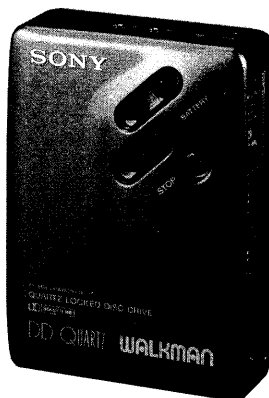


WM-DD33

SERVICE MANUAL

Germany Model
UK Model



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol \square are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	WM-DD30
Tape Transport Mechanism Type	MT-WMDD33-24

SPECIFICATIONS

Frequency response
40 – 15,000 Hz

Wow and flutter
 $\pm 0.13\%$ (DIN)
0.08% WRMS (NAB)

Power output
Headphones:
10 mW + 10 mW (at 10% harmonic distortion)
load impedance 32 ohms at DC operation

Outputs
Two HEADPHONES jacks (stereo minijacks)
load impedance 8 – 300 ohms

Power requirements
3 V DC, two R6 (size AA) batteries
DC IN 3 V jack accepts:
EBP-500B battery case (not supplied) for use on two R20 (size D) batteries
AC-D2M AC power adaptor (not supplied)
available in the United Kingdom for use on 220 V AC, 50 Hz
available in other European countries for use on 220 V AC, 50 Hz
DCC-70 car battery cord (not supplied) for use with 12 V car battery

Battery life

Batteries	Continuous playback hours
Sony batteries SUM-3 (NS)	Approx. 4
Sony alkaline batteries AM3 (N)	Approx. 9

For maximum performance we recommend the use of alkaline batteries.

Dimensions

Approx. 82 × 109.8 × 33 mm (w/h/d)
(3¹/₄ × 4³/₈ × 1⁵/₁₆ inches)
incl. projecting parts and controls

Weight

Approx. 285 g (10.6 oz) incl. batteries,
not incl. other accessories

Accessories supplied

Stereo headphones (1)
Carrying case (1)
Battery tube (1)

Design and specifications subject to change without notice.

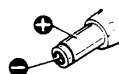
Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Optional Accessories

AC power adaptor AC-D2M
Battery case EBP-500B
Car battery cord DCC-70

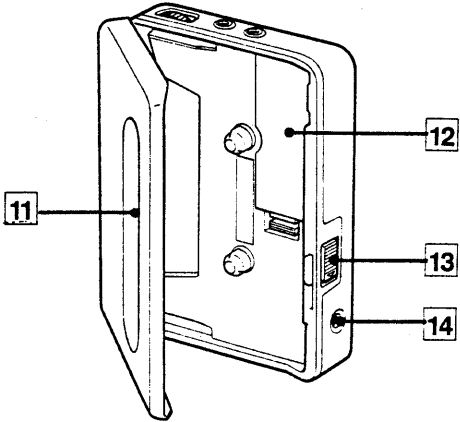
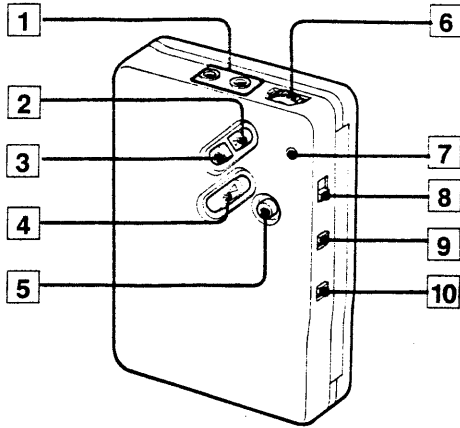
Note: If a car battery cord or an AC power adaptor not manufactured by Sony is used, a fuse must be installed in the battery cord or the AC power adaptor and the polarity of the plug must be as illustrated.



CASSETTE PLAYER
SONY[®]

SECTION 1 GENERAL

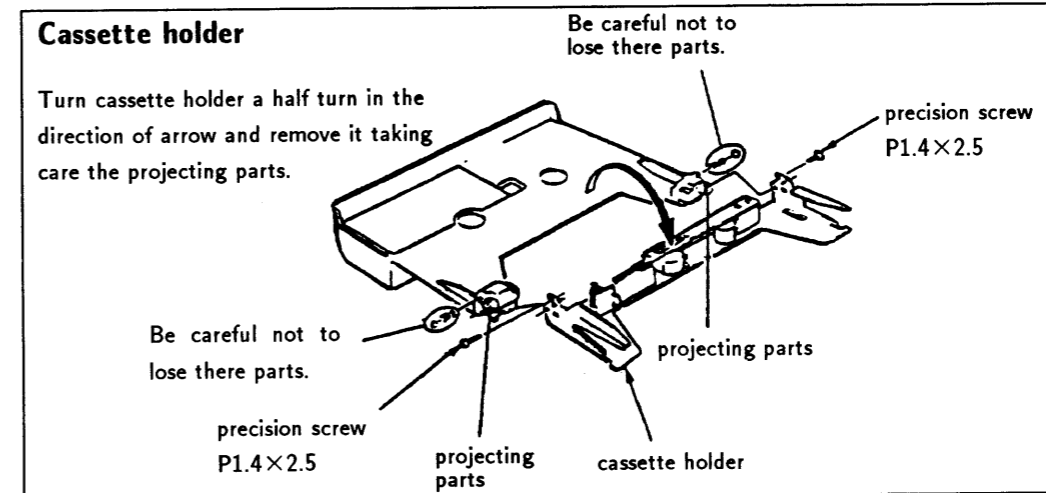
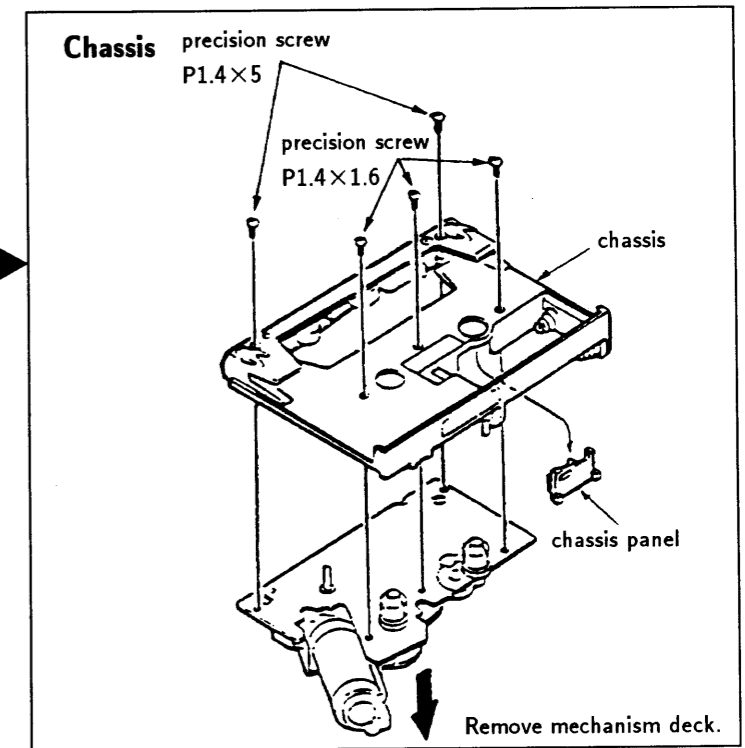
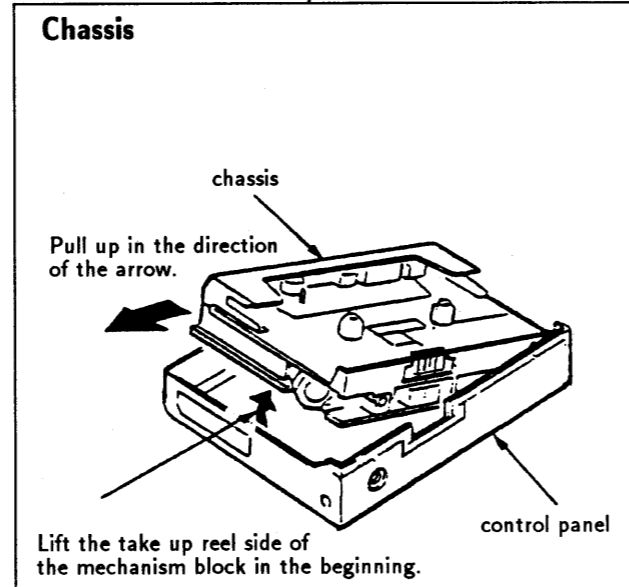
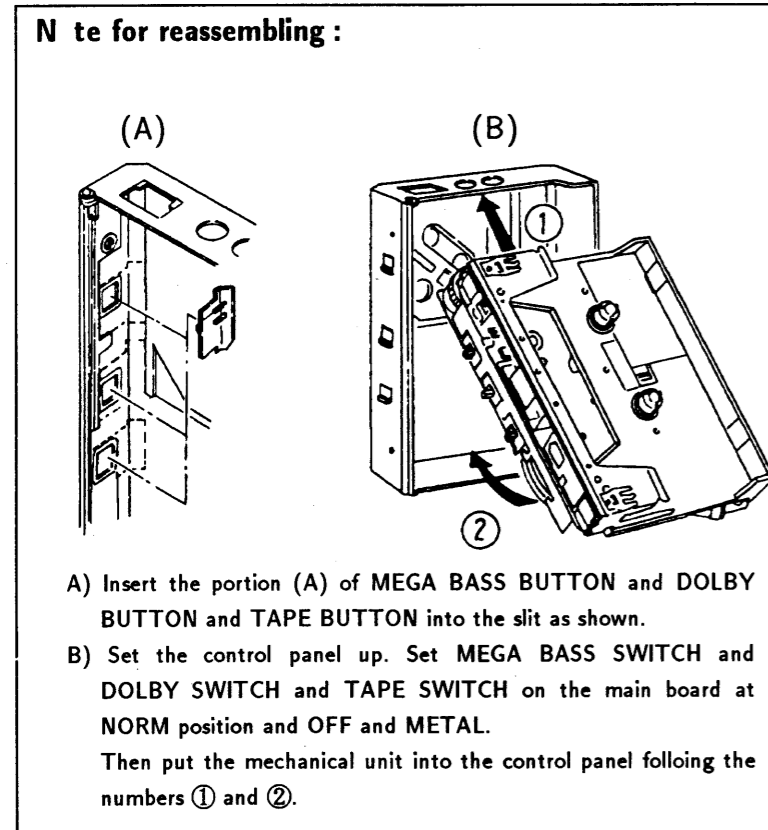
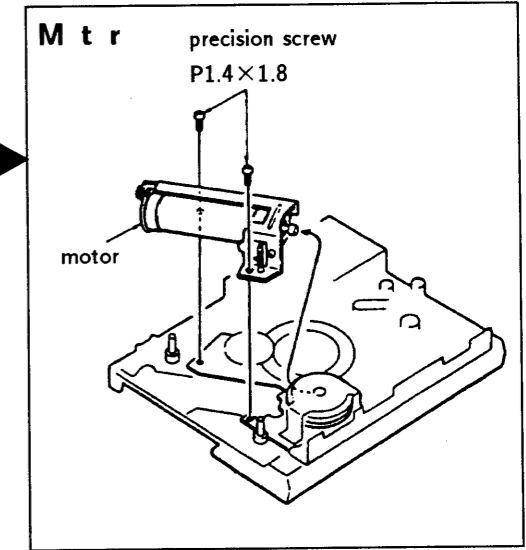
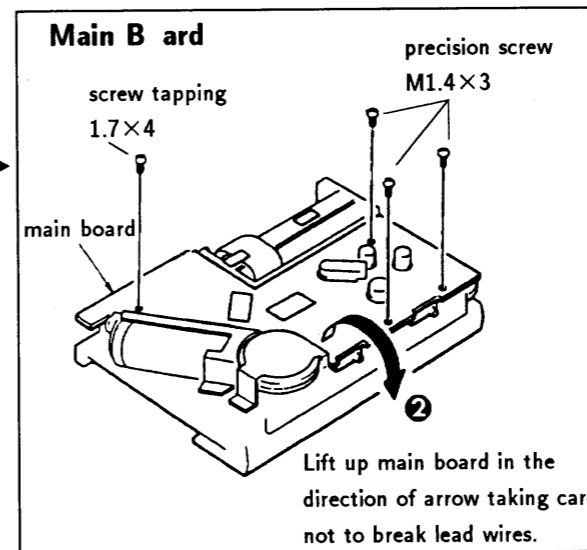
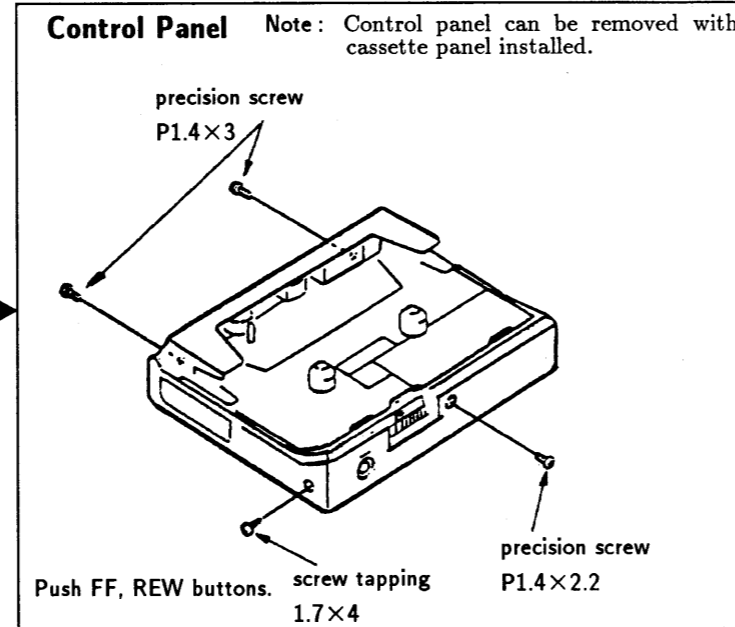
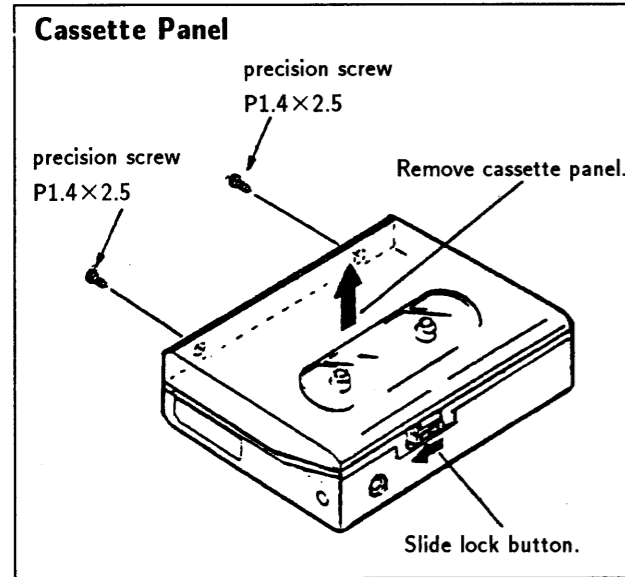
PARTS IDENTIFICATION



- 1 HEADPHONES jacks (stereo minijacks)
- 2 ►► rewind button
- 3 ◀◀ fast forward button
- 4 PLAY ◀ button
- 5 ■ STOP button
- 6 VOL (volume) control
- 7 BATTERY indicator
- 8 MEGA BASS selector
- 9 DOLBY NR switch
- 10 TAPE selector
- 11 Cassette holder
- 12 Battery compartment lid
- 13 OPEN switch
- 14 DC IN 3 V (external power input) jack

**SECTION 2
DISASSEMBLY**

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



Pinch roller and head can be replaced.

SECTION 3 ADJUSTMENT

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
 playback head pinch roller
 capstan
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 adjustment should be performed with the rated power supply voltage unless otherwise noted.

3-1. MECHANICAL ADJUSTMENT

Torque Measurement

Perform with 2.5V DC power.

	Torque meter	Meter reading
FWD	CQ-102C	22 - 46g. cm (0.3-0.63 oz. inch)
Back Tension		1 - 3.5g. cm (0.01 - 0.05oz. inch)
FF, REW	CQ-201B	More than 65g. cm (More than 9.04oz. inch)
Tape Pulling Force	CQ-403A	More than 80g. cm (More than 11.12oz. inch)

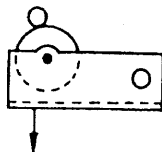
Pinch Roller Pressure Adjustment

— Playback Mode —

1. Pull the spring scale in the direction shown by the arrow.
2. Slowly return the pinch roller and read the spring scale just when the pinch roller starts rotation.

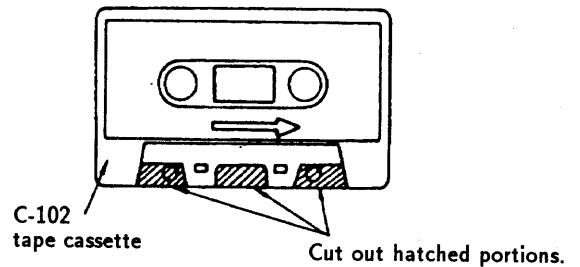
Specification :

$$170 \pm 20g (5.3 - 6.7oz)$$

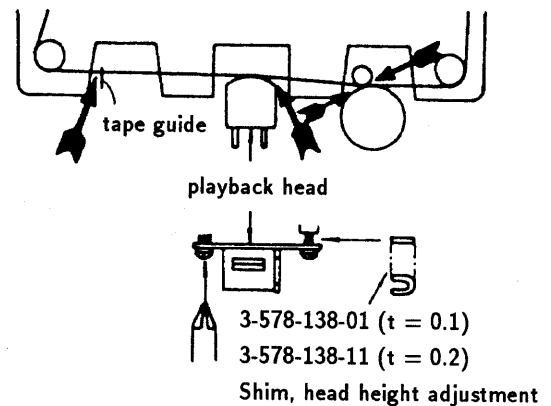


Head Height adjustment

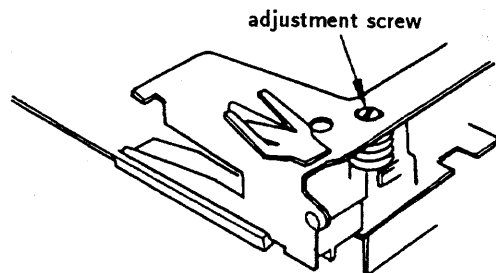
1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by the arrow.



3. If necessary, adjust the height of the tape-guide by turning the adjustment screw.

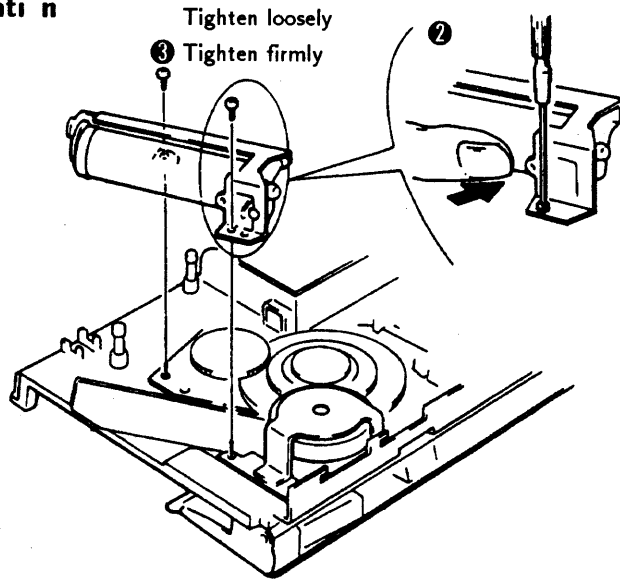


4. Apply locking compound on adjustment screw.

3-1-1. Motor section installation

Tighten screw loosely.
Tighten screw while pressing the motor section lightly in the direction of the arrow.

③ Tighten the screw.



3-1-2. Wow&flutter and motor position

1. Adjust with the adjustment screw so that rotor thrust play is within 0.1mm. (When confirming play, press motor down so that the motor pulley and rotor rubber section do not touch.)

2. Wow & flutter adjustment

Setting :

Power supply voltage : 2.5V

Tape : Adjust by using end portion of tape.

VOLUME control : mechanical mid

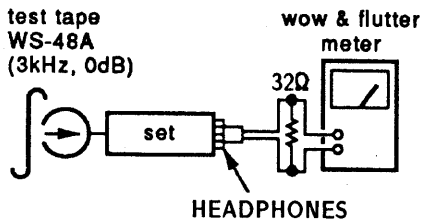
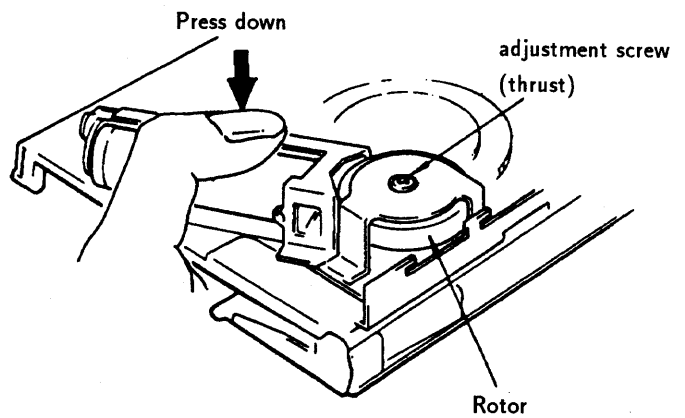
TAPE SELECT switch : NORM

DOLBY NR switch : OFF

MEGABASS switch : NORM

Procedure :

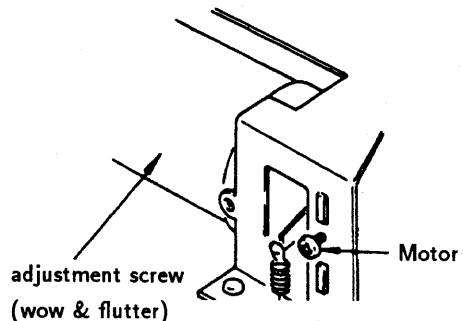
① Mode : playback



Turn the adjustment screw so that the wow and flutter meter reads minimum (less than 0.13% W. RMS).

② At 3.6V power supply voltage, confirm normal FWD operation.

③ When ① and ② are not satisfied, repeat adjustment again starting with "Motor Section Installation".



3-2. ELECTRICAL ADJUSTMENTS

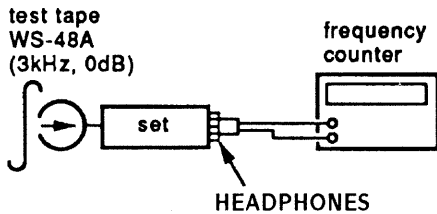
Tape Speed Adjustment

Setting :

- VOLUME control : mechanical mid
- TAPE SELECT switch : NORM
- DOLBY NR switch : OFF
- MEGABASS switch : NORM

Procedure :

Mode : playback



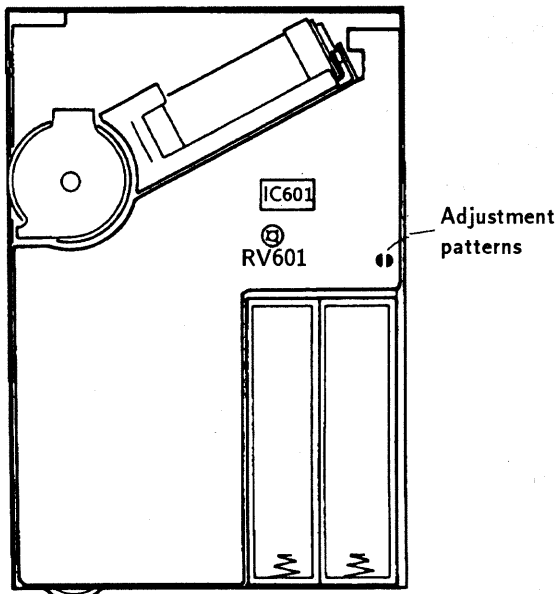
1. Open the solder bridge shown below.
2. Turn RV601 so that frequency reading becomes in $3090\text{Hz} \pm 10\text{Hz}$. (at the ending part of the test tape)
3. Resolder the adjustment patterns opened in step 2 above. Now frequency reading should become in $3000\text{Hz} \pm 9\text{Hz}$.

Specification :

Frequency counter
$3000\text{Hz} \pm 9\text{Hz}$

Adjustment Location :

- main board -



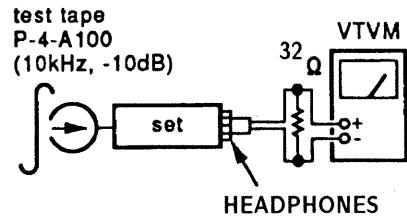
Playback Head Azimuth Adjustment

Setting :

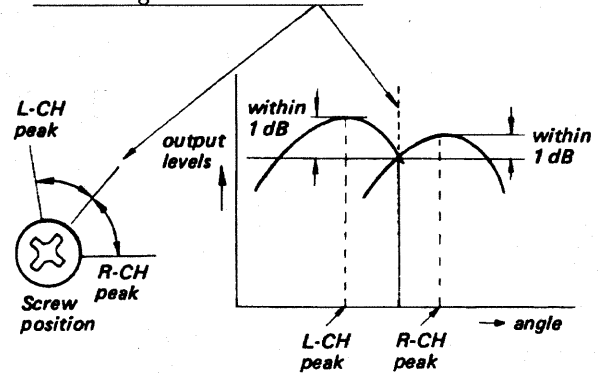
- VOLUME control : mechanical mid
- TAPE SELECT switch : NORM
- DOLBY NR switch : OFF
- MEGABASS switch : NORM

Procedure :

1. Mode : playback

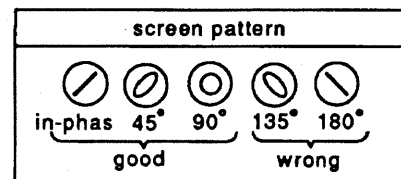
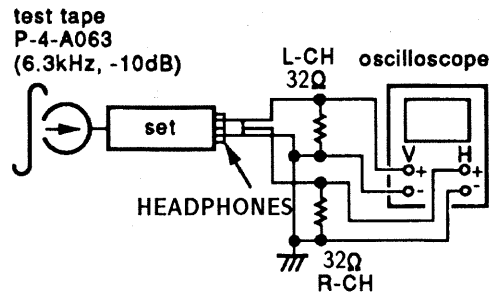


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



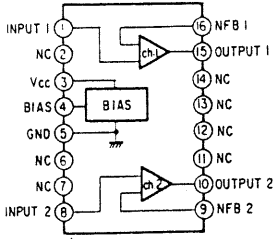
3. Phase Check

Mode : playback

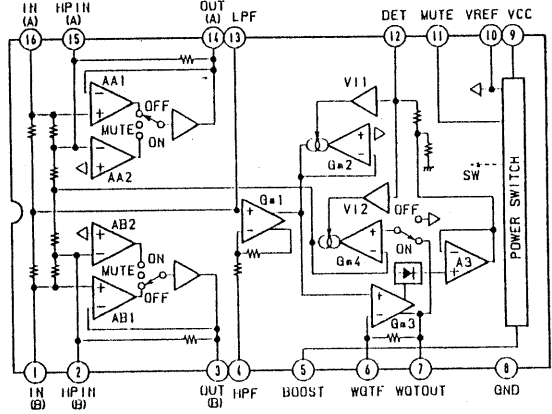


IC BLOCK DIAGRAMS

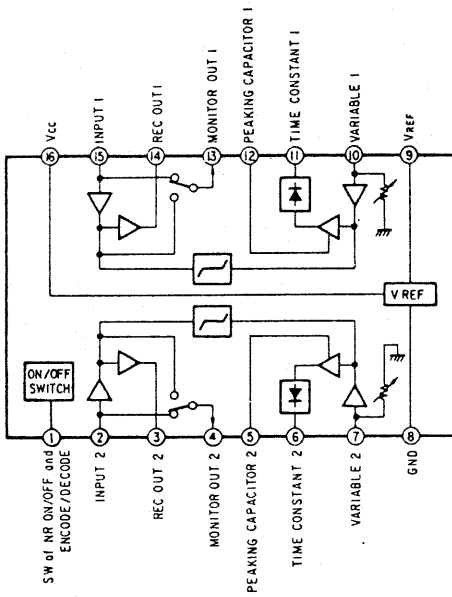
IC301 BA3304F



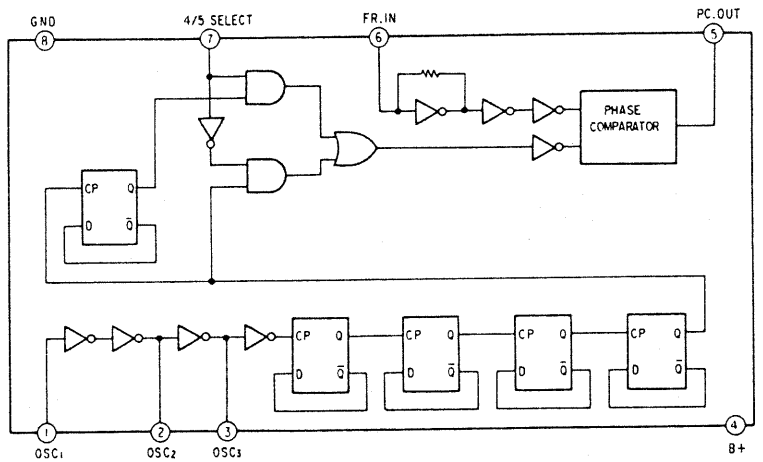
IC303 CXA1423N



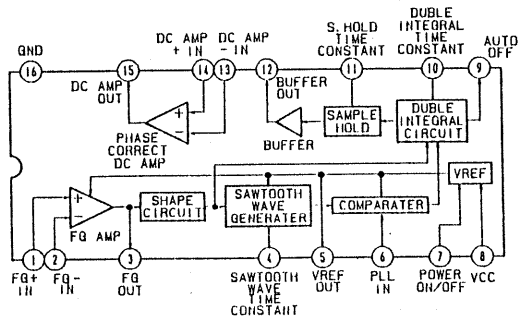
IC302 NJM2063AM



IC602 MSM58141MSK

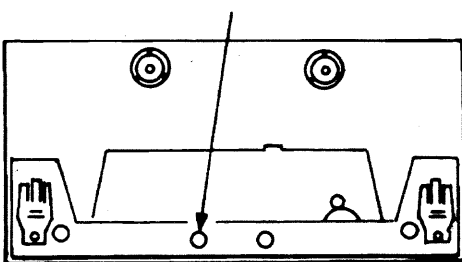


IC601 NJM2106M

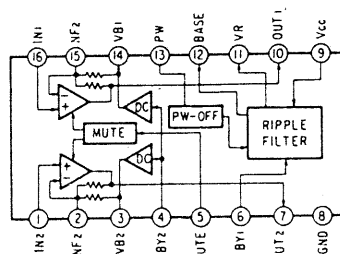


Adjustment Location :

adjustment screw



IC304 TA7688F

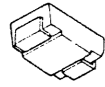


SECTION 4
DIAGRAMS

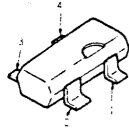
4-1. PRINTED WIRING BOARDS

Semiconductor Lead Layouts

LN1251CA



MA724

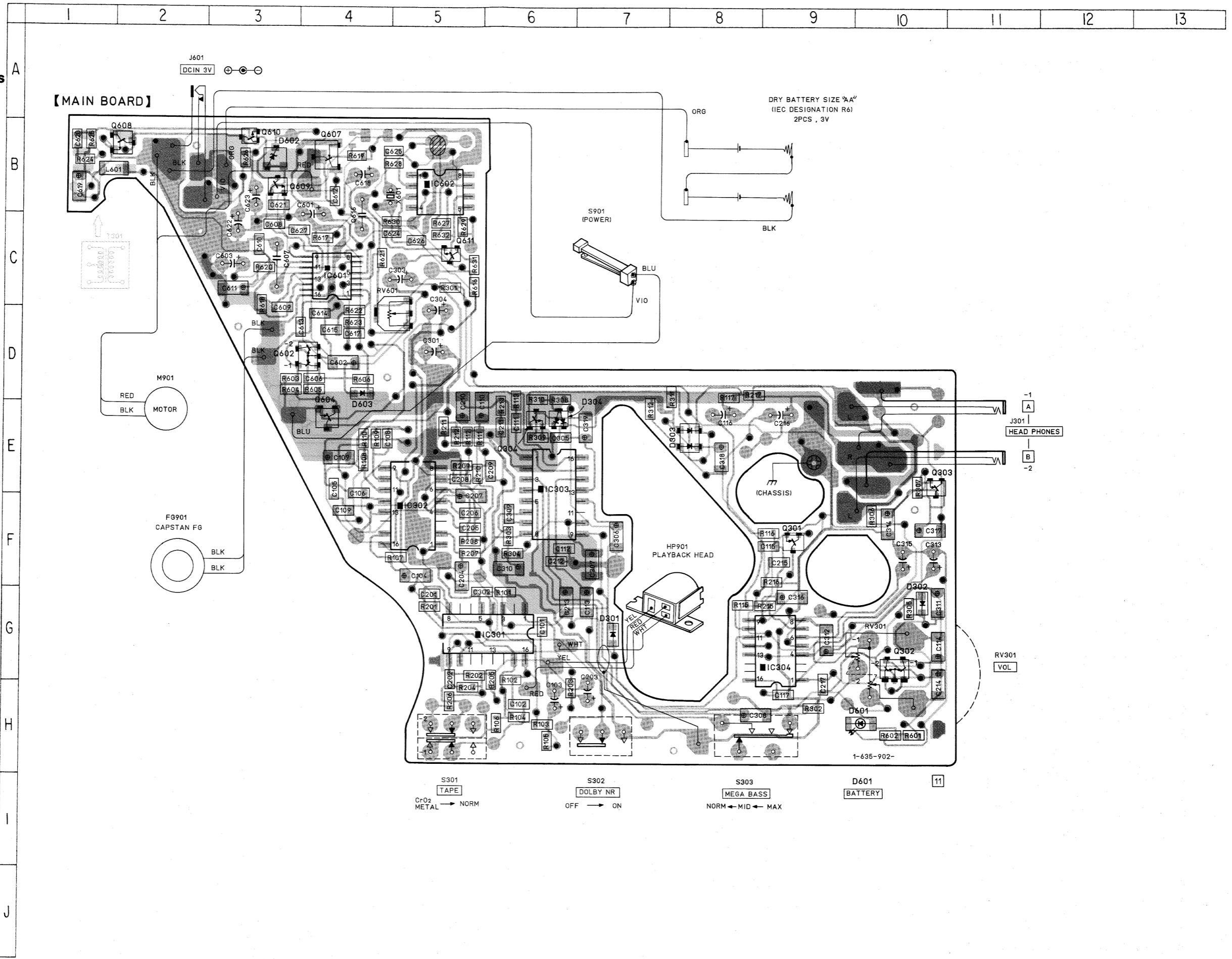


Semiconductor Location

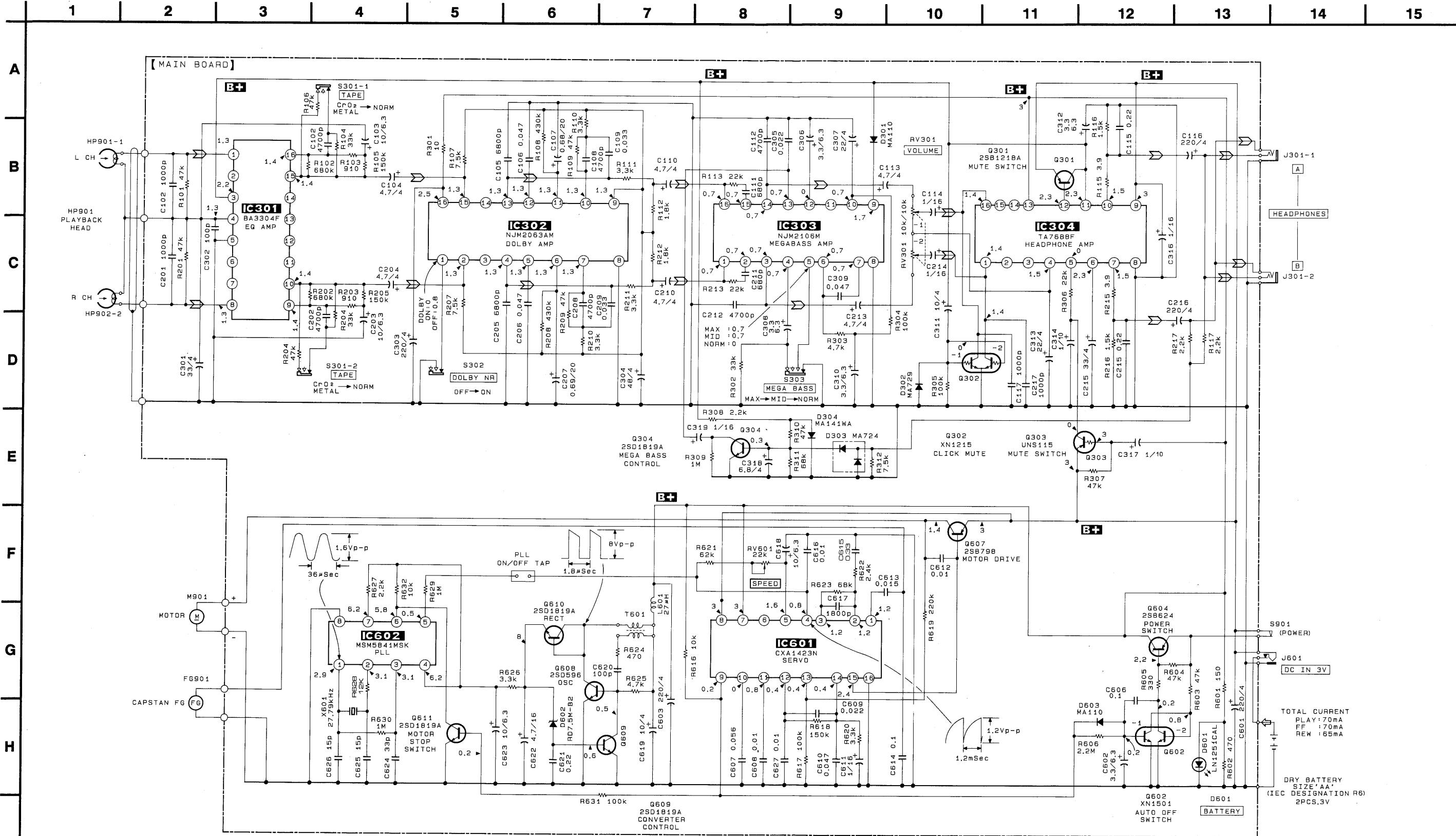
Ref. No.	Location
D301	G-7
D302	F-10
D303	E-8
D304	E-6
D801	H-9
D802	B-3
D803	D-4
IC301	G-5
IC302	E-5
IC303	E-6
IC304	G-8
IC604	D-3
IC602	B-5
Q301	F-9
Q302	G-10
Q303	E-10
Q304	E-6
Q602	D-3
Q604	E-4
Q607	B-4
Q608	B-1
Q609	B-3
Q610	B-3
Q611	C-5

Note on Mounting Diagram:

- : parts extracted from the component side.
- : parts mounted on the conductor side.
- ⊗ : Through hole.
- ▨ : Pattern on the side which is seen.
- : Pattern of the rear side.



4-2. SCHEMATIC DIAGRAM See pag 8 for IC block diagrams.



Notes:

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\mu\text{F}$. 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.

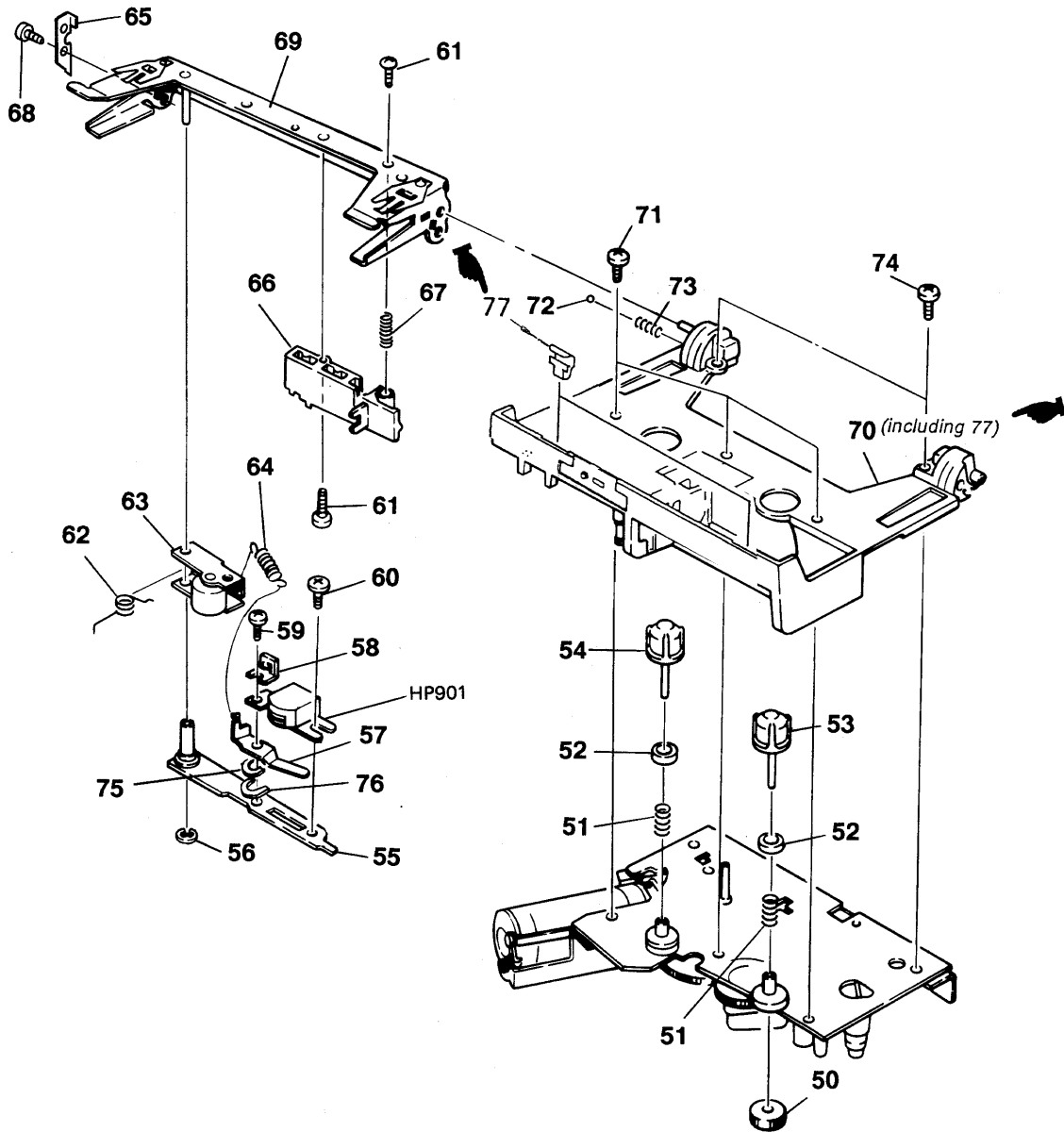
- : B+ Line
- : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from external power voltage jack.

- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.

- Signal path.
- : L-CH signal path

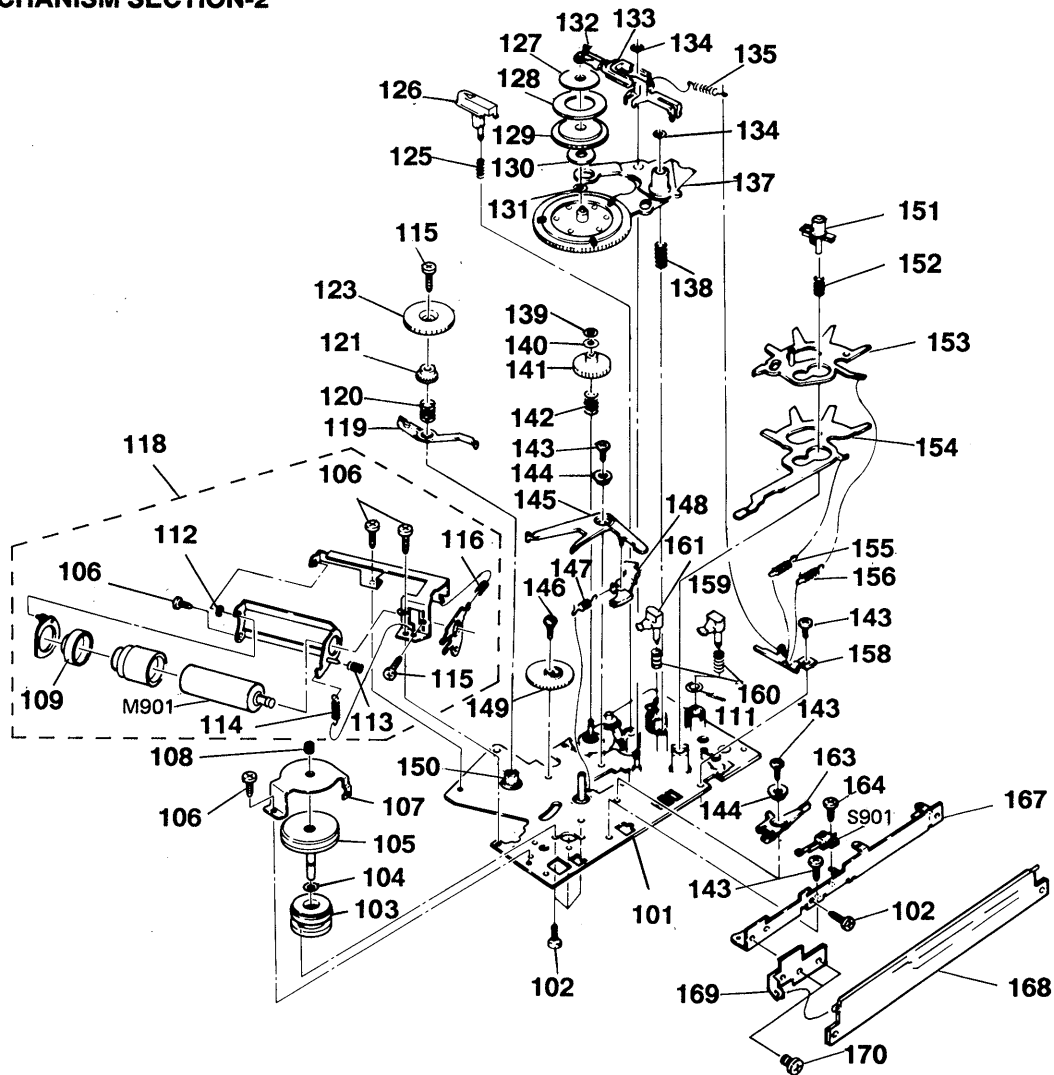
REVISED

5-2. MECHANISM SECTION-1



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
50	3-578-158-00	GEAR, S		64	3-578-220-00	SPRING, TENSION	
51	3-578-123-00	SPRING, COMPRESSION		65	3-363-891-01	STOPPER (HOLDER)	
52	3-310-958-00	WASHER		66	X-3310-935-1	COVER ASSY, ERASE HEAD	
53	X-3578-126-0	CLAW ASSY, REEL		67	3-578-128-00	SPRING, COMPRESSION	
54	X-3578-115-0	CLAW ASSY, REEL		68	7-627-850-79	SCREW, PRECISION +P 1.4X1.8 TYPE3	
55	*X-3578-105-0	CHASSIS ASSY, HEAD		69	X-3362-076-1	HOLDER ASSY	
56	3-327-710-01	RING, RETAINING		70	X-3362-369-1	CHASSIS ASSY	
57	3-578-181-00	SPRING		71	7-627-850-48	+P 1.4X1.6	
58	3-310-971-01	HOOK, SPRING		72	7-671-154-01	STEEL, BALL	
59	7-627-553-37	SCREW, PRECISION +P 2X3		73	3-578-127-00	SPRING, COMPRESSION	
60	7-627-554-17	SCREW, PRECISION +P 2X3.5 TYPE1		74	7-627-851-27	SCREW, PRECISION +P 1.4X5	
61	7-627-553-98	SCREW, PRECISION +P 2X8		75	3-578-138-01	SHIM	
62	3-578-146-00	SPRING		76	3-578-138-11	SHIM	
63	X-3578-137-0	PINCH ROLLER ASSY		HP901	1-543-423-21	HEAD, MAGNETIC (PLAYBACK)	
				77	3-362-586-02	SPRING, CASSETTE RETAINER	

5-3. MECHANISM SECTION-2



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	*X-3310-909-0	CHASSIS ASSY, SUB		138	3-578-199-00	SPRING, COMPRESSION	
102	7-627-451-87	SCREW, PRECISION +K 1.4X2.2		139	3-578-265-00	WASHER	
103	X-3310-907-0	STATOR ASSY		140	3-701-436-01	WASHER	
104	3-701-438-01	WASHER		141	3-578-162-00	GEAR, REW	
105	X-3310-931-1	ROTOR ASSY		142	3-578-221-00	SPRING, COMPRESSION	
106	7-627-850-79	SCREW, PRECISION +P 1.4X1.8 TYPE3		143	7-627-850-47	SCREW (+P1.4X1.6), PRECISION	
107	3-310-930-00	PLATE, THRUST		144	*3-578-149-00	SHAFT, LEVER (A), SHUT-OFF	
108	3-547-625-00	SCREW, THRUST ADJUST		145	3-578-157-00	LEVER (B), SHUT-OFF	
109	3-310-939-00	RUBBER, VIBRATION PROOF		146	3-578-214-00	SHAFT, GEAR, SHUT-OFF	
111	3-305-530-00	WASHER		147	3-578-126-00	SPRING, TENSION	
112	7-624-102-04	STOP RING 1.5, TYPE -E		148	3-305-509-00	LEVER (A), SHUT-OFF	
113	3-310-993-01	SPRING, COMPRESSION		149	3-578-178-00	GEAR, SHUT-OFF	
114	3-310-948-00	SPRING, TENSION		150	3-578-151-00	SHAFT, GEAR, FWD	
115	7-627-851-17	SCREW, PRECISION +P 1.4X4.5		151	X-3362-248-1	BUTTON ASSY, STOP	
116	3-310-921-00	SPRING, COMPRESSION		152	3-578-121-00	SPRING, COMPRESSION	
118	A-3133-409-A	MOTOR BLOCK ASSY		153	X-3578-114-0	PLATE ASSY, LOCK	
119	3-578-154-00	LEVER, DETECTION		154	3-310-935-00	LEVER, SWITCH	
120	3-578-124-00	SPRING, COMPRESSION		155	3-561-627-00	SPRING, TENSION	
121	3-578-244-01	GEAR, FF		156	3-578-277-00	SPRING, TENSION	
123	3-362-344-00	GEAR, FWD		158	*3-578-196-00	HOOK, SPRING	
125	3-578-249-00	SPRING, COMPRESSION (FWD BUTTON)		159	X-3362-250-1	BUTTON ASSY, FF	
126	X-3362-251-1	BUTTON ASSY, PLAY		160	3-578-278-00	SPRING, COMPRESSION	
127	3-310-916-00	PLATE (B), HYSTERESIS		161	X-3362-249-1	BUTTON ASSY, REW	
128	3-310-920-00	PLATE (C), HYSTERESIS		163	3-578-183-00	LEVER, RETURN, S	
129	3-310-915-11	GEAR (B), DRIVING		164	7-627-850-18	SCREW, PRECISION +P 1.4X2.5	
130	3-578-276-21	WASHER		167	X-3362-252-1	BRACKET (A) ASSY, CASE	
131	3-578-224-00	WASHER		168	3-362-576-01	(TITAN)...ORNAMENT (PANEL) (GERMANY)	
132	3-578-130-00	SPRING		168	3-362-576-11	(BLACK,BLUE) ORNAMENT (PANEL)	
133	X-3578-121-0	LEVER ASSY, FWD		169	3-362-560-01	BRACKET, PANEL ORNAMENT	
134	3-578-224-11	WASHER		170	3-349-825-21	SCREW (1.4X1.2)	
135	3-310-959-00	SPRING, TENSION		M901	X-3310-986-1	MOTOR ASSY	
137	X-3578-142-0	LEVER (A) ASSY, DRIVING		S901	1-553-226-00	SWITCH, LEAF (POWER)	

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 μ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn 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							
901	A-3222-129-A	PC BOARD ASSY, MAIN							
C101	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V					
C102	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V					
C103	1-126-157-11	ELECT 10MF	20%	6.3V					
C104	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V					
C105	1-162-969-11	CERAMIC CHIP 0.0068MF	10%	25V					
C106	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V					
C107	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V					
C108	1-162-968-11	CERAMIC CHIP 0.0047MF	5%	50V					
C109	1-163-989-11	CERAMIC CHIP 0.033MF	5%	25V					
C110	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V					
C111	1-162-963-11	CERAMIC CHIP 680PF	10%	50V					
C112	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V					
C113	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V					
C114	1-135-091-00	TANTAL. CHIP 1MF	20%	16V					
C115	1-164-222-11	CERAMIC CHIP 0.22MF		25V					
C116	1-124-434-00	ELECT 220MF	20%	4V					
C117	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V					
C201	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V					
C202	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V					
C203	1-126-157-11	ELECT 10MF	20%	6.3V					
C204	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V					
C205	1-162-969-11	CERAMIC CHIP 0.0068MF	10%	25V					
C206	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V					
C207	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V					
C208	1-162-968-11	CERAMIC CHIP 0.0047MF	5%	50V					
C209	1-163-989-11	CERAMIC CHIP 0.033MF	5%	25V					
C210	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V					
C211	1-162-963-11	CERAMIC CHIP 680PF	10%	50V					
C212	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V					
C213	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V					
C214	1-135-091-00	TANTAL. CHIP 1MF	20%	16V					
C215	1-164-222-11	CERAMIC CHIP 0.22MF		25V					
C216	1-124-434-00	ELECT 220MF	20%	4V					
C217	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V					
C301	1-124-431-00	ELECT 33MF	20%	4V					
C302	1-162-953-11	CERAMIC CHIP 100PF	5%	50V					
C303	1-124-434-00	ELECT 220MF	20%	4V					
C304	1-124-432-00	ELECT 47MF	20%	4V					
C305	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V					
C306	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V					
C307	1-135-202-21	TANTAL. CHIP 22MF	20%	4V					
C308	1-135-221-11	TANTAL. CHIP 3.3MF	20%	4V					
C309	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V					
C310	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V					
C311	1-135-201-11	TANTAL. CHIP 10MF	20%	4V					
C312	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V					
C313	1-124-430-00	ELECT 22MF	20%	4V					
C314	1-135-208-11	TANTAL. CHIP 1MF	20%	10V					
C315	1-124-431-00	ELECT 33MF	20%	4V					
C316	1-135-091-00	TANTAL. CHIP 1MF	20%	16V					
C317	1-135-208-11	TANTAL. CHIP 1MF	20%	10V					
C318	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V					
C319	1-135-091-00	TANTAL. CHIP 1MF	20%	16V					
C601	1-124-434-00	ELECT 220MF	20%	4V					
C602	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V					
C603	1-124-434-00	ELECT 220MF	20%	4V					
C606	1-164-156-11	CERAMIC CHIP 0.1MF		25V					
C607	1-136-162-00	FILM 0.056MF	5%	50V					
C608	1-162-970-11	CERAMIC CHIP 0.01MF	5%	25V					
C609	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V					
C610	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V					
C611	1-135-091-00	TANTAL. CHIP 1MF	20%	16V					
C612	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V					
C613	1-164-245-11	CERAMIC CHIP 0.015MF	10%	25V					
C614	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V					
C615	1-135-073-00	CERAMIC CHIP 0.33MF	20%	35V					
C616	1-130-483-00	MYLAR 0.01MF	5%	50V					
C617	1-162-977-11	CERAMIC CHIP 0.0018MF	10%	50V					
C618	1-126-157-11	ELECT 10MF	20%	6.3V					
C619	1-135-201-11	TANTAL. CHIP 10MF	20%	4V					
C620	1-162-953-11	CERAMIC CHIP 100PF	5%	50V					
C621	1-164-222-11	CERAMIC CHIP 0.22MF		25V					
C622	1-126-156-11	ELECT 4.7MF	20%	16V					
C623	1-126-157-11	ELECT 10MF	20%	6.3V					
C624	1-162-947-11	CERAMIC CHIP 33PF	5%	50V					
C625	1-162-943-11	CERAMIC CHIP 15PF	5%	50V					
C626	1-162-943-11	CERAMIC CHIP 15PF	5%	50V					
C627	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V					
D301	8-719-404-46	DIODE MA110							
D302	8-719-420-51	DIODE MA729							
D303	8-719-420-77	DIODE MA724							
D304	8-719-404-32	DIODE MA141WA							
D601	8-719-420-74	DIODE LN1251CAL (BATTERY)							
D602	8-719-106-23	DIODE RD7.5M-82							
D603	8-719-404-46	DIODE MA110							
HP901	1-543-423-21	HEAD, MAGNETIC (PLAYBACK)							

Ref.No.	Part No.	Description
IC301	8-759-910-18	IC BA3304F
IC302	8-759-701-07	IC NJM2063AM
IC303	8-759-711-24	IC NJM2106M
IC304	8-759-205-43	IC TA7688F-S0
IC601	8-752-039-14	IC CXA1423N
IC602	8-759-996-71	IC MSM58141MSK
J301	1-507-727-00	JACK 2P (HEADPHONES)
J601	1-507-723-00	JACK, EXTENTION POWER (DC IN 3V)
L601	1-410-209-51	INDUCTOR CHIP 27UH
M901	X-3310-986-1	MOTOR ASSY
Q301	8-729-402-55	TRANSISTOR 2SB1218A-R
Q302	8-729-403-17	TRANSISTOR XN1215
Q303	8-729-420-53	TRANSISTOR UN5115
Q304	8-729-402-32	TRANSISTOR 2SD1819A-R
Q602	8-729-421-23	TRANSISTOR XN1216
Q604	8-729-162-44	TRANSISTOR 2SB624-BV4
Q607	8-729-101-07	TRANSISTOR 2SB798-DL
Q608	8-729-159-64	TRANSISTOR 2SD596-DV4
Q609	8-729-402-32	TRANSISTOR 2SD1819A-R
Q610	8-729-402-32	TRANSISTOR 2SD1819A-R
Q611	8-729-402-32	TRANSISTOR 2SD1819A-R
R101	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R102	1-216-855-11	METAL GLAZE 680K 5% 1/16W
R103	1-218-457-11	METAL GLAZE 910 5% 1/16W
R104	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R105	1-216-847-11	METAL GLAZE 150K 5% 1/16W
R106	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R107	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W
R108	1-218-448-11	METAL GLAZE 430K 5% 1/16W
R109	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R110	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R111	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R112	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R113	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R115	1-216-792-11	METAL GLAZE 3.9 5% 1/16W
R116	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R117	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R201	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R202	1-216-855-11	METAL GLAZE 680K 5% 1/16W
R203	1-218-457-11	METAL GLAZE 910 5% 1/16W
R204	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R205	1-216-847-11	METAL GLAZE 150K 5% 1/16W
R206	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R207	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W
R208	1-218-448-11	METAL GLAZE 430K 5% 1/16W
R209	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R210	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R211	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R212	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R213	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R215	1-216-792-11	METAL GLAZE 3.9 5% 1/16W
R216	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R217	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R301	1-216-797-11	METAL GLAZE 10 5% 1/16W

Ref.No.	Part No.	Description
R302	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R303	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R304	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R305	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R306	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R307	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R308	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R309	1-216-857-11	METAL GLAZE 1M 5% 1/16W
R310	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R311	1-216-843-11	METAL GLAZE 68K 5% 1/16W
R312	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W
R601	1-216-811-11	METAL GLAZE 150 5% 1/16W
R602	1-216-817-11	METAL GLAZE 470 5% 1/16W
R603	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R604	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R605	1-216-815-11	METAL GLAZE 330 5% 1/16W
R606	1-216-861-11	METAL GLAZE 2.2M 5% 1/16W
R616	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R617	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R618	1-216-847-11	METAL GLAZE 150K 5% 1/16W
R619	1-216-849-11	METAL GLAZE 220K 5% 1/16W
R620	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R621	1-218-447-11	METAL GLAZE 62K 5% 1/16W
R622	1-216-993-11	METAL GLAZE 2.4K 5% 1/16W
R623	1-216-843-11	METAL GLAZE 68K 5% 1/16W
R624	1-216-817-11	METAL GLAZE 470 5% 1/16W
R625	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R626	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R627	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R628	1-216-834-11	METAL GLAZE 18K 5% 1/16W
R629	1-216-857-11	METAL GLAZE 1M 5% 1/16W
R630	1-216-857-11	METAL GLAZE 1M 5% 1/16W
R631	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R632	1-216-833-11	METAL GLAZE 10K 5% 1/16W
RV301	1-230-485-11	RES, VAR, CARBON 10K/10K
RV601	1-238-714-11	RES, ADJ, METAL GLAZE 22K
S301	1-570-114-11	SWITCH, SLIDE (TAPE)
S302	1-553-510-00	SWITCH, SLIDE (DOLBY NR)
S303	1-570-096-11	SWITCH, SLIDE (MEGE BASS)
S901	1-553-226-00	SWITCH, LEAF (POWER)
T601	1-447-697-00	TRANSFORMER, DC-DC CONVERTOR
X601	1-567-260-11	VIBRATOR, CRYSTAL (27.79kHz)

ACCESSORY & PACKING MATERIAL

3-351-508-01	TUBE, PROTECTION
3-364-161-01	CASE, CARRYING
*3-362-258-01	INDIVIDUAL CARTON
*3-362-259-01	CUSHION
3-570-631-61	BAG, POLYETHYLENE
3-752-291-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)
3-752-291-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)
8-952-472-90	HEADPHONE MDR-102 SET

