PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
CRT1506

MULTI-CD CONTROL FM/AM TUNER AMPLIFIER

KEH-M7500 US
KEH-M680 US
KEH-M7550 CA,ES
KEH-M6500 UC
KEH-M6550 ES

Note:

- **This additional service manual is designed to be used together with Model KEH-M7300/EW Service Manual(CRT1382).**
  Refer to for finding parts numbers and adjustment,etc. which are not shown in this manual.
- **See the separate manual CX-197(CRT1328) for the cassette mechanism description.**
- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**

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1.EXPLODED VIEW

NOTES:

- *Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
- *Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

● Parts List(KEH-M7500/US)

Mark	No.	Description	Part No.
	1	Case	CNB1648
*	2	Cushion	CNM3203
	3	Screw	BMZ26P050FMC
⊙	4	Cassette Mechanism Assy	EXK1736
	5	Button	CAC2819
	6	Button	CAC2820
*	7	Cover	CNM3157
	8	Detach Grille Assy	CXA5149
⊙	9	Key Board Unit	CWM3311
*	10	Holder	CNC2913
⊙	11	Housing	CNV3299
	12	Lens	CNV3300
	13	Connector	CNV3076
	14	LCD	CAW1207
	15	Holder	CNC4480
	16	Lamp	CEL1207
	17	Bush	CNV-724
	18	Lamp	CEL1025
	19	Bush	CNV-724
	20	Cushion	CNM3644
	21	Cushion	CNM3645
	22	Lens	CNV3301
	23	Button Unit	CAC3378
	24	Spring	CBH1391
	25	Spring	CBH1455
	26	Knob(FADER)	CAA1272
	27	Button(EJECT)	CAC3218
	28	Lens	CNV3302
	29	Spring	CBH1388
	30	Button(REW)	CAC3112
	31	Button(FF)	CAC3219
	32	Button(SO)	CAC3380
	33	Grille Unit	CXA5399
	34	Button	CAC3379
	35	Button Unit	CAC3377
⊙	36	Tuner Amp Unit	CWM3304
	37	Screw	BMZ30P120FMC
	38	IC(IC501)	TA8215H-A
*	39	Plug	CKS-785
*	40	Connector	CDE3173
	41	Holder	CNC4150
	42	Knob	CAA1250
	43	Button	CAC2988
	44	Case	CNS2269
	45	Screw	CBA1190
	46	Screw	CBA1252
	47	Cover	CNS2572
	48	Plug(CN901)	CKS2402
	49	Holder Unit	CXA3998
	50	Screw	CBA1202
	51	Panel Unit	CXA5145
	52	Spring	CBH1215
	53	Door	CAT1451
	54	Spring	CBH1440
*	55	Heat Sink	CNC3747
	56	Button	CAC3049
	57	Handle	CNC3664
	58	Cushion	CNM3642
	59	•••••	
	60	Plug	CKS-783
*	61	Connector	CDE3583
	62	Connector	CDE3157
*	63	Holder	CNC3753
	64	Plug	CKS-467
	65	Connector	CDE3171
	66	Volume(VR551)	CCS1186
	67	Capacitor(C383,384)	CCH1016
	68	Spacer	CNW-662
	69	IC(IC951)	TA8214K
	70	Screw	BMZ30P050FMC
	71	Connector	CKS1260
*	72	Connector	CDE3174
*	73	Connector	CDE3210
*	74	Connector	CDE3303
*	75	Holder	CNC2218
*	76	Insulator	CNM2941
	77	Screw	BMZ30P080FMC
*	78	Chassis Unit	CXA5134
	79	Antenna Cable	CDH1128
	80	Spring	CBH1477
	81	Screw	CBA1215
	82	Holder Unit	CXA5074
	83	P.C.Board	CNP3172
	84	Socket	CKS2396
	85	Arm	CNV3266
*	86	Holder	CNC3342
	87	Cap	CNV2680
	88	DIN Connector Cord	CDE3159
*	89	Insulator	CNM3199

Mark	No.	Description	Part No.
⦿	90	FM/AM Tuner Unit	CWE1225
*	91	Plug	CKS1628
*	92	Insulator	CNM2105
	93	FM Front End	CWB1035
*	94	Holder	CNC2880
	95	Antenna Jack	CKX1010
	96	Cord Assy	CDE3181
*	97	Plug	CKS-786
	98	•••••	
	99	•••••	

Mark	No.	Description	Part No.
*	100	Plug	CKS1238
	101	Connector	CDE3156
	102	Cap	CNV2680
*	103	Connector	CDE3172
*	104	Holder	CNC3577
	105	Panel	CNS2528
	106	Seal	CNM3645

● **The KEH-M680/US,KEH-M7550/CA,KEH-M7550/ES,KEH-M6500/UC and KEH-M6550/ES Parts Lists enumerate the parts which differ from those enumerated in the KEH-M7500/US Parts List only.**
The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer,accordingly.The KEH-M7500/US Parts List is given on page 2.

Mark	No.	Description	M7500/US Part No.	M680/US Part No.	M7550/CA Part No.	M7550/ES Part No.	M6500/UC Part No.	M6550/ES Part No.
⦿	4	Cassette Mechanism Assy	EXK1736	EXK1766	EXK1766	EXK1736	EXK1736	EXK1736
	8	Detach Grille Assy	CXA5149	CXA5150	CXA5151	CXA5152	CXA5153	CXA5154
⦿	9	Key Board Unit	CWM3311	CWM3311	CWM3311	CWM3311	CWM3312	CWM3312
	16	Lamp	CEL1207	CEL1207	CEL1207	CEL1207	•••••	•••••
	17	Bush	CNV-724	CNV-724	CNV-724	CNV-724	•••••	•••••
	33	Grille Unit	CXA5399	CXA5401	CXA5402	CXA5403	CXA5405	CXA5406
⦿	36	Tuner Amp Unit	CWM3304	CWM3305	CWM3305	CWM3306	CWM3307	CWM3308
	62	Connector	CDE3157	CDE3155	CDE3155	CDE3157	CDE3165	CDE3165
*	63	Holder	CNC3753	CNC3753	CNC3753	CNC3753	CNC3581	CNC3581
*	74	Connector	CDE3303(3P)	CDE3303(3P)	CDE3303(3P)	CDE3303(3P)	CDE3222(2P)	CDE3222(2P)
⦿	90	FM/AM Tuner Unit	CWE1225	CWE1225	CWE1225	CWE1226	CWE1225	CWE1226
*	91	Plug	CKS1628	CKS1628	CKS1735	CKS1735	CKS1628	CKS1628
	96	Cord Assy	CDE3181	CDE3181	CDE3181	CDE3993	CDE3181	CDE3993
*	97	Plug	CKS-786	CKS-786	CKS-786	CKS-786	•••••	•••••
*	100	Plug	CKS1238	CKS1238	CKS1238	CKS1238	•••••	•••••
	101	Connector	CDE3156	CDE3154	CDE3154	CDE3156	•••••	•••••
⦿	102	Cap	CNV2680	CNV2680	CNV2680	CNV2680	•••••	•••••
*	103	Connector	CDE3172	CDE3172	CDE3172	CDE3172	•••••	•••••
*	104	Holder	CNC3577	CNC3577	CNC3577	CNC3577	•••••	•••••

Note:
When removing the cover (No. 47) from the grille unit (No. 33), first undo the click of the cover indicated by the arrow before removing the cover. If one of other clicks of the cover is undone first, the cover may not be removed.

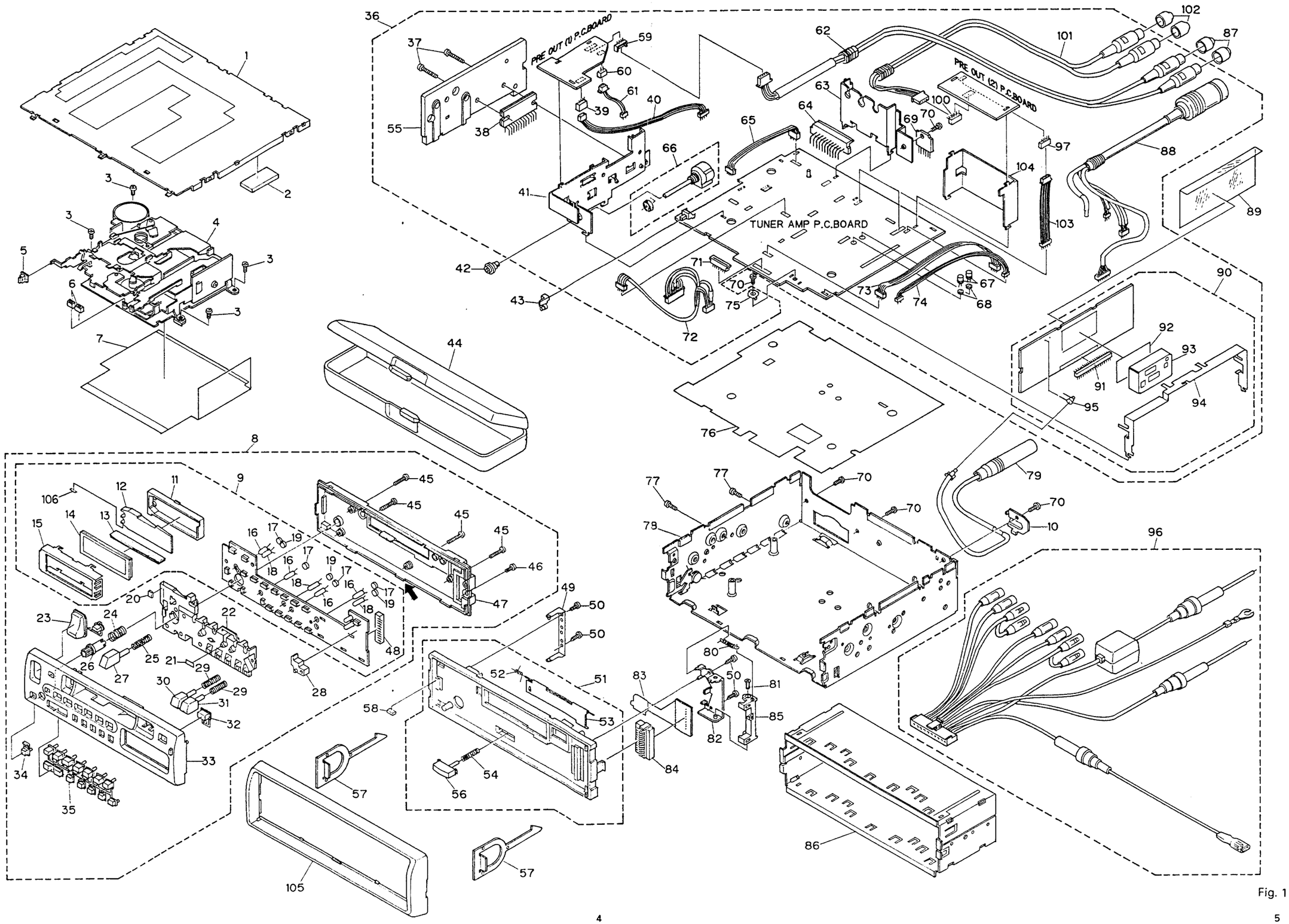


Fig. 1

2.CASSETTE MECHANISM ASSY EXPLODED VIEW

● Parts List(KEH-M7500/US,M7550/ES,M6500/UC,M6550/ES)

Mark No.	Description	Part No.
1	Reel Unit	EXA1251
2	Gear Unit	EXA1206
3	Gear	ENV1203
4	Gear	ENV1204
5	Gear	ENV1273
6	Gear	ENV1211
7	Screw	BMZ20P025FMC
8	Sub Chassis Unit	EXA1263
9	Arm	ENV1261
10	Spring	EBH1381
11	Washer	YE25FUC
12	Shaft	ELA1266
13	Lever	ENC1275
14	Spring	EBH1361
15	Washer	EBF1015
16	Gear	ENV1208
17	Washer	CBF1037
18	Spring	EBH1372
19	Lever	ENC1243
20	Spring	EBH1359
21	Spring	EBH1358
22	Lever	ENC1235
23	Spring	EBH1333
24	Arm	ENC1240
25	Spring	EBH1308
26	Arm Unit	EXA1198
27	Spring	EBH1364
28	Arm	ENC1263
29	Spring	EBH1374
30	Frame	ENC1204
31	Lever	ENV1287
32	Holder	ENC1257
33	Head Base Unit	EXA1258
34	Spring	EBH1334
35	Motor Unit(M1)	EXA1264
36	Screw	PMS26P025FUC
37	Screw(M2X5)	CBA1054
38	Gathering P.C.Board	ENX1013
39	Switch(S3)(Tape/Tun)	ESH1004
40	Washer	CBF1051
41	Spring	EBH1353
42	Gear	ENV1205
43	Arm	ENV1206
44	Spring	EBH1317
45	Chassis Unit	EXA1262
46	Spring	EBH1339
47	Gear	ENV1267
48	Gear	ENV1209
49	Arm Unit	EXA1155
50	Washer	YE30FUC
51	Spring	EBH1310
52	Flywheel Unit	EXA1257
53	Belt	ENT1018
54	Screw(M2X5)	EBA1028
55	Head Assy(HD1)	EXA1163
56	P.C.Board	ENP1042
57	Switch(S1)(MuteA)	ESN1005
58	Screw(M1.7X3)	CBA1038
59	Washer	YE20FUC
60	Pinch Roller Unit	EXA1194
61	Washer	YE12FUC
62	Roller	ELA1247
63	Arm Unit	EXA1166
64	Arm	ENV1227
65	Pinch Roller Unit	EXA1193
66	Arm	ENC1266
67	Spring	EBH1368
68	Cord	EDD1008
69	Plug(9P)	CKS1056
70	Gathering P.C.Board	ENX1009
71	Washer	WH23FMC
72	Screw	BSZ23P050FMC
73	Switch(S2)(FWD/REV)	ESH1003
74	Spring	EBH1322
75	Washer	YE15FUC
76	Lever	ENC1244
77	Spring	EBH1365
78	Lever	ENC1245
79	Bracket	ENC1272
80	Solenoid(SO1)	EXP1008
81	Screw(M2X6)	EBA1023
82	Lever Unit	EXA1172
83	Bracket	ENC1239
84	Spring	EBH1340
85	Spring	EBH1367
86	Pulley	ENV1291
87	Gear	ENV1264
88	Washer	CBF1038
89	Gear	ENV1274
90	Spring	EBH1338
91	Screw	JFZ17P018FNI
92	Collar	ELA1244
93	Arm	ENC1241
94	Screw	JFZ17P035FNI
95	Shaft	ELA1259
96	Arm	ENC1236
97	Spring	EBH1337
98	Gear	ENV1262
99	Lever Unit	EXA1173
100	Spring	EBH1335

● **Cassette Mechanism Assy (KEH-M7500/US, M7550/ES, M6500/UC, M6550/ES) (1M Mechanism)**

Mark No.	Description	Part No.
101	Arm	ENC1237
102	Arm	ENC1265
103	Spring	EBH1384
104	Arm Unit	EXA1208

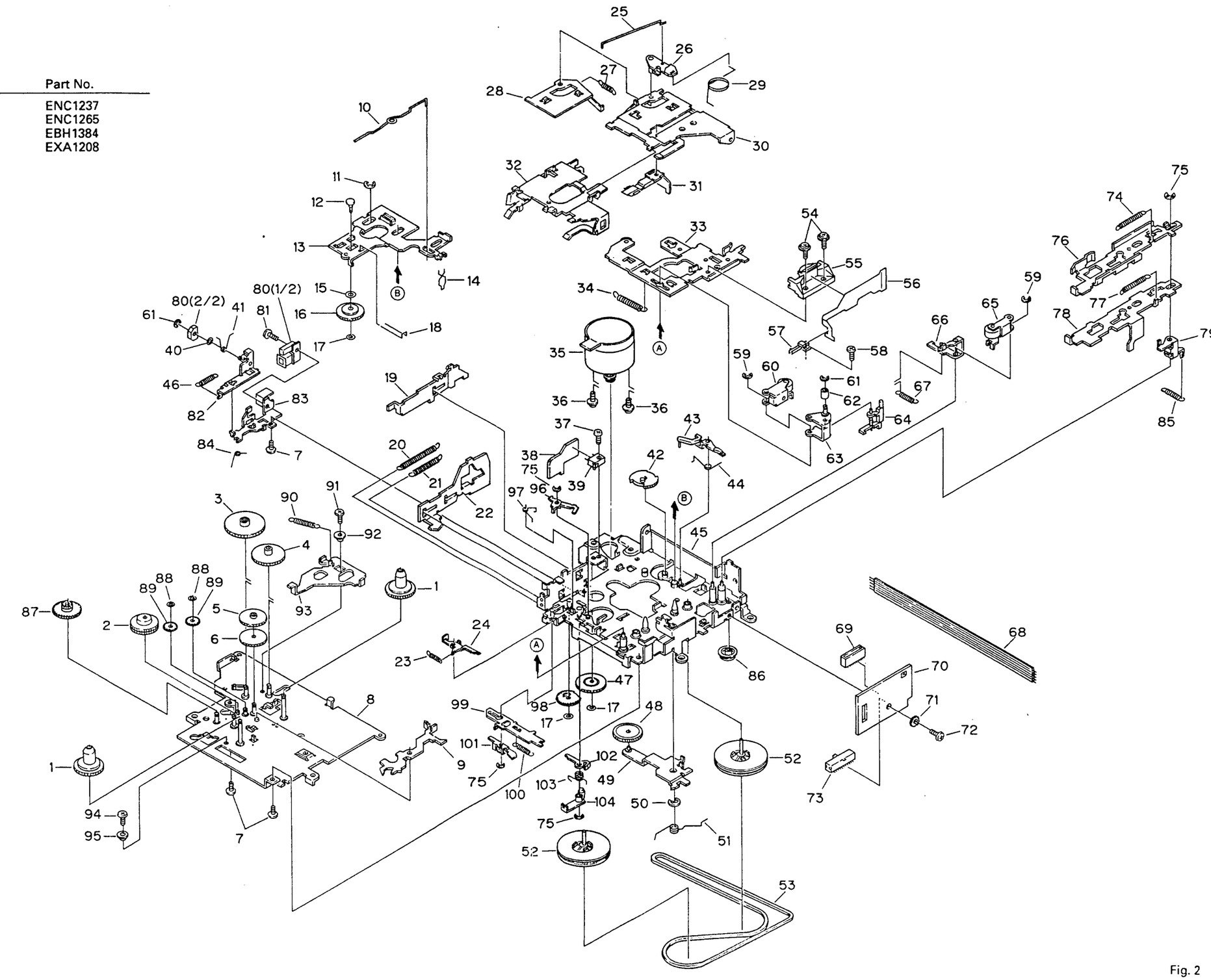


Fig. 2

6. BLOCK DIAGRAM

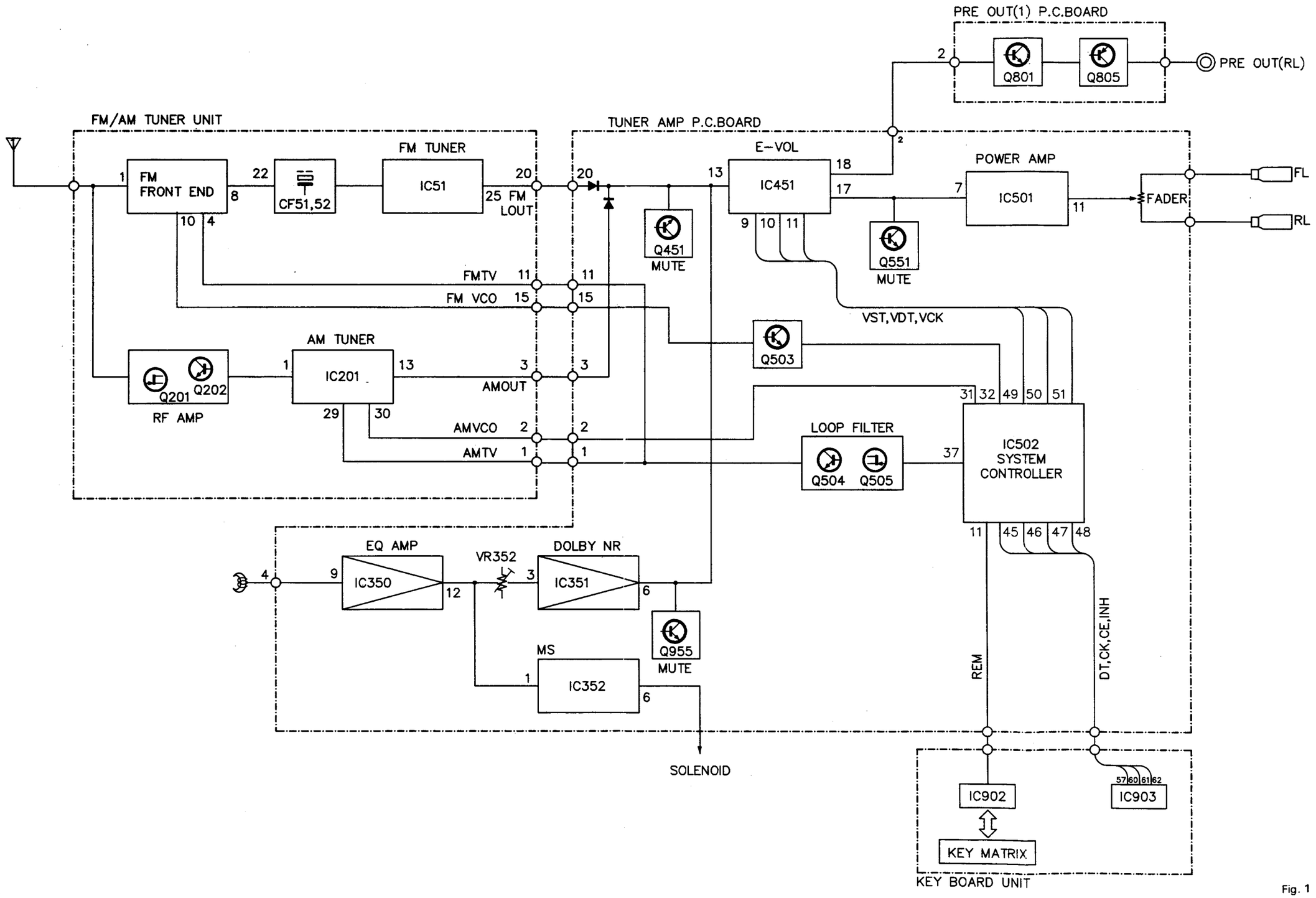


Fig. 1

7. DISASSEMBLY

● Removing the case
1. Insert and turn a screwdriver at locations indicated by arrows to remove the case.

● Removing the grille assy
1. Press the detach button, and then pull grille assy.

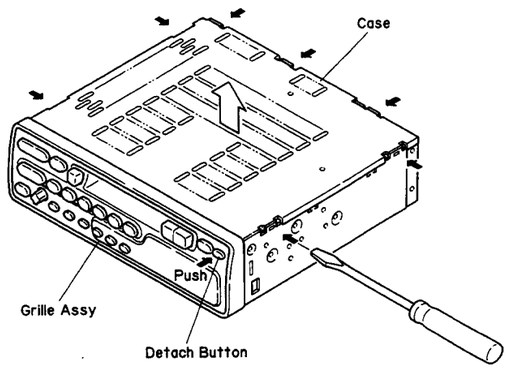


Fig. 2

● Removing the cassette mechanism assy
1. Remove the four screws.
2. Disconnect the connector.
3. Remove the cassette mechanism assy.

● Removing the panel assy
1. Remove the two screws.
2. Disconnect the connector.
3. Remove the panel assy.

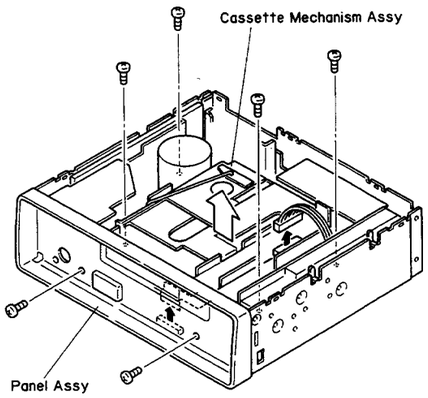


Fig. 3

● Removing the chassis unit
1. Remove the five screws.
2. Remove the antenna plug.
3. Remove the chassis unit.

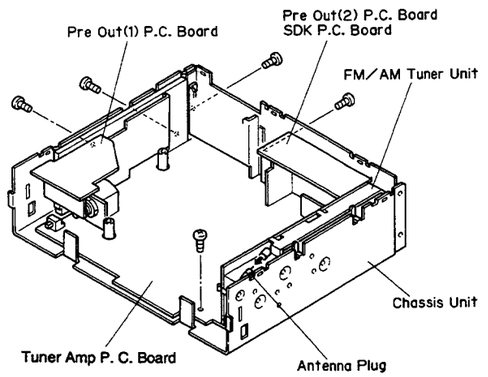


Fig. 4

8. ADJUSTMENT

8. 1 TEST MODE

Test mode is mainly used in adjustment of CD multi-players.
● Switching to test mode
While pressing the 4, 6 keys together, switch the back-up and the ACC ON.
● Canceling test mode
While pressing the CD multi-player clear button, switch the this unit back-up and ACC OFF.
● Key functions during test mode
The CD multi-player, deck, and tuner are selected by the SOURCE button.
a) CD multi-player

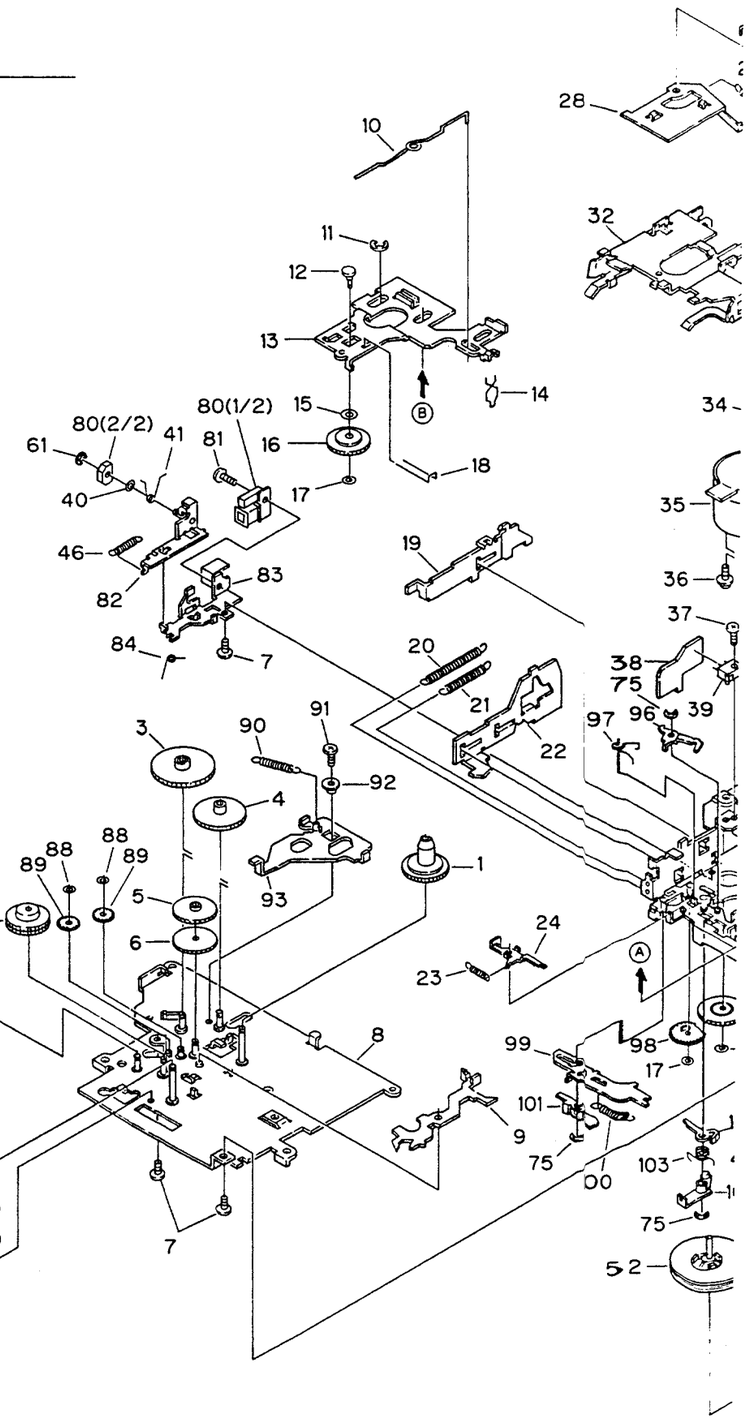
key	Function
BAND/CLEAR	Regulator ON/OFF
TRACK +	FWD kick
TRACK -	REV kick
SCAN	Tracking close
RPT/RDM	Tracking open
ITP	Focus close
TRACK +/ -	Carriage/tracking switching

b) Deck and tuner
No corresponding function. Normal operation executed.

● Parts List(KEH-M680/US,M7550/CA)

Mark No.	Description	Part No.
1	Reel Unit	EXA1251
2	Gear Unit	EXA1206
3	Gear	ENV1203
4	Gear	ENV1204
5	Gear	ENV1273
6	Gear	ENV1211
7	Screw	BMZ20P025FMC
8	Sub Chassis Unit	EXA1263
9	Arm	ENV1261
10	Spring	EBH1381
11	Washer	YE25FUC
12	Shaft	ELA1266
13	Lever	ENC1275
14	Spring	EBH1361
15	Washer	EBF1015
16	Gear	ENV1208
17	Washer	CBF1037
18	Spring	EBH1372
19	Lever	ENC1243
20	Spring	EBH1359
21	Spring	EBH1358
22	Lever	ENC1235
23	Spring	EBH1333
24	Arm	ENC1240
25	Spring	EBH1308
26	Arm Unit	EXA1198
27	Spring	EBH1364
28	Arm	ENC1263
29	Spring	EBH1374
30	Frame	ENC1204
31	Lever	ENV1287
32	Holder	ENC1257
33	Head Base Unit	EXA1203
34	Spring	EBH1334
35	Motor Unit(M1)	EXA1264
36	Screw	PMS26P025FUC
37	Screw(M2X5)	CBA1054
38	Gathering P.C.Board	ENX1013
39	Switch(S3)(Tape/Tun)	ESH1004
40	Washer	CBF1051
41	Spring	EBH1353
42	Gear	ENV1205
43	Arm	ENV1206
44	Spring	EBH1317
45	Chassis Unit	EXA1262
46	Spring	EBH1339
47	Gear	ENV1267
48	Gear	ENV1209
49	Arm Unit	EXA1155
50	Washer	YE30FUC
51	Spring	EBH1310
52	Flywheel Unit	EXA1257
53	Belt	ENT1018
54	Screw(M2X12)	EBA1024
55	Head(HD1)	EPB1015
56	P.C.Board	ENP1043
57	Switch(S1)(MuteA)	ESN1005
58	Screw(M1.7X3)	CBA1038
59	Washer	YE20FUC
60	Pinch Roller Unit	EXA1194
61	Washer	YE12FUC
62	Roller	ELA1247
63	Arm Unit	EXA1166
64	Arm	ENV1227
65	Pinch Roller Unit	EXA1193
66	Arm	ENC1266
67	Spring	EBH1368
68	Cord	EDD1008
69	Plug(9P)	CKS1056
70	Gathering P.C.Board	ENX1009
71	Washer	WH23FMC
72	Screw	BSZ23P050FMC
73	Switch(S2)(FWD/REV)	ESH1003
74	Spring	EBH1322
75	Washer	YE15FUC
76	Lever	ENC1244
77	Spring	EBH1365
78	Lever	ENC1245
79	Bracket	ENC1272
80	Solenoid(SO1)	EXP1008
81	Screw(M2X6)	EBA1023
82	Lever Unit	EXA1172
83	Bracket	ENC1239
84	Spring	EBH1340
85	Spring	EBH1367
86	Pulley	ENV1291
87	Gear	ENV1264
88	Washer	CBF1038
89	Gear	ENV1274
90	Spring	EBH1338
91	Screw	JFZ17P018FNI
92	Collar	ELA1244
93	Arm	ENC1241
94	Screw	JFZ17P035FNI
95	Shaft	ELA1259
96	Arm	ENC1236
97	Spring	EBH1337
98	Gear	ENV1262
99	Lever Unit	EXA1173
100	Spring	EBH1335
101	Arm	ENC1237
102	Arm	ENC1265
103	Spring	EBH1384
104	Arm Unit	EXA1208
105	Spring	EBH1065
106	Guide	ENV1270
107	P.C.Board	ENP1044

● Cassette Mechanism Assy (KEH-M680/US, M7550/CA) (1M M



EH-M680/US, M7550/CA) (1M Mechanism)

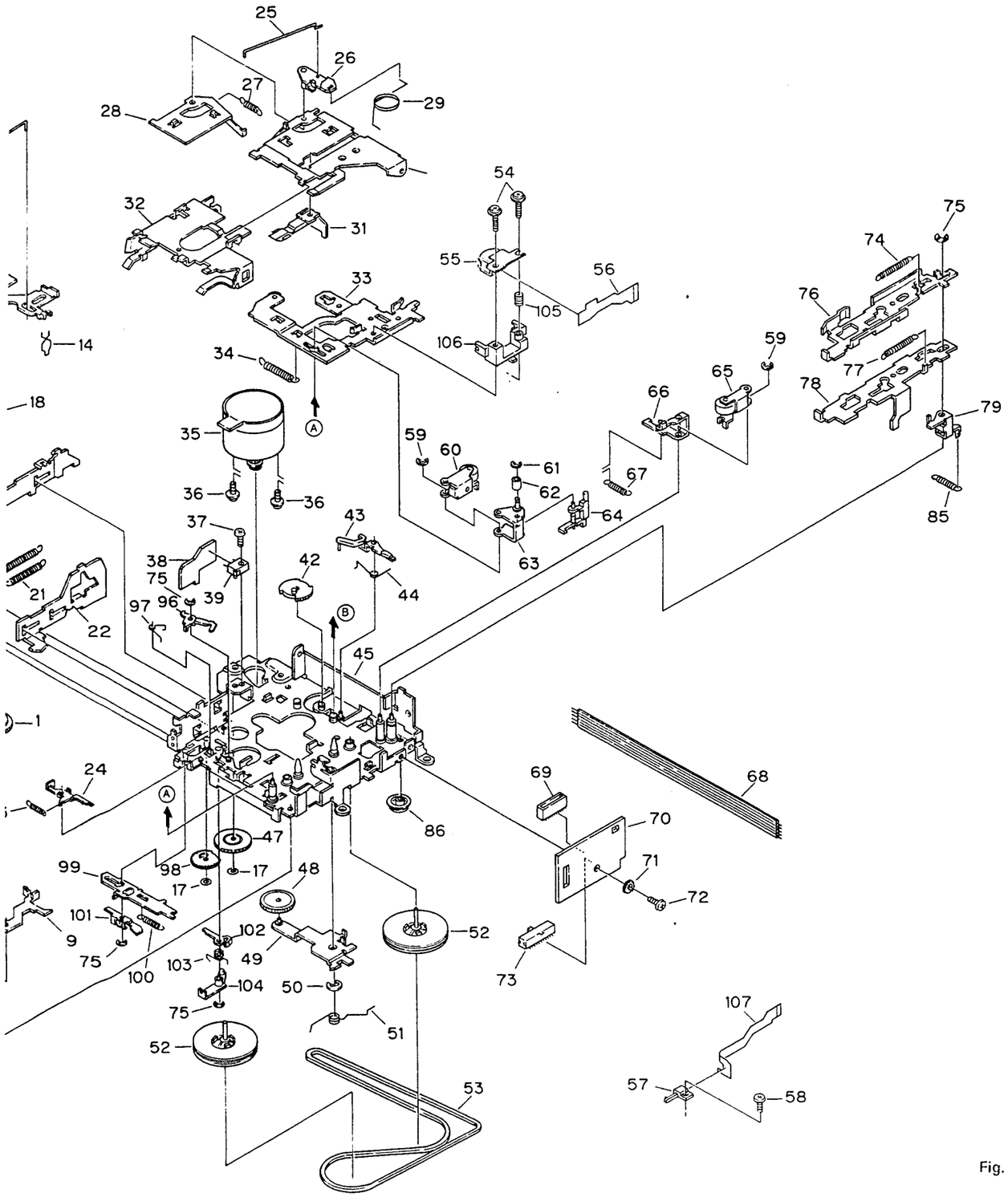


Fig. 3

● LCD (CAW1207)

SEGMENT

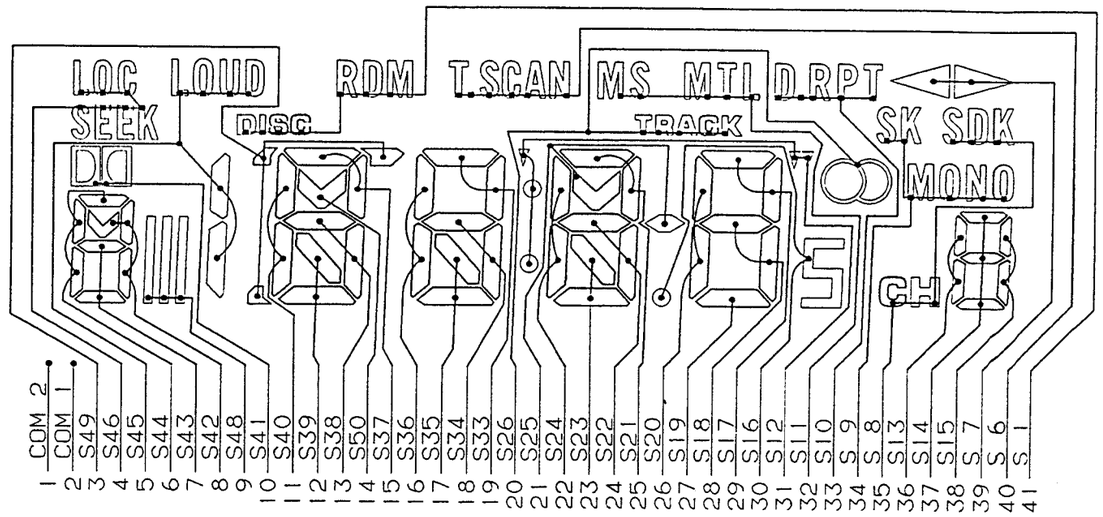


Fig. 4

COMMON

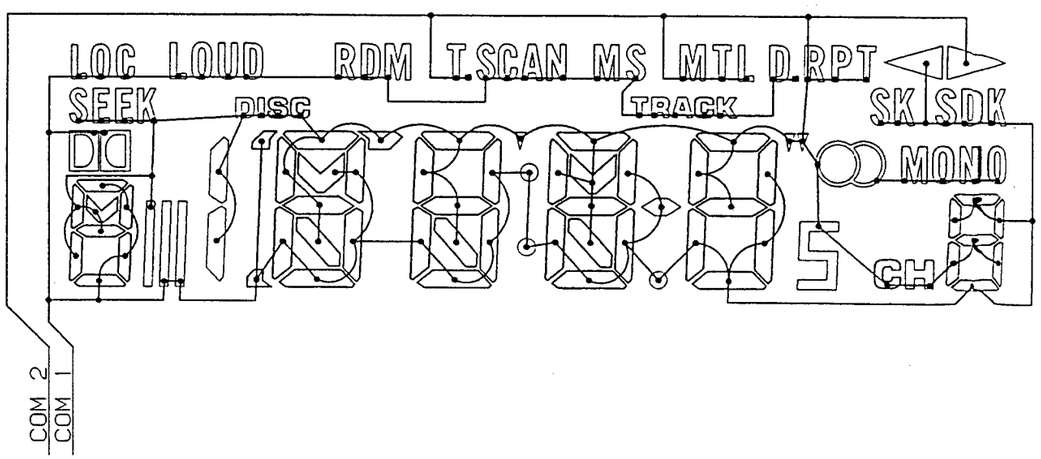
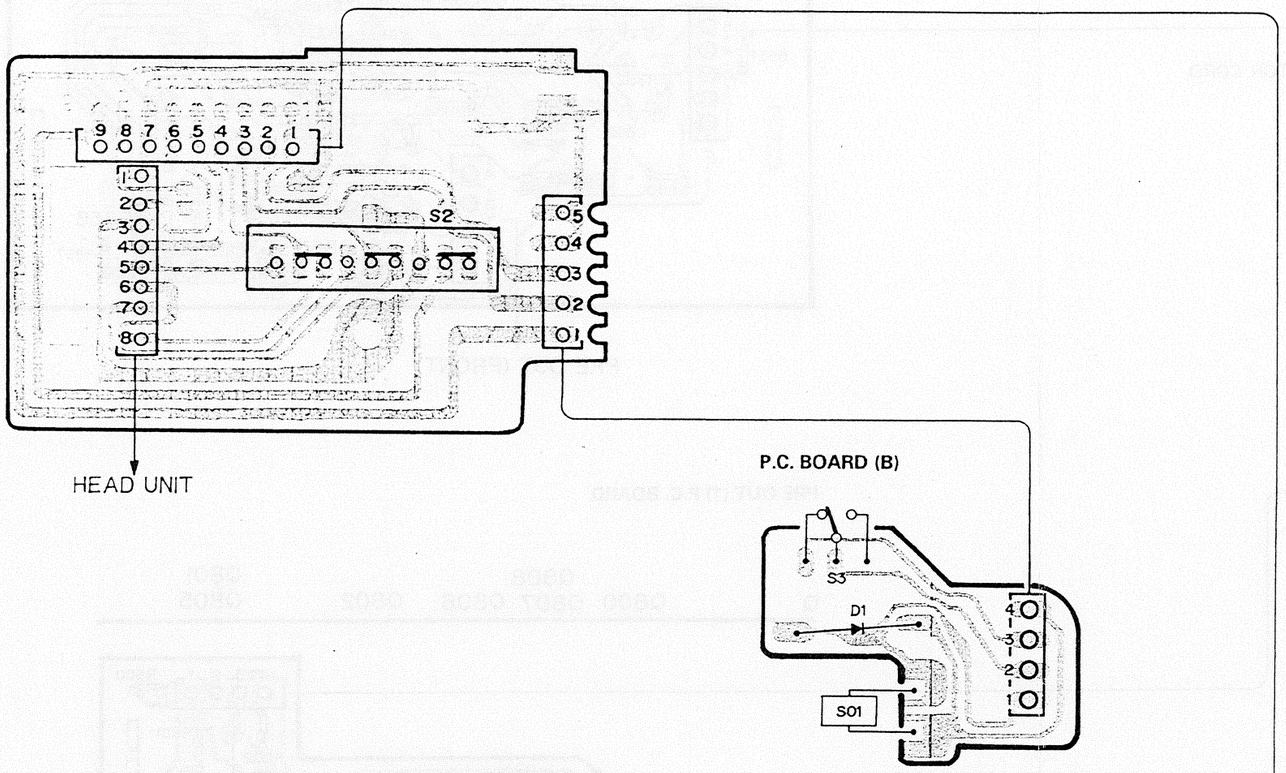


Fig. 5

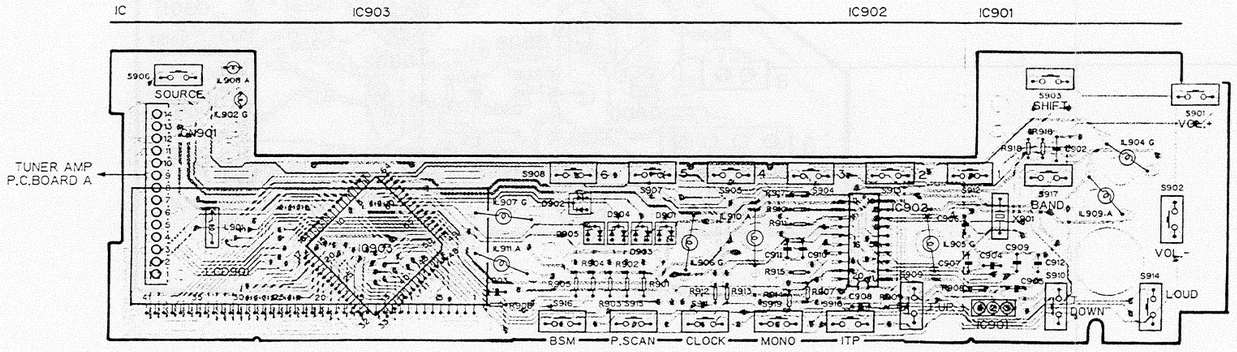
3. CONNECTION DIAGRAM (KEH-M7500/US, M680/US, M7550/CA, ES)

P.C. BOARD (A)

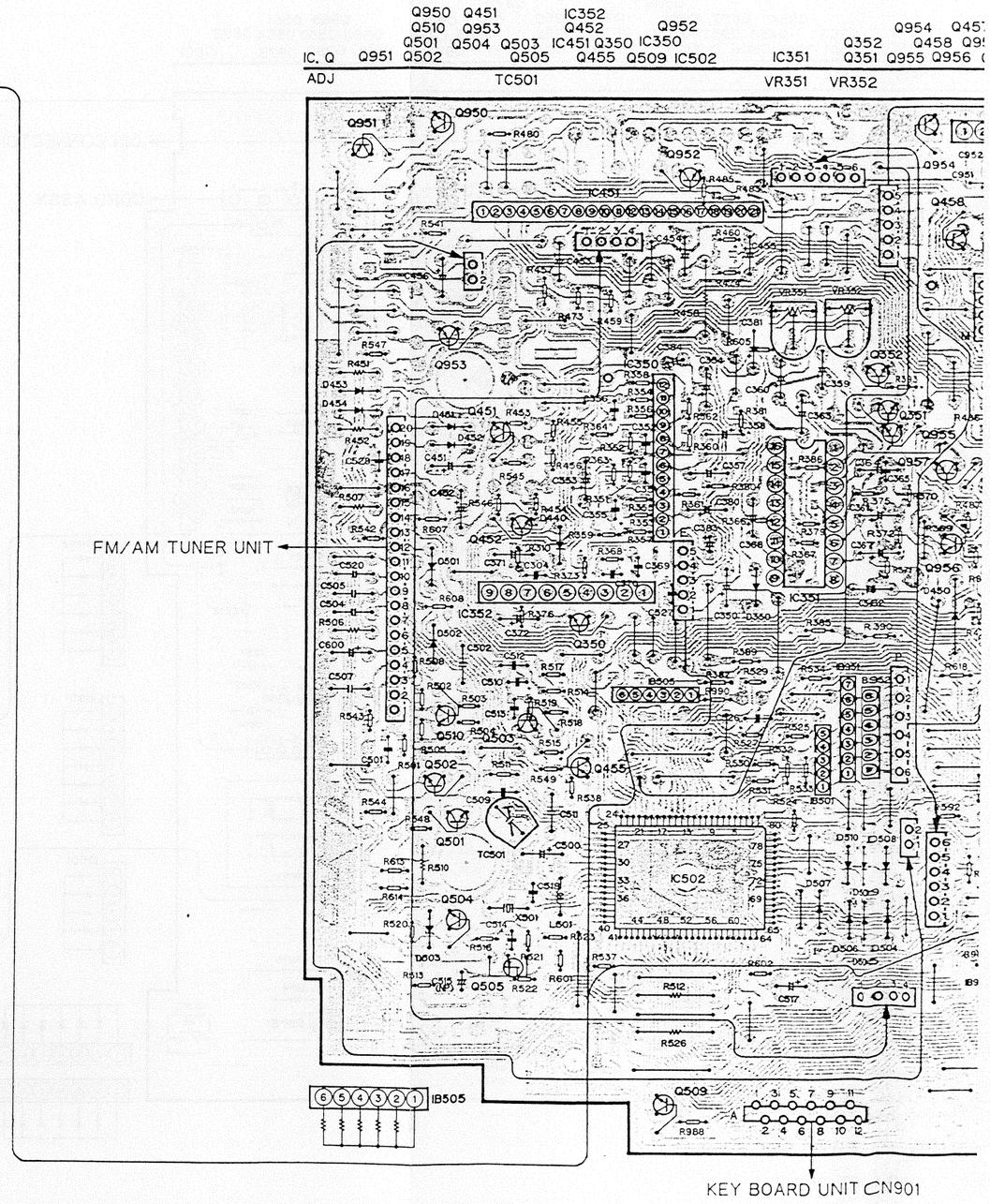


P.C. BOARD (B)

KEY BOARD UNIT

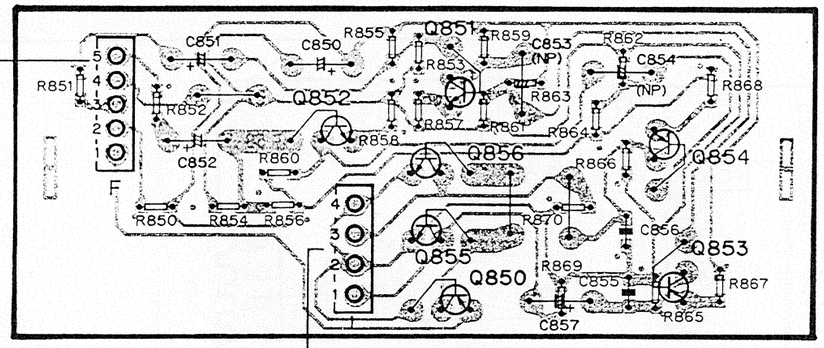


TUNER AMP P.C.BOARD



PRE OUT (2) P.C. BOARD

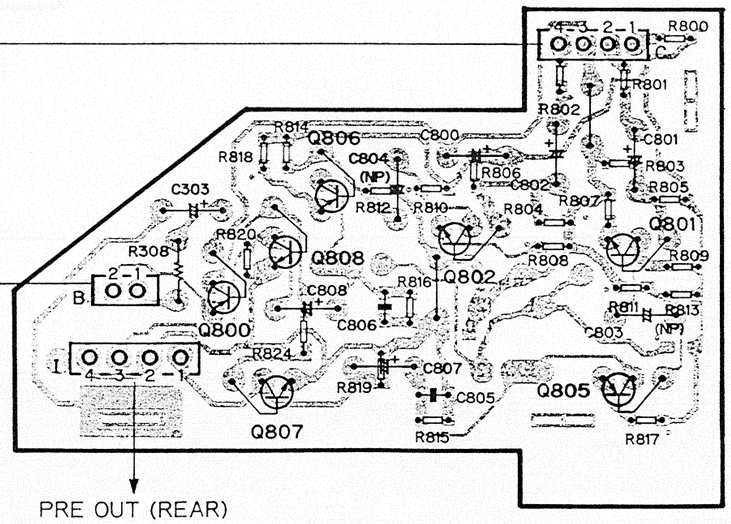
Q Q852 Q856 Q855 Q850 Q851 Q854 Q853



PRE OUT (FRONT)

PRE OUT (1) P.C. BOARD

Q Q800 Q808 Q807 Q806 Q802 Q801 Q805



PRE OUT (REAR)

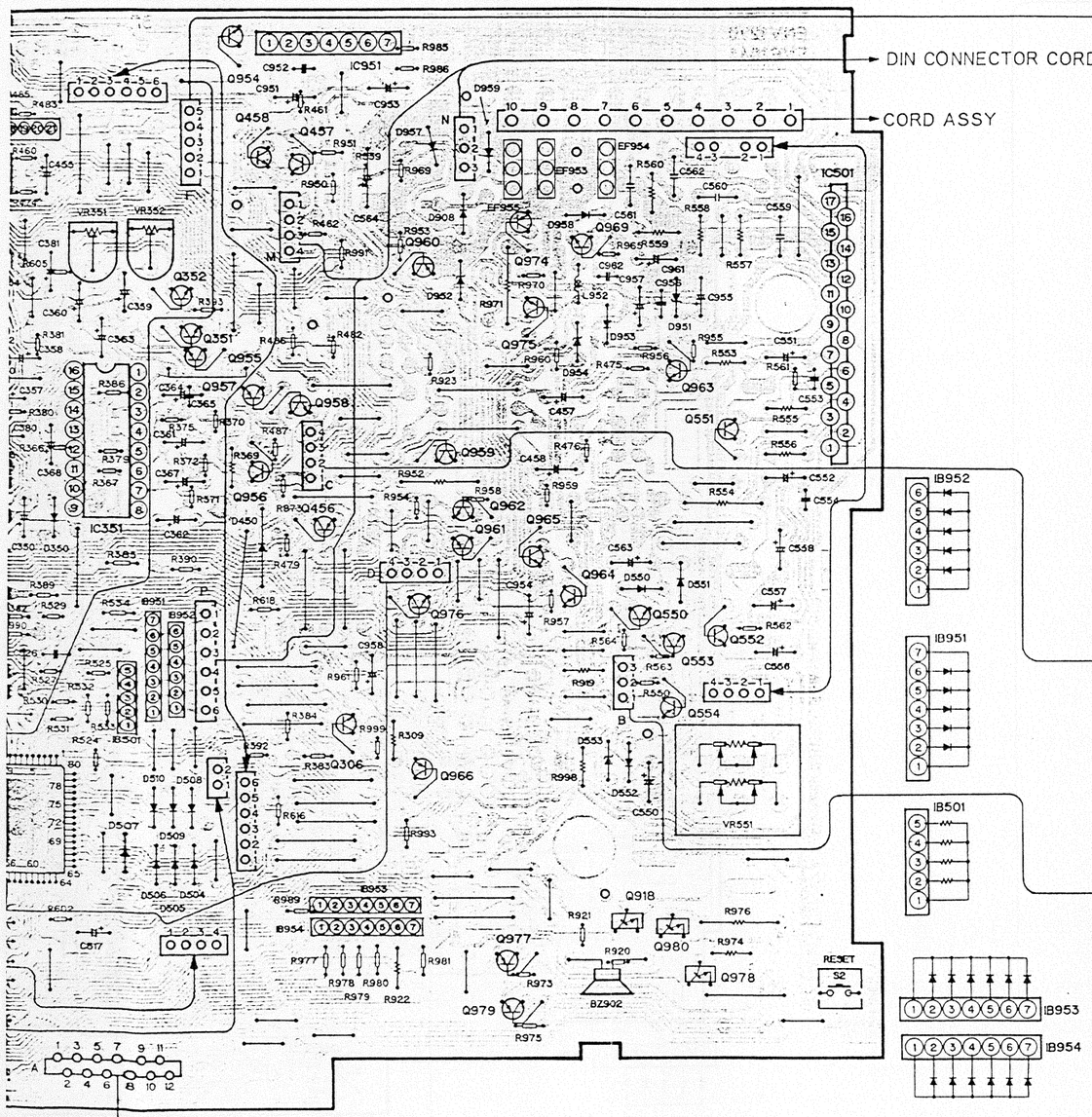
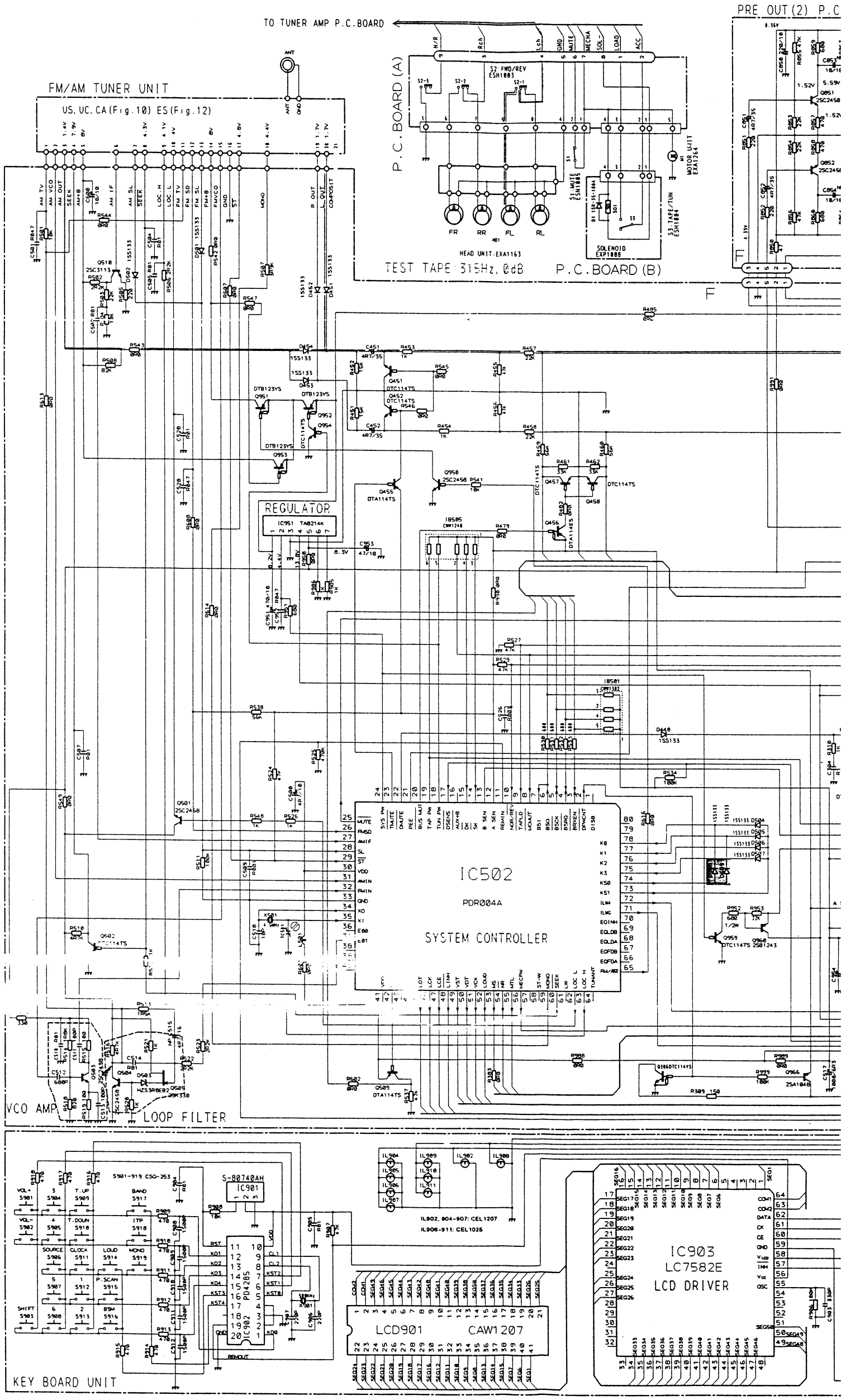
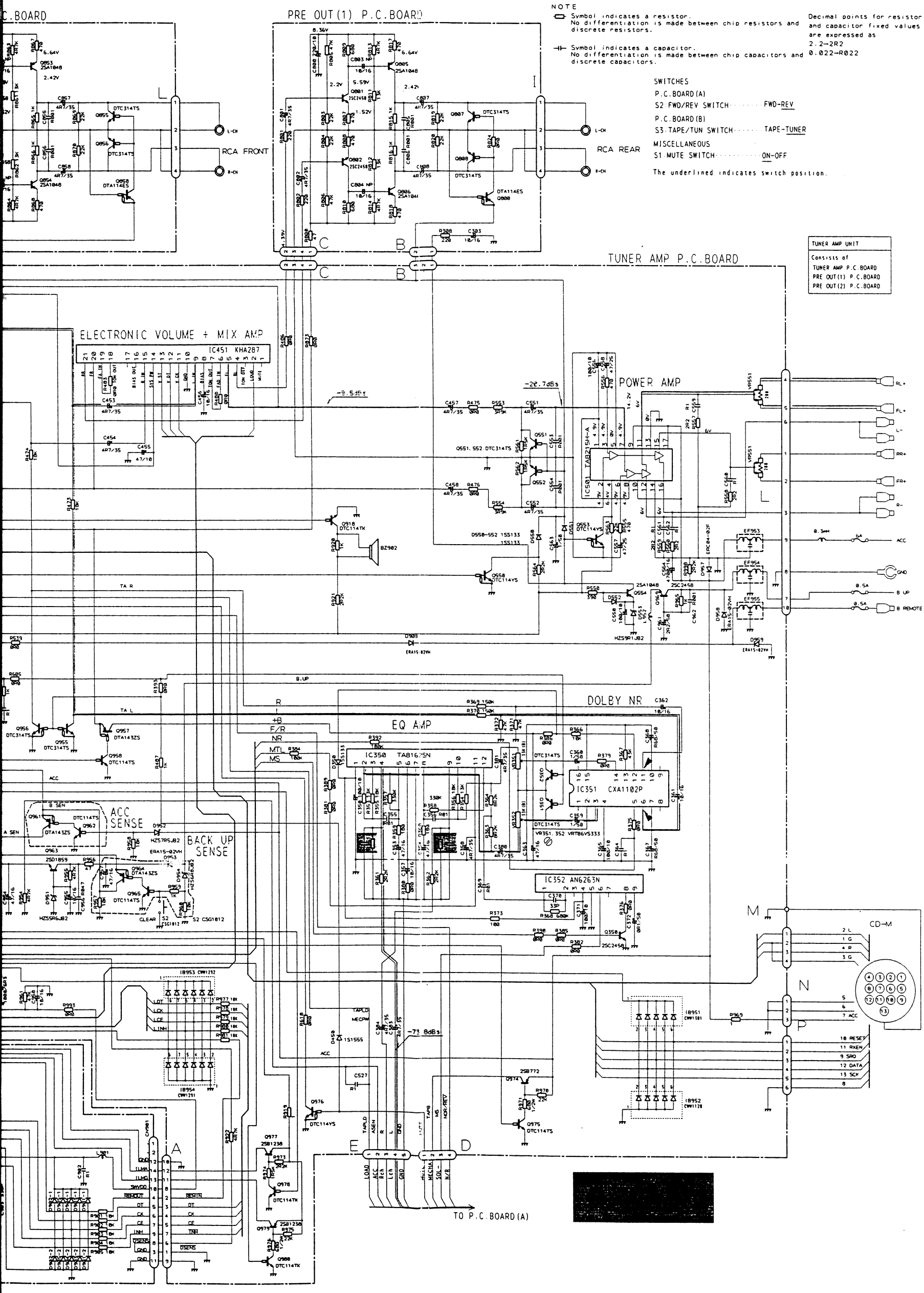


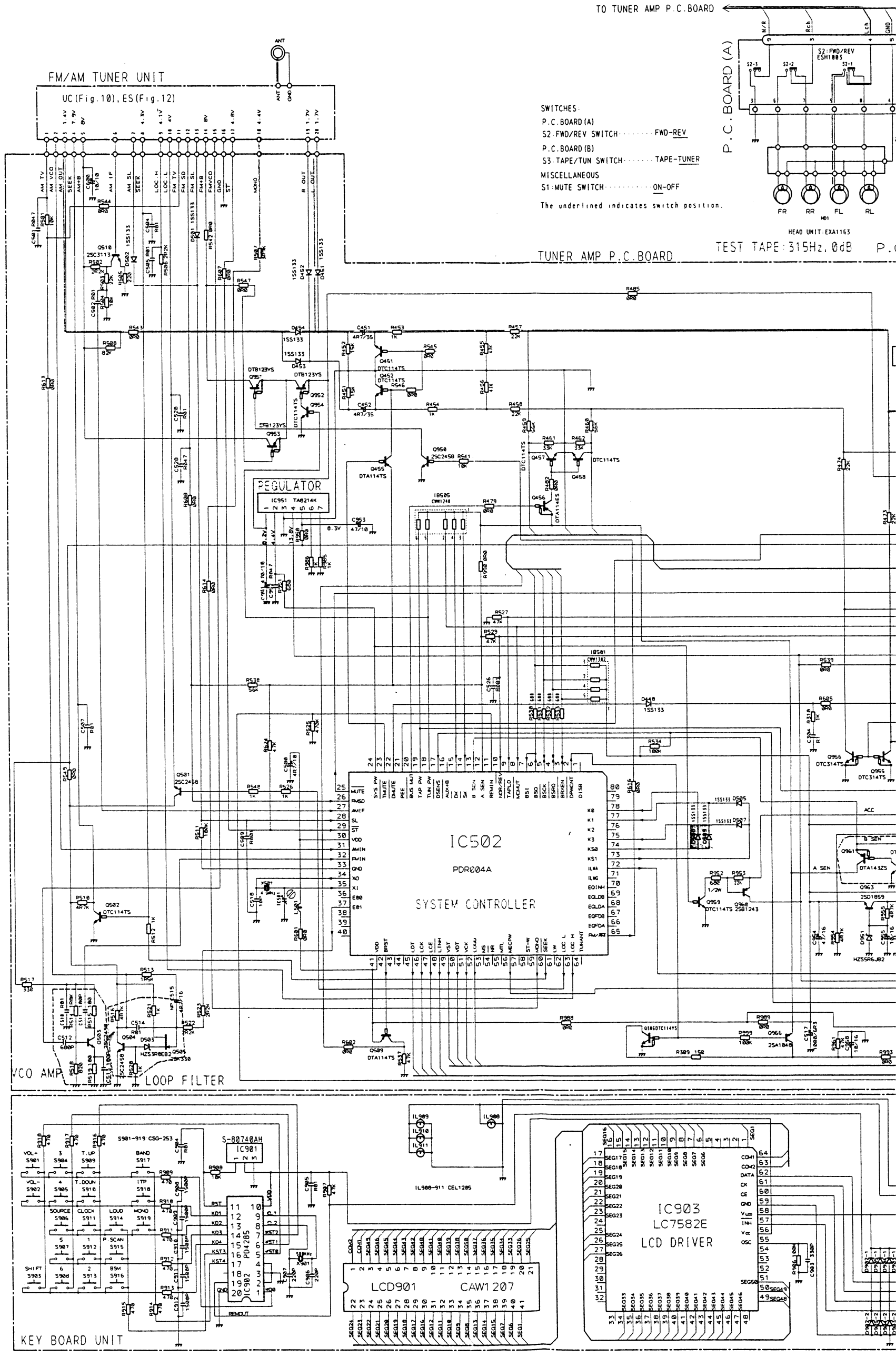
Fig. 6

4. SCHEMATIC CIRCUIT DIAGRAM (KEH-M7500/US, M680/US, M7550/CA, ES)




C.BOARD
PRE OUT(1) P.C.BOARD
NOTE
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as 2.2→2R2 0.022→R022
SWITCHES
P.C.BOARD(A)
S2:FWD/REV SWITCH ..... FWD-REV
P.C.BOARD(B)
S3:TAPE/TUN SWITCH ..... TAPE-TUNER
MISCELLANEOUS
S1:MUTE SWITCH ..... ON-OFF
The underlined indicates switch position.
TUNER AMP UNIT
Consists of
TUNER AMP P.C.BOARD
PRE OUT(1) P.C.BOARD
PRE OUT(2) P.C.BOARD
TUNER AMP P.C.BOARD
RCA FRONT
RCA REAR
L-CH
R-CH
ELECTRONIC VOLUME + MIX AMP
IC451 KHA287
POWER AMP
IC501 TA8215H+A
EQ AMP
IC350 TA8167SN
DOLBY NR
IC351 CXA1102P
IC352 AN6263N
ACC SENSE
BACK UP SENSE
CLEAR
TA R
TA L
B.UP
ACC
R
+B
F/R
NR
MTL
MS
RL+
FL+
L-
RR+
FR+
R-
ACC
GND
B UP
B REMOTE
CD-M
TO P.C.BOARD(A)

5. SCHEMATIC CIRCUIT DIAGRAM (KEH-M6500/UC, M6550/ES)



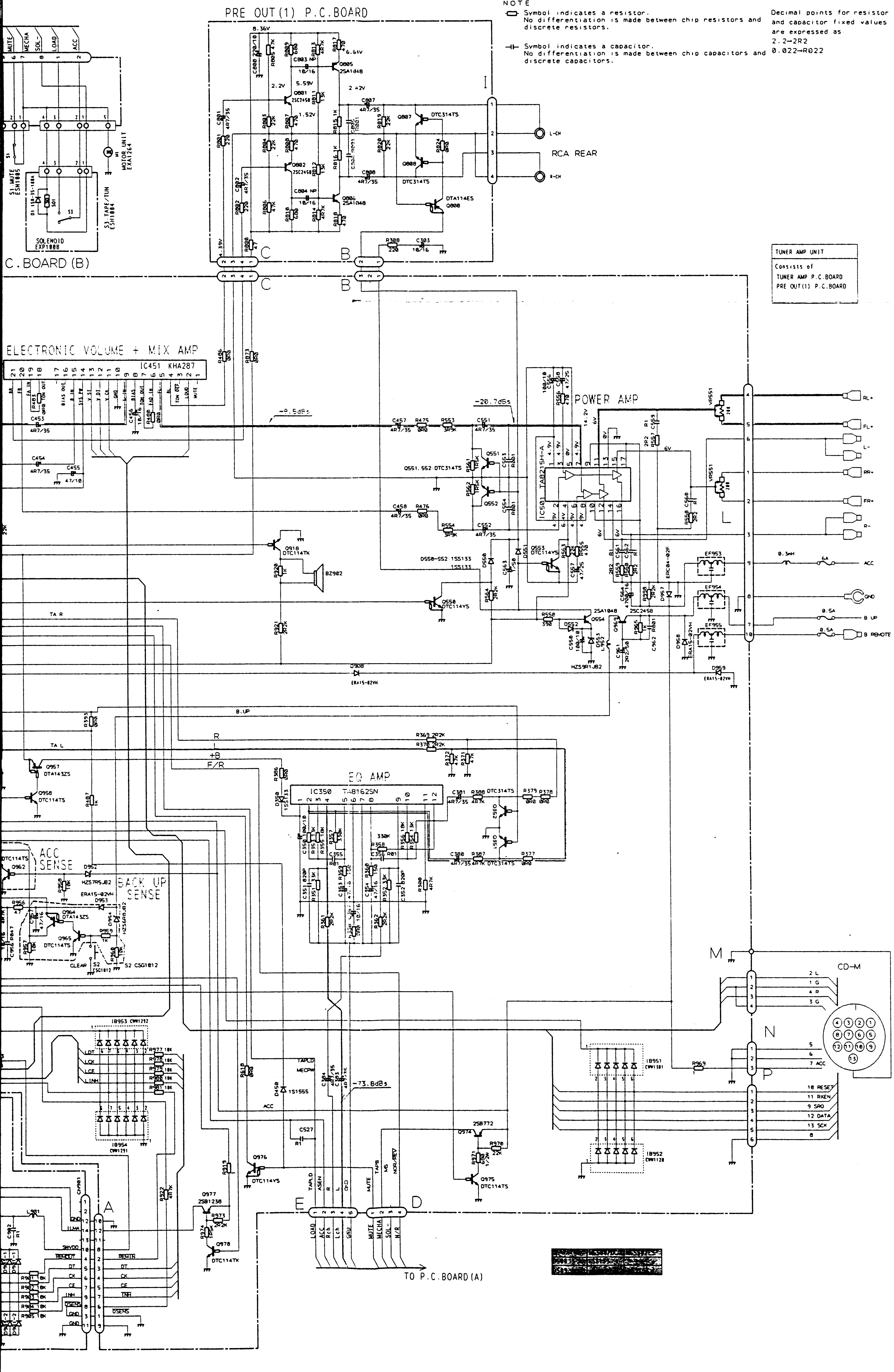
20 1 2 3 21 4

NOTE

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as
2.2→2R2
0.022→R022



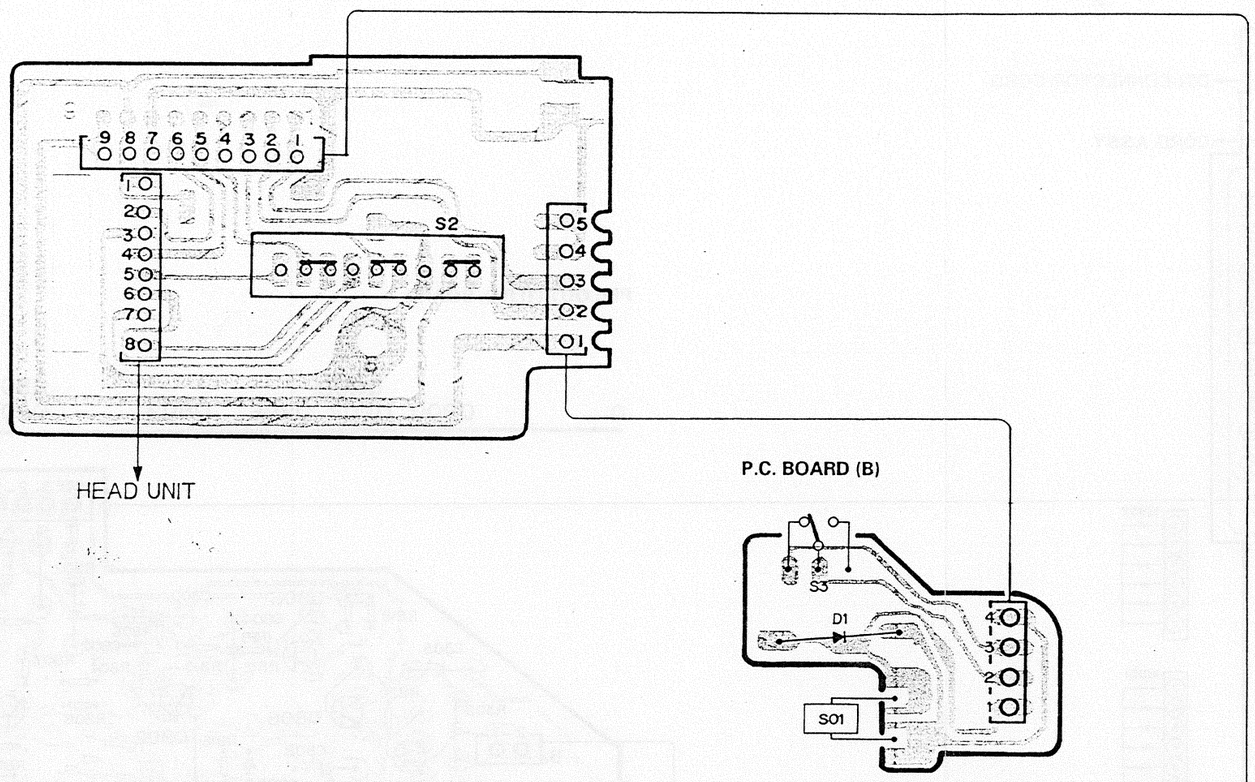
PRE OUT(1) P.C.BOARD
RCA REAR
L-CH
R-CH
C.BOARD (B)
SOLENOID EXP1008
S1 MUTE ESN1005
S3 TAPE/TUN ESH1004
MOTOR UNIT EXA1264
TUNER AMP UNIT
Consists of
TUNER AMP P.C.BOARD
PRE OUT(1) P.C.BOARD
ELECTRONIC VOLUME + MIX AMP
IC451 KHA287
POWER AMP
IC501 TA8215H-A
EQ AMP
IC350 TA8162SN
ACC SENSE
BACK UP SENSE
CLEAR
S2 CSG1012
RL+
FL+
L-
RR+
FR+
R-
ACC
GND
B UP
B REMOTE
CD-M
2 L
1 G
4 R
3 G
10 RESET
11 RXEN
9 SRQ
12 DATA
13 SCK
7 ACC
TO P.C.BOARD (A)
LOAD
ACC
Rch
Lch
GND
MUTE
MECHA
SOL-
N/R

Fig. 8

5 6 7 8 9

6. CONNECTION DIAGRAM (KEH-M6500/UC, M6550/ES)

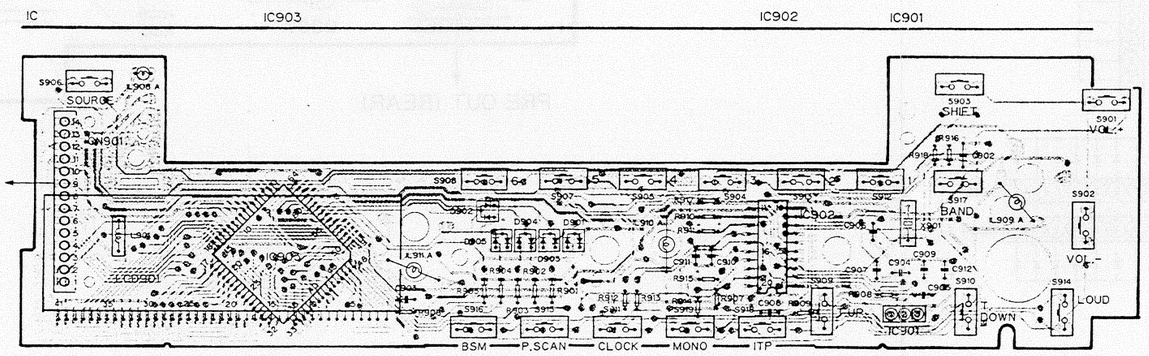
P.C. BOARD (A)



HEAD UNIT

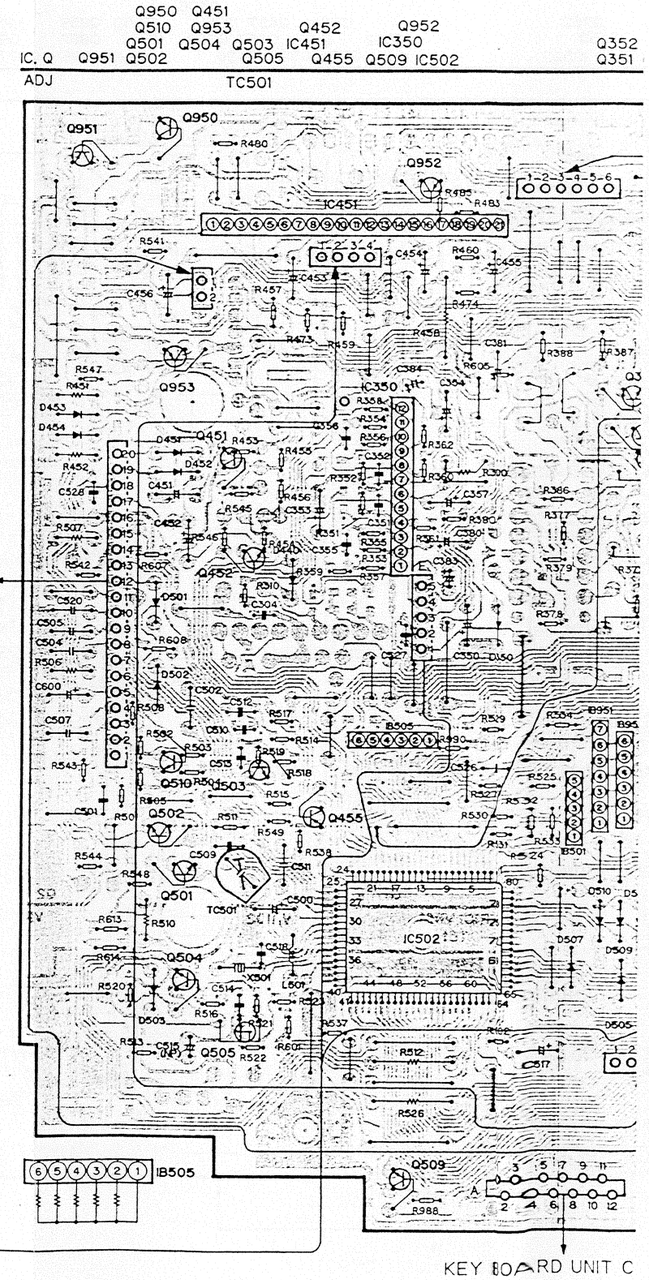
P.C. BOARD (B)

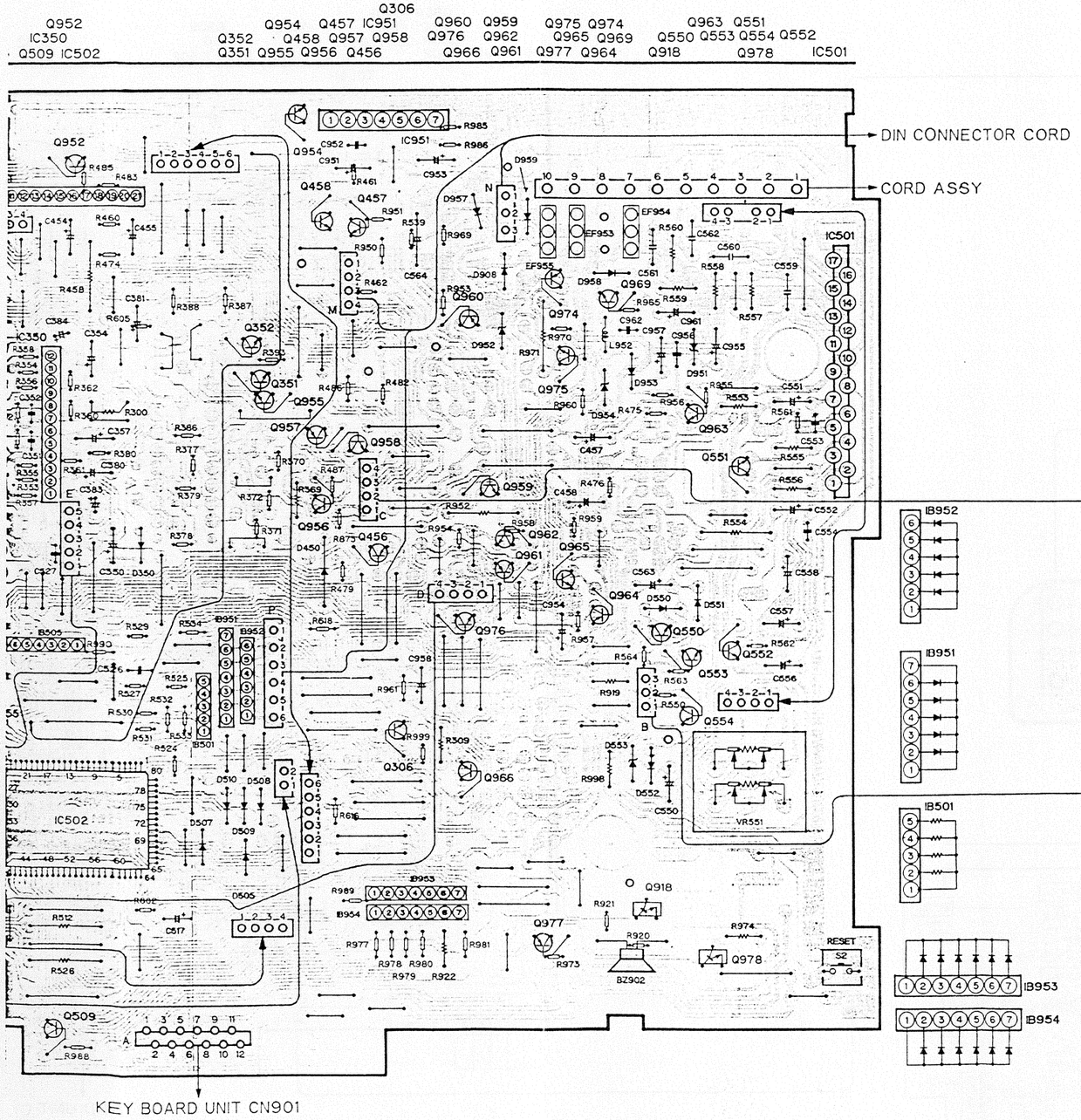
KEY BOARD UNIT



TUNER AMP P.C.BOARD A

TUNER AMP P.C. BOARD





PRE OUT (1) P.C. BOARD

Q808
Q801
Q Q800 Q807 Q806 Q802 Q805

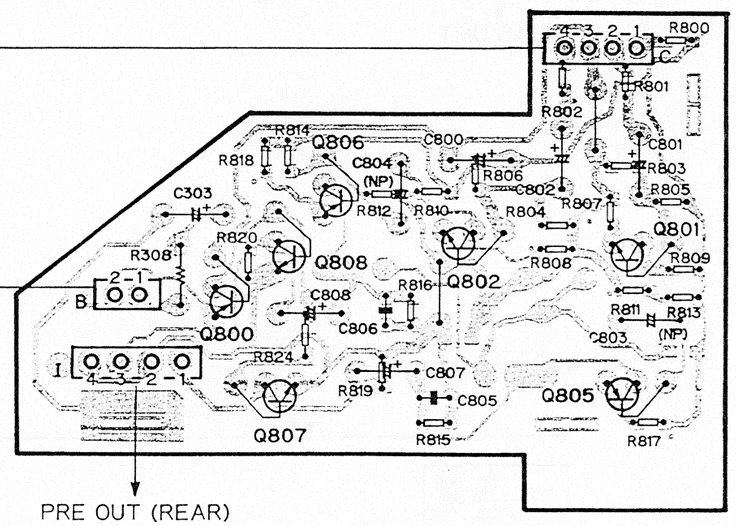
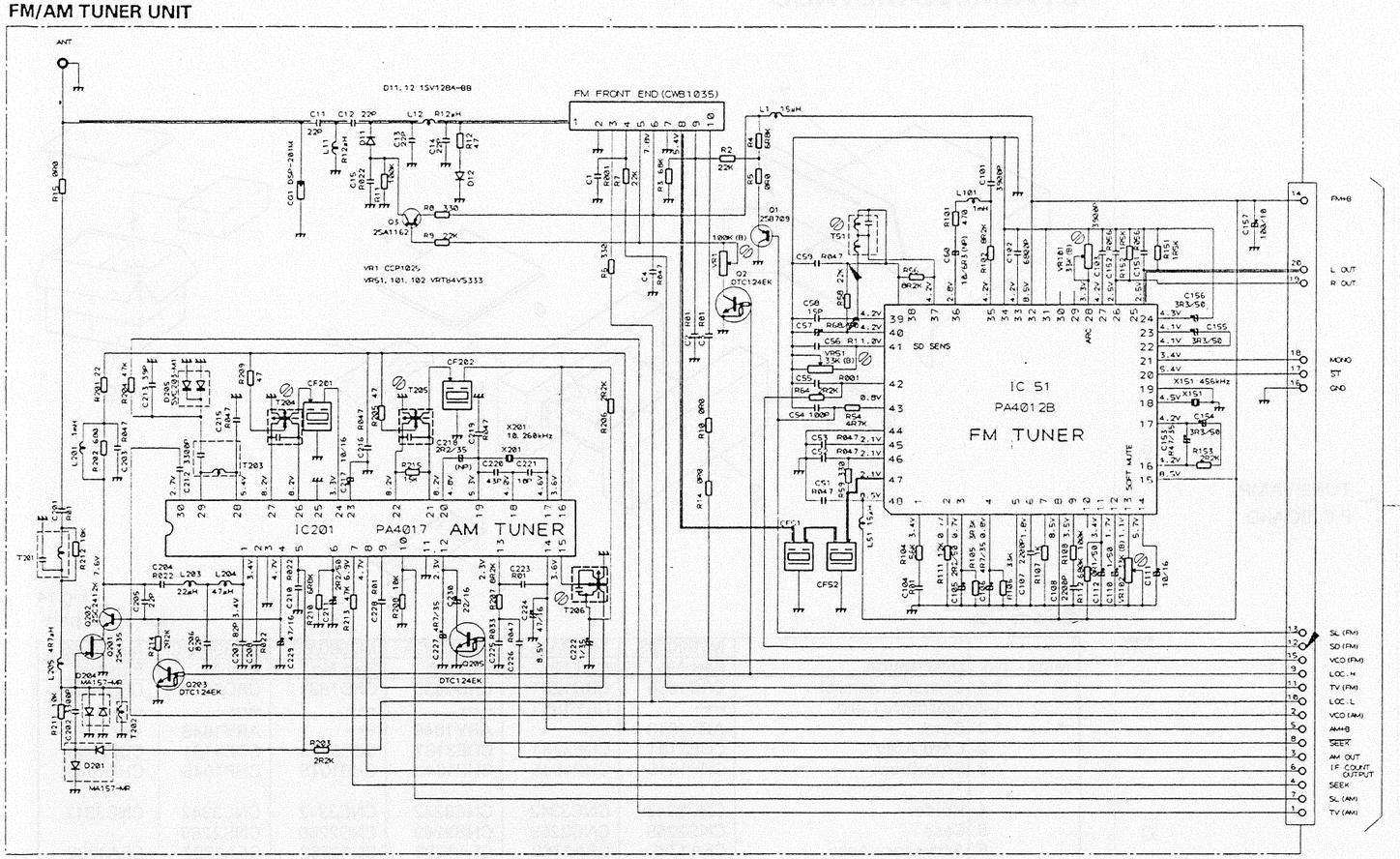


Fig. 9

7. CIRCUIT DIAGRAM AND P.C. BOARDS PATTERN

7.1 US, UC, CA MODEL

FM/AM TUNER UNIT



TUNER AMP P.C. BOARD

Fig. 10

NOTE :

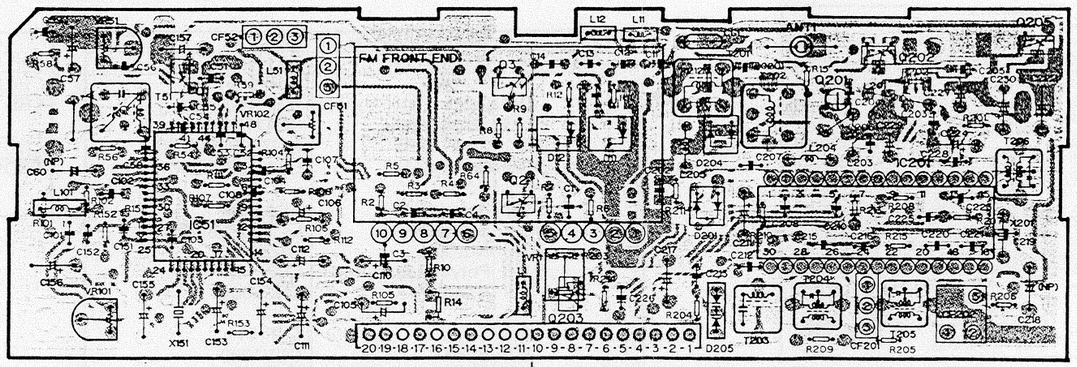
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

IC, Q

ADJ — Q1 IC51 — VR101 VR51 T51 — Q3 Q2 Q203 — VR102 — VR1 — IC201 Q201 Q202 — T204 T205 — Q205 — T206

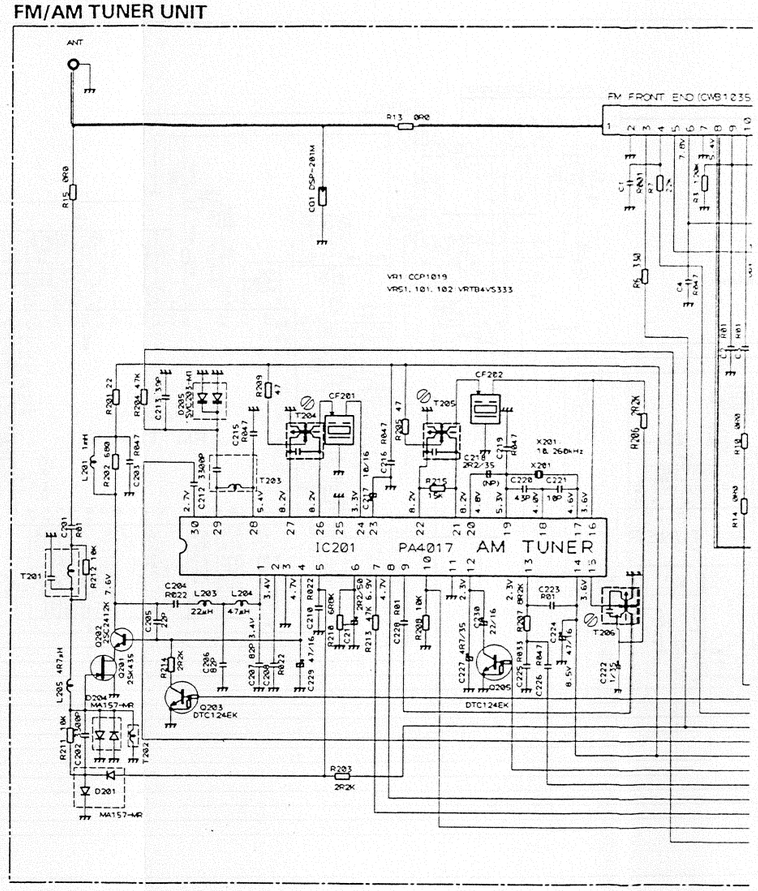


TUNER AMP P.C. BOARD

Fig. 11

7.2 ES MODEL

FM/AM TUNER UNIT



NOTE :

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

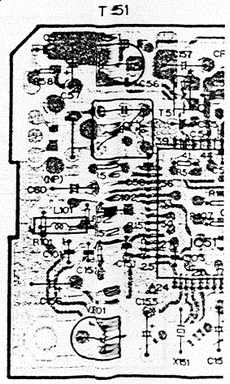
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

IC, Q

ADJ — Q1 IC

VR101 VR51 T51



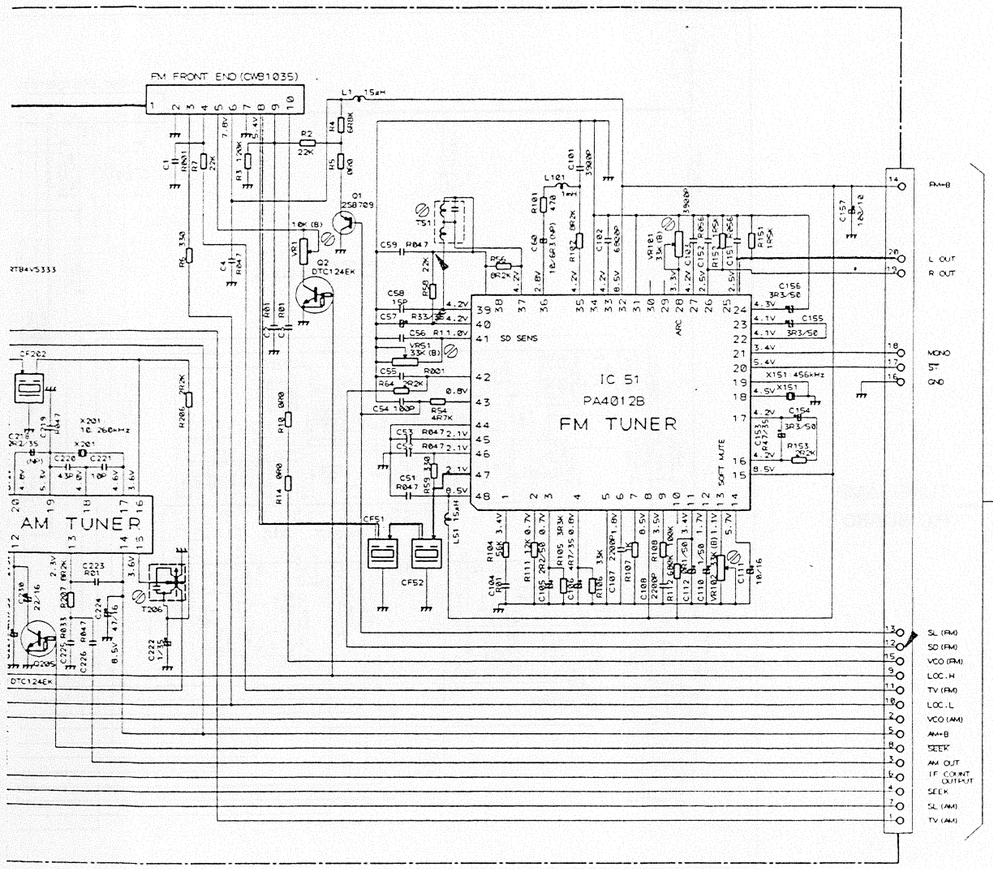


Fig. 12

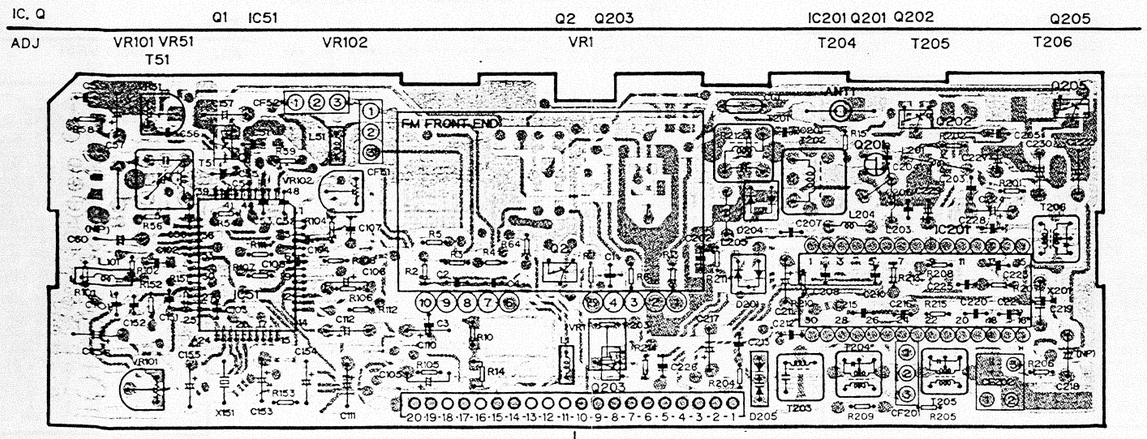


Fig. 13

8.PACKING METHOD

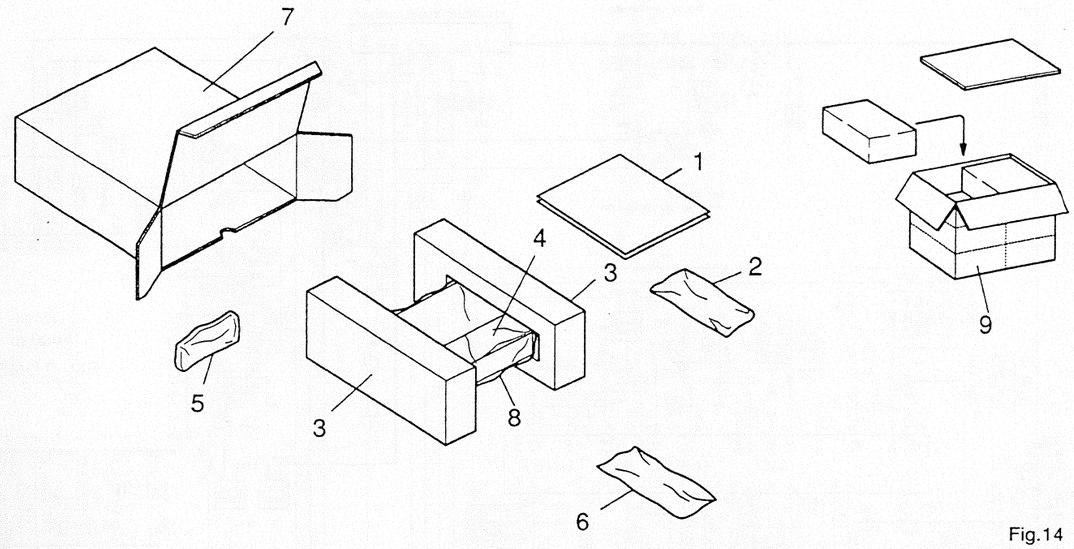


Fig.14

● Parts List

*:Non spare part

Mark	No.	Description	M7500/US Part No.	M680/US Part No.	M7550/CA Part No.	M7550/ES Part No.	M6500/UC Part No.	M6550/ES Part No.
	1-1	Owner's Manual	CRD1636	CRB1261	CRD1635	CRD1634	CRD1636	CRD1634
*	1-2	Warranty Card	·····	CRY1053	·····	·····	·····	·····
*	1-3	Cord	ARY1048	·····	ARY1048	·····	ARY1048	·····
	2	Cord Assy	CDE3181	CDE3181	CDE3181	CDE3993	CDE3181	CDE3993
	3	Styrofoam	CHP1045	CHP1045	CHP1045	CHP1045	CHP1045	CHP1045
	4	Holder	CNC3342	CNC3342	CNC3342	CNC3342	CNC3342	CNC3342
	5	Case	CNS2269	CNS2269	CNS2269	CNS2269	CNS2269	
	6	Accessory Assy	CEA1782	CEA1782	CEA1782	CEA1782	CEA1782	CEA1782
	7	Carton	CHG2289	CHG2288	CHG2290	CHG2291	CHG2292	CHG2293
	8	Cover	CEG1092	CEG1092	CEG1092	CEG1092	CEG1092	CEG1092
	9	Contain Box	CHL2289	CHL2288	CHL2290	·····	CHL2292	·····

	6	Accessory Assy	CEA1782
Mark	No.	Description	Part No.
	6-1	Spring	CBH-865
	6-2	Cord	CDE1289
	6-3	Screw Assy	CEA1761
	6-3-1	Screw(X4)	BMZ50P080FMC
	6-3-2	Screw(X1)	CBA-102
	6-3-3	Screw(X1)	CBA1002
	6-3-4	Screw(X4)	CMZ50P080FMC
	6-3-5	Nut(X2)	NF50FMC
*	6-3-6	Polyethylene Bag	CEG-127
	6-4	Handle(X2)	CNC3664
	6-5	Strap	CNF-111
	6-6	Bush	CNV1009
*	6-7	Polyethylene Bag	CEG1011

1-1 Owner's Manual		
Part No.	Model	Language
CRB1261	KEH-M680/US	English
CRD1636	KEH-M7500/US KEH-M6500/UC	English,French
CRD1635	KEH-M7550/CA	English,French
CRD1634	KEH-M7550/ES KEH-M6550/ES	English,French,Spanish, Arabic

9.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.
Unit Number :		
Unit Name : FM/AM Tuner Unit(KEH-M7500/US)		
MISCELLANEOUS		
IC 51		PA4012B
IC 201		PA4017
Q 1		2SB709
Q 2		DTC124EK
Q 3		2SA1162
Q 201		2SK435
Q 202		2SC2412K
Q 203 205		DTC124EK
D 11		1SV128A-BB
D 201 204		MA157-MR
D 205		SVC203-M1
L 1 51	Inductor	CTF1241
L 11 12	Inductor	CTF1065
L 101	Inductor	CTF1126
L 201	Inductor	CTF1026
L 203	Ferri-Inductor	LAU220K
L 204	Ferri-Inductor	LAU470K
L 205	Ferri-Inductor	LAU4R7K
T 51	Coil	CTC1065
T 201	Coil	CTB1020
T 202	Coil	CTB1004
T 203	Coil	CTB1040
T 204	Coil	CTE1037
T 205	Coil	CTE1038
T 206	Coil	CTE1039
CG 1		DSP-201M
CF 51 52	Ceramic Filter	CTF-182
CF 201	Ceramic Filter	CTF1041
CF 202	Filter	CTF1085
X 151	Ceramic Resonator	CSS1055
X 201	Crystal Resonator	CSS1014
VR 1	Semi-fixed 100kΩ (B)	CCP1025
VR 51 101 102	Semi-fixed 33kΩ (B)	VRTB4VS333
	FM Front End	CWB1035
RESISTORS		
R 2 7		RS1/10S223J
R 3		RS1/10S683J
R 4		RS1/10S682J
R 8		RS1/10S331J
R 9		RS1/10S223J
R 5 14		RS1/10S0R0J
R 6 59		RS1/10S331J
R 10		RS1/10S0R0J
R 11		RS1/10S104J
R 12		RS1/10S470J
R 15		RS1/10S0R0J
R 54		RS1/10S472J
R 56		RS1/10S822J
R 58		RS1/10S223J
R 64		RS1/10S222J
R 101		RS1/10S471J
R 102		RS1/10S822J
R 104		RS1/10S563J
R 105		RS1/10S332J
R 106		RS1/10S333J
R 107		RS1/10S102J
R 108		RS1/10S104J
R 111		RS1/10S123J
R 112		RS1/10S684J
R 151 152		RS1/10S152J
R 153		RS1/10S222J
R 201		RS1/10S220J
R 202		RS1/10S681J
R 203 206 214		RS1/10S222J
R 204 213		RS1/10S473J
R 205 209		RS1/10S470J
R 207		RS1/10S822J
R 208 211 212		RS1/10S103J
R 210		RS1/10S682J
R 215		RS1/10S153J
CAPACITORS		
C 1		CKSQYB102K50
C 2 3 104		CKSQYB103K50
C 4 59		CKSQYF473Z25
C 11 12 13 14		CCSQCH220J50
C 15		CKSQYB223K25
C 51		CKSQYF473Z25
C 52 53		CKSQYF473Z25
C 54		CCSQSL101J50
C 55		CKSQYB102K50
C 56		CKSQYF104Z25
C 57		CSZAR68M50LL
C 58		CCSQCH150J50
C 60		CEALNP100M6R3
C 101		CKSQYB392K50
C 102		CKSQYB682K50
C 103		CKSQYB392K50
C 105		CEA2R2M50LL
C 106		CEA4R7M35LL
C 107 108		CKSQYB222K50
C 110		CEA0[illegible]M50LL
C 111		CEA1[illegible]M16LL
C 112		CEA0R1M50LL
C 151 152		CKSQYB563K25
C 153		CSZAR47M35L
C 154 155 156		CEA3R3M50LL

===== Circuit Symbol & No.	Part Name =========	Part No.
C 157		CEA101M10LL
C 201 223 228		CKSQYB103K25
C 202 212		CKSQYB332K50
C 203 215 216 219 226		CKSQYF473Z25
C 204 208 210		CKSQYB223K25
C 205		CCSQCH220J50
C 206 207		CCSQCH820J50
C 211		CEA2R2M50LL
C 213		CCSQCH390J50
C 217		CEA100M16LL
C 218		CEA2R2M35NPLL
C 220		CCSQCH430J50
C 221		CCSQCH100D50
C 222		CSZA010K35L
C 224		CEA470M16LL
C 225		CKSQYB333K25
C 227		CEA4R7M35LL
C 229		CEA470M16LL
C 230		CEA220M16LL

Tuner Amp Unit
Consists of
Tuner Amp P.C.Board
Pre Out (1) P.C.Board
Pre Out (2) P.C.Board

Unit Number :
Unit Name : Tuner Amp Unit(KEH-M7500/US)

MISCELLANEOUS

IC 350		TA8162SN
IC 351		CXA1102P
IC 352		AN6263N
IC 451		KHA287
IC 501		TA8215H-A
IC 502		PDR004A
IC 951		TA8214K
Q 306		DTC114YS
Q 350		2SC2458
Q 351 352 551 552 807 808		DTC314TS
Q 451 452		DTC114TS
Q 455 509		DTA114TS
Q 456 800 850		DTA114ES
Q 457 458 958 959 962 975		DTC114TS
Q 501 504 851 852 969		2SC2458
Q 502		DTC114TS
Q 503		2SC2498
Q 505		2SK330
Q 510		2SC3113
Q 550 553 976		DTC114YS
Q 554 805 806 853 854 966		2SA1048
Q 801 802		2SC2458
Q 855 856 955 956		DTC314TS
Q 918 978 980		DTC114TK
Q 950		2SC2458
Q 951 952 953		DTB123YS
Q 954		DTC114TS
Q 957		DTA143ZS
Q 960		2SB1243
Q 961 964		DTA143ZS
Q 963		2SD1859
Q 965		DTC114TS
Q 974		2SB772
Q 977 979		2SB1238
D 350 440 504 505 506 507 508		1SS133

===== Circuit Symbol & No.	Part Name =========	Part No.
D 450		1S1555
D 451 452 453 454 501 502 550 551 552		1SS133
D 503		HZS3R0EB2
D 553		HZS9R1JB2
D 908		ERA15-02VH
D 951		HZS5R6JB2
D 952		HZS7R5JB2
D 953 958 959		ERA15-02VH
D 954		HZS6R8JB2
D 957		ERC04-02F
L 501	Ferri-Inductor	LAU2R2M
L 952	Ferri-Inductor	LAU330K
IB 501		CWW1302
IB 505		CWW1240
IB 951		CWW1301
IB 952		CWW1128
IB 953		CWW1292
IB 954		CWW1291
X 501	Crystal Resonator	CSS1011
VR 351 352	Semi-fixed 33kΩ(B)	VRTB6VS333
VR 551	Volume(Fader)200Ω	CCS1186
S 2	Switch(Clear)	CSG1012
EF 953 954 955		CCG1003
BZ 902	Buzzer	CPV1013
TC 501	Trimmer	CCG-070

RESISTORS

R 308		RD1/4PS221JL
R 309		RD1/4PS151JL
R 310		RS1/10S102J
R 351 352		RS1/10S333J
R 353 354		RS1/10S133J
R 355 356		RS1/10S183J
R 357 358		RS1/10S334J
R 359 360		RS1/10S181J
R 361 362 502 522		RS1/10S222J
R 363 364		RS1/10S822J
R 366 501 504 957 958		RS1/10S103J
R 367		RS1/10S433J
R 368		RS1/10S684J
R 369		RD1/4PS154JL
R 370		RS1/10S154J
R 371 372		RS1/10S473J
R 373 515 519		RS1/10S101J
R 375		RS1/10S0R0J
R 376 543 544 545 546 549 601 602		RS1/10S0R0J
R 379		RS1/10S0R0J
R 380 381 873		RS1/10S0R0J
R 382 383 614 616 988 989 990		RS1/8S0R0J
R 384		RS1/8S104J
R 385		RS1/8S103J
R 386 486 618		RS1/8S0R0J
R 389 824 993		RS1/8S0R0J
R 390		RS1/8S0R0J
R 392		RS1/10S104J
R 393		RS1/8S0R0J
R 451 452		RD1/4PS15JL
R 453 454		RS1/10S100J
R 455 456 524 527 529 805 806		RS1/10S472J
R 457		RS1/8S223J
R 458		RD1/4PM22J
R 459 460		RS1/10S560J

Circuit Symbol & No.	Part Name	Part No.
R 461 462		RS1/10S333J
R 473 474		RS1/10S183J
R 475 476 542 547		RS1/10S0R0J
R 479 483 605		RS1/10S0R0J
R 480 482		RS1/10S0R0J
R 485 607 608 613		RS1/8S0R0J
R 487 520 521 815 816 920 985 986		RS1/10S102J
R 503 563 819 820 853 854 869 870 970		RS1/10S223J
R 505 801 802 851 852		RS1/10S221J
R 506		RD1/4PS222JL
R 507		RD1/4PS392JL
R 508		RS1/10S823J
R 510		RD1/4PS472JL
R 511 534		RS1/8S104J
R 512		RD1/4PM102J
R 513		RS1/10S152J
R 514		RS1/10S182J
R 516		RS1/10S472J
R 517		RS1/10S331J
R 518		RS1/10S821J
R 523 564 921 973		RS1/10S222J
R 525		RS1/10S474J
R 526		RD1/4PM102J
R 530 531 859 860		RS1/10S681J
R 532 533		RS1/8S681J
R 537 855 856		RS1/10S473J
R 538		RS1/10S563J
R 539		RS1/10S0R0J
R 541		RS1/10S103J
R 548 865 866		RS1/10S102J
R 550		RS1/10S391J
R 553		RD1/4PS392JL
R 554		RD1/4PM392J
R 555 556		RD1/4PS471JL
R 557 558 559 560		RD1/4PS2R2JL
R 561 562		RS1/10S152J
R 800 850		RS1/10S470J
R 803 804		RS1/10S223J
R 807 808 817 818 867 868		RS1/10S471J
R 809 810		RS1/10S681J
R 811 812 861 862		RS1/10S133J
R 813 814 863 864		RS1/10S472J
R 857 858		RS1/10S471J
R 919		RD1/4PS010JL
R 922		RD1/4PS472JL
R 950		RS1/8S0R0J
R 951 991		RS1/8S681J
R 952 971 976		RD1/2PS681JL
R 953		RS1/8S223J
R 954		RS1/10S472J
R 955		RS1/10S472J
R 956		RS1/10S470J
R 959 965		RS1/10S102J
R 960 977 978 979 980 981		RS1/8S103J
R 961		RS1/8S473J
R 969		RS1/10S1R0J
R 974		RD1/4PS152JL
R 975		RS1/8S223J
R 998		RD1/4PS222JL
R 999		RS1/10S104J

CAPACITORS

C 303		CEA100M16LS2
C 304		CKSQYF104Z25
C 350 371		CEA101M10LS
C 351 352		CKSQYB821K50
C 353 354 954 957		CEA470M16LS
C 355 356 369 510 514		CKSQYB103K25
C 357 361 362 955 958		CEA100M16LS2
C 358 380 381 451 452 453 454 457 458		CEA4R7M35LS
C 359 360		CEA010M50LS2
C 363	47 μF/16V	CCH1129
C 364		CKSQYF104Z25
C 365		CEA101M10LS
C 367 368		CEAR68M50LS2
C 370		CCSQCH330J50
C 372		CEA0R1M50LS2
C 383 384	4.7 μF/35V	CCH1016
C 455 953		CEAS470M10
C 456		CEA100M16LS2
C 500		CASAQ4R7M10
C 501	0.047 μF	CCG1008
C 502 504 505 507 520		CKPYY103M16L
C 509 526		CKSYB102K50
C 511		CKPYB101K50L
C 512		CKSYB681K50
C 513		CCSQCH101J50
C 515	4.7 μF/16V	CCH1005
C 517	1000 μF/6.3V	CCH1112
C 518		CCSQCH100D50
C 527		CKSQYF104Z25
C 528		CKSQYB473K25
C 550		CEAS101M10
C 551 552		CEHAS4R7M35
C 553 554 805 806 855 856 962		CKSQYB102K50
C 556		CEHAQ101M10
C 557 558		CEHAQ470M25
C 559 561 562		CQFA104J63
C 560		CFTNA104J50
C 563		CEAO10M50LS2
C 564		CEA472M16L2
C 600		CASAQ100M10
C 800 850		CEAS221M10
C 801 802 807 808 851 852 857 858		CEA4R7M35LS
C 803 804 853 854		CEALNP100M16
C 951	470 μF/10V	CCH1019
C 952		CKSQYB473K25
C 956		CCG1008
C 961		CEA2R2M50LS2

Unit Number :
Unit Name : Key Board Unit(KEH-M7500/US)

MISCELLANEOUS

IC 901		S-80740AH
IC 902		PD4285
IC 903		LC75842E
D 901 902 903 904 905		MA143-MC
L 901	Inductor	LCTA101K3225
X 901		CSS1069
S 901 902 903 904	Switch	CSG1044
S 905 906 907 908	Switch	CSG1044
S 909 910	Switch	CSG1044
S 911 912 913 914	Switch	CSG1044
S 915 916 917 918	Switch	CSG1044
S 919	Switch	CSG1044
IL 902 904 905 906	Lamp 14V 40mA	CEL1207
IL 907	Lamp 14V 40mA	CEL1207
IL 908 909 910 911	Lamp 14V 40mA	CEL1025
	LCD	CAN1207

===== Circuit Symbol & No.	Part Name =========	Part No.
RESISTORS		
R 901 902 903 904 905		RS1/8S103J
R 906		RS1/10S104J
R 907		RS1/10S473J
R 908		RS1/10S103J
R 909 910 911 912 913 914 915 916 917 918		RS1/10S471J
CAPACITORS		
C 902		CKSYF105Z25
C 903		CCSQCH331J50
C 904 905		CKSQYB103K25
C 906 907		CCSQCH221J50
C 908 909 910 911 912		CKSQYB152K50
Unit Number :		
Unit Name : P.C.Board(A)		
S 2	Switch(FWD/REV)	ESH1003

===== Circuit Symbol & No.	Part Name =========	Part No.
Unit Number :		
Unit Name : P.C.Board(B)		
D 1		1SR-35-100A
S 3	Switch(Tape/Tun)	ESH1004
SO 1	Solenoid	EXP1008
Miscellaneous Parts List(KEH-M6500/US)		
S 1	Switch(Mute)	ESN1003
HD 1	Head Unit	EXA1163
M 1	Motor Unit	EXA1264

● The KEH-M680/US,KEH-M7550/CA,KEH-M7550/ES,KEH-M6500/UC and KEH-M6550/ES Parts Lists enumerate the parts which differ from those enumerated in the KEH-M7500/US Parts List only.
The parts other than those enumerated in the former are identical with those in the latter,to which you are requested to refer,accordingly.
The KEH-M7500/US Parts List is given on page 31.

● Tuner Amp Unit (1/2)

	M7500/US	M680/US M7550/CA	M7550/ES	M6500/UC	M6550/ES
Circuit Symbol & No.	Part No.	Part No.	Part No.	Part No.	Part No.
IC 351	CXA1102P	CXA1102P	CXA1102P	·····	·····
IC 352	AN6263N	AN6263N	AN6263N	·····	·····
Q 350	2SC2458	2SC2458	2SC2458	·····	·····
Q 850	DTA114ES	DTA114ES	DTA114ES	·····	·····
Q 851 852	2SC2458	2SC2458	2SC2458	·····	·····
Q 853 854	2SA1048	2SA1048	2SA1048	·····	·····
Q 855 856	DTC314TS	DTC314TS	DTC314TS	·····	·····
Q 979	2SB1238	2SB1238	2SB1238	·····	·····
Q 980	DTC114TK	DTC114TK	DTC114TK	·····	·····
D 504	1SS133	1SS133	1SS133	·····	·····
D 506	1SS133	1SS133	1SS133	·····	·····
D 508	1SS133	1SS133	·····	1SS133	·····
D 509	·····	·····	1SS133	·····	1SS133
VR 351 352	VRTB6VS333	VRTB6VS333	VRTB6VS333	·····	·····
R 300	·····	·····	·····	RD1/4PS472JL	RD1/4PS472JL
R 351 352	RS1/10S333J	RS1/10S223J	RS1/10S333J	RS1/10S333J	RS1/10S333J
R 359 360	RS1/10S181J	RS1/10S181J	RS1/10S181J	RS1/10S151J	RS1/10S151J
R 363 364	RS1/10S822J	RS1/10S822J	RS1/10S822J	·····	·····
R 366	RS1/10S103J	RS1/10S103J	RS1/10S103J	·····	·····
R 367	RS1/10S433J	RS1/10S433J	RS1/10S433J	·····	·····
R 368	RS1/10S684J	RS1/10S684J	RS1/10S684J	·····	·····
R 369	RD1/4PS154JL	RD1/4PS154JL	RD1/4PS154JL	RD1/4PS222JL	RD1/4PS222JL
R 370	RS1/10S154J	RS1/10S154J	RS1/10S154J	RS1/10S222J	RS1/10S222J
R 373	RS1/10S101J	RS1/10S101J	RS1/10S101J	·····	·····
R 375 376	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	·····	·····
R 377 378	·····	·····	·····	RS1/10S0R0J	RS1/10S0R0J
R 381	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	·····	·····
R 382 383	RS1/8S0R0J	RS1/8S0R0J	RS1/8S0R0J	·····	·····
R 384	RS1/8S104J	RS1/8S104J	RS1/8S104J	·····	·····
R 385	RS1/8S103J	RS1/8S103J	RS1/8S103J	·····	·····
R 387 388	·····	·····	·····	RS1/8S472J	RS1/8S472J
R 389 390	RS1/8S0R0J	RS1/8S0R0J	RS1/8S0R0J	·····	·····
R 392	RS1/10S104J	RS1/10S104J	RS1/10S104J	·····	·····
R 473 474	RS1/10S183J	RS1/10S183J	RS1/10S183J	RS1/10S223J	RS1/10S223J
R 850	RS1/10S470J	RS1/10S470J	RS1/10S470J	·····	·····

● Tuner Amp Unit (2/2)

Circuit Symbol & No.	M7500/US Part No.	M680/US M7550/CA Part No.	M7550/ES Part No.	M6500/UC Part No.	M6550/ES Part No.
R 851 852	RS1/10S221J	RS1/10S221J	RS1/10S221J	·····	·····
R 853 854	RS1/10S223J	RS1/10S223J	RS1/10S223J	·····	·····
R 855 856	RS1/10S473J	RS1/10S473J	RS1/10S473J	·····	·····
R 857 858	RS1/10S471J	RS1/10S471J	RS1/10S471J	·····	·····
R 859 860	RS1/10S681J	RS1/10S681J	RS1/10S681J	·····	·····
R 861 862	RS1/10S133J	RS1/10S133J	RS1/10S133J	·····	·····
R 863 864	RS1/10S472J	RS1/10S472J	RS1/10S472J	·····	·····
R 865 866	RS1/10S102J	RS1/10S102J	RS1/10S102J	·····	·····
R 867 868	RS1/10S471J	RS1/10S471J	RS1/10S471J	·····	·····
R 869 870	RS1/10S223J	RS1/10S223J	RS1/10S223J	·····	·····
R 975	RS1/8S223J	RS1/8S223J	RS1/8S223J	·····	·····
R 976	RD1/2PS681JL	RD1/2PS681JL	RD1/2PS681JL	·····	·····
R 991	RS1/8S0R0J	RS1/8S0R0J	RS1/8S0R0J	·····	·····
C 351 352	CKS0YB821K50	CCS0CH331J50	CKS0YB821K50	CKS0YB821K50	CKS0YB821K50
C 358	CEA4R7M35LS	CEA4R7M35LS	CEA4R7M35LS	·····	·····
C 359 360	CEA010M50LS2	CEA010M50LS2	CEA010M50LS2	·····	·····
C 361 362	CEA100M16LS2	CEA100M16LS2	CEA100M16LS2	·····	·····
C 363	CCH1129	CCH1129	CCH1129	·····	·····
C 364	CKS0YB104Z25	CKS0YB104Z25	CKS0YB104Z25	·····	·····
C 365 371	CEA101M10LS	CEA101M10LS	CEA101M10LS	·····	·····
C 367 368	CEAR68M50LS2	CEAR68M50LS2	CEAR68M50LS2	·····	·····
C 369	CKS0YB103K25	CKS0YB103K25	CKS0YB103K25	·····	·····
C 370	CCS0CH330J50	CCS0CH330J50	CCS0CH330J50	·····	·····
C 372	CEA0R1M50LS2	CEA0R1M50LS2	CEA0R1M50LS2	·····	·····
C 564	CEA472M16L2	CEA472M16L2	CEA472M16L2	CEA472M16L2	CEAS472M16
C 850	CEAS221M10	CEAS221M10	CEAS221M10	·····	·····
C 851 852	CEA4R7M35LS	CEA4R7M35LS	CEA4R7M35LS	·····	·····
C 853 854	CEALNP100M16	CEALNP100M16	CEALNP100M16	·····	·····
C 855 856	CKS0YB102K50	CKS0YB102K50	CKS0YB102K50	·····	·····
C 857 858	CEA4R7M35LS	CEA4R7M35LS	CEA4R7M35LS	·····	·····

● FM/AM Tuner Unit

Circuit Symbol & No.	M680/US M7500/US M7550/CA M6550/UC Part No.	M7550/ES M6550/ES Part No.
Q 3	2SA1162	·····
D 11	1SV128A-BB	·····
VR 1	CCP1025	CCP1019
L 11 12	CTF1065	·····
R 3	RS1/10S683J	RS1/10S124J
R 8	RS1/10S331J	·····
R 9	RS1/10S223J	·····
R 11	RS1/10S104J	·····
R 12	RS1/10S470J	·····
R 13	·····	RS1/10S0R0J
C 11-14	CCS0CH220J50	·····
C 15	CKS0YB223K25	·····
C 57	CEAR68M50LL	CSZAR33K35

● Key Board Unit

Circuit Symbol & No.	M7500/US M7550/ES M680/US M7550/CA Part No.	M6500/UC M6550/ES Part No.
IL 902 904 905	CEL1207	·····
IL 906 907	CEL1207	·····

● Miscellaneous Parts List

Circuit Symbol & No.	M7500/US M7550/ES M6500/UC M6550/ES Part No.	M6880/US M7550/CA Part No.
HD 1	EXA1163	EPB81015

PIONEER
The Art of Entertainment

Service Manual

• KEH-M7300/EW

ORDER NO.
CRT1382

MULTI-CD CONTROL FM/MW/LW TUNER DECK AMPLIFIER

KEH-M7300 EW

KEH-M7300SDK WG

MULTI-CD CONTROL FM/AM TUNER DECK AMPLIFIER

KEH-M7200 US

KEH-M7250 CA, ES

KEH-M550 US

Note:

- **See the separate manual CX-197 (CRT1328) for the cassette mechanism description.**
- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**

CONTENTS

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PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-99

ES MAY 19 Printed in Japan

SAFETY INFORMATION (US MODEL)

CAUTION

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.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

SPECIFICATIONS (KEH-M7300/EW)

General

Power source ..... 14.4 V DC (10.8 – 15.6 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 7.5 A
Dimensions (chassis) ..... 180 (W) x 50 (H) x 150 (D) mm
(front face) ..... 188 (W) x 58 (H) x 19 (D) mm
Weight ..... 1.6 kg

Amplifier

Maximum power output ..... 25 W x 2/15 W x 4 (EIAJ)
Continuous power output ..... 11 W x 2 (1% dist. at 1 kHz)
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Max. output level/output impedance (preout)
..... 500 mV/1 kΩ
Tone controls (bass) ..... ±10 dB (100 Hz)
(treble) ..... ±10 dB (10 kHz)
Loudness contour ..... +12 dB (100 Hz), +7 dB (10 kHz)
(Volume: –30 dB)

Tape player

Tape ..... Compact cassette tape (C-30 – C-90)
Tape speed ..... 4.76 cm/sec. (+0.14 cm/sec., –0.05 cm/sec.)
Fast forward/rewind time ..... Approx. 100 sec. for C-60
Wow & flutter ..... 0.13 % (WRMS)
Frequency response ..... Metal: 40 – 17,000 Hz (±3 dB)
Stereo separation ..... 45 dB
Signal-to-noise ratio
..... Metal: Dolby B NR IN: 63 dB (IEC-A network)
..... Dolby NR OUT: 55 dB (IEC-A network)

FM tuner

Frequency range ..... 87.5 – 108 MHz
Usable sensitivity ..... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity ..... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise-ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1kHz)

MW tuner

Frequency range ..... 531 – 1,602 kHz
Usable sensitivity ..... 18 µV (25 dB) (S/N: 20 dB)
Selectivity ..... 50 dB (±9kHz)

LW tuner

Frequency range ..... 153 – 281 kHz
Usable sensitivity ..... 30 µV (30 dB) (S/N: 20 dB)
Selectivity ..... 50 dB (±9kHz)

Note:

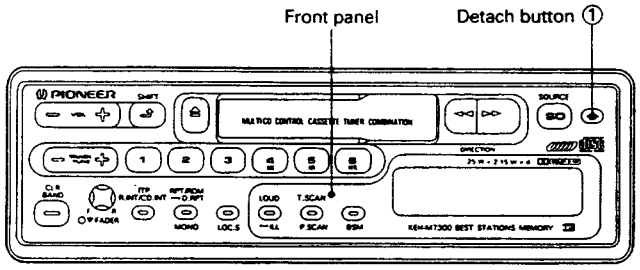
Specifications and the design are subject to possible modification without notice due to improvements.

1. USING THE REMOVABLE FRONT PANEL

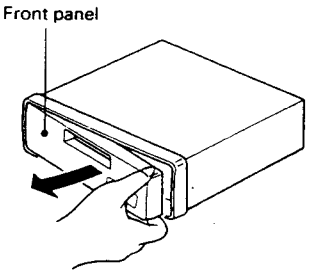
The front panel of this unit can be removed to prevent theft.

Detaching the Front Panel

1. Press button ①, and the right-hand side of the panel will eject.

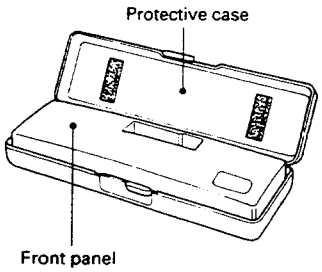


2. To remove the front panel, pull its right-hand side toward you.



- Take care not to put pressure on the display or drop the front panel.

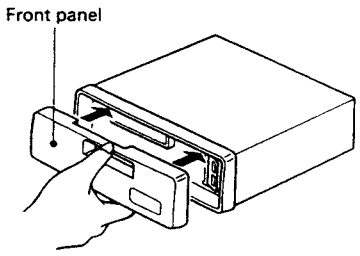
3. Enclose for safekeeping the front panel that is removed in the supplied protective case.



Replacing the Front Panel

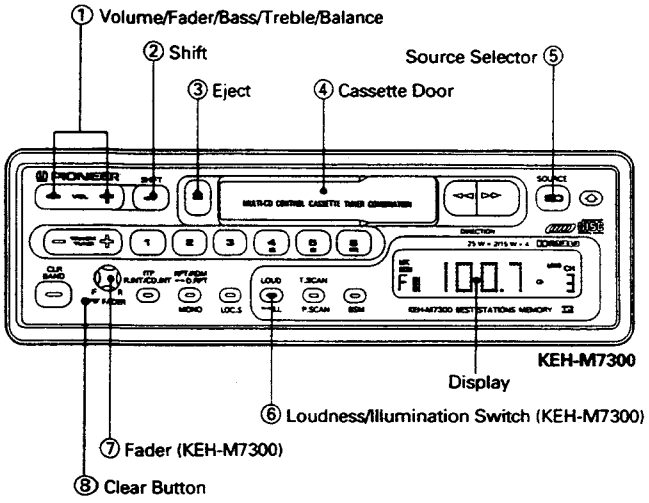
Push the front panel into the main body.

- When replacing the front panel, do not put pressure on the display or control buttons.



- Note that if the front panel is not attached correctly, pushing button ① may not release the panel, and the other control buttons may not function.

2. ADJUSTING VOLUME AND TONE



Using the Clear Button

Once all wiring is complete, press button ⑧ with a thin, pointed object. Though not a normal occurrence, the microprocessor which controls the operation of this unit can be affected by electrostatic noise. This generally is indicated by such symptoms as no power being supplied when you switch the unit on, failure of buttons and controls, or an abnormal display. Should this happen, press button ⑧ with a thin, pointed object to reset the microprocessor.

Switching Power On

Radio

Press button ⑤ to switch the tuner power on. Press button ⑤ again to switch the power off.

Tape

Insert the cassette tape through the Cassette Door ④, and the power will be automatically turned on to get the tape start being played back. To eject the tape, press the button ③.

Changing the Source

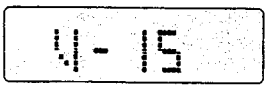
When the cassette tape is inserted, the source changes at each press of the button ⑤: Tape — Radio — OFF. When a Multi-Play CD player — optionally available Multi-Play CD Player CDX-M40, for example — is connected to your unit, the source changes: Multi-Play CD Player — Tape — Radio — OFF.

Adjusting Volume/Fader/Bass/Treble/Balance

To adjust volume, press the button ①. The display changes at each press of the button ②: Volume — Fader — Bass — Treble — Balance. Press the button ① to adjust the displayed mode.

Adjusting Volume

Pressing the (+) side of button ① increases the volume, while the (–) side decreases it.



Adjusting the Fader

KEH-M6300:

This function controls the balance between the front and rear speakers of a 4-speaker system. Pressing the (–) side of button ① shifts the balance to the front speakers, while the (+) side shifts it to the rear speakers. In the case of a 2-speaker system, set the display to "F-R0" (or "F-F0").

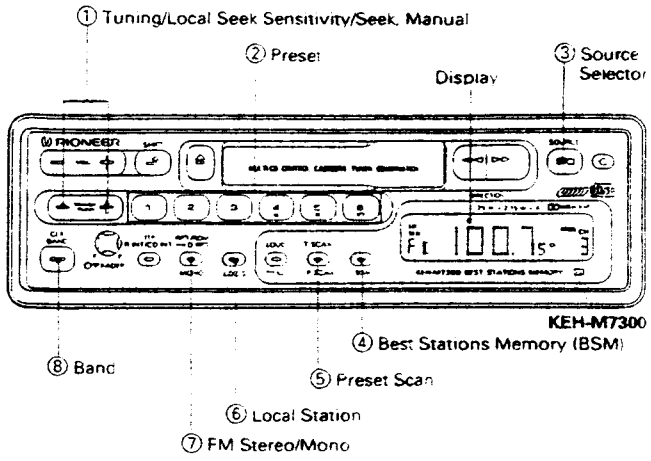
KEH-M7300:

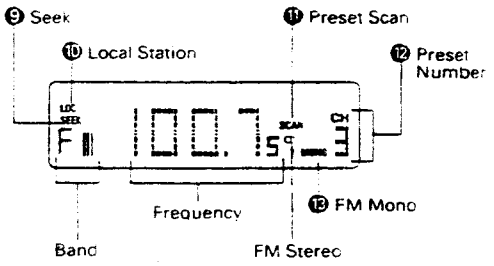
This faber controls the balance between speakers [1] and [2], and speakers [3], which are shown in Figure 1 on page 8. Press the (–) side of button ① to raise the volume of speakers [1] and [2] only; press the (+) side to raise the volume of speakers [3] only.

Note:

- The KEH-M7300 has two faders: the electronic preamp fader and the power fader controlled by fader control knob ⑦. The use of both faders depend on the way the speakers are connected.

3. USING THE RADIO





1 Press button ③ to switch the radio power on.

2 Press button ⑧ to select a band.

F I → F II → F III → M/L
(FM1) (FM2) (FM3) (MW/LW)
Use Button ① to switch betwen MW (531–1,602 kHz) and LW (153-281 kHz).

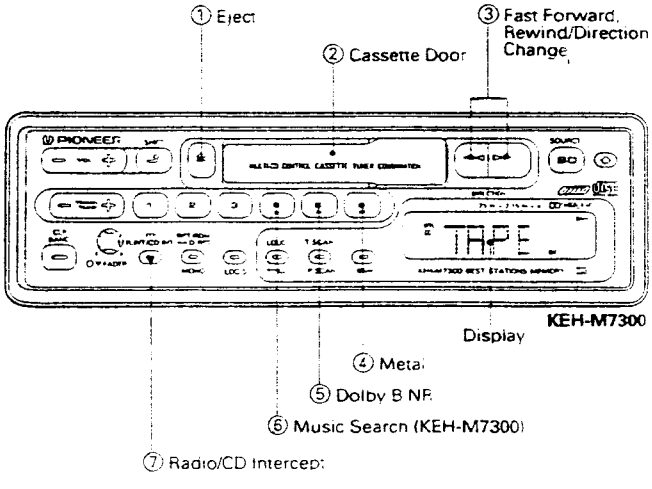
3 Use seek tuning to tune in a frequency.
Confirm that the SEEK indicator ⑨ is shown on the display (if not, press the (+) and (–) sides of button ① at the same time). Press the (+) side of button ① to automatically tune in the next higher receivable frequency, and the (–) side for a lower frequency.

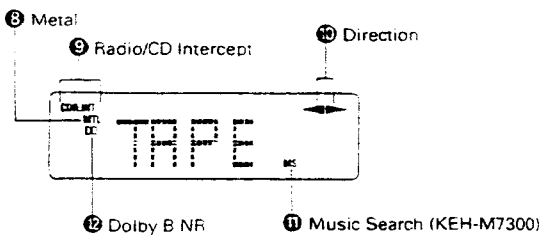
4 Adjust volume and tone

5 Assign the tuned frequency to one of the buttons in Bank ② (preset memory).
Press and hold down one of the button in Bank ② for at least two seconds. The frequency is assigned to the selected button when the preset number ⑫ stops flashing on the display. Up to 18 FM stations (6 each for FM1, FM2 and FM3), and six MW/LW stations can be assigned to the preset memory buttons in Bank ②.

6 Once a frequency is assigned to a button in Bank ②, you just need to press that button to tune it in.
This also causes the number of the button pressed to appear at position ⑫ on the display.

4. USING THE TAPE DECK





1 Insert the cassette tape into the slot ②, and power will be turned on and the tape begin being played back.
At this time, the tape running direction indicator ⑩ will light up.

2 Adjust volume and tone

3 To eject the cassette tape, press the button ①.
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.
- Do not try to eject the cassette immediately after insertion, as it will cause malfunction. Wait a few seconds.

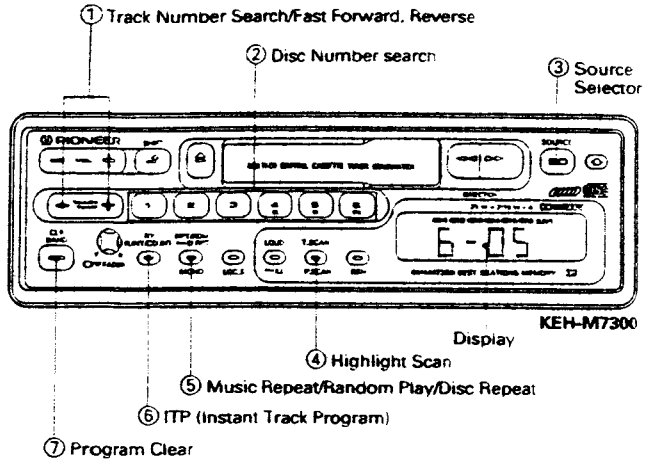
Changing Program

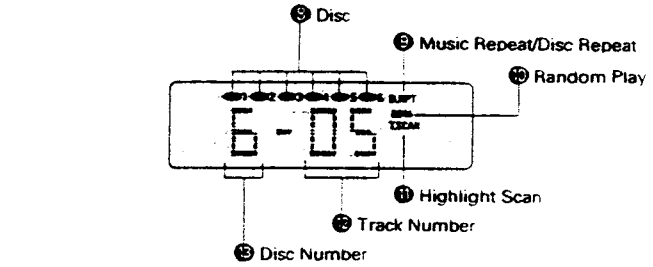
Push the fast forward and rewind buttons ③ together to switch from one side of the tape to the other (from Side A to Side B or vice versa).

Using Fast Forward and Rewind

Since the transport can be in either direction, both the left and right high-speed tape transport buttons ③ can be regarded as fast forward/rewind buttons.
For fast forward, press the high-speed tape transport button ③ that corresponds to the direction that is shown by the direction indicator ⑩.
When the end of the tape is reached, playback will automatically begin from the opposite side of the tape (Auto-reverse).
For rewind, press the button ③ that is opposite that of the direction shown by the direction indicator ⑩. When the end of the tape is reached, playback will automatically begin from the beginning of the same side of the tape (Auto-replay).
Fast forward and rewind can be terminated by pressing the respective opposite high-speed tape transport button ③.

5. PLAYING COMPACT DISCS





[1] Press button ③ to change the display to the Multi-Play CD player mode and to begin disc play.
Each press of button ③ changes the mode as follows:
Multi-Play CD player — Tape — tuner — OFF

[2] Use the Disc Number Search function to select a disc.
Select the desired disc by pressing one of the buttons in Bank ②. The number of the disc selected appears at position ⑭ on the display.

- Display ⑧ indicates whether the magazine is loaded or empty.
- If the number at position ⑭ on the display does not change when you press a button in Bank ②, it means that there is no disc loaded in that tray.

[3] Use Track Number search to select a track.
Confirm that Track Number is shown at Position ⑫ on the display.
If not, press the (+) and (–) sides of button ① at the same time. Press the (+) side of button ① to increase the number at Position ⑫, or the (–) side to decrease the number. Holding either side of button ① down changes the track number at high speed.

[4] Adjust volume and tone

[5] To stop disc play, press button ③.
At another press, the normal play resumes from about where it stopped.

- If you stopped operating a Multi-Play CD Player CDX-M100 in the middle of music and then restarted, the player resumes playing from the very beginning of the selection with which you stopped.

7. DISASSEMBLY

● Removing the case

1. Insert and turn a screwdriver at locations indicated by arrows to remove the case.

● Removing the grille assy

1. Press the detach button, and then pull grille assy.

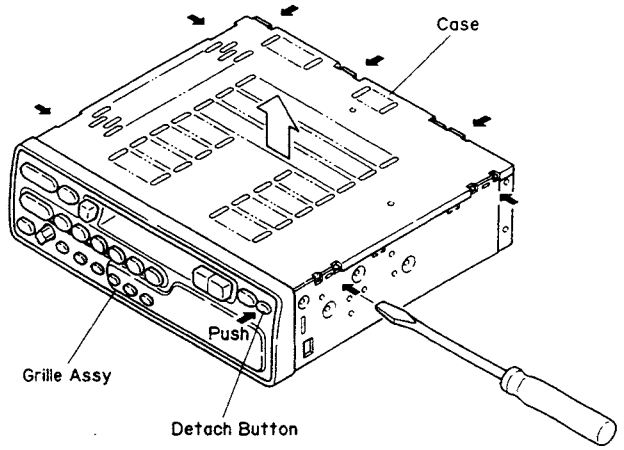


Fig. 2

● Removing the cassette mechanism assy

1. Remove the four screws.
2. Disconnect the connector.
3. Remove the cassette mechanism assy.

● Removing the panel assy

1. Remove the two screws.
2. Disconnect the connector.
3. Remove the panel assy.

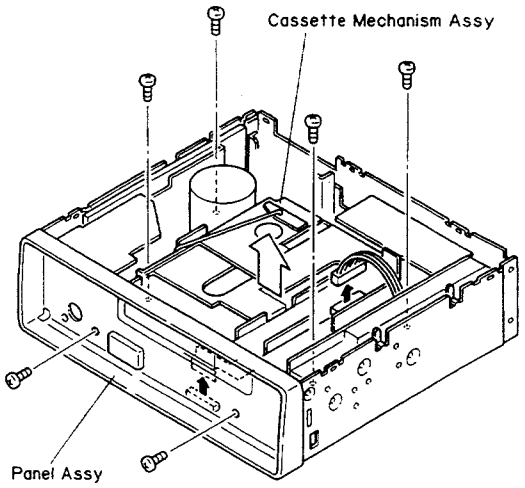


Fig. 3

● Removing the chassis unit

1. Remove the five screws.
2. Remove the antenna plug.
3. Remove the chassis unit.

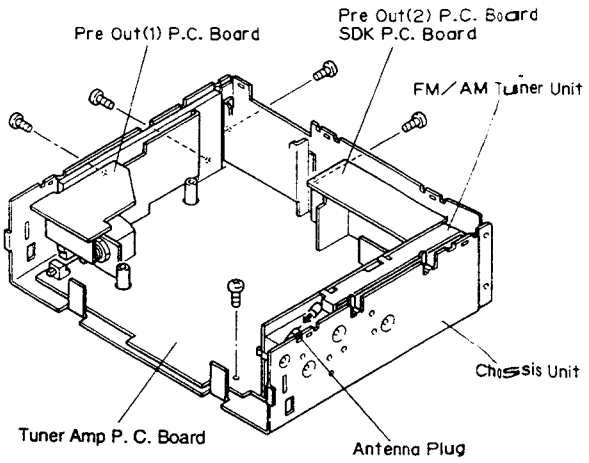


Fig. 4

ADJUSTMENT

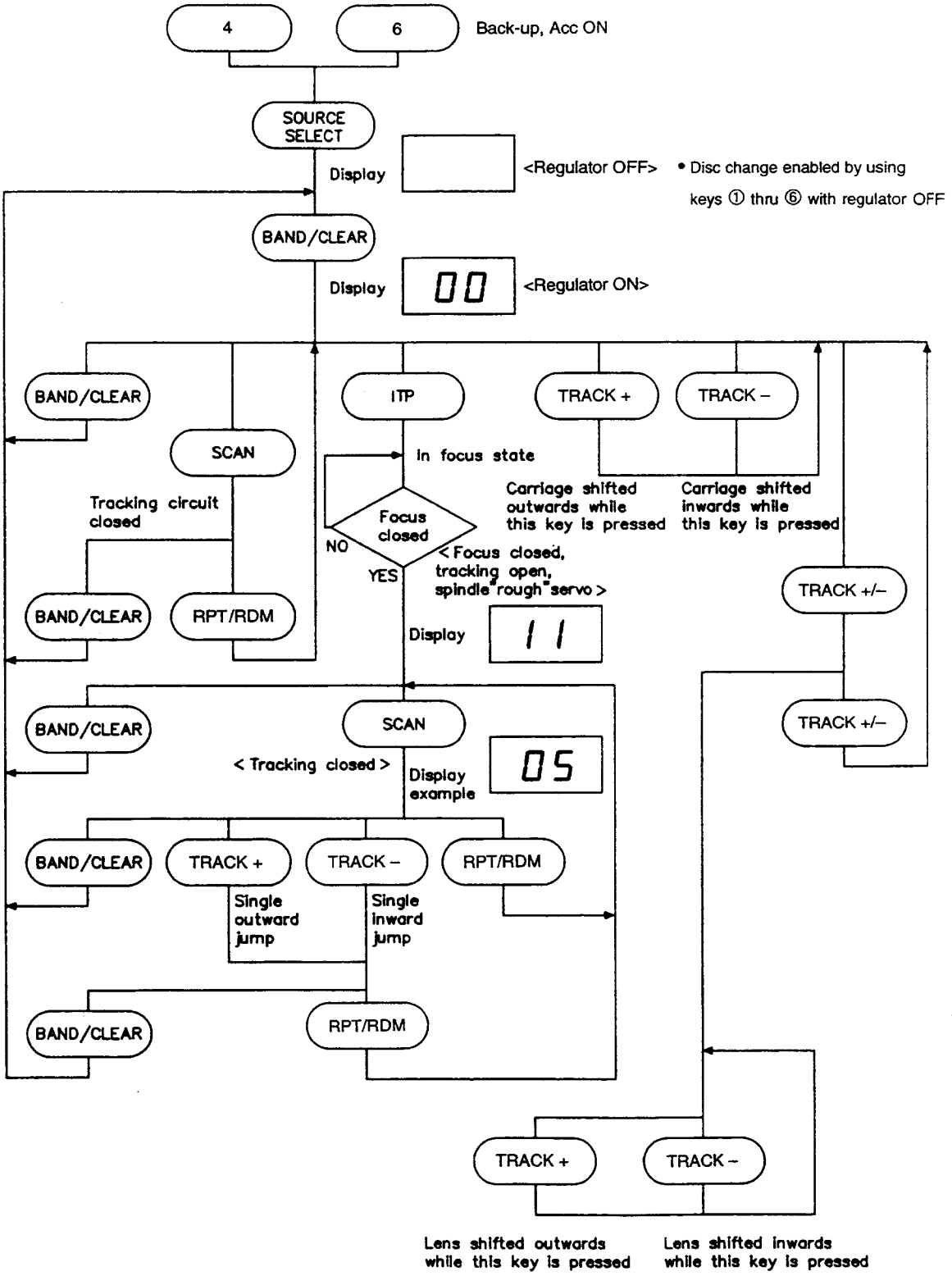
1 TEST MODE

st mode is mainly used in adjustment of CD multi-players.
Switching to test mode
While pressing the 4, 6 keys together, switch the back-up and the ACC ON.
Canceling test mode
While pressing the CD multi-player clear button, switch the this unit back-up and ACC OFF.
Key functions during test mode
The CD multi-player, deck, and tuner are selected by the SOURCE button.
a) CD multi-player

key	Function
BAND/CLEAR	Regulator ON/OFF
TRACK +	FWD kick
TRACK -	REV kick
SCAN	Tracking close
RPT/RDM	Tracking open
ITP	Focus close
TRACK +/ -	Carriage/tracking switching

b) Deck and tuner
No corresponding function. Normal operation executed.

•Flow Chart


4
6
Back-up, Acc ON
SOURCE SELECT
Display
<Regulator OFF>
• Disc change enabled by using keys ① thru ⑥ with regulator OFF
BAND/CLEAR
Display
00
<Regulator ON>
BAND/CLEAR
ITP
TRACK +
TRACK –
SCAN
In focus state
Tracking circuit closed
Focus closed
NO
YES
< Focus closed, tracking open, spindle rough servo >
Carriage shifted outwards while this key is pressed
Carriage shifted inwards while this key is pressed
TRACK +/–
BAND/CLEAR
RPT/RDM
Display
11
BAND/CLEAR
SCAN
TRACK +/–
< Tracking closed >
Display example
05
BAND/CLEAR
TRACK +
TRACK –
RPT/RDM
Single outward jump
Single inward jump
BAND/CLEAR
RPT/RDM
TRACK +
TRACK –
Lens shifted outwards while this key is pressed
Lens shifted inwards while this key is pressed

8. 2 TUNER ADJUSTMENT

NOTICE:
Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.
Z: Output impedance of SSG.

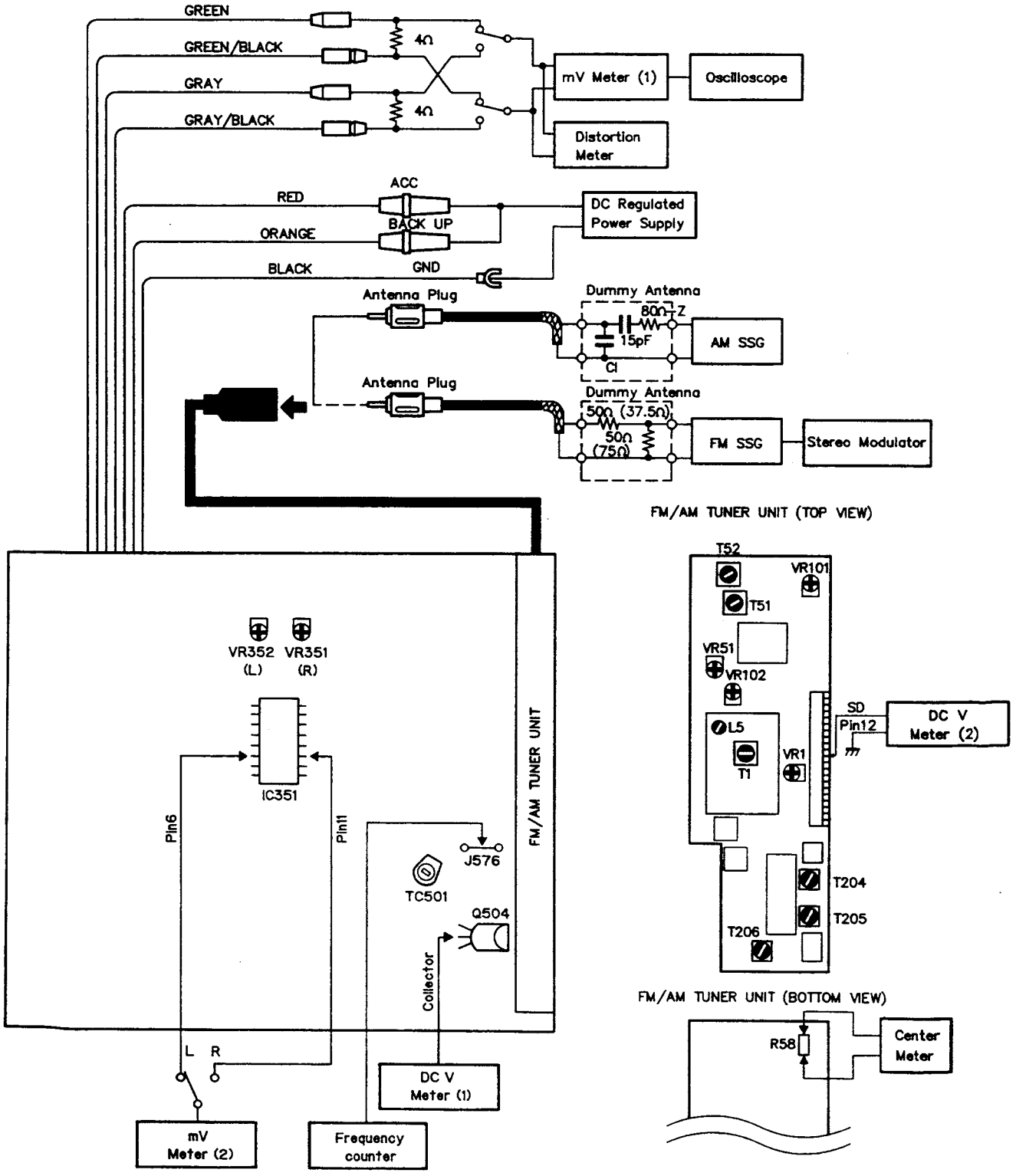


Fig. 5

FM ADJUSTMENT

※ Stereo MOD.: 1kHz, L+R=90% , Pilot=10%
*( ): EW, WG, ES Model

	No.	FM SSG (400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dBμV)			
IF	1	98.1	60	98.1	T51	Center Meter: 0
	2	98.1	60	98.1	T52	Distortion Meter: Minimum
	3	Repeat No. 1-2 alternately so that the center meter indicates the 0 output and distortion meter indicates minimum output.				
Front End	1			107.9 *(108)	L5	DC V Meter (1): 6.2±0.2V
	2			87.9 *(87.5)		Verify that DCV Meter (1) is more than 2.1±0.6V
	3	98.1	8	98.1	T1	Oscilloscope: Optimum Symmetry
	4	98.1※	60	98.1	T1	Distortion Meter: Minimum Rotate T1 less than±90°
Soft Mute	1	98.1	60	98.1		mV Meter (1): A dB
	2	98.1	9	98.1	VR102	mV Meter (1): A-3dB
ARC	1	98.1※	34	98.1	VR101	mV Meter (1): Separation 5dB
SD	1	98.1	15	98.1	VR51	DC V Meter (2): Approx. 5V
	2	98.1	14	98.1		Verify that DC V Meter (2) is approx. 0V.
	3	98.1	55	98.1	VR1	DC V Meter (2): Approx. 5V
		Connect collector of Q2 to GND. Connect DC regulated power supply to pin 3 of FM front end through resistor (330Ω). Add 4.3v from DC regulated power supply.				
	4	98.1	54	98.1		Verify that DC V Meter (2) is approx. 0V.

AM ADJUSTMENT (US、CA、ES model)

* ( ) : ES model when tuning step at 9kHz.

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1			1,710 *(1,602)	——	Verify that DC V Meter (1) is less than 6.5V.
	2			530 *(531)	——	Verify that DC V Meter (1) is more than 2.0V.
IF	1	1,000 (999)	15	1,000 (999)	T204, 205, 206	mV Meter (1) : Maximum

MW/LW ADJUSTMENT (EW、WG model)

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1	(MW MODE)		1,602	——	Verify that DC V Meter (1) is less than 6.5V.
	2	(LW MODE)		153	——	Verify that DC V Meter (1) is more than 2.0V.
IF	1	999	20—25	999	T204, 205, 206	mV Meter (1) : Maximum

DOLBY NR ADJUSTMENT

No.	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR352 (Lch) VR351 (Rch)	mV Meter (2) : -6dBs ± 1dB (DOLBY NR Switch: OFF)

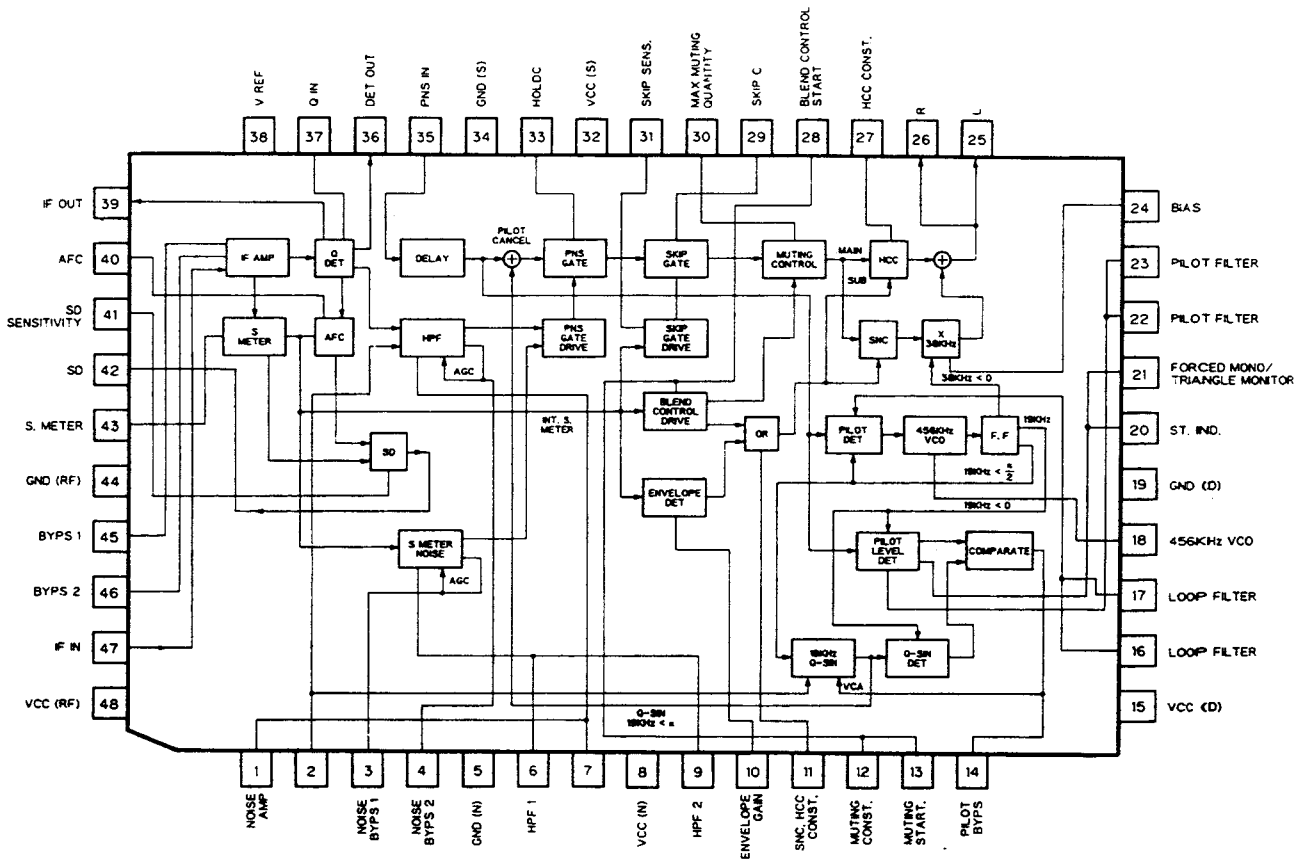
CLOCK ADJUSTMENT (US、CA、ES model)

ES model when tuning step at 9kHz.

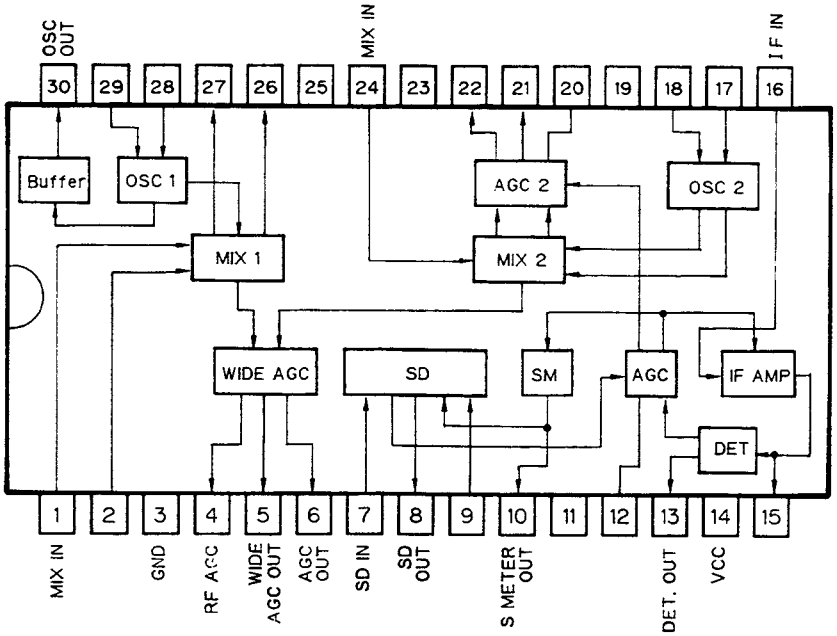
No.	Adjusting Point	Adjustment Method
1	AM Tuner Mode	Display: US, CA model 1,710kHz Display: ES model 1,602kHz
2	TC501	Frequency Counter: US, CA model 12,420kHz±50Hz Frequency Counter: ES model 12,312kHz ± 50Hz

•ICs

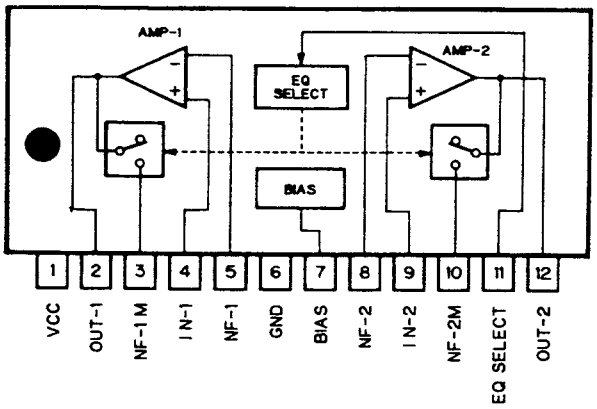
PA4012B



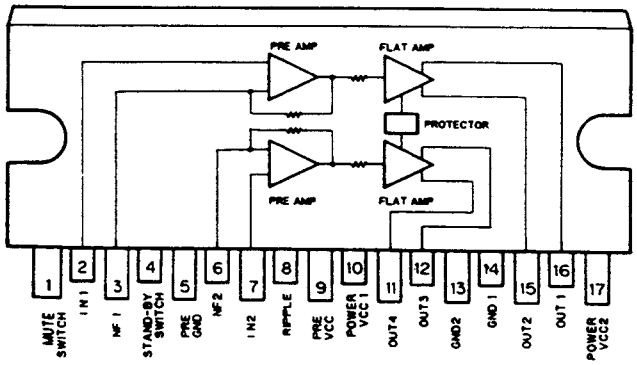
PA4017



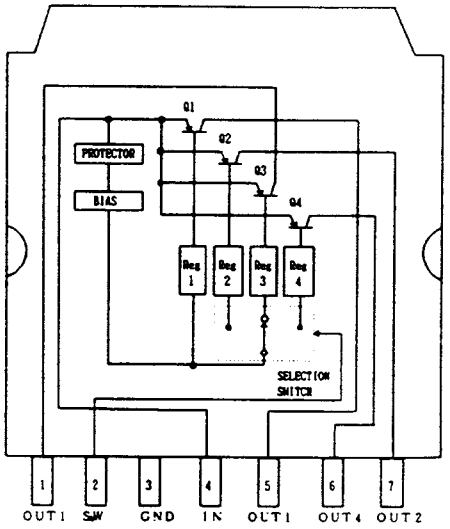
TA8162SN



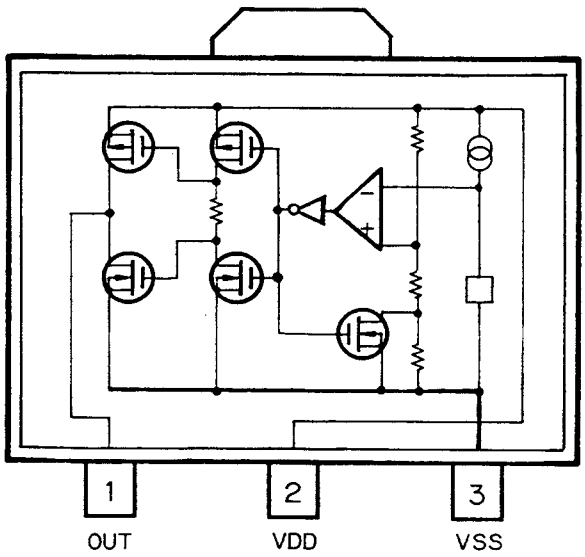
TA8215H-A



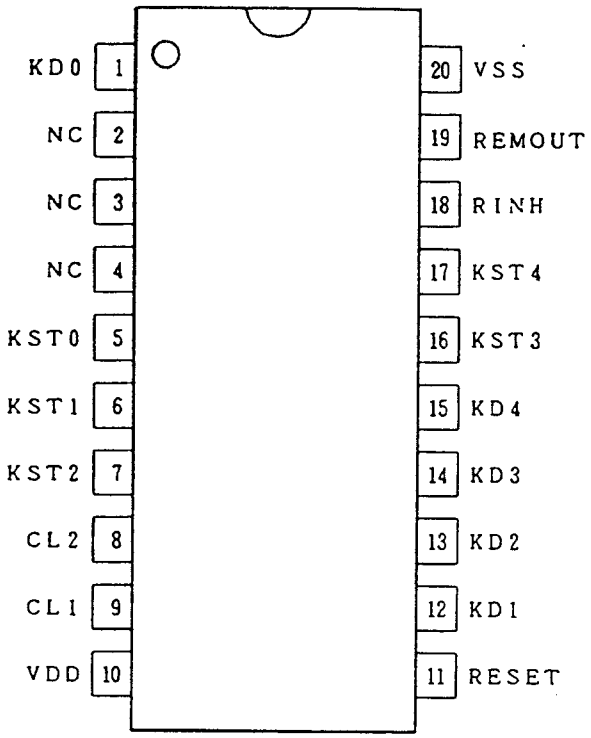
TA8214K



S-80740AH



PD4285



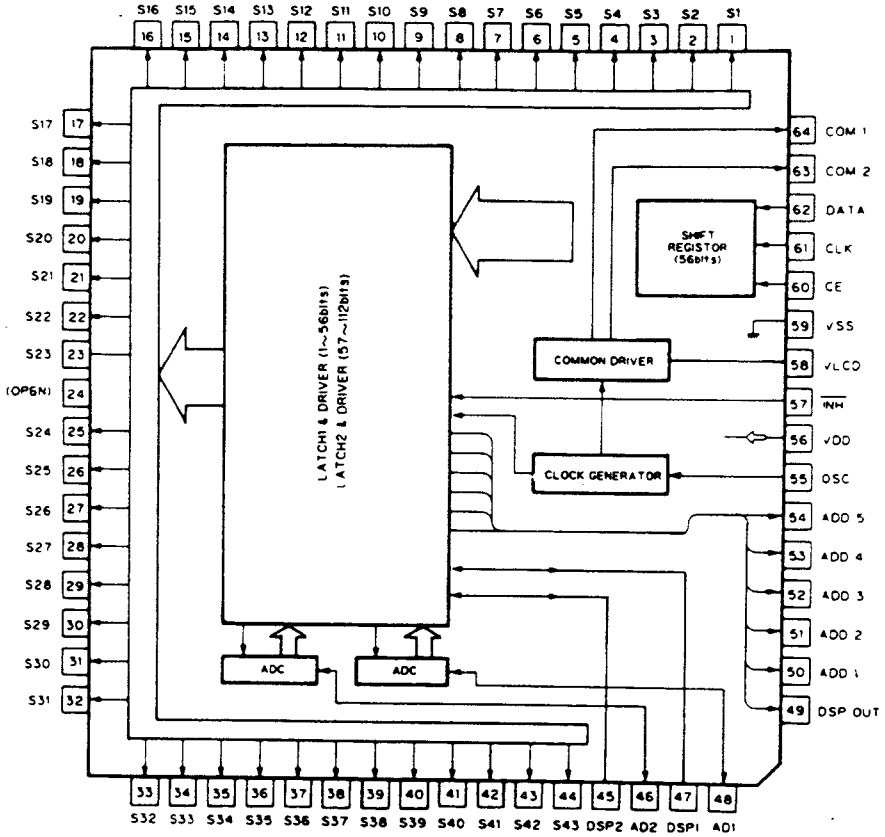
•Pin Functions (PD4285)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	KDD	INPUT		Key return input
2—4	NC			
5—7	KST0—KST2	OUTPUT	NM	Key strobe output
8	CL2			System clock generator connector pin
9	CL1			System clock generator connector pin
10	VDD			
11	RESET	INPUT		Reset input
12—15	KD1—KD4	INPUT		Key return input
16, 17	KST3, KST4	OUTPUT	NM	Key strobe output
18	RINH	OUTPUT	NM	Remote controller OFF output when key data is outputed
19	REMOUT	OUTPUT	NM	Remote controller data output
20	VSS			GND

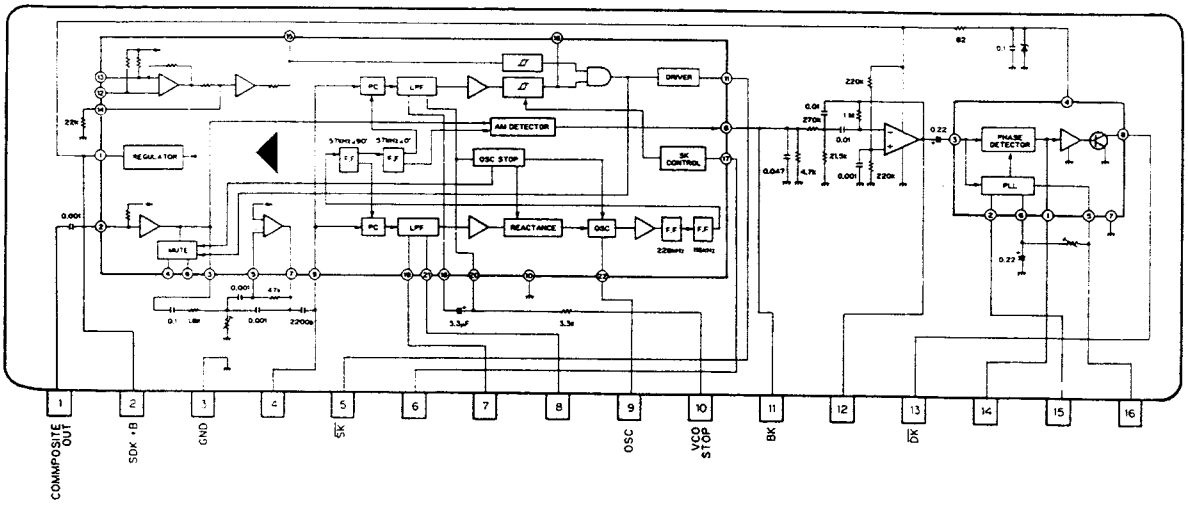
Output Format	Meaning
NM	Neutral resistivity N channel open drain

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

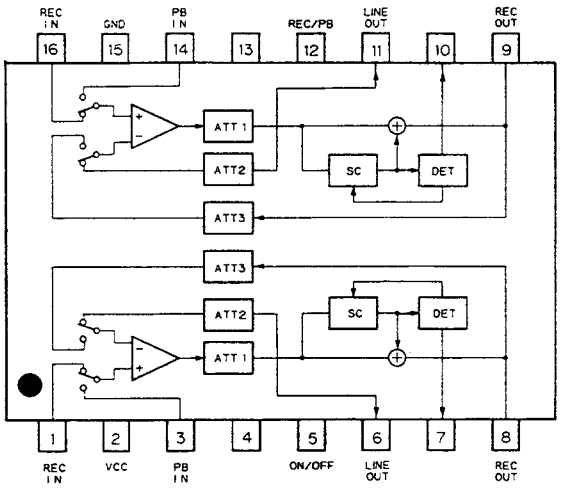
* LC7582A



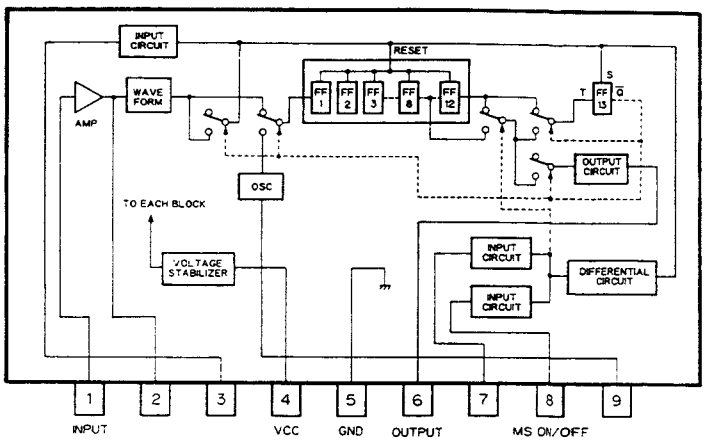
KHAC02



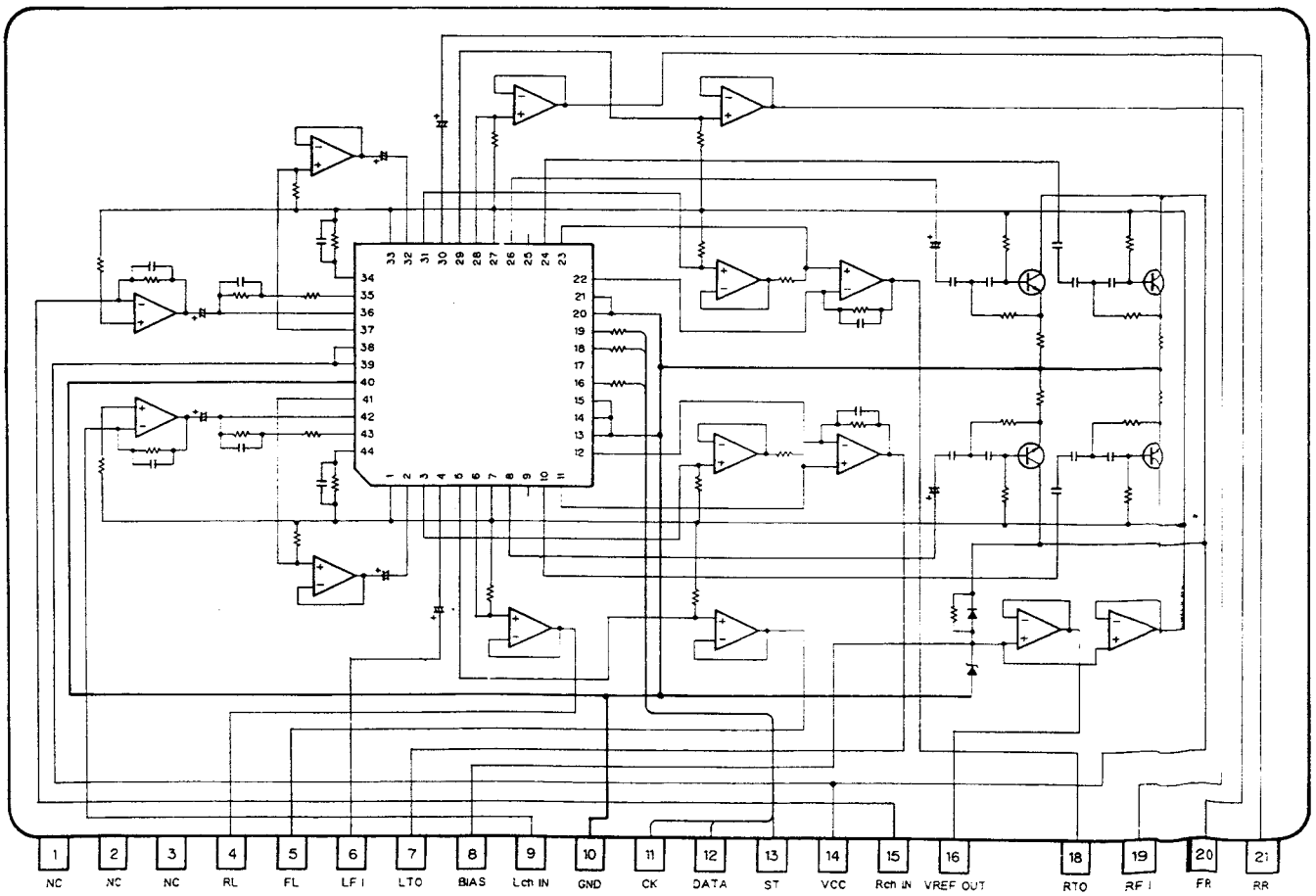
CXA1102P



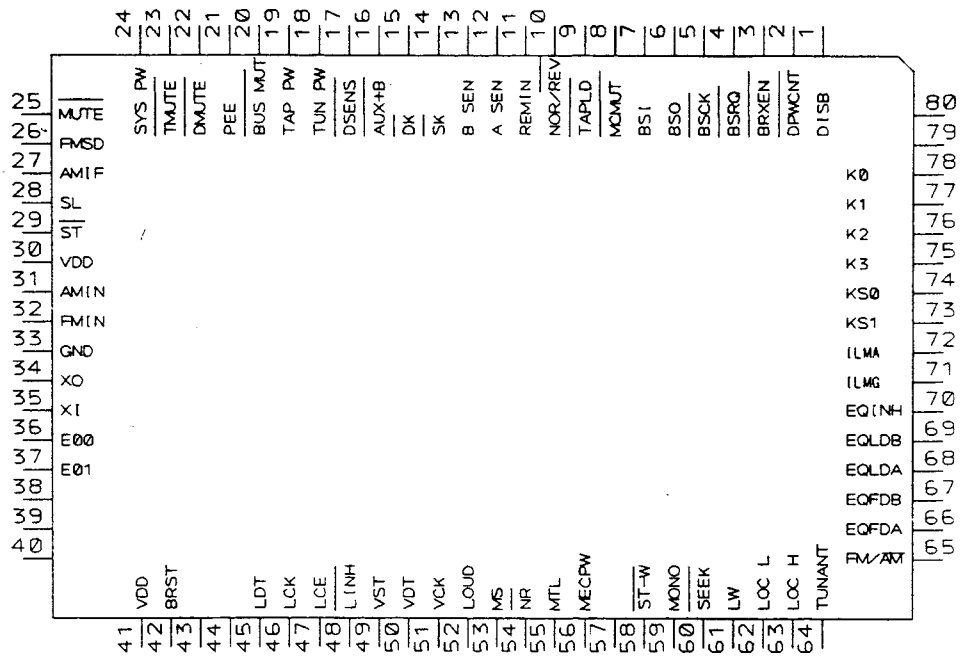
AN6263N



KHA272



* PD4302
PD4343A



•Pin Functions (PD4302, PD4343A)

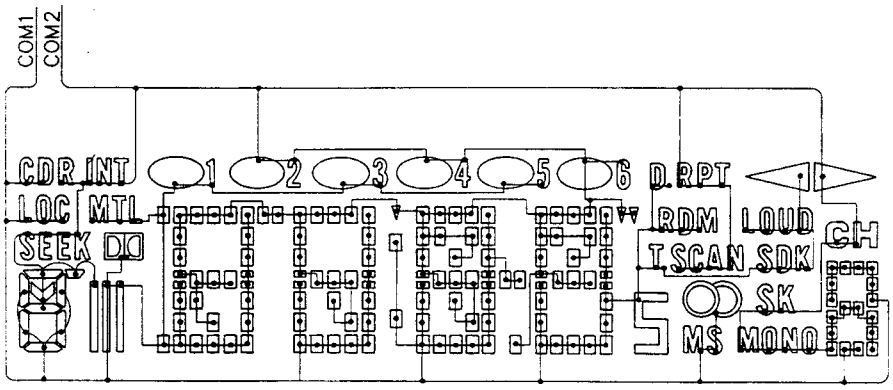
Pin No.	Pin Name	I/O	I/O Format	Function and Operation
1	DISB	Output	C	AUX control output
2	$\overline{\text{DPWCNT}}$	Output	C	Front panel EJECT/REPLACE control signal output
3	$\overline{\text{BRXEN}}$	Input/ Output		Bus reception enable line
4	$\overline{\text{BSRQ}}$	Input/ Output		Data communications serial poll request
5	$\overline{\text{BSCK}}$	Input/ Output		Bus serial clock input/output
6	BSO	Output		Bus serial data output
7	BSI	Input		Bus serial data input
8	$\overline{\text{MCMUT}}$	Input		Mechanism mute request
9	$\overline{\text{TAPLD}}$	Input		Cassette loading input
10	NOR/$\overline{\text{REV}}$	Input		Deck FWD/REV sensor input
11	REMIN			Key input
12	ASENS			ACC sense input
13	BSENS			Back up sense input
14	$\overline{\text{SK}}$	Input		SK signal input
15	$\overline{\text{DK}}$	Input		DK signal input
16	$\overline{\text{AUX+B}}$	Input		AUX input
17	$\overline{\text{DSENS}}$	Input		Front panel EJECT/REPLACE sensor input
18	TUNPW	Output	N	Tuner power supply control
19	TAPPW	Output	N	Deck power supply control
20	$\overline{\text{BUSMUT}}$	Output	N	Bus mute output
21	PEE	Output	C	Beep tone output
22	$\overline{\text{DMUTE}}$	Output	C	Deck mute output
23	$\overline{\text{TMUTE}}$	Output	C	Tuner mute output

Pin No.	Pin Name	I/O	I/O Format	Function and Operation
24	SYSPW	Output	C	System power supply control
25	$\overline{\text{MUTE}}$	Output	C	Mute
26	FMSD	Input		FM IF input
27	AMIF	Input		AM IF input
28	SL	Input		Signal level input
29	$\overline{\text{ST}}$	Input		Stereo signal input
30	VDD			
31	AMIN	Input		AM VCO input
32	FMIN	Input		FM VCO input
33	GND			
34, 35	Xout, in			
36, 37	E00, 1			
38-40				Not used
41	VDD			
42	$\overline{\text{BRST}}$	Output	C	Bus reset
43, 44				Not used
45	LDT	Output	C	LCD driver data output
46	LCK	Output	C	LCD driver clock
47	LCE	Output	C	LCD driver CE
48	$\overline{\text{LINH}}$	Output	C	LCD driver INH
49	VST	Output	C	E-VOL strobe
50	VDT	Output	C	E-VOL data
51	VCK	Output	C	E-VOL clock
52	LOUD	Output	C	Loudness
53	MS	Output	C	Music signal input
54	$\overline{\text{NR}}$	Output	C	Dolby NR ON/OFF output
55	MTL	Output	C	Deck METAL (70 μ S) output
56	MECPW	Output	C	Deck power supply control
57				Not used
58	$\overline{\text{ST-W}}$	Output	C	Stereo wide
59	MONO	Output	C	Mono output
60	$\overline{\text{SEEK}}$	Output	C	"L" output when SEEK
61	LW	Output	C	LW output
62	LOCL	Output	C	Local L
63	LOCH	Output	C	Local H
64	TUNANT	Output	C	Antenna output
65	FM/$\overline{\text{AM}}$	Output	C	FM/AM switching
66	EQFDA	Output	C	1P. EQ Fc control
67	EQFDB	Output	C	1P. EQ Fc control
68	EQLDA	Output	C	1P. EQ level control
69	EQLDB	Output	C	1P. EQ level control
70	EQINH	Output	C	1P. EQ INH
71	ILLMG	Output	C	Green illumination light output
72	ILLMA	Output	C	Amber illumination light output
73	KS1	Output	C	Model sense output
74	KS0	Output	C	Model sense output
75-78	K3-K0	Input		Key matrix input
79, 80				Not used

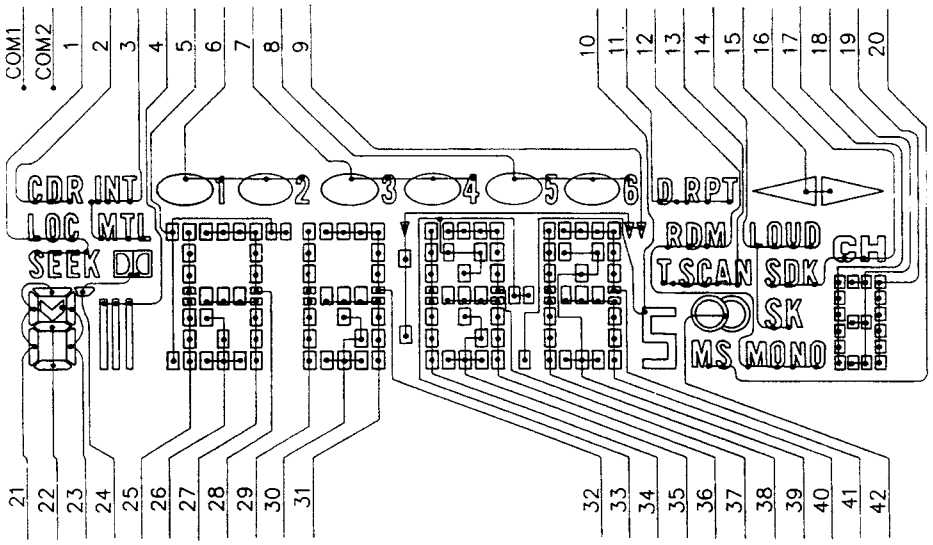
Output Format	Meaning
C	CMOS Output
N	N channel open drain

•LCD (CAW1124)

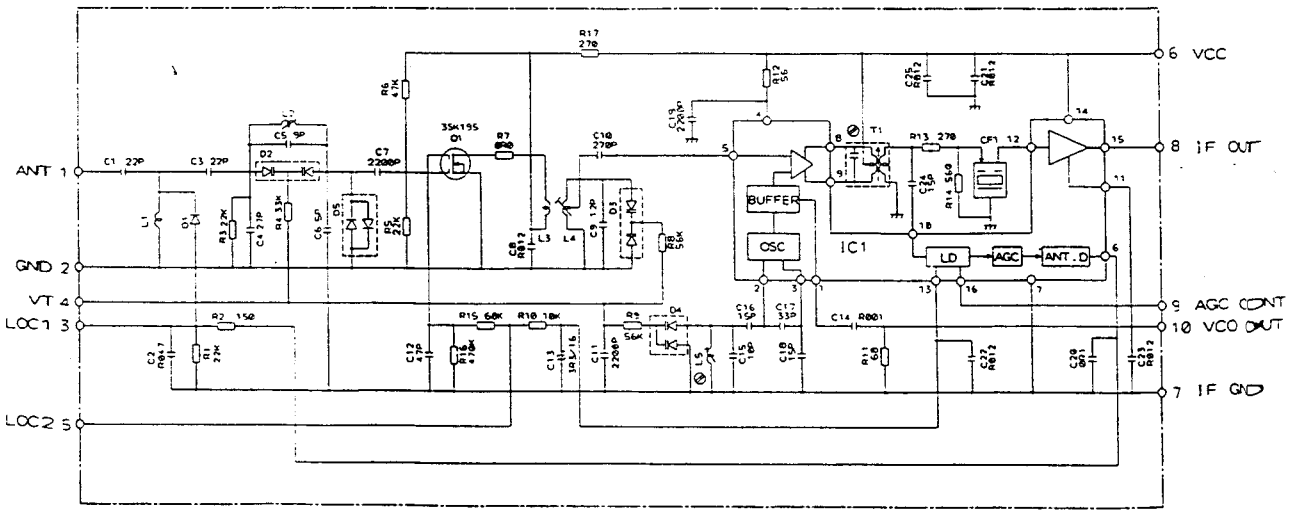
COMMON



SEGMENT



•FM FRONT END (CWB1035)



NOTE

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as
2.2→2R2
0.022→R022

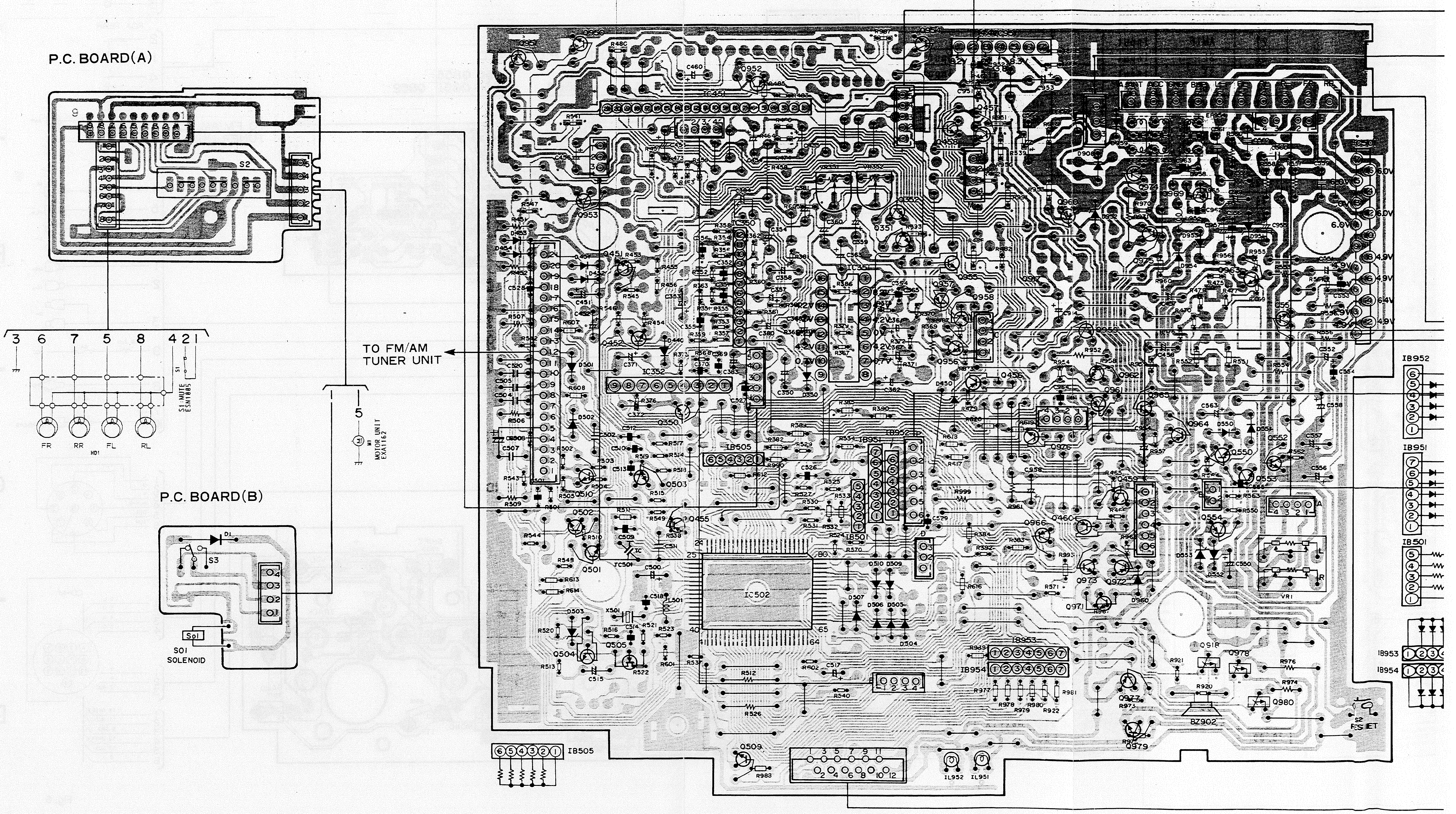
1 2 3 4 5 6

9. CONNECTION DIAGRAM (KEH-M7250/ES)

TUNER AMP P.C. BOARD

IC,Q
Q951 Q950 Q451 Q350 Q952 IC451 Q462 Q954 Q352 Q351 Q458 Q457 Q960 Q974 Q975 Q969 Q963 Q551 IC501
Q953 Q452 IC352 IC350 IC351 Q456 Q976 Q460 Q459 Q959 Q962 Q961 Q965 Q964 Q550 Q552 Q553 Q554
Q510 Q502 Q501 Q504 Q505 Q503 Q455 IC502 Q509 Q958 Q957 Q956 Q955 IC951 Q966 Q973 Q972 Q971 Q977 Q979 Q918 Q980 Q978

ADJ
TC501 VR351 VR352

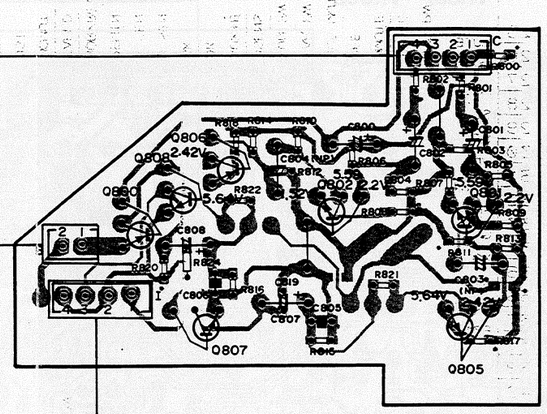


1 2 3 4 5 6

7 8 9 10 11 12

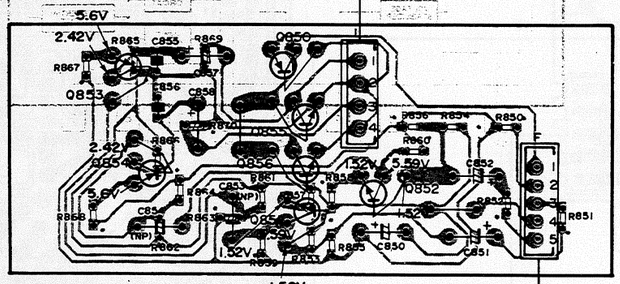
PRE OUT(1) P.C. BOARD

IC,Q Q800 Q808 Q806 Q802 Q807 Q801 Q805



PRE OUT(2) P.C. BOARD

IC,Q Q853 Q854 Q850 Q855 Q856 Q851 Q852



RCA FRONT

RCA REAR

TO FM/AM TUNER UNIT

ANT

RL+ RL+ L- RR+ FR+ R-

0.3mH 6A ACC

GND

0.5A B UP

0.5A B REMOTE

AUX

L G R AUX+B DIB ILM

CD-M

2 L 1 G 4 R 3 G

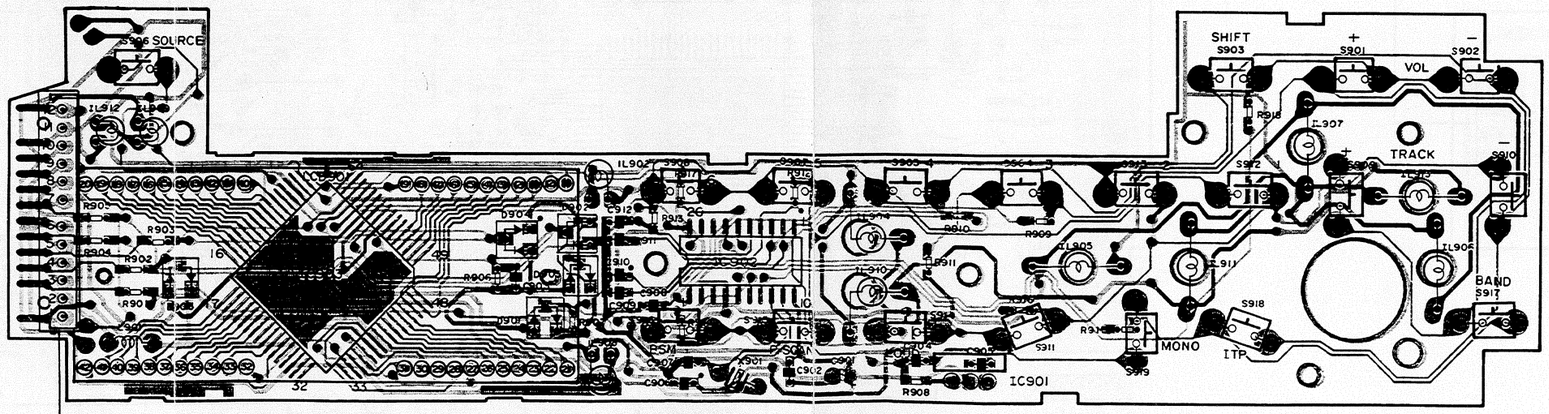
5 6 7 ACC

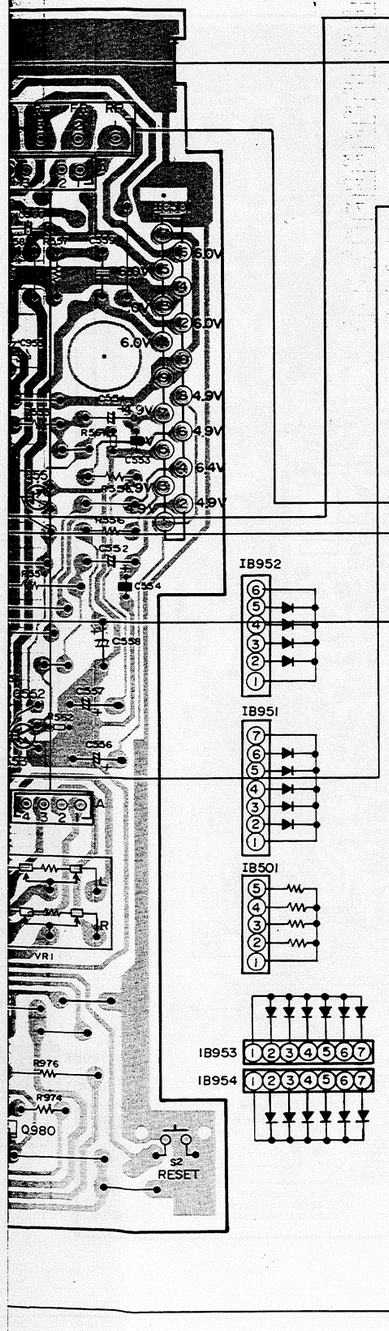
10 RESET 11 RXEN 9 SRQ 12 DATA 13 SCK 8

KEY BOARD UNIT

IC, Q IC903 IC902 IC901

ADJ





IB952 IB951 IB501 IB953 IB954 Q980 S2 RESET

Fig. 6

10. SCHEMATIC CIRCUIT DIAGRAM (KEH-M7250/ES)

BOARD

PRE OUT(1) P.C.BOARD

NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

RCA FRONT

RCA REAR

TUNER AMP UNIT
Consists of
TUNER AMP P.C.BOARD
PRE OUT(1) P.C.BOARD
PRE OUT(2) P.C.BOARD

SWITCHES:
P.C.BOARD(A)
S2:FWD/REV SWITCH ..... FWD-REV
P.C.BOARD(B)
S3:TAPE/TUN SWITCH ..... TAPE-TUNER
MISCELLANEOUS
S1:MUTE SWITCH ..... ON-OFF
The underlined indicates switch position.

TO P.C.BOARD(A)

Fig. 7

11. SCHEMATIC CIRCUIT DIAGRAM (KEH-M7300/EW, M7300SDK/WG)

NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

PRE OUT(1) P.C.BOARD

ISOLATOR

RCA REAR

P.C.BOARD (A)

C.BOARD (B)

+MIX AMP.

-9.5dBs

-20.7dB

VR1 : CCS1186

MUTE

POWER AMP.

IC501 TA8215H-A

Q551, 552 : DTC314TS

Q917 : 2SD1037

D957 : ERC04-02F

D958, 959 : ERA15-02VH

D553 : HZS9R1JB2

BACK-UP SENSE

EQ. AMP.

IC350 TA8162SN

IC351 CXA1102P

DOLBY NR.

IC352 AN6263N

MS

-73.8dBs

TO P.C.BOARD(A)

IL951 : CEL1287

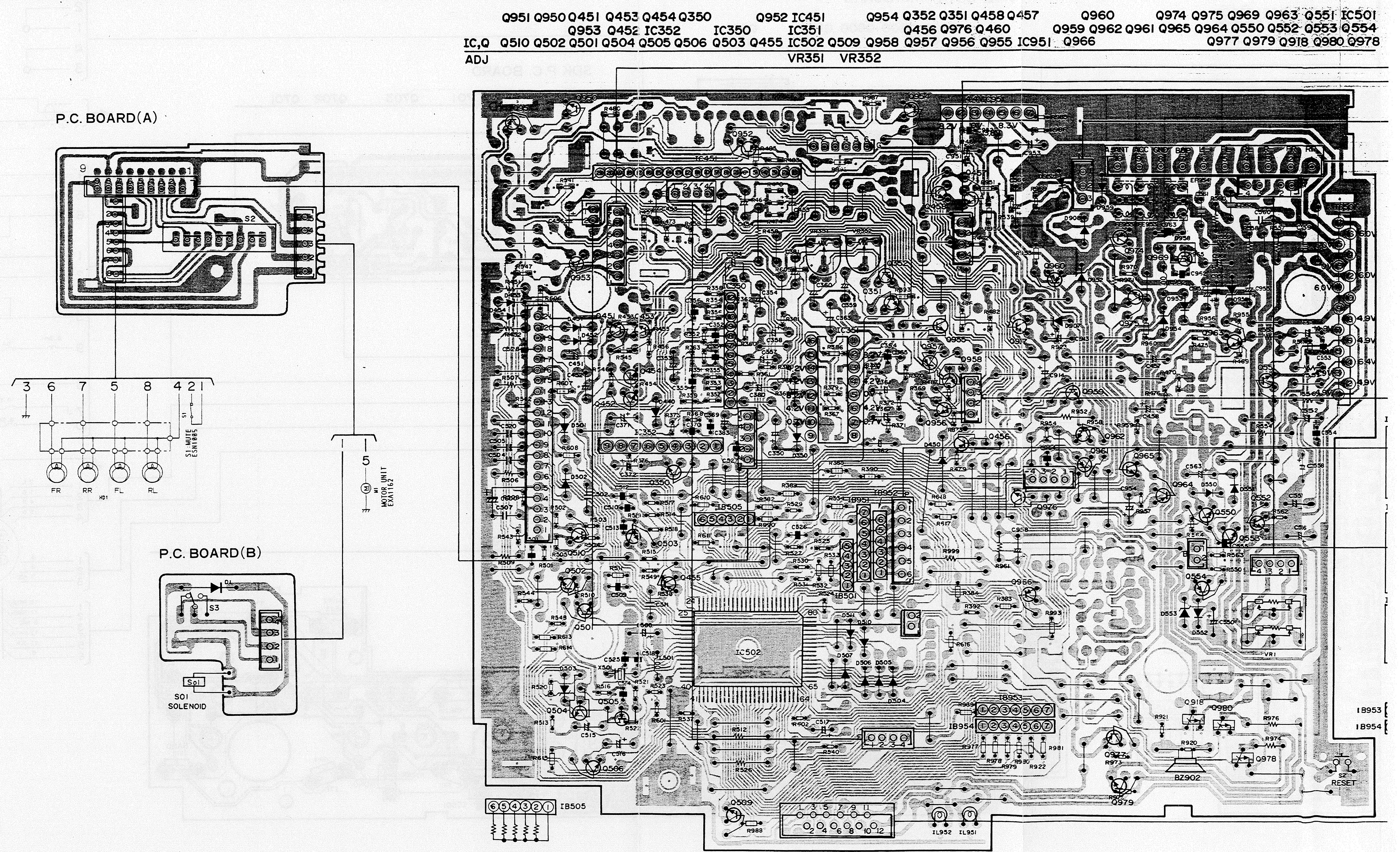
IL952 : CEL1288

D981-985 : DCC018

SWITCHES:
P.C.BOARD(A)
S2 FWD/REV SWITCH ..... FWD-REV
P.C.BOARD(B)
S3 TAPE/TUN SWITCH ..... TAPE-TUNER
MISCELLANEOUS
S1 MUTE SWITCH ..... ON-OFF
The underlined indicates switch position.

Fig. 8

12. CONNECTION DIAGRAM (KEH-M7300/EW, M7300SDK/WG)



1 2 3 4 5 6

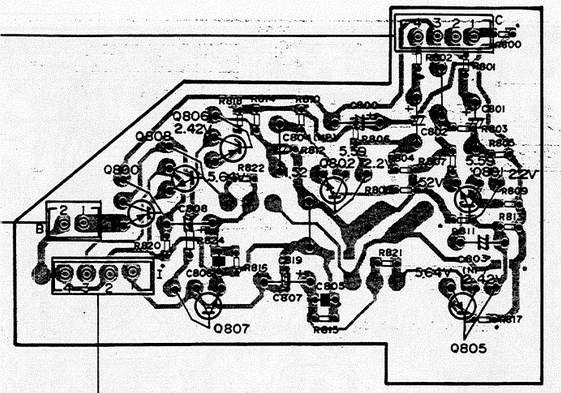
A B C D

7 | 8 | 9 | 10 | 11 | 12

5 Q969 Q963 Q551 IC501
64 Q550 Q552 Q553 Q554
977 Q979 Q918 Q980 Q978

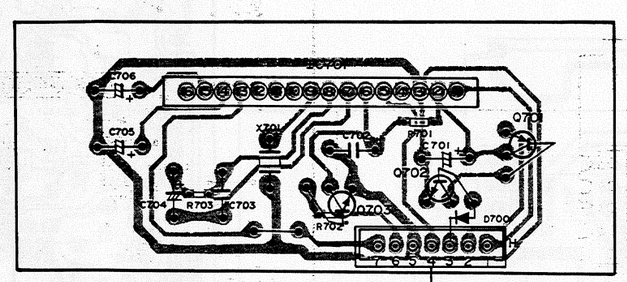
PRE OUT(1) P.C. BOARD

IC,Q				
Q800 Q807	Q808	Q806	Q802	Q801 Q805

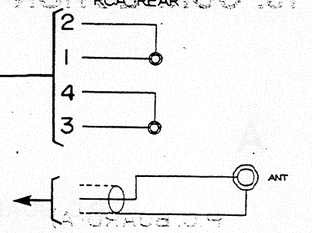


SDK P.C. BOARD

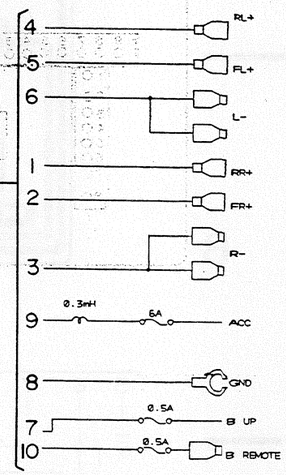
IC, Q				
IC701	Q703	Q702	Q701	



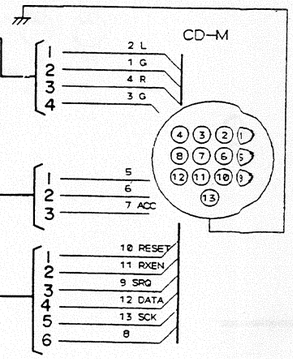
RCA REAR



A



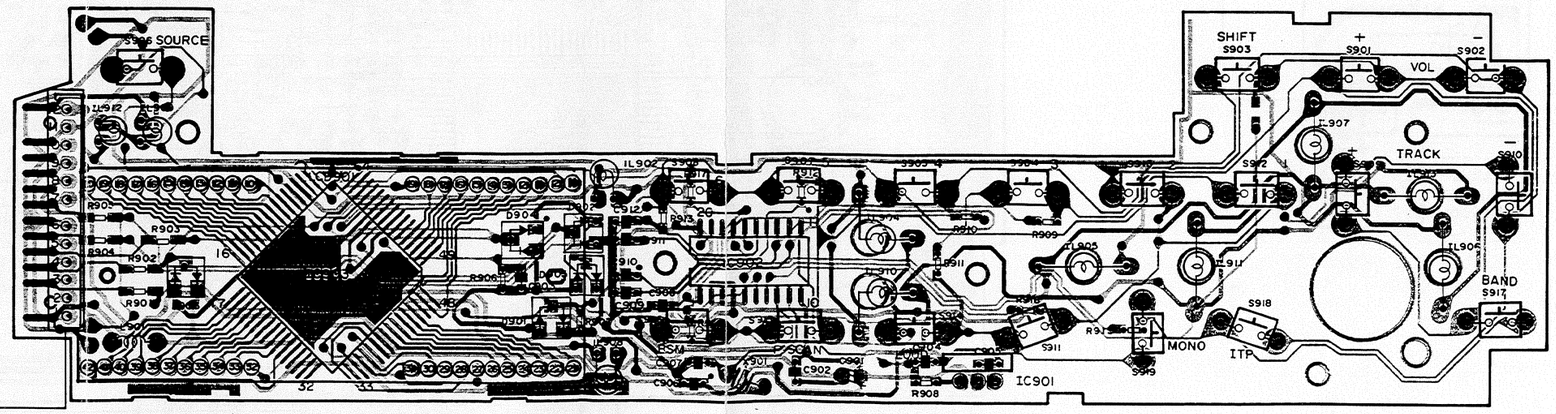
B



C

KEY BOARD UNIT

IC, Q			
IC903	IC902	IC901	
ADJ			



D

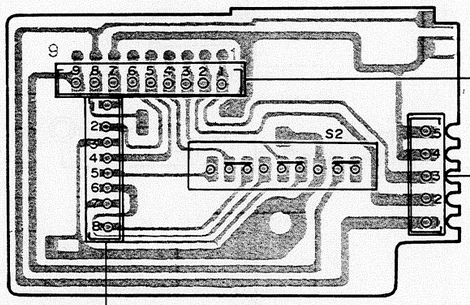
Fig. 9

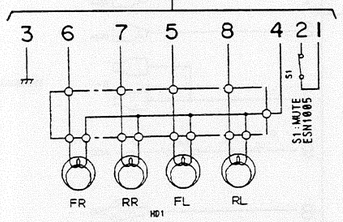
13. CONNECTION DIAGRAM (KEH-M7200, M550, M7250)

TUNER AMP P.C. BOARD

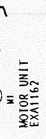
IC,Q	Q951 Q950 Q451 Q453 Q454 Q350	Q952 IC451	Q954 Q352 Q351 Q458 Q457	Q960	Q974 Q975 Q969 Q963 Q551 IC501
	Q953 Q452 IC352 IC350	IC351	Q456 Q976	Q959 Q962 Q961 Q965 Q964 Q550 Q552 Q553 Q554	
	Q510 Q502 Q501 Q504 Q505	Q503 Q455 IC502 Q509 Q958 Q957 Q956 Q955 IC951	Q966	Q977 Q979 Q918 Q980 Q978	
ADJ	TC501	VR351 VR352			

P.C. BOARD(A)

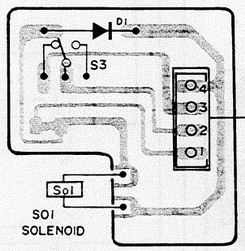


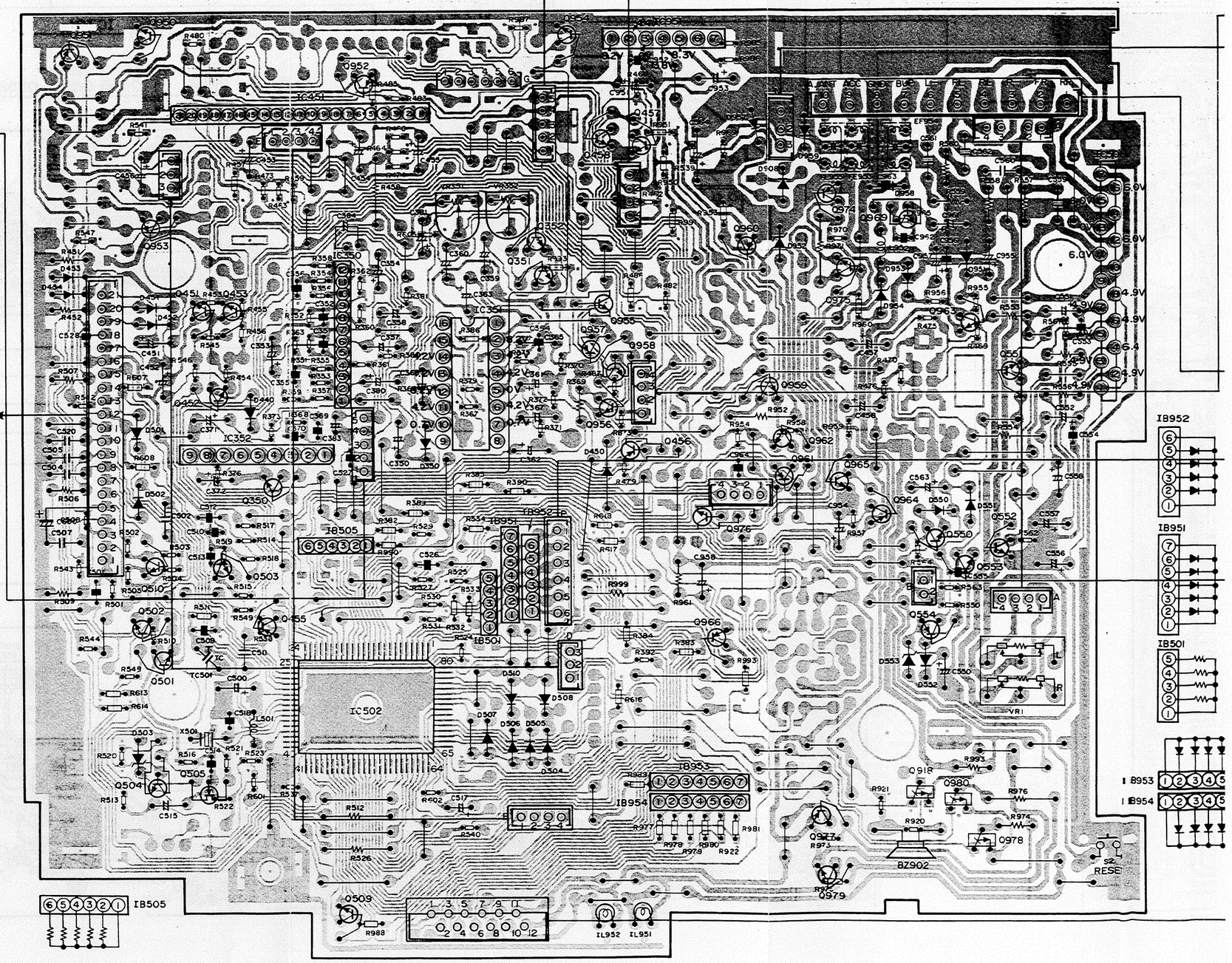


TO FM/AM TUNER UNIT



P.C. BOARD(B)



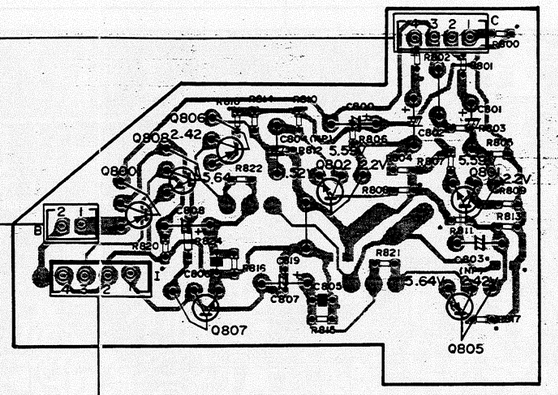


7 8 9 10 11 12

)963 Q551 IC501
)552 Q553 Q554
),Q918 Q980 Q978

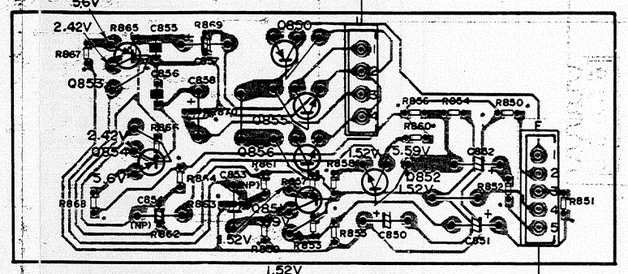
PRE OUT(1) P.C. BOARD

IC,Q	Q800 Q808 Q806 Q802 Q807	Q801 Q805



PRE OUT(2) P.C. BOARD

IC,Q	Q853 Q854	Q850 Q855 Q856 Q851	Q852



RCA FRONT

RCA REAR

TO FM/AM TUNER UNIT

ANT

RL+ FL+ L− RR+ FR+ R− 0.3mH 8A ACC GND 0.5A B UP 0.5A B REMOTE

CD-M

2 L 1 G 4 R 3 G

5 6 7 ACC

10 RESET 11 RXEN 9 SRQ 12 DATA 13 SCK 8

IB952 IB951 IB501 IB953 IB954

S2 RESET

KEY BOARD UNIT

IC, Q	IC903	IC902	IC901
ADJ			

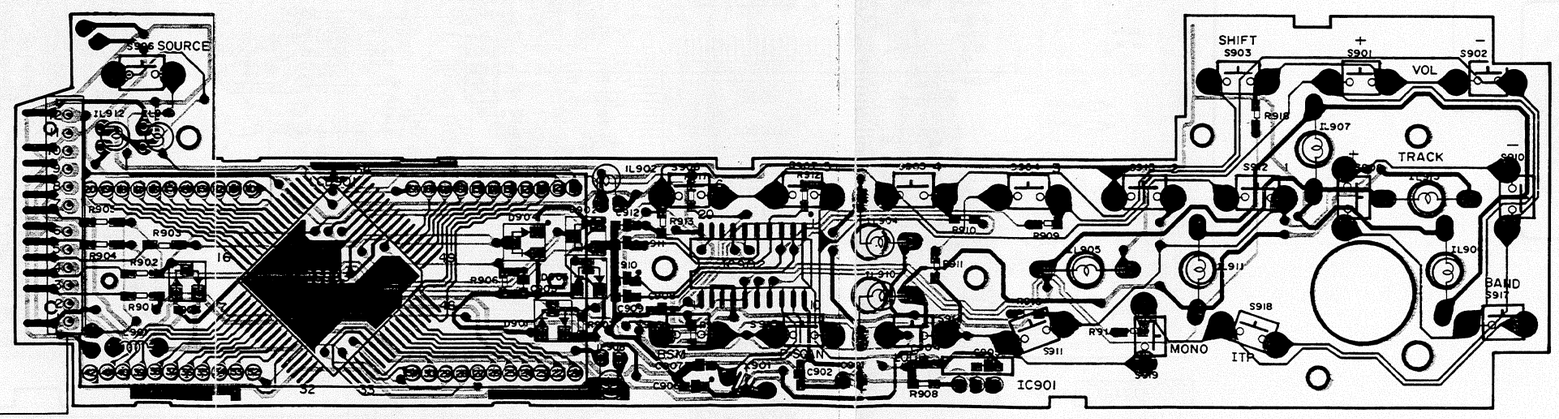


Fig. 10

7 8 9 10 11 12

14. SCHEMATIC CIRCUIT DIAGRAM (KEH-M7200, M550, M7250)

TUNER AMP P.C.BOARD

FM/AM TUNER UNIT

(Fig.14)

TO TUNER AMP P.C.BOARD

P.C.BOARD (A)

P.C.BOARD (B)

S2:FWD/REV ESH1003

S1 MUTE ESN1005

S3 TAPE/TUN ESH1004

MOTOR UNIT EXA1162

SOLENOID EXP1008

HEAD:EPB1015(M550/US, M7250/CA)

HEAD UNIT:EXA1163(M7200//US)

TEST TAPE 315Hz 0dB

PRE OUT(2) P.C.

REGULATOR

IC951 TA8214K

SYSTEM CONTROL

IC502

PD4343A

SYS PW SWITCH

VCO AMP

LOOP FILTER

KEY BOARD UNIT

S-80740AH

IC901

PD4285

IC902

LCD DRIVER

IC903

LC7582A

LCD CAW1124

.BOARD

PRE OUT(1) P.C.BOARD

NOTE:
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

RCA FRONT

RCA REAR

SWITCHES
P.C.BOARD(A)
S2:FWD/REV SWITCH·····FWD-REV
P.C.BOARD(B)
S3:TAPE/TUN SWITCH·····TAPE-TUNER
MISCELLANEOUS
S1:MUTE SWITCH·····ON-OFF
The underlined indicates switch position.

TUNER AMP UNIT
Consists of
TUNER AMP P.C.BOARD
PRE OUT(1) P.C.BOARD
PRE OUT(2) P.C.BOARD

ONIC VOL. +MIX AMP.

-9.5dBs

-20.7dBs

-73.8dBs

POWER AMP.

IC501 TA8215H-A

DOLBY NR.

IC350 TA8162SN

IC351 CXA1102P

IC352 AN6263N

MUTE

BACK UP SENSE

ACC SENSE

TO P.C.BOARD(A)

	KEH-M7200/US	KEH-M550/US	KEH-M7250/CA
R351, 352	100K	22K	22K
C351, 352	680P	330P	330P

Fig. 11

15. CIRCUIT DIAGRAM AND PATTERN

15.1 FM/AM TUNER UNIT (KEH-M7300/EW)

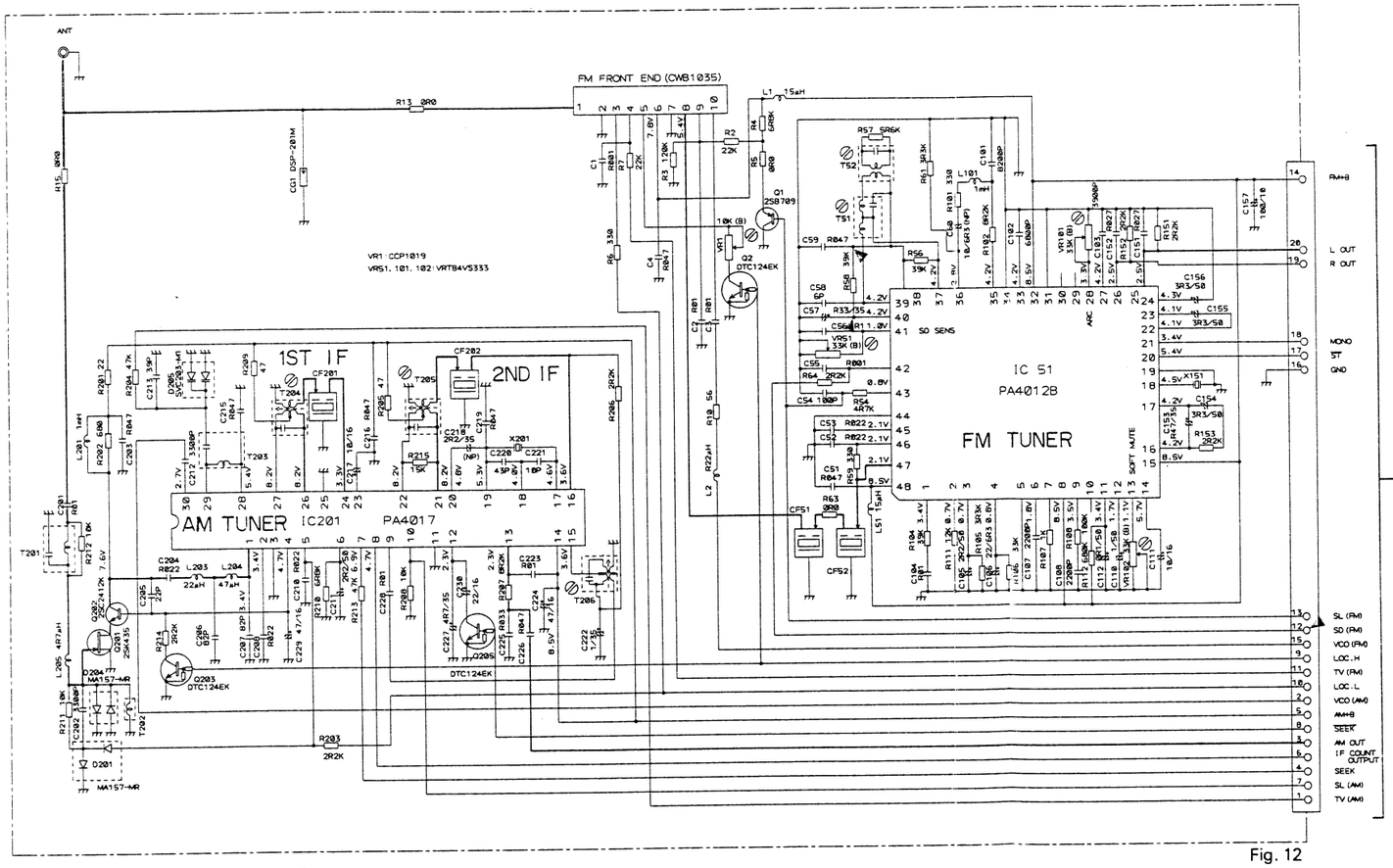


Fig. 12

NOTE:

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

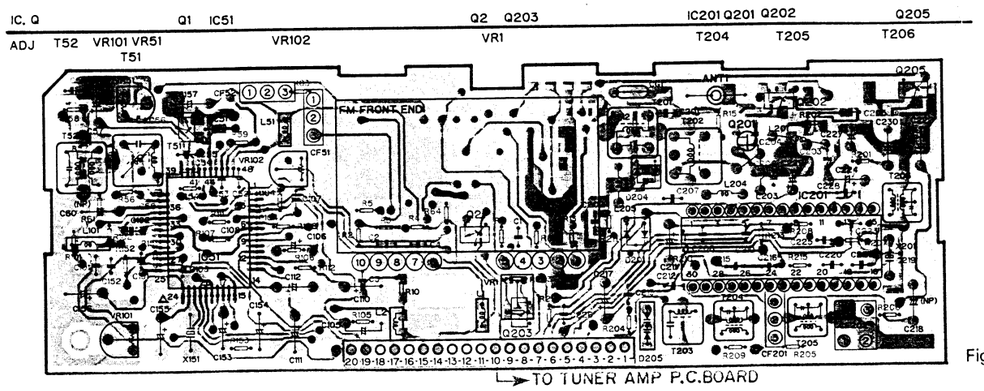
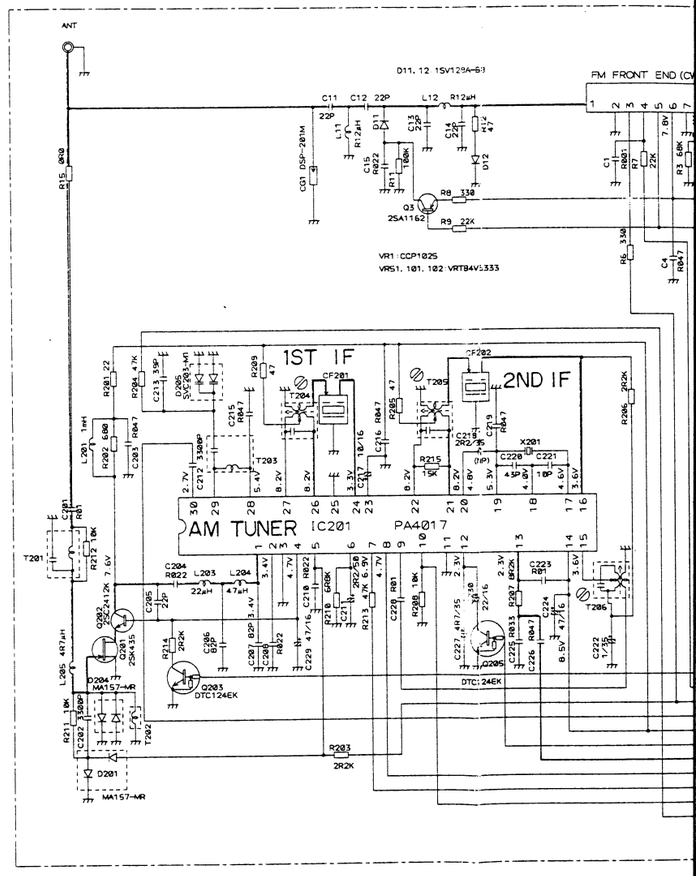


Fig. 13

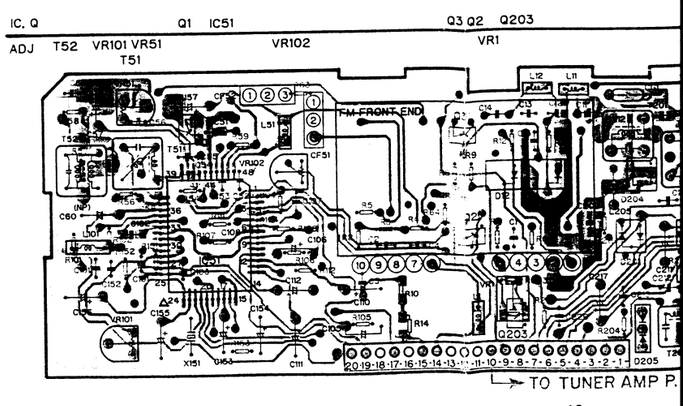
15.2 FM/AM TUNER UNIT (KEH-M7200/US, M550/US, M725



NOTE:

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.



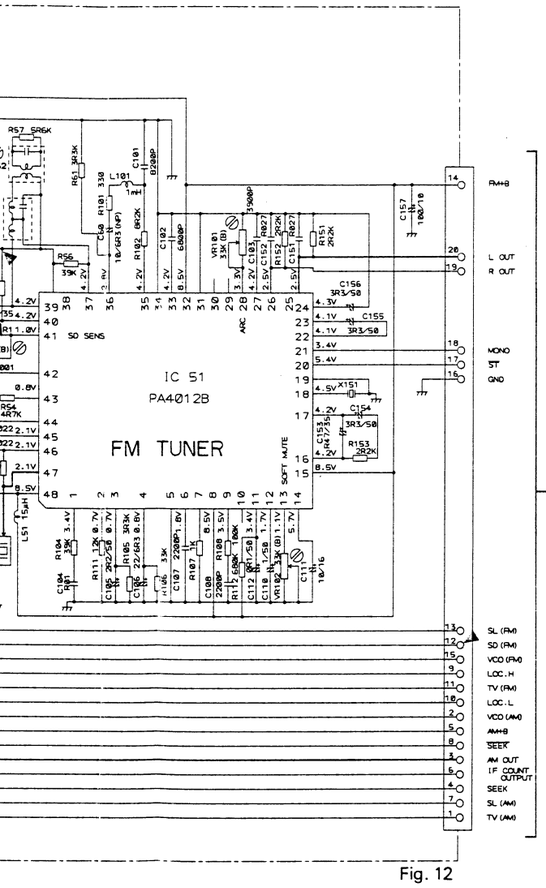


Fig. 12

s for resistor
fixed values
d as:

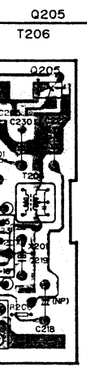


Fig. 13

15.2 FM/AM TUNER UNIT (KEH-M7200/US, M550/US, M7250/CA)

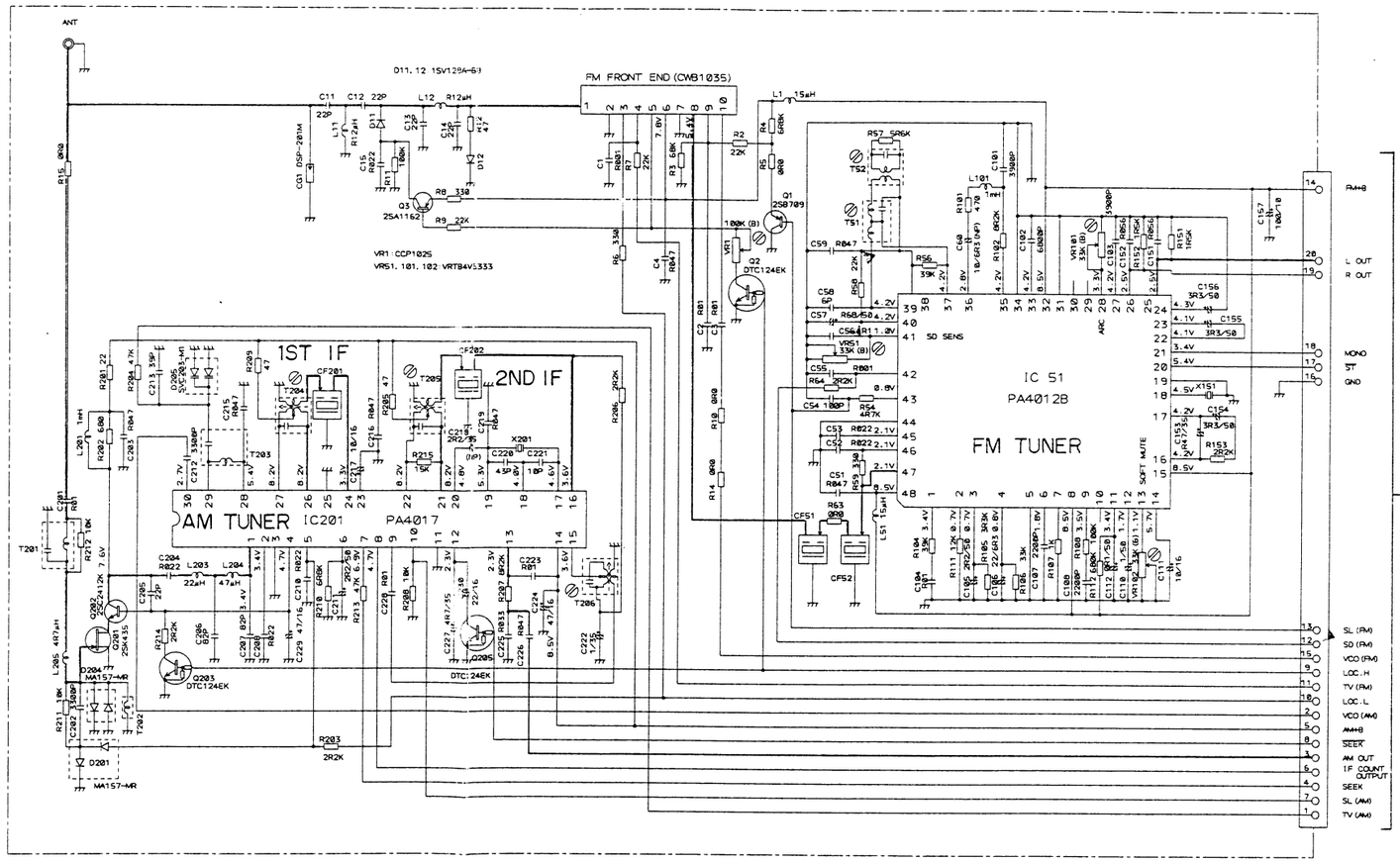


Fig. 14

NOTE:

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

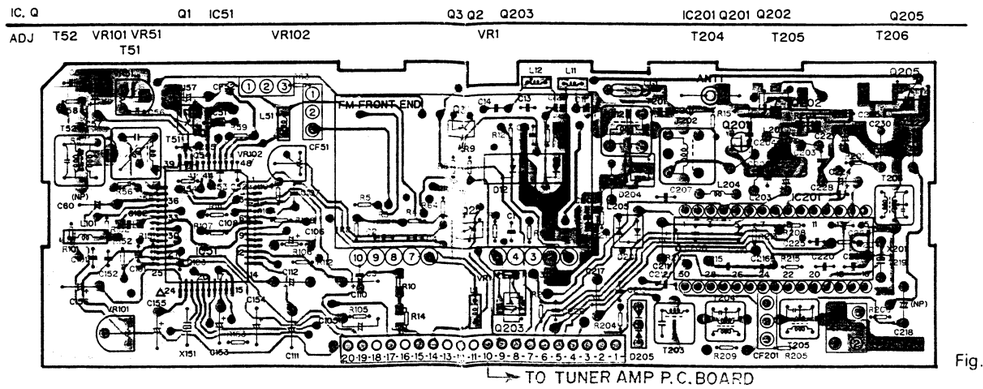


Fig. 15

15.3 FM/AM TUNER UNIT (KEH-M7250/ES)

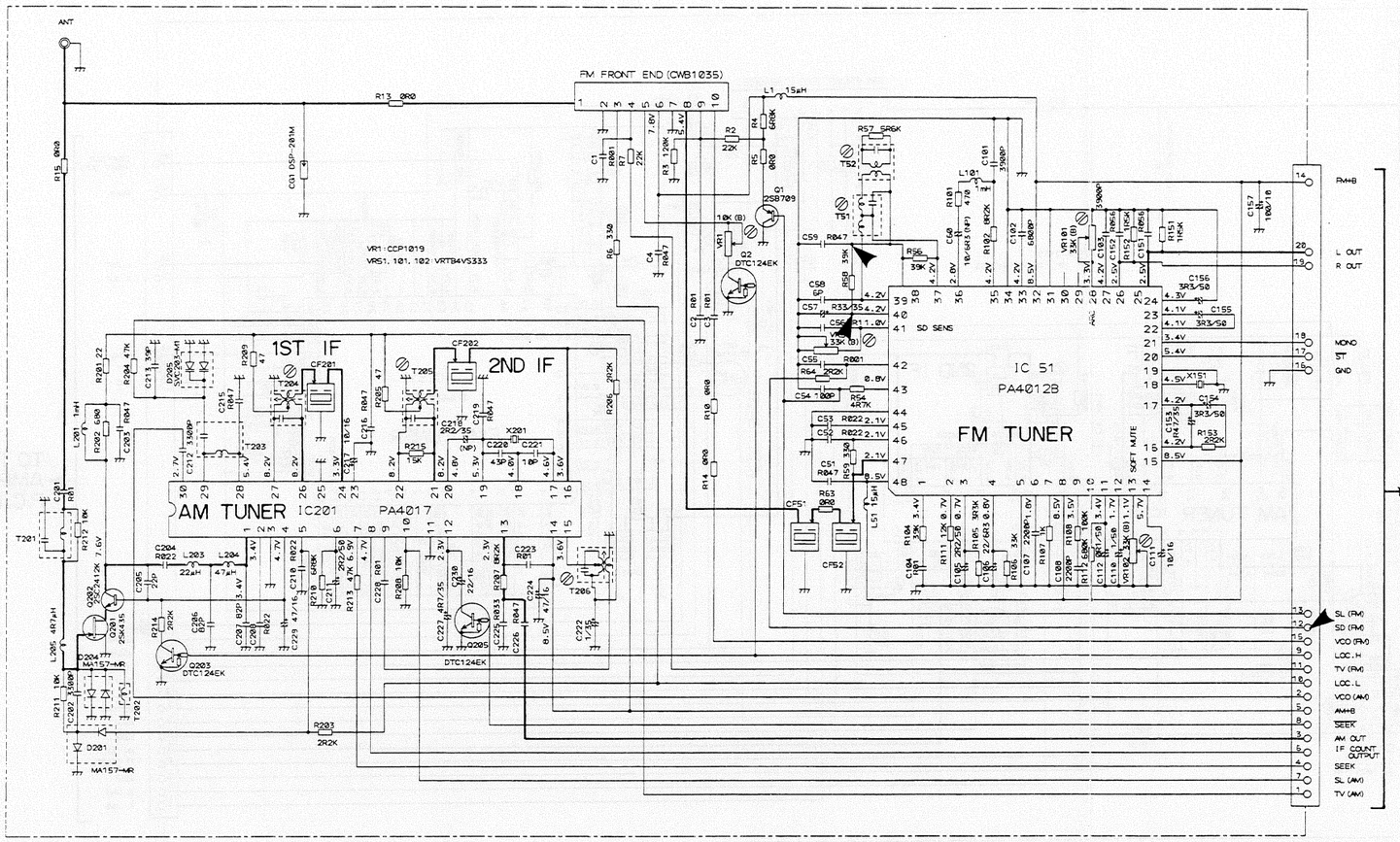


Fig. 16

NOTE:

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

IC. Q Q1 IC51 Q2 Q203 IC201 Q201 Q202 Q205

ADJ T52 VR101 VR51 T51 VR102 VR1 T204 T205 T206

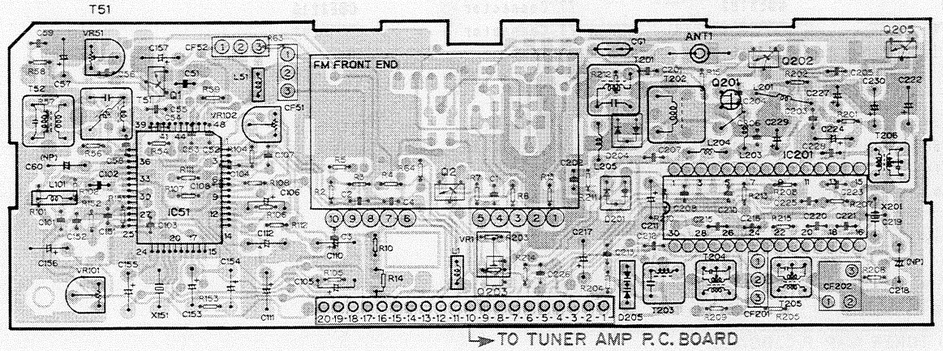
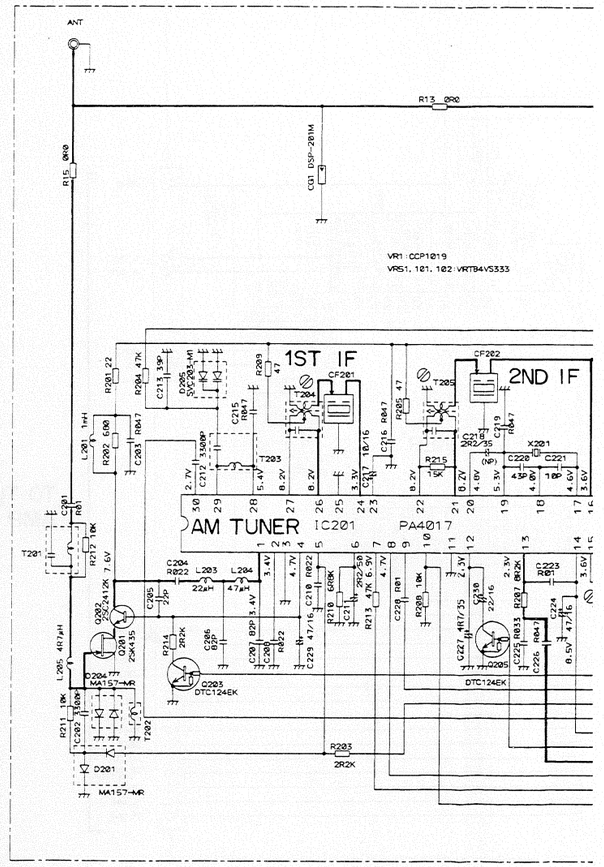


Fig. 17

15.4 FM/AM TUNER UNIT (KEH-M7300SDK/WG)



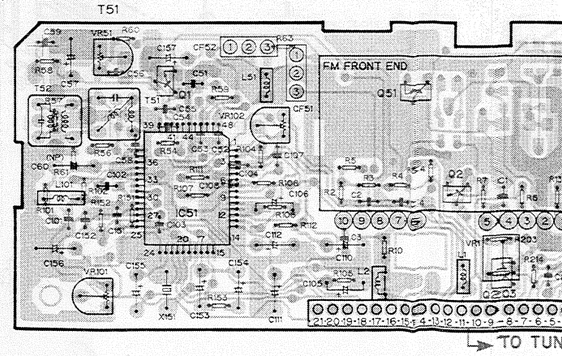
NOTE:

Symbol indicates a resistor.
No differentiation is made between chip discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip discrete capacitors.

IC. Q Q1 IC51 Q51 Q2 Q203

ADJ T52 VR101 VR51 T51 VR102 VR1



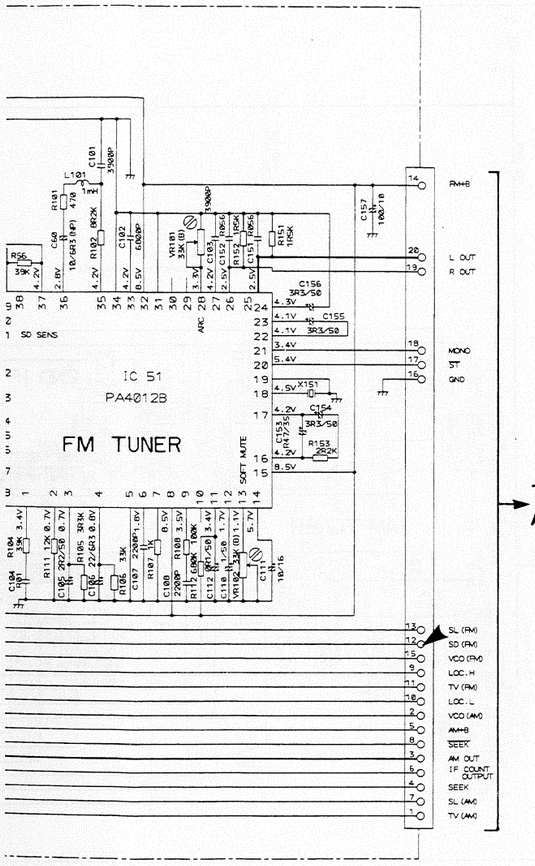


Fig. 16

Fig. 17

15.4 FM/AM TUNER UNIT (KEH-M7300SDK/WG)

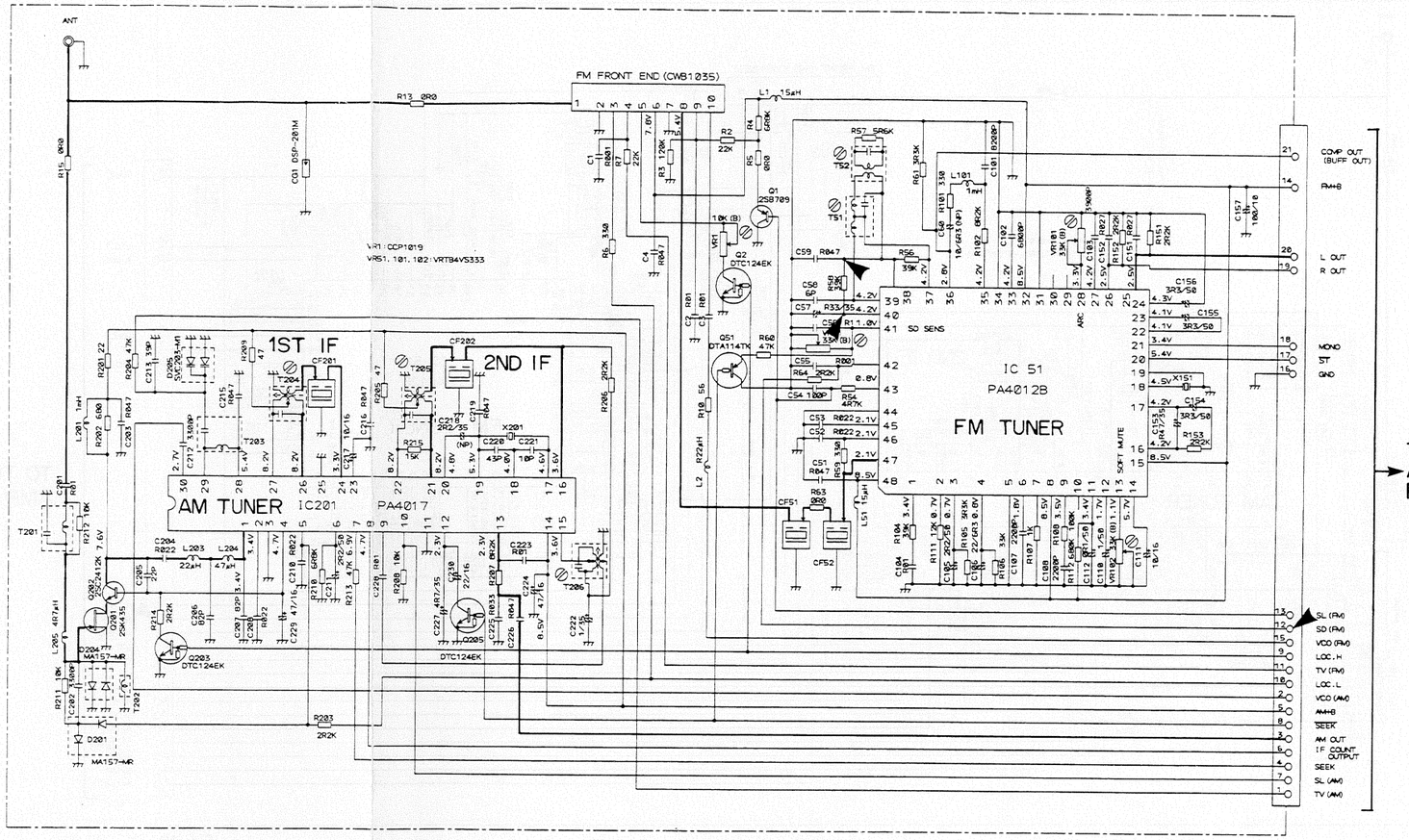


Fig. 18

NOTE :

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

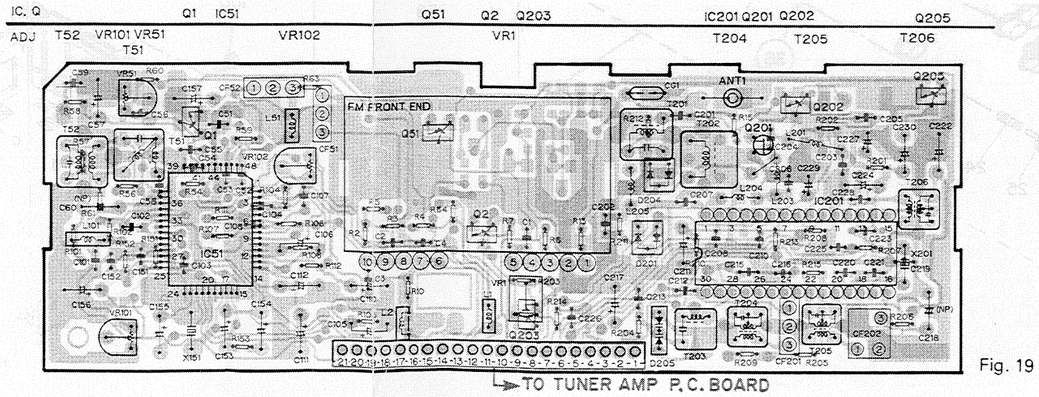


Fig. 19

16. CHASSIS EXPLODED VIEW

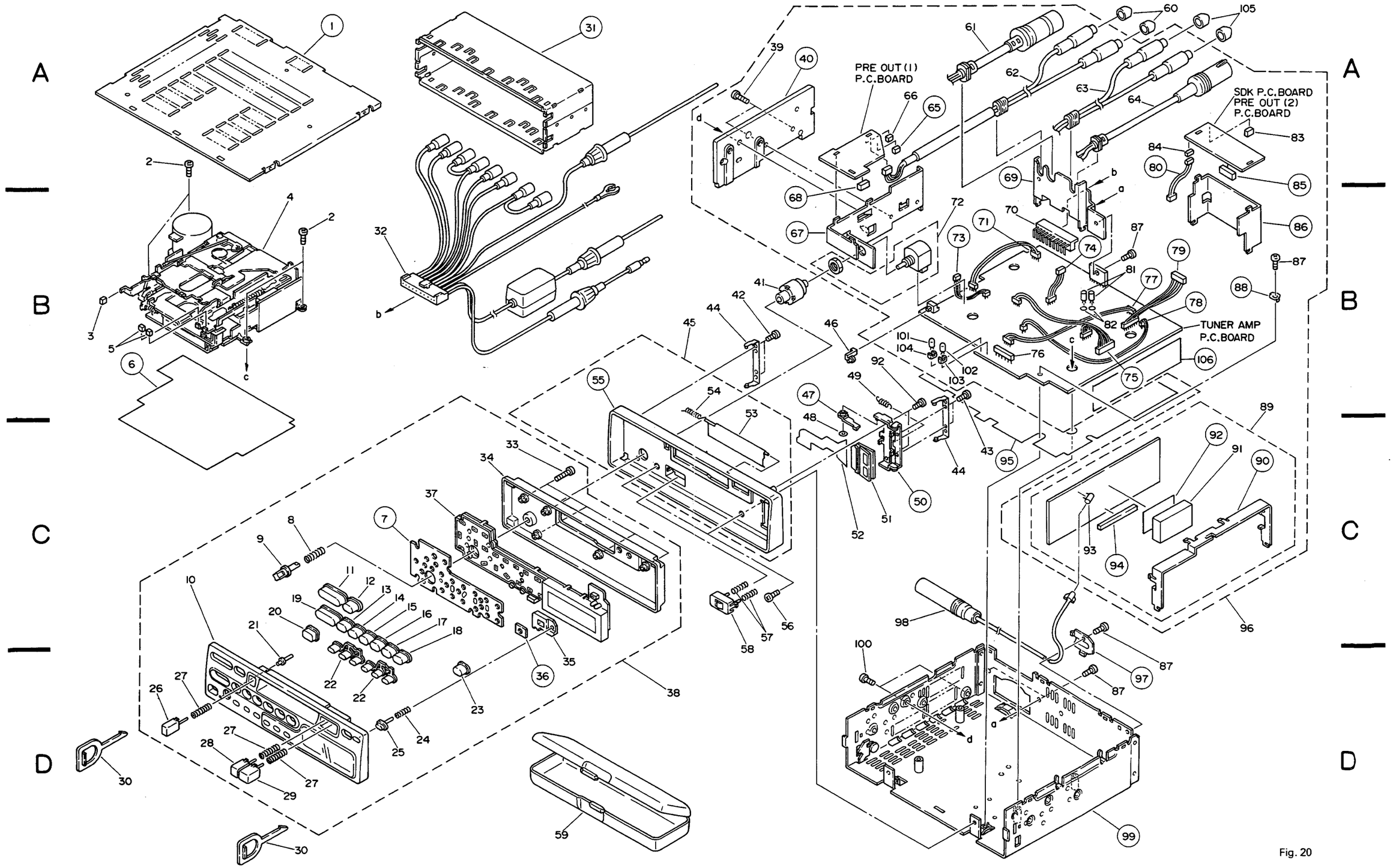


Fig. 20

•Parts List (KEH-M7300/EW)

NOTE:

- *The parts marked with "◉" may need long time to supply and their supply is subject to refuse as the case may be.*
- *Because the parts with encircled number shown on the dismantling drawing are not spare parts, we are unable to supply them in principle.*

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Case	CNB1431		45	Panel Unit	CXA4134
	2	Screw	BMZ26P050FMC		46	Button	CAC2988
	3	Button	CAC2819		47	Arm Unit	CXA4000
◉	4	Cassette Mechanism Assy	EXK1735		48	Washer	CBF1037
					49	Spring	CBH1395
	5	Button	CAC2820		50	Holder Unit	CXA3999
	6	Cover	CNM3157		51	Socket	CKS1664
	7	Cushion	CNM3155		52	P.C.Board	CNP2597
	8	Spring	CBH1391		53	Door	CAT1360
	9	Knob(Fader)	CAA1272		54	Spring	CBH1350
	10	Grille Unit	CXA4142		55	Panel	CNS2152
	11	Button(Vol)	CAC2821		56	Screw	CBA1154
	12	Button(Shift)	CAC2822		57	Spring	CBH1393
	13	Button(1)	CAC2811		58	Button Unit	CXA4417
	14	Button(2)	CAC2812		59	Case	CNS2269
	15	Button(3)	CAC2813		60	Cap	CNV2680
	16	Button(4)	CAC2814		61	DIN Connector Cord	CDE3419
	17	Button(5)	CAC2815		62	Connector	CDE3377
	18	Button(6)	CAC2816		63	·····	
	19	Button(Tune)	CAC2828		64	·····	
	20	Button(-)	CAC2817		65	Plug	CKS-783
	21	Button(Clear)	CAC2829		66	Plug	CKS1224
	22	Button Unit	CXA4132		67	Holder	CNC3579
	23	Button(SD)	CAC2826		68	Plug	CKS-785
	24	Spring	CBH1390		69	Holder	CNC3581
	25	Button	CAC2827		70	Plug	CKS-467
	26	Button(Eject)	CAC2823		71	Connector	CDE3171
	27	Spring	CBH1388		72	Volume(Fader)	CCS1186
	28	Button(REW)	CAC2824		73	Connector	CDE3208
	29	Button(FF)	CAC2825		74	Connector	CDE3173
	30	Handle	CNC3664		75	Connector	CDE3174
	31	Holder	CNC3342		76	Connector	CKS1260
	32	Cord	CDE3182		77	Connector	CDE3210
	33	Screw	BPZ20P120FZK		78	Connector	CDE3222
	34	Grille Cover	CNS2151		79	·····	
	35	Lens	CNV2774		80	·····	
	36	Cushion	CNM3156		81	Capacitor	CCH1016
◉	37	Key Board Unit	CWM2692		82	Spacer	CNW-662
	38	Grille Assy	CXA4169		83	·····	
	39	Screw	BMZ30P120FMC		84	·····	
	40	Heat Sink	CNC3747		85	·····	
	41	Knob	CAA1250		86	·····	
	42	Screw	CBA1179		87	Screw	BMZ30P050FMC
	43	Screw	PMZ20P030FMC		88	Holder	CNC2218
	44	Holder Unit	CXA3998	◉	89	FM/AM Tuner Unit	CWE1228

17. KEY BOARD UNIT EXPLODED VIEW

•Parts List (KEH-M7300/EW)

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
◉	1	Key Board Unit	CWM2692		6	Bush	CNV1859
	2	Lens	CNV2688		7	Bush	CNV1859
	3	Holder	CNV2684		8	Plug	CKS1663
	4	Lamp	CEL1208		9	Holder	CNV2685
	5	Lamp	CEL1207		10	Lens	CNV2686
					11	LCD	CAW1124
					12	Insulator	CNM3051
					13	Holder	CNC3576
					14	Spacer	CNM1642

		M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK
No.	Description	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
◉	1 Key Board Unit	CWM2692	CWM2694	CWM2694	CWM2694	CWM2694	CWM2692
	4 Lamp	CEL1208	CEL1025	CEL1025	CEL1025	CEL1025	CEL1208

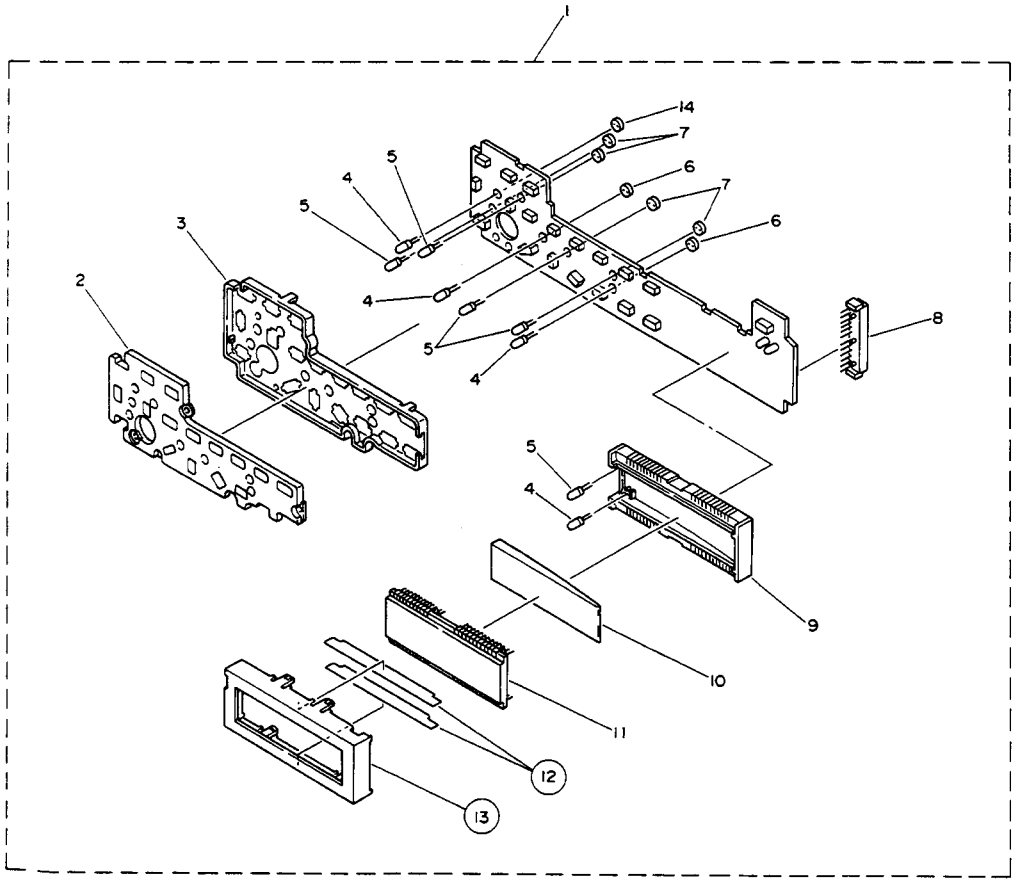


Fig. 21

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	90	Holder	CNC3395		100	Screw	BMZ30P080FMC
	91	FM Front End	CWB1035		101	Lamp (Green)	CEL1207
	92	Insulator	CNM2105		102	Lamp	CEL1208
	93	Antenna Jack	CKX1010		103	Holder	CNV1906
	94	Plug	CKS1628		104	Holder	CNV1906
					105	*****	
	95	Insulator	CNM2941		106	Insulator	CNM3199
◉	96	Tuner Amp Unit	CWM2672				
	97	Holder	CNC2913				
	98	Antenna Cable	CDH1128				
	99	Chassis Unit	CXA4191				

	M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK
No. Description	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
4 Cassette Mechanism Assy	EXK1735	EXK1735	EXK1765	EXK1765	EXK1735	EXK1735
10 Grille Unit	CXA4142	CXA4144	CXA4143	CXA4241	CXA4145	CXA4133
11 Button	CAC2821	CAC2932	CAC2932	CAC2932	CAC2821	CAC2821
16 Button	CAC2814	CAC2934	CAC2934	CAC2934	CAC2814	CAC2814
17 Button	CAC2815	CAC2935	CAC2935	CAC2935	CAC2815	CAC2815
18 Button	CAC2816	CAC2936	CAC2936	CAC2936	CAC2816	CAC2816
19 Button	CAC2828	CAC2933	CAC2933	CAC2933	CAC2828	CAC2828
32 Cord	CDE3182	CDE3181	CDE3181	CDE3181	CDE3183	CDE3182
◉ 37 Key Board Unit	CWM2692	CWM2694	CWM2694	CWM2694	CWM2694	CWM2692
38 Grille Assy	CXA4169	CXA4171	CXA4172	CXA4173	CXA4175	CXA4168
45 Panel Unit	CXA4134	CXA4157	CXA4157	CXA4157	CXA4156	CXA4134
60 Cap	CNV2680	CNW-829	CNV2680	CNV2680	CNW-829	CNW-829
62 Connector	CDE3377	CDE3157	CDE3155	CDE3155	CDE3157	CDE3377
63 Connector	----	CDE3156	CDE3154	CDE3154	CDE3156	----
64 Connector	----	----	----	----	CDE3420	----
66 Plug	CKS1224	----	----	----	----	CKS1224
69 Holder	CNC3581	CNC3753	CNC3753	CNC3753	CNC3752	CNC3581
78 Connector	CDE3222	CDE3303	CDE3303	CDE3303	CDE3303	CDE3222
79 Connector	----	----	----	----	----	CDE3170
80 Connector	----	CDE3172	CDE3172	CDE3172	CDE3172	----
83 Plug	----	CKS1238	CKS1238	CKS1238	CKS1238	----
84 Plug	----	CKS-786	CKS-786	CKS-786	CKS-786	----
85 Plug	----	----	----	----	----	CKS1040
86 Holder	----	CNC3577	CNC3577	CNC3577	CNC3577	CNC3577
◉ 89 FM/AM Tuner Unit	CWE1228	CWE1225	CWE1225	CWE1225	CWE1226	CWE1227
◉ 96 Tuner Amp Unit	CWM2672	CWM2675	CWM2676	CWM2676	CWM2678	CWM2673
99 Chassis Unit	CXA4191	CXA4191	CXA4191	CXA4191	CXA4191	CXA3851
102 Lamp	CEL1208	CEL1025	CEL1025	CEL1025	CEL1025	CEL1208
105 Cap	----	CNW-829	CNV2680	CNV2680	CNW-829	----

18. CASSETTE MECHANISM ASSY EXPLODED VIEW

● KEH-M[illegible]

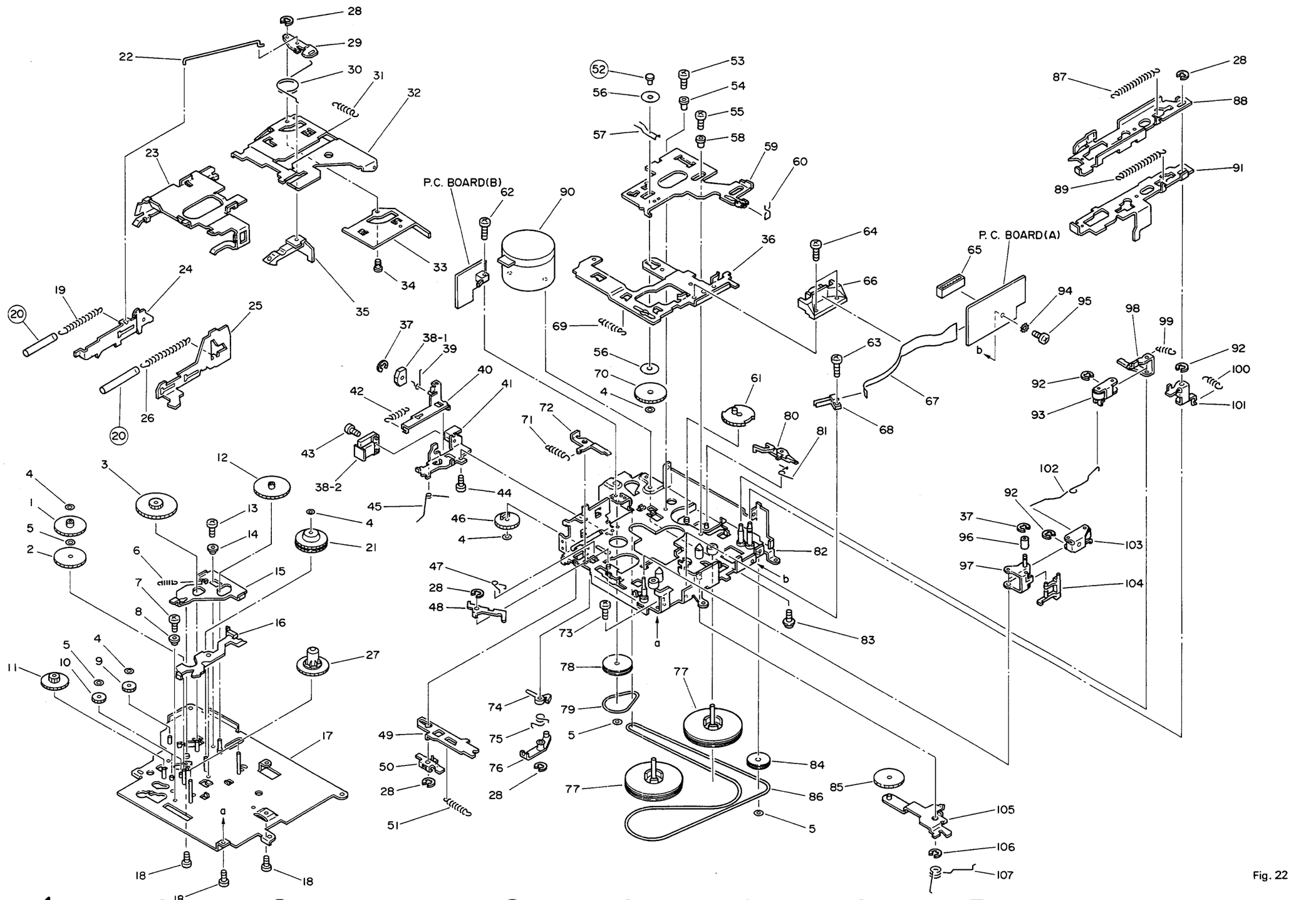


Fig. 22

•Parts List (KEH-M7300/EW, M7300SDK/WG, M7300US, M7250/ES)

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Gear	ENV1212	46	Gear	ENV1262
2	Gear	ENV1211	47	Spring	EBH1337
3	Gear	ENV1203	48	Arm	ENC1236
4	Washer	CBF1037	49	Lever Unit	EXA1173
5	Washer	CBF1038	50	Arm	ENC1237
6	Spring	EBH1338	51	Spring	EBH1335
7	Screw	JFZ17P035FNI	52	Shaft	
8	Shaft	ELA1259	53	Screw	JFZ20P025FNI
9	Gear	ENV1230	54	Collar	ELA1229
10	Gear	ENV1274	55	Screw	JFZ20P040FNI
11	Gear	ENV1264	56	Washer	EBF1015
12	Gear	ENV1204	57	Spring	EBH1372
13	Screw	JFZ17P018FNI	58	Collar	ELA1220
14	Collar	ELA1244	59	Lever	ENC1269
15	Arm	ENC1241	60	Spring	EBH1361
16	Arm	ENV1261	61	Gear	ENV1205
17	Sub Chassis Unit	EXA1169	62	Screw	CBA1054
18	Screw	BMZ20P025FMC	63	Screw	CBA1038
19	Spring(Black)	EBH1306	64	Screw	CBA1015
20	Tube		65	Plug	CKS1056
21	Gear Unit	EXA1159	66	Head Unit	EXA1163
22	Spring	EBH1308	67	P.C.Board	ENP1042
23	Holder	ENC1205	68	Switch	ESN1005
24	Lever	ENC1243	69	Spring	EBH1334
25	Lever	ENC1235	70	Gear	ENV1208
26	Spring	EBH1307	71	Spring	EBH1333
27	Real Unit	EXA1167	72	Arm	ENC1240
28	Washer	YE15FUC	73	Screw	BSZ20P040FMC
29	Arm	ENC1221	74	Arm	ENV1265
30	Spring	EBH1305	75	Spring	EBH1336
31	Spring	EBH1364	76	Arm Unit	EXA1171
32	Frame	ENC1204	77	Flywheel Unit	EXA1161
33	Arm	ENC1215	78	Gear	ENV1229
34	Shaft	ELA1251	79	Belt	ENT1020
35	Lever	ENV1222	80	Arm	ENV1206
36	Head Base Unit	EXA1203	81	Spring	EBH1317
37	Washer	YE12FUC	82	Chassis Unit	EXA1168
38	Solenoid	EXP1008	83	Screw	PMS26P025FUC
39	Spring	EBH1353	84	Fulley	ENV1207
40	Lever Unit	EXA1172	85	Gear	ENV1209
41	Bracket	ENC1239	86	Belt	ENT1018
42	Spring	EBH1339	87	Spring(Silver)	EBH1322
43	Screw	EBA1023	88	Lever(FF)	ENC1244
44	Screw	BMZ20P025FMC	89	Spring(Brown)	EBH1365
45	Spring	EBH1340	90	Motor Unit	EXA1162

Mark No.	Description	Part No.	Mark No.	Description	Part No.
91	Lever (REW)	ENC1245	101	Arm	ENC1264
92	Washer	YE20FUC	102	Spring	EBH1366
93	Pinch Roller Unit	EXA1193	103	Pinch Roller Unit	EXA1194
94	Washer	WH23FMC	104	Arm	ENV1227
95	Screw	BSZ23P040FMC	105	Arm Unit	EXA1155
96	Roller	ELA1247	106	Washer	YE30FUC
97	Arm Unit	EXA1166	107	Spring	EBH1310
98	Arm	ENC1266			
99	Spring	EBH1312			
100	Spring	EBH1311			

• KEH-M550/US, M7250/CA

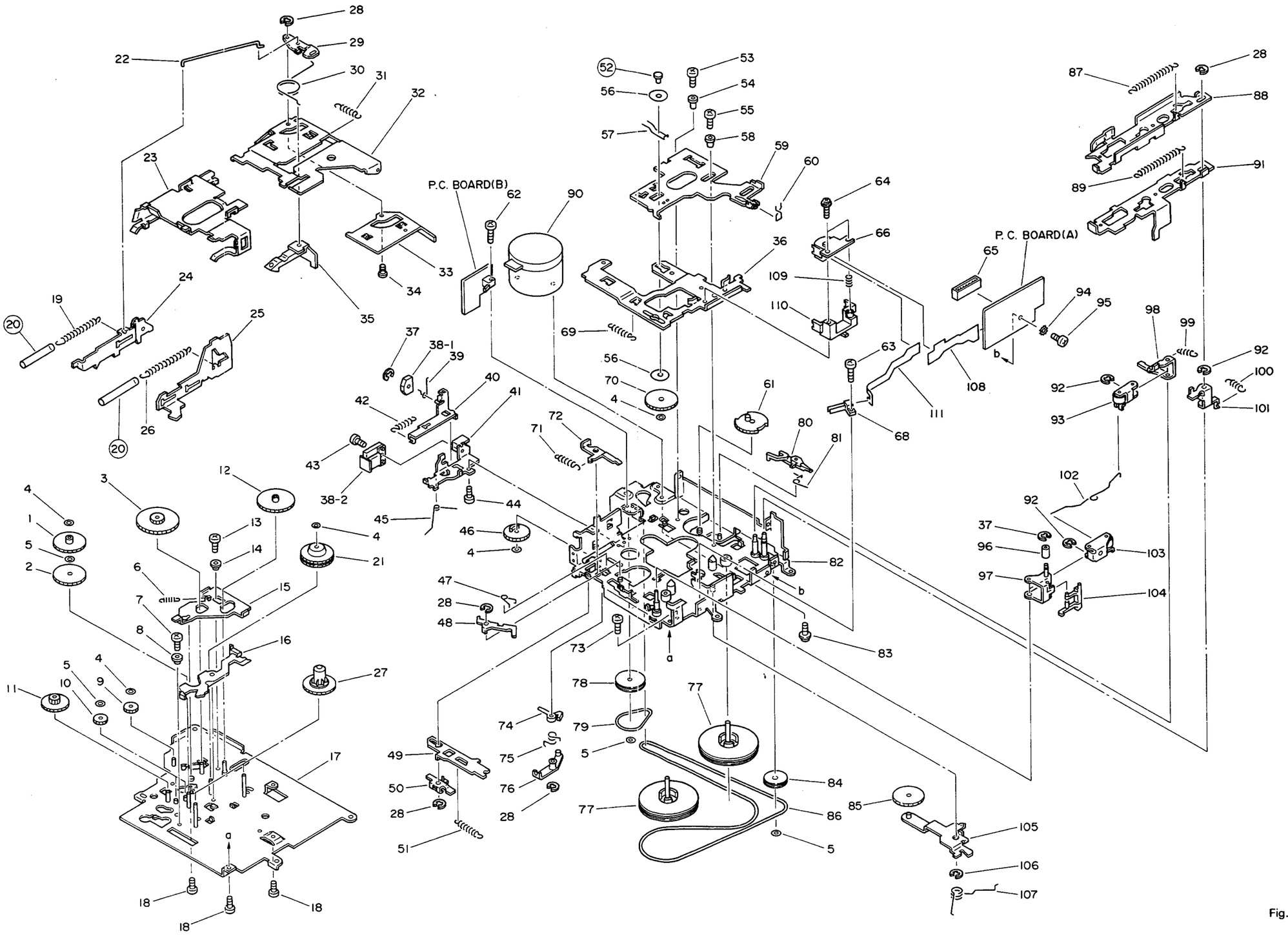


Fig. 23

•Parts List (KEH-M550/US, M7250/CA)

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Gear	ENV1212	46	Gear	ENV1262
2	Gear	ENV1211	47	Spring	EBH1337
3	Gear	ENV1203	48	Arm	ENC1236
4	Washer	CBF1037	49	Lever Unit	EXA1173
5	Washer	CBF1038	50	Arm	ENC1237
6	Spring	EBH1338	51	Spring	EBH1335
7	Screw	JFZ17P035FNI	52	Shaft	
8	Shaft	ELA1259	53	Screw	JFZ20P025FNI
9	Gear	ENV1230	54	Collar	ELA1229
10	Gear	ENV1274	55	Screw	JFZ20P040FNI
11	Gear	ENV1264	56	Washer	EBF1015
12	Gear	ENV1204	57	Spring	EBH1372
13	Screw	JFZ17P018FNI	58	Collar	ELA1220
14	Collar	ELA1244	59	Lever	ENC1269
15	Arm	ENC1241	60	Spring	EBH1361
16	Arm	ENV1261	61	Gear	ENV1205
17	Sub Chassis Unit	EXA1169	62	Screw	CBA1054
18	Screw	BMZ20P025FMC	63	Screw	CBA1038
19	Spring(Black)	EBH1306	64	Screw	EBA1024
20	Tube		65	Plug	CKS1056
21	Gear Unit	EXA1159	66	Head	EPB1015
22	Spring	EBH1308	67	P.C.Board	ENP1043
23	Holder	ENC1205	68	Switch	ESN1005
24	Lever	ENC1243	69	Spring	EBH1334
25	Lever	ENC1235	70	Gear	ENV1208
26	Spring	EBH1307	71	Spring	EBH1333
27	Real Unit	EXA1167	72	Arm	ENC1240
28	Washer	YE15FUC	73	Screw	BSZ20P040FMC
29	Arm	ENC1221	74	Arm	ENV1265
30	Spring	EBH1305	75	Spring	EBH1336
31	Spring	EBH1364	76	Arm Unit	EXA1171
32	Frame	ENC1204	77	Flywheel Unit	EXA1161
33	Arm	ENC1215	78	Gear	ENV1229
34	Shaft	ELA1251	79	Belt	ENT1020
35	Lever	ENV1222	80	Arm	ENV1206
36	Head Base Unit	EXA1203	81	Spring	EBH1317
37	Washer	YE12FUC	82	Chassis Unit	EXA1168
38	Solenoid	EXP1008	83	Screw	PMS26P025FUC
39	Spring	EBH1353	84	Pulley	ENV1207
40	Lever Unit	EXA1172	85	Gear	ENV1209
41	Bracket	ENC1239	86	Belt	ENT1018
42	Spring	EBH1339	87	Spring(Silver)	EBH1322
43	Screw	EBA1023	88	Lever(FF)	ENC1244
44	Screw	BMZ20P025FMC	89	Spring(Brown)	EBH1365
45	Spring	EBH1340	90	Motor Unit	EXA1162

Mark No.	Description	Part No.	Mark No.	Description	Part No.
91	Lever (REW)	ENC1245	101	Arm	ENC1264
92	Washer	YE20FUC	102	Spring	EBH1366
93	Pinch Roller Unit	EXA1193	103	Pinch Roller Unit	EXA1194
94	Washer	WH23FMC	104	Arm	ENV1227
95	Screw	BSZ23P040FMC	105	Arm Unit	EXA1155
96	Roller	ELA1247	106	Washer	YE30FUC
97	Arm Unit	EXA1166	107	Spring	EBH1310
98	Arm	ENC1266	108	P.C. Board	ENP1043
99	Spring	EBH1312	109	Spring	EBH1065
100	Spring	EBH1311	110	Guide	ENV1270
			111	P.C. Board	ENP1044

19. PACKING METHOD

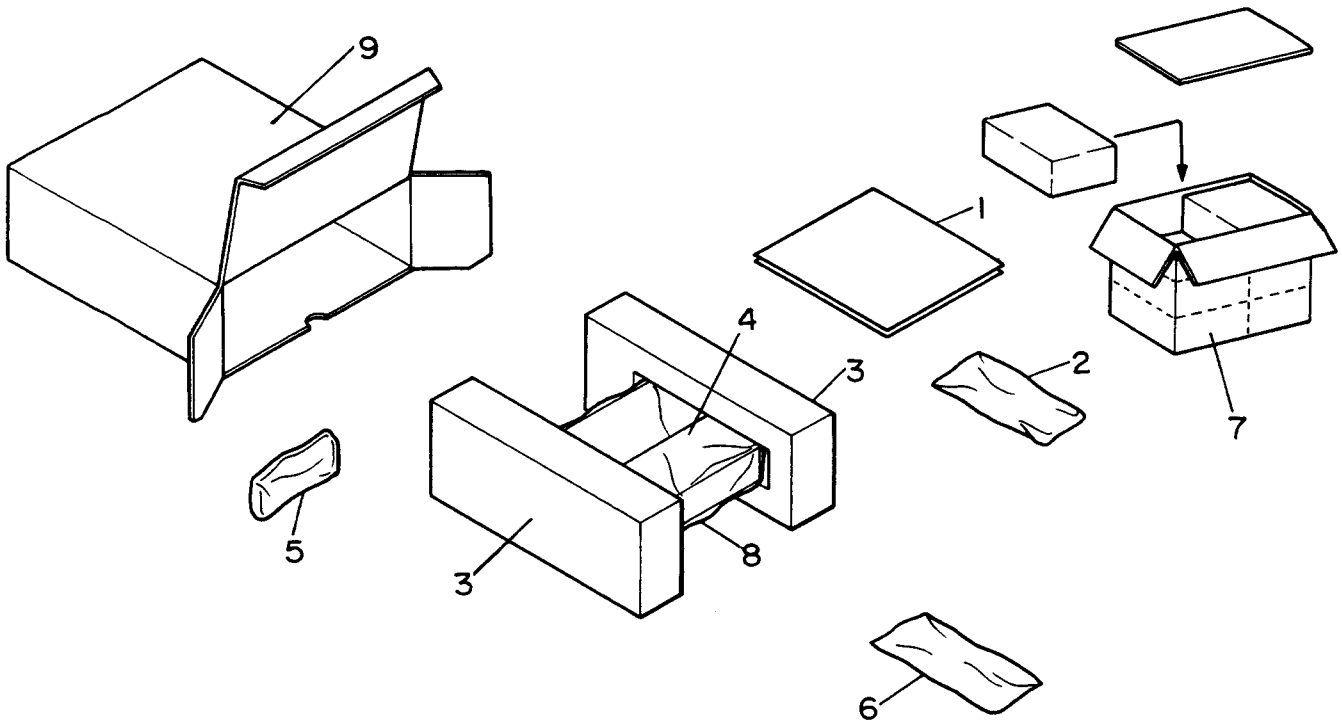


Fig. 24

•Parts List (KEH-M7300/EW)

* :Non spare part

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1-1	Owner's Manual	CRD1478		6-2	Screw(×1)	CBA1002
	1-2	Owner's Manual	CRD1489		6-3	Cord	CDE1289
	1-3	Installation Manual	CRD1491		6-4	Handle(×2)	CNC3664
*	1-4	Card	CRY-062		6-5	Strap	CNF-111
	2	Cord	CDE3182		6-6	Bush	CNV1009
	3	Styrofoam	CHP1405		6-7	Nut(×2)	NF50FMC
*	4	Holder	CNC3342	*	7	Contain Box	CHL1986
	5	Case	CNS2269		8	Cover	CEG1092
	6	Accessory Assy	CEA1633		9	Carton	CHG1986
	6-1	Screw(×1)	CBA-102				

	M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK
No. Description	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
1-1 Owner's Manual	CRD1478	CRD1487	CRB1216	CRD1480	CRD1481	CRD1479
1-2 Owner's Manual	CRD1489	----	----	----	----	----
1-3 Installation Manual	CRD1491	----	----	----	----	----
* 1-4 Card	CRY-062	ARY1008	ARY1008	ARY1008	----	CRY-062
2 Cord	CDE3182	CDE3181	CDE3181	CDE3181	CDE3183	CDE3182
7 Contain Box	CHL1986	CHL1989	CHL1991	CHL1990	CHL1988	CHL1987
9 Carton	*CHG1986	CHG1989	CHG1991	*CHG1990	*CHG1988	*CHG1987

Owner's Manual

Part No.	Model	Language
CRD1478	KEH-M7300/EW	English, French, German, Spanish, Portuguese
CRD1489	KEH-M7300/EW	Swedish, Norwegian, Dutch, Italian, Finnish
CRD1487	KEH-M7200/US	English, French
CRB1216	KEH-M550/US	English
CRD1480	KEH-M7250/CA	English, French
CRD1481	KEH-M7250/ES	English, French, Spanish, Arabic
CRD1479	KEH-M7300SDK	French, German

20. 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

RS1/8S□□□J, RS1/10S□□□J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

Unit Number :
Unit Name : FM/AM Tuner Unit (KEH-M7300SDK/WG)

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
IC	51		PA4012B
IC	201		PA4017
Q	1	Chip Transistor	2SB709
Q	2	Chip Transistor	DTC124EK
Q	51	Chip Transistor	DTA114TK-94
Q	201		2SK435
Q	202		2SC2412K
Q	203 205	Chip Transistor	DTC124EK
D	201 204	Chip Diode	MA157-MR
D	205		SVC203-M1
L	1 51	Inductor	CTF1241
L	2	Inductor	CTF1086
L	101	Inductor	CTF1126
L	201	Inductor	CTF1084
L	203	Ferri-Inductor	LAU220K
L	204	Ferri-Inductor	LAU470K
L	205	Ferri-Inductor	LAU4R7K
T	51	Coil	CTE1021
T	52	Coil	CTE1022
T	201	Coil	CTB1020
T	202	Coil	CTB1004
T	203	Coil	CTB1040
T	204	Coil	CTE1037
T	205	Coil	CTE1038
T	206	Coil	CTE1039
CG	1		DSP-201M-S00B
CF	51 52	Ceramic Filter	CTF-182
CF	201	Ceramic Filter	CTF1041
CF	202	Filter	CTF1085
X	151	Ceramic Resonator	CSS1055
X	201	Crystal Resonator	CSS1014
VR	1	Semi-fixed	CCP1019
VR	51 101 102	Semi-fixed 33kΩ (B)	VRT84VS333
		FM Front End	CWB1035

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
R	2 7		RS1/10S223J
R	3		RS1/10S124J
R	4		RS1/10S682J
R	5 13 63		RS1/10S0R0J
R	6 59 101		RS1/10S331J
R	10		RS1/10S560J
R	15		RS1/10S0R0J
R	54		RS1/10S472J
R	56 58 104		RS1/10S393J
R	57		RS1/10S562J
R	60		RS1/10S473J
R	61 105		RS1/10S332J
R	64		RS1/10S222J
R	102		RS1/10S822J
R	106		RS1/10S333J
R	107		RS1/10S102J
R	108		RS1/10S104J
R	111		RS1/10S123J
R	112		RS1/10S684J
R	151 152 153		RS1/10S222J
R	201		RS1/10S220J
R	202		RS1/10S681J
R	203 206 214		RS1/10S222J
R	204 213		RS1/10S473J
R	205 209		RS1/10S470J
R	207		RS1/10S822J
R	208 211 212		RS1/10S103J
R	210		RS1/10S682J
R	215		RS1/10S153J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
C	1		CKSQYB102K50
C	2 3 104		CKSQYB103K50
C	4 59		CKSQYF473Z25
C	51		CKSQYF473Z25
C	52 53		CKSQYB223K25
C	54		CCSQSL101J50
C	55		CKSQYB102K50
C	56		CKSQYF104Z25
C	57		CSZAR33K35
C	58		CCSQCH060D50
C	60		CEALNP100M6R3
C	101		CKSQYB822K50
C	102		CKSQYB682K50
C	103		CKSQYB392K50
C	105		CEA2R2M50LL
C	106		CEA220M6R3LL
C	107 108		CKSQYB222K50
C	110		CEA010M50LL
C	111		CEA100M16LL
C	112		CEA0R1M50LL
C	151 152		CKSQYB273K25
C	153		CSZAR47M35L
C	154 155 156		CEA3R3M50LL
C	157		CEA101M10LS
C	201 223 228		CKSQYB103K25

Mark	Circuit Symbol & No.	Part Name	Part No.
C	202 212		CKSQYB332K50
C	203 215 216 219 226		CKSQYF473Z25
C	204 208 210		CKSQYB223K25
C	205		CCSQCH220J50
C	206 207		CCSQCH820J50
C	211		CEA2R2M50LL
C	213		CCSQCH390J50
C	217		CEA100M16LL
C	218		CEA2R2M35NPLL
C	220		CCSQCH430J50
C	221		CCSQCH100D50
C	222		CSZA010K35L
C	224		CEA470M16LL
C	225		CKSQYB333K25
C	227		CEA4R7M35LS
C	229		CEA470M16LS
C	230		CEA220M16LL

Unit Number :
Unit Name : Tuner Amp Unit(KEH-M7300SDK/WG)

Tuner Amp Unit
Consists of • Tuner Amp P. C. Board • SDK P. C. Board

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
IC	350		TA8162SN
IC	351		CXA1102P
IC	352		AN6263N
IC	451		KHA272
IC	501		TA8215H-A
IC	502		PD4302
IC	701		KHAC02
IC	951		TA8214K
Q	350 457 458 502 506 950 958 959 962 975		DTC114TS
Q	351 352 551 552 807 808		DTC314TS
Q	451 452 453 454		DTC114TS
Q	455 509		DTA114TS
Q	456 800		DTA114ES
Q	501 504 703 963 969		2SC2458
Q	503		2SC2498
Q	505		2SK330
Q	510		2SC3113
Q	550 553 976		DTC114YS
Q	554 805 806 966		2SA1048
Q	701		DTB123YS
Q	702		DTC114WS
Q	801 802		2SC2458
Q	917		2SD2037
Q	918 978 980	Chip Transistor	DTC114TK
Q	951 952 953		DTB123YS
Q	954		DTC114TS
Q	955 956		DTC314TS
Q	957 961 964		DTA143ZS
Q	960 977 979		2SB1243
Q	965		DTC114TS
Q	974		2SB772
D	350 440 504 505 506 507 511		1SS133
D	450		1S1555
D	451 452 453 454 501 502 550 551 552		1SS133
D	503 700		HZS3R0EB2
D	553 907		HZS9R1JB2
D	908		ERA15-02VH
D	951		HZS5R6JB2
D	952		HZS7R5JB2
D	953 958 959		ERA15-02VH
D	954		HZS6R8JB2
D	957		ERC04-02F
L	501	Ferri-Inductor	LAU2R2M
L	952	Ferri-Inductor	LAU330K
IB	501		CWW1302
IB	505		CWW1240
IB	951		CWW1301
IB	952		CWW1128
IB	953		CWW1292
IB	954		CWW1291
X	501	Crystal Resonator	CSS1011
X	701	Ceramic Resonator	CSS1019
VR	351 352	Semi-fixed 33kΩ (B)	VRTB6VS333
S	2	Switch(Clear)	CSG1012
IL	951	Lamp(Green)	CEL1207
IL	952	Lamp(Orange)	CEL1208
VR	1	Volume(Fader)	CCS1186
EF	953 954 955	EMI filter	CCG1003
BZ	902	Buzzer	CPV1013

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
R	351 352		RS1/10S104J
R	353 354		RS1/10S133J
R	355 356		RS1/10S183J
R	357 358		RS1/10S334J
R	359 360		RS1/10S181J
R	361 362 502 522		RS1/10S222J
R	363 364		RS1/10S822J
R	366 501 504 955 957 958		RS1/10S103J
R	367 537 954		RS1/10S473J
R	368 702		RS1/10S684J
R	369		RD1/4PS154JL
R	370		RS1/10S154J
R	371 372		RS1/10S473J
R	373 515 519 956		RS1/10S101J
R	375		RS1/10S0R0J
R	376 543 544 545 546 549 801 802 821		RS1/10S0R0J
R	379		RS1/10S0R0J
R	380 381 822 873		RS1/10S0R0J
R	382 383 384 614 615 616 988 989 990		RS1/8S0R0J
R	385 386 486 618 992		RS1/8S0R0J
R	389 824 993		RS1/8S0R0J
R	390		RS1/8S0R0J
R	392		RS1/10S104J
R	393		RS1/8S0R0J
R	451 452 509 961		RD1/4PS473JL
R	453 454		RS1/10S102J
R	455 456 524 527 529 805 806		RS1/10S473J
R	457		RS1/8S223J
R	458		RD1/4PM223J
R	459 460		RS1/10S563J
R	461 462		RS1/10S333J
R	469 470 475 476 541 542 547		RS1/10S0R0J
R	473 474		RS1/10S183J
R	479 483 605 987		RS1/10S0R0J
R	480 482		RS1/10S0R0J

Mark	Circuit Symbol & No.	Part Name	Part No.
R	485 606 607 608 610 611 613		RS1/8S0R0J
R	487 520 521 815 816 920 985 986		RS1/10S102J
R	503 563 819 820 970		RS1/10S223J
R	505 801 802		RS1/10S221J
R	506		RD1/4PS222JL
R	507		RD1/4PS392JL
R	508		RS1/10S823J
R	510 516		RS1/10S472J
R	511 534		RS1/8S104J
R	512		RD1/4PM102J
R	513		RS1/10S152J
R	514		RS1/10S182J
R	517		RS1/10S331J
R	518		RS1/10S821J
R	523 564 703 921 973		RS1/10S222J
R	525		RS1/10S474J
R	526		RD1/4PM102J
R	530 531		RS1/10S681J
R	532 533		RS1/8S681J
R	538		RS1/10S563J
R	539		RS1/10S0R0J
R	540		RS1/10S104J
R	548		RS1/10S102J
R	550		RS1/10S391J
R	553		RD1/4PS392JL
R	554		RD1/4PM392J
R	555 556		RD1/4PS471JL
R	557 558 559 560		RD1/4PS4R7JL
R	561 562		RS1/10S152J
R	701		RS1/8S473J
R	800		RS1/10S470J
R	803 804		RS1/10S223J
R	807 808 817 818		RS1/10S471J
R	809 810		RS1/10S681J
R	811 812		RS1/10S133J
R	813 814		RS1/10S472J
R	922		RS1/8S472J
R	923		RS1/10S472J
R	950		RS1/8S0R0J
R	951		RS1/8S681J
R	952 971 976		RD1/2PS681JL
R	953		RS1/8S223J
R	959 965		RS1/10S102J
R	960 977 978 979 980 981		RS1/8S103J
R	969		RS1/10S1R0J
R	974		RD1/4PS152JL
R	975		RS1/8S223J
R	999		RD1/4PM104J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
C	350 371		CEA101M10LS
C	351 352		CCSQCH681J50
C	353 354 363 701 705 914 954 957		CEA470M16LS
C	355 356 510 514		CKSQYB103K50
C	357 361 362 955 958		CEA100M16LS2
C	358 380 381 451 452 453 454 457 458 706		CEA4R7M35LS
C	359 360		CEA010M50LS2
C	364 555		CKSQYF104Z25
C	365		CEA101M10LS
C	367 368		CEAR68M50LS2
C	369 964		CKSQYB103K50
C	370		CCSQCH330J50
C	372 563		CEA0R1M50LS2
C	383 384	4.7μF/35V	CCH1016
C	455 953		CEA470M16L2
C	456		CEA100M16LS2
C	500		CASAQ4R7M10
C	501		CCG1008
C	502 504 505 507 520 702		CKPYY103M16L
C	509 526		CKSYB102K50
C	511		CKPYB101K50L
C	512		CKSYB681K50
C	513		CCSQCH101J50
C	515	4.7μF/16V	CCH1005
C	516		CEAR47M50LS2
C	517	1000μF/6.3V	CCH1112
C	518		CCSQCH100D50
C	525		CCSQCH090D50
C	527		CKSQYF104Z25
C	528		CKSQYB473K25
C	550		CEA101M10L2
C	551 552		CEHAS4R7M35
C	553 554 805 806 962		CKSQYB102K50
C	556		CEHAQ101M10
C	557 558		CEHAQ470M25
C	559 561 562		CQEA224J63
C	560		CQEA224J63
C	564		CEA472M16L2
C	600		CASAQ100M10
C	703		COMA683J50LL
C	704		CEAR33M50LS2
C	800		CEA221M10L2
C	801 802 807 808		CEA4R7M35LS
C	803 804		CEALNP100M16
C	913		CEA220M16LS
C	951	470μF/10V	CCH1019
C	952 963		CKSQY8473K25
C	956		CCG1008
C	961		CEA2R2M50LS2

Unit Number :
Unit Name : Key Board Unit(KEH-M7300SDK/WG)

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
IC	901		S-80740AH
IC	902		PD4285
IC	903		LC7582A
D	901 902 903 904 905	Chip Diode	DCC010
L	901	Ferri-Inductor	LAU101K
X	901	Ceramic Resonator	CSS1050
		LCD	CAW1124
IL	902 904 905 906 907 912	Lamp(Green)	CEL1207
IL	908 909 910 911 913	Lamp(Orange)	CEL1208
S	901 902 903 904 905 906 907 908 909 910		CSG-253
	911 912 913 914 915 916 917 918 919	Switch	

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
R	901 902 903 904 905		RS1/8S103J
R	906		RS1/10S104J
R	907		RS1/10S473J
R	908		RS1/10S103J
R	909 910 911 912 913 914 915 916 917 918		RS1/10S471J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
C	901		CEA470M6R3LS
C	902		CKSQYF473Z25
C	903		CCSQCH331J50
C	904 905		CKSQYB103K50
C	906 907		CCSQCH221J50
C	908 909 910 911 912		CKSQYB152K50

Unit Number :
Unit Name : P.C. Board(A)

Mark	Circuit Symbol & No.	Part Name	Part No.
S	2	Switch(FWD/REV)	ESH1003

Unit Number :
Unit Name : P.C. Board(B)

Mark	Circuit Symbol & No.	Part Name	Part No.
D	1		F1SR35-100A
S	3	Switch(Tape/Tun)	ESH1004
SO	1	Solenoid	EXP1008

Miscellaneous Parts List(KEH-M7300SDK/WG)

Mark	Circuit Symbol & No.	Part Name	Part No.
HD	1	Head Unit	EXA1163
M	1	Motor Unit	EXA1162

Tuner Amp Unit

	M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK/WG
TC501	----	CCG-070	CCG-070	CCG-070	CCG-070	----
IL952	CEL1208	CEL1025	CEL1025	CEL1025	CEL1025	CEL1208
IC502	PD4302	PD4343A	PD4343A	PD4343A	PD4343A	PD4302
IC701	----	----	----	----	----	KHA142
Q453, 454	----	----	----	----	----	DTC114TS
Q459, 460	----	----	----	----	DTC114TS	----
Q506	DTC114TS	----	----	----	----	DTC114TS
Q701	----	----	----	----	----	DTB123YS
Q702	----	----	----	----	----	DTC114WS
Q703	----	----	----	----	----	2SC2458
Q850	----	DTA114ES	DTA114ES	DTA114ES	DTA114ES	----
Q851, 852	----	2SC2458	2SC2458	2SC2458	2SC2458	----
Q853, 854	----	2SA1048	2SA1048	2SA1048	2SA1048	----
Q855, 856	----	DTC314TS	DTC314TS	DTC314TS	DTC314TS	----
Q917	----	----	----	----	----	2SD2037
Q971, 973	----	----	----	----	DTC144TS	----
Q972	----	----	----	----	DTA144ES	----
D508	----	1SS133	1SS133	1SS133	----	----
D509	----	----	----	----	1SS133	----
D511	----	----	----	----	----	1SS133
D700	----	----	----	----	----	HZS3R0EB2
D907	----	----	----	----	----	HZS9R1JB2
X701	----	----	----	----	----	CSS1019
R351, 352	RS1/10S104J	RS1/10S104J	RS1/10S223J	RS1/10S223J	RS1/10S104J	RS1/10S104J
R463, 464	----	----	----	----	RS1/10S303J	----
R465, 466	----	----	----	----	RS1/10S683J	----
R503, 970	----	----	----	----	RS1/10S223J	----
R570, 967, 968	----	----	----	----	RS1/10S222J	----
R571	----	----	----	----	RS1/10S473J	----
R606, 610, 611, 992	----	----	----	----	----	RS1/8S0R0J
R612, 619, 620	----	----	----	----	RS1/8S0R0J	----
R615	RS1/8S0R0J	----	----	----	----	RS1/8S0R0J
R701	----	----	----	----	----	RS1/8S473J
R702	----	----	----	----	----	RS1/10S684J
R703	----	----	----	----	----	RS1/10S222J
R850	----	RS1/10S470J	RS1/10S470J	RS1/10S470J	RS1/10S470J	----
R851, 852	----	RS1/10S221J	RS1/10S221J	RS1/10S221J	RS1/10S221J	----
R853, 854, 869, 870	----	RS1/10S223J	RS1/10S223J	RS1/10S223J	RS1/10S223J	----
R855, 856	----	RS1/10S473J	RS1/10S473J	RS1/10S473J	RS1/10S473J	----
R857, 858, 867, 868	----	RS1/10S471J	RS1/10S471J	RS1/10S471J	RS1/10S471J	----
R859, 860	----	RS1/10S681J	RS1/10S681J	RS1/10S681J	RS1/10S681J	----
R861, 862	----	RS1/10S133J	RS1/10S133J	RS1/10S133J	RS1/10S133J	----
R863, 864	----	RS1/10S472J	RS1/10S472J	RS1/10S472J	RS1/10S472J	----
R865, 866	----	RS1/10S102J	RS1/10S102J	RS1/10S102J	RS1/10S102J	----
R923	----	----	----	----	RS1/10S472J	RS1/10S472J

	M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK/WG
R991	----	RS1/8S0R0J	RS1/8S0R0J	RS1/8S0R0J	RS1/8S0R0J	----
R998	----	RD1/4PS222JL	RD1/4PS222JL	RD1/4PS222JL	----	----
C351, 352	CCSQCH681J50	CCSQCH681J50	CCSQCH331J50	CCSQCH331J50	CCSQCH681J50	CCSQCH681J50
C516	CEAR47M50LS2	----	----	----	----	CEAR47M50LS2
C525	CCSQCH090D50	----	----	----	----	CCSQCH090D50
C529	----	----	----	----	CKSQYF104Z25	----
C701, 705, 914	----	----	----	----	----	CEA470M16LS
C702	----	----	------	------	----	CKPYY103M16L
C703	----	----	----	----	----	CQMA683J50LL
C704	----	----	----	----	----	CEAR33M50LS2
C706	----	----	----	----	----	CEA4R7M35LS
C850	----	CEA221M10L2	CEA221M10L2	CEA221M10L2	CEA221M10L2	----
C851, 852, 857, 858	----	CEA4R7M35LS	CEA4R7M35LS	CEA4R7M35LS	CEA4R7M35LS	----
C853, 854	----	CEALNP100M16	CEALNP100M16	CEALNP100M16	CEALNP100M16	----
C855, 856	----	CKSQYB102K50	CKSQYB102K50	CKSQYB102K50	CKSQYB102K50	----
C913	----	----	----	----	----	CEA220M16LS

FM/AM Tuner Unit

	M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK/WG
Q3	----	2SA1162	2SA1162	2SA1162	----	----
Q51	----	----	----	----	----	DTA114TK
D11, 12	----	1SV128A-BB	1SV128A-BB	1SV128A-BB	----	----
VR1	CCP1019	CCP1025	CCP1025	CCP1025	CCP1019	CCP1019
L2	CTF1086	----	----	----	----	CTF1086
L11, 12	----	CTF1065	CTF1065	CTF1065	----	----
L101	CTF1126	CTF1170	CTF1170	CTF1170	CTF1126	CTF1126
L201	CTF1084	CTF1026	CTF1026	CTF1026	CTF1026	CTF1084
R3	RS1/10S124J	RS1/10S683J	RS1/10S683J	RS1/10S683J	RS1/10S124J	RS1/10S124J
R8	----	RS1/10S331J	RS1/10S331J	RS1/10S331J	----	----
R9	----	RS1/10S223J	RS1/10S223J	RS1/10S223J	----	----
R10	RS1/10S560J	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	RS1/10S560J
R11	----	RS1/10S104J	RS1/10S104J	RS1/10S104J	----	----
R12	----	RS1/10S470J	RS1/10S470J	RS1/10S470J	----	----
R13	RS1/10S0R0J	----	----	----	RS1/10S0R0J	RS1/10S0R0J
R14	----	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	----
R58	RS1/10S393J	RS1/10S223J	RS1/10S223J	RS1/10S223J	RS1/10S393J	RS1/10S393J
R60	----	----	----	----	----	RS1/10S473J
R61	RS1/10S332J	----	----	----	----	RS1/10S332J
R101	RS1/10S331J	RS1/10S471J	RS1/10S471J	RS1/10S471J	RS1/10S471J	RS1/10S331J
R151, 152	RS1/10S222J	RS1/10S152J	RS1/10S152J	RS1/10S152J	RS1/10S152J	RS1/10S222J
C11, 12, 13, 14	----	CCSQCH220J50	CCSQCH220J50	CCSQCH220J50	----	----
C15	----	CKSQYB223K25	CKSQYB223K25	CKSQYB223K25	----	----
C57	CSZAR33K35	CEAR68M50LS2	CEAR68M50LS2	CEAR68M50LS2	CSZAR33K35	CSZAR33K35
C101	CKSQYB822K50	CKSQYB392K50	CKSQYB392K50	CKSQYB392K50	CKSQYB392K50	CKSQYB822K50
C151, 152	CKSQYB273K25	CKSQYB563K25	CKSQYB563K25	CKSQYB563K25	CKSQYB563K25	CKSQYB273K25

Key Board Unit

	M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK/WG
IL908-911, 913	CEL1208	CEL1025	CEL1025	CEL1025	CEL1025	CEL1208

Miscellaneous Parts List

	M7300/EW	M7200/US	M550/US	M7250/CA	M7250/ES	M7300SDK/WG
HD1	EXA1163	EXA1163	EPB1015	EPB1015	EXA1163	EXA1163

PIONEER
The Art of Entertainment

Service Manual

ORDER NO.
CRT1328

CASSETTE MECHANISM ASSEMBLY

CX-197

NOTE

- **This service manual describes operation of the cassette mechanism incorporated in models listed in the table below.**
- **When performing repairs use this manual together with the specific manual for the model under repair.**

Model	Service Manual	Cassette Mechanism Assembly
KE-1700B/IT KE-1700SDK/WG KE-1730B/EW KE-2700B/IT KE-2700SDK/WG KE-2730B/EW	CRT1325	EXK1710
KE-1700QR/UC KE-2303QR/UC KE-2750QR/ES	CRT1327	EXK1710
KE-2033/UC KE-2033/XSG/UC KE-2828/XSG/UC KE-2828/ES, UC	CRT1331	EXK1710
KE-3838/UC, ES KE-3838/XSG/UC KE-3838/XML/UC	CRT1332	EXK1710
KE-1700B/XML/IT	CRT1336	EXK1710
KE-1730B/XIB KE-1730B/XML/EW KE-1730B/XSG/EW	CRT1337	EXK1710
KE-2630B/XIB KE-2730B/XIB	CRT1340	EXK1710

Model	Service Manual	Cassette Mechanism Assembly
KE-1700QR/XML/UC	CRT1339	EXK1710
KE-3700SDK/WG KE-3730B/EW KE-3700B/IT	CRT1326	EXK1720
KE-2700QR/UC KE-3700QR/UC KE-3750QR/ES	CRT1327	EXK1720
KE-4848/ES, UC KE-4848/XML/UC KE-4848/XSG/UC	CRT1330	EXK1720
KE-250/US KE-3033/UC KE-3033/XSG/UC	CRT1332	EXK1720
KE-3730B/XIB	CRT1338	EXK1720
KE-450QR/US	CRT1327	EXK1750
KE-350/US	CRT1330	EXK1750

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1. DISASSEMBLY

Note: Always use new washer and E washer at the time of reassembling.

● How to Remove the Belt and Motor

1. Remove screw A fixing the FR lever. (Fig.1)
2. Remove three screws B fixing the sub-chassis unit. Move the unit first in Direction A, then in B direction, and lift it upward for removal. (Fig.2)
3. The belt can now be removed. (Fig.3)
4. Remove two screws C. The motor can be removed. (Fig.3)

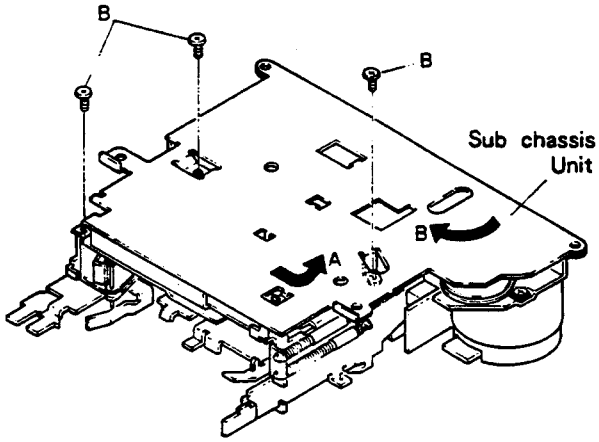


Fig. 2

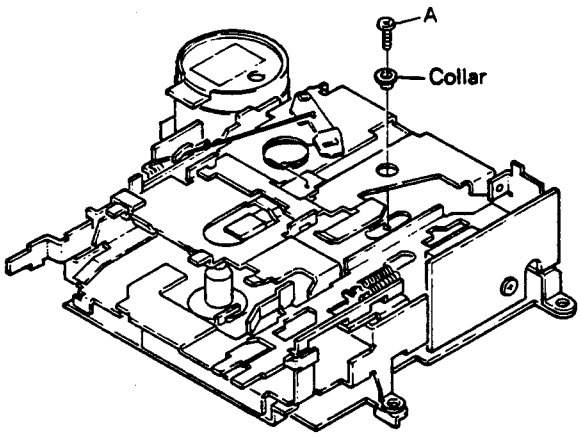


Fig. 1

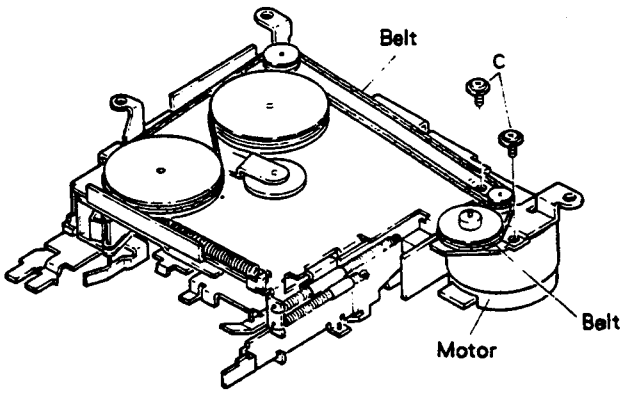


Fig. 3

● How to Remove the Pinch Roller Unit and Head

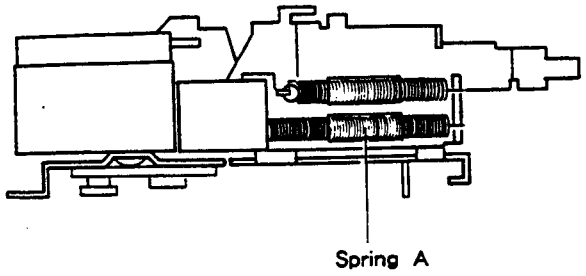


Fig. 4

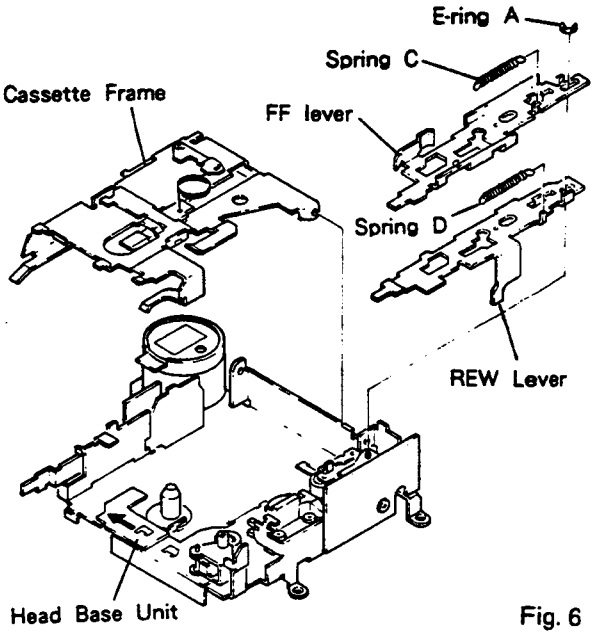


Fig. 6

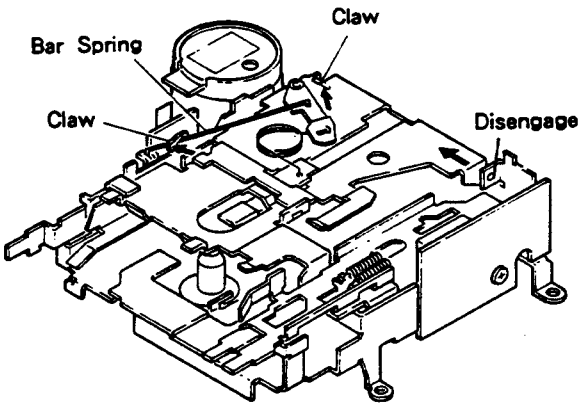


Fig. 5

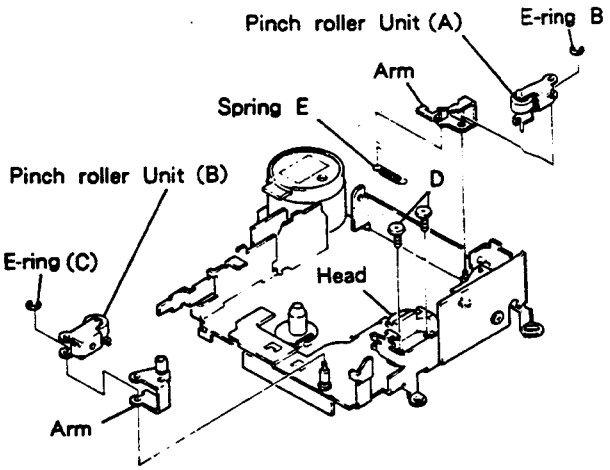


Fig. 7

1. Remove spring A. (Fig.4)
2. Extend claws (2 points). (Fig.5)
3. Remove bar Spring. (Fig.5)
4. Disengage projection by moving in a direction of arrow mark. (Fig.5)
5. The cassette frame is removed. (Fig.6)
6. Remove springs C and D. (Fig.6)
7. Remove E-ring A. (Fig.6)
8. Remove FF/REW levers. (Fig.6)
9. Move head base unit forward. (Fig.6)
10. Remove spring E. (Fig.7)
11. Remove E-ring B. The pinch roller unit (A) can be removed. (Fig.7)
12. Remove E-ring C. The pinch roller unit (B) can be removed. (Fig.7)
13. Remove two screws D. The head can be removed. (Fig.7)

2. ADJUSTMENT

2.1 CHECK POINTS OF CASSETTE MECHANISM

Confirm the following items when replacing parts of the cassette mechanism.	■ Tape speed deviation: $3{,}000\ ^{+90}_{-30}$ Hz (4.76cm/s $^{+3}_{-1}$ %) Using an NCT-111, measure the speed at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimun and maximum values. Measuring time shall be 5 — 6 seconds.	■ Wow and flutter: Less than 0.2% (WRMS) Using an NCT-111, measure the wow and flutter at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5 — 6 seconds.
■ Fast forward and rewinding time: 100 — 120 seconds Using a C-60, set to fast forward and rewind, and measure the time with a stop watch.	■ Winding torque: 35 — 65g • cm Using a cassette type torque meter (100 g•cm), measure the minimum value while in the play mode. Measuring time shall be 2.5 — 6 seconds.	■ F.F. torque: 70 — 120g • cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the F.F. mode.
■ REW torque: 70 — 120g • cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the REW mode.	■ Back tension torque: 2 — 6g • cm After setting in the REW mode without loading a cassette tape for 5 minutes, measure the back tension torque in the play mode, using a cassette type torque meter.	■ Cassette loading force: Less than 0.7 kg Push the center of the cassette and measure the force with a tension meter (3 kg).

2.2 AZIMUTH ADJUSTMENT

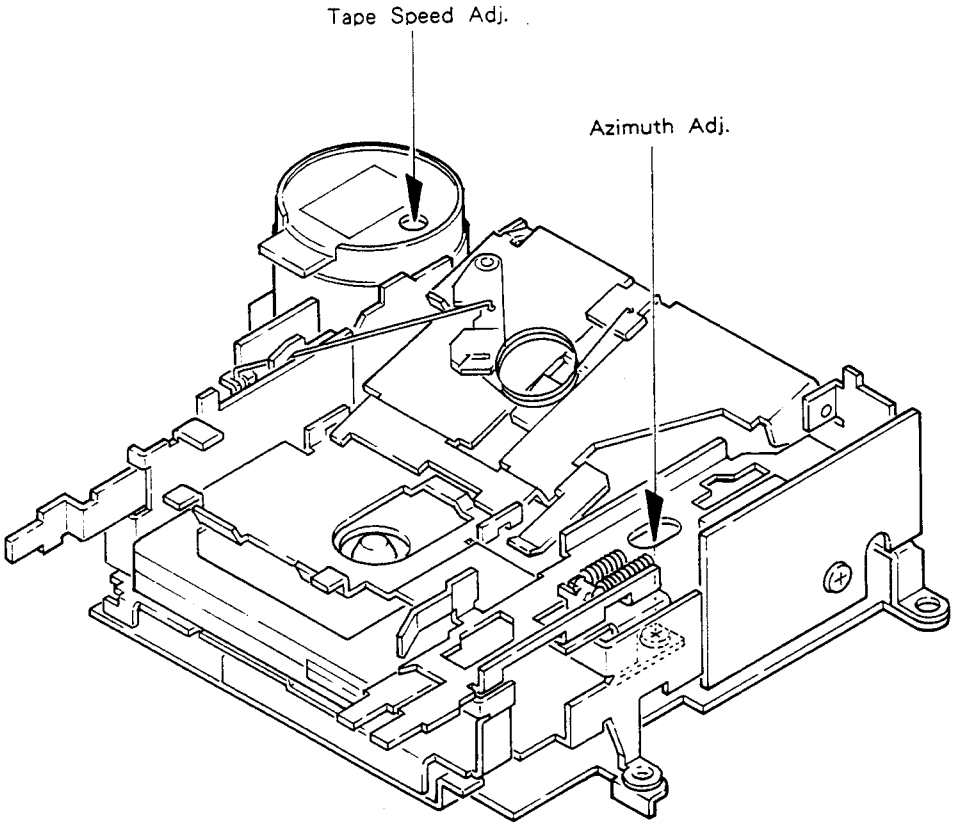


Fig. 8

● To Adjust (EXK1750)

1. Play "A" side of NCT-110 (10kHz, – 10dB). Adjust the screw for maximum output in forward and reverse directions.
2. Play "B" side in forward and reverse directions to confirm adjustment.

2.3 TAPE SPEED ADJUSTMENT

1. Reproduce NCT-111 (3kHz, – 10dB). Adjust the semifixed resistor so that frequency counter shows 3010Hz (+80Hz, – 40Hz).

3. MECHANISM DESCRIPTION

● Loading operation

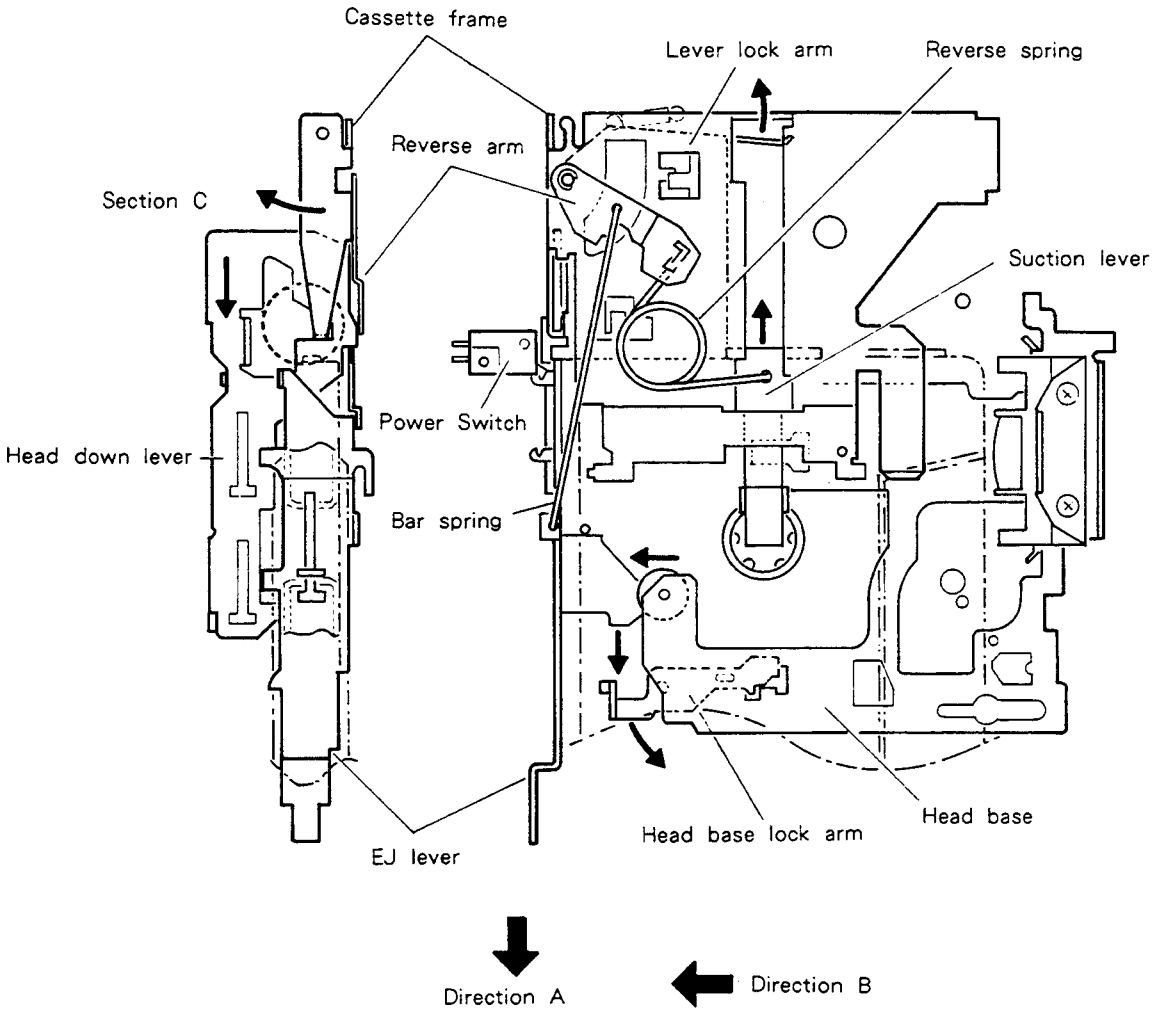


Fig. 9

1. A cassette tape, when inserted, pushes a suction lever.
   The reverse spring rotates to move past the reverse point. Then, the cassette is drawn by a force of a reverse spring (suction operation).
2. After suction, the lever lock arm is pressed to be unlocked.
3. The head down lever is unlocked and the lever moves in Direction A.
4. While moving, the EJ lever turns ON the power switch.
5. The cassette frame engaged to the section C of the head down lever turns. (Cassette drop operation)
6. At the stroke end, the head down lever turns the head base lock arm.
7. A Stopper of the head base lock arm is released, and the head base moves forward (Direction B).

● MS Operation

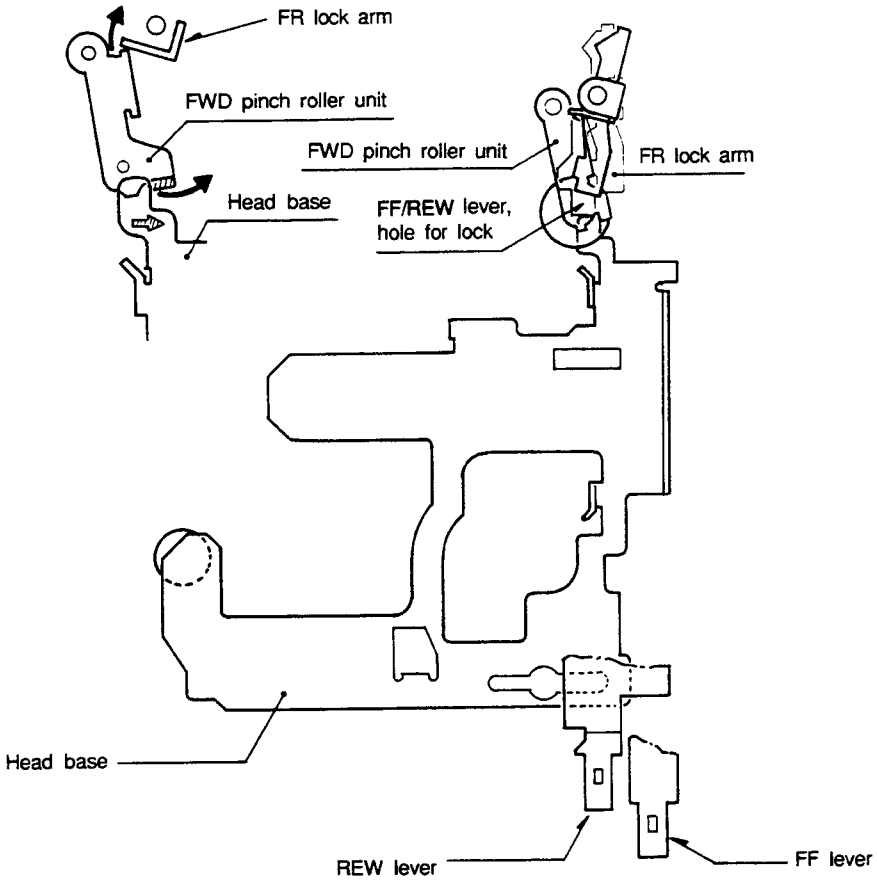


Fig. 10

The head base is moved back by switching the key-off solenoid off from the REW or FF condition, and is lowered (rotated) FWD pinch roller unit. The FWD pinch roller unit presses the bending part of FR lock arm to make it rotate in the direction that releases the lock. The lock of the FF/REW lever is consequently released.
Subsequently, the head comes out from the ATSC to enable PLAY condition.

● Direction Changeover Operation

(1) FWD play operation

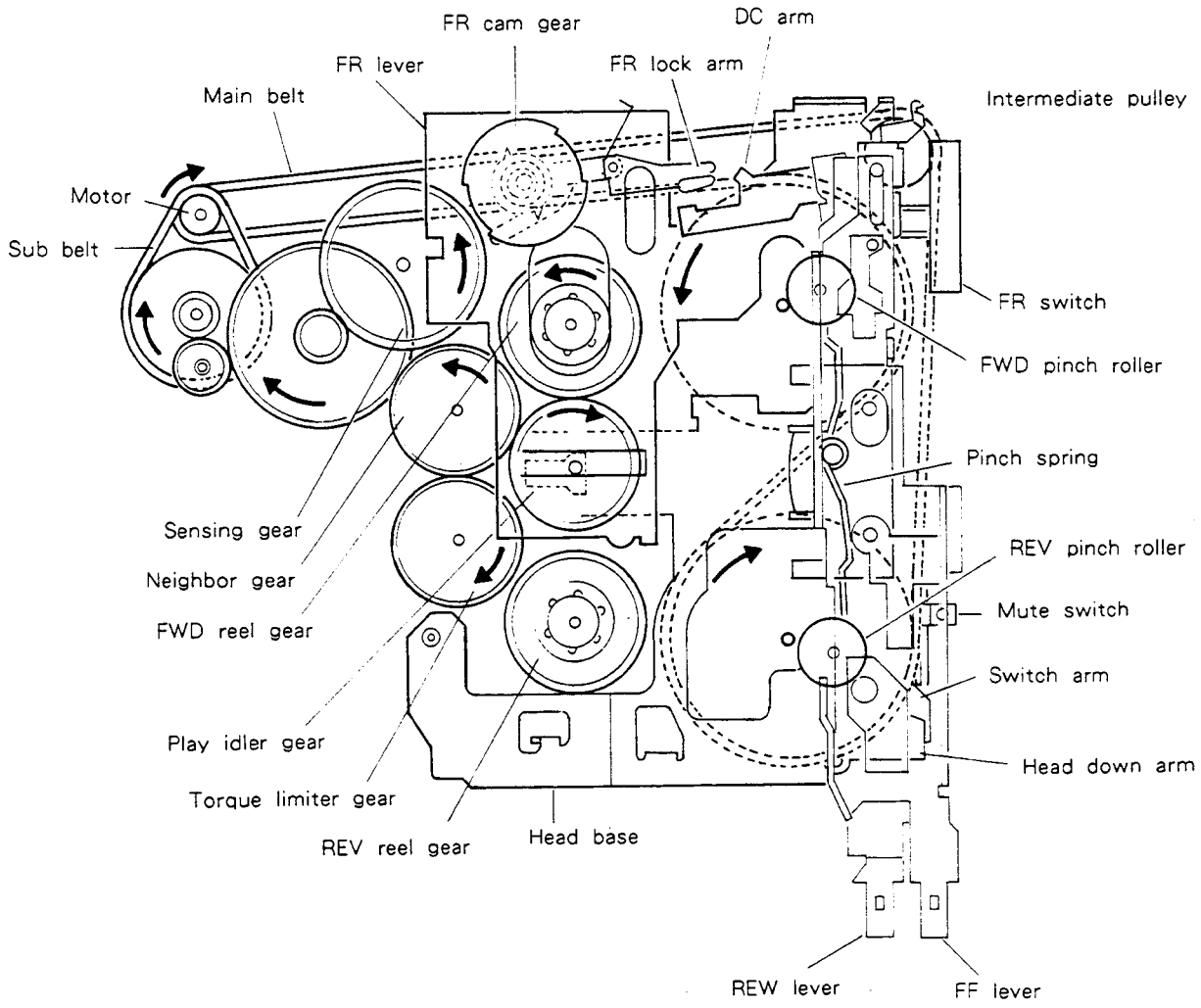


Fig. 11

When the FR lever is in the top position, the pinch spring is in the upper position to press the FWD pinch roller. The FR switch also moves upward and its reaction causes downward force on the FR lever. The spring attached to the FR lever applies upward force to the play idler gear from above to engage it with the neighbor gear and FWD reel gear.

The tape is driven in the FWD direction by a running motor and taken up by the REV reel gear via the torque limiter gear.

(2) Direction change operation

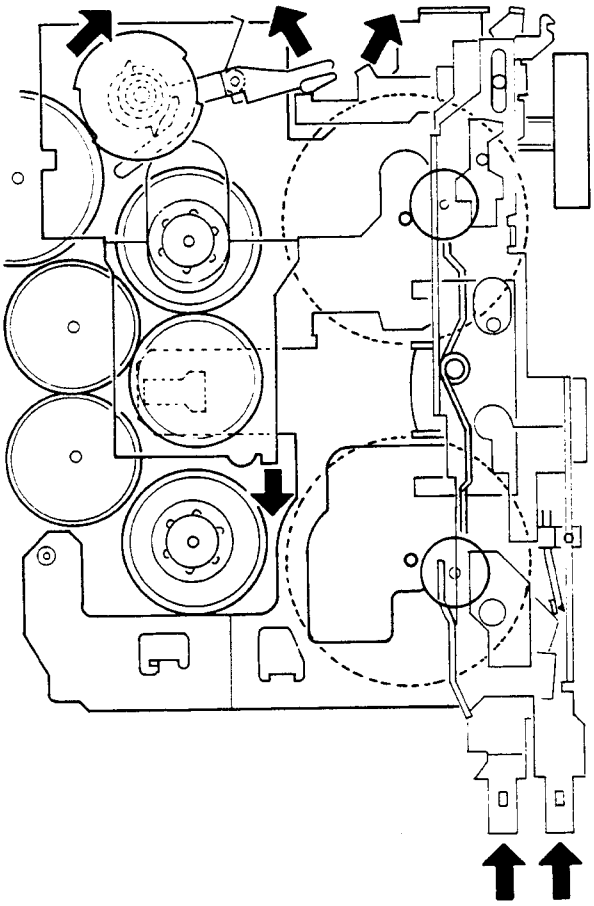


Fig. 12

The direction is changed by pressing FF and REW levers simultaneously. The DC arm turns along a cam groove of FF and REW levers to turn the FR lock arm. As the FR lever applies force from above downward, the FR cam gear turns and the notch meshes with the sensing gear.

As a result, the FR lever moves downward.

When FF and REW levers are kept pressed, the lock arm contacts the outside of the FR cam gear to prevent changeover between FWD and REV. Pressing FF and REW levers also cause the mute switch to be turned ON. In other words, muting is valid while FF and REW levers are pressed. (Fig.12)

(3) REV play operation

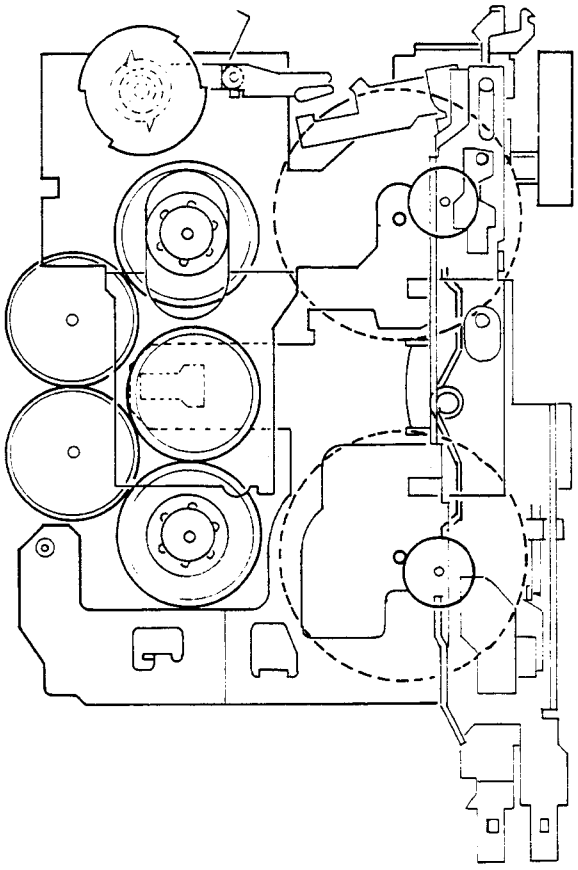


Fig. 13

Moving the NR lever up and down causes changeover among the pinch roller, FR switch, and play idler gear. With FF and REW levers having been returned, the FR lock arm returns to the normal lock position and locks the gear when the FR gear completes an one-half turn. The mute arm also returns to turn OFF the mute switch. The reverse play state is thus obtained. (The same applies to changeover from REV to FWD.)

● FF/REW Operation

(1) FWD play operation

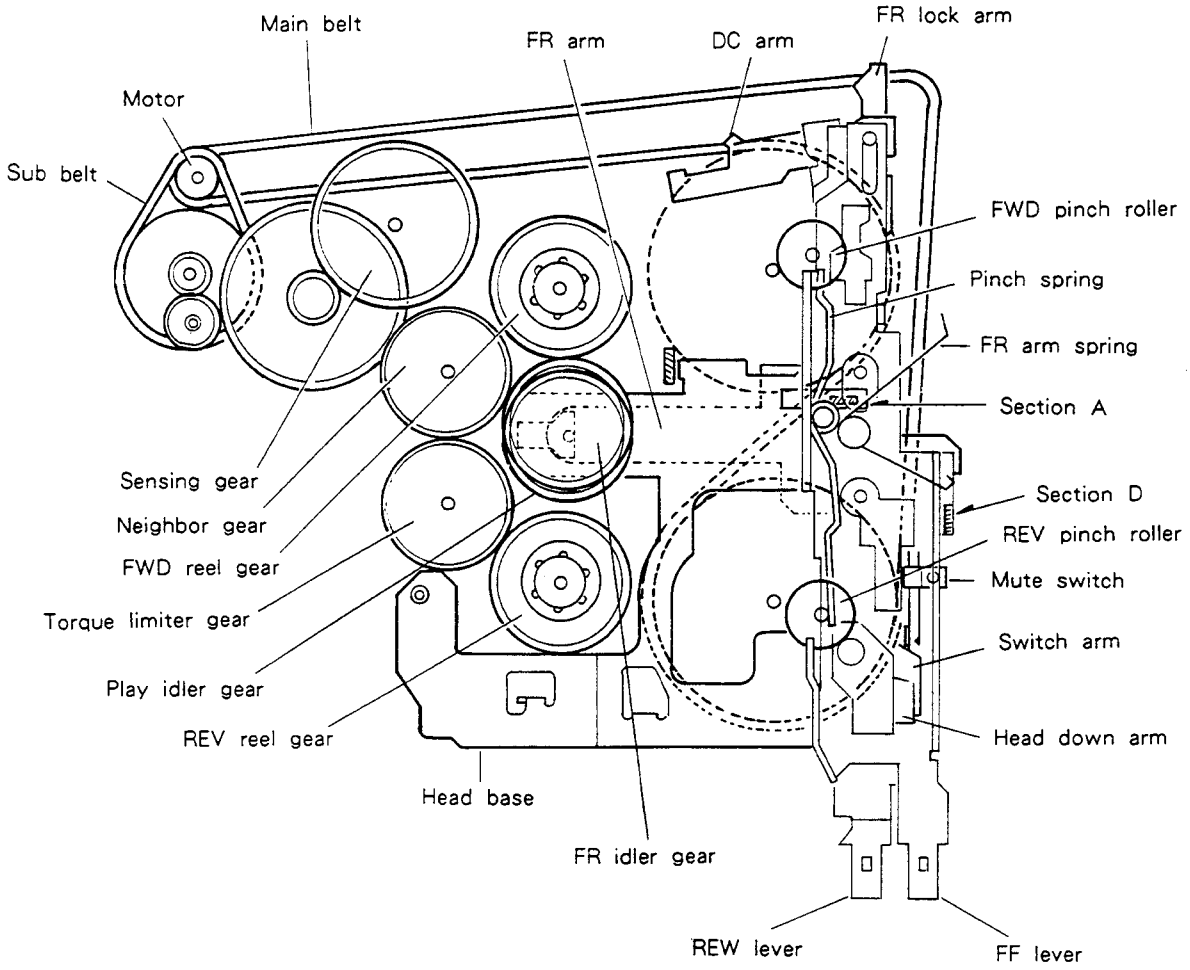


Fig. 14

In the FWD (REV) play state, the head base is fixed by a chassis stopper. The pinch spring presses the pinch roller into contact with a capstan to drive forward the tape. The REV reel gear takes up the tape via the torque limiter gear. In this case, the FR idler gear on the FR arm is centered by Section A of the head base and thus not rotating.

(2) FF Operation

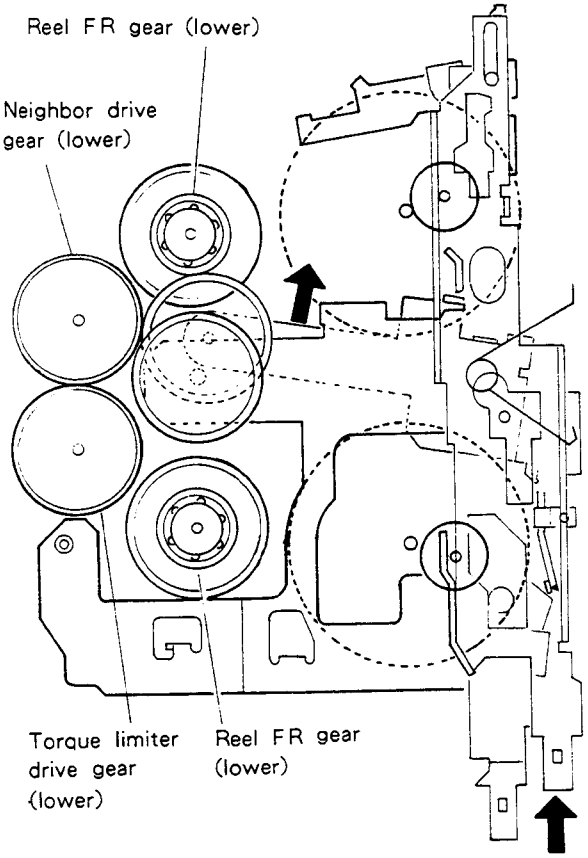


Fig. 15

FF operation is obtained by pressing and locking the FF lever. As the FF lever is pressed, the switch arm turns to turn ON the mute switch. The head base is moved backward along the FF lever cam groove.

As the head base moves backward to release the pinch roller from the capstan, the play idler gear is simultaneously disengaged from the reel gear. As the head base moves backward, the FR arm centered by Section A is put into rotation by the FR arm spring to engage with the FWD side FR gear.

The FF lever is locked by the FR lock arm and performs the FF operation. (Fig.15)

(3) REW operation

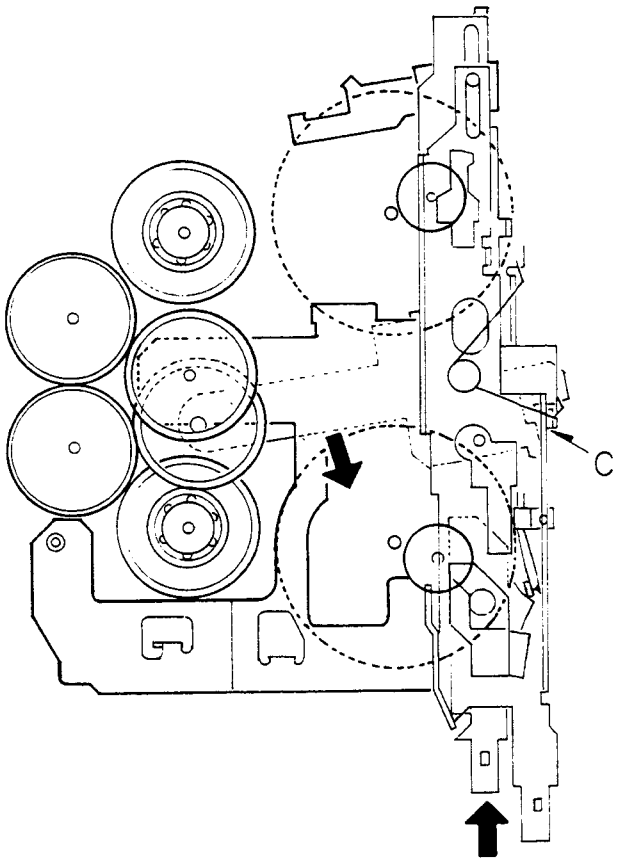


Fig. 16

Similar to the case of FF operation, pressing the REW lever causes the mute switch to be turned ON.

Simultaneously with release of the pinch roller from the capstan, the play idler gear is disengaged from the reel gear.

Section D of the REW lever presses a movable side of the FR arm spring, thereby engaging the FR gear to the FR gear on the REV side.

The REW lever is locked by the lock arm, performing the REW operation. This operation is cancelled when Section C is turned by the lever return spring. (Fig.16)

● Sensing Operation

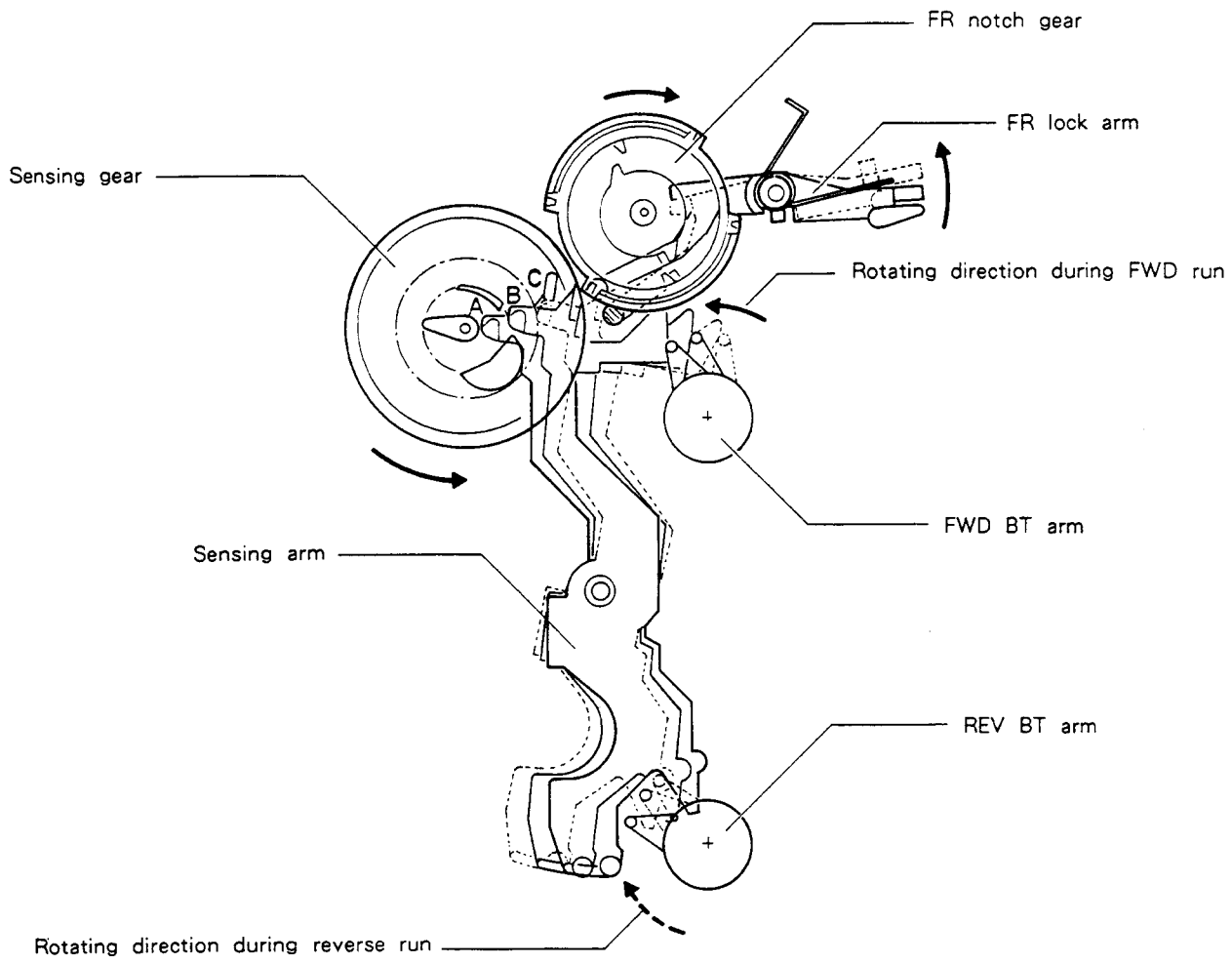


Fig. 17

1. During tape run: The sensing arm keeps oscillation between A and B under a force of the FWD BT arm (or REV BT arm).

2. At end of tape: The force of the BT arm is lost. The sensing arm stops at Position B, then pushed out to Position C by a crescent cam of the sensing gear.

3. Change of run direction:
   The FR lock arm turns counter-clockwise along with movement of the sensing arm. The FR notch gear is unlocked and begins to turn.

● ATSC Opeeration

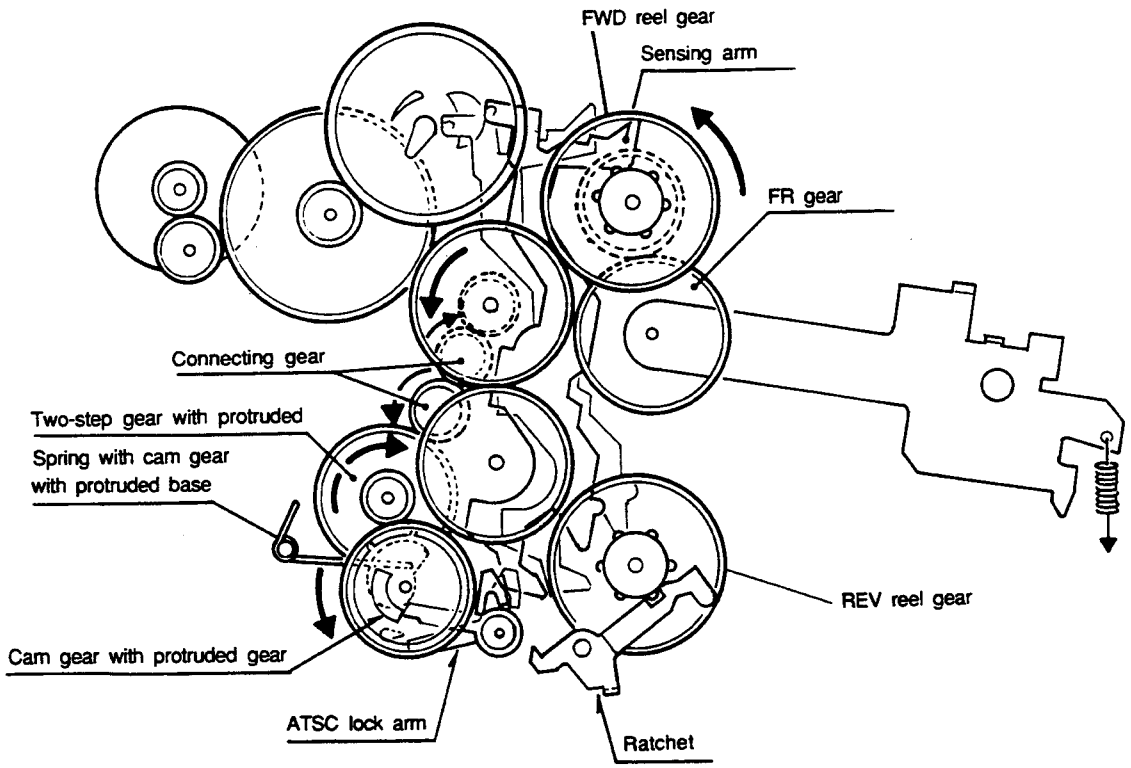


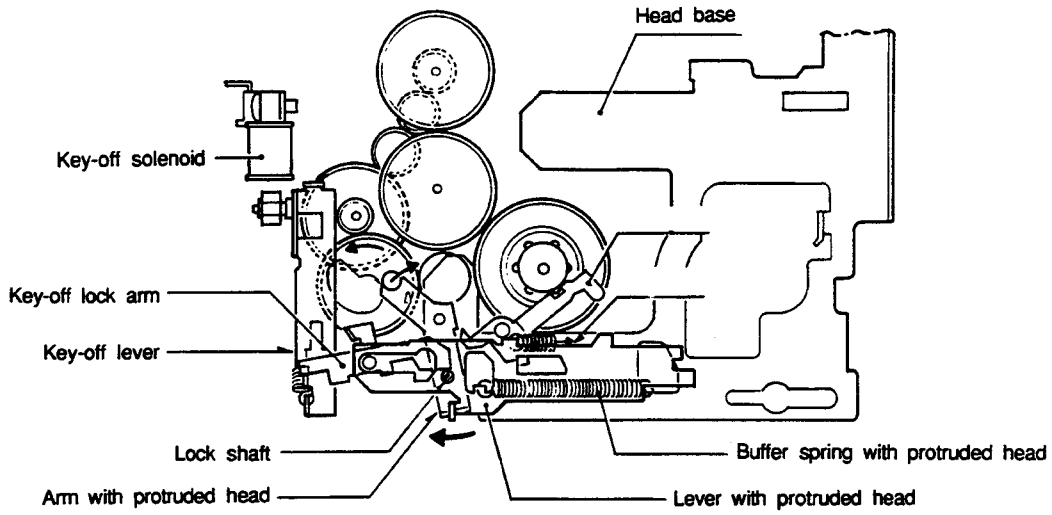
Fig. 18

1. At the position for releasing the head table, the FR gear is meshed with the FWD reel gear. Because the ratchet in the REV reel gear stops rotating, the tape must be wound up until no slack exist.

2. Because the rotation stops when no slack exists in the tape, sensing is performed. The sensing arm presses the ATSC lock arm, and the lock of the cam gear with protruded head gets out of position. Then, the cam gear is made to rotate.

● Key-off Operation

Release Condtion



Play Condition

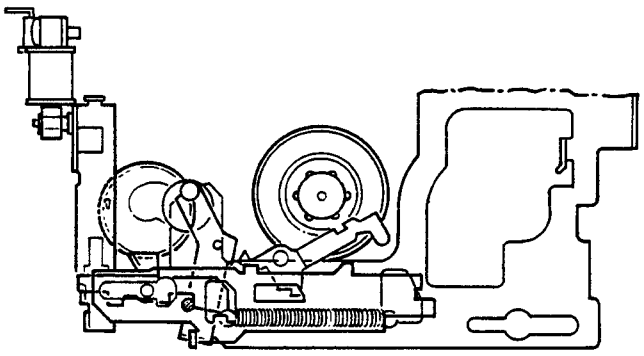


Fig. 19

1. Thrusting head: The arm with protruded head is rotated by the rotation of the cam gear with protruded head, and the lever with protruded head is pushed out. Because the lever with the protruded head and head base are connected by the buffer spring with protruded head, the head base moves forward.

2. Lock for head base:
When the lever with protruded head moves forward, the lock shaft caulked by the lever with protruded head shifts. Thus, the key-off lock arm can rotate, and the key-off lever reaches the key-off solenoid by force of a spring, and becomes attached. (Although escape power works on the key-off lock arm by force of the head return spring, the solenoid maintains it.)

3. Key-off: The key-off lock arm is rotated by the power of the head return spring when the key-off solenoid is switched off, and the lever with protruded head and head base move back together.

ADDITIONAL

Service Manual

PIONEER
The Art of Entertainment

ORDER NO.
CRT1428

CASSETTE MECHANISM ASSEMBLY

CX-197

NOTE

- **This service manual describes operation of the cassette mechanism incorporated in models listed in the table below.**
- **When performing repairs use this manual together with the specific manual for the model under repair.**
- **CX197 (CRT1328) does not have a Key-off function, but the key-off function is shown in this service manual of the CX-197 (CRT1428).**

Model	Service Manual	Cassette Mechanism Assembly
KEH-M7400RDS/EW	CRT1429	EXK1735

Model	Service Manual	Cassette Mechanism Assembly

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

FU DEC. 1991 Printed in Japan

1. DISASSEMBLY

Note: Always use new washer and E washer at the time of reassembling.

● How to Remove the Belt and Motor

1. Remove screw A fixing the FR lever. (Fig.1)
2. Remove three screws B fixing the sub-chassis unit. Move the unit first in Direction A, then in B direction, and lift it upward for removal. (Fig.2)
3. The belt can now be removed. (Fig.3)
4. Remove two screws C. The motor can be removed. (Fig.3)

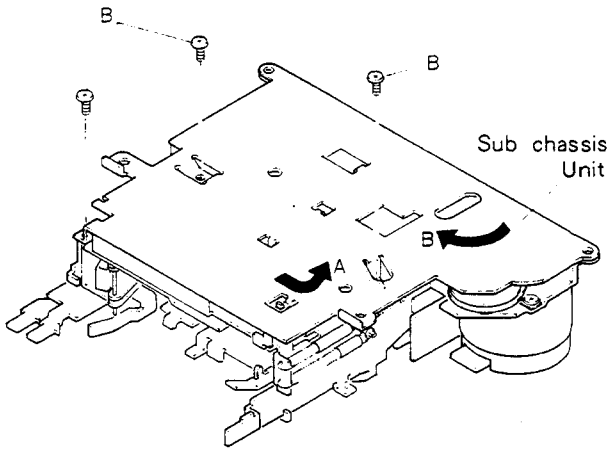


Fig. 2

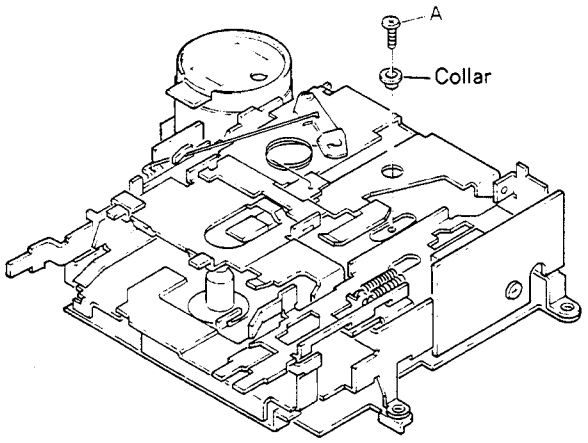


Fig. 1

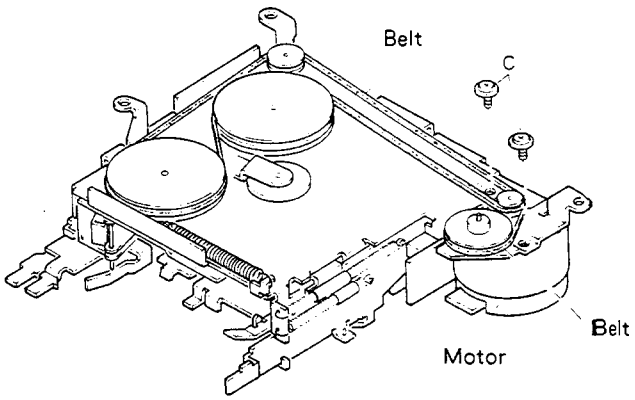


Fig. 3

● How to Remove the Pinch Roller Unit and Head

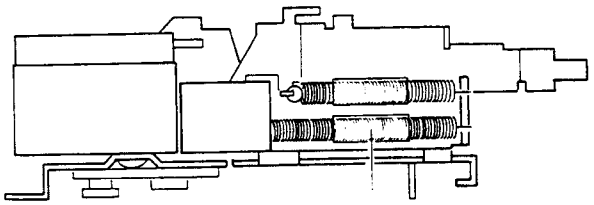


Fig. 4

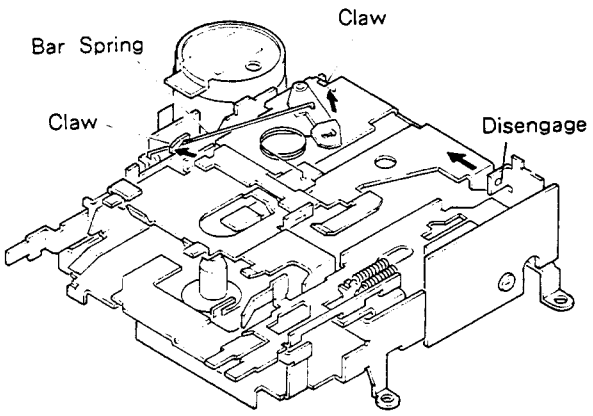


Fig. 5

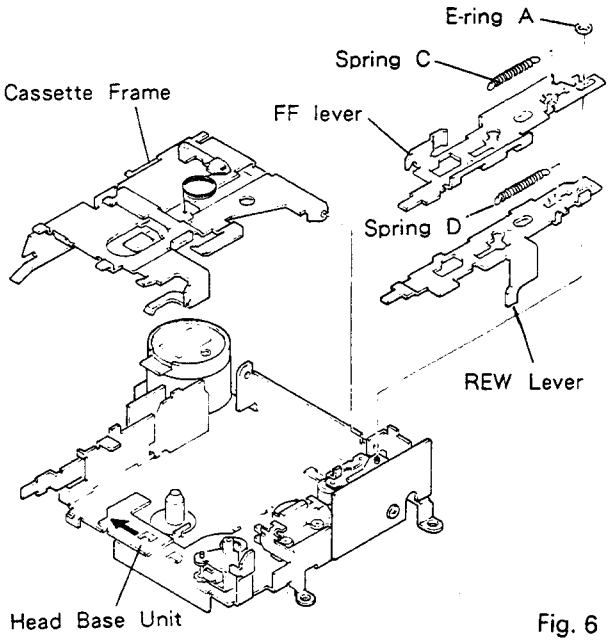


Fig. 6

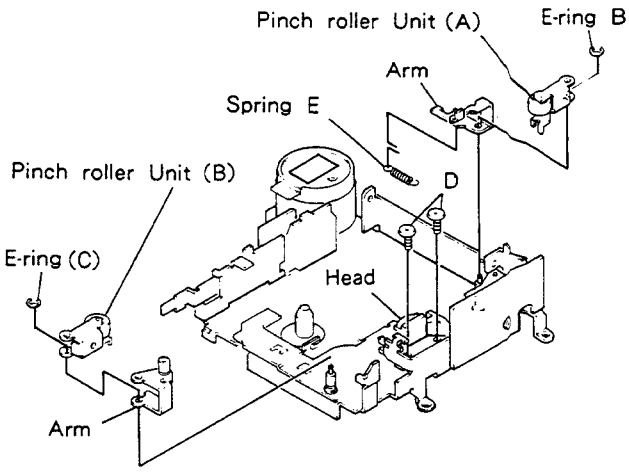


Fig. 7

1. Remove spring A. (Fig.4)
2. Extend claws (2 points). (Fig.5)
3. Remove bar Spring. (Fig.5)
4. Disengage projection by moving in a direction of arrow mark. (Fig.5)
5. The cassette frame is removed. (Fig.6)
6. Remove springs C and D. (Fig.6)
7. Remove E-ring A. (Fig.6)
8. Remove FF/REW levers. (Fig.6)
9. Move head base unit forward. (Fig.6)
10. Remove spring E. (Fig.7)
11. Remove E-ring B. The pinch roller unit (A) can be removed. (Fig.7)
12. Remove E-ring C. The pinch roller unit (B) can be removed. (Fig.7)
13. Remove two screws D. The head can be removed. (Fig.7)

2. ADJUSTMENT

2.1 CHECK POINTS OF CASSETTE MECHANISM

Confirm the following items when replacing parts of the cassette mechanism.	■ Tape speed deviation: $3{,}000\ ^{+90}_{-30}$ Hz (4.76cm/s $^{+3}_{-1}$ %) Using an NCT-111, measure the speed at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimun and maximum values. Measuring time shall be 5 — 6 seconds.	■ Wow and flutter: Less than 0.2% (WRMS) Using an NCT-111, measure the wow and flutter at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5 — 6 seconds.
■ Fast forward and rewinding time: 100 — 120 seconds Using a C-60, set to fast forward and rewind, and measure the time with a stop watch.	■ Winding torque: 35 — 65g • cm Using a cassette type torque meter (100 g•cm), measure the minimum value while in the play mode. Measuring time shall be 2.5 — 6 seconds.	■ F.F. torque: 70 — 120g • cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the F.F. mode.
■ REW torque: 70 — 120g • cm Using a cassette type torque meter (120 g•cm), measure the value when the tape stops in the REW mode.	■ Back tension torque: 2 — 6g • cm After setting in the REW mode without loading a cassette tape for 5 minutes, measure the back tension torque in the play mode, using a cassette type torque meter.	■ Cassette loading force: Less than 0.7 kg Push the center of the cassette and measure the force with a tension meter (3 kg).

2.2 AZIMUTH ADJUSTMENT

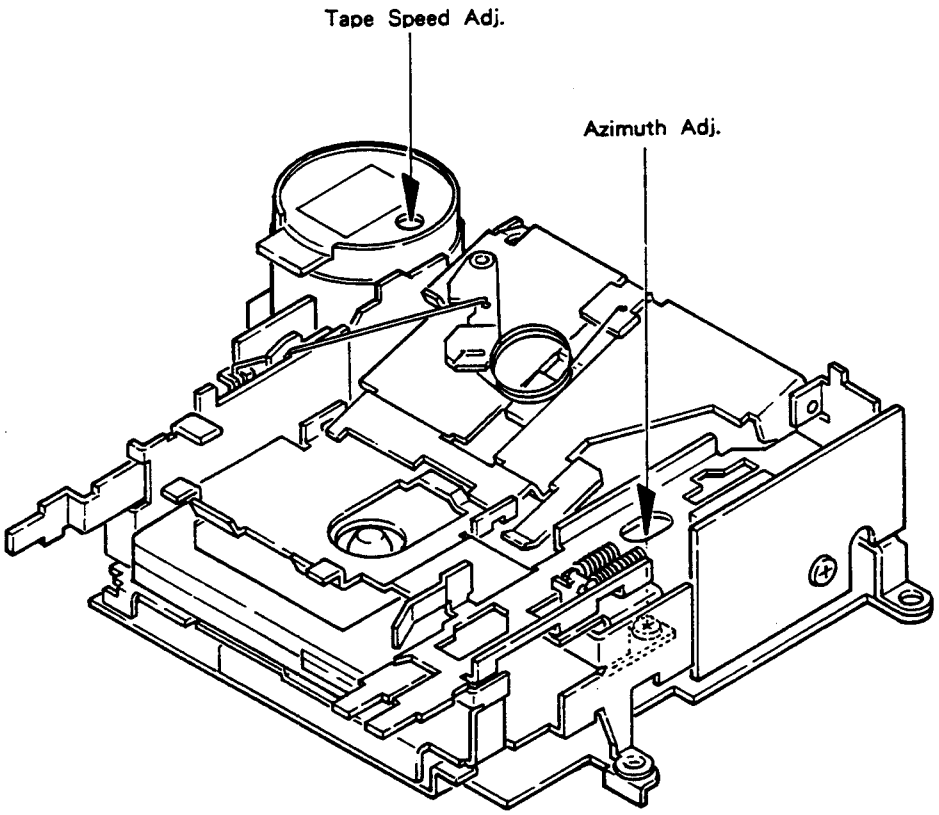


Fig. 8

● To Adjust (EXK1750)

1. Play "A" side of NCT-110 (10kHz, – 10dB). Adjust the screw for maximum output in forward and reverse directions.
2. Play "B" side in forward and reverse directions to confirm adjustment.

2.3 TAPE SPEED ADJUSTMENT

1. Reproduce NCT-111 (3kHz, – 10dB). Adjust the semifixed resistor so that frequency counter shows 3010Hz (+80Hz, – 40Hz).

3. MECHANISM DESCRIPTION

● Loading operation

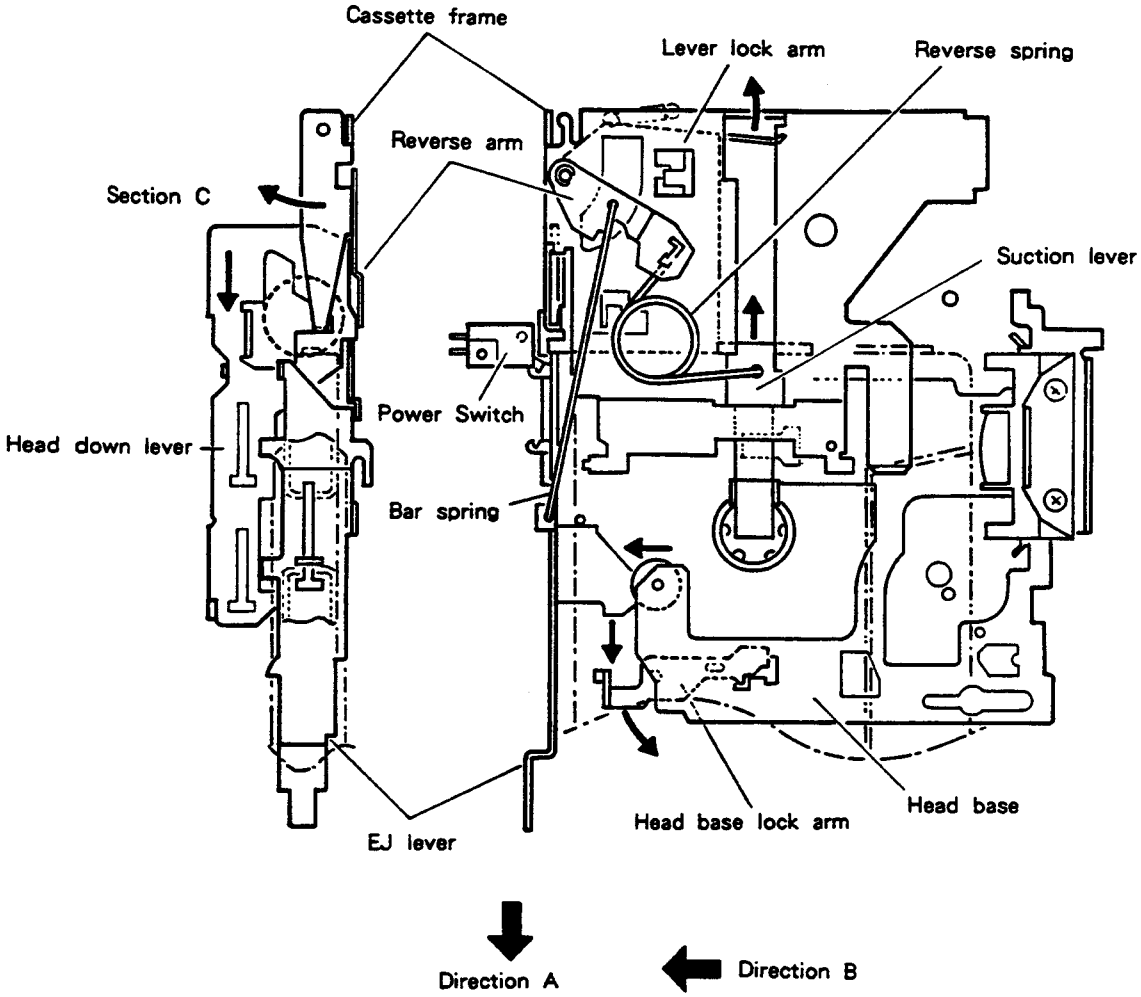


Fig. 9

1. A cassette tape, when inserted, pushes a suction lever.
   The reverse spring rotates to move past the reverse point. Then, the cassette is drawn by a force of a reverse spring (suction operation).
2. After suction, the lever lock arm is pressed to be unlocked.
3. The head down lever is unlocked and the lever moves in Direction A.
4. While moving, the EJ lever turns ON the power switch.
5. The cassette frame engaged to the section C of the head down lever turns. (Cassette drop operation)
6. At the stroke end, the head down lever turns the head base lock arm.
7. A Stopper of the head base lock arm is released, and the head base moves forward (Direction B).

● MS Operation (EXK1720, EXK1750)

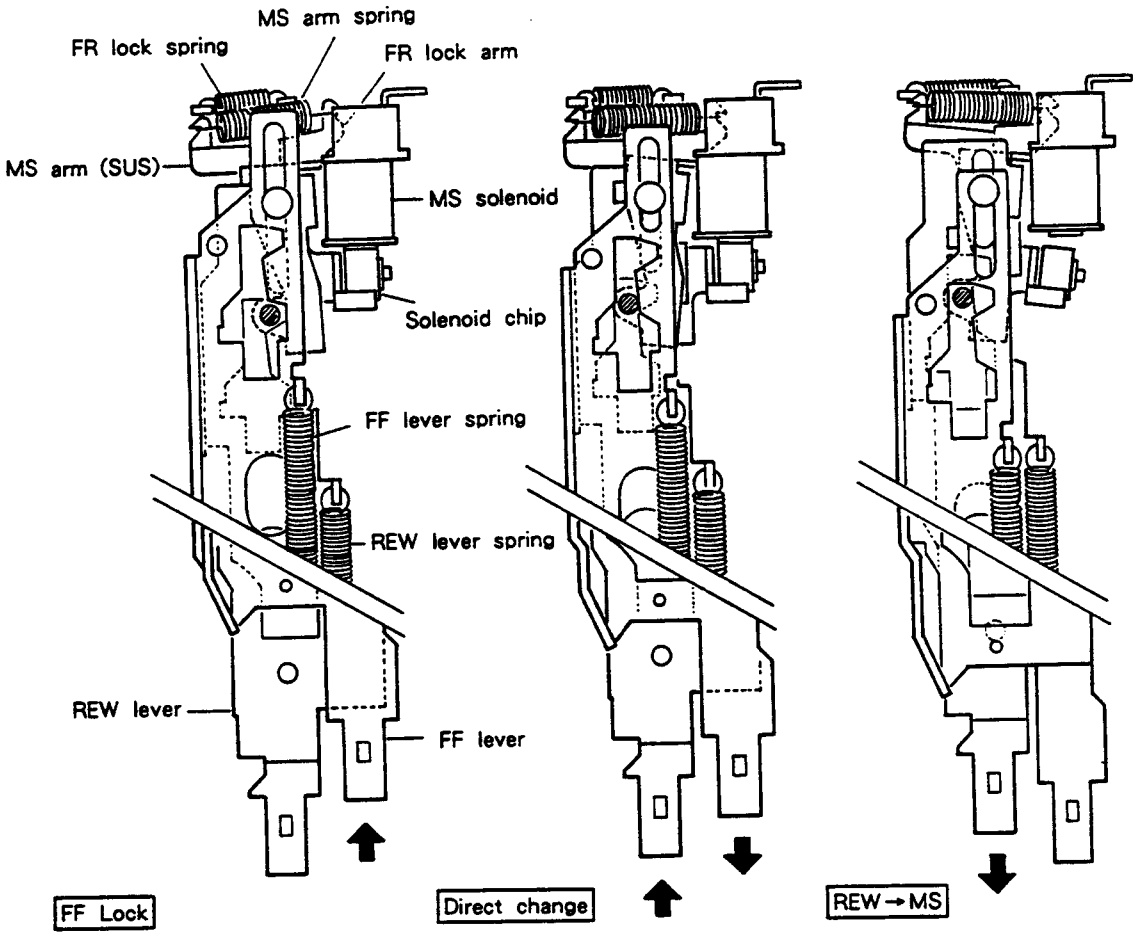


Fig. 10

Fig. 11

Fig. 12

1. The MS solenoid is normally energized to attract the solenoid chip during play and F/R operation. The solenoid chip applies counterclockwise force to the MS arm, thereby putting the FR lock arm into rotation via the MS arm spring. The MS lock shaft of FR lock arm unit catches a taper in a different hole of the FF (or REW) lever to lock the FF (or REW) lever.
2. In case of direct change, pressing the unlocked FF or REW lever causes the lever taper to turn the FR lock arm clockwise. This in turn presses the MS arm spring and FR lock spring to release the locked lever.
3. When the no recording section is caught and the power supply to the solenoid is cut off, the solenoid loses the attraction force and disables locking of the F/R lever. As a result, the F/R lever is unlocked. (This unlocking occurs because the force to retain the lever cannot be generated by the FR lock spring only.)

● Direction Changeover Operation

(1) FWD play operation

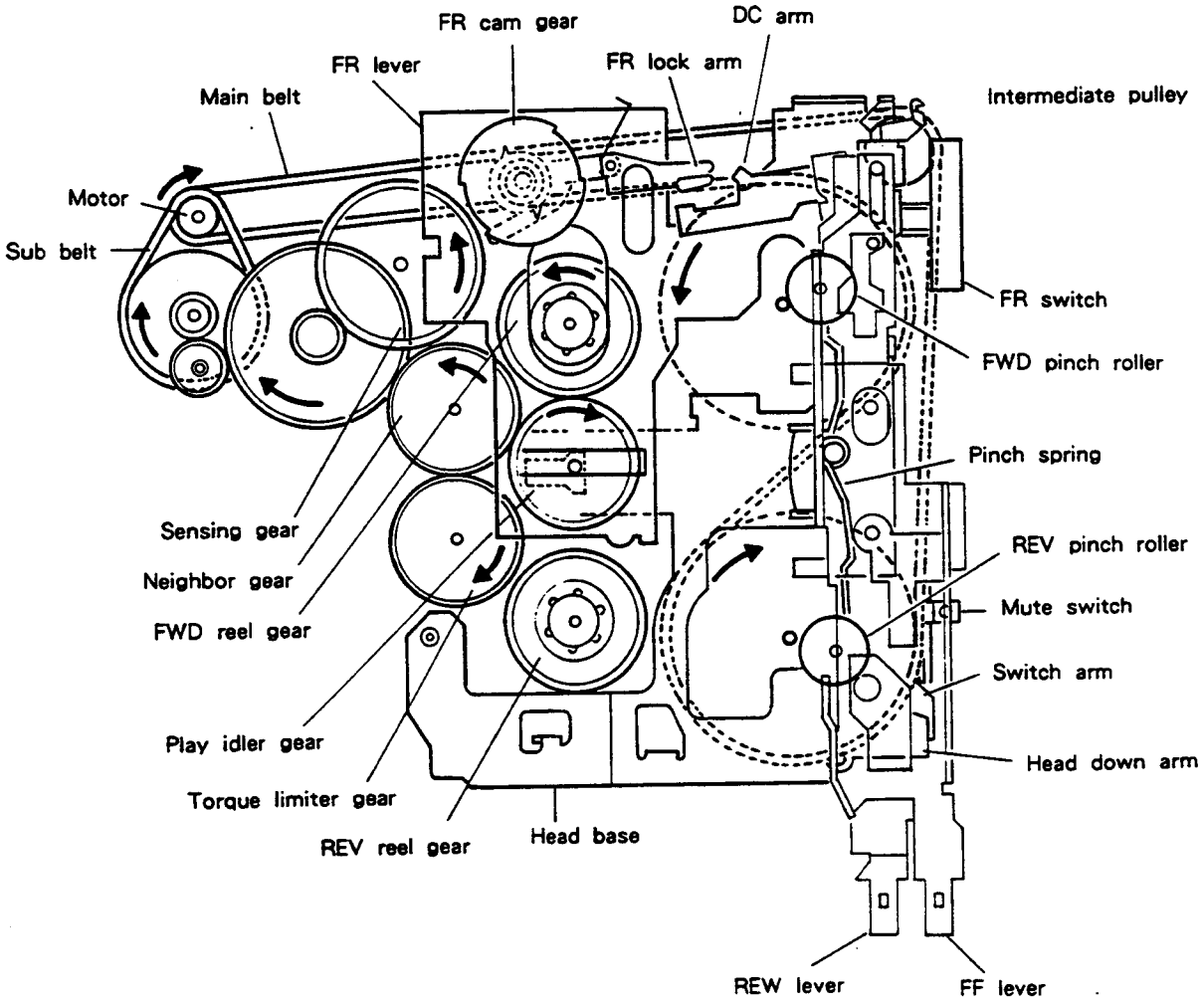


Fig. 13

When the FR lever is in the top position, the pinch spring is in the upper position to press the FWD pinch roller. The FR switch also moves upward and its reaction causes downward force on the FR lever. The spring attached to the FR lever applies upward force to the play idler gear from above to engage it with the neighbor gear and FWD reel gear.

The tape is driven in the FWD direction by a running motor and taken up by the REV reel gear via the torque limiter gear.

(2) Direction change operation

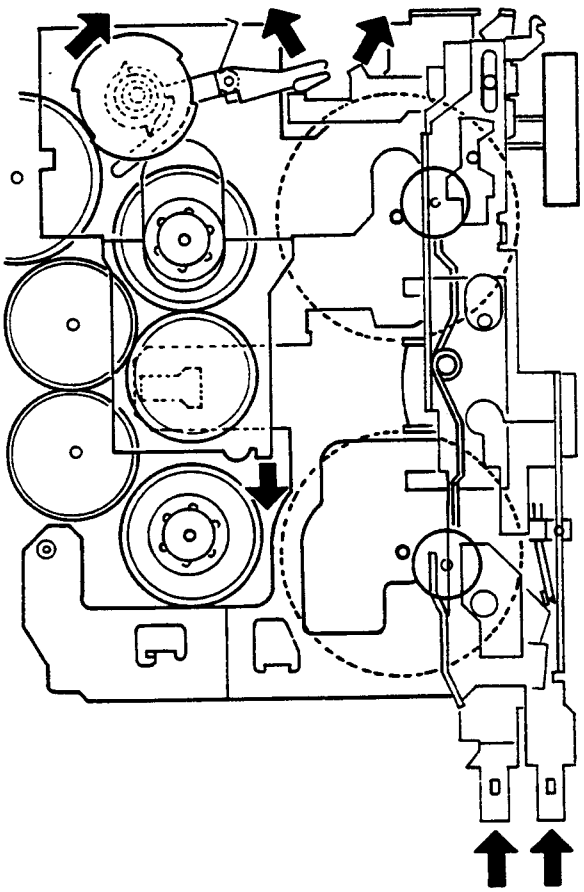


Fig. 14

The direction is changed by pressing FF and REW levers simultaneously. The DC arm turns along a cam groove of FF and REW levers to turn the FR lock arm. As the FR lever applies force from above downward, the FR cam gear turns and the notch meshes with the sensing gear.
As a result, the FR lever moves downward.
When FF and REW levers are kept pressed, the lock arm contacts the outside of the FR cam gear to prevent changeover between FWD and REV. Pressing FF and REW levers also cause the mute switch to be turned ON. In other words, muting is valid while FF and REW levers are pressed. (Fig.14)

(3) REV play operation

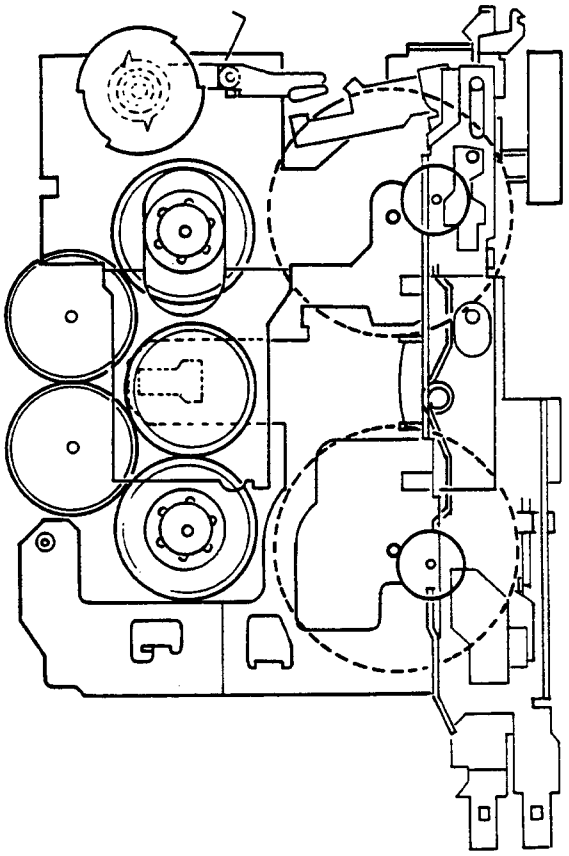


Fig. 15

Moving the NR lever up and down causes changeover among the pinch roller, FR switch, and play idler gear. With FF and REW levers having been returned, the FR lock arm returns to the normal lock position and locks the gear when the FR gear completes an one-half turn. The mute arm also returns to turn OFF the mute switch. The reverse play state is thus obtained. (The same applies to changeover from REV to FWD.)

● FF/REW Operation

(1) FWD play operation

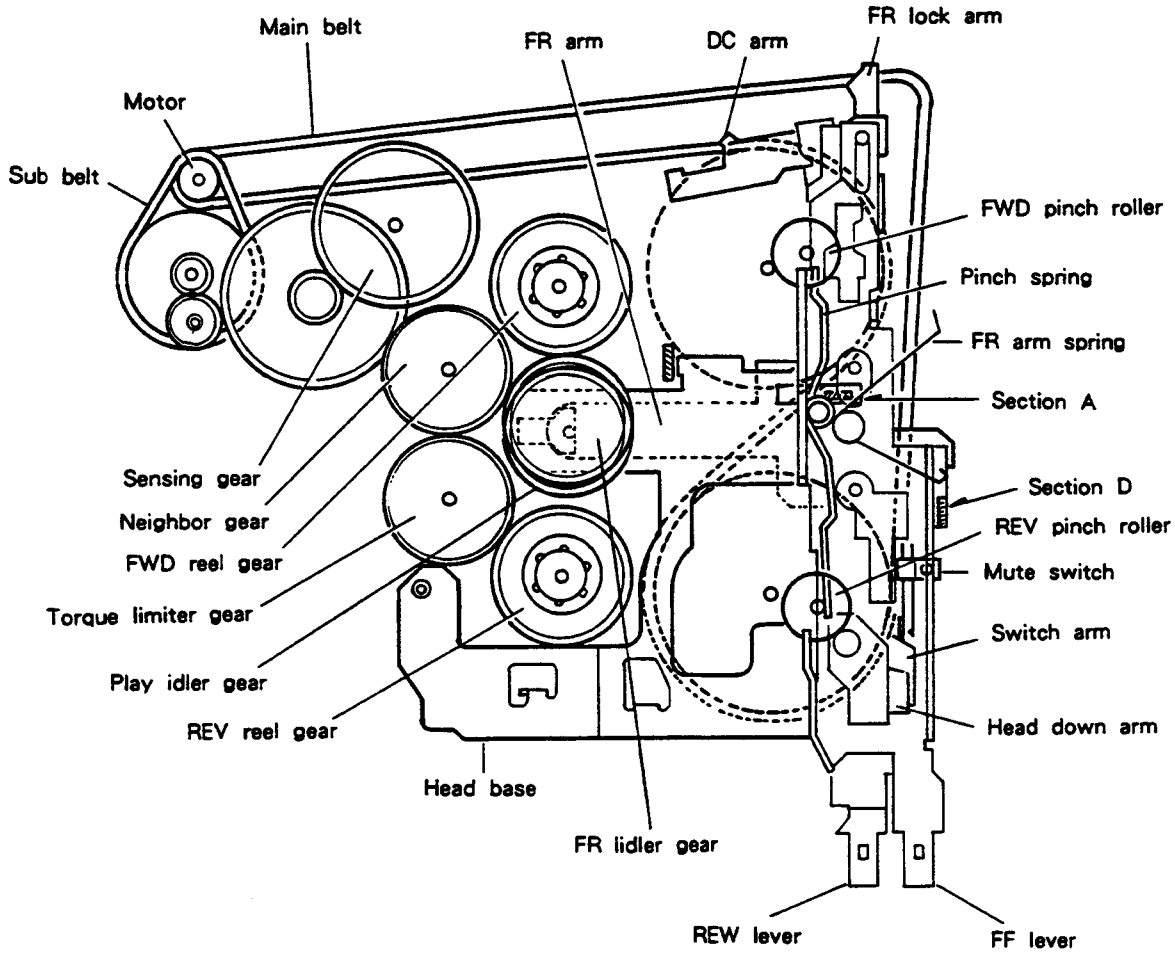


Fig. 16

In the FWD (REV) play state, the head base is fixed by a chassis stopper. The pinch spring presses the pinch roller into contact with a capstan to drive forward the tape. The REV reel gear takes up the tape via the torque limiter gear. In this case, the FR idler gear on the FR arm is centered by Section A of the head base and thus not rotating.

(2) FF Operation

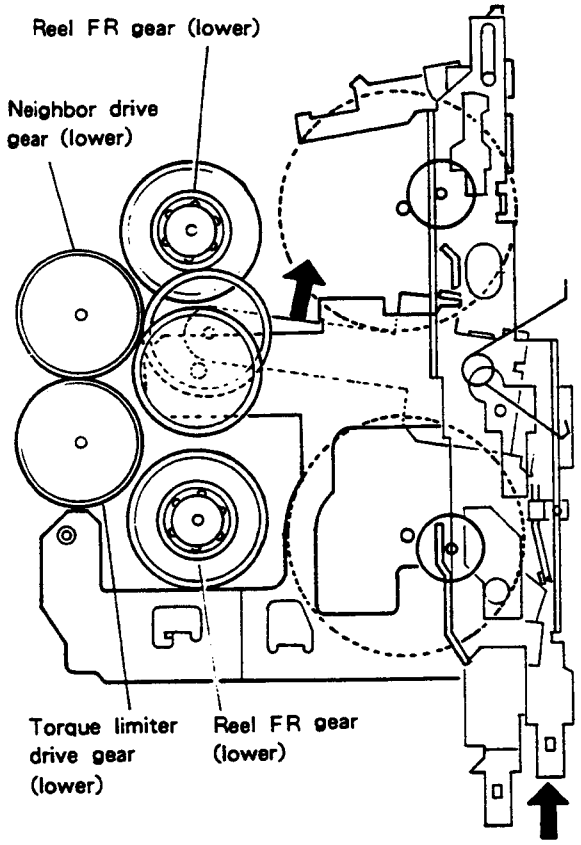


Fig. 17

FF operation is obtained by pressing and locking the FF lever. As the FF lever is pressed, the switch arm turns to turn ON the mute switch. The head base is moved backward along the FF lever cam groove.

As the head base moves backward to release the pinch roller from the capstan, the play idler gear is simultaneously disengaged from the reel gear. As the head base moves backward, the FR arm centered by Section A is put into rotation by the FR arm spring to engage with the FWD side FR gear.

The FF lever is locked by the FR lock arm and performs the FF operation. (Fig.17)

(3) REW operation

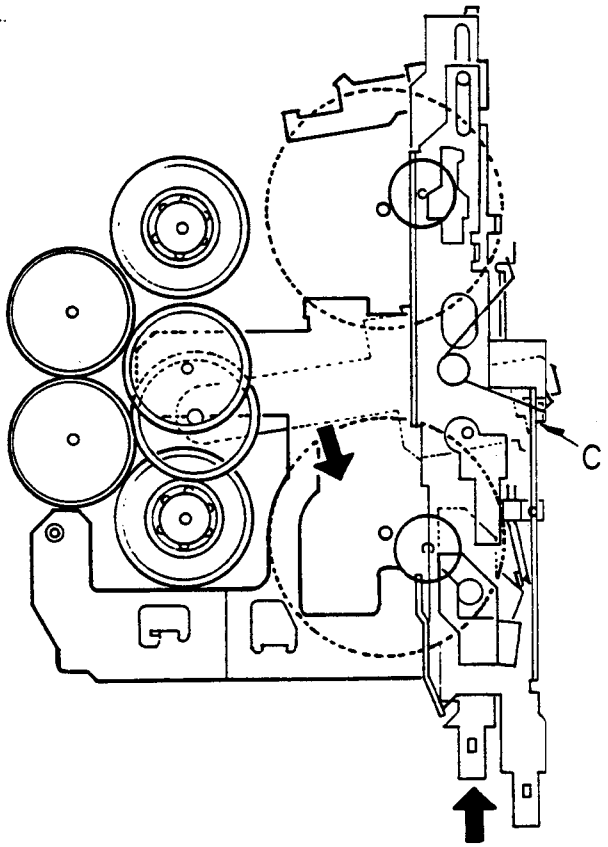


Fig. 18

Similar to the case of FF operation, pressing the REW lever causes the mute switch to be turned ON.

Simultaneously with release of the pinch roller from the capstan, the play idler gear is disengaged from the reel gear.

Section D of the REW lever presses a movable side of the FR arm spring, thereby engaging the FR gear to the FR gear on the REV side.

The REW lever is locked by the lock arm, performing the REW operation. This operation is cancelled when Section C is turned by the lever return spring. (Fig.18)

● Sensing Operation

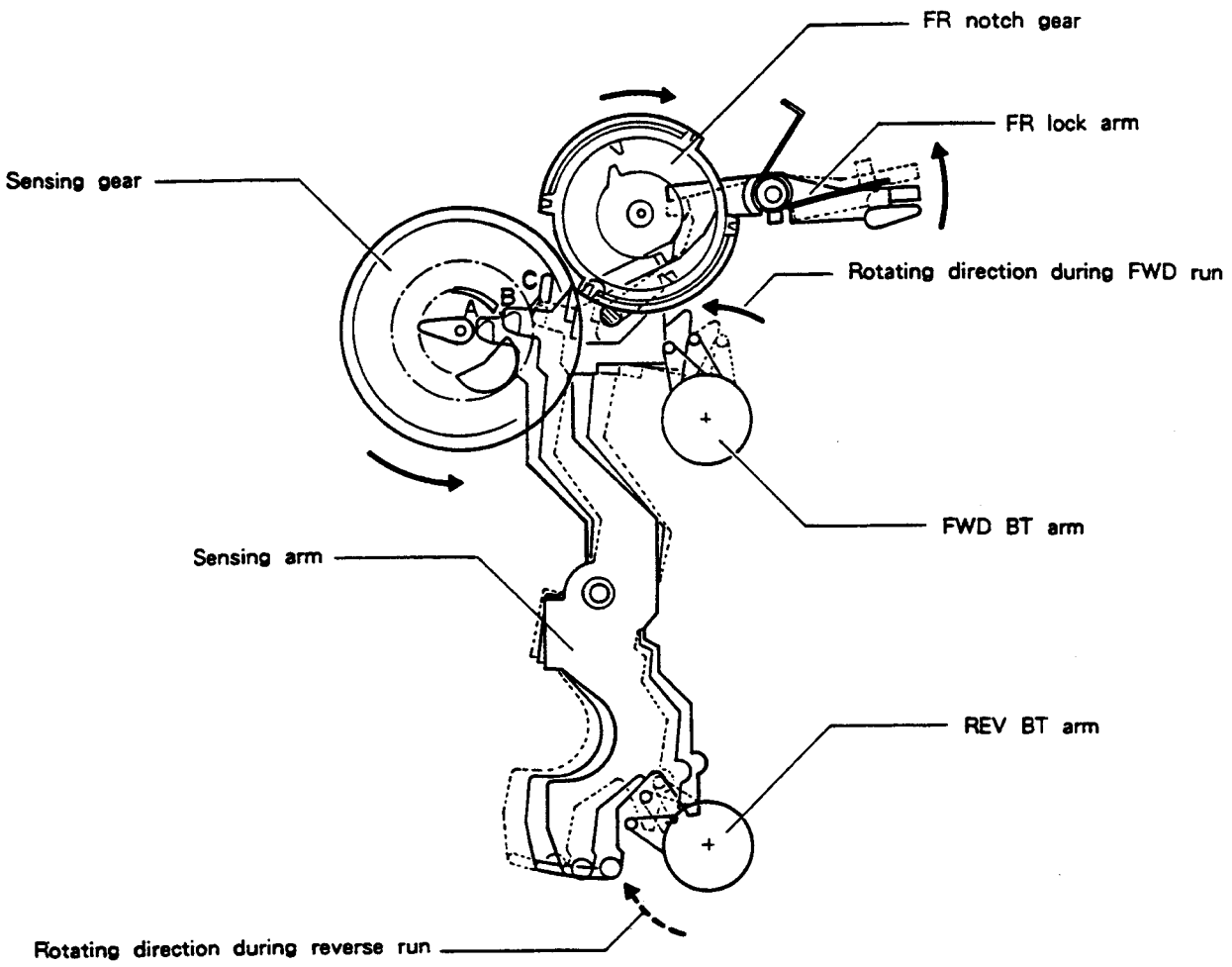


Fig. 19

1. During tape run: The sensing arm keeps oscillation between A and B under a force of the FWD BT arm (or REV BT arm).

2. At end of tape: The force of the BT arm is lost. The sensing arm stops at Position B, then pushed out to Position C by a crescent cam of the sensing gear.

3. Change of run direction:
The FR lock arm turns counter-clockwise along with movement of the sensing arm. The FR notch gear is unlocked and begins to turn.

● EJECT Operation

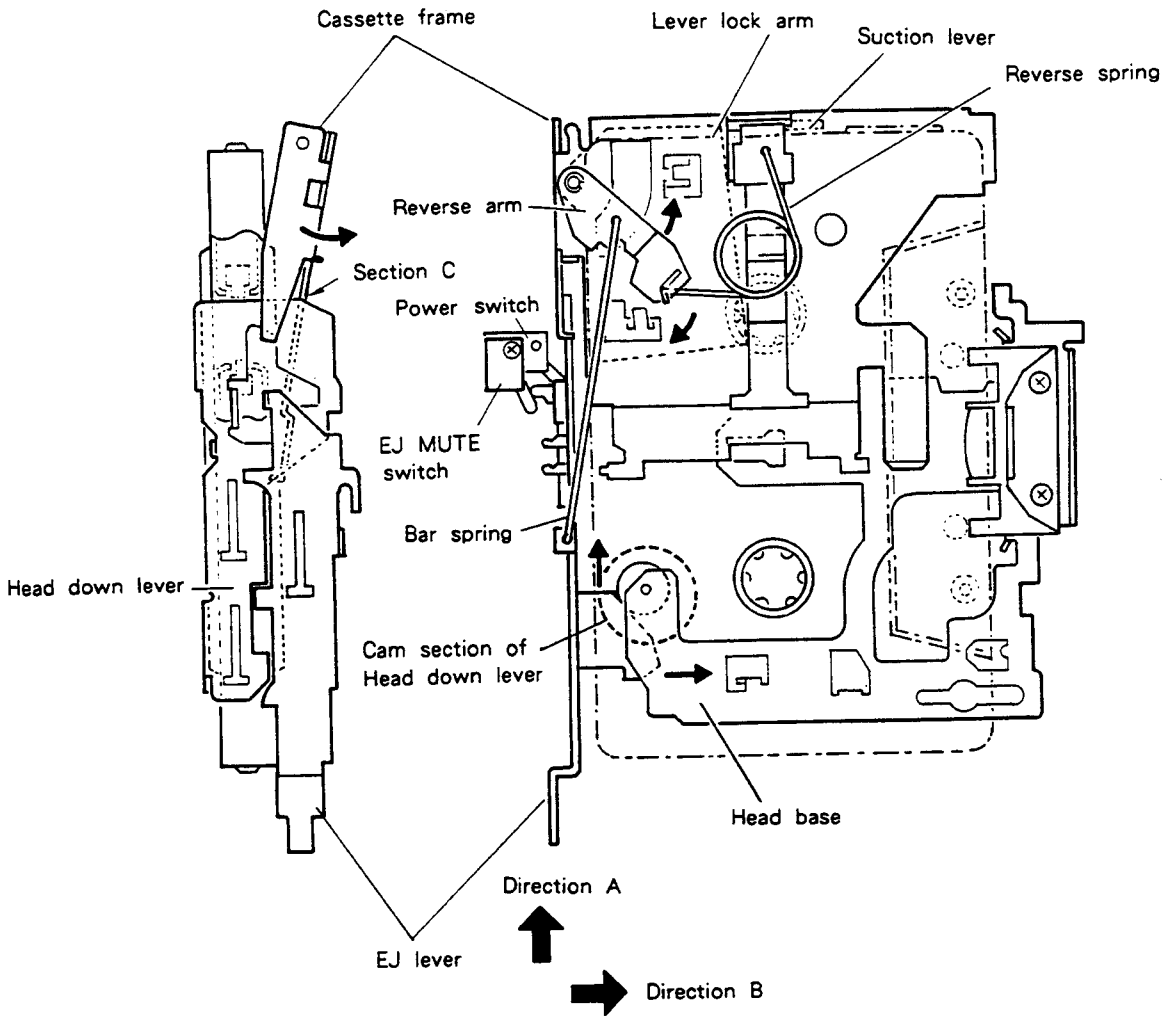


Fig. 20

1. Push the EJ lever in Direction A by hand (EJ MUTE SW ON) At the same time, the head down lever slides in Direction A.
2. The cam section of the head down lever returns the head base in Direction B (head base down operation).
3. Section C of the cassette frame is pushed up by the stroke of the head down lever (push-up operation).
4. The reverse arm is driven in a direction of arrow mark via bar spring by the EJ lever stroke.
5. The reverse spring passes through the reverse position to eject the cassette tape (eject operation).
6. With the EJ lever over-stroking, the lever lock arm can be rotated and locks the head down lever.
7. When released, the EJ lever returns and is stopped by the head down lever.