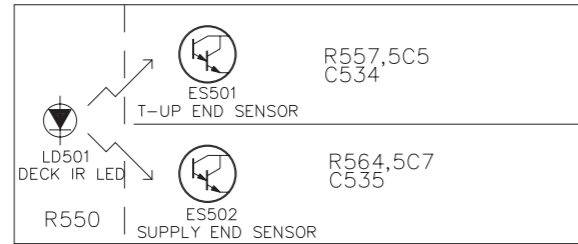
DRUM MOTOR CONTROL BLOCK



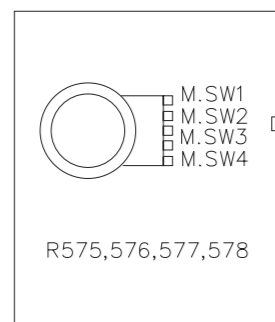
CAPSTAN MOTOR CONTROL BLOCK



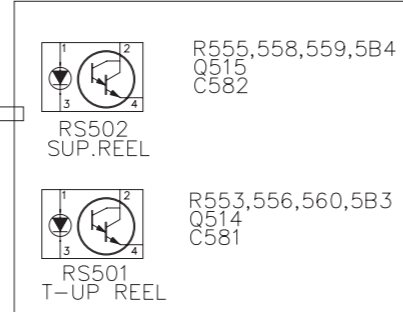
END SENSOR BLOCK



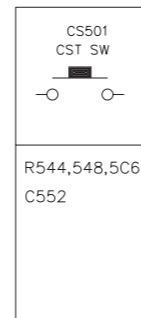
MODE SWITCH



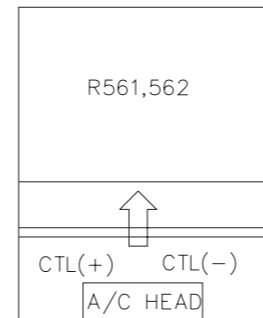
REEL SENSOR BLOCK



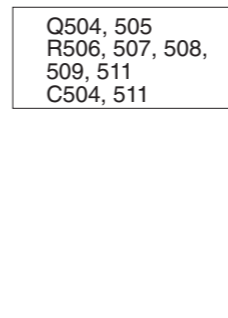
CST SWITCH



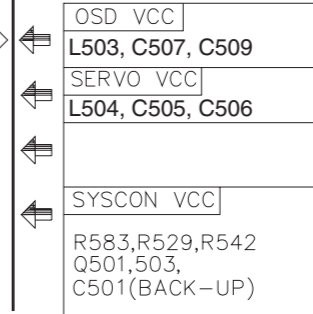
CTL AMP BLOCK



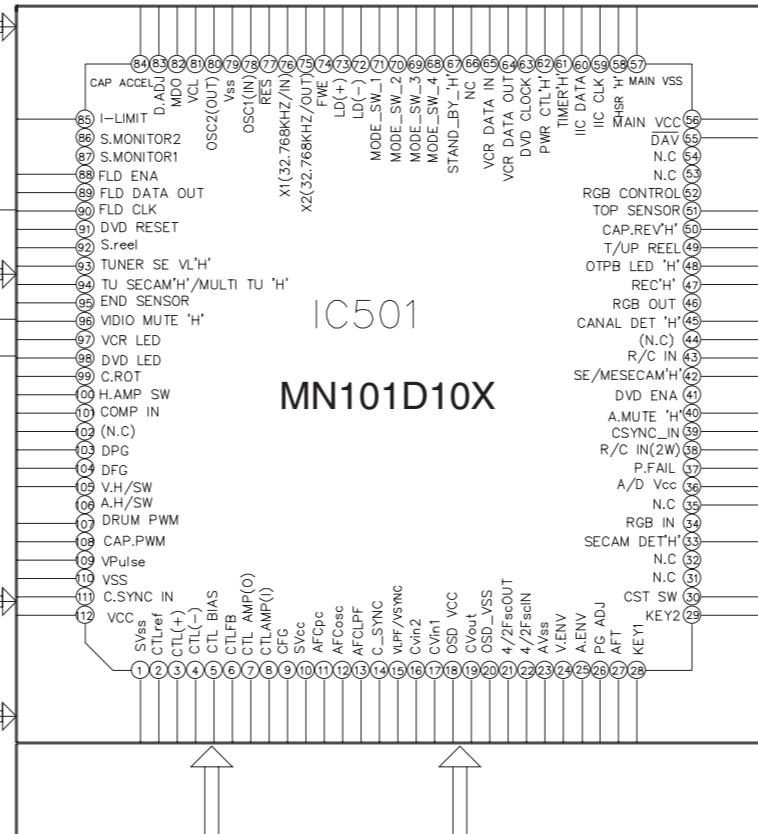
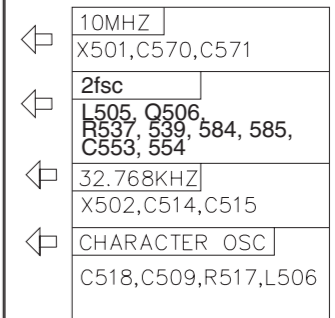
OSD BLOCK



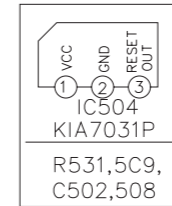
VCC INPUT BLOCK



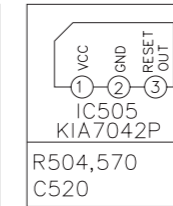
OSC BLOCK



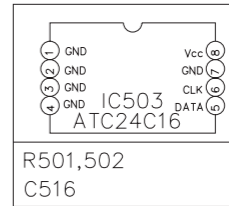
RESET



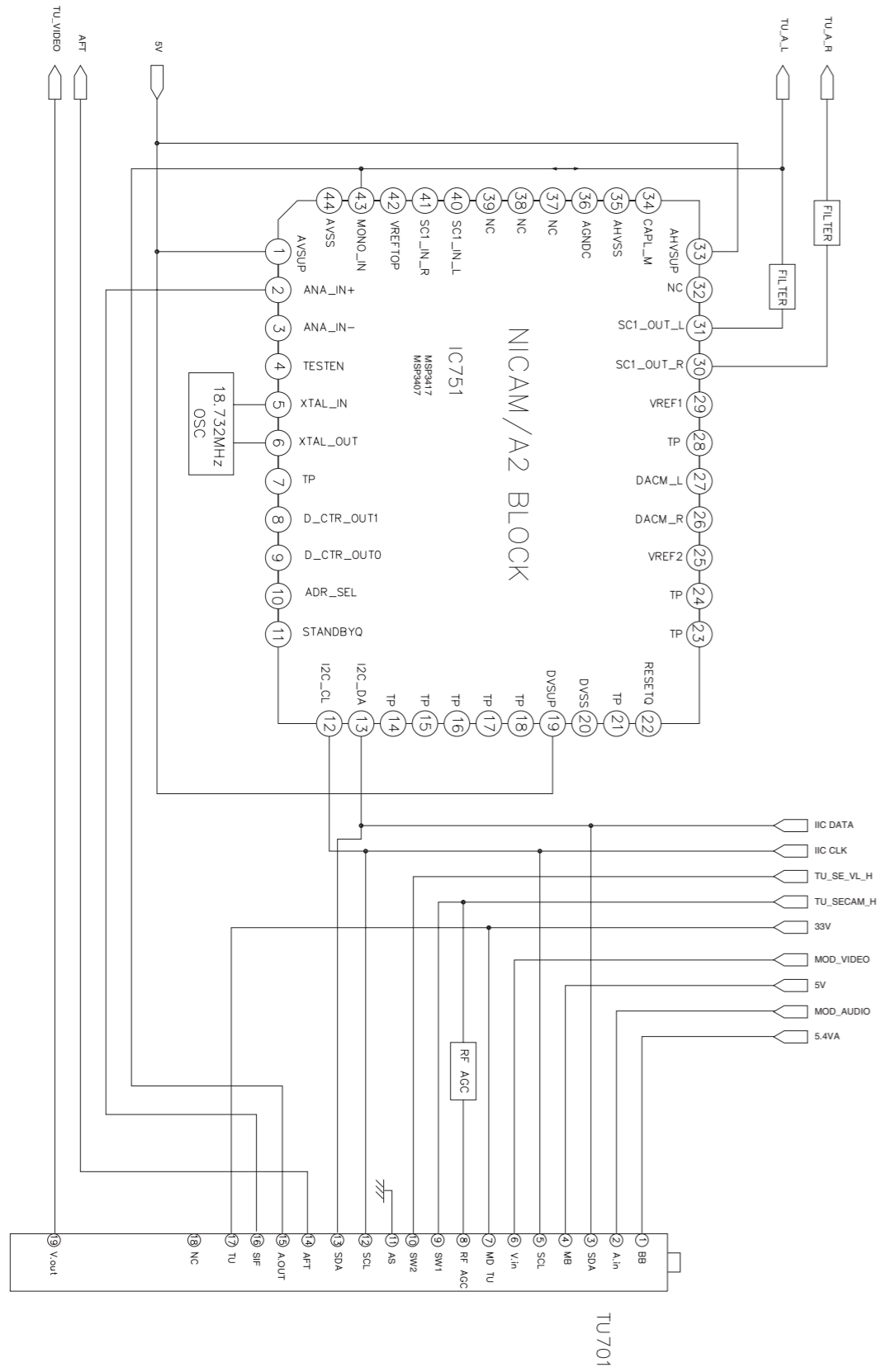
POWER FAIL



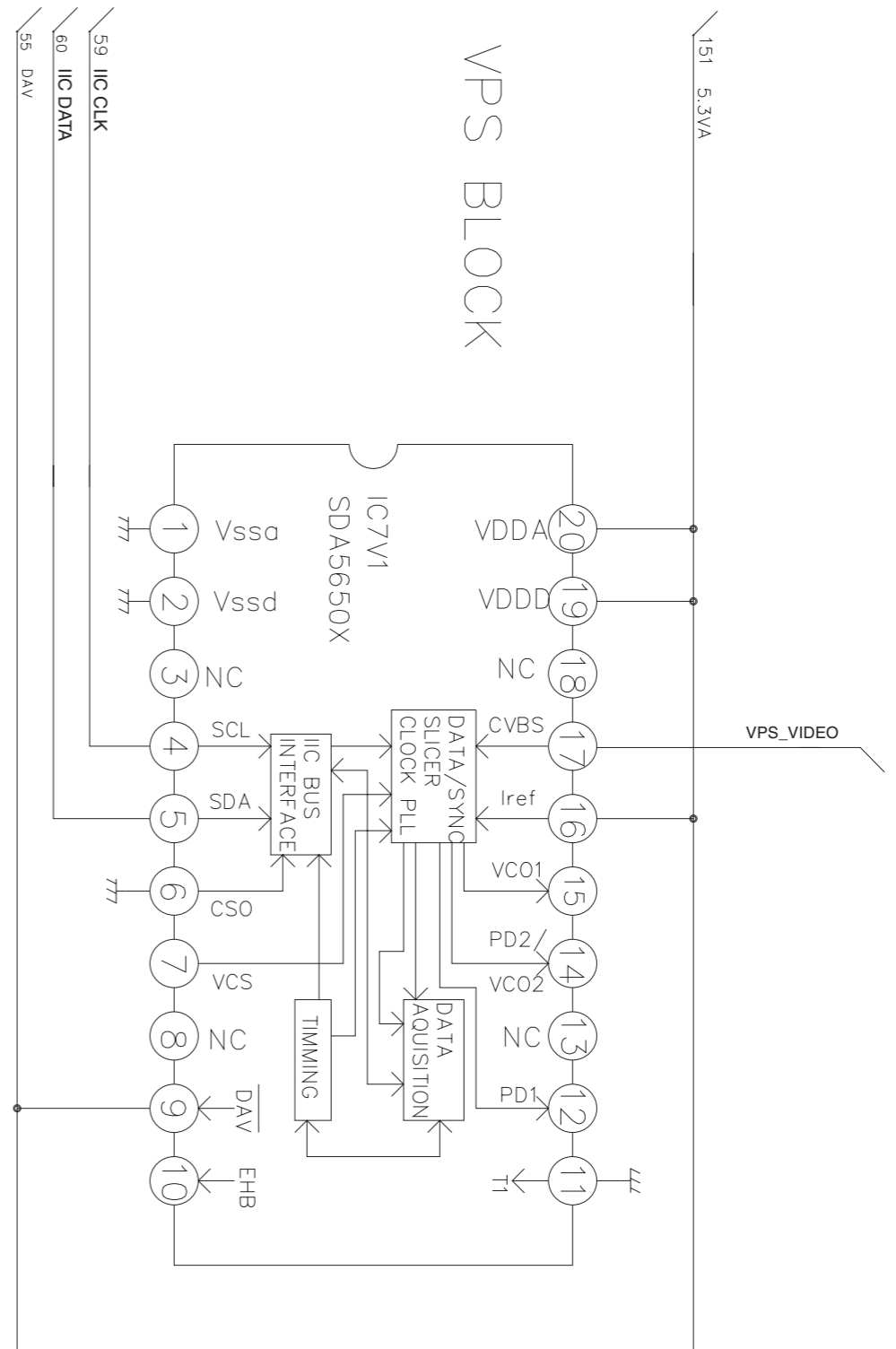
EEPROM



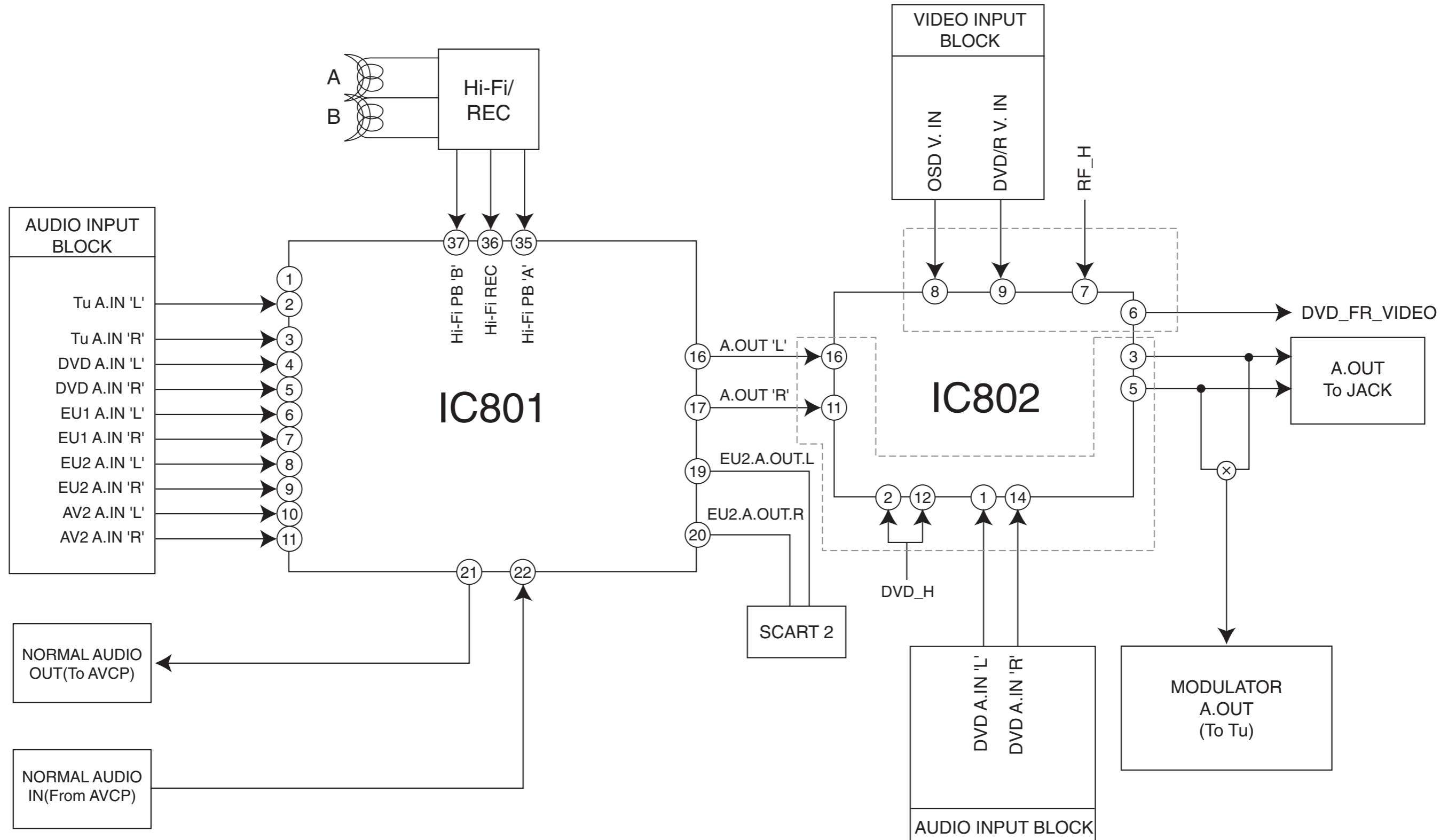
■ TUNER/IF, NICAM & A2 BLOCK DIAGRAM



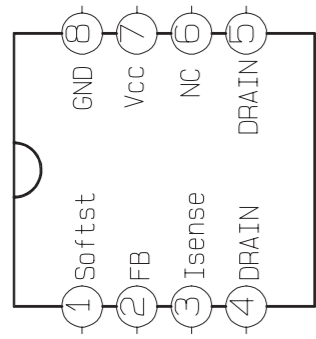
■ VPS BLOCK DIAGRAM



■ Hi-Fi AUDIO BLOCK DIAGRAM



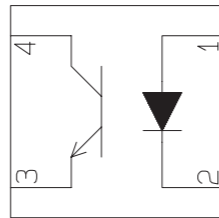
IC BLOCK



IC101  
ICE3B0565

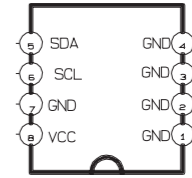
IC101\_ICE3B0565

IC102  
LTV-817B



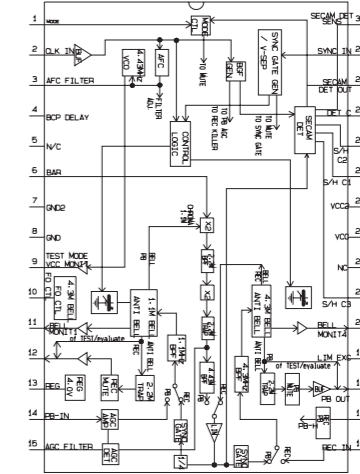
IC102\_LTV-817B

IC503  
24WC16P

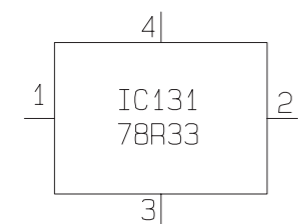


IC503\_24WC16P

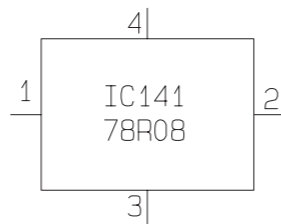
IC3S1  
LA70100M



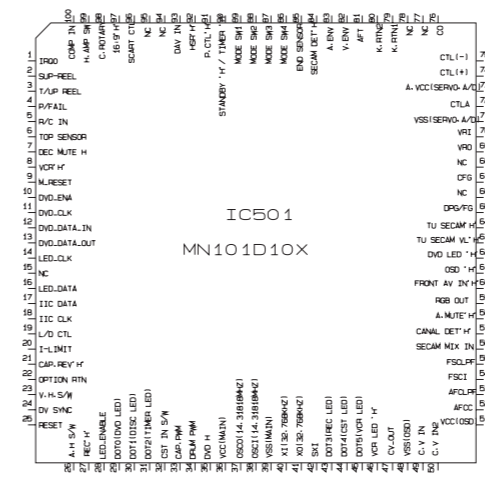
IC3S1\_LA70100M



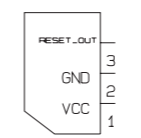
IC131\_78R33



IC141\_78R08

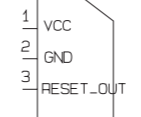


IC501\_MN101D10X



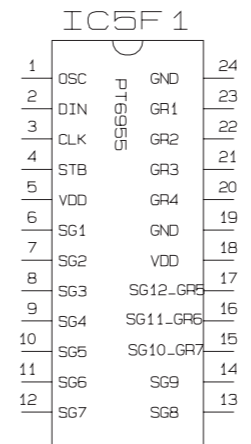
IC504\_KIA7031P

IC504\_KIA7031P

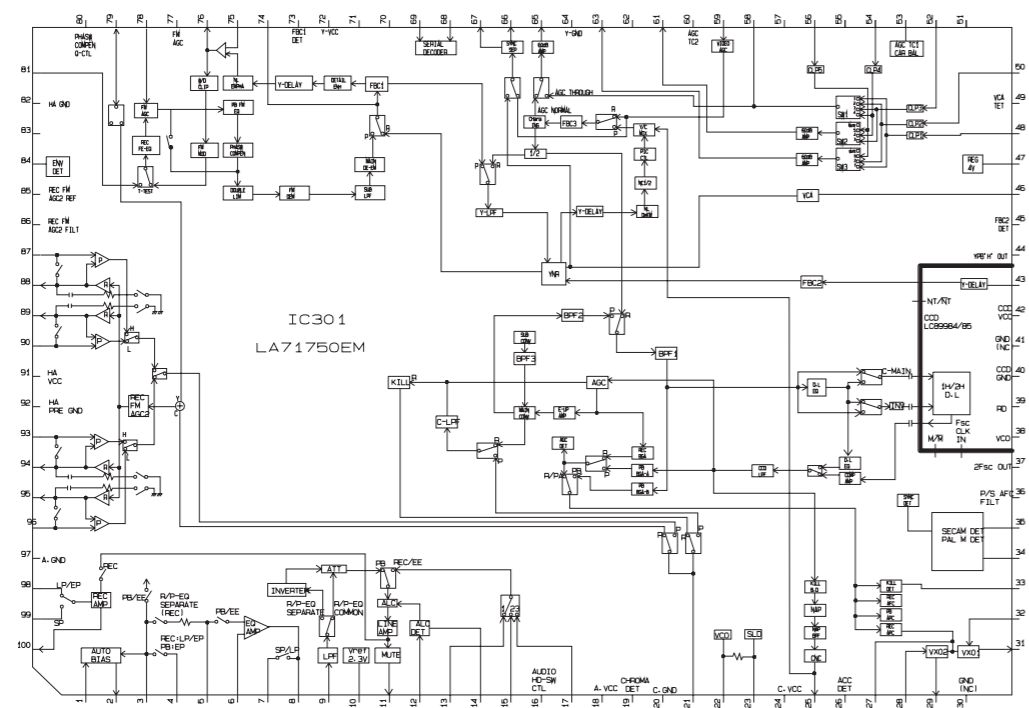


IC505\_KIA7042

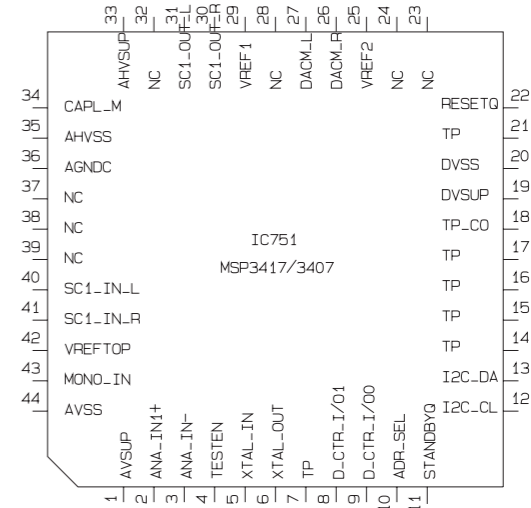
IC505\_KIA7042



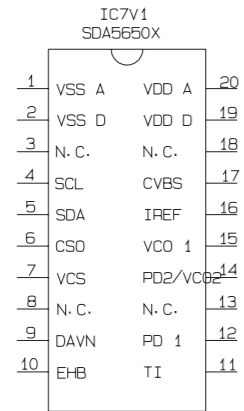
IC5F1\_PT6955



IC301\_LA71750EM

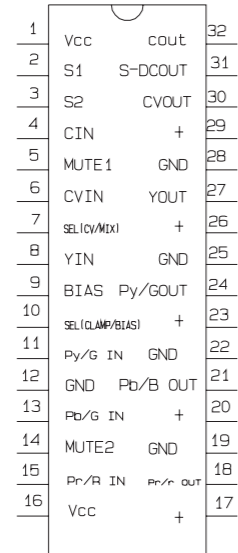


IC751\_MSP3417/3407

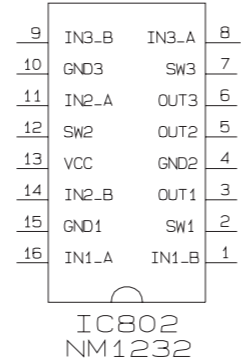


IC7V1\_SDA5650X

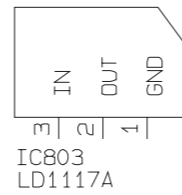
IC903  
BH78968FS



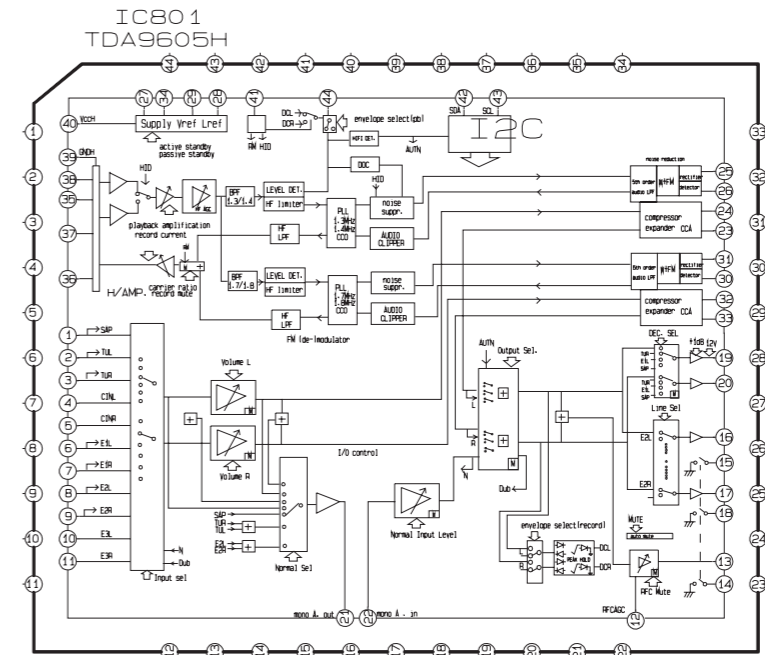
IC903\_BH78968FS



IC802\_NM1232

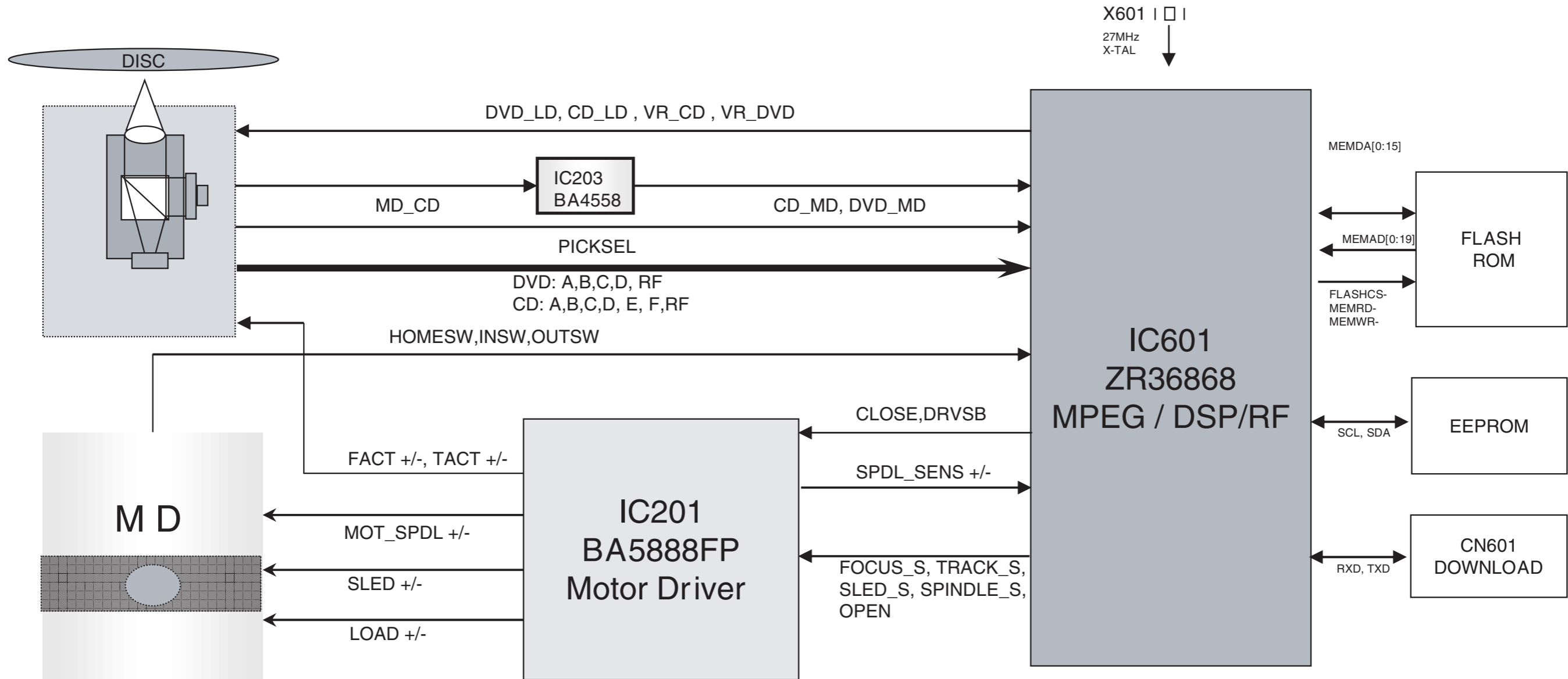


IC803\_LD1117A

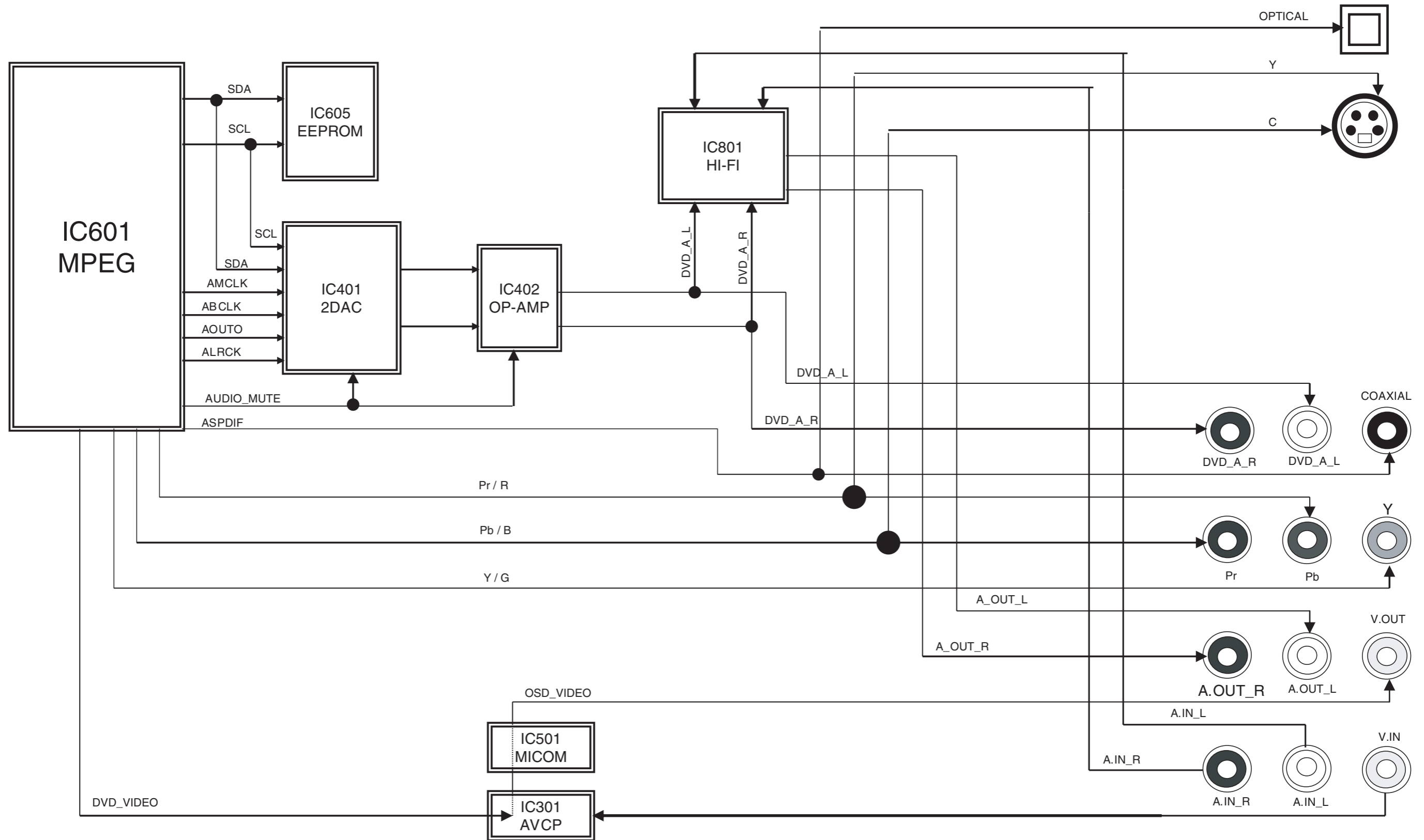


IC801\_§ DA9605H

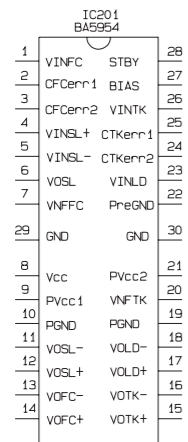
■ DVD SERVO BLOCK DIAGRAM



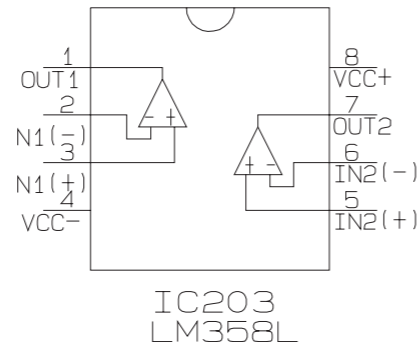
■ DVD VIDEO & AUDIO BLOCK DIAGRAM



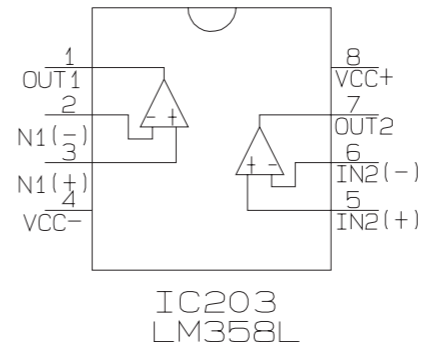
■ DVD IC BLOCK



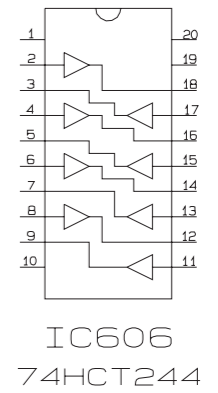
IC201\_BA5954



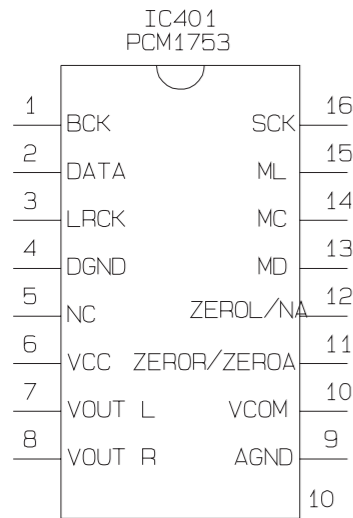
IC203\_LM358L



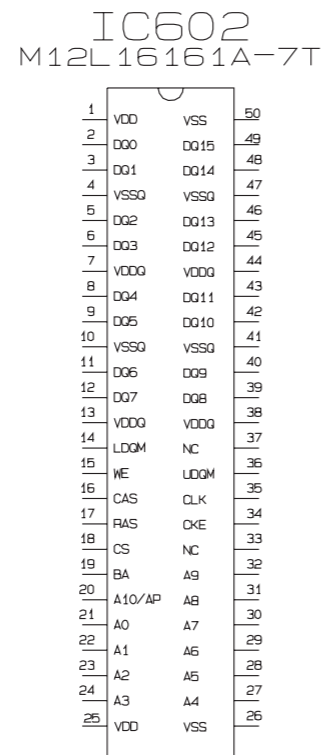
IC604



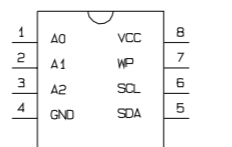
IC606\_74HCT244



IC401\_PCM1753

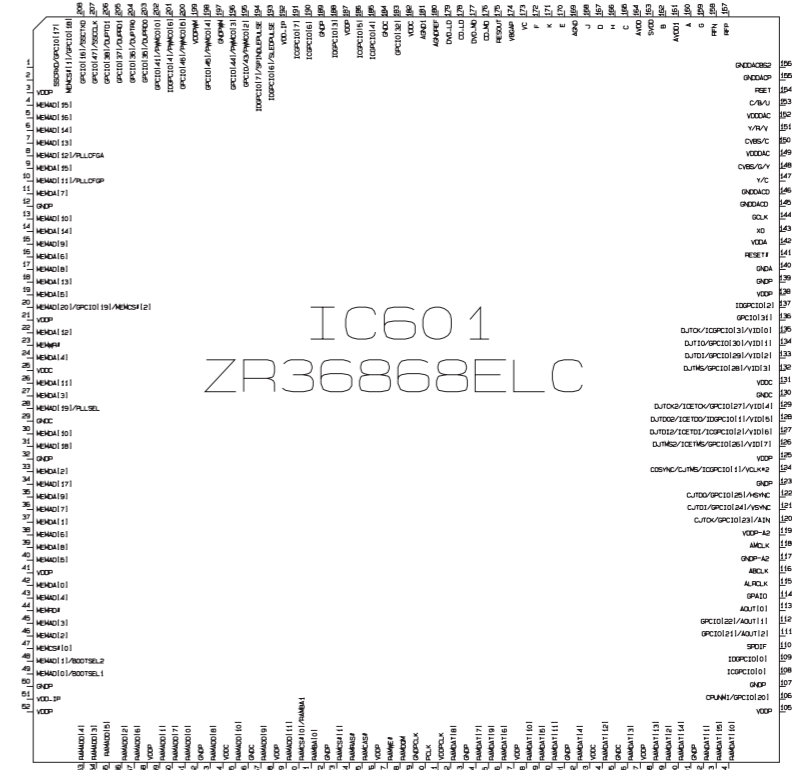


IC602\_M12L16161A-7T

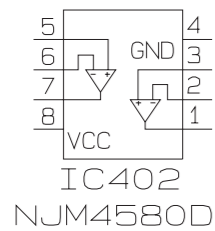


IC605\_KS24C021CS

IC605\_KS24C021CS



IC602\_ZR36868ELC



IC402\_NJM4580D



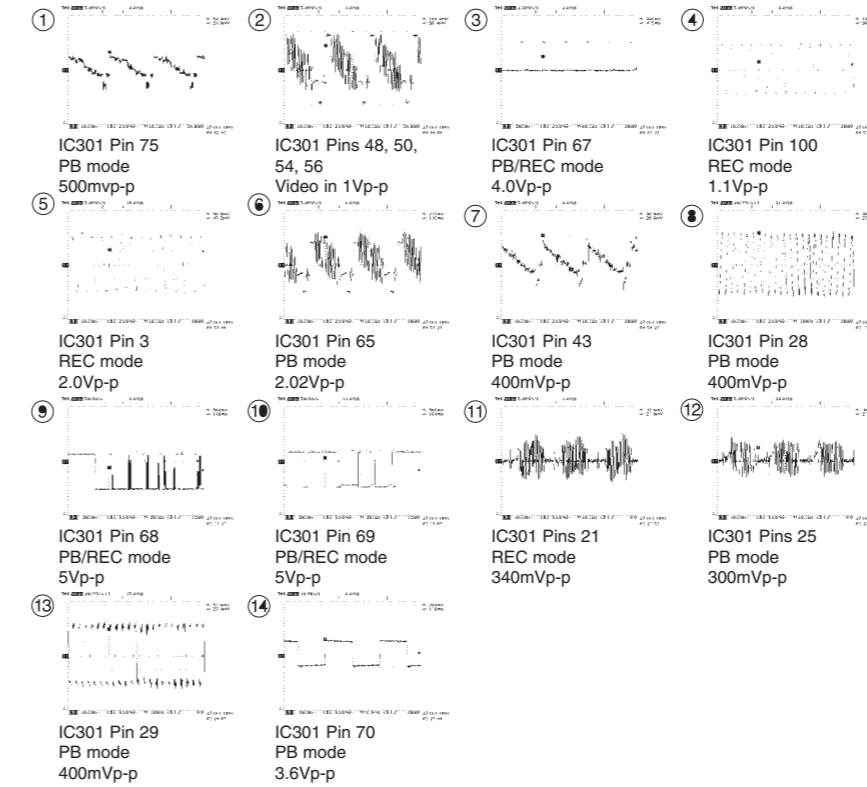


## VOLTAGE CHARTS

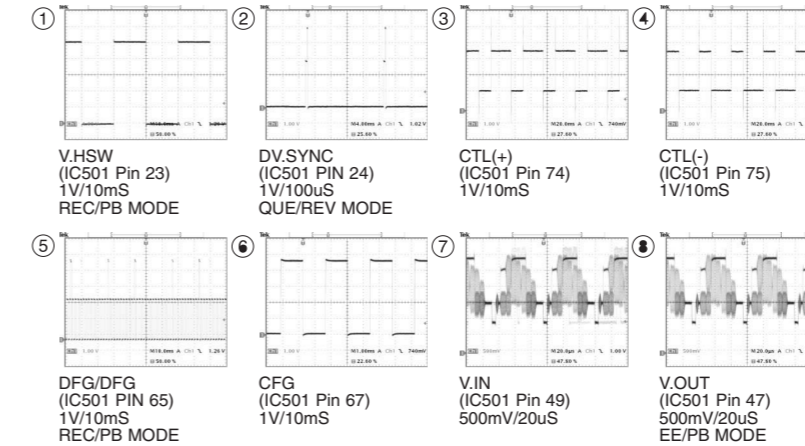
Transistor	STOP			PLAY		
	Base	Emitter	Collector	Base	Emitter	Collector
Q201	3.1	3.28	0.009	2.28	3.05	2.34
Q202	3.14	3.28	0.01	3.1	3.25	0.6
Q203	4.9	0.01	4.9	4.86	5.1	4.85
Q204	4.9	0.04	4.9	4.86	5.2	4.86
Q205	0.003	0.002	4.9	0.003	0.003	4.8
Q206	0.003	0.002	4.9	0.003	0.016	4.86
Q301	4.4	5.08	4.98	4.4	5.08	4.98
Q302	0.74	0.006	0.001	0.74	0.006	0.001
Q303	0.72	0.006	0.008	0.72	0.006	0.008
Q306	1.63	2.22	0.01	1.63	2.22	0.01
Q307	2.15	1.48	0.001	2.15	1.48	0.001
Q308	0.01	4.99	5.24	4.51	3.85	5.23
Q311	0.00	0.00	0.00	-2.20	0.24	3.51
Q403	0.002	1.55	0.76	0.002	0.009	-0.4
Q404	0.002	1.6	0.76	0.002	0.009	-0.6
Q405	2.54	3.27	3.25	3.23	3.26	-0.4
Q501	0.009	0.002	0.02	0.009	0.002	0.02
Q504	2.15	2.83	0.002	2.15	2.83	0.002
Q505	1.63	1.65	5.15	1.63	1.65	5.15
Q507	2.15	2.8	0.002	2.15	2.8	0.002
Q550	0.01	0.002	1.66	0.01	0.002	1.66
Q901	0.76	0.002	0.008	-0.48	0.002	0.004
Q701	5.78	5.03	5.24			

## WAVEFORMS

### \* IC301 Oscilloscope Waveform



### \* IC501 Waveform Photographs







**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.YD068)



Printed in Japan  
VPT

# PARTS LIST

[HR-XV28SEF,HR-XV28SEK,HR-XV28SER,  
HR-XV28SEU,HR-XV28SEY,HR-XV28SEZ]

\* 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.

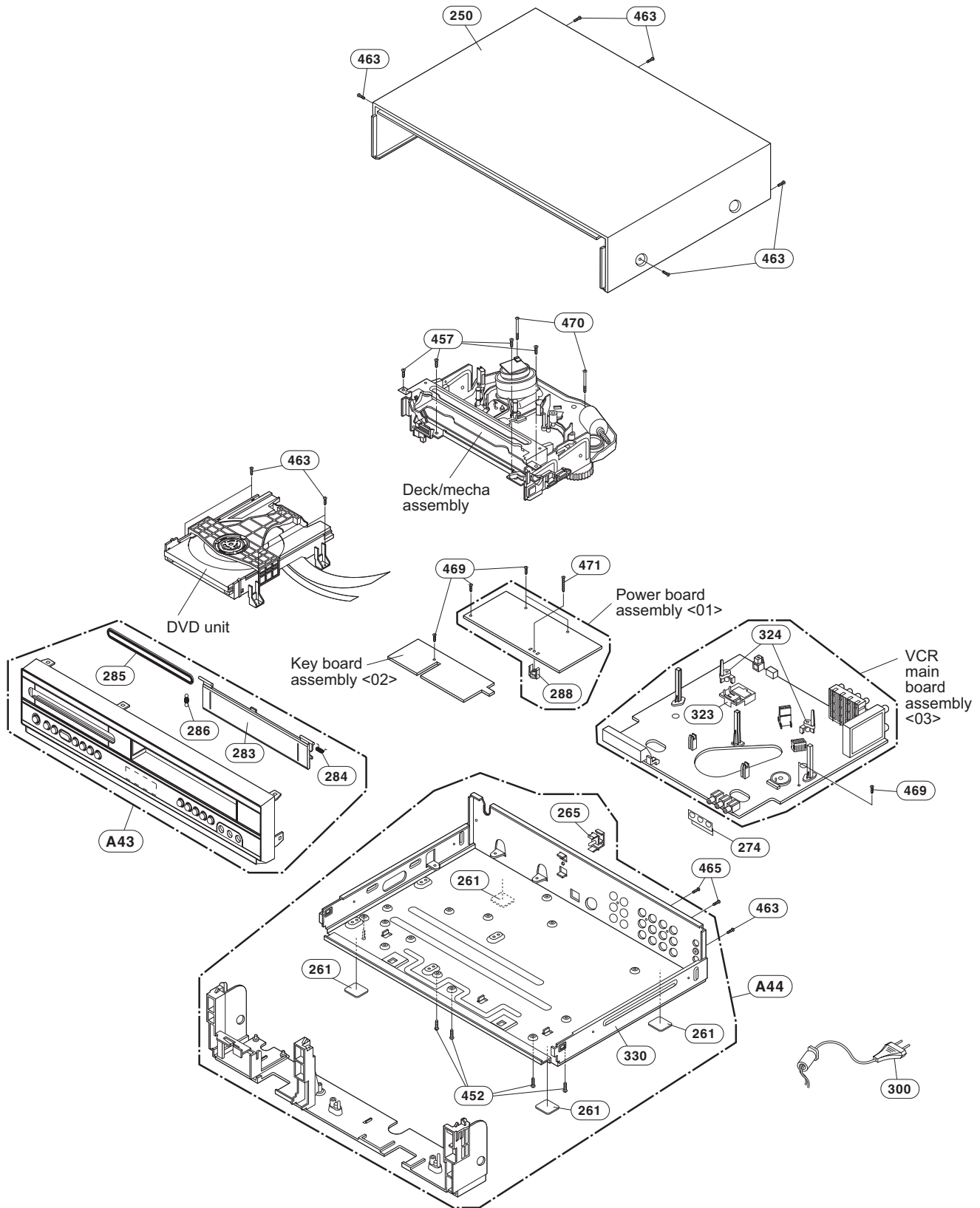
\* (x\_) in a description column shows the number of the used part.

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VHS mechanism assembly and parts list.....	3-4
DVD mechanism assembly and parts list.....	3-7
Electrical parts list .....	3-9
Packing materials and accessories parts list .....	3-22

# Exploded view of general assembly and parts list

Block No. M1MM



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

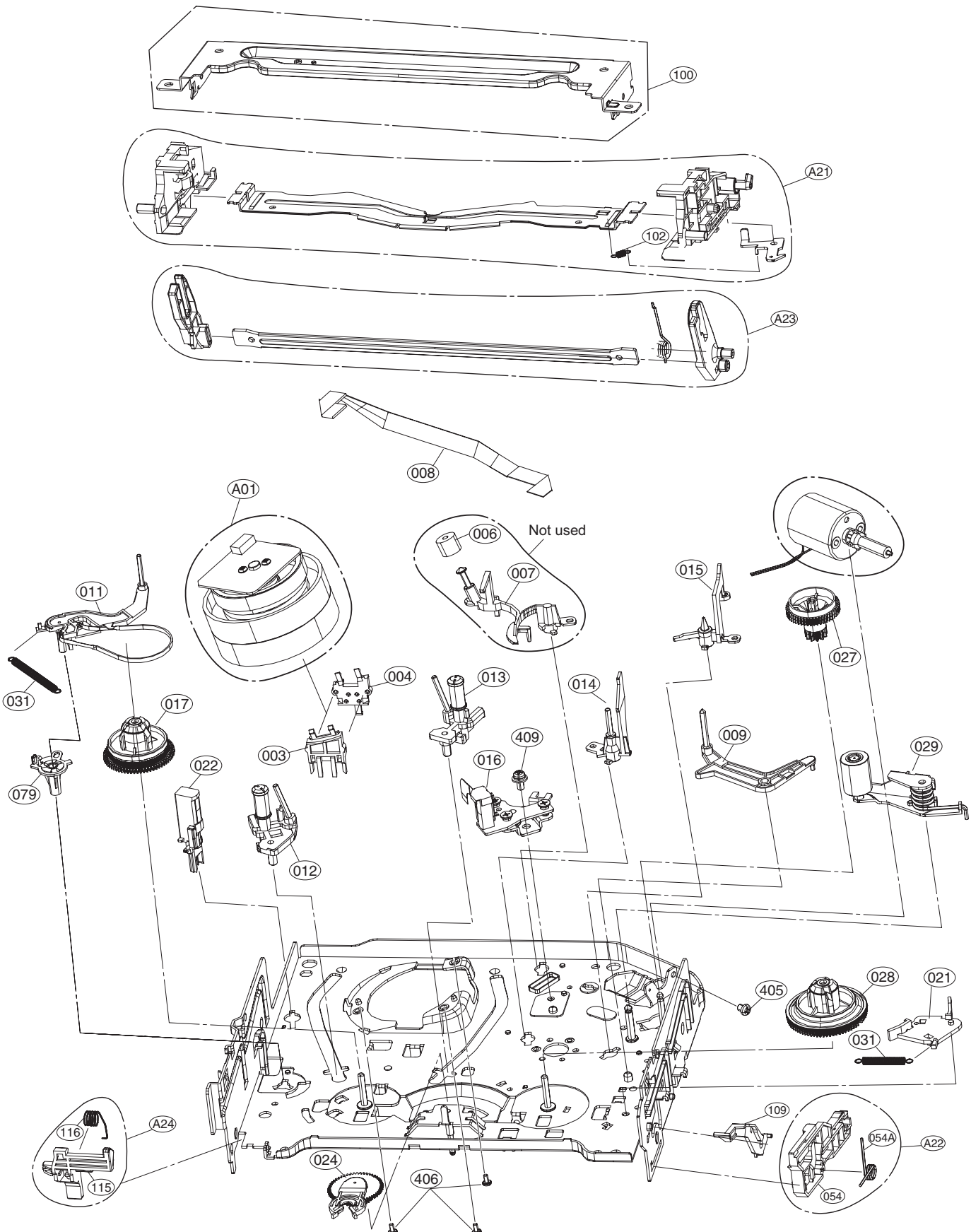
## General assembly

Block No. [M][1][M][M]

Symbol No.	Part No.	Part Name	Description	Local
250	LG-3110R-V024B	CASE	VBW8024 PRESS TOP A288G B:3/S:	
261	LG-5040R-0069S	RUBBER	CCD 05 NEW SILICON OTHER 2T (3(x4)	
265	LG-4930R-0384A	HOLDER	POWER CORD	
274	LG-3300R-V075A	PLATE	ONE BOARD SLIM PRESS A/V JACK	
283	LG-3580R-V145A	DOOR	VCR VJ90 MOLD CST JVC COMBI	
284	LG-442-681A	SPRING	DOOR	
285	LG-3580R-T192A	DOOR	VCR VJ90 MOLD TRAY JVC COMBI	
286	LG-4970R-0146A	SPRING	PLATE DR4000 SPRING	
288	LG-4930R-0573A	HOLDER	VCR V9500 MOLD POWER PWB	
△300	LG-6410RBHV02E	POWER CORD	HIT-102/H03VHH2-F (ST-HS:80MM)	B
△300	LG-6410RCHP02D	POWER CORD	HIT-102/H03VHH2-F (ST-HS:80MM)	A,C,D,E,F
323	LG-3111R-0089E	CASE ASSEMBLY	PRE AMP SLIM COMBI C-CORE A NO	
324	LG-4930R-0472A	HOLDER	VCR ONE BOARD SLIM MOLD HIPS 6(x2)	
330	LG-3140R-V010A	CHASSIS	ONE BOARD PRESS SECC 0.8T	
452	LG-1SZZR-0098A	SCREW/DRAWING	+ 2 D3.0 L10.0 MSWR3/FZMICY-1 3(x4)	
457	LG-1SZZR-0098E	SCREW/DRAWING	+ 2 D3.0 L12.0 MSWR3/FZMCW-1 3(x4)	
463	LG-1SZZR-0098G	SCREW/DRAWING	+ 2 D3.0 L8.0 MSWR3/FZMCW-1 3C(x8)	
465	LG-1SZZR-0097K	SCREW/DRAWING	+ 2 D3.0 L10.0 MSWR3/FZB 3 CR(x2)	
469	LG-1SZZR-0098J	SCREW/DRAWING	+ 2 D3.0 L6.5 MSWR3/FZMICY-1 3(x4)	
470	LG-1SZZR-0098K	SCREW/DRAWING	+ 2 D3.0 21MM MSWR3/FZMICY-1 3C(x2)	
471	LG-1SZZR-0098L	SCREW/DRAWING	+ 2 D3.0 L16.0 MSWR3/FN SILVER	
A43	LG-3721R-F432C	PANEL ASSEMBLY/FRONT	VCR VJ9033SZ.NA3FJJ COMBI	A
A43	LG-3721R-F432B	PANEL ASSEMBLY/FRONT	VCR VJ9033SZ.NA3FJJ COMBI	B
A43	LG-3721R-F432A	PANEL ASSEMBLY/FRONT	VCR VJ9033SZ.NA3FJJ COMBI	C,D,E,F
A44	LG-3141R-V027L	CHASSIS ASSEMBLY	2005 COMBI DVD+VCR 4HD HI-FI P	

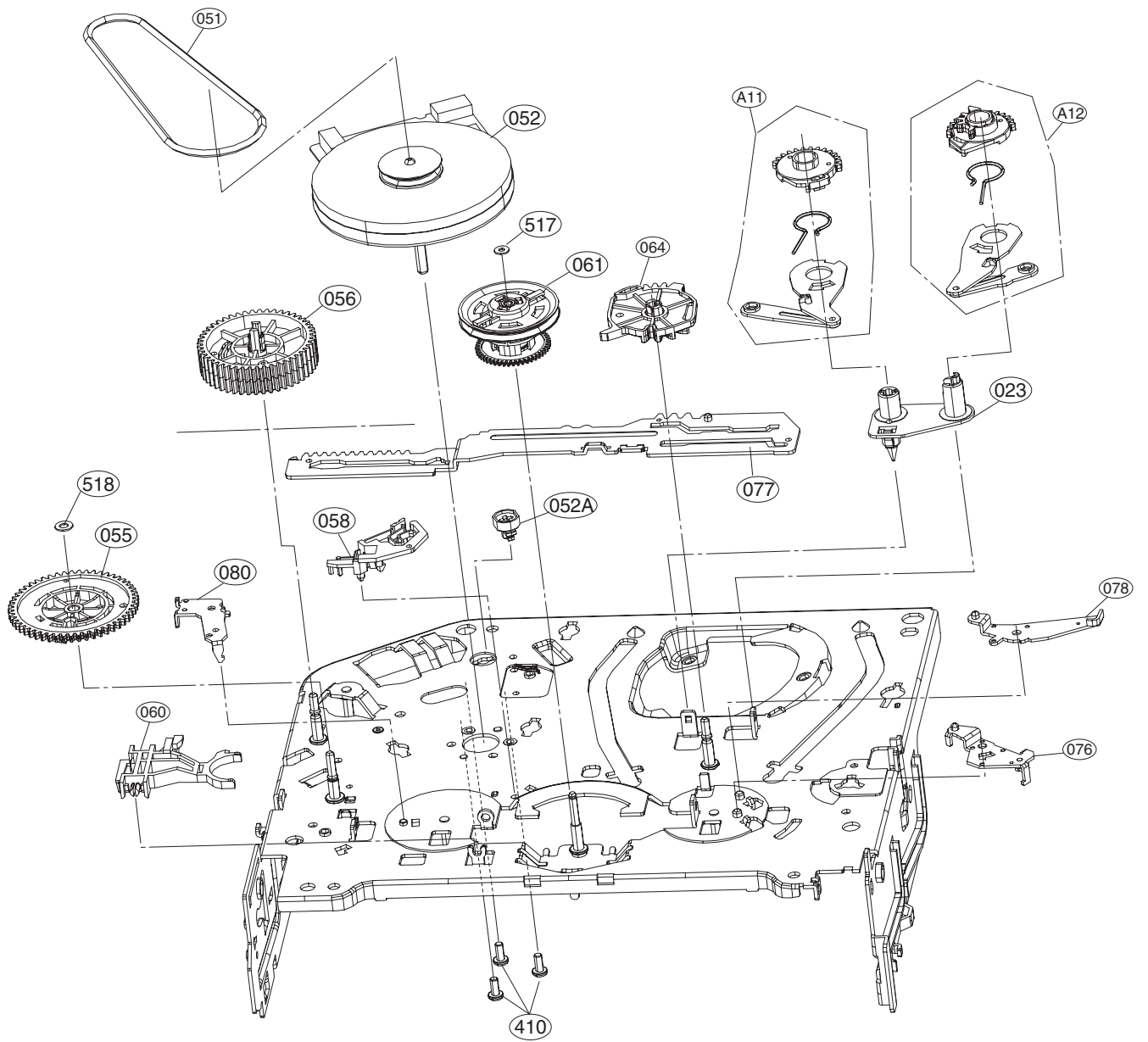
# VHS mechanism assembly and parts list

Block No. M2MM





BACK SIDE



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

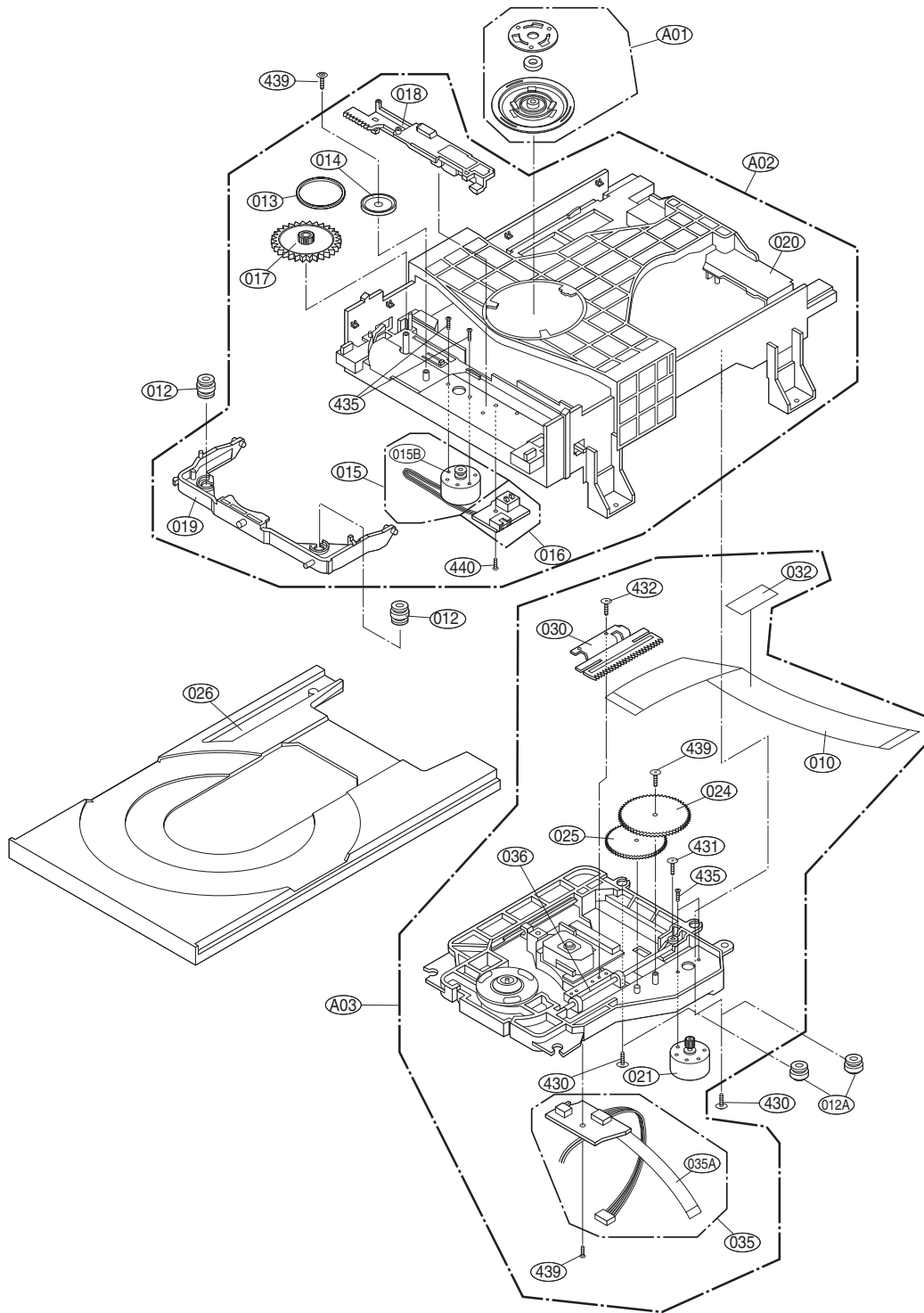
## VHS mechanism

Block No. [M][2][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
003	LG-4930R-0449A	HOLDER	DECK/MECHA FPCB(6CH) - D37C MO	
004	LG-5006R-0045A	CAP	DECK/MECHA FPCB - D37C MOLD	
008	LG-6850R-HG18Y	CABLE/FLAT	P=1.25 FFC UL2896(0.05X0.8) 7	
009	LG-4260R-0056A	ARM	DECK/MECHA T/UP OTHER - D37	
011	LG-4261R-0040A	ARM ASSEMBLY	DECK/MECHA TENSION - D37	
012	LG-3041R-M037A	BASE ASSEMBLY	P2 - D37	
013	LG-3041R-M038A	BASE ASSEMBLY	P3 - D37	
014	LG-3041R-M039A	BASE ASSEMBLY	P4 - D37	
015	LG-5870R-0007A	OPENER	DECK/MECHA LID OTHER - D37	
016	LG-3041R-M036D	BASE ASSEMBLY	A/C HEAD (ALPS) - D37 (DUMMY H	
017	LG-4408R-0005A	REEL	DECK/MECHA S OTHER - D37	
021	LG-4421R-M002A	BRAKE ASSEMBLY	T - D37	
022	LG-6520D00004B	HEAD(CIRC)	ST ST FE HEAD FOR D37 13.5	
023	LG-3040R-M056A	BASE	LOADING OTHER - D37	
024	LG-4261R-0042A	ARM ASSEMBLY	DECK/MECHA IDLER(N) - D37	
027	LG-4470R-0133A	GEAR	DECK/MECHA WHEEL OTHER - D37	
028	LG-4408R-0006A	REEL	DECK/MECHA T OTHER - D37	
029	LG-4261R-0037A	ARM ASSEMBLY	DECK/MECHA PINCH - D37 (CHON P	
031	LG-4970R-0175A	SPRING	COIL TENSION - D37(x2)	
051	LG-4400R-0005A	BELT	CAPSTAN	
052	LG-4680R-A015A	MOTOR(MECH)	CAPSTAN F2QVB66 SANKYO FOR D37	
052A	LG-4980R-0029A	SUPPORTER	DECK/MECHA CAPSTAN OTHER - D37	
054	LG-4470R-0136A	GEAR	DECK/MECHA RACK F/L OTHER - D3	
054A	LG-4970R-0171A	SPRING	COIL RACK F/L - D37	
055	LG-4470R-0140A	GEAR	DECK/MECHA DRIVE OTHER - D37	
056	LG-4470R-0139A	GEAR	DECK/MECHA CAM OTHER - D37	
058	LG-4421R-M001A	BRAKE ASSEMBLY	CAPSTAN -D37	
060	LG-4510R-0065A	LEVER	DECK/MECHA F/R OTHER - D37	
061	LG-4265R-0007A	CLUTCH ASSEMBLY	DECK/MECHA D37(N)	
064	LG-4470R-0141A	GEAR	DECK/MECHA SECTOR OTHER - D37	
076	LG-4510R-0063A	LEVER	DECK/MECHA SPRING OTHER - D37	
077	LG-3300R-M203A	PLATE	SLIDER OTHER - D37	
078	LG-4510R-0062A	LEVER	DECK/MECHA TENSION OTHER - D37	
079	LG-3040R-M057A	BASE	TENSION OTHER - D37	
080	LG-4510R-0064A	LEVER	DECK/MECHA BRAKE OTHER - D37	
100	LG-3301R-M193A	PLATE ASSEMBLY	TOP - D37	
102	LG-4970R-0173A	SPRING	COIL STOPPER - D37	
109	LG-5870R-0008A	OPENER	DECK/MECHA DOOR OTHER - D37	
115	LG-4510R-0070A	LEVER	DECK/MECHA SWITCH(C) OTHER - D	
116	LG-4970R-0163A	SPRING	COIL D35S SWITCH	
405	LG-1MPC0301270	SCREW MACHINE/PAN HEAD	+ D3.0 L3.5 SWRCH18A/FZW	
406	LG-1MEC0302018	SCREW MACHINE/PAN HEAD SPR W	+ D3.0 L6.0 MSWR3/FZY(x3)	
409	LG-1SZZR-0032B	SCREW/DRAWING	+ 1 D2.6 L5.0 SWRCH18A/FZY TAP	
410	LG-1APF0262218	SCREW TAP TITE(B)/PAN HEAD	+ D2.6 L6.8 MSWR3/FZY(x3)	
517	LG-1WZZR-0004D	WASHER/DRAWING	STOPPER	
518	LG-1WZZR-0004A	WASHER/DRAWING	STOPPER	
A01	LG-6723R-0603F	DRUM(CIRC) ASSEMBLY	DECK/MECHA (9P6S) D37-6CH PAL	
A11	LG-4471R-0017A	GEAR ASSEMBLY	DECK/MECHA P3 - D37	
A12	LG-4471R-0015A	GEAR ASSEMBLY	DECK/MECHA P2 - D37	
A21	LG-4931R-0084A	HOLDER ASSEMBLY	DECK/MECHA CST - D37	
A22	LG-4471R-0016A	GEAR ASSEMBLY	DECK/MECHA RACK F/L - D37	
A23	LG-4261R-0038A	ARM ASSEMBLY	DECK/MECHA F/L - D37	
A24	LG-4511R-0005A	LEVER ASSEMBLY	SWITCH(C) - D37	

# DVD mechanism assembly and parts list

Block No. M3MM



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

## DVD mechanism

Block No. [M][3][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
010	LG-6850R-JW23Z	CABLE/FLAT	P=1.0 FFC UL2896(0.035X0.7) 23	
012	LG-5040R-0083A	RUBBER	DVD DP-6/ DP-8 FRONT RIGHT 20(x2)	
012A	LG-5040R-0110A	RUBBER	DVD REAR DP8 RIGHT 20 OTHER BL(x2)	
013	LG-4400R-0006B	BELT	DECK/MECHA DP2-5/ DP7C/DP7A OT	
014	LG-4470R-0154A	GEAR	DECK/MECHA DP8 PULLEY MOLD	
015	LG-4681R-A015A	MOTOR ASSEMBLY	DECK/MECHA LOADING DP-9 SH	
015B	LG-4560R-0008A	PULLEY	MOTOR	
016	LG-6871R-9294A	PWB(PCB) ASSEMBLY/TOTAL	DP-9C LOADING	
017	LG-4470R-0176A	GEAR	DVD DP-9 LOADING MOLD	
018	LG-4974R-0067A	GUIDE	DVD DP-9C UP/DOWN MOLD	
019	LG-3210R-M008A	FRAME	DP-9C UP/DOWN MOLD	
020	LG-3040R-M064A	BASE	MAIN DP-9C MOLD	
021	LG-4681R-B009B	MOTOR ASSEMBLY	DECK/MECHA DP9 FEEDING	
024	LG-4470R-0179A	GEAR	DVD DP-9 PINION MOLD	
025	LG-4470R-0178A	GEAR	DVD DP-9 MIDDLE MOLD	
026	LG-3390R-0030A	TRAY	DVD DP-9C DISK MOLD	
030	LG-4470R-0180A	GEAR	DVD DP-9 RACK MOLD	
032	LG-6200J000090	FILTER(CIRC)/EMC	ZSHT1228-0730T-K TDK ST	
035	LG-6871R-9295A	PWB(PCB) ASSEMBLY/TOTAL	DP-9C FEEDING	
035A	LG-6850R-GK09Z	CABLE/FLAT	P=1.0 FFC UL2896(0.05X0.65) 11	
036	LG-4370R-0136A	SHAFT	DVD PU/ DR-02 SUS-420J2 OTHER	
430	LG-1SZZR-0064B	SCREW/DRAWING	+ 1 D1.7 L7.0 SWCH18A/BZN DP8(x2)	
431	LG-1SZZR-0062A	SCREW/DRAWING	+ 1 D1.7 L4.5 SWCH18A/NI DP8 P	
432	LG-1SZZR-0072A	SCREW/DRAWING	+ 1 D1.7 L4.5 SWRCH18A/FZY DP8	
435	LG-1SZZR-0011A	SCREW/DRAWING	MACHINE(x4)	
439	LG-1SZZR-0075A	SCREW/DRAWING	+ 1 D1.7 L10.0 SWRCH18A/FZW DP(x3)	
440	LG-1SZZH-1007B	SCREW/DRAWING	+ D2.0 6MM SWRCH16A/ZNBK 4MM 1	
A01	LG-4861R-0016B	CLAMP ASSEMBLY	DISC DP7 - SH	
A02	LG-3041R-D024A	BASE ASSEMBLY	MAIN DP-9C	
A03	LG-3041R-M068A	BASE ASSEMBLY	SLED DP-9C (DI)	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

# Electrical parts list

## Power board

Block No. [0][1]

Symbol No.	Part No.	Part Name	Description	Local
A47	LG-6871R-4925C	PWB(PCB) ASSEMBLY/TOTAL	2005 COMBI ZORAN CIS SMPS DI	C
A47	LG-6871R-4925A	PWB(PCB) ASSEMBLY/TOTAL	2005 COMBI ZORAN PAL SMPS DI C	A,B,D,E,F
PW101	LG-561-292B	CONNECTOR(CIRC)/DRAWING	GP390 LGC 3P 3.96 STRAIGHT SN	
IC101	LG-OIPMGH005A	IC/POWER MANAGEMENT	ICE3B0565J INFINEON 8PIN/DIP S	
IC102	PZ0IL1817000B	SENSOR	LTV-817B/PHOTO COUPLER(LITEON)	
IC102	LG-6500RDB010A	SENSOR	PC123YN2J00F SHARP PHOTOCOUPLE	
IC103	LG-OIKE431000A	IC/KEC	KIA431 3 PIN TP -	
IC103	LG-OISS431000A	IC/SAMSUNG ELECTRONICS	KA431AZ (LM431AZ)	
IC131	LG-OIPMGKE006B	IC/POWER MANAGEMENT	KIA78R33PI CU KEC 4P TO-220IS	
IC131	LG-OIPMGGM002A	IC/POWER MANAGEMENT	G9133 GMT 4PIN/TO 220F-4L ST 1	
Q161	LG-OTR126809BA	TRANSISTOR/BIPOLARS	KTA1268-BL TP KEC	
Q162	LG-OTR319809AC	TRANSISTOR	KTC3198-TP-BL (KTC1815)KEC	
Q162	LG-OTR534309BA	TRANSISTOR/BIPOLARS	2SC5343-L TP AUK TO92 -	
Q163	LG-OTR928009AD	TRANSISTOR	KSA928A-Y/TO-92L TP SAMSUNG TO	
Q163	LG-OTR127309AA	TRANSISTOR	KTA1273-TP-Y (KTA966A)KEC	
Q164	LG-OTR534309BA	TRANSISTOR/BIPOLARS	2SC5343-L TP AUK TO92 -	
Q164	LG-OTR534409AA	TRANSISTOR	2SC5344Y TP	
Q165	LG-OTR928009AD	TRANSISTOR	KSA928A-Y/TO-92L TP SAMSUNG TO	
Q165	LG-OTR127309AA	TRANSISTOR	KTA1273-TP-Y (KTA966A)KEC	
Q166	LG-OTR232809AB	TRANSISTOR	KSC2328A-Y TP SAMSUNG TO-92L	
Q166	LG-OTR320509AB	TRANSISTOR	KTC3205-TP-Y (KTC2236A)KEC	
BD101	S1WB/A/60-4101	BRIDGE DIODE	S1WBA60 BK SHINDENGEN - 600V -	
BD101	LG-0DRRE00060A	DIODE/RECTIFIERS	DB105-C-S-V50 RECTRON BK NON 6	
D101	ERA22-10	DIODE/RECTIFIERS	ERA22-10 KFLB/TP/R T/P/FUJI	
D102	LG-0DR104009BA	DIODE/RECTIFIERS	RL104F TP RECTRON - 400V 1A 30	
D102	LG-0DRGF00239A	DIODE/RECTIFIERS	FR104E GULF TP NON 400V 1A 30A	
D121	LG-0DR104009BA	DIODE/RECTIFIERS	RL104F TP RECTRON - 400V 1A 30	
D121	LG-0DRGF00239A	DIODE/RECTIFIERS	FR104E GULF TP NON 400V 1A 30A	
D123	LG-0DR810040BA	DIODE/RECTIFIERS	ERC81-004L22 BK FUJI DO201AD 4	
D123	LG-0DR158220AA	DIODE/RECTIFIERS	1N5822 BK RECTRON DO201AD 40V	
D123	LG-0DRGF00210A	DIODE/RECTIFIERS	1N5822 GULF BK DO201AD 40V 3A	
D124	LG-0DSGF00040A	DIODE/SWITCHING	UF5402-M11 GULF BK DO201AD 200	
D124	LG-0DSDI00110A	DIODE/SWITCHING	UF3003 DIODES BK DO201AD 200V	
D125	LG-0DRSD00210A	DIODE/RECTIFIERS	D3S6M SHINDENGEN BK AX14 60V 1	
D127	1SS133-T2	SI DIODE	1SS133 TP ROHM KOREA - - - -	
ZD102	LG-0DZ202609AA	DIODE/ZENER	UZ-20BSB 26MM TP PYUNG CHANG D	
ZD151	LG-0DZ132609AB	DIODE/ZENERS	GDZJ13A 26MM TP GRANDE DO34 0	
ZD151	LG-0DZ132609BB	DIODE/ZENER	UZ-13BSA 26MM TP PYUNG CHANG	

Symbol No.	Part No.	Part Name	Description	Local
ZD152	LG-0DZ102609BB	DIODE/ZENERS	UZ-10BSB 26MM TP PYUNG CHANG D	
ZD152	LG-0DZ100009HA	DIODE/ZENERS	UZ-10BM TP PYUNG CHANG - 0.5W	
C101	LG-624-088L	CAPACITOR/DRAWING	435D SUNIL ELECTRONICS 0.1UF/2	
C102	LG-624-088L	CAPACITOR/DRAWING	435D SUNIL ELECTRONICS 0.1UF/2	
C103	LG-0CE686CV610	CAPACITOR/FIXED ELECTROLYTIC	68UF SHL,SD 450V M FL BULK	C
C103	LG-0CE686CU611	CAPACITOR/FIXED ELECTROLYTIC	68UF SHL/SD 400V 20% FL BK7.5	A,B,D,E,F
C104	LG-0CN1040K948	CAPACITOR/FIXED TUBULAR(HIGH D	0.1UF D 50V 80%/20% F(Y5V) TA	
C105	LG-0CQ1031Y519	CAPACITOR/FIXED FILM	0.01UF D 630V 10% PE NI TP5	
C106	LG-624-087G	CAPACITOR	HIGH-VOL 68PF/1KV SMPS SAMHWA	
C107	LG-0CN1030K518	CAPACITOR/TUBULAR (HIGH DIELEC)	0.01UF 50V K B TA26	
C108	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C109	LG-0CE3366H638	CAPACITOR/FIXED ELECTROLYTIC	33UF SMS/SG 25V 20% FM5 TP 5	
C111	LG-0CG1020U630	CAPACITOR/SEMI CERAMIC	1000PF 400V M E(Z5U) R	
C121	LG-624-087D	CAPACITOR/FIXED CERAMIC(HIGH D	HI-VOL 470P/1KVDC SMPS SAMHWA	
C124	LG-0CE477BH630	CAPACITOR/AL.ELECTROLYTIC	470UF KME TYPE 25V M FM5 BULK	
C126	LG-624-085D	CAPACITOR	CE 47UF/50V KME (SMPS)	
C127	LG-0CE108BF630	CAPACITOR/FIXED ELECTROLYTIC	1000UF KME 16V M FM5 BULK	
C128	LG-0CE228BF630	CAPACITOR/FIXED ELECTROLYTIC	2200UF KME TYPE 16V 20% FM5 BU	
C134	LG-0CE227CH618	CAPACITOR/FIXED ELECTROLYTIC	220UF SHL/SD 25V 20% FL TP 5	
C137	LG-0CE3376D638	CAPACITOR/ELECTROLYTIC	330UF SMS 10V M FM5 TP5	
C138	LG-624-082H	CAPACITOR	CE 1000UF/10V SHL(10*12.5)T/P	
C143	LG-0CQ1042K409	CAPACITOR/FIXED FILM	0.1UF S 50V 5% PE TP5	
C158	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C159	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C160	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C161	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C162	LG-0CE4776D638	CAPACITOR/FIXED ELECTROLYTIC	470UF SMS/SG 10V 20% FM5 TP 5	
C164	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C166	LG-0CN223AK948	CAPACITOR/TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
R100	QRE121J-155Y	C RESISTOR	1.5M OHM 1/2 W 5.00% MF10	
R104	LG-0RS5602K619	RESISTOR/FIXED METAL OXIDE FIL	56K OHM 2 W 5.00% TR	
R105	LG-0RD0102F608	RESISTOR/FIXED CARBON FILM	10 OHM 1/6 W 5% TA26	
R109	LG-0RS0750K619	RESISTOR/FIXED METAL OXIDE FIL	0.75 OHM 2 W 5.00% TR	
R136	QRD161J-104Y	C RESISTOR	100K OHM 1/6 W 5% TA26	
R141	QRD161J-221	C RESISTOR	220 OHM 1/6 W 5% TA26	
R142	QRD161J-222Y	C RESISTOR	2.2K OHM 1/6 W 5% TA26	
R143	QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	
R144	LG-0RN3301F408	RESISTOR/FIXED METAL FILM	3.3K OHM 1/6 W 1% TA26	
R145	LG-0RN2701F408	RESISTOR/FIXED METAL FILM	2.7K OHM 1/6 W 1% TA26	
R146	QRD161J-271Y	C RESISTOR	270 OHM 1/6 W 5% TA26	
R154	QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
R155	QRD161J-183Y	C RESISTOR	18K OHM 1/6 W 5% TA26	
R156	QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	
R157	QRE141J-331Y	C RESISTOR	330 OHM 1/6 W 5% TA26	
R163	QRD161J-472Y	C RESISTOR	4.7K OHM 1/6 W 5% TA26	
R164	QRD161J-472Y	C RESISTOR	4.7K OHM 1/6 W 5% TA26	
R165	QRD161J-472Y	C RESISTOR	4.7K OHM 1/6 W 5% TA26	
R166	QRD161J-562Y	C RESISTOR	5.6K OHM 1/6 W 5% TA26	
R168	QRD161J-562Y	C RESISTOR	5.6K OHM 1/6 W 5% TA26	
R172	QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	
R174	QRE141J-331Y	C RESISTOR	330 OHM 1/6 W 5% TA26	
L102	LG-616-145G	FILTER(CIRC)/DRAWING	SHT LFSQ2215V4-04220	
L124	LG-633-088G	COIL/CHOKE	22MH TOKO 5MM TP	
L127	LG-633-088G	COIL/CHOKE	22MH TOKO 5MM TP	
L128	LG-6140RCC003H	COIL/RF	CHOKE COIL 22 UH 8X8 5 PIE SAM	
T101	LG-6170RNGW12P	TRANSFORMER/SMPS[COIL]	EER2828 15 PIN SOOJUNG/SAMWHA	
BC101	LG-636-004C	FILTER(CIRC)/EMC	BEAD CORE BFS3550R2FD8/R T/P	
FR101	LG-0RF0221K634	RESISTOR/VARIABLE(CARBON FILM)	2.2 OHM 2 W 5% MF15	
PPM01	LG-6630R-BF03M	CONNECTOR (CIRC)/BOARD TO BOAR	JE121-13 JAE EUN 13P 2.54MM	
V101	LG-656-004C	VARIATOR/DRAWING	SVC681D-10A SAMWHA 4.0 CUT	

## Key board

### Block No. [0][2]

Symbol No.	Part No.	Part Name	Description	Local
A50	LG-6871R-7960D	PWB(PCB) ASSEMBLY/TOTAL	05 COMBI PAL MAIN KEY TOOL JVC	
A50	LG-6871R-7960D	PWB(PCB) ASSEMBLY/TOTAL	05 COMBI PAL MAIN KEY TOOL JVC	
R5J1	QRE141J-152Y	C RESISTOR	1.5K OHM 1/6 W 5% TA26	
R5J2	QRD161J-122	C RESISTOR	1.2K OHM 1/6 W 5% TA26	
R5J3	QRE141J-152Y	C RESISTOR	1.5K OHM 1/6 W 5% TA26	
R5J4	QRD161J-222Y	C RESISTOR	2.2K OHM 1/6 W 5% TA26	
R5J5	QRD161J-332Y	C RESISTOR	3.3K OHM 1/6 W 5% TA26	
R5J6	QRE141J-123Y	C RESISTOR	12K OHM 1/6 W 5% TA26	
CN501	LG-6631R-E007T	CONNECTOR ASSEMBLY	8283-02/9073-02ST 2PIN 60MM P	
SW507	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW507	or LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
SW507	or LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
SW508	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW508	or LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
SW508	or LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
SW509	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW509	or LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
SW509	or LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
SW510	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	

Symbol No.	Part No.	Part Name	Description	Local
SW510	or LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
SW510	or LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
SW511	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW511	or LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
SW511	or LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
SW512	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW512	or LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
SW512	or LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
SW513	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW513	or LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
SW513	or LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	

## VCR main board

### Block No. [0][3]

Symbol No.	Part No.	Part Name	Description	Local
A46	LG-3501R-9320T	BOARD ASSEMBLY	VCR MAIN VJ9033CSZ NA7BJJ ZORA	A
A46	LG-3501R-9320Y	BOARD ASSEMBLY	VCR MAIN VJ9033CP1Z NA4UJJ ZOR	B
A46	LG-3501R-9320X	BOARD ASSEMBLY	VCR MAIN VJ9033CP4Z NA3RJJ ZOR	C
A46	LG-3501R-9320U	BOARD ASSEMBLY	VCR MAIN VJ9033CP1Z NA3GJJ ZOR	D
A46	LG-3501R-9320W	BOARD ASSEMBLY	VCR MAIN VJ9033CP2Z NA8SJJ ZOR	E
A46	LG-3501R-9320V	BOARD ASSEMBLY	VCR MAIN VJ9033CP2Z NA8PJJ ZOR	F
IC201	LG-0ILNRRH039A	IC/LINEAR	BA5888FP ROHM 28PIN/HSOP R/TP	
IC202	LG-0ILNRUC003A	IC/LINEAR	LM358L UTC 8PIN/SOP R/TP OPAMP	
IC301	LG-0ILNRS005B	IC/LINEAR	LA71750EM SANYO 100PIN QFP TRA	
IC3S1	LG-0ILNRS007B	IC/LINEAR	LA70100M-TRM SANYO 30PIN SOP R	A
IC401	LG-0IPRPT064A	IC/PERIPHERALS	PCM1753DBQR TEXAS INSTRUMENT 1	
IC402	LG-0ILNRUC001A	IC/LINEAR	MC4580 UTC 8PIN/SOP R/TP 2CH O	
IC402	or LG-0ILNRAU017A	IC/LINEAR	S4580 AUK KOREA 8PIN/SOP R/TP	
IC501	LG-0IMCR02041A	IC/MICRO CONTROLLER	MN101D10FLC MATSUSHITA 100PIN	
IC503	LG-0IAL241600B	IC/ATMEL	AT24C16 - - -	
IC503	or LG-0ICS241600B	IC/CATALYST	CAT24WC16P 8P DIP ST 16K SERIA	
IC504	LG-0IKE703100A	IC/KEC	KIA7031P 3P 3.1V RESET(TAPING)	
IC504	or LG-0ISS753100A	IC/SAMSUNG ELECTRONICS	KA7531Z TO-92 TP 3.1V RESET	
IC505	LG-0IKE704200B	IC/KEC	KIA7042P 3P 4.2V RESET(TAPING)	
IC5F1	LG-0ILNRPY001B	IC/LINEAR	PT6955 PTC 24PIN SOP R/TP LED	
IC5F1	or LG-0IPRPG5001B	IC/PERIPHERALS	LG5-6955 LED DRIVER G-FIVE 24P	
IC601	LG-0ILNRZR002B	IC/LINEAR	ZR36868ELCG B1 ZORAN 208PIN/QF	
IC602	LG-0IMMREB006C	IC/MEMORIES	M12L16161A-7T ESMT 50PIN/TSOP	
IC605	LG-0ISS240210A	IC/SAMSUNG ELECTRONICS	S524A40X21-SCT0 SOP8 TP EEPROM	
IC605	or LG-0IMMRSE002A	IC/MEMORIES	S-24CC02A-J811G SEIKO 8PIN/SOP	
IC751	LG-0IIT341700C	IC/ITT	MSP3417G-QG-B8-V3 44 QFP TRAY	
IC801	LG-0IPH960500A	IC/PHILIPS	TDA9605H QFP44 BK HIFI AMP+HIF	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
IC802	MM1231XF-X	IC/PERIPHERALS	MM1231XF MITSUMI 16PIN SOP ST	
IC803	LG-01PMGUC006A	IC/POWER MANAGEMENT	LD1117A-1.8V UTC TO252 R/TP 1.	
IC604A	LG-6957R-796AH	PROGRAM	DVD PROGRAM HV9C8000020 VJ9033	A
IC604A	LG-6957R-796AG	PROGRAM	DVD PROGRAM HV968000050 VJ9033	C
IC604A	LG-6957R-796AE	PROGRAM	DVD PROGRAM HV9E8000020 VJ9033	B,D
IC604A	LG-6957R-796AF	PROGRAM	DVD PROGRAM HV9D8000020 VJ9033	E,F
RC501	LG-6712R1938EA	SENSOR(REMOTE)	TSOP2238AY VISHAY 38KHZ LGEDI	
RS501	LG-6500RAB008A	SENSOR	KIT-3001A REEL SENSOR KODENSHI	
RS502	LG-6500RAB008A	SENSOR	KIT-3001A REEL SENSOR KODENSHI	
Q201	2SA1037K/QR/-X	TRANSISTOR/ BIPOLARS	2SA1037K-Q CHIP TP ROHM - -	
Q202	2SA1037K/QR/-X	TRANSISTOR/ BIPOLARS	2SA1037K-Q CHIP TP ROHM - -	
Q203	LG-0TRKE80068A	TRANSISTOR/ BIPOLARS	KTA1531T-Y GRADE KEC R/TP TSM	
Q204	LG-0TRKE80068A	TRANSISTOR/ BIPOLARS	KTA1531T-Y GRADE KEC R/TP TSM	
Q205	LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
Q206	LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
Q207	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q208	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
Q302	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q303	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
Q304	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
Q305	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q306	LG-0TR534409AA	TRANSISTOR	2SC5344Y TP	
Q309	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q311	LG-0TR534409AA	TRANSISTOR	2SC5344Y TP	
Q403	LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
Q404	LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
Q405	2SA1037K/QR/-X	TRANSISTOR/ BIPOLARS	2SA1037K-Q CHIP TP ROHM - -	
Q501	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
Q503	LG-0TR928009AD	TRANSISTOR	KSA928A-Y/TO-92L TP SAMSUNG TO	
Q503	or LG-0TR127709AB	TRANSISTOR/ BIPOLARS	AUK KOREA STB1277LY-AT TP TO-9	
Q503	or LG-0TR127309AA	TRANSISTOR	KTA1273-TP-Y (KTA966A)KEC	
Q504	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q505	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q506	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
Q601	LG-0TR390409DA	TRANSISTOR	2N3904S NPN SOT-23 TP KEC	
Q602	LG-0TR390409DA	TRANSISTOR	2N3904S NPN SOT-23 TP KEC	
Q603	LG-0TR390409DA	TRANSISTOR	2N3904S NPN SOT-23 TP KEC	
Q7S1	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	A
Q7S2	LG-0TR103009AA	TRANSISTOR	CHIP KRC103S- T1(NC)22-22 KEC	A
Q801	LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
Q802	LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
Q804	LG-0TR320509AB	TRANSISTOR	KTC3205-TP-Y (KTC2236A)KEC	

Symbol No.	Part No.	Part Name	Description	Local
Q806	LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
Q807	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	B,C,D, E,F
Q808	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	B,C,D, E,F
Q902	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
Q903	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
Q905	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q906	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q907	LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
Q908	LG-0TR103009AA	TRANSISTOR	CHIP KRC103S- T1(NC)22-22 KEC	
Q909	LG-0TR103009AA	TRANSISTOR	CHIP KRC103S- T1(NC)22-22 KEC	
Q910	LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
Q914	LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR- T1(ALG) KEC	
D301	1SS133-T2	SI DIODE	1SS133 TP ROHM KOREA - - - -	
D401	LG-0DD181009AA	DIODE/DRAWING	DIODE CHIP KDS181- T1(A3) KEC	
D401	or LG-0DSRM00118A	DIODE/SWITCHING	DAP202K T146 ROHM R/TP SMD 80V	
D503	LG-0DR104009AB	DIODE/RECTIFIERS	RL104 R. TP GULF SEMICONDUCTOR	
D504	LG-0DR104009AB	DIODE/RECTIFIERS	RL104 R. TP GULF SEMICONDUCTOR	
LED501	LG-6301R3U011A	LED ASSEMBLY	F3C5-2GWB EVERLIGHT UNIVERSAL	
ZD501	LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
ZD502	LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
ZD503	LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
ZD504	LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
ZD505	LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
ZD506	LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
ZD801	LG-0DZ622609AB	DIODE/ZENER	UZ-6.2BSA 26MM TP PYUNG CHANG	
ZD802	LG-0DZKE00018A	DIODE/ZENERS	Z02W7.5V KEC R/TP SOT23 250MW	
ZD803	LG-0DZKE00018A	DIODE/ZENERS	Z02W7.5V KEC R/TP SOT23 250MW	
C201	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C202	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C204	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C205	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C206	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C207	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C208	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C209	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C210	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C211	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
C212	LG-0CH1472K562	CAPACITOR/FIXED CERAMIC(TEMP.C	4700PF 50V 10% X7R(X) 1608 R/T	
C213	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C214	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C215	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
C216	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
C219	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C220	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C221	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C302	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C303	LG-0CH1122K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1200PF 50V 10% X7R(X) 1608 R/T	
C304	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C305	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C306	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C307	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C308	LG-0CQ2231N409	CAPACITOR/FIXED FILM	0.022UF D 100V 5% PE TP5	
C309	LG-0CH4271K412	CAPACITOR/FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
C310	NDC31HJ-221X	C CAPACITOR	220PF 50V 5% NP0 1608 R/TP	
C311	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C312	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C314	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C315	QETC1HM-225Z	E CAPACITOR	2.2UF SRA/SS 50V 20% FM5 TP 5	
C316	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C317	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C318	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C319	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C320	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C321	LG-0CH4680K412	CAPACITOR/FIXED CERAMIC(HIGH D	68PF 50V 5% NP0 1608 R/TP	
C322	LG-0CE1063F638	CAPACITOR/AL.ELECTROLYTIC	10M SRE/SE 16V M FM5 TP(5)	
C323	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C324	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C325	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C326	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C327	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C328	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C329	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C330	LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
C331	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C333	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C334	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C335	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C336	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C337	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C338	LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
C339	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C340	LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
C341	LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	

Symbol No.	Part No.	Part Name	Description	Local
C342	LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
C343	LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
C345	LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
C346	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C347	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C348	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C349	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C350	LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
C351	NDC31HJ-221X	C CAPACITOR	220PF 50V 5% NP0 1608 R/TP	
C353	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C355	LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
C356	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C357	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C358	LG-0CH4680K412	CAPACITOR/FIXED CERAMIC(HIGH D	68PF 50V 5% NP0 1608 R/TP	
C359	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C360	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C361	LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
C362	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C363	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C366	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C367	LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
C368	LG-0CH1822K562	CAPACITOR/FIXED CERAMIC(TEMP.C	8200PF 50V 10% X7R(X) 1608 R/T	
C370	LG-0CH4820K412	CAPACITOR/FIXED CERAMIC(HIGH D	82PF 50V 5% NP0 1608 R/TP	
C371	LG-0CH4820K412	CAPACITOR/FIXED CERAMIC(HIGH D	82PF 50V 5% NP0 1608 R/TP	
C372	LG-0CH4820K412	CAPACITOR/FIXED CERAMIC(HIGH D	82PF 50V 5% NP0 1608 R/TP	
C374	LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
C375	LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
C376	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
C388	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C3S1	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
C3S2	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
C3S3	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	A
C3S4	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	A
C3S5	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	A
C3S6	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
C3S7	QETL1HM-474	E CAPACITOR	0.47M SRA 50V M FM5 TP(5)	A
C3S8	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
C3S9	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
C3T1	QETL1HM-474	E CAPACITOR	0.47M SRA 50V M FM5 TP(5)	A
C3T2	LG-0CQ2222K409	CAPACITOR/FIXED FILM	2200PF S 50V 5% PE TP5	A
C3T3	LG-0CQ2222K409	CAPACITOR/FIXED FILM	2200PF S 50V 5% PE TP5	A
C3T4	QETC1HM-225Z	E CAPACITOR	2.2UF SRA/SS 50V 20% FM5 TP 5	A



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
C3T5	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
C3T6	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	A
C3T7	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
C401	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C402	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C403	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C405	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C406	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C407	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C408	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C409	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
C410	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
C411	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
C412	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
C413	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C414	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C415	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C418	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C501	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C502	LG-0CE4764C638	CAPACITOR/ ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
C503	LG-0CH4470K412	CAPA/CHIP CERAMIC M/L T.C F/S	47P 50V J COG 1.6X0.8 R/TP	
C504	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C505	LG-0CE4764C638	CAPACITOR/ ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
C506	LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
C507	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C508	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C509	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C510	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C511	QETA1CM-336	E CAPACITOR	33M SRA 16V M FM5 TP(5)	
C512	LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
C513	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C514	NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	
C515	NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	
C516	LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
C517	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C518	LG-0CH1222K512	CAPACITOR/FIXED CERAMIC(TEMP.C	2200PF 50V 10% B(5YP) 1608 R/T	
C520	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C522	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C523	QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
C524	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C525	LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
C526	LG-0CE4764J638	CAPACITOR/ AL.ELECTROLYTIC	47UF SRA/SS 35V M FM5 TP 5	

Symbol No.	Part No.	Part Name	Description	Local
C534	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C535	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C543	LG-0CH1222K512	CAPACITOR/FIXED CERAMIC(TEMP.C	2200PF 50V 10% B(5YP) 1608 R/T	
C544	LG-0CH1473H942	CAPA/CHIP CERAMIC M/L H.D F/S	0.0470UF 25V Z Y5V(F) 1608 R/T	
C545	LG-0CH1333K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.033UF 50V 10% X7R(X) 1608 R/	
C546	LG-0CE4764J638	CAPACITOR/ AL.ELECTROLYTIC	47UF SRA/SS 35V M FM5 TP 5	
C547	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C551	LG-0CH1333K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.033UF 50V 10% X7R(X) 1608 R/	
C552	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C553	NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	
C554	LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
C556	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C558	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C567	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C568	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C570	LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
C571	LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
C581	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C583	LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
C584	LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
C5B2	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C5G2	LG-0CE1086C638	CAPACITOR/FIXED ELECTROLYTIC	1000000000 PF SMS/ SG 6.3V M FM	
C5G3	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C5K8	LG-0CH4470K412	CAPA/CHIP CERAMIC M/L T.C F/S	47P 50V J COG 1.6X0.8 R/TP	
C5L1	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C5L2	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C5L3	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C5L6	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C5R1	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C5R2	LG-0CH4681K412	CAPACITOR/FIXED CERAMIC(HIGH D	680PF 50V 5% NP0 1608 R/TP	
C5S1	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
C601	LG-0CH1122K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1200PF 50V 10% X7R(X) 1608 R/T	
C602	LG-0CH1273F562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.027UF 1608 16V 10% X7R R/TP	
C603	LG-0CH1273F562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.027UF 1608 16V 10% X7R R/TP	
C604	NDC31HJ-221X	C CAPACITOR	220PF 50V 5% NP0 1608 R/TP	
C605	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C606	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C607	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C608	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C609	LG-0CH1102K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% X7R(X) 1608 R/T	
C610	LG-0CH1102K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% X7R(X) 1608 R/T	
C611	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
C612	LG-0CE2274C638	CAPACITOR/ELECTROLYTIC	220M SRA 6.3V M FM5 TP(5)	
C613	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C614	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C615	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C616	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C618	QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
C621	LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
C622	LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
C623	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C624	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C625	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C626	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C627	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C628	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C629	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C630	LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
C631	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C632	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C633	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C634	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C637	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C638	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C639	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C640	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C641	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C642	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C643	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C644	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C645	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C646	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C647	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C648	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C649	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C650	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C651	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C652	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C653	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C654	LG-0CH4010K012	CAPACITOR/FIXED CERAMIC(HIGH D	1PF 50V 0.25 PF NP0 1608 R/TP	
C660	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C662	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C664	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C673	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	

Symbol No.	Part No.	Part Name	Description	Local
C674	LG-0CH4010K012	CAPACITOR/FIXED CERAMIC(HIGH D	1PF 50V 0.25 PF NP0 1608 R/TP	
C675	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C702	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C703	LG-0CH1103K512	APA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
C703	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C704	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C706	LG-0CH4330K412	CAPACITOR/FIXED CERAMIC(HIGH D	33PF 50V 5% NP0 1608 R/TP	
C707	LG-0CH4680K412	CAPACITOR/FIXED CERAMIC(HIGH D	68PF 50V 5% NP0 1608 R/TP	
C709	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C710	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C712	LG-0CH1103K512	APA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
C712	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C713	LG-0CH4560K412	CAPACITOR/FIXED CERAMIC(HIGH D	56PF 50V 5% NP0 1608 R/TP	
C714	LG-0CH4560K412	CAPACITOR/FIXED CERAMIC(HIGH D	56PF 50V 5% NP0 1608 R/TP	
C715	LG-0CH4050K012	CAPACITOR/FIXED CERAMIC(HIGH D	5PF 50V 0.25 PF NP0 1608 R/TP	A
C715	LG-0CH4050K172	CAPACITOR/FIXED CERAMIC(HIGH D	5PF 50V 0.5 PF N750 1608 R/TP	B,C,D, E,F
C716	LG-0CH4100K412	CAPACITOR/FIXED CERAMIC(HIGH D	10PF 50V 5% NP0 1608 R/TP	
C717	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
C717	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C718	LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
C719	LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
C720	LG-0CH1392K512	CAPACITOR/FIXED CERAMIC(TEMP.C	3900PF 50V 10% B(5YP) 1608 R/T	
C721	LG-0CH1392K512	CAPACITOR/FIXED CERAMIC(TEMP.C	3900PF 50V 10% B(5YP) 1608 R/T	
C722	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
C722	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C723	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
C723	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C726	LG-0CH1103K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.0100UF 50V K B 1608 R/TP	A
C726	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C727	LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
C728	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
C728	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C729	QETF1HM-335Z	E CAPACITOR	3.3UF SRA/SS 50V 20% FM5 TP 5	
C732	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C751	LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
C752	LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
C752	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D, E,F
C7M3	NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	B,C,D, E,F
C7M5	LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F) 1608	B,C,D, E,F
C7M6	NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	B,C,D, E,F
C7S1	QETA1CM-336	E CAPACITOR	33M SRA 16V M FM5 TP(5)	A
C7S2	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	A

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
C802	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C803	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C804	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C805	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C806	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C807	QETL1HM-474	E CAPACITOR	0.47M SRA 50V M FM5 TP(5)	
C810	LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
C811	LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
C812	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C813	LG-0CH1682K512	CAPACITOR/FIXED CERAMIC(TEMP.C	6800PF 50V 10% B(5YP) 1608 R/T	
C814	LG-0CE4763F638	CAPACITOR/FIXED ELECTROLYTIC	47UF SRE/SE 16V 20% FM5 TP 5	
C815	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C816	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C817	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C818	LG-0CE4763F638	CAPACITOR/FIXED ELECTROLYTIC	47UF SRE/SE 16V 20% FM5 TP 5	
C819	LG-0CH1682K512	CAPACITOR/FIXED CERAMIC(TEMP.C	6800PF 50V 10% B(5YP) 1608 R/T	
C820	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C821	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C822	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C823	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C824	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C825	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C826	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C828	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C829	LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
C830	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
C831	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
C832	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
C833	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
C850	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C851	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C852	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C853	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C856	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C870	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C871	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C884	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C885	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C887	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C888	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C889	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C890	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	

Symbol No.	Part No.	Part Name	Description	Local
C891	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C892	QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
C902	LG-0CE4775F638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 16V 20% FM5 TP 5	
C904	LG-0CE4775F638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 16V 20% FM5 TP 5	
C911	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C912	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
C913	NDC31HJ-220X	C CAPACITOR	22P 50V J COG 1.6X0.8 R/TP	
C916	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C917	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C919	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C921	LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
C938	LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
C943	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NPO 1608 R/TP	
C944	NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NPO 1608 R/TP	
C945	LG-0CQ3921N449	CAPACITOR/FIXED FILM	3900PF D 100V 5% PP TP5	
C946	LG-0CQ3921N449	CAPACITOR/FIXED FILM	3900PF D 100V 5% PP TP5	
C948	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	A
C950	LG-0CH4151K412	CAPA/CHIP CERAMIC M/L T.C F/S	150P 50V J COG 1.6X0.8 R/TP	
C971	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C974	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C975	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C976	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C978	QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
C979	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C980	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C981	LG-0CE1053K638	CAPACITOR/AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
C983	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C984	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C985	LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
C987	QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
C989	LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
R204	LG-0RH0332C622	RESISTOR/METAL GLAZED(CHIP)	33 OHM 1 / 16 W 1608 5.00% D	
R216	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R217	LG-0RH0331C622	RESISTOR/METAL GLAZED(CHIP)	3.3 OHM 1 / 16 W 1608 5.00% D	
R218	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R219	LG-0RH0471C622	RESISTOR/METAL GLAZED(CHIP)	4.7 OHM 1 / 16 W 1608 5.00% D	
R220	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R221	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R222	LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
R223	LG-0RH3901C622	RESISTOR/METAL GLAZED(CHIP)	3.9K OHM 1 / 16 W 1608 5.00% D	
R228	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R229	LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
R232	NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
R233	LG-0RH2002C622	RESISTOR/METAL GLAZED(CHIP)	20K OHM 1 / 16 W 1608 5.00% D	
R238	LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
R239	LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
R243	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R244	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R245	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R246	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R247	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R248	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R251	NRSA63F-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 1.00% D	
R252	NRSA63F-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 1.00% D	
R254	LG-0RH4703C622	RESISTOR/METAL GLAZED(CHIP)	470K OHM 1 / 16 W 1608 5.00% D	
R255	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R258	LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
R259	LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
R260	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R261	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R262	NRSA63J-563X	MG RESISTOR	56K OHM 1 / 16 W 1608 5.00% D	
R263	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R264	LG-0RH4703C622	RESISTOR/METAL GLAZED(CHIP)	470K OHM 1 / 16 W 1608 5.00% D	
R270	LG-0RH2203C622	RESISTOR/METAL GLAZED(CHIP)	220K OHM 1 / 16 W 1608 5.00% D	
R301	NRSA63J-563X	MG RESISTOR	56K OHM 1 / 16 W 1608 5.00% D	
R302	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R303	LG-0RH1802C622	RESISTOR/METAL GLAZED(CHIP)	18K OHM 1 / 16 W 1608 5.00% D	
R304	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R305	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R306	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R307	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R308	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R309	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R310	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R311	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R312	LG-0RH6802C622	RESISTOR/METAL GLAZED(CHIP)	68K OHM 1 / 16 W 1608 5.00% D	
R313	LG-0RH1800C622	RESISTOR/METAL GLAZED(CHIP)	180 OHM 1 / 16 W 1608 5.00% D	
R314	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R315	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R316	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R317	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
R318	LG-0RH3901C622	RESISTOR/METAL GLAZED(CHIP)	3.9K OHM 1 / 16 W 1608 5.00% D	
R319	NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
R320	LG-0RH1800C622	RESISTOR/METAL GLAZED(CHIP)	180 OHM 1 / 16 W 1608 5.00% D	

Symbol No.	Part No.	Part Name	Description	Local
R321	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R322	NRSA63J-822X	MG RESISTOR	8.2K OHM 1 / 16 W 1608 5.00% D	
R324	LG-0RH3303C622	RESISTOR/METAL GLAZED(CHIP)	330K OHM 1 / 16 W 1608 5.00% D	
R325	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R326	NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
R327	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
R328	LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
R329	NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
R330	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R331	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R332	LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	
R333	NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
R334	LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
R335	NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
R336	NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
R337	NRSA63J-182X	MG RESISTOR	1.8K OHM 1 / 16 W 1608 5.00% D	
R338	LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
R339	LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
R340	LG-0RH1802C622	RESISTOR/METAL GLAZED(CHIP)	18K OHM 1 / 16 W 1608 5.00% D	
R342	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R343	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R345	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R347	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R348	LG-0RH1504C622	RESISTOR/METAL GLAZED(CHIP)	1.5M OHM 1 / 16 W 1608 5.00% D	
R349	NRSA63J-182X	MG RESISTOR	1.8K OHM 1 / 16 W 1608 5.00% D	
R350	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R351	LG-0RH8203C622	RESISTOR/METAL GLAZED(CHIP)	820K OHM 1 / 16 W 1608 5.00% D	
R352	NRSA63J-331X	MG RESISTOR	330 OHM 1 / 16 W 1608 5.00% D	
R353	NRSA63J-331X	MG RESISTOR	330 OHM 1 / 16 W 1608 5.00% D	
R356	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R361	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R365	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R366	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R375	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R3S1	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	A
R3S3	LG-0RH2204C622	RESISTOR/METAL GLAZED(CHIP)	2.2M OHM 1 / 16 W 1608 5.00% D	A
R3S4	LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	A
R403	NRSA63J-471X	MG RESISTOR	470 OHM 1 / 16 W 1608 5.00% D	
R404	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R405	LG-0RH5101C622	RESISTOR/METAL GLAZED(CHIP)	5100 OHM 1 / 16 W 1608 5.00% D	
R406	LG-0RH5101C622	RESISTOR/METAL GLAZED(CHIP)	5100 OHM 1 / 16 W 1608 5.00% D	
R407	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
R408	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R409	NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
R410	NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
R411	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R412	NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
R413	NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
R414	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R415	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R416	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R417	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R418	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R419	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R420	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R422	NRSA63J-100X	MG RESISTOR	10 OHM 1 / 16 W 1608 5.00% D	
R423	LG- 0RH0472C622	RESISTOR/METAL GLAZED(CHIP)	47 OHM 1 / 16 W 1608 5.00% D	
R424	LG- 0RH0472C622	RESISTOR/METAL GLAZED(CHIP)	47 OHM 1 / 16 W 1608 5.00% D	
R425	LG- 0RH0472C622	RESISTOR/METAL GLAZED(CHIP)	47 OHM 1 / 16 W 1608 5.00% D	
R501	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R502	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R504	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R505	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R506	LG- 0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
R507	NRSA63J-471X	MG RESISTOR	470 OHM 1 / 16 W 1608 5.00% D	
R508	LG- 0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
R509	LG- 0RH2702C622	RESISTOR/METAL GLAZED(CHIP)	27K OHM 1 / 16 W 1608 5.00% D	
R510	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R511	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R512	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R517	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R518	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R520	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R521	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R522	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R523	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R525	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
R526	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
R528	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R529	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R531	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R534	NRSA63J-105X	MG RESISTOR	1M OHM 1 / 16 W 1608 5.00% D	
R537	LG- 0RH1203C622	RESISTOR/METAL GLAZED(CHIP)	120K OHM 1 / 16 W 1608 5.00% D	
R539	LG- 0RH4703C622	RESISTOR/METAL GLAZED(CHIP)	470K OHM 1 / 16 W 1608 5.00% D	

Symbol No.	Part No.	Part Name	Description	Local
R542	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R544	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R545	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R546	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
R547	NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
R548	NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
R550	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R553	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R555	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R556	NRSA63J-223X	MG RESISTOR	22K OHM 1 / 16 W 1608 5.00% D	
R557	LG- 0RH2702C622	RESISTOR/METAL GLAZED(CHIP)	27K OHM 1 / 16 W 1608 5.00% D	
R558	NRSA63J-223X	MG RESISTOR	22K OHM 1 / 16 W 1608 5.00% D	
R561	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R562	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R563	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
R564	LG- 0RH2702C622	RESISTOR/METAL GLAZED(CHIP)	27K OHM 1 / 16 W 1608 5.00% D	
R566	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R567	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R568	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R569	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R570	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R575	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R576	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R577	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R578	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R579	NRSA63J-563X	MG RESISTOR	56K OHM 1 / 16 W 1608 5.00% D	
R580	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R581	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R582	NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
R583	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R584	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R585	NRSA63J-220X	MG RESISTOR	22 OHM 1 / 16 W 1608 5.00% D	
R588	NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
R592	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R593	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R599	LG- 0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
R5B3	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5B4	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5C5	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5C6	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5C7	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5C9	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
R5D1	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5D2	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5D3	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5D4	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5D5	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R5G1	LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	
R5G2	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R5G3	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R5G4	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R5K1	NRSA63J-681X	MG RESISTOR	680 OHM 1 / 16 W 1608 5.00% D	
R5K2	LG-0RH8200C622	RESISTOR/METAL GLAZED(CHIP)	820 OHM 1 / 16 W 1608 5.00% D	
R5K3	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R5K4	NRSA63J-152X	MG RESISTOR	1.5K OHM 1 / 16 W 1608 5.00% D	
R5K5	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R5K9	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R5R7	NRSA63J-331X	MG RESISTOR	330 OHM 1 / 16 W 1608 5.00% D	
R5R8	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R5S1	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R601	NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
R602	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R603	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R604	LG-0RH3902C622	RESISTOR/METAL GLAZED(CHIP)	39K OHM 1 / 16 W 1608 5.00% D	
R605	LG-0RH2002C422	RESISTOR/METAL GLAZED(CHIP)	20K OHM 1 / 16 W 1608 1.00% D	
R606	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R609	LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
R610	LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
R611	LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
R612	LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
R613	LG-0RJ3920C477	RESISTOR/METAL GLAZED(CHIP)	392 OHM 1/16 W 1% 1608 R/TP	
R614	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R615	NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
R616	LG-0RH2203C622	RESISTOR/METAL GLAZED(CHIP)	220K OHM 1 / 16 W 1608 5.00% D	
R619	NRSA63J-100X	MG RESISTOR	10 OHM 1 / 16 W 1608 5.00% D	
R620	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R621	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R622	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R628	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R632	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R633	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R634	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R636	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R638	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	

Symbol No.	Part No.	Part Name	Description	Local
R639	LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
R640	LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
R641	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R642	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R643	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R646	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R648	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R661	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R670	LG-0LC11608D01	INDUCTOR/CHIP	HB-1M1608-121JT CERATECH R/TP	
R671	LG-0LC11608D01	INDUCTOR/CHIP	HB-1M1608-121JT CERATECH R/TP	
R682	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R683	LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
R684	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R685	NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
R686	LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
R687	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R688	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R689	LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
R690	LG-0LC0200001B	INDUCTOR/CHIP	HB-1M1608-800JT CERATECH R/TP	
R705	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R706	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R707	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R710	NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
R711	NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
R712	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R713	NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
R715	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R716	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R717	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R718	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R7M1	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R7M2	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R7M4	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R7M5	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R7S1	NRSA63J-223X	MG RESISTOR	22K OHM 1 / 16 W 1608 5.00% D	A
R801	LG-0RH3304C622	RESISTOR/METAL GLAZED(CHIP)	3.3M OHM 1 / 16 W 1608 5.00% D	
R802	LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	
R803	LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
R804	LG-0RH3902C622	RESISTOR/METAL GLAZED(CHIP)	39K OHM 1 / 16 W 1608 5.00% D	
R805	LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
R806	LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	
R807	NRSA63J-471X	MG RESISTOR	470 OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
R808	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R809	LG-0RH1802C622	RESISTOR/METAL GLAZED(CHIP)	18K OHM 1 / 16 W 1608 5.00% D	
R810	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R811	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R812	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R821	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R822	NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
R823	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R824	NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
R825	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R826	NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
R834	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R835	NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
R836	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R837	NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
R842	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R850	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R851	LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R852	NRSA63J-822X	MG RESISTOR	8.2K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R853	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R854	LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R855	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R856	NRSA63J-822X	MG RESISTOR	8.2K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R857	NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R858	NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R859	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	B,C,D, E,F
R863	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R864	NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
R867	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R868	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R875	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R876	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R881	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R882	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R891	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R892	NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
R893	NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
R901	NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
R902	NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
R903	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R904	NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
R905	NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	

Symbol No.	Part No.	Part Name	Description	Local
R906	NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
R907	NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
R909	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R910	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R913	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R914	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R919	LG-0RH0682C622	RESISTOR/METAL GLAZED(CHIP)	68 OHM 1 / 16 W 1608 5.00% D	
R920	LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
R921	LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
R933	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R934	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R950	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R951	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R952	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R953	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R954	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R956	NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
R963	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R967	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R970	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R973	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R974	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R975	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R984	LG-0RH1500C422	RESISTOR/METAL GLAZED(CHIP)	150 OHM 1 / 16 W 1608 1.00% D	
R985	LG-0RH1500C422	RESISTOR/METAL GLAZED(CHIP)	150 OHM 1 / 16 W 1608 1.00% D	
R986	NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
R998	LG-0RH8200C622	RESISTOR/METAL GLAZED(CHIP)	820 OHM 1 / 16 W 1608 5.00% D	
R999	NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
R9A1	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
R9A2	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
L202	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L205	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L301	LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
L303	LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
L304	LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
L305	LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
L307	LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
L308	LG-0LR0392K035	INDUCTOR RADIAL LEAD	39M K 6X6 L5 TP	
L3S1	LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	A
L503	LG-0LR1000J0N5	INDUCTOR/RADIAL LEAD	100UH 5% TP 3X5 TR5	
L504	LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
L505	LG-0LR0122K035	INDUCTOR RADIAL LEAD	12M K 6X6 L5 TP	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
L5F1	LG-0LA1000K018	INDUCTOR AXIAL LEAD	100M K 2.3X3.4 L5 TP	
L5F2	LG-0LA1000K018	INDUCTOR AXIAL LEAD	100M K 2.3X3.4 L5 TP	
L5G2	LG-0LR4700K035	INDUCTOR RADIAL LEAD	470M K 6X6 L5 TP	
L5V1	LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
L601	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L602	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L603	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L604	LG-6200RJC002A	FILTER(CIRC)/EMC	HB-1S1608-300 CERATECH TP	
L605	LG-0LC11608D01	INDUCTOR/CHIP	HB-1M1608-121JT CERATECH R/TP	
L607	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L608	LG-0LCCE00030A	INDUCTOR/CHIP	HB-1T1608-301JT CERATECH R/TP	
L609	LG-6200RJC002A	FILTER(CIRC)/EMC	HB-1S1608-300 CERATECH TP	
L610	LG-6200RJC003A	FILTER(CIRC)/EMC	HB-1S1608-121 CERATECH TP	
L611	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L612	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L613	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L615	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L616	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L617	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L618	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L619	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L620	LG-0LCCE00041A	INDUCTOR/CHIP	HB 1M1608 301JT CERATECH R/TP	
L621	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L623	LG-0RH0562C422	RESISTOR/METAL GLAZED(CHIP)	56 OHM 1 / 16 W 1608 1.00% D	
L701	LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
L702	LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	
L704	LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	
L705	LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	
L801	LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
L802	LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
L901	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L902	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L903	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L904	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L905	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L906	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L907	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L908	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L909	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L910	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L916	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L917	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	

Symbol No.	Part No.	Part Name	Description	Local
L918	LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
L923	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L924	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L925	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L926	LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
L927	LG-0LCCE00004L	INDUCTOR/CHIP	1UH / CHIP2012 CERATECH R/TP	
L928	LG-0LCCE00004L	INDUCTOR/CHIP	1UH / CHIP2012 CERATECH R/TP	
L929	LG-0LCCE00004L	INDUCTOR/CHIP	1UH / CHIP2012 CERATECH R/TP	
BC91	LG-636-004C	FILTER(CIRC)/EMC	BEAD CORE BFS3550R2FD8/R T/P	
BC92	LG-636-004C	FILTER(CIRC)/EMC	BEAD CORE BFS3550R2FD8/R T/P	
CN201	LG-6630R-FB10W	CONNECTOR (CIRC)/FFC/FPC	00-6232-023-006-800 ELCO 23PIN	
CN202	LG-6630R-FB10K	CONNECTOR (CIRC)/FFC/FPC	00-6232-011-006-800 ELCO 11P 1	
CN603	LG-561-036A	CONNECTOR (CIRC)/WAFER	MA V 8283-0212 WH ELCO	
CN605	LG-6630B60E913	CONNECTOR (CIRC)/BOARD TO BOAR	JE117-D22T-13 JAE EUN 13P 2.54	
CS501	LG-6600M000026	SWITCH/PUSH	MPU12970MLB0 VCR CST IN S/W MI	
ES501	LG-4931R-0085C	HOLDER ASSEMBLY	VCR DECK/MECHA END(S)	
ES502	LG-4931R-0085C	HOLDER ASSEMBLY	VCR DECK/MECHA END(S)	
J333	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J503	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J602	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J603	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J604	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J701	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	A
J701	NRSA63J-152X	MG RESISTOR	1.5K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
J702	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	A
J702	NRSA63J-152X	MG RESISTOR	1.5K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
J802	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J8H1	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J8H2	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J8H3	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J8H4	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J904	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J907	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J908	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
J911	NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
JK5L1	LG-6612J00053A	JACK/RCA	DPAE-0385 DOOWON RGB 2004 CO	
JK902	LG-6612J00050F	JACK/RCA	ATT-10dB YUQIU RCA-910A-05-01	
LD501	LG-4931R-0089C	HOLDER ASSEMBLY	VCR DECK/MECHA END(S)	
MS501	LG-6600JR3002D	SWITCH/MODE	SSS-51MD-3 SHINMEI 5VDC 1MA D3	
MS501 or	LG-6600JR3002E	SWITCH/MODE	MMS01080ZMBO MIC 5VDC 1MA D37	
P3D01	LG-561-234S	CONNECTOR (CIRC)/FFC/FPC	GF120-9S-TS-A LG CABLE 9P 1.25	
P3D02	LG-6630R5S008J	CONNECTOR(CIRC)/DRAWING	06(11)FM22.5H-BTR-SH (LF)(SN)	



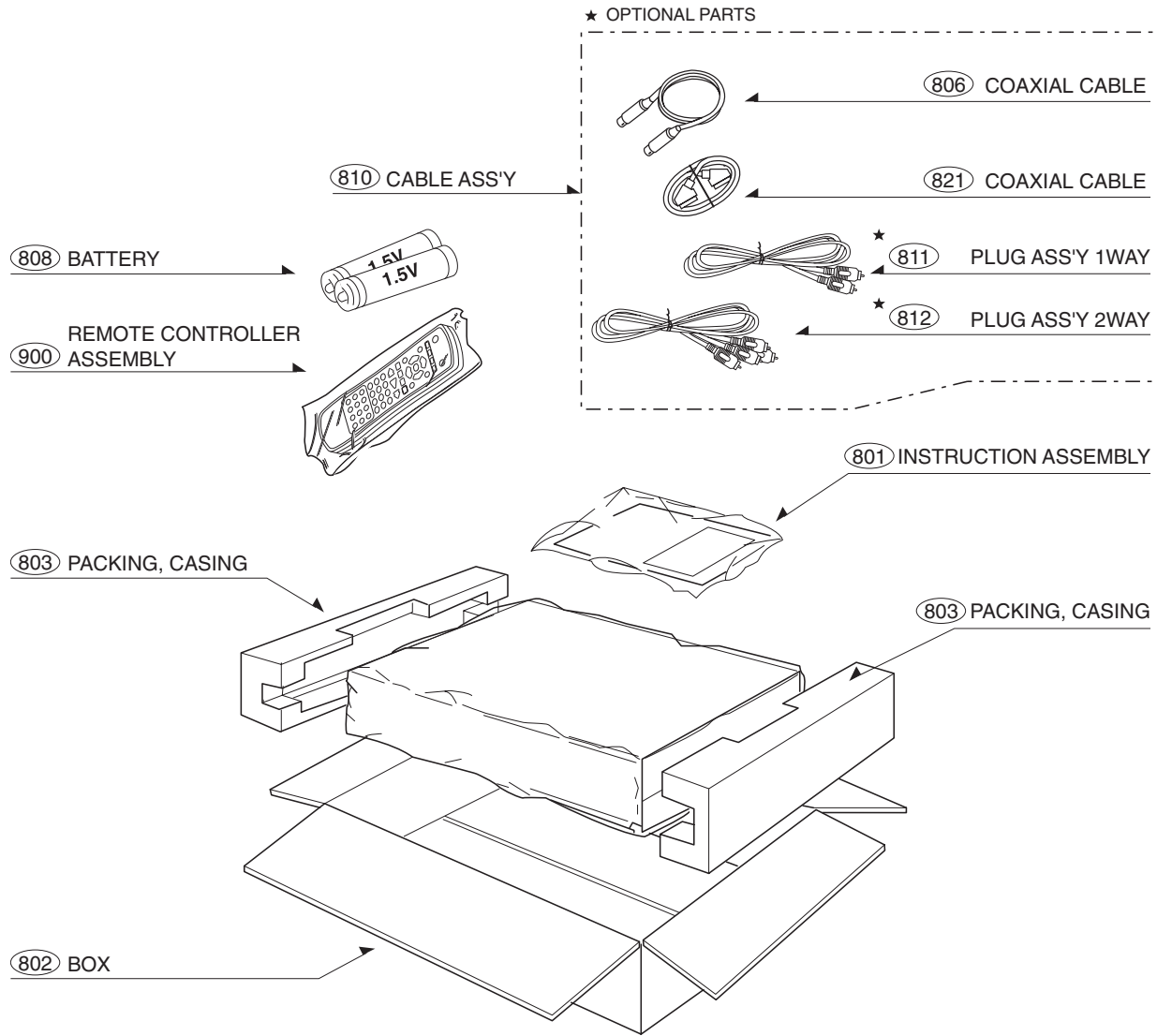
MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Symbol No.	Part No.	Part Name	Description	Local
P3D03	LG-561-251B	CONNECTOR(CIRC)/DRAWING	GB201-2P-TS-B(LGC)	
PMC01	LG-6630BK01612	CONNECTOR (CIRC)/BOARD TO BOAR	JE612-A2T-12A JAE EUN 12P 2.0M	
SC901	LG-6612M00006A	JACK/SCART	DSAM-0341 DOOWON	
SW501	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW502	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW503	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW504	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
SW505	LG-556-213C	SWITCH/DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
TU701	LG-6700PFPL07A	TUNER	TADM-S101D(SECAM/LGIT) LG INOT	A
TU701	LG-6700PFPL07F	TUNER	TADM-M101D(GKI/LGIT) LG INOTEK	B,C,D,E,F
X301	LG-6212AA2443Z	RESONATOR/CRYSTAL	HC-49S CSC/KITELCO 4.433619MHZ	
X501	LG-6212AA2143F	RESONATOR/CRYSTAL	HC-49U KYUNGIL 14.31818MHZ +/-	
X502	LG-6202R-DA01B	RESONATOR/CRYSTAL	CFS-308 CITIZEN 32.768KHZ +/-	
X601	LG-6212AA2271F	RESONATOR/CRYSTAL	HC-49S KITELCO 27MHZ +/- 20 PP	
X751	LG-529-021Q	RESONATOR/CRYSTAL	49U BUBANG 18432000HZ 30PPM 16	

# Packing materials and accessories parts list

The instruction manual to be provided with this product will differ according to the destination.

Block No. M4MM



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

## Packing and accessories

Block No. [M][4][M][M]

Symbol No.	Part No.	Part Name	Description	Local
801	LG-3835RV0031Y	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	A
801	LG-3835RV0031V	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	B
801	LG-3835RV0031S	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	C
801	LG-3835RV0031X	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	D
801	LG-3835RV0031U	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	E
801	LG-3835RV0031T	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	F
802	LG-3890R-C299U	BOX	VJ9033CSZ NA7BJJ SWW3-A	A
802	LG-3890R-C299V	BOX	VJ9033CSZ NA7BJJ SWW3-A	B
802	LG-3890R-C299W	BOX	VJ9033CSZ NA7BJJ SWW3-A	C
802	LG-3890R-C310M	BOX	VJ9033CSZ NA7BJJ SWW3-A	D,E,F
803	LG-3920R-E168A	PACKING	VCR COMBIV9 130 COMBI	
806	LG-6850R-CAA2H	CABLE/COAXIAL	RF PAL DOUBLE SHIELD DT_HY_HIT	
808	-	BATTERY/MANGANESE	AAAM(R03) SEOTONG 1-5 V - 1PA	
810	LG-6851R-0054B	CABLE ASSEMBLY	PAL RF 1.2M FREE OF CD_PB_HG H	A,B
810	LG-6851R-0055B	CABLE ASSEMBLY	PAL RF 1.2M FREE OF CD_PB_HG H	C,D,E,F
811	LG-6850R-PAA2F	CABLE/COAXIAL	1 WAY COAXIAL DT_HY_HIT_SEIL	C,D,E,F
812	LG-6850R-PBA2H	CABLE/COAXIAL	SCART TO SCART 21 PIN DT_HY_HI	C,D,E,F
821	LG-6850R-SUA2F	CABLE/COAXIAL	SCART TO SCART 21 PIN DT_HY_HI	A,B
900	LG-6711R1P081F	REMOTE CONTROLLER ASSEMBLY	N6 VJ9033P1Z NA3GJJ JVC W/SHOW	