ORDER NO. MD9603006C2

Service Manual

COMPACT disc DIGITAL AUDIO

MASH* multi-stage noise shaping

Portable Stereo Component CD System

RX-DS790

Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(EG)	Germany and Italy	(K)

* MASH is a trademark of NTT.

TAPE SECTION : AR300 MECHANISM SERIES
CD SECTION : RAE0150Z TRAVERSE DECK SERIES

■ Specifications

■RADIO

Frequency range	
FM	87.50 – 108.00 MHz (50 kHz steps)
LW	144 – 288 kHz (9 kHz steps)
MW	522 – 1611 kHz (9 kHz steps)
Intermediate Frequency	
FM	10.7 MHz
AM	459 kHz
Sensitivity	
FM	13 dB/50 mW
LW	53 dB/m/50 mW
MW	49 dB/m/50 mW

■CD PLAYER

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source	Semiconductor laser (wavelength; 780 nm)
No. of channels	2 channel, stereo
Frequency Response	20 Hz – 20 kHz(+1, –2 dB)
S/N ratio	75 dB
Wow and flutter	Less than possible measurement data
D/A converter	MASH (1 bit DAC)

Notes :
Specifications are subject to change without notice.
Weight and dimensions are approximate.

■TAPE RECORDER

Track system	4 track, 2 channel, stereo
Recording system	AC bias
Erasing system	AC erase
Monitor system	Variable sound monitor
Frequency range(Normal position)	30 – 16,000 Hz

■GENERAL

Power requirement	
AC	230 – 240 V, 50 Hz
	Power consumption: 57 W
Battery	15V (Ten R20/LR20, UM-1 batteries)
Memory back-up for computer/clock	6V (Four R6/LR6, UM-3 batteries)
Speakers	12 cm x 2 (Full range Woofer)
	8 cm x 2 (Tweeter)
Jacks	
Output	Speakers; 2.7 – 8 Ω (LOW)
	8 – 16 Ω (HIGH)
	Phones; 32 Ω
Input	MIX MIC; 5 mV (200 – 600 Ω)
Dimensions (W x H x D)	646 x 284 x 265 mm
	Main unit; 317 x 284 x 265 mm
	Speaker box; 170 x 270 x 183 mm
Weight	8.8 kg without batteries

Panasonic®

Contents

⚠ WARNING

This service information is designed for experiense repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

■ Contents

■ Precaution of Laser Diode

CAUTION : This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.
Wavelength : 780 nm
Maximum output radiation power from pick up : 100 μW/VDE

Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG: Dieses produkt enthält eine laserdiode. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge : 780nm
Maximale strahlungsleistung der lasereinheit :100μW/VDE

Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

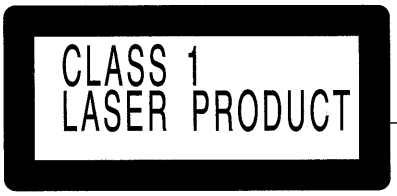
1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdiode gefährlich ist.
2. Den werkseitig justierten einstellregler der lasereinhit nicht verstellen.
3. Nicht mit optischen instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.

ADVARSEL: I dette a apparat anvendes laser.

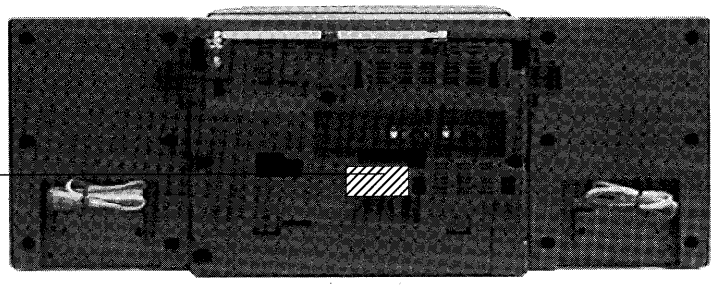
CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ Use of Caution Labels

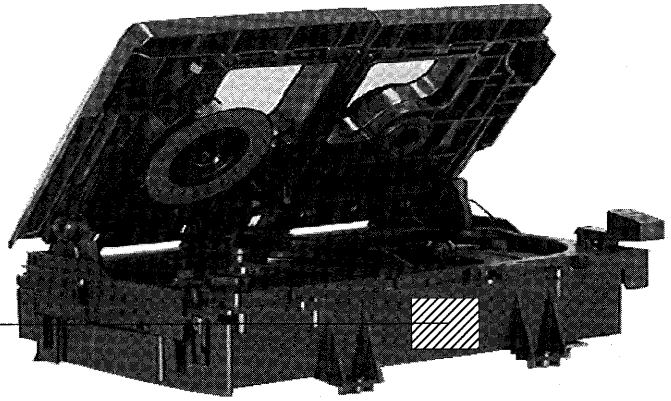
RQT4389ZAA



LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

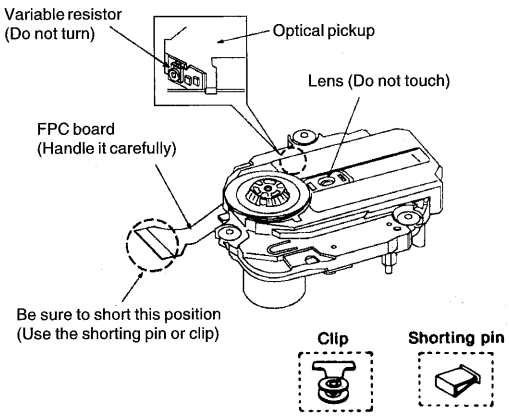


DANGER	INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN. RQLS0119



■ Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

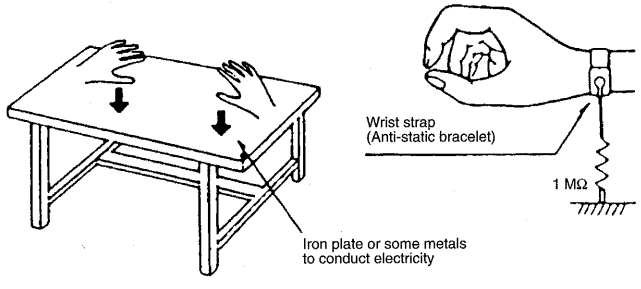


- **Handling of traverse deck (optical pickup)**

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC board). When removing or connecting the short pin, finish the job in as short time as possible.
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.



Caution :
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

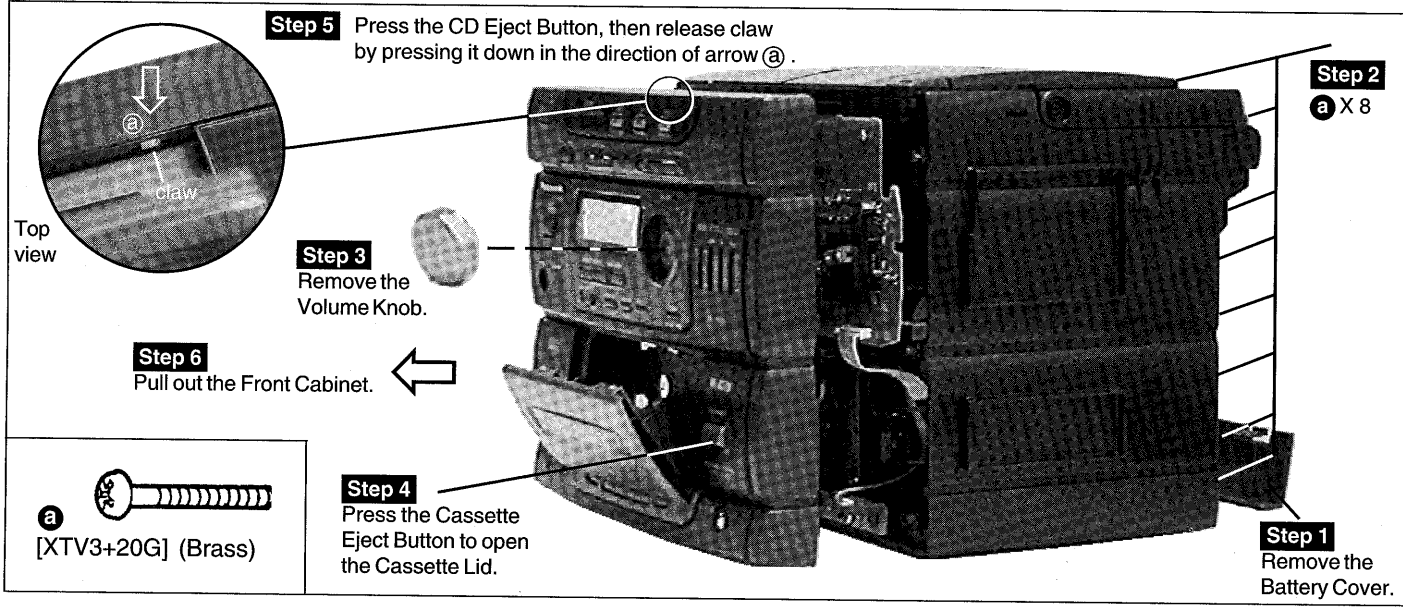
■ Operation Checks and Main Component Replacement Procedures

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.
4. Refer the Parts No. on the page of "Main Component Replacement Procedures", if necessary.

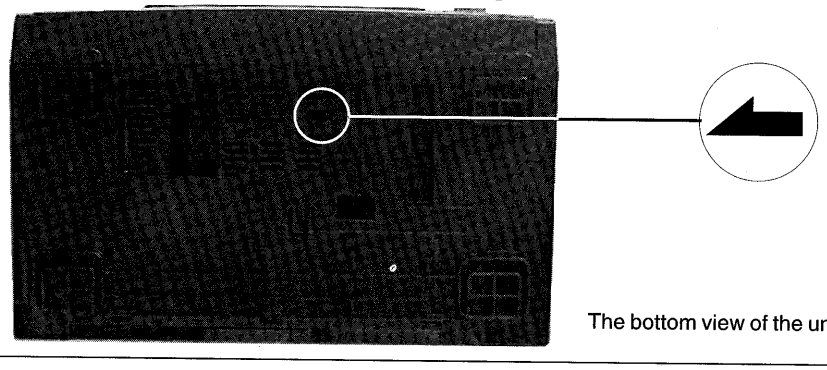
• Contents

Warning : This product uses a laser diode. Refer to caution statements on page 2.
ACHTUNG : • Die lasereinheit nicht zerlegen.
• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

■ Disassembly of the Front Cabinet



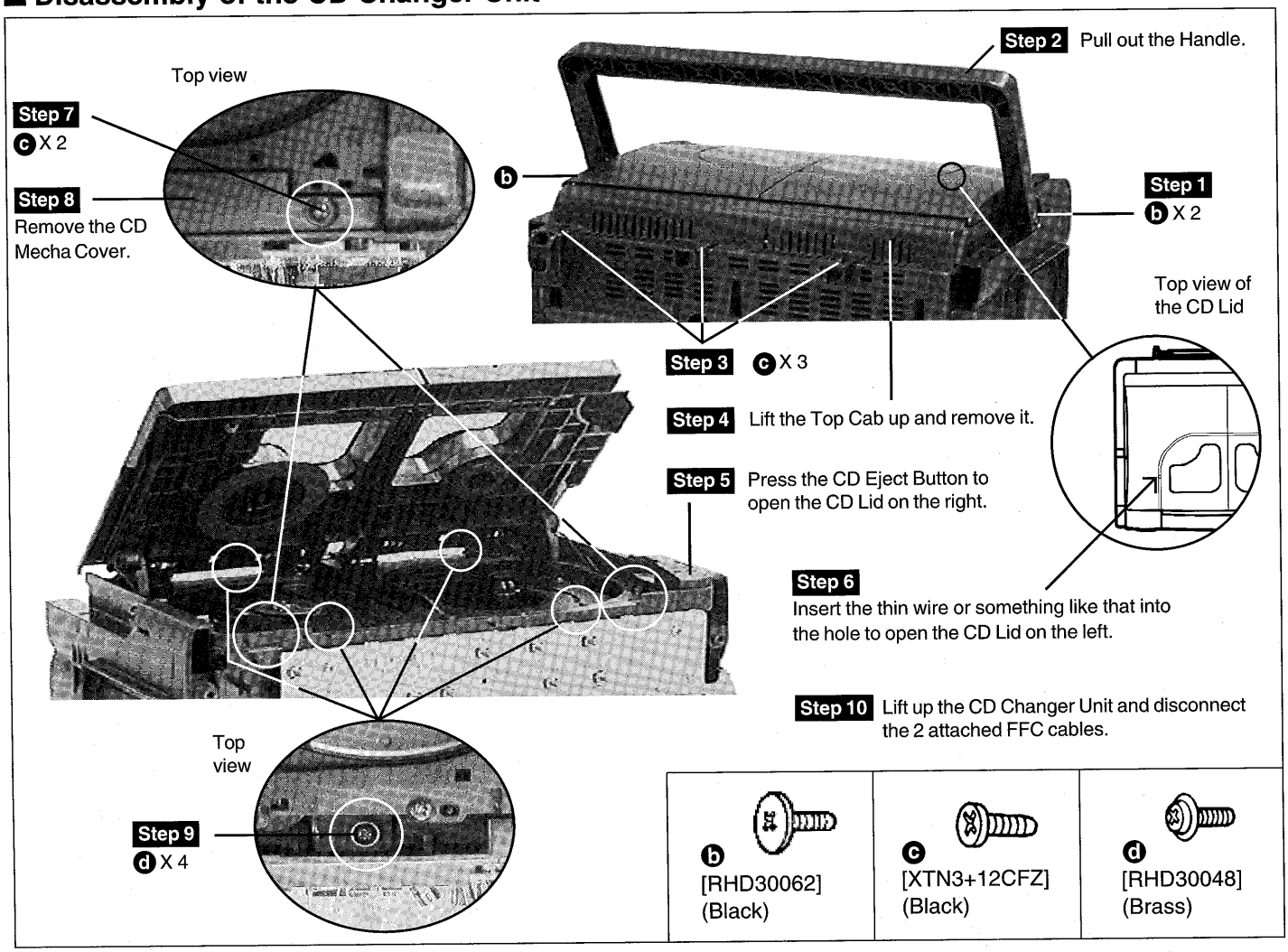
■ What to do when the tape is entangled



When a tape is caught in the pinch roller, etc., release the tape by turning the pulley on the motor with a screwdriver in the direction of arrow.

The bottom view of the unit.

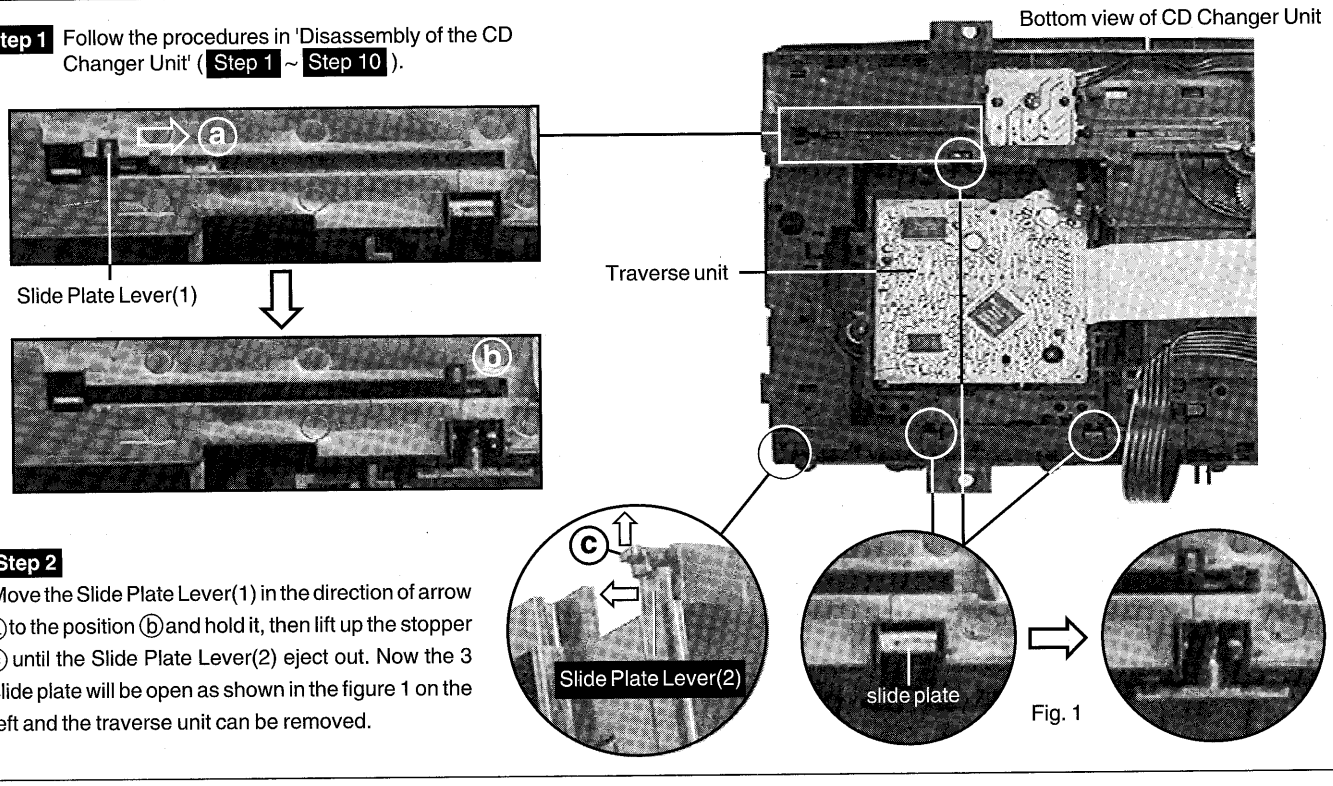
■ Disassembly of the CD Changer Unit



b	c	d
[RHD30062] (Black)	[XTN3+12CFZ] (Black)	[RHD30048] (Brass)

■ Disassembly of the Traverse Unit

Step 1 Follow the procedures in 'Disassembly of the CD Changer Unit' (Step 1 ~ Step 10).



Step 2

Move the Slide Plate Lever(1) in the direction of arrow ⓐ to the position ⓑ and hold it, then lift up the stopper ⓒ until the Slide Plate Lever(2) eject out. Now the 3 slide plate will be open as shown in the figure 1 on the left and the traverse unit can be removed.

Fig. 1

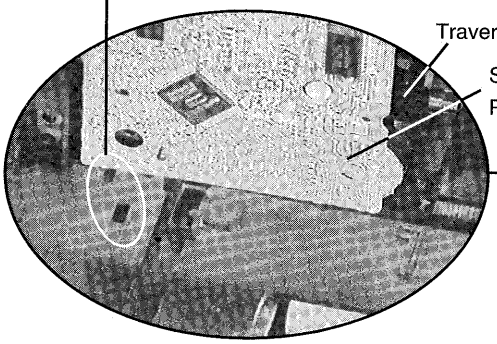
■ Checking Procedure for each major P.C.B.

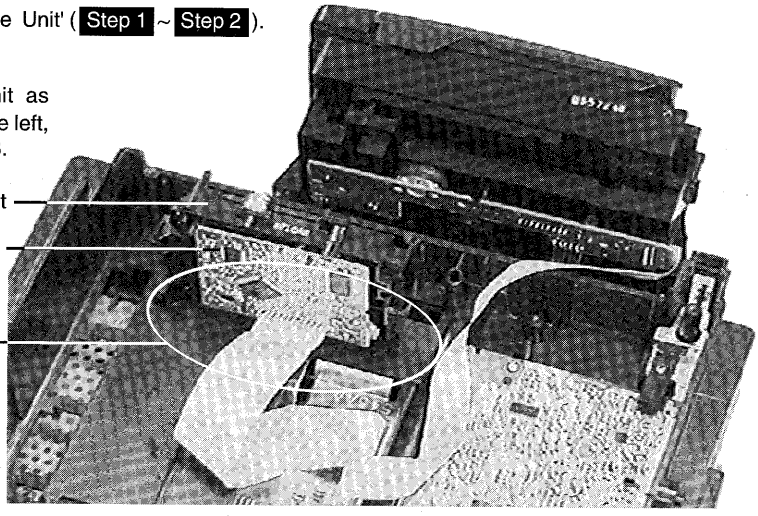
1. Checking of the Servo P.C.B.

Step 1 Follow the procedures in 'Disassembly of the Traverse Unit' (**Step 1** ~ **Step 2**).

Step 2
Slide in the Traverse Unit into a slot on the top of the Rear Cabinet.

Step 3
Position the Traverse unit as shown in the diagram on the left, then check the Servo P.C.B.

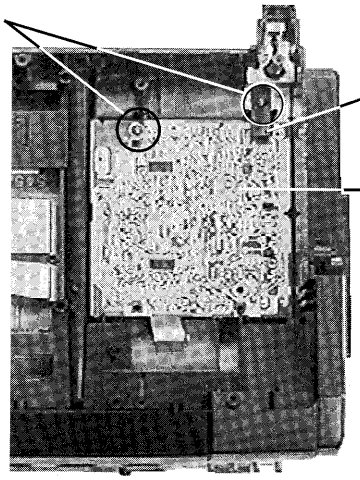




2. Checking of the Tuner P.C.B.

Step 1 Follow the procedures in 'Disassembly of the CD Changer Unit' (**Step 1** ~ **Step 10**).

Step 2
ⓐ X 2

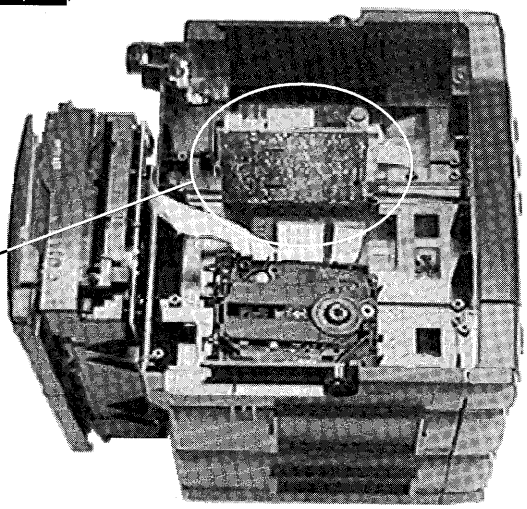


Top view

Step 3
Remove the Tuner P.C.B. Holder.

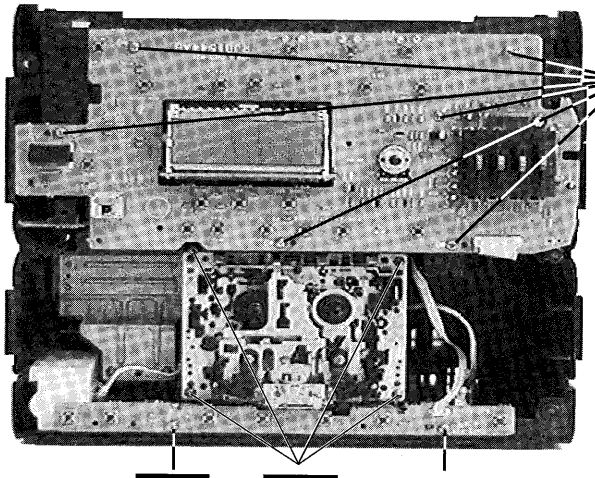
Step 4
Pull out the Tuner P.C.B and position it upright.

Step 5
Check the Tuner P.C.B. as shown on the left.



3. Checking of the Mechanism P.C.B., Panel P.C.B., Control P.C.B. and Main P.C.B.

Step 1 Follow the procedures in 'Checking of the Tuner P.C.B.' (**Step 1** ~ **Step 3**).

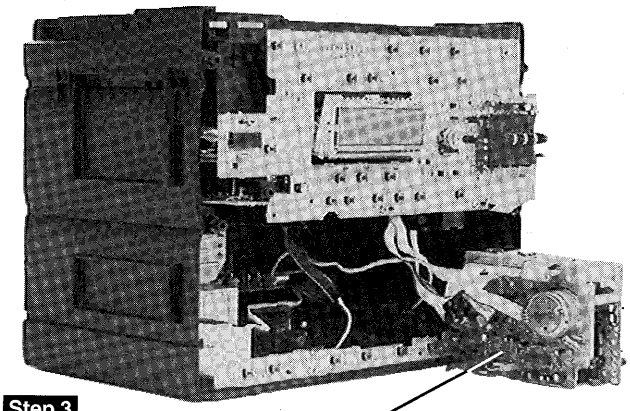


Step 5
ⓓ X 6

Step 4
ⓒ X 2

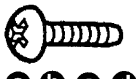
Step 2
ⓑ X 4

ⓒ



Step 3
Position and check the Mechanism P.C.B. as shown above.

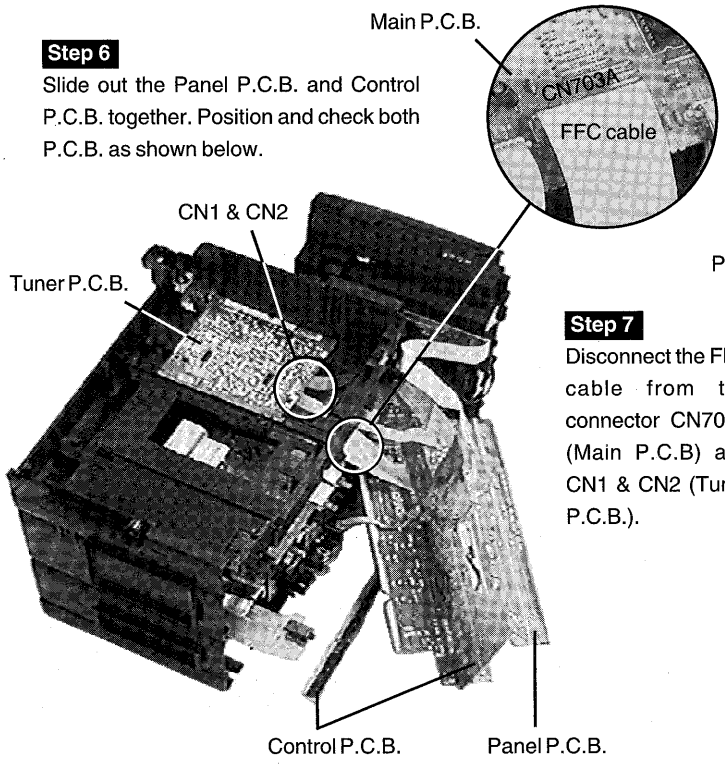
CHECKING OF MECHANISM P.C.B. (Step 2 ~ 3)



ⓐ ⓑ ⓒ ⓓ
[XTV3+12G] (Brass)

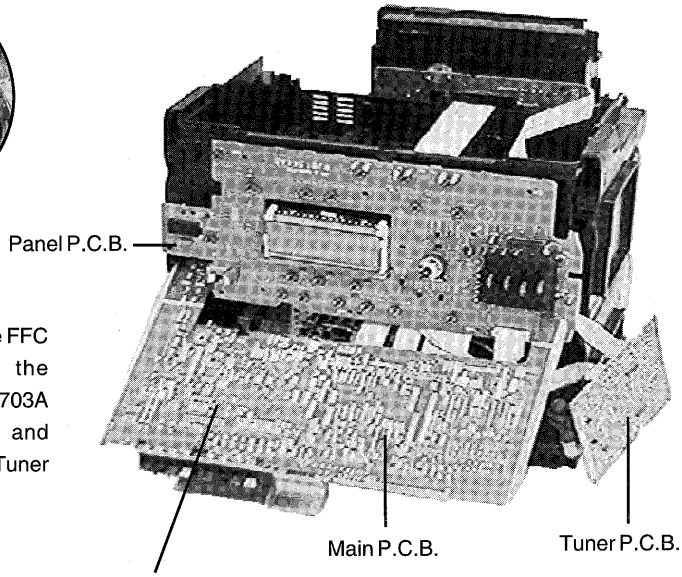
CHECKING OF PANEL & CONTROL P.C.B. (Step 4 ~ 6)

Step 6
Slide out the Panel P.C.B. and Control P.C.B. together. Position and check both P.C.B. as shown below.



Step 7
Disconnect the FFC cable from the connector CN703A (Main P.C.B) and CN1 & CN2 (Tuner P.C.B.).

CHECKING OF MAIN P.C.B. (Step 7 ~ 8)

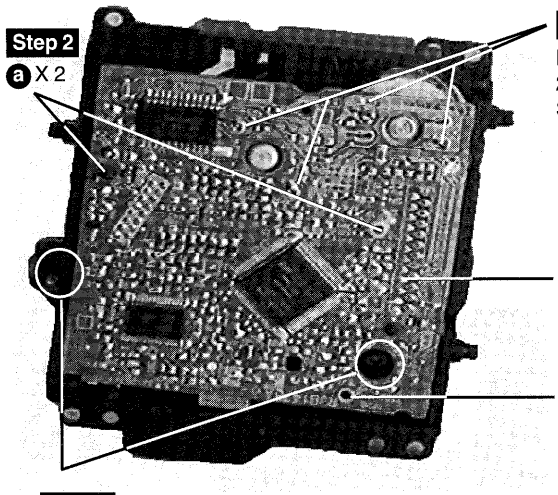


Step 8
Slide out the Main P.C.B. and place the Panel P.C.B. and Control P.C.B. back to its original place. Connect back the FFC cable, CN1 and CN2. Position and check the Main P.C.B. as shown above.

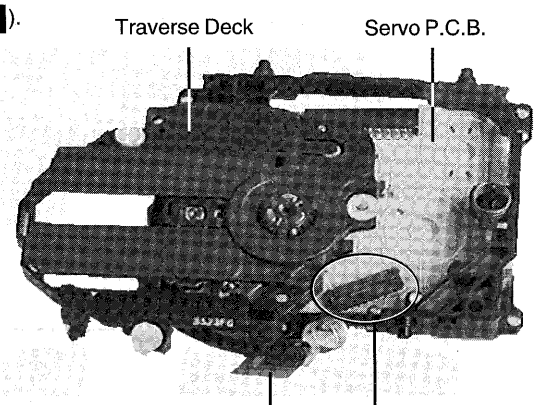
■ Main Component Replacement Procedures

1. Replacement of the Traverse Deck

Step 1 Follow the procedures in 'Disassembly of the Traverse Unit' (**Step 1** ~ **Step 2**).

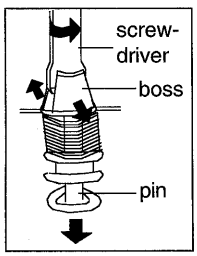


Step 4
Desolder the 4 legs of the 2 motors and pull out the Servo P.C.B.

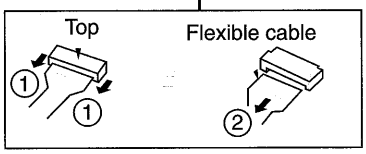


Step 6 Remove the flexible cable CN701.

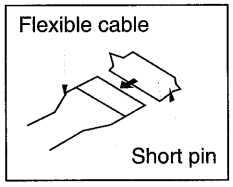
Step 5 Widen the 2 bosses with a flat screwdriver and pull out the 2 pins. Then remove the Traverse Deck.



• Removal of the flexible cable
Push the top of the connector in the direction of the arrow ①, and then pull out the flexible cable in the direction of the arrow ②.



Note :
Insert a short pin into the flexible cable for traverse unit.



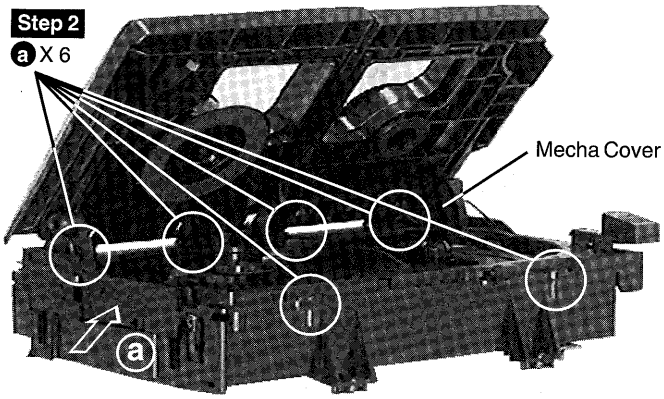
ⓐ [XTV2+6G] (Brass)

ⓑ [XTN2+6G] (Brass)

2. Replacement of the CD Changer Unit

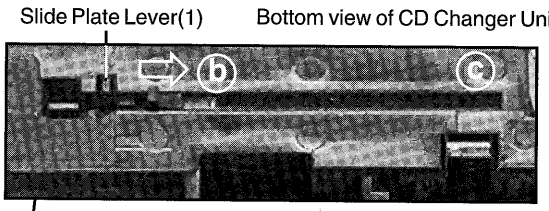
Step 1 Follow the procedures in 'Disassembly of the CD Changer Unit' (**Step 1** ~ **Step 10**).

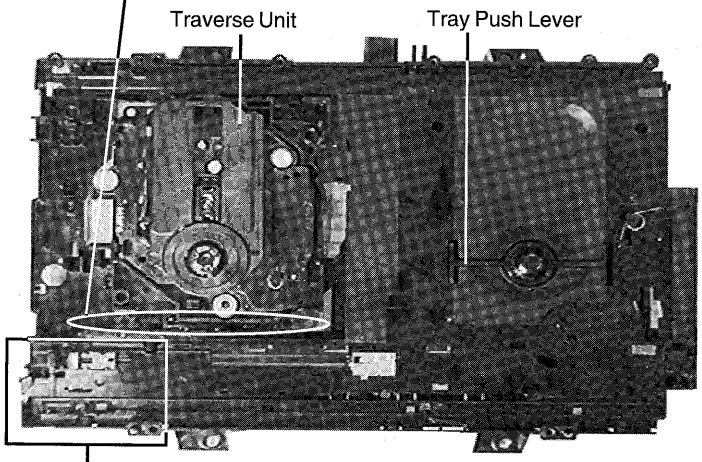
Step 2
ⓐ X 6



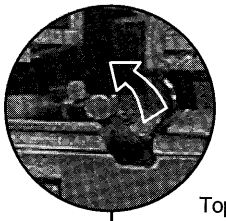
Step 3 Press in the direction of arrow ⓐ and then pull out the Mecha Cover Ass'y.

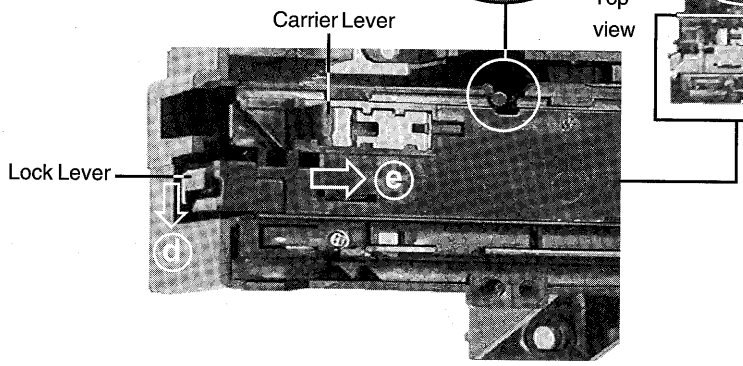
Step 4
Move the Slide Plate Lever(1) in the direction of arrow ⓑ to the position ⓒ until the Traverse Unit move down, then remove the Tray Push Lever.



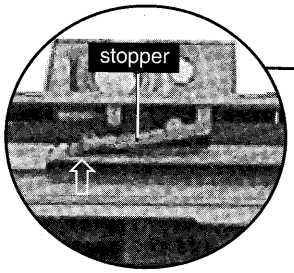


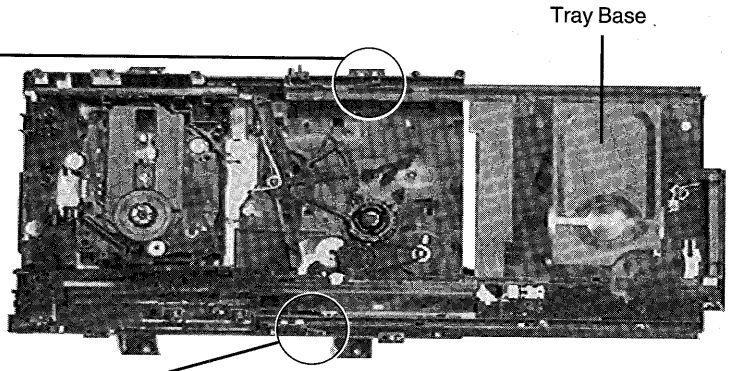
Step 5
Press the Lock Lever in the direction of arrow ⓓ until the other end of Lock Lever move out as shown in the diagram on the left.

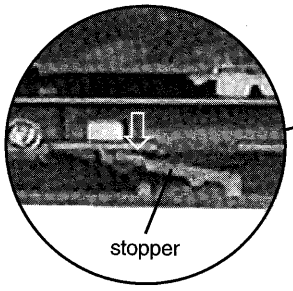




Step 6
Press the Carrier Lever in the direction of arrow ⓔ until the Tray Base move out as shown in the diagram below.

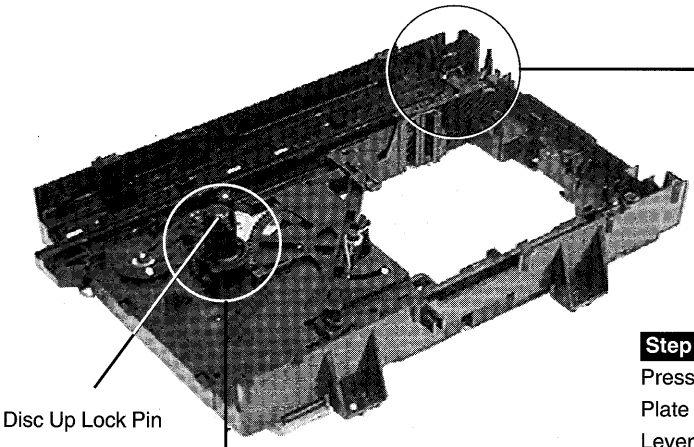


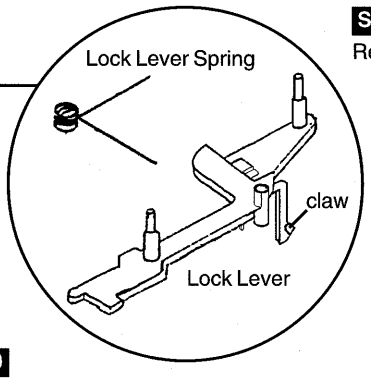




Step 7
Release the 2 stoppers by hands and pull out the Tray Base in the direction of arrow ⓕ.

ⓐ [XTB3+10JFZ] (Black)

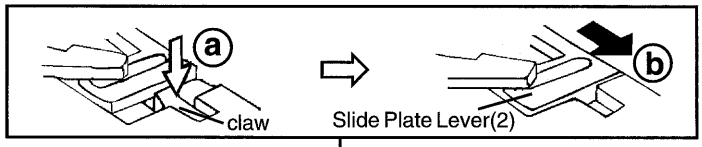


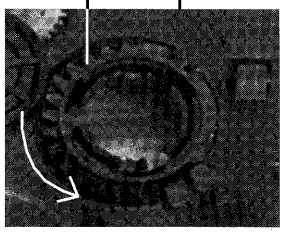


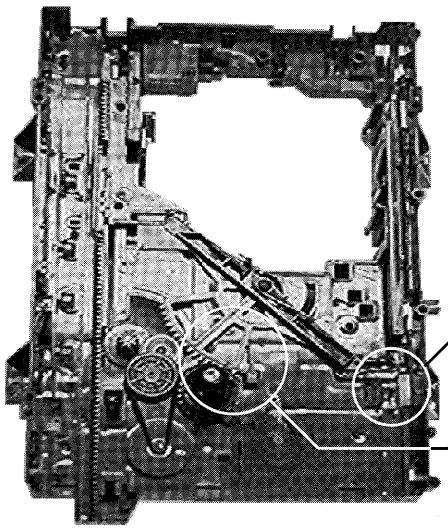
Step 8
Remove the Lock Lever Spring.

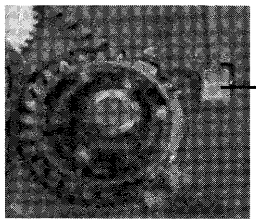
Step 9
Release a claw and pull out the Lock Lever.

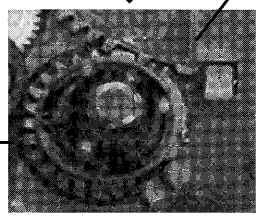
Step 10
Press down a claw in the direction of arrow ⓐ and move the Slide Plate Lever(2) in the direction of arrow ⓑ. Then remove the Change Lever when it shift out from the catch as shown in figure 1.











Step 11
Remove the Disc Up Lock Pin followed by turning the Up/Down Gear anti-clockwise to remove it as shown above.

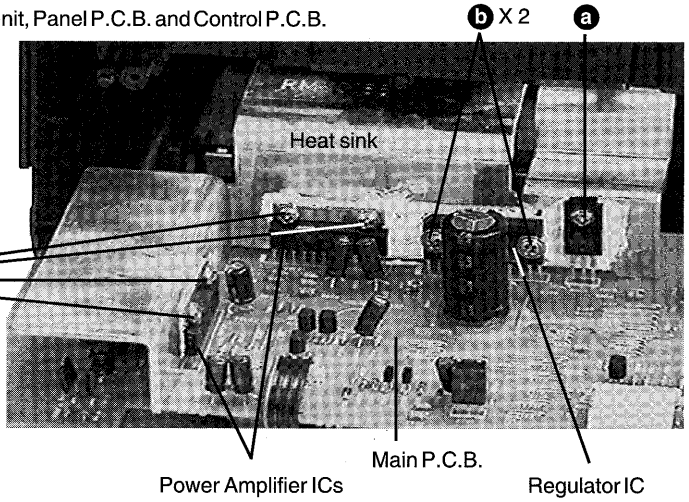
Fig. 1

3. Replacement of the Power Amplifier ICs and Regulator IC

Step 1
Disassemble the Front Cabinet, Deck Unit, Panel P.C.B. and Control P.C.B.

Step 2
Slide out the Main P.C.B.

Step 3 ⓐ X 5

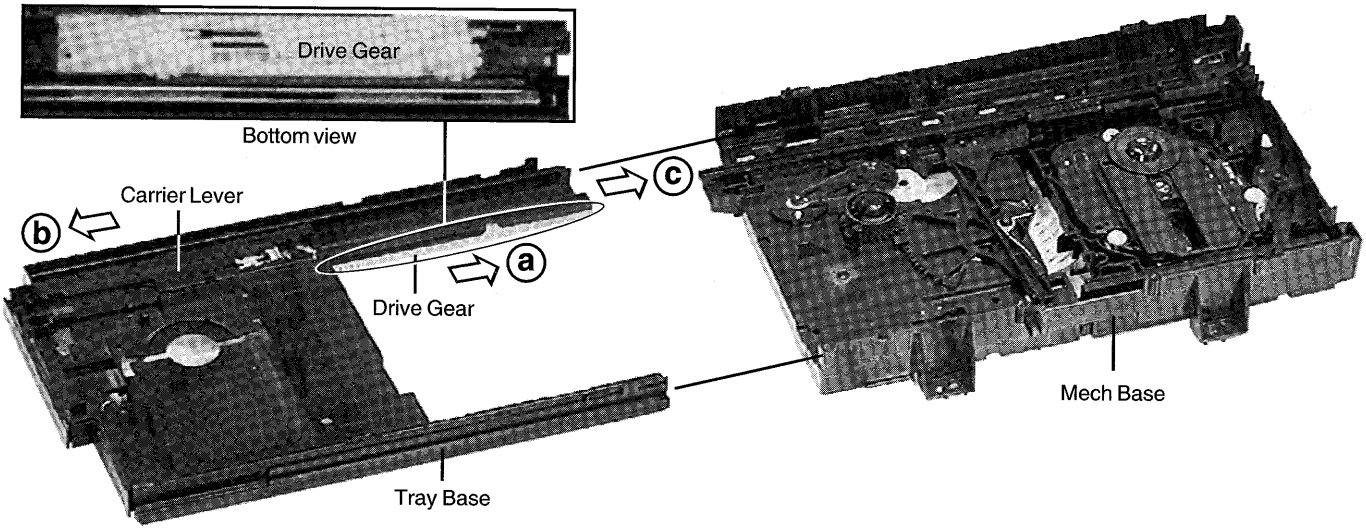


ⓐ [XTV3+8F] (Brass)

ⓑ [XTW3+10F] (Brass)

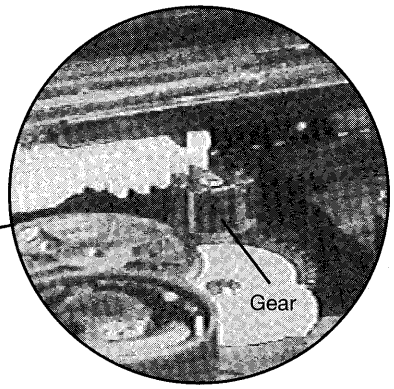
■ Installing Procedure for the CD Changer Unit

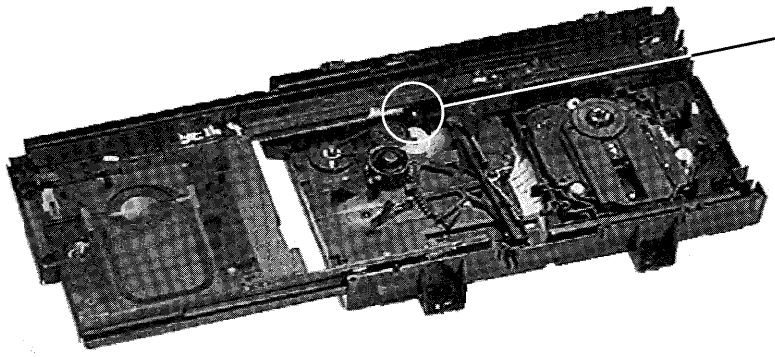
Step 1
Move the Drive Gear in the direction of arrow ⓐ to the position as shown in the diagram below and the Carrier Lever in the direction of arrow ⓑ .



Step 2
While holding the Drive Gear and Carrier Lever, install the Tray Base on the Mech Base in the direction of arrow ⓒ until the Tray Base stops as shown in figure 1. Release only the Carrier Lever and push the Tray Base together with the Drive Gear. After engaging the gear, release the Drive Gear which held and feed the Tray Base slowly.

Fig. 1

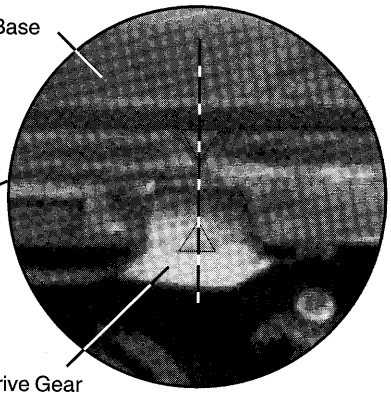


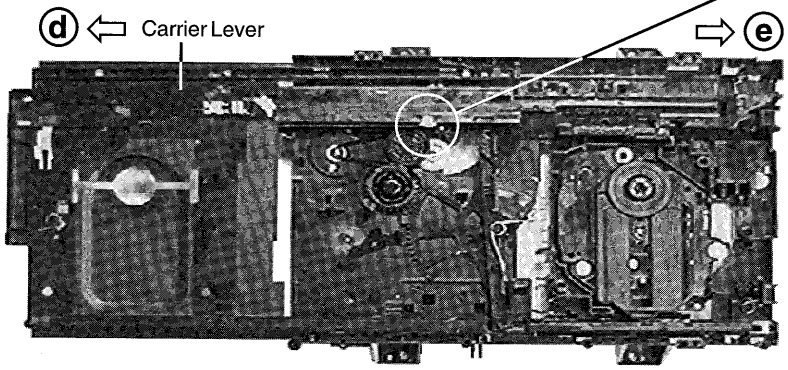


Top view

Step 3
Hold the Carrier Lever and push it in the direction of arrow ⓓ to the end until the Tray Base stops. Make sure the mark '▽' on the Tray Base is aligned with the mark '△' on the Drive Gear as shown in figure 2 before closing the Tray Base.

Fig. 2





Step 4
After closing the Tray Base, slide the Carrier Lever in the direction of arrow ⓔ until it reaches the end of the Tray Base.

■ Self-Diagnostic Display Function

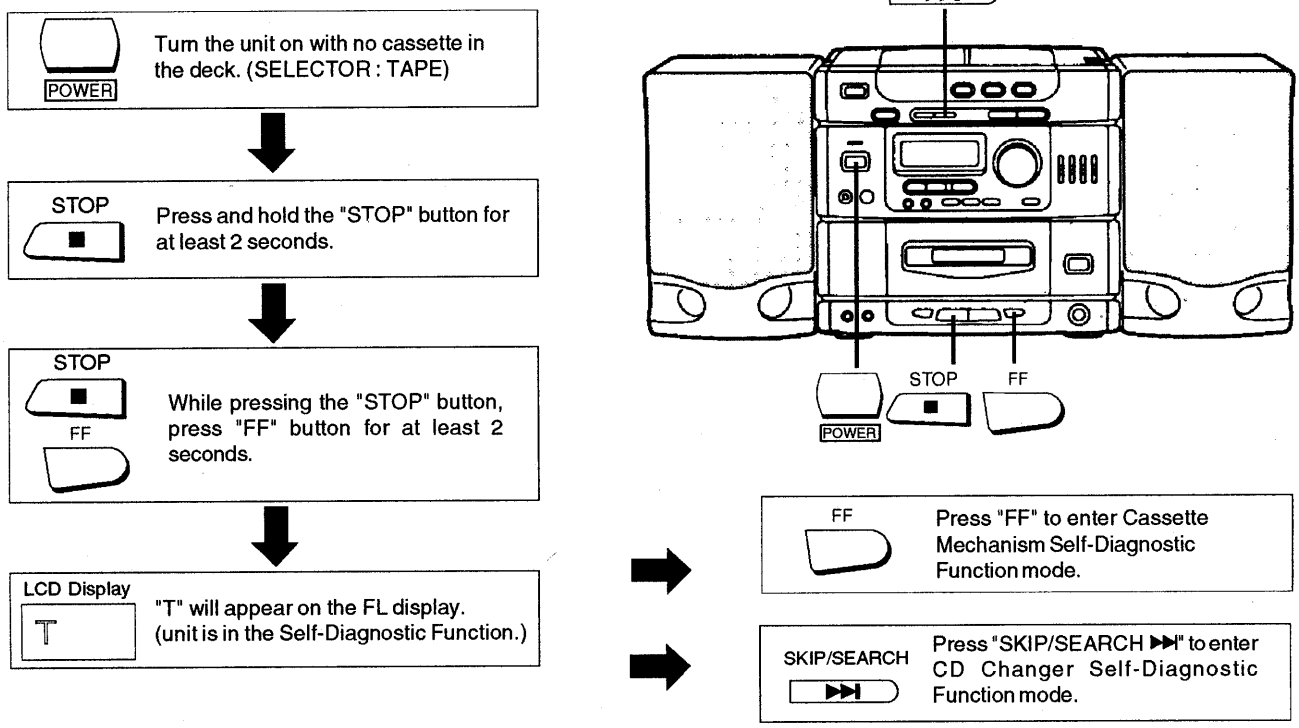
■ Self-diagnostic display

This unit is equipped with a self-diagnosis display function which, if a problem occurs, will display an error code corresponding to the problem. Use this function when performing maintenance on the unit.

■ Preparation

- Normal blank tape with recording prevention tab on one side.
- Normal blank tape with recording prevention tabs intact on both side.

■ How to enter the Self-Diagnostic Function



■ Set up for Cassette Mechanism Self-Diagnostic Function mode

1. Load the normal tape (Recording prevention tab at left hand side only)
2. Press "FF" button (Tape will fast forward for about 2 seconds and stop)
3. Load the normal tape (Recording prevention tab at right hand side only)
4. Press "REW" button (Tape will rewind for about 2 seconds and stop)
5. Load the normal tape (Recording prevention tab at both side)
6. Press "REC / REC PAUSE" button (The mechanism will not move)

■ CD / CD Changer Self-Diagnostic Function mode

1. Error condition is detected during normal operation and memorised.

■ To Display Self-Diagnostic Result

1. Press tape "STOP" button
   *If several problem exist, error code will change each time when "STOP" button is pressed.
   (e.g. H02 → H03 → F02 ..... etc)
   *If no problem, "T" will remain unchange

■ How to get out from Self-Diagnostic function

1. Press "POWER" button OFF.

■ To clear all Error code

1. Press Tape "STOP" button for 5 seconds.
2. FL indicator shows "CLEAR" for 1 second and change to "T".

• **Description of Error Code**

Error code	Problem condition	Correction procedure
U01	When the unit is operating on batteries, power supply ceases soon after the POWER button is set to ON.	It is due to consumption of batteries. Replace the batteries with new ones.
U02	Setting the POWER button to ON causes no supply of power.	Check the power plug (AC), or insert batteries (DC).
H01	Faulty operation of cassette mechanism. Example: Reverse-play operation performs when FWD button is pressed.	Faulty cassette mechanism mode switch (S971) and plunger. (Check and replace)
H02	Recording not possible, or recording mode entered even though erasure prevention tabs have been removed.	Faulty contact or short-circuit of erasure prevention switches (S973, S974). (Check and replace)
H03	Playback not performed when Play (◀▶) button is pressed. Motor turns when Play (◀▶) button is pressed even though there is no tape cassette loaded in cassette holder.	Faulty contact or short-circuit of cassette half detect switch. (S972) (Check and replace)
F01	When the Play (◀▶) button is pressed, the tape advances slightly and then stops.	Faulty reel pulse, faulty hole detect IC (IC971). (Check and replace)
F15	Relatively long time (about 8 seconds) is required to begin play when the CD play (▶) button is pressed from the power-off state or from a function other than CD player.	Faulty contact on CD mechanism optical pick-up reset switch (S701). (Check and replace)
F25	CD does not function	Faulty "CD Traverse Lid Switch" (Check SW7 and replace)
F26	CD does not function even when pressing Play (▶) button. CD track jumps. CD rotates irregularly.	Faulty system contact (IC801) or servo processor (IC702). (Check and replace) Faulty connection or broken of FPC for CD circuit. (Check and replace)
F27	Tray number does not detect correctly.	Faulty "Tray number detection switch" (Check SW5 and replace)
F28	CD does not function. CD loading mechanism does not move correctly.	Faulty "Stocker area detection switch SW1" Faulty "Play position detection switch SW2" (Check SW1, SW2 and replace)
F75	"NO DISC" indication show in the FL display even CD is loaded.	Faulty power circuit of CD (IC801 or circuit for power supply). (Check and replace) Faulty servo processor IC (IC702). (Check and replace)

■ CD Self-Check Function (Doctor-Mode)

This unit contains a function which is checked following operation by internal micro processor program. Use this function when performing maintenance on the unit.

1) CD Automatically-Adjusted results display
2) Tact switch inspection
3) LCD segment all light up
4) CD changer aging function

NOTE Please use the remote control transmitter with ten keys type (EUR642195 etc)

* The remote control transmitter used by this model is unable to perform this check.

■ How to enter Self-check function mode (Doctor-Mode)

POWER — Turn the unit on and load in the Test Disc. (SZZP1054)

↓

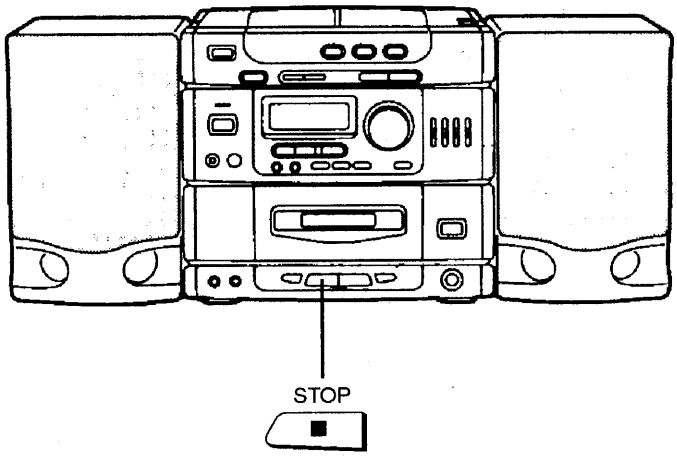
STOP ■ — Press and hold the cassette deck "STOP" button.

↓

4 7 ○ ○ — While the "STOP" button is holding, press key 4 and 7 of the Remote Control.

↓

"D" will appear on the LCD.
(Unit is in the Self-check Function-Mode)



■ CD Automatically-Adjusted result display

- This function provide indication of error code as the result of Automatic-Adjustment of CD (Tracking, Focus, offset, etc). Base on these error codes, the faulty area can be located.
- How to set the CD Automatically-Adjusted result display mode.

Set the Self-Check Function Mode → 10/0 ○ Press "10/0" button on the Remote Control → LCD indicate "D-0" → Close the CD Lid and CD start rotate → LCD will display "ERROR" code

Example [D-0 E0A]

■ Error code Explanation

- The unit is satisfactory if the error code is E00
- Before testing, make sure that the test disc is free of scratches, dirt and that the optical pick up lens is clean.

Error code	E00	E01	E02	E03	E04	E05	E06	E07	E08	E09	E0A	E0B	E0C	E0D	E0E	E0F
Focus offset	○	※	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Tracking offset	○	※	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Focus Gain (Rough)	○	※	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Tracking Gain(Rough)	○	–	○	×	○	×	○	×	○	×	○	×	○	×	○	×
Tracking balance	○	–	×	×	○	○	×	×	○	○	×	×	○	○	×	×
Focus balance	○	–	○	○	×	×	×	×	○	○	○	○	×	×	×	×
Tracking or Focus Gain (Fine)	○	–	○	○	○	○	○	○	×	×	×	×	×	×	×	×

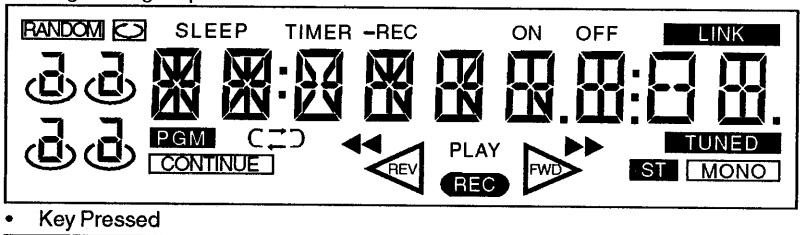
○ Satisfy × Fault (※ Fault either items)

■ Tact switch inspection mode

- This function provide to check all tact switch and LCD operation. Please use this function for checking on the main unit.
- How to enter the tact switch inspection mode

Set the Self-Check Function Mode	7 ○ Press button "7" on the Remote Control	LCD segment all light off	Press each function button on the unit	LCD segment light according to the switch

- Segment light up

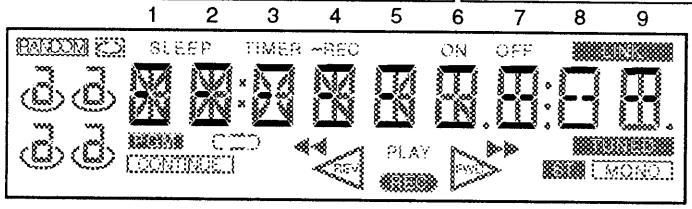


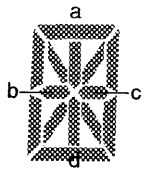
- Key Pressed

Key pressed (From unit)	Segment Number Light Up	
REC/REC PAUSE	1	a
TAPE FF	1	b
TAPE PLAY/DIR ◀ ▶	1	d
TAPE STOP ■	2	a
TAPE REW	2	b
REV MODE	2	d
COUNTER RESET	3	a

Key pressed (From unit)	Segment Number Light Up	
CD PLAY/PAUSE ▶/II	3	b
CD SKIP/SEARCH ▶▶I	3	d
CD SKIP/SEARCH I◀◀	4	a
CD STOP/CLEAR ■	4	b
EASY CD REC	4	d
CD EJECT	5	a
CD DISC 1	5	b
CD DISC 2	5	d
CD DISC 3	6	a

Key pressed (From unit)	Segment Number Light Up	
TIMER/•PLAY••REC	6	d
MEMORY	7	a
TIMER CHK/ADJUST	7	bc
CLOCK CHK/ADJUST	7	d
TUNER/BAND	8	a
PRESET TUNING ∧	8	bc
PRESET TUNING ∨	8	d
TUNING/TIME SET +	9	a
TUNING/TIME SET −	9	bc





■ LCD all light up mode

- This function provide to check LCD segment check and wiring for LCD.
- How to set LCD all light up mode

Set the Self-Check Function Mode	8 ○ Press button "8" on the Remote Control	All LCD segment will light up

■ CD Changer Operating Inspection Mode

- This function provide to check CD changer mechanism. Use this function to check loading mechanism operation after repair or to find intermittent problem of loading mechanism operation.
- If there is some operation failure, "Error" code will be appear on the LCD to indicate that the problem area.
- How to set CD changer operating inspection mode.

Set the Self-Check Function Mode	2 ○ Press button "2" on the Remote Control	CD Changer will operate in the following sequence repeatedly

- Operation Sequence and Error code

Step	Operation	Error detection	Error code
1	Load Disc 1	No change	E1
2	Play first track of Disc 1 for 5 sec.	Track 1 does not Play	E2
3	Play last track of Disc 1 for 5 sec.	Last track does not Play	E3
4	Disc 1 stop	(Indication of number of changes)	1~
5	Load Disc 3	No change	E4
6	Play first track of Disc 3 for 5 sec.	Track 1 does not Play	E5
7	Disc 3 stop	(Indication of number of changes)	1~
8	Repeat Step 1 to 8 again		

■ To Exit from Self-check function

- Press "POWER" button.

■ CD TEST PROGRAM FUNCTION

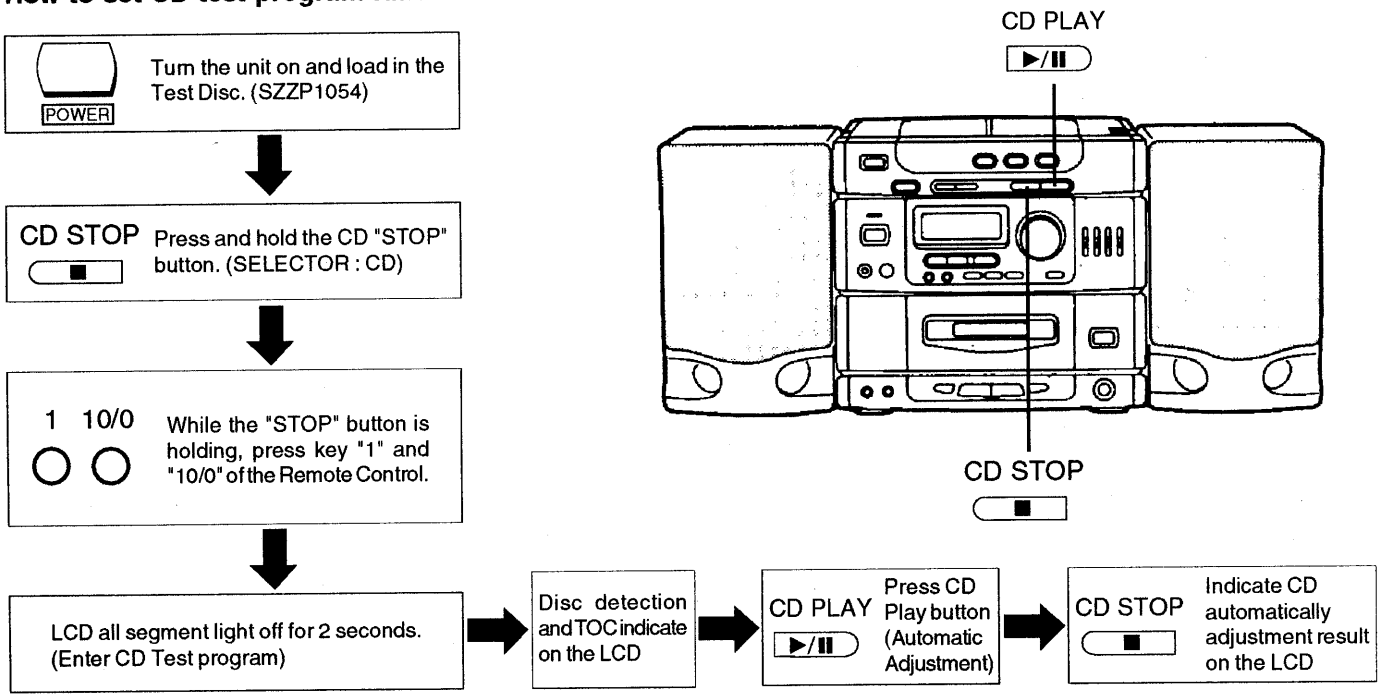
This test mode is provided to check CD unit without connecting CD changer loading mechanism.
CD unit can be play and indicate Automatic Alignment results on FL display

NOTE
Please use the remote control transmitter with ten key type (EUR642195 etc..)
* The remote control transmitter used by this model is unable to perform this function.

■ How to set and check the CD unit

- Remove CD unit from changer mechanism as shown in page 5(Disassembly of the traverse unit) and set CD unit as shown in page 6(Checking of the Servo P.C.B.).

■ How to set CD test program function



■ Operation of CD test program function

- When CD test program start function, changer mechanism operation is prohibited, even changer mechanism control circuit is connected. (CD EJECT, DISC 1, DISC 2, DISC 3 keys are not accepted.)
- With test program start, CD unit detect Disc detection and TOC is indicated on the LCD.
- Press CD Play .....CD will play and Automatically Adjustment will be done.
- Press CD Stop .....Automatically Adjustment results will be indicate on the LCD for 2 seconds.

■ To Exit from Test program mode

- Press "POWER" button.

■ Demonstration mode (Reference)

This unit equip the demonstration mode which can be used at shop for demonstration or customer house.

- How to set the demonstration mode
  1) Press "POWER" button.
  2) Press and hold "DISPLAY" key of remote control (included this model) for 3 seconds.

- Operation of demonstration mode
  1) Indicate MULTI DISC CHANGER on the LCD for 6 seconds.
  2) DISC number indication for 6 seconds for above period.
  3) LED flashing during above period
  4) Indication actual CD information for 3 seconds.
  5) Repeat steps from 1 to 4 .

- How to exit from demonstration mode
  Press any button on the unit.

■ Measurements and Adjustments

< TUNER SECTION >

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum. 2. Set S-XBS level control to minimum. 3. Set power source voltage to 15V DC.	4. Set GEQ controls to center. 5. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 1)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	459 kHz 30% Mod. at 400Hz	Point of non-interference. (on/about 600Hz)	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	T2 (AM IFT)	Adjust for maximum output.

■ LW-RF ALIGNMENT

Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	162 kHz	Tune to signal	"	(*1) L2 (LW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil along the ferrite core.
"	270 kHz	"	"	CT2 (LW ANT Trimmer)	Adjust for maximum output.
(*1) Fix antenna coil with wax after completing alignment.					

■ MW-RF ALIGNMENT

Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	603 kHz	Tune to signal	"	(*2) L2 (MW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil along the ferrite core.
"	1404 kHz	"	"	CT1 (MW ANT Trimmer)	Adjust for maximum output.
(*2) Fix antenna coil with wax after completing alignment.					

■ FM DC BALANCE ALIGNMENT & "ZERO" VOLTAGE ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT (Shown in Fig. 1)	SPECIFICATION	REMARKS
98 MHz, 60 dB(CW) connect to test point TP1 through FM dummy antenna. Negative side to TP2.	TP6 ... (+) TP7 ... (−)	T2	− 0.1V ± 50mV	Align coil T2 for "ZERO" voltage to be in the range of − 0.1V ± 50mV

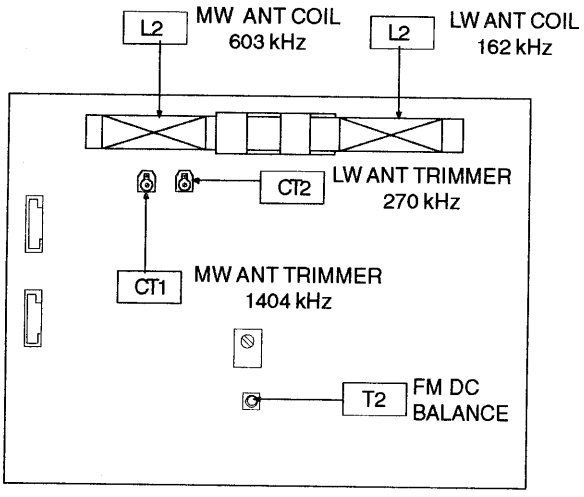


Fig. 1

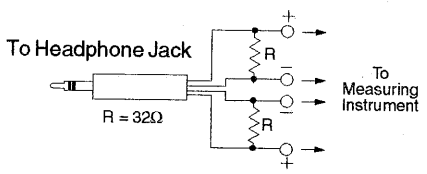


Fig. 2

< CASSETTE DECK SECTION >

■ HEAD AZIMUTH ALIGNMENT

TEST TAPE	INDICATOR (ELECTRONIC VOLTMETER or OSCILLATOR)	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCFM (8 kHz, – 20 dB)	Headphones Jack (32Ω)	Azimuth Screw (Refer to Fig. 4)	Maximum output	1. Playback mode. 2. Adjust for maximum output.

Caution :

- Please replace both azimuth adjustment screws (RHE5152ZB) and springs (RMB0331) simultaneously when readjusting the head azimuth. (shown in Fig. 2)
  Even if you wish to readjust the head azimuth without replacing the screws and springs, a fine adjustment cannot be done because of the screw-locking bond adhered to the azimuth screw and spring.
- Please remove the screw-locking bond left on the head base when replacing the azimuth screw.
- If you wish to readjust the head azimuth, be sure to adjust with adhering the cassette tape closely to the mechanism by pushing the center of cassette tape with your finger. (shown in Fig. 3)

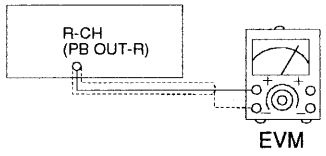


Fig. 1

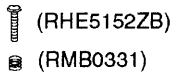


Fig.2

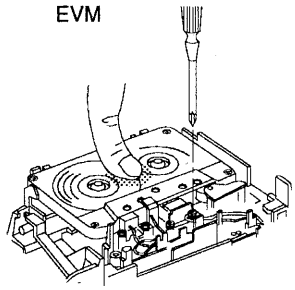


Fig. 3

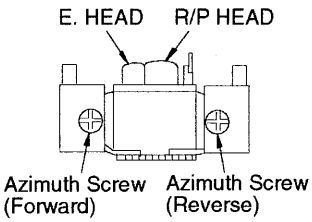


Fig. 4

■ TAPE SPEED ALIGNMENT

TEST TAPE	INDICATOR (FREQUENCY COUNTER)	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCWAT (3 kHz, – 10 dB)	Headphones Jack (32Ω)	VR301 (Fig. 5)	3000 ± 30 Hz	1. Playback mode. 2. Adjust VR301, for 3000 ±30 Hz reading on frequency counter.

■ REC BIAS CHECK

TEST TAPE	INDICATOR (FREQUENCY COUNTER)	ADJUSTMENT	SPECIFICATION	REMARKS
Use Normal tape	TP2 ... (+) TP1 ... (–) (Refer to Fig. 6)	—	17.2 ± 2 mV	• Record mode

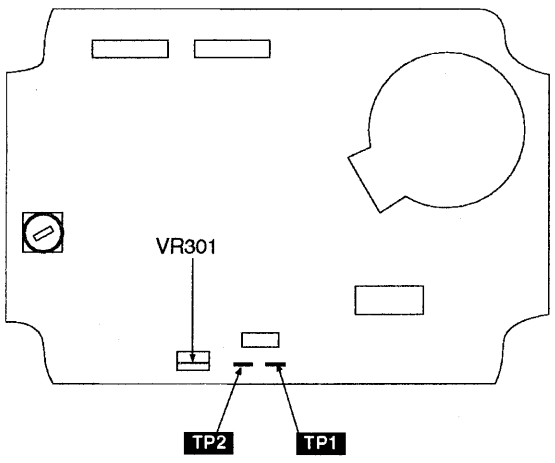


Fig. 5

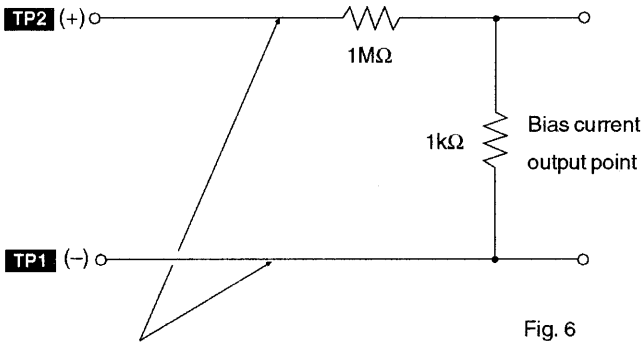


Fig. 6

Keep these cords short. (Line capacitance: 3 pF or less)

- In order not to influence the bias oscillation, divide the voltage with 1 MΩ and 1 kΩ resistors, and measure the voltage across the 1 kΩ resistor.

■ Terminal Function of ICs

• IC701 (AN8835SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDA	I	PD signal input
2	PDB	I	PD signal input
3	VCC	I	Power supply connection
4	LPD	I	Laser PD connection
5	LD	O	Power out for LD driving
6	RF	O	RF signal output
7	RFIN	I	RF signal input
8	CAGC	I	AGC loop filter connection
9	ARF	O	RF-AGC output
10	CSBRT	I	Capacitor for detection connection
11	CEA	I	Capacitor connection for HPF amplifier
12	BDO	O	BDO output ("H" : drop out)
13	LDON	I	LD APC input ("H" : ON, "L" : OFF)
14	GND	—	Ground connection

Pin No.	Mark	I/O	Function
15	/RFDET	O	NRFDET output ("L" : detection)
16	CROSS	O	CROSS output (Track cross signal output)
17	OFTR	O	Off-track output("L" : ON track, "H" : OFF track)
18	VDET	O	VDET output("H" : Vibration detected)
19	ENV	O	RF envelope detection
20	TEBPF	I	Vibration detection signal input
21	CCRS	I	Capacitor for LPF connection
22	TE	O	Tracking error signal output
23	FE	O	Focus error signal output
24	TBAL	I	Tracking balance signal input
25	FBAL	I	Focus balance signal input
26	VREF	O	Reference voltage output
27	PDE	I	PD signal input
28	PDF	I	PD signal input

• IC703 (AN8389SE1) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

Pin No.	Mark	I/O	Function
1	VCC	I	Power supply terminal
2	VREF	I	Reference voltage input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	Ground connection
7	NRESET	I	Reset input
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (Not used, open)

Pin No.	Mark	I/O	Function
13	PVCC1	I	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1–	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2–	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3–	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4–	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVCC2	I	Power supply (2) for driver

• IC702 (MN662741RPA) Servo processor / Digital signal processor / Digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock terminal (Not used, open)
2	LRCK	O	L/R discriminating signal (Not used, open)
3	SRDATA	O	Serial data (Not used, open)
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVSS1	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Microprocessor command clock signal
8	MDATA	I	Microprocessor command data signal
9	MLD	I	Microprocessor command load signal
10	SENSE	O	Sense signal output
			(OFT,FESL,MAGEND,NAJEND,POSAD,SFG)
11	/FLOCK	O	Optical servo condition(focus)("L" : lead-in)
12	/TLOCK	O	Optical servo condition(tracking)("L" : lead-in)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	External clock signal input for sub-code Q
			register.
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H" : mute)
17	STAT	O	Status signal output
			(CRC,CUE,CLVS,TTSTVP,FCLV,SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided clock signal of crystal oscillating at
			MSEL = "H" (fSMCK=8.4672MHz)
			1/4-divided clock signal of crystal oscillating at
			MSEL="L" (fSMCK=4.2336MHz)
20	PMCK	O	1/192-divided clock signal of crystal oscillating
			(fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	O	Traverse drive signal output
23	PC	O	Spindle motor ON signal output ("L" : ON)
24	ECM	O	Spindle motor drive signal output
			(forced mode output)
25	ECS	O	Spindle motor drive signal output
			(servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD,ECS,TRD,FOD,
			FBAL,TBAL) Reference voltage input.
30	FBAL	O	Focus balance adjustment output
			(Not used,open)
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" : detection)

Pin No.	Mark	I/O	Function
36	OFT	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	TES	O	Tracking error shunt signal output ("H" : shunt)
42	PLAY	O	Play signal out ("H" : PLAY)
43	WVEL	O	Double speed status signal output ("H" : DS)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	VCOF	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction clock ouput (Not used, open)
			(fPCK=4.321 MHz during normal playback)
54	PDO	O	Phase comparison signal of EFM and PCK signals
			(Not used, open)
55	SUBC	O	Sub-code serial data output (Not used, open)
56	SBCK	I	Sub-code frame clock signal output
			(fCLDCK=7.35kHz during normal playback)
57	VSS	—	GND
58	X1	I	Crystal oscillating circuit input (f=16.9344MHz)
59	X2	O	Crystal oscillating circuit output (f=16.9344MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	O	Byte clock output (Not used, open)
62	/CLDCK	O	Clock input for sub-code serial data
			(Not used, open)
63	FCLK	O	Crystal frame clock signal output
			(fCLK=7.35kHz, double=14.7kHz)
64	PFLAG	O	Interpolation flag output ("H" : interpolation)
			(Not used, open)
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output
			("H" : CLV, "L" : rough servo) (Not used, open)
67	CRC	O	Sub-code CRC checked output
			("H" : OK, "L" : NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output
			("H" : ON) (Not used, open)
69	RESY	O	Frame resynchronizing signal output
			(Not used, open)
70	/RST2	I	Reset input through MASH circuit ("L" : Reset)
71	/TEST	I	Test input

Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input
			(at "H" level, RSEL="H", at "L" level, RESL="L")
77	CSEL	I	Crystal oscillating frequency designation input

Pin No.	Mark	I/O	Function
			"L" : 16.9344MHz "H" : 33.8688MHz
78	PSEL	I	Test input (normally "L") (Not used, open)
79	MSEL	I	Output mode switching of SUBQ terminal
			("H" : Q code buffer mode)
80	SSEL	I	Output frequency switching for SMCK terminal
			"H" : SMCK=8.4672MHz
			"L" : MCK=4.2336MHz (Not used, open)

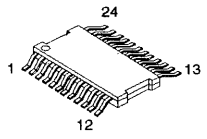
• IC801 (M38257M8066F) System Microprocessor

Pin No.	Mark	I/O	Function
1	NC	—	No connection
2	VL1	—	Power supply input for LCD
3	PCNT	O	Power control output
4	PWDET	I	Power rising edge detection input
5	REGION	I	Area setting input
6	DECK2	I	DECK 2 input
7	DECK1	I	DECK 1 input
8	KEY3	I	KEY 3 input
9	KEY2	I	KEY 2 input
10	KEY1	I	KEY 1 input
11	MCLK	O	SIG processor clock output
	PLLCK	O	PLL clock output
12	MDATA	O	SIG processor data output
	PLLDA	O	PLL data output
13	MLD	O	SIG processor strove output
	PLLCE	O	PLL chip enable output
14	SD	I	Signal DET input
15	ST	I	Stereo DET input
16	MONO	O	Compulsory MONO output
17	RSTBY	I	Remote control stand by input
18	RMT	I	Remote control sensor input
19	VCCDET	I	VCC DET input (main power detection)
20	SQCK	O	CD subcode clock output
21	PWR	I	POWER ON/OFF KEY INPUT
22	SUBQ	I	CD subcode Q data input
23	BLKCK	I	CD subcode block clock input
24	RESTSW	I	CD inner most position detection switch input
25	TLOCK	I	Tracking lock input
26	FLOCK	I	Focus lock input
27	SENSE	I	Servo processor sense input
28	CDRST	O	CD reset output
29	TNO	I	Tray no. DET switch input (SW5)

Pin No.	Mark	I/O	Function
30	STATUS	I	Signal processor status input
31	AFDA	O	AF IC data output
32	AFCK	O	AF IC clock output
33	JOGB	I	Jog B input
34	JOGA	I	Jog A input
35	RESET	I	Reset input
36	XCIN	I	32.768kHz sub clock
37	XCOUT	O	32.768kHz sub clock
38	XIN	I	4.19MHz main clock
39	XOUT	O	4.19MHz main clock
40	VSS	—	Ground (OV)
41	MBP1	O	MPU beat proof output 1
42	MBP2	O	MPU beat proof output 2
43	MKDA	O	Mech deck data output
44	MKCK	O	Mech deck clock output
45	STO	I	Stoker area detection switch (SW1)
46	PLY	I	Play position detection switch (SW2)
47	STL	I	Stocker lid switch (SW6)
48	TRL	I	Traverse lid switch (SW7)
49	FWD	O	Motor control FWD output
50	REV	O	Motor control REV output
51-56	SEG37~SEG32	O	LCD segment drive output
57	MUTE A	O	Mute A output
58	MUTE B	O	Mute B output
59-90	SEG31~SEG0	O	LCD segment drive output
91	VCC	—	Power connection
92	VREF	—	Reference for A-D
93	AVSS	—	Power connection
94-97	COM3~COM0	O	LCD common drive output
98	VL3	—	Bias supply for LCD
99	VL2	—	Bias supply for LCD
100	NC	—	No connection

■ Terminal Guide of ICs, Transistors and Diodes

AN8389SE1



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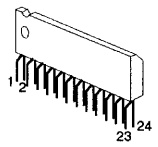

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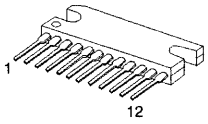

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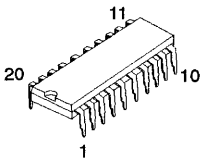

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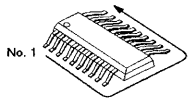

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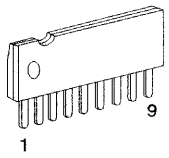

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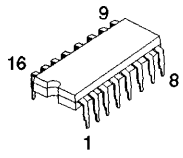

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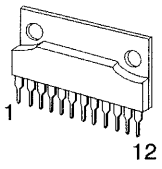

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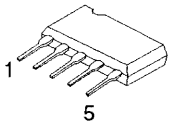

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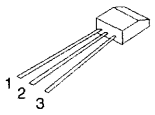

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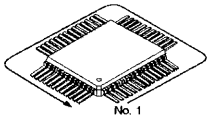

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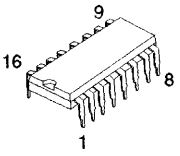

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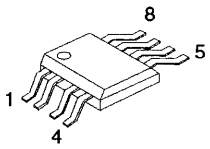

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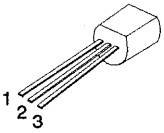

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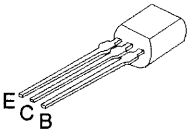

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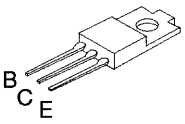

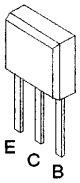

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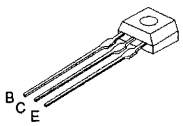

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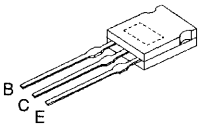

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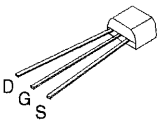

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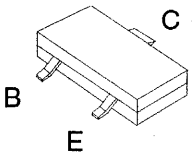

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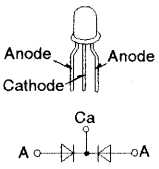

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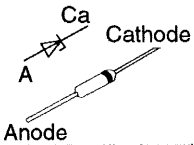

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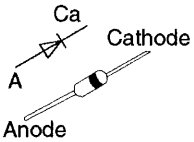

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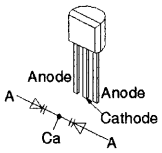

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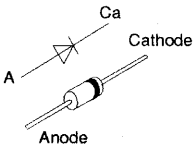

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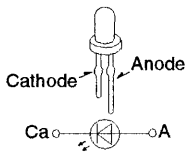

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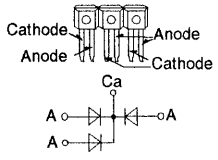

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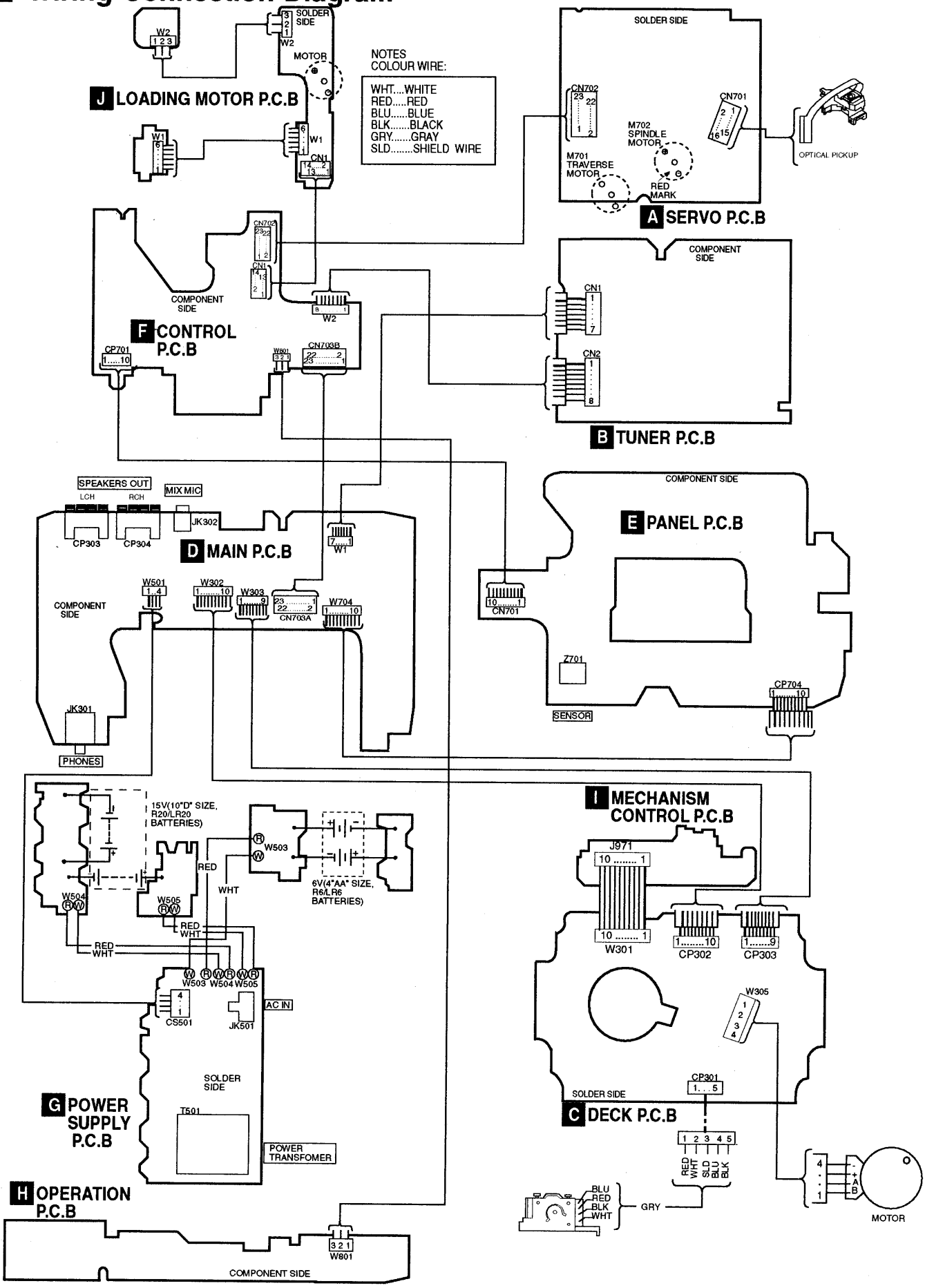
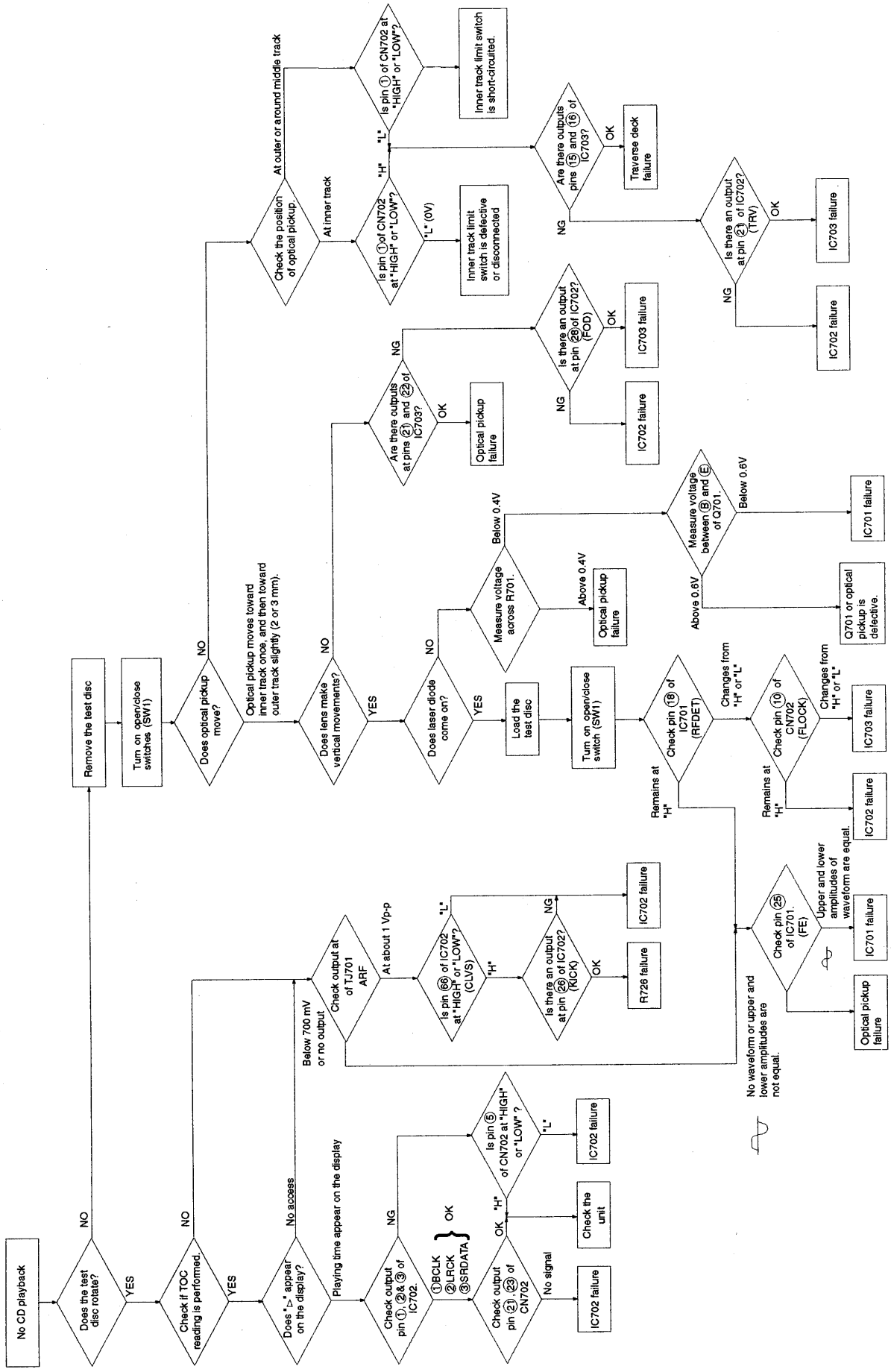


■ Troubleshooting Guide

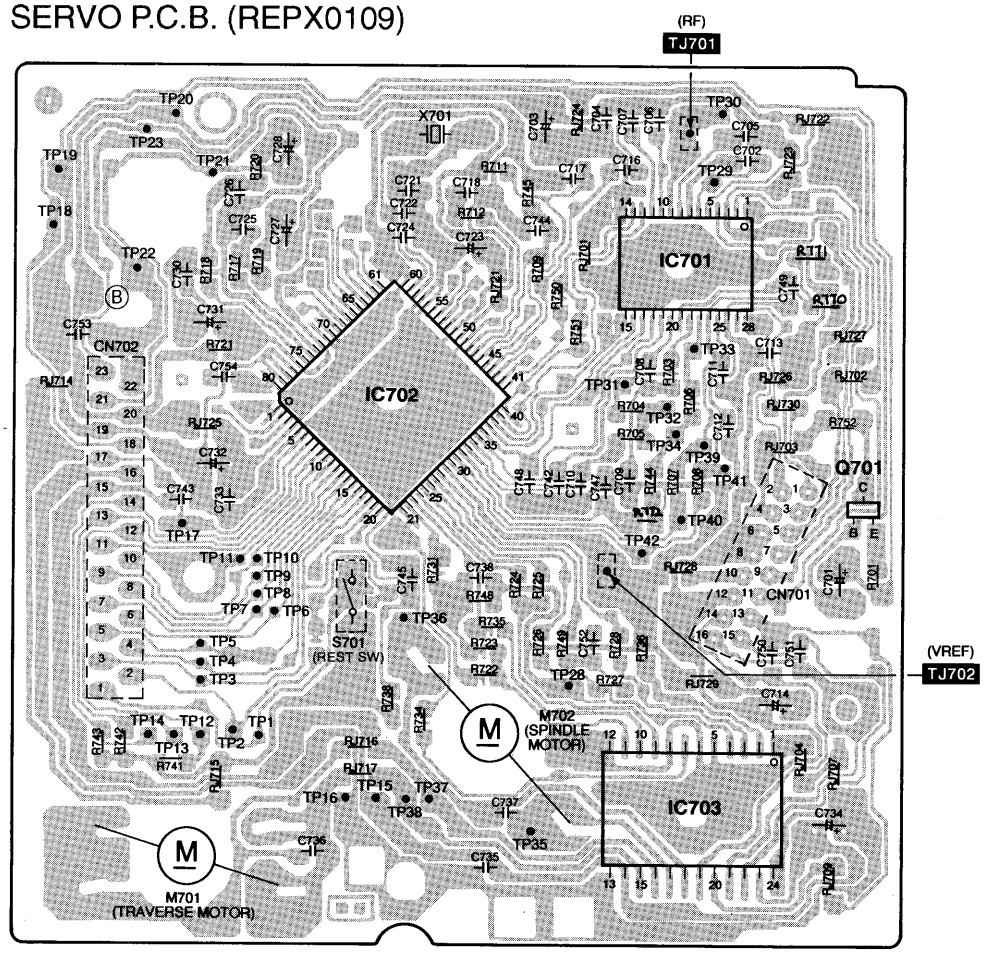


■ Printed Circuit Board

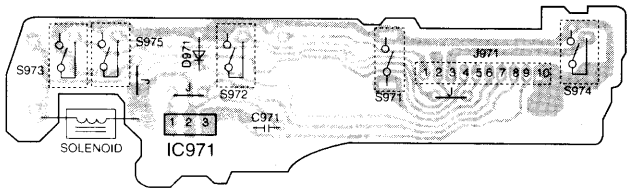
1 2 3 4 5

A B C D E F

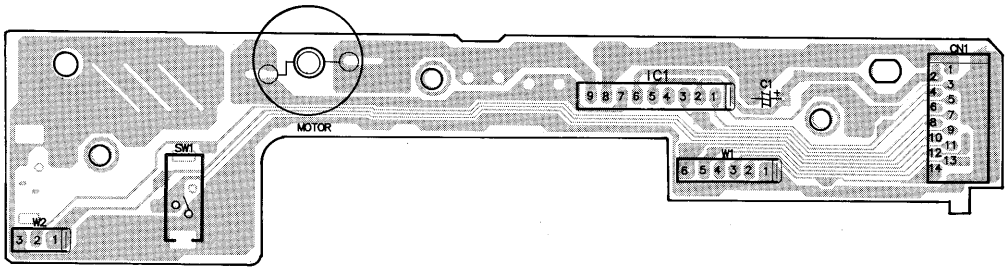
A SERVO P.C.B. (REPX0109)

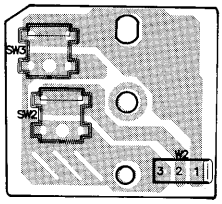


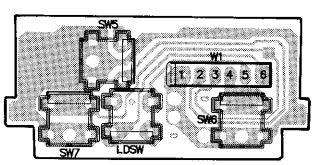
I MECHANISM P.C.B. (REP1862A)



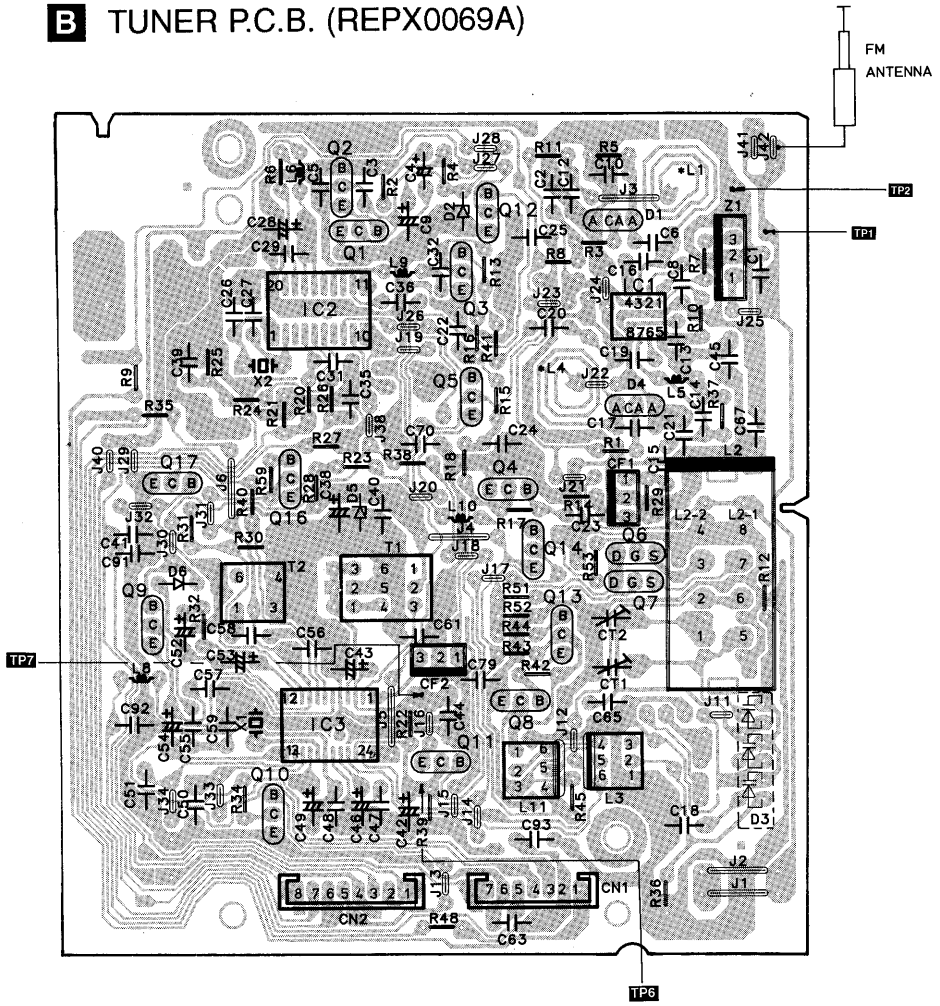
J LOADING MOTOR P.C.B. (REP2182B-N)



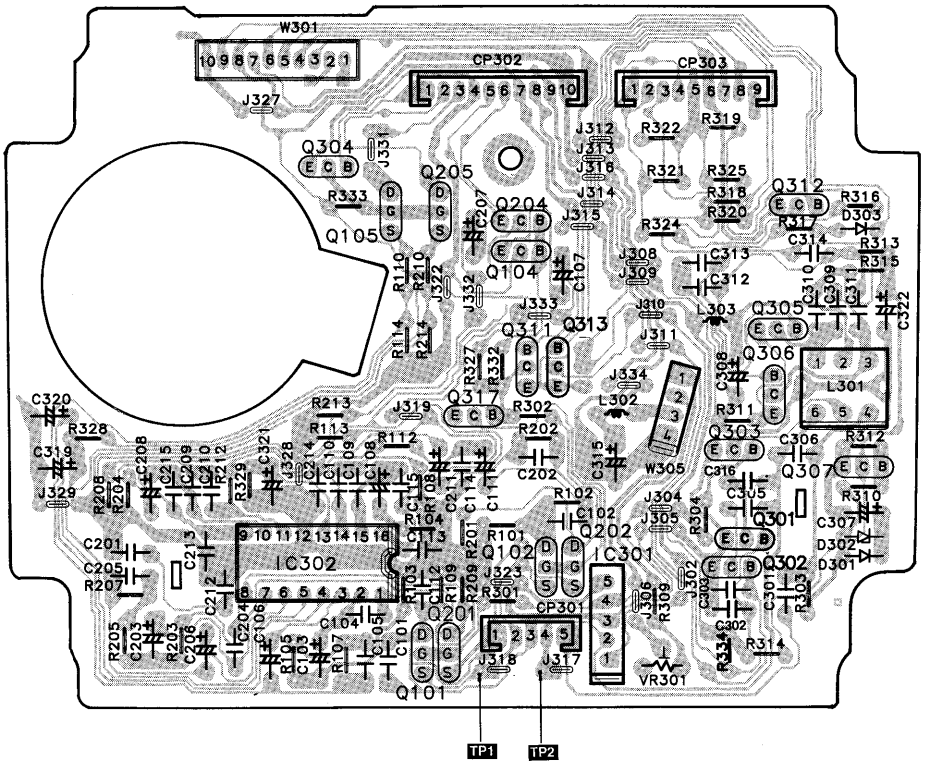




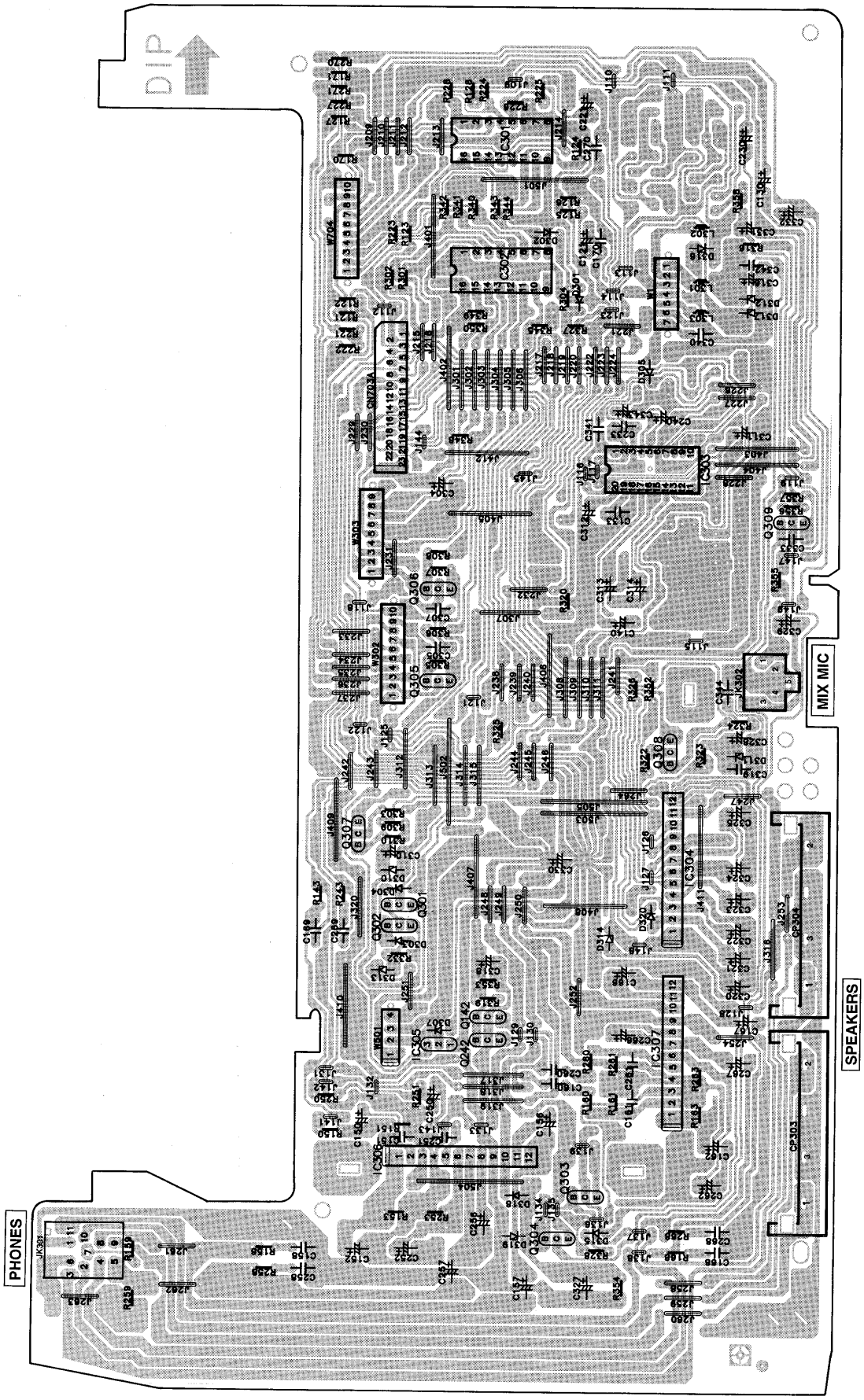
B TUNER P.C.B. (REPX0069A)

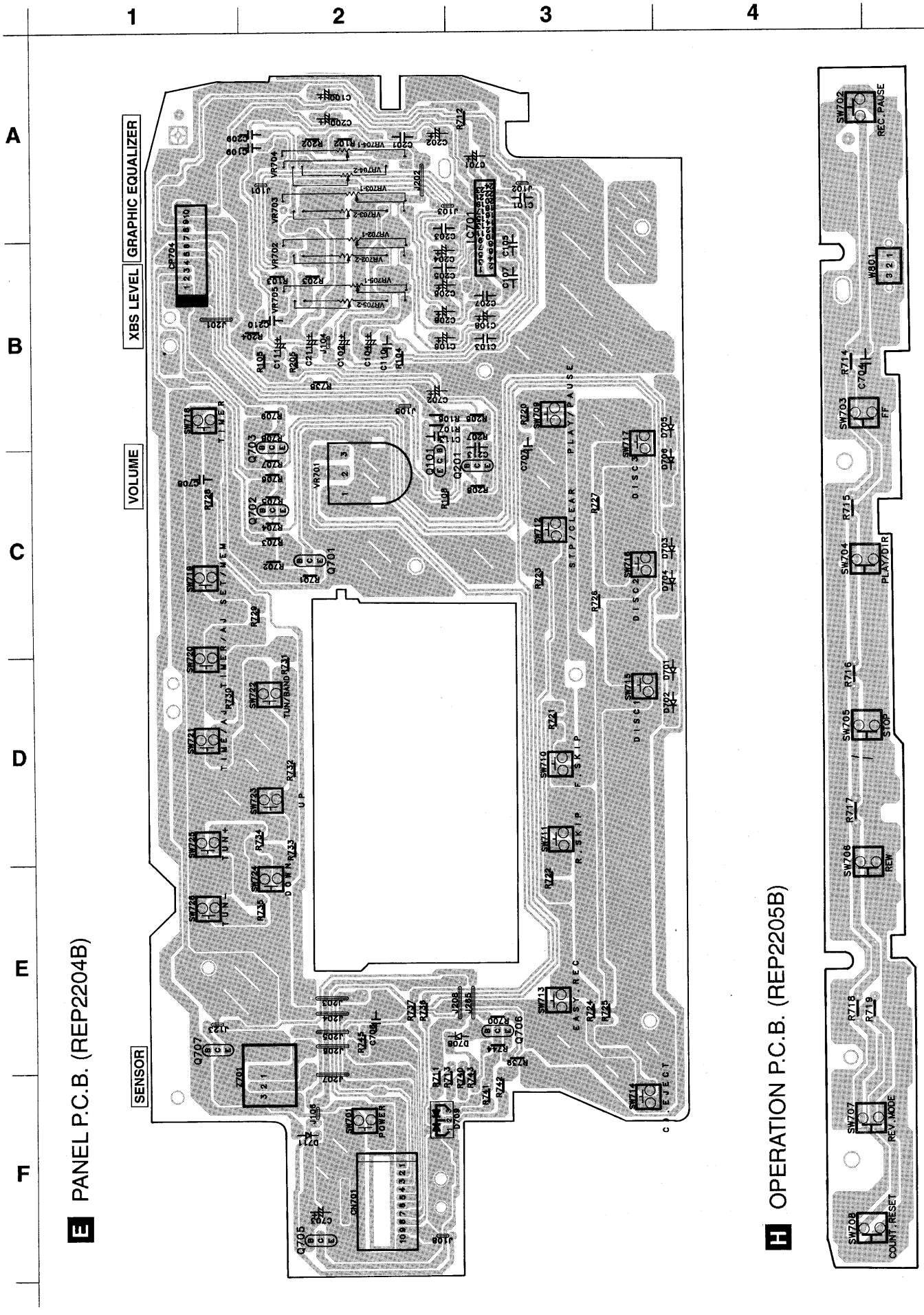


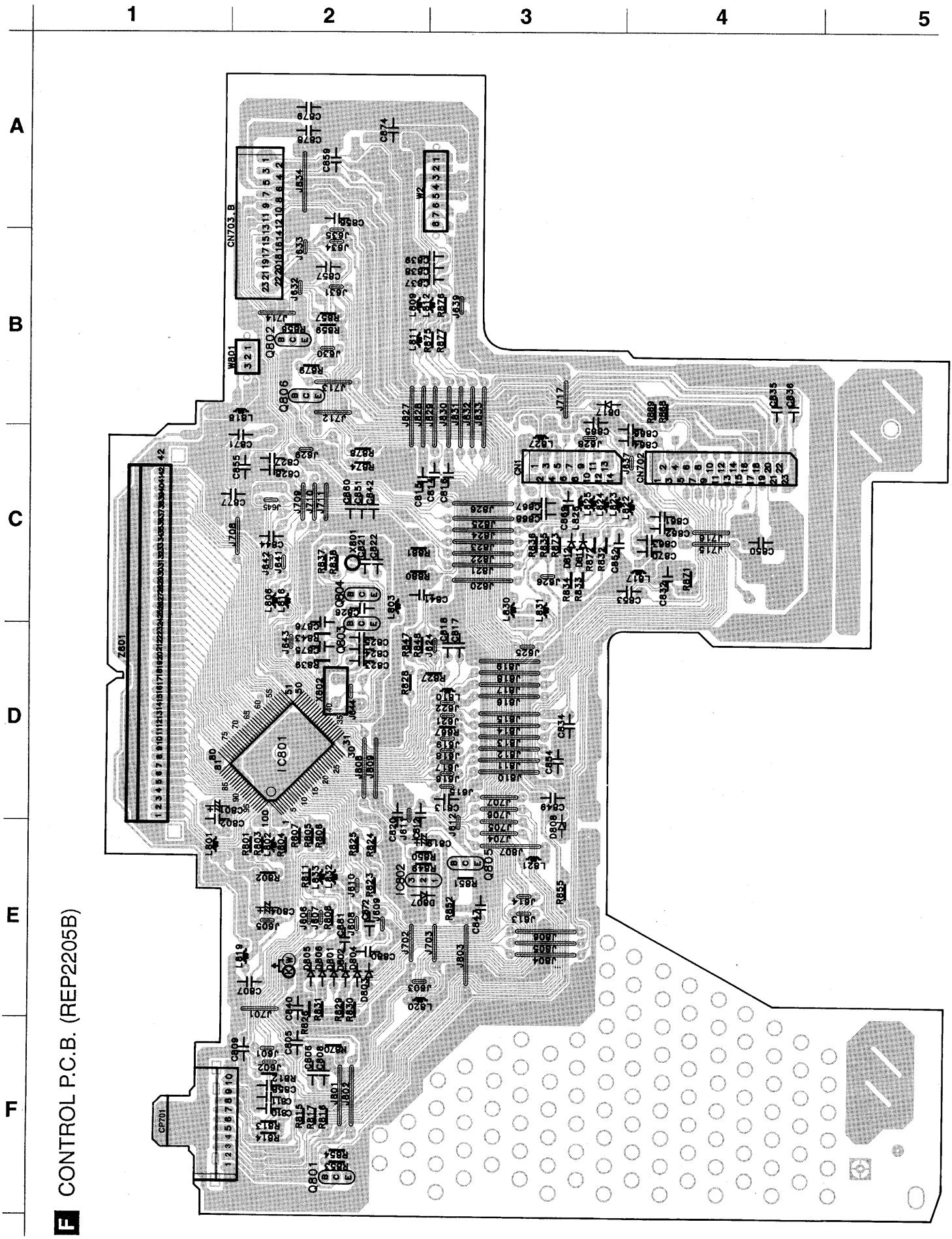
C DECK P.C.B. (REPX0067B)



D MAIN P.C.B. (REP2204B)

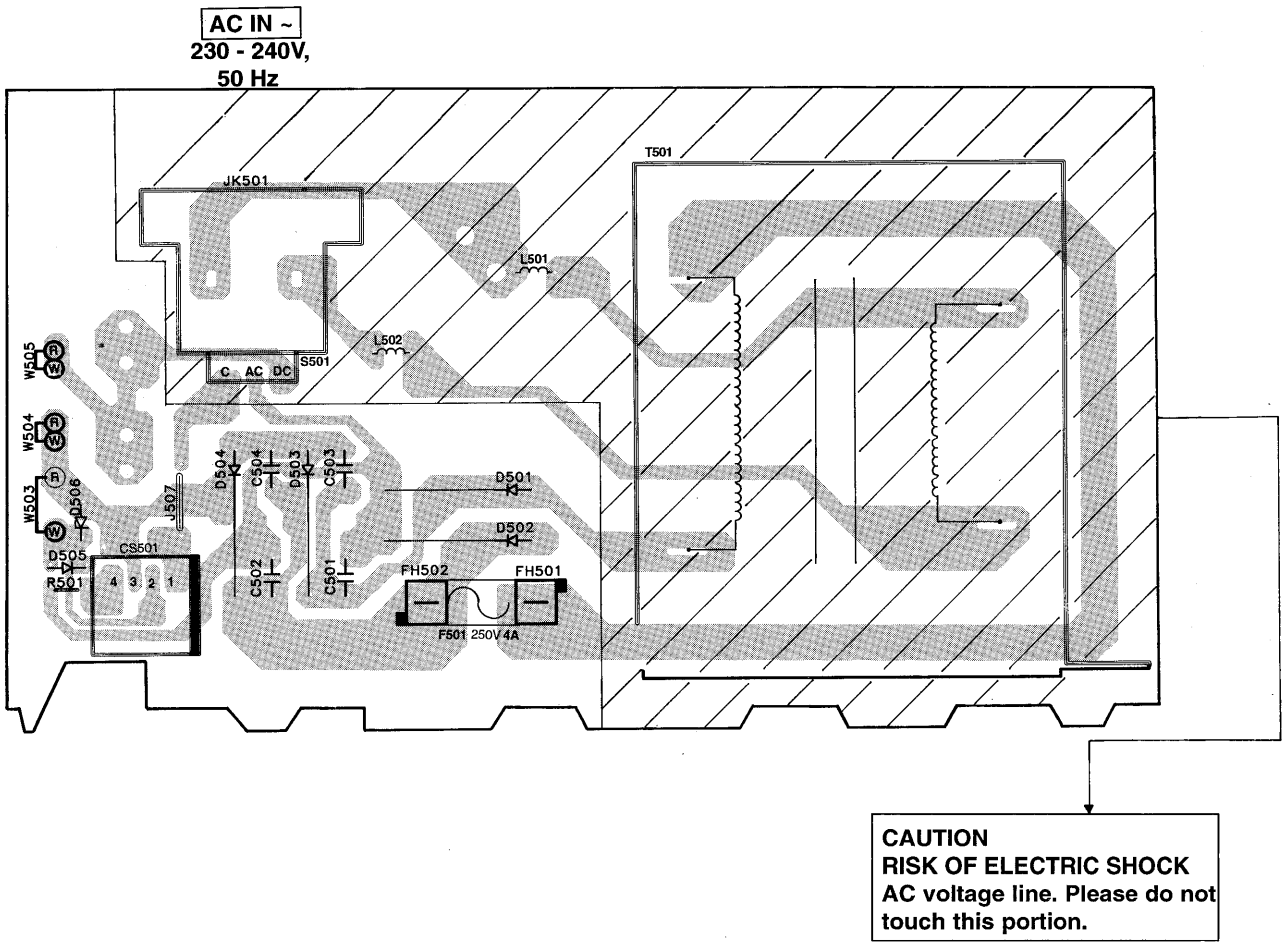


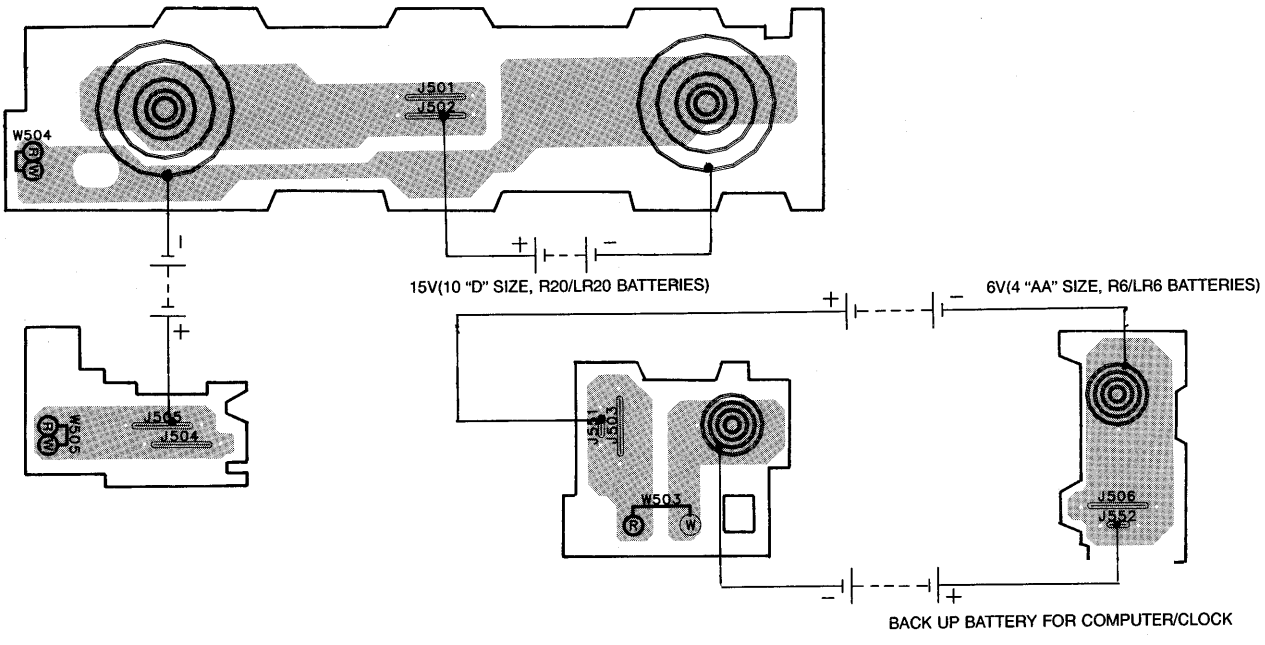

1
2
3
4
5
A
B
C
D
E
F
GRAPHIC EQUALIZER
XBS LEVEL
VOLUME
SENSOR
E PANEL P.C.B. (REP2204B)
H OPERATION P.C.B. (REP2205B)
REC PAUSE
PLAY/OTR
FF
REW
STOP
REV MODE
COUNT RESET



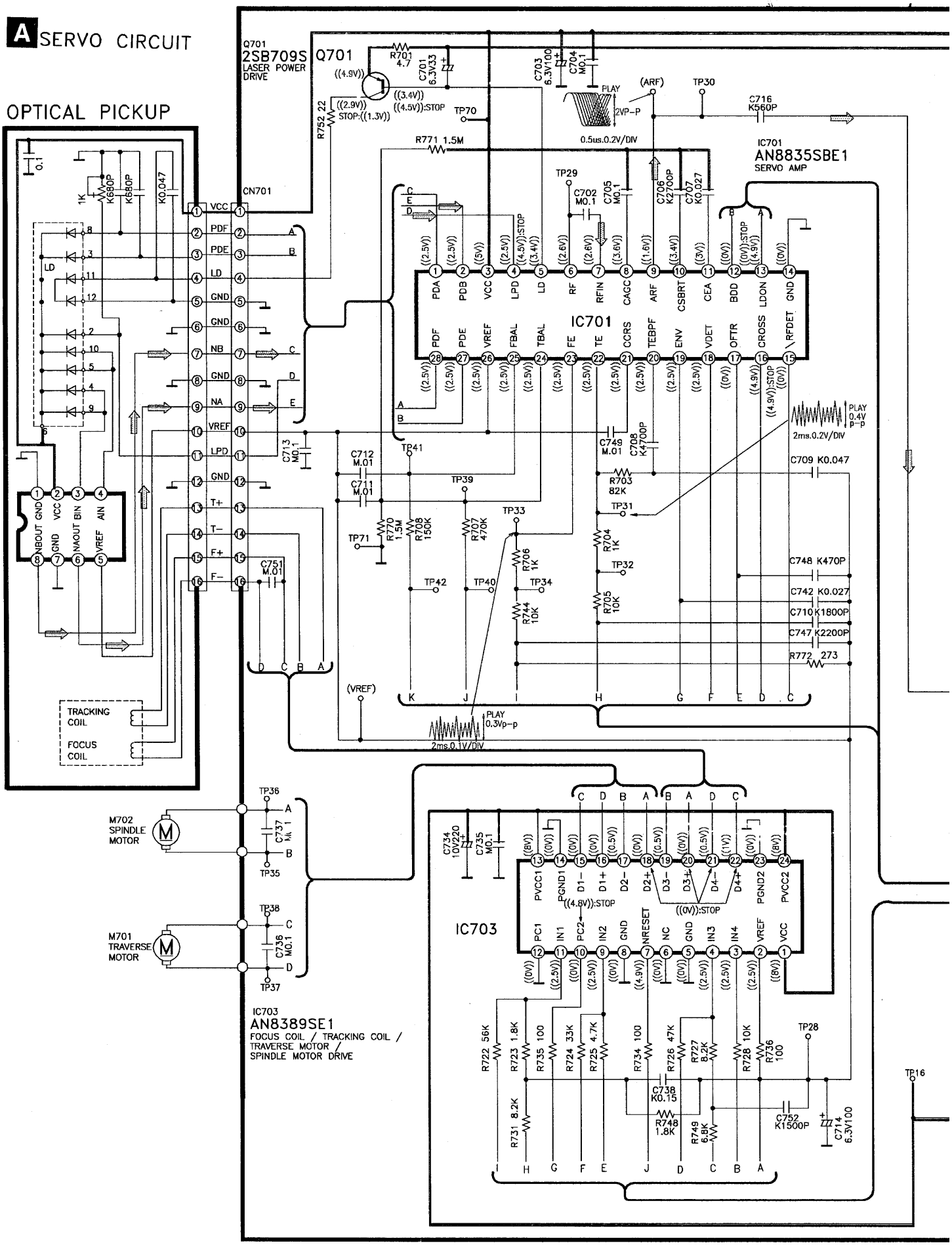
F CONTROL P.C.B. (REP2205B)

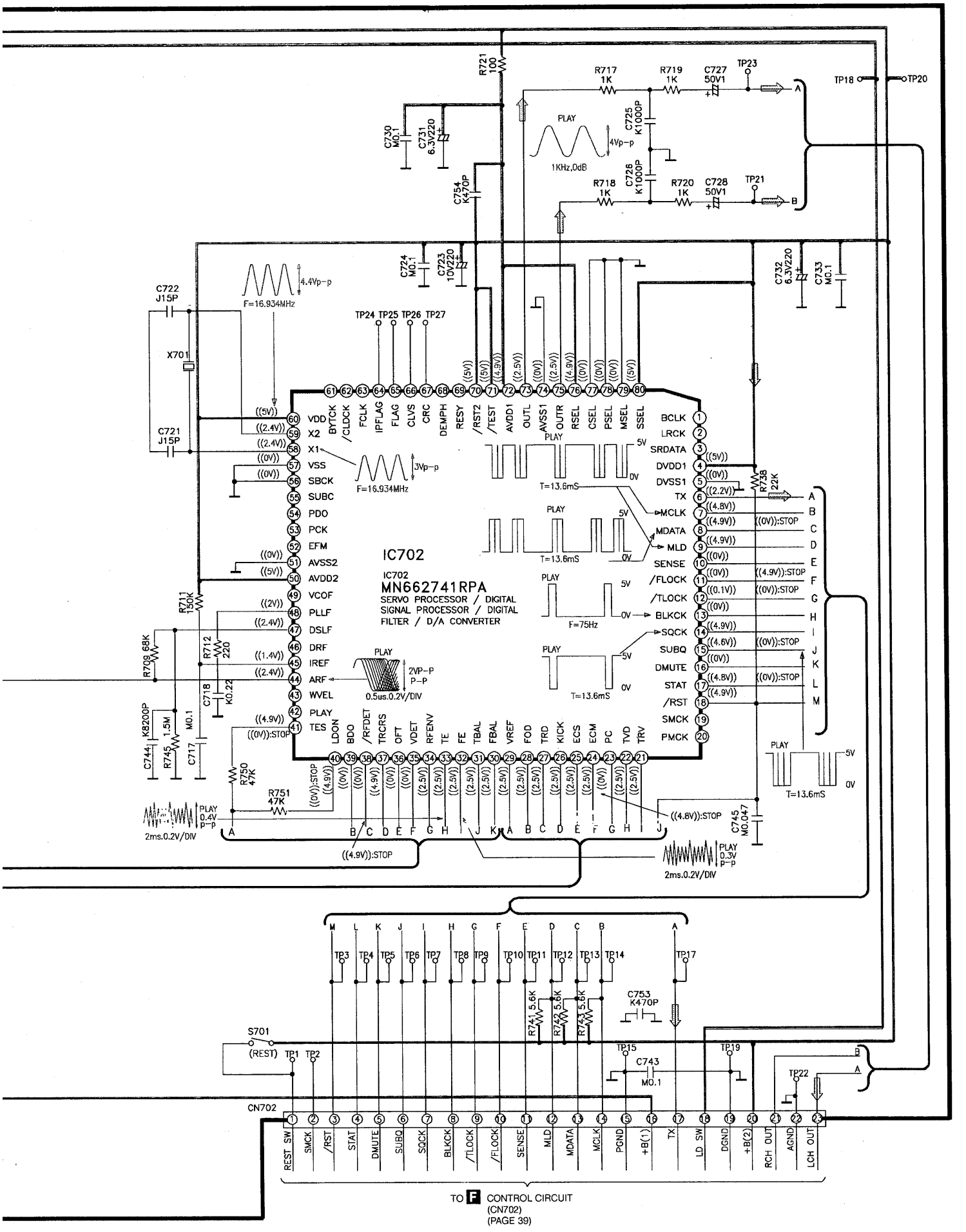
G POWER SUPPLY P.C.B. (REP2206C)



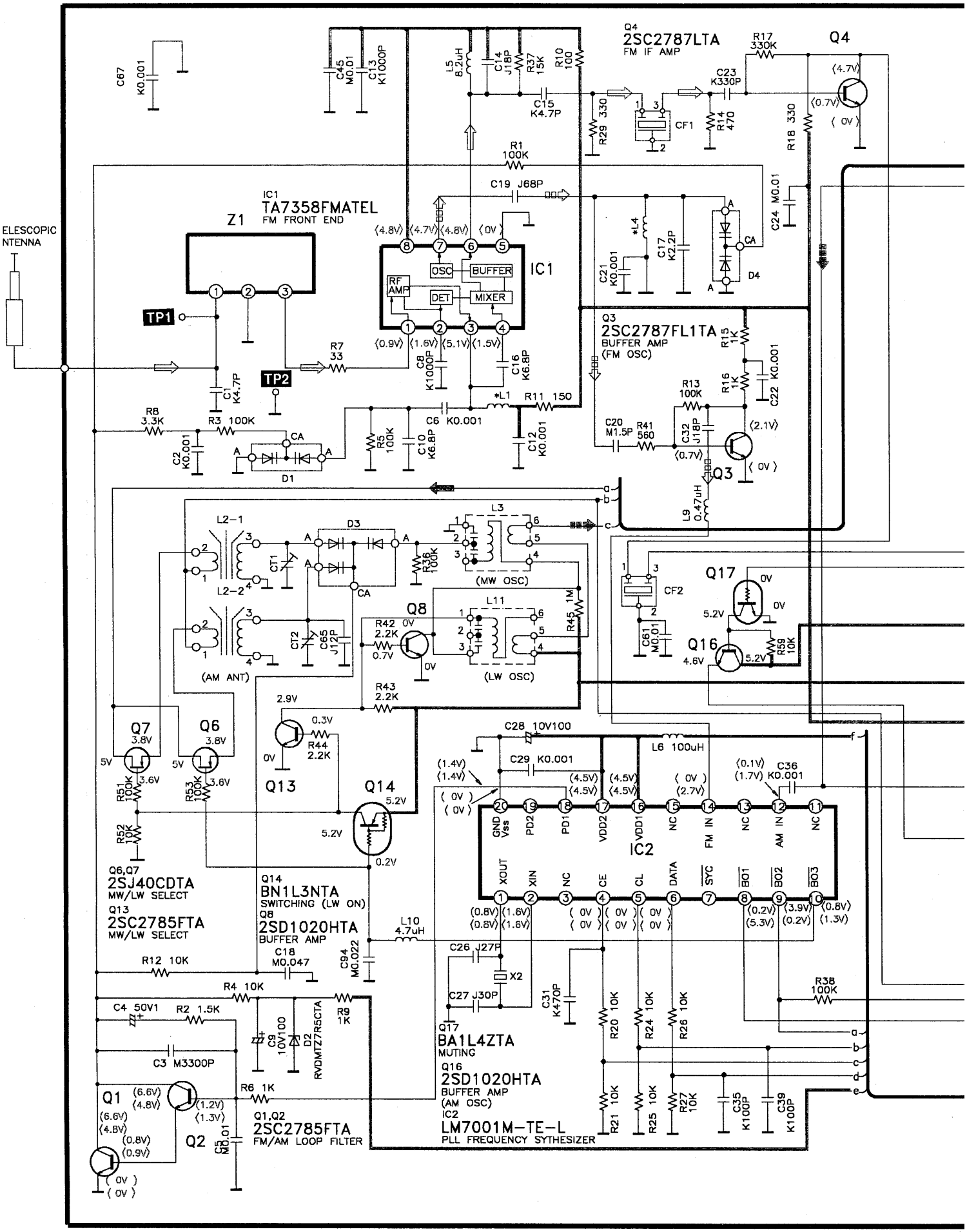


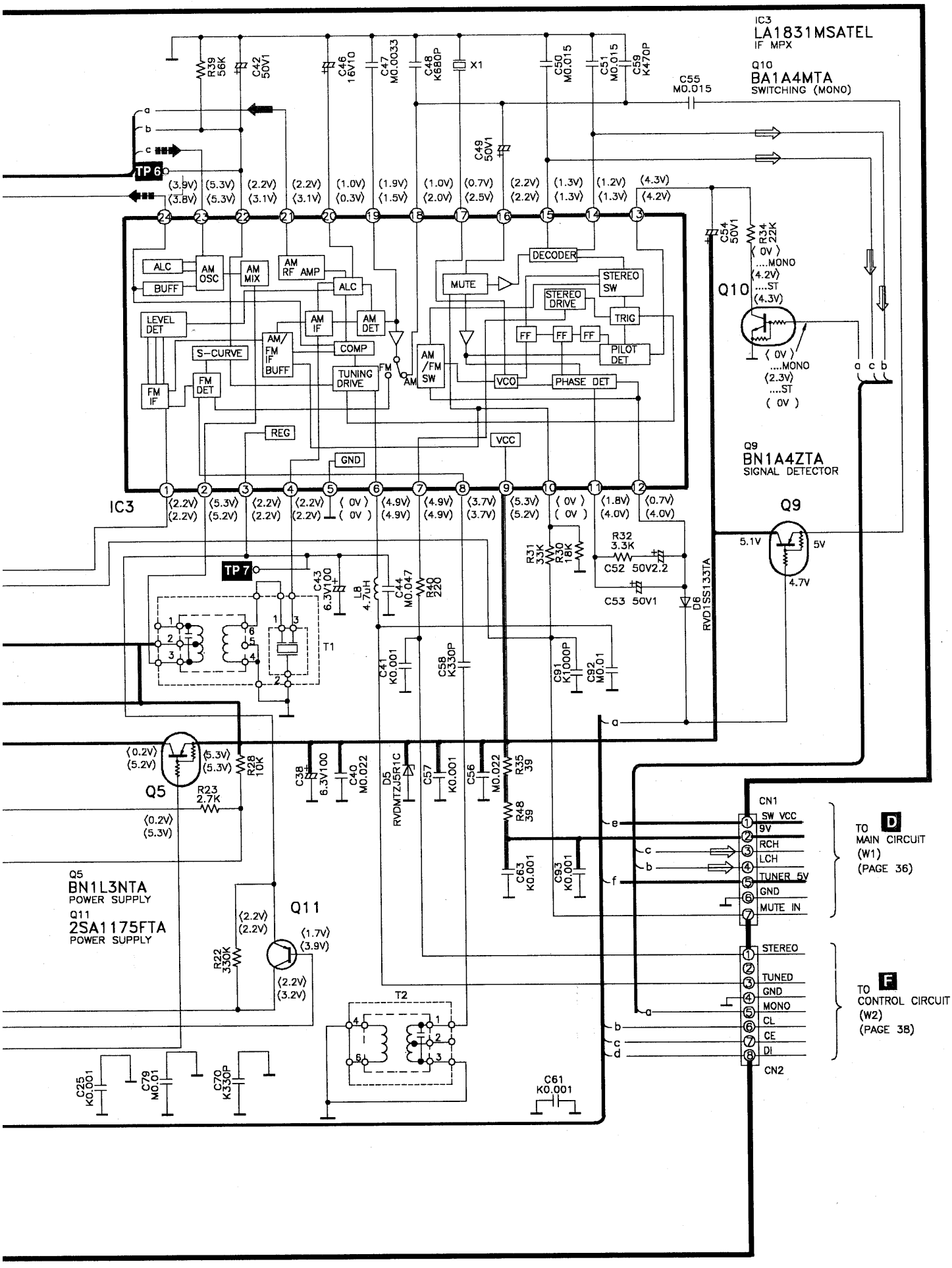
■ Schematic Diagram

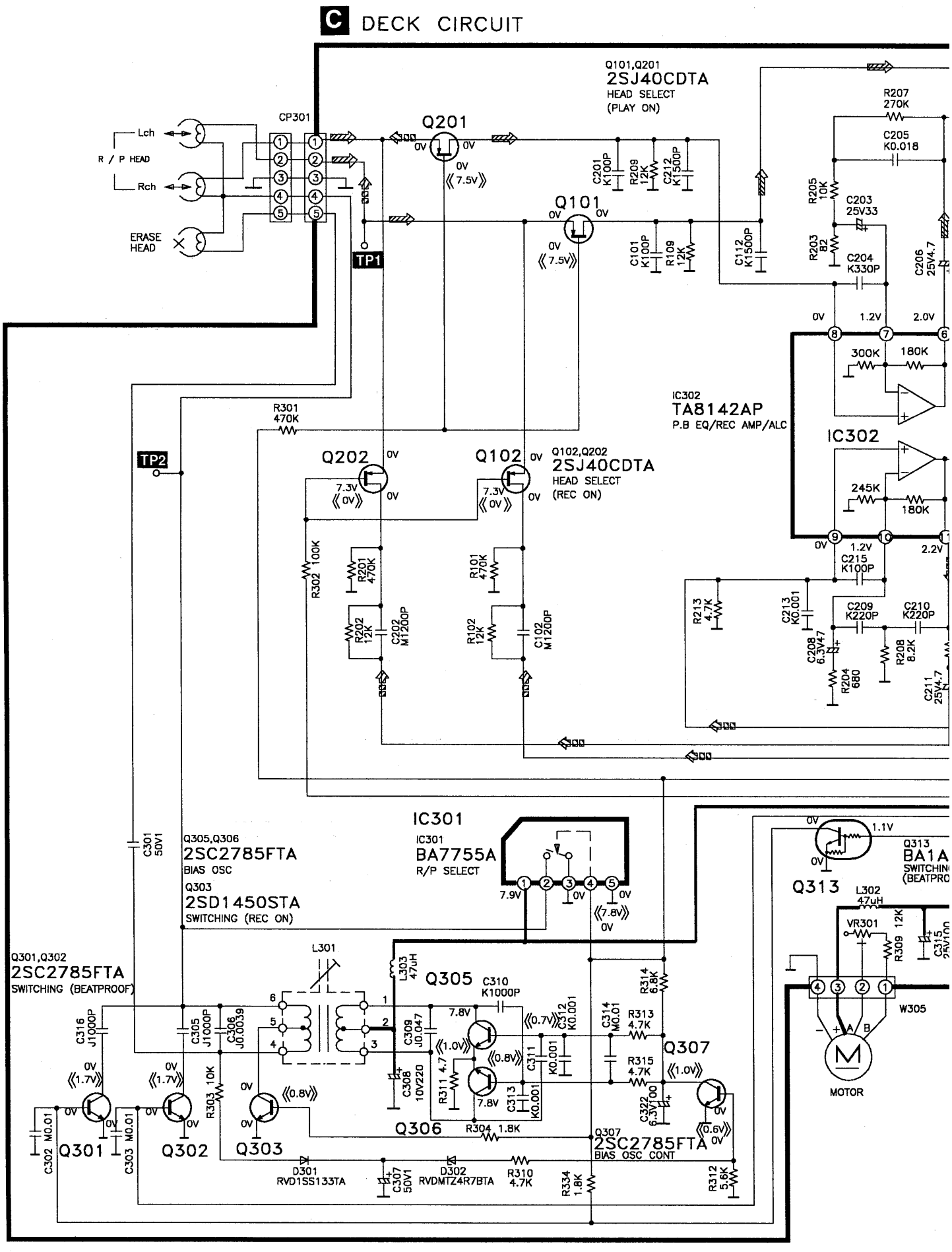


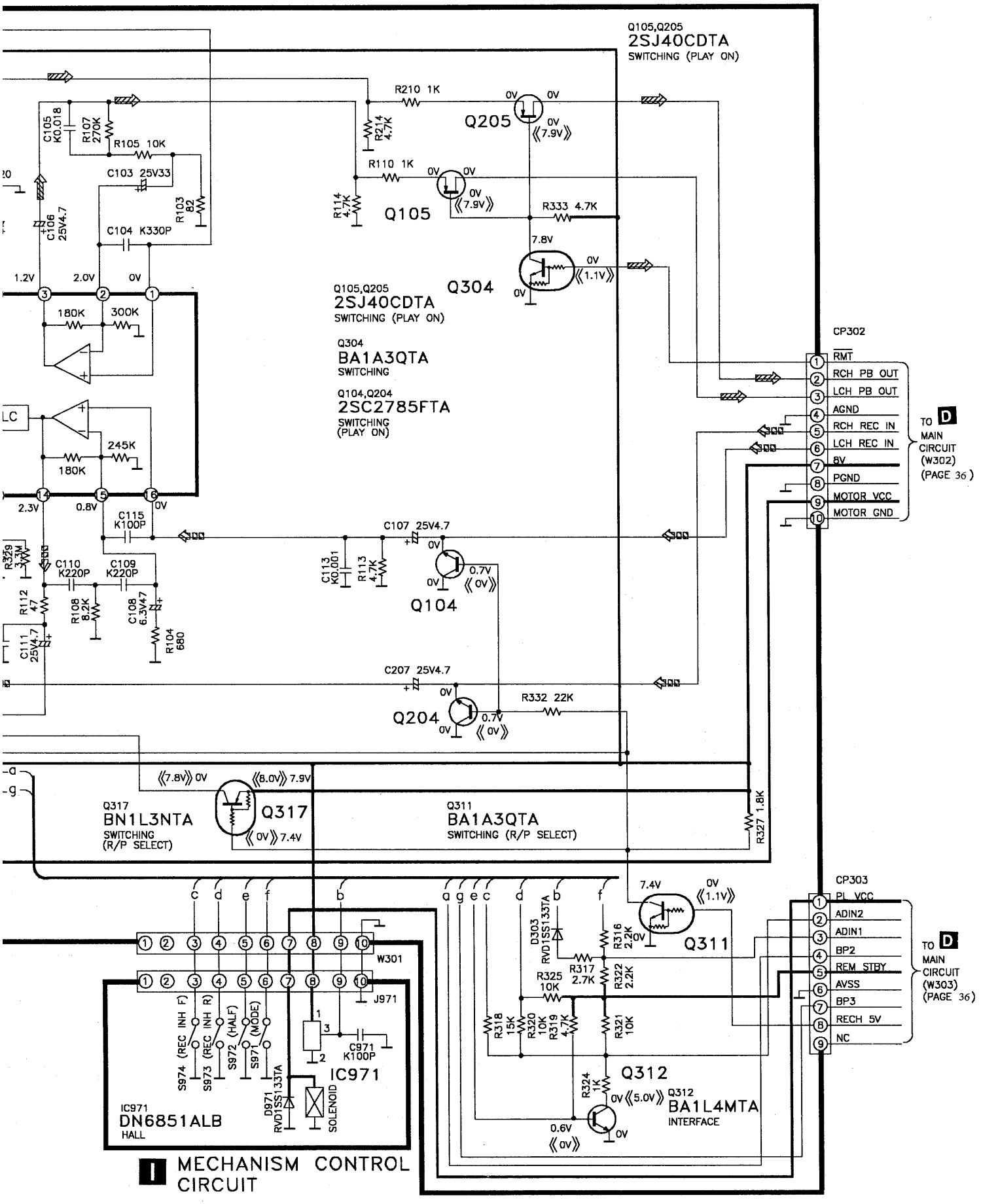

IC702
IC702
MN662741RPA
SERVO PROCESSOR / DIGITAL
SIGNAL PROCESSOR / DIGITAL
FILTER / D/A CONVERTER
TO F CONTROL CIRCUIT
(CN702)
(PAGE 39)

B TUNER CIRCUIT

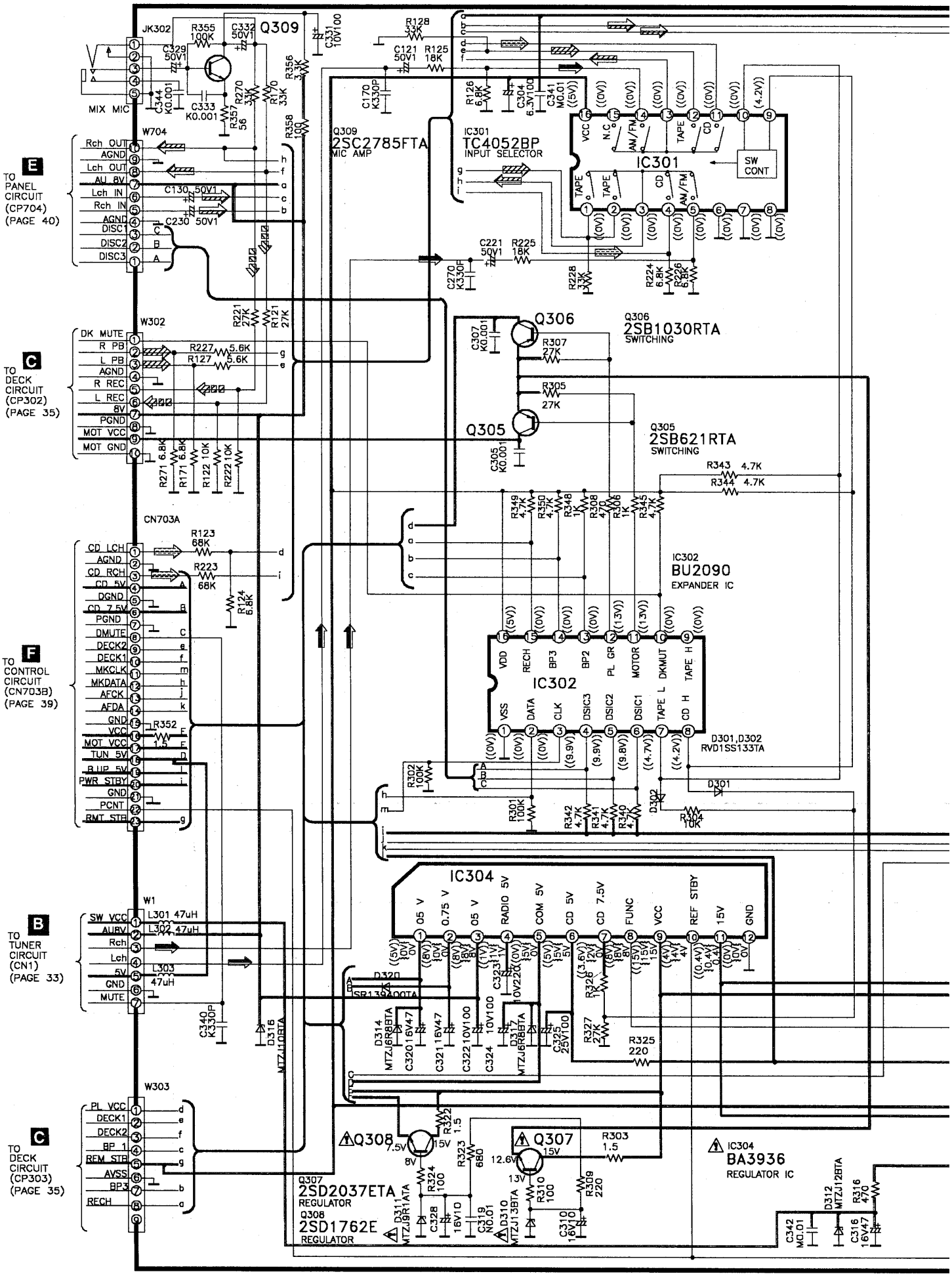


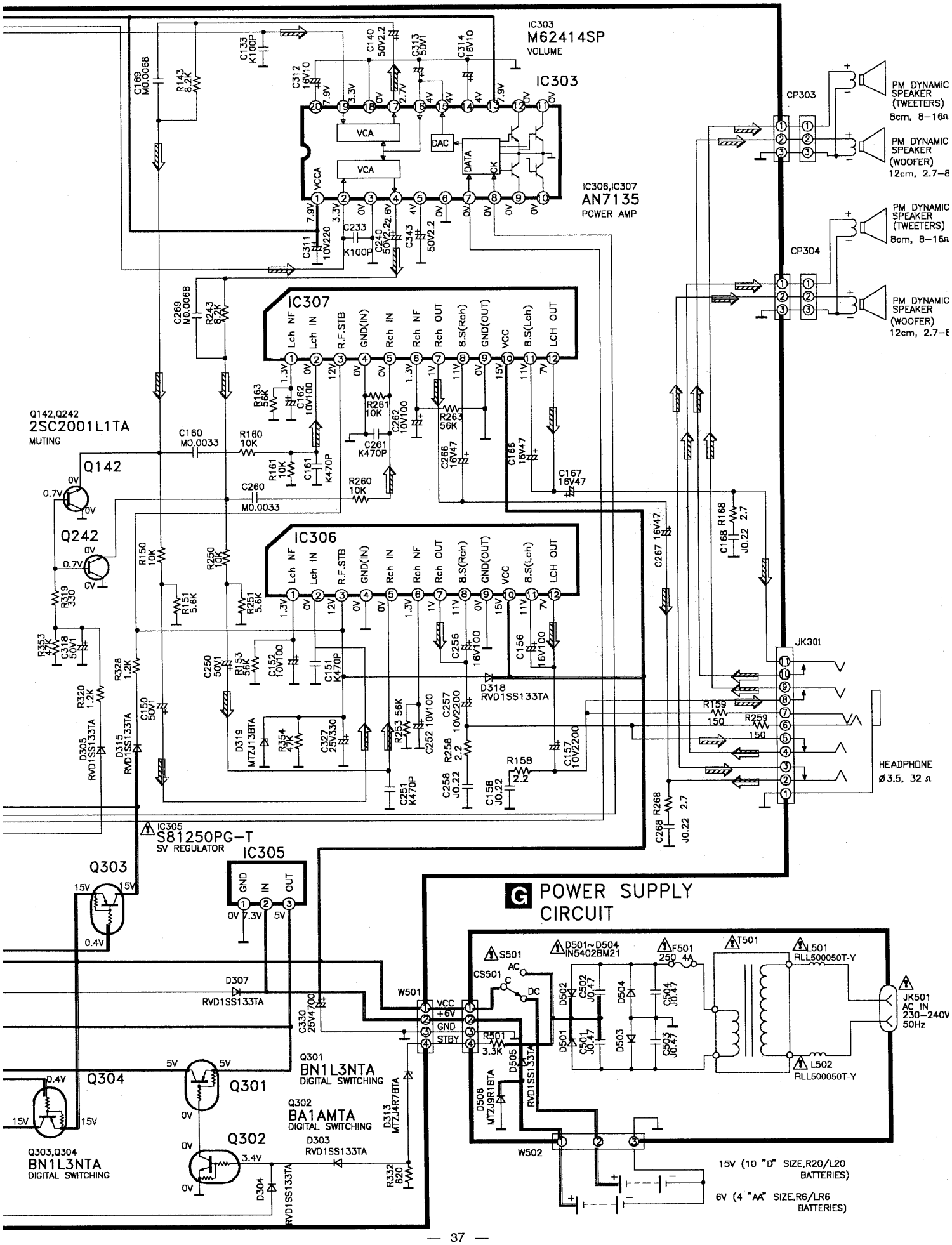

IC3
LA1831MSATEL
IF MPX
Q10
BA1A4MTA
SWITCHING (MONO)
Q9
BN1A4ZTA
SIGNAL DETECTOR
Q5
BN1L3NTA
POWER SUPPLY
Q11
2SA1175FTA
POWER SUPPLY
TP 6
TP 7
ALC
AM OSC
AM MIX
AM RF AMP
BUFF
LEVEL DET
S-CURVE
FM IF
FM DET
AM/FM IF BUFF
AM IF
AM DET
COMP
TUNING DRIVE
REG
GND
VCC
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
FF
PILOT DET
VCO
PHASE DET
CN1
SW VCC
9V
RCH
LCH
TUNER 5V
GND
MUTE IN
TO D MAIN CIRCUIT (W1) (PAGE 36)
CN2
STEREO
TUNED
GND
MONO
CL
CE
DI
TO F CONTROL CIRCUIT (W2) (PAGE 38)


C DECK CIRCUIT
CP301
Lch
Rch
R / P HEAD
ERASE HEAD
TP1
TP2
Q101,Q201
2SJ40CDTA
HEAD SELECT
(PLAY ON)
Q201
Q101
Q102,Q202
2SJ40CDTA
HEAD SELECT
(REC ON)
Q202
Q102
IC302
TA8142AP
P.B EQ/REC AMP/ALC
IC301
IC301
BA7755A
R/P SELECT
Q305,Q306
2SC2785FTA
BIAS OSC
Q303
2SD1450STA
SWITCHING (REC ON)
Q301,Q302
2SC2785FTA
SWITCHING (BEATPROOF)
Q301
Q302
Q303
Q305
Q306
Q307
Q307
2SC2785FTA
BIAS OSC CONT
Q313
L301
L302 47uH
L303 47uH
D301 RVD1SS133TA
D302 RVDMTZ4R7BTA
VR301
W305
MOTOR

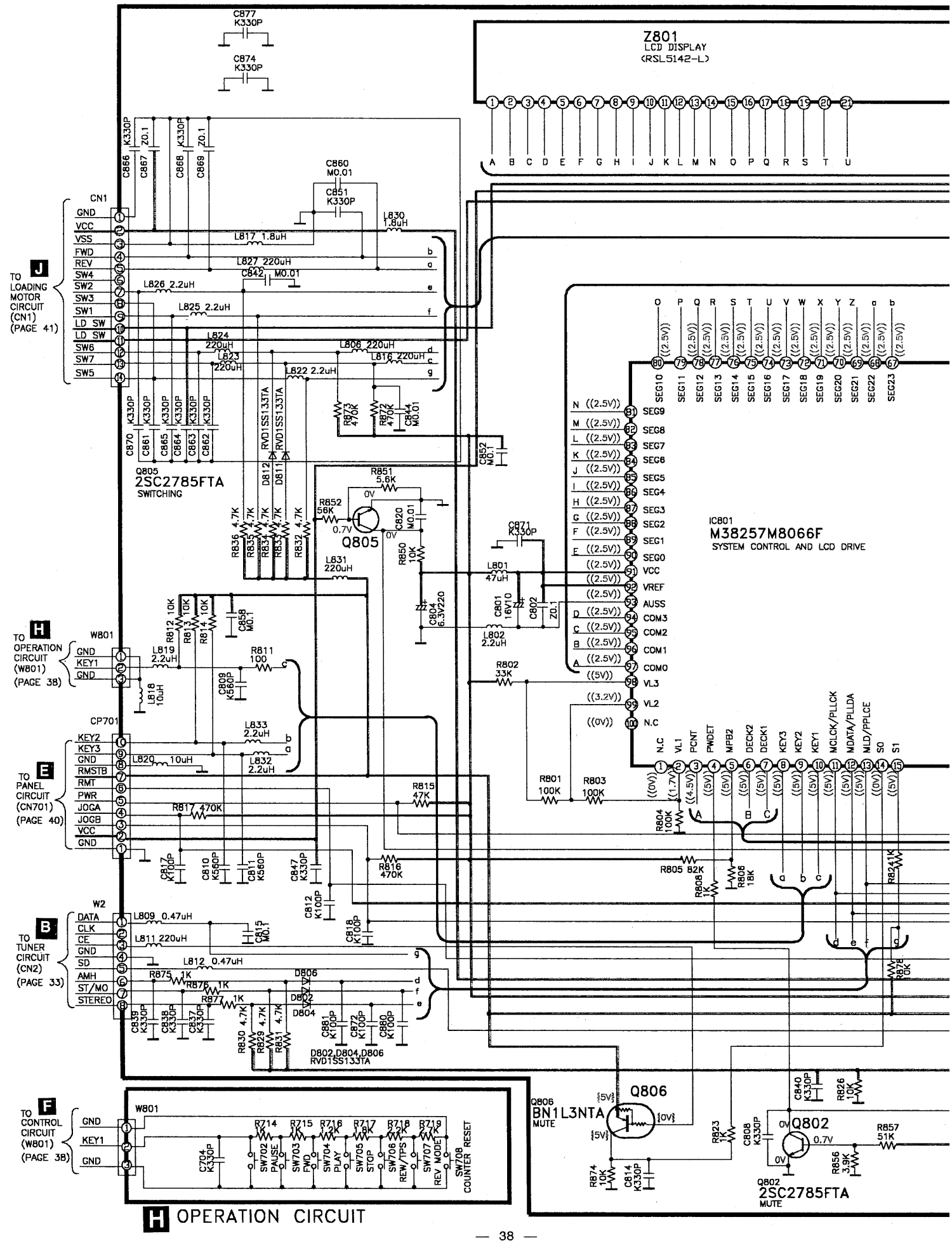

Q105,Q205
2SJ40CDTA
SWITCHING (PLAY ON)
Q205
Q105
Q304
Q105,Q205
2SJ40CDTA
SWITCHING (PLAY ON)
Q304
BA1A3QTA
SWITCHING
Q104,Q204
2SC2785FTA
SWITCHING
(PLAY ON)
CP302
RMT
RCH PB OUT
LCH PB OUT
AGND
RCH REC IN
LCH REC IN
8V
PGND
MOTOR VCC
MOTOR GND
TO D MAIN CIRCUIT (W302) (PAGE 36)
Q104
Q204
Q317
BN1L3NTA
SWITCHING
(R/P SELECT)
Q311
BA1A3QTA
SWITCHING (R/P SELECT)
CP303
PL VCC
ADIN2
ADIN1
BP2
REM STBY
AVSS
BP3
RECH 5V
NC
TO D MAIN CIRCUIT (W303) (PAGE 36)
W301
J971
IC971
IC971
DN6851ALB
HALL
Q312
BA1L4MTA
INTERFACE
SOLENOID
I MECHANISM CONTROL CIRCUIT

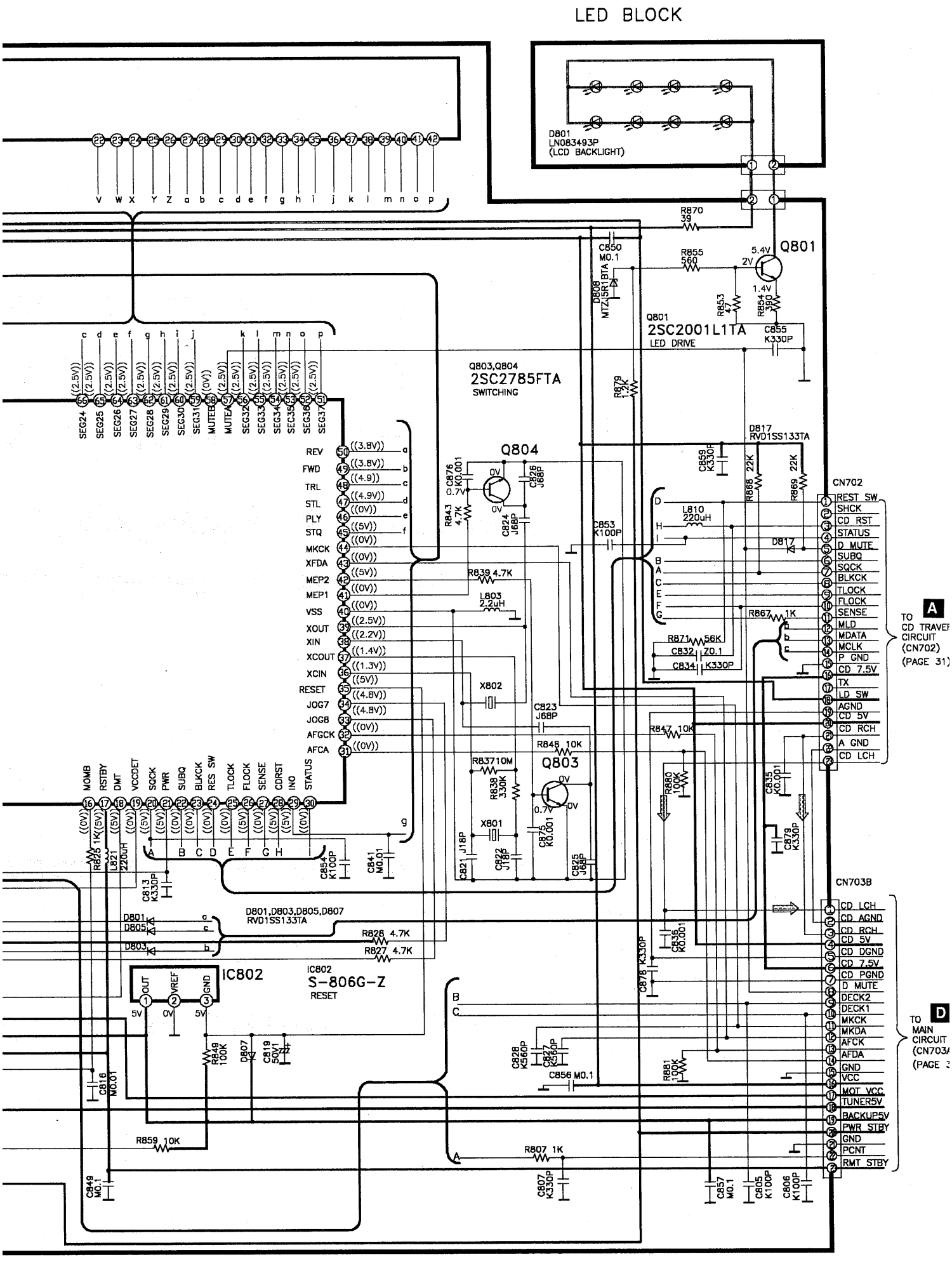
D MAIN CIRCUIT



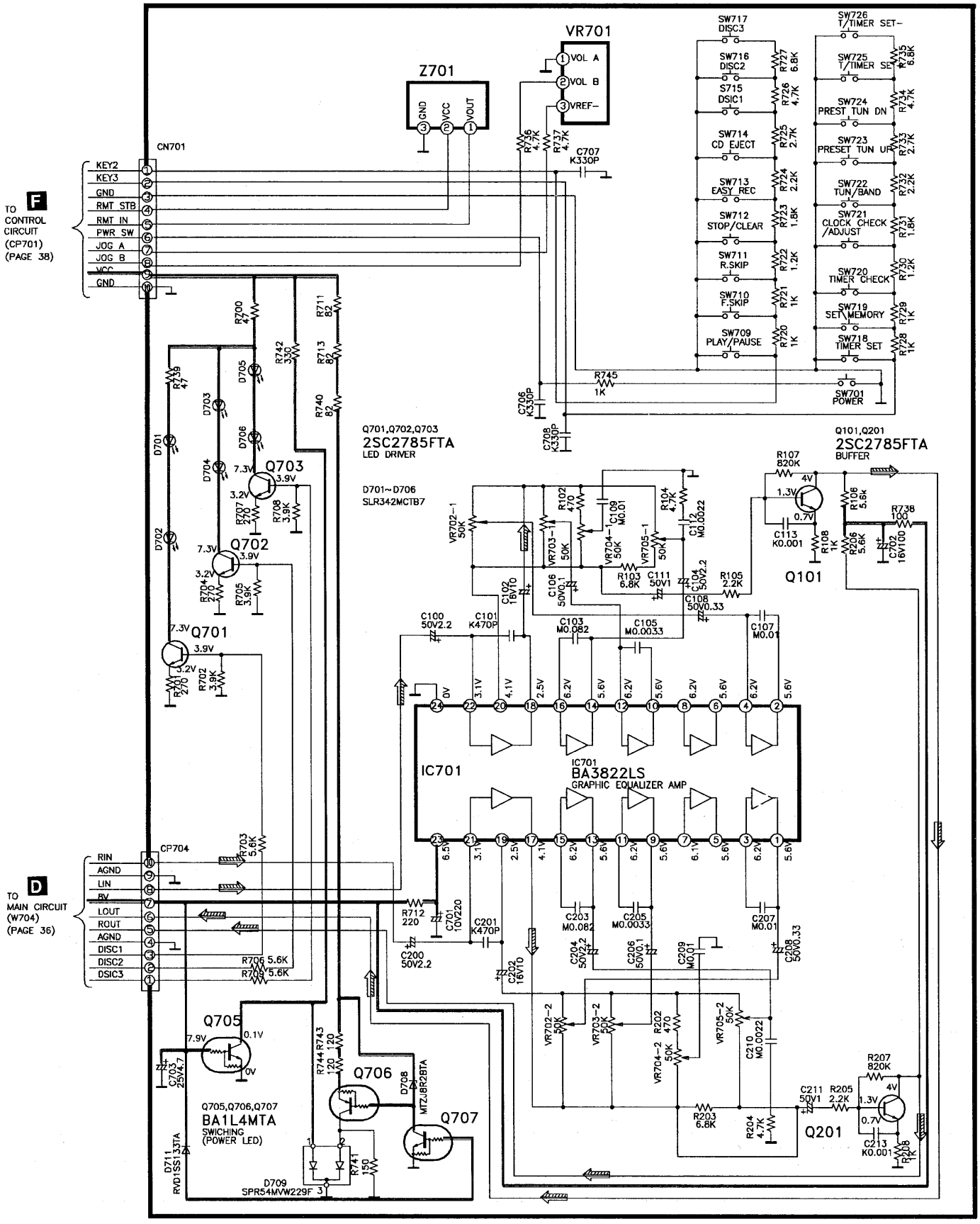

IC303
M62414SP
VOLUME
IC303
VCA
VCA
DAC
DATA
CK
VCCA
IC306,IC307
AN7135
POWER AMP
IC307
IC306
Lch NF
Lch IN
R.F.STB
GND(IN)
Rch IN
Rch NF
Rch OUT
B.S(Rch)
GND(OUT)
VCC
B.S(Lch)
LCH OUT
Q142,Q242
2SC2001L1TA
MUTING
Q142
Q242
CP303
CP304
PM DYNAMIC SPEAKER (TWEETERS) 8cm, 8–16Ω
PM DYNAMIC SPEAKER (WOOFER) 12cm, 2.7–8
JK301
HEADPHONE Ø3.5, 32 Ω
IC305
S81250PG-T
5V REGULATOR
GND
IN
OUT
Q303
Q304
Q301
Q302
Q303,Q304
BN1L3NTA
DIGITAL SWITCHING
Q301
BN1L3NTA
DIGITAL SWITCHING
Q302
BA1AMTA
DIGITAL SWITCHING
D303
RVD1SS133TA
G POWER SUPPLY CIRCUIT
S501
CS501
AC
DC
D501~D504
IN5402BM21
F501
250 4A
T501
L501
RLL500050T-Y
L502
RLL500050T-Y
JK501
AC IN
230–240V
50Hz
W501
VCC
+6V
GND
STBY
W502
15V (10 "D" SIZE,R20/L20 BATTERIES)
6V (4 "AA" SIZE,R6/LR6 BATTERIES)

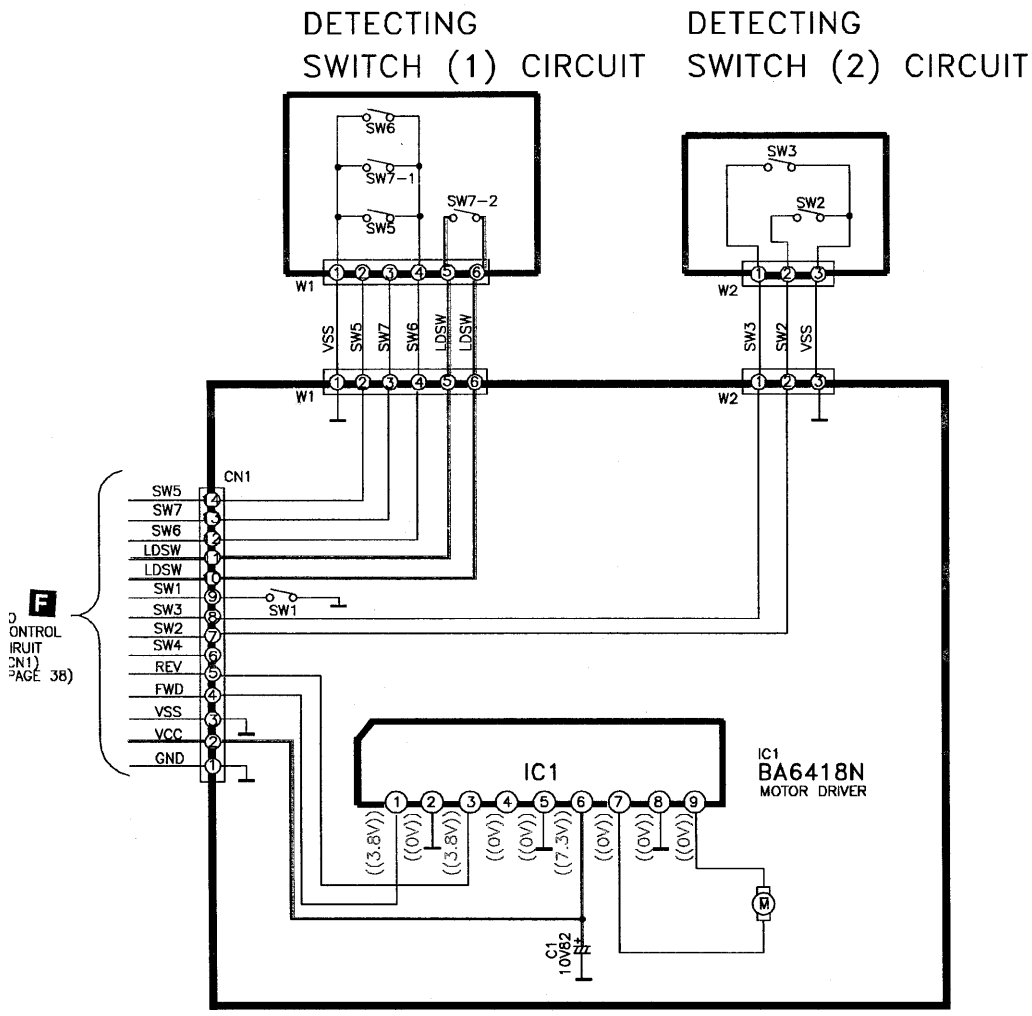
F CONTROL CIRCUIT




LED BLOCK
D801
LN083493P
(LCD BACKLIGHT)
Q801
2SC2001L1TA
LED DRIVE
Q803,Q804
2SC2785FTA
SWITCHING
Q804
Q803
IC802
S-806G-Z
RESET
D801,D803,D805,D807
RVD1SS133TA
D817
RVD1SS133TA
CN702
REST SW
SHCK
CD RST
STATUS
D MUTE
SUBQ
SQCK
BLKCK
TLOCK
FLOCK
SENSE
MLD
MDATA
MCLK
P GND
CD 7.5V
TX
LD SW
AGND
CD 5V
CD RCH
A GND
CD LCH
TO CD TRAVER CIRCUIT (CN702) (PAGE 31)
CN703B
CD LCH
CD AGND
CD RCH
CD 5V
CD DGND
CD 7.5V
CD PGND
D MUTE
DECK2
DECK1
MKCK
MKDA
AFCK
AFDA
GND
VCC
MOT VCC
TUNER5V
BACKUP5V
PWR STBY
GND
PCNT
RMT STBY
TO MAIN CIRCUIT (CN703A) (PAGE 3
REV
FWD
TRL
STL
PLY
STQ
MKCK
XFDA
MEP2
MEP1
VSS
XOUT
XIN
XCOUT
XCIN
RESET
JOG7
JOG8
AFGCK
AFCA
SEG24
SEG25
SEG26
SEG27
SEG28
SEG29
SEG30
SEG31
MUTEB
MUTEA
SEG32
SEG33
SEG34
SEG35
SEG36
SEG37
NOMB
RSTBY
DMT
VCCDET
SQCK
PWR
SUBQ
BLKCK
RES SW
TLOCK
FLOCK
SENSE
CDRST
INO
STATUS
X802
X801
L803 2.2uH
L810 220uH
L821 220uH
R825 1K
R826 4.7K
R827 4.7K
R839 4.7K
R847 10K
R848 10K
R83710M
R838 330K
R843 4.7K
R853 47
R854 390
R855 560
R867 1K
R868 22K
R869 22K
R870 39
R871 56K
R879 1.2K
R880 100K
R881 100K
R849 100K
R859 10K
R807 1K
C850 M0.1
C853 K100P
C854 K100P
C855 K330P
C856 M0.1
C857 M0.1
C859 K330P
C876 K0.001
C826 J68P
C824 J68P
C823 J68P
C832 Z0.1
C834 K330P
C835 K0.001
C836 K0.001
C878 K330P
C879 K330P
C813 K330P
C841 M0.01
C821 J18P
C822 J18P
C825 J68P
C828 K560P
C827 K560P
C816 M0.01
C819 50V1
C807 K330P
C805 K100P
C806 K100P
C849 M0.1
D808 MTZJ5R1BTA
D807
5.4V
2V
1.4V
0V
5V

E PANEL CIRCUIT





J LOADING MOTOR CIRCUIT

■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

< for Servo circuit > (Page 31)

- **S701** : Reset switch

< for Deck circuit > (Page 34)

- **VR301** : Tape speed control.

< for Mechanism circuit > (Page 35)

- **S971** : Deck mode detect switch.
- **S972** : Deck tape detect switch.
- **S973** : Deck tab switch.
- **S974** : Deck tab switch.

< for Main circuit and Power Supply circuit > (Page 37)

- **S501** : AC/DC switch (JK501)

< for Operation Switch circuit and Panel circuit > (Page 38, 40)

- **SW701** : Power switch
- **SW702** : Record/Record Pause switch
- **SW703** : Cassette FF switch
- **SW704** : Cassette Play/Dir switch
- **SW705** : Cassette Stop switch
- **SW706** : Cassette Rew switch
- **SW707** : Reverse Mode switch
- **SW708** : Counter Reset switch
- **SW709** : CD Play/Pause switch
- **SW710** : CD Forward skip switch
- **SW711** : CD Reverse skip switch
- **SW712** : CD Stop/Clear switch
- **SW713** : Easy CD Record switch
- **SW714** : CD Eject switch
- **SW715** : CD Disc 1 switch
- **SW716** : CD Disc 2 switch
- **SW717** : CD Disc 3 switch
- **SW718** : Timer switch
- **SW719** : Memory switch
- **SW720** : Timer Chk switch
- **SW721** : Clock Chk switch
- **SW722** : Tuner/Band switch
- **SW723** : Preset Tuning Up switch
- **SW724** : Preset Tuning Down switch
- **SW725** : Tuning/Time Set + switch
- **SW726** : Tuning/Time Set – switch
- **VR701** : Volume control
- **VR702-1 ~ VR702-2** : Equaliser control (330Hz)
- **VR703-1 ~ VR703-2** : Equaliser control (1kHz)
- **VR704-1 ~ VR704-2** : Equaliser control (10kHz)
- **VR705-1 ~ VR705-2** : S-XBS control

< for Loading Motor circuit > (Page 41)

- **SW1** : Leaf switch.
- **SW2~SW7-2** : Mecha switch.

< General >

•Battery Current

Without signal....	340mA(Tape Stop) 430mA(CD Stop)		
Vol. min	365mA(FM)	Vol. max	960mA(FM)
	355mA(AM)		920mA(AM)
	430mA(Tape)		1520mA(Tape)
	540mA(CD)		2500mA(CD)
Recording	470mA		

(Measurement condition:
Radio : FM 60 dB, 30%mod
AM 74 dB/m, 30%mod
Tape : 315 Hz, 0dB
CD : 1kHz, 0dB)

•Signal line

: +B line
: FM/AM signal line
: Main signal line
: Playback signal line
: Record signal line
: CD signal line
: FM signal line
: AM signal line
: AM OSC signal line
: FM OSC signal line

•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

No mark: Playback << >>.....Rec { }: Tuner (( )): CD ( )..... AM < >..... FM

•Importance safety notice:

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Ground the soldering iron.
•Put a conductive mat on the work table.
•Do not touch the pins of IC, LSI or VLSI with fingers directly.

■ Mechanism Parts List

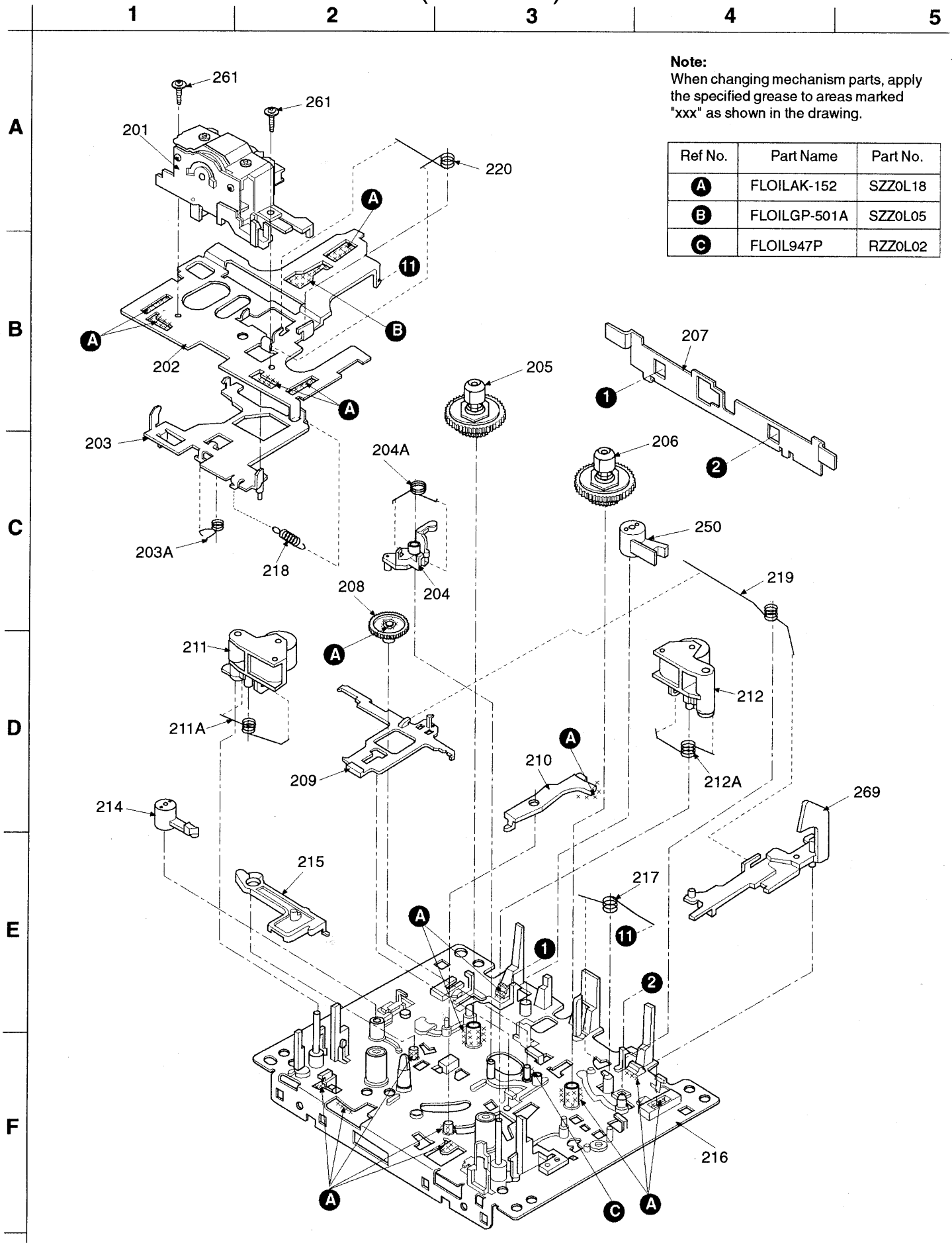
Note : [M] mark in Remarks column indicates parts that are supplied by **MESA**.

Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
201	RXQ0291	HEAD BLOCK ASS'Y	[M]
202	RUA793ZF	CHASSIS	
203	RZLAR300A	LEVER ASS'Y	[M]
203A	RUW143ZA	SPRING	[M]
204	1UB0089Z	ARM	
204A	RUW148ZA	SPRING	
205	1DM0018ZB	REEL TABLE ASS'Y	
206	1DM0017ZB	REEL TABLE ASS'Y	
207	RML0069-1	LEVER	
208	RDG5772ZC	GEAR	[M]
209	RUB508ZB	LEVER	[M]
210	RUB506ZB	LEVER	
211	1UB0088ZB	PINCH ROLLER	
211A	RUW141ZA	SPRING	[M]
212	1UB0087ZB	PINCH ROLLER	
212A	RUW140ZB	SPRING	
214	RNL1ZD	ARM	
215	RUB503ZD	LEVER	[M]
216	RZUAR300A	CHASSIS ASS'Y	[M]
217	RUW142ZA	SPRING	
218	RUD105ZA	SPRING	
219	RUW144ZA	SPRING	
220	RUW139ZA	SPRING	
221	RFM133ZA	MOTOR ASS'Y	
222	1UE0015ZB	PLUNGER	
223	RUB428ZE	SHAFT	
224	RUL1030YA	PLATE	
225	RMD5014ZC	SPACER	
226	RDG5927ZG	GEAR	[M]
227	1DW0037ZB	FLYWHEEL ASS'Y	
227A	RNW139ZA	WASHER	[M]
228	1DW0038ZB	FLYWHEEL ASS'Y	
228A	RNW138ZA	WASHER	
229	1DG0006ZB	GEAR ASS'Y	
230	RUB513ZD	LEVER	[M]
231	1UB0091Z	LEVER	
231A	RUW146ZA	SPRING	
232	1DR0011ZB	PULLEY ASS'Y	
233	RDV90ZB	BELT	
234	RDG5769ZA	GEAR	
235	RUQ111ZB	SPRING	
236	RUW145ZA	SPRING	
237	1UB0090ZA	ROD	
237A	RUB512ZB	ROD	
238	RDG5773ZA	GEAR	
239	RUQ112ZA	SPRING	
240	RUS609ZC	SPRING	
241	RUB514ZC	LEVER	
242	RUW147ZA	SPRING	
243	RUB515ZA	LEVER	
244	RUB509ZA	LEVER	
245	RDV108ZA	BELT	
249	RMG0102-1	RUBBER	
250	RNL180ZB	LEVER	
261	XTW2+6L	SCREW	
263	XTN26+7J	SCREW	
264	RHE5203ZA	SCREW	
265	XTW2+8S	SCREW	
266	XYC2+JF16	SCREW	
267	RHD26002	SCREW	
268	RJS10T7ZA	SOCKET (J971)	
269	RUB507ZD	EJECT ROD (R)	

■ CD Loading Unit Parts List

Ref No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RDG0309	RELAY GEAR	[M]
302	RDG0310	PULLEY GEAR	[M]
303	RDG0311	DRIVE GEAR	[M]
304	RMM0134	DRIVE GEAR	[M]
305	RMM0135	CUSHION RACK	[M]
306	RMM0136	CARRIER LEVER	[M]
307	RDG0312	SPEED UP GEAR	[M]
308	RFKRDS790PK1	TRAY BASE ASS'Y	[M]
309	RGQ0170-K	TRAY 1	[M]
310	RGQ0171-K	TRAY 2	[M]
311	RGQ0172-K	TRAY 3	[M]
312	RFKRDS790PK2	MECHA BASE ASS'Y	[M]
313	RML0379	CHANGE LEVER	[M]
314	RML0380	LOCK LEVER	[M]
315	RML0384	UP PREVENTION LEVER	[M]
316	RMM0138	SLIDE PLATE LEVER(1)	[M]
317	RMM0140	SLIDE PLATE LEVER(2)	[M]
318	RFKNDS790PK1	MECHA COVER ASS'Y	[M]
318-1	RMG0413-Q	RUBBER TUBE	[M]
319	RMR0889-K	DISC UP LOCK PIN	[M]
320	RMR0890-K	DISC DOWN LOCK PIN	[M]
321	RDG0314	UP/DOWN GEAR LEVER	[M]
322	RML0402	TRAY PUSH LEVER	[M]
323	RML0386	DISC CLAMP LEVER	[M]
324	RML0387	L OPEN LEVER	[M]
325	RMR0891-K	R OPEN LEVER	[M]
326	RFKKDS790PK3	R LID ASS'Y	[M]
327	RMR0893-K	L LID	[M]
328	RMR0898-K	STOPPER	[M]
329	RMR0334	FIXED PLATE	[M]
330	RDV0036	BELT	[M]
331	XTB3+10JFZ	SCREW PB, LID	
332	RMA0868	SUPPORT ANGLE	[M]
333	RMC0274	TRAY FOOK SPRING	[M]
336	RME0170	LOCK LEVER SPRING	[M]
337	RME0182	UP PREVENTION SPRING(L	[M]
338	RME0179	ASSIST SPRING	[M]
339	RMR0789-K	MAGNET HOLDER LEVER	[M]
340	XTN2+6F	SCREW SUPPORT ANGLE	[M]
341	RHD20010	SCREW DRIVE RACK	[M]
342	RHM245ZA	MAGNET	[M]
343	RFKPDS790PK1	MOTOR ASS'Y	[M]
344	RMS0503	DRIVE GEAR SHAFT	[M]
345	RDG0183-L	DAMPER GEAR	[M]
346	RMF0188	CLAMPER SHEET	
347	RME0175	L CD OPEN SPRING	[M]
348	RME0176	R CD OPEN SPRING	[M]
349	RME0177	DISC LOCK SPRING	[M]
350	RME0181	UP PREVENTION SPRING(R	[M]
351	RAE0150Z	TRAVERSE UNIT	
351-1	SHGD113-1	FLOATING RUBBER (B)	
351-2	SHGD112	FLOATING RUBBER (A)	
351-3	SNSD38	SCREW	
352	RME0109	FLOATING SPRING A	
353	RME0142	FLOATING SPRING B	
354	RMK0293	TRAVERSE CHASSIS	[M]
355	RMS0123-1	FIXED PIN A	
356	XTN2+6G	SCREW	
357	XTV2+6G	SCREW	

■ Mechanism Parts Location (RAA0363)



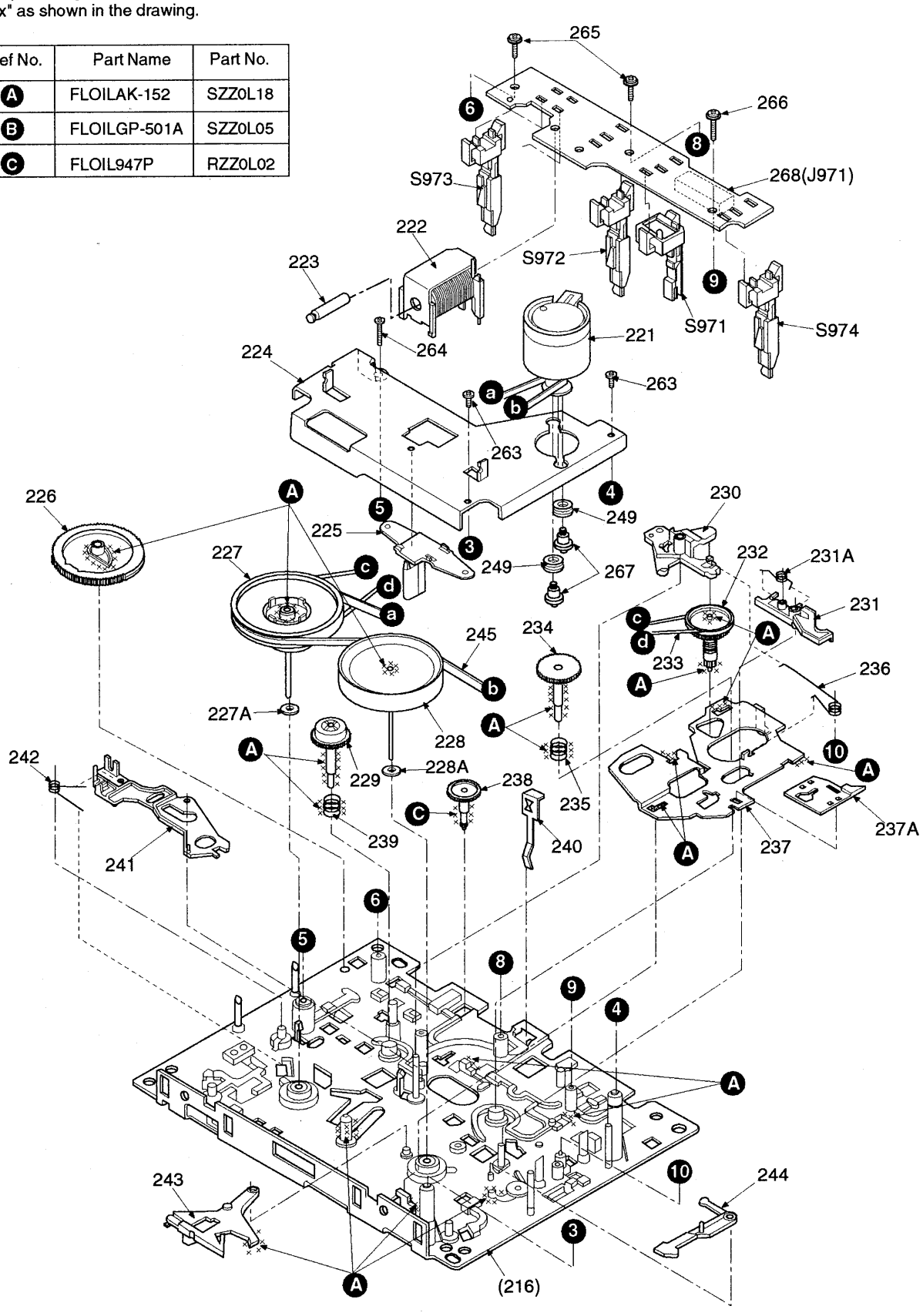
Note:
When changing mechanism parts, apply the specified grease to areas marked "xxx" as shown in the drawing.

Ref No.	Part Name	Part No.
Ⓐ	FLOILAK-152	SZZ0L18
Ⓑ	FLOILGP-501A	SZZ0L05
Ⓒ	FLOIL947P	RZZ0L02

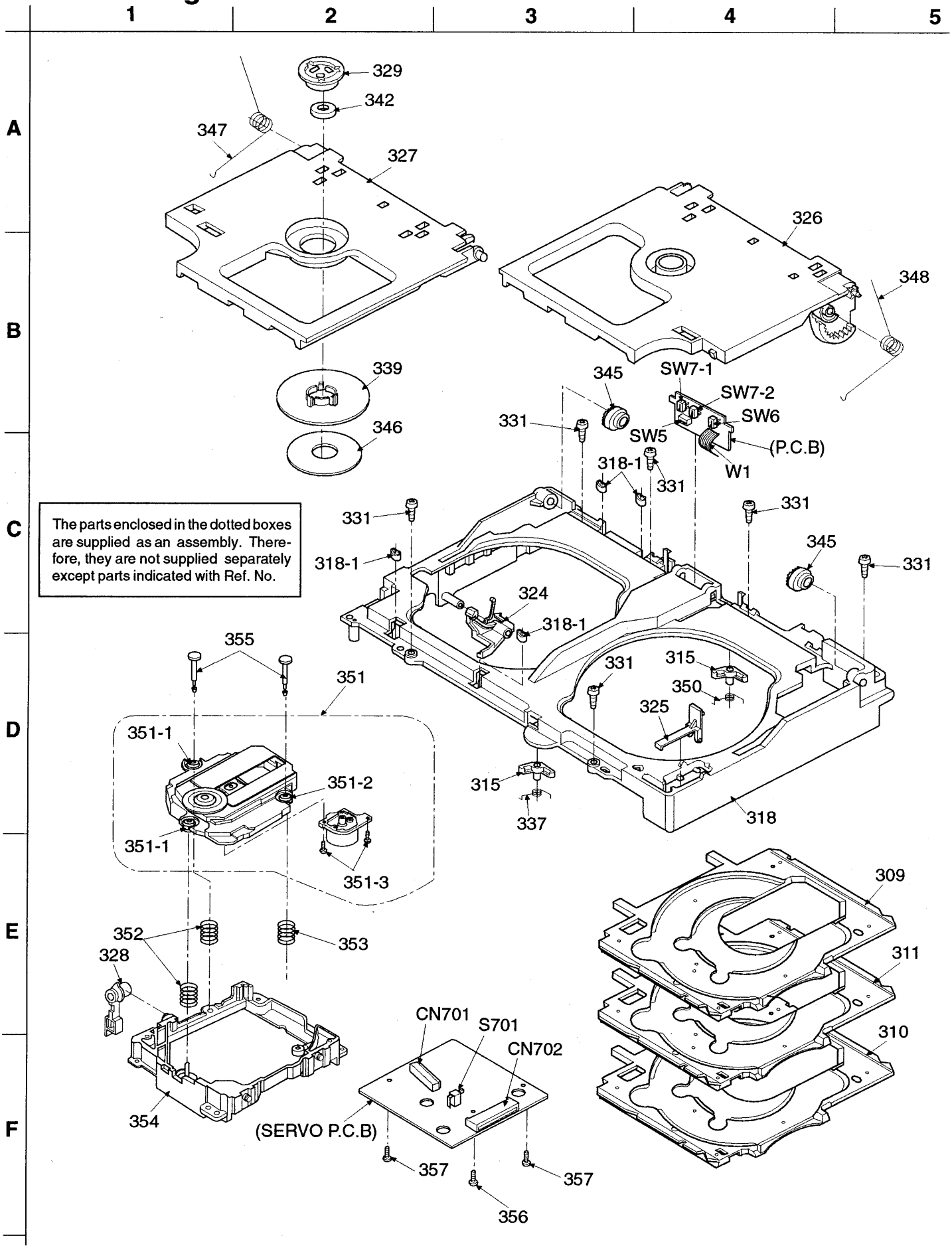
■ Mechanism Parts Location (RAA0363)

Note:
When changing mechanism parts, apply the specified grease to areas marked "xxx" as shown in the drawing.

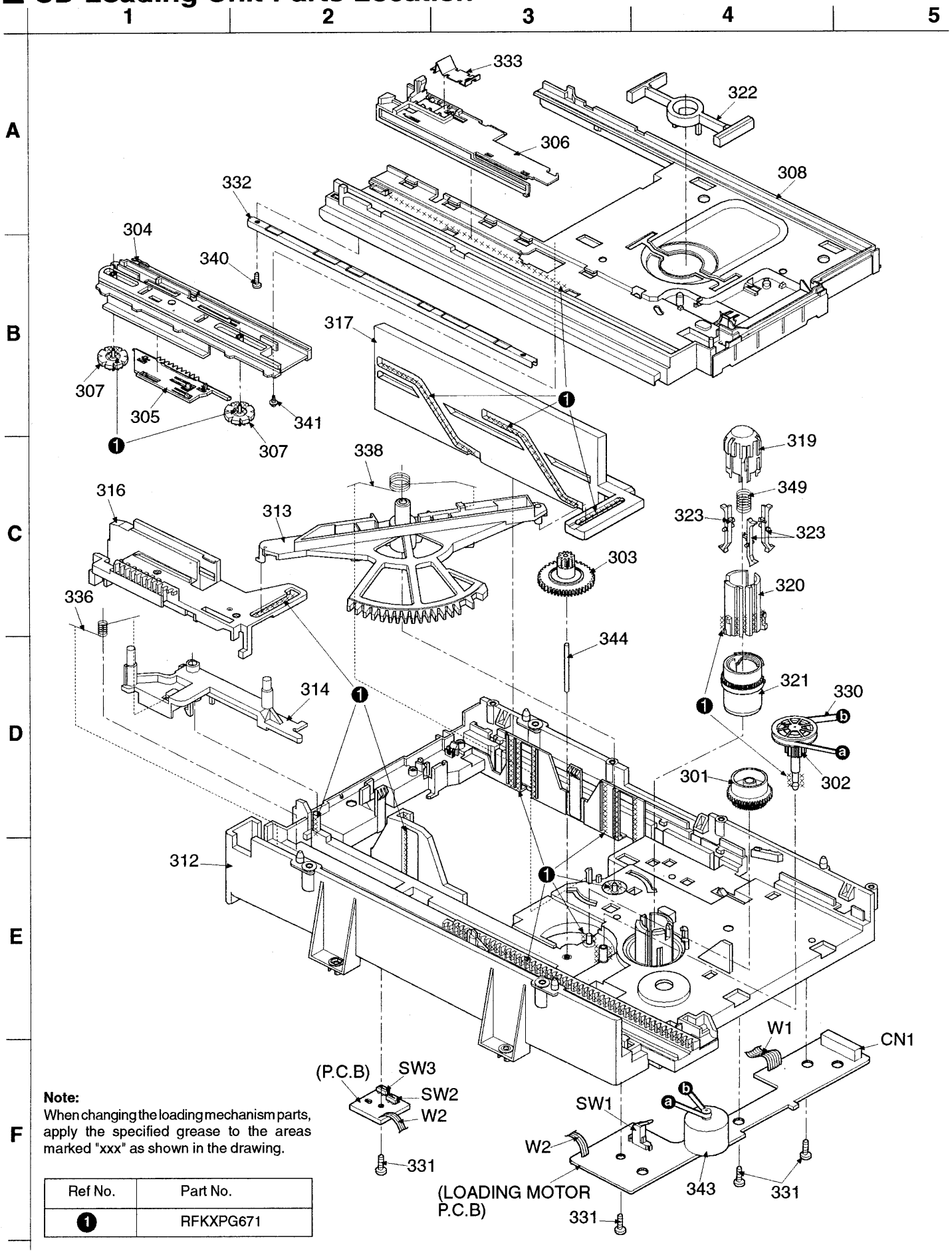
Ref No.	Part Name	Part No.
Ⓐ	FLOILAK-152	SZZ0L18
Ⓑ	FLOILGP-501A	SZZ0L05
Ⓒ	FLOIL947P	RZZ0L02



■ CD Loading Unit Parts Location



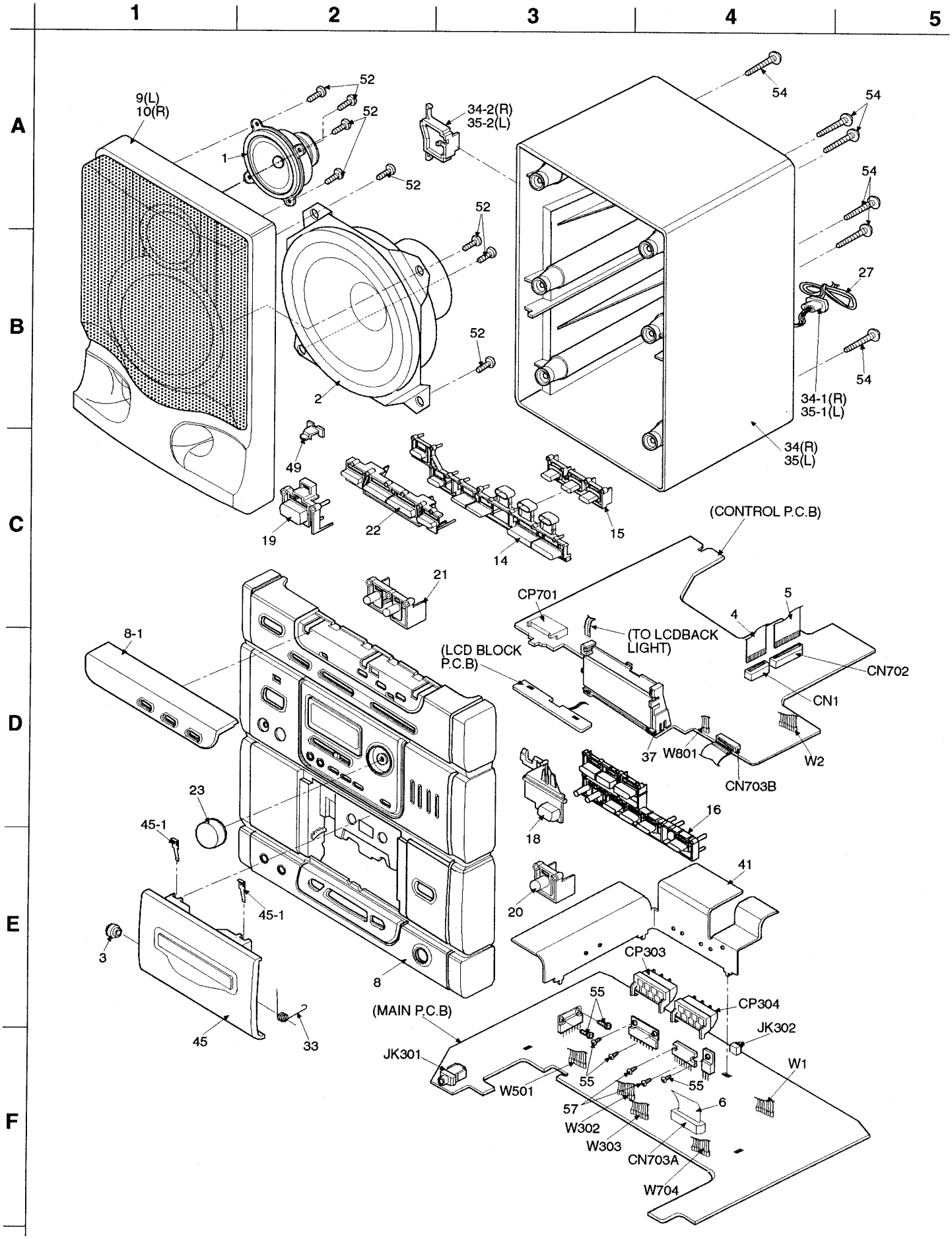
■ CD Loading Unit Parts Location



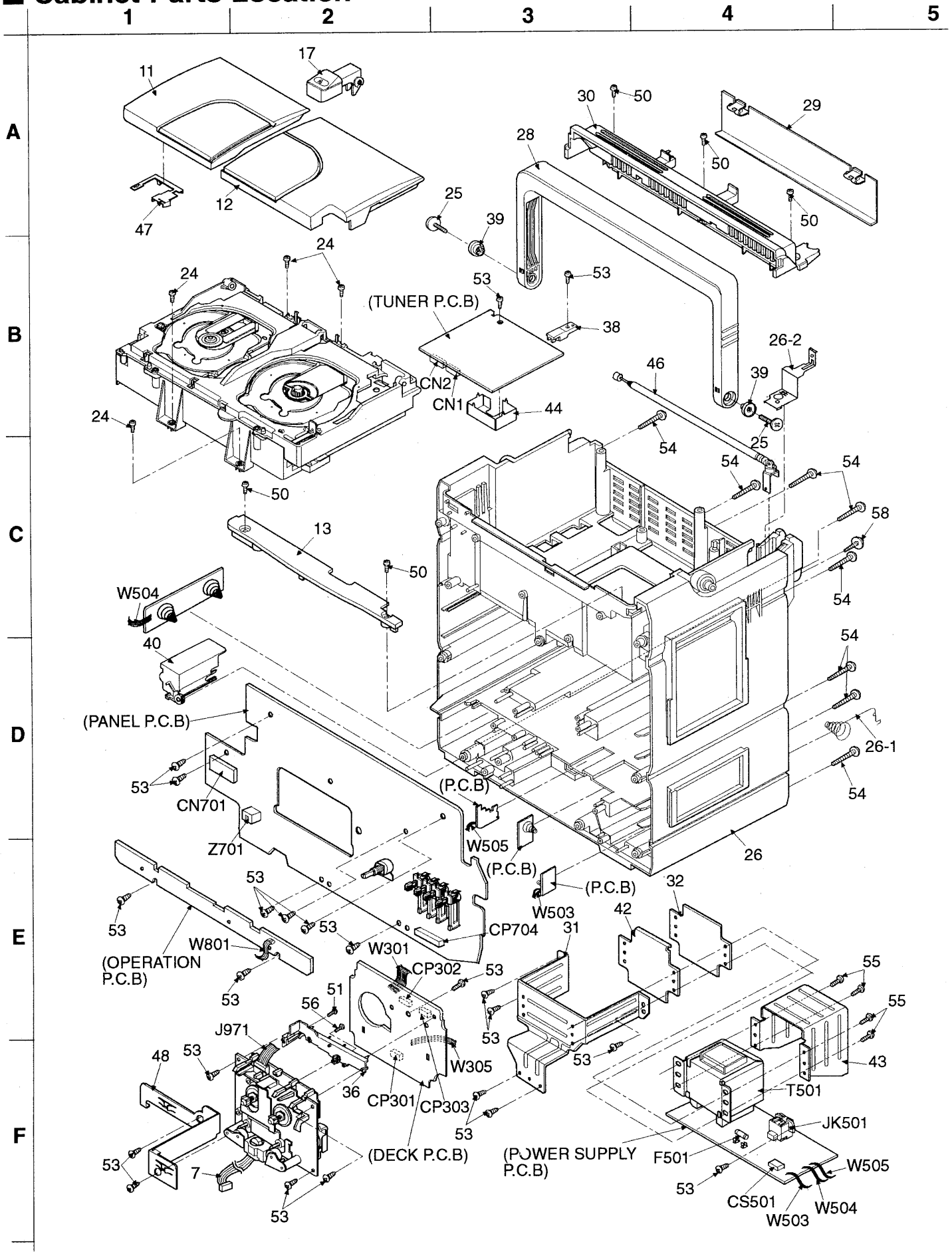
Note:
When changing the loading mechanism parts, apply the specified grease to the areas marked "xxx" as shown in the drawing.

Ref No.	Part No.
❶	RFKXPG671

■ Cabinet Parts Location



■ Cabinet Parts Location



■ Replacement Parts List

Notes: • Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
• [M] indicates in Remarks column parts that are supplied by **MESA**.
• **Warning:** This product uses a laser diode. Refer to caution statements on page 2.
ACHTUNG : • Die lasereinheit nicht zerlegen.
• Die lasereinheit darf nur gegen eine vom hertsteller spezifizierte einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	EASG8PH63C2	SPEAKER TWEETER	[M]
2	EASG12P515A2	SPEAKER WOOFER	[M]
3	RDG0183-L	DAMPER GEAR	[M]
4	REE0664	14P FFC (CD-CONTROL)	[M]
5	REE0665	23P FFC (CD-CONTROL)	[M]
6	REE0666	23P FFC (CONTROL-MAIN)	[M]
7	REXX0086	MECHA HEAD WIRE	[M]
8	RFKGDS790GC1	FRONT CABINET ASS'Y	[M]
8-1	RGK0754-K	CD ORNAMENT	[M]
9	RFKGDS790GC2	SP FRONT CAB ASS'Y(L	[M]
10	RFKGDS790GC3	SP FRONT CAB ASS'Y(R	[M]
11	RFKKDS790PK1	CD LID ASS'Y (L)	[M]
12	RFKKDS790PK2	CD LID ASS'Y (R)	[M]
13	RGQ0180-K	CD MECHA COVER	[M]
14	RGU1286-S1	CD FUNC BUTTON	[M]
15	RGU1287-Q	CD CHANGE BUTTON	[M]
16	RGU1288-S	FUNC BUTTON	[M]
17	RGU1289-K	CD EJECT BUTTON	[M]
18	RGU1290-S	CASS EJECT BUTTON	[M]
19	RGU1291-S	POWER BUTTON	[M]
20	RGU1292-S	REC BUTTON	[M]
21	RGU1293-S	REV MODE BUTTON	[M]
22	RGU1294-S	CASS OPR BUTTON	[M]
23	RGW0236-S	VOLUME KNOB	[M]
24	RHD30048	SCREW	[M]
25	RHD30062	HANDLE SCREW	[M]
26	RFKHDS790EGK	REAR CABINET ASS'Y	[M]
26-1	RJC91006	BATTERY TERMINAL	[M]
26-2	RJR0153	ROD ANTENNA PLATE	[M]
27	RJL4W002W17	SP CORD	[M]
28	RKH0032-K	HANDLE	[M]
29	RKK347ZB-0	BATTERY COVER	[M]
30	RKQ0188-K	TOP CAB	[M]
31	RMA0887-1	P.T. BRACKET	[M]
32	RMC1257ZA	TRANS SHIELD PLATE	[M]
33	RME0212	CASS. EJECT SPRING	[M]
34	RFKHXDT670PA	SP REAR CAB ASS'Y(R)	[M]
34-1	RMG0166	CORD BUSHING	[M]
34-2	RMR0407	LOCK LEVER (R)	[M]
35	RFKHXDT670PB	SP REAR CAB ASS'Y(L)	[M]
35-1	RMG0166	CORD BUSHING	[M]
35-2	RMR0408	LOCK LEVER (L)	[M]
36	RMKX0006	MECHA CHASSIS	[M]
37	RMN0345	LCD HOLDER	[M]
38	RMR0631-K	TUNER PCB HOLDER	[M]
39	RMR0900-K	HANDLE PIECE	[M]
40	RMR0901-X	BATT PCB COVER	[M]
41	RMY0166	HEAT SINK	[M]
42	RSC0094	TRANS SHIELD PLATE	[M]
43	RSC0163-2	TRANS SHIELD PLATE	[M]
44	RSC0314	TUNER SHIELD PLATE	[M]
45	RFKLDS790PK	CASSETTE LID ASS'Y	[M]
45-1	RUS757ZAA	CASS. HALF SPRING	[M]
46	XEARR175ED-Y	ROD ANTENNA	
47	RML0451	EMERGENCY EJ. LEVER	[M]
48	RMQ0629	EARTH PLATE	[M]
49	RGL0162-C	LED PANEL LIGHT	[M]
50	XTN3+12CFZ	SCREW	
51	XTV26+6F	MECHA CHASSIS SCREW	
52	XTV3+10G	SCREW FOR SP	
53	XTV3+12G	SCREW (PCB & P.T)	
54	XTV3+20G	REAR CAB SCREW	
55	XTV3+8F	POWER AMP IC SCREW	
56	XTW2+8S	SCREW	
57	XTW3+10F	REGULATOR IC SCREW	
58	XYN3+F8FY	SCREW	
		INTEGRATED CIRCUITS	
IC1	TA7358FMATEL	IC, FM RF	
IC2	LM7001M-TE-L	IC, PLL	
IC3	LA1831MSATEL	IC, IF MPX	
IC301	TC4052BP	IC, ANALOG SW	[M]
IC302	BU2090	IC, EXPANDER	[M]
IC303	M62414SP	IC, E. VOLUME	
IC304	BA3936	IC, REGULATOR	⚠
IC305	S81250PG-T	IC, SV REG	[M]⚠
IC306	AN7135	IC, POWER AMP	
IC307	AN7135	IC, POWER AMP	
IC701	BA3822LS	IC, G. EQUALIZER	
IC801	M38257M8066F	IC, MICROPROCESSOR	[M]
IC802	S-806G-Z	IC, RESET	[M]
IC971	DN6851ALB	IC, HALL	
		TRANSISTORS	
Q1	2SC2785FTA	TRANSISTOR	
Q2	2SC2785FTA	TRANSISTOR	
Q3	2SC2787FL1TA	TRANSISTOR	
Q4	2SC2787LTA	TRANSISTOR	
Q5	BN1L3NTA	TRANSISTOR	[M]
Q6	2SJ40CDTA	TRANSISTOR	
Q7	2SJ40CDTA	TRANSISTOR	
Q8	2SD1020HTA	TRANSISTOR	[M]
Q9	BN1A4ZTA	TRANSISTOR	[M]
Q10	BA1A4MTA	TRANSISTOR	[M]
Q11	2SA1175FTA	TRANSISTOR	[M]
Q13	2SC2785FTA	TRANSISTOR	
Q14	BN1L3NTA	TRANSISTOR	[M]
Q16	2SD1020HTA	TRANSISTOR	[M]
Q17	BA1L4ZTA	TRANSISTOR	[M]
Q101	2SC2785FTA	TRANSISTOR	
Q142	2SC2001L1TA	TRANSISTOR	
Q201	2SC2785FTA	TRANSISTOR	
Q242	2SC2001L1TA	TRANSISTOR	
Q301	BN1L3NTA	TRANSISTOR	[M]
Q302	BA1A4MTA	TRANSISTOR	[M]
Q303	BN1L3NTA	TRANSISTOR	[M]
Q304	BN1L3NTA	TRANSISTOR	[M]
Q305	2SB621RTA	TRANSISTOR	
Q306	2SB1030RTA	TRANSISTOR	
Q307	2SD2037ETA	TRANSISTOR	[M] ⚠
Q308	2SD1762E	TRANSISTOR	[M] ⚠
Q309	2SC2785FTA	TRANSISTOR	
Q701	2SC2785FTA	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
Q702	2SC2785FTA	TRANSISTOR	
Q703	2SC2785FTA	TRANSISTOR	
Q705	BA1L4MTA	TRANSISTOR	[M]
Q706	BN1A4MTA	TRANSISTOR	[M]
Q707	BA1L4MTA	TRANSISTOR	[M]
Q801	2SC2001L1TA	TRANSISTOR	
Q802	2SC2785FTA	TRANSISTOR	
Q803	2SC2785FTA	TRANSISTOR	
Q804	2SC2785FTA	TRANSISTOR	
Q805	2SC2785FTA	TRANSISTOR	
Q806	BN1L3NTA	TRANSISTOR	[M]
		DIODES	
D1	KV1360NT	DIODE	
D2	RVDMTZ7R5BTA	DIODE	
D3	KV1581A3	DIODE	
D4	KV1360NT	DIODE	
D5	MTZJ5R1CTA	DIODE	[M]
D6	RVD1SS133TA	DIODE	
D301	RVD1SS133TA	DIODE	
D302	RVD1SS133TA	DIODE	
D303	RVD1SS133TA	DIODE	
D304	RVD1SS133TA	DIODE	
D305	RVD1SS133TA	DIODE	
D307	RVD1SS133TA	DIODE	
D310	MTZJ13BTA	DIODE	⚠
D311	MTZJ9R1ATA	DIODE	⚠
D312	MTZJ12BTA	DIODE	
D313	MTZJ4R7BTA	DIODE	
D314	MTZJ6R8BTA	DIODE	
D315	RVD1SS133TA	DIODE	
D316	MTZJ10BTA	DIODE	
D317	MTZJ6R8BTA	DIODE	
D318	RB441QT77	DIODE	
D319	MTZJ13BTA	DIODE	
D320	1SR139400TA	DIODE	
D501	1N5402BM21	DIODE	⚠
D502	1N5402BM21	DIODE	⚠
D503	1N5402BM21	DIODE	⚠
D504	1N5402BM21	DIODE	⚠
D505	RVD1SS133TA	DIODE	
D506	MTZJ9R1BTA	DIODE	
D701	SLR342MCTB7	DIODE	
D702	SLR342MCTB7	DIODE	
D703	SLR342MCTB7	DIODE	
D704	SLR342MCTB7	DIODE	
D705	SLR342MCTB7	DIODE	

Ref No.	Part No.	Part Name & Description	Remarks
D706	SLR342MCTB7	DIODE	
D708	MTZJ8R2BTA	DIODE	[M]
D709	SPR54MVW229F	DIODE	[M]
D711	RVD1SS133TA	DIODE	
D801	RVD1SS133TA	DIODE	
D802	RVD1SS133TA	DIODE	
D803	RVD1SS133TA	DIODE	
D804	RVD1SS133TA	DIODE	
D805	RVD1SS133TA	DIODE	
D806	RVD1SS133TA	DIODE	
D807	RVD1SS133TA	DIODE	
D808	MTZJ5R1BTA	DIODE	
D810	LN083493P	DIODE	[M]
D811	RVD1SS133TA	DIODE	
D812	RVD1SS133TA	DIODE	
D817	RVD1SS133TA	DIODE	
D971	RVD1SS133TA	DIODE	
		VARIABLE RESISTORS	
VR701	EVQWQAF1524B	VR, VOLUME	[M]
VR702	EWAJQCV13G54	VR, EQ SLIDE	[M]
VR703	EWAJQCV13G54	VR, EQ SLIDE	[M]
VR704	EWAJQCV13G54	VR, EQ SLIDE	[M]
VR705	EWAJSCV13B54	VR, XBS	[M]
		TRIMMERS	
CT1	RCV10AF1T-S	TRIMMER CAPACITOR	
CT2	ECRLA020E53R	TRIMMER CAPACITOR	
		SWITCHES	
S501	RJJ1SE01-1H	SW, AC IN (JK501)	⚠
S971	RSH1A89ZD-U	SW, MODE DETECT (2)	
S972	RSH1A90YD-U	SW, TAPE DETECT (2)	
S973	RSH1A90YD-U	SW, TAB DETECT (2)	
S974	RSH1A90YD-U	SW, TAB DETECT (2)	
SW701	EVQ21405R	SW, POWER	
SW702	EVQ21405R	SW, REC/REC PAUSE	
SW703	EVQ21405R	SW, FF	
SW704	EVQ21405R	SW, PLAY/DIR	
SW705	EVQ21405R	SW, STOP	
SW706	EVQ21405R	SW, REW	
SW707	EVQ21405R	SW, REV MODE	
SW708	EVQ21405R	SW, COUNTER RESET	
SW709	EVQ21405R	SW, PLAY/PAUSE	
SW710	EVQ21405R	SW, F. SKIP	

Ref No.	Part No.	Part Name & Description	Remarks
SW711	EVQ21405R	SW, R. SKIP	
SW712	EVQ21405R	SW, STOP/CLEAR	
SW713	EVQ21405R	SW, EASY REC	
SW714	EVQ21405R	SW, CD EJECT	
SW715	EVQ21405R	SW, DISC 1	
SW716	EVQ21405R	SW, DISC 2	
SW717	EVQ21405R	SW, DISC 3	
SW718	EVQ21405R	SW, TIMER	
SW719	EVQ21405R	SW, MEMORY	
SW720	EVQ21405R	SW, TIMER CHK	
SW721	EVQ21405R	SW, CLOCK CHK	
SW722	EVQ21405R	SW, TUNER/BAND	
SW723	EVQ21405R	SW, PRESET TUNING UP	
SW724	EVQ21405R	SW, PRESET TUNING DN	
SW725	EVQ21405R	SW, TUNING/TIME SET +	
SW726	EVQ21405R	SW, TUNING/TIME SET –	
		CONNECTORS	
CN1	RJP7G18ZA	CONNECTOR (7P)	
CN1	RJS1A6814	FF CONNECTOR	
CN2	RJP8G18ZA	CONNECTOR (8P)	
CN701	RJT003K010M1	10P B/B CONNECTOR	
CN702	RJS1A6823	23P FPC CONNECTOR	
CN703A	RJS1A6823	23P FPC CONNECTOR	
CN703B	RJS1A6723-Q	23P FFC CONNECTOR	
CP303	RJF1098YA-H	SPEAKER JACK	[M]
CP304	RJF1098YA-H	SPEAKER JACK	[M]
CP701	RJU003K010M1	10P B/B CONNECTOR	
CP704	RJS1A5210	10 PINS WIRE HOLDER	[M]
CS501	RJS4T6ZA	CONNECTOR	
		COILS & TRANSFORMERS	
L2	RLV6C006-0Z	AM F ANT	[M]
L3	RL02B007-T	MW OSC COIL	
L5	RLQZP8R2JT-Y	AXIAL COIL	
L6	RLQA101JT-D	AXIAL COIL	[M]
L8	RLQZP4R7KT-Y	AXIAL COIL	
L9	RLQZPR47KT-Y	AXIAL COIL	
L10	RLQZP4R7KT-Y	AXIAL COIL	
L11	RL01B003-T	LW OSC COIL	
L301	RLQZB470KT-D	RF CHOKE COIL	
L302	RLQZB470KT-D	RF CHOKE COIL	
L303	RLQZB470KT-D	RF CHOKE COIL	
L501	RLL500050T-Y	RF CHOKE COIL	⚠
L502	RLL500050T-Y	RF CHOKE COIL	⚠
L801	RLQZB470KT-D	RF CHOKE COIL	

Ref No.	Part No.	Part Name & Description	Remarks
L802	RLQZP2R2KT-Y	CHOKE COIL	
L803	RLQZP2R2KT-Y	CHOKE COIL	
L806	RLQZP221KT-Y	TUBULAR COIL	
L809	RLQZPR47KT-Y	CHOKE COIL	
L810	RLQZP221KT-Y	TUBULAR COIL	
L811	RLQZP221KT-Y	TUBULAR COIL	
L812	RLQZPR47KT-Y	CHOKE COIL	
L816	RLQZP221KT-Y	TUBULAR COIL	
L817	RLQZB1R8KT-D	CHOKE COIL	
L818	RLQZP100KT-Y	AXIAL COIL	
L819	RLQZP2R2KT-Y	CHOKE COIL	
L820	RLQZP100KT-Y	AXIAL COIL	
L821	RLQZP221KT-Y	TUBULAR COIL	
L822	RLQZP2R2KT-Y	CHOKE COIL	
L823	RLQZP221KT-Y	TUBULAR COIL	
L824	RLQZP221KT-Y	TUBULAR COIL	
L825	RLQZP2R2KT-Y	CHOKE COIL	
L826	RLQZP2R2KT-Y	CHOKE COIL	
L827	RLQZP221KT-Y	TUBULAR COIL	
L830	RLQZB1R8KT-D	CHOKE COIL	
L831	RLQZP221KT-Y	TUBULAR COIL	
L832	RLQZP2R2KT-Y	CHOKE COIL	
L833	RLQZP2R2KT-Y	CHOKE COIL	
T1	RLI2Z012-T	AM IFT	
T2	RLI4B018-T	FM DET COIL	
T501	RTP1M1B001-X	POWER TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z1	RCRBMT002-H	BPF	
Z701	RCDHC-278N	REMO-CON SENSOR	
Z801	RSL5142-L	LCD	[M]
		CERAMIC FILTERS	
CF1	RLFFETWLA02D	FM IF CF	
CF2	RLFFETWLA02D	FM IF CF	
		OSCILLATORS	
X1	RSXZ456KM01	CERAROCK	
X2	RSXC7M20S04T	XTAL 7.2MHZ	
X801	RSXD32K7S02	32.768HKZ X'TAL	[M]
X802	EF0EN4194T4	CERALOCK	[M]
		FUSE	
F501	XBA2C40TB0	FUSE	⚠

Ref No.	Part No.	Part Name & Description	Remarks
		FUSE HOLDERS	
FH501	EYF52BC	FUSE HOLDER	
FH502	EYF52BC	FUSE HOLDER	
		JACKS	
JK301	RJJ3BT01-1H	JK, HP	
JK302	RJJ1D25ZA-C	JK, MIC	
JK501	RJJ1SE01-1H	JK, AC IN	⚠
		WIRES	
W1	REX0769	7P WIRE (TUNER)	[M]
W2	REX0770	8P WIRE (TUNER)	[M]
W302	REX0772	10P WIRE (DECK)	[M]
W303	REX0771	9P WIRE (DECK)	[M]
		< DECK P.C.B. >	
		INTEGRATED CIRCUITS	
IC301	BA7755A	IC, SWITCH	
IC302	TA8142AP	IC, PB/REC PRE-AMP	
		TRANSISTORS	
Q101	2SJ40CDTA	TRANSISTOR	
Q102	2SJ40CDTA	TRANSISTOR	
Q104	2SC2785FTA	TRANSISTOR	
Q105	2SJ40CDTA	TRANSISTOR	
Q201	2SJ40CDTA	TRANSISTOR	
Q202	2SJ40CDTA	TRANSISTOR	
Q204	2SC2785FTA	TRANSISTOR	
Q205	2SJ40CDTA	TRANSISTOR	
Q301	2SC2785FTA	TRANSISTOR	
Q302	2SC2785FTA	TRANSISTOR	
Q303	2SD1450STA	TRANSISTOR	
Q304	BA1A3QTA	TRANSISTOR	[M]
Q305	2SC2785FTA	TRANSISTOR	
Q306	2SC2785FTA	TRANSISTOR	
Q307	2SC2785FTA	TRANSISTOR	
Q311	BA1A3QTA	TRANSISTOR	[M]
Q312	BA1L4MTA	TRANSISTOR	[M]
Q313	BA1A3QTA	TRANSISTOR	[M]
Q317	BN1L3NTA	TRANSISTOR	[M]
		DIODES	
D301	RVD1SS133TA	DIODE	
D302	RVDMTZ4R7BTA	DIODE	
D303	RVD1SS133TA	DIODE	

Ref No.	Part No.	Part Name & Description	Remarks
		VARIABLE RESISTOR	
VR301	RVNCC73B1T-A	VR, TAPE SPEED	
		CONNECTORS	
CP301	RJP5G18ZA	CONNECTOR	
CP302	RJP10G18ZA	CONNECTOR	
CP303	RJP9G18ZA	CONNECTOR	
		COILS	
L301	RL08C002M-T	BIAS OSC COIL	
L302	RLQZB470KT-D	RF CHOKE COIL	
L303	RLQZB470KT-D	RF CHOKE COIL	
		< LOADING MOTOR >	
		INTEGRATED CIRCUIT	
IC1	BA6418N	IC, MOTOR DRIVER	
		SWITCHES	
SW1	RSH1A005	SW, LEAF	
SW2	RSH1A024-U	SW, MECHA	
SW3	RSH1A024-U	SW, MECHA	
SW5	RSH1A024-U	SW, MECHA	
SW6	RSH1A024-U	SW, MECHA	
SW7-1	RSH1A024-U	SW, MECHA	
SW7-2	RSH1A024-U	SW, MECHA	
		CONNECTOR	
CN1	RJS1A6714	CONNECTOR 14P	
		< SERVO P.C.B. >	
		INTEGRATED CIRCUITS	
IC701	AN8835SBE1	IC, SERVO AMP.	
IC702	MN662741RPA	IC, DIGITAL LSI	
IC703	AN8389SE1	IC, COIL/MOTOR DRIVE	
		TRANSISTOR	
Q701	2SB709S	TRANSISTOR	
		SWITCH	
S701	RSM0006-P	SW, RESET	
		CONNECTORS	
CN701	RJU035T016-1	16 PIN FFC CONNECTOR	
CN702	RJS1A6723-1Q	23 PIN FFC CONNECTOR	
		OSCILLATOR	
X701	RSXZ16M9M01T	CERAMIC OSC	

■ Resistors & Capacitors

Notes : • [M] indicates in Remarks column parts that are supplied by **MESA**.
• Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads (F)
• Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R1	ERDS2TJ104T	100K 1/4W
R2	ERDS2TJ152T	1.5K 1/4W
R3	ERDS2TJ104T	100K 1/4W
R4	ERDS2TJ103T	10K 1/4W
R5	ERDS2TJ104T	100K 1/4W
R6	ERDS2TJ102T	1K 1/4W
R7	ERDS2TJ330T	33 1/4W
R8	ERDS2TJ332T	3.3K 1/4W
R9	ERDS2TJ102T	1K 1/4W
R10	ERDS2TJ101T	100 1/4W
R11	ERDS2TJ151T	150 1/4W
R12	ERDS2TJ103T	10K 1/4W
R13	ERDS2TJ104T	100K 1/4W
R14	ERDS2TJ471T	470 1/4W
R15	ERDS2TJ102T	1K 1/4W
R16	ERDS2TJ102T	1K 1/4W
R17	ERDS2TJ334T	330K 1/4W
R18	ERDS2TJ331T	330 1/4W
R20	ERDS2TJ103T	10K 1/4W
R21	ERDS2TJ103T	10K 1/4W
R22	ERDS2TJ334T	330K 1/4W
R23	ERDS2TJ272T	2.7K 1/4W
R24	ERDS2TJ103T	10K 1/4W
R25	ERDS2TJ103T	10K 1/4W
R26	ERDS2TJ103T	10K 1/4W
R27	ERDS2TJ103T	10K 1/4W
R28	ERDS2TJ103T	10K 1/4W
R29	ERDS2TJ331T	330 1/4W
R30	ERDS2TJ183T	18K 1/4W
R31	ERDS2TJ333T	33K 1/4W
R32	ERDS2TJ332T	3.3K 1/4W
R34	ERDS2TJ223T	22K 1/4W
R35	ERDS2TJ390T	39 1/4W
R36	ERDS2TJ104T	100K 1/4W
R37	ERDS2TJ153T	15K 1/4W
R38	ERDS2TJ104T	100K 1/4W
R39	ERDS2TJ563T	56K 1/4W
R40	ERDS2TJ221T	220 1/4W
R41	ERDS2TJ561T	560 1/4W
R42	ERDS2TJ222T	2.2K 1/4W
R43	ERDS2TJ222T	2.2K 1/4W
R44	ERDS2TJ222T	2.2K 1/4W
R45	ERDS2TJ105T	1M 1/4W
R48	ERDS2TJ390T	39 1/4W
R51	ERDS2TJ104T	100K 1/4W
R52	ERDS2TJ103T	10K 1/4W
R53	ERDS2TJ104T	100K 1/4W
R59	ERDS2TJ103T	10K 1/4W
R81	ERDS2TJ470T	47 1/4W
R102	ERDS2TJ471T	470 1/4W
R103	ERDS2TJ682T	6.8K 1/4W
R104	ERDS2TJ472T	4.7K 1/4W
R105	ERDS2TJ222T	2.2K 1/4W
R106	ERDS2TJ562T	5.6K 1/4W
R107	ERDS2TJ824T	820K 1/4W
R108	ERDS2TJ102T	1K 1/4W
R121	ERDS2TJ273T	27K 1/4W
R122	ERDS2TJ103T	10K 1/4W
R123	ERDS2TJ683T	68K 1/4W
R124	ERDS2TJ682T	6.8K 1/4W
R125	ERDS2TJ183T	18K 1/4W
R126	ERDS2TJ682T	6.8K 1/4W
R127	ERDS2TJ562T	5.6K 1/4W
R128	ERDS2TJ333T	33K 1/4W
R143	ERDS2TJ822T	8.2K 1/4W
R150	ERDS2TJ103T	10K 1/4W
R151	ERDS2TJ562T	5.6K 1/4W
R153	ERDS2TJ563T	56K 1/4W
R158	ERDS2TJ2R2T	2.2 1/4W
R159	ERDS2TJ151T	150 1/4W
R160	ERDS2TJ103T	10K 1/4W
R161	ERDS2TJ103T	10K 1/4W
R163	ERDS2TJ563T	56K 1/4W
R168	ERDS2TJ2R7T	2.7 1/4W
R170	ERDS2TJ333T	33K 1/4W
R171	ERDS2TJ682T	6.8K 1/4W
R202	ERDS2TJ471T	470 1/4W
R203	ERDS2TJ682T	6.8K 1/4W
R204	ERDS2TJ472T	4.7K 1/4W
R205	ERDS2TJ222T	2.2K 1/4W
R206	ERDS2TJ562T	5.6K 1/4W
R207	ERDS2TJ824T	820K 1/4W
R208	ERDS2TJ102T	1K 1/4W
R221	ERDS2TJ273T	27K 1/4W
R222	ERDS2TJ103T	10K 1/4W
R223	ERDS2TJ683T	68K 1/4W
R224	ERDS2TJ682T	6.8K 1/4W
R225	ERDS2TJ183T	18K 1/4W
R226	ERDS2TJ682T	6.8K 1/4W
R227	ERDS2TJ562T	5.6K 1/4W
R228	ERDS2TJ333T	33K 1/4W
R243	ERDS2TJ822T	8.2K 1/4W
R250	ERDS2TJ103T	10K 1/4W
R251	ERDS2TJ562T	5.6K 1/4W
R253	ERDS2TJ563T	56K 1/4W
R258	ERDS2TJ2R2T	2.2 1/4W
R259	ERDS2TJ151T	150 1/4W
R260	ERDS2TJ103T	10K 1/4W
R261	ERDS2TJ103T	10K 1/4W
R263	ERDS2TJ563T	56K 1/4W
R268	ERDS2TJ2R7T	2.7 1/4W
R270	ERDS2TJ333T	33K 1/4W
R271	ERDS2TJ682T	6.8K 1/4W
R301	ERDS2TJ104T	100K 1/4W
R302	ERDS2TJ104T	100K 1/4W
R303	ERDS2TJ1R5T	1.5 1/4W
R304	ERDS2TJ103T	10K 1/4W
R305	ERDS2TJ273T	27K 1/4W
R306	ERDS2TJ102T	1K 1/4W
R307	ERDS2TJ273T	27K 1/4W
R308	ERDS2TJ471T	470 1/4W
R309	ERDS2TJ221T	220 1/4W
R310	ERDS2TJ101T	100 1/4W
R316	ERDS2TJ471T	470 1/4W
R319	ERDS2TJ331T	330 1/4W
R320	ERDS2TJ122T	1.2K 1/4W
R322	ERDS2TJ1R5T	1.5 1/4W
R323	ERDS2TJ681T	680 1/4W
R324	ERDS2TJ101T	100 1/4W
R325	ERDS2TJ221T	220 1/4W
R326	ERDS2TJ102T	1K 1/4W
R327	ERDS2TJ273T	27K 1/4W
R328	ERDS2TJ122T	1.2K 1/4W
R332	ERDS2TJ821T	820 1/4W
R340	ERDS2TJ472T	4.7K 1/4W
R341	ERDS2TJ472T	4.7K 1/4W
R342	ERDS2TJ472T	4.7K 1/4W
R343	ERDS2TJ472T	4.7K 1/4W
R344	ERDS2TJ472T	4.7K 1/4W
R345	ERDS2TJ472T	4.7K 1/4W
R348	ERDS2TJ102T	1K 1/4W
R349	ERDS2TJ472T	4.7K 1/4W
R350	ERDS2TJ472T	4.7K 1/4W
R352	ERDS2TJ1R5T	1.5 1/4W
R353	ERDS2TJ473T	47K 1/4W
R354	ERDS2TJ473T	47K 1/4W
R355	ERDS2TJ104T	100K 1/4W
R356	ERDS2TJ332T	3.3K 1/4W
R357	ERDS2TJ560T	56 1/4W
R358	ERDS2TJ101T	100 1/4W
R501	ERDS2TJ332T	3.3K 1/4W
R700	ERDS2TJ470T	47 1/4W
R701	ERDS2TJ271T	270 1/4W
R702	ERDS2TJ392T	3.9K 1/4W
R703	ERDS2TJ562T	5.6K 1/4W
R704	ERDS2TJ271T	270 1/4W
R705	ERDS2TJ392T	3.9K 1/4W
R706	ERDS2TJ562T	5.6K 1/4W
R707	ERDS2TJ271T	270 1/4W
R708	ERDS2TJ392T	3.9K 1/4W
R709	ERDS2TJ562T	5.6K 1/4W
R711	ERDS2TJ820T	82 1/4W
R712	ERDS2TJ221T	220 1/4W
R713	ERDS2TJ820T	82 1/4W
R714	ERDS2TJ102T	1K 1/4W
R715	ERDS2TJ102T	1K 1/4W
R716	ERDS2TJ122T	1.2K 1/4W
R717	ERDS2TJ182T	1.8K 1/4W
R718	ERDS2TJ222T	2.2K 1/4W
R719	ERDS2TJ272T	2.7K 1/4W
R720	ERDS2TJ102T	1K 1/4W
R721	ERDS2TJ102T	1K 1/4W
R722	ERDS2TJ122T	1.2K 1/4W
R723	ERDS2TJ182T	1.8K 1/4W
R724	ERDS2TJ222T	2.2K 1/4W
R725	ERDS2TJ272T	2.7K 1/4W
R726	ERDS2TJ472T	4.7K 1/4W
R727	ERDS2TJ682T	6.8K 1/4W
R728	ERDS2TJ102T	1K 1/4W
R729	ERDS2TJ102T	1K 1/4W
R730	ERDS2TJ122T	1.2K 1/4W
R731	ERDS2TJ182T	1.8K 1/4W
R732	ERDS2TJ222T	2.2K 1/4W
R733	ERDS2TJ272T	2.7K 1/4W
R734	ERDS2TJ472T	4.7K 1/4W
R735	ERDS2TJ682T	6.8K 1/4W
R736	ERDS2TJ472T	4.7K 1/4W
R737	ERDS2TJ472T	4.7K 1/4W
R738	ERDS2TJ101T	100 1/4W
R739	ERDS2TJ470T	47 1/4W
R740	ERDS2TJ820T	82 1/4W
R741	ERDS2TJ151T	150 1/4W
R742	ERDS2TJ331T	330 1/4W

Ref No.	Part No.	Values & Remarks
R743	ERDS2TJ121T	120 1/4W
R744	ERDS2TJ121T	120 1/4W
R745	ERDS2TJ102T	1K 1/4W
R801	ERDS2TJ104T	100K 1/4W
R802	ERDS2TJ333T	33K 1/4W
R803	ERDS2TJ104T	100K 1/4W
R804	ERDS2TJ104T	100K 1/4W
R805	ERDS2TJ823T	82K 1/4W
R806	ERDS2TJ183T	18K 1/4W
R807	ERDS2TJ102T	1K 1/4W
R808	ERDS2TJ102T	1K 1/4W
R811	ERDS2TJ101T	100 1/4W
R812	ERDS2TJ103T	10K 1/4W
R813	ERDS2TJ103T	10K 1/4W
R814	ERDS2TJ103T	10K 1/4W
R815	ERDS2TJ473T	47K 1/4W
R816	ERDS2TJ474T	470K 1/4W
R817	ERDS2TJ474T	470K 1/4W
R823	ERDS2TJ102T	1K 1/4W
R824	ERDS2TJ102T	1K 1/4W
R825	ERDS2TJ102T	1K 1/4W
R826	ERDS2TJ103T	10K 1/4W
R827	ERDS2TJ472T	4.7K 1/4W
R828	ERDS2TJ472T	4.7K 1/4W
R829	ERDS2TJ472T	4.7K 1/4W
R830	ERDS2TJ472T	4.7K 1/4W
R831	ERDS2TJ472T	4.7K 1/4W
R832	ERDS2TJ472T	4.7K 1/4W
R833	ERDS2TJ472T	4.7K 1/4W
R834	ERDS2TJ472T	4.7K 1/4W
R835	ERDS2TJ472T	4.7K 1/4W
R836	ERDS2TJ472T	4.7K 1/4W
R837	ERDS2TJ106T	10M 1/4W
R838	ERDS2TJ334T	330K 1/4W
R839	ERDS2TJ472T	4.7K 1/4W
R843	ERDS2TJ472T	4.7K 1/4W
R847	ERDS2TJ103T	10K 1/4W
R848	ERDS2TJ103T	10K 1/4W
R849	ERDS2TJ104T	100K 1/4W
R850	ERDS2TJ103T	10K 1/4W
R851	ERDS2TJ562T	5.6K 1/4W
R852	ERDS2TJ563T	56K 1/4W
R853	ERDS2TJ470T	47 1/4W
R854	ERDS2TJ391T	390 1/4W
R855	ERDS2TJ561T	560 1/4W
R856	ERDS2TJ392T	3.9K 1/4W
R857	ERDS2TJ513T	51K 1/4W
R859	ERDS2TJ103T	10K 1/4W
R867	ERDS2TJ102T	1K 1/4W
R868	ERDS2TJ223T	22K 1/4W
R869	ERDS2TJ223T	22K 1/4W
R870	ERDS2TJ390T	39 1/4W
R871	ERDS2TJ563T	56K 1/4W
R872	ERDS2TJ474T	470K 1/4W
R873	ERDS2TJ474T	470K 1/4W
R874	ERDS2TJ103T	10K 1/4W
R875	ERDS2TJ102T	1K 1/4W
R876	ERDS2TJ102T	1K 1/4W
R877	ERDS2TJ102T	1K 1/4W
R878	ERDS2TJ103T	10K 1/4W
R879	ERDS2TJ122T	1.2K 1/4W
R880	ERDS2TJ104T	100K 1/4W
R881	ERDS2TJ104T	100K 1/4W
	CAPACITORS	
C1	ECBT1H4R7KC5	4.7P 50V
C2	ECBT1H102KB5	1000P 50V
C3	ECBT1C332MR5	3300P 16V
C4	ECEA1HN010SB	1 50V
C5	ECBT1C103MS5	0.01 16V
C6	ECBT1H102KB5	1000P 50V
C8	ECBT1H102KB5	1000P 50V
C9	ECEA1AU101B	100 10V
C10	ECBT1H6R8KC5	6.8P 50V
C12	ECBT1H102KB5	1000P 50V
C13	ECBT1H102KB5	1000P 50V
C14	ECBT1H180JC5	18P 50V
C15	ECBT1H4R7KC5	4.7P 50V
C16	ECBT1H6R8KC5	6.8P 50V
C17	ECBT1H2R2KC5	2.2P 50V
C18	ECFR1C473MR	0.047 16V
C19	ECBT1H680J5	68P 50V
C20	ECBT1H1R5MC5	1.5P 50V
C21	ECBT1H102KB5	1000P 50V
C22	ECBT1H102KB5	1000P 50V
C23	ECBT1H331KB5	330P 50V
C24	ECBT1C103MS5	0.01 16V
C25	ECBT1H102KB5	1000P 50V
C26	ECBT1H270J5	27P 50V
C27	ECBT1H300J5	30P 50V
C28	ECEA1AU101B	100 10V
C29	ECBT1H102KB5	1000P 50V
C31	ECBT1H471KB5	470P 50V
C32	ECBT1H180JC5	18P 50V
C35	ECBT1H101KB5	100P 50V
C36	ECBT1H102KB5	1000P 50V
C38	ECEA0JU101B	100 6.3V
C39	ECBT1H101KB5	100P 50V
C40	ECFR1C223MR	0.022 16V
C41	ECBT1H102KB5	1000P 50V
C42	ECEA1HKA010B	1 50V
C43	ECEA0JU101B	100 6.3V
C44	ECFR1C473MR	0.047 16V
C45	ECFR1C103MR	0.01 16V
C46	ECEA1CKA100B	10 16V
C47	ECBT1C332MR5	3300P 16V
C48	ECBT1H681KB5	680P 50V
C49	ECEA1HKA010B	1 50V
C50	ECFR1C153MR	0.015 16V
C51	ECFR1C153MR	0.015 16V
C52	ECEA1HKA2R2B	2.2 50V
C53	ECEA1HKA010B	1 50V
C54	ECEA1HKA010B	1 50V
C55	ECBT0J153MS5	0.015 6.3V
C56	ECFR1C223MR	0.022 16V
C57	ECBT1H102KB5	1000P 50V
C58	ECBT1H331KB5	330P 50V
C59	ECBT1H471KB5	470P 50V
C61	ECBT1C103MS5	0.01 16V
C63	ECBT1H102KB5	1000P 50V
C65	ECBT1H120JC5	12P 50V
C67	ECBT1H102KB5	1000P 50V
C70	ECBT1H331KB5	330P 50V
C79	ECBT1C103MS5	0.01 16V
C91	ECBT1H102KB5	1000P 50V
C92	ECBT1C103MS5	0.01 16V
C93	ECBT1H102KB5	1000P 50V
C94	ECBT0J223MS5	0.022 6.3V
C100	ECEA1HKA2R2B	2.2 50V
C101	ECBT1H471KB5	470P 50V
C102	ECEA1CKA100B	10 16V
C103	ECFR1C823MR	0.082 16V
C104	ECEA1HKA2R2B	2.2 50V
C105	ECBT1C332MR5	3300P 16V
C106	ECEA1HKA0R1B	0.1 50V
C107	ECBT1C103MS5	0.01 16V
C108	ECEA1HKAR33B	0.33 50V
C109	ECBT1C103MS5	0.01 16V
C110	ECBT1C222MR5	2200P 16V
C111	ECEA1HKA010B	1 50V
C113	ECBT1H102KB5	1000P 50V
C121	ECEA1HU010B	1 50V
C130	ECEA1HU010B	1 50V
C133	ECBT1H101KB5	100P 50V
C140	ECEA1HKA2R2B	2.2 50V
C150	ECEA1HU010B	1 50V
C151	ECBT1H471KB5	470P 50V
C152	ECEA1AKA101B	100 10V
C156	ECEA1CU101B	100 16V
C157	ECEA1AU222B	2200 10V
C158	ECQV1H224JZ3	0.22 50V
C160	ECBT1C332MR5	3300P 16V
C161	ECBT1H471KB5	470P 50V
C162	ECEA1AKA101B	100 10V
C166	ECEA1CU470B	47 16V
C167	ECEA1CU470B	47 16V
C168	ECQV1H224JZ3	0.22 50V
C169	ECBT1C682MR5	6800P 16V
C170	ECBT1H331KB5	330P 50V
C200	ECEA1HKA2R2B	2.2 50V
C201	ECBT1H471KB5	470P 50V
C202	ECEA1CKA100B	10 16V
C203	ECFR1C823MR	0.082 16V
C204	ECEA1HKA2R2B	2.2 50V
C205	ECBT1C332MR5	3300P 16V
C206	ECEA1HKA0R1B	0.1 50V
C207	ECBT1C103MS5	0.01 16V
C208	ECEA1HKAR33B	0.33 50V
C209	ECBT1C103MS5	0.01 16V
C210	ECBT1C222MR5	2200P 16V
C211	ECEA1HKA010B	1 50V
C213	ECBT1H102KB5	1000P 50V
C221	ECEA1HU010B	1 50V
C230	ECEA1HU010B	1 50V
C233	ECBT1H101KB5	100P 50V
C240	ECEA1HU2R2B	2.2 50V
C250	ECEA1HU010B	1 50V
C251	ECBT1H471KB5	470P 50V
C252	ECEA1AKA101B	100 10V
C256	ECEA1CU101B	100 16V
C257	ECEA1AU222B	2200 10V
C258	ECQV1H224JZ3	0.22 50V
C260	ECBT1C332MR5	3300P 16V
C261	ECBT1H471KB5	470P 50V
C262	ECEA1AKA101B	100 10V
C266	ECEA1CU470B	47 16V
C267	ECEA1CU470B	47 16V
C268	ECQV1H224JZ3	0.22 50V
C269	ECBT1C682MR5	6800P 16V
C270	ECBT1H331KB5	330P 50V
C304	ECEA0JU101B	100 6.3V
C305	ECBT1H102KB5	1000P 50V
C307	ECBT1H102KB5	1000P 50V
C310	ECEA1CU100B	10 16V
C311	ECEA1AU221B	220 10V
C312	ECBT1H102KB5	1000P 50V

Ref No.	Part No.	Values & Remarks
C312	ECEA1CKA100B	10 16V
C313	ECEA1HU010B	1 50V
C314	ECEA1CKA100B	10 16V
C316	ECEA1CU470B	47 16V
C318	ECEA1HU010B	1 50V
C319	ECBT1C103NS5	0.01 16V
C320	ECEA1CU470B	47 16V
C321	ECEA1CU470B	47 16V
C322	ECEA1AU101B	100 10V
C323	ECEA1AU221B	220 10V
C324	ECEA1AU101B	100 10V
C325	ECEA1EU101B	100 25V
C327	ECEA1EU331E	330 25V
C328	ECEA1CU100B	10 16V
C329	ECEA1HU010B	1 50V
C330	RCA1EM472BT	4700P 25V[M]
C331	ECEA1AU101B	100 10V
C332	ECEA1HU010B	1 50V
C333	ECBT1H102KB5	1000P 50V
C340	ECBT1H331KB5	330P 50V
C341	ECBT1C103MS5	0.01 16V
C342	ECBT1C103MS5	0.01 16V
C343	ECEA1HU2R2B	2.2 50V
C344	ECBT1H102KB5	1000P 50V
C501	ECQV1H474JZ3	0.47 50V
C502	ECQV1H474JZ3	0.47 50V
C503	ECQV1H474JZ3	0.47 50V
C504	ECQV1H474JZ3	0.47 50V
C701	ECEA1AKA221Q	220 10V
C702	ECEA1CKA101B	100 16V
C703	ECEA1EKA4R7B	4.7 25V
C704	ECBT1H331KB5	330P 50V
C706	ECBT1H331KB5	330P 50V
C707	ECBT1H331KB5	330P 50V
C708	ECBT1H331KB5	330P 50V
C801	ECEA1CU100B	10 16V
C802	ECBT1H104ZF5	0.1 50V
C804	ECEA0JU221B	220 6.3V
C805	ECBT1H101KB5	100P 50V
C806	ECBT1H101KB5	100P 50V
C807	ECBT1H331KB5	330P 50V
C808	ECBT1H331KB5	330P 50V
C809	ECBT1H561KB5	560P 50V
C810	ECBT1H561KB5	560P 50V
C811	ECBT1H561KB5	560P 50V
C812	ECBT1H101KB5	100P 50V
C813	ECBT1H331KB5	330P 50V
C814	ECBT1H331KB5	330P 50V
C815	ECFR1C104MR	0.1 16V
C816	ECBT1C103MS5	0.01 16V
C817	ECBT1H101KB5	100P 50V
C818	ECBT1H101KB5	100P 50V
C819	ECEA1HU010B	1 50V
C820	ECBT1C103MS5	0.01 16V
C821	ECBT1H180JC5	18P 50V
C822	ECBT1H180JC5	18P 50V
C823	ECBT1H680J5	68P 50V
C824	ECBT1H680J5	68P 50V
C825	ECBT1H680J5	68P 50V
C826	ECBT1H680J5	68P 50V
C827	ECBT1H561KB5	560P 50V
C828	ECBT1H561KB5	560P 50V
C832	ECBT1H104ZF5	0.1 50V
C834	ECBT1H331KB5	330P 50V
C835	ECBT1H102KB5	1000P 50V
C836	ECBT1H102KB5	1000P 50V
C837	ECBT1H331KB5	330P 50V
C838	ECBT1H331KB5	330P 50V
C839	ECBT1H331KB5	330P 50V
C840	ECBT1H331KB5	330P 50V
C841	ECBT1C103MS5	0.01 16V
C842	ECBT1C103MS5	0.01 16V
C844	ECBT1C103MS5	0.01 16V
C847	ECBT1H331KB5	330P 50V
C849	ECFR1C104MR	0.1 16V
C850	ECFR1C104MR	0.1 16V
C851	ECBT1H331KB5	330P 50V
C852	ECFR1C104MR	0.1 16V
C853	ECBT1H101KB5	100P 50V
C854	ECBT1H101KB5	100P 50V
C855	ECBT1H331KB5	330P 50V
C856	ECFR1C104MR	0.1 16V
C857	ECFR1C104MR	0.1 16V
C858	ECFR1C104MR	0.1 16V
C859	ECBT1H331KB5	330P 50V
C860	ECBT1C103MS5	0.01 16V
C861	ECBT1H331KB5	330P 50V
C862	ECBT1H331KB5	330P 50V
C863	ECBT1H331KB5	330P 50V
C864	ECBT1H331KB5	330P 50V
C865	ECBT1H331KB5	330P 50V
C866	ECBT1H331KB5	330P 50V
C867	ECBT1H104ZF5	0.1 50V
C868	ECBT1H331KB5	330P 50V
C869	ECBT1H104ZF5	0.1 50V
C870	ECBT1H331KB5	330P 50V
C871	ECBT1H331KB5	330P 50V
C872	ECBT1H101KB5	100P 50V
C874	ECBT1H331KB5	330P 50V
C875	ECBT1H102KB5	1000P 50V
C876	ECBT1H102KB5	1000P 50V
C877	ECBT1H331KB5	330P 50V
C878	ECBT1H331KB5	330P 50V
C879	ECBT1H331KB5	330P 50V
C880	ECBT1H101KB5	100P 50V
C881	ECBT1H101KB5	100P 50V
C971	ECBT1H101KB5	100P 50V
	< DECK P.C.B. >	
	RESISTORS	
R101	ERDS2TJ474T	470K 1/4W
R102	ERDS2TJ123T	12K 1/4W
R103	ERDS2TJ820T	82 1/4W
R104	ERDS2TJ681T	680 1/4W
R105	ERDS2TJ103T	10K 1/4W
R107	ERDS2TJ274T	270K 1/4W
R108	ERDS2TJ822T	8.2K 1/4W
R109	ERDS2TJ123T	12K 1/4W
R110	ERDS2TJ102T	1K 1/4W
R112	ERDS2TJ470T	47 1/4W
R113	ERDS2TJ472T	4.7K 1/4W
R114	ERDS2TJ472T	4.7K 1/4W
R201	ERDS2TJ474T	470K 1/4W
R202	ERDS2TJ123T	12K 1/4W
R203	ERDS2TJ820T	82 1/4W
R204	ERDS2TJ681T	680 1/4W
R205	ERDS2TJ103T	10K 1/4W
R207	ERDS2TJ274T	270K 1/4W
R208	ERDS2TJ822T	8.2K 1/4W
R209	ERDS2TJ123T	12K 1/4W
R210	ERDS2TJ102T	1K 1/4W
R212	ERDS2TJ470T	47 1/4W
R213	ERDS2TJ472T	4.7K 1/4W
R214	ERDS2TJ472T	4.7K 1/4W
R301	ERDS2TJ474T	470K 1/4W
R302	ERDS2TJ104T	100K 1/4W
R303	ERDS2TJ103T	10K 1/4W
R304	ERDS2TJ182T	1.8K 1/4W
R309	ERDS2TJ123T	12K 1/4W
R310	ERDS2TJ472T	4.7K 1/4W
R311	ERDS2TJ4R7T	4.7 1/4W
R312	ERDS2TJ562T	5.6K 1/4W
R313	ERDS2TJ472T	4.7K 1/4W
R314	ERDS2TJ682T	6.8K 1/4W
R315	ERDS2TJ472T	4.7K 1/4W
R316	ERDS2TJ222T	2.2K 1/4W
R317	ERDS2TJ272T	2.7K 1/4W
R318	ERDS2TJ153T	15K 1/4W
R319	ERDS2TJ472T	4.7K 1/4W
R320	ERDS2TJ103T	10K 1/4W
R321	ERDS2TJ103T	10K 1/4W
R322	ERDS2TJ222T	2.2K 1/4W
R324	ERDS2TJ102T	1K 1/4W
R325	ERDS2TJ103T	10K 1/4W
R327	ERDS2TJ182T	1.8K 1/4W
R328	ERDS2TJ101T	100 1/4W
R329	ERDS2TJ335T	3.3M 1/4W
R332	ERDS2TJ223T	22K 1/4W
R333	ERDS2TJ472T	4.7K 1/4W
R334	ERDS2TJ182T	1.8K 1/4W
	CAPACITORS	
C101	ECBT1H101KB5	100P 50V
C102	ECBT1C122MR5	1200P 16V
C103	ECEA1EKA330B	33 25V
C104	ECBT1H331KB5	330P 50V
C105	ECFR1C183KR	0.018 16V
C106	ECEA1EKA4R7B	4.7 25V
C107	ECEA1EKA4R7B	4.7 25V
C108	ECEA0JKA470B	47 6.3V
C109	ECBT1H221KB5	220P 50V
C110	ECBT1H221KB5	220P 50V
C111	ECEA1EKA4R7B	4.7 25V
C112	ECBT1C152KR5	1500P 16V
C113	ECBT1H102KB5	1000P 50V
C114	ECBT1H102KB5	1000P 50V
C115	ECBT1H101KB5	100P 50V
C201	ECBT1H101KB5	100P 50V
C202	ECBT1C122MR5	1200P 16V
C203	ECEA1EKA330B	33 25V
C204	ECBT1H331KB5	330P 50V
C205	ECFR1C183KR	0.018 16V
C206	ECEA1EKA4R7B	4.7 25V
C207	ECEA1EKA4R7B	4.7 25V
C208	ECEA0JKA470B	47 6.3V
C209	ECBT1H221KB5	220P 50V
C210	ECBT1H221KB5	220P 50V
C211	ECEA1EKA4R7B	4.7 25V
C212	ECBT1C152KR5	1500P 16V
C213	ECBT1H102KB5	1000P 50V
C214	ECBT1H102KB5	1000P 50V
C215	ECBT1H101KB5	100P 50V
C301	ECEA1HN010SB	1 50V
C302	ECBT1C103MS5	0.01 16V
C303	ECBT1C103MS5	0.01 16V
C305	ECQP1102JZT	1000P 100V

Ref No.	Part No.	Values & Remarks
C306	ECQP2A392JZT	3900P 100V
C307	ECEA1HKA010B	1 50V
C308	ECEA1AU221B	220 10V
C309	ECQV1H473JZ3	0.047 50V
C310	ECBT1H102KB5	1000P 50V
C311	ECBT1H102KB5	1000P 50V
C312	ECBT1H102KB5	1000P 50V
C313	ECBT1H102KB5	1000P 50V
C314	ECBT1C103MS5	0.01 16V
C315	ECEA1EU101B	100 25V
C316	ECQP1102JZT	1000P 100V
C319	ECEA1AU221B	220 10V
C320	ECEA1CKA100B	10 16V
C321	ECEA0JKA220B	22 6.3V
C322	ECEA0JKA101B	100 6.3V
	<SERVO P.C.B.>	
	RESISTORS	
R701	ERJ6GEYJ4R7V	4.7 1/10W
R703	ERJ6GEYJ823	82K 1/10W
R704	ERJ6GEYJ102V	1K 1/10W
R705	ERJ6GEYJ103V	10K 1/10W
R706	ERJ6GEYJ102V	1K 1/10W
R707	ERJ6GEYJ474V	470K 1/10W
R708	ERJ6GEYJ154V	150K 1/10W
R709	ERJ6GEYJ683V	68K 1/10W
R711	ERJ6GEYJ154V	150K 1/10W
R712	ERJ6GEYJ221V	220 1/10W
R717	ERJ6GEYJ102V	1K 1/10W
R718	ERJ6GEYJ102V	1K 1/10W
R719	ERJ6GEYJ102V	1K 1/10W
R720	ERJ6GEYJ102V	1K 1/10W
R721	ERJ6GEYJ101V	100 1/10W
R722	ERJ6GEYJ563V	56K 1/10W

Ref No.	Part No.	Values & Remarks
R723	ERJ6GEYJ182V	1.8K 1/10W
R724	ERJ6GEYJ333V	33K 1/10W
R725	ERJ6GEYJ472V	4.7K 1/10W
R726	ERJ6GEYJ473V	47K 1/10W
R727	ERJ6GEYJ822V	8.2K 1/10W
R728	ERJ6GEYJ103V	10K 1/10W
R731	ERJ6GEYJ822V	8.2K 1/10W
R734	ERJ6GEYJ101V	100 1/10W
R735	ERJ6GEYJ101V	100 1/10W
R736	ERJ6GEYJ101V	100 1/10W
R738	ERJ6GEYJ223V	22K 1/10W
R741	ERJ6GEYJ562V	5.6K 1/10W
R742	ERJ6GEYJ562V	5.6K 1/10W
R743	ERJ6GEYJ562V	5.6K 1/10W
R744	ERJ6GEYJ103V	10K 1/10W
R745	ERJ6GEYJ155V	1.5M 1/10W
R748	ERJ6GEYJ182V	1.8K 1/10W
R749	ERJ6GEYJ682V	6.8K 1/10W
R750	ERJ6GEYJ473V	47K 1/10W
R751	ERJ6GEYJ473V	47K 1/10W
R752	ERJ8GEYJ220V	22 1/8W
R770	ERJ6GEYJ155V	1.5M 1/10W
R771	ERJ6GEYJ155V	1.5M 1/10W
R772	ERJ6GEYJ273V	27K 1/10W
	CAPACITORS	
C701	ECEA0JKA330I	33 6.3V
C702	ECUZNE104MBN	0.1 25V
C703	ECEA0JKA101I	100 6.3V
C704	ECUZNE104MBN	0.1 25V
C705	ECUZNE104MBN	0.1 25V
C706	ECUV1H272KBN	2700P 50V
C707	ECUV1E273KBN	0.027 25V
C708	ECUV1H472KBN	4700P 50V

Ref No.	Part No.	Values & Remarks
C709	ECUV1C473KBN	0.047 16V
C710	ECUV1H182KBN	1800P 50V
C711	ECUZNE104MBN	0.1 25V
C712	ECUZNE104MBN	0.1 25V
C713	ECUV1C104MBM	0.1 16V
C714	ECEA0JKA101I	100 6.3V
C716	ECUV1H561KBN	560P 50V
C717	ECUZNE104MBN	0.1 25V
C718	ECUV1C224KBN	0.22 16V
C721	ECUV1H150JCN	15P 50V
C722	ECUV1H150JCN	15P 50V
C723	ECEA1AKA221I	220 10V
C724	ECUV1C104MBM	0.1 16V
C725	ECUV1H102KBN	1000P 50V
C726	ECUV1H102KBN	1000P 50V
C727	ECEA1HPK010I	1 50V
C728	ECEA1HPK010I	1 50V
C730	ECUZNE104MBN	0.1 25V
C731	ECEA0JKA221I	220 6.3V
C732	ECEA0JKA221I	220 6.3V
C733	ECUZNE104MBN	0.1 25V
C734	ECEA1AKA221I	220 10V
C735	ECUZNE104MBN	0.1 25V
C736	ECUZNE104MBN	0.1 25V
C737	ECUZNE104MBN	0.1 25V
C738	ECUV1C154KBN	0.15 16V
C742	ECUV1E273KBN	0.027 25V
C743	ECUZNE104MBN	0.1 25V
C744	ECUV1E822KBN	8200P 25V
C745	ECUV1C473MBN	0.047 16V
C747	ECUV1H222KBN	2200P 50V
C748	ECUV1H471KBM	470P 50V
C749	ECUZNE104MBN	0.1 25V
C751	ECUZNE104MBN	0.1 25V

Ref No.	Part No.	Values & Remarks
C752	ECUV1H152KBN	1500P 50V
C753	ECUV1H471KBM	470P 50V
C754	ECUV1H471KBN	470P 50V
	CHIP JUMPERS	
RJ701	ERJ8GEY0R00A	0 1/8W
RJ702	ERJ8GEY0R00A	0 1/8W
RJ703	ERJ8GEY0R00A	0 1/8W
RJ704	ERJ8GEY0R00A	0 1/8W
RJ707	ERJ8GEY0R00A	0 1/8W
RJ709	ERJ8GEY0R00A	0 1/8W
RJ714	ERJ8GEY0R00A	0 1/8W
RJ715	ERJ8GEY0R00A	0 1/8W
RJ716	ERJ8GEY0R00A	0 1/8W
RJ717	ERJ8GEY0R00A	0 1/8W
RJ721	ERJ8GEY0R00A	0 1/8W
RJ722	ERJ8GEY0R00A	0 1/8W
RJ723	ERJ8GEY0R00A	0 1/8W
RJ724	ERJ8GEY0R00A	0 1/8W
RJ725	ERJ8GEY0R00A	0 1/8W
RJ726	ERJ8GEY0R00A	0 1/8W
RJ727	ERJ8GEY0R00A	0 1/8W
RJ728	ERJ8GEY0R00A	0 1/8W
RJ729	ERJ8GEY0R00A	0 1/8W
RJ730	ERJ8GEY0R00A	0 1/8W
	TEST JUMPERS	
TJ701	EYF8CU	TEST JUMPER
TJ702	EYF8CU	TEST JUMPER
	<LOADING MOTOR>	
	CAPACITORS	
C1	ECA1AKF820E	82 10V

■ Packing Materials & Accessories

Notes:

- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- [M] indicates in Remarks column parts that are supplied by **MESA**.
- The "(SF)" mark denotes the standard part.
- Remote Control Unit :
  Supply period for three years from terminal of production.
- **Warning** : This product uses a laser diode. Refer to caution statements on page 2.
- **ACHTUNG** : Die lasereinheit nicht zerlegen.
  Die lasereinheit darf nur gegen einc vom hersteller spezifizierte einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPG2760	GIFT BOX	[M]
P2	RPH3SZA	MIRAMAT SHEET	[M]

Ref No.	Part No.	Part Name & Description	Remarks
P3	RPN0974	POLYFOAM	[M]
		ACCESSORIES	
A1	RFKSDS790EGK	INST. MANUAL ASS'Y	[M]

Ref No	Part No.	Part Name & Description	Remarks
A2	RJA0019-2K	AC CORD	(SF)⚠
A3	EUR643803	REMOTE CONTROL	[M]
A3-1	UR64EC1638-1	R. C. BATTERY COVER	[M]

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