

WM-701C

SERVICE MANUAL



US Model
AED Model

SECTION 1

SERVICING NOTE

This set detects reel rotation by PH701 (photo sensor). Reel rotation cannot be detected when the system control board is removed, because PH701 is mounted on the system control board. As a result, the auto-off circuit and tape end detection will misoperate. And, up and down of head and power supply of playback circuit cannot operate when the system control board is removed, because S702 (play switch) is mounted on the system control board. (S702 is linked to on and off of the plunger solenoid.) Therefore, operation check of the mechanism deck and voltage check can be performed by the method shown below.

FF/REW mode

- 1) Apply the square wave signal to the PH701.
- 2) Press the ►► or ►► key.

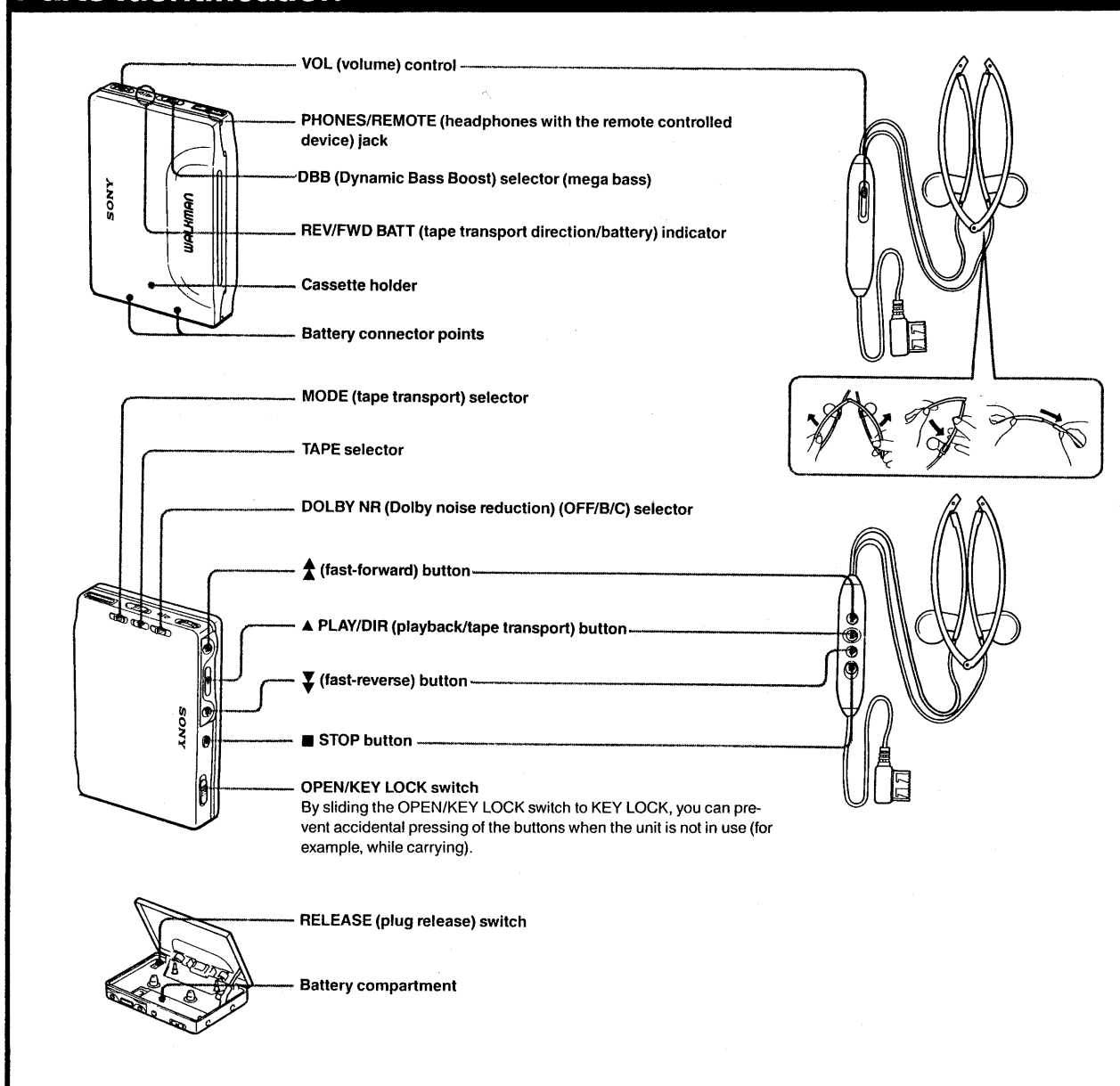
PLAY mode

- 1) Apply the square wave signal to the PH701.
- 2) Press the ► key.
- 3) Turn on S702 a few seconds later.

SECTION 2 GENERAL

2-1. LOCATION AND FUNCTION OF CONTROLS

Parts Identification



Notes on chip component replacement

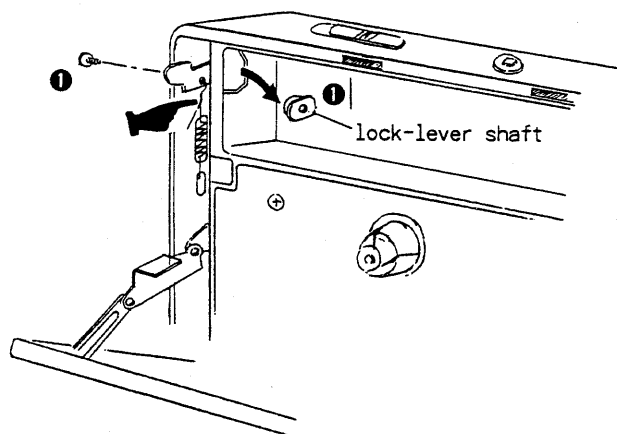
- Never reuse a disconnected chip component. Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

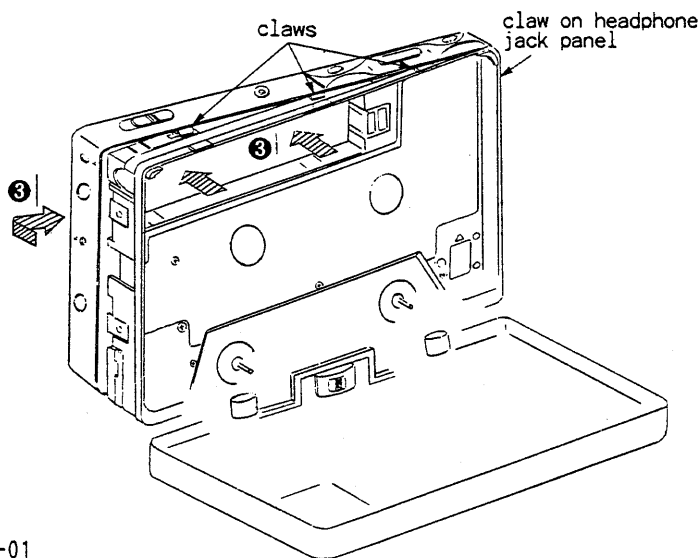
- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

2-2. Disassembly

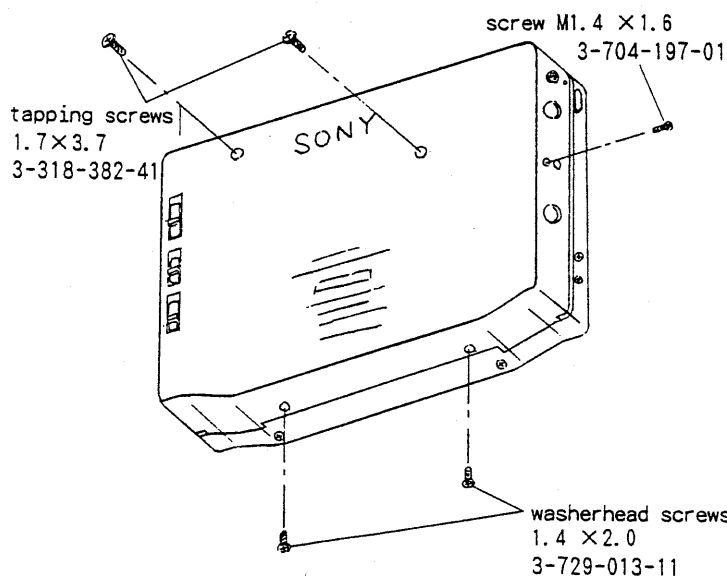
① Open cassette holder and remove tension spring from lock lever with a pair of tweezers. Then remove screw which fastens lock-lever shaft, and push the shaft off into battery chamber with a precision screwdriver.



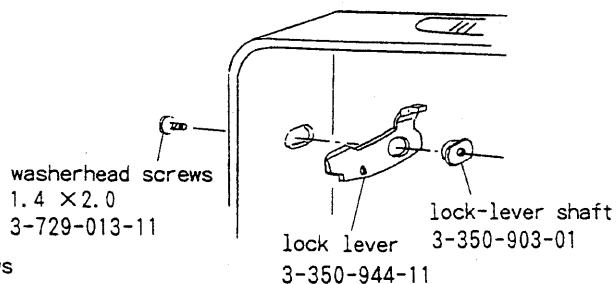
③ Push the bottom of battery chamber (case assy) as shown in the figure so that case comes off from main unit gradually pivoting at headphone jack side. After the three claws on the key switch side of case are released, slide and remove case in the direction of headphone jack (not to break the other claw on headphone-jack panel.)



② Remove 5 screws fixing case.

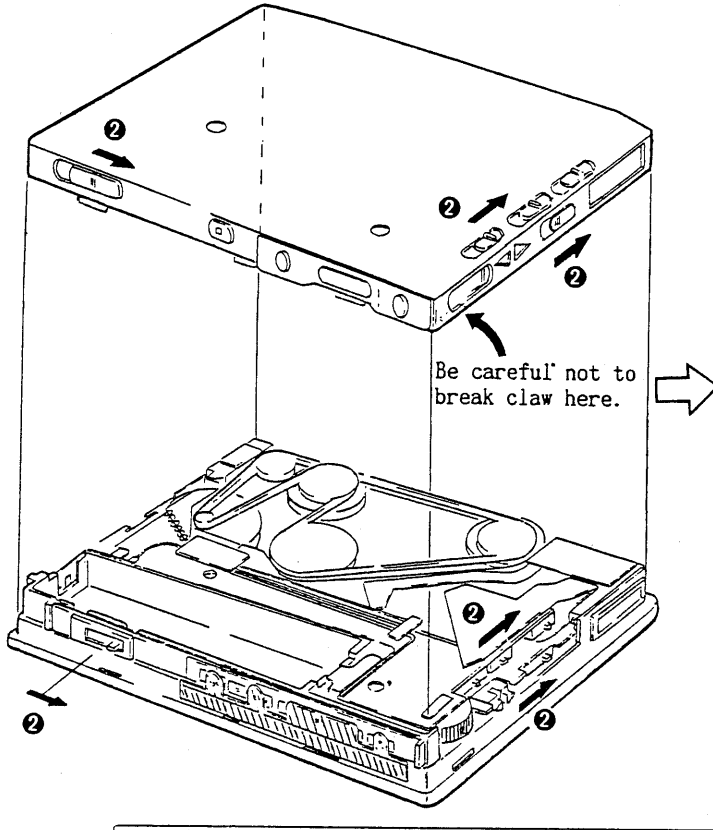


④ While disassembling lock lever will come off, so that lock lever and shaft had better be restored just after case is removed, paying attention to the direction of lock-lever shaft.

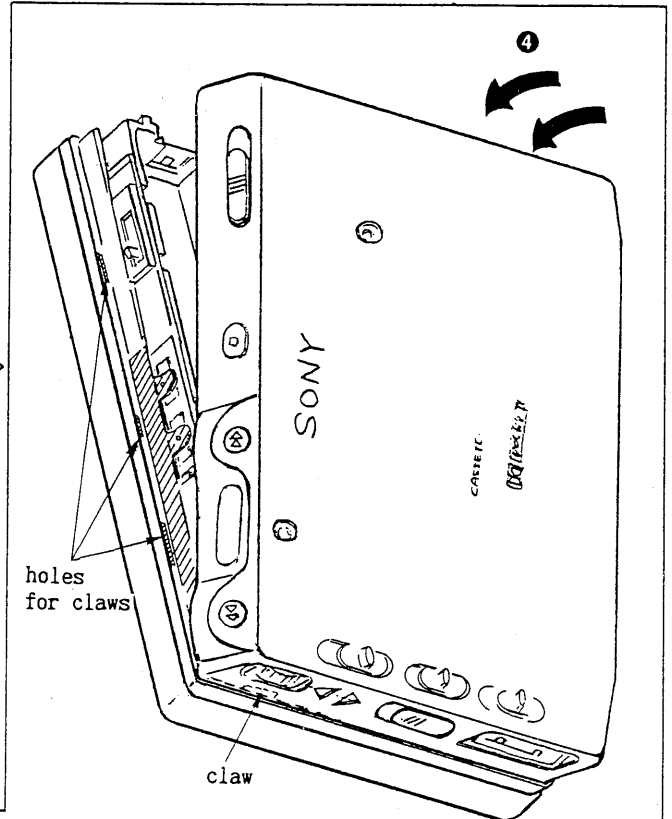


2-3. Reassembly

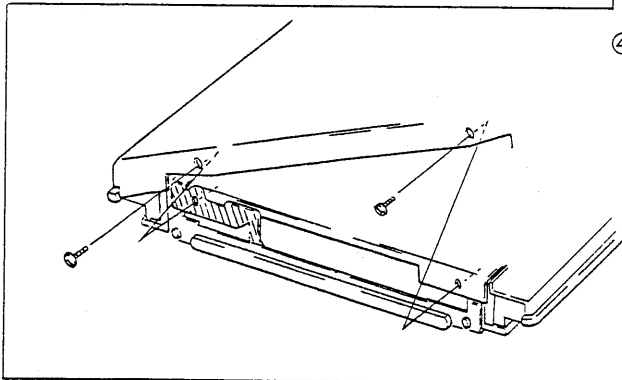
- ①Assure that lock lever is fitted properly. (Refer to the figure for disassembly.)
- ②Set all switches on main unit and knobs on case in the positions as shown by arrows ②.



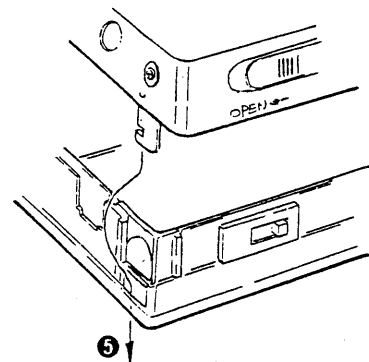
- ③Put the headphone-jack-side edge of case onto the proper portion of main unit, taking care not to break claw on the edge of headphone jack panel and holding battery sheet not to be caught in between case and unit.



- ④Shut case in the direction of arrows ④ with the greatest care at both sides (hatched portion) not to bend the transparent sheet of key switches and head flexible board on the opposite side, inserting three claws into holes.



- ⑤Inserting lock lever into hole as shown by ⑤ close case exactly.
- ⑥Check that every slide switch can move smoothly.
- ⑦Finally restore tension spring. If battery sheet is caught in behind unit, release it before fastening screws.



SECTION 3

ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
 - playback head
 - capstan
 - pinch roller
 - rubber belts
 - idlers
2. Demagnetize the playback head with a head demagnetizer.
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 (1.3 V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	22–38 g·cm 0.31–0.52 oz·inch
FWD Back Tension		1.0–3.0 g·cm 0.02–0.04 oz·inch
REV	CQ-102RB	22–38 g·cm 0.31–0.52 oz·inch
REV Back Tension		1.0–3.0 g·cm 0.02–0.04 oz·inch
FF	CQ-201B	more than 50 g·cm more than 0.7 oz·inch
REW		more than 50 g·cm more than 0.7 oz·inch

Tape Pulling Force Measurement

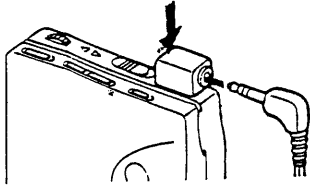
Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 50 g more than 1.77 oz
REV	CQ-403R	more than 50 g more than 1.77 oz

TEST TAPE

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment
P-4-A100	10 kHz, -10 dB	Playback Head Azimuth check
P-4-A063	6.3 kHz, -10 dB	

3-2. ELECTRICAL ADJUSTMENTS

For electrical adjustments, use the supplied plug conversion adaptor (Part No. 1-563-133-11).

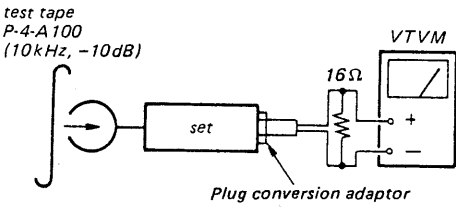


Playback Head Azimuth Check

Note: This set is not featured the head azimuth adjustment.
When replacing the head, check the both L-ch and R-ch output levels and also those phases.

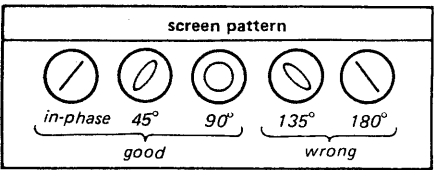
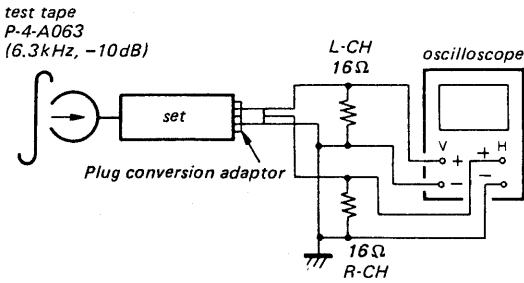
Procedure:

1. Playback mode.



- 1) Play back the P-4-A100 in FWD mode and read the VTVM (both L-ch and R-ch).
- 2) Change to REV mode and read the VTVM. (both L-ch and R-ch).
- 3) Confirm that the level difference between step 1 and 2 is within 5 dB (both L-ch and R-ch).

2. Phase Check



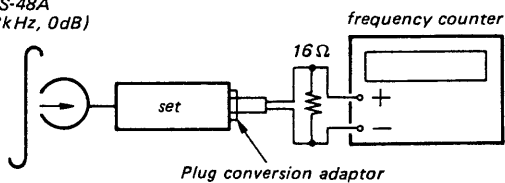
SECTION 4 DIAGRAMS

4-1. SEMICONDUCTOR LEAD LAYOUTS

Tape Speed Adjustment

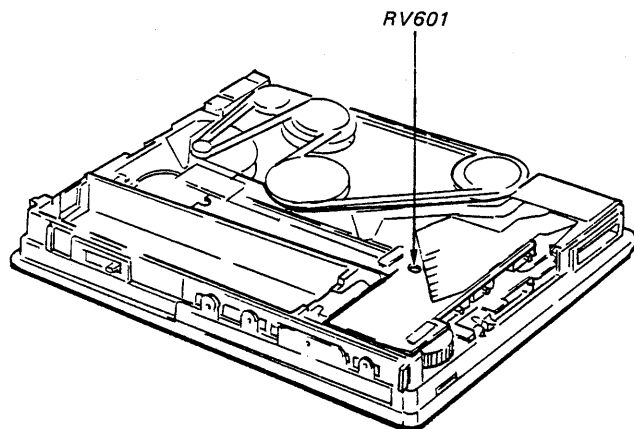
Procedure:

test tape
WS-48A
(3kHz, 0dB)

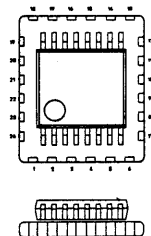


1. Playback WS-48A (tape center portion) in FWD mode. Adjust the RV601 so that the frequency counter reads 3,000 Hz \pm 15 Hz.
2. Playback WS-48A (tape center portion) in REV mode. Confirm that the reading of frequency counter is within 2.0% from the reading in step 1.

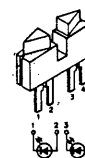
Adjustment Parts Location Diagram



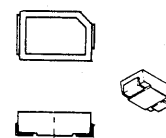
MHC8570EQ01L



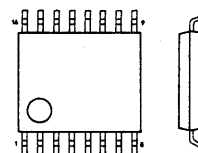
GL102R6



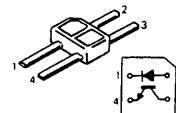
MA110



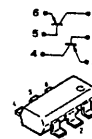
TA8145FN-EL



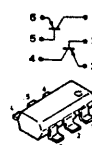
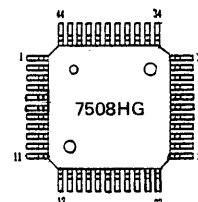
NJL5161K-B



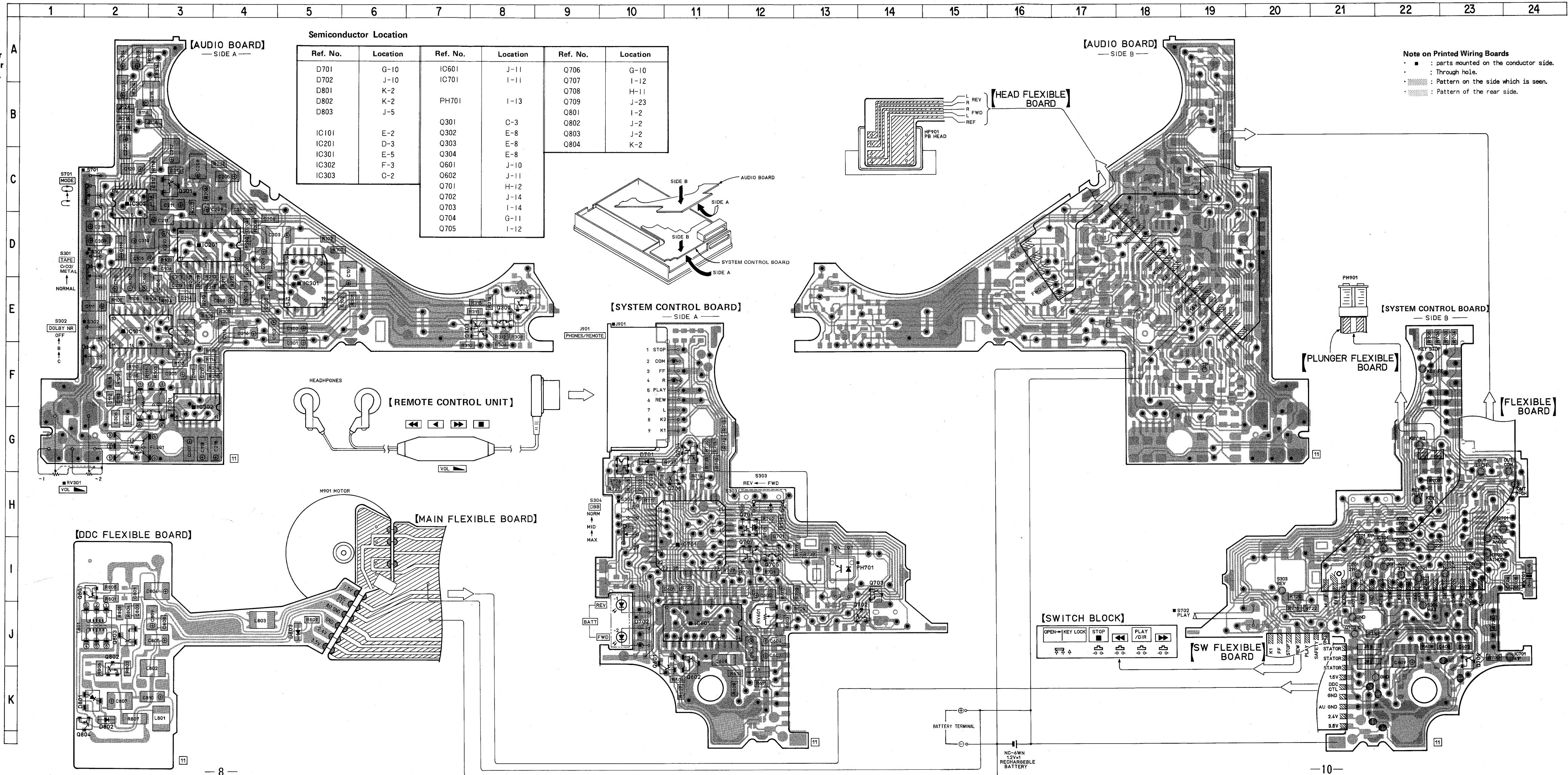
XN4401



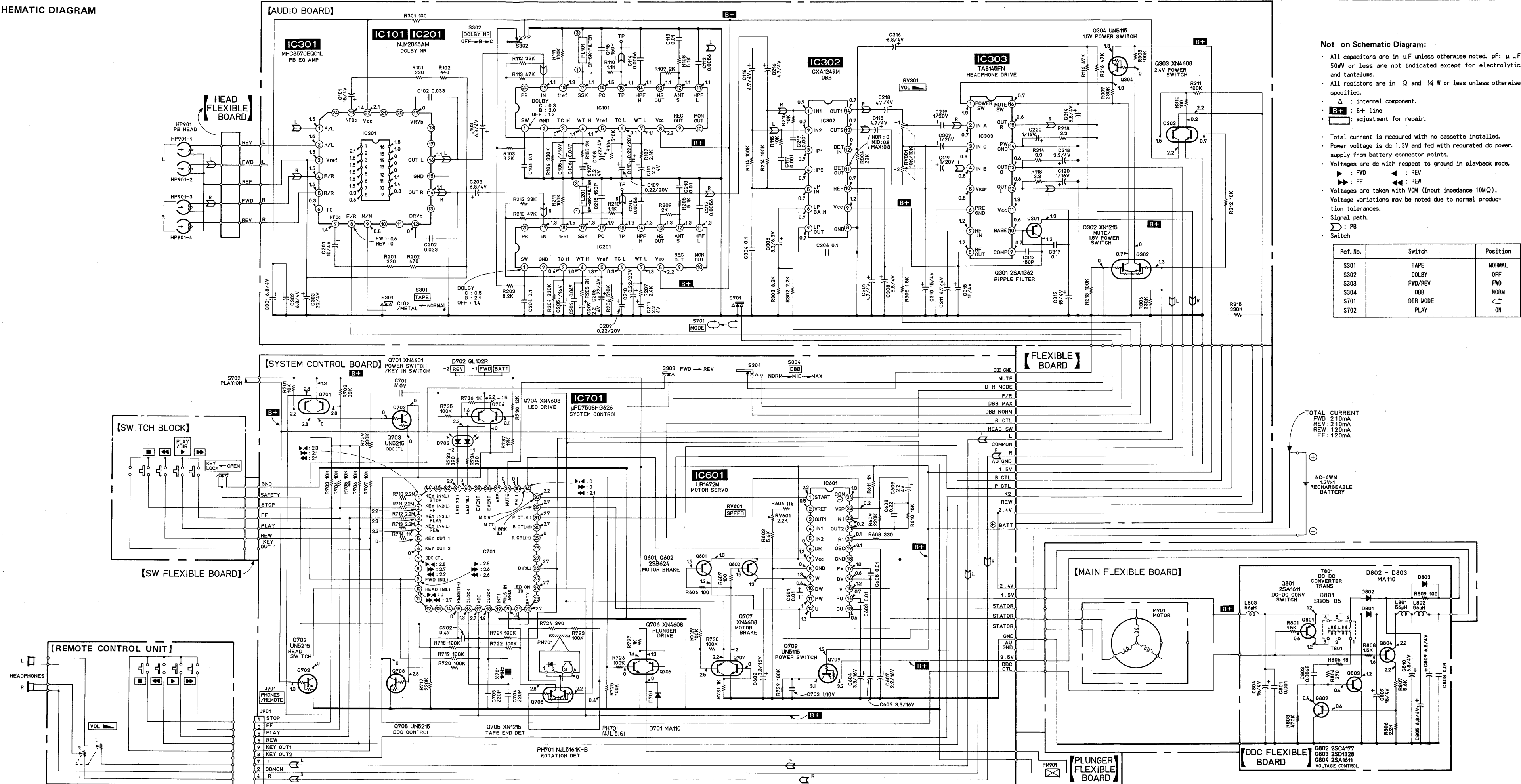
XN4608

 μ PD7508HG

See page 7 f r
Semiconductor
Lead Layouts.

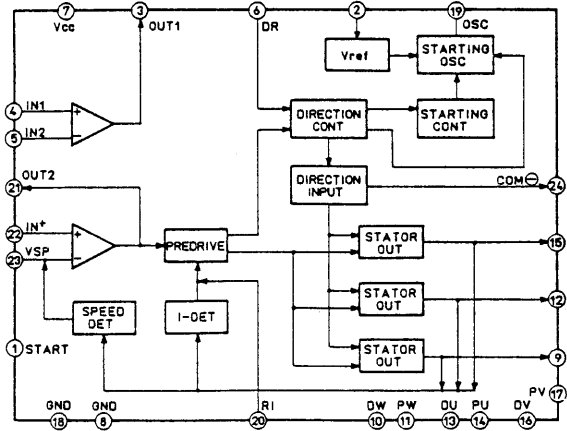


4-3. SCHEMATIC DIAGRAM

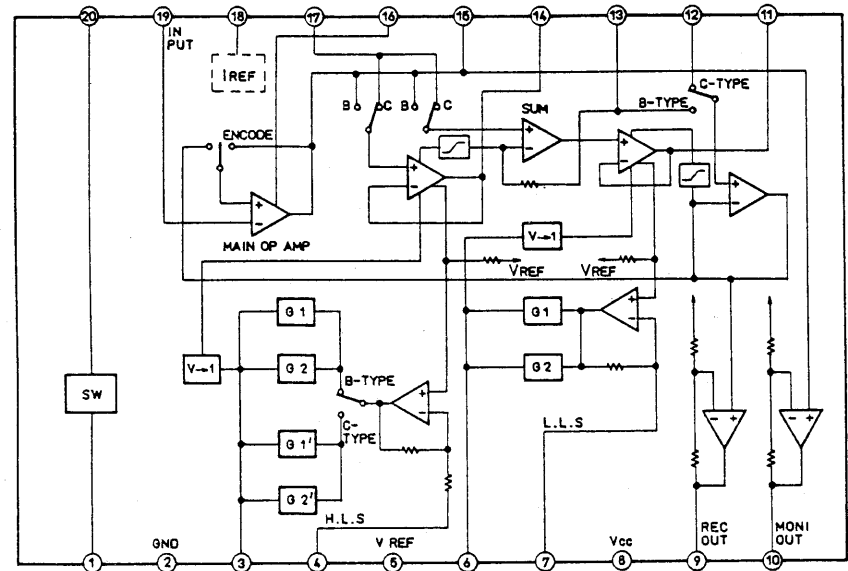


4-4. IC BLOCK DIAGRAM

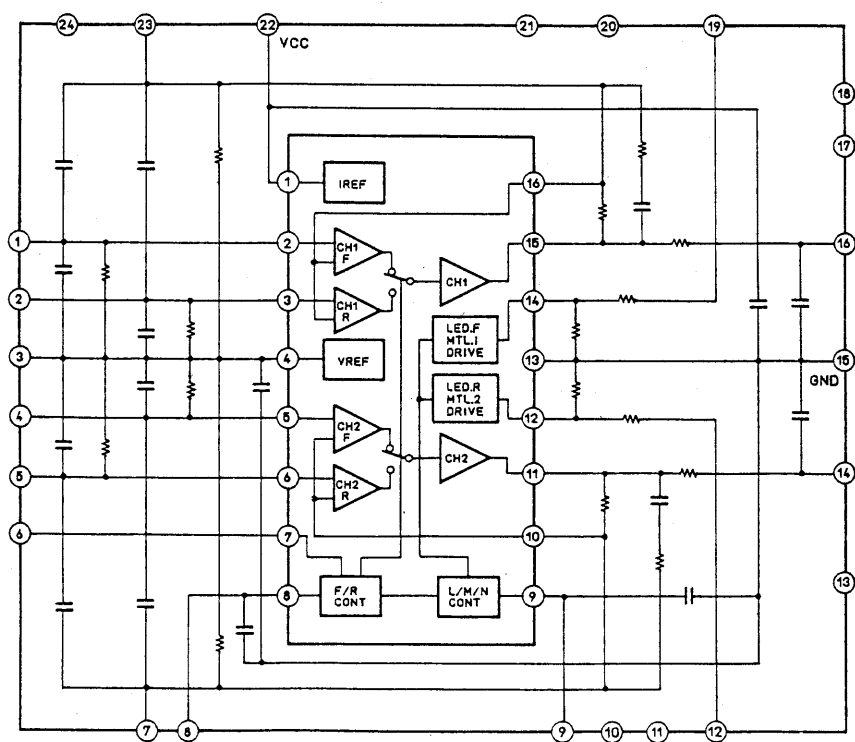
LB1672M (IC601)



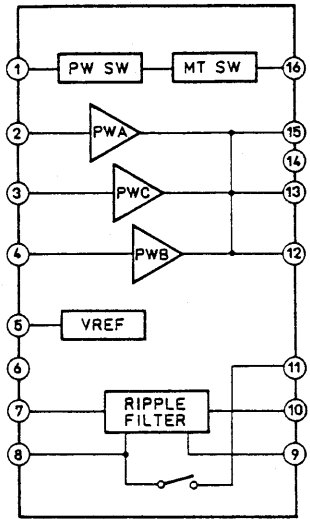
NJM2065M (IC101, 201)



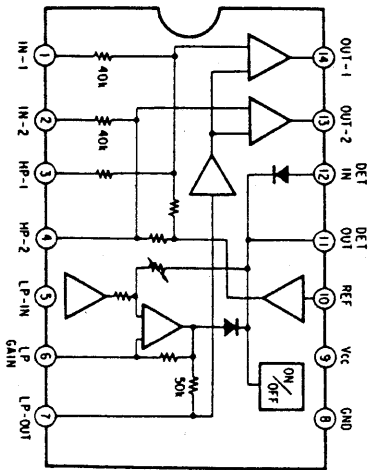
MHC8570EQ01 (IC301)



TA8145FN (IC303)



CXA1249M (IC302)



SECTION 5 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.

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.



Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

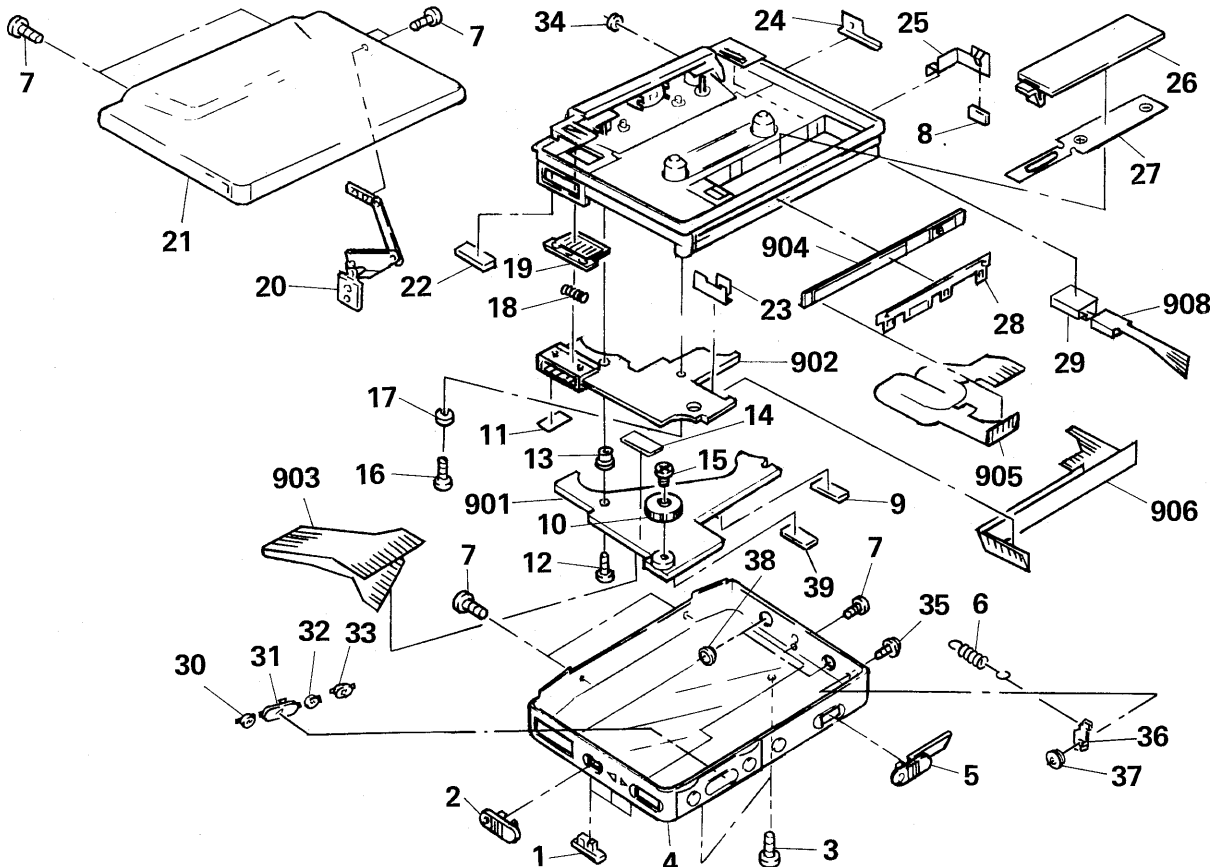
Color Indication of Appearance Parts
Example:

(RED) ... KNOB, BALANCE (WHITE)

↑ Cabinet's Color

↑ Parts' Color

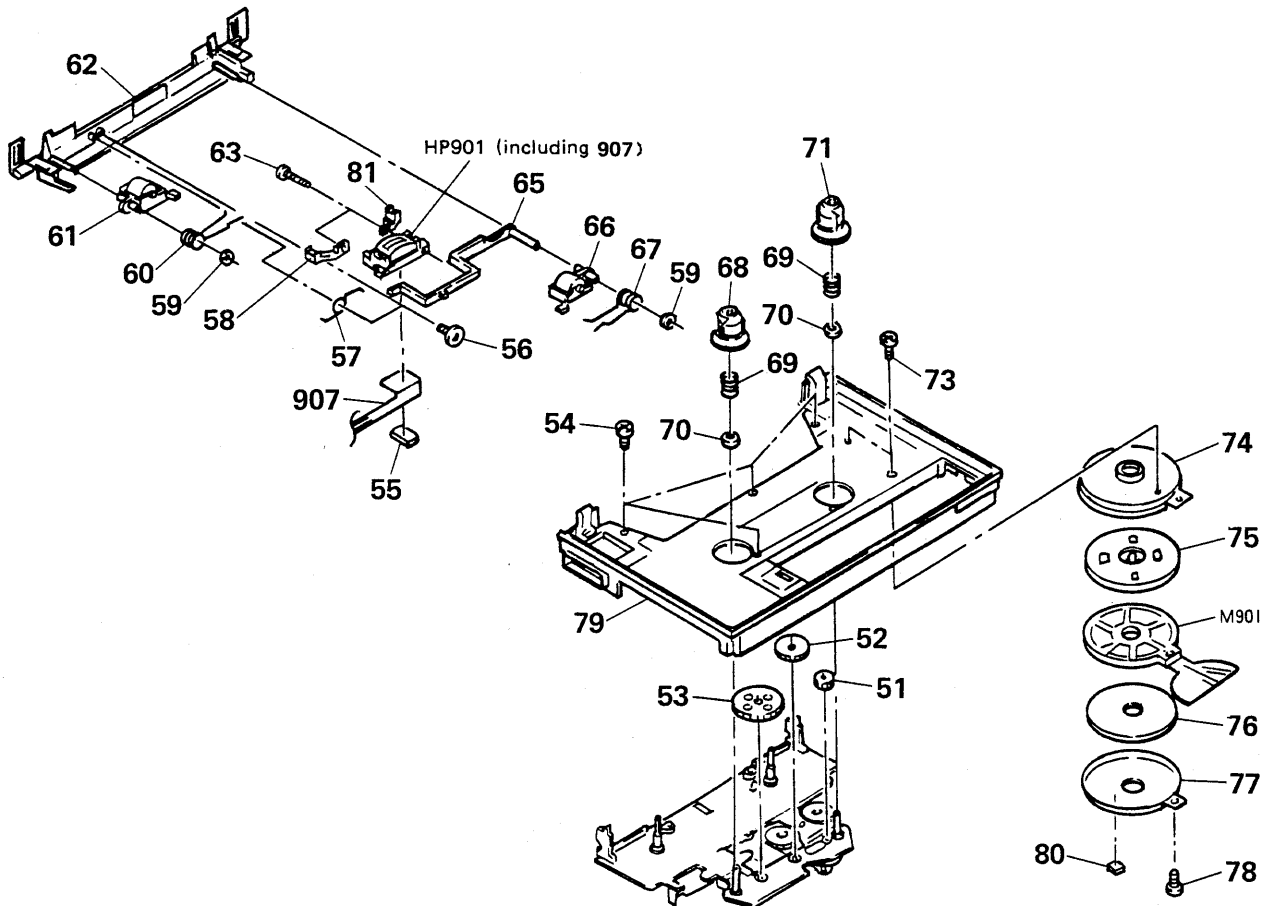
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remarks
1	3-350-917-01	KNOB (DOLBY)	
2	3-350-914-01	KNOB (DBB)	
3	3-318-382-41	SCREW (1.7X3.7), TAPPING	
4	X-3349-818-1	(US,AEP,E:BLACK)...CASE ASSY (B)	
	X-3349-823-1	(AEP,UK,E:SILVER)...CASE ASSY (S)	
5	3-350-913-01	KNOB (OPEN)	
6	3-350-924-01	SPRING, TENSION	
7	3-704-197-01	SCREW (M1.4X1.6), LOCKING	
8	9-911-838-XX	DAMPER, CASSETTE LID	
9	3-831-441-XX	CUSHION, STOPPER	
10	3-350-906-01	KNOB (VOL)	
11	3-831-441-11	CUSHION (B)	
12	3-335-797-01	SCREW (M1.4X2), TOOTHED LOCK	
13	★3-350-951-01	SPACER (C)	
14	3-703-929-01	SPACER, SWITCH	
15	3-703-502-31	SCREW	
16	3-704-197-11	SCREW (M1.4X2.0), LOCKING	
17	3-350-949-01	SHEET (SYSTEM CONTROL SCREW)	
18	3-350-901-01	SPRING, COMPRESSION	
19	3-350-904-01	SLIDER	
20	X-3349-817-1	ARM ASSY, CLICK	
21	X-3349-834-1	(US,AEP:BLACK)...LID ASSY (UB), CASSETTE	
	X-3349-835-1	(AEP,UK:SILVER)...LID ASSY (US), CASSETTE	
	X-3349-820-1	(E:BLACK).....LID ASSY (B), CASSETTE	
	X-3349-821-1	(E:SILVER).....LID ASSY (S), CASSETTE	

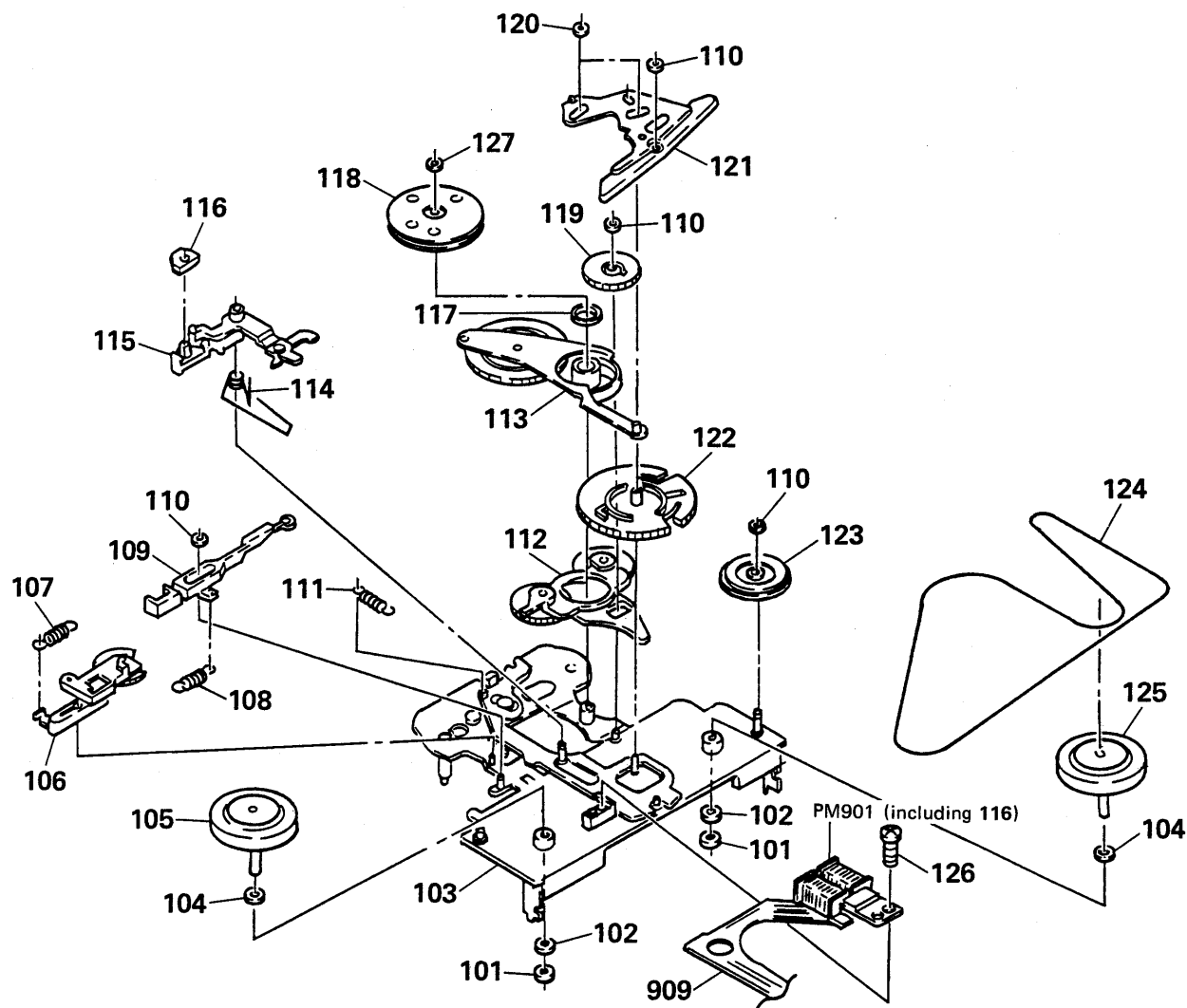
No.	Part No.	Description	Remarks
22	*3-309-595-00	SHEET, INSULATING, PACK	
23	3-350-911-01	TERMINAL BOARD (B), BATTERY	
24	3-350-912-01	CONTACT	
25	3-350-910-01	TERMINAL BOARD (A), BATTERY	
26	3-350-905-01	LID, BATTERY CASE	
27	3-350-927-01	SHEET (BATTERY DRAWER)	
28	3-350-953-01	SHEET (SWITCH)	
29	*3-350-928-01	CASE, SHIELD	
30	3-349-898-02	BUTTON (FF)	
31	3-349-897-02	BUTTON (PLAY)	
32	3-349-895-01	BUTTON (REW)	
33	3-349-896-01	BUTTON (STOP)	
34	3-350-981-11	SHEET (HOLDER)	
35	3-729-013-11	SCREW(M1.4X2), WASHER HEAD (+P)	
36	3-350-944-11	LEVER, LOCK	
37	3-350-903-01	SHAFT (LOCK LEVER)	
38	3-349-899-01	PLATE, ORNAMENTAL	
39	9-911-815-01	CUSHION	
901	A-3289-517-A	MOUNTED PCB (INS), AUDIO	
902	A-3216-625-A	MOUNTED PCB, SYSTEM CONTROL	
903	1-629-133-11	PC BOARD, FLEXIBLE	
904	1-571-799-11	SWITCH (BLOCK TYPE)	
905	1-629-136-11	PC BOARD, SWITCH FLEXIBLE	
906	1-629-131-11	PC BOARD, MAIN FLEXIBLE	
908	A-3289-515-A	MOUNTED PCB (INS), ODC	
J901	1-568-121-11	JACK (PHONES/REMOTE)	

5-2. Mechanism Section (MT-WM701C-17)-1



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-349-852-01	GEAR (C)		67	3-349-865-01	SPRING (PINCH LEVER R), TORSION	
52	3-349-830-01	GEAR (B)			3-349-865-11	SPRING (PINCH LEVER R), TORSION	
53	X-3349-808-1	GEAR (A) ASSY		68	3-349-878-01	GEAR (T REEL)	
54	3-331-047-03	SCREW (M1.4X1.8), SPECIAL HEAD		69	3-349-837-01	SPRING, COMPRESSION	
55	*3-338-667-01	SHEET, ADHESIVE, DOUBLE-FACE		70	3-349-827-11	WASHER	
56	3-704-382-31	SCREW (M1.4X2.5), TAPPING		71	3-349-877-01	GEAR (S REEL)	
57	3-349-836-01	SPRING (HEAD LEVER)		73	3-349-825-01	SCREW	
58	3-352-116-01	GUIDE (RIGHT), TAPE		74	X-3349-816-1	CHASSIS ASSY, MOTOR	
59	3-349-859-11	WASHER		75	A-3163-156-A	WHEEL ASSY, MOTOR	
60	3-349-864-01	SPRING (PINCH LEVER N), TORSION		76	3-349-803-01	PLATE, HYSTERESIS	
	3-349-864-11	SPRING (PINCH LEVER N), TORSION		77	3-349-868-01	PLATE, SHIELD	
61	X-3349-810-1	PINCH LEVER (N) ASSY		78	3-704-381-31	SCREW (M1.4X2.5), TAPPING, PAN	
62	X-3349-803-1	HOLDER ASSY		79	3-349-892-01	CHASSIS, SUB	
63	3-704-252-41	SCREW (M1.4X6)		80	9-911-839-XX	SPACER	
65	3-349-801-01	LEVER, HEAD		81	3-352-117-01	GUIDE (LEFT), TAPE	
66	X-3349-804-1	PINCH LEVER (R) ASSY		907	1-630-958-11	PC BOARD, HEAD FLEXIBLE	
				M901	1-462-274-11	COIL, MOTOR (STATOR)	
				HP901	1-543-576-11	HEAD, MAGNETIC (PLAY BACK)	

5-3. Mechanism Section (MT-WM701C-17)-2



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	3-348-993-01	WASHER		116	*3-704-430-01	ARBOR, MOVABLE	
102	3-350-989-01	WASHER		117	3-349-850-01	WASHER	
103	X-3349-801-1	CHASSIS ASSY		118	3-349-854-01	PULLEY	
104	3-350-945-01	WASHER		119	3-349-853-01	GEAR (D)	
105	X-3349-809-1	WHEEL (N) ASSY, CAPSTAN		120	3-349-859-21	WASHER	
106	X-3349-812-1	LEVER (S) ASSY		121	3-349-884-01	LEVER, NR	
107	3-349-816-01	SPRING, TENSION		122	3-349-889-01	GEAR (CAM)	
108	3-349-867-01	SPRING, TENSION		123	3-338-628-01	WHEEL, REVERSE	
109	3-349-880-01	LEVER (P), SW		124	3-349-814-01	BELT	
110	3-349-859-11	WASHER		125	X-3349-813-1	WHEEL (R) ASSY, CAPSTAN	
111	3-349-866-01	SPRING (POWER TENSION), TENSION		126	3-345-648-03	SCREW (M1.4X4.0), TOOTHED LOCK	
112	X-3349-807-1	LEVER ASSY, FR		127	3-349-859-01	WASHER	
113	X-3349-815-1	LEVER (T) ASSY		909	1-629-130-11	PC BOARD, PLUNGER FLEXIBLE	
114	3-349-860-01	SPRING, TORSION		PM901	1-454-479-11	SOLENOID, PLUNGER	
115	X-3349-814-1	LEVER (P) ASSY, TRIGGER					

SECTION 6

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.

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: μ F.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:

UA...: μ A..., UPA...: μ PA...,

UPC...: μ PC, UPD...: μ PD...

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

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
901	A-3289-517-A	MOUNTED PCB (INS), AUDIO				C217	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V	
902	A-3216-625-A	MOUNTED PCB, SYSTEM CONTROL				C218	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V	
903	1-629-133-11	PC BOARD, FLEXIBLE				C219	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
904	1-571-799-11	SWITCH (BLOCK TYPE)				C220	1-135-199-21	TANTAL. CHIP 1MF	10%	16V	
905	1-629-136-11	PC BOARD, SWITCH FLEXIBLE				C301	1-135-184-11	TANTAL. CHIP 6.8MF	20%	4V	
906	1-629-131-11	PC BOARD, MAIN FLEXIBLE				C302	1-135-184-11	TANTAL. CHIP 6.8MF	20%	4V	
907	1-630-958-11	PC BOARD, HEAD FLEXIBLE				C303	1-135-131-11	TANTAL. CHIP 22MF	20%	4V	
908	A-3289-515-A	MOUNTED PCB (INS), DDC				C304	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
909	1-629-130-11	PC BOARD, PLUNGER FLEXIBLE				C305	1-135-150-21	TANTAL. CHIP 3.3MF	10%	4V	
C101	1-135-158-21	TANTAL. CHIP 15MF	20%	4V		C306	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C102	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V		C307	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V	
C103	1-135-184-11	TANTAL. CHIP 6.8MF	20%	4V		C308	1-135-184-11	TANTAL. CHIP 6.8MF	20%	4V	
C104	1-164-156-11	CERAMIC CHIP 0.1MF		25V		C309	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C105	1-135-199-21	TANTAL. CHIP 1MF	10%	16V		C310	1-135-158-21	TANTAL. CHIP 15MF	20%	4V	
C106	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V		C311	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V	
C107	1-135-149-21	TANTAL. CHIP 2.2MF	10%	4V		C312	1-135-158-21	TANTAL. CHIP 15MF	20%	4V	
C108	1-135-131-11	TANTAL. CHIP 22MF	20%	4V		C313	1-162-955-11	CERAMIC CHIP 150PF	5%	50V	
C109	1-135-191-21	TANTAL. CHIP 0.22MF	10%	20V		C314	1-135-184-11	TANTAL. CHIP 6.8MF	20%	4V	
C110	1-135-191-21	TANTAL. CHIP 0.22MF	10%	20V		C315	1-135-158-21	TANTAL. CHIP 15MF	20%	4V	
C111	1-135-149-21	TANTAL. CHIP 2.2MF	10%	4V		C316	1-135-184-11	TANTAL. CHIP 6.8MF	20%	4V	
C112	1-164-172-11	CERAMIC CHIP 0.0056MF	5%	25V		C317	1-164-156-11	CERAMIC CHIP 0.1MF		25V	
C113	1-162-970-11	CERAMIC CHIP 0.01MF	5%	25V		C318	1-135-150-21	TANTAL. CHIP 3.3MF	10%	4V	
C114	1-163-018-00	CERAMIC CHIP 0.0056MF	5%	50V		C601	1-162-974-11	CERAMIC CHIP 0.01MF		50V	
C115	1-162-955-11	CERAMIC CHIP 150PF	5%	50V		C602	1-135-150-21	TANTAL. CHIP 3.3MF	10%	4V	
C116	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V		C603	1-162-974-11	CERAMIC CHIP 0.01MF		50V	
C117	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V		C604	1-135-150-21	TANTAL. CHIP 3.3MF	10%	4V	
C118	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V		C605	1-162-974-11	CERAMIC CHIP 0.01MF		50V	
C119	1-135-091-00	TANTAL. CHIP 1MF	20%	16V		C606	1-135-150-21	TANTAL. CHIP 3.3MF	10%	4V	
C120	1-135-199-21	TANTAL. CHIP 1MF	10%	16V		C607	1-135-149-21	TANTAL. CHIP 2.2MF	20%	4V	
C201	1-135-158-21	TANTAL. CHIP 15MF	20%	4V		C608	1-162-993-11	CERAMIC CHIP 0.22MF	10%	16V	
C202	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V		C609	1-135-149-21	TANTAL. CHIP 2.2MF	20%	4V	
C203	1-135-184-11	TANTAL. CHIP 6.8MF	20%	4V		C701	1-164-234-11	CERAMIC CHIP 1MF		10V	
C204	1-164-156-11	CERAMIC CHIP 0.1MF		25V		C702	1-164-005-11	CERAMIC CHIP 0.47MF		25V	
C205	1-135-199-21	TANTAL. CHIP 1MF	10%	16V		C703	1-164-234-11	CERAMIC CHIP 1MF		10V	
C206	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V		C704	1-162-957-11	CERAMIC CHIP 220PF	5%	50V	
C207	1-135-149-21	TANTAL. CHIP 2.2MF	10%	4V		C705	1-162-957-11	CERAMIC CHIP 220PF	5%	50V	
C208	1-135-131-11	TANTAL. CHIP 22MF	20%	4V		C801	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V	
C209	1-135-191-21	TANTAL. CHIP 0.22MF	10%	20V		C803	1-162-969-11	CERAMIC CHIP 0.0068MF	10%	25V	
C210	1-135-191-21	TANTAL. CHIP 0.22MF	10%	20V		C804	1-135-158-21	TANTAL. CHIP 15MF	20%	4V	
C211	1-135-149-21	TANTAL. CHIP 2.2MF	10%	4V		C805	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V	
C212	1-164-172-11	CERAMIC CHIP 0.0056MF	5%	25V		C807	1-135-158-21	TANTAL. CHIP 15MF	20%	4V	
C213	1-162-970-11	CERAMIC CHIP 0.01MF	5%	25V		C808	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V	
C214	1-163-018-00	CERAMIC CHIP 0.0056MF	5%	50V		C809	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V	
C215	1-162-955-11	CERAMIC CHIP 150PF	5%	50V		C810	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V	
C216	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V							

Ref.No.	Part No.	Description			
D701	8-719-404-46	DIODE MA110			
D702	8-719-974-55	DIODE GL102R6			
D801	8-719-938-75	DIODE SB05-05CP			
D802	8-719-420-51	DIODE MA729			
D803	8-719-404-46	DIODE MA110			
FL101	1-236-323-11	FILTER, SP-SK			
FL201	1-236-323-11	FILTER, SP-SK			
HP901	1-543-576-11	HEAD, MAGNETIC (PLAY BACK)			
IC101	8-759-710-49	IC NJM2065AM			
IC201	8-759-710-49	IC NJM2065AM			
IC301	8-749-920-28	IC MHC8570EQ01L			
IC302	8-759-805-09	IC CXA1249M			
IC303	8-759-231-14	IC TA8145FN-ER			
IC601	8-759-821-20	IC LB1672M-T1			
IC701	8-759-144-86	IC UPD7508HG-640-22			
J901	1-568-121-11	JACK (PHONES/REMOTE)			
JR1A	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR1	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR2A	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR2	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR3A	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR3	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR4	1-216-864-11	METAL GLAZE	0	5%	1/16W
L801	1-410-213-51	INDUCTOR CHIP	56UH		
L802	1-410-213-51	INDUCTOR CHIP	56UH		
L803	1-410-213-51	INDUCTOR CHIP	56UH		
M901	1-462-274-11	COIL, MOTOR (STATOR)			
PH701	8-719-710-35	DIODE, PHOTO NJL5161K-B			
PM901	1-454-479-11	SOLENOID, PLUNGER			
Q301	8-729-230-74	TRANSISTOR 2SA1362			
Q302	8-729-403-17	TRANSISTOR XN1215			
Q303	8-729-402-16	TRANSISTOR XN4608			
Q304	8-729-420-53	TRANSISTOR UN5115			
Q601	8-729-162-43	TRANSISTOR 2SB624-BV3			
Q602	8-729-162-43	TRANSISTOR 2SB624-BV3			
Q701	8-729-403-27	TRANSISTOR XN4401			
Q702	8-729-420-50	TRANSISTOR UN5215			
Q703	8-729-420-50	TRANSISTOR UN5215			
Q704	8-729-402-16	TRANSISTOR XN4608			
Q705	8-729-403-17	TRANSISTOR XN1215			
Q706	8-729-402-16	TRANSISTOR XN4608			
Q707	8-729-402-16	TRANSISTOR XN4608			
Q708	8-729-420-50	TRANSISTOR UN5215			
Q709	8-729-420-53	TRANSISTOR UN5115			
Q801	8-729-117-16	TRANSISTOR 2SA1611			
Q802	8-729-117-32	TRANSISTOR 2SC4177			
Q803	8-729-400-56	TRANSISTOR 2SD1328			
Q804	8-729-117-16	TRANSISTOR 2SA1611			
R101	1-216-815-11	METAL GLAZE	330	5%	1/16W
R102	1-216-815-11	METAL GLAZE	330	5%	1/16W
R103	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W
R104	1-216-851-11	METAL GLAZE	330K	5%	1/16W
R105	1-218-271-11	METAL GLAZE	2K	5%	1/16W
R106	1-218-273-11	METAL GLAZE	510K	5%	1/16W

Ref.No.	Part No.	Description				
R107	1-216-993-11	METAL GLAZE	2.4K	5%	1/16W	
R108	1-218-272-11	METAL GLAZE	5.1K	5%	1/16W	
R109	1-218-271-11	METAL GLAZE	2K	5%	1/16W	
R110	1-218-270-11	METAL GLAZE	1.1K	5%	1/16W	
R111	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R112	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R113	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R114	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R115	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R116	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R118	1-216-791-11	METAL GLAZE	3.3	5%	1/16W	
R201	1-216-815-11	METAL GLAZE	330	5%	1/16W	
R202	1-216-815-11	METAL GLAZE	330	5%	1/16W	
R203	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	
R204	1-216-851-11	METAL GLAZE	330K	5%	1/16W	
R205	1-218-271-11	METAL GLAZE	2K	5%	1/16W	
R206	1-218-273-11	METAL GLAZE	510K	5%	1/16W	
R207	1-216-993-11	METAL GLAZE	2.4K	5%	1/16W	
R208	1-218-272-11	METAL GLAZE	5.1K	5%	1/16W	
R209	1-218-271-11	METAL GLAZE	2K	5%	1/16W	
R210	1-218-270-11	METAL GLAZE	1.1K	5%	1/16W	
R211	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R212	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R213	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R214	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R215	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R216	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R218	1-216-791-11	METAL GLAZE	3.3	5%	1/16W	
R301	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R302	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R303	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	
R304	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R305	1-216-823-11	METAL GLAZE	1.5K	5%	1/16W	
R306	1-216-851-11	METAL GLAZE	330K	5%	1/16W	
R307	1-216-851-11	METAL GLAZE	330K	5%	1/16W	
R308	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R310	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R311	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R312	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R313	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R314	1-216-791-11	METAL GLAZE	3.3	5%	1/16W	
R315	1-216-851-11	METAL GLAZE	330K	5%	1/16W	
R602	1-218-330-11	METAL GLAZE	11K	5%	1/16W	
R603	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R606	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R607	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R608	1-216-815-11	METAL GLAZE	330	5%	1/16W	
R609	1-216-849-11	METAL GLAZE	220K	5%	1/16W	
R610	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R611	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R701	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R702	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R703	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R704	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R705	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R706	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R707	1-216-833-11	METAL GLAZE	10K	5%	1/16W	

Ref.No.	Part No.	Description
R709	1-216-851-11	METAL GLAZE 330K 5% 1/16W
R710	1-216-861-11	METAL GLAZE 2.2M 5% 1/16W
R711	1-216-861-11	METAL GLAZE 2.2M 5% 1/16W
R712	1-216-861-11	METAL GLAZE 2.2M 5% 1/16W
R713	1-216-861-11	METAL GLAZE 2.2M 5% 1/16W
R714	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R717	1-216-849-11	METAL GLAZE 220K 5% 1/16W
R718	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R719	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R720	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R721	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R722	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R723	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R724	1-216-816-11	METAL GLAZE 390 5% 1/16W
R725	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R726	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R727	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R729	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R730	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R731	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R733	1-216-816-11	METAL GLAZE 390 5% 1/16W
R734	1-216-816-11	METAL GLAZE 390 5% 1/16W
R735	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R736	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R737	1-216-834-11	METAL GLAZE 12K 5% 1/16W
R738	1-216-834-11	METAL GLAZE 12K 5% 1/16W
R739	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R801	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R803	1-216-853-11	METAL GLAZE 470K 5% 1/16W
R804	1-216-814-11	METAL GLAZE 270 5% 1/16W
R805	1-216-800-11	METAL GLAZE 18 5% 1/16W
R806	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R807	1-216-216-00	METAL GLAZE 5.6K 5% 1/8W
R808	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R809	1-216-809-11	METAL GLAZE 100 5% 1/16W
RV301	1-238-429-11	RES, VAR, CARBON 10K/10K (VOLUME)
RV601	1-238-202-11	RES, ADJ, METAL GLAZE 2.2K (SPEED)
S301	1-571-275-11	SWITCH, SLIDE (TAPE)
S302	1-571-506-11	SWITCH, SLIDE (DOLBY NR)
S303	1-571-584-11	SWITCH, SLIDE (FWD/REV)
S304	1-571-506-11	SWITCH, SLIDE (DBB)
S701	1-571-275-11	SWITCH, SLIDE (MODE)
S702	1-570-395-11	SWITCH, LEAF (PLAY)

Ref.No.	Part No.	Description
T801	1-449-466-21	TRANSFORMER, DC-DC CONVERTER
X701	1-577-306-11	OSCILLATOR, CERAMIC (1MHz)

ACCESSORY & PACKING MATERIAL

1-505-094-11	(E)...HEADPHONE (WITH REMOCON)
1-505-104-11	(US,AEP,UK)...HEADPHONE SET(WITH REMOCON)
△1-526-565-12	(E)...AC PLUG ADAPTOR
1-528-231-11	BATTERY,NICKEL CADMIUM (NC-6WM)
△1-528-234-12	(E)....BATTERY CHARGER (BC-7L)
△1-528-249-11	(US)....BATTERY CHARGER (BC-7S)
△1-528-251-11	(AEP)...BATTERY CHARGER (BC-7S)
△1-528-252-11	(UK)....BATTERY CHARGER (BC-7S)
1-550-460-11	BATTERY CASE
△1-568-133-11	ADAPTOR, PLUG
3-350-942-01	PORCH. CARRYING
3-350-980-01	CLIP
*3-350-994-01	(E)...CUSHION (UPPER)
*3-350-995-01	(E)...CUSHION (UPPER)
*3-350-996-01	(E).....INDIVIDUAL CARTON
*3-352-130-01	(US,AEP,UK)...INDIVIDUAL CARTON
3-786-809-01	(E).....MANUAL, INSTRUCTION
3-786-809-11	(US,UK)...MANUAL, INSTRUCTION
3-786-809-21	(AEP)....MANUAL, INSTRUCTION
3-786-809-41	(AEP)....MANUAL, INSTRUCTION
X-3329-657-1	(E)....ATTACHMENT ASSY

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