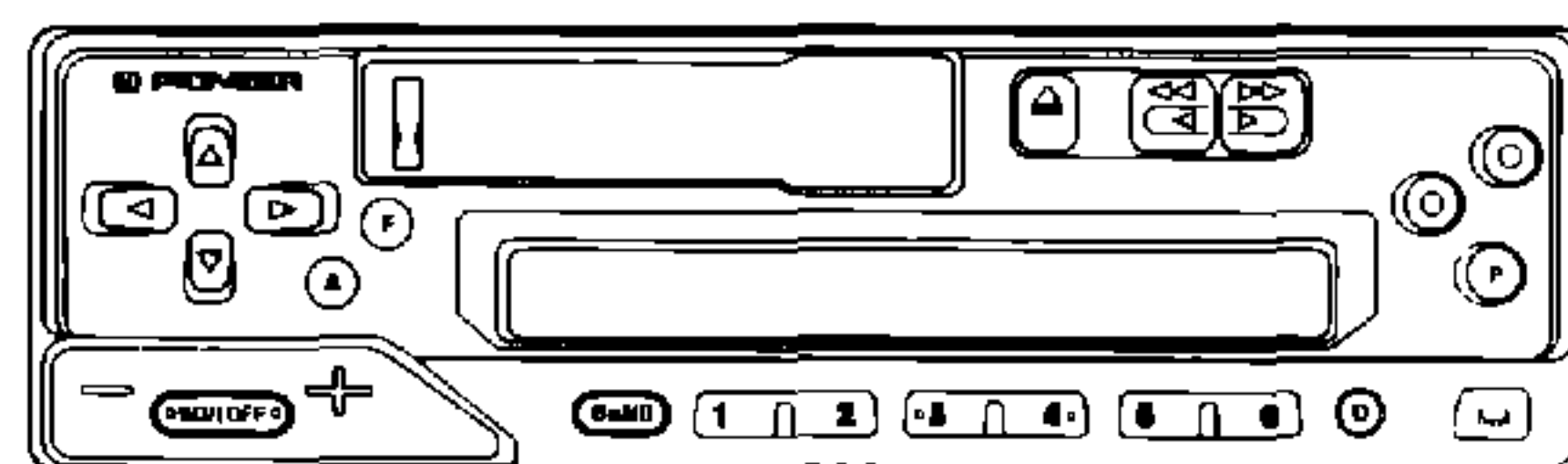


Service Manual

PIONEER®
The Art of Entertainment



ORDER NO.
CRT1948

HIGH POWER CASSETTE RDS TUNER

KEH-2500R X1M/EW

KEH-2530R X1M/EW

NOTE:

- See the separate manual CX-644(CRT1800) for the cassette mechanism description.
- The cassette mechanism assy employed in this model is one of X-2M series

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.

Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.

If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

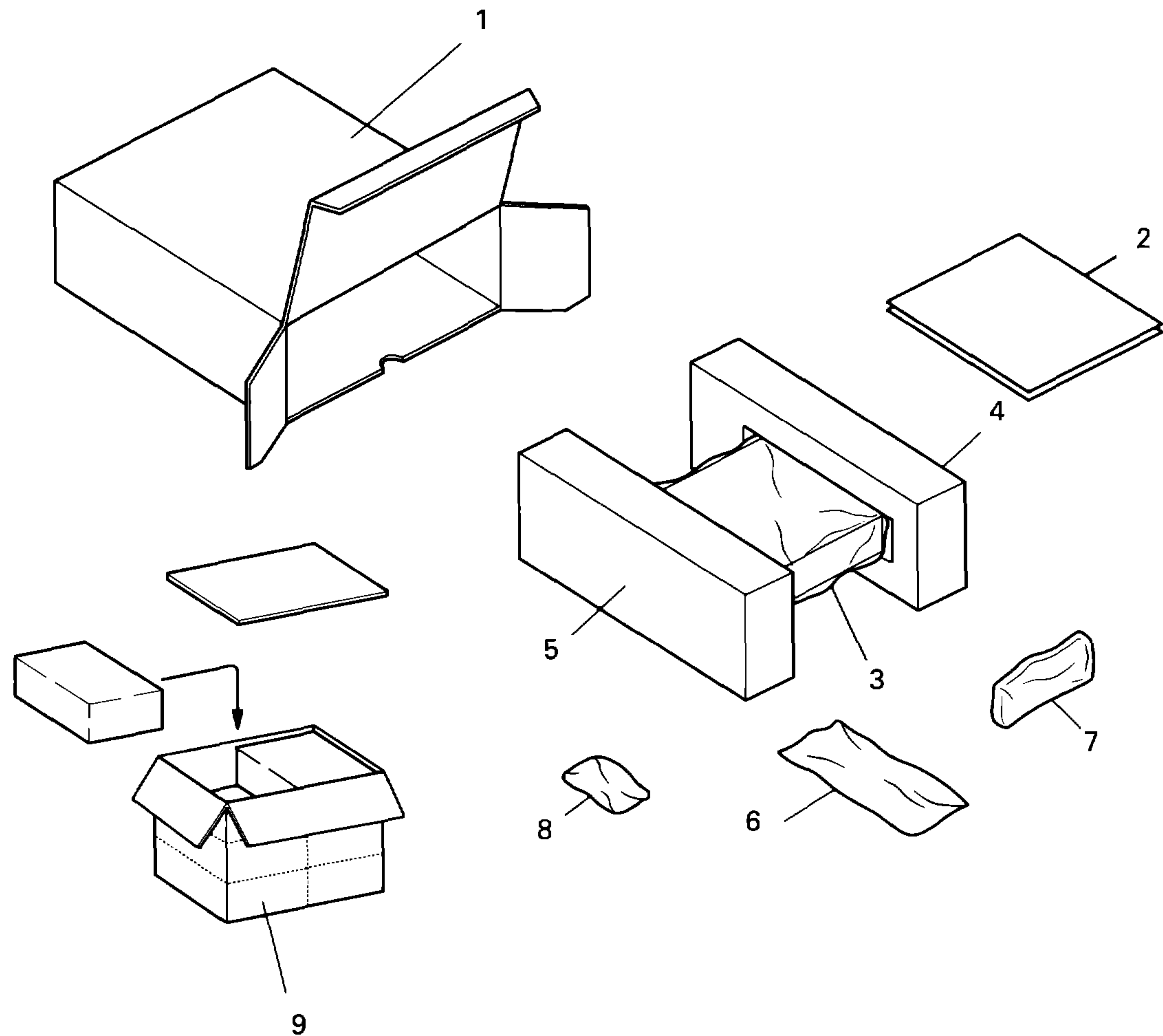


Fig. 1

NOTE:

- Parts marked by " *" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▼ mark on the product are used for disassembly.

● Parts List

Mark No. Description	KEH-2500R/X1M/EW	KEH-2530R/X1M/EW
	Part No.	Part No.
1 Carton	CHG3172	CHG3173
2-1 Owner's Manual	CRD2202	CRD2202
2-2 Owner's Manual	CRB1392	CRB1392
2-3 Installation Manual	CRD2203	CRD2203
* 2-4 Warranty Card	CRY1087	CRY1087
3 Polyethylene Bag	CEG-162	CEG-162
4 Protector	CHP1622	CHP1622
5 Protector	CHP1623	CHP1623
6 Cord Assy	CDE5342	CDE5342
7 Case Assy	CXB1063	CXB1063
8 Accessory Assy	CEA1917	CEA1917
9 Contain Box	CHL3172	CHL3173

KEH-2500R,2530R

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-2500R/X1M/EW KEH-2530R/X1M/EW	CRD2202	English, Spanish, Italian, Dutch, French
	CRB1392	German
	CRD2203	English, Spanish, German, French Italian, Dutch

● Accessory Assy

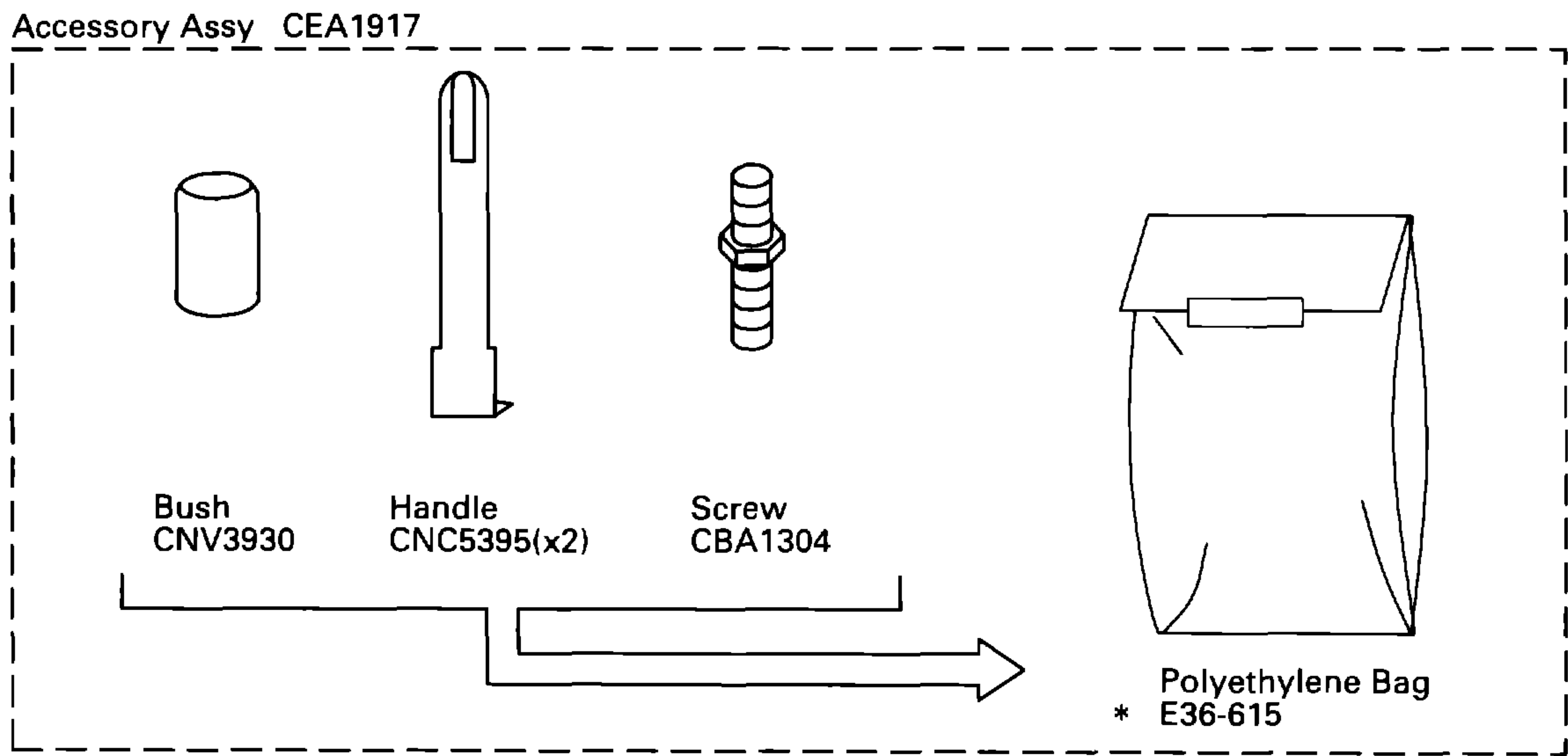


Fig. 2

2.2 EXTERIOR

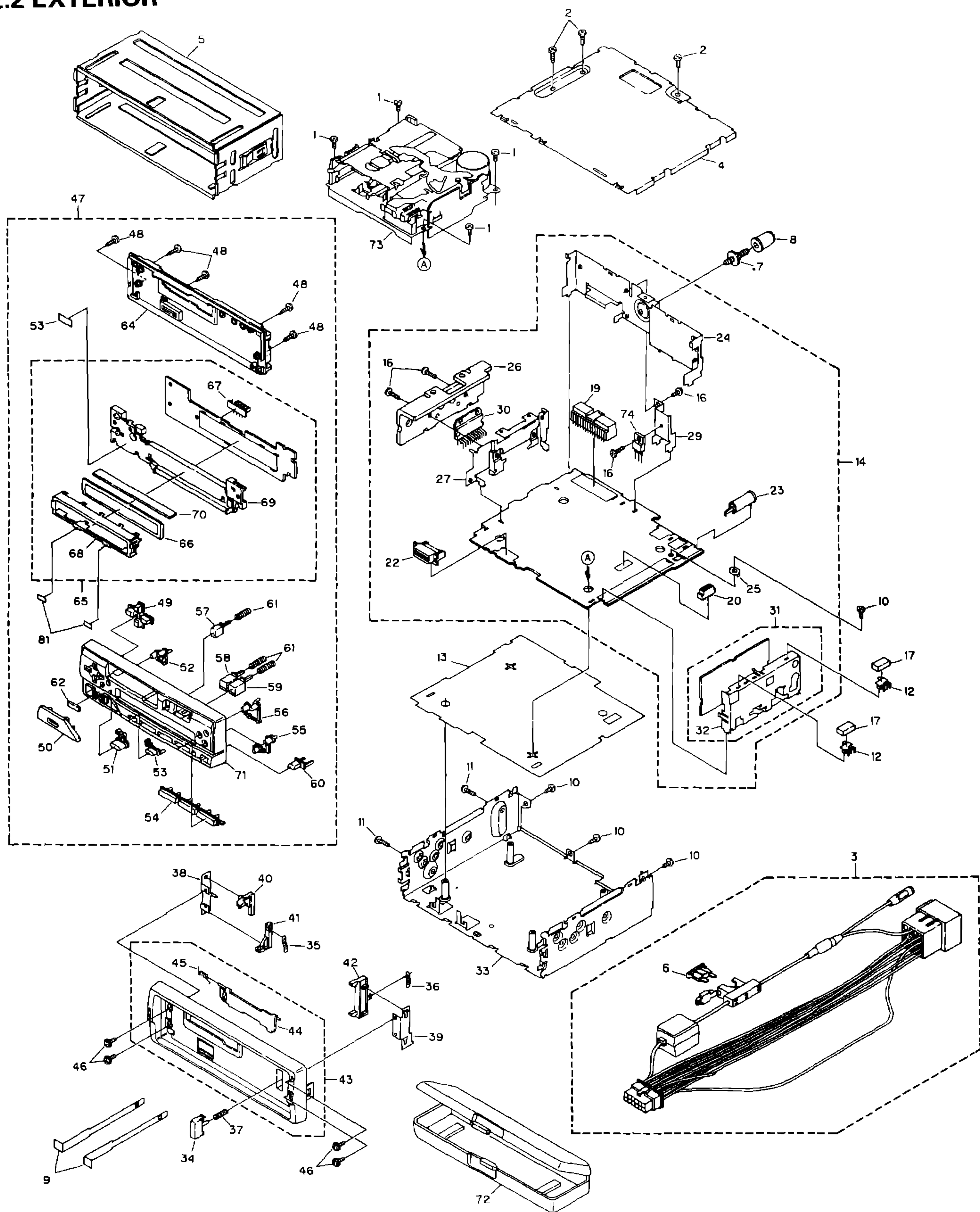


Fig. 3

KEH-2500R,2530R

● Parts List(KEH-2500R/X1M/EW)

Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC
2	Screw	BSZ30P100FMC
3	Cord Assy	CDE5342
4	Case	CNB2074
5	Holder	CNC5394
6	Fuse(10A)	CEK1136
7	Screw	CBA1304
8	Bush	CNV3930
9	Handle	CNC5395
10	Screw	BSZ30P060FMC
11	Screw	BSZ30P100FMC
12	Holder	CNC5704
13	Insulator	CNM5025
14	Tuner Amp Unit	CWM5177
15	.....
16	Screw	BSZ26P080FMC
17	Cushion	CNM4870
18	.....
19	Plug(CN601)	CKM1226
20	Connector(CN604)	CKS3362
21	.....
22	Connector(CN603)	CKS3581
23	Antenna Jack(CN301)	CKX1056
24	Panel	CNB2106
25	Holder	CNC5399
26	Heat Sink	CNC6217
27	Holder	CNC6372
28	.....
29	Holder	CNC6845
30	IC(IC501)	HA13155
31	FM/AM Tuner Unit	CWE1416
32	Holder	CNC6555
33	Chassis Unit	CXA9853
34	Button	CAC4836
35	Spring	CBH1834
36	Spring	CBH1835
37	Spring	CBH1933
38	Bracket	CNC6135
39	Bracket	CNC6791
40	Arm	CNV4692
41	Arm	CNV4693
42	Arm	CNV4728
43	Panel Unit	CXA9847
44	Door	CAT1814
45	Spring	CBH1838

Mark No.	Description	Part No.
46	Screw	IMS20P030FZK
47	Detach Grille Assy	CXA9992
48	Screw	BPZ20P120FZK
49	Button	CAC4859
50	Button(-,+)	CAC4860
51	Button(SOURCE)	CAC4861
52	Button(F,A)	CAC4862
53	Button(BAND)	CAC4863
54	Button(1-6)	CAC4864
55	Button	CAC4865
56	Button	CAC4866
57	Button(⏏)	CAC4867
58	Button(⏮)	CAC4868
59	Button(⏭)	CAC4869
60	Button(⏏)	CAC4870
61	Spring	CBH1836
62	Cushion	CNM5156
63	Cushion	CNM5271
64	Cover	CNS4180
65	Key Board Unit	CWM5187
66	LCD(LCD901)	CAW1391
67	Connector(CN901)	CKS3580
68	Holder	CNC6831
69	Lighting Conductor	CNV4753
70	Connector	CNV4754
71	Grille Unit	CXA9840
72	Case Assy	CXB1063
73	Cassette Mechanism Assy	EXK3456
74	Transistor(Q801)	2SD2037

● **Parts List(KEH-2530R/X1M/EW)**

Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC
2	Screw	BSZ30P100FMC
3	Cord Assy	CDE5342
4	Case	CNB2074
5	Holder	CNC5394
6	Fuse(10A)	CEK1136
7	Screw	CBA1304
8	Bush	CNV3930
9	Handle	CNC5395
10	Screw	BSZ30P060FMC
11	Screw	BSZ30P100FMC
12	Holder	CNC5704
13	Insulator	CNM5025
14	Tuner Amp Unit	CWM5178
15	.....
16	Screw	BSZ26P080FMC
17	Cushion	CNM4870
18	.....
19	Plug(CN601)	CKM1226
20	Connector(CN604)	CKS3362
21	.....
22	Connector(CN603)	CKS3581
23	Antenna Jack(CN301)	CKX1056
24	Panel	CNB2106
25	Holder	CNC5399
26	Heat Sink	CNC6217
27	Holder	CNC6372
28	.....
29	Holder	CNC6845
30	IC(IC501)	HA13155
31	FM/AM Tuner Unit	CWE1416
32	Holder	CNC6555
33	Chassis Unit	CXA9854
34	Button	CAC4836
35	Spring	CBH1834
36	Spring	CBH1835
37	Spring	CBH1933
38	Bracket	CNC6135
39	Bracket	CNC6791
40	Arm	CNV4692
41	Arm	CNV4693
42	Arm	CNV4728
43	Panel Unit	CXA9848
44	Door	CAT1835
45	Spring	CBH1838

Mark No.	Description	Part No.
46	Screw	IMS20P030FZK
47	Detach Grille Assy	CXA9993
48	Screw	BPZ20P120FZK
49	Button	CAC4859
50	Button(-,+)	CAC4991
51	Button(SOURCE)	CAC4861
52	Button(F,A)	CAC4862
53	Button(BAND)	CAC4863
54	Button(1-6)	CAC4992
55	Button	CAC4865
56	Button	CAC4866
57	Button(⏏)	CAC4867
58	Button(⏮)	CAC4868
59	Button(⏭)	CAC4869
60	Button(⏏)	CAC4993
61	Spring	CBH1836
62	Cushion	CNM5156
63	Cushion	CNM5271
64	Cover	CNS4181
65	Key Board Unit	CWM5188
66	LCD(LCD901)	CAW1391
67	Connector(CN901)	CKS3580
68	Holder	CNC6831
69	Lighting Conductor	CNV4753
70	Connector	CNV4754
71	Grille Unit	CXA9841
72	Case Assy	CXB1063
73	Cassette Mechanism Assy	EXK3456
74	Transistor(Q801)	2SD2037
75-80	.....
81	Spacer	CNM5319

2.3 CASSETTE MECHANISM ASSY

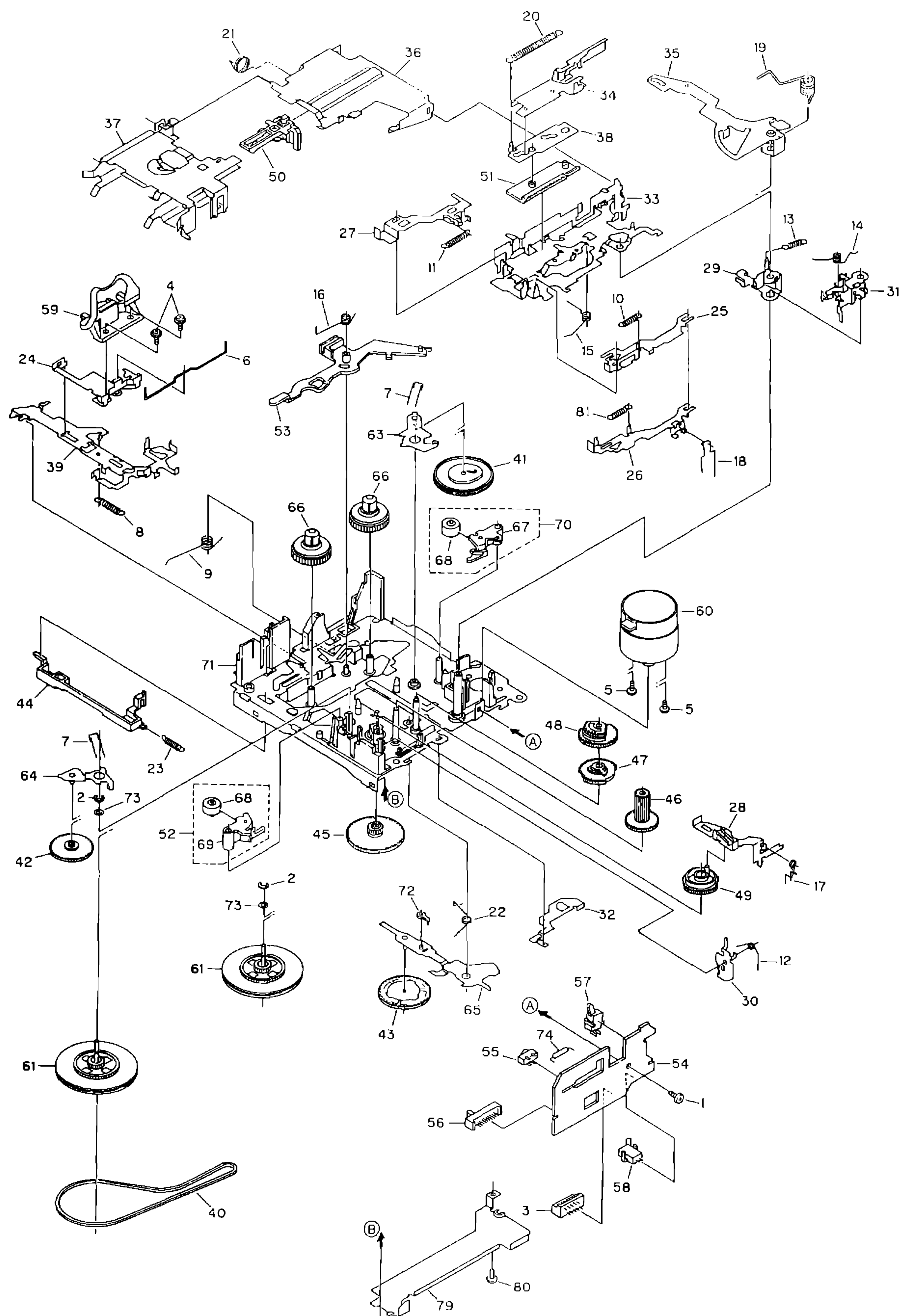


Fig. 4

● Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ23P050FMC	41	Gear	ENV1504
2	Washer	CBG1003	42	Gear	ENV1470
3	Connector(CN1)	CKS2829	43	Gear	ENV1471
4	Screw(M2x5)	EBA1028	44	Lever	ENV1472
5	Screw(M2x2.5)	EBA1037	45	Gear	ENV1474
6	Spring	EBH1554	46	Gear	ENV1475
7	Spring	EBH1555	47	Gear	ENV1493
8	Spring	EBH1556	48	Gear	ENV1477
9	Spring	EBH1557	49	Gear	ENV1499
10	Spring	EBH1591	50	Lever	ENV1480
11	Spring	EBH1559	51	Lever	ENV1487
12	Spring	EBH1560	52	Pinch Holder Unit	EXA1483
13	Spring	EBH1561	53	Arm	ENV1489
14	Spring	EBH1562	* 54	P.C.Board	ENP1148
15	Spring	EBH1563	55	Switch(Eject)(S4)	ESG1002
16	Spring	EBH1590	56	Switch(FWD)(REV)(S3)	ESH1006
17	Spring	EBH1565	57	Switch(Load)(S1)	ESN1016
18	Spring	EBH1566	58	Switch(Mute)(S2)	ESN1017
19	Spring	EBH1567	59	Head Assy(HD1)	EXA1466
20	Spring	EBH1568	60	Motor Unit(M1)	EXA1467
21	Spring	EBH1569	61	Flywheel Unit	EXA1468
22	Spring	EBH1571	62	.....
23	Spring	EBH1579	63	Arm Unit	EXA1447
24	Head Base	ENC1457	64	Arm Unit	EXA1448
25	Lever	ENC1429	65	Arm Unit	EXA1449
26	Lever	ENC1430	66	Reel Unit	EXA1450
27	Lever	ENC1431	67	Pinch Holder	ENV1466
28	Lever	ENC1432	68	Pinch Roller	ENV1501
29	Arm	ENC1433	69	Pinch Holder	ENV1467
30	Arm	ENC1434	70	Pinch Holder Unit	EXA1482
31	Arm	ENC1435	71	Chassis Unit	EXA1465
32	Arm	ENC1451	72	Service Arm	EXX1048
33	Bracket	ENC1437	73	Washer	HBF-179
34	Lever	ENC1438	74	Resistor(R1)	RD1/4HM472J
35	Arm	ENC1439	75-78	.....
36	Frame	ENC1440	79	Cover	ENC1452
37	Holder	ENC1441	80	Screw	BSZ23P050FMC
38	Lever	ENC1446	81	Spring	EBH1592
39	Lever	ENC1454			
40	Belt	ENT1027			

3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

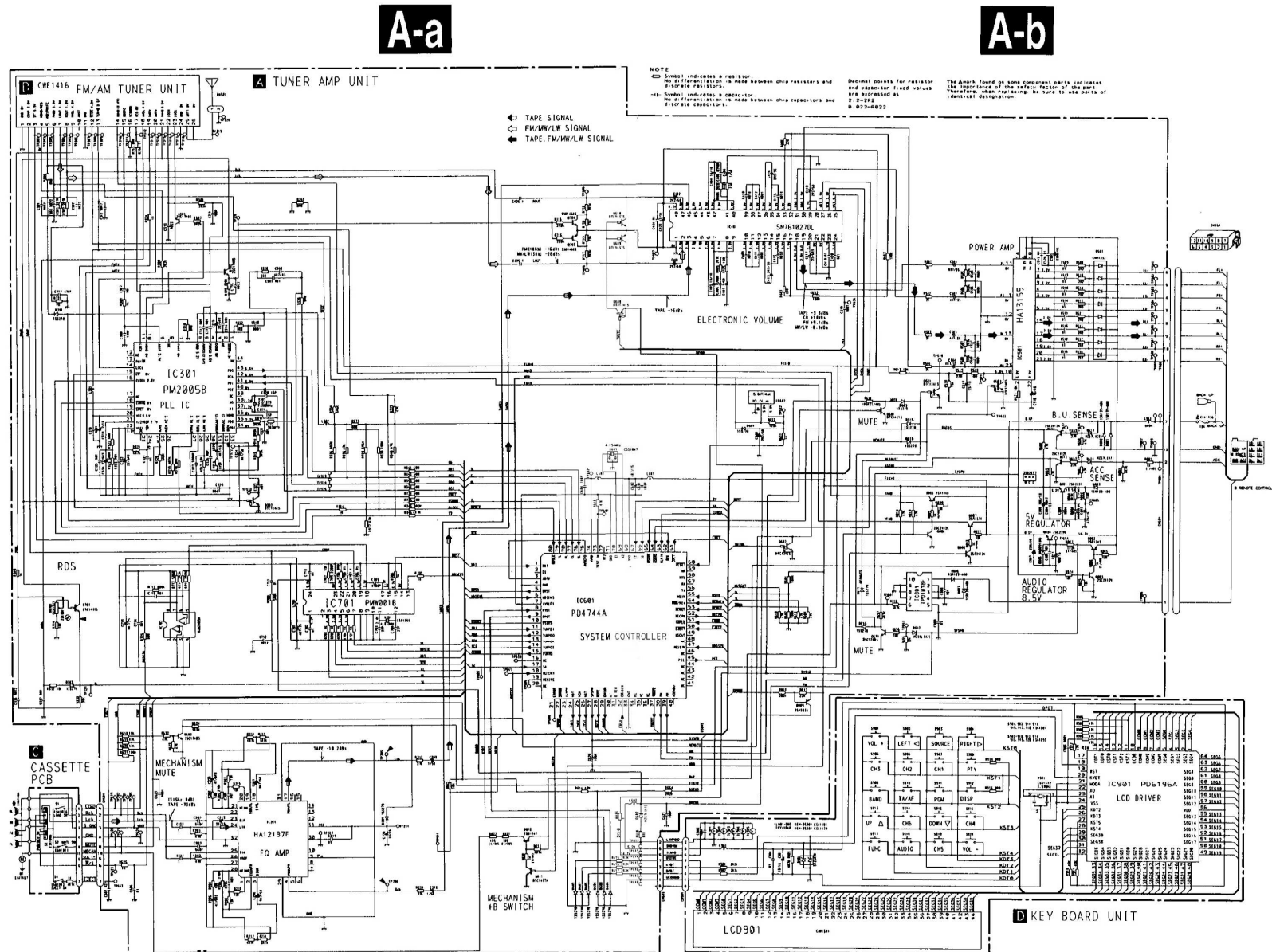
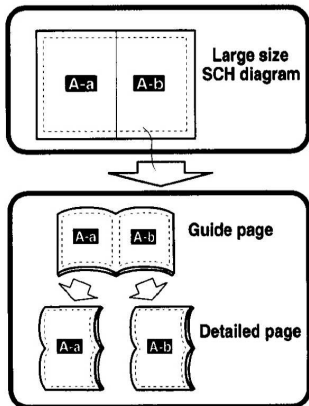
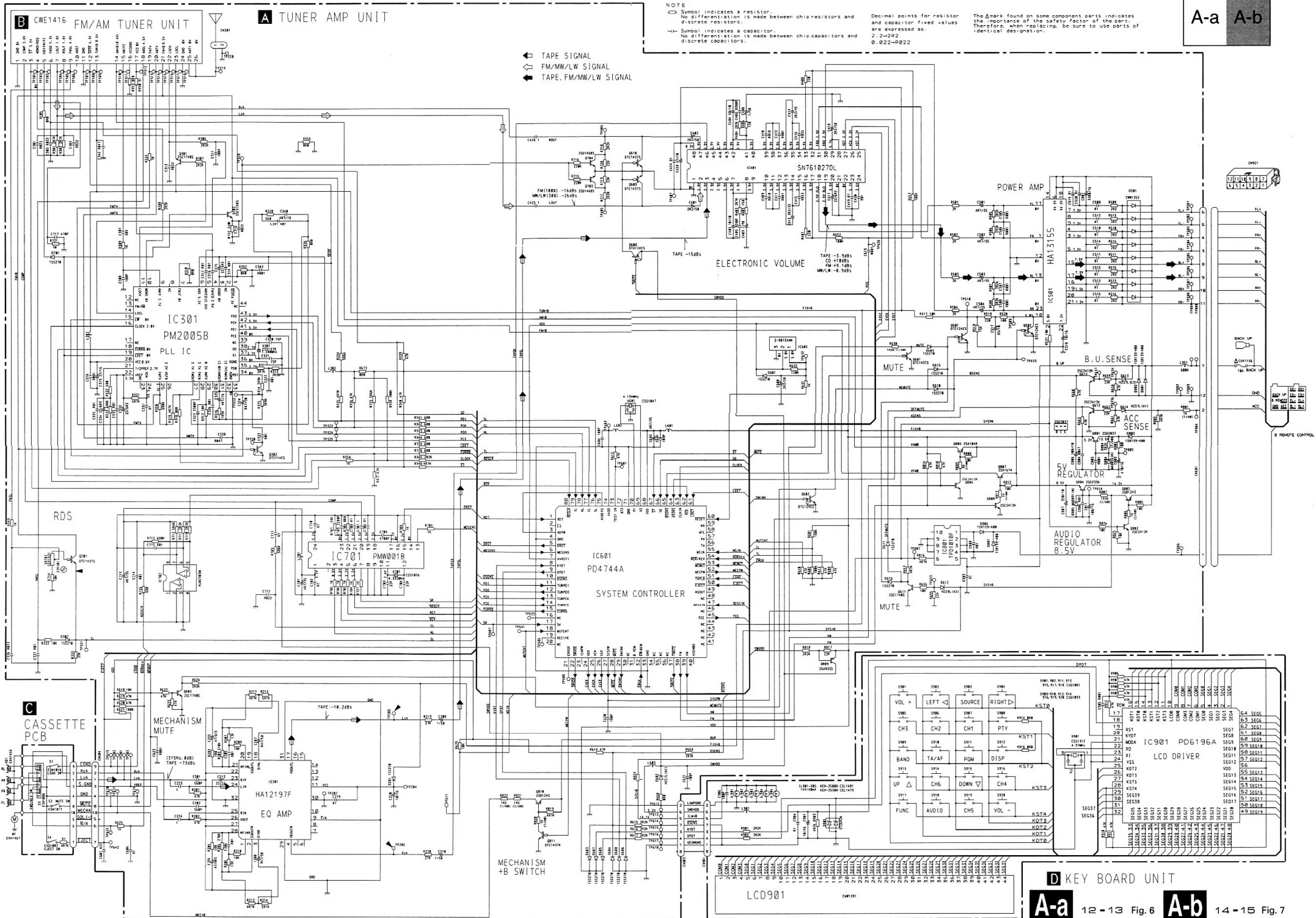


Fig. 5





4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

- 1. The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.
- 2. Viewpoint of PCB diagrams

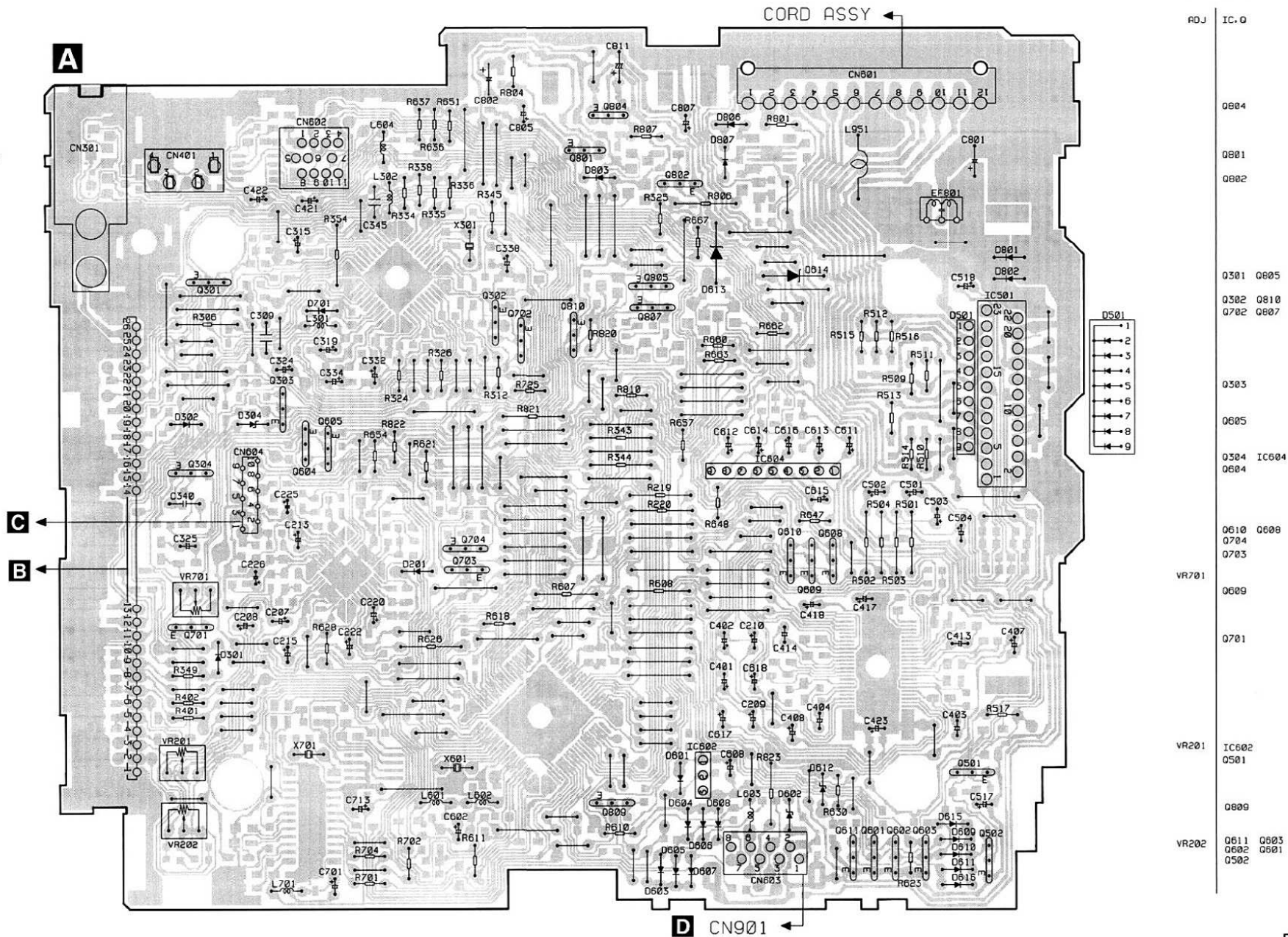
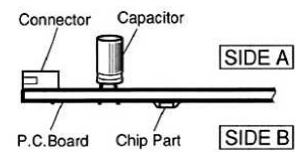
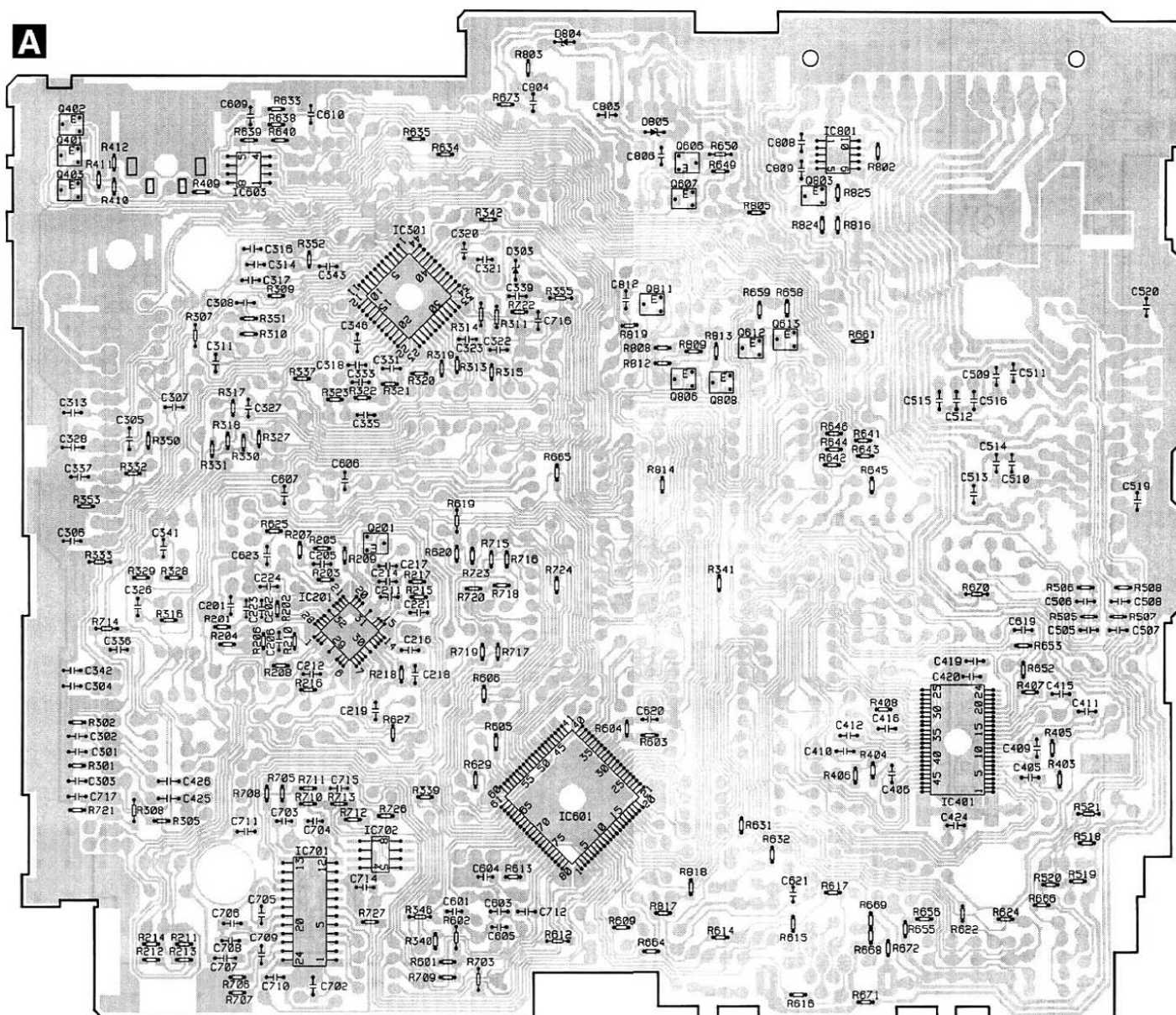


Fig. 9

SIDE B



IC, Q

Q402
IC801
Q606
Q401
Q403
Q607 Q603
IC603

IC501 Q811
Q613 IC501
Q612

Q806
Q808

Q201

IC201

IC601
IC401
IC702

IC701

Fig. 10

4.2 KEY BOARD UNIT

SIDE A

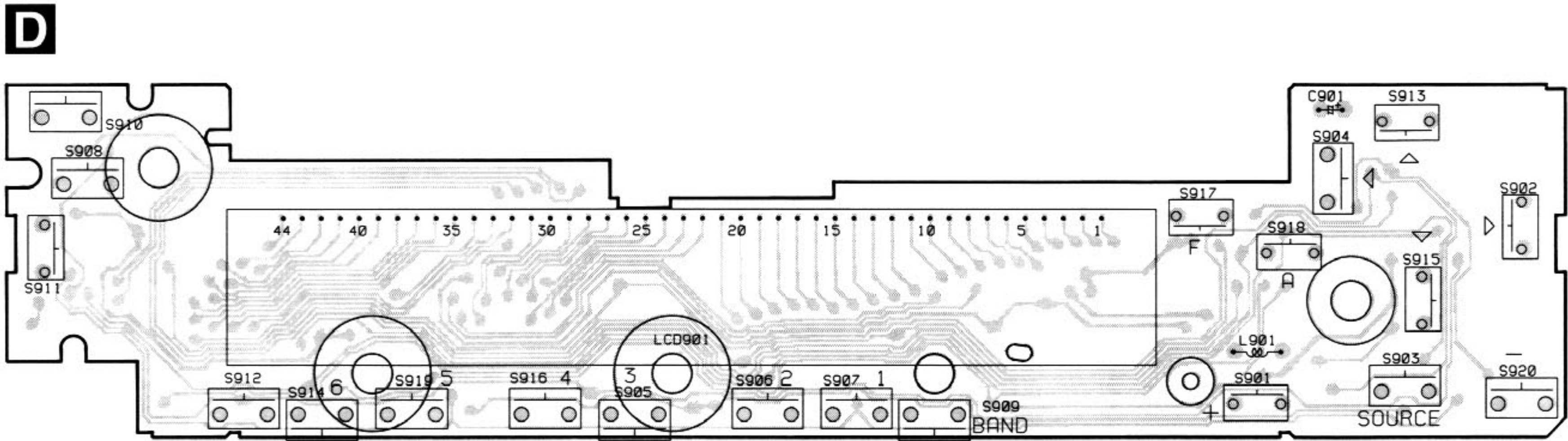


Fig. 11

IC. Q

IC901

SIDE B

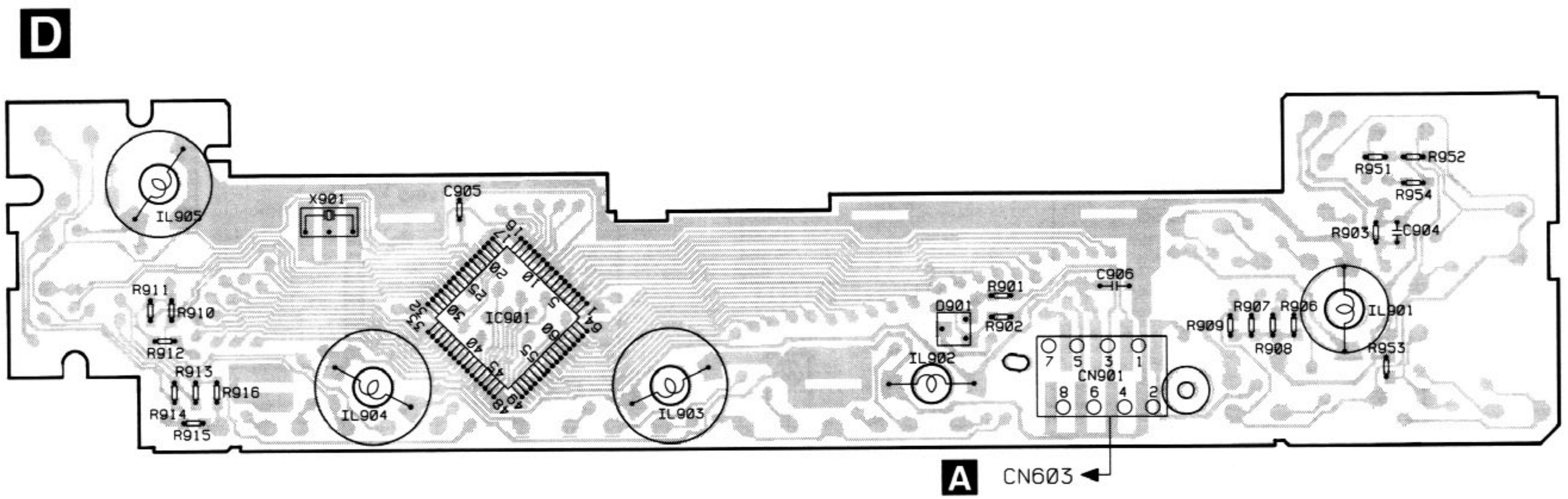


Fig. 12

4.3 FM/AM TUNER UNIT

IC, Q	IC2	Q165	Q232 Q154	IC1	Q31	Q203	Q1	Q3	Q201 Q202 Q2
ADJ	T51	VR154	L5	T31	L232	L4	TC1		L2

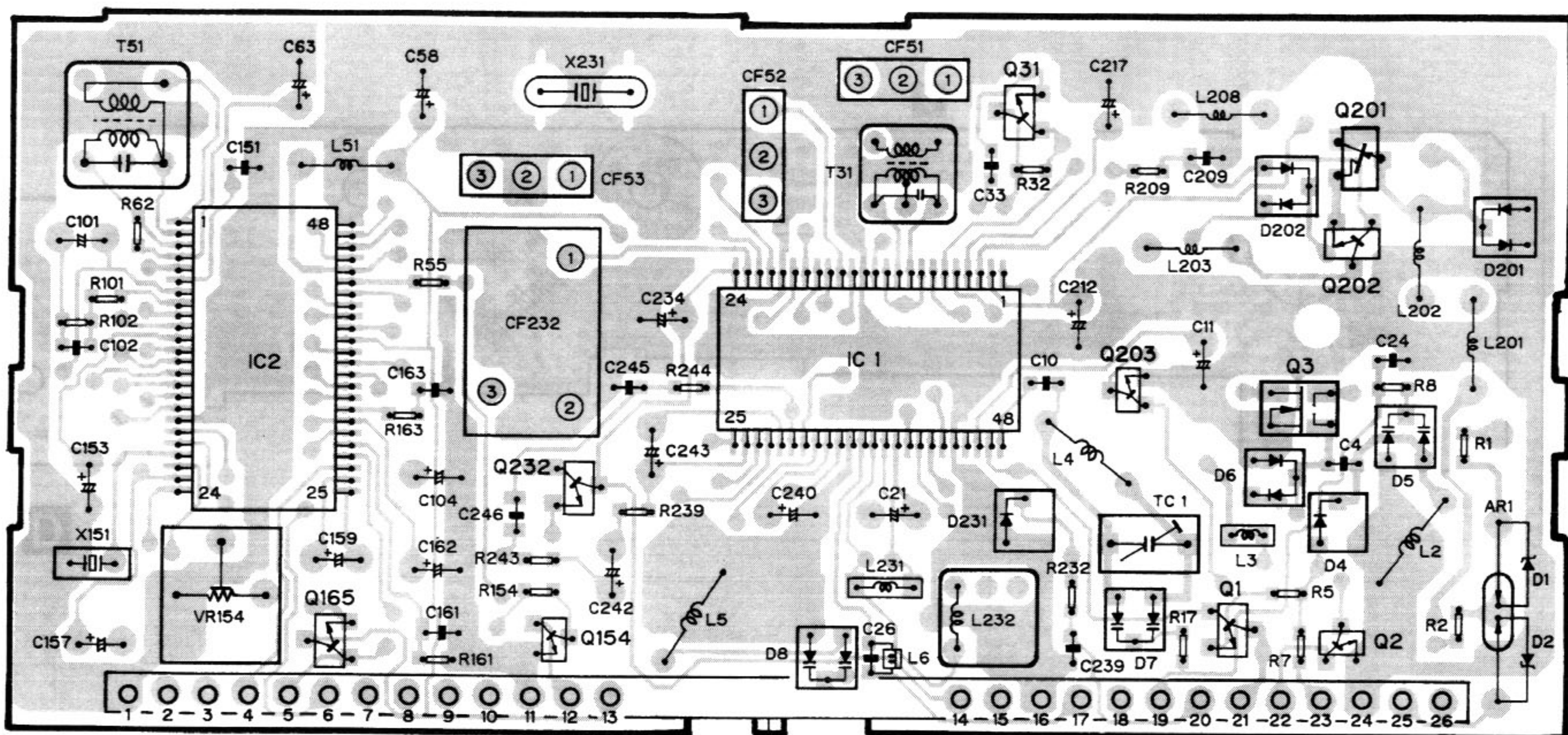


Fig. 13

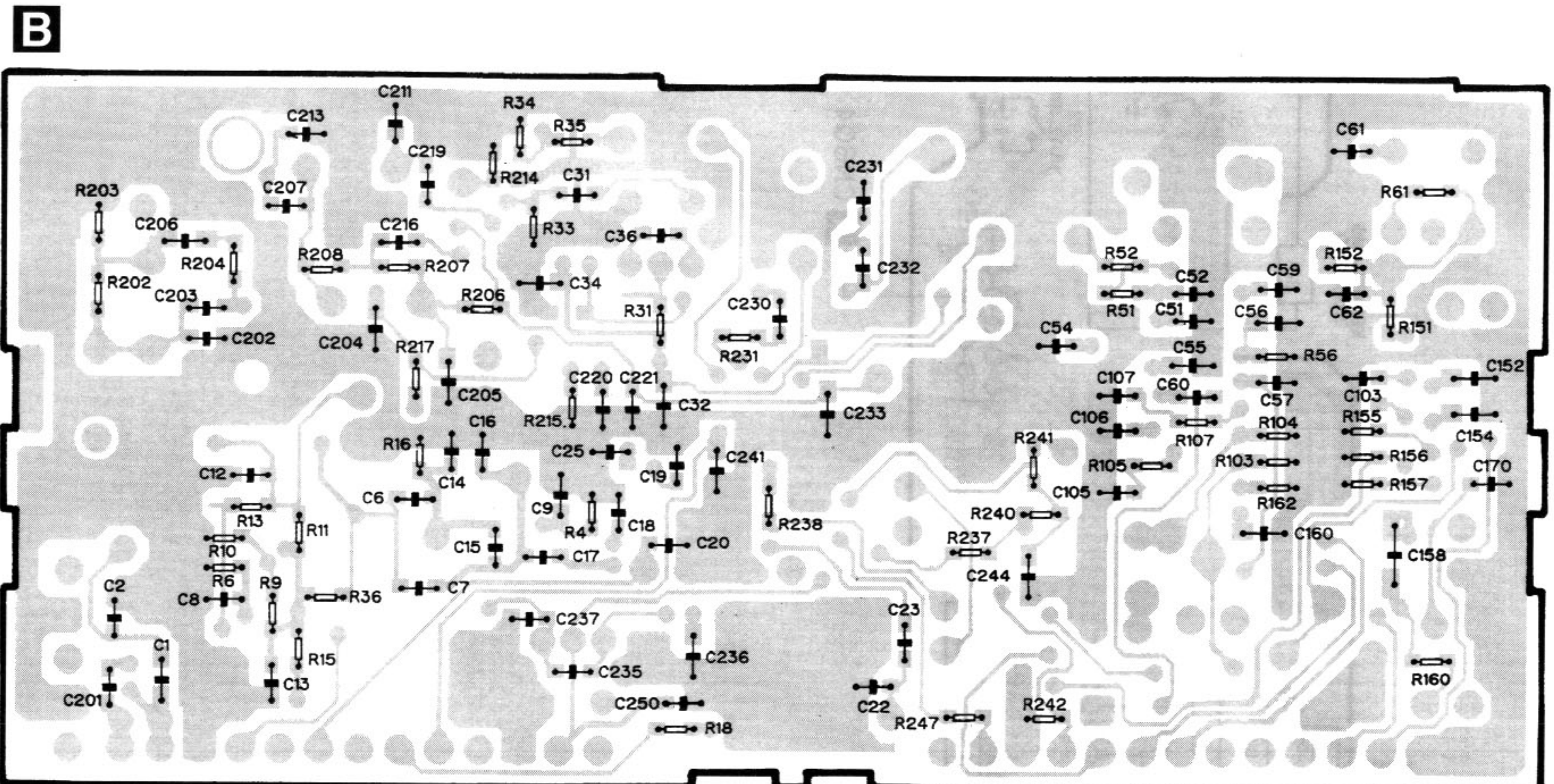


Fig. 14

4.4 CASSETTE PCB

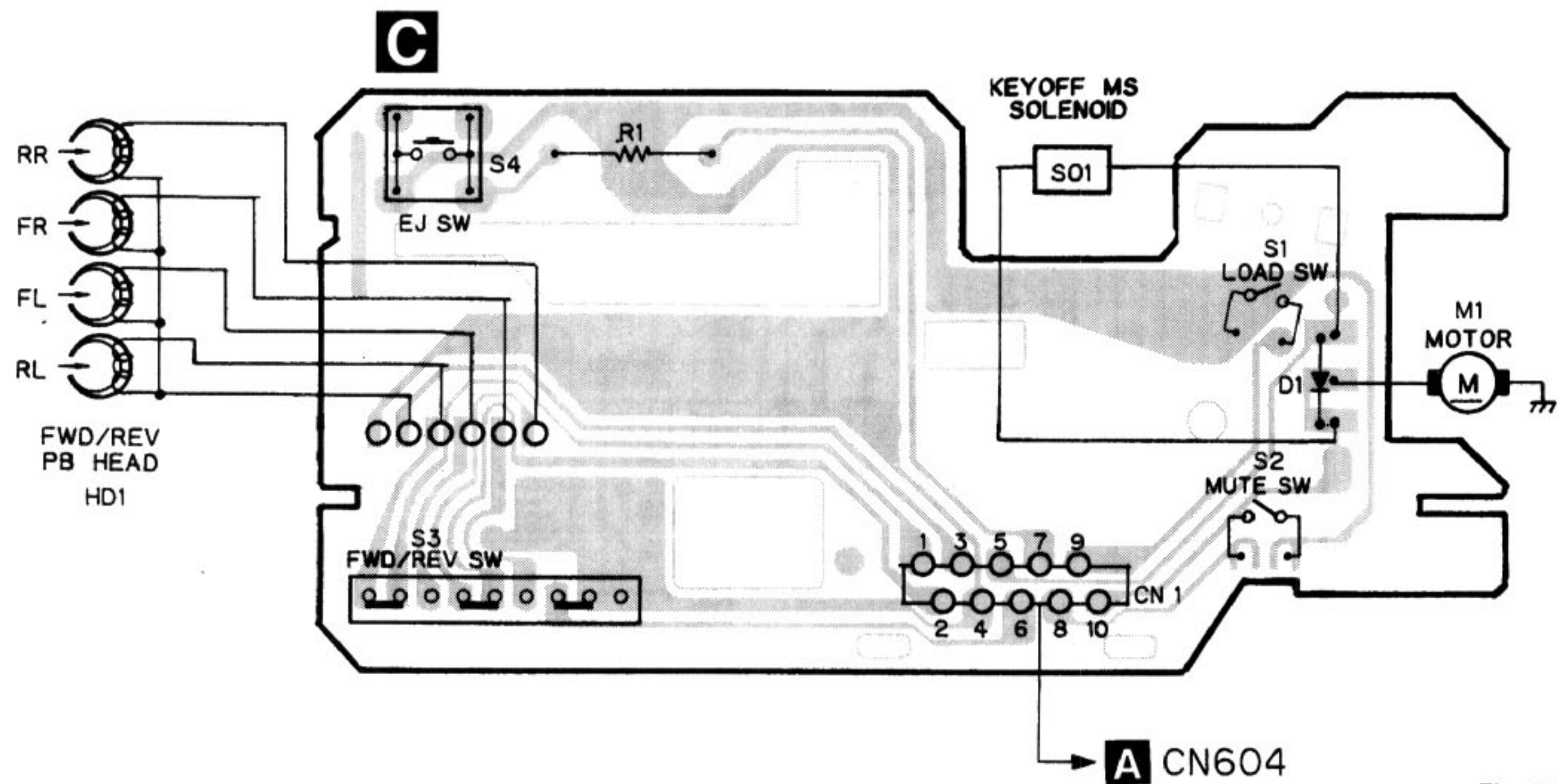


Fig. 15

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor
RS1/○S○○○○J,RS1/○○S○○○J
Chip Capacitor (except for CQS.....)
CKS....., CCS....., CSZS.....

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
<div><div>B</div><div>Unit Number : CWE1416 Unit Name : FM/AM Tuner Unit</div></div>		R 8	RS1/16S332J
		R 9	RS1/16S473J
MISCELLANEOUS		R 10	RS1/16S223J
		R 11	RS1/16S124J
IC 1 IC	PA4023B	R 13	RS1/16S563J
IC 2 IC	PA4024A	R 15	RS1/16S271J
Q 1 Transistor	2SC2412KLN	R 16	RS1/16S104J
Q 2 Transistor	DTC124EU	R 17	RS1/16S332J
Q 3 FET	3SK263	R 18	RS1/16S332J
		R 31	RS1/16S470J
Q 31 Transistor	2SC2412KLN		
Q 154 Transistor	DTC124EU	R 32	RS1/16S822J
Q 165 Transistor	2SC2412KLN	R 33	RS1/16S822J
Q 201 FET	2SK932	R 34	RS1/16S331J
Q 202 Transistor	2SC2412KLN	R 35	RS1/16S331J
		R 51	RS1/16S271J
Q 203 Transistor	DTC124EU		
D 4 Diode	1SV250	R 52	RS1/16S560J
D 5 Diode	KV1410-F1	R 55	RS1/16S102J
D 6 Diode	MA157	R 56	RS1/16S823J
D 7 Diode	KV1410-F1	R 61	RS1/16S392J
		R 62	RS1/16S393J
D 8 Diode	KV1410-F1		
D 201 Diode	MA157	R 101	RS1/16S272J
D 202 Diode	MA157	R 102	RS1/16S682J
D 231 Diode	SVC253	R 103	RS1/16S333J
L 2 Coil	CTC1108	R 104	RS1/16S334J
		R 105	RS1/16S683J
L 3 Inductor	LCTB2R2K2125		
L 4 Coil	CTC1108	R 107	RS1/16S222J
L 5 Coil	CTC1107	R 151	RS1/16S222J
L 6 Inductor	LCTBR15K1608	R 152	RS1/16S393J
L 51 Ferri-Inductor	LAU150K	R 154	RS1/16S104J
		R 155	RS1/16S273J
L 201 Ferri-Inductor	LAU4R7K		
L 202 Ferri-Inductor	LAU330K	R 156	RS1/16S243J
L 203 Inductor	CTF1287	R 157	RS1/16S203J
L 208 Inductor	LAU121K	R 160	RS1/16S222J
L 231 Inductor	LCTA3R3J3225	R 161	RS1/16S563J
		R 162	RS1/16S105J
T 31 Coil	CTE1116		
T 51 Coil	CTC1136	R 163	RS1/16S222J
TC 1 Capacitor	CCL1038	R 202	RS1/16S223J
CF 51 Ceramic Filter	CTF1292	R 203	RS1/16S225J
CF 52 Ceramic Filter	CTF1292	R 204	RS1/16S103J
		R 206	RS1/16S220J
CF 53 Ceramic Filter	CTF1292		
CF 232 Ceramic Filter	CTF1348	R 207	RS1/16S101J
X 151 Resonator 920.5kHz	CSS1365	R 208	RS1/16S102J
X 231 Crystal Resonator 10.26MHz	CSS1111	R 209	RS1/16S471J
VR 154 Semi-fixed 150kΩ(B)	CCP1213	R 214	RS1/16S822J
		R 215	RS1/16S822J
AR 1 Capacitor with Discharge Gap	DSP-201M		
		R 217	RS1/16S102J
RESISTORS		R 231	RS1/16S272J
R 1	RS1/16S0R0J	R 232	RS1/16S473J
R 4	RS1/16S154J	R 237	RS1/16S103J
R 5	RS1/16S391J	R 238	RS1/16S104J
R 6	RS1/16S223J		
R 7	RS1/16S123J	R 239	RS1/16S104J
		R 240	RS1/16S332J
		R 241	RS1/16S202J
		R 243	RS1/16S123J
		R 244	RS1/16S103J

KEH-2500R,2530R

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
R 247	RS1/16S123J	C 212	CEJA470M6R3
CAPACITORS		C 213	CKSRYB103K25
C 1	CCSQCH6R0D50	C 216	CCSRCH101J50
C 2	CCSRCK2R0C50	C 217	CEJA1R5M50
C 4	CCSRCH820J50	C 219	CCSRCH471J50
C 6	CCSRCH820J50	C 220	CKSRYB103K25
C 8	CKSRYB103K25	C 230	CKSRYB103K25
C 9	CKSQYB104K16	C 231	CCSRCH330J50
C 10	CCSRCKR50C50	C 232	CCSRCH150J50
C 11	CEJA1R0M50	C 233	CKSQYB104K16
C 12	CKSRYB222K50	C 234	CEJA330M10
C 13	CKSRYB222K50	C 235	CKSRYB332K50
C 14	CCSRCH220J50	C 236	CKSQYB473K16
C 16	CCSRCH8R0D50	C 237	CCSRCH120J50
C 17	CKSRYB222K50	C 239	CKSRYB472K50
C 18	CKSRYB103K25	C 240	CEJAR47M50
C 19	CKSRYB222K50	C 241	CKSQYB104K16
C 20	CKSRYB222K50	C 242	CEJAR47M50
C 21	CEJA100M16	C 243	CEJAR33M50
C 22	CCSRTH9R0D50	C 244	CKSQYB473K16
C 23	CCSRTH120J50	C 245	CKSRYB123K25
C 24	CCSRCH471J50	C 246	CKSQYB473K16
C 25	CKSRYB103K25	C 250	CCSRCH471J50
C 31	CKSRYB103K25	<div><div>A</div><div>Unit Number : CWM5177(KEH-2500R) Unit Name : CWM5178(KEH-2530R) Tuner Amp Unit</div></div>	
C 32	CKSQYB472K50		
C 33	CCSRCH5R0C50		
C 34	CKSQYB104K16		
C 36	CCSRRH201J50	MISCELLANEOUS	
C 51	CKSRYB223K25		
C 52	CKSRYB103K25		
C 54	CCSRCH470J50		
C 55	CKSQYB223K25	IC 201	IC HA12197F
C 56	CKSQYB104K16	IC 301	IC PM2005B
C 57	CKSRYB472K50	IC 401	IC SN761027DL
C 58	CEJA330M10	IC 501	IC HA13155
C 59	CKSRYB103K25	IC 601	IC PD4744A
C 61	CCSRCH270J50	IC 602	IC S-80734AN
C 62	CKSRYB103K25	IC 701	IC PMW001B
C 63	CEJAR15M50	IC 702	IC NJM2903M
C 101	CEJANP100M10	IC 801	IC TPD1018F
C 102	CKSRYB182K50	Q 301	Transistor 2SC1740S
C 103	CKSRYB682K25	Q 302	Transistor DTC114ES
C 104	CEJA2R2M50	Q 501	Transistor DTC124ES
C 105	CKSRYB103K25	Q 502	Transistor DTC124ES
C 106	CCSRCH151J50	Q 601	Transistor DTC143TS
C 107	CKSRYB103K25	Q 602	Transistor DTC124ES
C 151	CKSRYB472K50	Q 603	Transistor 2SC1740S
C 152	CKSQYB104K16	Q 608	Transistor DTA124ES
C 153	CEJA3R3M50	Q 609	Transistor DTC143TS
C 154	CKSQYB104K16	Q 610	Transistor DTC143TS
C 157	CEJA3R3M50	Q 611	Transistor 2SC1740S
C 158	CKSYB474K16	Q 612	Transistor 2SC2412K
C 159	CEJA220M6R3	Q 613	Transistor 2SC2412K
C 160	CKSQYB104K16	Q 701	Transistor DTC143TS
C 161	CKSQYB104K16	Q 702	Transistor 2SC1740S
C 162	CEJA3R3M50	Q 703	Transistor 2SD1468S
C 163	CKSRYB102K50	Q 704	Transistor 2SD1468S
C 170	CCSRCH100D50	Q 801	Transistor 2SD2037
C 201	CCSRCH471J50	Q 802	Transistor 2SB1243
C 202	CCSRCH100D50	Q 803	Transistor 2SC2412K
C 203	CKSRYB332K50	Q 804	Transistor 2SD2396
C 204	CKSQYB473K16	Q 805	Transistor 2SA1048
C 205	CKSQYB473K16	Q 806	Transistor 2SC2412K
C 206	CKSQYB104K16	Q 807	Transistor 2SA1674
C 207	CCSRCH560J50	Q 808	Transistor 2SC2412K
C 209	CKSQYB104K16	Q 809	Transistor 2SA933S
C 211	CCSRCH101J50	Q 810	Transistor 2SB1242
		Q 811	Transistor DTC143TK
		D 201	Diode 1SS270
		D 302	Diode 1SS270
		D 501	Diode CWW1352

====Circuit Symbol & No.==Part Name			Part No.	====Circuit Symbol & No.==Part Name			Part No.
D	601	Diode	1SS270	R	318		RS1/10S0R0J
D	602	Diode	HZS7L(A1)	R	319		RS1/10S472J
D	603	Diode	1SS270	R	320		RS1/10S682J
D	604	Diode	1SS270	R	321		RS1/10S472J
D	605	Diode	1SS270	R	322		RS1/10S681J
D	606	Diode	1SS270	R	323		RS1/10S682J
D	607	Diode	1SS270	R	324		RD1/4PU102J
D	608	Diode	1SS270	R	326		RD1/4PU0R0J
D	609	Diode	1SS270	R	328		RS1/10S561J
D	610	Diode	1SS270	R	332		RS1/10S103J
D	611	Diode	1SS270	R	333		RS1/8S393J
D	612	Diode	HZS9L(A2)	R	334		RD1/4PU562J
D	613	Diode	HZS7L(C3)	R	335		RD1/4PU472J
D	614	Diode	HZS7L(A1)	R	336		RD1/4PU473J
D	615	Diode	1SS270	R	337		RS1/10S473J
D	616	Diode	1SS270	R	338		RD1/4PU104J
D	701	Diode	1SS270	R	339		RS1/10S473J
D	801	Diode	1SR139-400	R	340		RS1/10S473J
D	802	Diode	1SR139-400	R	341		RS1/10S681J
D	803	Diode	1SR139-400	R	342		RS1/10S681J
D	804	Diode	MA8056(H)	R	343		RD1/4PU681J
D	805	Diode	MA8091(M)	R	344		RD1/4PU681J
D	806	Diode	1SR139-400	R	345		RD1/4PU222J
D	807	Diode	1SR139-400	R	346		RS1/8S472J
L	301	Ferri-Inductor	LAU101K	R	349		RD1/4PU102J
L	302	Ferri-Inductor	LAU101K	R	350		RS1/10S510J
L	601	Ferri-Inductor	LAU101K	R	352		RS1/10S0R0J
L	602	Ferri-Inductor	LAU101K	R	353		RS1/10S0R0J
L	603	Ferri-Inductor	LAU101K	R	354		RD1/4PU102J
L	701	Ferri-Inductor	LAU101K	R	355		RS1/8S0R0J
L	951	600H	CTH1168	R	403		RS1/10S272J
X	301	Crystal Resonator 7.200MHz	CSS1379	R	404		RS1/10S272J
X	601	Ceramic Resonator 4.194MHz	CSS1047	R	405		RS1/10S151J
X	701	Crystal Resonator 4.332MHz	CSS1056	R	406		RS1/10S151J
VR	701	Semi-fixed 22kΩ(B) FM/AM Tuner Unit	CCP1321 CWE1416	R	407		RS1/10S221J
RESISTORS				R	408		RS1/10S221J
R	201		RS1/10S473J	R	501		RD1/4PU202J
R	202		RS1/10S473J	R	502		RD1/4PU202J
R	203		RS1/10S181J	R	503		RD1/4PU202J
R	204		RS1/10S181J	R	504		RD1/4PU202J
R	205		RS1/10S274J	R	505		RS1/10S222J
R	206		RS1/10S274J	R	506		RS1/10S222J
R	207		RS1/10S133J	R	507		RS1/10S222J
R	208		RS1/10S133J	R	508		RS1/10S222J
R	209		RS1/10S183J	R	509		RD1/4PU2R2J
R	210		RS1/10S183J	R	510		RD1/4PU2R2J
R	211		RS1/10S472J	R	511		RD1/4PU2R2J
R	212		RS1/10S472J	R	512		RD1/4PU2R2J
R	213		RS1/10S512J	R	513		RD1/4PU2R2J
R	214		RS1/10S512J	R	514		RD1/4PU2R2J
R	219		RD1/4PU273J	R	515		RD1/4PU2R2J
R	220		RD1/4PU273J	R	516		RD1/4PU2R2J
R	301		RS1/10S272J	R	517		RD1/4PU103J
R	302		RS1/10S272J	R	518		RS1/10S153J
R	305		RS1/10S0R0J	R	519		RS1/10S221J
R	306		RD1/4PU222J	R	520		RS1/10S101J
R	307		RS1/8S222J	R	521		RS1/8S103J
R	308		RS1/8S222J	R	601		RS1/10S104J
R	309		RS1/10S102J	R	602		RS1/8S104J
R	310		RS1/10S0R0J	R	604		RS1/10S473J
R	311		RS1/8S272J	R	610		RD1/4PU473J
R	312		RD1/4PU222J	R	612		RS1/8S473J
R	314		RS1/8S392J	R	613		RS1/10S473J
R	315		RS1/10S392J	R	614		RS1/10S473J
R	316		RS1/10S152J	R	615		RS1/10S222J
R	317		RS1/10S103J	R	616		RS1/10S222J
				R	617		RD1/4PU103J
				R	618		RS1/8S473J
				R	619		RS1/10S473J
				R	620		RS1/10S473J

====Circuit Symbol & No.==Part Name		Part No.	====Circuit Symbol & No.==Part Name		Part No.
R	621	RD1/4PU104J	R	818	RS1/10S222J
R	622	RS1/10S473J	R	819	RS1/10S472J
R	623	RD1/4PU473J	R	820	RD1/4PU102J
R	624	RS1/10S332J	R	821	RD1/4PU1R5J
R	625	RS1/10S102J	R	822	RD1/4PU1R5J
R	629	RS1/10S103J	R	823	RD1/4PU1R0J
R	630	RD1/4PU152J	R	824	RS1/10S103J
R	631	RS1/10S102J	R	825	RS1/10S103J
R	632	RS1/10S124J	CAPACITORS		
R	652	RS1/10S104J	C	201	CKSQYB561K50
R	653	RS1/10S104J	C	202	CKSQYB561K50
R	655	RS1/10S223J	C	205	CKSQYB103K25
R	656	RS1/10S103J	C	206	CKSQYB103K25
R	657	RD1/4PU472J	C	207	CEALR47M50
R	658	RS1/10S473J	C	208	CEALR47M50
R	659	RS1/10S223J	C	209	CEJA1R0M50
R	660	RD1/4PU473J	C	210	CEJA1R0M50
R	661	RS1/10S473J	C	213	CEAL220M16
R	662	RD1/4PU223J	C	219	CKSQYB104K16
R	663	RD1/4PU473J	C	220	CEAL100M16
R	664	RS1/10S222J	C	223	CKSQYB105K10
R	668	RS1/10S0R0J	C	224	CKSQYB105K10
R	673	RS1/10S0R0J	C	225	CEAL470M6R3
R	701	RD1/4PU102J	C	226	CEAL470M6R3
R	702	RD1/4PU102J	C	301	CKSQYB223K25
R	703	RS1/8S102J	C	302	CKSQYB223K25
R	704	RD1/4PU102J	C	303	CKSQYB223K25
R	705	RS1/10S102J	C	307	CKSQYB103K25
R	706	RS1/10S0R0J	C	308	CCSQCH101K50
R	707	RS1/10S333J	C	311	CCSQCH101K50
R	708	RS1/10S102J	C	313	CKSQYB223K25
R	709	RS1/10S562J	C	314	CKSQYB103K25
R	710	RS1/10S222J	C	315	CEAL220M6R3
R	711	RS1/10S222J	C	316	CKSQYB103K25
R	712	RS1/10S562J	C	317	CKSQYB103K25
R	713	RS1/10S684J	C	318	CKSQYB102K50
R	714	RS1/8S103J	C	319	CEAL220M16
R	715	RS1/10S224J	C	320	CCSQCH150J50
R	716	RS1/10S224J	C	321	CCSQCH150J50
R	717	RS1/10S222J	C	322	CKSQYB103K25
R	718	RS1/10S222J	C	323	CKSQYB103K25
R	719	RS1/10S223J	C	324	CEALR47M50
R	720	RS1/10S223J	C	325	CCH1250
R	721	RS1/10S105J	C	326	CKSQYB103K25
R	722	RS1/10S224J	C	327	CKSQYB332K50
R	723	RS1/10S562J	C	328	CKLSR473K16
R	724	RS1/10S681J	C	331	CKSQYB104K16
R	725	RD1/4PU681J	C	332	CEAL220M6R3
R	726	RS1/10S681J	C	333	CKSQYB103K25
R	727	RS1/10S102J	C	334	CEAL220M6R3
R	801	RD1/4PU102J	C	335	CKSQYB103K25
R	802	RS1/10S472J	C	336	CKSQYB223K25
R	803	RS1/10S101J	C	337	CKSQYB103K25
R	804	RD1/4PU332J	C	340	CCH1165
R	805	RS1/10S103J	C	341	CKSQYB103K25
R	806	RD1/4PU102J	C	342	CKSQYB473K16
R	807	RD1/4PU122J	C	343	CKSQYB102K50
R	808	RS1/10S103J	C	401	CEJA2R2M50
R	809	RS1/10S102J	C	402	CEJA2R2M50
R	810	RD1/4PU473J	C	403	CEJANP100M10
R	812	RS1/10S103J	C	404	CEJANP100M10
R	813	RS1/10S102J	C	405	CKSQYB822K50
R	814	RS1/10S473J	C	406	CKSQYB822K50
R	816	RS1/10S472J	C	407	CEJA1R0M50
R	817	RS1/10S223J	C		

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
C 408	CEJA1R0M50	C 802 470μF/16V	CCH1183
C 409	CKSQYB183K25	C 803	CKSQYB102K50
C 410	CKSQYB183K25	C 804	CKSQYB473K16
C 411	CKSQYB102K50	C 805	CEJA101M10
C 412	CKSQYB102K50	C 806	CKSQYB103K25
C 413	CEJANP2R2M35	C 807 330μF/10V	CCH1181
C 414	CEJANP2R2M35	C 808	CKSQYB103K25
C 415	CKSQYB333K25	C 809	CKSQYB104K16
C 416	CKSQYB333K25	C 811 100μF/16V	CCH1179
C 417	CEJA220M6R3		
C 418	CEJA2R2M50	D Unit Number : CWM5187(KEH-2500R)	
C 419	CKSQYB104K16	Unit Name : CWM5188(KEH-2530R)	
C 420	CKSQYB103K25	Unit Name : Key Board Unit	
C 423	CEJA470M10		
C 424	CKSQYB104K16	MISCELLANEOUS	
C 425	CKSYB105K16	IC 901 IC	PD6196A
C 426	CKSYB105K16	D 901 Diode	STZ6R2N
C 501	CEJA4R7M35	L 901 Ferri-Inductor	LAU101K
C 502	CEJA4R7M35	X 901 Ceramic Resonator 4.97MHz	CSS1312
C 503	CEJA4R7M35	S 901 Switch	CSG1081
C 504	CEJA4R7M35	S 902 Switch	CSG1081
C 505	CKSQYB102K50	S 903 Switch	CSG1093
C 506	CKSQYB102K50	S 904 Switch	CSG1093
C 507	CKSQYB102K50	S 905 Switch	CSG1093
C 508	CKSQYB102K50	S 906 Switch	CSG1093
C 509	CKSQYB104K16	S 907 Switch	CSG1093
C 510	CKSQYB104K16	S 908 Switch	CSG1093
C 511	CKSQYB104K16	S 909 Switch	CSG1093
C 512	CKSQYB104K16	S 910 Switch	CSG1093
C 513	CKSQYB104K16	S 911 Switch	CSG1081
C 514	CKSQYB104K16	S 912 Switch	CSG1093
C 515	CKSQYB104K16	S 913 Switch	CSG1081
C 516	CKSQYB104K16	S 914 Switch	CSG1093
C 517	CEJA330M10	S 915 Switch	CSG1081
C 518	CEJA100M16	S 916 Switch	CSG1093
C 519	CKSQYB104K16	S 917 Switch	CSG1081
C 520	CKSQYB104K16	S 918 Switch	CSG1081
C 601	CCSQCH101K50	S 919 Switch	CSG1093
C 602	CEAL4R7M35	S 920 Switch	CSG1093
C 604	CCSQCH101K50	IL 901 Lamp 14V 40mA (KEH-2500R)	CEL1481
C 606	CKSQYB104K16	IL 901 Lamp 14V 40mA (KEH-2530R)	CEL1479
C 607	CKSQYB224K16	IL 902 Lamp 14V 40mA (KEH-2500R)	CEL1481
C 608	CEJA2R2M50	IL 902 Lamp 14V 40mA (KEH-2530R)	CEL1479
C 619	CKSQYB102K50	IL 903 Lamp 14V 40mA (KEH-2500R)	CEL1481
C 620	CCSQCH101K50	IL 903 Lamp 14V 40mA (KEH-2530R)	CEL1479
C 621	CCSQCH101J50	IL 904 Lamp 14V 40mA (KEH-2500R)	CEL1481
C 623	CKSQYB102K50	IL 904 Lamp 14V 40mA (KEH-2530R)	CEL1479
C 701	CEAL4R7M35	L 905 Lamp 14V 40mA (KEH-2500R)	CEL1481
C 702	CKSQYB104K16	L 905 Lamp 14V 40mA (KEH-2530R)	CEL1479
C 703	CCSQCH220J50	LCD 901 LCD	CAW1391
C 704	CCSQCH220J50		
C 705	CKSQYB472K50	RESISTORS	
C 706	CKSQYB104K16	R 901	RS1/10S222J
C 707	CKSYB105K16	R 902	RS1/10S222J
C 708	CKSQYB104K16	R 903	RS1/10S472J
C 709	CKSQYB222K50	R 906	RS1/10S473J
C 710	CKSQYB104K16	R 907	RS1/10S473J
C 711	CKSQYB104K16	R 908	RS1/10S473J
C 712	CKSQYB223K25	R 909	RS1/10S473J
C 713	CEAL4R7M35	R 910	RS1/10S473J
C 714	CKSQYB103K25	R 911	RS1/10S473J
C 715	CKSQYB103K25	R 912	RS1/10S473J
C 716	CKSQYB223K25	R 914	RS1/10S0R0J
C 717	CKSQYB471K50	R 916	RS1/10S0R0J
C 801 3300μF/16V	CCH1018		

KEH-2500R,2530R

====Circuit Symbol & No.===Part Name		Part No.
-----		-----
CAPACITORS		
C	901	CEAL100M16
C	904	CKSQYB104K50
C	905	CKSQYB102K50
C	906	CCSCH101J50

C

Unit Number :
Unit Name : Cassette PCB

S	1	Switch(Load)	ESN1016
S	2	Switch(Mute)	ESN1017
S	3	Switch(FWD/REV)	ESH1006
S	4	Switch(Eject)	ESG1002
R	1		RD1/4HM472J

Miscellaneous Parts List

M	1	Motor Unit	EXA1467
HD	1	Head Assy	EXA1466

6. ADJUSTMENT

● Connection Diagram

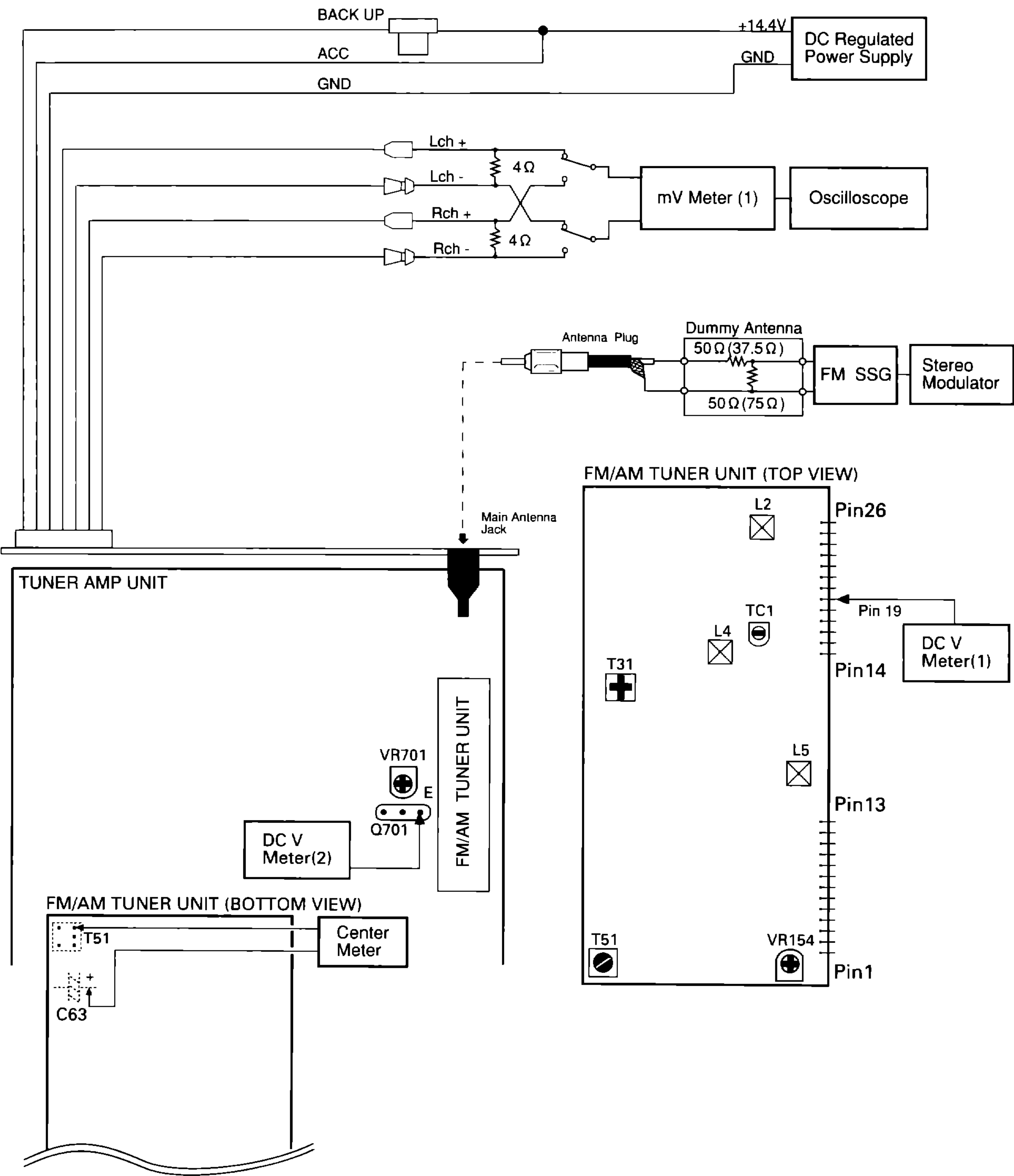


Fig. 16

FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)
S2:STEREO MOD., 400Hz, L or R=60%(40.50kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	.....	.....	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
Image	5	129.3 M	60—80	107.9	TC1	mV Meter(1) : Minimum
IFT	6	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	7	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

RDS SL ADJUSTMENT

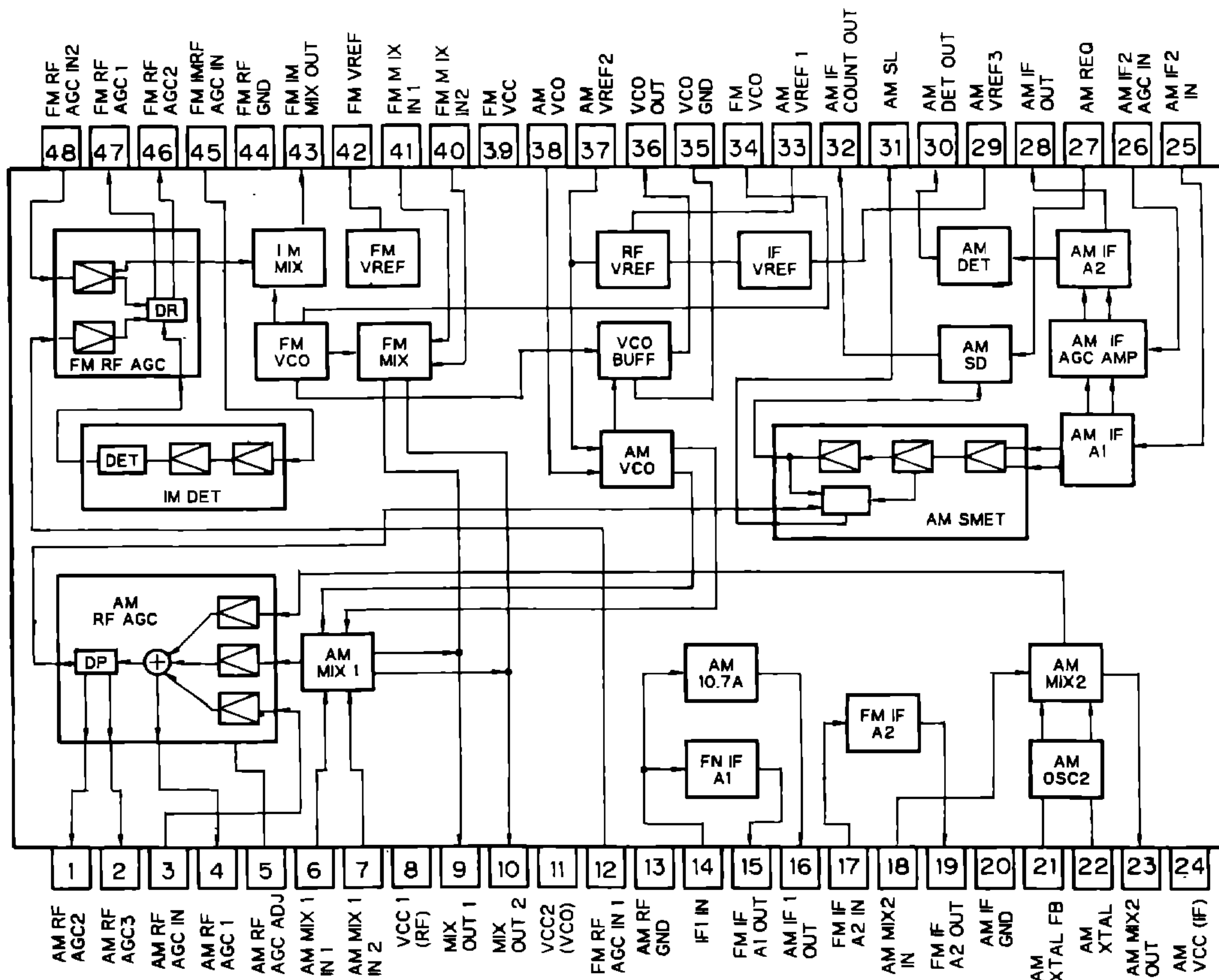
	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
	1	104.0 S2	35	104.0	VR701	DC V Meter(2) : 1.75V+0.05V,-0.35

7. GENERAL INFORMATION

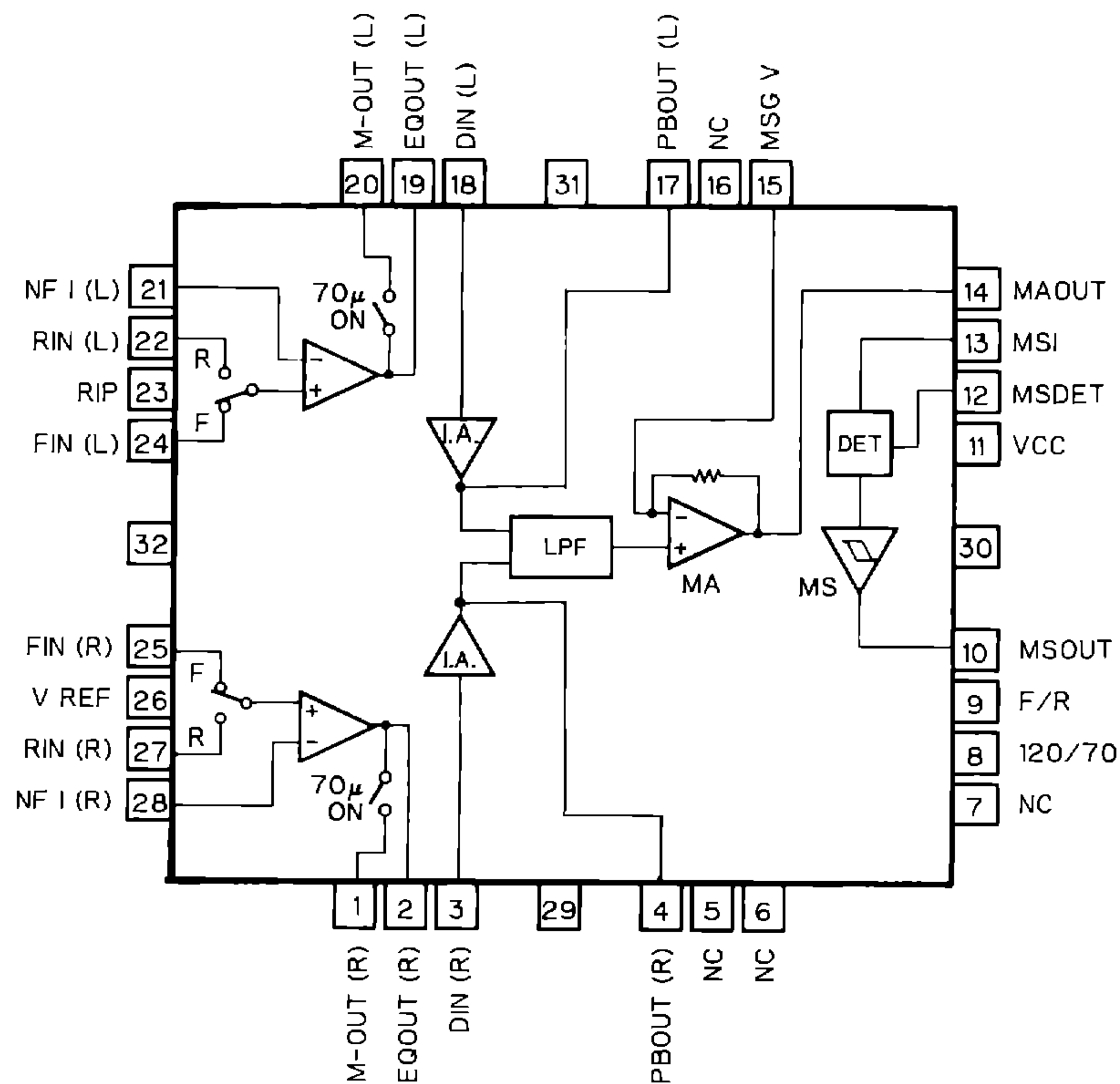
7.1 PARTS

7.1.1 IC

PA4023B

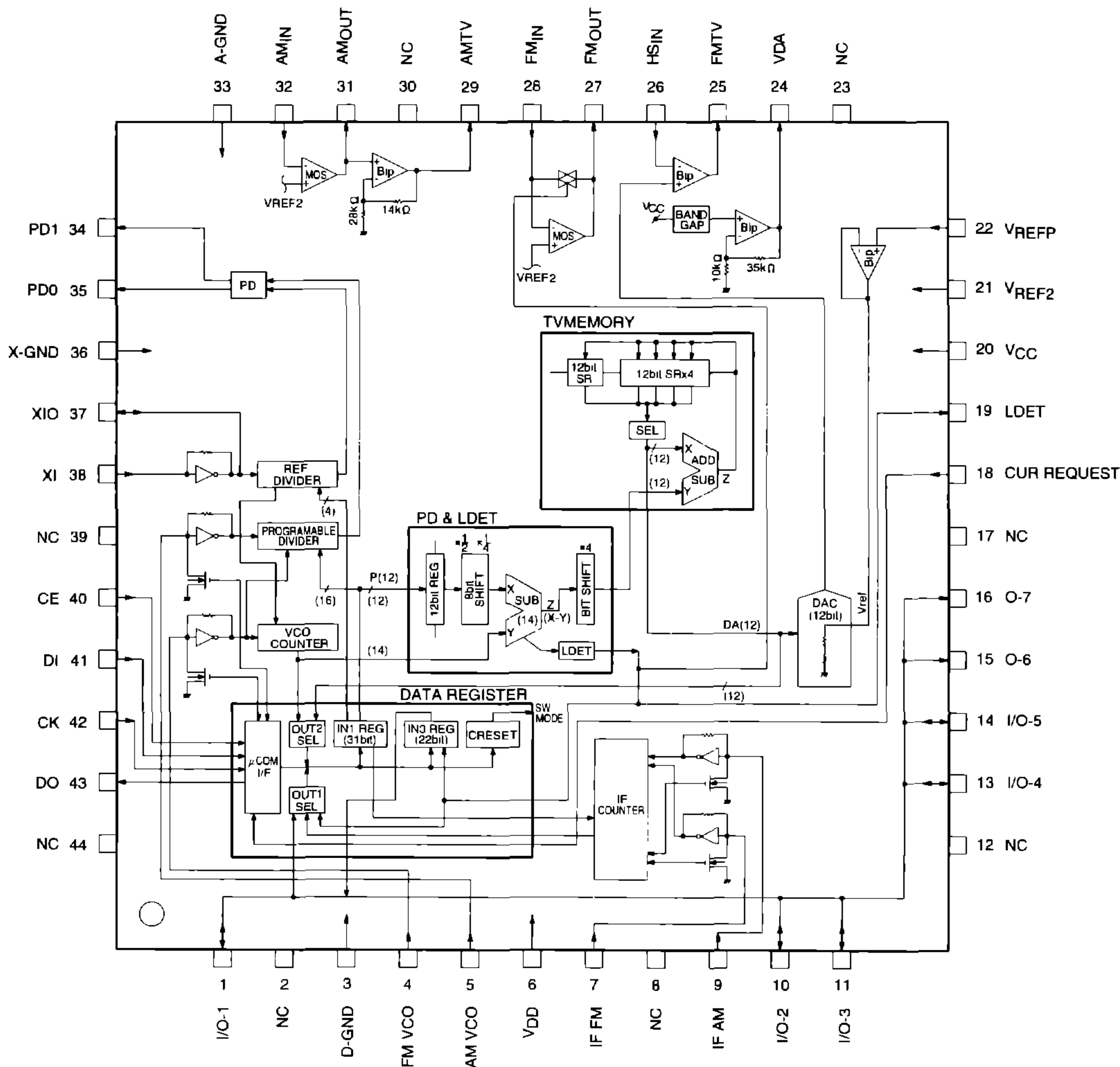


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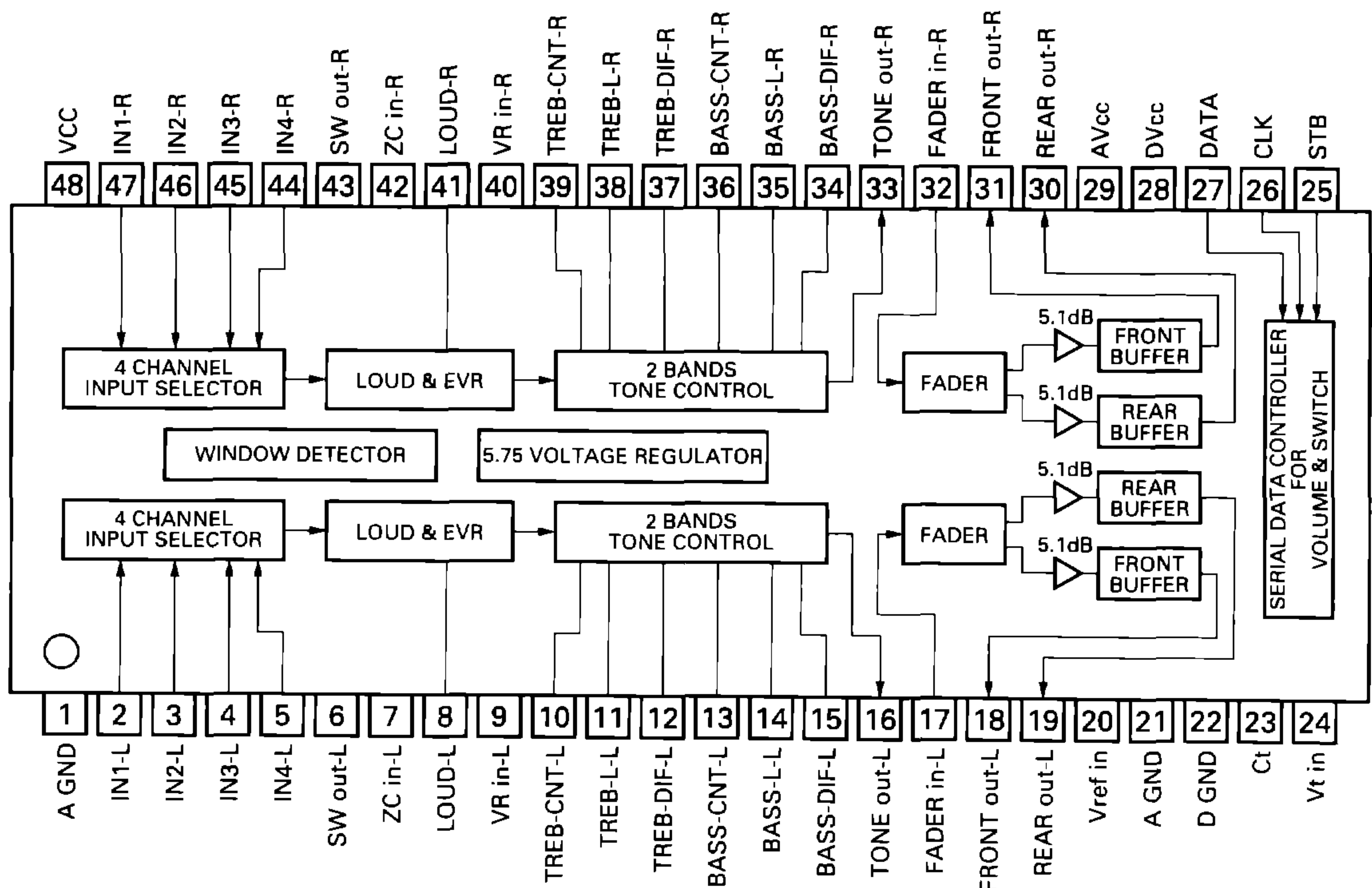


KEH-2500R,2530R

PM2005B



SN761027DL

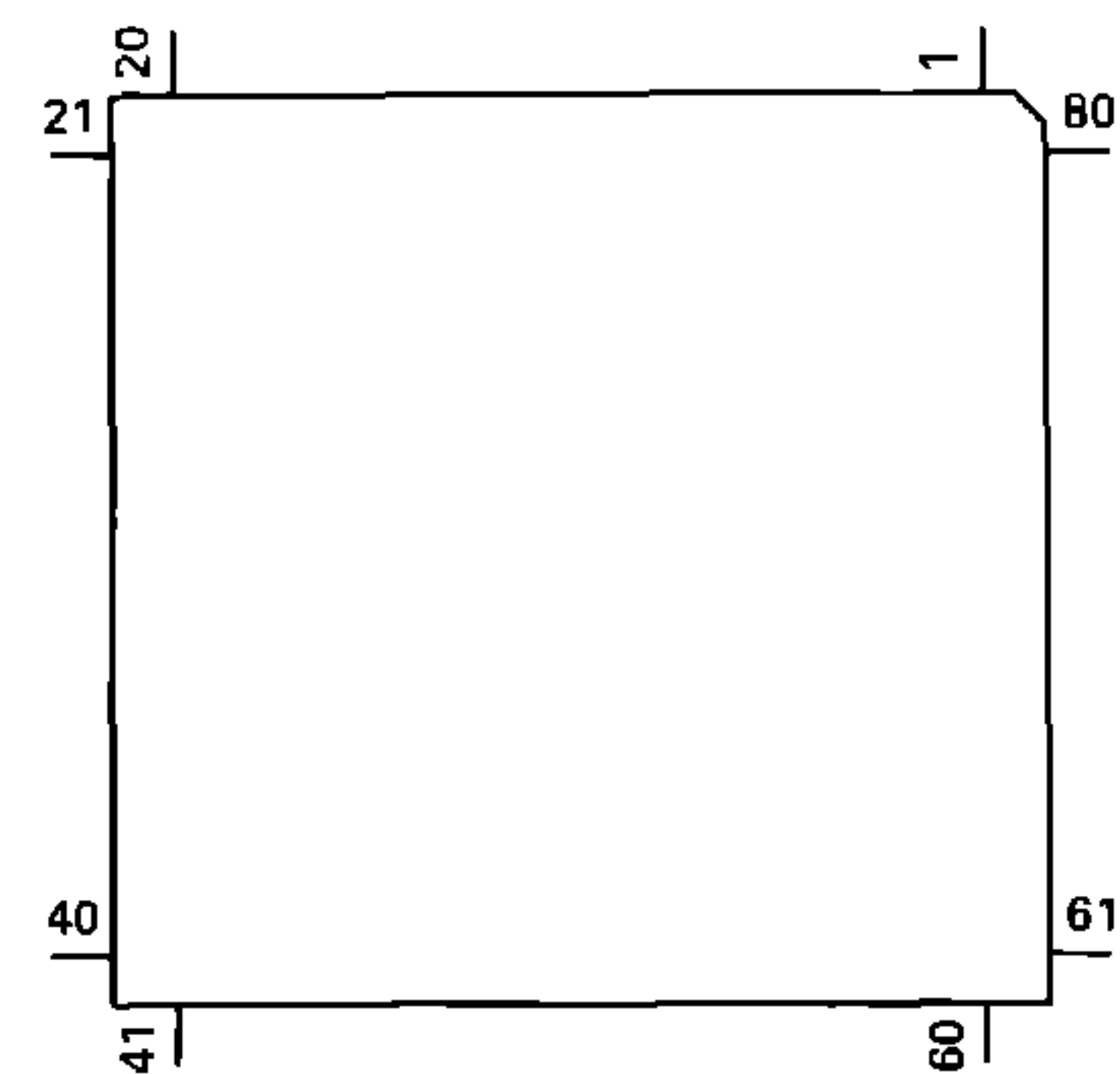


● Pin Functions (PD4744A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	RDT	I		RDS demodulation data input
2	L/S	O	C	Sensitivity of noise level select
3	ADPW	O	C	Control output for analog input reference power
4	GND			GND
5	DRST	O	C	Decoder reset output
6	MDSENS	I		Modulation detect input
7	AVREF1			(D/A converter standard voltage)
8	KYDT	I		Key data input
9	DPDT	O	C	Key data output
10	DSENS	I		Grille detach sense
11	TUNPDI	I		PLL IC data input
12	TUNPDO	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock
14	TUNPCE	O	C	PLL IC chip enable
15	CURRO	O	C	Tuner voltage FIX output
16	NC			Not used
17	SK	I		SK signal input
18	MUTCNT	I		NF mute control input
19	RECIVE	O	C	During RDS data reception output
20	NC			Not used
21	EORR	O	C	Correct RDS error output
22	SWVDD	O	C	Grille power supply control output
23	ILMPW	O	C	Illumination power supply control output
24	VDT	O	C	Data output for electronic volume
25	VCK	O	C	Clock output for electronic volume
26	VST	O	C	Strobe pulse output for electronic volume
27	SYSPW	O	C	System power supply control output
28	MUTE	O	C	System mute output
29	DMINH	O	C	Mechanism mute cancel output
30	NC			Not used
31	B.REM	O	C	B remote output
32	EW/BEW	I		Model sense input
33	GND			GND
34-36	NC			Not used
37	TMUTE	O	N	Tuner mute output
38	FM	O	N	FM power control output
39	AM	O	N	AM power control output
40	ASENBO	O	C	Slave power supply control output
41-44	NC			Not used
45	PEE	O	C	Beep tone output
46	NC			Not used
47	RDS57K	I		57kHz BP-OUT sense input
48	NC			Not used
49	MSOUT	O	C	MS output
50	EJECT	I		Eject key input pin
51	TAPLD	I		Tape loading input
52	MECPW	O	C	Mechanism power output
53	MCMUT	I	C	Mechanism mute request
54	NOR/REW	I		Normal reverse input
55	MSIN	I		MS sense
56	TX	O	C	IP BUS data output
57	RX	I		IP BUS data input
58	MTL	O	C	Metal output

Pin No.	Pin Name	I/O	Format	Function and Operation
59	NR	O	C	Dolby output
60	RESET	I		Reset Input
61	LDET	I		PLL lock sense input
62	RCK	I		RDS demodulation clock input
63	CLKIN	I		Clock input
64	ASENS	I		ACC power sense input
65	BSENS	I		Back up power sense input
66	SD	I		SD input
67	ST	I		
68	VDD			Power supply
69	X2			Crystal oscillator connection pin
70	X1			Crystal oscillator connection pin
71	GND			GND
72	XT2			Sub clock
73	TESTIN	I		Test program mode input
74	AVDD			Positive power supply terminal for analog circuit
75	AVREF0			(A/D converter standard voltage input)
76	SL	I		Signal level input
77	CL	I		Synchronizing signal input of display data latch
78	NL	I		Noise level input
79	TL	I		Trigger level input
80	RDSLK	I		RDS LK signal input

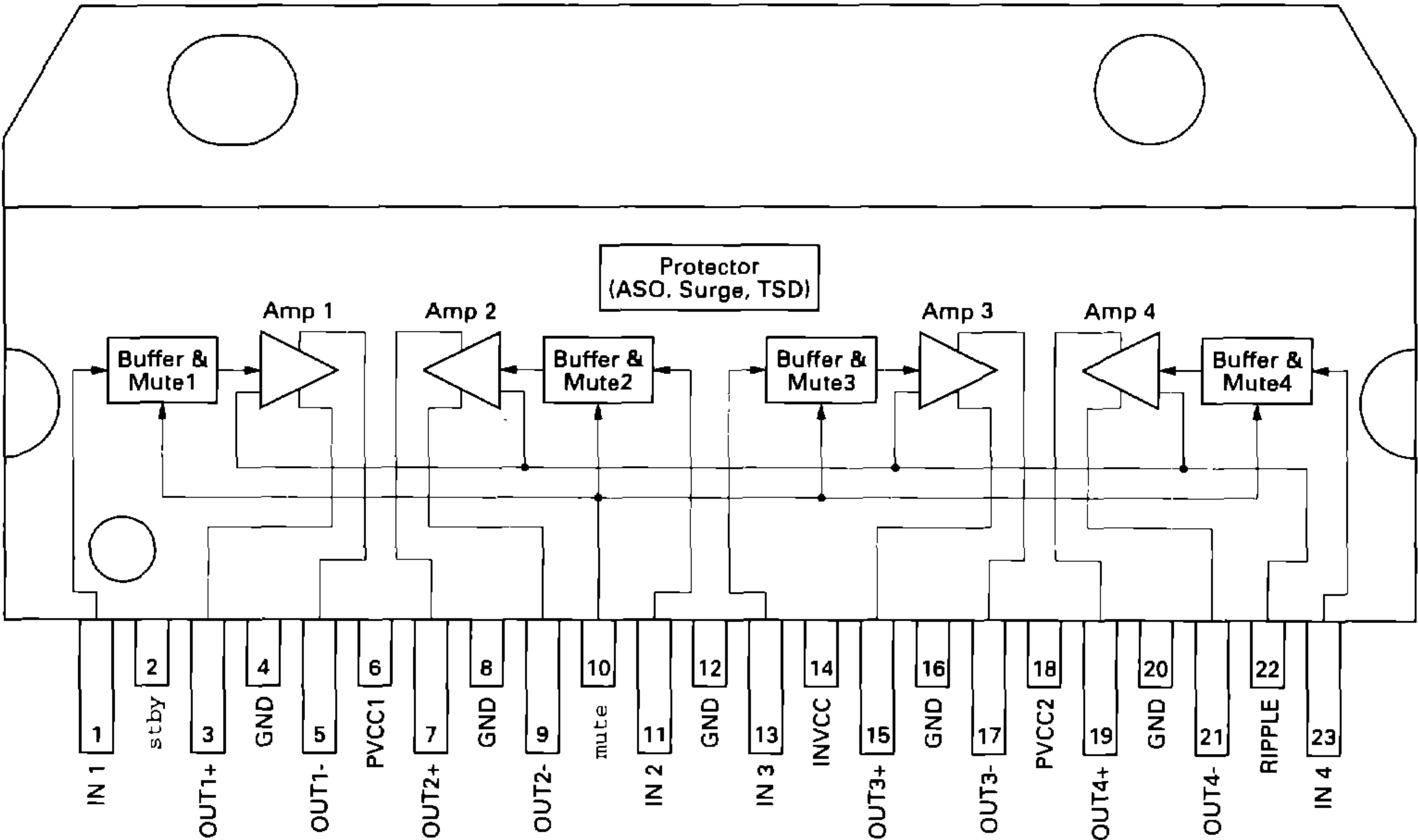
*PD4744A



IC's marked by* are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

Format	Meaning
C	C MOS
N	N channel open drain

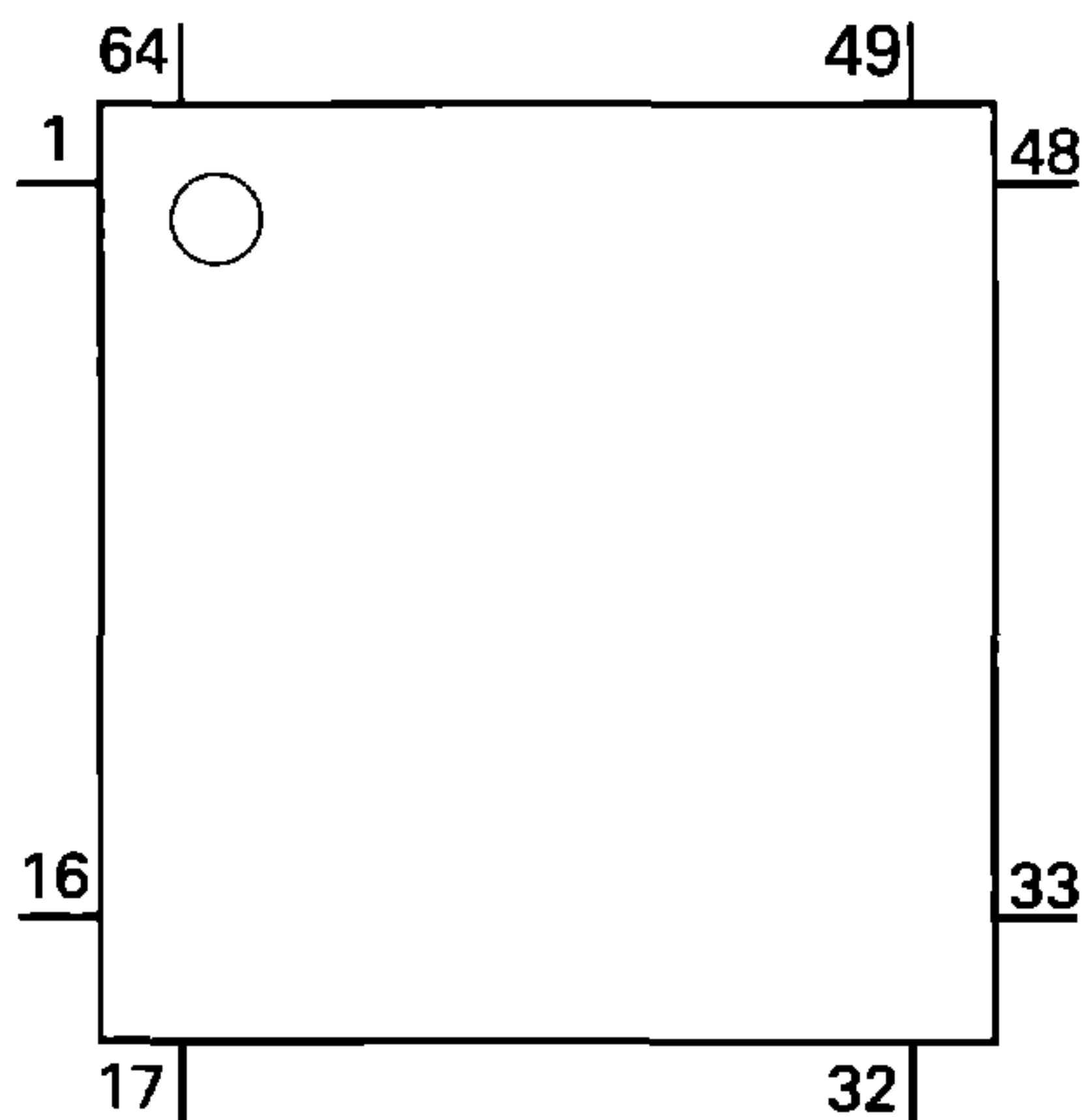
HA13155



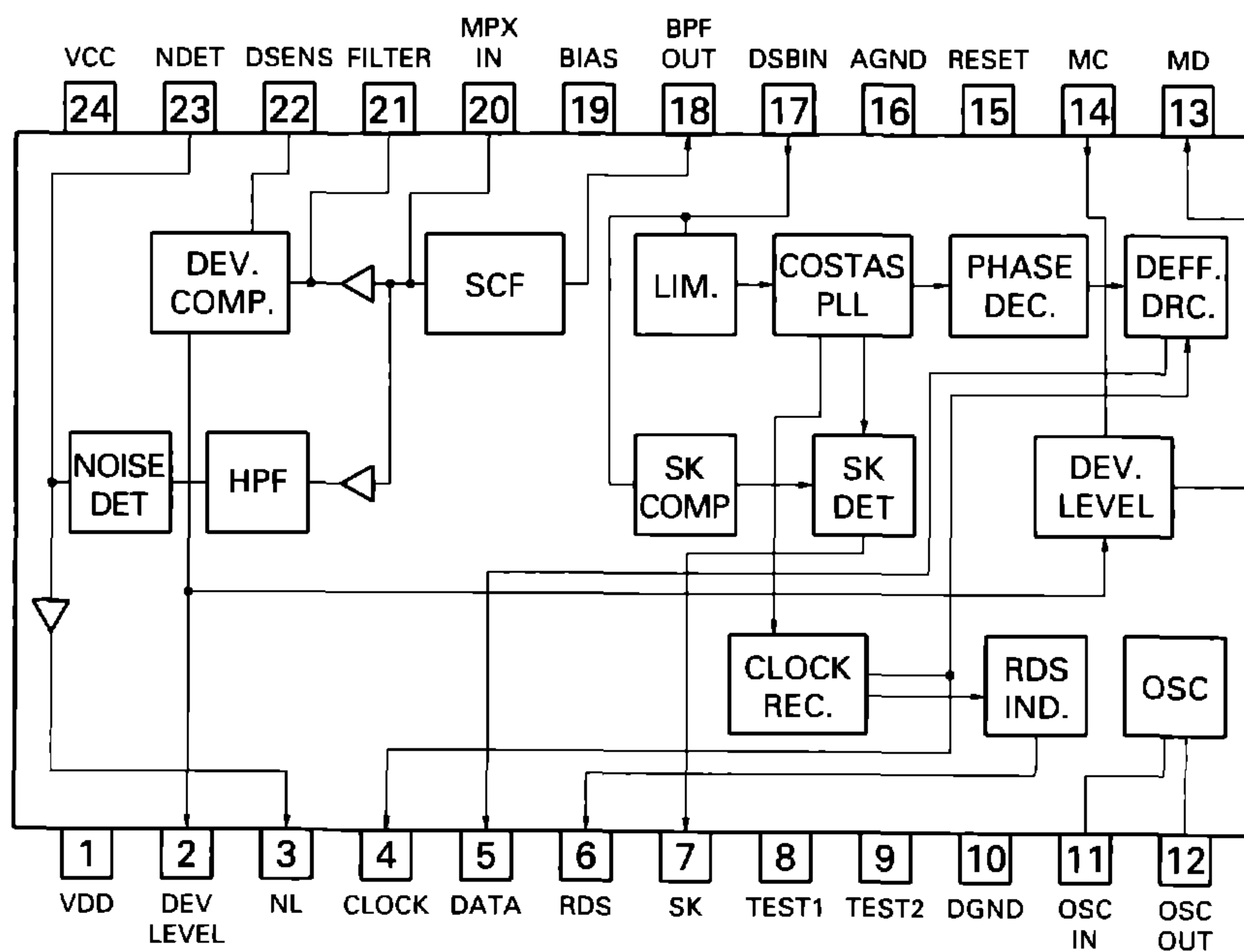
● Pin Functions(PD6196A)

Pin No.	Pin Name	I/O	Function and Operation
1-5	SEG4-0	O	LCD segment output
6-9	COM3-0	O	Common driver output
10	V3		LCD bias power supply
11-14	KS4-1	O	Key strobe output
15,16	KD1,2	I	Key data input
17	REM	I	Remote control reception
18	SI	I	UART input
19	RST	I	System reset
20	SO	O	UART output
21	MODA		GND
22	X0		Crystal oscillator connection pin
23	X1		Crystal oscillator connection pin
24	VSS		GND
25,26	KD3,4	I	Key data input
27,28	KS6,5	O	Key strobe output
29-55	SEG39-13	O	LCD segment output
56	VCC		5V
57-64	SEG12-5	O	LCD segment output

*PD6196A

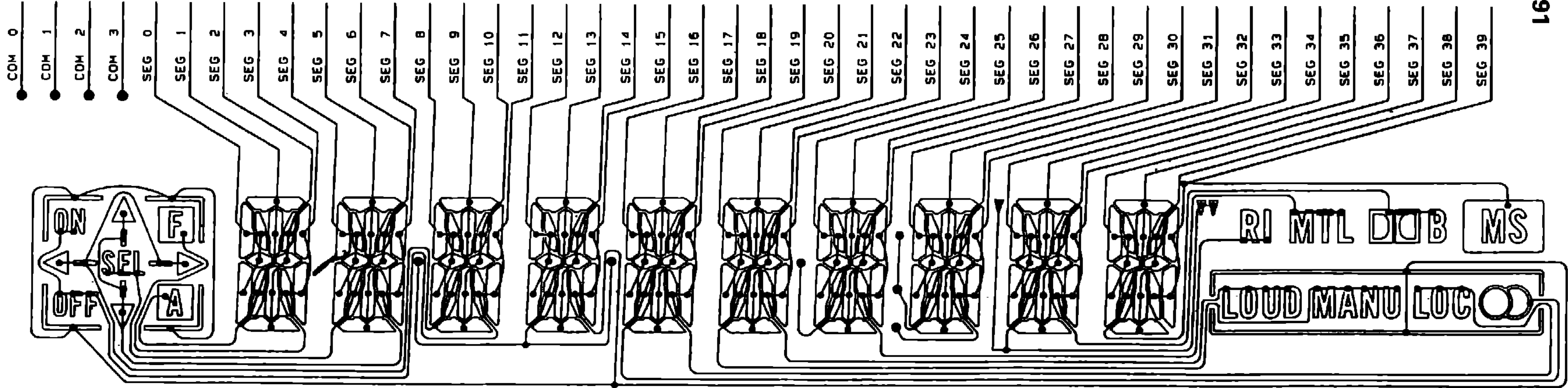


PMW001B



7.1.2 DISPLAY

● CAW1391



COMMON

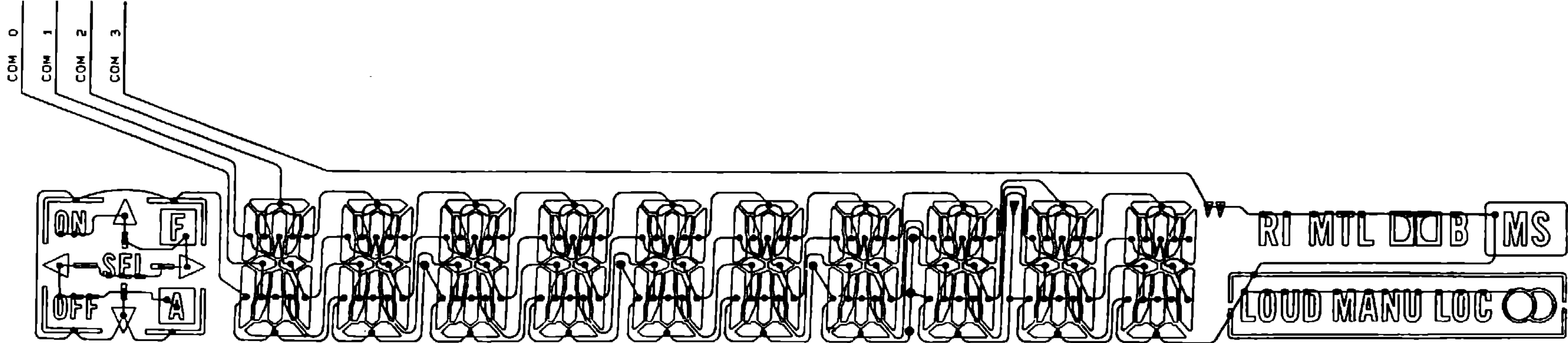
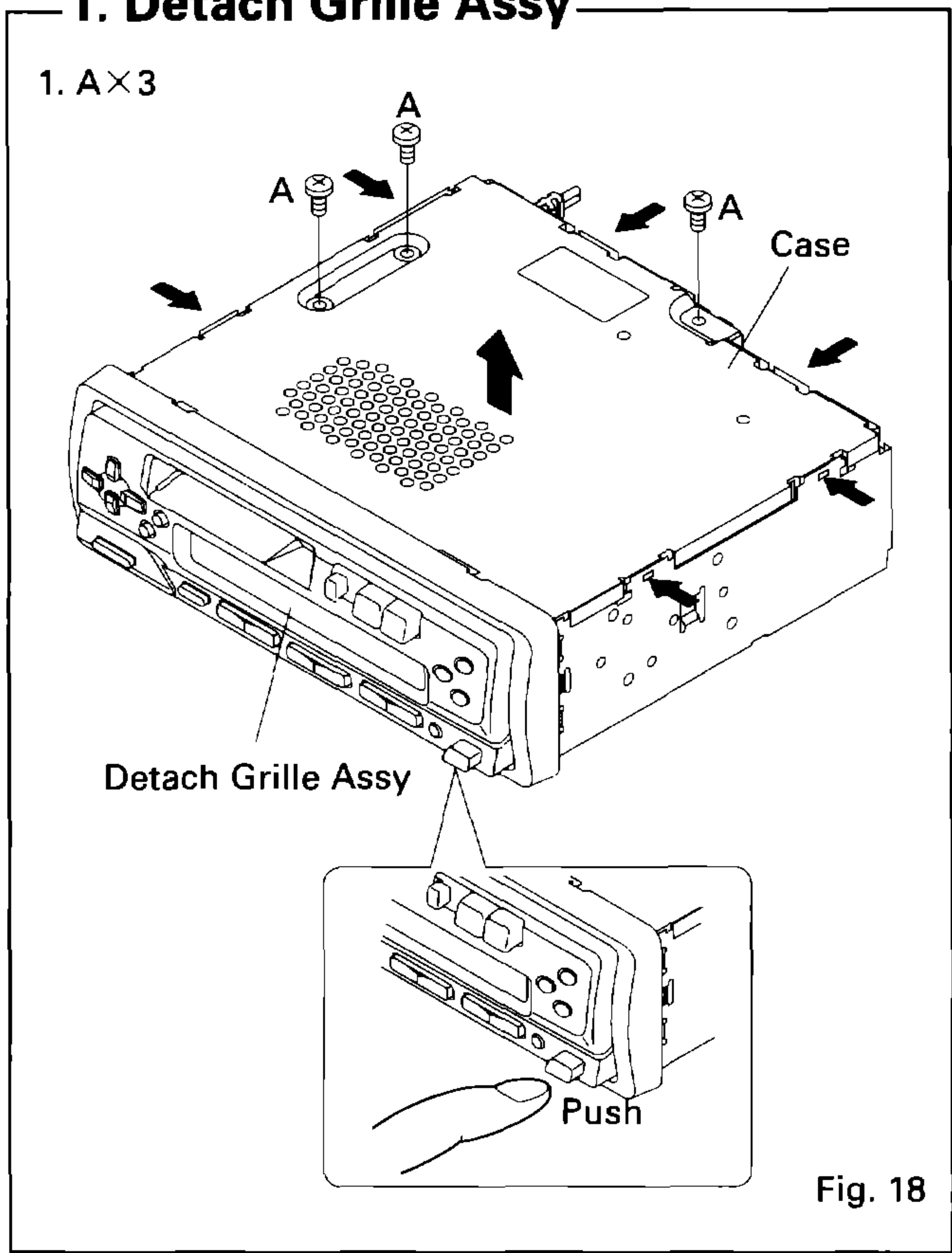


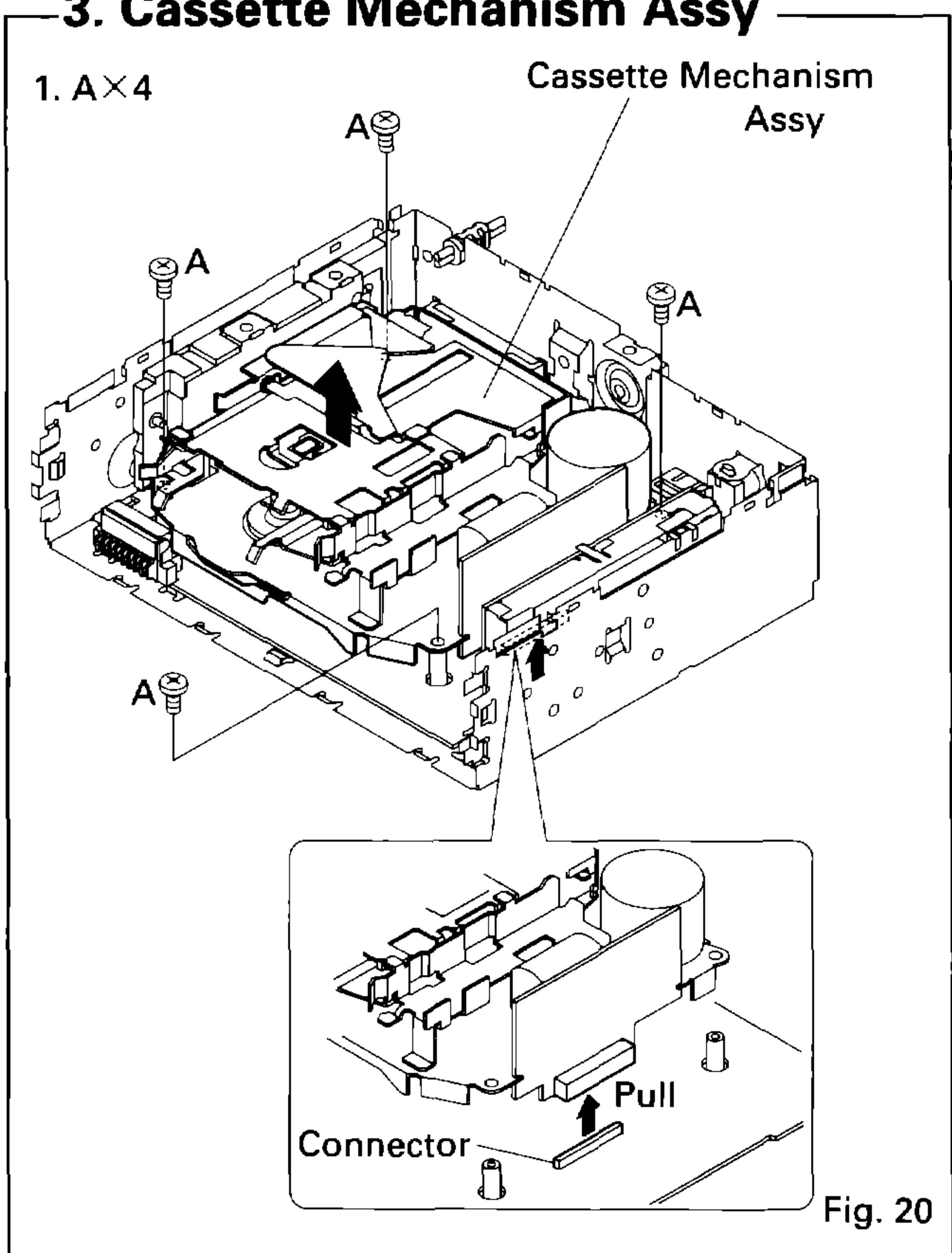
Fig. 17

7.2 DIAGNOSIS
7.2.1 DISASSEMBLY

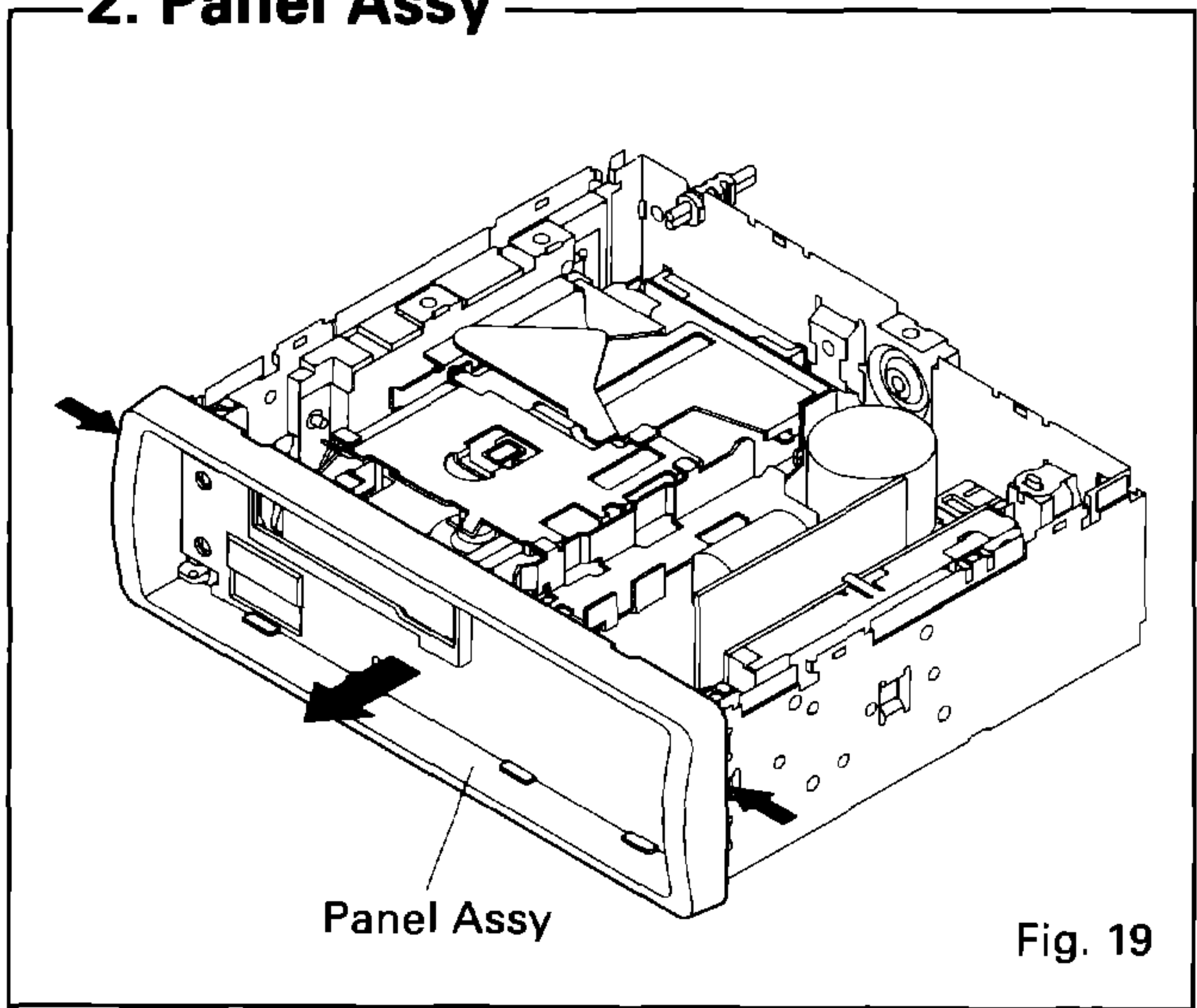
1. Detach Grille Assy



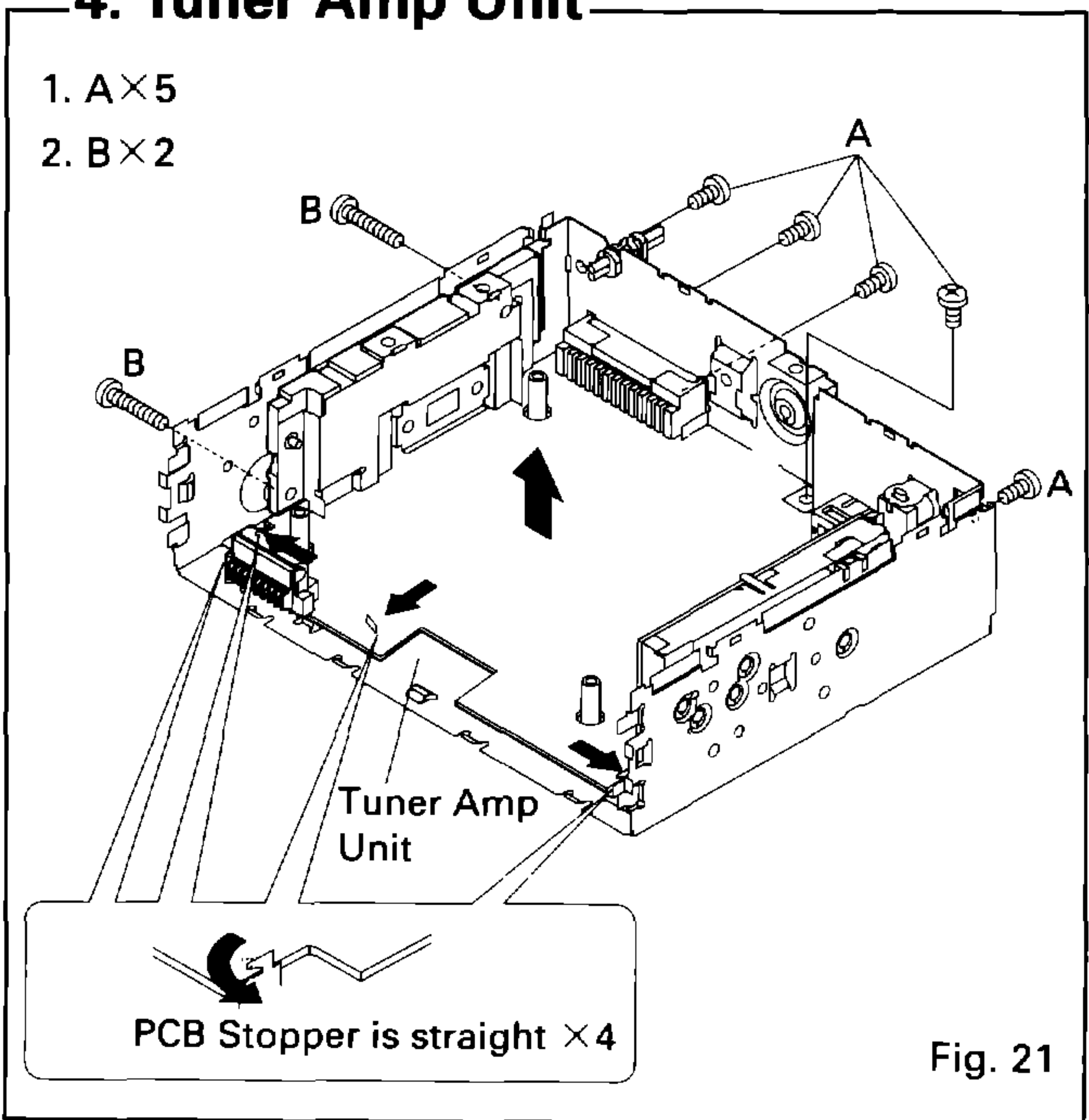
3. Cassette Mechanism Assy



2. Panel Assy

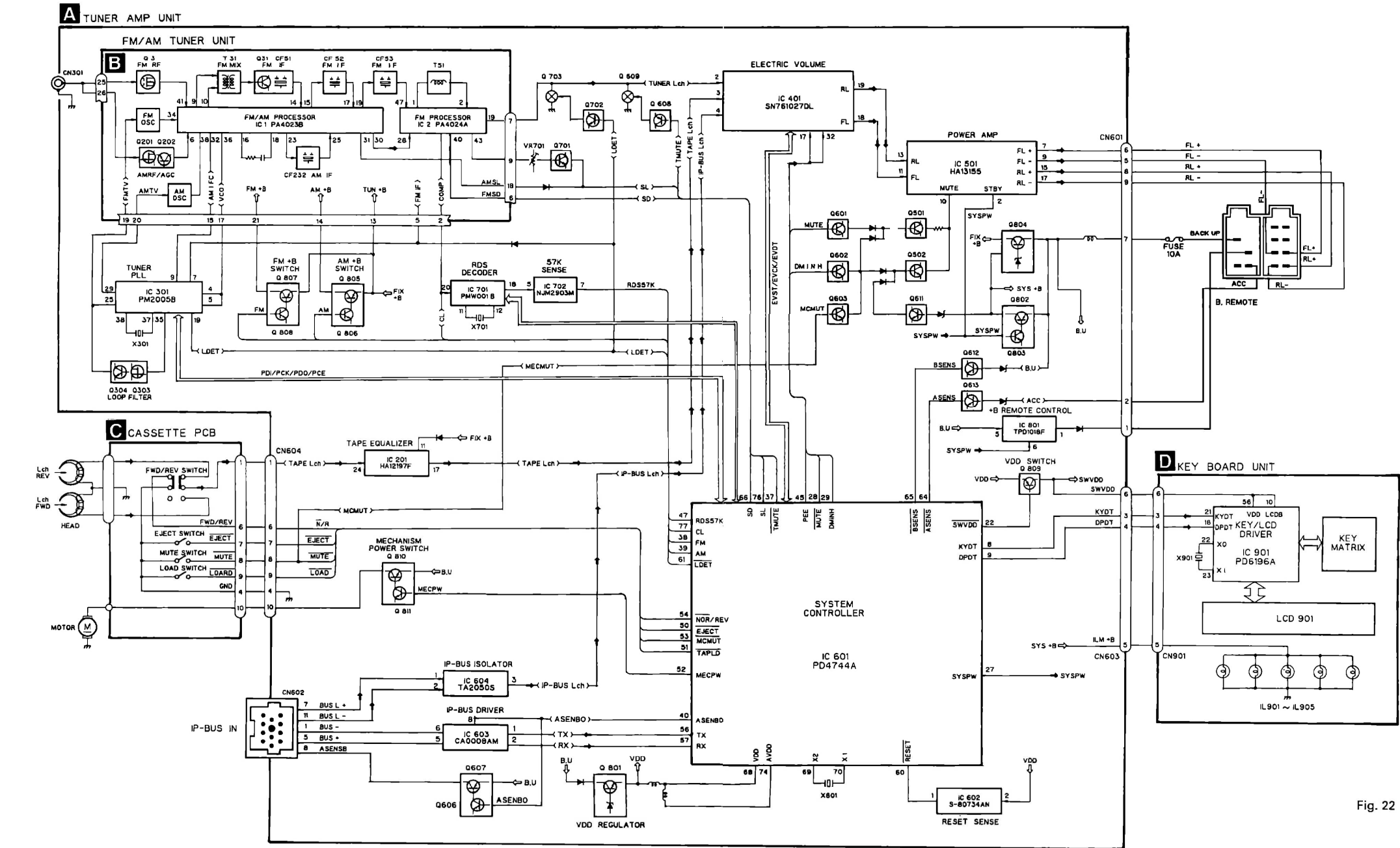


4. Tuner Amp Unit



7.3 EXPLANATION

7.3.1 BLOCK DIAGRAM



8. OPERATIONS AND SPECIFICATIONS

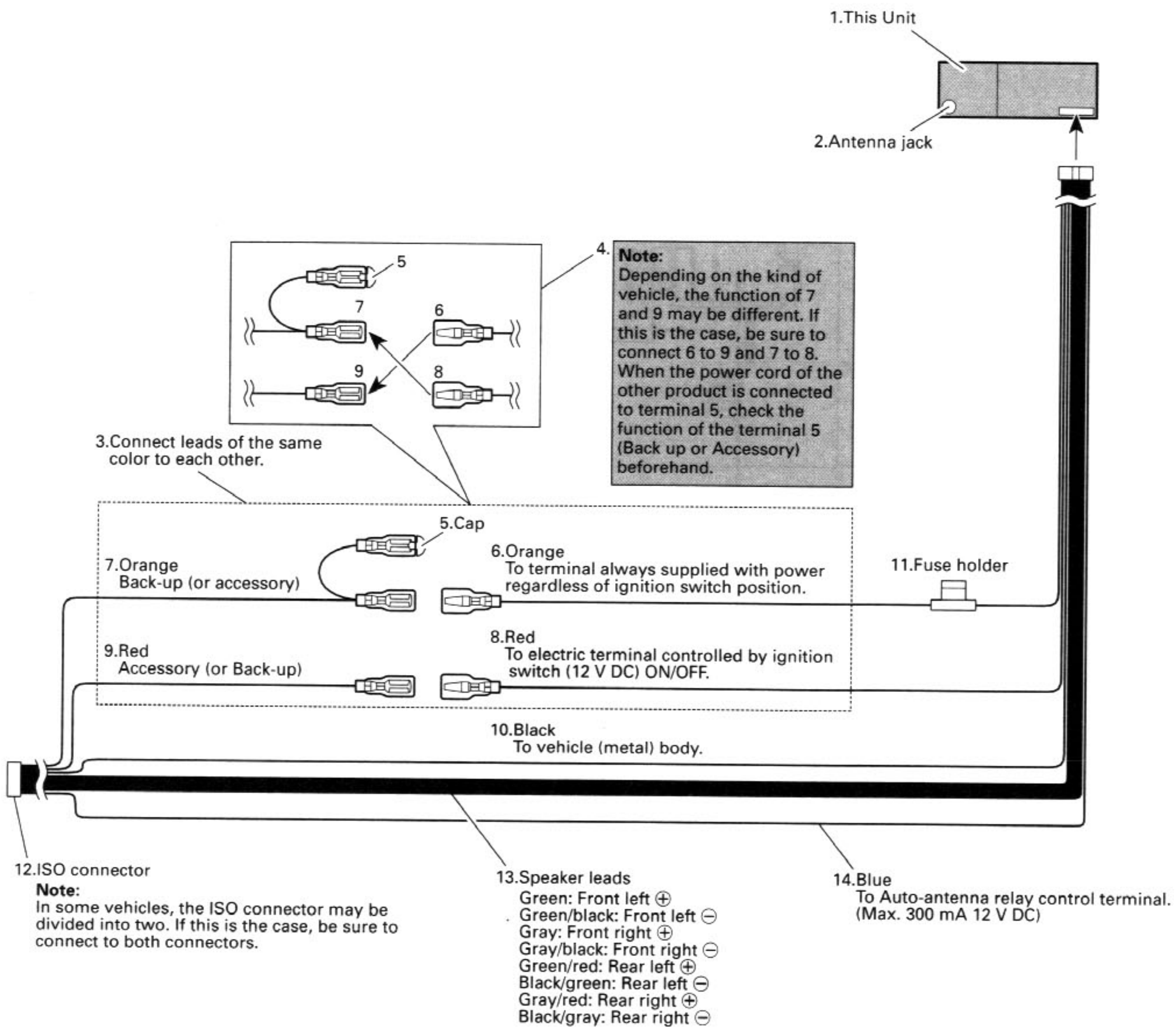
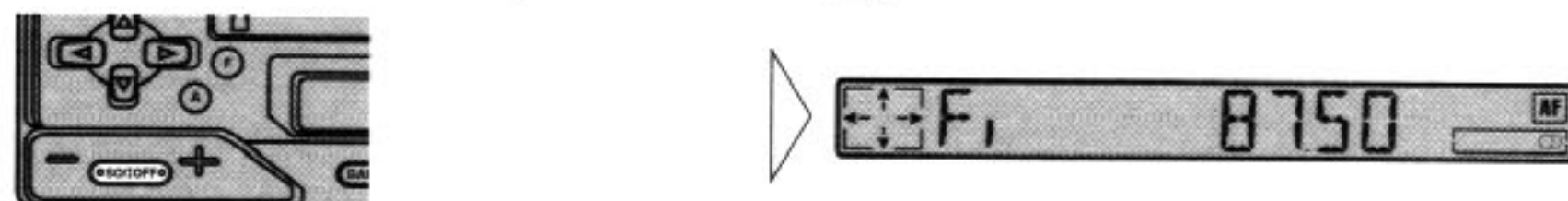


Fig. 23

Basic Operation

Switching Power On

- Select the desired source (such as the tuner).



Each press of the SOURCE button selects the desired source in the following order:

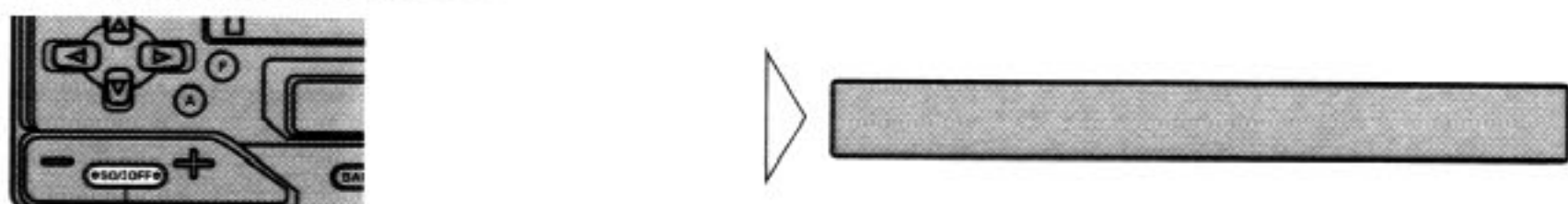
Tuner → Tape

Note:

- The sound source will not change when a cassette tape is not set in this unit.

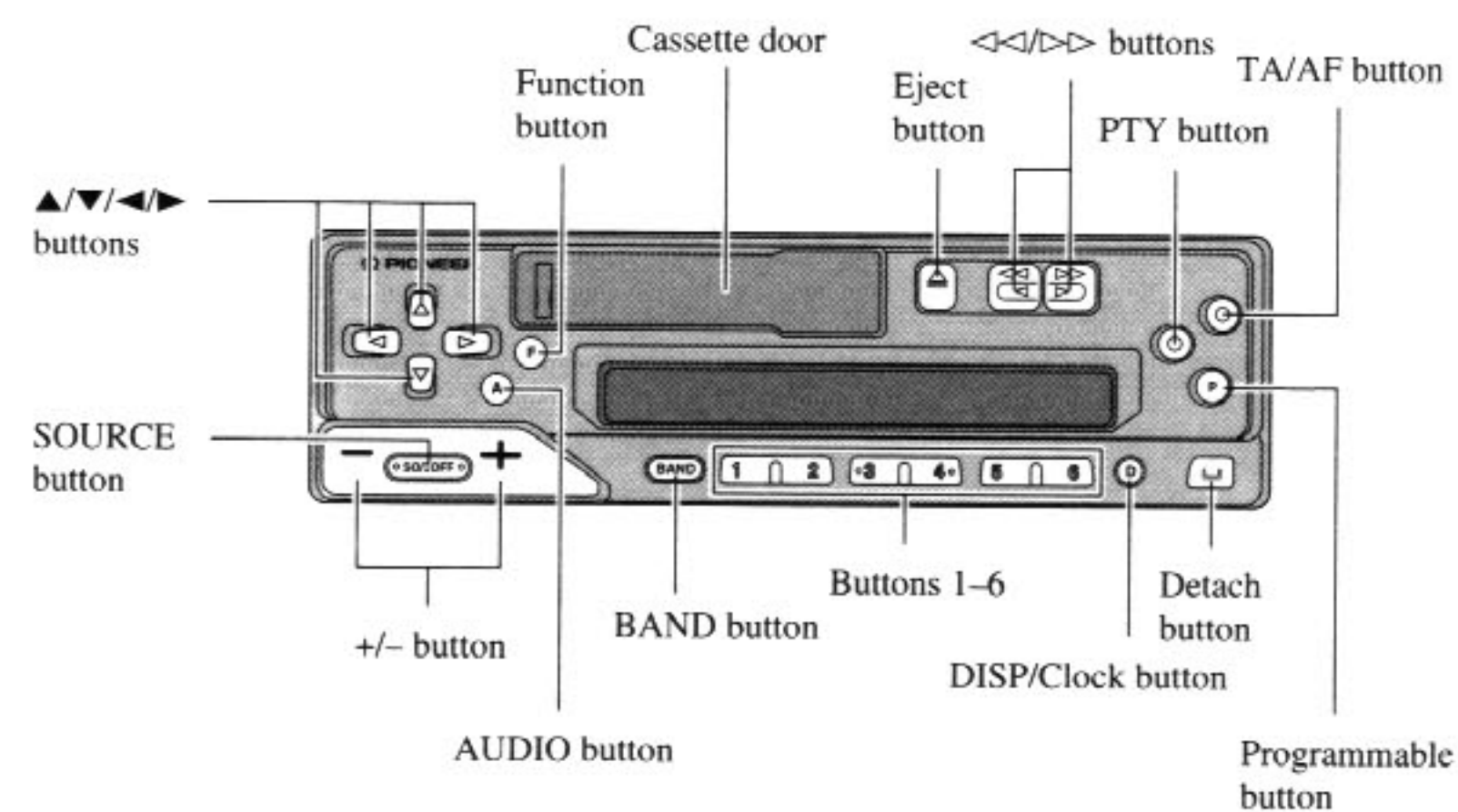
Switching Power Off

- Switch the sources OFF.



Hold for 1 second

Key Finder



Tuner Operation

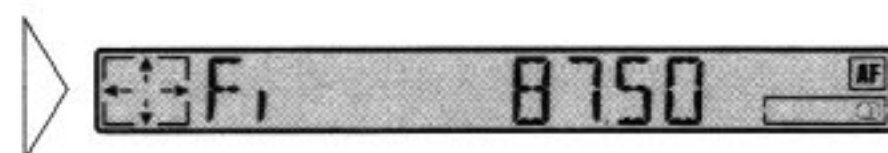
Basic Operation of Tuner

1. Select Tuner.



Each press changes the Source ...

The program service name or frequency appears on the display. ("O" indicator lights when a stereo station is selected.)

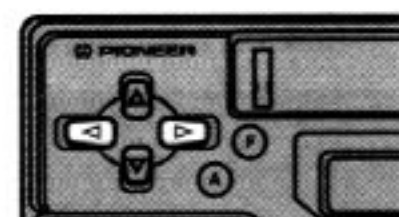


2. Select the desired band.



FI → FII → MW/LW

3. Tune the receiver to a higher or lower frequency.



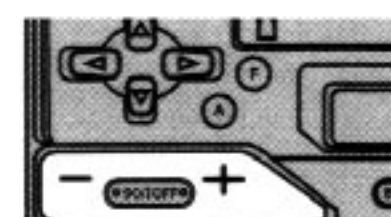
This product's tuner lets you select the tuning by changing the length of the time you press the button.

Manual Tuning (step by step)	0.3 seconds or less
Seek Tuning	0.3 – 2 seconds
Manual Tuning (continuously)	2 seconds or more

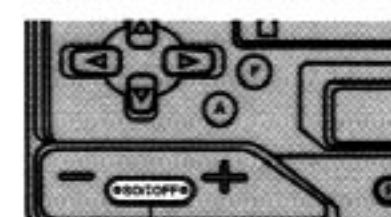
Note:

- To select a weak broadcasting station that cannot be tuned in with the Seek Tuning function, tune in with Manual Tuning.

4. Raise or lower the volume.



5. Turn the source OFF.

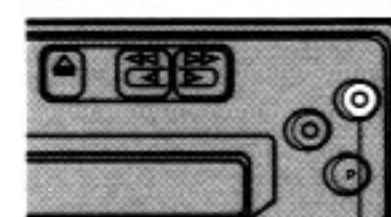


Hold for 1 second

AF Function Switching

This product's AF function can be switched ON and OFF. AF should be switched OFF for normal tuning operations.

• Switch AF OFF.



Hold for 2 seconds

"AF" disappears

To switch AF ON, repeat the preceding operation.

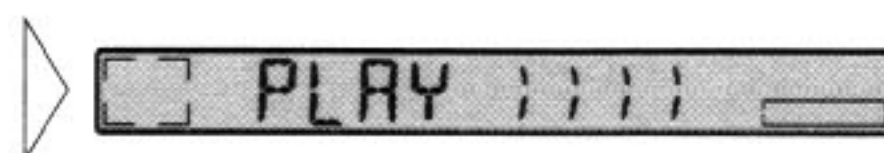
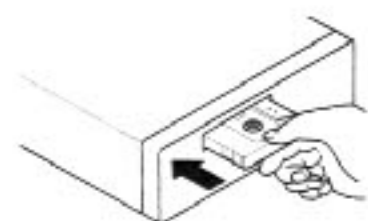
Note:

- You can also switch the AF Function ON/OFF in the Function Menu.

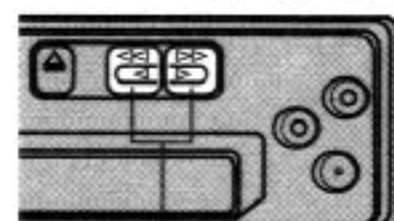
Using the Cassette Player

Basic Operation of Cassette Player

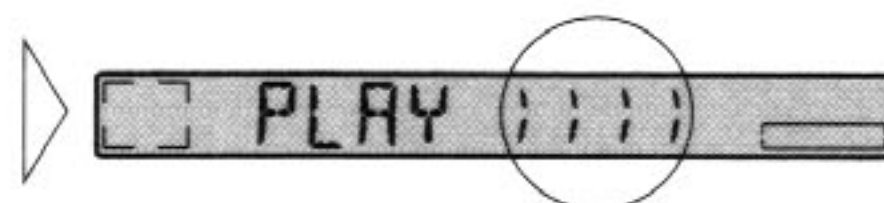
1. Insert the cassette tape.



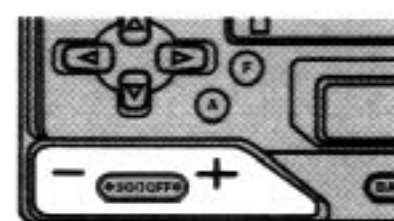
2. Switch tape playback from side A to side B, or vice versa.



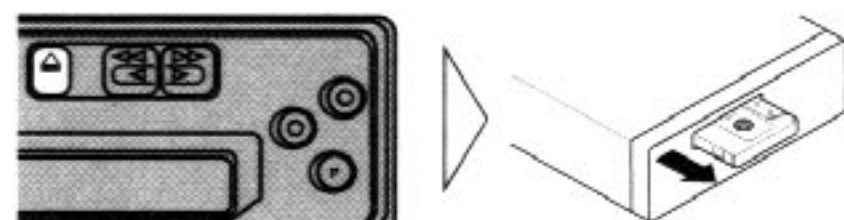
Same Time



3. Raise or lower the volume.



4. Remove the cassette tape.



Note:

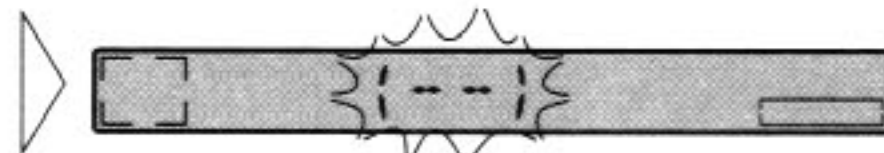
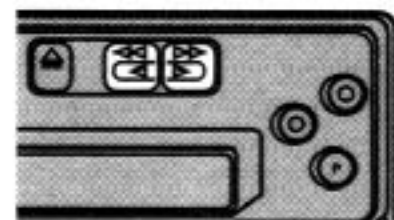
- The Tape function can be turned ON/OFF with the cassette tape remaining in this product. (See page 46.)

Fast Forward/Rewind

Fast Forward

While "<-->" is displayed, the system fast-forwards the cassette tape to the end of the current side.

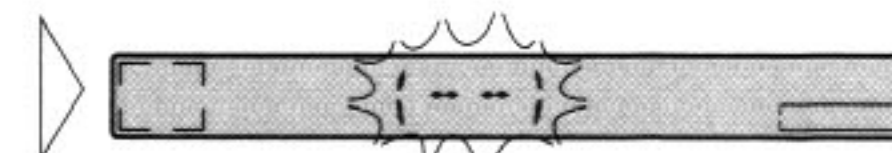
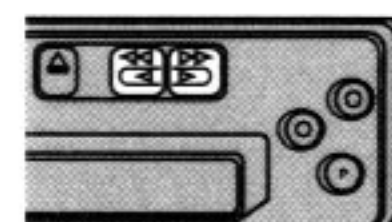
- Fast-forward the cassette tape by pressing the button for the same direction as the tape play indicator.



Rewind

While "<-->" is displayed, the system rewinds the cassette tape to the beginning of the current side.

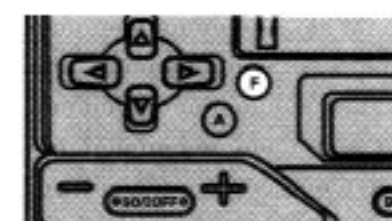
- Rewind the cassette tape by pressing the button for the opposite direction as the tape play indicator.



Entering the Function Menu

In this menu you can select Tape functions.

- Select the Radio Intercept mode in Function Menu.



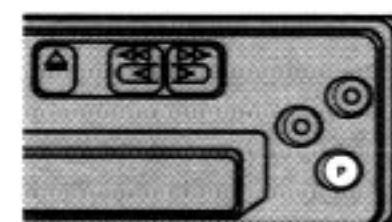
Note:

- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.
- This unit's cassette Function Menu enables Radio Intercept mode ON/OFF switching only. If you press the Function button for 2 seconds or more and select the Programmable button Setting mode, you can memorize the Radio Intercept mode ON/OFF setting beforehand. However, switching between ON and OFF is not possible with the Programmable button.
- You can cancel the Programmable button setting mode by pressing the BAND button.

Radio Intercept

This function allows you to listen to the radio during tape fast-forwarding/rewinding.

- Switch the Radio Intercept mode ON.



To switch the Radio Intercept mode OFF, repeat the preceding operation.

Note:

- You can also switch the Radio Intercept mode ON/OFF in the Function Menu.

