CFD-10

SERVICE MANUAL

Tourist Model

Model Name Using Similar Mechanism	NEW
Optical Device Name	KSM-2101BAN
Tape Transport Mechanism Type	MF-10-64

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wave length: 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.)
Spindle speed	200 r/min (rpm) to 500 r/min (rpm) (CLV)
Error correction	Sony Refined Super Strategy Cross Interleave Reed Solomon Code
Number of channels	2
Frequency response	20–20,000 Hz ± 2 dB
Wow and flutter	Below measurable limit

Radio section

Frequency range	FM: 76–108 MHz AM: 530–1,629 kHz
Aerials	FM: Telescopic antenna AM: Built-in ferrite bar antenna

Cassette-corder section

Recording system	4-track 2-channel stereo
Frequency response	TYPE I (normal) cassette: 70–10,000 Hz

General

Speaker	Full range: 10 cm dia., 3.2 ohms cone type
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
Maximum power output	5.5 W (2.75 W + 2.75 W)

— Continued on next page —

CD RADIO CASSETTE-CORDER

SONY®

Power requirements	110–120V, 220–240 V AC selectable, 50/60 Hz DC 9 V, 6 R20 (size D) batteries
Power consumption	20 W
Battery life	For CD radio cassette-corder:

	FM recording	Tape playback	CD playback
Sony SUM-1 (NS)	approx. 13.5 h	approx. 7.5 h	approx. 2.5 h
Sony Alkaline AM1	approx. 19 h	approx. 12 h	approx. 4.5 h

Dimensions	Approx. 501.5 × 156 × 238 mm (w/h/d) incl. projecting parts
Mass	4.4 kg (incl. batteries)
Supplied accessories	AC power cord (1)

Design and specifications subject to change without notice.

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

SECTION 1
SERVICING NOTES

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 brakdown 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 25 cm away from the objective lens.

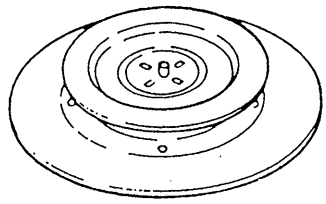
LASER DIODE AND FOCUS SEARCH OPERATION CHECK

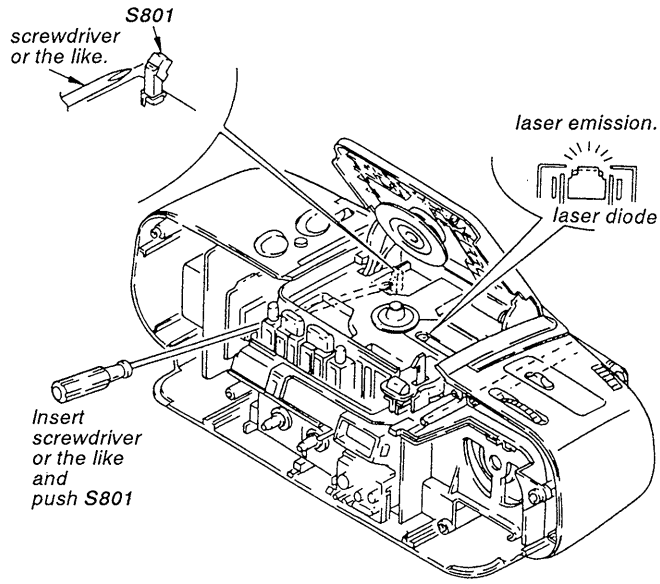
1. Make Function switch to CD position with no disc inserted.
2. Open the lid for CD.
3. Turn on S801 as following figure.
4. Press ▶ key.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus search.

CHUCK PLATE JIG ON REPAIRING

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

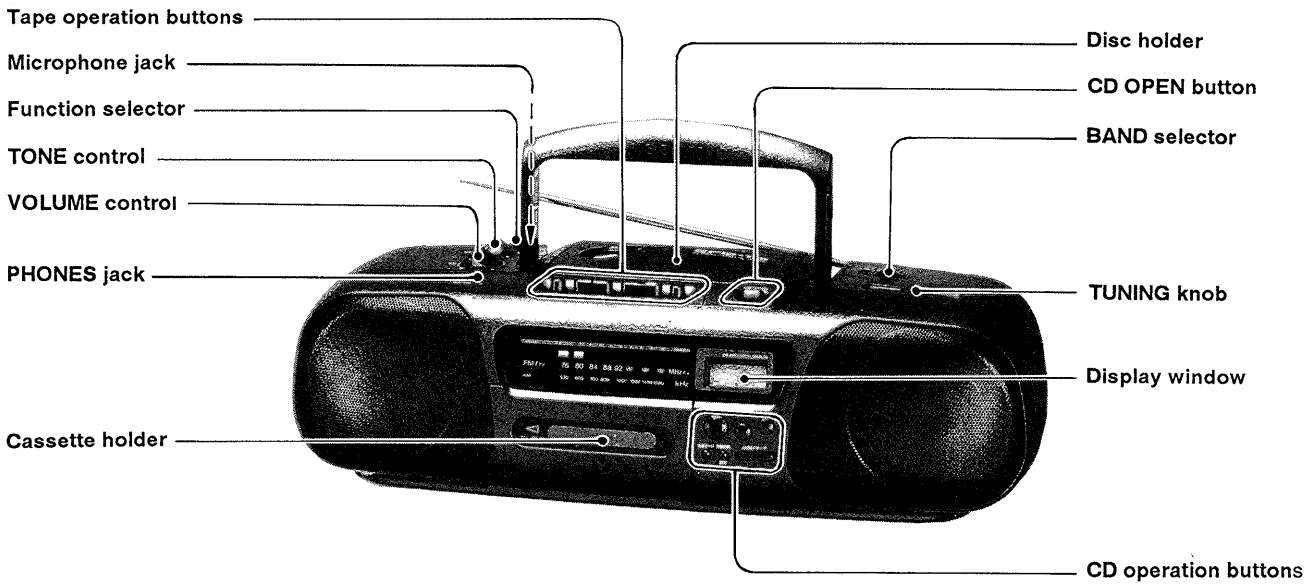
- Code number of Chuck Plate Jig: X-4918-255-1





SECTION 2
GENERAL

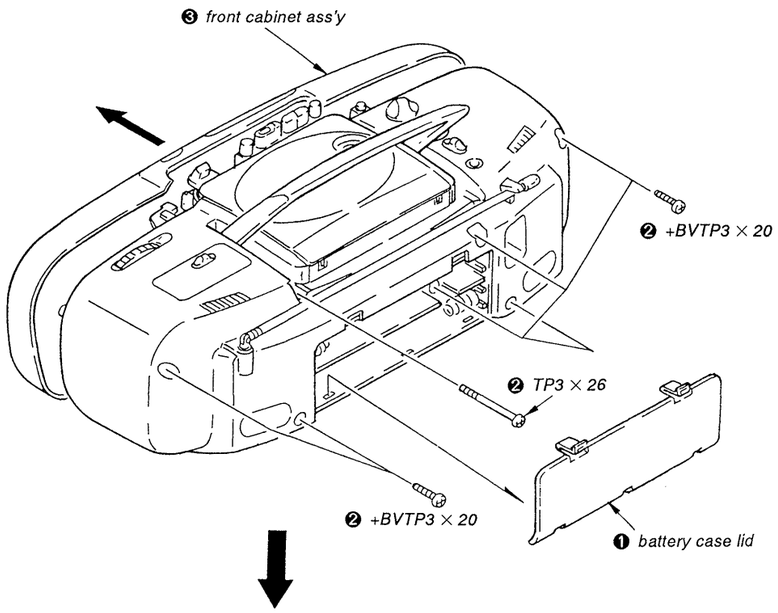
- **Parts Identification**



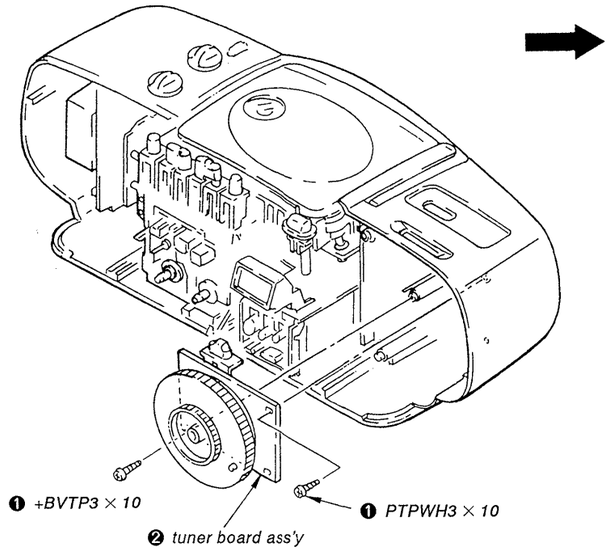
SECTION 3
DISASSEMBLY

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

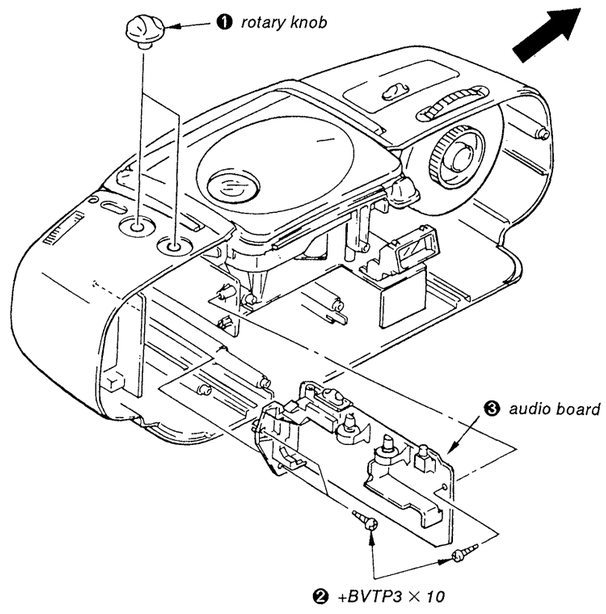
FRONT CABINET ASS'Y



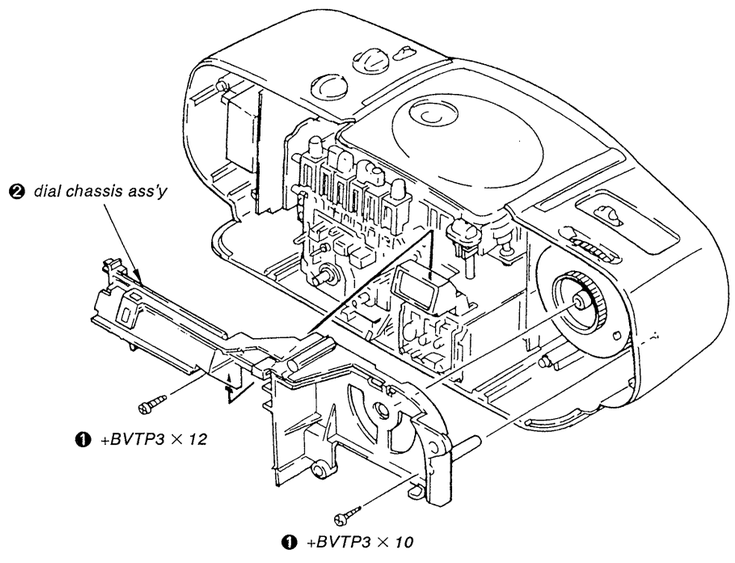
TUNER BOARD ASS'Y



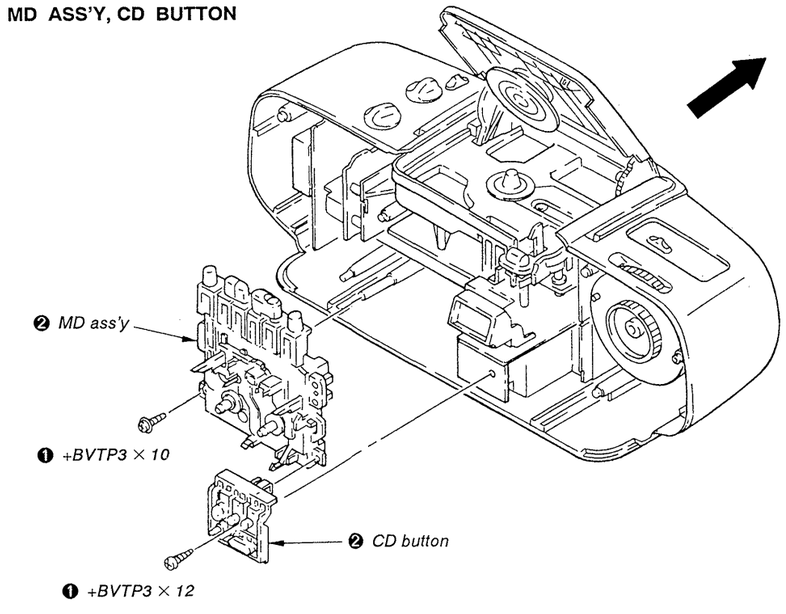
AUDIO BOARD



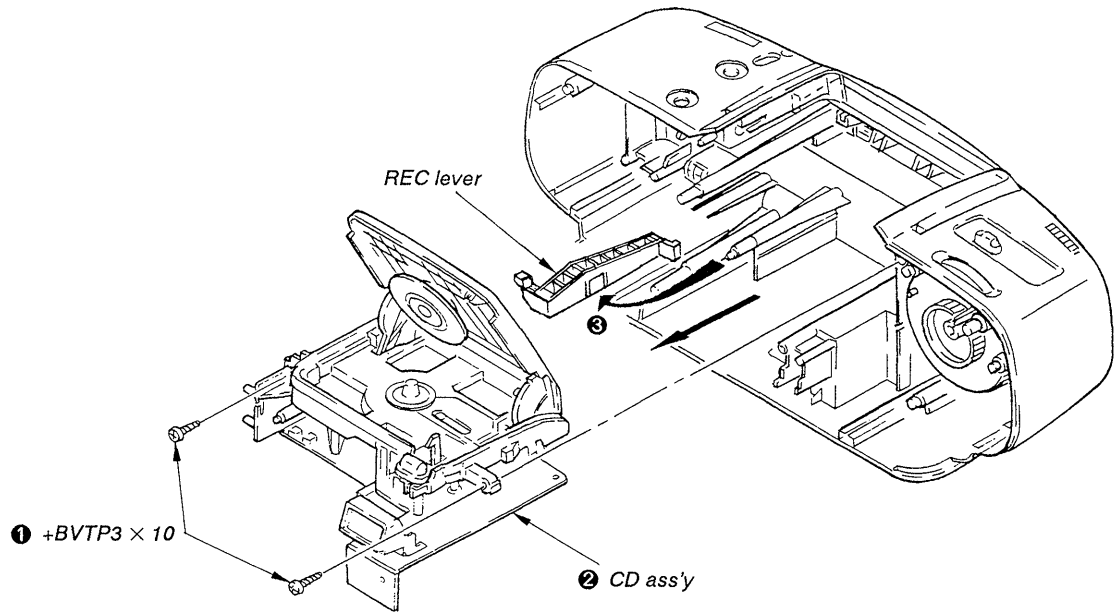
DIAL CHASSIS ASS'Y



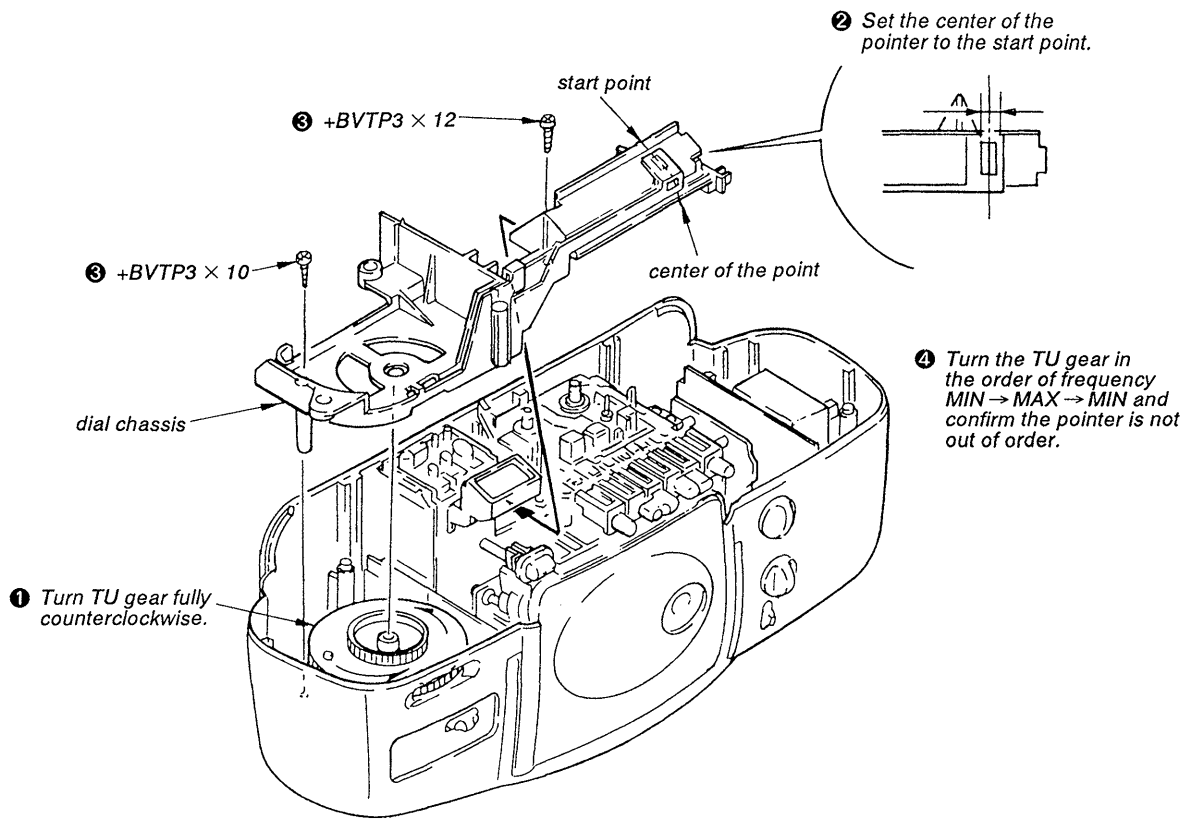
MD ASS'Y, CD BUTTON



CD ASS'Y



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 demagentizer. (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 voltge: 9V dc.

Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	22.5 – 55 g•cm (0.31 – 0.76 oz•inch)	CQ-102C
Fast Forward and Rewind	60 – 120 g•cm (0.83 – 1.67 oz•inch)	CQ-201B
Back Tension	2 – 5g•cm (0.03 – 0.07 oz•inch)	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 150 g (5.29 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Adjustments should be performed in the order given.
   Generally playback circuit adjustments should be completed before performing recording circuit adjustments.
2. Adjustments should be performed for both L-ch and R-ch.
   Switches and controls should be set as follows unless otherwise specified.

- Positions of switches and control knobs
  TONE ..... maximum
  MEGA BASS ..... off

- **Standard recording position**
  Adjust the VOLUME knob so that the following regulated input/output signal levels are obtained.

- **Standard input level**

Input Pin	MIX MIC
Signal source impedance	300 Ω
Input signal level	2.5 mV (– 50 dB)
Frequency	1 kHz

- **Standard output level**

Output Pin	Speaker (L, R)	PHONES
Signal source impedance	3.2 Ω	32 Ω
Output signal level	0.775 V (0 dB)	0.245 V (– 10 dB)

0 dB=0.775 V

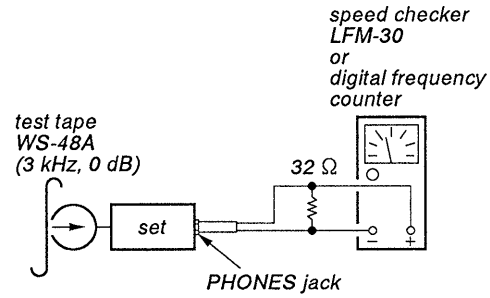
5-1. TAPE RECORDER SECTION

- **Test Tape**

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

Tape Speed Adjustment

Procedure:
Mode: playback

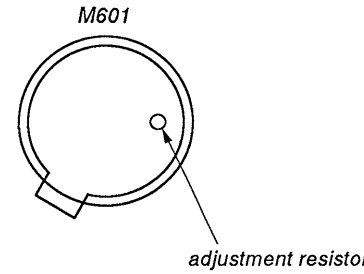


Adjustment Value:

Speed checker	Digital frequency counter
– 1.3 to 0.6%	2,990 ± 30 Hz

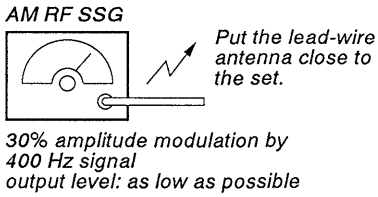
Frequency difference between the beginning and the end of the tape should be within 1.5% (45 Hz).

Adjustment Location:

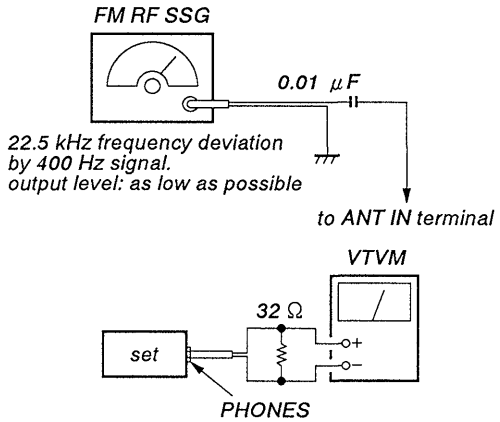


5-2. TUNER SECTION

[AM]
FUNCTION switch: RADIO
BAND switch: AM



[FM]
FUNCTION switch: RADIO
BAND switch: FM



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

AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	455 kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	515 kHz
CT3	1,680 kHz

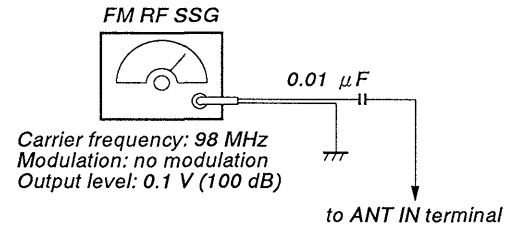
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	620 kHz
CT4	1,400 kHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	75.0 MHz
CT1	109.5 MHz

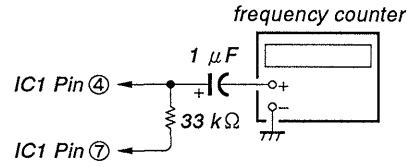
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	75.0 MHz
CT2	109.5 MHz

FM VCO Adjustment

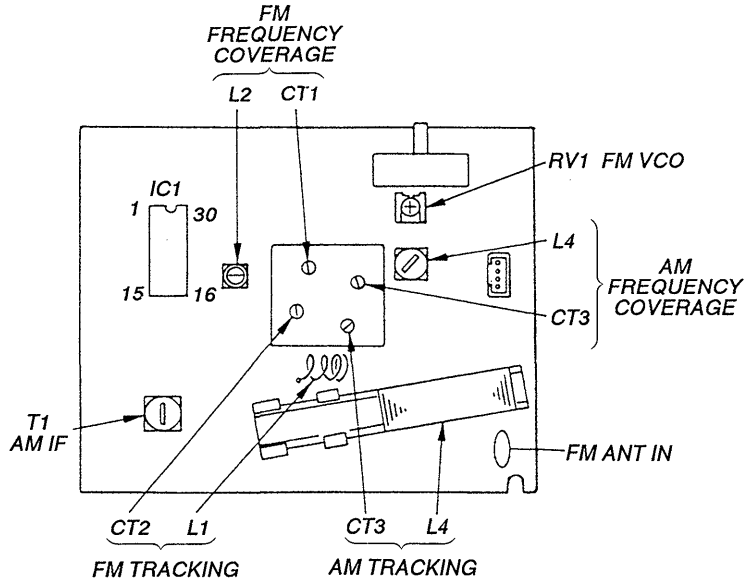
Procedure:



1. Connect frequency counter to the positions shown below.
2. Tune the set to 98 MHz.
3. Adjust RV1 for 76 kHz ± 500 Hz reading on the frequency counter.



- **Adjusting Parts Location**



5-3. CD SECTION

Notes on Adjustment

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

How to Put the Set into Service Mode

1. Short-circuit between TP TEST and ground on the CD main board.
2. Tune POWER on. (Set the FUNCTION switch to CD position.)
3. LCD801 indicator blinks the test mode pattern.

Before Adjustment

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

- **Sled Motor Check**

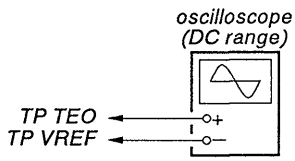
1. Press ■ key for long.
2. Press ▶▶| , |◀◀ keys and confirm that the FOP moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
   ▶▶| : FOP moves to the outer circumference
   |◀◀ : FOP moves to the inner circumference
3. Press ■ key for long.
4. Confirm that FOP moving operations stops. If it does not, press ■ key again longer.

- **Focus Search Check**

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

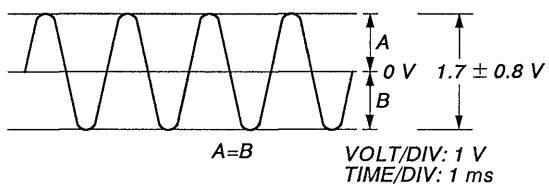
E-F Balance Adjustment

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



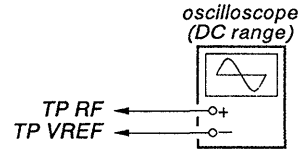
Adjustment Procedure:

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



Focus Bias Adjustment

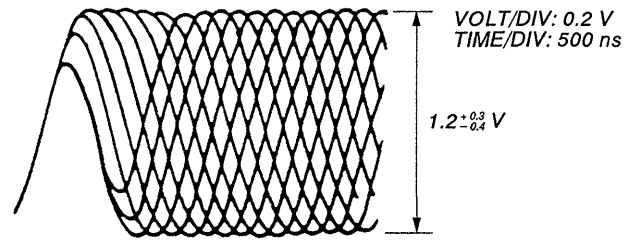
This adjustment is to be done when the optical block is replaced.



Adjustment Procedure:

1. Connect the oscilloscope between TP RF and TP VREF.
2. Put the set into service mode.
3. Press ▶▶| and |◀◀ keys 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 ▶ key.
5. Press ▌▌ key (Tracking and sledding go 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 service mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



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

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 pickup 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.

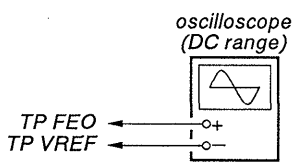
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Gain / Symptoms	Focus	Tracking
• The time until music starts becomes longer for STOP ➡ ▶ PLAY or automatic selection (⏮ , ⏭ buttons pressed). (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP ➡ ▶ PLAY 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.

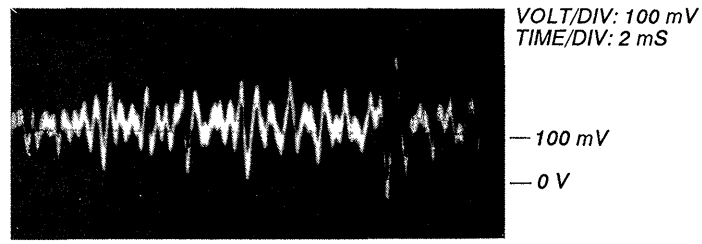
– Simple Adjustment –

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



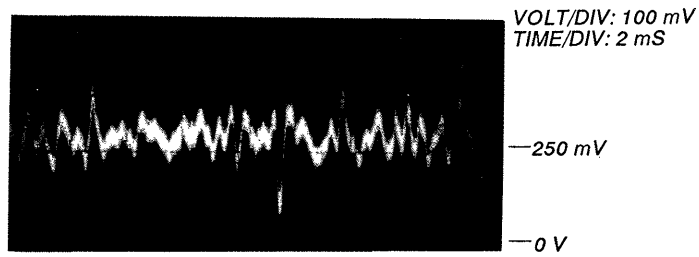
Procedure:

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 service mode.
3. Insert disc (YEDS-18) and press ▶ PLAY button.
4. Press ⏸ key (Tracking and sledding go on).
5. Connect the oscilloscope between TP FEO and TP VREF.
6. Adjustment RV703 so that the waveform is as shown in the figure below. (focus gain adjustment)

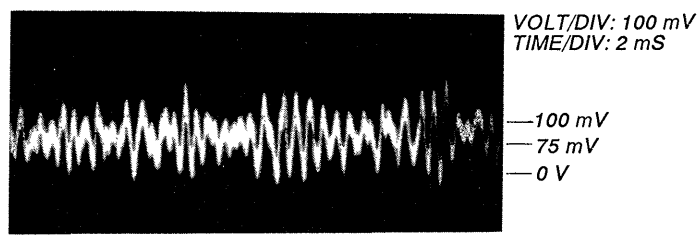


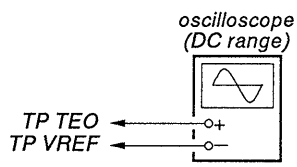
- Incorrent Examples (DC level changes more than on adjusted waveform)

low focus gain

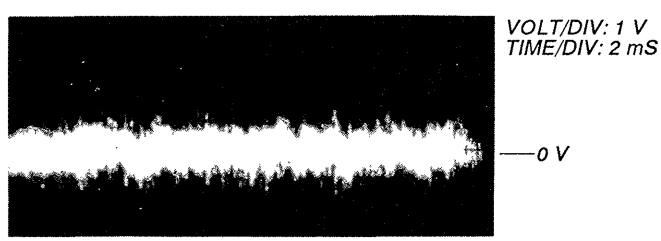


high focus gain



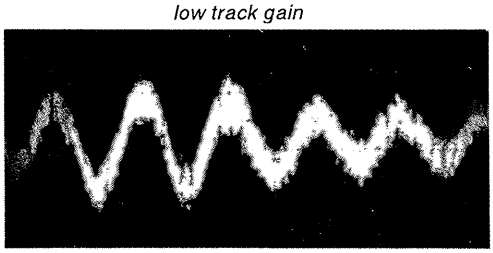


7. Connect the oscilloscope between TP TEO and TP VREF.
8. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)



- Incorrect Examples (fundamental wave appears)

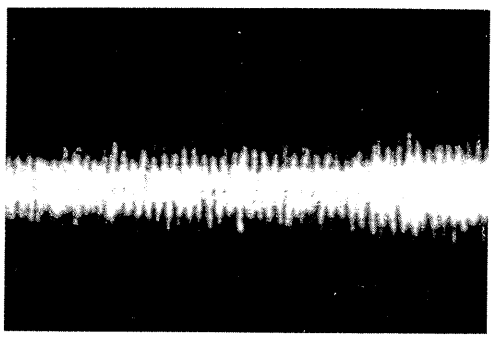
low track gain



VOLT/DIV: 1 V
TIME/DIV: 2 mS

0 V

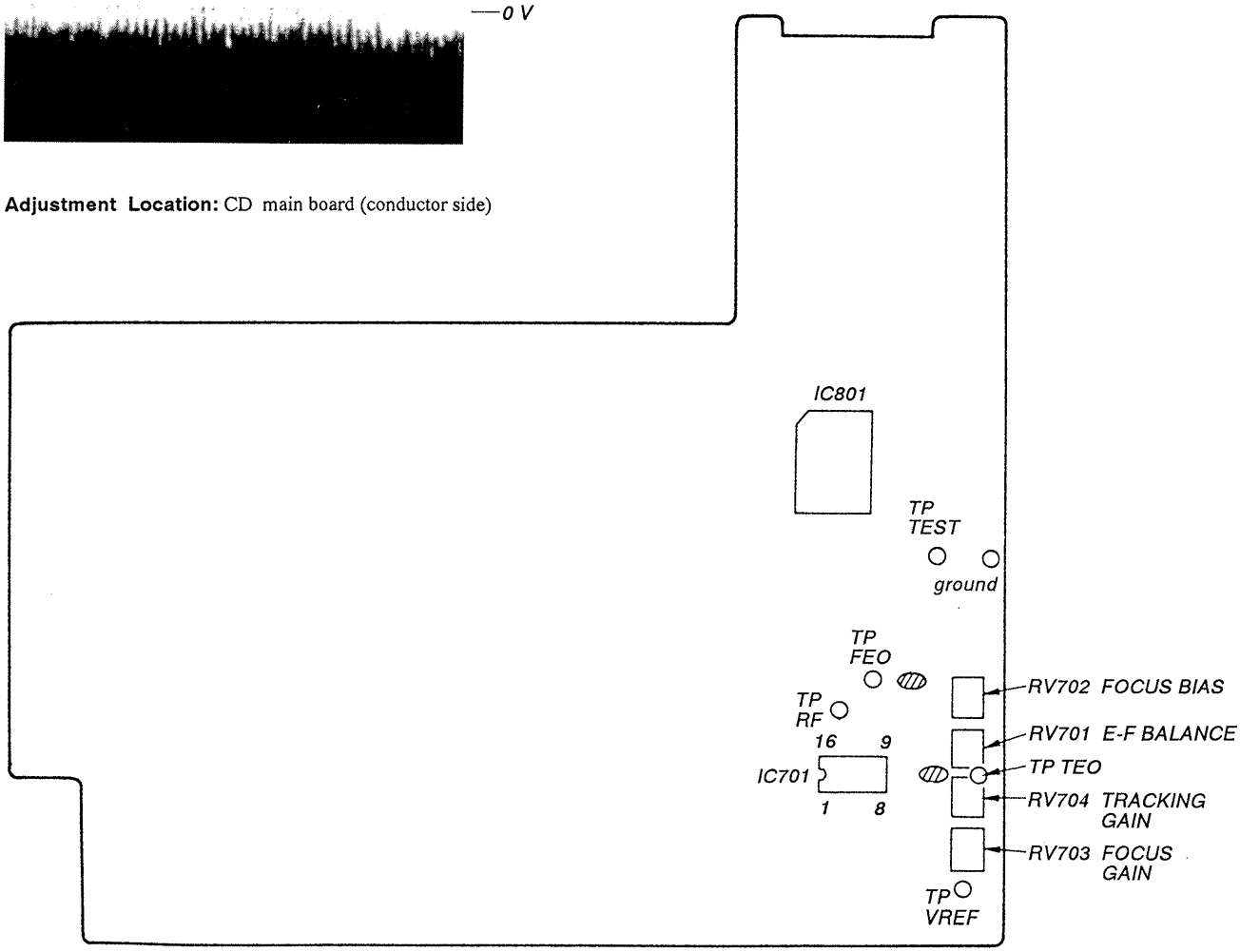
high track gain
(higher fundamental wave than for low gain)



VOLT/DIV: 1 V
TIME/DIV: 2 mS

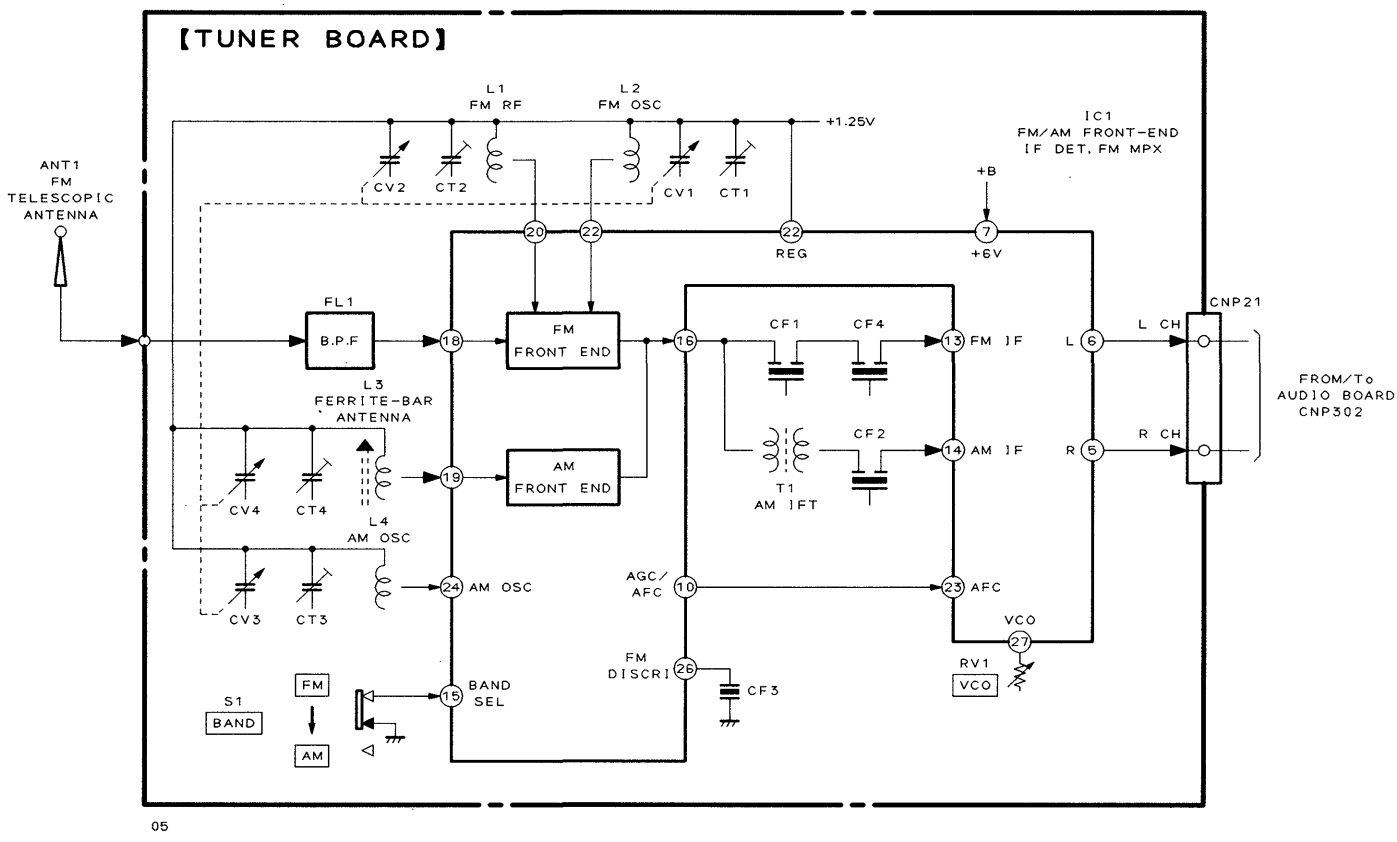
0 V

Adjustment Location: CD main board (conductor side)

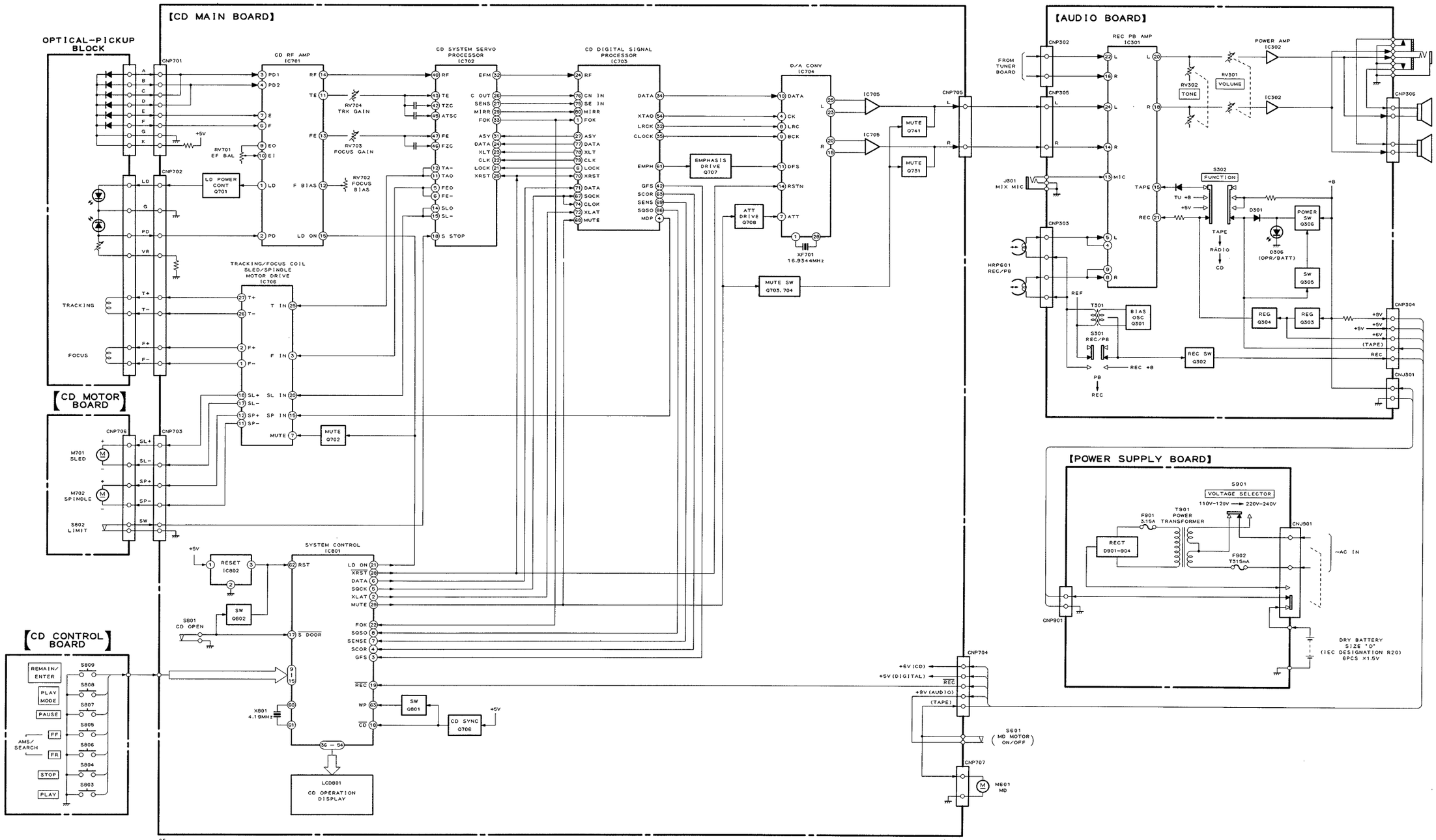


SECTION 6
DIAGRAMS

6-1. TUNER SECTION BLOCK DIAGRAM



6-2. CD, TAPE SECTION BLOCK DIAGRAM



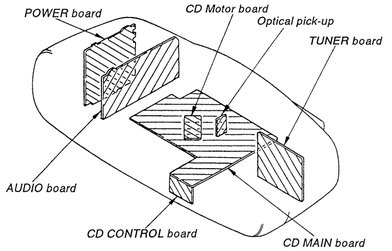
6-3. CD, TAPE SECTION PRINTED WIRING BOARDS

• See pages 24 and 25 for Semiconductor Lead Layouts.

• **Semiconductor Location**

Ref. No.	Location
D301	C-5
D302	C-6
D303	C-5
D305	C-3
D306	A-3
D307	C-6
D308	C-5
D309	B-8
D310	B-8
D311	C-6
D701	F-17
D901	J-6
D902	I-4
D903	I-5
D904	J-4
IC301	C-8
IC302	C-4
IC701	I-18
IC702	I-16
IC703	F-15
IC704	F-13
IC705	G-12
IC706	I-13
IC801	F-18
IC802	F-13
Q301	D-6
Q302	C-6
Q303	D-3
Q304	D-5
Q305	C-5
Q306	C-5
Q701	I-17
Q702	I-17
Q703	H-13
Q704	H-13
Q706	G-16
Q707	G-14
Q708	H-14
Q731	F-12
Q741	F-12
Q801	F-17
Q802	F-16

• **Circuit Boards Location**



【AUDIO BOARD】

【POWER BOARD】

【CD MOTOR BOARD】

【CD CONTROL BOARD】

【CD MAIN BOARD】

6-4. CD, TAPE SECTION SCHEMATIC DIAGRAM • See pages 26 and 27 for IC Block Diagrams.

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- [ ]← : indicates side identified with part number.
- △ : internal component.

Note on Schematic Diagram:

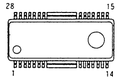
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- —WW— : fusible resistor.

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

- ▭ : B + Line.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  Tuner Section
  no mark : Common (FM)
  ( ) : AM
  CD Main board
  no mark : CD play
  Audio board
  no mark : Common
  ( ) : CD play
  < > : Tape
  《 》 : Tape REC
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⊳ : PB
  ⊳⊳ : REC
  ⇨ : CD

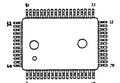
- Semiconductor Lead Layouts

BA6296FP



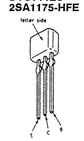
CXA1421M

CXP5084H-636Q



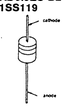
MC4558-C

DTA114YS
DTA124ES
DTC114TS
DTC143ES
DTC144ES
2SA1175-HFE

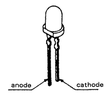


2SB1013-4
2SC1815-GR
2SC2001TP-K1K2

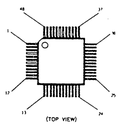
MTZJ-5.6C
RD3.6ES-B2
RD6.8ES-B2
1SS119



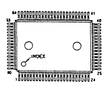
SLR-34VR3F



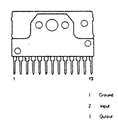
CXA1372AQ



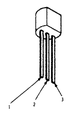
CXD2500BQ



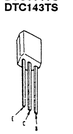
LA4597



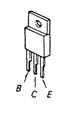
PST572D



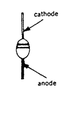
DTC114YS
DTC143TS



2SD1944E-K

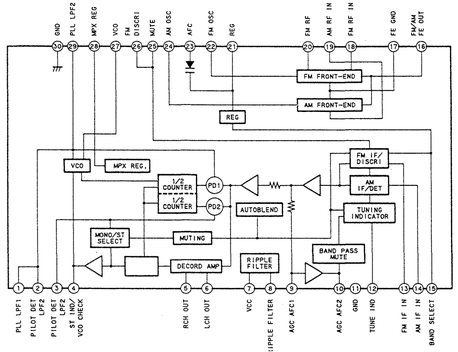


U15G

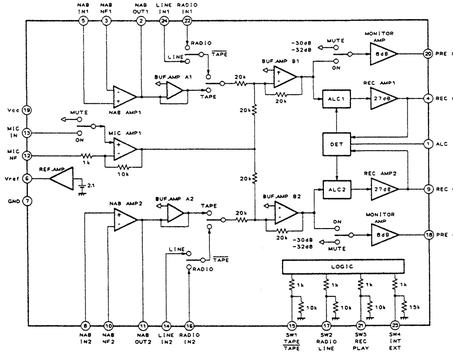


- IC Block Diagrams

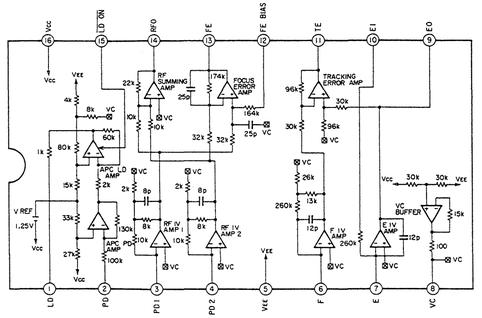
IC1 CXA1238S



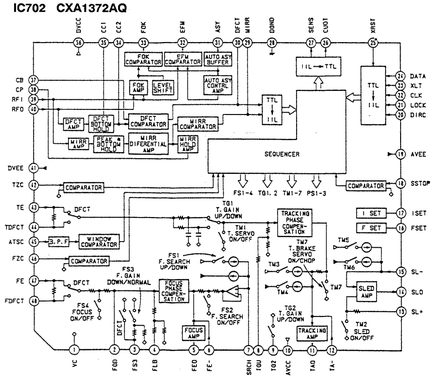
IC301 TA2036N



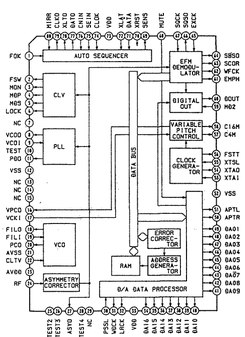
IC701 CXA1421M



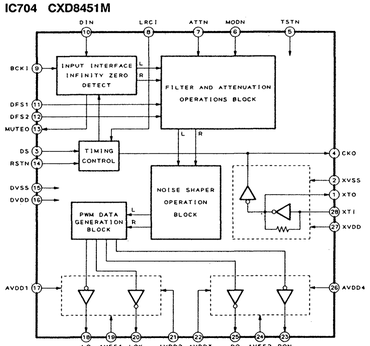
IC702 CXA1372AQ



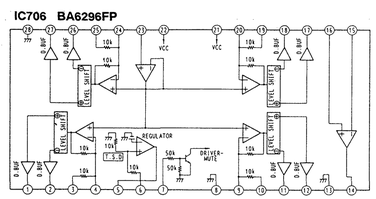
IC703 CXD2500BQ



IC704 CXD8451M

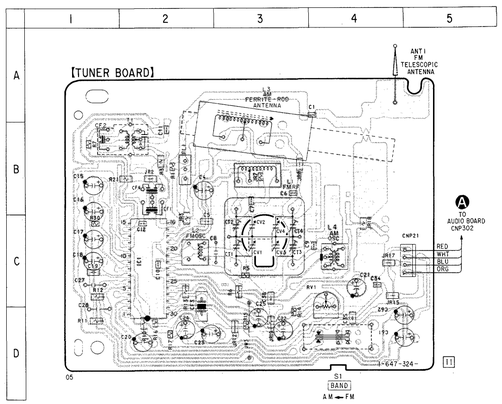


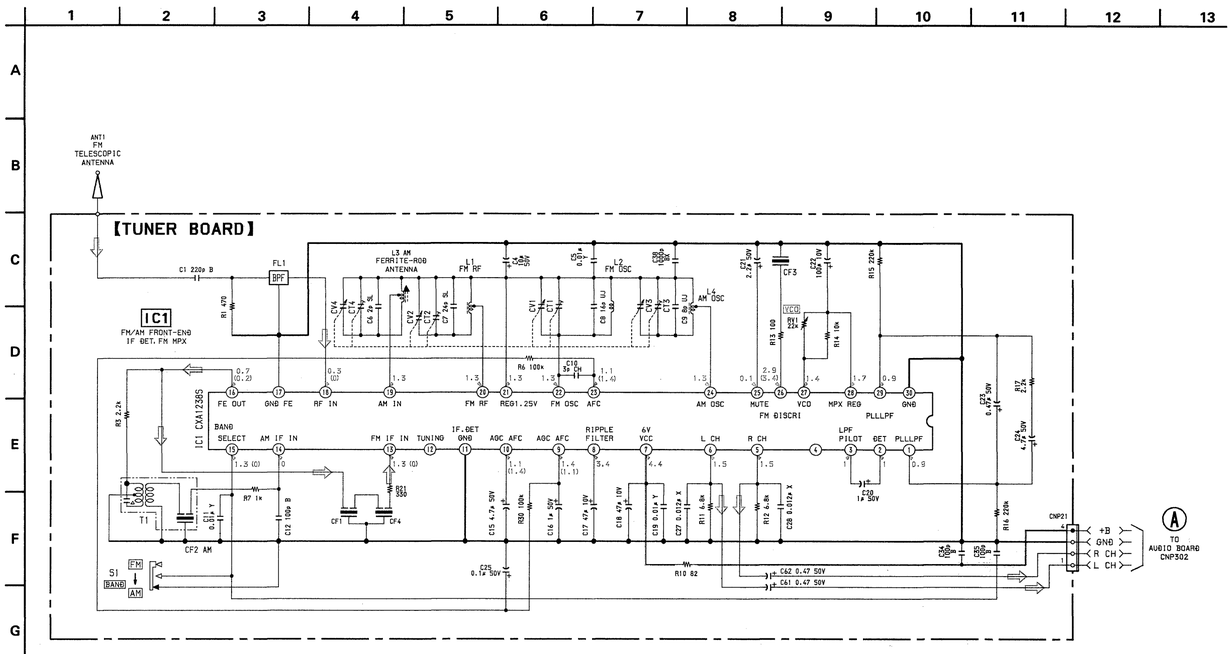
IC706 BA6296FP



6-5. TUNER SECTION PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

• See page 19 for Notes.





- Semiconductor Location

Ref. No.	Location
IC1	C-2

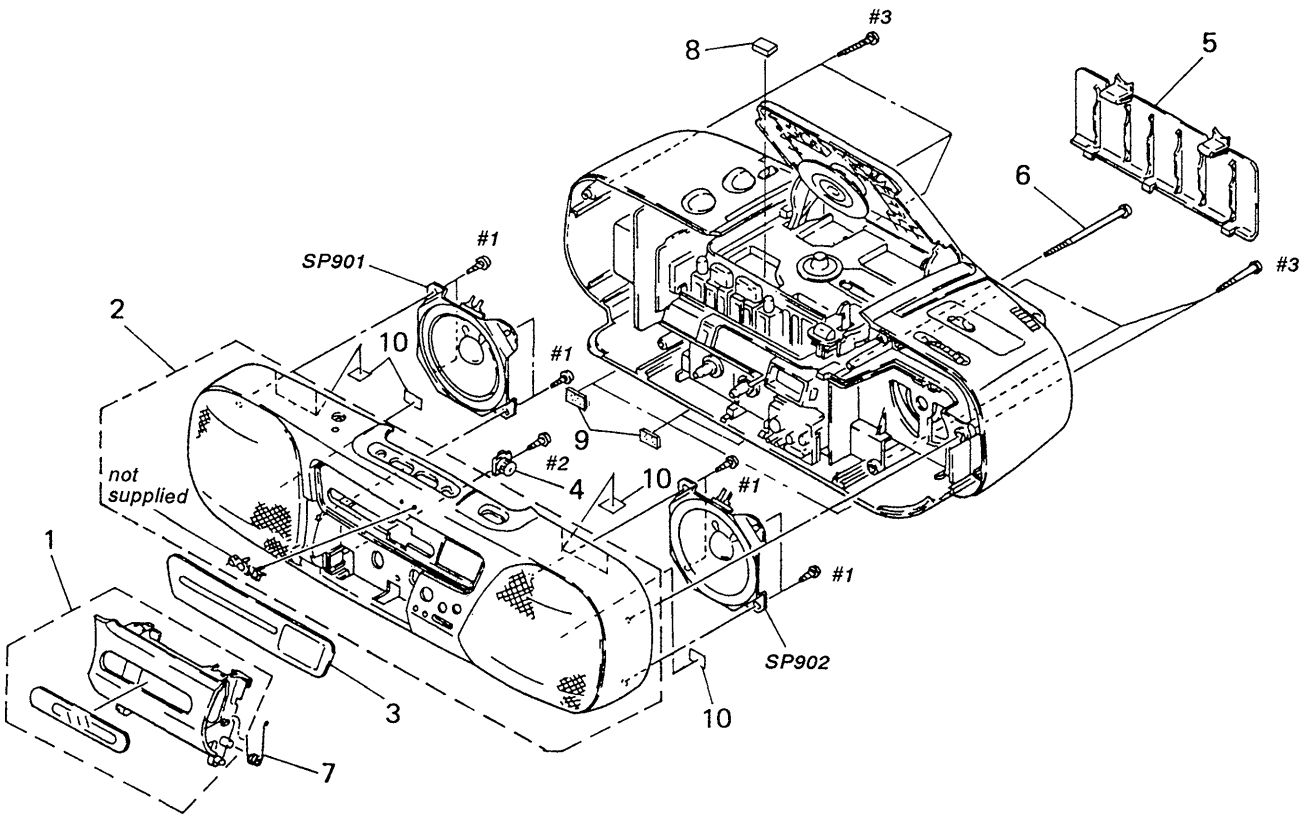
SECTION 7
EXPLODED VIEWS

NOTE:

- -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
- 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 is given in the last of this parts list.

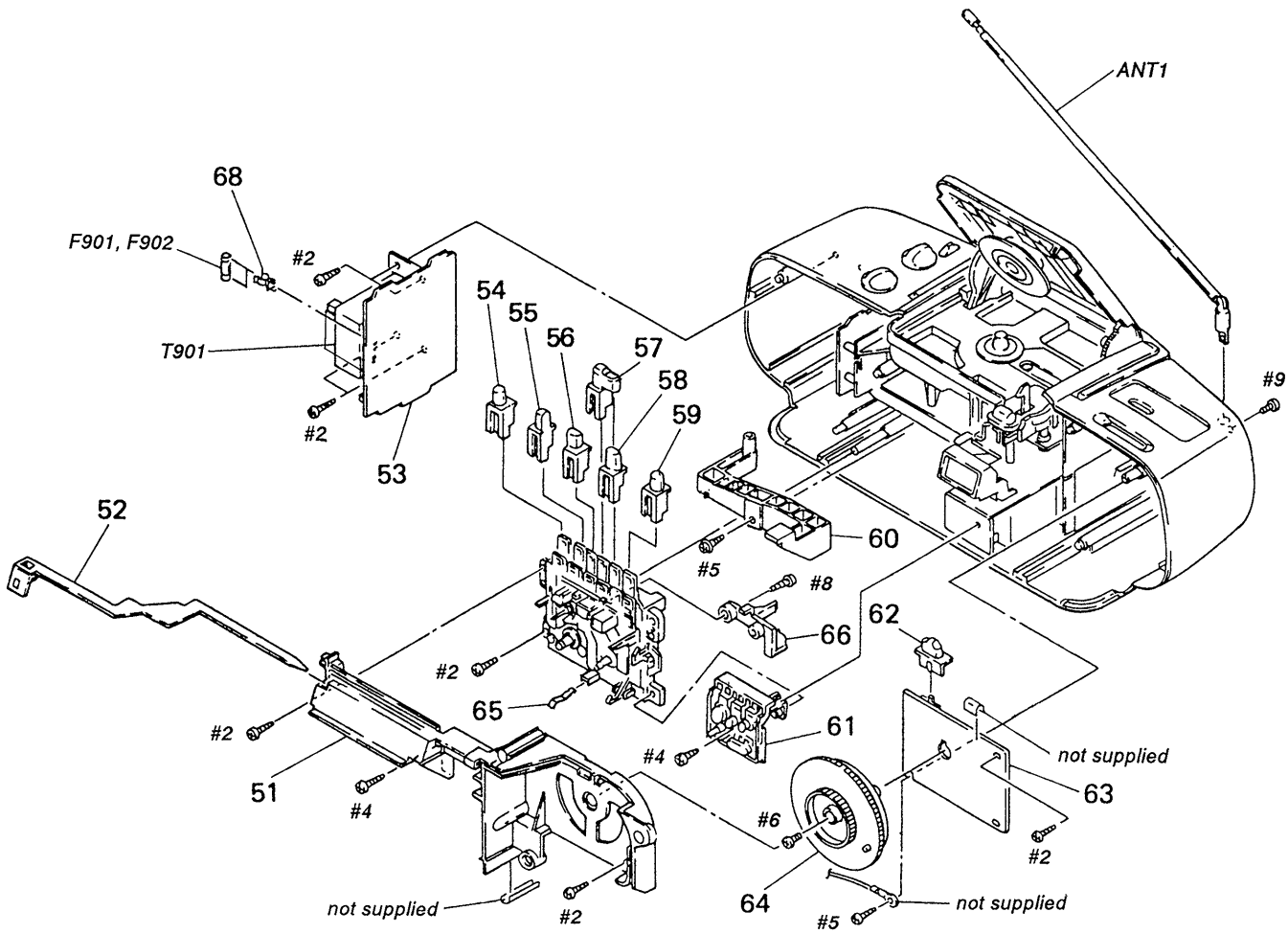
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) FRONT CABINET ASSEMBLY SECTION



Ref. No.	Part No.	Description	Remark
1	X-3366-352-1	HOLDER (CASSETTE) ASSY	
2	X-3367-434-1	FRONT CABINET SUB ASSY	
3	3-386-939-21	PLATE (LCD), TRANSPARENT	
4	3-351-377-11	DAMPER	
5	3-368-522-01	LID, BATTERY CASE	
6	4-926-715-01	SCREW (3X62), TAPPING	
7	3-386-930-01	SPRING, CASSETTE	
* 8	3-329-460-01	SPACER	
9	3-831-441-XX	CUSHION, SPEAKER	
* 10	3-332-189-01	SPACER (A)	
SP901	1-504-269-21	SPEAKER (10CM)	
SP902	1-504-269-21	SPEAKER (10CM)	

(2) REAR CABINET ASSEMBLY SECTION

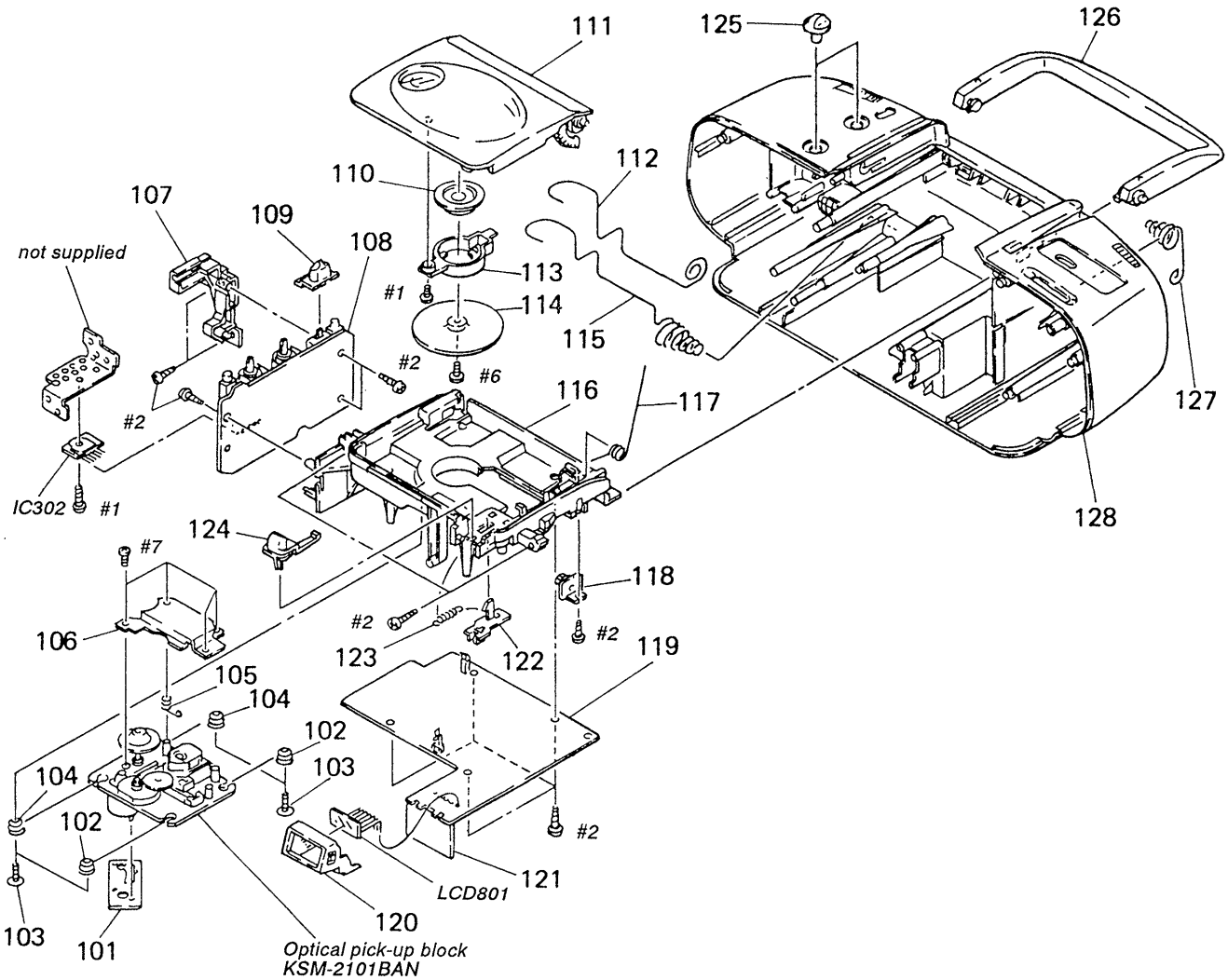


Ref. No.	Part No.	Description	Remark
51	3-386-911-01	CHASSIS (DIAL)	
52	3-386-912-02	POINTER	
* 53	1-645-325-21	POWER BOARD	
54	3-386-914-01	BUTTON (PAUSE)	
55	3-386-915-01	BUTTON (FF)	
56	3-386-916-01	BUTTON (REW)	
57	3-386-917-01	BUTTON (PLAY)	
58	3-386-918-01	BUTTON (REC)	
59	3-386-919-01	BUTTON (STOP)	
* 60	3-386-920-02	LEVER (REC)	
61	3-386-926-01	BUTTON (CD)	

Ref. No.	Part No.	Description	Remark
62	3-386-929-01	KNOB (BAND)	
* 63	A-3264-647-A	TUNER BOARD, COMPLETE	
64	3-386-913-01	KNOB (TUNING)	
65	4-928-957-01	RETAINER, CASSETTE	
66	3-386-928-01	LEVER (MD)	
68	1-533-233-11	HOLDER, FUSE	
ANT1	1-501-378-11	ANTENNA, TELESCOPIC	
⚠F901	1-532-286-00	FUSE, TIME-LAG 2.5A 250V	
⚠F902	1-532-235-00	FUSE, TIME-LAG 315mA 250V	
⚠T901	1-423-808-11	TRANSFORMER, POWER	

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

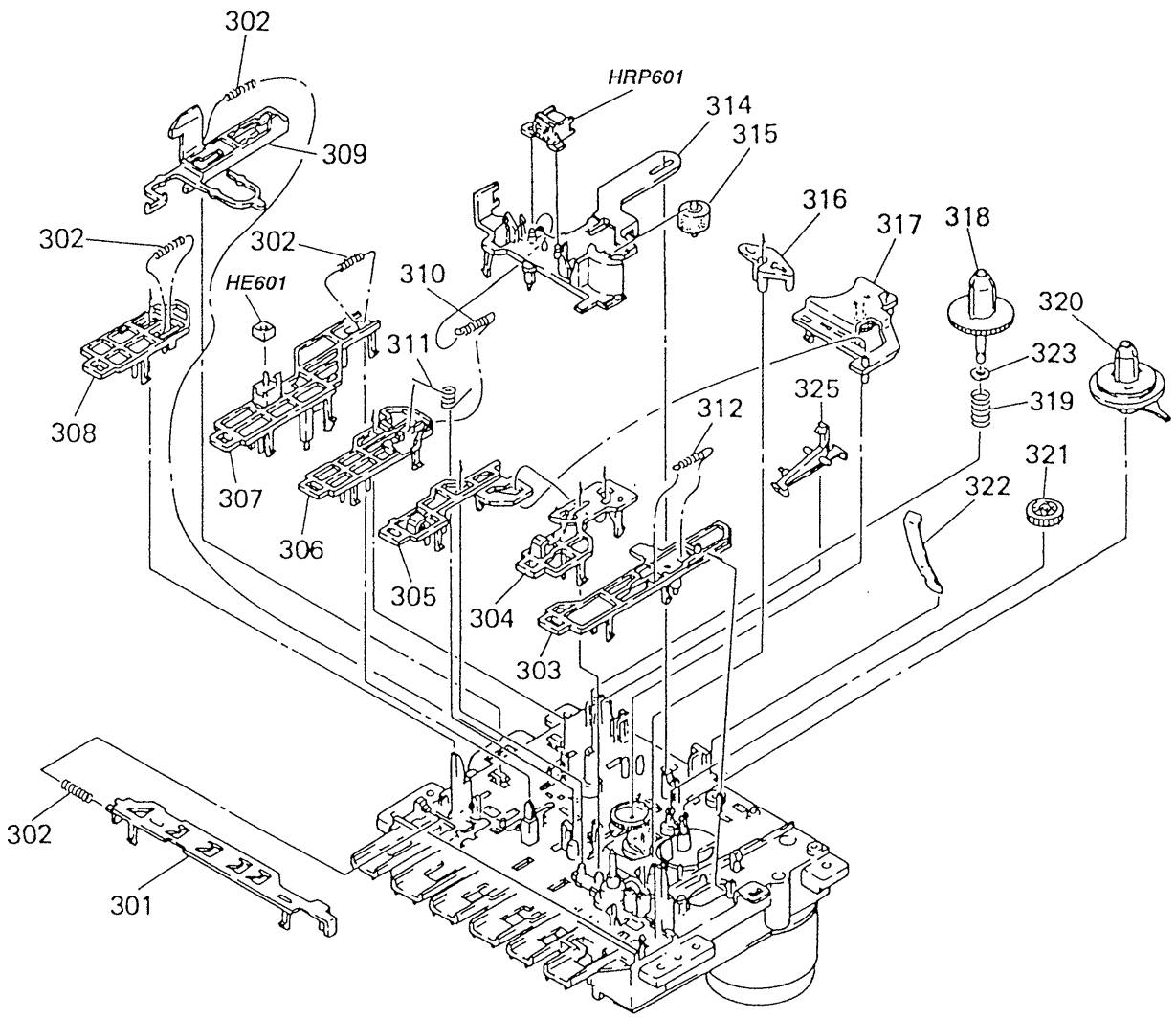
(3) CD ASSEMBLY SECTION



Ref. No.	Part No.	Description	Remark
* 101	1-647-321-11	CD CONTROL MOTOR BOARD	
102	4-922-858-01	DAMPER (PINK)	
103	4-931-373-01	SCREW, CD FITTING	
104	4-922-858-11	DAMPER (BLUE)	
105	4-931-358-01	SPRING	
106	4-928-936-11	COVER, CD	
107	3-386-924-01	HOLDER (AUDIO PCB)	
* 108	A-3264-649-A	AUDIO BOARD, COMPLETE	
109	3-386-908-01	KNOB (FUNCTION)	
110	1-452-531-11	MAGNET	
111	X-3366-353-1	LID ASSY, CD	
112	3-386-935-01	SPRING (-), BATTERY COIL	
113	3-386-925-01	HOLDER (MAGNET)	
114	3-704-435-12	PLATE (M), CHUCK	
115	3-386-934-01	TERMINAL (+), BATTERY	

Ref. No.	Part No.	Description	Remark
116	3-386-905-01	CABINET (CD)	
117	3-386-932-01	SPRING (CD)	
118	3-351-377-01	DAMPER	
* 119	A-3264-646-A	CD MAIN BOARD, COMPLETE	
120	3-386-927-01	HOLDER (LCD)	
* 121	1-647-322-11	CD CONTROL BOARD	
122	3-386-922-01	SLIDER	
123	3-386-931-01	SPRING, TENSION	
124	3-386-921-01	BUTTON (EJECT)	
125	3-386-907-01	KNOB (ROTARY)	
126	X-3366-433-1	HANDLE ASSY	
127	3-386-936-01	SPRING (+ -), TERMINAL COIL	
128	3-386-904-31	CABINET (REAR)	
IC302	8-759-820-22	IC LA4597	
LCD801	1-810-037-11	DISPLAY PANEL, LIQUID CRYSTAL	

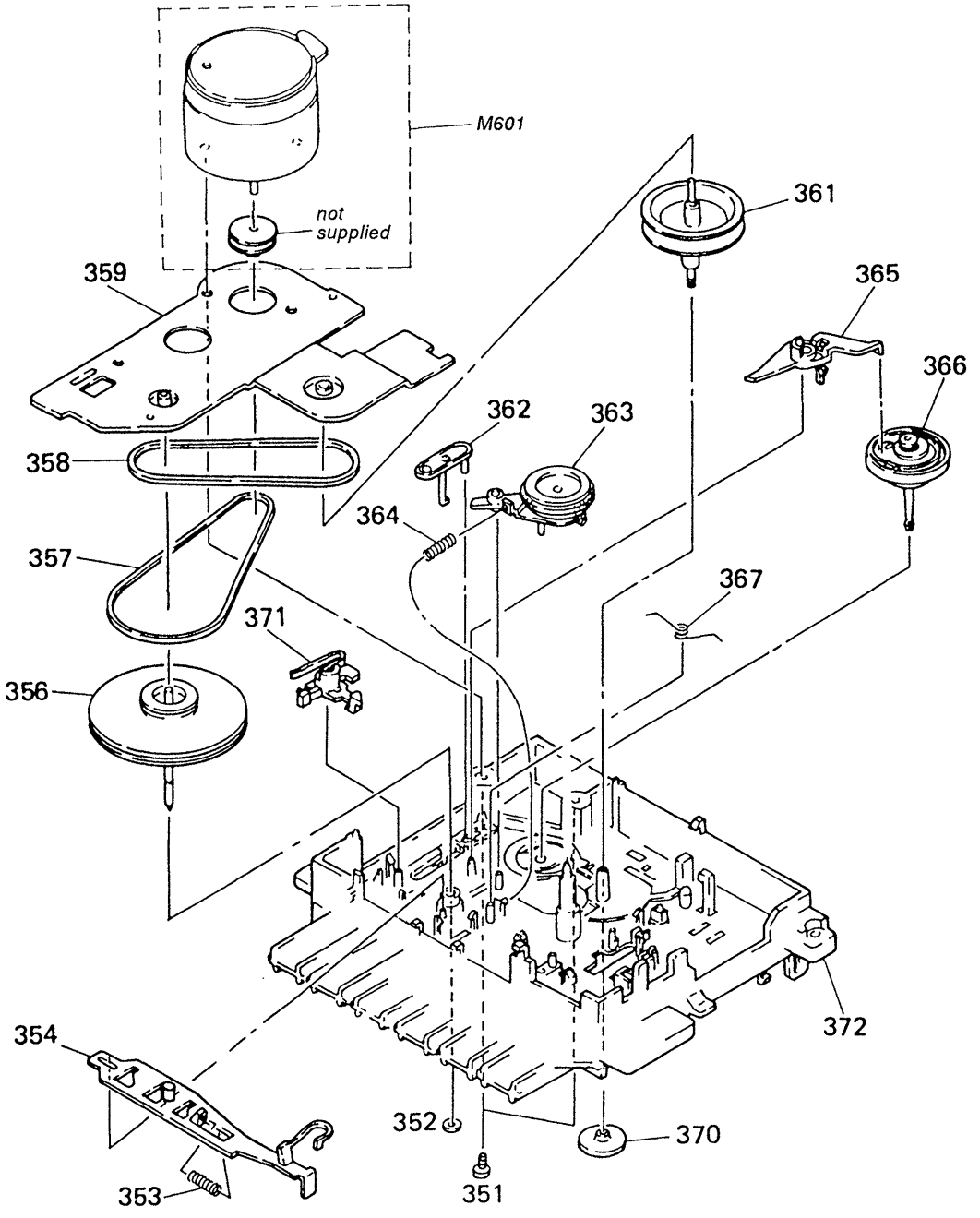
(4) TAPE TRANSPORT MECHANISM-1 (MF-10-64)



Ref. No.	Part No.	Description	Remark
301	4-932-695-11	SLIDER (FR), LOCK	
302	4-932-648-01	SPRING, COMPRESSION	
303	4-928-994-01	LEVER, PAUSE	
304	4-928-993-01	LEVER, FF	
305	4-928-992-01	LEVER, REW	
306	4-928-991-01	LEVER, PLAY	
307	4-934-511-11	LEVER (S), REC	
308	4-928-985-01	LEVER, STOP	
309	4-936-206-01	SLIDER (S), EJECT	
310	4-928-972-01	SPRING, TENSION	
311	4-928-973-01	SPRING	
312	3-313-372-21	SPRING, TENSION	
312	3-313-372-01	SPRING, TENSION	

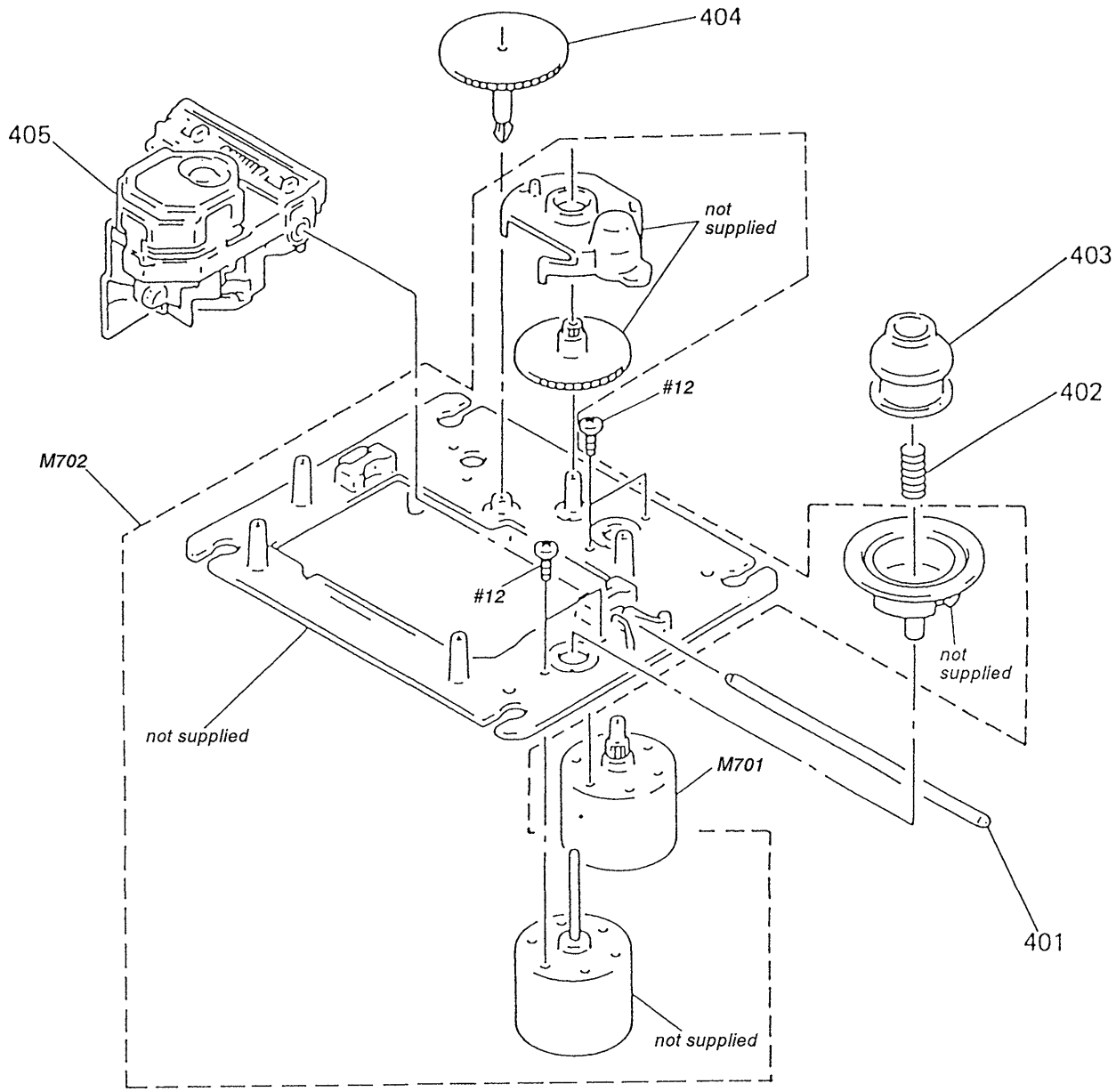
Ref. No.	Part No.	Description	Remark
314	4-932-693-03	DECK (S), HEAD	
315	4-928-962-01	PINCH ROLLER	
316	4-928-982-01	LEVER (C)	
317	X-4920-347-1	LEVER (S) ASSY, FR	
318	4-928-978-01	GEAR (C), SUPPLY REEL	
319	3-343-381-01	SPRING, COMPRESSION	
320	X-4920-350-3	GEAR (S) ASSY, T REEL	
321	3-343-285-01	GEAR, FF	
322	4-928-957-01	RETAINER, CASSETTE	
323	4-931-795-11	WASHER	
* 325	3-370-187-01	CLAW, ERASING PROTECTION	
HE601	1-543-525-11	HEAD, MAGNETIC (ERASE)	
HRP601	1-543-628-13	HEAD, MAGNETIC (RECORD/PLAYBACK)	

(5) TAPE TRANSPORT MECHANISM-2 (MF-10-64)



Ref. No.	Part No.	Description	Remark
352	3-343-358-01	RING, RETAINING	
353	4-932-656-11	SPRING, COMPRESSION	
354	4-928-996-11	LEVER, SW	
356	X-4920-349-1	WHEEL (S) ASSY, CAPSTAN	
357	4-928-951-01	BELT (CAPSTAN)	
358	4-928-974-01	BELT (MIDWAY)	
* 359	X-4918-598-1	PLATE ASSY, GROUND	
361	X-4918-580-1	PULLEY ASSY, FR	
362	4-928-961-01	PLATE, PAUSE LOCK	
363	X-4920-346-2	LEVER (S) ASSY, IDLER	
364	3-905-168-01	SPRING, COMPRESSION	
365	4-928-986-01	LEVER (S), SHUT-OFF	
366	X-4918-582-1	PLATE ASSY, TAKE-UP REEL	
367	4-928-958-01	SPRING, FR RETURN	
370	4-928-967-01	GEAR (C), MIDWAY	
371	4-928-987-01	LEVER (T), SHUT-OFF	
372	X-4920-348-1	CHASSIS (S) ASSY, MECHANICAL	
M601	X-4919-956-1	MOTOR ASSY	

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



Ref. No.	Part No.	Description	Remark
401	4-917-565-01	SHAFT (K), SLED	
402	2-625-191-01	SPRING, COMPRESSION	
403	2-625-186-01	RING (C), CENTER	
404	2-625-188-02	GEAR (A)	

Ref. No.	Part No.	Description	Remark
⚠405	8-848-137-11	PICK-UP, OPTICAL KSS-210B	
M701	X-2625-132-1	GEAR ASSY (MB), MOTOR (SLED)	
M702	X-2625-133-1	CHASSIS (MB), TT (SPINDLE)	

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

AUDIO

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

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

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

Ref.No.	Part No.	Description			Remark
*	A-3264-649-A	AUDIO BOARD, COMPLETE			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
		< CAPACITOR >			
C101	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C102	1-124-477-11	ELECT	47uF	20%	25V
C103	1-161-020-11	CERAMIC	0.039uF	10%	16V
C104	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C105	1-124-902-00	ELECT	0.47uF	20%	50V
C108	1-162-282-31	CERAMIC	100PF	10%	50V
C109	1-124-907-11	ELECT	10uF	20%	50V
C110	1-162-844-11	CERAMIC	0.027uF	10%	16V
C112	1-162-290-31	CERAMIC	470PF	10%	50V
C113	1-130-495-00	MYLAR	0.1uF	5%	50V
C114	1-124-473-11	ELECT	1000uF	20%	10V
C115	1-162-282-31	CERAMIC	100PF	10%	50V
C116	1-124-477-11	ELECT	47uF	20%	25V
C117	1-162-282-31	CERAMIC	100PF	10%	50V
C122	1-124-443-00	ELECT	100uF	20%	10V
C201	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C202	1-124-477-11	ELECT	47uF	20%	25V
C203	1-161-020-11	CERAMIC	0.039uF	10%	16V
C204	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C205	1-124-902-00	ELECT	0.47uF	20%	50V
C208	1-162-282-31	CERAMIC	100PF	10%	50V
C209	1-124-907-11	ELECT	10uF	20%	50V
C210	1-162-844-11	CERAMIC	0.027uF	10%	16V
C212	1-162-290-31	CERAMIC	470PF	10%	50V
C213	1-130-495-00	MYLAR	0.1uF	5%	50V
C214	1-124-473-11	ELECT	1000uF	20%	10V
C215	1-162-282-31	CERAMIC	100PF	10%	50V
C216	1-124-477-11	ELECT	47uF	20%	25V
C217	1-162-282-31	CERAMIC	100PF	10%	50V
C222	1-124-443-00	ELECT	100uF	20%	10V
C304	1-162-847-11	CERAMIC	0.047uF	10%	16V
C305	1-161-379-00	CERAMIC	0.01uF	20%	25V
C306	1-126-176-11	ELECT	220uF	20%	10V
C307	1-124-477-11	ELECT	47uF	20%	25V
C308	1-124-477-11	ELECT	47uF	20%	25V
C309	1-124-907-11	ELECT	10uF	20%	50V
C310	1-124-902-00	ELECT	0.47uF	20%	50V
C311	1-124-907-11	ELECT	10uF	20%	50V
C312	1-124-907-11	ELECT	10uF	20%	50V
C313	1-130-481-00	MYLAR	0.0068uF	5%	50V
C314	1-126-176-11	ELECT	220uF	20%	10V
C315	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C317	1-124-120-11	ELECT	220uF	20%	25V
C318	1-124-898-11	ELECT	4700uF	20%	16V
C321	1-161-379-00	CERAMIC	0.01uF	20%	25V
C322	1-161-379-00	CERAMIC	0.01uF	20%	25V
C324	1-126-176-11	ELECT	220uF	20%	10V
C325	1-161-379-00	CERAMIC	0.01uF	20%	25V
C326	1-161-379-00	CERAMIC	0.01uF	20%	25V
C328	1-162-282-31	CERAMIC	100PF	10%	50V
		< CONNECTOR >			
* CNP302	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP303	1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP304	1-506-989-11	PIN, CONNECTOR (PC BOARD) 7P			
CNP305	1-506-468-11	PIN, CONNECTOR 3P			
* CNP306	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNJ303	1-569-197-11	HOUSING, CONNECTOR 4P			
		< DIODE >			
D301	8-719-911-19	DIODE 1SS119			
D302	8-719-911-19	DIODE 1SS119			
D303	8-719-911-19	DIODE 1SS119			
D305	8-719-109-97	DIODE RD6.8ES-B2			
D306	8-719-938-69	LED GL3PR8 (OPR/BATT)			
D307	8-719-109-89	DIODE RD5.6ESB2			
D308	8-719-911-19	DIODE 1SS119			
D309	8-719-911-19	DIODE 1SS119			
D310	8-719-911-19	DIODE 1SS119			
D311	8-719-911-19	DIODE 1SS119			

Ref. No.	Part No.	Description				Remark
		< IC >				
IC301	8-759-164-45	IC TA2036N				
IC302	8-759-820-22	IC LA4597				
		< JACK >				
J301	1-563-330-11	JACK (MIX MIC)				
J302	1-568-267-11	JACK (PHONES)				
		< COIL >				
L301	1-414-142-11	INDUCTOR 1uH				
L302	1-414-142-11	INDUCTOR 1uH				
L303	1-414-142-11	INDUCTOR 1uH				
L304	1-414-142-11	INDUCTOR 1uH				
		< TRANSISTOR >				
Q301	8-729-281-53	TRANSISTOR 2SC1815-GR				
Q302	8-729-921-65	TRANSISTOR DTC143ES				
Q303	8-729-905-67	TRANSISTOR 2SD1944-K				
Q304	8-729-011-92	TRANSISTOR 2SC2001-K1K2				
Q305	8-729-921-65	TRANSISTOR DTC143ES				
Q306	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		< RESISTOR >				
R101	1-247-860-11	CARBON	16K	5%	1/4W	
R102	1-249-403-11	CARBON	68	5%	1/4W	F
R103	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R104	1-249-431-11	CARBON	15K	5%	1/4W	
R106	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R107	1-249-429-11	CARBON	10K	5%	1/4W	
R109	1-249-404-00	CARBON	82	5%	1/4W	
R112	1-249-417-11	CARBON	1K	5%	1/4W	F
R113	1-249-426-11	CARBON	5.6K	5%	1/4W	
R114	1-249-440-11	CARBON	82K	5%	1/4W	
R115	1-249-401-11	CARBON	47	5%	1/4W	F
R116	1-249-417-11	CARBON	1K	5%	1/4W	F
R201	1-247-860-11	CARBON	16K	5%	1/4W	
R202	1-249-403-11	CARBON	68	5%	1/4W	F
R203	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R204	1-249-431-11	CARBON	15K	5%	1/4W	
R206	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R207	1-249-429-11	CARBON	10K	5%	1/4W	
R209	1-249-404-00	CARBON	82	5%	1/4W	
R212	1-249-417-11	CARBON	1K	5%	1/4W	F
R213	1-249-426-11	CARBON	5.6K	5%	1/4W	
R214	1-249-440-11	CARBON	82K	5%	1/4W	
R215	1-249-401-11	CARBON	47	5%	1/4W	F
R216	1-249-417-11	CARBON	1K	5%	1/4W	F
R301	1-249-417-11	CARBON	1K	5%	1/4W	F
R302	1-249-433-11	CARBON	22K	5%	1/4W	
R303	1-247-903-00	CARBON	1M	5%	1/4W	
R306	1-249-408-11	CARBON	180	5%	1/4W	F
R307	1-249-435-11	CARBON	33K	5%	1/4W	
R308	1-249-389-11	CARBON	4.7	5%	1/4W	F
R309	1-249-409-11	CARBON	220	5%	1/4W	F
⚠R310	1-219-149-11	FUSIBLE	1	5%	1/4W	F
R311	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R312	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R313	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R314	1-249-416-11	CARBON	820	5%	1/4W	F
R315	1-247-816-11	CARBON	240	5%	1/4W	
R316	1-249-441-11	CARBON	100K	5%	1/4W	
R317	1-249-411-11	CARBON	330	5%	1/4W	
R318	1-249-409-11	CARBON	220	5%	1/4W	F
R319	1-247-807-31	CARBON	100	5%	1/4W	
R320	1-249-393-11	CARBON	10	5%	1/4W	F
R330	1-249-417-11	CARBON	1K	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV301	1-241-746-11	RES, VAR, CARBON 20K/20K (VOLUME)				
RV302	1-241-745-11	RES, VAR, CARBON 20K/20K (TONE)				
		< SWITCH >				
S301	1-571-043-11	SWITCH, PUSH (1 KEY) (REC/PB)				
S302	1-571-307-21	SWITCH, SLIDE (FUNCTION)				
		< TRANSFORMER >				
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR				
**********						
*	1-647-322-11	CD CONTROL BOARD				
		**********				
		< SWITCH >				
S803	1-692-014-11	SWITCH, KEY BOARD (▶)				
S804	1-692-014-11	SWITCH, KEY BOARD (■)				
S805	1-692-014-11	SWITCH, KEY BOARD (AMS/SEARCH: ▶▶)				
S806	1-692-014-11	SWITCH, KEY BOARD (AMS/SEARCH: ◀◀)				
S807	1-692-014-11	SWITCH, KEY BOARD (❚❚)				
S808	1-692-014-11	SWITCH, KEY BOARD (PLAY MODE)				
S809	1-692-014-11	SWITCH, KEY BOARD (REMAIN/ENTER)				
**********						

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

CD CONTROL MOTOR | CD MAIN

Ref. No.	Part No.	Description			Remark
*	1-647-321-11	CD CONTROL MOTOR BOARD			
		**********			
		< CONNECTOR >			
CNP706	1-506-485-11	PIN, CONNECTOR 6P			
		< SWITCH >			
S802	1-571-936-11	SWITCH, LEAF (LIMIT)			
**********					
*	A-3264-646-A	CD MAIN BOARD, COMPLETE			
		**********			
	3-386-927-01	HOLDER (LCD)			
		< CAPACITOR >			
C701	1-124-443-00	ELECT	100uF	20%	10V
C702	1-124-482-11	ELECT	33uF	20%	35V
C703	1-124-482-11	ELECT	33uF	20%	35V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-136-165-00	FILM	0.1uF	5%	50V
C706	1-124-907-11	ELECT	10uF	20%	50V
C707	1-131-368-00	TANTALUM	3.3uF	10%	16V
C708	1-130-489-00	MYLAR	0.033uF	5%	50V
C709	1-123-382-00	ELECT	3.3uF	20%	100V
C710	1-136-173-00	FILM	0.47uF	5%	50V
C711	1-130-493-00	MYLAR	0.068uF	5%	50V
C712	1-124-477-11	ELECT	47uF	20%	25V
C713	1-162-851-11	CERAMIC	0.1uF		16V
C714	1-162-215-31	CERAMIC	47PF	5%	50V
C715	1-162-294-31	CERAMIC	0.001uF	10%	50V
C716	1-130-489-00	MYLAR	0.033uF	5%	50V
C717	1-124-477-11	ELECT	47uF	20%	25V
C718	1-161-379-00	CERAMIC	0.01uF	20%	25V
C719	1-130-489-00	MYLAR	0.033uF	5%	50V
C720	1-130-475-00	MYLAR	0.0022uF	5%	50V
C721	1-161-494-00	CERAMIC	0.022uF		25V
C722	1-161-379-00	CERAMIC	0.01uF	20%	25V
C723	1-161-379-00	CERAMIC	0.01uF	20%	25V
C724	1-130-489-00	MYLAR	0.033uF	5%	50V
C725	1-136-165-00	FILM	0.1uF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-130-491-00	MYLAR	0.047uF	5%	50V
C728	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C729	1-136-173-00	FILM	0.47uF	5%	50V
C730	1-161-379-00	CERAMIC	0.01uF	20%	25V
C731	1-101-361-00	CERAMIC	150PF	5%	50V
C732	1-101-884-00	CERAMIC	56PF	5%	50V
C733	1-101-884-00	CERAMIC	56PF	5%	50V

Ref. No.	Part No.	Description			Remark
C734	1-162-290-31	CERAMIC	470PF	10%	50V
C735	1-162-282-31	CERAMIC	100PF	10%	50V
C736	1-124-903-11	ELECT	1uF	20%	50V
C741	1-101-361-00	CERAMIC	150PF	5%	50V
C742	1-101-884-00	CERAMIC	56PF	5%	50V
C743	1-101-884-00	CERAMIC	56PF	5%	50V
C744	1-162-290-31	CERAMIC	470PF	10%	50V
C745	1-162-282-31	CERAMIC	100PF	10%	50V
C746	1-124-903-11	ELECT	1uF	20%	50V
C751	1-162-851-11	CERAMIC	0.1uF		16V
C752	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C754	1-136-173-00	FILM	0.47uF	5%	50V
C755	1-162-282-31	CERAMIC	100PF	10%	50V
C756	1-161-379-00	CERAMIC	0.01uF	20%	25V
C757	1-124-477-11	ELECT	47uF	20%	25V
C759	1-162-290-31	CERAMIC	470PF	10%	50V
C760	1-161-379-00	CERAMIC	0.01uF	20%	25V
C761	1-124-473-11	ELECT	1000uF	20%	10V
C762	1-161-379-00	CERAMIC	0.01uF	20%	25V
C763	1-126-176-11	ELECT	220uF	20%	10V
C764	1-161-379-00	CERAMIC	0.01uF	20%	25V
C765	1-124-443-00	ELECT	100uF	20%	10V
C768	1-126-176-11	ELECT	220uF	20%	10V
C769	1-161-379-00	CERAMIC	0.01uF	20%	25V
C770	1-124-902-00	ELECT	0.47uF	20%	50V
C771	1-162-294-31	CERAMIC	0.001uF	10%	50V
C772	1-130-484-00	MYLAR	0.012uF	5%	50V
C773	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C774	1-130-491-00	MYLAR	0.047uF	5%	50V
C775	1-102-962-00	CERAMIC	30PF	5%	50V
C776	1-102-962-00	CERAMIC	30PF	5%	50V
C777	1-124-907-11	ELECT	10uF	20%	50V
C778	1-124-927-11	ELECT	4.7uF	20%	100V
C790	1-161-379-00	CERAMIC	0.01uF	20%	25V
C791	1-162-282-31	CERAMIC	100PF	10%	50V
C801	1-124-482-11	ELECT	33uF	20%	35V
C802	1-124-902-00	ELECT	0.47uF	20%	50V
C803	1-161-379-00	CERAMIC	0.01uF	20%	25V
C804	1-136-169-00	FILM	0.22uF	5%	50V
C806	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
* CNP701	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CNP702	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CNP705	1-564-013-11	PIN, CONNECTOR 3P			
* CNP707	1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
* CNJ707	1-563-470-11	HOUSING, CONNECTOR 2P			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D701	8-719-911-19	DIODE 1SS119	
		< IC >	
IC701	8-752-039-03	IC CXA1421M	
IC702	8-752-058-77	IC CXA1372AQ	
IC703	8-752-352-93	IC CXD2500BQ	
IC704	8-759-093-98	IC CXD8451M	
IC705	8-759-145-58	IC UPC4558C	
IC706	8-759-518-59	IC BA6296FP	
IC801	8-752-830-87	IC CXP5084H-636Q	
IC802	8-759-510-54	IC PST572D	
		< COIL >	
L701	1-414-142-11	INDUCTOR 1uH	
L702	1-414-142-11	INDUCTOR 1uH	
L703	1-410-750-41	INDUCTOR 0.47uH	
L704	1-410-750-41	INDUCTOR 0.47uH	
L705	1-410-750-41	INDUCTOR 0.47uH	
L706	1-410-750-41	INDUCTOR 0.47uH	
L707	1-410-750-41	INDUCTOR 0.47uH	
L708	1-410-750-41	INDUCTOR 0.47uH	
L709	1-414-142-11	INDUCTOR 1uH	
L710	1-410-750-41	INDUCTOR 0.47uH	
L741	1-410-750-41	INDUCTOR 0.47uH	
L751	1-410-750-41	INDUCTOR 0.47uH	
		< LIQUID CRYSTAL DISPLAY >	
LCD801	1-810-037-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q701	8-729-801-84	TRANSISTOR 2SB1013-4	
Q702	8-729-900-63	TRANSISTOR DTA124ES	
Q703	8-729-904-39	TRANSISTOR DTC114TS	
Q704	8-729-902-80	TRANSISTOR DTA114YS	
Q706	8-729-900-89	TRANSISTOR DTC144ES	
Q707	8-729-904-36	TRANSISTOR DTC114YS	
Q708	8-729-900-89	TRANSISTOR DTC144ES	
Q731	8-729-900-74	TRANSISTOR DTC143TS	
Q741	8-729-900-74	TRANSISTOR DTC143TS	
Q801	8-729-900-63	TRANSISTOR DTA124ES	
Q802	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
R701	1-249-397-11	CARBON 22 5% 1/4W F	
R702	1-249-433-11	CARBON 22K 5% 1/4W	
R703	1-247-806-11	CARBON 91 5% 1/4W	
R704	1-247-883-00	CARBON 150K 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 F	
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 F	
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 F	
R718	1-247-881-00	CARBON 120K 5% 1/4W	
R719	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R720	1-247-856-00	CARBON 11K 5% 1/4W	
R721	1-249-441-11	CARBON 100K 5% 1/4W	
R722	1-249-441-11	CARBON 100K 5% 1/4W	
R723	1-249-441-11	CARBON 100K 5% 1/4W	
R724	1-249-417-11	CARBON 1K 5% 1/4W F	
R725	1-249-433-11	CARBON 22K 5% 1/4W	
R726	1-249-417-11	CARBON 1K 5% 1/4W F	
R727	1-249-441-11	CARBON 100K 5% 1/4W	
R728	1-249-437-11	CARBON 47K 5% 1/4W	
R730	1-249-417-11	CARBON 1K 5% 1/4W F	
R731	1-249-429-11	CARBON 10K 5% 1/4W	
R732	1-249-429-11	CARBON 10K 5% 1/4W	
R733	1-249-437-11	CARBON 47K 5% 1/4W	
R734	1-249-437-11	CARBON 47K 5% 1/4W	
R735	1-249-435-11	CARBON 33K 5% 1/4W	
R736	1-249-435-11	CARBON 33K 5% 1/4W	
R737	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R741	1-249-429-11	CARBON 10K 5% 1/4W	
R742	1-249-429-11	CARBON 10K 5% 1/4W	
R743	1-249-437-11	CARBON 47K 5% 1/4W	
R744	1-249-437-11	CARBON 47K 5% 1/4W	
R745	1-249-435-11	CARBON 33K 5% 1/4W	
R746	1-249-435-11	CARBON 33K 5% 1/4W	
R747	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R751	1-249-437-11	CARBON 47K 5% 1/4W	
R752	1-249-429-11	CARBON 10K 5% 1/4W	
R753	1-249-431-11	CARBON 15K 5% 1/4W	
R761	1-249-435-11	CARBON 33K 5% 1/4W	
R762	1-249-430-11	CARBON 12K 5% 1/4W	
R763	1-249-429-11	CARBON 10K 5% 1/4W	
R764	1-249-435-11	CARBON 33K 5% 1/4W	
R765	1-247-838-00	CARBON 2K 5% 1/4W	

Ref. No.	Part No.	Description				Remark
R766	1-249-437-11	CARBON	47K	5%	1/4W	
R767	1-249-433-11	CARBON	22K	5%	1/4W	
R769	1-212-861-11	FUSIBLE	15	5%	1/4W	F
R801	1-247-807-31	CARBON	100	5%	1/4W	
R802	1-247-807-31	CARBON	100	5%	1/4W	
R803	1-249-437-11	CARBON	47K	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	
R807	1-249-441-11	CARBON	100K	5%	1/4W	
R809	1-249-437-11	CARBON	47K	5%	1/4W	
R811	1-249-441-11	CARBON	100K	5%	1/4W	
R815	1-249-441-11	CARBON	100K	5%	1/4W	
R816	1-249-441-11	CARBON	100K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV701	1-230-497-11	RES, ADJ, CARBON 22K (E-F BALANCE)				
RV702	1-237-288-11	RES, ADJ, CARBON 47K (FOCUS BIAS)				
RV703	1-230-497-11	RES, ADJ, CARBON 22K (FOCUS GAIN)				
RV704	1-230-497-11	RES, ADJ, CARBON 22K (TRACKING GAIN)				
		< SWITCH >				
S601	1-571-890-11	SWITCH, LEAF (MD MOTOR ON/OFF)				
S801	1-571-936-11	SWITCH, LEAF (DOOR OPEN/CLOSE)				
		< VIBRATOR >				
X801	1-567-775-11	VIBRATOR, CERAMIC 4.19MHz				
		< VIBRATOR >				
XF701	1-579-345-11	VIBRATOR, CERAMIC 16.9344MHz				
**********						
*	1-647-325-21	POWER BOARD				
		**********				
*	1-564-831-11	CONTACT, CONNECTOR				
	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	
		< JACK >				
⚠CNJ901	1-526-838-11	INLET, AC 2P				

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CNP901	1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P	
		< DIODE >	
D901	8-719-902-17	DIODE U15G	
D902	8-719-902-17	DIODE U15G	
D903	8-719-902-17	DIODE U15G	
D904	8-719-902-17	DIODE U15G	
		< FUSE >	
⚠F901	1-532-286-00	FUSE, TIME-LAG 2.5A 250V	
⚠F902	1-532-235-00	FUSE, TIME-LAG 315mA 250V	
		< SWITCH >	
⚠S901	1-572-290-11	SWITCH, POWER (VOLTAGE CHANGE) (VOLTAGE SELECTOR)	
		< TRANSFORMER >	
⚠T901	1-423-808-11	TRANSFORMER, POWER	
**********			
*	A-3264-647-A	TUNER BOARD, COMPLETE	
		**********	
		< CAPACITOR >	

C1	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C4	1-124-907-11	ELECT	10uF	20%	50V
C5	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C6	1-163-085-00	CERAMIC CHIP	2PF		50V
C7	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C8	1-102-952-00	CERAMIC	16PF	5%	50V
C9	1-163-091-00	CERAMIC CHIP	8PF		50V
C10	1-163-220-11	CERAMIC CHIP	3PF	0.25PF	50V
C11	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C12	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C15	1-124-927-11	ELECT	4.7uF	20%	100V
C16	1-124-903-11	ELECT	1uF	20%	50V
C17	1-124-126-00	ELECT	47uF	20%	10V
C18	1-124-126-00	ELECT	47uF	20%	10V
C19	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C20	1-124-903-11	ELECT	1uF	20%	50V
C21	1-124-925-11	ELECT	2.2uF	20%	100V
C22	1-124-443-00	ELECT	100uF	20%	10V
C23	1-124-902-00	ELECT	0.47uF	20%	50V
C24	1-124-927-11	ELECT	4.7uF	20%	100V
C25	1-124-463-00	ELECT	0.1uF	20%	50V
C27	1-162-840-11	CERAMIC	0.012uF	10%	16V
C28	1-162-840-11	CERAMIC	0.012uF	10%	16V

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

Ref. No.	Part No.	Description			Remark
C34	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C35	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C38	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C61	1-124-902-00	ELECT	0.47uF	20%	50V
C62	1-124-902-00	ELECT	0.47uF	20%	50V
		< FILTER >			
CF1	1-577-327-81	FILTER, CERAMIC			
CF2, T1	1-239-249-11	ENCAPSULATED COMPONENT			
CF3	1-577-327-81	FILTER, CERAMIC			
CF4	1-577-327-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CNP21	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
		< TRIMMER >			
CT1-4, CV1-4	1-151-697-11	CAP, VAR			
		< FILTER >			
FL1	1-236-022-11	FILTER, BAND PASS			
		< IC >			
IC1	8-752-050-20	IC CXA1238S			
		< JUMPER RESISTOR >			
JR2	1-216-296-00	METAL CHIP	0	5%	1/8W
JR3	1-216-296-00	METAL CHIP	0	5%	1/8W
JR7	1-216-295-00	METAL CHIP	0	5%	1/10W
JR8	1-216-296-00	METAL CHIP	0	5%	1/8W
JR12	1-216-296-00	METAL CHIP	0	5%	1/8W
JR15	1-216-296-00	METAL CHIP	0	5%	1/8W
JR17	1-216-296-00	METAL CHIP	0	5%	1/8W
JR18	1-216-296-00	METAL CHIP	0	5%	1/8W
JR19	1-216-296-00	METAL CHIP	0	5%	1/8W
		< COIL >			
L1	1-428-465-11	COIL, AIR-CORE			
L2	1-460-218-11	COIL (WITH CORE)			
L3	1-402-158-11	ANTENNA, FERRITE-ROD (MW)			
L4	1-406-040-00	COIL (OSC)			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1	1-216-041-00	METAL CHIP	470	5%	1/10W
R3	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R6	1-216-246-91	METAL GLAZE	100K	5%	1/8W
R7	1-216-049-00	METAL CHIP	1K	5%	1/10W
R10	1-216-172-00	METAL CHIP	82	5%	1/8W
R11	1-216-218-00	METAL GLAZE	6.8K	5%	1/8W
R12	1-216-218-00	METAL GLAZE	6.8K	5%	1/8W
R13	1-216-174-00	METAL GLAZE	100	5%	1/8W
R14	1-216-073-00	METAL CHIP	10K	5%	1/10W
R15	1-216-105-00	METAL CHIP	220K	5%	1/10W
R16	1-216-105-00	METAL CHIP	220K	5%	1/10W
R17	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R21	1-216-186-00	METAL GLAZE	330	5%	1/8W
R30	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K (FM VOC)			
		< SWITCH >			
S1	1-571-547-11	SWITCH, SLIDE (BAND)			

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MISCELLANEOUS

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110	1-452-531-11	MAGNET
⚠405	8-848-137-11	PICK-UP, OPTICAL KSS-210B
ANT1	1-501-378-11	ANTENNA, TELESCOPIC
HE601	1-543-525-11	HEAD, MAGNETIC (ERASE)
HRP601	1-543-628-13	HEAD, MAGNETIC (RECORD/PLAYBACK)
M601	X-4919-956-1	MOTOR ASSY
M701	X-2625-132-1	GEAR ASSY (MB), MOTOR (SLED)
M702	X-2625-133-1	CHASSIS (MB), TT (SPINDLE)
SP901	1-504-269-21	SPEAKER (10CM)
SP902	1-504-269-21	SPEAKER (10CM)

****

ACCESSORIES & PACKING MATERIALS

****

⚠	1-569-008-11	ADAPTER, CONVERSION 2P
⚠	1-696-820-21	CORD, POWER
*	3-389-236-21	CUSHION (L)
*	3-389-237-21	CUSHION (R)
*	3-389-238-01	INDIVIDUAL CARTON
	3-756-465-91	MANUAL, INSTRUCTION (ENGLISH, KOREAN, CHINESE)

****

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

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#3	7-685-651-79	SCREW +BVTP 3X20 TYPE2	
#4	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
#5	7-685-903-31	SCREW +PTPWH 3X10 (TYPE2)	
#6	7-621-772-00	SCREW +B 2X3	
#7	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
#8	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT	
#9	7-682-548-09	SCREW +B 3X8	
#10	7-621-775-20	SCREW +B 2.6X5	
#12	7-685-870-01	+BVTT 3X5 (S TIGHT)	

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