TOSHIBA

STEREO RADIO-PHONOGRAPH
SERVICE DATA

MODEL SX-150C

FILE NO. 130-075
REVISED EDITION

SPECIFICATIONS

RADIO

Type	LW, MW, FM-ST radio
Freq. range	LW 150 ~ 380 kHz MW 530 ~ 1605 kHz FM 88 ~ 108 MHz
Sensitivity	Superior high sensitive
Power output	r.m.s. continuous 6 watts at 5 % distortion (total)
Power consumption	61W
Antennas	Ferrite core antenna (LW, MW) Di-pole antenna (FM)
Dimensions	(W) 450 × (H) 110 × (D) 350 mm
Weight	6.8 kg

PLAYER

Type	Belt drive, Auto-return, Auto-cut, Arm-elevation
Motor	4-pole synchronous motor
Speed	33-1/3, 45 r.p.m.
Turntable	30 cm solid die-cast aluminium alloy type
Arm	Pipe arm
Cartridge	Moving magnet, VM type, C-29M
Stylus	N-14D
Stylus pressure	3.0 ± 0.5 g
Dimensions	(W) 450 × (H) 460 × (D) 180 mm
Weight	6.5 kg

SPEAKER

Type	Pressure balance
Speaker	16 cm, 5 cm (2 way)
Impedance	8 ohms
Dimensions	(W) 280 × (H) 460 × (D) 180 mm
Weight	3 kg × 2
Total weight	19 kg

TOKYO SHIBAURA ELECTRIC CO., LTD.

2-1, GINZA 5-CHOME, CHUO-KU, TOKYO, JAPAN

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1. OPERATING INSTRUCTIONS

1.1 FRONT VIEW

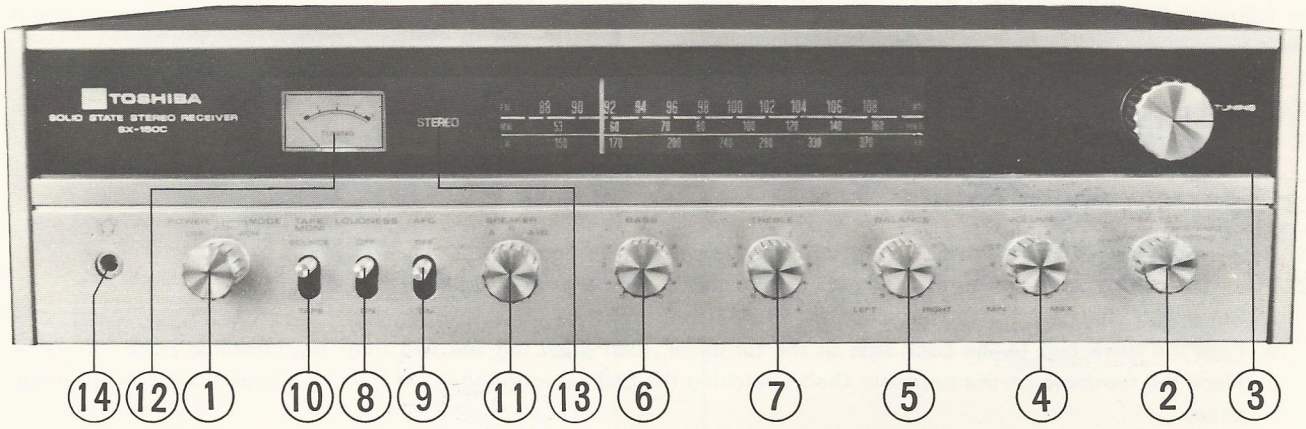


Fig. 1

1. POWER (MODE) SWITCH
2. SELECT SWITCH
3. TUNING CONTROL KNOB
4. VOLUME CONTROL KNOB
5. BALANCE CONTROL KNOB
6. BASS CONTROL KNOB
7. TREBLE CONTROL KNOB
8. LOUDNESS SWITCH
9. AFC SWITCH
10. TAPE MONITOR SWITCH
11. SPEAKER SELECT SWITCH
12. TUNING METER
13. FM STEREO INDICATOR LAMP
14. HEADPHONE JACK

1.2 BACK VIEW

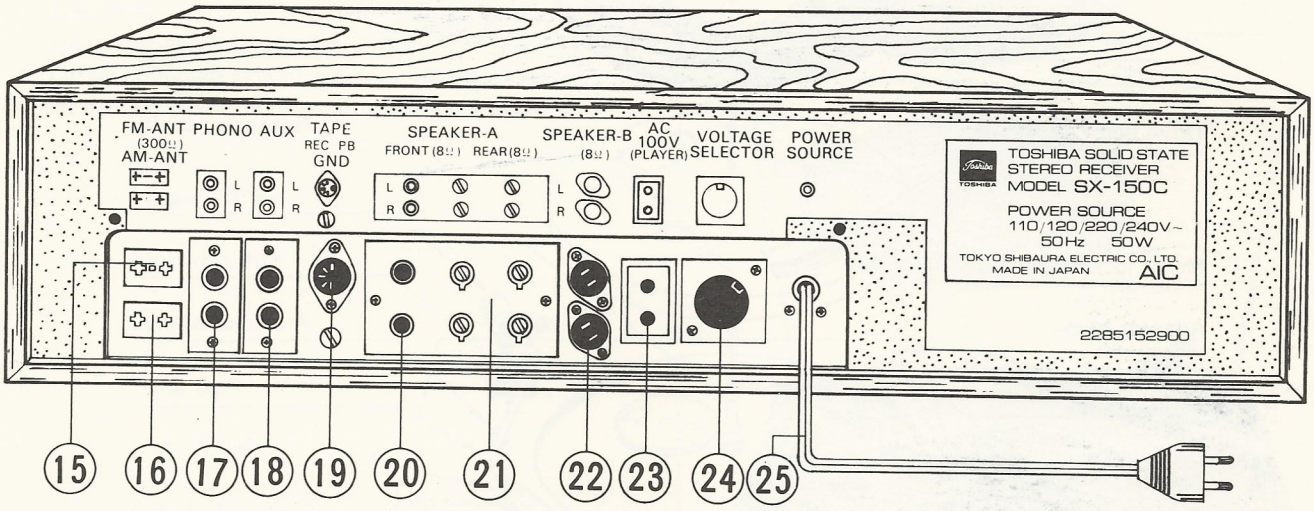


Fig. 2

15. FM-ANT. TERMINAL
16. AM-ANT. TERMINAL
17. PHONO JACK
18. AUX JACK
19. DIN JACK
20. SPEAKER-A (FRONT) JACK
21. SPEAKER-A (REAR) TERMINAL
22. SPEAKER-B JACK
23. PLAYER OUTLET
24. VOLTAGE SELECTOR
25. AC POWER CORD

2. OPERATION

2.1 UNPACKING INSTRUCTION

The following three separate packings are especially provided to prevent the player trouble caused by vibration or shock in transit.

1. Safety locking of phono motor.
2. Special packing of the turn table (with table sheet and belt).
3. Special packing of the head shell with cartridge, arm weight and 45 adapter.

2.2 ASSEMBLY PROCEDURE

1. Be sure to remove two screws locking the motor as shown in figure 3.
2. Place the turntable on the turntable shaft setting the belt as shown in figure 3 and 4.
   a. Set speed change lever to the speed of 33 1/3 rpm.
   b. Pass the drive belt to the back side of the turntable, then draw out the belt from the turntable hold.
   c. Place the turntable on the turntable shaft stretching the belt by your finger. At the same time, hook it over the motor pulley.
   d. Be sure to place the belt through the belt guide.

   CAUTION:
   Be sure to do not pass the drive belt as the drive belt is twisted.
   Be sure to keep off the drive belt from oil.
3. How to assemble pickup arm
   a. The plug-in head should be plugged in firmly after lining the pin near the base with the groove on the arm. Then turn the ring clockwise to lock the head shell as shown in figure 5.
   b. Attach the arm-weight to the rear end of the arm.

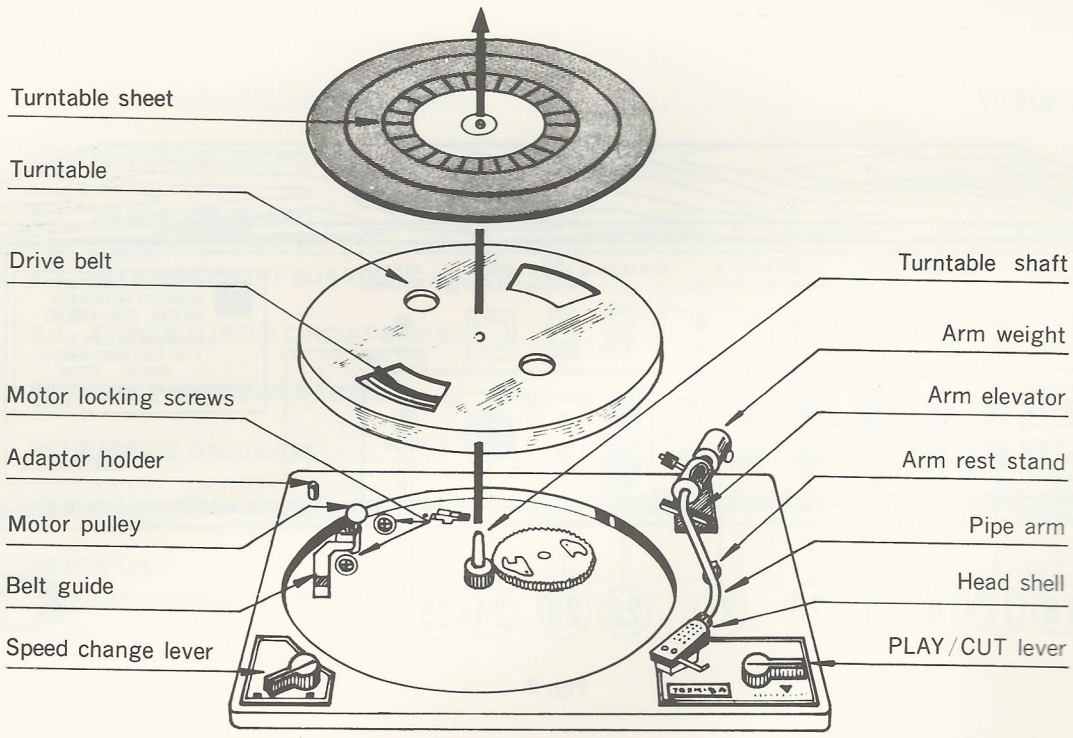


Fig. 3

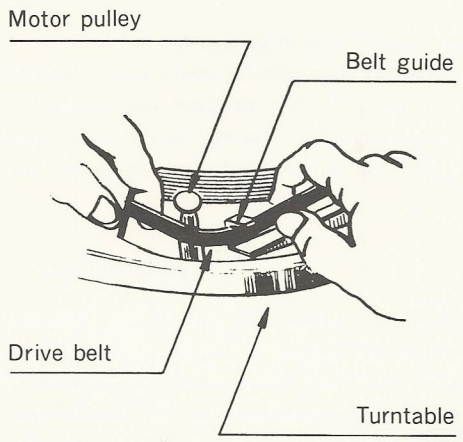


Fig. 4

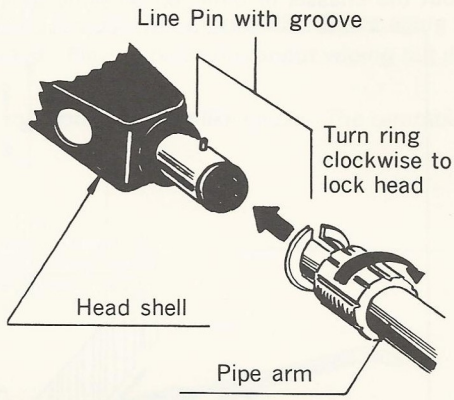


Fig. 5

3. DISASSEMBLY INSTRUCTIONS

3.1 PLAYER REMOVAL

1. Remove the three transit screws marked (*) from the player panel.
2. Lift the turntable sheet and turntable.
3. Unloose the one mounting screws marked (★) and slide them to the direction of arrow indicating as shown in figure 6.
4. Lift up softly left side of player panel, slide and lift it to do direction of arrow. (to the left side)

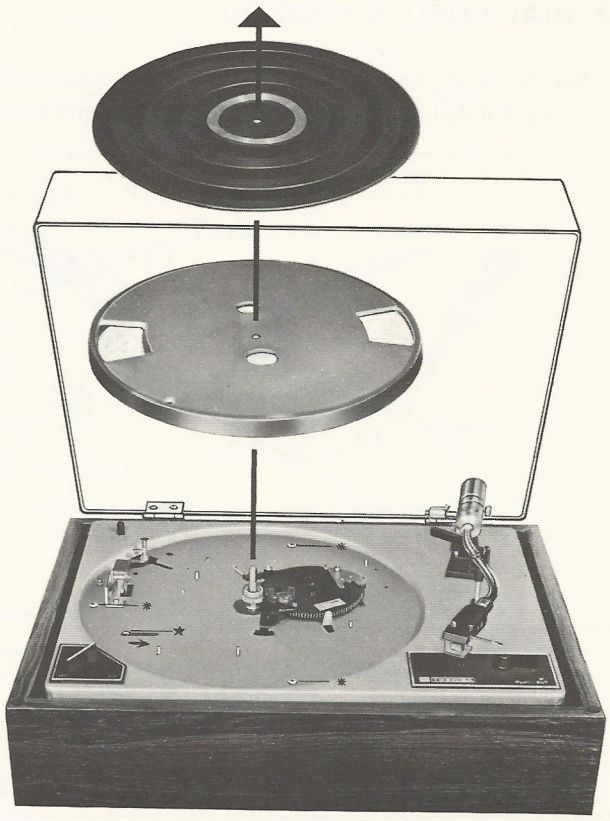


Fig. 6

3.2 CHASSIS REMOVAL

1. Remove the thirteen mounting screws from the cabinet.
2. Pull out the chassis to direction of allow as shown in below.

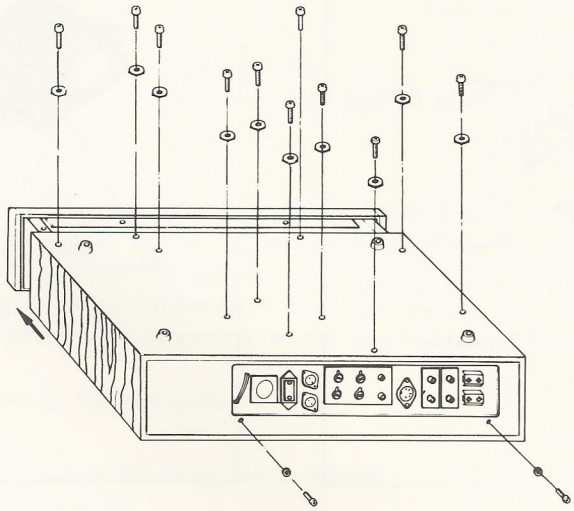


Fig. 7

3.3 DIAL CORD STRINGING

1. Set the tuning capacitor to the minimum capacitance. (fully clockwise)
2. String the dial cord following the numbered arrow markings as shown in diagram.

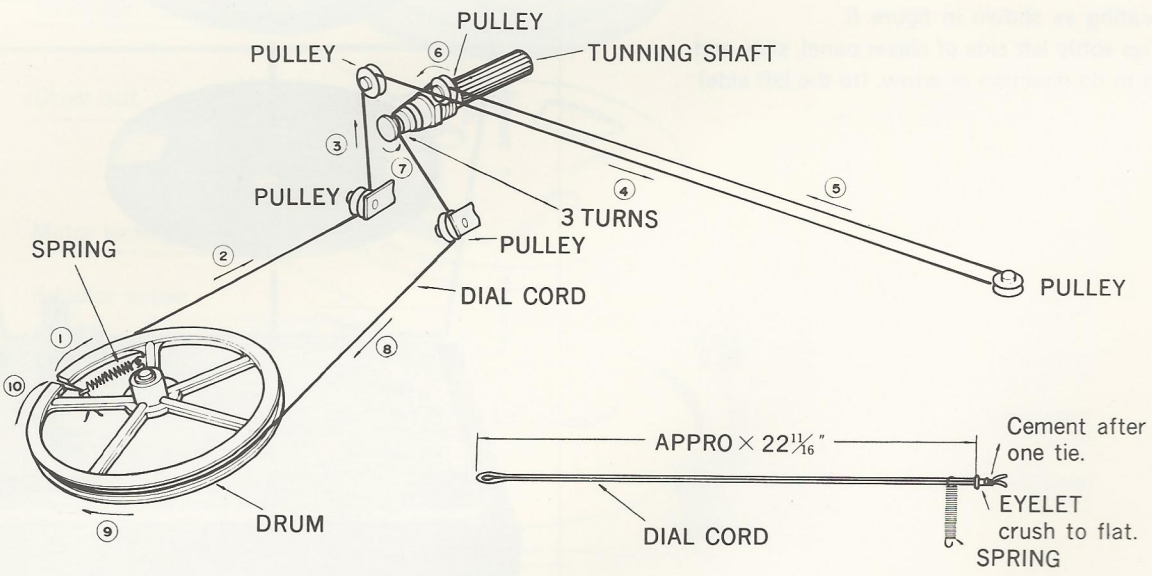


Fig. 8

3.4 STYLUS REPLACEMENT

LIFE OF STYLUS

The stylus can last for about 300 hours in total playing time or about 900 sides of 300 cm LP records. Since aging styli can damage discs and aggravate sounds, early replacement of styli is recommended. Playing records without wiping out dusts will very much quicken the wear of styli and also will damage disc surfaces.
So, make sure that records are wiped along grooves with record cleaners or soft, moist clothes like gauze. The turntable should also be kept clean as dust thereon may stick to disc surfaces.

STYLUS REPLACEMENT

The life of the stylus is about 300 hours. A worn stylus will cause treble tones to increase harshness. Therefore, a stylus should be replaced as soon as this becomes noticeable to prevent record wear. To replace the stylus, remove the stylus holder slowly and carefully by pulling forward in the direction of cantilever.
Then insert the new stylus (See Fig. 9).

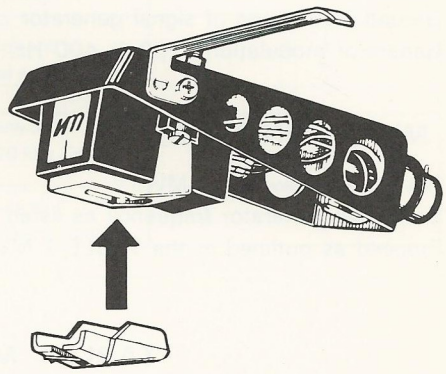


Fig. 9

LUBRICATION

Make lubrication into the lubrication hole shown in Figure 10 after removing the turntable. The oil is packed in the accessory box. Lubrication once every six months is sufficient for players used in the home. Once every two months is recommended for players used commercially.

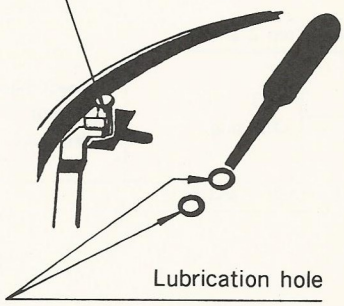


Fig. 10

4. ALIGNMENT INSTRUCTIONS

THE FOLLOWING EQUIPMENT IS REQUIRED FOR ALIGNMENT

1. Sweep signal generator (Sweep range of at least 300 kHz, center frequency of 10.7 MHz.)
2. Signal generator with a frequency range of at least from 100 kHz to 25 MHz for LW and MW, from 85 MHz to 110 MHz and 10.7 MHz MHz for FM.
3. Oscilloscope with a wide range amplifier of approximately 100 kHz.
4. Test loop, a coil of any size wire, one turn or more.
5. VTVM (Vacuum tube voltmeter.)
6. For alignment points, see schematic diagram.

NOTES:

1. During alignment keep the signal generator output at the lowest level where used output from the set can be maintained.
2. Ground connection of signal generator ... to chassis ground.
3. Generator modulation ... 30 % 400 Hz.

4.1 MW ALIGNMENT

1. Set SELECT switch to MW.
2. Set signal generator frequency as listed in TABLE 1 MW ALIGNMENT CHART.
3. Proceed as outlined in the TABLE 1 MW ALIGNMENT CHART.

TABLE 1 MW ALIGNMENT CHART (See figure 11)

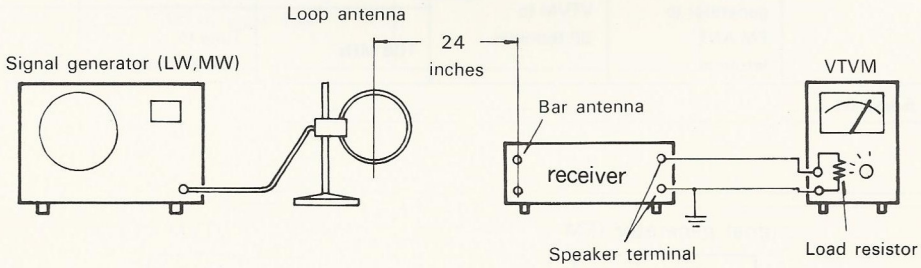
Step	Adjusting Circuit	Connections		SG Frequency	Position of Tuning Dial	Adjustment	VTVM
		Input	Output				
1	IF	Connect Signal generator to test loop	Connect VTVM to SP terminal	455 kHz	Low end of dial Scale at position of no unrequired signal	IT-205 IT-206 IT-207	Maximum
2	OSC (Frequency Coverage)	Connect Signal generator to test loop	Connect VTVM to SP terminal	505 kHz	Low end of dial scale	L-106	Maximum
3				1650 kHz	High end of dial scale	TC2-a	
Repeat Step 2 and 3							
4	ANT (Tracking)	Connect Signal generator to test loop	Connect VTVM to SP terminal	600 kHz	Tune to 600 kHz signal	L-108	Maximum
5				1400 kHz	Tune to 1400 kHz signal	TC1-c	Maximum
Repeat Step 4 and 5							

4.2 LW ALIGNMENT

1. Set SELECT switch to LW.
2. Set signal generator frequency as listed in TABLE 2 LW ALIGNMENT CHART.
3. Proceed as outlined in the TABLE 2 LW ALIGNMENT CHART.

TABLE 2 LW ALIGNMENT CHART (See figure 11)

Step	Adjusting Circuit	Connections		SG Frequency	Position of Tuning Dial	Adjustment	VTVM
		Input	Output				
1	OSC (Frequency Coverage	Connect Signal generator to test loop	Connect VTVM to SP terminal	135 kHz	Low end of dial scale	L-107	Maximum
2				385 kHz	High end of dial scale	TC2-b	
Repeat Step 1 and 2							
3	ANT (Tracking)	Connect Signal generator to test loop	Connect VTVM to SP terminal	170 kHz	Tune to 170 kHz signal	L-108	Maximum
4				340 kHz	Tune to 340 kHz signal	TC1-d	Maximum
Repeat Step 3 and 4							



LW, MW IF Alignment, frequency coverage and tracking adjustment test setup

Fig. 11

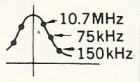
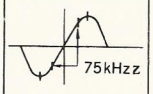
4.3 FM ALIGNMENT

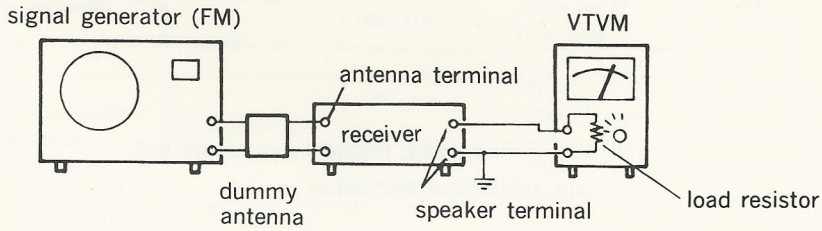
1. Set SELECT switch to FM.
2. Set signal generator frequency as listed in TABLE 3 FM ALIGNMENT CHART.
3. Proceed as outlined in the TABLE 3 FM ALIGNMENT CHART.

CAUTION:

When realigning the FM receiving frequency, the lowest side of the frequency range must not be below 87.5 MHz in order to comply with FTZ regulations in West Germany.

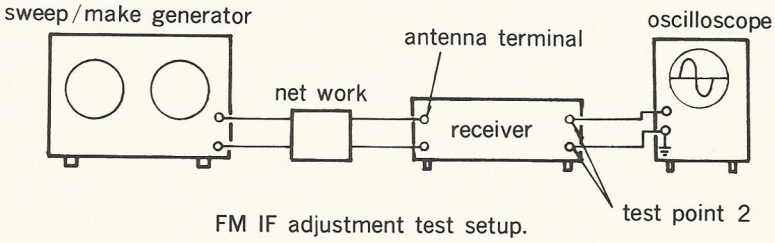
TABLE 3 FM ALIGNMENT CHART

Step	Adjusting Circuit	Connections		SG Frequency	Position of Tuning Dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to FM ANT terminal	Connect oscilloscope to test point TP-2	10.7 MHz	Near max. capacity of VC. at position with no unrequired signal	IT 201 IT202 IT-203	
2	Radio Det.		Connect oscilloscope to test TP-2			IT204 (secondary)	
3	OSC (Frequency coverage	Connect to FM signal generator to FM ANT terminal	Connect VTVM to SP terminal	87.5 MHz	Low end of dial scale	L105	Maximum
4				109.5 MHz	High end of dial scale	TC1-b	
Repeat Step 3 and 4							
5	RF	Connect FM signal generator to FM ANT terminal	Connect VTVM to SP terminal	90 MHz	Tune to 90 Hz signal	L102, 103	Maximum
6				106 MHz	Tune to 106 MHz signal	TC1-a	
Repeat Step 5 and 6							



FM Frequency coverage and tracking adjustment test setup.

Fig. 12



FM IF adjustment test setup.

Fig. 13

4.4 FM STEREO ALIGNMENT

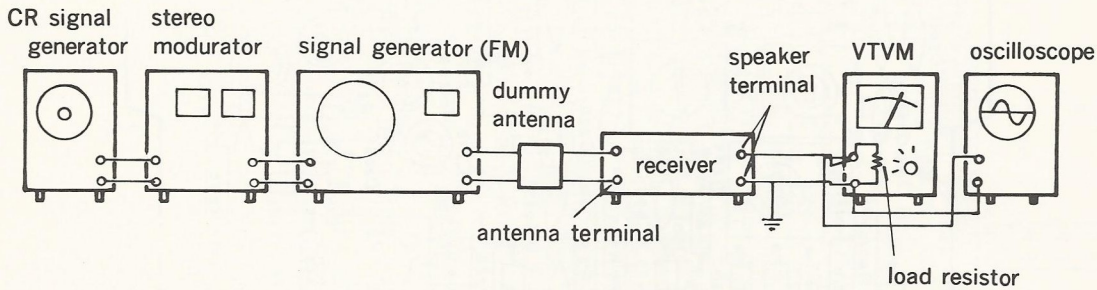
General Alignment conditions

1. RF signal input should be enough, about 60 dB (uV) (mV).
2. Set tuning gang to quiet point on dial.
3. Set AFC switch ON, Function for FM STEREO.

Note: Set the deviation meter by the signal of L = R and switch mode desired.

TABLE 4 FM STEREO ALIGNMENT CHART

Step	Adjusting circuit	Connection		Position of tuning dial	Adjustment	VTVM
		Input	Output			
1	Dabuler 8 19 kHz pilot signal	Connect FM stereo SG. to FM ANT terminal. 19 kHz signal ON. Sub channel signal ON. add 100 Hz signal from left CH.	Connect VTVM to right SP terminal	98 MHz	MXT 201 MXT 202 SVR1	Maximum
2	FM stereo signal separation	Connect FM stereo SG. to FM ANT terminal 19 kHz signal ON. Main channel. sub channel signal ON. add 1000 Hz signal from left CH.	Connect VTVM to right SP terminal		MXT 201 MXT 202 SVR1	Maximum
3		Connect FM stereo SG. to FM ANT terminal. 19 kHz signal ON. Main channel. subchannel signal ON. add 1000 Hz signal from right CH.	Connect VTVM to right SP terminal		MXT 201 MXT 202 SVR1	Maximum
Repeat Step 2 and 3						



FM MPX Adjustment test setup.

Fig. 14

5. PRINTING CIRCUIT BOARD DIAGRAM

5.1 RADIO CIRCUIT BOARD

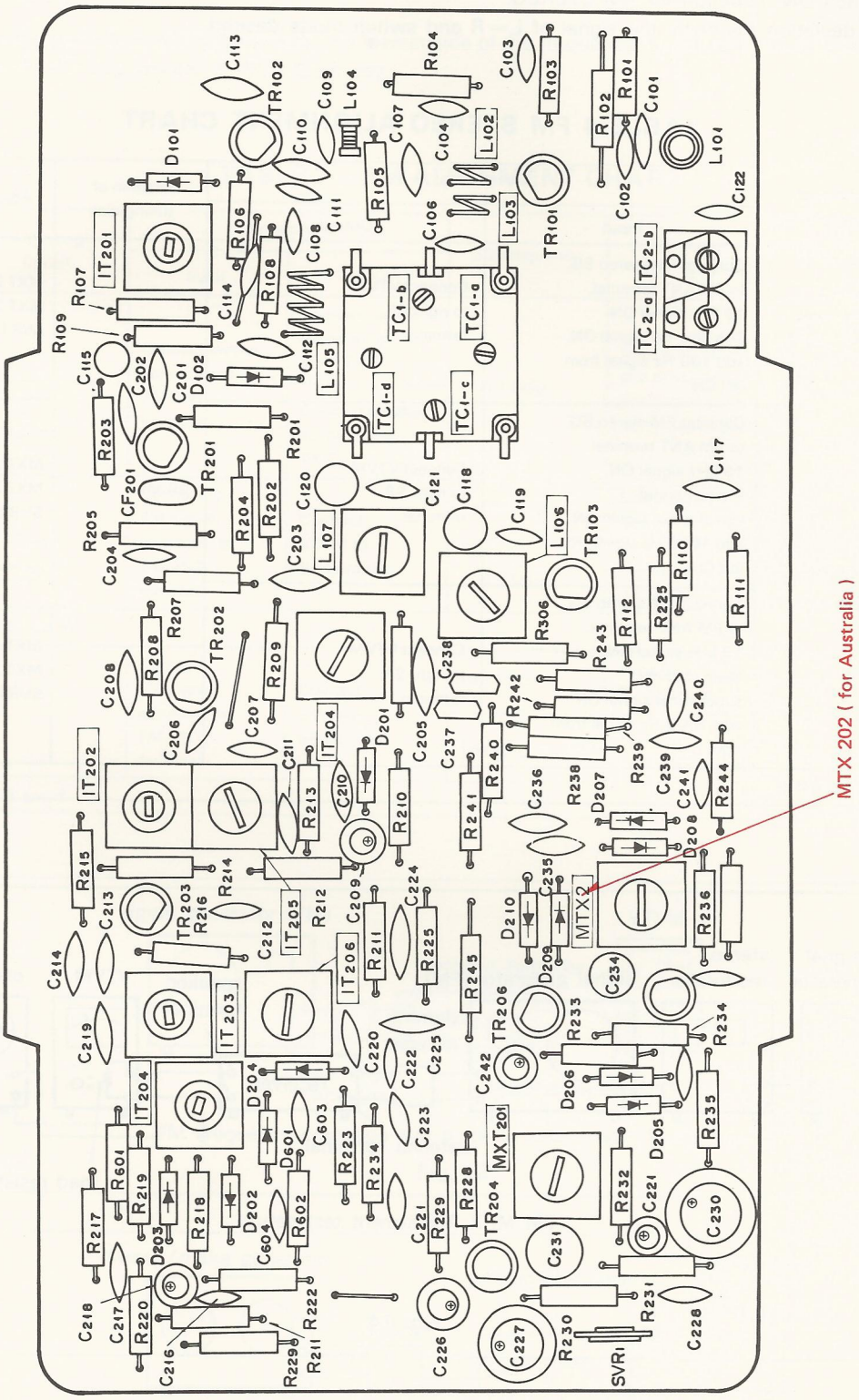


Fig. 15 TOP VIEW

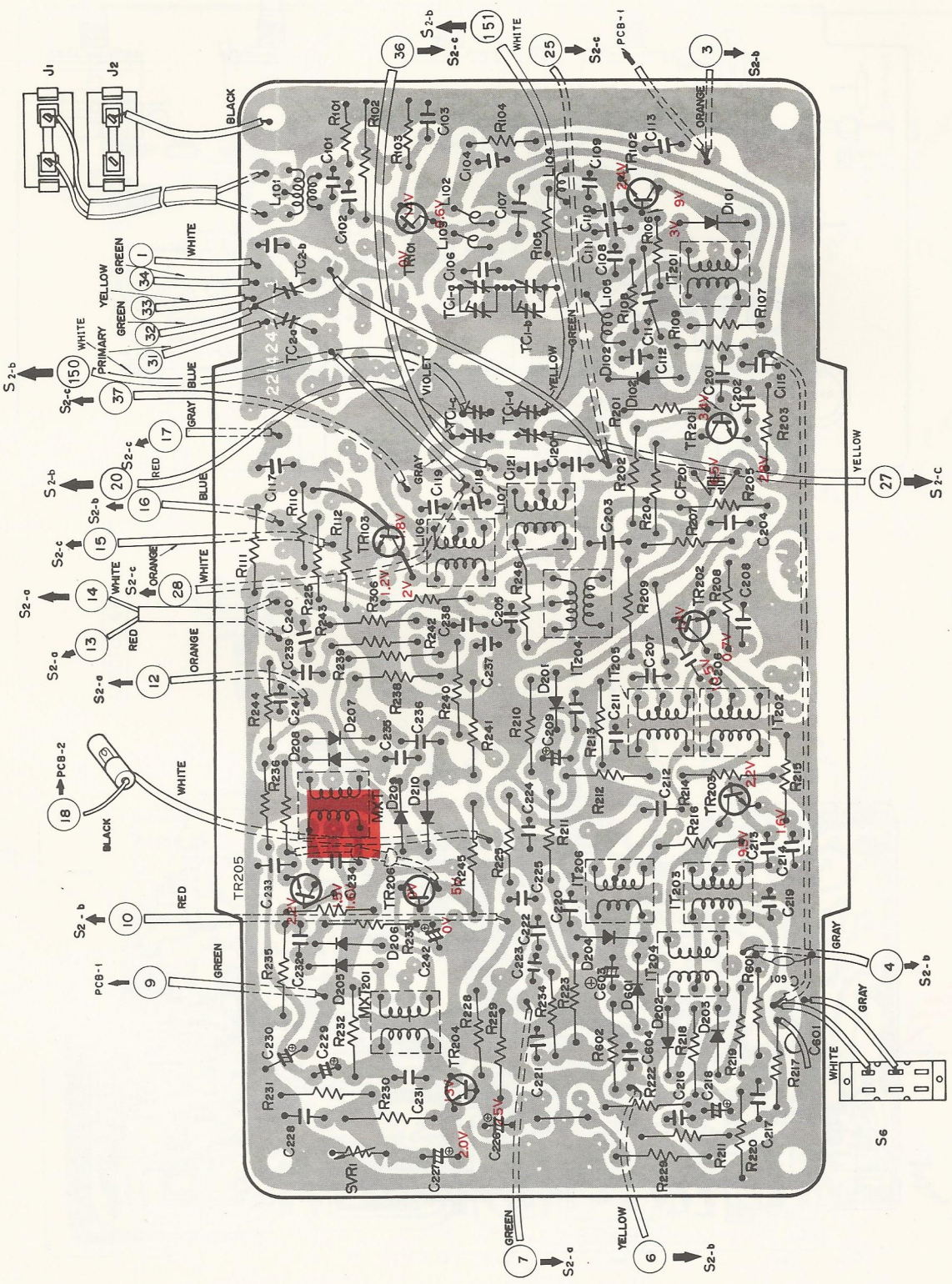


Fig. 16 BOTTOM VIEW (PCB—1)

NOTE: ▬ for Australia MTX202
for Others MTX2

5.2 AF CIRCUIT BOARD

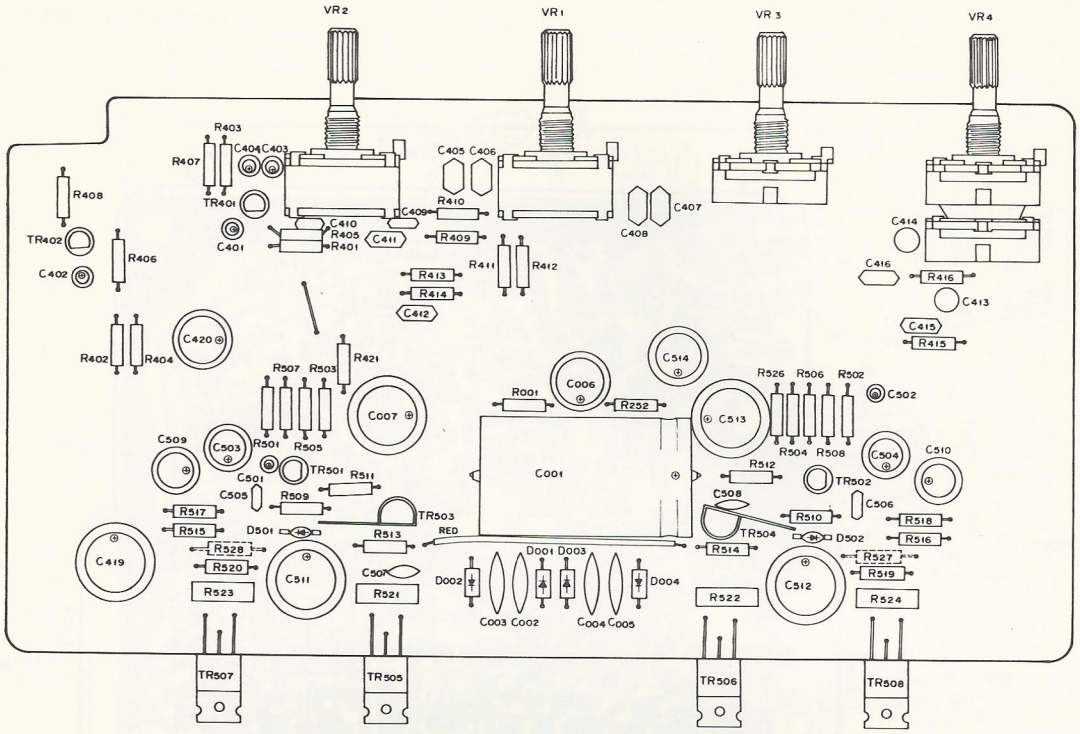


Fig. 17 TOP VIEW

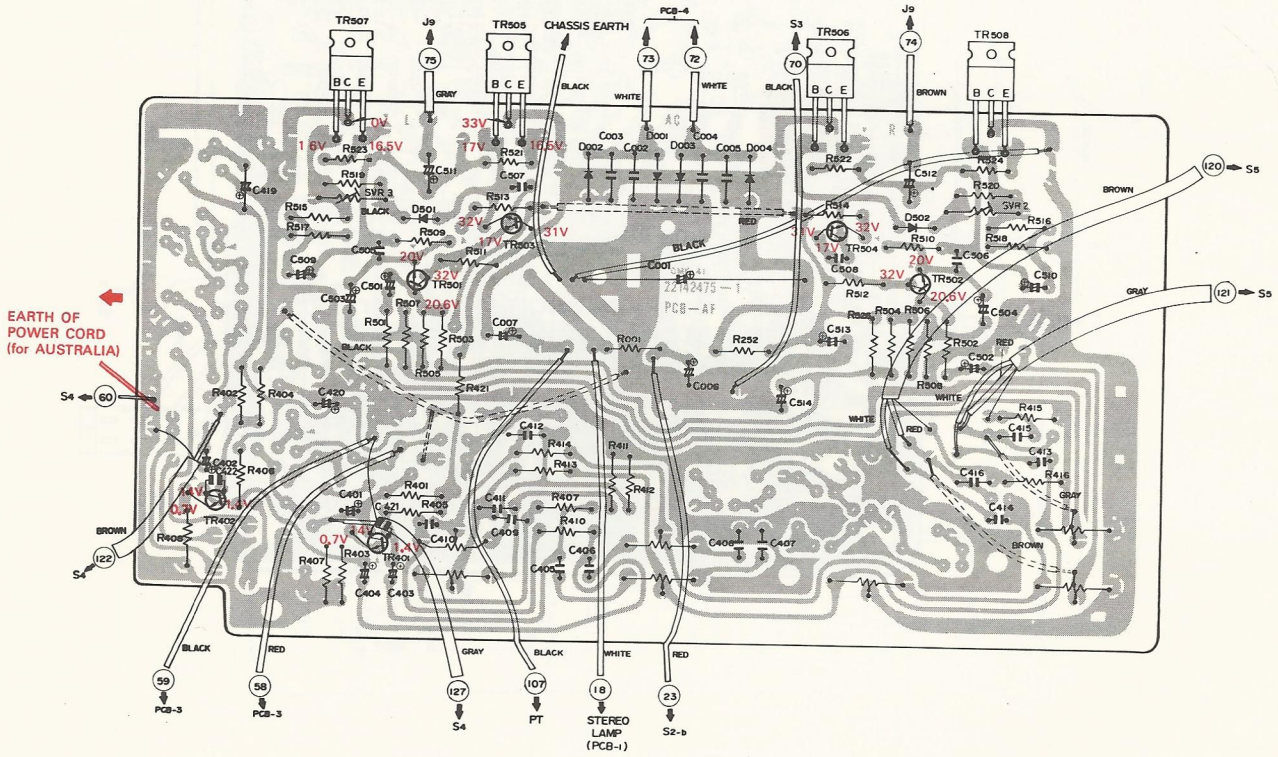


Fig. 18 BOTTOM VIEW (PCB—2)

5.3 EQ AMP CIRCUIT BOARD

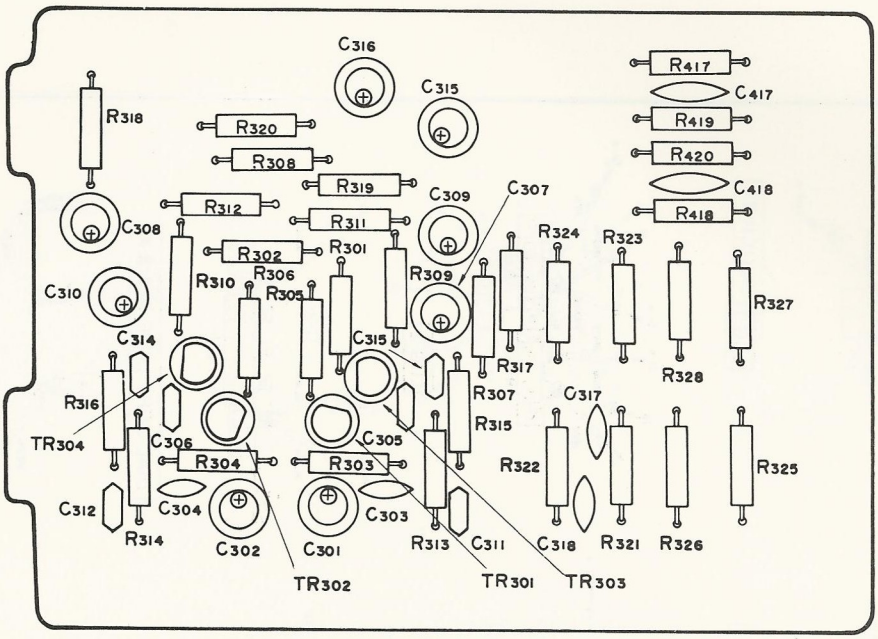


Fig. 19 TOP VIEW

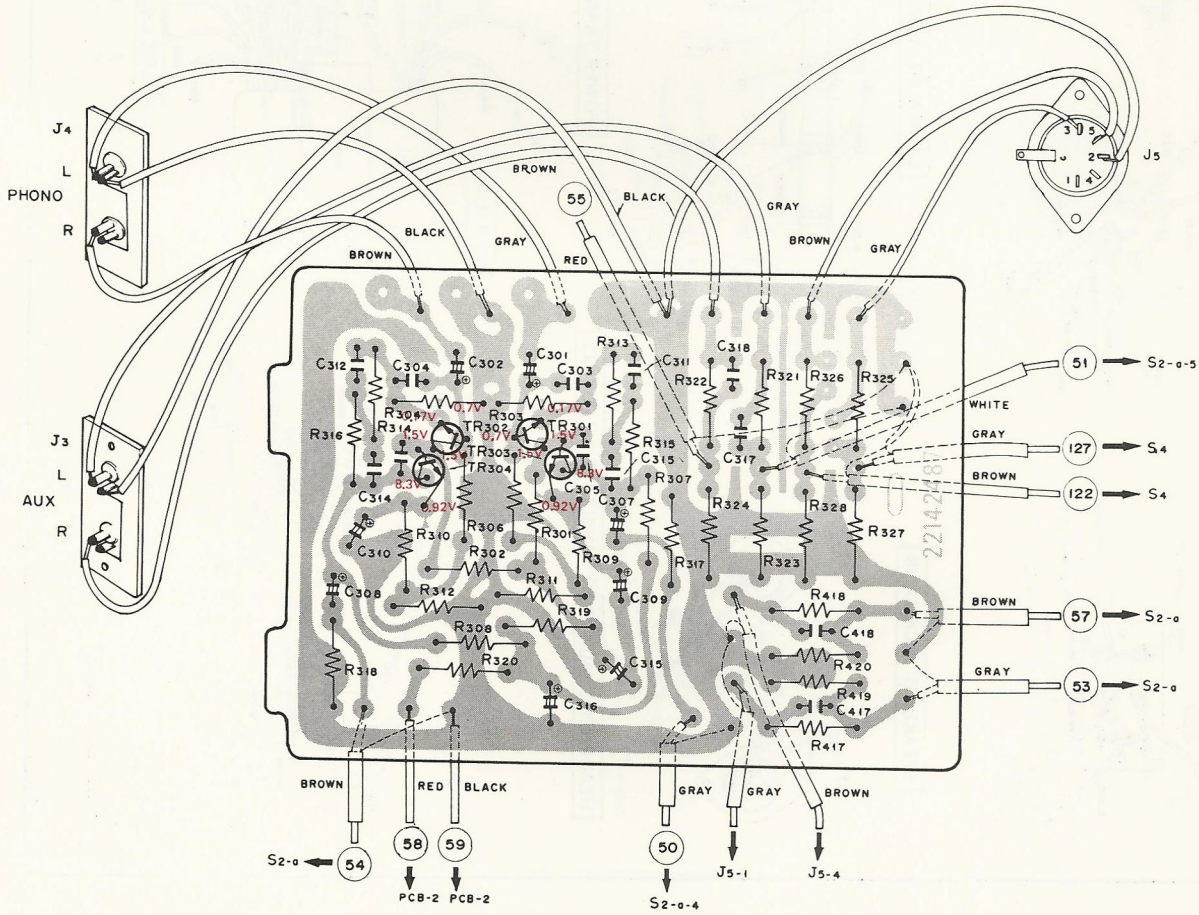


Fig. 20 BOTTOM VIEW (PCB—3)

4 POWER SUPPLY CIRCUIT BOARD

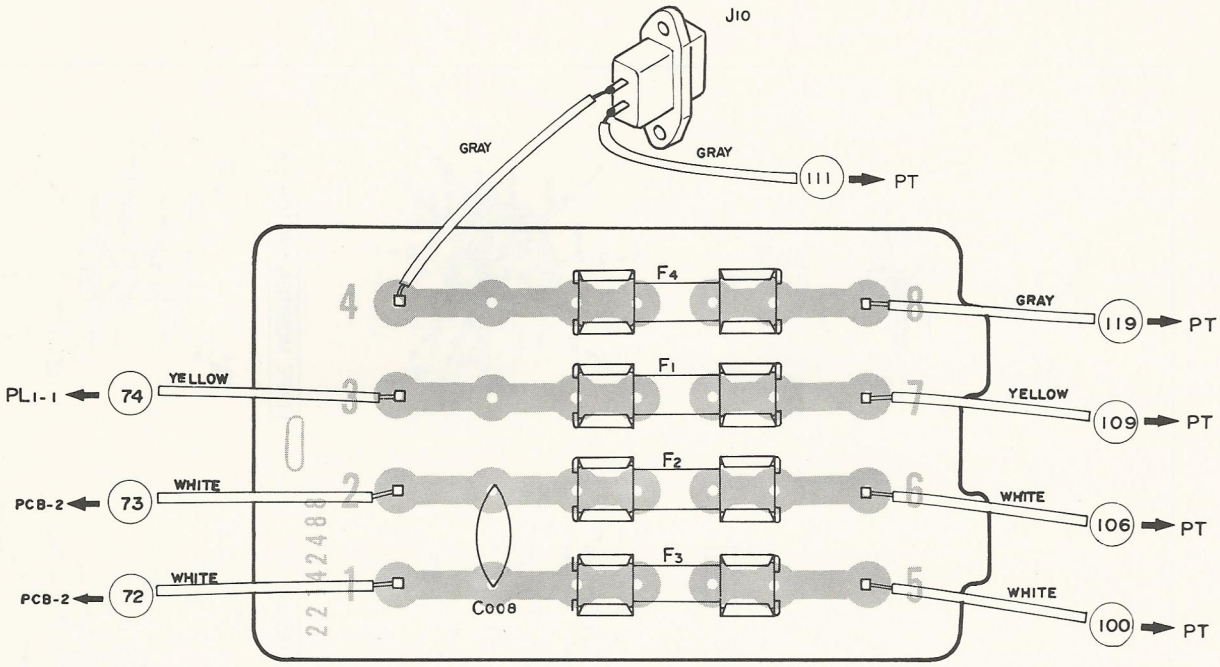


Fig. 21 TOP AND BOTTOM VIEW (PCB—4)

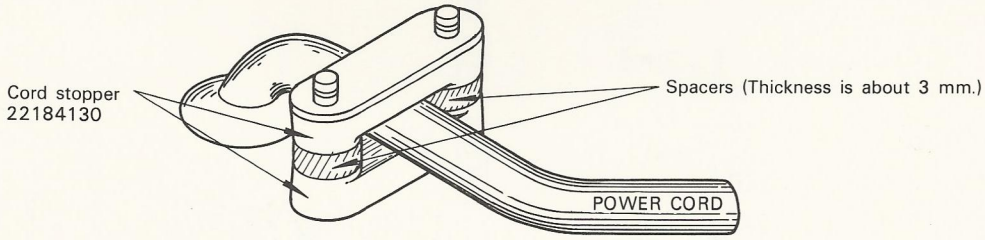
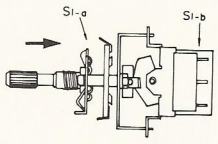
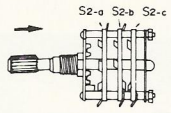


Fig. 22 (FOR AUSTRALIA)

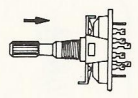
POWER (MODE) SWITCH **S1**



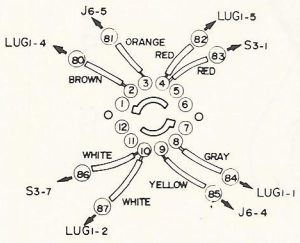
SELECTOR SWITCH **S2**



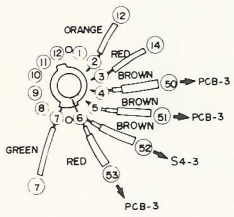
SPEAKER SELECT **S3**



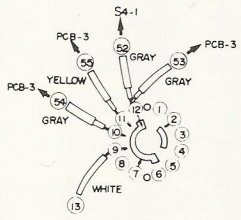
S1-a



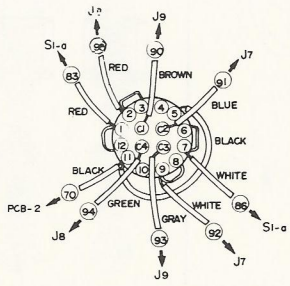
S2-a (Front)



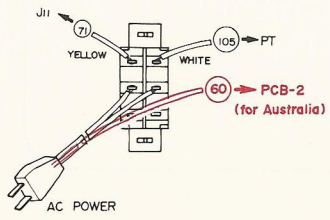
S2-a-(Rear)



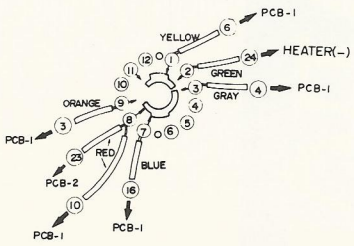
S3



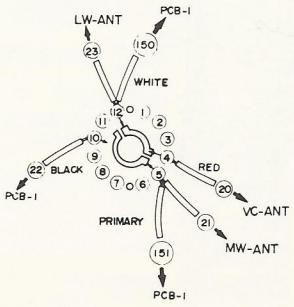
S1-b



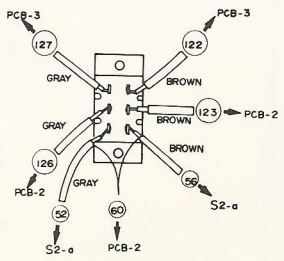
S2-b (Front)



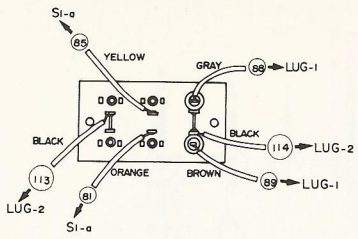
S2-b (Rear)



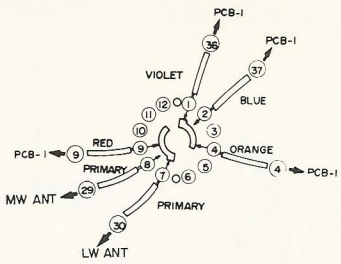
TAPE MONITOR SWITCH **S4**



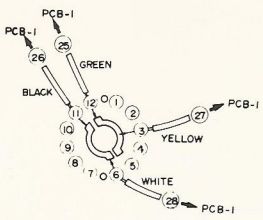
SPEAKER A JACK **J6**



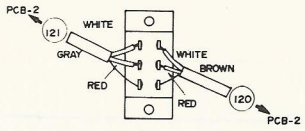
S2-c (Front)



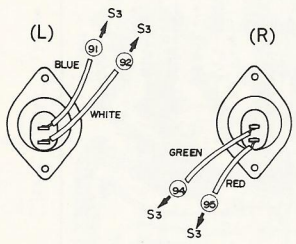
S2-c (Rear)



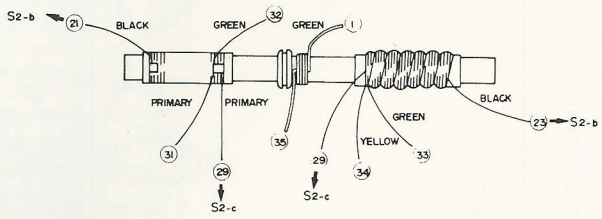
LOUDNESS SWITCH **S5**



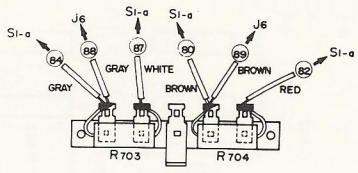
SPEAKER B JACK **J7, J8**



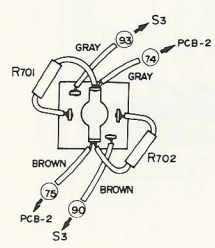
LW, MW ANT COIL **L108**



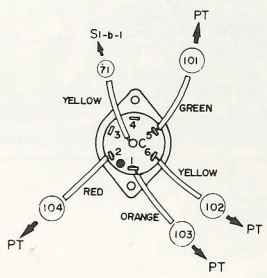
LUG 1



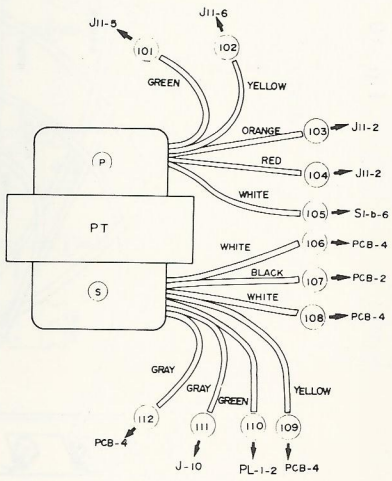
HEADPHONE JACK **J9**



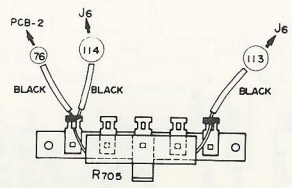
VOLTAGE SELECT **J11**



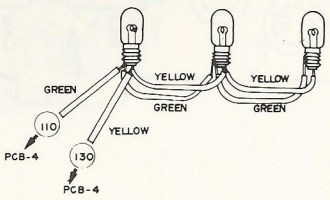
POWER TRANS



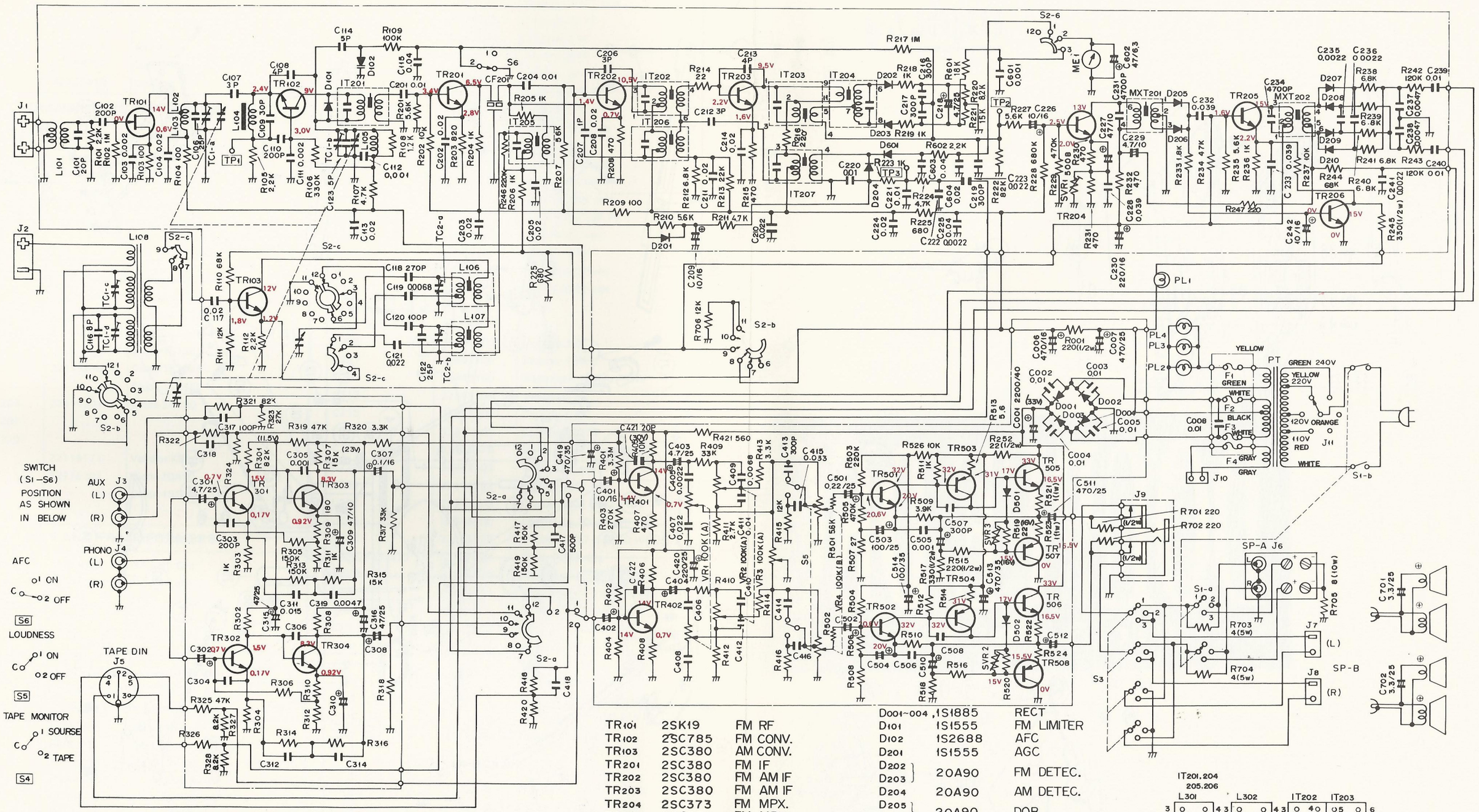
LUG 2



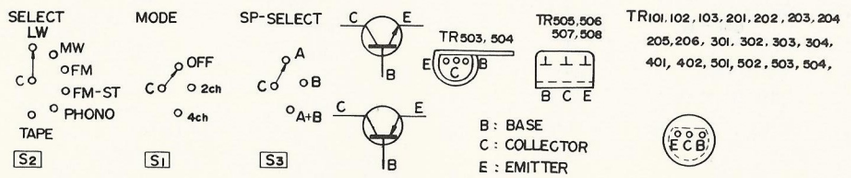
DIAL LIGHT LAMP **PL2, 3, 4**

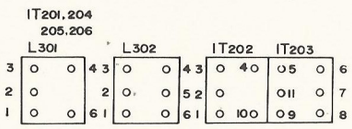


7. SCHEMATIC DIAGRAM



TR101	2SK19	FM RF	D001~004	1S1885	RECT
TR102	2SC785	FM CONV.	D101	1S1555	FM LIMITER
TR103	2SC380	AM CONV.	D102	1S2688	AFC
TR201	2SC380	FM IF	D201	1S1555	AGC
TR202	2SC380	FM AM IF	D202, D203	20A90	FM DETEC.
TR203	2SC380	FM AM IF	D204	20A90	AM DETEC.
TR204	2SC373	FM MPX.	D205, D206	20A90	DOB.
TR205	2SC373	FM MPX.	D207, D208, D209, D210	20A90	MPX SWITCH
TR206	2SC373	FM SWITCH	D501, D502	KB-165	BIAS
TR301, 302, TR303, 304	2SC732	EQ AMP.	D601	20A90	AM TUNING
TR401, 402	2SC732	TONE AMP.			
TR501, 502	2SC733	AF AMP.			
TR503, 504	2SA684	DRIVER AF			
TR505, 506, TR507, 508	2SC1398, 2SA748	POWER AMP.			





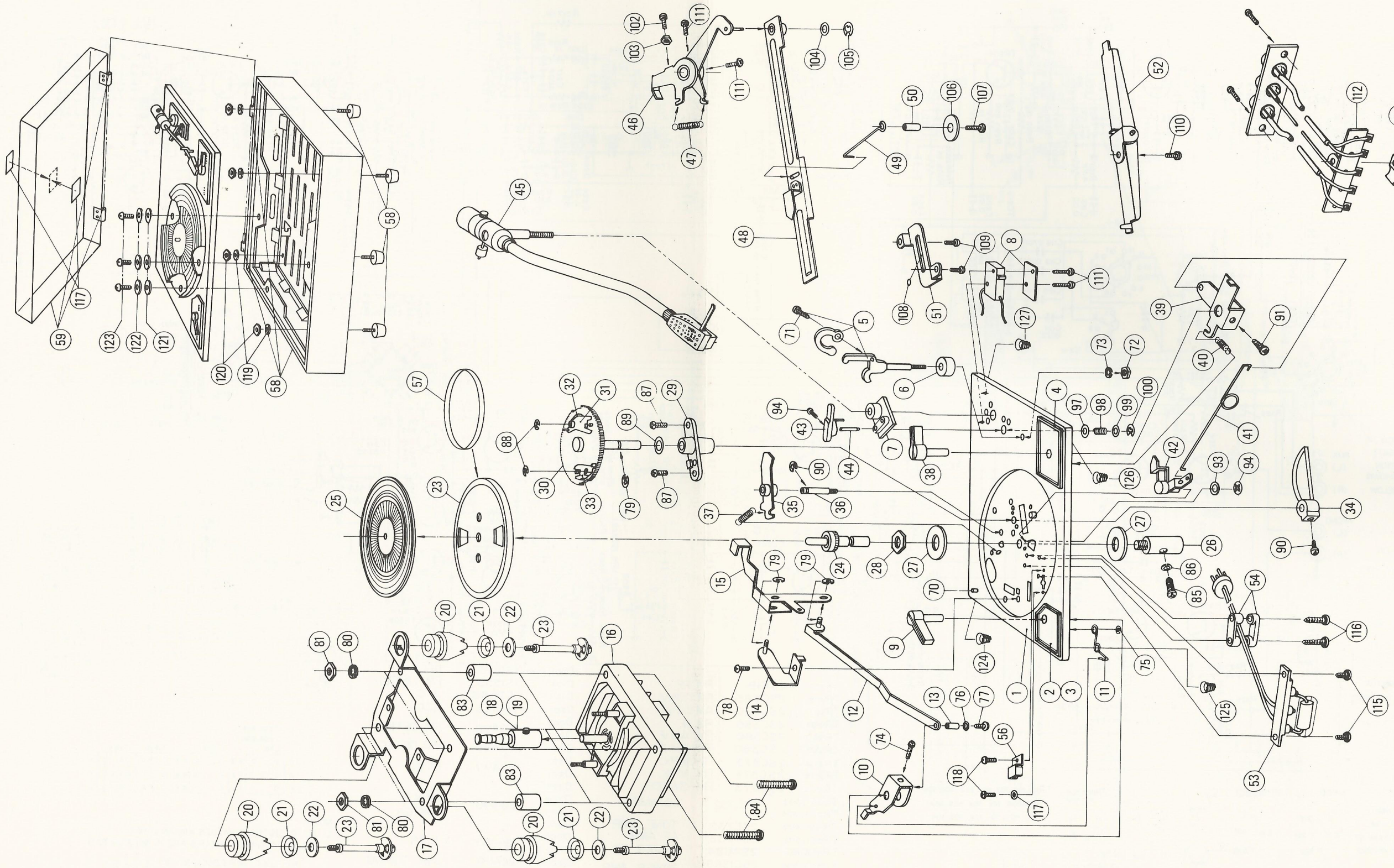
NOTE

1) ALL RESISTANCE VALUES ARE IN OHMS
ALL CAPACITANCE VALUES ARE IN MICROFARAD

$K = 1{,}000 \quad M = 1{,}000{,}000 \quad P = \frac{1}{1{,}000{,}000}$

2) COMPONENTS AND VALUES ARE SUBJECT TO CHANGE WITHOUT NOTICE FOR IMPROVEMENT.

8. EXPLODED VIEW—PLAYER



9. PARTS LIST

Key No.	Part No.	Description
UNITS		
	22131203	Front End Unit
	22136414	Audio Unit
	22138204	Supply Unit
	22136415	Equalizer Unit
TRANSISTORS AND DIODES		
TR101		Transistor 2SK19
TR102		Transistor 2SC785
TR103, 201 202, 203		Transistor 2SC380
TR204, 205, 206		Transistor 2SC373
TR301, 302 303, 304		Transistor 2SC732
TR401, 402		
TR501, 502		Transistor 2SC733
TR503, 504	22114249	Transistor 2SA684
TR505, 506	22114250	Transistor 2SC1398
TR507, 508	22114251	Transistor 2SA784
D101		Diode 1S1555
D102	22115210	Diode 1S2688
D201		Diode 1S1555
D202, 203, 204 205, 206, 207 208, 209, 210	22115201	Diode 20A90
D501, 502	22115171	Varistor KB165
D601	22115201	Diode 20A90
D001, 002 003, 004		Diode 1S1885
COILS AND TRANSFORMERS		
L101	22292053	FM-ANT. Coil
L102, 103	22294192	FM-RF. Coil
L104	22291009	FM-Choke. Coil
L105	22294194	FM-Oscillator Coil
L106	22245188	MW-Oscillator Coil
L107	22205025	LW-Oscillator Coil
L108	22242424	LW-MW- ANT Coil
IT201	22265554	IF Transformer, FM
IT202	22265562	IF Transformer, FM
IT203	22267276	IF Transformer, FM
IT204	22267272	IF Transformer, FM
IT205	22264565	IF Transformer, AM
IT206	22264566	IF Transformer, AM
IT207	22266228	IF Transformer, AM
MXT201	22232159	MPX-Coil 19 kHz
MXT202	22232141	MPX-Coil 38 kHz
PT	22213626	Power Transformer
CF201	22153018	Ceramic Filter
CAPACITORS		
(D: ±0.5 PF K: ±10% M: ±20% P: $^{+100}_{-0}$ % Z: $^{+80}_{-20}$ % J: ±5%)		
C101	22361200	Ceramic 20 PF D
C102	22362201	Ceramic 200 PF K

Key No.	Part No.	Description
C103,111	22343202	Ceramic 0.002 mfd M
C104,113	22341203	Ceramic 0.02 mfd P
C105, 112	22343102	Ceramic 0.001 mfd M
C106, 122	22361250	Ceramic 25 PF D
C107	22361209	Ceramic 3 PF D
C108	22361409	Ceramic 4 PF D
C109	22361300	Ceramic 30 PF J
C110	22361201	Ceramic 200 PF J
C114	22361509	Ceramic 5 PF D
C115	22342403	Ceramic 0.04 mfd Z
C116	22361809	Ceramic 8 PF D
C117	22341203	Ceramic 0.02 mfd P
C118	22391271	Polystylene 270 PF J
C119	22373682	Mylar 0.0068 mfd M
C120	22381107	Polystylene 100 PF J
C121	22373203	Mylar 0.022 mfd M
C123	22361509	Ceramic 5 PF D
C201, 204	22341103	Ceramic 0.01 mfd P
C202, 203, 205 208, 210, 211 214, 215, 224	22341203	Ceramic 0.02 mfd P
C206	22361309	Ceramic 3 PF D
C207	22361109	Ceramic 1 PF D
C209	22445100	Electrolytic 10 mfd 16WV
C212	22361309	Ceramic 3 PF D
C213	22361409	Ceramic 4 PF D
C216, 217, 219	22362301	Ceramic 300 PF K
C218	22446479	Electrolytic 4.7 mfd, 25 WV
C220, 221	22373103	Mylar 0.01 mfd M
C222	22373222	Mylar 0.0022 mfd M
C223	22373203	Ceramic 0.04 mfd Z
C226	22445100	Electrolytic 10 mfd, 16 WV
C227	22443470	Electrolytic 47 mfd, 10 WV
C228, 232, 233	22372393	Mylar 0.039 mfd K
C229	22446479	Electrolytic 4.7 mfd, 25 WV
C230	22445221	Electrolytic 220 mfd, 16 WV
C231, 234	22391472	Polystylene 4700 PF J
C235, 236	22372222	Mylar 0.0022 mfd K
C237,238	22372472	Mylar 0.0047 mfd K
C239, 240	22373103	Mylar 0.01 mfd M
C241	22373103	Mylar 0.0022 mfd K
C242	22446479	Electrolytic 10 mfd 16 WV
C301, 302	22446479	Electrolytic 4.7 mfd, 25 WV
C303, 304, 317 318	22362201	Ceramic 200 PF K
C305, 306	22343102	Ceramic 0.001 mfd M
C307, 308	22402014	Electrolytic 0.1 mfd, 16WV
C309, 310	22443470	Electrolytic 47 mfd, 10WV
C311, 312	22372153	Mylar 0.015 mfd K
C313, 314	22372472	Mylar 0.0047 mfd K
C315, 316	22446470	Electrolytic 47 mfd, 25 WV
C401, 402	22445100	Electrolytic 10 mfd, 16 WV
C403, 404	22446479	Electrolytic 4.7 mfd, 25 WV
C405, 406	22372222	Mylar 0.0022 mfd K
C407, 408	22372223	Mylar 0.022 mfd K
C409, 410	22372103	Mylar 0.01 mfd K

Key No.	Part No.	Description	
C411, 412	22372104	Mylar 0.1 mfd	K
C413, 414	22362501	Ceramic 500 PF	K
C415, 416	22372333	Mylar 0.033 mfd	M
C417, 418	22362501	Ceramic 500 PF	K
C419	22447471	Electrolytic 470 mfd, 35 WV	
C420	22447221	Electrolytic 220 mfd, 35 WV	
C501, 502	22402015	Electrolytic 0.22 mfd, 25 W	
C503, 504	22446101	Electrolytic 100 mfd, 25 WV	
C505, 506	22373102	Mylar 0.001 mfd	M
C507, 508	22362301	Ceramic 300 PF	K
C509, 510	22447470	Electrolytic 47 mfd, 35 WV	
C511, 512	22446471	Electrolytic 470 mfd, 25 WV	
C513	22447471	Electrolytic 470 mfd, 35 WV	
C514	22447101	Electrolytic 100 mfd, 35 WV	
C001	22450014	Electrolytic 2200 mfd, 40 WV	
C002, 003, 004 005	22341030	Ceramic 0.01 mfd	P
C006	22445471	Electrolytic 470 mfd, 16 WV	
C007	22446471	Electrolytic 470 mfd, 25 WV	
C008	22341030	Ceramic 0.01 mfd	
TC2	22309036	Trimmer Capacitor	

RESISTORS

(All Resistors are 1/4 W, ±10%, carbon unless otherwise noted)

R101, 105	22561222	2.2K ohm Solid 1/4W	
R102	22561105	1 M ohm Solid 1/4W	
R103, 104	22561101	100 ohm Solid 1/4W	
R106	22546334	330K ohm Solid 1/4W	
R107	22561472	4.7K ohm Solid 1/4W	
R108	22561122	1.2K ohm Solid 1/4W	
R109	22561104	100K ohm Solid 1/4W	
R110	22546683	68K ohm	
R111	22546123	12K ohm	
R112	22546222	2.2K ohm	
R201	22546562	5.6K ohm	
R202	22546103	10K ohm	
R203	22546821	820 ohm	
R204, 205, 206 218, 219, 223	22546102	1K ohm	
R207	22546563	56K ohm	
R208, 215, 225	22546471	470 ohm	
R209	22546101	100 ohm	
R210	22546563	5.6K ohm	
R211	22546472	4.7K ohm	
R212	22546682	6.8 ohm	
R213, 224	22546223	22K ohm	
R214	22546220	22 ohm	
R216	22546221	220 ohm	
R217	22546105	1M ohm	
R220	22546822	8.2K ohm	
R221	22546153	15K ohm	
R222	22546823	82K ohm	
R225	22546681	680 ohm	
R227, 235	22546562	5.6K ohm	
R228	22546684	680K ohm	
R229	22546474	470K ohm	

Key No.	Part No.	Description	
R230, 231, 232	22546471	470 ohm	
R233	22546182	1.8K ohm	
R234	22546473	47K ohm	
R236	22546102	1K ohm	
R237	22546103	10K ohm	
R238, 239, 240 241	22546682	6.8K ohm	
R242, 243	22546124	120K ohm	
R244	22546823	68K ohm	
R245	22563331	330 ohm Solid 1/2 W	K
R246	22546224	220K ohm	
R247	22546221	220 ohm	
R250	22546481	480 ohm	
R301, 302	22546823	82K ohm	
R303, 304	22546162	1K ohm	
R305, 306, 313 314	22546154	150K ohm	
R307, 308	22546153	15K ohm	
R309, 310	22546181	180 ohm	
R311, 312	22546821	820 ohm	
R315, 316	22546153	15K ohm	
R317, 318	22546333	33K ohm	
R319, 325, 326	22546473	47K ohm	
R320	22546332	5.6K ohm	
R321, 322	22546823	82K ohm	
R323, 324	22546273	27K ohm	
R325, 326	22546473	47K ohm	
R327, 328	22546822	8.2K ohm	
R401, 402	22546335	3.3M ohm	
R403, 404	22546274	270K ohm	
R405, 406	22546103	10K ohm	
R407,408	22546471	470 ohm	
R409, 410	22546333	33K ohm	
R411, 412	22546272	2.7K ohm	
R413, 414	22546102	1K ohm	
R415, 416	22546123	12K ohm	
R417, 418	22546154	150K ohm	
R419, 420	22546154	150K ohm	
R421	22546102	1 ohm	
R501, 502	22546562	5.6K ohm	
R503, 504	22546224	220K ohm	
R505, 506	22546474	470K ohm	
R507, 508	22546270	27 ohm	
R509, 510	22546392	3.9K ohm	
R511, 512	22546102	1K ohm	
R513, 514	22546569	5.6 ohm	
R515, 516	22563221	220 ohm Solid 1/2W	K
R517, 518	22563331	330 ohm Solid 1/2W	K
R519, 520	22546220	22 ohm	
R521, 522, 523 524	22500109	1 ohm Cement 1W	K
R525	22563220	22 ohm Solid 1/2W	K
R526	22546103	10K ohm	
R601	22546183	18K ohm	
R602	22546222	2.2K ohm	
R701, 702	22563221	220 ohm Solid 1/2W	K
R703, 704	22500060	4 ohm Cement 5W	K

Key No.	Part No.	Description	
R705	22500062	8 ohm Cement 10W	K
R706	22546122	12K ohm	
R001	22563221	220 ohm Solid 1/2W	K
VR1, 2	22648201	Variable Resistor 100 ohm	
VR3	22640201	Variable Resistor 100K ohm	
VR4	22650203	Variable Resistor 100K ohm	
SVR1	22658176	Semi-Fixed Resistor 500 ohm	
SVR2, 3	22658776	Semi-Fixed Resistor 200 ohm	
ELECTRICAL PARTS			
S1	22146249	Rotary Switch, Mode Select	
S2	22146352	Rotary Switch, Select	
S3	22145874	Rotary Switch, SP Select	
S4, 5, 6	22146328	Lever Switch	
J1	22167200	DIN Socket, 2P, FM-ANT	
J2	22167201	DIN Socket, 2P, AM-ANT	
J3, 4	22163370	US2P Jack, AUX and PHONO	
J5	22167192	DIN Socket, 5P, REC/PB	
J6	22162044	Terminal, CPX, Speaker A	
J7, 8	22167228	DIN Socket, 2P, Speaker B	
J9	22163276	Jack, Head Phone	
J10	22167425	2P Socket	
J11	22167211	Socket, Voltage Select	
	22164257	Plug, Voltage Select	
	20749672	Selector Cover	
ME	22104092	Tuning Meter	
	22176286	Power Cord (for Europe)	
	22176435	Power Cord (for U.S.A.)	
	22176438	Power Cord (for Australia)	
PL1	22113258	Pilot Lamp	
PL2, 3	22113277	Pilot Lamp	
PL4	22113124	Pilot Lamp	
	22167193	Socket, Pilot Lamp	
	22151777	Speaker, Tweeter	
	22151776	Speaker, Woofer	
CABINET PARTS			
	22851529	Amp Cabinet Assembly (for Europe, U.S.A.)	
	22851544	Amp Cabinet Assembly (for Australia)	
58	20847680	Player Cabinet Assembly (for Europe, U.S.A.)	
58	20847757	Player Cabinet Assembly (for Australia)	
59	20847709	Dust Cover Assembly	
	22821804	Speaker Box Assembly	
	20836637	Front Panel Assembly	
	20863607	Foot, Amp and Player Cabinet	
	20861681	Hinge-A, Left	
	20861680	Hinge-A, Right	
	20861678	Hinge-B	
	20861672	Hinge-STP	
	20746783	Support-Hinge	
	20042698	Tuning Shaft	
	22756561	Cushion, ST Lamp	
	22837710	Dial Plate	

Key No.	Part No.	Description
	20042699	Pointer
	20749723	Switch Mask
	22835411	Knob, Tuning
	22835410	Knob, Volume
	22757531	Antenna Holder
	22856639	Cushion RB, Antenna
	22742539	Drum
	20705688	Spring, Drum
	22772003	Dial Cord 1200 mm
	20881680	Cushion RB, AC Cord
	20968691	Label, Fuse 1A
	20968692	Label, Fuse 1.6A
	20746790	Holder, Bushing
	20881676	Cord, Bushing
	20956732	Label, Attention
	20956643	Label, Clamp
	22166433	Speaker Cord
	22164359	US-Pin Cord
	22166229	Earth Cord
	22124968	FM Antenna
	20971652	45 rpm Adapter
	22952865	Owner's Manual
PLAYER PARTS		
1	20713782	Panel
2	20741721	Selector Base
4	20779709	Reject Name Plate
5	20738654	Arm Clamp Assembly
6	20738646	Rest Stand
7	20735622	PU Stand
8	22145854	Leaf Switch
9	20741708	Knob, Speed Change
10	20753774	Lever, Speed Change
11	20707692	Toggle Spring
12	20751706	Plate Ass'y, Change Belt
14	20751705	Actuating Plate Ass'y
15	20743692	Actuating Plate, Belt
16	22125525	Motor
17	20743794	Motor Sheet
19	20716726	Motor Pulley, 50 Hz (for Europe, Australia)
19	20716727	Motor Pulley, 60 Hz (for U.S.A.)
20	20803624	Motor Attachment
23	20723653	Turntable
24	20725667	Table Shaft Ass'y
25	20723027	Table Sheet
26	20725660	Table Shaft Holder
29	20773767	Holder, Gear Shaft
30	20727626	Main Gear
31	20751729	Auto Clutch Ass'y
32	20751704	Auto Trip Ass'y
33	20753782	Hand Clutch
34	20757656	Return Cam
35	20746737	Gear Stopper
36	20762824	Gear Stopper Shaft
37	20705601	Tension Coil Spring

Key No.	Part No.	Description
38	20763889	Reject Knob Ass'y
39	20743724	Reject Plate
41	20707691	Reject Pole
42	20751753	Reject Lever Ass'y
43	20764679	PU Lifting Bar
44	20763829	PU Lifting Shaft
45	20731702	PU Arm
46	20751713	PU Plate Ass'y
48	20753931	Auto Lever Ass'y
49	20753784	Return Lever Ass'y
50	20773695	Change Plate Spacer
51	20746754	Ball Holder
52	20751707	Seesaw Lever Ass'y
53	22161302	3P Plug Terminal
54	22184130	Cord Stopper
57	20728611	Belt
58	20847680	Player Cabinet Assembly (for Europe, U.S.A.)
	Contents of Assembly	CABINET HINGE-A, L HINGE-A, R FOOT
58	20847757	Player Cabinet Assembly (for Australia)
	Contents of Assembly	CABINET HINGE-A, L HINGE-A, R FOOT
59	20847709	Dust Cover Assembly
	Contents of Assembly	DUST COVER HINGE-B HINGE-STP SUPPORT-HINGE
5	20738654	Arm Clamp Assembly
	Contents of Assembly	PU REST ASS'Y PU REST REST SHAFT ARM CLAMP
83	22752784	Spacer, Motor
124	20703806	Panel Spring E
125	20703730	Panel Spring B
126	20703731	Panel Spring C
127	20703732	Panel Spring D
128	22155450	Cartridge C-29M (without Stylus)
129	22164394	2P Plug Cord
	22956405	FTC Tag
	22956812	FTC Label
	22866714	Hz Label
	22957188	Warranty Card