

SERVICE MANUAL

MODEL FP-3

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

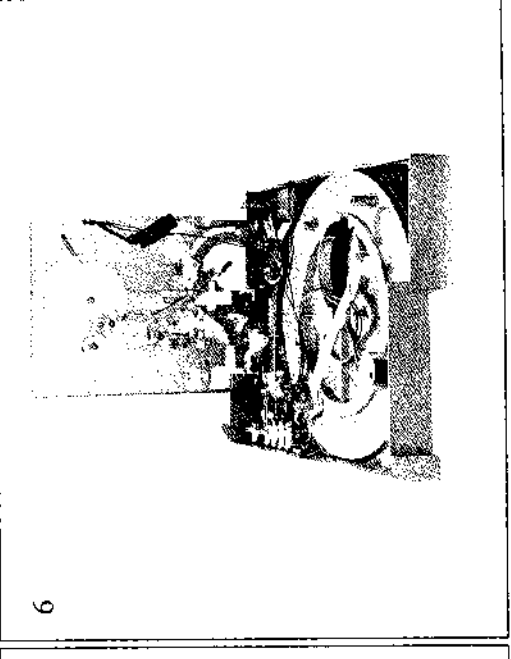
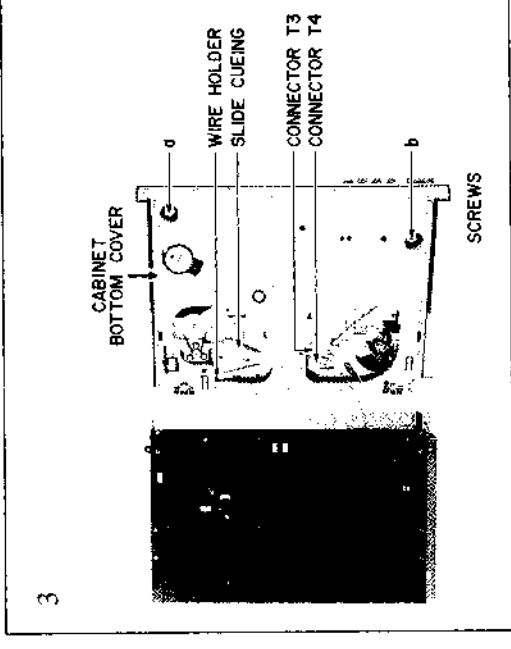
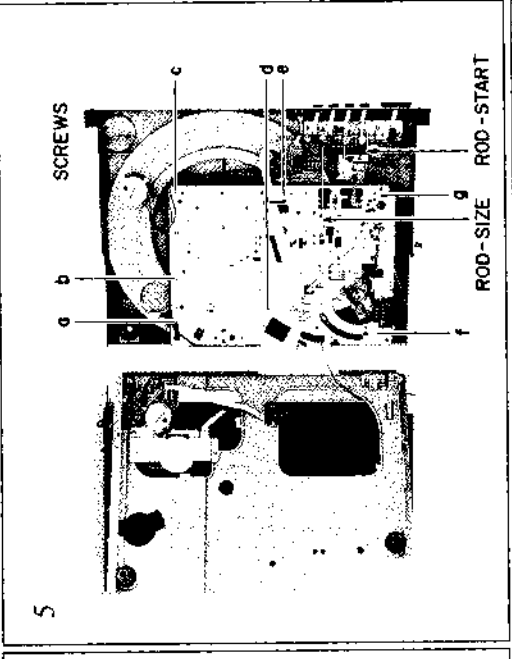
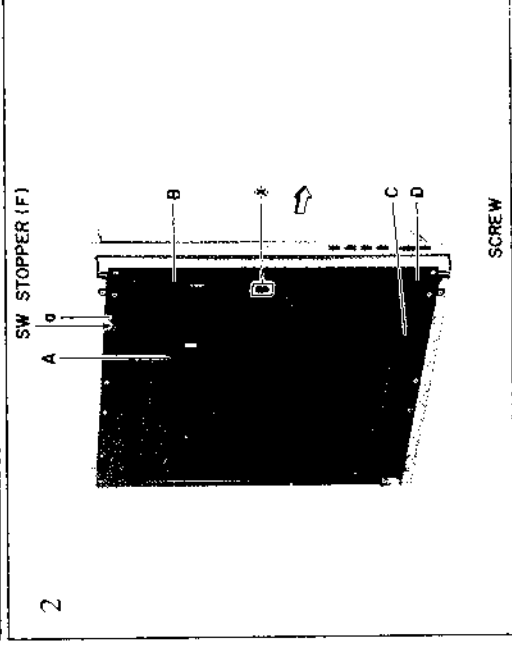
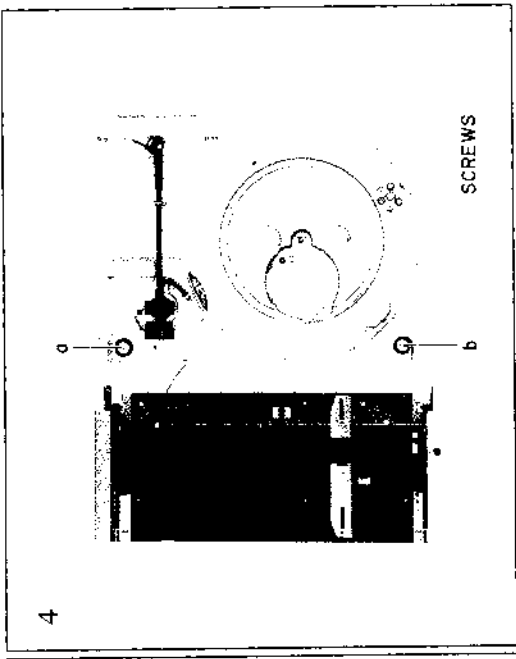
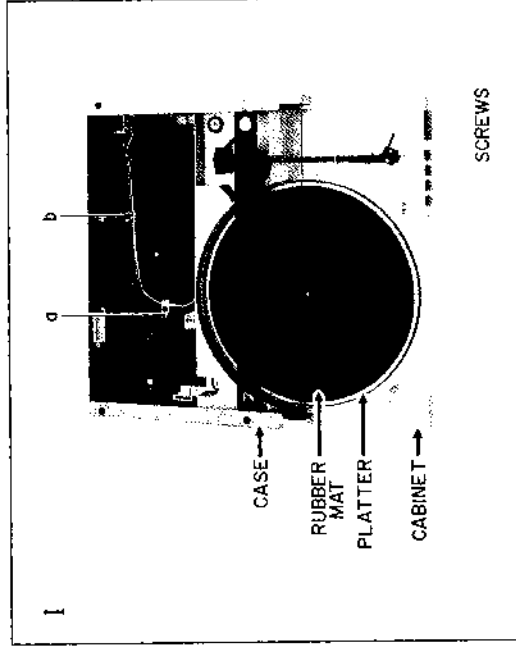
I . SPECIFICATION ION

TURNTABLE SECTION	
DRIVE SYSTEM & MECHANISM	Belt Drive, Fully Automatic, Front Loading System
MOTORS	Electronically speed controlled DC motor x 1 DC motor for Loading system x 1
SPEED	33-1/3 rpm, 45 rpm
WOW AND FLUTTER	0.04% (WRMS)
RUMBLE	73 dB (DIN 8)
CARTRIDGE	YM Type
REPLACEMENT STYLUS	RS-83

* For improvement purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

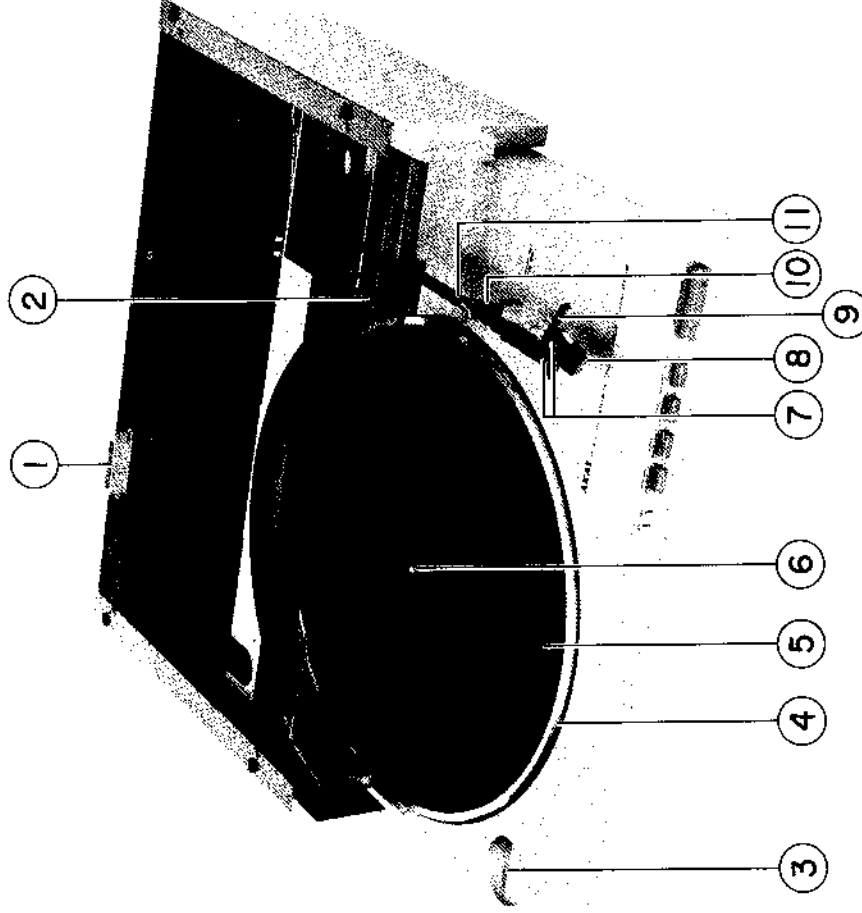


Fig. 3-1

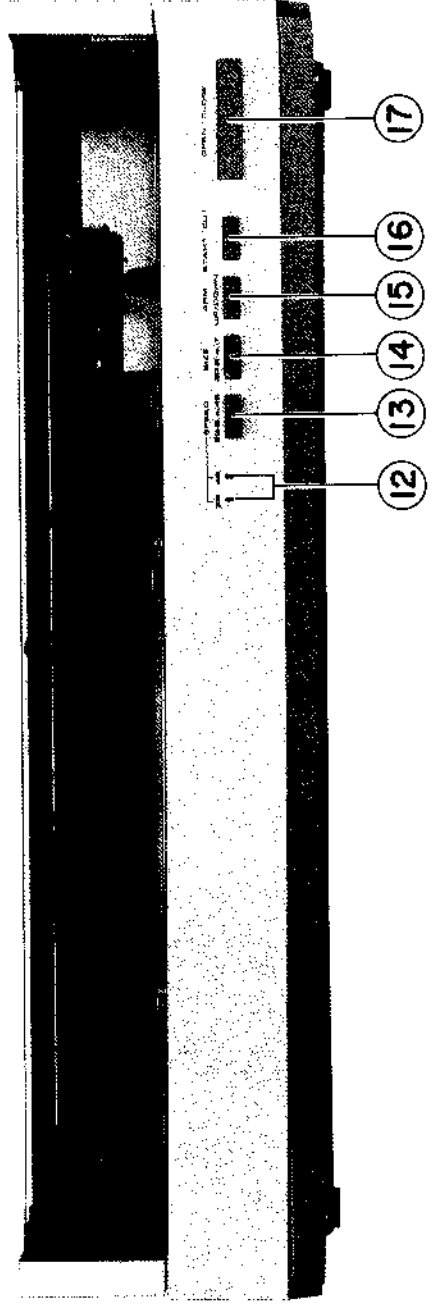


Fig. 3-2

- 1. POWER CONNECTOR
- 2. ARM LIFTER
- 3. 45 RPM ADAPTER HOLDER
- 4. PLATTER
- 5. RUBBER MAT
- 6. SPINDLE
- 7. OVER HANG ADJUSTMENT SCREWS
- 8. CARTRIDGE (WITH STYLUS)
- 9. HEADSHELL

- 10. TONE ARM REST AND CLAMP
- 11. TONE ARM
- 12. SPEED INDICATORS
- 13. SPEED SELECTOR
- 14. SIZE SELECTOR
- 15. ARM UP/DOWN SWITCH
- 16. START/CUT BUTTON
- 17. OPEN/CLOSE BUTTON

IV. PRINCIPAL PARTS LOCATION

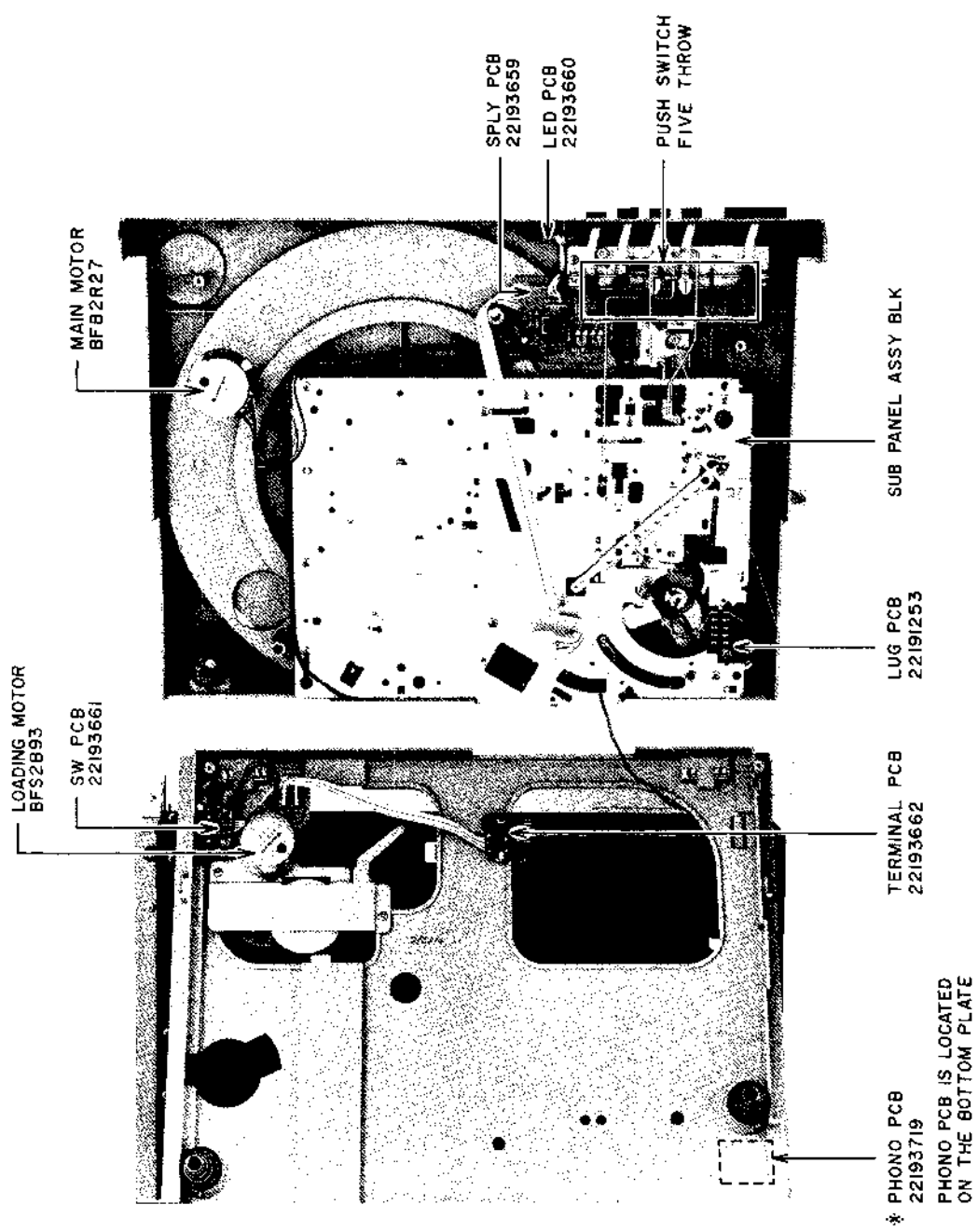


Fig. 4-1

V. ADJUSTMENT

5-1. HORIZONTAL ADJUSTMENT

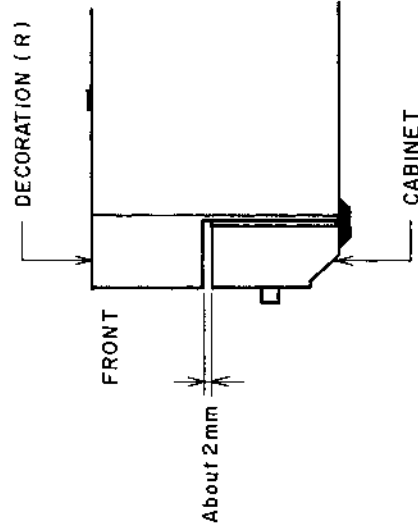


Fig. 5-1 Right Side View

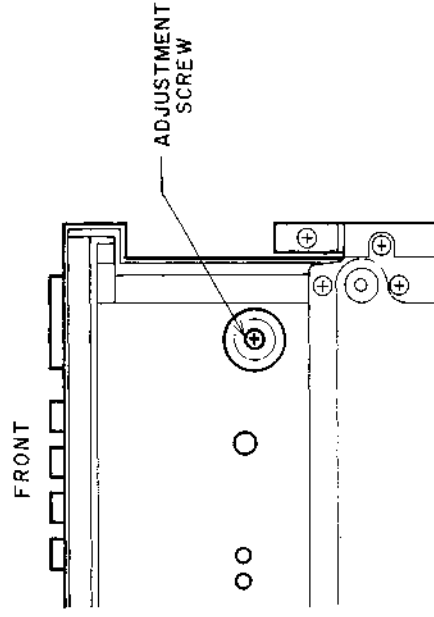


Fig. 5-2 Adjustment Point

Adjust the Adjustment screw which located bottom (refer to Fig. 5-2) so that the space between Decoration (R) and Cabinet is about 2mm.

5-2. TONE ARM HEIGHT ADJUSTMENT

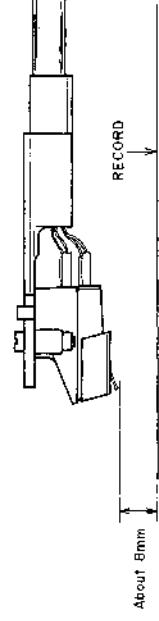


Fig. 5-3

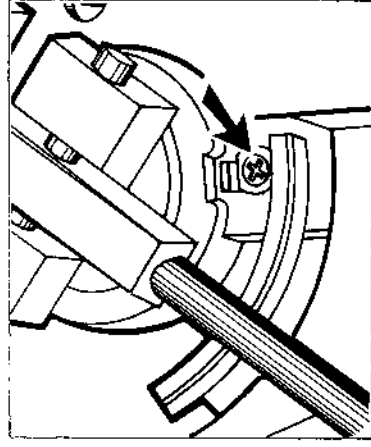


Fig. 5-4 Adjustment Point

With tone arm in the up-position, (tone arm is on one arm lifter), the stylus should be about 8mm above from the surface of the record. Turn the adjustment screw to change the height.

Clockwise: down

Counterclockwise: up

5-3. LEAD IN/LEAD OUT POSITION ADJUSTMENT

- 1) Place a record on the platter. (Use a 30cm record.)
- 2) Auto-play the record and confirm where the stylus descends.
- 3) Depress the START/CUT button to Return the Tone arm to Tone arm Rest.
- 4) IF the Stylus does not descends within the Lead-in aria. Adjust, Lead in/Lead out Adjustment screw with a screw driver,
 - Clockwise: To make the Stylus descend towards the spindle.
 - Counterclockwise: To make the Stylus descend away from the spindle.
- 5) The proper Adjustment of the Lead in position will automatically Adjust the proper Lead out position.

NOTE: Do not turn the screw to far carry out the adjustment a little at a time and confirm the position after each adjustment.

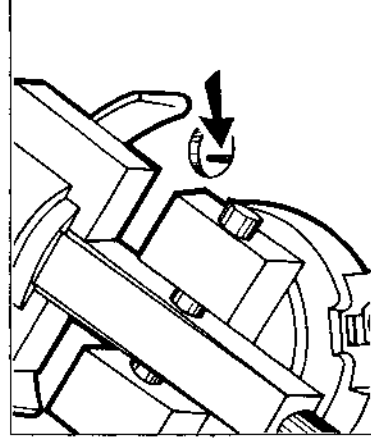


Fig. 5-5 Adjustment Point

5-4. SPEED ADJUSTMENT

FRONT

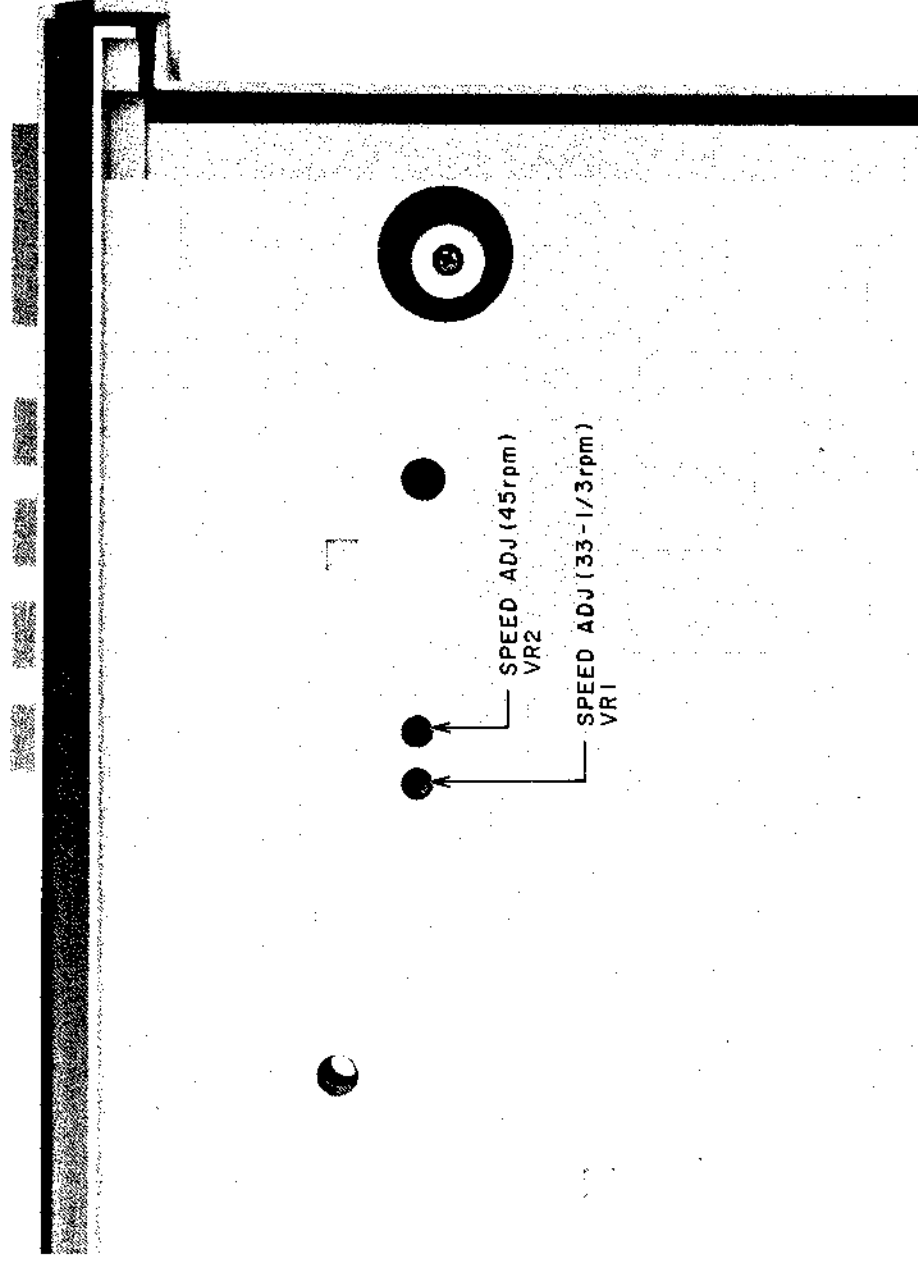


Fig. 5-6 Adjustment Point

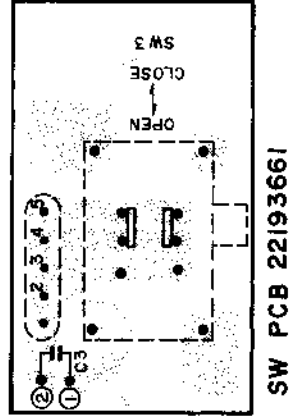
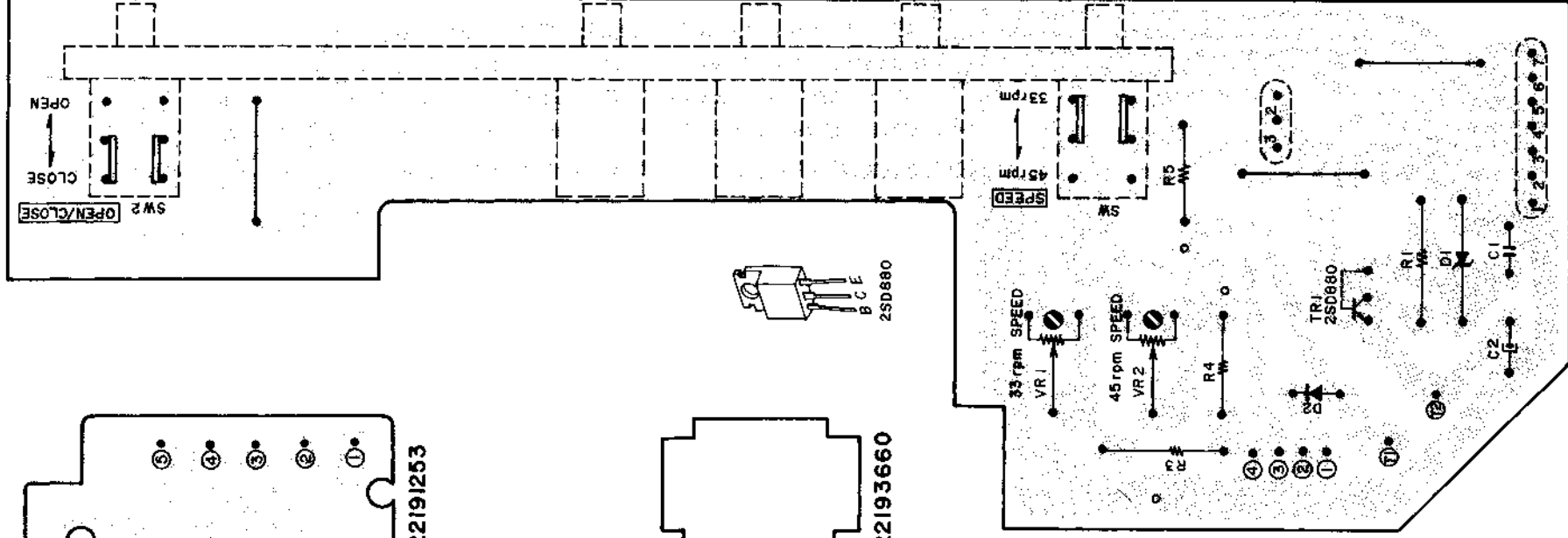
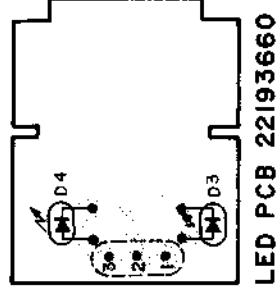
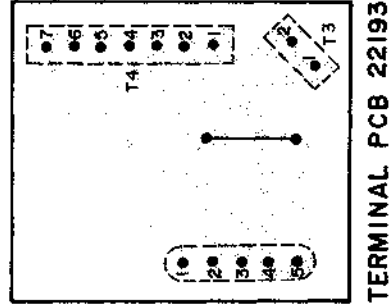
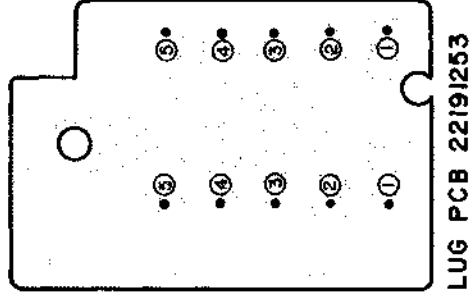
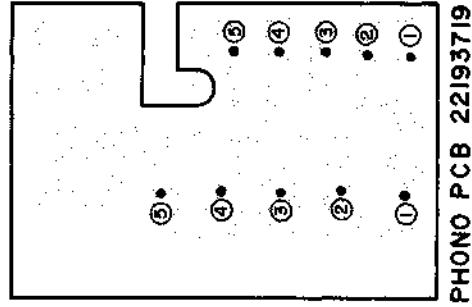
- 1) Set the speed selector to 33-1/3 rpm.
- 2) Play Back the Test Record (33-1/3rpm, 1,000Hz).
- 3) Adjust VR1 (5KB), so that the Speed is 1,000±5Hz.
- 4) Set the Speed Selector to 45rpm.
- 5) Play Back the Test Record (45rpm, 1,000Hz).
- 6) Adjust VR2 (10KB), so that the Speed is 1,000±5Hz.

VI. CLASSIFICATION OF VARIOUS P.C BOARDS

6-1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C BOARD TITLE	P.C BOARD NUMBER
SPLY P.C Board	22193659
LED P.C Board	22193660
SW P.C Board	22193661
TERMINAL P.C Board	22193662
LUG P.C Board	22191253
PHONO P.C Board	22193719

6-2. COMPOSITION OF VARIOUS P.C BOARDS



—MEMO—

SECTION 3

PARTS LIST

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II. MODEL FP-3	
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Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

1. When placing an order for parts, be sure to list the parts no., model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because part numbers and parts are supplied in the Preliminary Parts List may be partially changed, please use this parts list for all future orders.

HOW TO USE THIS PARTS LIST

1. This Parts List shows the parts that are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts". Select and order such parts from the "Common List for Service Parts".
2. The Recommended Spare Parts shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not be supplied in principle.
4. How to read list
 - a) Mechanism Block
 - b) P.C Board Block

2. HEAD BASE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1X	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification
 A small "x" indicates the inability to show that particular part in the Photo or Illustration.
 This number corresponds with the individual parts index number in that figure
 This number corresponds with the Figure Number

6. SYS. CON. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1	BA-T2034A070A	PC SYS CON BLK GX-F44R
6-1C1	EL-324536	IC HD14049BP
6-1C2	EL-336801	IC MB8841-564M
6-1C3	EL-331661	IC SN7405N
6-1C4	EL-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR3to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EF-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification
 This reference numbers corresponds with symbol numbers of Schematic Diagrams.

5. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List. It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index.

WARNING

▲ INDICATES SAFETY CRITICAL COMPONENTS FOR CONVENED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

▲ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACEZ QUE DES PIECES RECOMMANDEES PAR LE FABRICANT

I. MODEL FD-1

RECOMMENDED SPARE PARTS

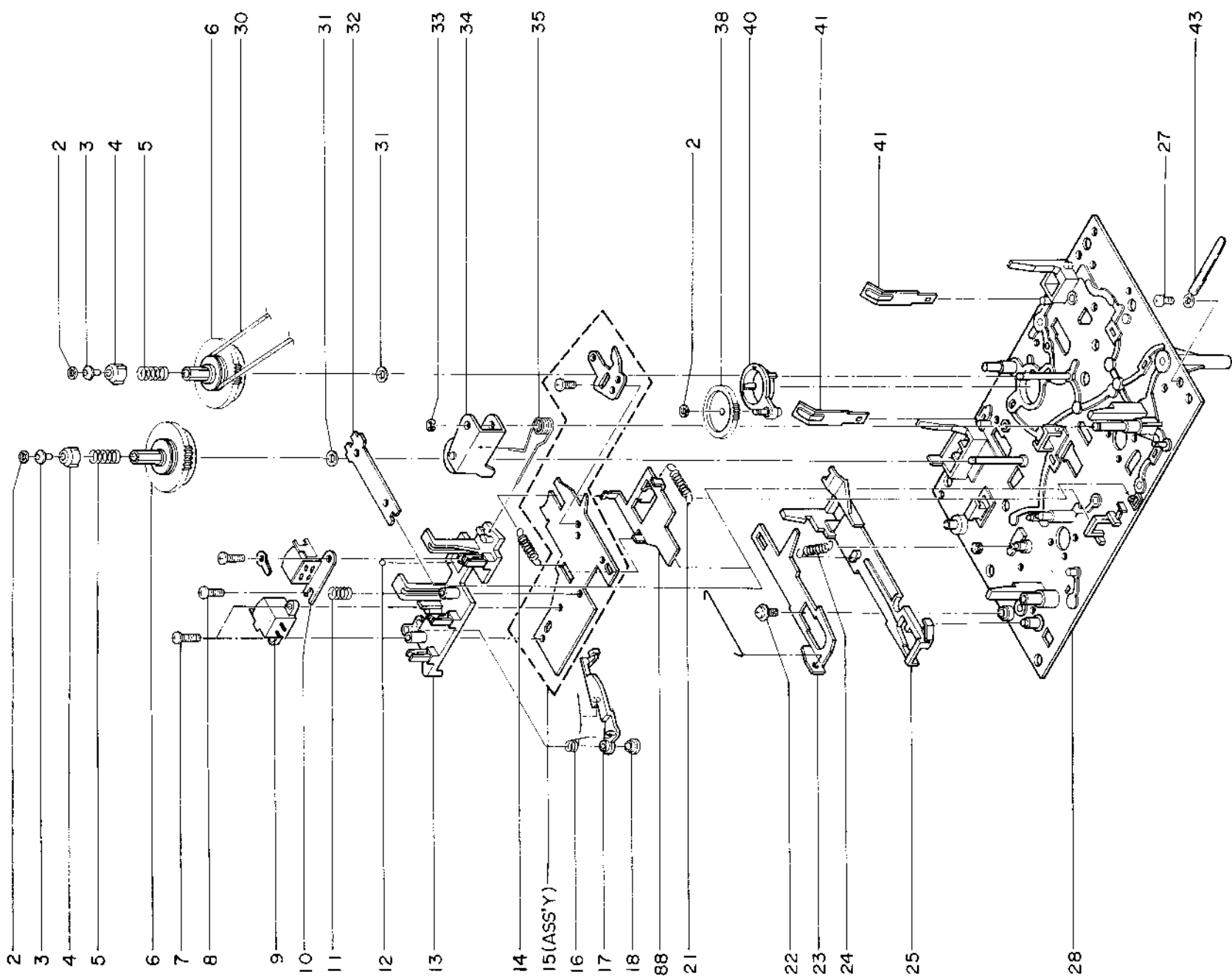
Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

REF. NO.	PARTS NO.	DESCRIPTION
1	BF-711395	FLYWHEEL ASSY
2	BL-711389	PINCH ROLLER LEVER ASSY
3	BM-711391	MOTOR MAIN (W/PULLEY)
4	BM-711410	MOTOR REEL (W/PULLEY)
5	BT-709396	TRANS POWER FD-1 (U)
6	BT-711442	TRANS POWER FD-1 (C)
7	BT-711444	TRANS POWER FD-1 (S)
8	BT-709406	TRANS IFT AM-M-CE
9	BT-709407	TRANS IFT FM-D
10	EC-711437	C-S-FIX
11	EC-749457	C-S-FIX
12	EC-709431	C-S-FIX R
13	ED-707776	Δ D SILICON SIWB-10
14	ED-703290	Δ D DIODE S2VB10
15	ED-709421	D LED AA5527S-1
16	ED-701131	D LED LN-317GP
17	ED-703243	D LED LN217RP
18	ED-709420	D LED LN29RP
19	ED-701124	D LED LN328GP
20	ED-709419	D LED LN410YP
21	ED-703310	D LED LN417YP
22	ED-709441	D LED SG238W
23	ED-306724	D SILICON SS277B 100/1.0A
24	ED-702236	D SILICON IS1553V
25	ED-703195	D SILICON IS1555V-TP3
26	ED-327098	D ZENER HWZ-061
27	ED-539976	D ZENER HWZ-130
28	ED-709426	D ZENER WZ042
29	ED-707934	D DIODE WZ048
30	EF-711445	Δ FUSE 1.5A
31	EF-702200	Δ FUSE 1S-T
32	EF-709399	IC AN7223
33	EI-213390	IC NJM4558D
34	EF-709422	IC NJM4562DD
35	EI-709427	IC TA7341P
36	EI-709247	IC TA7629P
37	EI-305456	IC TC409 UBC
38	EI-709428	IC TC9143P
39	EI-344436	IC TC9147P
40	EI-344437	IC TD6301AP
41	EI-709439	IC TL072-D
42	EI-702184	IC UPC1188H
43	EI-701061	IC UPC1197C
44	EJ-709432	JACK 6.5ST
45	EI-702181	TERMINAL 4P
46	EJ-749374	JACK USGP
47	EM-709415	IND FL FIP7A8S
48	EO-741909	AF CHOKE COIL AC-3750
49	EO-711436	COIL ANT LW
50	EO-709405	COIL ANT MW
51	EO-709425	COIL CHOKE AF 12MH
52	EO-702240	COIL CHOKE AF 4.70MH
53	EO-709404	COIL CHOKE 221
54	EO-742246	COIL FM-CHOKE
55	EO-709409	COIL MPX
56	EO-709430	COIL OSC AF
57	EO-711435	COIL OSC MW
58	EO-709414	OSC X-TAL
59	EP-711418	SOLENOID PLAY
60	ER-749371	Δ R FUSE 1/4W R22
61	ER-749372	Δ R FUSE 1/4W R47
62	ER-704152	Δ R FUSE 1/4W 220J
63	ER-709408	FILTER CE
64	ER-709423	FILTER DOLBY
65	ER-711438	R COMP 153 7P
66	ER-711439	R COMP 183 7P
67	ER-711440	R COMP 223 7P
68	ES-709398	Δ SW SLIDE
69	ES-711419	SW CASSETTE
70	ES-709418	SW KEY
71	ES-709416	SW PUSH
72	ES-709417	SW PUSH
73	ES-709440	SW PUSH
74	ES-709433	SW PUSH 4 THROW
75	ES-709438	SW PUSH 4 THROW
76	ES-709444	SW SLIDE
77	ES-709453	SW SLIDE

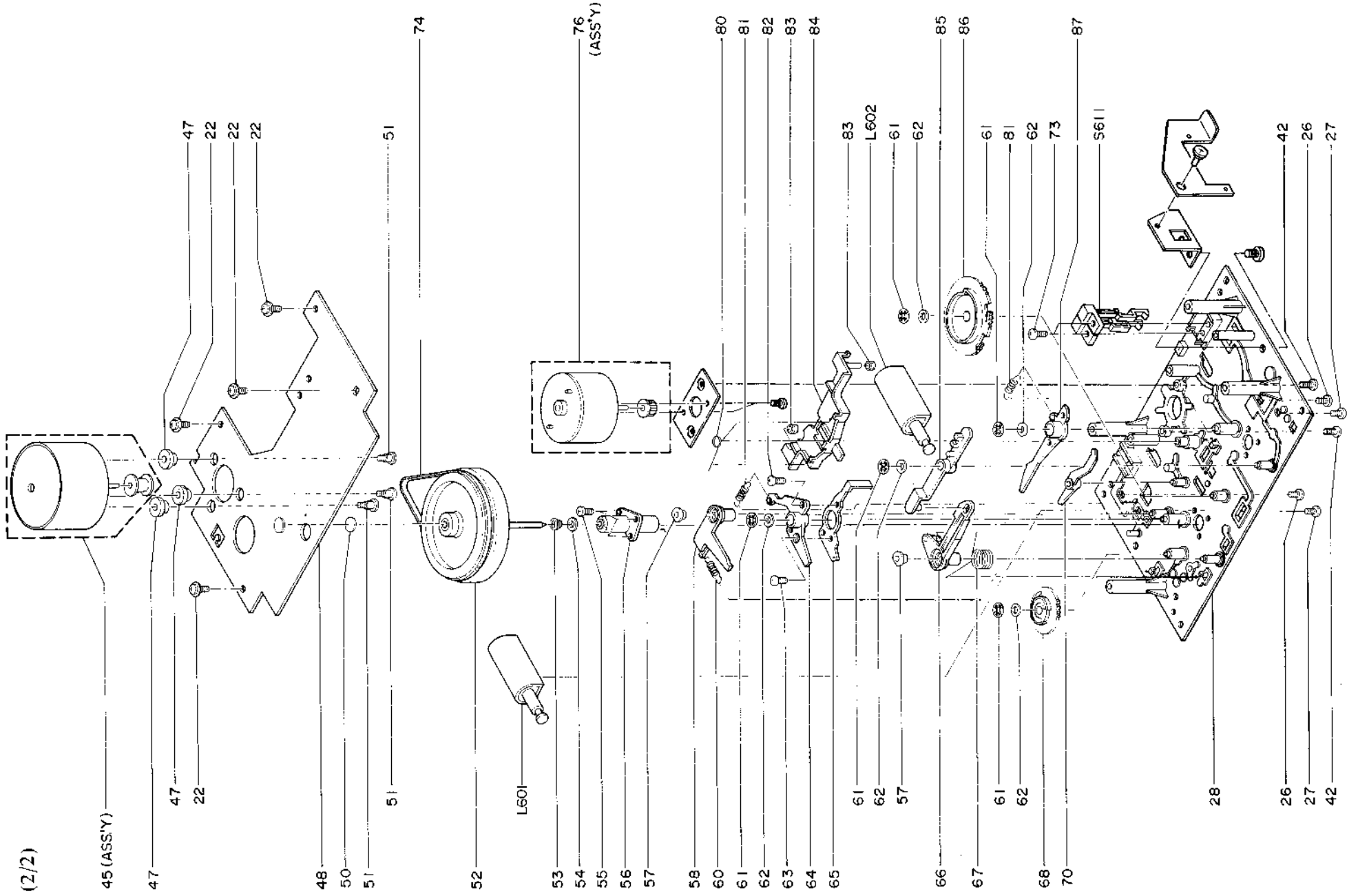
REF. NO.	PARTS NO.	DESCRIPTION
78	ET-741953	Δ TR 2SD325-E
79	ET-336864	TR FET 2SK223 F
80	ET-337759	TR FET 2SK246 GR
81	ET-337604	TR FET 2SK246 Y
82	ET-741903	TR 2SA1015-GR
83	ET-328861	TR 2SA562TM O,Y
84	ET-306720	TR 2SA966 O,Y
85	ET-741941	TR 2SC1627A-Y
86	ET-330225	TR 2SC1815 BL
87	ET-325482	TR 2SC1959 Y
88	ET-711433	TR 2SC2336Y
89	ET-702700	TR 2SC380TM O
90	ET-709429	TR 2SD1140
91	ET-338565	TR 2SD1302 R,S
92	ET-709400	TR 2SK192A-Y
93	EV-703298	R S-FIX 103
94	EV-706603	R S-FIX 103
95	EV-703279	R S-FIX 503
96	EV-703299	SEMI-FIXED/VOL. 500 OHMS
97	EV-709434	VR SLIDE 60B-204-D
98	EV-709436	VR SLIDE 45W 204
99	HE-711380	HEAD E
100	HP-711381	HEAD R/P
101	MB-709443	BELT COUNTER
102	MB-711409	BELT MAIN MOTOR
103	MT-711377	REEL DRUM
104	MV-711398	CAPSTAN METAL CASE
105	ZG-711390	SP PINCH ROLLER LEVER

MECHA BLOCK

(1/2)



(2/2)



1. MECHA BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
1-1	BB-711481	MECHA BLK MU-601FT
MECHA BLOCK (1/2)		
1-2	ZW-711373	WASHER
1-3	MT-711374	CAP REEL
1-4	MT-711375	COLLAR REEL
1-5	ZG-711376	SP REEL
1-6	MT-711377	REFL DRUM
1-7	ZS-711378	SCREW
1-8	ZS-711379	SCREW
1-9	HF-711380	HEAD E
1-10	HP-711381	HEAD R/P
1-11	ZG-703359	SP HEAD
1-12	MV-711382	BALL
1-13	HA-711383	HEAD BASE
1-14	ZG-711384	SP HEAD CHASSIS
1-16	ZG-711385	SP ERASE LEVER
1-17	ML-711386	LEVER ERASE ASSY
1-30	MB-709443	BELT COUNTER
1-33	ZW-711388	F RING
1-34	BL-711389	PINCH ROLLER LEVER ASSY
1-35	ZG-711390	SP PINCH ROLLER LEVER
MECHA BLOCK (2/2)		
1-45	BM-711391	MOTOR MAIN (W/PULLEY)
1-47	MB-711392	CUSHION MOTOR
1-50	ZW-711393	THRUST WASHER
1-51	ZS-711394	SCREW SPL (MOTOR)
1-52	BF-711395	FLYWHEEL ASSY
1-53	ZG-711396	SP FLYWHEEL
1-54	ZW-711397	WASHER FLYWHEEL
1-56	MV-711398	CAPSTAN METAL CASE
1-57	MZ-711399	BUSH
1-58	ML-711400	LEVER LOCK PAUSE
1-60	ZG-711401	SP LOCK LEVER
1-61	ZW-711402	RING
1-64	ML-711403	LEVER PAUSE
1-66	ML-711404	LEVER LOCK PLAY
1-67	ZG-711405	SP LOCK LEVER
1-68	MZ-711406	CAM GEAR PAUSE
1-70	ML-711407	LEVER BRAKE
1-74	MB-711409	BELT MAIN MOTOR
1-76	BM-711410	MOTOR REEL (W/PULLEY)
1-80	ZG-711411	SP BRAKE SLIDER
1-81	ZG-711412	SP PLAY LEVER
1-83	MB-711413	CUSHION BRAKE SLIDER
1-84	MZ-711414	BRAKE SLIDER
1-85	ML-711415	LEVER SOLENOID
1-86	MZ-711416	CAM GEAR PLAY
1-87	ML-711417	LEVER PLAY
1-L601	EP-711418	SOLENOID PLAY
1-L602	EP-711418	SOLENOID PLAY
1-S611	ES-711419	SW CASSETTE
1-89x	MC-709442	COUNTER

Note

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

2. AF P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1U	BA-749453	PC AF BLK FD-1(U,E)
2-1C	BA-749454	PC AF BLK FD-1(C,A)
2-1S	BA-749455	PC AF BLK FD-1(S)
AF P.C BOARD		
2-1C301	EI-709422	IC NJM4562DD
2-1C303	EI-709247	IC TA7629P
2-1C304	EI-709247	IC TA7629P
2-1C451	EI-709439	IC TL072-D
2-1C501	EI-702184	IC UPC1188H
2-1C502	EI-702184	IC UPC1188H
2-1R001	ET-741953	△ TR 2SD325-E
2-1R002	ET-741953	TR 2SD325-E
2-1R301	ET-336864	TR FET 2SK223 F
2-1R302	ET-336864	TR FET 2SK223 F
2-1R303	ET-330225	TR 2SC1815 BL
2-1R304	ET-330225	TR 2SC1815 BL
2-1R305	ET-337759	TR FET 2SK246 GR
2-1R306	ET-337759	TR FET 2SK246 GR
2-1R307	ET-337759	TR FET 2SK246 GR
2-1R308	ET-337759	TR FET 2SK246 GR
2-1R309	ET-337759	TR FET 2SK246 GR
2-1R310	ET-337759	TR FET 2SK246 GR
2-1R311	ET-330225	TR 2SC1815 BL
2-1R312	ET-330225	TR 2SC1815 BL
2-1R313	ET-330225	TR 2SC1815 BL
2-1R314	ET-330225	TR 2SC1815 BL
2-1R315	ET-338565	TR 2SD1302 R,S
2-1R316	ET-338565	TR 2SD1302 R,S
2-1R317	ET-330225	TR 2SC1815 BL
2-1R318	ET-330225	TR 2SC1815 BL
2-1R319	ET-330225	TR 2SC1815 BL
2-1R320	ET-330225	TR 2SC1815 BL
2-1R321	ET-330225	TR 2SC1815 BL
2-1R322	ET-330225	TR 2SC1815 BL
2-1R323	ET-338565	TR 2SD1302 R,S
2-1R324	ET-338565	TR 2SD1302 R,S
2-1R325	ET-337759	TR FET 2SK246 GR
2-1R326	ET-337759	TR FET 2SK246 GR
2-1R327	ET-330225	TR 2SC1815 BL
2-1R481	ET-330225	TR 2SC1815 BL
2-1R501	ET-330225	TR 2SC1815 BL
2-1R701	ET-741941	TR 2SC1627A-Y
2-1R702	ET-706720	TR 2SA966 O,Y
2-1R703	ET-330225	TR 2SC1815 BL
2-D001	ED-703290	△ D DIODE S2VB10
2-D002	ED-707776	△ D SILICON SIWB-10
2-D003	ED-709441	D LED SG238W
2-D005	ED-310578	D ZENER HWZ-177
2-D006	ED-539976	D ZENER HWZ-130
2-D007	ED-707934	D DIODE WZ048
2-D301	ED-702195	D SILICON IS1555V-TP3
2-D302	ED-702195	D SILICON IS1555V-TP3
2-D303	ED-702195	D SILICON IS1555V-TP3
2-D305	ED-702195	D SILICON IS1555V-TP3
2-D306	ED-702195	D SILICON IS1555V-TP3
2-D307	ED-702195	D SILICON IS1555V-TP3
2-D308	ED-702195	D SILICON IS1555V-TP3
2-D309	ED-702195	D SILICON IS1555V-TP3
2-D310	ED-702195	D SILICON IS1555V-TP3
2-D311	ED-702195	D SILICON IS1555V-TP3
2-D312	ED-709426	D ZENER WZ042
2-D313	ED-709426	D ZENER WZ042
2-D455	ED-702195	D SILICON IS1555V-TP3
2-D456	ED-702195	D SILICON IS1555V-TP3
2-D481	ED-702195	D SILICON IS1555V-TP3
2-D482	ED-702195	D SILICON IS1555V-TP3
2-D702	ED-702236	D SILICON IS1553V
2-D703	ED-702236	D SILICON IS1553V
2-D704	ED-702236	D SILICON IS1553V
2-S26	ES-709433	SW PUSH 4 THROW
2-S27	ES-709438	SW PUSH 4 THROW
2-VR301	EV-703279	R S-FIX 503
2-VR302	EV-703279	R S-FIX 503
2-VR303	EV-703298	R S-FIX 103
2-VR304	EV-703298	R S-FIX 103
2-1301	ER-709423	FILTER DOLBY

REF. NO.	PARTS NO.	DESCRIPTION
2-L302	ER-709423	FILTER DOLBY
2-L303	EO-709425	COIL CHOKE AF 12MH
2-L304	EO-709425	COIL CHOKE AF 12MH
2-L305	EO-702240	COIL CHOKE AF 4.70MH
2-L306	EO-702240	COIL CHOKE AF 4.70MH
2-L701	EO-709430	COIL OSC AF
2-CT701	EC-709431	C S-FIX R
2-CT702	EC-709431	C S-FIX R
2-R001	ER-749370	R CT 10M 560K
2-R002	ER-749371	△ R FUSE 1/4W R22
2-R005	ER-324670	R OMF H SNP FS 2W 102J
2-R006	ER-305722	R OMF H SNP FS 2W 221J
2-R007	ER-333120	R OMF H SNP FS 2W 561J
2-R008	ER-333120	R OMF H SNP FS 2W 561J
2-R010	ER-749372	△ R FUSE 1/4W R47
2-R011	ER-749372	△ R FUSE 1/4W R47
2-R012	ER-749373	R OMF H FS 3W 150
2-R013	ER-336841	R OMF H SNP FS 1W 332J
2-R380	ER-704791	R FUSE 1/4W 470J
2-R511	ER-704154	R OMF FS 1W 100J
2-R512	ER-704154	R OMF FS 1W 100J
2-R553	ER-331618	R OMF H SNP FS 1W 561J
2-R710	ER-704152	△ R FUSE 1/4W 220J
2-R839	ER-333085	R OMF H SNP FS 2W 330J
2-R849	ER-329070	R OMF H SNP FS 2W 181J
2-R854	ER-658034	R OMF H FS 2W 221J
2-R857	ER-321192	R OMF H SNP FS 2W 101J
2-C003	EC-710377	C EC V 472M 30.0DC
2-C004	EC-710377	C EC V 472M 30.0DC
2-C005	EC-710378	C EC V 222M 25.0DC
2-VR452	EV-709434	VR SLIDE 60B-204-D
LOGIC P.C BOARD		
2-1C801	EI-709428	IC TC9143P
2-1C802	EI-305456	IC TC4049UBC
2-1C803	EI-709427	IC TA7341P
2-1R801	ET-330225	TR 2SC1815 BL
2-1R802	ET-741903	TR 2SA1015-GR
2-1R803	ET-741903	TR 2SA1015-GR
2-1R804	ET-330225	TR 2SC1815 BL
2-1R805	ET-328861	TR 2SA562TM O,Y
2-1R806	ET-328861	TR 2SA562TM O,Y
2-1R807	ET-325482	TR 2SC1959 Y
2-1R808	ET-325482	TR 2SC1959 Y
2-1R809	ET-325482	TR 2SC1959 Y
2-1R810	ET-325482	TR 2SC1959 Y
2-1R811	ET-325482	TR 2SC1959 Y
2-1R812	ET-325482	TR 2SC1959 Y
2-1R813	ET-709429	TR 2SD1140
2-1R814	ET-325482	TR 2SC1959 Y
2-1R815	ET-709429	TR 2SD1140
2-1R816	ET-703397	TR 2SA1015 Y
2-1R817	ET-330225	TR 2SC1815 BL
2-D801	ED-702195	D SILICON IS1555V-TP3
2-D802	ED-702195	D SILICON IS1555V-TP3
2-D803	ED-702195	D SILICON IS1555V-TP3
2-D804	ED-702195	D SILICON IS1555V-TP3
2-D805	ED-702195	D SILICON IS1555V-TP3
2-D806	ED-702195	D SILICON IS1555V-TP3
2-D807	ED-702195	D SILICON IS1555V-TP3
2-D808	ED-702195	D SILICON IS1555V-TP3
2-D809	ED-702195	D SILICON IS1555V-TP3
2-D810	ED-702195	D SILICON IS1555V-TP3
2-D811	ED-702195	D SILICON IS1555V-TP3
2-D812	ED-702195	D SILICON IS1555V-TP3
2-D813	ED-702195	D SILICON IS1555V-TP3
2-D814	ED-702195	D SILICON IS1555V-TP3
2-D815	ED-702195	D SILICON IS1555V-TP3
2-D816	ED-702195	D SILICON IS1555V-TP3
2-D817	ED-702195	D SILICON IS1555V-TP3
2-D818	ED-702195	D SILICON IS1555V-TP3
2-D819	ED-702195	D SILICON IS1555V-TP3
2-D820	ED-306724	D SILICON S5277B 100/1.0A
2-D821	ED-306724	D SILICON S5277B 100/1.0A
2-D822	ED-322809	D ZENER H WZ-081
2-D826	ED-702195	D SILICON IS1555V-TP3
2-D827	ED-702195	D SILICON IS1555V-TP3
2-D828	ED-702195	D SILICON IS1555V-TP3
2-D829	ED-702195	D SILICON IS1555V-TP3
2-D830	ED-702195	D SILICON IS1555V-TP3

REF. NO.	PARTS NO.	DESCRIPTION
MIC P.C BOARD		
2-1C481	EL-213390	IC NJM4558D
2-1J2	EL-709432	JACK 6.SST
SW P.C BOARD (A)		
2-S25	ES-709453	SW SLIDE
SW P.C BOARD (B)		
2-S28	ES-709440	SW PUSH
2-D004	ED-310578	D ZENER H WZ-177
2-R003	ER-324670	R OMF H SNP FS 2W 102J
HEAD PHONE P.C BOARD		
2-J3	EI-709432	JACK 6.SST
2-R513	ER-306961	R OMF H SNP FS 2W 151J
2-R514	ER-306961	R OMF H SNP FS 2W 151J
BALANCE P.C BOARD		
2-VR451	EV-709436	VR SLIDE 45W 204
JACK P.C BOARD		
2-J1	EI-749374	JACK US6P
SP P.C BOARD		
2-J4	EI-702181	TERMINAL 4P

3. RADIO P.C BOARD BLOCK

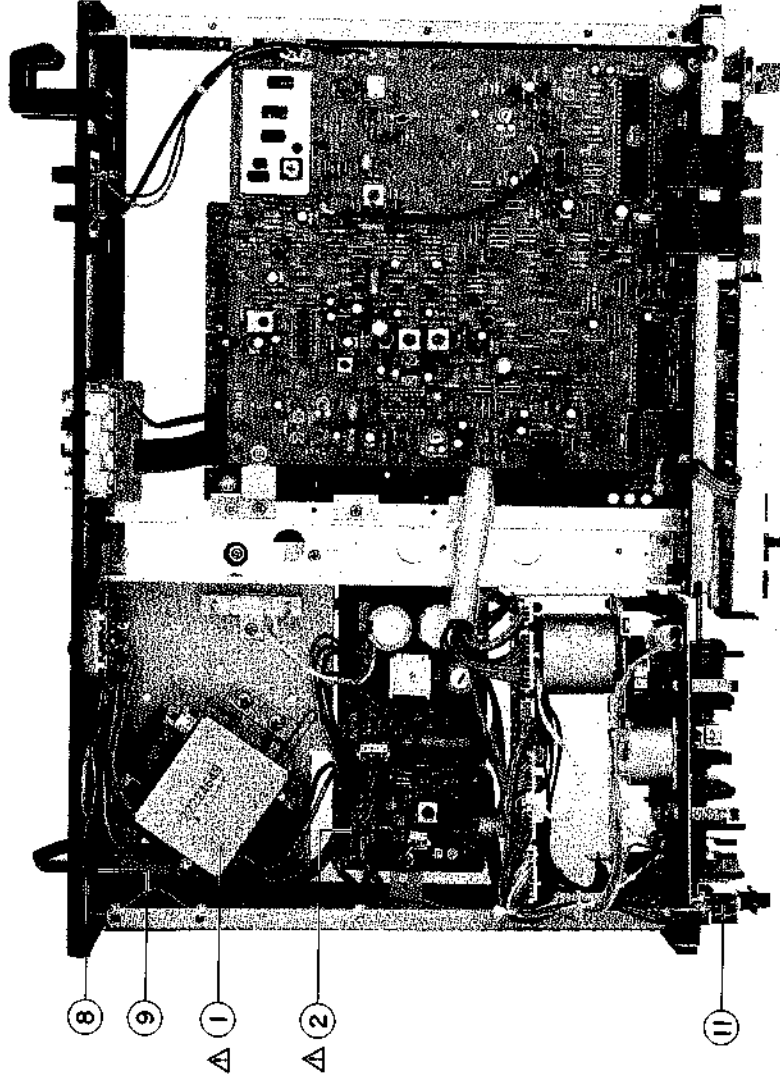
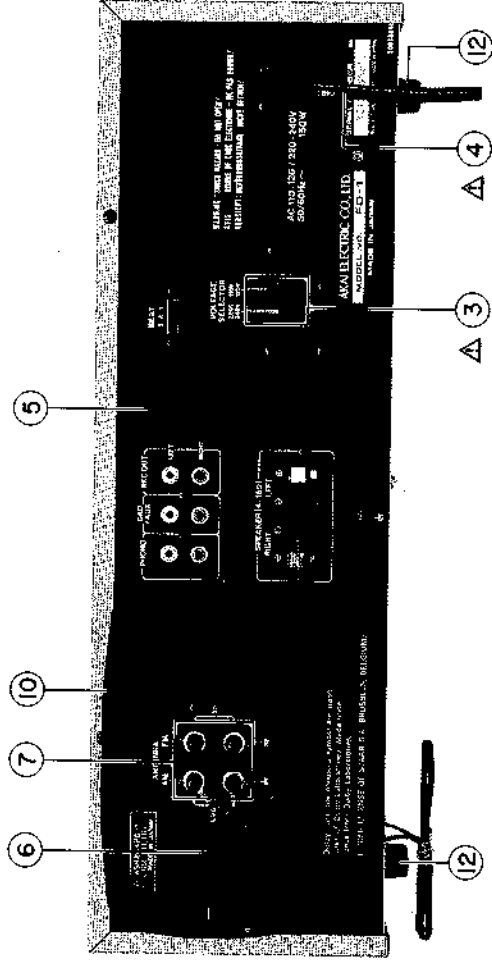
REF. NO.	PARTS NO.	DESCRIPTION
3-1U	BA-711430	PC RADIO BLK FD-1 (U,E,S)
3-1C	BA-711431	PC RADIO BLK FD-1 (C,A)
RADIO P.C BOARD		
3-1C201	EI-709399	IC AN7223
3-1C202	EL-701061	IC UPC1197C
3-1C601	EI-344436	IC TC9147P
3-1C602	EI-344437	IC TD 6301AP
3-1C603	EI-344438	IC TD6104P
3-TR101	ET-709400	TR 2SK192A-Y
3-TR201	ET-702700	TR 2SC380TM O
3-TR202	ET-330225	TR 2SC1815 BL
3-TR203	ET-330225	TR 2SC1815 BL
3-TR204	ET-330225	TR 2SC1815 BL
3-TR205	ET-330225	TR 2SC1815 BL
3-TR206	ET-330225	TR 2SC1815 BL
3-TR207	ET-741903	TR 2SA1015-GR
3-TR208	ET-741903	TR 2SA1015-GR
3-TR209	ET-330225	TR 2SC1815 BL
3-TR210	ET-330225	TR 2SC1815 BL
3-TR211	ET-711433	TR 2SC2236Y
3-TR212	ET-741902	TR 2SC1815-BL
3-TR213	ET-702700	TR 2SC380TM O
3-TR601	ET-330225	TR 2SC1815 BL
3-TR602	ET-337604	TR FET 2SK246 Y
3-TR603	ET-330225	TR 2SC1815 BL
3-TR604	ET-330225	TR 2SC1815 BL
3-TR605	ET-308867	TR 2SA1015 O,Y,GR
3-TR606	ET-308867	TR 2SA1015 O,Y,GR
3-TR607	ET-702700	TR 2SC380TM O
3-TR608	ET-308867	TR 2SA1015 O,Y,GR
3-TR609	ET-308867	TR 2SA1015 O,Y,GR
3-TR610	ET-330225	TR 2SC1815 BL
3-D101	ED-709401	D VARACTOR KV1236Z2
3-D201	ED-702195	D SILICON IS1555V-TP3
3-D202	ED-709441	D LED SG238W
3-D203	ED-327098	D ZENER H WZ-061
3-D206	ED-702195	D SILICON IS1555V-TP3
3-D207	ED-702195	D SILICON IS1555V-TP3
3-D208	ED-702195	D SILICON IS1555V-TP3
3-D601	ED-702195	D SILICON IS1555V-TP3
3-D602	ED-306724	D SILICON S5277B 100/1.0A
3-D603	ED-306724	D SILICON S5277B 100/1.0A
3-D604	ED-702195	D SILICON IS1555V-TP3
3-D605	ED-702195	D SILICON IS1555V-TP3
3-L102	EO-742246	COIL FM-CHOKE
3-L103	EO-741909	AF CHOKE COIL AC-3750

REF. NO.	PARTS NO.	DESCRIPTION
3-L104	EO-709404	COIL CHOKE 221
3-L105	EO-709405	COIL ANT MW
3-L106	EO-711435	COIL OSC MW
3-L201	EO-741909	AF CHOKE COIL AC-3750
3-LC201	EO-709409	COIL MPX
3-LC202	EO-709409	COIL MPX
3-IT201	BT-709406	TRANS IFT AM-M-CE
3-IT202	BT-709407	TRANS IFT FM-D
3-CF201	ER-709408	FILTER CE
3-CF202	ER-709408	FILTER CE
3-TC1	EC-749457	C S-FIX
3-VR201	EV-706603	R S-FIX 103
3-VR202	EV-703299	SEMI-FIXED/VOL. 500 OHMS
3-VR601	EV-703299	SEMI-FIXED/VOL. 500 OHMS
3-X1	EO-709414	OSC X'TAL
3-FL1	EM-709415	IND FL FIP7A8S
3-R101	ER-706608	R OMF IW 331
3-R220	ER-706608	R OMF IW 331
3-R230	ER-701107	R OMF IW 151J
3-R259	ER-704152	Δ R FUSE 1/4W 220J
3-R269	ER-704152	Δ R FUSE 1/4W 220J
3-R601	ER-711438	R COMP 153 7P
3-R602	ER-711439	R COMP 183 7P
3-R603	ER-711440	R COMP 223 7P
3-R632	ER-306961	R OMF H SNP FS 2W 151J
3-2	EE-709403	FM TUNER

4. CONTROL P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
4-S1	ES-709418	SW KEY
4-S2	ES-709418	SW KEY
4-S3	ES-709418	SW KEY
4-S4	ES-709418	SW KEY
4-S5	ES-709418	SW KEY
4-S6	ES-709418	SW KEY
4-S7	ES-709418	SW KEY
4-S8	ES-709418	SW KEY
4-S10	ES-709418	SW KEY
4-S11	ES-709418	SW KEY
4-S12	ES-709418	SW KEY
4-S13	ES-709418	SE KEY
4-S14	ES-709418	SW KEY
4-S15	ES-709418	SW KEY
4-S16	ES-709418	SW KEY
4-S17	ES-709418	SE KEY
4-S18	ES-709418	SW KEY
4-S19	ES-709418	SW KEY
4-S20	ES-709418	SW KEY
4-S21	ES-709417	SW PUSH
4-S22	ES-709417	SW PUSH
4-S23	ES-709416	SW PUSH
4-D204	ED-703310	D LED LN417YP
4-D205	ED-703310	D LED LN417YP
4-D304	ED-701131	D LED LN-317GP
4-D451	ED-709421	D LED AA5527S-1
4-D452	ED-709421	D LED AA5527S-1
4-D453	ED-709421	D LED AA5527S-1
4-D454	ED-709421	D LED AA5527S-1
4-D606	ED-703243	D LED LN217RP
4-D607	ED-709421	D LED AA5527S-1
4-D608	ED-709421	D LED AA5527S-1
4-D609	ED-709421	D LED AA5527S-1
4-D610	ED-709421	D LED AA5527S-1
4-D611	ED-709421	D LED AA5527S-1
4-D612	ED-709421	D LED AA5527S-1
4-D613	ED-709421	D LED AA5527S-1
4-D614	ED-709421	D LED AA5527S-1
4-D704	ED-701131	D LED LN-317GP
4-D705	ED-701131	D LED LN-317GP
4-D706	ED-701131	D LED LN-317GP
4-D823	ED-701124	D LED LN328GP
4-D824	ED-709420	D LED LN29RP
4-D825	ED-709419	D LED LN410YP
4-R708	ER-749298	RSIM-120
4-R709	ER-329279	R OMF H FS IW 271J

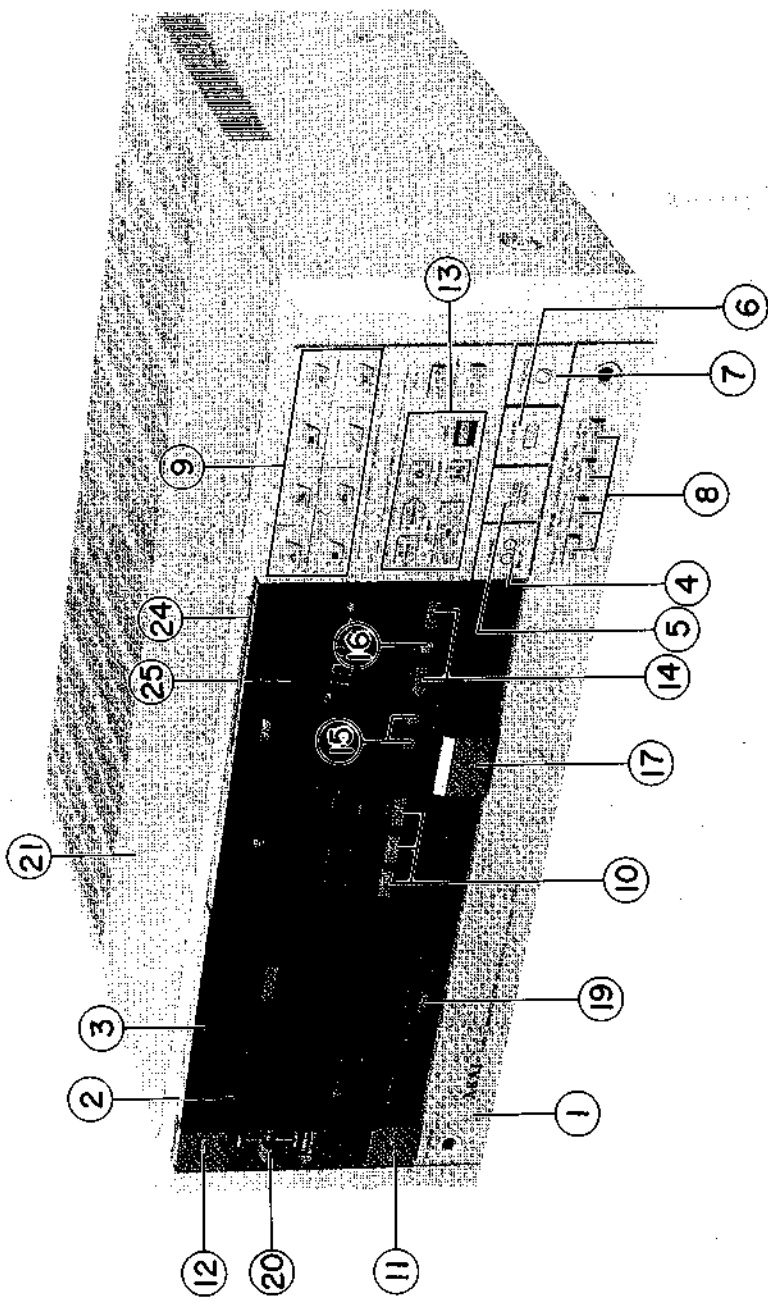
ASSEMBLY BLOCK



5. ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
5-1U	BT-709396	△ TRANS POWER FD-1 (U)	5-5U	SP-711424	PANEL REAR FD-1 (U)
5-1C	BT-711442	△ TRANS POWER FD-1 (C,A)	5-5C	SP-711425	PANEL REAR FD-1 (C,A)
5-1E	BT-711443	△ TRANS POWER FD-1 (E)	5-5E	SP-711426	PANEL REAR FD-1 (E)
5-1S	BT-711444	△ TRANS POWER FD-1 (S,B)	5-5S	SP-711427	PANEL REAR FD-1 (S)
5-2U	EF-702200	△ FUSE 1S-T (U,E,S)	5-6	SZ-710453	HOLDER ANT
5-2C	EF-711445	△ FUSE 1.5A (C,A)	5-7	EJ-710451	TERMINAL SCREW 4P
5-3	ES-709398	△ SW SLIDE (U ONLY)	5-8	SZ-710448	HOLDER CODE
5-4U	EW-343363	△ AC CORD 2 CORES KP-8, SPT-2 UC (U,C,A)	5-9	SZ-710449	HOLDER CODE
5-4E	EW-313882	△ AC CORD 2 CORES KP-419C, LTCE-2F E (E)	5-10	EE-709445	ANT LOOP
5-4S	EW-201515	△ AC CORD 2 CORES KP-560, LTSA-2F S (S)	5-11	ES-709444	SW SLIDE (S24)
			5-12	SA-711361	RUBBER FOOT

FINAL ASSEMBLY BLOCK

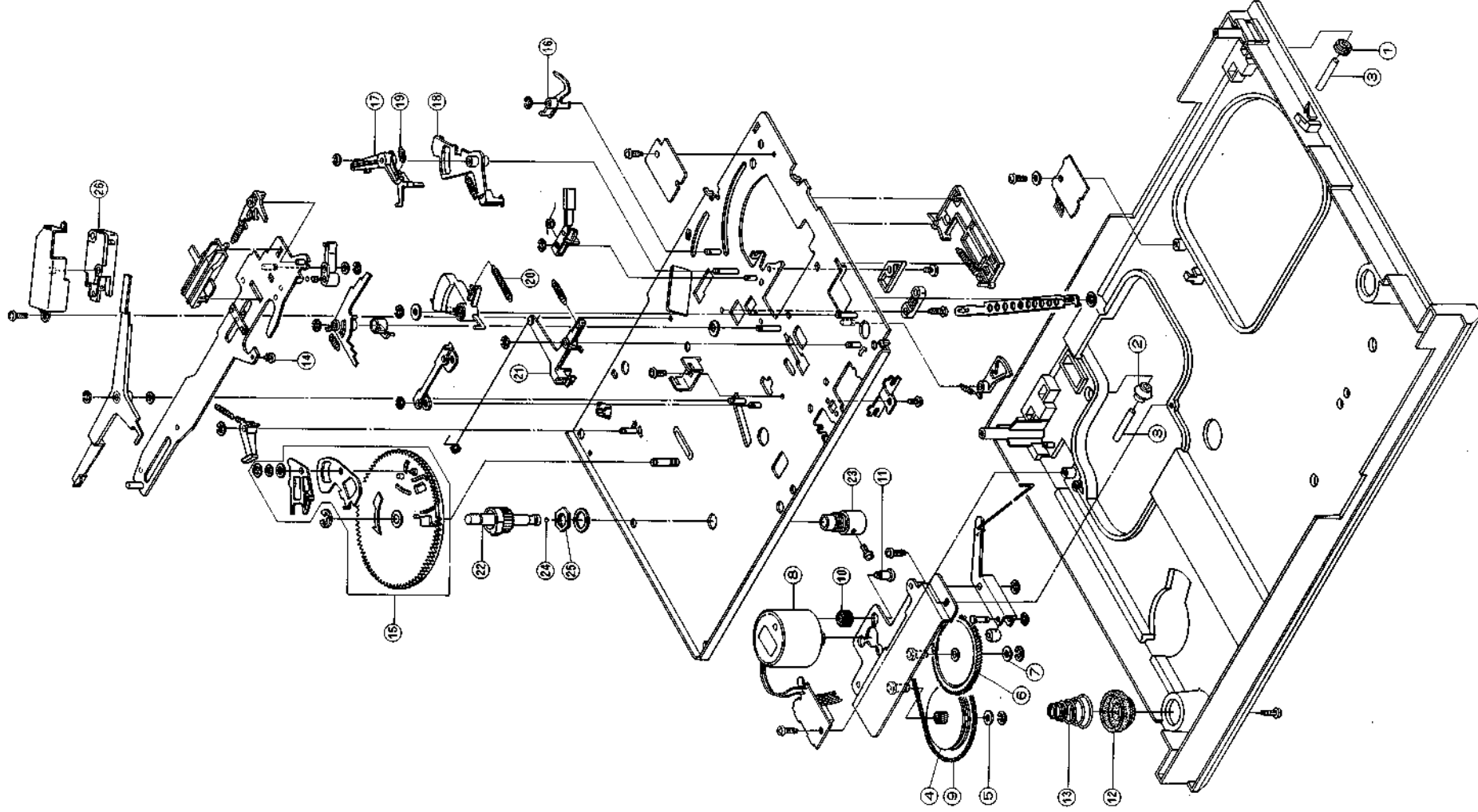


6. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
6-1	BD-749451	PANEL FRONT BLK FD-1	6-15	SB-711354	BUTTON B.M
6-2	TC-711341	HOLDER CASSETTE	6-16	SB-711355	BUTTON B.M
6-3	SP-711342	LID COVER CASSETTE	6-17	SK-711356	KNOB VOLUME ASSY
6-4	SB-711343	BUTTON MODE (TAPE)	6-18x	SK-711357	SHAFT VOLUME KNOB
6-5	SB-711344	BUTTON MODE (DAD)	6-19	SK-711358	KNOB BALANCE
6-6	SB-711345	BUTTON MODE (TUNER)	6-20	SK-711359	KNOB TIMER
6-7	SB-711346	BUTTON MODE (PHONO)	6-21	SP-711360	COVER UPPER
6-8	SB-711347	BUTTON SELECT	6-22x	MZ-711362	DUMPER (FOR CASSETTE HOLDER)
6-9	SB-711348	BUTTON PRESET ASSY	6-23x	ZG-711363	SP EJECT (FOR CASSETTE HOLDER)
6-10	SB-711349	BUTTON SELECT-T	6-24	SZ-711366	HOLDER CARD
6-11	SB-711350	BUTTON POWER	6-25	SZ-711367	FILTER LED
6-12	SB-711351	BUTTON EJECT	6-26x	TA-711371	SHEET STATION
6-13	SB-711352	BUTTON HOLDER ASSY	6-27x	TA-711372	STATION CARDS
6-14	SB-711353	BUTTON TUNE			

II. MODEL FP-3

MECHA AND FA CHASSIS BLOCK



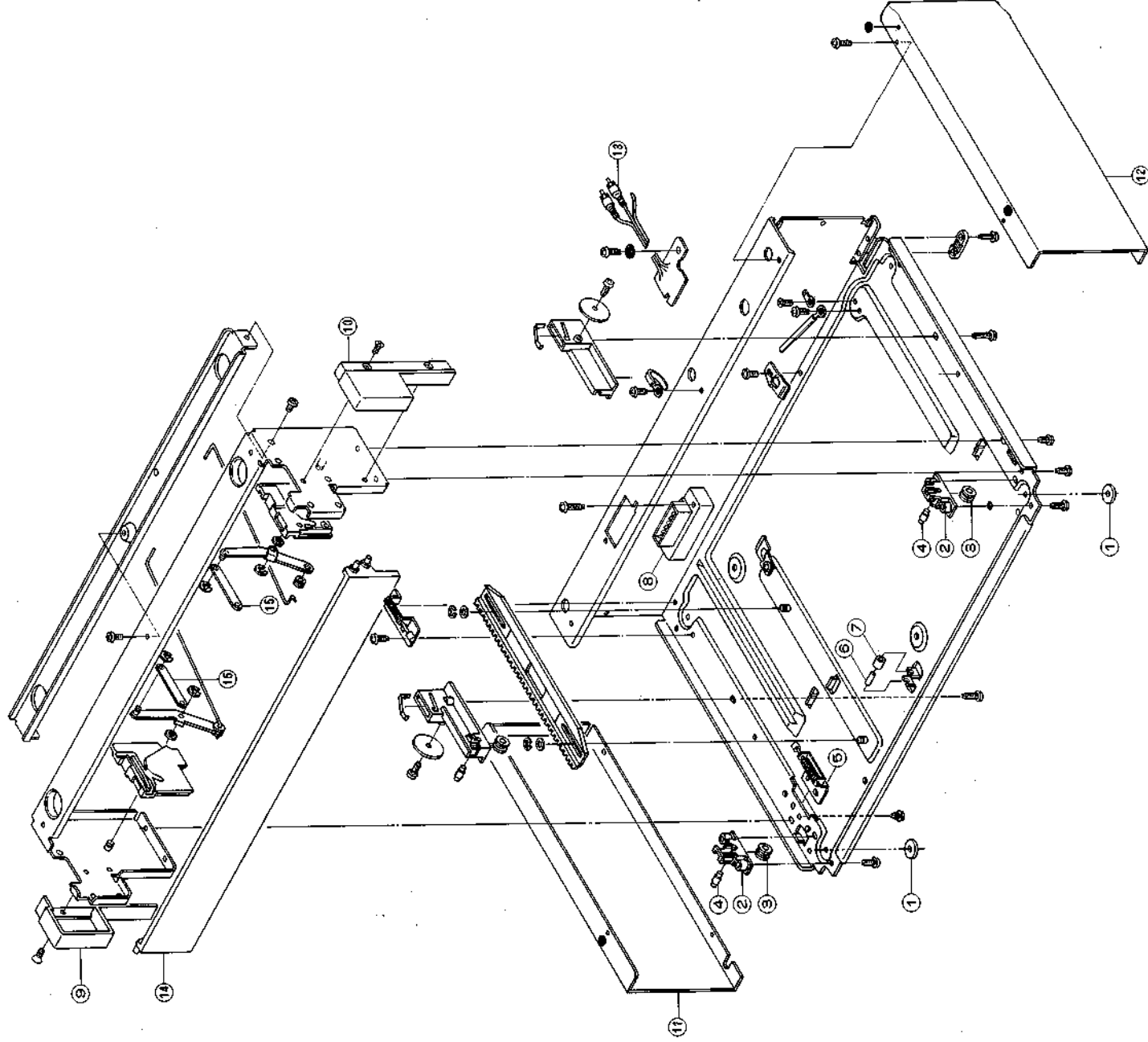
1. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
1-1	ES-711327	SW PUSH 5THROW (SW1,2)
1-TR1	ET-701062	TR 2SD880 Y
1-D1	ED-308951	D ZENER WZ-120
1-D2	ED-306724	D SILICON SS277B 100/1.0A
1-VR1	EV-711331	R S-FIX 502
1-VR2	EV-711332	R S-FIX 103
1-D3	ED-711333	D LED GL-9PG34
1-D4	ED-711333	D LED GL-9PG34
1-SW3	ES-711334	SW SLIDE

2. MECHA AND FA CHASSIS BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1	MR-711295	ROLLER
2-2	MR-711299	ROLLER B
2-3	MS-711300	SHAFT ROLLER B
2-4	MR-711301	GEAR PULLEY
2-5	ZW-269954	PW31x070x025PSL
2-6	MZ-711302	GEAR DRIVE
2-7	ZW-259738	PW41x070x025PSL
2-8	BM-711303	MOTOR NG (W/PULLEY) PART
2-9	MB-711304	BELT
2-10	MB-711285	CUSHION RUBBER
2-11	ZS-711305	SCREW SPL
2-12	MB-711282	CUSHION RUBBER
2-13	ZG-711283	SP PUSH
2-14	ZW-302909	RV NYL30x035 BL
2-15	TP-711313	GEAR MAIN ASSY
2-16	ML-711314	LINK SW
2-17	ML-711315	ARM MICRO SW
2-18	ML-711316	LEVER MICRO SW
2-19	ZG-711317	SP PULL
2-20	ZG-711318	SP 035TN30.5
2-21	ML-711319	LEVER START
2-22	TP-711320	SHAFT TT ASS
2-23	MV-711321	BEARING TT SHAFT
2-24	MV-711322	STEEL BELL 1/8
2-25	ZW-711323	NUT M11-2T
2-26	ES-711335	SW MICRO (SW4)

ASSEMBLY BLOCK

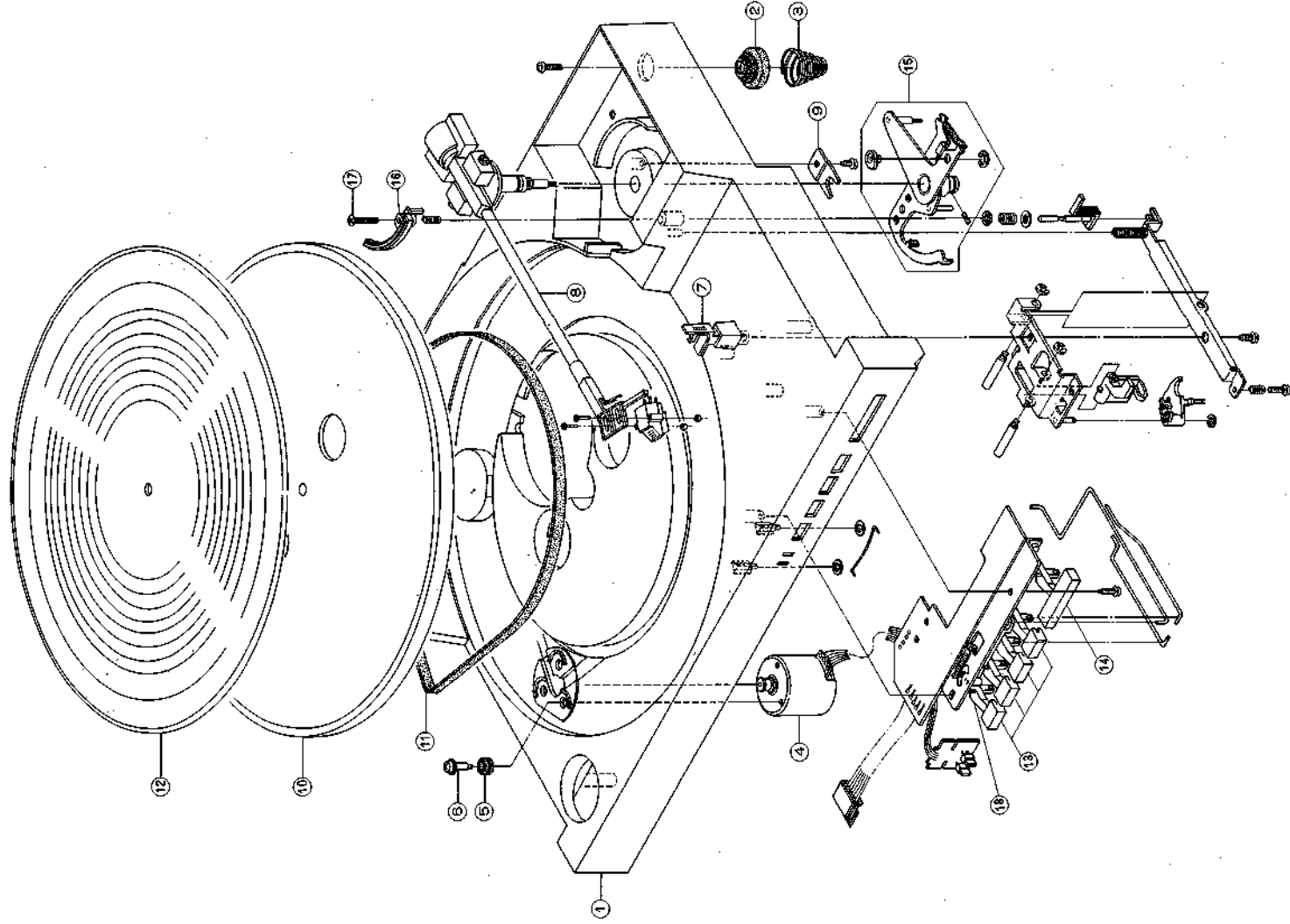


3. ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
3-1	SA-711293	FOOT
3-2	MZ-711294	HOLDER ROLLER
3-3	MR-711295	ROLLER
3-4	MS-711296	SHAFT ROLLER
3-5	TP-711297	STOPPER SW F ASSY
3-6	MS-711296	SHAFT ROLLER
3-7	MR-711298	ROLLER C
3-8	EJ-346330	PLUG POWER M1673 6P

REF. NO.	PARTS NO.	DESCRIPTION
3-9	SD-711308	DECOLATION-L
3-10	SD-711309	DECOLATION-R
3-11	SP-711310	COVER (L)
3-12	SP-711311	COVER (R)
3-13	EW-711312	AUDIO CODE USIP
3-14	SP-711329	FRONT COVER
3-15	ML-711330	JOINT

CABINET BLOCK



4. CABINET BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
4-1	BC-711281	CABINET
4-2	MB-711282	CUSHION RUBBER
4-3	ZG-711283	SP PUSH
4-4	BM-711284	MOTOR EG (W/PULLEY) PART
4-5	MB-711285	CUSHION RUBBER
4-6	ZS-711286	SCREW SPL
4-7	SD-711287	REST PU
4-8	TP-711288	ARM PU BLK
4-9	TP-711289	CLAMPER PU ARM
4-10	TP-711290	TURNTABLE

REF. NO.	PARTS NO.	DESCRIPTION
4-11	MB-711291	BELT
4-12	TP-711292	TABLE SHEET UL
4-13	SK-711306	BUTTON SELECT
4-14	SK-711307	BUTTON
4-15	TP-711324	PU PLATE ASSY
4-16	TP-711325	BAR LIFT
4-17	ZS-711326	FLT20x12BLK
4-18	SZ-711328	JOINT BUTTON

INDEX

MODEL FD-1

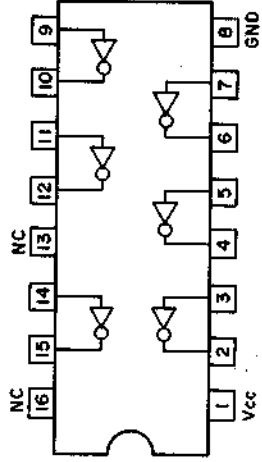
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BA-711430	3-1U	ED-702195	3-D604	ER-331618	2-R553	ET-330225	2-TR481	MT-711375	1-4		
BA-711431	3-1C	ED-702195	3-D605	ER-33085	2-R839	ET-330225	2-TR501	MT-711377	1-6		
BA-749453	2-1U	ED-702236	2-D702	ER-333120	2-R007	ET-330225	2-TR703	MV-711382	1-12		
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ED-701124	4-D823	EF-702200	5-2U	ES-709418	4-S1	ET-338565	2-TR315	SP-711426	5-5E		
ED-701131	4-D804	EF-711445	5-2C	ES-709418	4-S2	ET-338565	2-TR316	SP-711427	5-5S		
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ED-702195	2-D809	EL-709247	2-1C304	ES-709418	4-S13	ET-711433	3-TR211	ZG-711363	6-23X		
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ED-702195	2-D305	EO-709425	2-L304	ET-325482	2-TR809	EW-343363	5-4U				
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MODEL FP-3

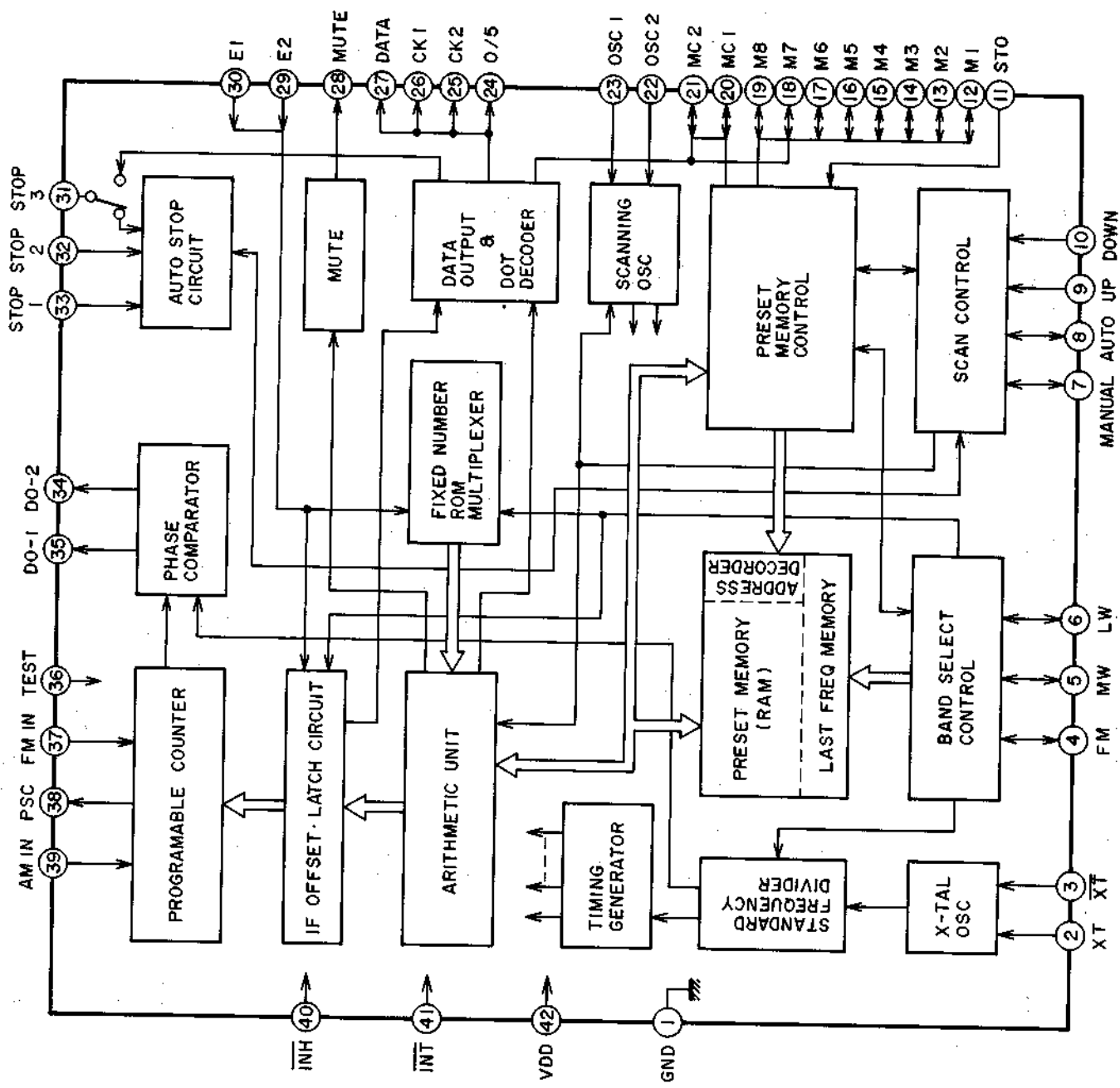
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BM-711284	4-4						
BM-711303	2-8						
ED-306724	1-D2						
ED-308951	1-D1						
ED-711333	1-D4						
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ZS-711326	4-17						
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ZW-269954	2-5						
ZW-302909	2-14						
ZW-711323	2-25						

TC4049BP



1. SC
2. FD
3. FD
4. FP

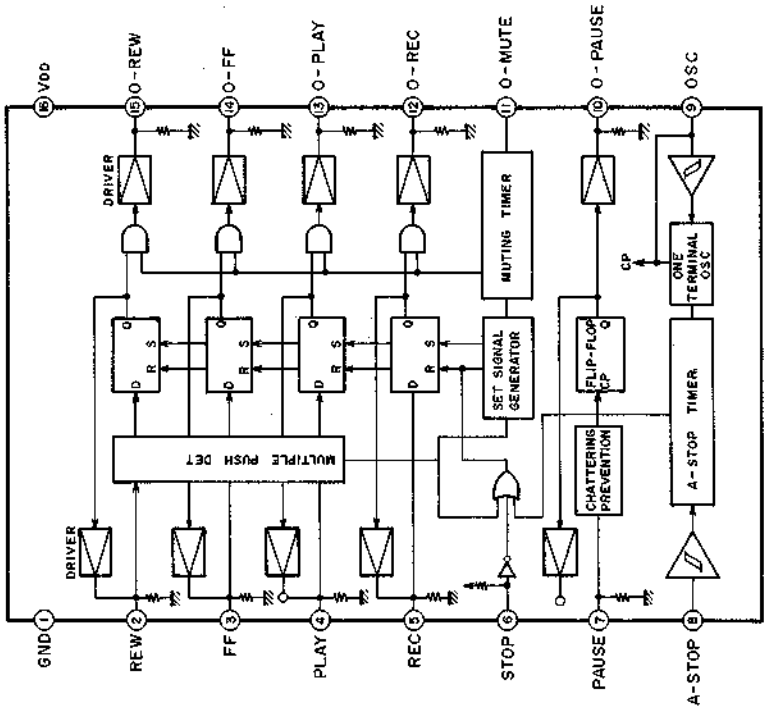
TC9147P



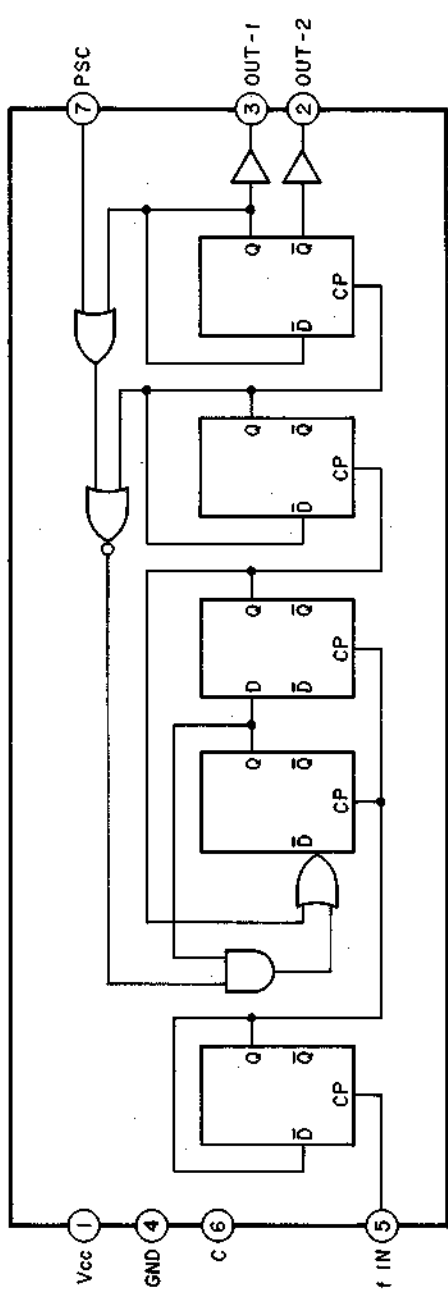
TERMINAL DESCRIPTION OF IC (TC9147P)

Pin No.	Symbol	Meaning	Function
1	GND	Ground	
2	XT	X-TAL OSC Terminals	Input Terminal of Standard Frequency OSC (X-TAL: 7.2MHz)
3	XT		
4	FM	FM Band Designation Input	Band Selector ACTIVE "High"
5	MW	MW Band Designation Input	
6	LW	LW Band Designation Input	
7	Manual	Manual Tuning Mode	Manual/Auto Tuning Selector
8	Auto	Auto Tuning Mode	
9	UP	UP Operation Key Input	UP/DOWN Tuning Selector
10	Down	Down Operation Key Input	
11	STO	Memory Store Command Input	Memory at preset memory operation
12	M1 { M8	Preset Memory	Random Access for 16-Preset-Memory with the inputs of MC1/MC2
19		Channel Designation Inputs	
20	MC1	Memory Control Input	⑧ Stations (FM/AM)/(16) Stations (FM + MW + LW) Preset Memory Selector
21	MC2		
22	OSC2	AM OSC Terminal	CR Connector Terminal for AM Search Scan Speed
23	OSC1	FM OSC Terminal	CR Connection Terminal for FM Search Scan Speed
24	0/5	FM 50kHz Output	Level "H" Output for 50kHz Step (S. Africa and Europe area)
25	CK2	Receiving Frequency Data Serial Output	Supply Serial Data & Timing Clock to TD6301AP (Receiving Frequency Digital Display Driver)
26	CK1		
27	Data	Muting Signal Output	Level "H" Output when Muting
28	Mute		
29	E2	Area Designation Input	Area Selector (Japan, US, Europe, S. Africa)
30	E1		
31	Stop 3	AM IF Signal Input	Stops Auto Search at AM IF (450kHz)
32	Stop 2	Auto Search Stop Signal Input	Stops Auto Search at Level "H" while level "H" at Stop 1
33	Stop 1	Scan Speed Slow-Down Input	1/2 Speed-Down of Auto Search at Level "H"
34	DO-2	Phase Comparator Output	Phase Comparator Output
35	DO-1		
36	Test	Test Terminal	Test Mode at Level "H"
37	FM in	FM Programmable Counter Input	Connected to Prescaler (TD6104P) Output
38	PSC	Prescaler Control Output	Count-Down (1/30, 1/32)
39	AM in	AM Programmable Counter Input	Designation Output for Prescaler
40	INH	Inhibit Input	AM Local OSC Signal Input
41	INT	Initialize Input	Normal at Level "H"
			Inhibit at Level "L"
42	VDD	Power Terminal	Normal at Level "H"
			Initialize at Level "L"
			+5V is supplied

TC9143P



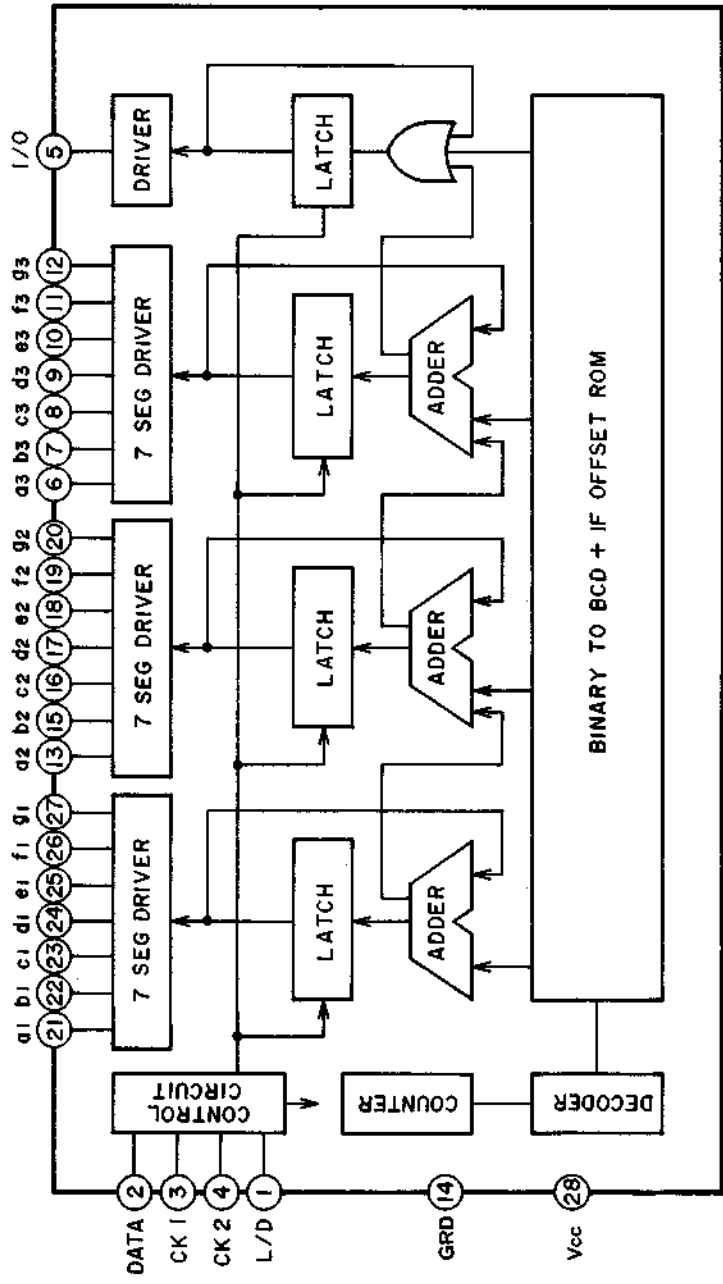
TD6104P



TERMINAL DESCRIPTION OF IC (TD6104P)

Pin No.	Symbol	Description
5	Fin	FM Local OSC Input
3	OUT-1	Count-Down Frequency Output (fin/30 or fin/32)
2	OUT-2	Inverted Output of OUT-1
7	PCS	Count-Down-Ratio Switch Signal Input 1/32 at $V_{psc} \geq 2V$ 1/30 at $V_{psc} \leq 1V$
6	C	Bypass condenser terminal for bias circuit
1	Vcc	+5V
4	GND	Ground

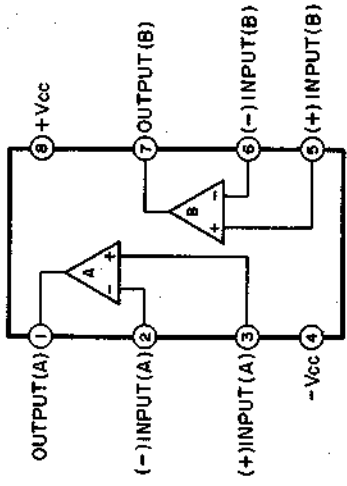
TD6301AP



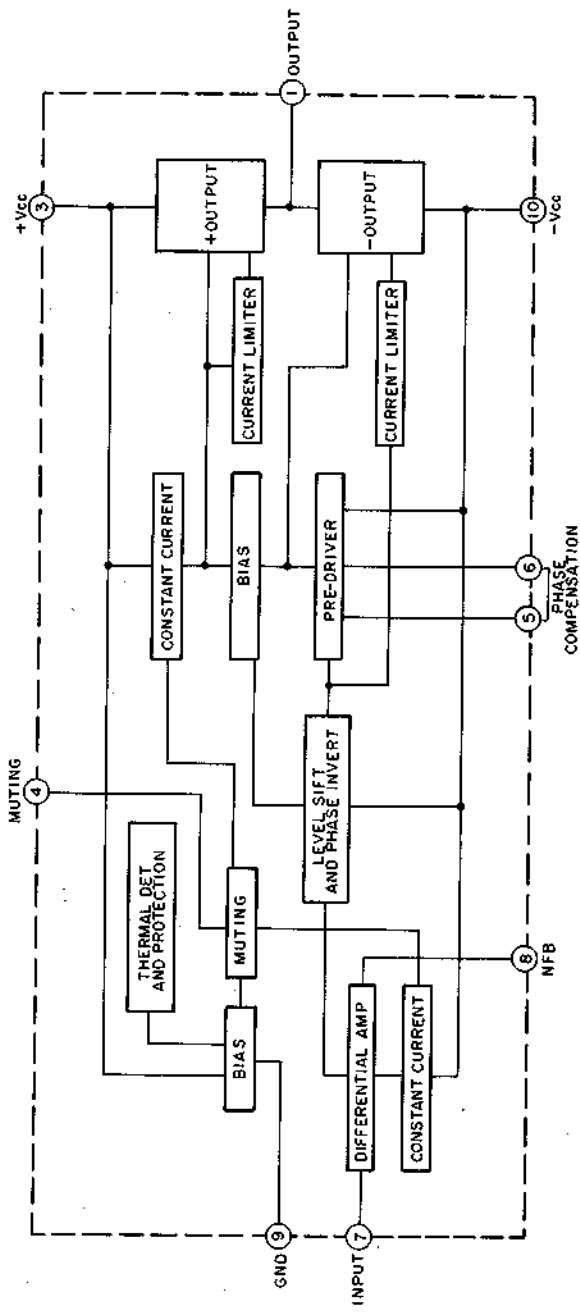
TERMINAL DESCRIPTION OF IC (TD6301AP)

Pin No.	Symbol	Description
1	L/D	Output Select Signal Input Terminal (To Change the Output for various Display such as LED, FL & LCD)
2	Data	Receiving Frequency Data Input Terminal (Serial Input from System Controller LSI)
3	CK1	Control Timing Input Terminal for Receiving Frequency Data Input (Simultaneously W/Data from System Controller LSI)
4	CK2	Segment Driver Output Terminal for:
5	I/O	FM: 100 ^s MHz AM: 1000 ^s kHz
6	a3	7 Segment Driver Output Terminals for:
7	∩	FM: 10 ^s MHz
12	g3	AM: 100 ^s kHz
13	a2	7 Segment Driver Output Terminals for:
15	∩	FM: 1 ^s MHz
20	g2	AM: 10 ^s kHz
21	a1	7 Segment Driver Output Terminals for:
22	∩	FM: 100 ^s kHz
27	g1	AM: 1 ^s kHz
14	Vcc	-16.8V
28	GND	-16.8V

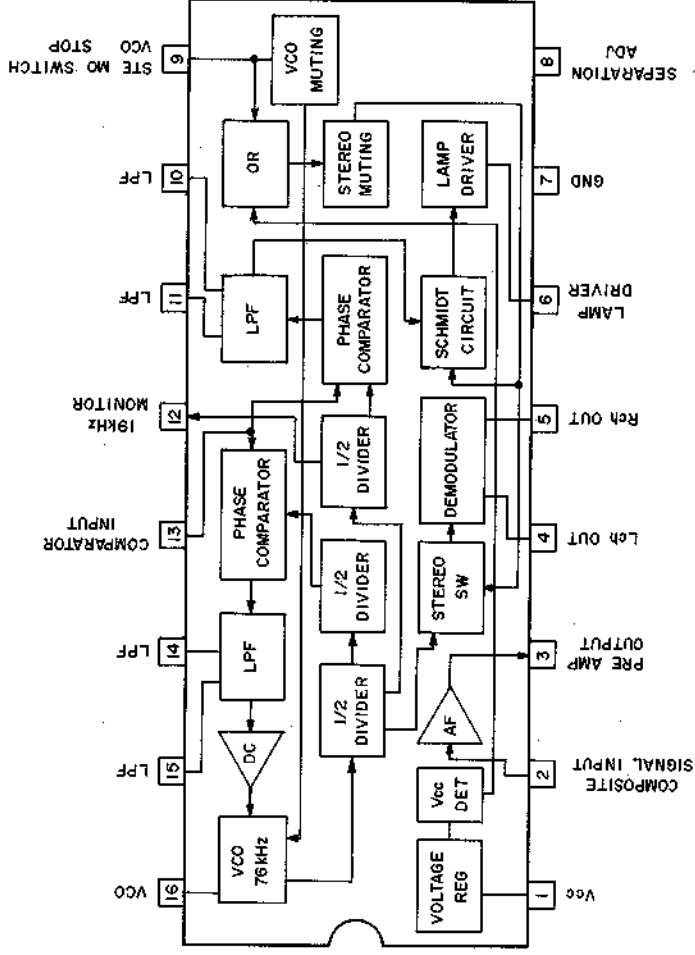
TLO72DE



μ PC1188H



μ PC1197C



SCHEMATIC DIAGRAM

FD-1 AF PCB

No. 2-1 830320A

NOTE: USE RES. MANUFACTURED BY S. E. S. ALL RESISTORS IN THIS UNIT MUST BE 1% TOLERANCE. IF 1% FAIL SAFE RESISTORS.

WARNING: THIS UNIT IS DANGEROUS TO LIFE AND LIMB. IT CONTAINS HIGH VOLTAGE. ALL PARTS SHOULD BE RECALIBRATED AFTER REPAIR. REPAIRS SHOULD BE DONE BY QUALIFIED PERSONNEL. NO REPAIRS ARE TO BE MADE UNLESS SPECIFICALLY AUTHORIZED BY THE MANUFACTURER.

VOLTAGE MEASURED ACROSS THE SPEAKER TERMINAL. NO CONNECT.

SW PCB (A) 22193690 U.E.S. 22193710 S.A.C.

SW PCB (B) 22193689 U.E.S. 22193709 S.A.C.

SPEAKER PCB 22193686 U.E.S. 22193706 S.A.C.

HEAD PHONE PCB 22193685 U.E.S. 22193705 S.A.C.

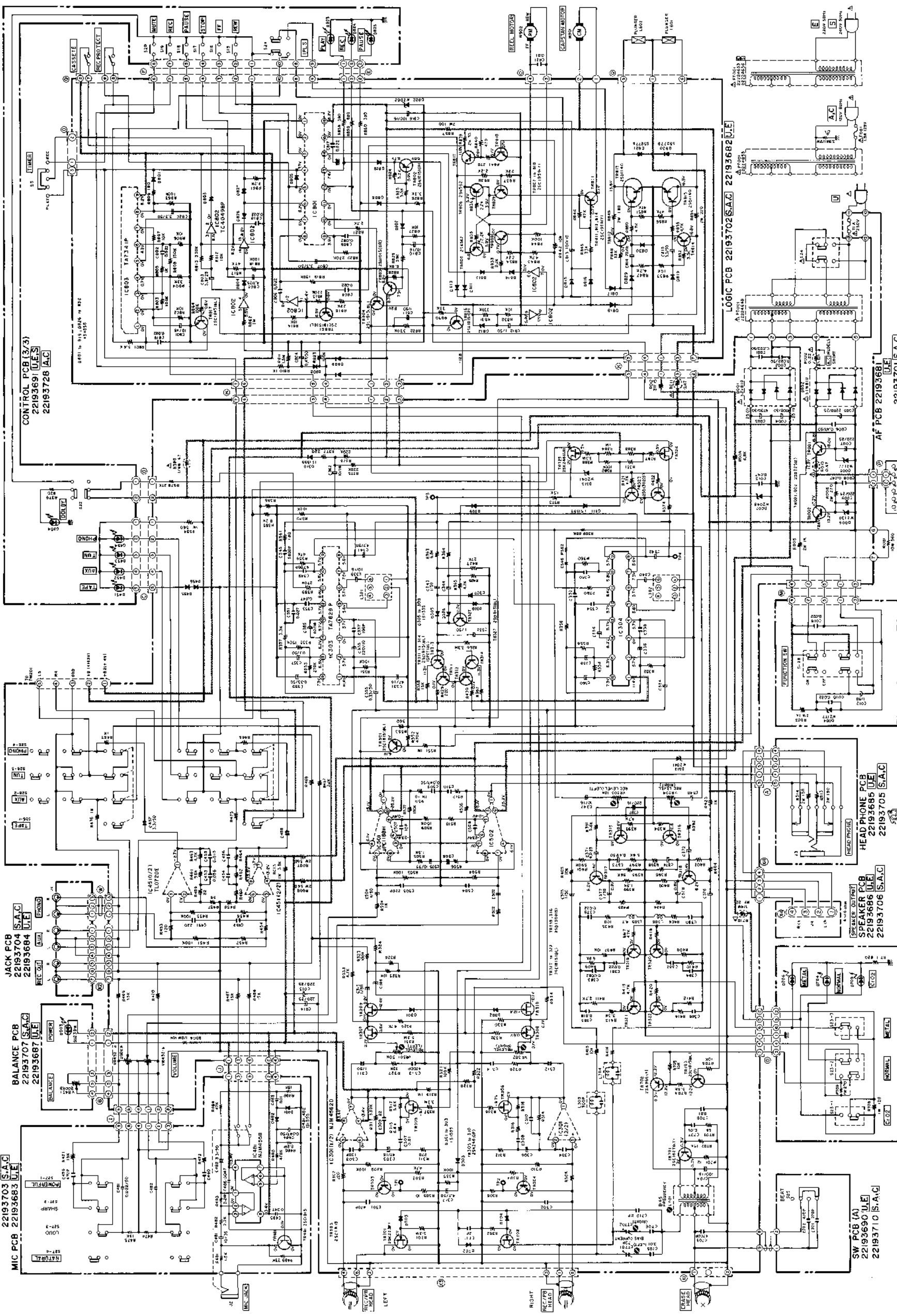
CONTROL PCB (2/3) 22193691 U.E.S. 22193728 A.C.

MIC PCB 22193683 S.A.C. 22193684 U.E.S.

JACK PCB 22193704 S.A.C. 22193684 U.E.S.

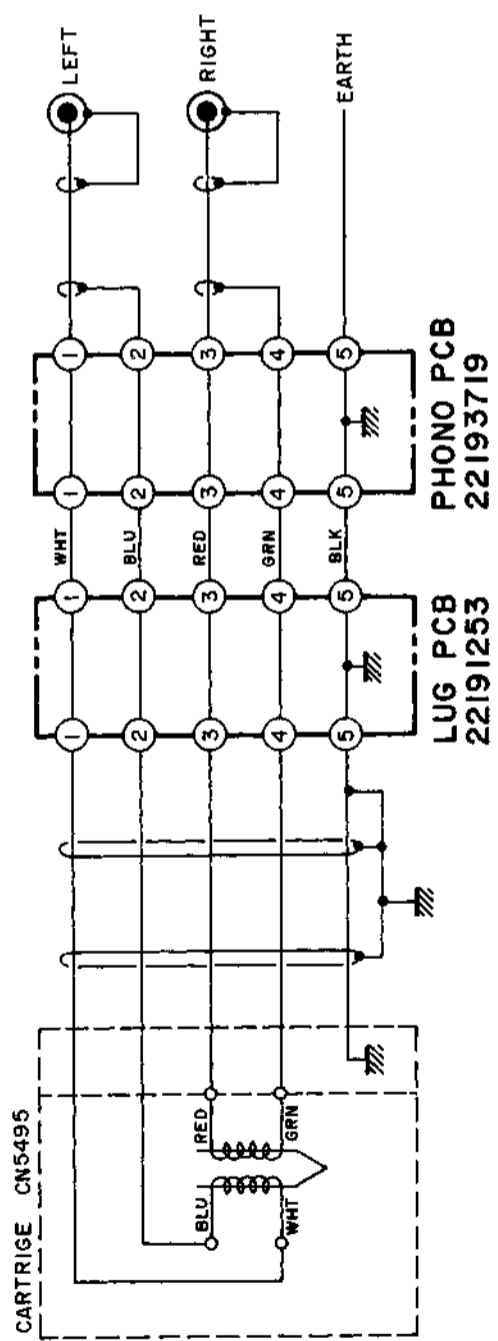
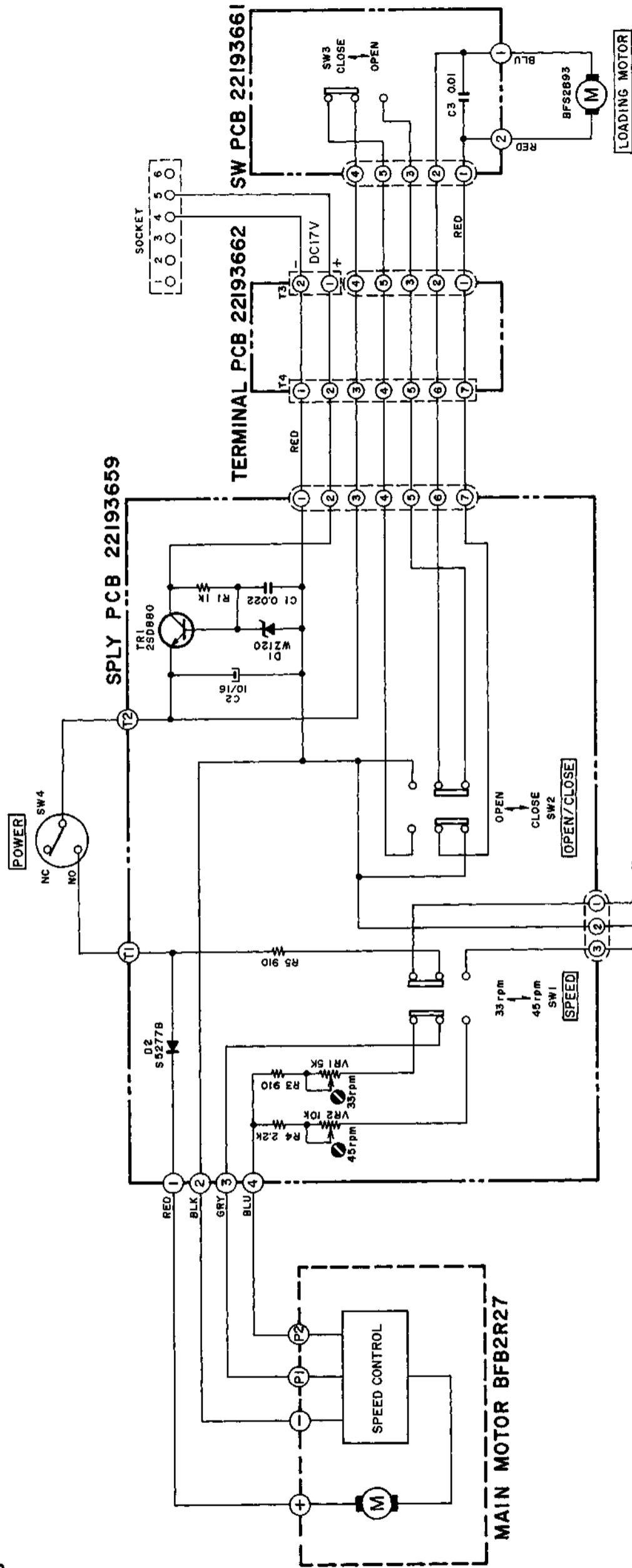
BALANCE PCB 22193707 S.A.C. 22193687 U.E.S.

CONTROL PCB (3/3) 22193691 U.E.S. 22193728 A.C.

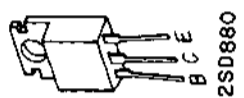


A K J H G F E D C B A
 1 2 3 4 5 6 7 8

FP-3



NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μ F 50 WV (J)



(TURNTABLE)
FP-3
SCHEMATIC DIAGRAM
NO. 830322A