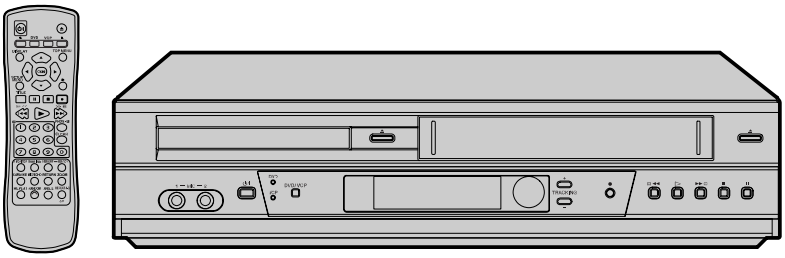
JVC

SERVICE MANUAL

DVD PLAYER/Hi-Fi STEREO KARAOKE VIDEO CASSETTE PLAYER

HR-XV10AG



SPECIFICATIONS

General

Power requirements	AC 110-240V , 50/60 Hz
Power consumption	20W
Dimensions (approx.)	430 X 97.5 X 360 mm (w/h/d)
Mass (approx.)	5.3 kg
Operating temperature	5˚C to 35˚C
Operating humidity	5 % to 90 %

System

Laser	Semiconductor laser, wavelength 650 nm
Video Head system	Double azimuth 4 heads, helical scanning.
Signal system	PAL/NTSC
Frequency response	DVD (PCM 96 kHz): 2 Hz to 44 kHz DVD (PCM 48 kHz): 2 Hz to 22 kHz CD: 2 Hz to 20 kHz
Signal-to-noise ratio	More than 100dB (ANALOG OUT connectors only)
Harmonic distortion	Less than 0.008%
Dynamic range	More than 95 dB (DVD) More than 95 dB (CD)
Wow and flutter	Less than detected value (±0.001% W PEAK)

Inputs (VCP)

Audio	-6.0dBm, more than 47 kohms
Video	1.0 Vp-p, 75 ohms, unbalanced

Outputs (DVD)

VIDEO OUT	1 Vp-p 75 ohms, sync negative
COMPONENT VIDEO OUT	(Y) 1.0 V (p-p), 75 Ω, negative sync., RCA jack x 1 (Pb)/(Pr) 0.7 V (p-p), 75 Ω, RCA jack x 2
Audio output (digital audio)	0.5 V (p-p), 75 Ω, RCA jack x 1
Audio output (analog audio)	2.0 Vrms (1 KHz, 0 dB), 330 Ω, RCA jack (L, R)

Outputs (VCP/DVD)

Audio	-6.0dBm, less than 1 kohms
Video	1.0 Vp-p, 75 ohms, unbalanced

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▪Design and specifications are subject to change without notice.

HR-XV10AG D2VP11E

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No.82959
2003/02

CONTENTS

SECTION 1

SUMMARY

CONTENTS

Important Safety 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.

● 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:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

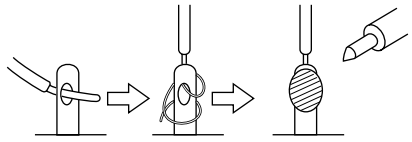


Fig.1

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.

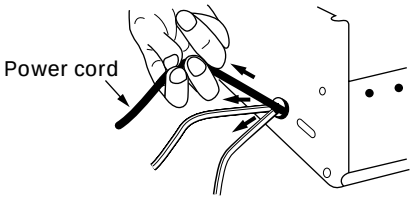


Fig.2

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.

    1) **Connector part number :** E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

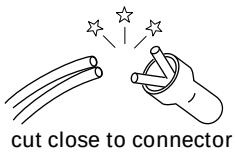


Fig.3

(2) 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.

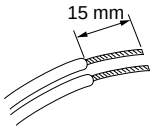


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

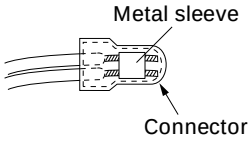


Fig.5

(4) As shown in Fig.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.

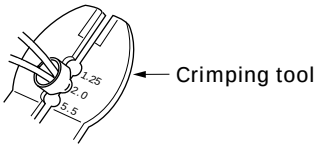


Fig.6

(5) Check the four points noted in Fig.7.

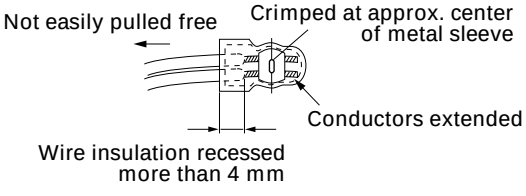


Fig.7

● 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 table 1 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 table 1 below.

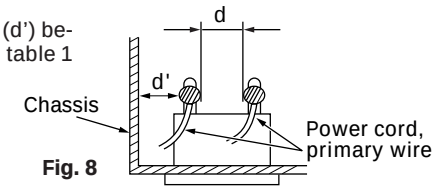


Fig. 8

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 figure 9 and following table 2.

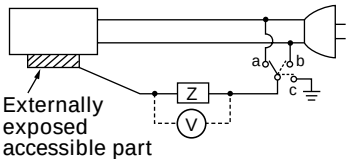


Fig. 9

5. Grounding (Class Ⅰ 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 figure 10 and grounding specifications.

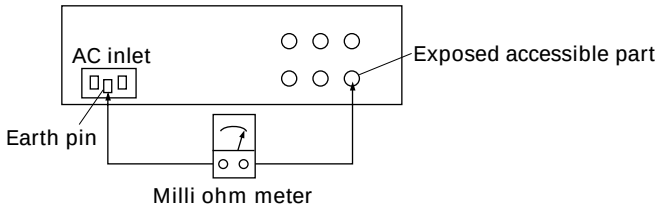


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

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

SPECIFICATIONS

DVD PART

Power requirements	AC 110-240V , 50/60 Hz
Power consumption	20W
Dimensions (approx.)	430 X 97.5 X 360 mm (w/h/d)
Mass (approx.)	5.4 kg
Operating temperature	5˚C to 35˚C (41˚F to 95˚F)
Operating humidity	5 % to 90 %

SYSTEM

Laser	Semiconductor laser, wavelength 650 nm
Video Head system	Double azimuth 4 heads, helical scanning.
Signal system	PAL/NTSC
Frequency response	DVD (PCM 96 kHz): 2 Hz to 44 kHz
	DVD (PCM 48 kHz): 2 Hz to 22 kHz
	CD: 2 Hz to 20 kHz
Signal-to-noise ratio	More than 100dB (ANALOG OUT connectors only)
Harmonic distortion	Less than 0.008%
Dynamic range	More than 95 dB (DVD)
	More than 95 dB (CD)
Wow and flutter	Less than detected value (±0.001% W PEAK)

INPUT

Audio	-6.0dBm, more than 47 kohms
Video	1.0 Vp-p, 75 ohms, unbalanced

OUTPUTS

VIDEO OUT	1 Vp-p 75 ohms, sync negative
COMPONENT VIDEO OUT	(Y) 1.0 V (p-p), 75 Ω, negative sync., RCA jack x 1
	(Pb)/(Pr) 0.7 V (p-p), 75 Ω, RCA jack x 2
Audio output (digital audio)	0.5 V (p-p), 75 Ω, RCA jack x 1
Audio output (analog audio)	2.0 Vrms (1 KHz, 0 dB), 330 Ω, RCA jack (L, R)

*Design and specifications are subject to change without notice.

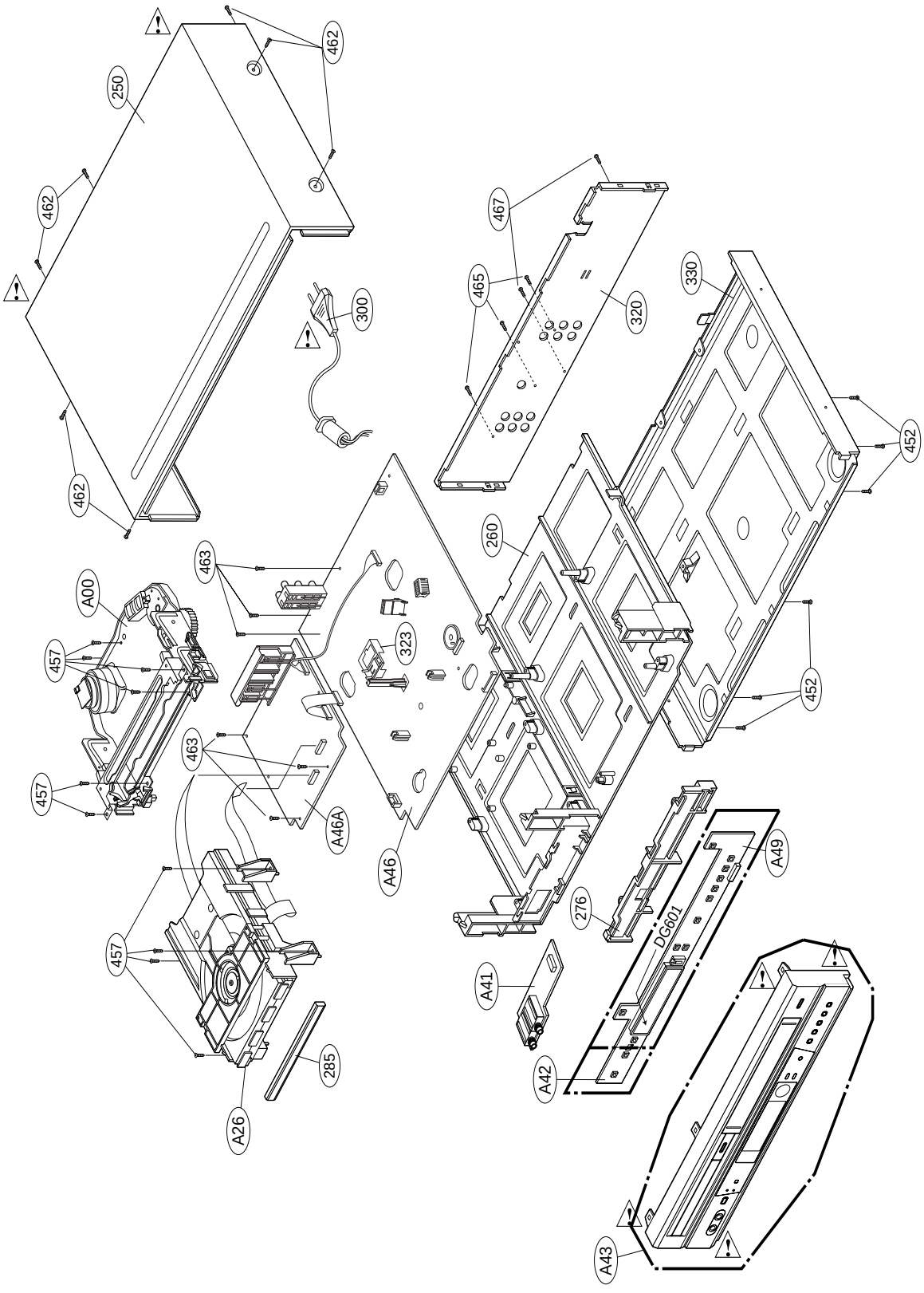
SECTION 2

CABINET & MAIN CHASSIS

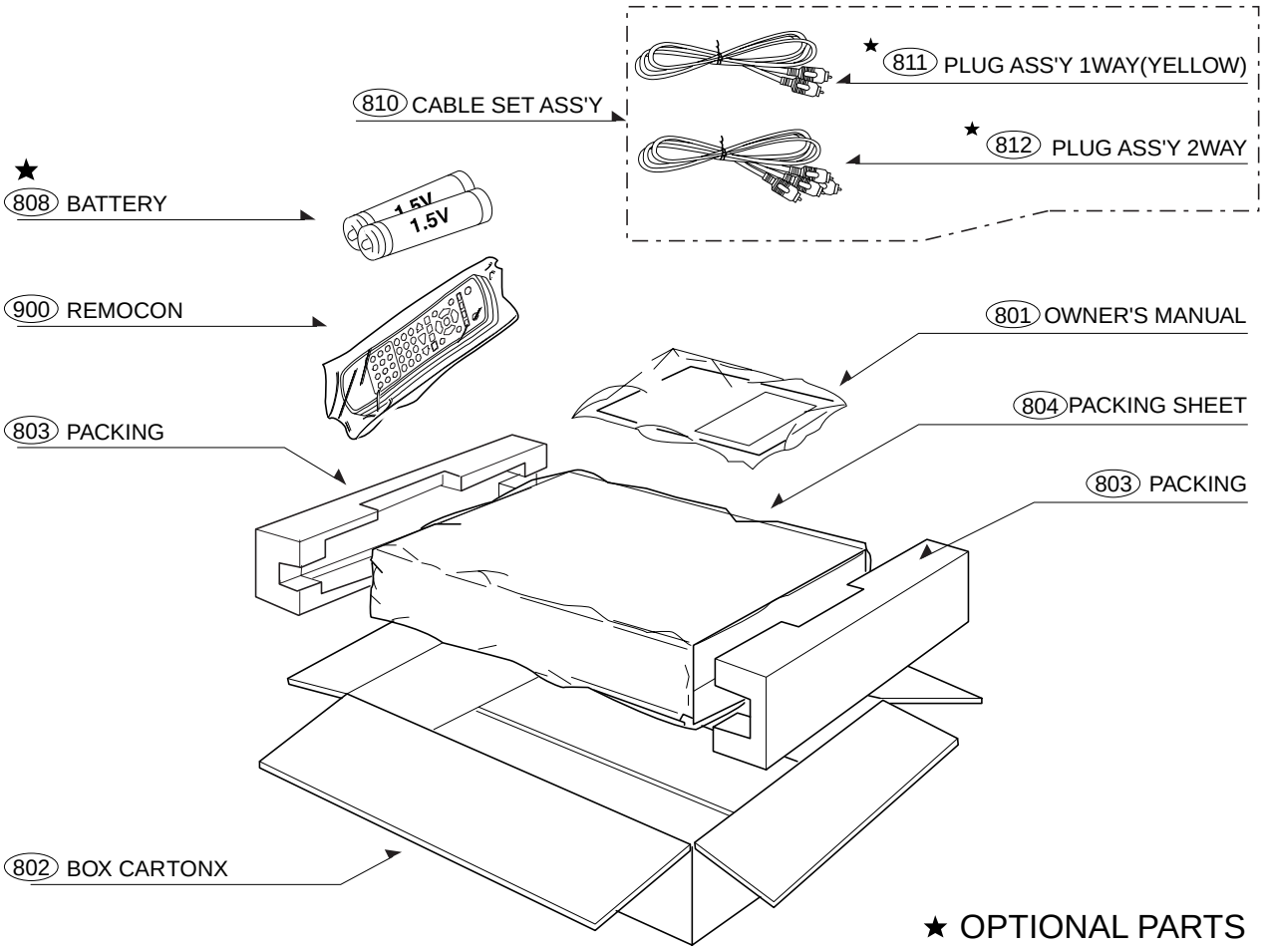
CONTENTS

EXPLODED VIEWS

1. Cabinet and Main Frame Section



2.Packing Accessory Section



SECTION 3
ELECTRICAL

CONTENTS

VCR PART
ELECTRICAL ADJUSTMENT PROCEDURES

1. Servo Adjustment

1) PG Adjustment

• Test Equipment

a) OSCILLOSCOPE	C) PAL MODEL : PAL SP TEST TAPE
b) NTSC MODEL : NTSC SP TEST TAPE	

• Adjustment And Specification

MODE	MEASUREMENT POINT	ADJUSTMENT POINT	SPECIFICATION
PLAY	V.Out H/SW(W373, W374)	R/C TRK JIG KEY	6.5 ± 0.5H

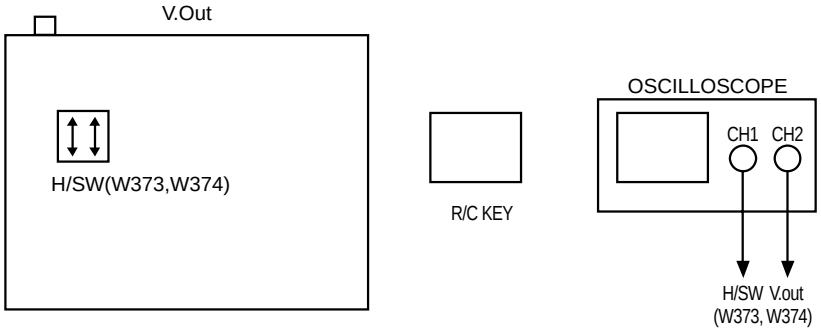
- **Adjustment Procedure**

a) Insert the SP Test Tape and play.
   Note - Adjust the distance of X, pressing the Tracking(+) or Tracking(-) when the "ATR" is blink after the SP Test Tape is inserted.
b) Connect the CH1 of the oscilloscope to the H/SW(W373, W374) and CH2 to the Video Out for the VCR.
c) Trigger the mixed Combo Video Signal of CH2 to the CH1 H/SW(W373, W374), and then check the distance (time difference), which is from the selected A(B) Head point of the H/SW(W373, W374) signal to the starting point of the vertical synchronized signal, to 6.5H ± 0.5H (412µs, 1H=63µs).

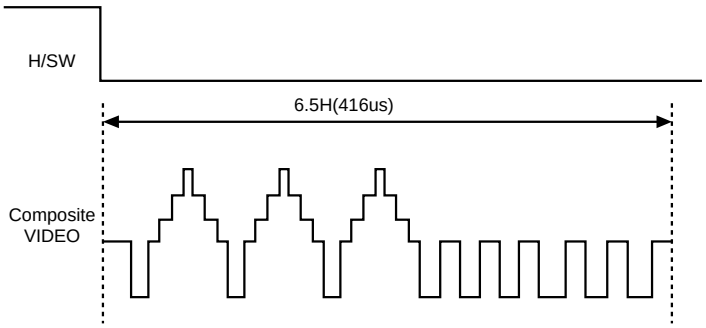
- **PG Adjustment Procedure**

a) Payback the SP standard tape
b) Press the "1" key on the Remote controller and the "PLAY" key on the Front Panel the same time, then it goes in to Tracking initial mode. (Note: NTSC Model : "1" key and PAL Model "0" key on Remote controller)
c) Repeat the above step(No.2), then it finishes the PG adjusting automatically.
d) Stop the playback, then it goes out to PG adjusting mode after mony the PG data.

- **CONNECTION**



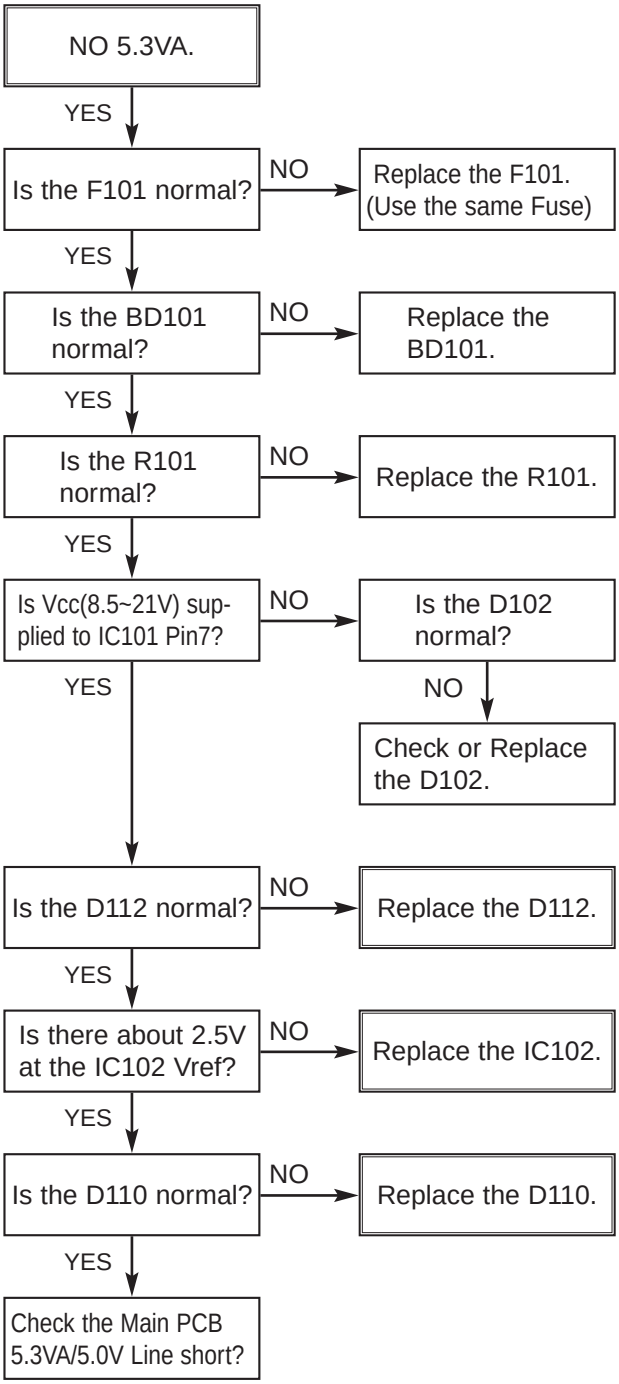
- **WAVEFORM**



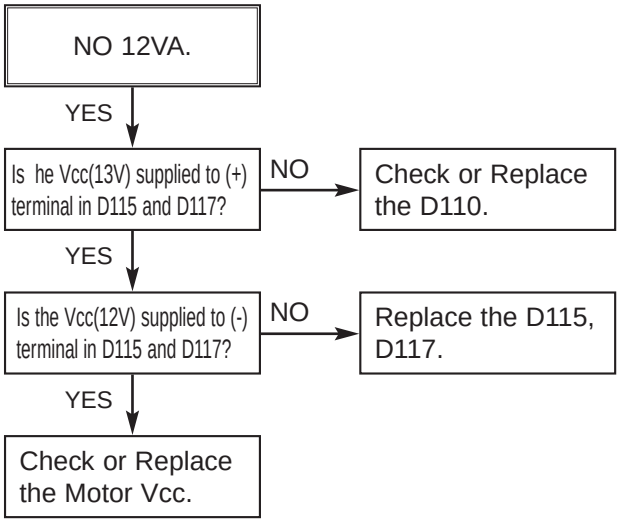
ELECTRICAL TROUBLESHOOTING GUIDE

1. Power(SMPS) CIRCUIT

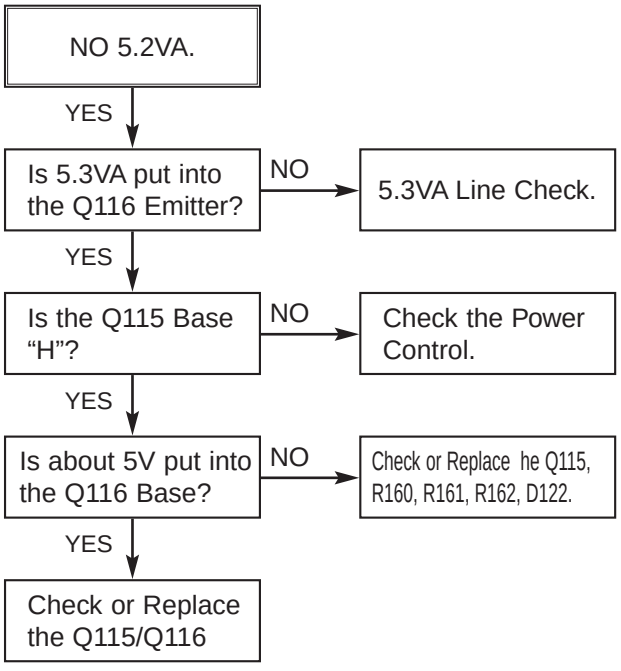
(1) No 5.3VA (SYS/Hi-Fi/TUNER)



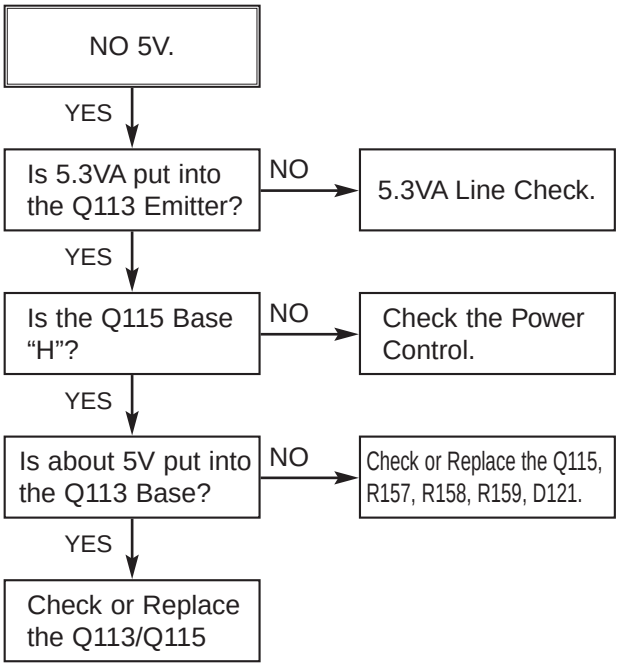
(2) No 12VA (TO CAP, DRUM MOTOR)



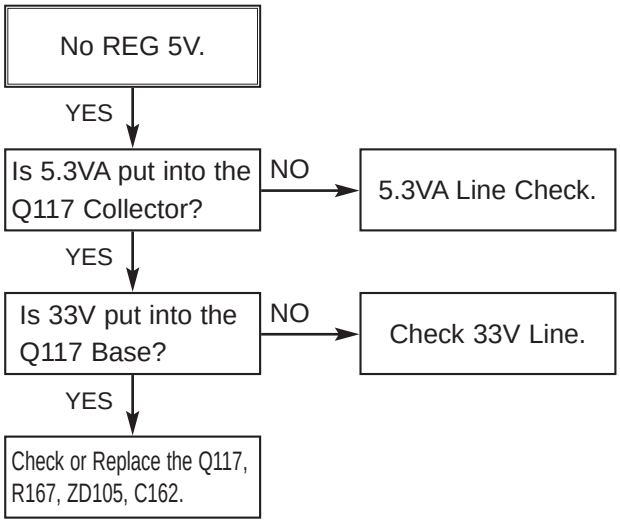
(3) No 5.2V (SYS/Hi-Fi/TUNER)



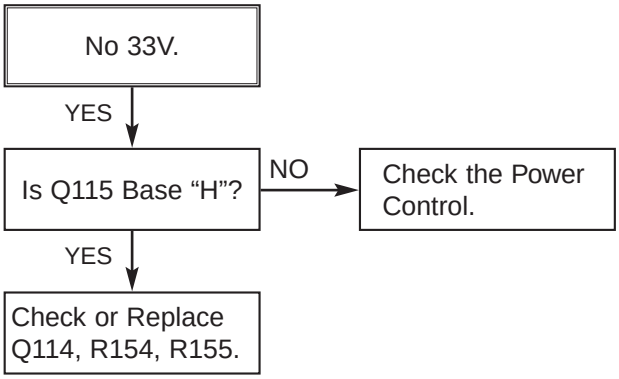
(4) No 5V (TO DVD)



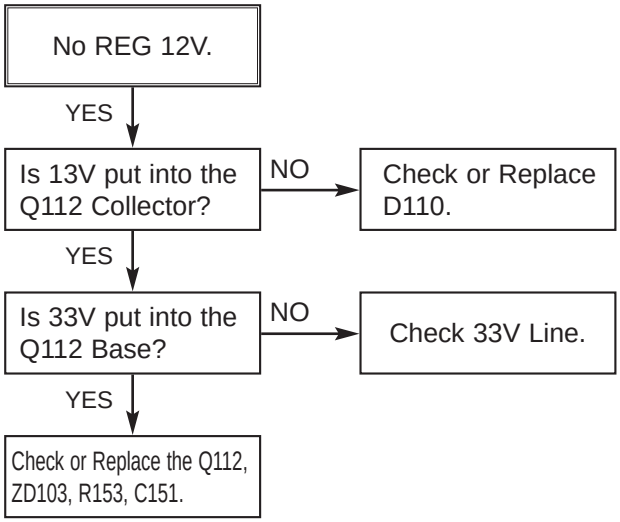
(5) No REG 5V (AVCP)



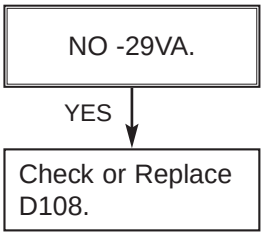
(6) No 33V (TUNER)



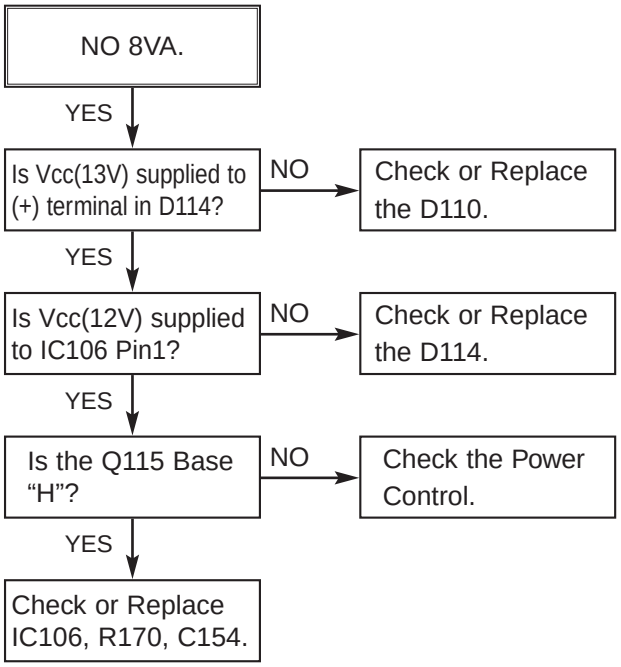
(7) No REG 12V



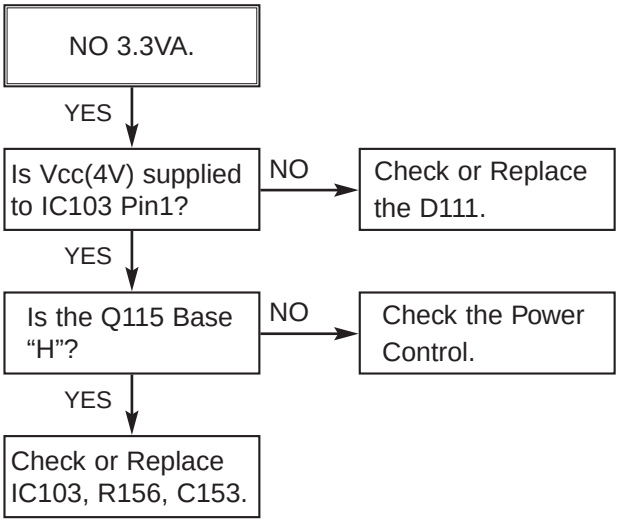
(8) No -29VA



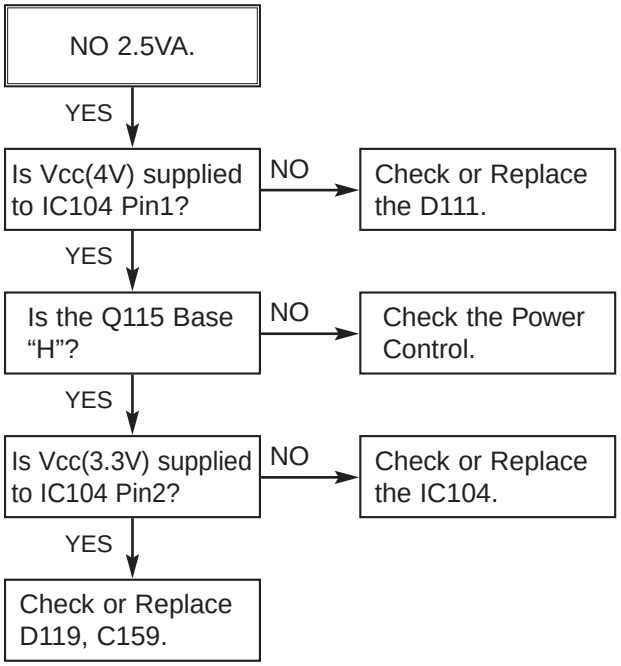
(9) No 8VA



(10) No 3.3V

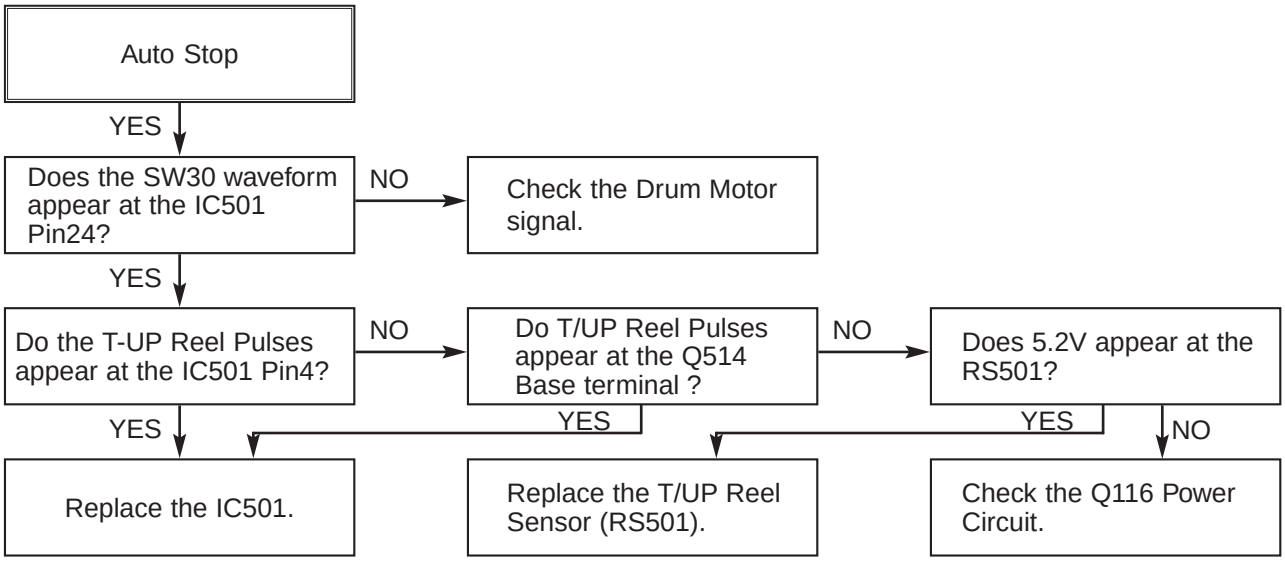


(11) No 2.5V

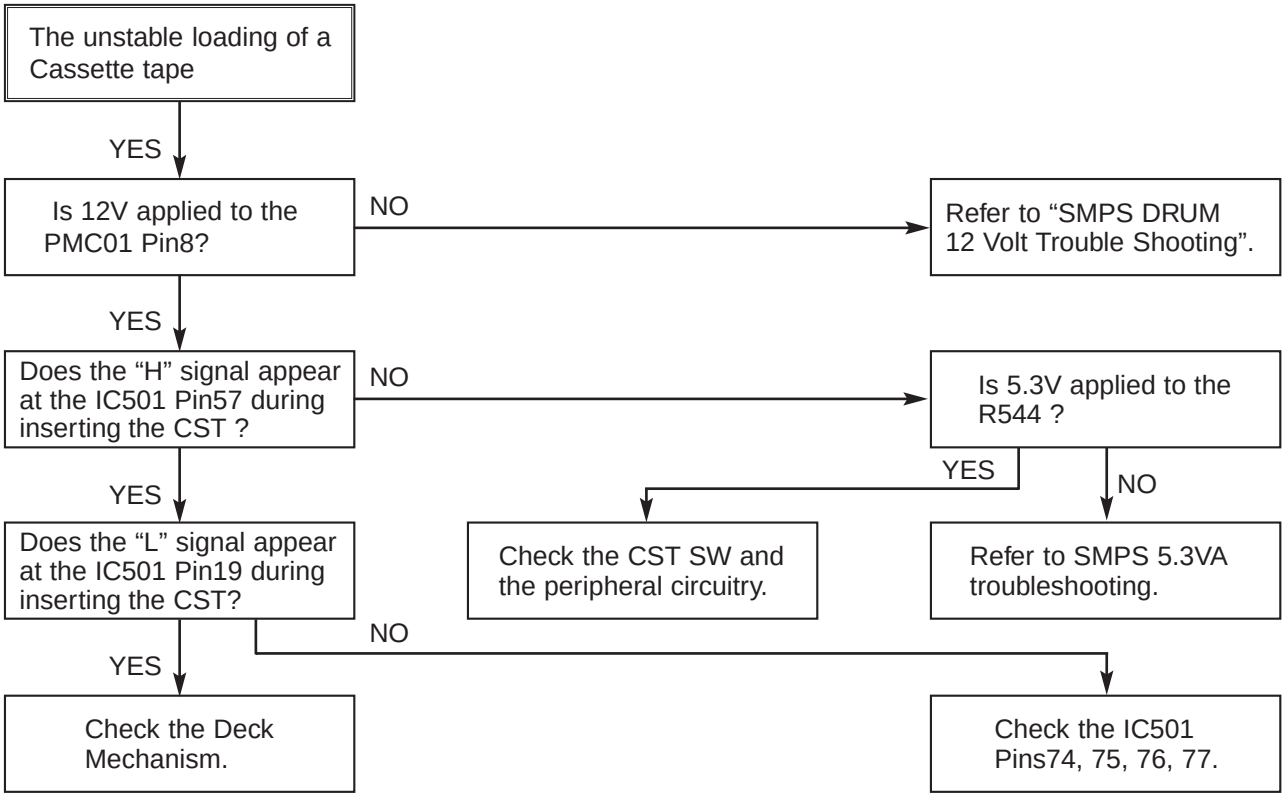


2. SYSTEM/KEY CIRCUIT

(1) AUTO STOP



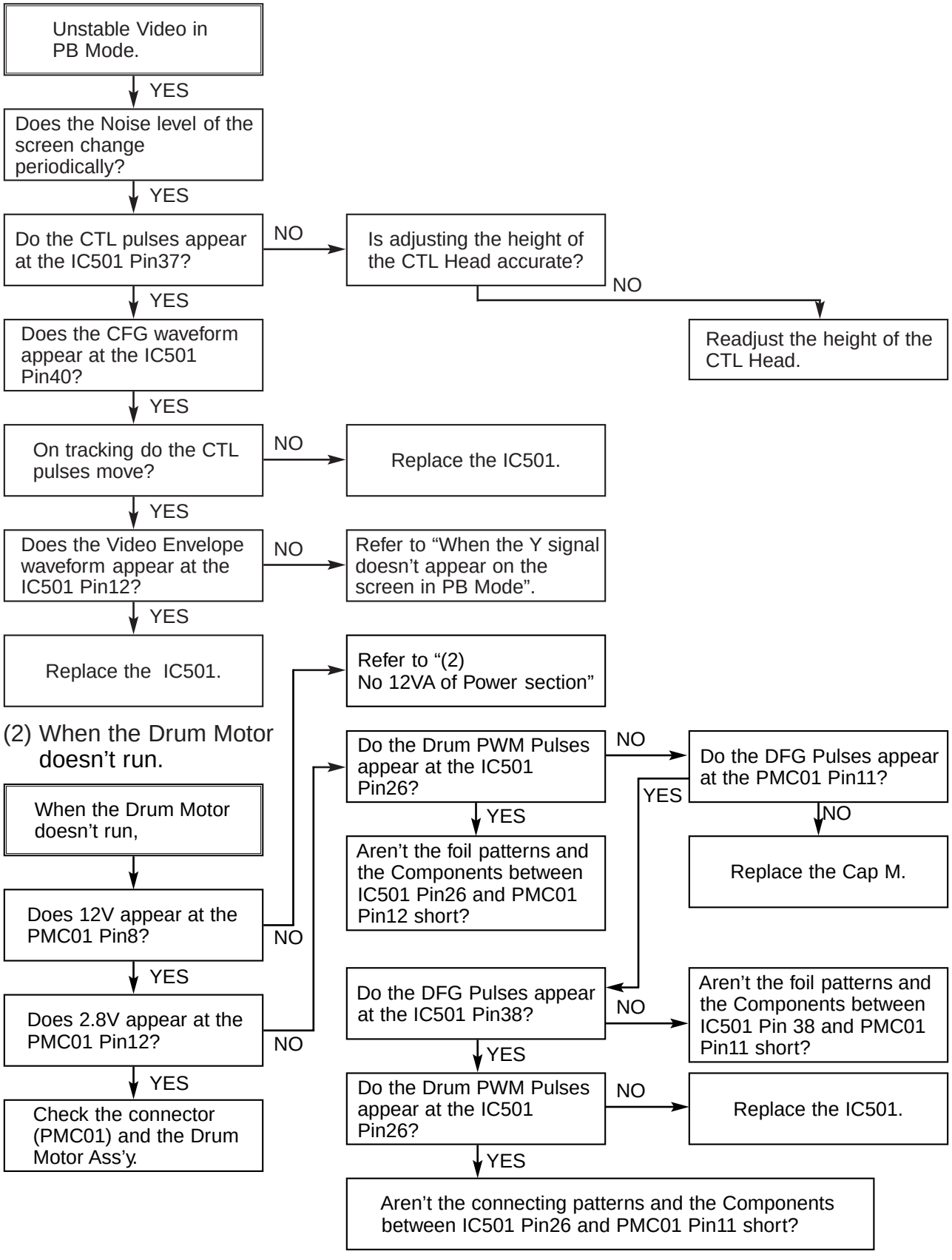
(2) The unstable loading of a Cassette tape



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

3. SERVO CIRCUIT

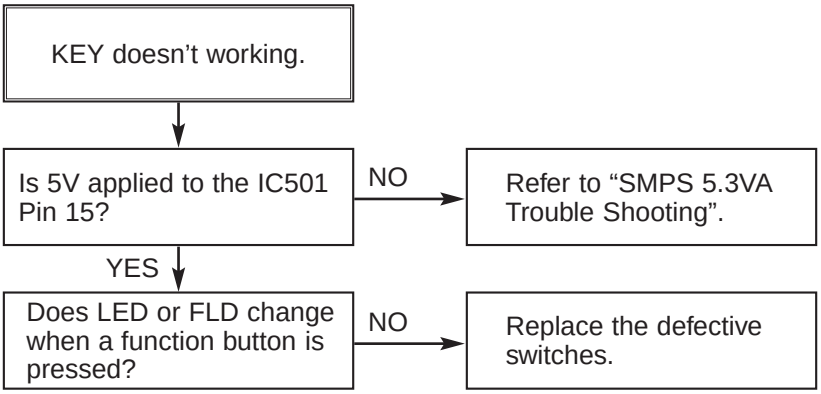
(1) Unstable Video in PB MODE



(2) When the Drum Motor doesn’t run.

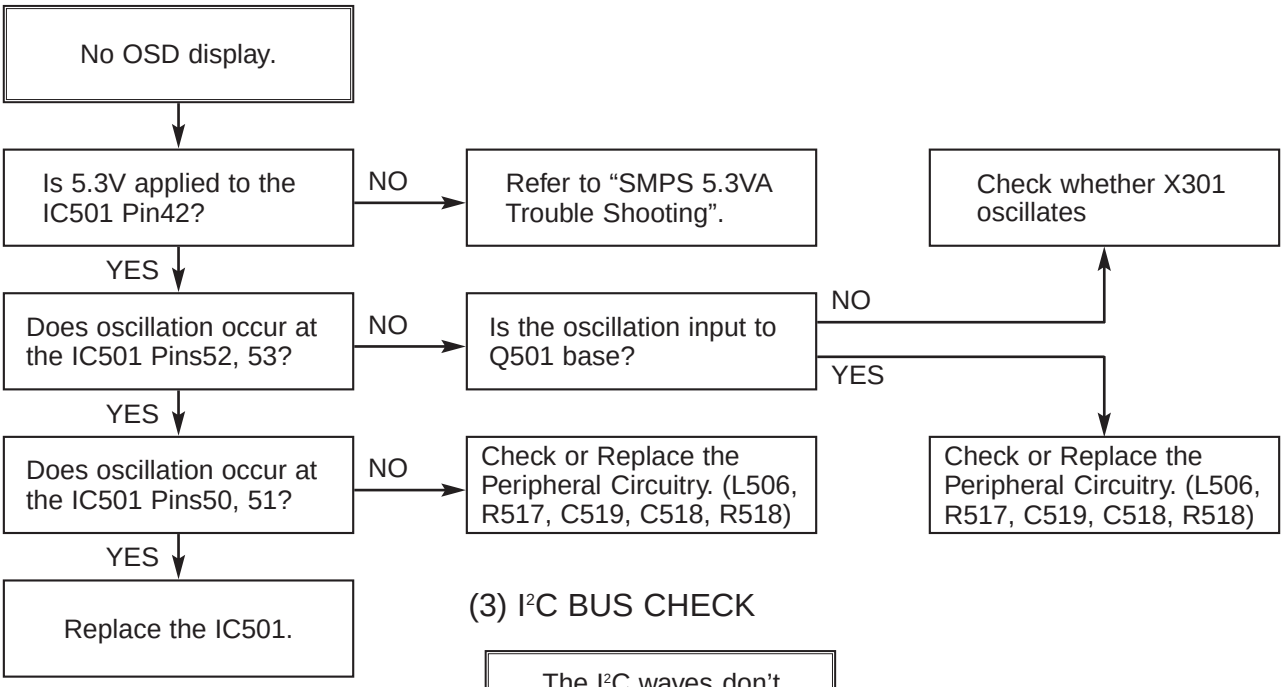
(3) When the Capstan Motor doesn't run,

(3) KEY doesn't working

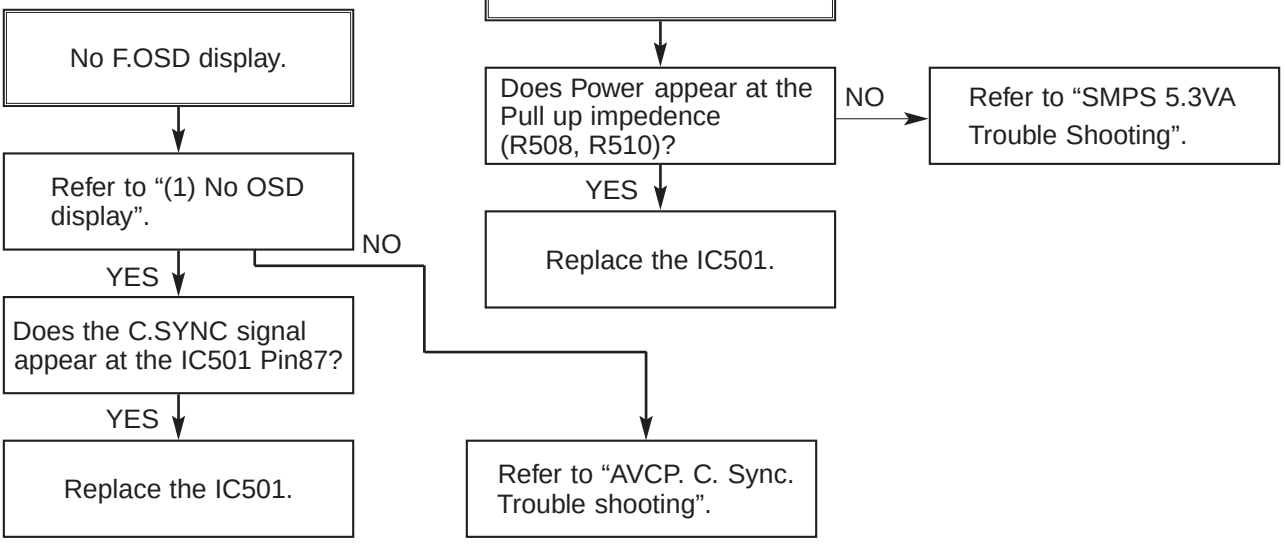


4. OSD CIRCUIT

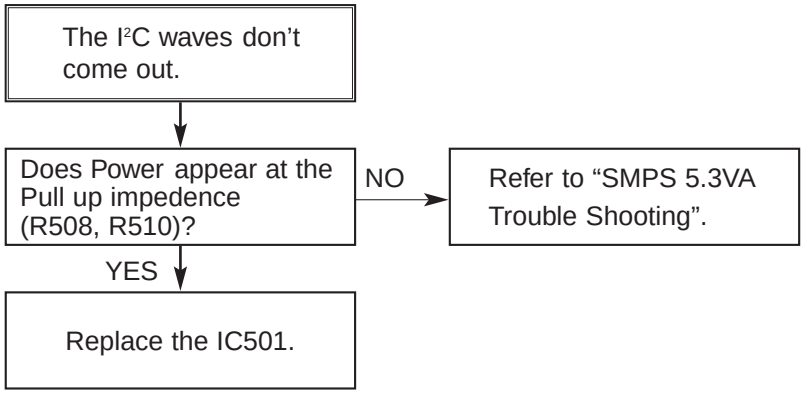
(1) No OSD display.



(2) No F.OSD display.

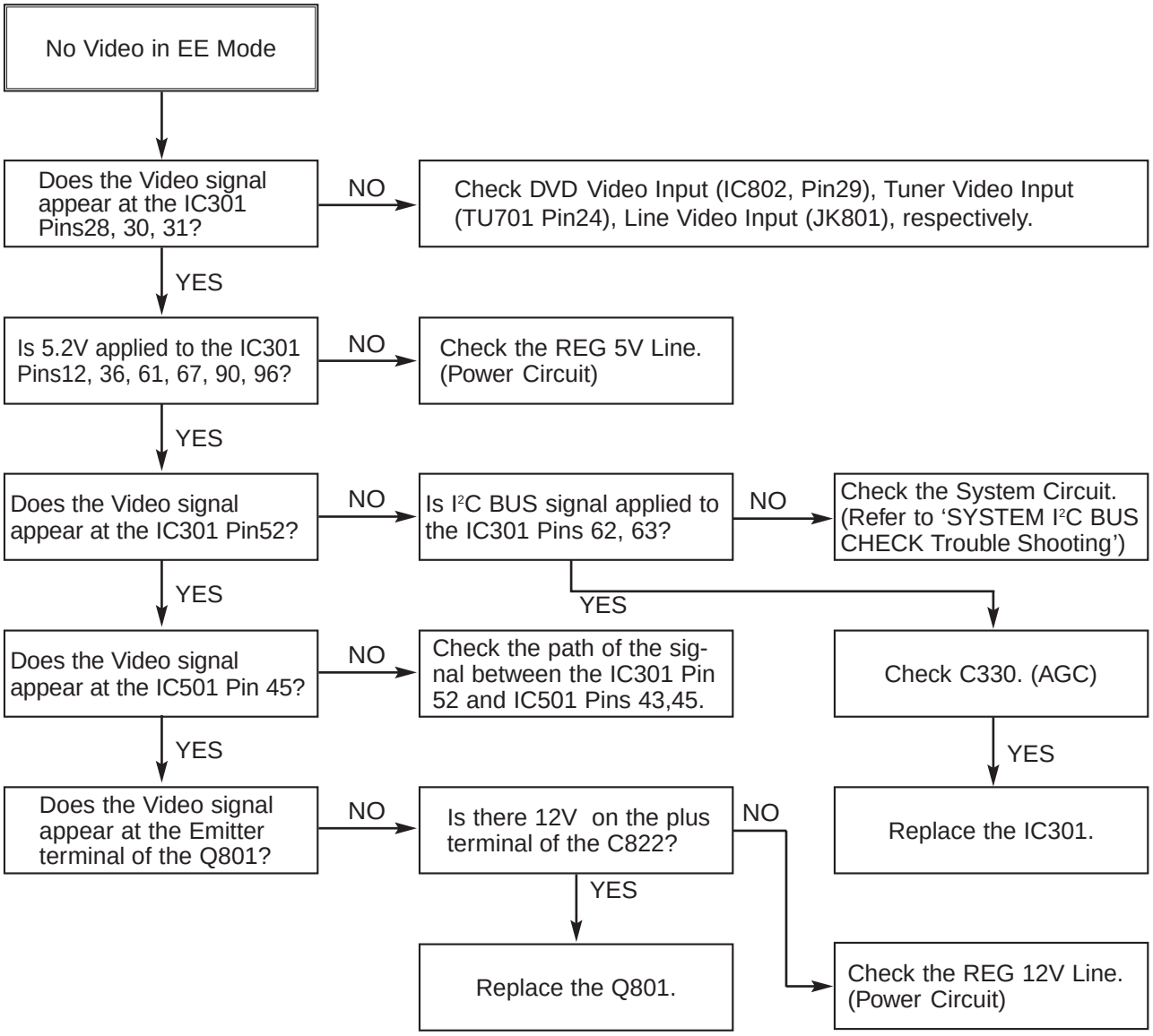


(3) I²C BUS CHECK

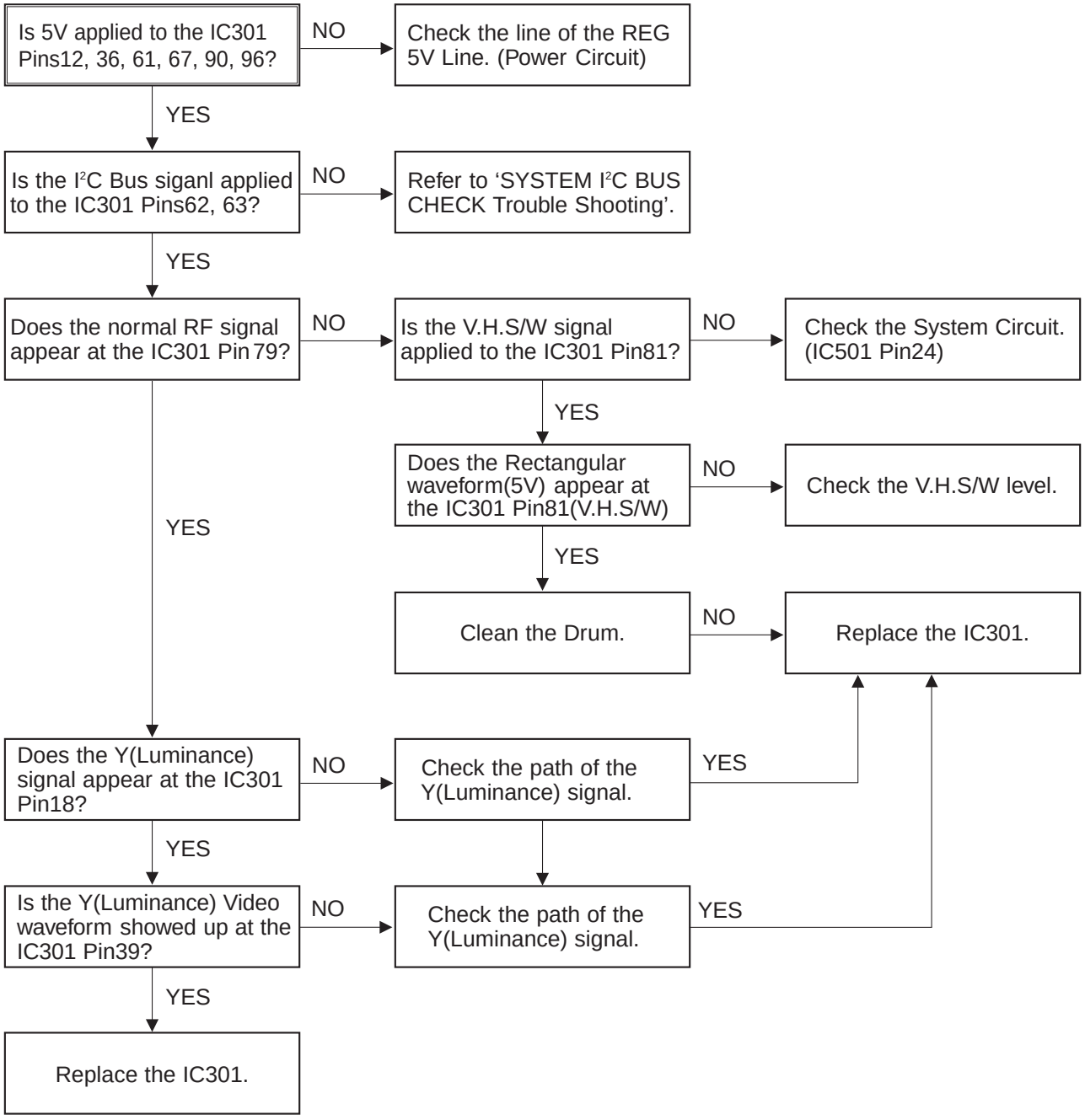


5. Y/C CIRCUIT

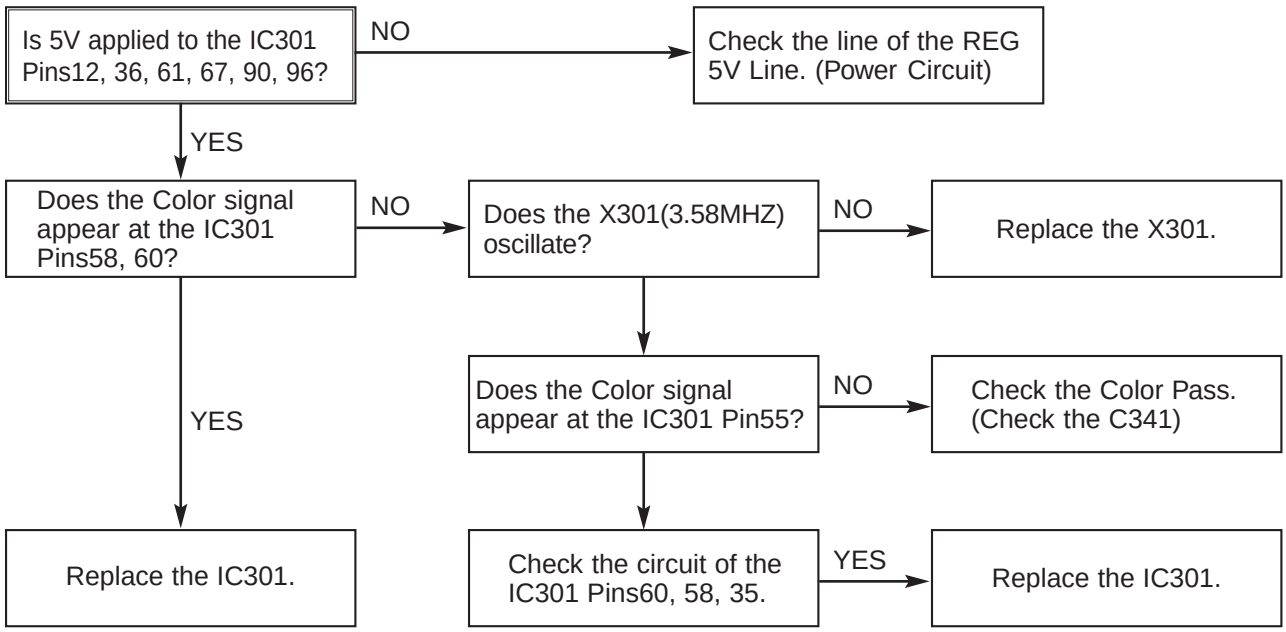
(1) No Video in EE Mode,



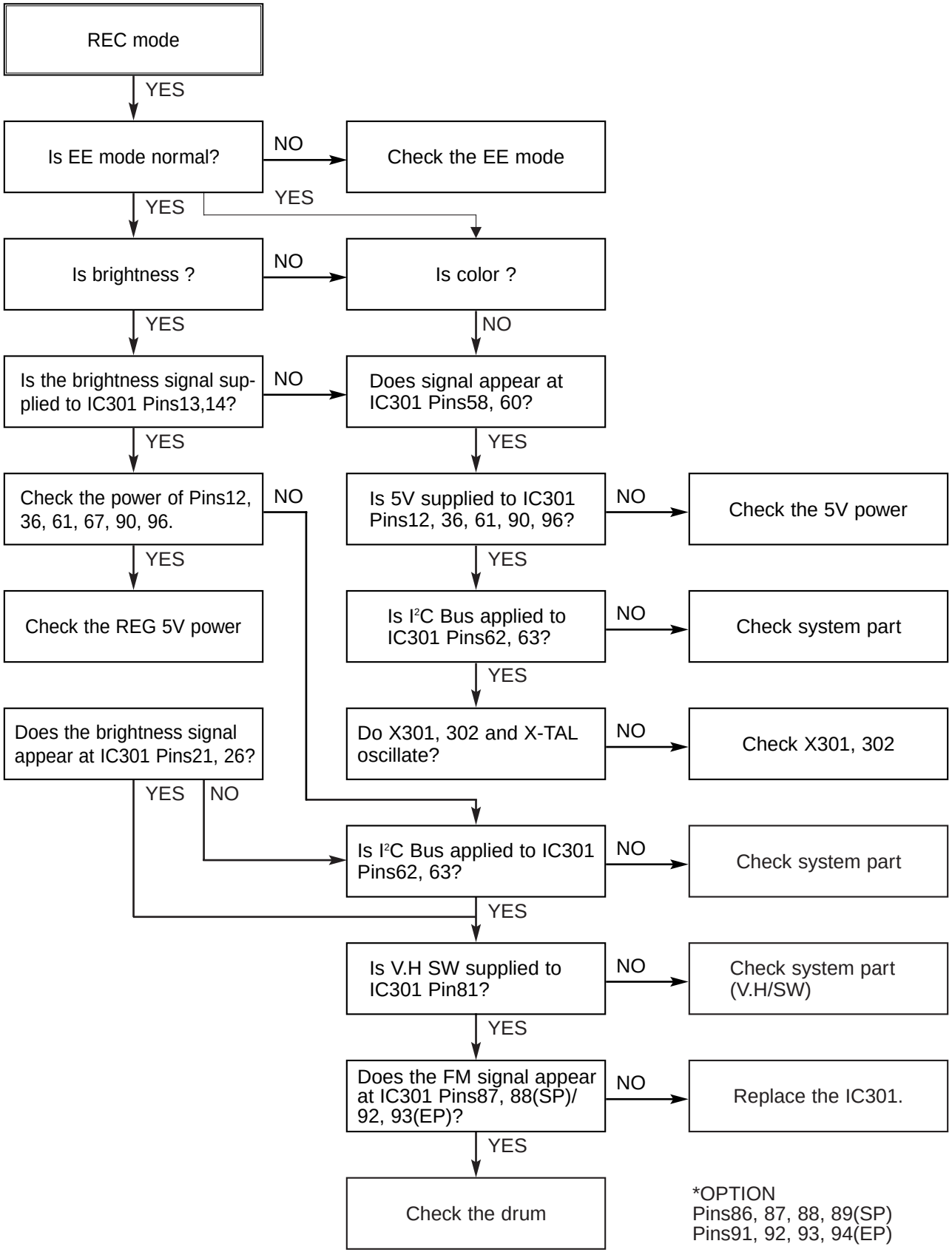
(2) When the Y(Luminance) signal doesn't appear on the screen in PB Mode,



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

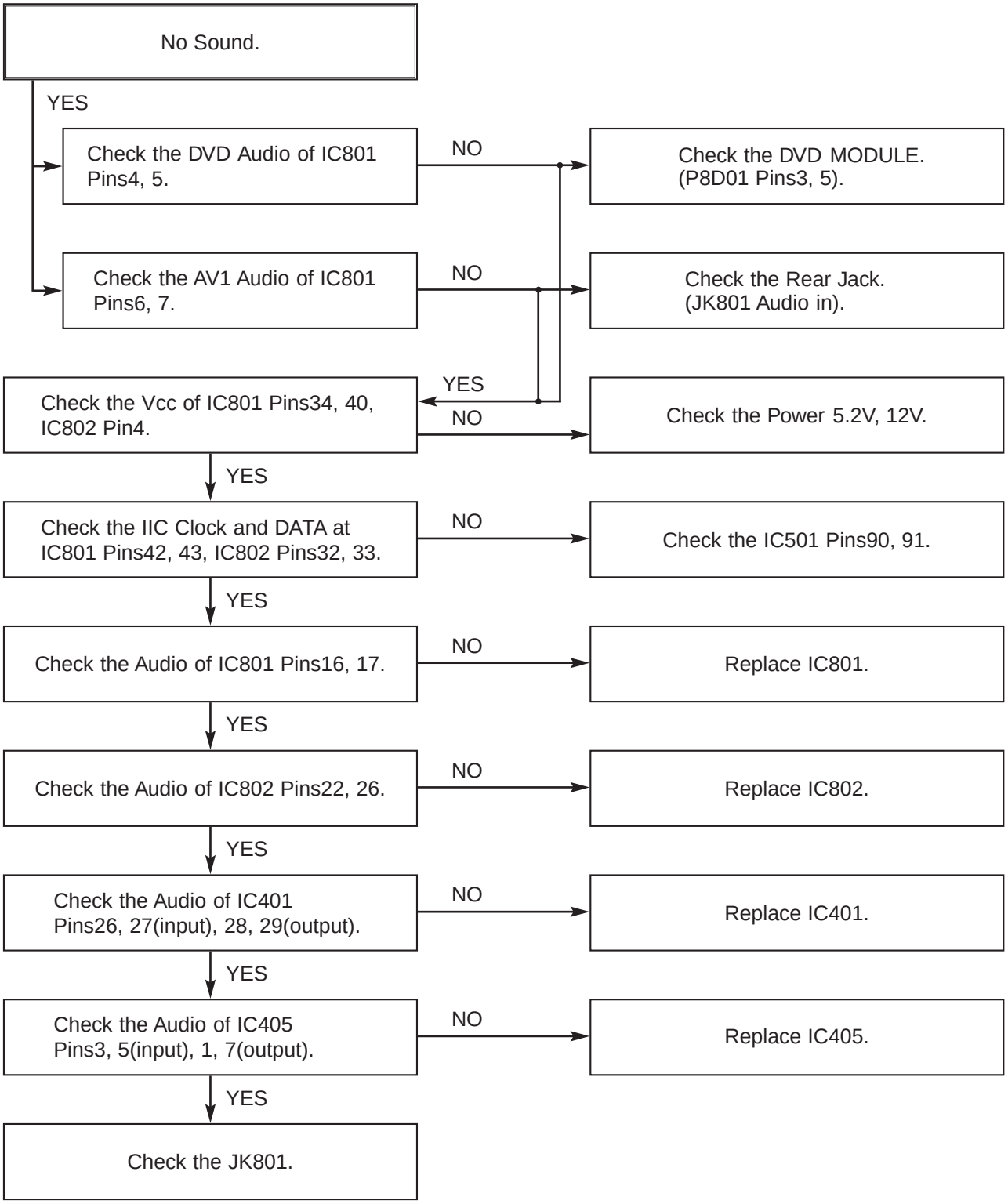


(4) When the Video signal doesn't appear on the screen in REC Mode,

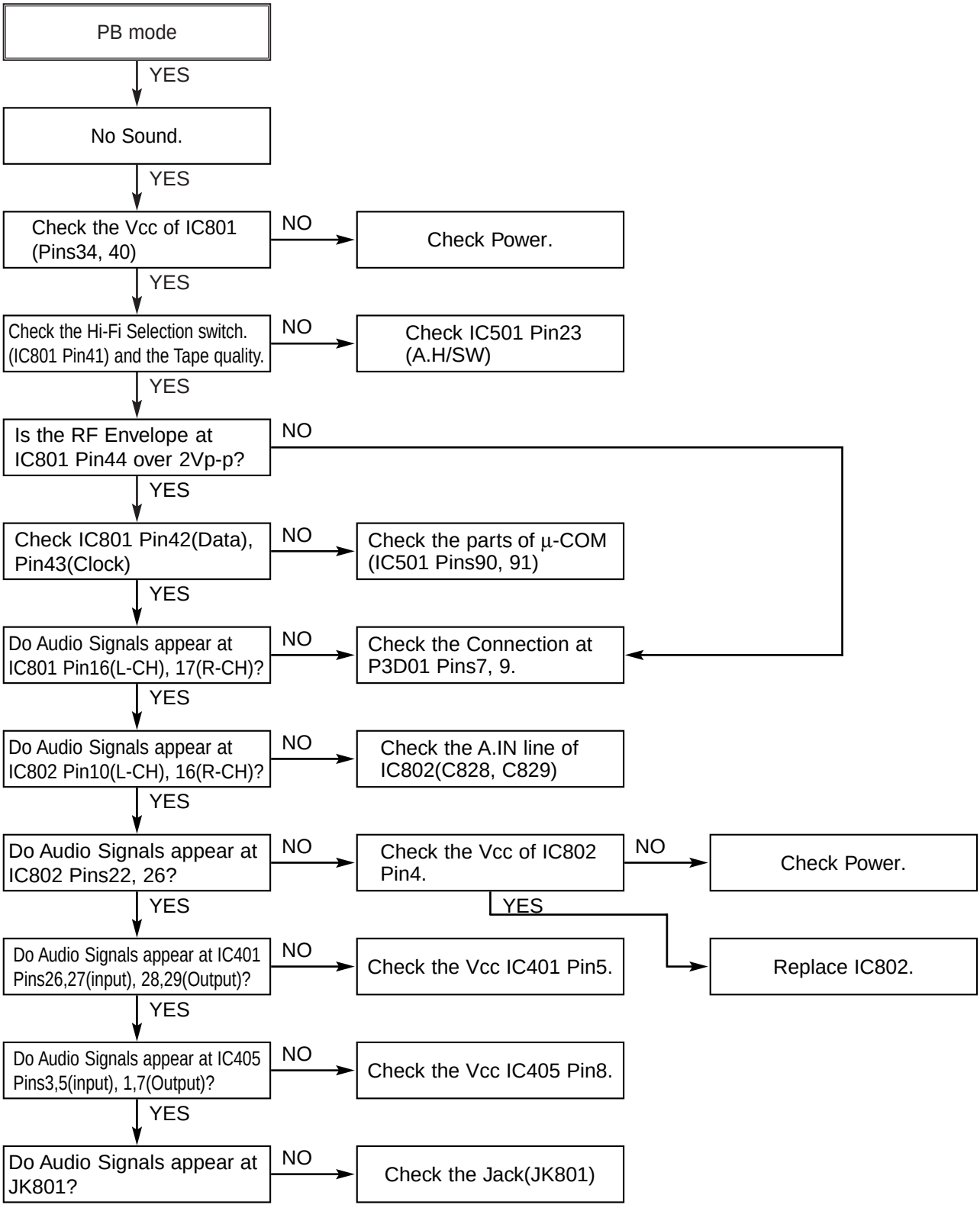


6. Hi-Fi CIRCUIT

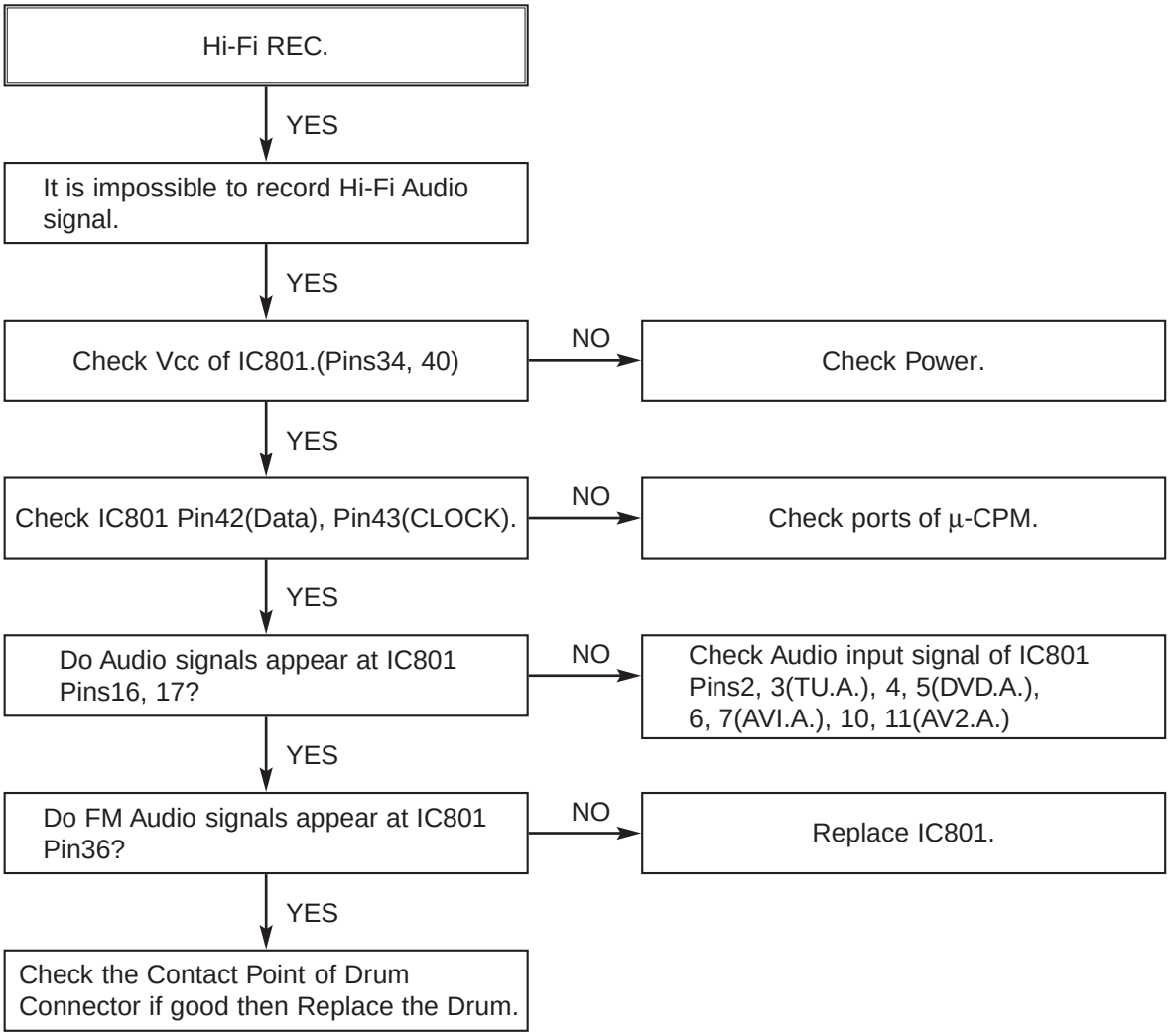
(A) No Sound(EE Mode)



(B) Hi-Fi Playback

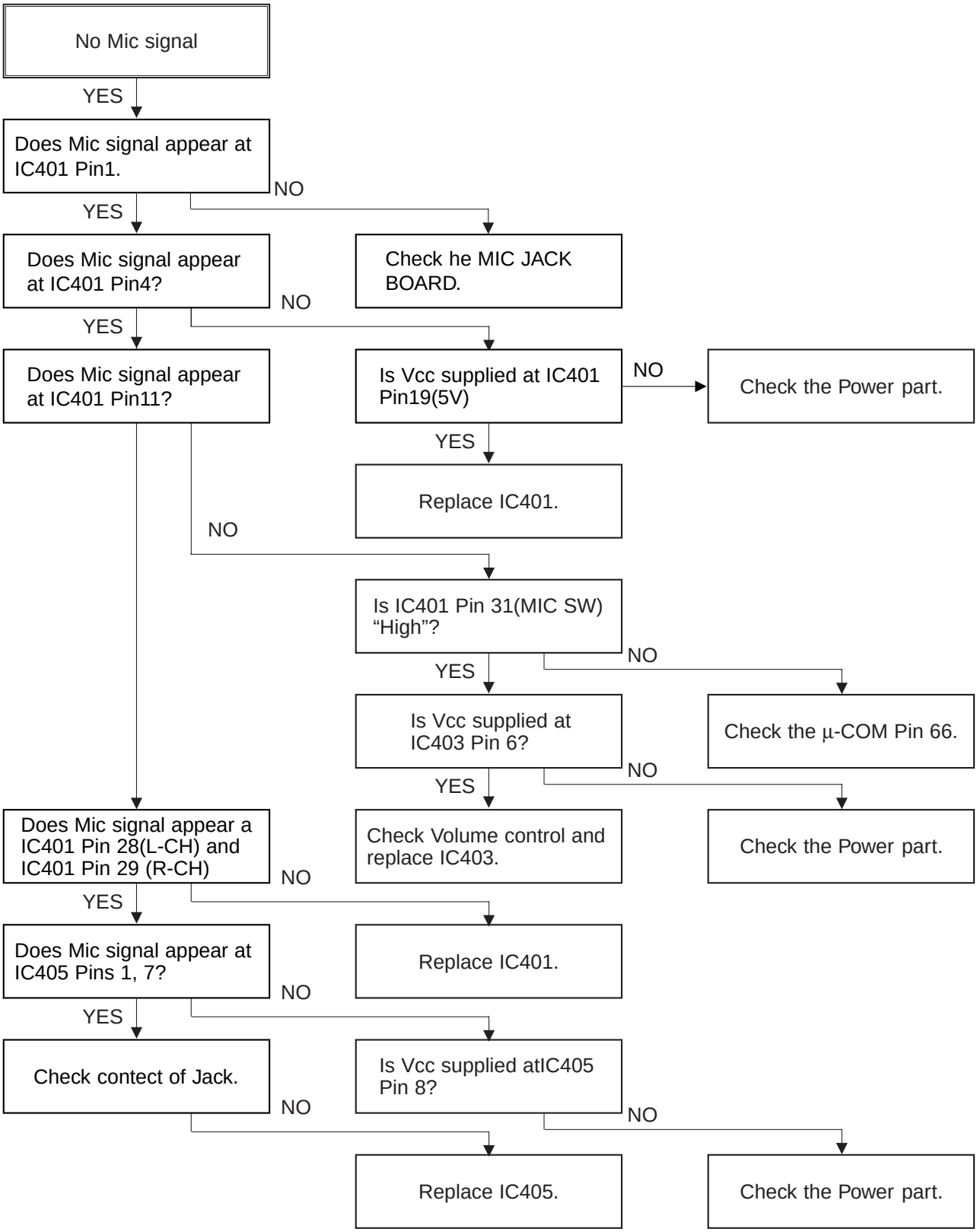


(C)

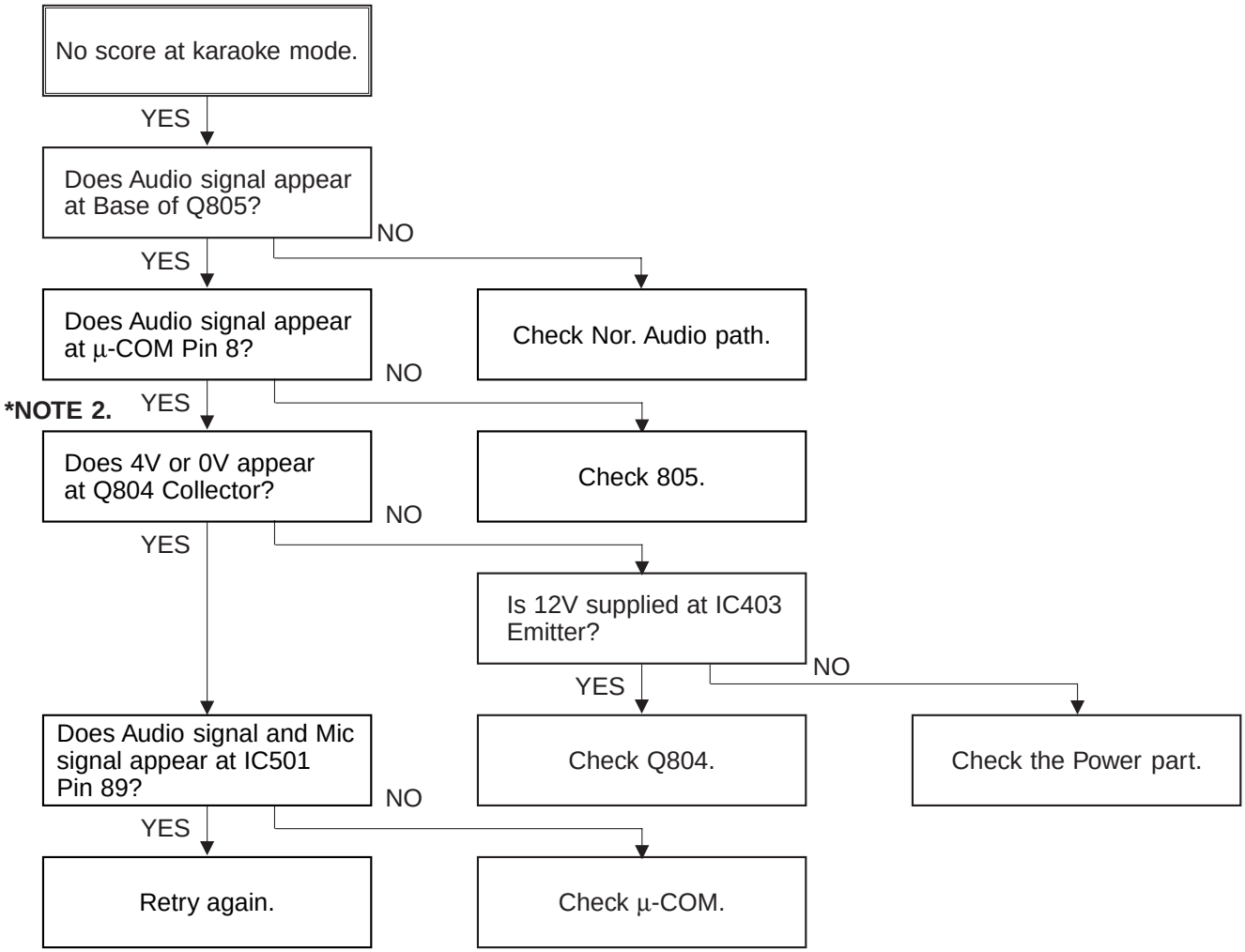

Hi-Fi REC.
YES
It is impossible to record Hi-Fi Audio signal.
YES
Check Vcc of IC801.(Pins34, 40)
NO
Check Power.
YES
Check IC801 Pin42(Data), Pin43(CLOCK).
NO
Check ports of μ-CPM.
YES
Do Audio signals appear at IC801 Pins16, 17?
NO
Check Audio input signal of IC801 Pins2, 3(TU.A.), 4, 5(DVD.A.), 6, 7(AVI.A.), 10, 11(AV2.A.)
YES
Do FM Audio signals appear at IC801 Pin36?
NO
Replace IC801.
YES
Check the Contact Point of Drum Connector if good then Replace the Drum.

7. KARAOKE CIRCUIT

A.



B.

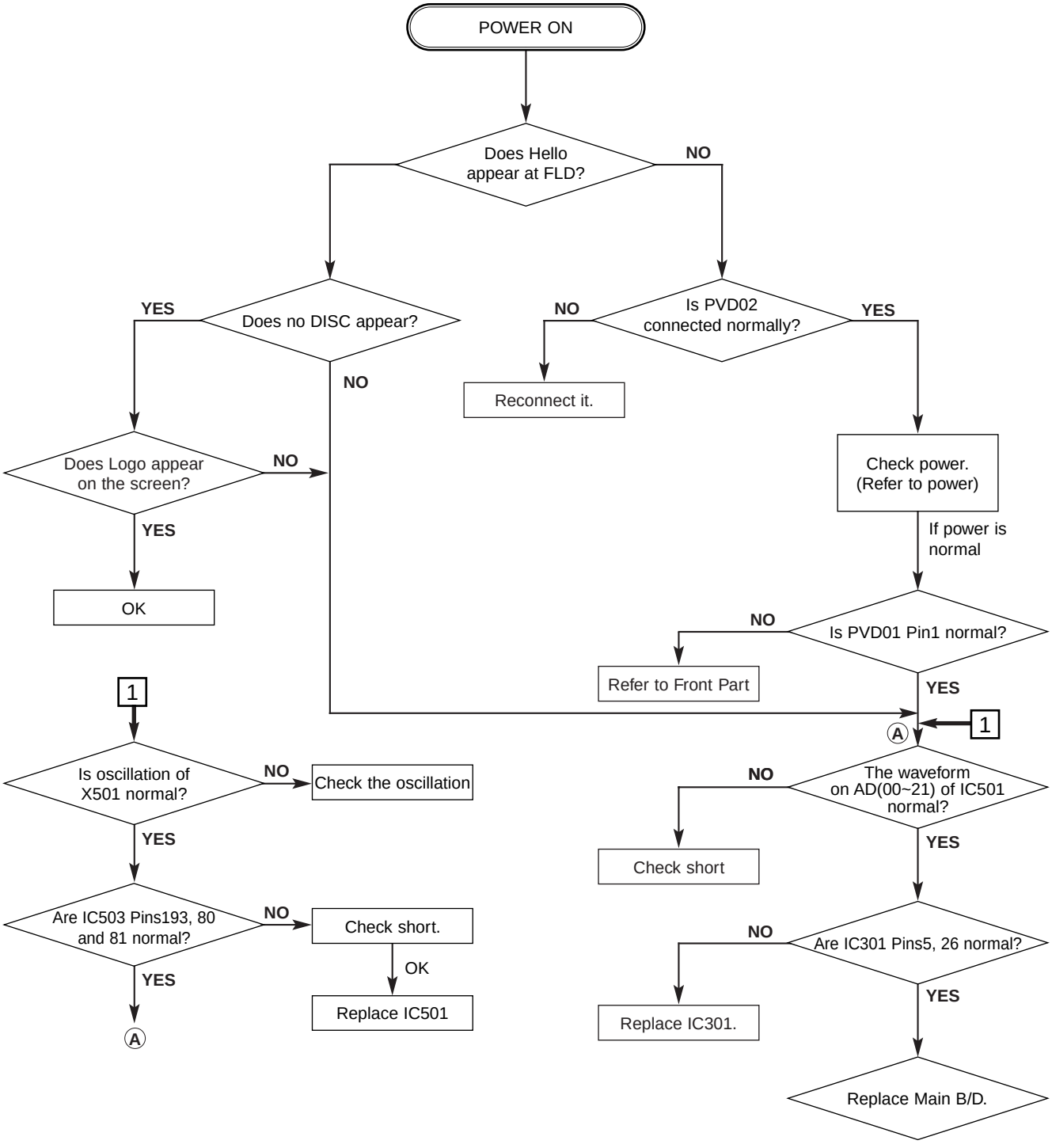


***NOTE 2.**
In general karaoke tape, between song, it has a blank period more than 3sec.
This system detects this blank period Noise Level. But when this period level is high or period ltime is short, this system has not blank time. In case of, this system doesn't display the score.

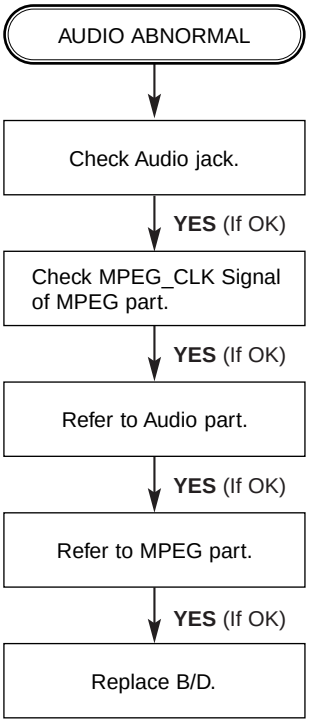
DVD PART
ELECTRICAL TROUBLESHOOTING GUIDE

1. μ-COM Circuit

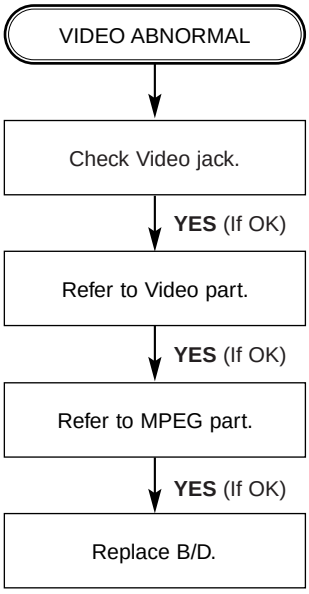
A. No Power



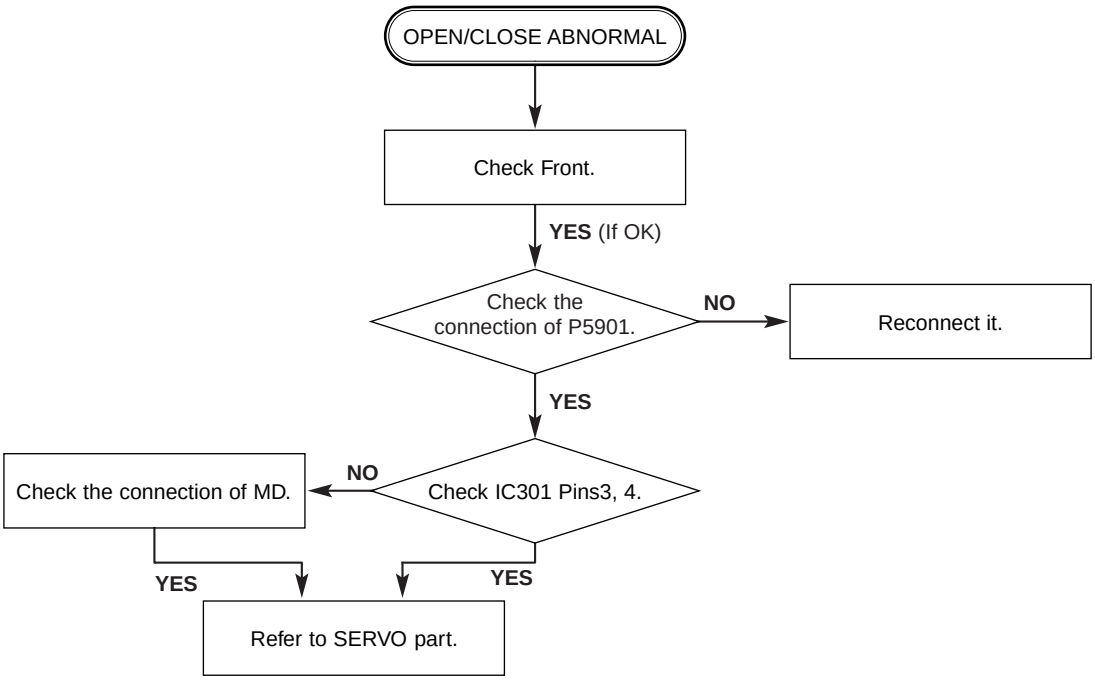
B. Audio abnormal



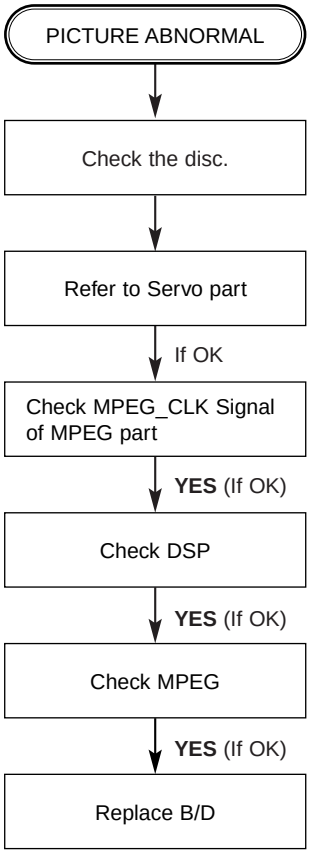
C. Video abnormal



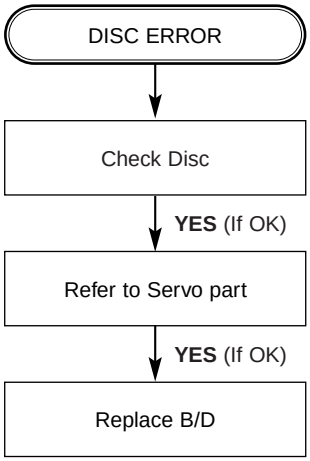
D. Open/Close abnormal



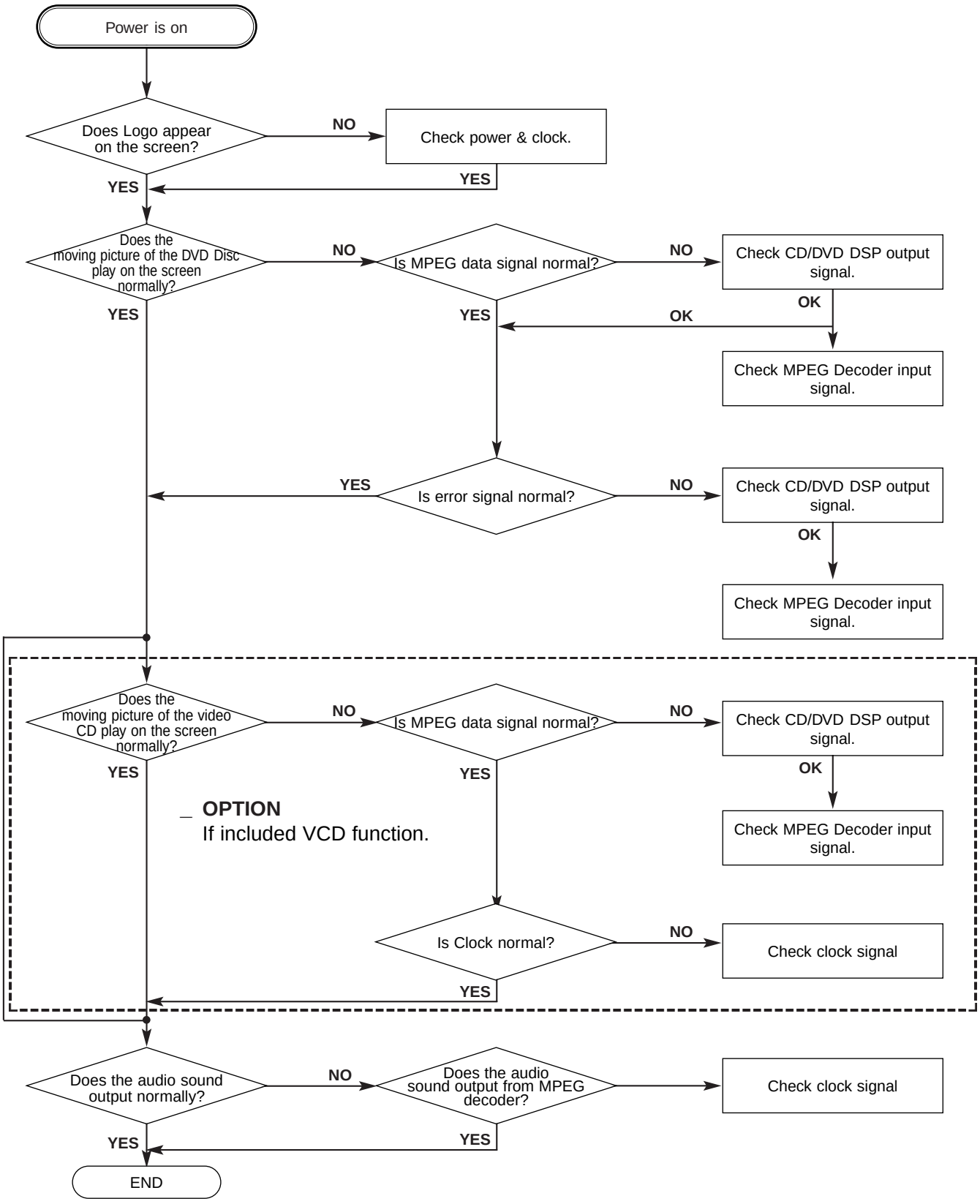
E. Picture abnormal



F. Disc Error

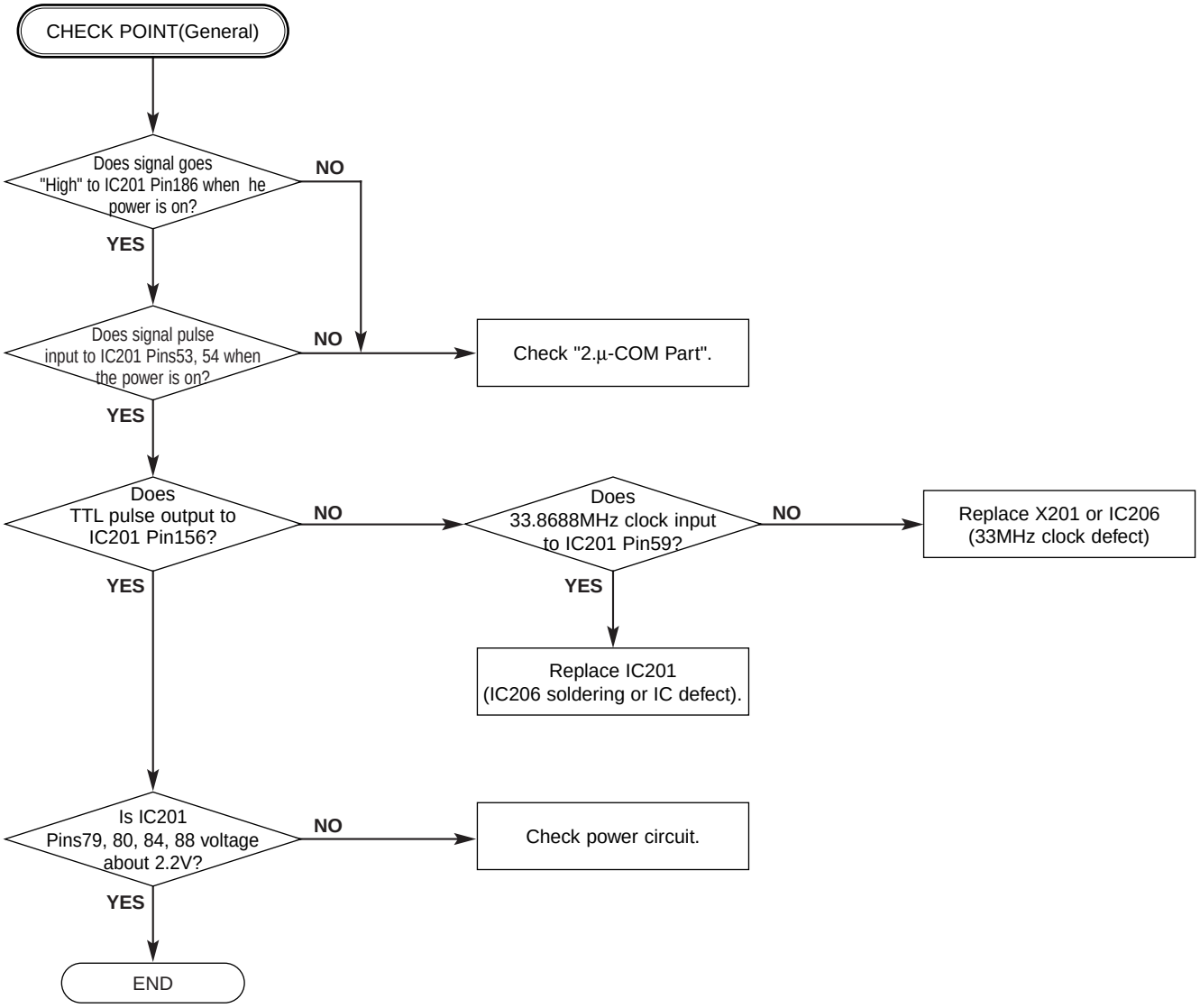


2. MPEG Circuit



3. RF/Servo Circuit

A.



B.

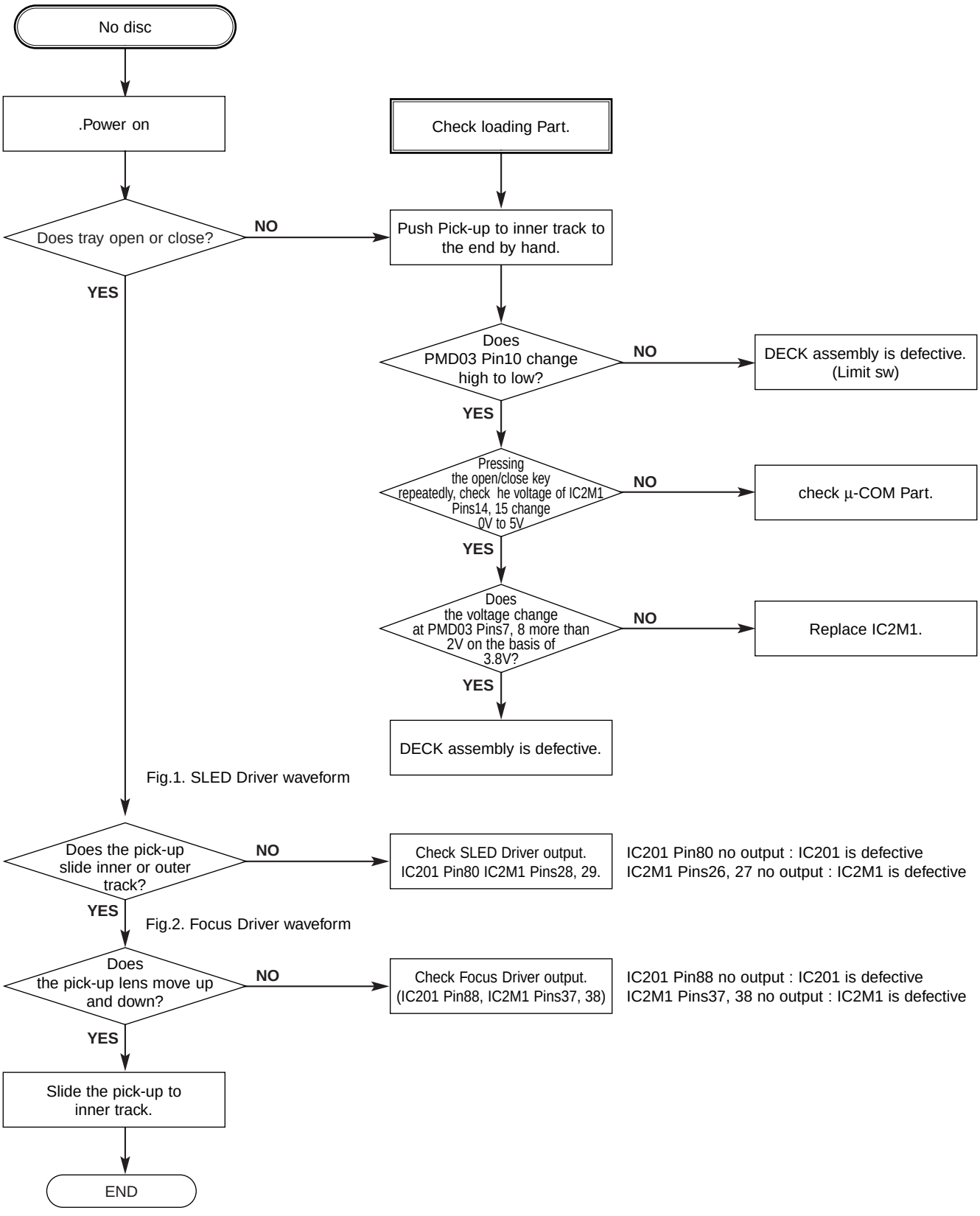


Fig.1. SLED Driver waveform

Fig.2. Focus Driver waveform

C.

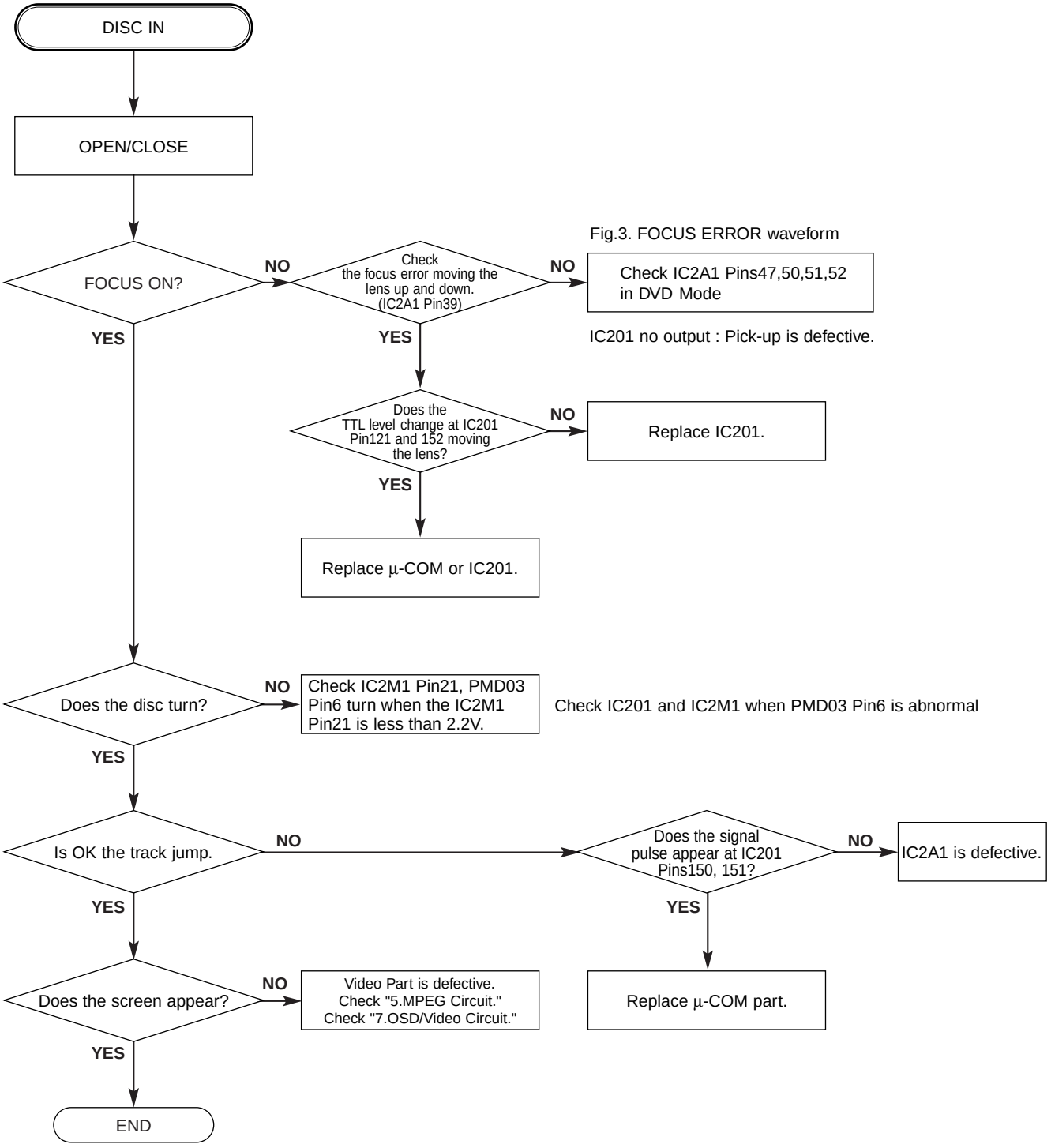
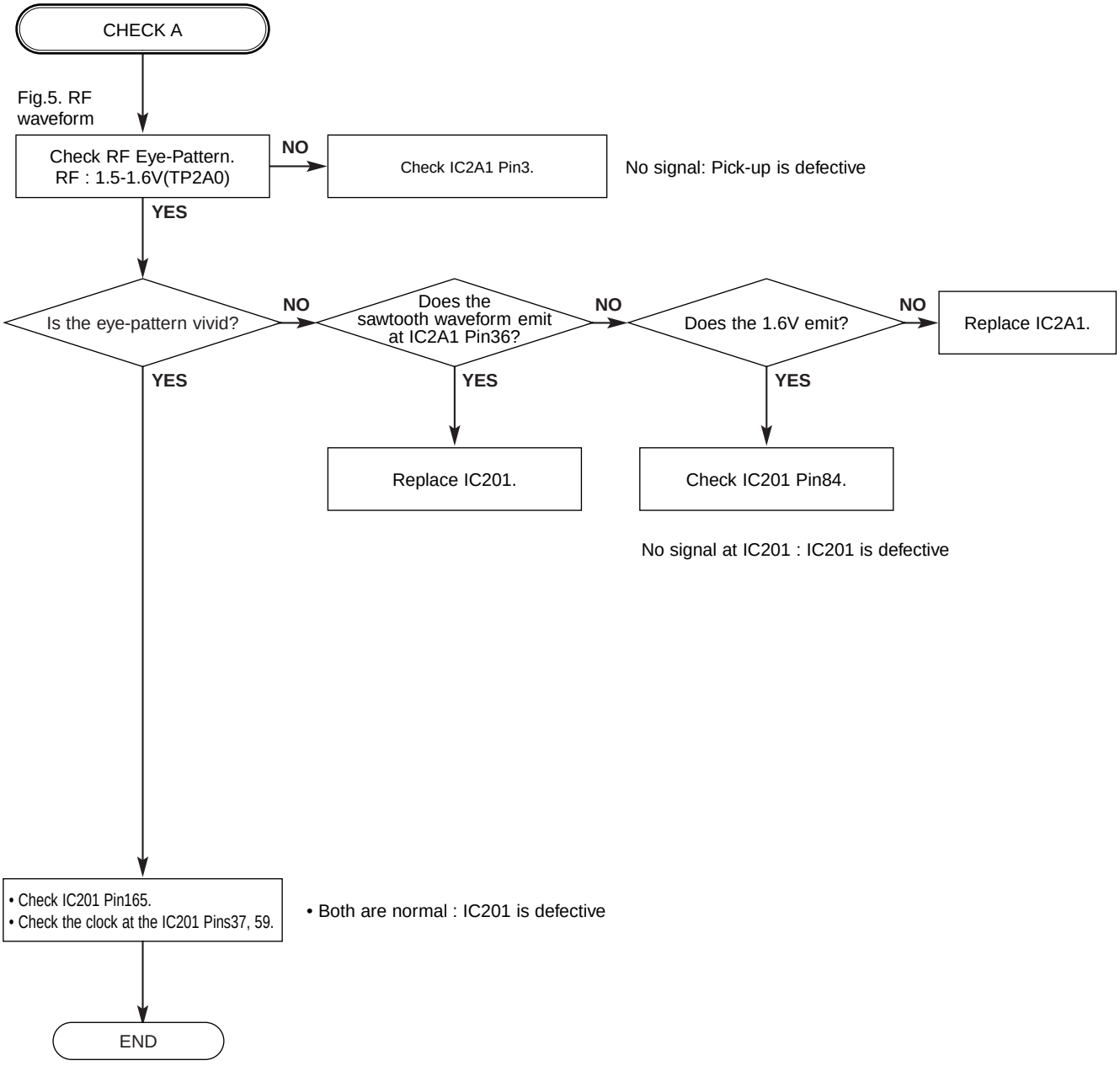


Fig.3. FOCUS ERROR waveform

IC201 no output : Pick-up is defective.

Check IC201 and IC2M1 when PMD03 Pin6 is abnormal

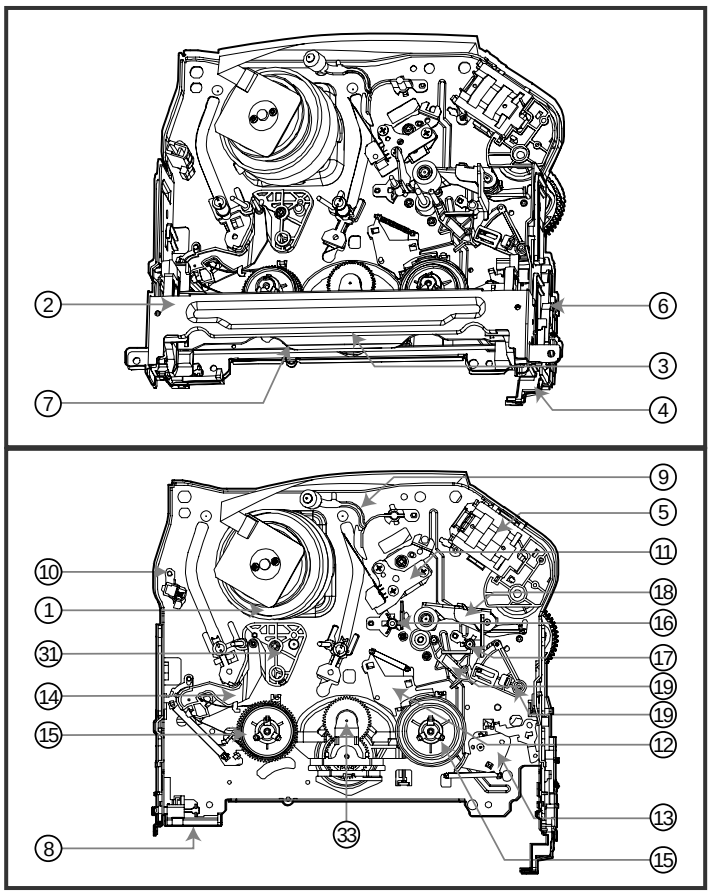
D.


CHECK A
Fig.5. RF waveform
Check RF Eye-Pattern.
RF : 1.5-1.6V(TP2A0)
NO
Check IC2A1 Pin3.
No signal: Pick-up is defective
YES
Is the eye-pattern vivid?
NO
Does the sawtooth waveform emit at IC2A1 Pin36?
NO
Does the 1.6V emit?
NO
Replace IC2A1.
YES
YES
YES
Replace IC201.
Check IC201 Pin84.
No signal at IC201 : IC201 is defective
• Check IC201 Pin165.
• Check the clock at the IC201 Pins37, 59.
• Both are normal : IC201 is defective
END

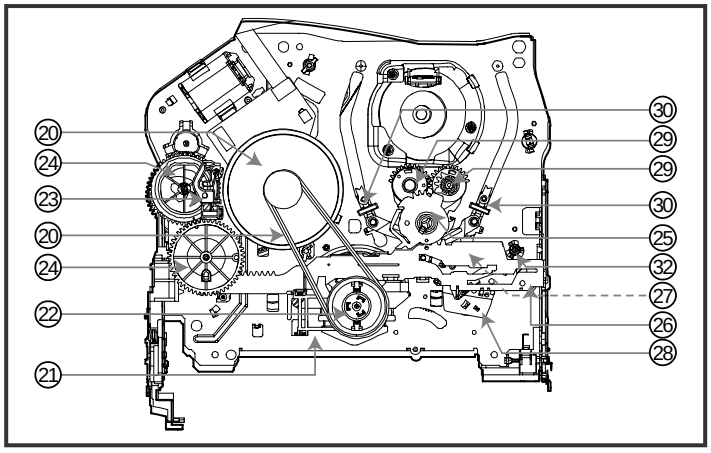
SECTION 4 MECHANISM OF VCR PART
CONTENTS

DECK MECHANISM PARTS LOCATIONS

• Top View



• Bottom View



NOTE : When reassembly perform the procedure in the reverse order.

1) When reassembling, confirm Mechanism and Mode Switch Alignment Position (Refer to Page 4-13)
2) When disassembling, the Parts for Starting No. Should be removed first.

Procedure / Starting No.		Part	Fixing Type	Figure	View
	1	Drum Assembly	3 Screw	A-1	T
	2	Plate Top	2 Hook	A-2	T
2	3	Holder Assembly CST	Chassis Hole	A-2	T
2	4	Opener Door	Chassis Hole	A-2	T
	5	Bracket Assembly L/D Motor	3 Hook	A-2	T
2,3,4	6	Gear Assembly Rack F/L	1 Hook, Chassis Hole	A-2	T
2,3,4,6	7	Arm Assembly F/L	Chassis Hole	A-2	T
	8	Lever Assembly S/W	1 Hook	A-2	T
	9	Arm Assembly Cleaner	Chassis Embossing	A-3	T
	10	Head F/E	Chassis Embossing	A-3	T
	11	Base Assembly A/C Head	1 Screw	A-3	T
2,3	12	Brake Assembly T	1 Hook	A-4	T
2,3	13	Brake Assembly RS	1 Hook	A-4	T
2,3	14	Arm Assembly Tension	2 Hook	A-4	T
2,3,12,13, 14	15	Reel S/Reel T		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	Lever T/Up / Arm T/Up	1 Hook	A-5	T
17,18	20	Belt Capstan/Motor Capstan	3 Screw	A-6	B
	21	Lever F/R	Locking Tab	A-6	B
20, 21	22	Clutch Assembly D35	Washer	A-6	B
	23	Brake Assembly Capstan	Locking Tab	A-6	B
	24	Gear Drive/Gear Cam	Washer/Hook	A-7	B
	25	Gear Sector	1 Hook	A-7	B
20,21,23, 24,25	26	Plate Slider	Shaft Guide	A-7	B
20,21,23, 24,25,26	27	Lever Tension	1 Hook	A-7	B
2,3,14,20, 21,25,23, 24,26	28	Lever Spring	Locking Tab	A7	B
25	29	Gear Assembly P2/Gear Assembly P3	Boss	A-8	B
2,3,14,25, 29	30	Base Assembly P2/Base Assembly P3	Chassis Slot	A-8	B
2,3,14,25, 29	31	Base Loading	1 Screw	A-9	T
2,3,14	32	Base Tension	Chassis Embossing	A-9	B
2,3,20,21, 22	33	Arm Assembly Idler	Locking Tab	A-9	T

T:Top, B:Bottom

DECK MECHANISM DISASSEMBLY

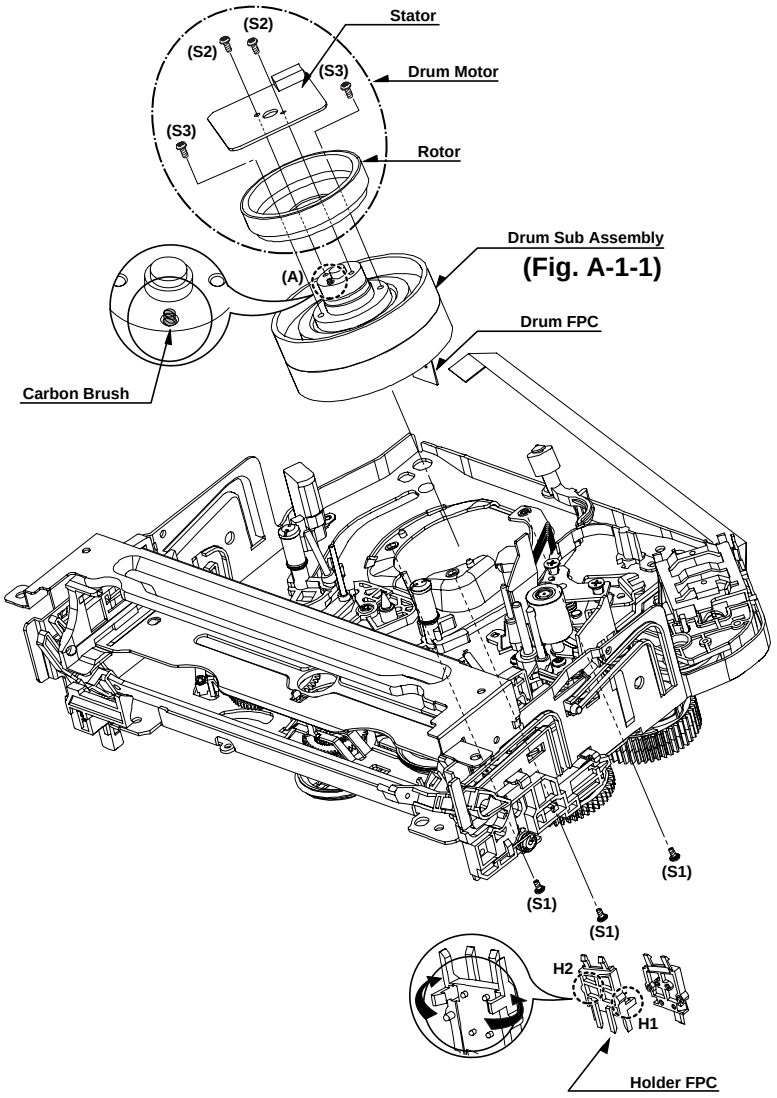


Fig. A-1

1. Drum Assembly (Fig. A-1-1)

1) Unplug the Drum FPC Connector.
2) Remove three Screws(S1) on bottom side and separate the Drum assembly.
3) Unhook (H1), (H2) and separate the Holder FPC and Cap FPC.

1-1. Drum Motor

1) Remove two Screws(S2) and disassemble the Stator of the Drum Motor.
2) Remove two Screws(S3) and separate the Rotor of the Drum Motor from the Drum Sub assembly.

NOTE

When reassembling, confirm (A) portion of the Drum Sub assembly whether the Carbon Brush is in there or not.

(Fig. B-1)

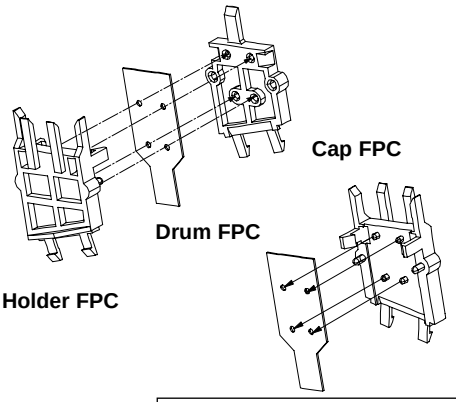


Figure in the opposite direction

DECK MECHANISM DISASSEMBLY

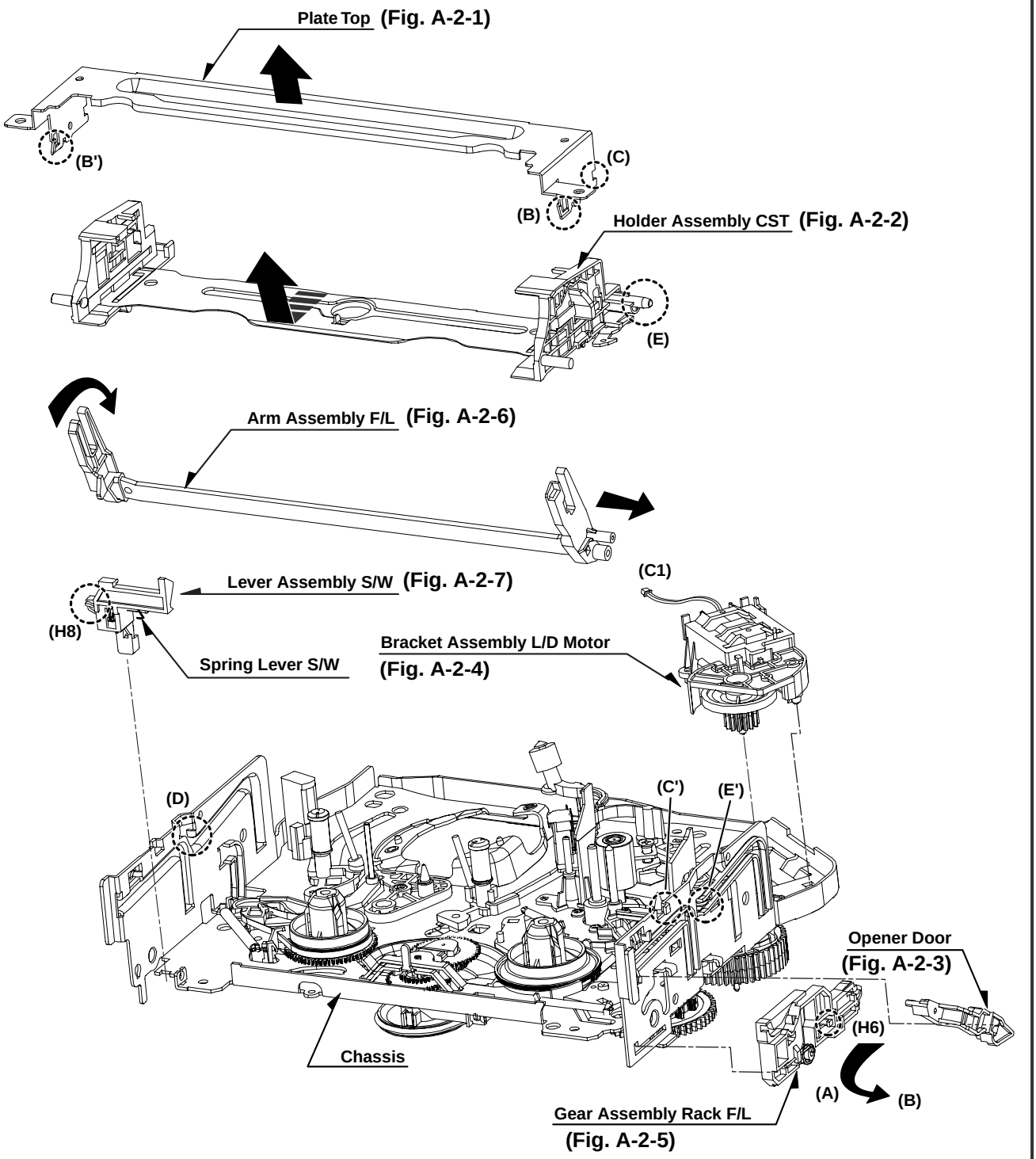


Fig. A-2

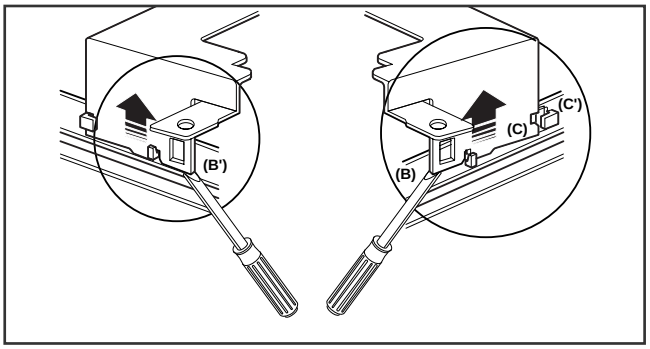
DECK MECHANISM DISASSEMBLY

2. Plate Top (Fig. A-2-1)

1) Pull the (B) portion of the Plate Top back in direction of arrow and separate the right side of it.
2) pull the (B') portion of the Plate Top back in direction of arrow and separate the left side of it.
   (Used tools : (-) type driver, anything tool with sharp point or flat point.)

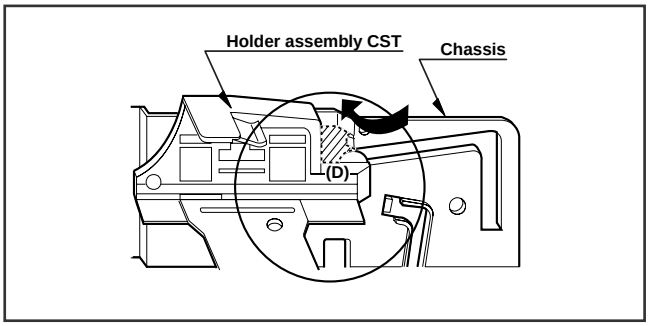
NOTE

(1) When reassembling, push the Plate Top after alignment the two position(C), (C') as below Fig.



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

1) Move the Holder Assembly CST in direction of arrow and separate the left side of it first through the (D) position of the Chassis.



2) Disassemble the right side of the Holder Assembly CST from each guided hole of the Chassis.

NOTE

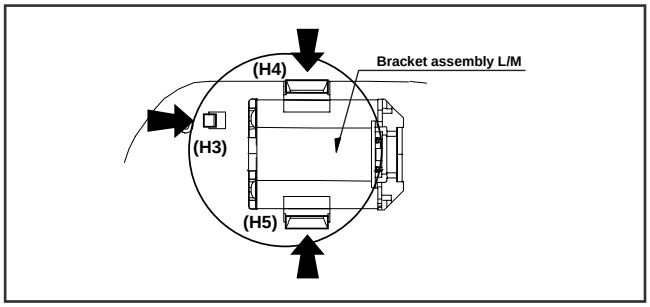
When reassembling, insert the (E) part of the Holder Assembly CST in the (E') hole of the Chassis first and assemble the left side of it.

4. Opener Door (Figure. A-2-3)

1) Turn the Opener Door clockwise and remove it through the guide hole of the Chassis.

5. Bracket Assembly L/D Motor (Fig. A-2-4)

1) Unplug the Connector(C1).
2) Unhook three Hooks(H3, H4, H5) on bottom side of the Chassis, lift up the Bracket Assembly L/M and disassemble the Bracket Assembly L/D Motor.

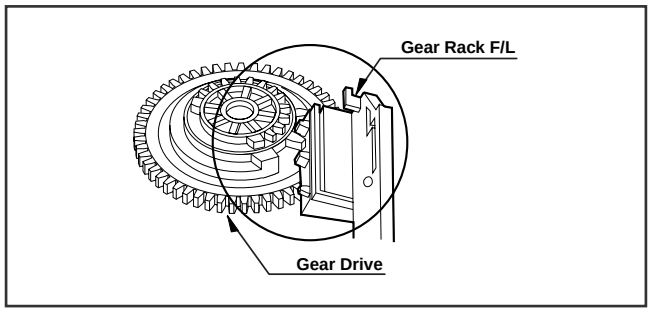


6. Gear Assembly Rack F/L (Fig. A-2-5)

1) Move the Gear Assembly Rack F/L in direction of arrow(A) and unhook the Hook(H6) pulling back in front.
2) Separate the Gear Rack F/L in direction of arrow(B).

NOTE

When reassembling, align the gear part of the Gear Assembly Rack F/L with the Gear Drive as below Fig.

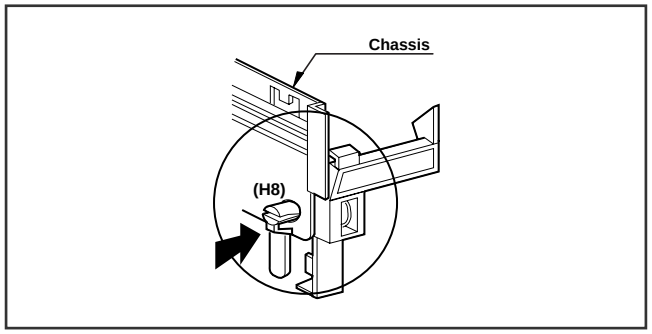


7. Arm Assembly F/L (Fig. A-2-6)

1) Move the Arm Assembly F/L in direction of arrow and separate the left side of it first.
2) Disassemble the Arm Assembly F/L from each guided hole of the Chassis.

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

1) Unhook the Hook(H8) in the left side of the Chassis and remove the Lever Assembly S/W.



DECK MECHANISM DISASSEMBLY

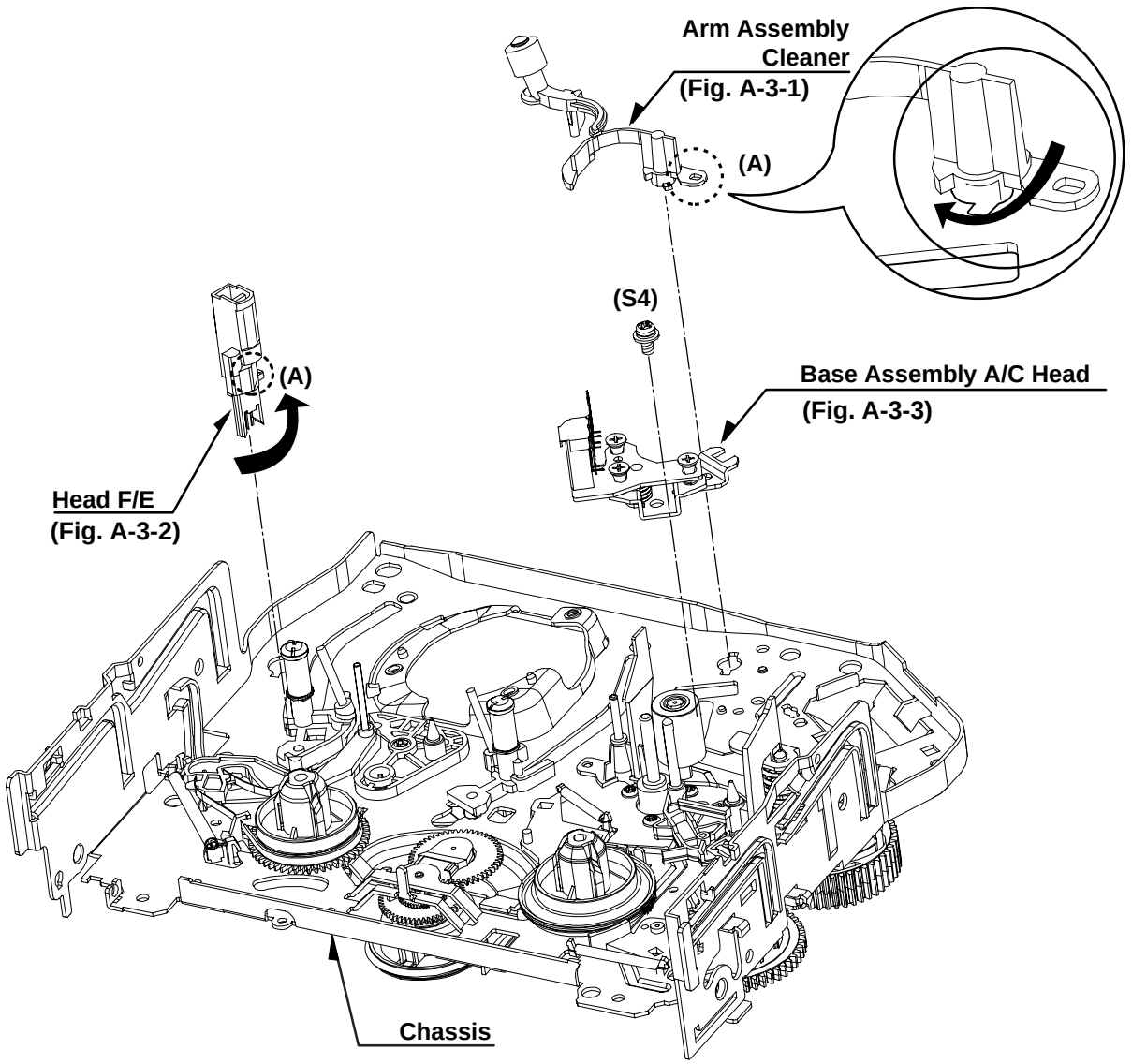


Fig. A-3

9. Arm Assembly Cleaner (Fig. A-3-1)

1) Breakaway the (A) portion as Fig. A-3-1 from the embossing of the Chassis, turn the Arm assembly Cleaner to clockwise direction and lift it up.

10. Head F/E (Fig. A-3-2)

1) Breakaway the (A) portion of the Head F/E from the embossing of the Chassis, turn it to counterclockwise direction and lift it up.

11. Base Assembly A/C Head (Fig. A-3-3)

1) Remove the Screw(S4) and lift the Base Assembly A/C Head up.

DECK MECHANISM DISASSEMBLY

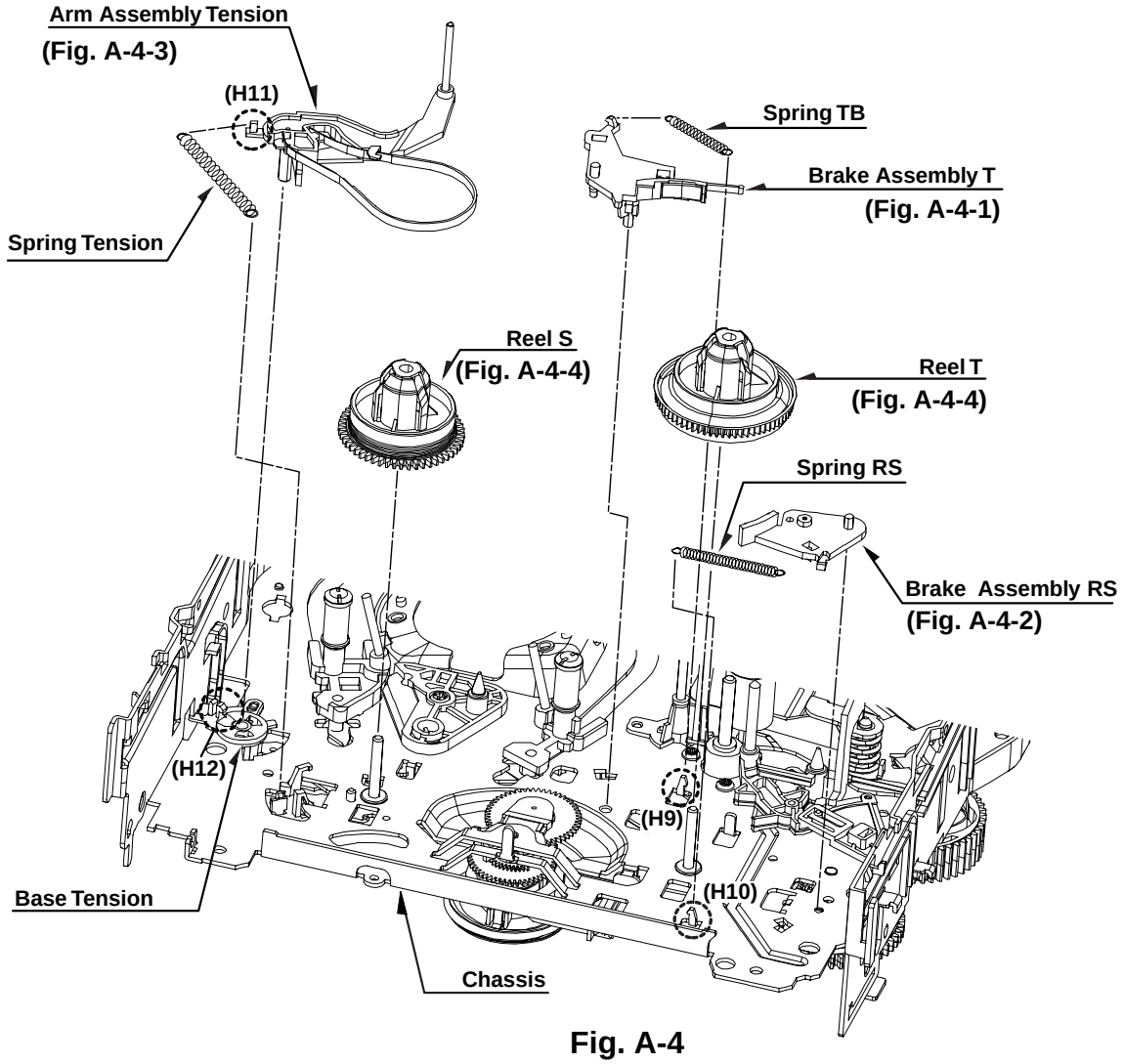


Fig. A-4

12. Brake Assembly T (Fig. A-4-1)

1) Unhook the Spring TB from the Hook(H9) of the Chassis.
2) Lift the Brake Assembly T up.

13. Brake Assembly RS (Fig. A-4-2)

1) Unhook the Spring RS from the Hook(H10) of the Chassis.
2) Lift the Brake Assembly T up.

14. Arm Assembly Tension (Fig. A-4-3)

1) Unhook the Spring Tension from the Hook(H11) of the Arm Assembly Tension.
2) Unhook the Hook(H12) of the Base Tension and lift the Arm Assembly Tension up.

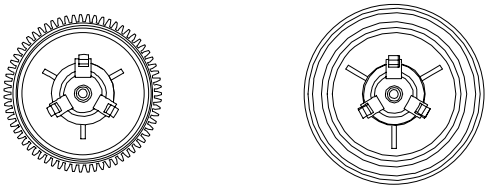
NOTE

Difference for Springs

	Spring TB
	Spring RS Color (Black)
	Spring Tension

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

1) Difference for Reel S / Reel T



DECK MECHANISM DISASSEMBLY

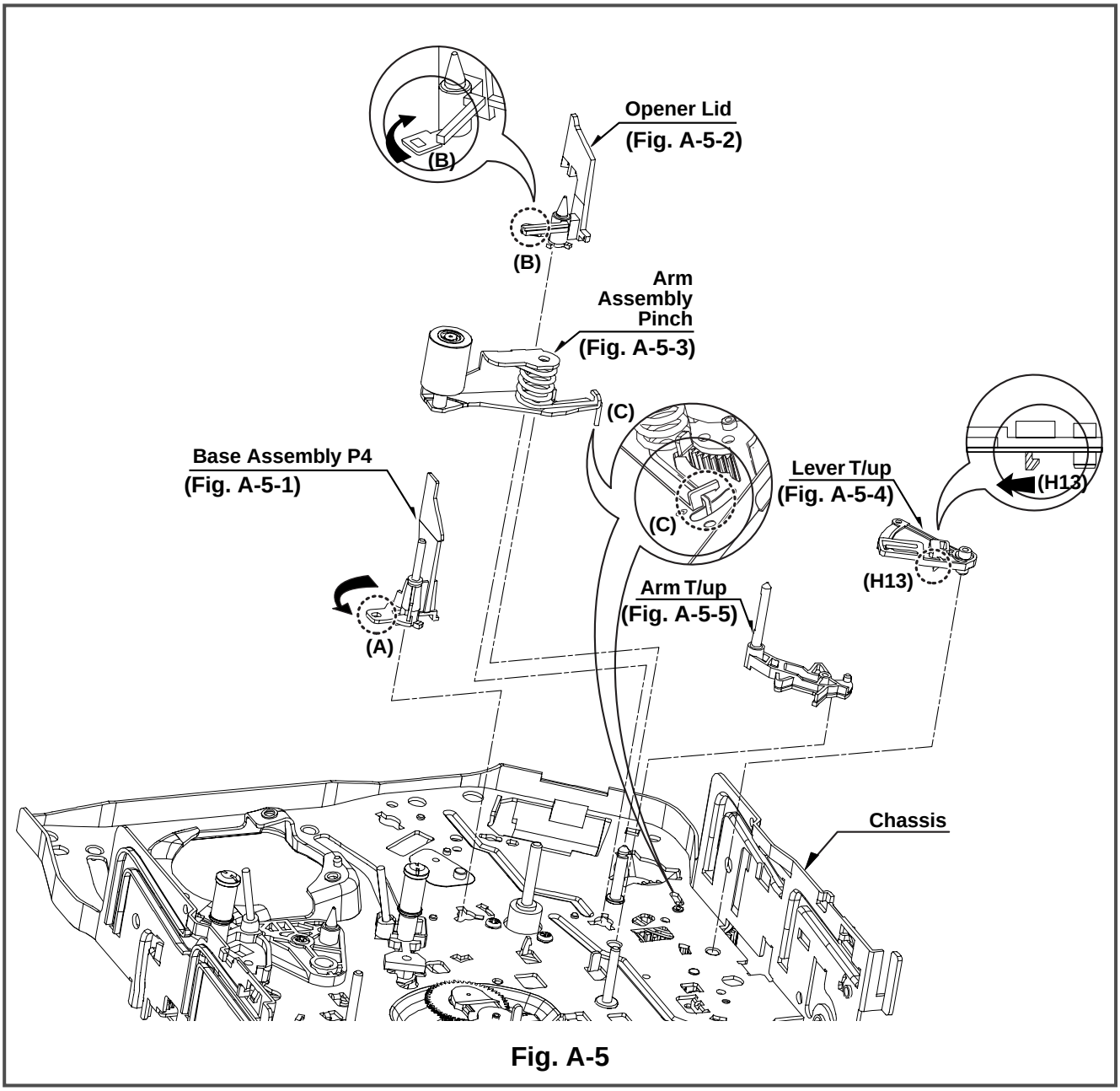


Fig. A-5

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

1) Breakaway the (A) portion of the Base Assembly P4 from the embossing of the Chassis.
2) Turn the Base Assembly P4 to counterclockwise direction and lift it up.

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

1) Breakaway the (B) portion of the Opener Lid from the embossing of the Chassis.
2) Turn the Opener Lid to clockwise direction and lift it up.

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

1) Lift the Arm Assembly Pinch up.

NOTE

When reassembling, confirm the (C) portion of the Arm Assembly Pinch is inserted to the Chassis hole correctly as Fig.

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

1) Unhook the Hook(H13) of the bottom Chassis and lift the Lever T/up up.
2) Lift the Arm T/up up.

DECK MECHANISM DISASSEMBLY

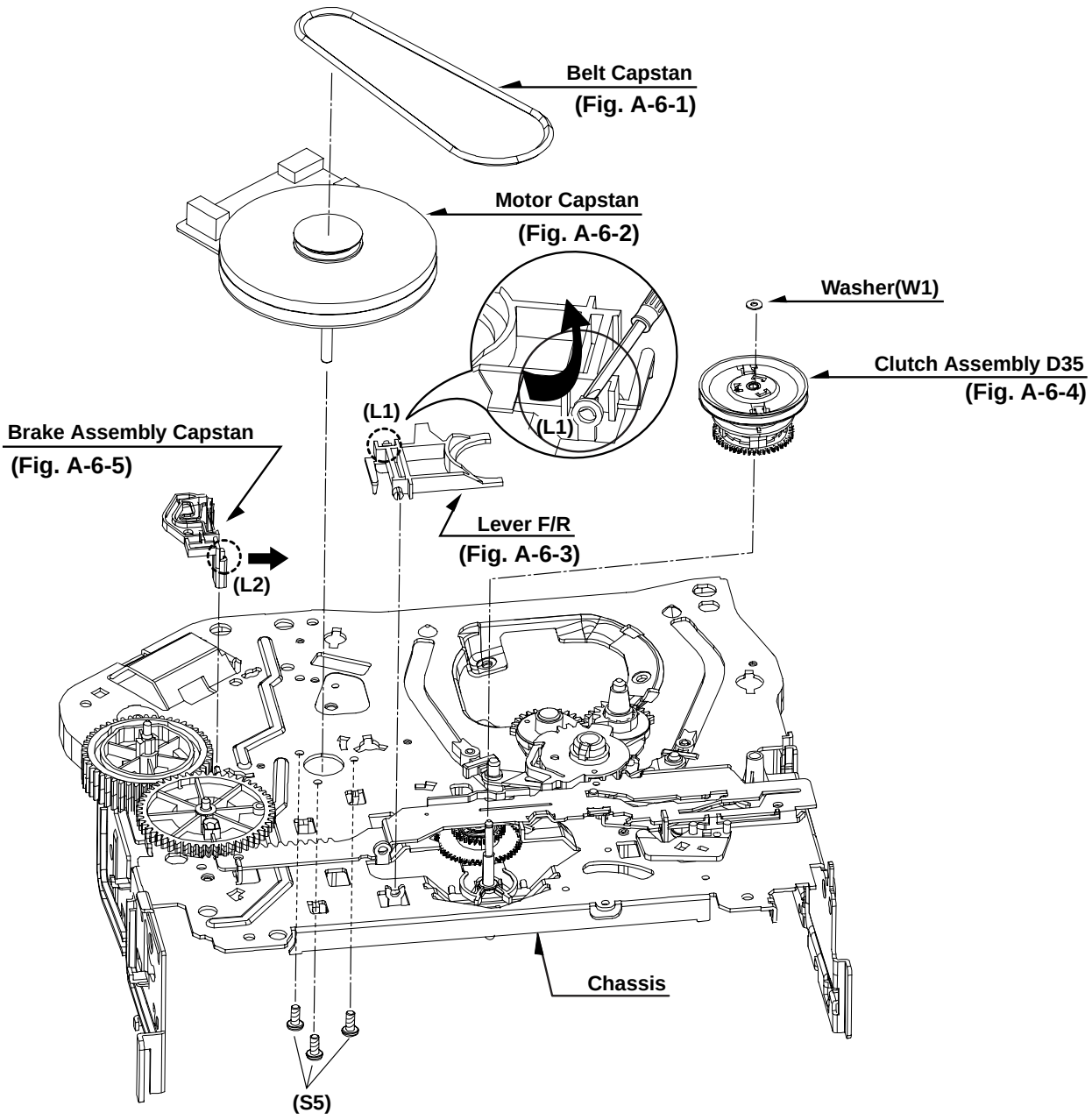


Fig. A-6

20. Belt Capstan (Fig. A-6-1)/ Motor Capstan (Fig. A-6-2)

1) Remove the Belt Capstan.
2) Remove the three Screws(S5) on bottom Chassis and lift the Motor Capstan up.

21. Lever F/R (Fig. A-6-3)

1) Unlock the Locking Tab(L1) as Fig. A-6-3 and lift the Lever F/R up.

22. Clutch Assembly D35 (Fig. A-6-4)

1) Remove the Washer(W1) and lift the Clutch Assembly D35 up.

23. Brake Assembly Capstan (Fig. A-6-5)

1) Pull the Locking Tab(L2) back in direction of arrow and lift it up.

DECK MECHANISM DISASSEMBLY

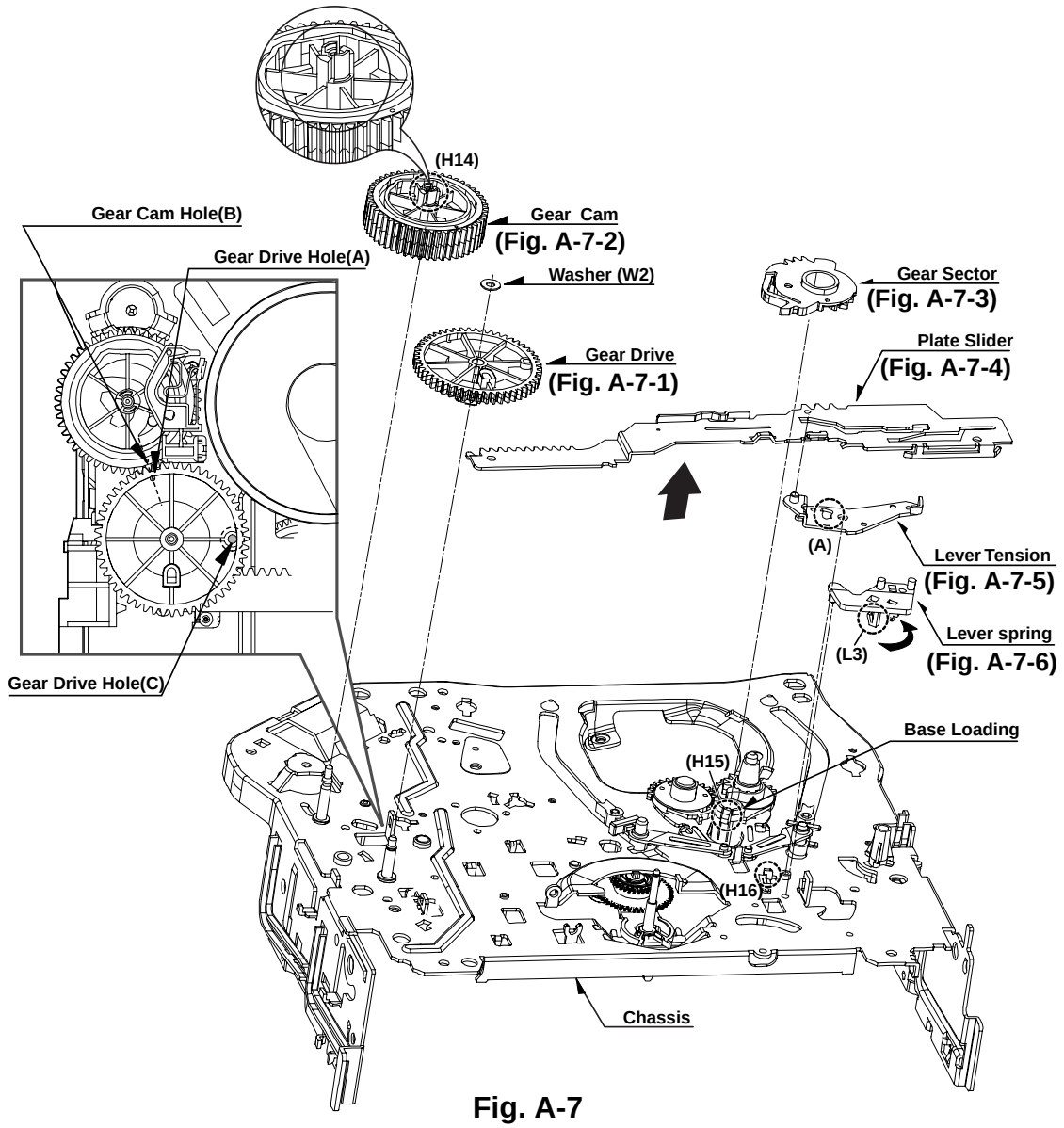


Fig. A-7

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

1) Remove the Washer(W2) and lift the Gear Drive up.
2) Unhook the Hook(H14) of the Gear Cam and lift the Gear Cam up.

NOTE

When reassembling, align the Gear Drive Hole(A) and the Gear Cam Hole(B) in a straight line after the Gear Drive Hole(C) is aligned with the Chassis Hole as Fig.

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

1) Unhook the Hook(H15) of the Base Loading on bottom Chassis and lift the Gear Sector up.

26. Plate Slider (Fig. A-7-4)

1) Just lift the Plate Slider up.

27. Lever Tension (Fig. A-7-5)

1) Unhook the (A) portion of the Lever Tension from the Hook(H16) of the Chassis.
2) Turn the Lever Tension to counterclockwise direction and lift it up.

28. Lever Spring (Fig. A-7-6)

1) Unlock the Locking Tab(L3) of the bottom Chassis and lift the Lever Spring up.

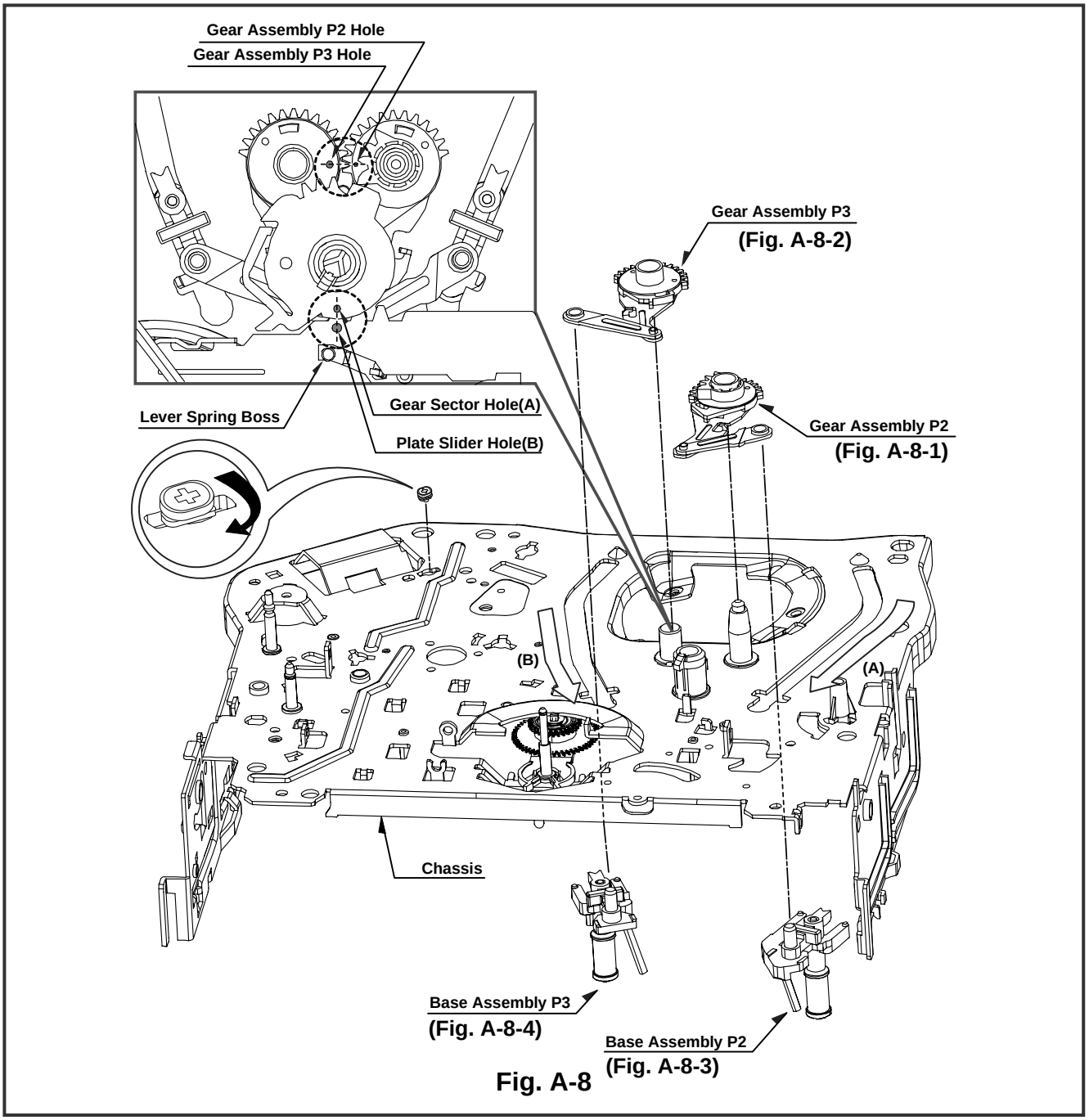


Fig. A-8

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

1) Just lift the Gear Assembly P2 up.
2) Just lift the Gear Assembly P3 up.

NOTE

When reassembling, align the two holes of the Gear Assembly P2 and P3 in a straight line after confirmation whether the Gear Sector Hole(A) and the Plate Slider Hole(B) are aligned or not as Fig.

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

1) Move the Base Assembly P2 in direction of arrow(A) along the guide hole of the Chassis and disassemble it on bottom side.
2) Move the Base Assembly P3 in direction of arrow(B) along the guide hole of the Chassis and disassemble it on bottom side.

DECK MECHANISM DISASSEMBLY

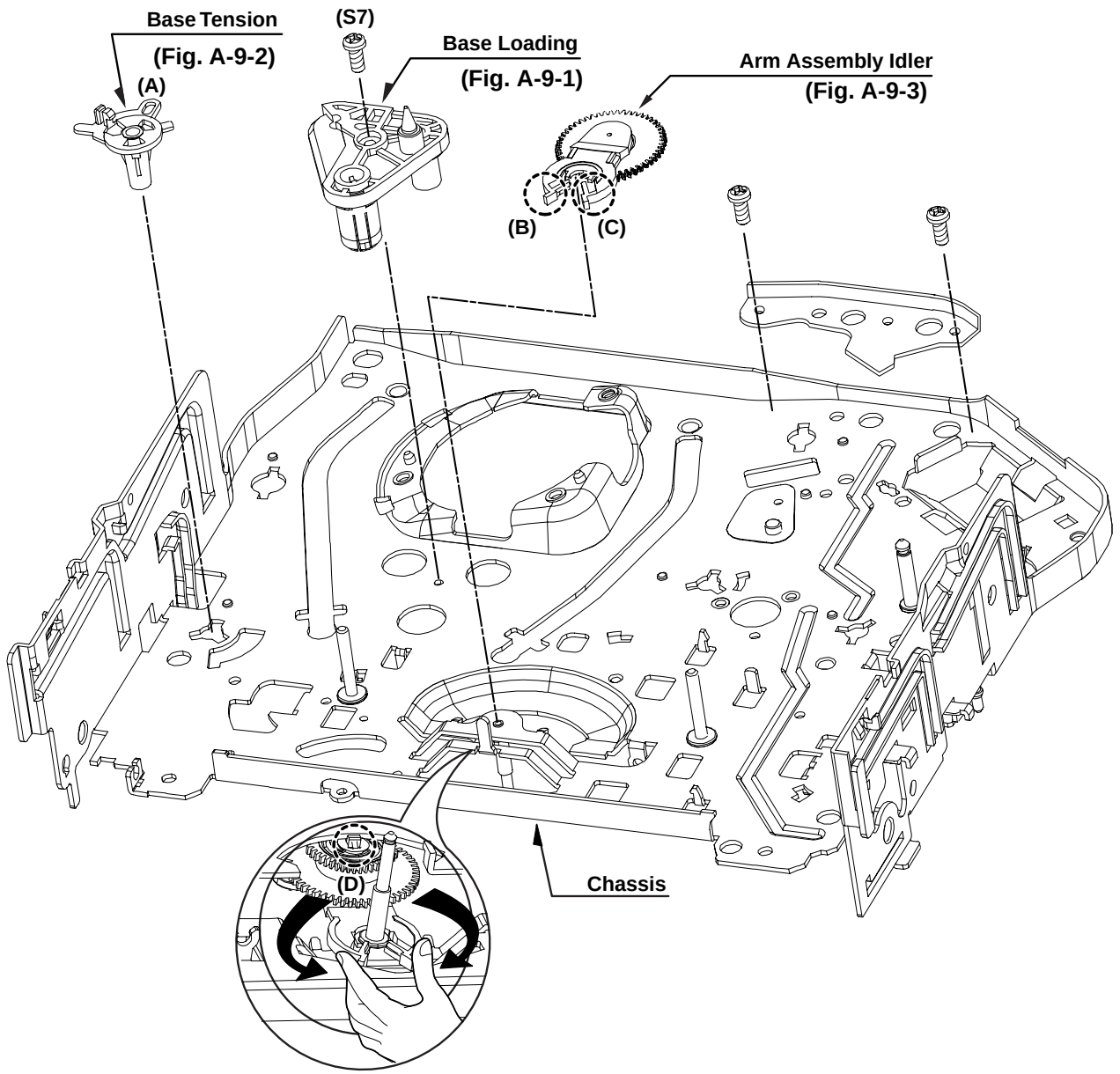


Fig. A-9

31. Base Loading (Fig. A-9-1)

1) Remove the Screw(S7).
2) Lift the Base Loading up.

32. Base Tension (Fig. A-9-2)

1) Breakaway the (A) portion of the Base Tension from the embossing of the Chassis.
2) Turn the Base Tension to counterclockwise direction and lift it up.

33. Arm Assembly Idler (Fig. A-9-3)

1) Make narrower the two parts, (B) and (C), as Fig. A-9-3.
2) Lift the Arm assembly Idler up.

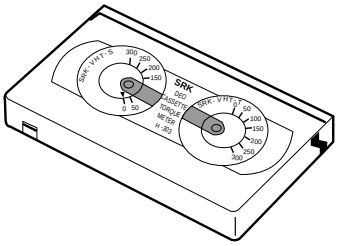
NOTE

When disassembling, be careful not to be caught the (D) part by the Chassis as Fig.

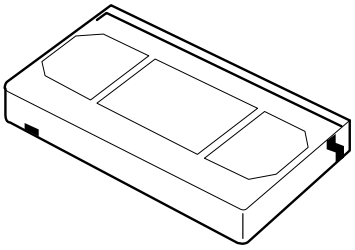
DECK MECHANISM ADJUSTMENT

• Tools and Fixfures for Service

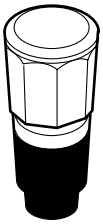
1. Cassette Torque Meter
PUJ42881



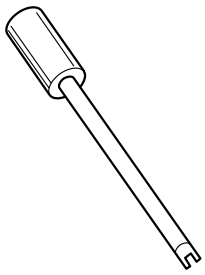
2. Alignment Tape
NTSC: MHP
PAL:MHPE



3. Torque Gauge
PUJ48075-2



4. Post Height Adjusting Driver (Roller driver)
PTU94002



DECK MECHANISM ADJUSTMENT

1. Mechanism Alignment Position Check

Purpose:To determine if the Mechanism is in the correct position, when a Tape is ejected.

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Check Point
• Blank tape	• Eject Mode (with Cassette ejected)	• Mechanism and Mode Switch Position

1) Turn the Power S/W on and eject the Cassette by pressing the Eject Button.
2) Remove the Top Cover and Plate Assembly Top, visually check if the Gear Cam Hole is aligned with the Chassis Hole as below Fig. C-2.
3) IF not, rotate the Shaft of the Loading Motor to either clockwise or counterclockwise until the alignment is as below Fig. C-2.
4) Remove the Screw which fixes the Deck Mechanism and Main Frame and confirm if the Gear Cam is aligned with the Gear Drive as below Fig. C-1(A).
5) Confirm if the Mode S/W on the Main P.C.Board is aligned as below Fig. C-1(B).
6) Remount the Deck Mechanism on the Main P.C.Board and check each operation.

CHECK DIAGRAM

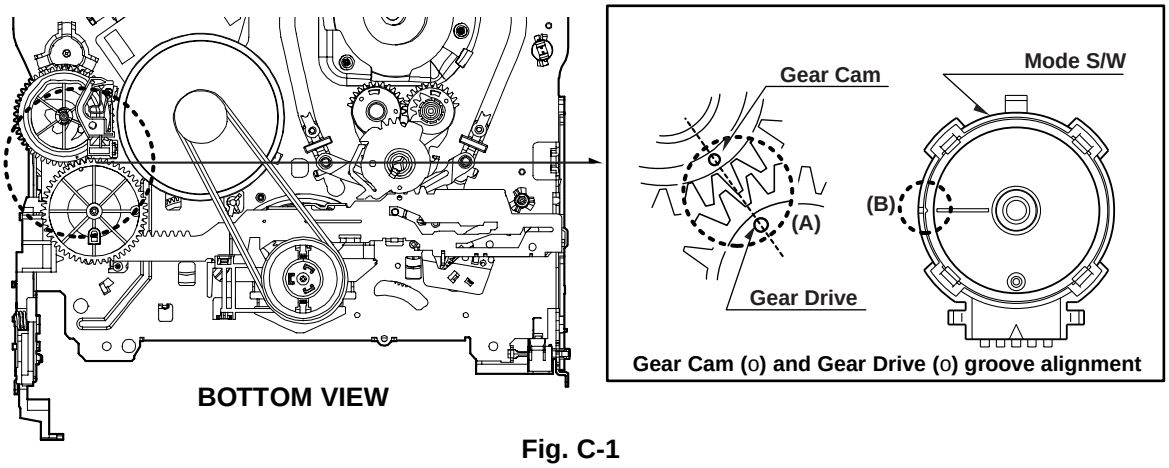


Fig. C-1

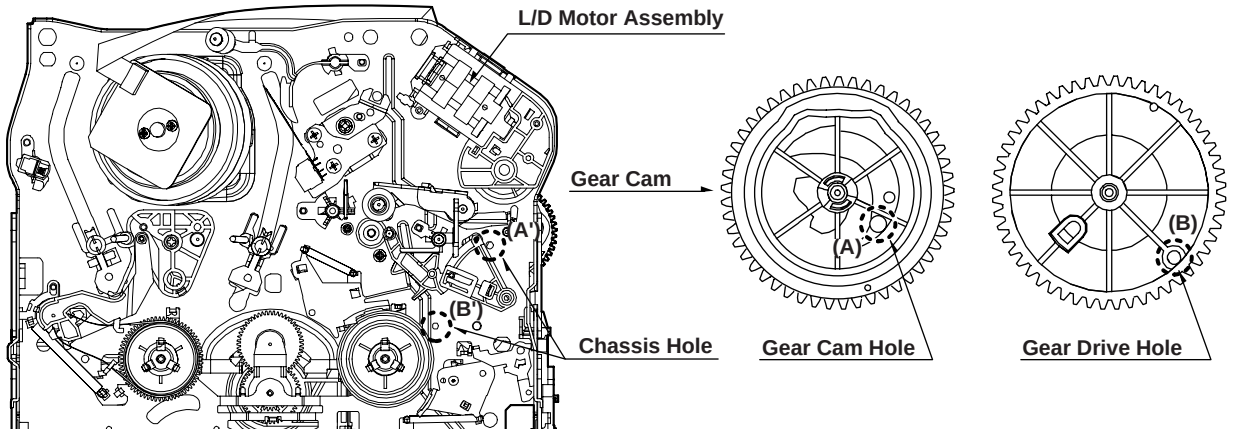


Fig. C-2

DECK MECHANISM ADJUSTMENT

2. Preparation for Adjustment (To set the Deck Mechanism of the loading state without inserting a cassette tape).

1) Unplug the power cord from the AC outlet.
2) Disassemble the Top Cover and Plate Assembly Top.
3) Plug the power cord into the AC outlet.
4) Turn the power S/W on and push the Lever Stopper of the Holder Assembly CST to the back for loading the cassette without tape.
Cover the holes of the End Sensors at the both sides of the Chassis to prevent a light leak.
Then the Deck Mechanism drives to the Stop Mode.
In this case, the Deck Mechanism can accept inputs of each mode, however the Rewind and Review operation can not be performed for more than a few seconds because the Take-up Reel Table is in the Stop State and can not be detected the Reel Pulses.

3. Checking Torque

Purpose: To insure smooth transport of the tape during each mode of operation.
If the tape transport is abnormal, then check the torque as indicated by the chart below.

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Checking Method
• Torque Gauge(600g/cm ATG) • Torque Gauge Adaptor • Cassette Torque Meter SRK-VHT-303	• Play (FF) or Review (REW) Mode	• Perform each Deck Mechanism mode without inserting a cassette tape(Refer to above No.2 Preparation for Adjustment). • Read the measurement of the Take-up or Supply Reels on the Cassette Torque Meter(Fig. C-3-2). • Attach the Torque Gauge Adaptor to the Torque Gauge and then read the value of it(Fig. C-3-1).

Item	Mode	Test Equipment	Measurement Reel	Measurement Values
Fast Forward Torque	Fast Forward	Cassette Torque Gauge	Take-Up Reel	More than 400g/cm
Rewind Torque	Rewind	Cassette 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	120~210g/cm

NOTE:

The values are measured by using a Torque Gauge and Torque Gauge Adaptor with the Torque Gauge affixed.

• Torque Gauge (600g.cm ATG)

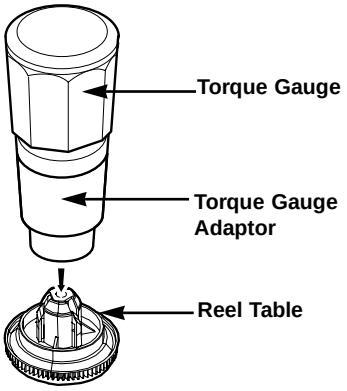


Fig. C-3-1

NOTE:

The torque reading to measure occurs when the tape abruptly changes direction from Fast Forward to Rewind Mode, when quick braking is applied to both Reels.

• Cassette Torque Meter (SRK-VHT-303)

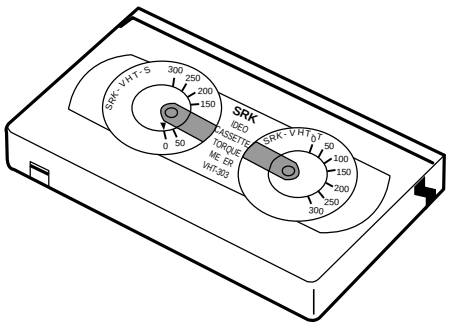


Fig. C-3-2

DECK MECHANISM ADJUSTMENT

4.Guide Roller Height Adjustment

Purpose: To regulate the height of the tape so that the bottom of the tape runs along the tape guide line on the Lower Drum.

4-1. Preliminary Adjustment

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Post Height Adjusting Driver	• Play or Review Mode	• Guide Roller Height Adjustment screws on the Supply and Take-Up Guide Rollers.

Adjustment Procedure

1) Confirm if the tape runs along the tape guide line of the Lower Drum.
2) If the tape runs the bottom of the guide line, turn the Guide Roller Height Adjustment Screw to clockwise direction.
3) If it runs the top, turn to counterclockwise direction.
4) Adjust the height of the Guide Roller to be guided to the guide line of the Lower Drum from the starting and ending point of the Drum.

ADJUSTMENT DIAGRAM

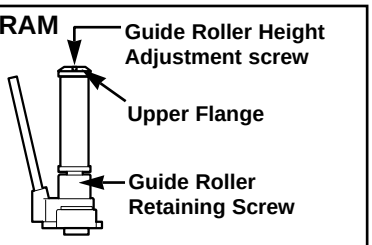


Fig. C-4-1

4-2. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Points	Test Conditions VCR(VCP) State	Adjustment Point
• 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 an Alignment Tape	• Guide Roller Height Adjustment Screws

Adjustment Procedure

1) Play an Alignment Tape after connecting the probe of the Oscilloscope to the RF Envelope Output Test Point and Head Switching Output Test Point.
2) Tracking Control(in PB Mode) : Center Position(When this adjustment is performed after the Drum Assembly has been replaced, set the Tracking Control so that the RF Output is Maximum).
3) Height Adjustment Screw : Flatten the RF waveform. (Fig. C-4-2)
4) Turn(Move) the Tracking Control(in PB Mode) clockwise and counterclockwise.(Fig. C-4-3)
5) Check that any drop of RF Output is uniform at the start and end of the waveform.

NOTE

If the adjustment is excessive or insufficient the tape will jam or fold.

Waveform Diagrams

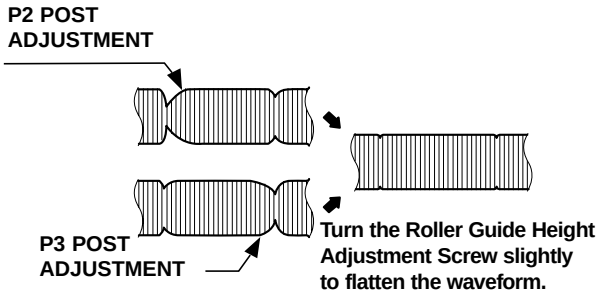


Fig. C-4-2

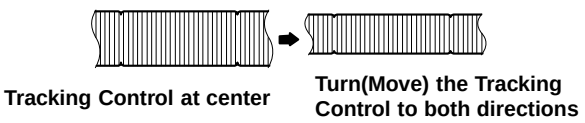
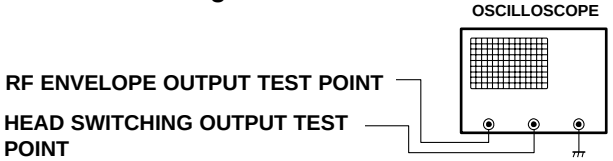


Fig. C-4-3

Connection Diagram



DECK MECHANISM ADJUSTMENT

5. Audio/Control (A/C) Head Adjustment

Purpose: To insure that the tape passes accurately over the Audio and Control Tracks in exact alignment of the both Record and Playback Modes.

5-1. Preliminary Adjustment (Height and Tilt Adjustment)
Perform the Preliminary Adjustment, when there is no Audio Output Signal with the Alignment Tape.

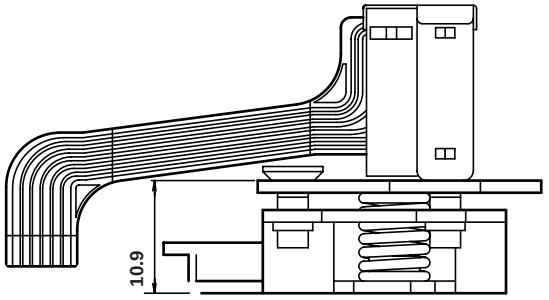
Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Blank Tape • Screw Driver(+) Type 5mm	• Play the blank tape	• Tilt Adjustment Screw(C) • Height Adjustment Screw(B) • Azimuth Adjustment Screw(A)

Adjustment Procedure/Diagrams

1) Initially adjust the Base Assembly A/C Head as shown Fig. C-5-1 by using the Height Adjustment Screw(B).
2) Play a blank tape and observe if the tape passes accurately over the A/C Head without tape curling or folding.
3) If folding or curling is occured then adjust the Tilt Adjustment Screw(C) while the tape is running to resemble Fig. C-5-3.
4) Reconfirm the tape path after Playback about 4~5 seconds.

NOTE

Ideal A/C head height occurs when the tape runs between 0.2~0.25mm above the bottom edge of the A/C Head core.



A/C Head Base

Fig. C-5-1

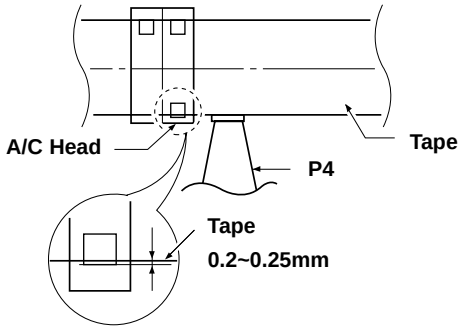
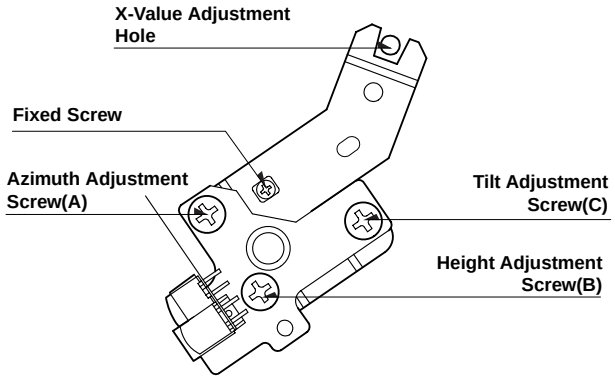


Fig. C-5-3



A/C Head Assembly

Fig. C-5-2

5-2. Confirm that the tape passes smoothly between the Take-up Guide and Pinch Roller(using a mirror or the naked eye).

1) After completing Step 5-1.(Preliminary Adjustment), check that the tape passes around the Take-up Guide and Pinch Roller without folding or curling at the top or bottom.
   (1) If folding or curling is observed at the bottom of the Take-up Guide then slowly turn the Tilt Adjustment Screw(C) in the clockwise direction.
   (2) If folding or curling is observed at the top of it then slowly turn the Tilt Adjustment Screw(C) in the counterclockwise direction.

NOTE:

Check the RF envelope after adjusting the A/C Head, if the RF waveform differs from Fig. C-5-4, performs Precise Adjustment to flat the RF waveform.

5-3. Precise Adjustment (Azimuth adjustment)

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment Tape(SP) • Screw Driver(+) Type 5mm	• Audio output jack	• Play an Alignment Tape 1KHz, 7KHz Sections	• Azimuth Adjustment Screw(A) • Height Adjustment Screw(B)

Adjustment Procedure

1) Connect the probe of the oscilloscope to Audio Output Jack.
2) Alternately adjust the Azimuth Adjustment Screw(A) and the Tilt Adjustment Screw(C) for maximum output of the 1KHz and 7KHz segments, while maintaining the flattest envelope differential between the two frequencies.

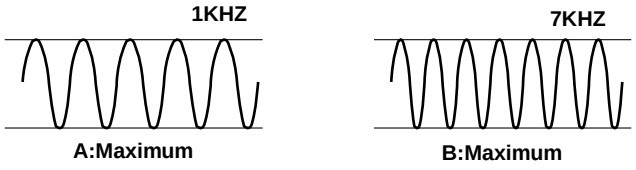
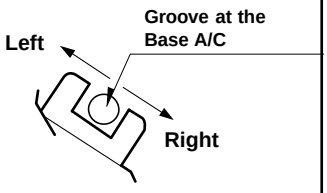


Fig. C-5-4

6. X-Value Adjustment

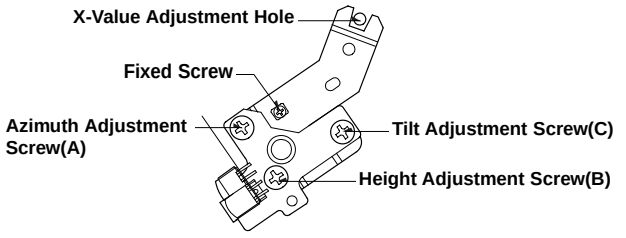
Purpose: To obtain compatibility with the other VCR(VCP) Models.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment Tape(SP only) • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Switching Output Test Point • RF Envelope Output Test Point	• Play an Alignment Tape	

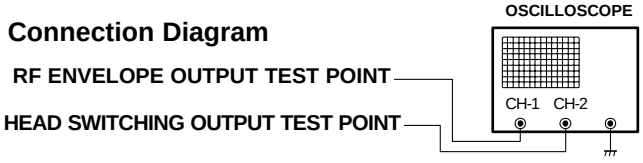
Adjustment Procedure

1) Release the Automatic Tracking to run long enough for tracking to complete it's cycle.
2) Loosen the Fixed Mounting Screw and move the Base Assembly A/C Head in the direction as shown in the diagram to find the center of the peak that allows for the maximum waveform envelope.
   This method should allow the 31μm Head to be centrally located over the 58μm tape track.
3) Tighten the Base Assembly A/C Head mounting Screw.

Adjustment Diagram



Connection Diagram



DECK MECHANISM ADJUSTMENT

7. Adjustment after Replacing Drum Assembly (Video Heads)

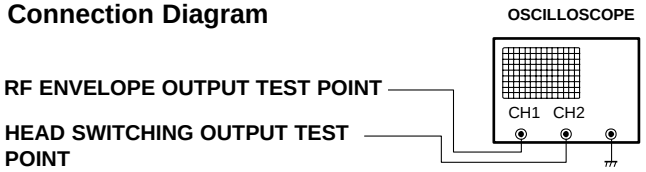
Purpose: To correct for shift in the Roller Guide and X value after replacing the Drum.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Points
• Oscilloscope • Alignment Tapes • Blank Tape • Post Height Adjusting Driver • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Switching Output Test Point • RF Envelope Output Test Point	• Play the Blank Tape • Play an Alignment Tape	• Guide Roller Precise Adjustment • Switching Point • Tracking Preset • X-Value

Checking/Adjustment Procedure

Play a blank tape and check for tape curling or creasing around the Roller Guide. If there is a problem then follow the procedure 4. "Guide Roller Height" and 5. "Audio Control(A/C) Head Adjustment".

Connection Diagram



Waveform

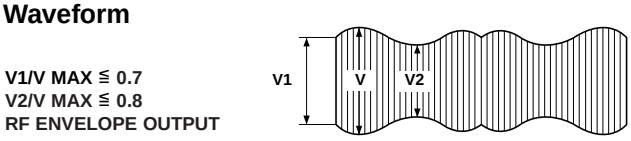


Fig. C-7

8. Check the Tape Travel after Reassembling Deck Assembly.

8-1. Checking Audio and RF Locking Time during playback and after CUE or REV (FF/REW)

Test Equipment/ Fixture	Specification	Connection Points	Test Conditions (Mechanism Condition)
• Oscilloscope • Alignment Tapes(with 6H 3KHz Color Bar Signal) • Stop Watch	• RF Locking Time: Less than 5 sec. • Audio Locking Time:Less than 10sec	• CH-1: PB RF Envelope • CH-2: Audio Output • RF Envelope Output Point • Audio Output Jack	• Play an Alignment Tape (with 6H 3kHz Color Bar Signal)

Checking Procedure

Play an Alignment Tape then change the operating mode to CUE or REV and confirm if the unit meets the above listed specifications.

NOTES:

1) CUE is the forward search mode
2) REV is the backward search mode
3) Refer to the Play mede

8-2. Checking for tape curling or jamming

Test Equipment/ Fixture	Specification	Test Conditions (Mechanism Condition)
• T-160 Tape • T-120 Tape	• Be sure there is no tape jamming or curling at the begining, middle or end of the tape.	• Run the CUE, REV, Play mode at the beginning and the end of the tape.

Checking Procedure

1) Confirm that the tape runs smoothly around the roller guides, Drum and A/C Head Assemblies while abruptly changing operating modes from Play to CUE or REV. This is to be checked at the begining, middle and end sections of the tape.
2) Confirm that the tape passes over the A/C Head Assembly as indicated by proper audio reproduction and proper tape counter performance.

MAINTENANCE/INSPECTION PROCEDURE

1. Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.
Check with the customer to find out how often the unit is used, and then determine that the unit is ready for inspection and maintenance. Check the following parts.

Phenomenon	Inspection	Replacement	
Color beats	Dirt on Full-Erase Head	o	F/E Head
Poor S/N, no color	Dirt on Video Head	o	Video Head
Vertical or Horizontal jitter	Dirt on Video Head Dirt on tape transport system	o	Video Head
Low volume, Sound distorted	Dirt on Audio/Control Head	o	A/C Head
Tape does not run. Tape is slack	Dirt on Pinch Roller	o	Pinch Roller Belt Capston
In Review and Unloading (off mode), the tape is rolled up loosely.	Clutch Assembly D35 torque reduced	o	Clutch Assembly D35
	Cleaning Drum and transport system	Fig. C-9-3	

NOTE

If locations marked with **o** do not operate normally after cleaning, check for wear and replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations and see the Greasing (Page 4-21, 22) for the sections to be lubricated and greased.

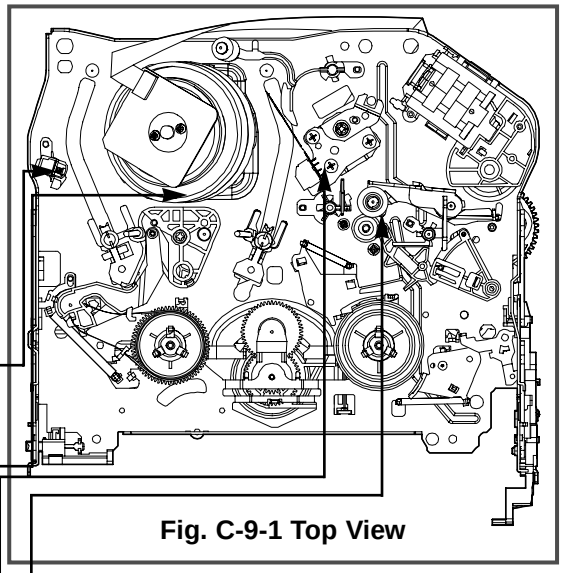


Fig. C-9-1 Top View

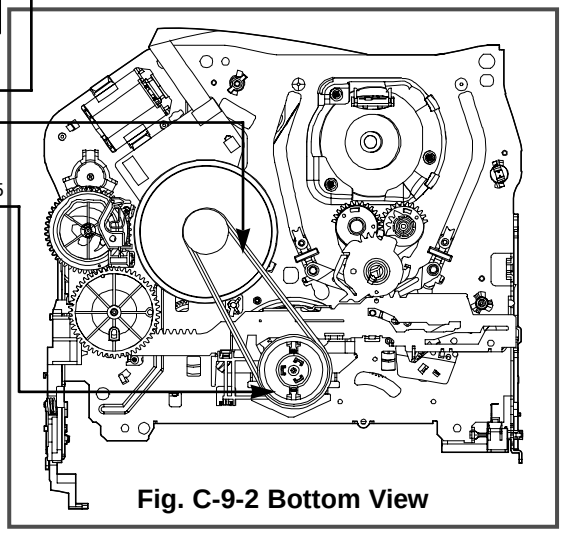


Fig. C-9-2 Bottom View

*** No. (1)~(12) Indicates the Tape Path to be traveled from Supply Reel to Take-up Reel.**

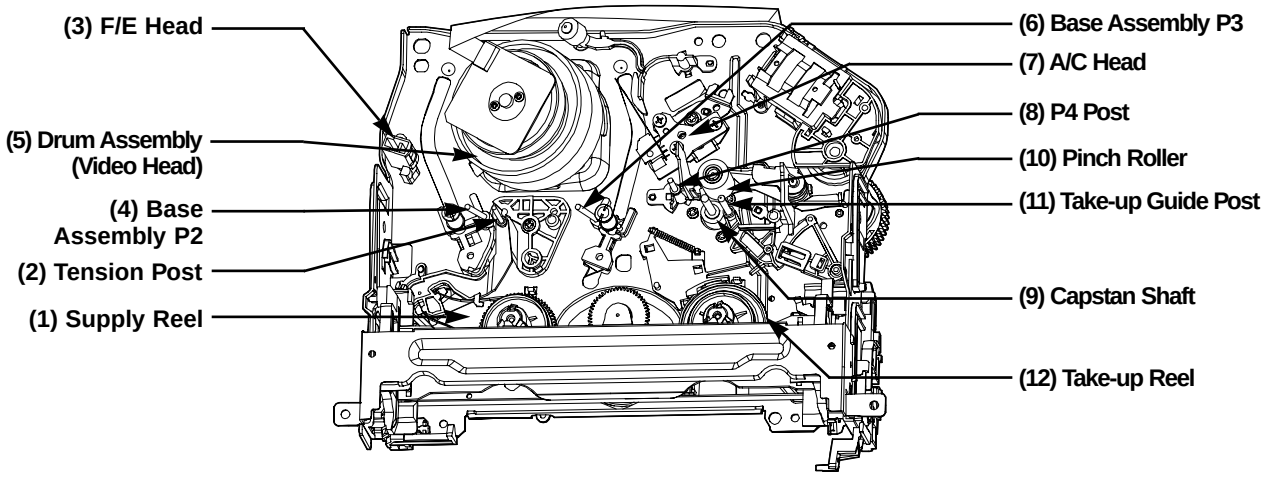


Fig. C-9-3 Tape Transport System

2. Required Maintenance

The recording density of a VCR(VCP) is much higher than that of an audio tape recorder. VCR(VCP) components must be very precise, at tolerances of 1/1000mm, to ensure compatibility with the other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure a good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, is necessary.

3. Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR(VCP), and the environment in which the VCR(VCP) is used.
But, in general home use, a good picture will be maintained if inspection and maintenance is made every 1,000 hours. The table below shows the relation between time used and inspection period.

Table 1

When inspection is necessary / Average hours used per day	About 1 year	About 18 months	About 3 years
One hour	■	■	■
Two hours	■	■	
Three hours	■		

4. Supplies Required for Inspection and Maintence

(1) Grease : Kanto G-311G (Blue) or equivalent
(2) Isopropyl Alcohol or equivalent
(3) Cleaning Patches
(4) Grease : Kanto G-381(Yellow)

5. Maintenance Procedure

5-1) Cleaning

(1) Cleaning video head
First use a cleaning tape. If the dirt on the head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with Isopropyl Alcohol. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.
(Do not move the cleaning patch vertically. Make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)
Thoroughly dry the head. Then run the test tape. If Isopropyl Alcohol remains on the video head, the tape may be damaged when it comes into contact with the head surface.
(2) Clean the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with Isopropyl Alcohol.

NOTES:

① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which moves the tape.
② Make sure that during cleaning you do not touch the tape transport system with excessive force that would cause deformation or damage to the system.

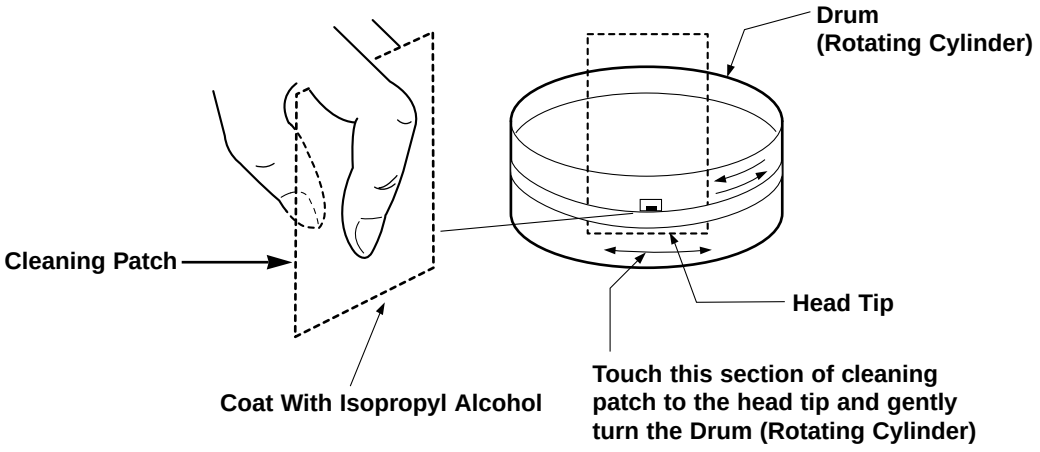


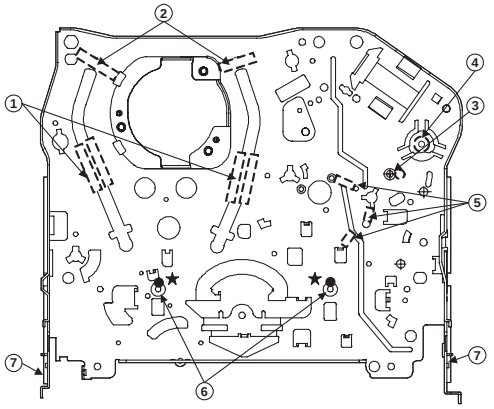
Fig. C-9-4

5-2) Greasing

(1) Greasing guidelines
Apply grease, with a cleaning patch. Do not use excessive grease. It may come into contact with the tape transport or drive system. Wipe excessive grease and clean with cleaning patch wetted in Isopropyl Alcohol.

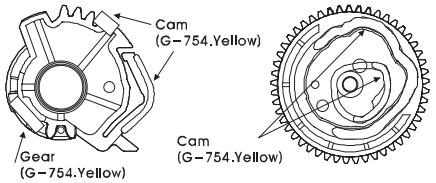
NOTE:Greasing Points

1) Loading Path Inside & Top side
2) Base Assembly P2, P3 stopper
3) Shaft
4) L/D Motor Gear Wheel Part
5) Arm Take-up Rubbing Sections
6)Reel S,T shaft(G381:Yellow)
7) Arm Assembly F/L Rotating Sections



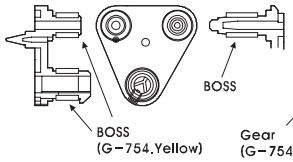
Chassis (Top)

Gear Part

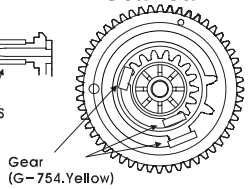


Gear Sector

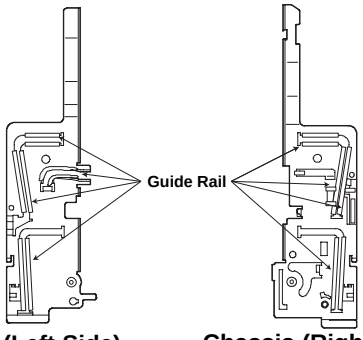
Gear Cam



Base Loading



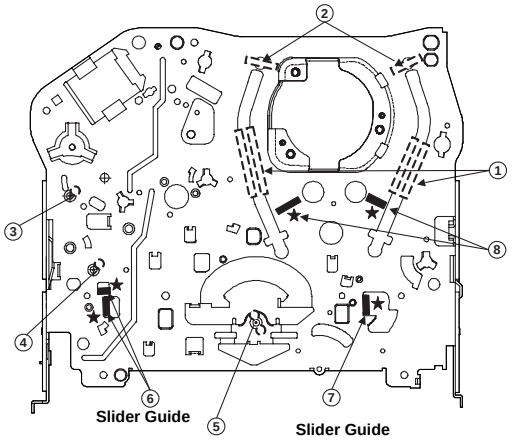
Gear Drive



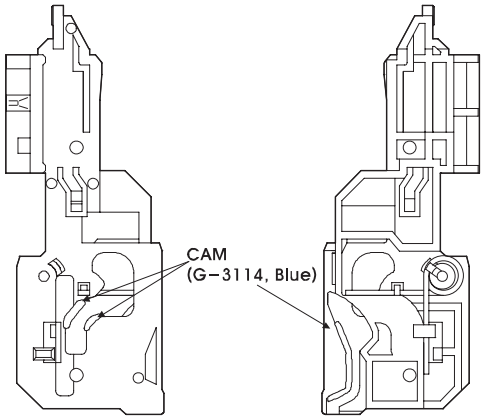
Chassis (Left Side) **Chassis (Right Side)**

(2) Periodic greasing
Grease specified locations every 5,000 hours.

1) Loading Path Inside & Top side
2) Base Assembly P2,P3 stopper
3) Shaft
4) Shaft
5) Clutch Assembly D35 Shaft
6) Plate Slider Guide Sections
7) Plate Slider Guide Sections
8) Gear Assembly P2, P2 Rubbing Sections



Chassis (Bottom)



Gear Rack F/L

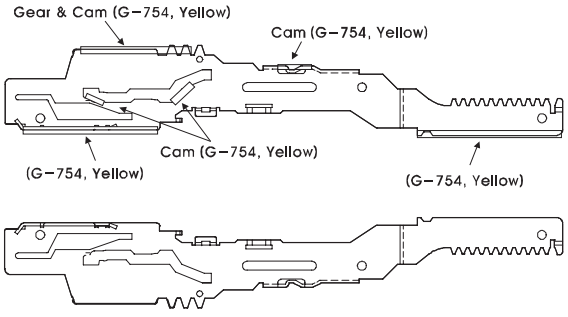
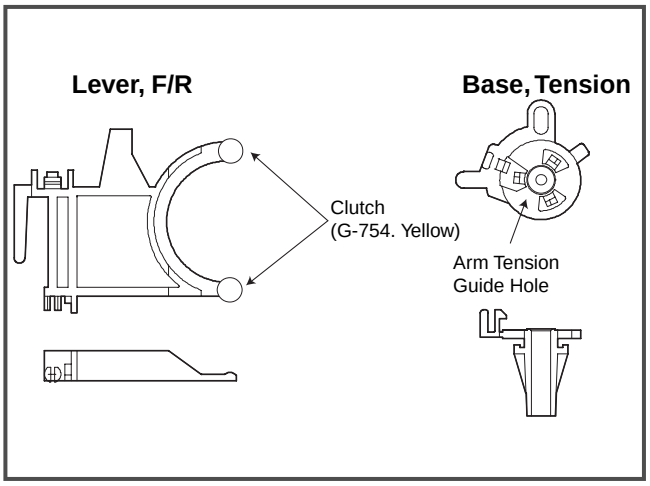
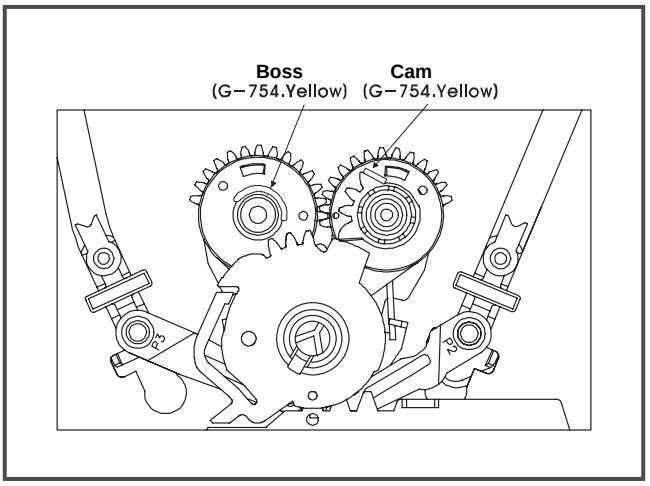


Plate Slider

Lever, F/R, Base, Tension



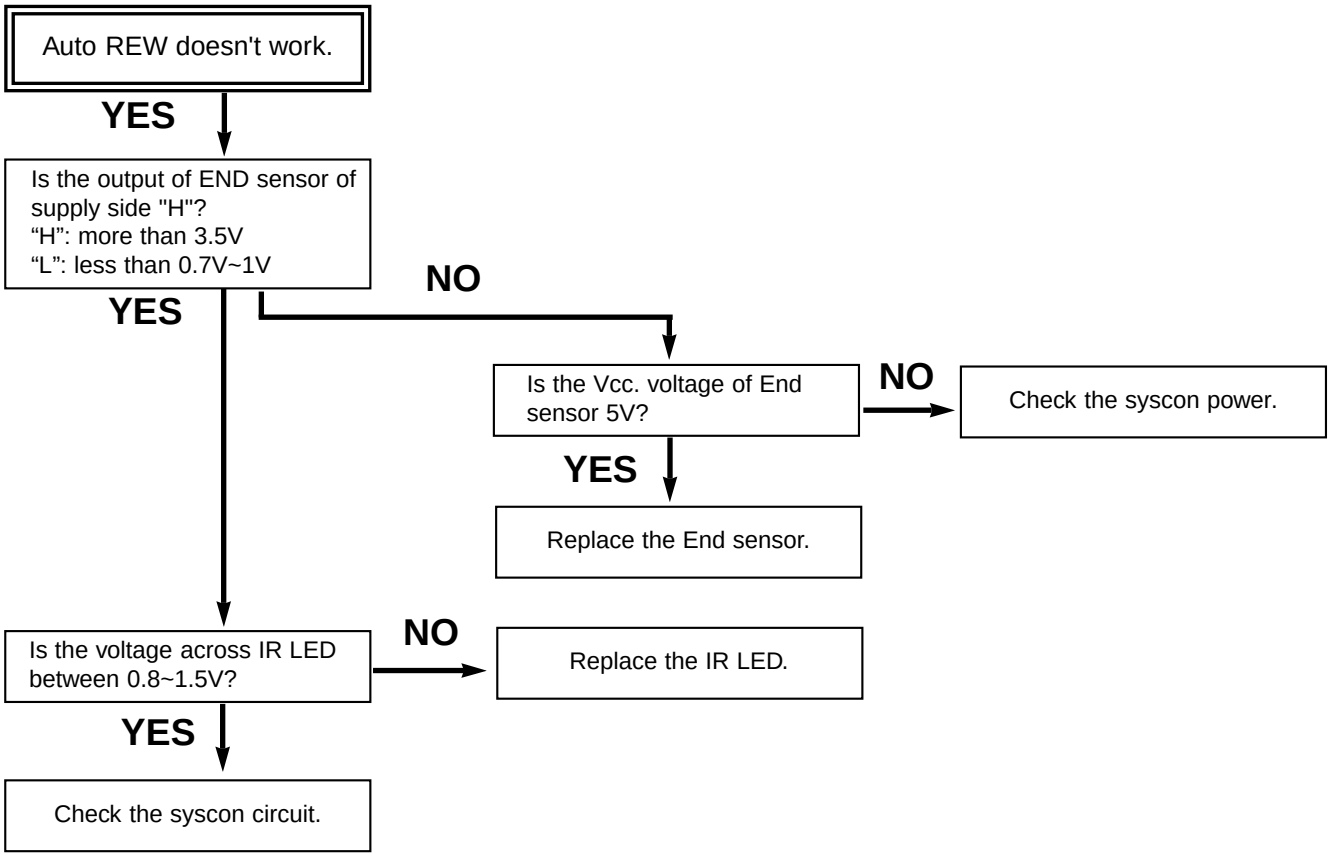
GEAR AY, P2 & P3



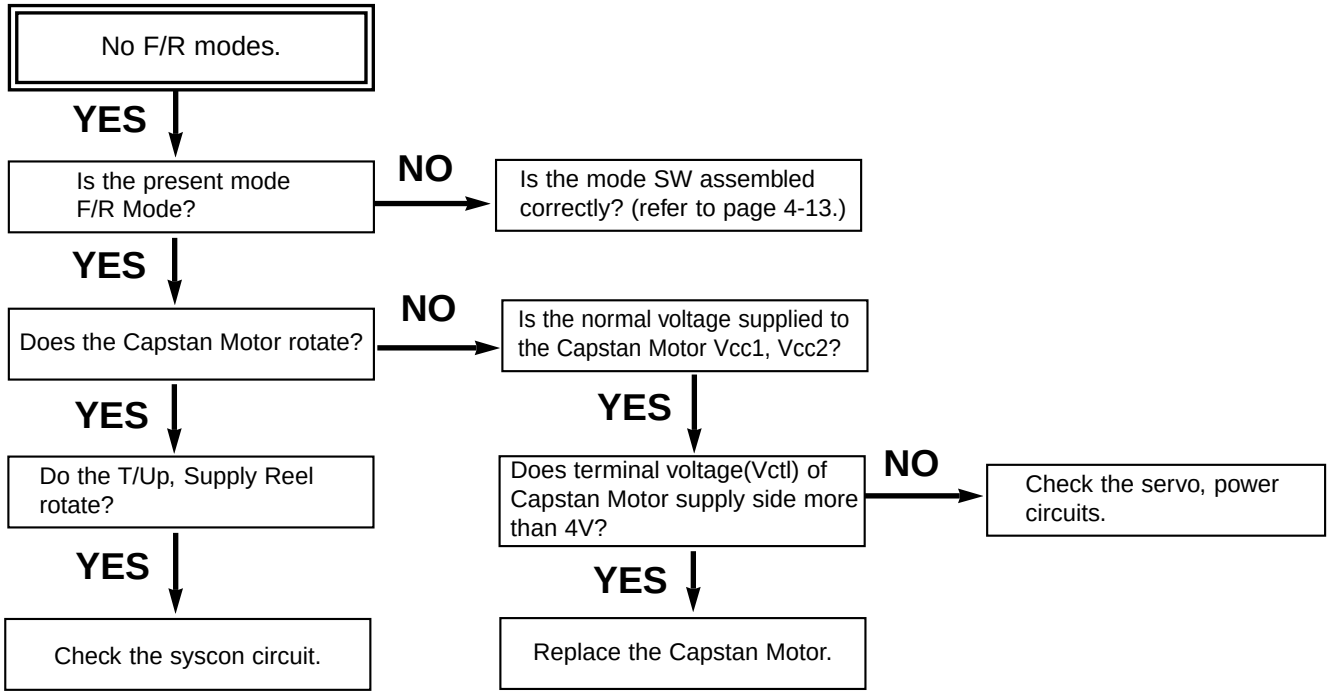
MECHANISM TROUBLESHOOTING GUIDE

1.Deck Mechanism

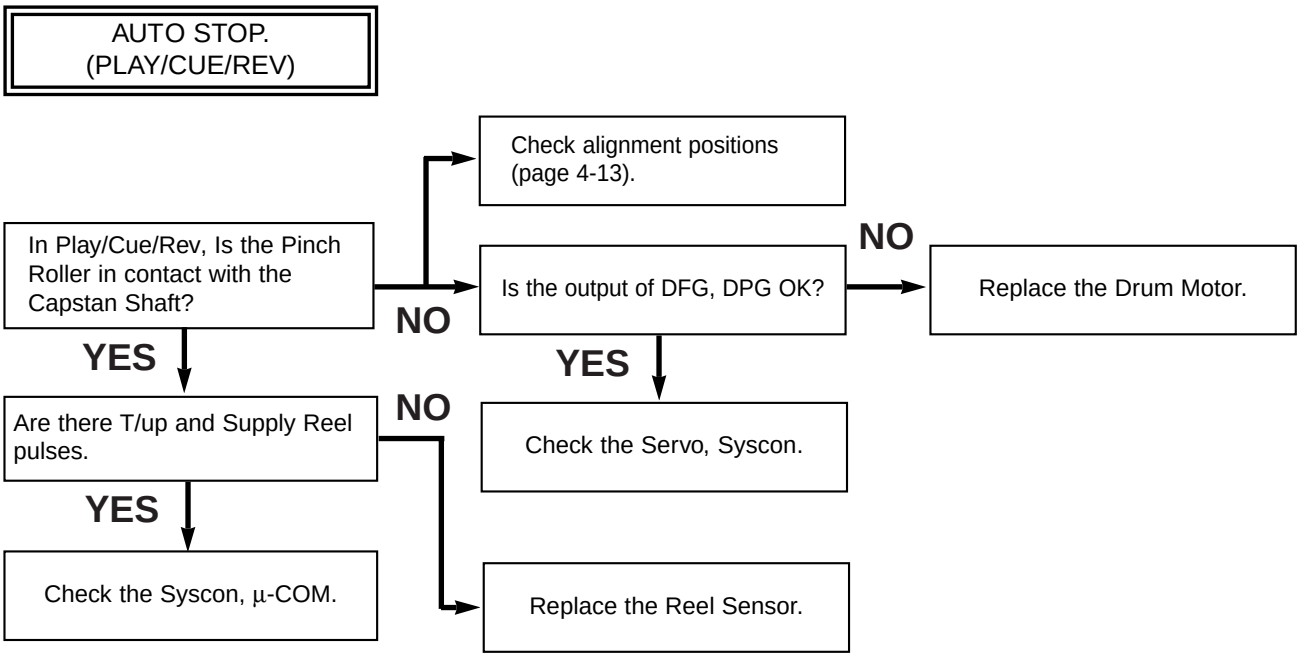
A.



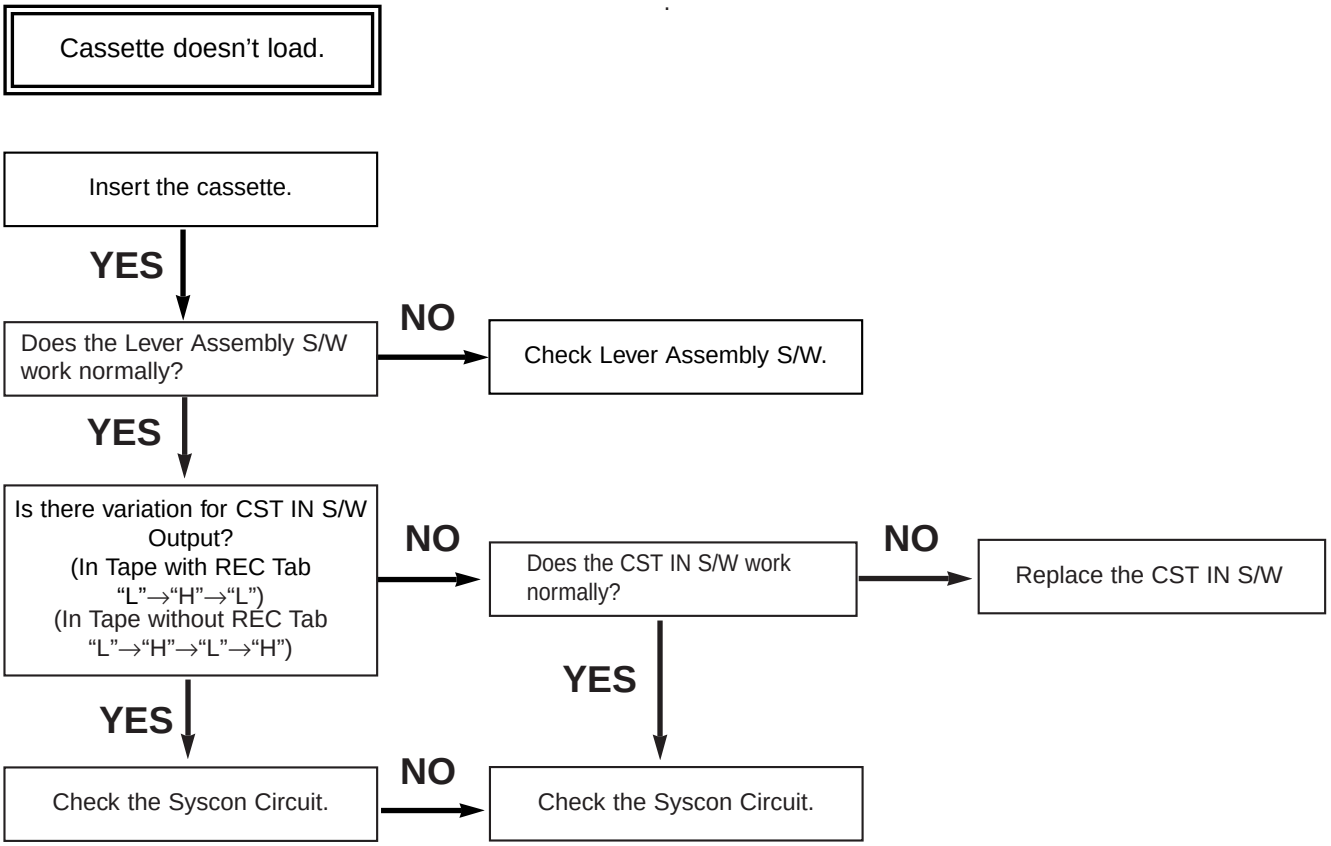
B.



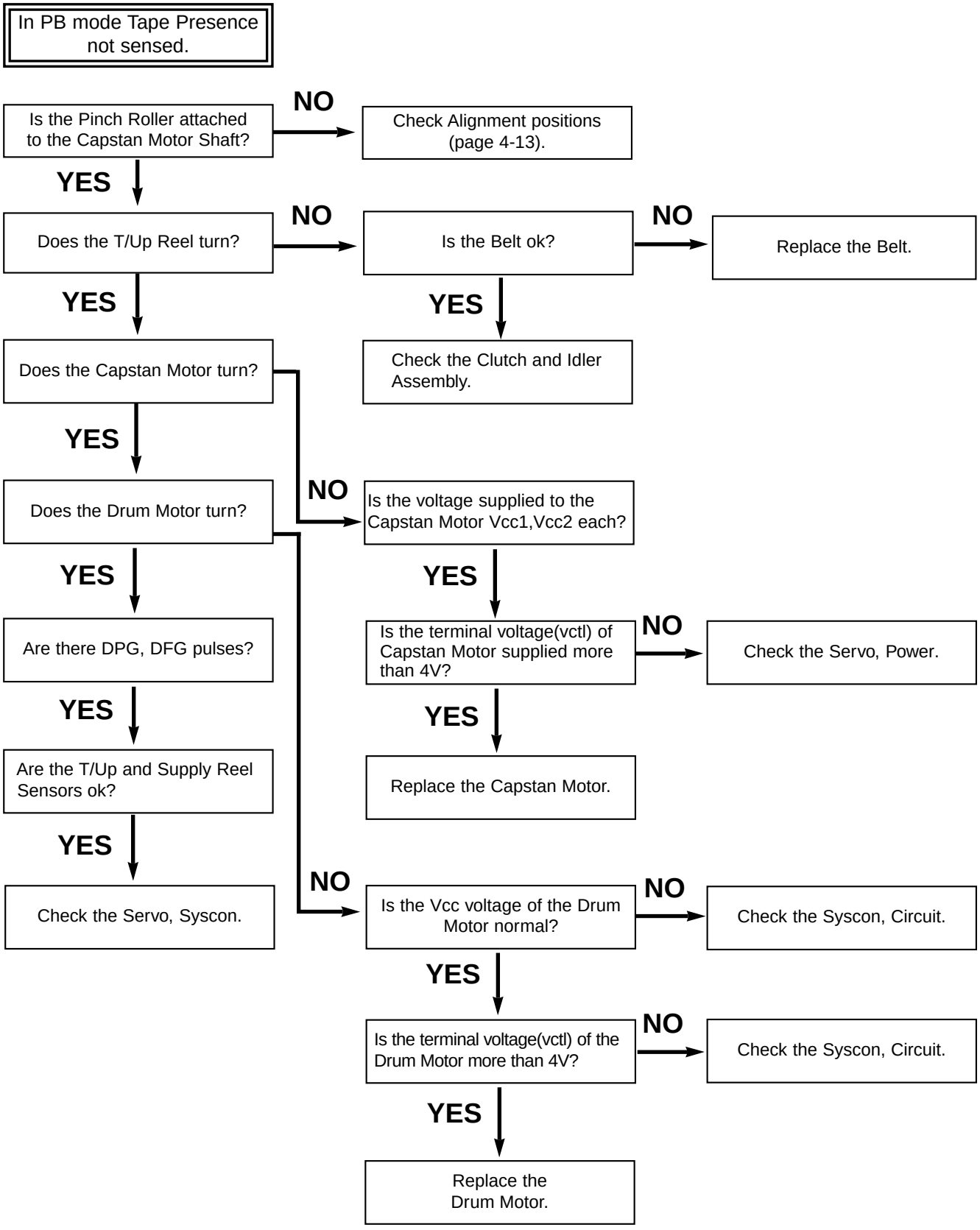
C.


AUTO STOP.
(PLAY/CUE/REV)
In Play/Cue/Rev, Is the Pinch Roller in contact with the Capstan Shaft?
Check alignment positions (page 4-13).
NO
YES
Is the output of DFG, DPG OK?
NO
Replace the Drum Motor.
YES
Are there T/up and Supply Reel pulses.
NO
Check the Servo, Syscon.
YES
Check the Syscon, μ-COM.
Replace the Reel Sensor.

D.

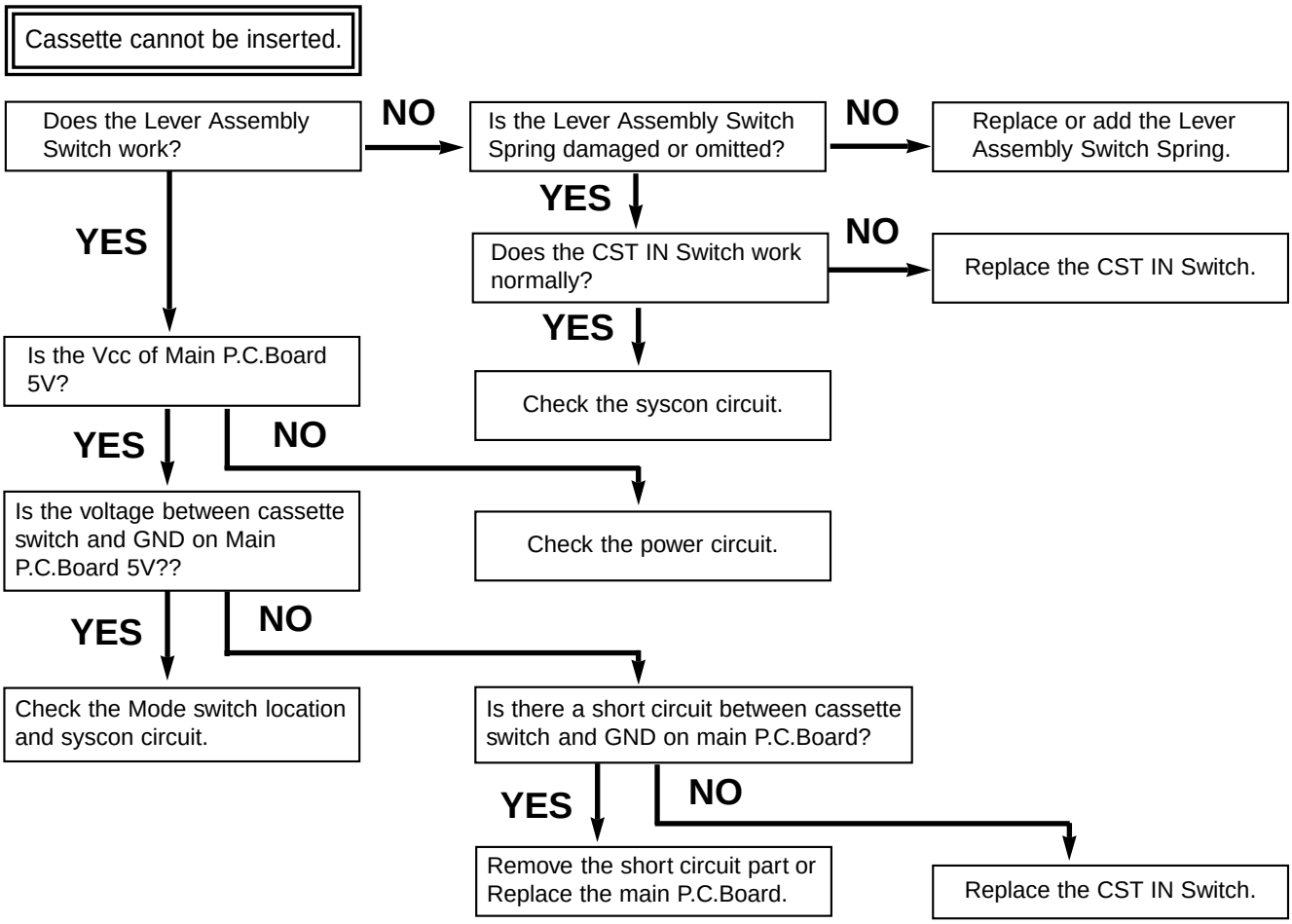

Cassette doesn't load.
Insert the cassette.
YES
Does the Lever Assembly S/W work normally?
NO
Check Lever Assembly S/W.
YES
Is there variation for CST IN S/W Output?
(In Tape with REC Tab
"L"→"H"→"L")
(In Tape without REC Tab
"L"→"H"→"L"→"H")
NO
Does the CST IN S/W work normally?
NO
Replace the CST IN S/W
YES
YES
Check the Syscon Circuit.
NO
Check the Syscon Circuit.

E.

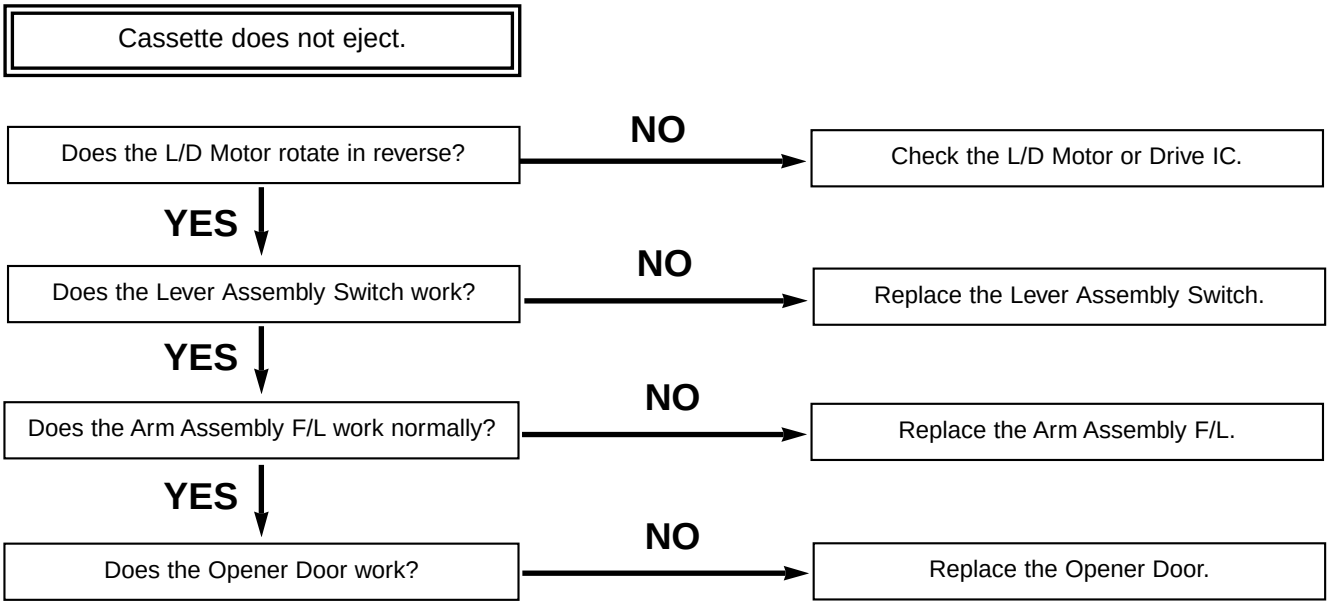

In PB mode Tape Presence not sensed.
Is the Pinch Roller attached to the Capstan Motor Shaft?
NO
Check Alignment positions (page 4-13).
YES
Does the T/Up Reel turn?
NO
Is the Belt ok?
NO
Replace the Belt.
YES
YES
Check the Clutch and Idler Assembly.
Does the Capstan Motor turn?
YES
Does the Drum Motor turn?
NO
Is the voltage supplied to the Capstan Motor Vcc1,Vcc2 each?
YES
YES
Are there DPG, DFG pulses?
Is the terminal voltage(vctl) of Capstan Motor supplied more than 4V?
NO
Check the Servo, Power.
YES
YES
Are the T/Up and Supply Reel Sensors ok?
Replace the Capstan Motor.
YES
Check the Servo, Syscon.
NO
Is the Vcc voltage of the Drum Motor normal?
NO
Check the Syscon, Circuit.
YES
Is the terminal voltage(vctl) of the Drum Motor more than 4V?
NO
Check the Syscon, Circuit.
YES
Replace the Drum Motor.

2. Front Loading Mechanism

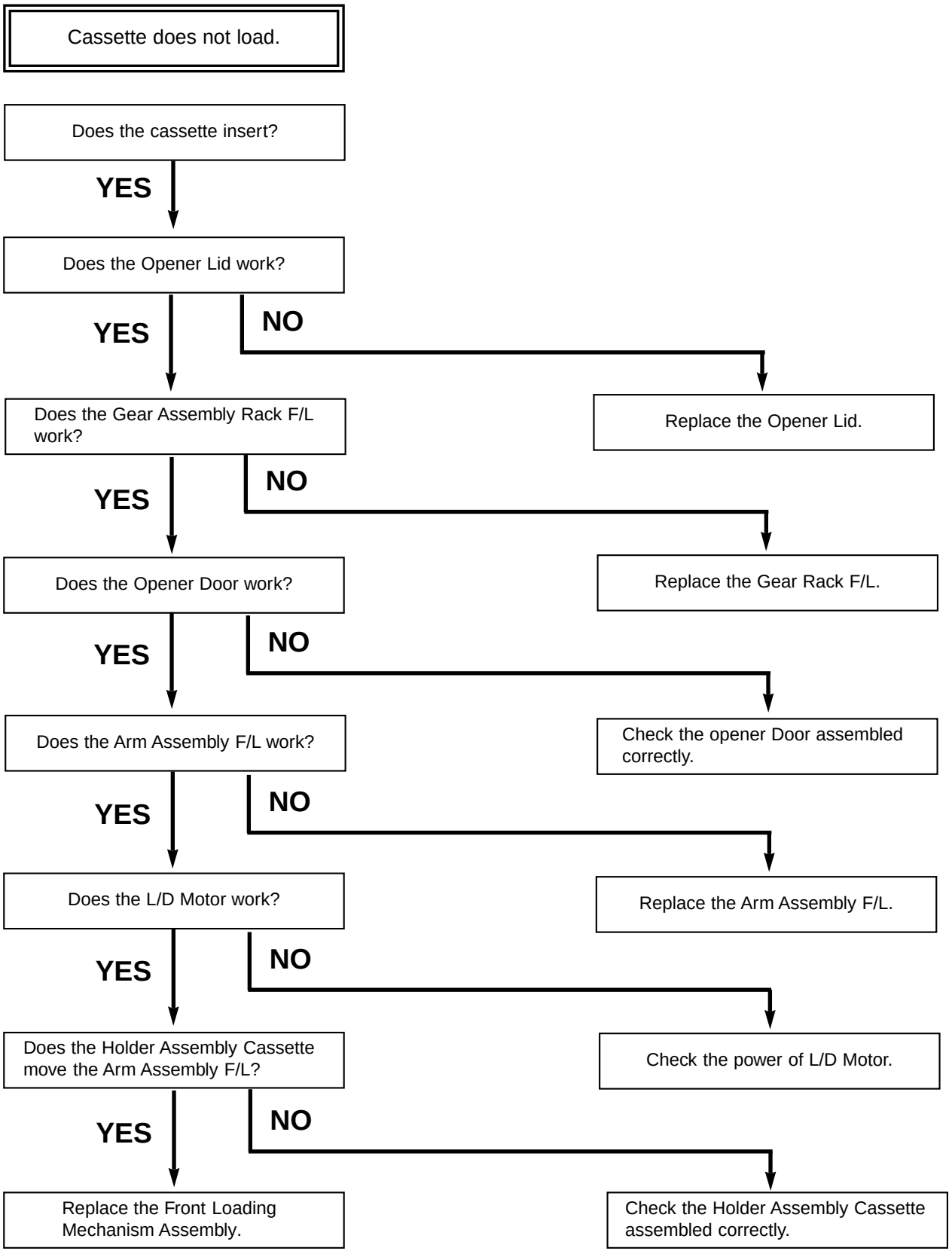
A.



B.

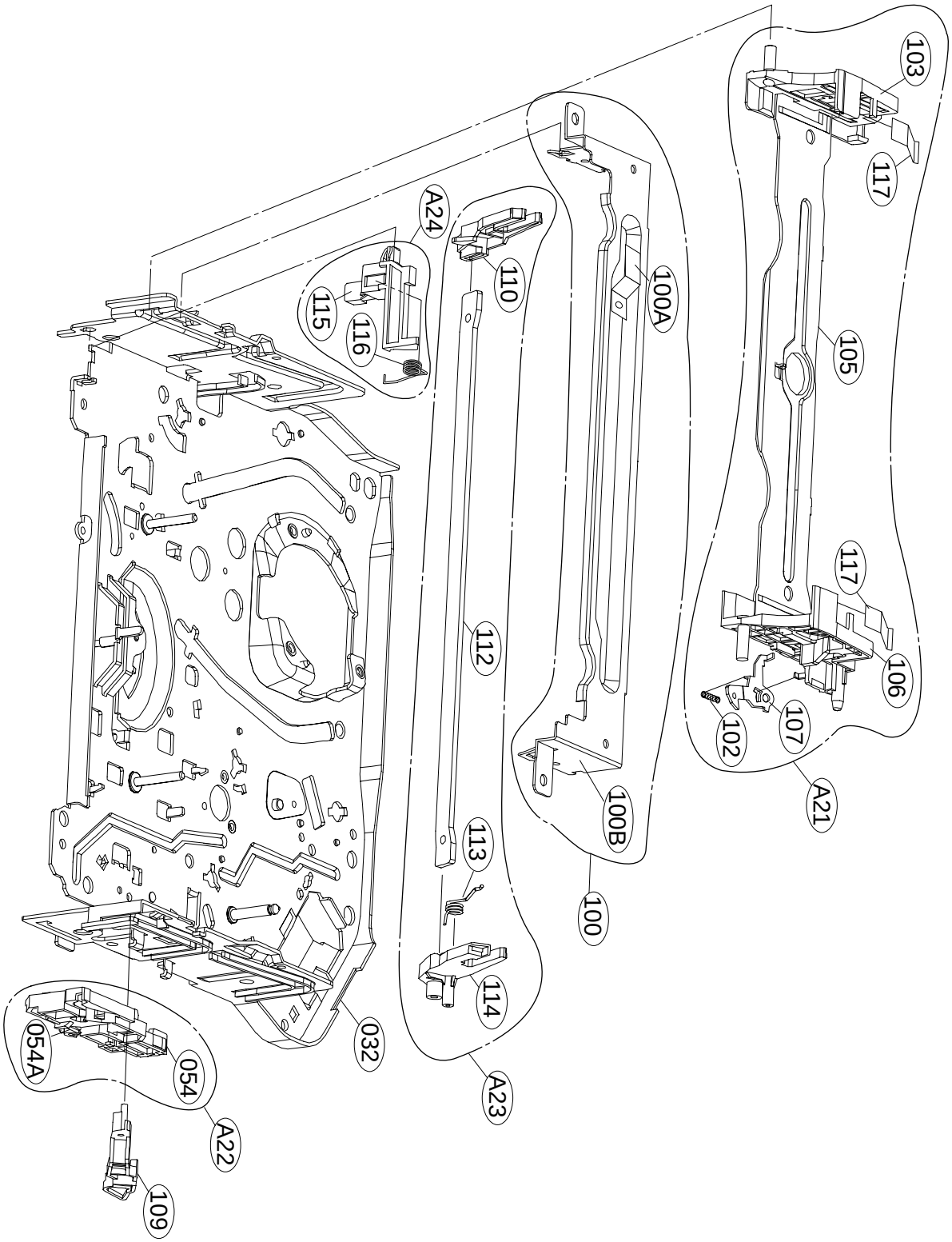


C.


Cassette does not load.
Does the cassette insert?
YES
Does the Opener Lid work?
YES
NO
Replace the Opener Lid.
Does the Gear Assembly Rack F/L work?
YES
NO
Replace the Gear Rack F/L.
Does the Opener Door work?
YES
NO
Check the opener Door assembled correctly.
Does the Arm Assembly F/L work?
YES
NO
Replace the Arm Assembly F/L.
Does the L/D Motor work?
YES
NO
Check the power of L/D Motor.
Does the Holder Assembly Cassette move the Arm Assembly F/L?
YES
NO
Check the Holder Assembly Cassette assembled correctly.
Replace the Front Loading Mechanism Assembly.

EXPLODED VIEWS

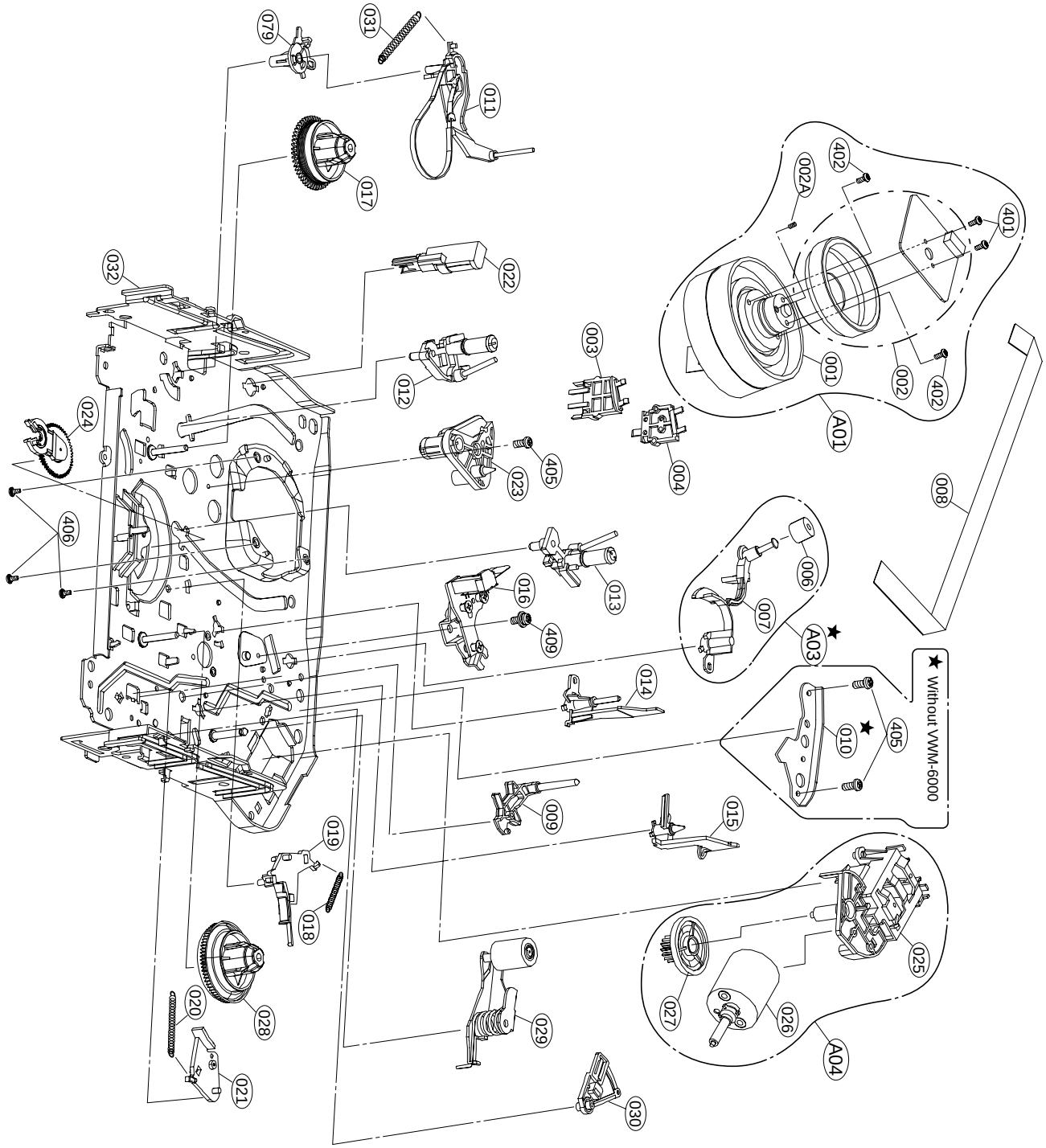
1. Front Loading Mechanism Section



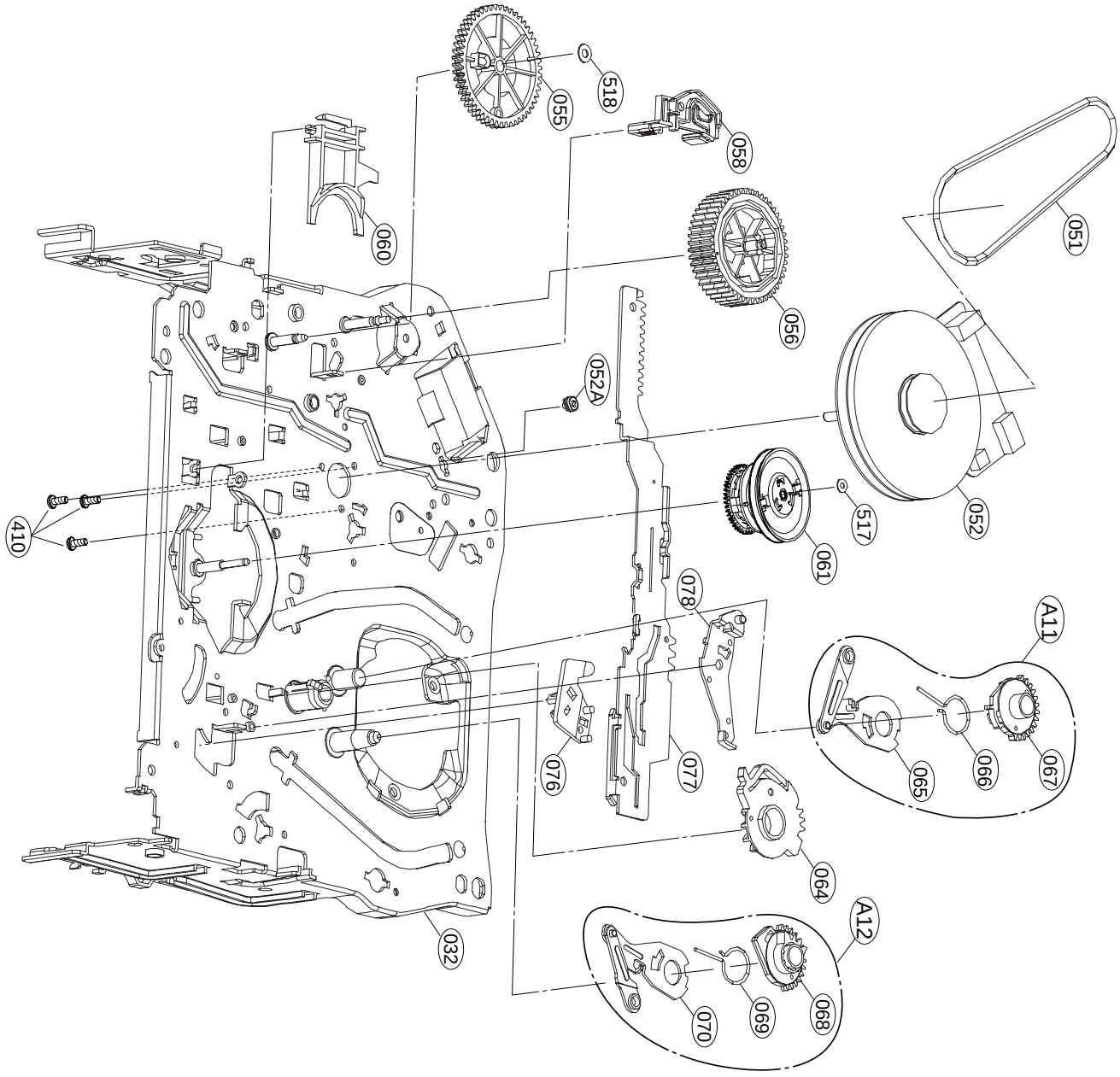
EXPLODED VIEWS

2. Moving Mechanism Section(1)

★ OPTIONAL PART



3. Moving Mechanism Section(2)



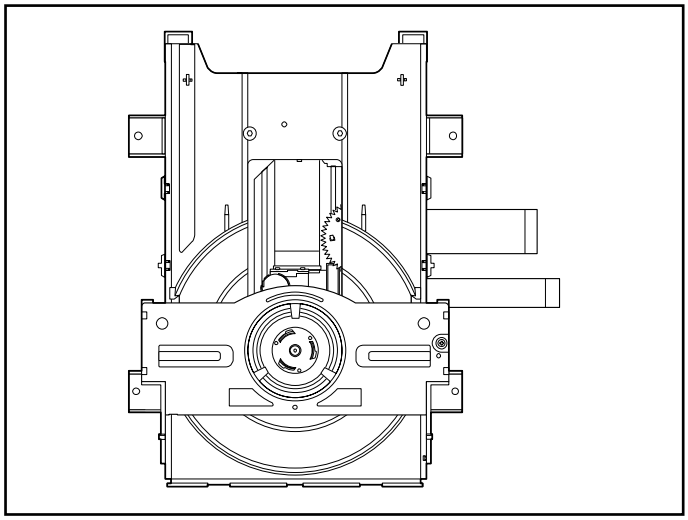
MEMO

SECTION 5 MECHANISM OF DVD PART

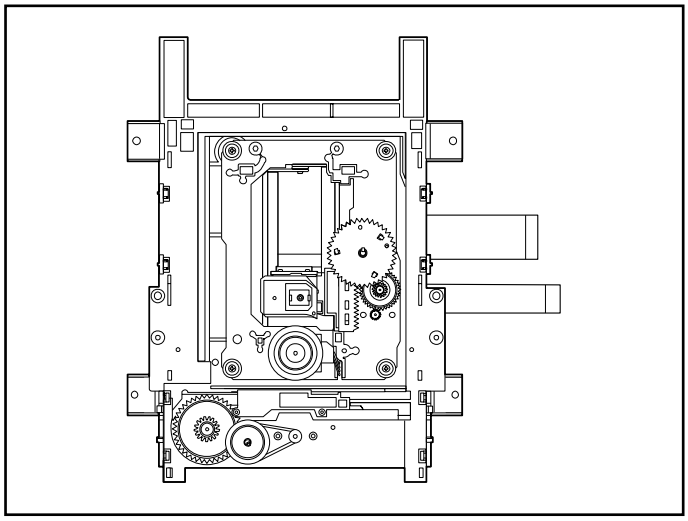
CONTENTS

DECK MECHANISM PARTS LOCATION

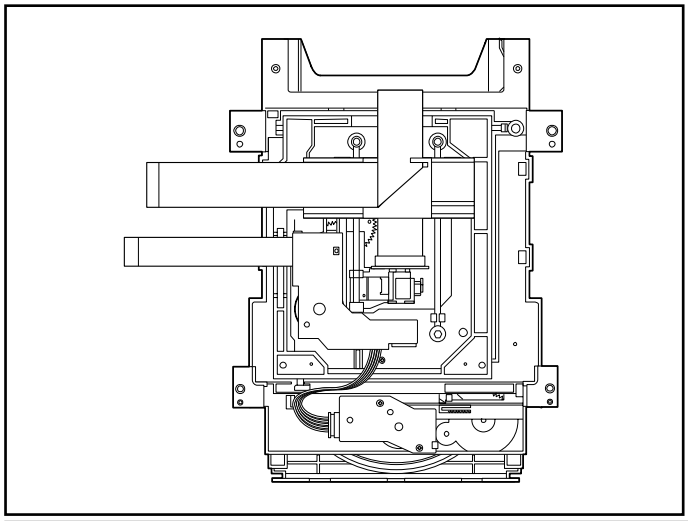
• Top View (With Tray)



• Top View (Without Tray)



• Bottom View



Procedure Starting No.		Parts	Fixing Type	Disassembly	Figure
	1	Holder Clamp	2 Screws, 2 Locking Tabs		5-1
1	2	Clamp Assembly Disc			5-1
1, 2	3	Plate Clamp			5-1
1, 2, 3	4	Magnet Clamp			5-1
1, 2, 3, 4	5	Clamp Upper			5-1
1	6	Tray Disc			5-2
1, 6	7	Base Assembly Sled			5-3
1, 2, 6	8	Gear Assembly Feed	4 Screws, 1 Connector 1 Locking Tabs		5-3
1, 2, 6, 8	9	Gear Middle			5-3
1, 2, 6, 8, 9	10	Gear Assembly Rack	1 Screw		5-3
1, 2, 7	11	Rubber Rear			5-3
1, 2, 7	12	Frame Assembly Up/Down	1 Screw	Bottom	5-4
1, 2	13	Belt Loading	1 Locking Tab		5-4
1, 2 ,13	14	Gear Pulley			5-4
1, 2, 13, 14	15	Gear Loading	1 Locking Tab		5-4
1, 2, 7, 12, 13, 14	16	Guide Up/Down			5-4
1, 2, 13	17	PWB Assembly Loading	1 Locking Tab 1 Hook 2Screw	Bottom	5-4
1, 2, 7, 12, 13, 14, 15, 16, 17	18	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.

DECK MECHANISM DISASSEMBLY

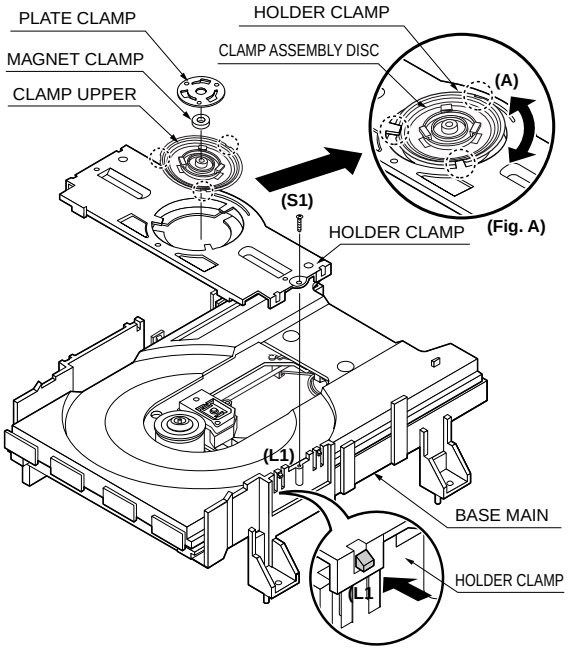


Fig. 5-1

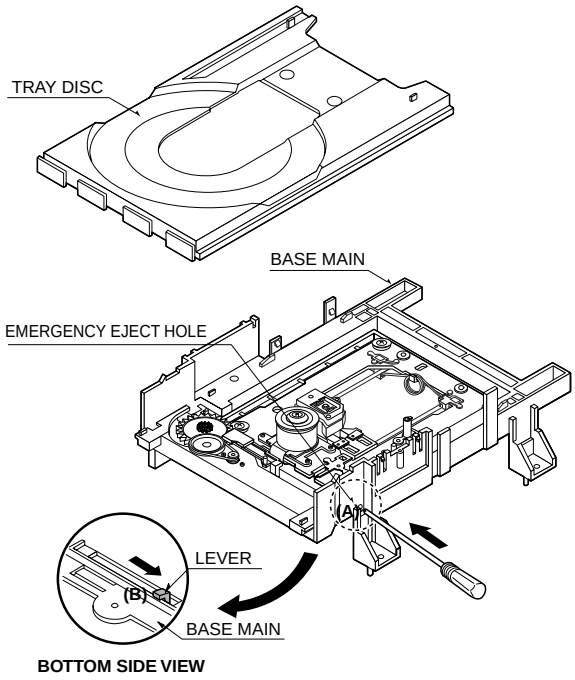


Fig. 5-2

1. Holder Clamp (Fig. 5-1)

1) Release 1 Screws(S1).
2) Unhook 2 Locking Tabs(L1).
3) Lift up the Holder Clamp and then separate it from the Base Main.

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.

DECK MECHANISM DISASSEMBLY

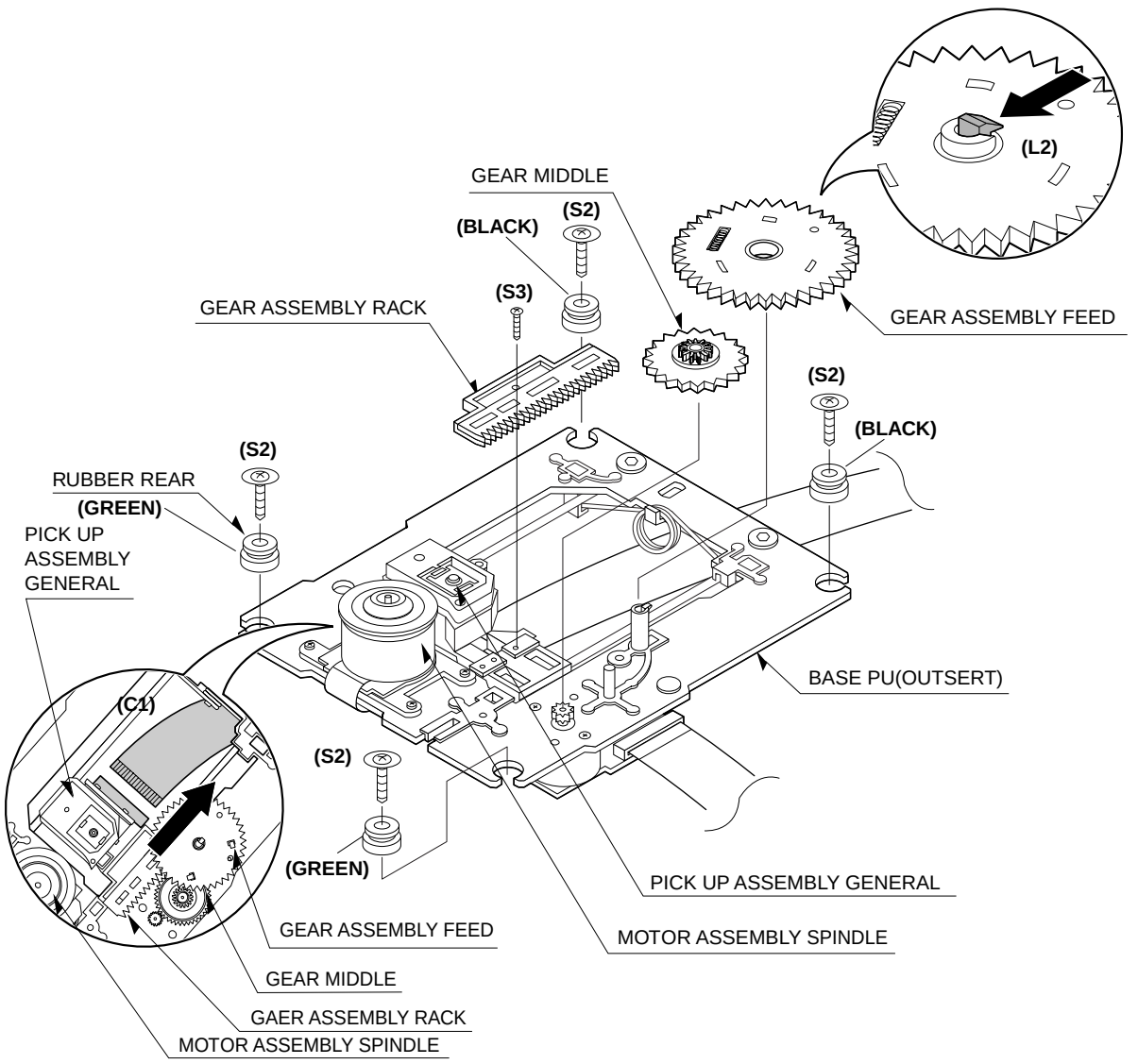


Fig. 5-3

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

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

3-1. Gear Assembly Feed

1) Unhook the Locking Tab(L2) in direction of arrow.

3-2. Gear Middle

3-3. Gear Assembly Rack

1) Release the Scerw(S3)

4. Rubber Rear (Fig. 5-3)

DECK MECHANISM DISASSEMBLY

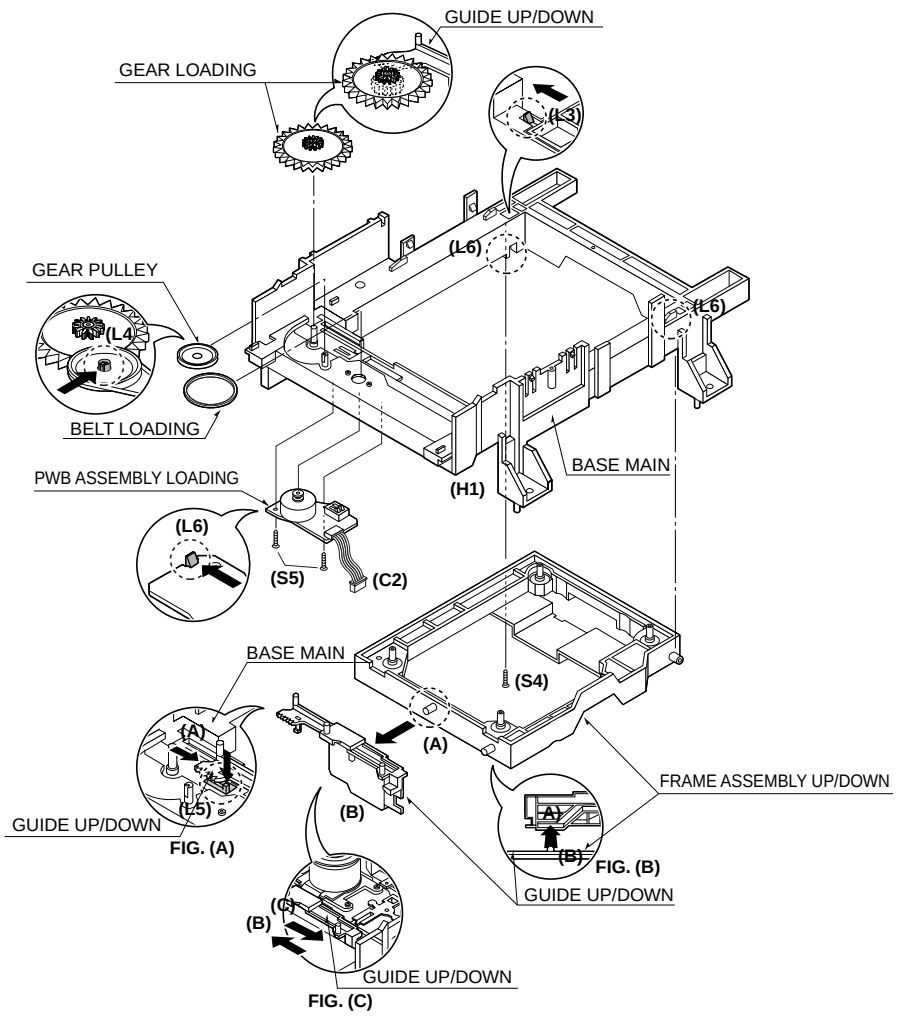


Fig. 5-4

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

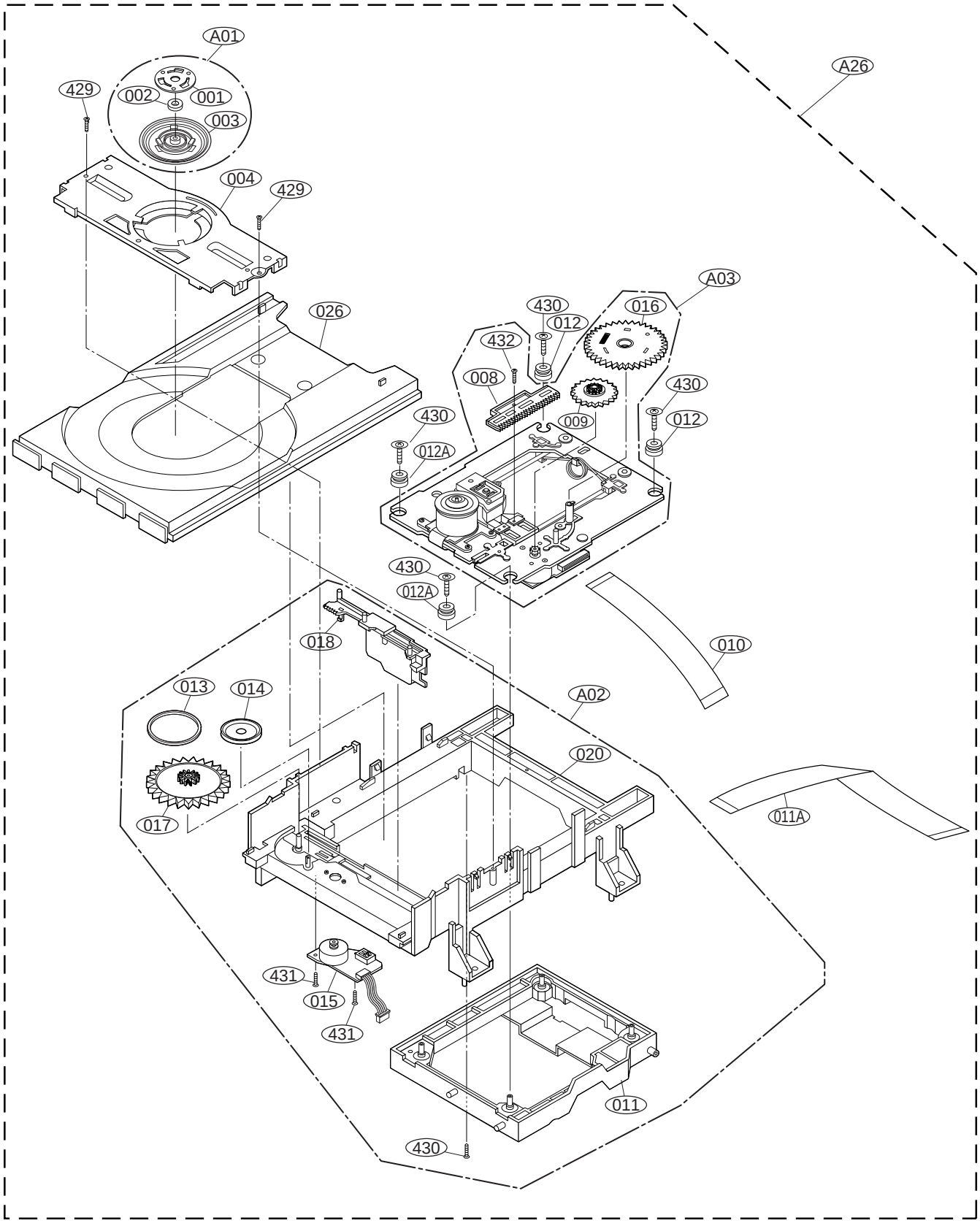
Put the Base Main face down(Bottom Side)

1) Release 2 Screws(S5)
2) Unkool the Loading Motor Connector (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)

EXPLODED VIEWS

1. Deck Mechanism Exploded View



JVC

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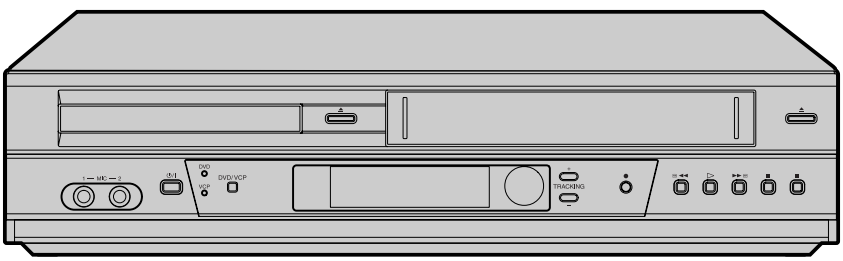
AV & MULTIMEDIA COMPANY. 12,3-chome,Moriya-cho,Kanagawa-ku,Yokohama,Kanagawa-prefecture,221-8528,Japan

Printed in Japan
0302 VP

JVC

DVD PLAYER/Hi-Fi STEREO
KARAOKE VIDEO CASSETTE PLAYER

HR-XV10AG



INSTRUCTIONS

LPT0777-001C

EN

Safety Precautions

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

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

The STANDBY/ON ⏻/I button does not completely shut off mains power from the unit, but switches operating current on and off.

This unit is produced to comply with Standard IEC 60065.

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

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

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

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

Beware of moisture condensation

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

When transporting

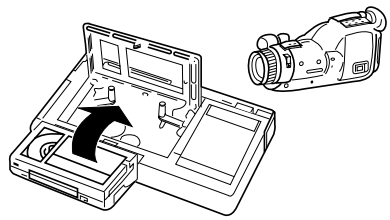
- Be sure to remove cassette from player before packing.
- Avoid violent shocks to the player during packing and transport.

Video heads cleaning

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Clean the video heads using a dry cleaning cassette or be sure to contact your nearest JVC dealer if such troubles occur.
You can check the video head status by using the Video Doctor function. See page 24.

Usable cassettes

- Compact VHS camcorder recordings can be played on this player. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.
- This player can record on regular VHS and Super VHS cassettes. However, it will record and play back regular VHS signals only. It is not possible to play back a recorded Super VHS cassette.

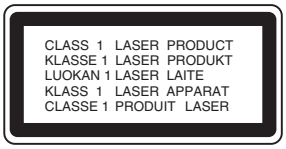


ATTENTION:
To mobile phone users:
Using a mobile phone in the vicinity of the player may cause picture vibration on the screen or change the screen to a blue back display.
On placing the player:
Some TVs or other appliances generates strong magnetic fields. Do not place such appliance on top of the player as it may cause picture disturbance.

CAUTION:

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

THE FOLLOWING CAUTION LABEL IS LOCATED ON THE REAR PANEL OF THE DVD/VCP.



WHEN THIS DVD/VCP IS PLUGGED INTO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS DVD/VCP.

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

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

Contents

Introduction

Preparation

Operation

Reference

About the symbols for instructions

⚠ Indicates hazards likely to cause harm to the unit itself or other material damage.

Indicates special operating features of this unit.

Indicates tips and hints for making the task easier.

Playable Discs

DVD VIDEO	DVD (8 cm / 12 cm disc)
COMPACT disc DIGITAL VIDEO	Video CD (VCD) (8 cm / 12 cm disc)
COMPACT disc DIGITAL AUDIO	Audio CD (8 cm / 12 cm disc)

In addition, this unit can play a CD-R or CD-RW that contains audio titles or MP3 files.

Notes

– Depending on the conditions of the recording equipment or the CD-R/RW disc itself, some CD-R/RW discs cannot be played on the unit.
– The unit cannot play the CD-R/RW discs that contain no data, or contain different kinds of formatted data other than MP3 and CD-DA data.
– Do not attach any seal or label to either side (the labeled side or the recorded side) of a disc.
– Do not use irregular shaped CDs (e.g., heart-shaped or octagonal). It may result in malfunctions.

Notes on DVDs and Video CDs

Some playback operations of DVDs and Video CDs may be intentionally fixed by software manufacturers. As this unit plays DVDs and Video CDs according to disc content designed by the software manufacturer, some playback features of the unit may not be available, or other functions may be added.
Refer also to the instructions applied with the DVDs and Video CDs. Some DVDs made for business purposes may not be played on the unit.

Regional code of the DVD player and DVDs

This DVD player is designed and manufactured for playback of region “2” encoded DVD software. The region code on the labels of some DVD discs indicates which type of player can play those discs. This unit can play only DVD discs labeled “2” or “ALL”. If you try to play any other discs, the message “Check Regional Code” will appear on the TV screen. Some DVD discs may not have a region code label even though their playback is prohibited by area limits.

Disc-related terms

Title (DVD only)

The main film content or accompanying feature content or additional feature content, or music album. Each title is assigned a title reference number enabling you to locate it easily.

Chapter (DVD only)

Sections of a picture or a musical piece that are smaller than titles.
A title is composed of one or several chapters. Each chapter is assigned a chapter number, enable you to locate the chapter you want. Depending on the disc, no chapters may be recorded.

Track (Video CD and audio CD only)

Sections of a picture or a musical piece on a video CD or an audio CD. Each track is assigned a track number, enabling you to locate the track you want.

Scene

On a video CD with PBC (Playback control) functions, moving pictures and still pictures are divided into sections called “Scenes”. Each scene is displayed in the menu screen and assigned a scene number, enabling you to locate the scene you want.
A scene is composed of one or several tracks.

Types of video CDs

There are two types of video CDs:

Video CDs equipped with PBC (Version 2.0)

PBC (Playback control) functions allow you to interact with the system via menus, search functions, or other typical computer-like operations. Moreover, still pictures of high resolution can be played if they are included in the disc.

Video CDs not equipped with PBC (Version 1.1)

Operated in the same way as audio CDs, these discs allow playback of video pictures as well as sound, but they are not equipped with PBC.

Precautions

Handling the unit

When shipping the unit
The original shipping carton and packing materials come in handy. For maximum protection, re-pack the unit as it was originally packed at the factory.

When setting the unit
The picture and sound of a nearby TV or radio may be distorted during playback. In this case, position the unit away from the TV or radio, or turn off the unit after removing the disc.

To keep the surface clean
Do not use volatile liquids, such as insecticide spray, near the unit. Do not leave rubber of plastic products in contact with the unit for a long period of time. They will leave marks on the surface.

Cleaning the unit

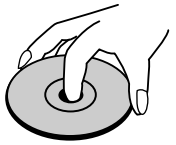
To clean the cabinet
Use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth lightly moistened with a mild detergent solution. Do not use strong solvents, such as alcohol, benzine, or thinner, as these might damage the surface of the unit.

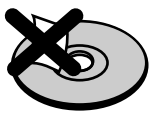
To obtain a clear picture
The DVD player is a high-tech, precision device. If the optical pick-up lens and disc drive parts are dirty or worn down, the picture quality will be poor.
Regular inspection and maintenance are recommended after every 1,000 hours of use. (This depends on the operating environment.)
For details, please contact your nearest dealer.

Notes on Discs

Handling discs

Do not touch the playback side of the disc.
Hold the disc by the edges so that fingerprints will not get on the surface.
Do not stick paper or tape on the disc.



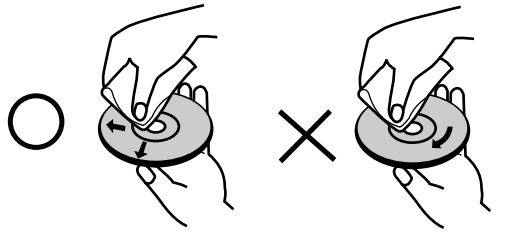


Storing discs

After playing, store the disc in its case.
Do not expose the disc to direct sunlight or sources of heat, or leave it in a parked car exposed to direct sunlight, as there may be a considerable temperature increase inside the car.

Cleaning discs

Fingerprints and dust on the disc can cause poor picture quality and sound distortion. Before playing, clean the disc with a clean cloth. Wipe the disc from the center out.



Do not use strong solvents such as alcohol, benzine, thinner, commercially available cleaners, or anti-static spray intended for older vinyl records.

About Symbols

About the ⃠ symbol display

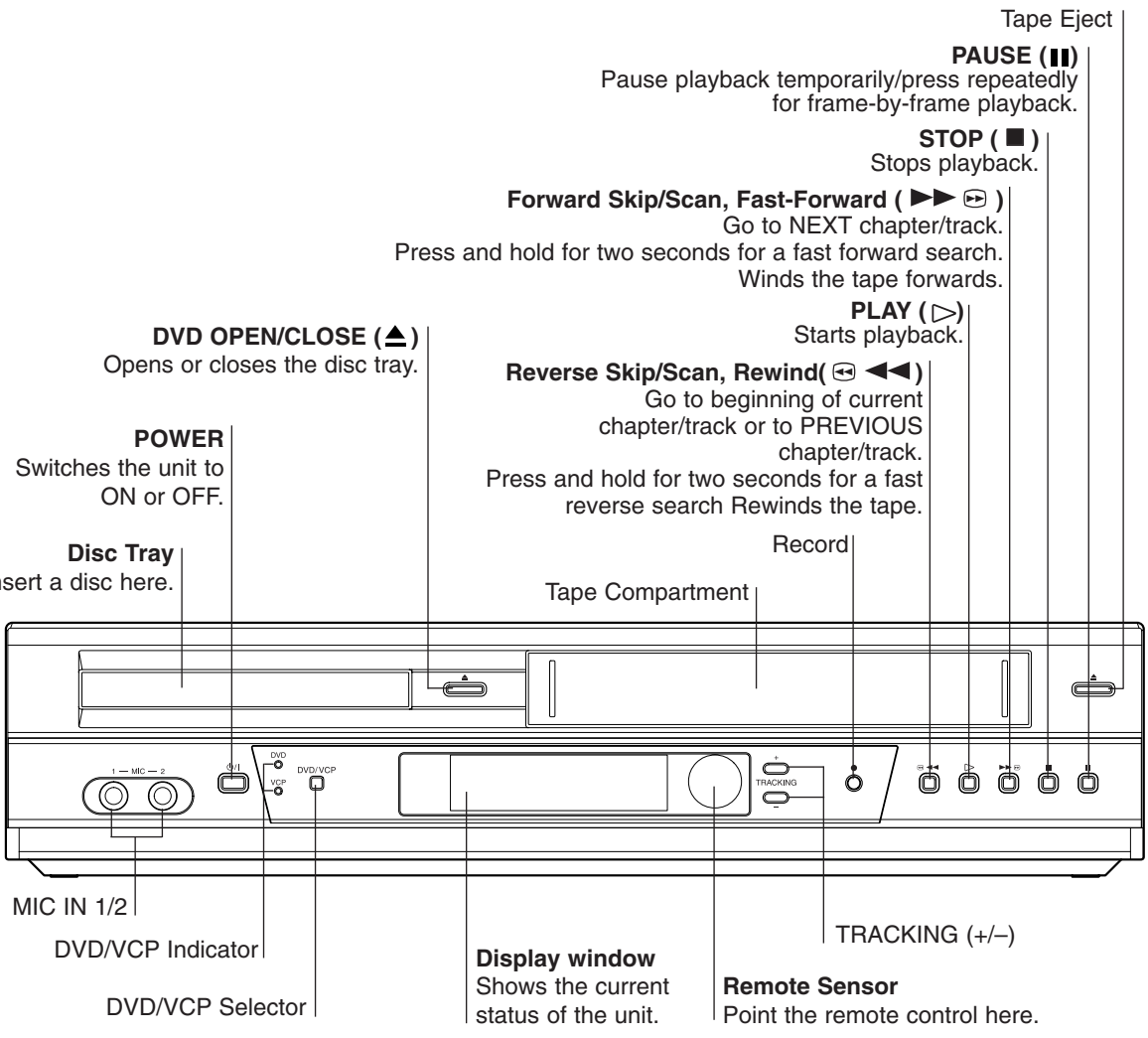
" ⃠ " may appear on the TV screen during operation. This icon means the function explained in this owner's manual is not available on that specific DVD video disc.

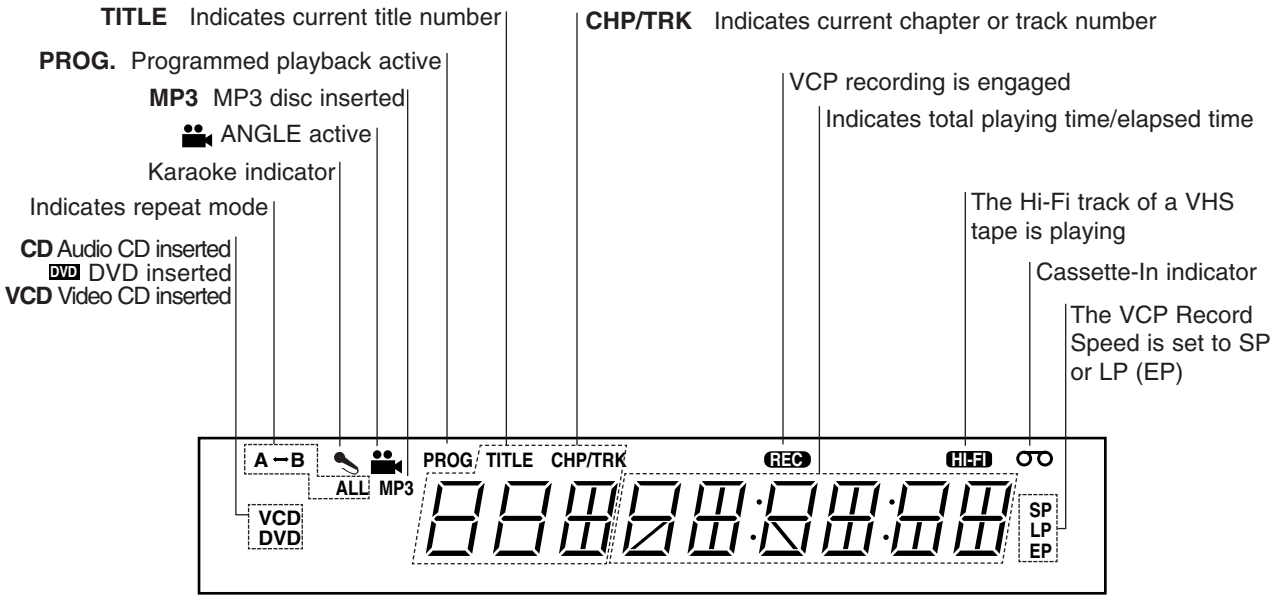
About the disc symbols for instructions

A section whose title has one of the following symbol is applicable only to the disc represented by the symbol.

- **DVD** DVD
- **VCD2.0** Video CDs with the PBC (playback control) function.
- **VCD1.1** Video CDs without the PBC (playback control) function.
- **CD** Audio CDs.
- **MP3** MP3 disc.

Front Panel and Display Window





Remote Control

DVD/VCP select button
Selects operational mode of remote control.

POWER
Switch this unit ON or OFF.

DISPLAY
COUNT
Access the On-Screen Display.
Shows you the counter.

◄ ► ▲ ▼ (left/right/up/down)
- Select an item in the menu
- Perform the Karaoke Search.

SETUP/ MENU
Access or remove setup menu.

TITLE •
Display the title menu of the disc if available.

PAUSE/STEP (❚❚) •
Pause playback temporarily / press repeatedly for frame-by-frame playback.

STOP (■) •
Stops playback.

0-9 numerical buttons
Select numbered items in a menu.

A. MONITOR •
Select an audio language (DVD) or an audio channel (CD).

SUBTITLE •
Select a subtitle language.

MARKER •
Mark any point during playback.

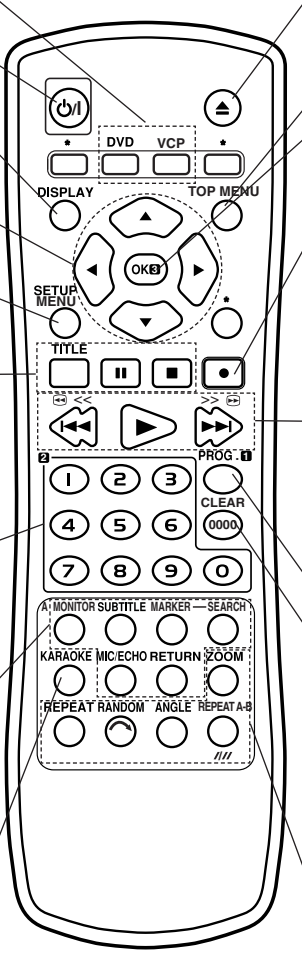
SEARCH •
Display MEMORY SEARCH menu.

MIC/ECHO •
To select the MIC/ECHO mode

RETURN •
- Remove the setup menu.
- Displays the menu of a video CD with PBC.

KARAOKE
Switch Karaoke on and off.

* Feature is not available.



OPEN/CLOSE
EJECT
- Open or close the disc tray.
- Tape Eject.

TOP MENU
Access menu of a DVD disc.

SELECT/ENTER/OK
Acknowledge menu selection.

REC
Record your input sources into tape.

• Forward SKIP/SCAN (►►I)/ Fast - Forward
- Search forward❖/ go to next chapter or track.
- Winds the tape forwards.

❖ Press and hold button for about two seconds.

• PLAY (►)
Starts playback.

• Reverse SKIP/SCAN (I◄◄)/ Rewind
- Search backward❖ / go to beginning of current chapter or track or go to previous chapter or track.
- Rewinds the tape.

❖ Press and hold button for about two seconds.

PROGRAM
Access or remove program menu.

CLEAR
- Clear a track number on the program menu or a mark on the MARKER SEARCH menu.
- Reset tape counter to zero.

• REPEAT
- Repeat chapter, track, title, all.

• RANDOM
- Play tracks in random order.
- CM Skip

• ANGLE
Select DVD camera angle if available

• REPEAT A-B/LP
- Repeat sequence.
- Select the recording speed of the tape.

• ZOOM
Enlarge video image.

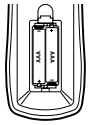
Remote Control (Cont'd)

Remote Control Operation Range

Point the remote control at the remote sensor and press the buttons.

- **Distance:** About 7 m from the front of the remote sensor
- **Angle:** About 30° in each direction of the front of the remote sensor

Remote control battery installation



Detach the battery cover on the rear of the remote control, and insert two R03 (size AAA) batteries with ⊕ and ⊖ aligned correctly.

⚠Caution

Do not mix old and new batteries. Never mix different types of batteries (standard, alkaline, etc.).

Remote A/B Code Switching

The remote control is capable of controlling two JVC units independently; one set to respond to the remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals because your unit is initially set to respond to A code signals. You can easily change your unit to respond to B code signals.

1 Press and hold **VCP** on the remote control for over 2 seconds, press the **number key "2"** and then press **OK**. The remote control now can transmit B code signals.

2 Press and hold **PLAY ►** on the unit for more than 5 seconds while the unit is turned off. The code currently set appears on the display window.

3 Press any key on the remote control. The unit will now only respond to B code signals.

𝒩 Notes

– To set the unit back to respond to A code signals, repeat the same procedure as shown above, but in step **1**, press the **number key "1"** instead of **"2"**.
– The code for the unit will be back to respond A code signals once you disconnect the AC power cord.

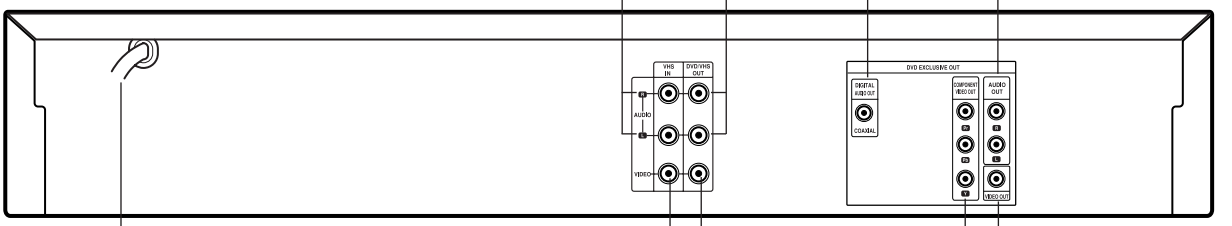
Rear Panel

AUDIO OUT (Left/Right)
Connect to an amplifier, receiver or stereo system.

COAXIAL (Digital audio out jack)
Connect to digital (coaxial) audio equipment.

AUDIO OUT L/R (Both DVD and VHS out)
Connect to an amplifier, receiver or stereo system.

AUDIO IN L/R (VHS IN)
Receive the audio signals from an external source to VCP.



AC Power Cord
Connect to a power source.

VIDEO IN (VHS IN)
Receive the video signals from an external source to VCP.

VIDEO OUT (Both DVD and VHS out)
Connect to a TV with video inputs.

COMPONENT VIDEO OUT (Y Pb Pr) (DVD OUT)
Connect to a TV with Y Pb Pr inputs.

VIDEO OUT
Connect to a TV with video inputs.

⚠

Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.

Tips

- Depending on your TV and other equipment you wish to connect, there are various ways you could connect the unit.
- Please refer to the manuals of your TV, Stereo System or other devices as necessary to make the best connections.
- For better sound reproduction, connect this unit's AUDIO OUT jacks to the audio in jacks of your amplifier, receiver, stereo or audio/video equipment. See "Connecting to optional equipment" on page 12.

Caution

– Make sure this unit is connected directly to the TV. Set the TV to the correct video input channel.
– Do not connect this unit's AUDIO OUT jack to the phono in jack (record deck) of your audio system.

Connecting to a TV

- Make one of the following connections, depending on the capabilities of your existing equipment.
- When using the COMPONENT VIDEO OUT jacks, set TV's INPUT to COMPONENT VIDEO.

Basic connection (AV)

1 Connect the VIDEO OUT jack on this unit's DVD/VHS OUT to the video in jack on the TV using the video cable supplied.

2 Connect the Left and Right AUDIO OUT jacks of this unit's DVD/VHS OUT to the audio left/right in jacks on the TV using the supplied audio cables.

Component Video (Color Stream®) connection (for DVD)

1 Connect the COMPONENT VIDEO OUT jacks on the unit to the corresponding in jacks on the TV using an optional Y Pb Pr cable.

2 Connect the Left and Right AUDIO OUT jacks of the unit to the audio left/right in jacks on the TV using the audio cables.

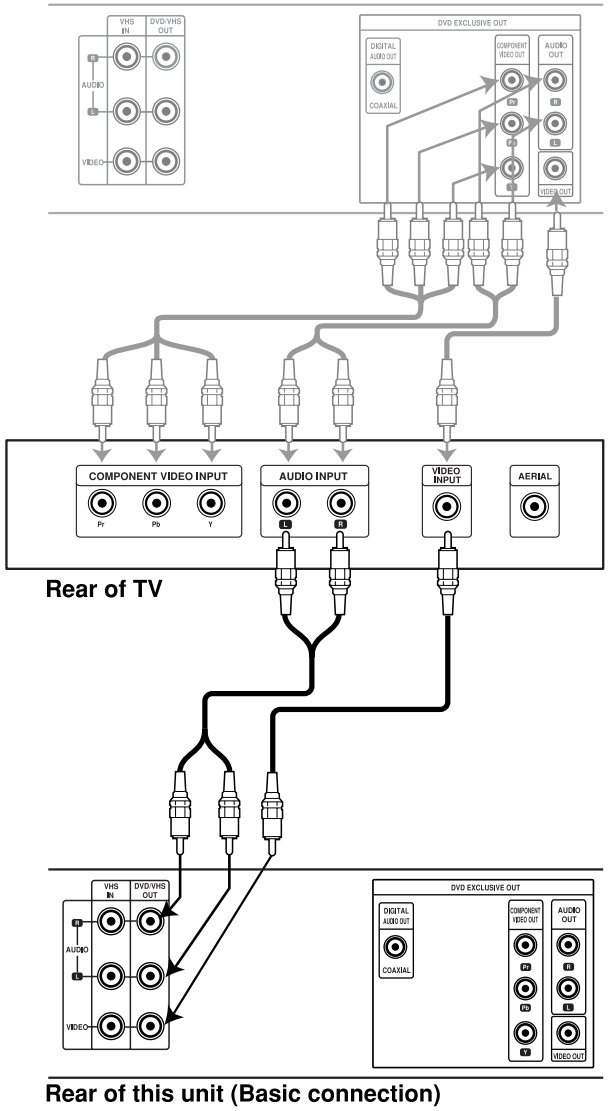
DVD exclusive out connection

- You can only watch the DVD playback.

1 Connect the VIDEO OUT jack on this unit's DVD EXCLUSIVE OUT to the video in jack on the TV using the video cable.

2 Connect the Left and Right AUDIO OUT jacks of this unit's DVD EXCLUSIVE OUT to the audio left/right in jacks on the TV using the audio cables.

Rear of this unit (DVD exclusive out connection)



Rear of TV

Rear of this unit (Basic connection)

Connecting to Optional Equipment

Connecting to an amplifier equipped with two channel analog stereo or Dolby Surround

Connect the Left and Right AUDIO OUT jacks on this unit to the audio left and right in jacks on your amplifier, receiver or stereo system, using the audio cables.

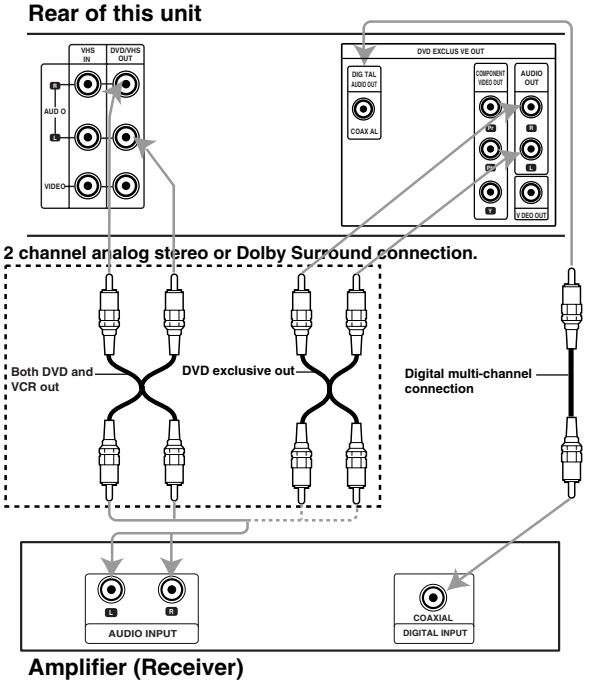
Connecting to an amplifier equipped with two channel digital stereo (PCM) or to an Audio/ Video receiver equipped with a multi-channel decoder (Dolby Digital™, MPEG 2 or DTS)

1. Connect this unit's DIGITAL AUDIO OUT jack (COAXIAL) to the corresponding in jack on your amplifier. Use an optional coaxial audio cable.
2. You will need to activate this unit's digital output. (See "Digital Audio Output" on page 16).

Digital Multi-channel sound

A digital multi-channel connection provides the best sound quality. For this you need a multi-channel Audio/Video receiver that supports one or more of the audio formats supported by your unit (MPEG 2, Dolby Digital and DTS). Check the receiver manual and the logos on the front of the receiver.

Warning:
Due to the DTS Licensing agreement, the digital output will be in DTS digital out when DTS audio stream is selected.



Notes

– If the audio format of the digital output does not match the capabilities of your receiver, the receiver will produce a strong, distorted sound or no sound at all.
– To see the audio format of the current DVD in the On-Screen Display, press **A. MONITOR**.

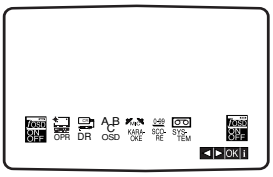
How to using the main menu

This VCP can easily be programmed by using the menus displayed on screen.
The menus are controlled from the Remote Control Handset.

1 Switch on your TV set and video player by pressing ⏻/I.

2 Press **VCP**.

3 Press **MENU**.
The main menu will appear on the TV screen.



- **F.OSD ON/OFF -** To switch the display of operational mode of your VCP ON or OFF (see p 24).
- **OPR -** To improve the playback picture (see p 18).
- **DR -** To check a problem with your VCP (see p 24).
- **ABC OSD -** To change the language setting for OSD.
  You can select the language between English and Russian.
- **KARAOKE -** To switch on or off Karaoke & Karaoke Search (see p 26).
- **SCORE -** To display the score your song when you Karaoke (see p 26).
- **SYSTEM -** Select the colour system used for playback and recording.
  The system is changed as shown below. (Refer to the right for more information.)
  *If you want to record NTSC signals, press **OK** and select between NTSC 3.58 and NTSC 4.43.

Source	Mode	System Change
PAL/ MESECAM	Recording	AUTO → PAL→ MESECAM
	Playback	AUTO → PAL→ MESECAM
NTSC	Recording	NTSC3.58 → NTSC4.43*
	Playback	NTSC-PB → NTSC3.58 → NTSC4.43

4 Press ◀ and ▶ to select the option to change, then Press **OK** to change the setting and press ◀ and ▶ to select the sub menu.

5 Press **MENU** to remove the menu screen.

To set the colour system

If streaks appear during playback, set colour system manually to conform to the system that the tape was recorded in. (Normally set the switch to AUTO.)

If your tape was recorded in	Set colour system to	If your TV is
PAL	PAL	
NTSC3.58	NTSC3.58	MULTI-SYSTEM TV
	NTSC-PB	PAL TV
NTSC4.43	NTSC4.43	MULTI-SYSTEM TV
	NTSC-PB	PAL TV
MESECAM	MESECAM	MULTI-SYSTEM TV

General Explanation

This manual gives the basic instructions for operating this unit. Some DVDs require specific operation or allow only limited operation during playback. When this occurs, the symbol ⃠ appears on the TV screen, indicating that the operation is not permitted by this unit or is not available on the disc.

On-Screen Display

The general playback status can be displayed on the TV screen. Some items can be changed on the menu.

On-screen display operation

1 **Press DISPLAY during playback.**

2 **Press ▲ or ▼ to select an item.**
The selected item will be highlighted.

3 **Press ◄ or ► to change the setting of an item.**
The number buttons can be also be used for setting numbers (e.g., title number). For some functions, press **OK** to execute the setting.

Temporary Feedback Field Icons

- TITLE — Repeat Title
- CHAPT — Repeat Chapter
- TRACK — Repeat Track (non-PBC Video CDs only)
- ALL — Repeat All Tracks (non-PBC Video CDs only)
- A B — Repeat A-B
- OFF — Repeat Off
- Resume play from this point
- ⃠ — Action prohibited or not available

Notes

– Some discs may not provide all of the below On-Screen Display.
– If no button is pressed for 10 seconds, the On-Screen Display disappears.

DVD

Items		Function (Press ▲/▼ to select desired item)	Selection Method
Title Number	1/3	**Shows the current title number and total number of titles, and** skips to the desired title number.	◄ / ►, or Numbers, **OK**
Chapter Number	1/12	**Shows the current chapter number and total number of chapters, and** skips to the desired chapter number.	◄ / ►, or Numbers, **OK**
Time search	0:16:57	**Shows the elapsed playing time, and** searches the point by the elapsed time directly.	Numbers, **OK**
Audio language and Digital Audio Output mode	1 ENG DD 5.1 CH	**Shows the current audio soundtrack language, encoding method, and channel number, and** changes the setting.	◄ / ►
Subtitle language	OFF	**Shows the current subtitles language, and** changes the setting.	◄ / ►
Angle	1/1	**Shows the current angle number and total number of angles, and** changes the angle number.	◄ / ►
Sound	NORM.	**Shows the current sound mode, and** changes the setting.	◄ / ►

VCD2.0 **VCD1.1**

Items		Function (Press ▲/▼ to select desired item)	Selection Method
Track Number	1/4	**Shows the current track number, total number of tracks and PBC On mode, and** skip to the desired track number.	◄ / ►, or Numeric, **OK**
Time	0:16:57	**Shows the elapsed playing time (Display only)**	–
Audio Channel	STER.	**Shows the audio channel, and** changes the audio channel.	◄ / ►
Sound	NORM.	**Shows the current sound mode, and** changes the setting.	◄ / ►

Initial Settings

You can set your own Personal Preferences on this unit.

Initial Settings General Operation

1 **Press SETUP.**
The setup menu appears.

2 **Press ▲/▼ to select the desired item.**
The screen will show the current setting for the selected item, as well as alternate setting(s).

3 **While the desired item is selected, press ▶, then ▲/▼ to select the desired setting.**

4 **Press OK to confirm your selection.**
Some items require additional steps.

5 **Press SETUP, RETURN or PLAY ▶ to exit the setup menu.**

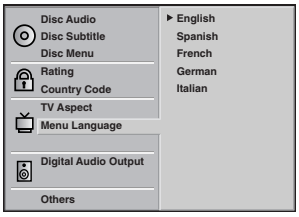
Language

Disc Language DVD

Select a language for the disc's Menu, Audio and Subtitle.
Original : The original language set for the disc is selected.
Other : To select another language, press number buttons to enter the corresponding 4-digit number according to the language code list on page 29. If you enter the wrong language code, press **CLEAR**.

Menu Language

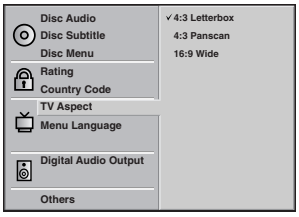
Select a language for the setup menu. This is the menu you see when you press **SETUP**.



Picture

TV Aspect DVD

4:3 Letterbox: Select when a standard 4:3 TV is connected. Displays theatrical images with masking bars above and below the picture.
4:3 Panscan: Select when a standard 4:3 TV is connected. Displays pictures cropped to fill your TV screen. Either sides of the picture are cut off.
16:9 Wide: Select when a 16:9 wide TV is connected.



Sound

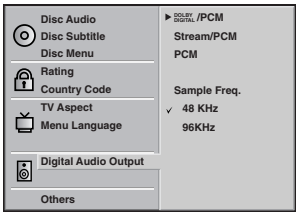
Digital Audio Output

Each DVD disc has a variety of audio output options. Set this unit's Digital Audio Output according to the type of audio system you use.

DOLBY DIGITAL/PCM: Select "DOLBY DIGITAL/PCM" if you connected this unit's DIGITAL OUT jack to a Dolby Digital decoder (or an amplifier or other equipment with a Dolby Digital decoder).

Stream/PCM: Select "Stream/PCM" if you connected this unit's DIGITAL OUT jack to an amplifier or other equipment with a DTS decoder, Dolby Digital decoder or MPEG decoder.

PCM: Select when connected to a 2 channel digital stereo amplifier. This unit outputs sounds in the PCM 2ch format when you play a DVD video disc recorded on the Dolby Digital, MPEG1 or MPEG2 recording system.



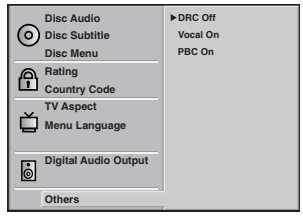
Sample Frequency

To change the Sample Frequency setting, first select the desired Digital Audio Output as indicated as above. If your receiver or amplifier is NOT capable of handling 96KHz signals, select 48KHz. When this choice is made, this unit will automatically convert any 96KHz signals to 48KHz so your system can decode them. If your receiver or amplifier is capable of handling 96KHz signals, select 96KHz. When this choice is made, this unit will pass each type of signal through without any further processing.

Others

The DRC, Vocal, and PBC settings can be changed.

- Press ▲/▼ to select the desired item and press **OK**. The setting of the selected item is changed between On and Off.



Dynamic Range Control (DRC)

With the DVD format, you can hear a program's soundtrack in the most accurate and realistic presentation possible, thanks to digital audio technology. However, you may wish to compress the dynamic range of the audio output (the difference between the loudest sounds and the quietest ones). Then, you may listen to a movie at a lower volume without losing clarity of sound. Set DRC to On for this effect.

Vocal

Set Vocal to On only when a multi-channel karaoke DVD is playing. The karaoke channels on the disc will mix into a normal stereo sound.

PBC

Set Playback Control (PBC) to On or Off.

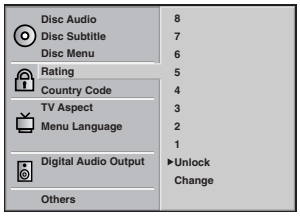
On: Video CDs with PBC are played according to the PBC.

Off: Video CDs with PBC are played the same way as Audio CDs.

Parental Control

Rating DVD

Movies on DVDs may contain scenes not suitable for children. Therefore, discs may contain Parental Control information that applies to the complete disc or to certain scenes on the disc. These scenes are rated from 1 to 8, and alternatively, more suitable scenes are available for selection on some discs. Ratings are country-dependent. The Parental Control feature allows you to prevent discs from being played by your children or to have certain discs played with alternative scenes.



1 **Select "Rating" on the Setup menu using the ▲ and ▼ buttons.**

2 **While "Rating" is selected, press ▶.**

3 **When you have not entered a password yet.**
Enter a 4-digit password using the numbered buttons to create a personal 4-digit security password, then press **OK**. Enter the 4-digit password again and press **OK** to verify.
When you have already entered a password;
Enter a 4-digit password using the numbered buttons to confirm the personal 4-digit security password, then press **OK**.

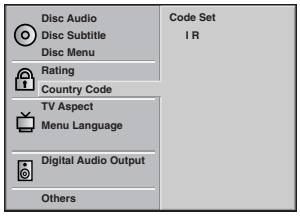
If you make a mistake before pressing **OK**, press **CLEAR** and enter 4-digit security password again.

4 **Select a rating from 1 to 8 using the ▲/▼ buttons. One (1) has the least playback restrictions. Eight (8) has the most playback restrictions.**
Unlock: *If you select Unlock, Parental Control is not active. The disc will play in full.*
Ratings 1 to 8: *Some discs contain scenes not suitable for children. If you set a rating for the player, all disc scenes with the same rating or lower will be played. Higher rated scenes will not be played unless an alternative scene is available on the disc. The alternative must have the same rating or a lower one. If no suitable alternative is found, playback will stop. You must enter the 4-digit password or change the rating level in order to play the disc.*

5 **Press OK to confirm your rating selection, then press SETUP to exit the menu.**

Country Code DVD

Enter the code of a country/area whose standards were used to rate the DVD video disc, referring to the list (See "Country Code List", page 30).



1 **Select Country Code using the ▲/▼ buttons on the setup menu.**

2 **While Country Code is selected, press ▶.**

3 **Follow step 3 of "Rating" on left.**

4 **Select the first character using the ▲/▼ buttons.**

5 **Shift the cursor using ◀/▶ buttons and select the second character using ▲/▼ buttons.**

6 **Press OK to confirm your country code selection, then press SETUP to exit the menu.**

Note
Confirmation of the 4-digit password is necessary when the code is changed (See "Changing the 4-digit code" below).

Changing the 4-digit code

1 Follow Steps 1-2 as shown above to the left (Rating).
2 Enter the old code, then press **OK**.
3 Select **Change** using the ▲/▼ buttons then press **OK**.
4 Enter the new 4-digit code, then press **OK**.
5 Enter exactly the same code a second time and verify by pressing **OK**.
6 Press **SETUP** to exit the menu.

If you forget your 4-digit code

If you forget your password, to clear the current password, follow the procedure below.

1 Press **SETUP** to display the setup menu.
2 Use the Number buttons to enter the 6-digit number "210499".
The 4-digit password is cleared.
3 Enter a new code as shown above to the left (Rating).

Playing a tape

You will only be able to load and eject video cassettes when your VCP is plugged into the mains.
Your VCP may also playback recordings from NTSC tapes (on PAL TV).

Getting a better picture
When a cassette is inserted and playback started, the automatic tracking function works to get the best possible picture automatically. If the quality of the recording is poor, repeatedly press ▲ or ▼ on the remote control to manually adjust the tracking until any distortions have been removed. Press numbered **0** on the remote control to switch automatic tracking back on again.

1 Make sure that you have correctly connected your VCP as described earlier in this book.
Turn on your TV.
Press ⏻/I to turn on your VCP.
Insert the video cassette into your VCP.
The video cassette should have the window side facing up and the arrow facing away from you.

2 Press **PLAY** ▶ to start playing your tape.
If you load a video cassette which has had its record protection tab removed, playback of the cassette will start automatically.

AUTO TRACKING
Your VCP will automatically adjust the tracking to give the best picture quality.

3 Press **II** to still a picture.
Press **II** repeatedly to advance the tape frame by frame.
If you hold down ▶▶I , the picture will be slowed down at about 1/19 times the normal playback.
Tapes can be paused for up to 5 minutes. After 5 minutes your VCP will stop the tape to prevent damaging the tape or your VCP .
Still picture quality can be improved slightly by pressing ▲ or ▼.

4 Press **PLAY** ▶ to continue playing your tape.
Picture search:
During playing back press either ▶▶I or I◀◀ to this will enable you to rapidly wind the tape (7 times normal playback) see where you are on the tape.

Logic search:
During fast forwarding or rewinding press and hold ▶▶I or I◀◀ the picture will be played back at 7 times normal playback speed.

5 Press ■ to end playback.
Press ⏏ .
If the end of the tape is reached, your VCP will stop playback automatically, rewind, stop, eject the tape.

CM (Commercial Message) Skip

This feature enables you during playback of a tape to skip a commercial break in a few seconds, then resume normal playback.
While tape is playing press ⟳ on the remote control to skip commercial (or another programme material).
Repeatedly press ⟳ to skip :
1 press : 30 seconds
2 press : 60 seconds
3 press : 90 seconds
4 press : 120 seconds
5 press : 150 seconds
6 press : 180 seconds

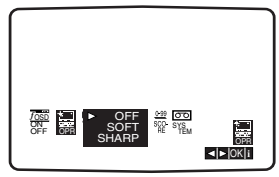
OPR (Optimum Picture Response)

This feature automatically improves playback picture quality by adjusting your VCP to the condition of the tape.
Please note you may only set OPR when playing a tape.

1 Press **MENU**.

2 Press ◀ or ▶ to select OPR.

3 Press **OK**.



4 Press ◀ or ▶ repeatedly to select: **OFF**, **SOFT** or **SHARP**.

5 Press **OK.**

6 Press **MENU** to remove the menus.

Playing a DVD and Video CD

Playback Setup DVD VCD2.0 VCD1.1

- Turn on the TV and select the video input source connected to the DVD player.
- Audio system: Turn on the audio system and select the input source connected to the DVD player.

1 **Press ⏏ to open the disc tray.**

2 **Load your chosen disc in the tray, with the label facing up.**
When a double-sided DVD is inserted, make sure the side you want to play is facing up.

3 **Press ⏏ to close the tray.**
READING appears on the TV screen, and playback starts automatically. If playback does not start, press **PLAY ▶**.
In some cases, the disc menu might appear instead.

If a menu screen is displayed

The menu screen may be displayed first after loading a DVD or Video CD which contains a menu.

DVD

Use the ◀ ▶ ▲ ▼ buttons to select the title/chapter you want to view, then press **OK** to start playback. Press **TITLE** or **TOP MENU** to return to the menu screen.

VCD2.0

- Use the number buttons to select the track you want to view.
  Press **RETURN** to return to the menu screen.
- Menu setting and the exact operating procedures for using the menu may differ depending on the disc. Follow the instructions on the each menu screen. You also may set PBC to Off under setup. See page 16.

Notes

– If Parental Control is set and the disc is not within the Rating settings (not authorized), the 4-digit code must be entered and/or the disc must be authorized (see "Parental Control", on page 17).
– DVDs may have a region code.
– Your player will not play discs that have a region code different from your player. The region code for this player is 2 (two).
– If you load a video cassette which has had its record protection tab removed during playing the DVD, the mode will be switched to VCP automatically.

General Features

Note

Unless stated otherwise, all operations described use the remote control. Some features may also be available on the Setup menu.

Moving to another TITLE DVD

T 1/3

When a disc has more than one title, you can move to another title as follows:

- Press **DISPLAY** when playback is stopped, then press the appropriate numbered button (0-9) to select a title number.

Moving to another CHAPTER/TRACK

DVD VCD1.1 C 1/12 T 1/3

When a title on a disc has more than one chapter or a disc has more than one track, you can move to another chapter/track as follows:

- Press I◀◀ or ▶▶I briefly during playback to select the next chapter/track or to return to the beginning of the current chapter/track.
- Press I◀◀ twice briefly to step back to the previous chapter/track.
- To go directly to any chapter during DVD playback, press **DISPLAY**. Then, press ▲/▼ to select C (chapter) (or for a Video CD, select T for track). Then, enter the chapter/track number using the numbered buttons (0-9).

Note

For two-digit numbers, press the buttons in rapid succession.

Slow Motion DVD VCD2.0 VCD1.1

1 Press I◀◀ or ▶▶I during pause.
The player will enter SLOW mode.
2 Use the I◀◀ or ▶▶I to select the required speed: ◀❚1/16, ◀❚ 1/8, ◀❚ 1/4 or ◀❚ 1/2 (backward), or ❚▶ 1/16, ❚▶ 1/8, ❚▶ 1/4 or ❚▶ 1/2 (forward).
3 To exit slow motion mode, press **PLAY ▶**.

Note

Slow motion playback in reverse is not applicable for Video CD.

General Features (continued)

Still Picture and Frame-by-frame playback
DVD VCD2.0 VCD1.1

1 Press II during playback.
The player will now go into PAUSE mode.
2 You can advance the picture frame-by-frame by pressing II repeatedly on the remote control.

Search DVD VCD2.0 VCD1.1

1 Press and hold I◄◄ or ►►I for about two seconds during playback.
The player will now go into SEARCH mode.
2 Press and hold I◄◄ or ►►I repeatedly to select the required speed: ◄◄X2, ◄◄X4, ◄◄X16, ◄◄X100 (backward) or ►►X2, ►►X4, ►►X16, ►►X100 (forward).
With a Video CD, the Search speed changes: ◄◄X2, ◄◄X4, ◄◄X8 (backward) or ►►X2, ►►X4, ►►X8 (forward).
3 To exit SEARCH mode, press **PLAY** ►.

Random Karaoke DVD VCD1.1

1 Press **RANDOM** during playback or in stop mode.
The unit automatically begins Random Playback and "RANDOM" appears on the TV screen.
2 To return to normal playback, press **RANDOM** again until "NORMAL" appears on the TV screen.

Tips

By pressing I◄◄ or ►►I during Random playback, the unit selects another title (track) and resumes Random playback.

Note

This function only works with DVD Karaoke discs and video CD without PBC.

Repeat DVD VCD2.0 VCD1.1

DVD Video Discs - Repeat Chapter/Title/Off

1 To repeat the currently playing chapter, press **REPEAT**.
The Repeat Chapter icon appears on the TV screen.
2 To repeat the title currently playing, press **REPEAT** a second time.
The Repeat Title icon appears on the TV screen.
3 To exit Repeat mode, press **REPEAT** a third time.
The Repeat Off icon appears on the TV screen.

Video CDs - Repeat Track/All/Off

1 To repeat the track currently playing, press **REPEAT**.
The Repeat Track icon appears on the TV screen.
2 To repeat the disc currently playing, press **REPEAT** a second time.
The Repeat All icon appears on the TV screen.
3 To exit Repeat mode, press **REPEAT** a third time.
The Repeat Off icon appears on the TV screen.

Note

On a Video CD with PBC, you must set PBC to Off on the setup menu to use the Repeat function. See page 16.

Repeat A-B DVD VCD2.0 VCD1.1

To repeat a sequence in a title:

1 Press **REPEAT A-B** at your chosen starting point.
A- appears briefly on the TV screen.
2 Press **REPEAT A-B** again at your chosen end point.
A-B appears briefly on the TV screen, and the repeat sequence begins (a-b repeat appears on the player's display).
3 To cancel the sequence, press **REPEAT A-B**.

Time Search DVD

The Time Search function allows you to start playing at any chosen time on the disc.

1 Press **DISPLAY** during playback. The on-screen display appears on the screen.
The Time Search box shows the elapsed playing time of the current disc.
2 Within 10 seconds, press ▲/▼ to select the Time Search icon in the on-screen display.
The "-:--:--" appears in the Time Search box.
3 Within 10 seconds, use the number buttons to enter the required start time. Enter hours, minutes, and seconds from left to right in the box.
If you enter the wrong numbers, press **CLEAR** to remove the numbers you entered. Then enter the correct numbers.
4 Within 10 seconds, press **OK** to confirm the start time.
Playback starts from the selected time on the disc. If you enter an invalid time, playback will continue from the current point.

3D Surround DVD VCD2.0 VCD1.1

This unit can produce a 3D Surround effect, which simulates multi-channel audio playback from two conventional stereo speakers, instead of the five or more speakers normally required to listen to multi-channel audio from a home theater system.

1 Press **DISPLAY** during playback.
2 Press ▲/▼ to select "NORM." or "3D SUR".
3 Press ◄/► repeatedly until the desired sound is selected.

General Features (continued)

Zoom DVD VCD2.0 VCD1.1

The Zoom function allows you to enlarge the video image and to move through the enlarged image.

1 Press **ZOOM** during playback or still playback to activate the Zoom function.
If you press **ZOOM** repeatedly, the magnification level increases up to six times.

2 Use the ◀▶▲▼ buttons to move through the zoomed picture.

3 Press **CLEAR** to resume normal playback or return to the paused image.

Notes

– The zoom function may not work for some DVDs.
– The zoom function may not work on multi-angle scenes.

Marker Search DVD VCD2.0 VCD1.1

You can start playback from a memorized point. Up to nine points can be memorized.
To enter a mark, follow these steps.

1 During disc playback, press **MARKER** when playback reaches the spot that you want to memorize.
The Marker icon will appear on the TV screen briefly.

2 Repeat step 1 to enter up to nine Marker points on a disc.

To Recall a Marked Scene

1 During disc playback, press **SEARCH**.
The MARKER SEARCH menu will appear on the screen.

2 Within 10 seconds, press ◀/▶ to select a Marker number that you want to recall.

3 Press **OK**.
Playback will start from the Marked scene.

4 To remove the MARKER SEARCH menu, press **SEARCH**.

To clear a Marked Scene

1 During disc playback, press **SEARCH**.
The MARKER SEARCH menu will appear on the screen.

2 Press ◀/▶ to select the Marker number that you want to erase.

3 Press **CLEAR**.
The Marker number will be erased from the list.

4 Repeat steps 2 and 3 to erase additional Marker numbers.

5 To remove the MARKER SEARCH menu, press **SEARCH**.

Special DVD Features DVD

Checking the contents of DVD Video discs: Menus

DVDs may contain menus that allow you to access special features. To use the disc menu, press **TOP MENU**. Then, press the appropriate number button to select an option. Or, use the ◀/▶/▲/▼ buttons to highlight your selection, then press **OK**.

Title Menu DVD

1 Press **TITLE**.
If the current title has a menu, the menu will appear on the screen. Otherwise, the disc menu may appear.

2 The menu can list camera angles, spoken language and subtitle options, and chapters for the title.

3 To remove the title menu, press **TITLE** again.

Disc Menu DVD

1 Press **TOP MENU**.
The disc menu is displayed.

2 To remove the disc menu, press **TOP MENU** again.

Camera Angle DVD

If the disc contains scenes recorded at different camera angles, you can change to a different camera angle during playback.

- Press **ANGLE** repeatedly during playback to select a desired angle.
The number of the current angle appears on the display.

Changing the Audio Language DVD

Press **A. MONITOR** repeatedly during playback to hear a different audio language or audio track.

Subtitles DVD

Press **SUBTITLE** repeatedly during playback to see the different subtitle languages.

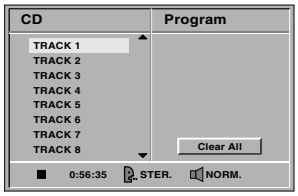
Note

If ⃠ appears, the feature is not available on the disc.

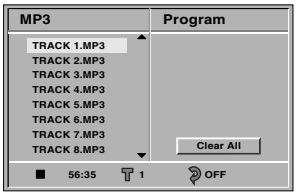
Playing an Audio CD and MP3 discs

The DVD Player can play MP3 formatted recordings on CD-ROM, CD-R, or CD-RW discs.
Before playing MP3 recordings, read the notes on MP3 Recordings on page 25.

1 Insert a disc and close the tray.
The menu appears on the TV screen.



Audio CD menu



MP3 menu

2 Press ▲/▼ to select a track then press PLAY ▶.
Playback starts.
During playback, the current track's elapsed playing time will appear on the display.
Playback will stop at the end of the disc.

3 To stop playback at any other time, press ■.

Pause CD MP3

1 Press **II** during playback.

2 To return to playback, press **PLAY ▶** or press **II** again.

Moving to another Track CD MP3

- Press I◀◀ or ▶▶I briefly during playback to go to the next track or to return to the beginning of the current track.
- Press I◀◀ twice briefly to step back to the previous track.
- In case of audio CD, to go directly to any track, enter the track number using the numbered buttons (0-9) during playback.

Repeat Track/All/Off CD MP3

1 To repeat the track currently playing, press **REPEAT**.
The Repeat Track icon appears on the menu screen.

2 To repeat all tracks on a disc, press **REPEAT** a second time.
The Repeat ALL icon appears on the menu screen.

3 To cancel Repeat mode, press **REPEAT** a third time.
The Repeat OFF icon appears on the menu screen.

Search CD

1 Press and hold I◀◀ or ▶▶I for about two seconds during playback.
The player will now go into SEARCH mode.

2 Press and hold I◀◀ or ▶▶I repeatedly to select the required speed: ◀◀X2, ◀◀X4, ◀◀X8 (backward) or ▶▶X2, ▶▶X4, ▶▶X8 (forward).

3 Search speed and direction are indicated on the menu screen.

4 To exit SEARCH mode, press **PLAY ▶**.

Random CD

1 Press **RANDOM** during playback or when playback is stopped.
The unit automatically begins Random Playback and "RAND." appears on the menu screen.

2 To return to normal playback, press **RANDOM** repeatedly until "RAND." disappears on the menu screen.

Repeat A-B CD

To repeat a sequence.

1 During disc playback, press **REPEAT A-B** at your chosen starting point.
The Repeat icon and "A -" appears on the menu screen.

2 Press **REPEAT A-B** again at your chosen end point.
The Repeat icon and "A B" appears on the menu screen, and the sequence begins to play repeatedly.

3 To exit the sequence and return to normal play, press **REPEAT A-B** again.
The Repeat icon and "OFF" appear on the menu screen.

3D Surround CD

This unit can produce a 3D Surround effect, which simulates multi-channel audio playback from two conventional stereo speakers, instead of the five or more speakers normally required to listen to multi-channel audio from a home theater system.

1 Press **DISPLAY** or **A. MONITOR** during playback.

2 Press ◀/▶ to select "NORM." or "3D SUR".

3 Press ▲/▼ repeatedly until the desired sound is selected.

Changing the Audio Channel CD

Press **A. MONITOR** repeatedly during playback to hear a different audio channel (STEREO, LEFT, or RIGHT).

Programmed Playback CD MP3 VCD2.0 VCD1.1

Programmed Playback with Audio CD and MP3 Discs

Program allows you to store your favorite tracks for a particular disc in the player memory.

Program can contain 32 tracks (Audio CD) or 60 tracks (MP3 disc).

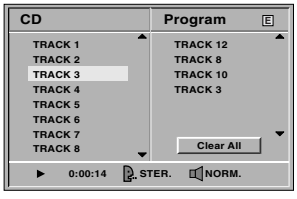
1 Insert the disc and close the tray.
The menu is displayed on the TV screen.

2 Press PROG. during playback or in the stop mode to enter the Program Edit mode.
The E mark will appear to the right of the word Program on the right side of the menu screen.

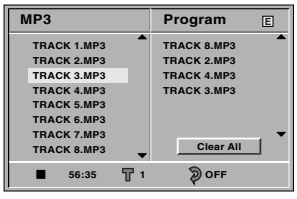
Note
Press **PROG.** to exit the Program Edit mode; the E mark will disappear.

3 Press ▲/▼ to select a track, then press OK to place the selected track on the Program list.

4 Repeat step 3 to place additional tracks on the Program list.



Audio CD menu



MP3 menu

5 Press ▶.
The programmed track you selected last is highlighted on the program list.

6 Press ▲/▼ to select the track you want to start playing.
Press **TITLE** to move to the next page.
Press **TOP MENU** to move to the previous page.

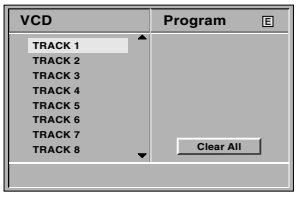
7 Press PLAY ▶ to start.
Playback begins in the order in which you programmed the tracks and "PROG." appears on the display window. Playback stops after all of the tracks on the Program list have played once.

Programmed Playback with Video CD

Note
On a Video CD with PBC, you must set PBC to Off on the setup menu to use the Program function. See page 16.

1 Insert Video CD and close the tray.

2 Press PROG. while playback is stopped.
The VCD Program menu will appear.



Note
Press **RETURN** or **PROG.** to exit the Program menu.

3 Follow steps 3-7 of "Programmed Playback with Audio CD and MP3 Disc" on left.

Repeat Programmed Tracks

- To repeat the track currently playing, press **REPEAT**.
  The Repeat Track icon appears on the menu screen.
- To repeat all tracks on the program list, press **REPEAT** a second time.
  The Repeat All icon appears on the menu screen.
- To cancel Repeat mode, press **REPEAT** a third time.
  The Repeat Off icon appears on the menu screen.

Erasing a Track from Program List

1 Press **PROG.** during playback or in the stop mode to enter the Program Edit mode.
The E mark will appear.
2 Press ▶ to move to the Program list.
3 Use ▲/▼ to select the track that you wish to erase from the Program list.
4 Press **CLEAR**.
The track will be erased from the Program list.

Erasing the Complete Program List

1 Follow steps 1-2 of "Erasing a Track from Program List" as above.
2 Use ▲/▼ to select "Clear All", then press **OK**.
The complete Program for the disc will be erased.
The programs are also cleared when the disc is removed.

To resume normal playback from programmed playback

Press and hold **PROG.** for 3 seconds until "PROG." indicator disappears in the display window.

On Screen Display

You may easily display the operating mode, tape speed. colour system, audio output channel and tape counter of your VCP on the TV screen. If a recording is taking place these On Screen Displays will not be recorded onto the tape.
Be sure to set OSD to ON.

1 Press **DISPLAY** to display.
The tape counter does not appear if there is no tape loaded.

2 After 3 seconds the majority of the On Screen Displays will clear leaving only the tape counter on the screen.
Press **DISPLAY** again to remove all displays from the TV screen.

Tape Counter Memory Stop

The **Digital Tape Counter** is displayed on the display window if there is a tape loaded. The Digital Tape Counter indicates the relative positions of recordings on the tape.
Be sure to set OSD to ON.
The counter is automatically reset to 0:00:00 and “M” appears on the TV screen.

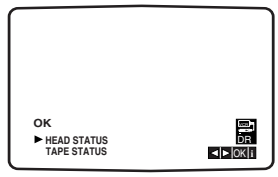
1 Press **DISPLAY**.
Press **CLEAR** to set the counter to 0:00:00.
Press PLAY ▶ or start recording.
The tape counter will display the actual play time in hours, minutes and seconds.

2 Press ■ when playback or recording is complete.
Press I◀◀.
The tape will rewind and automatically stop when the counter returns to 0:00:00.

Video Doctor (Self-Diagnosis)

This feature informs you that there is a problem with your VCP. These error messages will appear on the TV screen.

1 Press **MENU**.
Press ◀ or ▶ to select **DR**.
Press **OK**.



2 Press ◀ or ▶ to check a problem.
HEAD STATUS
- **OK**
- **PLEASE CLEAN:**
  Clean your video heads.

TAPE STATUS
- **RECORDABLE**
- **NOT RECORDABLE:**
  Insert a tape with its protection tab in place.

3 Press **OK.**

4 Press **MENU** to remove menus from the TV screen.

Hi-Fi Stereo Sound System

Press **A. MONITOR** repeatedly until the desired audio mode appears.

The choice is **HI-FI (STEREO)**, **LEFT**, **RIGHT** and **MONO**.

Additional Operation-DVD part

Last Condition Memory

DVD CD VCD1.1

This player memorizes the last condition for the last disc you have watched. Settings remain in memory even if you remove the disc from the player or switch off the player. If you load a disc that has its settings memorized, the latest stop position is automatically recalled.

Notes

– Settings are stored in memory for use any time.
– This player does not memorize settings of a disc if you switch off the player before commencing to play it.

Screen Saver

The screen saver picture appears when you leave the DVD Player in stop mode for about five minutes.

Video Mode Setting DVD VCD2.0 VCD1.1

- With certain discs, the playback picture may be flickering or Dot Crawl is shown on straight lines. That means Vertical interpolation or De-interlace is not perfectly matched with the disc. In this case, the picture quality may be improved by changing the video mode.
- To change the video mode, press and hold **DISPLAY** about 3 seconds during disc playback. The new video mode number selected is displayed on the TV screen. Check whether the video quality has improved. If not, repeat the above procedure until picture quality is improved.
- Video mode change sequence:
  MODE1 → MODE2 → MODE3 → MODE4 → MODE5 → MODE1
- If you turn off the the power, the video mode will be back to initial state (MODE1).

Notes on MP3 Discs

About MP3

- An MP3 file is audio data compressed by using MPEG1, the audio layer-3 file-coding scheme. We call files that have the ".mp3" file extension "MP3 files".
- The player can not read an MP3 file that has a file extension other than ".mp3".
- The player can not read a fake MP3 file that has a file extension ".mp3".

MP3 Disc compatibility with this player is limited as follows:

1. Sampling Frequency / only at 44.1kHz
2. Bit rate/ within 32 - 320kbps
3. CD-R physical format should be "ISO 9660"
4. If you record MP3 files using the software which cannot create a FILE SYSTEM, for example "Direct-CD" etc., it is impossible to playback MP3 files. We therefore recommend that you use "Easy-CD Creator", which creates an ISO9660 file system.
5. A single session disc requires MP3 files in the first track. If there is no MP3 file in the 1st track, it cannot playback MP3 files. If you wish to playback MP3 files, format all the data in the disc or use a new one.
6. We do not recommend using CD-RW discs. Please use finished CD-R discs only.
7. File names should be named using 8 letters or less and must incorporate the ".mp3" extension e.g. "********.MP3".
8. Do not use special characters such as "_?!><+*}{`[@]:;V.," etc.
9. Total number of files on the disc should be less than 200.
10. Use 74 minute CD-R discs (650M), do not use 80 minute CD-R (700M) software.

This DVD player requires discs/recordings to meet certain technical standards in order to achieve optimal playback quality. Pre-recorded DVDs are automatically set to these standards. There are many different types of recordable disc formats (including CD-R containing MP3 files).

Customers should also note that permission is required in order to download MP3 files and music from the Internet. Our company has no right to grant such permission. Permission should always be sought from the copyright owner.

Before you start karaoke

Note

You cannot enjoy Karaoke from DVD exclusive out.

You can sing along with a karaoke source (video tape, VCD, audio CD, Karaoke DVD). You can sing duets if you use an extra microphone.

1 Turn on your TV and set it to the AV.
When using an amplifier, turn on the amplifier and select this player position.

2 Connect a microphone to the MIC 1 jack. To sing duets, connect another microphone to MIC 2 jack.

Karaoke sing-along

Singing along with karaoke video tapes

1 Insert a karaoke video tape.
The player turns on and starts playing automatically if you insert a tape with its safety tab removed.

2 Press **PLAY** ►.
If you want to play back a specific song, perform the Karaoke search.
• Karaoke search will be operated only when a microphone has been plugged in.

Karaoke search

Press ◄ or ► on the remote control.
Press ◄ or ► again to play a desired song.

3 Now you can enjoy playing karaoke.

Singing along with karaoke VIDEO CD or DVD

1 Press ⏏, and place the disc on the disc tray.

2 Press **PLAY** ►.
The disc tray closes and starts.

3 Now you can enjoy playing karaoke.

To adjust the microphone volume

Press **MIC/ECHO** to select the MIC control mode.
Press ▲/▼ for the microphone connected to MIC 1/2.
Setting the microphone volume to the centre position provides the best microphone volume.
"MIC : _ _ _" appears on the TV screen.

To control the echo effect

Press **MIC/ECHO** to select the ECHO control mode.
Press ▲/▼. This controls both microphones' echo effect in the same way.
To get the best effect, adjust the microphone volume to a level slightly higher than the music volume.
"ECHO : _ _ _" appears on the TV screen.

Note

The microphone volume and the echo effect will be reset to the default setting once you disconnect the AC power cord.

Grading your singing

As an extra challenge, this player can grade your singing.
When you have finished singing, your score appears on the TV screen.

Notes

– The unit cannot grade your singing if there is no blank portion between the tracks.
– If the sound is reproduced through a stereo amplifier, turn down the volume of amplifier before operation.
– If streaks appear during playback, select the colour system that the tape was recorded in (see "To set the colour system" on page 13).
– If feedback occurs, turn down the microphone or TV volume, or move the microphone away from the speakers.

Copying from DVD to VCP

This unit allows you to copy the contents of a DVD to a VHS tape with a press of the ● button.

Note
If the DVD you are attempting to copy is copy protected, you may not be able to copy the disc.

1 **Insert Disc**
Insert the disc you wish to copy in the DVD deck and close the disc tray.

2 **Insert VHS Tape**
Insert a blank VHS video tape into the VCP deck.

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

4 **Copy the DVD to VHS tape**
Press ●.
- The DVD will go into Play mode and the VCP will go into Record mode.
- If the DVD disc menu appears, you may need to press **PLAY** ► manually to begin copying.
- If you try to record the copy protected programme, “COPY PROTECTED DISC” appears on the TV screen and “LOCK” appears on the display window.
- Press **II** to still a picture.

5 **Stop the Copy Process**
Press ■.

Recording from another video player

With this video player you can make recordings from an external source, such as copying from another video player or a camcorder.

Note
In the following description, this video player will be one used for recording and will be referred to as VCP B. The other appliance will be used for playback and will be referred to as VCP A.

1 VCP A should be connected to the AUDIO L/R (VHS IN)/VIDEO (VHS IN) jack on the rear panel of your VCP.

2 Insert the recorded tape into VCP A and a blank tape into VCP B.

3 To start recording, press ● on VCP B and **PLAY** ► on VCP A.

4 When you want to finish copying, press **STOP** on both video players.

Troubleshooting

Check the following guide for the possible cause of a problem before contacting service.

Symptom	Cause	Correction
DVD or VCP do not work properly.	● DVD or VCP button is not switched properly.	● Press **DVD** or **VCP** on the remote control, or **DVD/VCP** on the front panel to switch the control.
No power.	● The power cord is disconnected.	● Plug the power cord into the wall outlet securely.
The power is on, but the DVD player does not work.	● No disc is inserted.	● Insert a disc. (Check that the DVD or, audio CD indicator in the display window is lit.)
No picture.	● The TV is not set to receive DVD signal output.	● Select the appropriate video input mode on the TV so the picture from the DVD player appears on the TV screen.
No sound.	● The equipment connected with the audio cable is not set to receive DVD signal output.	● Select the correct input mode of the audio receiver so you can listen to the sound from the DVD player.
	● The audio cables are not connected securely.	● Connect the audio cable into the jacks securely.
	● The power of the equipment connected with the audio cable is turned off.	● Turn on the equipment connected with the audio cable.
	● The Digital Audio Output is set to the wrong position.	● Set the Digital Audio Output to the correct position, then turn on the DVD player again by pressing **POWER**.
The picture is poor.	● The disc is dirty.	● Clean the disc.
The DVD player does not start playback.	● An unplayable disc is inserted.	● Insert a playable disc. (Check the disc type, color system and Regional code.)
	● The disc is placed upside down.	● Place the disc with the playback side down.
	● The disc is not placed within the guide.	● Place the disc on the disc tray correctly inside the guide.
	● The disc is dirty.	● Clean the disc.
	● The Rating level is set.	● Cancel the Rating function or change the rating level.
The remote control does not work properly.	● There is an obstacle in the path of the remote control and this unit.	● Remove the obstacle.
	● The batteries in the remote control are exhausted.	● Replace the batteries with new ones.
Video tape cannot be inserted.	● Is the cassette compartment empty?	● Eject the tape in.
No Hi-Fi sound	● Audio mode is not set properly.	● Select “HI-FI” by repeatedly pressing **A. MONITOR** on the remote control.

Video Head Cleaning

Whenever a video cassette is inserted into or ejected from your VCP, the video head is automatically cleaned. This should mean that additional head cleaning should not be necessary. However dirt accumulating on the head after a long period of time can cause the playback picture to become blurred or broken up.

High quality video cassette tapes will not normally deposit dirt onto the video head, but old or damaged tapes might.

Language Code List

Enter the appropriate code number for the initial settings “Disc Audio”, “Disc Subtitle” and/or “Disc Menu” (See page 15).

Code	Language	Code	Language	Code	Language	Code	Language
6565	Afar	7079	Faroese	7678	Lingala	8375	Slovak
6566	Abkhazian	7082	French	7679	Laothian	8376	Slovenian
6570	Afrikaans	7089	Frisian	7684	Lithuanian	8377	Samoan
6577	Ameharic	7165	Irish	7686	Latvian, Lettish	8378	Shona
6582	Arabic	7168	Scots Gaelic	7771	Malagasy	8379	Somali
6583	Assamese	7176	Galician	7773	Maori	8381	Albanian
6588	Aymara	7178	Guarani	7775	Macedonian	8382	Serbian
6590	Azerbaijani	7185	Gujarati	7776	Malayalam	8385	Sudanese
6665	Bashkir	7265	Hausa	7778	Mongolian	8386	Swedish
6669	Byelorussian	7273	Hindi	7779	Moldavian	8387	Swahili
6671	Bulgarian	7282	Croatian	7782	Marathi	8465	Tamil
6672	Bihari	7285	Hungarian	7783	Malay	8469	Telugu
6678	Bengali; Bangla	7289	Armenian	7784	Maltese	8471	Tajik
6679	Tibetan	7365	Interlingua	7789	Burmese	8472	Thai
6682	Breton	7378	Indonesian	7865	Nauru	8473	Tigrinya
6765	Catalan	7383	Icelandic	7869	Nepali	8475	Turkmen
6779	Corsican	7384	Italian	7876	Dutch	8476	Tagalog
6783	Czech	7387	Hebrew	7879	Norwegian	8479	Tonga
6789	Welsh	7465	Japanese	7982	Oriya	8482	Turkish
6865	Danish	7473	Yiddish	8065	Panjabi	8484	Tatar
6869	German	7487	Javanese	8076	Polish	8487	Twi
6890	Bhutani	7565	Georgian	8083	Pashto, Pushto	8575	Ukrainian
6976	Greek	7575	Kazakh	8084	Portuguese	8582	Urdu
6978	English	7576	Greenlandic	8185	Quechua	8590	Uzbek
6979	Esperanto	7577	Cambodian	8277	Rhaeto-Romance	8673	Vietnamese
6983	Spanish	7578	Kannada	8279	Rumanian	8679	Volapük
6984	Estonian	7579	Korean	8285	Russian	8779	Wolof
6985	Basque	7583	Kashmiri	8365	Sanskrit	8872	Xhosa
7065	Persian	7585	Kurdish	8368	Sindhi	8979	Yoruba
7073	Finnish	7589	Kirghiz	8372	Serbo-Croatian	9072	Chinese
7074	Fiji	7665	Latin	8373	Singhalese	9085	Zulu

Country Code List

Enter the appropriate code number for the initial setting “Country Code” (See page 17).

Code	Country
AD	Andorra
AE	United Arab Emirates
AF	Afghanistan
AG	Antigua and Barbuda
AI	Anguilla
AL	Albania
AM	Armenia
AN	Netherlands Antilles
AO	Angola
AQ	Antarctica
AR	Argentina
AS	American Samoa
AT	Austria
AU	Australia
AW	Aruba
AZ	Azerbaidjan
BA	Bosnia-Herzegovina
BB	Barbados
BD	Bangladesh
BE	Belgium
BF	Burkina Faso
BG	Bulgaria
BH	Bahrain
BI	Burundi
BJ	Benin
BM	Bermuda
BN	Brunei Darussalam
BO	Bolivia
BR	Brazil
BS	Bahamas
BT	Bhutan
BV	Bouvet Island
BW	Botswana
BY	Belarus
BZ	Belize
CA	Canada
CC	Cocos (Keeling) Islands
CF	Central African Republic
CG	Congo
CH	Switzerland
CI	Ivory Coast
CK	Cook Islands
CL	Chile
CM	Cameroon
CN	China
CO	Colombia
CR	Costa Rica
CS	Former Czechoslovakia
CU	Cuba
CV	Cape Verde
CX	Christmas Island
CY	Cyprus
CZ	Czech Republic
DE	Germany
DJ	Djibouti
DK	Denmark
DM	Dominica
DO	Dominican Republic
DZ	Algeria
EC	Ecuador
EE	Estonia
EG	Egypt
EH	Western Sahara
ER	Eritrea
ES	Spain
ET	Ethiopia
FI	Finland
FJ	Fiji
FK	Falkland Islands
FM	Micronesia
FO	Faroe Islands
FR	France
FX	France (European Territory)
GA	Gabon
GB	Great Britain
GD	Grenada
GE	Georgia
GF	French Guyana
GH	Ghana
GI	Gibraltar
GL	Greenland
GM	Gambia
GN	Guinea
GP	Guadeloupe (French)
GQ	Equatorial Guinea
GR	Greece
GS	S. Georgia & S. Sandwich Isls.
GT	Guatemala
GU	Guam (USA)
GW	Guinea Bissau
GY	Guyana
HK	Hong Kong
HM	Heard and McDonald Islands
HN	Honduras
HR	Croatia
HT	Haiti
HU	Hungary
ID	Indonesia
IE	Ireland
IL	Israel
IN	India
IO	British Indian Ocean Territory
IQ	Iraq
IR	Iran
IS	Iceland
IT	Italy
JM	Jamaica
JO	Jordan
JP	Japan
KE	Kenya
KG	Kyrgyzstan
KH	Cambodia6
KI	Kiribati
KM	Comoros
KN	Saint Kitts & Nevis Anguilla
KP	North Korea
KR	South Korea
KW	Kuwait
KY	Cayman Islands
KZ	Kazakhstan
LA	Laos
LB	Lebanon
LC	Saint Lucia
LI	Liechtenstein
LK	Sri Lanka
LR	Liberia
LS	Lesotho
LT	Lithuania
LU	Luxembourg
LV	Latvia
LY	Libya
MA	Morocco
MC	Monaco
MD	Moldavia
MG	Madagascar
MH	Marshall Islands
MK	Macedonia
ML	Mali
MM	Myanmar
MN	Mongolia
MO	Macau
MP	Northern Mariana Islands
MQ	Martinique (French)
MR	Mauritania
MS	Montserrat
MT	Malta
MU	Mauritius
MV	Maldives
MW	Malawi
MX	Mexico
MY	Malaysia
MZ	Mozambique
NA	Namibia
NC	New Caledonia (French)
NE	Niger
NF	Norfolk Island
NG	Nigeria
NI	Nicaragua
NL	Netherlands
NO	Norway
NP	Nepal
NR	Nauru
NU	Niue
NZ	New Zealand
OM	Oman
PA	Panama
PE	Peru
PF	Polynesia (French)
PG	Papua New Guinea
PH	Philippines
PK	Pakistan
PL	Poland
PM	Saint Pierre and Miquelon
PN	Pitcairn Island
PR	Puerto Rico
PT	Portugal
PW	Palau
PY	Paraguay
QA	Qatar
RE	Reunion (French)
RO	Romania
RU	Russian Federation
RW	Rwanda
SA	Saudi Arabia
SB	Solomon Islands
SC	Seychelles
SD	Sudan
SE	Sweden
SG	Singapore
SH	Saint Helena
SI	Slovenia
SJ	Svalbard and Jan Mayen Islands
SK	Slovak Republic
SL	Sierra Leone
SM	San Marino
SN	Senegal
SO	Somalia
SR	Suriname
ST	Saint Tome and Principe
SU	Former USSR
SV	El Salvador
SY	Syria
SZ	Swaziland
TC	Turks and Caicos Islands
TD	Chad
TF	French Southern Territories
TG	Togo
TH	Thailand
TJ	Tadjikistan
TK	Tokelau
TM	Turkmenistan
TN	Tunisia
TO	Tonga
TP	East Timor
TR	Turkey
TT	Trinidad and Tobago
TV	Tuvalu
TW	Taiwan
TZ	Tanzania
UA	Ukraine
UG	Uganda
UK	United Kingdom
UM	USA Minor Outlying Islands
US	United States
UY	Uruguay
UZ	Uzbekistan
VA	Vatican City State
VC	Saint Vincent & Grenadines
VE	Venezuela
VG	Virgin Islands (British)
VI	Virgin Islands (USA)
VN	Vietnam
VU	Vanuatu
WF	Wallis and Futuna Islands
WS	Samoa
YE	Yemen
YT	Mayotte
YU	Yugoslavia
ZA	South Africa
ZM	Zambia
ZR	Zaire
ZW	Zimbabwe

Specification

General

Power requirements	AC 110-240V , 50/60 Hz
Power consumption	20W
Dimensions (approx.)	430 X 97.5 X 360 mm (w/h/d)
Mass (approx.)	5.3 kg
Operating temperature	5˚C to 35˚C
Operating humidity	5 % to 90 %

System

Laser	Semiconductor laser, wavelength 650 nm
Video Head system	Double azimuth 4 heads, helical scanning.
Signal system	PAL/NTSC
Frequency response	DVD (PCM 96 kHz): 2 Hz to 44 kHz DVD (PCM 48 kHz): 2 Hz to 22 kHz CD: 2 Hz to 20 kHz
Signal-to-noise ratio	More than 100dB (ANALOG OUT connectors only)
Harmonic distortion	Less than 0.008%
Dynamic range	More than 95 dB (DVD) More than 95 dB (CD)
Wow and flutter	Less than detected value (±0.001% W PEAK)

Inputs (VCP)

Audio	-6.0dBm, more than 47 kohms
Video	1.0 Vp-p, 75 ohms, unbalanced

Outputs (DVD)

VIDEO OUT	1 Vp-p 75 ohms, sync negative
COMPONENT VIDEO OUT	(Y) 1.0 V (p-p), 75 Ω, negative sync., RCA jack x 1 (Pb)/(Pr) 0.7 V (p-p), 75 Ω, RCA jack x 2
Audio output (digital audio)	0.5 V (p-p), 75 Ω, RCA jack x 1
Audio output (analog audio)	2.0 Vrms (1 KHz, 0 dB), 330 Ω, RCA jack (L, R)

Outputs (VCP/DVD)

Audio	-6.0dBm, less than 1 kohms
Video	1.0 Vp-p, 75 ohms, unbalanced

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JVC

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SECTION 6
REPLACEMENT PARTS LIST

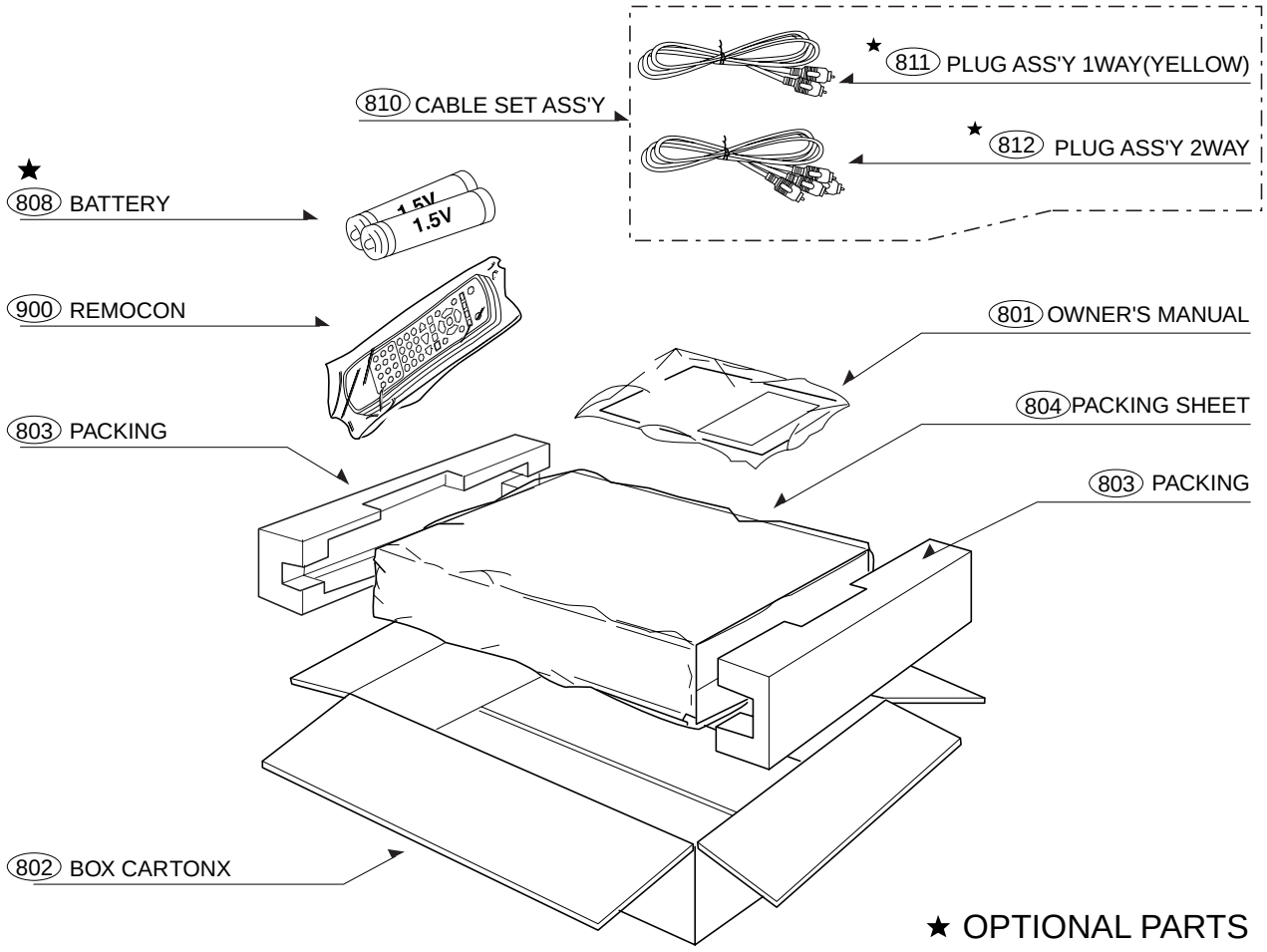
SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

6.1 EXPLODED VIEW

6.1.1 PACKING AND ACCESSORY ASSEMBLY <M1>

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

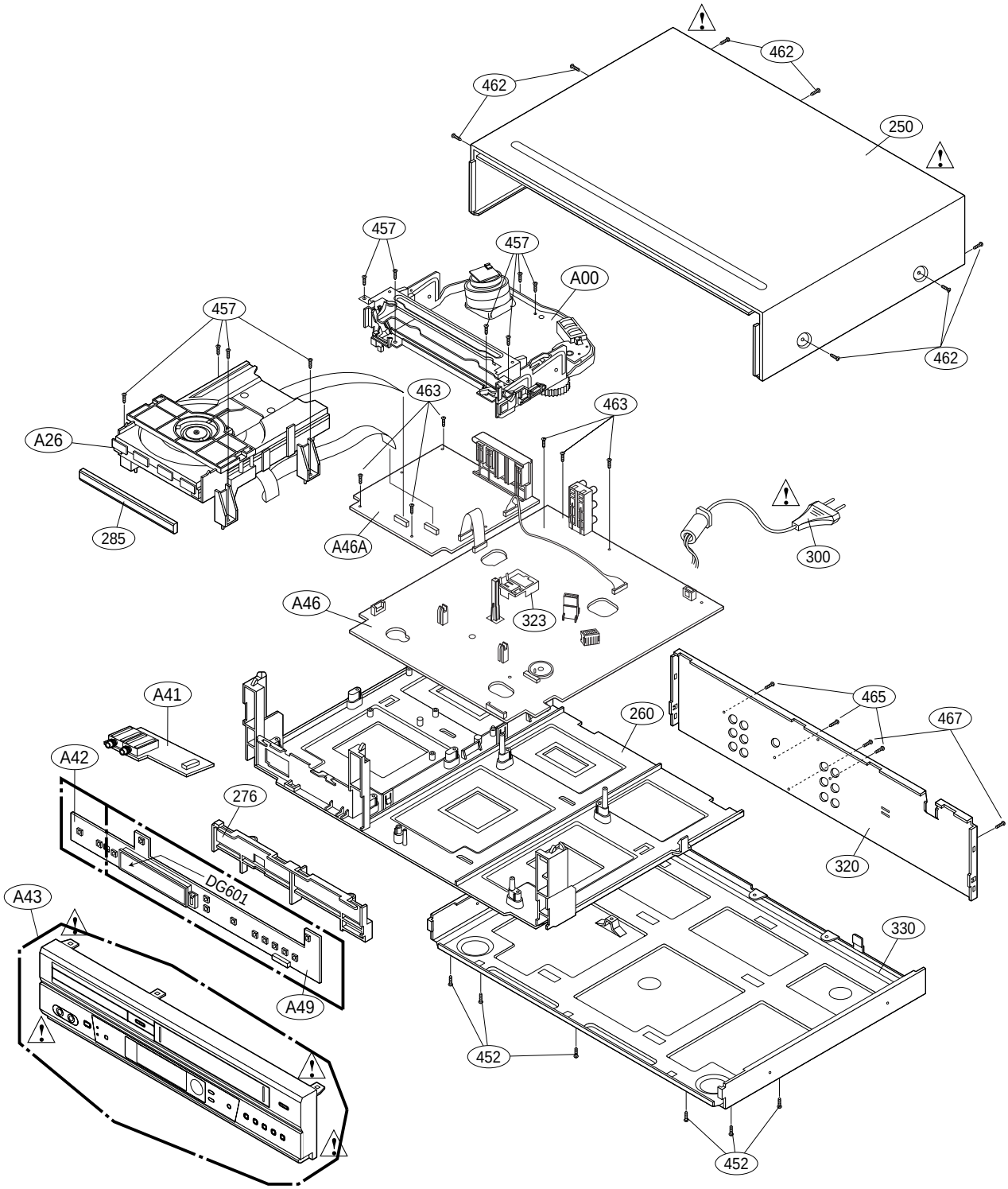


6.1.2 FINAL ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

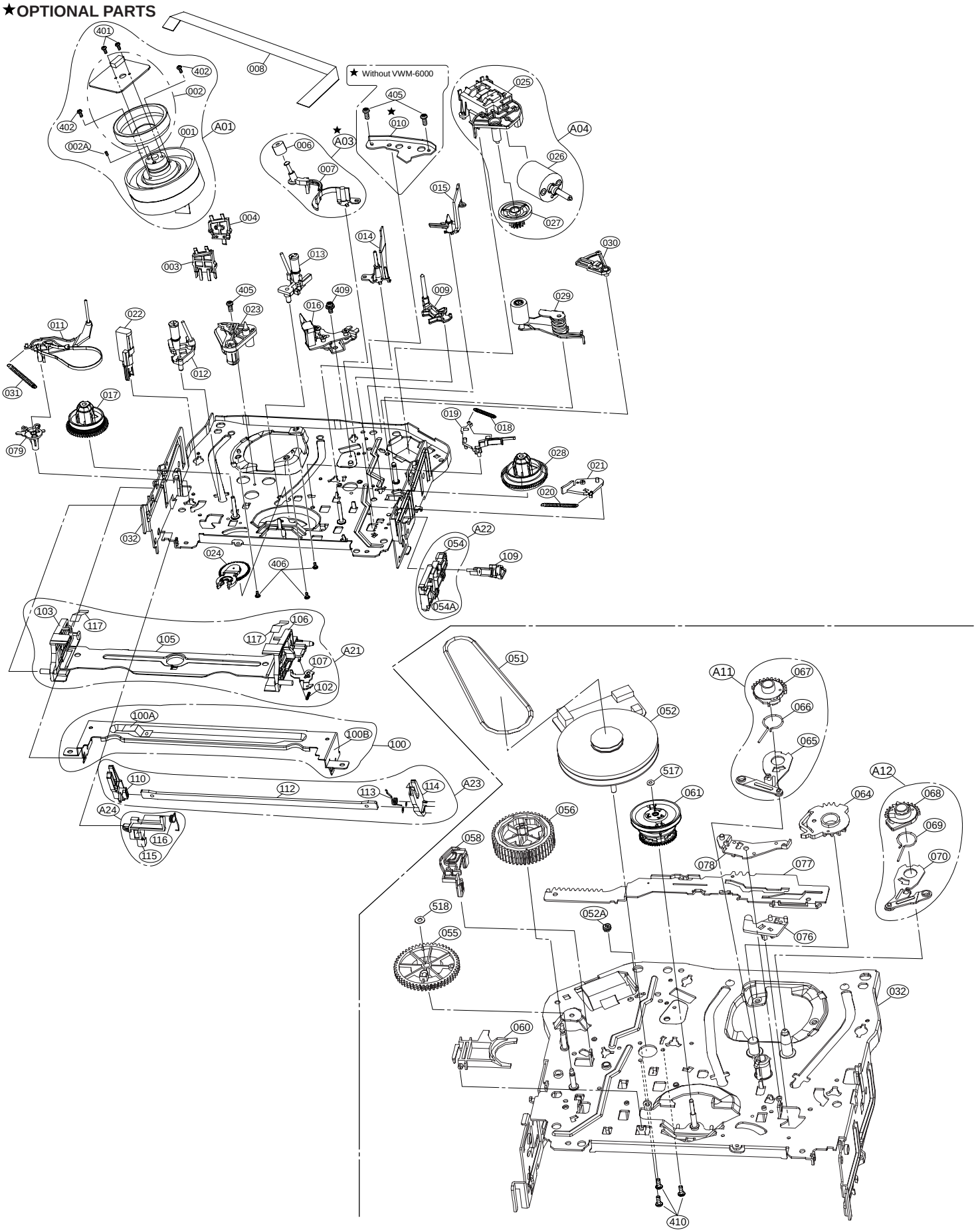
Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

★OPTIONAL PARTS



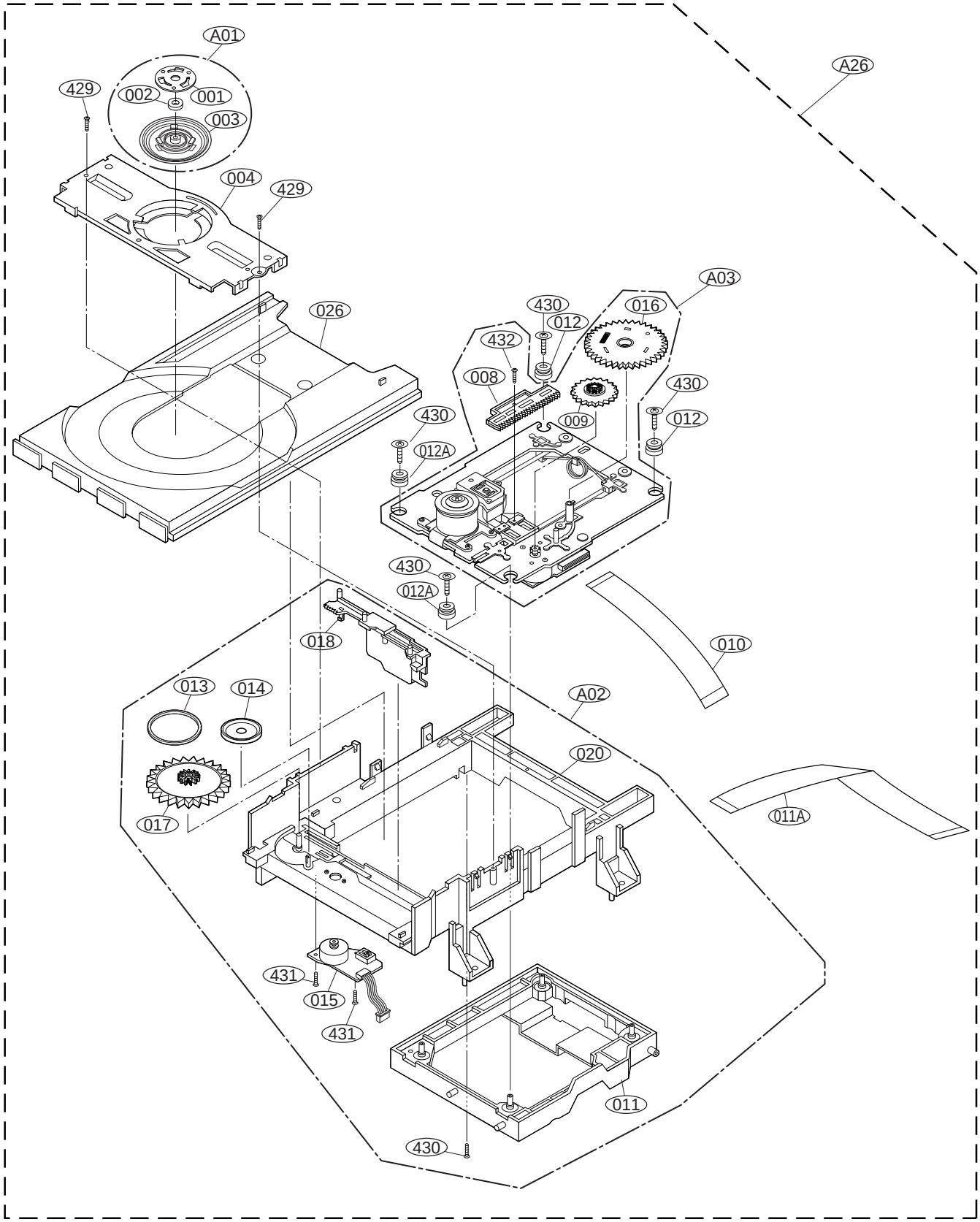
6.1.3 MECHANISM ASSEMBLY(VCR) <M4>

★OPTIONAL PARTS



6.1.4 MECHANISM ASSEMBLY(DVD) <MN>

★OPTIONAL PARTS



6.2 REPLACEMENT PARTS LIST

*NSP : Not service parts

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
**********					
			PACKING AND ACCESSORY ASSEMBLY <M1>		
	801	LG 3835RP0075X	INSTRUCTION ASSEMBLY	DCJK503WQ.EVNT	
	802	LG 3890R H024F	BOX		
	803	LG 3920R E051A	PACKING,CASING	DC590 S(DVD.VCR) 0.02 80 EPE 4	
	804	LG 292 053A	BAG	SOFT(VCP)	NSP
	808		BATTERY,MANGANESE	AAAM(R03) SEOTONG 1 5 V 1PA	
	810		CABLE ASSY,RF	DVD PAL CABLE ASSY,RCA USING A	
	811	PU59205 4	PLUG ASSY	1WAY YELLOW GLOBAL	
	812	PU56142 5	PLUG ASSY	2WAY RED/WHITE GLOBAL	
	900	LG 6711R1P047A	REMOTE CONTROLLER ASSEMBLY	N6 DCJK503W JVC W/KARAOKE	
**********					
			FINAL ASSEMBLY <M2>		
	A41	LG 6871R 5720B	PWB(PCB) ASSEMBLY,TOTAL	KARAOKE JACK DCJK503WQ	
	A42	LG 3501R 6334A	BOARD ASSEMBLY	JVC KARAOKE KEY	
	A43	LG 3721R F328A	PANEL ASSEMBLY,FRONT	FRONT HR XV10AG(JCV KARAOKE CO	
	A46	LG 3501R 4938W	BOARD ASSEMBLY	MAIN DCJK503WQ	
	A46A	LG 6885R 0260A	SUB PWB(PCB) ASSEMBLY	495200CA120500 FF B200020AC8 (	
	A49	LG 3501R 6333A	BOARD ASSEMBLY	JVC KARAOKE TIMER	
	250	LG 3110R P009A	CASE	VCR TOP(DVD+VCR)	
	260	LG 3211R 0039B	FRAME ASSEMBLY	VCR MAIN(DVD+VCR) KARAOKE	NSP
	276	LG 4930R 0298B	HOLDER,SHELF	VCR TIMER PWB(D+V RIB CUTTIN	
	280	LG 3720R F189T	PANEL	FRONT	NSP
	283	LG 3580R V050A	DOOR CASE	CST	
	284	LG 442 681A	SPRING	DOOR	
	300	LG 6410RCHS02C	POWER CORD	EP11 LTFZ 2F 2*0.75 EMI OR SAN	
	323	LG 3111R 0089B	CASE ASSY	PRE AMP (PBSB SH)	
	330	LG 3140R 0042A	CHASSIS	VCR MAIN(DVD+VCR)	
	452	LG 353 051A	SCREW	SPECIAL	
	457	LG 353 051E	SCREW	SPECIAL (3X12)	
	462	LG 353 085F	SCREW,DRAWING	+ 3 D4.0 L10.0 MSWR3/FN	
	467	LG 353 051G	SCREW,DRAWING	+ 2 D3.0 L8.0 MSWR3/FN TB ROUN	
**********					
			MECHANISM ASSEMBLY(VCR) <M4>		
	A00	LG 6721R 0750E	DECK ASSEMBLY,VIDEO	D35(N) (4HF, PAL, AHC(0), B/C(	NSP
	A11	LG 4471R 0005A	GEAR ASSY	P3	
	A12	LG 4471R 0004A	GEAR ASSY	P2	
	A21	LG 4931R 0047A	HOLDER ASSY	CST	
	A22	LG 4471R 0006A	GEAR ASSY	RACK F/L	
	A23	LG 4261R 0023A	ARM ASSY	F/L	
	A24	LG 4510R 0046A	LEVER	ASSY SWITCH	
	001	LG 6723R D312A	DRUM(CIRC) ASSEMBLY		NSP
	002	LG 4680R B005A	MOTOR(MECH)	DRUM I2OAL05 SEJIN SANKYO ICLE	
	002A	LG 5202R00002C	BRUSH,CARBON	ASSY D33 (TIP+2 SPRING) 1.4,	
	003	LG 4930R 0284A	HOLDER,SHELF	FPC(6CH)	
	004	LG 5006R 0034A	CAP	FPC	
	006	LG 4580R 0004A	ROLLER	CLEANER	
	007	LG 4260R 0039A	ARM	CLEANER	
	008	LG 6850R HG18Z	CABLE,FLAT	P=1.25 FFC UL2896(0.05X0.8) 7	
	009	LG 4260R 0038A	ARM	T/UP(D35)	
	011	LG 4261R 0022A	ARM ASSY	TENSION(D35)	
	012	LG 3041R 0037A	BASE ASSY	P2	
	013	LG 3041R 0038A	BASE ASSY	P3	
	014	LG 3041R 0039A	BASE ASSY	P4	
	015	LG 5870R 0005A	OPENER	LID(D35)	
	016	LG 3041R 0036A	BASE ASSEMBLY	A/C HEAD (ALPS)	
	017	LG 4408R 0003A	REEL	S	
	019	LG 4421R 0008A	BRAKE ASSEMBLY	RS	
	020	LG 4970R 0128A	SPRING	COIL D35 (TB)	
	021	LG 4421R 0006A	BRAKE ASSY	T	
	022	LG 6520D00001A	HEAD(CIRC)	D35 FE TDK FE HEAD	
	023	LG 3040R 0057A	BASE	LOADING	
	024	LG 4261R 0029A	ARM ASSEMBLY	IDLER (N)	
	025	LG 4810R 0111A	BRACKET	L/D	NSP
	026	LG 4680R D006A	MOTOR(MECH)	LOADING RF 370CA 12560 MABUCHI	NSP
	027	LG 4470R 0093A	GEAR	WHEEL	NSP
	028	LG 4408R 0004A	REEL	T	
	029	LG 4261R 0019A	ARM ASSY	PINCH	
	030	LG 4510R 0043A	LEVER	T/UP	
	031	LG 4970R 0123A	SPRING	COIL TENSION(D35)	
	032	LG 3141R 0040A	CHASSIS ASSY	D35	NSP
	051	LG 4400R 0005A	BELT	CAPSTAN	
	052A	LG 4980R 0023A	SUPPORTER	CAPSTAN(D35)	
	054	LG 4470R 0100A	GEAR	RACK F/L	
	054A	LG 4970R 0124B	SPRING	COIL D35 (RACK F/L)	
	055	LG 4470R 0097A	GEAR	DRIVE(D35)	
	056	LG 4470R 0096A	GEAR	CAM(D35)	
	058	LG 4421R 0007A	BRAKE ASSY	CAPSTAN	
	060	LG 4510R 0040A	LEVER	F/R(D35)	
	061	LG 4265R 0006A	CLUTCH ASSEMBLY	D35 (N)	
	064	LG 4470R 0098A	GEAR	SECTOR(D35)	
	065	LG 4261R 0021A	ARM ASSY	P3	NSP
	066	LG 4970R 0122A	SPRING	COIL D35	NSP
	067	LG 4470R 0095A	GEAR	P3	NSP
	068	LG 4470R 0094A	GEAR	P2	NSP
	069	LG 4970R 0122A	SPRING	COIL D35	NSP
	070	LG 4261R 0020A	ARM ASSY	P2	NSP
	076	LG 4510R 0047A	LEVER	SPRING	
	077	LG 3300R M116A	PLATE	SLIDER	
	078	LG 4510R 0041A	LEVER	TENSION	
	079	LG 3040R 0056A	BASE	TENSION(D35)	
	100	LG 3300R M118A	PLATE	TOP(D35)	
	102	LG 4970R 0130A	SPRING	COIL D35 (STOPPER)	
	103	LG 4930R 0276A	HOLDER,SHELF	SIDE(L)	NSP
	105	LG 4930R 0274A	HOLDER,SHELF	CST	NSP
	106	LG 4930R 0275A	HOLDER,SHELF	SIDE(R)	NSP
	107	LG 4510R 0044A	LEVER	STOPPER	NSP
	109	LG 5870R 0004A	OPENER	DOOR	
	110	LG 4260R 0035A	ARM	F/L(L)	NSP
	112	LG 3070R 0002A	BODY	F/L	NSP
	113	LG 4970R 0127A	SPRING	COIL D35 (F/L(R))	NSP
	114	LG 4260R 0036A	ARM	F/L(R)	NSP
	115	LG 4510R 0042A	LEVER	SWITCH	
	116	LG 4970R 0138A	SPRING	COIL D35 SWITCH	
	117	LG 3300R M137A	PLATE	SPRING CST	
	401	LG 1MEC0261518	SCREW MACHINE,PAN HEAD SPR W	D2.6 L4.5 MSWR3/FZY	
	402	LG 1MPC0261418	SCREW MACHINE,PAN HEAD	D 2.6 L 4.0 MSWR3/FZY	
	405	LG 1SZZR 0031B	SCREW,DRAWING	+ 1 D2.6 L5.8 SWRCH16A/FZY TAP	
	406	LG 1MEC0302018	PAN HEAD MACHINE SCREW S/W +	D 3.0 L 6.0 MSWR3/FZY	
	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	
	504	LG 1WZZR 0004A	WASHER	STOPPER	
	517	LG 1WZZR 0004D	WASHER	STOPPER	
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			MECHANISM ASSEMBLY(DVD) <MN>		
	A01	LG 4861R 0006A	CLAMP ASSY	DISC(DP2)	
	A02	LG 3041R 0056A	BASE ASSEMBLY	MAIN(DP 4R, VCR)	
	A03	LG 3041R 0054E	BASE ASSEMBLY	SLED (DP 5RM, 2LD 302T DC W/O	
	A26	LG 6721R 0353A	DECK ASSEMBLY,VIDEO	DP5 4V(DVD VCR)	
	001	LG 3300R 0547A	PLATE	CLAMP	NSP
	002	LG 5016H 1016B	MAGNET	CLAMP(LDM R608,10*5,1*1.5T)	NSP
	003	LG 4860R 0006A	CLAMP	UPPER	NSP
	004	LG 4930R 0171A	HOLDER	CLAMP	
	008	LG 4470R 0047A	GEAR	ASSY RACK	
	009	LG 4470R 0053A	GEAR	MIDDLE	
	010	LG 6850R GK22Z	CABLE,FLAT	P=1.0 FFC UL2896(0.05X0.65) 11	
	011	LG 3210R 0036A	FRAME	UP/D	
	011A	LG 6850R JW16B	CABLE,FLAT	P=1.0 FFC UL2896(0.035X0.7) 23	
	012	LG 5040R 0047A	RUBBER	REAR(E2,5040H 1054A),YAMAUCHI	
	013	LG 4400R 0006A	BELT	LOADING	
	014	LG 4470R 0055A	GEAR	PULLEY	
	015	LG 6871R 4415A	PWB(PCB) ASSY,TOTAL	LOADING DP4	
	016	LG 4470R 0050A	GEAR	ASSY FEED	
	017	LG 4470R 0056A	GEAR	LOADING	
	018	LG 4974R 0023A	GUIDE	UP/DOWN	
	020	LG 3040R 0024A	BASE	MAIN	NSP
	026	LG 3390R 0005A	TRAY	DISC	
	429	LG 1SZZR 0012A	SCREW,	B TITE	
	430	LG 1SZZH 1003A	SCREW,	+ D2.0 6MM SWRCH16A/NIY 4.5MM	
	431	LG 1SZZH 1007B	SCREW,DRAWING	+ D2.0 6MM SWRCH16A/ZNBK 4MM 1	
	432	LG 1SZZR 0011A	SCREW,	MACHINE	

*NSP : Not service parts

MAIN BOARD ASSEMBLY <03>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
		A46	LG 3501R 4938W	BOARD ASSEMBLY	MAIN DCJK503WQ	
		BD01	LG 636 004C	COIL	BEAD CORE BFS3550R2FD8,R T/P	
		BD02	LG 636 004C	COIL	BEAD CORE BFS3550R2FD8,R T/P	
		BD03	LG 874 000T	WIRE COPPER TIN COATED	D=0.6 ROLL	
		BD101	S1WB/A/60 4101	DIODE	S1WBA60(1A 600V) SHIDENKEN	
		C101	LG 624 088H	CAPACITOR	PCX2 0.1UF/275VAC R T/P	
		C102	LG 624 088H	CAPACITOR	PCX2 0.1UF/275VAC R T/P	
		C103	LG 624 082C	CAPACITOR,AL.ELECTROLYTIC	100MF/400V SHL SMPS S/Y	
		C105	LG 0CQ1031Y519	CAPACITOR,POLYESTER	0.01UF D 630V K PE NI TP	
		C106	LG 624 087G	CAPACITOR	HIGH VOL 68PF/1KV SMPS SAMHWA	
		C107	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C108	LG 0CE336BH638	CAPACITOR,ELECTROLYTIC	33UF KME 25V M FM5 TP5	
		C109	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C110	LG 0CG2210U610	CAPACITOR,SEMI CERAMIC	220 PF 400V M B R(NK,AD,SD)	
		C111	LG 0CG3320U630	CAPACITOR,SEMI CERAMIC	3300 PF 400V M E R(NK,AD,SD)	
		C121	LG 0CE2276F638	CAPACITOR,ELECTROLYTIC	220U SMS 16V M FM5 TP(5)	
		C122	LG 624 085D	CAPACITOR	CE 47UF/50V KME (SMPS)	
		C123	LG 0CE477BH638	CAPACITOR,ELECTROLYTIC	470UF KME 25V M FM5 TP5	
		C126	LG 0CE2276H638	CAPACITOR,FIXED ELECTROLYTIC	220UF SMS,SG 25V 20% FM5 TP 5	
		C127	LG 0CE108BF638	CAPACITOR,FIXED ELECTROLYTIC	1000UF KME TYPE 16V M FM5 TP 5	
		C128	LG 0CE3376D638	CAPACITOR,ELECTROLYTIC	330UF SMS 10V M FM5 TP5	
		C129	LG 0CE228BF630	CAPACITOR,FIXED ELECTROLYTIC	2200UF KME TYPE 16V 20% FM5 BU	
		C130	LG 624 085D	CAPACITOR	CE 47UF/50V KME (SMPS)	
		C131	LG 624 082H	CAPACITOR	CE 1000UF/10V SHL(10*12.5)T/P	
		C132	LG 624 085D	CAPACITOR	CE 47UF/50V KME (SMPS)	
		C133	LG 0CQ1042K409	CAPACITOR,FIXED FILM	0.1UF S 50V J PE TP	
		C151	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C152	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C153	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C154	QET61CM 107Z	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
		C155	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C156	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C158	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C159	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C161	LG 0CE4764C638	CAPACITOR,ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
		C162	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C163	LG 624 087H	CAPACITOR	HIGH VOL 220PF/1KV CERAMIC	
		C172	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C301	LG 0CN1230K518	CAPACITOR,FIXED TUBULAR(High d	0.012UF D 50V 10% B(Y5P) TA26	
		C302	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C303	LG 0CN1220F668	CAPACITOR TUBULA(HIGH DIELE)	1200P 16V M X TA26	
		C304	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C305	LG 0CN2220F668	CAPACITOR,TUBULAR(HIGH DIELEC)	2200P 16V M X TA26	
		C306	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C307	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C310	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C311	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C313	LG 0CQ1032K409	CAPACITOR,POLYESTER(MYLAR)	0.01UF S 50V J PE TP	
		C314	LG 0CQ3332K409	CAPACITOR,FIXED FILM	0.033UF S 50V J PE TP	
		C315	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C317	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C318	LG 0CN1510K518	CAPACITOR TUBULA(HIGH DIELE)	150P 50V K B TA26	
		C319	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C320	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C321	LG 0CX4700K408	CAPACITOR TUBULA(T.C)	47P 50V J SL TA26	
		C322	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C323	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C324	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C325	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C326	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C327	QETF1HM 335Z	CAPACITOR,FIXED ELECTROLYTIC	3.3UF SRA,SS 50V 20% FM5 TP 5	
		C328	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C330	QETC1HM 225Z	CAPACITOR,FIXED ELECTROLYTIC	2.2UF SRA,SS 50V 20% FM5 TP 5	
		C331	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C333	LG 0CN3310K518	CAPACITOR TUBULA(HIGH DIELE)	330P 50V K B TA26	
		C334	LG 0CN4730K948	CAPACITOR,FIXED TUBULAR(High d	0.047UF D 50V 80%, 20% F(Y5V)	
		C335	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C336	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C337	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C338	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C339	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C340	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C341	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C342	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C344	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C345	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C346	LG 0CC0500K015	CAPACITOR,CERAMIC(TEMP COMP)	5P 50V C NP0 TR	
		C347	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C348	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C349	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C350	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C351	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C352	QETC1HM 225Z	CAPACITOR,FIXED ELECTROLYTIC	2.2UF SRA,SS 50V 20% FM5 TP 5	
		C353	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C354	LG 0CQ2232L559	CAPACITOR,POLYESTER	0.022UF S 63V K PP NI TP5	
		C356	LG 0CE3344K638	CAPACITOR,ELECTROLYTIC	0.33M SRA 50V M FM5 TP(5)	
		C357	LG 0CN3330K518	CAPACITOR,FIXED TUBULAR(High d	0.033UF 50V K B TA26	
		C358	QETF1HM 335Z	CAPACITOR,FIXED ELECTROLYTIC	3.3UF SRA,SS 50V 20% FM5 TP 5	
		C359	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C360	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C361	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C362	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C363	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C365	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C366	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C367	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C368	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C369	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C370	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C371	LG 0CN6810K518	CAPACITOR TUBULA(HIGH DIELE)	680P 50V K B TA26	
		C372	LG 0CX2700K408	CAPACITOR TUBULA(T.C)	27P 50V J SL TA26	
		C380	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C383	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C3S3	LG 0CX3900K408	CAPACITOR TUBULA(T.C)	39P 50V J SL TA26	
		C401	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C402	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C403	QETC1HM 225Z	CAPACITOR,FIXED ELECTROLYTIC	2.2UF SRA,SS 50V 20% FM5 TP 5	
		C404	QETL1HM 474	CAPACITOR,ELECTROLYTIC	0.47M SRA 50V M FM5 TP(5)	
		C405	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C406	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C407	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C408	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C409	LG 0CQ1022K409	CAPACITOR,FIXED FILM	1000PF S 50V J PE TP	
		C410	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C411	LG 0CQ4732K409	CAPACITOR,FIXED FILM	0.047UF S 50V J PE TP	
		C412	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C413	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C414	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C417	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C418	LG 0CQ1042K409	CAPACITOR,FIXED FILM	0.1UF S 50V J PE TP	
		C419	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C420	LG 0CQ1022K409	CAPACITOR,FIXED FILM	1000PF S 50V J PE TP	
		C421	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C422	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C423	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C424	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C425	LG 0CN1010K418	CAPACITOR,TUBULAR(HIGH DIELEC)	100PF 50V J B TA26	
		C426	LG 0CN1010K418	CAPACITOR,TUBULAR(HIGH DIELEC)	100PF 50V J B TA26	
		C427	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C428	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C437	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C438	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C439	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C442	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C443	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C444	LG 0CN2220F668	CAPACITOR,TUBULAR(HIGH DIELEC)	2200P 16V M X TA26	
		C445	QETC1HM 225Z	CAPACITOR,FIXED ELECTROLYTIC	2.2UF SRA,SS 50V 20% FM5 TP 5	
		C448	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C449	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C450	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C451	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C452	LG 0CN1010K518	CAPACITOR,TUBULAR(HIGH DIELEC)	100P 50V K B TA26	
		C501	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C502	LG 0CE4764C638	CAPACITOR,ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
		C504	LG 0CE4774C638	CAPACITOR,FIXED ELECTROLYTIC	470UF SRA,SS 6.3V 20% FM5 TP 5	
		C505	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C507	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C509	LG 0CX4700K408	CAPACITOR TUBULA(T.C)	47P 50V J SL TA26	
		C510	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C511	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C512	LG 0CN1810K518	CAPACITOR,FIXED TUBULAR(High d	180P 50V K B TA26	
		C513	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C514	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C515	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C518	LG 0CC3600K415	CAPACITOR,CERAMIC (TEMP. COMPE	36P 50V J NP0 TS	
		C519	LG 0CC3600K415	CAPACITOR,CERAMIC (TEMP. COMPE	36P 50V J NP0 TS	
		C524	QETA1CM 336	CAPACITOR,ELECTROLYTIC	33M SRA 16V M FM5 TP(5)	
		C525	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C526	LG 0CE4764J638	CAPACITOR,AL.ELECTROLYTIC	47UF SRA,SS 35V M FM5 TP 5	
		C527	LG 0CN1810K518	CAPACITOR,FIXED TUBULAR(High d	180P 50V K B TA26	
		C533	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	

*NSP : Not service parts

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
		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	
		C541	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C542	LG 0CN6810K518	CAPACITOR TUBULA(HIGH DIELE)	680P 50V K B TA26	
		C543	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C544	LG 0CN4730K948	CAPACITOR,FIXED TUBULAR(High d	0.047UF D 50V 80%, 20% F(Y5V)	
		C546	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C551	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C552	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C556	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C557	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C561	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C564	LG 0CN3310K518	CAPACITOR TUBULA(HIGH DIELE)	330P 50V K B TA26	
		C567	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C570	LG 0CC1500K415	CAPACITOR,CERAMIC(TEMP COMP)	15P 50V J NP0 TS	
		C571	LG 0CC1500K415	CAPACITOR,CERAMIC(TEMP COMP)	15P 50V J NP0 TS	
		C574	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C575	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C581	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C582	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C588	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C591	LG 0CE4764H638	CAPACITOR,FIXED ELECTROLYTIC	47M SRA 25V M FM5 TP(5)	
		C596	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C804	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C805	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C806	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C808	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C809	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C810	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C811	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C812	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C813	LG 0CN6820F668	CAPACITOR,TUBULAR(HIGH DIELEC)	6800P 16V M X TA26	
		C814	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C815	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C816	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C817	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C818	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C819	LG 0CN6820F668	CAPACITOR,TUBULAR(HIGH DIELEC)	6800P 16V M X TA26	
		C820	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C821	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C822	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C823	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C824	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C825	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C826	LG 0CN1030F678	CAPACITOR TUBULA(HIGH DIELE)	0.01M 16V M Y TA26	
		C827	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		C848	LG 0CN1050K948	CAPACITOR,TUBULAR(HIGH DIELEC)	1UF 50V Z F TA26 D	
		C849	LG 0CN1050K948	CAPACITOR,TUBULAR(HIGH DIELEC)	1UF 50V Z F TA26 D	
		C850	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C852	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C854	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C857	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C859	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C860	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C861	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C863	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C864	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C867	LG 0CX5600K408	CAPACITOR,TUBULAR(T.C)	56P 50V J SL TA26	
		C868	LG 0CE4774C638	CAPACITOR,FIXED ELECTROLYTIC	470UF SRA,SS 6.3V 20% FM5 TP 5	
		C872	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C874	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C876	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C877	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C878	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C879	LG 0CN1020K518	CAPACITOR TUBULA(HIGH DIELE)	1000P 50V K B TA26	
		C881	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C884	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C885	LG 0CE4754K638	CAPACITOR,FIXED ELECTROLYTIC	4.7UF SRA,SS 50V 20% FM5 TP 5	
		C886	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
		C887	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C888	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C889	QETC1HM 105Z	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C890	LG 0CN4730K948	CAPACITOR,FIXED TUBULAR(High d	0.047UF D 50V 80%, 20% F(Y5V)	
		C891	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		CS501	LG 6600M000002	SWITCH,PUSH	MPU11810MLB0 MIC DC 5V 1MA D 3	
		D101	ERA22 10	DIODE,RECTIFIERS	ERA22 10 KFLB,TP ,R T/P,FUJI	
		D102	LG 0DD010009AC	DIODE	EU01W(R FORM) TP SANKEN	
		D107	LG 0DD010009AC	DIODE	EU01W(R FORM) TP SANKEN	
		D108	LG 0DD010009AC	DIODE	EU01W(R FORM) TP SANKEN	
		D110	LG 0DD400000AD	DIODE,RECTIFIERS	RU4YXLF(015 305) M20 SANKEN	
		D111	LG 0DR158220AA	DIODE,RECTIFIER	1N5822 BK RECTRON DO201AD 40V	
		D112	LG 0DR158220AA	DIODE,RECTIFIER	1N5822 BK RECTRON DO201AD 40V	
		D113	LG 0DD010009AC	DIODE	EU01W(R FORM) TP SANKEN	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
		D114	LG 0DR104009AB	DIODE,RECTIFIER	RL104 R. TP GULF SEMICONDUCTOR	
		D117	LG 0DR104009AB	DIODE,RECTIFIER	RL104 R. TP GULF SEMICONDUCTOR	
		D121	1SS133 T2	DIODE,SWITCHING	1SS133 DETECT,SW TP	
		D122	1SS133 T2	DIODE,SWITCHING	1SS133 DETECT,SW TP	
		D502	1SS133 T2	DIODE,SWITCHING	1SS133 DETECT,SW TP	
		D509	1SS133 T2	DIODE,SWITCHING	1SS133 DETECT,SW TP	
		D801	1SS133 T2	DIODE,SWITCHING	1SS133 DETECT,SW TP	
		D803	1SS133 T2	DIODE,SWITCHING	1SS133 DETECT,SW TP	
		ES501	LG 4931R 0050A	HOLDER ASSY	END	
		ES502	LG 4931R 0050A	HOLDER ASSY	END	
		F101	LG 585 011T	FUSE,SLOW BLOW	1600MA 250 V 5.2X20 CY/GL SEMK	
		F102	LG GIRH200000B	IC,ROHM	ICP N20 T104 TP IC DETACT	
		FL301	LG 633 032N	COIL,IFT	BIAC OSC DEO 010 KWANGSUNG	
		IC101	LG 0IPMGFF001A	IC,POWER MANAGEMENT	ICE2B265 INFINEON 8 DIP ST SMP	
		IC102	LG 0ISS431000A	IC,SAMSUNG ELECTRONICS	KA431AZ (LM431AZ)	
		IC103	PQ3RD13	IC,SHARP	PQ3RD13L 4PIN TO 220 ST 3.3V L	
		IC104	PQ3RD13	IC,SHARP	PQ3RD13L 4PIN TO 220 ST 3.3V L	
		IC105	PZ0ILI817000B	SENSOR	LTV 817B,PHOTO COUPLER(LITEON)	
		IC106	KIA78R08PI	IC,POWER MANAGEMENT	KIA78R08PI CU KEC 4P TO 220IS	
		IC301	LG 0IHI118717B	IC,HITACHI	HA118717F 100QFP BK AVCP1CHIP	
		IC401	LG 0IMI658450A	IC,MITSUBISHI	M65845AFP 36DIP BK KARAOKE	
		IC403	LG 0IMI624290A	IC,MITSUBISHI	M62429P 8DIP BK VR	
		IC405	NJM4580D	IC,PERIPHERALS	NJM4580D JRC 8 DIP ST SWITCHIN	
		IC501	LG 0IMCRHY065B	IC,MICRO CONTROLLER	GMS3977RBB70F HYNIX 100PIN QFP	
		IC504	LG 0IKE703100A	IC,KEC	KIA7031P 3P 3.1V RESET(TAPING)	
		IC801	LG 0IPH960500A	IC,PHILIPS	TDA9605H QFP44 BK HIFI AMP+HIF	
		IC802	MM1443XJ	IC,MITSUMI	MM1443XJ SSOP 34 TP CANAL S/W	
		JK801	LG 6612R C012A	JACK,RCA	RCA 612 YUQIU 15X20,6RCA	
		L102	LG 616 145E	FILTER(CIRC),DRAWING	KSE 145E KSE LINE FILTER SQ211	
		L122	LG 633 088G	COIL,CHOKE	CHOCK(22MH) 5MM TOKO TP	
		L123	LG 633 088G	COIL,CHOKE	CHOCK(22MH) 5MM TOKO TP	
		L124	LG 633 088G	COIL,CHOKE	CHOCK(22MH) 5MM TOKO TP	
		L301	LG 0LR1000K035	INDUCTOR RADIAL LEAD	100M K 6X6 L5 TP	
		L303	LG 0LA1800K018	INDUCTOR AXIAL LEAD	180M K 2.3X3.4 L5 TP	
		L304	LG 0LR1000J025	INDUCTOR,RADIAL LEAD	100UH 5 4X5 TR5	
		L306	LG 0LA0122K018	INDUCTOR AXIAL LEAD	12M K 2.3X3.4 L5 TP	
		L311	LG 0LA1000K018	INDUCTOR AXIAL LEAD	100M K 2.3X3.4 L5 TP	
		L3S1	LG 0LA0332K018	INDUCTOR AXIAL LEAD	33M K 2.3X3.4 L5 TP	
		L401	LG 0LR1000J025	INDUCTOR,RADIAL LEAD	100UH 5 4X5 TR5	
		L402	LG 0LR1000J025	INDUCTOR,RADIAL LEAD	100UH 5 4X5 TR5	
		L505	LG 0LR0102J0N5	INDUCTOR,RADIAL LEAD	10UH 5% TP 3X5 TR5	
		L506	LG 635 027C	INDUCTOR,RADIAL LEAD	EL0405RA SKI150G 3 K TDK 15UH	
		L801	LG 0LR1000J025	INDUCTOR,RADIAL LEAD	100UH 5 4X5 TR5	
		L873	LG 0LA1000K018	INDUCTOR AXIAL LEAD	100M K 2.3X3.4 L5 TP	
		L874	LG 0LA1000K018	INDUCTOR AXIAL LEAD	100M K 2.3X3.4 L5 TP	
		LD501	LG 4931R 0017A	HOLDER ASSY	LED	
		MS501	LG 6600JB8005B	SWITCH,MODE	NON 5V 1MA VERTICAL G	
		P1D01	LG 6631R E007M	CONNECTOR ASSEMBLY	8283/9073 12 PIN 200M/M UL1061	
		P3D01	LG 561 234S	CONNECTOR(CIRC),DRAWING	GF120 9S TS A LG CABLE 9P 1.25	
		P3D02	LG 6630R5S010A	CONNECTOR (CIRC)	GF105 06S TS LG CABLE 6PIN 2MM	
		P3D03	LG 561 251B	CONNECTOR(CIRC),DRAWING	GB201 2P TS B(LGC)	
		P8D01	LG 561 686L	CONNECTOR (CIRC),FFC/FPC	00 8370 121 000 800 ELCO 12PIN	
		PM401	LG 561 036D	CONNECTOR	MA V 8283 0512 WH ELCO	
		PM601	LG 6630R2P011L	CONNECTOR (CIRC),BOARD TO BOAR	GB202 12P TS LG CABLE 12PIN 2	
		PMC01	LG 6630R BE01L	CONNECTOR (CIRC),BOARD TO BOAR	JE612 12 JAE EUN 12P 2.0MM	
		PW101	LG 561 292B	CONNECTOR	GP390 LGC 3P 3.96 STRAIGHT SN	
		Q110	LG 0TR320309AA	TRANSISTOR,BIPOLARS	KTC3203 KEC TP TO92 50V 150MA	
		Q111	KRA103M T	TRANSISTOR	KRA103M TP (KRA2203) KEC	
		Q112	LG 0TR320309AA	TRANSISTOR,BIPOLARS	KTC3203 KEC TP TO92 50V 150MA	
		Q113	LG 0TR127309AA	TRANSISTOR	KTA1273 TP Y (KTA966A)KEC	
		Q114	LG 0TR126809BA	TRANSISTOR,BIPOLARS	KTA1268 BL TP KEC	
		Q115	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	
		Q116	LG 0TR127309AA	TRANSISTOR	KTA1273 TP Y (KTA966A)KEC	
		Q117	LG 0TR320509AB	TRANSISTOR	KTC3205 TP Y (KTC2236A)KEC	
		Q172	LG 0TR320309AA	TRANSISTOR,BIPOLARS	KTC3203 KEC TP TO92 50V 150MA	
		Q301	LG 0TR320309AA	TRANSISTOR,BIPOLARS	KTC3203 KEC TP TO92 50V 150MA	
		Q302	LG 0TR127309AA	TRANSISTOR	KTA1273 TP Y (KTA966A)KEC	
		Q303	KRC103M T	TRANSISTOR	KRC103M TP (KRC1203) KEC	
		Q304	KTA1267/G/	TRANSISTOR	KTA1267 GR MINI TP KEC	
		Q305	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	
		Q306	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	
		Q307	KRA103M T	TRANSISTOR	KRA103M TP (KRA2203) KEC	
		Q309	KTA1267/G/	TRANSISTOR	KTA1267 GR MINI TP KEC	
		Q3S1	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	
		Q501	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	
		Q503	KTA1267/G/	TRANSISTOR	KTA1267 GR MINI TP KEC	
		Q514	KRC103M T	TRANSISTOR	KRC103M TP (KRC1203) KEC	
		Q515	KRC103M T	TRANSISTOR	KRC103M TP (KRC1203) KEC	
		Q516	KRC103M T	TRANSISTOR	KRC103M TP (KRC1203) KEC	
		Q517	KRC103M T	TRANSISTOR	KRC103M TP (KRC1203) KEC	
		Q801	KTA1267/G/	TRANSISTOR	KTA1267 GR MINI TP KEC	
		Q802	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	
		Q803	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	

*NSP : Not service parts

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
	Q804	KTA1267/G/	TRANSISTOR	KTA1267 GR MINI TP KEC	
	Q805	KTC3199/L/	TRANSISTOR,BIPOLARS	KTC3199 BL MINI TP KEC	
	R100	QRE121J 155Y	RESISTOR,FIXED CARBON FILM	1.5M OHM 1/2 W 5% MF10	
	R101	LG 614 007R	RESISTOR,CEMENT	2.7 OHM 2 W 5% TR RWR	
	R104	LG 0RS5602K619	RESISTOR,FIXED METAL OXIDE FIL	56K OHM 2 W 5% TR	
	R105	QRE141J 220Y	RESISTOR,FIXED CARBON FILM	22 OHM 1/6 W 5% TA26	
	R106	QRE141J 220Y	RESISTOR,FIXED CARBON FILM	22 OHM 1/6 W 5% TA26	
	R107	LG 0RS0350K619	RESISTOR,FIXED METAL OXIDE FIL	0.35 OHM 2 W 5% TR	
	R111	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
	R112	QRD161J 221	RESISTOR,FIXED CARBON FILM	220 OHM 1/6 W 5% TA26	
	R113	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R114	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R115	LG 0RN3301F408	RESISTOR,FIXED METAL FILM	3.3K OHM 1/6 W 1% TA26	
	R116	LG 0RN2701F408	RESISTOR,FIXED METAL FILM	2.7K OHM 1/6 W 1% TA26	
	R117	QRD161J 271Y	RESISTOR,FIXED CARBON FILM	270 OHM 1/6 W 5% TA26	
	R118	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
	R119	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
	R131	QRE121J 224Y	RESISTOR,FIXED CARBON FILM	220K OHM 1/6 W 5% TA26	
	R132	QRE121J 224Y	RESISTOR,FIXED CARBON FILM	220K OHM 1/6 W 5% TA26	
	R151	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R152	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R154	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R155	QRD161J 183Y	RESISTOR,FIXED CARBON FILM	18K OHM 1/6 W 5% TA26	
	R156	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R157	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R158	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
	R159	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
	R160	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R161	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
	R162	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
	R163	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R164	QRE141J 473Y	RESISTOR,FIXED CARBON FILM	47K OHM 1/6 W 5% TA26	
	R167	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R169	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R170	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R171	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R172	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R173	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R301	QRE141J 334Y	RESISTOR,FIXED CARBON FILM	330K OHM 1/6 W 5% TA26	
	R302	QRE141J 123Y	RESISTOR,FIXED CARBON FILM	12K OHM 1/6 W 5% TA26	
	R303	QRD161J 181Y	RESISTOR,FIXED CARBON FILM	180 OHM 1/6 W 5% TA26	
	R304	QRD161J 683Y	RESISTOR,FIXED CARBON FILM	68K OHM 1/6 W 5% TA26	
	R305	QRD161J 183Y	RESISTOR,FIXED CARBON FILM	18K OHM 1/6 W 5% TA26	
	R308	QRD161J 470Y	RESISTOR,FIXED CARBON FILM	47 OHM 1/6 W 5% TA26	
	R309	QRE141J 152Y	RESISTOR,FIXED CARBON FILM	1.5K OHM 1/6 W 5% TA26	
	R310	QRD161J 272Y	RESISTOR,FIXED CARBON FILM	2.7K OHM 1/6 W 5% TA26	
	R311	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R312	QRE141J 473Y	RESISTOR,FIXED CARBON FILM	47K OHM 1/6 W 5% TA26	
	R313	QRE141J 123Y	RESISTOR,FIXED CARBON FILM	12K OHM 1/6 W 5% TA26	
	R314	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R315	QRD161J 272Y	RESISTOR,FIXED CARBON FILM	2.7K OHM 1/6 W 5% TA26	
	R316	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26	
	R317	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26	
	R320	QRD161J 393Y	RESISTOR,FIXED CARBON FILM	39K OHM 1/6 W 5% TA26	
	R321	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R322	QRD161J 682Y	RESISTOR,FIXED CARBON FILM	6.8K OHM 1/6 W 5% TA26	
	R324	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R325	QRD161J 182Y	RESISTOR,FIXED CARBON FILM	1.8K OHM 1/6 W 5% TA26	
	R326	QRE141J 333Y	RESISTOR,FIXED CARBON FILM	33K OHM 1/6 W 5% TA26	
	R327	QRD161J 332Y	RESISTOR,FIXED CARBON FILM	3.3K OHM 1/6 W 5% TA26	
	R328	QRE141J 152Y	RESISTOR,FIXED CARBON FILM	1.5K OHM 1/6 W 5% TA26	
	R332	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R333	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26	
	R334	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R336	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R338	QRD161J 271Y	RESISTOR,FIXED CARBON FILM	270 OHM 1/6 W 5% TA26	
	R340	QRD161J 2R2Y	RESISTOR,FIXED CARBON FILM	2.2 OHM 1/6 W 5% TA26	
	R341	QRD161J 2R2Y	RESISTOR,FIXED CARBON FILM	2.2 OHM 1/6 W 5% TA26	
	R342	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R346	QRD161J 225Y	RESISTOR,FIXED CARBON FILM	2.2M OHM 1/6 W 5% TA26	
	R353	QRD161J 182Y	RESISTOR,FIXED CARBON FILM	1.8K OHM 1/6 W 5% TA26	
	R3S3	QRE141J 152Y	RESISTOR,FIXED CARBON FILM	1.5K OHM 1/6 W 5% TA26	
	R401	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R402	QRD161J 153Y	RESISTOR,FIXED CARBON FILM	15K OHM 1/6 W 5% TA26	
	R403	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26	
	R406	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R408	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R409	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R410	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R411	QRD161J 273Y	RESISTOR,FIXED CARBON FILM	27K OHM 1/6 W 5% TA26	
	R413	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R414	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R415	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R416	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R417	QRD161J 393Y	RESISTOR,FIXED CARBON FILM	39K OHM 1/6 W 5% TA26	
	R418	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R419	QRE141J 473Y	RESISTOR,FIXED CARBON FILM	47K OHM 1/6 W 5% TA26	
	R430	QRD161J 153Y	RESISTOR,FIXED CARBON FILM	15K OHM 1/6 W 5% TA26	
	R431	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R432	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R440	QRE141J 123Y	RESISTOR,FIXED CARBON FILM	12K OHM 1/6 W 5% TA26	
	R441	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R442	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R443	QRE141J 123Y	RESISTOR,FIXED CARBON FILM	12K OHM 1/6 W 5% TA26	
	R445	QRD161J 474Y	RESISTOR,FIXED CARBON FILM	470K OHM 1/6 W 5% TA26	
	R446	QRD161J 271Y	RESISTOR,FIXED CARBON FILM	270 OHM 1/6 W 5% TA26	
	R463	QRD161J 474Y	RESISTOR,FIXED CARBON FILM	470K OHM 1/6 W 5% TA26	
	R465	QRD161J 474Y	RESISTOR,FIXED CARBON FILM	470K OHM 1/6 W 5% TA26	
	R466	QRD161J 474Y	RESISTOR,FIXED CARBON FILM	470K OHM 1/6 W 5% TA26	
	R467	QRE141J 123Y	RESISTOR,FIXED CARBON FILM	12K OHM 1/6 W 5% TA26	
	R481	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R482	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R483	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R484	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R501	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R502	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R503	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R504	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R505	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R507	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R508	QRD161J 272Y	RESISTOR,FIXED CARBON FILM	2.7K OHM 1/6 W 5% TA26	
	R509	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R510	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R511	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R512	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R514	QRD161J 184Y	RESISTOR,FIXED CARBON FILM	180K OHM 1/6 W 5% TA26	
	R515	QRD161J 271Y	RESISTOR,FIXED CARBON FILM	270 OHM 1/6 W 5% TA26	
	R516	QRD161J 564Y	RESISTOR,FIXED CARBON FILM	560K OHM 1/6 W 5% TA26	
	R517	QRD161J 105Y	RESISTOR,FIXED CARBON FILM	1M OHM 1/6 W 5% TA26	
	R518	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
	R519	QRD161J 273Y	RESISTOR,FIXED CARBON FILM	27K OHM 1/6 W 5% TA26	
	R520	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
	R521	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R522	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R523	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R525	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R526	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R527	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
	R528	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R529	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R530	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R531	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
	R532	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
	R533	QRE141J 220Y	RESISTOR,FIXED CARBON FILM	22 OHM 1/6 W 5% TA26	
	R534	QRD161J 105Y	RESISTOR,FIXED CARBON FILM	1M OHM 1/6 W 5% TA26	
	R535	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R537	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
	R540	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R541	QRD161J 474Y	RESISTOR,FIXED CARBON FILM	470K OHM 1/6 W 5% TA26	
	R543	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
	R544	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R546	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26	
	R547	QRD161J 105Y	RESISTOR,FIXED CARBON FILM	1M OHM 1/6 W 5% TA26	
	R548	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
	R550	QRD161J 221	RESISTOR,FIXED CARBON FILM	220 OHM 1/6 W 5% TA26	
	R553	QRD161J 221	RESISTOR,FIXED CARBON FILM	220 OHM 1/6 W 5% TA26	
	R555	QRD161J 221	RESISTOR,FIXED CARBON FILM	220 OHM 1/6 W 5% TA26	
	R556	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R557	QRD161J 273Y	RESISTOR,FIXED CARBON FILM	27K OHM 1/6 W 5% TA26	
	R558	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
	R559	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R560	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R561	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
	R562	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
	R563	QRD161J 274Y	RESISTOR,FIXED CARBON FILM	270K OHM 1/6 W 5% TA26	
	R564	QRD161J 273Y	RESISTOR,FIXED CARBON FILM	27K OHM 1/6 W 5% TA26	
	R566	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R567	QRD161J 821Y	RESISTOR,FIXED CARBON FILM	820 OHM 1/6 W 5% TA26	
	R568	QRD161J 684Y	RESISTOR,FIXED CARBON FILM	680K OHM 1/6 W 5% TA26	
	R569	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R575	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R576	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R577	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R578	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
	R579	QRE121J 224Y	RESISTOR,FIXED CARBON FILM	220K OHM 1/6 W 5% TA26	
	R580	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26	

*NSP : Not service parts

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
		R581	QRD161J 683Y	RESISTOR,FIXED CARBON FILM	68K OHM 1/6 W 5% TA26	
		R582	QRE141J 123Y	RESISTOR,FIXED CARBON FILM	12K OHM 1/6 W 5% TA26	
		R583	QRD161J 563Y	RESISTOR,FIXED CARBON FILM	56K OHM 1/6 W 5% TA26	
		R584	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R588	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
		R589	QRD161J 105Y	RESISTOR,FIXED CARBON FILM	1M OHM 1/6 W 5% TA26	
		R5B1	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R5B3	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R5B4	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R5B5	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
		R5C5	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R5C6	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R5C7	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R5C9	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R5E7	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R5E8	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R801	QRD161J 335Y	RESISTOR,FIXED CARBON FILM	3.3M OHM 1/6 W 5% TA26	
		R802	QRE141J 333Y	RESISTOR,FIXED CARBON FILM	33K OHM 1/6 W 5% TA26	
		R803	QRD161J 272Y	RESISTOR,FIXED CARBON FILM	2.7K OHM 1/6 W 5% TA26	
		R804	QRD161J 393Y	RESISTOR,FIXED CARBON FILM	39K OHM 1/6 W 5% TA26	
		R805	QRD161J 272Y	RESISTOR,FIXED CARBON FILM	2.7K OHM 1/6 W 5% TA26	
		R806	QRE141J 333Y	RESISTOR,FIXED CARBON FILM	33K OHM 1/6 W 5% TA26	
		R807	QRD161J 471Y	RESISTOR,FIXED CARBON FILM	470 OHM 1/6 W 5% TA26	
		R808	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R809	QRD161J 183Y	RESISTOR,FIXED CARBON FILM	18K OHM 1/6 W 5% TA26	
		R810	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
		R811	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
		R812	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R821	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R822	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
		R823	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R824	QRD161J 223Y	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	
		R831	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R832	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R850	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
		R851	QRD161J 101Y	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	
		R852	QRD161J 750Y	RESISTOR,FIXED CARBON FILM	75 OHM 1/6 W 5% TA26	
		R853	QRD161J 750Y	RESISTOR,FIXED CARBON FILM	75 OHM 1/6 W 5% TA26	
		R855	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
		R856	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
		R857	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
		R869	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
		R870	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
		R871	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
		R878	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
		R879	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
		R880	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
		R881	QRD161J 563Y	RESISTOR,FIXED CARBON FILM	56K OHM 1/6 W 5% TA26	
		R882	QRD161J 153Y	RESISTOR,FIXED CARBON FILM	15K OHM 1/6 W 5% TA26	
		R883	QRD161J 332Y	RESISTOR,FIXED CARBON FILM	3.3K OHM 1/6 W 5% TA26	
		R884	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R885	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
		R886	QRD161J 561	RESISTOR,FIXED CARBON FILM	560 OHM 1/6 W 5% TA26	
		R887	QRD161J 682Y	RESISTOR,FIXED CARBON FILM	6.8K OHM 1/6 W 5% TA26	
		R888	QRD161J 393Y	RESISTOR,FIXED CARBON FILM	39K OHM 1/6 W 5% TA26	
		R889	QRE141J 333Y	RESISTOR,FIXED CARBON FILM	33K OHM 1/6 W 5% TA26	
		R890	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26	
		RS501	LG 6500RAB003A	SENSOR	SG 260 KODENSHI D33 REEL SENSO	
		RS502	LG 6500RAB003A	SENSOR	SG 260 KODENSHI D33 REEL SENSO	
		T101	LG 6170RNGW12A	TRANSFORMER,SMPS[COIL]	EER3530 SOOJUNG WIDE EER3530	
		W866	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		W867	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA	
		X301	LG 6202R AJ04C	RESONATOR,CRYSTAL	HC 49U BUBANG 3.579620MHZ 15PP	
		X302	LG 6202R AJ07E	RESONATOR,CRYSTAL	H49U SSANG TAE 4433783HZ 15P	
		X501	LG 6202R31001E	RESONATOR,CRYSTAL	ATS SSANG TAE 10000000HZ 30PP	
		ZD101	MTZJ3.3B	DIODE,ZENER	MTZJ3.3B TP ROHM K DO34 0.5W 3	
		ZD103	MTZ13AT 77	DIODE,ZENER	MTZ13A TP ROHM K	
		ZD105	MTZJ5.6C	DIODE,ZENER	MTZ5.6C TP(26MM) ROHM 5.6V	
		ZD172	LG 0DZ120009BH	DIODE,ZENERS	UZ 12BSC PYUNG CHANG TP26 DO34	
		ZD503	MTZJ6.8C	DIODE ZENER	MTZ6.8C TP ROHM K	

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KARAOKE TIMER BOARD ASSEMBLY <31>

A49	LG 3501R 6333A	BOARD ASSEMBLY	JVC KARAOKE TIMER
C601	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)
C602	LG 0CE4774C638	CAPACITOR,FIXED ELECTROLYTIC	470UF SRA,SS 6.3V 20% FM5 TP 5
C603	LG 0CN223AK948	CAPACITOR,TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S
C604	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA
C606	LG 0CN1040K948	CAPACITOR,FIXED TUBULAR(High d	0.1UF D 50V 80%, 20% F(Y5V) TA
DG601	LG 6302RCV118A	DIGITRON	VFD25 1104 ZEC SEG VFD DVD/VCR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
		IC601	LG 0IPRPNE001A	IC,PERIPHERALS	UPD16315GB 3BS NEC 44 QFP BK F	
		L601	LG 0LR8200J025	INDUCTOR,RADIAL LEAD	820UH 5% 4X5 TR5	
		R601	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R602	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R603	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R604	QRD161J 563Y	RESISTOR,FIXED CARBON FILM	56K OHM 1/6 W 5% TA26	
		R605	QRE141J 331Y	RESISTOR,FIXED CARBON FILM	330 OHM 1/6 W 5% TA26	
		R606	QRD161J 4R7Y	RESISTOR,FIXED CARBON FILM	4.7 OHM 1/6 W 5% TA26	
		R607	QRD161J 4R7Y	RESISTOR,FIXED CARBON FILM	4.7 OHM 1/6 W 5% TA26	
		R612	QRE141J 681Y	RESISTOR,FIXED CARBON FILM	680 OHM 1/6 W 5% TA26	
		R613	QRD161J 821Y	RESISTOR,FIXED CARBON FILM	820 OHM 1/6 W 5% TA26	
		R614	QRD161J 122	RESISTOR,FIXED CARBON FILM	1.2K OHM 1/6 W 5% TA26	
		R615	QRE141J 152Y	RESISTOR,FIXED CARBON FILM	1.5K OHM 1/6 W 5% TA26	
		R616	QRD161J 222Y	RESISTOR,FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
		R617	QRD161J 332Y	RESISTOR,FIXED CARBON FILM	3.3K OHM 1/6 W 5% TA26	
		R618	QRD161J 472Y	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	
		R619	QRD161J 822Y	RESISTOR,FIXED CARBON FILM	8.2K OHM 1/6 W 5% TA26	
		R620	QRD161J 153Y	RESISTOR,FIXED CARBON FILM	15K OHM 1/6 W 5% TA26	
		RC601	LG 6712R0838GA	REMOTE CONTROLLER RECEIVER	TSOP1238UQ1 VISHAY(TEMIC) 37 9	
		SW601	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW602	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW603	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW604	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW605	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW606	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW607	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW608	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW609	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	
		SW610	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5	

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KARAOKE KEY BOARD ASSEMBLY <32>

A42	LG 3501R 6334A	BOARD ASSEMBLY	JVC KARAOKE KEY
LED601	LG 0DL112000AJ	DIODE,LED	DL 11S2RNS(SUPER,RED,03)KOC
LED602	LG 0DL112000AJ	DIODE,LED	DL 11S2RNS(SUPER,RED,03)KOC
R630	QRE141J 151Y	RESISTOR,FIXED CARBON FILM	150 OHM 1/6 W 5% TA26
R631	QRE141J 151Y	RESISTOR,FIXED CARBON FILM	150 OHM 1/6 W 5% TA26
R633	QRE141J 681Y	RESISTOR,FIXED CARBON FILM	680 OHM 1/6 W 5% TA26
R634	QRD161J 821Y	RESISTOR,FIXED CARBON FILM	820 OHM 1/6 W 5% TA26
SW631	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5
SW632	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5
SW633	LG 556 219B	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5

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KARAOKE JACK BOARD ASSEMBLY <33>

A41	LG 6871R 5720B	PWB(PCB) ASSEMBLY,TOTAL	KARAOKE JACK DCJK503WQ
C4M2	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)
C4M3	LG 0CN1010K418	CAPACITOR,TUBULAR(HIGH DIELEC)	100PF 50V J B TA26
C4M5	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)
C4M6	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)
C4M7	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)
IC4M1	NJM4580D	IC,PERIPHERALS	NJM4580D JRC 8 DIP ST SWITCHIN
MC401	LG 6612RFV001D	JACK,PHONE	HTJ 064 277KKG KUNMING 2INPUT
P4M01	LG 6631R E007J	CONNECTOR ASSY	8283 / 9073 5 PIN 80M/M UL1061
R4J1	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26
R4J2	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26
R4J3	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26
R4J4	QRD161J 104Y	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26
R4M1	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26
R4M2	QRE141J 103Y	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26
R4M3	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26
R4M4	QRD161J 562Y	RESISTOR,FIXED CARBON FILM	5.6K OHM 1/6 W 5% TA26
R4M5	QRE141J 102Y	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26
R4M6	QRD161J 273Y	RESISTOR,FIXED CARBON FILM	27K OHM 1/6 W 5% TA26
R4M9	QRD161J 273Y	RESISTOR,FIXED CARBON FILM	27K OHM 1/6 W 5% TA26
ZD4J3	MTZJ13AT 77	DIODE,ZENER	MTZJ13A TP ROHM K
ZD4J4	MTZJ13AT 77	DIODE,ZENER	MTZJ13A TP ROHM K

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SUB BOARD ASSEMBLY <50>

A46A	LG 6885R 0260A	SUB PWB(PCB) ASSEMBLY	495200CA120500 FF B200020AC8 (
C201	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP
C202	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP
C203	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP

*NSP : Not service parts

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
		C204	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C205	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C206	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C207	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C208	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C209	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C210	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C211	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C212	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C213	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C214	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C215	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C216	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C224	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C225	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C226	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C229	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C230	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C231	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C232	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C238	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C239	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C240	LG 0CH1222K562	CAPACITOR,CHIP[CERAMIC M/L HD	2200PF 50V K X7R(X) 1608 R/TP	
		C242	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C245	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C251	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C252	LG 0CH4100K112	CHIP CAPA CERAMIC M/L T.C F/S	10P 50V D COG 1.6X0.8 R/TP	
		C253	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C254	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C255	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C258	LG 0CH1105D942	CAPACITOR,CHIP[CERAMIC M/L HD	1UF 10V Z Y5V(F) 1508 R/TP	
		C261	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C262	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C263	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C264	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C265	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C272	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C273	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
		C274	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C278	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C279	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C280	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C281	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C284	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C285	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C286	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C287	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C288	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C290	NDC31HJ 180X	CAPACITOR,CHIP[CERAMIC M/L TC	18P 50V J COG 1.6X0.8 R/TP	
		C291	NDC31HJ 180X	CAPACITOR,CHIP[CERAMIC M/L TC	18P 50V J COG 1.6X0.8 R/TP	
		C292	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C293	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C294	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C295	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C296	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2A0	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C2A3	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2A4	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C2A5	LG 0CH1683F942	CAPACITOR,FIXED CERAMIC(Temp.c	0.068UF 16V 80%, 20% Y5V(F) 16	
		C2A6	LG 0CH1102K562	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% X7R(X) 1608 R/T	
		C2A7	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2A8	LG 0CH1152K562	CAPACITOR,FIXED CERAMIC(Temp.c	1500PF 50V 10% X7R(X) 1608 R/T	
		C2A9	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2B3	LG 0CH1392K562	CAPACITOR,FIXED CERAMIC(Temp.c	3900PF 50V K Z5U(E) 1608 R/TP	
		C2B4	LG 0CH1683F942	CAPACITOR,FIXED CERAMIC(Temp.c	0.068UF 16V 80%, 20% Y5V(F) 16	
		C2B5	LG 0CH1333K562	CAPACITOR,CHIP[CERAMIC M/L HD	0.033UF 50V K X7R(X) 1508 R/TP	
		C2B9	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2C1	LG 0CH1103K562	CAPACITOR,FIXED CERAMIC(Temp.c	0.01UF 50V 10% X7R(X) 1608 R/T	
		C2C2	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C2C4	LG 0CH1102K562	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% X7R(X) 1608 R/T	
		C2C5	LG 0CH1332K562	CAPACITOR,CHIP[CERAMIC M/L HD	3300P 50V K X7R 1.6X0.8 R/TP	
		C2C6	LG 0CH1102K562	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% X7R(X) 1608 R/T	
		C2C8	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2C9	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C2D0	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C2D1	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C2D2	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2D3	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2D4	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C2D5	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C2D6	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2D7	LG 0CH1152K562	CAPACITOR,FIXED CERAMIC(Temp.c	1500PF 50V 10% X7R(X) 1608 R/T	
		C2D9	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
		C2M1	QET61CM 107Z	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
		C2M2	LG 0CH1682K562	CAPACITOR,CHIP[CERAMIC M/L HD	6800P 50V K X7R 1.6X0.8 R/TP	
		C2M3	LG 0CH1472K562	CAPACITOR,CHIP[CERAMIC M/L HD	4700PF 50V K X7R(X) 1608 R/TP	
		C2M4	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2M5	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2M6	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2M7	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2M8	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2M9	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2N1	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2N3	LG 0CH1223K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.022UF 50V Z Y5V(F) 1508 R/TP	
		C2N4	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
		C301	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C302	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
		C303	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C304	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C305	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C306	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C307	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C308	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C309	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
		C314	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C316	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C317	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C318	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C319	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C320	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C3F1	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
		C3F2	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C401	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C402	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C403	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C404	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C405	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C406	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C408	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C409	LG 0CE2274C638	CAPACITOR,ELECTROLYTIC	220M SRA 6.3V M FM5 TP(5)	
		C410	LG 0CH4271K412	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C411	LG 0CH1102K512	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% B(5YP) 1608 R/T	
		C412	LG 0CH4271K412	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C413	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C414	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C415	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C416	LG 0CH1102K512	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% B(5YP) 1608 R/T	
		C417	LG 0CH4271K412	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C418	LG 0CH1392K562	CAPACITOR,FIXED CERAMIC(Temp.c	3900PF 50V K Z5U(E) 1608 R/TP	
		C419	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C420	LG 0CH1392K562	CAPACITOR,FIXED CERAMIC(Temp.c	3900PF 50V K Z5U(E) 1608 R/TP	
		C421	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C422	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C423	LG 0CH4271K412	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C424	LG 0CH1104K942	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C501	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C503	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C504	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C506	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
		C507	QET61CM 476	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C508	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C509	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C510	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C511	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C512	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C513	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C514	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C515	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C516	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C517	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C518	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C519	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C520	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C521	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C522	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C523	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
		C525	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C526	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C527	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C528	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C529	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C530	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C531	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C532	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C533	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
		C534	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	

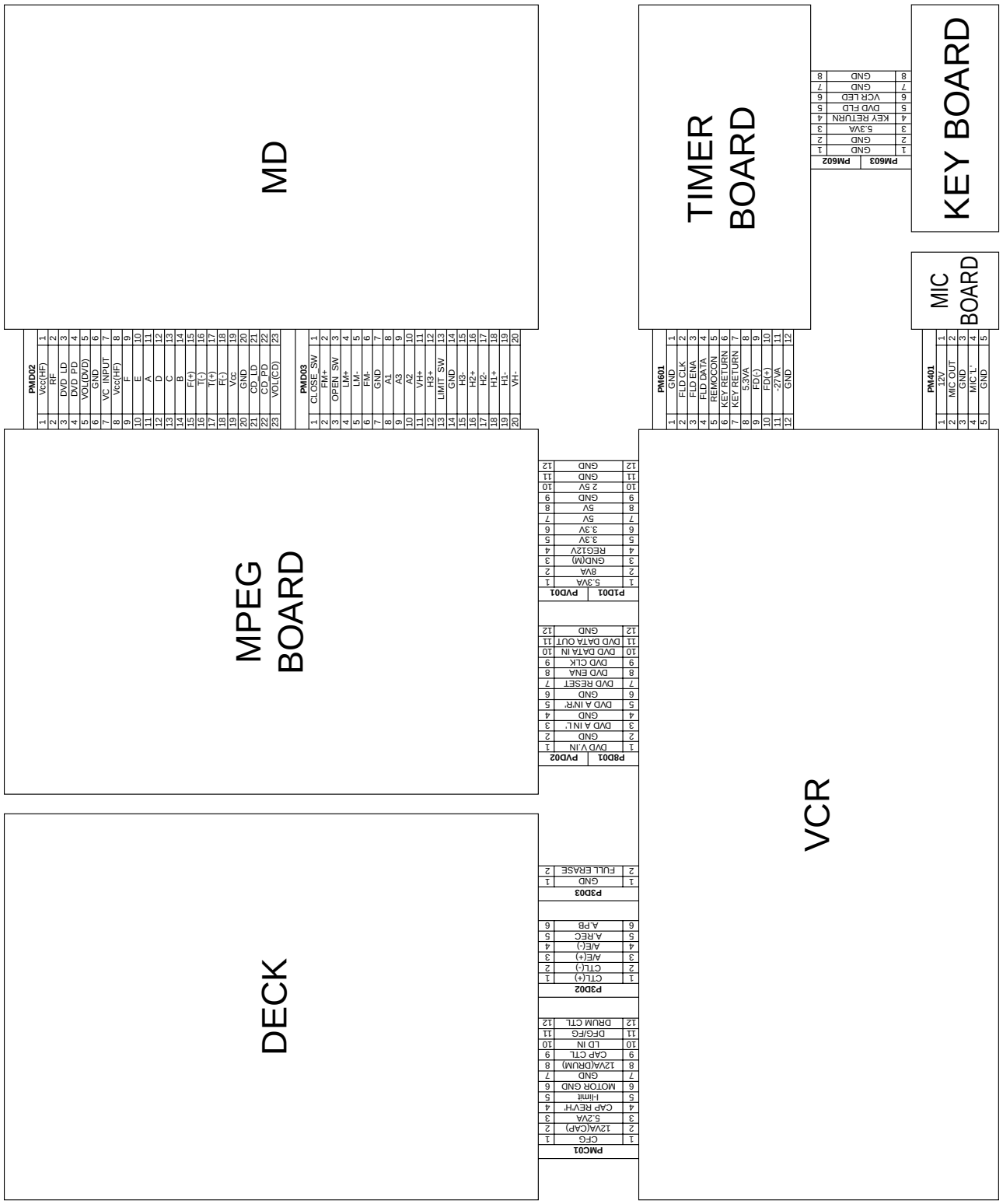
*NSP : Not service parts

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
	C535	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C536	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C538	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
	C540	NDC31HJ 220X	CAPA,CHIP CERAMIC M/L T.C F/S	22P 50V J COG 1.6X0.8 R/TP	
	C541	NDC31HJ 270X	CAPACITOR,CHIP[CERAMIC M/L TC	27PF 50V J NP0 1608 R/TP	
	C542	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C543	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C544	LG 0CH1225F944	CAPACITOR,FIXED CERAMIC(Temp.c	2.2UF 16V 80%, 20% Y5V(F) 3216	
	C546	NDC31HJ 221X	CAPACITOR,CHIP[CERAMIC M/L TC	220P 50V J COG 1.6X0.8 R/TP	
	C549	NDC31HJ 221X	CAPACITOR,CHIP[CERAMIC M/L TC	220P 50V J COG 1.6X0.8 R/TP	
	C550	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C553	NDC31HJ 221X	CAPACITOR,CHIP[CERAMIC M/L TC	220P 50V J COG 1.6X0.8 R/TP	
	C554	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C555	NDC31HJ 101X	CHIP CAPA CERAMIC M/L T.C F/S	100P 50V J COG 1.6X0.8 R/TP	
	C556	NDC31HJ 101X	CHIP CAPA CERAMIC M/L T.C F/S	100P 50V J COG 1.6X0.8 R/TP	
	C557	NDC31HJ 270X	CAPACITOR,CHIP[CERAMIC M/L TC	27PF 50V J NP0 1608 R/TP	
	C558	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C601	LG 0CE4774C638	CAPACITOR,FIXED ELECTROLYTIC	470UF SRA,SS 6.3V 20% FM5 TP 5	
	C603	QET61CM 107Z	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
	C604	LG 0CE4774C638	CAPACITOR,FIXED ELECTROLYTIC	470UF SRA,SS 6.3V 20% FM5 TP 5	
	C606	NCF31CZ 104X	CAPACITOR,FIXED CERAMIC(Temp.c	0.1UF 16V 80%, 20% Y5V(F) 1608	
	C607	LG 0CE4774C638	CAPACITOR,FIXED ELECTROLYTIC	470UF SRA,SS 6.3V 20% FM5 TP 5	
	C614	QET61CM 106Z	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
	C663	QET61CM 226	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
	D2A1	DAN202K X	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
	D2A2	DAN202K X	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
	D2A3	DAN202K X	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
	D603	DAN202K X	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
	D604	DAN202K X	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
	F602	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F603	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F604	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F605	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F606	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F607	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F608	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F609	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	F610	LG 6200HJC901A	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2 5K	
	IC201	LG 0ILNRHY002B	IC,LINEAR	HDC25D811B HYUNDAI 208 QFP TRA	
	IC203	LG 0IEB121616A	IC,ELITE MEMORY TECHNOLOGY	M12L16161A 7T 50P TSOP ST 16M(	
	IC206	TCW04FU X	IC,TOSHIBA	TC7W04FU	
	IC2A1	LG 0ILNRHI003A	IC,LINEAR	HD153702TF HITACHI 64 TQFP TRA	
	IC2A2	NJM3414AM X	IC,JRC	NJM3414AM TE1,3K/REEL JRC	
	IC2A4	LG 0IKE393000G	IC,KEC	KIA393F EL FLP 8 TP DUAL COMPA	
	IC2M1	LG 0IFA303200A	IC,FAIRCHILD	KA3032 48QFP BK 5CH MOTOR DRIV	
	IC301	LG 0IXL957210C	IC,XILINX	XC9572XL 10TQ100C 100 QFP TRAY	
	IC3F1A	LG 6957R 253AK	PROGRAM	DCJK503WQ DVD PROGRAM	
	IC305	LG 0IHY576532A	IC,HYUNDAI	HY57V653220CTC 7 86P TSOP BK S	
	IC401	LG 0IPRPCI003B	IC,PERIPHERALS	CS4391 KZR CIRRUS LOGIC 20 TSS	
	IC402	NJM4580M X	IC,JRC	NJM4580M 8,DMP8 TP OP AMP 2K/R	
	IC501	LG 0INS860200A	IC,NATIONAL SEMICONDUCTOR	NDV8602 240 VQFP BK MICOM+MPEG	
	IC502	LG 0IMMRCB001A	IC,MEMORIES	CAT93C56S TE13 CRYSTAL SEMICON	
	IC503	LG 0IFA742440F	IC,FAIRCHILD	MM74HCT244SJ 20P SOIC TP 3 STA	
	IC506	LG 0IPMGRH003A	IC,POWER MANAGEMENT	BA18BC0FP E2 ROHM 3P TO252 3 R	
	IC601	MM1510XN X	IC,PERIPHERALS	MM1510XNRE MITSUMI 6,SOT 26A R	
	JK601	LG 6612J00012C	JACK,RCA	RCA 1302A 3G YUQIU DVD+VCR	
	L201	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L203	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L206	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L207	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L2A1	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L2A2	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L301	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L302	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L3F1	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L502	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L503	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L504	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	L505	LG 6200HJC102A	FILTER(CIRC),EMC	HB 1M2012 102JT CERATECH TP	
	PDV03	LG 561 686L	CONNECTOR (CIRC),FFC/FPC	00 8370 121 000 800 ELCO 12PIN	
	Q2A1	2SA1037K/QR/ X	TRANSISTOR	2SA1037K Q CHIP ROHM J	
	Q2A2	2SA1037K/QR/ X	TRANSISTOR	2SA1037K Q CHIP ROHM J	
	Q2A5	LG 0TR388209AA	TRANSISTOR,BIPOLARS	CHIP KTC3882 SOT 23 TP KEC	
	Q2A6	LG 0TR388209AA	TRANSISTOR,BIPOLARS	CHIP KTC3882 SOT 23 TP KEC	
	Q2M1	DTC124EKA X	TRANSISTOR	DTC124EK TP ROHM KOREA SOT23 3	
	Q605	LG 0TR103009AC	TRANSISTOR	KRA103S T1(PC)22 22 CHIP KEC	
	Q606	LG 0TR103009AC	TRANSISTOR	KRA103S T1(PC)22 22 CHIP KEC	
	Q607	LG 0TR387509AC	TRANSISTOR	CHIP KTC3875S GR T1(ALG) KEC	
	Q608	LG 0TR387509AC	TRANSISTOR	CHIP KTC3875S GR T1(ALG) KEC	
	Q615	2SA1037K/QR/ X	TRANSISTOR	2SA1037K Q CHIP ROHM J	
	R201	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R202	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R203	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R204	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R207	NRSA63J 105X	RESISTOR,METAL GLAZED(CHIP)	1M OHM 1 / 16 W 1608 5% D	
	R217	NRSA63J 100X	RESISTOR,METAL GLAZED(CHIP)	10 OHM 1 / 16 W 1608 5% D	
	R218	NRSA63J 471X	RESISTOR,METAL GLAZED(CHIP)	470 OHM 1 / 16 W 1608 5% D	
	R219	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R220	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R230	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R231	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R232	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R233	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R234	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R235	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R236	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R237	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R239	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R240	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R241	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R242	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R243	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R252	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R273	NRSA63J 152X	RESISTOR,METAL GLAZED(CHIP)	1.5K OHM 1 / 16 W 1608 5% D	
	R274	NRSA63J 621X	RESISTOR,METAL GLAZED(CHIP)	620 OHM 1 / 16 W 1608 5% D	
	R275	NRSA63J 152X	RESISTOR,METAL GLAZED(CHIP)	1.5K OHM 1 / 16 W 1608 5% D	
	R276	NRSA63J 911X	RESISTOR,METAL GLAZED(CHIP)	910 OHM 1 / 16 W 1608 5% D	
	R277	NRSA63J 151X	RESISTOR,METAL GLAZED(CHIP)	150 OHM 1 / 16 W 1608 5% D	
	R278	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R279	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R281	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R290	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R291	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R292	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2A1	NRSA63J 910X	RESISTOR,METAL GLAZED(CHIP)	91 OHM 1 / 16 W 1608 5% D	
	R2A2	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R2A6	NRSA63J 123X	RESISTOR,METAL GLAZED(CHIP)	12K OHM 1 / 16 W 1608 5% D	
	R2A9	NRSA63J 563X	RESISTOR,METAL GLAZED(CHIP)	56K OHM 1 / 16 W 1608 5% D	
	R2B0	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2B1	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2B2	NRSA63J 180X	RESISTOR,METAL GLAZED(CHIP)	18 OHM 1 / 16 W 1608 5% D	
	R2B3	NRSA63J 180X	RESISTOR,METAL GLAZED(CHIP)	18 OHM 1 / 16 W 1608 5% D	
	R2B4	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R2B5	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2B6	NRSA63J 180X	RESISTOR,METAL GLAZED(CHIP)	18 OHM 1 / 16 W 1608 5% D	
	R2B7	NRSA63J 180X	RESISTOR,METAL GLAZED(CHIP)	18 OHM 1 / 16 W 1608 5% D	
	R2B8	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R2C0	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2C4	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2C5	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2C6	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2C7	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2C8	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2C9	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2D0	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2D1	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R2D2	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R2D3	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2D4	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2D5	NRSA63J 682X	RESISTOR,METAL GLAZED(CHIP)	6.8K OHM 1 / 16 W 1608 5% D	
	R2D6	NRSA63J 910X	RESISTOR,METAL GLAZED(CHIP)	91 OHM 1 / 16 W 1608 5% D	
	R2E6	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R2E7	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R2E8	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R2F1	NRSA63J 221X	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5% D	
	R2F2	NRSA63J 221X	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5% D	
	R2F3	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R2F4	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R2F5	NRSA63J 223X	RESISTOR,METAL GLAZED(CHIP)	22K OHM 1 / 16 W 1608 5% D	
	R2F6	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2F7	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2F8	NRSA63J 222X	RESISTOR,METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5% D	
	R2F9	NRSA63J 222X	RESISTOR,METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5% D	
	R2G1	NRSA63J 222X	RESISTOR,METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5% D	
	R2G2	NRSA63J 222X	RESISTOR,METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5% D	
	R2G3	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2G4	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2G7	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2G9	NRSA63J 151X	RESISTOR,METAL GLAZED(CHIP)	150 OHM 1 / 16 W 1608 5% D	
	R2M1	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2M2	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2M3	NRSA63J 752X	RESISTOR,METAL GLAZED(CHIP)	7.5K OHM 1 / 16 W 1608 5% D	
	R2M5	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2M6	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2M7	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2M8	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	

*NSP : Not service parts

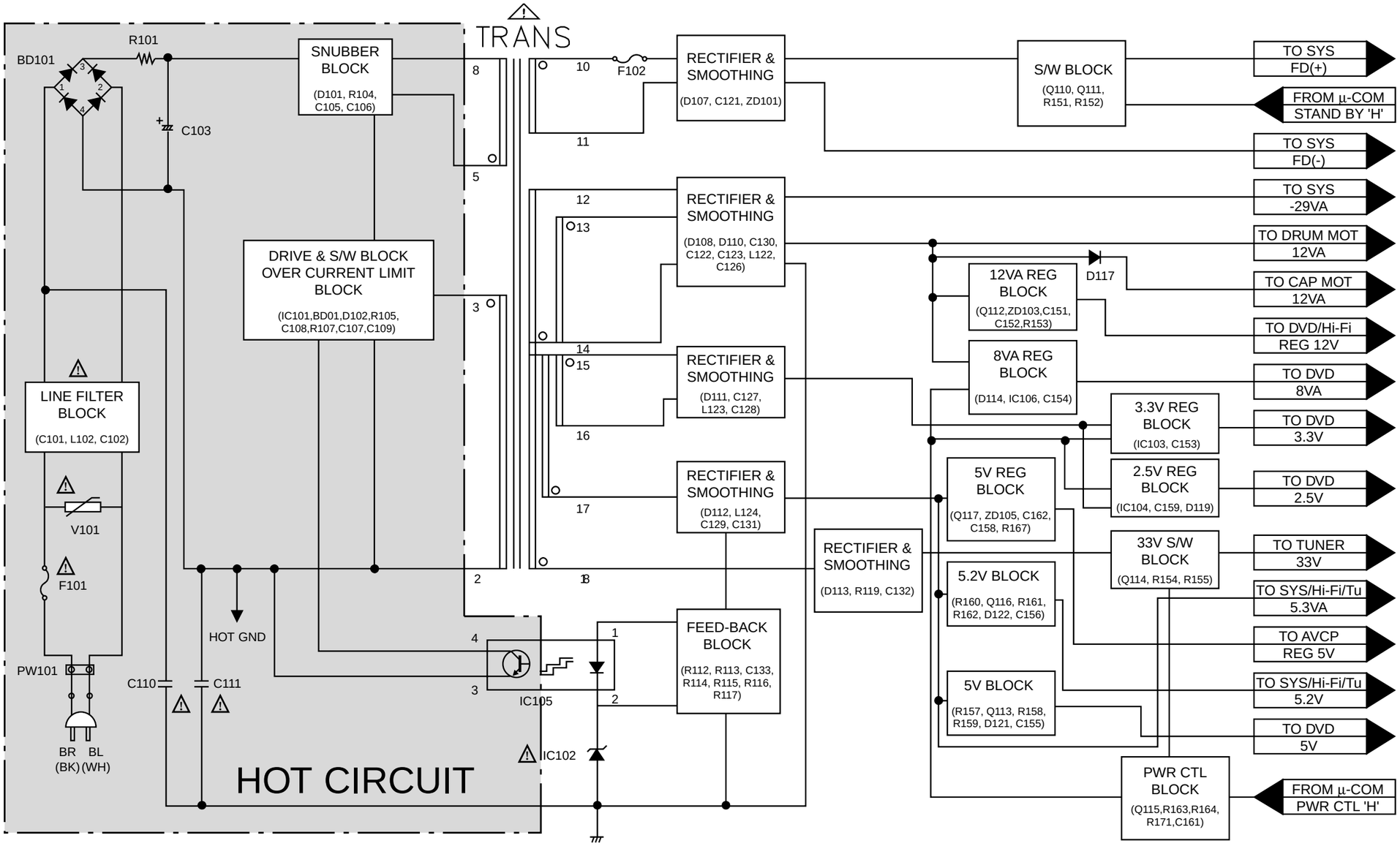
# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	SPECIFICATION	NSP
	R2M9	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2N0	NRSA63J 123X	RESISTOR,METAL GLAZED(CHIP)	12K OHM 1 / 16 W 1608 5% D	
	R2N1	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2N2	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R2N3	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2N4	NRSA63J 153X	RESISTOR,METAL GLAZED(CHIP)	15K OHM 1 / 16 W 1608 5% D	
	R2N5	NRSA63J 123X	RESISTOR,METAL GLAZED(CHIP)	12K OHM 1 / 16 W 1608 5% D	
	R2N6	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2N7	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2N8	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2N9	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2P0	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R2P1	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2P2	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2P3	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2P7	NRSA63J 223X	RESISTOR,METAL GLAZED(CHIP)	22K OHM 1 / 16 W 1608 5% D	
	R2P8	NRSA63J 122X	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5% D	
	R2P9	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R2Q1	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R2R1	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R2R2	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R303	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R306	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R307	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R308	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R309	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R310	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R314	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R315	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R317	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R318	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R319	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R320	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R321	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R322	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R323	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R350	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R351	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R364	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R365	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R366	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R367	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R368	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R3F1	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R3F2	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R3F3	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R3F4	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R3F5	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R401	NRSA63J 180X	RESISTOR,METAL GLAZED(CHIP)	18 OHM 1 / 16 W 1608 5% D	
	R403	NRSA63J 100X	RESISTOR,METAL GLAZED(CHIP)	10 OHM 1 / 16 W 1608 5% D	
	R404	NRSA63J 752X	RESISTOR,METAL GLAZED(CHIP)	7.5K OHM 1 / 16 W 1608 5% D	
	R405	NRSA63J 182X	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5% D	
	R406	NRSA63J 182X	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5% D	
	R407	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R409	NRSA63J 752X	RESISTOR,METAL GLAZED(CHIP)	7.5K OHM 1 / 16 W 1608 5% D	
	R410	NRSA63J 752X	RESISTOR,METAL GLAZED(CHIP)	7.5K OHM 1 / 16 W 1608 5% D	
	R411	NRSA63J 752X	RESISTOR,METAL GLAZED(CHIP)	7.5K OHM 1 / 16 W 1608 5% D	
	R412	NRSA63J 182X	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5% D	
	R413	NRSA63J 822X	RESISTOR,METAL GLAZED(CHIP)	8.2K OHM 1 / 16 W 1608 5% D	
	R414	NRSA63J 562X	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5% D	
	R415	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R416	NRSA63J 822X	RESISTOR,METAL GLAZED(CHIP)	8.2K OHM 1 / 16 W 1608 5% D	
	R417	NRSA63J 182X	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5% D	
	R418	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R419	NRSA63J 331X	RESISTOR,METAL GLAZED(CHIP)	330 OHM 1 / 16 W 1608 5% D	
	R420	NRSA63J 331X	RESISTOR,METAL GLAZED(CHIP)	330 OHM 1 / 16 W 1608 5% D	
	R428	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R429	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R430	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R431	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R432	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R433	NRSA63J 561X	RESISTOR,METAL GLAZED(CHIP)	560 OHM 1 / 16 W 1608 5% D	
	R434	NRSA63J 561X	RESISTOR,METAL GLAZED(CHIP)	560 OHM 1 / 16 W 1608 5% D	
	R435	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R436	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R501	NRSA63J 332X	RESISTOR,METAL GLAZED(CHIP)	3.3K OHM 1 / 16 W 1608 5% D	
	R503	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R504	NRSA63F 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 1% D	
	R505	NRSA63J 100X	RESISTOR,METAL GLAZED(CHIP)	10 OHM 1 / 16 W 1608 5% D	
	R506	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R507	NRSA63J 111X	RESISTOR,METAL GLAZED(CHIP)	110 OHM 1 / 16 W 1608 5% D	
	R508	NRSA63J 750X	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5% D	
	R509	NRSA63J 111X	RESISTOR,METAL GLAZED(CHIP)	110 OHM 1 / 16 W 1608 5% D	
	R510	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R514	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R515	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R516	NRSA63J 101X	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5% D	
	R517	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R518	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R519	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R520	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R521	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R522	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R523	NRSA63J 472X	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5% D	
	R524	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R525	NRSA63J 220X	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5% D	
	R530	NRSA63J 122X	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5% D	
	R531	NRSA63J 122X	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5% D	
	R532	NRSA63J 122X	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5% D	
	R533	NRSA63J 122X	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5% D	
	R534	NRSA63J 681X	RESISTOR,METAL GLAZED(CHIP)	680 OHM 1 / 16 W 1608 5% D	
	R535	NRSA63J 122X	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5% D	
	R541	NRSA63J 103X	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5% D	
	R588	LG 0RJ0372C477	RESISTOR,METAL GLAZED(CHIP)	37.4 OHM 1/16 W 1% 1608 R/TP	
	R589	NRSA63J 750X	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5% D	
	R590	NRSA63J 750X	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5% D	
	R591	NRSA63J 750X	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5% D	
	R597	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R604	NRSA63J 750X	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5% D	
	R605	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R606	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R607	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R608	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R609	NRSA63J 102X	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5% D	
	R618	NRSA63J 104X	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5% D	
	R619	NRSA63J 104X	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5% D	
	R620	NRSA63J 221X	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5% D	
	R621	NRSA63J 221X	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5% D	
	R625	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R626	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R627	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R652	NRSA63J 471X	RESISTOR,METAL GLAZED(CHIP)	470 OHM 1 / 16 W 1608 5% D	
	R653	NRSA63J 471X	RESISTOR,METAL GLAZED(CHIP)	470 OHM 1 / 16 W 1608 5% D	
	R6A1	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R6A2	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	R6A3	NRSA63J 0R0X	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5% D	
	X201	LG 6202R BM04C	RESONATOR,CRYSTAL	HC 49/S BUBANG 33 8688MHZ 5	
	X501	LG 6202R BL06C	RESONATOR,CRYSTAL	HC 49/S BUBANG 27MHZ 20PPM 1	

OVERALL WIRING DIAGRAM



BLOCK DIAGRAMS

1. POWER(SMPS) BLOCK DIAGRAM

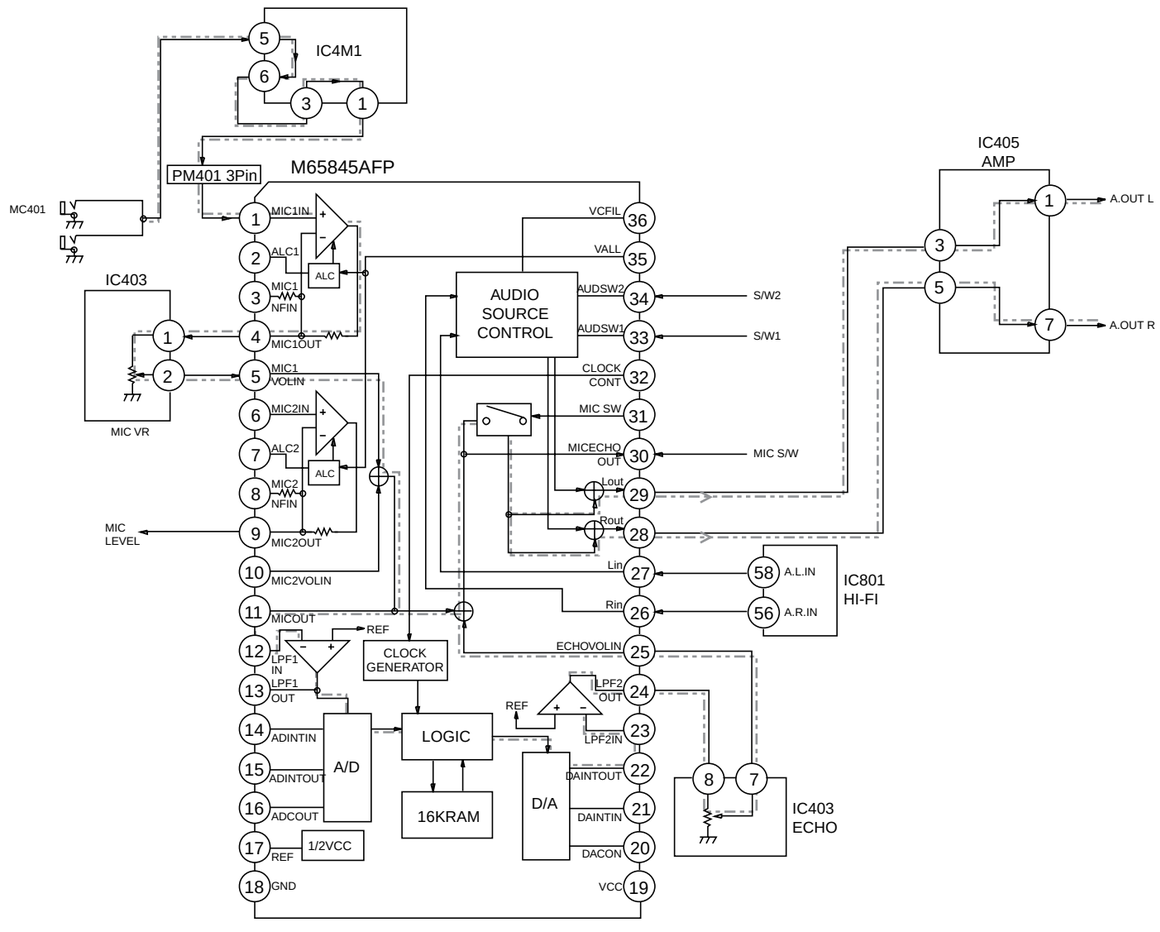


NOTES : Symbol denotes AC ground.

Symbol denotes DC chassis ground.

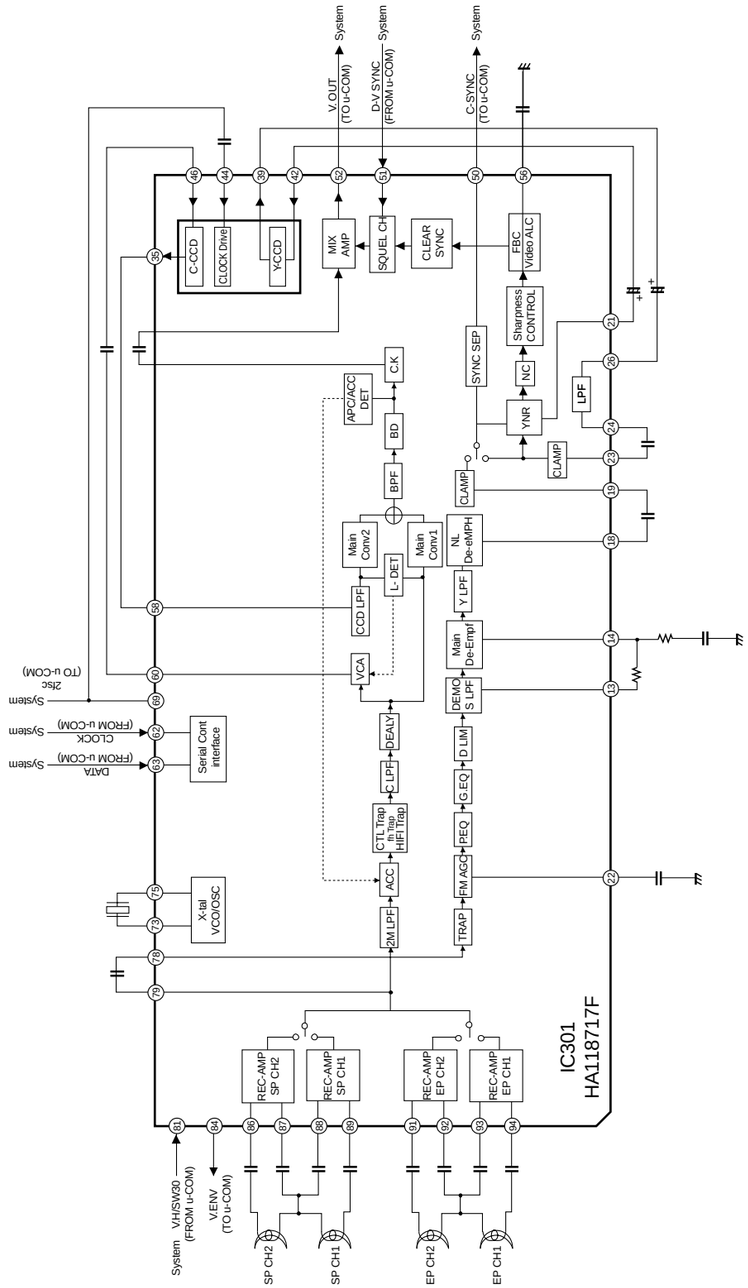
2. KARAOKE BLOCK DIAGRAM

(MIC MODE)

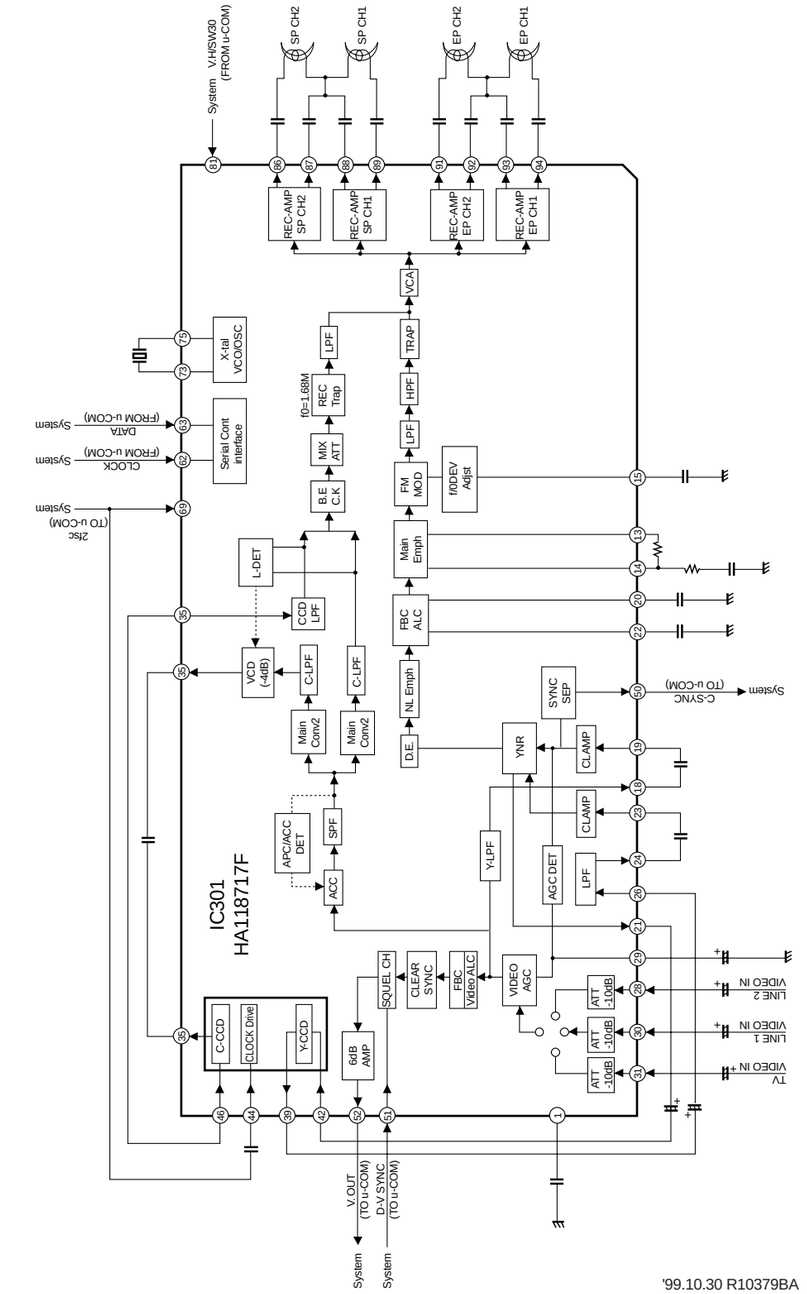


3. Y/C BLOCK DIAGRAM

(PB Mode)



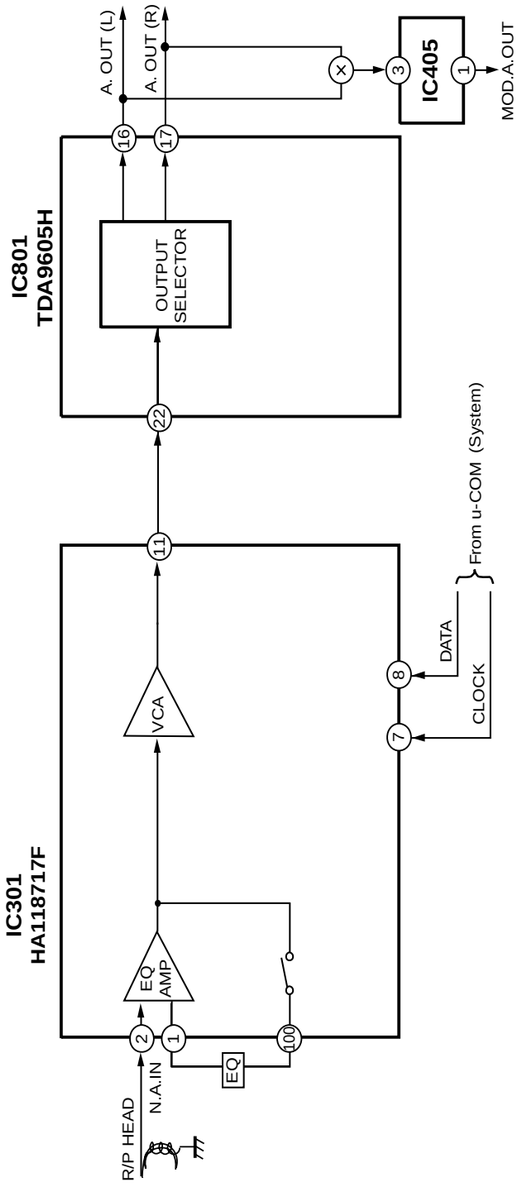
(REC Mode)



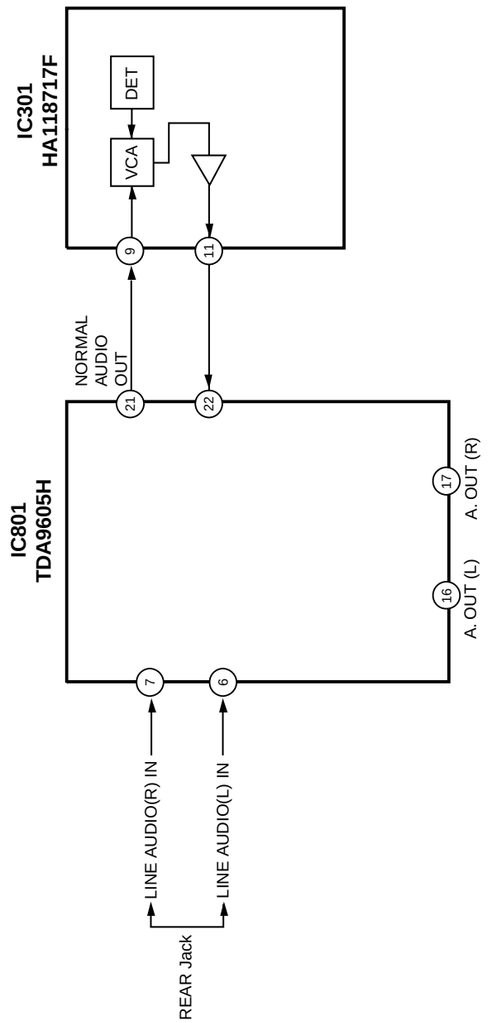
'99.10.30 R10379BA

4. NORMAL AUDIO BLOCK DIAGRAM

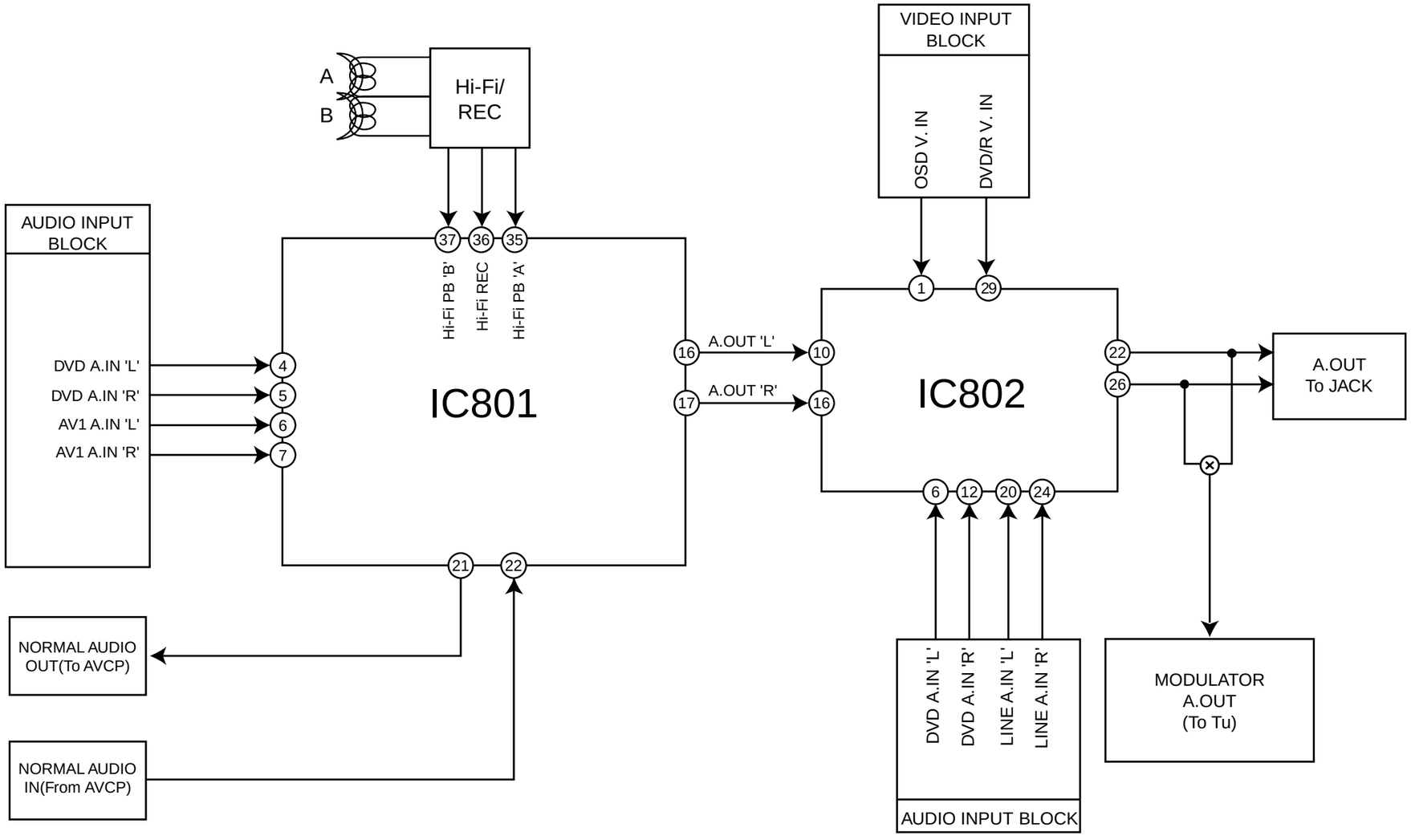
(PB Mode)



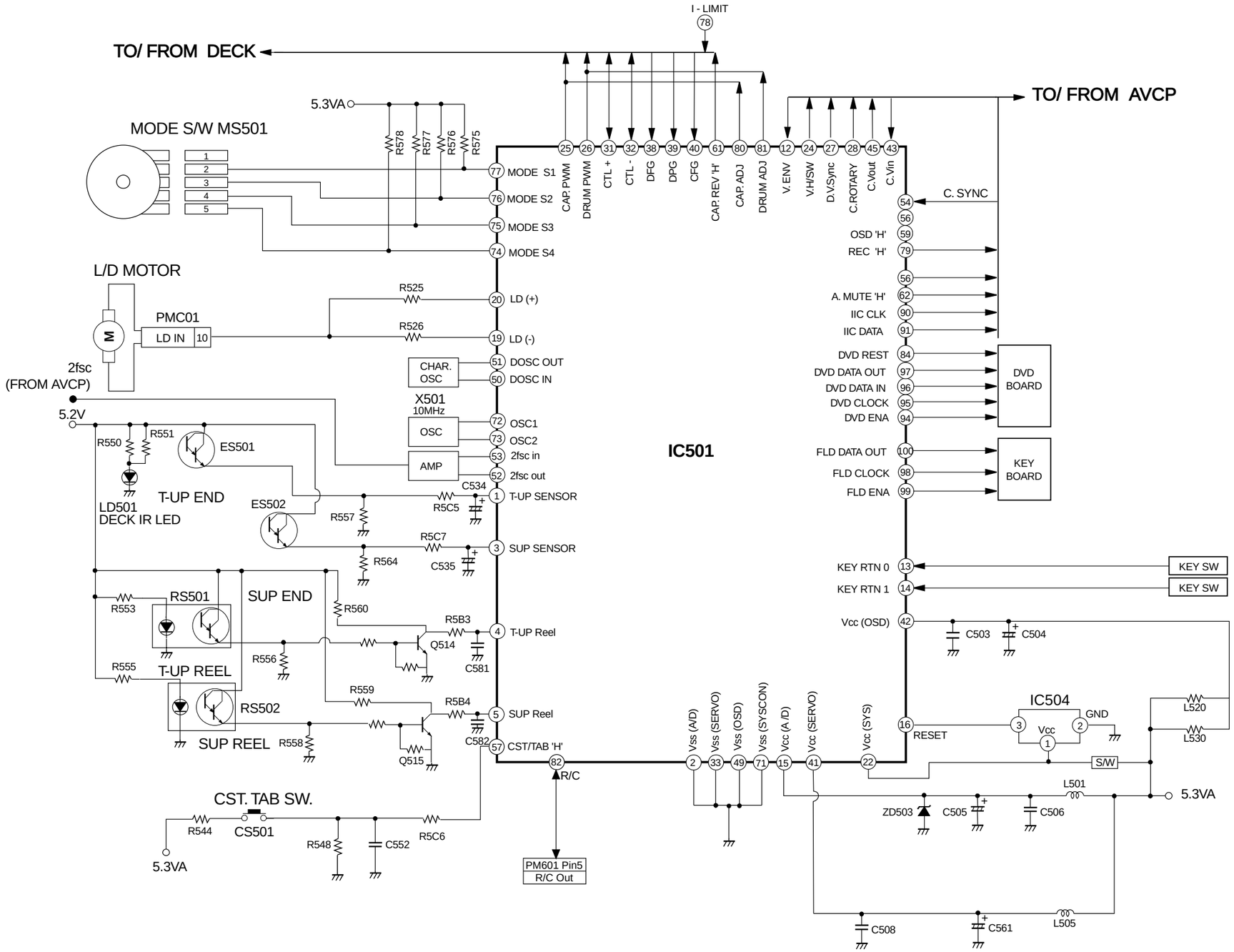
(REC Mode)



5. Hi-Fi BLOCK DIAGRAM



6. SYSTEM BLOCK DIAGRAM



CIRCUIT DIAGRAMS

1. POWER(SMPS) CIRCUIT DIAGRAM

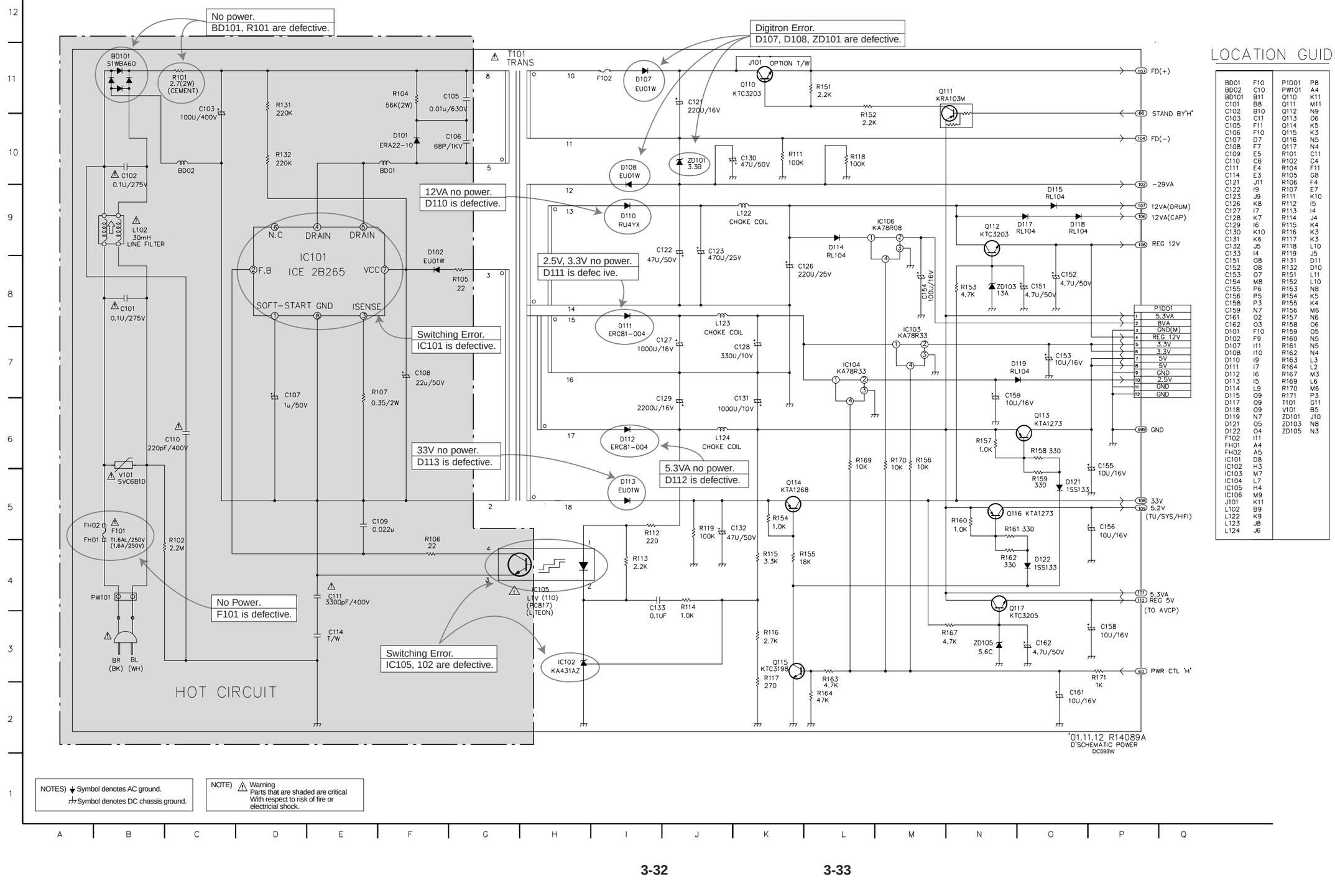
IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIR-CUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE LG ELECTRONICS CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES DENTICAL TO THOSE N THE ORIGINAL CIR-CUIT. SPECIAL COMPONENTS ARE SHADED ON THE SCHEMATIC FOR EASY IDENTIFICATION.

THIS C RCUIT DIAGRAM MAY OCCASIONALLY D F-FER FROM THE ACTUAL C RCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE MPROVEMENT CHANGES NTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PR NTED.

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.



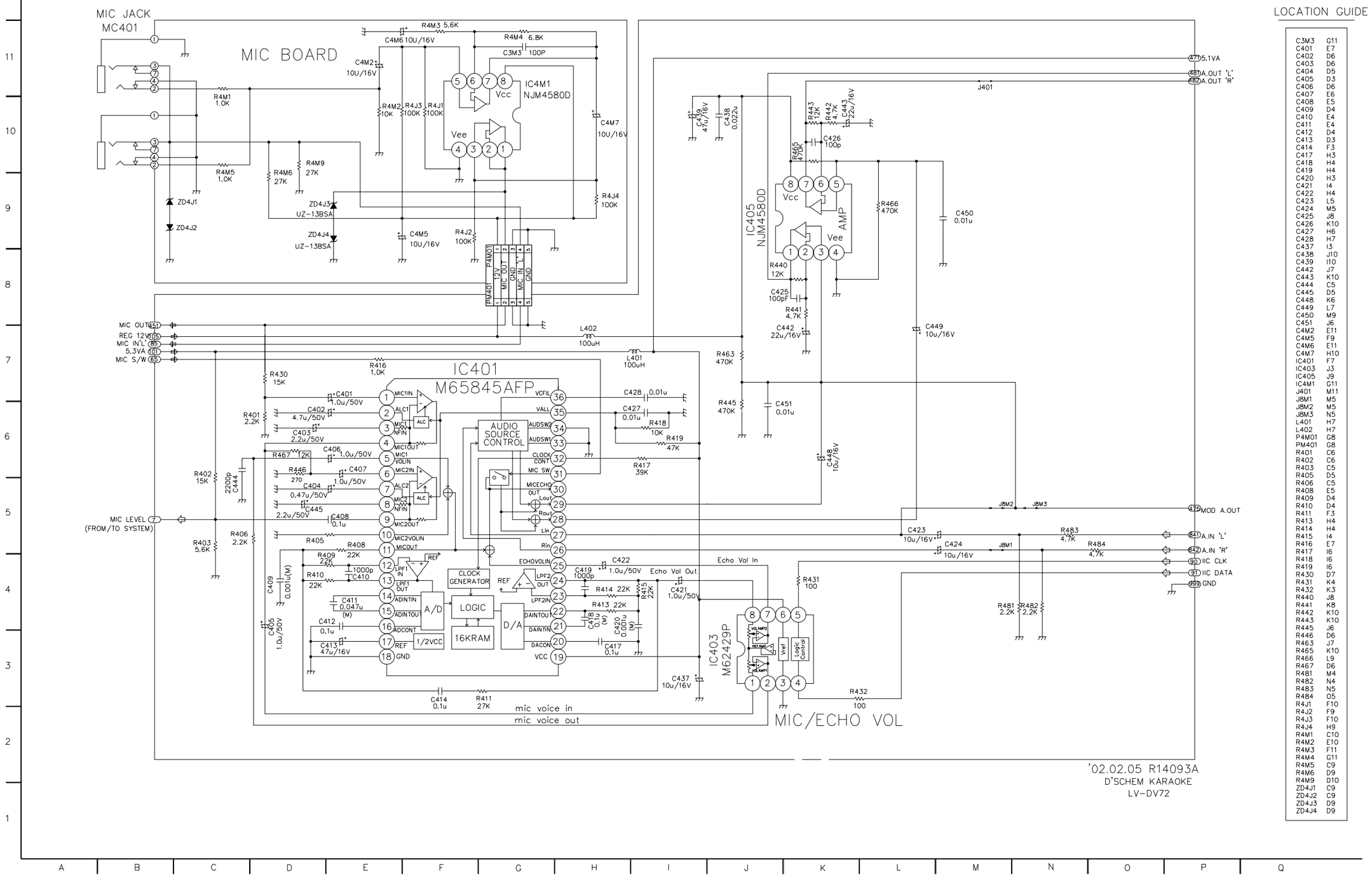
LOCATION GUIDE

BD01	F10	P1D01	P8
BD02	C10	PW101	A4
BD101	B11	Q110	K11
C101	B8	Q111	M11
C102	B10	Q112	N9
C103	C11	Q113	O6
C105	F11	Q114	K5
C106	F10	Q115	K3
C107	D7	Q116	N5
C108	F7	Q117	N4
C109	E5	R101	C11
C110	C6	R102	C4
C111	E4	R104	F11
C114	E3	R105	G8
C121	J11	R106	F4
C122	I9	R107	E7
C123	J9	R111	K10
C126	K8	R112	I5
C127	I7	R113	I4
C128	K7	R114	J4
C129	I6	R115	K4
C130	K10	R116	K3
C131	K6	R117	K3
C132	J5	R118	L10
C133	I4	R119	J5
C151	O8	R131	D11
C152	O8	R132	D10
C153	O7	R151	L11
C154	M8	R152	L10
C155	P6	R153	N8
C156	P5	R154	K5
C158	P3	R155	K4
C159	N7	R156	M6
C161	O2	R157	N6
C162	O3	R158	O6
D101	F10	R159	O5
D102	F9	R160	N5
D107	I11	R161	N5
D108	I10	R162	N4
D110	I9	R163	L3
D111	I7	R164	L2
D112	I6	R167	M3
D113	I5	R169	L6
D114	L9	R170	M6
D115	O9	R171	P3
D117	O9	T101	G11
D118	O9	V101	B5
D119	N7	ZD101	J10
D121	O5	ZD103	N8
D122	O4	ZD105	N3
F102	I11		
FH01	A4		
FH02	A5		
IC101	D8		
IC102	H3		
IC103	M7		
IC104	L7		
IC105	H4		
IC106	M9		
J101	K11		
L102	B9		
L122	K9		
L123	J8		
L124	J6		

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 electricial shock.

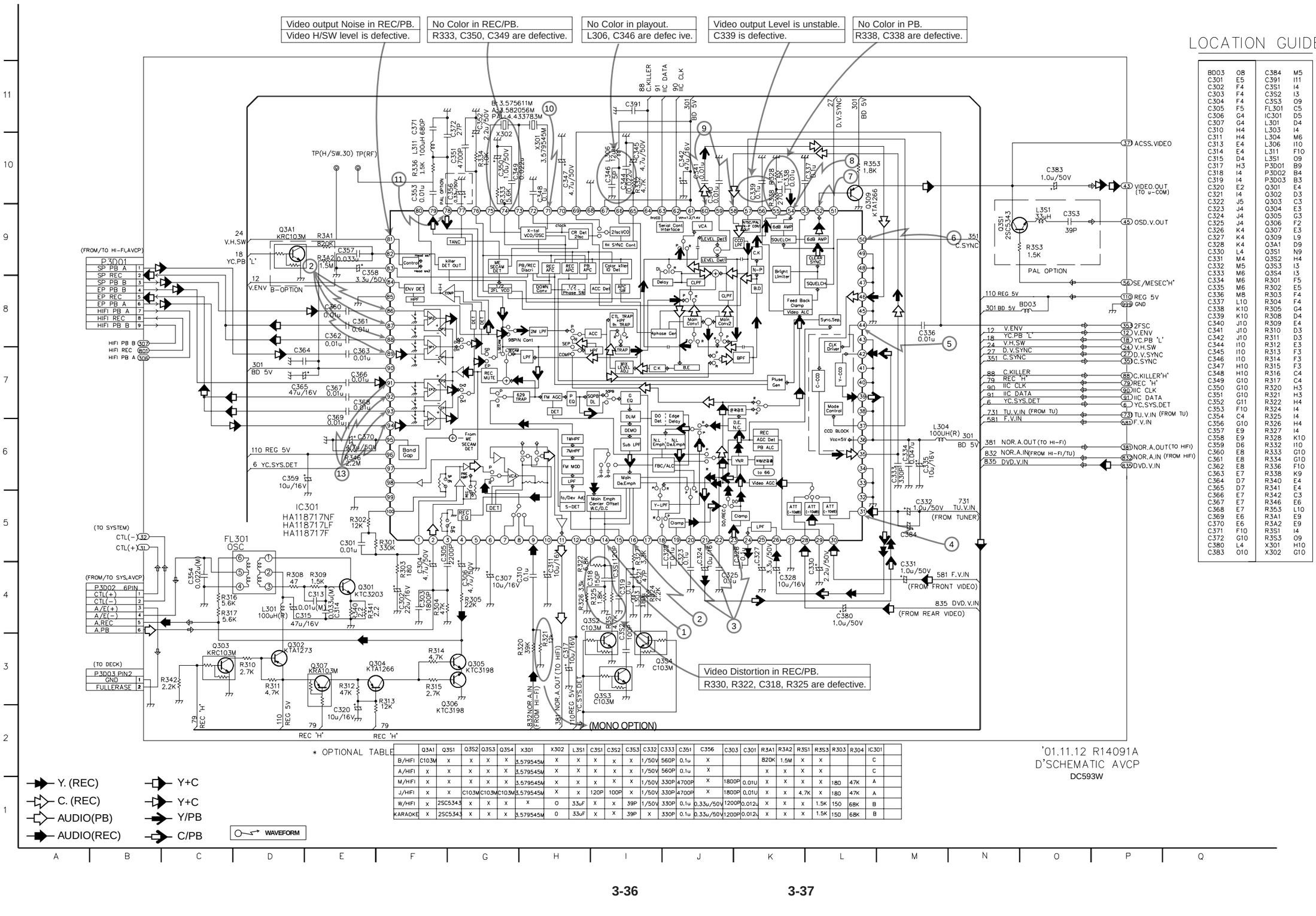
2. KARAOKE CIRCUIT DIAGRAM



LOCATION GUIDE

C3M3	G11
C401	E7
C402	D6
C403	D6
C404	D5
C405	D3
C406	D6
C407	E6
C408	E5
C409	D4
C410	E4
C411	E4
C412	D4
C413	D3
C414	F3
C417	H3
C418	H4
C419	H4
C420	H3
C421	I4
C422	H4
C423	L5
C424	M5
C425	J8
C426	K10
C427	H6
C428	H7
C437	I3
C438	J10
C439	I10
C442	J7
C443	K10
C444	C5
C445	D5
C448	K6
C449	L7
C450	M9
C451	J6
C4M2	E11
C4M5	F9
C4M6	E11
C4M7	H10
IC401	F7
IC403	J3
IC405	J9
IC4M1	G11
J401	M11
JBM1	M5
JBM2	M5
JBM3	N5
L401	H7
L402	H7
P4M01	G8
PM401	G8
R401	C6
R402	C6
R403	C5
R405	D5
R406	C5
R408	E5
R409	D4
R410	D4
R411	F3
R413	H4
R414	H4
R415	I4
R416	E7
R417	I6
R418	I6
R419	I6
R430	D7
R431	K4
R432	K3
R440	J8
R441	K8
R442	K10
R443	K10
R445	J6
R446	D6
R463	J7
R465	K10
R466	L9
R467	D6
R481	M4
R482	N4
R483	N5
R484	O5
R4J1	F10
R4J2	F9
R4J3	F10
R4J4	H9
R4M1	C10
R4M2	E10
R4M3	F11
R4M4	G11
R4M5	C9
R4M6	D9
R4M9	D10
ZD4J1	C9
ZD4J2	C9
ZD4J3	D9
ZD4J4	D9

3. A/V CIRCUIT DIAGRAM



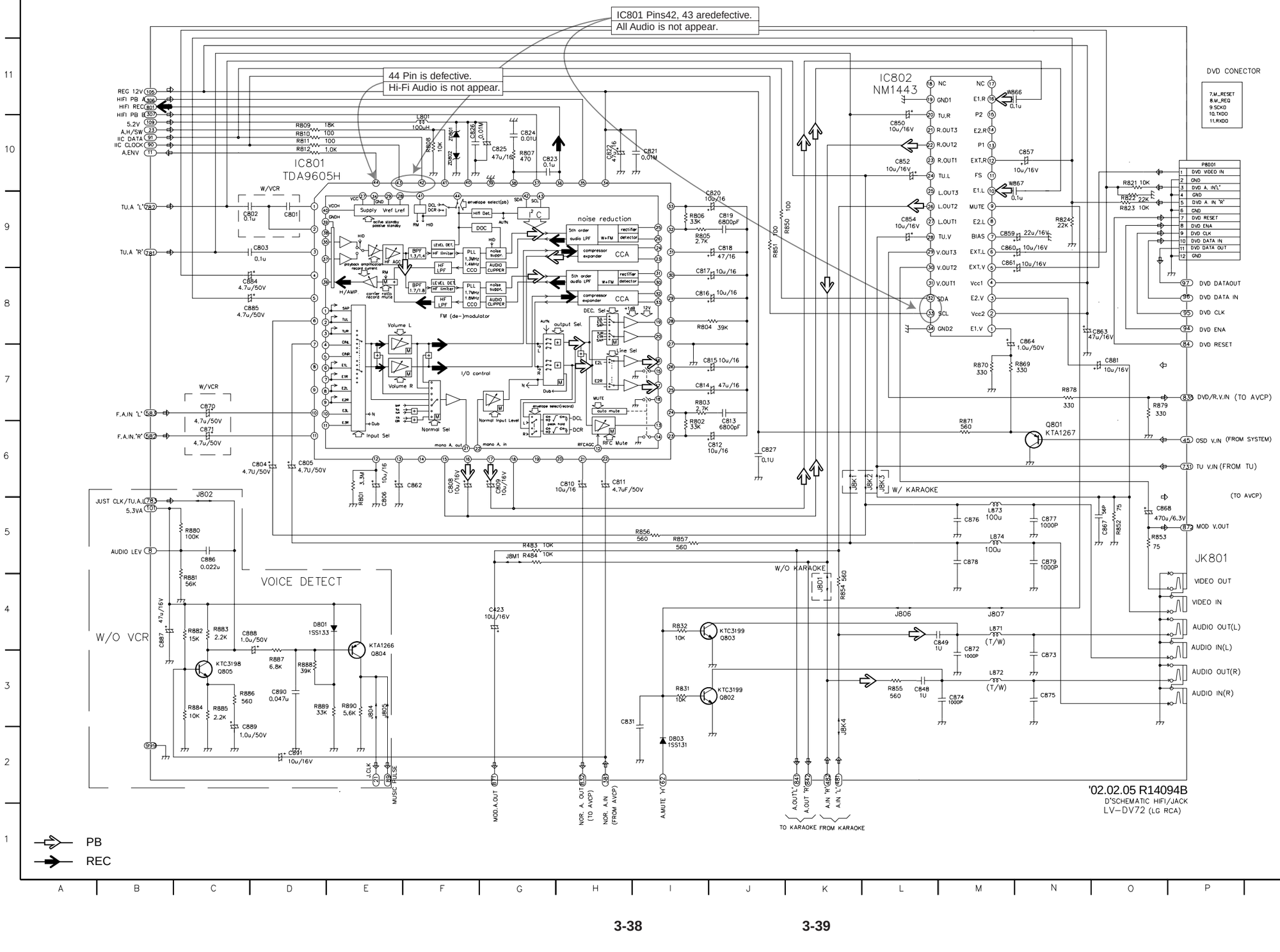
LOCATION GUIDE

BD03	08	C384	M5
C301	E5	C391	I11
C302	F4	C3S1	I4
C303	F4	C3S2	I3
C304	F4	C3S3	O9
C305	F5	FL301	C5
C306	G4	IC301	D5
C307	G4	L301	D4
C310	H4	L303	I4
C311	H4	L304	M6
C313	E4	L306	I10
C314	E4	L311	F10
C315	D4	L3S1	O9
C317	H3	P3D01	B9
C318	I4	P3D02	B4
C319	I4	P3D03	B3
C320	E2	Q3A1	D9
C321	I4	Q302	D3
C322	J5	Q303	C3
C323	J4	Q304	E3
C324	J4	Q305	G3
C325	J4	Q306	F2
C326	K4	Q307	E3
C327	K4	Q309	L9
C328	K4	Q3A1	D9
C330	L4	Q3S1	N9
C331	M4	Q3S2	H4
C332	M5	Q3S3	I3
C333	M6	Q3S4	I3
C334	M6	R301	F5
C335	M6	R302	E5
C336	M8	R303	F4
C337	L10	R304	F4
C338	K10	R305	G4
C339	K10	R308	D4
C340	J10	R309	E4
C341	J10	R310	D3
C342	J10	R311	D3
C344	I10	R312	E3
C345	I10	R313	F3
C346	I10	R314	F3
C347	H10	R315	F3
C348	H10	R316	C4
C349	G10	R317	C4
C350	G10	R320	H3
C351	G10	R321	H3
C352	G11	R322	H4
C353	F10	R324	I4
C354	C4	R325	I4
C356	G10	R326	H4
C357	E9	R327	I4
C358	E9	R328	K10
C359	D6	R332	I10
C361	E8	R333	G10
C362	E8	R334	G10
C363	E7	R336	F10
C364	D7	R338	K9
C365	D7	R340	E4
C366	E7	R341	E4
C367	E7	R342	C3
C368	E7	R346	E6
C369	E6	R353	L10
C370	E6	R3A1	E9
C371	F10	R3A2	E9
C372	G10	R3S1	O9
C380	L4	R3S3	O9
C383	O10	X301	H10
		X302	G10

* OPTIONAL TABLE

	Q3A1	Q3S1	Q3S2	Q3S3	Q3S4	X301	X302	L3S1	C3S1	C3S2	C3S3	C332	C333	C351	C356	C303	C301	R3A1	R3A2	R3S1	R3S3	R303	R304	IC301	
B/HIFI	C103M	x	x	x	x	3.579545M	x	x	x	x	x	1/50V	560P	0.1u	x			820K	1.5M	x	x			C	
A/HIFI	x	x	x	x	x	3.579545M	x	x	x	x	x	1/50V	560P	0.1u	x			x	x	x	x			C	
M/HIFI	x	x	x	x	x	3.579545M	x	x	x	x	x	1/50V	330P	4700P	x	1800P	0.01u	x	x	x	x	180	47K	A	
J/HIFI	x	x	C103M	C103M	C103M	3.579545M	x	x	120P	100P	x	1/50V	330P	4700P	x	1800P	0.01u	x	x	4.7K	x	180	47K	A	
W/HIFI	x	2SC5343	x	x	x	x	O	33uF	x	x	39P	1/50V	330P	0.1u	0.33u/50V	1200P	0.012u	x	x	x	1.5K	150	68K	B	
KARAOKE	x	2SC5343	x	x	x	3.579545M	O	33uF	x	x	39P	x	330P	0.1u	0.33u/50V	1200P	0.012u	x	x	x	1.5K	150	68K	B	

4. Hi-Fi CIRCUIT DIAGRAM

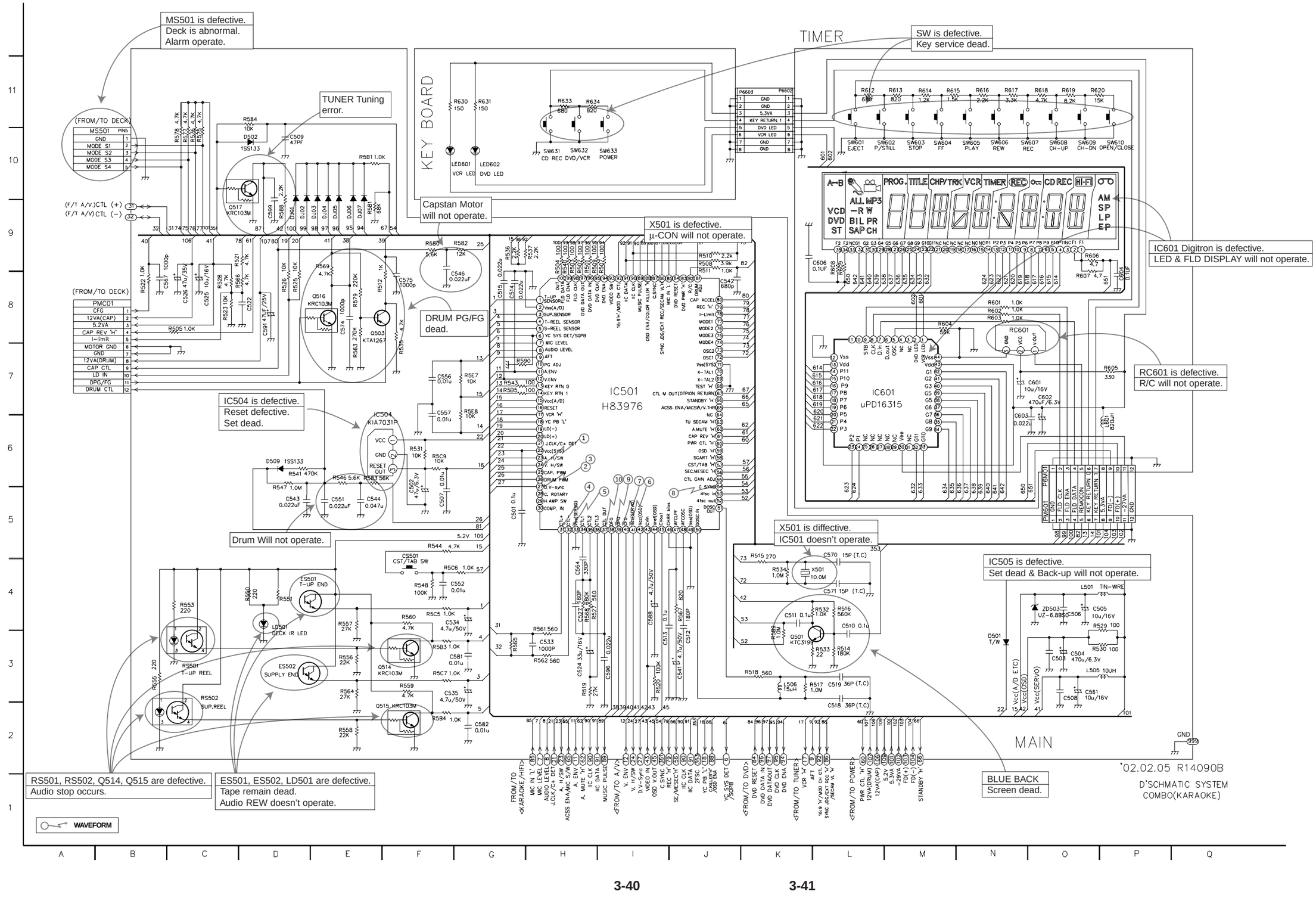


LOCATION GUIDE

C423	G4	L874	M5
C801	D9	P8D01	P10
C802	C9	Q801	N6
C803	C9	Q802	J3
C804	C6	Q803	J4
C805	D6	Q804	E3
C806	E5	Q805	C3
C808	F6	R483	G5
C809	G6	R484	G5
C810	G6	R801	E5
C811	H6	R802	I6
C812	I6	R803	I7
C813	J6	R804	I8
C814	I7	R805	I9
C815	I7	R806	I9
C816	I8	R807	G10
C817	I8	R808	F10
C818	J9	R809	D10
C819	J9	R810	D10
C820	I9	R811	D10
C821	I10	R812	D10
C822	H10	R821	O10
C823	G10	R822	O9
C824	G10	R823	O9
C825	G10	R824	N9
C826	F10	R831	I5
C827	J6	R832	I4
C831	H3	R850	J9
C848	L3	R851	J9
C849	L4	R852	O5
C850	L10	R853	O5
C852	L10	R854	K4
C854	L9	R855	L3
C857	M10	R856	H5
C859	M9	R857	I5
C860	M9	R869	M7
C861	M9	R870	M7
C862	E6	R871	M6
C863	N8	R878	N7
C864	M8	R879	O7
C867	O5	R880	C5
C868	O5	R881	C4
C870	C7	R882	C4
C871	C6	R883	C4
C872	M3	R884	C3
C873	N3	R885	C3
C874	M3	R886	C3
C875	N3	R887	D3
C876	M5	R888	D3
C877	N5	R889	D3
C878	M5	R890	E3
C879	N5	W866	M11
C881	O7	W867	M10
C884	C8	ZD801	F10
C885	C8	ZD802	F10
C886	C5		
C887	B4		
C888	C4		
C889	C2		
C890	D3		
C891	D2		
D801	D4		
D803	I2		
IC801	D10		
IC802	L11		
J801	K4		
J802	C6		
J804	E3		
J805	E3		
J806	L4		
J807	M4		
J8K1	K6		
J8K2	L6		
J8K3	L6		
J8K4	K2		
J8M1	G5		
JK801	P5		
L801	F10		
L871	M4		
L872	M3		
L873	M5		

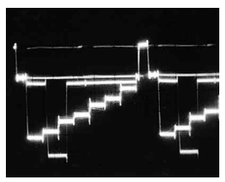
'02.02.05 R14094B
D'SCHEMATIC HIFI/JACK
LV-DV72 (LG RCA)

5. SYSTEM CIRCUIT DIAGRAM

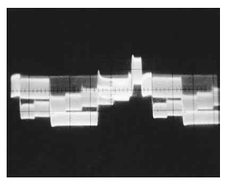


• WAVEFORMS

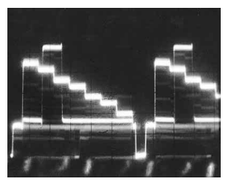
* IC301 Oscilloscope Waveform

① 

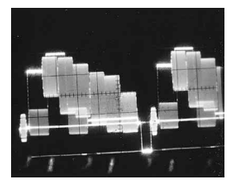
IC301 Pin ⑭
100mV/10msec DIV
VV/EE
(Main De-Emphasis out)

② 

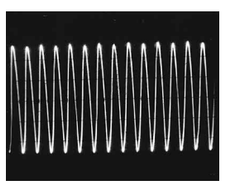
IC301 Pin ⑯
100mV/10msec DIV
PB
(Main De-Emphais
Peacking)

③ 

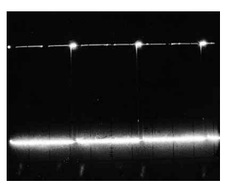
IC301 Pins ⑱, ㉑, ㉓
100mV/10msec DIV
VV/EE
(Clamp Drive IN Pin ⑱
Y-out(to 1H CCD) Pin ㉑
Y-out(from 1H CCD) Pin㉓)

④ 

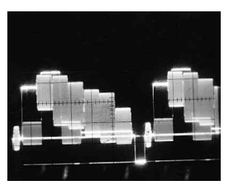
IC301 Pin ㉛
200mV/10msec DIV
EE
(VIDEO IN)

⑤ 

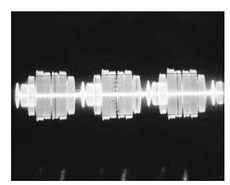
IC301 Pin ㊹
100mV/0.2msec DIV
REC/PB
(2fsc)

⑥ 

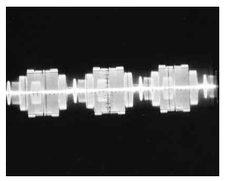
IC301 Pin ㊿
1.0V/20msec DIV
VV/EE
(C-SYNC OUT)

⑦ 

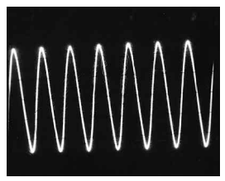
IC301 Pin ㊿㉒
500mV/10msecDIV
VV/EE
(VIDEO OUT)

⑧ 

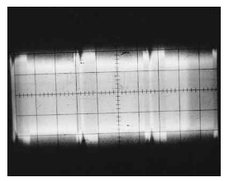
IC301 Pin ㊿㊍
200mV/20msec DIV
PB
(C.OUT)

⑨ 

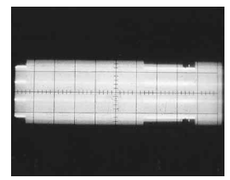
IC301 Pins ㊽, ㊿
200mV/20msec DIV
VV/EE
(from 1H CCD Pin ㊽
to 1H CCD Pin ㊿)

⑩ 

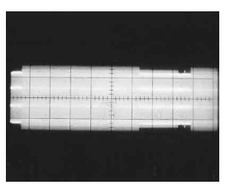
IC301 Pin ㉛
100mV/0.2msec DIV
PB/REC
(3.58MHz X-TAL IN)

⑪ 

IC301 Pin ㉘
100mV/5msec DIV
PB
(PB RF out)

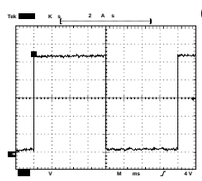
⑫ 

IC301 Pins ㊻, ㊼, ㊽, ㊾
500mV/2msec DIV
SP REC
(REC RF)

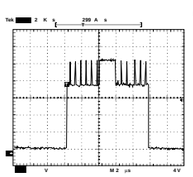
⑬ 

IC301 Pins ㉛, ㉜, ㉝, ㉞
500mV/2msec DIV
EP REC
(REC RF)

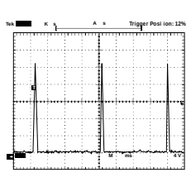
* IC501 Oscilloscope Waveform

① 

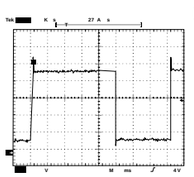
IC501 Pin ㉔
REC/PB

② 

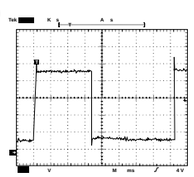
IC501 Pin ㉗
QUE/REV

③ 

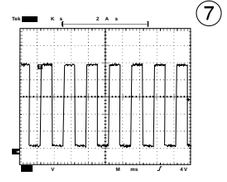
IC501 Pin ㉗
QUE/REV

④ 

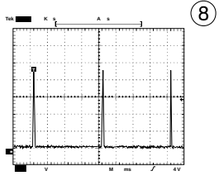
IC501 Pin ㉛
REC

⑤ 

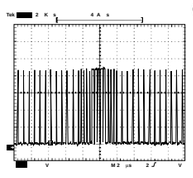
IC501 Pin ㉜
REC

⑥ 

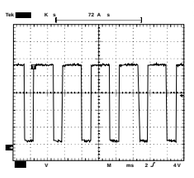
IC501 Pin ㊵
REC/PB

⑦ 

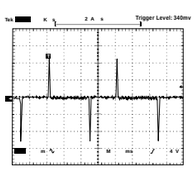
IC501 Pin ㊴
REC/PB

⑧ 

IC501 Pin ㊹
REC/PB

⑨ 

IC501 Pin ㊳
REC/PB

⑩ 

IC501 Pin ㊲
PB

• CIRCUIT VOLTAGE CHART

MODE / PIN NO.	EE	PLAY
IC401		
1	2.6	2.6
2	2.6	2.6
3	2.6	2.6
4	2.6	2.6
5	2.6	2.6
6	2.6	2.6
7	2.6	2.6
8	2.6	2.6
9	2.6	2.6
10	2.6	2.6
11	2.6	2.6
12	2.6	2.6
13	2.6	2.6
14	2.6	2.6
15	2.6	2.6
16	0.5	0.5
17	2.6	2.6
18	0	0
19	5	5
20	0.2	0.2
21	2.6	2.6
22	2.6	2.6
23	2.6	2.6
24	2.6	2.6
25	2.6	2.6
26	2.6	2.6
27	2.6	2.6
28	6	6
29	2.6	2.6
30	-	-
31	0	0
32	1	1
33	0	0
34	0	0
35	0.9	0.9
36	2.6	2.6
IC403		
1	2.3	2.3
2	2.4	2.3
3	0	0
4	0.5	0.5
5	0.5	0.5
6	5	5
7	2.4	2.4
8	2.3	2.3
IC405		
1	6.1	6.1
2	6.1	6.1
3	6	6
4	0	0
5	6	6
6	6.1	6.1
7	6.1	6.1
8	12.2	12.2

MODE / PIN NO.	EE	PLAY
IC4M1		
1	6.1	6.1
2	6.1	6.1
3	0.6	0.6
4	0	0
5	6	6
6	6.1	6.1
7	6.1	6.1
8	12.2	12.2
IC801		
1	3.8	3.8
2	3.8	3.8
3	3.8	3.8
4	3.8	3.8
5	3.8	3.8
6	3.8	3.8
7	3.8	3.8
8	3.8	3.8
9	3.8	3.8
10	3.8	3.8
11	3.8	3.8
12	0	0
13	3.8	3.8
14	0	0
15	2	2.1
16	6.1	6.1
17	6.1	6.1
18	2	2.1
19	6.1	6.1
20	6.1	6.1
21	4.6	4.6
22	3.8	3.8
23	3.8	3.9
24	3.8	3.9
25	3.9	3.9
26	0.8	0.9
27	0	0
28	3.8	3.8
29	3.9	3.9
30	0.8	0.9
31	3.9	3.9
32	3.8	3.9
33	3.8	3.9
34	12.3	12.2
35	0.3	0.3
36	0	0.7
37	0	1.2
38	0	0.7
39	0	0
40	5.1	4
41	0~2	0~2
42	0~5	0~5
43	0~5	0~5
44	0	0.6

MODE / PIN NO.	EE	PLAY
IC802		
1	3.16	3.1
2	12.2	12.3
3	2.8	2.8
4	12.2	12.3
5	4.5	3.6
6	6.3	5.8
7	5.8	5.8
8	5.7	5.8
9	0	0
10	2	2
11	0	0
12	5.8	5.8
13	0	0
14	5.8	5.8
15	0	0
16	2	2
17	-	-
18	-	-
19	0	0
20	5.8	5.8
21	5.8	5.8
22	2	2
23	5.8	5.8
24	5.8	5.8
25	5.8	5.8
26	2	2
27	5.8	5.8
28	3.7	3
29	1.9	2
30	2.3	2
31	1.4	1.4
32	5	5
33	5	5
34	0	0
IC101		
1	5.56	5.56
2	1.7	1.82
3	0	0
4	~	~
5	~	~
6	-	-
7	15.75	16.16
8	0	0
IC102		
1	2.48	2.48
2	0	0
3	3.91	3.96
IC103		
1	3.81	3.91
2	3.3	3.3
3	0	0
4	4.34	4.39
IC104		
1	3.82	3.91

MODE / PIN NO.	EE	PLAY
2	3.32	3.33
3	0	0
4	4.34	4.33
IC105		
1	4.97	5.02
2	3.91	3.96
3	0	0
4	1.68	1.82
IC106		
1	12.25	12.5
2	7.88	7.98
3	0	0
4	4.34	4.33
IC501		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	5.1
6	0	0.5
7	0.38	0.3
8	0.37	0.3
9	2.55	4.6
10	0	0.4
11	0	0
12	1.4	0
13	5.2	5.2
14	5.2	5.2
15	5.2	5.2
16	5.18	5.2
17	0	0
18	0	0
19	0	0
20	5.14	5.1
21	0	0
22	5.19	5.2
23	2.6	2.6
24	2.6	2.6
25	2.6	2.7
26	2.6	2.6
27	0	0
28	2.6	2.6
29	5.18	0
30	0	0.6
31	2.2	3
32	2.2	0
33	0	0
34	0	0
35	2.2	0
36	2.2	2.2
37	2.2	2.2
38	2.5	2.5
39	0	0.4
40	2.4	2.5
41	5.2	5.2

MODE / PIN NO.	EE	PLAY
42	4.82	4.8
43	2.2	1.4
44	1.3	1.3
45	2.2	2.1
46	0	0
47	2.5	2.6
48	0	0
49	0	0
50	0	1.2
51	1	1.1
52	2.3	2.5
53	2.4	2.4
54	0.9	0.5
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	5	4.7
61	0	0
62	0	4.9
63	0	0
64	0	0
65	0	0
66	0	0
67	0	0
68	0	0
69	1.4	1.4
70	0.9	0.8
71	0	0
72	2.3	2.3
73	2.4	2.4
74	5.2	5.2
75	5.2	5.2
76	5.2	5.2
77	0	0
78	3.5	3.5
79	0	4.7
80	2.7	0
81	0	2.5
82	4.4	4.6
83	0	0
84	0	4.4
85	2.5	2.4
86	5	5
87	0.7	2.7
88	0	4.3
89	3	3
90	4.7	5.2
91	4.5	5.2
92	0	4.8
93	0	0.7
94	4.2	0
95	4.6	4.6
96	0.3	3.4

MODE / PIN NO.	EE	PLAY
97	0.2	4.6
98	5	5
99	4.8	5
100	0	0
IC301		
1	2.4	2.5
2	2.4	2.5
3	0	0
4	2.3	0
5	0	0
6	2.8	2.8
7	2.5	2.8
8	2.5	2.5
9	2.5	2.5
10	2.4	2.4
11	2.4	2.4
12	5.1	5.1
13	1.4	2.1
14	1.4	2.1
15	3	2.1
16	0.7	1.7
17	2	0
18	2.1	2.3
19	3	2.9
20	2.6	1.4
21	2.2	2.2
22	2	1.9
23	3	2.8
24	2.1	2.1
25	1.4	1.4
26	2	2
27	0	0
28	2.7	2.8
29	1.9	2.1
30	2.8	2.8
31	2.7	2.8
32	0	0
33	0	0
34	0	0
35	3.1	3
36	5.1	5.1
37	0	5.1
38	5.1	5.1
39	3.3	3.2
40	5.1	5.1
41	5.1	5.1
42	2.2	2.1
43	5.1	5.1
44	2.6	2.6
45	0	0
46	2.1	2
47	0	0
48	0	0
49	0	0
50	0	0.5

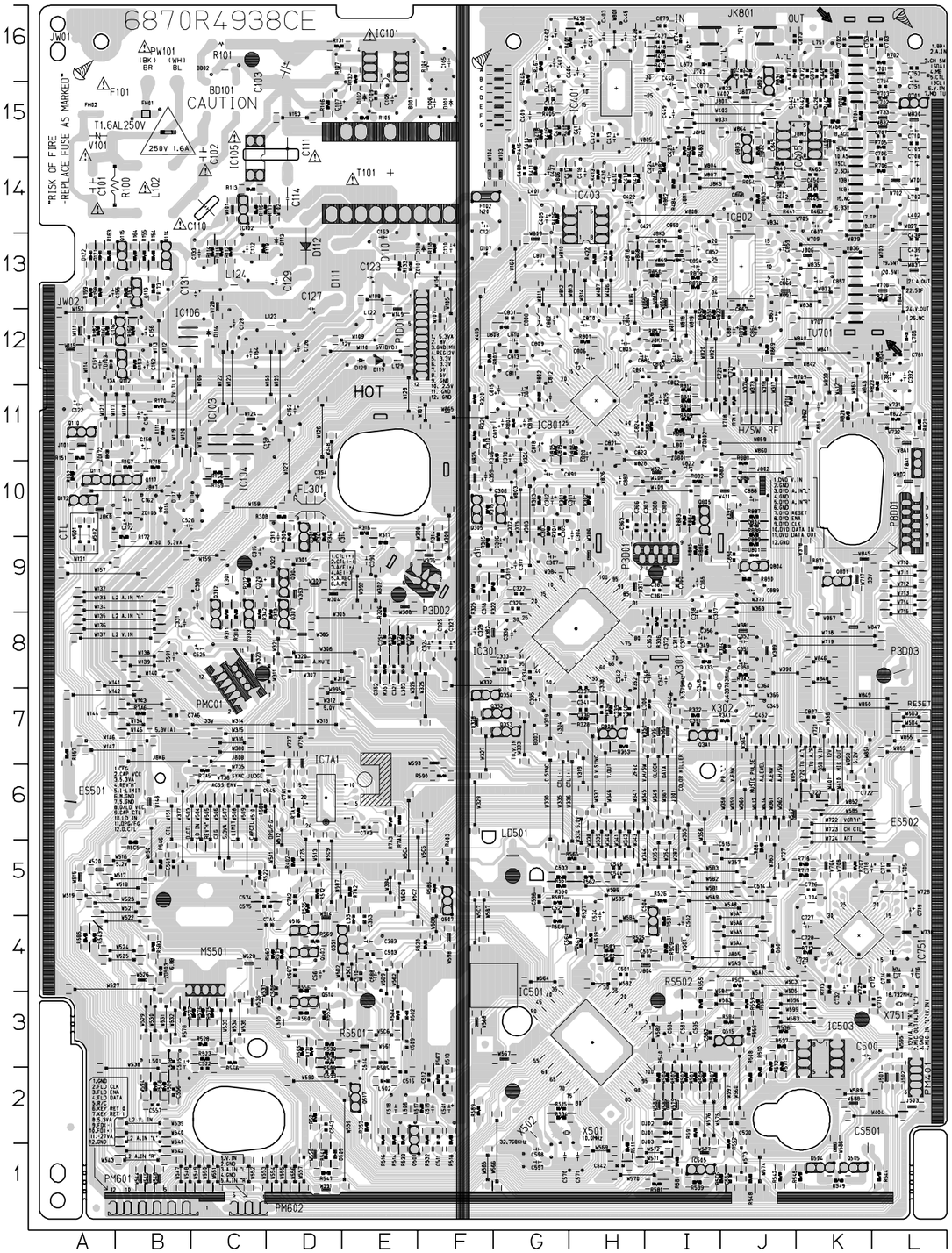
MODE / PIN NO.	EE	PLAY
51	0	0
52	2.3	1.4
53	2.8	2 3
54	1.9	2
55	2	2
56	2.7	2 2
57	0	5.1
58	3.1	3.1
59	2.8	2 9
60	2.1	2 5
61	5.1	5.1
62	4.9	5 2
63	4.8	5 2
64	4.3	4 3
65	3.1	3 8
66	5.1	5.1
67	5.1	5.1
68	0	0
69	2.8	2 8
70	2.5	2 5
71	2.1	2.1
72	1.3	2 2
73	1.6	1.7
74	1	2.6
75	0	0 5
76	2.3	2.4
77	0	0
78	2.7	2.7
79	4	4
80	0	0
81	2.6	5 2
82	1.3	2.4
83	2.3	2 5
84	0.6	2.4
85	0	0
86	2.3	2 2
87	2	2 2
88	2.3	2 2
89	2.3	2 2
90	5.1	5.1
91	2.3	2 2
92	2.3	2 2
93	2.3	2 2
94	2.3	2 2
95	0	0 3
96	5.1	5.1
97	0	0
98	2.5	2 5
99	0	0
100	2.5	3
IC751		
1	5	5
2	1.5	1 5
3	1.5	1 5
4	0	0

MODE / PIN NO.	EE	PLAY
5	2.3	2.3
6	2.2	2.2
7	0	0.5
8	0	0.5
9	0	0.5
10	0	0
11	5.1	5.1
12	4.6	4.7
13	4.3	4.3
14	0	2.5
15	0	2.5
16	0	5
17	0	0.5
18	0	0.5
19	5	5.1
20	0	0
21	0	0.5
22	5	5.5
23	0	0
24	0	0
25	0	0
26	0.5	0
27	0.5	0
28	0.4	0
29	0	0
30	2.8	2.8
31	2.8	2.8
32	0	0
33	5	5.1
34	4.2	4.1
35	0	0
36	2.8	2.7
37	0	0
38	0	0
39	0	0
40	2.7	2.7
41	2.8	2.7
42	2.6	2.6
43	2.8	2.7
44	0	0

	PB			REC		
	E	C	B	E	C	B
Q110	-20.28	-20.23	-19.51	-20.92	-20.86	20.14
Q111	5.25	5.12	0	5.25	5.19	0
Q112	12.09	12.95	12.74	12.12	13.22	12.76
Q113	5.25	5.21	4.48	5.25	5.19	4.47
Q114	31.65	31.53	30.96	32.5	32.4	31.82
Q115	0	0.13	0.76	0	0.13	0.76
Q116	5.25	5.23	4.51	5.25	5.16	4.46
Q117	5.08	5.25	5.77	5.07	5.25	5.77
Q401	1.5	3.7	2	1.5	3.7	2
Q403	5.2	4.7	0	5.2	4.7	0
Q801	2.8	2.6	0	2.8	2.6	0
Q802	0	0	0	0	0	0
Q803	0	0	0	0	0	0
Q501	0.04	2.7	0.56	0.14	2.7	0.6
Q503	1.28	0.35	2.88	1.3	0.4	2.9
Q504	0	0.02	0.7	0	0.02	0.4
Q505	5.2	5.2	4.5	5.2	5.2	4.5
Q507	5.2	5.2	0	5.2	2.2	0
Q514	pulse	pulse	pulse	0	pulse	pulse
Q515	0	pulse	pulse	0	pulse	pulse
Q516	0	2.4	1.3	0	2.5	1.3
Q517	pulse	2	pulse	0	pulse	pulse
Q301	0.01	0.2	0.2	-0.01	0.25	0.25
Q302	5.1	0.3	5.2	5.1	5.1	4.4
Q303	0.01	5	0.025	4.7	0.02	0.01
Q304	pulse	5	4.4	4.7	-28	4.7
Q305	0	0	0.7	-24	-0.015	-28
Q306	0	0	0.7	-24	0	-28
Q307	pulse	pulse	0.025	5.1	4.6	4.7
Q309	2.2	0	1.5			
Q701	0	pulse	0.09	0	pulse	0.09

PRINTED CIRCUIT DIAGRAMS

1. MAIN P.C.BOARD

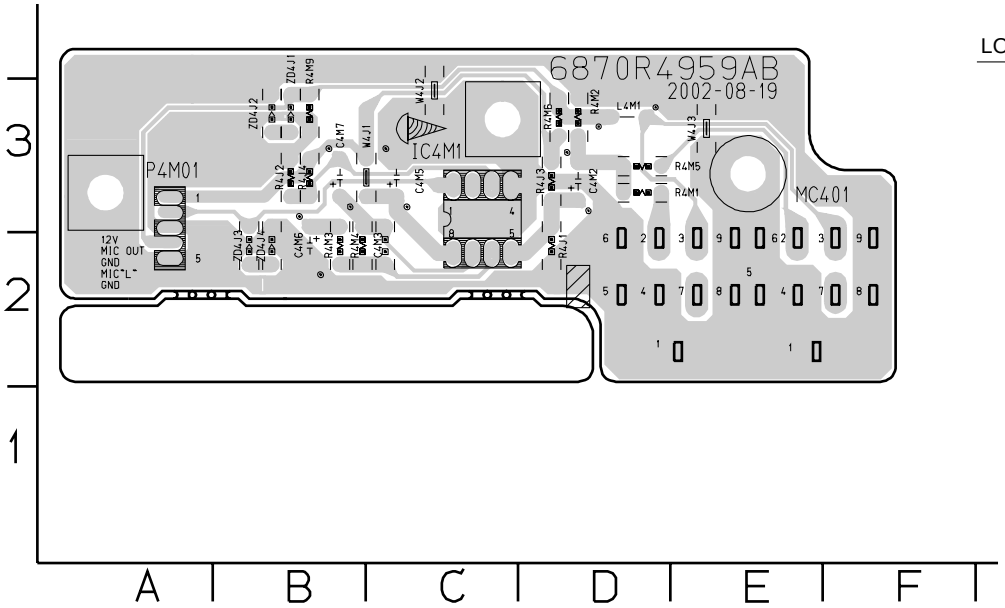


NOTES) ⚠ Warning
Parts that are shaded are critical
With respect to risk of fire or
electricial shock.

LOCATION GUIDE

BD01	E15	C384	L12	C713	L3	D501	J4	Q301	D9	R403	F5	R583	H4
BD02	C16	C390	E9	C714	L4	D502	E3	Q302	C8	R405	G15	R584	E3
BD03	G7	C391	I7	C715	L4	D509	D1	Q303	C8	R406	G14	R585	E3
BD101	C15	C351	E8	C716	L4	D801	J9	Q304	D9	R408	G15	R586	F5
C101	A14	C352	E8	C717	L5	D803	G12	Q305	F10	R409	G15	R587	G5
C102	C15	C353	E4	C718	L5	D804	J10	Q306	G10	R410	G15	R588	D3
C103	D16	C401	H16	C719	L5	DJ01	I2	Q307	D8	R411	G14	R589	F2
C105	F16	C402	G16	C720	J12	DJ02	I2	Q309	H7	R413	H14	R590	F6
C106	F15	C403	H16	C721	J12	DJ03	I2	Q3A1	I7	R414	H14	R591	I2
C107	D15	C404	H16	C722	K6	ES501	A7	Q351	E4	R415	H14	R5B1	I1
C108	E15	C405	G14	C723	K6	ES502	L5	Q3S2	G7	R416	G15	R5B3	B4
C109	E15	C406	G15	C726	K5	F102	F14	Q353	G7	R417	I16	R5B4	J3
C110	C14	C407	G16	C727	K4	F9A1	L10	Q3S4	F7	R418	I16	R5B5	A4
C111	D15	C408	G14	C728	K2	FH01	B15	Q501	E2	R419	I16	R5C5	B5
C114	D14	C409	G15	C729	K4	FH02	A15	Q503	D4	R430	H16	R5C6	J1
C121	F14	C410	G15	C732	K4	FL301	D10	Q504	K1	R431	H13	R5C7	J4
C122	A11	C411	H15	C751	L16	IC101	E16	Q505	K1	R432	H13	R5C9	I4
C123	E13	C412	H15	C752	L16	IC102	C14	Q507	F5	R440	J14	R5E7	B2
C126	D12	C413	H15	C753	L16	IC103	C11	Q514	D3	R441	J14	R5E8	B2
C127	D12	C414	G15	C754	L15	IC104	C11	Q515	J3	R442	K15	R701	K15
C128	C12	C417	H14	C761	L12	IC105	C14	Q516	D4	R443	K15	R702	L16
C129	D13	C418	H14	C7A1	D6	IC106	B12	Q517	E2	R445	K14	R703	L15
C130	F13	C419	H14	C7A2	D5	IC403	H13	Q701	L15	R446	G16	R704	K15
C131	C13	C420	H14	C7A3	E6	IC405	J15	Q801	K9	R463	K14	R705	L15
C132	C13	C421	H14	C7A4	D4	IC503	K3	Q802	J16	R465	K14	R706	L14
C133	C13	C422	H14	C7A6	B7	IC504	I4	Q803	J15	R466	K15	R707	K5
C151	A12	C423	I15	C801	I12	IC505	I1	Q804	J9	R467	G16	R708	J11
C152	B12	C424	I14	C802	I12	J101	A11	Q805	I10	R481	I15	R709	K12
C153	D11	C425	J14	C803	I12	J301	I6	R100	A14	R482	I14	R710	J11
C154	C12	C426	K15	C804	H12	J401	K15	R101	C16	R483	I15	R711	J11
C155	A13	C427	I16	C805	H12	J501	L2	R104	F16	R484	I14	R712	K4
C156	B12	C428	H16	C806	H12	J502	L2	R105	E15	R501	I2	R713	K4
C158	B11	C437	G14	C807	K14	J503	L2	R106	D15	R502	I2	R715	B10
C159	D11	C438	L13	C808	G12	J701	L16	R107	D16	R503	I2	R716	L13
C161	B11	C439	L13	C809	G12	J702	L15	R111	B11	R504	I2	R717	K5
C162	B10	C442	J14	C810	G12	J703	I16	R112	C13	R505	D3	R718	K5
C163	E13	C443	J15	C811	G12	J801	J15	R113	C14	R507	I2	R7A1	D6
C172	B10	C444	G15	C812	G11	J802	J10	R114	C13	R508	J2	R7A2	E5
C301	H10	C445	H16	C813	G12	J804	I4	R115	C13	R509	I2	R7A3	E6
C302	G10	C448	I15	C814	G11	J805	I4	R116	C14	R510	J2	R7A4	E6
C303	G10	C449	I15	C815	G11	J806	K13	R117	C14	R511	H1	R7A5	C6
C304	H10	C450	K14	C816	G11	J807	J15	R118	F13	R512	D5	R7A6	B7
C305	G10	C451	K14	C817	G11	J808	C7	R119	C13	R514	E2	R801	H12
C306	G9	C452	J7	C818	G11	J8K1	I12	R131	D16	R515	G2	R802	G11
C307	G9	C500	K3	C819	G11	J8K2	I13	R132	E16	R516	E2	R803	F12
C310	F11	C501	H4	C820	H11	J8K3	I13	R133	E13	R517	F2	R804	G11
C311	F9	C502	I4	C821	H11	J8K4	J14	R151	A11	R518	F2	R805	G11
C313	D9	C503	E4	C822	I10	J8K5	I14	R152	A10	R519	H4	R806	H11
C314	D9	C504	E3	C823	H11	J8K6	B7	R153	B12	R520	F4	R807	I11
C315	C9	C505	B3	C824	H11	J8K7	B10	R154	B13	R521	D2	R808	I11
C317	G9	C506	B3	C825	I11	J8K8	A10	R155	B13	R522	C5	R809	I11
C318	F9	C507	I4	C826	I11	J8M1	I14	R156	C10	R523	C3	R810	I11
C319	G9	C508	D4	C827	K7	J8M2	I15	R157	B13	R525	H4	R811	I11
C320	C9	C509	E3	C831	G12	J8M3	K15	R158	A13	R526	I5	R812	I11
C321	E8	C510	E4	C848	K16	JK801	I16	R159	A13	R527	H5	R820	K11
C322	G9	C511	F2	C849	J15	JW01	A16	R160	B12	R528	C3	R821	L11
C323	E8	C512	F2	C850	I14	JW02	A13	R161	A12	R529	D3	R822	L11
C324	F8	C513	F2	C852	I13	L102	B14	R162	A12	R530	D3	R823	L11
C325	F8	C514	J5	C854	I13	L122	E12	R163	A13	R531	I4	R824	L12
C326	G9	C515	J5	C857	K13	L123	D12	R164	B13	R532	F2	R831	J16
C327	F8	C516	E2	C859	J13	L124	C13	R167	B10	R533	E2	R832	J15
C328	F8	C518	E2	C860	J13	L129	E12	R169	C10	R534	G2	R850	I12
C330	G8	C519	F2	C861	K11	L301	C9	R170	B11	R535	D5	R851	I12
C331	B8	C520	J2	C862	G12	L303	E8	R171	D3	R536	J3	R852	I14
C332	L12	C522	C2	C863	J12	L304	G7	R172	B9	R537	J3	R853	J14
C333	G8	C524	H4	C864	J12	L306	I7	R173	B13	R539	I1	R854	J14
C334	G8	C525	C8	C867	J13	L311	I8	R301	G10	R540	I2	R855	K16
C335	G7	C526	B10	C868	J14	L351	E4	R302	H10	R541	D1	R856	I13
C336	H7	C527	G5	C870	H12	L401	G14	R303	G10	R542	J1	R857	I12
C337	H8	C533	H5	C871	G13	L402	L14	R304	G10	R543	A4	R869	J12
C338	H7	C534	I3	C872	K16	L501	B3	R305	F9	R544	L1	R870	J12
C339	H7	C535	I3	C873	J16	L502	E2	R308	D10	R545	K1	R871	K9
C340	H7	C541	F2	C874	K16	L505	D3	R309	D9	R546	B5	R878	I13
C341	H7	C542	H1	C875	J16	L506	E2	R310	C8	R547	D1	R879	I13
C342	H8	C543	D2	C876	I13	L702	L14	R311	C8	R548	J1	R880	J10
C344	I7	C544	H5	C877	I15	L704	K5	R312	C9	R549	K1	R881	J5
C345	J7	C545	C6	C878	H13	L705	L5	R313	D8	R550	G5	R882	I10
C346	I8	C546	H5	C879	I16	L706	L12	R314	F9	R551	G5	R883	I10
C347	I8	C551	B5	C881	J12	L751	K16	R315	F10	R552	J1	R884	I10
C348	I8	C552	J1	C883	I10	L801	I11	R316	E10	R553	D3	R885	I9
C349	I8	C556	B2	C884	H12	L871	J16	R317	E9	R555	I3	R886	I9
C350	J8	C557	B2	C885	I12	L872	J16	R320	F11	R556	D4	R887	J10
C351	J8	C561	D4	C886	J10	L873	I16	R321	F11	R557	A7	R888	J10
C352	J8	C564	H4	C887	H10	L874	I16	R322	F9	R558	J3	R889	J9
C353	I8	C567	D4	C888	J10	LD501	G5	R324	E8	R559	J3	R890	J9
C354	D10	C570	G1	C889	J9	MS501	C4	R325	F9	R560	D3	R5501	E3
C356	I8	C571	H1	C890	J9	P1D01	F13	R326	E8	R561	H4	R5502	I3
C357	I8	C574	C5	C891	G10	P3D01	H9	R327	E8	R562	H5	T101	E14
C358	I8	C575	D5	CS501	K2	P3D02	F9	R328	H7	R563	D4	TU701	K16
C359	F10	C581	I3	D101	F15	P3D03	L8	R332	I7	R564	J3	V101	A15
C360	I9	C582	I3	D102	E15	P8D01	L10	R333	I8	R565	H5	X301	I8
C361	I9	C588	E4	D107	F13	PM401	L3	R334	J8	R566	C3	X302	I8
C362	I9	C591	B8	D108	F13	PM601	C1	R336	I8	R567	F2	X501	G2
C363	H10	C596	G5	D110	E13	PM602	C1	R338	H7	R568	G4	X502	G2
C364	J8	C597	G1	D111	D13	PMC01	C7	R340	D9	R569	D4	X751	L3
C365	I9	C598	G1	D112	D13	PW101	B15	R341	D9	R571	J3	ZD101	E13
C366	H10	C599	D2	D113	D13	Q110	A11	R342	C8	R572	J3	ZD103	A12
C367	I10	C702	K16	D114	C12	Q111	A10	R346	G11	R575	C3	ZD105	B10
C368	I10	C703	L16	D115	B10	Q112	B12	R353	H7	R576	C3	ZD172	A11
C369	I10	C706	L14	D117	B10	Q113	B13	R3A1	J7	R577	C3	ZD503	B4
C370	G11	C707	L15	D118	C10	Q114	B13	R3A2	J8	R578	B3	ZD801	I11
C371	I8	C708	L14	D119	E12	Q115	B13	R3S1	E8	R579	D4	ZD802	I11
C372	I8	C709	L15	D121	A13	Q116	B12	R3S3	E2	R580	C6		
C380	C9	C710	L15	D122	A13	Q117	B10	R401	H16	R581	I1		
C383	E4	C712	K4	D129	E12	Q172	A10	R402	D5	R582	H4		

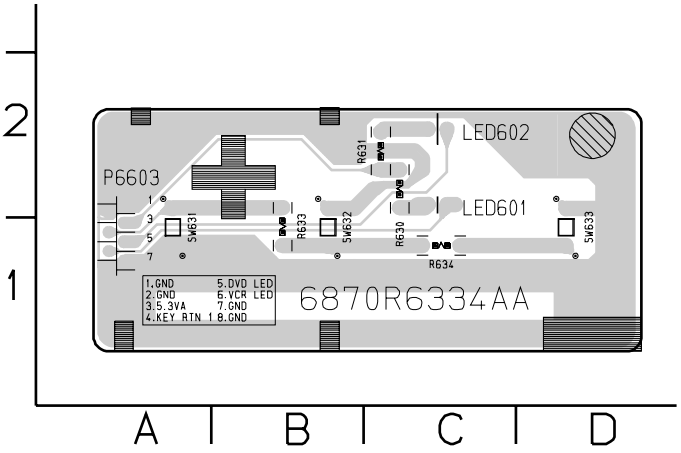
2. KARAOKE P.C.BOARD



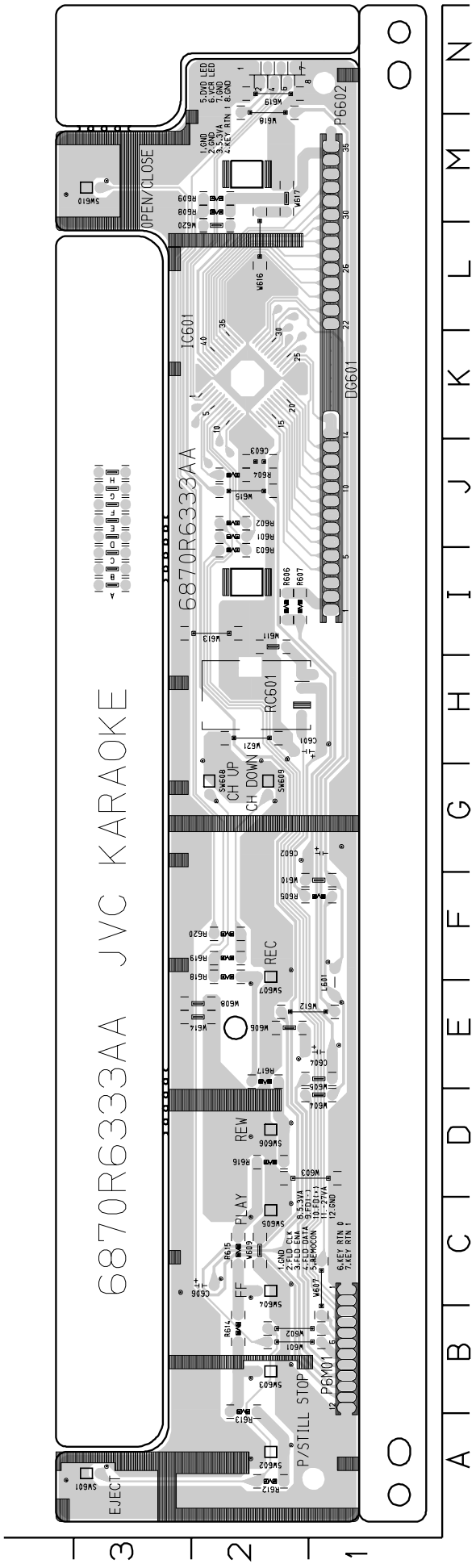
LOCATION GUIDE

C4M2	D3
C4M3	C2
C4M5	C3
C4M6	B2
C4M7	B3
IC4M1	C3
L4M1	D3
P4M01	A3
R4J1	D2
R4J2	B3
R4J3	D3
R4J4	B3
R4M1	D3
R4M2	D3
R4M3	B2
R4M4	B2
R4M5	D3
R4M6	D3
R4M9	B3
ZD4J1	B3
ZD4J2	B3
ZD4J3	B2
ZD4J4	B2

3. KEY P.C.BOARD



4. CLOCK P.C.BOARD

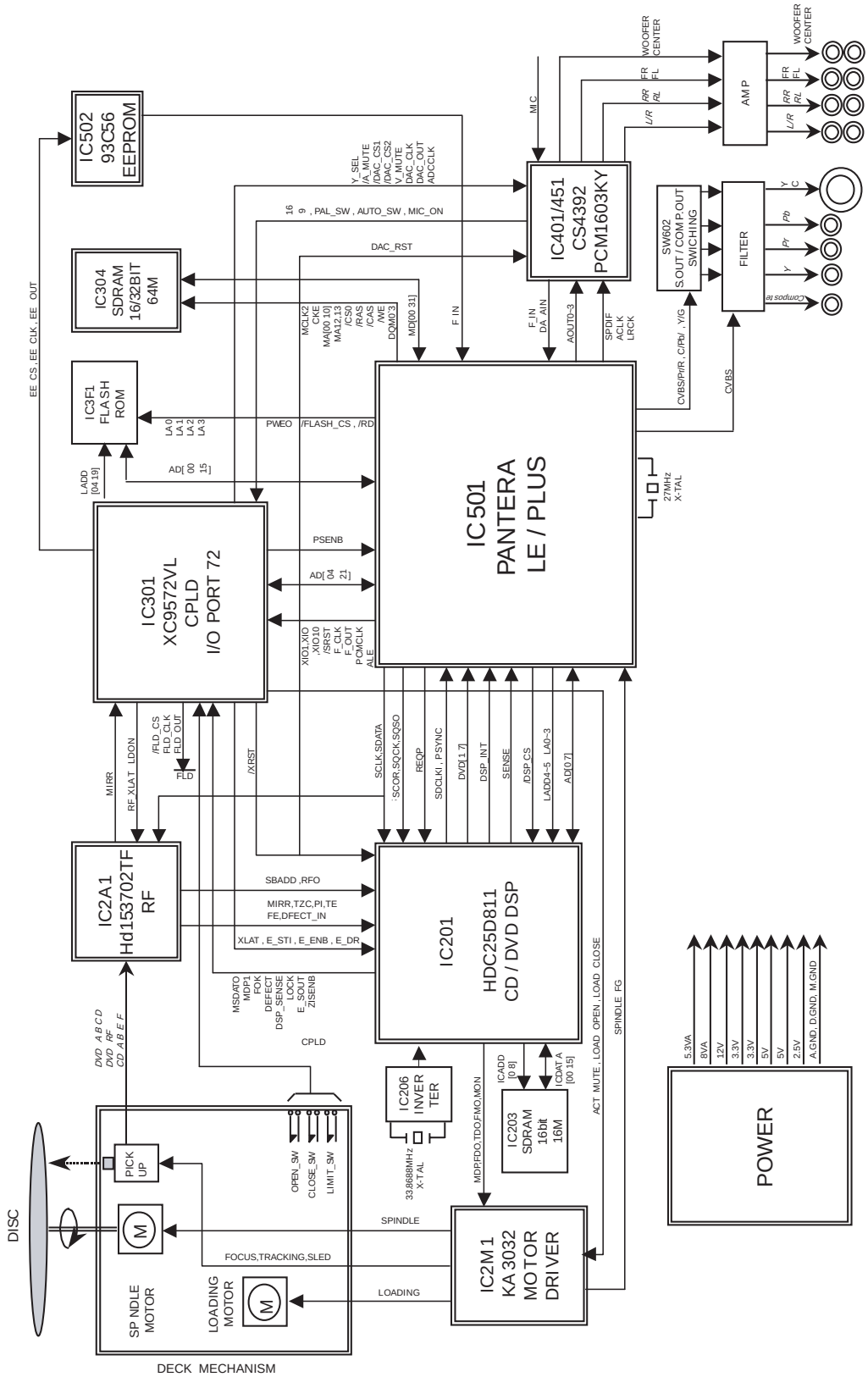


LOCATION GUIDE

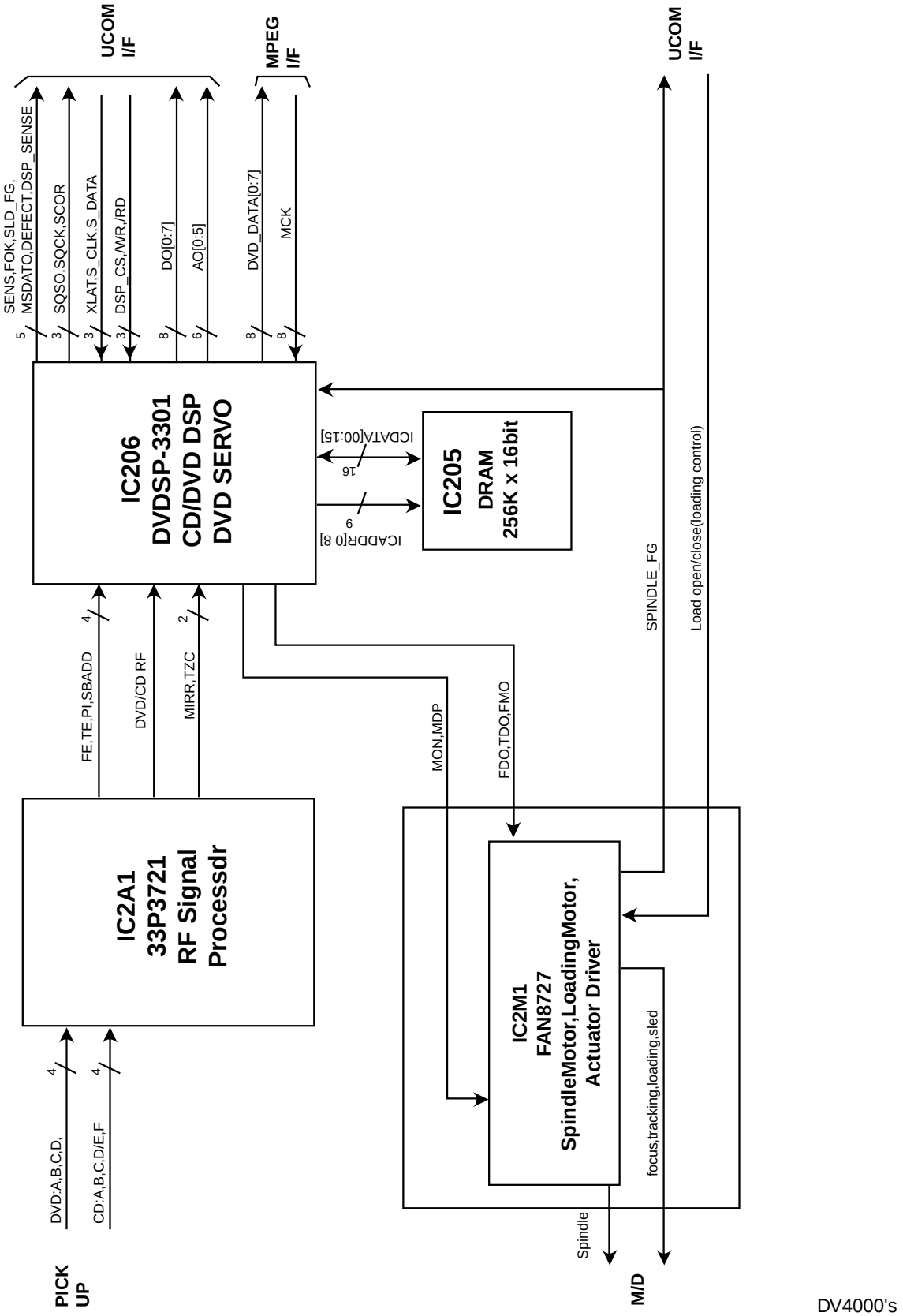
C601	H2
C602	G1
C603	J2
C604	E1
C606	C2
DG601	K2
L601	E1
P6602	N2
P6M01	C1
R601	J2
R602	J2
R603	I2
R604	J2
R605	F1
R606	I2
R607	I2
R608	M2
R609	M2
R612	A2
R613	B2
R614	B2
R615	C2
R616	D2
R617	E2
R618	F2
R619	F2
R620	F2
RC601	H2
SW601	A3
SW602	A2
SW603	B2
SW604	C2
SW605	C2
SW606	D2
SW607	F2
SW608	G2
SW609	G2
SW610	M3

BLOCK DIAGRAMS

1. DVD OVERALL BLOCK DIAGRAM

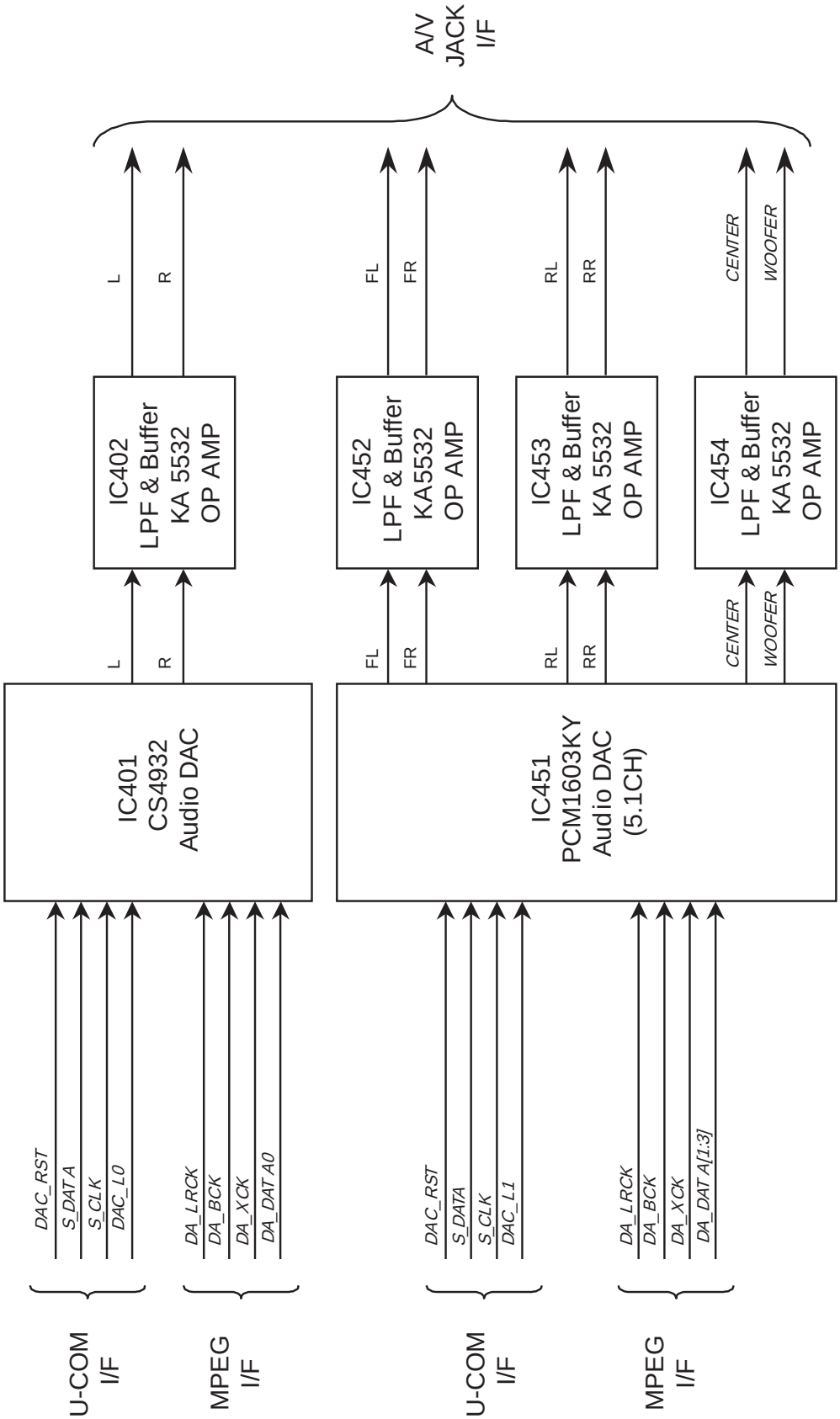


2. RF/CD DSP/DVD DSP/DVD SERVO BLOCK DIAGRAM

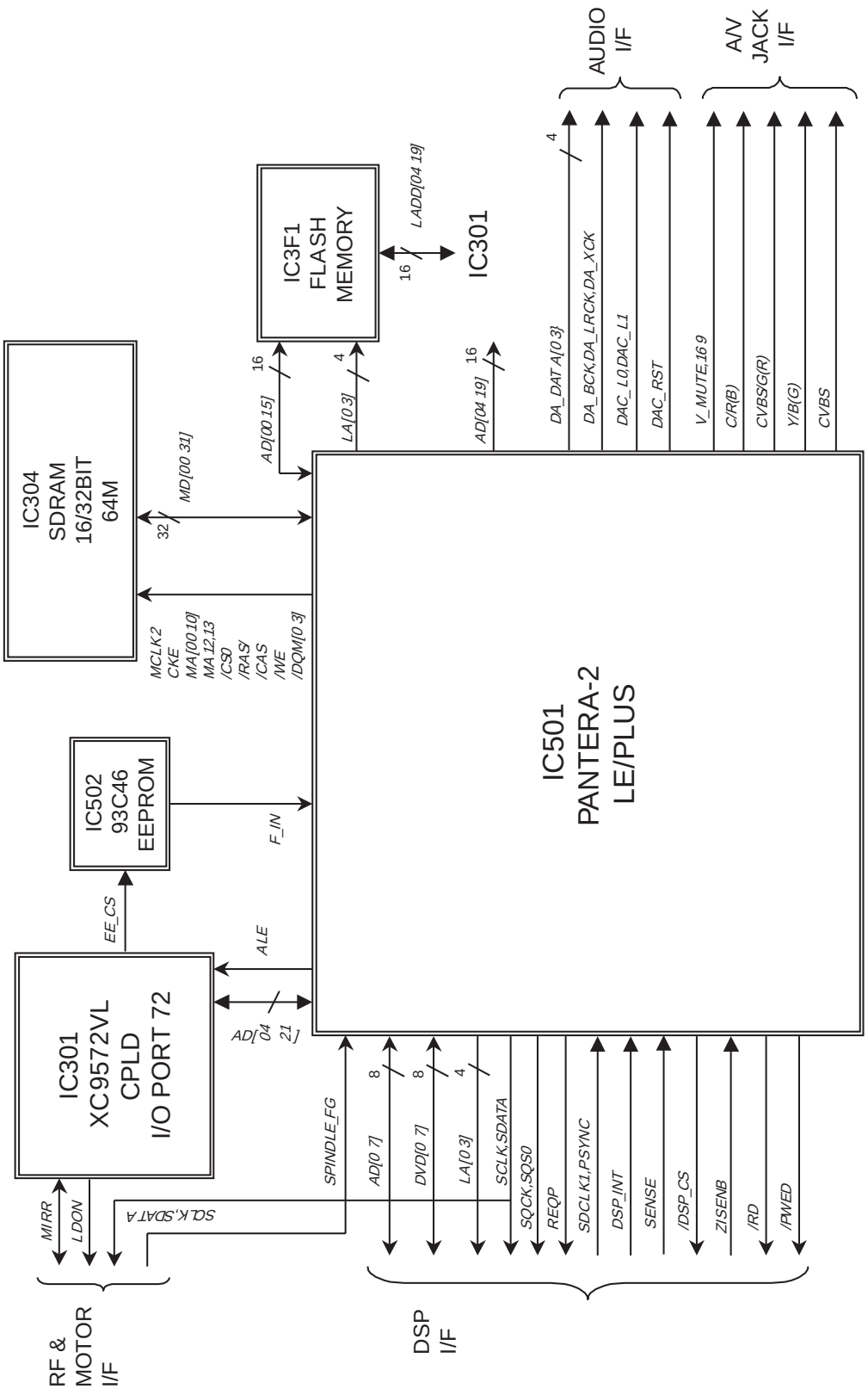


DV4000's

3. AUDIO BLOCK DIAGRAM

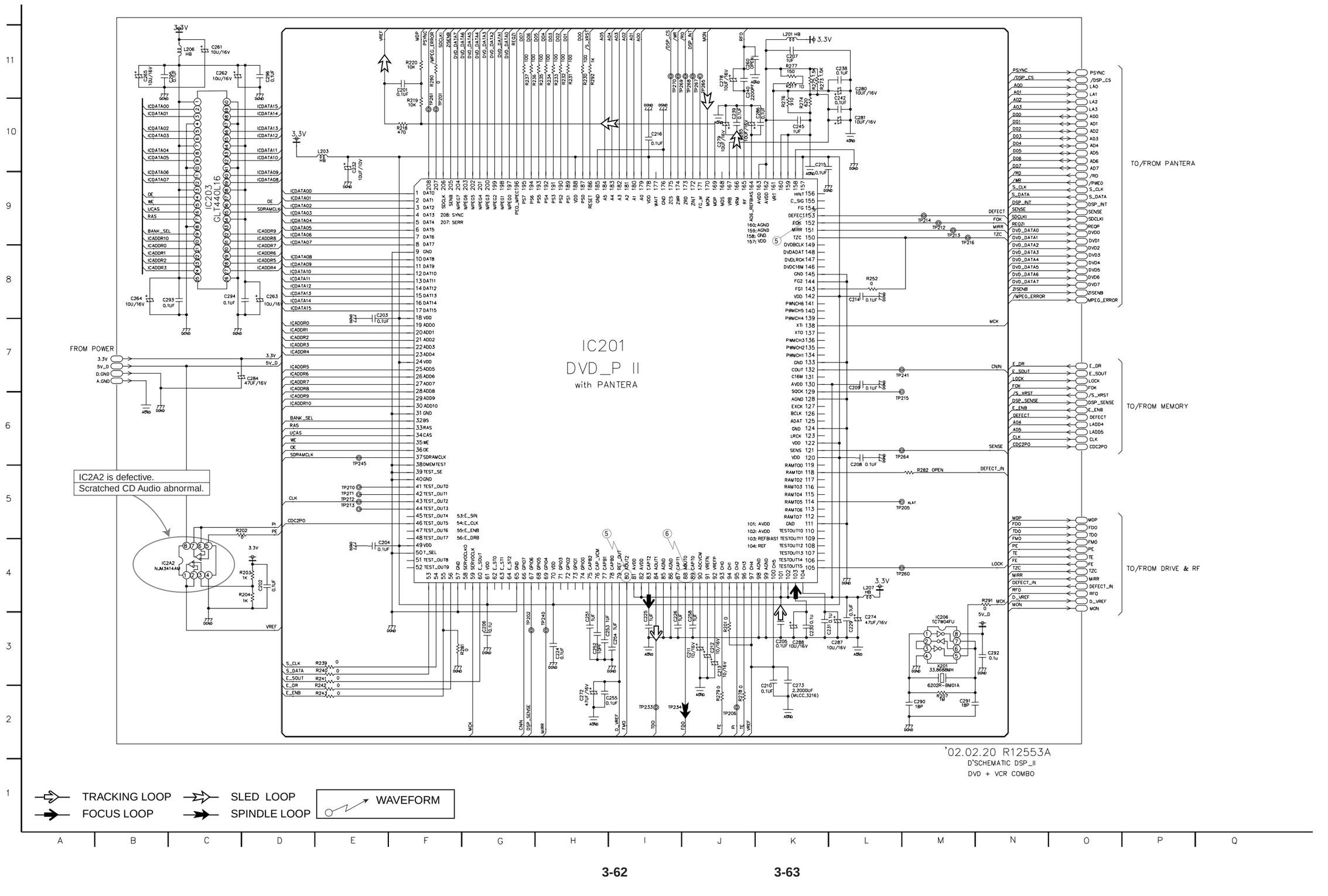


4. MPEG & MEMORY Block Diagram

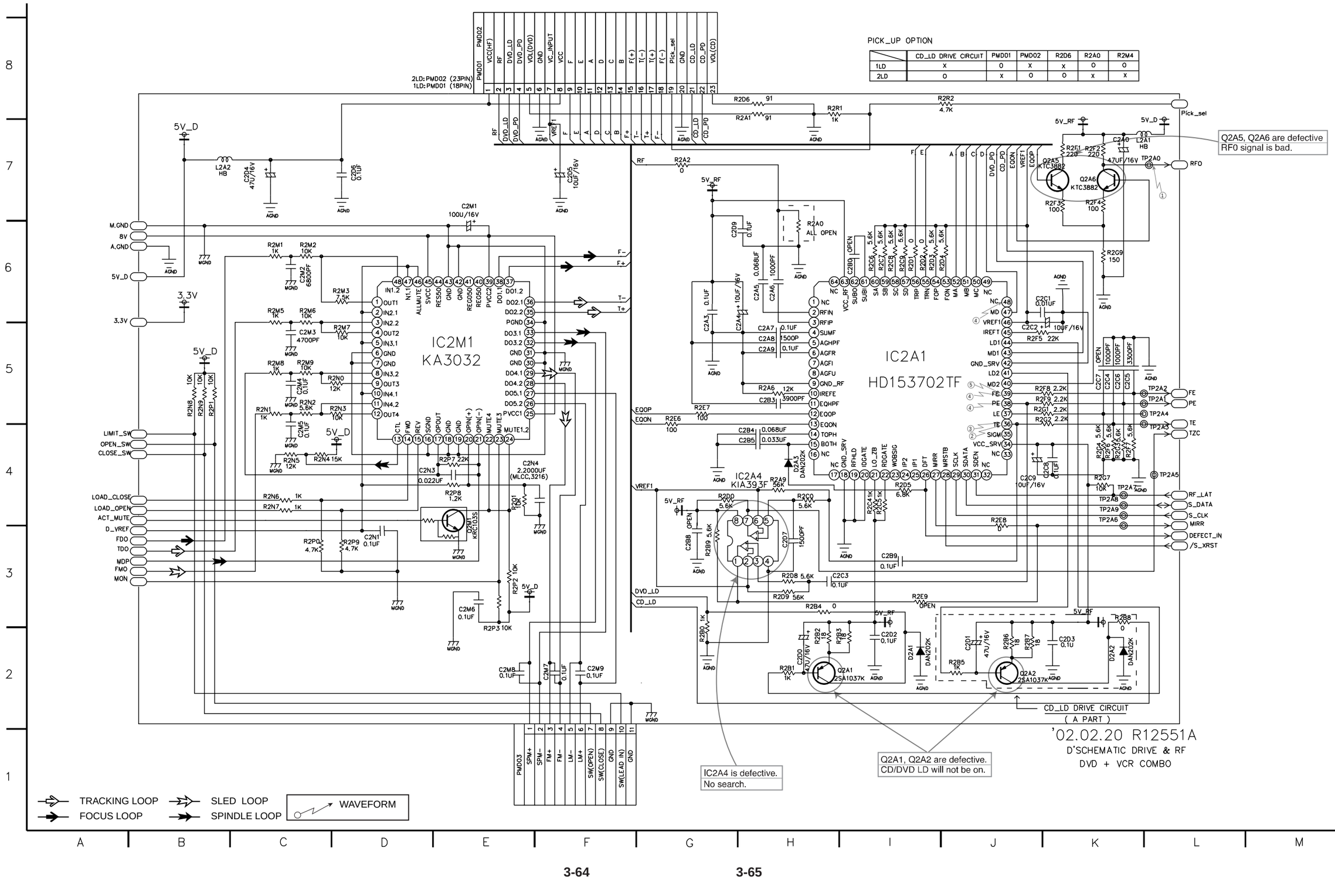


CIRCUIT DIAGRAMS

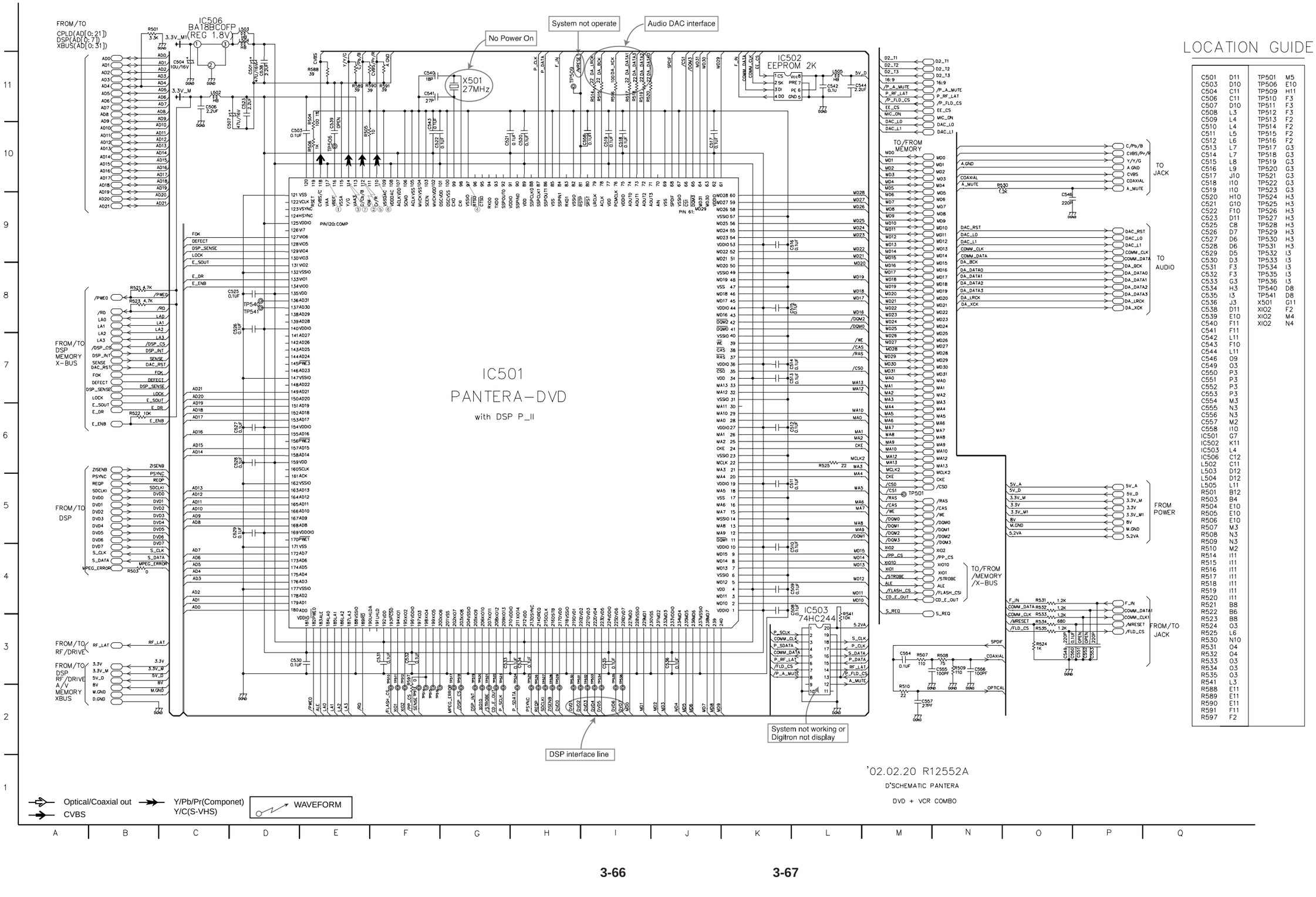
1. DVD DSP CIRCUIT DIAGRAM



2. DRIVE & RF CIRCUIT DIAGRAM



3. MPEG CIRCUIT DIAGRAM



LOCATION GUIDE

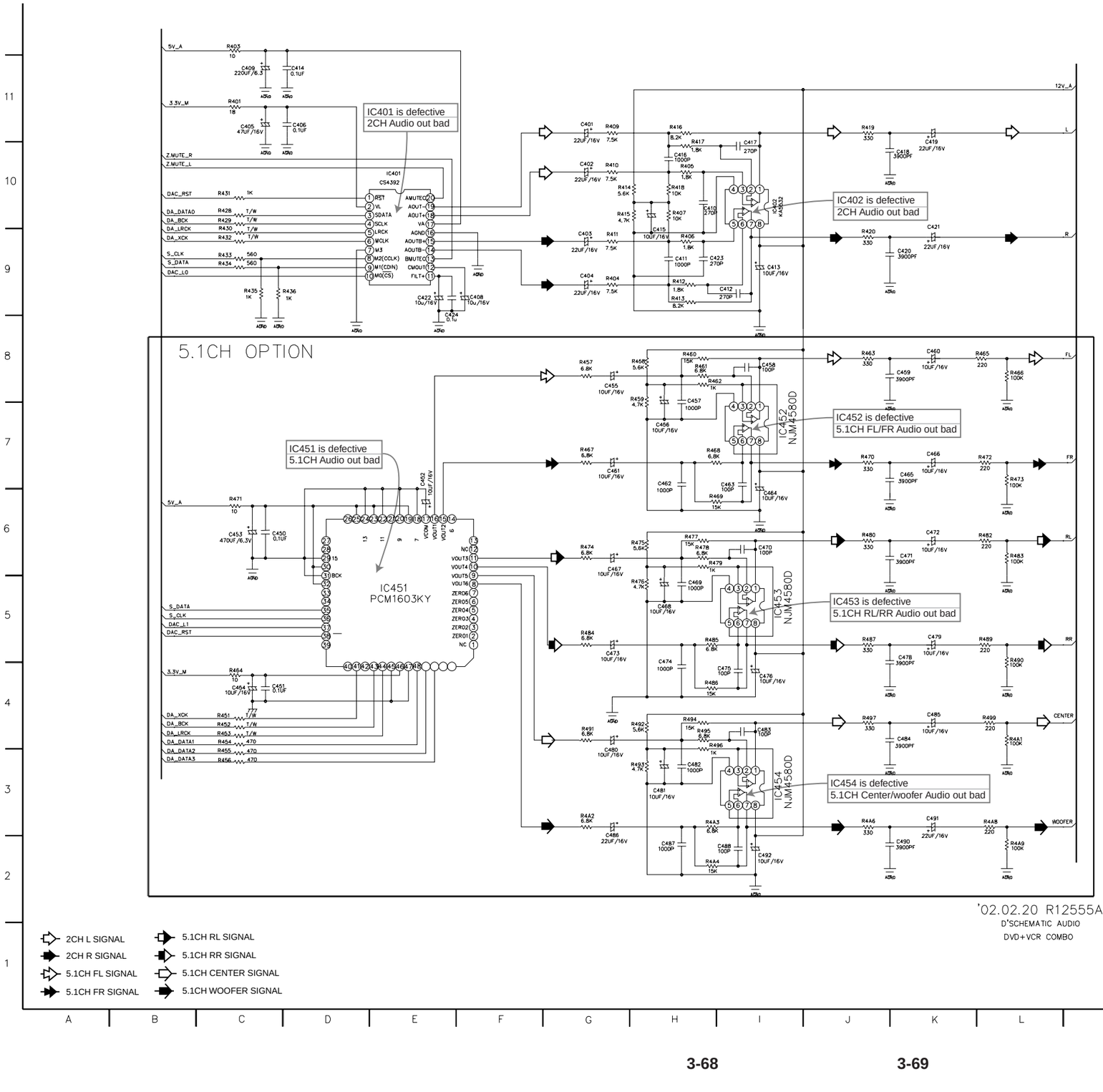
C501	D11	TP501	M5
C503	D10	TP506	E10
C504	C11	TP509	H11
C506	C11	TP510	F3
C507	D10	TP511	F3
C508	L3	TP512	F3
C509	L4	TP513	F2
C510	L4	TP514	F2
C511	L5	TP515	F2
C512	L6	TP516	F2
C513	L7	TP517	G3
C514	L7	TP518	G3
C515	L8	TP519	G3
C516	L9	TP520	G3
C517	J10	TP521	G3
C518	I10	TP522	G3
C519	I10	TP523	G3
C520	H10	TP524	H3
C521	G10	TP525	H3
C522	F10	TP526	H3
C523	D11	TP527	H3
C525	C8	TP528	H3
C526	D7	TP529	H3
C527	D6	TP530	H3
C528	D6	TP531	H3
C529	D5	TP532	I3
C530	D3	TP533	I3
C531	F3	TP534	I3
C532	F3	TP535	I3
C533	G3	TP536	I3
C534	H3	TP540	D8
C535	I3	TP541	D8
C536	J3	X501	G11
C538	D11	XIO2	F2
C539	E10	XIO2	M4
C540	F11	XIO2	N4
C541	F11		
C542	L11		
C543	F10		
C544	L11		
C546	09		
C549	03		
C550	P3		
C551	P3		
C552	P3		
C553	P3		
C554	M3		
C555	N3		
C556	N3		
C557	M2		
C558	I10		
IC501	G7		
IC502	K11		
IC503	L4		
IC506	C12		
L502	C11		
L503	D12		
L504	D12		
L505	L11		
R501	B12		
R503	B4		
R504	E10		
R505	E10		
R506	E10		
R507	M3		
R508	N3		
R509	N3		
R510	M2		
R514	I11		
R515	I11		
R516	I11		
R517	I11		
R518	I11		
R519	I11		
R520	I11		
R521	B8		
R522	B6		
R523	B8		
R524	03		
R525	L6		
R530	N10		
R531	04		
R532	04		
R533	03		
R534	03		
R535	03		
R541	L3		
R588	E11		
R589	E11		
R590	E11		
R591	F11		
R597	F2		

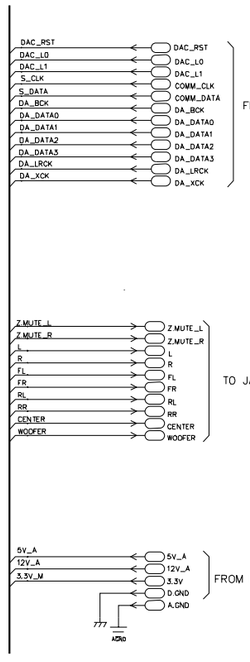
'02.02.20 R12552A

D'SCHEMATIC PANTERA

DVD + VCR COMBO

4. AUDIO DM CIRCUIT DIAGRAM





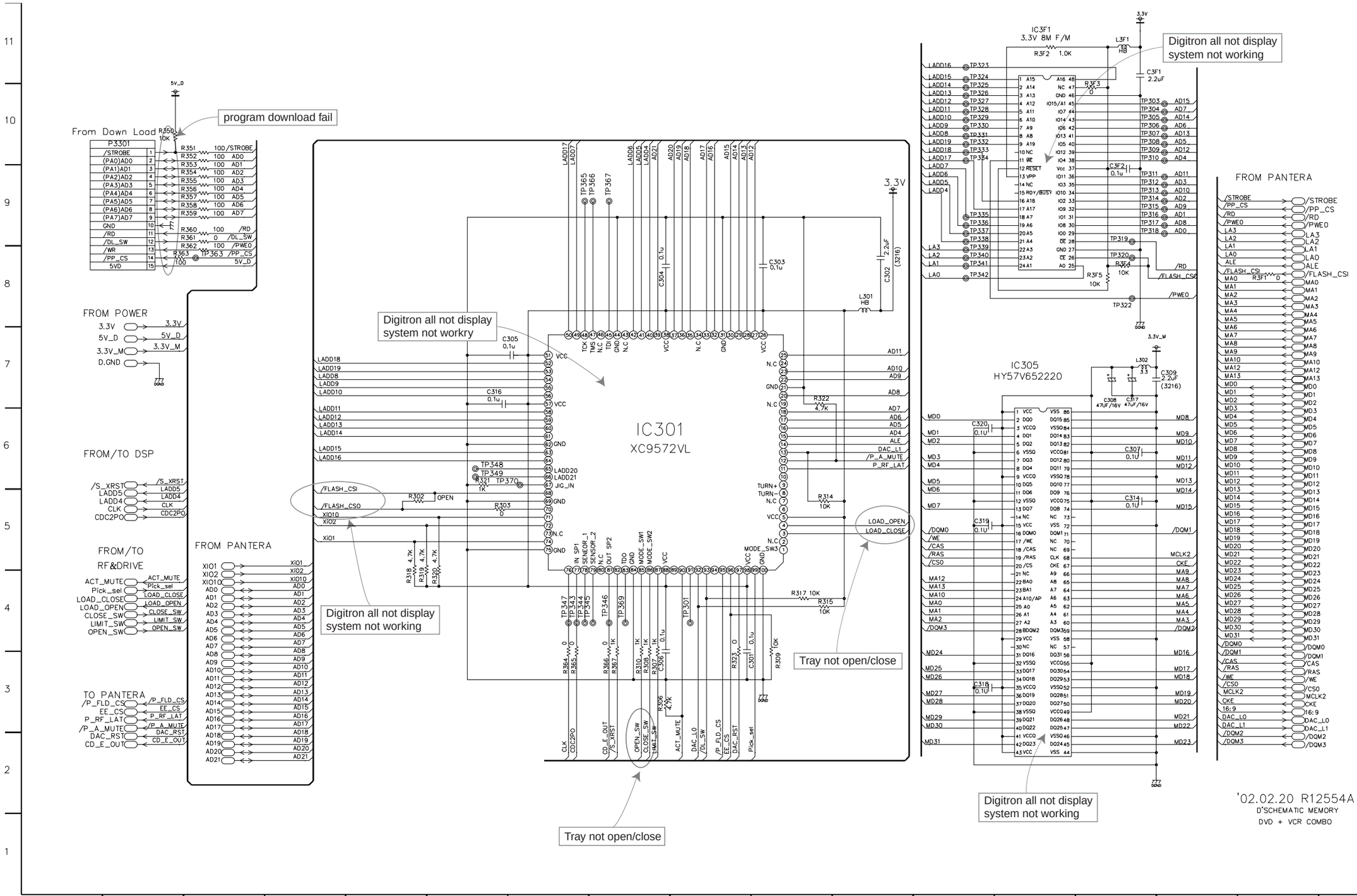
LOCATION GUIDE

C401	G11	R433	C9
C402	G10	R434	C9
C403	G9	R435	C9
C404	G9	R436	D9
C405	C11	R451	C4
C406	D11	R452	C4
C408	F9	R453	C4
C409	C11	R454	C4
C410	H10	R455	C3
C411	H9	R456	C3
C412	I9	R457	G8
C413	I9	R458	H8
C414	D11	R459	H8
C415	H9	R460	H8
C416	H10	R461	H8
C417	I10	R462	H8
C418	K10	R463	J8
C419	K10	R464	C4
C420	K9	R465	K8
C421	K10	R466	L8
C422	E9	R467	G7
C423	H9	R468	H7
C424	E8	R469	H6
C450	C6	R470	J7
C451	C4	R471	C6
C452	E7	R472	L7
C453	C6	R473	L7
C454	C4	R474	G6
C455	G8	R475	H6
C456	H7	R476	H5
C457	H7	R477	H6
C458	I8	R478	H6
C459	K8	R479	H6
C460	K8	R480	J6
C461	G7	R482	L6
C462	H7	R483	L6
C463	I7	R484	G5
C464	I6	R485	H5
C465	K7	R486	H4
C466	K7	R487	J5
C467	G6	R489	L5
C468	H5	R490	L5
C469	H5	R491	G4
C470	I6	R492	H4
C471	K6	R493	H3
C472	K6	R494	H4
C473	G5	R495	H4
C474	H4	R496	H4
C475	I4	R497	J4
C476	I4	R499	L4
C478	K5	R4A1	L4
C479	K5	R4A2	G3
C480	G3	R4A3	H3
C481	H3	R4A4	H2
C482	H3	R4A6	J3
C483	I4	R4A8	L3
C484	K4	R4A9	L2
C485	K4		
C486	G2		
C487	H2		
C488	I2		
C490	K2		
C491	K3		
C492	I2		
IC401	E10		
IC402	I10		
IC451	E5		
IC452	I7		
IC453	I5		
IC454	I3		
R401	C11		
R403	C12		
R404	G9		
R405	H10		
R406	H9		
R407	H10		
R409	G11		
R410	G10		
R411	G9		
R412	H9		
R413	H9		
R414	G10		
R415	G10		
R416	H11		
R417	H10		
R418	H10		
R419	J11		
R420	J9		
R428	C10		
R429	C10		
R430	C9		
R431	C10		
R432	C9		

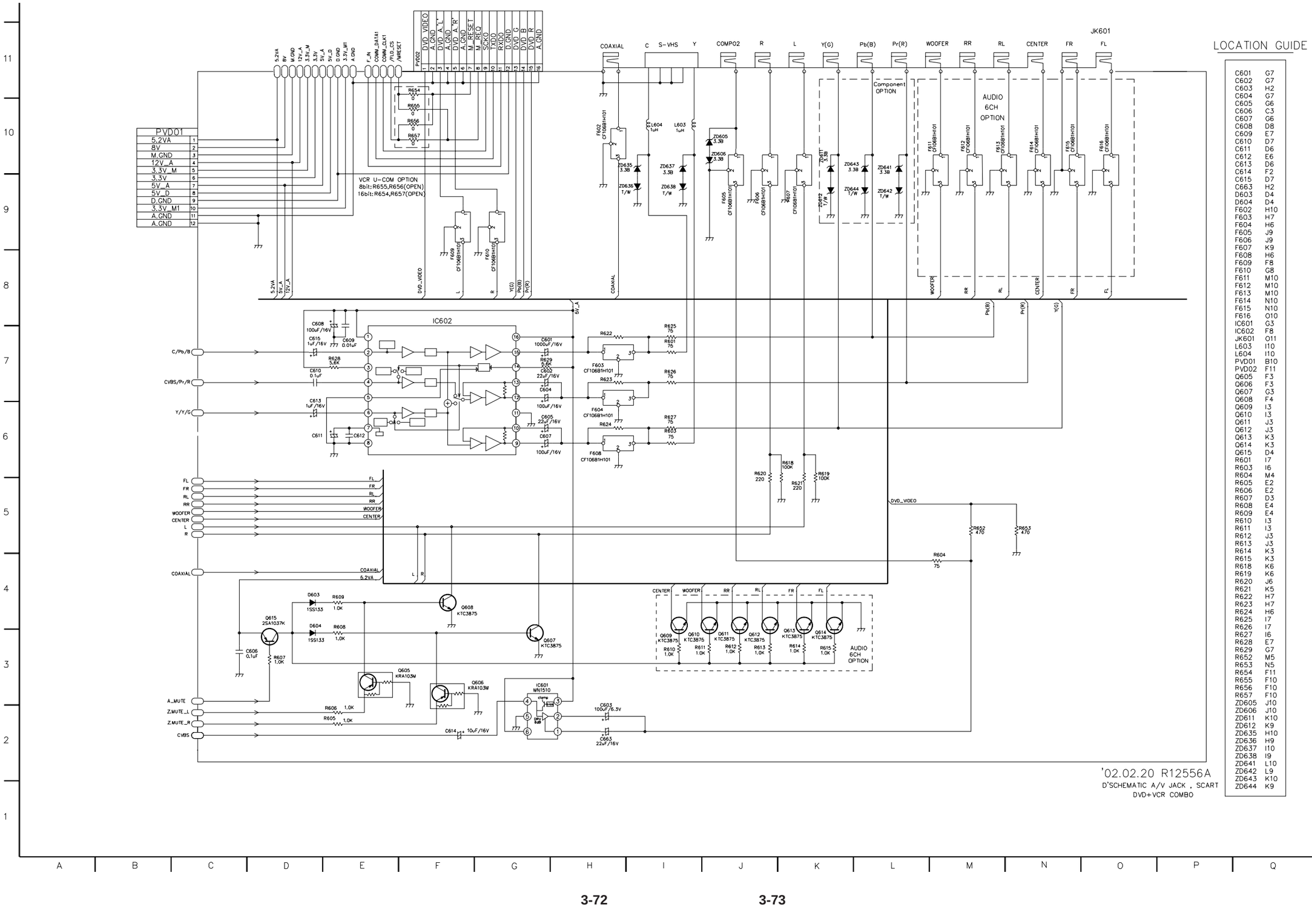
'02.02.20 R12555A
D'SCHEMATIC AUDIO
DVD+VCR COMBO

2CH L SIGNAL
2CH R SIGNAL
5.1CH FL SIGNAL
5.1CH FR SIGNAL
5.1CH RL SIGNAL
5.1CH RR SIGNAL
5.1CH CENTER SIGNAL
5.1CH WOOFER SIGNAL

5. MEMORY CIRCUIT DIAGRAM



6. SCART(JACK) CIRCUIT DIAGRAM



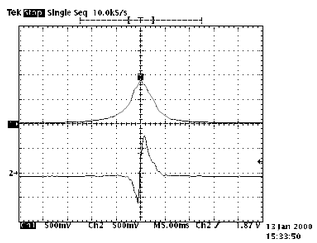
LOCATION GUIDE

C601	G7
C602	G7
C603	H2
C604	G7
C605	G6
C606	C3
C607	G6
C608	D8
C609	E7
C610	D7
C611	D6
C612	E6
C613	D6
C614	F2
C615	D7
C663	H2
D603	D4
D604	D4
F602	H10
F603	H7
F604	H6
F605	J9
F606	J9
F607	K9
F608	H6
F609	F8
F610	G8
F611	M10
F612	M10
F613	M10
F614	N10
F615	N10
F616	O10
IC601	G3
IC602	F8
JK601	O11
L603	I10
L604	I10
PVD01	B10
PVD02	F11
Q605	F3
Q606	F3
Q607	G3
Q608	F4
Q609	I3
Q610	I3
Q611	J3
Q612	J3
Q613	K3
Q614	K3
Q615	D4
R601	I7
R603	I6
R604	M4
R605	E2
R606	E2
R607	D3
R608	E4
R609	E4
R610	I3
R611	I3
R612	J3
R613	J3
R614	K3
R615	K3
R618	K6
R619	K6
R620	J6
R621	K6
R622	H7
R623	H7
R624	H6
R625	I7
R626	I7
R627	I6
R628	E7
R629	G7
R652	M5
R653	N5
R654	F11
R655	F10
R656	F10
R657	F10
ZD605	J10
ZD606	J10
ZD611	K10
ZD612	K9
ZD635	H10
ZD636	H9
ZD637	I10
ZD638	I9
ZD641	L10
ZD642	L9
ZD643	K10
ZD644	K9

'02.02.20 R12556A
D'SCHEMATIC A/V JACK , SCART
DVD+VCR COMBO

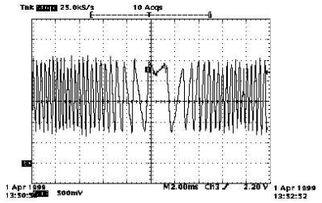
• WAVEFORMS

①



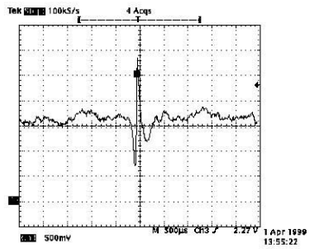
IC2A1 Pin 39, Focus Error
IC2A1 Pin 38, PE

②



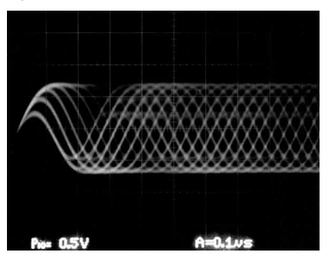
IC2A1 Pin 36
Tracking Error

③



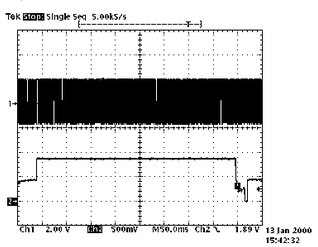
IC2A1 Pin 36
VBR TRACKING Error

④



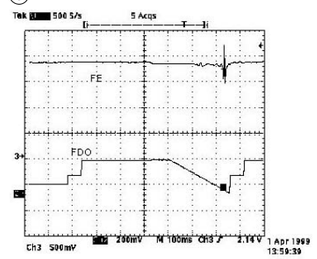
Q2A6 Collector output(TP2AO)
RF

⑤



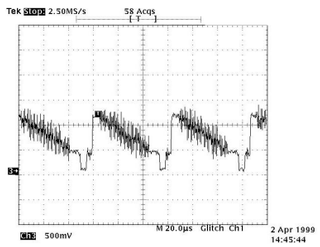
IC201 Pin 80, SLED FG
IC201 Pin 154, SLED FMO

⑥



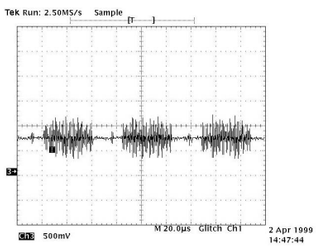
IC2A1 Pin39, Focus Error(in Focus Search)
IC201 Pin 88, Focus Drive(FDO)

①



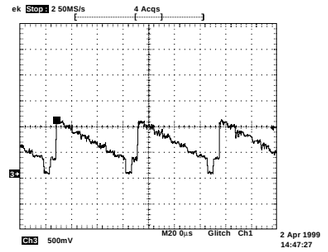
IC501 Pin 118, Composite

②



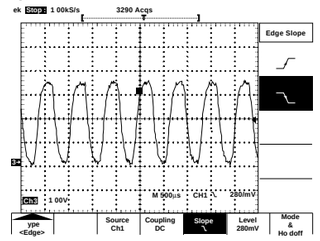
IC501 Pin 112, Chrominance
(Super video out Mode)

③



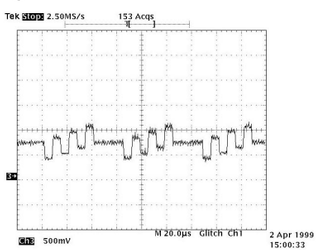
IC501 Pin 114, Luminance
(Super video out Mode)

④



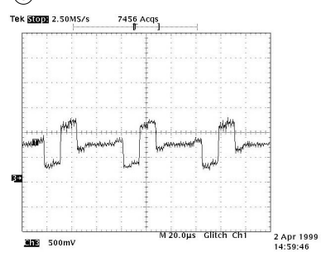
IC501 Pin 98,
MPEG Clock(27MHz)

⑤



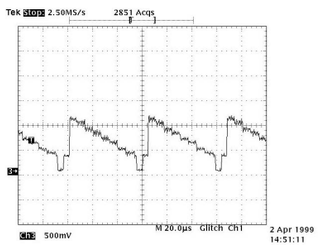
IC501 Pin 112
Component Pb

⑥



IC501 Pin 110
Component Pr

⑦



IC501 Pin 114
Component Y

• CIRCUIT VOLTAGE CHART

	IC203		IC201		IC301		IC3F1		IC501		IC305		IC2A1		IC2M1	
PIN	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	3.18	3.16	3.12	0	3.17	3.16	0	0	3.12	3.1	3.06	3.05	0	0	2.11	2.14
2	3.12	2.69	3.12	0	0	0	0	0	0	0.41	0.29	0.35	3.16	3.13	2.1	2.12
3	3.12	2.69	3.12	0	3.16	0	0	0	0	0.47	3.06	3.05	3.16	3.13	2.11	2.11
4	0	0	3.12	0	3.16	0	0	0	1.75	1.73	3.06	0.33	0.75	1.55	2.1	2.15
5	3.12	2.74	3.12	3.12	3.17	3.16	0	0	0	0.49	0	0	2.04	3.02	2.1	2.12
6	3.12	2.71	3.12	3.12	3.17	3.16	0	0	0	0	0	0	0	0	0	0
7	3.18	3.17	3.12	0	0	0	0	0	0	0.37	0	0.34	0	0	0	0
8	3.12	2.68	3.12	3.12	3.17	3.16	0	0	0	0.35	0.4	0	0	0.33	2.11	2.12
9	3.12	2.63	0	0	0	0	3.13	2.92	0	0.33	0	3.05	0	0	2.02	1.99
10	0	0	3.12	3.12	0	0	0	0	3.22	3.19	0.33	0	0.44	0	2.1	2.12
11	3.12	2.7	3.12	3.12	0	0	3.13	3.12	0	0	0.41	0	1.72	1.19	2.11	2.12
12	3.12	2.7	3.12	0	0	0	3.2	3.2	0	0	0	0	2.06	2.3	2.09	2.13
13	3.18	3.17	3.12	3.12	3.17	3.16	3.2	3.2	0	0	0	0.46	2.25	3.08	3.25	2.23
14	0	0	3.12	0	0	0	0	0	0	0	0	0	1.32	3.13	2.51	0
15	3.12	3.04	3.12	0	0	0	0	0	0	0.79	3.06	3.05	1.46	2.27	2.51	0
16	3.12	0	3.12	0	2.17	2.18	3.19	0	0	0.74	0	0	0	2.4	0	0
17	3.12	3.02	3.12	0	0.38	2.21	0	0	0	0	3.09	3.07	0	0	2.18	0
18	0	0	3.13	3.12	0.41	0.61	0	0	0	0.71	0	2.82	0	0	0	0
19	0	0	3.13	0	0	0	0	0	3.22	3.1	2.84	3.03	0	0	0	0
20	0	3.12	0	0	0	0	0	0	3.22	3.13	3.05	2.76	0	0	1.52	1.89
21	3.13	0	3.13	0	0	0	0	0	3.22	3.13	0	0	3.01	5.01	1.88	1.89
22	3.13	3.17	0	0	0	0	0	0	1.64	0	0	1.38	3.85	5.01	0	0
23	3.13	0	0	0	0	0	0	0	0	0	0.8	0.79	0	0	3.13	0
24	0	0	3.13	0	0	0	0	0	3.22	3.13	0	0	0	0	0	0
25	3.18	0	3.12	0	0	0	3.11	3.11	0	3.13	1.14	1.1	0	0	7.95	7.92
26	0	0	0	0	3.21	3.16	3.17	3.2	0	3.13	0.38	1.54	3.31	3.63	3.92	3.71
27	0	0	0	3.12	0	0	0	0	3.22	3.11	0	0	0	0	3.92	3.71
28	3.12	0	0	0	0	0	3.11	0	0	1.1	0	0	3.14	3.16	3.9	3.74
29	0	3.12	0	0	0	0	0.61	1.07	0	0	0	0.05	5.15	5.14	3.95	3.68
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	3.17	0	3.12	0	0	0.6	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	3.22	1.39	0	0	0	0	1.18	4.2
33	3.1	0	3.12	0	0	0	0.59	0	3.22	0.8	0	0	0	0	1.18	3.43
34	3.18	0	3.12	0	0	0	0	0	1.75	1.52	0.34	0	5.03	4.99	0	0
35	1.5	0	3.12	0	0	0	0.61	0	3.22	2.76	3.03	3.05	2.29	2.34	3.92	3.75
36	0	3.12	0	0	0	0	0	0	3.22	3.11	0	0.34	2.2	2.3	3.93	3.73
37	0	0	1.51	0	0	0	3.18	0	3.22	3.03	0	0	2.2	2.2	3.92	3.73
38	3.18	0	0	0	3.17	3.16	0	0	3.22	2.83	0	0	2.29	2.26	3.92	3.68
39	3.12	3.12	0	0	0	0	0	0	3.22	3.08	0.56	0	2.24	2.24	7.95	7.94
40	3.12	3.12	0	0	0	0	2.17	0	0	0	0.56	0	0	0	7.91	7.87
41	0	3.17	0	0	0	0	0	0	0	0	0	3.05	5.03	5.01	0	0
42	3.12	0	0	0	0	0	0.38	2.28	0	0	3.03	0.45	0	0	0	0
43	3.12	0	0	0	0	0	0	0	0	0.34	3.03	3.05	0	0	0	0
44	3.18	0	0	0	0	0	0.41	0.65	3.22	3.11	0	0	5.03	1.59	0	0
45	3.12	3.12	0	0	3.17	3.15	0	0	0.45	0.33	0	0.44	2.3	2.3	7.95	7.94
46	2.76	3.12	1.56	0	0	0	0	0	0	0	0	0	2.3	2.3	2.11	2.12
47	0	0	0.91	0	3.17	3.15	0	0	0	0	0.38	0	1.74	2.3	2.1	2.12
48	3.12		1.65	0	2.19	0	0	0	0	0	0	0	0	0	2.11	2.12
49	3.12		3.14	0.53	0	0			0	0	3.03	0	0	0		
50	0		0	0	0	0			0.43	0.39	0.36	3.05	2.3	2.3		
51			0.64	0	3.17	0			0.42	0.45	0	0.34	2.3	2.3		
52			0.43	0	3.17	3.19			0.43	0.35	0	0	2.3	2.3		
53			0	0	3.11	2.91			3.12	3.11	0	0	2.3	2.3		
54			2.58	0	0	0			0	0	0.41	0	2.3	2.3		
55			0	0	0	0			0	0.33	3.03	3.05	2.3	2.3		
56			3.11	0	0	0			0.39	0.36	0	0.34	2.3	2.3		
57			0	0	3.17	3.19			0	0	0	0	2.3	2.3		
58			1.65	0	0	0			0	0	0	0	2.3	2.3		
59			1.79	0	0	0			0	0.42	0	0	2.29	2.3		
60			0	0	0	0			0.44	0.4	0	0.79	2.29	2.3		
61			3.13	0	0	0			0.44	0.47	0	0.79	0.36	0.56		
62			0	0	0	0			3.12	3.11	0	2.26	0.37	0.62		
63			3.13	0	0	0			0.45	0.35	0	0.74	5.03	5.02		
64			0	0	0	0			0	0	0	0.78	0	0		
65			0	0	0	0			0	0	0	0				
66			3.12	0	0	0			0	0	0	0				
67			0	0	0	0			0	0.31	3.11	3.1				
68			3.13	3.12	3.11	3.1			1.51	0	1.6	1.59				
69			4.08	0	0	0			0	1.5	0	0				
70			3.13	0	0	3.16			1.47	0	0	0				
71			0	0	3.11	3.1			0	0	0	0				
72			3.13	3.13	0	0			0	0	0	0				
73			0	0	0	0			0	0	0	0				
74			0	0	3.11	3.1			0	0	0	0.45				
75			0.78	0	0	0			3.12	3.11	3.04	3.05				
76			1.41	0	0	0			1.48	1.26	0	0				
77			0.77	0	0	0			1.74	1.74	0	0				
78			0.77	0	0	0			1.54	1.54	0	0				
79			2.1	2.11	3.17	0			1.56	1.55	0	0				
80			2.12	2.11	0	0			3.11	3.1	0	0.34				
81			3.18	0	3.17	0			3.01	3.01	1.69	0				

	IC203		IC201		IC301		IC3F1		IC501		IC305		IC2A1		IC2M1	
PIN	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
82			3.18	0	3.17	3.19			0	0	0	0				
83			1 93	1.93	2.12	2 27			0	0.33	0	0				
84			2.11	2.11	0	0			1.74	5.12	0	0				
85			0	0	4.41	4.41			0	0	0	0 33				
86			0	0	0	0			0	0	0	0				
87			1 93	0	0	0			1.42	3.11						
88			2.1	0	3.17	3.19			1 87	3.11						
89			1 93	1.92	2.66	0			1 67	1.74						
90			1 59	0	0	3.17			0	0						
91			0 8	0	3.19	0			3.11	3.11						
92			2 36	2.36	3.19	3.19			0	3.11						
93			2 24	1.6	3.19	3.19			3.11	3.11						
94			1 58	1.56	0	0			0	0.34						
95			1 64	1.62	3.13	3.13			0	0.34						
96			1 58	1.62	0	0			2 82	3.11						
97			1 58	1.56	3.19	3.19			0	0						
98			0	0	3.19	3.19			0 85	0.92						
99			0	0	0.36	0 36			0 89	0.93						
100			1 58	0	0	0			0	0						
101			3.18	0					1.79	1.74						
102			3.18	0					3 23	3.1						
103			2 01	2.01					0	0						
104			2 01	2.01					0	0						
105			0	0					0	0						
106			3.12	0					0	0						
107			2 07	3.12					3 23	3.09						
108			0.41	0					1.74	1.74						
109			0	0					0	0						
110			2.15	0					1.75	1.3						
111			0	0					0 34	0.74						
112			0	0					0	1.39						
113			0	0					3 2	3.1						
114			0	0					0.49	0.64						
115			0	0					0	0						
116			0	0					1.17	1.29						
117			0	0					1.79	1.74						
118			0	0					0	0.74						
119			0	0					1.17	1.28						
120			3.12	0					2 04	1.82						
121			0	0					0	0						
122			3.12	3.12					0	0						
123			3.12	3.12					0	0.36						
124			0	0					0	0.36						
125			3.12	3.12					3.16	3.1						
126			3.12	0					0	0.36						
127			2.42	0					0	0						
128			0	0					0	0						
129			2.41	0					0	0						
130			3.18	3.17					0	0						
131			3.12	3.12					0	0						
132			3.12	0					0	0						
133			0	0					3.13	0						
134			3.12	3.12					0	0						
135			3.12	3.12					1.74	1.74						
136			2.45	2.33					0	0						
137			1 68	1.65					0	0						
138			1.77	1.87					0	0						
139			2.45	2.33					0	0						
140			2 61	0.32					3.13	3.1						
141			2 54	0					0	0						
142			3.12	0					0	0						
143			0	0					0	0						
144			0	0					0	0						
145			0	0					3.13	3.09						
146			2 54	0					0	0						
147			2 54	0					0	0						
148			2 54	0					0	0						
149			2 54	0					0	0						
150			4.76	0					0	0						
151			4.13	0					0	0						
152			0	0					0	0						
153			0	0					0	0						
154			0	0					3.13	3.1						
155			3.12	0					0	0						
156			3.12	0					3.13	3.09						
157			3.12	0					0	0						
158			0	0					0	1.73						
159			0	0					1.74	1.73						
160			0	0					1.12	1.83						
161			2 64	2.62					3.13	0						
162			3.18	3.16					0	0						

	IC203		IC201		IC301		IC3F1		IC501		IC305		IC2A1		IC2M1	
PIN	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
163			3.18	3.15					0	0						
164			2 02	0					0	0						
165			2 08	0					0	0						
166			2 09	0					0	0						
167			1 57	0					0	0						
168			2 51	0					0	0						
169			1 6	1.57					3.13	3.1						
170			3.13	3.01					3.13	0						
171			2 53	0					0	0						
172			0	0					0.44	0.6						
173			3.11	0					0.4	2.15						
174			3.11	0					2 2	2.15						
175			3.11	3.1					0	0						
176			0	0					0 66	0.8						
177			3.12	0					0	0						
178			3.12	2.59					0 65	0.83						
179			3.11	3.03					0 65	0.79						
180			0	0					0 67	0.79						
181			0	0					0	3.1						
182			0	0					3.13	3.1						
183			0	0					0	0						
184			0	0					3.13	3.1						
185			0	0					0	0						
186			3.17	0					0	0						
187			0 69	0					0	0						
188			3.18	3.12					0	0						
189			0 66	0.77					0	3.1						
190			0 65	0					0	0						
191			0 67	0.87					0	0						
192			0	0					0	1.75						
193			2 21	2.17					3.13	3.09						
194			0.41	0					3.13	3.16						
195			0.45	0					0	0						
196			0	0					3.13	3.1						
197			0	0					0	0						
198			0	0					3.13	0						
199			0	3.12					3.13	3.1						
200			0	0					0	3.1						
201			0	0					0	0						
202			0	1.22					3.18	0						
203			0	1.22					3.18	3.1						
204			0	0					0	0						
205			3.11	3.11					0	0						
206			1 53	3.11					0	3.1						
207			3.12	0					0	0						
208			3.12	3.12					0 37	0						
209									0	0						
210									3.13	3.1						
211									0	0						
212									0	0						
213									0	0						
214									0	0						
215									0	0						
216									0	0						
217									0	0						
218									0	0						
219									0	0						
220									0	3.12						
221									0	0						
222									0	0						
223									0	0						
224									0	0						
225									3.13	0						
226									0	0						
227									0	0.41						
228									0	0						
229									0	0						
230									0	0						
231									0	0						
232									0	0.43						
233									3 24	0						
234									0	0.45						
235									0	0.34						
236									0	0						
237									0	0						
238									0	0						
239									0	0						
240									0	0.36						
241																
242																
243																

	IC901		IC451		IC401		IC454		IC453		IC452		IC402		IC801	
PIN	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	0	0	0	0	2 98	2.98	5.51	5.51	5.41	5.42	5.49	0	5.47	5.47	1.83	1.81
2	5.1	5.05	3.15	3.15	3 26	3.26	5.51	5.51	5.41	5.42	5.49	5.51	5.47	5.47	0	0
3	0	0	3.15	3.15	0	0	5.51	5.51	5.41	5.41	5.49	5.51	5.47	5.47	1.83	1.81
4	5.14	5.14	3.15	3.14	1 57	0	0	0	0	0	0	0	0	0	0	0
5	0.48	0	3.15	3.15	1 58	1.58	5.51	5.51	5.41	5.41	5.49	5.51	5.47	5.47	0	0
6	0.48	0	3.15	3.15	1 3	0	5.51	5.51	5.41	5.42	5.49	5.51	5.47	5.47	4.59	4.57
7	5.17	5.17	3.15	3.15	0	0	5.51	5.51	5.41	5.41	5.49	0	5.47	5.47	1.84	1.82
8	2.22	2.21	2.43	2.42	3 24	3.24	11.95	11.95	11.95	11.95	11.95	11.95	11.95	11.95	0	0
9	2.35	2.35	2.48	2.46	0	0									1.84	1.82
10	0	0	2.43	2.42	3 2	3.19										
11	2.26	2.24	2.48	0	4 85	4.84										
12	2.46	2.45	0	0	2 31	0										
13	0	0	0	0	2 35	0										
14	5.17	5.16	0	0	2 35	0										
15	5.17	5.16	2.43	2.43	0	0										
16	5.1	5.06	2.47	3.14	0	0										
17	0	0	2.45	0	4 91	0										
18	0	0	0	0	2 34	2.34										
19	5.16	5.16	4.91	4.88	2 34	2.33										
20	5.14	5.14	0	0	0	0										
21	5.01	5.02	0	0												
22	0	0	0	0												
23	0	0	4.91	0												
24	0	0	0	0												
25	2.68	2.68	4.9	4.88												
26	5.17	5.17	0	0												
27	5.17	5.17	0	0												
28	4.77	4.87	0	0												
29	5.07	5.06	0	0												
30	21.58	18	4.91	4.88												
31	23.58	18	0	0												
32	23.6	23	4.91	4.88												
33	27.54	21.21	0	0												
34	23.6	17.18	0.36	0												
35	23.6	22.91	0	0												
36	21.6	19.14	3.24	3.23												
37	21.61	25.01	3.19	3.19												
38	23.65	23.06	2.93	3.92												
39	23.65	23.09	0	0												
40	23.57	23.08	0	0												
41	25.6	23.07	1.3	1.31												
42	25.6	25.03	1.48	1.47												
43	25.6	25.03	1.57	0												
44	25.6	23.07	1.58	1.58												
45	27.6	25.07	0	0												
46	27.6	21.16	3.15	3.15												
47	27.5	25.11	0	0												
48	27.5	24.76	0	0												
49	27.5	27.86	0	0												
50	27.5	26.88	0	0												
51	6.73	6.69	3.15	3.14												
52	25.7	25.13	0	0												
53	25.6	25.08														
54	25.6	25.16														
55	25.6	25.15														
56	25.6	25.08														
57	25.6	25.13														
58	27.7	27.08														
59	5.16	5.15														
60	5.16	5.16														
61	5.16	5.16														
62	5.16	5.16														
63	0	0														
64	0	0														

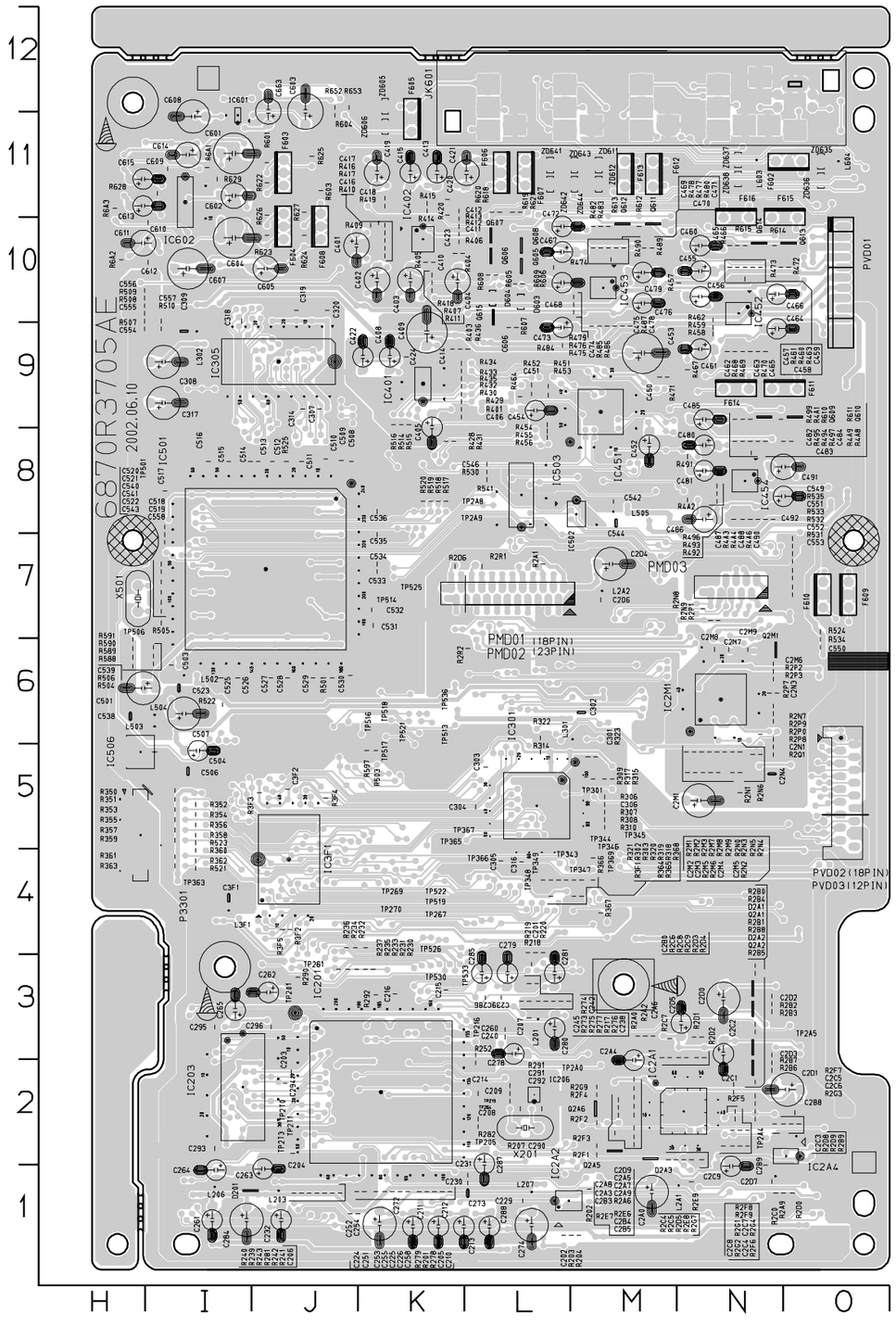
	IC503		IC502		IC2A4		IC2A2		IC206		IC504		IC506	
PIN	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	0	0	0	0	4 87	4.39	1 57	1.56	2.63	2.64	2.11	2.19	(IN)0	0
2	3.1	3.1	5 03	5 03	2 3	2.31	1 57	1.56	2.74	0	5.05	5.05	(OUT)1.80	0
3	5.03	5 03	0	0	2 29	2.29	1 57	0	2.74	2.76	2.37	2.44		
4	0	0	5.1	5.1	0	0	0	0	0	0	0	0		
5	0	0	0	0	2 29	2.29	1 62	1.62	1.92	1.88				
6	0	0	5 04	5 04	2 3	2.31	1 62	1.62	2.28	0				
7	5.05	5 05	0	0	2 51	2.45	1 62	1.62	2.28	0				
8	0	3.15	5 03	5 04	5 02	5.02	5 04	4.99	5.04	0				
9	0	0												
10	0	0												
11	0	0.46												
12	0	0.15												
13	3.11	3.1												
14	0	0												
15	0	0												
16	0	0												
17	3.09	3 09												
18	5.15	5.14												
19	0	0												
20	5.15	5.15												

	Q2M1		Q2A1		Q2A6		Q2A5		Q2A2	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
E	0	0	5 02	0	0	2.41	2 34	2.35	5.02	4.95
B	0	0	0	0	3 62	3.72	3 82	0	0	0
C	0	3.14	0	0	0	3.1	0	0	5.01	4.94

	Q610		Q611		Q609		Q613		Q614		Q612	
PIN	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
Emitter	0	0	0	0	0	0	0	0	0	0	0	0
Collector	0	0	0	0	0	0	0	0	0	0	0	
Base	0.77	0.78	0.77	0.77	0.76	0.77	0.76	0.77	0.77	0.77	0.76	0.79

PRINTED CIRCUIT DIAGRAMS

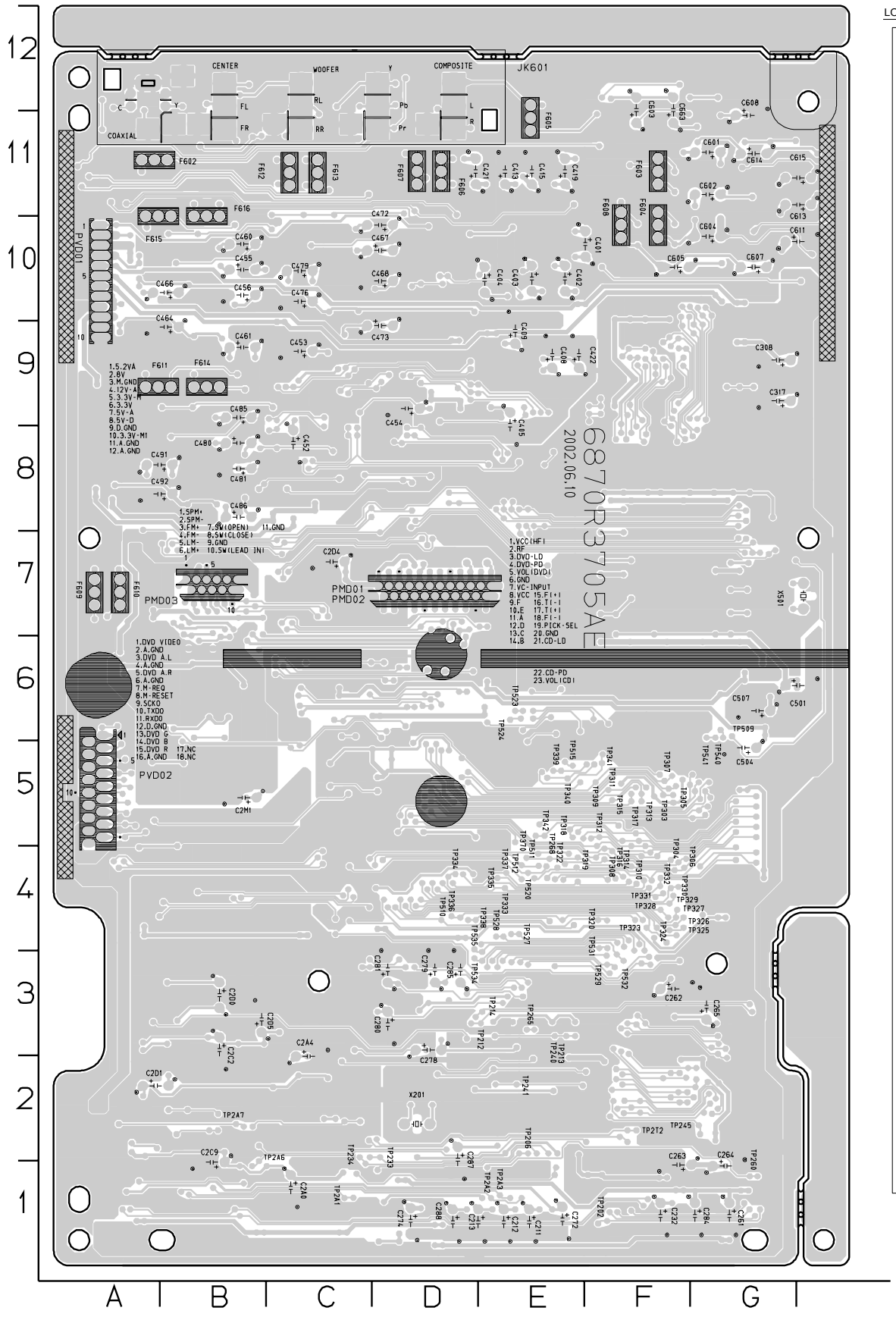
1. MAIN P.C.BOARD (TOP VIEW)



LOCATION GUIDE

C201	L4	C2C5	N2	C461	N9	C555	H10	L603	N11	R2C6	M3	R351	I5	R478	M10	R622	J11
C202	L1	C2C6	N2	C462	N9	C556	H10	L604	O11	R2C7	M3	R352	I5	R479	M10	R623	J10
C203	J2	C2C7	N2	C463	N9	C557	I10	P3301	H5	R2C8	N3	R353	I5	R480	M10	R624	J10
C204	J2	C2C8	N2	C464	N9	C558	I7	PMD01	L7	R2C9	N3	R354	I5	R482	M10	R625	J11
C205	K1	C2C9	N1	C465	N9	C601	I11	PMD02	L7	R2D0	O1	R355	I5	R483	M10	R626	J11
C206	J1	C2D0	N3	C466	N10	C602	I11	PMD03	N7	R2D1	N3	R356	I5	R484	L9	R627	J11
C207	L3	C2D1	O2	C467	L10	C603	J11	PVD01	O10	R2D2	N3	R357	I5	R485	M9	R628	I11
C208	L2	C2D2	N3	C468	L10	C604	I10	PVD02	O6	R2D3	N3	R358	I5	R486	M9	R629	I11
C209	L2	C2D3	N3	C469	M10	C605	J10	Q2A1	N3	R2D4	N3	R359	I5	R487	M9	R652	J12
C210	K1	C2D4	M7	C470	M10	C606	L9	Q2A2	N2	R2D5	N2	R360	I4	R489	M10	R653	J12
C211	K1	C2D5	N3	C471	M10	C607	I10	Q2A5	M2	R2D6	K7	R361	I4	R490	M10	R6A1	I11
C212	K1	C2D6	M7	C472	L10	C608	I11	Q2A6	M2	R2D8	O2	R362	I4	R491	N8	R6A2	H10
C213	K1	C2D7	N1	C473	L9	C609	I11	Q2M1	N6	R2D9	O2	R363	I4	R492	N8	R6A3	H11
C214	L2	C2D9	M2	C474	M9	C610	I10	Q605	L10	R2E6	M2	R364	M4	R493	N8	TP201	J3
C215	K3	C2M1	N5	C475	M9	C611	H10	Q606	L10	R2E7	M2	R365	M4	R494	N8	TP205	L2
C216	K3	C2M2	N5	C476	M10	C612	I10	Q607	L10	R2E8	N2	R366	M4	R495	N8	TP215	L2
C224	J1	C2M3	N5	C478	M9	C613	H11	Q608	L10	R2E9	N1	R367	M4	R496	N8	TP216	L3
C225	K1	C2M4	N5	C479	M10	C614	I11	Q609	N9	R2F1	M2	R368	M4	R497	N8	TP261	J3
C226	K1	C2M5	N5	C480	N8	C615	H11	Q610	O9	R2F2	M2	R3F1	L4	R499	N9	TP264	L2
C229	L1	C2M6	N6	C481	N8	C663	J11	Q611	M10	R2F3	M2	R3F2	J4	R4A1	N9	TP267	K4
C230	L1	C2M7	N6	C482	N8	D201	I1	Q612	M10	R2F4	M2	R3F3	J5	R4A2	N8	TP269	K4
C231	L1	C2M8	N6	C483	N8	D2A1	N3	Q613	O10	R2F5	N2	R3F4	J5	R4A3	N8	TP270	K4
C232	J1	C2M9	N6	C484	N8	D2A2	N3	Q614	N10	R2F6	N2	R3F5	J4	R4A4	N8	TP2A0	M2
C238	L3	C2N1	N5	C485	N9	D2A3	M2	Q615	L10	R2F7	N2	R401	K9	R4A6	N8	TP2A4	N2
C239	L3	C2N3	N6	C486	N8	D603	L10	R201	K1	R2F8	N2	R403	K9	R4A8	O8	TP2A5	O3
C240	L3	C2N4	N5	C487	N8	D604	L10	R202	M1	R2F9	N2	R404	K10	R4A9	O8	TP2A8	L8
C242	L3	C301	M5	C488	N8	F602	O11	R203	M1	R2G1	N2	R405	K10	R501	J6	TP2A9	L8
C245	L3	C302	M6	C490	N8	F603	J11	R204	M1	R2G2	N2	R406	K10	R503	K5	TP2T0	J2
C251	K1	C303	L5	C491	O8	F604	J10	R207	L2	R2G3	N2	R407	K10	R504	I6	TP2T1	J2
C252	J1	C304	L5	C492	O8	F605	K11	R217	L3	R2G4	N2	R409	K10	R505	I7	TP2T3	J2
C253	K1	C305	L4	C501	H6	F606	L11	R218	L3	R2G7	N2	R410	K10	R506	I6	TP301	M5
C254	K1	C306	M5	C503	I6	F607	L11	R219	L4	R2G9	M2	R411	K10	R507	H10	TP343	M4
C255	K1	C307	J9	C504	I5	F608	J10	R220	L4	R2M1	N5	R412	K10	R508	H10	TP344	M5
C258	K1	C308	I9	C506	I5	F609	O7	R230	K3	R2M2	N5	R413	K10	R509	H10	TP345	M5
C260	L3	C309	I9	C507	I6	F610	O7	R231	K3	R2M3	N5	R414	K11	R510	I9	TP346	M5
C261	I1	C314	J9	C508	J8	F611	O9	R232	K4	R2M5	N5	R415	K11	R514	K9	TP347	M4
C262	J3	C316	L4	C509	J8	F612	M11	R233	J3	R2M6	N5	R416	K10	R515	K9	TP348	L4
C263	J1	C317	I9	C510	J8	F613	M11	R234	J4	R2M7	N5	R417	K10	R516	K9	TP349	L4
C264	I1	C318	I10	C511	J8	F614	N9	R235	J3	R2M8	N5	R418	K10	R517	K8	TP363	I4
C265	I3	C319	J10	C512	J8	F615	O10	R236	J4	R2M9	N5	R419	K11	R518	K8	TP365	L5
C272	K1	C320	J10	C513	J8	F616	N10	R237	J3	R2N0	N5	R420	K11	R519	K8	TP366	L4
C273	L1	C3F1	I4	C514	I8	IC201	K2	R239	J1	R2N1	N5	R428	K8	R520	K8	TP367	L5
C274	L1	C3F2	J5	C515	I8	IC203	I2	R240	J1	R2N2	N5	R429	K9	R521	I4	TP369	M4
C278	L3	C401	J10	C516	I8	IC206	L2	R241	J1	R2N3	N5	R430	K9	R522	I6	TP501	I8
C279	L3	C402	K10	C517	I8	IC2A1	N2	R242	J1	R2N4	N5	R431	K8	R523	I5	TP506	I6
C280	L3	C403	K10	C518	I8	IC2A2	L1	R243	J1	R2N5	N5	R432	K9	R524	O7	TP513	K6
C281	L3	C404	K10	C519	I7	IC2A4	O2	R252	L3	R2N6	N6	R433	K9	R525	J8	TP514	K7
C284	I1	C405	K8	C520	I7	IC2M1	N6	R273	L3	R2N7	N6	R434	K9	R530	L8	TP516	K6
C285	L3	C406	K9	C521	I7	IC301	L5	R274	L3	R2N8	N7	R435	K9	R531	O7	TP517	K6
C286	L3	C408	K9	C522	I7	IC305	J9	R275	L3	R2N9	N7	R436	L9	R532	O7	TP518	K6
C287	L2	C409	K9	C523	I6	IC3F1	J4	R276	L3	R2P0	N6	R451	L9	R533	O7	TP519	K4
C288	L1	C410	K10	C525	I6	IC401	K9	R277	L3	R2P1	N7	R452	L9	R534	O6	TP521	K6
C290	L2	C411	K10	C526	I6	IC402	K10	R278	K1	R2P2	N6	R453	L9	R535	O7	TP522	K4
C291	L2	C412	K11	C527	J6	IC451	M9	R279	K1	R2P3	N6	R454	L9	R541	L8	TP525	K7
C292	L2	C413	K11	C528	J6	IC452	N10	R281	J1	R2P7	N6	R455	L8	R588	H6	TP526	K3
C293	I2	C414	K9	C529	J6	IC453	M10	R282	L2	R2P8	N6	R456	L8	R589	H6	TP530	K3
C294	J2	C415	K11	C530	J6	IC454	N8	R290	J3	R2P9	N6	R457	N10	R590	H6	TP533	K3
C295	I3	C416	K10	C531	K7	IC501	J7	R291	L2	R2Q1	N5	R458	N9	R591	H6	TP536	K6
C296	J3	C417	K10	C532	K7	IC502	M8	R292	K3	R2R1	L7	R459	N9	R597	K5	X201	L2
C2A0	M1	C418	K11	C533	K7	IC503	L8	R2A0	M3	R2R2	L6	R460	N10	R601	J11	X501	H7
C2A3	M2	C419	K11	C534	K7	IC506	H5	R2A1	L7	R302	L4	R461	N10	R603	J11	ZD605	K12
C2A4	M2	C420	K11	C535	K7	IC601	I11	R2A2	M3	R303	L4	R462	N10	R604	J11	ZD606	K11
C2A5	M2	C421	L11	C536	K8	IC602	I11	R2A6	M2	R306	M5	R463	N10	R605	L10	ZD611	M11
C2A6	M3	C422	K9	C538	H6	JK601	M12	R2A9	O1	R307	M5	R464	L9	R606	L10	ZD612	M11
C2A7	M2	C423	K10	C539	I6	L201	L3	R2B0	N3	R308	M5	R465	N10	R607	L9	ZD635	O11
C2A8	M2	C424	K9	C540	I7	L203	J1	R2B1	N3	R309	M5	R466	N10	R608	L10	ZD636	O11
C2A9	M2	C450	M9	C541	I7	L206	I1	R2B2	N3	R310	M5	R467	N9	R609	L10	ZD637	N11
C2B0	M3	C451	L9	C542	M8	L207	L1	R2B3	N3	R314	L5	R468	N9	R610	N9	ZD638	N11
C2B3	M2	C452	M8	C543	I7	L2A1	N1	R2B4	N3	R315	M5	R469	N9	R611	N9	ZD641	L11
C2B4	M2	C453	M9	C544	M8	L2A2	M7	R2B5	N2	R317	M5	R470	N9	R612	M10	ZD642	L11
C2B5	M2	C454	L9	C546	L8	L301	M6	R2B6	N2	R318	M4	R471	M9	R613	M10	ZD643	M11
C2B8	O2	C455	N10	C549	O7	L302	I9	R2B7	N2	R319	M4	R472	O10	R614	N10	ZD644	M11
C2B9	N1	C456	N10	C550	O6	L3F1	I4	R2B8	N3	R320	L4	R473	N10	R615	N10		
C2C1	N2	C457	N10	C551	O7	L502	I6	R2B9	O2	R321	L4	R474	L10	R618	L11		
C2C2	N3	C458	N10	C552	O7	L503	I6	R2C0	N1	R322	L6	R475	M10	R619	L11		
C2C3	N2	C459	N10	C553	O7	L504	I6	R2C4	M2	R323	M5	R476	M10	R620	L11		
C2C4	N2	C460	N10	C554	H9	L505	M8	R2C5	M2	R350	I5	R477	M10	R621	L11		

1. MAIN P.C.BOARD (BOTTOM VIEW)



LOCATION GUIDE

TP202	F1
TP206	E2
TP212	E3
TP213	E3
TP214	E3
TP233	D2
TP234	C2
TP240	E3
TP241	E2
TP245	G2
TP260	G1
TP265	E3
TP268	E4
TP2A1	C1
TP2A2	E1
TP2A3	E1
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TP340	E5
TP341	F5
TP342	E5
TP370	E5
TP509	G6
TP510	D4
TP511	E4
TP512	E4
TP515	E5
TP520	E4
TP523	E6
TP524	E6
TP527	E4
TP528	E4
TP529	F3
TP531	F4
TP532	F3
TP534	D3
TP535	D4
TP540	G6
TP541	G6

MEMO