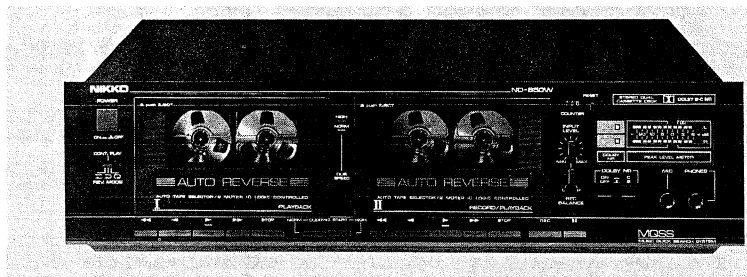


NIKKO

DECK

ND-850W

STEREO CASSETTE DECK



TYPE AND VOLTAGE

W-TYPE:	UL & CSA type	120V AC
E-TYPE:	NK-STD type	220V AC

SERVICE MANUAL

CONTENTS

SAFETY INSTRUCTIONS	1
SPECIFICATIONS	1
DISASSEMBLY INSTRUCTIONS	2
BLOCK DIAGRAM	3
ADJUSTMENTS	3
TEST EQUIPMENTS	4
ELECTRICAL PARTS LOCATIONS	6,7
SCHEMATIC DIAGRAM	8,9
ELECTRICAL PARTS LOCATIONS	10,11
SCHEMATIC DIAGRAM	12,13
EXPLODED VIEW MECHANISM	14
EXPLODED VIEW CABINET	15
CABINET PARTS LIST	16
MECHANISM PARTS LIST	17
PARTS LIST	18 ~ 23

SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the \triangle symbol parts are critical for safety. Replace only with same parts number specified.
2. Other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.

These must also be replaced only with specified replacements.

Examples: RF converters, tuner units, RF cables, noise blocking capacitors, noise blocking filters, etc.

2. Use specified internal wiring
 - a) Primary leads
 - b) Wires covered with PVC tubing
 - c) Double insulated wire
4. Use specified insulating materials for hazardous live parts.
 - a) Insulation Tape
 - b) Insulated Barriers (Spacers)
 - c) PVC tubing
 - d) Plastic screws for fixing microswitch (Especially in turntable)
 - e) Terminal strips

5. When replacing the primary components (transformer, power supply cord switch, by-pass capacitor, etc.), wrap ends of wires securely about the terminals before soldering.

Where hand soldering is involved, a minimum spacing below between terminals of uninsulated live parts of primary or supply circuitry through air or over surface is to be maintained.

120V appliance : 3 mm spacing min.

220V and 240V appliance : 6 mm spacing min.

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal resistance, rectifiers, etc.)
7. Check that replaced wires do not contact sharp edges or pointed parts.
8. Do not leave electric conductive parts (screws, droplets, etc.) inside the appliance.

SAFETY RECHECK AFTER SERVICING

Confirm the specified insulation resistance between power plug prongs and externally exposed parts of the appliance is greater than 10Mohms, however, for equipment with external antenna terminals (tuner, receiver, etc.) specified insulation resistance should be more than 2.2Mohms (ground terminals, in-output jacks etc.).

SPECIFICATIONS

Heads:	Hard permalloy playback and record-2-gap ferrite erasing head x 1 Hard permalloy playback head x 1
Drive system:	2-motor IC logic control
Motors:	DC servo motor for capstan drive x 2 DC motor for reel drive x 2
Tape speed:	4.8 cm/sec.
Wow & flutter:	0.06% W.RMS (TA, TC, AY) 0.06% W.RMS \pm 0.15% (DIN) (TE, TU)
Fast forward and rewind time:	Approx. 95 sec. (C-60 tape)
Frequency response:	30 — 18000 Hz with metal and —20 dB input 30 — 16000 Hz with chrome position tape and —20 dB input 30 — 15000 Hz with normal tape and —20 dB input

Total distortion:	0.8% (400 Hz, 0 dB chrome position tape)
Bias frequency:	105 kHz
Input terminals:	MIC: 0.7mV (600 Ω — 10k Ω) LINE: 70mV (50k Ω)
Output terminals:	LINE: 360mV (50k Ω) Headphones: 0.1mW (8 ohm)
Major dimensions:	420(W) x 115(H) x 270(D) mm (including front panel knobs etc. and rubber supports)
Weight:	4.6 kg

Specifications are subject to change without notice.

DISASSEMBLY INSTRUCTIONS

TOP COVER REMOVAL

1. Remove two screws (A) from side boards and three screws (B) from back side, and the top cover will be removed.

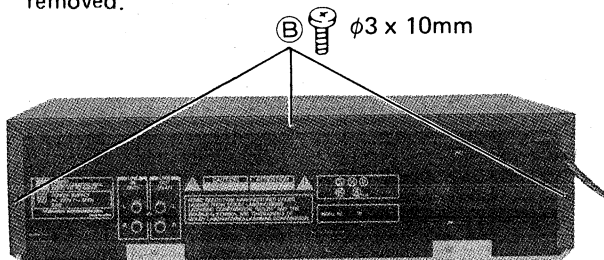


Figure 3

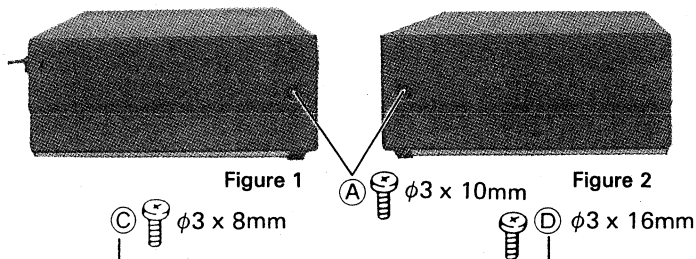


Figure 1

Figure 2

BOTTOM PLATE REMOVAL

1. Remove top cover.
2. Remove two screws (C) and (D) from bottom side and two screws (E) from back side.
3. Remove two hooks (F) of P.C. Board holder, and the bottom plate will be removed.

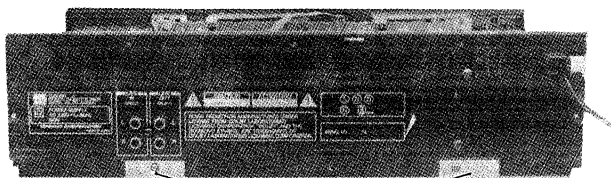


Figure 5

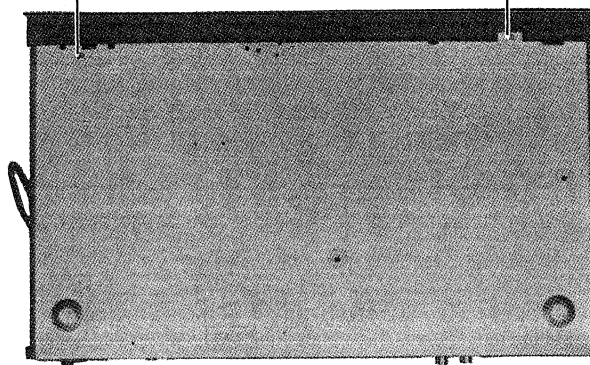


Figure 4

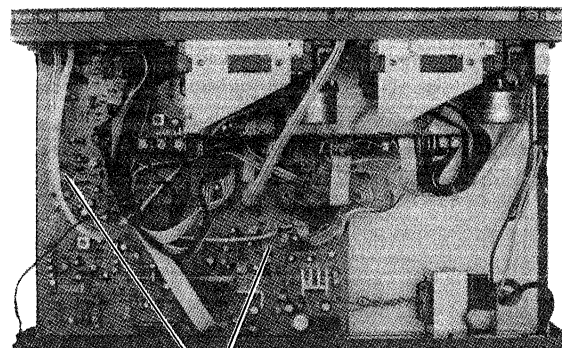


Figure 6

Figure 6

MAIN P.C. BOARD REMOVAL

1. Remove top cover and bottom plate.
2. Remove one screw (G) from back side and one screw (H) from bottom side, and the Main P.C. Board will be removed.

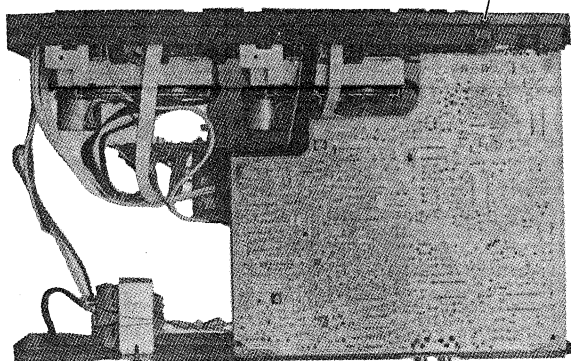
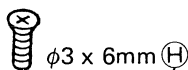


Figure 7

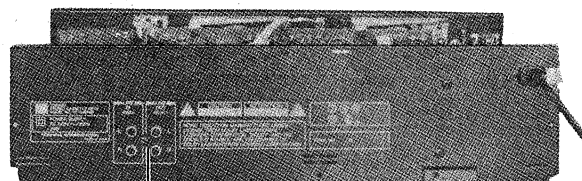


Figure 8

Figure 8

Note:

CASSETTE TAPE REMOVAL

1. If power cord is disconnected while a tape is being played back with the cassette cover removed, the tape will stop in play mode (head is up and keeps in contact with the tape). In this case the cassette holder may not be opened, even if eject (cassette holder) is pushed. To open cassette holder, push eject lever (J)

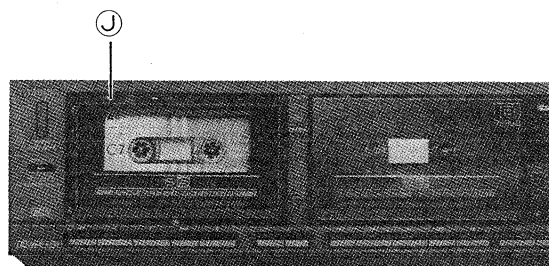


Figure 9

BLOCK DIAGRAM

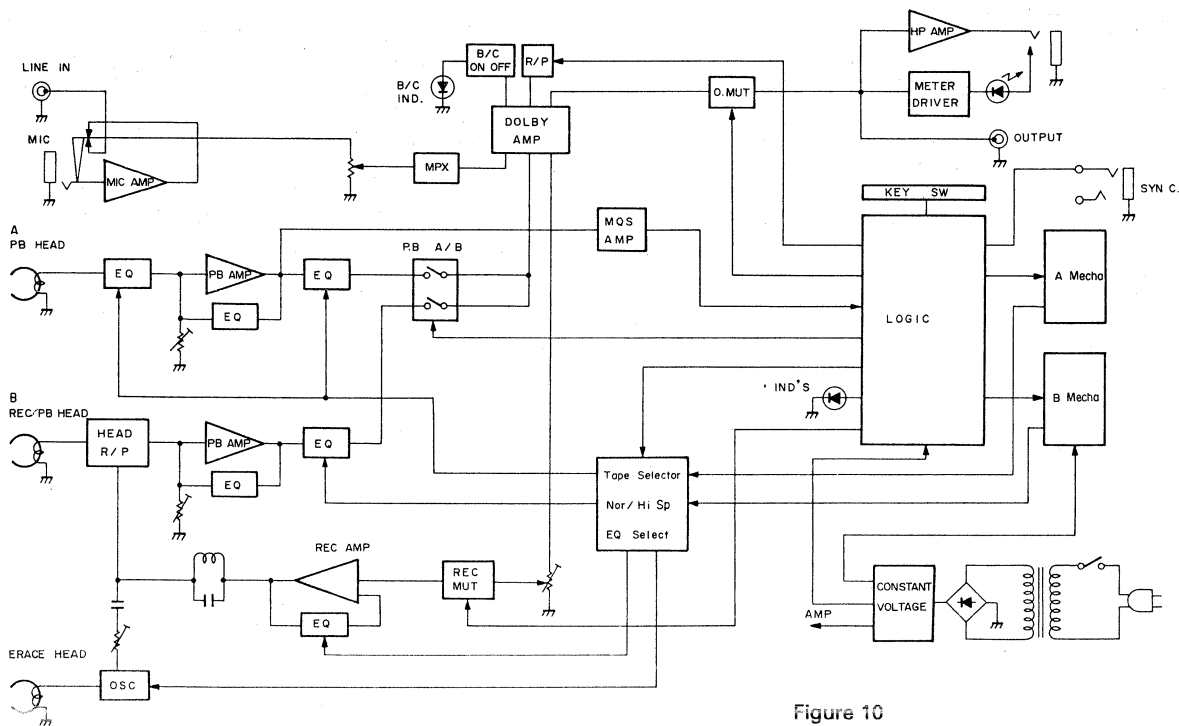


Figure 10

ADJUSTMENTS

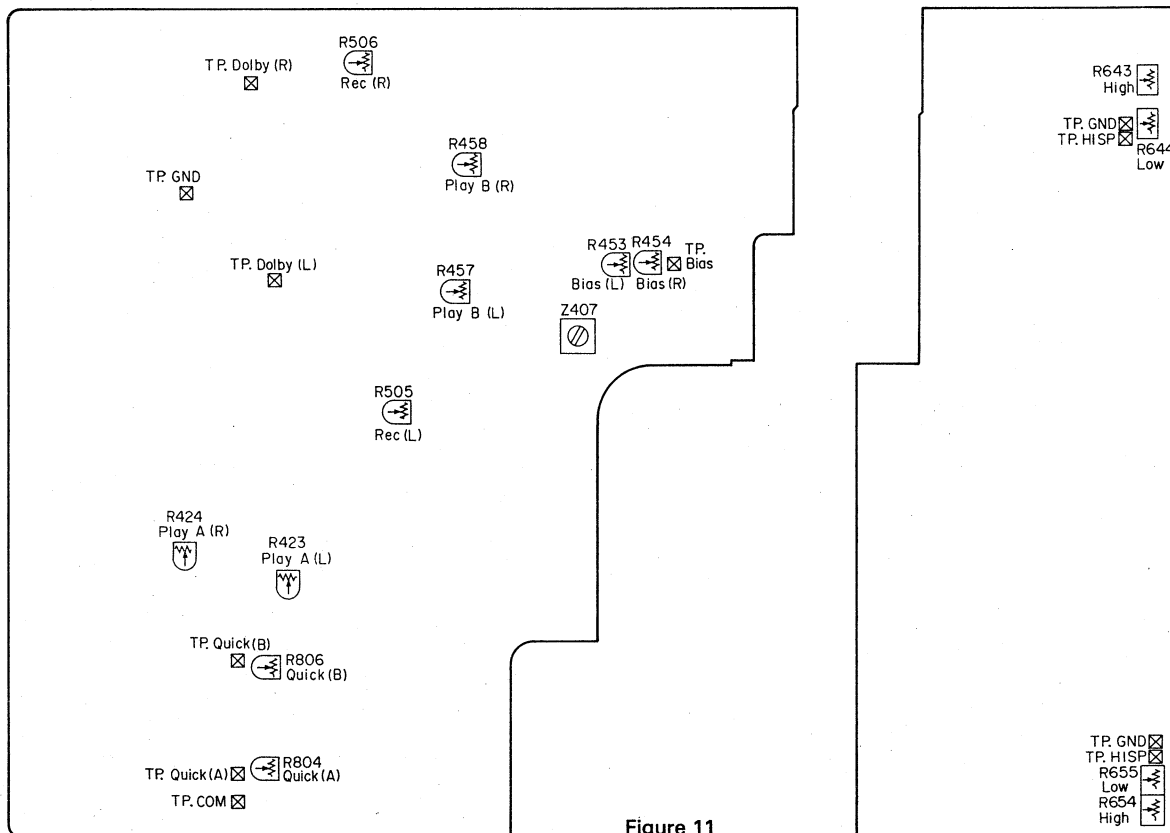


Figure 11

TEST EQUIPMENTS

1. AC VOLTMETER
2. Signal Generator
3. Oscilloscope
4. Screwdriver
5. Test Tapes:
 - ATT-111 (Speed 3 KHz – 5 dB)
 - ATT-114 (Azimuth 10 KHz)
 - ATT-150 (Dolby 400 Hz Modulation)
 - AC-512 (Chrome Tape)
6. Frequency Counter

(Tape Head Height Adjustment)

1. Coarse Alignment of Tape Guides

Temporarily adjust both left and right tape guide height adjusting nuts so that they are positioned flush with the top of the shafts as shown in the upper figure (A).

2. Azimuth Alignment

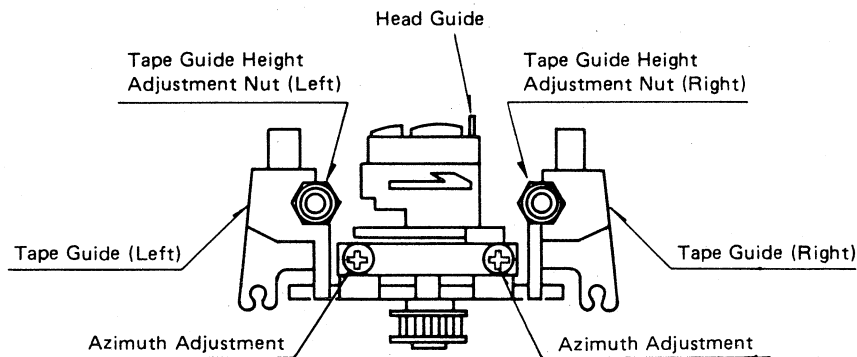
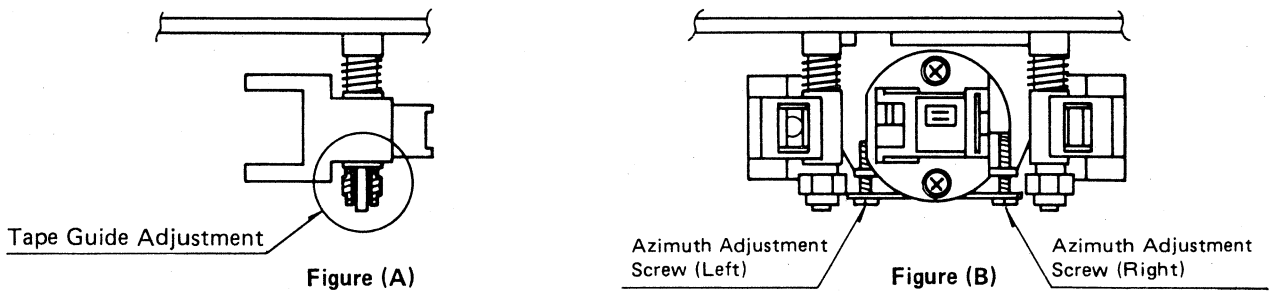
Refer to No. 1 (2) of alignment method on next page.

3. Tape Running Alignment

Inspect status of tape travels in both forward and reverse directions using the mirror cassette and make sure no tape curling is occurred at the head guides in both directions of the tape travel.

4. Realignment

If tape curling is observed, readjust both tape guide adjusting nuts precisely until the curling is disappeared, by repeating the adjustment 2 ~ 3 times.



Step	Item	Input Setting	Output Setting	Cassette Deck Setting	Adjustment Point	Adjustment Procedure
I REC/PLAY HEAD ADJUSTMENT						
(1)	Demagnetization and Cleaning	—	—	Demagnetization Power: OFF Cleaning PLAY	Rec head Erase head Capstan Pinch roller	Demagnetize Rec/Play head with head eraser. Clean Rec/Play head, erase head, capstan, and pinch roller using applicator moist with alcohol.
(2)	Head Azimuth Adjustment	ATT-114	LINE OUT L, R Ⓐ	PLAY (Forward direction)	Head azimuth adjusting screw (Right side)	First adjust L ch. and R ch for max. output, then readjust until Lissajous's figure of 45° line is obtained on scope display in FWD mode. Next, perform the same adjustment in REV mode. Finally, set the mode to FWD and make sure the adjustment has been not upset for both tape (A) and (B).
				PLAY (Reverse direction) (Tape B side)	Head azimuth adjusting screw (Left side)	
II P.C. BOARD ADJUSTMENT						
(1)	Tape Speed (High Speed)	ATT-111	Ⓑ	PLAY	(A) R654 (B) R643	Short-circuit across GND and TP. HISP for (A) and (B) respectively and set frequency to 6 kHz ± 30 Hz at tape center.
	Tape Speed (Normal)	ATT-111	Ⓑ	PLAY	(A) R655 (B) R644	After High speed adjustment is completed, set frequency to 3 kHz ± 30 Hz at tape center.
(2)	Playback Level Adjustment	ATT-150	LINE OUT L, R Ⓐ	PLAY	(A) R423, 424 (B) R457, 458	-3.8 dBs (500 ± 10mV)
(3)	Bias Adjustment	—	GND-TP BIAS	REC/PAUSE METAL position	Z407	Set frequency to 105 kHz ± 0.5.
(4)	Bias Current	Ⓒ 1 kHz, -37.5 dBs 12.5 kHz, -37.5 dBs	Ⓐ	1. REC BAL VR R406 is center position. 2. Adjust REC-VR R405 so that Rec monitor output becomes -27 dBs at 1kHz and repeat recording and playback of 1kHz and 12.5kHz.	R453 (L) R454 (R)	Record 1 kHz and 12.5 kHz alternately and adjust bias current adjusting resistor so that same playback levels are obtained.
(5)	Rec Level	1 kHz, -17.5 dBs	Ⓐ	Under condition of step (4), record and play back 1 kHz.	R505 (L) R506 (R)	Adjust semi-fixed resistors so that playback output level obtains -7 dBs.
(6)	Quick Adjustment	AC-512	TP.COM- TP.Quick(A) TP.COM- TP.Quick(B)	PLAY	(A) R804 (B) R806	Adjust so that DC voltages across TP.QUICK(A) and across TP.COM and TP.QUICK(B) obtain 500 ± 10mV when leader tape section of AC-512 is played back.

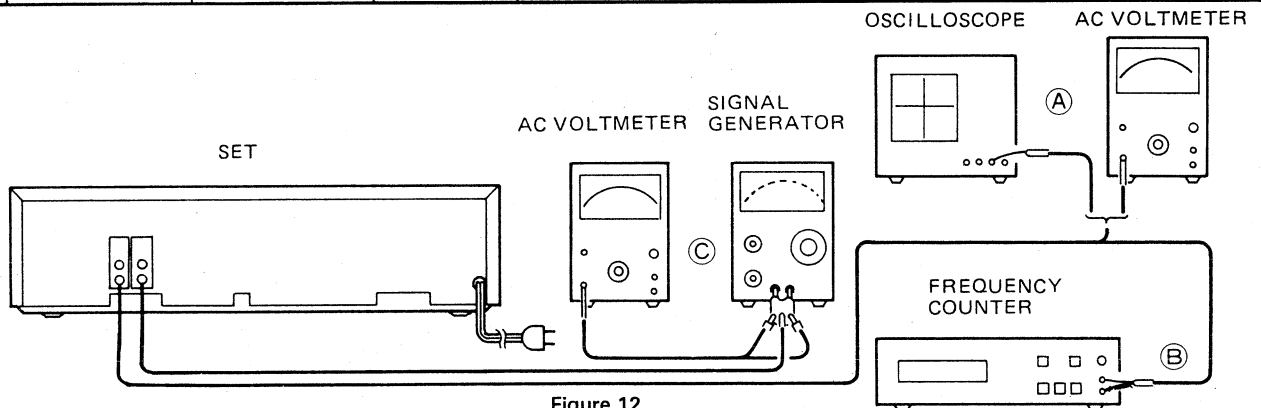


Figure 12

ELECTRICAL PARTS LOCATIONS

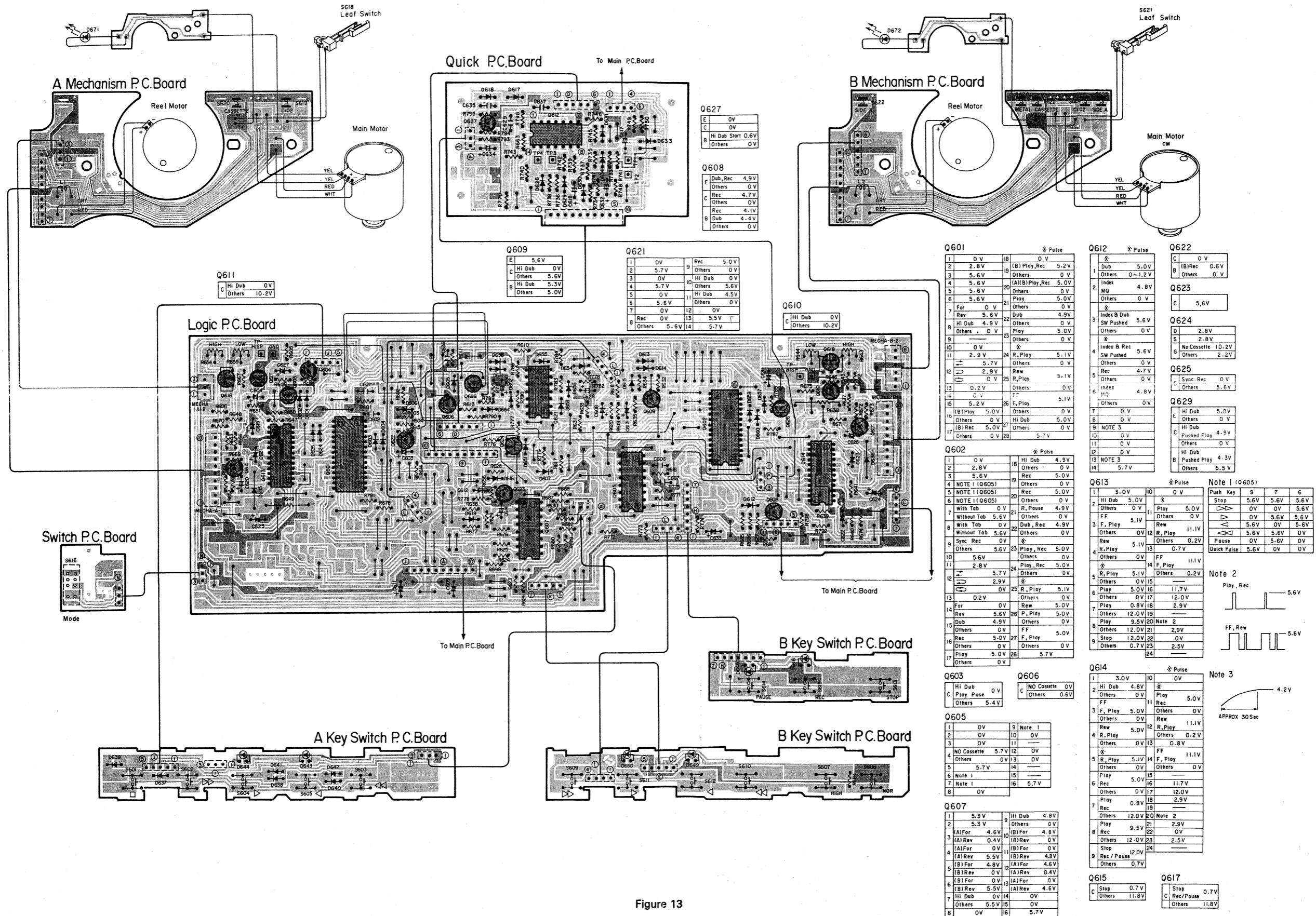
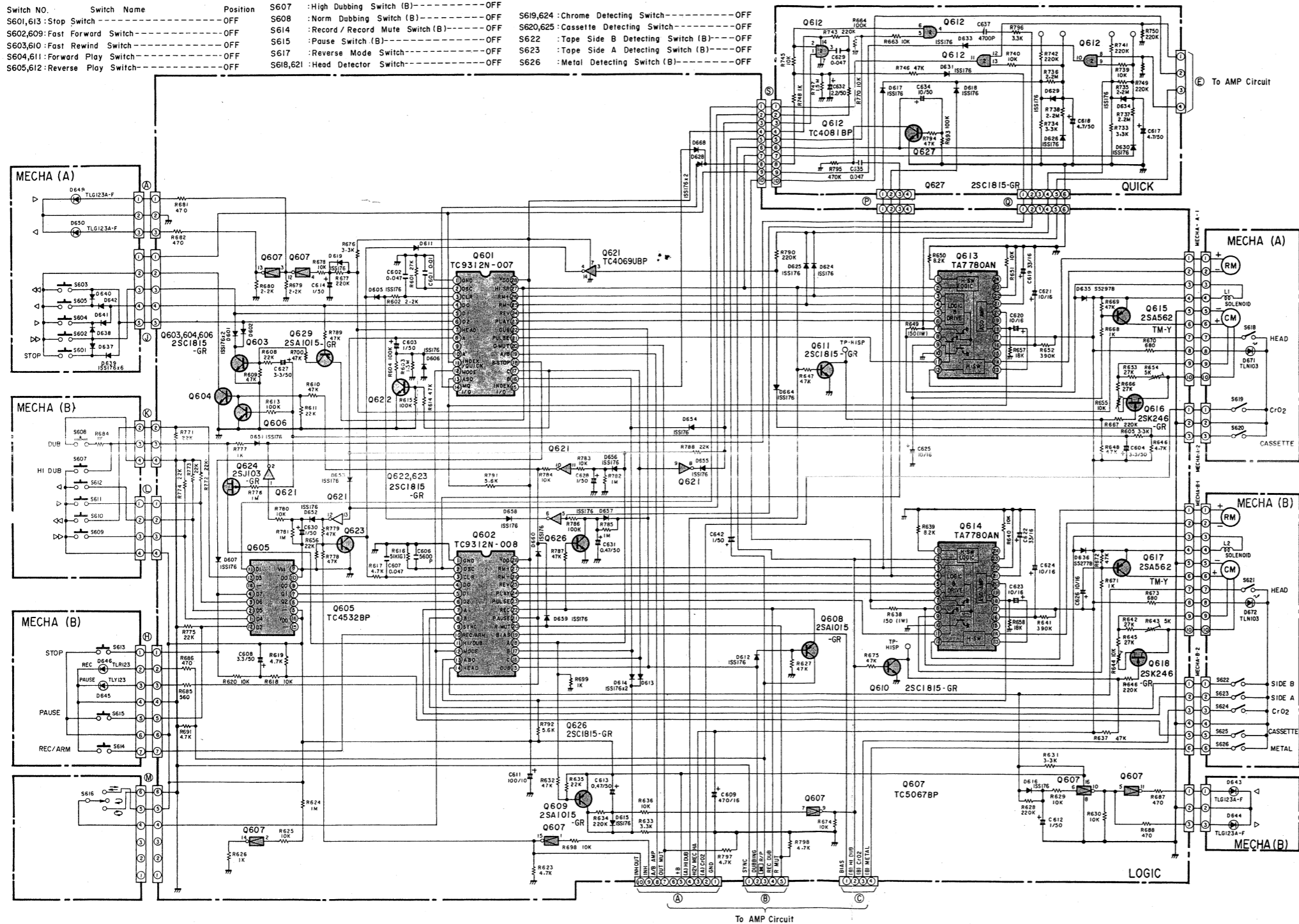


Figure 13

SCHEMATIC DIAGRAM

Switch NO.	Switch Name	Position	S607 : High Dubbing Switch (B)	---OFF	S619,624 : Chrome Detecting Switch	---OFF
S601,613	Stop Switch	OFF	S608 : Norm Dubbing Switch (B)	---OFF	S620,625 : Cassette Detecting Switch	---OFF
S602,609	Fast Forward Switch	OFF	S614 : Record / Record Mute Switch (B)	---OFF	S622 : Tape Side B Detecting Switch (B)	---OFF
S603,610	Fast Rewind Switch	OFF	S615 : Pause Switch (B)	---OFF	S623 : Tape Side A Detecting Switch (B)	---OFF
S604,611	Forward Play Switch	OFF	S617 : Reverse Mode Switch	---OFF	S626 : Metal Detecting Switch (B)	---OFF
S605,612	Reverse Play Switch	OFF	S618,621 : Head Detector Switch	---OFF		



IC Part	Pin	Signal	Level	Notes	
TC4069UBP TC4081BP	1	0 V	0 V		
	2	5.6 V	Hi Play/Rec	5.2 V	
	3	5.6 V	Others	0 V	
	4	5.6 V	Hi Dub/Play/Rec	5.0 V	
	5	5.6 V	Others	0 V	
	6	5.6 V	Play	5.0 V	
	7	0 V	Others	0 V	
	8	5.6 V	Hi Dub	4.8 V	
	9	0 V	Others	0 V	
	10	0 V	Others	0 V	
	11	2.9 V	Hi Play	5.1 V	
	12	0 V	Others	0 V	
	13	0 V	Others	0 V	
	14	0 V	FF	5.1 V	
	15	3.2 V	Hi Play	5.0 V	
	16	0 V	Hi Dub	5.0 V	
	17	0 V	Others	5.1 V	
TC4532BP TC5067BP TC9305P-017	1	0 V	0 V		
	2	2.6 V	Hi Dub	4.8 V	
	3	5.6 V	Rec	5.0 V	
	4	NOTE 1 (4605)	Others	0 V	
	5	NOTE 1 (4605)	Rec	5.0 V	
	6	NOTE 1 (4605)	Others	0 V	
	7	Without Tap	Hi Play	4.8 V	
	8	With Tap	Dub, Rec	4.8 V	
	9	Without Tap	Others	5.0 V	
	10	5.6 V	Hi Play	5.0 V	
	11	2.6 V	Play, Rec	5.0 V	
	12	0 V	Others	0 V	
	13	5.6 V	FF	5.1 V	
	14	0 V	Hi Play	5.1 V	
	15	0 V	Others	5.2 V	
	TA7780AN	1	3.0 V	0 V	
		2	Hi Dub	5.0 V	
3		Others	0 V		
4		FF	Others	0 V	
5		Hi Play	Rec	11.1 V	
6		Without Tap	Hi Play	11.1 V	
7		With Tap	Dub, Rec	11.1 V	
8		Without Tap	Others	0.2 V	
9		5.6 V	Hi Play	5.0 V	
10		0 V	Others	0.2 V	
11		2.6 V	Play, Rec	5.0 V	
12		0 V	Others	0 V	
13		5.6 V	FF	5.1 V	
14		0 V	Hi Play	5.1 V	
15		0 V	Others	5.2 V	
TC9312N-007 TC9312N-008		1	3.0 V	0 V	
		2	Hi Dub	5.0 V	
	3	Others	0 V		
	4	FF	Others	0 V	
	5	Hi Play	Rec	11.1 V	
	6	Without Tap	Hi Play	11.1 V	
	7	With Tap	Dub, Rec	11.1 V	
	8	Without Tap	Others	0.2 V	
	9	5.6 V	Hi Play	5.0 V	
	10	0 V	Others	0.2 V	
	11	2.6 V	Play, Rec	5.0 V	
	12	0 V	Others	0 V	
	13	5.6 V	FF	5.1 V	
	14	0 V	Hi Play	5.1 V	
	15	0 V	Others	5.2 V	
	2SA562 2SA1015 2SC1815	1	0 V	Hi Dub	4.8 V
		2	0 V	Hi Dub	4.8 V
3		0 V	Hi Dub	4.8 V	
4		0 V	Hi Dub	4.8 V	
5		0 V	Hi Dub	4.8 V	
6		0 V	Hi Dub	4.8 V	
7		0 V	Hi Dub	4.8 V	
8		0 V	Hi Dub	4.8 V	
9		0 V	Hi Dub	4.8 V	
10		0 V	Hi Dub	4.8 V	
11		0 V	Hi Dub	4.8 V	
12		0 V	Hi Dub	4.8 V	
13		0 V	Hi Dub	4.8 V	
14		0 V	Hi Dub	4.8 V	
15		0 V	Hi Dub	4.8 V	
2SK246 2SJ103		1	0 V	Hi Dub	4.8 V
		2	0 V	Hi Dub	4.8 V
	3	0 V	Hi Dub	4.8 V	
	4	0 V	Hi Dub	4.8 V	
	5	0 V	Hi Dub	4.8 V	
	6	0 V	Hi Dub	4.8 V	
	7	0 V	Hi Dub	4.8 V	
	8	0 V	Hi Dub	4.8 V	
	9	0 V	Hi Dub	4.8 V	
	10	0 V	Hi Dub	4.8 V	
	11	0 V	Hi Dub	4.8 V	
	12	0 V	Hi Dub	4.8 V	
	13	0 V	Hi Dub	4.8 V	
	14	0 V	Hi Dub	4.8 V	
	15	0 V	Hi Dub	4.8 V	
	Q607 Q608 Q609 Q610 Q611 Q612 Q613 Q614 Q615 Q616 Q617 Q618	1	0 V	Hi Dub	4.8 V
		2	0 V	Hi Dub	4.8 V
3		0 V	Hi Dub	4.8 V	
4		0 V	Hi Dub	4.8 V	
5		0 V	Hi Dub	4.8 V	
6		0 V	Hi Dub	4.8 V	
7		0 V	Hi Dub	4.8 V	
8		0 V	Hi Dub	4.8 V	
9		0 V	Hi Dub	4.8 V	
10		0 V	Hi Dub	4.8 V	
11		0 V	Hi Dub	4.8 V	
12		0 V	Hi Dub	4.8 V	
13		0 V	Hi Dub	4.8 V	
14		0 V	Hi Dub	4.8 V	
15		0 V	Hi Dub	4.8 V	

CAUTION:
The Δ mark, the symbol No. circled with oval in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

Figure 14

ELECTRICAL PARTS LOCATIONS

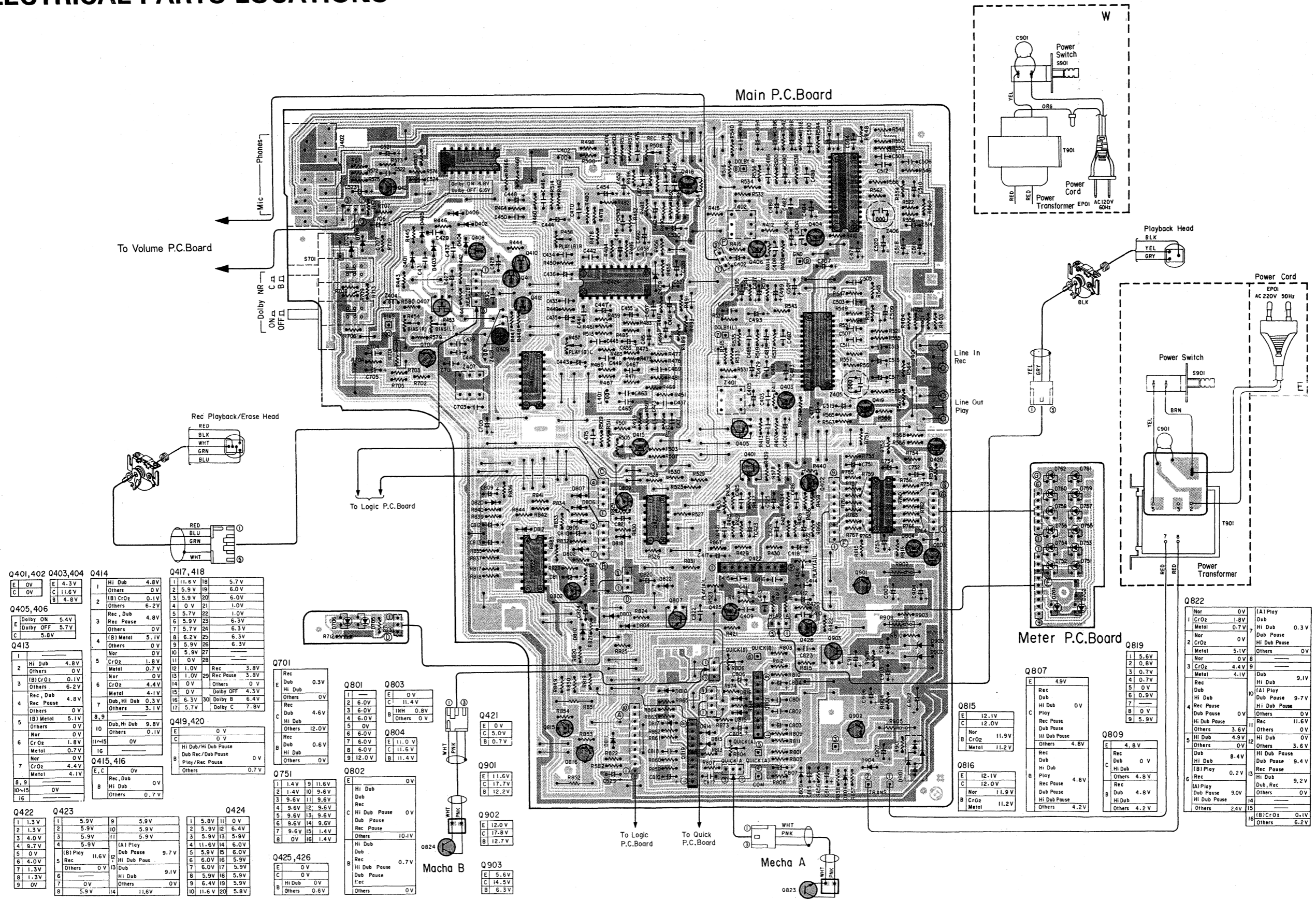


Figure 15

SCHEMATIC DIAGRAM

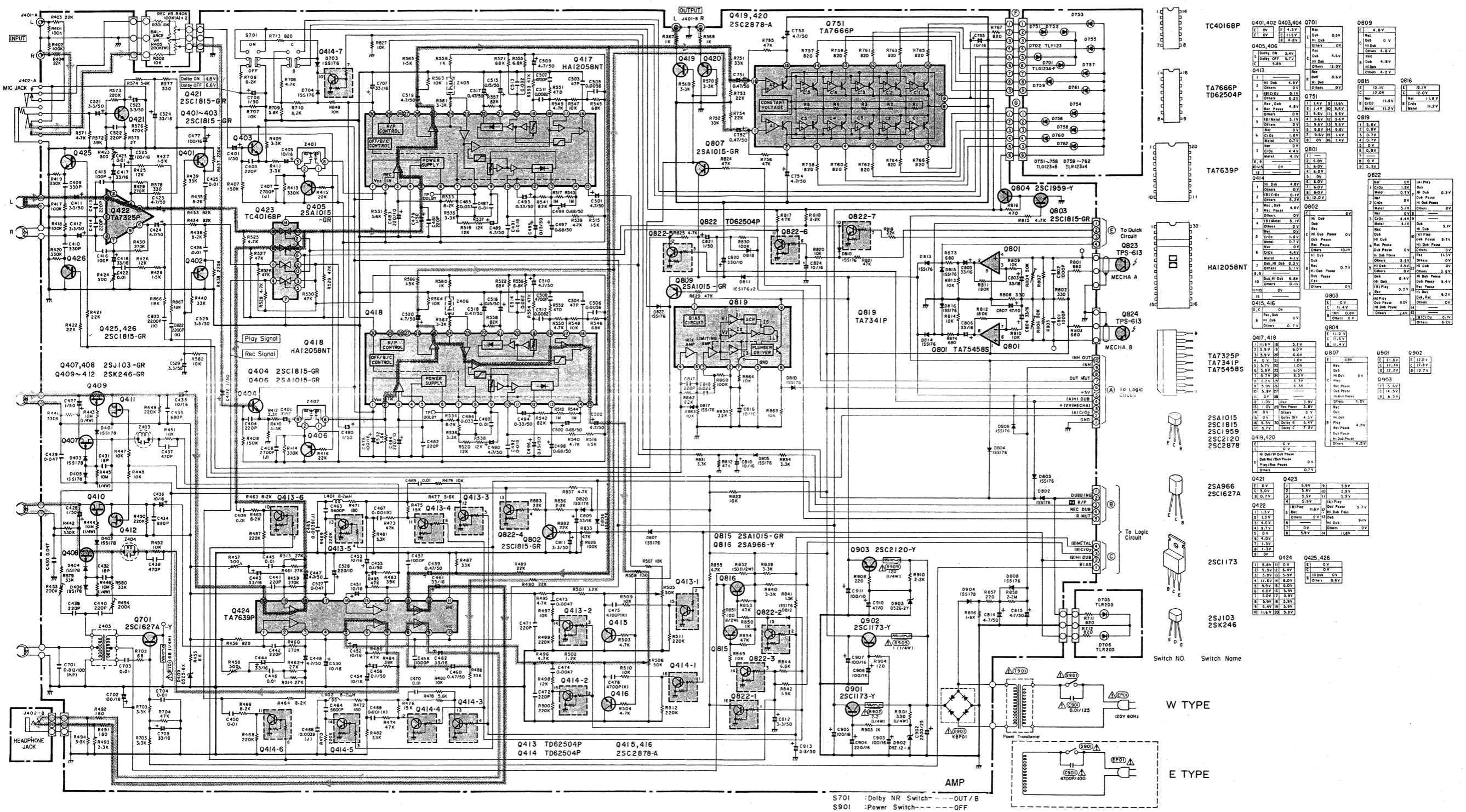
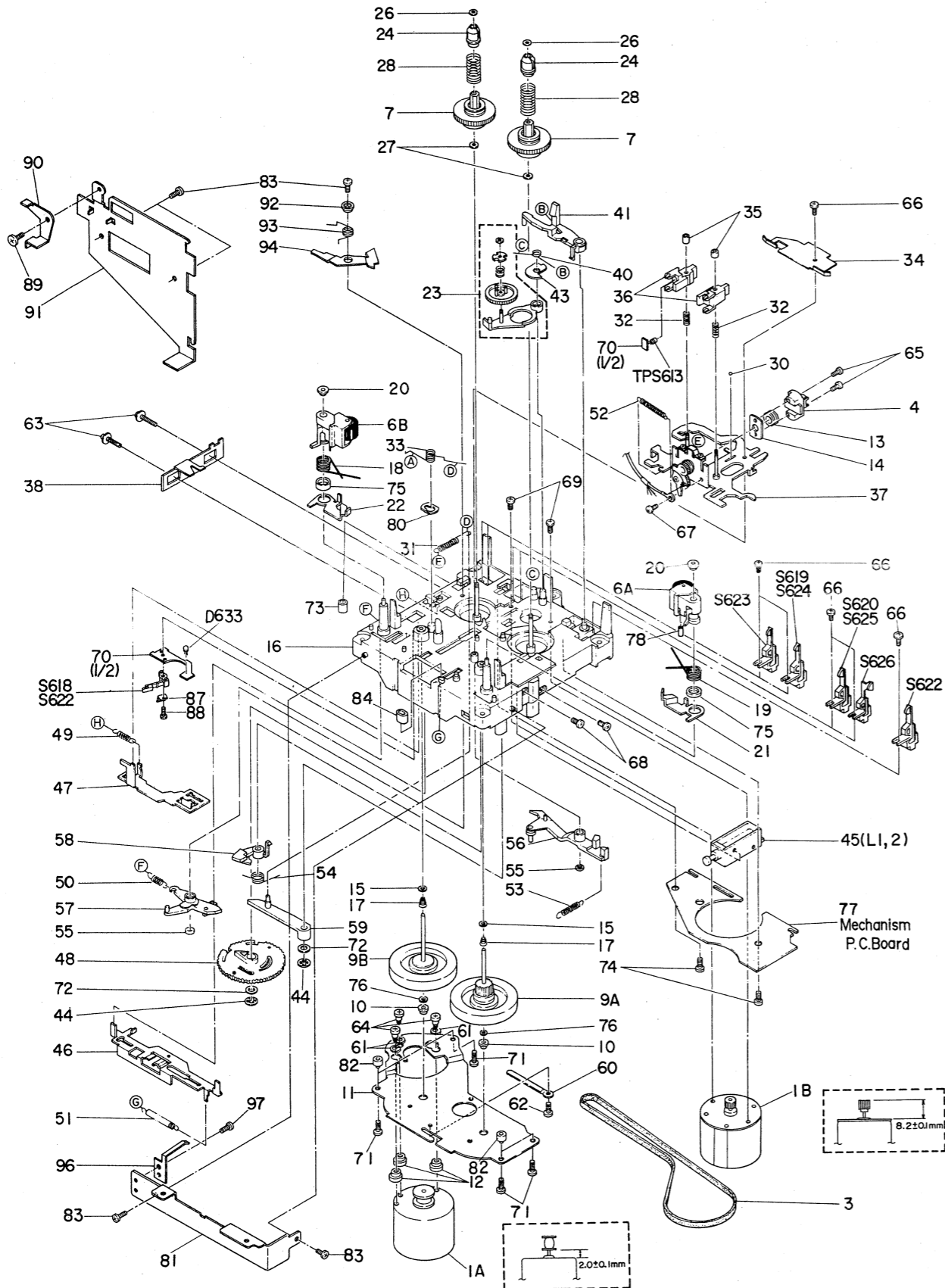


Figure 16

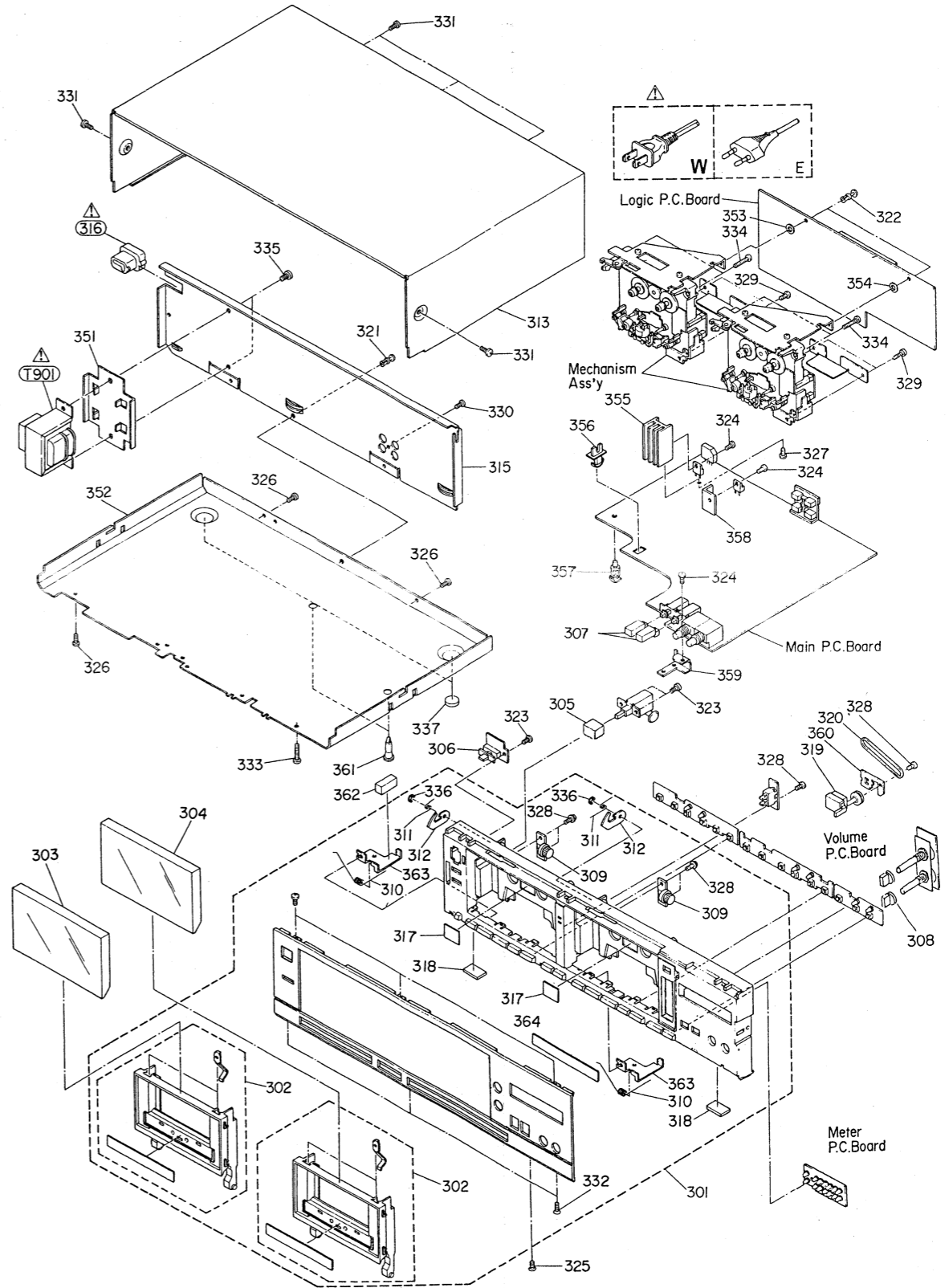
EXPLODED VIEW MECHANISM



NOTE: Parts excluded in the parts are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Figure 17

EXPLODED VIEW CABINET



NOTE: Parts excluded in the parts are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Figure 18

CABINET PARTS LIST

CAUTION:

The Δ mark, the symbol No. circled with oval in the schematic diagram and the shaded area in the parts list designate components which have special characteristics for safety and should only be replaced with types identical to those in the original circuit of specified in the parts list.

Symbol No.	Part No.	Description
301	95899059	Front Panel Ass'y
302	25872121	Cassette Holder Ass'y
303	95872216	Cassette Cover, A,
304	95872217	Cassette Cover, B, (TC, TE, TU, AY)
305	95886654	Knob, Power
306	25886521	Knob, Timer, Reverse
307	25886543	Knob, Dolby, , A, Black
308	95886475	Knob, Volume, B, Silver
309	25883246	Damper
310	25775301	Spring, Eject
311	25775305	Spring
312	25756435	Push Cam
313	95864505	Top Cover, (N)
315	95864492	Jack Plate (E)
315	95864491	Jack Plate (W)
316	25844322	Cord Bush
317	25808372	Reflector
318	22758390	Cushion, Foot
319	25873307	Tape Counter
320	25755581	Counter Belt
321	22705021	Plastic Rivet, $\phi 3 \times 3.5$ mm
322	22705022	Plastic Rivet, $\phi 3 \times 5.5$ mm
323	22708207	Screw, $\phi 2.6 \times 10$ mm, BID TAP
324	22707445	Screw, $\phi 3 \times 6$ mm, BID

Symbol No.	Part No.	Description
325	22707439	Screw, $\phi 3 \times 6$ mm, FLT, Silver
325	22707051	Screw, $\phi 3 \times 6$ mm, FLT, Black
326	22707842	Screw, $\phi 3 \times 8$ mm, BID TAP
327	22707327	Screw, $\phi 3 \times 8$ mm, BID TAP, Chrome
328	22707826	Screw, $\phi 3 \times 10$ mm, BID TAP
329	22707844	Screw, $\phi 3 \times 10$ mm, BID TAP, RED
330	22708033	Screw, $\phi 3 \times 10$ mm, BID TAP, BLK
331	22707886	Screw, $\phi 3 \times 10$ mm, BID TAP, Chrome
331	22708374	Screw, $\phi 3 \times 10$ mm, BID TAP, BLK
332	22708292	Screw, $\phi 3 \times 10$ mm, FLT TAP
332	22708309	Screw, $\phi 3 \times 10$ mm, FLT TAP, BLK
333	22707835	Screw, $\phi 3 \times 16$ mm, BID TAP
334	22708406	Screw, $\phi 3 \times 18$ mm, BID TAP, BLK
335	22707519	Screw, $\phi 4 \times 10$ mm, DTBID, BLK
336	22703119	E Ring, $\phi 2.5$
337	25762424	Foot
	92922561	Carton box ND 850 W
	92936252	Styrol Pad (L)
	92936253	(R)

MECHANISM PARTS LIST

Symbol No.	Part No.	Description
1A	25791900	Main Motor Ass'y
1B	25792007	Reel Motor Ass'y
3	25759043	Drive Belt
4	22219011	REC. PB/Erase Head, HRPET-11 (Mecha B)
4	22217473	REC. PB Head, HRPT-473 (Mecha A)
6A	25717600	Pressure Roller Ass'y, R
6B	25797022	Pressure Roller Ass'y, L
7	25754483	Reel Drum, A
9A	25797069	Flywheel Ass'y, R
9B	25797070	Flywheel Ass'y, L
10	25725456	Holder
12	25761238	Cushion, Motor
13	25761450	Cushion, Head
14	25761481	Cushion Plate, Head
15	25764486	Washer, $\phi 2.5$
16	25791869	Main Chassis Ass'y
17	25777071	Spring
18	25778190	Spring, Pressure Roller L
19	25778198	Spring, Pressure Roller R
20	25783226	Bushing
23	25756486	Center Gear Kit
24	25754436	Reel Collar
26	25766050	Washer, $\phi 1.6$
27	25766223	Washer, $\phi 2.1$
28	25777418	Spring, Reel
30	25757132	Steel Ball, $\phi 1.5$
31	25776721	Spring, Assist
32	25777404	Spring, Tape Guide
33	25778211	Spring, Play Lever
34	25779427	Spring, Holder
35	25783258	Nut, Adjust
36	25783391	Tape Guide
37	25797037	Head Slider Ass'y
38	25749097	Eject Slider
40	25778199	Spring, Holder
41	25784206	Holder Lever
43	25734532	Stopper, Take-up
44	20798033	Ring
45	22147282	Solenoid Coil
48	25756501	Cam Gear Ass'y
49	25776769	Spring, MQS

Symbol No.	Part No.	Description
50	25776771	Spring, Reverse Lever
51	25776772	Spring, Reverse
52	25776773	Spring, Shift
53	25776793	Spring, Cam Lock
54	25778192	Spring, Play Lock
55	25783239	Bushing
56	25791936	Cam Lock Lever Ass'y
57	25784192	Reverse Lever
58	25784208	Play Lock Lever
59	25784209	Play Lever
61	22703143	Washer, $\phi 4$
62	22707350	Screw, $\phi 2.6 \times 5$ mm, DTBID
63	22707825	Screw, $\phi 2.6 \times 6$ mm, TPAN
64	22707429	Screw, $\phi 2.6 \times 1.8 \times 4.9$ mm
65	22702173	Screw, $\phi 1.4 \times 6$ mm, PAN
66	22708040	Screw, $\phi 2 \times 5$ mm, BID TAP
67	22701467	Screw, $\phi 2 \times 3$ mm, BID
68	22707475	Screw, $\phi 2.6 \times 4$ mm, BID
69	22708484	Screw, $\phi 2.6 \times 6$ mm, PAN
70	22192702	LED PC Board
71	22707786	Screw, $\phi 2.6 \times 12$ mm, BID TAP
72	22703269	Washer, $\phi 3$
73	25761459	Cushion
74	22707301	Screw, $\phi 2.6 \times 8$ mm, BID TAP
75	25726762	Spacer
76	25766043	Washer, $\phi 2.5$
78	25726665	Spacer, ASO
80	25726753	Spacer
82	25726757	Spacer, Mecha Mount
83	22707913	Screw, $\phi 2.6 \times 6$ mm, BID TAP
84	25761535	Cushion
85	22708382	Screw, $\phi 2.6 \times 3$ mm, PAN
87	25732380	Wire Guide
88	22708423	Screw, $\phi 2 \times 6$ mm, PAN TAP
89	22708477	Screw, $\phi 2.6 \times 3$ mm, FLT
90	25747250	Release Lever
92	25753384	Collar, Eject Spring
93	25778270	Spring, Eject
94	25747251	Slider Lever
95	22708399	Screw, $\phi 2.6 \times 6$ mm, BID
96	25779532	Spring
97	22707366	Screw, $\phi 2.6 \times 6$ mm

PARTS LIST

CAUTION:

The Δ mark, the symbol No. circled with oval in the schematic diagram and the shaded area in the parts list designate components which have special characteristics for safety and should only be replaced with types identical to those in the original circuit of specified in the parts list.

Symbol No.	Part No.	Description
TRANSISTORS, IC'S & DIODES		
Q401, 402, 403, 404	512107 S	Transistor, 2SC1815 GR
Q405, 406	51 0102 S	Transistor, 2SA1015-GR
Q407, 408	A6040910	Transistor, 2SJ103-GR-Y/GR
Q409, 410, 411, 412	5160 43 S	Transistor, 2SK246-GR
Q413, 414	B0275020	IC, TD62504P
Q415, 416	A6342200	Transistor, 2SC2878-A-A/B
Q417, 418	22117220	IC, HA12058NT
Q419, 420	A6342200	Transistor, 2SC2878-A-A/B
Q421	A6317480	Transistor, 2SC1815NEW-BL
Q422	B0325080	IC, TA7325P
Q423	B0470162	IC, TC4016BP
Q424	B0356360	IC, TA7639P
Q425, 426	512 107 S	Transistor, 2SC1815 GR
Q601	22117672	IC, TC9312N-007
Q602	22117673	IC, TC9312N-008
Q603, 604	512 107 S	Transistor, 2SC1815 GR
Q605	B0475322	IC, TC4532BP
Q606	512107 S	Transistor, 2SC1815 GR
Q607	B0480672	IC, TC5067BP
Q608, 609	510102S	Transistor, 2SA1015-GR
Q610, 611	5121 07 S	Transistor, 2SC1815 GR
Q612	B0470813	IC, TC4081BP
Q613, 614	B0358315	IC, TA7780AN
Q615	A6509140	Transistor, 2SA562TM-Y
Q616	516 043S	Transistor, 2SK246-GR
Q617	A6509140	Transistor, 2SA562TM-Y
Q618	516043S	Transistor, 2SK246-GR-
Q621	B0470693	IC, TC4069UBP
Q622, 623	512107 S	Transistor, 2SC1815 GR
Q624	A6040910	Transistor, 2SJ103-GR-Y/GR
Q626 627	5121 07S	Transistor, 2SC1815 GR
Q629	510102S	Transistor, 2SA1015-GR
Q701	A6314470	Transistor, 2SC1627A-O/Y
Q751	B0356660	IC, TA7666P

Symbol No.	Part No.	Description
Q801	B0350010	IC, TA75458S
Q802, 803	512107 S	Transistor, 2SC1815 GR
Q804	A6319300	Transistor, 2SC1959NEW-Y
Q807, 809, 815	510102S	Transistor, 2SA1015-GR
Q816	A6533240	Transistor, 2SA966-Y
Q819	B0325320	IC, TA7341P
Q822	B0275020	IC, TD62504P
Q823, 824	A8650230	Photo Sensor, TPS-613
Q901, 902	512146S	Transistor, 2SC1173-Y, X
Q903	A6321240	Transistor, 2SC2120-Y
D401, 402, 403, 404, 405, 406	A7160610	Diode, 1SS178
D409	502157S	Diode, 05Z5.6-X/-X/Y
D601, 602, 605, 606, 607, 611, 612, 613, 614, 615, 616, 617, 618, 619, 624, 625, 626, 628, 629, 630, 631, 633, 634	A7160570	Diode, 1SS176
D635, 636	A7978380	Diode, S5277B
D637, 638, 639, 640, 641, 642	A7160570	Diode, 1SS176
D643, 644	A8606170	Diode, TLG123A-F-E/F
D645	A8608450	Diode, TLY123
D646	A8601100	Diode, TLR123
D649, 650	A8606170	Diode, TLG123A-F-E/F
D651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 664	A7160570	Diode, 1SS176
D671, 672	A8610100	Diode, TLN103
D701	A8606170	Diode, TLG123A-F-E/F
D702	A8608450	Diode, TLY123
D703, 704	A7160570	Diode, 1SS176
D705, 706	5060420	Diode, TLR205

Symbol No.	Part No.	Description
D751, 752, 753, 754, 755, 756, 757, 758	A8606170	Diode, TLG123A-F-E/F
D759, 760, 761, 762	A8601100	Diode, TLR123
D802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818	A7160570	Diode, 1SS176
D820 822	5 01021S	Diode, 1S1555V
△ D901	22115737	Diode, KBP01
D902	A7110410	Diode, 05Z12-X
D903	502158S	Diode, 05Z6.2-Y-X/Y
D904	A7160610	Diode, 1SS178
ELECTRICAL PARTS		
L1, 2	22147282	Solenoid Coil
L401, 402	22232278	Choke Coil, 8.2mH
△ T901	22224505	Power Transformer (W)
△ T901	22224504	Power Transformer (E)
S601, 602	22196490	Key Switch, Stop/▶▶
S603, 604	22196490	Key Switch, ◀◀/▶
S605, 607	22196490	Key Switch, ◀/HI DUB
S608, 609	22196490	Key Switch, DUB/▶▶
S610, 611	22196490	Key Switch, ◀◀/▶
S612, 613	22196490	Key Switch, ◀/Stop
S614, 615	22196490	Key Switch, REC. ARM/Pause
S617	22196628	Slide Switch, Reverse/Mode
S618	22196643	Leaf Switch, Head (Mecha A)
S619, 620	22196538	Leaf Switch, CrO ₂ /Cassette (Mecha A)
S621	22196643	Leaf Switch, Head (Mecha B)
S622, 623, 624, 625	22196538	Leaf Switch, Side B/Side A (Mecha B) CrO ₂ /Cassette
S626	22196539	Leaf Switch, Metal (Mecha B)
S701	22196630	Leaf Switch, Dolby
△ S901	22196243	Push Switch, Power
J401a-b	22163887	Pin Jack, US4P
J402a-b	22198181	Jack, Mic./Headphone

Symbol No.	Part No.	Description
Z401, 402	22153367	Dolby Filter
Z403, 404	22153366	Bias Trap Coil
Z405, 406	22153277	Dolby Filter, C
Z407	22235263	Bias OSC Coil
△ EP01	606007A	Plug Cord DP70 (W)
△ EP01	600510A	Plug Cord (E)
CAPACITORS		
J = ±5%, K = ±10%, M = ±20%, Z = -20 + 80%, P = -0 + 100%		
ABBREVIATIONS: EL = Electrolytic, CD = Ceramic Disc, MY = Mylar, PP = Polypropylene, NP = Non Polarized		
C401, 402	22488109	EL, 1mfd, 50V
C403, 404	22349221	CD, 220pF, 50V, K
C405, 406	22485100	EL, 10mfd, 16V
C407, 408	22371272	MY, 2700pF, 50V, J
C409, 410	22349331	CD, 330pF, 50V, K
C411, 412	22488339	EL, 3.3mfd, 50V
C413, 414	22349221	CD, 220pF, 50V, K
C415, 416	22362101	CD, 100pF, 50V, K
C417, 418	22485330	EL, 33mfd, 16V
C421, 422	22371103	MY, 0.01mfd, 50V, J
C423, 424	22488479	EL, 4.7mfd, 50V
C425, 426	22371103	MY, 0.01mfd, 50V, J
C427, 428	22488109	EL, 1mfd, 50V
C429	22360484	CD, 0.047mfd, 50V, Z
C430	22342473	CD, 0.047mfd, 50V, Z
C431, 432	22361180	CD, 18pF, 50V, J
C433, 434	22349681	CD, 680pF, 50V, K
C435, 436	22485100	EL, 10mfd, 16V
C437, 438	22349471	CD, 470pF, 50V, K
C439, 440	22349221	CD, 220pF, 50V, K
C441, 442	22349221	CD, 220pF, 50V, K
C443, 444	22485330	EL, 33mfd, 16V
C445, 446	22371103	MY, 0.01mfd, 50V, J
C447, 448	22488479	EL, 4.7mfd, 50V
C449, 450	22371103	MY, 0.01mfd, 50V, J
C451, 452	22485100	EL, 10mfd, 16V
C453, 454	22485100	EL, 10mfd, 16V

Symbol No.	Part No.	Description
C455, 456	22488108	EL, 0.1mfd, 50V
C457, 458	22349102	CD, 1000pF, 50V, K
C459, 460	22488478	EL, 0.47mfd, 50V
C461, 462	22485330	EL, 33mfd, 16V
C463, 464	22371562	MY, 5600pF, 50V, J
C465, 466	22371392	MY, 3900pF, 50V, J
C467, 468	22349103	CD, 0.01mfd, 50V, K
C469, 470	22349103	CD, 0.01mfd, 50V, K
C471, 472	22349221	CD, 220pF, 50V, K
C473, 474	22349472	CD, 4700pF, 50V, K
C475, 476	22349472	CD, 4700pF, 50V, K
C477, 478	22485101	EL, 100mfd, 16V
C479, 480	22488109	EL, 1mfd, 50V
C481, 482	22349221	CD, 220pF, 50V, K
C483, 484	22483221	EL, 220mfd, 10V
C485, 486	22371333	MY, 0.033mfd, 50V, J
C487, 488	22371103	MY, 0.01mfd, 50V, J
C489, 490	22488479	EL, 4.7mfd, 50V
C491, 492	22371183	MY, 0.018mfd, 50V, J
C493, 494	22480006	EL, 0.33mfd, 50V
C495, 496	22488158	EL, 0.15mfd, 50V
C497, 498	22480008	EL, 0.68mfd, 50V
C499, 500	22480008	EL, 0.68mfd, 50V
C501, 502	22488479	EL, 4.7mfd, 50V
C503, 504	22361470	CD, 47pF, 50V, J
C505, 506	22371562	MY, 5600pF, 50V, J
C507, 508	22349472	CD, 4700pF, 50V, K
C509, 510	22488479	EL, 4.7mfd, 50V
C511, 512	22371822	MY, 8200pF, 50V, J
C513, 514	22371823	MY, 0.082mfd, 50V, J
C515, 516	22488158	EL, 0.15mfd, 50V
C517, 518	22488478	EL, 0.47mfd, 50V
C519, 520	22488479	EL, 4.7mfd, 50V
C521	22488339	EL, 3.3mfd, 50V
C522	22349221	CD, 220pF, 50V, K
C523	22488339	EL, 3.3mfd, 50V
C524	22485330	EL, 33mfd, 16V
C525	22485101	EL, 100mfd, 16V
C527	22360484	CD, 0.047mfd, 50V, Z
C528	22483221	EL, 220mfd, 10V
C529	22488339	EL, 3.3mfd, 50V
C530	22485101	EL, 100mfd, 16V
C601	22371103	MY, 0.01mfd, 50V, J
C602	22342473	CD, 0.047mfd, 50V, Z
C603	22488109	EL, 1mfd, 50V
C604	22488339	EL, 3.3mfd, 50V
C606	22371103	MY, 0.01mfd, 50V, J
C607	22342473	CD, 0.047mfd, 50V, Z
C608	22488339	EL, 3.3mfd, 50V
C609	22485101	EL, 100mfd, 16V
C611	22485471	EL, 470mfd, 16V
C612	22488109	EL, 1mfd, 50V

Symbol No.	Part No.	Description
C613	22488478	EL, 0.47mfd, 50V
C614	22488109	EL, 1mfd, 50V
C617, 618	22488479	EL, 4.7mfd, 50V
C619	22485330	EL, 33mfd, 16V
C620, 621	22485100	EL, 10mfd, 16V
C622	22485330	EL, 33mfd, 16V
C623, 624	22485100	EL, 10mfd, 16V
C625, 626	22485100	EL, 10mfd, 16V
C627	22488339	EL, 3.3mfd, 50V
C628	22488109	EL, 1mfd, 50V
C629	22371473	MY, 0.047mfd, 50V, J
C630	22488109	EL, 1mfd, 50V
C631	22488478	EL, 0.47mfd, 50V
C632, 634	22488229	EL, 2.2mfd, 50V
C635	22342473	CD, 0.047mfd, 50V, Z
C637	22349472	CD, 4700pF, 50V, K
C640	22349221	CD, 220pF, 50V, K
C641	22349471	CD, 470pF, 50V, K
C642	22488109	EL, 1mfd, 50V
C701	22321275	PP, 0.012mfd, 100V, J
C702	22485101	EL, 100mfd, 16V
C703, 704	22349103	CD, 0.01mfd, 50V, K
C705	22485330	EL, 33mfd, 16V
C706	22488109	EL, 1mfd, 50V
C707	22485330	EL, 33mfd, 16V
C751, 752	22488478	EL, 0.47mfd, 50V
C753, 754	22488479	EL, 4.7mfd, 50V
C755	22485100	EL, 10mfd, 16V
C801, 802	22349102	CD, 1000pF, 50V, K
C803, 804	22485330	EL, 33mfd, 16V
C805, 806	22485330	EL, 33mfd, 16V
C807	22483470	EL, 47mfd, 10V
C809	22485330	EL, 33mfd, 16V
C810	22485100	EL, 10mfd, 16V
C811, 812	22488339	EL, 3.3mfd, 50V
C813	22488339	EL, 3.3mfd, 50V
C814, 815	22488479	EL, 4.7mfd, 50V
C816	22485100	EL, 10mfd, 16V
C817	22349221	CD, 220pF, 50V, K
C818	22372223	MY, 0.022mfd, 50V, K
C820	22483331	EL, 330mfd, 10V
C821	22488109	EL, 1mfd, 50V
C822, 823	22349222	CD, 2200pF, 50V, K
C824	22485100	EL, 10mfd, 16V
△ C901	22340228	CD, 0.01mfd, 125V, P (W)
△ C901	22340226	CD, 4700pF, 400V, M (E)
C902	22486222	EL, 2200mfd, 25V

Symbol No.	Part No.	Description
C903	22485101	EL, 100mfd, 16V
C904	22485221	EL, 220mfd, 16V
C905, 906	22485101	EL, 100mfd, 16V
C907	22485101	EL, 100mfd, 16V
C910	22483470	EL, 47mfd, 10V
C911	22485101	EL, 100mfd, 16V
RESISTORS		
All resistors are carbon film 1/6W, ±5% unless otherwise noted.		
R401, 402	22584104	100K ohm
R403, 404	22584223	22K ohm
R405,	92614001	100Kohm, Variable, REC
R406	92614002	200K ohm, Variable, BAL
R407, 408	22584154	150K ohm
R409, 410	22584332	3.3K ohm
R411, 412	22584332	3.3K ohm
R413, 414	22584334	330K ohm
R415, 416	22584223	22K ohm
R417, 418	22584104	100K ohm
R419, 420	22584334	330K ohm
R421, 422	22584223	22K ohm
R423, 424	22658756	500 ohm, B, Semi-fixed Variable
R425, 426	22584123	12K ohm
R427, 428	22584152	1.5K ohm
R429, 430	22584274	270K ohm
R433, 434	22584822	8.2K ohm
R435, 436	22584822	8.2K ohm
R437, 438	22584224	220K ohm
R439, 440	22584333	33K ohm
R441, 442	22584334	330K ohm
R443, 444	22555106	10M ohm, 1/4W
R445, 446	22555106	10M ohm, 1/4W
R447, 448	22584103	10K ohm
R449, 450	22584224	220K ohm
R451, 452	22584103	10K ohm
R453, 454	22658766	200K ohm, B, Semi-fixed Variable
R455	22584680	68 ohm
R456	22584821	820 ohm
R457, 458	22658756	500 ohm, B, Semi-fixed Variable
R459, 460	22584274	270K ohm
R461, 462	22584273	27K ohm
R463, 464	22584822	8.2K ohm
R465, 466	22584822	8.2K ohm
R467, 468	22584224	220K ohm
R469, 470	22584224	220K ohm

Symbol No.	Part No.	Description
R471, 472	22584181	180 ohm
R473, 474	22584473	47K ohm
R475, 476	22584153	15K ohm
R477, 478	22584562	5.6K ohm
R479, 480	22584103	10K ohm
R481, 482	22584332	3.3K ohm
R483, 484	22584393	39K ohm
R485, 486	22584473	47K ohm
R487, 488	22584333	33K ohm
R489, 490	22584223	22K ohm
R491, 492	22584181	180 ohm
R493, 494	22584332	3.3K ohm
R495, 496	22584472	4.7K ohm
R497, 498	22584103	10K ohm
R499, 500	22584224	220K ohm
R501, 502	22584122	1.2K ohm
R503, 504	22584472	4.7K ohm
R505, 506	22658764	50K ohm, B, Semi-fixed Variable
R507, 508	22584103	10K ohm
R509, 510	22584103	10K ohm
R511, 512	22584224	220K ohm
R513, 514	22584273	27K ohm
R515, 516	22584152	1.5K ohm
R517, 518	22584105	1M ohm
R519, 520	22584123	12K ohm
R521, 522	22584683	68K ohm
R525, 526	22584473	47K ohm
R527, 528	22584473	47K ohm
R529, 530	22584473	47K ohm
R531, 532	22584562	5.6K ohm
R533, 534	22584822	8.2K ohm
R535, 536	22584332	3.3K ohm
R537, 538	22584123	12K ohm
R539, 540	22584472	4.7K ohm
R541, 542	22584823	82K ohm
R543, 544	22584105	1M ohm
R545, 546	22584683	68K ohm
R547, 548	22584103	10K ohm
R549, 550	22584472	4.7K ohm
R551, 552	22584471	470 ohm
R553, 554	22584473	47K ohm
R555, 556	22584682	6.8K ohm
R557, 558	22584823	82K ohm
R559, 560	22584102	1K ohm
R561, 562	22584332	3.3K ohm
R563, 564	22584103	10K ohm
R565, 566	22584152	1.5K ohm
R567, 568	22584102	1K ohm
R569, 570	22584332	3.3K ohm
R571	22584472	4.7K ohm
R572	22584393	39K ohm
R573	22584224	220K ohm

Symbol No.	Part No.	Description
R574	22584562	5.6K ohm
R575	22584270	27 ohm
R576	22584474	470K ohm
R577, 578	22584331	330 ohm
R579, 580	22555683	68K ohm, 1/4W
R582	22584103	10K ohm
R601	22550597	27K ohm, 1/4W, G = ±2%
R602	22584222	2.2K ohm
R603	22584155	1.5M ohm
R604	22584104	100K ohm
R605	22584332	3.3K ohm
R606	22584472	4.7K ohm
R608	22584223	22K ohm
R609, 610	22584473	47K ohm
R611	22584223	22K ohm
R613	22584104	100K ohm
R614	22584473	47K ohm
R615	22584104	100K ohm
R616	22550597	27K ohm, 1/4W, G = ±2%
R617	22584472	4.7K ohm
R618	22584103	10K ohm
R619	22584472	4.7K ohm
R620	22584103	10K ohm
R623	22584472	4.7K ohm
R624	22584105	1M ohm
R625	22584103	10K ohm
R626	22584102	1K ohm
R627	22584473	47K ohm
R628	22584224	220K ohm
R629, 630	22584103	10K ohm
R631	22584332	3.3K ohm
R632	22584473	47K ohm
R633	22584332	3.3K ohm
R634	22584224	220K ohm
R635	22584223	22K ohm
R636	22584103	10K ohm
R637	22584473	47K ohm
R638	22570264	150 ohm, 1W, Metal Oxide Film
R639	22584822	8.2K ohm
R640	22584103	10K ohm
R641	22584394	390K ohm
R642	22584273	27K ohm
R643	22658853	5K ohm, B, Semi-fixed Variable
R644	22658854	10K ohm, B, Semi-fixed Variable
R645	22584273	27K ohm
R646	22584224	220K ohm
R647, 648	22584473	47K ohm
R649	22570264	150 ohm, 1W, Metal Oxide Film
R650	22584822	8.2K ohm

Symbol No.	Part No.	Description
R651	22584103	10K ohm
R652	22584394	390K ohm
R653	22584273	27K ohm
R654	22658853	5K ohm, B, Semi-fixed Variable
R655	22658854	10K ohm, B, Semi-fixed Variable
R656	22555223	22K ohm, 1/4W
R657, 658	22555183	18K ohm, 1/4W
R663	22584103	10K ohm
R664	22584104	100K ohm
R666	22584273	27K ohm
R667	22584224	220K ohm
R668	22584102	1K ohm
R669	22584473	47K ohm
R670	22584681	680 ohm
R671	22584102	1K ohm
R672	22584473	47K ohm
R673	22584681	680 ohm
R674	22584103	10K ohm
R675	22584473	47K ohm
R676	22584332	3.3K ohm
R677	22584224	220K ohm
R678	22584103	10K ohm
R679, 680	22584222	2.2K ohm
R681, 682	22584471	470 ohm
R684	22584102	1K ohm
R685	22584561	560 ohm
R686, 687	22584471	470 ohm
R691	22584102	1K ohm
R698	22584103	10K ohm
R699	22555102	1K ohm, 1/4W
R700	22555473	47K ohm, 1/4W
R701	22500276	6.8 ohm, 1/4W, Fusible
R702	22584680	68 ohm
R688	22584471	470 ohm
R703	22584332	3.3K ohm
R704	22584473	47K ohm
R705	22584332	3.3K ohm
R706	22584822	8.2K ohm
R707	22584103	10K ohm
R708	22584472	4.7K ohm
R709	22584562	5.6K ohm
R710	22584822	8.2K ohm
R711, 712	22584821	820 ohm
R713	22584821	820 ohm
R733, 734	22584332	3.3K ohm
R735, 736	22584225	2.2M ohm
R737, 738	22584225	2.2M ohm
R739, 740	22584103	10K ohm
R741, 742	22584224	220K ohm
R743	22584224	220K ohm
R745	22584103	10K ohm
R746	22584473	47K ohm

Symbol No.	Part No.	Description
R747	22584155	1.5M ohm
R748	22584102	1K ohm
R749, 750	22584224	220K ohm
R751, 752	22584333	33K ohm
R753, 754	22584223	22K ohm
R755, 756	22584473	47K ohm
R757, 758	22584821	820 ohm
R759, 760	22584821	820 ohm
R761, 762	22584821	820 ohm
R763, 764	22584821	820 ohm
R765, 766	22584821	820 ohm
R767	22584821	820 ohm
R770	22584103	10K ohm
R771, 772	22584223	22K ohm
R773, 774	22584223	22K ohm
R775	22584223	22K ohm
R776	22584105	1M ohm
R777	22584102	1K ohm
R778, 779	22584473	47K ohm
R780	22584103	10K ohm
R781, 782	22584105	1M ohm
R783	22584103	10K ohm
R784	22584104	100K ohm
R785	22584105	1M ohm
R786	22584104	100K ohm
R787	22584473	47K ohm
R788	22584223	22K ohm
R789	22584473	47K ohm
R790	22584224	220K ohm
R791, 792	22584562	5.6K ohm
R793	22584104	100K ohm
R794	22584473	47K ohm
R795	22584474	470K ohm
R796	22584332	3.3K ohm
R797, 798	22584472	4.7K ohm
R801	22584681	680 ohm
R802	22584331	330 ohm
R803	22584681	680 ohm
R804	22658764	50K ohm, B, Semi-fixed Variable
R805	22584473	47K ohm
R806	22658764	50K ohm, B, Semi-fixed Variable
R807	22584473	47K ohm
R808	22584331	330 ohm
R809, 810	22584103	10K ohm
R811, 812	22584184	180K ohm
R813, 814	22584104	100K ohm
R815	22584472	4.7K ohm
R816	22584471	470 ohm
R817	22584473	47K ohm
R818	22584222	2.2K ohm
R819	22584223	22K ohm

Symbol No.	Part No.	Description
R820	22584103	10K ohm
R821	22584473	47K ohm
R822	22584103	10K ohm
R824	22584473	47K ohm
R825	22584472	4.7K ohm
R827	22584103	10K ohm
R828	22584104	100K ohm
R829	22584473	47K ohm
R830	22584104	100K ohm
R831	22584332	3.3K ohm
R832, 833	22584473	47K ohm
R834	22584332	3.3K ohm
R836	22555222	2.2K ohm, 1/4W
R837	22584472	4.7K ohm
R839, 840	22584332	3.3K ohm
R841, 842	22584152	1.5K ohm
R844	22584682	6.8K ohm
R848, 849	22584103	10K ohm
R850	22584102	1K ohm
R851	22547101	100 ohm, 1/2W
R852	22547151	150 ohm, 1/2W
R853, 854	22584473	47K ohm
R855	22584472	4.7K ohm
R856	22584182	1.8K ohm
R857	22584221	220 ohm
R858	22584225	2.2M ohm
R859	22584223	22K ohm
R860	22584104	100K ohm
R861	22584102	1K ohm
R862	22584823	82K ohm
R863, 864	22584103	10K ohm
R865	22584103	10K ohm
R866, 867	22584183	18K ohm
R873, 874	22584681	680 ohm
R882, 883	22584223	22K ohm
R901	22555331	330 ohm, 1/4W
△ R902	22500167	2.2 ohm, 1/4W, Fusible
R903	22584102	1K ohm
R904	22584121	120 ohm
△ R905	22500404	1 ohm, 1/4W, Fusible
R908	22584221	220 ohm
△ R909	22500181	120 ohm, 1/4W, Fusible
R910	22584222	2.2K ohm
R 301, 302	22584103	10K ohm

ACCESSORIES

AC01	960463H	Owner's Manual ND 850 W
AC02	22164775	Connector Cord
AC03	22990983	Head Cleaner