CFD-510

SERVICE MANUAL

US Model
Canadian Model

· This set is almost the same as model CFD-440 previously produced. Therefore, see the service manual for the information which is not contained in this service manual.

Page (CFD-440)	CFD-510		
	No.	Part No.	Description
35	7	3-372-193-51	CABINET, REAR (US)
	7	3-372-193-61	CABINET, REAR (Canadian)
36	73	X-3368-532-1	CABINET SUB ASSY, FRONT
39	217	X-3368-133-1	LID SUB ASSY, CD
41	304	X-3368-138-1	SPEAKER (L) SUB ASSY, FRONT
	304	X-3368-139-1	SPEAKER (R) SUB ASSY, FRONT
48	*	3-911-413-01	INDIVIDUAL CARTON (US)
	*	3-911-414-01	INDIVIDUAL CARTON (Canadian)
		3-758-296-21	MANUAL, INSTRUCTION (ENGLISH)
		3-758-296-31	MANUAL, INSTRUCTION (FRENCH) (Canadian)

NOTE :
● Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

CD RADIO CASSETTE-CORDER

SONY®

9-959-413-11

Sony Corporation
General Audio Group

English
94B0236-1D
Printed in Japan

Published by Audio Sector Quality Assurance Dept.

CFD-510

SONY
SERVICE MANUAL

US Model
Canadian Model

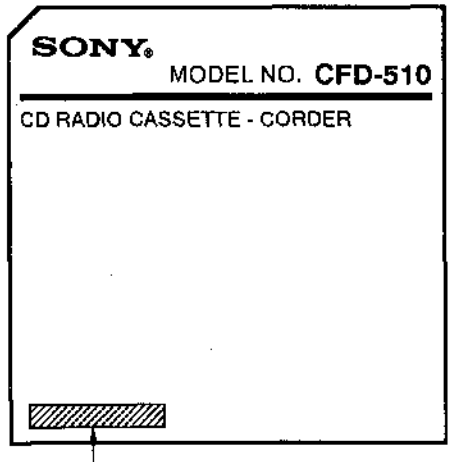
SUPPLEMENT-1

File this Supplement with the Service Manual.

Subject :
Addition to the models manufactured in Indonesia

CFD-510 has been manufactured in South Korea and in Japan, but now a model that is to be manufactured in Indonesia has been added.
This Supplement-1 shows the adjustment procedures, printed wiring boards diagram, schematic diagram, exploded views and a electrical parts list for the model that is to be manufactured in Indonesia. As to other information, please refer to the already issued service manual (9-959-413-11).

MODEL IDENTIFICATION
– Model Number Label –

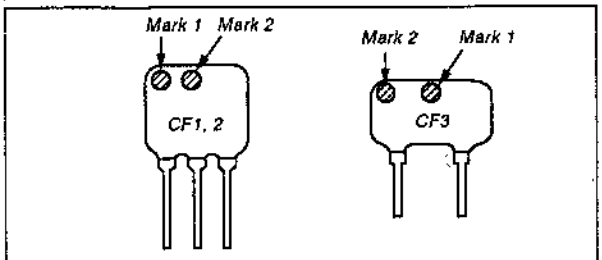


MADE IN KOREA
MADE IN JAPAN
MADE IN INDONESIA

Model Name Using Similar Mechanism	CD Section	CFD-550
	Tape Section	CFS-208
CD Mechanism Type		KSM-212BAN
Optical Pick-up Type		KSS-212B
Tape Transport Mechanism Type		MF-208

• HOW TO CHANGED THE CERAMIC FILTERS

This model is used three ceramic filters of CF1, CF2 and CF3. You must use same type of color marked ceramic filters in order to meet same specifications.
Therefore, the ceramic filter must change three pieces together since it's supply three pieces in one package as a spare parts.



Mark 1	Mark 2	Center frequency
red	—	10.70MHz
blue	—	10.67MHz
orange	—	10.73MHz
black	—	10.64MHz
white	—	10.76MHz
white	white	10.75MHz
yellow	—	10.79MHz

TABLE OF CONTENTS

SECTION 1
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head pinch roller
   erase head rubber belts
   capstan
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage : 9V dc

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30 – 70g•cm (0.42 – 0.97 oz•inch)
FWD Back tension		1.5 – 5.5g•cm (0.021 – 0.07 oz•inch)
FF	CQ-201B	60 – 130g•cm (0.84 – 1.80 oz•inch)
REW	CQ-201B	60 – 130g•cm (0.84 – 1.80 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 100g (3.53 oz)

SECTION 2
ELECTRICAL ADJUSTMENTS

2-1. TAPE RECORDER SECTION

Standard Output Level

	SP OUT	HP OUT
load impedance	3.2 Ω	32 Ω
output signal level	0.775V(0dB)	0.25V(– 10dB)

Test Tape

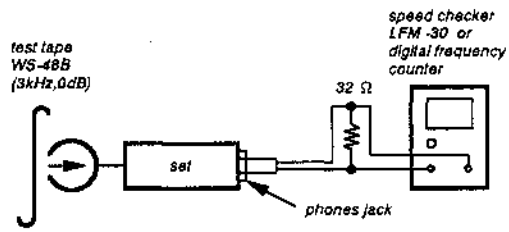
Type	Signal	Used for
WS-48B	3kHz, 0dB	Tape Speed Adjustment

0 dB=0.775V

Tape Speed Adjustment

Procedure :

Mode : playback

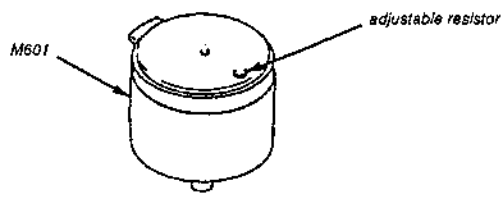


Adjustment Values :

Speed checker	Digital frequency counter
– 1% to +1%	2,970 to 3,030Hz

Frequency difference between the beginning and the end of the tape should be within 1% (30Hz).

Adjustment Location :

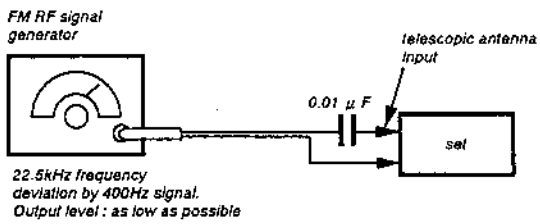


2-2. TUNER SECTION

FM Section

Setting :

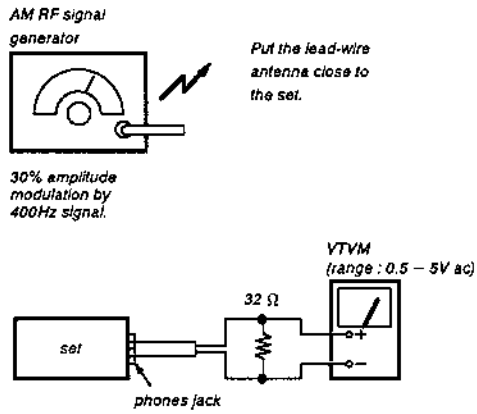
BAND switch : FM



AM Section

Setting :

BAND switch : AM



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.
- Remove telescopic antenna in FM section adjustments.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	86.5MHz
CT2	109.5MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	86.5MHz
CT1	109.5MHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	516kHz
CT4	1,760kHz

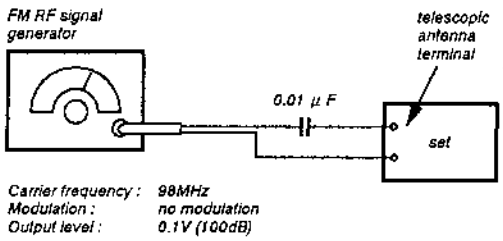
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	620kHz
CT3	1,400kHz

AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
CP1	455kHz

Adjustment Location : Audio Main board (see page 5)

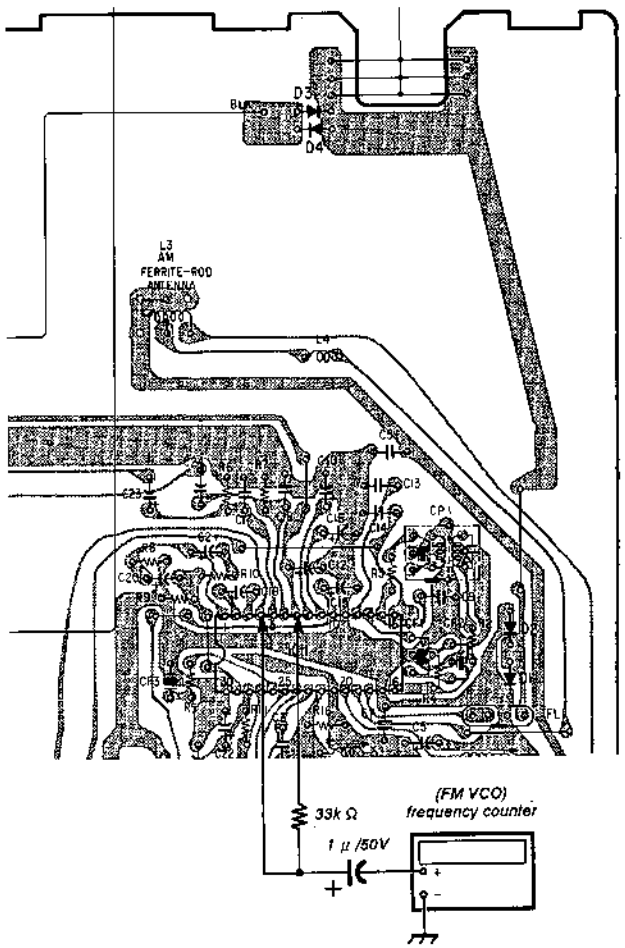
FM VCO Adjustment

Procedure :



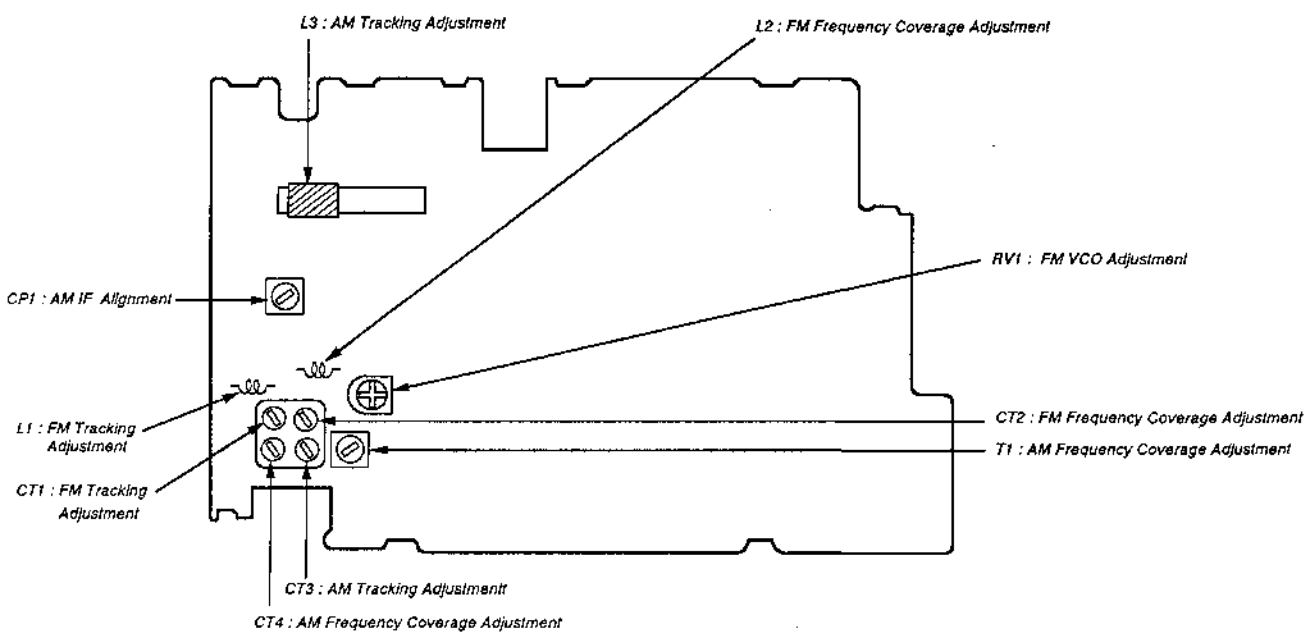
1. Connect the frequency counter to ④ and ⑦ pins of IC1 as shown the figure below.
2. Turn the set to 98MHz.
3. Adjust RV1 for 76kHz ± 500Hz reading on frequency counter.

[AUDIO MAIN BOARD] (Conductor side)



Adjustment Location : Audio Main board

[AUDIO MAIN BOARD] (Component side)



2-3. CD SECTION

Notes on Adjustment

1. Perform adjustment in test mode.
   After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18. Part No. 3-702-101-01) only when so indicated.

Before Adjustment

Put the set into test mode and perform the following checks.
Repair if there are any problems.

● Sled Motor Check

1. press ▷ button, then press ■ button.
2. Press ⏭, ⏮ buttons and confirm that the optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
   ⏭ : Optical pick-up moves to the outer circumference
   ⏮ : Optical pick-up moves to the inner circumference

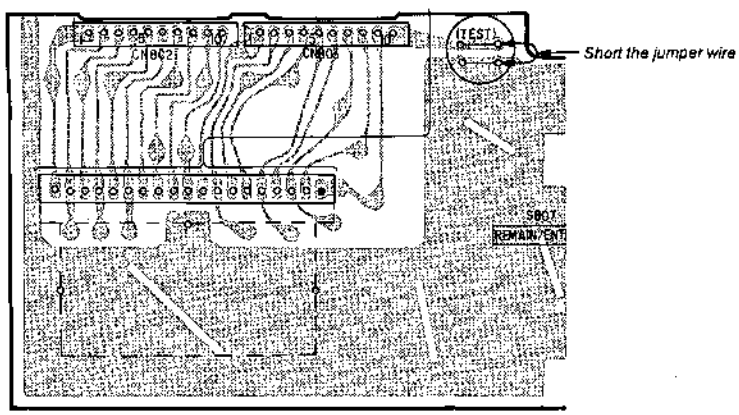
● Focus Search Check

1. Press ▷ button. (Focus search operation is performed continuously.)
2. Look at the optical pick-up objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press ■ button.
   Confirm that focus search operation stops. If it does not , press ■ button again longer.

How to Put the Set Into Test Mode

1. Short following portion on the CONTROL board.
2. Turn the FUNCTION selector to CD position.

[CONTROL BOARD]



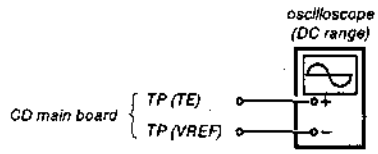
How to Release the Test Mode

1. Open the short-circuit to release test mode.

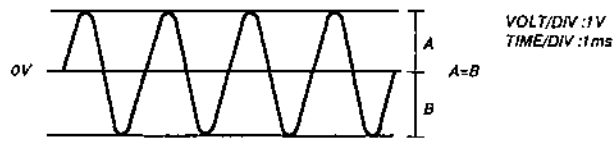
E-F BALANCE Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Put the set into test mode.
2. Connect oscilloscope between TP (TE) and TP (VREF) .
3. Press ⏭ and ⏮ buttons to move the optical pick-up to the center.
4. Insert disc (YEDS-18) in and press ▷ button.
5. Adjust RV701 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release test mode after adjustment is completed.



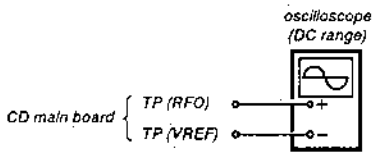
Adjustment value : 1.7 ± 0.8Vp-p (A+B)

Adjustment Location : CD Main board (see page 9)

Focus Bias Adjustment

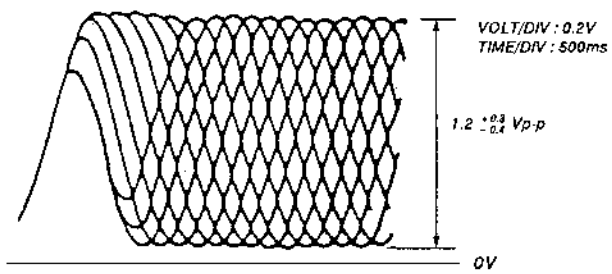
This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Put the set into test mode.
2. Connect oscilloscope between TP (RFO) and TP (VREF) .
3. Press ⏭ and ⏮ buttons to move the optical pick-up to the center. (Move the optical pick-up to the music area on the disc to enable easy visibility of the eye pattern.)
4. Insert disc (YEDS-18) in and press the ▷ button.
5. Press the ⏸ button. (Tracking Servo ON)
6. Adjust RV702 so that the oscilloscope waveform is as shown in the figure below. (eye pattern).
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
7. Release test mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location : CD Main board (see page 9)

REFERENCE

Focus/Tracking Gain Adjustment

A frequency responce analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

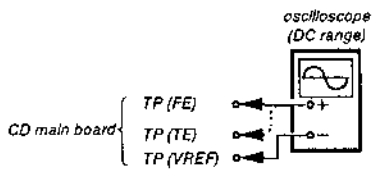
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Gain / Symptoms	Focus	Tracking
• The time until music starts becomes longer for ■ → ▷ on automatic selection. (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds)	low	low or high
• Music does not start and disc continues to rotate for ■ → ▷ or automatic selection. (⏮, ⏭ buttons pressed.)	–	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

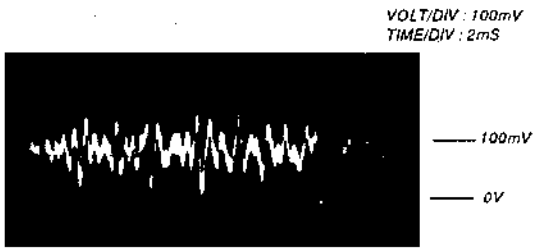
– Simple Adjustment –

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the primary adjustment are only a little different, return the controls to the original position.

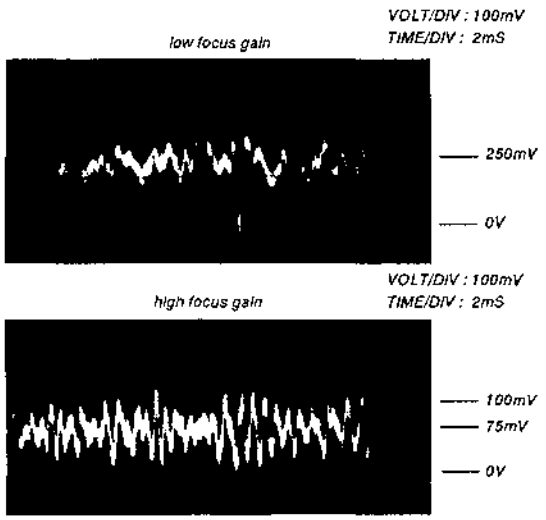


Procedure :

1. Keep the set horizontal.
   If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.
2. Put the set into test mode.
3. Connect oscilloscope to CD main board TP (FE).
4. Insert disc (YEDS-18) and press the ▷ button.
5. Press the ⏸ button. (Tracking Servo ON)
6. Adjustment RV703 so that the waveform is as shown in the figure below. (focus gain adjustment)

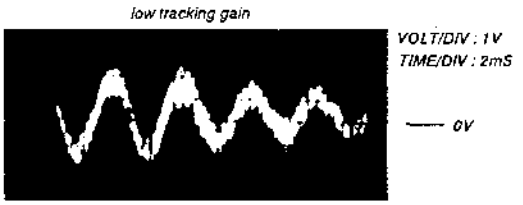


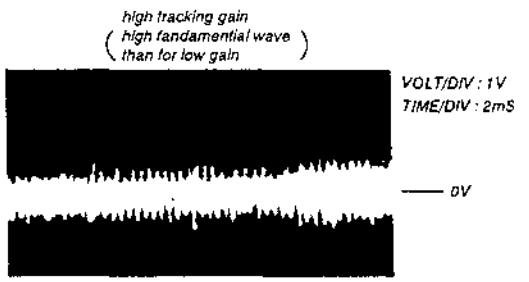
- Incorrent Examples (DC level changes more than on adjusted waveform)



7. Connect oscilloscope to TP (TE).
8. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)
9. Release test mode after adjustment is completed.

- Incorrect Examples (fundamential wave appears)

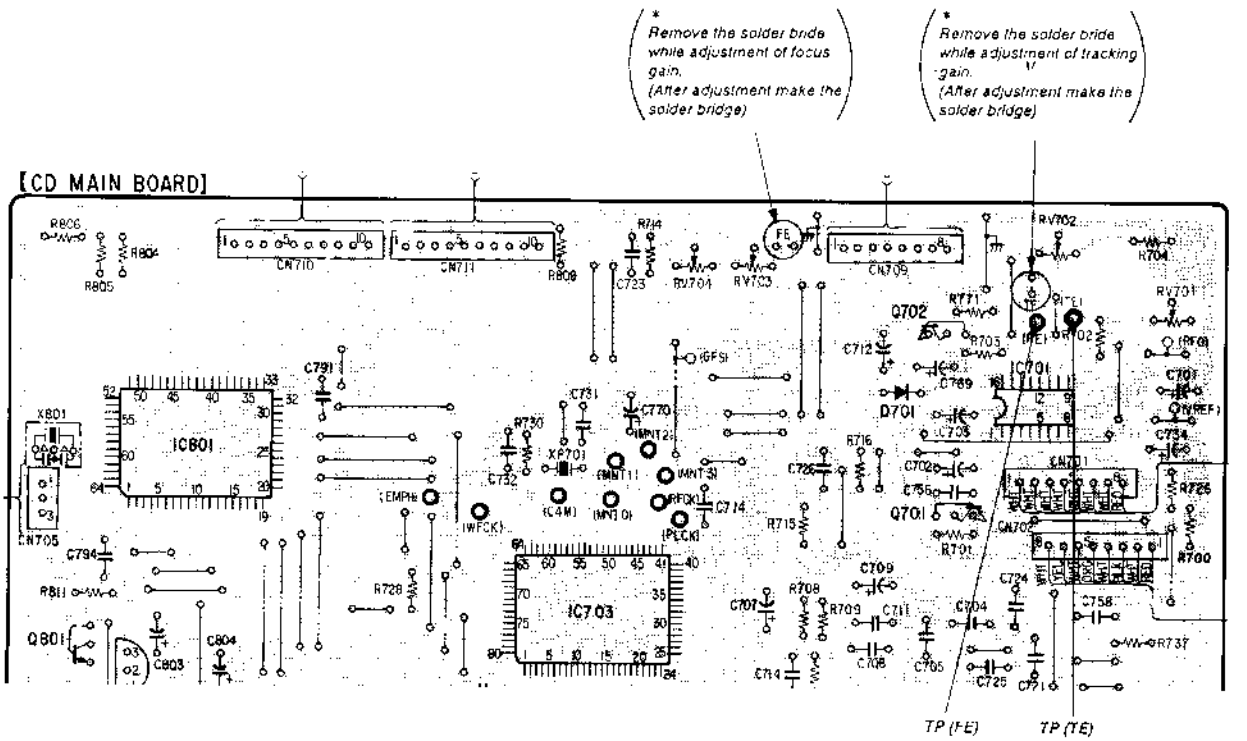




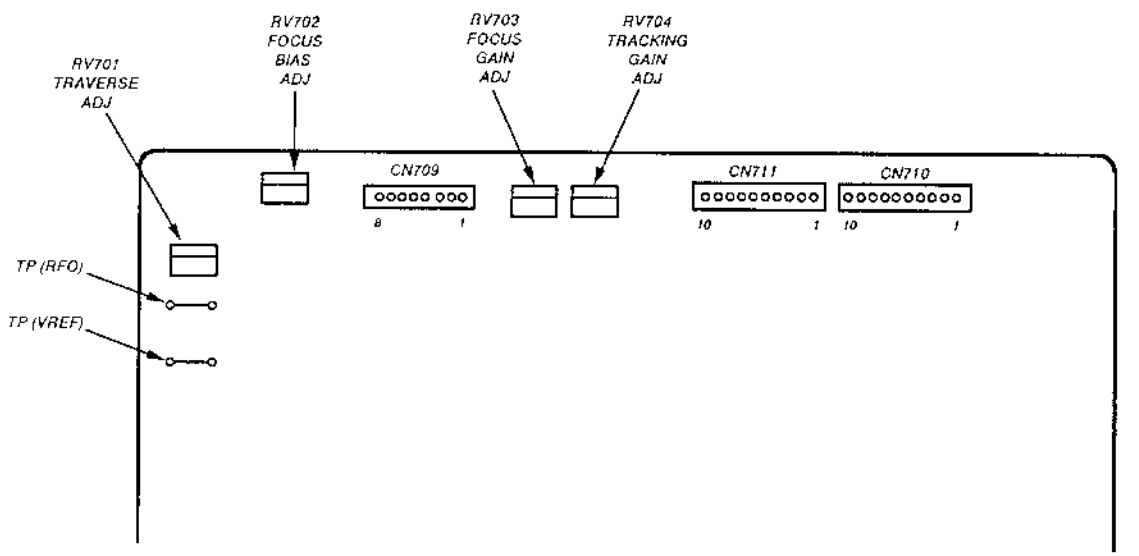
Adjustment Location : CD Main board (see page 9)

Adjustment Location :

【CD MAIN BOARD】 (Conductor side)

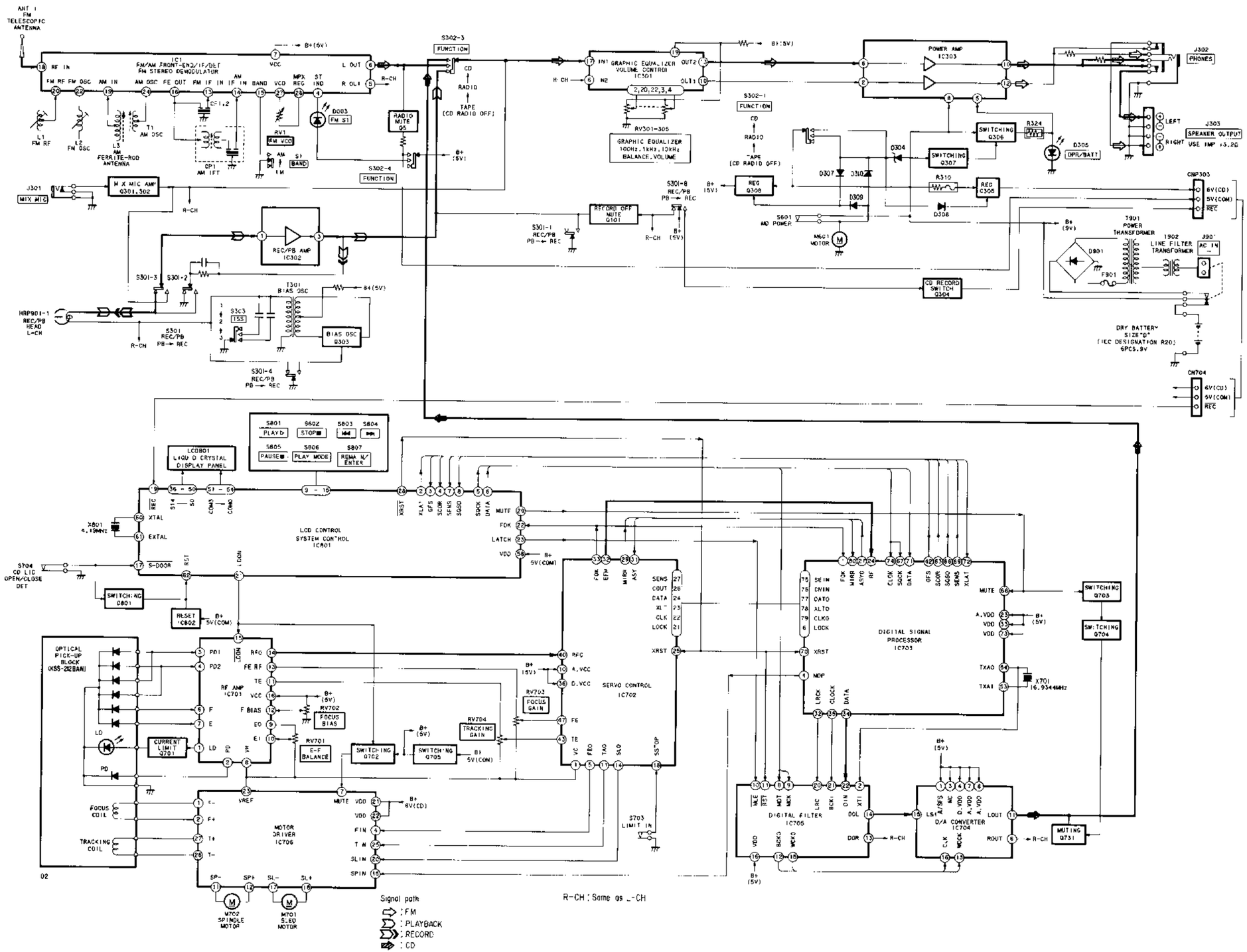


【CD MAIN BOARD】 (Component side)



SECTION 3
DIAGRAMS

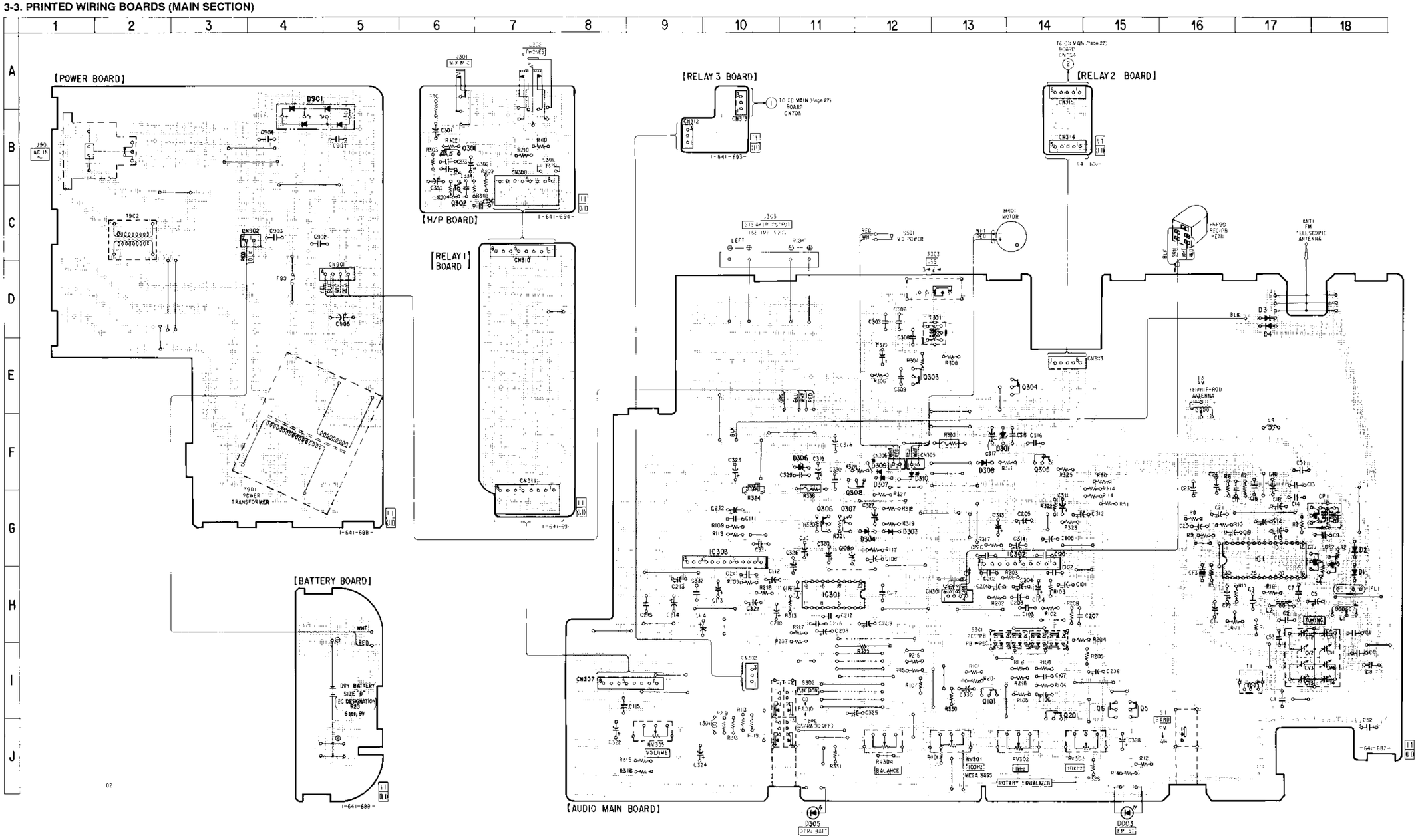
3-1. BLOCK DIAGRAM



3-3. PRINTED WIRING BOARDS (MAIN SECTION)

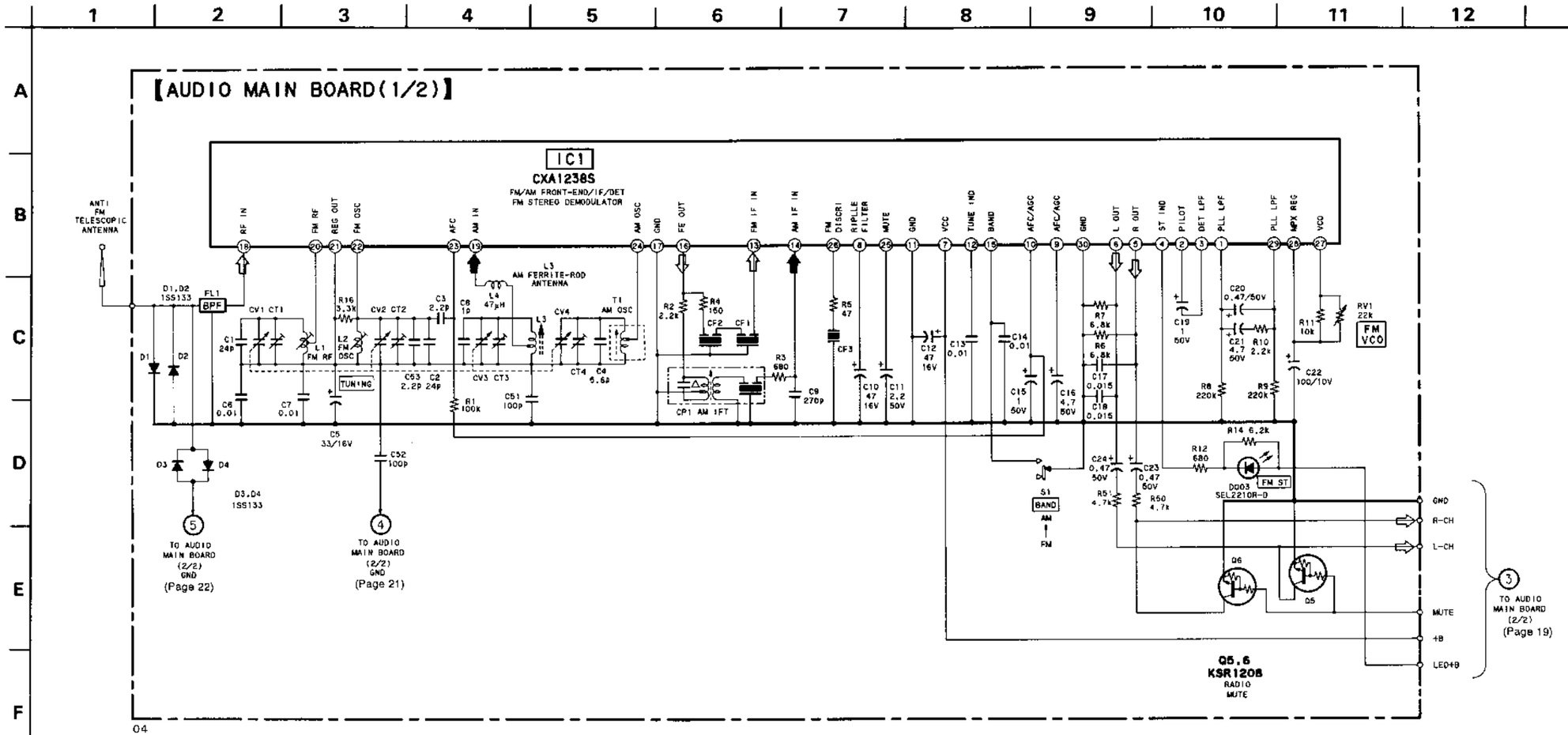
• SEMICONDUCTOR LOCATION

Ref. No.	Location
D1	H - 18
D2	G - 18
D3	D - 17
D4	D - 17
D003	K - 15
D301	F - 13
D303	G - 12
D304	G - 12
D305	K - 11
D306	F - 11
D307	F - 12
D308	F - 13
D309	F - 12
D310	F - 12
D901	B - 4
IC1	G - 17
IC301	H - 11
IC302	G - 14
IC303	G - 10
Q5	I - 15
Q6	I - 15
Q101	I - 13
Q201	I - 14
Q301	B - 6
Q302	C - 6
Q303	E 12
Q304	E - 14
Q305	F - 14
Q306	G - 11
Q307	G - 11
Q308	F - 12



Note:

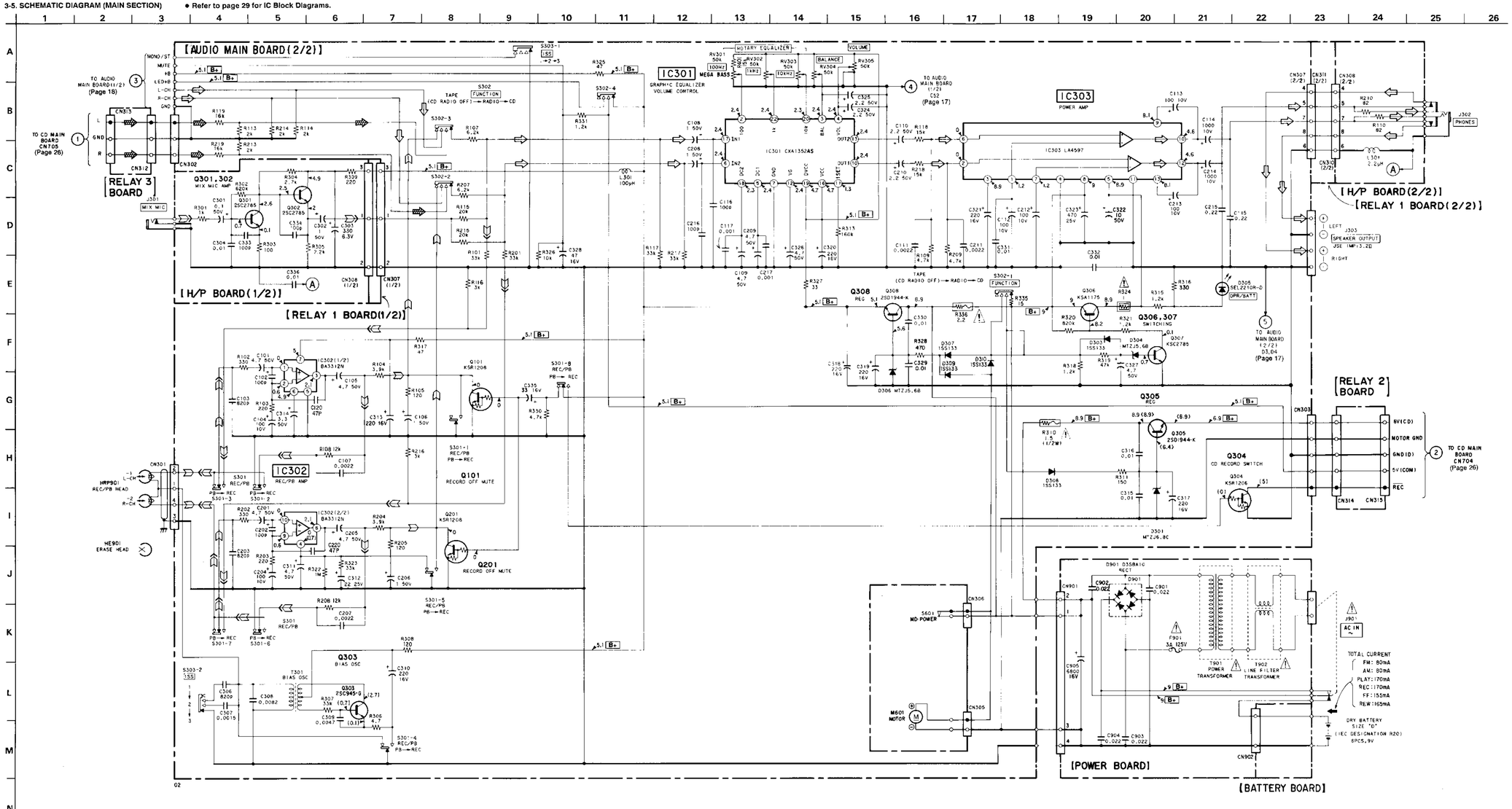
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.



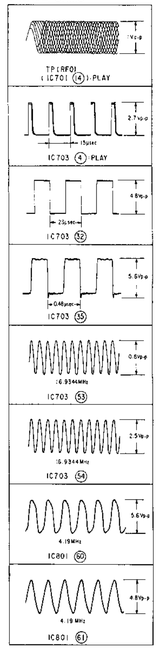
Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- Signal path.
  ⇨ : FM
  ➡ : AM

3-5. SCHEMATIC DIAGRAM (MAIN SECTION) • Refer to page 29 for IC Block Diagrams.



• WAVEFORMS



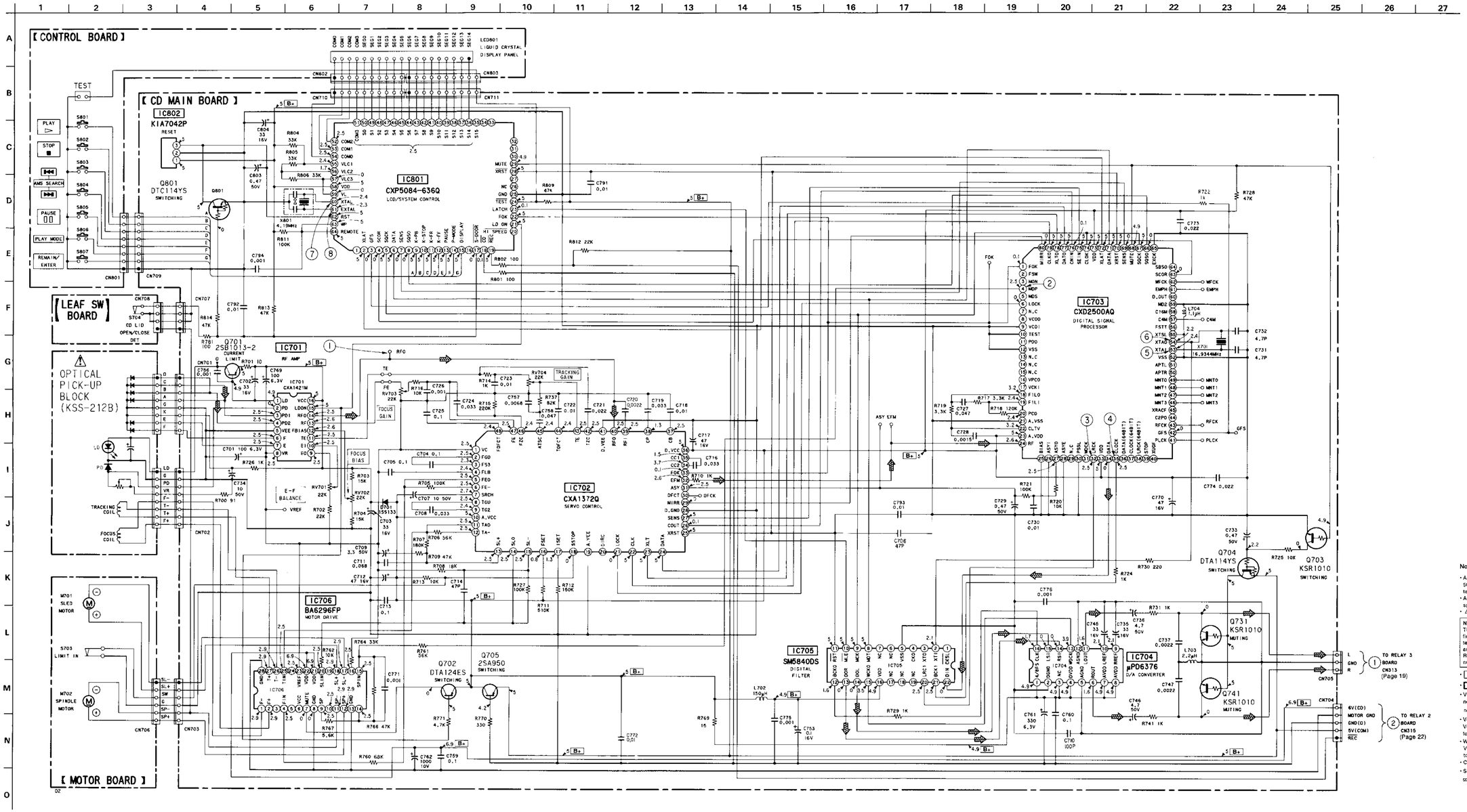
Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line
- Voltage are dc with respect to ground under no-signal (detuned) conditions. no mark : FM
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path. : FM : PB : CD : REC

3-6. SCHEMATIC DIAGRAM (CD SECTION) • Refer to page 29 for IC Block Diagrams.



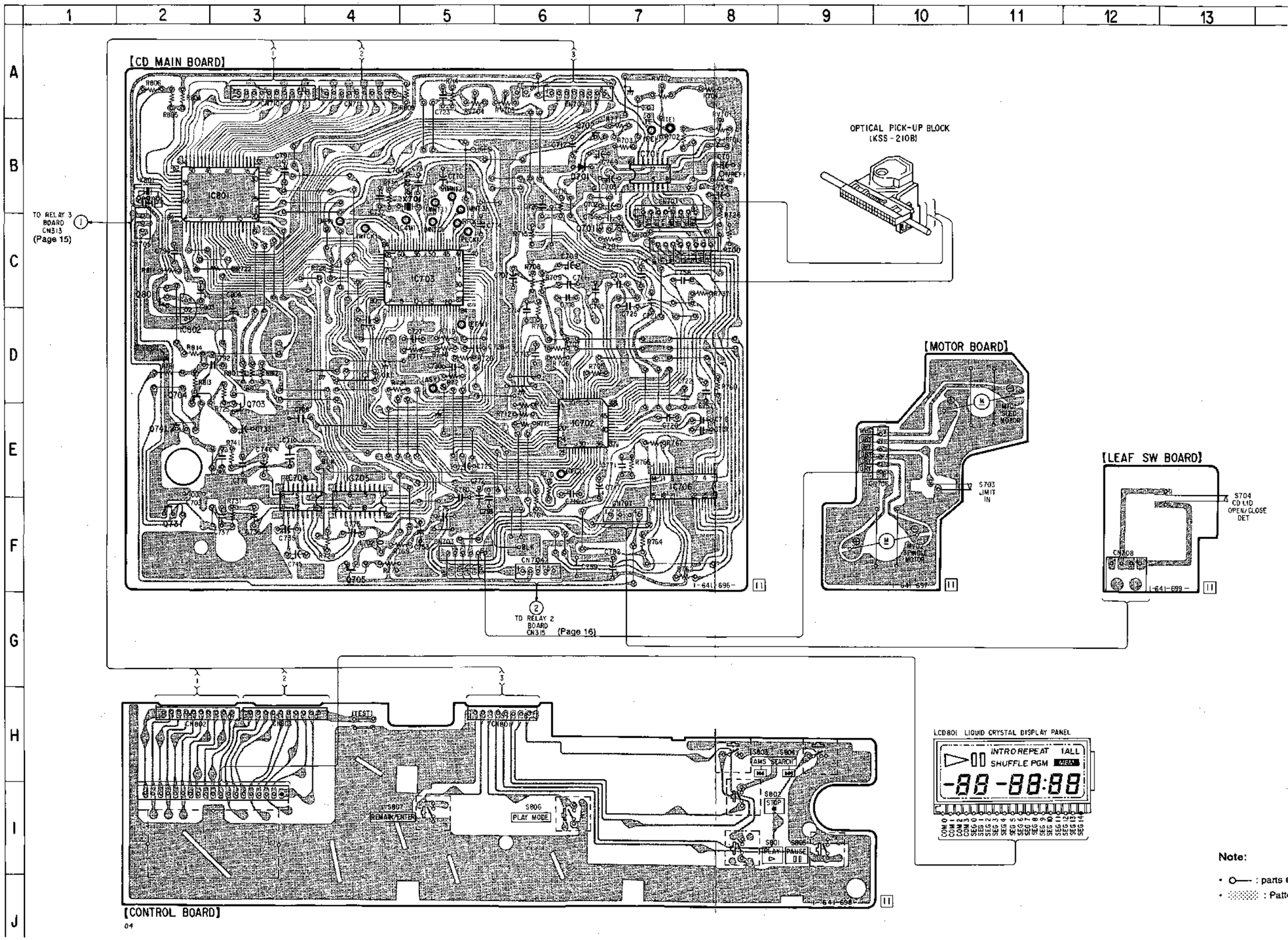
Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F
  50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ⚠ : internal component.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : CD PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇒ : CD

3-7. PRINTED WIRING BOARDS (CD SECTION)



- **SEMICONDUCTOR LOCATION**

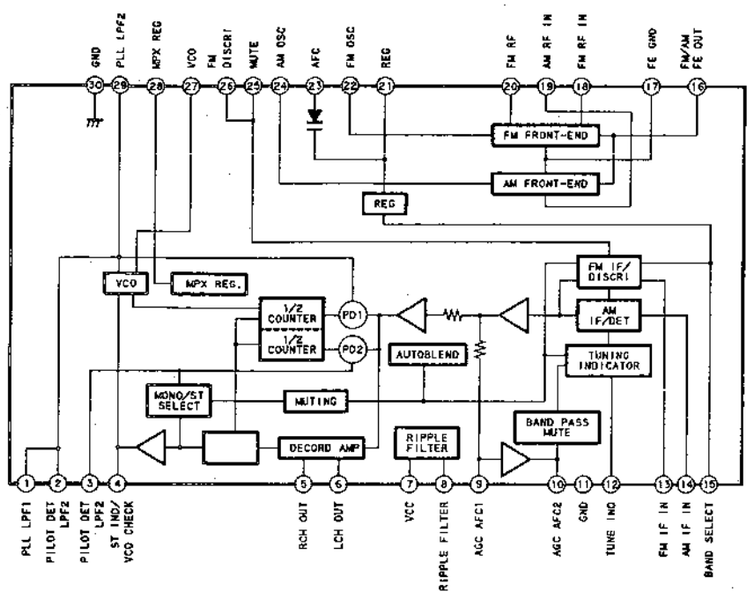
Ref. No.	Location
D701	B-6
IC701	B-7
IC702	E-6
IC703	C-5
IC704	F-3
IC705	F-4
IC706	E-8
IC801	B-3
IC802	D-2
Q701	C-7
Q702	B-7
Q703	E-3
Q704	D-2
Q705	F-4
Q731	F-2
Q741	E-2
Q801	C-2

Note:

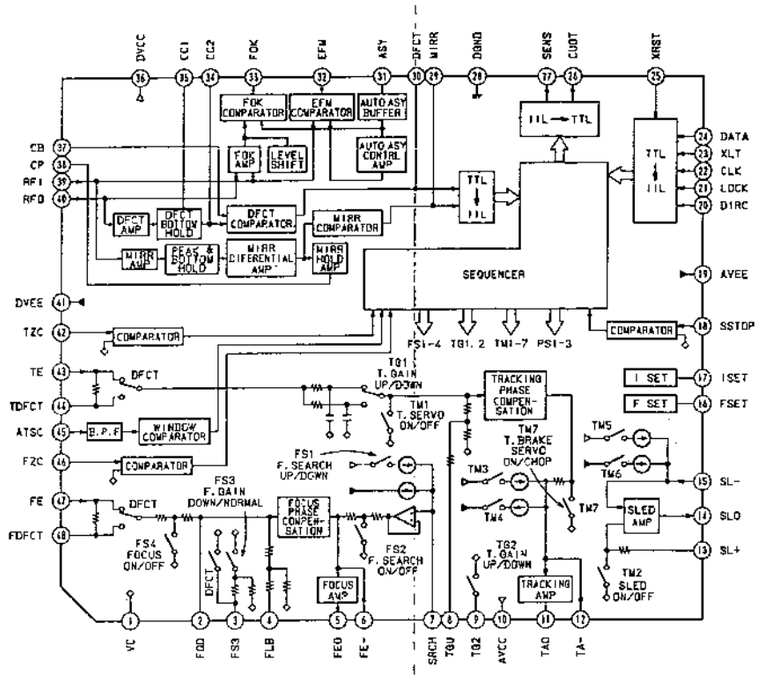
- ○— : parts extracted from the component side.
- ▒▒ : Pattern on the side which is seen.

● IC BLOCK DIAGRAMS

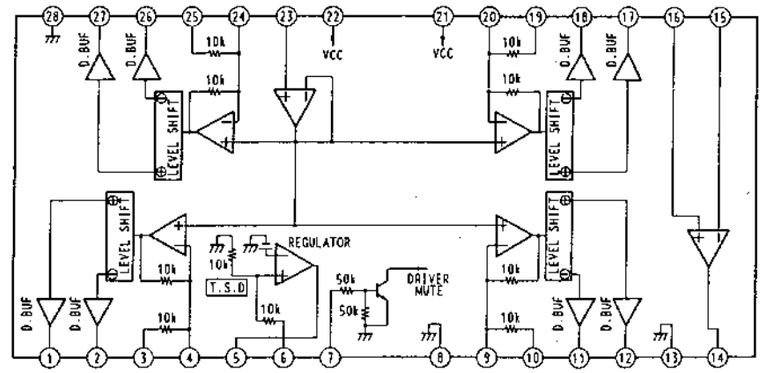
IC1 CXA1238S



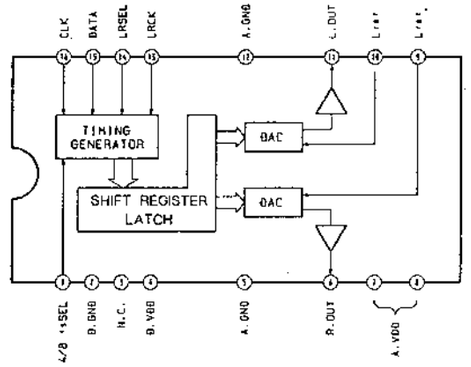
IC702 CXA1372AQ



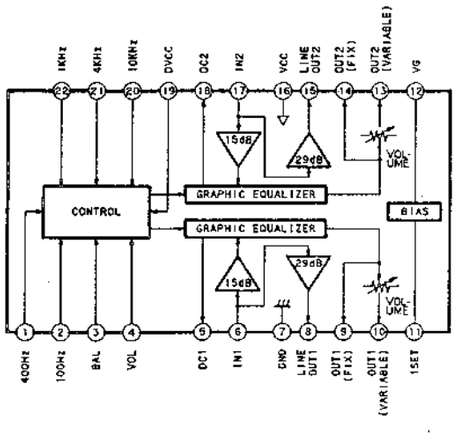
IC706 BA6296FP



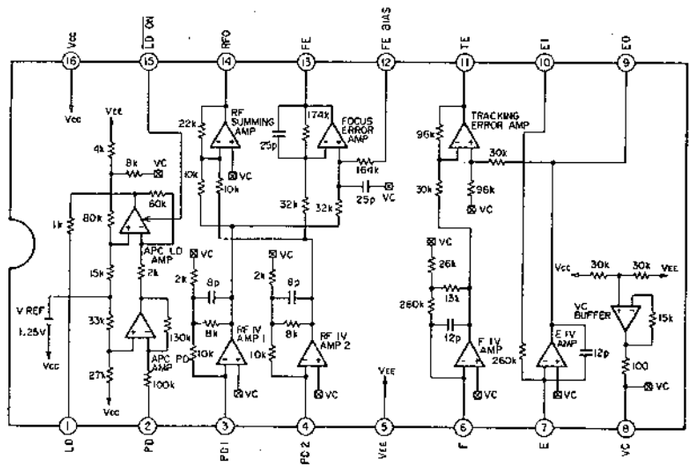
IC704 μPD6376GS



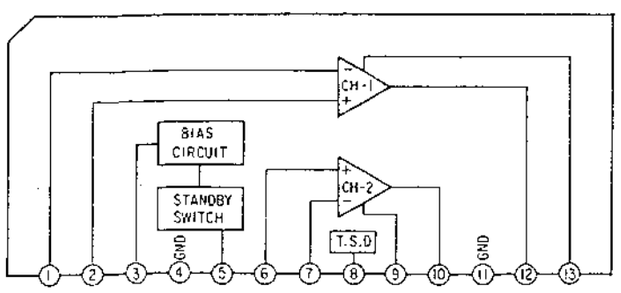
IC301 CXA1352AS



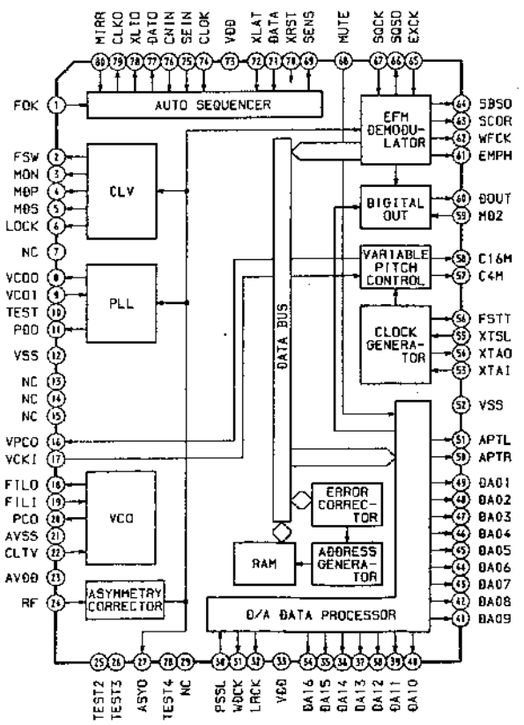
IC701 CXA1421M



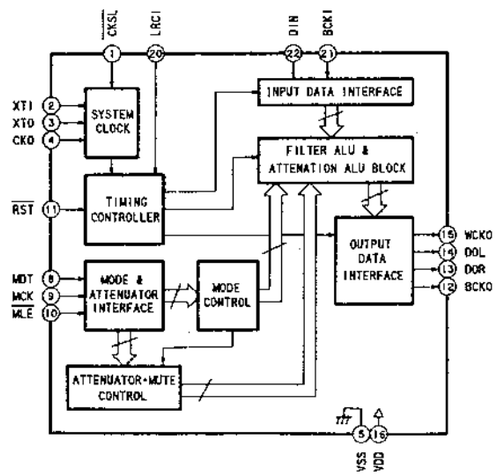
IC303 LA4597



IC703 CXD2500BQ



IC705 SM5840DS



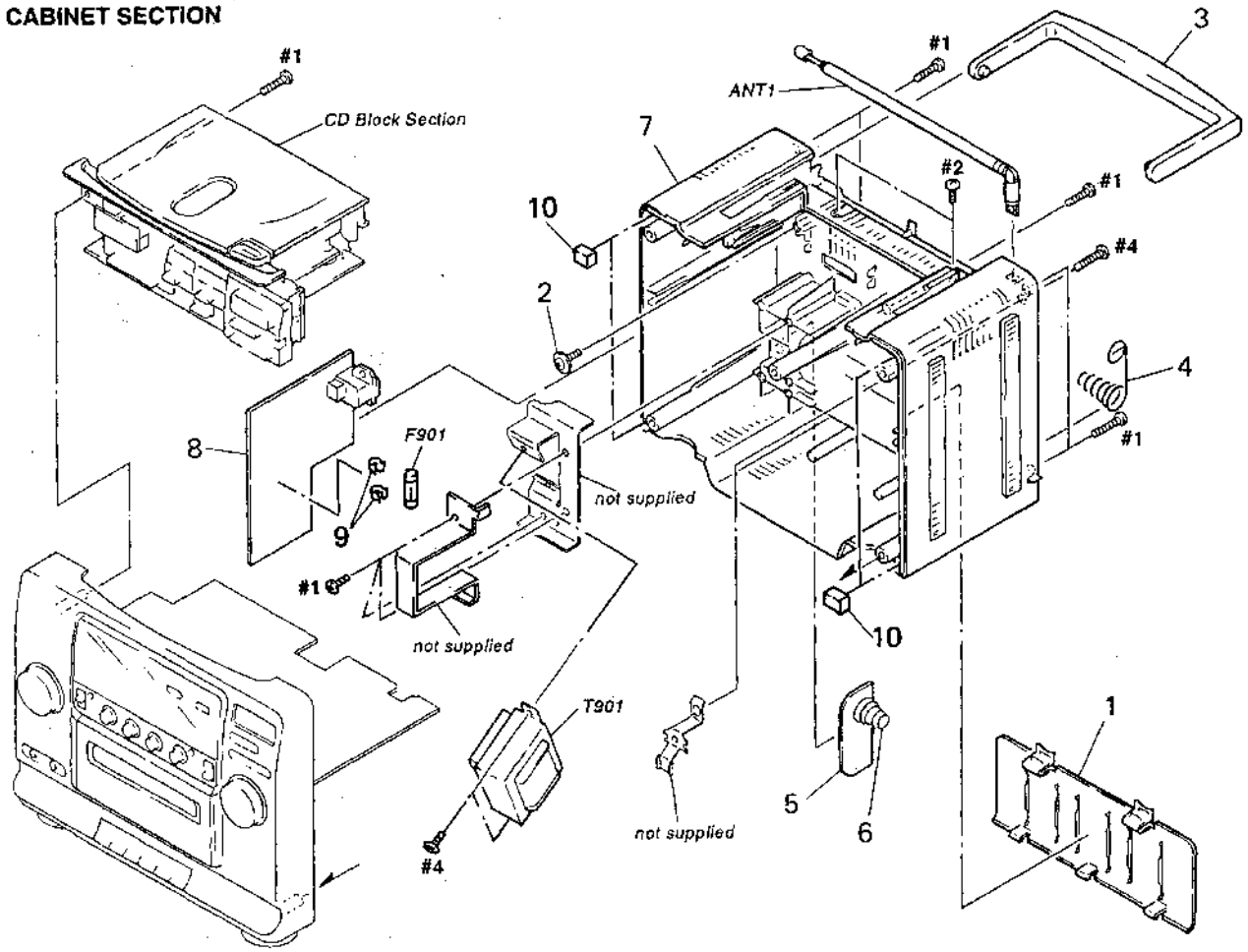
SECTION 4
EXPLODED VIEWS

NOTE :
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

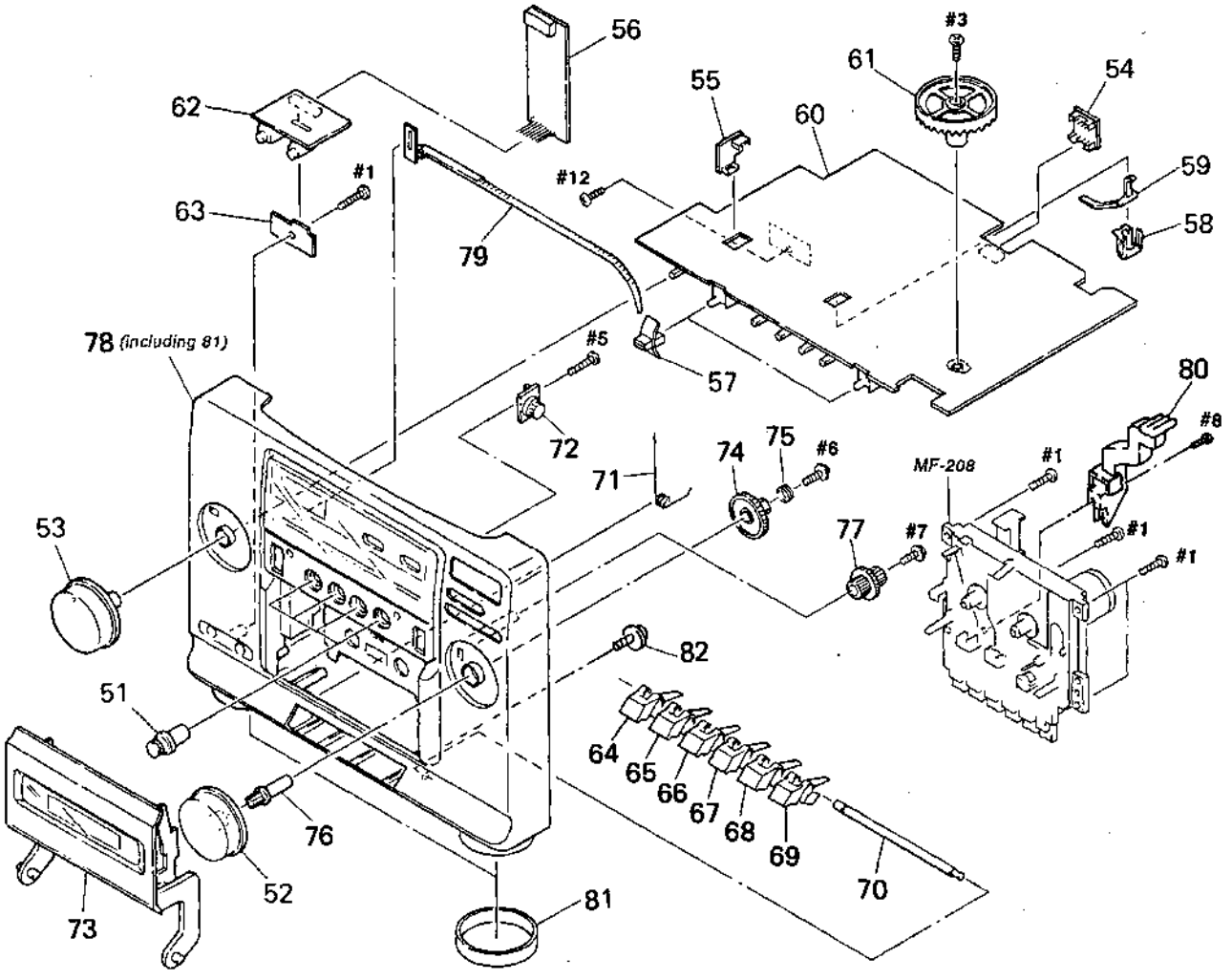
4-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-368-522-11	LID, BATTERY CASE	
2	3-365-853-01	SCREW (+BTPWH) (3×12)	
3	X-3369-943-1	HANDLE ASSY	
4	3-351-387-01	SPRING (+,-), BATTERY COIL	
* 5	1-641-689-11	BATTERY BOARD	
6	3-379-748-01	SPRING (-)	
7	3-372-193-71	CABINET (REAR)	

Ref. No.	Part No.	Description	Remark
* 8	1-641-688-11	POWER BOARD	
9	1-533-233-11	HOLDER, FUSE	
* 10	3-380-250-01	CUSHION (R), RUBBER	
ANT1	1-501-383-21	ANTENNA, TELESCOPIC	
⚠F901	1-532-745-11	FUSE (3A 125V)	
⚠T901	1-427-870-11	TRANSFORMER, POWER	

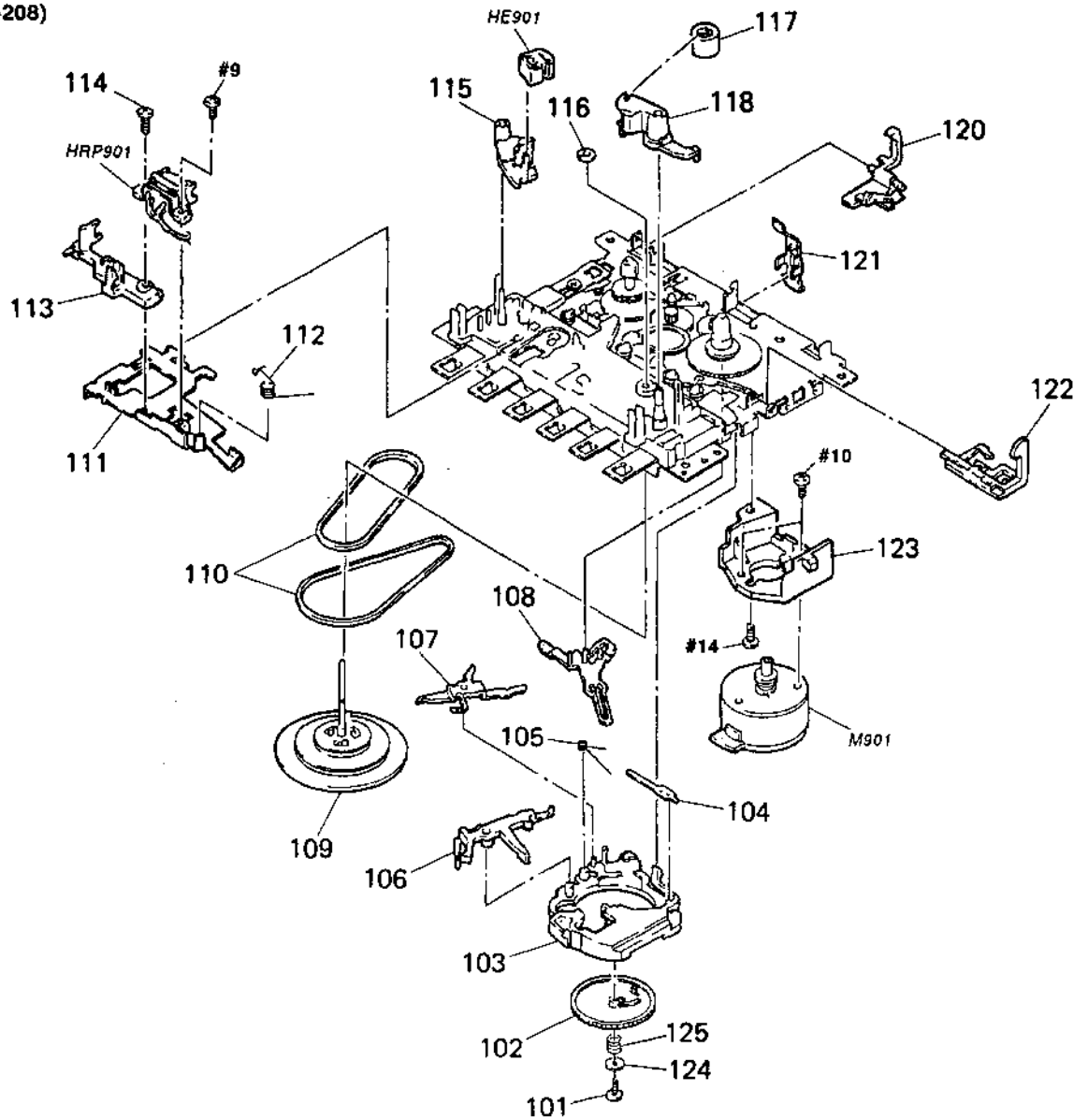
4-2. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-372-210-01	KNOB, GEQ	
52	3-372-209-01	KNOB, TUNING	
53	3-372-211-01	KNOB, VOL	
* 54	1-641-692-11	RELAY 2 BOARD	
* 55	1-641-693-11	RELAY 3 BOARD	
* 56	1-641-691-11	RELAY 1 BOARD	
57	3-372-212-01	KNOB, BAND	
58	3-372-188-01	HOLDER (REC)	
59	3-322-317-01	LEVER, REC	
* 60	A-3269-925-A	AUDIO MAIN BOARD, COMPLETE	
61	3-372-178-01	GEAR, TUNING CAPACITOR	
* 62	1-641-694-11	H/P BOARD	
* 63	1-641-695-11	RETAINER BOARD	
64	3-922-142-01	BUTTON (REC), MD	
65	3-922-143-01	BUTTON (PLAY), MD	
66	3-922-144-01	BUTTON (REW), MD	

Ref. No.	Part No.	Description	Remark
67	3-922-145-01	BUTTON (FF), MD	
68	3-922-130-01	BUTTON (STOP), MD	
69	3-922-131-01	BUTTON (PAUSE), MD	
70	3-922-137-01	SHAFT, MD	
71	3-922-138-01	SPRING, OPEN	
72	3-351-377-01	DAMPER	
73	X-3369-937-1	HOLDER SUB ASSY, CASSETTE	
74	3-372-179-01	GEAR, TUNE	
75	3-372-205-01	SPRING, LIMIT	
76	3-372-180-01	GEAR, SHAFT	
77	3-372-176-01	GEAR, POINTER	
78	X-3369-939-1	CABINET (FRONT) SUB ASSY	
* 79	3-372-177-01	POINTER	
80	3-922-132-01	LEVER (REC), PUSH	
81	4-921-918-01	PLATE, ORNAMENTAL	
82	4-960-167-01	SCREW (3×8) (DIA. 10), +WH	

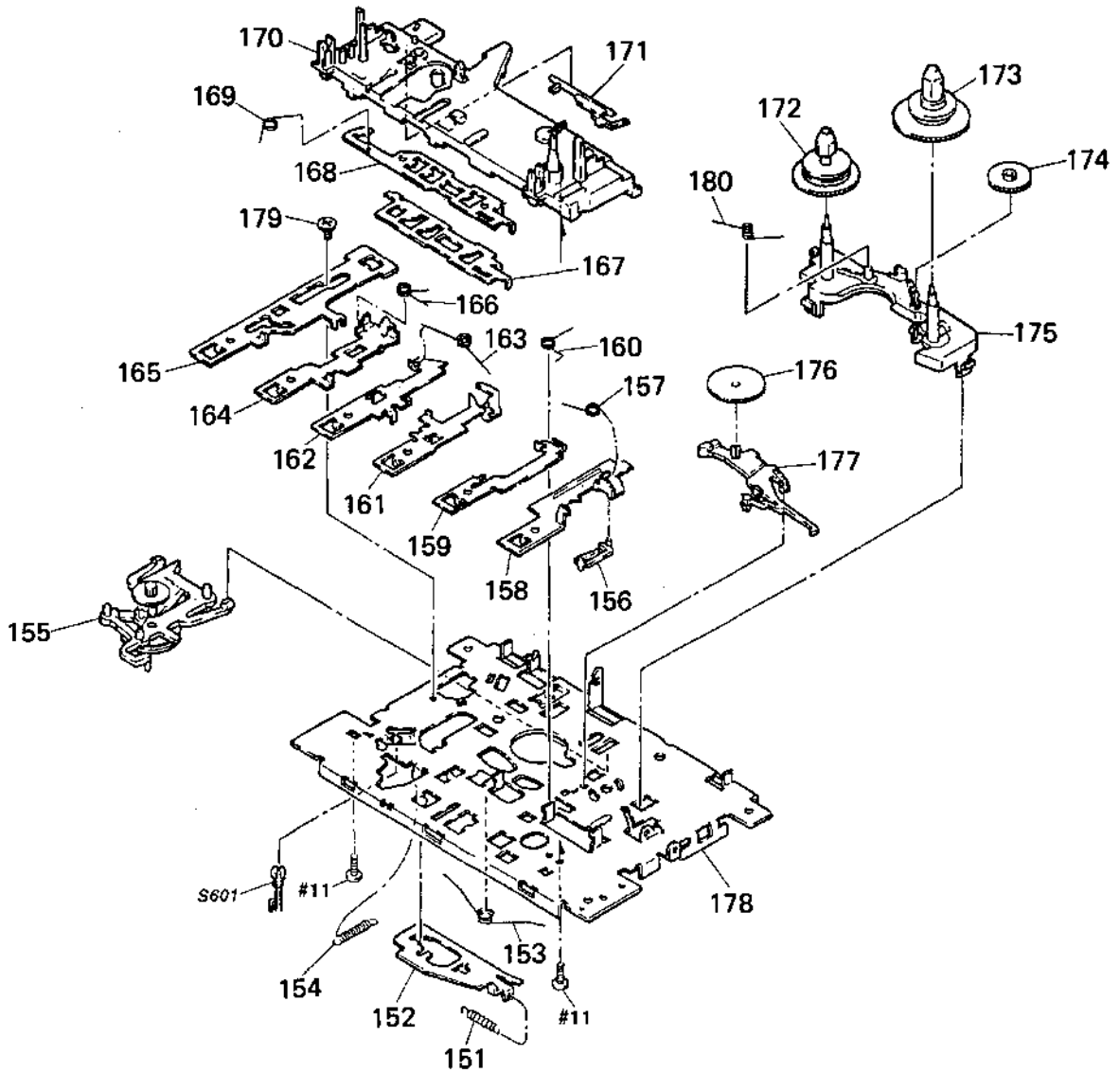
4-3. TAPE MECHANISM SECTION-1
(MF-208)



Ref. No.	Part No.	Description	Remark
101	3-366-352-01	SCREW	
102	X-3363-315-1	GEAR, CAM	
103	3-362-973-01	AS (BASE)	
104	3-362-978-01	SPRING, PLATE	
105	3-362-977-01	SPRING	
106	3-362-975-01	LEVER, SENSOR	
107	3-362-976-01	LEVER, CONTROL	
108	3-387-697-01	SENSOR	
109	3-362-979-01	FW ASSY	
110	3-362-989-01	BELT	
111	3-382-407-01	BASE HEAD	
112	3-362-983-01	SPRING	
113	3-382-409-01	GUIDE TAPE AZ	
114	3-382-408-01	SCREW	

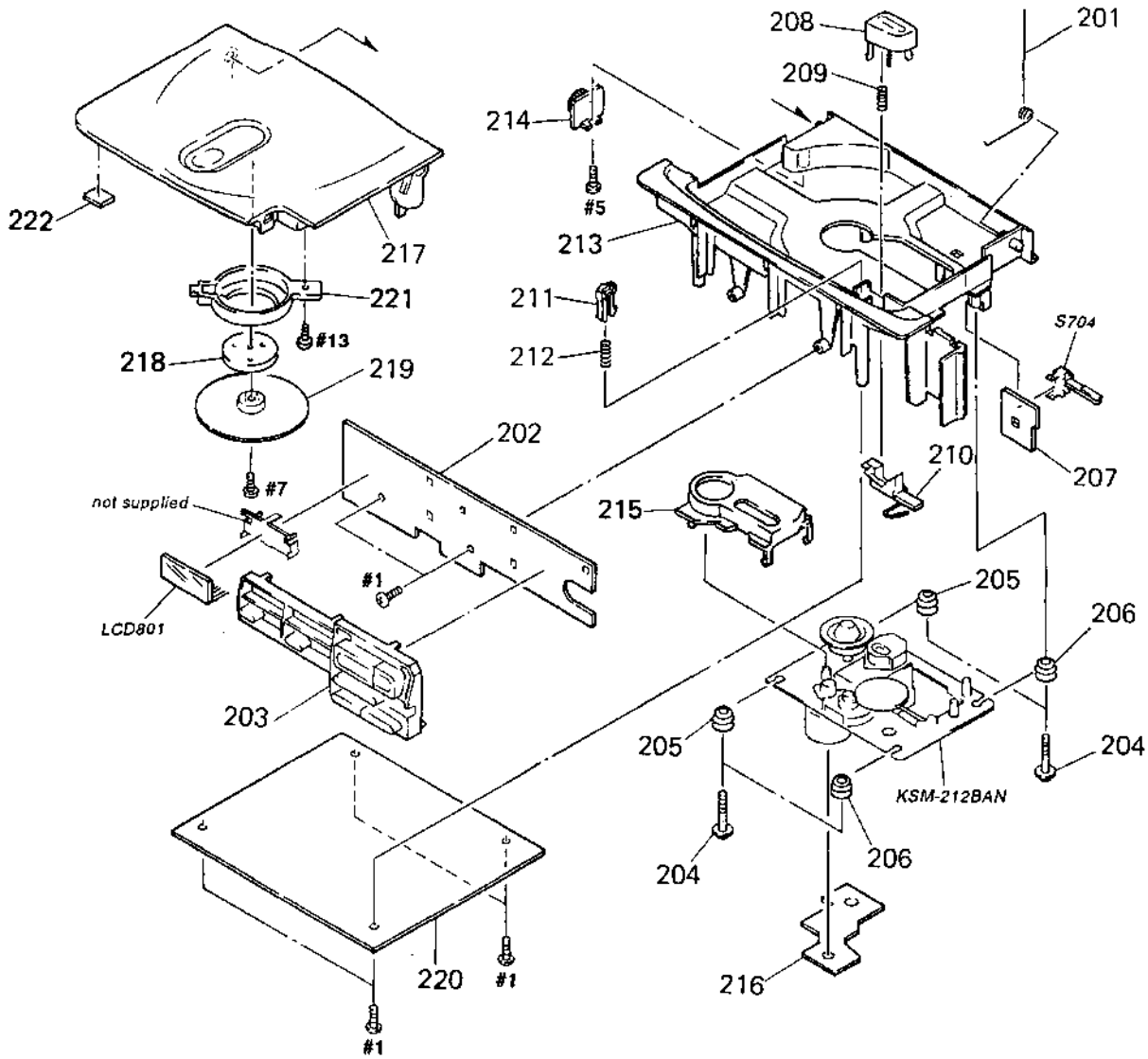
Ref. No.	Part No.	Description	Remark
115	3-362-987-01	ARM, EH	
116	3-362-980-01	WASHER	
117	3-362-982-01	PINCH ROLLER	
118	3-362-981-01	PINCH ARM	
120	3-362-966-01	INTER LOCK	
121	3-362-967-01	SPRING, CASSETTE	
122	3-362-968-01	LEVER, EJECT	
* 123	3-362-988-01	HOLDER, MOTOR	
124	3-369-961-01	WASHER	
125	3-369-962-01	SPRING, COMPRESSION	
HE901	1-543-777-11	HEAD, MAGNETIC (ERASING)	
HRP901	1-543-964-12	HEAD, MAGNETIC (RECORD/PLAYBACK)	
M901	X-3365-538-1	MOTOR ASSY	

4-4. TAPE MECHANISM SECTION-2
(MF-208)



Ref.No.	Part No.	Description	Remark
151	3-379-843-01	SPRING	
152	3-379-844-01	PLATE, STOP, FR	
153	3-362-970-01	SPRING	
154	3-362-971-01	SPRING	
155	3-362-969-01	IDLER ASSY, PF	
156	3-362-953-01	ARM, PAUSE	
157	3-362-957-01	SPRING	
* 158	3-362-952-01	LEVER, PAUSE	
* 159	3-362-951-01	LEVER, SE	
160	3-362-956-01	SPRING	
* 161	3-362-950-01	LEVER, FF	
* 162	3-362-949-01	LEVER, REW	
163	3-362-955-01	SPRING	
* 164	3-362-948-01	LEVER, PLAY	
* 165	3-362-947-01	LEVER, REC	
166	3-362-954-01	SPRING	
* 167	3-362-946-01	LEVER, SW	
* 168	3-362-943-01	PLATE, FUNCTION	
169	3-362-945-01	SPRING	
170	3-362-942-01	FRAME ASSY	
171	3-362-944-01	STOPPER, REC	
172	X-3363-611-1	REEL, S	
173	3-362-962-01	REEL ASSY, T	
174	3-362-965-01	IDLER, FF	
175	3-362-961-01	SPINDLE (BASE)	
176	3-362-960-01	PULLEY, IDLER	
177	3-362-959-01	ARM, IDLER	
* 178	3-362-941-01	CHASSIS	
179	3-362-958-01	SCREW	
180	3-917-805-01	SPRING	
S601	1-571-556-11	SWITCH, LEAF (POWER)	

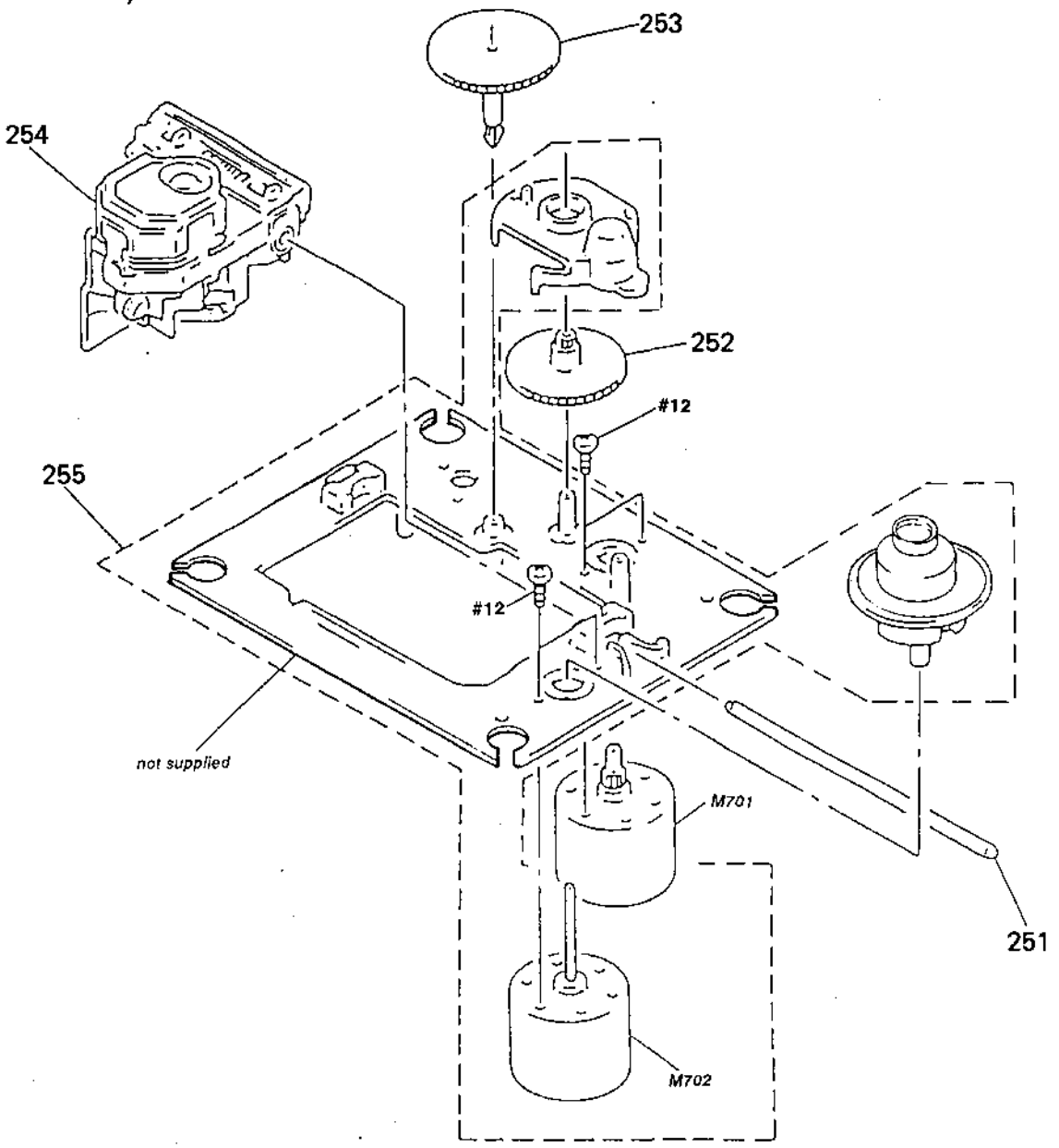
4-5. CD BLOCK SECTION



Ref. No.	Part No.	Description	Remark
201	3-372-185-01	SPRING, UP	
* 202	1-641-698-11	CONTROL BOARD	
203	3-372-213-01	BUTTON, CD	
204	3-916-006-01	SCREW (2.6×16)	
205	3-910-095-01	RUBBER, VIBRATION PROOF	
206	3-910-095-11	RUBBER, VIBRATION PROOF	
* 207	1-641-699-11	LEAF SW BOARD	
208	3-372-183-01	BUTTON (CD OPEN)	
209	3-372-207-01	SPRING, COMPRESSION	
210	3-372-182-01	LEVER (LOCK)	
211	3-372-184-01	LEVER, UP	
212	3-372-206-01	SPRING, COMPRESSION	

Ref. No.	Part No.	Description	Remark
* 213	3-922-140-01	CHASSIS, CD	
214	3-351-377-11	DAMPER	
215	3-910-116-01	COVER, CD	
* 216	1-641-697-11	MOTOR BOARD	
217	X-3369-940-1	LID SUB ASSY, CD	
218	1-452-732-11	MAGNET	
219	3-910-112-01	PLATE, CHUCKING	
* 220	A-3269-927-A	CD MAIN BOARD, COMPLETE	
221	3-910-113-01	HOLDER (CHUCK)	
* 222	3-380-415-01	CUSHION (CD)	
LCD801	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL	
S704	1-570-013-11	SWITCH, LEAF (CD LID OPEN/CLOSE DET)	

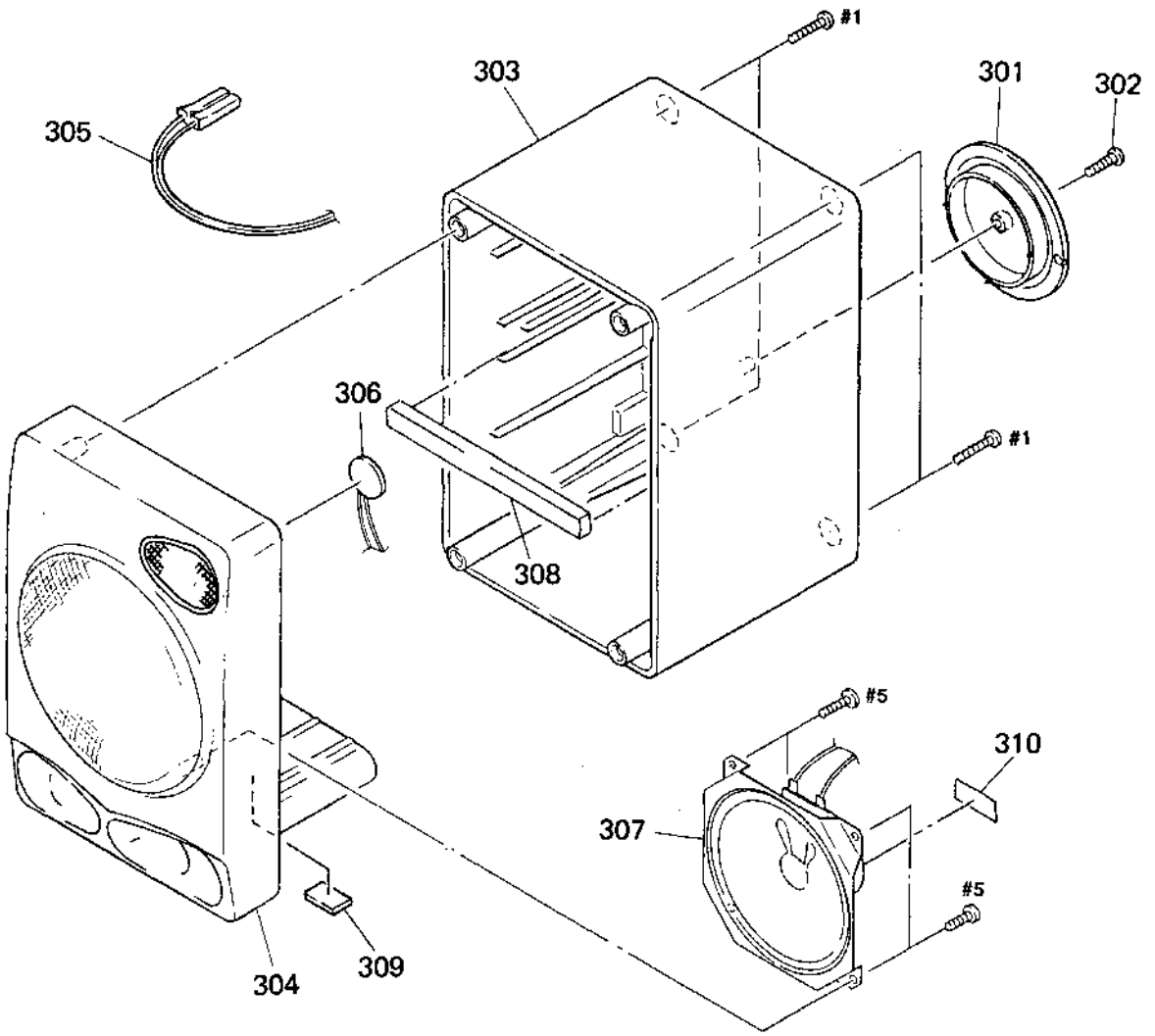
4-6. OPTICAL PICK-UP SECTION (KSM-212BAN)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
251	2-626-908-01	SHAFT, SLED	
252	2-627-003-01	GEAR (B) (RP)	
253	2-626-907-01	GEAR (A) (S)	
⚠254	8-848-337-11	OPTICAL PICK-UP KSS-212B	
255	X-2625-770-1	CHASSIS ASSY (MB) (RP), MOTOR (Including M702) (SPINDLE)	
M701	X-2625-769-1	GEAR ASSY (MB) (RP), MOTOR (SLED)	

4-7. SPEAKER SECTION



Ref. No.	Part No.	Description	Remark
301	3-372-214-01	REEL, SPEAKER	
302	3-325-679-71	SCREW, TAPPING +BV 3×12	
303	3-372-197-01	SPEAKER (L) (REAR)	
303	3-372-199-01	SPEAKER (R) (REAR)	
304	X-3369-944-1	SPEAKER (L) SUB (FRONT) ASSY	
304	X-3369-945-1	SPEAKER (R) SUB (FRONT) ASSY	

Ref. No.	Part No.	Description	Remark
305	1-559-620-11	CORD (WITH CONNECTOR)	
306	1-529-058-11	BUZZER	
307	1-504-269-21	SPEAKER (10CM)	
* 308	3-383-789-01	BRACKET, SPEAKER	
* 309	3-916-236-01	CUSHION	
310	3-831-441-XX	CUSHION, SPEAKER	

AUDIO MAIN

SECTION 5
ELECTRICAL PARTS LIST

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μA.... , uPA.... : μPA....
  uPB.... : μPB.... , uPC.... : μPC....
  uPD.... : μPD....
- CAPACITORS
  uF : μF
- COILS
  uH : μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
*	A-3269-925-A	AUDIO MAIN BOARD, COMPLETE **********			
		< CAPACITOR >			
C1	1-102-960-00	CERAMIC	24PF	5%	50V
C2	1-102-960-00	CERAMIC	24PF	5%	50V
C3	1-162-191-31	CERAMIC	2.2PF	10%	50V
C4	1-162-196-31	CERAMIC	5.6PF	10%	50V
C5	1-104-663-11	ELECT	33uF	20%	16V
C6	1-161-051-00	CERAMIC	0.01uF	10%	50V
C7	1-162-306-11	CERAMIC	0.01uF	20%	16V
C8	1-162-187-31	CERAMIC	1PF	20%	50V
C9	1-162-287-31	CERAMIC	270PF	10%	50V
C10	1-104-664-11	ELECT	47uF	20%	16V
C11	1-124-925-11	ELECT	2.2uF	20%	100V
C12	1-104-664-11	ELECT	47uF	20%	16V
C13	1-161-051-00	CERAMIC	0.01uF	10%	50V
C14	1-161-051-00	CERAMIC	0.01uF	10%	50V
C15	1-124-903-11	ELECT	1uF	20%	50V
C16	1-126-963-11	ELECT	4.7uF	20%	50V
C17	1-161-053-00	CERAMIC	0.015uF	10%	50V
C18	1-161-053-00	CERAMIC	0.015uF	10%	50V
C19	1-124-903-11	ELECT	1uF	20%	50V
C20	1-124-902-00	ELECT	0.47uF	20%	50V
C21	1-126-963-11	ELECT	4.7uF	20%	50V
C22	1-124-443-00	ELECT	100uF	20%	10V
C23	1-124-902-00	ELECT	0.47uF	20%	50V
C24	1-124-902-00	ELECT	0.47uF	20%	50V
C51	1-162-282-31	CERAMIC	100PF	10%	50V
C52	1-162-282-31	CERAMIC	100PF	10%	50V
C53	1-162-191-31	CERAMIC	2.2PF	10%	50V
C101	1-126-963-11	ELECT	4.7uF	20%	50V
C102	1-162-282-31	CERAMIC	100PF	10%	50V
C103	1-162-293-31	CERAMIC	820PF	10%	50V
C104	1-124-443-00	ELECT	100uF	20%	10V
C105	1-126-963-11	ELECT	4.7uF	20%	50V
C106	1-124-903-11	ELECT	1uF	20%	50V
C107	1-102-121-00	CERAMIC	2200PF	10%	50V
C108	1-124-903-11	ELECT	1uF	20%	50V
C109	1-126-963-11	ELECT	4.7uF	20%	50V
C110	1-124-925-11	ELECT	2.2uF	20%	100V
C111	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C112	1-124-443-00	ELECT	100uF	20%	10V
C113	1-124-443-00	ELECT	100uF	20%	10V
C114	1-124-473-11	ELECT	1000uF	20%	10V
C115	1-136-169-00	FILM	0.22uF	5%	50V
C116	1-162-282-31	CERAMIC	100PF	10%	50V
C117	1-162-294-31	CERAMIC	0.001uF	10%	50V
C120	1-162-215-31	CERAMIC	47PF	5%	50V
C201	1-126-963-11	ELECT	4.7uF	20%	50V
C202	1-162-282-31	CERAMIC	100PF	10%	50V
C203	1-162-293-31	CERAMIC	820PF	10%	50V
C204	1-124-443-00	ELECT	100uF	20%	10V
C205	1-126-963-11	ELECT	4.7uF	20%	50V
C206	1-124-903-11	ELECT	1uF	20%	50V
C207	1-102-121-00	CERAMIC	2200PF	10%	50V
C208	1-124-903-11	ELECT	1uF	20%	50V
C209	1-126-963-11	ELECT	4.7uF	20%	50V
C210	1-124-925-11	ELECT	2.2uF	20%	100V
C211	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C212	1-124-443-00	ELECT	100uF	20%	10V
C213	1-124-443-00	ELECT	100uF	20%	10V
C214	1-124-473-11	ELECT	1000uF	20%	10V
C215	1-136-169-00	FILM	0.22uF	5%	50V
C216	1-162-282-31	CERAMIC	100PF	10%	50V
C217	1-162-294-31	CERAMIC	0.001uF	10%	50V
C220	1-162-215-31	CERAMIC	47PF	5%	50V
C306	1-130-470-00	MYLAR	820PF	5%	50V
C307	1-130-473-00	MYLAR	0.0015uF	5%	50V
C308	1-130-482-00	MYLAR	0.0082uF	5%	50V
C309	1-130-479-00	MYLAR	0.0047uF	5%	50V
C310	1-124-120-11	ELECT	220uF	20%	25V
C311	1-126-963-11	ELECT	4.7uF	20%	50V
C312	1-126-233-11	ELECT	22uF	20%	50V
C313	1-124-120-11	ELECT	220uF	20%	25V
C314	1-126-962-11	ELECT	3.3uF	20%	50V
C315	1-162-306-11	CERAMIC	0.01uF	20%	16V
C316	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description			Remark
C317-321					
	1-124-120-11	ELECT	220uF	20%	25V
C322	1-124-907-11	ELECT	10uF	20%	50V
C323	1-124-480-11	ELECT	470uF	20%	25V
C324	1-124-925-11	ELECT	2.2uF	20%	100V
C325	1-124-925-11	ELECT	2.2uF	20%	100V
C326	1-126-963-11	ELECT	4.7uF	20%	50V
C327	1-126-963-11	ELECT	4.7uF	20%	50V
C328	1-104-664-11	ELECT	47uF	20%	16V
C329-332					
	1-162-306-11	CERAMIC	0.01uF	20%	16V
C335	1-104-663-11	ELECT	33uF	20%	16V
		< FILTER >			
CF1-3	1-577-327-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CN301	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CN302	1-569-380-11	SOCKET, CONNECTOR (PC BOARD) 3P			
* CN303	1-569-382-11	SOCKET, CONNECTOR (PC BOARD) 5P			
* CN306	1-691-573-21	PIN, CONNECTOR (PC BOARD) 2P			
* CN307	1-564-599-11	PIN, CONNECTOR 8P			
CNP301	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP305	1-691-573-11	PIN, CONNECTOR (PC BOARD) 2P			
		< COMPOSITION CIRCUIT BLOCK >			
CP1	1-239-724-11	ENCAPSULATED COMPONENT			
		< VARIABLE CAPACITOR >			
CV1-4 CT1-4	1-151-624-11	CAP, VARIABLE (TUNING)			
		< DIODE >			
D1	8-719-991-33	DIODE	1SS133		
D2	8-719-991-33	DIODE	1SS133		
D3	8-719-991-33	DIODE	1SS133		
D4	8-719-991-33	DIODE	1SS133		
D003	8-719-304-78	LED	SEL2210R-D (FM ST)		
D301	8-719-109-97	DIODE	RD6.8ES-B2		
D303	8-719-991-33	DIODE	1SS133		
D304	8-719-109-89	DIODE	RD5.6ESB2		
D305	8-719-304-78	LED	SEL2210R-D (OPR/BATT)		
D306	8-719-109-89	DIODE	RD5.6ESB2		
D307-310					
	8-719-991-33	DIODE	1SS133		
		< FILTER >			
FL1	1-236-022-11	FILTER, BAND PASS			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC1	8-752-050-20	IC	CXA1238S		
IC301	8-752-067-34	IC	CXA1352AS		
IC302	8-759-942-24	IC	BA3312N		
IC303	8-759-820-22	IC	LA4597		
		< JACK >			
J303	1-537-114-11	TERMINAL BOARD (SPEAKER OUTPUT)			
		< COIL >			
* L1	1-428-029-11	COIL, AIR-CORE			
* L2	1-422-354-11	COIL, AIR-CORE			
L3	1-402-553-11	ANTENNA, FERRITE-ROD (AM)			
L4	1-410-517-11	INDUCTOR	47uH		
L301	1-410-521-11	INDUCTOR	100uH		
		< TRANSISTOR >			
Q5	8-729-206-27	TRANSISTOR	RN1209		
Q6	8-729-206-27	TRANSISTOR	RN1209		
Q101	8-729-206-25	TRANSISTOR	RN1207		
Q201	8-729-206-25	TRANSISTOR	RN1207		
Q303	8-729-194-57	TRANSISTOR	2SC945-P		
Q304	8-729-206-25	TRANSISTOR	RN1207		
Q305	8-729-021-82	TRANSISTOR	2SD2396K		
Q306	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q307	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q308	8-729-021-82	TRANSISTOR	2SD2396K		
		< RESISTOR >			
R1	1-249-441-11	CARBON	100K	5%	1/4W
R2	1-249-421-11	CARBON	2.2K	5%	1/4W
R3	1-249-415-11	CARBON	680	5%	1/4W
R4	1-249-407-11	CARBON	150	5%	1/4W
R5	1-249-401-11	CARBON	47	5%	1/4W
R6	1-249-427-11	CARBON	6.8K	5%	1/4W
R7	1-249-427-11	CARBON	6.8K	5%	1/4W
R8	1-247-887-00	CARBON	220K	5%	1/4W
R9	1-247-887-00	CARBON	220K	5%	1/4W
R10	1-249-421-11	CARBON	2.2K	5%	1/4W
R11	1-249-429-11	CARBON	10K	5%	1/4W
R12	1-249-415-11	CARBON	680	5%	1/4W
R14	1-247-850-11	CARBON	6.2K	5%	1/4W
R16	1-249-423-11	CARBON	3.3K	5%	1/4W
R50	1-249-425-11	CARBON	4.7K	5%	1/4W
R51	1-249-425-11	CARBON	4.7K	5%	1/4W
R101	1-249-435-11	CARBON	33K	5%	1/4W
R102	1-249-411-11	CARBON	330	5%	1/4W
R103	1-249-409-11	CARBON	220	5%	1/4W
R104	1-249-424-11	CARBON	3.9K	5%	1/4W

AUDIO MAIN | BATTERY | CD MAIN

Ref. No.	Part No.	Description				Remark
R105	1-249-406-11	CARBON	120	5%	1/4W	
R107	1-247-850-11	CARBON	6.2K	5%	1/4W	
R108	1-249-430-11	CARBON	12K	5%	1/4W	
R109	1-249-425-11	CARBON	4.7K	5%	1/4W	
R113	1-247-838-00	CARBON	2K	5%	1/4W	
R114	1-247-838-00	CARBON	2K	5%	1/4W	
R115	1-247-862-11	CARBON	20K	5%	1/4W	
R116	1-247-842-11	CARBON	3K	5%	1/4W	
R117	1-249-435-11	CARBON	33K	5%	1/4W	
R118	1-249-431-11	CARBON	15K	5%	1/4W	
R119	1-247-860-11	CARBON	16K	5%	1/4W	
R201	1-249-435-11	CARBON	33K	5%	1/4W	
R202	1-249-411-11	CARBON	330	5%	1/4W	
R203	1-249-409-11	CARBON	220	5%	1/4W	
R204	1-249-424-11	CARBON	3.9K	5%	1/4W	
R205	1-249-406-11	CARBON	120	5%	1/4W	
R207	1-247-850-11	CARBON	6.2K	5%	1/4W	
R208	1-249-430-11	CARBON	12K	5%	1/4W	
R209	1-249-425-11	CARBON	4.7K	5%	1/4W	
R213	1-247-838-00	CARBON	2K	5%	1/4W	
R214	1-247-838-00	CARBON	2K	5%	1/4W	
R215	1-247-862-11	CARBON	20K	5%	1/4W	
R216	1-247-842-11	CARBON	3K	5%	1/4W	
R217	1-249-435-11	CARBON	33K	5%	1/4W	
R218	1-249-431-11	CARBON	15K	5%	1/4W	
R219	1-247-860-11	CARBON	16K	5%	1/4W	
R306	1-249-389-11	CARBON	4.7	5%	1/4W	
R307	1-249-435-11	CARBON	33K	5%	1/4W	
R308	1-249-406-11	CARBON	120	5%	1/4W	
⚠R310	1-212-938-00	FUSIBLE	1.5	5%	1/2W	F
R311	1-249-407-11	CARBON	150	5%	1/4W	
R313	1-247-884-11	CARBON	160K	5%	1/4W	
R315	1-249-418-11	CARBON	1.2K	5%	1/4W	
R316	1-249-411-11	CARBON	330	5%	1/4W	
R317	1-249-401-11	CARBON	47	5%	1/4W	
R318	1-249-418-11	CARBON	1.2K	5%	1/4W	
R319	1-249-437-11	CARBON	47K	5%	1/4W	
R320	1-247-901-11	CARBON	820K	5%	1/4W	
R321	1-249-418-11	CARBON	1.2K	5%	1/4W	
R322	1-247-903-00	CARBON	1M	5%	1/4W	
R323	1-249-435-11	CARBON	33K	5%	1/4W	
⚠R324	1-249-381-11	CARBON	1	5%	1/4W	F
R325	1-249-401-11	CARBON	47	5%	1/4W	
R326	1-249-429-11	CARBON	10K	5%	1/4W	
R327	1-249-399-11	CARBON	33	5%	1/4W	
R328	1-249-413-11	CARBON	470	5%	1/4W	
R330	1-249-425-11	CARBON	4.7K	5%	1/4W	
R331	1-249-418-11	CARBON	1.2K	5%	1/4W	
R335	1-249-395-11	CARBON	15	5%	1/4W	

Ref. No.	Part No.	Description				Remark
⚠R336	1-217-639-00	FUSIBLE	2.2	5%	1/4W	F
R401	1-249-431-11	CARBON	15K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV1	1-241-765-11	RES, ADJ, CARBON 22K (FM VCO)				
RV301	1-241-643-11	RES, VAR, CARBON 50K (ROTARY EQUALIZER 100Hz)				
RV302	1-241-643-11	RES, VAR, CARBON 50K (ROTARY EQUALIZER 1KHz)				
RV303	1-241-643-11	RES, VAR, CARBON 50K (ROTARY EQUALIZER 10KHz)				
RV304	1-241-643-11	RES, VAR, CARBON 50K (BALANCE)				
RV305	1-241-642-11	RES, VAR, CARBON 50K (VOLUME)				
		< SWITCH >				
S1	1-570-729-11	SWITCH, LEVER SLIDE (BAND)				
S301	1-762-341-11	SWITCH, SLIDE (REC/PB)				
S302	1-571-833-11	SWITCH, LEVER SLIDE (FUNCTION)				
S303	1-571-307-11	SWITCH, SLIDE (ISS)				
		< TRANSFORMER >				
T1	1-406-040-00	COIL (OSC)				
T301	1-433-332-11	OSCILLATION TRANSFORMER, BIAS				
**********						
*	1-641-689-11	BATTERY BOARD **********				
**********						
*	A-3269-927-A	CD MAIN BOARD, COMPLETE **********				
		< CAPACITOR >				
C701	1-126-968-11	ELECT	100uF	20%	6.3V	
C702	1-104-663-11	ELECT	33uF	20%	16V	
C703	1-104-663-11	ELECT	33uF	20%	16V	
C704	1-136-165-00	FILM	0.1uF	5%	50V	
C705	1-136-165-00	FILM	0.1uF	5%	50V	
C706	1-162-215-31	CERAMIC	47PF	5%	50V	
C707	1-124-261-00	ELECT	10uF	20%	50V	
C708	1-161-057-00	CERAMIC	0.033uF	10%	50V	
C709	1-126-962-11	ELECT	3.3uF	20%	50V	
C710	1-162-282-31	CERAMIC	100PF	10%	50V	
C711	1-161-061-11	CERAMIC	0.068uF	10%	50V	
C712	1-104-664-11	ELECT	47uF	20%	16V	
C713	1-161-772-11	CERAMIC	0.1uF	10%	25V	
C714	1-162-215-31	CERAMIC	47PF	5%	50V	
C716	1-161-057-00	CERAMIC	0.033uF	10%	50V	
C717	1-104-664-11	ELECT	47uF	20%	16V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			Remark
C718	1-162-306-11	CERAMIC	0.01uF	20%	16V
C719	1-161-057-00	CERAMIC	0.033uF	10%	50V
C720	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C721	1-161-494-00	CERAMIC	0.022uF		25V
C722	1-162-306-11	CERAMIC	0.01uF	20%	16V
C723	1-162-306-11	CERAMIC	0.01uF	20%	16V
C724	1-161-057-00	CERAMIC	0.033uF	10%	50V
C725	1-136-165-00	FILM	0.1uF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-161-021-11	CERAMIC	0.047uF	10%	25V
C728	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C729	1-124-902-00	ELECT	0.47uF	20%	50V
C730	1-162-306-11	CERAMIC	0.01uF	20%	16V
C731	1-162-195-31	CERAMIC	4.7PF	10%	50V
C732	1-162-195-31	CERAMIC	4.7PF	10%	50V
C733	1-124-902-00	ELECT	0.47uF	20%	50V
C734	1-124-907-11	ELECT	10uF	20%	50V
C735	1-104-663-11	ELECT	33uF	20%	16V
C736	1-126-963-11	ELECT	4.7uF	20%	50V
C737	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C745	1-104-663-11	ELECT	33uF	20%	16V
C746	1-126-963-11	ELECT	4.7uF	20%	50V
C747	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C753	1-124-463-00	ELECT	0.1uF	20%	50V
C756	1-162-294-31	CERAMIC	0.001uF	10%	50V
C757	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C758	1-161-021-11	CERAMIC	0.047uF	10%	25V
C759	1-161-772-11	CERAMIC	0.1uF	10%	25V
C760	1-161-772-11	CERAMIC	0.1uF	10%	25V
C761	1-124-442-00	ELECT	330uF	20%	6.3V
C762	1-124-473-11	ELECT	1000uF	20%	10V
C769	1-126-177-11	ELECT	100uF	20%	10V
C770	1-104-664-11	ELECT	47uF	20%	16V
C771	1-161-039-00	CERAMIC	0.001uF	10%	50V
C772	1-162-306-11	CERAMIC	0.01uF	20%	16V
C773	1-161-494-00	CERAMIC	0.022uF		25V
C774	1-161-494-00	CERAMIC	0.022uF		25V
C775	1-161-039-00	CERAMIC	0.001uF	10%	50V
C776	1-161-039-00	CERAMIC	0.001uF	10%	50V
C791-793	1-162-306-11	CERAMIC	0.01uF	20%	16V
C794	1-162-294-31	CERAMIC	0.001uF	10%	50V
C803	1-124-902-00	ELECT	0.47uF	20%	50V
C804	1-104-663-11	ELECT	33uF	20%	16V

< CONNECTOR >

* CN701	1-691-579-11	PIN, CONNECTOR (PC BOARD)	8P
* CN702	1-691-579-21	PIN, CONNECTOR (PC BOARD)	8P
* CN703	1-695-108-11	PIN, CONNECTOR (PC BOARD)	6P
* CN704	1-569-382-11	SOCKET, CONNECTOR (PC BOARD)	5P
* CN705	1-569-380-11	SOCKET, CONNECTOR (PC BOARD)	3P
* CN707	1-506-509-11	PIN, CONNECTOR 4P	
* CN709	1-566-973-11	PIN, CONNECTOR (PC BOARD)	8P
* CN710	1-568-455-11	PIN, CONNECTOR (PC BOARD)	10P
* CN711	1-568-455-11	PIN, CONNECTOR (PC BOARD)	10P

< DIODE >

D701	8-719-991-33	DIODE	1SS133

< IC >

IC701	8-752-039-03	IC	CXA1421M
IC702	8-752-053-73	IC	CXA1372AQ
IC703	8-752-351-78	IC	CXD2500BQ
IC704	8-759-148-30	IC	uPD6376GS
IC705	8-759-503-98	IC	SM5840DS
IC706	8-759-518-59	IC	BA6296FP
IC801	8-752-830-87	IC	CXP5084H-636Q
IC802	8-759-971-11	IC	PST529D

< COIL >

L702	1-410-335-11	INDUCTOR	150uH
L703	1-414-146-31	INDUCTOR	2.2uH
L704	1-410-397-21	FERRITE BEAD INDUCTOR	

< TRANSISTOR >

Q701	8-729-801-84	TRANSISTOR	2SB1013-4
Q702	8-729-900-63	TRANSISTOR	DTA124ES
Q703	8-729-206-29	TRANSISTOR	RN1211
Q704	8-729-902-80	TRANSISTOR	DTA114YS
Q705	8-729-202-56	TRANSISTOR	2SA950-Y
Q731	8-729-206-29	TRANSISTOR	RN1211
Q741	8-729-206-29	TRANSISTOR	RN1211
Q801	8-729-206-25	TRANSISTOR	RN1207

< RESISTOR >

R700	1-247-806-11	CARBON	91	5%	1/4W
R701	1-249-393-11	CARBON	10	5%	1/4W
R702	1-247-863-11	CARBON	22K	5%	1/4W
R703	1-249-431-11	CARBON	15K	5%	1/4W
R704	1-249-431-11	CARBON	15K	5%	1/4W
R705	1-249-441-11	CARBON	100K	5%	1/4W
R706	1-249-438-11	CARBON	56K	5%	1/4W
R707	1-247-885-00	CARBON	180K	5%	1/4W
R708	1-249-432-11	CARBON	18K	5%	1/4W
R709	1-249-437-11	CARBON	47K	5%	1/4W
R710	1-249-417-11	CARBON	1K	5%	1/4W
R711	1-247-896-11	CARBON	510K	5%	1/4W

CD MAIN CONTROL H/P

Ref. No.	Part No.	Description				Remark
R712	1-247-883-00	CARBON	150K	5%	1/4W	
R713	1-249-429-11	CARBON	10K	5%	1/4W	
R714	1-249-417-11	CARBON	1K	5%	1/4W	
R715	1-247-887-00	CARBON	220K	5%	1/4W	
R716	1-249-429-11	CARBON	10K	5%	1/4W	
R717	1-249-423-11	CARBON	3.3K	5%	1/4W	
R718	1-247-881-00	CARBON	120K	5%	1/4W	
R719	1-249-423-11	CARBON	3.3K	5%	1/4W	
R720	1-249-429-11	CARBON	10K	5%	1/4W	
R721	1-249-441-11	CARBON	100K	5%	1/4W	
R722	1-249-417-11	CARBON	1K	5%	1/4W	
R724	1-249-417-11	CARBON	1K	5%	1/4W	
R725	1-249-429-11	CARBON	10K	5%	1/4W	
R726	1-249-417-11	CARBON	1K	5%	1/4W	
R727	1-249-441-11	CARBON	100K	5%	1/4W	
R728	1-249-437-11	CARBON	47K	5%	1/4W	
R729	1-249-417-11	CARBON	1K	5%	1/4W	
R730	1-249-409-11	CARBON	220	5%	1/4W	
R731	1-249-417-11	CARBON	1K	5%	1/4W	
R737	1-249-440-11	CARBON	82K	5%	1/4W	
R741	1-249-417-11	CARBON	1K	5%	1/4W	
R760	1-249-427-11	CARBON	6.8K	5%	1/4W	
R761	1-249-438-11	CARBON	56K	5%	1/4W	
R762	1-249-429-11	CARBON	10K	5%	1/4W	
R764	1-249-435-11	CARBON	33K	5%	1/4W	
R766	1-249-437-11	CARBON	47K	5%	1/4W	
R767	1-249-426-11	CARBON	5.6K	5%	1/4W	
R769	1-249-395-11	CARBON	15	5%	1/4W	
R770	1-249-411-11	CARBON	330	5%	1/4W	
R771	1-249-425-11	CARBON	4.7K	5%	1/4W	
R781	1-247-807-11	CARBON	100	5%	1/4W	
R801	1-247-807-11	CARBON	100	5%	1/4W	
R802	1-247-807-11	CARBON	100	5%	1/4W	
R804-806						
	1-249-435-11	CARBON	33K	5%	1/4W	
R809	1-249-437-11	CARBON	47K	5%	1/4W	
R811	1-249-441-11	CARBON	100K	5%	1/4W	
R812	1-247-863-11	CARBON	22K	5%	1/4W	
R813	1-249-437-11	CARBON	47K	5%	1/4W	
R814	1-249-437-11	CARBON	47K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV701	1-230-497-11	RES, ADJ, CARBON 22K (E-F BALANCE)				
RV702	1-230-497-11	RES, ADJ, CARBON 22K (FOCUS BIAS)				
RV703	1-230-497-11	RES, ADJ, CARBON 22K (FOCUS GAIN)				
RV704	1-230-497-11	RES, ADJ, CARBON 22K (TRACKING GAIN)				
		< VIBRATOR >				
X701	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)				
X801	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)				
**********						
*	1-641-698-11	CONTROL BOARD				
		**********				
		< CONNECTOR >				
* CN801	1-566-970-11	HOUSING, CONNECTOR (PC BOARD) 8P				
* CN802	1-568-451-11	HOUSING, CONNECTOR (PC BOARD) 10P				
* CN803	1-568-451-11	HOUSING, CONNECTOR (PC BOARD) 10P				
		< LIQUID CRYSTAL DISPLAY >				
LCD801	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL				
		< SWITCH >				
S801	1-572-199-11	SWITCH, KEY BOARD (▷PLAY)				
S802	1-572-199-11	SWITCH, KEY BOARD (■STOP)				
S803	1-572-199-11	SWITCH, KEY BOARD (⏮AMS SEARCH)				
S804	1-572-199-11	SWITCH, KEY BOARD (⏭AMS SEARCH)				
S805	1-572-199-11	SWITCH, KEY BOARD (⏸PAUSE)				
S806	1-572-199-11	SWITCH, KEY BOARD (PLAY MODE)				
S807	1-572-199-11	SWITCH, KEY BOARD (REMAIN/ENTER)				
**********						
*	1-641-694-11	H/P BOARD				
		*********				
		< CAPACITOR >				
C301	1-124-463-00	ELECT	0.1uF	20%	50V	
C302	1-124-903-11	ELECT	1uF	20%	50V	
C303	1-124-442-00	ELECT	330uF	20%	6.3V	
C304	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C333	1-162-282-31	CERAMIC	100PF	10%	50V	
C334	1-162-282-31	CERAMIC	100PF	10%	50V	
C336	1-162-306-11	CERAMIC	0.01uF	20%	16V	
		< CONNECTOR >				
* CN308	1-565-484-11	CONNECTOR, BOARD TO BOARD 8P				
		< JACK >				
J301	1-563-330-11	JACK (MIX MIC)				
J302	1-566-891-11	JACK (PHONES)				
		< COIL >				
L301	1-414-146-31	INDUCTOR	2.2uH			
		< TRANSISTOR >				
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE				

H/P **LEAF SW** **MOTOR** **POWER** **RELAY 1** **RELAY 2** **RELAY 3** **RETAINER**

Ref.No.	Part No.	Description			Remark
Q302	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		< RESISTOR >			
R110	1-249-404-00	CARBON	82	5% 1/4W	
R210	1-249-404-00	CARBON	82	5% 1/4W	
R301	1-249-417-11	CARBON	1K	5% 1/4W	
R302	1-247-898-11	CARBON	620K	5% 1/4W	
R303	1-247-807-31	CARBON	100	5% 1/4W	
R304	1-249-422-11	CARBON	2.7K	5% 1/4W	
R305	1-249-421-11	CARBON	2.2K	5% 1/4W	
R309	1-247-815-91	CARBON	220	5% 1/4W	
**********					
*	1-641-699-11	LEAF SW BOARD			
		**********			
		< CONNECTOR >			
* CN708	1-565-480-11	CONNECTOR, BOARD TO BOARD 4P			
		< SWITCH >			
S704	1-570-013-11	SWITCH, LEAF (CD LID OPEN/CLOSE DET)			
**********					
*	1-641-697-11	MOTOR BOARD			
		**********			
		< CONNECTOR >			
* CN706	1-695-108-11	PIN, CONNECTOR (PC BOARD) 6P			
		< SWITCH >			
S703	1-570-822-21	SWITCH, LEAF (LIMIT IN)			
**********					
*	1-641-688-11	POWER BOARD			
		**********			
	1-533-233-11	HOLDER, FUSE			
		< CAPACITOR >			
C901-904					
	1-101-005-00	CERAMIC	22000PF		50V
C905	1-126-946-11	ELECT	6800uF	20%	16V
		< CONNECTOR >			
* CN901	1-564-778-11	PLUG, CONNECTOR (2.5MM) 4P			
CN902	1-691-573-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D901	8-719-500-56	DIODE D3SBA20			

Ref.No.	Part No.	Description	Remark
		< FUSE >	
⚠F901	1-532-745-11	FUSE (3A 125V)	
		< JACK >	
⚠J901	1-540-009-11	INLET, AC (AC IN ~)	
		< TRANSFORMER >	
⚠T902	1-424-150-11	TRANSFORMER, LINE FILTER	
**********			
*	1-641-691-11	RELAY 1 BOARD	
		**********	
		< CONNECTOR >	
* CN310	1-564-599-11	PIN, CONNECTOR 8P	
* CN311	1-565-484-11	CONNECTOR, BOARD TO BOARD 8P	
**********			
*	1-641-692-11	RELAY 2 BOARD	
		**********	
		< CONNECTOR >	
* CN314	1-569-390-11	PIN, CONNECTOR (PC BOARD) 5P	
* CN315	1-569-390-11	PIN, CONNECTOR (PC BOARD) 5P	
**********			
*	1-641-693-11	RELAY 3 BOARD	
		**********	
		< CONNECTOR >	
* CN312	1-569-388-11	PIN, CONNECTOR (PC BOARD) 3P	
* CN313	1-569-388-11	PIN, CONNECTOR (PC BOARD) 3P	
**********			
*	1-641-695-11	RETAINER BOARD	
		**********	
**********			
		MISCELLANEOUS	
		**********	
218	1-452-732-11	MAGNET	
⚠254	8-848-337-11	OPTICAL PICK-UP KSS-212B	
255	X-2625-770-1	CHASSI ASSY (MB) (RP), MOTOR (Including M702) (SPINDLE)	
305	1-559-620-11	CORD (WITH CONNECTOR)	
306	1-529-058-11	BUZZER	
307	1-504-269-21	SPEAKER (10CM)	
ANT1	1-501-383-21	ANTENNA, TELESCOPIC	
⚠F901	1-532-745-11	FUSE (3A 125V)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
HE901	1-543-777-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-543-964-12	HEAD, MAGNETIC (RECORD/PLAYBACK)	
LCD801	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL	
M701	X-2625-769-1	GEAR ASSY (MB) (RP), MOTOR (SLED)	
M901	X-3365-538-1	MOTOR ASSY	
S601	1-571-556-11	SWITCH, LEAF (POWER)	
S704	1-570-013-11	SWITCH, LEAF (CD LID OPEN/CLOSE DET)	
⚠T901	1-427-870-11	TRANSFORMER, POWER	

****

ACCESSORIES & PACKING MATERIALS

****

⚠	1-590-147-11	CORD, POWER (Canadian)	
⚠	1-690-952-21	CORD, POWER (US)	
*	3-373-802-01	CUSHION (TOP)	
*	3-373-803-01	CUSHION (CENTER & BOTTOM)	
	3-758-296-41	MANUAL, INSTRUCTION (ENGLISH)	
	3-758-296-51	MANUAL, INSTRUCTION (FRENCH) (Canadian)	
*	3-922-153-01	INDIVIDUAL CARTON (US)	
*	3-922-154-01	INDIVIDUAL CARTON (Canadian)	

****

****

HARDWARE LIST

****

#1	7-685-648-79	SCREW, TAPPING +BV 3×12
#2	7-685-547-19	SCREW +BTP 3×10 TYPE2 N-S
#3	7-621-770-87	SCREW +B 2.6×5
#4	7-682-548-04	SCREW +B 3×8
#5	7-685-647-79	SCREW +BVTP 3×10 TYPE2 N-S
#6	7-682-648-09	SCREW +PWH 3×8
#7	7-685-132-19	+ PTPWH (2.6×5)
#8	7-621-255-45	SCREW +PTT 2×6 (S)
#9	7-621-255-25	SCREW +PTT 2×4 (S)
#10	7-628-254-05	SCREW +PS 2.6×5
#11	7-685-104-19	SCREW +P 2×6 TYPE2 NON-SLIT
#12	7-621-255-15	SCREW +P 2×3
#13	7-685-646-79	SCREW +BVTP 3×8 TYPE2 N-S
#14	7-685-861-01	SCREW +BVTT 2.6×5 (S)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

9-959-413-81

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Consumer A&V Products Company
Personal A&V Products Div.

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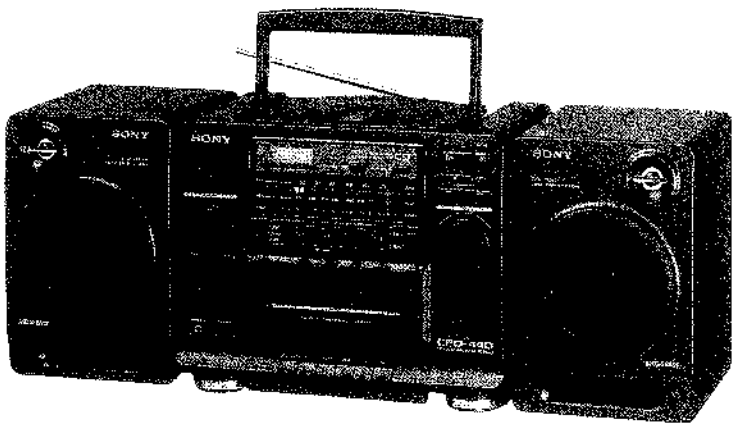
Quality Engineering Dept.

CFD-440

SERVICE MANUAL

US Model
Canadian Model
Australian Model



COMPACT disc DIGITAL AUDIO

MEGA BASS

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 3.2-ohm loads, both channels driven from 150–15,000 Hz: rated 2.3 W per channel minimum RMS power, with no more than 10% total harmonic distortion in AC operation.

OTHER SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Laser diode properies	Material: GaAlAs Wavelength 780 nm Emission duration: Continuous Laser output: less than 44.6 µW * This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.
Frequency response	20 — 20,000 Hz ±1.5 dB
Wow and flutter	Below measurable limit

Radio section

Frequency range	FM: 87.6–108 MHz AM: 530–1,710 kHz (US, Canadian model) 530–1,605 kHz (Australian model)
Antennas	FM: Telescopic antenna AM: Built-in ferrite bar antenna

Tape recorder section and general

Recording system	4-track 2-channel stereo
Frequency response	80 — 10,000 Hz (with TYPE I (NORMAL) cassette)
Speaker	Woofer: 10 cm dia., cone type Tweeter: 2 cm

Model Name Using Similar Mechanism	CD Section	CFD-W120
	Tape Section	CFS-204
Optical Device Name		KSM-2101BAN
Tape Transport Mechanism Type		MF-440-64

Power output	Full-range speakers: 2.3 W + 2.3 W (at 3.2 ohms, 10% harmonic distortion)
Inputs	Mixing microphone input jack (minijack) Sensitivity 2.5 mV For low impedance microphone
Outputs	Headphones jack (stereo minijack) For 16 — 68 ohms impedance headphones
Power requirements	120 V AC, 60 Hz (US, Canadian model) 240 V AC, 50 Hz (Australian model) DC 9 V, 6 size D (R20) batteries
Power consumption	AC 18 W

Battery life (hours)

	FM recording	Playback	CD playing
Sony SUM-1 (NS)	approx. 11	approx. 8	approx. 5
Sony Alkaline AM 1 (N)	approx. 17	approx. 12	approx. 7

Dimensions	588 × 230 × 207 mm (w/h/d) (23¼ × 9⅛ × 8¼ inches) incl. projecting parts and controls
Weight	Approx. 5.7 kg incl. batteries (Approx. 12 lb 9 oz)
Supplied accessories	AC power cord (1)

Design and specifications subject to change without notice.

CD RADIO CASSETTE-CORDER

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

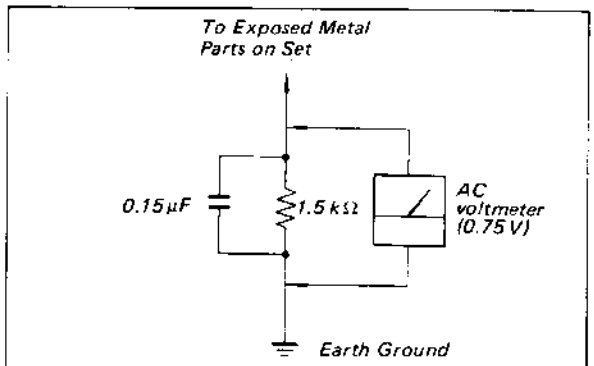


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS

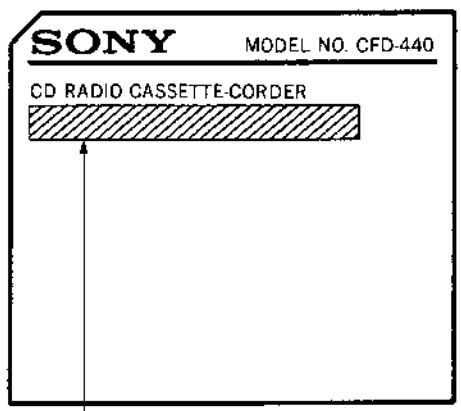
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION

—Model Number label—

US, CND model: Carved on rear cabinet
AUS model: Model number label



US, CND model: AC: 120V 60Hz 18W
AUS model : AC: 240V~50Hz 18W

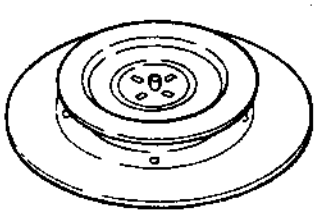
• Abbreviations
CND: Canadian model
AUS: Australian model

SECTION 1
SERVICING NOTES

CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

• Code number of Chuck Plate Jig: X-4918-255-1



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

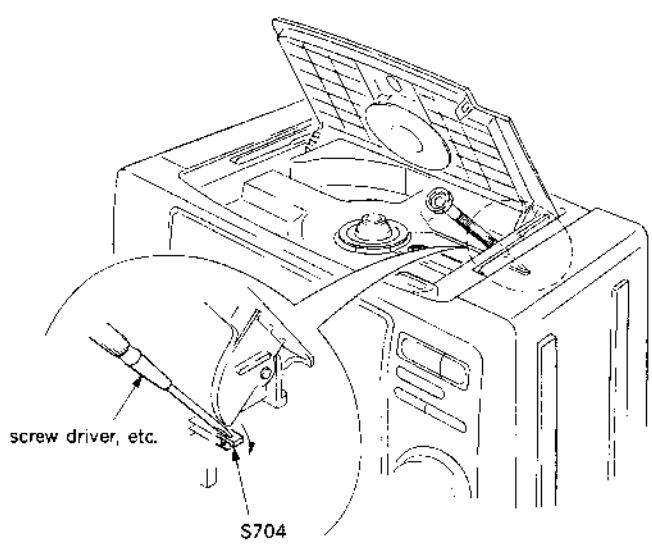
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25cm away from the objective lens.

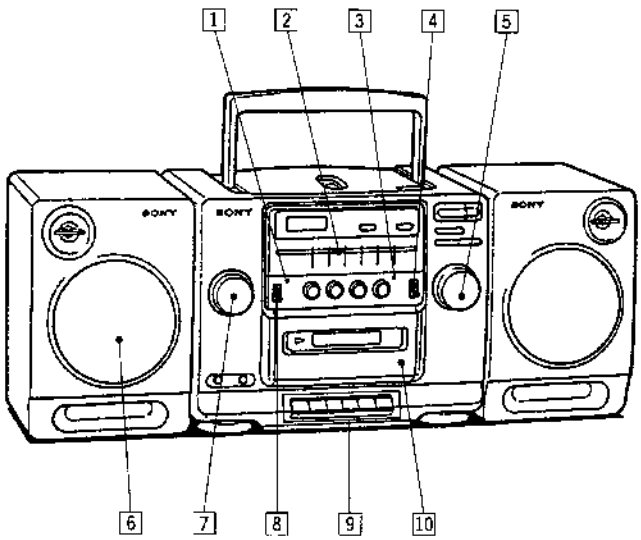
LASER DIODE AND FOCUS SEARCH OPERATION CHECK

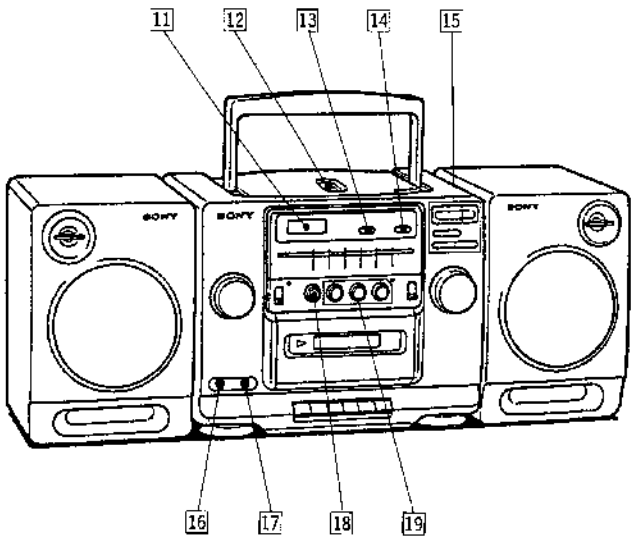
1. Turn POWER switch on with no disc inserted and make Function switch to CD position.
2. Open the lid for CD.
3. Turn on S704 as following figure.
4. Press ▷ key.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down three times for the focus search.



SECTION 2
GENERAL

2-1. LOCATION AND FUNCTION OF CONTROLS





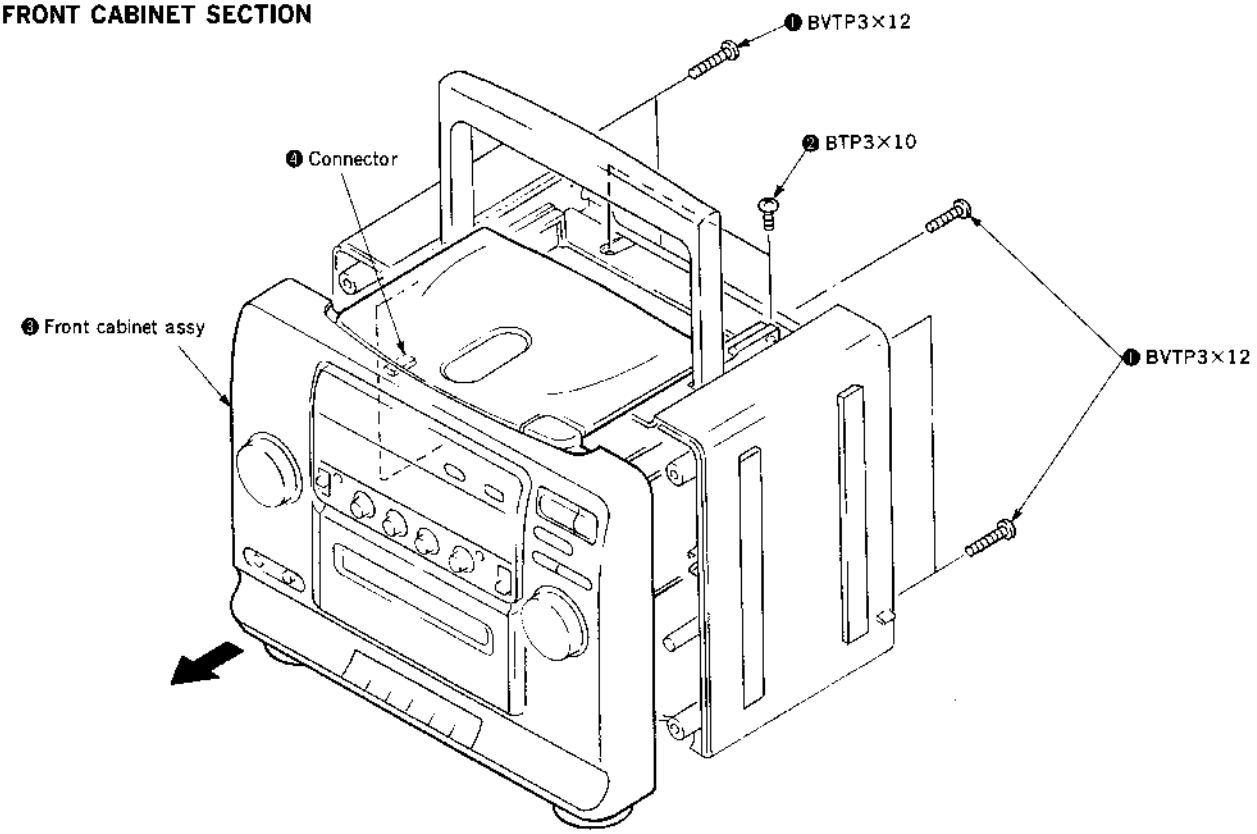
1 OPR/BATT (operation/battery) indicator
2 Dial scale and pointer
3 FM ST (FM stereo) indicator
4 BAND selector
  FM: For listening to/recording FM radio programs.
  AM: For listening to/recording AM radio programs.
5 TUNING control
6 Speaker (full-range)
7 VOLUME control
8 FUNCTION selector
  CD: For listening to/recording CD sound.
  RADIO: For listening to/recording radio programs.
  TAPE (CD/RADIO OFF): For listning to tapes. (For turning off the CD player or the radio.)
9 Tape operation buttons
  ■ ⏏STOP/EJECT
  ● REC (record)
  ▶ PLAY
  ◀◀ REW (rewind)
  ▶▶ FF (fast forward)
  ❚❚ PAUSE
10 Cassette holder

11 CD operation display window
12 Disc cover
13 REMAIN/ENTER button
14 PLAY MODE button
  INTRO: To scan all the selections.
  REPEAT 1: To repeat one of the selections.
  REPEAT ALL: To repeat all the selections.
  REPEAT SHUFFLE: To play the selections repeatedly in a random order.
  REPEAT PGM: To play the selections repeatedly in the desired order.
  PGM: To play the selections in the desired order.
15 CD operation buttons
  ▷ PLAY
  ❚❚ PAUSE
  ■ STOP
  ⏮ ⏭ AMS/SEARCH
16 PHONES (headphones) jack (stereo minijack)
17 MIX MIC (mixing microphone) jack (stereo minijack)
18 BALANCE control
19 ROTARY EQUALIZER controls (100Hz, 1kHz, 10kHz)

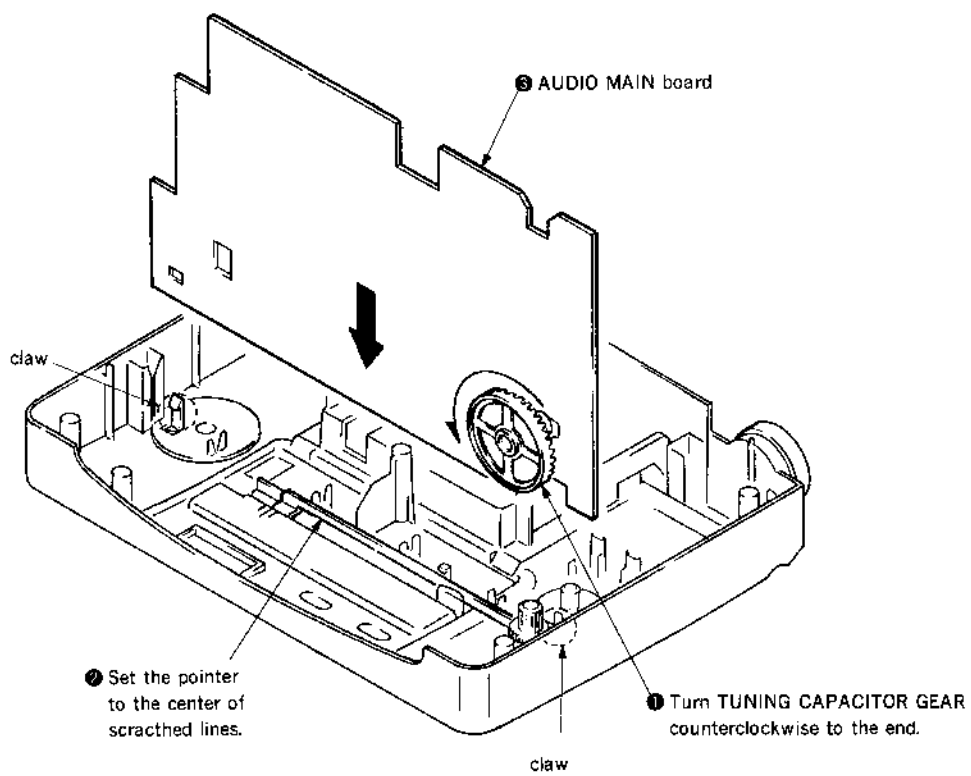
SECTION 3
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

3-1. FRONT CABINET SECTION



3-2. POINTER SETTING



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage: 9V dc.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	20–60g•cm (0.28–0.83 oz•inch)
Forward back tension	CQ-102C	2 6g•cm (0.028–0.083 oz•inch)
Fast Forward	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)
Rewind	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)

Tape Tension Measurement

Mode	Meter	Meter Reading
Forward	CQ-403A	more than 100g (more than 1.39 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

5-1. TAPE RECORDER SECTION

Standard Output Level

Output terminal	SP OUT	HP OUT
load impedance	3.2Ω	32Ω
output signal level	0.775V (0dB)	0.25V (−10dB)

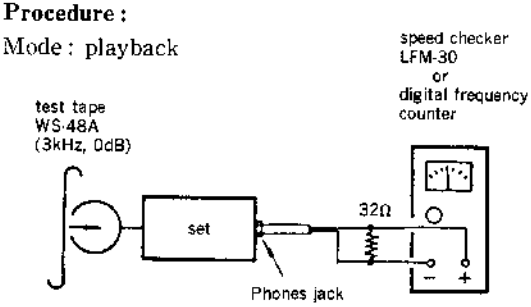
Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment

Tape Speed Adjustment

Procedure:

Mode: playback

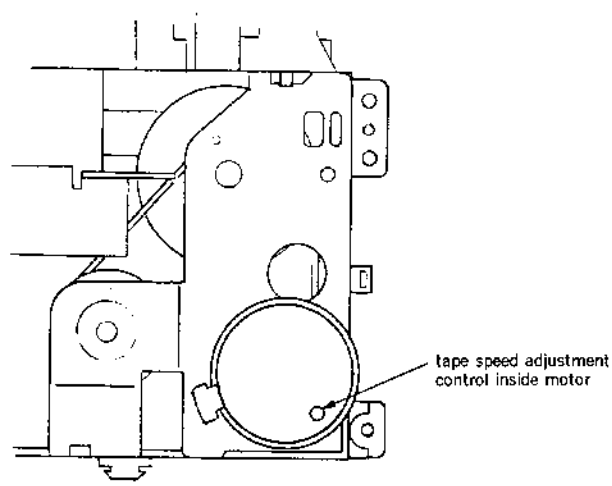


Adjustment Value:

Speed checker	Digital frequency counter
−1.5% to +0.5%	2,955 to 3,015Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (45Hz).

Adjustment Location:

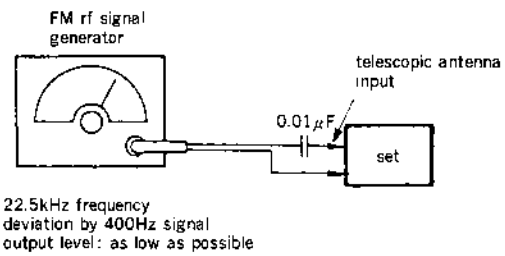


5-2. TUNER SECTION

• FM Section

Setting :

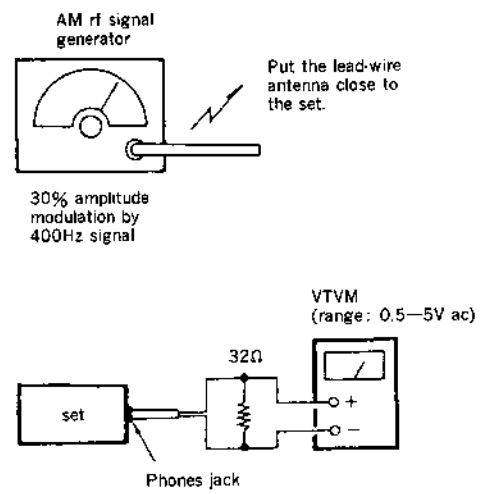
BAND switch : FM



• AM Section

Setting :

BAND switch : AM



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.
- Remove telescopic antenna in FM section adjustments.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	CT2
86.5MHz	109.5MIIz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
86.5MHz	109.5MHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	CT4
516kHz (518kHz)	1,760kHz (1,680kHz)

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	CT3
620kHz	1,400kHz

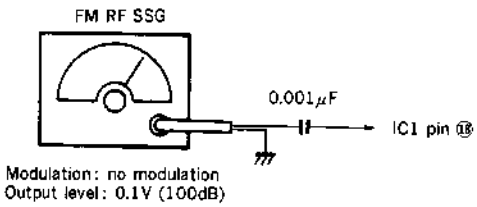
AM IF ADJUSTMENT
Adjust for a maximum reading on VTVM.
CP1
455kHz

( ) : Australian model

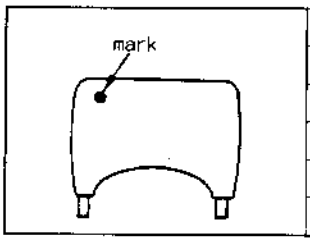
Adjustment Location : Audio Main board (See page 8.)

FM VCO ADJUSTMENT

Setting :



Carrier Frequency : According to the color of the mark on ceramic (CF2).



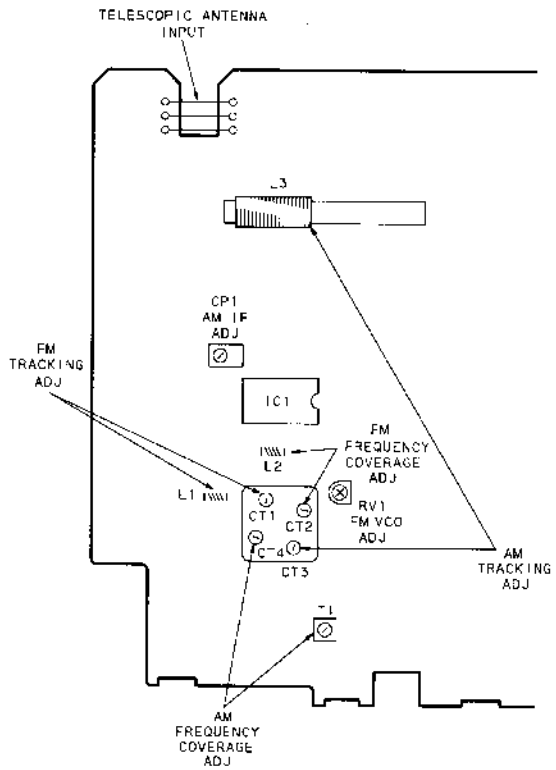
Mark	Carrier Frequency
red	10.7 MHz
blue	10.67 MHz
orange	10.73 MHz
black	10.64 MHz
white	10.76 MHz

Procedure :

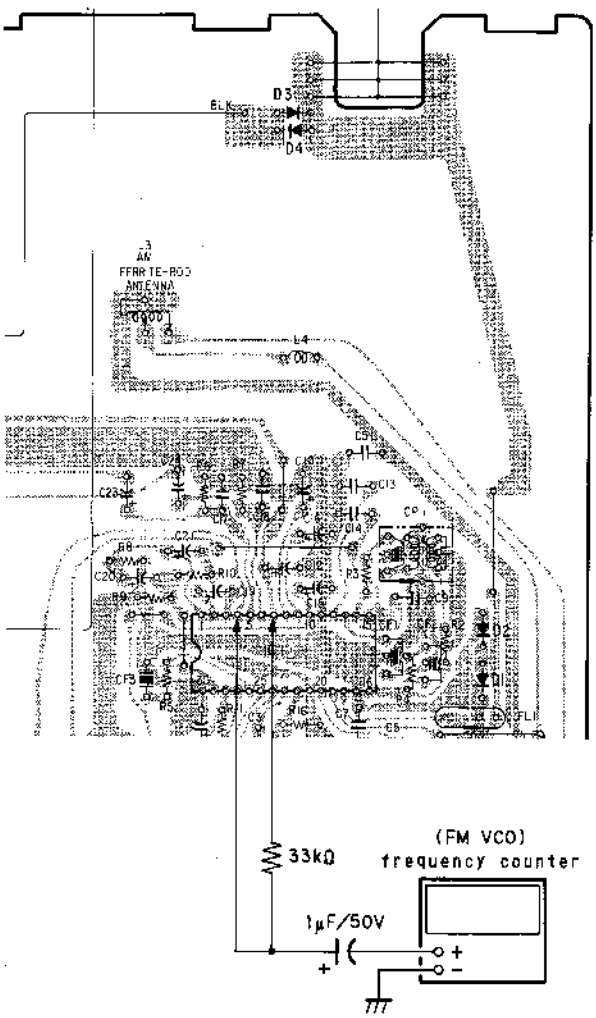
1. Adjust RV1 so that the reading on the frequency counter becomes in 76.0kHz ±0.3kHz.

Adjustment Location : Audio Main board

AUDIO MAIN BOARD—Component side—



AUDIO MAIN BOARD—Conductor side—



5-3. CD SECTION

Notes on Adjustment

1. Perform adjustment in test mode.
   After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18, Part No. 3-702-101-01) only when so indicated.

Before Adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

• Sled Motor Check

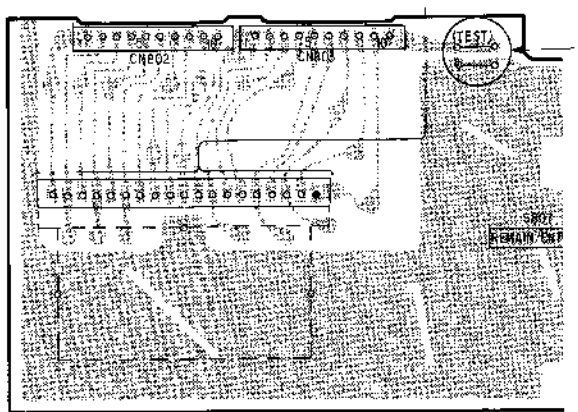
1. Press ▷ button, then press ■ button.
2. Press ▶▶|, |◀◀ buttons and confirm that the FOP moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
   ▶▶| : FOP moves to the outer circumference
   |◀◀ : FOP moves to the inner circumference

• Focus Search Check

1. Press ▷ button. (Focus search operation is performed continuously.)
2. Look at the FOP objective lens and confirm the it moves up and down smoothly, with no catching or abnormal noises.
3. Press ■ button.
   Confirm that focus search operation stops. If it does not, press ■ button again longer.

How to Put the Set into Test Mode

1. Short the following portion on the CONTROL board.
2. Turn the FUNCTION selector to CD position.

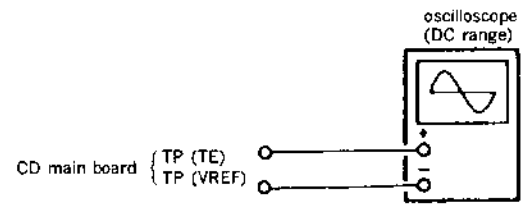


[CONTROL BOARD]

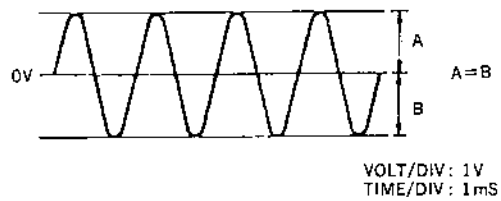
Traverse Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Put the set into test mode.
2. Connect the oscilloscope between TP (TE) and TP (VREF).
3. Press the ▶▶| and |◀◀ buttons to move the FOP to the center.
4. Insert disc (YEDS-18) and press ▷ button.
5. Adjust RV701 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release test mode after adjustment is completed.



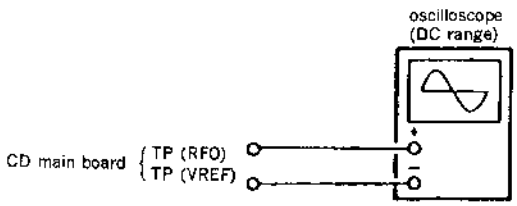
Adjustment value : 1.7±0.8Vp-p (A+B)

Adjustment Location : CD Main board (See page 12.)

Focus Bias Adjustment

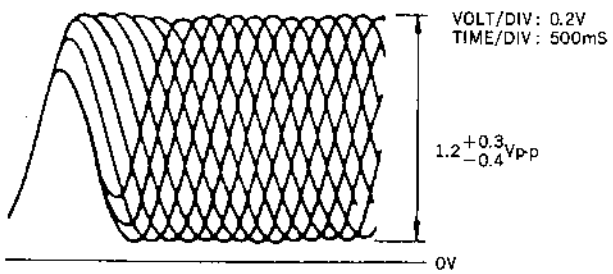
This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Put the set into test mode.
2. Connect the oscilloscope between TP (RFO) and TP (VREF).
3. Press the ▶▶| and |◀◀ buttons to move the FOP to the center. (Move the FOP to the music area on the disc to enable easy visibility of the eye pattern.)
4. Insert disc (YEDS-18) and press ▷ button.
5. Adjust RV702 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond scape (◇) in the center of the waveform can be clearly distinguished.
6. Release test mode after adjustment is completed.

• RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location : CD Main board (See page 12.)

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

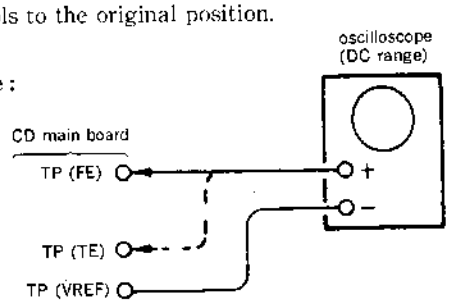
Gain / Symptoms	Focus	Tracking
• The time until music starts becomes longer for ■ →▷ on automatic selection. (|◀◀ , ▶▶| buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music docs not start and disc continues to rotate for ■ →▷ or automatic selection. (|◀◀, ▶▶| buttons pressed.)	—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
• More poise during 2-axis device operation.	high	high

The following is a simple adjustment method.

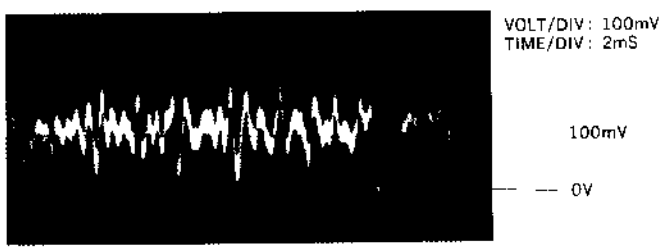
—Simple Adjustment

Note : Since exact adjustmeunt cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure :

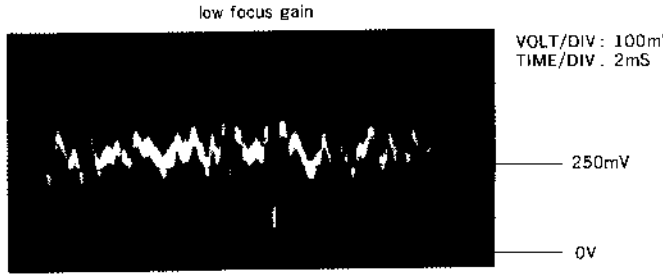


1. Keep the set horizontal.
   If the set not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.
2. Put the set into test mode.
3. Connect oscilloscope to CD main board TP (FE).
4. Insert disc (YEDS-18) and press ▷ button.
5. Adjustment RV703 so that the waveform is as shown in the figure below. (focus gain adjustment)

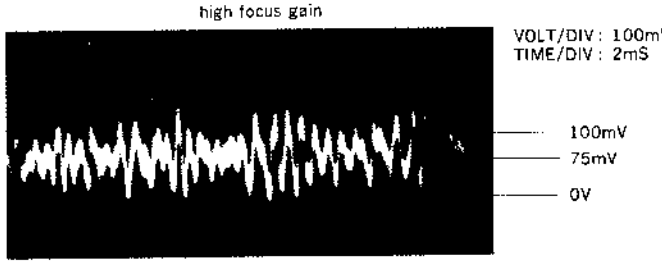


• Incorrent Examples (DC level changes more than on adjusted waveform)

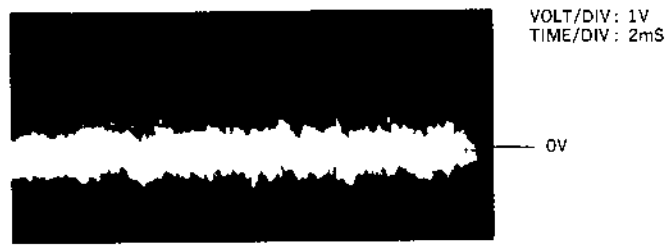
low focus gain



high focus gain

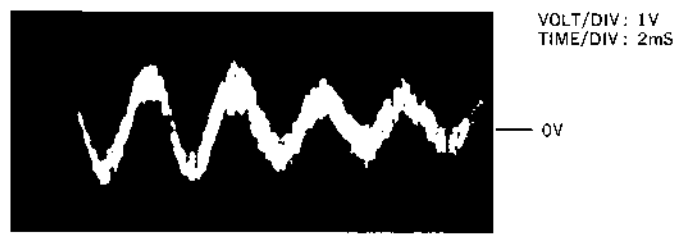


6. Connect oscilloscope to TP (TE).
7. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)
8. Release test mode after adjustment is completed.



• Incorrect Examples (fundamental wave appears)

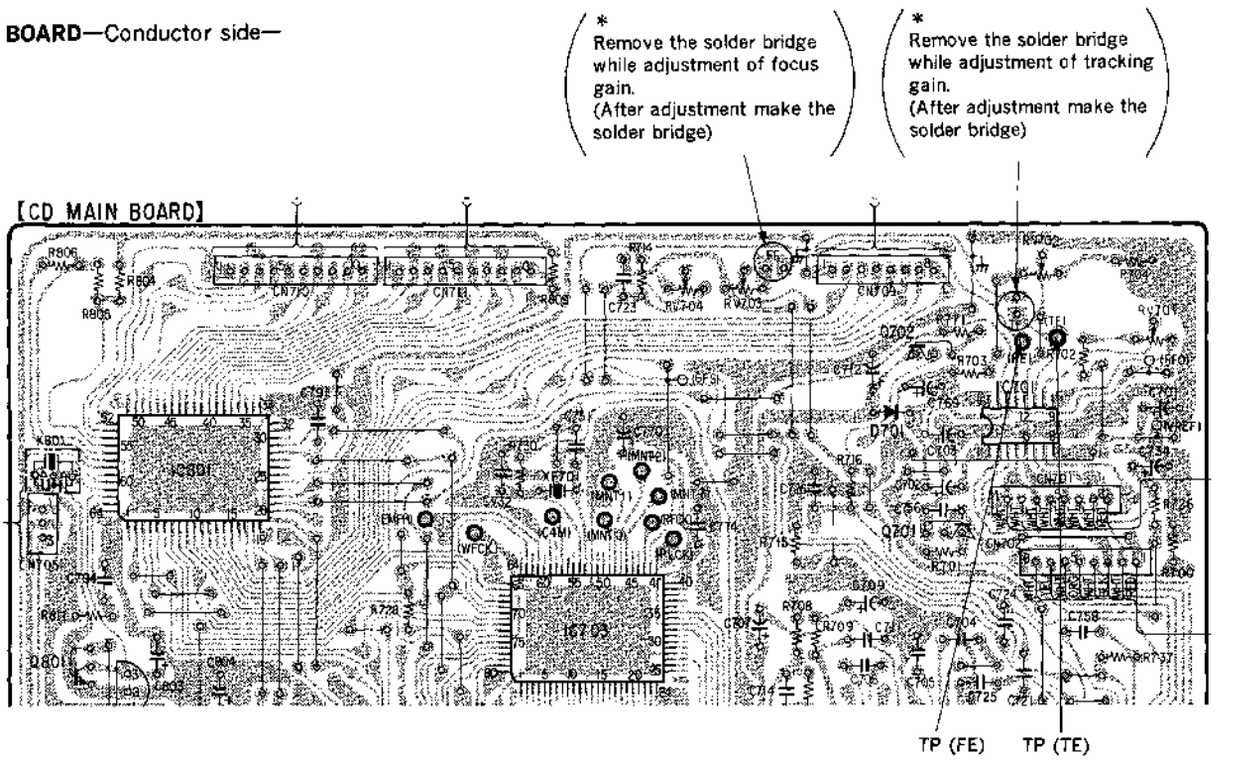
low tracking gain



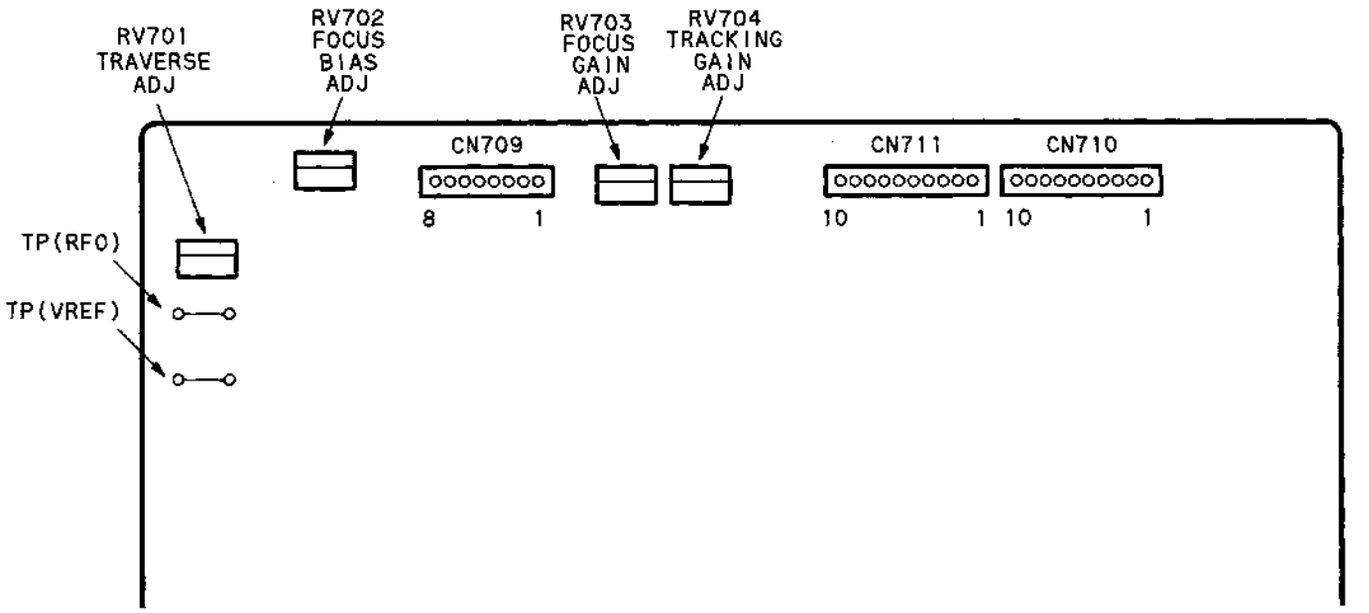
high tracking gain
(higher fundamental wave than for low gain)

Adjustment Location :

CD MAIN BOARD—Conductor side—

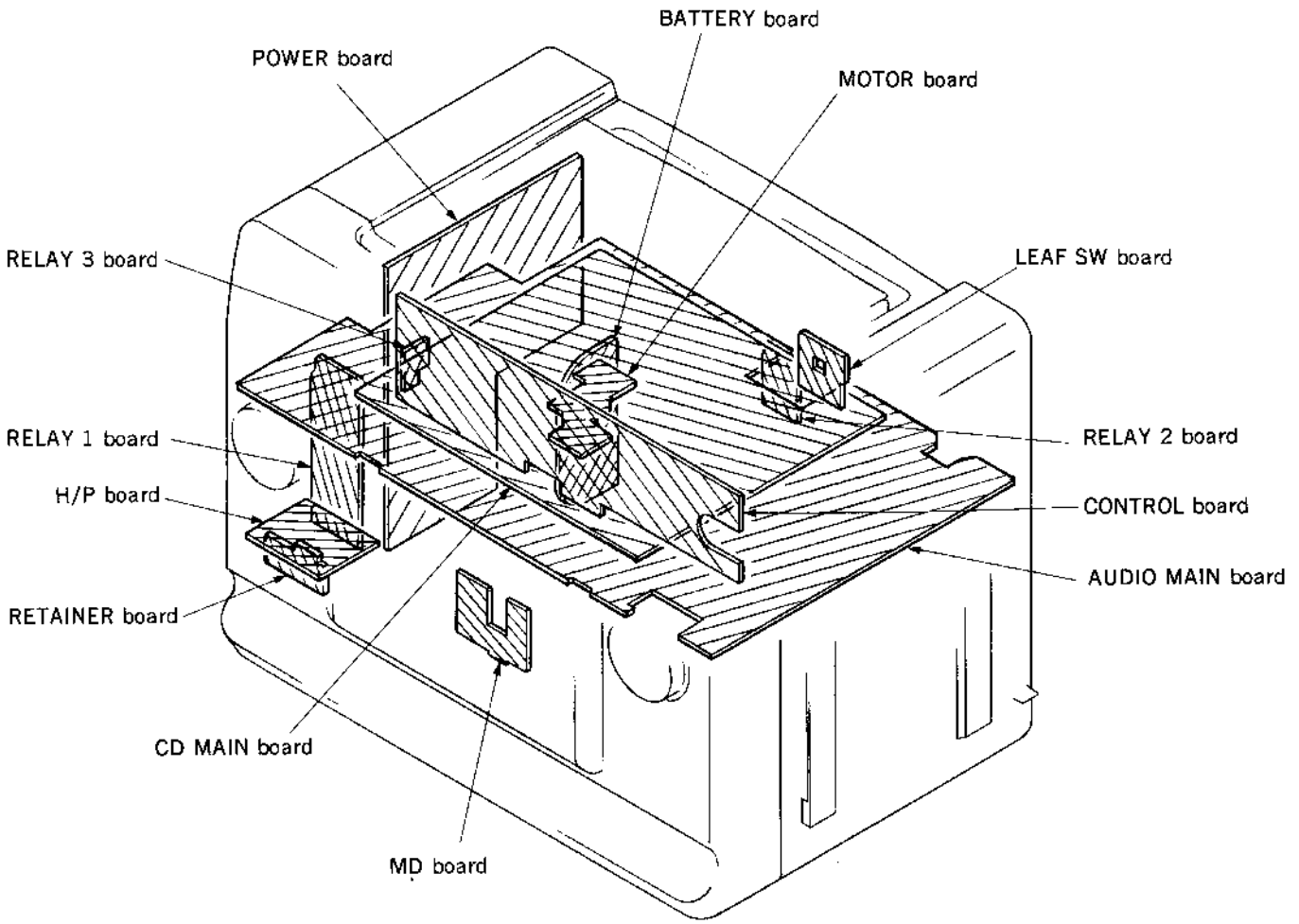


CD MAIN BOARD—Component side—



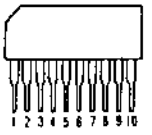
SECTION 6
DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION

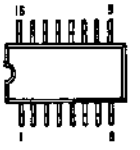


6-2. SEMICONDUCTOR LEAD LAYOUTS

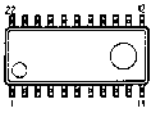
BA3312N



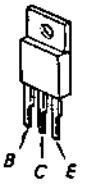
CXA1421M
μPD6376GS



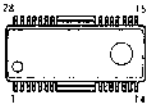
SM5840DS



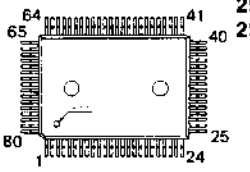
2SD1944-K



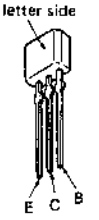
BA6296FP



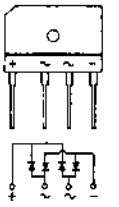
CXD2500AQ



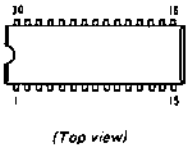
DTA114YS
DTA124ES
DTC114TS
2SA1175-HFE
2SC2785-HFE



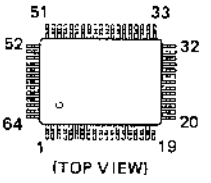
D3SBA10



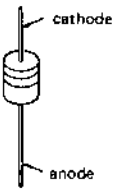
CXA1238S



CXP5084H-636Q

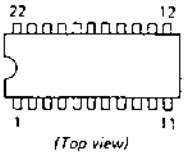


RD5.6ES-B2
RD6.8ES-B2
1SS119

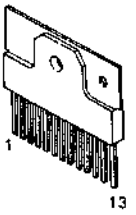


DTC114YS

CXA1352AS

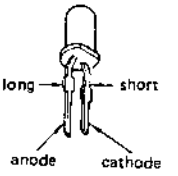


LA4597

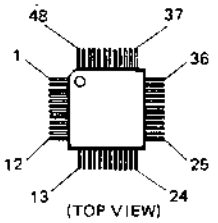


KSR1010
KSR1206
KSR1208
2SB1013-4
2SC4048

SEL2210R-D

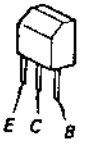


CXA1372AQ

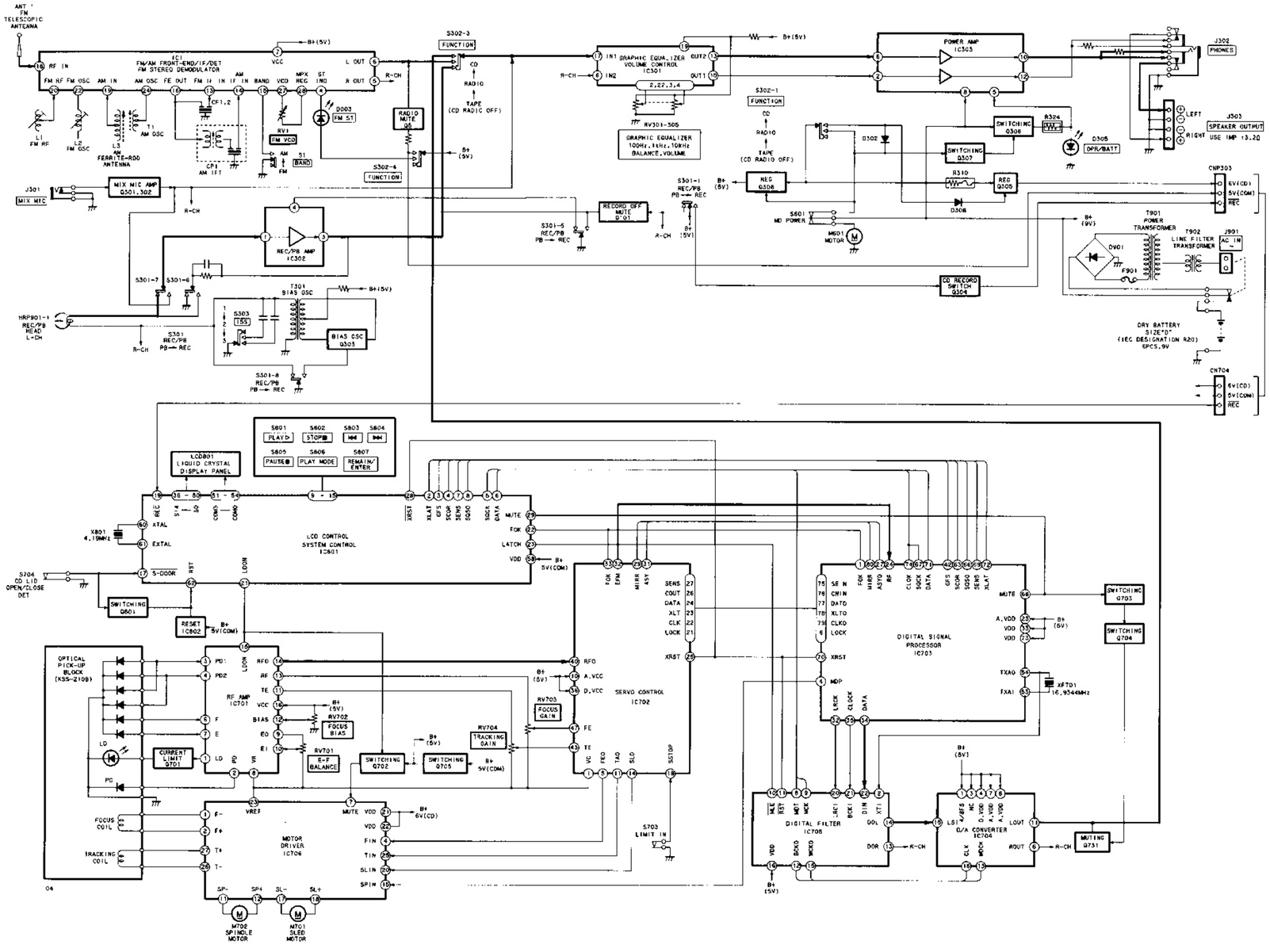


PST529D

2SB734-34



6-3. BLOCK DIAGRAM



• Semiconductor Location

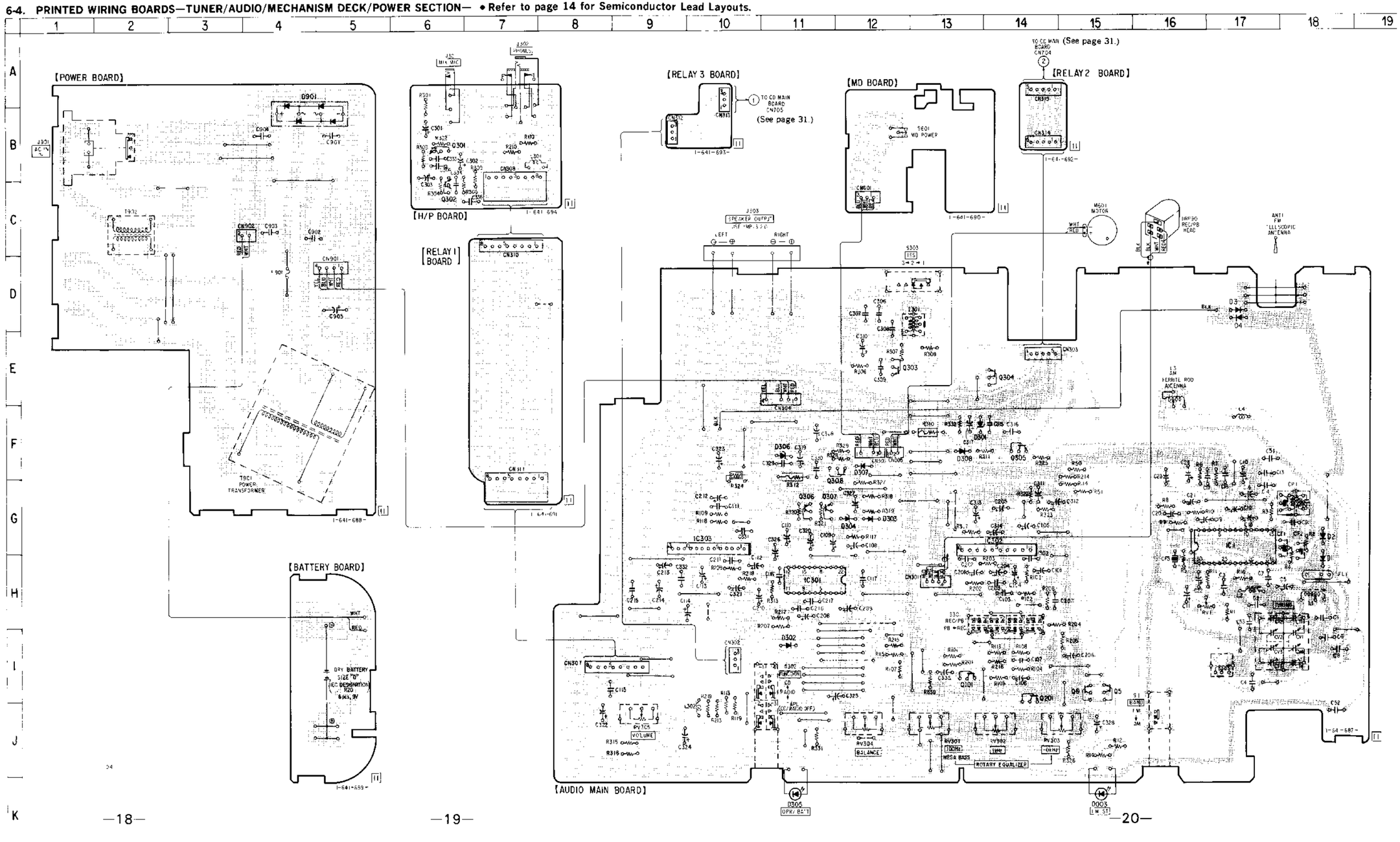
Ref. No.	Location
D1	H-18
D2	G-18
D3	D-17
D4	D-17
D003	K-15
D301	F-13
D302	I-11
D303	G-12
D304	G-12
D305	K-11
D306	F-11
D307	F-12
D308	F-13
D901	B-4
IC1	G-17
IC301	H-11
IC302	G-14
IC303	G-10
Q5	I-15
Q6	I-15
Q101	I-13
Q201	I-14
Q301	B-6
Q302	C-6
Q303	E-12
Q304	E-14
Q305	F-14
Q306	G-11
Q307	G-11
Q308	F-12

Note:

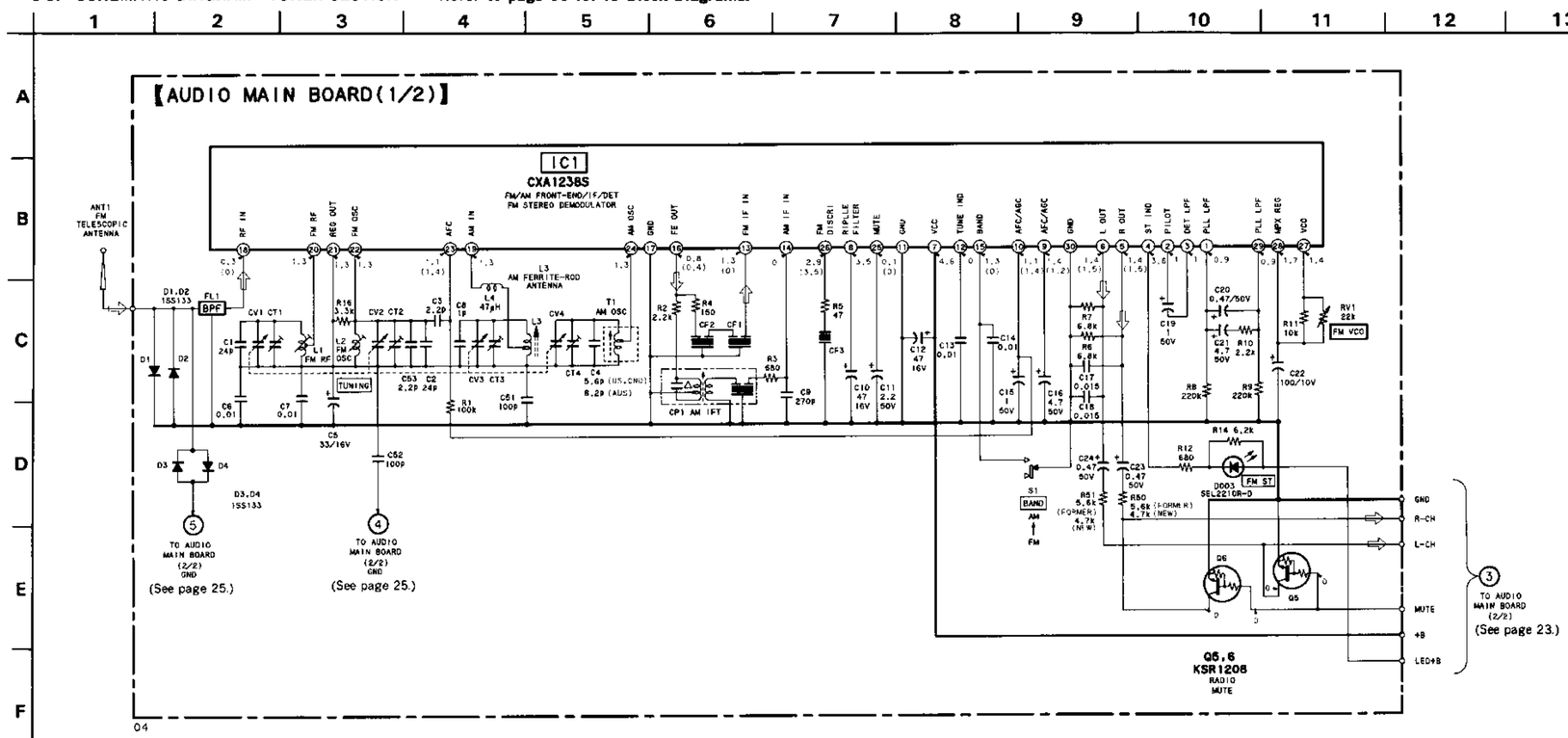
- ○—— : parts extracted from the component side.
- ⋯|⋯ : indicates side identified with part number.

6-4. PRINTED WIRING BOARDS—TUNER/AUDIO/MECHANISM DECK/POWER SECTION—

• Refer to page 14 for Semiconductor Lead Layouts.



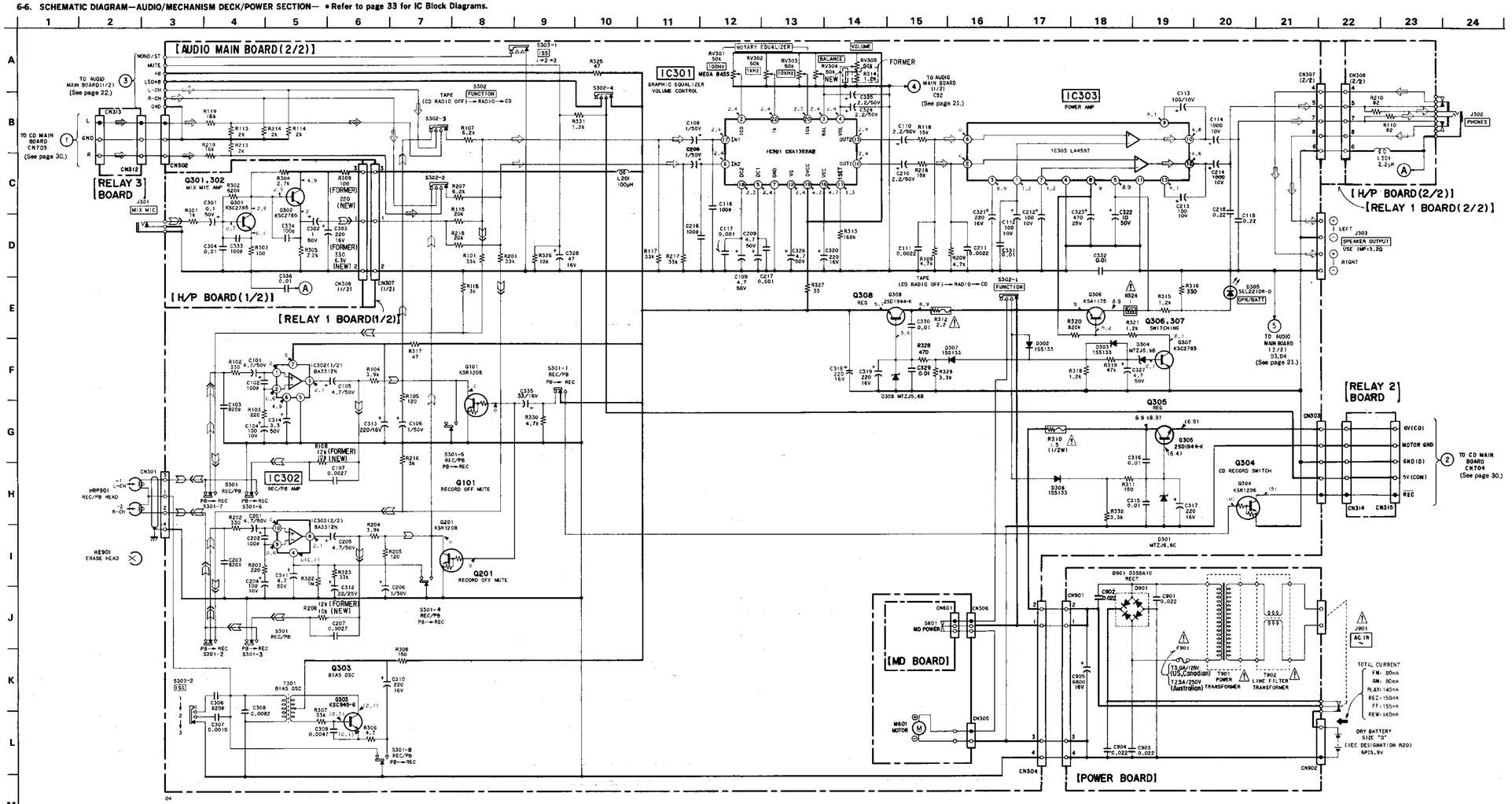
6-5. SCHEMATIC DIAGRAM—TUNER SECTION— • Refer to page 33 for IC Block Diagrams.



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- ▬▬ : B+ Line
- ▭ : adjustment for repair
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input Impedance 10M Ω).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- Abbreviations
  CND : Canadian model
  AUS : Australian model

6-6. SCHEMATIC DIAGRAM—AUDIO/MECHANISM DECK/POWER SECTION— • Refer to page 33 for IC Block Diagrams.



Note:

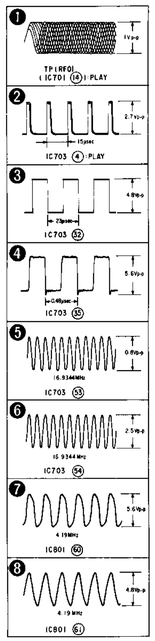
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- ⚠ : fusible resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ——— : B+ Line
- Total current is measured with no cassette installed.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal conditions. no mark : PB
  ( ) : REC
  < > : CD
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : PB
  ⇨ : REC
  ⇨ : CD

6-7. SCHEMATIC DIAGRAM—CD SECTION— • Refer to page 33 for IC Block Diagrams.

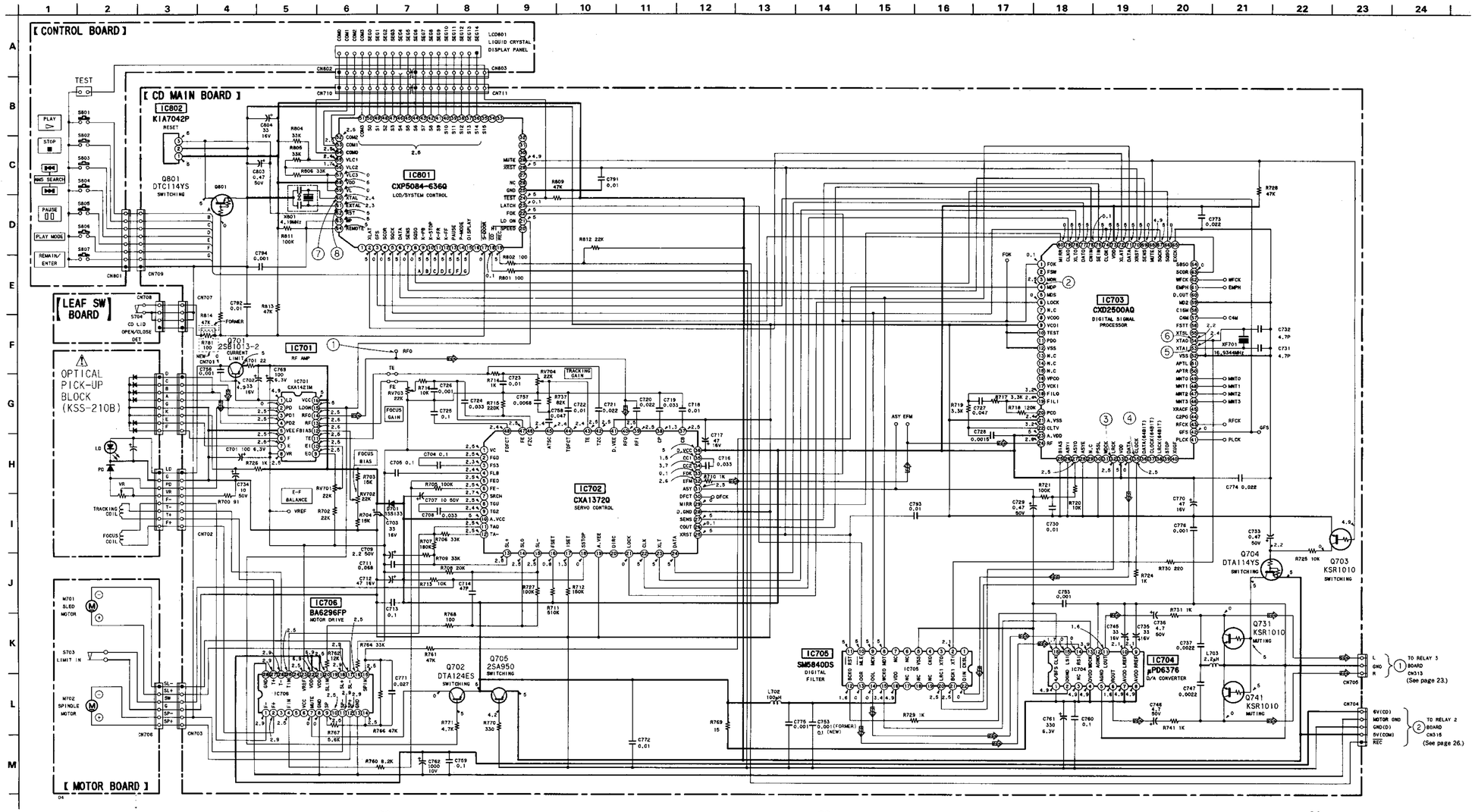
• Waveforms



Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

Note:	Note:
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

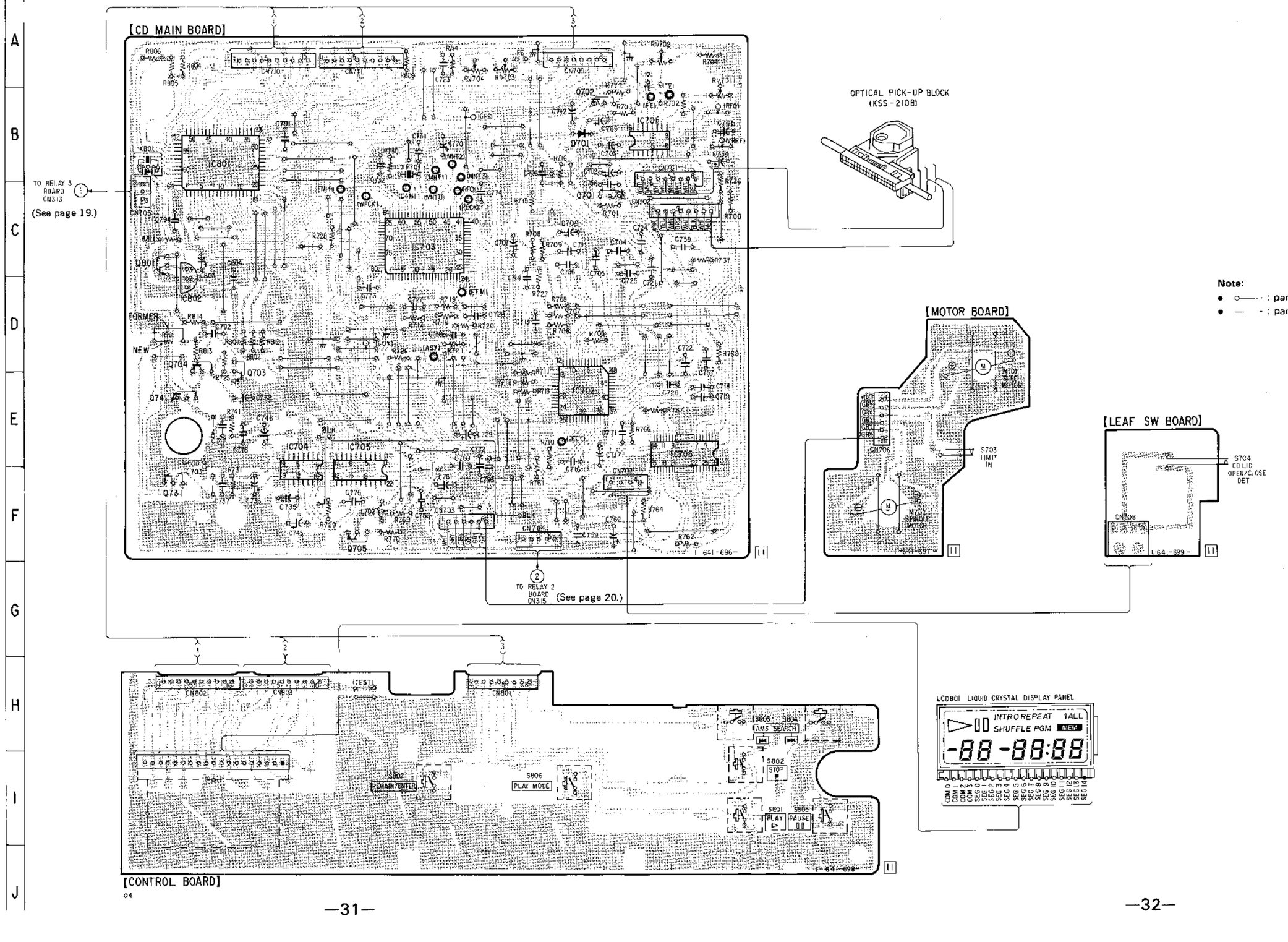
- ▬ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD



• Semiconductor Location

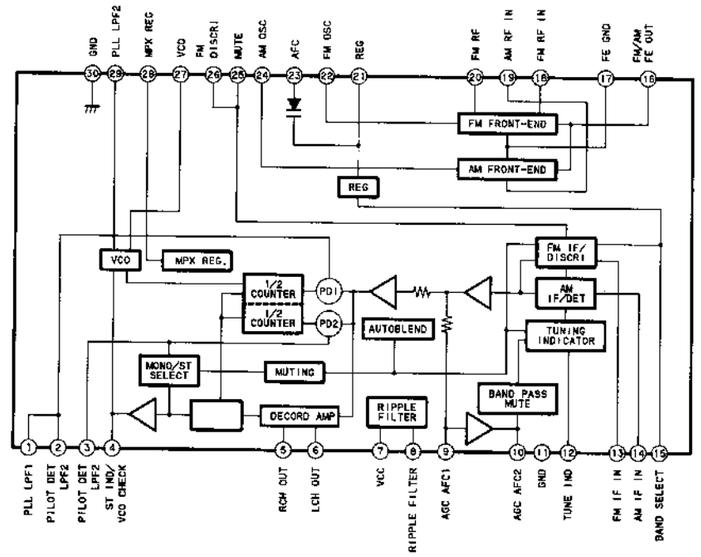
Ref. No.	Location
D701	B-6
IC701	B-7
IC702	E-6
IC703	C-5
IC704	F-3
IC705	F-4
IC706	E-8
IC801	B-3
IC802	D-2
Q701	C-7
Q702	B-7
Q703	E-3
Q704	D-2
Q705	F-4
Q731	F-2
Q741	E-2
Q801	C-2

Note:
- o——· · : parts extracted from the component side.
- — · · : parts extracted from the conductor side.

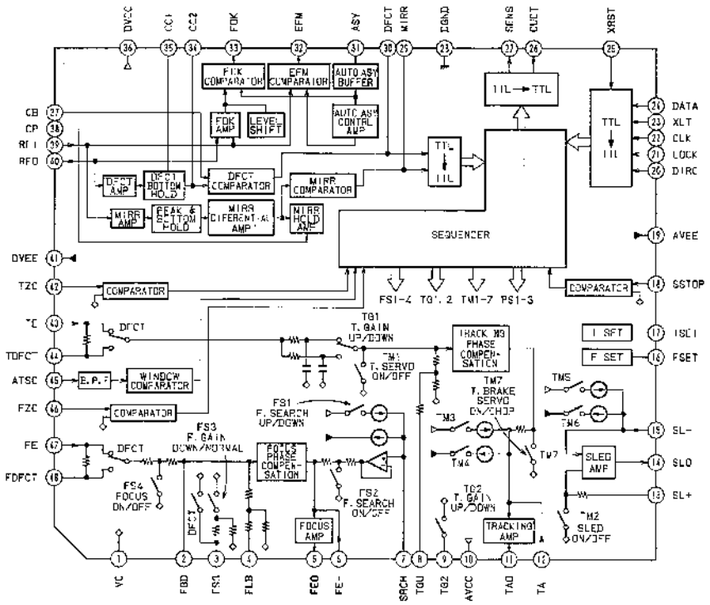


• **IC Block Diagrams**

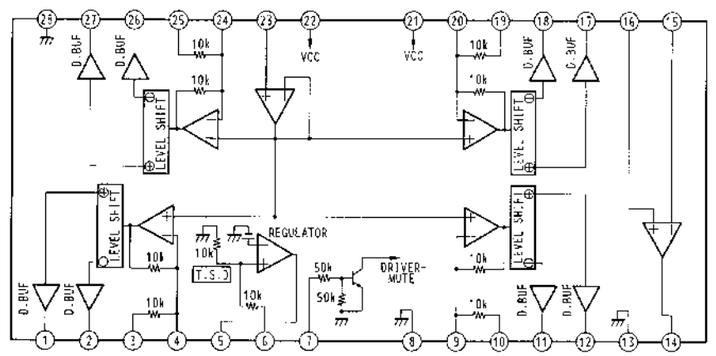
IC1 CXA1238S



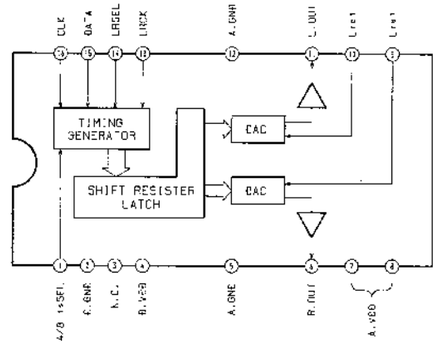
IC702 CXA1372AQ



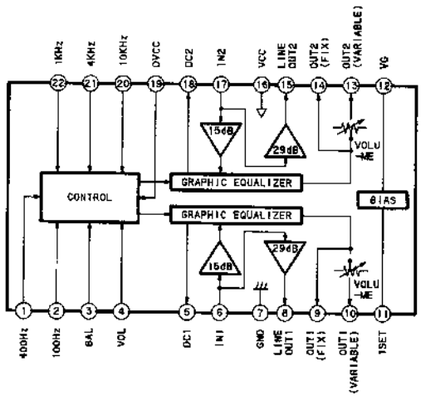
IC706 BA6296FP



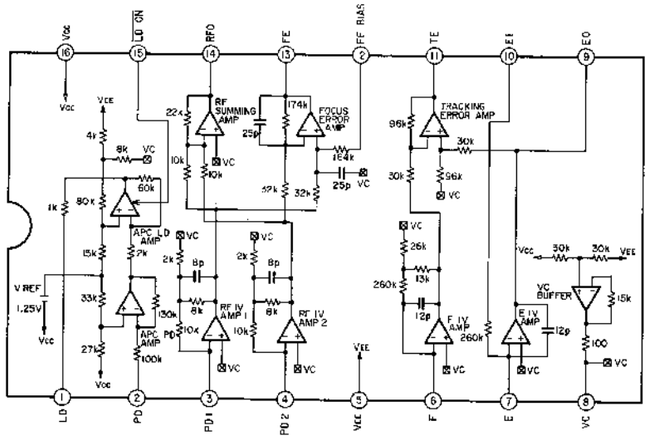
IC704 μPD6376GS



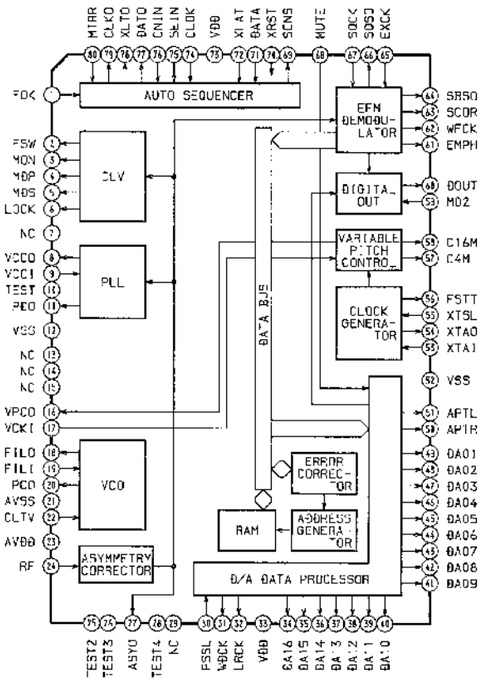
IC301 CXA1352AS



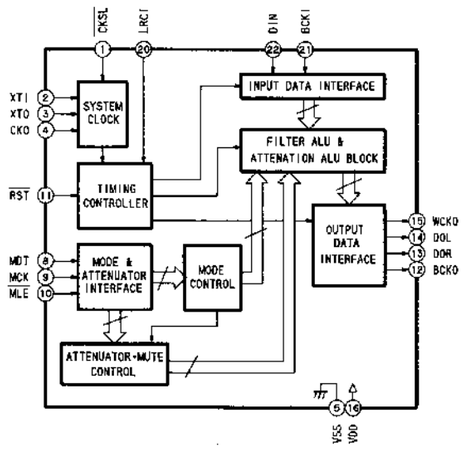
IC701 CXA1421M



IC703 CXD2500AQ



IC705 SM5840DS



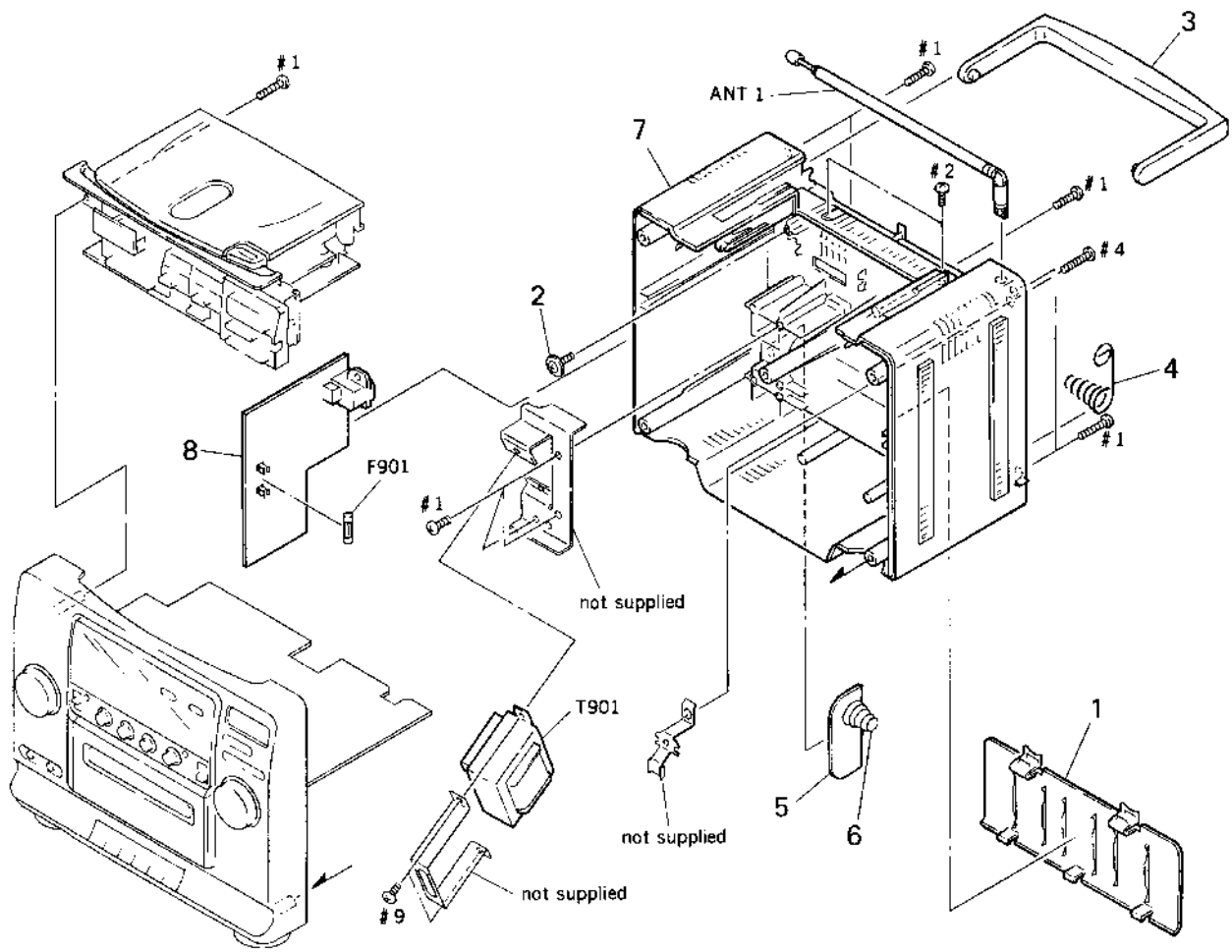
SECTION 7
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.
- Abbreviations
  CND : Canadian model
  AUS : Australian model

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

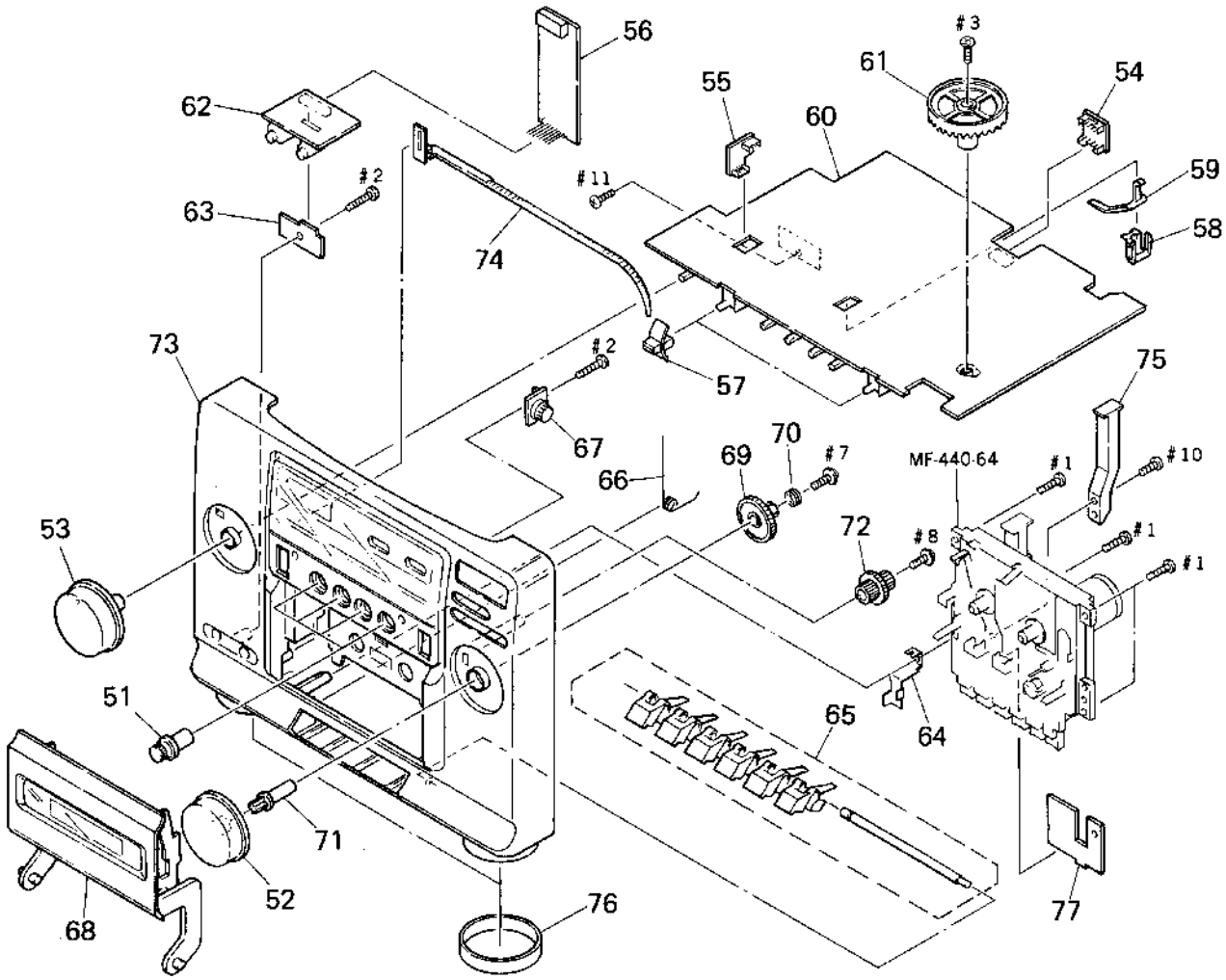
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-368-522-01	LID, BATTERY CASE	
2	3-365-853-01	SCREW +BTPWH 3X12	
3	X-3363-789-1	HANDLE ASSY	
4	3-351-387-01	SPRING (+, -)	
* 5	1-641-689-11	BATTERY BOARD	
6	3-382-370-01	SPRING (MINUS) (NEW)	
6	4-920-988-01	SPRING (MINUS) (FORMER)	
7	3-372-193-01	CABINET, REAR (US)	
7	3-372-193-11	CABINET, REAR (CND, AUS)	
* 8	1-641-688-11	POWER BOARD	
ANT1	1-501-383-21	ANTENNA, TELESCOPIC	
⚠F901	1-532-286-00	FUSE, GLASS TUBE (250V/2.5A) (AUS)	
⚠F901	1-532-970-11	FUSE, GLASS TUBE (125V/3A) (US, CND)	
⚠T901	1-450-695-11	TRANSFORMER, POWER (US, CND)	
⚠T901	1-450-790-11	TRANSFORMER, POWER (AUS)	

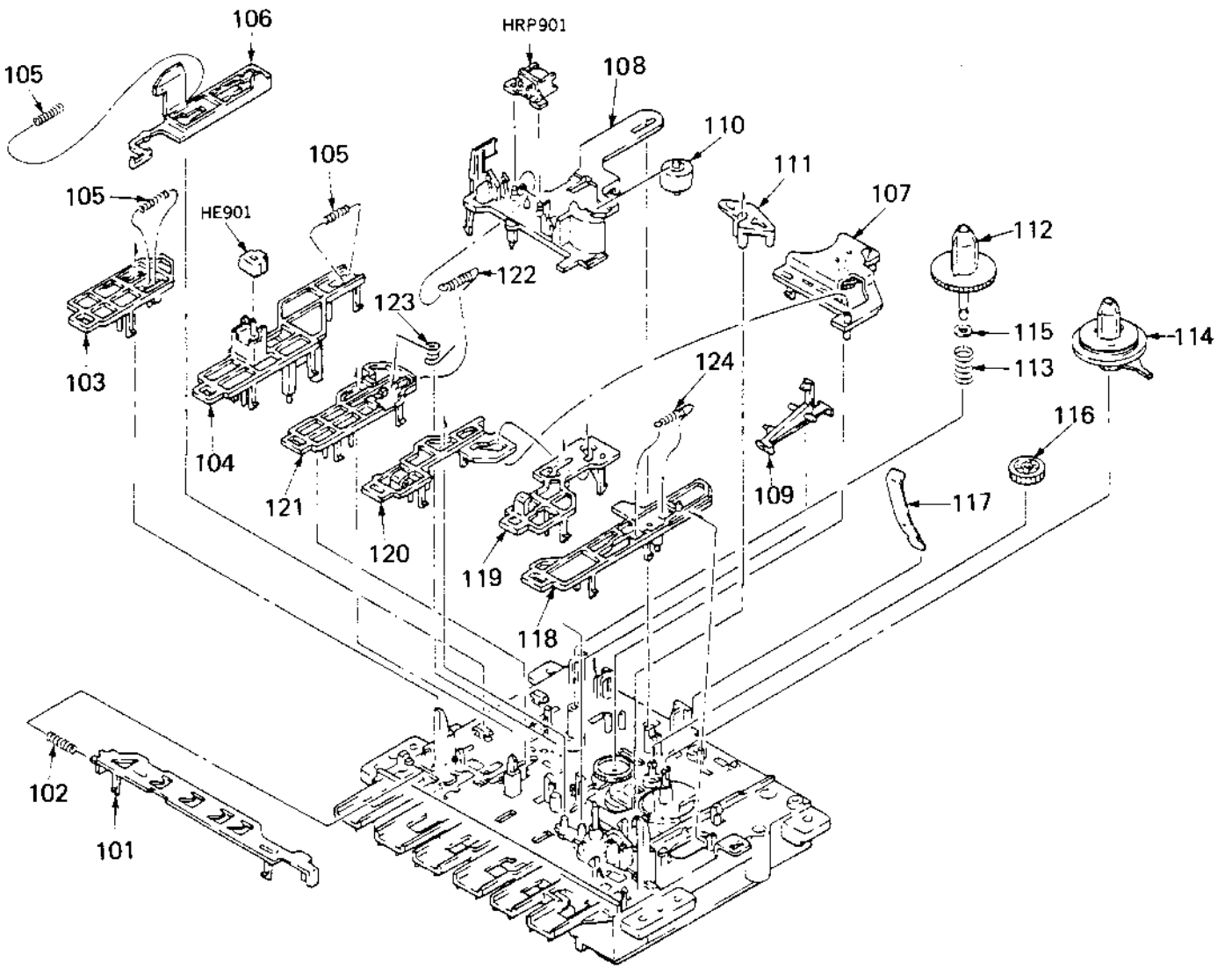
7-2. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-372-210-01	KNOB, GEQ	
52	3-372-209-01	KNOB, TUNING	
53	3-372-211-01	KNOB, VOLUME	
* 54	1-641-692-11	RELAY 2 BOARD	
* 55	1-641-693-11	RELAY 3 BOARD	
* 56	1-641-691-11	RELAY 1 BOARD	
57	3-372-212-01	KNOB (BAND, FUNCTION)	
58	3-372-188-01	HOLDER (REC)	
59	3-322-317-01	LEVER, REC	
* 60	A-3261-948-A	AUDIO MAIN BOARD, COMPLETE (US, CND)	
* 60	A-3262-811-A	AUDIO MAIN BOARD, COMPLETE (AUS)	
61	3-372-178-01	GEAR, TUNING CAPACITOR	
* 62	1-641-694-11	H/P BOARD	
* 63	1-641-695-11	RETAINER BOARD	
* 64	3-372-225-01	RETAINER, SHAFT	

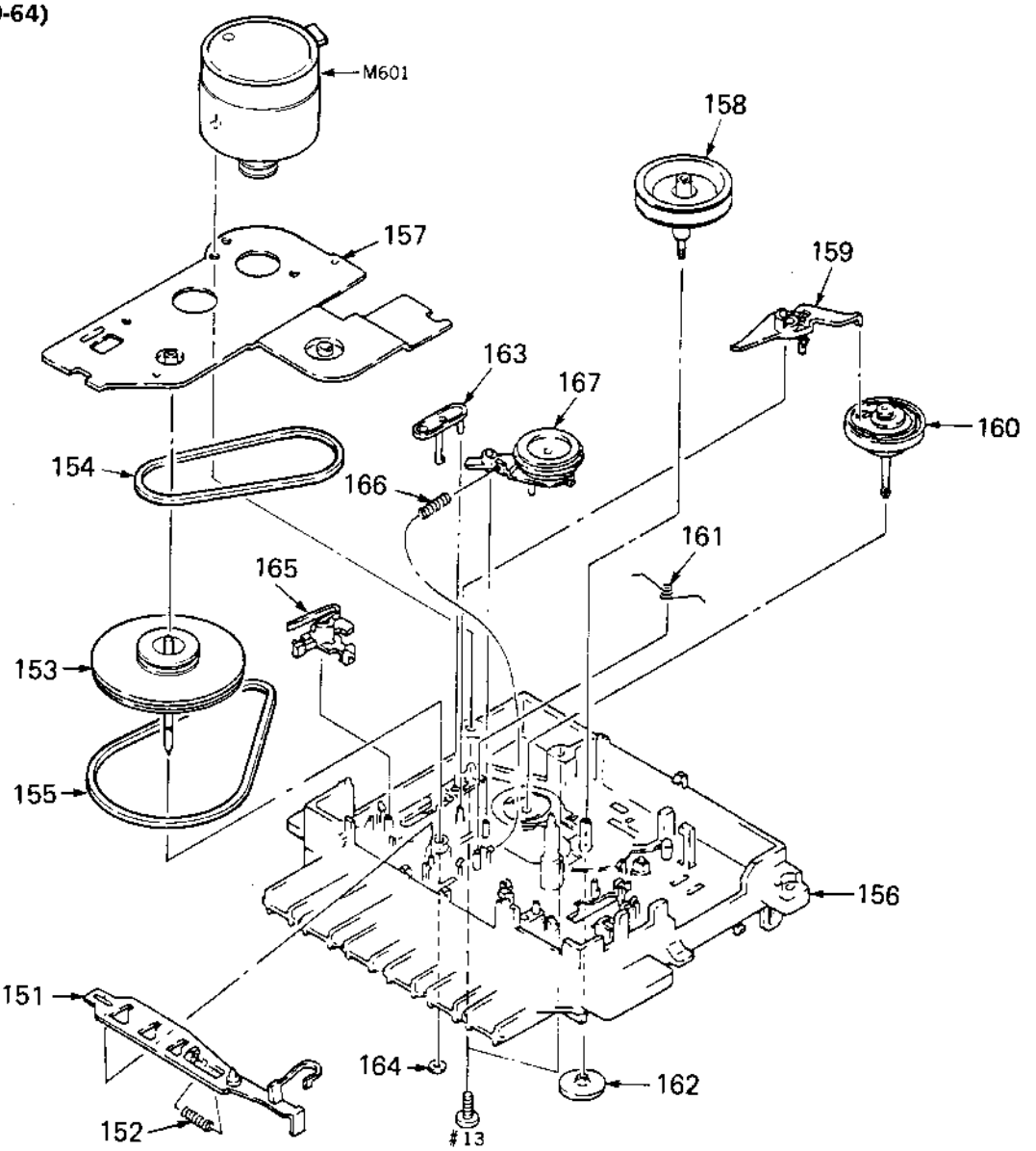
Ref. No.	Part No.	Description	Remark
65	X-3363-632-1	BUTTON ASSY, MD	
66	3-372-186-01	SPRING, OPEN	
67	3-351-377-01	DAMPER	
68	X-3363-626-1	HOLDER SUB ASSY, CASSETTE	
69	3-372-179-01	GEAR, TUNING	
70	3-372-205-01	SPRING, LIMIT	
71	3-372-180-01	SHAFT, GEAR	
72	3-372-176-01	GEAR, POINTER	
73	X-3363-625-1	CABINET SUB ASSY, FRONT (US, CND)	
73	X-3365-649-1	CABINET SUB ASSY, FRONT (AUS)	
* 74	3-372-177-01	POINTER, DIAL	
* 75	3-372-224-01	LEVER, PUSH	
76	4-921-918-01	PLATE, ORNAMENTAL (US/CND:FORMER)	
* 77	1-641-690-11	MD BOARD	

7-3. TAPE MECHANISM (1) SECTION (MF-440-64)



Ref. No.	Part No.	Description	Remark
101	4-932-695-01	SLIDER (FR), LOCK	
102	4-932-656-01	SPRING, COMPRESSION	
103	4-928-985-01	LEVER, STOP	
104	4-934-511-01	LEVER (S), REC (FORMER)	
104	4-934-511-11	LEVER (S), REC (NEW)	
105	4-932-648-01	SPRING, COMPRESSION	
106	4-936-206-01	SLIDER (S), EJECT	
107	X-4920-347-1	LEVER (S) ASSY, FR	
108	4-928-998-01	DECK (S), HEAD	
* 109	3-370-187-01	CLAW, ERASING PROTECTION (FORMER)	
109	4-928-960-02	CLAW, ERASING PROTECTION (NEW)	
110	4-928-962-01	PINCH ROLLER	
111	4-928-982-01	LEVER (C)	
112	4-928-978-01	GEAR (C), SUPPLY REEL	
113	3-343-381-01	SPRING, COMPRESSION	
114	X-4920-350-1	GEAR (S) ASSY, T REEL (FORMER)	
114	X-4920-350-3	GEAR (S) ASSY, T REEL (NEW)	
115	4-931-795-11	WASHER	
116	3-343-285-01	GEAR, FF	
117	4-928-957-01	RETAINER, CASSETTE	
118	4-928-994-01	LEVER, PAUSE	
119	4-928-993-01	LEVER, FF	
120	4-928-992-01	LEVER, REW	
121	4-928-991-01	LEVER, PLAY	
122	4-928-972-01	SPRING, TENSION	
123	4-928-973-01	SPRING	
124	3-313-372-01	SPRING, TENSION	
HE901	1-543-474-11	HEAD, MAGNETIC (ERASE) (FORMER)	
HE901	1-543-525-11	HEAD, MAGNETIC (ERASE) (NEW)	
HRP901	1-543-628-11	HEAD, MAGNETIC (REC/PB)	

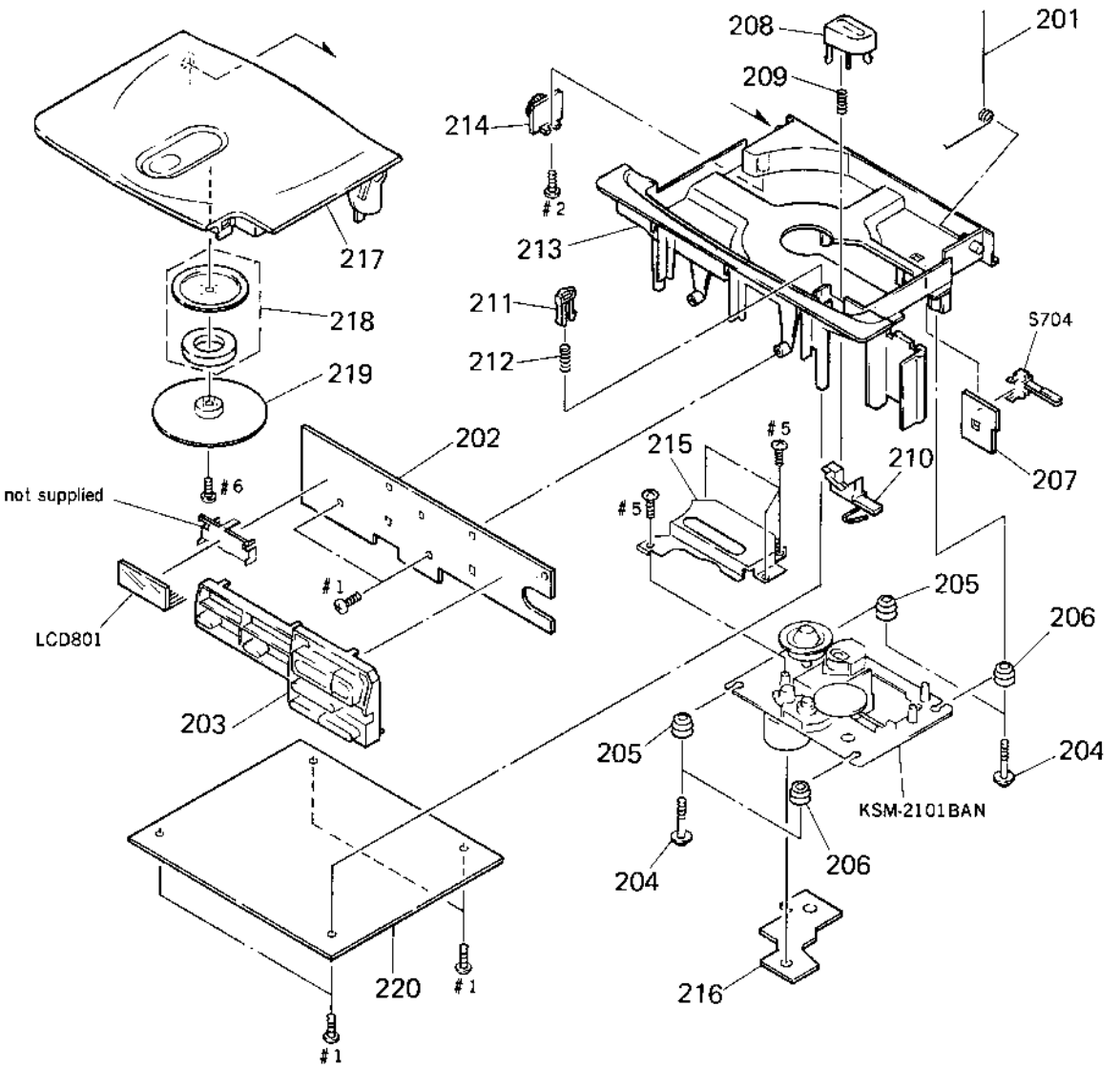
7-4. TAPE MECHANISM (2) SECTION (MF-440-64)



Ref. No.	Part No.	Description	Remark
151	4-928-996-01	LEVER, SW	
152	4-932-656-01	SPRING, COMPRESSION	
153	X-4920-349-1	WHEEL (S) ASSY, CAPSTAN	
154	4-928-974-01	BELT (MIDWAY)	
155	4-928-951-01	BELT (CAPSTAN)	
156	X-4920-348 1	CHASSIS (S) ASSY, MECHANICAL	
* 157	X 4918-598-1	PLATE ASSY, GROUND	
158	X-4918-580-1	PULLEY ASSY, FR	
159	4-928-986-01	LEVER (S), SHUT-OFF	
160	X-4918-582-1	PLATE ASSY, TAKE-UP REEL	
161	4-928-958-01	SPRING, FR RETURN	
162	4-928-967-01	GEAR (C), MIDWAY	
163	4-928-961-01	PLATE, PAUSE LOCK	
164	3-343-358-01	RING, RETAINING	
165	4-928-987 01	LEVER (T), SHUT-OFF	
166	4 932-655-01	SPRING, COMPRESSION	
167	X-4920-346-1	LEVER (S) ASSY, IDLER	
M601	X-4919-956-1	MOTOR ASSY	

REVISED

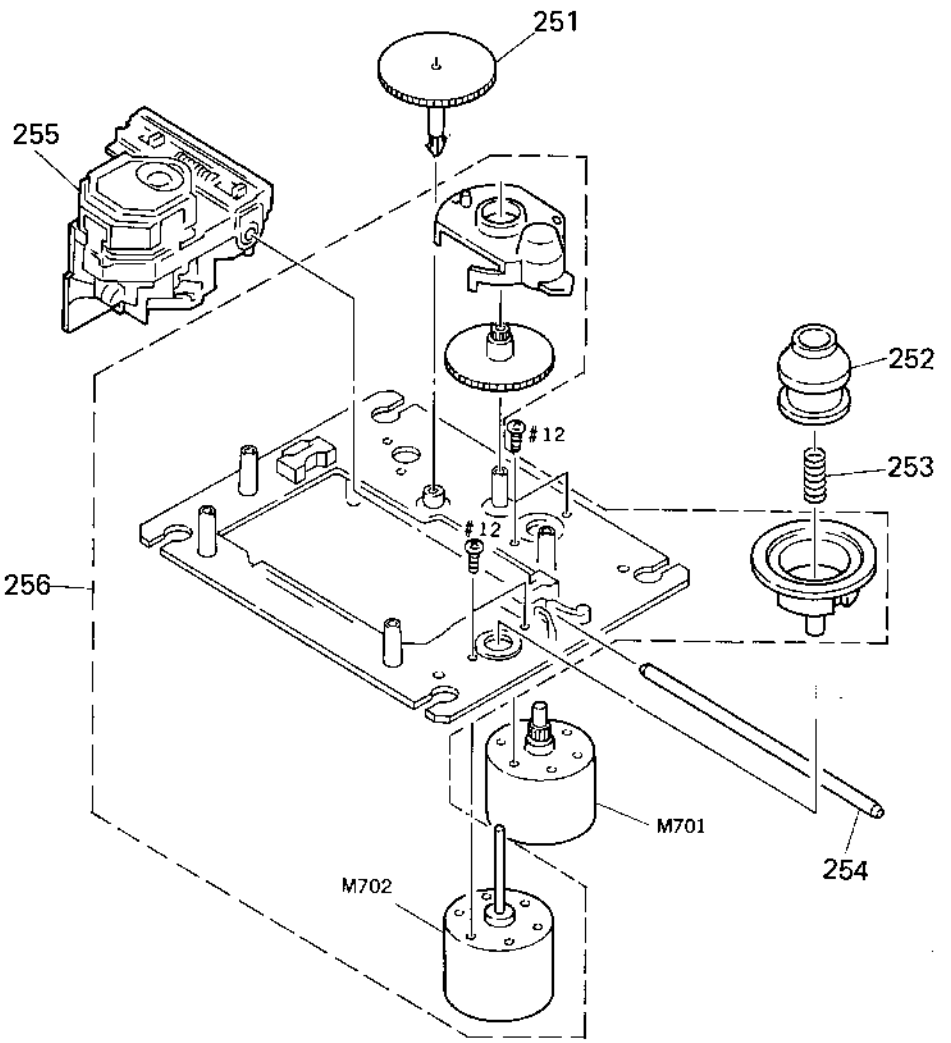
7-5. CD BLOCK SECTION



Ref. No.	Part No.	Description	Remark
201	3-372-185-01	SPRING, UP	
* 202	1-641-698-11	CONTROL BOARD	
203	3-372-213-01	BUTTON, CD	
204	4-931-373-01	SCREW, CD FITTING	
205	4-922-858-01	DAMPER	
206	4-922-858-11	DAMPER	
* 207	1-641-699-11	LEAF SW BOARD	
208	3-372-183-01	BUTTON, OPEN	
209	3-372-207-01	SPRING, BUTTON COIL	
210	3-372-182-01	LEVER, LOCK	
211	3-372-184-01	LEVER, UP	

Ref. No.	Part No.	Description	Remark
212	3-372-206-01	SPRING, LEVER COIL	
* 213	3-372-194-01	CHASSIS, CD	
214	3-351-377-11	DAMPER	
215	4-928-936-01	COVER, CD	
* 216	1-641-697-11	MOTOR BOARD	
217	X-3363-624-1	LID SUB ASSY, CD	
218	1-452-531-11	MAGNET	
219	3-704-435-01	PLATE (M), CHUCK	
* 220	A-3261-955-A	CD MAIN BOARD, COMPLETE	
LCD801	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL	
S704	1-570-013-11	SWITCH, LEAF (CD LID OPEN/CLOSE DET)	

7-6. OPTICAL PICK-UP SECTION (KSM-2101BAN)

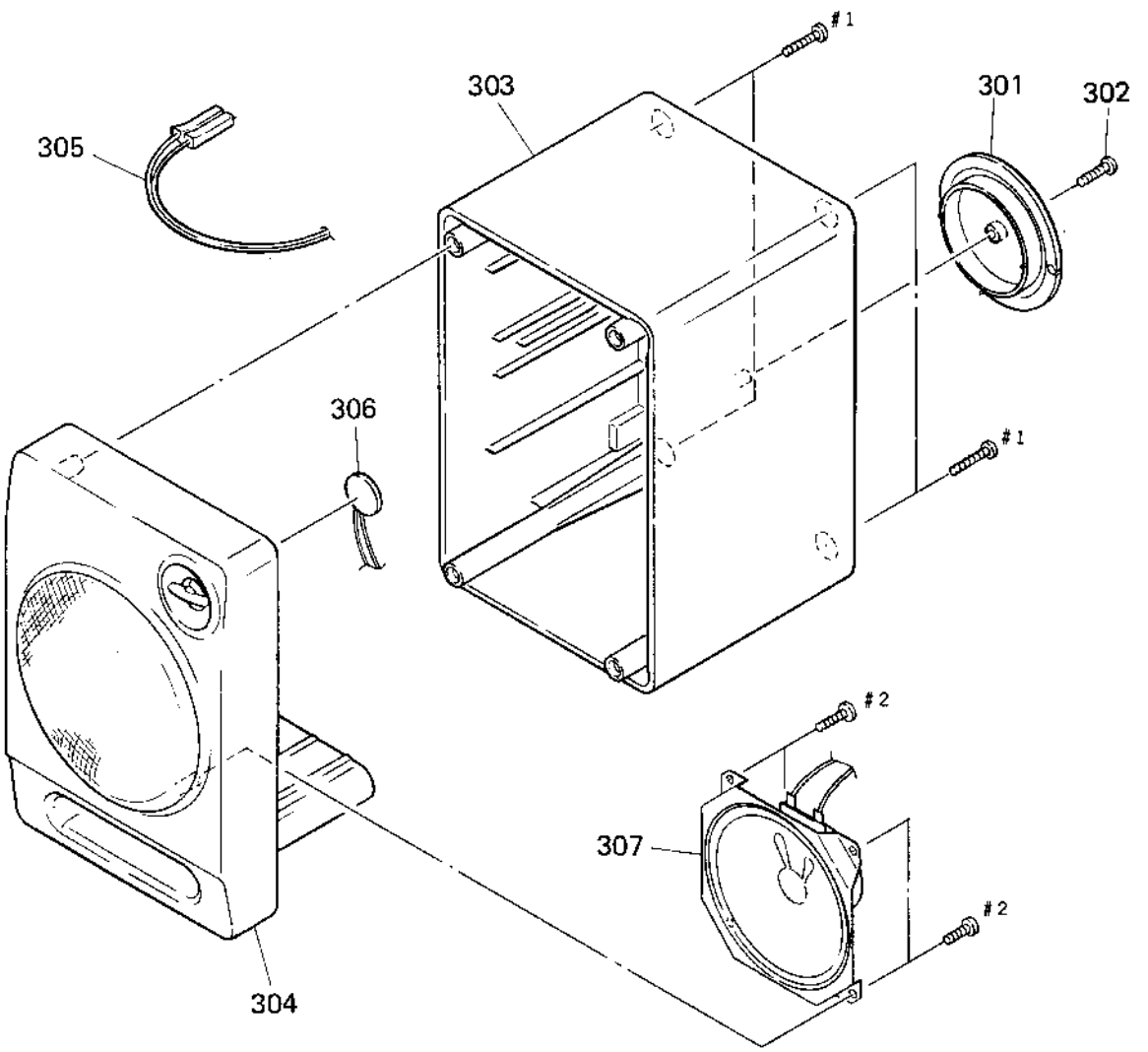


Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
251	2-625-188-02	GEAR (A)	
252	2-625-186-01	RING (C), CENTER	
253	2-625-191-01	SPRING, COMPRESSION	
254	4-917-565-01	SHAFT (K), SLED	

Ref. No.	Part No.	Description	Remark
⚠255	8-848-137-11	DEVICE, OPTICAL KSS 210B	
256	X-2625-133-2	CHASSIS ASSY, TT (WITH M702 SPINDLE)	
M701	X-2625-132-1	GEAR ASSY, MOTOR (SLED)	

7-7. SPEAKER SECTION



Ref. No.	Part No.	Description	Remark
301	3-372-214-01	REEL, SPEAKER	
302	3-325-679-71	SCREW, TAPPING +BV 3X12	
303	3-372-197-01	SPEAKER (L), REAR	
303	3-372-199-01	SPEAKER (R), REAR	
304	X-3363-627-1	SP (L) SUB ASSY, FRONT	
304	X-3363-628-1	SP (R) SUB ASSY, FRONT	
305	1-559-620-11	CORD (WITH CONNECTOR)	
306	1-529-058-11	BUZZER	
307	1-544-148-11	SPEAKER	

AUDIO MAIN

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Abbreviations
  CND : Canadian model
  AUS : Australian model

Ref. No.	Part No.	Description			Remark
*	A-3261-948-A	AUDIO MAIN BOARD, COMPLETE (US, CND)			
*	A-3262-811-A	AUDIO MAIN BOARD, COMPLETE (AUS)			
		**********			
	3-322-317-01	LEVER, REC			
	3-372-178-01	GEAR, TUNING CAPACITOR			
	3-372-188-01	HOLDER (REC)			
	3-372-212-01	KNOB, BAND			
	7-621-770-87	SCREW +B 2.6X5			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
		< CAPACITOR >			
C1	1-102-960-00	CERAMIC	24PF	5%	50V
C2	1-102-960-00	CERAMIC	24PF	5%	50V
C3	1-162-191-31	CERAMIC	2.2PF	10%	50V
C4	1-162-196-31	CERAMIC	5.6PF	10%	50V (US, CND)
C4	1-162-198 31	CERAMIC	8.2PF	10%	50V (AUS)
C5	1-124-034-51	ELECT	33uF	20%	16V
C6	1-161-051-00	CERAMIC	0.01uF	10%	50V
C7	1-162-306-11	CERAMIC	0.01uF	20%	16V
C8	1-162 187-31	CERAMIC	1PF	20%	50V
C9	1-162-287-31	CERAMIC	270PF	10%	50V
C10	1-124-477-11	ELECT	47uF	20%	25V
C11	1-124-925-11	ELECT	2.2uF	20%	100V
C12	1-124-477-11	ELECT	47uF	20%	25V
C13	1-161-051-00	CERAMIC	0.01uF	10%	50V
C14	1-161-051-00	CERAMIC	0.01uF	10%	50V
C15	1-124-903-11	ELECT	1uF	20%	50V
C16	1-124-927-11	ELECT	4.7uF	20%	100V
C17	1-161-053-00	CERAMIC	0.015uF	10%	50V
C18	1-161-053-00	CERAMIC	0.015uF	10%	50V
C19	1-124-903-11	ELECT	1uF	20%	50V
C20	1-124-902-00	ELECT	0.47uF	20%	50V
C21	1-124-927-11	ELECT	4.7uF	20%	100V
C22	1 124-443-00	ELECT	100uF	20%	10V
C23	1-124-902-00	ELECT	0.47uF	20%	50V
C24	1-124-902-00	ELECT	0.47uF	20%	50V
C51	1-162-282-31	CERAMIC	100PF	10%	50V
C52	1-162-282-31	CERAMIC	100PF	10%	50V
C53	1-162-191-31	CERAMIC	2.2PF	10%	50V
C101	1-124-927-11	ELECT	4.7uF	20%	100V
C102	1-162-282-31	CERAMIC	100PF	10%	50V
C103	1-162-293-31	CERAMIC	820PF	10%	50V
C104	1-124-443-00	ELECT	100uF	20%	10V
C105	1-124-927-11	ELECT	4.7uF	20%	100V
C106	1-124-903-11	ELECT	1uF	20%	50V
C107	1-102-122-00	CERAMIC	0.0027uF	10%	50V
C108	1-124-903-11	ELECT	1uF	20%	50V
C109	1-124-927-11	ELECT	4.7uF	20%	100V
C110	1-124-925-11	ELECT	2.2uF	20%	100V
C111	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C112	1-124-443-00	ELECT	100uF	20%	10V
C113	1 124-443-00	ELECT	100uF	20%	10V
C114	1-124-473-11	ELECT	1000uF	20%	10V
C115	1-136-169-00	FILM	0.22uF	5%	50V
C116	1-162-282-31	CERAMIC	100PF	10%	50V
C117	1-162-294-31	CERAMIC	0.001uF	10%	50V
C201	1-124-927-11	ELECT	4.7uF	20%	100V
C202	1-162-282-31	CERAMIC	100PF	10%	50V
C203	1-162-293-31	CERAMIC	820PF	10%	50V
C204	1-124-443-00	ELECT	100uF	20%	10V
C205	1-124-927-11	ELECT	4.7uF	20%	100V
C206	1-124-903-11	ELECT	1uF	20%	50V
C207	1-102-122-00	CERAMIC	0.0027uF	10%	50V
C208	1-124-903-11	ELECT	1uF	20%	50V
C209	1-124-927-11	ELECT	4.7uF	20%	100V
C210	1-124-925-11	ELECT	2.2uF	20%	100V
C211	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C212	1-124-443-00	ELECT	100uF	20%	10V
C213	1-124-443-00	ELECT	100uF	20%	10V
C214	1-124-473-11	ELECT	1000uF	20%	10V
C215	1-136-169-00	FILM	0.22uF	5%	50V
C216	1-162-282-31	CERAMIC	100PF	10%	50V
C217	1-162-294-31	CERAMIC	0.001uF	10%	50V
C306	1-130-470-00	MYLAR	820PF	5%	50V
C307	1-130-473-00	MYLAR	0.0015uF	5%	50V
C308	1-130-482-00	MYLAR	0.0082uF	5%	50V
C309	1-130-479-00	MYLAR	0.0047uF	5%	50V

Ref. No.	Part No.	Description			Remark
C310	1-124-120-11	ELECT	220uF	20%	25V
C311	1-124-927-11	ELECT	4.7uF	20%	100V
C312	1-126-233-11	ELECT	22uF	20%	50V
C313	1-124-120-11	ELECT	220uF	20%	25V
C314	1-123-382-00	ELECT	3.3uF	20%	100V
C315	1-162-306-11	CERAMIC	0.01uF	20%	16V
C316	1-162-306-11	CERAMIC	0.01uF	20%	16V
C317	1-124-120-11	ELECT	220uF	20%	25V
C318	1-124-120-11	ELECT	220uF	20%	25V
C319	1-124-120-11	ELECT	220uF	20%	25V
C320	1-124-120-11	ELECT	220uF	20%	25V
C321	1-124-120-11	ELECT	220uF	20%	25V
C322	1-124-907-11	ELECT	10uF	20%	50V
C323	1-124-480-11	ELECT	470uF	20%	25V
C324	1-124-925-11	ELECT	2.2uF	20%	100V
C325	1-124-925 11	ELECT	2.2uF	20%	100V
C326	1-124-927-11	ELECT	4.7uF	20%	100V
C327	1-124-927-11	ELECT	4.7uF	20%	100V
C328	1-124-477-11	ELECT	47uF	20%	25V
C329	1-162-306-11	CERAMIC	0.01uF	20%	16V
C330	1-162-306-11	CERAMIC	0.01uF	20%	16V
C331	1-162-306-11	CERAMIC	0.01uF	20%	16V
C332	1-162-306-11	CERAMIC	0.01uF	20%	16V
C335	1-124-034-51	ELECT	33uF	20%	16V
		< FILTER >			
CF1	1-577-599-81	FILTER, CERAMIC			
CF2	1-577-599-81	FILTER, CERAMIC			
CF3	1-577-599-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CN302	1-569-380-11	SOCKET, CONNECTOR (PC BOARD) 3P			
* CN303	1-569-382-11	SOCKET, CONNECTOR (PC BOARD) 5P			
* CN307	1-564-599-11	PIN, CONNECTOR 8P			
* CNP301	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP305	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
* CNP306	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P (FORMER)			
		< ENCAPSULATED COMPONENT >			
CP1	1-236-079-11	ENCAPSULATED COMPONENT			
		< VARIABLE CAPACITOR >			
CT1-4 CV1-4	1-151-624-11	CAP, VARIABLE (TUNING)			
		< DIODE >			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D3	8-719-911-19	DIODE 1SS119			
D4	8-719-911-19	DIODE 1SS119			
D003	8-719-304-78	LED SEL2210R-D (FM ST)			
D301	8-719-109-97	DIODE RD6.8ES-B2			
D302	8-719-911-19	DIODE 1SS119			
D303	8-719-911-19	DIODE 1SS119			
D304	8-719-109-89	DIODE RD5.6ES-B2			
D305	8-719-304-78	LED SEL2210R-D (OPR/BATT)			
D306	8-719-109-89	DIODE RD5.6ES-B2			
D307	8-719-911-19	DIODE 1SS119			
D308	8-719-911-19	DIODE 1SS119			
		< FILTER >			
FL1	1-236-022-11	FILTER, BAND PASS			
		< IC >			
IC1	8-752-050-20	IC CXA1238S			
IC301	8-752-055-84	IC CXA1352AS			
IC302	8-759-942-24	IC BA3312N			
IC303	8-759-820-22	IC LA4597			
		< JACK >			
J303	1-537-114-11	TERMINAL BOARD (SPEAKER OUTPUT)			
		< COIL >			
* L1	1-428-029-11	COIL, AIR-CORE			
* L2	1-422-354-11	COIL, AIR-CORE			
L3	1-402-553-11	ANTENNA, FERRITE-ROD (AM)			
L4	1-408-417-00	INDUCTOR 47uH			
L302	1-410-521-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q5	8-729-011-70	TRANSISTOR KSR1208			
Q6	8-729-011-70	TRANSISTOR KSR1208			
Q101	8-729-011-70	TRANSISTOR KSR1208 (FORMER)			
Q101	8-729-063-30	TRANSISTOR 2SC4048 (NEW)			
Q201	8-729-011-70	TRANSISTOR KSR1208 (FORMER)			
Q201	8-729-063-30	TRANSISTOR 2SC4048 (NEW)			
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q304	8-729-011-68	TRANSISTOR KSR1206			
Q305	8-729-905-67	TRANSISTOR 2SD1944-K			
Q306	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q307	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q308	8-729-905-67	TRANSISTOR 2SD1944-K			
		< RESISTOR >			
R1	1-249-441-11	CARBON	100K	5%	1/4W
R2	1-249-421-11	CARBON	2.2K	5%	1/4W

AUDIO MAIN

Ref. No.	Part No.	Description			Remark
R3	1-249-415-11	CARBON	680	5%	1/4W
R4	1-249-407-11	CARBON	150	5%	1/4W
R5	1-249-401-11	CARBON	47	5%	1/4W
R6	1-249-427-11	CARBON	6.8K	5%	1/4W
R7	1-249-427-11	CARBON	6.8K	5%	1/4W
R8	1-247-887-00	CARBON	220K	5%	1/4W
R9	1-247-887-00	CARBON	220K	5%	1/4W
R10	1-249-421-11	CARBON	2.2K	5%	1/4W
R11	1-249-429-11	CARBON	10K	5%	1/4W
R12	1-249-415-11	CARBON	680	5%	1/4W
R14	1-247-850-11	CARBON	6.2K	5%	1/4W
R16	1-249-423-11	CARBON	3.3K	5%	1/4W
R50	1-249-425-11	CARBON	4.7K	5%	1/4W (NEW)
R50	1-249-426-11	CARBON	5.6K	5%	1/4W (FORMER)
R51	1-249-425-11	CARBON	4.7K	5%	1/4W (NEW)
R51	1-249-426-11	CARBON	5.6K	5%	1/4W (FORMER)
R101	1-249-435-11	CARBON	33K	5%	1/4W
R102	1-249-411-11	CARBON	330	5%	1/4W
R103	1-249-409-11	CARBON	220	5%	1/4W
R104	1-249-424-11	CARBON	3.9K	5%	1/4W
R105	1-249-406-11	CARBON	120	5%	1/4W
R107	1-247-850-11	CARBON	6.2K	5%	1/4W
R108	1-249-429-11	CARBON	10K	5%	1/4W (NEW)
R108	1-249-430-11	CARBON	12K	5%	1/4W (FORMER)
R109	1-249-425-11	CARBON	4.7K	5%	1/4W
R113	1-247-838-00	CARBON	2K	5%	1/4W
R114	1-247-838-00	CARBON	2K	5%	1/4W
R115	1-247-862-11	CARBON	20K	5%	1/4W
R116	1-247-842-11	CARBON	3K	5%	1/4W
R117	1-249-435-11	CARBON	33K	5%	1/4W
R118	1-249-431-11	CARBON	15K	5%	1/4W
R119	1-247-860-11	CARBON	16K	5%	1/4W
R201	1-249-435-11	CARBON	33K	5%	1/4W
R202	1-249-411-11	CARBON	330	5%	1/4W
R203	1-249-409-11	CARBON	220	5%	1/4W
R204	1-249-424-11	CARBON	3.9K	5%	1/4W
R205	1-249-406-11	CARBON	120	5%	1/4W
R207	1-247-850-11	CARBON	6.2K	5%	1/4W
R208	1-249-429-11	CARBON	10K	5%	1/4W (NEW)
R208	1-249-430-11	CARBON	12K	5%	1/4W (FORMER)
R209	1-249-425-11	CARBON	4.7K	5%	1/4W
R213	1-247-838-00	CARBON	2K	5%	1/4W
R214	1-247-838-00	CARBON	2K	5%	1/4W
R215	1-247-862-11	CARBON	20K	5%	1/4W
R216	1-247-842-11	CARBON	3K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R217	1-249-435-11	CARBON	33K	5%	1/4W
R218	1-249-431-11	CARBON	15K	5%	1/4W
R219	1-247-860-11	CARBON	16K	5%	1/4W
R306	1-249-389-11	CARBON	4.7	5%	1/4W
R307	1-249-435-11	CARBON	33K	5%	1/4W
R308	1-249-407-11	CARBON	150	5%	1/4W
⚠R310	1-212-938-00	FUSIBLE	1.5	5%	1/2W F
R311	1-249-407-11	CARBON	150	5%	1/4W
⚠R312	1-217-639-00	FUSIBLE	2.2	5%	1/4W F
R313	1-247-884-11	CARBON	160K	5%	1/4W
R314	1-249-418-11	CARBON	1.2K	5%	1/4W (FORMER)
R315	1-249-418-11	CARBON	1.2K	5%	1/4W
R316	1-249-411-11	CARBON	330	5%	1/4W
R317	1-249-401-11	CARBON	47	5%	1/4W
R318	1-249-418-11	CARBON	1.2K	5%	1/4W
R319	1-249-437-11	CARBON	47K	5%	1/4W
R320	1-247-901-11	CARBON	820K	5%	1/4W
R321	1-249-418-11	CARBON	1.2K	5%	1/4W
R322	1-247-903-00	CARBON	1M	5%	1/4W
R323	1-249-435-11	CARBON	33K	5%	1/4W
⚠R324	1-249-381-11	CARBON	1	5%	1/4W F
R325	1-249-401-11	CARBON	47	5%	1/4W
R326	1-249-429-11	CARBON	10K	5%	1/4W
R327	1-249-399-11	CARBON	33	5%	1/4W
R328	1-249-413-11	CARBON	470	5%	1/4W
R329	1-249-423-11	CARBON	3.3K	5%	1/4W
R330	1-249-425-11	CARBON	4.7K	5%	1/4W
R331	1-249-418-11	CARBON	1.2K	5%	1/4W
R332	1-249-423-11	CARBON	3.3K	5%	1/4W

< VARIABLE RESISTOR >

RV1	1-238-017-11	RES, ADJ, CARBON 22K
RV301	1-241-643-11	RES, VAR, CARBON 50K (ROTARY EQUALIZER 100Hz)
RV302	1-241-643-11	RES, VAR, CARBON 50K (ROTARY EQUALIZER 1kHz)
RV303	1-241-643-11	RES, VAR, CARBON 50K (ROTARY EQUALIZER 10kHz)
RV304	1-241-643-11	RES, VAR, CARBON 50K (BALANCE)
RV305	1-241-642-11	RES, VAR, CARBON 50K (VOLUME)

< SWITCH >

S1	1-572-668-11	SWITCH, LEVER SLIDE (BAND)
S301	1-570-916-11	SWITCH, SLIDE (REC/PB)
S302	1-572-914-11	SWITCH, LEVER SLIDE (FUNCTION)
S303	1-571-307-11	SWITCH, SLIDE (ISS)

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			Remark
		< TRANSFORMER >			
T1	1-406-040-00	COIL (OSC)			
T301	1-433-332-11	OSCILLATION TRANSFORMER, BIAS			
**********					
*	1-641-689-11	BATTERY BOARD			
		**********			
	3-382-370-01	SPRING (MINUS) (NEW)			
	4-920-988-01	SPRING (MINUS) (FORMER)			
**********					
*	A-3261-955-A	CD MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C701	1-124-443-00	ELECT	100uF	20%	10V
C702	1-124-034-51	ELECT	33uF	20%	16V
C703	1-124-034-51	ELECT	33uF	20%	16V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-136-165-00	FILM	0.1uF	5%	50V
C707	1-124-261-00	ELECT	10uF	20%	50V (NEW)
C707	1-124-907-11	ELECT	10uF	20%	50V (FORMER)
C708	1-161-057-00	CERAMIC	0.033uF	10%	50V
C709	1-124-925-11	ELECT	2.2uF	20%	100V
C711	1-161-061-11	CERAMIC	0.068uF	10%	50V
C712	1-124-477-11	ELECT	47uF	20%	25V
C713	1-161-772-11	CERAMIC	0.1uF	10%	25V
C714	1-162-215-31	CERAMIC	47PF	5%	50V
C716	1-161-057-00	CERAMIC	0.033uF	10%	50V
C717	1-124-477-11	ELECT	47uF	20%	25V
C718	1-162-306-11	CERAMIC	0.01uF	20%	16V
C719	1-161-057-00	CERAMIC	0.033uF	10%	50V
C720	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C721	1-161-494-00	CERAMIC	0.022uF		25V
C722	1-162-306-11	CERAMIC	0.01uF	20%	16V
C723	1-162-306-11	CERAMIC	0.01uF	20%	16V
C724	1-161-057-00	CERAMIC	0.033uF	10%	50V
C725	1-136-165-00	FILM	0.1uF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-161-021-11	CERAMIC	0.047uF	10%	25V
C728	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C729	1-124-902-00	ELECT	0.47uF	20%	50V
C730	1-162-306-11	CERAMIC	0.01uF	20%	16V
C731	1-162-195-31	CERAMIC	4.7PF	10%	50V
C732	1-162-195-31	CERAMIC	4.7PF	10%	50V
C733	1-124-902-00	ELECT	0.47uF	20%	50V
C734	1-124-907-11	ELECT	10uF	20%	50V
C735	1-124-034-51	ELECT	33uF	20%	16V
C736	1-124-927-11	ELECT	4.7uF	20%	100V
C737	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C745	1-124-034-51	ELECT	33uF	20%	16V
C746	1-124-927-11	ELECT	4.7uF	20%	100V
C747	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C753	1-124-463-00	ELECT	0.1uF	20%	50V (NEW)
C753	1-161-039-00	CERAMIC	0.001uF	10%	50V (FORMER)
C756	1-162-294-31	CERAMIC	0.001uF	10%	50V
C757	1-161-329-00	CERAMIC	0.0068uF	20%	16V
C758	1-161-021-11	CERAMIC	0.047uF	10%	25V
C759	1-161-772-11	CERAMIC	0.1uF	10%	25V
C760	1-161-772-11	CERAMIC	0.1uF	10%	25V
C761	1-124-442-00	ELECT	330uF	20%	6.3V
C762	1-124-473-11	ELECT	1000uF	20%	10V
C769	1-124-443-00	ELECT	100uF	20%	10V (FORMER)
C769	1-126-177-11	ELECT	100uF	20%	6.3V (NEW)
C770	1-124-477-11	ELECT	47uF	20%	25V
C771	1-161-056-00	CERAMIC	0.027uF	10%	25V
C772	1-162-306-11	CERAMIC	0.01uF	20%	16V
C773	1-161-494-00	CERAMIC	0.022uF		25V
C774	1-161-494-00	CERAMIC	0.022uF		25V
C775	1-161-039-00	CERAMIC	0.001uF	10%	50V
C776	1-161-039-00	CERAMIC	0.001uF	10%	25V (NEW)
C791	1-162-306-11	CERAMIC	0.01uF	20%	16V
C792	1-162-306-11	CERAMIC	0.01uF	20%	16V
C793	1-162-306-11	CERAMIC	0.01uF	20%	16V
C794	1-162-294-31	CERAMIC	0.001uF	10%	50V
C803	1-124-902-00	ELECT	0.47uF	20%	50V
C804	1-124-034-51	ELECT	33uF	20%	16V
		< CONNECTOR >			
* CN701	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CN702	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CN703	1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P (FORMER)			
* CN703	1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P (NEW)			
* CN704	1-569-382-11	SOCKET, CONNECTOR (PC BOARD) 5P			
* CN705	1-569-380-11	SOCKET, CONNECTOR (PC BOARD) 3P			
* CN707	1-506-509-11	PIN, CONNECTOR 4P			
* CN709	1-566-973-11	PIN, CONNECTOR (PC BOARD) 8P			
* CN710	1-568-455-11	PIN, CONNECTOR (PC BOARD) 10P			
* CN711	1-568-455-11	PIN, CONNECTOR (PC BOARD) 10P			
		< DIODE >			
D701	8-719-911-19	DIODE 1SS119			

CD MAIN

Ref.No.	Part No.	Description	Remark
		< IC >	
IC701	8-752-039-03	IC CXA1421M	
IC702	8-752-053-73	IC CXA1372AQ	
IC703	8-752-337-26	IC CXD2500AQ	
IC704	8-759-148-30	IC uPD6376GS	
IC705	8-759-503-98	IC SM5840DS	
IC706	8-759-518-59	IC BA6296FP	
IC801	8-752-830-87	IC CXP5084H-636Q	
IC802	8-759-971-11	IC PST529D	
		< COIL >	
L702	1-410-335-11	INDUCTOR 150uH (NEW)	
L702	1-410-521-11	INDUCTOR 180uH (FORMER)	
L703	1-410-501-11	INDUCTOR 2.2uH	
		< TRANSISTOR >	
Q701	8-729-801-84	TRANSISTOR 2SB1013-4	
Q702	8-729-900-63	TRANSISTOR DTA124ES	
Q703	1-807-872-11	TRANSISTOR KSR1010 (FORMER)	
Q703	8-729-904-39	TRANSISTOR DTC114TS (NEW)	
Q704	8-729-902-80	TRANSISTOR DTA114YS	
Q705	8-729-140-97	TRANSISTOR 2SB734-34	
Q731	1-807-872-11	TRANSISTOR KSR1010 (FORMER)	
Q731	8-729-904-39	TRANSISTOR DTC114TS (NEW)	
Q741	1-807-872-11	TRANSISTOR KSR1010 (FORMER)	
Q741	8-729-904-39	TRANSISTOR DTC114TS (NEW)	
Q801	8-729-806-30	TRANSISTOR 2SC4048 (NEW)	
Q801	8-729-904-36	TRANSISTOR DTC114YS (FORMER)	
		< RESISTOR >	
R700	1-247-806-11	CARBON 91 5% 1/4W	
R701	1-249-397-11	CARBON 22 5% 1/4W	
R702	1-249-433-11	CARBON 22K 5% 1/4W	
R703	1-249-431-11	CARBON 15K 5% 1/4W	
R704	1-249-431-11	CARBON 15K 5% 1/4W	
R705	1-249-441-11	CARBON 100K 5% 1/4W	
R706	1-249-435-11	CARBON 33K 5% 1/4W	
R707	1-247-885-00	CARBON 180K 5% 1/4W	
R708	1-247-862-11	CARBON 20K 5% 1/4W	
R709	1-249-435-11	CARBON 33K 5% 1/4W	
R710	1-249-417-11	CARBON 1K 5% 1/4W	
R711	1-247-896-11	CARBON 510K 5% 1/4W	
R712	1-247-883-00	CARBON 150K 5% 1/4W	
R713	1-249-429-11	CARBON 10K 5% 1/4W	
R714	1-249-417-11	CARBON 1K 5% 1/4W	
R715	1-247-887-00	CARBON 220K 5% 1/4W	
R716	1-249-429-11	CARBON 10K 5% 1/4W	
R717	1-249-423-11	CARBON 3.3K 5% 1/4W	

Ref.No.	Part No.	Description	Remark
R718	1-247-881-00	CARBON 120K 5% 1/4W	
R719	1-249-423-11	CARBON 3.3K 5% 1/4W	
R720	1-249-429-11	CARBON 10K 5% 1/4W	
R721	1-249-441-11	CARBON 100K 5% 1/4W	
R724	1-249-417-11	CARBON 1K 5% 1/4W	
R725	1-249-429-11	CARBON 10K 5% 1/4W	
R726	1-249-417-11	CARBON 1K 5% 1/4W	
R727	1-249-441-11	CARBON 100K 5% 1/4W	
R728	1-249-437-11	CARBON 47K 5% 1/4W	
R729	1-249-417-11	CARBON 1K 5% 1/4W	
R730	1-249-409-11	CARBON 220 5% 1/4W	
R731	1-249-417-11	CARBON 1K 5% 1/4W	
R737	1-249-440-11	CARBON 82K 5% 1/4W	
R741	1-249-417-11	CARBON 1K 5% 1/4W	
R760	1-249-428-11	CARBON 8.2K 5% 1/4W	
R761	1-249-437-11	CARBON 47K 5% 1/4W	
R762	1-249-430-11	CARBON 12K 5% 1/4W	
R764	1-249-435-11	CARBON 33K 5% 1/4W	
R766	1-249-437-11	CARBON 47K 5% 1/4W	
R767	1-249-426-11	CARBON 5.6K 5% 1/4W	
R768	1-249-405-11	CARBON 100 5% 1/4W	
R769	1-249-395-11	CARBON 15 5% 1/4W	
R770	1-249-411-11	CARBON 330 5% 1/4W	
R771	1-249-425-11	CARBON 4.7K 5% 1/4W	
R781	1-249-405-11	CARBON 100 5% 1/4W (NEW)	
R801	1-249-405-11	CARBON 100 5% 1/4W	
R802	1-249-405-11	CARBON 100 5% 1/4W	
R804	1-249-435-11	CARBON 33K 5% 1/4W	
R805	1-249-435-11	CARBON 33K 5% 1/4W	
R806	1-249-435-11	CARBON 33K 5% 1/4W	
R809	1-249-437-11	CARBON 47K 5% 1/4W	
R811	1-249-441-11	CARBON 100K 5% 1/4W	
R812	1-249-433-11	CARBON 22K 5% 1/4W	
R813	1-249-437-11	CARBON 47K 5% 1/4W	
R814	1-249-437-11	CARBON 47K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV701	1-230-497-11	RES, ADJ, CARBON 22K	
RV702	1-230-497-11	RES, ADJ, CARBON 22K	
RV703	1-230-497-11	RES, ADJ, CARBON 22K	
RV704	1-230-497-11	RES, ADJ, CARBON 22K	
		< CERAMIC >	
X801	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)	
		< CERAMIC >	
XF701	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)	

****

CONTROL | **H/P** | **LEAF SW** | **MD** | **MOTOR**

Ref. No.	Part No.	Description			Remark
*	1-641-698-11	CONTROL BOARD			
		**********			
		< CONNECTOR >			
* CN801	1-566-970-11	HOUSING, CONNECTOR (PC BOARD) 8P			
* CN802	1-568-451-11	HOUSING, CONNECTOR (PC BOARD) 10P			
* CN803	1-568-451-11	HOUSING, CONNECTOR (PC BOARD) 10P			
		< LIQUID CRYSTAL DISPLAY PANEL >			
LCD801	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< SWITCH >			
S801	1-572-199-11	SWITCH, KEY BOARD (PLAY▷)			
S802	1-572-199-11	SWITCH, KEY BOARD (STOP■)			
S803	1-572-199-11	SWITCH, KEY BOARD (AMS SEARCH ⏮)			
S804	1-572-199-11	SWITCH, KEY BOARD (AMS SEARCH ⏭)			
S805	1-572-199-11	SWITCH, KEY BOARD (PAUSE❚❚)			
S806	1-572-199-11	SWITCH, KEY BOARD (PLAY MODE)			
S807	1-572-199-11	SWITCH, KEY BOARD (REMAIN/ENTER)			
**********					
*	1-641-694-11	H/P BOARD			
		*********			
		< CAPACITOR >			
C301	1-124-463-00	ELECT	0.1uF	20% 50V	
C302	1-124-903-11	ELECT	1uF	20% 50V	
C303	1-124-120-11	ELECT	220uF	20% 25V	(FORMER)
C303	1-124-442-00	ELECT	330uF	20% 6.3V	(NEW)
C304	1-162-306-11	CERAMIC	0.01uF	20% 16V	
C333	1-162-282-31	CERAMIC	100PF	10% 50V	
C334	1-162-282-31	CERAMIC	100PF	10% 50V	
C336	1-162-306-11	CERAMIC	0.01uF	20% 16V	
		< CONNECTOR >			
* CN308	1-565-484-11	CONNECTOR, BOARD TO BOARD 8P			
		< JACK >			
J301	1-563-330-11	JACK (MIX MIC)			
J302	1-566-891-11	JACK (PHONES)			
		< COIL >			
L301	1-401-501-11	INDUCTOR 2.2uH			
		< TRANSISTOR >			
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q302	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		< RESISTOR >			
R110	1-249-404-00	CARBON	82	5% 1/4W	
R210	1-249-404-00	CARBON	82	5% 1/4W	
R301	1-249-417-11	CARBON	1K	5% 1/4W	
R302	1-247-898-11	CARBON	620K	5% 1/4W	
R303	1-249-405-11	CARBON	100	5% 1/4W	
R304	1-249-422-11	CARBON	2.7K	5% 1/4W	
R305	1-249-421-11	CARBON	2.2K	5% 1/4W	
R309	1-249-405-11	CARBON	100	5% 1/4W	(FORMER)
R309	1-249-409-11	CARBON	220	5% 1/4W	(NEW)
**********					
*	1-641-699-11	LEAF SW BOARD			
		**********			
		< CONNECTOR >			
* CN708	1-565-480-11	CONNECTOR, BOARD TO BOARD 4P			
		< SWITCH >			
S704	1-570-013-11	SWITCH, LEAF (CD LID OPEN/CLOSE DET)			
**********					
*	1-641-690-11	MD BOARD			
		********			
		< CONNECTOR >			
* CN601	1-506-999-11	PIN, CONNECTOR (PC BOARD) 3P			
		< SWITCH >			
S601	1-571-330-21	SWITCH, LEAF (MD POWER)			
**********					
*	1-641-697-11	MOTOR BOARD			
		**********			
		< CONNECTOR >			
* CN706	1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P			
		< SWITCH >			
S703	1-570-822-21	SWITCH, LEAF (LIMIT IN)			
**********					

POWER

Ref. No.	Part No.	Description		Remark
*	1-641-688-11	POWER BOARD		
		**********		
	1-533-233-11	HOLDER, FUSE		
		< CAPACITOR >		
C901	1-101-005 00	CERAMIC	22000PF	50V
C902	1-101-005 00	CERAMIC	22000PF	50V
C903	1-101-005 00	CERAMIC	22000PF	50V
C904	1-101-005 00	CERAMIC	22000PF	50V
C905	1-126-017 11	ELECT	6800uF 20%	16V
		< CONNECTOR >		
* CN901	1-564-778-11	PLUG, CONNECTOR (2.5MM) 4P		
CN902	1-566-690-11	PLUG, CONNECTOR (2.5MM) 2P		
		< DIODE >		
D901	8-719-500-55	DIODE D3SBA10		
		< JACK >		
⚠J901	1-526-818-11	INLET, AC (AC IN ~) (US/CND:FORMER)		
⚠J901	1-526-838-11	INLET, AC (AC IN ~) (AUS)		
⚠J901	1-540-009-11	INLET, AC (AC IN ~) (US/CND:NEW)		
		< TRANSFORMER >		
⚠T902	1-424-150-11	TRANSFORMER, LINE FILTER		

RELAY 1

Ref. No.	Part No.	Description	Remark
*	1-641-691-11	RELAY 1 BOARD	
		**********	
		< CONNECTOR >	
* CN310	1-564-599-11	PIN, CONNECTOR 8P	
* CN311	1-565-484-11	CONNECTOR, BOARD TO BOARD 8P	

RELAY 2

Ref. No.	Part No.	Description	Remark
*	1-641-692-11	RELAY 2 BOARD	
		**********	
		< CONNECTOR >	
* CN314	1-569-390-11	PIN, CONNECTOR (PC BOARD) 5P	
* CN315	1-569-390-11	PIN, CONNECTOR (PC BOARD) 5P	

RELAY 3

Ref. No.	Part No.	Description	Remark
*	1-641-693 11	RELAY 3 BOARD	
		**********	
		< CONNECTOR >	
* CN312	1-569-388-11	PIN, CONNECTOR (PC BOARD) 3P	

RETAINER

Ref. No.	Part No.	Description	Remark
* CN313	1-569-388-11	PIN, CONNECTOR (PC BOARD) 3P	
*	1-641-695-11	RETAINER BOARD	
		**********	
		MISCELLANEOUS	
		**********	
218	1-452-531-11	MAGNET	
⚠255	8-848-137-11	DEVICE, OPTICAL KSS-210B	
256	X-2625-133-2	CHASSIS ASSY, TT (WITH M702 SPINDLE)	
305	1-559-620-11	CORD (WITH CONNECTOR)	
306	1-529-058-11	BUZZER	
307	1-544-148-11	SPEAKER	
ANT1	1-501-383-21	ANTENNA, TELESCOPIC	
⚠F901	1-532-286-00	FUSE, GLASS TUBE (250V/2.5A) (AUS)	
⚠F901	1-532-970-11	FUSE, GLASS TUBE (125V/3A) (US, CND)	
HE901	1-543-474-11	HEAD, MAGNETIC (ERASE) (FORMER)	
HE901	1-543-525-11	HEAD, MAGNETIC (ERASE) (NEW)	
HRP901	1-543-628-11	HEAD, MAGNETIC (REC/PB)	
LCD801	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL	
M601	X-4919-956-1	MOTOR ASSY	
M701	X-2625-132-1	GEAR ASSY, MOTOR (SLED)	
⚠T901	1-450-695-11	TRANSFORMER, POWER (US, CND)	
⚠T901	1-450-790-11	TRANSFORMER, POWER (AUS)	
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-555-074-00	CORD, POWER (AUS)	
⚠	1-557-287-11	CORD, POWER (US:FORMER, CND)	
⚠	1-696-064-11	CORD, POWER (POLARIZED) (US:NEW)	
*	3-373-797-01	INDIVIDUAL CARTON	
*	3-373-802-01	CUSHION (TOP)	
*	3-373-803-01	CUSHION (CENTER & BOTTOM) (SP)	
	3-754-348-21	MANUAL, INSTRUCTION (ENGLISH)	
	3-754-348-31	MANUAL, INSTRUCTION (FRENCH) (CND)	

HARDWARE LIST

#1	7-685-648-79	SCREW, TAPPING +BV 3X12
#2	7-685-647-79	SCREW +BTP 3X10 TYPE2 N-S
#3	7-621-770-87	SCREW +B 2.6X5
#4	7-682-549-04	SCREW +B 3X10
#5	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT
#6	7-621-772-10	SCREW +B 2X4
#7	7-685-132-19	+ PTPWH (2.6X5)
#8	7-682-648-09	SCREW +PWH 3X8
#9	7-682-548-04	SCREW +BVTT 3X8 (S)
#10	7-685-133-19	SCREW +P 2.6X6 TYPE2 SLIT
#11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3
#12	7-621-255-15	SCREW +P 2X3
#13	7-621-775-20	SCREW +B 2.6X5

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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