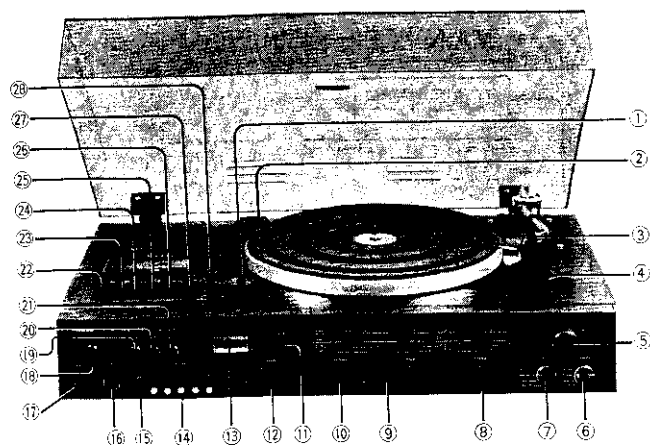


SERVICE MANUAL

No. 790



- | | |
|---------------------------------|--------------------------------------|
| ① RECORD SPEED SELECTOR | ⑮ MANUAL FM STATION SELECTOR SWITCH |
| ② EP ADAPTOR | ⑯ MICROPHONE JACK (Right and Left) |
| ③ RECORD CUEING LEVER | ⑰ HEADPHONE JACK |
| ④ RECORD INTERRUPT LEVER | ⑱ POWER SWITCH |
| ⑤ TUNING CONTROL | ⑲ MONO SWITCH |
| ⑥ BAND SELECTOR | ⑳ CASSETTE TAPE NOISE LIMITER SWITCH |
| ⑦ FUNCTION SELECTOR | ㉑ CASSETTE TAPE SELECTOR SWITCH |
| ⑧ TREBLE CONTROL | (CrO ₂ -Normal) |
| ⑨ BASS CONTROL | ㉒ CASSETTE REWIND BUTTON |
| ⑩ BALANCE CONTROL | ㉓ CASSETTE RECORD BUTTON |
| ⑪ FM STEREO INDICATOR | ㉔ CASSETTE PLAYBACK BUTTON |
| ⑫ VOLUME CONTROL | ㉕ CASSETTE FAST FORWARD BUTTON |
| ⑬ FM FREQUENCY METER | ㉖ CASSETTE STOP BUTTON |
| ⑭ FM STATION SELECTORS (1 to 5) | ㉗ CASSETTE EJECT BUTTON |
| | ㉘ CASSETTE PAUSE BUTTON |

SPECIFICATIONS

General Section

Semiconductors..... 6 IC, 9 Transistor, 1 FET, 24 Diode,
3 Varistor
Power Supply 220V, 50 Hz
Power Consumption 140 Watts
Dimensions 19.1(H)×59.5(W)×37(D)cm

Amplifier Section

Power Output 15 Watts × 2 (4Ω SINUS)
Frequency Response 50 ~ 25,000 Hz (−3 dB, at Volum max)
Signal to Noise Ratio More than 60 dB
Tone Control { Bass ±10 dB (100 Hz)
Treble ±10 dB (10,000 Hz)
Input Sensitivity { MIC −65 dB/470 Ω
and Impedance { TAPE IN 550 mV/250 kΩ
Output Level { EXT. SP. 4 Ω
and { HEADPHONE 8 Ω
Impedance { TAPE OUT 150 mV/less than 300 kΩ

Tuner Section

Circuit System 4 Band Superheterodyn
Tuning Range { FM 88 ~ 108 MHz
SW 5.9 ~ 10 MHz
MW 530 ~ 1,605 kHz
LW 150 ~ 350 kHz
Usable Sensitivity { FM 5 μV (IHF S/N 30 dB)
SW 100 mV/m (IHF S/N 20 dB)
MW 250 μV/m (IHF S/N 20 dB)
LW 600 μV/m (IHF S/N 20 dB)
Intermediate Frequency { FM 10.7 MHz
AM 468 kHz
FM Stereo Separation 38 dB
FM Signal to Noise Ratio 50 dB
FM Capture Ratio 4 dB

Selectivity { FM 30 dB (400 kHz)
AM 25 dB (10 kHz)
Antenna { FM/SW External Antenna
MW/LW Ferrite Core Antenna
FM Frequency Response 50 ~ 25,000 Hz (−3 dB)

Player Section

System 2 Speed belt drive.
Turntable 30 cm, Aluminum
Speed 33-1/3, 45 RPM
Motor 4-Pole Synchronous Motor
Cartridge IM
Stylus Diamond, ST-17D
Pressure of Stylus 2 g
Wow and flutter 0.1% or less
Signal to Noise Ratio 45 dB

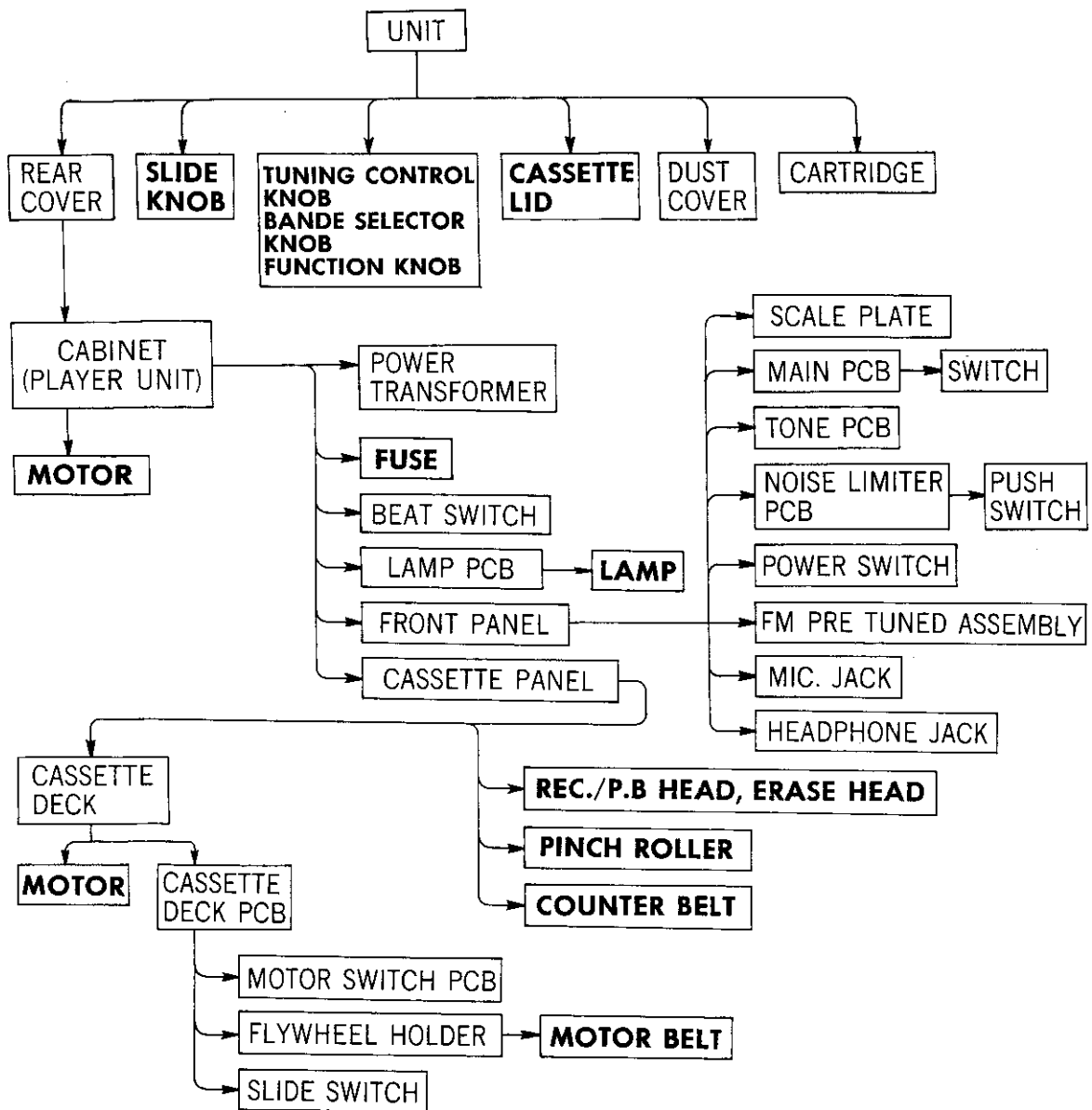
Tape Deck Section

Tape Cassette Tape
Tape Speed 1-7/8 ips (4.75 cm/s)
Recording System AC Bias, 57 ± 5 kHz
and Bias Frequency
Erase System AC Erase
Track System 4 Track 2 Channel 2 Programme
Frequency { Normal: 50 ~ 10,000 Hz (±6 dB)
CrO₂ : 50 ~ 13,000 Hz (±6 dB)
Signal to Noise Ratio 48 dB or more
Motor DC Motor (Mechanical Governor Control)
Wow and Flutter 0.28 % WRMS.
Playing or Recording time 60 min for Double Pass (C-60)
Channel Separation 30 dB
Erase Ratio 60 dB or more
Cross Talk 50 dB

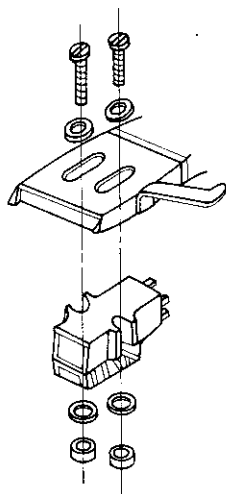
STEREO MUSIC CENTRE

Sept. 1975

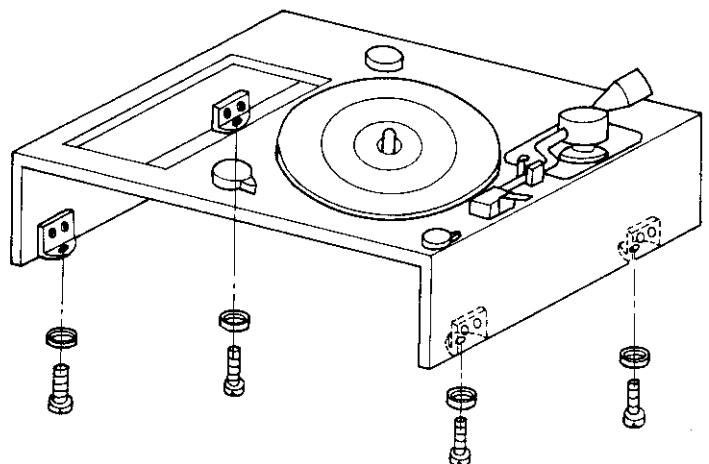
REMOVING PROCESS AND DISASSEMBLY

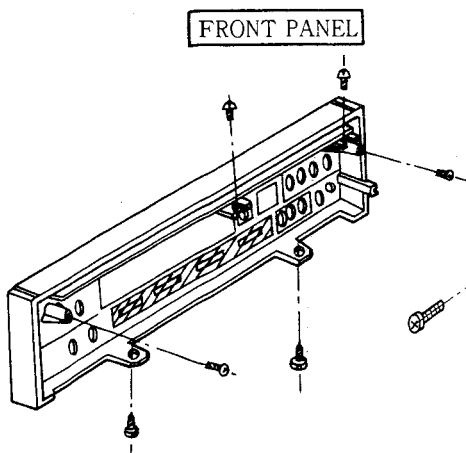


CARTRIDGE

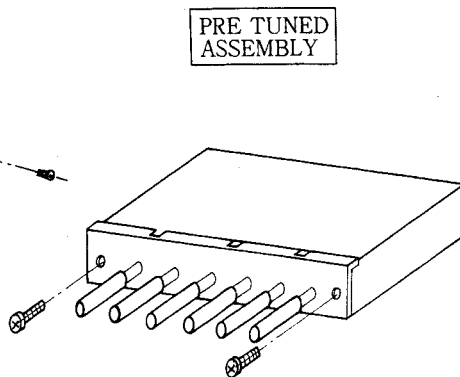


CABINET AND PLAYER UNIT

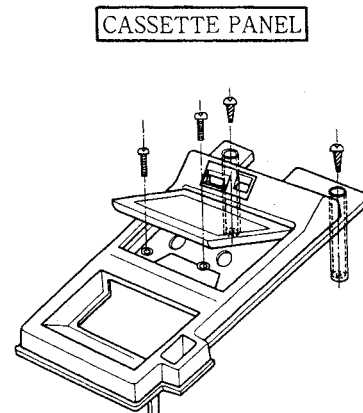




FRONT PANEL

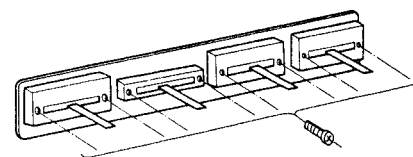
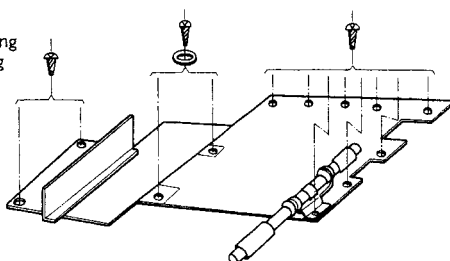
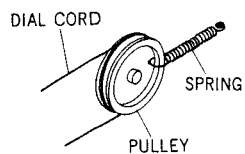


PRE TUNED ASSEMBLY



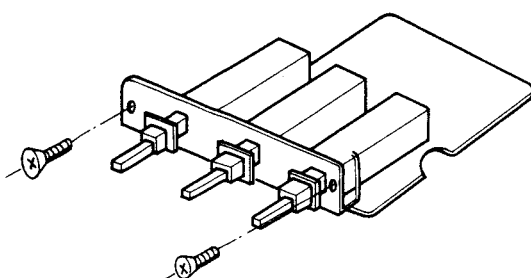
CASSETTE PANEL

When removing main P.C.B. hook a spring to pulley for simplification of re-stringing

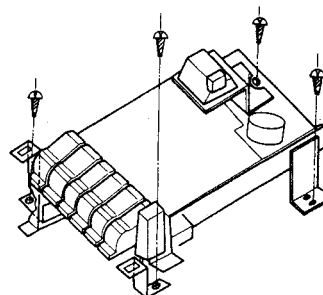


MAIN P.C.B

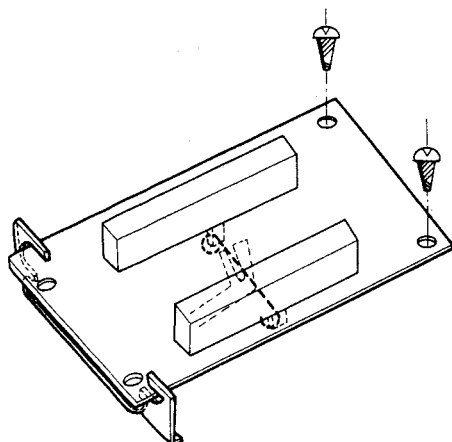
TONE P.C.B



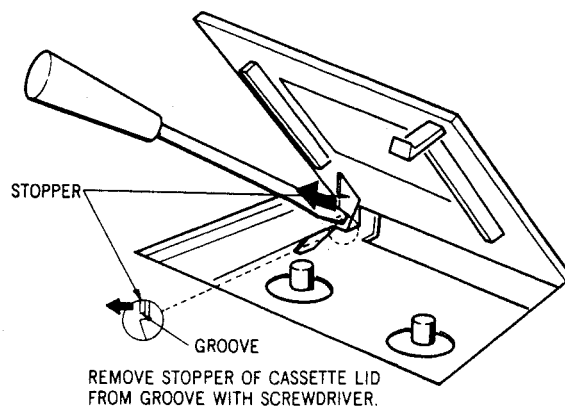
NOISE LIMITER P.C.B



CASSETTE DECK ASSEMBLY



CASSETTE DECK P.C.B



CASSETTE LID

LUBRICATION

Lubricate one or two drops of machine oil to rotating point or lubricate grease to sliding point.

Lubricate the respective parts listed below once every 1000 hours or once a year under normal conditions of use.

Avoid oiling then excessively, or rotation may become irregular because of oil splashes.

	Lubrication point	Oil or grease
Cassette deck	Motor shaft bearing	Oil
	Capstan shaft bearing	Oil
	Pinch roller shaft bearing	Oil
Auto player	Turn table shaft bearing	Oil
	Gear shaft bearing	Oil
	Cam gear sliding groove	grease

DIAL CORD STRINGING

STEP 1. Turn pulley of variable capacitor full counter clockwise.

STEP 2. String dial cord.

STEP 3. Set pointer to minimum frequency.

STEP 4. Adhere pointer and dial cord.

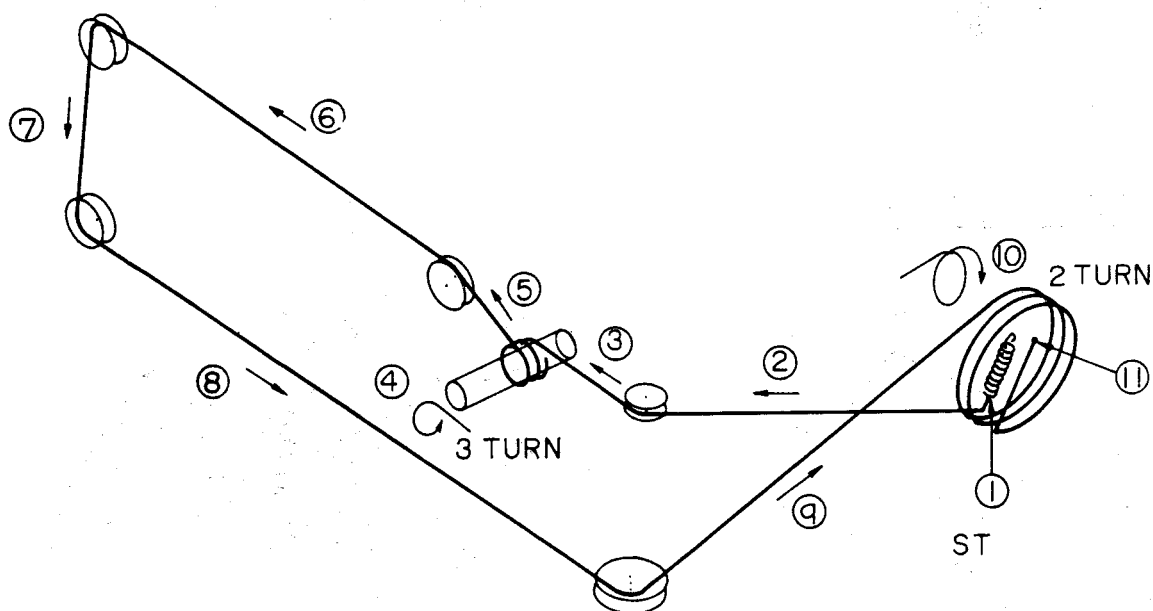


Fig. 1

TAPE DECK MECHANICAL ADJUSTMENT

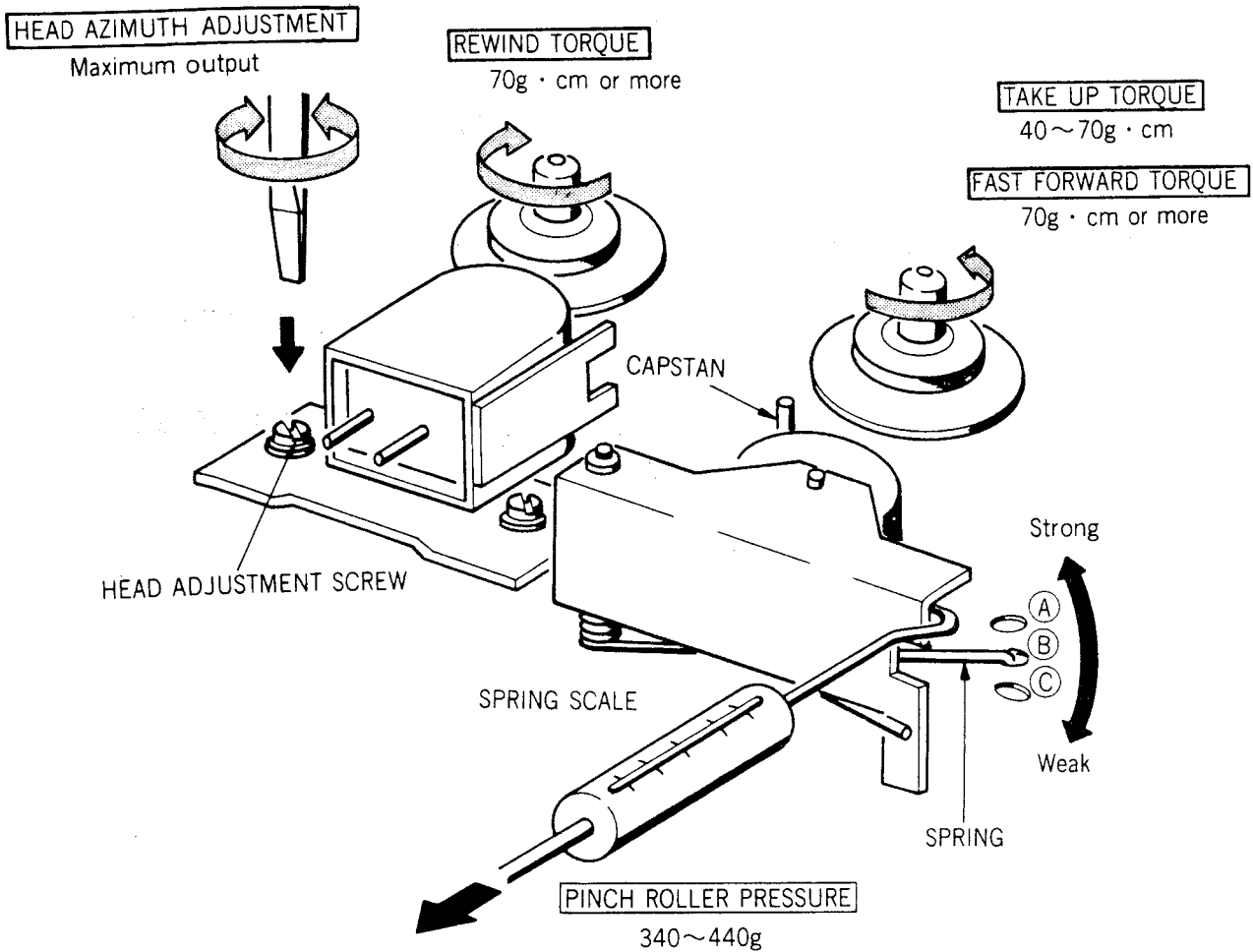


Fig. 2

HEAD AZIMUTH

- (1) Load instrument with standard tape for azimuth adjustment.
- (2) Observe the output with VTVM connected to P3A (right-channel), P3B (left-channel) as shown in Fig. 18.
- (3) Adjust head adjustment screw (See Fig. 17) for maximum output.

TURN TABLE TORQUE

1. Take up torque 40 ~ 70g · cm (In PLAY mode)
2. Fast forward torque 70g · cm or more (In F.F. mode)
3. Rewind torque 70g · cm or more (In REW. mode)

PINCH ROLLER PRESSURE

Adjust by changing the hooking position of the spring so that spring scale reads 340 ~ 440g when the pinch roller departs from the capstan.

NOTE

- To increase the pressure : hook the spring in hole (A)
 To reduce the pressure : hook the spring in hole (C)

TAPE DECK AMP. ADJUSTMENT

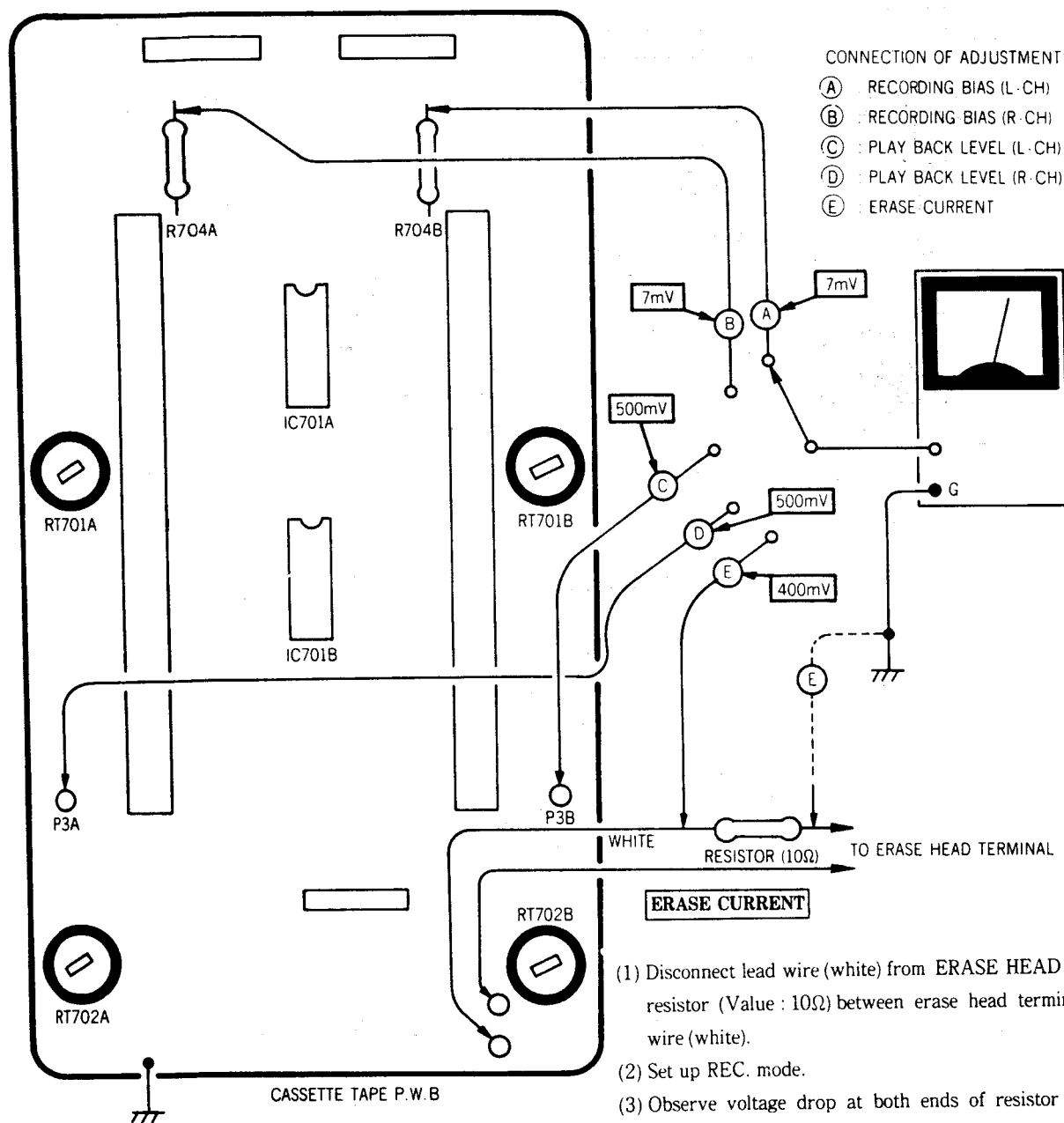


Fig. 3

RECORDING BIAS ADJUSTMENT

- (1) Set up RECORDING mode.
- (2) Observe voltage drop at both ends of resistor R704A (right-channel), R704B (left-channel) with a VTVM connected to the resistor R704A, R704B as shown in Fig. 3.
- (3) Adjust RT702A (right-channel), RT702B (left-channel) for 7mV.

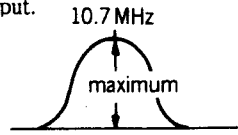
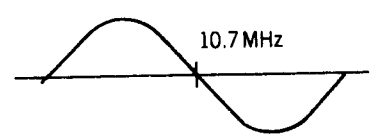
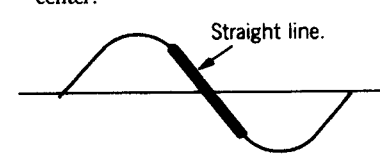
PLAY BACK LEVEL ADJUSTMENT

- (1) Load instrument with standard tape for playback adjustment.
- (2) Observe output of right and left channel with a VTVM connected to P3A (right-channel) P3B (left-channel) as shown in Fig. 3.
- (3) Adjust RT701A (right channel), RT701B (left channel) for 500mV

TUNER CIRCUIT ADJUSTMENT

Before adjustment.

- 1. Set knobs (BASS, TLEBLE, VOLUME) fully clockwise.
- 2. Set knob (BALANCE) to center.
- 3. Set function buttons (FM, MW, LW, SW, TAPE, PHONO) to adjustment position and function button (MONO/STEREO) to *STEREO*
- 4. Disconnect speaker cord from speaker jack.

Step	Adjustment circuit	Connection	Signal or swe- ep generator	Pointer position	Adjustment part (See Fig. 5)	How to adjust.
FM CIRCUIT						
①	FM-IF	Fig. 6	10.7MHz	High freq. end	T203, T102, T202	① Turn core (T203) full counterclockwise. ② Adjust core (T102,T202) for maximum output.  ③ Adjust core (T203) for symmetrical sinewave.  ④ Adjust core (T202) to be straight on center. 
②	FM-RF	Covering	87.0MHz	Low freq. end	RT101	① Adjust core for maximum output.
		Tracking	109MHz	High freq. end	L1022	
			90MHz	90MHz	T101, T103	
			106MHz	106MHz	CT101, CT102	
AM CIRCUIT						
①	AM-IF	Fig. 8	465kHz	High freq. end	T151, T201	For T162 and T163 Adjust moving coil on ferrite-core for maximum output.
②	LW-RF	Covering	145kHz	Low freq. end	T166	
		Tracking	360kHz	High freq. end	CT166	
			160kHz	160kHz	T163	
			330kHz	330kHz	CT163	
③	MW-RF	Covering	505kHz	Low freq. end	T165	
		Tracking	1650kHz	High freq. end	CT165	
			600kHz	600kHz	T162	
			1400kHz	1400kHz	CT162	
④	SW-RF	Covering	5.7MHz	Low freq. end	164	
		Tracking	10.5MHz	High freq. end	CT164	
			6.5MHz	6.5MHz	T161	
			10 MHz	10MHz	CT161	

FM MULTIPLEX ADJUSTMENT

- (1) Connect ground line to P612 as shown in Fig. 4.
- (2) Connect frequency counter to IC301- # 10pin as shown in Fig. 4.
- (3) Adjust RT301 for 19 kHz.

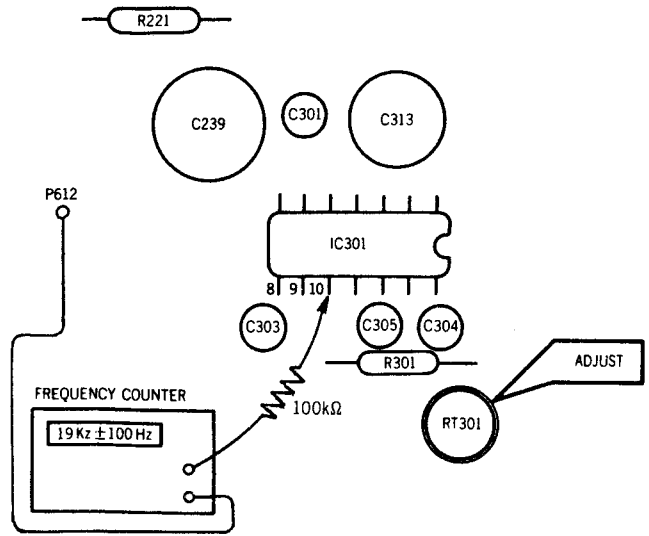


Fig. 4

INTERNAL VIEW

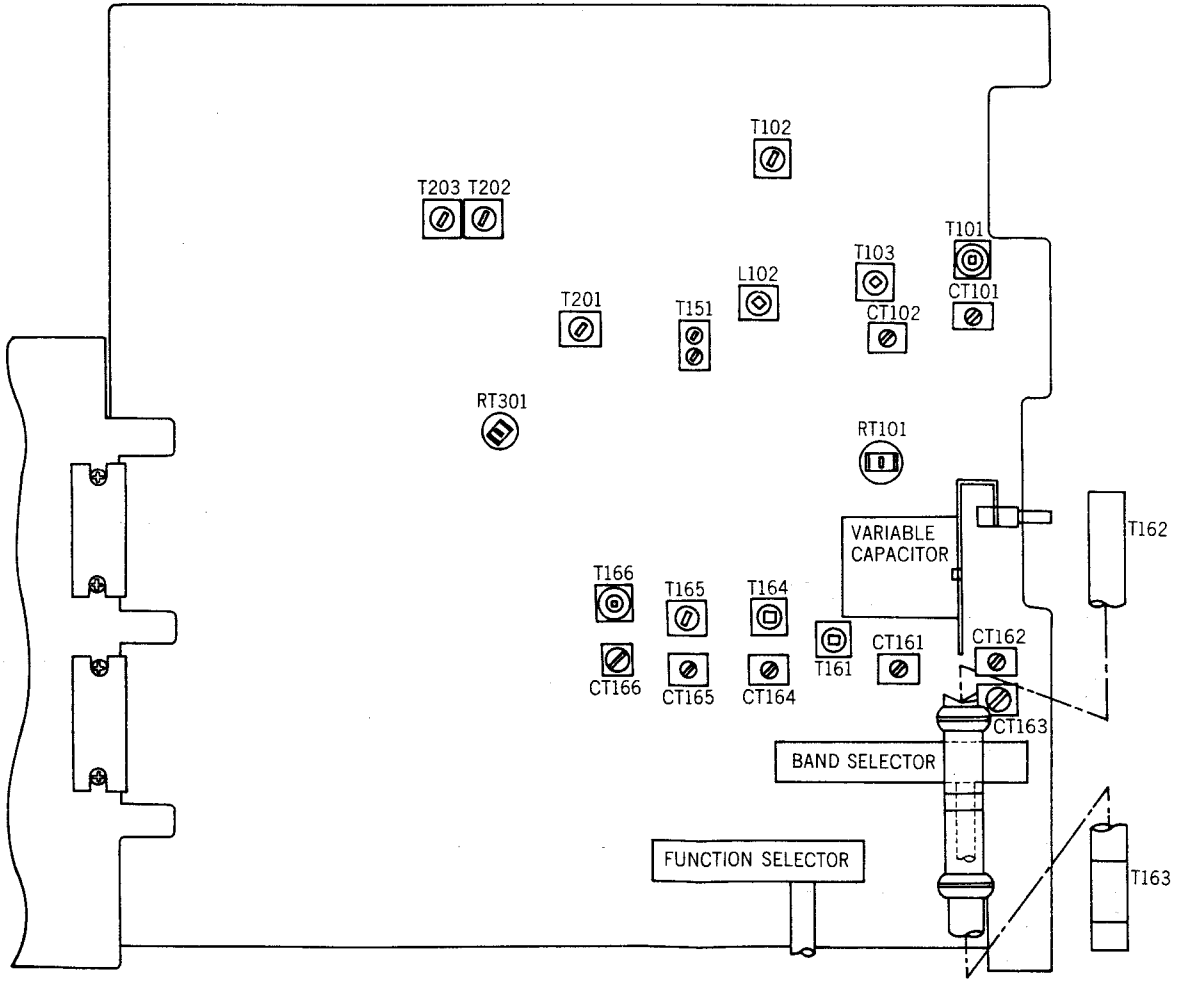


Fig. 5

FM MULTIPLEX ADJUSTMENT

- (1) Connect ground line to P612 as shown in Fig. 4.
- (2) Connect frequency counter to IC301- #10pin as shown in Fig. 4.
- (3) Adjust RT301 for 19 kHz.

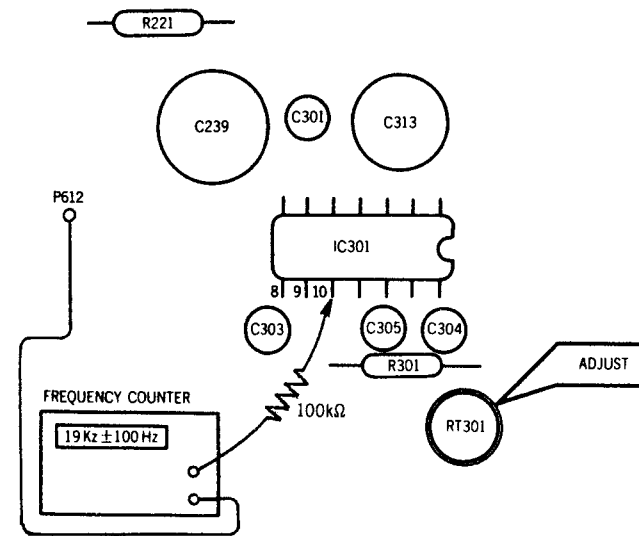


Fig. 4

INTERNAL VIEW

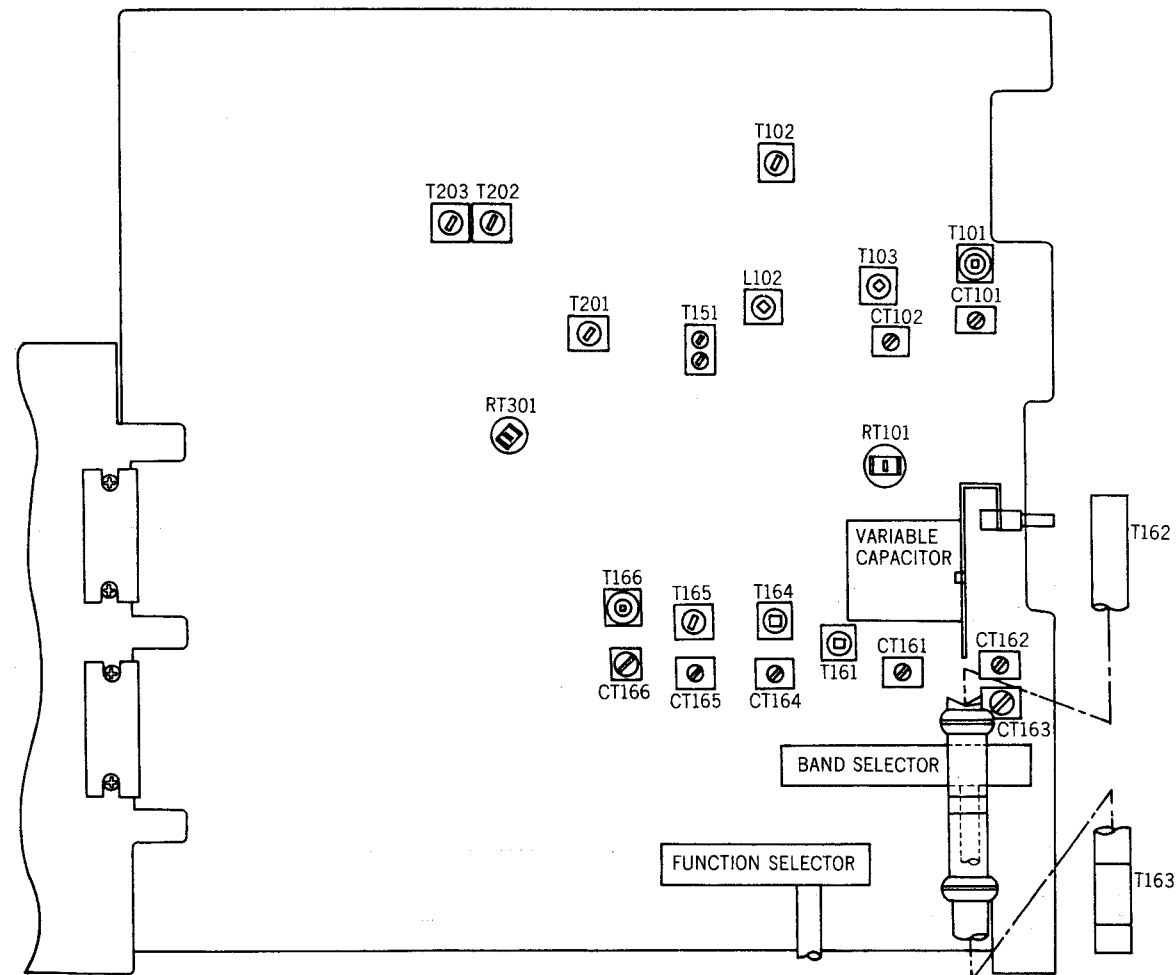


Fig. 5

CONNECTION

Fig. 6 FM-IF ADJUSTMENT

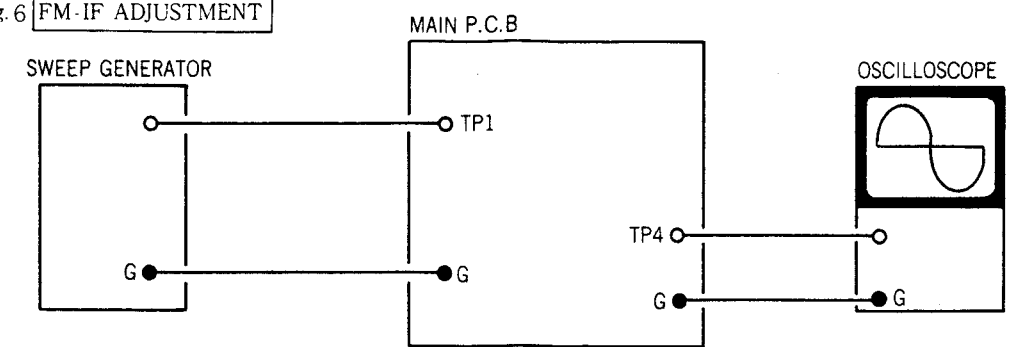


Fig. 7 FM-RF ADJUSTMENT

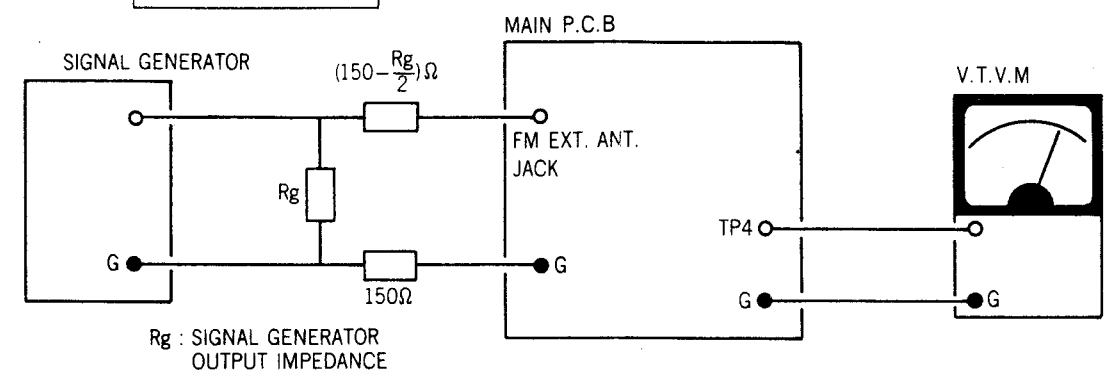


Fig. 8 AM-IF, AM-RF ADJUSTMENT

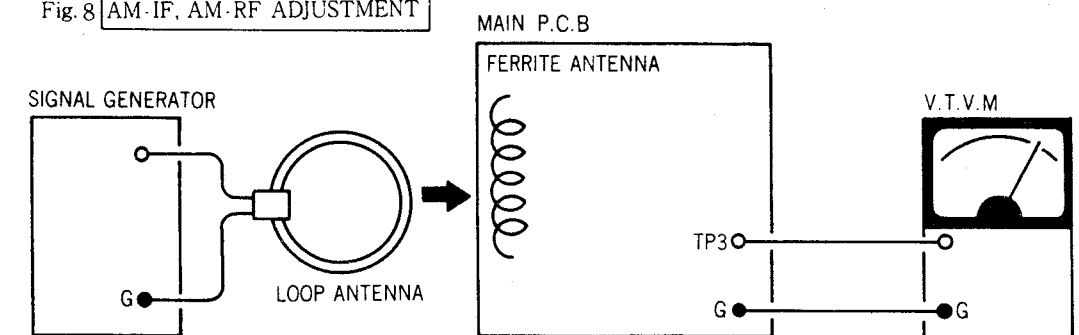
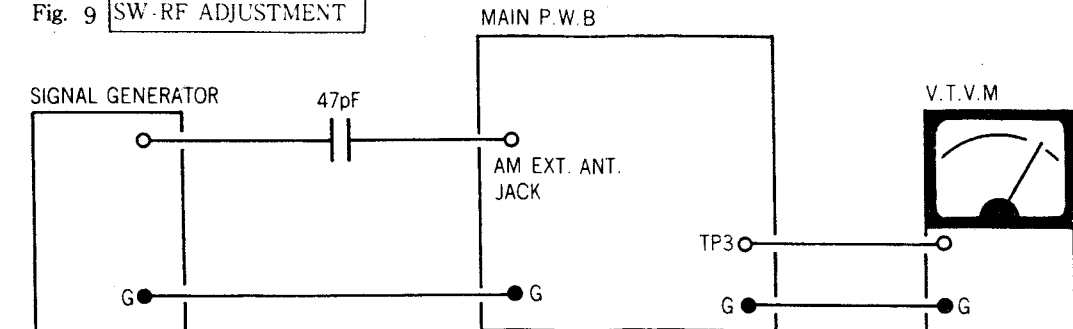
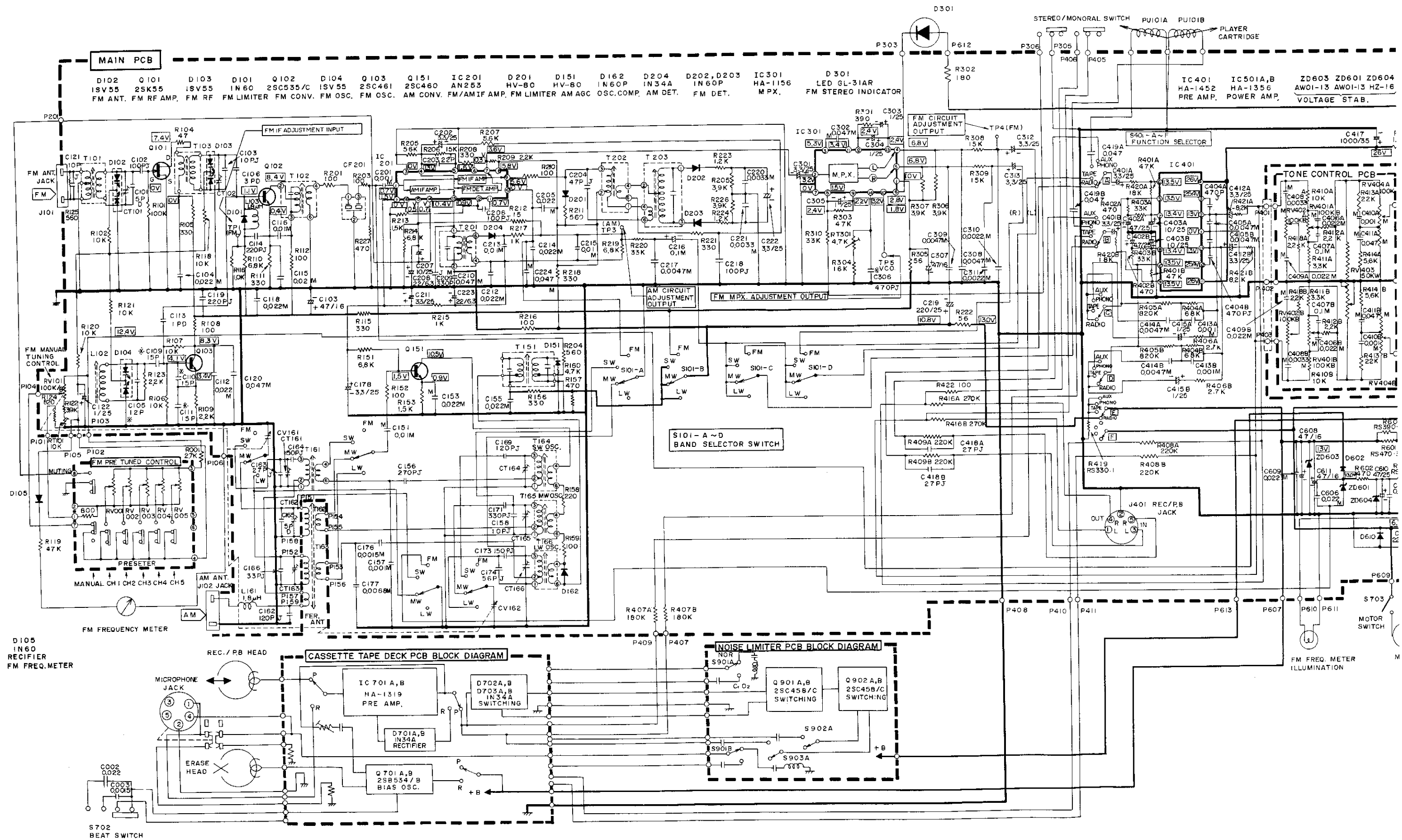
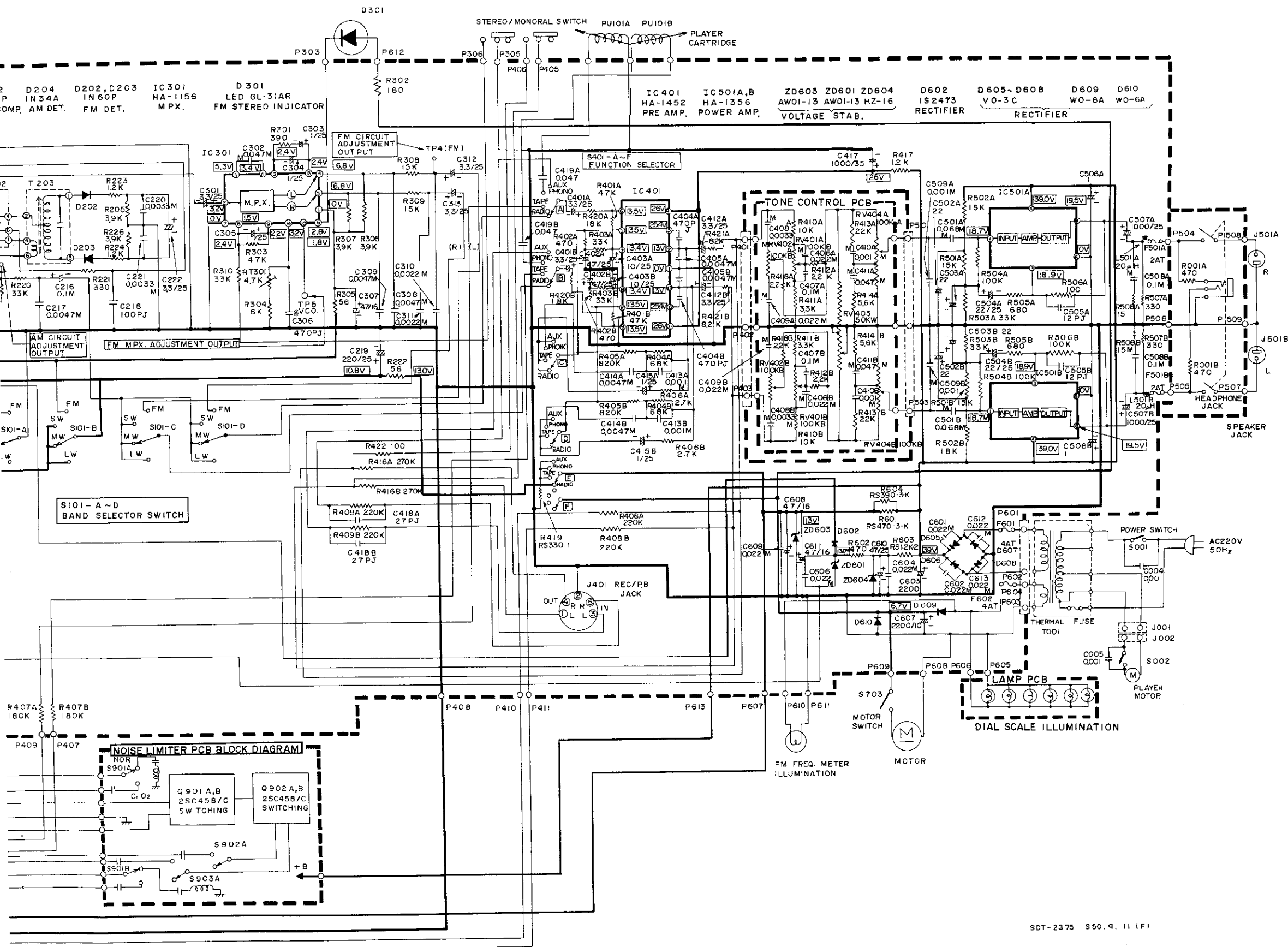


Fig. 9 SW-RF ADJUSTMENT



SCHEMATIC DIAGRAM OF MAIN CIRCUIT





NOTE

1. Voltage measured at base of chassis with minimum volume control and no signal.
2. Nomenclature of Resistors and Capacitors.

RESISTORS

Value	No indicated : Ω K : 1000 Ω
Wattage	No indicated : $\frac{1}{4}$ W.
Tolerance	No indicated : $\pm 5\%$ K : $\pm 10\%$
Sort	No indicated : Carbon film RC : Composition RS : Metal oxide
Example	R101.....Circuit No. 150.....Value RS · I · K.....Sort · Wattage · Tolerance

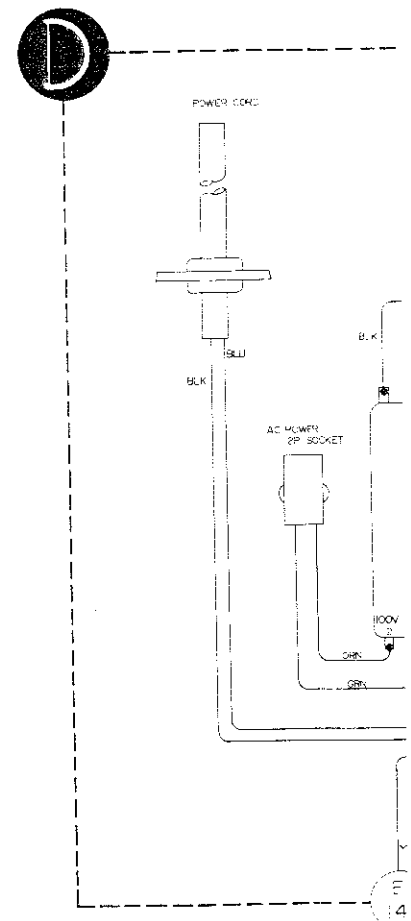
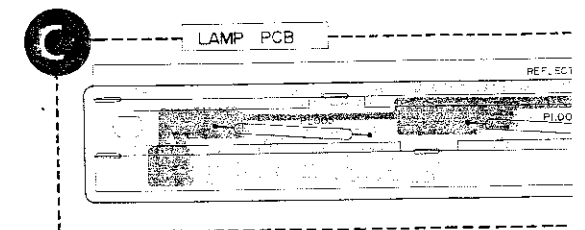
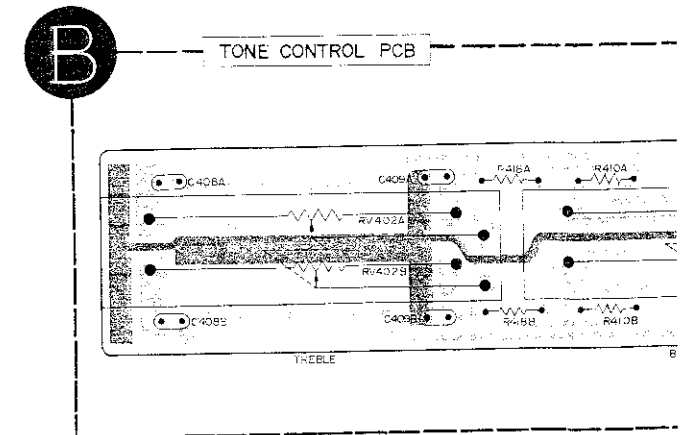
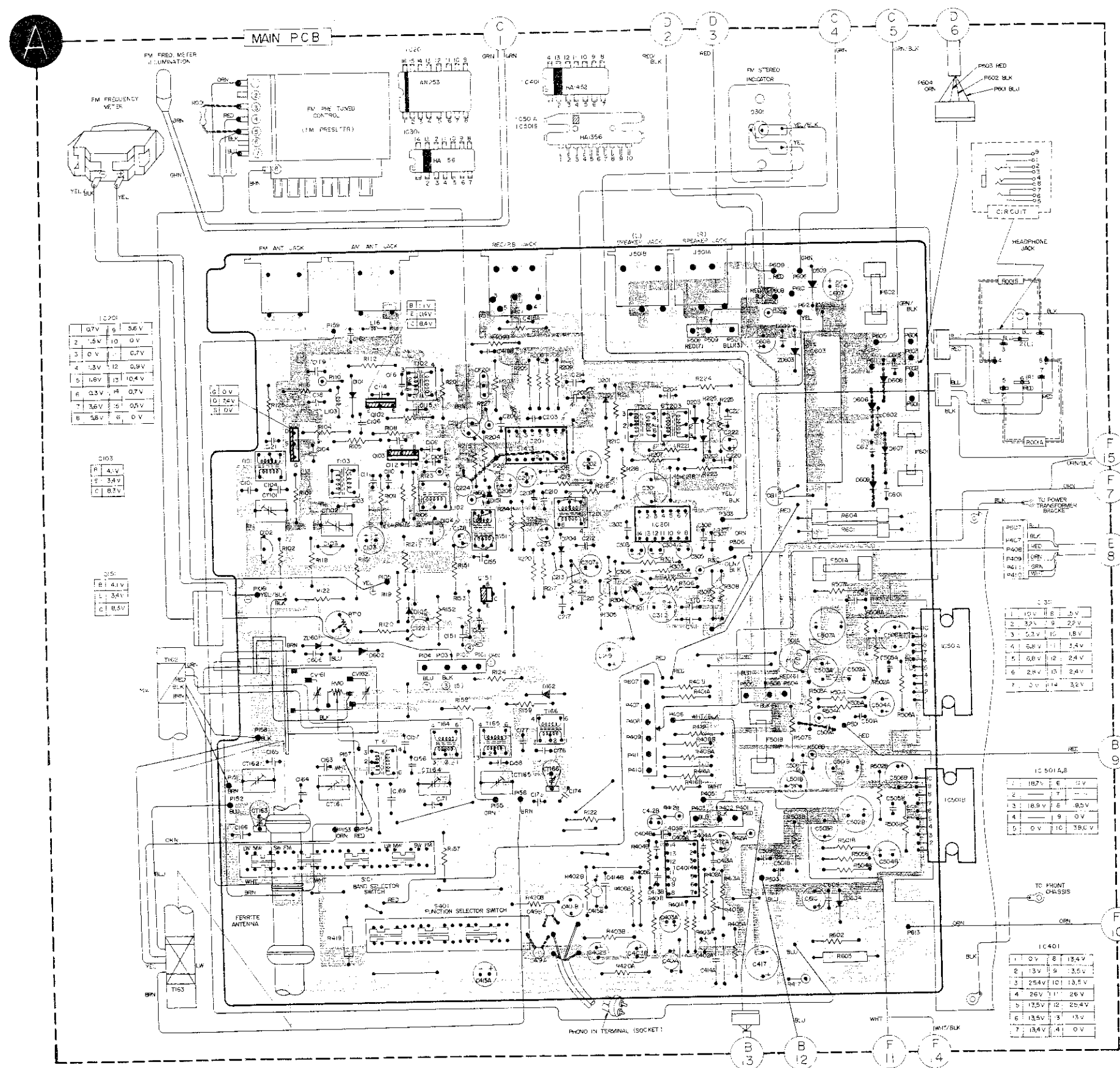
CAPACITORS

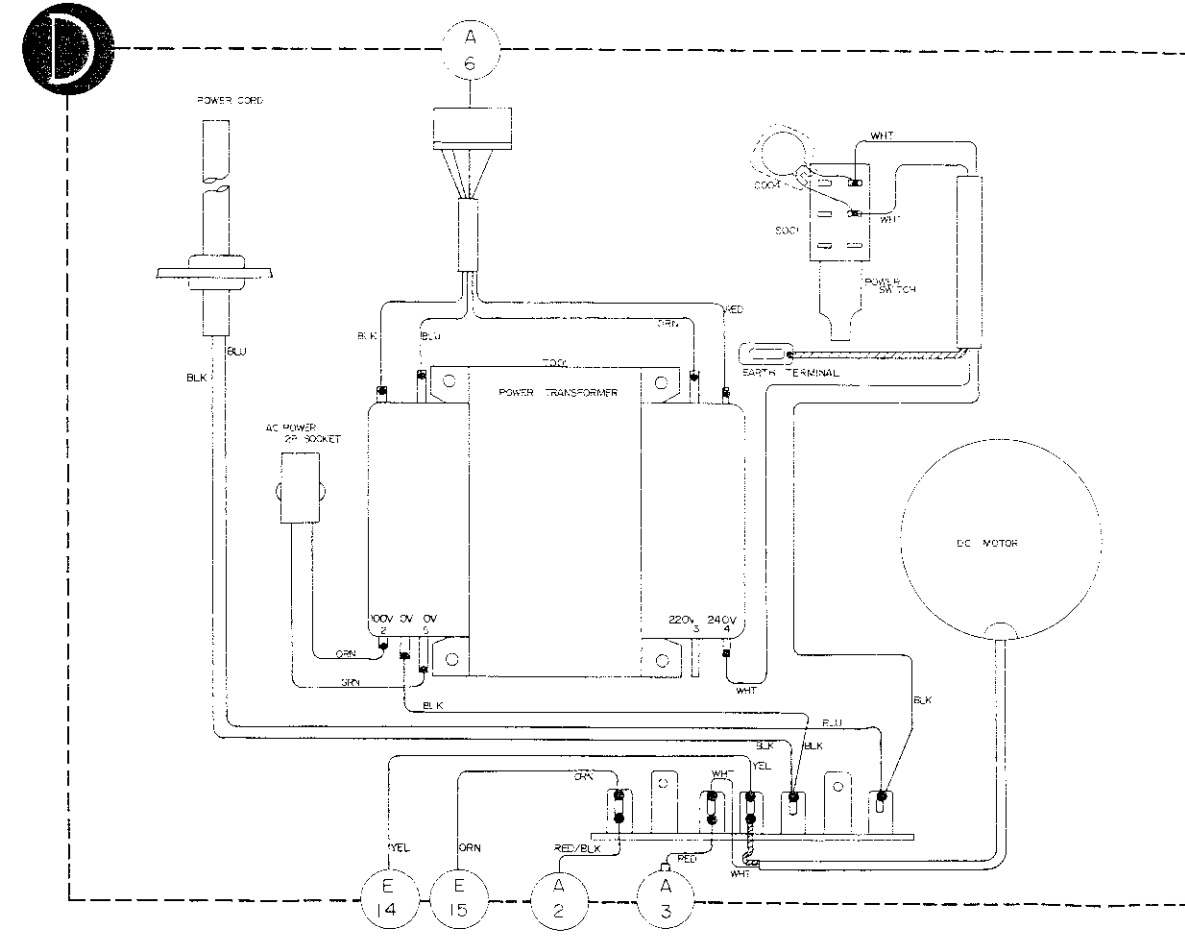
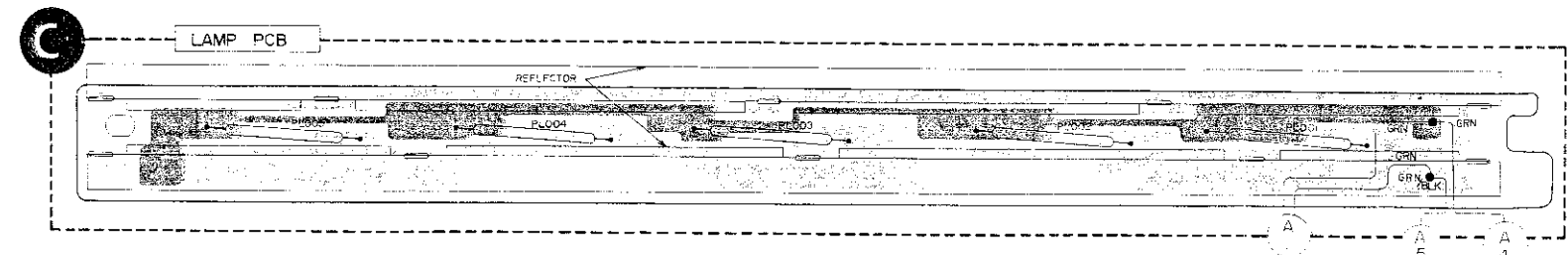
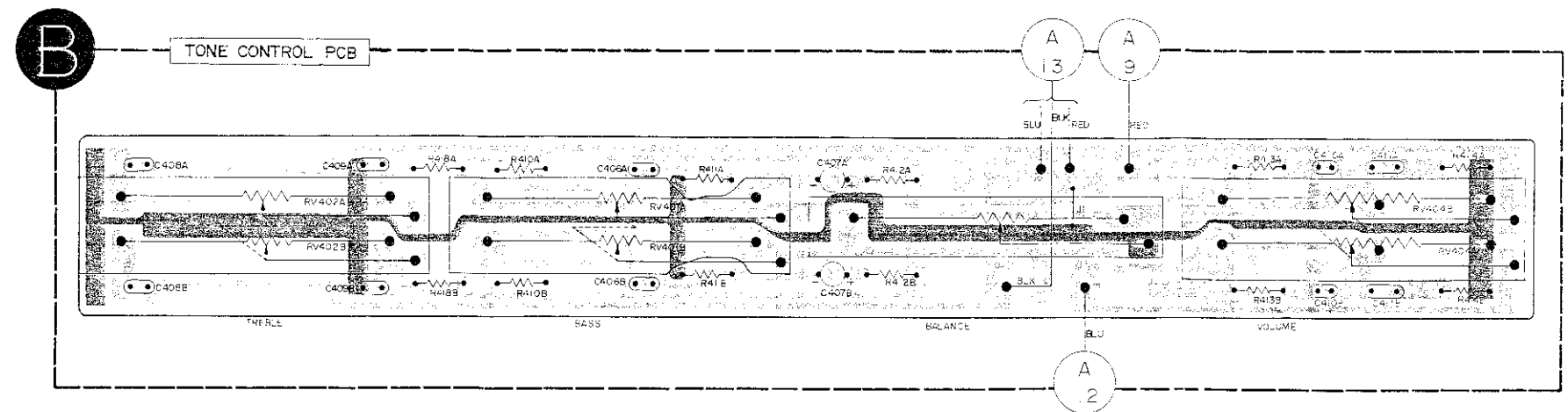
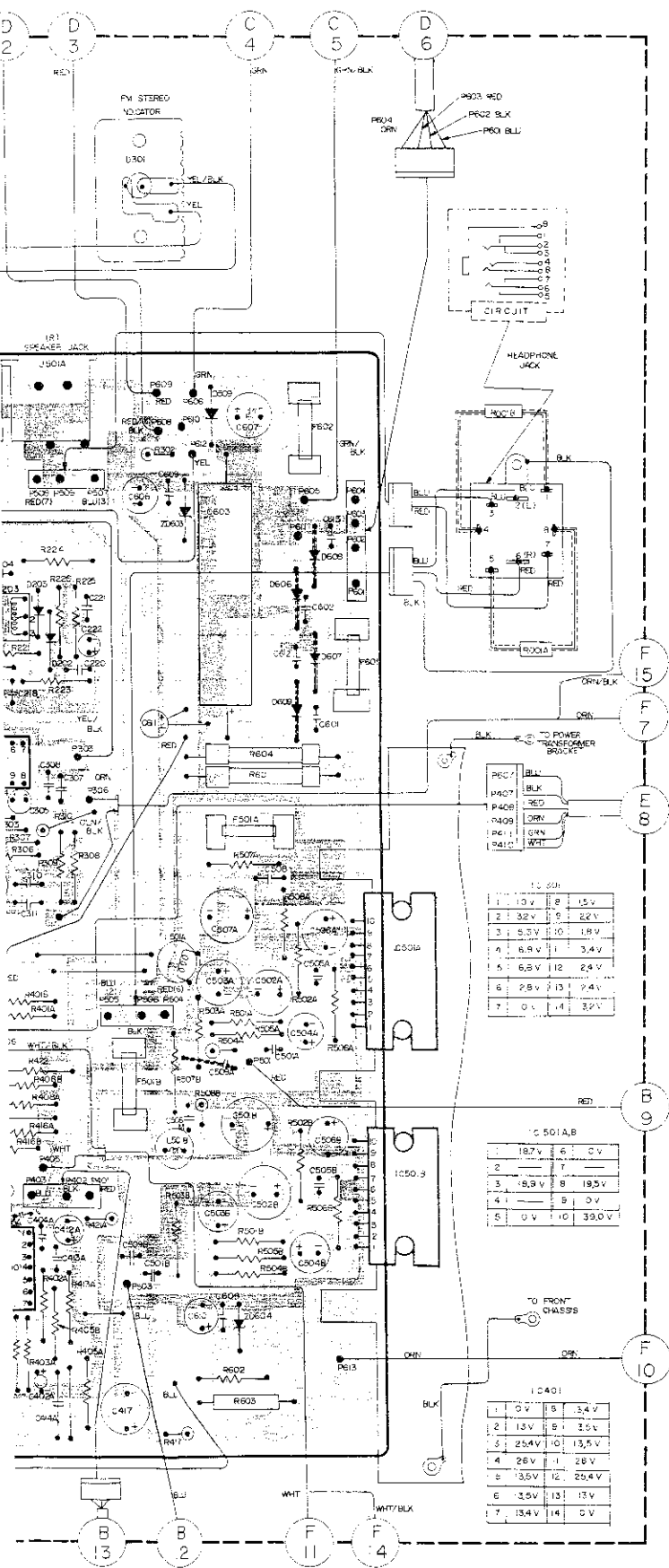
Value	No indicated : μ F P : pF
Voltage	No indicated : 50WV
Tolerance	No indicated : $\pm 10\%$ J : $\pm 5\%$ M : $\pm 20\%$ Z : $\pm 80, -20\%$ D : ± 0.5 pF C : ± 0.25 pF
Sort	+ - Ceramic + - Electrolytic M Mylar S Styrol
Example	C101.....Circuit No. 10/25.....Value/voltageSort

3. Be sure to make your orders of resistors and capacitors with value, Voltage, tolerance and sort.
4. When replacing capacitors marked with *, Use specified ones stated on parts list since required temperature characteristics.

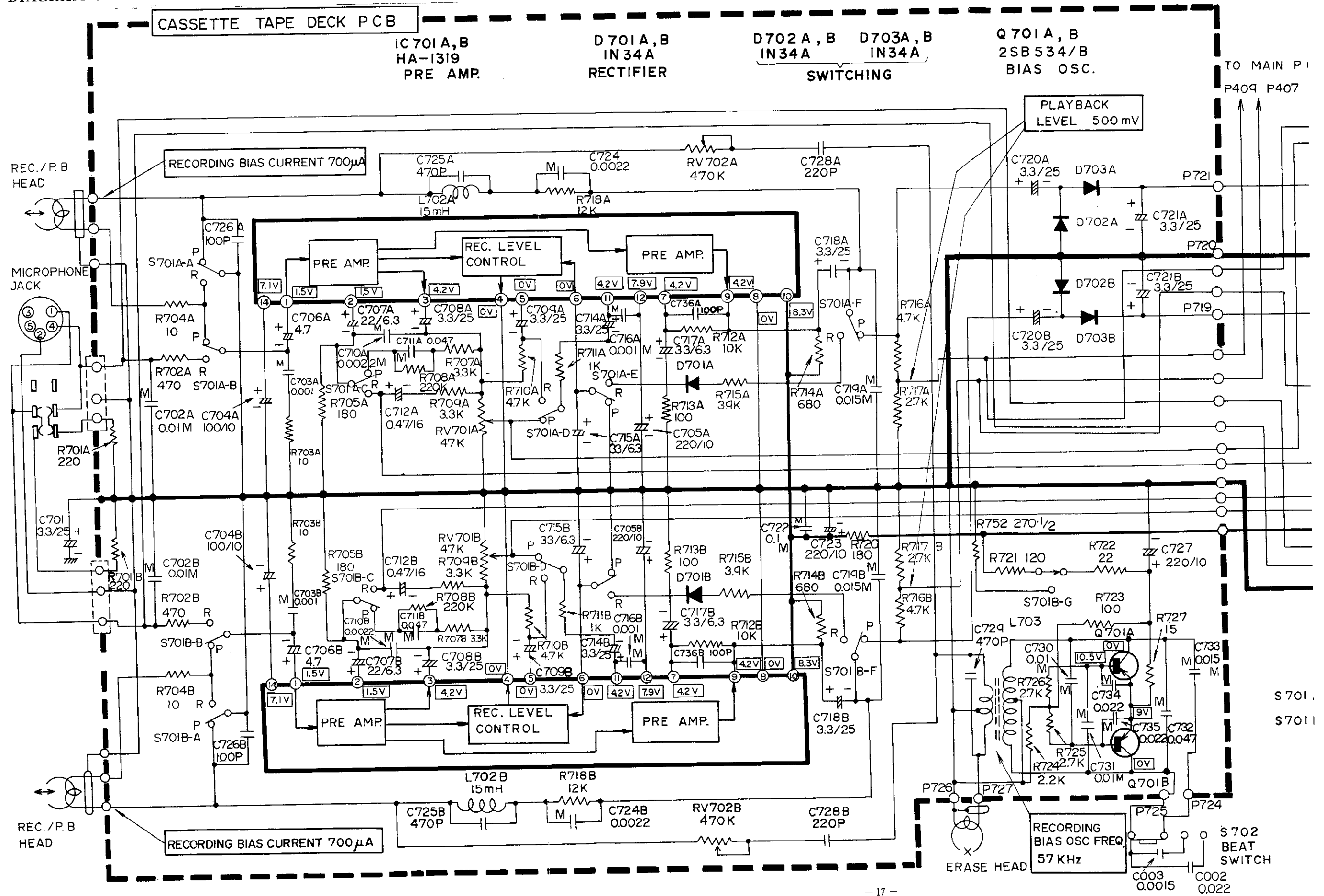
SOT-2375 S50.9.11 (F)

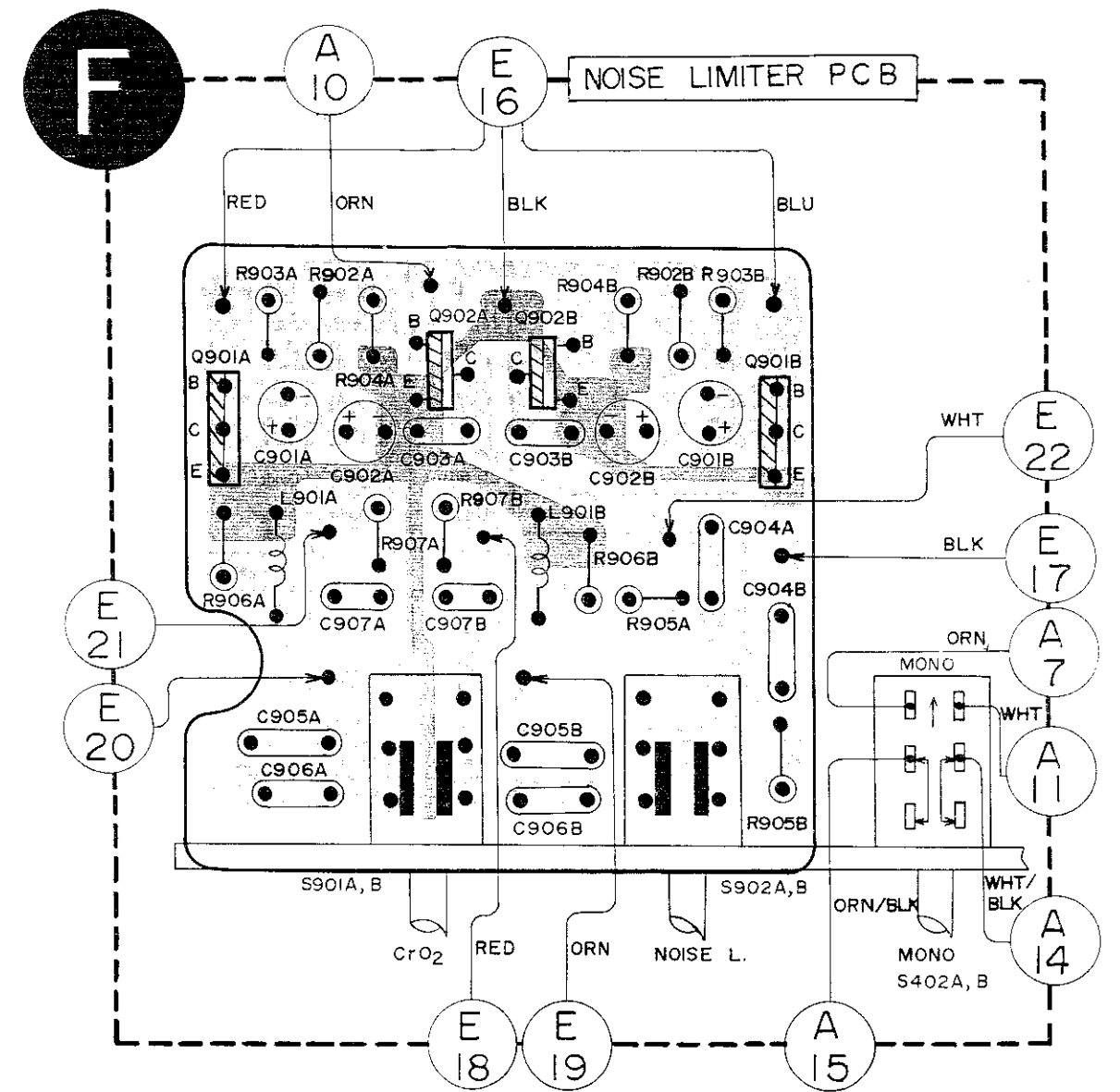
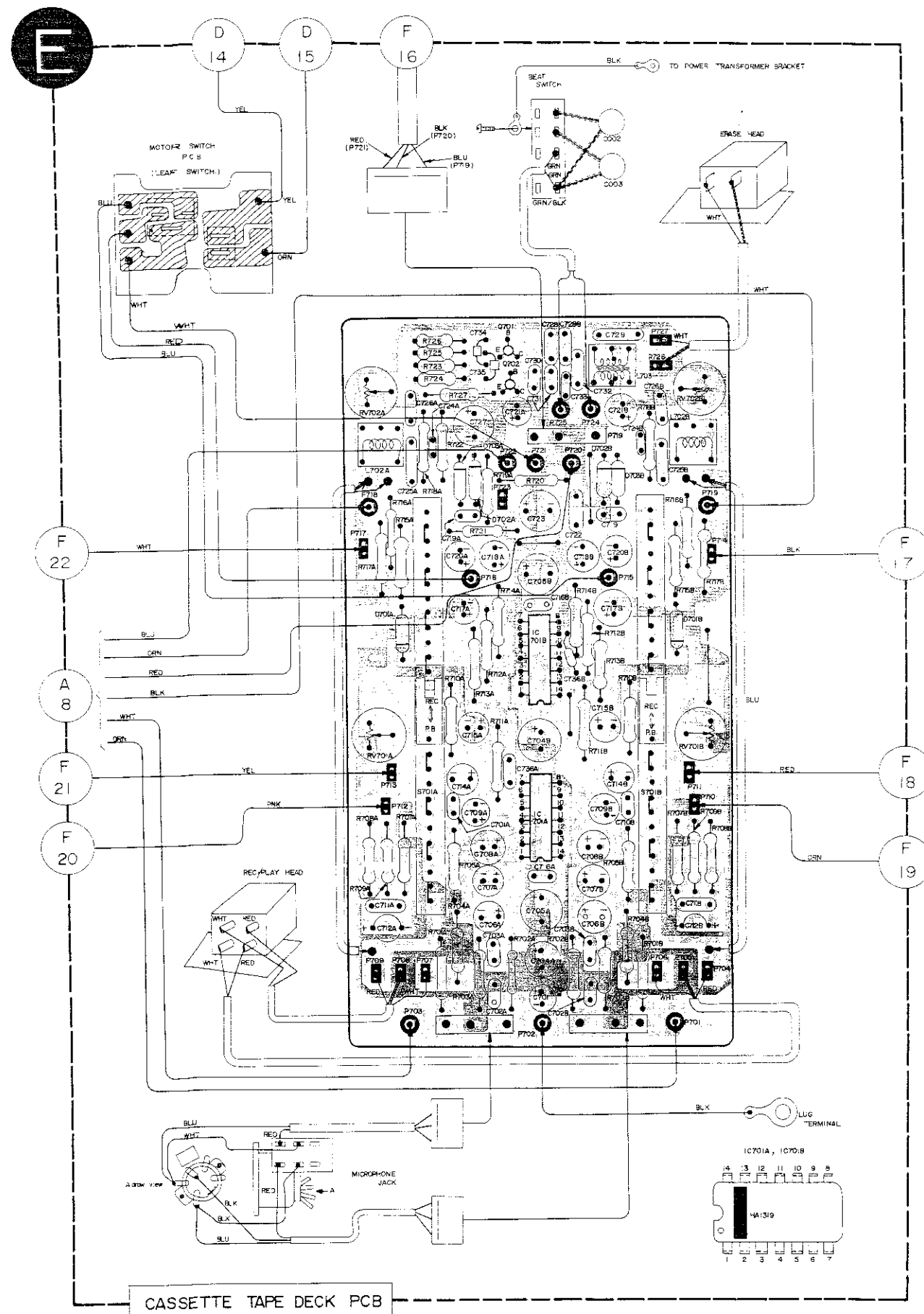
CIRCUIT BOARD DIAGRAM MAIN P.C.B





SCHEMATIC DIAGRAM OF TAPE DECK AND NOISE LIMITER CIRCUIT

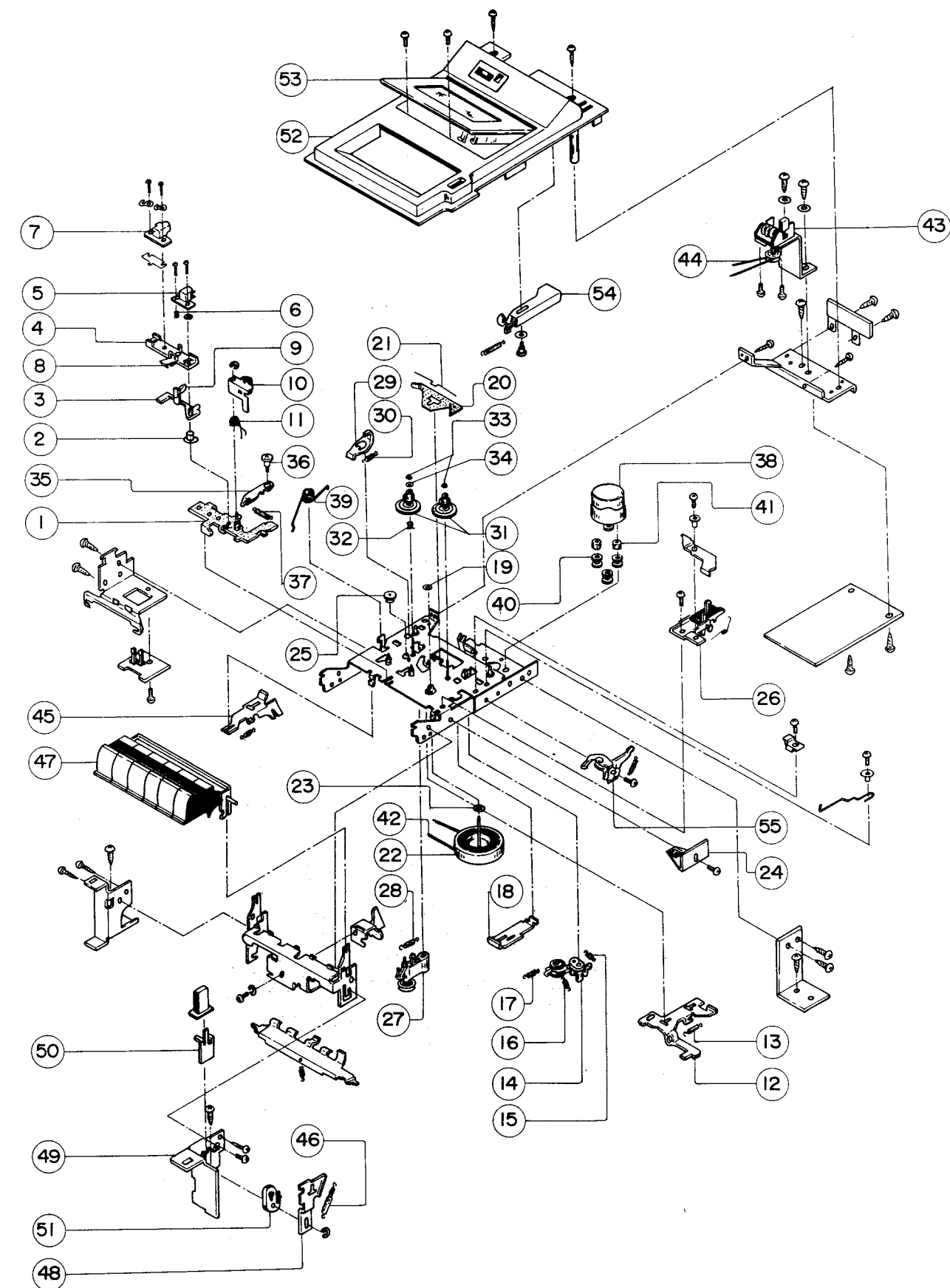




REPLACEMENT PARTS OF CAPACITORS, SEMI-CONDUCTORS, COILS

EXPLODED VIEW OF CASSETTE TAPE DECK CHASSIS

Symbol No.	Stock No.	Description		Symbol No.	Stock No.	Description	
CAPACITOR:				D 203	0575019	Diode	1N60P
C 105	0246474	Ceramic, disc	15pF±10%	D 102	5330771	Diode	1SV55
C 110	0246474	Ceramic, disc	15pF±10%	D 103	5330771	Diode	10kHz 250mW
C 111	0246474	Ceramic, disc	15pF±10%	D 104	5330771	Diode	10kHz 250mW
RV 101	5056061	Variable capacitor		D 151	5330261	Diode	HV-80
CV161~162				D 201	5330261	Diode	HV-80
CT 101	0283577	Semi variable	8pF	D 204	0575001	Diode	1N34A
CT 102	0283577	Semi variable	8pF	D 301	5380041	Radiation diode	
CT 161	0283577	Semi variable	8pF	D 602	5330572	Diode	1S2473HC
CT 162	0283577	Semi variable	8pF	D 605	5330001	Diode	VO-3C
CT 164	0283577	Semi variable	8pF	D 606	5330001	Diode	VO-3C
CT 165	0283577	Semi variabl	8pF	D 607	5330001	Diode	VO-3C
CT 163	5058102	Semi variable	20pF	D 608	5330001	Diode	VO-3C
CT 165	5058102	Semi variable	20pF	D 609	5330341	Diode	WO-6A
CF 201	5160213	Ceramic filter		D 610	5330341	Diode	WO-6A
RESISTORS:				D701AB	0575001	Diode	1N34A
RT 101	0151886	Semi variable	10kΩ	ZD 601	5330054	Diode	AW01-13
RT 301	0151885	Semi variable	4.7kΩ	ZD 603	5330054	Diode	AW01-13
RV401AB	0171555	Variable	100kΩ	ZD 604	5330561	Diode	HZ-16
RV402AB	0171555	Variable	100kΩ	TRANSFORMERS:			
RV403	0171528	Variable	50kΩ	T 101	5123348	FM BAL	
RV404AB	0171561	Variable	100kΩ	T 102	0329605	FM IF	
RV701AB	0151888	Semi variable	47kΩ	T 103	5123422	FM RF	
RV702AB	0151891	Semi variable	470kΩ	T 151	5136016	AM IF	
SEMI-CONDUCTOR				T 161	5123343	SW ANT	
IC 201	5351061	IC	AN253-BB	T162.163	5112828	Ferrite core antenna	
IC 301	5351073	IC	HA-1156	T 164	5123344	SW OSC	
IC 401	5350301	IC	HA-1452	T 165	5120461	MW OSC	
IC501AB	5350381	IC	HA-1150	T 166	5120421	LW OSC	
IC701AB	5350212	IC	HA-1319	T 201	0322118	AM IF	
Q 101	5320941	Transistor	2SK55-C	T 202	5148041	FM DIS	
Q 102	0573511	Transistor	2SC535-C	T 203	5148042	FM DIS	
Q 103	0573508	Transistor	2SC461-C	PT	5211671	Power	
Q 151	0573487	Transistor	2SC460-C	COILS:			
Q 701	5320912	Transistor	2SB534B-P	L 102	5123355	FM OSC	
Q 702	5320912	Transistor	2SB534B-P	L 103	5152004	Choke	
Q901AB	0573481	Transistor	2SC458C	L 161	5152004	Choke	
Q902AB	0573481	Transistor	2SC458C	L501AB	5150761	Choke	
D 101	0575019	Diode	1N60P	L702AB	5120303	Choke	
D 162	0575019	Diode	1N60P	L 703	5260054	REC OSC	
D 202	0575019	Diode	1N60P	L901AB	0333151	Choke	



REPLACEMENT PARTS

CASSETTE TAPE DECK

RECORD PLAYER

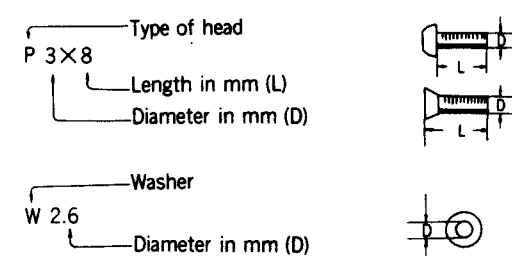
Symbol No.	Stock No.	Description
for Cassette deck assembly [A] MP-35H		
①	7264311	Head plate assembly
②	7535222	Coller for head
③	7262162	Pick up arm
④	6731113	Head stand
⑤	5441441	Record playback head
⑥	6321733	Spring
⑦	5445061	Erase head
⑧	6325931	Holder for head plate
⑨	6730821	Pick up piece
⑩	7239876	Pressure roller assembly
⑪	7778395	E ring
⑫	6306622	Spring for pressure roller
⑬	7239785	Brake function plate
⑭	6323063	Spring for brake function
⑮	6721725	Pulley assembly
⑯	6324154	Spring
⑰	6300401	Spring for pulley assembly
⑱	6324081	Spring
⑲	7239791	Eject function plate
⑳	7771912	Nylon sheet for flywheel oil stopper
㉑	7239742	Brake plate
㉒	6321564	Spring for brake
㉓	6721822	Flywheel assembly
㉔	7778183	Polyester washer for
㉕	7239823	Flywheel supporting plate assembly
㉖	6381072	Idler assembly
㉗	7158017	Eject assembly
㉘	6721834	Take up arm assembly
㉙	6321684	Spring for take up arm
㉚	7239893	Recording prevention plate
㉛	6322661	Spring for brake
㉜	7667666	Turntable assembly
㉝	6320731	Backtension spring for rewind
㉞	0930002	Cap
㉟	0948831	Polyester washer for turntable assembly
㊱	7264821	Lock lever
㊲	7535183	Pin for lock lever
㊳	6303075	Spring for lock
㊴	5572201	Micro motor
㊵	6306302	Spring
㊶	0711309	Pan head screw 2.6mmφ×9mm for micro Motor mounting
㊷	7669151	Rubber plate
㊸	7515513	Coller
㊹	6350621	Belt 1.2
for cassette deck assembly [B]		
㊺	5559051	Counter
㊻	7668061	Belt for counter
㊼	7249903	Recording function plate
㊽	6320171	Spring for pause slider
㊾	6255222	Button assembly
㊿	7245323	Pause lever
1	7268273	Pause plate
2	7277851	Front bracket assembly
3	7267872	Pause function assembly
4	6725701	Pause lock piece
5	7230902	E ring
6	7779791	Polyester washer
7	6324451	Brake function spring
8	6219431	Cassette panel assembly
9	6090382	Cassette lid assembly
10	6259241	Pause button
11	7277661	Pause lever
12	7277811	Cassette lid slider
13	7777617	Special screw
14	7771302	Polyester washer
15	6300232	Spring for eject
16	7153956	Eject assembly

Symbol No.	Stock No.	Description
for player assembly (TP-50)		
①	5573041	Motor
②	6420051	Motor pulley
③	7591664	Special screw for motor pully mounting
④	6588343	Rubber bush for motor mounting
⑤	7171491	Washer
⑥	6348461	Cam gear assembly
⑦	5598211	Pick up arm assembly
⑧	5598261	Cartridge
⑨	6219463	Panel
⑩	7278101	Adjust assembly
⑪	6737211	Arm lift assembly
⑫	6303981	Spring for lift
⑬	7591664	Special screw for lift mounting
⑭	6736792	Arm rest assembly
⑮	6412132	Turntable assembly
⑯	6588361	Turntable sheet
⑰	6357092	Belt for turntable
⑱	0690525	Ball
⑲	5632121	Micro switch
㉑	6328074	Plate spring

Hardware nomenclature

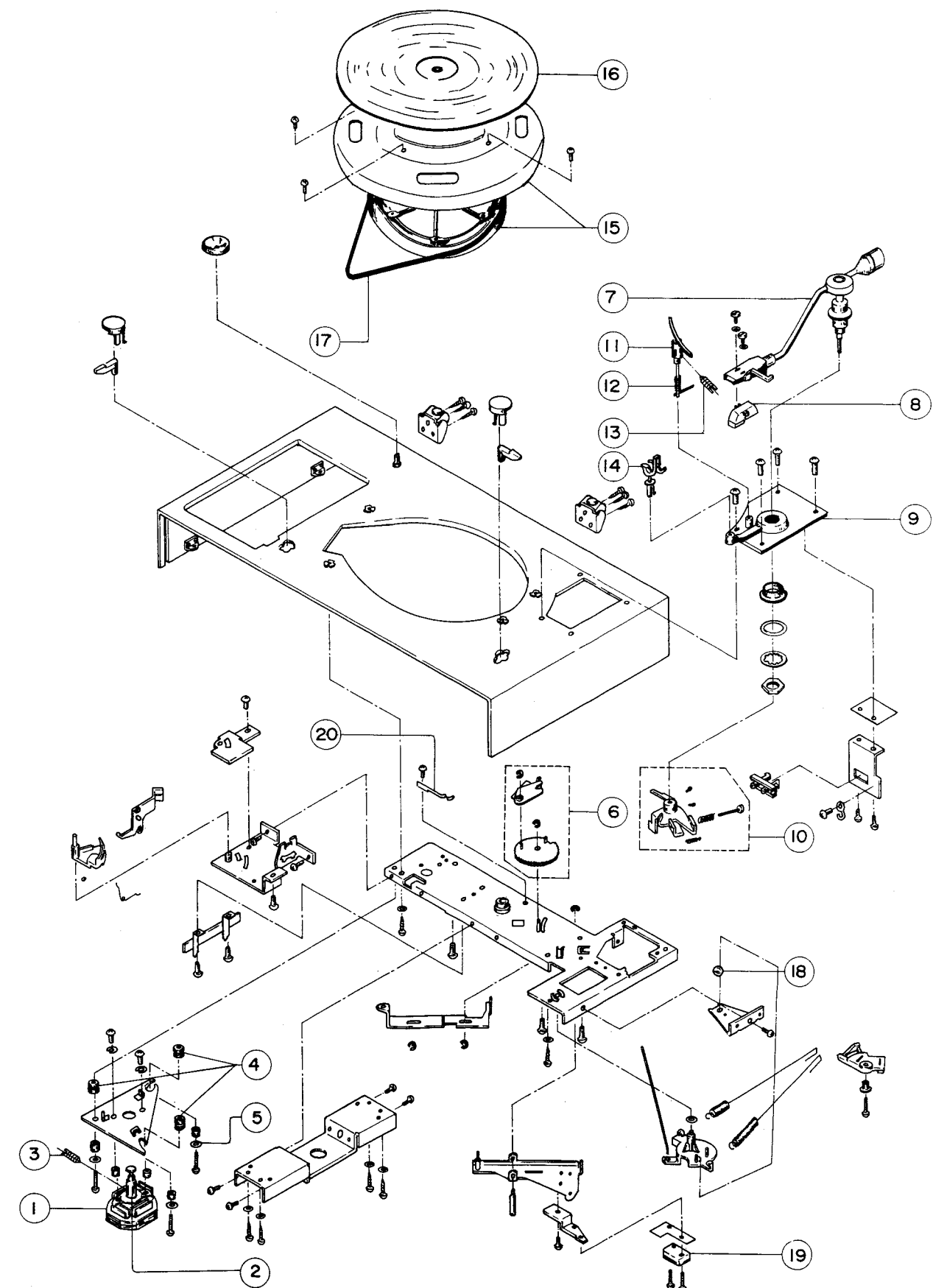
P	Pan head screw	BT	Binding head Tapping screw
F	Flat countersunk head screw	BL	Bolt
B	Binding head screw	W	Washer
T	Round head tapping screw	E	"E" ring

Example

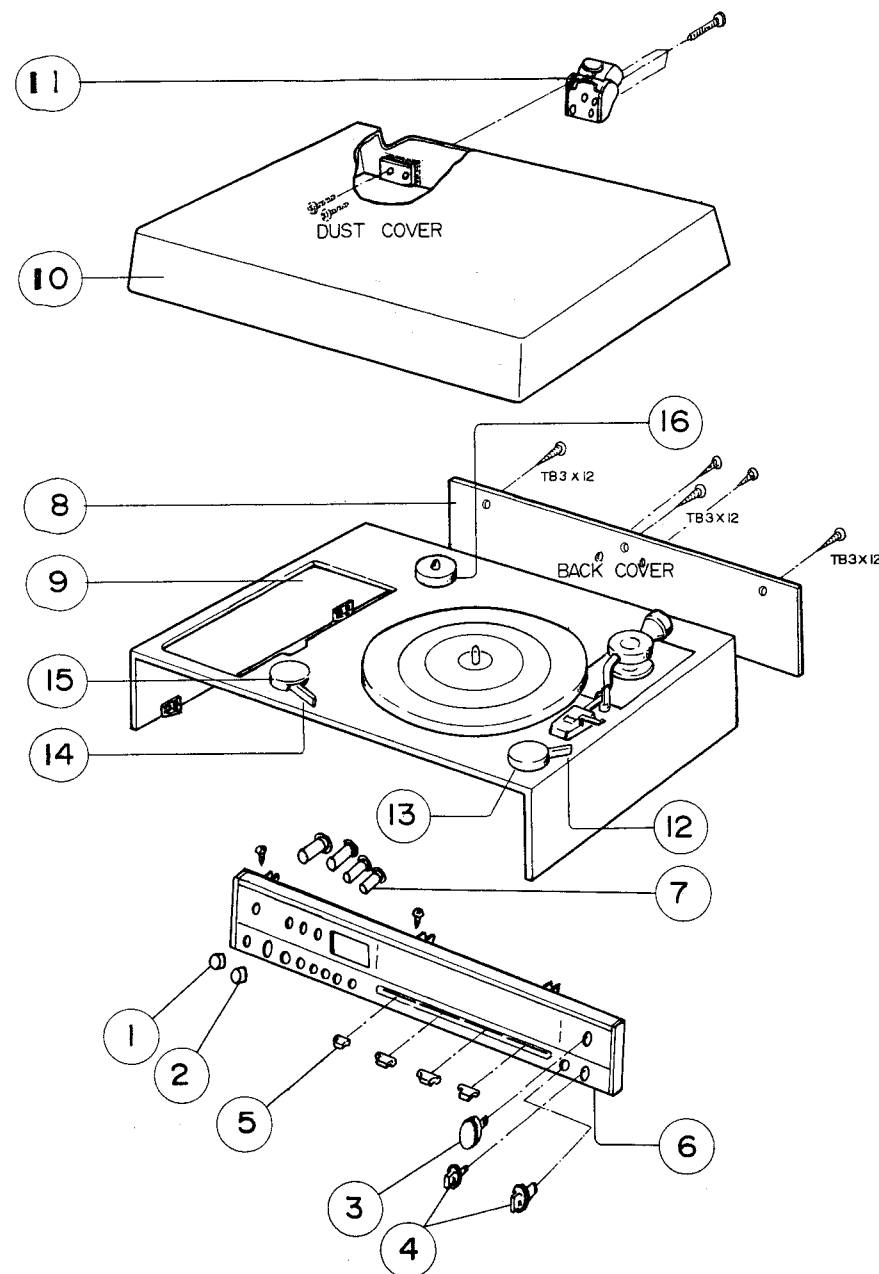


when ordering hardware excluding stated on these lists, be sure to make your orders with type and size.

EXPLODED VIEW OF RECORD PLAYER



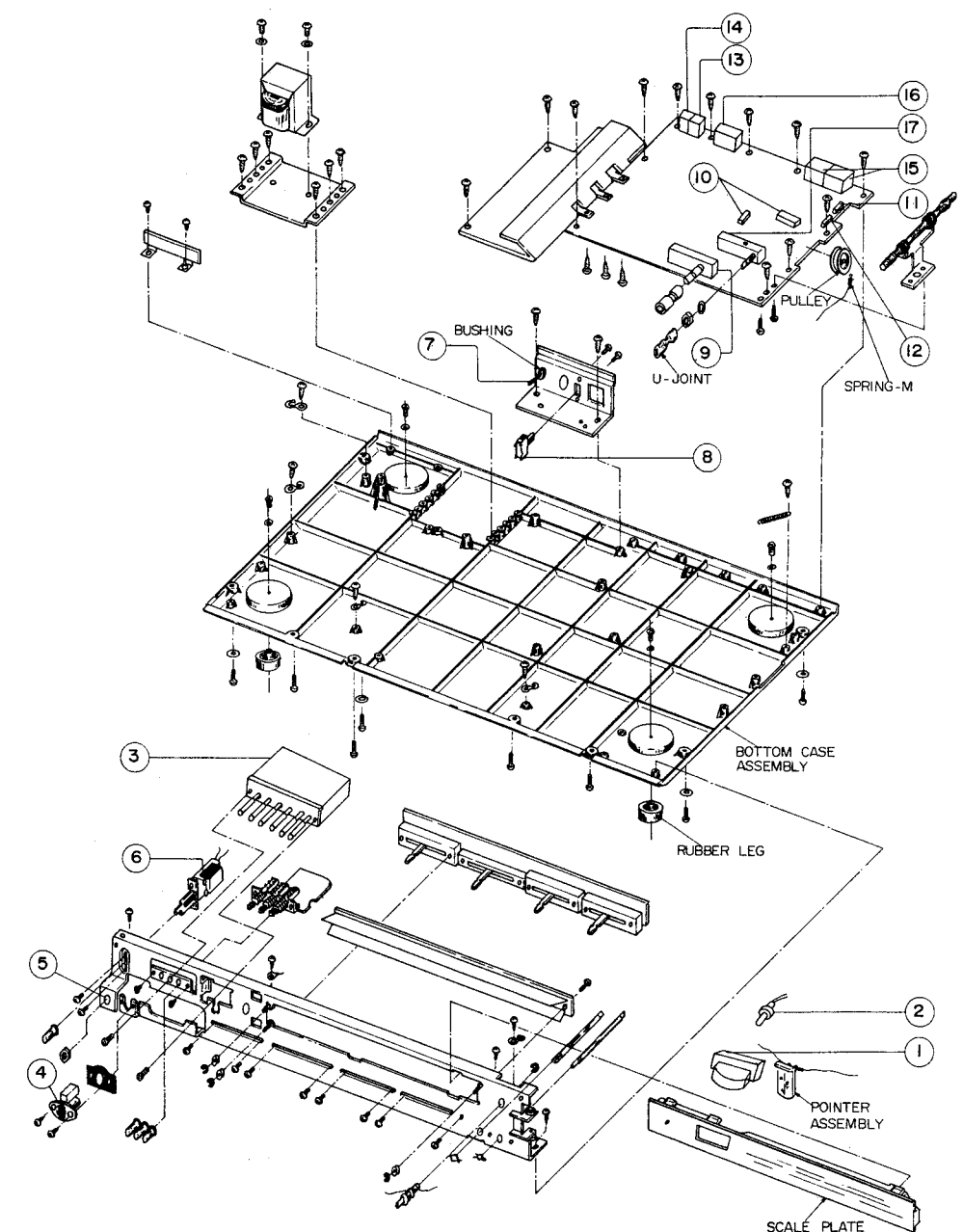
EXPLODED VIEW OF CABINET



REPLACEMENT PARTS OF ACCESSORIES AND CABINET

Symbol No.	Stock No.	Description	Symbol No.	Stock No.	Description
Miscellaneous			⑬	6298314	Lever cover (UP/DOWN/CUT)
①	6721371	Headphone cap	⑭	6298323	Knob (SPEED SELECTOR)
②	6730431	DIN cap	⑮	6298313	Lever cover (SPEED SELECTOR)
③	6280824	Knob assembly (TUNING)	⑯	6737182	45P adapter
④	6281221	Knob (FUNCTION)	⑰	6136544	Bottom case assembly
⑤	6295192	Slide knob	⑱	6398113	Pointer assembly
⑥	6219422	Front panel assembly	⑲	6470242	Scale plate
⑦	6258817	Push button (POWER, MONO, NOISEL, CrO ₂)	⑳	7777616	Special screw for power switch mounting
⑧	6192452	Back cover	㉑	6724792	U joint
⑨	6154942	Cabinet	㉒	7669121	Rubber leg
⑩	6180245	Dust cover assembly	㉓	6341863	Pulley
⑪	6337202	Hinge assembly	㉔	6316232	Spring-M
⑫	6298324	Knob (UP/DOWN/CUT)	㉕	0043793	Bushing

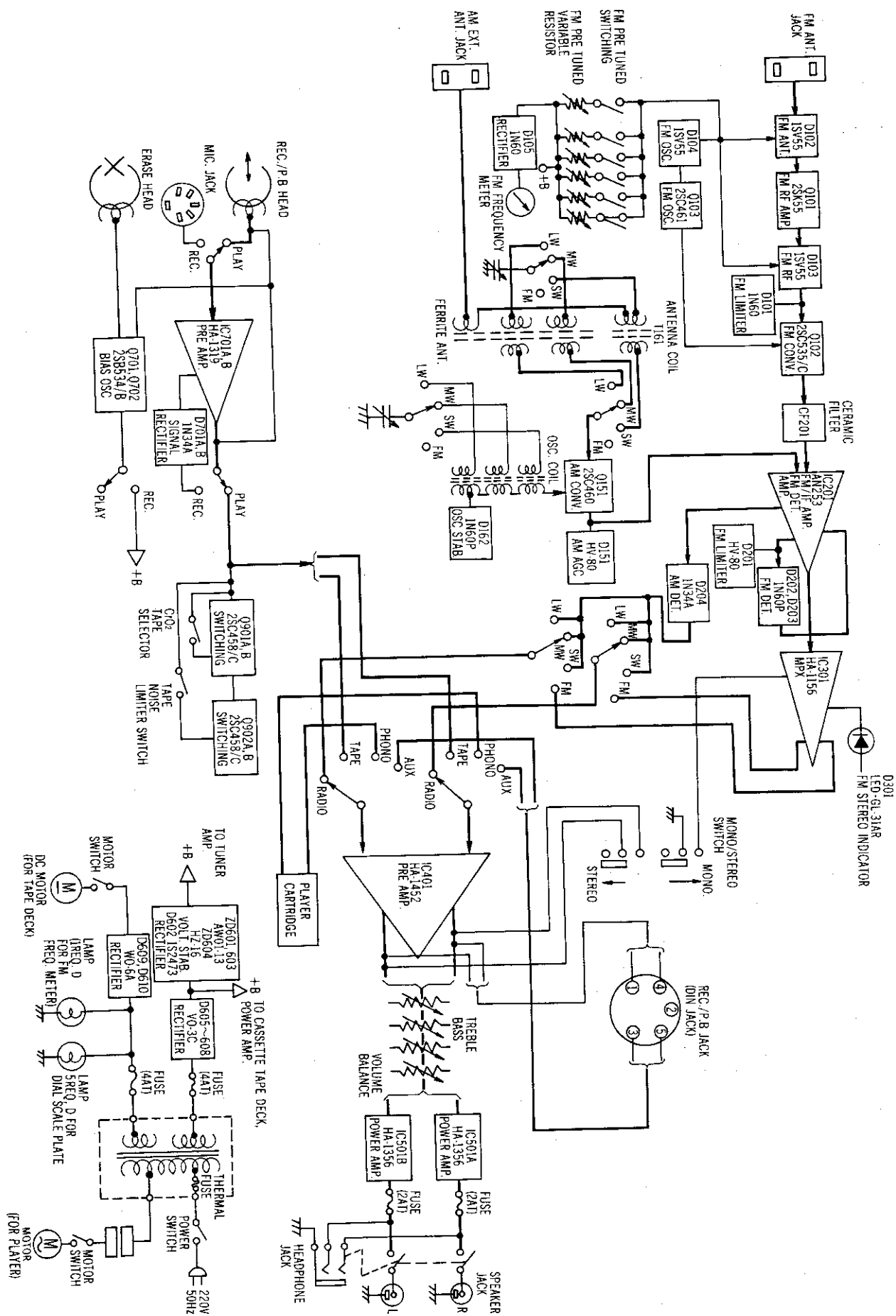
EXPLODED VIEW OF MAIN CHASSIS



REPLACEMENT PARTS OF MAIN CHASSIS

Symbol No.	Stock No.	Description	Symbol No.	Stock No.	Description
Miscellaneous			⑩ F501AB	5720177	Fuse (2A)
①	5551908	FM meter	⑪ F 601	5721062	Fuse (4A)
②	5760741	Lamp	⑫ F 602	5721062	Fuse (4A)
③	5631684	FM pre setter	⑬ F 102	5677061	AM antenna jack
④	5677001	DIN jack (MICROPHONE JACK)	⑭ J 101	5677071	FM antenna jack
⑤	5671631	Headphon jack	⑮ J501AB	5677051	Speaker jack
⑥	5632672	Power switch	⑯ J 401	5677021	DIN jack
⑦	5746154	Power cord (E)	⑰ S 101	5634058	Push switch
⑧	5746171	Power cord (S)	Accessory		
⑨	5746221	Power cord (F)			
	5620681	Slide switch			
	5613111	Slide rotary switch			
	5613121	Slide rotary switch			
				5890031	FM antenna plug

BLOCK DIAGRAM



PLAYER ADJUSTMENT

Motor pulley height

Remove turn-table and speed selector to 45 rpm. Loosen motor pulley mounting screw and set center of motor pulley for center of select arm as shown in Fig. 10.

• Pick-up arm height

Loosen cueing arm mounting screw and set cueing lever to *UP*. Moving cueing arm, adjust stylus to clear a full stack of records by 3mm. After adjustment, tighten cueing arm mounting screw. (See Fig. 11)

• Auto return and power switch timing

When replacing pick-up arm assembly, check the timing of auto return and power switch.

• Auto return timing (Fig. 12)

Adjust auto return screw to be 5.6~6.5cm on lifting position between center spindle and stylus when auto returning.

Turn clockwise: Late

Turn counterclockwise: Early

• Power switch position (Fig. 12)

Loosen switch function lever mounting screw, adjust switch function lever to be 6-1/3" (16cm) on distance between center spindle and stylus when switching on.

Move A : Late

Move B : Early

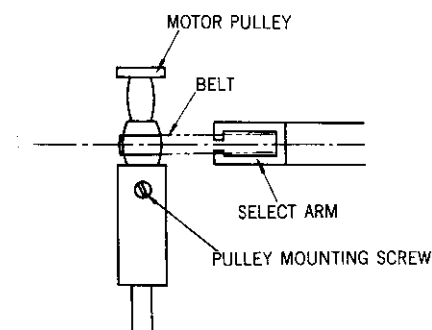


Fig. 10

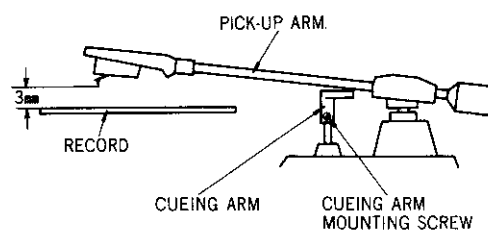


Fig. 11

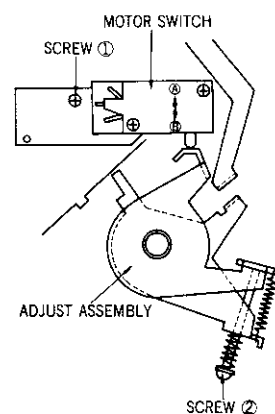


Fig. 12

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