



SANYO

Home Stereo Cassette Recorder/Deck

**MODEL MR-404A
MR-406A**

SERVICE MANUAL

SANYO ELECTRIC CO., LTD.

INTERNATIONAL DIVISION: SANYO ELECTRIC TRADING CO., LTD.
OSAKA, JAPAN



MR-404A



MR-406A

SPECIFICATIONS

Speed accuracy	±2% Standard
Speed variation	1% Max. (start to end of cassette hub)
Wow	0.4% Max. (WRMS value)
Fast Forward time	Up to 1 min. 30 sec. on cassette "C-60"
Rewind time	"
Sensitivity Microphone Input	-67 to -73 dB for standard rec. level on meter
Auxiliary Input	-17 to -23 dB for standard rec. level on meter
Power output (10% dist.)	3.5W (MR-404A)
Line output	1.0V (MR-406A)
Cross talk, channel-channel	Better than 60 dB
Bias frequency	60 KHz
Erase efficiency	At least 60 dB
Signal to Noise ratio	Better than 45 dB without weighting network
Hum and Noise	30mV Max. volume and tone max.
Frequency response, Record/Play	

FREQUENCY (Hz)		
70	1000	8000
+5	0	+5
-5		-5

Reel (hub torque) torque (gram)

MODEL	SUPPLY REEL	TAKE-UP REEL
PLAY (REC.)	2-10	40-70
REW	55-250	2-10
FWD	2-10	55-150

Pressure roller force 200 to 350 grams.

DISASSEMBLY INSTRUCTIONS

For Disassembling

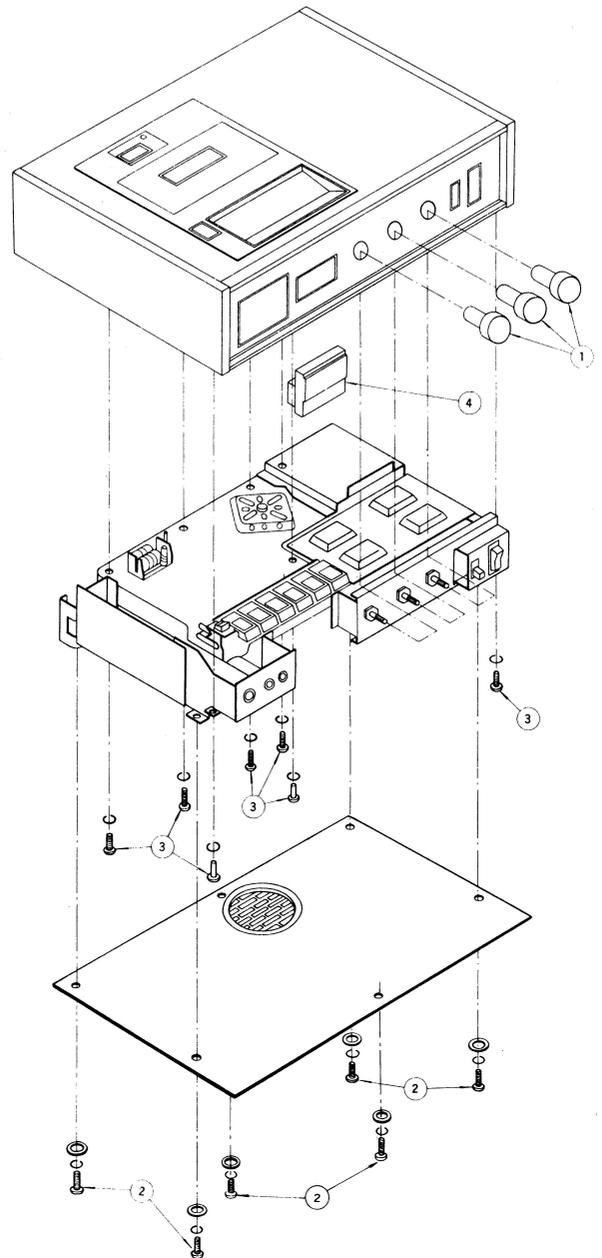
- Step 1. Pull-out Control knobs.
- Step 2. Remove Screws (six) fixing Bottom Lid.
- Step 3. Remove Screws (seven) fixing chassis (painted RED screws.)
- Step 4. Pull out Indicator.

For Reassembling

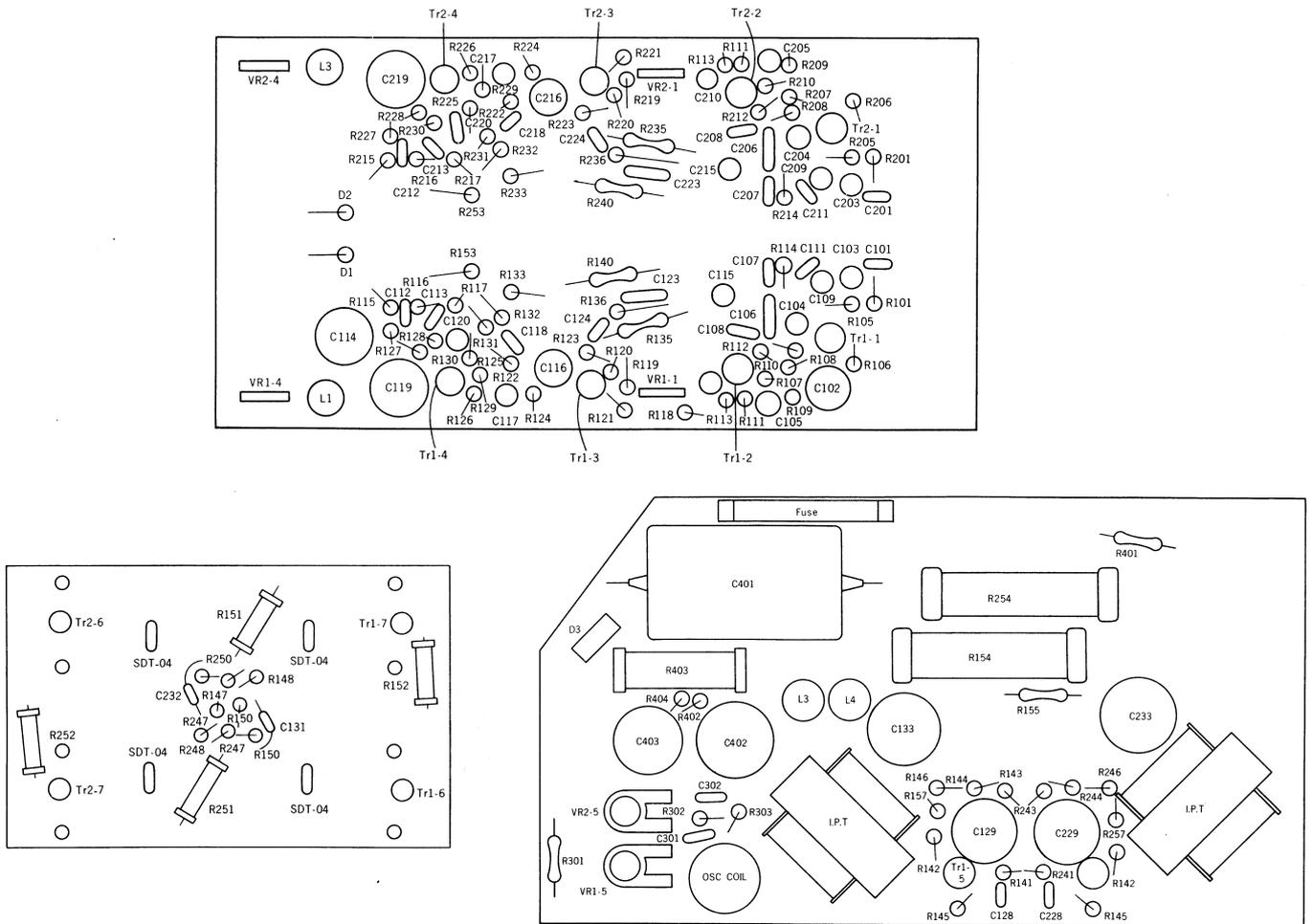
Reverse the sequence of disassembling.

For Sub-disassembling and Sub-reassembling.

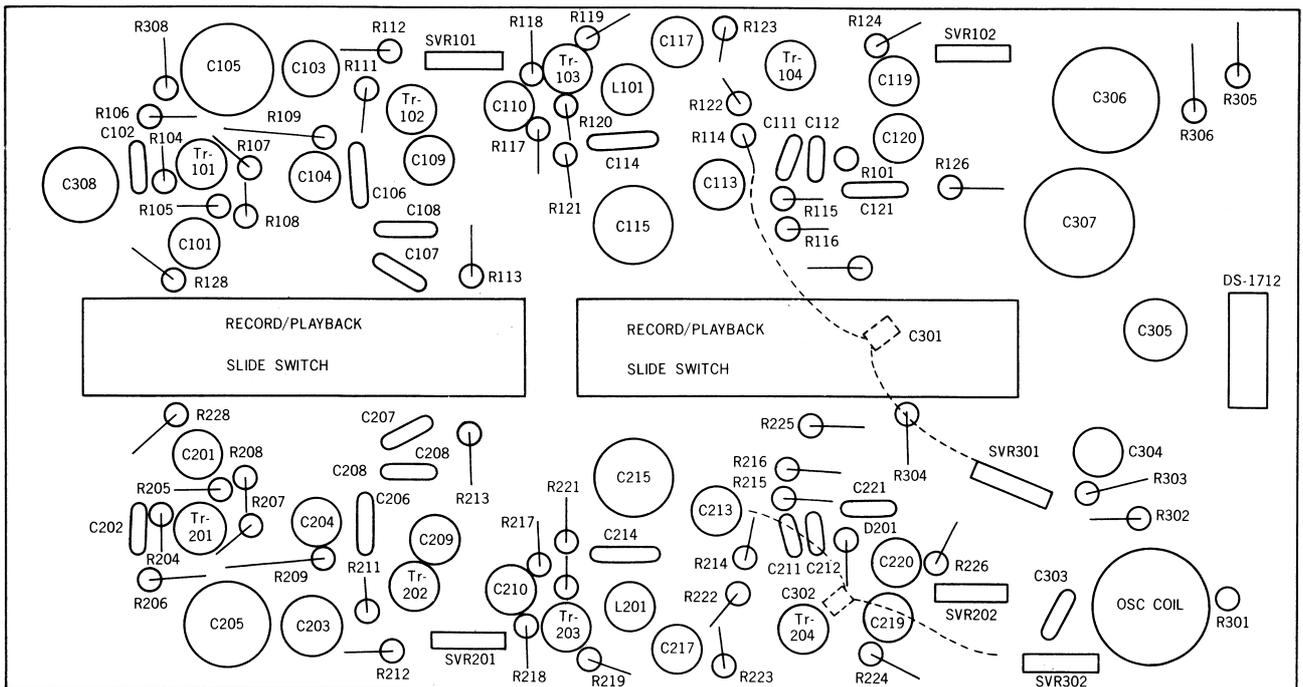
Refer to illustrations in replaceable parts list.



PARTS LOCATION (MR-404A)



PARTS LOCATION (MR-406A)



PARTS LIST (MR-404A)

PARTS LIST (MR-406A)

Ref. No.	Part No.	Description	Q'ty
<i>RESISTORS</i>			
R101, 201		Carbon 10 ohm $\pm 10\%$ 1/4W	2
R102, 202		" 1.5K ohm " " "	2
R103, 203		" 470K ohm " " "	2
R104, 204		" 3.3M ohm " " "	2
R105, 205		" 15K ohm " " "	2
R106, 206		" 68K ohm " " "	2
R107, 207		" 270 ohm " " "	2
R108, 208		" 4.7K ohm " " "	2
R109, 209		" 8.2K ohm " " "	2
R110, 210		" 10K ohm " " "	2
R111, 211		" 82K ohm " " "	2
R112, 212		" 2.7K ohm " " "	2
R113, 213		" 10K ohm " " "	2
R114, 214		" 5.6K ohm " " "	2
R115, 215		" 8.2K ohm " " "	2
R116, 216		" 1K ohm " " "	2
R117, 217		" 5.6K ohm " " "	2
R118		" 1.8K ohm " " "	1
R119, 219		" 1K ohm " " "	2
R120, 220		" 10K ohm " " "	2
R121, 221		" 47K ohm " " "	2
R122, 222		" 15 ohm " " "	2
R123, 223		" 2.7K ohm " " "	2
R124, 224		" 5.6K ohm " " "	2
R125, 225		" 2.2K ohm " " "	2
R126, 226		" 18K ohm " " "	2
R127, 227		" 33 ohm " " "	2
R128, 228		" 220 ohm " " "	2
R129, 229		" 1.5K ohm " " "	2
R130, 230		" 27 ohm " " "	2
R131, 231		" 6.2K ohm $\pm 5\%$ " " "	2
R132, 232		" 68K ohm $\pm 10\%$ " " "	2
R133, 233		" 2.7K ohm " " "	2
R135, 235		" 560K ohm " " "	2
R136, 236		" 4.7K ohm " " "	2
R140, 240		" 1K ohm " " "	2
R141, 241		" 3.3K ohm " " "	2
R142, 242		" 6.8K ohm " " "	2
R143, 243		" 3.3 ohm " " "	2
R144, 244		" 390 ohm " " "	2
R145		" 150 ohm " 1/2W	1
R146, 246		" 270 ohm " 1/4W	2
R147, 247		" 33 ohm " " "	2
R148, 248		" 910 ohm " " "	2
R149, 249		" 33 ohm " " "	2
R150, 250		" 910 ohm " " "	2
R151, 251	R-R7812	Wiring, 1.5 ohm 1/2W	4
R152, 252			
R153, 253		Carbon 10K ohm " 1/4W	2
R154, 254	R-R7031	Wiring, 8 ohm 5W	2
R155		Carbon 100 ohm " 1/2W	1
R156, 256		" 22K ohm " " "	2
R157, 257		" 270 ohm " " "	2
R301		" 10 ohm " " "	1
R302		" 1K ohm " " "	1
R303		" 47K ohm " " "	1
R401		" 120K ohm " " "	1
R402		" 56 ohm " " "	1
R403		" 220 ohm " 1W	1
R404		" 560 ohm " 1/2W	1

Part No.	Description	Q'ty	
<i>PACKING</i>			
R-498498	Display box	1	
R-498499b	Bottom filler	1	
R-498500	Top filler	1	
R-478599	Instruction book	1	
R-478600	Schematic diagram	1	
R-478391	Caution tag	1	
R-148432	Special wrench	1	
<i>CABINET</i>			
R-S98045	Cabinet assembly	1	
R-318176b	Function panel	1	
R-318177	Headphone lid	1	
R-S88278	Shaft assembly for headphone lid	1	
R-S88319	Shaft assembly for headphone lid	1	
R-318151	Headphone lid button	1	
R-128120a	Plate spring for button	1	
R-268342L	Panel for control	1	
R-268343	Metal mesh	1	
R-318255a	Clear window for neon lamp	1	
R-AT19802	Cassette case assembly	1	
R-AT19803	Cassette case lid assembly	1	
R-S88352	Shaft assembly for lid	1	
R-S88412	Shaft assembly for lid	1	
R-118716a	Bracket for cassette case	1	
R-128168	Fixing metal for neon lamp	1	
R-118795	Bracket for bottom lid	1	
R-128184	Reflection for neon lamp	1	
	Rubber cushion 4.5 ϕ \times 1.5mm	1	
R-128212	Coil spring for function panel	1	
R-428158	Sheet	1	
R-112432	Lug	1	
R-S81171	Knob assembly	3	
R-AT19805	Bottom plate	1	
R-44213	Leg.	4	
R-328124	Cover for leg	4	
R-32672a	Cover for louver	1	
<i>CHASSIS</i>			
R-418229	Printed circuit board	1	
R-118705b	Bracket for Power trans	1	
R-118798b	Bracket for VR. switch	1	
R-118563	Bracket for headphone insulator	1	
R-119612	Bracket for P.C.B.	1	
R-428072	Mounting base for headphone	1	
R-318146a	Headphone insulator	1	
R-118965	Bracket for bottom lid	1	
R-328059b	Cassette-up button	1	
R-119034	Bracket for fuse holder	1	
R-128160d	Spring for level meter fixing	1	
R-138046	Plate spring for R/P switch change	1	
R-268840	Motor fan	1	
	Rubber cushion, 4.5 \times 1.5 \times 20mm	1	
	Fiber washer, 3.3 \times 8 \times 0.5mm	4	
R-119202	Chassis reinforcing metal	2	
R-128192e	Bracket for meter lamp	1	
R-428181a	Rear lid	1	
R-128227	Microphone socket shield	1	
R-35272	AC cord fixer	1	
R-112865	Bracket, AC power cord	1	
R-44027	Bushing, AC power cord	1	
Ref. No.	Part No.	Description	Q'ty
<i>ELECTRICAL PARTS</i>			
PT	R-W7910	Power transformer	1
OSC	R-W1809	Oscillator coil	1
	R-W1837	Choke coil, 5.6 mH	2
S1,2	R-S4860	Slide switch, record/play	2
S3	R-S4106	Slide switch, treble filter	1
S4	R-S4865	Rotary switch, MODE selector	1
S5	R-S88380	Spring switch, miss-recording protection	1
S6	R-S88401a	Spring switch PLAY & REC.	1
S7	R-S4936	See-saw switch, Power switch	1
Tr101,201		Transistor, 2SC858	4
Tr102,202			
Tr103,203		Transistor, 2SC537	2
Tr104,204,		Transistor, 2SB187	3
301			
Tr302		Transistor, 2SB405	1

PARTS LIST (MR-406A)

Ref. No.	Part No.	Description	Q'ty		
ELECTRICAL PARTS					
		Diode, 1S188	2		
		Silicon rectifier, DS-17	2		
		Silicon rectifier 1S1849R } or	1		
	R-S2849	Headphone socket	1		
	R-S1894	Fuse holder	1		
	R-S2851	Connection terminals with bake-plate	1		
	R-S1202(5)	Meter lamp	1		
	R-S1146b	Pilot lamp, AC power	1		
	R-S3007	Terminal strip	1		
	R-261193a	Heat sink, 2SB405	1		
	R-S2802	DIN socket	1		
	R-S1260	Fuse, 0.5A	1		
	R-S2854a	MIC. socket	2		
	R-S3045	Terminal strip 4P.	1		
	R-S3046	Terminal strip 5P.	1		
	R-S2133a	Socket, power source select	1		
	R-S1227	Plug, power source select	1		
	R-S88577	Patch cord RCA-RCA	2		
	R-S5826	VU Meter	1		
	R-R124184	Variable resistor, 10K ohm, volume	2		
VR101, 201					
SVR101, 201	R-R11010	Semifixed resistor, 50K ohm, gain adj.	2		
SVR102, 202	R-R11012	Semifixed resistor, 5K ohm, meter curr.	2		
SVR103, 203	R-R11011	Semifixed resistor, 100K ohm, bias curr.	2		
AC CORD IS CHOSEN FROM AMONG FOLLOWING A.B.C. & D					
A	R-S3864	AC cord "A" assy.	1		
	R-S1076a	Plug, English-type 3-pin	1		
		3-wired cord	1		
B	R-S1245	Rubber cushion	1		
	R-S3865	Plug, Australian-type 3-pin	1		
		AC cord "B" assey.	1		
C	R-S1817	Vinyl 2-wired	1		
	R-S35272	Plug, Siemens-type	1		
	R-S3866	AC cord "C" assey.	1		
D		3-wired cord	1		
	R-S1076a	Plug, Photex-type 3-pin	1		
	R-S3134	Plug, English-type 3-pin	1		
	R-S35272	AC cord 6A 250V	1		
	R-S8574b	AC cord fixer	1		
	R-S8575b	AC adaptor, Siemens-type 2-pin	1		
		AC adaptor, English-type 2-pin	1		
Ref. No.	Description			Q'ty	
RESISTORS					
R101, 201	Carbon P type	3.3M ohm	±10%	1/4W	2
R102, 202	"	470K ohm	"	"	2
R103, 203	"	1.5K ohm	"	"	2
R104, 204	"	2.7M ohm	"	"	2
R105, 205	"	1M ohm	"	"	2
R106, 206	"	8.2K ohm	"	"	2
R107, 207	"	15 ohm	"	"	2
R108, 208	"	220 ohm	"	"	2
R109, 209	"	5.6K ohm	"	"	2
R111, 211	"	1.8M ohm	"	"	2
R112, 212	"	12K ohm	"	"	2
R113, 213	"	5.6K ohm	"	"	2
R114, 214	"	8.2K ohm	"	"	2
R115, 215	"	1K ohm	"	"	2
R116, 216	"	560K ohm	"	"	2
R117, 217	"	22K ohm	"	"	2
R118, 218	"	120K ohm	"	"	2
R119, 219	"	5.6K ohm	"	"	2
R120, 220	"	390 ohm	"	"	2
R121, 221	"	820 ohm	"	"	2
R122, 222	"	33K ohm	"	"	2
R123, 223	"	27K ohm	"	"	2
R124, 224	"	330 ohm	"	"	2
R125, 225	"	470 ohm	"	"	2
R126, 226	"	270 ohm	"	"	2
R127, 227	"	22K ohm	"	"	2
R128, 228	"	10 ohm	"	"	2
R301	"	10 ohm	"	"	1
R302	"	47K ohm	"	"	1
R303	"	1K ohm	"	"	1
R304	"	390 ohm	"	1/2W	1

Ref. No.	Description				Q'ty
RESISTORS					
R305	Carbon P type	1.5K ohm	±10%	1/4W	1
R306	"	390 ohm	"	1/2W	1
R307	"	120K ohm	"	1/4W	1
R308	"	6.8K ohm	"	"	1
Ref. No.	Part No.	Description			Q'ty
CAPACITORS					
C101, 201	R-C9955	Electrolytic	3.3μF	10WV	2
C102, 202		Ceramic	100pF ±20%	50WV	2
C103, 203	R-C9867	Electrolytic	4.7μF	16WV	2
C104, 204	R-C9904	Electrolytic	0.33μF	10WV	2
C105, 205	R-C9864	Electrolytic	220μF	6.3WV	2
C106, 206		Mylar	0.033μF ±20%	50WV	2
C107, 207		Ceramic	100pF ±20%	50WV	2
C108, 208		Ceramic	470pF ±20%	50WV	2
C109, 209	R-C9898	Electrolytic	0.47μF	10WV	2
C110, 210	R-C9867	Electrolytic	4.7μF	16WV	2
C111, 211		Ceramic	0.001μF ±20%	50WV	4
C112, 212					
C113, 213	R-C9902	Electrolytic	2.2μF	10WV	2
C114, 214		Mylar	0.04μF ±10%	50WV	2
C115, 215	R-C9864	Electrolytic	220μF	6.3WV	2
C117, 217	R-C9867	Electrolytic	4.7μF	16WV	2
C118, 218		Mylar	0.015μF ±20%	50WV	2
C119, 219	R-C9898	Electrolytic	0.47μF	10WV	2
C120, 220	R-C9867	Electrolytic	4.7μF	16WV	2
C121, 221		Mylar	0.047μF +80~-20%	12WV	2
C301, 302		Mylar	470pF ±20%	50WV	2
C303		Mylar	0.0033μF ±20%	50WV	1
C304	R-C9867	Electrolytic	4.7μF	16WV	1
C305	R-C9888	Electrolytic	33μF	16WV	1
C306	R-C9862	Electrolytic	220μF	16WV	1
C307	R-C9918	Electrolytic	470μF	16WV	1
C308	R-C9888	Electrolytic	33μF	16WV	1

MOTOR & MOTOR PULLEY REPLACEMENT

In this recorder, it is necessary to change the motor and motor pulley when the AC power frequencies are changed, 50 Hz from 60 Hz or 60 Hz from 50 Hz. Replace them as follows:

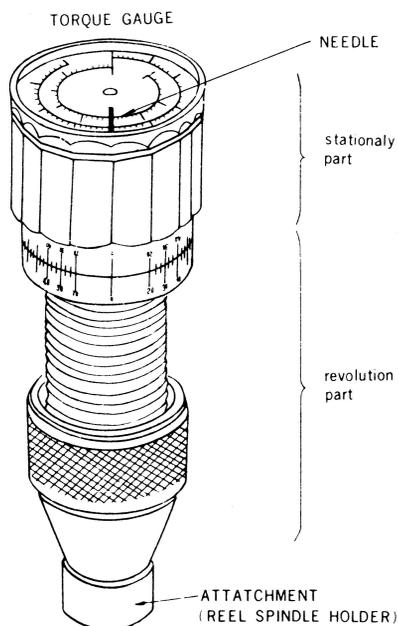
1. Follow the sequence of disassembling.
2. Remove the drive belt (65)
3. Remove four nuts (Y17) that mount motor to the chassis.
4. Mount new (frequency suitable) motor and motor pulley and reverse the sequence of disassembling.

MECHANICAL ADJUSTMENT

Play Take-up Torque	No adjustment provided Nominal Value 40~60 gr
Rewind Torque	No adjustment provided Nominal Value 55~130 gr
Fast Forward Torque	No adjustment provided Nominal Value 55~130 gr
Tape Tension	Play position 130~200 gr
Push Button Torque	
Play→Stop	300~600 gr
Stop→Fast Forward	600~1000 gr
Stop→Rewind	675~1125 gr
Stop→Play	975~1625 gr

Note:

1. All Torque are measured with a torque gauge applied to a point on a reel spindle.
2. All pressure or Force are measured with a spring scale to determine that point at which pressure is just removed.



TO CONVERT SET FOR DIFFERENT AC FREQUENCY

In this recorder, it is necessary to change the motor pulley when the AC power frequencies are changed, 50 Hz from 60Hz or 60Hz from 50Hz.

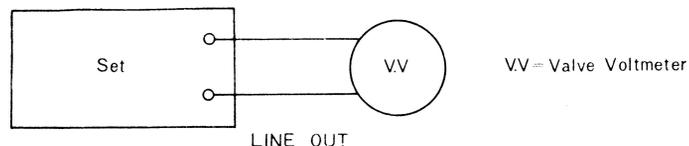
Replace motor pulley as follows;

1. Follow the sequence of disassembling.
2. Remove the drive belt (65).
3. Remove motor pulley using the hex. wrench.
NOTE: If your dealer do not have the hex. wrench, order with part number R-148432 at the same time the motor pulley is ordered.
4. Mount new (frequency suitable) motor pulley and reverse the sequence of disassembling.
NOTE: Order motor pulley with part number R-S88678 (for 60Hz), or R-S88677 (for 50Hz).

ELECTRIC CIRCUIT ADJUSTMENT

1. Playback level adjustment

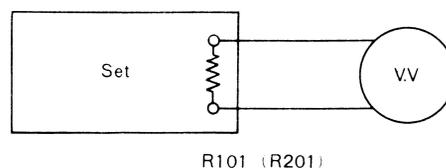
- * Testing connections should be made in the following way.



- * Insert a standard Cassette tape "HU 71723" and set the unit to playback.
- * Measure the first section (333 Hz) of the standard tape.
- * Measure the test voltage from the LINE OUT terminals, and adjust the semi-fixed VR (10 K ohm) to 1 V at no load. Adjust the left side with VR 1-1 and adjust the right side with VR 2-1.

2. Recording bias adjustment

- * Connect in the following way for measurement.

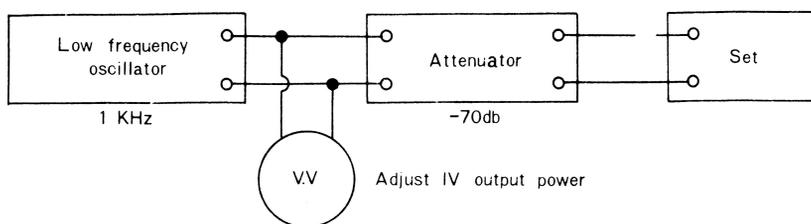


- * Insert the Cassette and set the unit in recording condition.
- * Measure both left side R 101 (10 ohm) terminals with the valve voltmeter and adjust by the semi-fixed VR 1-5 (100 Kohm) to 3mV. Measure both right side R 201 terminals and adjust with VR 2-5.

3. VU meter adjustment

- * Connect in the following way for adjustment.
- * Insert the Cassette and set the unit in recording condition.
- * Adjust the semi-fixed VR 1-4 (5 Kohm) and VR 2-4 (5 Kohm) to 0 VU on the indicator when a 1 KHz-70dq signal is fed to the MIC terminal.

- NOTE:
- * Volume adjustment VR at maximum.
 - * Tone and Balance adjustment VR at middle.



PARTS LIST (MR-404A)

Part No.	Description	Q'ty
PACKING		
R-498622	Display box	1
R-498645	Bottom filler	1
R-498646	Top filler	1
R-498648	Top filler for set	3
R-498649	Bottom filler for set	1
R-478391	Caution tag	1
R-478603	Instruction booklet	1
R-478604	Schematic diagram	1
R-478391a	Caution tag.	1
R-148432	Special wrench	1

PARTS LIST (MR-404A)

Part No.	Description	Q'ty
CABINET		
R-S98045	Cabinet assembly	1
R-S98046	Speaker box assembly for right, left	2
R-318141b	Function panel	1
R-318147	Headphone lid	1
R-S88278	Shaft assembly for headphone lid	1
R-S88319	Shaft assembly for headphone lid	1
R-318151	Open headphone lid button	1
R-128120a	Plate spring for button	1
R-268342L	Panel for control	1
R-268343	Metal sash for function panel	1
R-318255a	Clear window for neon lamp	1
R-128212	Coil spring for function panel	1
R-112432	Lug	1
R-AT19802	Cassette case assembly	1
R-AT19803	Cassette case lid assembly	1
R-S88352	Shaft assembly for lid	1
R-S88412	Shaft assembly for lid	1
R-118716a	Bracket for cassette case	1
R-128168	Fixing metal for neon lamp	1
R-118795	Bracket for bottom lid	1
R-128184	Reflection for neon lamp	1
R-S81171	Knob assembly	3
R-AT19805	Bottom lid assembly	1
R-44213	Leg	4
R-328124	Cover for leg	4
R-32672a	Cover for louver	1
	Black rubber 4.5ø × 1.5mm	1
	White rubber 5ø × 1.8ø × 1mm	1
CHASSIS		
R-418134b	Printed circuit board, pre-amp.	1
R-418061b	Printed circuit board, power stage	1
R-418116b	Printed circuit board	1
R-118705b	Bracket for power transformer & Osc.	1
R-118798b	Bracket for VR, switch	1
R-118563	Bracket for headphone-insulator	1
R-118796	Bracket for printed circuit board	1
R-428072	Mounting base for headphone	1
R-318146a	Headphone-insulator	1
R-328059b	Cassette-up button	1
R-119034	Bracket for fuse holder	1
R-128160d	Spring for level meter fixing	1
R-128192e	Mounting for pilot lamp	1
R-118965	Bracket for button lid	1
R-S3008	Lug	2
R-112432	Lug	4
R-24638	Cord fixer	1
R-428179a	Rear lid	1
R-119759	Bracket, power trans.	1
R-119612	Bracket, p.c.b.	1
R-268905a	Heat sink, power transistors	1
	Fiber washer 3.3 × 8 × 0.5mm	10
R-428076	Insulation sheet	2
R-128227	Shield screen, Headphone jack	1
R-138046	Plate spring R/P switch	1
R-35272	AC power cord fixer	1
R-112865	Bracket, AC power cord	1
R-44027	Rubber bushing, AC power cord	1
ELECTRICAL PARTS		
R-W7911	Power transformer	1
R-R124828	VR 20K (B) loudness control	1
R-R124829	VR 20K tone control	1
R-R124830	VR 20K (W) balance control	1
R-W6867	Input transformer	2
R-S6886a	Speaker	2
R-S88465	Audition cassette	1
R-S6934	Microphone	2
R-S5826	Level meter	1
R-W8817	Oscillator coil	1
R-R11011	SVR 100K bisa adjustment	2
R-R11013	SVR 10K gain adjustment	2
R-R11012	SVR 5K level meter adjustment	2
R-W1837	Choke coil 10 mH	2
R-W1817	Choke coil	2
R-R7031	Winding resistors for 8Ω, 5W	2
R-R7812	Winding resistors for 1.5Ω, 1/2W	2
R-398134	Microphone stand	2
R-S3063	Lug	1
R-S4936	Seesaw switch for power ON-OFF	1

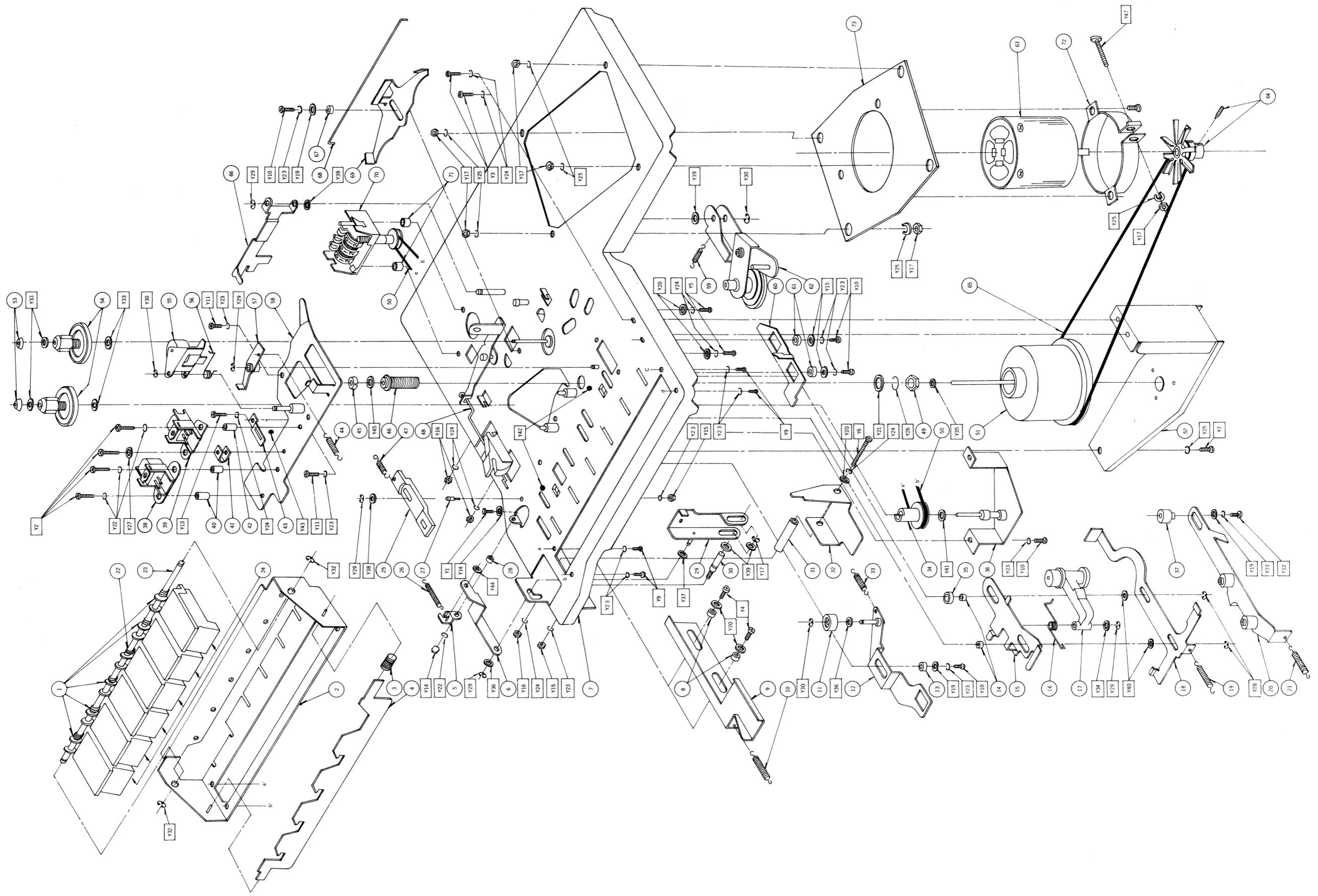
Part No.	Description	Q'ty	
ELECTRICAL PARTS			
R-AM11615	Slide switch for record/play change	2	
R-S4106	Slide switch for SP monitor ON-OFF	1	
R-S1202 (2)	Pilot lamp	1	
R-S1146b	Neon lamp	1	
R-268715	Heat sink for power transistor	4	
R-418187	Myler sheet	4	
R-35247	Base for heat sink	8	
R-261193a	Heat sink for oscillator	1	
R-S2849	Headphone jack	1	
R-S1894	Fuse holder	1	
R-S1044	Fuse 1.2A	3	
R-S2854a	Jack for MIC	2	
R-S2826	Jack assembly	1	
R-S88380	Spring switch for anti-recording	1	
R-S88401a	Spring switch for amp ON-OFF	1	
R-S2802	Socket DIN	1	
R-S8942	Speaker cord assembly	2	
R-S88577	Patch cord assembly RCA-RCA	2	
R-S2854a	Socket, EXT. SP.	2	
R-S3045	Terminal strip, 4P	1	
R-S2133a	Socket, voltage select	1	
R-S1227	Plug, voltage select	1	
	AC power cord marked A is used		
R-S3864	AC power cord ass'y.	1	
R-S1245	Plug	1	
	AC power cord marked B is used		
R-S3865	AC power cord ass'y.	1	
	AC power cord marked C is used		
R-S3866	AC power cord ass'y.	1	
R-S1076a	Plug	1	
	AC power cord marked D is used		
R-S3134	AC power cord	1	
R-S8574b	Adaptor assembly	1	
R-S8575b	Adaptor assembly	1	
	Silicon rectifier 10DC1R } or	2	
	Silicon rectifier 1S1849R }	1	
	Diode 1S188 meter	2	
	Thermistor SDT-04	4	
	Transistor 2SB400A Tr1-1, Tr1-2, Tr2-1, Tr2-2	4	
	Transistor 2SB303B Tr1-3, Tr2-3	2	
	Transistor 2SB187 Tr1-4, Tr1-5, Tr2-4, Tr2-5	4	
	Transistor 2SB492 Tr1-6, Tr1-7, Tr2-6, Tr2-7	4	
	Transistor 2SB187 Tr-8	1	
Ref. No.	Part No.	Description	Q'ty
CAPACITORS			
C101, 201		Myler, 0.0033μF, ±20%, 50WV	2
C102	R-C9863	Electrolytic, 220μF, 10WV	1
C103, 203	R-C9867	Electrolytic, 4.7μF, 16WV	2
C104, 204	R-C9865	Electrolytic, 33μF, 6.3WV	2
C105, 205	R-C9867	Electrolytic, 4.7μF, 16WV	2
C106, 206		Myler, 0.022μF, ±20%, 50WV	2
C107, 207		Myler, 0.0015μF, ±20%, 50WV	2
C108, 208		Myler, 0.022μF, ±10%, 50WV	2
C109, 209	R-C9865	Electrolytic, 33μF, 6.3WV	2
C110, 210	R-C9115	Electrolytic, 1μF, 10WV	2
C111, 211		Myler, 0.001μF, ±20%, 50WV	6
		112, 212	
		113, 213	
C114	R-C9862	Electrolytic, 220μF, 16WV	1
C115, 215	R-C9867	Electrolytic, 4.7μF, 16WV	2
C116, 216		Electrolytic, 100μF, 6.3WV	2
C117, 217	R-C9898	Electrolytic, 0.47μF, 10WV	2
C118, 218	R-C9904	Electrolytic, 0.33μF, 10WV	2
C119, 219	R-C9905	Electrolytic, 330μF, 6.3WV	2
C120, 220	R-C9115	Electrolytic, 1μF, 10WV	2
C122, 222	R-C9126	Electrolytic, 0.1μF, 10WV	2
C123, 223		Myler, 0.047μF, 50WV	2
C124, 224	R-C9904	Electrolytic, 0.33μF, 10WV	4
		128, 228	
C129, 229	R-C9864	Electrolytic, 220μF, 6.3WV	2
C130		Electrolytic, 220μF, 16WV	1
C131, 231		Myler, 0.0033μF, ±20%, 50WV	2
C133, 233	R-C9861	Electrolytic, 330μF, 16WV	2
C301		Ceramic, 0.0039μF, ±10%, 500WV	1
C302	R-C9867	Electrolytic, 4.7μF, 16WV	1
C401	R-C9827	Electrolytic, 1000μF, 25WV	1
C402	R-C9844	Electrolytic, 470μF, 25WV	1
C403	R-C9862	Electrolytic, 220μF, 16WV	1

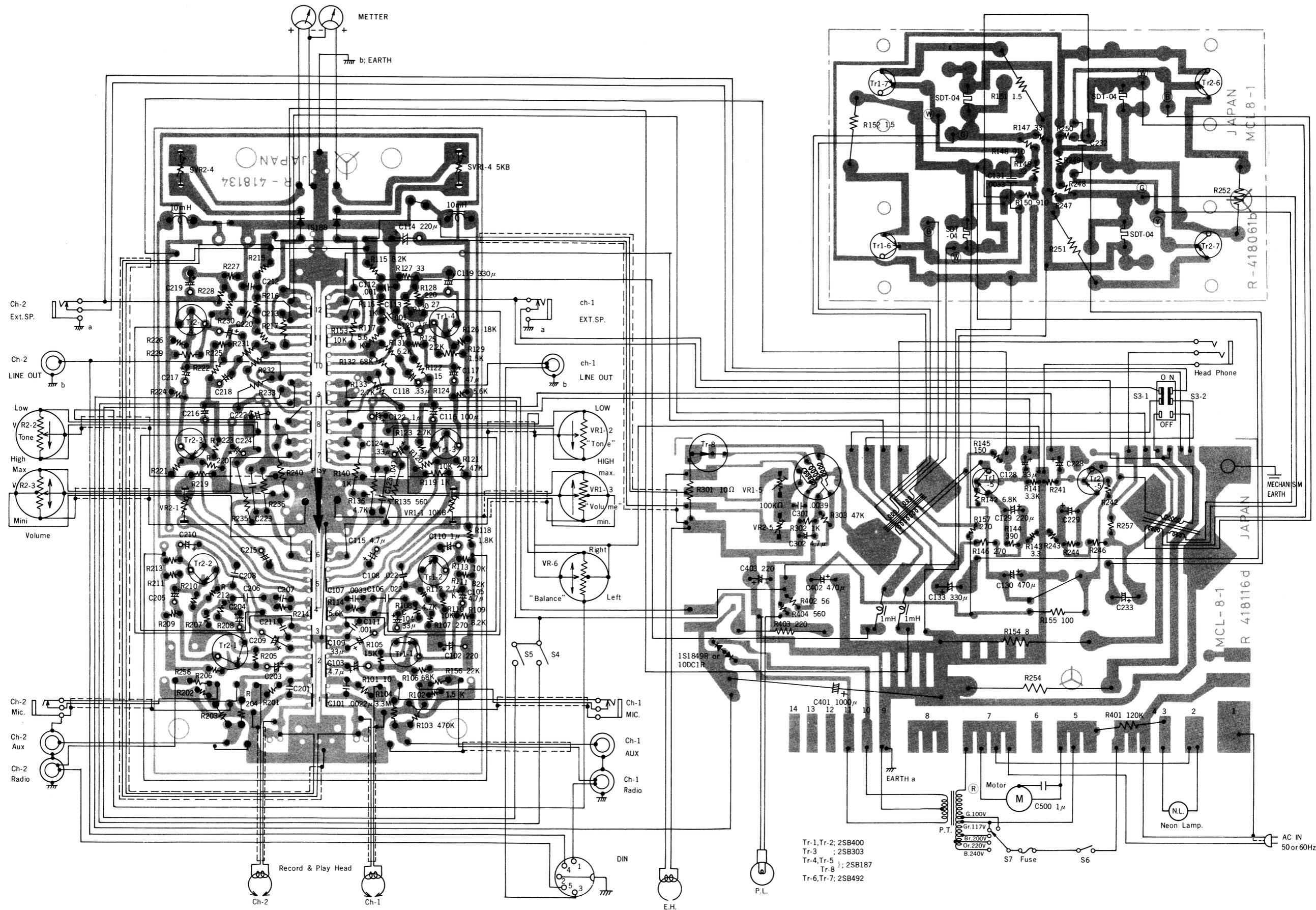
PARTS LIST (MR-404A MR-406A)

Ref. No.	Part No.	Description	Q'ty
MECHANISM			
1	R-158208	Coil spring for REC, REW, FWD, PAUSE, STOP push button lever	5
2	R-AM11607	Frame assembly	1
3	R-158127	Coil spring for return the lever	1
4	R-119850	Slide for push button lever lock	1
5	R-398062	Lever for cassette-lid holding	1
6	R-118954	Lever for cassette-lid holding look act	1
7	R-AM11601	Mechanism chassis assembly	1
8	R-248291	Spacer for Rec/Play slide switch	2
9	R-118959	Slide for Rec/Play switch	1
10	R-158224a	Coil spring for return the slide	1
11	R-398036b	Pulley rewinding	1
12	R-AM11609	Slide REW act roller assembly	1
13	R-248183	Spacer for REW act roller slide	1
14	R-248378	Spacer for FWD act slide	2
15	R-AM15910	Slide FWD activation assembly	1
16	R-158124b	Spring for FWD act lever return	1
17	R-AM15911	Lever FWD idler assembly	1
18	R-118393b	Slide for brake activation	1
19	R-158120	Coil spring for brake act slide	1
20	R-AM11612	Slide, play activation assembly	1
21	R-158121a	Coil spring for return play act slide	1
22	R-158209	Coil spring for PLAY push button lever	1
23	R-148270	Shaft for push button lever	1
24	R-AM11606	Push button assembly	6
25	R-393107	Slide for cassette-up lever release	1
26	R-158391	Coil spring for cassette-lid holding rod	1
27	R-248182a	Shaft for cassette holding lever	1
28	R-248211	Spacer for cassette-lid holding lock	1
29	R-AM11602	Lever assembly, cassette-up	1
30	R-148176	Shaft for cassette-up button lever	1
31	R-148278	Shaft for cassette-up act lever	1
32	R-118953	Lever for cassette-up act slide	1
33	R-158122	Coil spring for REW slide return	1
34	R-398090	Pulley counter drive	1
35	R-248257	Spacer for FWD act slide	1
36	R-AM11613	Shaft take-up & supply spindle assembly	1
37	R-248184	Spacer for play activation slide	1
38	R-S6984	Erase head	1
39	R-S6983	Record/Play head	1
40	R-248463	Spacer for erase head	2
41	R-138042	Plate spring for R/P head	1
42	R-248462	Spacer for R/P head	1
43	R-138026	Plate spring for head mtg slide press	1
44	R-158132	Coil spring for return the pause lever	1
45	R-258024	Cap for flywheel bearing	1
46	R-S88400a	Flywheel bearing ass'y.	1
47	R-158193	Coil spring for return cassette-up slide	1
48	R-158118	Rod for cassette holding lever	1
49	R-S7802	Nut for flywheel bearing	1
50	R-448041	Drive belt for counter	1
51	R-AM15903	Flywheel assembly	1
52	R-AM11604	Flywheel bracket assembly	1
53	R-328039	Cap for take-up & supply spindle	2
54	R-AM11608	Pulley, supply & take-up under assembly	2
55	R-S88556a	Pinch roller assembly	1
56	R-158227a	Spring for pinch roller pressure	1
57	R-S88415a	Lever assembly pause	1
58	R-AM11616	Slide, head mtg assembly	1
59	R-158119a	Coil spring for return take-up act pulley lever	1
60	R-118391a	Slide for pause	1
61	R-248183	Spacer for pause slide	2
62	R-AM11614	Take-up idler assembly	1
63	R-S5201	AC motor	1
64	R-AM15905	Motor pulley assembly for 60Hz use	1
64	R-AM15906	Motor pulley assembly for 50Hz use	1
65	R-448157	Drive belt for flywheel	1
66	R-118955	Lever for anti-recording	1
67	R-248183	Spacer for brake lever	1
68	R-158123	Spring for brake lever return	1
69	R-118375	Lever for brake	1
70	R-S5835	Counter	1
71	R-248271	Spacer for counter	2
72	R-119466	Motor band	1
73	R-119593	Motor board	1
	R-C7802	Motor capacitor	1
	R-119491	Bracket, capacitor	1

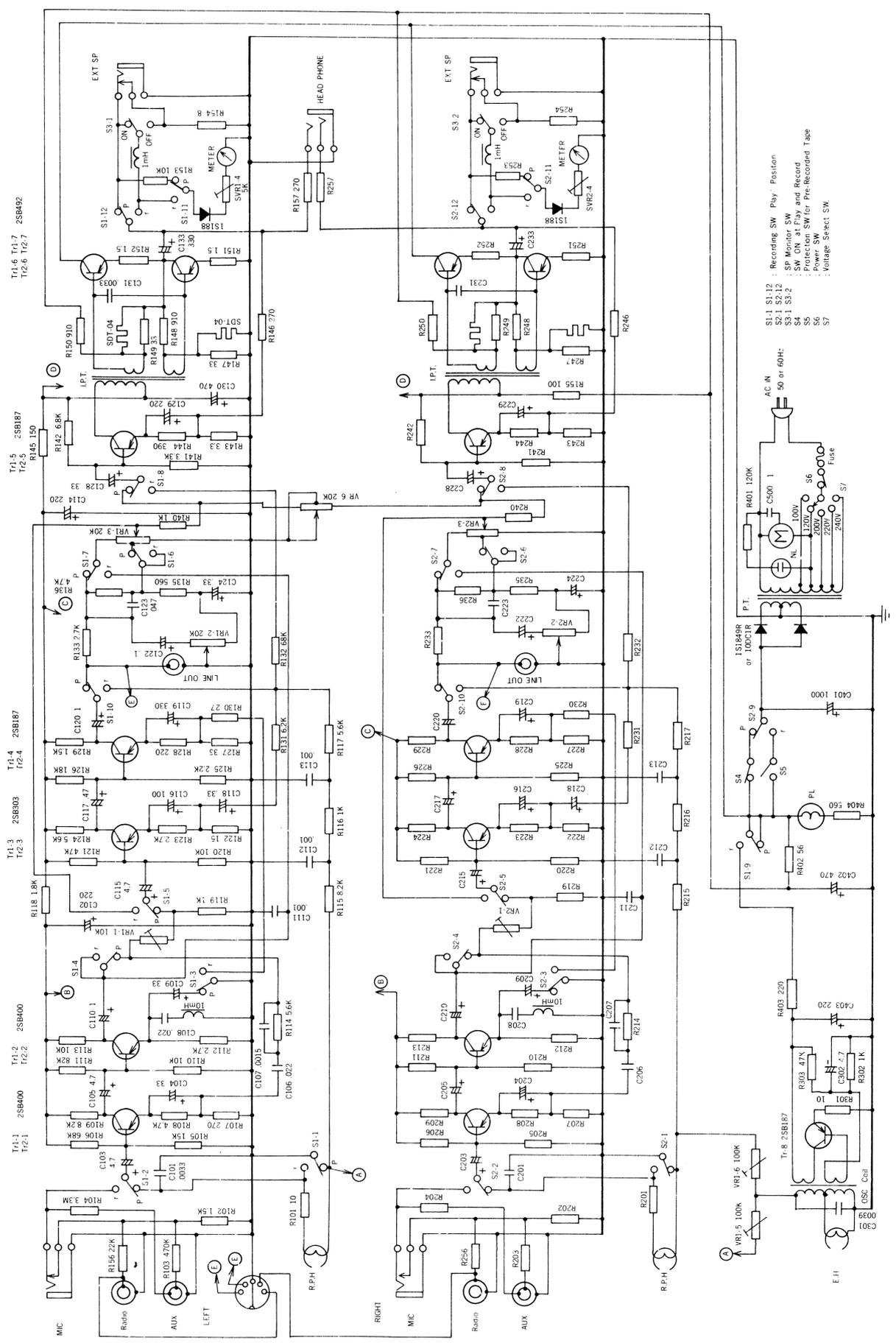
Ref. No.	Part No.	Description	Q'ty
MECHANISM			
Y 1	R-Y012008	Screw pan-head 2 × 8 mm	1
Y 2	R-Y012010	Screw pan-head 2 × 10 mm	4
Y 3	R-Y013006	Screw pan-head 3 × 6 mm	1
Y 4	R-Y013008	Screw pan-head 3 × 8 mm	2
Y 5	R-Y013010	Screw pan-head 3 × 10 mm	2
Y 6	R-Y013030	Screw pan-head 3 × 30 mm	1
Y 7	R-Y014008	Screw pan-head 4 × 8 mm	3
Y 8	R-Y062010	Screw round-head 2 × 10 mm	4
Y 9	R-Y062604	Screw round-head 2.6 × 4 mm	4
Y10	R-Y062606	Screw round-head 2.6 × 6 mm	7
Y11	R-Y062608	Screw round-head 2.6 × 8 mm	2
Y12	R-Y062610	Screw round-head 2.6 × 10 mm	1
Y13	R-Y063008	Screw round-head 3 × 8 mm	1
Y14	R-Y2320001	Nut class 1, 2 mm	1
Y15	R-Y2326001	Nut class 1, 2.6 mm	2
Y16	R-Y2330001	Nut class 1, 3 mm	3
Y17	R-Y2340001	Nut class 1, 4 mm	7
Y18	R-Y322000	Heavy plain washer 2 mm	3
Y19	R-Y322600	Heavy plain washer 2.6 mm	3
Y20	R-Y323000	Heavy plain washer 3 mm	4
Y21	R-Y32821408	Washer 8.2 × 14 × 0.8 mm	1
Y22	R-Y332000	Spring washer 2 mm	4
Y23	R-Y332600	Spring washer 2.6 mm	16
Y24	R-Y333000	Spring washer 3 mm	7
Y25	R-Y334000	Spring washer 4 mm	10
Y26	R-Y338000	Spring washer 8 mm	1
Y27	R-Y342000	Tooth look washer 2 mm	1
Y28	R-Y351500	External E ring 1.5 mm	2
Y29	R-Y352000	External E ring 2 mm	5
Y30	R-Y353000	External E ring 3 mm	5
Y31	R-Y354000	External E ring 4 mm	1
Y32	R-Y355000	External E ring 5 mm	2
Y33	R-Y541600B	Plastic washer 1.7 × 3.2 × 0.5 mm	4
Y34	R-Y542000B	Plastic washer 2.1 × 4 × 0.5 mm	4
Y35	R-Y542110B	Plastic washer 2.1 × 10 × 0.5 mm	1
Y36	R-Y543000B	Plastic washer 3.1 × 5.4 × 0.5 mm	2
Y37	R-Y543110B	Plastic washer 3.1 × 10 × 0.5 mm	1
Y38	R-Y543500A	Plastic washer 3.6 × 6 × 0.25 mm	1
Y39	R-Y544000B	Plastic washer 4.1 × 6.5 × 0.5 mm	5
Y40	R-Y545000A	Plastic washer 5.2 × 8 × 0.25 mm	2
Y41	R-Y546000B	Plastic washer 6.2 × 9.5 × 0.5 mm	1
Y42	R-Y553200	Steel ball 3.175 mm	2
Y43	R-Y552400	Steel ball 2.3812 mm	1
Y44	R-Y562000	Speed washer 2 mm	1
Y45	R-H11602	Felt washer 2.2 × 8 × 2 mm	1
Y47		Screw pan-head 4 × 20 mm	1

EXPLODED VIEW





CIRCUIT DIAGRAM (MR-404A)



- S1.1, S1.12 : Recording SW Play Position
- S1.1, S2.11 : SP Monitor SW
- S3.1, S3.2 : SW ON at Play and Record
- S4 : Protection SW for Pre-Recorded Tape
- S5 : Power SW
- S6 : Voltage Select SW
- S7

T1.6 T1.7 2SB492
T2.6 T2.7

T1.5 2SB187
T1.5

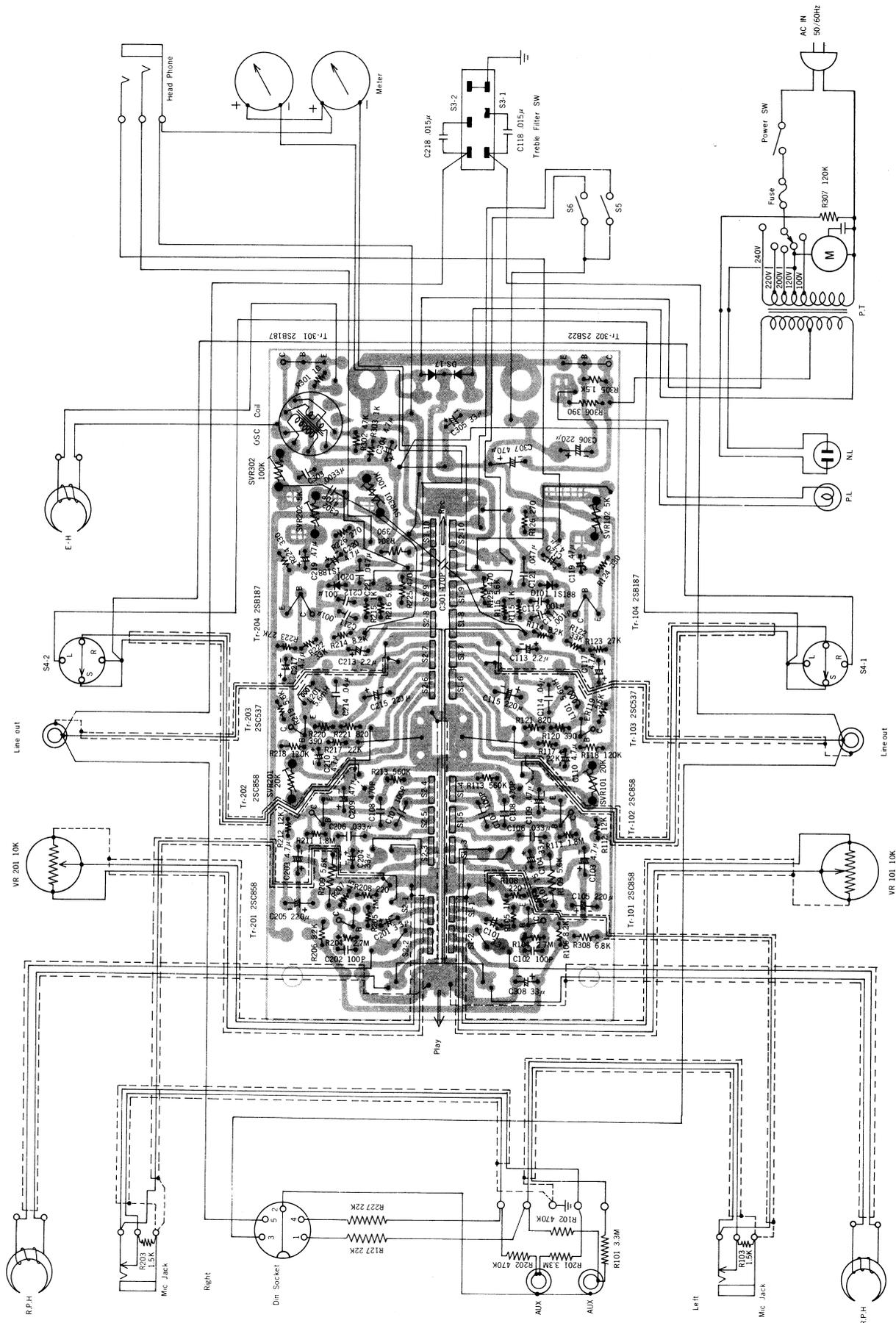
T1.4 2SB187
T2.4

T1.3 2SB303
T2.3

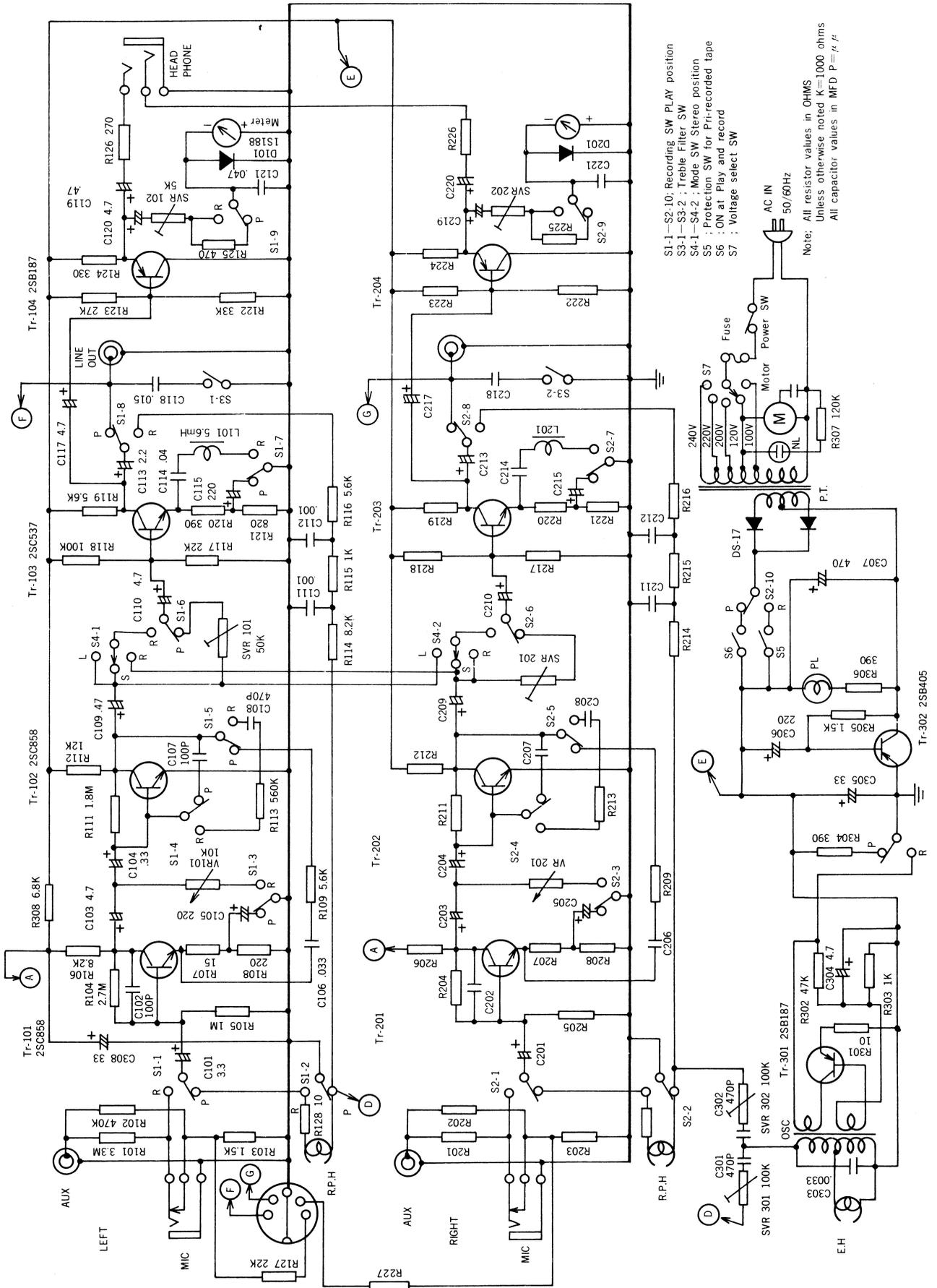
T1.2 2SB400
T2.2

T1.1 2SB400
T2.1

WIRING DIAGRAM (MR-406A)



CIRCUIT DIAGRAM (MR-406A)



S1-1—S2-10: Recording SW PLAY position
 S3-1—S3-2: Treble Filter SW
 S4-1—S4-2: Mode SW Stereo position
 S5: Protection SW for Pri-recorded tape
 S6: ON at Play and record
 S7: Voltage select SW

Note: All resistor values in OHMS
 Unless otherwise noted K=1000 ohms
 All capacitor values in MFD P= μ F