

Service Manual

PIONEER®
The Art of Entertainment

• KEH-P424/X1M/UC



ORDER NO.
CRT2169

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH FM/AM TUNER

KEH-P424 X1M/UC
KEH-P4700 X1M/UC
KEH-P4750 X1M/ES

NOTE:

- See the separate manual CX-631(CRT1640) for the cassette mechanism description.
- The cassette mechanism assy employed in this model is one of 2L series.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- This service manual does not describe the CD test mode.
For the operations in the CD test mode, refer to the CD player's Service Manual.

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 501 Orchard Road, #10-00, Wheelock Place, Singapore 238880

1. SAFETY INFORMATION

UC 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 and 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.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

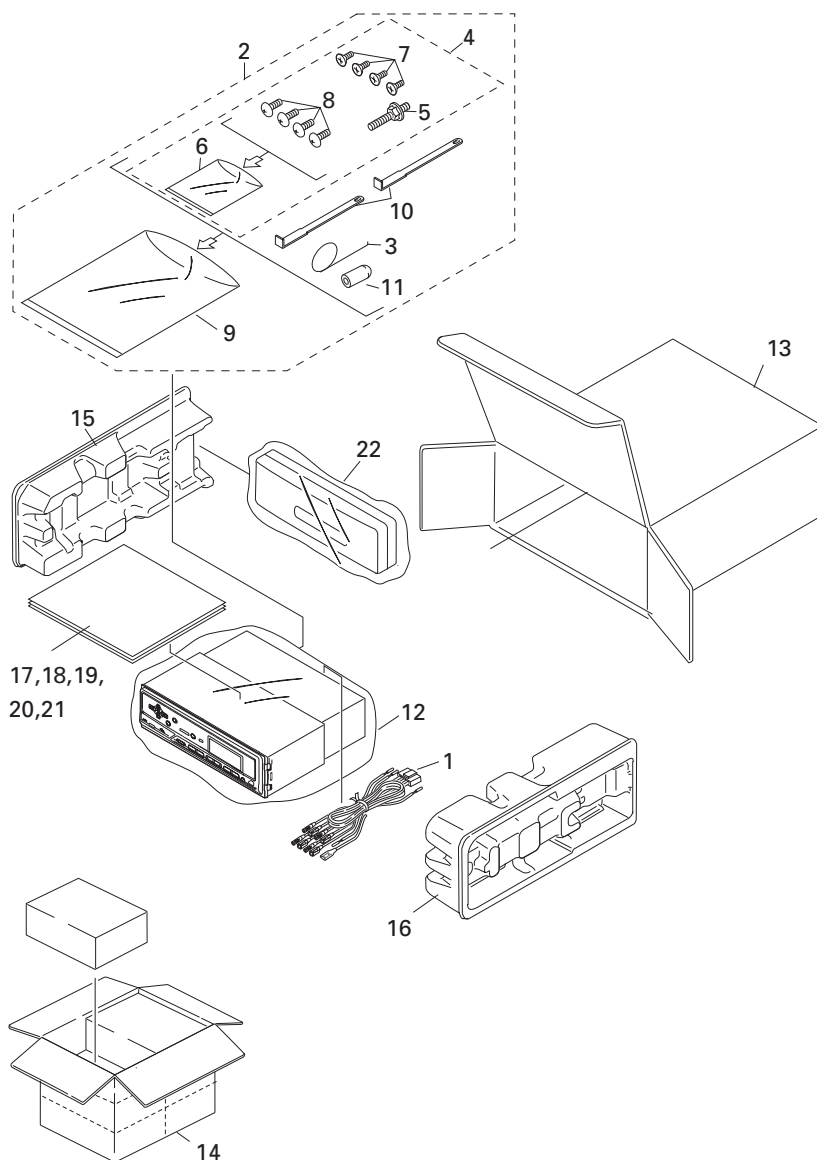


Fig. 1

NOTE:

- **Parts marked by “*” and ⊗ can not be supplied.**
- Screws adjacent to ∇ mark on the product are used for disassembly.

● PACKING SECTION PARTS LIST

Mark No.	Description	Part No.		
		KEH-P424/X1M/UC	KEH-P4700/X1M/UC	KEH-P4750/X1M/ES
	1 Cord Assy	CDE5496	CDE5496	CDE5496
*	2 Accessory Assy	CEA2350	CEA2350	CEA2350
	3 Spring	CBH1650	CBH1650	CBH1650
	4 Screw Assy	CEA2351	CEA2351	CEA2351
	5 Screw	CBA1304	CBA1304	CBA1304
*	6 Polyethylene Bag	CEG-127	CEG-127	CEG-127
	7 Screw(x4)	CRZ50P090FMC	CRZ50P090FMC	CRZ50P090FMC
	8 Screw(x4)	TRZ50P080FMC	TRZ50P080FMC	TRZ50P080FMC
*	9 Polyethylene Bag	CEG-158	CEG-158	CEG-158
	10 Handle(x2)	CNC5395	CNC5395	CNC5395
	11 Bush	CNV3930	CNV3930	CNV3930
	12 Polyethylene Bag	CEG1173	CEG1173	CEG1-162
	13 Carton	CHG3471	CHG3470	CHG3472
	14 Contain Box	CHL3471	CHL3470	CHL3472
	15 Protector	CHP2021	CHP2021	CHP2021
	16 Protector	CHP2022	CHP2022	CHP2022
	17 Owner's Manual	CRD2585	CRD2587	CRD2596
	18 Installation Manual	CRD2586	CRD2588	CRD2598
*	19 Warranty Card	CRY1070	Not used	Not used
*	20 Card	Not used	ARY1048	Not used
	21 Owner's Manual	Not used	Not used	CRD2597
	22 Case Assy	CXB1063	CXB1063	CXB1063

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-P424/X1M/UC	CRD2585	English, French
	CRD2586	English, French
KEH-P4700/X1M/UC	CRD2587	English, French, Spanish
	CRD2588	English, French, Spanish
KEH-P4750/X1M/ES	CRD2596	English, Spanish, Portuguese
	CRD2597	Chinese, Arabic
	CRD2598	English, Spanish, Portuguese, Chinese, Arabic

2.2 EXTERIOR

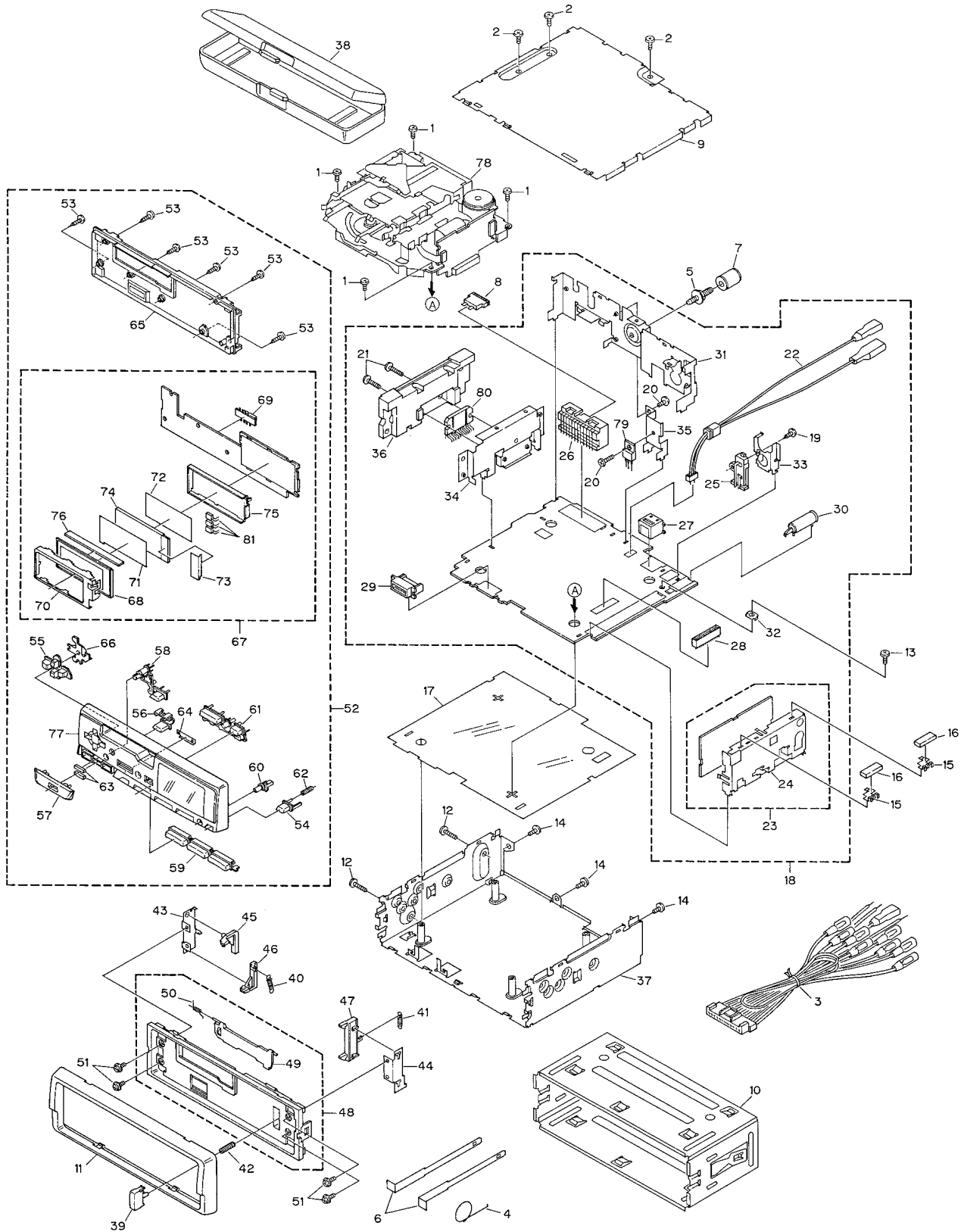


Fig. 2

(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	46	Arm	CNV4693
2	Screw	BSZ30P060FMC	47	Arm	CNV4728
3	Cord Assy	CDE5496	48	Panel Unit	See Contrast table(2)
4	Spring	CBH1650	49	Door	CAT1947
5	Screw	CBA1304	50	Spring	CBH1838
6	Handle	CNC5395	51	Screw	IMS20P030FZK
7	Bush	CNV3930	52	Detach Grille Assy	See Contrast table(2)
8	Fuse	CEK1136	53	Screw	BPZ20P100FZK
9	Case	CNB2283	54	Button(☒)	CAC5430
10	Holder	CNC6798	55	Button(▲,▼,◀,▶)	CAC5431
11	Panel	CNS4200	56	Button(SOURCE)	CAC5433
12	Screw	BMZ30P100FMC	57	Button(+,-)	CAC5435
13	Screw	BSZ30P055FUC	58	Button(BAND,F,A)	CAC5437
14	Screw	BSZ30P060FMC	59	Button(1,2,3,4,5,6)	CAC5439
15	Holder Unit	CXB2687	60	Button(D)	CAC5441
16	Cushion	CNM4870	61	Button(LD/CLK,P,☒)	CAC5542
17	Insulator	CNM5571	62	Spring	CBH2103
⊗ 18	Tuner Amp Unit	See Contrast table(2)	63	Spacer	CNM5572
19	Screw	BPZ26P080FMC	64	Sheet	CNM5897
20	Screw	BSZ26P080FMC	65	Cover	CNS4775
21	Screw	BSZ26P140FMC	66	Lighting Conductor	CNV5195
22	Cord Assy(CN603)	See Contrast table(2)	67	Keyboard Unit	CWM5801
23	FM/AM Tuner Unit	See Contrast table(2)	68	LCD(LCD901)	CAW1477
24	Holder	CNC6554	69	Connector(CN901)	CKS3580
25	Pin Jack(CN301)	CKB1028	70	Holder	CNC7479
26	Plug(CN951)	CKM1270	71	Sheet	CNM5726
27	Connector(CN751)	CKS3408	72	Sheet	CNM5727
28	Connector(CN602)	CKS3568	73	Sheet	CNM5728
29	Connector(CN601)	CKS3581	74	Lighting Conductor	CNV5196
30	Antenna Jack(CN402)	CKX1056	75	Housing	CNV5197
31	Panel	CNB2256	76	Connector	CNV5205
32	Holder	CNC5399	77	Grille Unit	See Contrast table(2)
33	Holder	CNC6531	78	Cassette Mechanism Module	EXK3615
34	Holder	CNC6674	79	Transistor(Q951)	2SD2396
35	Holder	CNC6845	80	IC(IC301)	See Contrast table(2)
36	Heat Sink	CNR1426	81	LED(D903 — 905)	NSPWF50SB
37	Chassis Unit	CXB2347			
38	Case Assy	CXB1063			
39	Button	CAC4836			
40	Spring	CBH1834			
41	Spring	CBH1835			
42	Spring	CBH1996			
43	Bracket	CNC6135			
44	Bracket	CNC6791			
45	Arm	CNV4692			

(2) CONTRAST TABLE

KEH-P424/X1M/UC, KEH-P4700/X1M/UC and KEH-P4750/X1M/ES are constructed the same except for the following:

Mark No.	Symbol and Description	Part No.		
		KEH-P424/X1M/UC	KEH-P4700/X1M/UC	KEH-P4750/X1M/ES
⊗ 18	Tuner Amp Unit	CWM5847	CWM5836	CWM5800
22	Cord Assy(CN603)	CDE5178	Not used	Not used
23	FM/AM Tuner Unit	CWE1467	CWE1467	CWE1486
48	Panel Unit	CXB2352	CXB2367	CXB2367
52	Detach Grille Assy	CXB2446	CXB2442	CXB2308
77	Grille Unit	CXB2491	CXB2490	CXB2492
80	IC(IC301)	TDA7386	TDA7384	TDA7384

2.3 CASSETTE MECHANISM MODULE

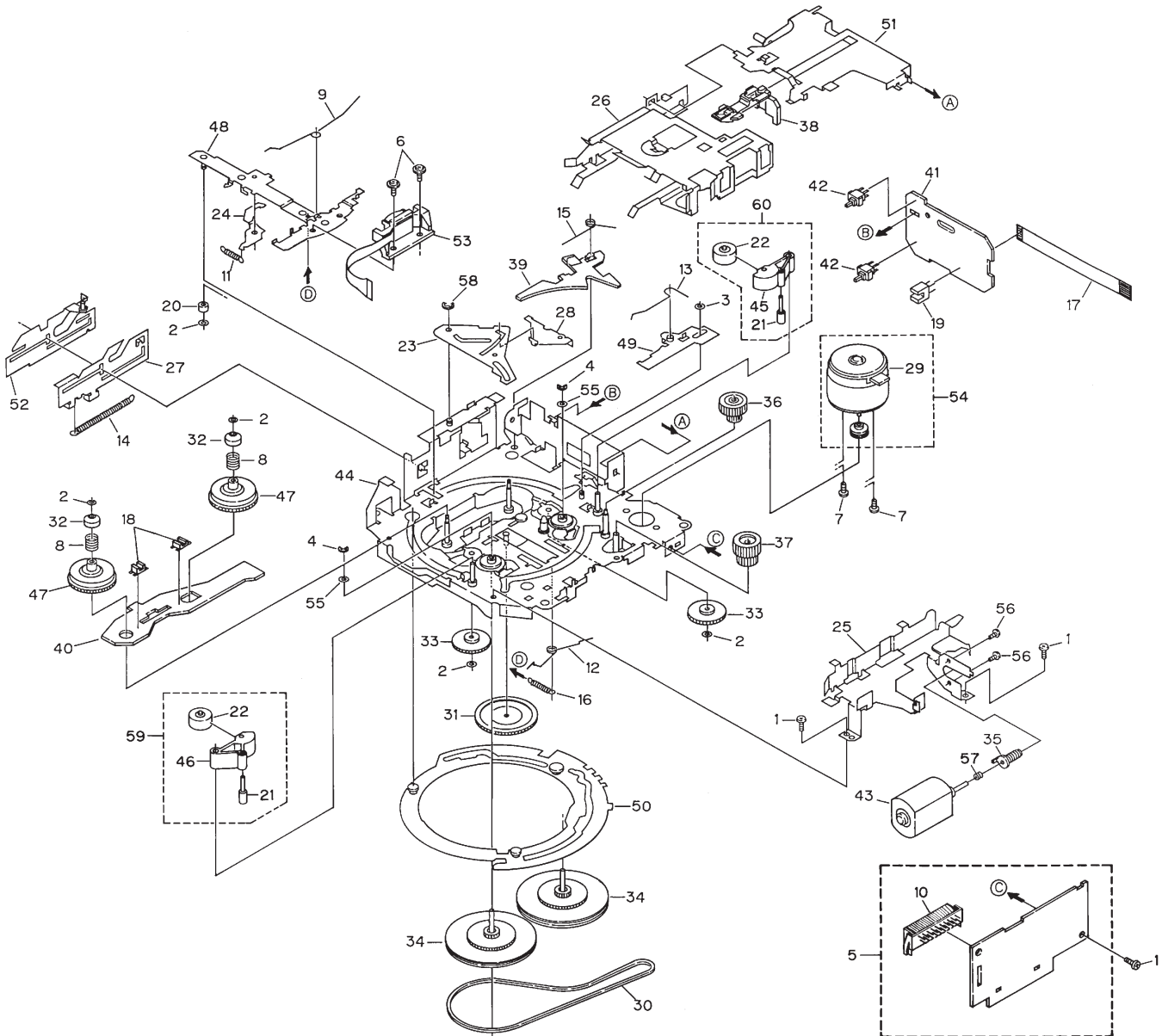


Fig. 3

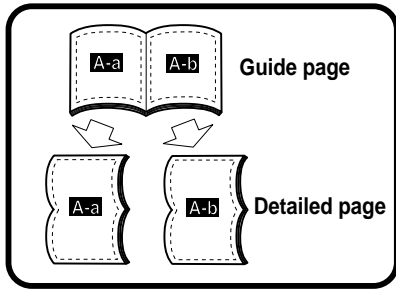
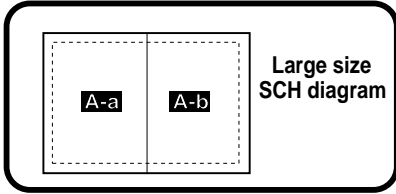
● CASSETTE MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC	31	Gear	ENV1347
2	Washer	CBF1037	32	Collar	ENV1508
3	Washer	CBF1038	33	Gear	ENV1350
4	Washer	CBG1003	34	Flywheel	ENV1529
5	Deck Unit	EWM1010	35	Worm Gear	ENV1439
6	Screw	EBA1028	36	Worm Wheel	ENV1440
7	Screw	EBA1037	37	Gear	ENR1028
8	Spring	EBH1531	38	Lever	ENV1442
9	Spring	EBH1575	39	Arm	ENV1525
10	Plug(CN251)	CKS3540	40	Gathering P.C.Board	ENX1037
11	Spring	EBH1515	41	Gathering P.C.Board	ENX1042
12	Spring	EBH1587	42	Switch(S1,S2)	ESG1004
13	Spring	EBH1517	43	Motor Unit(M2)	EXA1485
14	Spring	EBH1518	44	Chassis Unit	EXA1511
15	Spring	EBH1519	45	Pinch Holder	ENV1485
16	Spring	EBH1537	46	Pinch Holder	ENV1486
17	Cord	EDD1020	47	Reel Unit	EXA1543
18	Photo-interrupter(EGN2,3)	EGN1006	48	Head Base Unit	EXA1457
19	Photo-interrupter(EGN1)	EGN1005	49	Lever Unit	EXA1438
20	Roller	ENR1031	50	Gear Unit	EXA1545
21	Shaft	ELA1373	51	Frame Unit	EXA1458
22	Pinch Roller	ENV1518	52	Lever Unit	EXA1439
23	Arm	ENC1489	53	Head Assy(HD1)	EXA1506
24	Arm	ENC1397	54	Motor Unit(M1)	EXA1544
25	Guide	ENC1481	55	Washer	HBF-179
26	Holder	ENC1417	56	Screw	BMZ20P022FMC
27	Lever	ENC1448	57	Spring	EBH1545
28	Arm	ENC1488	58	Washer	YE20FUC
* 29	Motor	EXM1031	59	Pinch Holder Unit	EXA1529
30	Belt	ENT1027	60	Pinch Holder Unit	EXA1528

3. SCHEMATIC DIAGRAM

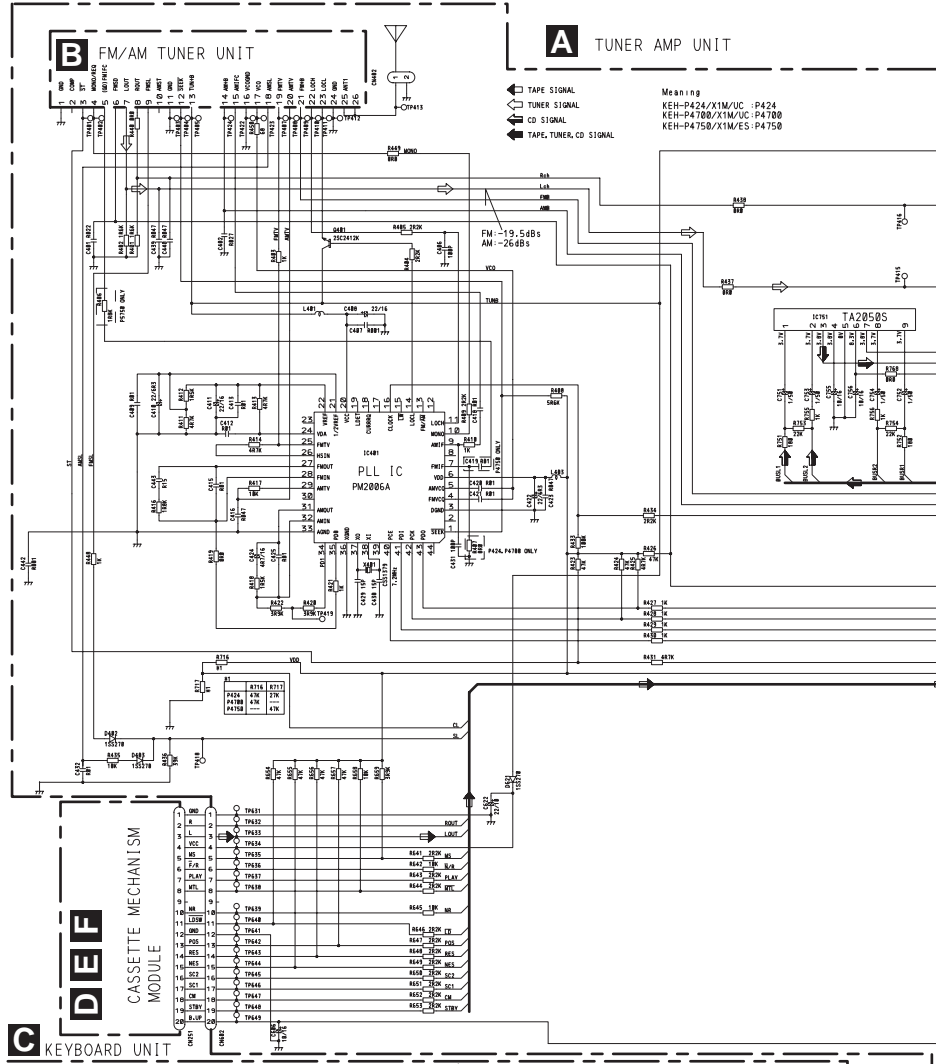
3.1 OVERALL CONNECTION DIAGRAM (GUIDE PAGE)

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



A-a

A TUNER AMP UNIT



A C

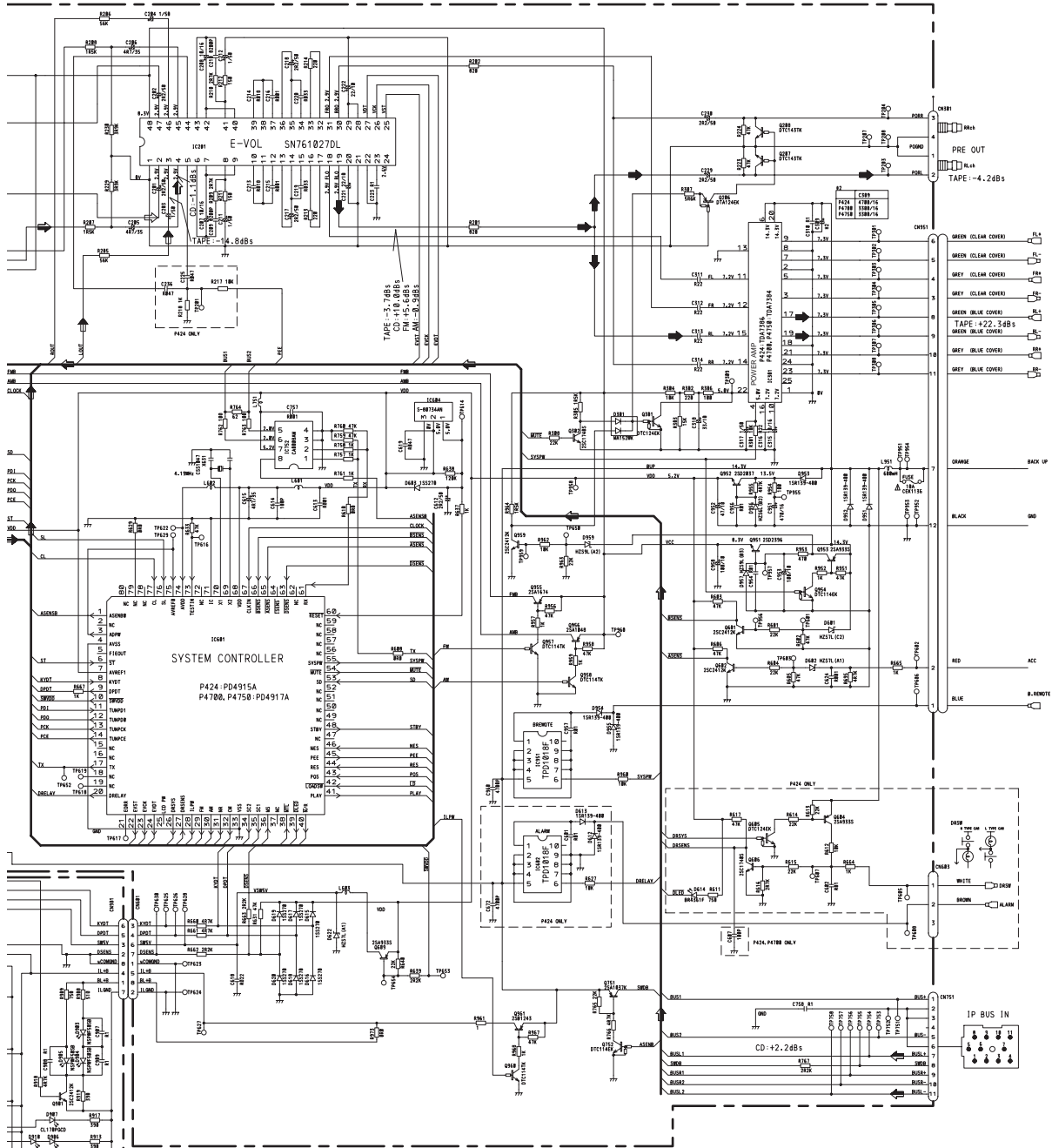
A

A-b

B

C

D



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

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing be sure to use parts of identical designation.

Fig. 4



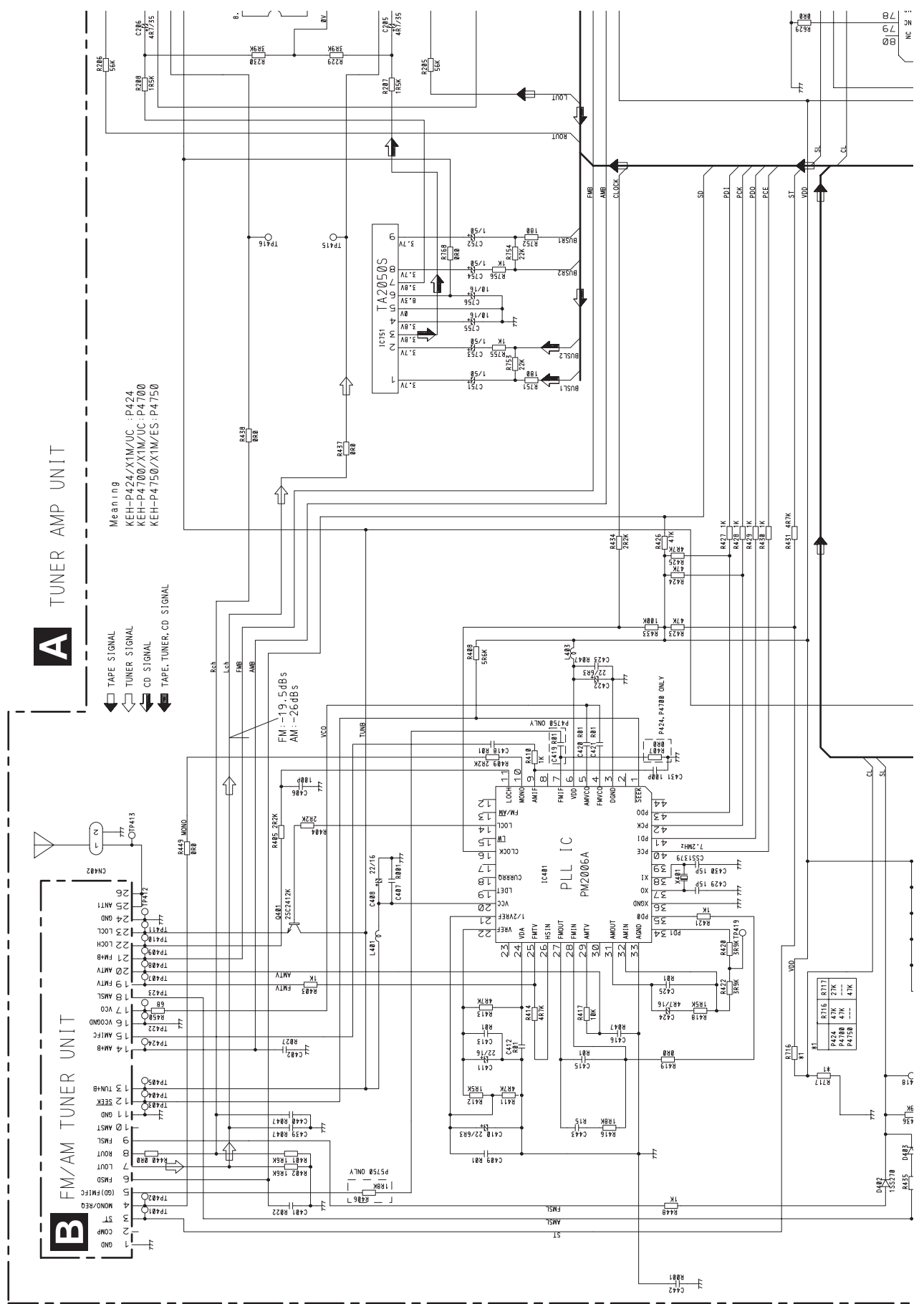
A-a A-b

A TUNER AMP UNIT

B FM/AM TUNER UNIT

Meaning
 KEH-P424/X1M/UC : P424
 KEH-P4700/X1M/UC : P4700
 KEH-P4750/X1M/ES : P4750

TAPE SIGNAL
 TUNER SIGNAL
 CD SIGNAL
 TAPE, TUNER, CD SIGNAL



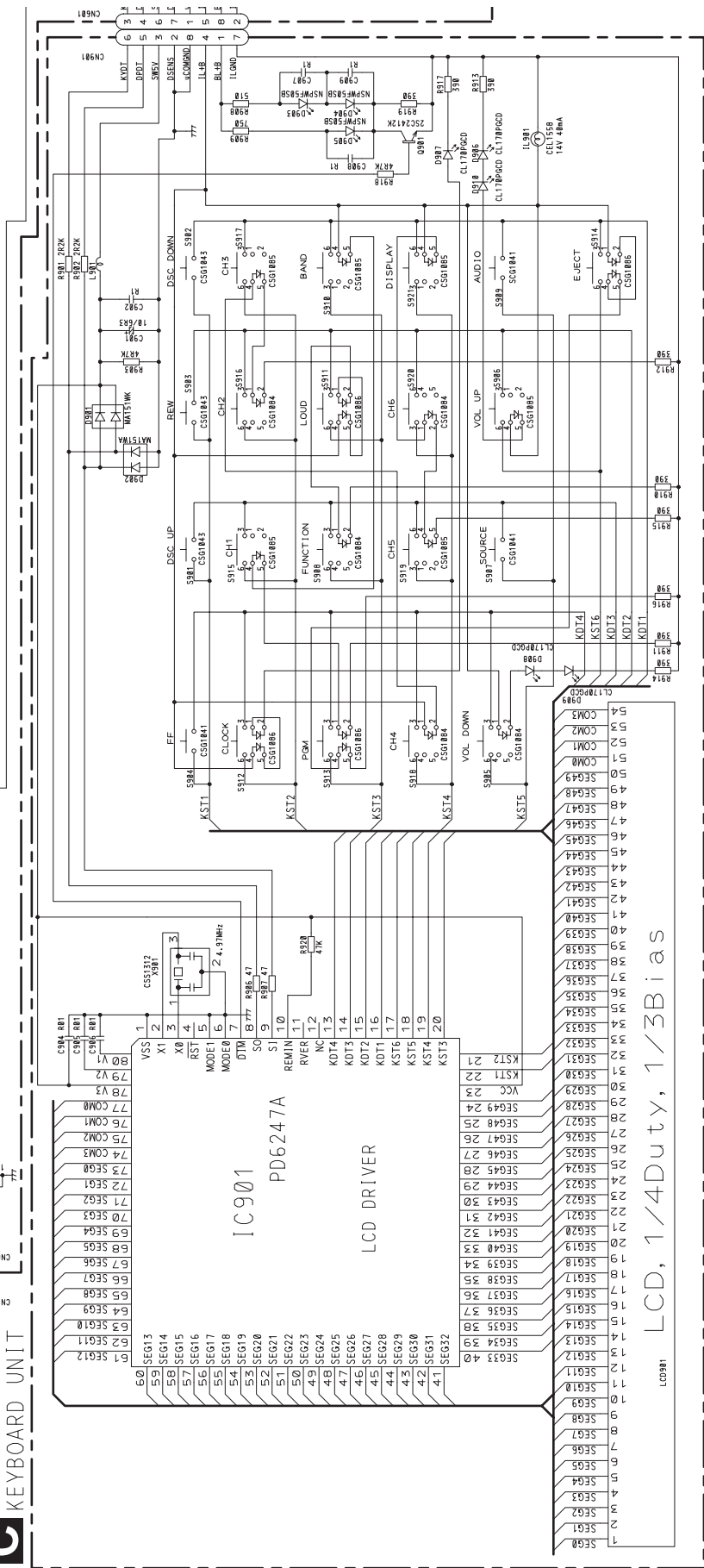
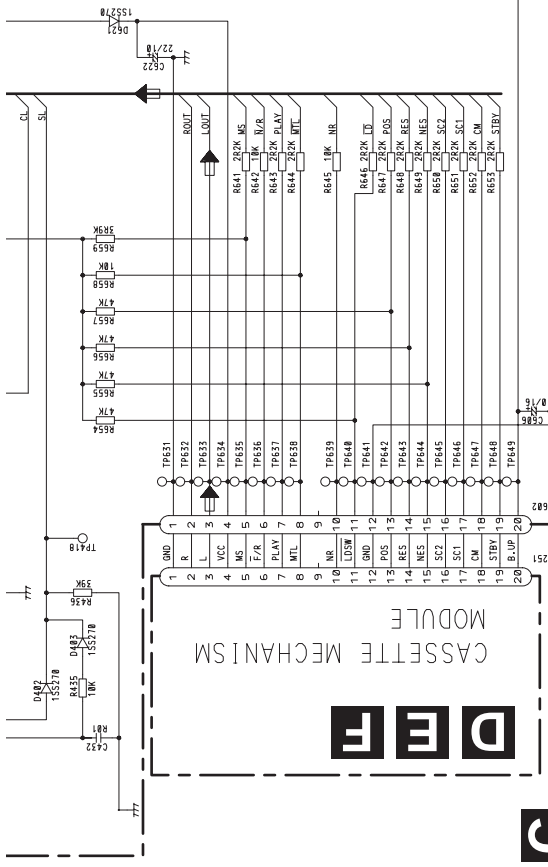
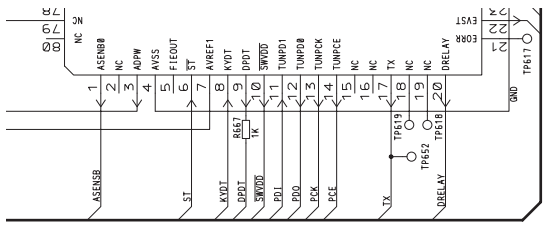
A-a

A

B

C

D



A-a A-b

Fig. 5

C A-a

A-a

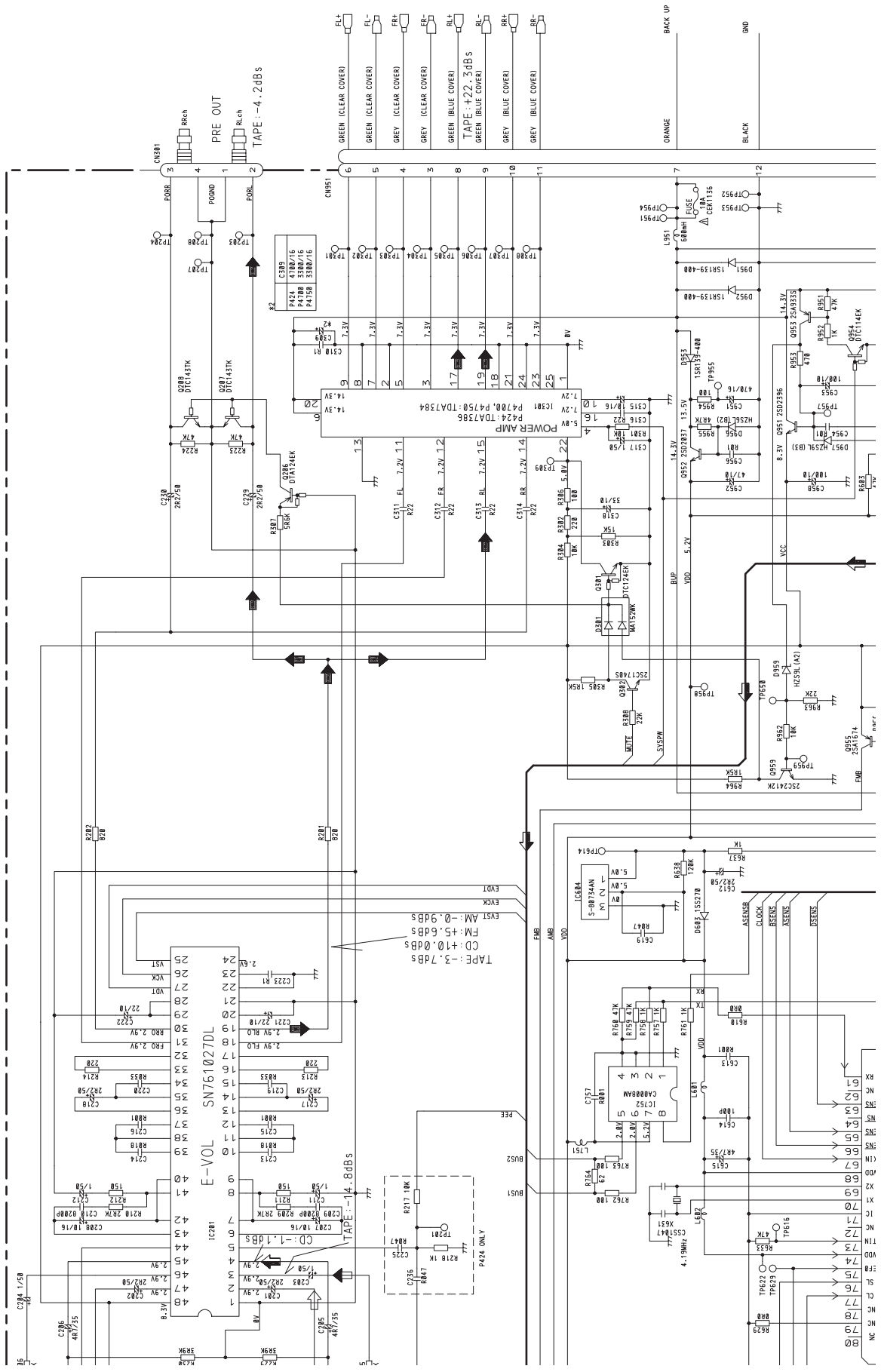
A-b

A

B

C

D



A

B

C

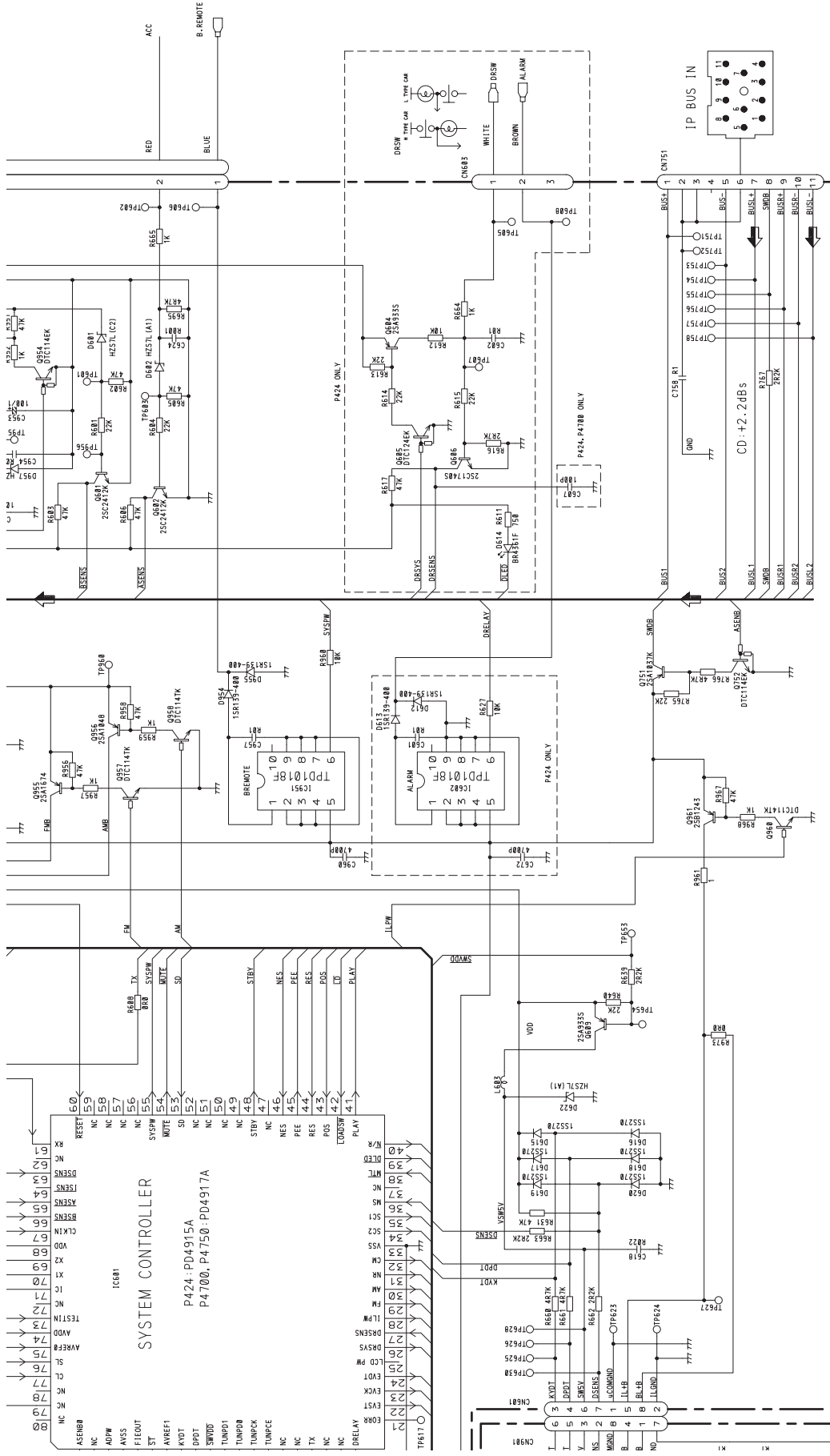
D

1

2

3

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.

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

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

Fig. 6

3.2 FM/AM TUNER UNIT

A

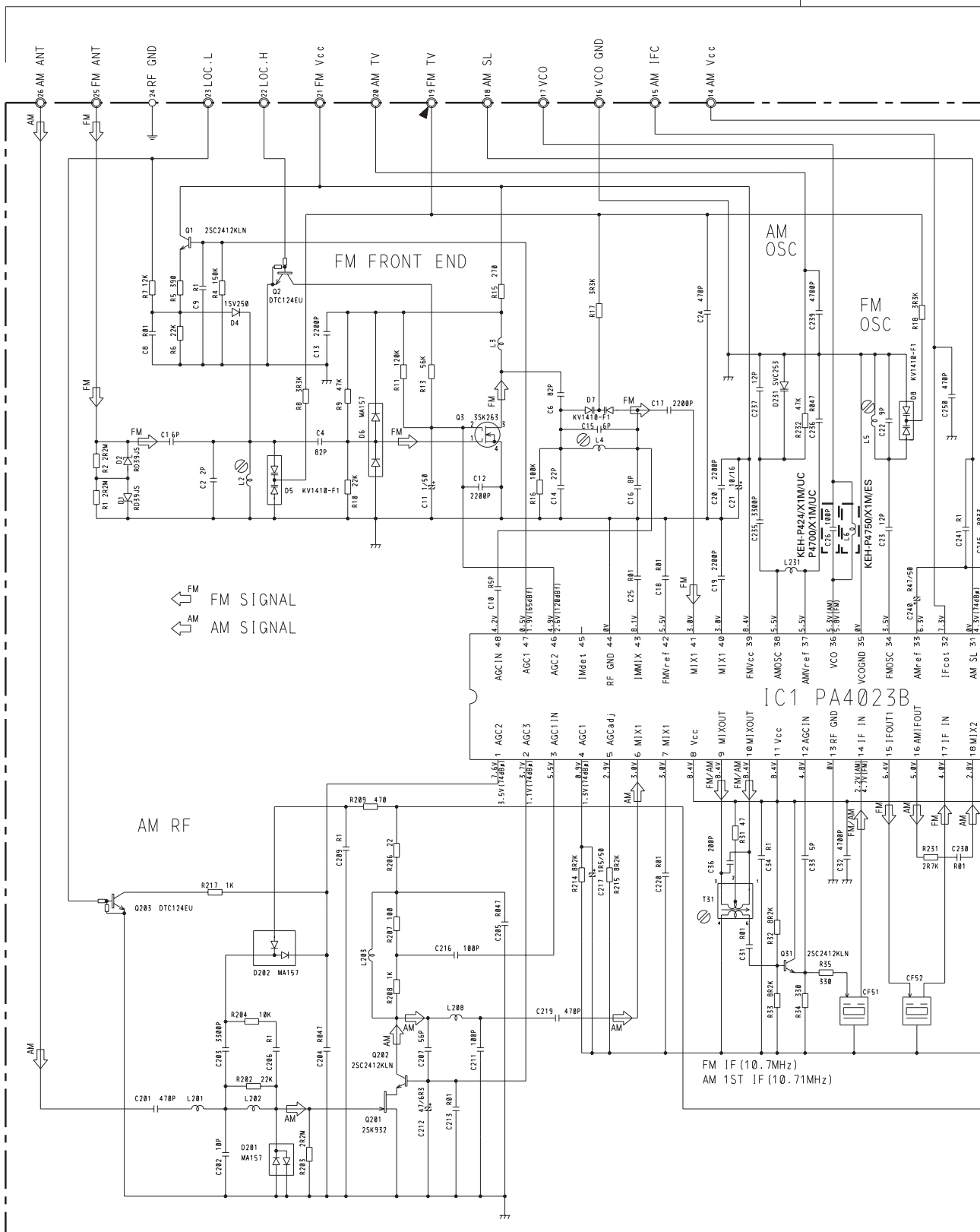
B

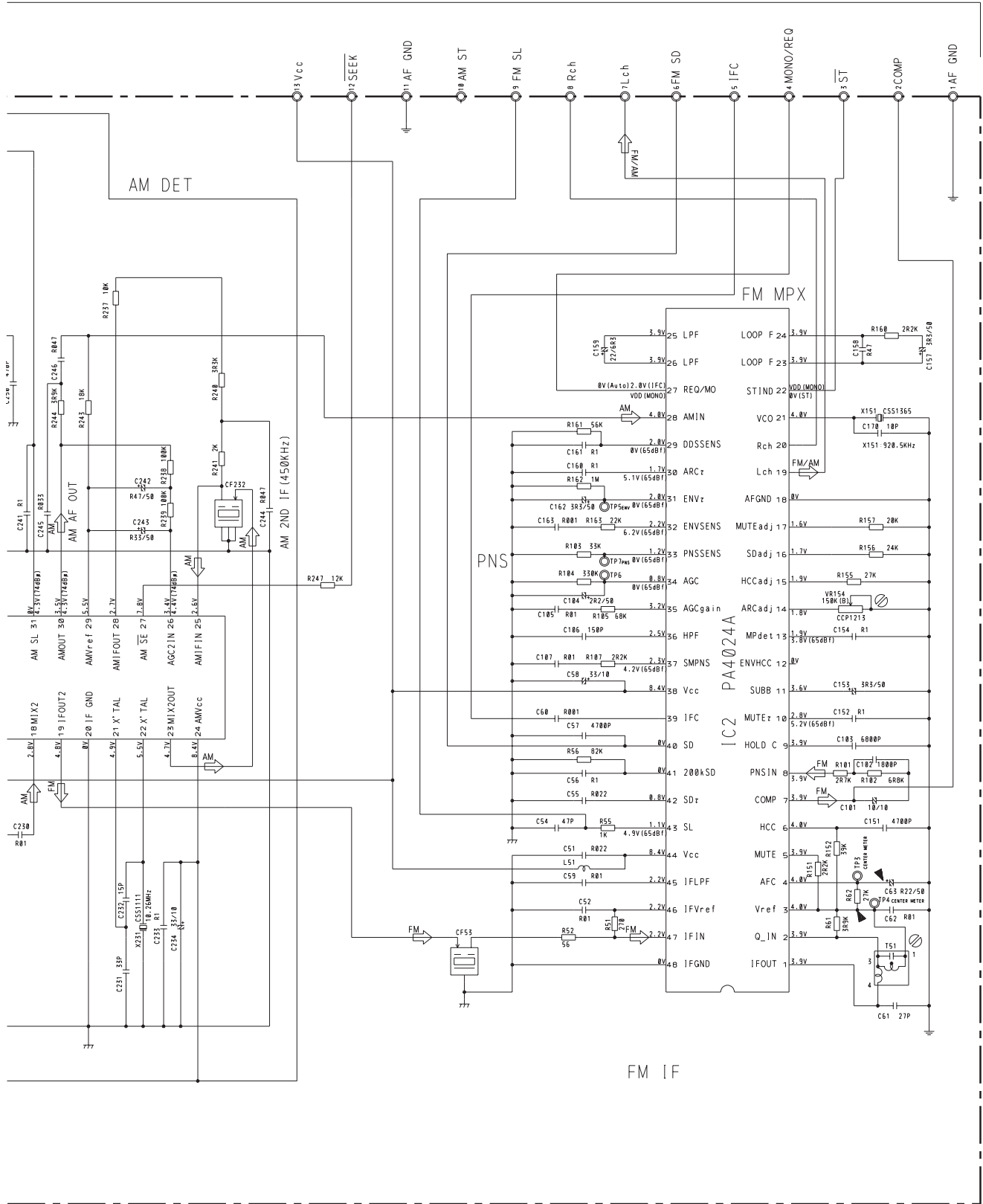
C

D

B FM/AM TUNER UNIT

A





A

B

C

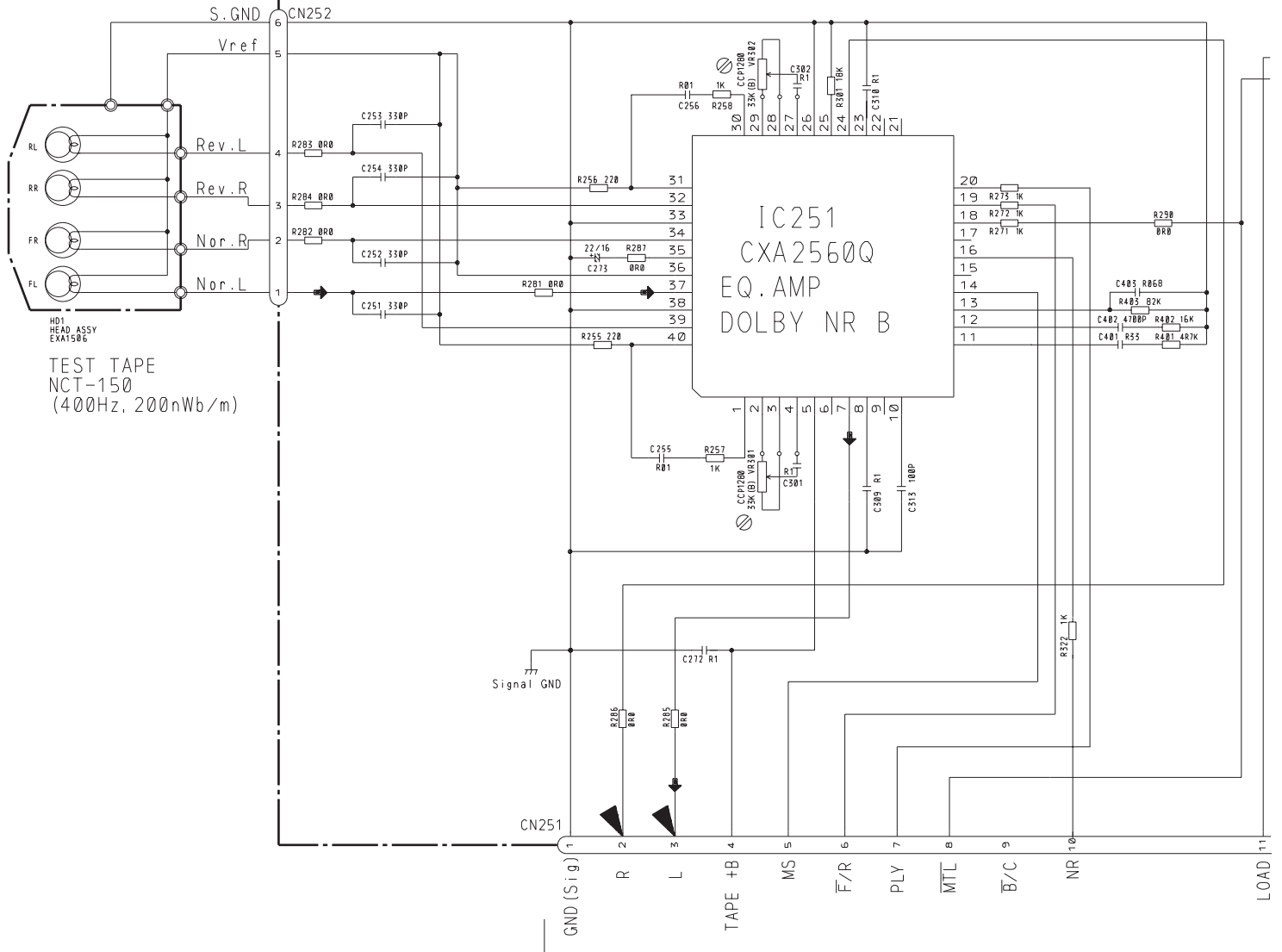
D

Fig. 7



3.3 CASSETTE MECHANISM MODULE

D DECK UNIT



A CN602

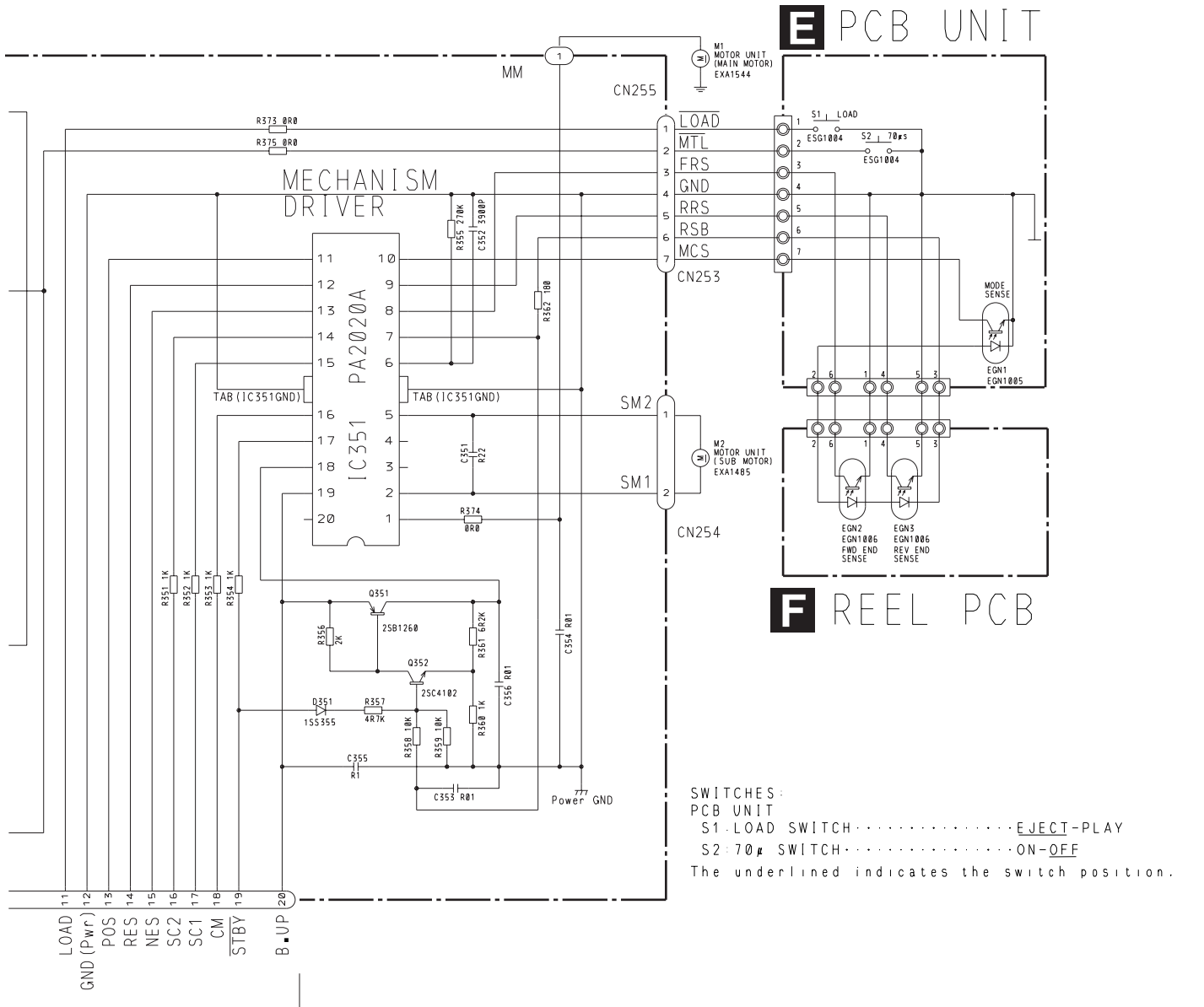


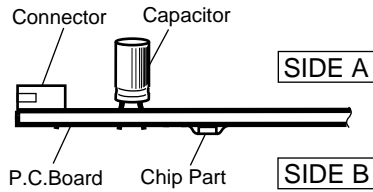
Fig. 8

4. PCB CONNECTION DIAGRAM

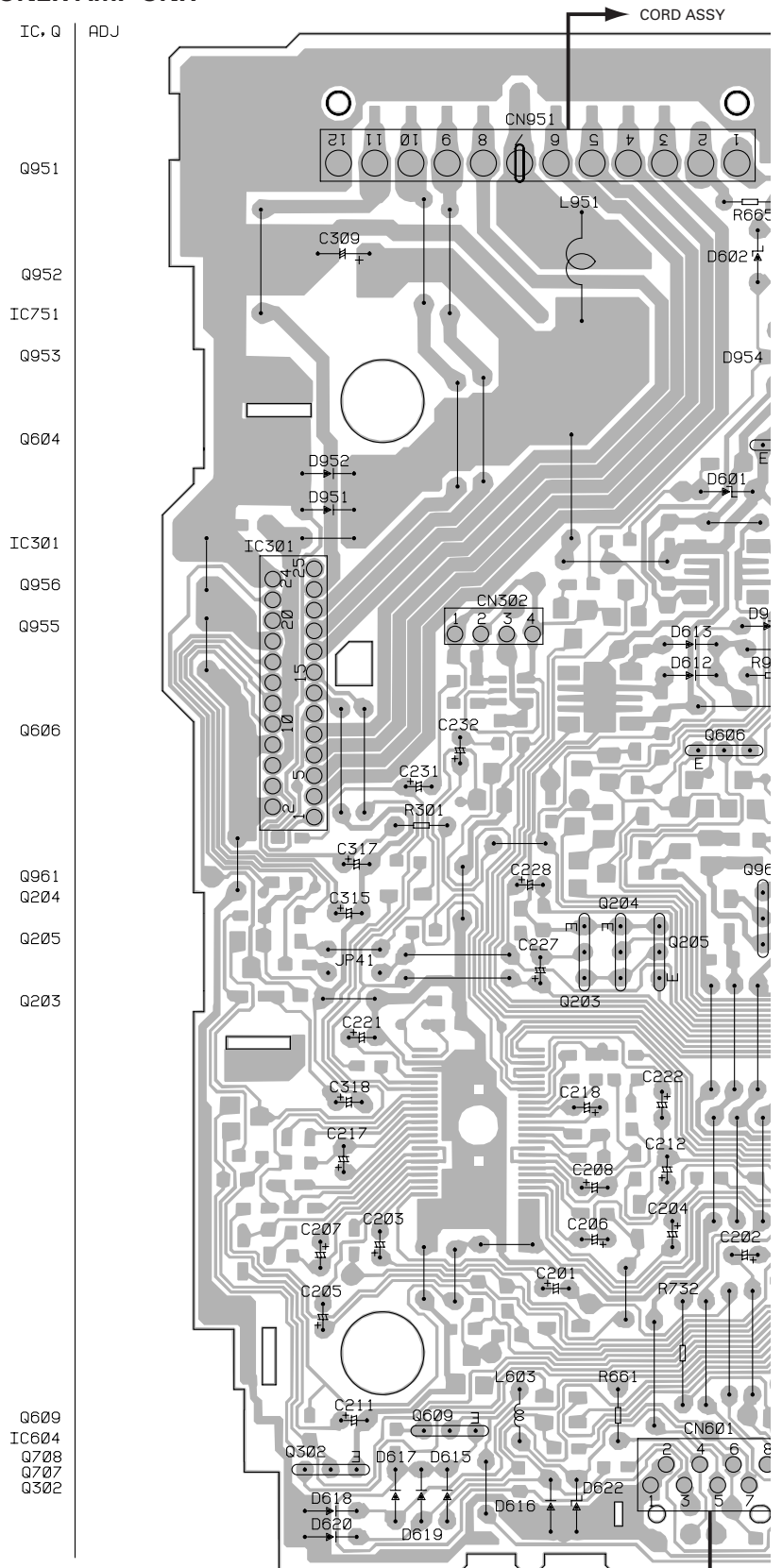
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

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

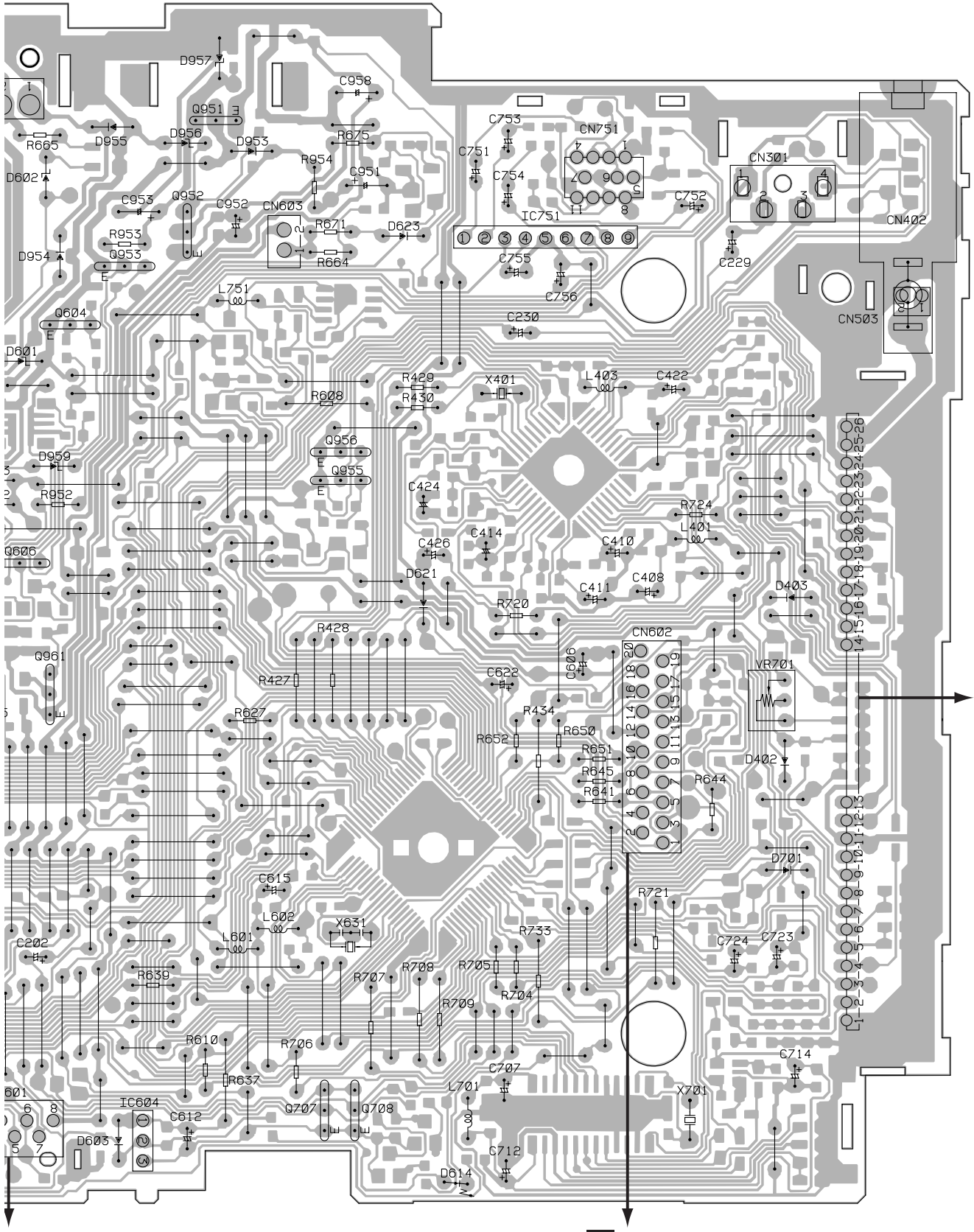


A TUNER AMP UNIT



SIDE A

SY



A

B

C

D

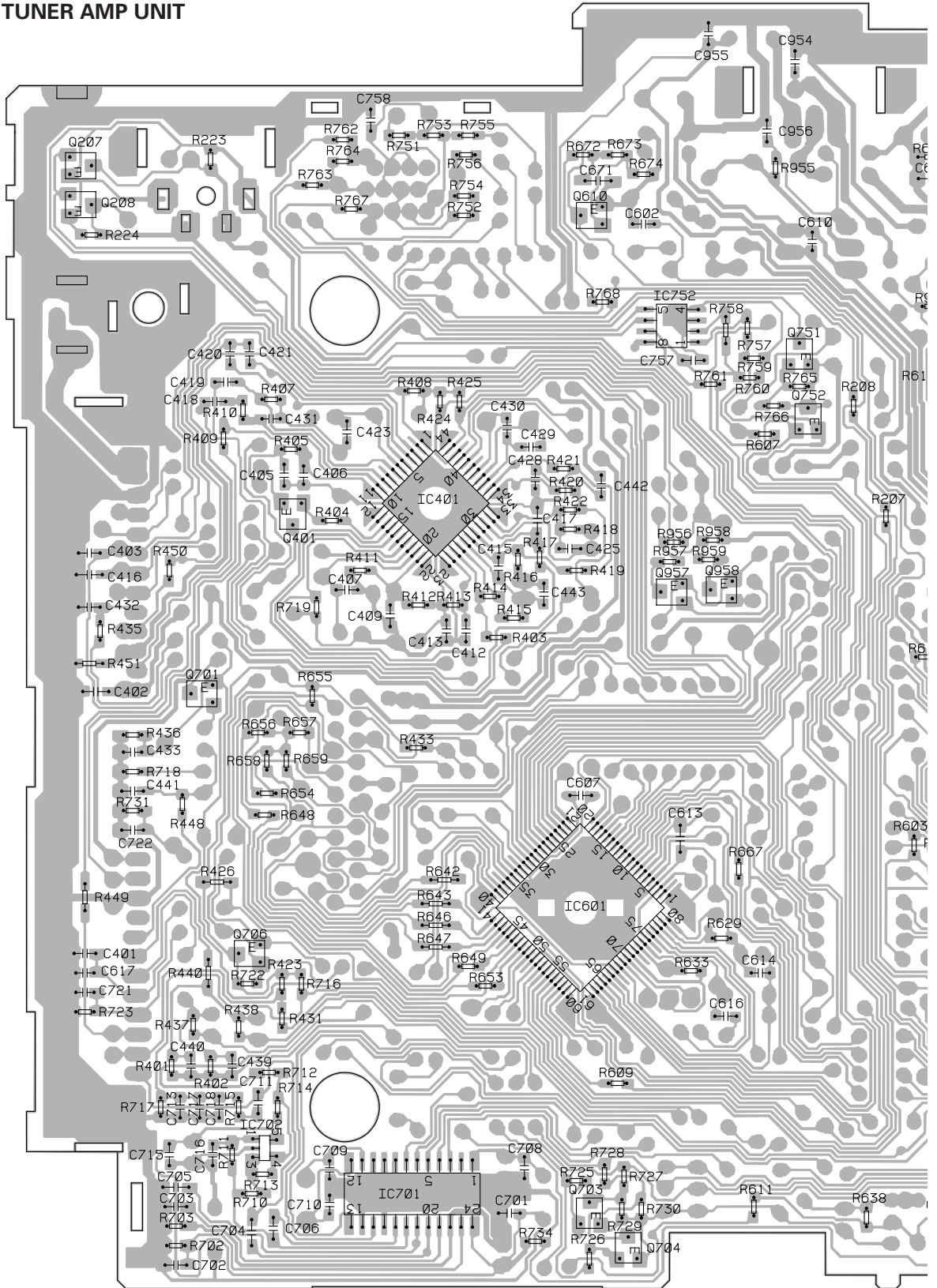
B

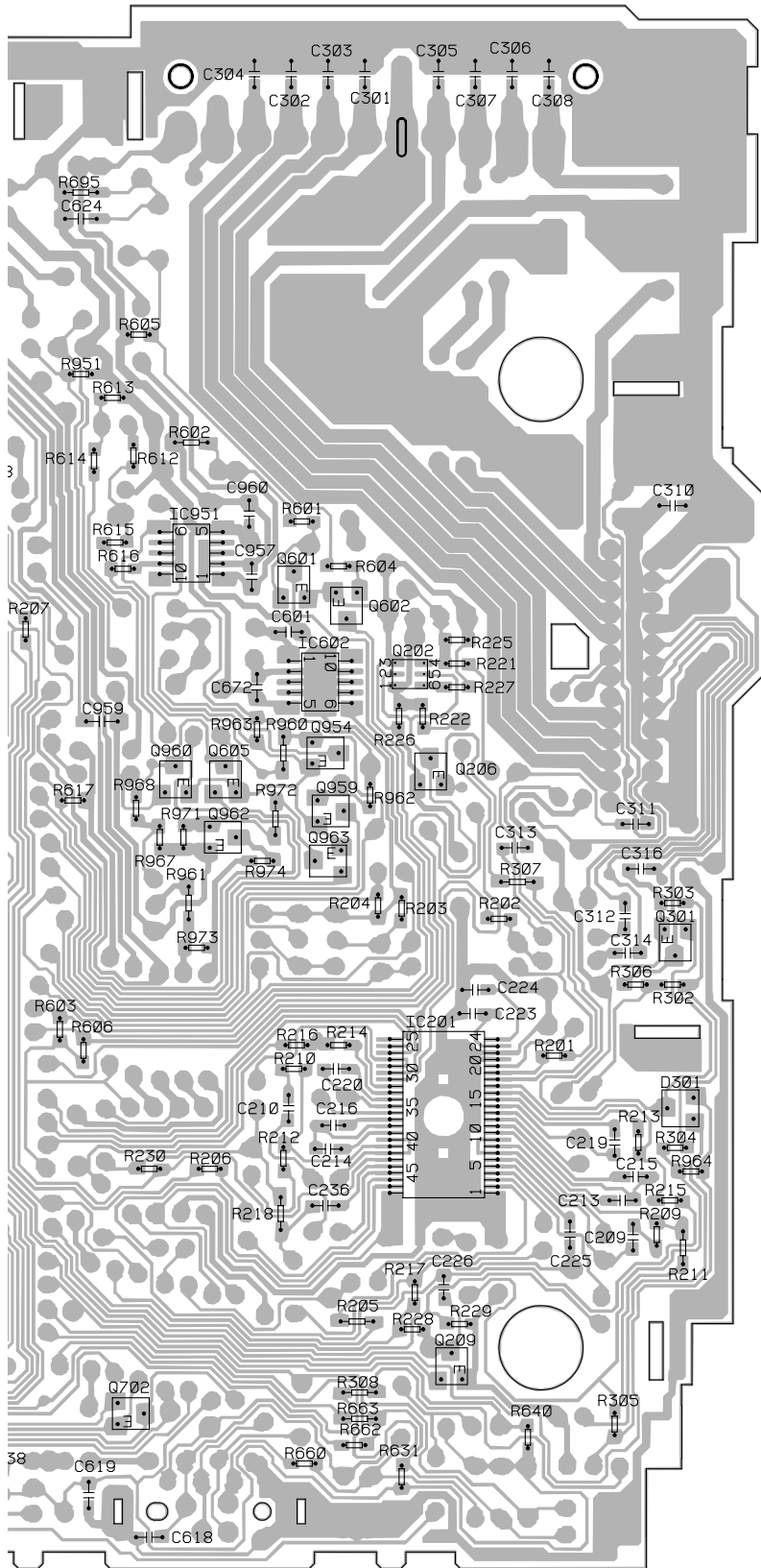
D

A

Fig. 9

A TUNER AMP UNIT





SIDE B

- IC, Q
- Q207
- Q208 Q610
- IC752
- Q751
- Q752
- IC951 Q601
- Q901 Q902
- IC401 Q602
- Q401 Q202
- IC602
- Q957 Q958
- Q954
- Q960 Q605
- Q959 Q206
- Q701 Q962
- Q963
- Q301
- IC201
- IC601
- Q706
- Q209
- IC702
- Q702
- IC701 Q703
- Q704

Fig. 10



4.2 KEYBOARD UNIT

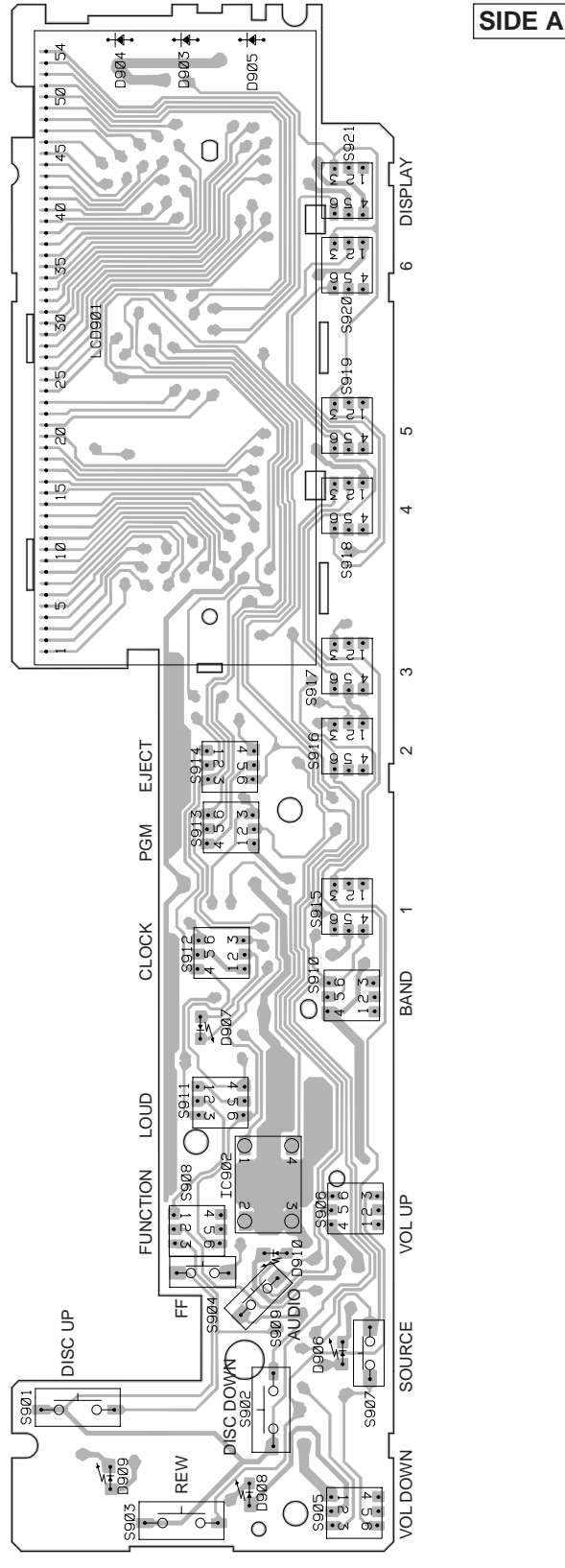
A

B

C

D

C KEYBOARD UNIT



IC.0

IC902

Fig. 11



C KEYBOARD UNIT

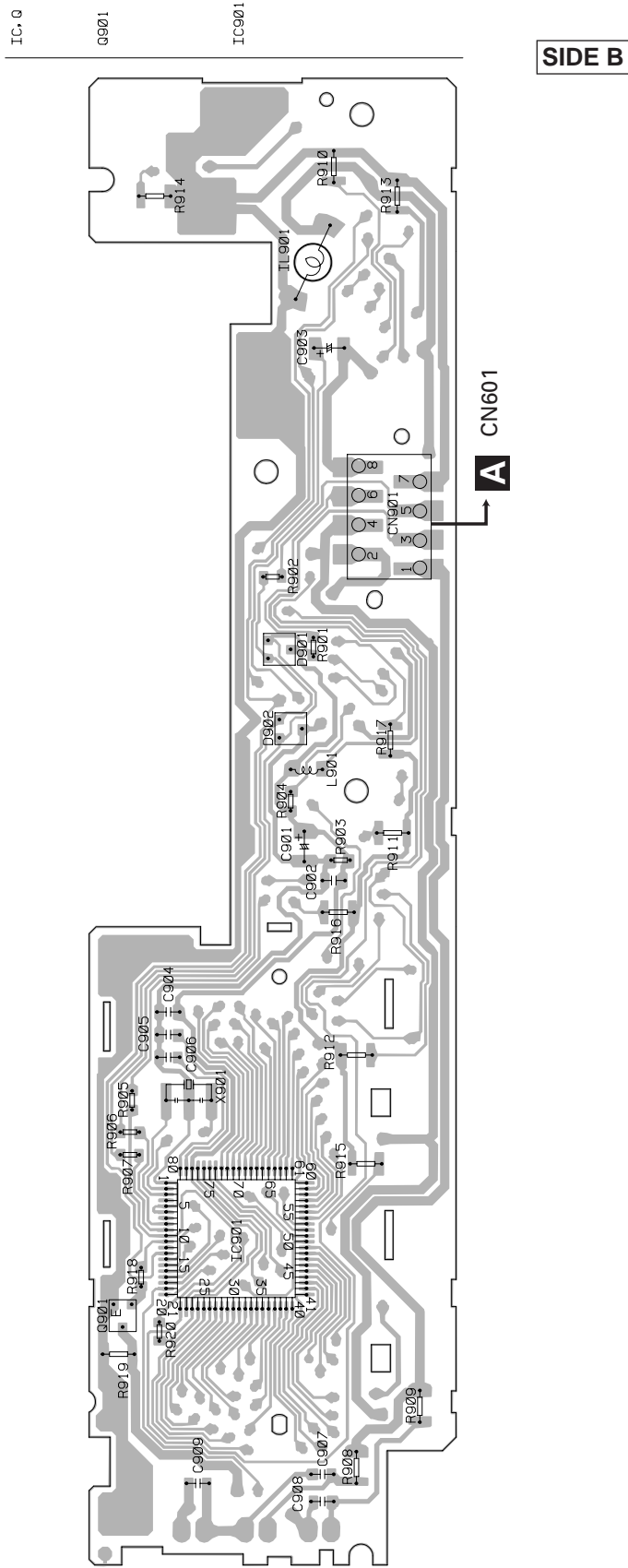


Fig. 12



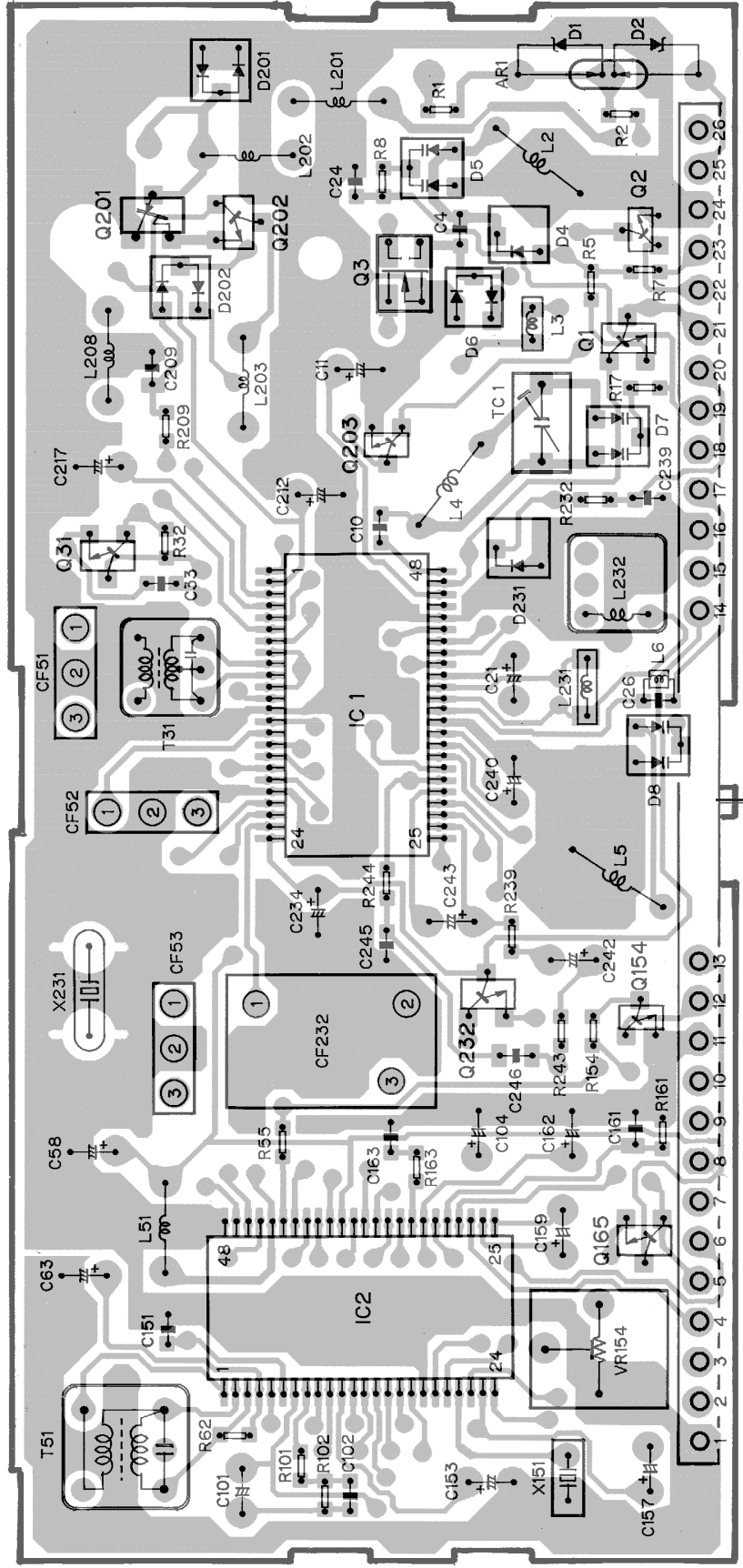
4.3 FM/AM TUNER UNIT

SIDE A

B FM/AM TUNER UNIT

A
B
C
D

IC, Q ADJ T51 VR154 IC2 IC165 Q165 Q232 Q154 X231 CF52 (1) (2) (3) CF51 (1) (2) (3) T31 CF53 (1) (2) (3) IC1 T31 Q31 Q32 Q33 Q34 Q35 Q203 Q1 Q2 Q3 Q201 Q202 Q203 Q201 Q202 L2 L4 L5



A



Fig. 13

SIDE B

FM/AM TUNER UNIT

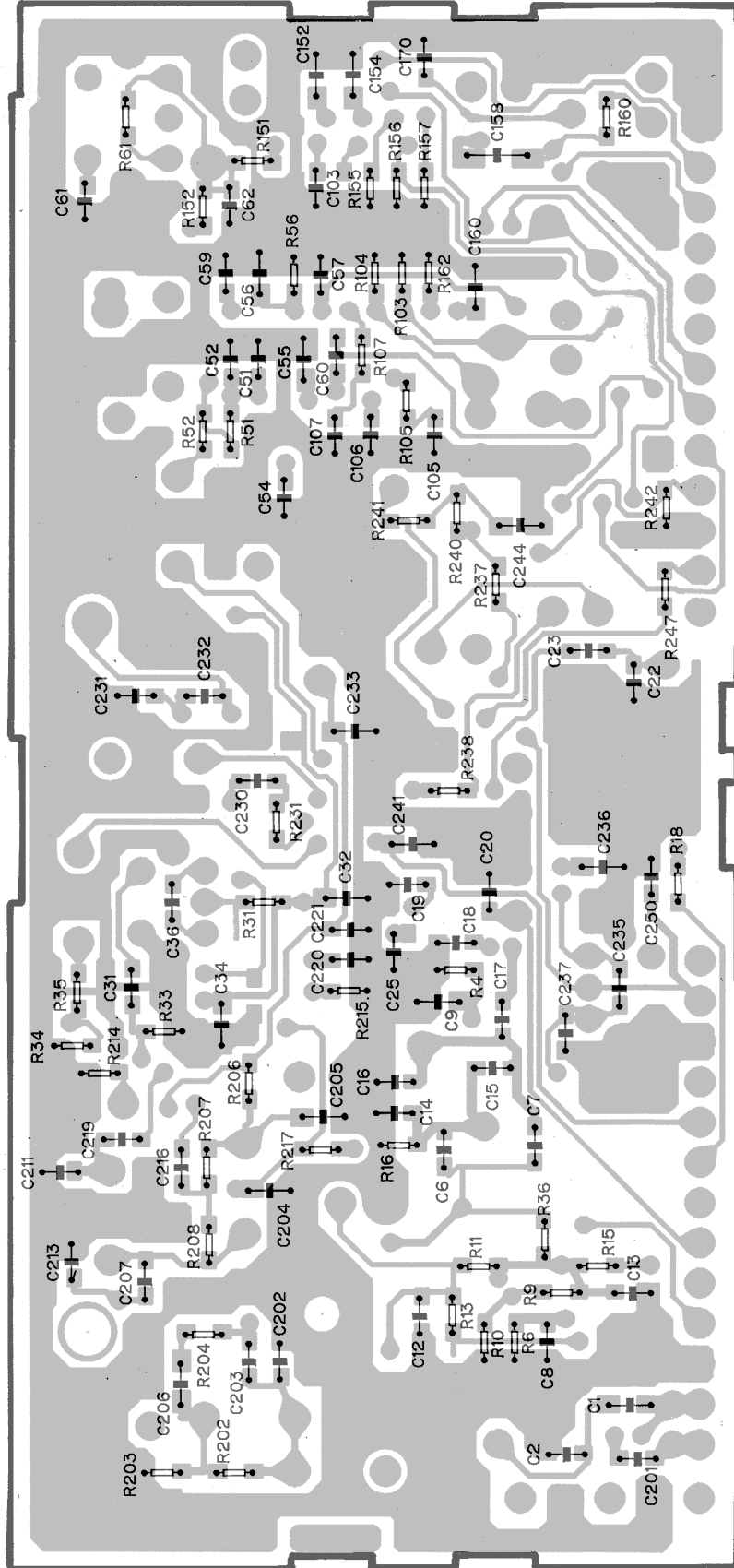


Fig. 14

B

B

4.4 CASSETTE MECHANISM MODULE

A

D DECK UNIT

SIDE A

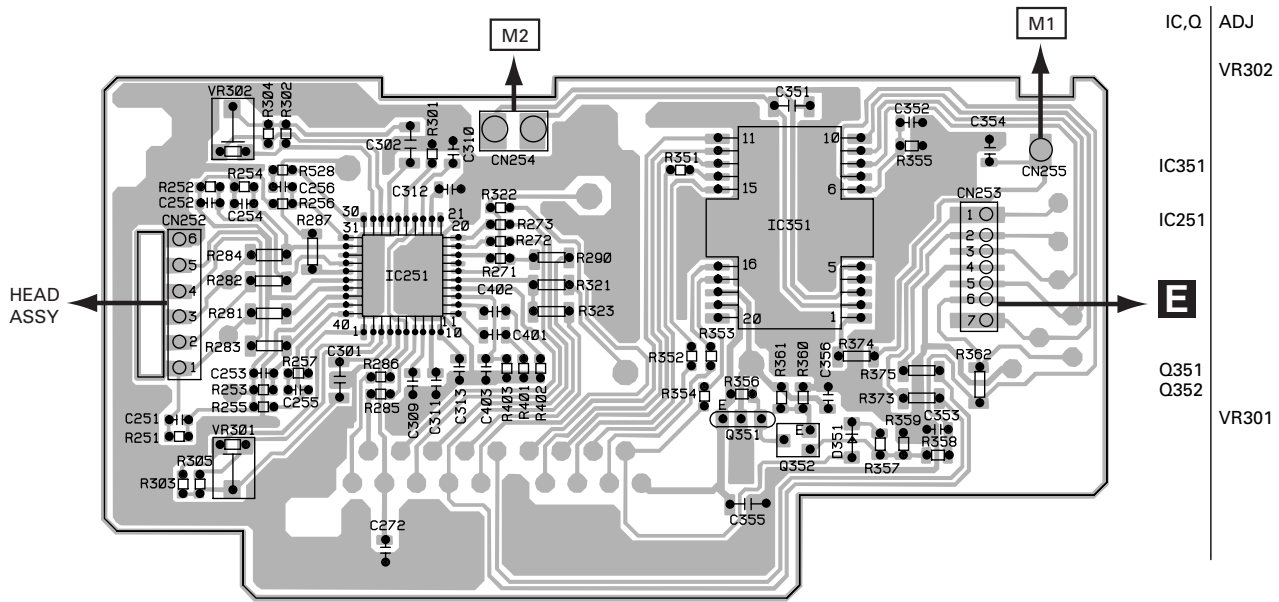


Fig. 15

B

D DECK UNIT

SIDE B

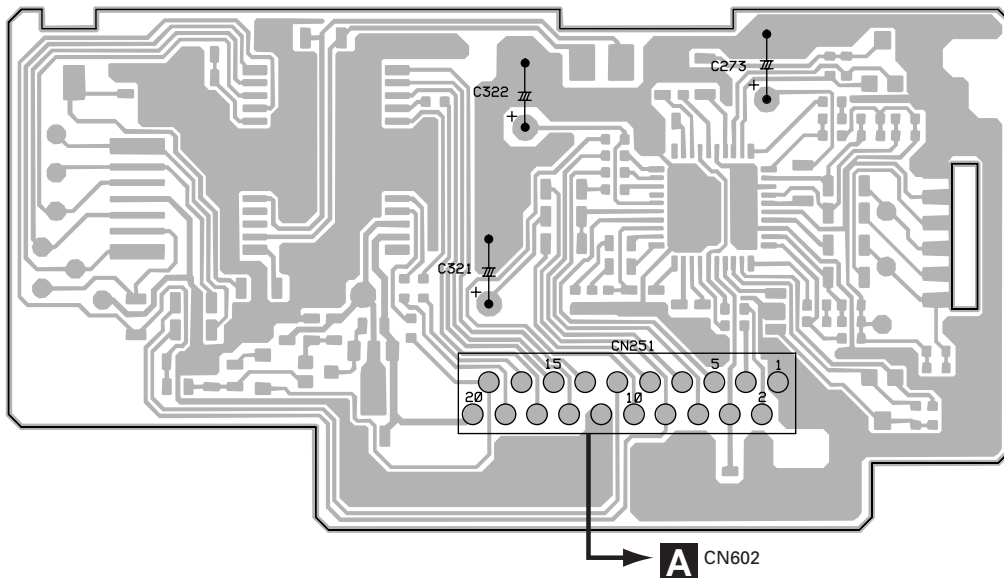


Fig. 16

E PCB UNIT

SIDE A

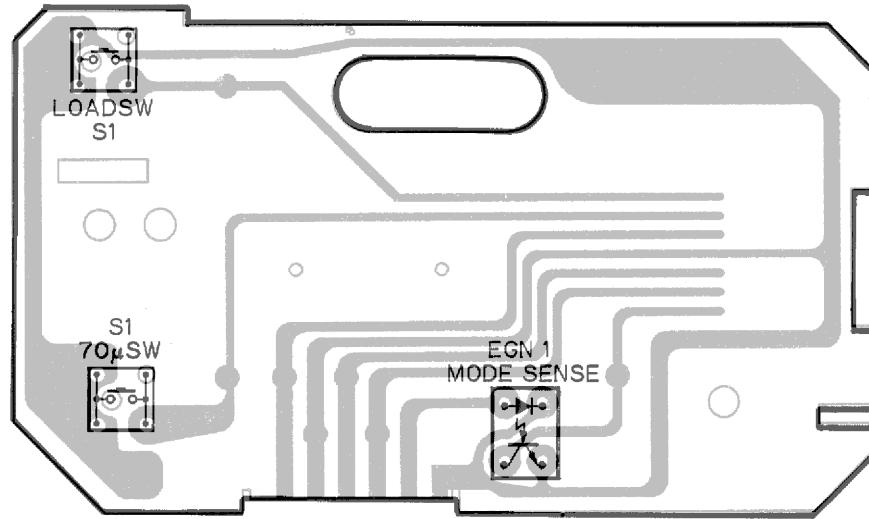


Fig. 17

E PCB UNIT

SIDE B

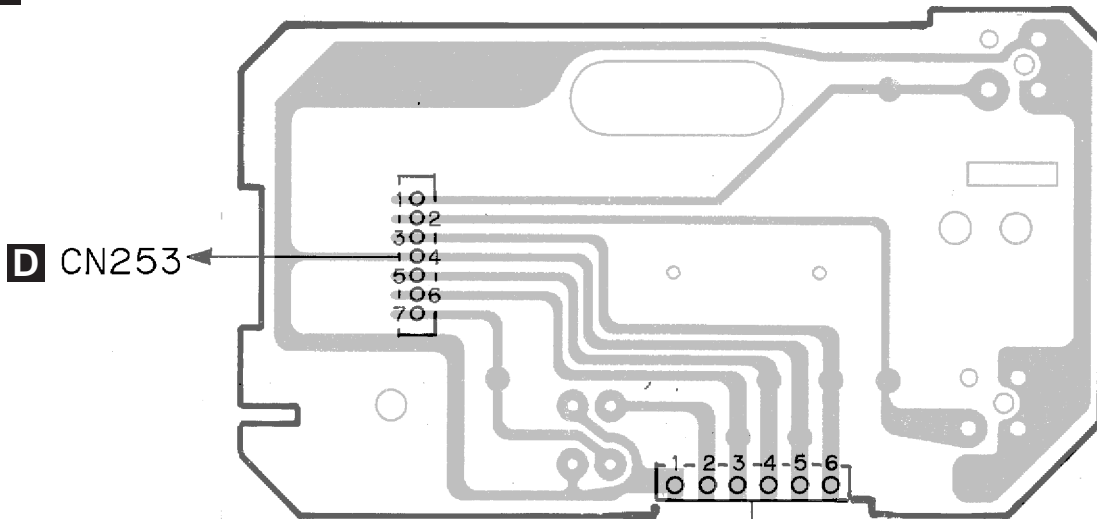


Fig. 18

F REEL PCB

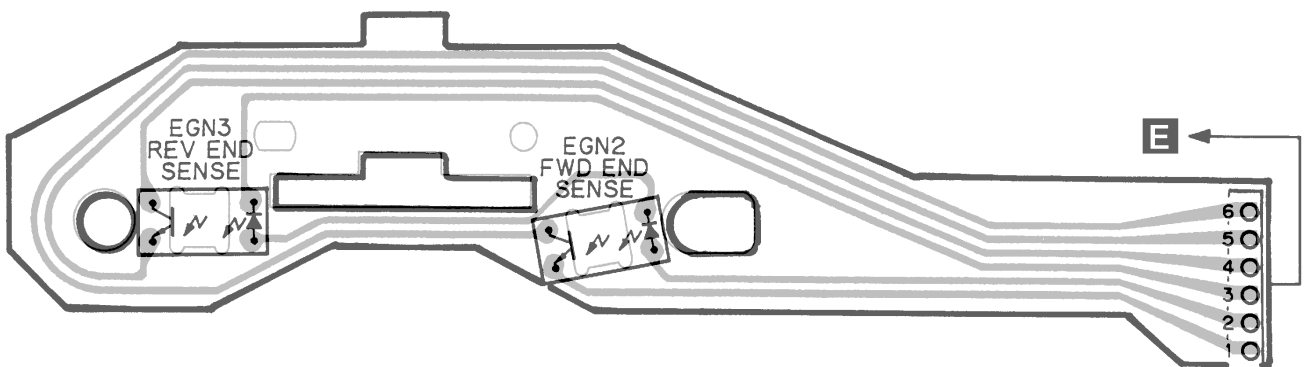


Fig. 19

5. ELECTRICAL PARTS LIST

NOTE:

● Parts whose parts numbers are omitted are subject to being not supplied.

● The part numbers shown below indicate chip components.

Chip Resistor

RS1/OSOOOJ,RS1/OOSOOOJ

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

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

====Circuit Symbol and No.====	Part Name	Part No.	====Circuit Symbol and No.====	Part Name	Part No.
B	Unit Number: CWE1467(KEH-P424/X1M/UC,P4700/X1M/UC)		R	7	RS1/16S123J
	Unit Number: CWE1486(KEH-P4750/X1M/ES)		R	8	RS1/16S332J
	Unit Name : FM/AM Tuner Unit		R	9	RS1/16S473J
			R	10	RS1/16S223J
			R	11	RS1/16S124J
MISCELLANEOUS					
IC	1 IC	PA4023B	R	13	RS1/16S563J
IC	2 IC	PA4024A	R	15	RS1/16S271J
Q	1 Transistor	2SC2412KLN	R	16	RS1/16S104J
Q	2 Transistor	DTC124EU	R	17	RS1/16S332J
Q	3 FET	3SK263	R	18	RS1/16S332J
Q	31 Transistor	2SC2412KLN	R	31	RS1/16S470J
Q	201 FET	2SK932	R	32	RS1/16S822J
Q	202 Transistor	2SC2412KLN	R	33	RS1/16S822J
Q	203 Transistor	DTC124EU	R	34	RS1/16S331J
D	1 Diode	RD39JS	R	35	RS1/16S331J
D	2 Diode	RD39JS	R	51	RS1/16S271J
D	4 Diode	1SV250	R	52	RS1/16S560J
D	5 Diode	KV1410-F1	R	55	RS1/16S102J
D	6 Diode	MA157	R	56	RS1/16S823J
D	7 Diode	KV1410-F1	R	61	RS1/16S392J
D	8 Diode	KV1410-F1	R	62	RS1/16S273J
D	201 Diode	MA157	R	101	RS1/16S272J
D	202 Diode	MA157	R	102	RS1/16S682J
D	231 Diode	SVC253	R	103	RS1/16S333J
L	2 Coil	CTC1133	R	104	RS1/16S334J
L	3 Inductor	LCTB2R2K2125	R	105	RS1/16S683J
L	4 Coil	CTC1133	R	107	RS1/16S222J
L	5 Coil	CTC1132	R	151	RS1/16S222J
L	6 Inductor(KEH-P4750/X1M/ES)	LCTBR15K1608	R	152	RS1/16S393J
L	51 Ferri-Inductor	LAU150K	R	155	RS1/16S273J
L	201 Ferri-Inductor	LAU4R7K	R	156	RS1/16S243J
L	202 Ferri-Inductor	LAU330K	R	157	RS1/16S203J
L	203 Inductor	CTF1287	R	160	RS1/16S222J
L	208 Inductor	LAU121K	R	161	RS1/16S563J
L	231 Inductor	LCTA3R3J3225	R	162	RS1/16S105J
T	31 Coil	CTE1116	R	163	RS1/16S223J
T	51 Coil	CTC1136	R	202	RS1/16S223J
CF	51 Ceramic Filter	CTF1290	R	203	RS1/16S225J
CF	52 Ceramic Filter	CTF1290	R	204	RS1/16S103J
CF	53 Ceramic Filter	CTF1290	R	206	RS1/16S220J
CF	232 Ceramic Filter	CTF1348	R	207	RS1/16S101J
X	151 Resonator 920.5kHz	CSS1365	R	208	RS1/16S102J
X	231 Crystal Resonator 10.26MHz	CSS1111	R	209	RS1/16S471J
VR	154 Semi-fixed 150kΩ(B)	CCP1213	R	214	RS1/16S822J
			R	215	RS1/16S822J
RESISTORS					
R	1	RS1/16S225J	R	217	RS1/16S102J
R	2	RS1/16S225J	R	231	RS1/16S272J
R	4	RS1/16S154J	R	232	RS1/16S473J
R	5	RS1/16S391J	R	237	RS1/16S103J
R	6	RS1/16S223J	R	238	RS1/16S104J
			R	239	RS1/16S104J
			R	240	RS1/16S332J
			R	241	RS1/16S202J
			R	243	RS1/16S183J
			R	244	RS1/16S392J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 247	RS1/16S123J	C 207	CCSRCH560J50
CAPACITORS		C 209	CKSQYB104K16
C 1	CCSQCH6R0D50	C 211	CCSRCH101J50
C 2	CCSRCK2R0C50	C 212	CEJA470M6R3
C 4	CCSRCH820J50	C 213	CKSRYB103K25
C 6	CCSRCH820J50	C 216	CCSRCH101J50
C 8	CKSRYB103K25	C 217	CEJA1R5M50
C 9	CKSQYB104K16	C 219	CCSRCH471J50
C 10	CCSRCKR50C50	C 220	CKSRYB103K25
C 11	CEJA1R0M50	C 230	CKSRYB103K25
C 12	CKSRYB222K50	C 231	CCSRCH330J50
C 13	CKSRYB222K50	C 232	CCSRCH150J50
C 14	CCSRCH220J50	C 233	CKSQYB104K16
C 15	CCSRCH6R0D50	C 234	CEJA330M10
C 16	CCSRCH8R0D50	C 235	CKSRYB332K50
C 17	CKSRYB222K50	C 236	CKSQYB473K16
C 18	CKSRYB103K25	C 237	CCSRCH120J50
C 19	CKSRYB222K50	C 239	CKSRYB472K50
C 20	CKSRYB222K50	C 240	CEJAR47M50
C 21	CEJA100M16	C 241	CKSQYB104K16
C 22	CCSRTH9R0D50	C 242	CEJAR47M50
C 23	CCSRTH120J50	C 243	CEJAR33M50
C 24	CCSRCH471J50	C 244	CKSQYB473K16
C 25	CKSRYB103K25	C 245	CKSRYB333K16
C 26	(KEH-P424/X1M/UC,P4700/X1M/UC)CCSRCH101J50	C 246	CKSQYB473K16
C 31	CKSRYB103K25	C 250	CCSRCH471J50
C 32	CKSQYB472K50	A Unit Number : CWM5847(KEH-P424/X1M/UC) : CWM5836(KEH-P4700/X1M/UC) : CWM5800(KEH-P4750/X1M/ES) Unit Name : Tuner Amp Unit	
C 33	CCSRCH5R0C50	MISCELLANEOUS	
C 34	CKSQYB104K16	IC 201	IC SN761027DL
C 36	CCSRRH201J50	IC 301	IC See Contrast table
C 51	CKSRYB223K25	IC 401	IC PM2006A
C 52	CKSRYB103K25	IC 601	IC See Contrast table
C 54	CCSRCH470J50	IC 602	IC See Contrast table
C 55	CKSQYB223K25	IC 604	IC S-80734AN
C 56	CKSQYB104K16	IC 751	IC TA2050S
C 57	CKSRYB472K50	IC 752	IC CA0008AM
C 58	CEJA330M10	IC 951	IC TPD1018F
C 59	CKSRYB103K25	Q 206	Transistor DTA124EK
C 60	CKSRYB102K50	Q 207	Transistor DTC143TK
C 61	CCSRCH270J50	Q 208	Transistor DTC143TK
C 62	CKSRYB103K25	Q 301	Transistor DTC124EK
C 63	CEJAR22M50	Q 302	Transistor 2SC1740S
C 101	CEJANP100M10	Q 401	Transistor 2SC2412K
C 102	CKSRYB182K50	Q 601	Transistor 2SC2412K
C 103	CKSRYB682K25	Q 602	Transistor 2SC2412K
C 104	CEJA2R2M50	Q 604	Transistor See Contrast table
C 105	CKSRYB103K25	Q 605	Transistor See Contrast table
C 106	CCSRCH151J50	Q 606	Transistor See Contrast table
C 107	CKSRYB103K25	Q 609	Transistor 2SA933S
C 151	CKSRYB472K50	Q 751	Transistor 2SA1037K
C 152	CKSQYB104K16	Q 752	Transistor DTC114EK
C 153	CEJA3R3M50	Q 951	Transistor 2SD2396
C 154	CKSQYB104K16	Q 952	Transistor 2SD2037
C 157	CEJA3R3M50	Q 953	Transistor 2SA933S
C 158	CKSYB474K16	Q 954	Transistor DTC114EK
C 159	CEJA220M6R3	Q 955	Transistor 2SA1674
C 160	CKSQYB104K16	Q 956	Transistor 2SA1048
C 161	CKSQYB104K16	Q 957	Transistor DTC114TK
C 162	CEJA3R3M50	Q 958	Transistor DTC114TK
C 163	CKSRYB102K50	Q 959	Transistor 2SC2412K
C 170	CCSRCH100D50	Q 960	Transistor DTC114TK
C 201	CCSRCH471J50	Q 961	Transistor 2SB1243
C 202	CCSRCH100D50	D 301	Diode MA152WK
C 203	CKSRYB332K50		
C 204	CKSQYB473K16		
C 205	CKSQYB473K16		
C 206	CKSQYB104K16		

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====Circuit Symbol and No.===Part Name	Part No.	====Circuit Symbol and No.===Part Name	Part No.
D 402 Diode	1SS270	R 405	RS1/10S222J
D 403 Diode	1SS270	R 406	See Contrast table
D 601 Diode	HZS7L(C2)	R 407	See Contrast table
D 602 Diode	HZS7L(A1)	R 408	RS1/10S562J
D 603 Diode	1SS270	R 409	RS1/10S222J
D 612 Diode	See Contrast table	R 410	RS1/10S102J
D 613 Diode	See Contrast table	R 411	RS1/10S472J
D 614 LED	See Contrast table	R 412	RS1/10S152J
D 615 Diode	1SS270	R 413	RS1/10S472J
D 616 Diode	1SS270	R 414	RS1/10S472J
D 617 Diode	1SS270	R 416	RS1/10S182J
D 618 Diode	1SS270	R 417	RS1/10S103J
D 619 Diode	1SS270	R 418	RS1/10S152J
D 620 Diode	1SS270	R 419	RS1/10S0R0J
D 621 Diode	1SS270	R 420	RS1/10S392J
D 622 Diode	HZS7L(A1)	R 421	RS1/10S102J
D 951 Diode	1SR139-400	R 422	RS1/10S392J
D 952 Diode	1SR139-400	R 423	RS1/10S473J
D 953 Diode	1SR139-400	R 424	RS1/10S473J
D 954 Diode	1SR139-400	R 425	RS1/10S472J
D 955 Diode	1SR139-400	R 426	RS1/8S473J
D 956 Diode	HZS6L(B2)	R 427	RD1/4PU102J
D 957 Diode	HZS9L(B3)	R 428	RD1/4PU102J
D 959 Diode	HZS9L(A2)	R 429	RD1/4PU102J
L 401 Ferri-Inductor	LAU2R2K	R 430	RD1/4PU102J
L 403 Ferri-Inductor	LAU2R2K	R 431	RS1/10S472J
L 601 Ferri-Inductor	LAU2R2K	R 433	RS1/10S104J
L 602 Ferri-Inductor	LAU2R2K	R 434	RD1/4PU222J
L 603 Ferri-Inductor	LAU2R2K	R 435	RS1/10S103J
L 751 Ferri-Inductor	LAU2R2K	R 436	RS1/10S393J
L 951 Choke Coil 600µH	CTH1168	R 437	RS1/10S0R0J
X 401 Crystal Resonator 7.200MHz	CSS1379	R 438	RS1/10S0R0J
X 631 Ceramic Resonator 4.194MHz	CSS1047	R 440	RS1/8S0R0J
FM/AM Tuner Unit	See Contrast table	R 448	RS1/10S102J
		R 449	RS1/8S0R0J
RESISTORS			
R 201	RS1/10S821J	R 450	RS1/10S680J
R 202	RS1/10S821J	R 601	RS1/10S223J
R 205	RS1/8S563J	R 602	RS1/8S473J
R 206	RS1/10S563J	R 603	RS1/10S473J
R 207	RS1/10S152J	R 604	RS1/10S223J
R 208	RS1/10S152J	R 605	RS1/10S473J
R 209	RS1/10S272J	R 606	RS1/10S473J
R 210	RS1/10S272J	R 608	RD1/4PU0R0J
R 211	RS1/8S151J	R 610	RD1/4PU0R0J
R 212	RS1/10S151J	R 611	See Contrast table
R 213	RS1/10S221J	R 612	See Contrast table
R 214	RS1/10S221J	R 613	See Contrast table
R 217	See Contrast table	R 614	See Contrast table
R 218	See Contrast table	R 615	See Contrast table
R 223	RS1/10S473J	R 616	See Contrast table
R 224	RS1/10S473J	R 617	See Contrast table
R 229	RS1/10S392J	R 627	See Contrast table
R 230	RS1/10S392J	R 629	RS1/10S0R0J
R 301	RD1/4PU103J	R 631	RS1/10S473J
R 302	RS1/10S221J	R 633	RS1/10S473J
R 303	RS1/10S153J	R 637	RD1/4PU102J
R 304	RS1/10S103J	R 638	RS1/10S124J
R 305	RS1/10S152J	R 639	RD1/4PU222J
R 306	RS1/10S101J	R 640	RS1/10S223J
R 307	RS1/8S562J	R 641	RD1/4PU222J
R 308	RS1/8S223J	R 642	RS1/8S103J
R 401	RS1/10S162J	R 643	RS1/8S222J
R 402	RS1/10S162J	R 644	RD1/4PU222J
R 403	RS1/10S102J	R 645	RD1/4PU103J
R 404	RS1/10S222J	R 646	RS1/8S222J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 647	RS1/8S222J	C 206	CEJA4R7M35
R 648	RS1/10S222J	C 207	CEJA100M16
R 649	RS1/10S222J	C 208	CEJA100M16
R 650	RD1/4PU222J	C 209	CKSQYB822K50
R 651	RD1/4PU222J	C 210	CKSQYB822K50
R 652	RD1/4PU222J	C 211	CEJA1R0M50
R 653	RS1/10S222J	C 212	CEJA1R0M50
R 654	RS1/10S473J	C 213	CKSQYB183K25
R 655	RS1/10S473J	C 214	CKSQYB183K25
R 656	RS1/10S473J	C 215	CKSQYB102K50
R 657	RS1/10S473J	C 216	CKSQYB102K50
R 658	RS1/10S103J	C 217	CEJA2R2M50
R 659	RS1/10S392J	C 218	CEJA2R2M50
R 660	RS1/10S472J	C 219	CKSQYB333K25
R 661	RD1/4PU472J	C 220	CKSQYB333K25
R 662	RS1/10S222J	C 221	CEJA220M10
R 663	RS1/8S222J	C 222	CEJA220M10
R 664	See Contrast table	C 223	CKSQYF104Z25
R 665	RD1/4PU102J	C 225	See Contrast table
R 667	RS1/10S102J	C 229	CEJA2R2M50
R 695	RS1/8S472J	C 230	CEJA2R2M50
R 716	See Contrast table	C 236	See Contrast table
R 717	See Contrast table	C 309	See Contrast table
R 751	RS1/10S181J	C 310	CKSQYB104K16
R 752	RS1/10S181J	C 311	CKSQYB224K16
R 753	RS1/10S223J	C 312	CKSQYB224K16
R 754	RS1/10S223J	C 313	CKSQYB224K16
R 755	RS1/10S102J	C 314	CKSQYB224K16
R 756	RS1/10S102J	C 315	CEJA100M16
R 757	RS1/10S102J	C 316	CKSQYB224K16
R 758	RS1/8S102J	C 317	CEJA1R0M50
R 759	RS1/10S473J	C 318	CEJA330M10
R 760	RS1/10S473J	C 401	CKSQYB223K25
R 761	RS1/10S102J	C 402	CKSYB273K25
R 762	RS1/10S101J	C 406	CCSQSL101J50
R 763	RS1/10S101J	C 407	CKSQYB102K50
R 764	RS1/10S620J	C 408	CEJA220M16
R 765	RS1/10S223J	C 409	CKSQYB103K25
R 766	RS1/10S472J	C 410	CEJA220M6R3
R 767	RS1/10S222J	C 411	CEJA220M16
R 768	RS1/10S0R0J	C 412	CKSQYB103K25
R 951	RS1/10S473J	C 413	CKSQYB103K25
R 952	RD1/4PU102J	C 415	CKSQYB103K25
R 953	RD1/4PU471J	C 416	CKLSR473K16
R 954	RD1/4PU101J	C 418	CKSQYB103K25
R 955	RS1/10S472J	C 419	See Contrast table
R 956	RS1/10S473J	C 420	CKSQYB103K25
R 957	RS1/10S102J	C 421	CKSQYB103K25
R 958	RS1/10S473J	C 422	CEJA220M6R3
R 959	RS1/10S102J	C 423	CKSQYB473K16
R 960	RS1/8S103J	C 424	4.7 μ F/16V CCH1250
R 961	RS1/8S1R0J	C 425	CKSQYB103K25
R 962	RS1/10S103J	C 429	CCSQCH150J50
R 963	RS1/10S223J	C 430	CCSQCH150J50
R 964	RS1/10S152J	C 431	CCSQSL101J50
R 967	RS1/10S473J	C 432	CKSQYB103K25
R 968	RS1/10S102J	C 439	CKSQYB473K25
R 973	RS1/10S0R0J	C 440	CKSQYB473K25
		C 442	CKSQYB102K50
		C 443	CKSQYB154K16
CAPACITORS			
C 201	CEJA2R2M50	C 601	See Contrast table
C 202	CEJA2R2M50	C 602	See Contrast table
C 203	CEJA1R0M50	C 606	CEJA100M16
C 204	CEJA1R0M50	C 607	See Contrast table
C 205	CEJA4R7M35	C 612	CEAL2R2M50

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====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 613	CKSYB102K50	C 758	CKSQYB104K16
C 614	CCSOSL101J50	C 951	CCH1183
C 615	CEJA4R7M35	C 952	CEJA470M10
C 618	CKSQYB223K25	C 953	CEAS101M10
C 619	CKSQYB473K16	C 954	CKSQYB103K25
C 622	CEJA220M10	C 956	CKSQYB103K25
C 624	CKSYB102K50	C 957	CKSQYB103K25
C 672	See Contrast table	C 958	CEAS101M10
C 751	CEJA1R0M50	C 960	CKSQYB472K50
C 752	CEJA1R0M50		
C 753	CEJA1R0M50		
C 754	CEJA1R0M50		
C 755	CEJA100M16		
C 756	CEJA100M16		
C 757	CKSQYB102K50		

CONTRAST TABLE of TUNER AMP UNIT

KEH-P424/X1M/UC, KEH-P4700/X1M/UC and KEH-P4750/X1M/ES have the same construction except for the following:

Symbol and Description	Part No.		
	KEH-P424/X1M/UC	KEH-P4700/X1M/UC	KEH-P4750/X1M/ES
FM/AM Tuner Unit	CWE1467	CWE1467	CWE1486
IC 301 IC	TDA7386	TDA7384	TDA7384
IC 601 IC	PD4915A	PD4917A	PD4917A
IC 602 IC	TPD1018F	Not used	Not used
D 612,613 Diode	1SR139-400	Not used	Not used
D 614 Diode	BR4361F	Not used	Not used
Q 604 Transistor	2SA933S	Not used	Not used
Q 605 Transistor	DTC124EK	Not used	Not used
Q 606 Transistor	2SC1740S	Not used	Not used
R 217,612	RS1/10S103J	Not used	Not used
R 218	RS1/8S102J	Not used	Not used
R 406	Not used	Not used	RD1/4PU182J
R 407	RS1/10S0R0J	RS1/10S0R0J	Not used
R 611	RS1/10S751J	Not used	Not used
R 613,614,615	RS1/10S223J	Not used	Not used
R 616	RS1/10S272J	Not used	Not used
R 617	RS1/10S473J	Not used	Not used
R 627	RD1/4PU103J	Not used	Not used
R 664	RD1/4PU102J	Not used	Not used
R 716	RS1/10S473J	RS1/10S473J	Not used
R 717	RS1/10S273J	Not used	RS1/10S473J
C 225,236	CKSQYB473K16	Not used	Not used
C 309	CCH1188(4700µF/16V)	CCH1018(3300µF/16V)	CCH1018(3300µF/16V)
C 419	Not used	Not used	CKSQYB103K25
C 601,602	CKSQYB103K25	Not used	Not used
C 607	CCSOSL101J50	CCSOSL101J50	Not used
C 672	CKSQYB472K50	Not used	Not used

====Circuit Symbol and No.====Part Name Part No.

D Unit Number : EWM1016
Unit Name : Deck Unit

MISCELLANEOUS

IC 251	IC	CXA2560Q
IC 351	IC	PA2020A
Q 351	Transistor	2SB1260
Q 352	Transistor	2SC4102
D 351	Diode	1SS355
VR 301	Semi-fixed 33kΩ(B)	CCP1280
VR 302	Semi-fixed 33kΩ(B)	CCP1280

RESISTORS

R 255	RS1/16S221J
R 256	RS1/16S221J
R 257	RS1/16S102J
R 258	RS1/16S102J
R 271	RS1/16S102J
R 272	RS1/16S102J
R 273	RS1/16S102J
R 281	RS1/8S0R0J
R 282	RS1/8S0R0J
R 283	RS1/8S0R0J
R 284	RS1/8S0R0J
R 285	RS1/16S0R0J
R 286	RS1/16S0R0J
R 287	RS1/8S0R0J
R 290	RS1/8S0R0J
R 301	RS1/16S183J
R 322	RS1/16S102J
R 351	RS1/16S102J
R 352	RS1/16S102J
R 353	RS1/16S102J
R 354	RS1/16S102J
R 355	RS1/10S274J
R 356	RS1/10S202J
R 357	RS1/10S472J
R 358	RS1/10S103J
R 359	RS1/10S103J
R 360	RS1/10S102J
R 361	RS1/10S622J
R 362	RS1/8S181J
R 373	RS1/8S0R0J
R 374	RS1/8S0R0J
R 375	RS1/8S0R0J
R 401	RS1/16S472J
R 402	RS1/16S163J
R 403	RS1/16S823J

CAPACITORS

C 251	CKSRYB331K50
C 252	CKSRYB331K50
C 253	CKSRYB331K50
C 254	CKSRYB331K50
C 255	CKSRYB103K25
C 256	CKSRYB103K25
C 272	CKSQYB104K16
C 273	CEJA220M16
C 301	CKSYB104K50
C 302	CKSYB104K50
C 309	CKSQYB104K16
C 310	CKSQYB104K16
C 313	CCSQCH101K50
C 351	CKSYB224K25
C 352	CKSQYB392K50

====Circuit Symbol and No.====Part Name Part No.

C 353	CKSQYB103K50
C 354	CKSQYB103K50
C 355	CKSYB104K50
C 356	CKSQYB103K50
C 401	CKSQYB334K16

C 402	CKSQYB472K50
C 403	CKSQYB683K16

C Unit Number : CWM5801
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 901	IC	PD6247A
Q 901	Transistor	2SC2412K
D 901	Chip Diode	MA151WK
D 902	Diode	MA151WA
D 903	LED	NSPWF50SB
D 904	LED	NSPWF50SB
D 905	LED	NSPWF50SB
D 906	LED	CL170PGCD
D 907	LED	CL170PGCD
D 908	LED	CL170PGCD
D 909	LED	CL170PGCD
D 910	LED	CL170PGCD
L 901	Inductor	LCTA101J3225
X 901	Ceramic Resonator 4.97MHz	CSS1312
S 901	Switch	CSG1043
S 902	Switch	CSG1043
S 903	Switch	CSG1043
S 904	Switch	CSG1041
S 905	Switch	CSG1084
S 906	Switch	CSG1085
S 907	Switch	CSG1041
S 908	Switch	CSG1084
S 909	Switch	CSG1041
S 910	Switch	CSG1085
S 911	Switch	CSG1086
S 912	Switch	CSG1086
S 913	Switch	CSG1086
S 914	Switch	CSG1086
S 915	Switch	CSG1085
S 916	Switch	CSG1084
S 917	Switch	CSG1085
S 918	Switch	CSG1084
S 919	Switch	CSG1085
S 920	Switch	CSG1084
S 921	Switch	CSG1085
IL 901	Lamp 14V 40mA	CEL1558
LCD 901	LCD	CAW1477

RESISTORS

R 901	RS1/10S222J
R 902	RS1/10S222J
R 903	RS1/10S472J
R 906	RS1/10S470J
R 907	RS1/10S470J
R 908	RS1/4S511J
R 909	RS1/4S751J
R 910	RS1/4S391J
R 911	RS1/4S391J
R 912	RS1/4S391J
R 913	RS1/4S391J
R 914	RS1/4S391J
R 915	RS1/4S391J
R 916	RS1/4S391J
R 917	RS1/4S391J

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====Circuit Symbol and No.====Part Name	Part No.
R 918	RS1/10S472J
R 919	RS1/4S391J
R 920	RS1/10S473J
CAPACITORS	
C 901	CSZSR100M6R3
C 902	CKSQYF104Z50
C 904	CKSQYB103K25
C 905	CKSQYB103K25
C 906	CKSQYB103K25
C 907	CKSQYF104Z50
C 908	CKSQYF104Z50
C 909	CKSQYF104Z50

====Circuit Symbol and No.====Part Name	Part No.
E Unit Number :	
Unit Name : PCB Unit	
S 1 Switch (Load)	ESG1004
S 2 Switch (70μS)	ESG1004
EGN 1 Photo-Interrupter	EGN1005
F Unit Number :	
Unit Name : Reel PCB	
EGN 2 Photo-Interrupter	EGN1006
EGN 3 Photo-Interrupter	EGN1006
Miscellaneous Parts List	
M 1 Motor Unit (Main)	EXA1544
M 2 Motor Unit (Sub)	EXA1485
HD 1 Head Assy	EXA1506

6. ADJUSTMENT

● Connection Diagram

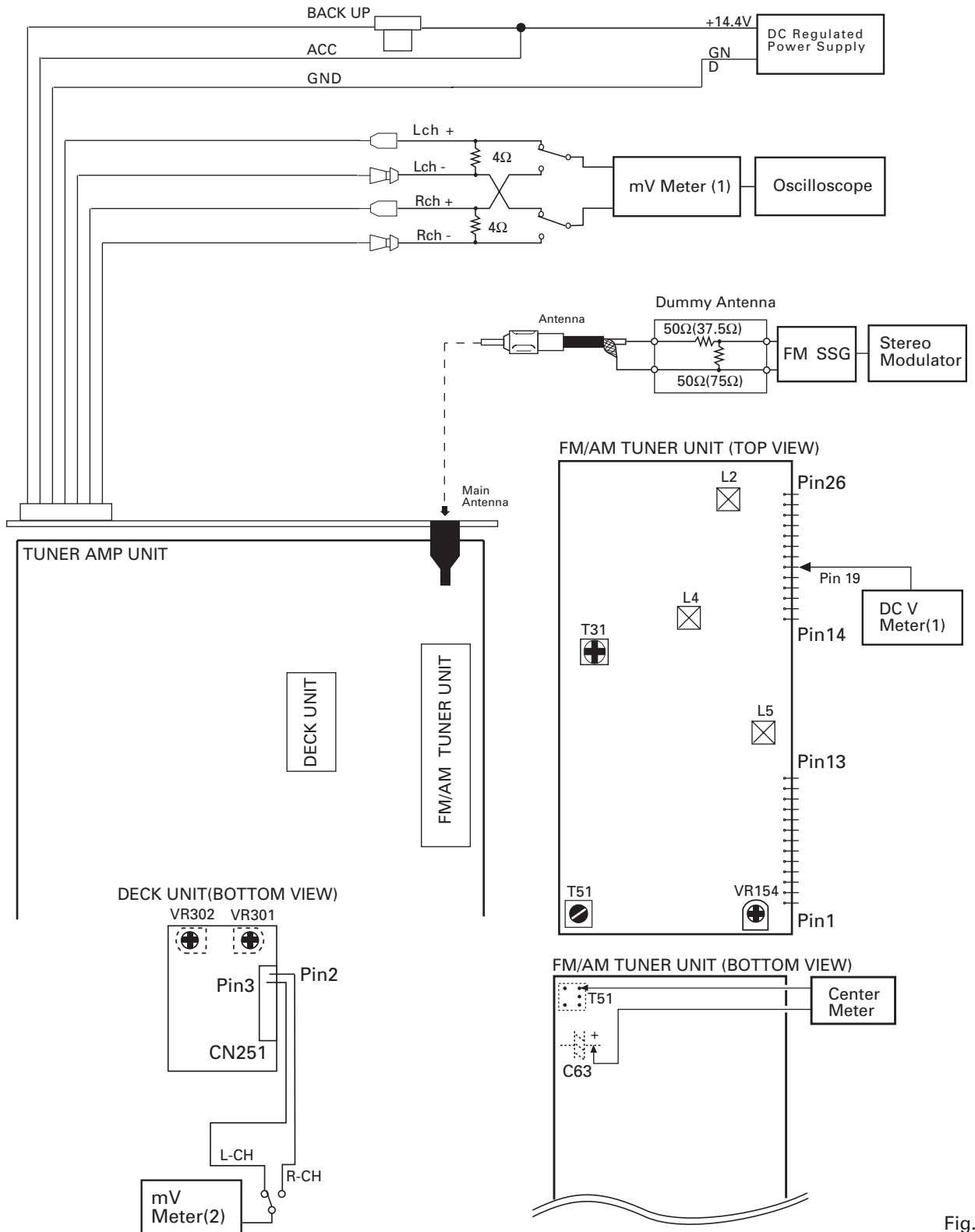


Fig. 20

KEH-P424,P4700,P4750

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)

S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

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

FM ADJUSTMENT(KEH-P424/X1M/UC,P4700/X1M/UC)

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

FM ADJUSTMENT(KEH-P4750/X1M/ES)

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

DOLBY B NR ADJUSTMENT

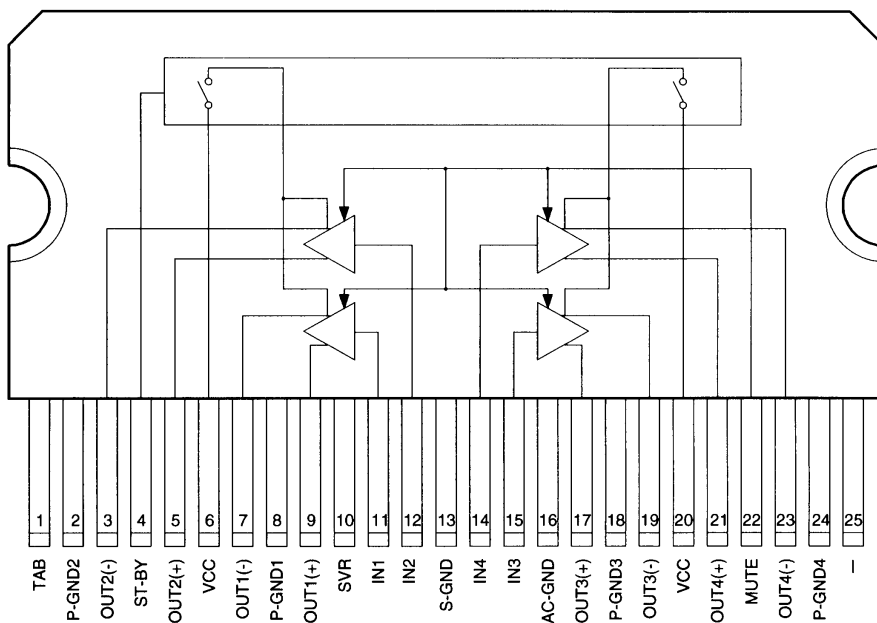
No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter(2) : -6dBs±1.0dB (DOLBY NR Switch : OFF)

7. GENERAL INFORMATION

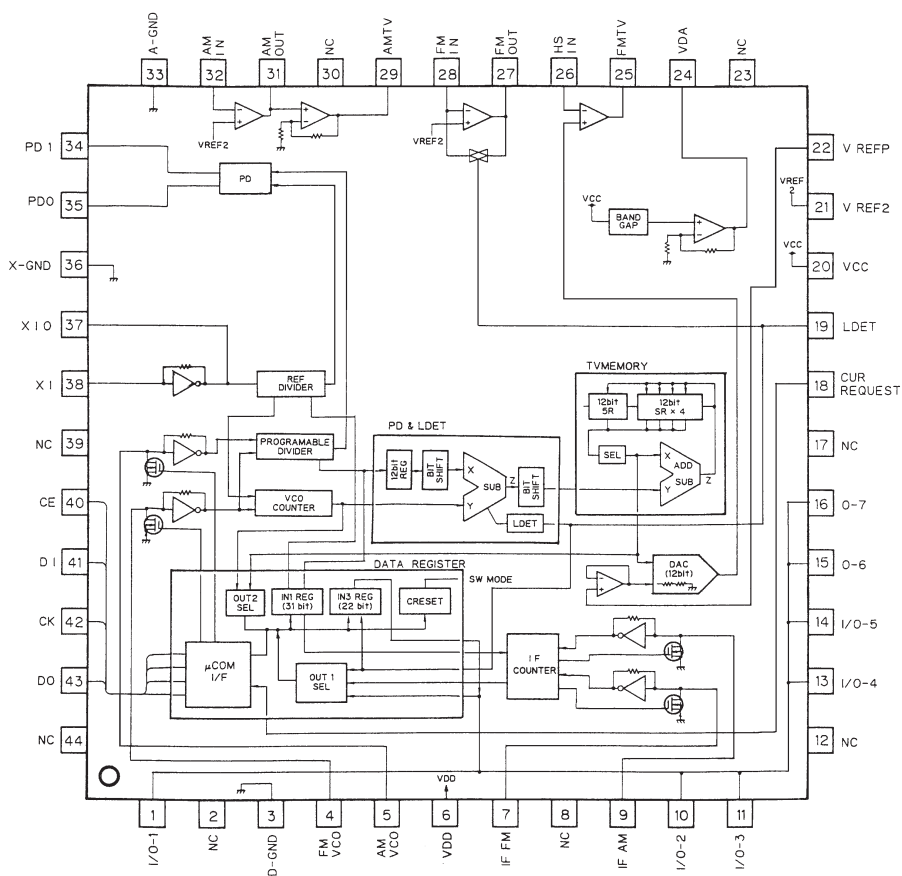
7.1 PARTS

7.1.1 IC

TDA7384,TDA7386



PM2006A

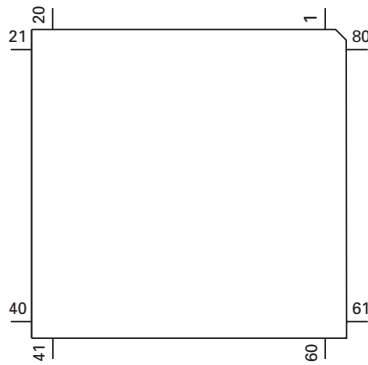


**● Pin Functions (PD4915A): KEH-P424/X1M/UC)
(PD4917A): KEH-P4700/X1M/UC, P4750/X1M/ES)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	ASENBO	O	C	Slave power supply control output
2	NC			Not used
3	ADPW	O	C	A/D converter power
4	AVSS			A/D GND
5	FIEOUT			Not used
6	ST	I		FM stereo input
7	AVREF1			(Connect to VDD)
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	SWVDD	O	C	Key board unit power supply control output
11	TUNPD1	I		PLL IC data input
12	TUNPD0	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock
14	TUNPCE	O	C	PLL IC chip enable
15,16	NC			Not used
17	TX	O	C	IP BUS data output
18,19	NC			Not used
20	DRELAY	O	C	External relay output
21	EORR			Not used
22	EVST	O	C	Electric volume strobe output
23	EVCK	O	C	Electric volume serial clock output
24	EVDT	O	C	Electric volume serial data output
25	LCDPW			Not used
26	DRSYS	O	C	Door system select output
27	DRSENS	I		Door open/close sense input
28	ILPW	O	C	Illumination power
29	FM	O	C	FM power control output
30	AM	O	C	AM power control output
31	NR	O	C	NR output
32	CM	O	C	Cassette mechanism capstan motor control output
33	VSS			GND
34	SC2	O	C	Cassette mechanism sub motor control output
35	SC1	O	C	Cassette mechanism sub motor control output
36	MS	I		Cassette mechanism MS sense input
37	NC			Not used
38	MTL	I		Cassette mechanism tape select input
39	DLED	O	N	Alarm LED output
40	N/R	O	C	Normal reverse output
41	PLAY	O	N	Tape MS filter select output
42	LOADSW	I		Tape loading input
43	POS	I		Cassette mechanism position sense input
44	RES	I		Cassette mechanism reverse end sense input
45	PEE	O	C	Beep tone output
46	NES	I		Cassette mechanism forward end sense input
47	NC			Not used
48	STBY	O	C	Stand-by output
49-52	NC			Not used
53	SD	I		SD input
54	MUTE	O	C	System mute output
55	SYSPW	O	C	System power supply control output
56-59	NC			Not used
60	RESET	I		Reset input
61	RX	I		IP BUS data input
62	NC			Not used
63	DSSENS	I		Grille detach sense
64	ISSENS			Not used
65	ASSENS	I		ACC power sense input

Pin No.	Pin Name	I/O	Format	Function and Operation
66	BSENS	I		Back up power sense input
67	CLKIN	I		Clock input
68	VDD			Power supply
69	X2			Oscillator output
70	X1			Oscillator input
71	IC			GND
72	NC			Not used
73	TESTIN	I		Test program mode input
74	AVDD	I		A/D converter analogue power
75	AVREF0	I		A/D converter standard voltage input
76	SL	I		Signal level input
77	CL	I		Synchronizing signal input of display data latch
78-80	NC			Not used

*PD4915A,*PD4917A

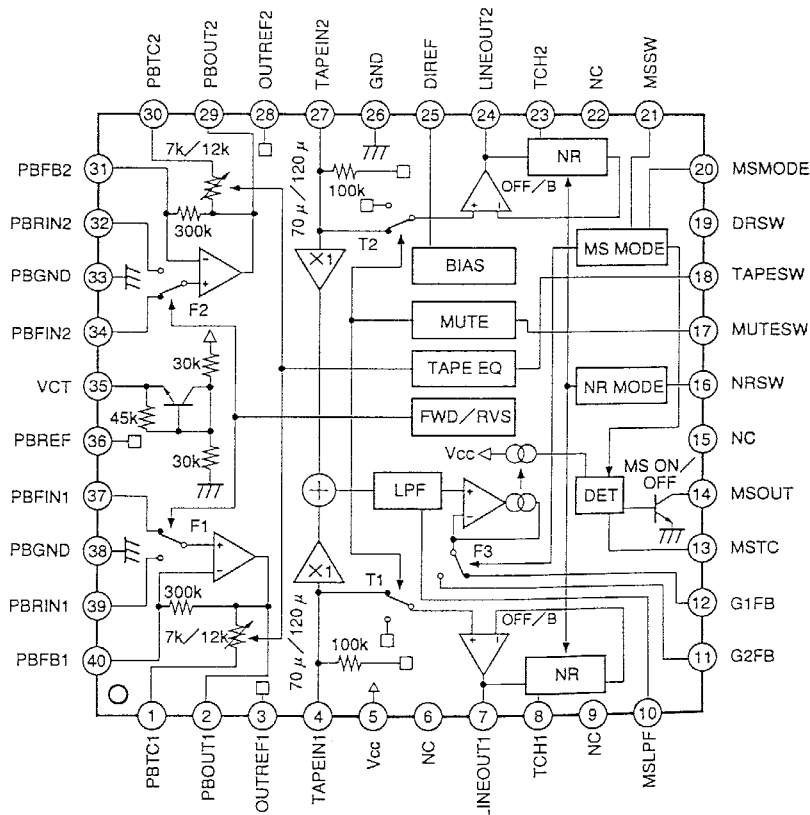


IC's marked by* are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.

Format	Meaning
C	C MOS
N	N Channel open drain

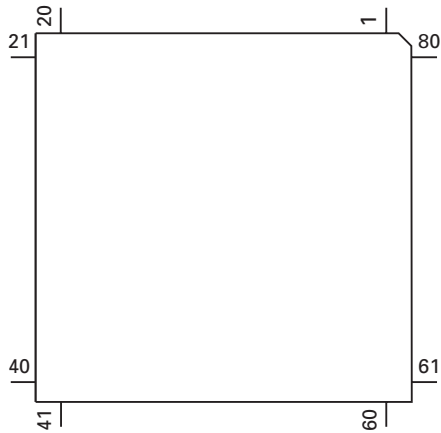
CXA2560Q



● Pin Functions(PD6247A)

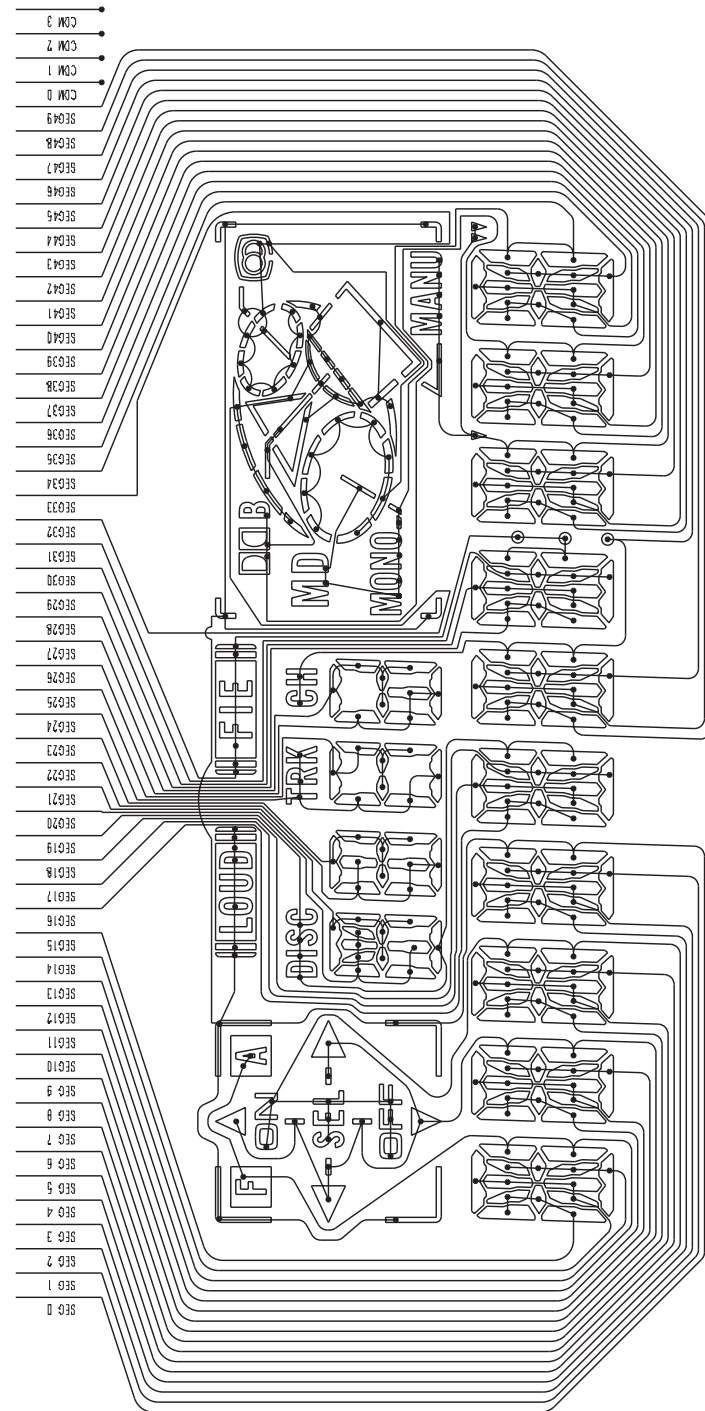
Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2	X1		Crystal oscillator connection pin
3	X0		Crystal oscillator connection pin
4	RST	I	System reset
5,6	MODE1,0		GND
7	DIM	O	Dimmer select output
8	SO	O	UART output
9	SI	I	UART input
10	REMIN	I	Remote control reception
11	RVER		Not used
12	NC		Not used
13-16	KDT4-1	I	Key data input
17-22	KST6-1	O	Key strobe output
23	VCC		5V
24-73	SEG49-0	O	LCD segment output
74-77	COM3-0	O	Common driver output
78-80	V3-1		LCD bias power supply

*PD6247A

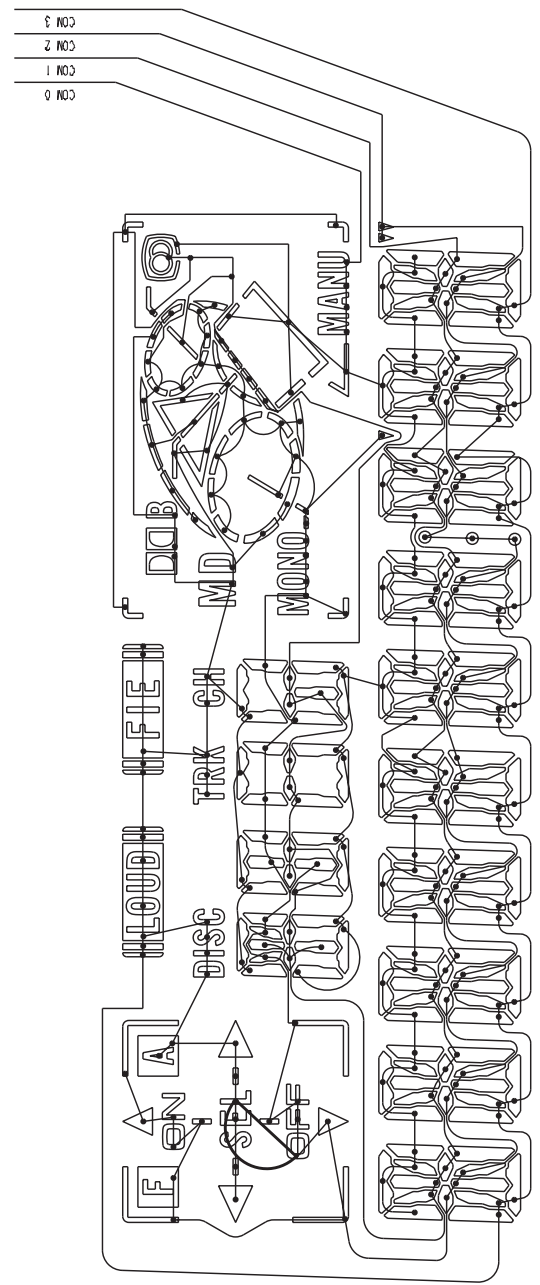


7.1.2 DISPLAY

● CAW1477



SEGMENT



COMMON

Fig. 21

7.2 DISASSEMBLY

● Removing the Case(not shown)

- 1.Remove the three screws.
- 2.Remove the Case.

● Removing the Cassette Mechanism Module (not shown)

- 1.Remove the four screws.
- 2.Disconnect the connector, and then removing the Cassette Mechanism Module.

● Removing the Detach Grille Assy(Fig.22)

- 1.Push the detach button.
- 2.Remove the Detach Grille Assy.

● Removing the Panel Unit(Fig.22)

- 1.Disengage the stopper at four locations indicated by white-arrows and then remove the Panel.
- 2.Disengage the stopper at two locations indicated by black-arrows.
- 3.Remove the Panel Unit.

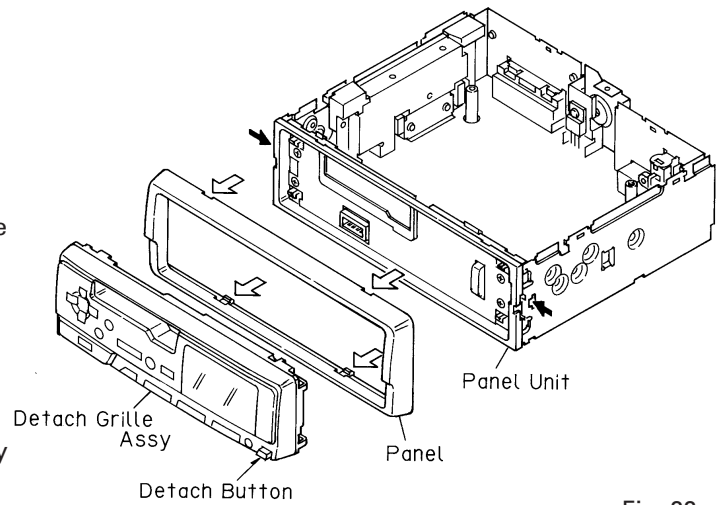


Fig. 22

● Removing the Tuner Amp Unit(Fig.23)

- 1.Removing the two screws A, three screws B and screw C.
- 2.Unbend the tabs at four locations indicated by arrow until straight.
- 3.Remove the Tuner Amp Unit.

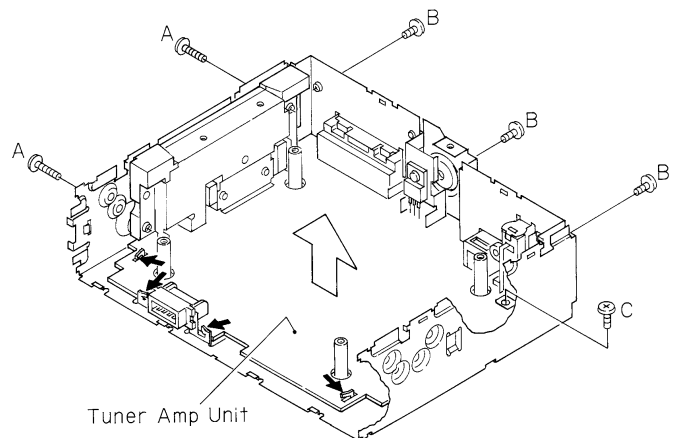


Fig. 23

7.3 BLOCK DIAGRAM

● KEH-P424/X1M/UC

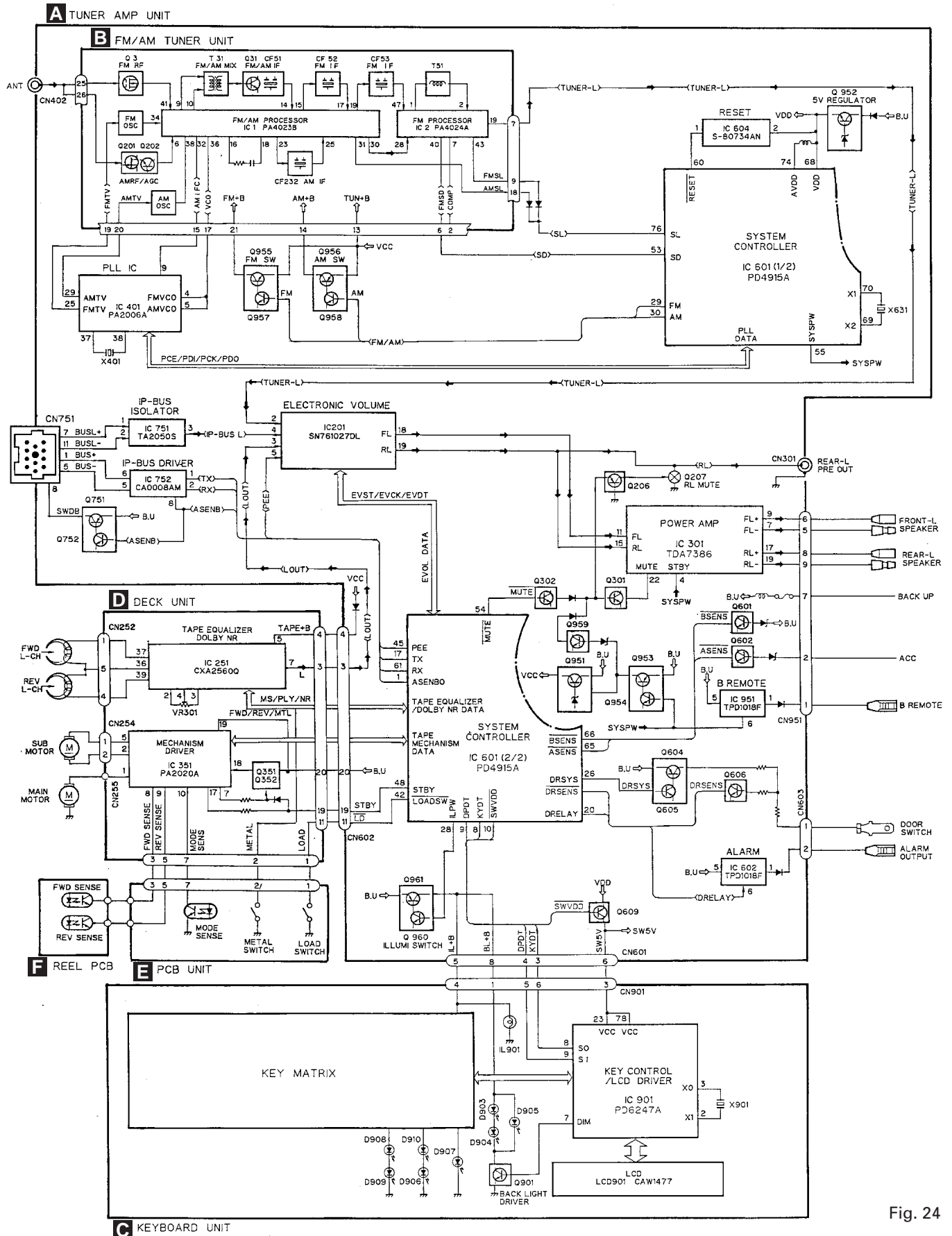


Fig. 24

8. OPERATIONS AND SPECIFICATIONS

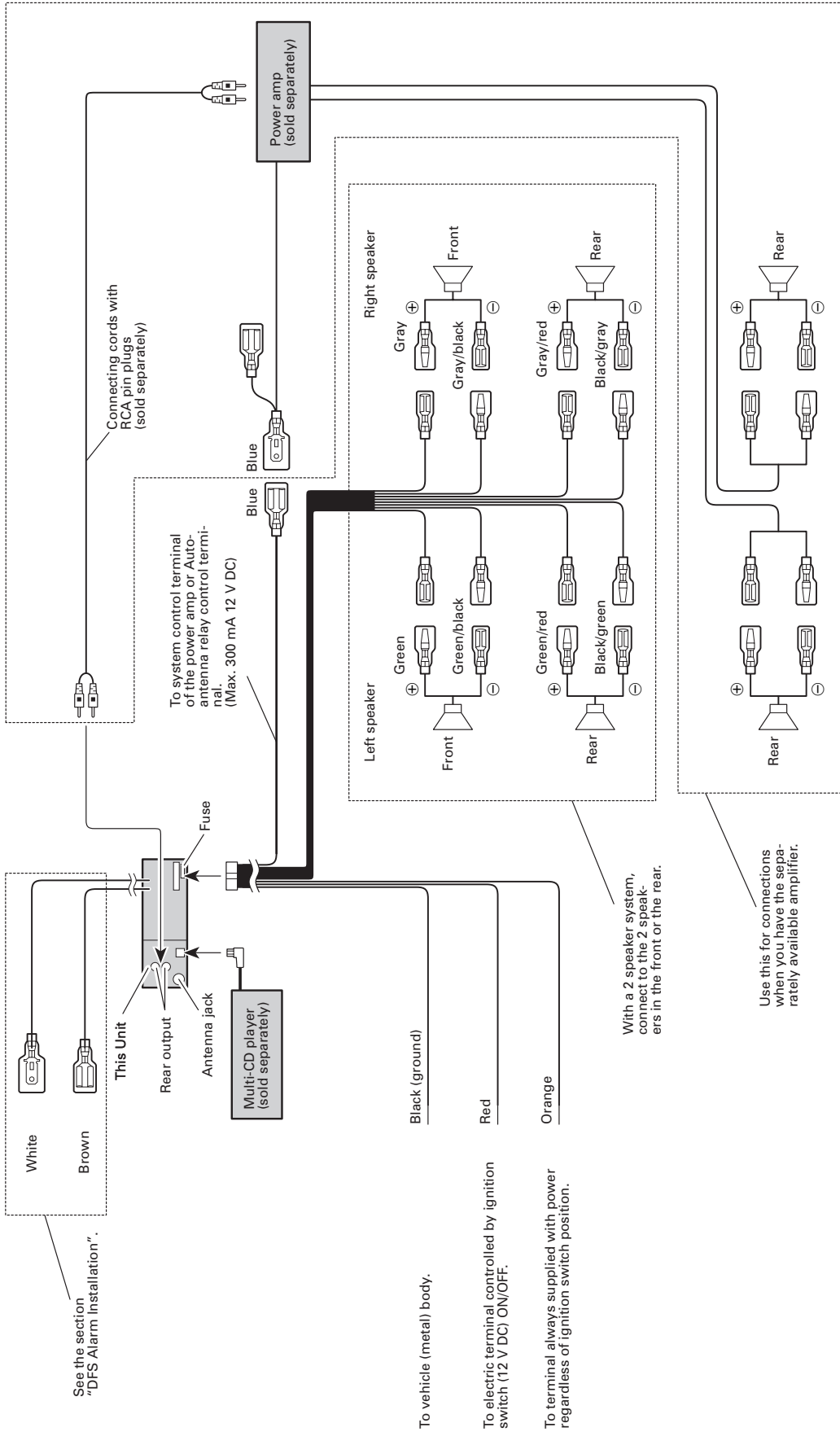
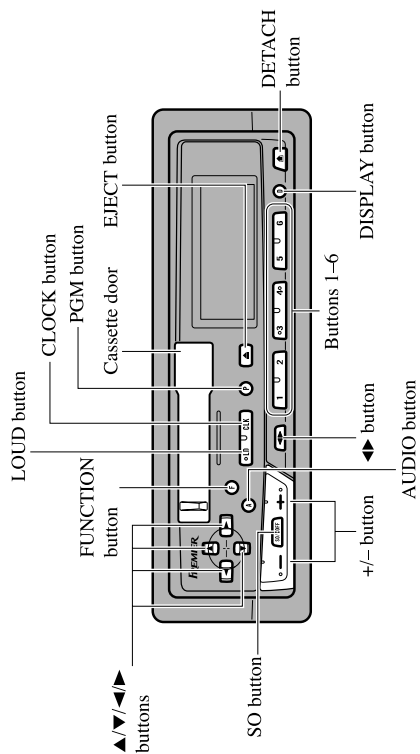


Fig. 25

Key Finder

Head Unit



8.1. OPERATIONS

Basic Operation

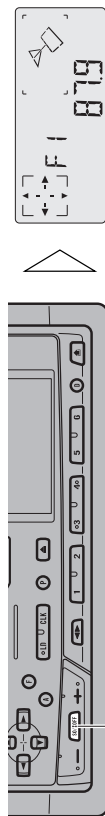
To Listen to Music

The following explains the initial operations required before you can listen to music.

Note:

- Loading a cassette in this product.

1. Select the desired source. (e.g. tuner)



Each press changes the Source ...

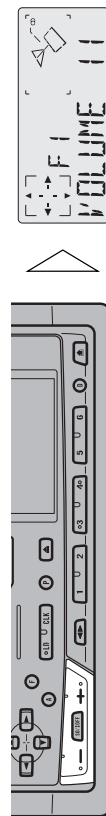
Head Unit

Each press of the SO button selects the desired source in the following order:
 CD player (one disc only) → Tuner → Tape → Multi-CD player → AUX

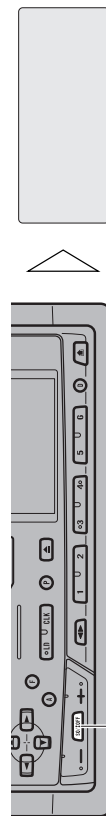
Note:

- In the following cases, the sound source will not change:
 - * No Multi-CD player is connected to this product. (When "M-CD" display is OFF.)
 - * No CD player is connected to this product.
 - * No cassette tape is set in this product.
 - * No magazine is set in the Multi-CD player.
 - * No disc is set in the CD player.
 - * AUX (external input) is set to OFF.

2. Raise or lower the volume.



3. Turn the source OFF.



Hold for 1 second or more

Basic Operation

Basic Operation of Tuner

Manual and Seek Tuning

- You can select the tuning method by changing the length of time you press the ◀/▶ button.

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

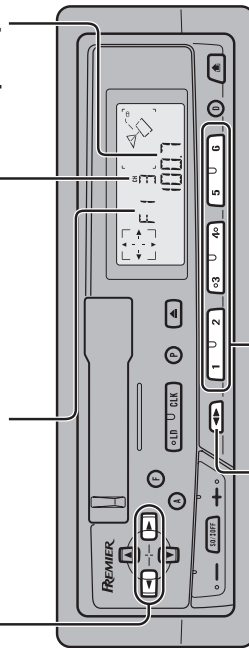
Note:

- “O” stereo indicator lights when a stereo station is selected.

Preset Number Indicator

Band Indicator

Frequency Indicator



Band

- F1 (FM1) → F2 (FM2)
→ F3 (FM3) → A1 (AM)

Preset Tuning

- You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.

Preset station recall

2 seconds or less

Broadcast station preset memory

2 seconds or more

Note:

- Up to 18 FM stations (6 in F1 (FM1), F2 (FM2) and F3 (FM3)) and 6 AM stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Basic Operation of Cassette Player

Fast Forward/Rewind and Music Search

- Each press of the ◀ button selects **Rewind** or **Rewind-Music Search**.
REW (Rewind) → R-MIS (Rewind-Music Search) → Normal Playback
- Each press of the ▶ button selects **Fast forward** or **Forward-Music Search**.
FF (Fast forward) → F-MIS (Forward-Music Search) → Normal Playback

Note:

- Fast forward/Rewind and Music Search can be canceled by pressing the ◀▶ button.

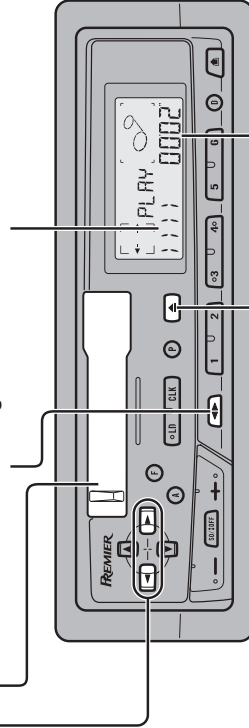
Cassette Loading Slot

Note:

- “METAL” appears on the display for 2 seconds when a metal or chrome tape is inserted. Nothing is displayed for a normal tape.

Direction Change

Direction Indicator



Eject

Note:

- The Tape function can be turned ON/OFF with the cassette tape remaining in this product.

Elapsed Play Time Indicator

Note:

- The continuous playback time count starts at 00'00" at the following times.
 - When a tape is inserted.
 - When the tape direction is changed.
 - When you rewind the tape side currently playing back to the beginning.
- The continuous playback time count is halted when fast forwarding/rewinding and while the Music Search function is operating.

Basic Operation

Basic Operation of Multi-CD Player

This product can control one or more multi-CD players. (There are some types of Multi-CD players such as CDX-P630S, which you cannot connect more than one.)

Switching the Multi-CD Player

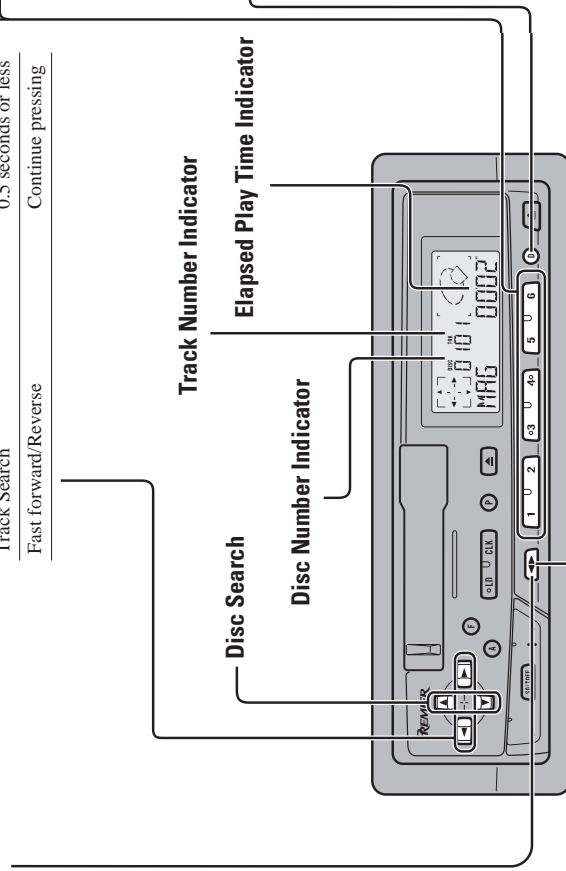
Using a multiple connection adapter lets you connect up to three Multi-CD players.

M-CD 1 → M-CD 2 → M-CD 3
(Displayed for about 2 seconds.)

Track Search and Fast forward/Reverse

- You can select between Track Search or Fast forward/Reverse by pressing the ◀▶ button for a different length of time.

Track Search	0.5 seconds or less
Fast forward/Reverse	Continue pressing



Ejecting a Single Disc (for 50-Disc type only)

- Press the ◀▶ button for 2 seconds or more, and you can eject the currently playing disc from the extra tray. (Refer to the operation manual for the 50-Disc type Multi-CD player for details concerning disc ejection from the extra tray.)

Note:

- This function does not operate if a disc is already loaded in the extra tray.

Disc Number Search (for 6-Disc, 12-Disc types)

- You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.

Note:

- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds or longer.

Disc Number Rough Search (for 50-Disc type only)

This handy function lets you select discs loaded in a 50-Disc Multi-CD Player using the 1 to 5 buttons. The 50 discs are divided into five blocks, with each of the 1 to 5 buttons assigned to a block.

- Select the desired block with the 1 to 5 buttons.

Note:

- After completing a rough search, use the ▲ and ▼ buttons to select a desired disc.

Switching between Displays

- Each time you press the DISPLAY button, the display switches between Disc Title and Group indications for the disc currently playing. Playback mode (Elapsed play time) → Disc Title → Music Group

Note:

- Music Group display is a 50-Disc type Multi-CD player function. You cannot switch to this display with 6-Disc and 12-Disc type Multi-CD players.
- If you switch displays when disc titles have not been input or when discs have not been allocated to a music group, "NO TITLE" or "NO GROUP" is displayed for about 8 seconds.

Note:

- The multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
 - When a magazine is loaded into a 50-Disc type Multi-CD Player, information on all the discs in the magazine is read.
 - If you start playing a disc on a 50-Disc type Multi-CD Player before reading of information on all discs has been completed, reading of information stops part way through. This will prevent you from using a number of functions. (If you try and use these functions, "NOT READY" is displayed.)
 - If this happens, reading of information begins again when you switch to a component other than the 50-Disc type Multi-CD Player.
 - If the multi-CD player cannot operate properly, an error message such as "ERROR-14" is displayed. Refer to the multi-CD player owner's manual.
 - If there are no discs in the multi-CD player magazine, "NO DISC" is displayed.
 - "LOAD" will be displayed in the following cases:
 - * If the disc in the extra tray is selected.
 - * If the disc is moved from the extra tray to the magazine.
- (Refer to the 50-Disc type multi-CD player owner's manual.)

Entering the Function Menu

The Function Menu lets you operate simple functions for each source.

Note:

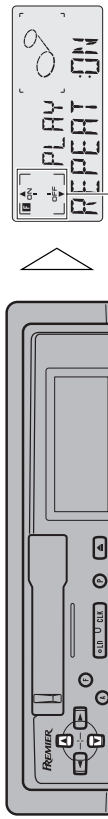
- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

1. Select the desired mode in the Function Menu.



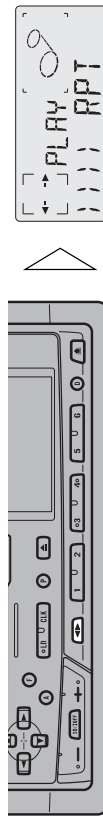
Each press changes the Mode ...

2. Operate a mode. (e.g. Repeat Play)



The button used and the operation it performs are indicated by the key guidance indicator. Press the ▲ button to switch the key guidance indicator ON, and the ▼ button to switch it OFF.

3. Cancel the Function Menu.



8.2 SPECIFICATIONS

General

Power source 14.4 V DC (10.8 – 15.1 V allowable)
 Grounding system Negative type
 Max. current consumption (KEH-P424/X1M/UC)..... 10.0 A
 (KEH-P4700/X1M/UC, P4750/X1M/ES) 8.5 A

Dimensions

(DIN) (chassis) 178 (W) × 50 (H) × 153 (D) mm
 [7 (W) × 2 (H) × 6 (D) in.]
 (nose) 188 (W) × 58 (H) × 19 (D) mm
 [7-3/8 (W) × 2-1/4 (H) × 3/4 (D) in.]

(D) (chassis) 178 (W) × 50 (H) × 158 (D) mm
 [7 (W) × 2 (H) × 6-1/4 (D) in.]
 (nose) 170 (W) × 48 (H) × 14 (D) mm
 [6-3/4 (W) × 1-7/8 (H) × 1/2 (D) in.]

Weight 1.2 kg (2.6 lbs)

Amplifier

Continuous power output is 20 W (KEH-P424/X1M/UC) or
 17 W (KEH-P4700/X1M/UC, P4750/X1M/ES) per channel
 min. into 4 ohms, both channels driven 50 to 15,000 Hz
 with no more than 5% THD.

Maximum power output (KEH-P424/X1M/UC) 40 W × 4
 (KEH-P4700/X1M/UC, P4750/X1M/ES) 35 W × 4

Load impedance 4 Ω (4 – 8 Ω allowable)
 Preout output level/output impedance 500 mV/1 kΩ

Tone controls

(Bass)
 (KEH-P424/X1M/UC, P4700/X1M/UC) ±12 dB (100 Hz)
 (KEH-P4750/X1M/ES) +8 — –16 dB (100 Hz)
 (Treble) ±12 dB (10 kHz)

Loudness contour +10 dB (100 Hz), +7 dB (10 kHz)
 (volume: –30 dB)

Cassette 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/rewinding time .. Approx. 100 sec. for C-60
 Wow & flutter 0.09% (WRMS)
 Frequency response Metal: 30 – 19,000 Hz (±3 dB)
 Stereo separation 45 dB
 Signal-to-noise ratio
 Metal: Dolby B NR IN: 67 dB (IHF-A network)
 Dolby NR OUT: 61 dB (IHF-A network)

FM tuner

Frequency range
 (KEH-P424/X1M/UC, P4700/X1M/UC).... 87.9 – 107.9 MHz
 (KEH-P4750/X1M/ES) 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 (IHF-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, 1 kHz)

Selectivity
 (KEH-P424/X1M/UC, P4700/X1M/UC) 70 dB (2ACA)

Three-signal intermodulation
 (KEH-P424/X1M/UC, P4700/X1M/UC)
 (desired signal level) 30 dBf
 (two undesired signal level: 100 dBf)

AM tuner

Frequency range
 (KEH-P424/X1M/UC, P4700/X1M/UC) 530 – 1,710 kHz
 (KEH-P4750/X1M/ES) 530 – 1,710 kHz(10kHz)
 531 – 1,602 kHz(9kHz)

Usable sensitivity 18 μV (S/N: 20 dB)

Selectivity
 (KEH-P424/X1M/UC, P4700/X1M/UC)..... 50 dB (±10 kHz)
 (KEH-P4750/X1M/ES) 50 dB (±10 kHz)
 50 dB (±9 kHz)

Note:

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

