



LG Electronics Inc.

P/N : 3829RDT033C

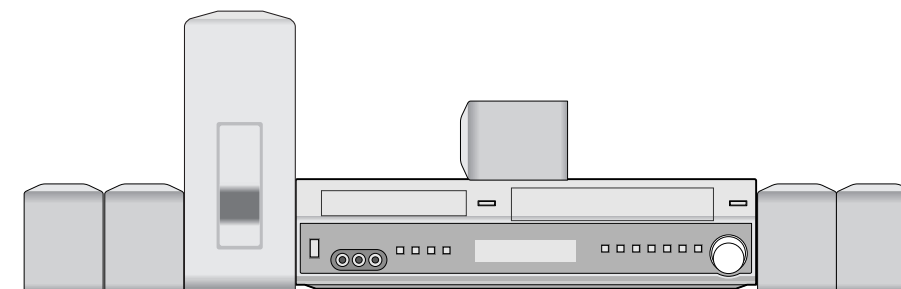
JULY, 2003

LG Electronics Inc.

SERVICE MANUAL MODELS : LH-C6230P/C6231P/LH-C6230S/LH-C6230W/LH-C6231W/LH-C6230X/LH-C6230Y/C6231Y



# DVD/CD/VCR RECEIVER Home Cinema System SERVICE MANUAL



MODELS: LH-C6230P/C6231P (LGEDG/LGEES/LGEPT/LGEIS)  
LH-C6230S (LGEFS/STUH) LH-C6230W (LGESA/LGEGF)  
LH-C6231W (LGEAP) LH-C6230X (MOSCOW)  
LH-C6230Y/C6231Y (LGEPL/LGEMK)

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# SECTION 1. GENERAL PART

## PRODUCT SAFETY SERVICING GUIDELINES FOR VIDEO PRODUCTS

**CAUTION :** DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY, NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.

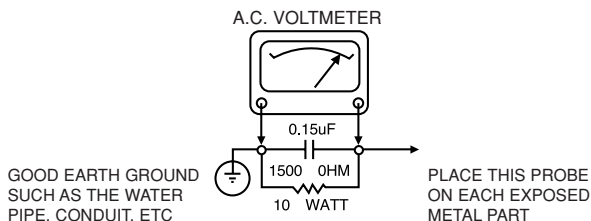
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

### SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING.

### SUBJECT : FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OR SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS. FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES. DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE SET ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS, HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLTMETER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER: CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150.V A.C TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMPS A.C ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



### SUBJECT: GRAPHIC SYMBOLS



THE LIGHTNING FLASH WITH APROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED DANGEROUS VOLTAGE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

### SUBJECT : X-RADIATION

1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RAYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND, UNDER CERTAIN CIRCUMSTANCES, MAY PRODUCE RADIATION IN EXCESS OF DESIRABLE LEVELS.
2. ONLY FACTORY SPECIFIED C.R.T. ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS X-RAY SHIELD IN COLOR SETS, ALWAYS RE-INSTALL THEM.
3. IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD, SUCH AS THE ONE AVAILABLE AT YOUR DISTRIBUTOR.
4. WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY, WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE, AND THAT THE HIGH VOLTAGE READING BE RECORDED ON EACH CUSTOMER'S INVOICE.
5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE, AVOID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY. DO NOT OPERATE THE PRODUCT LONGER THAN IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
6. REFER TO HV. B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS (WHERE USED).

### SUBJECT: IMPLOSION

1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRAL IMPLOSION PROTECTION SYSTEM, BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION, AVOID SCRATCHING THE TUBE. IF SCRATCHED REPLACE IT.
2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

### SUBJECT : TIPS ON PROPER INSTALLATION

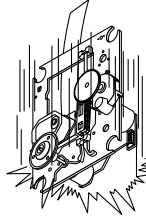
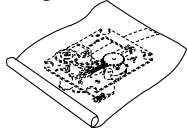
1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBYHOLE OR CLOSELY FITTING SHELF SPACE, OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT, MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS) TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.'S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

# NOTES REGARDING HANDLING OF THE PICK-UP

## 1. Notes for transport and storage

- 1) The pick-up should always be left in its conductive bag until immediately prior to use.
- 2) The pick-up should never be subjected to external pressure or impact.

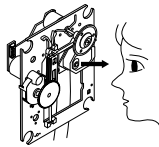
Storage in conductive bag



Drop impact

## 2. Repair notes

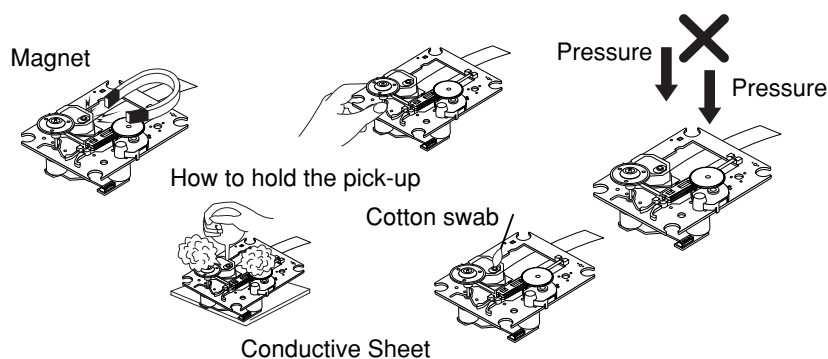
- 1) The pick-up incorporates a strong magnet, and so should never be brought close to magnetic materials.
- 2) The pick-up should always be handled correctly and carefully, taking care to avoid external pressure and impact. If it is subjected to strong pressure or impact, the result may be an operational malfunction and/or damage to the printed-circuit board.
- 3) Each and every pick-up is already individually adjusted to a high degree of precision, and for that reason the adjustment point and installation screws should absolutely never be touched.
- 4) Laser beams may damage the eyes!  
Absolutely never permit laser beams to enter the eyes!  
Also NEVER switch ON the power to the laser output part (lens, etc.) of the pick-up if it is damaged.



NEVER look directly at the laser beam, and don't let contact fingers or other exposed skin.

### 5) Cleaning the lens surface

If there is dust on the lens surface, the dust should be cleaned away by using an air bush (such as used for camera lens). The lens is held by a delicate spring. When cleaning the lens surface, therefore, a cotton swab should be used, taking care not to distort this.



### 6) Never attempt to disassemble the pick-up.

Spring by excess pressure. If the lens is extremely dirty, apply isopropyl alcohol to the cotton swab. (Do not use any other liquid cleaners, because they will damage the lens.) Take care not to use too much of this alcohol on the swab, and do not allow the alcohol to get inside the pick-up.



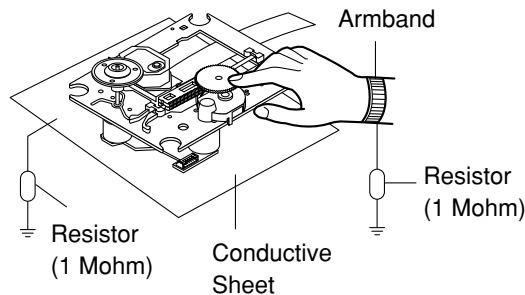
# NOTES REGARDING COMPACT DISC PLAYER REPAIRS

## 1. Preparations

- 1) Compact disc players incorporate a great many ICs as well as the pick-up (laser diode). These components are sensitive to, and easily affected by, static electricity. If such static electricity is high voltage, components can be damaged, and for that reason components should be handled with care.
- 2) The pick-up is composed of many optical components and other high-precision components. Care must be taken, therefore, to avoid repair or storage where the temperature of humidity is high, where strong magnetism is present, or where there is excessive dust.

## 2. Notes for repair

- 1) Before replacing a component part, first disconnect the power supply lead wire from the unit
- 2) All equipment, measuring instruments and tools must be grounded.
- 3) The workbench should be covered with a conductive sheet and grounded.  
When removing the laser pick-up from its conductive bag, do not place the pick-up on the bag. (This is because there is the possibility of damage by static electricity.)
- 4) To prevent AC leakage, the metal part of the soldering iron should be grounded.
- 5) Workers should be grounded by an armband (1M $\Omega$ )
- 6) Care should be taken not to permit the laser pick-up to come in contact with clothing, in order to prevent static electricity changes in the clothing to escape from the armband.
- 7) The laser beam from the pick-up should NEVER be directly facing the eyes or bare skin.



# SERVICING PRECAUTIONS

**CAUTION :** Before servicing the COMBI HOME THEATER SYSTEM covered by this service data and its supplements and addends, read and follow the *SAFETY PRECAUTIONS*. *NOTE :* if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publications, always follow the safety precautions.

*Remembers Safety First:*

## General Servicing Precautions

1. Always unplug the COMBI HOME THEATER SYSTEM AC power cord from the AC power source before:
  - (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
  - (2) Disconnection or reconnecting any internal electrical plug or other electrical connection.
  - (3) Connecting a test substitute in parallel with an electrolytic capacitor.  
**Caution :** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
2. Do not spray chemicals on or near this COMBI HOME THEATER SYSTEM or any of its assemblies.
3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cotton-tipped swab, or comparable soft applicator. Unless specified otherwise in this service data, lubrication of contacts is not required.
4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
5. Do not apply AC power to this COMBI HOME THEATER SYSTEM and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
6. Always connect test instrument ground lead to the appropriate ground before connection the test instrument positive lead. Always remove the test instrument ground lead last.

## Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power on. Connect an insulation resistance meter(500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1M-ohm.

**Note 1 :** Accessible Conductive Parts including Metal panels, Input terminals, Earphone jacks, etc.

## Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor chip components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified a anti-static can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**Caution :** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Normally harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

# ESD PRECAUTIONS

## Electrostatically Sensitive Devices (ESD)



Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive Devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ESD devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.
6. Do not remove a replacement ESD device from its protective package until immediately before you are ready to install it. (Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).
7. Immediately before removing the protective material from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION : BE SURE NO POWER IS APPLIED TO THE CHASSIS OR CIRCUIT, AND OBSERVE ALL OTHER SAFETY PRECAUTIONS.**

8. Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

## CAUTION. GRAPHIC SYMBOLS

	THE LIGHTNING FLASH WITH APROWHEAD SYMBOL. WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

# SPECIFICATIONS

## General

Power requirements	AC230V ~ , 50 Hz
Power consumption	130 W
Dimensions (approx.)	430 X 90 X 350 mm (w x h x d)
Mass (approx.)	8 kg (17.6 lbs)
Operating temperature	5°C to 40°C (41°F to 104°F )
Timer	24-hour display type
Operating humidity	5 % to 90 %

## DVD Section

Laser	Semiconductor laser, wavelength 650 nm
Signal system	PAL/NTSC
Frequency response	DVD (PCM 96 kHz): 8 Hz to 44 kHz DVD (PCM 48 kHz): 8 Hz to 20 kHz CD: 8 Hz to 20 kHz
Signal-to-noise ratio	More than 65 dB (ANALOG OUT connectors only)
Harmonic distortion	Less than 1.0%
Dynamic range	More than 60 dB (DVD) More than 60 dB (CD)

## Outputs

S-VIDEO OUT	(Y) 1.0 V (p-p), 75 ohms, negative sync, Mini DIN 4-pin x 1 (C) 0.3 V (p-p) 75 ohms
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## VCR Section

Head system	4 heads helical scan azimuth system
Maximum recording time	SP: 4 h (E-240 tape), LP: 8 h (E-240 tape)
Rewind time	About 180 min (E-180 tape)
Input level	VIDEO: 1.0 V(p-p), 75 ohms, unbalanced AUDIO: -6.0 dBm, more than 10 kohms (SCART) -6.0 dBm, more than 47 kohms (RCA)
Output level	VIDEO: 1.0 V(p-p), 75 ohms, unbalanced
Signal-to-noise ratio	VIDEO: More than 43 dB AUDIO: More than 72 dB (Hi-Fi) More than 42 dB (Mono)
Dynamic range	AUDIO: More than 85 dB

## Tuner Section

Tuning range	FM: 87.5 - 108.0 MHz AM: 522 - 1611 kHz
Intermediate frequency	FM: 10.7 MHz AM: 450 kHz

## Amplifier Section

Stereo mode	20W + 20W (4 ohm at 1 kHz, THD 10%)
Surround mode	Front: 20W + 20W (THD 10%) Centre: 20W Surround: 20W + 20W (4 ohm at 1 kHz, THD 10%) Subwoofer: 40W (8 ohm at 30 Hz, THD 10%)

## **Speakers**

### **Satellite (LHS-C6230T)**

Type	1 Way 1 Speaker
Impedance	4%
Frequency Response	130 - 20,000 Hz
Sound Pressure Level	83 dB/W (1m)
Rated Input Power	20W
Max Input Power	40W
Net Dimensions (W x H x D)	88 x 100 x 95 mm
Net Weight	0.54 kg

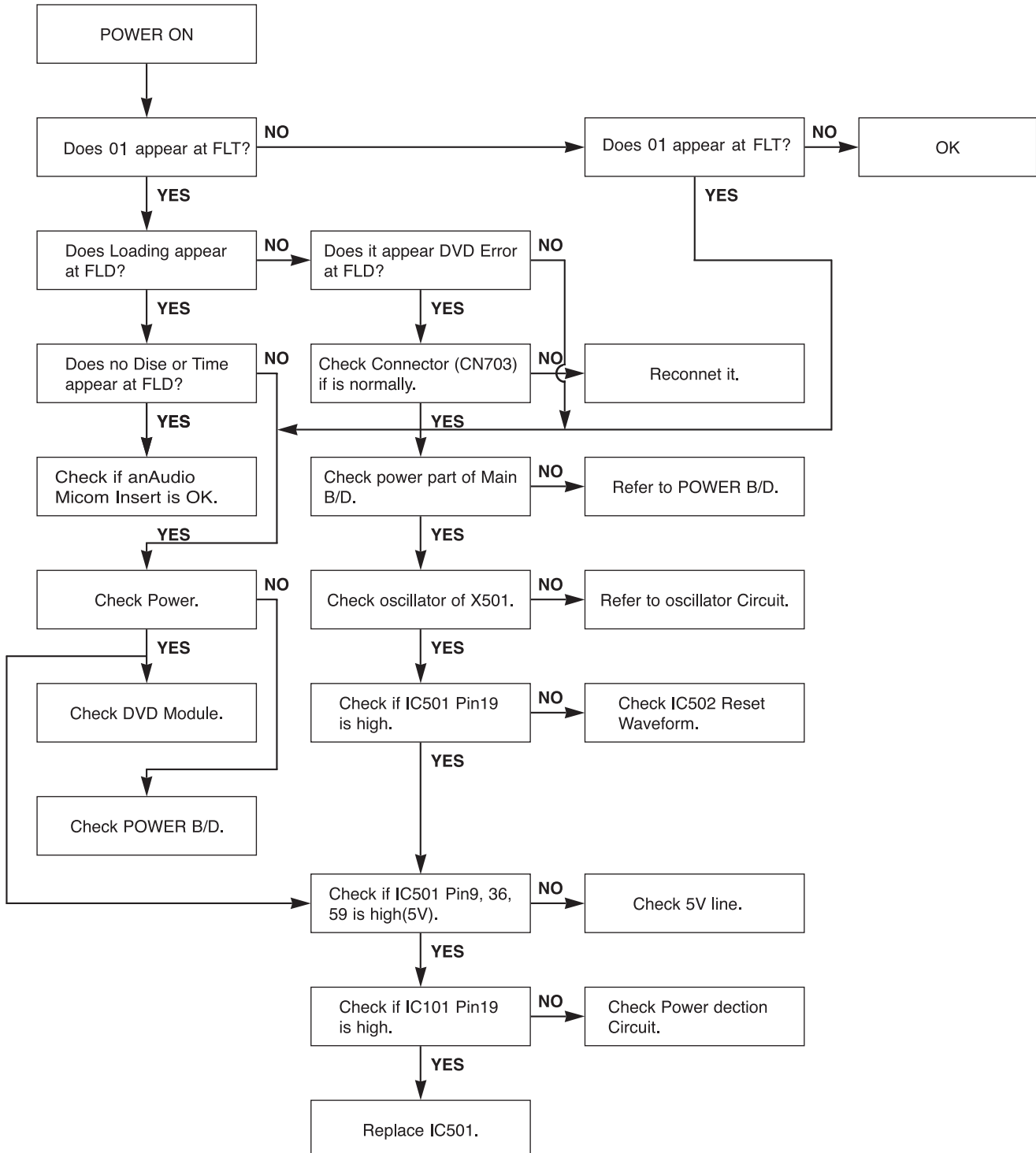
### **Passive Subwoofer (LHS-C6230W)**

Type	1 Way 1 Speaker
Impedance	8%
Frequency Response	50 - 1,500 Hz
Sound Pressure Level	82 dB/W (1m)
Rated Input Power	40W
Max Input Power	80W
Net Dimensions (W x H x D)	160 x 350 x 325 mm
Net Weight	4.12 kg

# SECTION 2. AUDIO PART

## AMP PART ELECTRICAL TROUBLESHOOTING GUIDE

### AUDIO $\mu$ -COM Circuit



# SECTION 3. 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

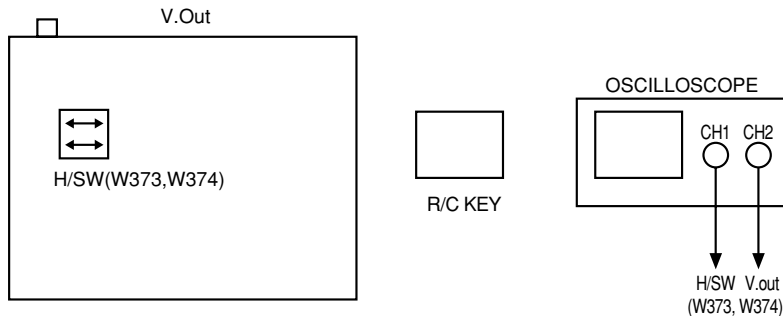
#### • Adjustment Procedure

- 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 (416 s, 1H=64 s).

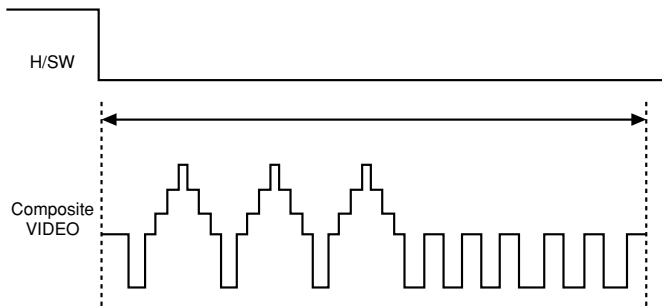
#### • PG Adjustment Method

- a-1) Payback the SP standard tape
- b-2) 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 : PAL Model 1 key on Remote controller)
- c-3) Repeat the above step(No.b-2), then it finishes the PG adjusting automatically.
- d-4) Stop the playback, then it goes out to PG adjusting mode after many the PG data.

#### • CONNECTION



#### • WAVEFORM

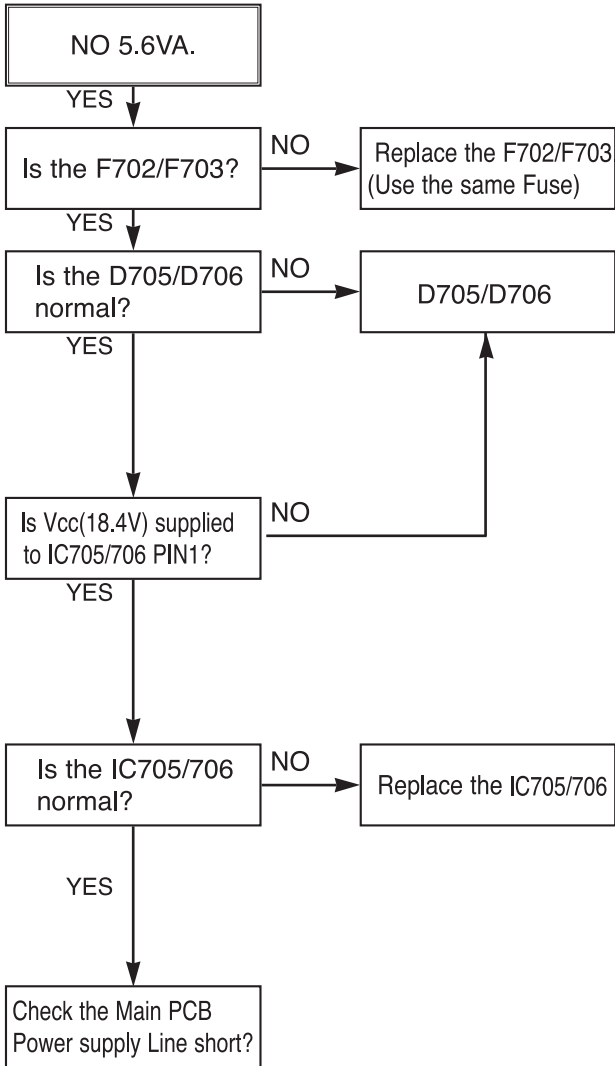




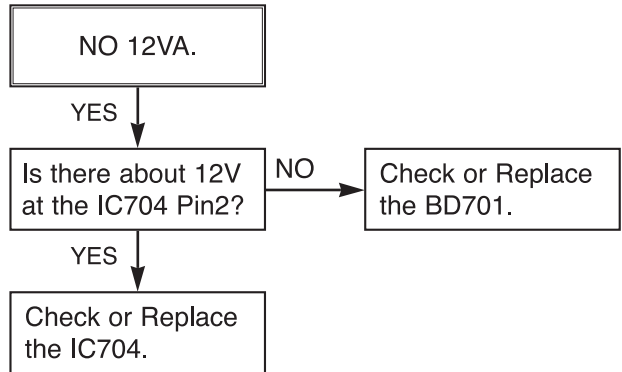
# VCR ELECTRICAL TROUBLESHOOTING

## 1. Power B/D

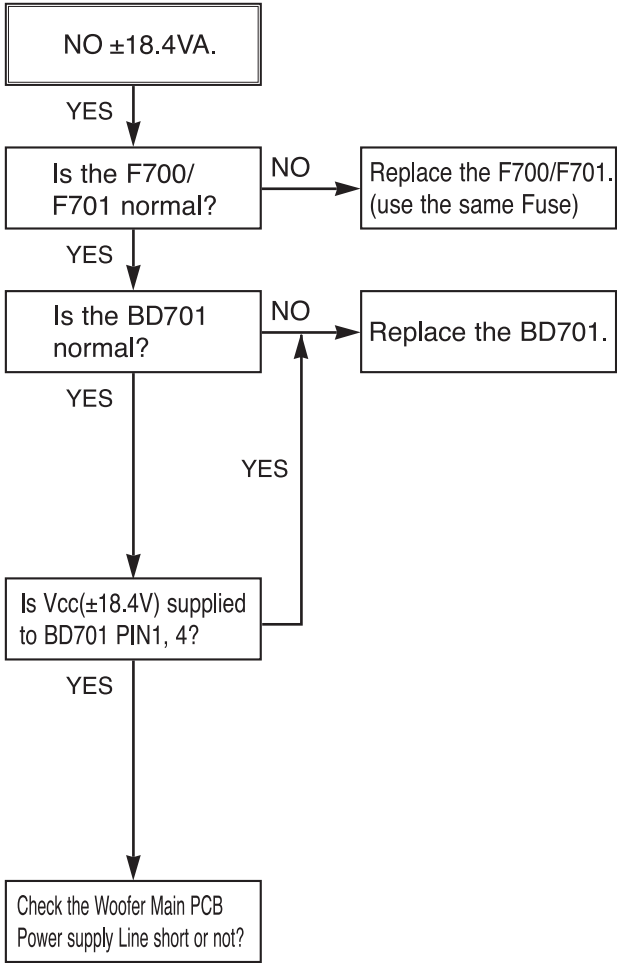
(1) No 5.6VA (SYS/Hi-Fi/TUNER)



(2) No 12VA

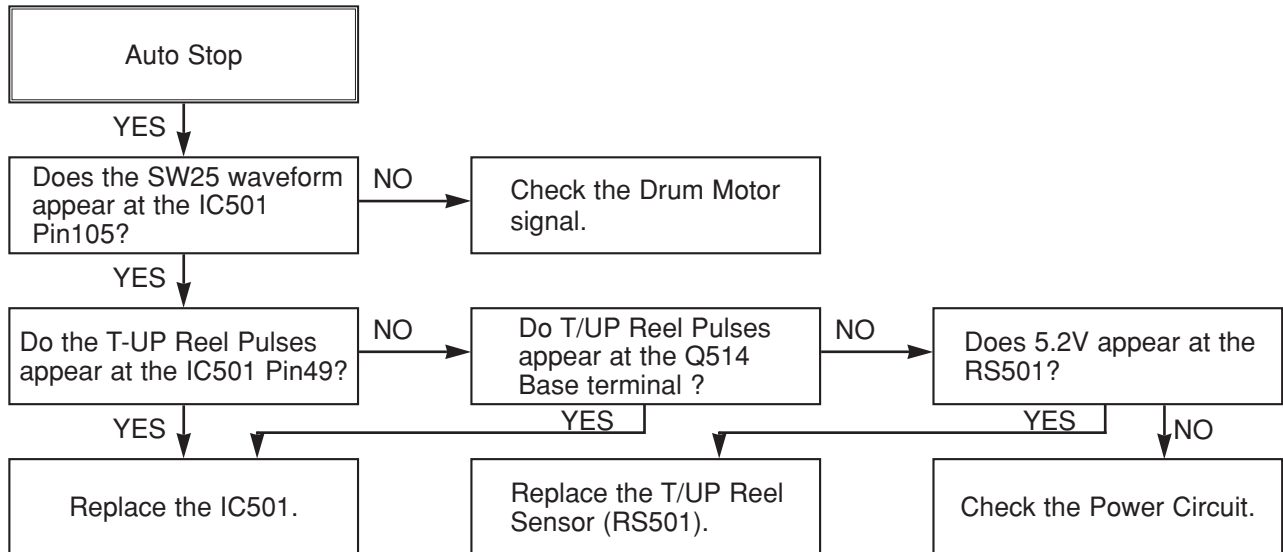


(3) No  $\pm 18.4V$

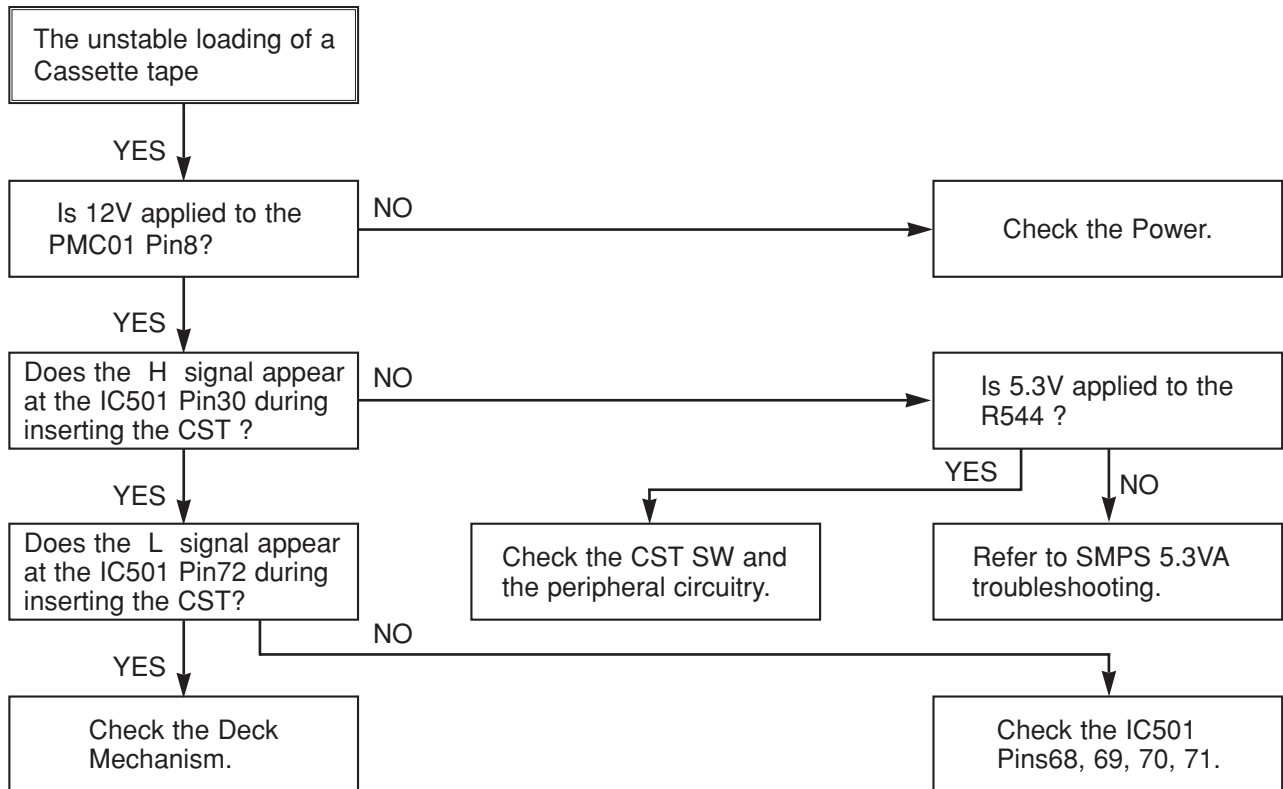


## 2. SYSTEM/KEY CIRCUIT

### (1) AUTO STOP



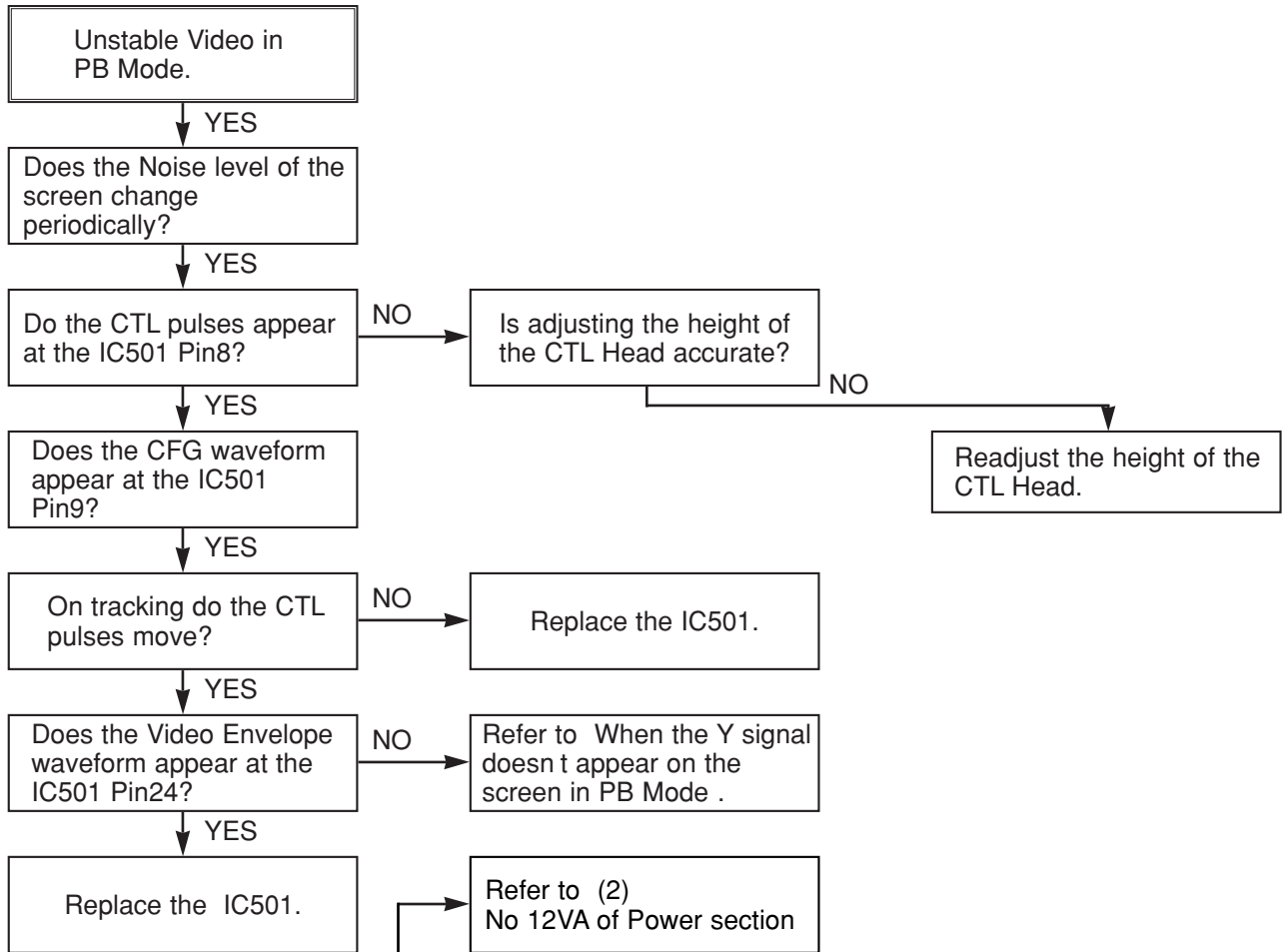
### (2) The unstable loading of a Cassette tape



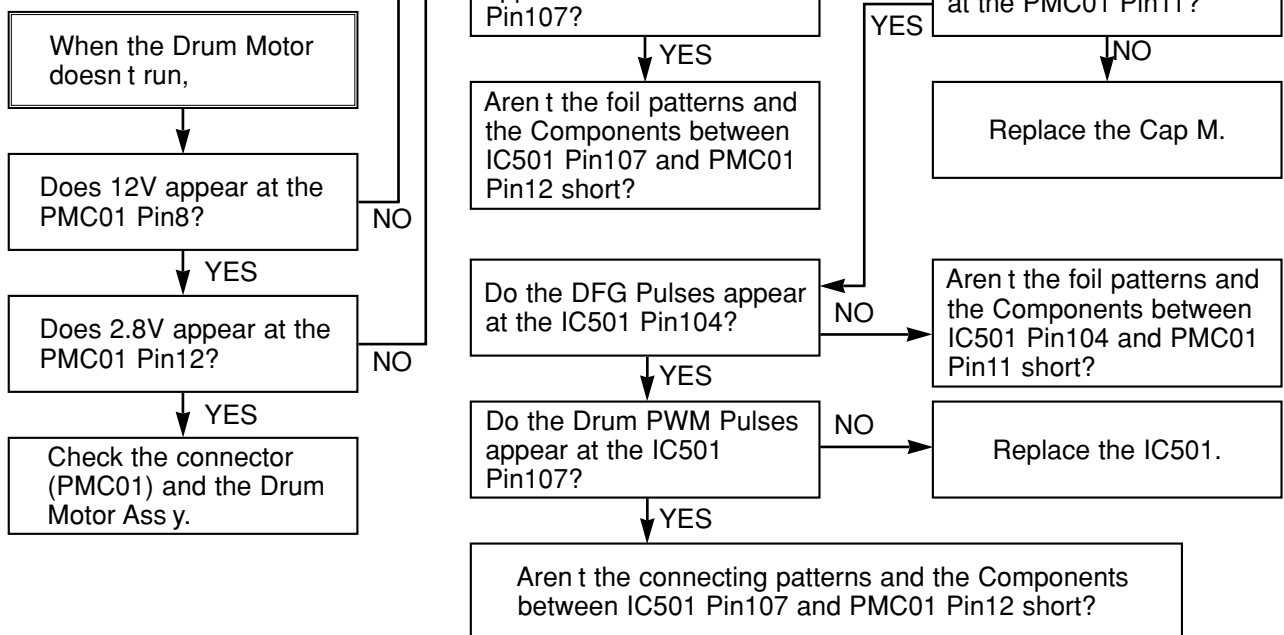
**Caution :** Auto stop can occur because Grease or Oil is dried up

### 3. SERVO CIRCUIT

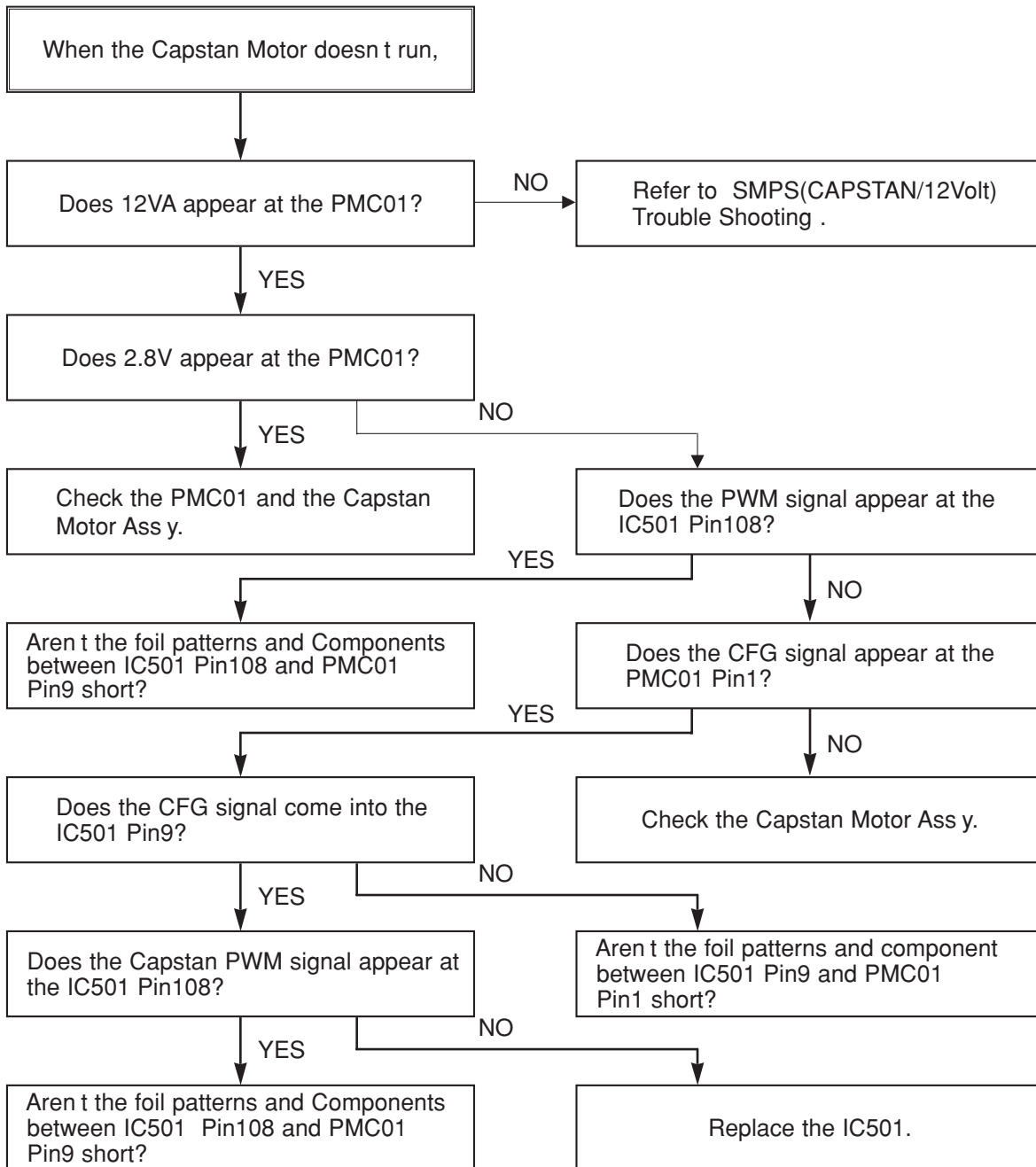
#### (1) Unstable Video in PB MODE



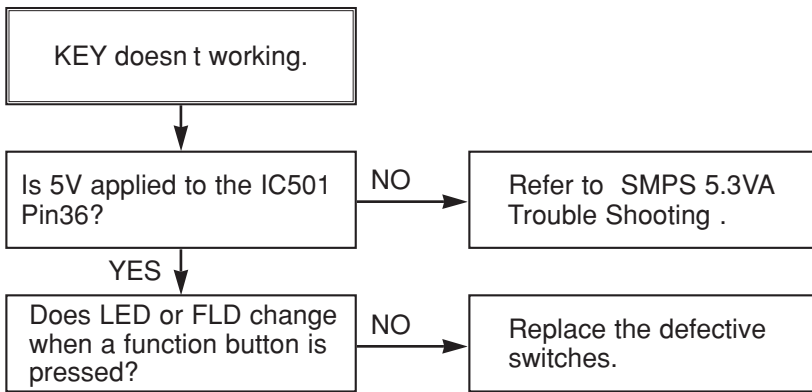
#### (2) When the Drum Motor doesn't run.



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

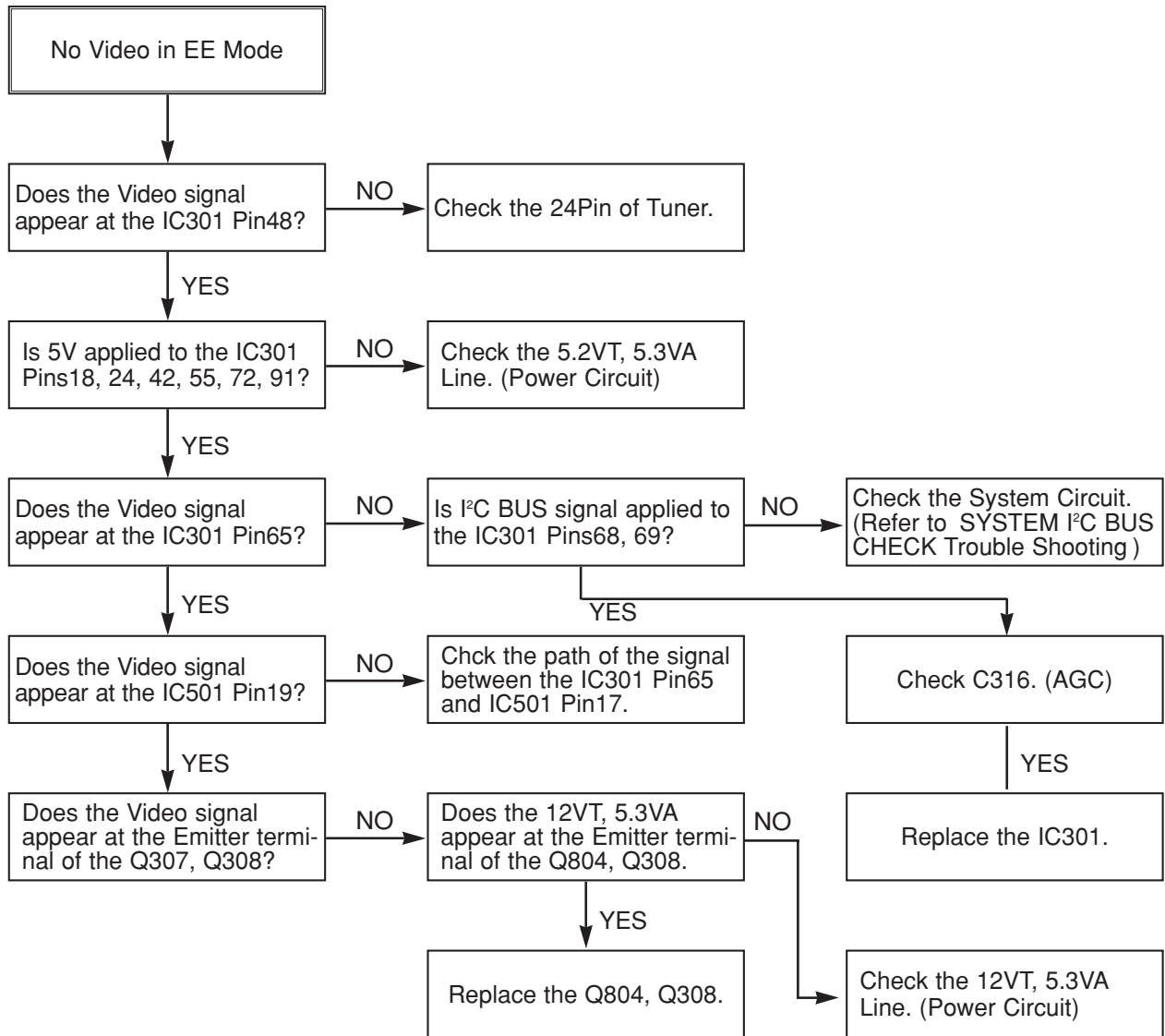


(4) KEY doesn't working



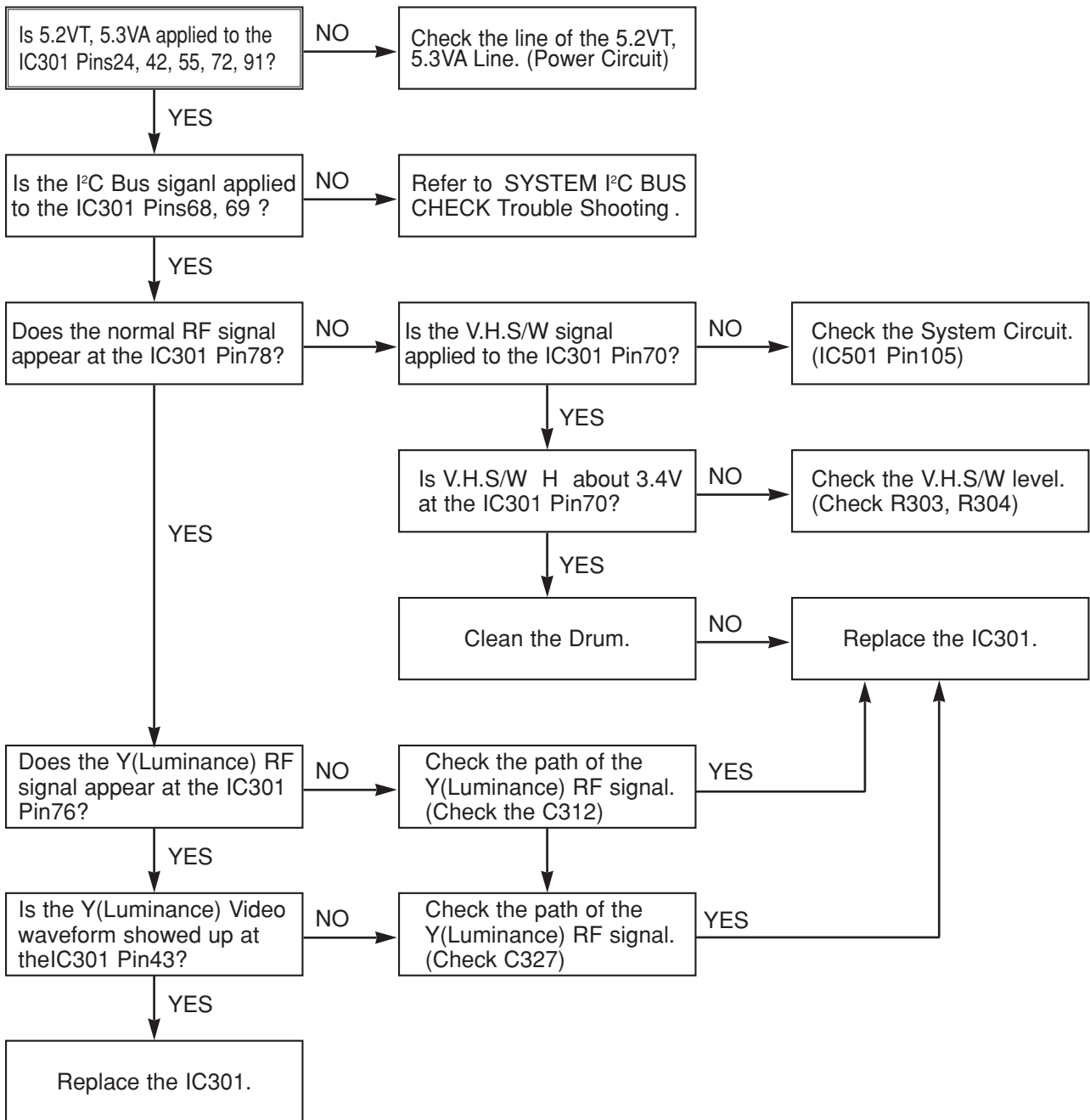
#### 4. Y/C CIRCUIT

(1) No Video in EE Mode,

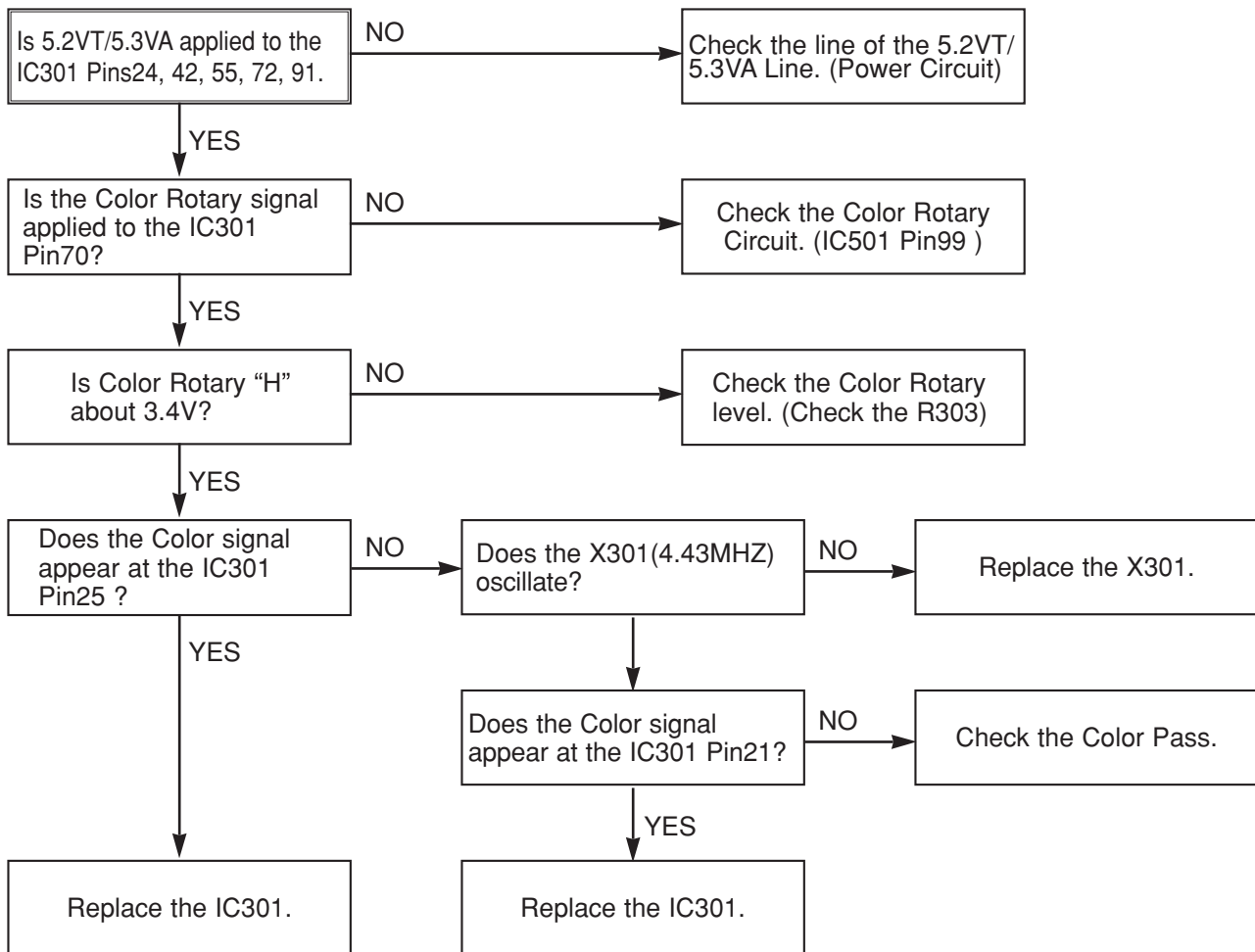




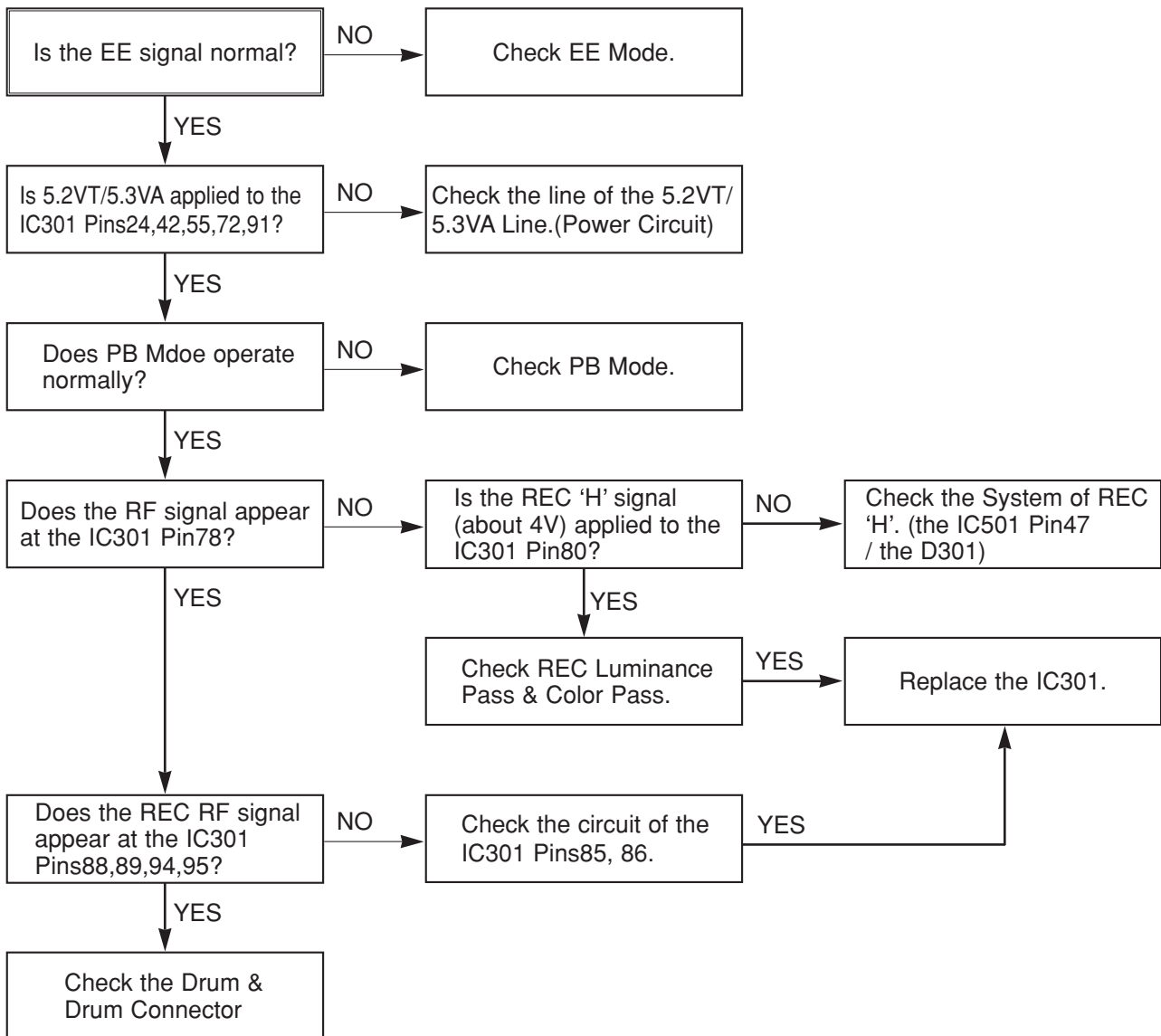
(2) When the Y(Luminance) signal doesn't appear on the screen in PB Mode,



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

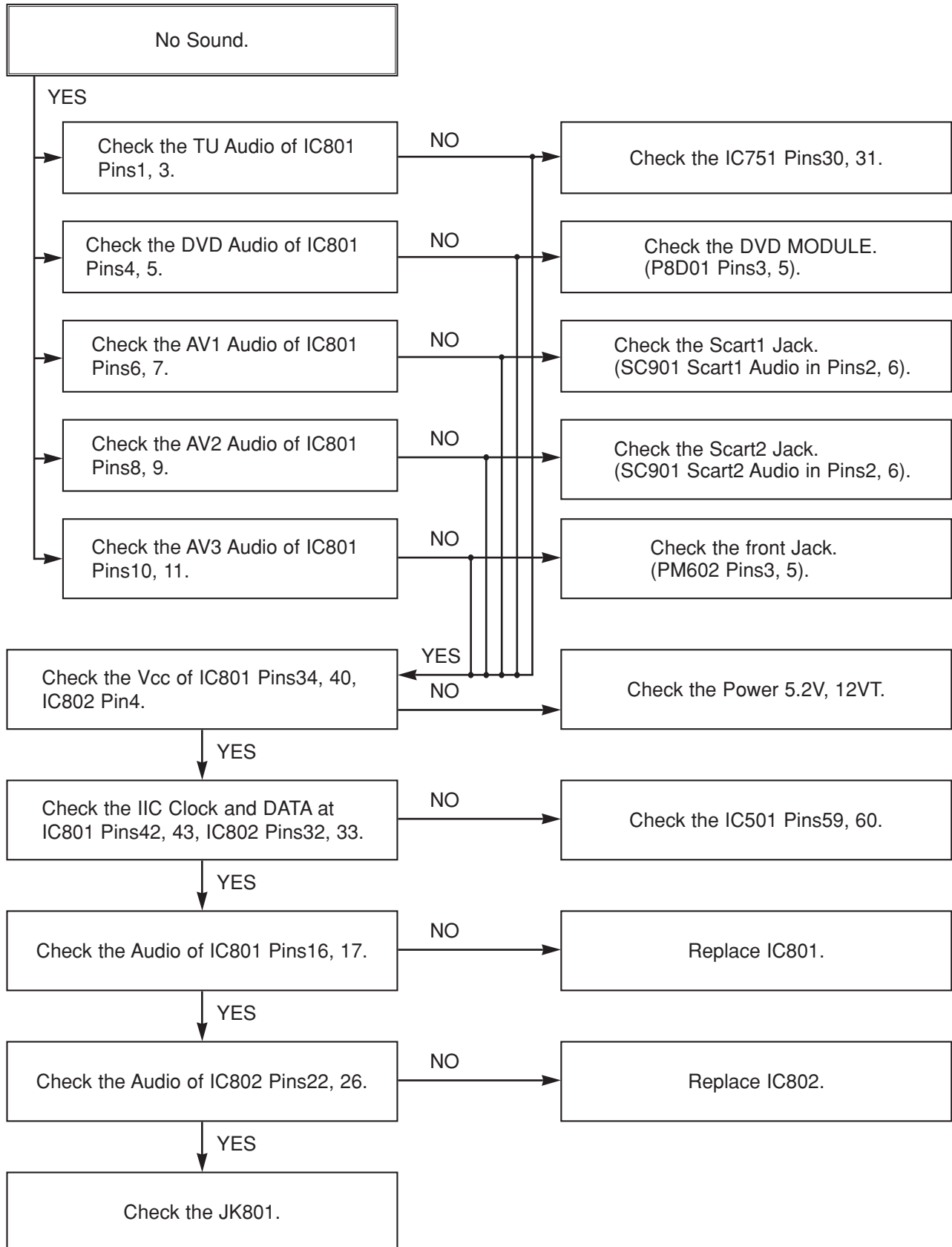


(4) When the Video signal doesn't appear on the screen in REC Mode,

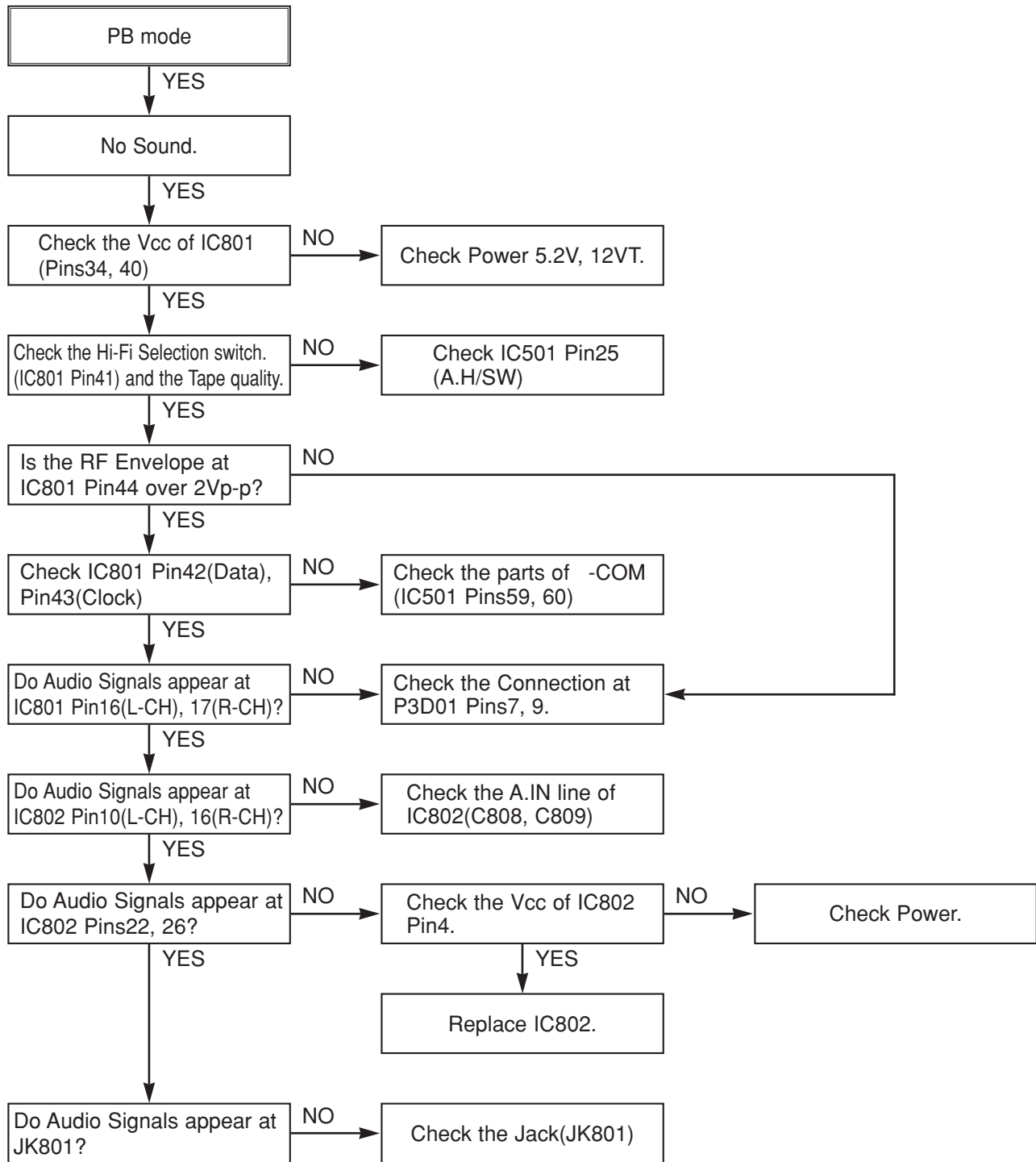


## 5. Hi-Fi CIRCUIT

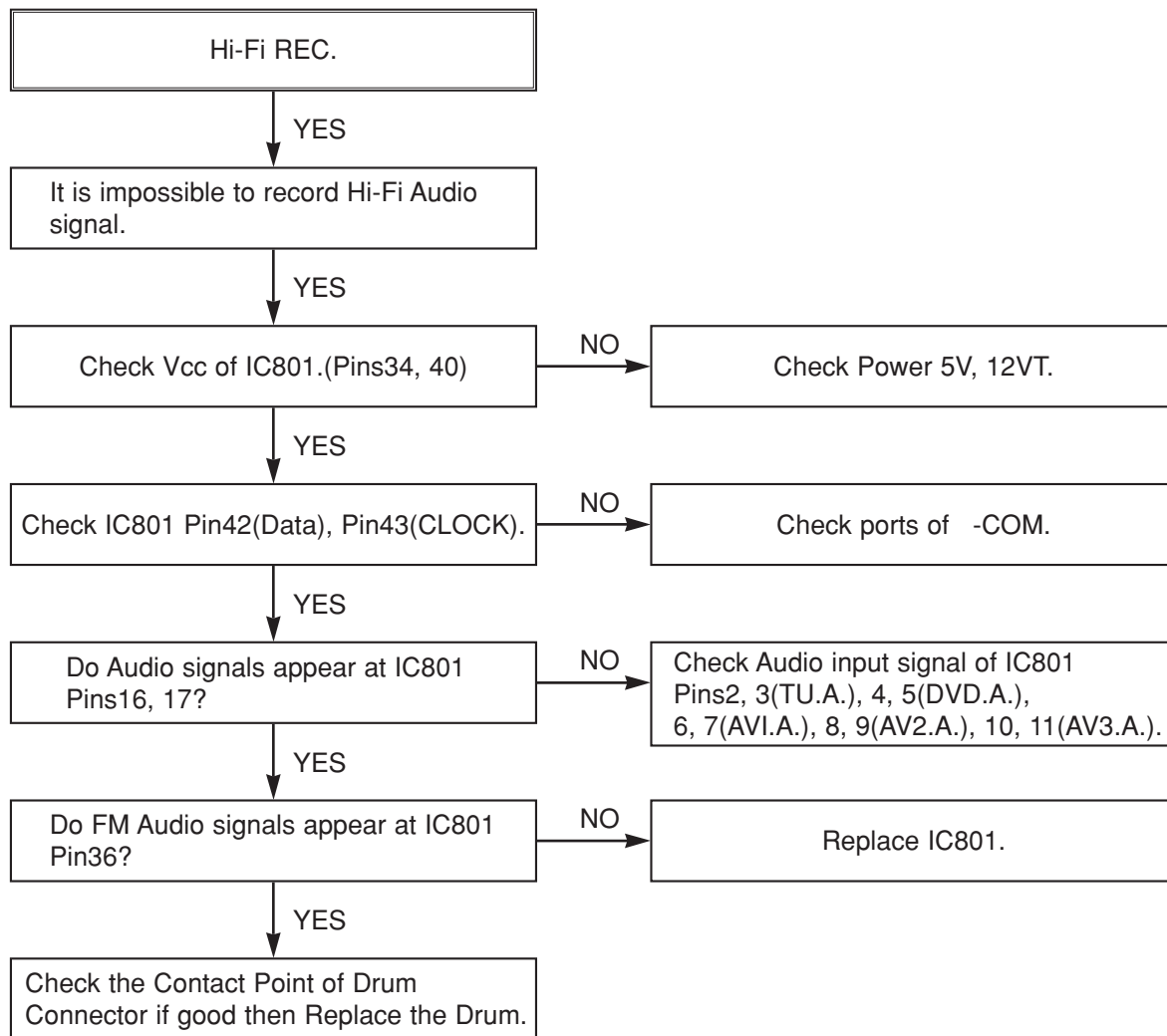
(A) No Sound(EE Mode)



(B) Hi-Fi Playback

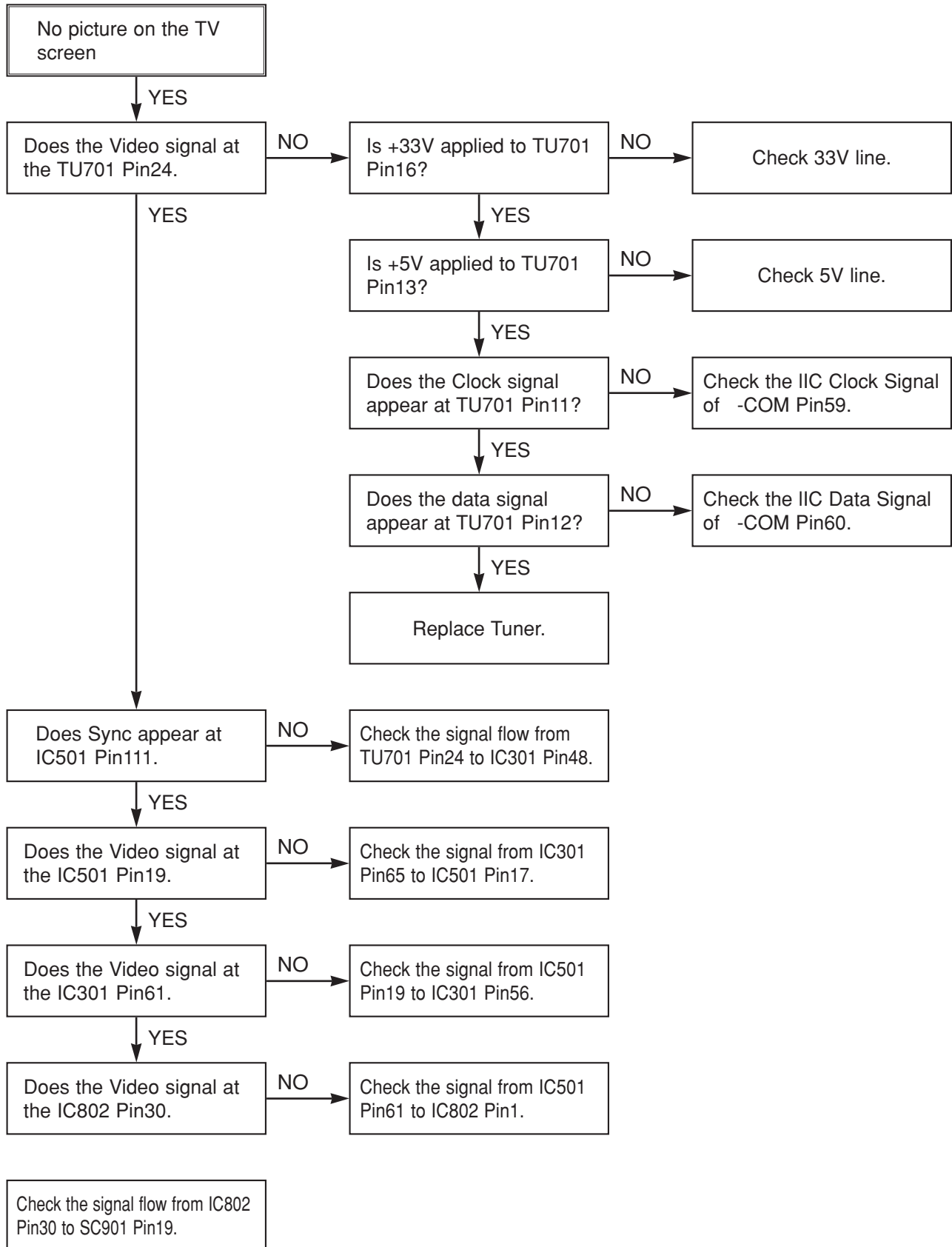


(C)



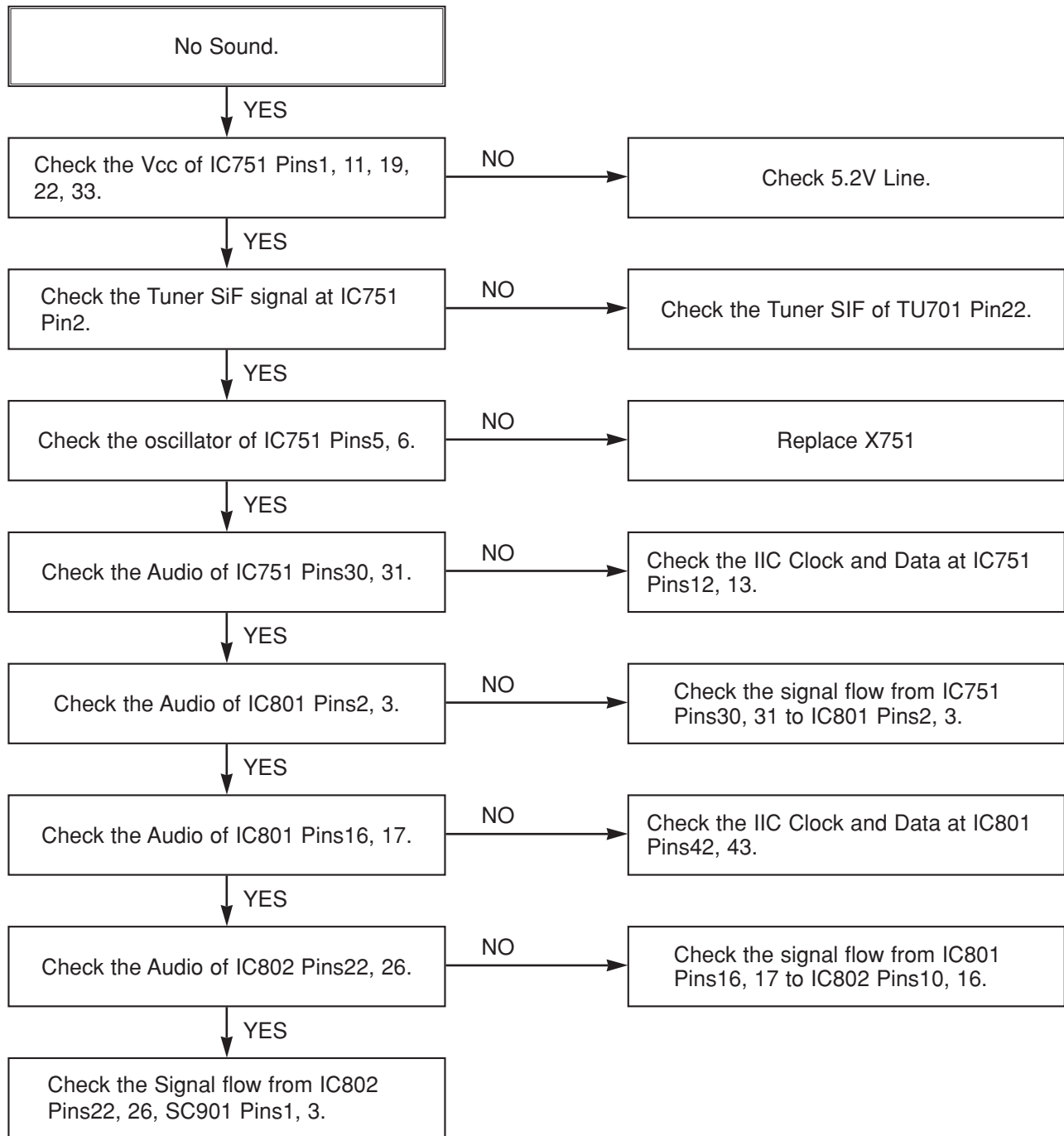
## 6. Tuner/IF CIRCUIT

(A) No Picture on the TV screen





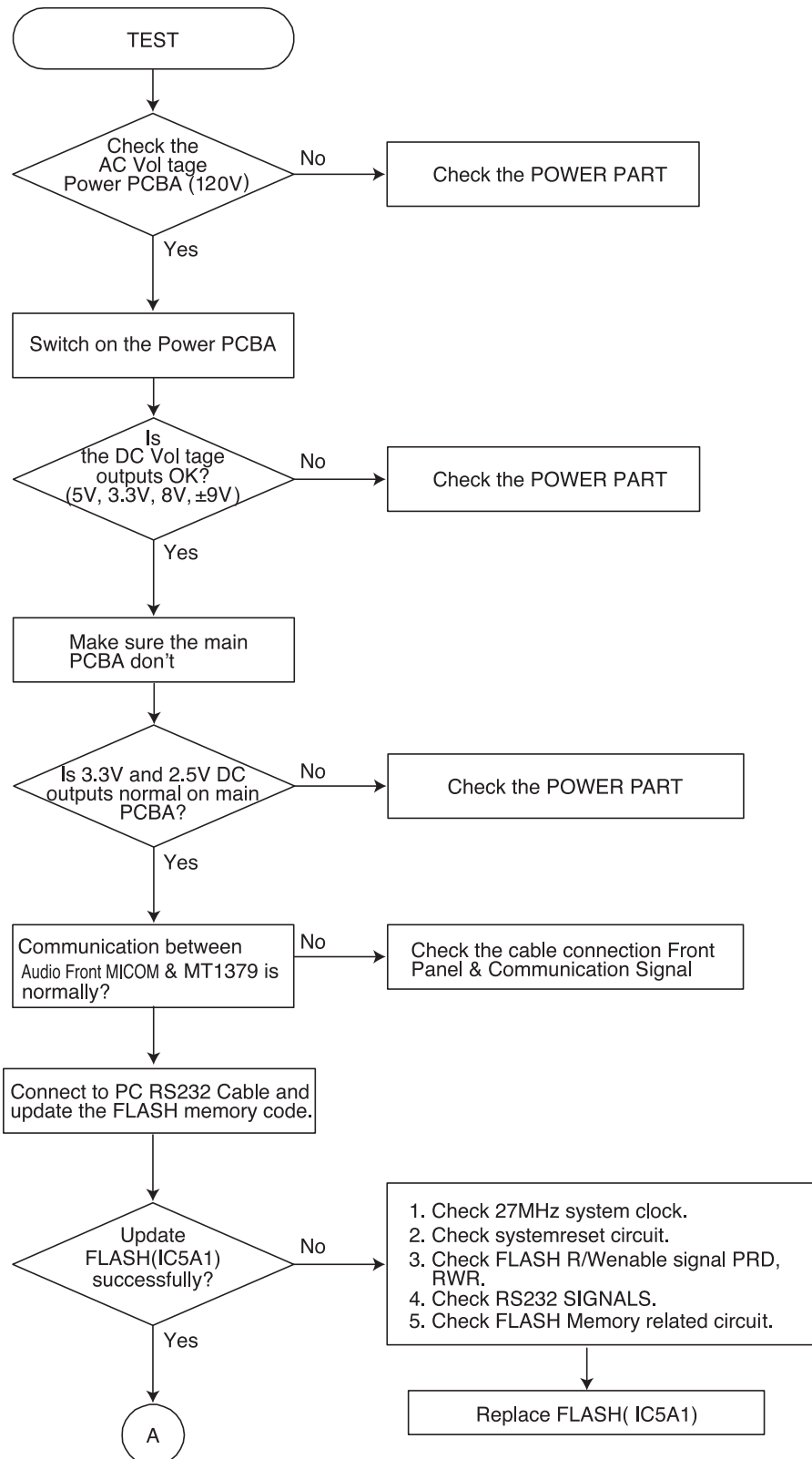
(B) No Sound

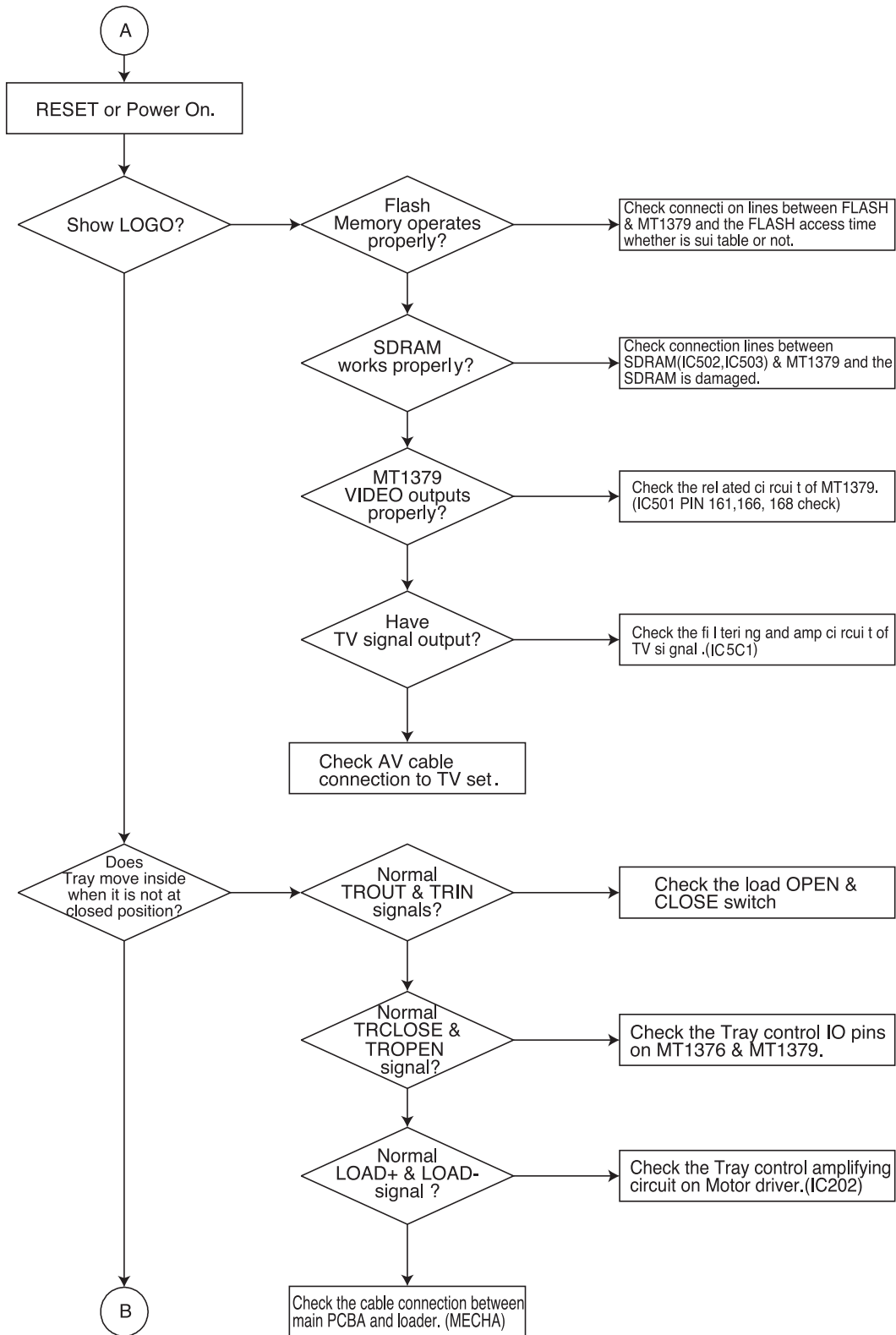


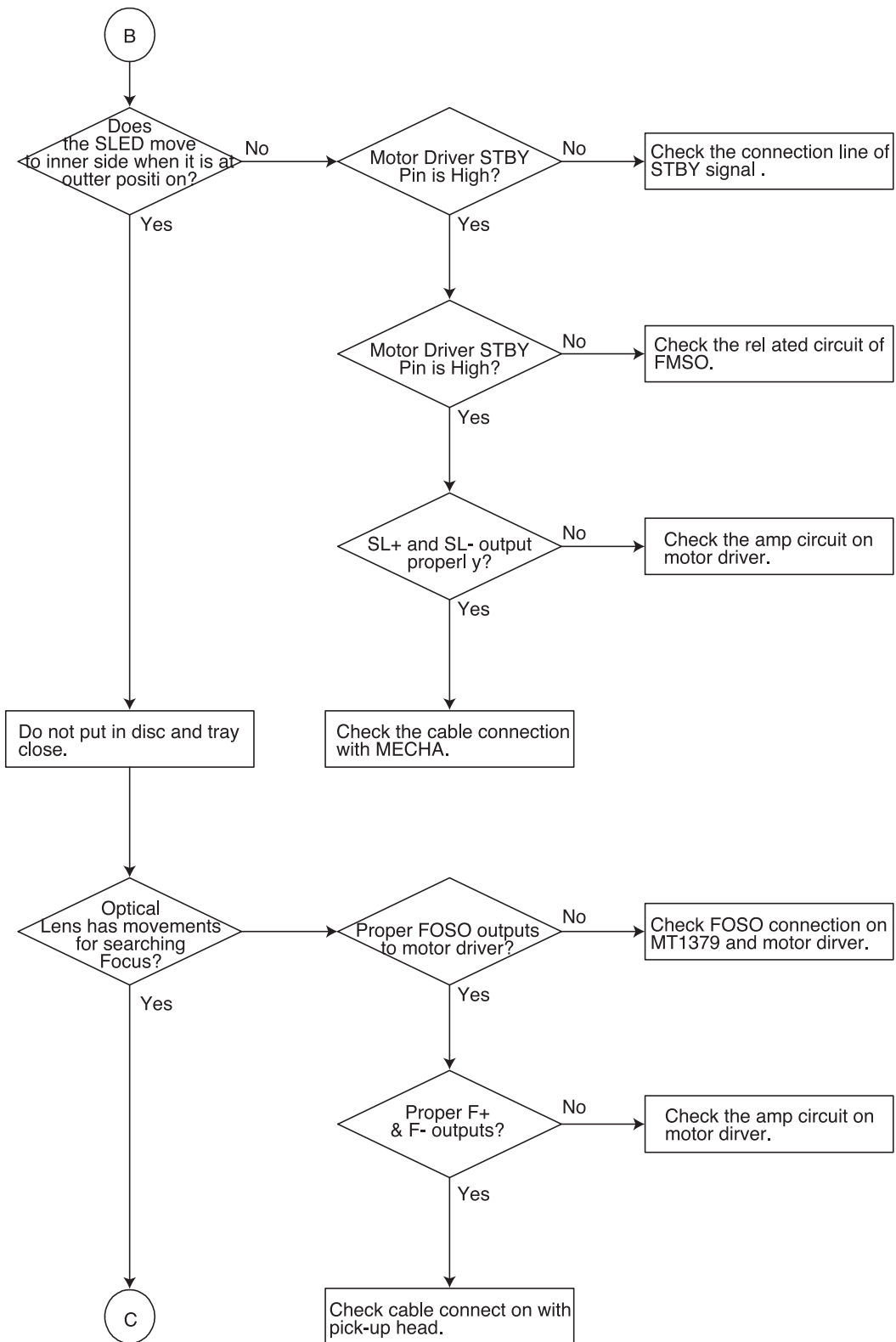
# SECTION 5. DVD PART

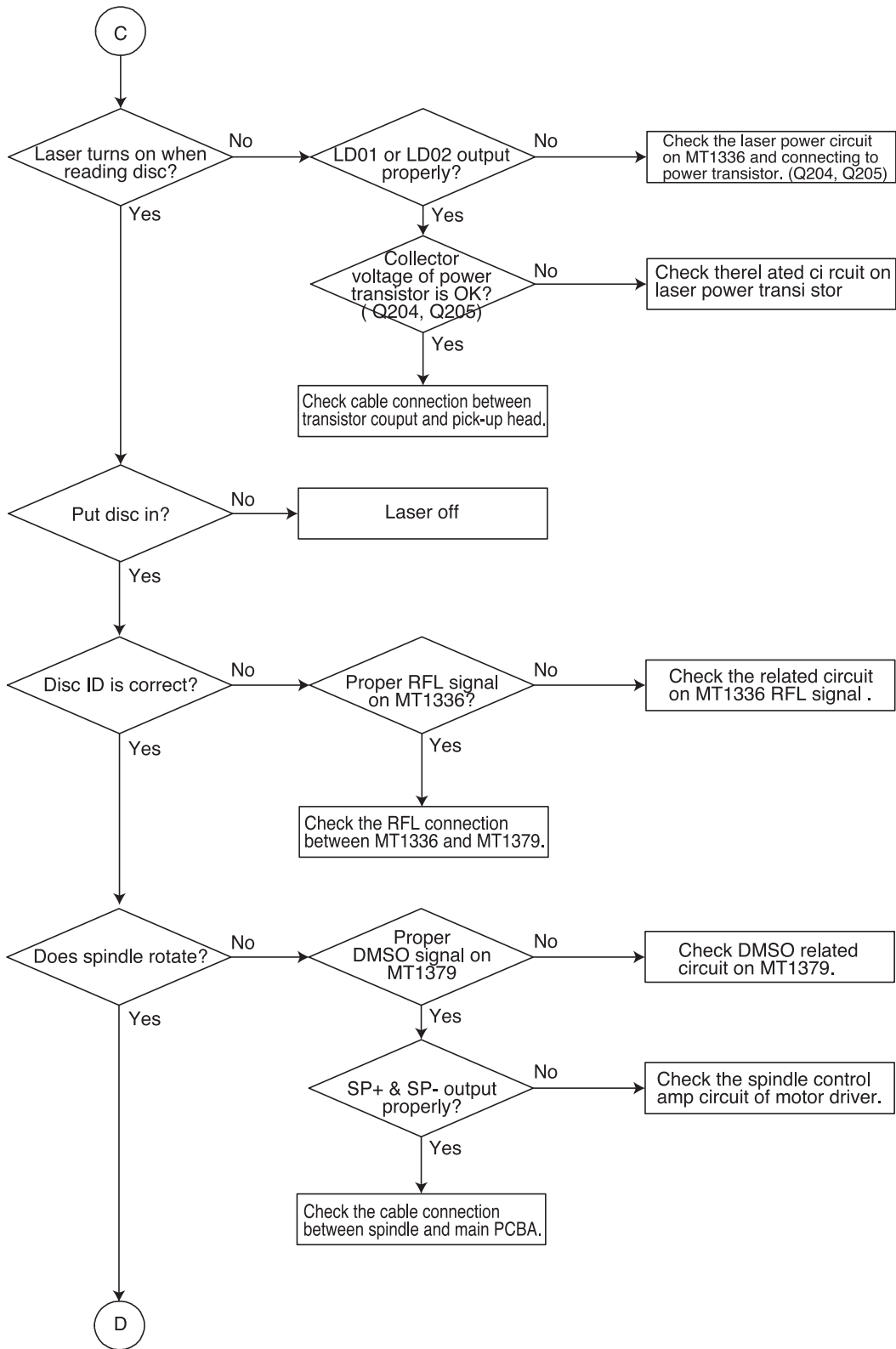
## DVD ELECTRICAL TROUBLESHOOTING

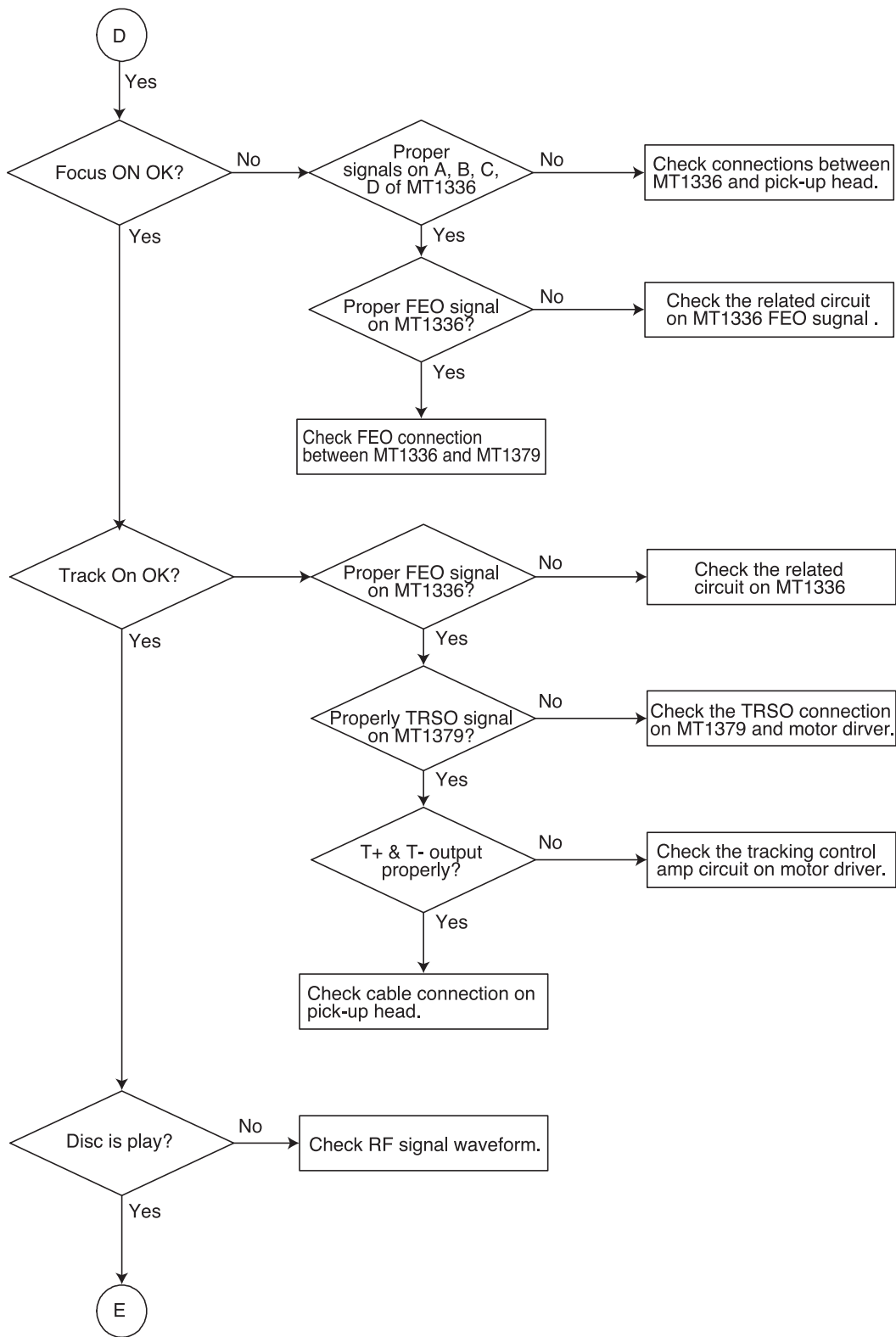
### 1. Test & debug flow

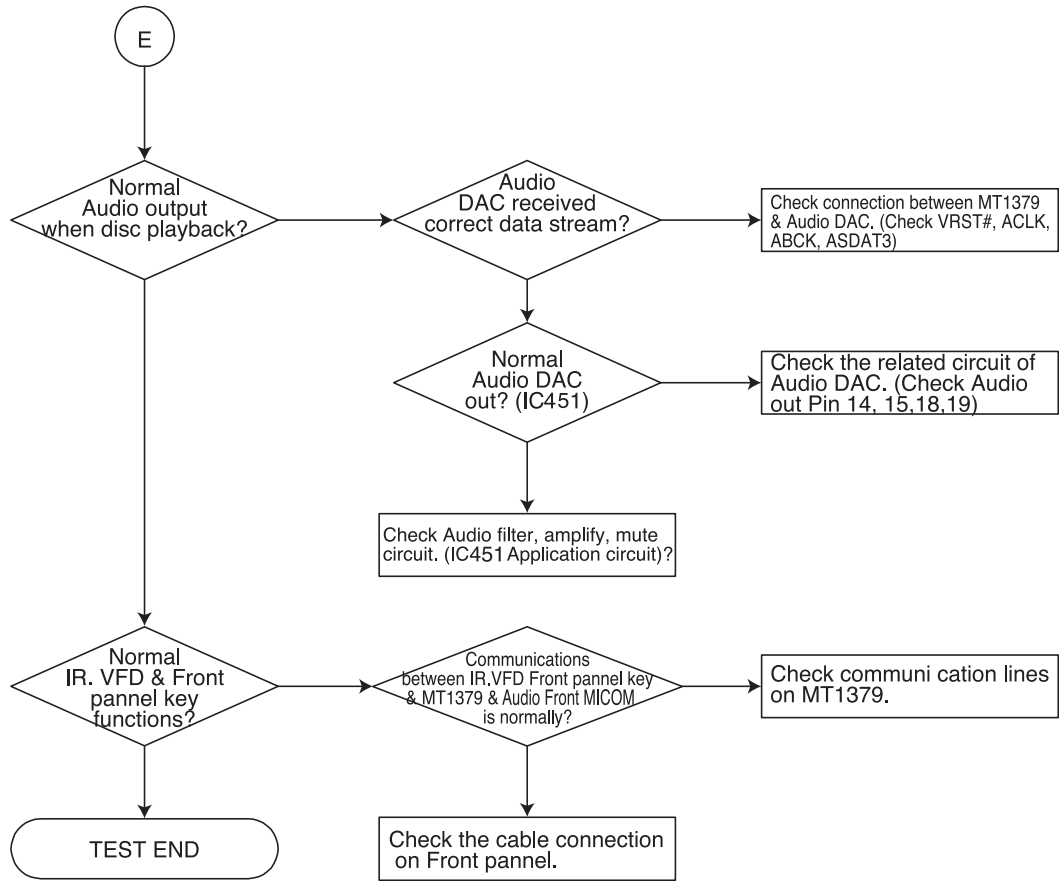












# DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

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

### 1) MT1379 main clock is at 27MHz(X501)

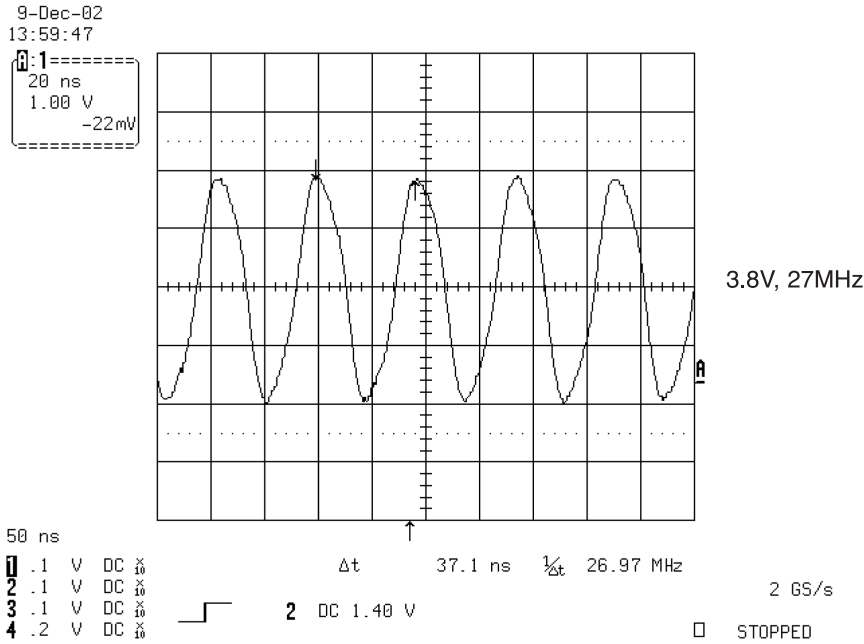


FIG 1-1

### 2) MT1336 reset is high active

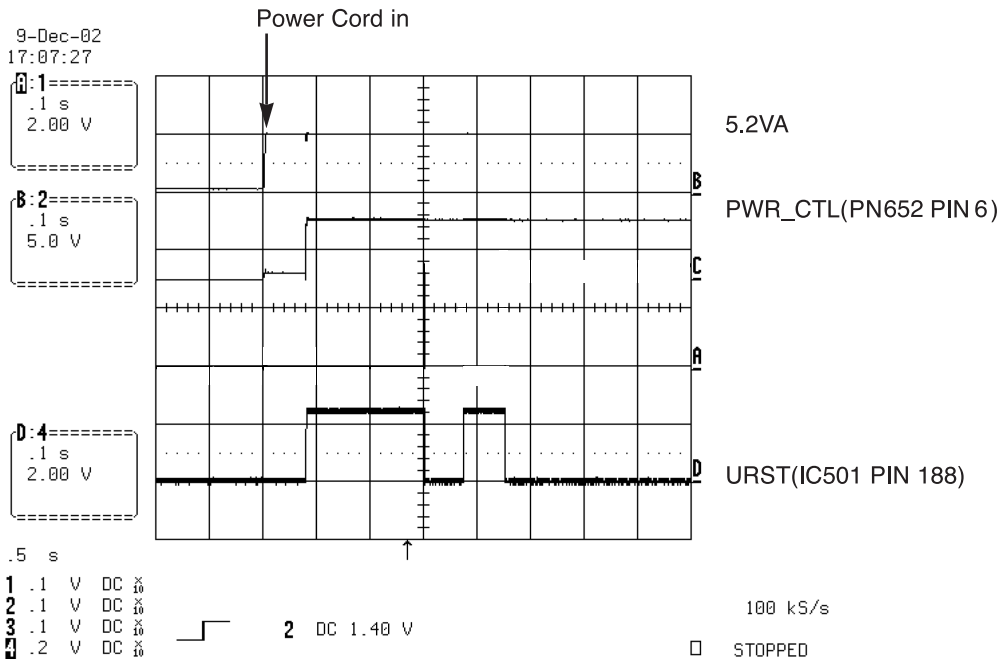


FIG 1-2



### 3) RS232 waveform during procedure(Downloading)

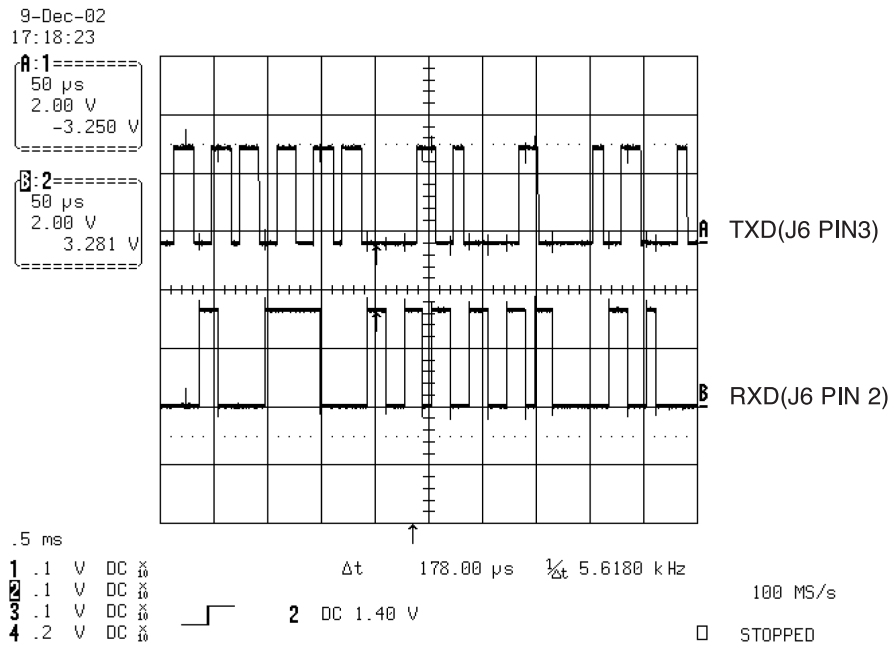


FIG 1-3

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

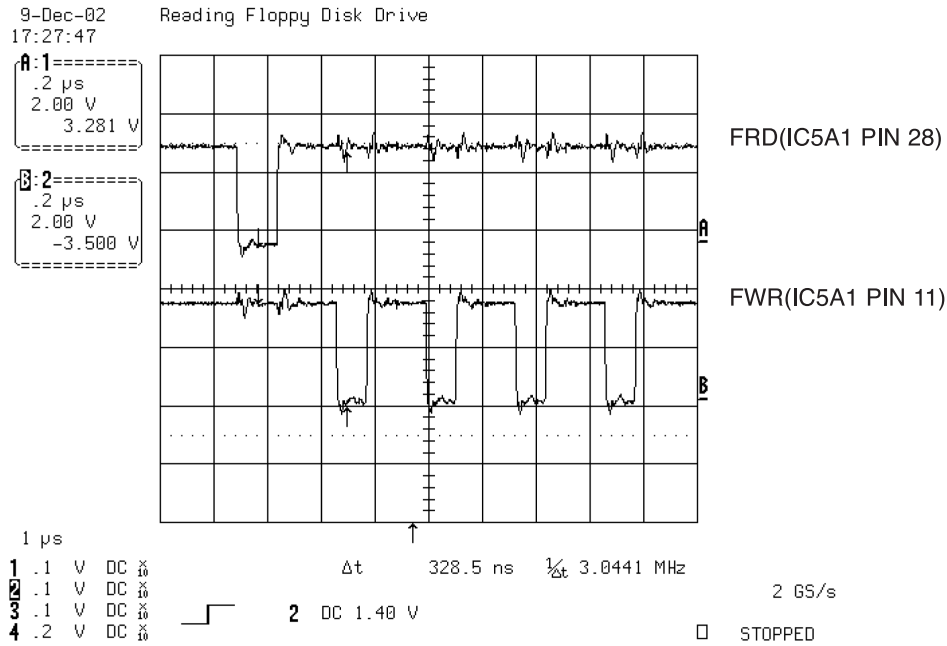


FIG 1-4

## 2. SDRAM CLOCK

### 1) MT1379 main clock is at 27MHz(X501)

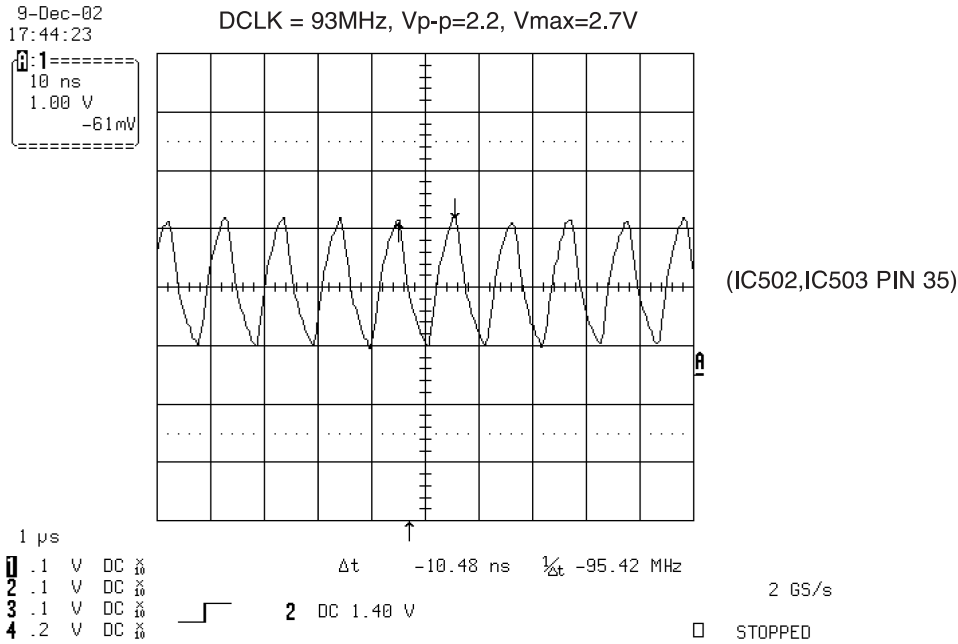


FIG 2-1

## 3. TRAY OPEN/CLOSE SIGNAL

### 1) Tray open/close waveform

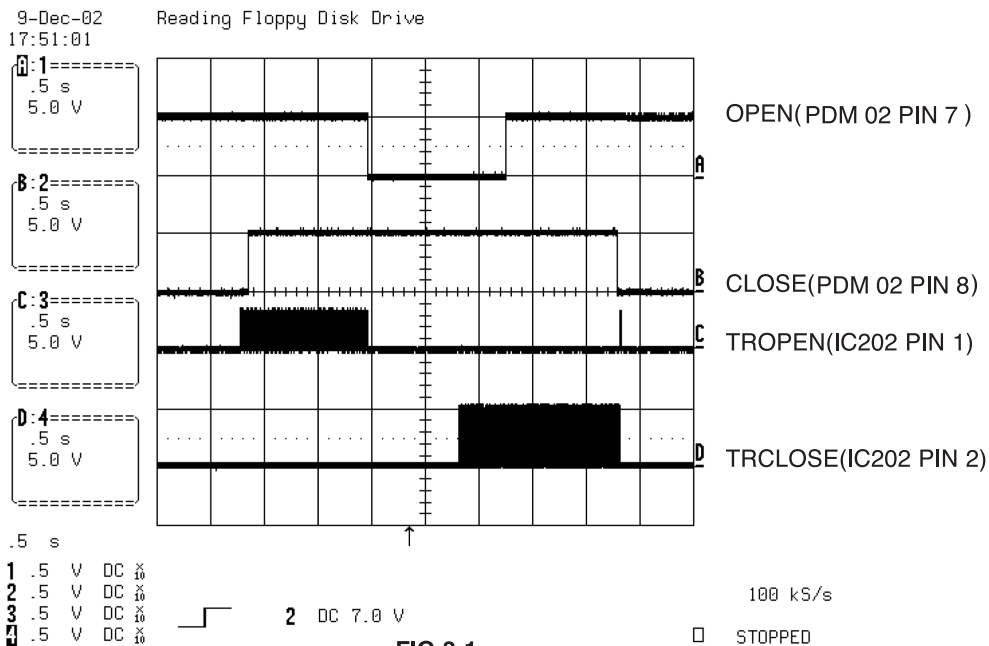


FIG 3-1

## 2) Tray close waveform

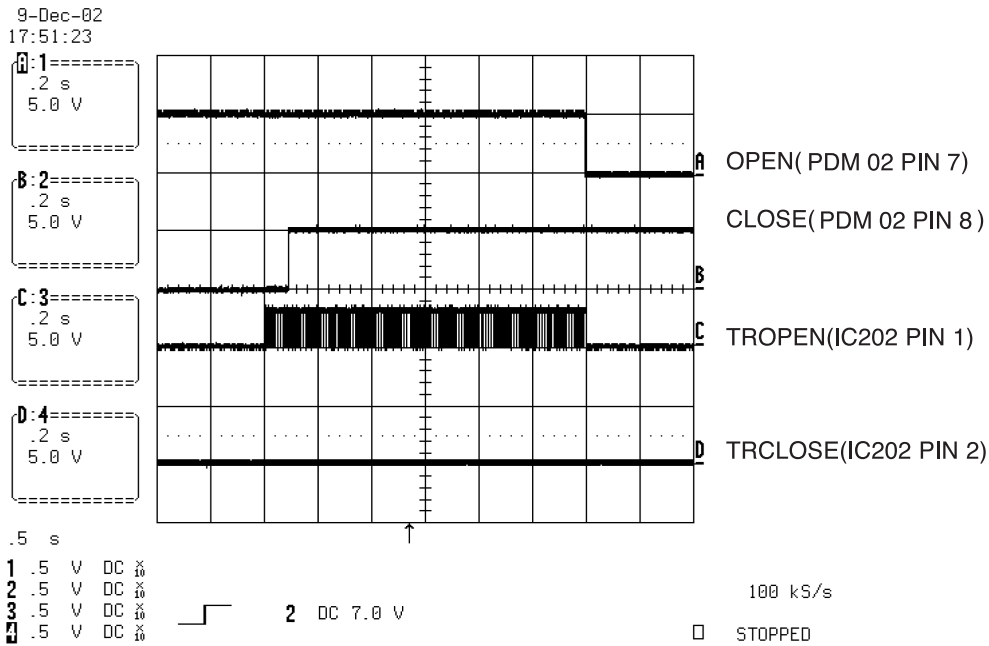


FIG 3-2

## 3) Tray open waveform

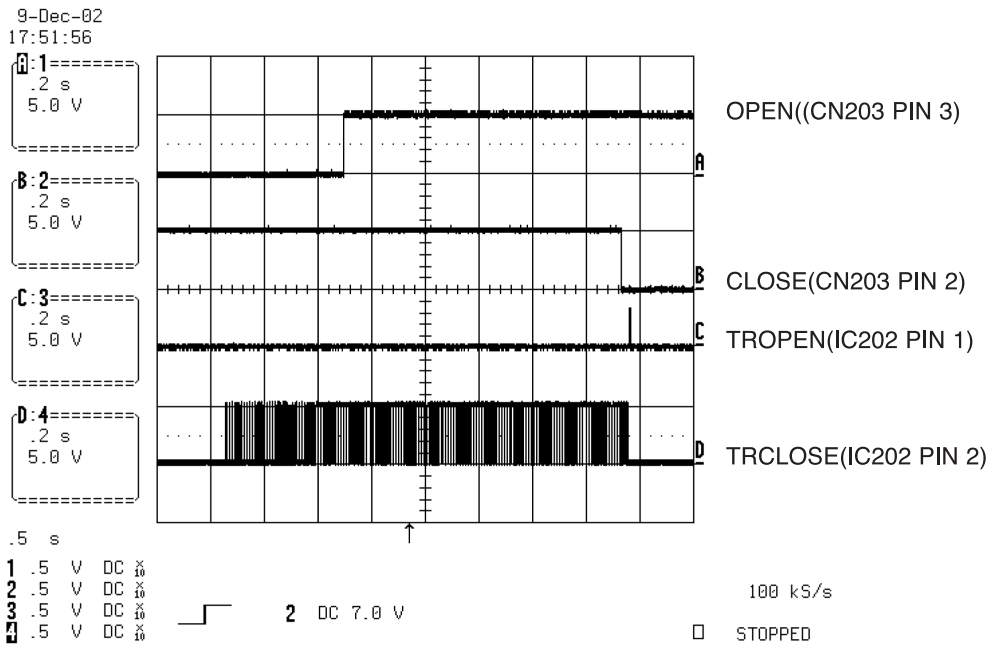


FIG 3-3

## 4. SLED CONTROL RELATED SIGNAL (NO DISC CONDITION)

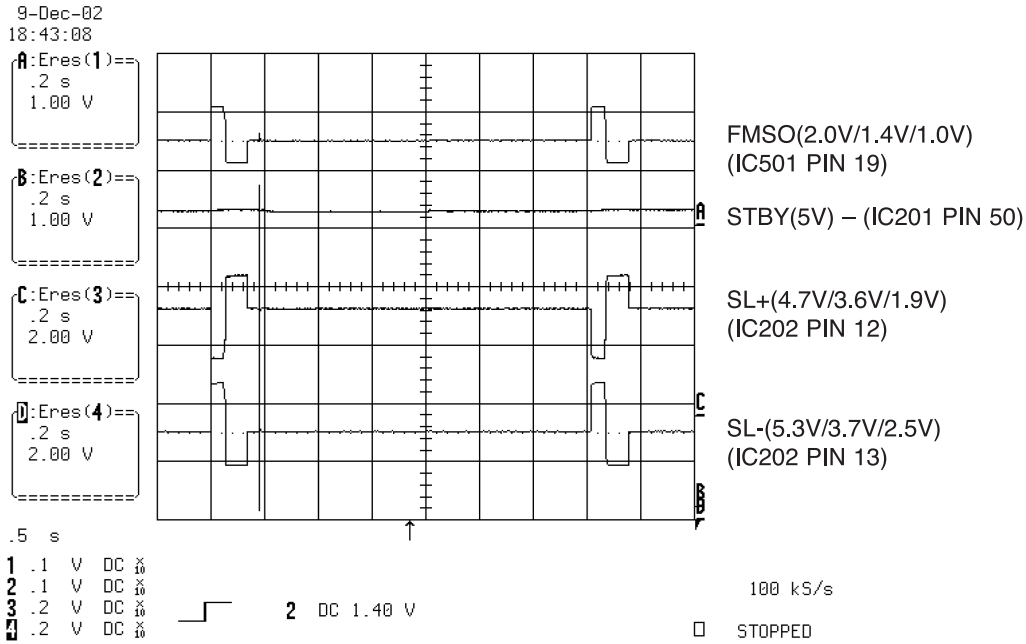


FIG 4-1

## 5. LENS CONTROL RELATED SIGNAL(NO DISC CONDITION)

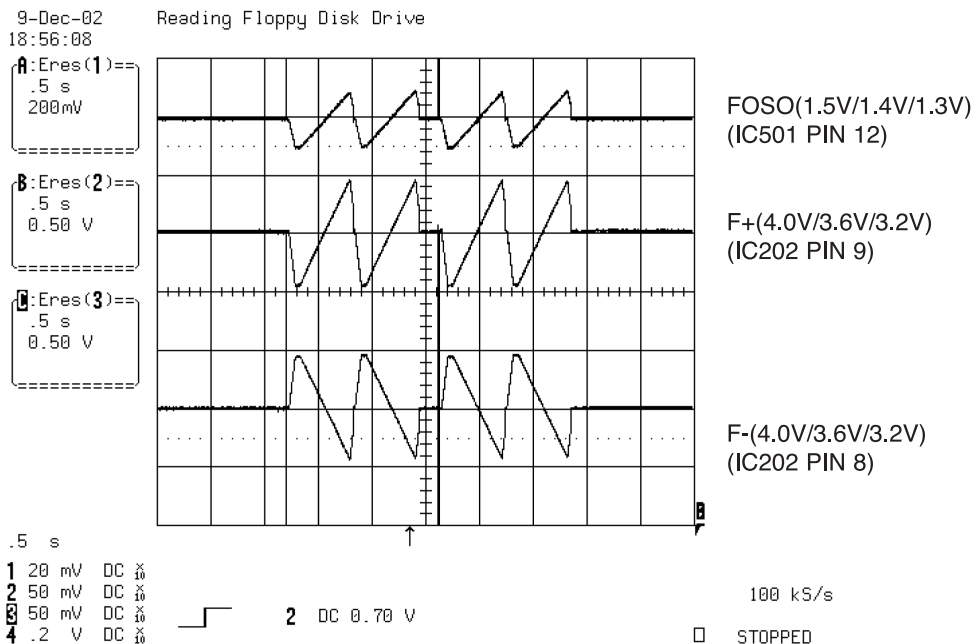


FIG 5-1

## 6. LASER POWER CONTROL RELATED SIGNAL (NO DISC CONDITION)

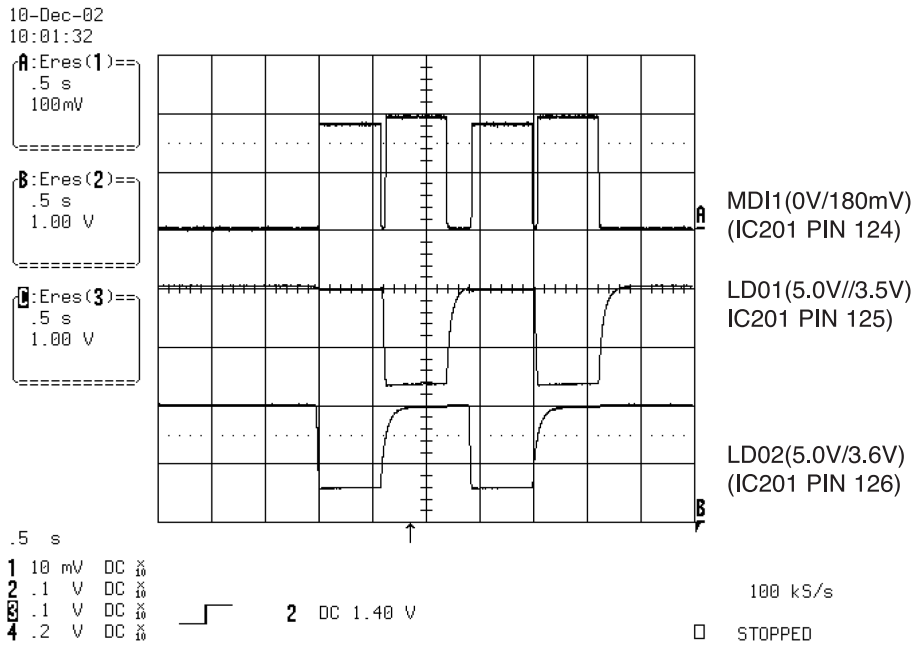


FIG 6-1

## 7. DISC TYPE JUDGEMENT WAVEFORM

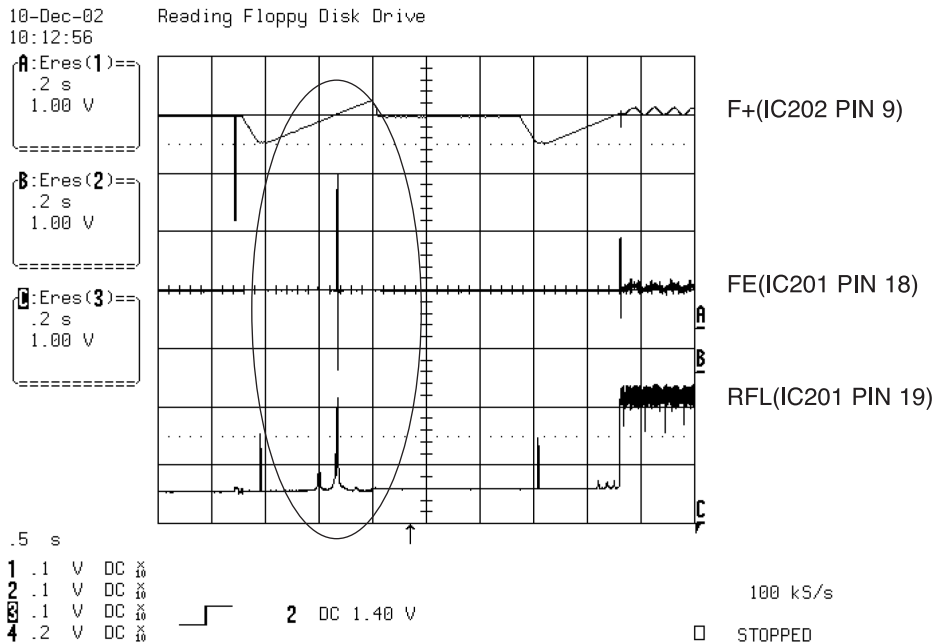


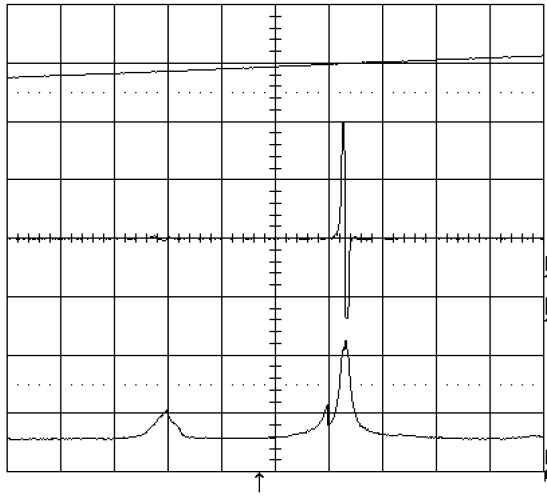
FIG 7-1 (DVD)

10-Dec-02  
10:08:54

A:Eres(1)=  
20 ms  
1.00 V

B:Eres(2)=  
20 ms  
1.00 V

C:Eres(3)=  
20 ms  
1.00 V



F+(IC202 PIN 9)

FE(IC201 PIN 18)

RFL(IC201 PIN 19)

.5 s

1 .1 V DC  $\times \frac{10}{10}$   
2 .1 V DC  $\times \frac{10}{10}$   
3 .1 V DC  $\times \frac{10}{10}$   
4 .2 V DC  $\times \frac{10}{10}$



2 DC 1.40 V

100 kS/s

STOPPED

FIG 7-2 (DVD)

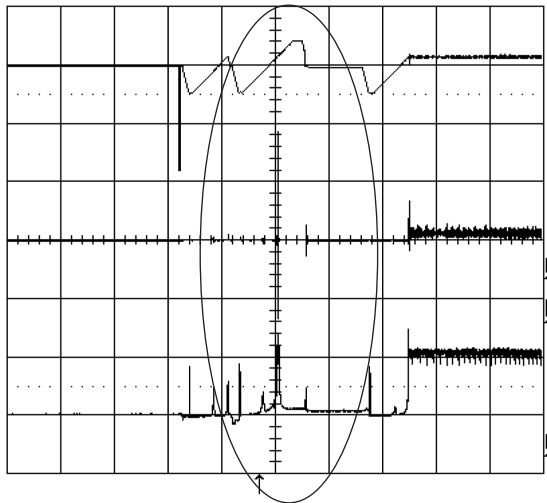
10-Dec-02  
10:15:41

Reading Floppy Disk Drive

A:Eres(1)=  
.5 s  
1.00 V

B:Eres(2)=  
.5 s  
1.00 V

C:Eres(3)=  
.5 s  
1.00 V



F+(IC202 PIN 9)

FE(IC201 PIN 18)

RFL(IC201 PIN 19)

.5 s

1 .1 V DC  $\times \frac{10}{10}$   
2 .1 V DC  $\times \frac{10}{10}$   
3 .1 V DC  $\times \frac{10}{10}$   
4 .2 V DC  $\times \frac{10}{10}$



2 DC 1.40 V

100 kS/s

STOPPED

FIG 7-3 (CD)

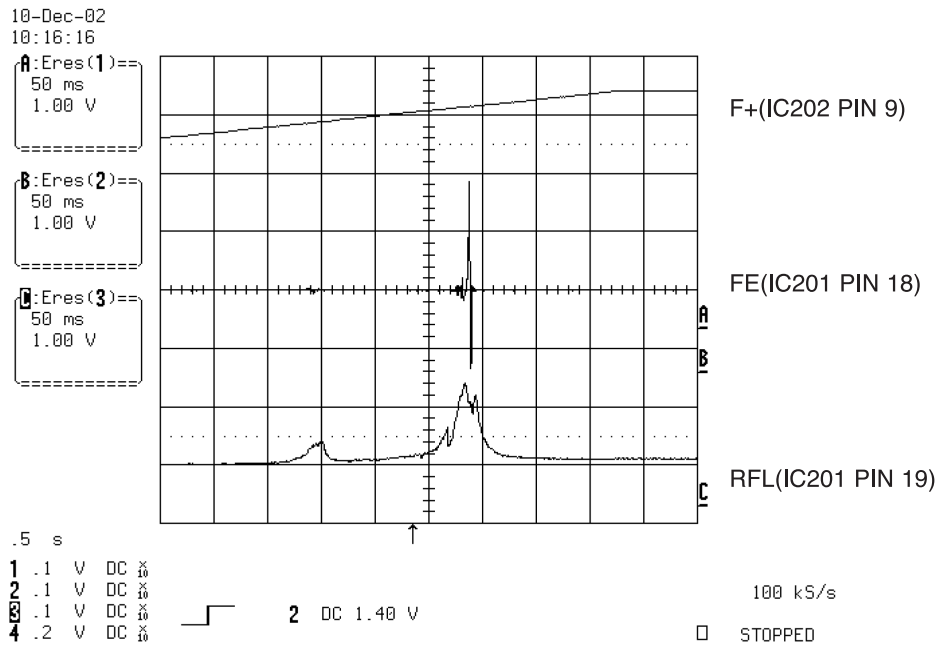


FIG 7-4 (CD)

## 8. FOCUS ON WAVEFORM

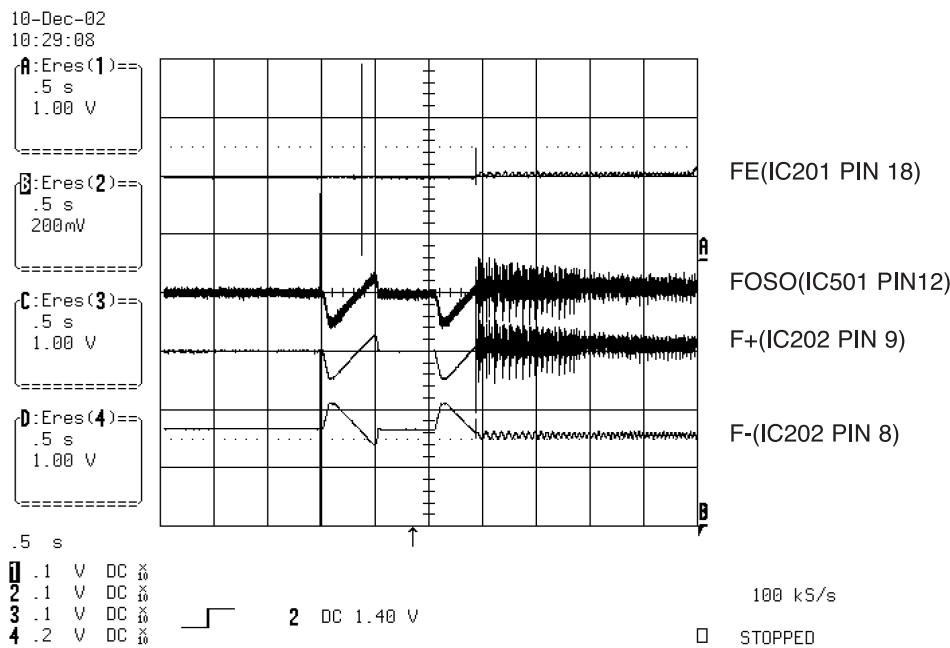


FIG 8-1 (DVD)

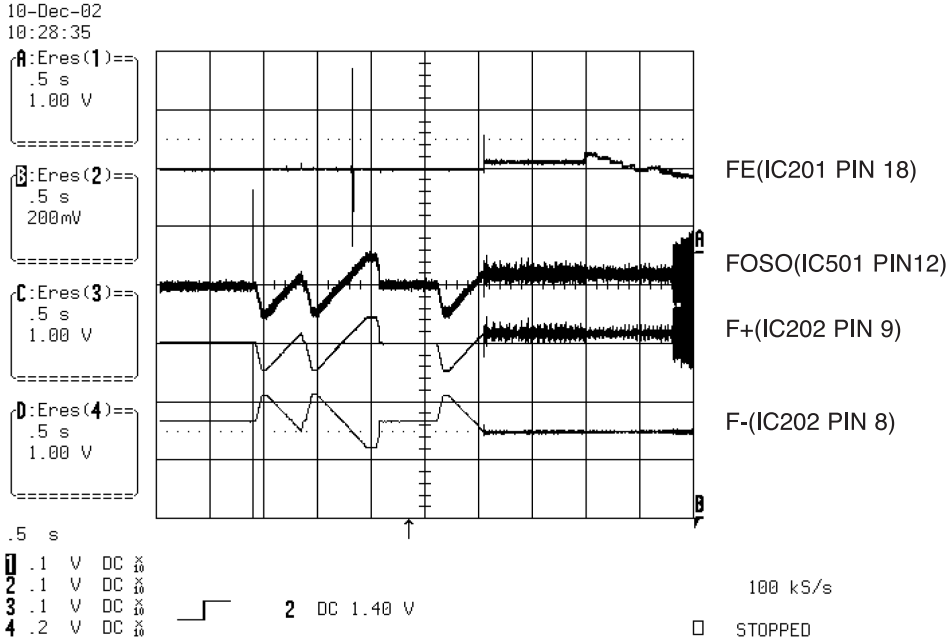


FIG 8-2 (CD)

## 9. SPINDLE CONTROL WAVEFORM (NO DISC CONDITION)

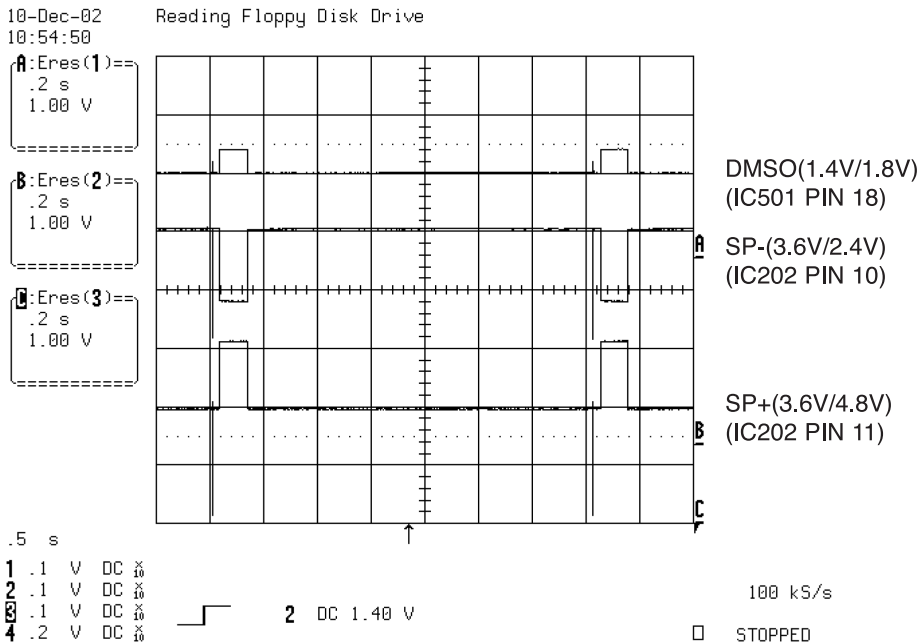


FIG 9-1



# 10. TRACKING CONTROL RELATED SIGNAL(System checking)

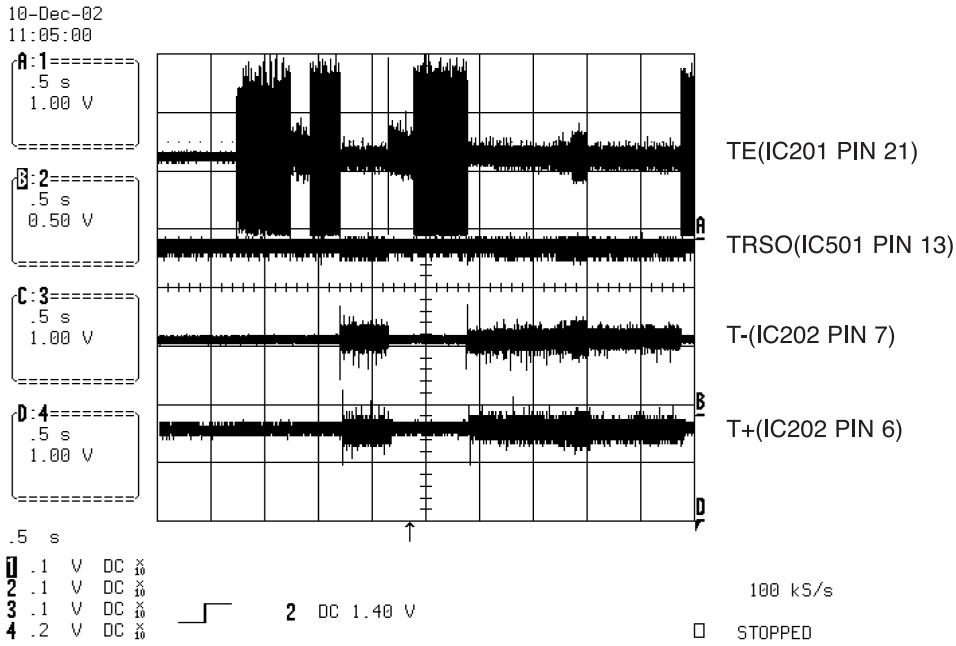


FIG 10-1(DVD)

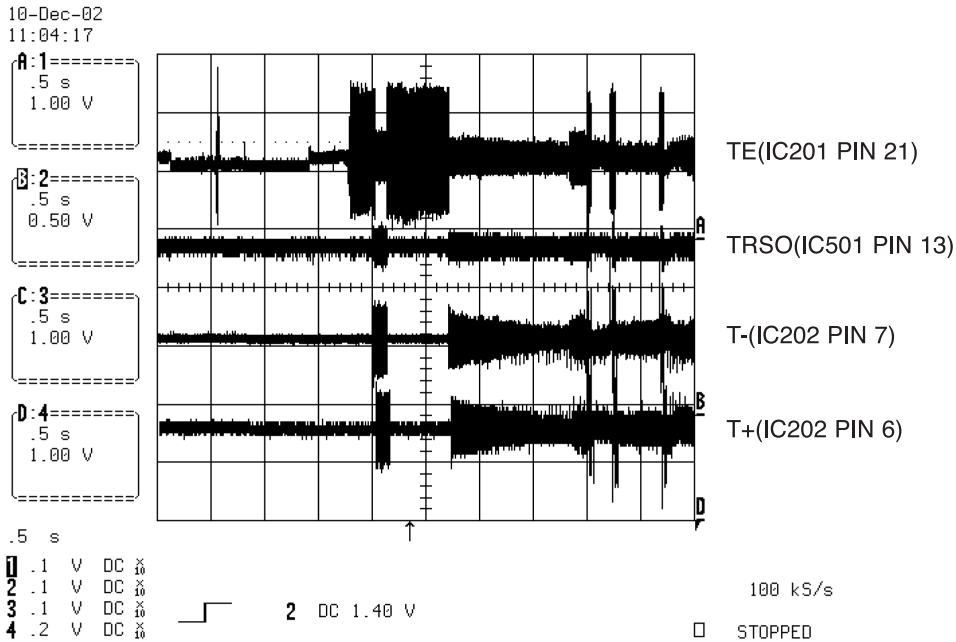


FIG 10-2(CD)

# 11. RF WAVEFORM

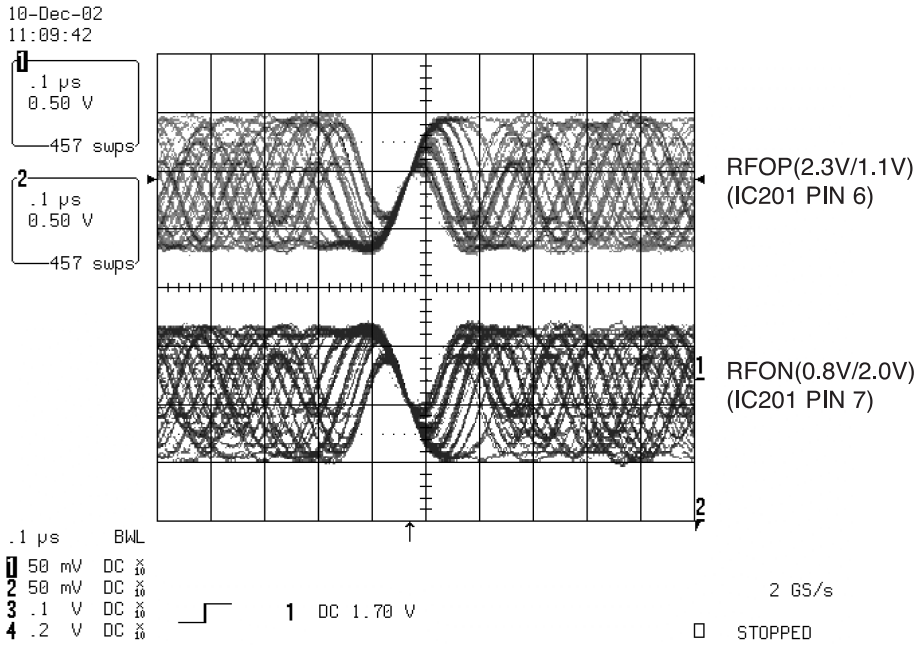


FIG 11-1

# 12. MT1379 AUDIO OPTICAL AND COAXIAL OUTPUT (ASPDIF)

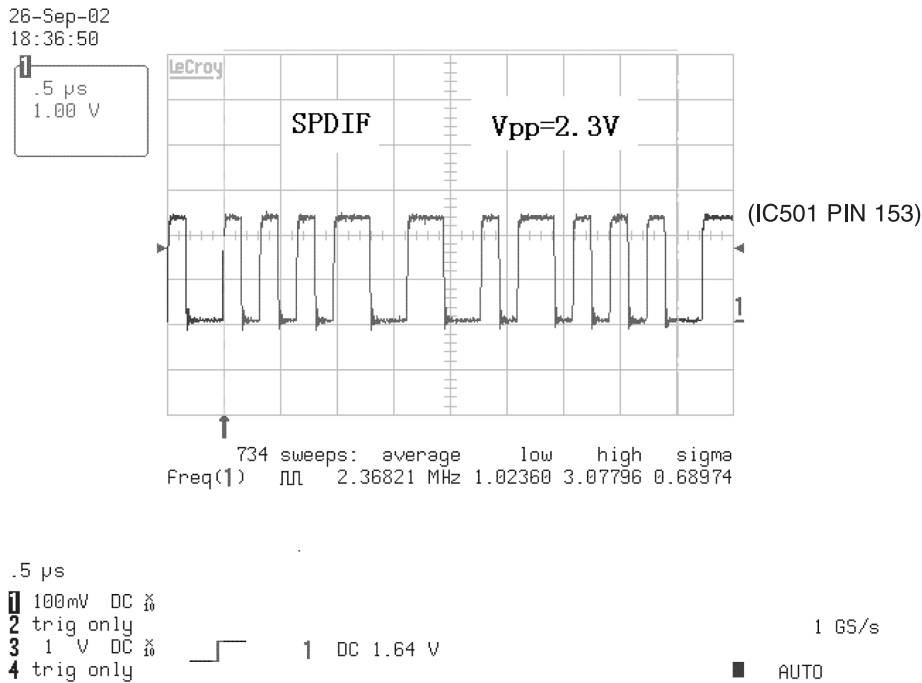


FIG 12-1

# 13. MT1379 VIDEO OUTPUT WAVEFORM

## 1) Full colorbar signal(CVBS)

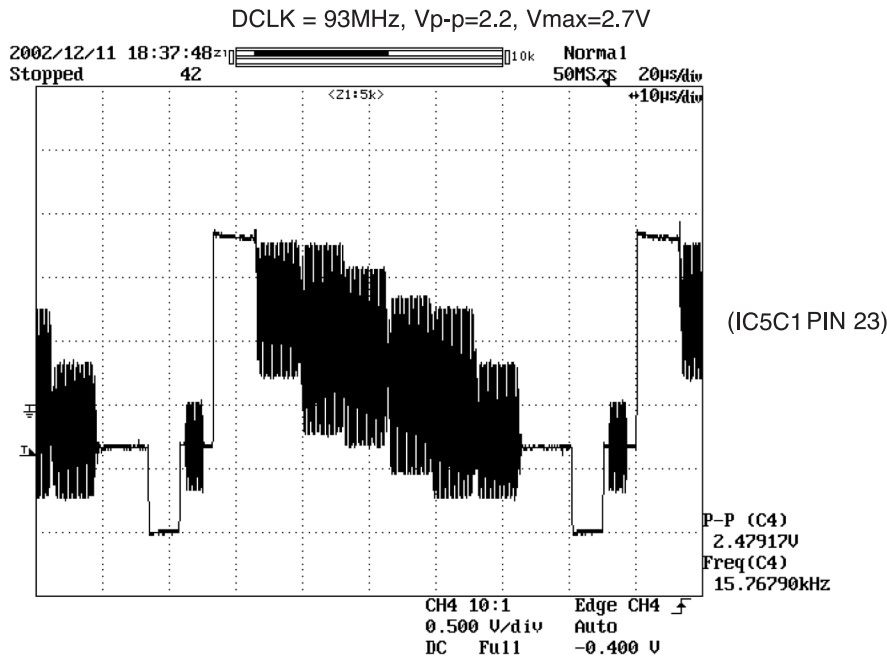


FIG 13-1

## 2) Y

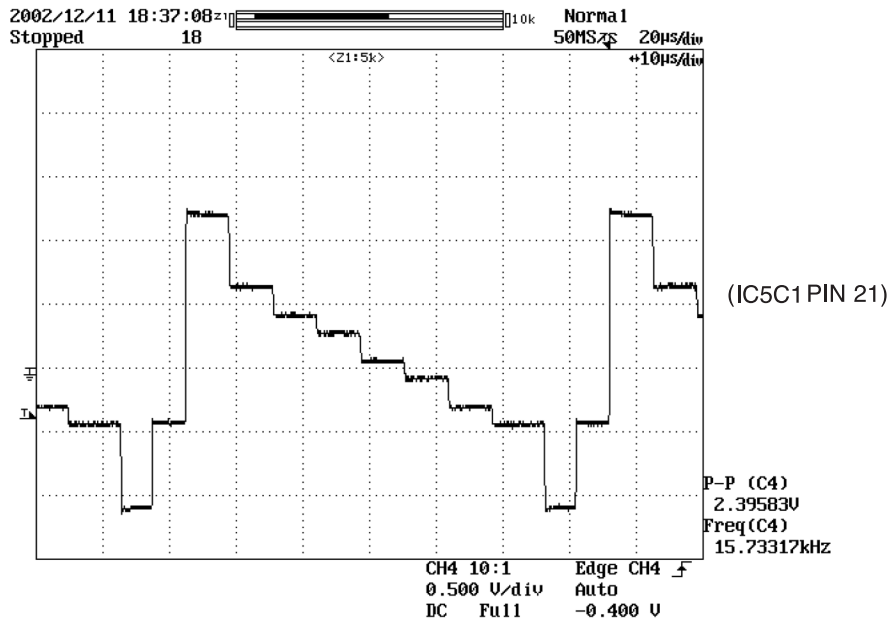


FIG 13-2

### 3) C

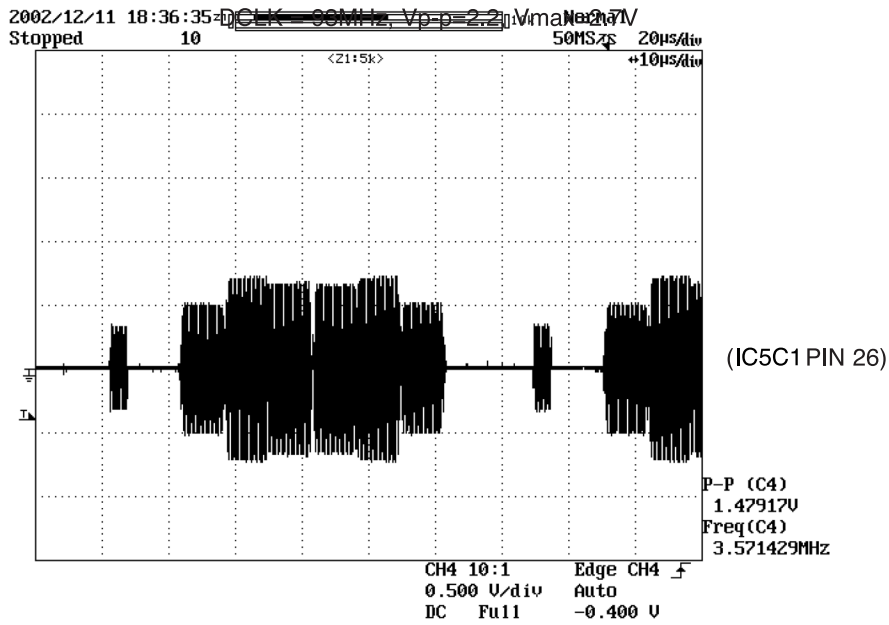


FIG 13-3

## 14. AUDIO OUTPUT FORM AUDIO DAC

### 1) Audio related Signal

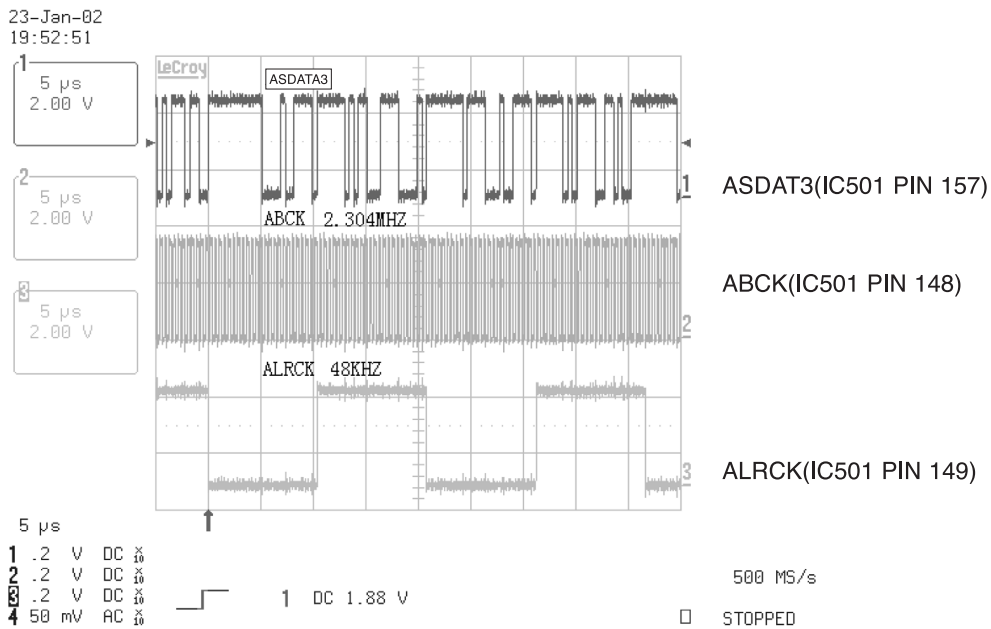


FIG 14-1

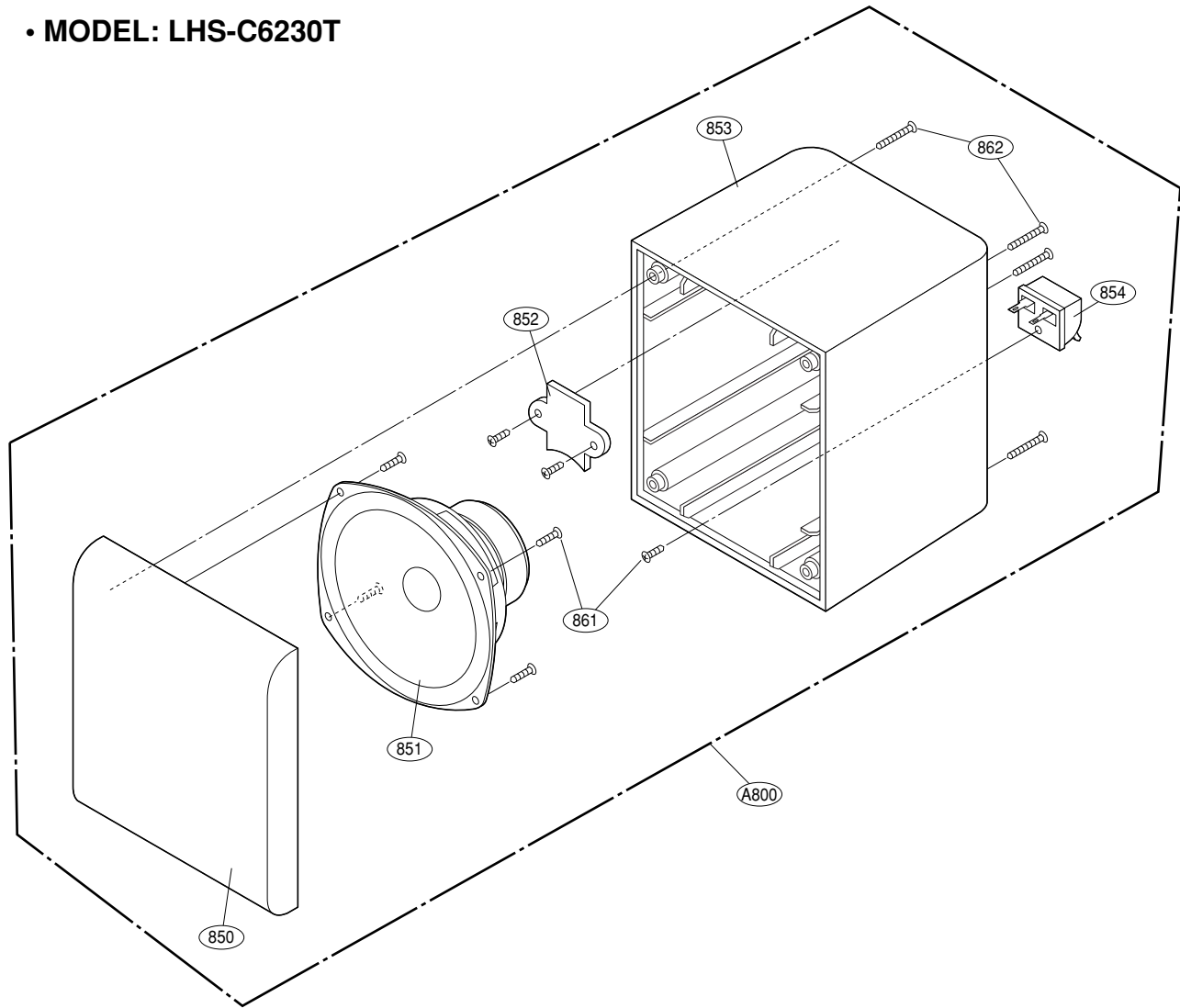
# MEMO

A series of horizontal dashed lines for writing.

• **SPEAKER**

**Satellite speaker**

• **MODEL: LHS-C6230T**

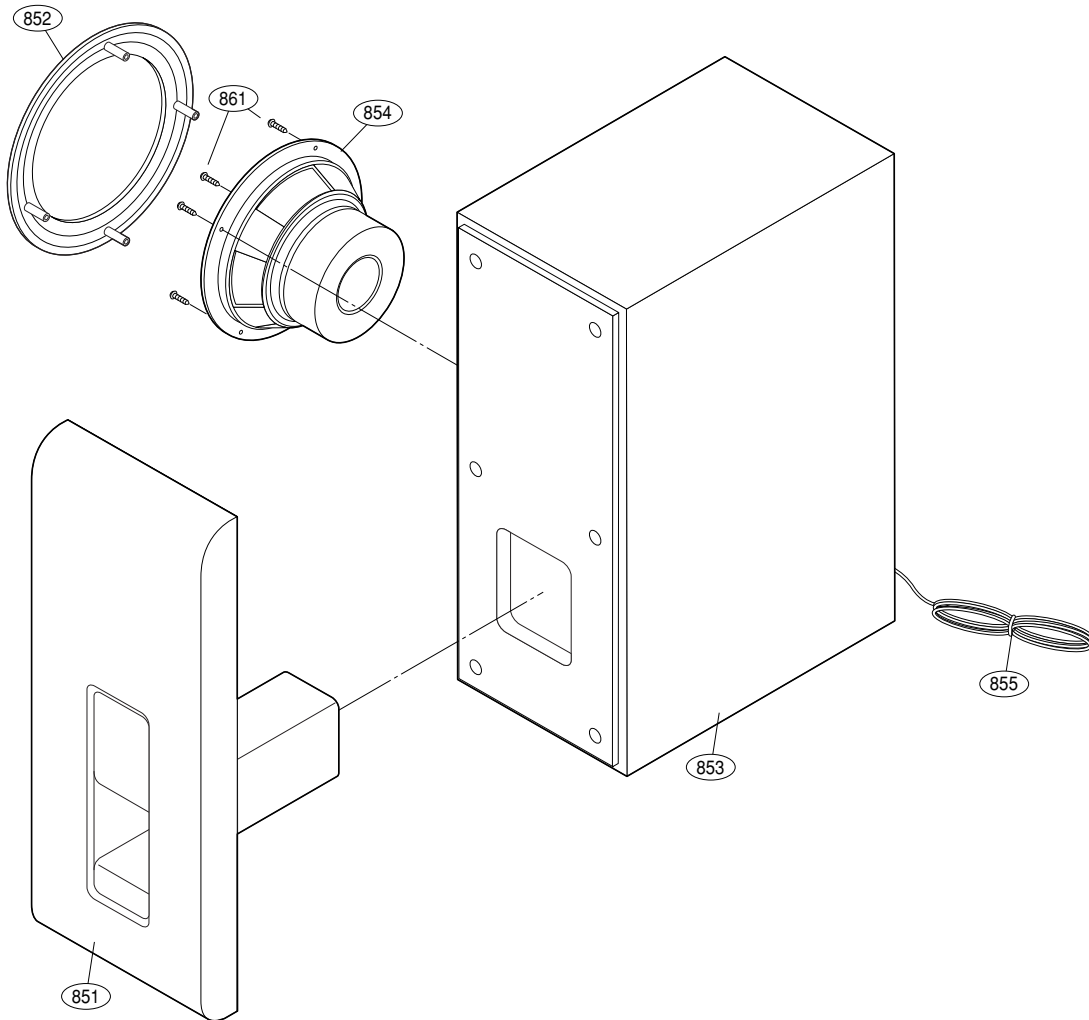


**RUN DATE : 05.JUNE.2003**

LOCA.NO	PART NO	DESCRIPTION	SPECIFICATION	REMARKS
850	3701RM0042A	NET ASSEMBLY	SPK LHS-D6230T L.SILVER	
851	6400FTTC02A	SPEAKER,FULLRANGE	F30C-D366 TOPTONE FULL-RANGE(H	
853	3110RMP009A	CASE	REAR LH-6230TE MOLD STANDARD	
854	6871RU4116B	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	FE-3620TE 2P NEW TERMINAL 150M	
855	6871RU9271A	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T FRONT WIRE(5M) R CH	
856	6871RU9271B	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T FRONT WIRE(5M)/ L C	
857	6871RU9271C	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T CENTER WIRE(5M)/ (G	
858	6871RU9271D	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T REAR WIRE(10M) R/CH	
859	6871RU9271E	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T REAR WIRE(10M)/ L/C	
861	353M025V	SCREW,DRAWING	+ 2 D3.0 L6.0 MSWR3/FZB	
862	353M025W	SCREW,DRAWING	+ 2 D3.0 L14.0 MSWR3/FZB	
A800	6401RM0045A	SPEAKER ASSEMBLY	F30C-D384-2 SHIN POONG LHS-D62	

# Passive(Sub) Woofer

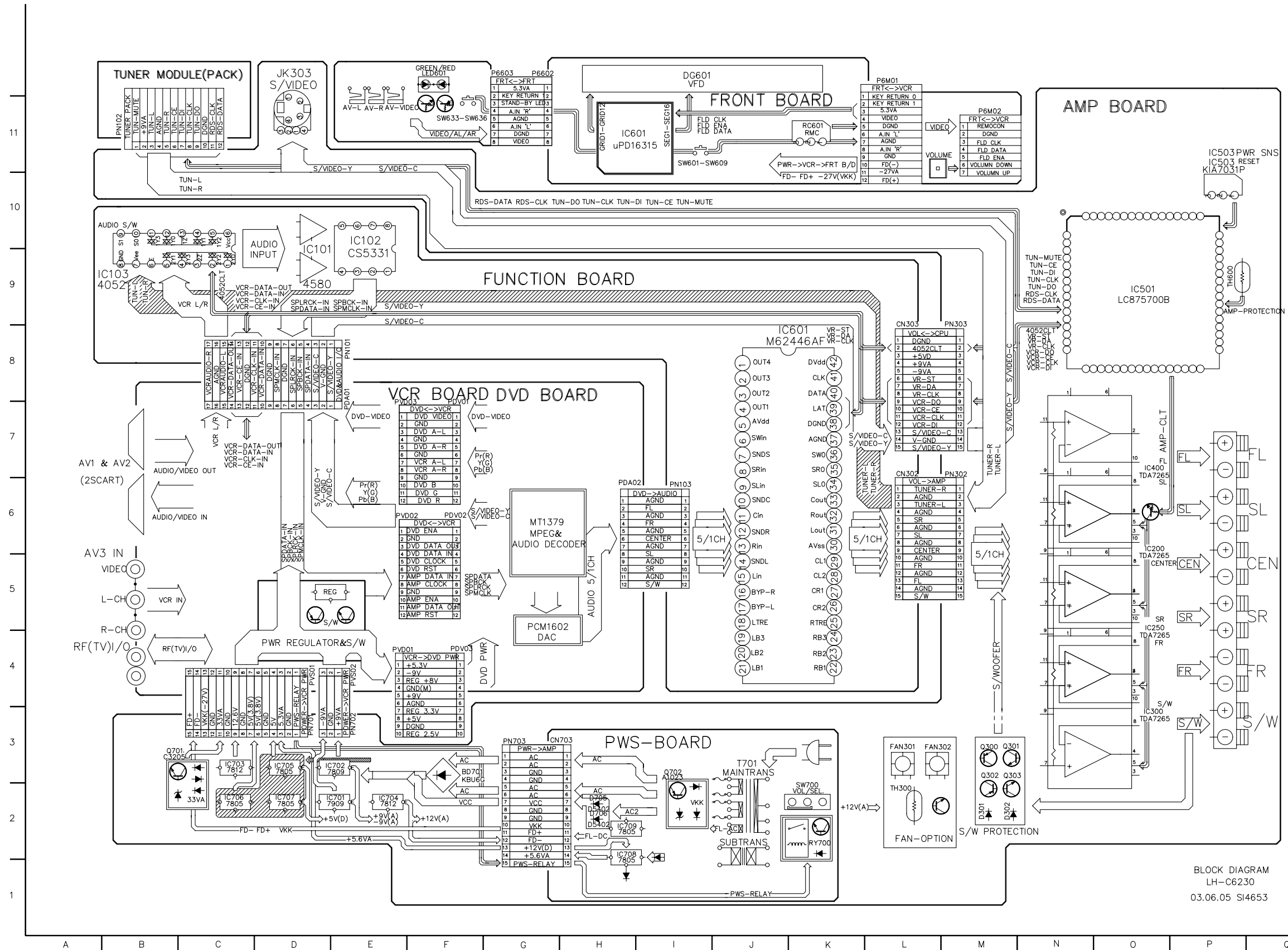
• MODEL: LHS-C6230W



RUN DATE : 05.JUNE.2003

LOCA.NO	PART NO	DESCRIPTION	SPECIFICATION	REMARKS
851	3720RMF045A	PANEL,FRONT	FRONT LH-6230WE STANDARD	
852	3701RM0043A	NET ASSEMBLY	SPK LHS-D6230W SILVER STANDARD	
853	3091RMW050A	CABINET ASSEMBLY	ASSY LH-6230WE ALL PB 9T	
854	6400WTTJ03A	SPEAKER,WOOFER	F65C-D365 TOPTONE WOOFER LHS-6	
855	6871RU9271F	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230W SUB WOOFER 2.5M, OR	
861	353M050C	SCREW	BH 3.5X16 FBK	

# BLOCK DIAGRAM

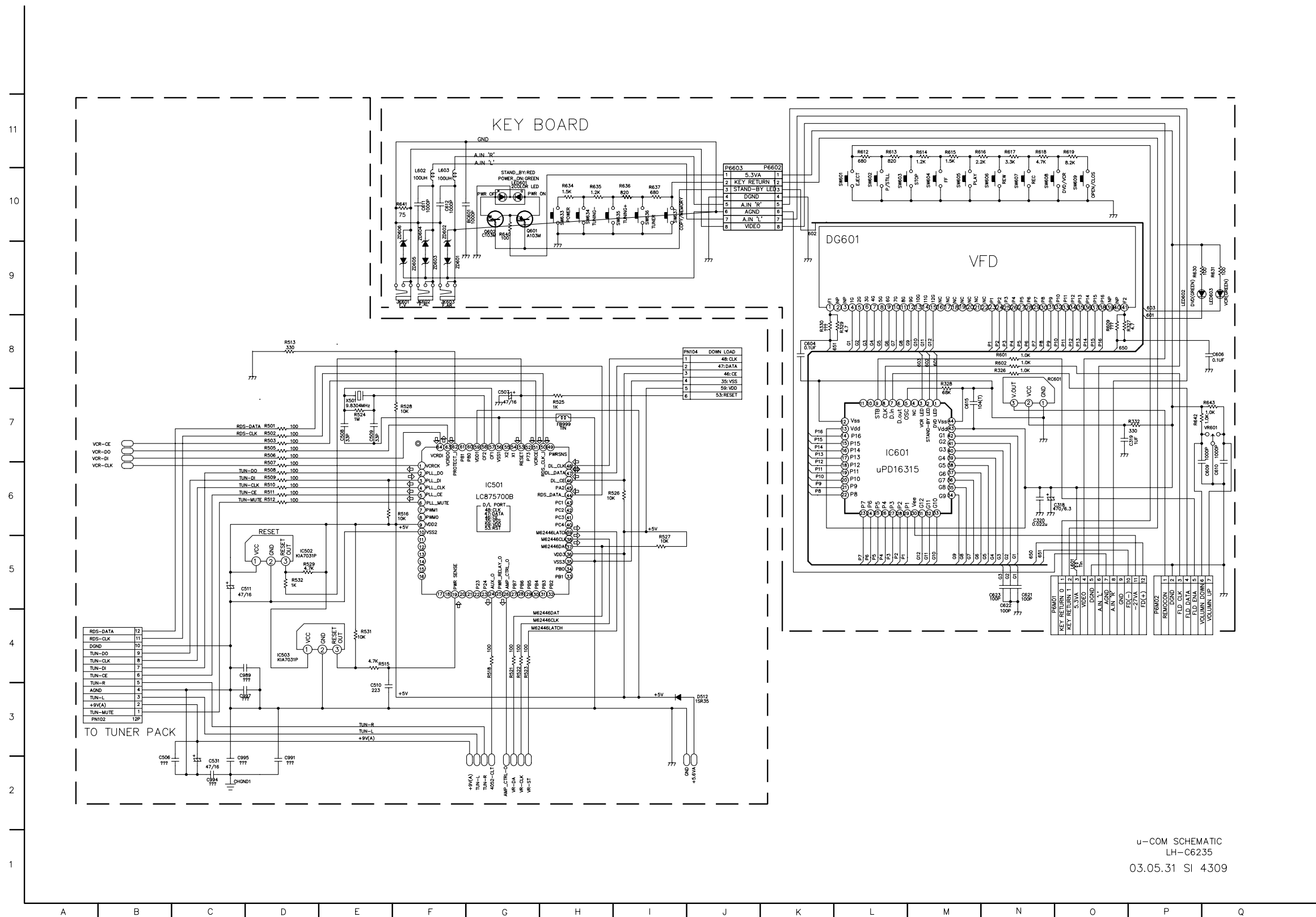


BLOCK DIAGRAM  
LH-C6230  
03.06.05 SI4653



# AUDIO SCHEMATIC DIAGRAMS

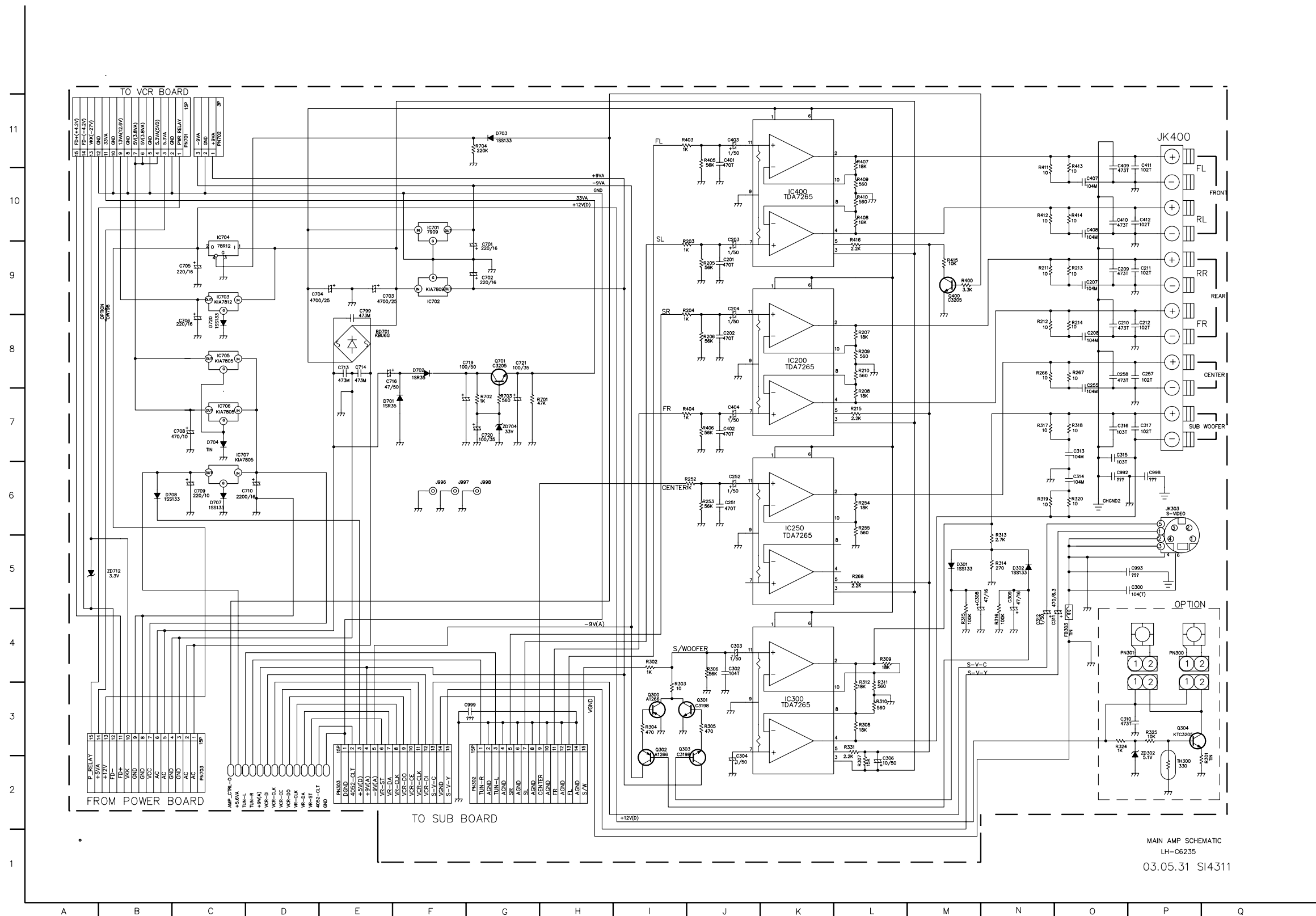
## • U-COM SCHEMATIC DIAGRAM



u-COM SCHEMATIC  
LH-C6235  
03.05.31 SI 4309

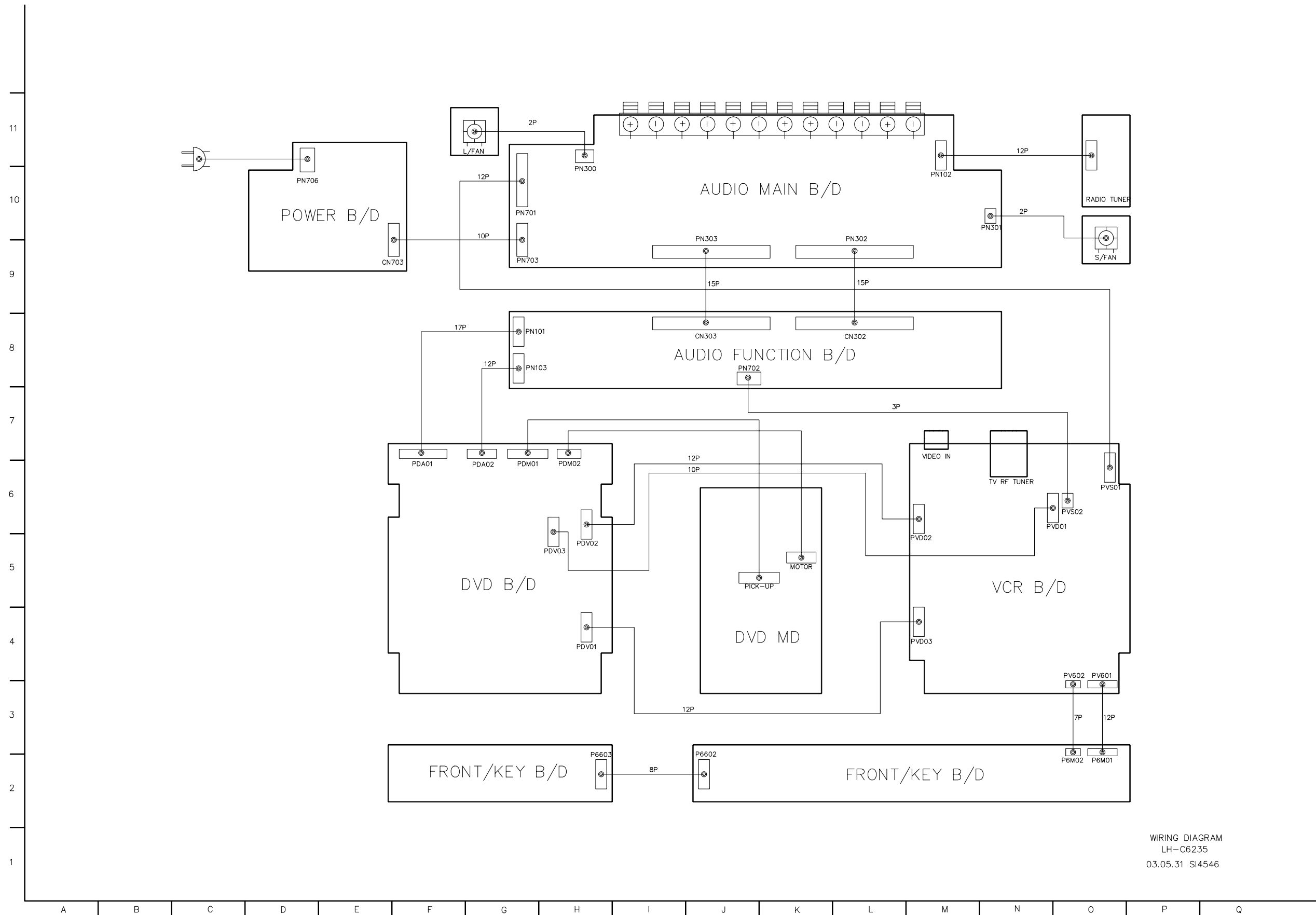


# • MAIN AMP SCHEMATIC DIAGRAM



MAIN AMP SCHEMATIC  
LH-C6235  
03.05.31 SI4311

# WIRING DIAGRAM



WIRING DIAGRAM  
LH-C6235  
03.05.31 SI4546

# AUDIO VOLTAGE SHEET (IC&TR)

[FRONT]

LOC.	PART	PIN NUM.	STOP	DVD PLAY
IC501	LC87F57C	1	4.2	4.2
		2	5	5
		3	0	0
		4	0	0
		5	0	0
		6	0	0
		7	0	0
		8	0	0
		9	5	5
		10	0	0
		11	0	0
		12	0	0
		13	0	0
		14	0	0
		15	0	0
		16	0	0
		17	0	0
		18	0	0
		19	5	5
		20	2.5	2.5
		21	2.5	2.5
		22	2.5	2.5
		23	2.5	2.5
		24	5	5
		25	2.5	2.5
		26	4.6	4.6
		27	2.5	4.6
		28	2.5	2.3
		29	2.5	2.5
		30	2	2.5
		31	5	5
		32	0	0
		33	5	0
		34	0	0
		35	0	0
		36	5	5
		37	0	0
		38	0	0
		39	0	0
		40	0	0
		41	0	0
		42	0	2.3
		43	0	0
		44	0	2.3
		45	0	2.3
		46	5	5
		47	0.3	2.3
		48	0.3	2.3
		49	2.5	2.3
		50	0	2.3
		51	4.4	4.4
		52	0.3	0
		53	5	5
		54	0.3	0.5
		55	0.3	0
		56	0	0

[MAIN]

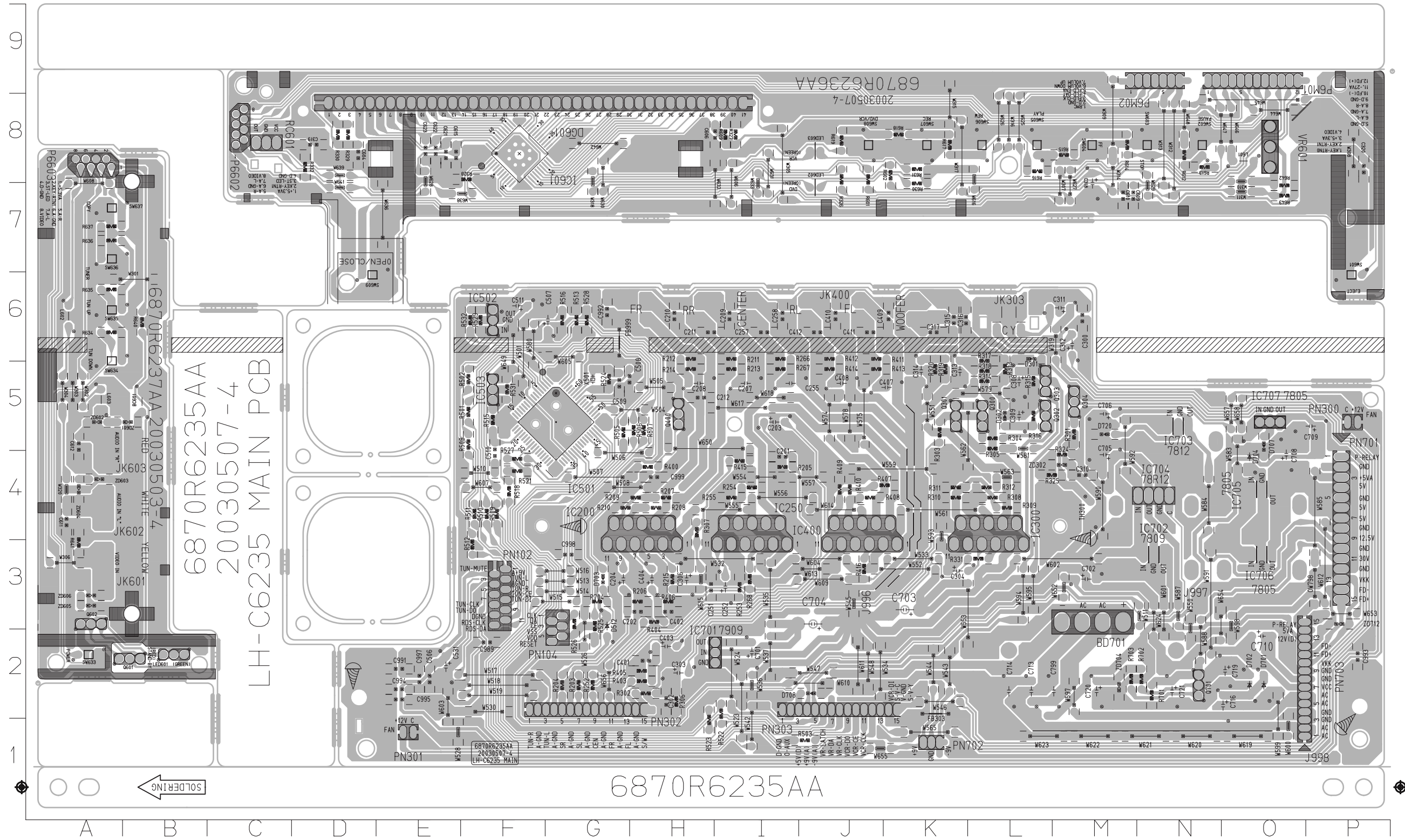
LOC.	PART	PIN NUM.	STOP	DVD PLAY
		57	2.3	2.3
		58	2.3	2.3
		59	4.9	5
		60	0	0
		61	0	0
		62	0	0
		63	0	0
		64	4	4

LOC.	PART	PIN NUM.	STOP	DVD PLAY
IC707	KIA7805	1	11.9	11.9
		2	0	0
		3	5	5
IC703	KIA7812	1	18.4	18.4
		2	0	0
		3	11.9	11.9
IC701	KIA7909	1	0	0
		2	-18.6	-18.6
	3	-9	-9	
IC702	KA7809	1	18.4	18.4
		2	0	0
		3	9	9
IC704	KA78R12	1	18.4	18.4
		2	12	12
		3	0	0
		4	5	5
IC706	KIA7805	1	11	11
		2	0	0
		3	5	5
IC705	KIA7805	1	11	11
		2	0	0
		3	5	5
D507	D5402	ANODE	-0.2	-0.2
		CATHODE	11	11
D511	D5402	ANODE	-0.2	-0.2
		CATHODE	11	11
BD501	KBU6G	1	-18.6	-18.6
		2	0	0
		3	0	0
		4	18.4	18.4
IC101	KIA4580	1	4.5	4.5
		2	4.5	4.5
		3	4.5	4.5
		4	0	0
		5	4.5	4.5
		6	4.5	4.5
		7	4.5	4.5
		8	9	9
IC102	CS5331A	1	1.4	1.4
		2	1.6	1.6
		3	1.6	1.6
		4	1.5	1.5
		5	2.2	2.2
		6	0	0
		7	5	5
		8	2.2	2.2
IC103	4052	1	0	0
		2	0	0
		3	0	0
		4	0	0
		5	0	0
		6	0	0
		7	-4.5	-4.5
		8	0	0
		9	0	0
		10	0	0

LOC.	PART	PIN NUM.	STOP	DVD PLAY
		11	0	0
		12	0	0
		13	0	0
		14	0	0
		15	0	0
		16	4.5	4.5
IC105	M60446AFP	5	5.2	5.2
		30	-5.3	-5.3
		42	5	5
IC200	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0
IC250	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0
IC300	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0
IC400	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0

# PRINTED CIRCUIT DIAGRAM

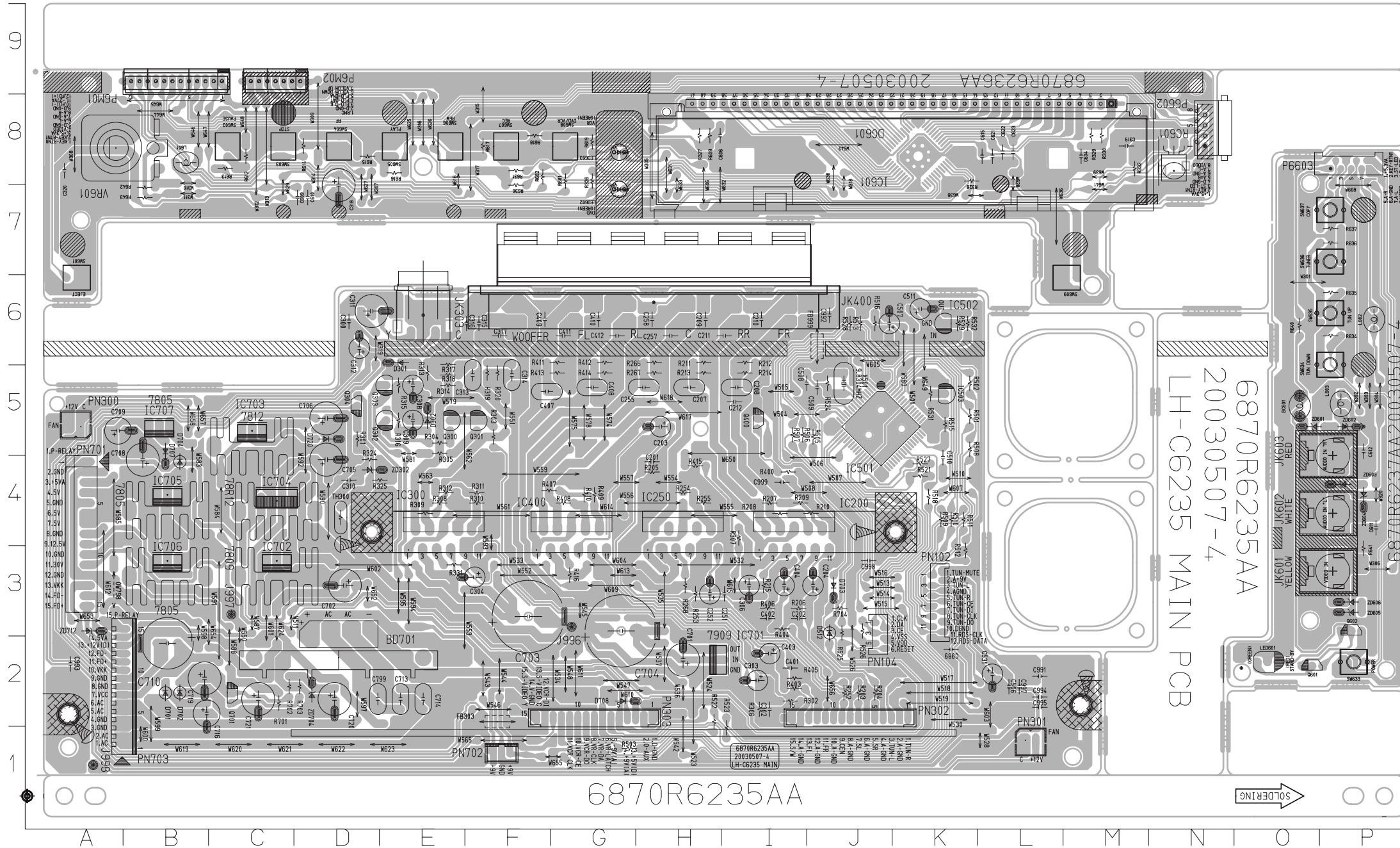
## • MAINAMP & FRONT P.C. BOARD (SOLDER SIDE)



IC501	G5
IC601	F8

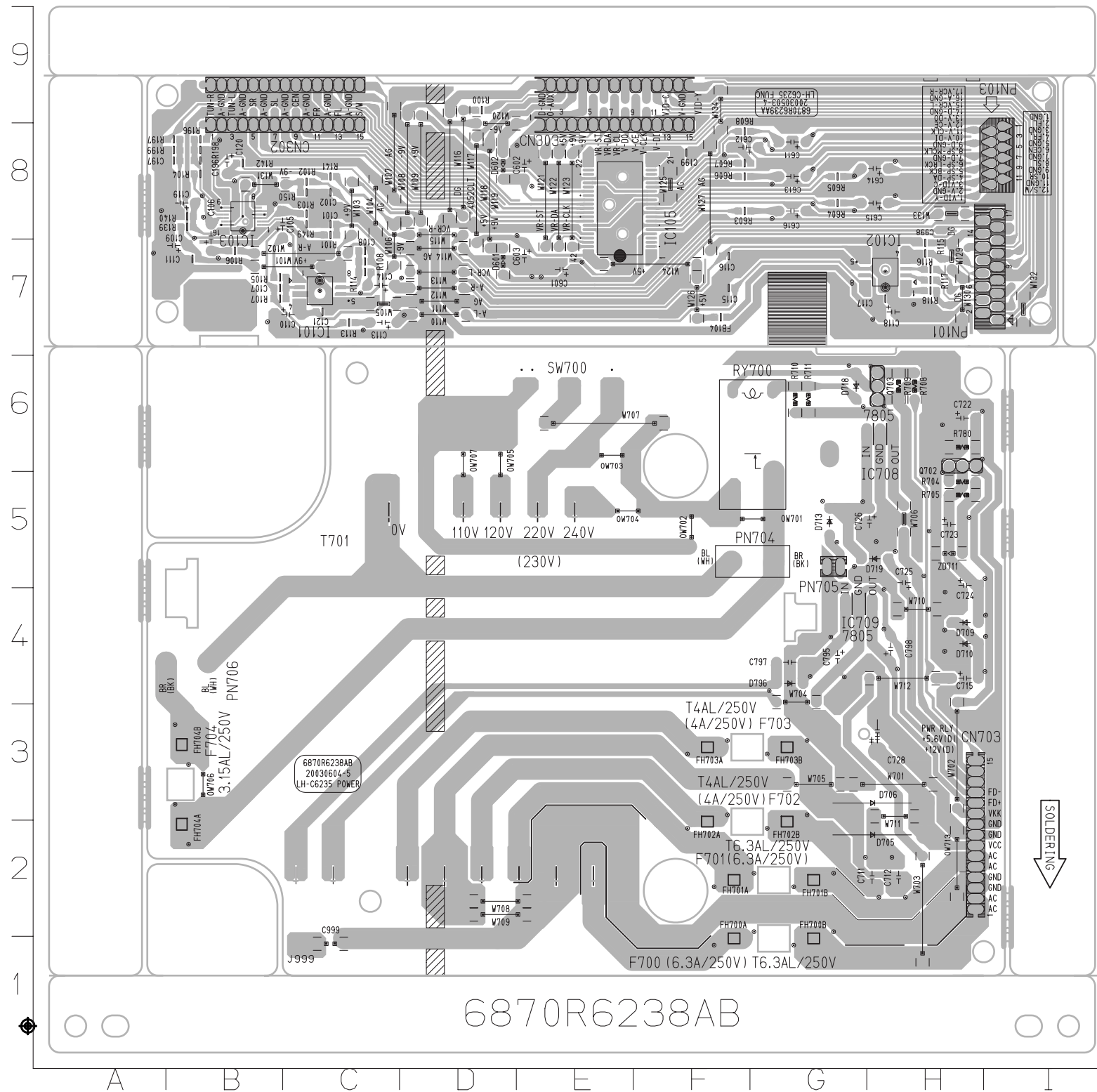


• MAINAMP & FRONT P.C. BOARD (COMPONENT SIDE)



BC601	05	C621	L8	JK601	P3	R308	E4	R528	J6
BD701	D2	C622	L8	JK602	P4	R309	E4	R529	K6
C201	H4	C623	L8	JK603	P4	R310	F4	R531	K5
C202	I3	C701	H2	L601	B8	R311	F4	R532	K6
C203	H5	C702	D3	L602	P6	R312	E4	R601	G8
C204	J3	C703	F3	L603	P5	R313	E5	R602	F8
C207	H5	C704	G3	LED601	02	R314	E5	R609	H8
C208	I5	C705	D4	LED602	G7	R315	E5	R612	C8
C209	H6	C706	D5	LED603	G8	R316	E5	R613	C8
C210	I6	C708	B4	OW798	A3	R317	E5	R614	D8
C211	I6	C709	A5	P6602	N8	R318	E5	R615	D8
C212	I5	C710	B2	P6603	P8	R319	F5	R616	E8
C251	I3	C713	E2	P6M01	C9	R320	F5	R617	F8
C252	H3	C714	E2	P6M02	D9	R324	D4	R618	F8
C255	H5	C716	B2	PN102	K3	R325	E4	R619	G8
C257	H6	C719	B2	PN104	J3	R326	G8	R630	F7
C258	H6	C720	D2	PN300	A5	R327	H8	R631	F8
C300	D6	C721	C2	PN301	L1	R328	K8	R634	P6
C302	I2	C799	D2	PN302	K2	R329	M8	R635	P6
C303	I2	C989	K2	PN303	H2	R330	M8	R636	P7
C304	F3	C991	L2	PN701	A4	R331	E8	R637	P7
C306	I3	C992	J6	PN702	F1	R332	M8	R640	O6
C308	E5	C993	A2	PN703	B1	R400	I4	R641	P3
C309	E5	C994	L2	Q300	E5	R403	I2	R642	B7
C310	D4	C995	L2	Q301	F5	R404	I3	R643	B7
C311	D6	C997	L2	Q302	E5	R405	I2	R701	C2
C312	D6	C998	J3	Q303	E5	R406	I3	R702	C2
C313	F5	C999	I4	Q304	D5	R407	F4	R703	D2
C314	F5	D301	E6	Q400	I5	R408	G4	R704	J3
C315	F6	D302	E5	Q601	O2	R409	G4	RC601	N8
C316	F6	D512	J3	Q602	P3	R410	G4	SW601	A6
C317	F6	D701	B2	Q701	C2	R411	G6	SW602	C8
C318	D7	D702	B2	R203	J2	R412	G6	SW603	C8
C319	M8	D703	J3	R204	J2	R413	G5	SW604	D8
C320	A8	D704	B4	R205	H4	R414	G5	SW605	E8
C401	I2	D707	B5	R206	I3	R415	H4	SW606	E8
C402	I3	D708	G2	R207	I4	R416	G3	SW607	F8
C403	I2	D720	D5	R208	I4	R501	K5	SW608	G8
C404	I3	D6601	H8	R209	I4	R502	K5	SW609	M6
C407	F5	FB303	F2	R210	J4	R503	G1	SW633	P2
C408	G5	FB999	J6	R211	H6	R505	J5	SW634	P5
C409	F6	IC200	I3	R212	I6	R506	I5	SW635	P6
C410	G6	IC250	H3	R213	H5	R507	I5	SW636	P7
C411	G6	IC300	E3	R214	I5	R508	K5	SW637	P7
C412	G6	IC400	F3	R215	I3	R509	K4	TH300	D4
C506	L2	IC502	K6	R252	J2	R510	K4	VR601	A8
C507	J6	IC503	K5	R253	H3	R511	K4	X501	J5
C508	J5	IC701	H2	R254	H4	R512	K3	ZD302	D4
C509	J5	IC702	C3	R255	H4	R513	J6	ZD601	O5
C510	K4	IC703	C5	R266	H6	R515	K5	ZD602	P5
C511	K6	IC704	C4	R267	H5	R516	J6	ZD603	P4
C531	L2	IC705	B4	R268	H3	R518	K4	ZD604	P4
C604	M8	IC706	B3	R301	D5	R521	K4	ZD605	P3
C606	H8	IC707	B5	R302	I2	R522	H2	ZD606	P3
C609	D7	J996	G3	R303	F5	R523	I1	ZD704	D2
C610	D7	J997	C3	R304	E5	R524	J5	ZD712	A3
C611	P4	J998	A1	R305	E5	R525	J3		
C612	P5	JK303	E6	R306	I2	R526	J3		
C615	L8	JK400	H6	R307	I4	R527	K4		

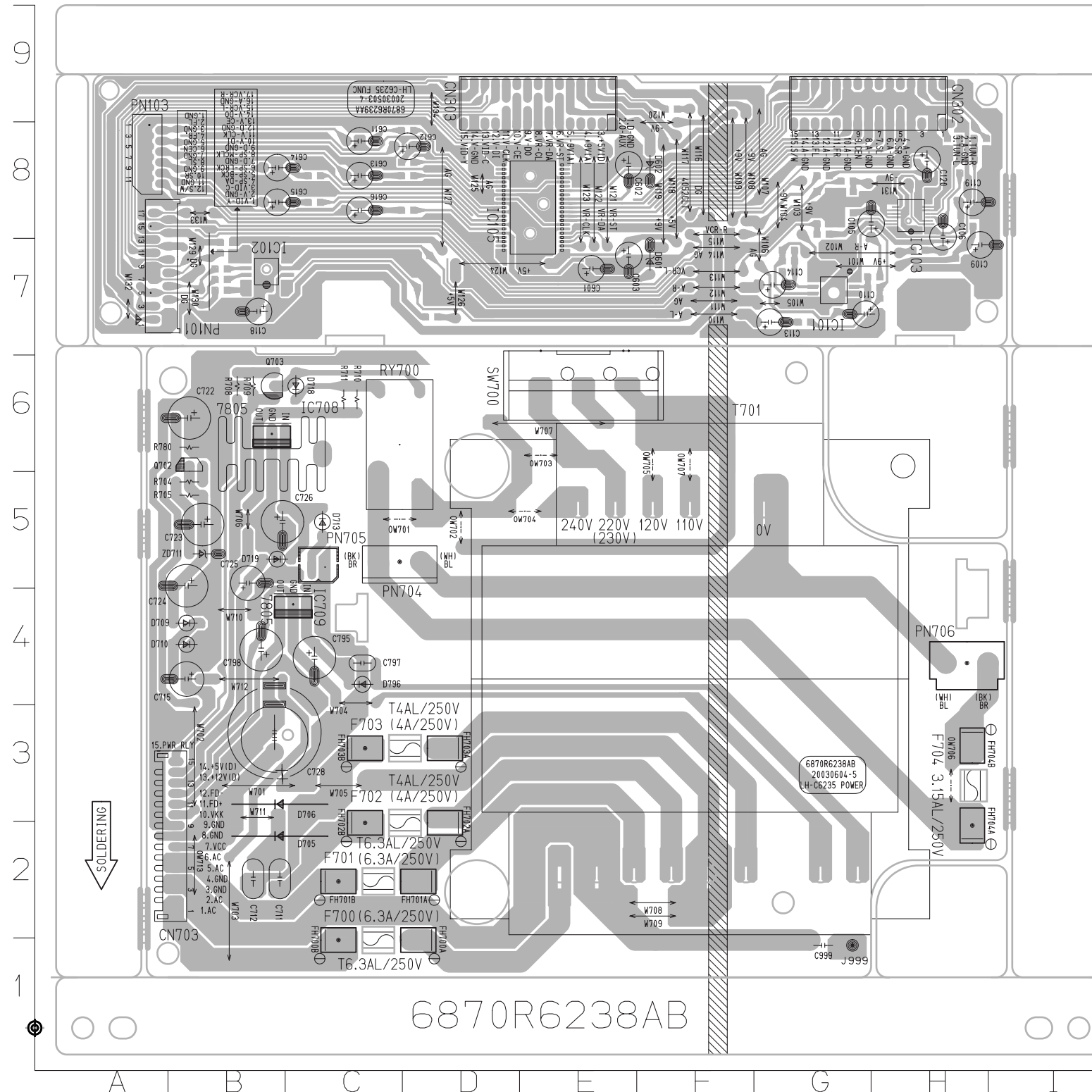
• FUNCTION & POWER P.C. BOARD (SOLDER SIDE)



C101	C8
C102	C8
C107	B7
C108	C7
C111	B7
C115	F7
C116	F7
C117	H7
C121	C7
C196	B8
C197	B8
C199	F8
C998	H7
FB104	F7
IC101	C7
IC102	H7
IC103	B8
IC105	E8
R100	D9
R101	C8
R102	C8
R103	C8
R104	B8
R105	B7
R106	B7
R107	B7
R108	C7
R113	C7
R114	C7
R115	H7
R116	H7
R117	H7
R118	H7
R139	B8
R140	B8
R141	C8
R142	B8
R149	C8
R150	C8
R196	B8
R197	B8
R198	B8
R199	B8
R603	F8
R604	G8
R605	G8
R606	F8
R607	F8
R608	F8



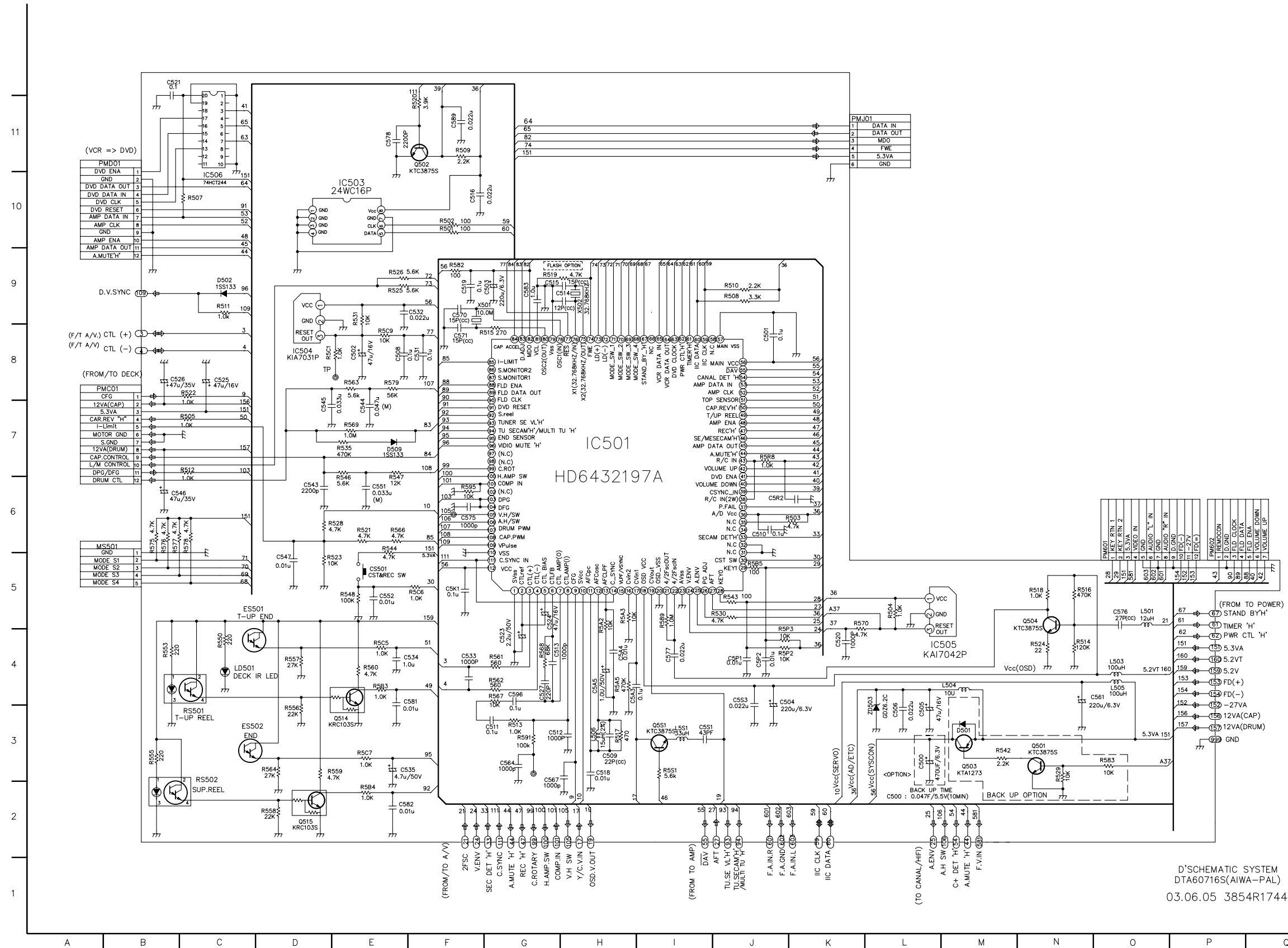
• FUNCTION & POWER P.C. BOARD (COMPONENT SIDE)



C105	H8	D718	C6
C106	H8	D719	B5
C109	H7	D796	C4
C110	G7	FH700A	D1
C113	G7	FH700B	C1
C114	G7	FH701A	D2
C118	B7	FH701B	C2
C119	H8	FH702A	D2
C120	H8	FH702B	C2
C601	E7	FH703A	D3
C602	E8	FH703B	C3
C603	E7	FH704A	H2
C611	C8	FH704B	H3
C612	D8	IC708	B6
C613	C8	IC709	C4
C614	B8	J999	G1
C615	B8	OW701	C5
C616	C8	OW702	D5
C711	B2	OW703	E6
C712	B2	OW704	E5
C715	B4	OW705	F6
C722	B6	OW706	H3
C723	B5	OW707	F6
C724	B5	OW713	B2
C725	B5	PN101	B7
C726	B5	PN103	A8
C728	B3	PN704	C5
C795	C4	PN705	C5
C797	C4	PN706	H4
C798	B4	Q702	B6
C999	G1	Q703	B6
CN302	G9	R704	B5
CN303	E9	R705	B5
CN703	B2	R708	B6
D601	F7	R709	B6
D602	F8	R710	C6
D705	B2	R711	C6
D706	B3	R780	B6
D709	B4	RY700	C6
D710	B4	SW700	E6
D713	C5	ZD711	B5

# VCR SHEMATIC DIAGRAMS

## • SYSTEM SCHEMATIC DIAGRAM

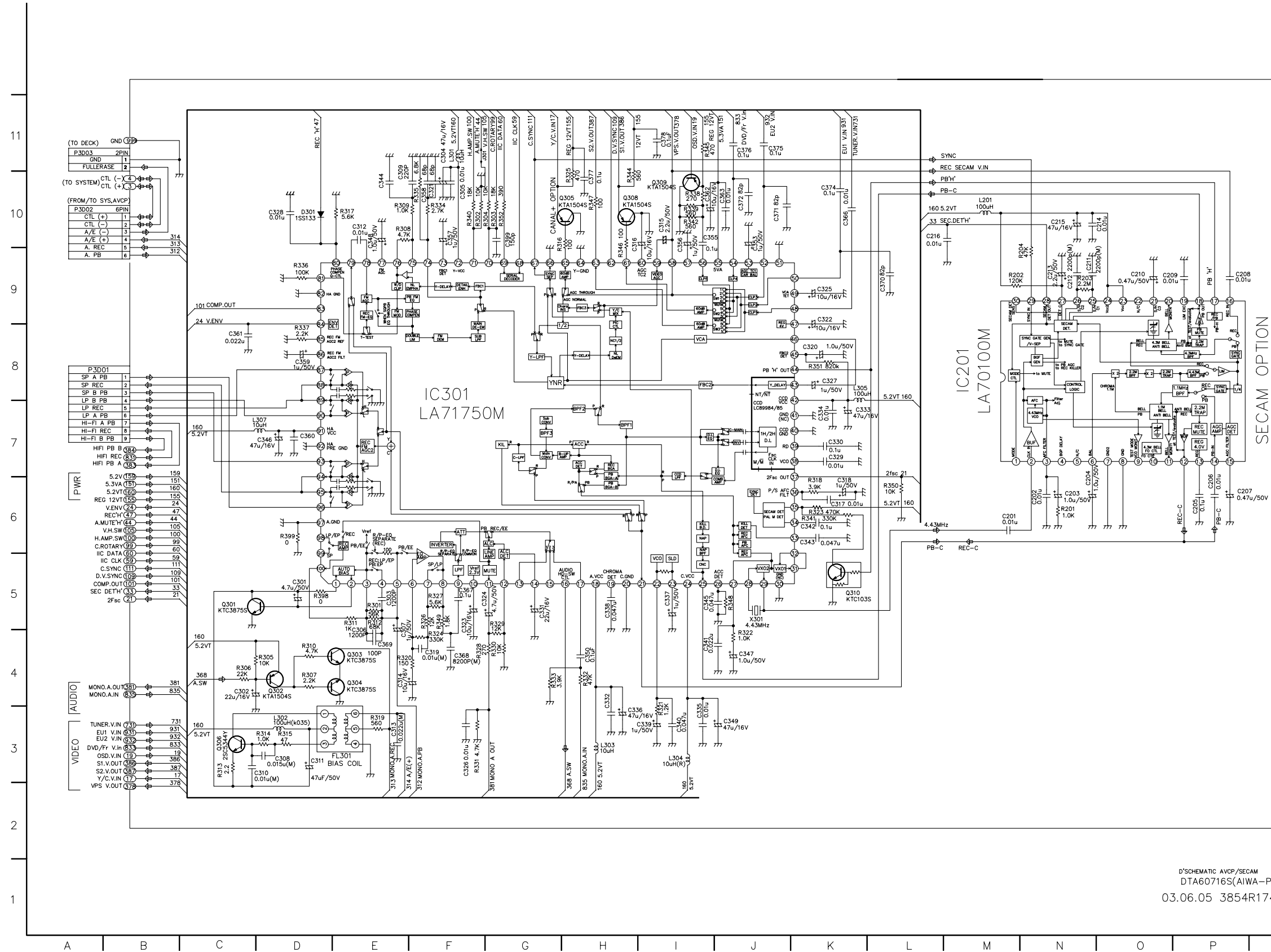


### LOCATION GUIDE

C500	L3	R521	E6
C501	J8	R522	C8
C502	E8	R523	D5
C503	G9	R524	N4
C504	J4	R525	E9
C505	L3	R526	E9
C506	L3	R528	D6
C508	E8	R529	N3
C509	H3	R530	I5
C510	J6	R531	E8
C511	G3	R535	E7
C512	G3	R542	M3
C513	G4	R543	J5
C514	G9	R544	E6
C515	G9	R546	E6
C516	F10	R547	E6
C518	H3	R548	E5
C519	F9	R550	C4
C520	K4	R553	B4
C521	B12	R555	B3
C523	G4	R556	D3
C524	G4	R557	D4
C525	C8	R558	D2
C526	B8	R559	D3
C527	G4	R560	E4
C531	F8	R561	G4
C532	F9	R562	G4
C533	F4	R563	E8
C534	E4	R564	D3
C535	E3	R566	E6
C543	D6	R567	G4
C544	E7	R568	G4
C545	D7	R569	E7
C546	B6	R570	K5
C547	D5	R575	B6
C551	E6	R576	B6
C552	E5	R577	B6
C561	N4	R578	C6
C564	C3	R579	E8
C567	C2	R582	F9
C570	F9	R583	O3
C571	F8	R589	I5
C575	F6	R591	G3
C576	O5	R595	F6
C577	I4	R5A2	H4
C578	E11	R5A3	H5
C581	E4	R5A4	H4
C582	E2	R5B3	E4
C583	G9	R5B4	E2
C589	F11	R5B5	J5
C596	G4	R5C1	D8
C5A3	H4	R5C5	F4
C5A4	H4	R5C6	F5
C5A5	H4	R5C7	E3
C5K1	F5	R5C9	E8
C5P1	J4	R5P2	J4
C5P2	J4	R5P3	J4
C5R2	J6	R5R8	J7
C5S1	I3	R5S1	I3
C5S3	J4	R5S01	C3
C5S01	E5	R5S02	C2
D501	M3	X501	F9
D502	C9	X502	H9
D509	E7	ZD503	L3
E5S01	C5		
E5S02	C3		
IC501	H7		
IC503	E10		
IC504	D8		
IC505	L4		
IC506	C10		
L501	O5		
L503	O4		
L504	M4		
L505	O4		
L506	H3		
L5S1	I3		
LD501	C4		
MS501	A6		
PM601	O5		
PM602	P5		
PM601	A8		
PMJ01	A11		
PMJ01	K11		
Q501	N3		
Q502	F11		
Q503	M3		
Q504	N5		
Q514	E3		
Q515	D2		
Q5S1	I3		
R501	F10		
R502	F10		
R503	J6		
R504	L5		
R505	C7		
R507	C10		
R508	J9		
R509	F11		
R510	J9		
R511	C9		
R512	C7		
R513	G3		
R514	N4		
R515	F8		
R516	N5		
R517	H3		
R518	N5		
R519	G9		
R520	F11		

D'SCHEMATIC SYSTEM  
DTA60716S(AIWA-PAL)  
03.06.05 3854R17448A

# A(AUDIO)/V(VIDEO) SCHEMATIC DIAGRAM



## LOCATION GUIDE

C201	M6	Q309	I10
C202	N6	Q310	K5
C203	N6	R201	N6
C204	N6	R202	M9
C205	P6	R203	N9
C206	P6	R204	N9
C207	P6	R301	E5
C208	P9	R302	F10
C209	O9	R303	G10
C210	O9	R304	G10
C211	N9	R305	D4
C212	N9	R306	C4
C213	N9	R307	D4
C214	O10	R308	E10
C215	N10	R309	I10
C216	L10	R310	D4
C201	D5	R311	E5
C302	C4	R312	E5
C303	E5	R313	C3
C304	F11	R314	D3
C305	F10	R315	D3
C306	E4	R316	H9
C307	E4	R317	E10
C308	D3	R318	K6
C309	E10	R319	E3
C310	C3	R320	E4
C311	D3	R321	I3
C312	E10	R322	J4
C313	E3	R323	K6
C314	E4	R324	F4
C315	I10	R325	H10
C316	H9	R326	F5
C317	K6	R327	F5
C318	K6	R328	F4
C319	F4	R329	G5
C320	K8	R330	G4
C321	F10	R331	F3
C322	K9	R332	H4
C323	F4	R333	G4
C324	G5	R334	F10
C325	K9	R335	F10
C326	F3	R336	D9
C327	K8	R337	D8
C328	D10	R338	I10
C329	K7	R339	I10
C330	K7	R340	F10
C331	G5	R341	K6
C332	H3	R342	I10
C333	K7	R343	H10
C334	K7	R344	H10
C335	I3	R345	H9
C336	H3	R346	H10
C337	I5	R347	J5
C338	H5	R348	F5
C339	H3	R349	L6
C340	I3	R350	L6
C341	I4	R351	K8
C342	K6	R352	G10
C343	K6	R353	D5
C344	E10	R354	D6
C345	I5	X301	J5
C346	I5		
C347	J4		
C348	E9		
C349	J3		
C350	H4		
C351	J9		
C352	I10		
C353	I9		
C354	F10		
C355	D8		
C356	D7		
C357	F10		
C358	F10		
C359	D8		
C360	D7		
C361	C8		
C362	I10		
C363	J10		
C364	K10		
C365	F5		
C366	F4		
C367	E4		
C368	E4		
C369	E4		
C370	L9		
C371	J10		
C372	J10		
C373	K10		
C374	J11		
C375	J11		
C376	H10		
C377	H10		
C378	I11		
C379	G10		
D301	D10		
FL301	E3		
IC201	M8		
IC301	F8		
J301	G11		
L201	M10		
L301	F11		
L302	D3		
L303	H3		
L304	I3		
L305	K8		
L307	C7		
P3D01	A8		
P3D02	A10		
P3D03	A11		
Q301	C5		
Q302	D4		
Q303	E4		
Q304	E4		
Q305	G10		
Q306	C3		
Q308	H10		

D'SCHEMATIC AVCP/SECAM  
DTA60716S(AIWA-PAL)  
03.06.05 3854R17449A

# POWER SCHEMATIC DIAGRAM

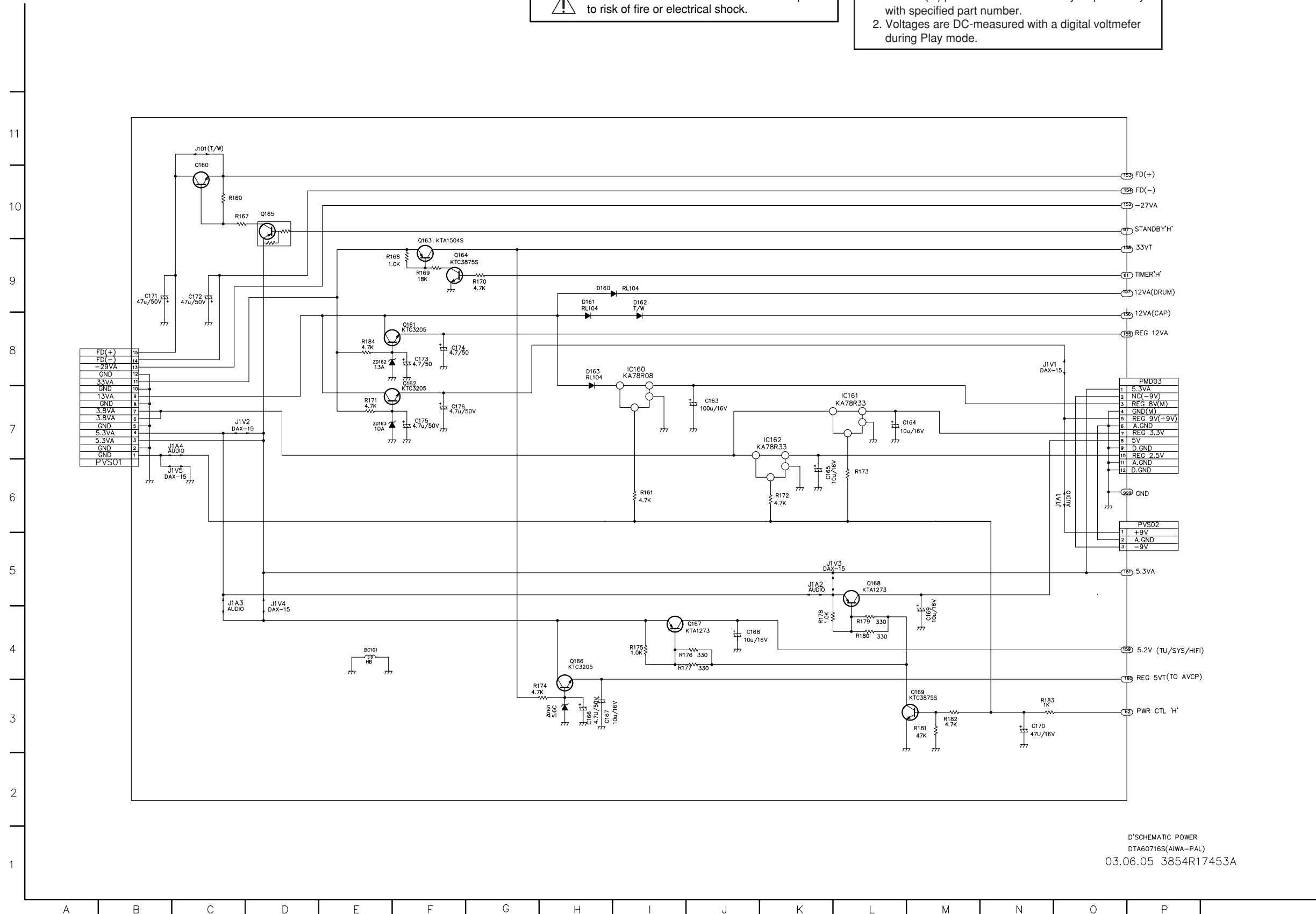
**NOTE: Warning**



Parts that are shaded are critical With respect to risk of fire or electrical shock.

**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.

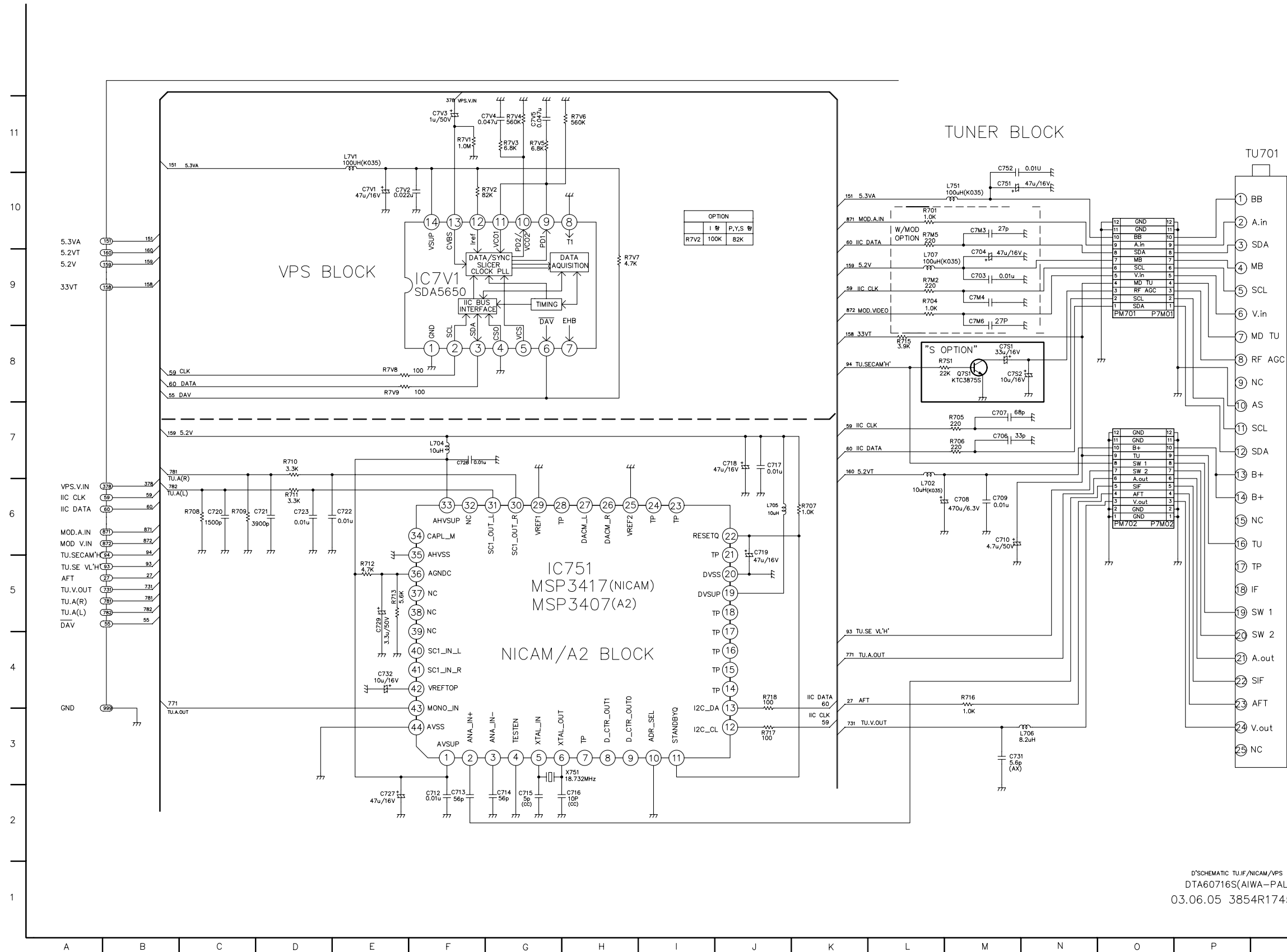


D'SCHEMATIC POWER  
DTA60716S(AIWA-PAL)  
03.06.05 3854R17453A

# • TU/IF. ACSS SCHEMATIC DIAGRAM

## LOCAION GUIDE

C703	M9
C704	M9
C706	M7
C707	M7
C708	M6
C709	M6
C710	M6
C712	F2
C713	F2
C714	G2
C715	G2
C716	G2
C717	J7
C718	J7
C719	J6
C720	E4
C721	C6
C722	F7
C723	D6
C726	F7
C727	E2
C729	E4
C731	M3
C732	E4
C751	M10
C752	M11
C7M3	M10
C7M4	M9
C7M6	M9
C7S1	M8
C7S2	M8
C7V1	E10
C7V2	E10
C7V3	F11
C7V4	F11
C7V5	G11
IC751	G5
IC7V1	F9
L702	L6
L704	F7
L705	J6
L706	M3
L707	L9
L751	L10
L7V1	E11
P7M01	O9
P7M02	O6
PM701	O9
PM702	O6
Q7S1	M8
R701	L10
R704	L9
R705	L7
R706	L7
R707	K6
R708	B6
R709	C6
R710	D7
R711	D6
R712	E5
R713	E5
R715	L8
R716	M4
R717	J3
R718	J4
R7M2	L9
R7M5	L10
R7S1	L8
R7V1	F11
R7V2	F10
R7V3	G11
R7V4	G11
R7V5	G11
R7V6	H11
R7V7	H9
R7V8	E8
R7V9	E8
TU701	F11
X751	G3

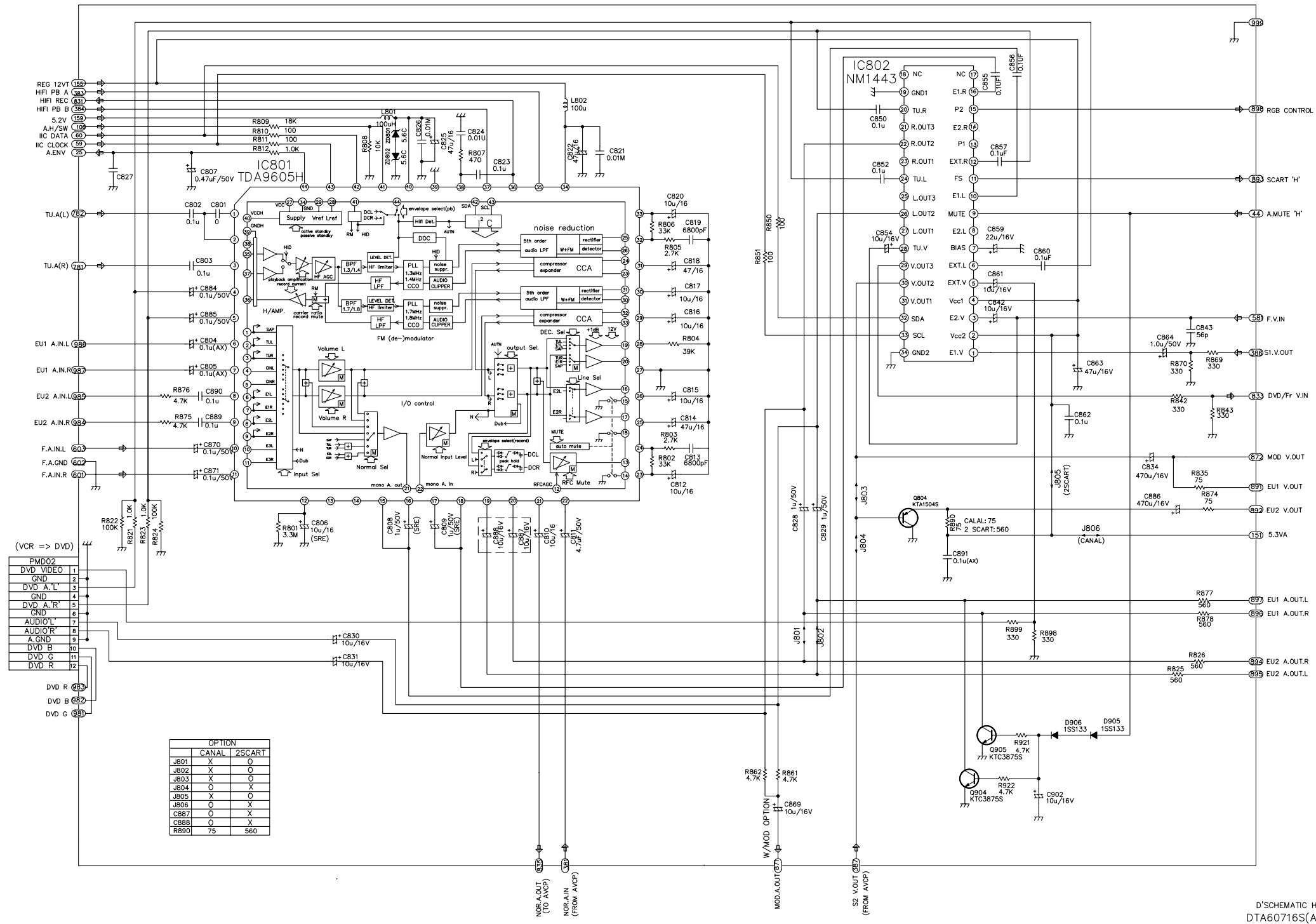


D'SCHEMATIC TU/IF/NICAM/VPS  
DTA60716S(AIWA-PAL)  
03.06.05 3854R17451A

# HIFI/TUNER SCHEMATIC DIAGRAM

## LOCATION GUIDE

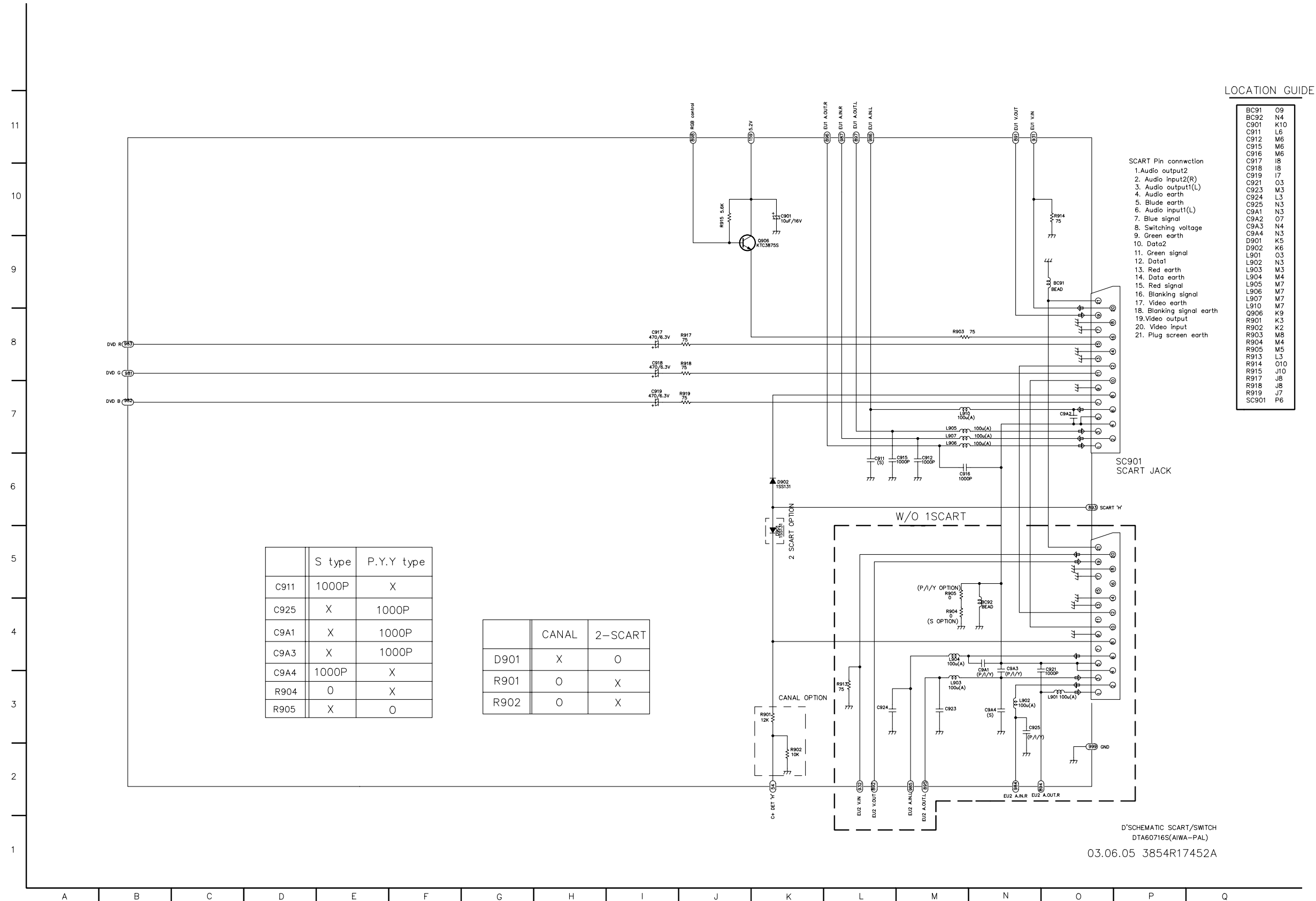
C801	D9
C802	C9
C803	C9
C804	D8
C805	D8
C806	E6
C807	D10
C808	F6
C809	F6
C810	H6
C811	H6
C812	I6
C813	I6
C814	I7
C815	I7
C816	IB
C817	IB
C818	I8
C819	I9
C820	I9
C821	H10
C822	H10
C823	G10
C824	G10
C825	F10
C826	F10
C827	G10
C828	J6
C829	K6
C830	E4
C831	E4
C832	M8
C833	M8
C834	N6
C835	N6
C836	M8
C837	O8
C838	O8
C839	K10
C840	K10
C841	K9
C842	M11
C843	M10
C844	M9
C845	M9
C846	M9
C847	M9
C848	N7
C849	N7
C850	N8
C851	N8
C852	O8
C853	J2
C854	J2
C855	D7
C856	D6
C857	D8
C858	D8
C859	D8
C860	N6
C861	N6
C862	G5
C863	G5
C864	G6
C865	G6
C866	G6
C867	G6
C868	D7
C869	D7
C870	D7
C871	D6
C872	D8
C873	D8
C874	D8
C875	D8
C876	D8
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C883	D8
C884	D8
C885	D8
C886	N6
C887	G5
C888	G6
C889	D7
C890	D7
C891	L5
C892	M3
C893	N3
C894	N3
C895	N3
C896	N3
C897	D10
C898	J4
C899	J4
C900	K4
C901	K6
C902	K6
C903	K6
C904	K5
C905	M6
C906	M6
C907	N6
C908	N6
C909	F10
C910	H11
C911	B5
C912	L6
C913	L3
C914	L3
C915	M3
C916	D6
C917	M6
C918	M6
C919	M6
C920	M6
C921	M6
C922	M6
C923	M6
C924	M6
C925	O4
C926	O4
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C993	O7
C994	O7
C995	O7
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C997	O7
C998	O7
C999	O7
C1000	O7



OPTION		
	CANAL	2SCART
J801	X	O
J802	X	O
J803	X	O
J804	O	X
J805	X	O
J806	O	X
C887	O	X
C888	O	X
R890	75	560

D'SCHEMATIC HIFI/SWITCH  
 DTA60716S(AIWA-PAL)  
 03.06.05 3854R17450A

# • A/V JACK, SCART SCHEMATIC DIAGRAM



# VCR VOLTAGE SHEET (IC&TR)

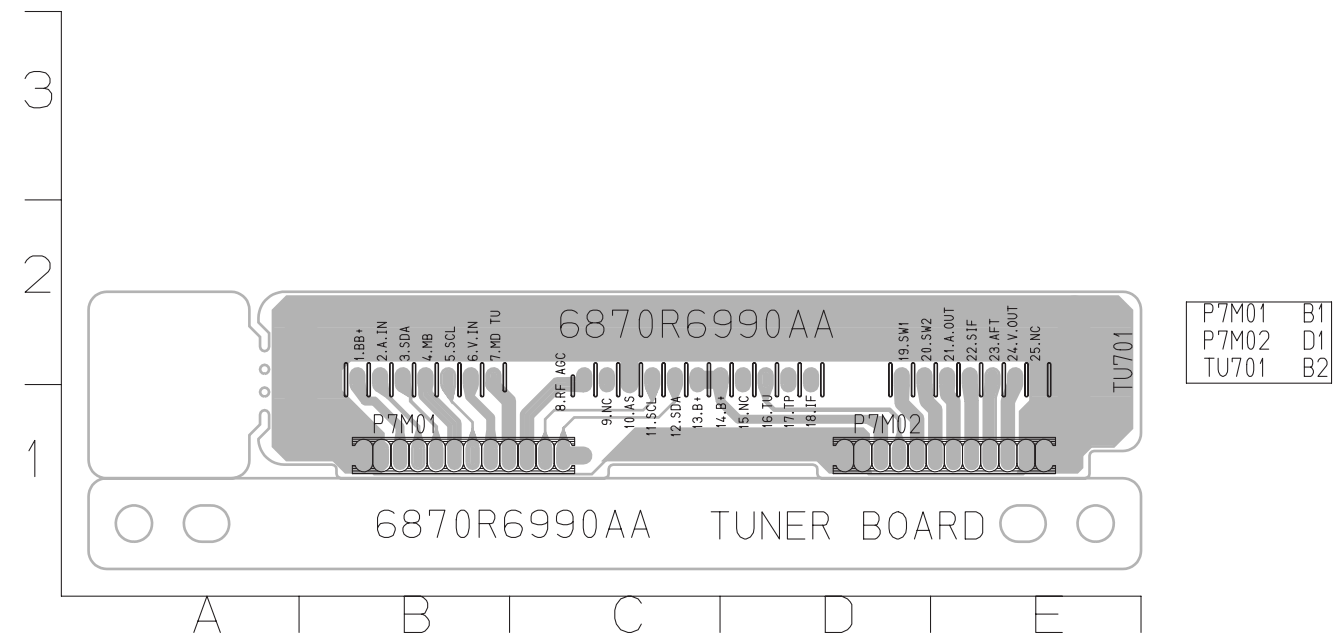
MODE	IC501		IC301		IC801		IC302	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
PIN NO.								
1	0.9	0	2.2	2.17	0	0	1.78	2.78
2	4.85	4.85	2.2	2.17	0	2.53	0	0
3	0	0	2.2	2.17	9.12	9.06	2.85	2.84
4	0.1	0.1	2.2	2.17	2.48	2.48	0	0
5	0.1	0.1	2.2	2.19	4.8	4.79	2.8	2.83
6	0	0	2.2	2.2	0	2.08	4.73	4.71
7	0.1	0	2.2	0	1.76	0	2	2.02
8	0.1	0	2.2	2.2	0	2.2	0	0
9	0.3	0.9	2.2	2.2	0	0		
10	0.68	0.85	2.2	2.2	0	0		
11	0.02	3.19	4.7	4.67	0	2.5		
12	0.02	0	0.99	0.98	2.5	2.66		
13	0.02	0	0.99	0.96	1.72	2.5		
14	3.8	3.8	1.85	1.76	2.5	4.74		
15	0	2.3	1.54	0.36	4.76	2.52		
16	4.47	0	0	0	2.52	0		
17	0.15	0	2	2.44	0	0.39		
18	4.77	2.38	2.4	2.47	0.56	2.66		
19	4.77	2.38	0	0	2.52	2.66		
20	4.06	0	2.4	3.33	2.52	2.66		
21	4.05	0.1	1.7	2.55	2.52	2.66		
22	0	4.85	2.8	3.09	2.52	0		
23	0	4.82	4.7	4.7	0.17	2.07		
24	0	0	0	0	2.02	0		
25	4.84	0	4.03	0	0	2.07		
26	4.77	2.5	2.15	2.2	2.02	2.07		
27	0	0	1.46	1.8	2.02	0		
28	0	0	2.13	2.1	0	0		
29	0	0	1.7	2.24	3.33	2.84		
30	0	0	2.13	2.13	0	2.84		
31	2.5	2.6	4	4	2.52	3.56		
32	4.19	4.17	2.13	2.13	4.72	4.71		
33	4.23	4.17	2.35	2.35	2.35	2.33		
34	0	0	2.8	3.1	2.35	0		
35	1.48	1.5	2.77	2.82	0	0		
36	1.48	1.4	2.1	2.1	4.76	4.74		
37	4.29	4.7	2.17	2.66	4.76	4.74		
38	2	2	0	0	4.76	4.74		
39	2.11	2	1.72	1.23	4.76	2.33		
40	0	0	0	0	4.6	0		
41	0	0.1	0.84	0.83	2.52	2.64		
42	0	0	2.15	2.15	2.52	2.61		
43	0	0	0	0	2.54	2.65		
44	2.1	2.2	4.69	4.67	2.54	2.65		
45	2.2	2.2	4.72	4.7	0.57	0.41		
46	0	0	2.11	2.94	4.76	4.74		
47	1.3	1.2	2.84	3.65	2.5	0		
48	0	0	2.8	4.23	1.75	2.62		
49	0	0	3.79	3.77	3.78	0		
50	0.9	2.3	0	2.29	0	0		
51	0	0.2	2.11	2.1	1.79	0		
52	1.5	2.3	0	4.7	1.22	0		
53	4.7	4.7	4.18	4	3.81	0		
54	0	1.9	4.18	4.8	9.12	9.06		
55	2.17	2.7	0.68	0.8	6.22	0.22		

MODE	IC501		IC301		IC801		IC302	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
PIN NO.								
56	0.9	2.2	0	0	2.96	0.23		
57	0	0	3.07	2.36	2.16	2.1		
58	0	0	4.43	0	4.53	0		
59	0	0	0.35	0.29	2.54	2.53		
60	2.5	2.3	0.65	0.19	3.81	0		
61	4.6	4.5	1.07	2.23	3.13	0.22		
62	4.3	4.3	0	0	3.86	0		
63	4.4	0.1	3.72	3.7	3.8	0		
64	0	0.1	0.97	1.23	2.45	0		
65	1.1	0.8	1.66	0.72	3.84	0.29		
66	4.7	4.75	1.66	0.72	4.03	0.3		
67	4.7	4.75	1.66	0.72	3.85	0.3		
68	4.7	3.8	1.66	4.62	3.85	0.3		
69	4.7	4.7	4.7	4.68	0	0		
70	4.2	4.1	0	0	0	0		
71	4.8	4.76	0	0	0	0		
72	4.8	4.76	1.65	1.65	3.85	0.3		
73	4.4	4.4	1.65	1.65	3.85	0		
74	0	0	1.65	1.65	0	2.49		
75	4.7	0	0	0	3.85	0.2		
76	0	2.4	2.19	0	3.15	0.2		
77	0	2.4	4.72	4.7	0	0		
78	4.5	4.4	2.19	2.18	4.45	4.33		
79	4.6	4.6	0	0	0	0		
80	0	3.2	2.19	2.18	4.45	4.32		
81	0	0						
82	3.3	3.3						
83	4.4	0						
84	0	0						
85	1.3	1.2						
86	0	1.2						
87	3.5	2.18						
88	0	0						
89	0	0.19						
90	0	1.25						
91	2.3	2.35						
92	0	2.35						
93	0	0						
94	2.3	2.32						
95	2.3	2.32						
96	0	2.34						
97	0.6	0						
98	4.7	4.69						
99	0	4.77						
100	0.6	0.8						



# PRINTED CIRCUIT DIAGRAMS

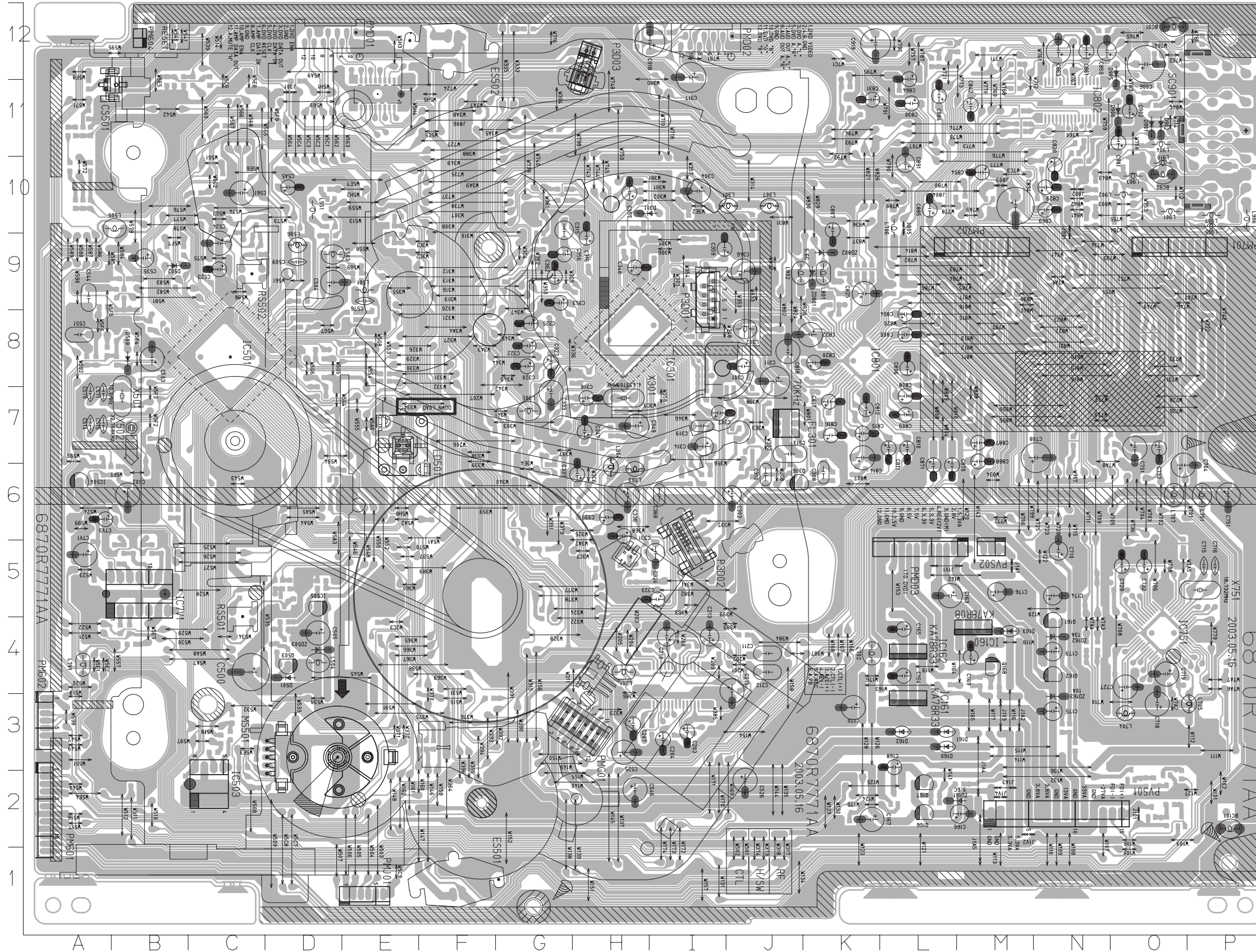
## • TUNER P.C BOARD







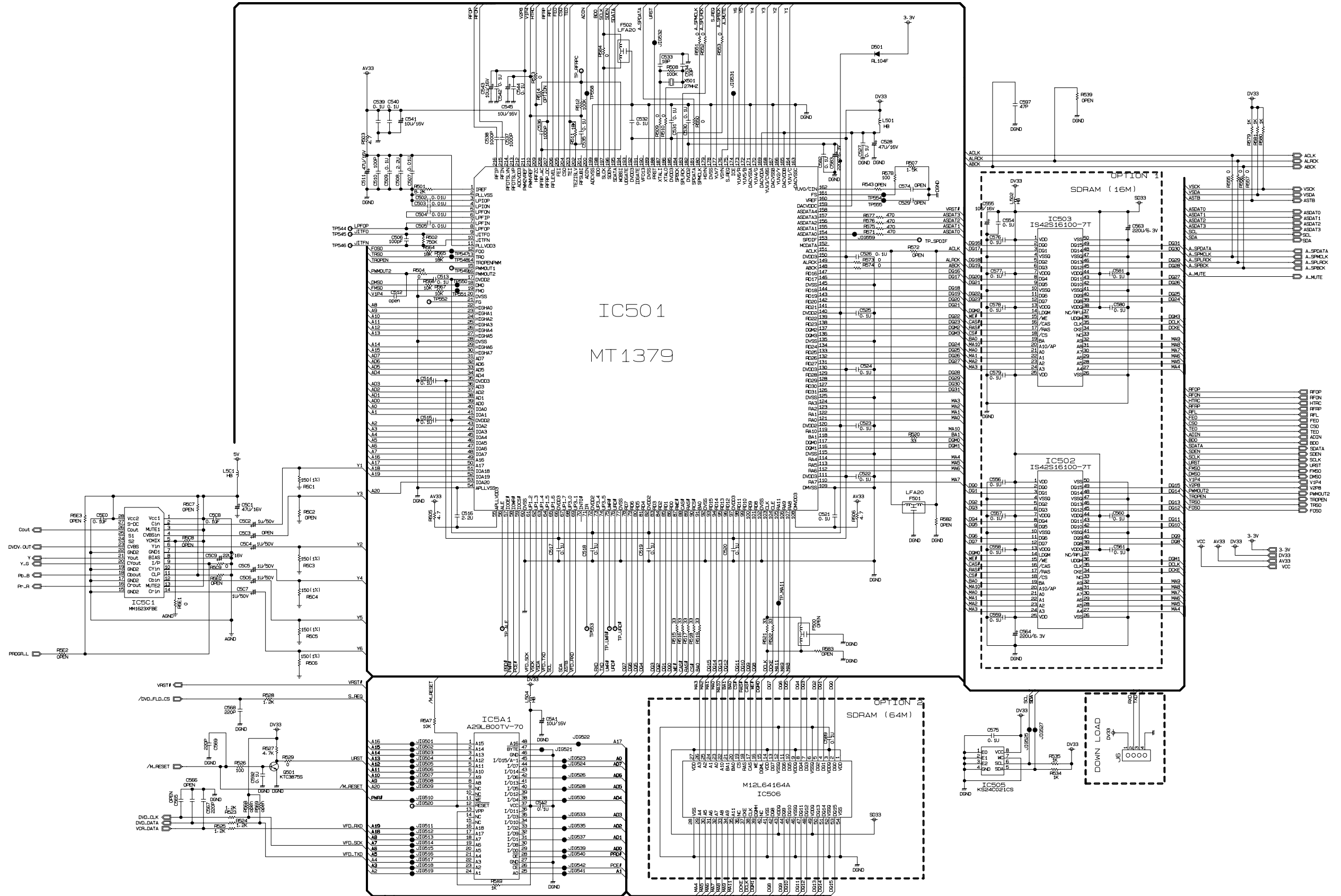
• VCR P.C BOARD



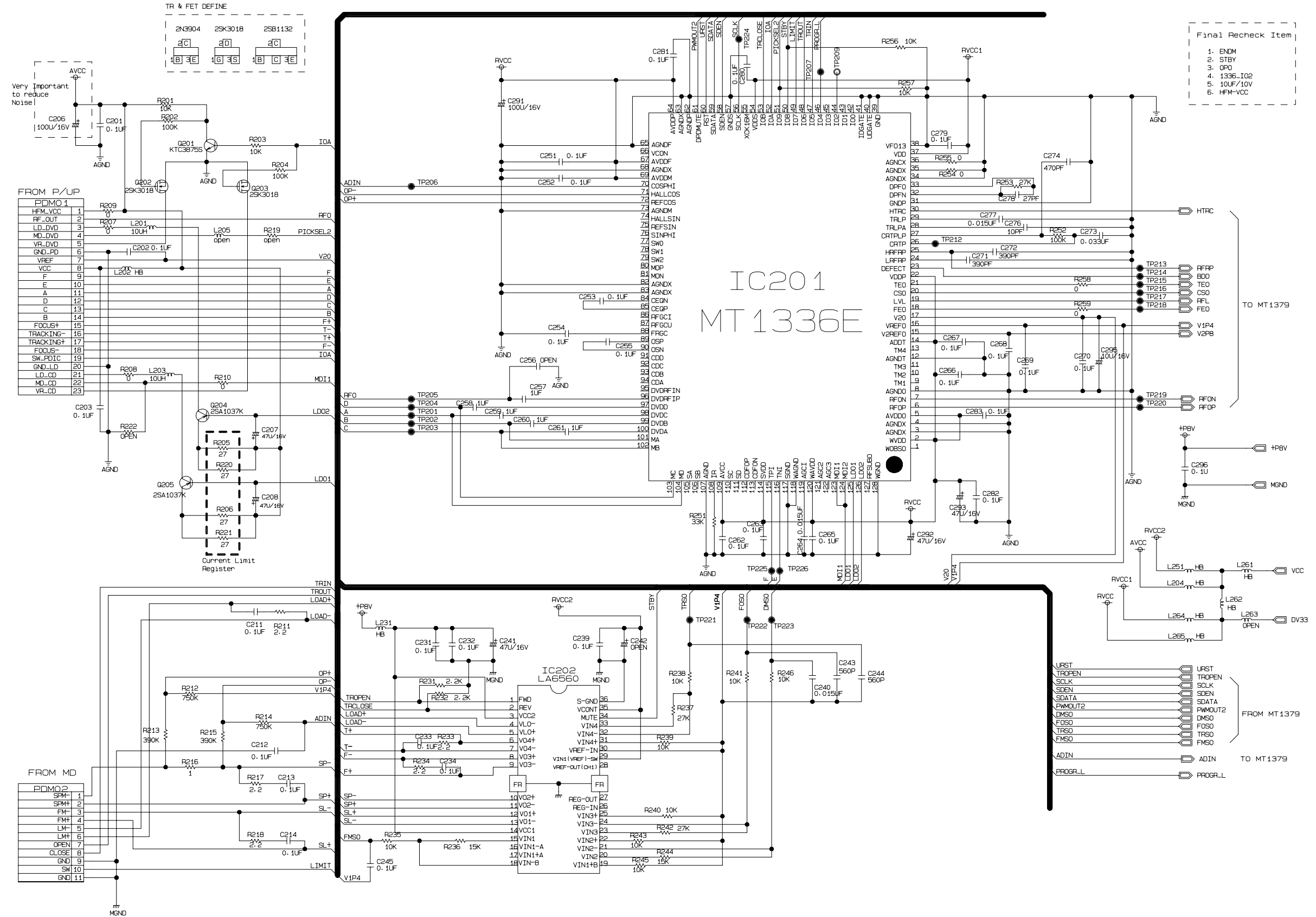
BC101	P2	C715	P5	J1A3	M2
BC92	012	C716	P5	J1A4	M3
BC92	010	C718	03	J1A5	M2
C163	L5	C719	04	J1V1	L5
C164	L4	C727	04	J1V2	M2
C165	L4	C729	05	J1V3	M3
C166	M2	C732	05	J1V4	M2
C167	K2	C751	P6	J301	D1
C168	L3	C751	07	J801	N10
C169	M4	C752	07	J802	N10
C170	K3	C7V1	A5	J803	M10
C173	N4	C7V3	A6	J804	L10
C174	N5	C804	L8	J805	L10
C175	N3	C805	L8	J806	F11
C176	M5	C806	L8	L201	H4
C203	I3	C807	K10	L301	J10
C204	I3	C808	L7	L302	J8
C207	H3	C809	L7	L303	H6
C210	I4	C810	L7	L304	H6
C211	J4	C811	L7	L305	G7
C212	J4	C812	K7	L307	J10
C213	I4	C814	K7	L501	E9
C215	J4	C815	K7	L503	D9
C301	J8	C816	K7	L504	D4
C302	J6	C817	K7	L505	B10
C304	I10	C818	J8	L506	D9
C307	I7	C820	K8	L551	D10
C308	K6	C822	K8	L702	K4
C310	J6	C825	K9	L704	03
C311	J8	C828	N10	L705	P3
C313	J7	C829	N10	L706	L10
C314	I7	C830	L11	L707	06
C315	G10	C831	K11	L751	P6
C316	H9	C834	M10	L7V1	A4
C318	H7	C842	M11	L801	K9
C319	I7	C854	M10	L802	J9
C320	G8	C859	N12	L901	010
C322	G8	C861	N12	L902	010
C323	I5	C863	N12	L903	010
C324	I5	C864	L11	L904	011
C325	G8	C869	N10	L905	P10
C327	G8	C870	L6	L906	P10
C331	H6	C871	L6	L907	P10
C333	G7	C884	L11	L910	010
C336	H6	C885	L10	LD501	E7
C337	H6	C886	012	M5501	D3
C339	H6	C887	M7	P3D01	18
C346	J9	C888	M7	P3D02	16
C347	H7	C891	L10	P3D03	H12
C348	H9	C901	011	PM601	A3
C349	H7	C902	011	PM602	A3
C353	G9	C917	I12	PM604	B12
C356	G9	C918	I12	PM701	09
C357	H10	C919	K12	PM702	L9
C359	I9	C5501	B11	PMC01	G3
C362	G9	D160	L3	PMD01	E12
C368	I6	D161	L3	PMD02	J12
C500	C4	D162	L3	PMD03	M5
C502	B6	D163	M4	PMJ01	E1
C503	B8	D301	I10	PVS01	M2
C504	D9	D501	D4	PVS02	M5
C505	D4	D502	B9	Q161	N4
C509	D9	D509	B8	Q162	N4
C514	A7	D901	011	Q166	L2
C515	A7	D902	011	Q167	L2
C523	C9	D905	012	Q168	M4
C524	C9	D906	011	Q306	J6
C525	H3	E5501	G1	Q503	D4
C526	J2	E5502	E12	RS501	C4
C535	B9	FL301	J7	RS502	C9
C544	A9	IC160	M4	SC901	P1
C546	H2	IC161	L3	X301	H7
C551	A8	IC162	L4	X501	B7
C561	C10	IC501	C8	X502	B7
C570	A7	IC503	C2	X751	P5
C571	A7	IC504	A6	ZD161	M2
C576	E9	IC505	D5	ZD162	N4
C5A5	D10	IC7V1	A5	ZD163	N3
C704	06	J101	02	ZD503	D4
C708	N7	J1A1	M5	ZD801	K9
C710	N5	J1A2	M3	ZD802	K9

# DVD PART SCHEMATIC DIAGRAMS

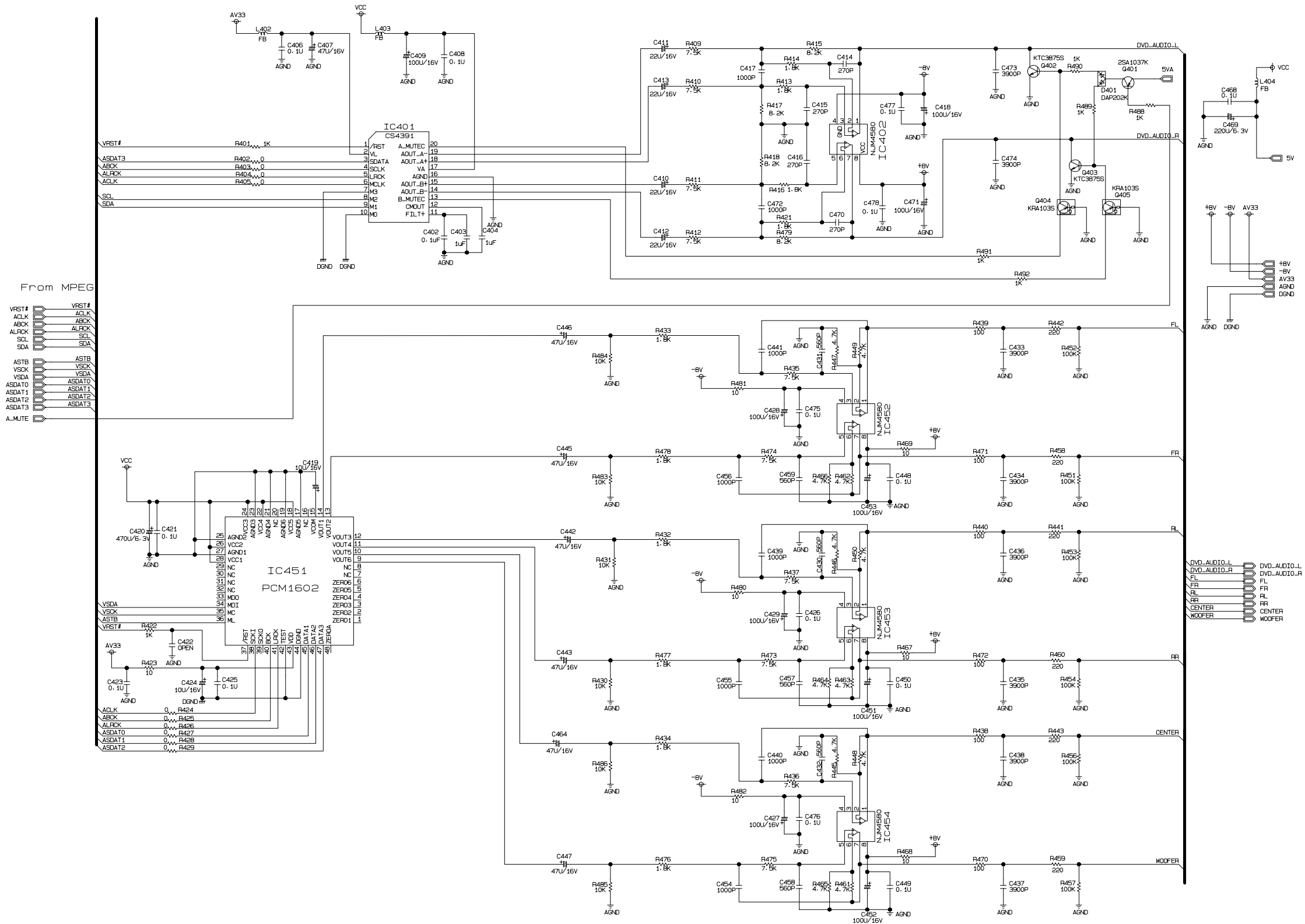
## • MPEG SCHEMATIC DIAGRAM



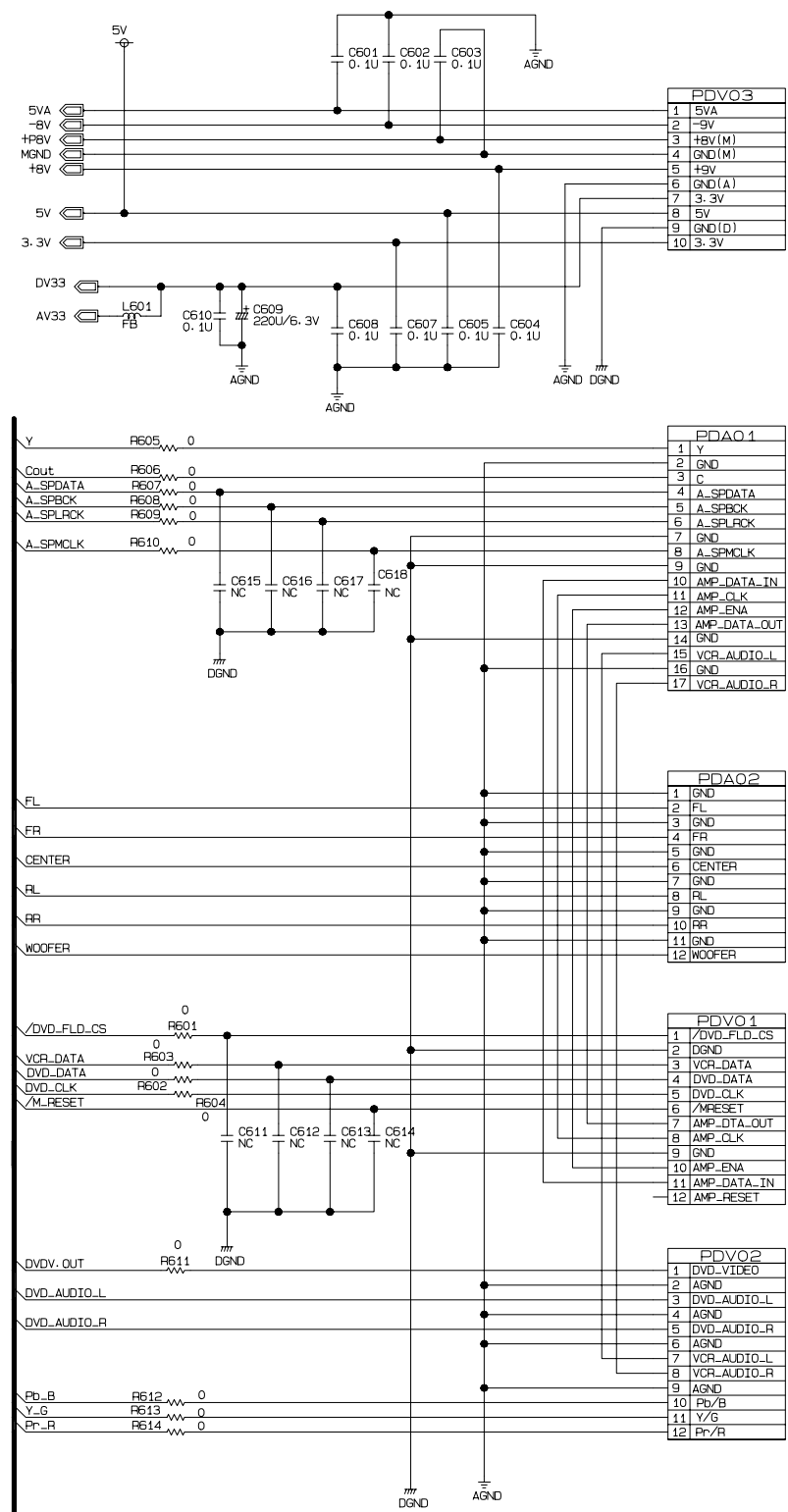
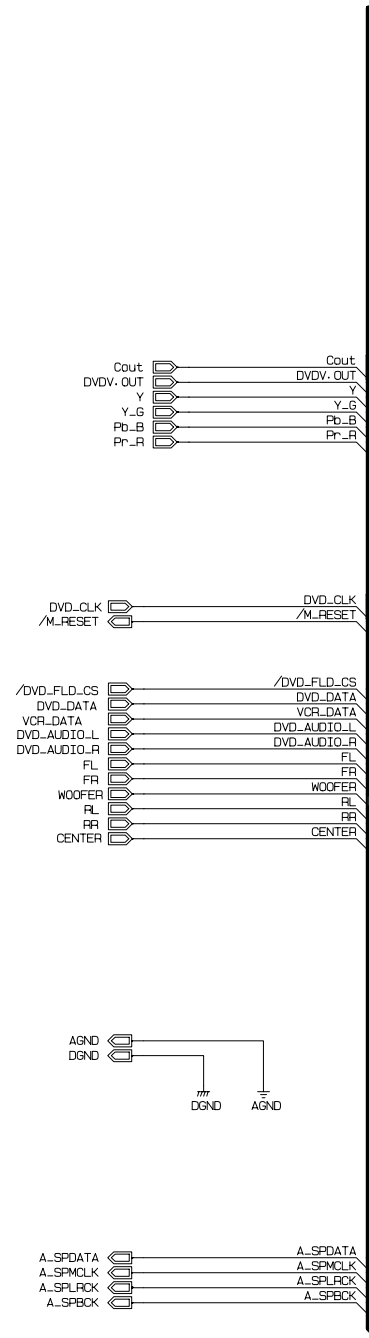
# • SERVO SCHEMATIC DIAGRAM



# • AUDIO SCHEMATIC DIAGRAM



# • INTERFACE SCHEMATIC DIAGRAM





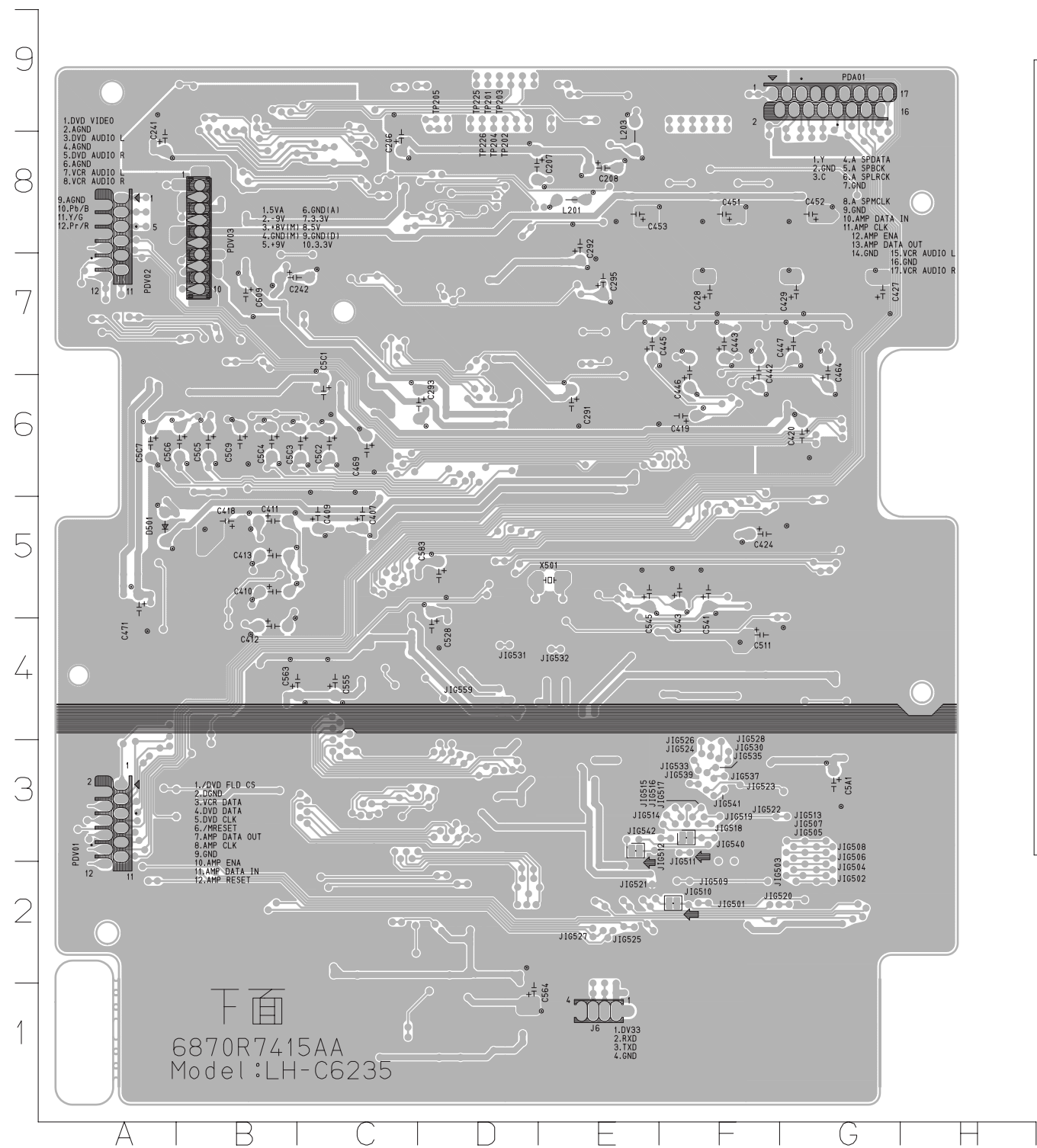
# VOLTAGE SHEET (IC&TR)

PIN	IC201(MT1336E)		IC202(MOTOR)		IC401(CS4391)		IC402(AMP)		IC5C1(MM1623XFB)		IC501(MT1379)		IC502(SDRAM)		IC505(EEPROM)		IC510(BUFFER)	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	1.03	2.99	0	0	3.28	3.29	5.52	5.49	5.09	5.08	1.22	1.22	3.27	3.28	0	0	0	0
2	5.11	5.08	0	0	3.28	3.28	5.52	5.48	2.43	2.42	0	0	1.18	1.26	0	0	2.59	2.55
3	0	0	8.04	8.01	0	1.65	5.51	5.47	5.09	5.08	0.96	0.9	1.1	1.52	0	0	0	0
4	0	0	0.12	0.06	1.63	1.64	0	0	1.45	0	2	2.06	0	0	0	0	2.59	2.56
5	5.11	5.07	0	0.06	1.64	1.65	5.51	5.48	0	0	0	1.51	0.66	1.07	3.28	3.29	0	0
6	0	1.95	3.64	3.69	1.59	1.61	5.51	5.48	1.45	1.69	1.48	1.47	0.85	1.12	3.28	3.29	3.24	3.23
7	0	0	3.62	3.61	0	0	5.52	5.47	0	0	0	1.56	3.27	3.28	0	0	0	0
8	0	0	3.64	3.53	3.28	0	12.03	12.03	2.47	2.46	3.2	1.52	0.51	0.97	3.28	3.29	0.14	0.08
9	5.11	0	3.6	3.76	3.28	3.29			0	0	0.12	0.06	3.06	0			0	0
10	5.11	5.08	3.62	2.43	0	0			1.14	1.76	0.12	0.06	0	0			0	0
11	5.11	5.08	3.63	4.85	5.01	5.01			0	0	3.25	3.25	0.06	0.98			0.15	0.09
12	0	0	3.62	3.72	2.31	2.31			2.42	2.42	1.41	1.49	3.18	0.87			0	0
13	5.11	0	3.64	3.57	4.96	0			5.09	5.08	1.41	1.41	3.27	3.28			0.15	0.08
14	5.11	5.08	8.04	8.01	1.42	2.41			2.43	2.42	0	0	2.94	2.56			5.19	5.19
15	2.84	2.81	1.45	1.48	2.4	2.39			0	0	1.42	1.42	0.47	0.42			0.14	0.09
16	1.45	1.43	0.27	1.39	0	0			2.49	2.47	3.3	0	2.93	3.01			5.25	5.24
17	2.08	2.07	0.29	1.32	5.11	5.09			0	0	2.53	2.53	3.21	3.22			0.15	0.08
18	1.37	1.42	1.45	1.43	2.41	2.41			2.48	2.47	1.42	2.27	2.87	2.95			5.23	5.23
19	0.69	2.3	1.45	1.43	2.43	2.43			0	0	1.42	1.39	0.15	1.32			0	0
20	2.4	0	1.45	0.82	0	0			1.18	2.3	0	0	0	0.05			5.25	5.25
21	2.35	0	1.45	1.43					1.76	2.17	2.61	2.58	3.09	1.32				
22	5.11	5.08	1.45	1.43					0	0	0.75	1.46	3.09	1.32				
23	0	0	1.47	1.37					1.76	2.24	2.83	1	3.09	1.32				
24	2.59	3.2	1.45	1.43					0	0	1.9	0.89	3.09	1.33				
25	0.19	1.88	1.45	1.43					0	0	1.72	0.39	3.27	3.29				
26	1.58	0	0.95	0.91					0	0	0.68	0.31	0	0				
27	2.56	3.13	0	0					0.06	0.05	2.84	3.16	0.15	1.36				
28	2	2.01	1.45	1.43					5.09	0	0	0	1.84	2.36				
29	2	2.06	5.15	5.11							2.85	0.66	1	2.32				
30	2.96	1.52	1.45	1.43							1.83	0.49	0.54	1.75				
31	0	0	1.45	1.43							0.91	1.39	0.06	0.06				
32	0.06	2.07	1.45	1.43							1.43	1.2	0.05	0.06				
33	0.07	2.07	1.46	1.45							1.51	1.57	0	0				
34	0	0	5.08	5.06							1.51	1.43	0.73	1.26				
35	0	0	5.15	5.11							3.3	3.29	1.48	1.55				
36	0	0	0	0							0.81	1.26	2.91	2.53				
37	5.13	0									1.45	1.02	0.07	0				
38	0	0									1.82	1.6	3.27	3.28				
39	0	0									1.2	1.5	1.06	1.05				
40	0	0									2	2.06	0.47	0.98				
41	0	0									2.17	1.95	0	0				
42	5.12	5.09									2.53	2.52	0	0.6				
43	5.12	5.09									1.96	1.9	1.12	1.24				
44	5.12	5.09									1.79	1.9	3.27	3.28				
45	5.12	5.09									0.8	1.72	1.21	0.99				
46	5.12	5.09									0.8	1.96	1.31	1.34				
47	0	0									0.8	1.84	0	0				
48	5.12	5.09									3.3	2.63	1.43	1.44				
49	5.12	0									0	0.13	0.88	1.01				
50	5.08	5.06									0	0.07	0	0				
51	5.09	5.07									0	0						
52	5.1	0									0	0						
53	0	0									0	0						
54	5.13	0									0	0						
55	0.09	0.2									3.25	3.27						
56	1.61	0									1.21	1.18						
57	0	0									0	0						
58	0	0									3.29	3.29						
59	0	0									0	0						
60	0	0									0	0						
61	3.28	0									2.59	2.57						
62	0	0									2.58	2.58						
63	0	0									0	0						
64	0	0									2.59	2.56						
65	0	0									3.29	3.29						
66	0.26	0									3.3	3.29						
67	5.12	5.08									3.29	3.29						
68	0	0									2.57	2.56						
69	5.12	0									5.19	5.18						
70	3.21	2.03									2.59	2.57						
71	3.46	2.2									0.12	0.08						
72	2.81	0									2.53	2.52						
73	0	0									2.59	2.57						
74	0.21	0.09									3.29	3.29						
75	0.22	0									2.61	2.61						
76	0	0.1									3.27	3.24						
77	0.21	0.09									0	0						
78	0.23	0.09									0.94	1.04						
79	0.21	0.08									0.78	1.06						
80	0.23	0.08									0.89	1.15						



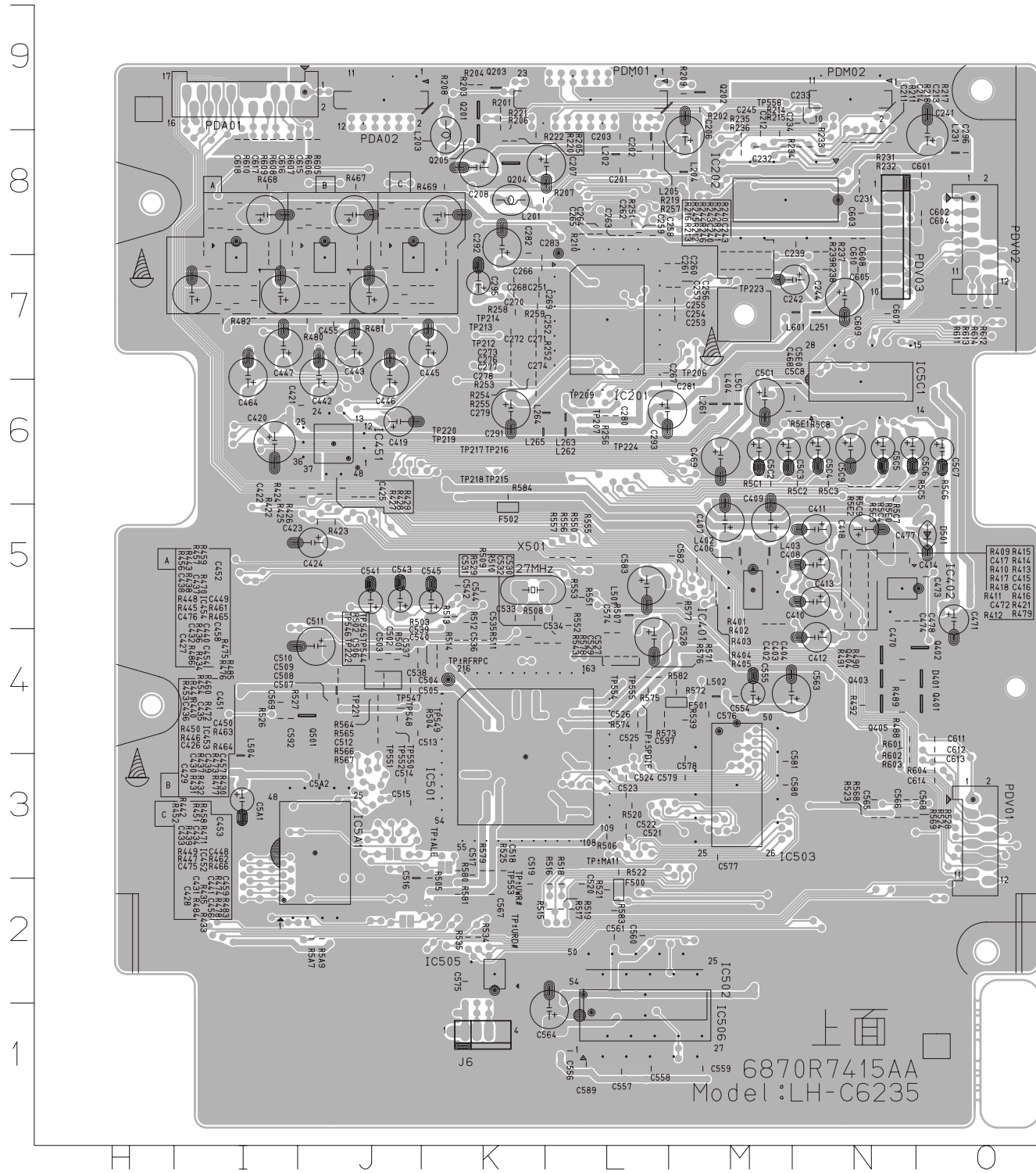
# PRINTED CIRCUIT DIAGRAM

## • DVD P.C. BOARD(SOLDER SIDE)



J1G501	F2
J1G502	G2
J1G503	G2
J1G504	G2
J1G505	G2
J1G506	G3
J1G507	G3
J1G508	G3
J1G509	F2
J1G510	F2
J1G511	F3
J1G512	F3
J1G513	G3
J1G514	F3
J1G515	F3
J1G516	F3
J1G517	F3
J1G518	F3
J1G519	F3
J1G520	G2
J1G521	E2
J1G522	F3
J1G523	F3
J1G524	F3
J1G525	E2
J1G526	F3
J1G527	E2
J1G528	F3
J1G530	F3
J1G531	D4
J1G532	E4
J1G533	F3
J1G535	F3
J1G537	F3
J1G539	F3
J1G540	F3
J1G541	F3
J1G542	E3
J1G559	D4
TP201	D9
TP202	D9
TP203	D9
TP204	D9
TP205	D9
TP206	D9
TP207	D9
TP208	D9
TP209	D9
TP210	D9
TP211	D9
TP212	D9
TP213	D9
TP214	D9
TP215	D9
TP216	D9
TP217	D9
TP218	D9
TP219	D9
TP220	D9
TP221	D9
TP222	D9
TP223	D9
TP224	D9
TP225	D9
TP226	D9

• DVD P.C. BOARD (COMPONENT SIDE)

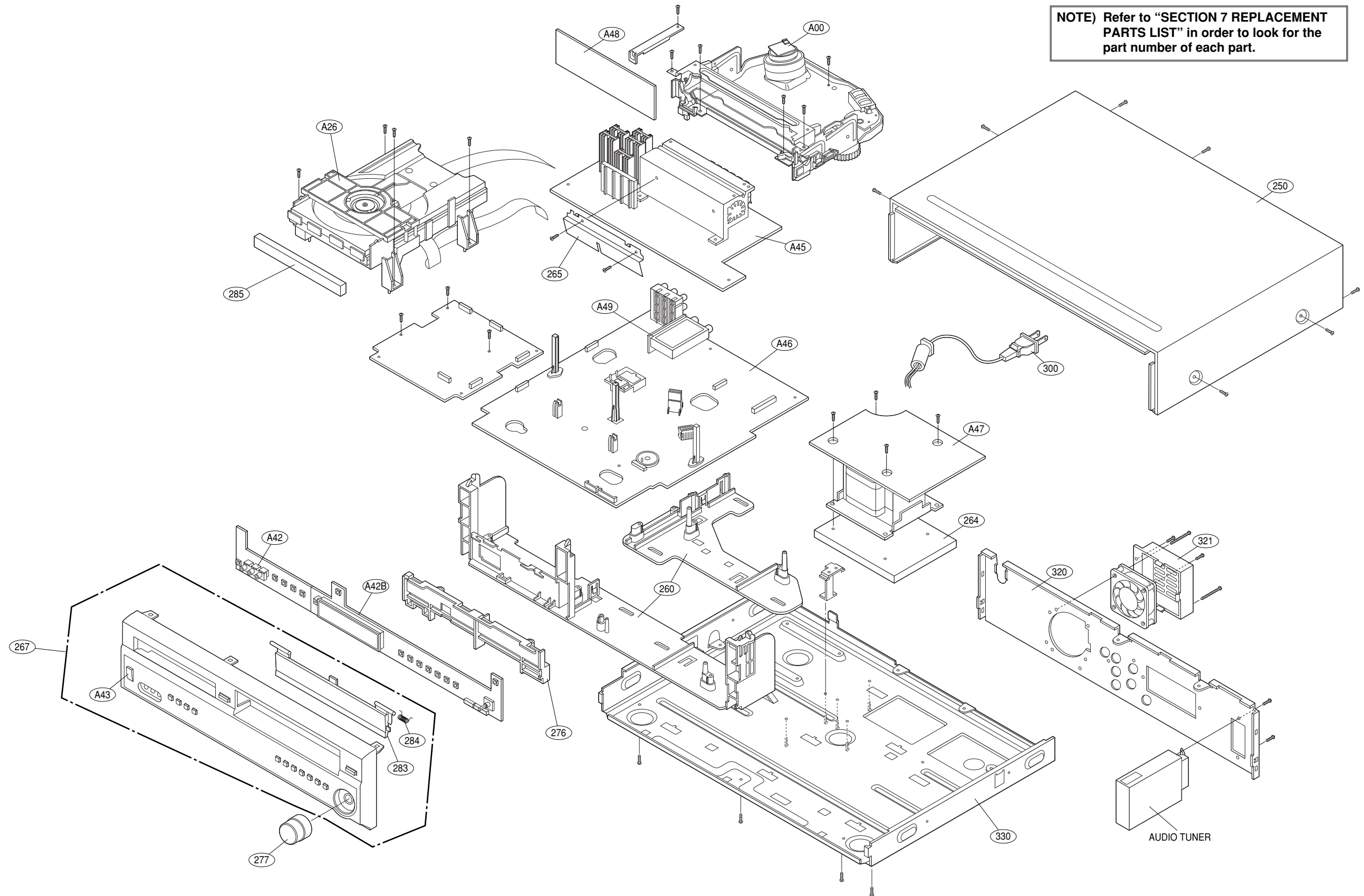


C201	L8	C406	M5	C475	J7	C568	N3	IC506	L1	R220	K8	R439	J8	R511	K4	R5E0	N6
C202	L8	C407	M5	C476	J7	C569	L4	IC5A1	J3	R221	K9	R440	J8	R512	K5	R5E1	M6
C203	L8	C408	M5	C477	N5	C574	L4	IC5C1	N6	R222	K8	R441	J8	R513	K5	R5E2	N6
C206	M8	C409	M5	C478	N5	C575	K2	J6	K1	R231	N8	R442	J8	R514	K4	R5E3	N6
C207	L8	C410	N5	C502	J4	C576	M4	L201	K8	R232	N8	R443	J8	R515	L2	R601	N4
C208	K8	C411	N5	C503	J4	C577	M3	L202	L8	R233	N8	R445	J8	R516	L2	R602	N4
C211	N8	C412	N4	C504	J4	C578	M3	L203	K8	R234	N8	R446	J8	R517	L2	R603	N3
C212	M8	C413	N5	C505	J4	C579	M3	L204	M8	R235	M8	R447	J8	R518	L2	R604	O3
C213	N8	C414	N5	C506	J4	C580	M3	L205	L8	R236	M8	R448	J8	R519	L2	R605	J8
C214	N8	C415	N5	C507	J4	C581	M3	L231	O8	R237	N8	R449	J8	R520	L3	R606	J8
C231	N8	C416	N5	C508	J4	C582	M5	L251	N7	R238	N7	R450	J8	R521	L2	R607	I8
C232	M8	C417	N5	C509	J4	C583	L5	L261	M6	R239	N8	R451	J8	R522	L3	R608	I8
C233	N9	C418	N5	C510	J4	C589	L1	L262	L6	R240	M8	R452	J8	R523	N3	R609	I8
C234	N9	C419	J6	C511	J4	C592	L4	L263	L6	R241	M7	R453	J8	R524	N3	R610	I8
C239	N8	C420	I6	C512	J4	C597	L4	L264	L6	R242	M8	R454	J8	R525	K3	R611	O7
C240	M7	C421	J6	C513	J4	C5A1	I3	L265	K6	R243	M8	R456	J8	R526	I4	R612	O7
C241	O8	C422	I6	C514	J3	C5A2	J3	L402	M5	R244	M8	R457	J8	R527	J4	R613	O7
C242	N7	C423	J5	C515	J3	C5C1	M6	L403	M5	R245	M8	R458	J8	R528	N3	R614	O7
C243	M7	C424	J5	C516	J2	C5C2	M6	L404	M6	R246	M7	R459	J8	R529	K4	TP206	M7
C244	N7	C425	J6	C517	K3	C5C3	M6	L501	L5	R251	L8	R460	J8	R534	K2	TP207	L6
C245	M8	C426	I7	C518	K3	C5C4	N6	L502	M4	R252	K7	R461	J8	R535	K2	TP209	L6
C251	K7	C427	I7	C519	K2	C5C5	N6	L504	I3	R253	K6	R462	K8	R539	M4	TP212	K7
C252	K7	C428	J7	C520	L2	C5C6	N6	L5C1	M6	R254	K7	R463	J8	R543	L4	TP213	K7
C253	M7	C429	I7	C521	L3	C5C7	O6	L601	N7	R255	K6	R464	J7	R550	L5	TP214	K7
C254	M7	C430	I7	C522	L3	C5C8	N6	PDA01	J9	R256	L6	R465	J7	R551	L5	TP215	K6
C255	M7	C431	J7	C523	L3	C5C9	N6	PDA02	J9	R257	L8	R466	K7	R552	L5	TP216	K6
C256	M7	C432	I7	C524	L3	C5E0	N6	PDM01	N9	R258	K7	R467	J8	R553	L5	TP217	K6
C257	M7	C433	J8	C525	L4	C601	O8	PDM02	N9	R259	K7	R468	J8	R555	L5	TP218	K6
C258	L8	C434	J8	C526	L4	C602	O8	PDV01	O3	R401	M5	R469	K8	R556	L5	TP219	K6
C259	L8	C435	J8	C527	L4	C603	N8	PDV02	O8	R402	M5	R470	J8	R557	L5	TP220	K6
C260	M7	C436	J8	C528	L4	C604	O8	PDV03	N8	R403	M5	R471	J8	R564	J4	TP221	J4
C261	L7	C437	I8	C529	L4	C605	N7	Q201	K9	R404	M5	R472	J8	R565	J4	TP222	J4
C262	L8	C438	I8	C530	L4	C607	N7	Q202	M9	R405	M5	R473	J7	R566	J4	TP223	M7
C263	L8	C439	J7	C531	K4	C608	N8	Q203	K9	R409	N5	R474	K7	R567	J4	TP224	L6
C264	L8	C440	I7	C532	L4	C609	N7	Q204	K8	R410	N5	R475	I7	R568	N3	TP544	J4
C265	L8	C441	J7	C533	K5	C610	N8	Q205	K8	R411	N5	R476	I7	R569	N3	TP545	J4
C266	K7	C442	J7	C534	L5	C611	O4	Q401	O4	R412	N5	R477	J7	R571	L4	TP546	J4
C267	L7	C443	J7	C535	K5	C612	O4	Q402	O4	R413	N5	R478	K7	R572	M4	TP547	J4
C268	K7	C445	K7	C536	K4	C613	O3	Q403	N4	R414	N5	R479	N5	R573	L4	TP548	J4
C269	K7	C446	J7	C537	J4	C614	O3	Q404	N4	R415	N5	R480	J7	R574	L4	TP549	J4
C270	K7	C447	I7	C538	J4	C615	J8	Q405	N4	R416	N5	R481	J7	R575	L4	TP550	J4
C271	K7	C448	K8	C539	K4	C616	I8	Q501	J4	R417	N5	R482	I7	R576	L4	TP551	J4
C272	K7	C449	I8	C540	K4	C617	I8	R201	K9	R418	N5	R483	K7	R577	M5	TP552	J4
C273	K7	C450	J8	C541	J5	C618	I8	R202	M9	R421	N5	R484	J7	R578	L4	TP553	K2
C274	K7	C451	J8	C542	K5	D401	O4	R203	K9	R422	J6	R485	I7	R579	K3	TP554	L4
C276	K7	C452	I8	C543	J5	D501	O5	R204	K9	R423	J5	R486	I7	R580	K3	TP555	L4
C277	K7	C453	K8	C544	K5	F500	L2	R205	K8	R424	J6	R488	N4	R581	K2	TP558	M9
C278	K7	C454	I7	C545	K5	F501	M4	R206	K9	R425	J6	R489	N4	R582	M4	TP±ALE	K3
C279	K6	C455	J7	C554	M4	F502	K5	R207	K8	R426	J6	R490	N4	R583	L2	TP±MA11	L3
C280	L6	C456	J7	C555	M4	IC201	L7	R208	K9	R427	J6	R491	N4	R584	K6	TP±RFRP	Q4
C281	L6	C457	J7	C556	L1	IC202	M8	R209	M9	R428	J6	R492	N4	R5A7	J2	TP±SPDI	L4
C282	K8	C458	I7	C557	L1	IC401	M5	R210	L8	R429	J6	R501	J4	R5A9	J2	TP±URD	#K2
C283	K7	C459	K7	C558	L1	IC402	N5	R211	N8	R430	J7	R502	J4	R5C1	M6	TP±UWR	#K2
C291	K6	C464	I7	C559	M1	IC451	J6	R212	M7	R431	J7	R503	K4	R5C2	N6	X501	K5
C292	K6	C468	M6	C560	L2	IC452	J7	R213	M7	R432	J7	R504	J4	R5C3	N6		
C293	L6	C469	M6	C561	L2	IC453	J7	R214	M8	R433	J7	R505	K2	R5C4	N6		
C295	K7	C470	N5	C563	M4	IC454	I7	R215	M8	R434	I7	R506	L3	R5C5	N6		
C296	O8	C471	O5	C564	L1	IC501	K3	R216	M8	R435	J7	R507	L4	R5C6	O6		
C402	M5	C472	N5	C565	N3	IC502	L2	R217	N8	R436	I7	R508	K5	R5C7	N6		
C403	M5	C473	O5	C566	N3	IC503	M3	R218	N8	R437	J7	R509	K4	R5C8	N6		
C404	M5	C474	N5	C567	K2	IC505	K2	R219	L8	R438	I8	R510	K4	R5C9	N6		

# SECTION 7. EXPLODED VIEWS

## • CABINET AND MAIN FRAME

NOTE) Refer to "SECTION 7 REPLACEMENT PARTS LIST" in order to look for the part number of each part.





# SECTION 4. MECHANISM OF VCR PART

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### MECHANISM TROUBLESHOOTING GUIDE

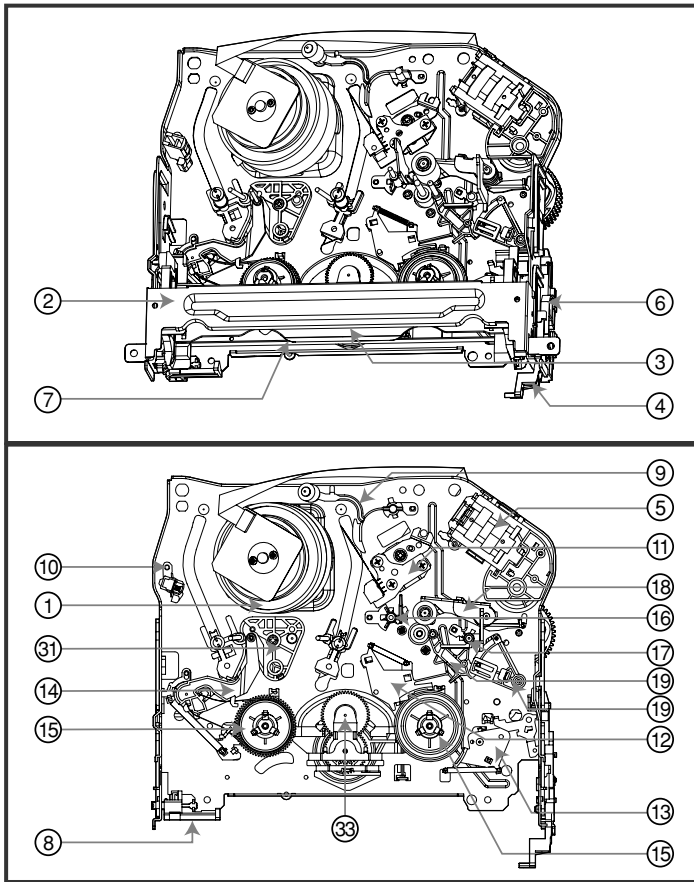
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### EXPLODED VIEWS

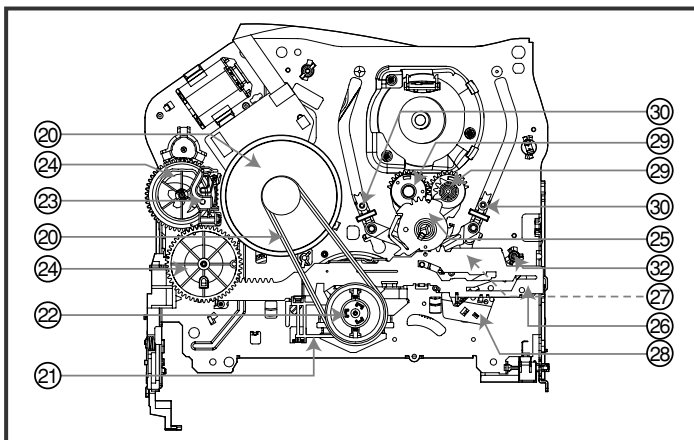
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# DECK MECHANISM PARTS LOCATIONS

## • Top View



## • Bottom View



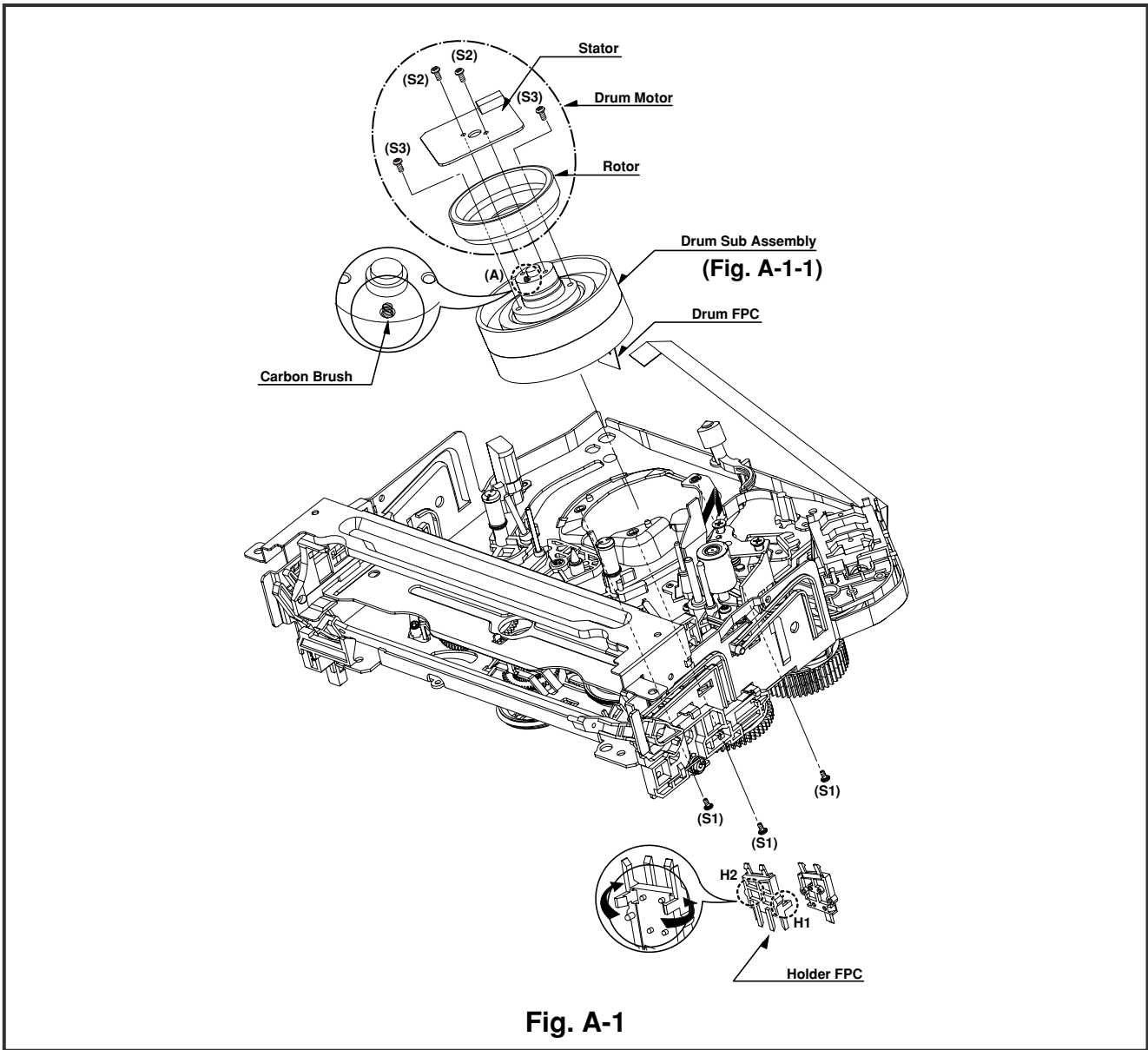
**NOTE : When reassembly perform the procedure in the reverse order.**

- 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.

Starting No.	Part	Fixing Type	Figure	View
1	Drum Assembly	3 Screw	A-1	T
2	Plate Top	2 Hook	A-2	T
2	Holder Assembly CST	Chassis Hole	A-2	T
2	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	A-7	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



## 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.

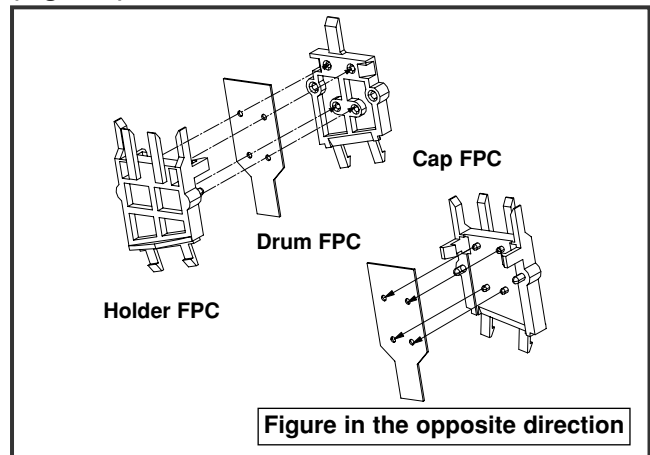
### 1-1. Drum Motor

- 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)



# DECK MECHANISM DISASSEMBLY

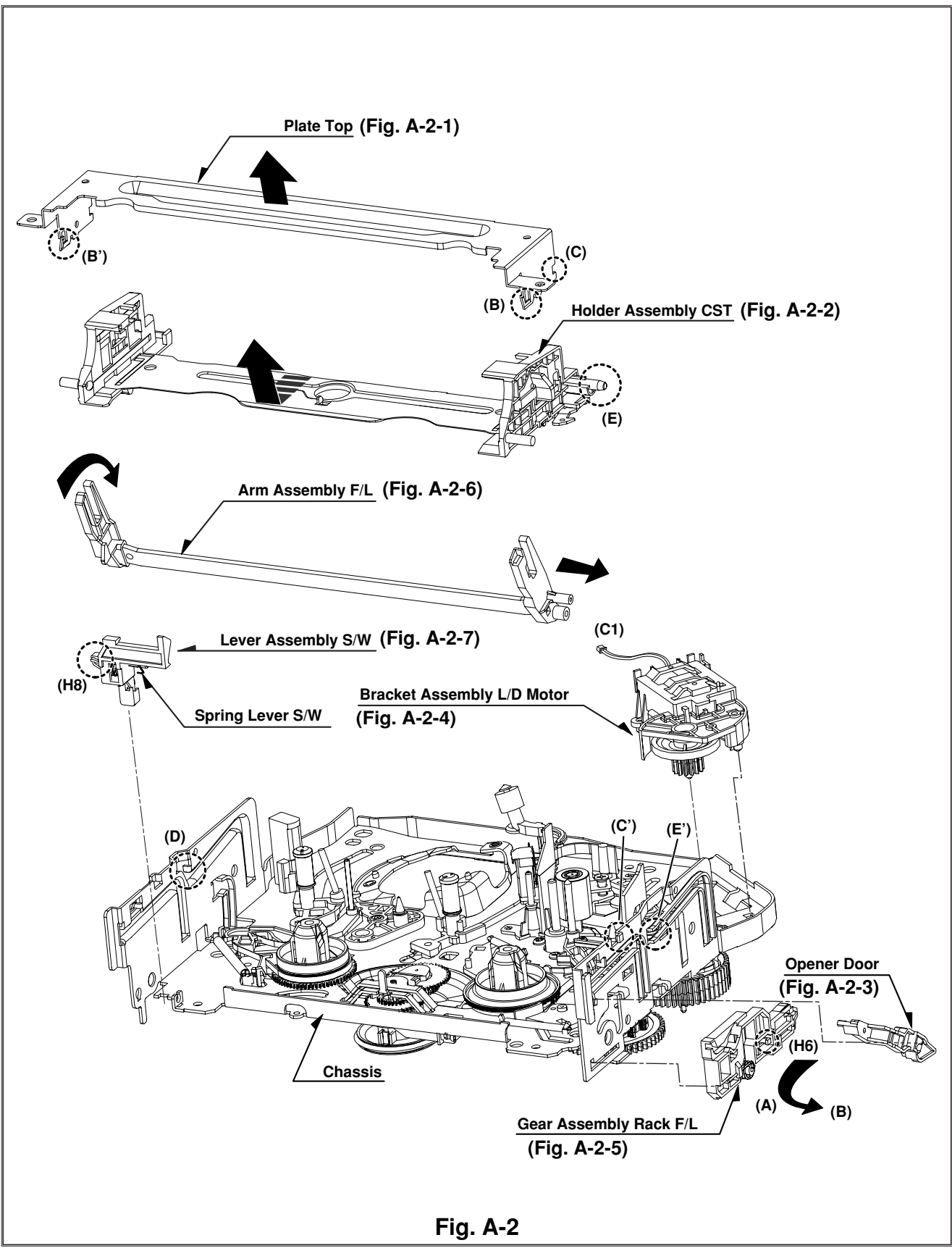


Fig. A-2

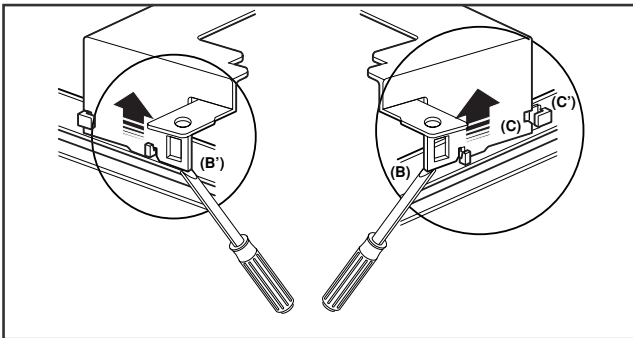
# DECK MECHANISM DISASSEMBLY

## 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.)

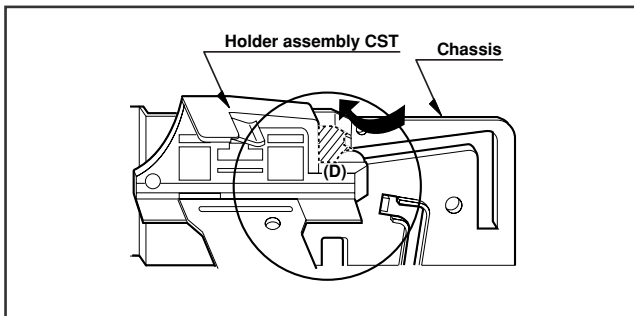
### NOTE

- (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.

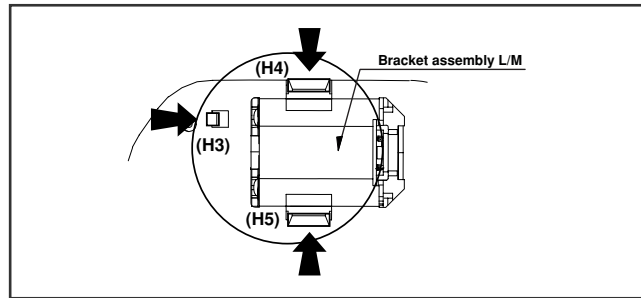
## 4. Opener Door (Figure. A-2-3)

- 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.

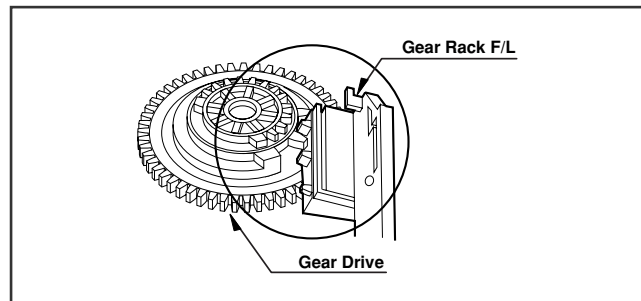


## 6. Gear Assembly Rack F/L (Fig. A-2-5)

- 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.

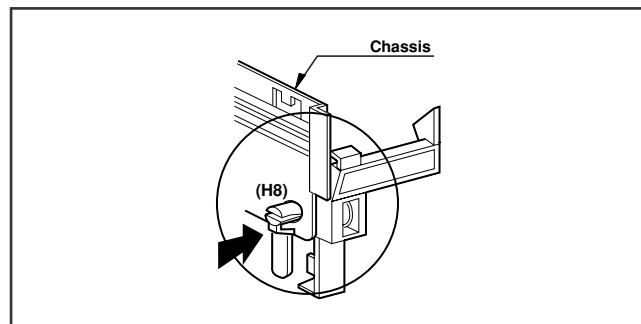


## 7. Arm Assembly F/L (Fig. A-2-6)

- 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.

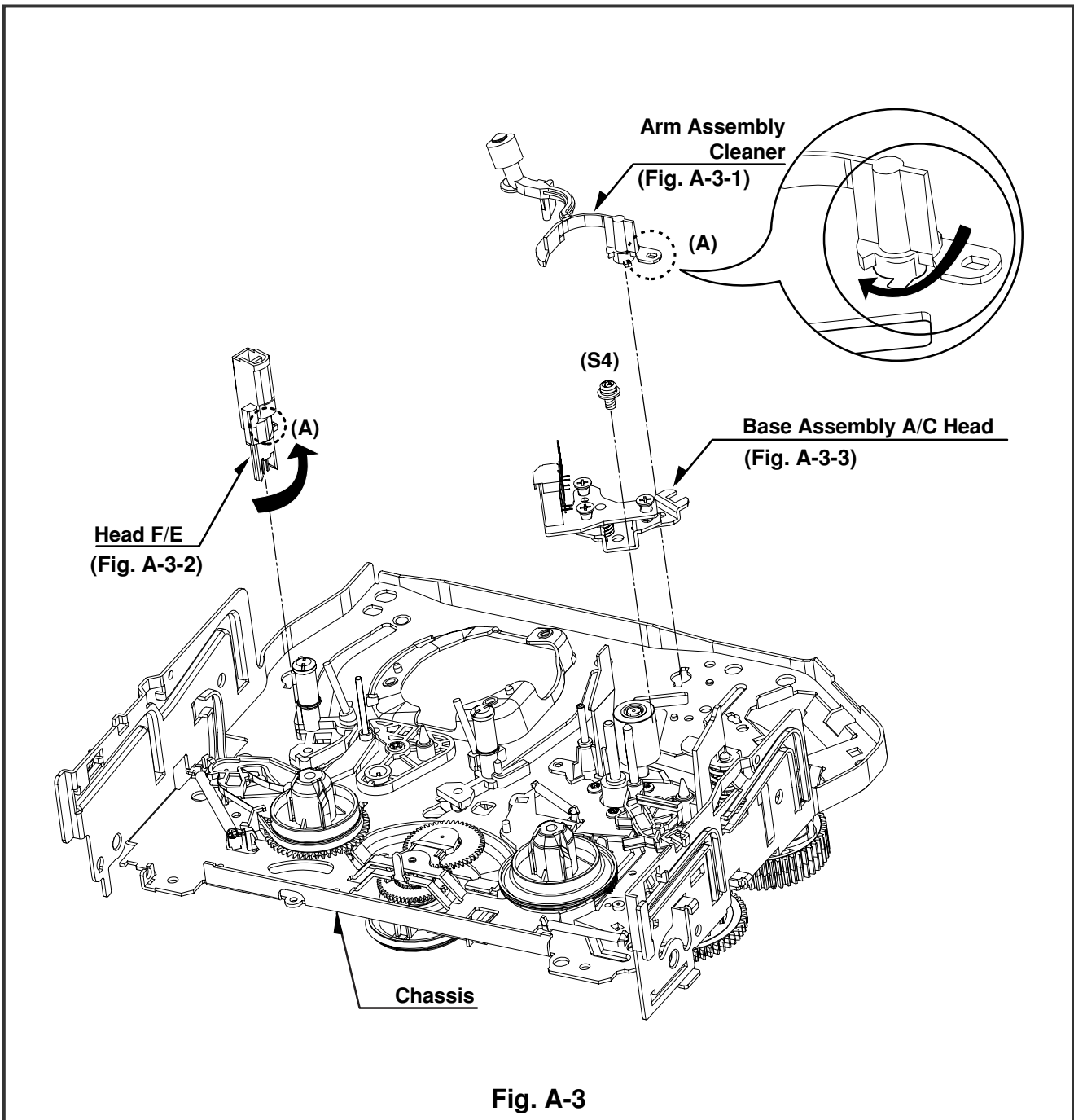
## 8. Lever Assembly S/W(Fig. A-2-7)

- 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

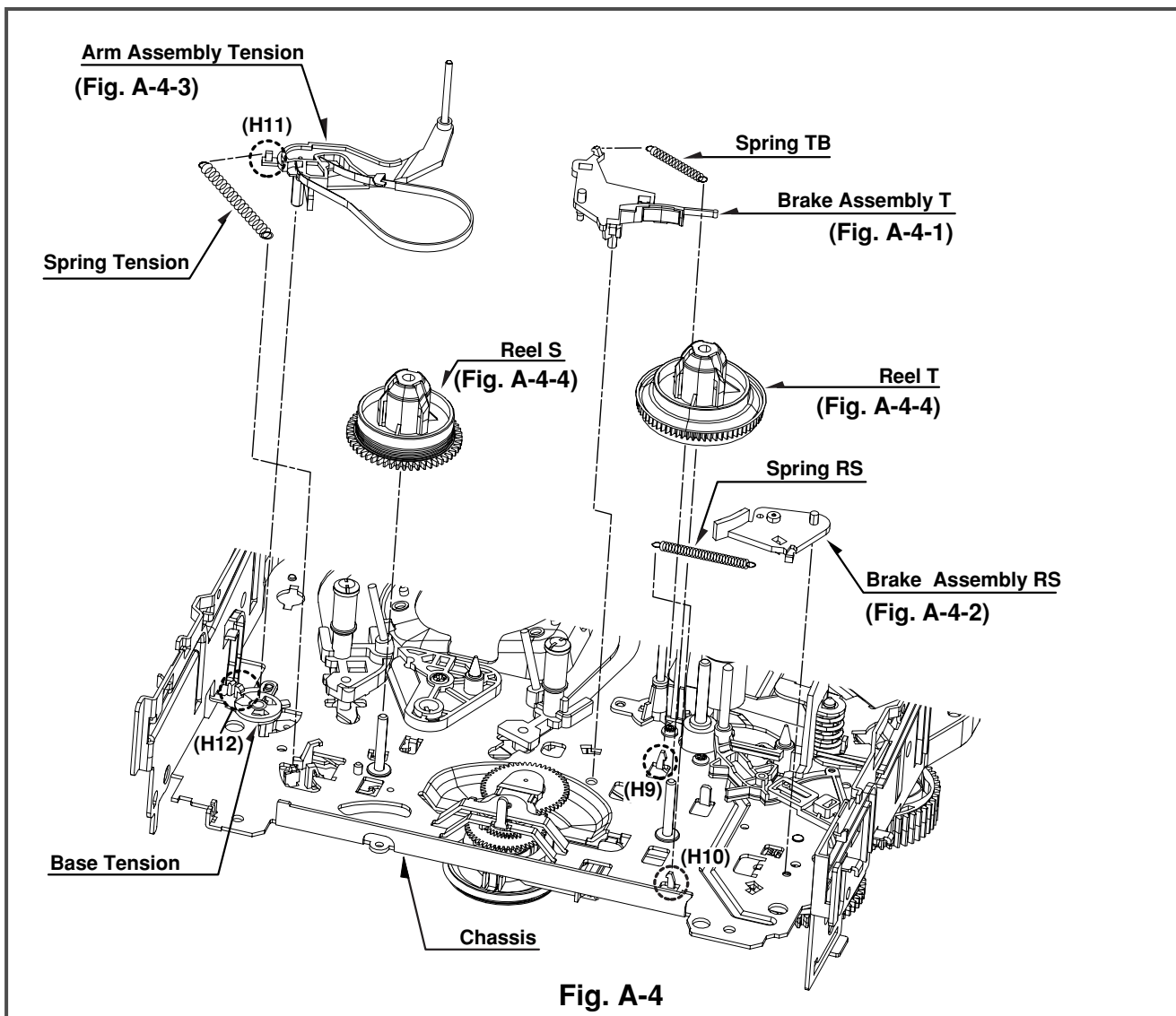


Fig. A-4

## 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.

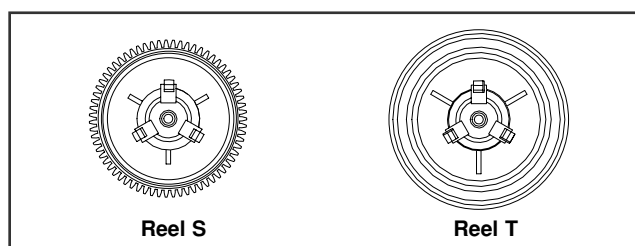
## NOTE

### Difference for Springs

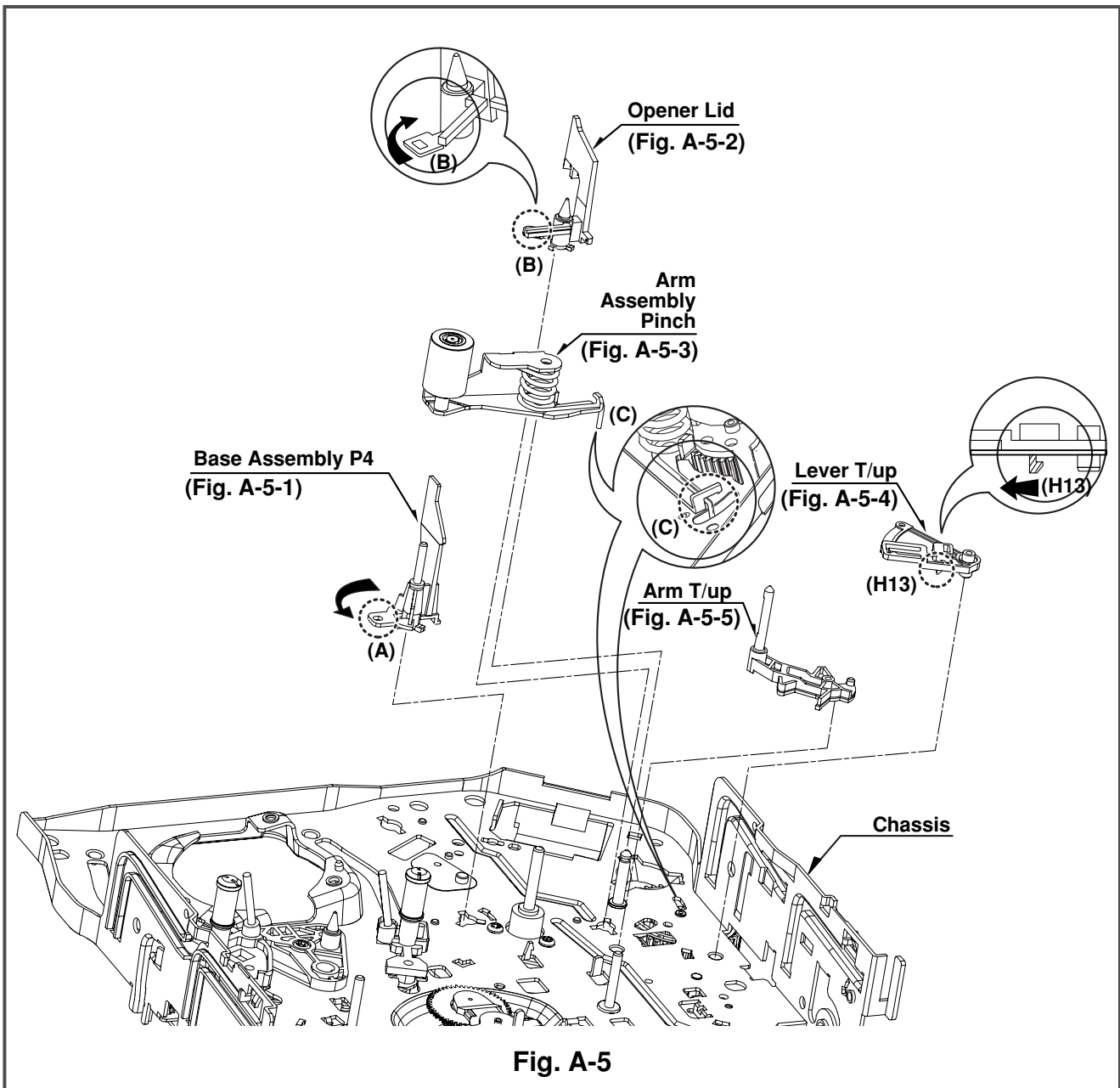
	Spring TB
	Spring RS Color (Black)
	Spring Tension

## 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.

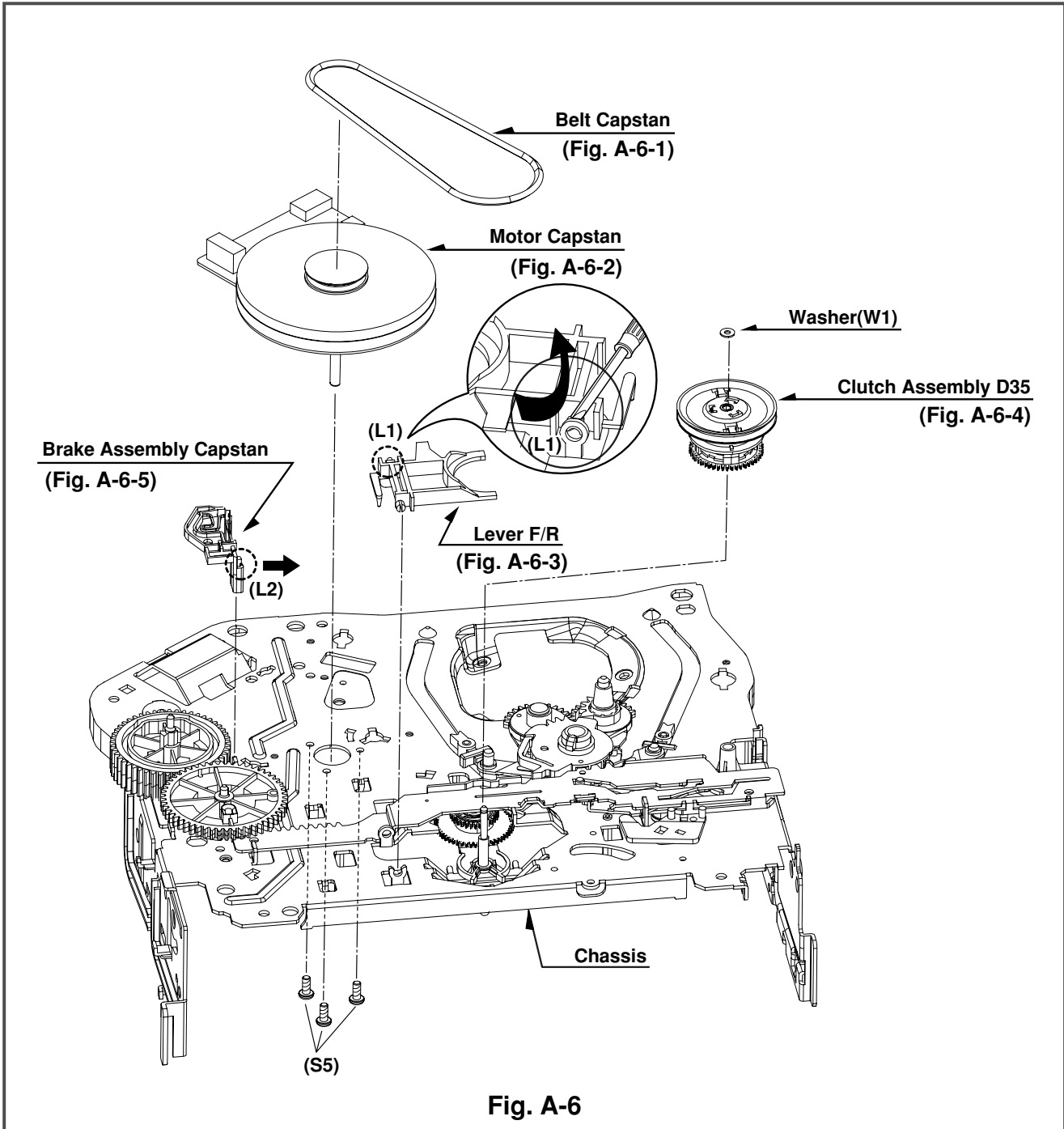
## NOTE

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

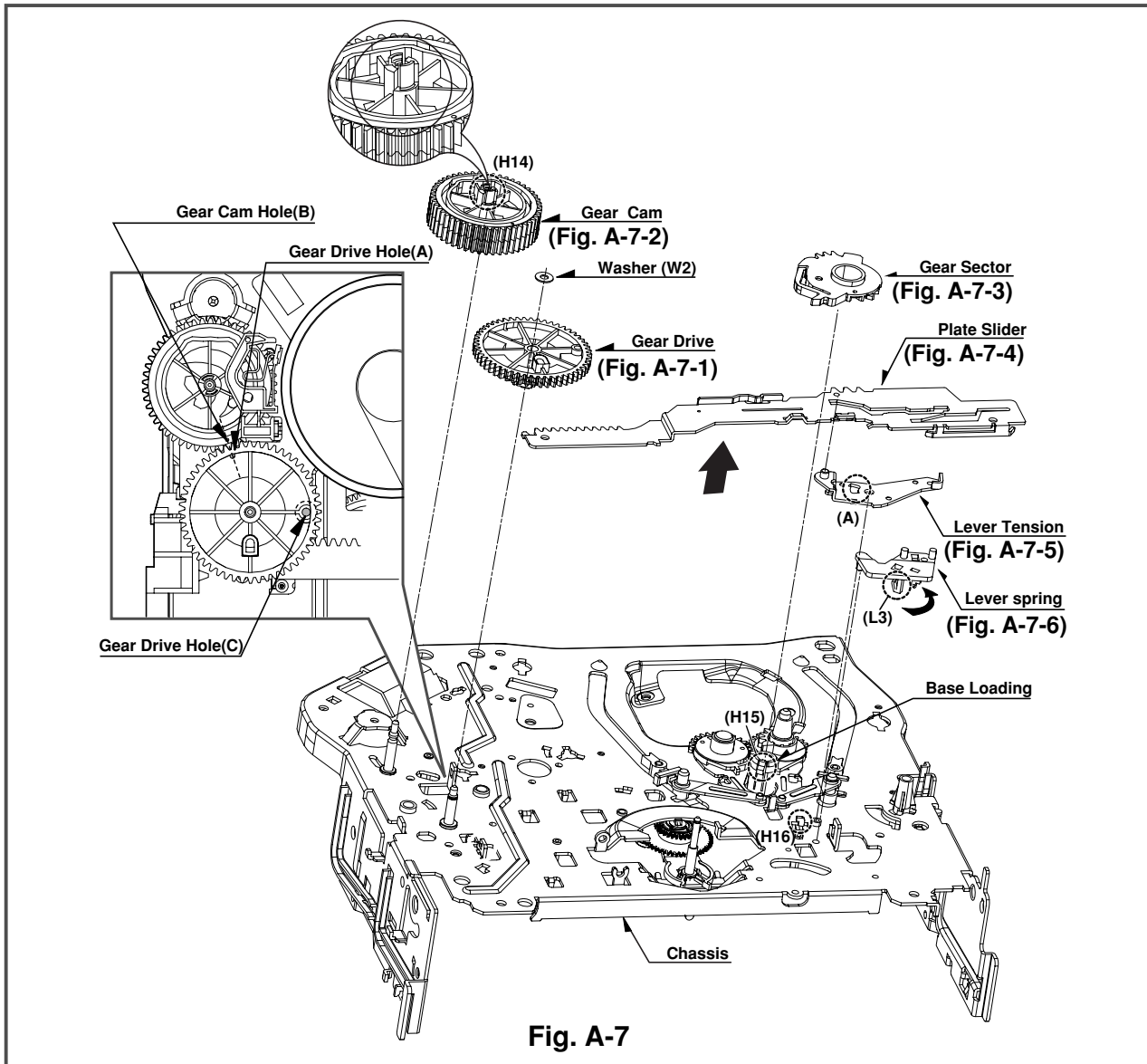


Fig. A-7

## 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.

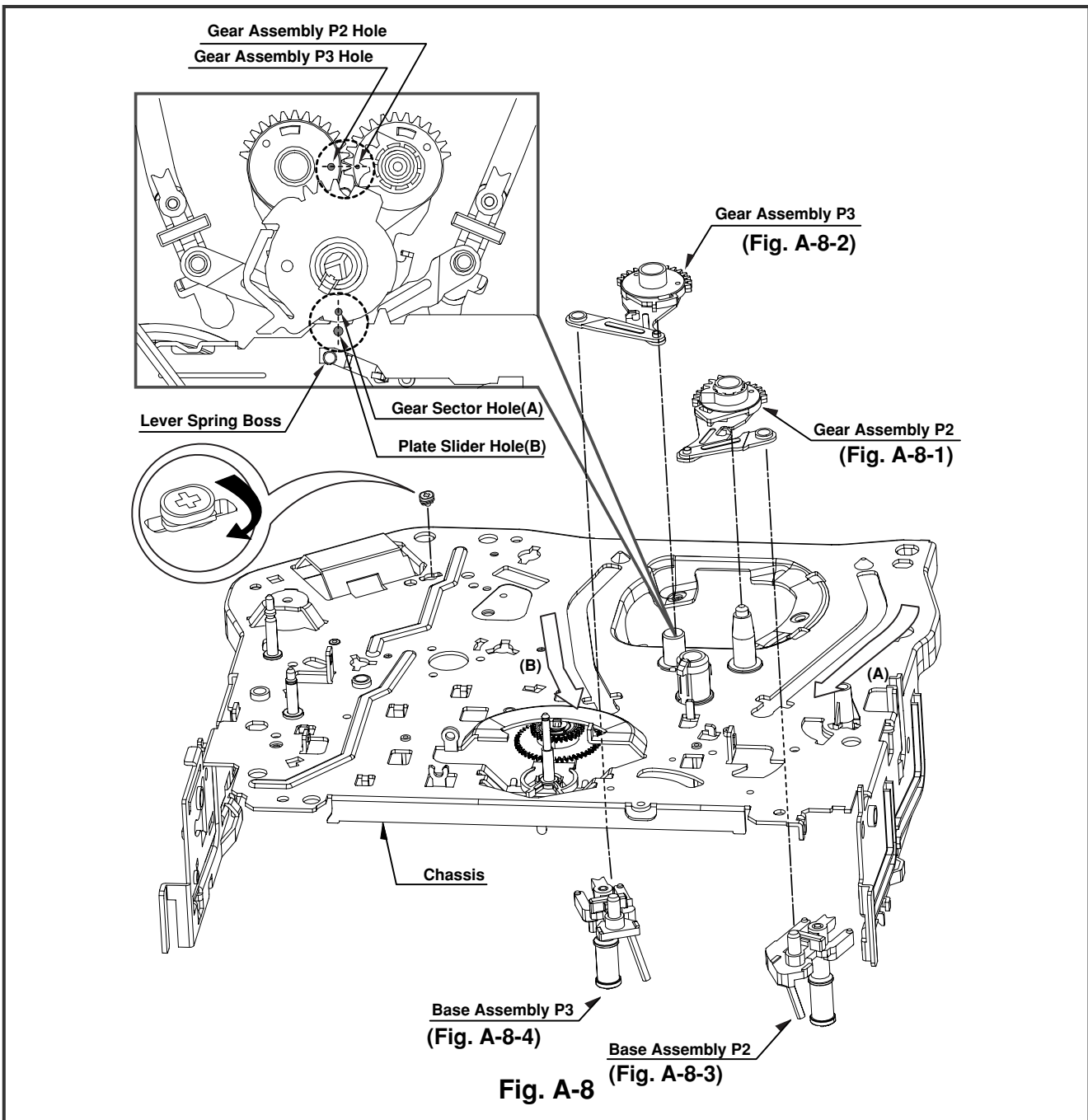
## 27. Lever Tension (Fig. A-7-5)

- 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.

# DECK MECHANISM DISASSEMBLY



## 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

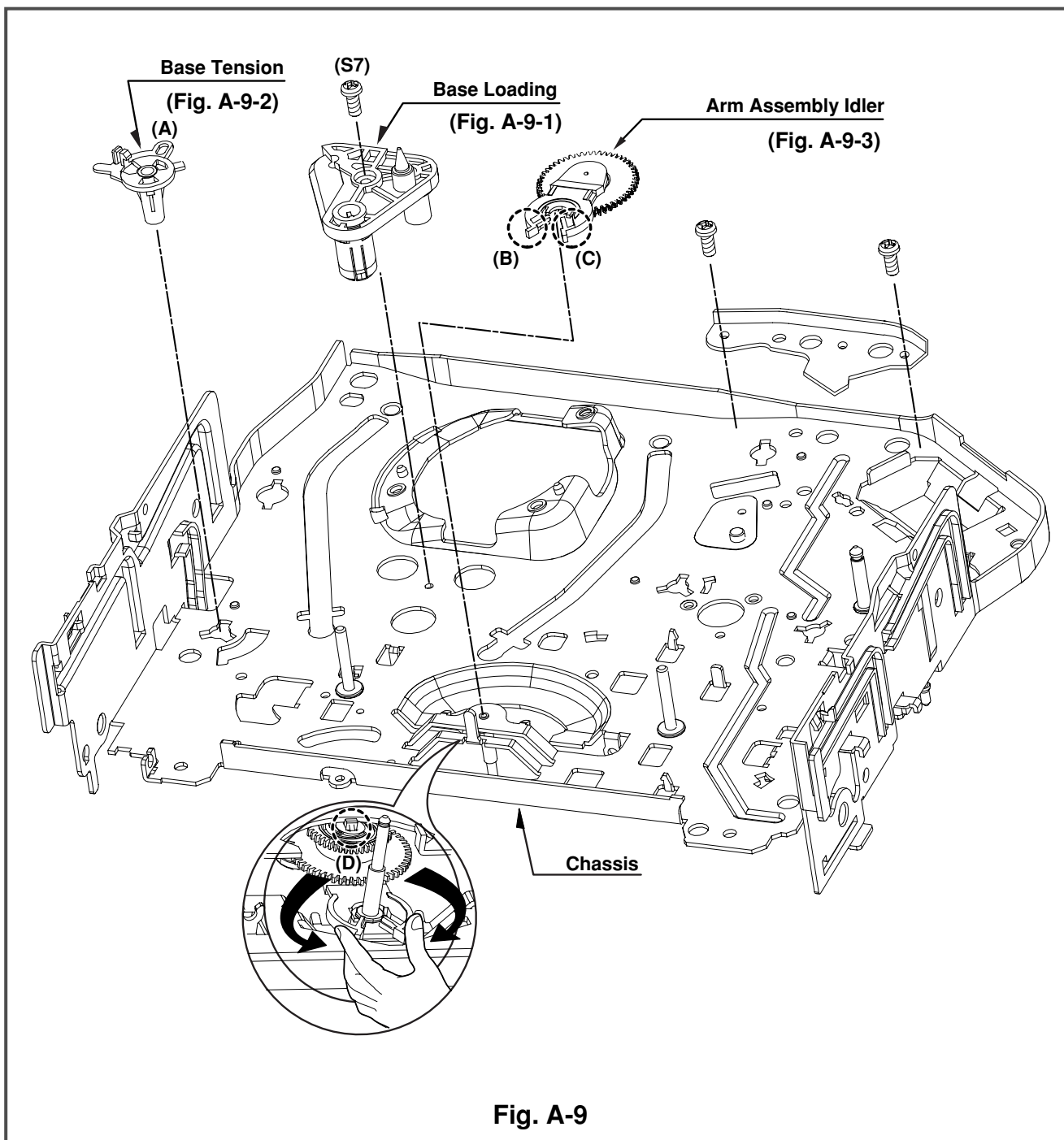
When reassembling, align the two holes of the Gear Assembly P2 and P3 in a straight line after confirmation whether the Gear Sector Hole(A) and the Plate Slider Hole(B) are aligned or not as Fig.

## 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)

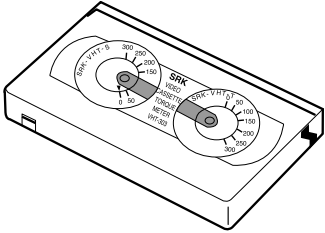
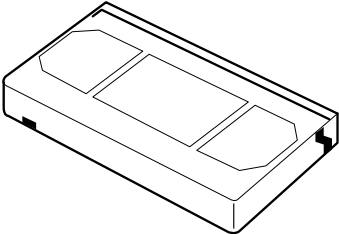
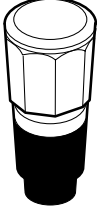
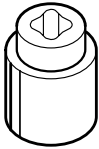
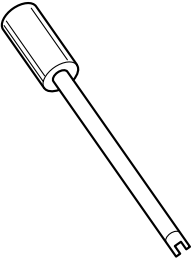
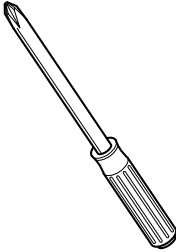
- 1) Make narrower the two parts, (B) and (C), as Fig. A-9-3.
- 2) Lift the Arm assembly Idler up.

### 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

<p><b>1. Cassette Torque Meter</b> SRK-VHT-303(Not SVC part) Parts No: D00-D006</p> 	<p><b>2. Alignment Tape</b> Parts No NTSC: DTN-001 PAL:DTN-0002</p> 	<p><b>3. Torque Gauge</b> 600g.Cm ATG Parts No:D00-D002</p> 
<p><b>4. Torque Gauge Adaptor</b> Parts No:D09-R001</p> 	<p><b>5. Post Height Adjusting Driver</b> Parts No:DTL-0005</p> 	<p><b>6. + Type Driver (ø 5)</b></p> 



# 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 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

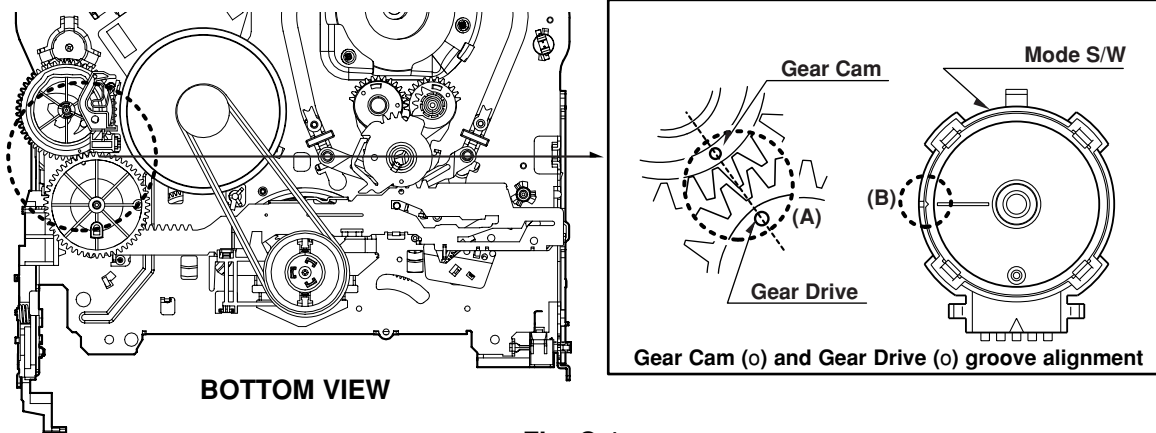


Fig. C-1

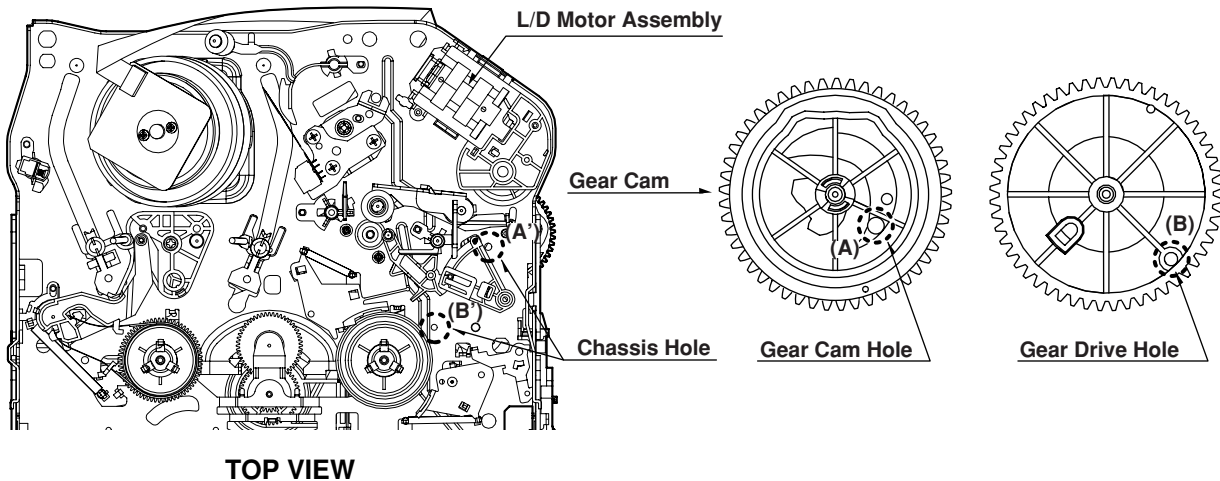


Fig. C-2

# 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

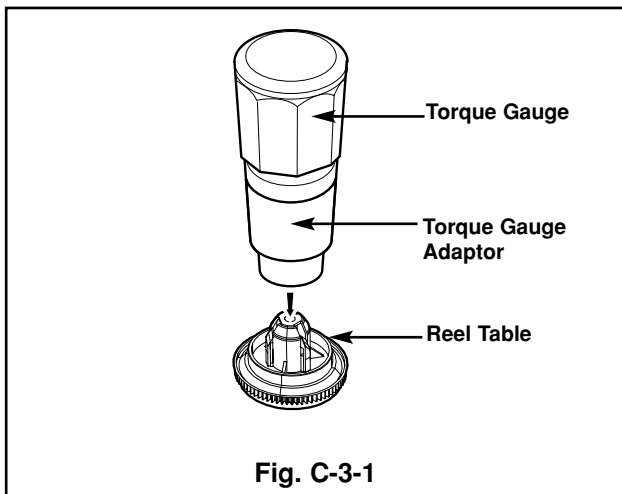
### NOTE:

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

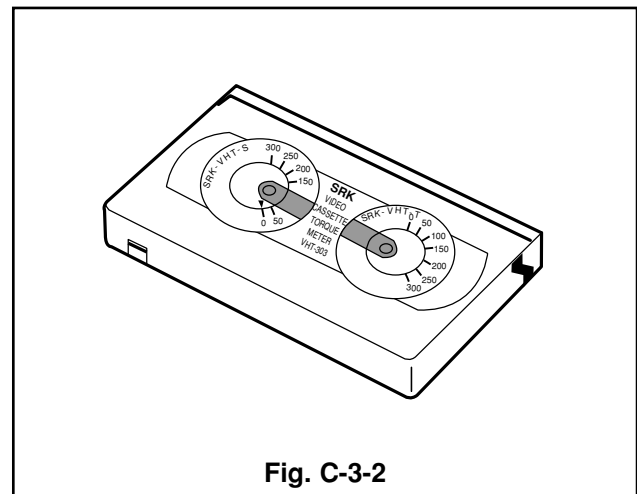
### NOTE:

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.

### ¥Torque Gauge (600g.cm ATG)



### ¥Cassette Torque Meter (SRK-VHT-303)



# 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

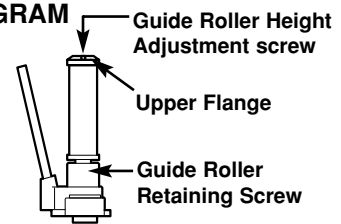


Fig. C-4-1

### 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

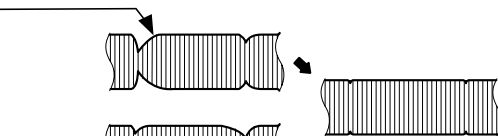
- 1) Play an Alignment Tape after connecting the probe of the Oscilloscope to the RF Envelope Output Test Point and Head Switching Output Test Point.
- 2) Tracking Control(in PB Mode) : Center Position(When this adjustment is performed after the Drum Assembly has been replaced, set the Tracking Control 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

##### P2 POST ADJUSTMENT



##### P3 POST ADJUSTMENT

Turn the Roller Guide Height Adjustment Screw slightly to flatten the waveform.

Fig. C-4-2

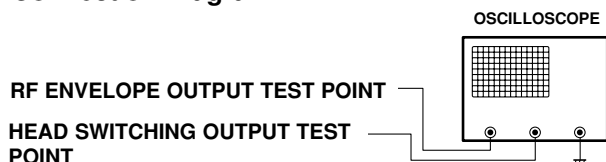


Tracking Control at center

Turn(Move) the Tracking Control to both directions

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
<ul style="list-style-type: none"> <li>• Blank Tape</li> <li>• Screw Driver(+) Type 5mm</li> </ul>	<ul style="list-style-type: none"> <li>• Play the blank tape</li> </ul>	<ul style="list-style-type: none"> <li>• Tilt Adjustment Screw(C)</li> <li>• Height Adjustment Screw(B)</li> <li>• Azimuth Adjustment Screw(A)</li> </ul>

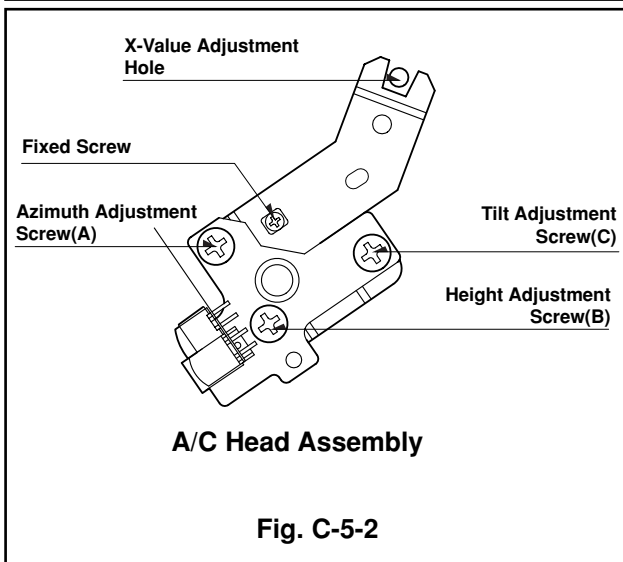
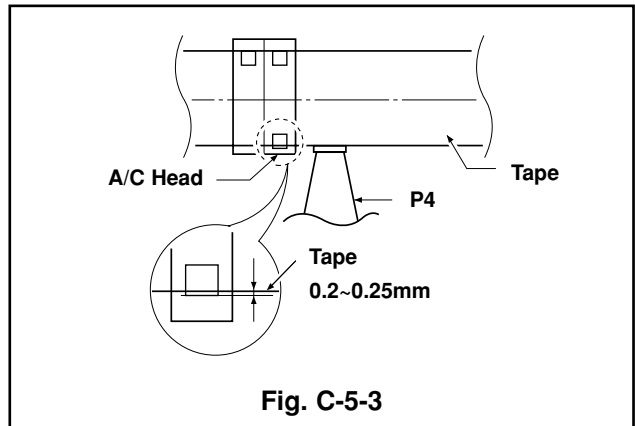
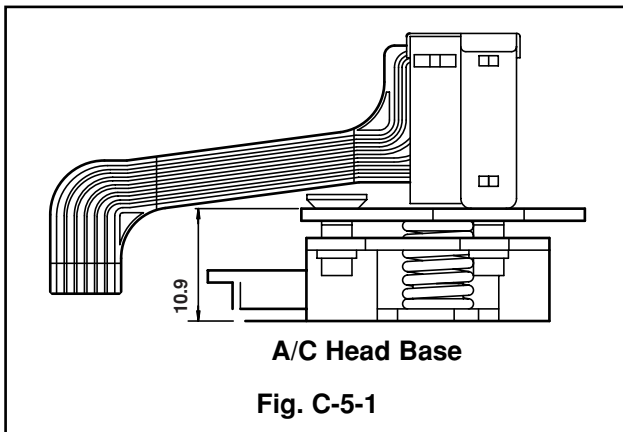
#### Adjustment Procedure/Diagrams

- 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 occurred 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.



# DECK MECHANISM ADJUSTMENT

## 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)

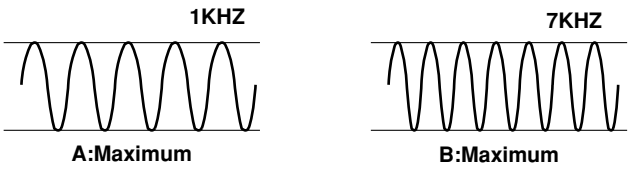
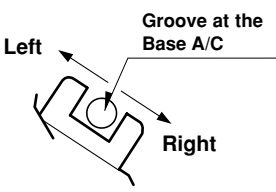
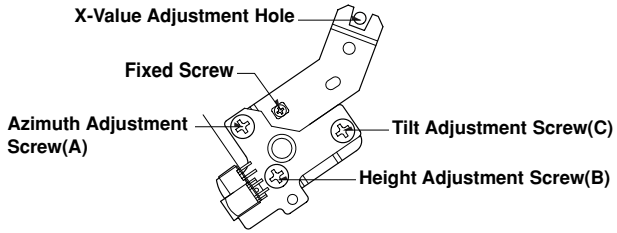
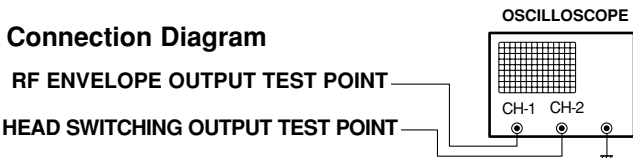
Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• Alignment Tape(SP)</li> <li>• Screw Driver(+) Type 5mm</li> </ul>	<ul style="list-style-type: none"> <li>• Audio output jack</li> </ul>	<ul style="list-style-type: none"> <li>• Play an Alignment Tape</li> <li>1KHz, 7KHz Sections</li> </ul>	<ul style="list-style-type: none"> <li>• Azimuth Adjustment Screw(A)</li> <li>• Height Adjustment Screw(B)</li> </ul>
<b>Adjustment Procedure</b> <ol style="list-style-type: none"> <li>1) Connect the probe of the oscilloscope to Audio Output Jack.</li> <li>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.</li> </ol>			

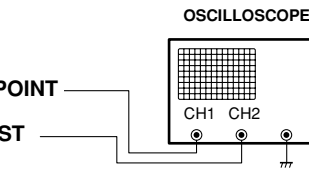
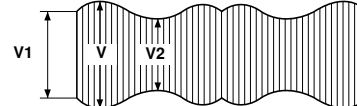
Fig. C-5-4

## 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
<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• Alignment Tape(SP only)</li> <li>• Screw Driver(+) Type 5mm</li> </ul>	<ul style="list-style-type: none"> <li>• CH-1: PB RF Envelope</li> <li>• CH-2: NTSC: SW 30Hz PAL: SW 25Hz</li> <li>• Head Switching Output Test Point</li> <li>• RF Envelope Output Test Point</li> </ul>	<ul style="list-style-type: none"> <li>• Play an Alignment Tape</li> </ul>	
<b>Adjustment Procedure</b> <ol style="list-style-type: none"> <li>1) Release the Automatic Tracking to run long enough for tracking to complete its cycle.</li> <li>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 31 m Head to be centrally located over the 58 m tape track.</li> <li>3) Tighten the Base Assembly A/C Head mounting Screw.</li> </ol>		<b>Adjustment Diagram</b> 	
		<b>Connection Diagram</b> 	

# DECK MECHANISM ADJUSTMENT

## 7. Adjustment after Replacing Drum Assembly (Video Heads)

<b>Purpose: To correct for shift in the Roller Guide and X value after replacing the Drum.</b>			
Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Points
<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>Alignment Tapes</li> <li>Blank Tape</li> <li>Post Height Adjusting Driver</li> <li>Screw Driver(+) Type 5mm</li> </ul>	<ul style="list-style-type: none"> <li>CH-1: PB RF Envelope</li> <li>CH-2: NTSC: SW 30Hz PAL: SW 25Hz</li> <li>Head Switching Output Test Point</li> <li>RF Envelope Output Test Point</li> </ul>	<ul style="list-style-type: none"> <li>Play the Blank Tape</li> <li>Play an Alignment Tape</li> </ul>	<ul style="list-style-type: none"> <li>Guide Roller Precise Adjustment</li> <li>Switching Point</li> <li>Tracking Preset</li> <li>X-Value</li> </ul>
<b>Checking/Adjustment Procedure</b> 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".		<b>Connection Diagram</b>  <b>Waveform</b> $V1/V \text{ MAX } \pm 0.7$ $V2/V \text{ MAX } \pm 0.8$ RF ENVELOPE OUTPUT 	
<b>Fig. C-7</b>			

## 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)
<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>Alignment Tapes(with 6H 3KHz Color Bar Signal)</li> <li>Stop Watch</li> </ul>	<ul style="list-style-type: none"> <li>RF Locking Time: Less than 5 sec.</li> <li>Audio Locking Time: Less than 10sec</li> </ul>	<ul style="list-style-type: none"> <li>CH-1: PB RF Envelope</li> <li>CH-2: Audio Output</li> <li>RF Envelope Output Point</li> <li>Audio Output Jack</li> </ul>	<ul style="list-style-type: none"> <li>Play an Alignment Tape (with 6H 3kHz Color Bar Signal)</li> </ul>
<b>Checking Procedure</b> Play an Alignment Tape then change the operating mode to CUE or REV and confirm if the unit meets the above listed specifications.		<b>NOTES:</b> 1) CUE is the forward search mode 2) REV is the backward search mode 3) Refer to the Play mode	

### 8-2. Checking for tape curling or jamming

Test Equipment/ Fixture	Specification	Test Conditions (Mechanism Condition)
<ul style="list-style-type: none"> <li>T-160 Tape</li> <li>T-120 Tape</li> </ul>	<ul style="list-style-type: none"> <li>Be sure there is no tape jamming or curling at the beginning, middle or end of the tape.</li> </ul>	<ul style="list-style-type: none"> <li>Run the CUE, REV, Play mode at the beginning and the end of the tape.</li> </ul>
<b>Checking Procedure</b> 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 beginning, 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
Poor S/N, no color	Dirt on Video Head	o
Vertical or Horizontal jitter	Dirt on Video Head Dirt on tape transport system	o
Low volume, Sound distorted	Dirt on Audio/Control Head	o
Tape does not run. Tape is slack	Dirt on Pinch Roller	o
In Review and Unloading (off mode), the tape is rolled up loosely.	Clutch Assembly D35 torque reduced	o
	Cleaning Drum and transport system	Fig. C-9-3

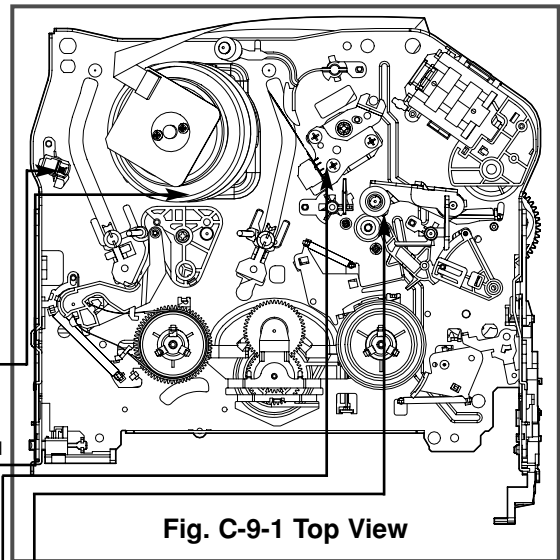


Fig. C-9-1 Top View

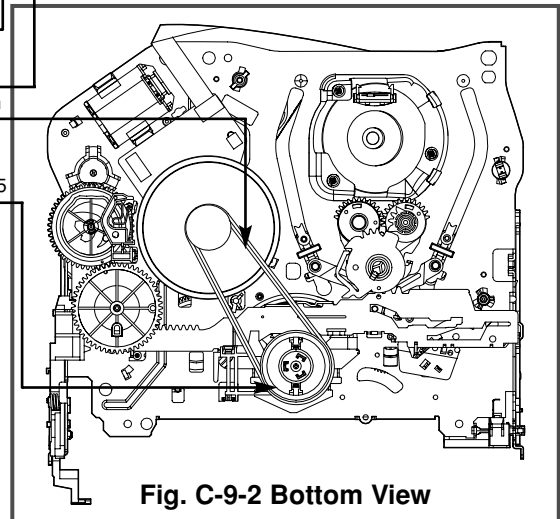


Fig. C-9-2 Bottom View

### 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.

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

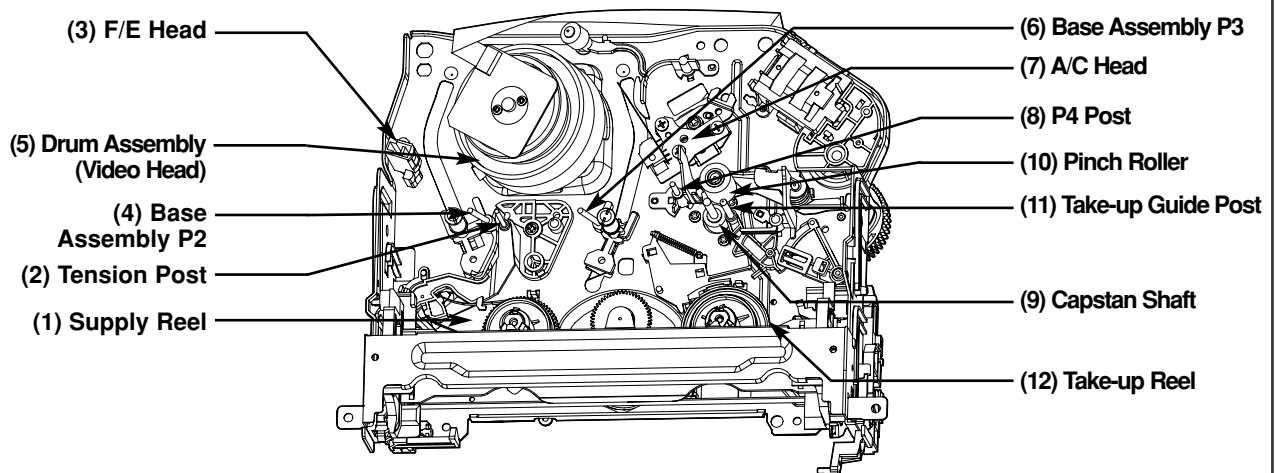


Fig. C-9-3 Tape Transport System

# MAINTENANCE/INSPECTION PROCEDURE

## 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	About 1 year	About 18 months	About 3 years
Average hours used per day	▲	▲	▲
One hour	[Bar chart showing inspection period]		
Two hours	[Bar chart showing inspection period]		
Three hours	[Bar chart showing inspection period]		

## 4. Supplies Required for Inspection and Maintenance

- (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.

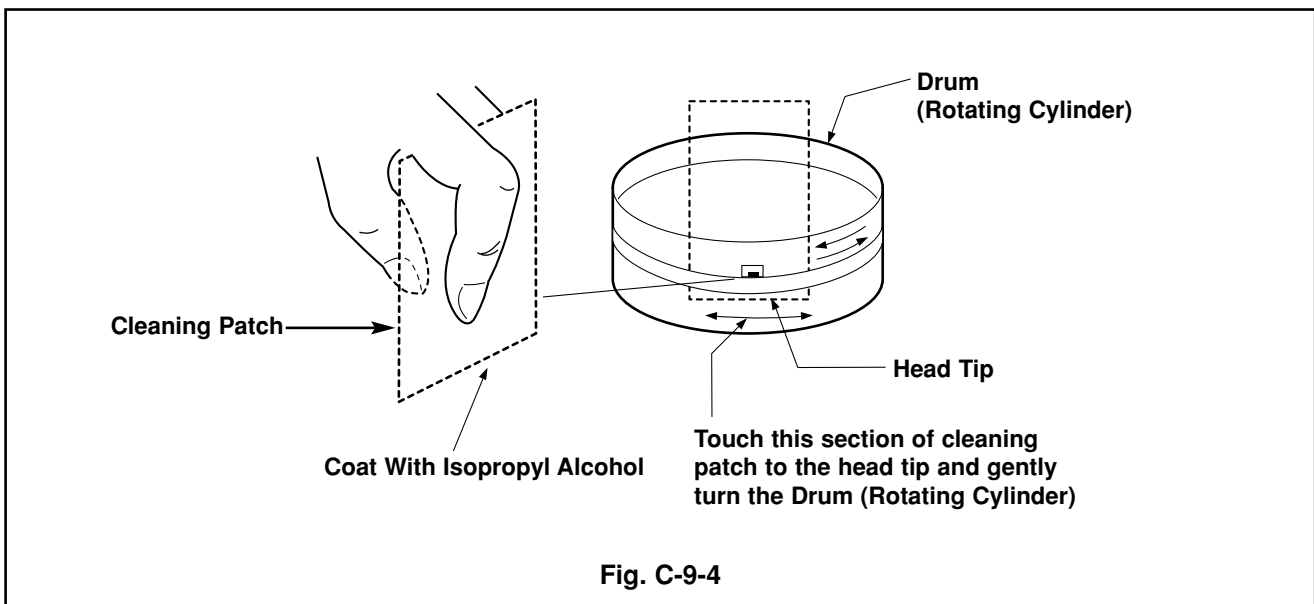


Fig. C-9-4



# MAINTENANCE/INSPECTION PROCEDURE

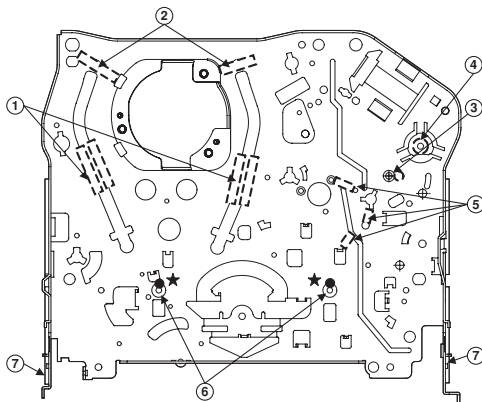
## 5-2) Greasing

### (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.

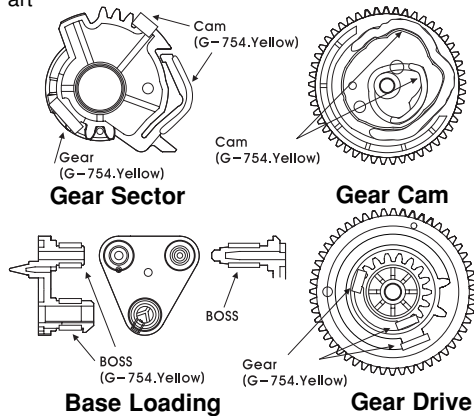
### NOTE:Greasing Points

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



**Chassis (Top)**

### Gear Part



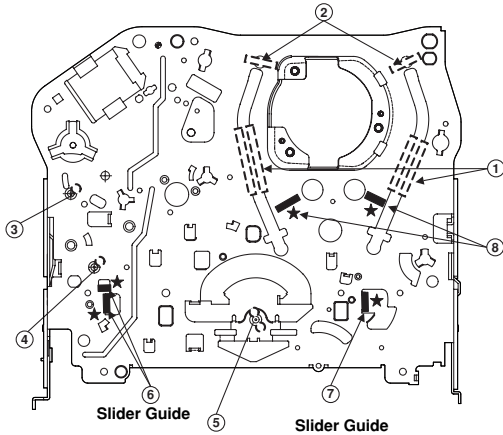
**Chassis (Left Side)**

**Chassis (Right Side)**

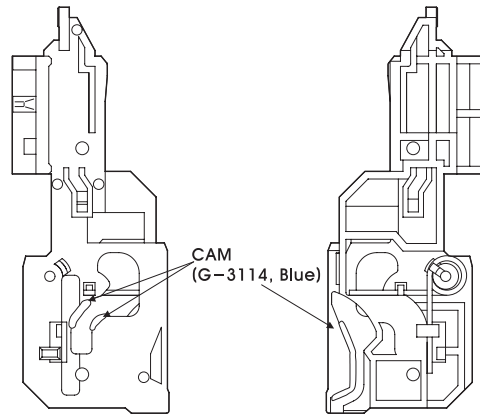
### (2) Periodic greasing

Grease specified locations every 5,000 hours.

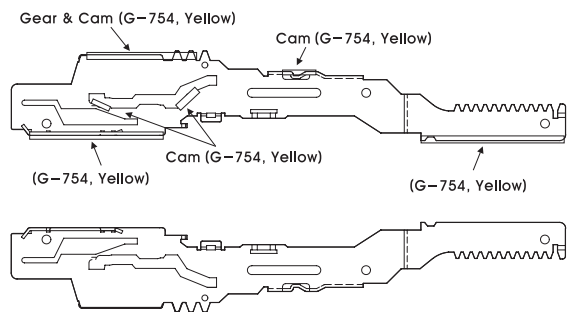
- |                                   |  |
|-----------------------------------|--|
| 1) Loading Path Inside & Top side | 6) Plate Slider Guide Sections           |
| 2) Base Assembly P2,P3 stopper    | 7) Plate Slider Guide Sections           |
| 3) Shaft                          | 8) Gear Assembly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



**Chassis (Bottom)**



**Gear Rack F/L**

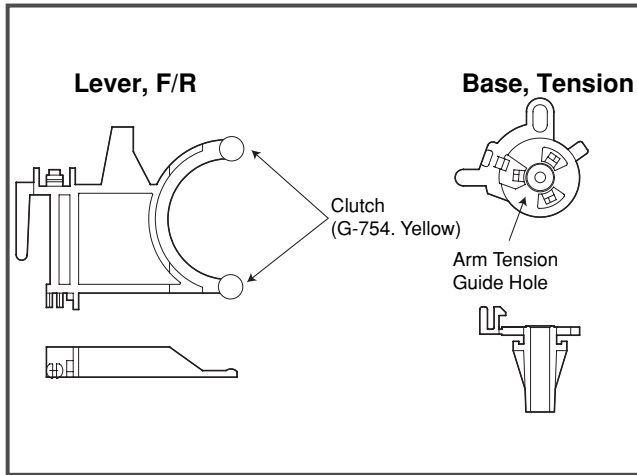


**Plate Slider**

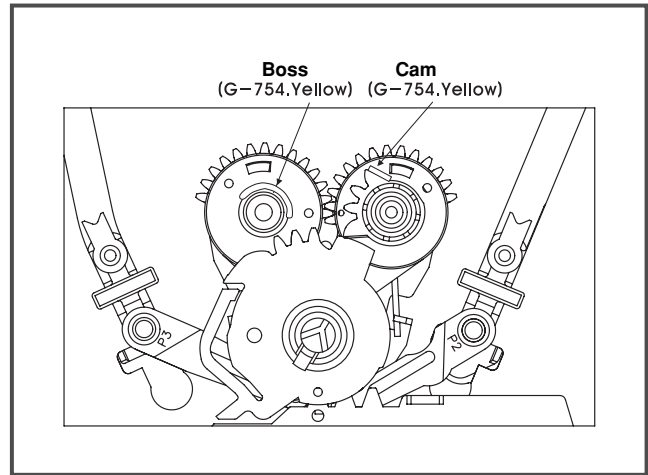
# MAINTENANCE/INSPECTION PROCEDURE

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## Lever, F/R, Base, Tension



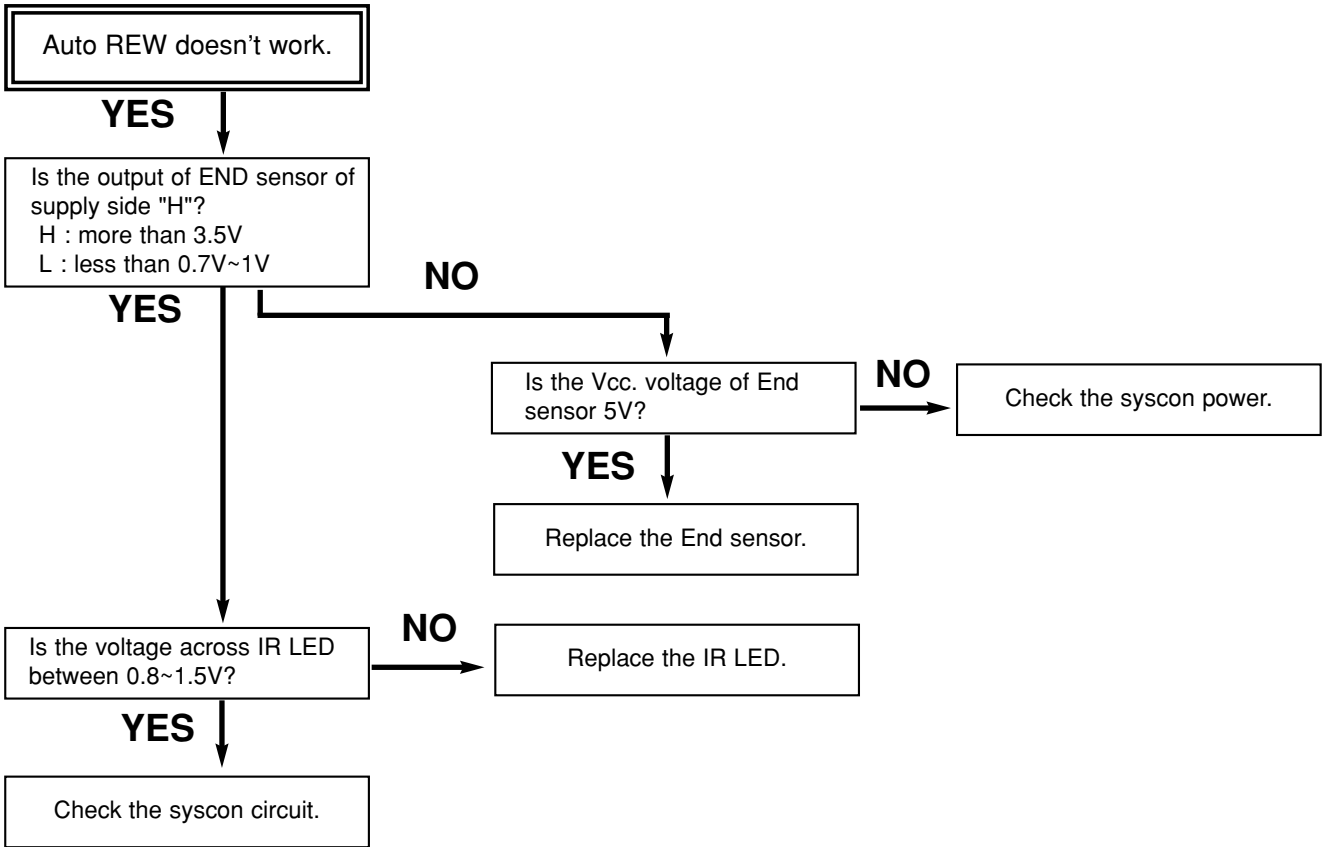
## GEAR AY, P2 & P3



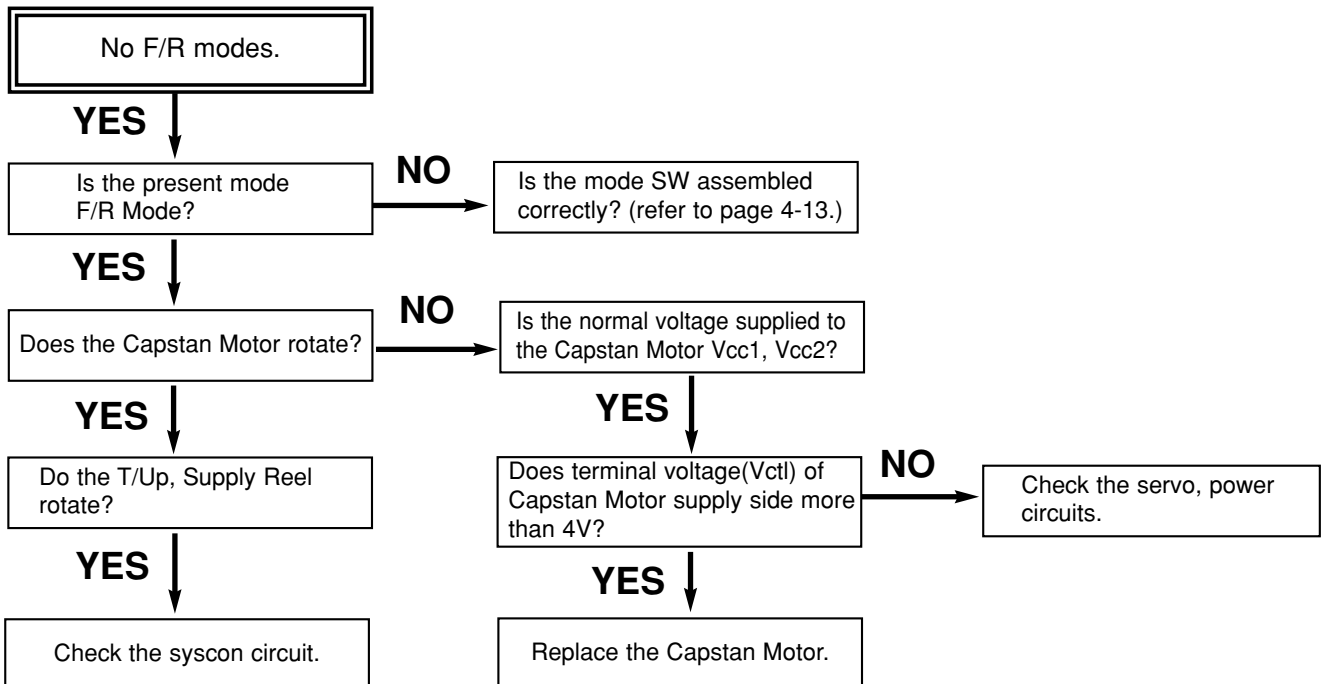
# MECHANISM TROUBLESHOOTING GUIDE

## 1. Deck Mechanism

A.

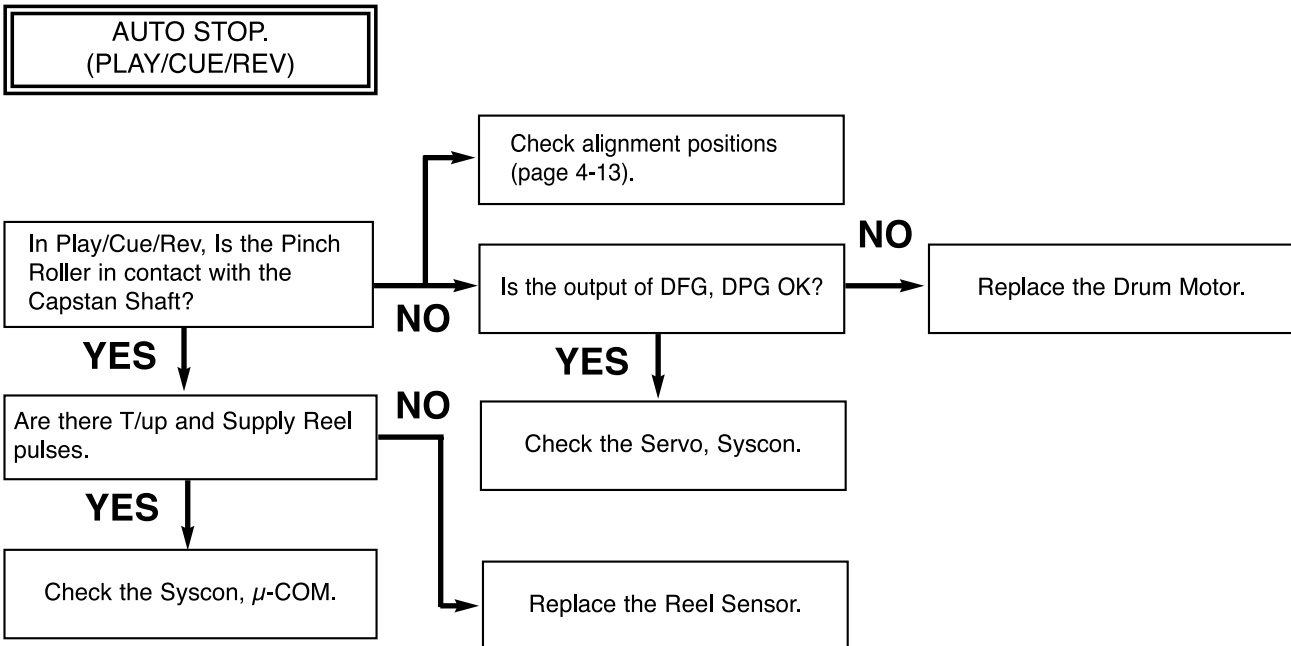


B.

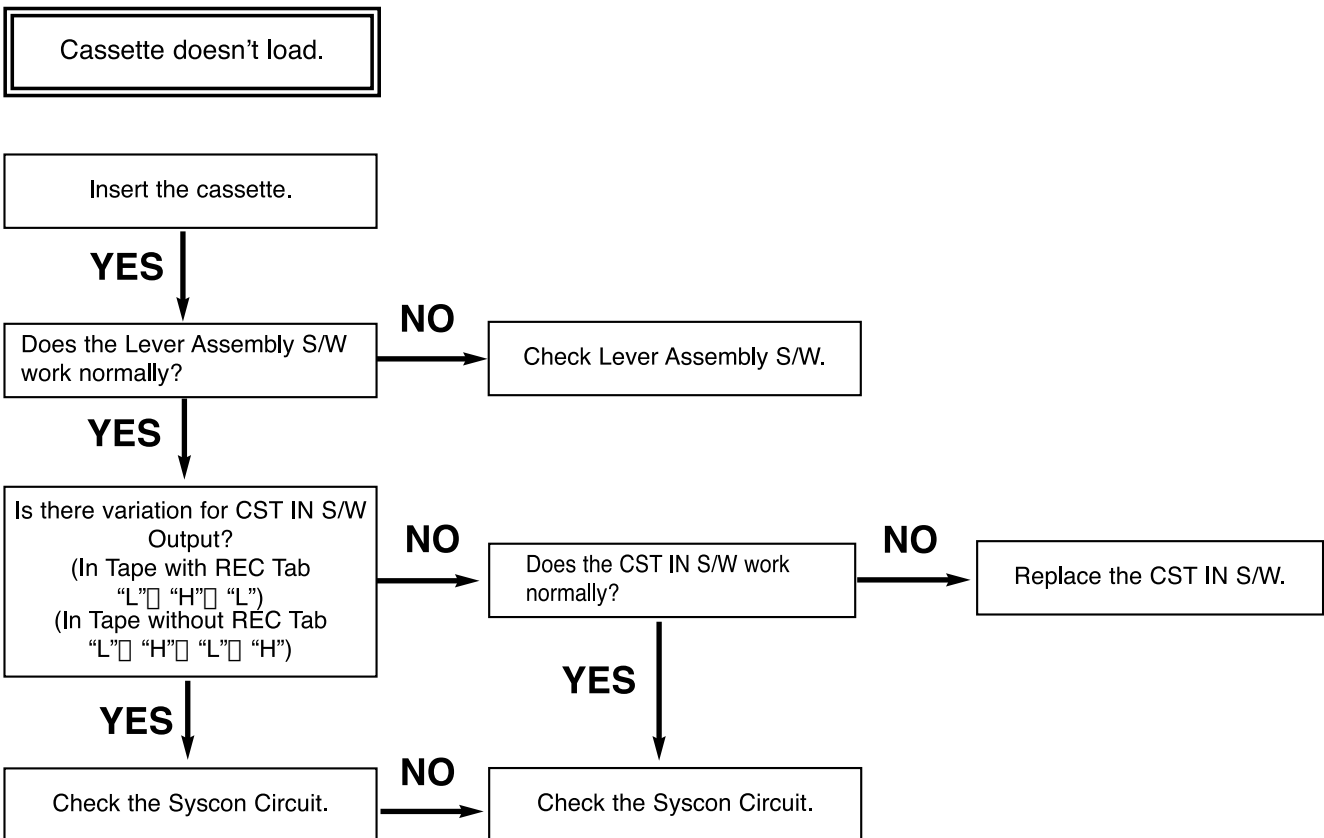


# MECHANISM TROUBLESHOOTING GUIDE

## C.

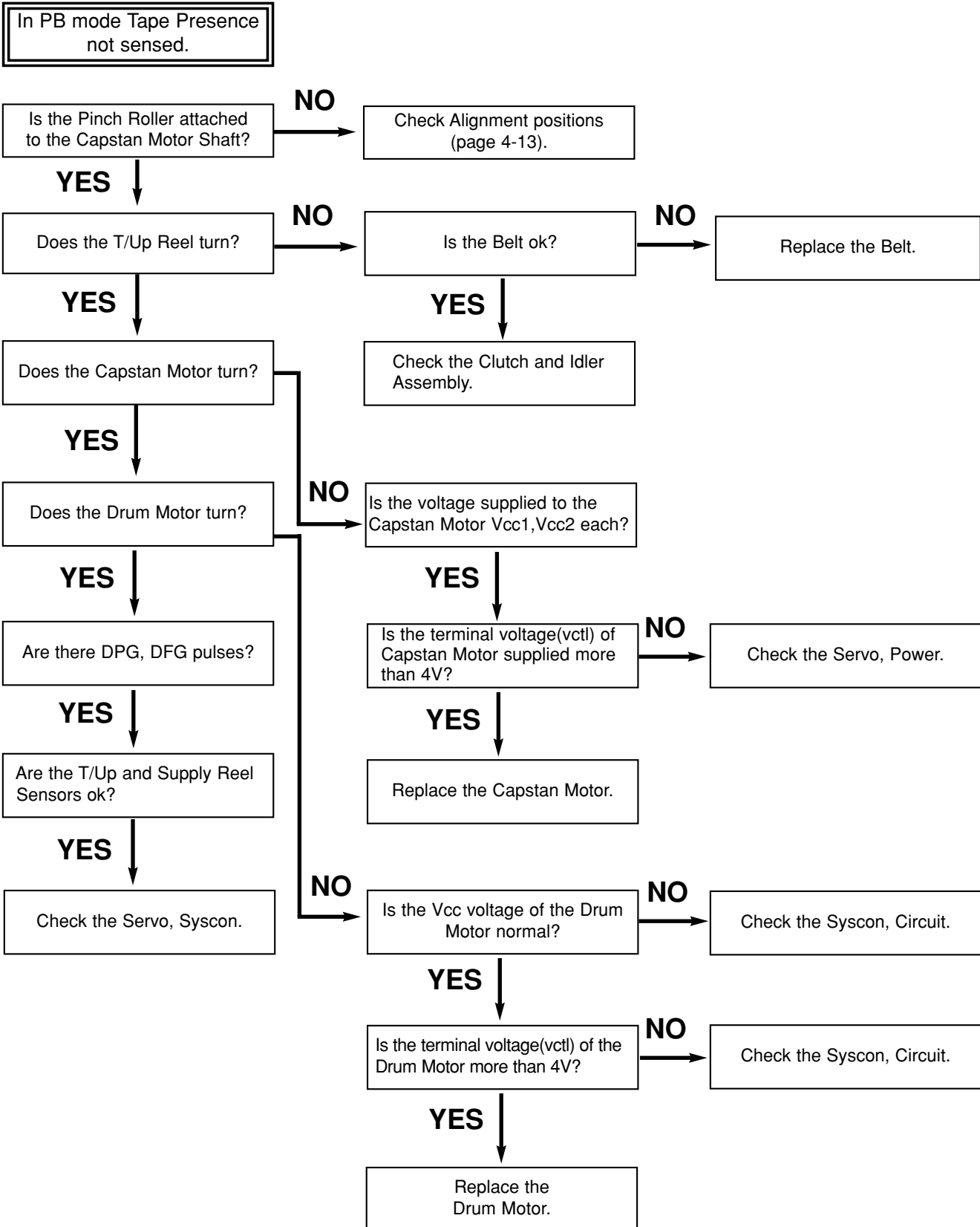


## D.



# MECHANISM TROUBLESHOOTING GUIDE

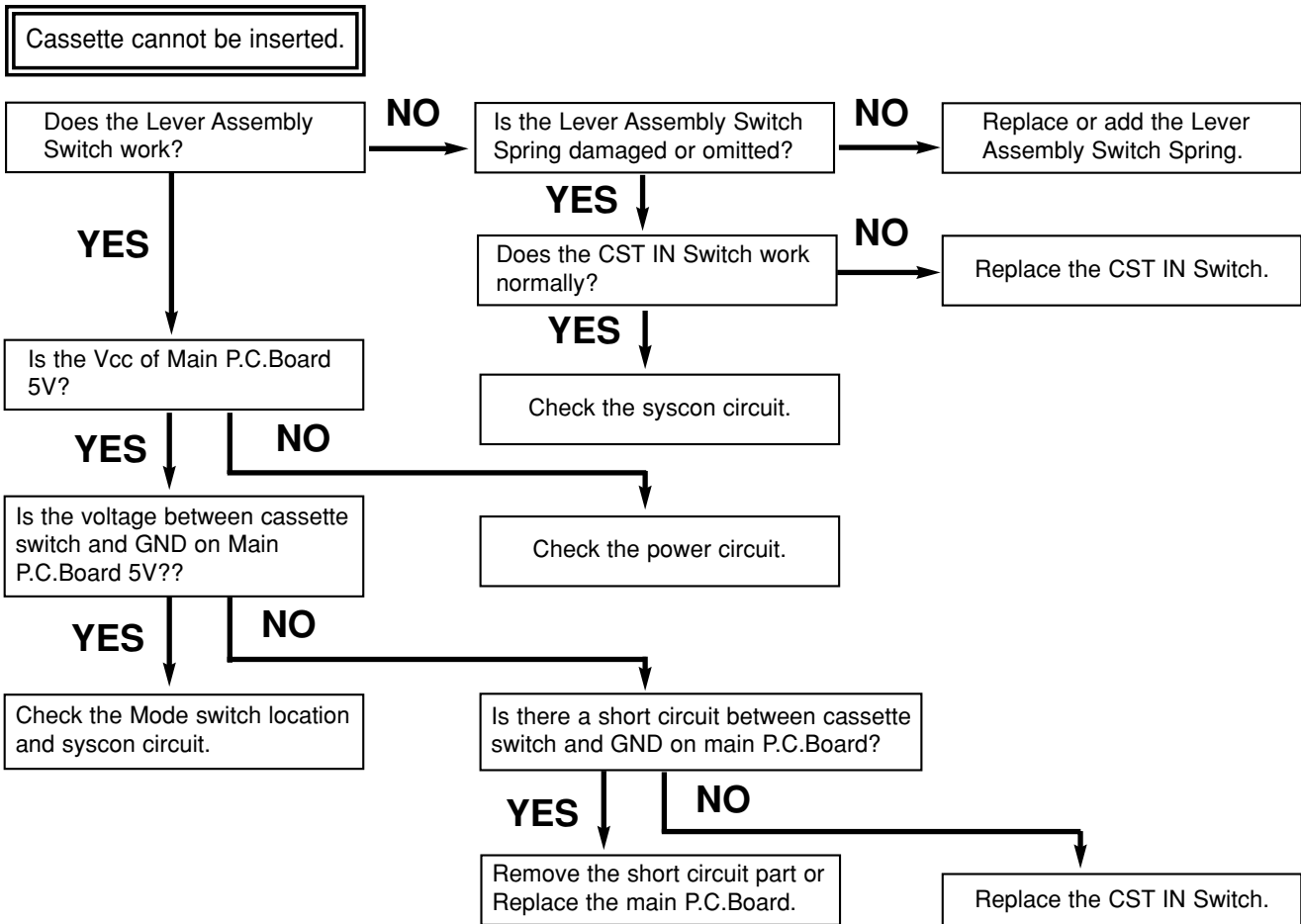
## E.



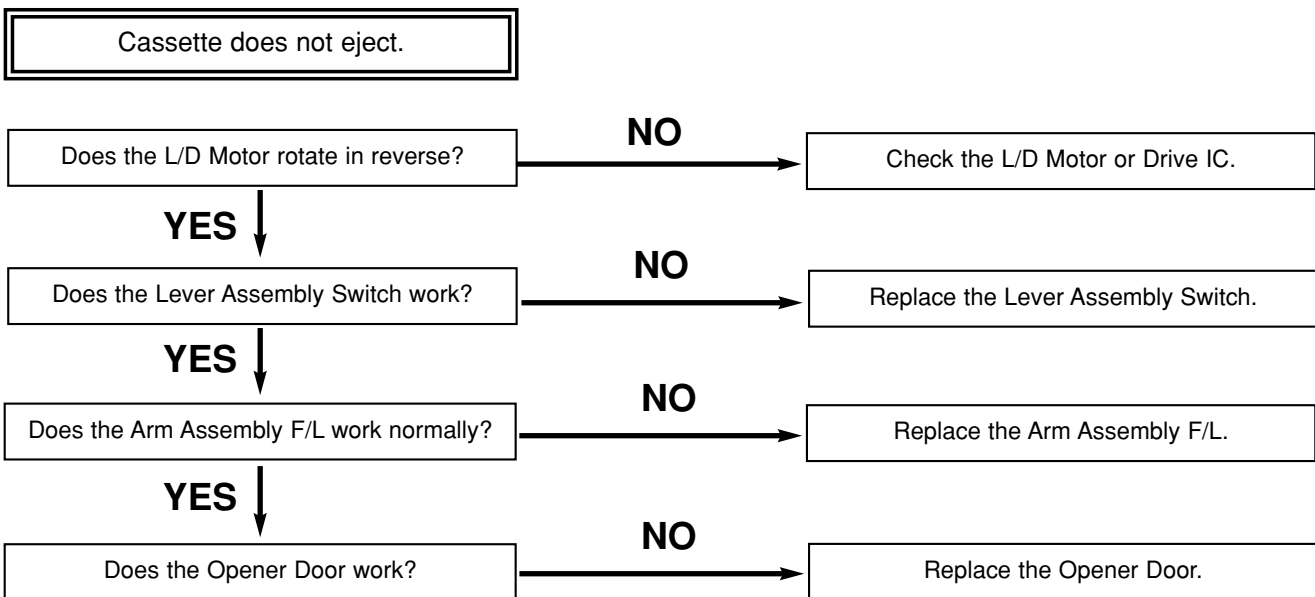
# MECHANISM TROUBLESHOOTING GUIDE

## 2. Front Loading Mechanism

A.



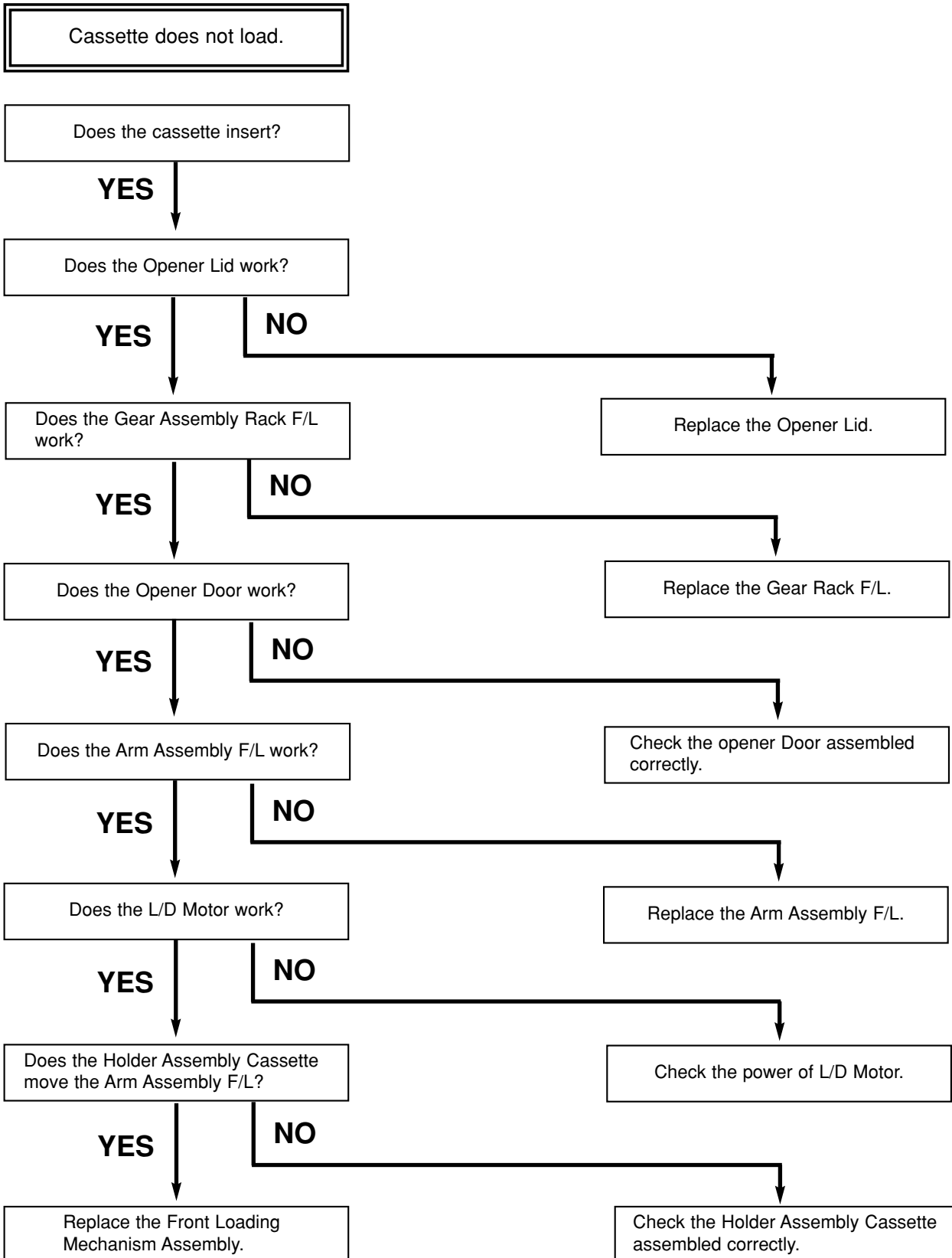
B.



# MECHANISM TROUBLESHOOTING GUIDE

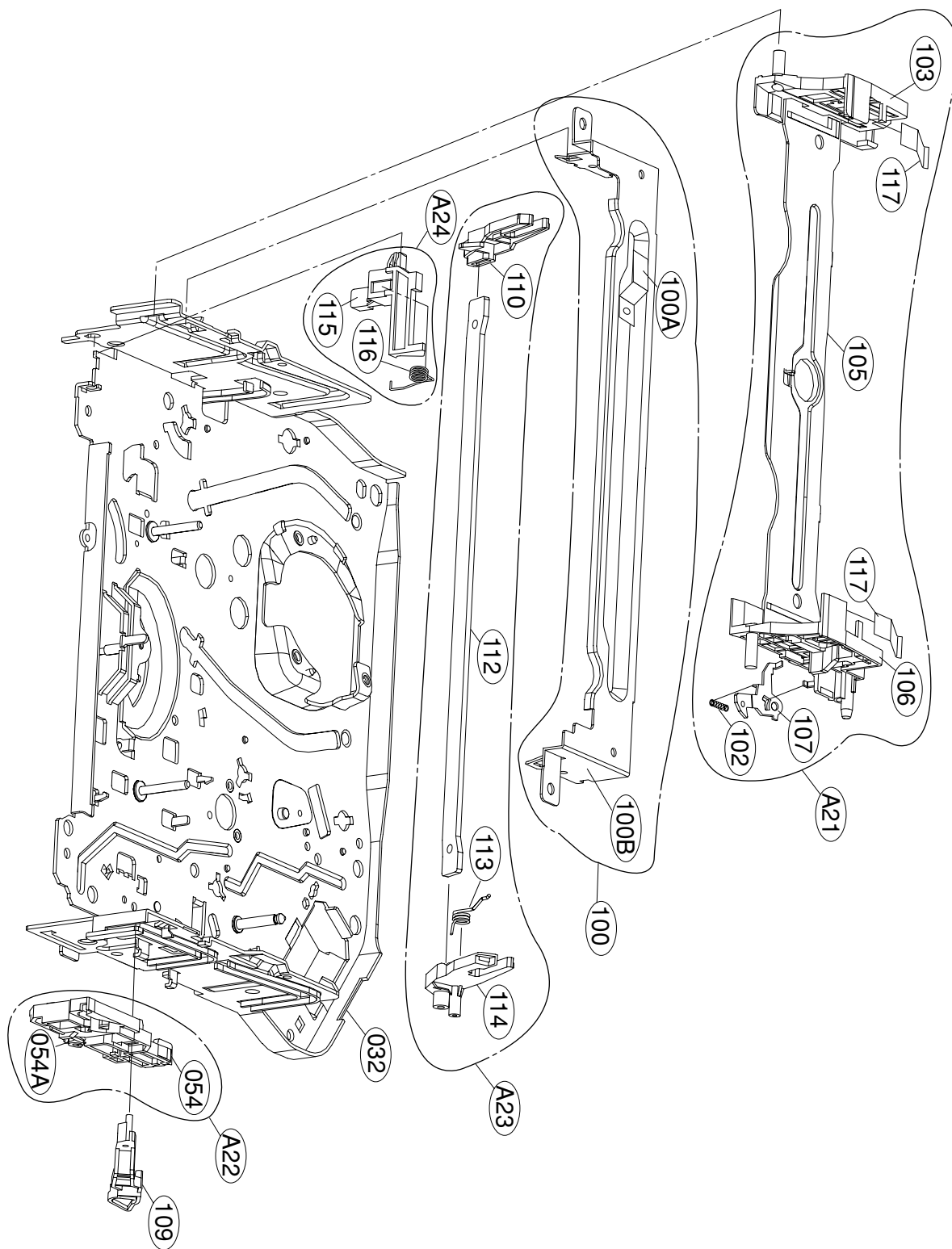
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C.



# EXPLODED VIEWS

## 1. Front Loading Mechanism Section

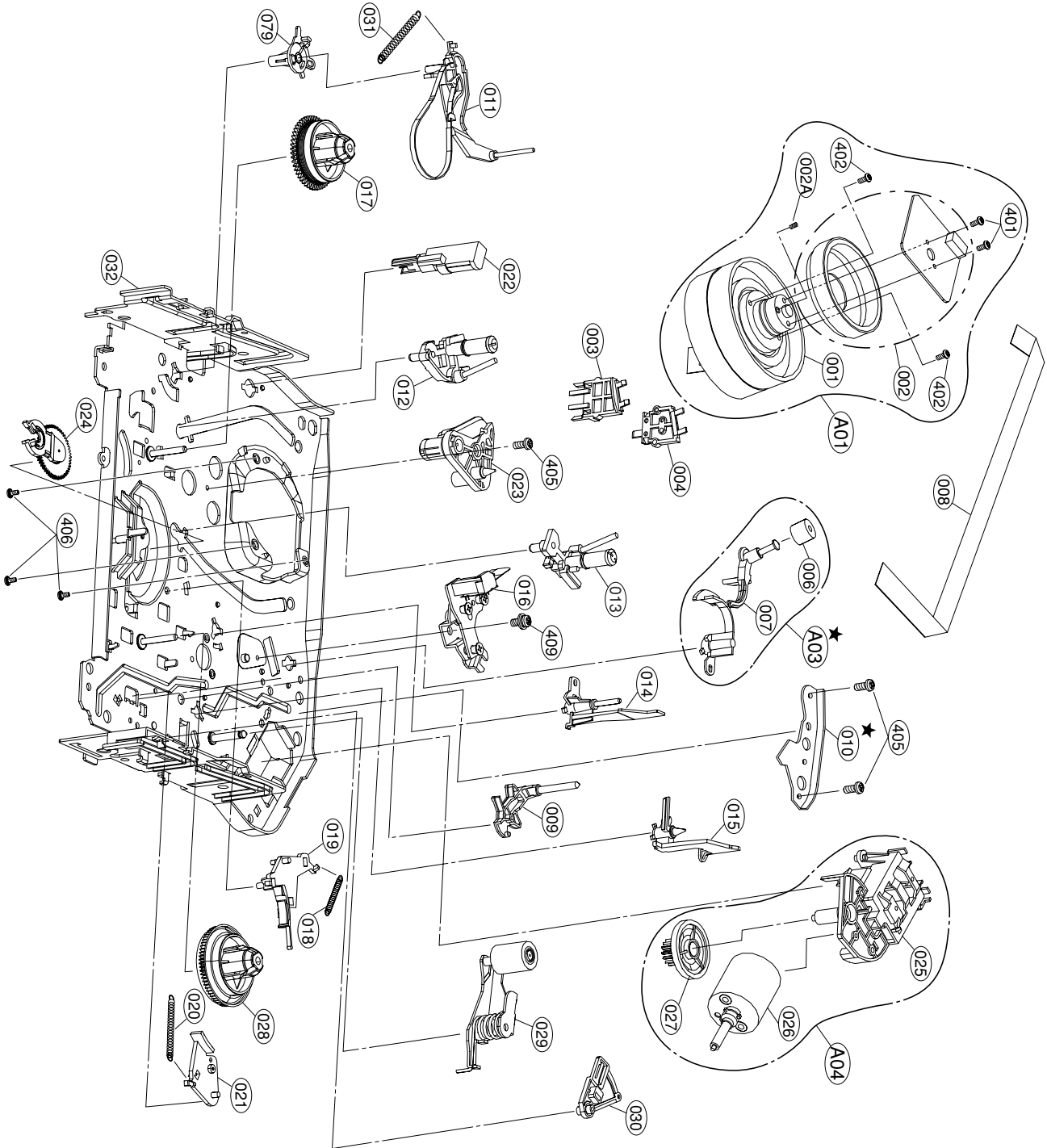




# EXPLODED VIEWS

## 2. Moving Mechanism Section(1)

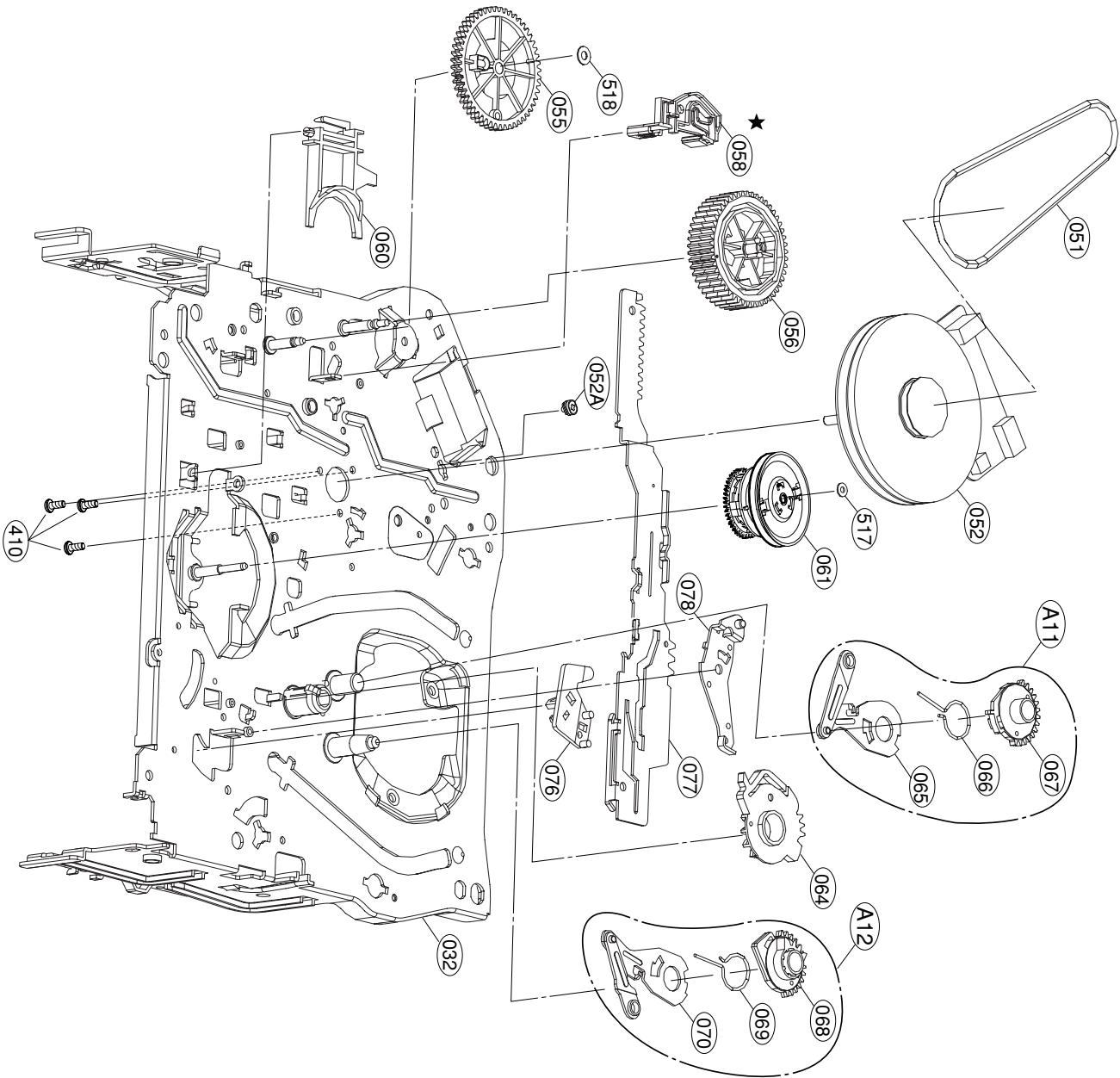
★ OPTIONAL PART



# EXPLODED VIEWS

## 3. Moving Mechanism Section(2)

★ OPTIONAL PART



# SECTION 6 MECHANISM OF DVD PART

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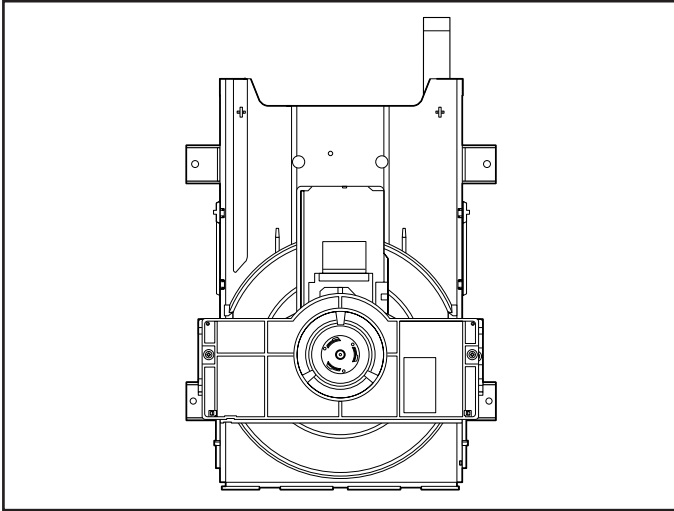
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### EXPLODED VIEW

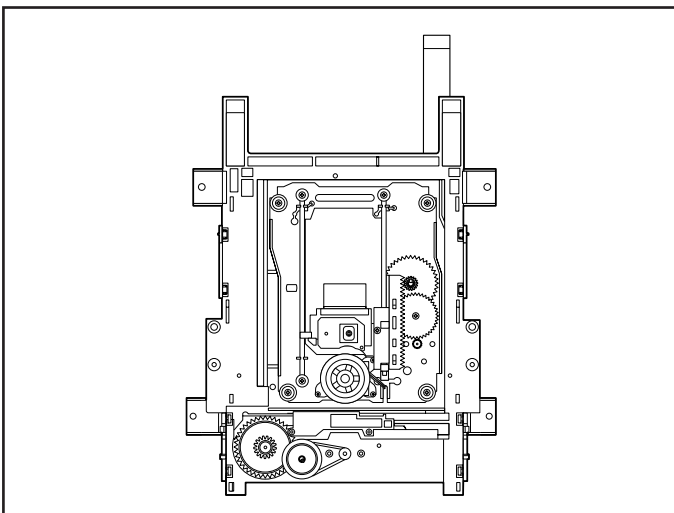
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-

# DECK MECHANISM PARTS LOCATION

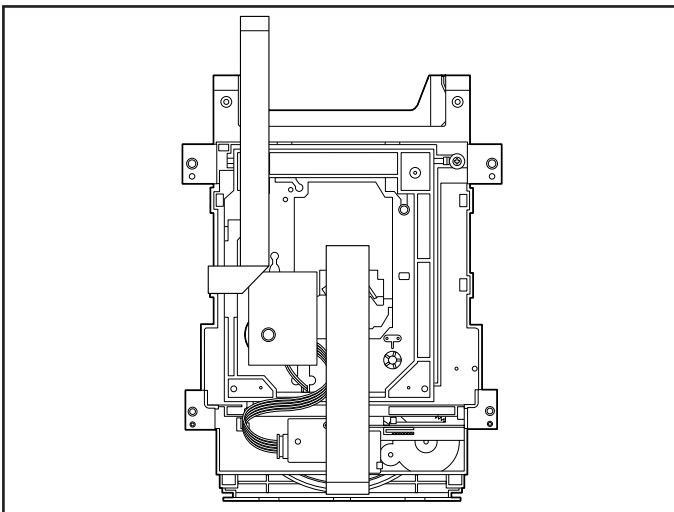
## • Top View (With Tray)



## • Top View (Without Tray)



## • Bottom View



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

### 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

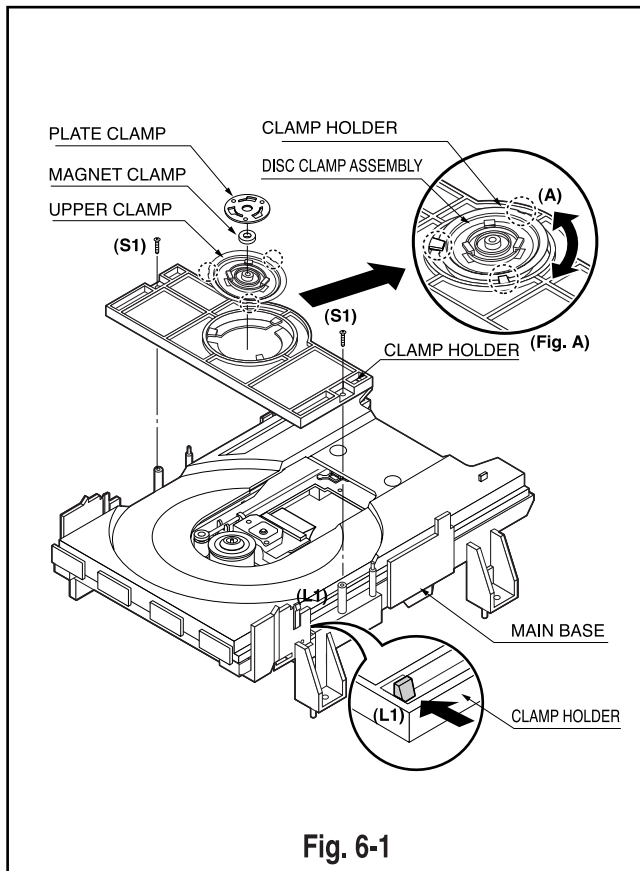


Fig. 6-1

## 1. Holder Clamp (Fig. 6-1)

- 1) Release 2 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

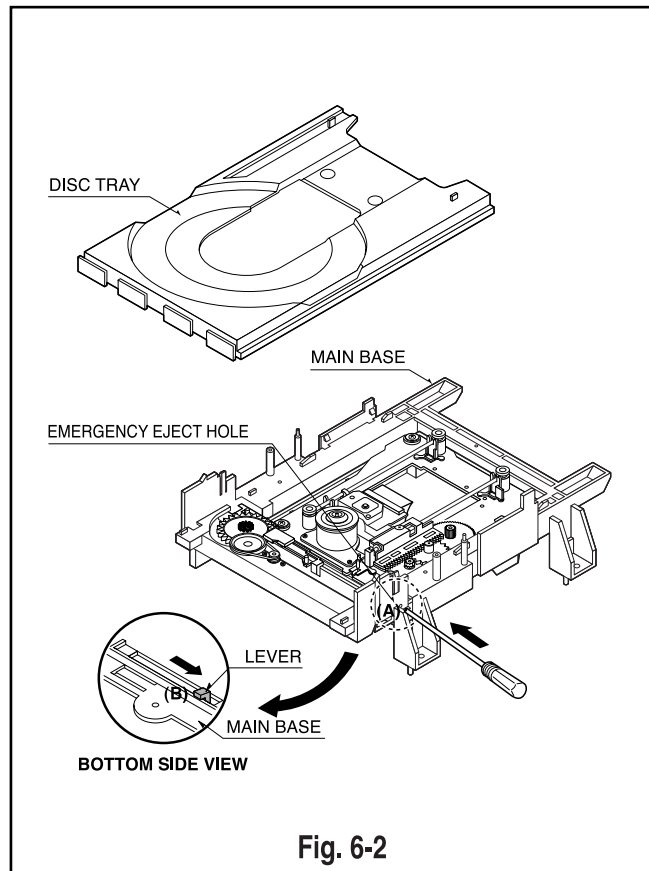


Fig. 6-2

## 2. Tray Disc (Fig. 6-2)

- 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

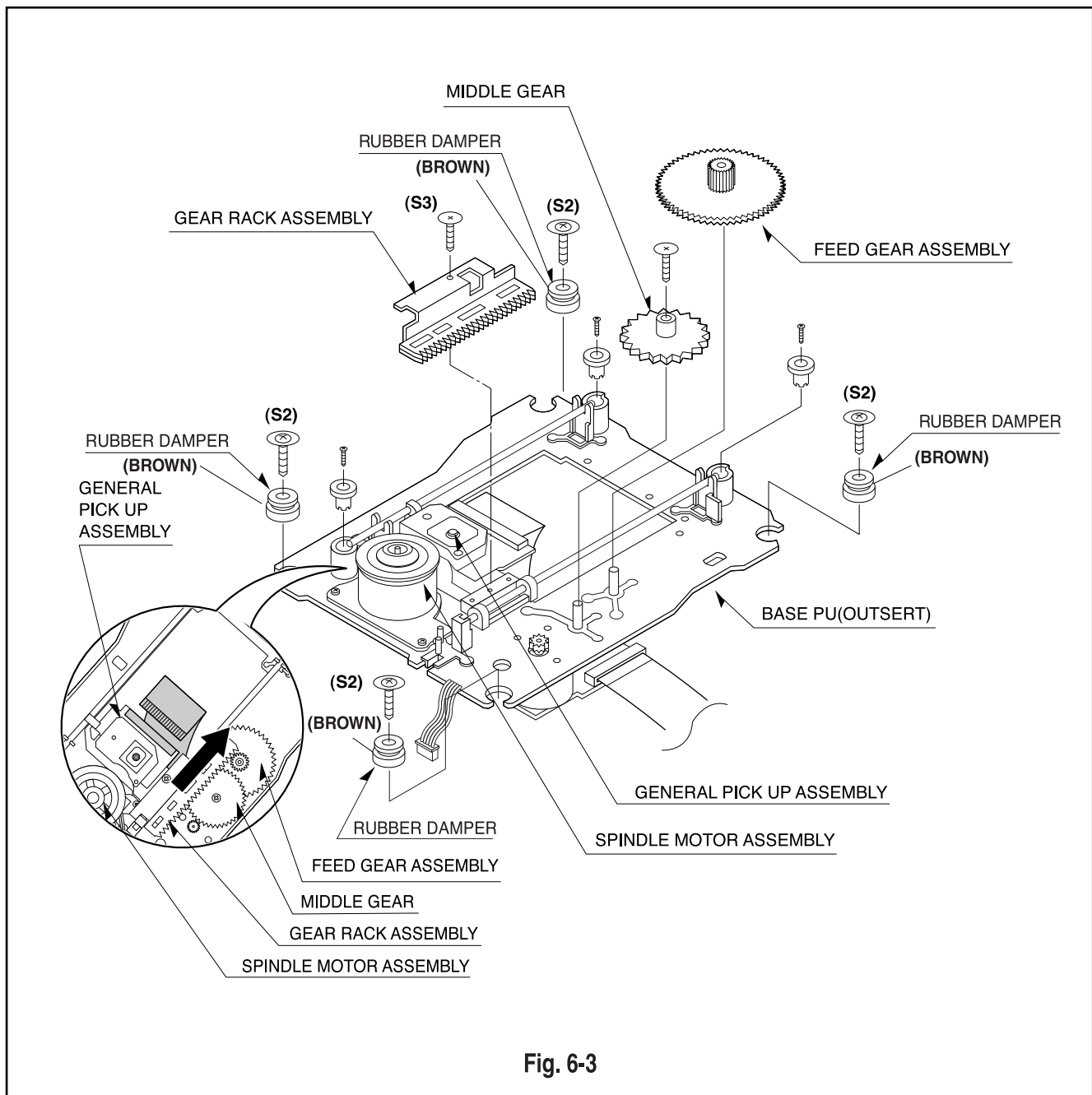


Fig. 6-3

### 3. Base Assembly Sled (Fig. 6-3)

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

#### 3-1. Gear Assembly Feed

#### 3-2. Gear Middle

### 3-3. Gear Assembly Rack

- 1) Release the Screw(S3)

### 4. Rubber Rear (Fig. 6-3)

# DECK MECHANISM DISASSEMBLY

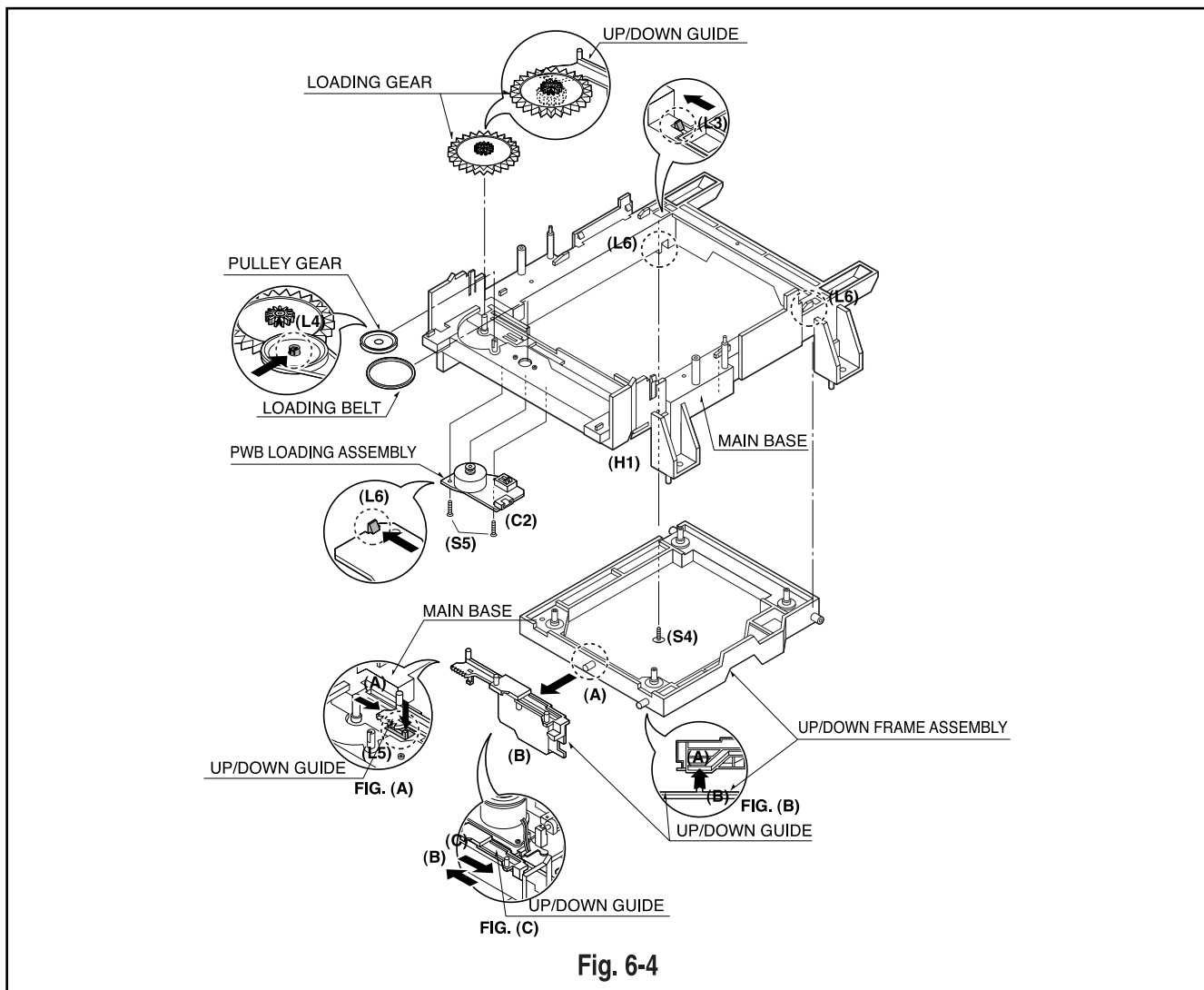


Fig. 6-4

## 5. Frame Assembly Up/Down (Fig. 6-4)

### 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. 6-4)

### Note

Put the Base Main on original position(Top Side)

## 7. Gear pulley (Fig. 6-4)

- 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. 6-4)

## 9. Guide Up/Down (Fig. 6-4)

- 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. 6-4)

### Note

Put the Base Main face down(Bottom Side)

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

## 11. Base Main(Fig. 6-4)





# EXPLODED VIEWS

## 1. Deck Mechanism Exploded View

