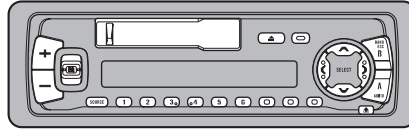


Service Manual

Pioneer

KEH-P5900R/X1M/EW



ORDER NO.
CRT2399

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH RDS TUNER

KEH-P5900R

X1M/EW

KEH-P4900R

X1M/EW

KEH-P4930R

X1M/EW

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-1011	CRT2406	3L	Cassette Mech. Module:Mech.Description and Greasing, Disassembly, Adjustment

● 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.

CONTENTS

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PIONEER 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. 253 Alexandra Road, #04-01, Singapore 159936

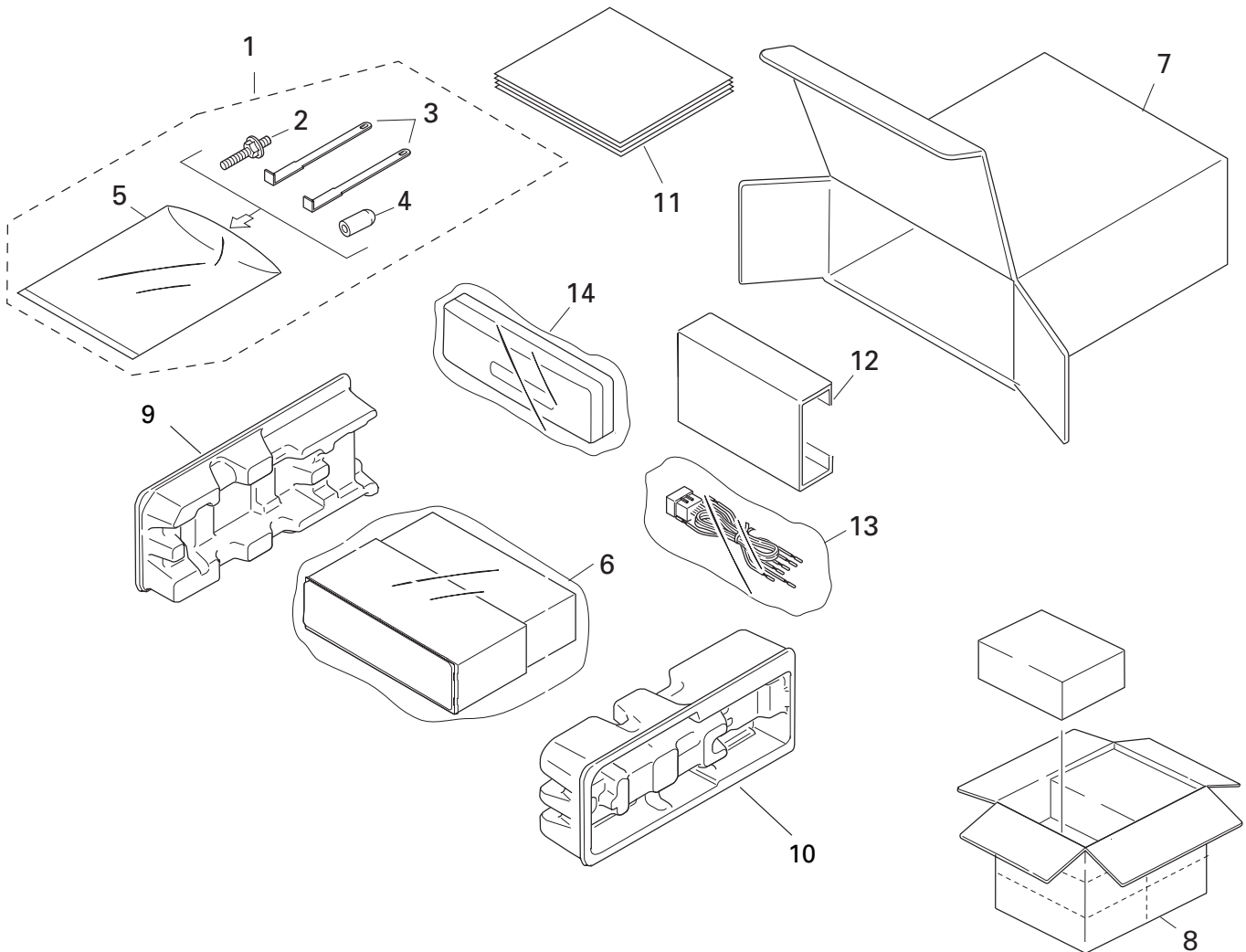
1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

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

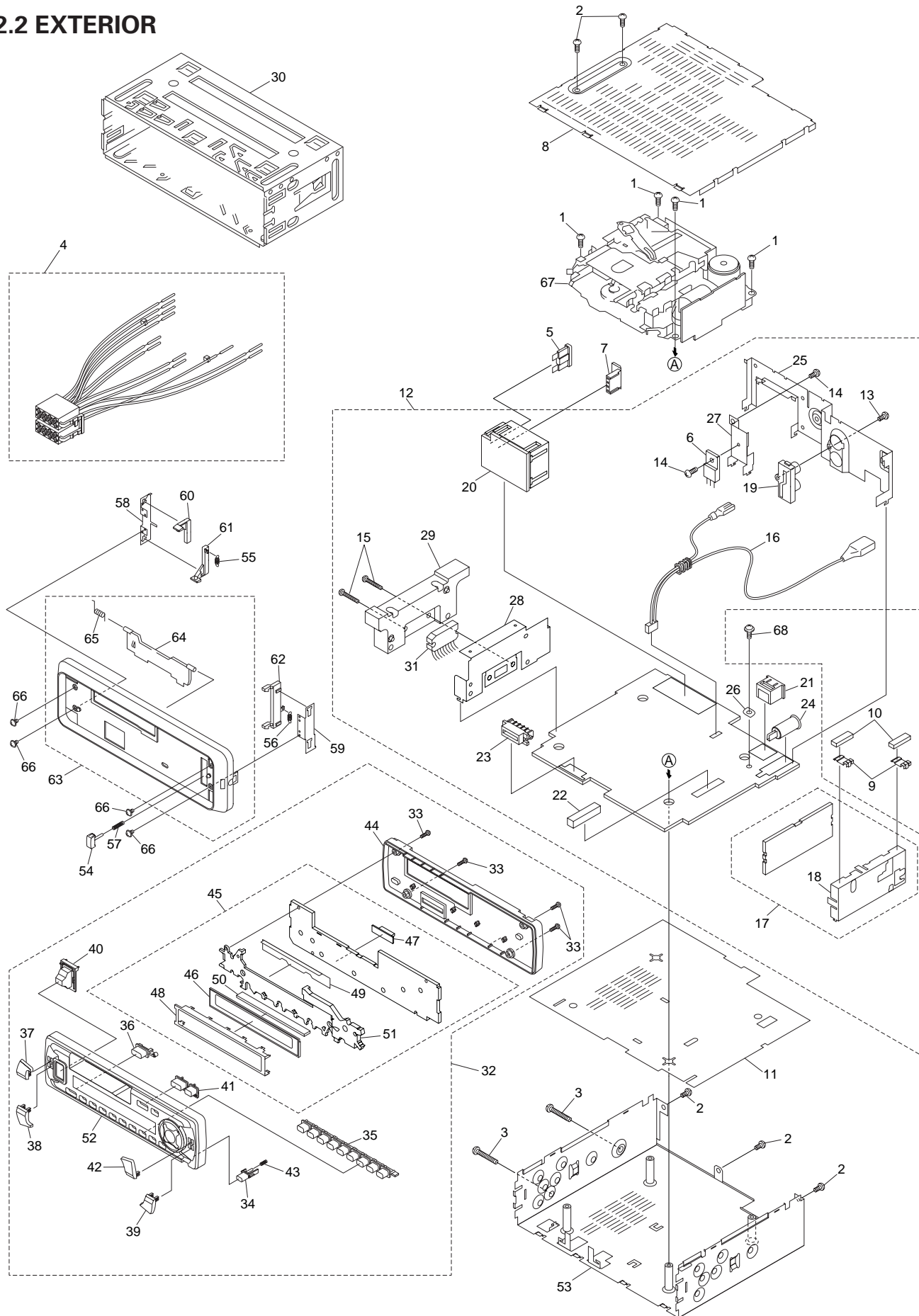
● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.		
			KEH-P5900R/X1M/EW	KEH-P4900R/X1M/EW	KEH-P4930R/X1M/EW
	1	Accessory Assy	CEA1917	CEA1917	CEA1917
	2	Screw	CBA1304	CBA1304	CBA1304
	3	Handle	CNC5395	CNC5395	CNC5395
	4	Bush	CNV3930	CNV3930	CNV3930
*	5	Polyethylene Bag	E36-615	E36-615	E36-615
	6	Polyethylene Bag	CEG-162	CEG-162	CEG-162
	7	Carton	CHG3887	CHG3892	CHG3888
	8	Contain Box	CHL3887	CHL3892	CHL3888
	9	Protector	CHP2244	CHP2244	CHP2244
	10	Protector	CHP2243	CHP2243	CHP2243
	11-1	Owner's Manual	CRD3077	CRD3080	CRD3077
	11-2	Owner's Manual	CRD3078	CRD3081	CRD3078
	11-3	Installation Manual	CRD3079	CRD3082	CRD3079
*	11-4	Passport	CRY1013	CRY1013	CRY1013
*	11-5	Warranty Card	CRY1157	CRY1157	CRY1157
	12	Inner-Box	CHW1754	Not used	Not used
	13	Cord Assy	CDE6221	CDE6221	CDE6221
	14	Case Assy	CXB3520	CXB3520	CXB3520

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-P5900R/X1M/EW	CRD3077	English, Spanish, German
KEH-P4930R/X1M/EW	CRD3078	French, Italian, Dutch
	CRD3079	English, Spanish, German, French, Italian, Dutch
KEH-P4900R/X1M/EW	CRD3080	English, Spanish, German
	CRD3081	French, Italian, Dutch
	CRD3082	English, Spanish, German, French, Italian, Dutch

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

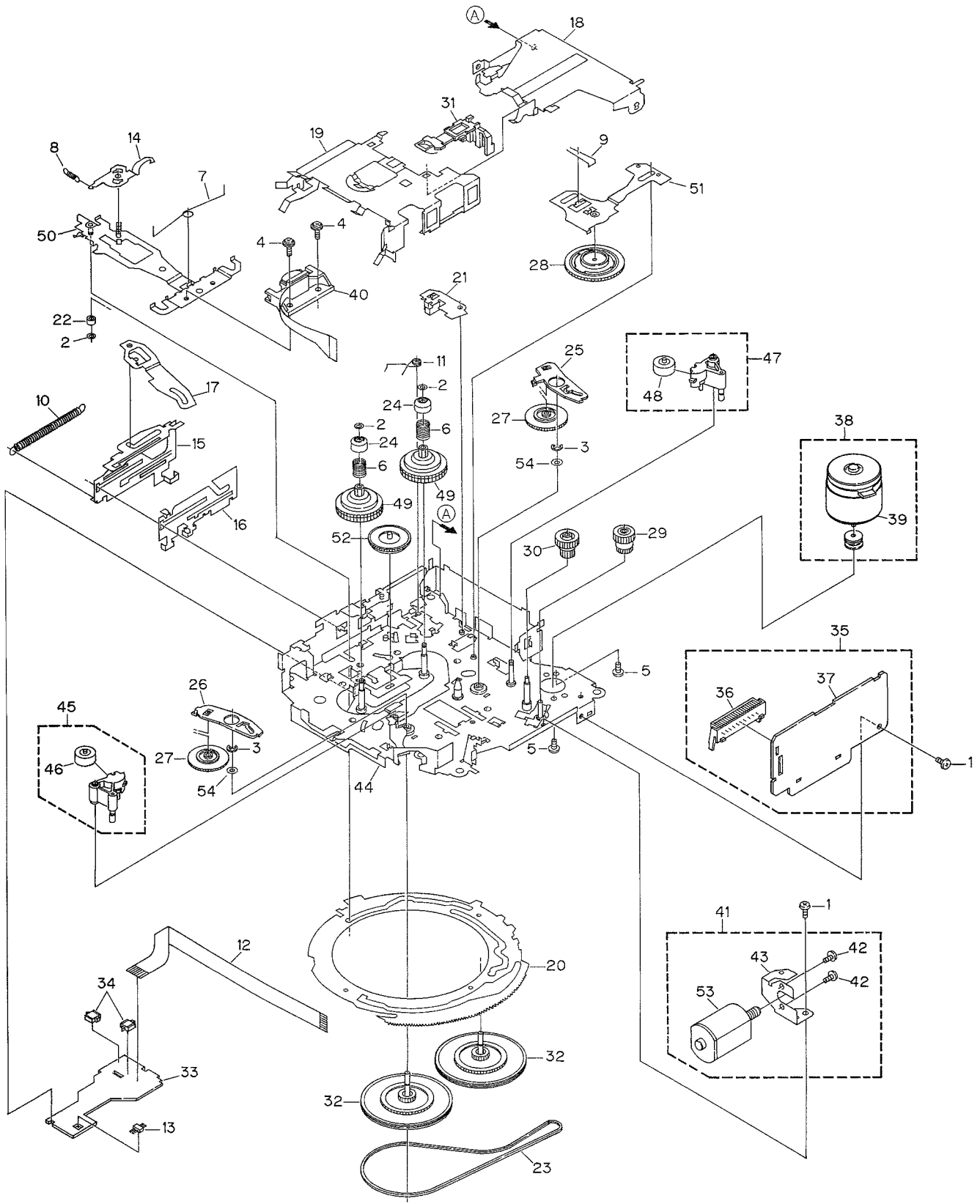
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	36	Button(SOURCE)	CAC6241
2	Screw	BSZ30P050FMC	37	Button(+)	See Contrast table(2)
3	Screw	BSZ30P200FMC	38	Button(-)	See Contrast table(2)
4	Cord Assy	CDE6221	39	Button(AUDIO)	See Contrast table(2)
5	Fuse(10A)	CEK1136	40	Button(EQ)	CAC6247
6	Transistor(Q904)	2SD2396	41	Button(EJECT)	CAC6268
7	Plug	CKM1314	42	Button(BAND)	See Contrast table(2)
8	Case	CNB2350	43	Spring	CBH2103
9	Holder	CNC5704	44	Cover	CNS5635
10	Cushion	CNM5210	45	Keyboard Unit	See Contrast table(2)
11	Insulator	CNM5963	46	LCD(LCD1901)	CAW1562
12	Tuner Amp Unit	See Contrast table(2)	47	Connector(CN1901)	CKS3580
13	Screw	BPZ26P080FMC	48	Holder	CNC8485
14	Screw	BSZ26P080FMC	49	Sheet	CNM6453
15	Screw	BSZ26P160FMC	50	Connector	CNV5914
16	Cord Assy	CDE5750	51	Lighting Conductor	CNV5915
17	FM/AM Tuner Unit	CWE1466	52	Grille Sub Assy	See Contrast table(2)
18	Holder	CNC6554	53	Chassis Unit	See Contrast table(2)
19	Pin Jack(CN301)	CKB1035	54	Button	CAC4836
20	Plug(CN603)	CKM1288	55	Spring	CBH1834
21	Connector(CN701)	CKS3408	56	Spring	CBH1835
22	Connector(CN602)	CKS3568	57	Spring	CBH2182
23	Connector(CN601)	CKS3581	58	Bracket	CNC6135
24	Antenna Jack(CN402)	CKX1056	59	Bracket	CNC6791
25	Panel	CNB2340	60	Arm	CNV4692
26	Holder	CNC5399	61	Arm	CNV4693
27	Holder	CNC6845	62	Arm	CNV4728
28	Holder	CNC7996	63	Panel Unit	See Contrast table(2)
29	Heat Sink	CNR1505	64	Door	See Contrast table(2)
30	Holder Unit	CXB2687	65	Spring	CBH1838
31	IC(IC302)	TDA7384	66	Screw	IMS20P030FZK
32	Detach Grille Assy	See Contrast table(2)	67	Cassette Mechanism Module	EKK4000
33	Screw	BPZ20P100FZK	68	Screw	ISS26P055FUC
34	Button(DETACH)	See Contrast table(2)			
35	Button(1-6)	CAC6239			

(2) CONTRAST TABLE

KEH-P5900R/X1M/EW, KEH-P4900R/X1M/EW and KEH-P4930R/X1M/EW are constructed same except for the following:

Mark No.	Description	Part No.		
		KEH-P5900R/X1M/EW	KEH-P4900R/X1M/EW	KEH-P4930R/X1M/EW
12	Tuner Amp Unit	CWM7015	CWM7017	CWM7017
32	Detach Grille Assy	CXB4785	CXB4787	CXB4786
34	Button(DETACH)	CAC5789	CAC5789	CAC5929
37	Button(+)	CAC6242	CAC6242	CAC6559
38	Button(-)	CAC6243	CAC6243	CAC6560
39	Button(AUDIO)	CAC6245	CAC6245	CAC6562
42	Button(BAND)	CAC6269	CAC6269	CAC6563
45	Keyboard Unit	CWM7016	CWM7020	CWM7018
52	Grille Sub Assy	CXB5206	CXB5208	CXB5207
53	Chassis Unit	CXB4893	CXB4895	CXB4894
63	Panel Unit	CXB4928	CXB4928	CXB4929
64	Door	CAT2109	CAT2109	CAT2108

2.3 CASSETTE MECHANISM MODULE



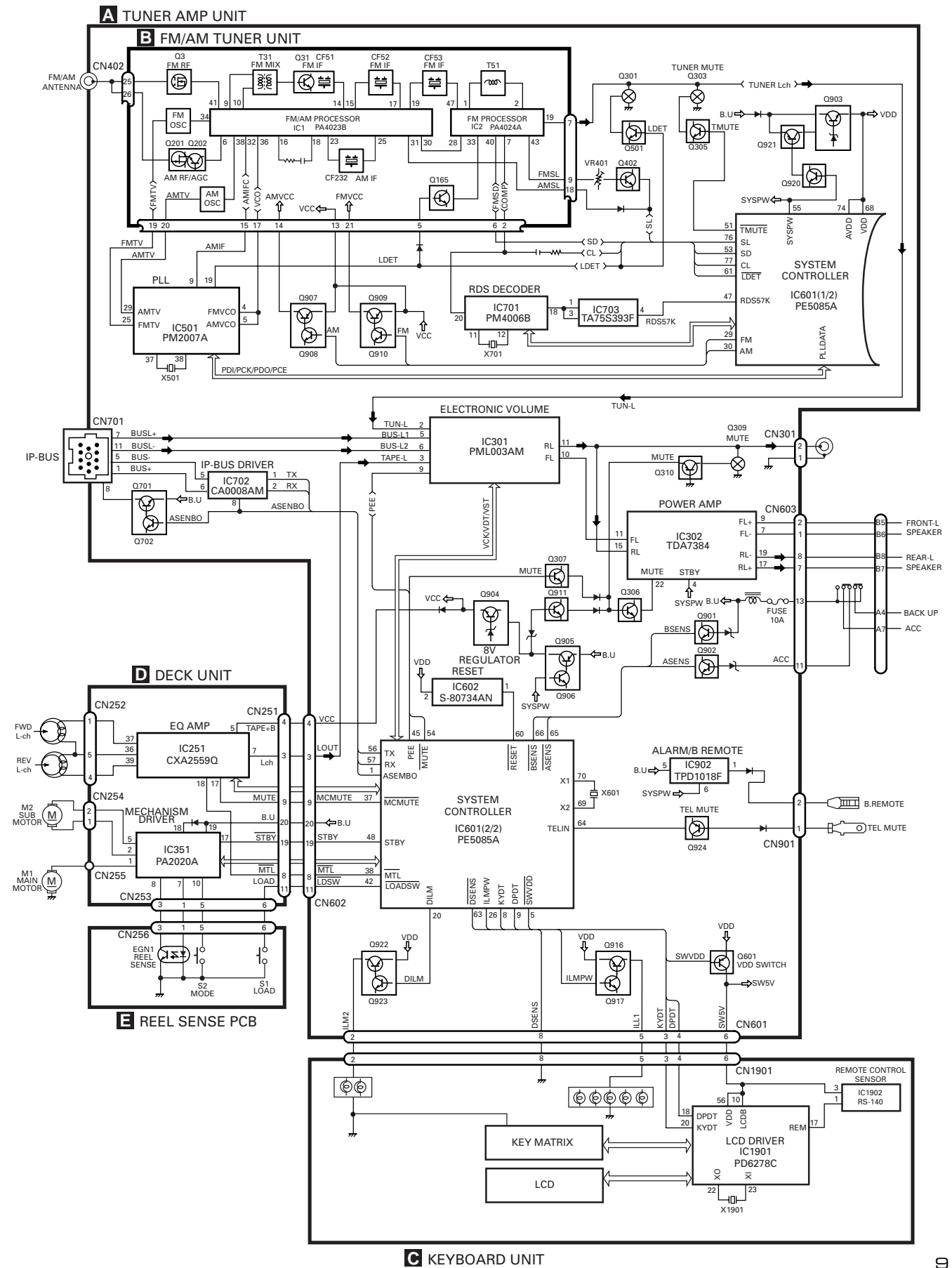
● CASSETTE MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC	46	Pinch Roller	ENV1518
2	Washer	CBF1037	47	Pinch Holder Unit	EXA1583
3	Washer	CBG1003	48	Pinch Roller	ENV1518
4	Screw	EBA1028	49	Reel Unit	EXA1585
5	Screw	EBA1037	50	Head Base Unit	EXA1586
6	Spring	EBH1531	51	Lever Unit	EXA1587
7	Spring	EBH1624	52	Gear Unit	EXA1588
8	Spring	EBH1625	53	Motor Unit(Service)	EXX1055
9	Spring	EBH1626	54	Washer	HBF-179
10	Spring	EBH1627			
11	Spring	EBH1628			
12	Cord	EDD1024			
13	Photo-reflector(EGN1)	EGN1004			
14	Arm	ENC1526			
15	Lever	ENC1530			
16	Lever	ENC1531			
17	Arm	ENC1532			
18	Frame	ENC1533			
19	Holder	ENC1534			
20	Gear	ENC1535			
21	Arm	ENC1536			
22	Roller	ENR1040			
23	Belt	ENT1027			
24	Collar	ENV1508			
25	Arm	ENV1539			
26	Arm	ENV1540			
27	Gear	ENV1544			
28	Gear	ENV1547			
29	Gear	ENV1548			
30	Worm Wheel	ENV1550			
31	Lever	ENV1551			
32	Flywheel	ENV1554			
33	Gathering PCB	ENX1054			
34	Switch(S1,S2)	ESG1007			
35	Deck Unit	EWM1023			
36	Plug(CN251)	CKS3540			
37	Gathering PCB	ENX1053			
38	Motor Unit(M1)	EXA1491			
39	Motor	EXM1028			
40	Head Assy(HD1)	EXA1506			
41	Motor Unit(M2)	EXA1580			
42	Screw	BMZ20P022FMC			
43	Bracket	ENC1528			
44	Chassis Unit	EXA1582			
45	Pinch Holder Unit	EXA1584			

KEH-P5900R,P4900R,P4930R

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

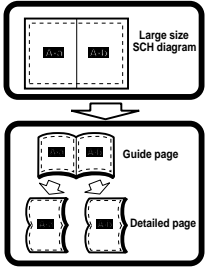


3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

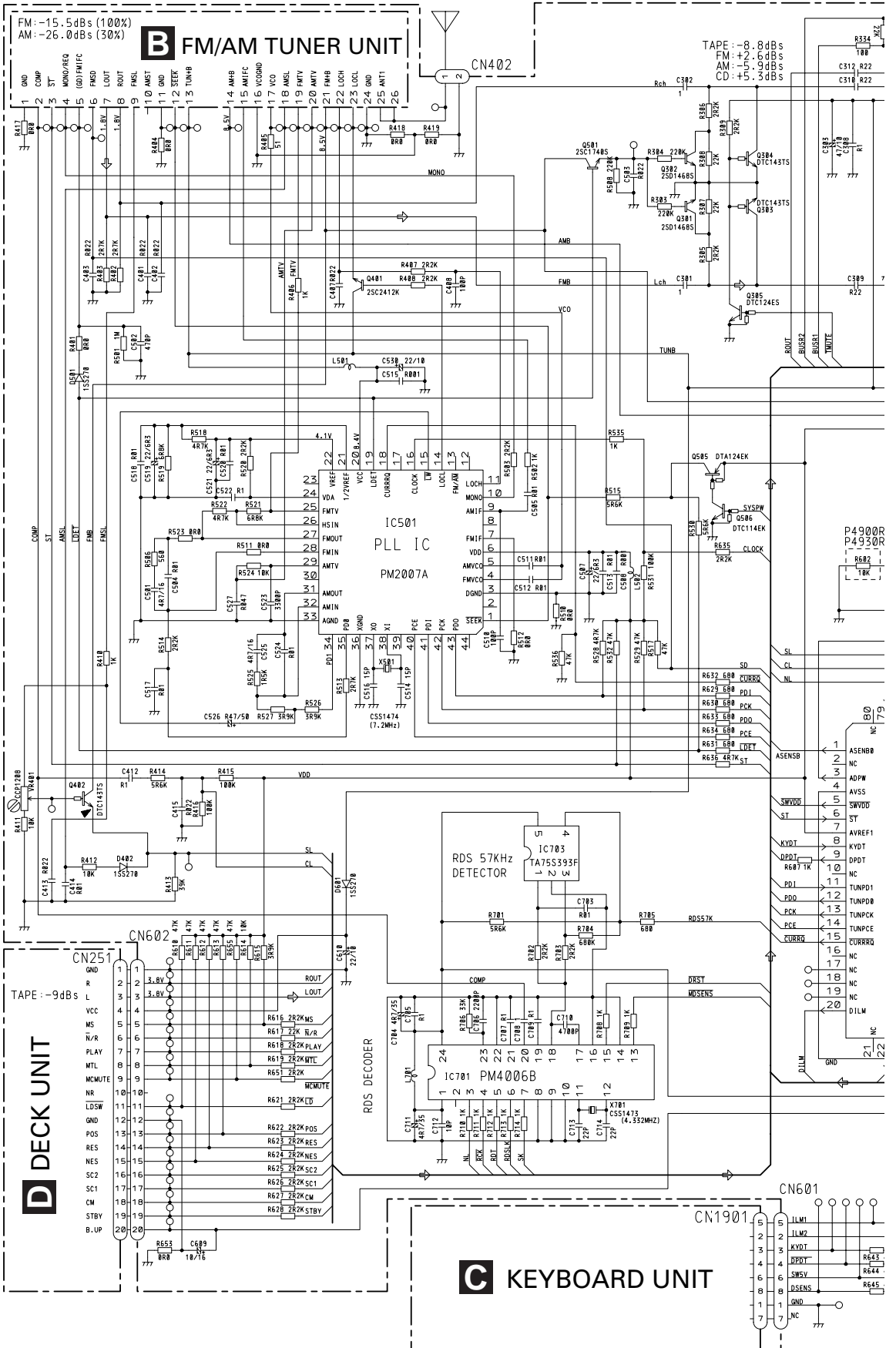
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A-a

A



B

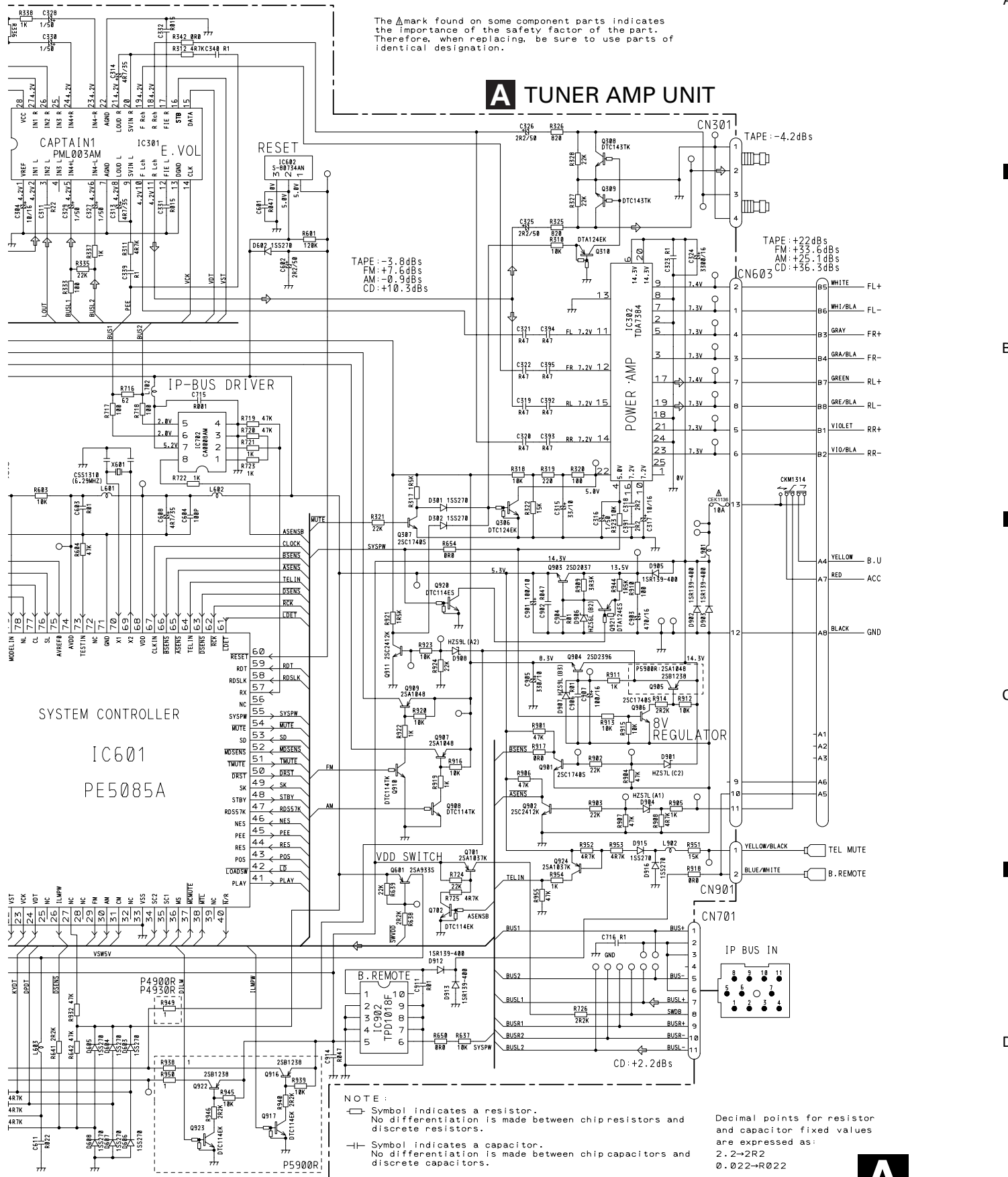


A

A-b

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.

A TUNER AMP UNIT



TAPE: -4.2dBs
 FM: +2.0dBs
 AM: +3.6dBs
 CD: +10.3dBs

TAPE: +22.0dBs
 FM: +3.6dBs
 AM: +5.1dBs
 CD: +36.3dBs

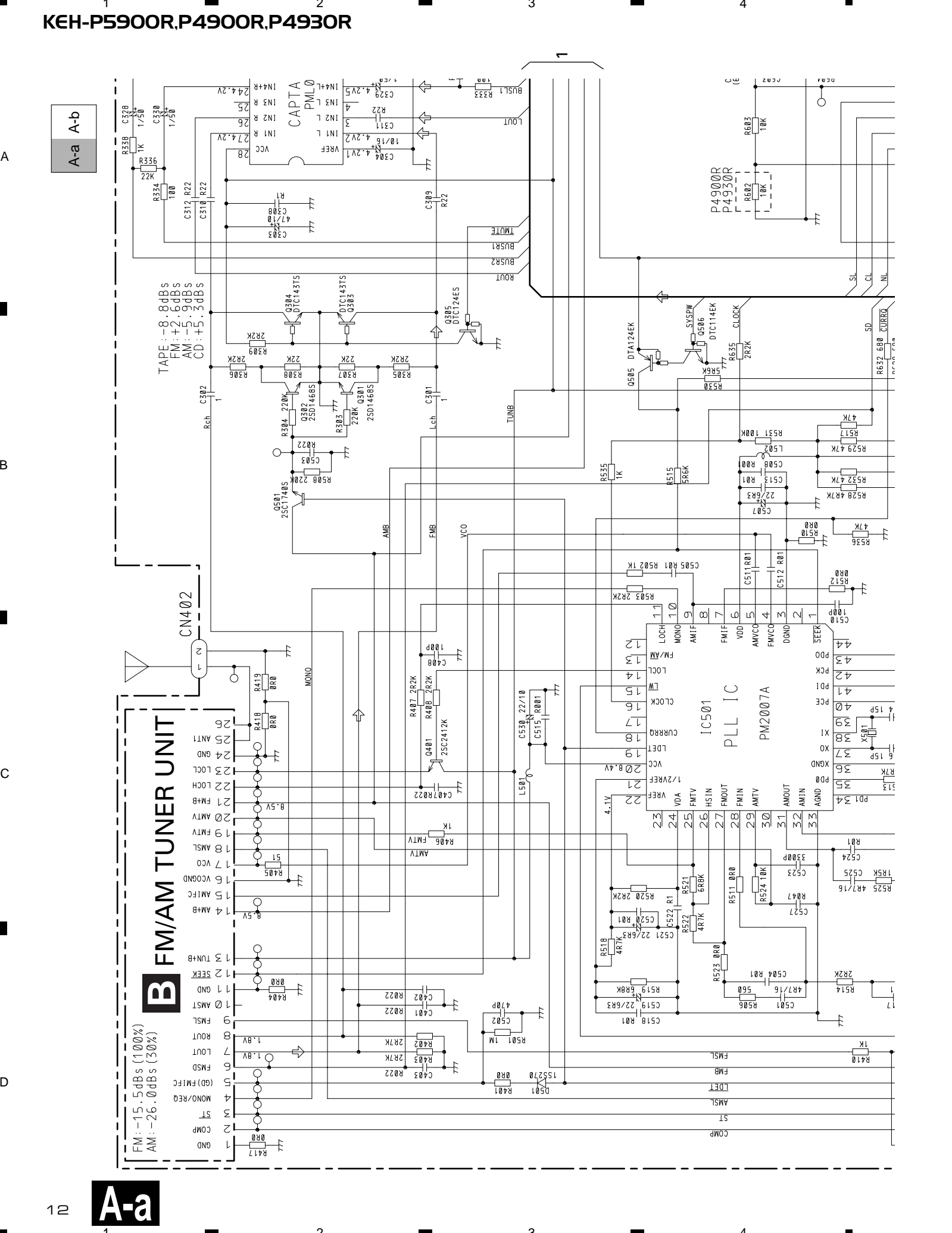
VDD SWITCH
 3VDD 282K R638
 3VDD 282K R639

CD: +2.2dBs

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



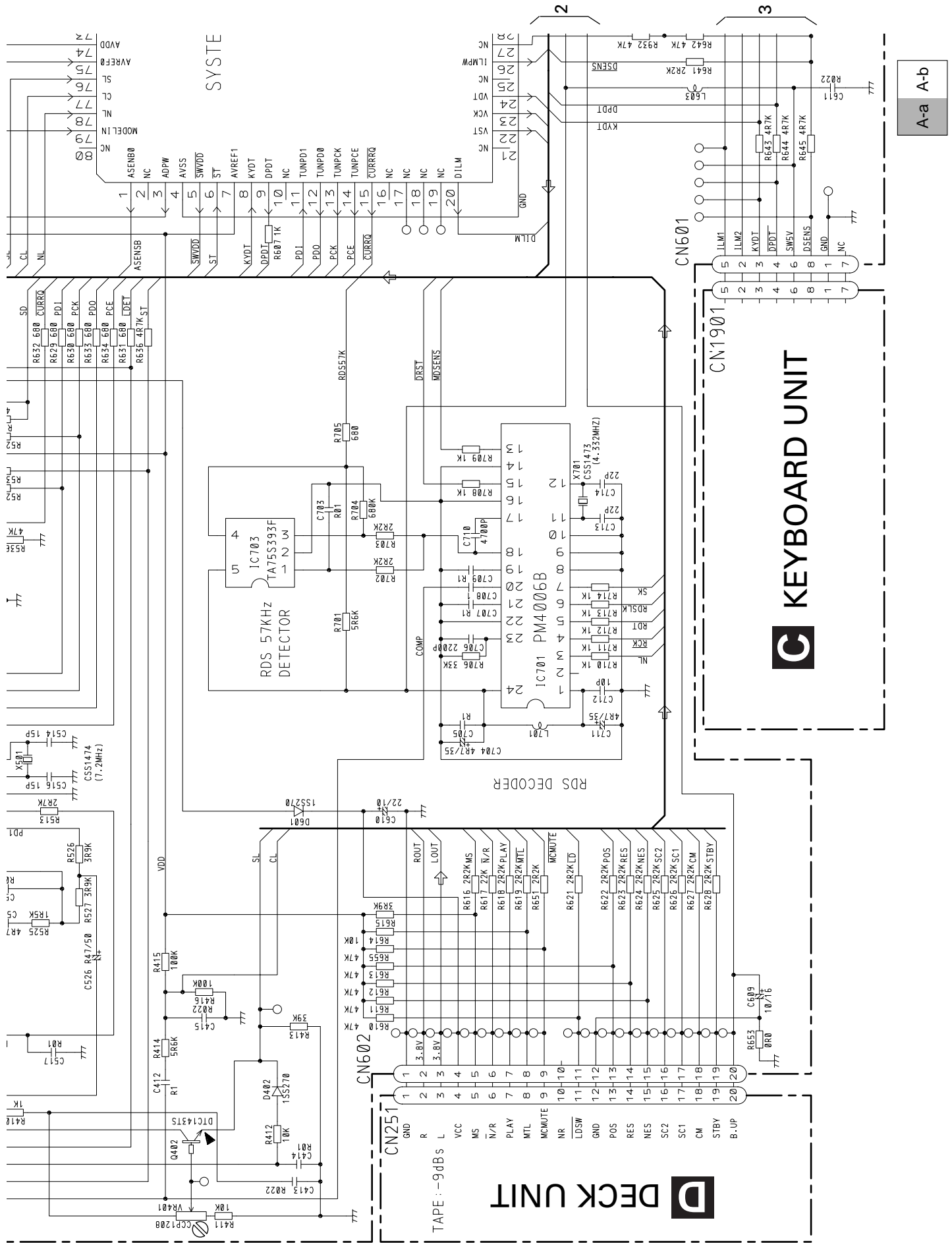


A-a A-b

B FM/AM TUNER UNIT

FM: -15.5dBs (100%)
AM: -26.0dBs (30%)

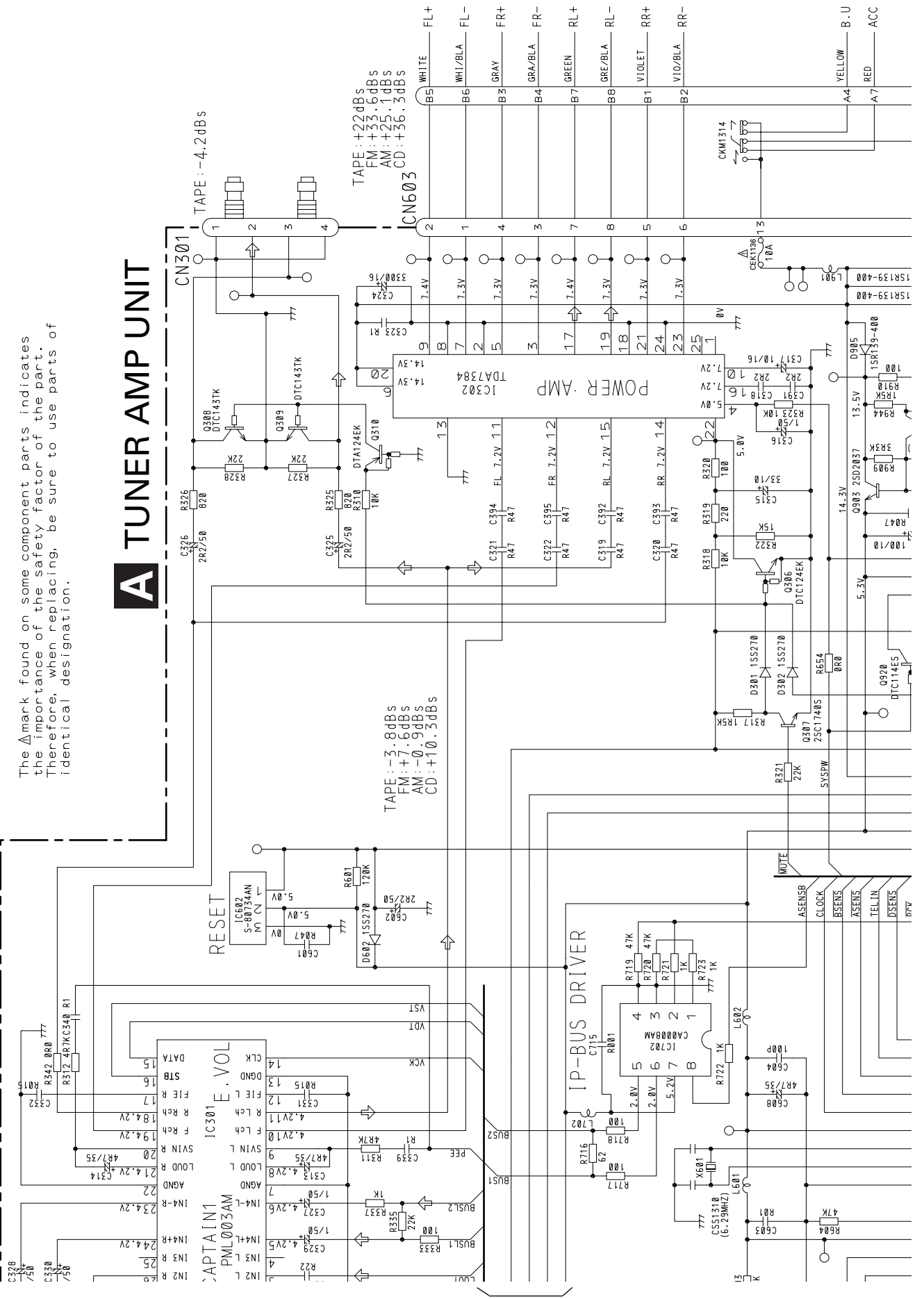
A-a



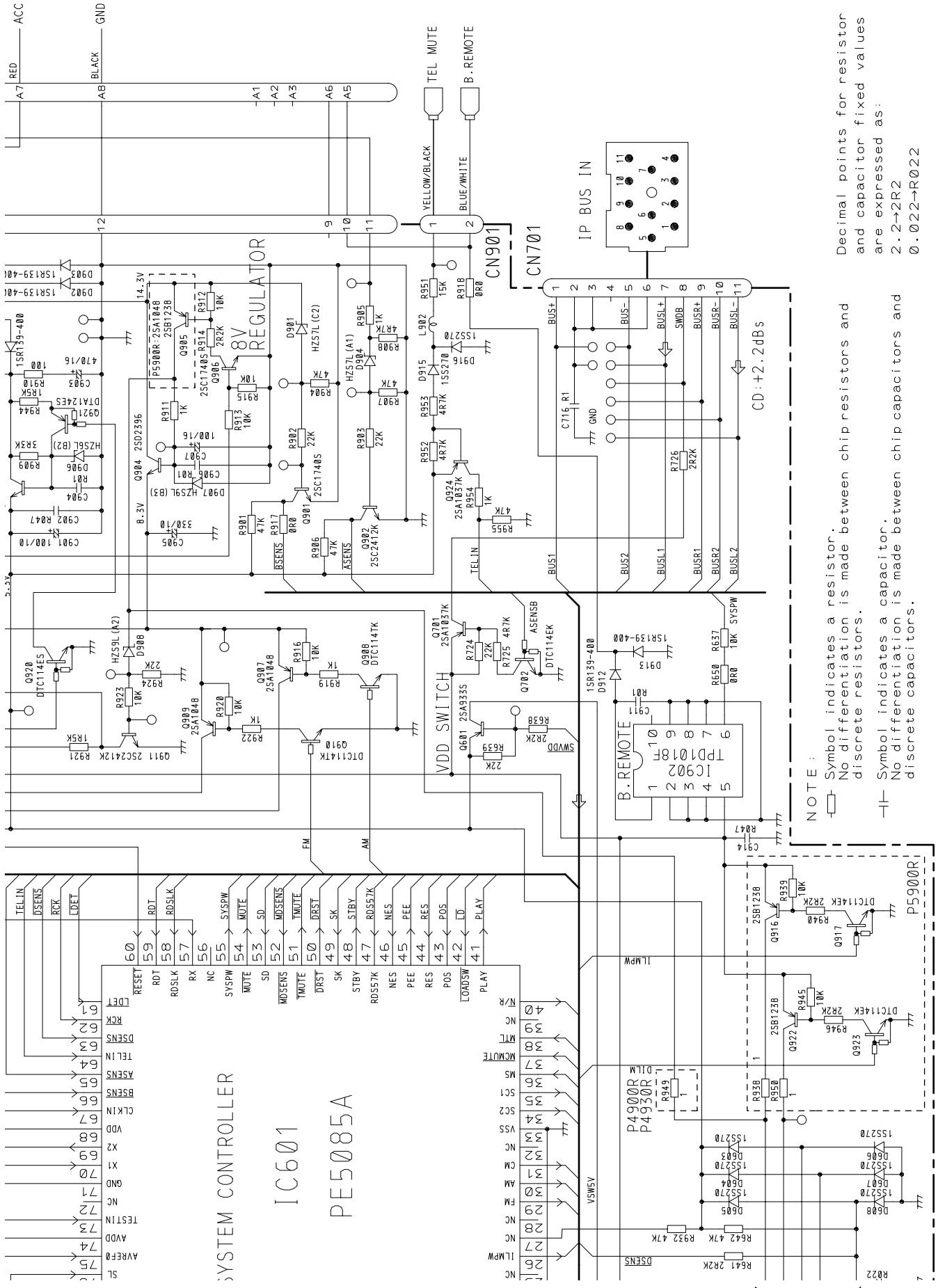
A-a A-b

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.

A TUNER AMP UNIT



A-b



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

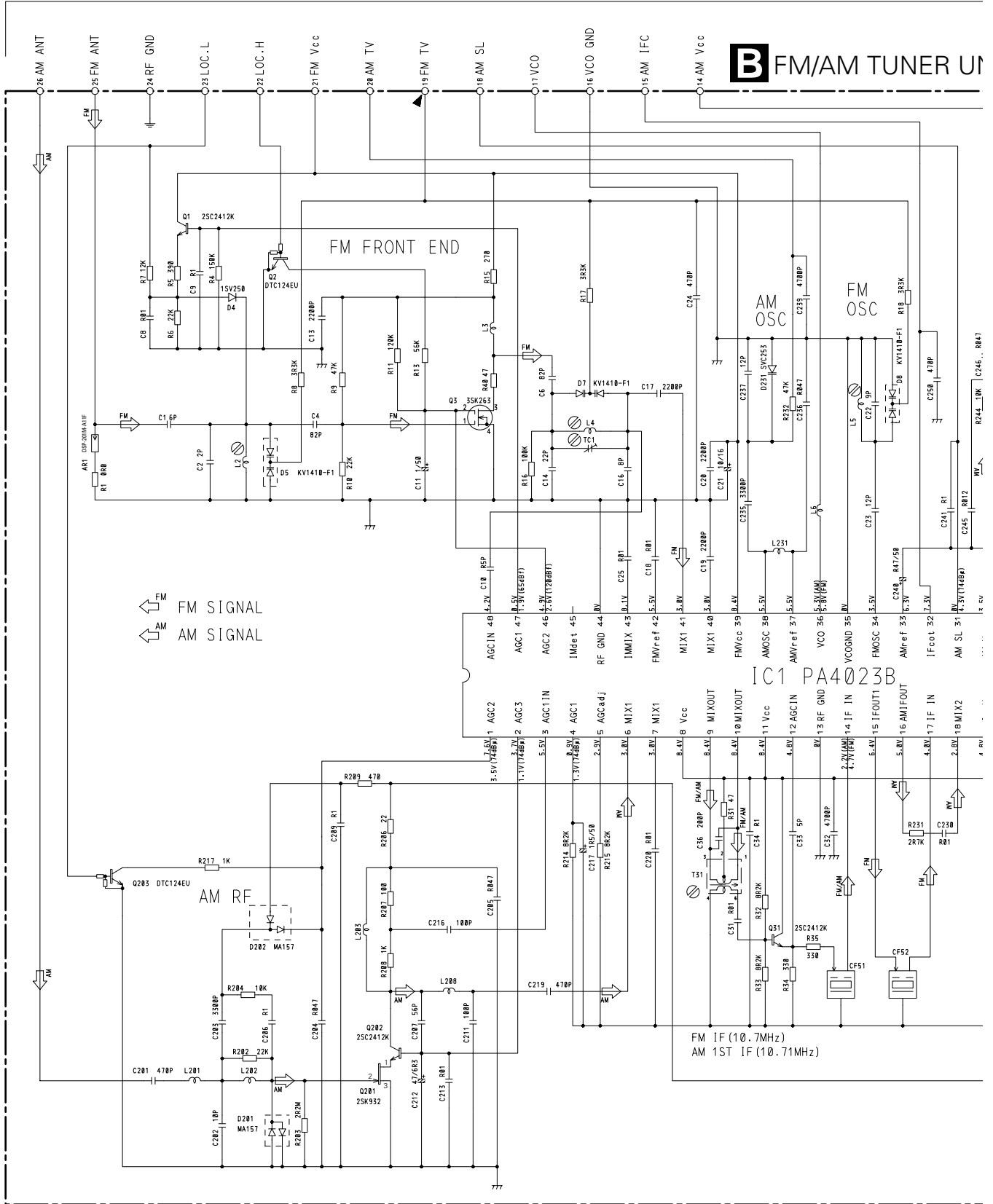
A-b

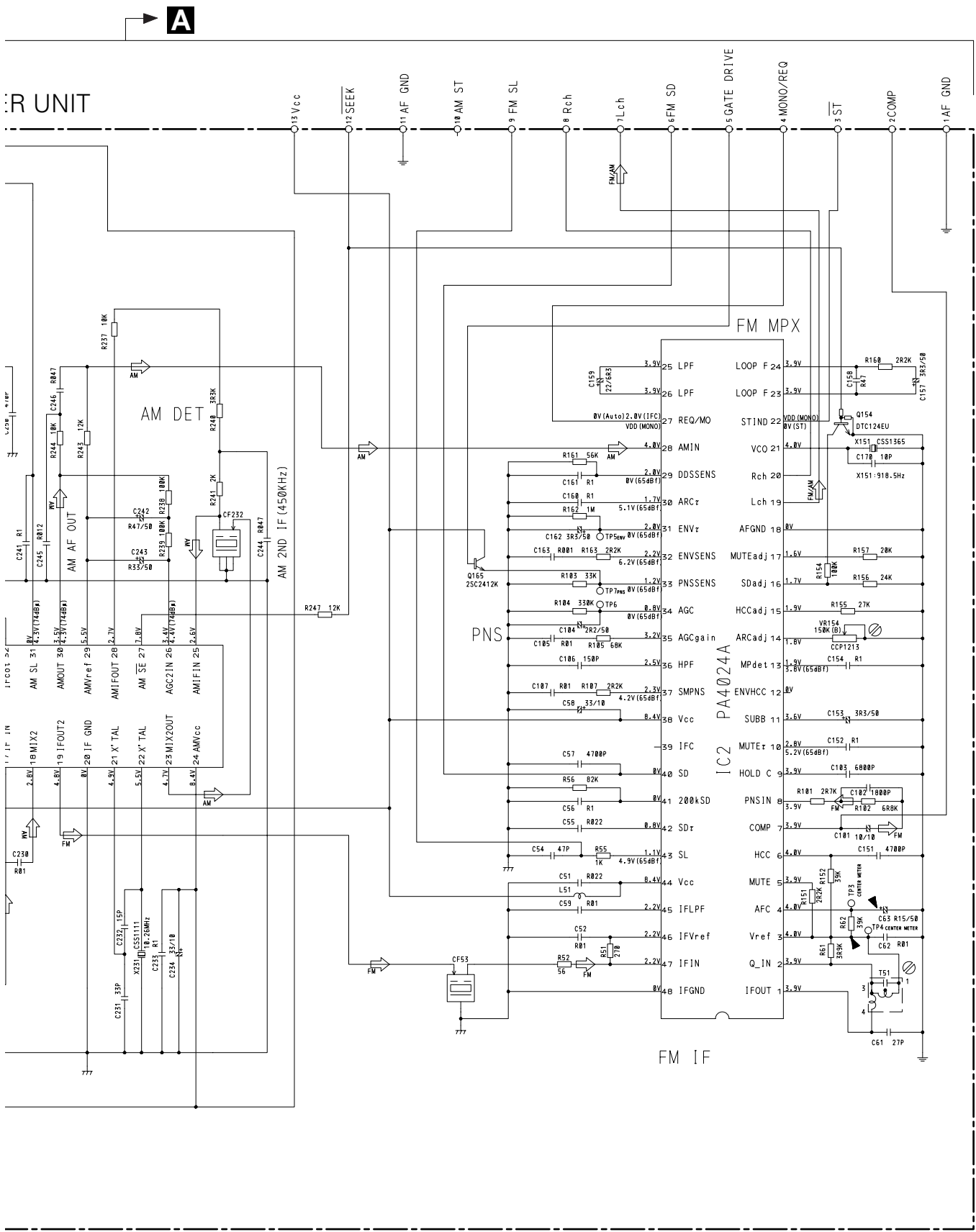
A-a A-b

A B C D

3.3 FM/AM TUNER UNIT

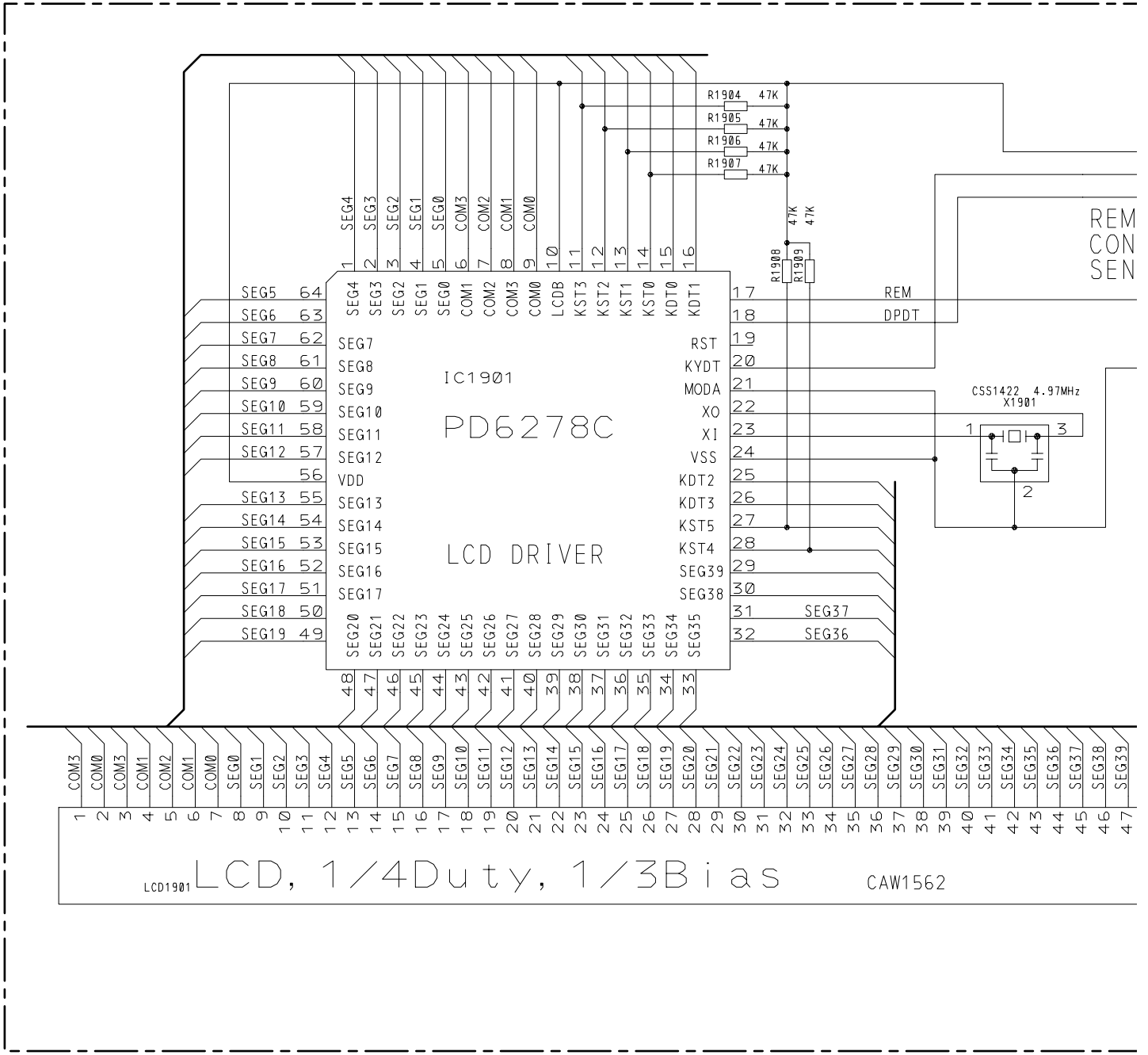
B FM/AM TUNER UNIT





3.4 KEYBOARD UNIT

● KEH-P5900R/X1M/EW



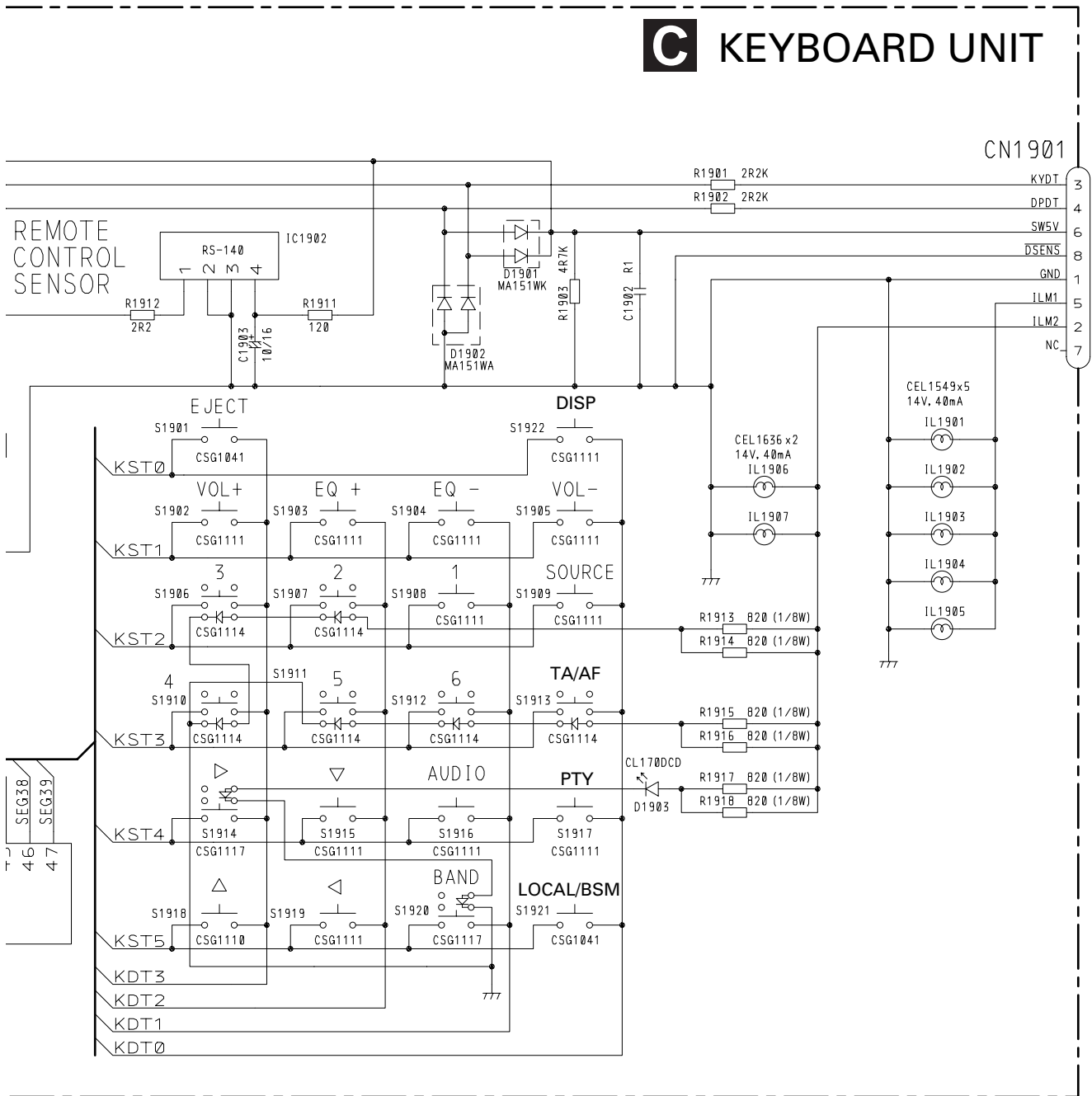
A

B

C

D

C KEYBOARD UNIT



A CN601



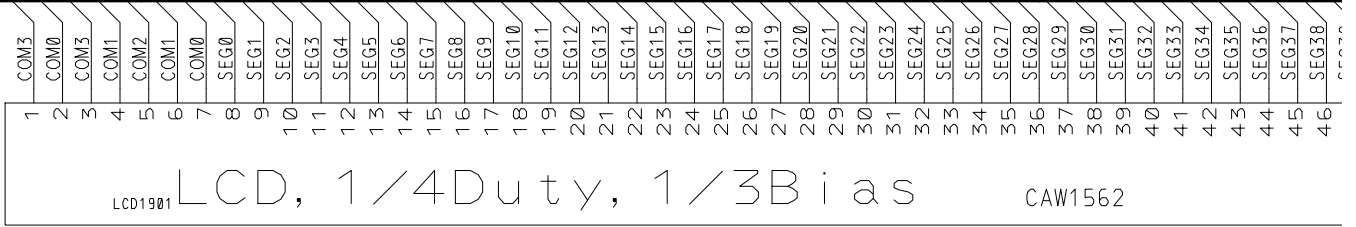
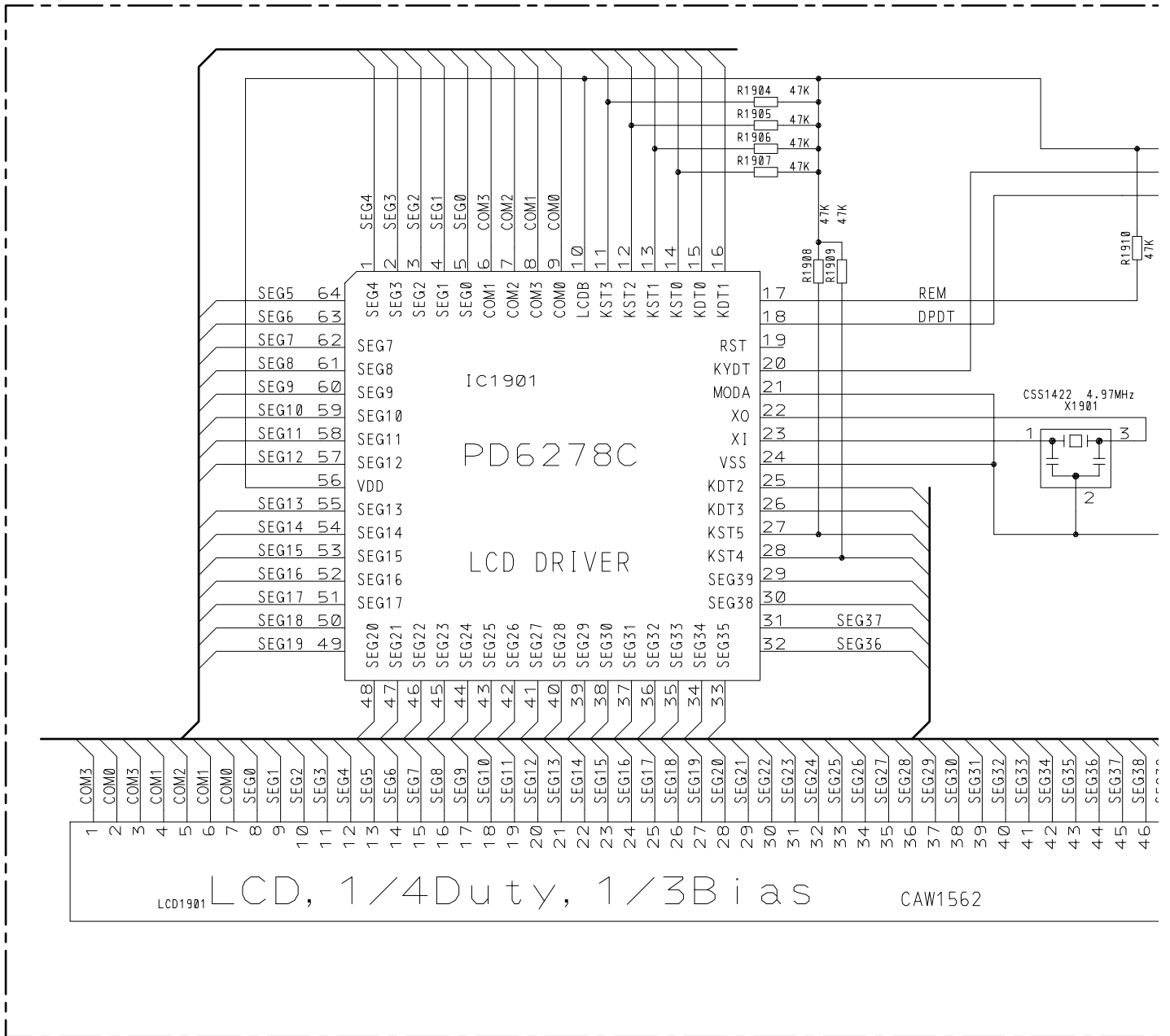
● KEH-P4900R/X1M/EW, KEH-P4930R/X1M/EW

A

B

C

D



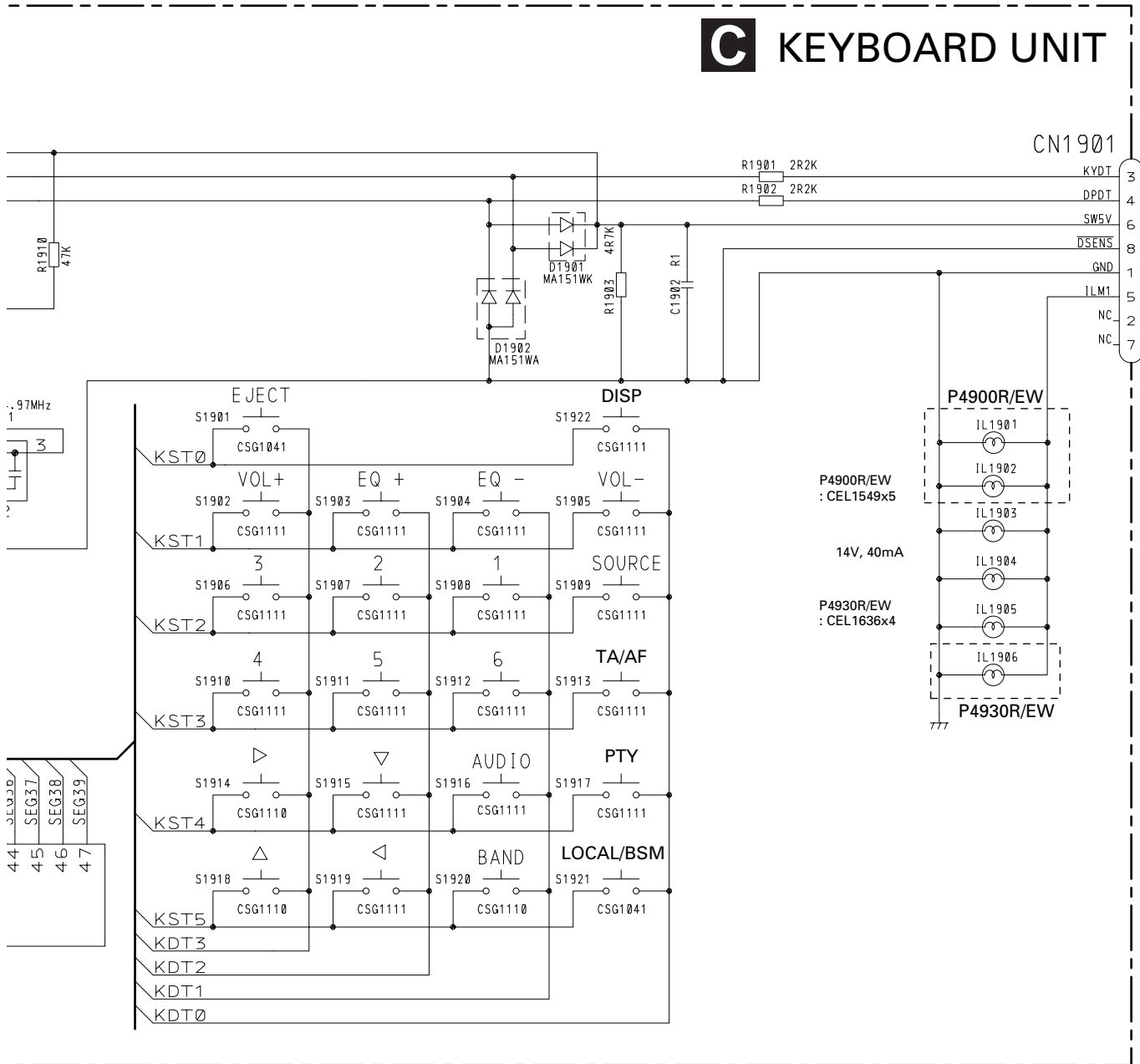
A

B

C

D

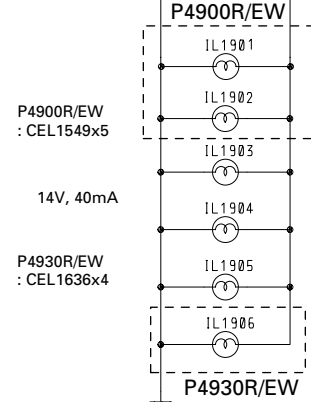
C KEYBOARD UNIT



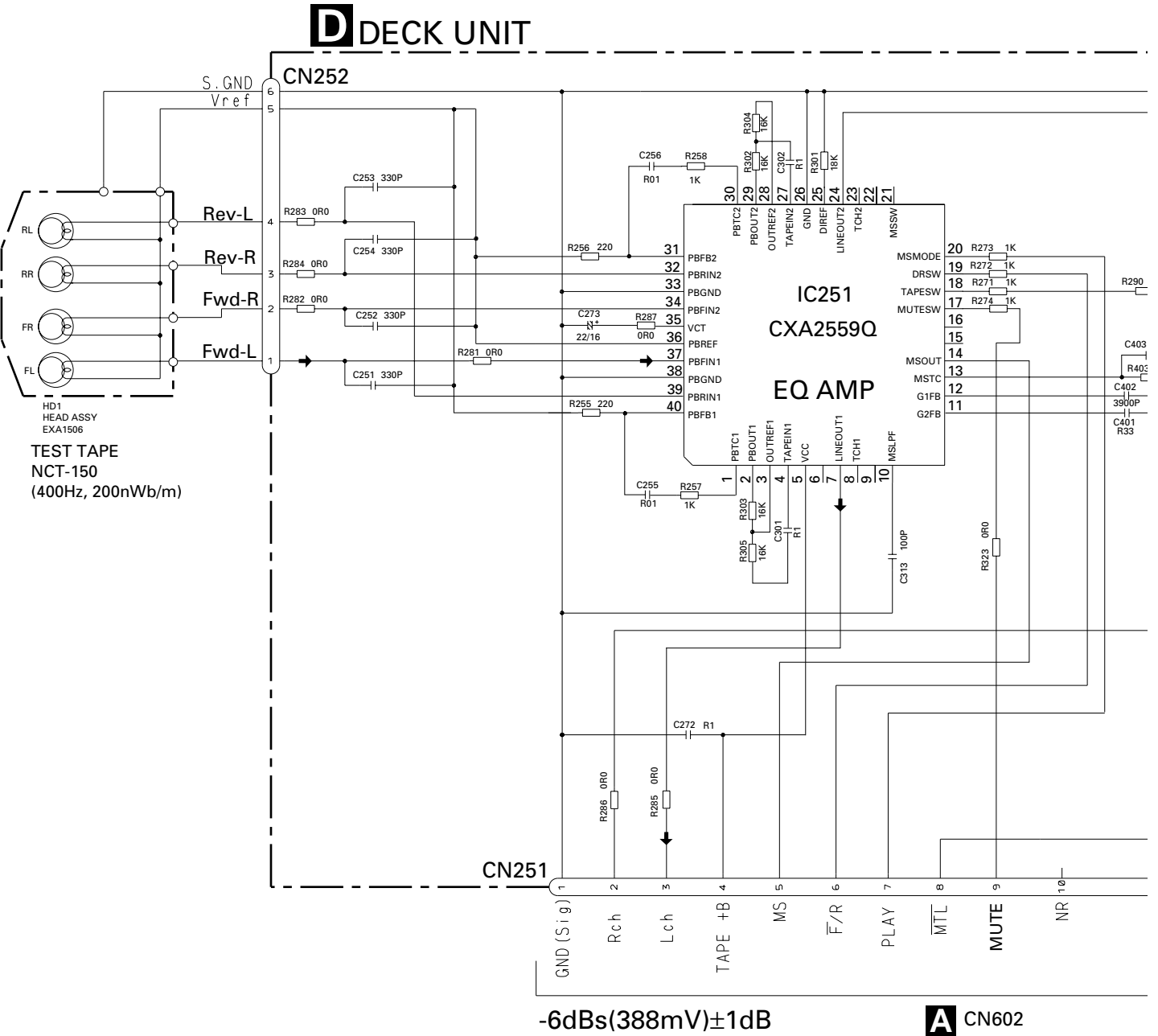
A CN601

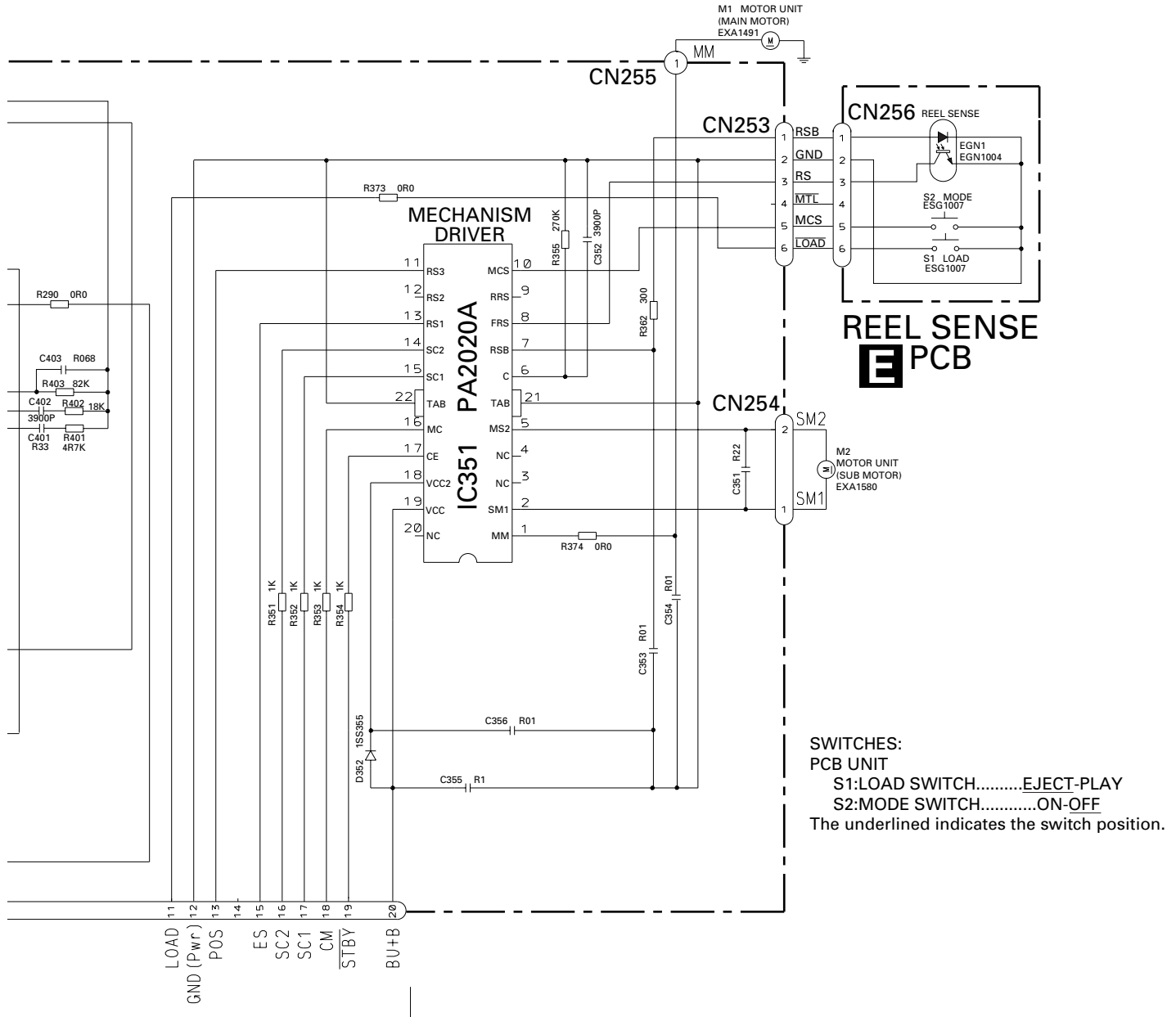
CN1901

- 3 KYDT
- 4 DPDT
- 6 SWEV
- 8 DSSENS
- 1 GND
- 5 ILM1
- 2 NC
- 7 NC



3.5 CASSETTE MECHANISM MODULE





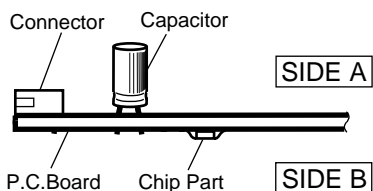
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

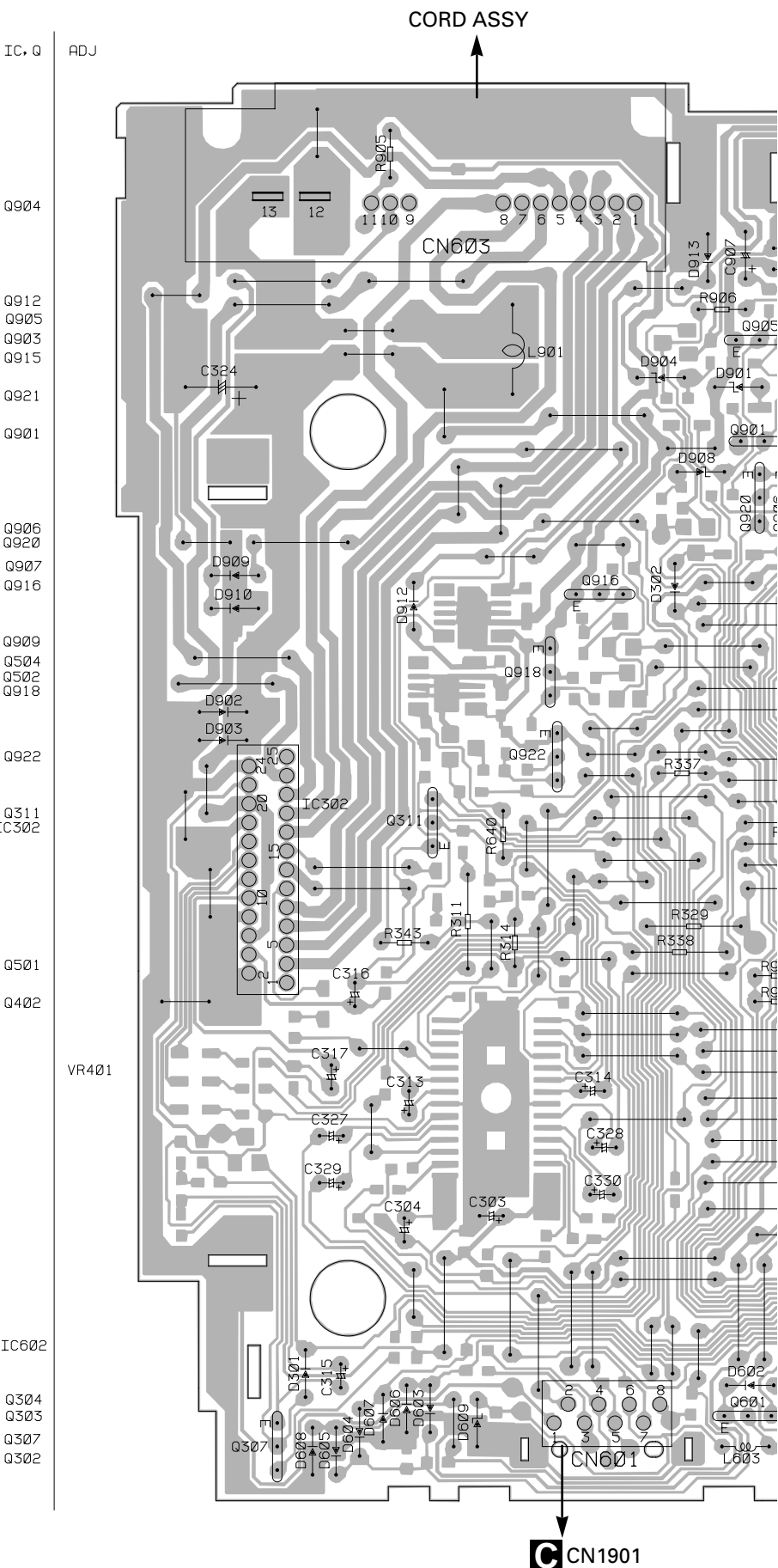
NOTE FOR PCB DIAGRAMS

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.

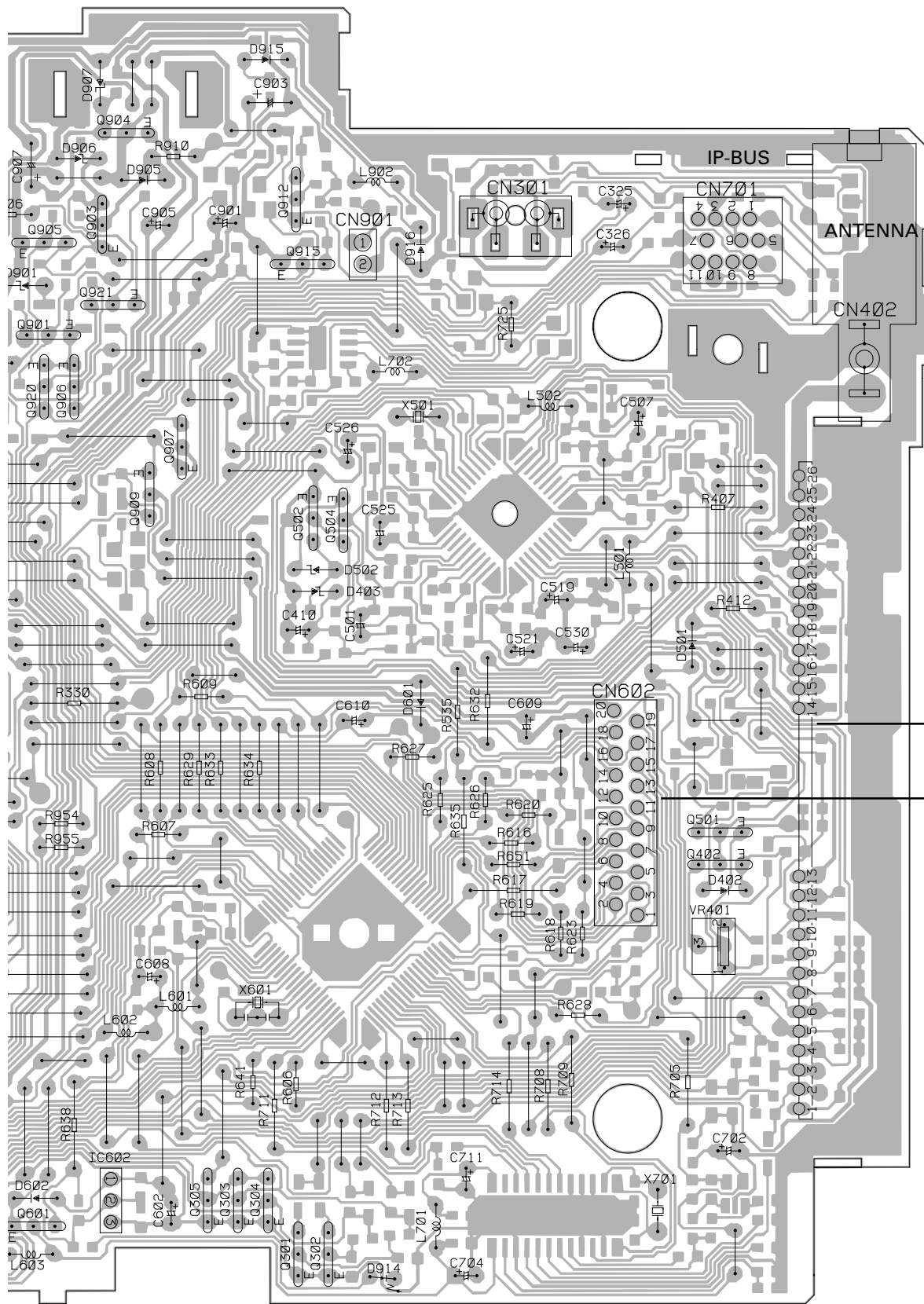
2. Viewpoint of PCB diagrams



A TUNER AMP UNIT



SIDE A

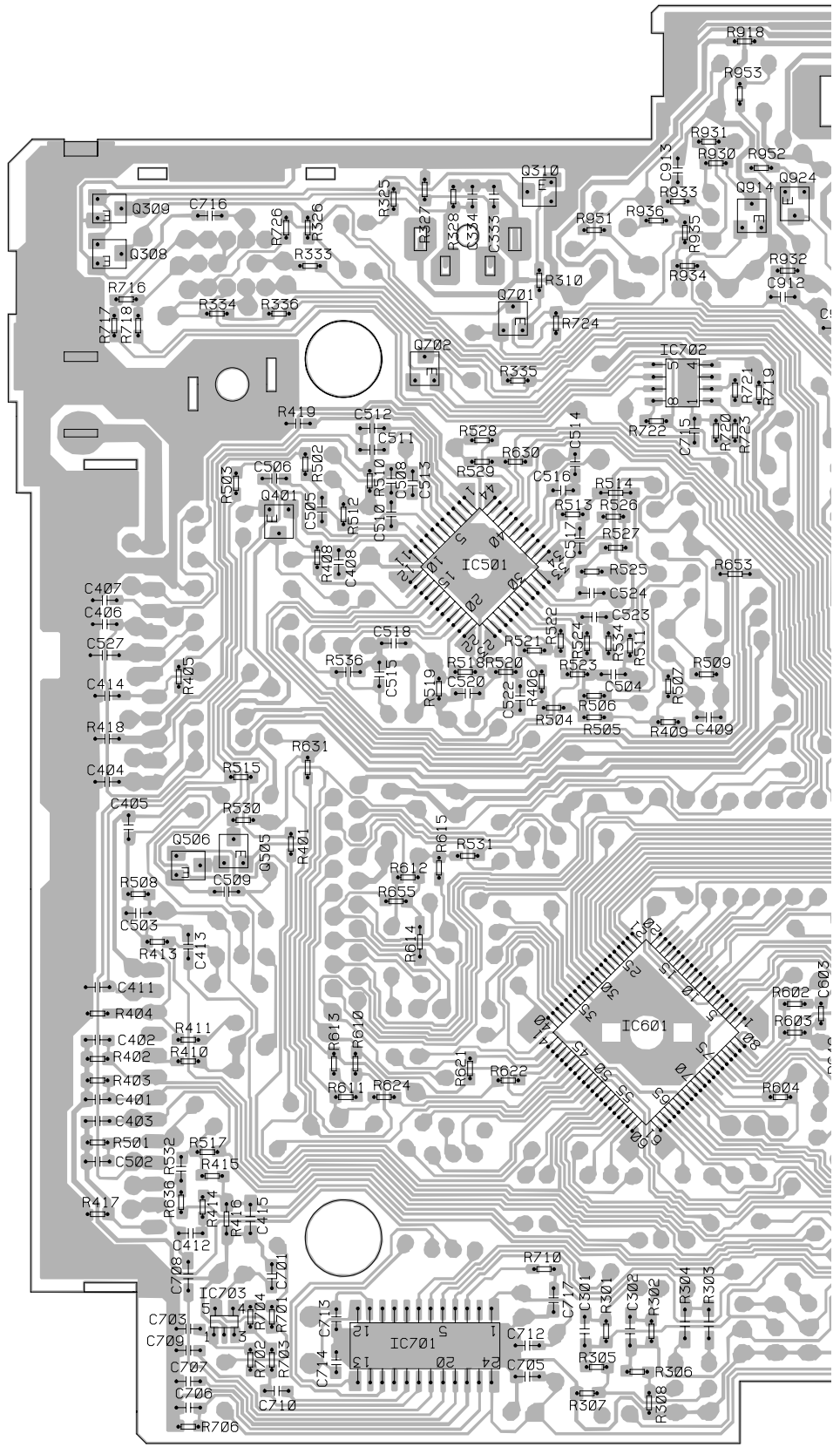


B

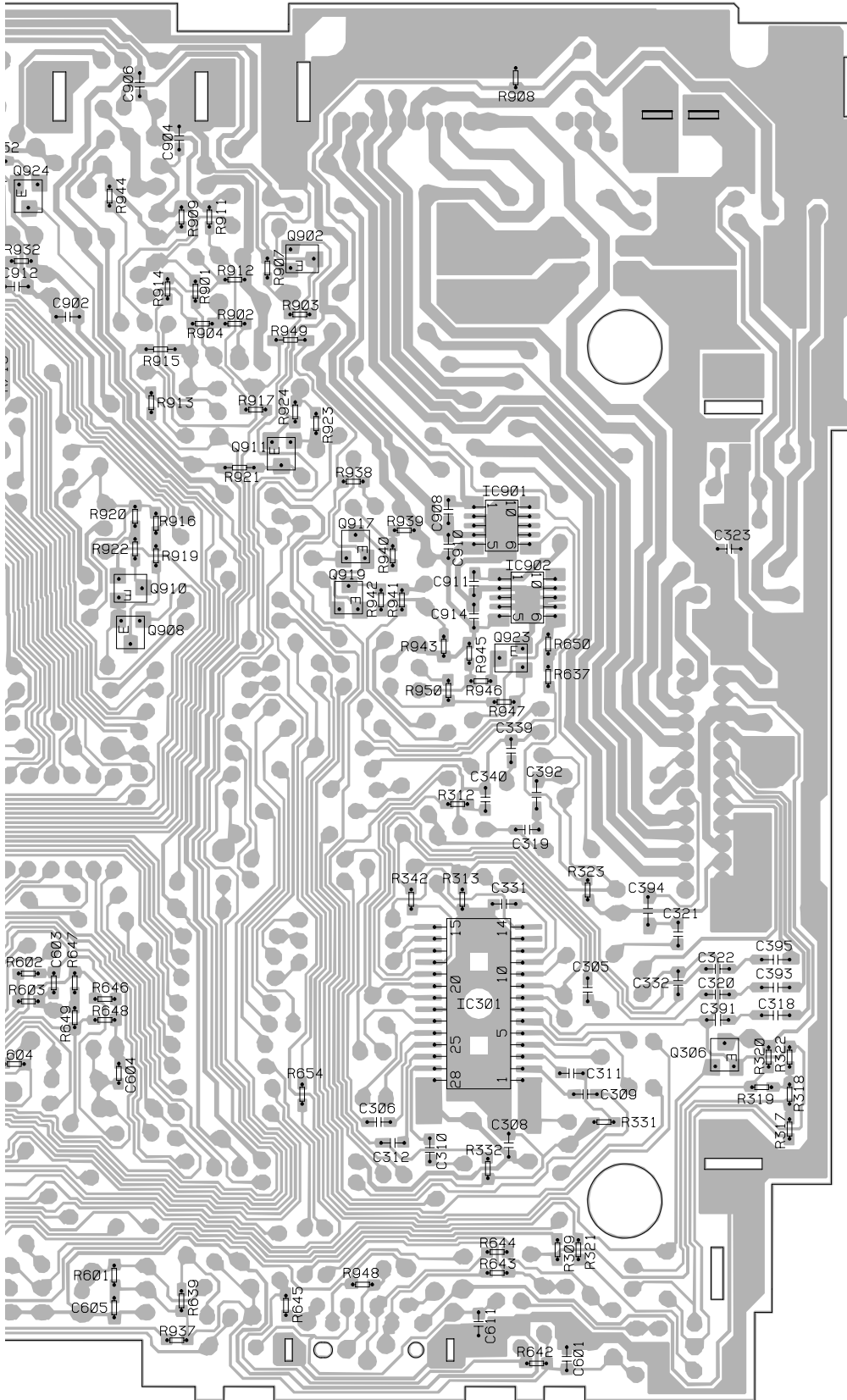
D CN251

A

A TUNER AMP UNIT



SIDE B



IC, Q

Q310 Q924
Q914
Q309

Q308
Q902

Q701

Q702
IC702

Q911

Q401
IC901
Q917

IC501
Q919 IC902
Q910

Q908 Q923

Q506
Q505

IC601
IC301

Q306

IC703

IC701

A

B

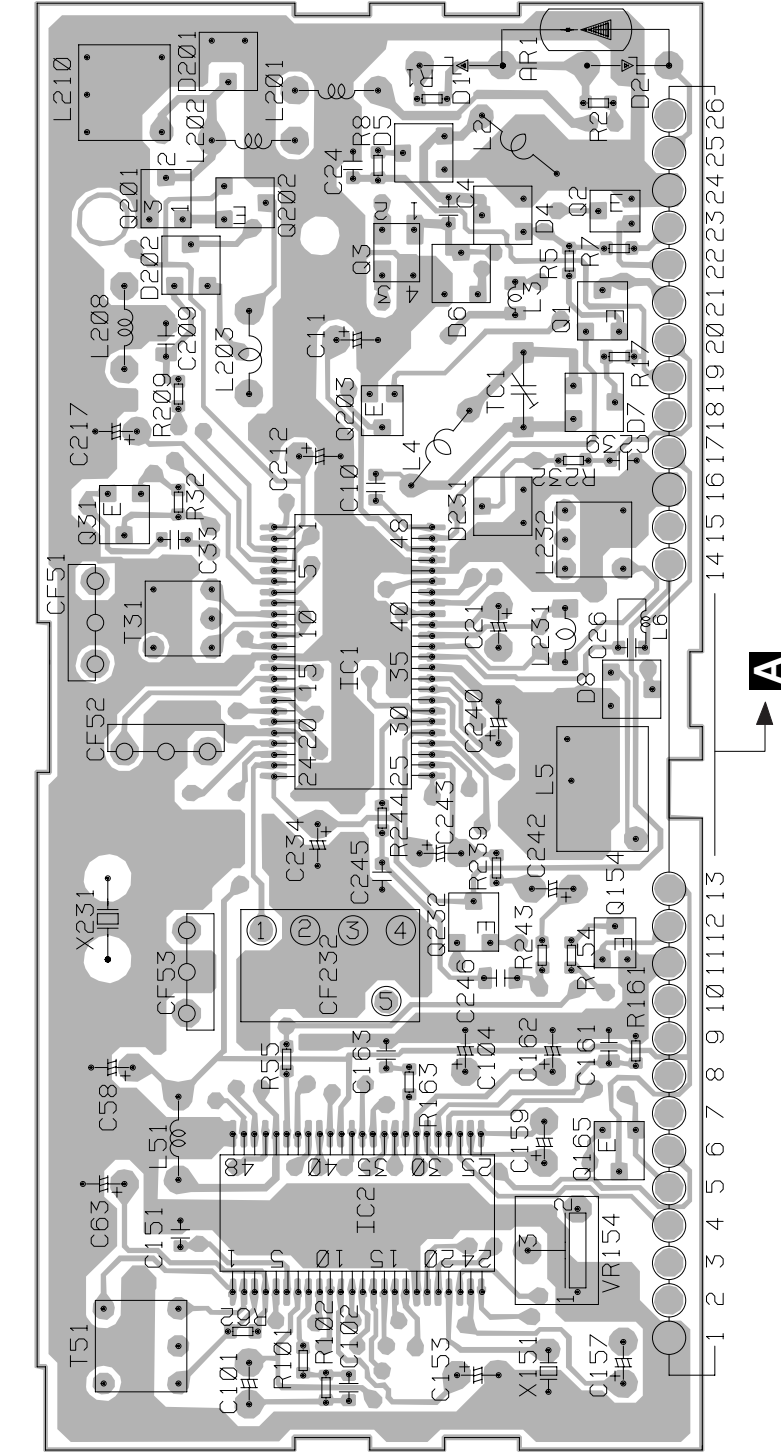
C

D

4.2 FM/AM TUNER UNIT

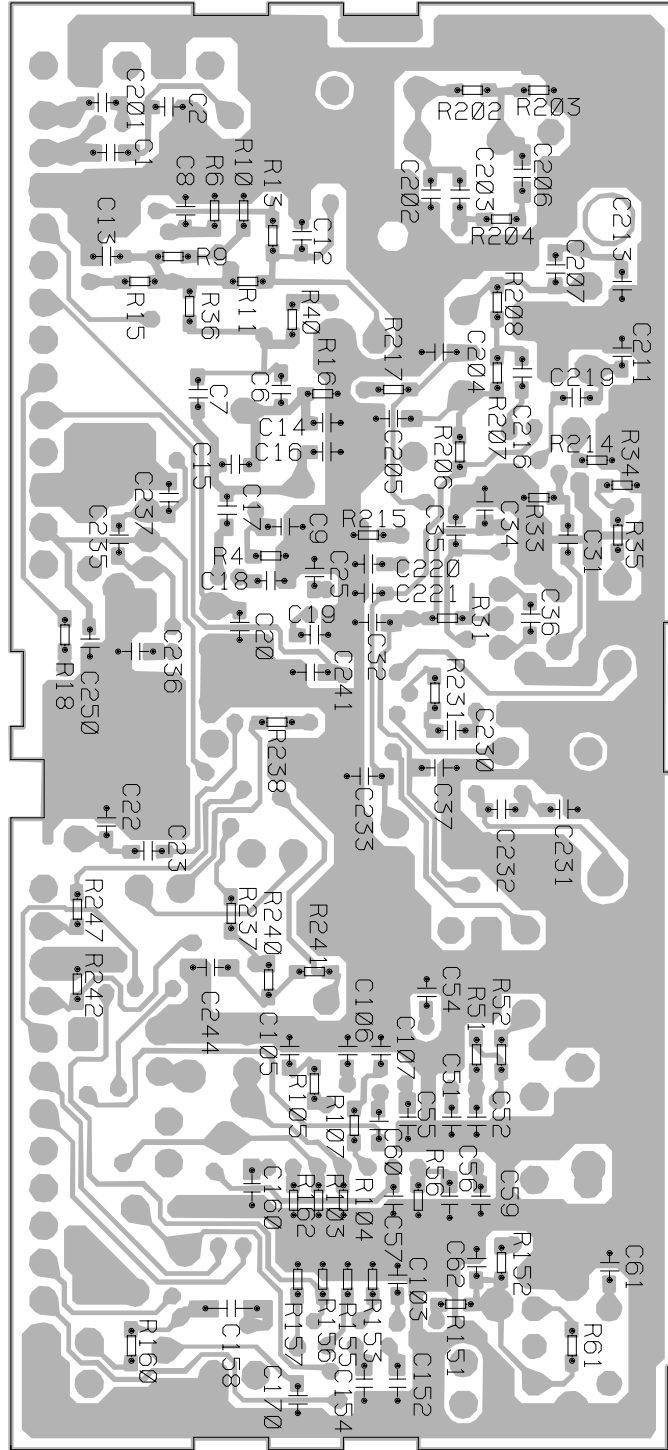
SIDE A

B FM/AM TUNER UNIT



- IC, Q ADJ
- T51
- T31
- Q202
- Q203 Q3
- IC2 IC1
- Q232
- L4
- L2
- TC1
- Q1
- Q2
- Q154
- VR154

SIDE B



B FM/AM TUNER UNIT

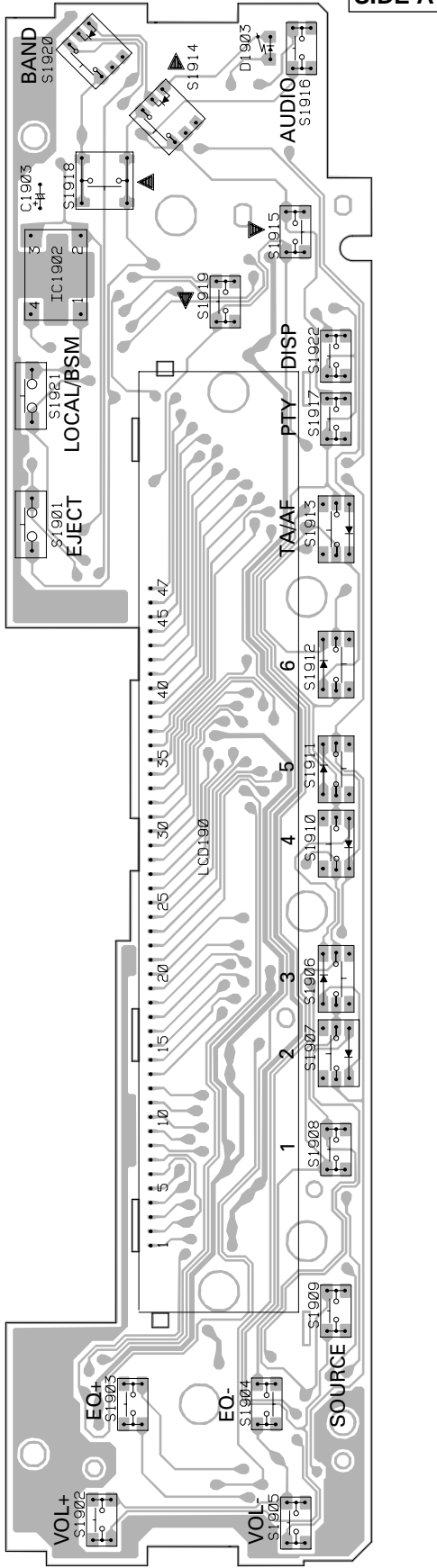
4.3 KEYBOARD UNIT

● KEH-P5900R/X1M/EW

C KEYBOARD UNIT

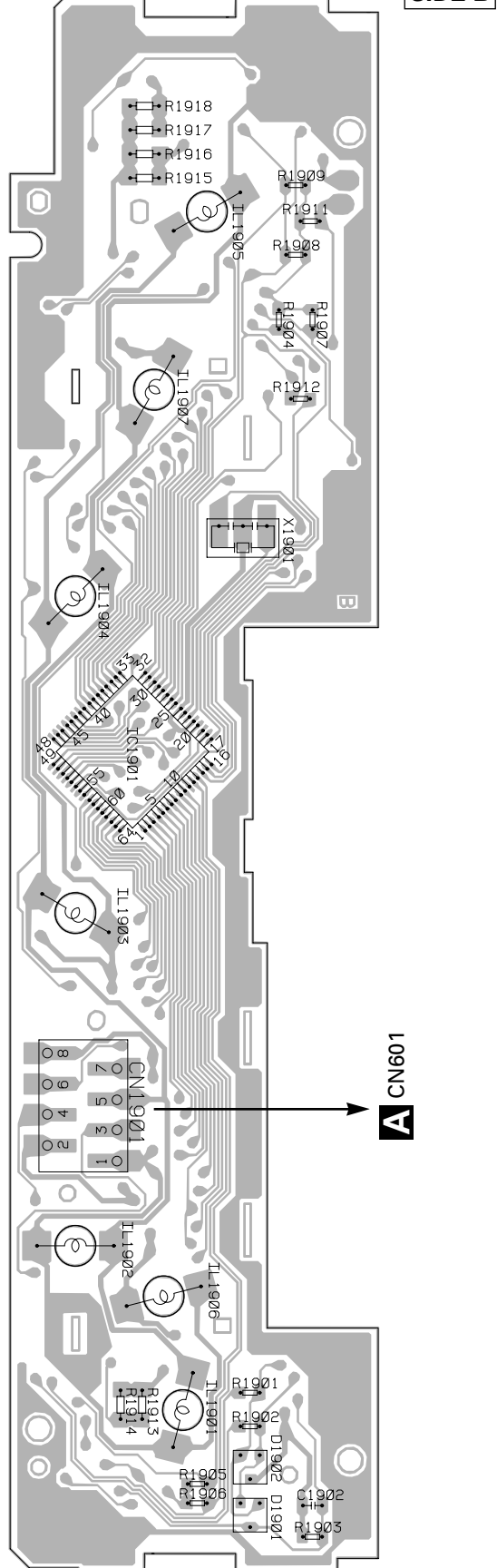


IC:0
IC1902



C KEYBOARD UNIT

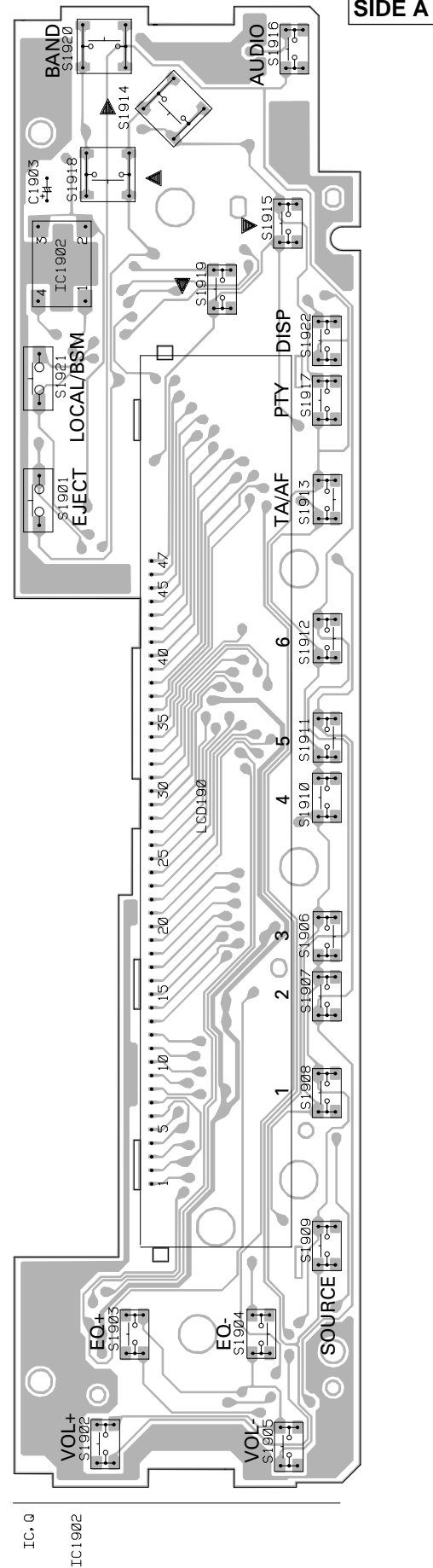
IC1901



IC:0

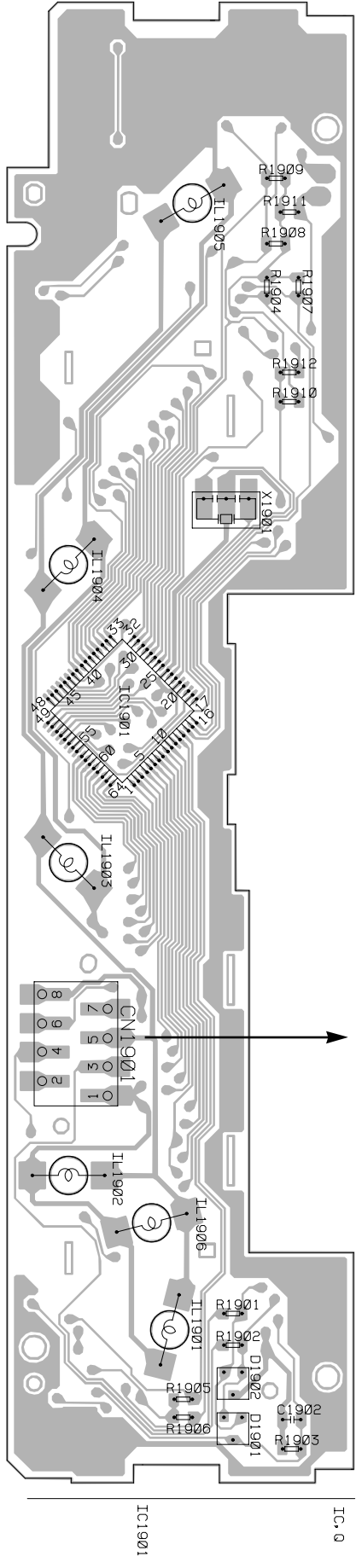
● KEH-P4900R/X1M/EW, KEH-P4930R/X1M/EW

C KEYBOARD UNIT



SIDE A

C KEYBOARD UNIT



SIDE B

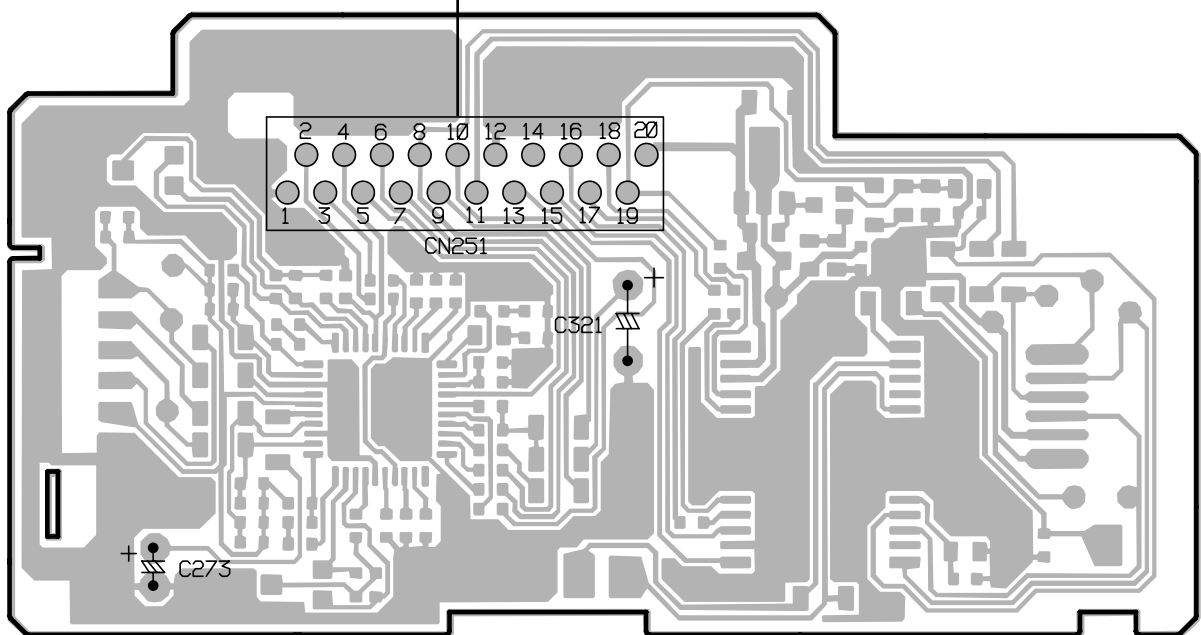
A CN601

4.4 CASSETTE MECHANISM MODULE

D DECK UNIT

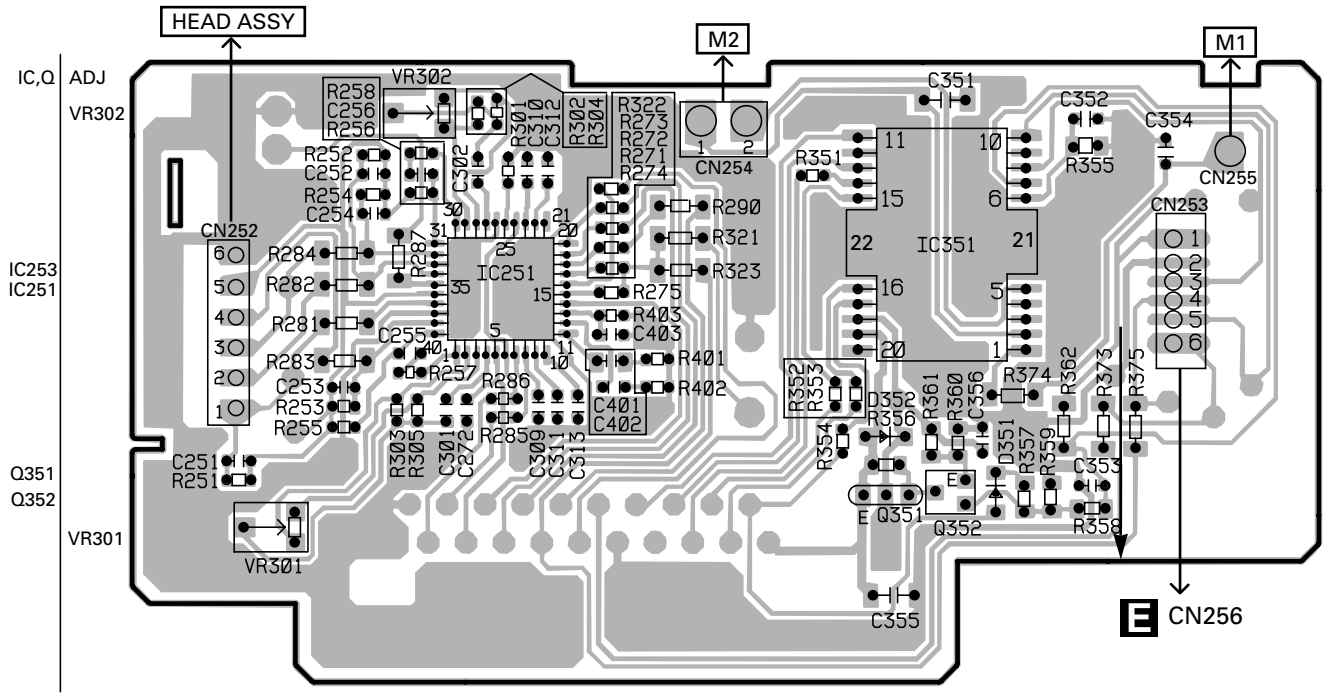
A CN602

SIDE A

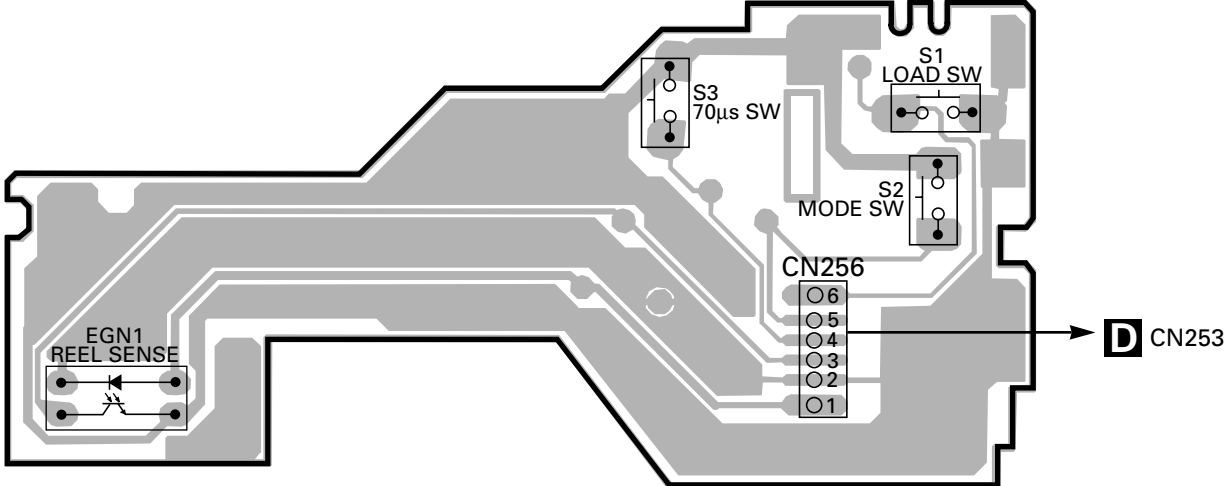


D DECK UNIT

SIDE B



E REEL SENSE PCB



5. ELECTRICAL PARTS LIST

NOTES:

- 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.
A Unit Number : CWM7015(KEH-P5900R/X1M/EW)		D 602 Diode	1SS270
Unit Number : CWM7017(KEH-P4900R/X1M/EW)		D 603 Diode	1SS270
: (KEH-P4930R/X1M/EW)		D 604 Diode	1SS270
Unit Name : Tuner Amp Unit		D 605 Diode	1SS270
		D 606 Diode	1SS270
MISCELLANEOUS		D 607 Diode	1SS270
IC 301 IC PML003AM		D 608 Diode	1SS270
IC 302 IC TDA7384		D 901 Diode	HZS7L(C2)
IC 501 IC PM2007A		D 902 Diode	1SR139-400
IC 601 IC PE5085A		D 903 Diode	1SR139-400
IC 602 IC S-80734AN		D 904 Diode	HZS7L(A1)
IC 701 IC PM4006B		D 905 Diode	1SR139-400
IC 702 IC CA0008AM		D 906 Diode	HZS6L(B2)
IC 703 IC TA75S393F		D 907 Diode	HZS9L(B3)
IC 902 IC TPD1018F		D 908 Diode	HZS9L(A2)
Q 301 Transistor 2SD1468S		D 912 Diode	1SR139-400
Q 302 Transistor 2SD1468S		D 913 Diode	1SR139-400
Q 303 Transistor DTC143TS		D 915 Diode	1SS270
Q 304 Transistor DTC143TS		D 916 Diode	1SS270
Q 305 Transistor DTC124ES		L 501 Ferri-Inductor	LAU2R2K
Q 306 Transistor DTC124EK		L 502 Ferri-Inductor	LAU2R2K
Q 307 Transistor 2SC1740S		L 601 Ferri-Inductor	LAU2R2K
Q 308 Transistor DTC143TK		L 602 Ferri-Inductor	LAU2R2K
Q 309 Transistor DTC143TK		L 603 Ferri-Inductor	LAU2R2K
Q 310 Transistor DTA124EK		L 701 Ferri-Inductor	LAU101K
Q 401 Transistor 2SC2412K		L 702 Ferri-Inductor	LAU2R2K
Q 402 Transistor DTC143TS		L 901 Coil	CTH1219
Q 501 Transistor 2SC1740S		L 902 Ferri-Inductor	LAU2R2K
Q 505 Transistor DTA124EK		X 501 Crystal Resonator 7.2MHz	CSS1474
Q 506 Transistor DTC114EK		X 601 Ceramic Resonator 6.29MHz	CSS1310
Q 601 Transistor 2SA933S		X 701 Crystal Resonator 4.332MHz	CSS1473
Q 701 Transistor 2SA1037K		VR 401 Semi-fixed 22kΩ(B)	CCP1208
Q 702 Transistor DTC114EK			CWE1466
Q 901 Transistor 2SC1740S			
Q 902 Transistor 2SC2412K			
Q 903 Transistor 2SD2037			
Q 904 Transistor 2SD2396			
Q 905 Transistor See Contrast table			
Q 906 Transistor 2SC1740S			
Q 907 Transistor 2SA1048			
Q 908 Transistor DTC114TK			
Q 909 Transistor 2SA1048			
Q 910 Transistor DTC114TK			
Q 911 Transistor 2SC2412K			
Q 916 Transistor See Contrast table			
Q 917 Transistor See Contrast table			
Q 920 Transistor DTC114ES			
Q 921 Transistor DTA124ES			
Q 922 Transistor See Contrast table			
Q 923 Transistor See Contrast table			
Q 924 Transistor 2SA1037K			
D 301 Diode 1SS270		R 303	RS1/8S224J
D 302 Diode 1SS270		R 304	RS1/8S224J
D 402 Diode 1SS270		R 305	RS1/10S222J
D 501 Diode 1SS270		R 306	RS1/10S222J
D 601 Diode 1SS270		R 307	RS1/10S223J
		R 308	RS1/10S223J
		R 309	RS1/10S222J
		R 310	RS1/10S103J
		R 311	RD1/4PU472J
		R 312	RS1/10S472J
		R 317	RS1/10S152J
		R 318	RS1/10S103J
		R 319	RS1/10S221J
		R 320	RS1/10S101J
		R 321	RS1/10S223J
		R 322	RS1/10S153J
		R 323	RS1/10S103J
		R 325	RS1/10S821J
		R 326	RS1/10S821J
		R 327	RS1/10S223J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 328	RS1/10S223J	R 621	RS1/10S222J
R 333	RS1/10S101J	R 622	RS1/10S222J
R 334	RS1/10S101J	R 623	RD1/4PU222J
R 335	RS1/10S223J	R 624	RS1/10S222J
R 336	RS1/10S223J	R 625	RD1/4PU222J
R 337	RD1/4PU102J	R 626	RD1/4PU222J
R 338	RD1/4PU102J	R 627	RD1/4PU222J
R 342	RS1/10S0R0J	R 628	RD1/4PU222J
R 401	RS1/10S0R0J	R 629	RD1/4PU681J
R 402	RS1/10S272J	R 630	RS1/10S681J
R 403	RS1/10S272J	R 631	RS1/10S681J
R 404	RS1/10S0R0J	R 632	RD1/4PU681J
R 405	RS1/10S510J	R 633	RD1/4PU681J
R 406	RS1/10S102J	R 634	RD1/4PU681J
R 407	RD1/4PU222J	R 635	RD1/4PU222J
R 408	RS1/10S222J	R 636	RS1/10S472J
R 410	RS1/10S102J	R 637	RS1/10S103J
R 411	RS1/10S103J	R 638	RD1/4PU222J
R 412	RD1/4PU103J	R 639	RS1/10S223J
R 413	RS1/10S393J	R 641	RD1/4PU222J
R 414	RS1/10S562J	R 642	RS1/10S473J
R 415	RS1/10S104J	R 643	RS1/10S472J
R 416	RS1/8S104J	R 644	RS1/10S472J
R 417	RS1/10S0R0J	R 645	RS1/10S472J
R 418	RS1/10S0R0J	R 650	RS1/10S0R0J
R 419	RS1/10S0R0J	R 651	RD1/4PU222J
R 501	RS1/10S105J	R 653	RS1/8S0R0J
R 502	RS1/10S102J	R 654	RS1/10S0R0J
R 503	RS1/10S222J	R 655	RS1/10S473J
R 506	RS1/10S561J	R 701	RS1/10S562J
R 508	RS1/10S224J	R 702	RS1/10S222J
R 510	RS1/10S0R0J	R 703	RS1/10S222J
R 511	RS1/10S0R0J	R 704	RS1/10S684J
R 512	RS1/10S0R0J	R 705	RD1/4PU681J
R 513	RS1/10S272J	R 706	RS1/10S333J
R 514	RS1/8S222J	R 708	RD1/4PU102J
R 515	RS1/10S562J	R 709	RD1/4PU102J
R 517	RS1/10S473J	R 710	RS1/10S102J
R 518	RS1/10S472J	R 711	RD1/4PU102J
R 519	RS1/10S682J	R 712	RD1/4PU102J
R 520	RS1/10S222J	R 713	RD1/4PU102J
R 521	RS1/10S682J	R 714	RD1/4PU102J
R 522	RS1/10S472J	R 716	RS1/10S620J
R 523	RS1/10S0R0J	R 717	RS1/10S101J
R 524	RS1/10S103J	R 718	RS1/10S101J
R 525	RS1/10S152J	R 719	RS1/10S473J
R 526	RS1/10S392J	R 720	RS1/10S473J
R 527	RS1/10S392J	R 721	RS1/10S102J
R 528	RS1/10S472J	R 722	RS1/10S102J
R 529	RS1/10S473J	R 723	RS1/10S102J
R 530	RS1/10S562J	R 724	RS1/10S223J
R 531	RS1/10S104J	R 725	RD1/4PU472J
R 532	RS1/10S473J	R 726	RS1/10S222J
R 535	RD1/4PU102J	R 901	RS1/10S473J
R 536	RS1/10S473J	R 902	RS1/10S223J
R 601	RS1/10S124J	R 903	RS1/10S223J
R 602	See Contrast table	R 904	RS1/10S473J
R 603	RS1/10S103J	R 905	RD1/4PU102J
R 604	RS1/10S473J	R 906	RD1/4PU473J
R 607	RD1/4PU102J	R 907	RS1/10S473J
R 610	RS1/10S473J	R 908	RS1/10S472J
R 611	RS1/10S473J	R 909	RS1/10S332 J
R 612	RS1/10S473J	R 910	RD1/4PU101J
R 613	RS1/10S473J	R 911	RS1/10S102J
R 614	RS1/8S103J	R 912	RS1/10S103J
R 615	RS1/10S392J	R 913	RS1/10S103J
R 616	RD1/4PU222J	R 914	RS1/10S222J
R 617	RD1/4PU223J	R 915	RS1/8S103J
R 618	RD1/4PU222J	R 916	RS1/10S103J
R 619	RD1/4PU222J	R 917	RS1/10S0R0J

KEH-P5900R,P4900R,P4930R

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 918	RS1/10S0R0J	C 408	CCSQSL101J50
R 919	RS1/10S102J	C 412	CKSQYB104K50
R 920	RS1/10S103J	C 413	CKSQYB223K50
R 921	RS1/10S152J	C 414	CKSQYB103K50
R 922	RS1/10S102J	C 415	CKSYB223K50
R 923	RS1/10S103J	C 501	4.7μF/16V
R 924	RS1/10S223J	C 502	CCH1165
R 932	RS1/10S473J	C 503	CKSQYB471K50
R 938	See Contrast table	C 504	CKSQYB223K50
R 939	See Contrast table	C 505	CKSQYB103K50
R 940	See Contrast table	C 507	CEJA220M6R3
R 944	RS1/10S152J	C 508	CKSQYB102K50
R 945	See Contrast table	C 510	CCSQSL101J50
R 946	See Contrast table	C 511	CKSQYB103K50
R 949	See Contrast table	C 512	CKSQYB103K50
R 950	See Contrast table	C 513	CKSQYB103K50
R 951	RS1/10S153J	C 514	CCSQCH150J50
R 952	RS1/10S472J	C 515	CKSQYB102K50
R 953	RS1/10S472J	C 516	CCSQCH150J50
R 954	RD1/4PU102J	C 517	CKSQYB103K50
R 955	RD1/4PU473J	C 518	CKSQYB103K50
CAPACITORS			
C 301	CKSYB105K16	C 519	CEJA220M6R3
C 302	CKSYB105K16	C 520	CKSQYB103K50
C 303	CEJA470M10	C 521	CEJA220M6R3
C 304	CEJA100M16	C 522	CKSQYB104K50
C 308	CKSQYB104K50	C 523	CKSQYB332K50
C 309	CKSQYB224K16	C 524	CKSQYB103K50
C 310	CKSQYB224K16	C 525	4.7μF/16V
C 311	CKSQYB224K16	C 526	CCH1250
C 312	CKSQYB224K16	C 527	CEJAR47M50
C 313	CEJA4R7M35	C 530	CKLSR473K16
C 314	CEJA4R7M35	C 601	CEJA220M10
C 315	CEJA330M10	C 602	CKSQYB473K50
C 316	CEJA1R0M50	C 603	CEJA2R2M50
C 317	CEJA100M16	C 604	CKSQYB103K50
C 318	CKSYB225K16	C 608	CCSQCH101J50
C 319	CKSQYB474K16	C 609	CEJA4R7M35
C 320	CKSQYB474K16	C 610	CEJA100M16
C 321	CKSQYB474K16	C 611	CEJA220M10
C 322	CKSQYB474K16	C 703	CKSQYB223K50
C 323	CKSQYB104K50	C 704	CKSQYB103K50
C 324	3300μF/16V	C 705	CEJA4R7M35
C 325	CCH1169	C 706	CKSQYB104K50
C 326	CEJA2R2M50	C 707	CKSQYB222K50
C 327	CEJA2R2M50	C 708	CKSQYB104K50
C 328	CEJA1R0M50	C 709	CKSYB105K16
C 329	CEJA1R0M50	C 710	CKSQYB104K50
C 330	CEJA1R0M50	C 711	CKSQYB472K50
C 331	CKSQYB153K50	C 712	CEJA4R7M35
C 332	CKSQYB153K50	C 713	CCSQCH100D50
C 339	CKSQYB104K50	C 714	CCSQCH220J50
C 340	CKSQYB104K50	C 715	CKSQYB102K50
C 391	CKSQYB225K10	C 716	CKSQYB104K50
C 392	CKSYB474K16	C 901	CKSQYB104K50
C 393	CKSYB474K16	C 902	CEJA101M10
C 394	CKSYB474K16	C 903	CKSQYB473K50
C 395	CKSYB474K16	C 904	470μF/16V
C 401	CKSQYB223K25	C 905	330μF/10V
C 402	CKSQYB223K25	C 906	100μF/16V
C 403	CKSQYB223K25	C 907	CCH1183
C 407	CKSQYB223K50	C 911	CKSQYB103K50
		C 914	CCH1181
			CKSQYB103K50
			CCH1179
			CKSQYB103K50
			CKSQYB473K50

CONTRAST TABLE of TUNER AMP UNIT

KEH-P5900R/X1M/EW, KEH-P4900R/X1M/EW and KEH-P4930R/X1M/EW are constructed same except for the following:

Symbol and Description	Part No.	
	KEH-P5900R/X1M/EW	KEH-P4900R/X1M/EW KEH-P4930R/X1M/EW
Q905 Transistor	2SA1048	2SB1238
Q916, 922 Transistor	2SB1238	Not used
Q917, 923 Transistor	DTC114EK	Not used
R602	Not used	RS1/10S103J
R938, 950	RS1/10S1R0J	Not used
R939, 945	RS1/10S103J	Not used
R940, 946	RS1/10S222J	Not used
R949	Not used	RS1/8S1R0J

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

B Unit Number : CWE1466
Unit Name : FM/AM Tuner Unit

RESISTORS

MISCELLANEOUS

IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412K
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412K
Q	154	Transistor	DTC124EU
Q	165	Transistor	2SC2412K
Q	201	FET	2SK932
Q	202	Transistor	2SC2412K
Q	203	Transistor	DTC124EU
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1133
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1133
L	5	Coil	CTC1132
L	6	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1116
T	51	Coil	CTC1136
TC	1	Trimmer	CCL1046
CF	51	Ceramic Filter	CTF1442
CF	52	Ceramic Filter	CTF1442
CF	53	Ceramic Filter	CTF1442
CF	232	Ceramic Filter	CTF1348
X	151	Radiator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213
AR	1		DSP-201M-A11F

R	1	RS1/16S0R0J
R	4	RS1/16S154J
R	5	RS1/16S391J
R	6	RS1/16S223J
R	7	RS1/16S123J
R	8	RS1/16S332J
R	9	RS1/16S473J
R	10	RS1/16S223J
R	11	RS1/16S124J
R	13	RS1/16S563J
R	15	RS1/16S271J
R	16	RS1/16S104J
R	17	RS1/16S332J
R	18	RS1/16S332J
R	31	RS1/16S470J
R	32	RS1/16S822J
R	33	RS1/16S822J
R	34	RS1/16S331J
R	35	RS1/16S331J
R	40	RS1/16S470J
R	51	RS1/16S271J
R	52	RS1/16S560J
R	55	RS1/16S102J
R	56	RS1/16S823J
R	61	RS1/16S392J
R	62	RS1/16S393J
R	101	RS1/16S272J
R	102	RS1/16S682J
R	103	RS1/16S333J
R	104	RS1/16S334J
R	105	RS1/16S683J
R	107	RS1/16S222J
R	151	RS1/16S222J
R	152	RS1/16S393J
R	154	RS1/16S104J
R	155	RS1/16S273J
R	156	RS1/16S243J
R	157	RS1/16S203J
R	160	RS1/16S222J
R	161	RS1/16S563J
R	162	RS1/16S105J
R	163	RS1/16S222J
R	202	RS1/16S223J
R	203	RS1/16S225J
R	204	RS1/16S103J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 206	RS1/16S220J	C 160	CKSQYB104K16
R 207	RS1/16S101J	C 161	CKSQYB104K16
R 208	RS1/16S102J	C 162	CEJA3R3M50
R 209	RS1/16S471J	C 163	CKSRYP102K50
R 214	RS1/16S822J	C 170	CCSRCH100D50
R 215	RS1/16S822J	C 201	CCSRCH471J50
R 217	RS1/16S102J	C 202	CCSRCH100D50
R 231	RS1/16S272J	C 203	CKSRYP332K50
R 232	RS1/16S473J	C 204	CKSQYB473K16
R 237	RS1/16S103J	C 205	CKSQYB473K16
R 238	RS1/16S104J	C 206	CKSQYB104K16
R 239	RS1/16S104J	C 207	CCSRCH560J50
R 240	RS1/16S332J	C 209	CKSQYB104K16
R 241	RS1/16S202J	C 211	CCSRCH101J50
R 243	RS1/16S123J	C 212	CEJA470M6R3
R 244	RS1/16S103J	C 213	CKSRYP103K25
R 247	RS1/16S123J	C 216	CCSRCH101J50
		C 217	CEJA1R5M50
		C 219	CCSRCH471J50
		C 220	CKSRYP103K25

CAPACITORS

C 1	CCSQCH6R0D50
C 2	CCSRCK2R0C50
C 4	CCSRCH820J50
C 6	CCSRCH820J50
C 8	CKSRYP103K25
C 9	CKSQYB104K16
C 10	CCSRCKR50C50
C 11	CEJA1R0M50
C 13	CKSRYP222K50
C 14	CCSRCH220J50
C 16	CCSRCH8R0D50
C 17	CKSRYP222K50
C 18	CKSRYP103K25
C 19	CKSRYP222K50
C 20	CKSRYP222K50
C 21	CEJA100M16
C 22	CCSRTH9R0D50
C 23	CCSRTH120J50
C 24	CCSRCH471J50
C 25	CKSRYP103K25
C 31	CKSRYP103K25
C 32	CKSQYB472K50
C 33	CCSRCH5R0C50
C 34	CKSQYB104K16
C 36	CCSRRH201J50
C 51	CKSRYP223K25
C 52	CKSRYP103K25
C 54	CCSRCH470J50
C 55	CKSQYB223K25
C 56	CKSQYB104K16
C 57	CKSRYP472K50
C 58	CEJA330M10
C 59	CKSRYP103K25
C 61	CCSRCH270J50
C 62	CKSRYP103K25
C 63	CEJAR15M50
C 101	CEJANP100M10
C 102	CKSRYP182K50
C 103	CKSRYP682K25
C 104	CEJA2R2M50
C 105	CKSRYP103K25
C 106	CCSRCH151J50
C 107	CKSRYP103K25
C 151	CKSRYP472K50
C 152	CKSQYB104K16
C 153	CEJA3R3M50
C 154	CKSQYB104K16
C 157	CEJA3R3M50
C 158	CKSYB474K16
C 159	CEJA220M6R3

C Unit Number : CWM7016(KEH-P5900R/X1M/EW)
 Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1901	IC	PD6278C
IC 1902	HIC Module	RS-140
D 1901	Chip Diode	MA151WK
D 1902	Chip Diode	MA151WA
D 1903	LED	CL170DCD
X 1901	Ceramic Resonator 4.97MHz	CSS1422
S 1901	Switch	CSG1041
S 1902	Push Switch	CSG1111
S 1903	Push Switch	CSG1111
S 1904	Push Switch	CSG1111
S 1905	Push Switch	CSG1111
S 1906	Switch	CSG1114
S 1907	Switch	CSG1114
S 1908	Push Switch	CSG1111
S 1909	Push Switch	CSG1111
S 1910	Switch	CSG1114
S 1911	Switch	CSG1114
S 1912	Switch	CSG1114
S 1913	Switch	CSG1114
S 1914	Push Switch	CSG1117
S 1915	Push Switch	CSG1111
S 1916	Push Switch	CSG1111
S 1917	Push Switch	CSG1111
S 1918	Switch	CSG1110
S 1919	Push Switch	CSG1111

====Circuit Symbol and No.====	Part Name	Part No.
S 1920	Push Switch	CSG1117
S 1921	Switch	CSG1041
S 1922	Push Switch	CSG1111
IL 1901	Lamp 14V 40mA	CEL1549
IL 1902	Lamp 14V 40mA	CEL1549
IL 1903	Lamp 14V 40mA	CEL1549
IL 1904	Lamp 14V 40mA	CEL1549
IL 1905	Lamp 14V 40mA	CEL1549
IL 1906	Lamp 14V 40mA	CEL1636
IL 1907	Lamp 14V 40mA	CEL1636
LCD1901	LCD	CAW1562

RESISTORS

R 1901	RS1/10S222J
R 1902	RS1/10S222J
R 1903	RS1/10S472J
R 1904	RS1/10S473J
R 1905	RS1/10S473J
R 1906	RS1/10S473J
R 1907	RS1/10S473J
R 1908	RS1/10S473J
R 1909	RS1/10S473J
R 1911	RS1/10S121J
R 1912	RS1/10S2R2J
R 1913	RS1/8S821J
R 1914	RS1/8S821J
R 1915	RS1/8S821J
R 1916	RS1/8S821J
R 1917	RS1/8S821J
R 1918	RS1/8S821J

CAPACITORS

C 1902	CKSQYB104K16
C 1903	CEAL100M16

C Unit Number : CWM7020(KEH-P4900R/X1M/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1901	IC	PD6278C
D 1901	Chip Diode	MA151WK
D 1902	Chip Diode	MA151WA
X 1901	Ceramic Resonator 4.97MHz	CSS1422
S 1901	Switch	CSG1041
S 1902	Push Switch	CSG1111
S 1903	Push Switch	CSG1111
S 1904	Push Switch	CSG1111
S 1905	Push Switch	CSG1111
S 1906	Push Switch	CSG1111
S 1907	Push Switch	CSG1111
S 1908	Push Switch	CSG1111
S 1909	Push Switch	CSG1111
S 1910	Push Switch	CSG1111
S 1911	Push Switch	CSG1111
S 1912	Push Switch	CSG1111
S 1913	Push Switch	CSG1111
S 1914	Switch	CSG1110
S 1915	Push Switch	CSG1111
S 1916	Push Switch	CSG1111
S 1917	Push Switch	CSG1111
S 1918	Switch	CSG1110
S 1919	Push Switch	CSG1111
S 1920	Switch	CSG1110
S 1921	Switch	CSG1041
S 1922	Push Switch	CSG1111
IL 1901	Lamp 14V 40mA	CEL1549
IL 1902	Lamp 14V 40mA	CEL1549
IL 1903	Lamp 14V 40mA	CEL1549
IL 1904	Lamp 14V 40mA	CEL1549

====Circuit Symbol and No.====	Part Name	Part No.
IL 1905	Lamp 14V 40mA	CEL1549
LCD1901	LCD	CAW1562

RESISTORS

R 1901	RS1/10S222J
R 1902	RS1/10S222J
R 1903	RS1/10S472J
R 1904	RS1/10S473J
R 1905	RS1/10S473J
R 1906	RS1/10S473J
R 1907	RS1/10S473J
R 1908	RS1/10S473J
R 1909	RS1/10S473J
R 1910	RS1/10S473J

CAPACITORS

C 1902	CKSQYB104K16
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C Unit Number : CWM7018(KEH-P4930R/X1M/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1901	IC	PD6278C
D 1901	Chip Diode	MA151WK
D 1902	Chip Diode	MA151WA
X 1901	Ceramic Resonator 4.97MHz	CSS1422
S 1901	Switch	CSG1041
S 1902	Push Switch	CSG1111
S 1903	Push Switch	CSG1111
S 1904	Push Switch	CSG1111
S 1905	Push Switch	CSG1111
S 1906	Push Switch	CSG1111
S 1907	Push Switch	CSG1111
S 1908	Push Switch	CSG1111
S 1909	Push Switch	CSG1111
S 1910	Push Switch	CSG1111
S 1911	Push Switch	CSG1111
S 1912	Push Switch	CSG1111
S 1913	Push Switch	CSG1111
S 1914	Switch	CSG1110
S 1915	Push Switch	CSG1111
S 1916	Push Switch	CSG1111

S 1917	Push Switch	CSG1111
S 1918	Switch	CSG1110
S 1919	Push Switch	CSG1111
S 1920	Switch	CSG1110
S 1921	Switch	CSG1041

S 1922	Push Switch	CSG1111
IL 1903	Lamp 14V 40mA	CEL1636
IL 1904	Lamp 14V 40mA	CEL1636
IL 1905	Lamp 14V 40mA	CEL1636
IL 1906	Lamp 14V 40mA	CEL1636

LCD1901	LCD	CAW1562
---------	-----	---------

RESISTORS

R 1901	RS1/10S222J
R 1902	RS1/10S222J
R 1903	RS1/10S472J
R 1904	RS1/10S473J
R 1905	RS1/10S473J
R 1906	RS1/10S473J
R 1907	RS1/10S473J
R 1908	RS1/10S473J
R 1909	RS1/10S473J
R 1910	RS1/10S473J

CAPACITORS

C 1902	CKSQYB104K16
--------	--------------

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

D Unit Number : EWM1023
Unit Name : Deck Unit

MISCELLANEOUS

IC	251	IC	CXA2559Q
IC	351	IC	PA2020A
D	352	Diode	1SS355

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	274	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	302	RS1/16S163J
R	303	RS1/16S163J
R	304	RS1/16S163J
R	305	RS1/16S163J
R	323	RS1/8S0R0J
R	351	RS1/16S102J
R	352	RS1/16S102J
R	353	RS1/16S102J
R	354	RS1/16S102J
R	355	RS1/10S274J
R	362	RS1/8S301J
R	373	RS1/8S0R0J
R	374	RS1/8S0R0J
R	401	RS1/16S472J
R	402	RS1/16S183J
R	403	RS1/16S823J

CAPACITORS

C	251	CKSRYB331K50
C	252	CKSRYB331K50
C	253	CKSRYB331K50
C	254	CKSRYB331K50
C	255	CKSRYB103K50
C	256	CKSRYB103K50
C	272	CKSRYB104K16
C	273	CEJA220M16
C	301	CKSRYB104K16
C	302	CKSRYB104K16
C	313	CCSRCH101J50
C	351	CKSYB224K25
C	352	CKSRYB392K50
C	353	CKSRYB103K50
C	354	CKSRYB103K50
C	355	CKSYB104K50
C	356	CKSRYB103K50
C	401	CKSQYB334K16
C	402	CKSRYB392K50
C	403	CKSRYB683K16

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

E Unit Number :
Unit Name : Reel Sense PCB

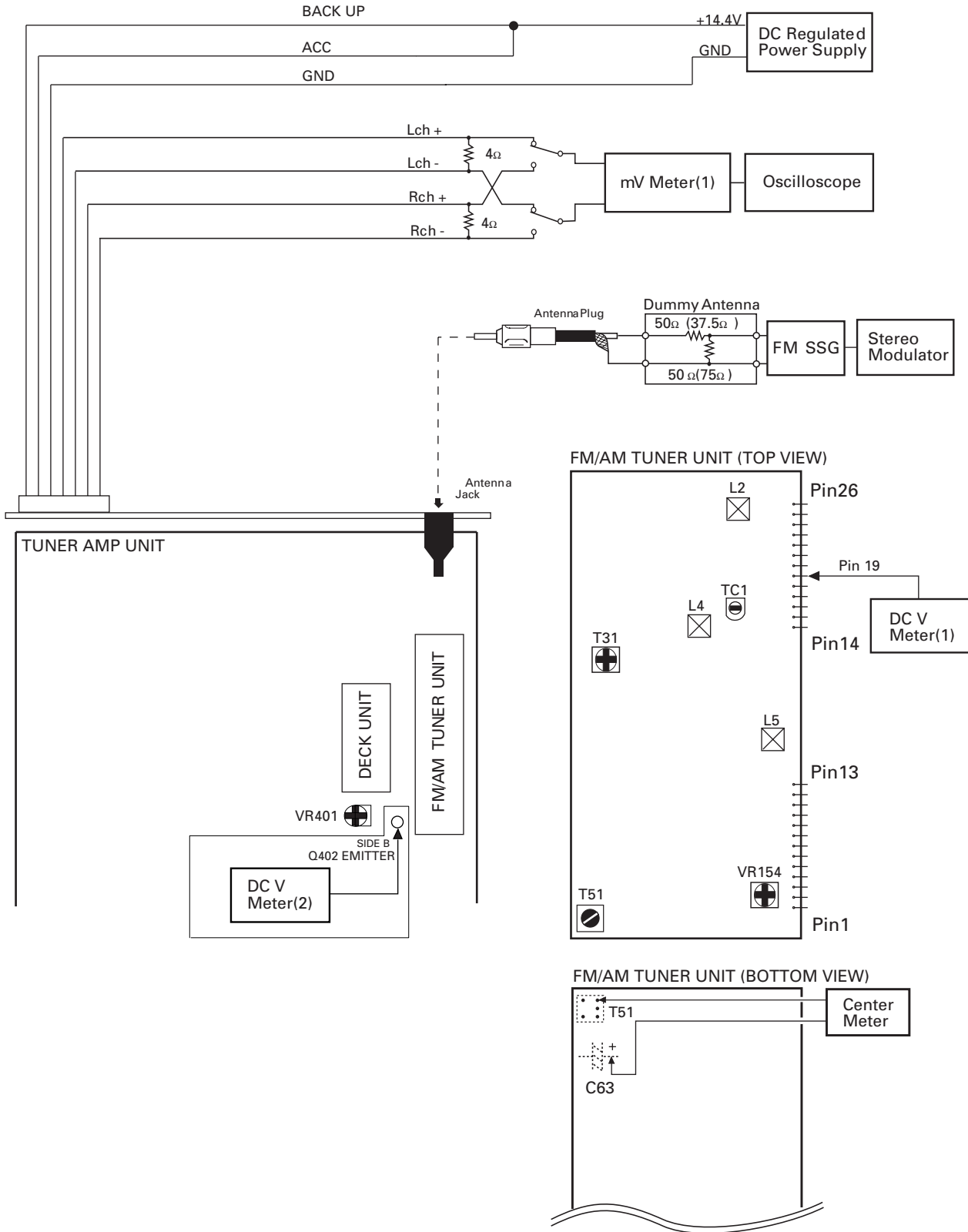
S	1	Switch(LOAD)	ESG1007
S	2	Switch(MODE)	ESG1007
EGN	1	Photo-reflector	EGN1004

Miscellaneous Parts List

M	1	Motor Unit(MAIN)	EXA1491
M	2	Motor Unit(SUB)	EXA1580
HD	1	Head Assy Fuse(10A)	EXA1506 CEK1136

6. ADJUSTMENT

● Connection Diagram



FM ADJUSTMENT

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

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

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

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60—100	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
RF Trimmer	5	129.3 M	60—80	107.9	TC1	mV Meter(1) : Minimum
	6	RF Coil and RF Trimmer shall be adjusted twice or more				
IFT	7	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	8	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

RDS ADJUSTMENT

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
	1	140.0S	35	104.0	VR401	DC V Meter(2) : 1.75V+0.05, -0.35

7. GENERAL INFORMATION

7.1 DISASSEMBLY

● Remove the Case(not shown)

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

● Remove the Cassette Mechanism Module (not shown)

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

● Remove the Panel Unit(Fig.1)

- 1** Disengage the stopper at two locations indicated by arrow.
- 2** Remove the Panel Unit.

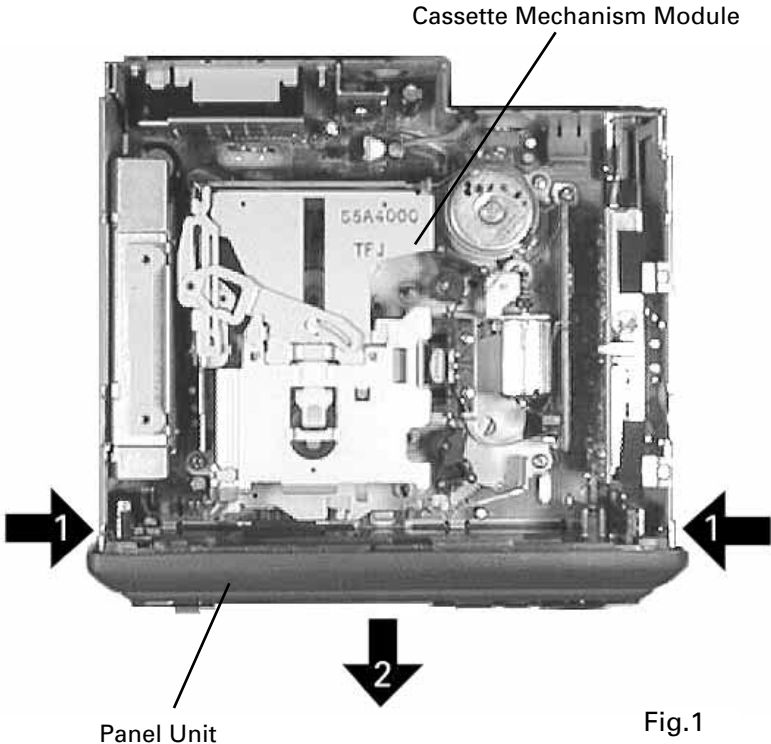
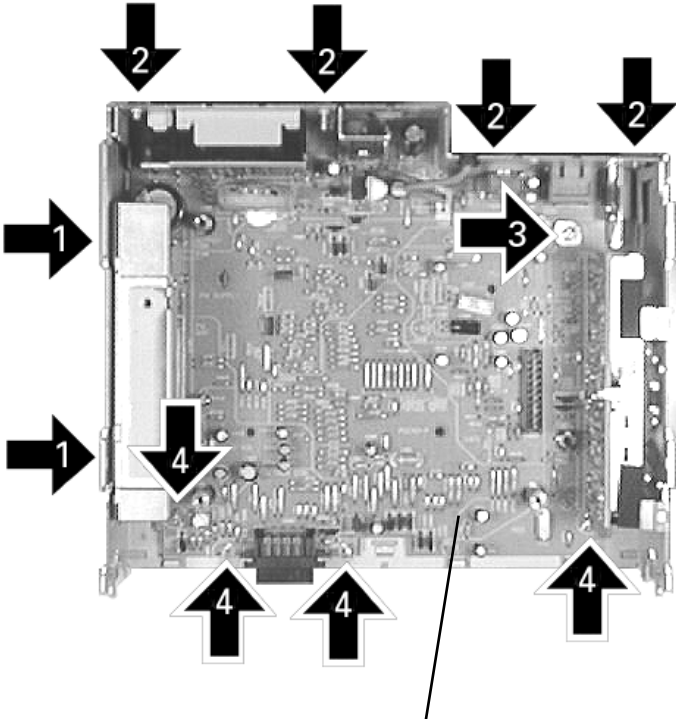


Fig.1

● Remove the Tuner Amp Unit(Fig.2)

- 1** Remove the two screws.
- 2** Remove the four screws.
- 3** Remove the screw.
- 4** Unbend the tabs at four locations indicated by arrow until straight. Remove the Tuner Amp Unit.



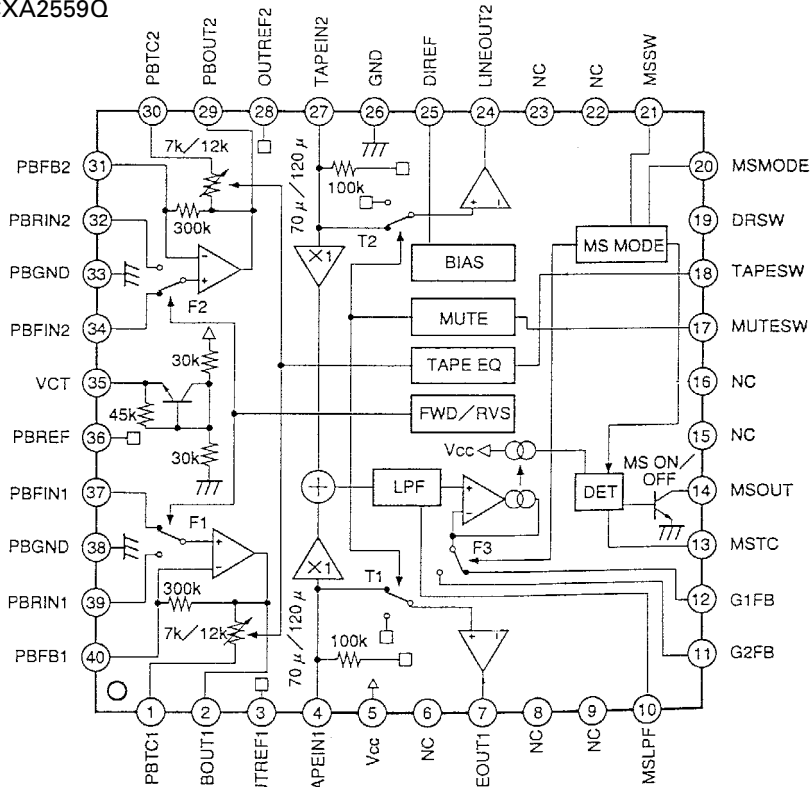
Tuner Amp Unit

Fig.2

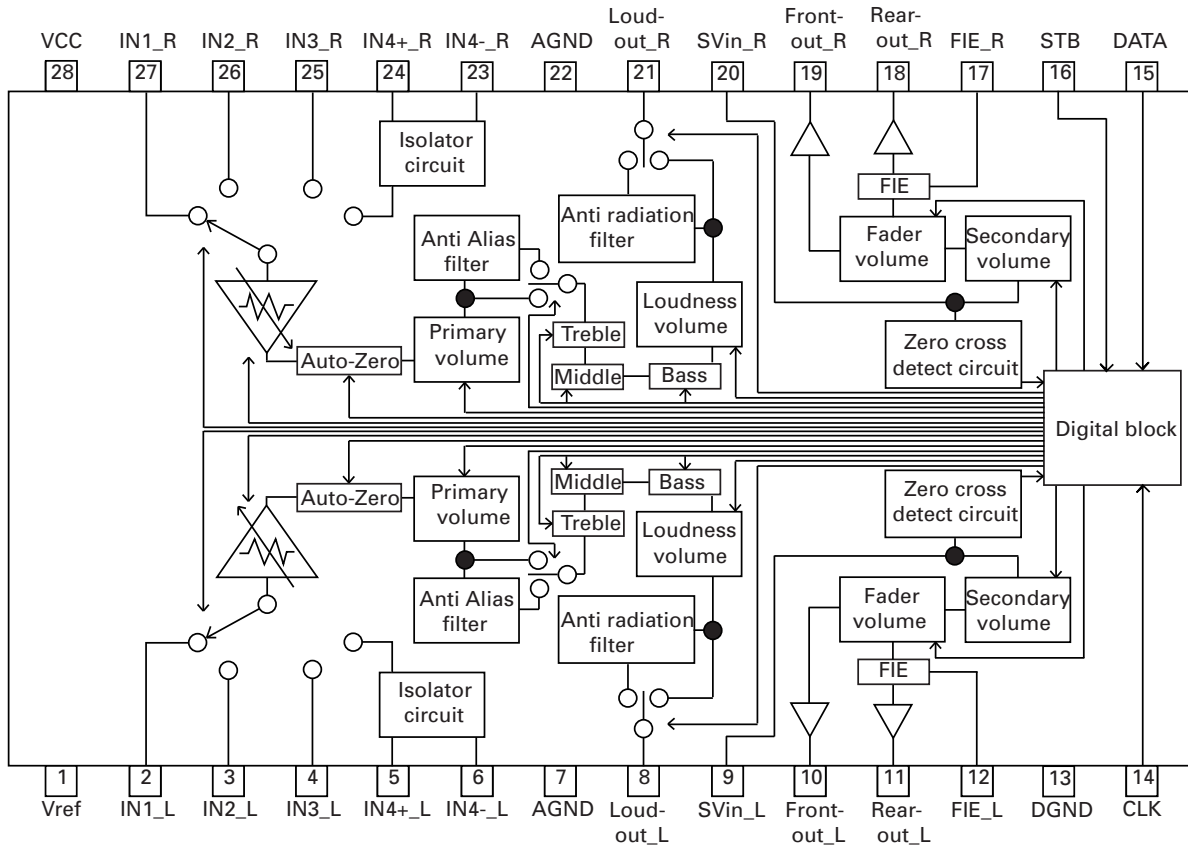
7.2 PARTS

7.2.1 IC

CXA2559Q



PML003AM

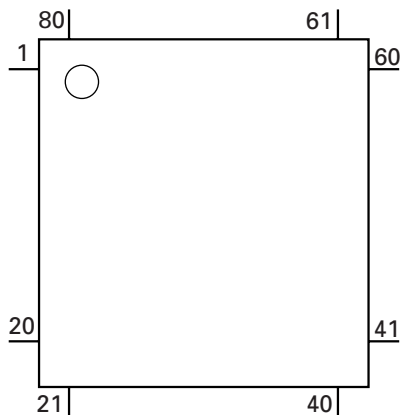


● Pin Functions(PE5085A)

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			GND
5	SWVDD	O	C	Grille power supply control output
6	ST	I		FM stereo input
7	AVREF1			D/A converter standard voltage
8	KYDT	I		Grille MicroComputer data input
9	DPDT	O	C	Grille MicroComputer data output
10	NC			Not used
11	TUNPD1	I		PLL IC data input
12	TUNPD0	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock output
14	TUNPCE	O	C	PLL IC chip enable output
15	CURRRQ	O	C	Tuner voltage FIX output
16-19	NC			Not used
20	DILM	O	C	Dual illumination output
21	NC			Not used
22	VST	O	C	Strobe pulse output for electronic volume
23	VCK	O	C	Clock output for electronic volume
24	VDT	O	C	Data output for electronic volume
25	NC			Not used
26	ILMPW	O	C	Illumination power supply control output
27,28	NC			Not used
29	FM	O	C	FM power control output
30	AM	O	C	AM power control output
31	CM	O	C	Cassette mechanism capstan motor control output
32	NC			Not used
33	VSS			GND
34	SC2	O	C	Cassette mechanism sub motor control output
35	SC1	O	C	Cassette mechanism sub motor control output
36	MSIN	I		Cassette mechanism MS sense input
37	MCMUTE	I		Cassette mechanism mute input
38	MTL	I		Metal sense input
39	NC			Not used
40	N/R	O	C	Normal reverse output
41	PLAY	O	C	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	RDS57K	I		57kHzBP-OUT sense input
48	STBY	O	C	Stand-by output
49	SK	I		SK signal input
50	DRST	O	C	Decoder reset output
51	TMUTE	O	C	Tuner mute output
52	MDSENS	I		Modulation detect input
53	SD	I		SD input
54	MUTE	O	C	Mute output
55	SYSPW	O	C	System power supply control output
56	NC			Not used
57	RX	I		IP BUS data input
58	RDSLK	I		RDS LK signal input
59	RDT	I		RDS data input
60	RESET	I		Reset input
61	LDET	I		PLL lock sense input
62	RCK	I		RDS clock input

Pin No.	Pin Name	I/O	Format	Function and Operation
63	DSENS	I		Grille detach sense input
64	TELIN	I		Cellular mute input
65	ASENS	I		ACC power sense input
66	BSENS	I		Back up power sense input
67	CLKIN	I		Clock sense input
68	VDD			VDD
69	X2	O	C	Oscillator output
70	X1	I		Oscillator input
71	GND			GND
72	NC			Not used
73	TESTIN	I		Test program mode input
74	AVDD			A/D converter analog power supply (VDD)
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	NL	I		Noise level input
79	MODELIN	I		Model select input
80	NC			Not used

*PE5085A



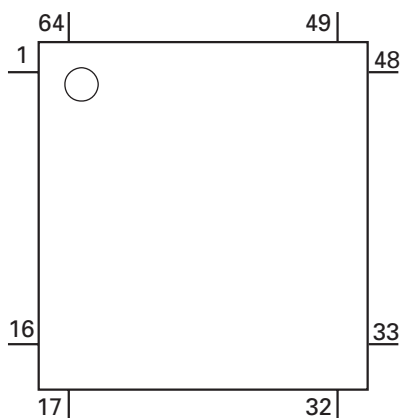
Format	Meaning
C	C MOS

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

● Pin Functions (PD6278C)

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

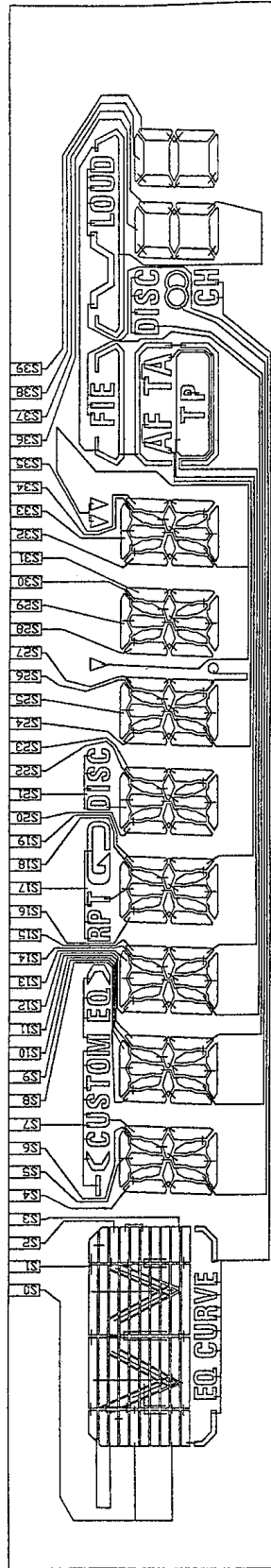
*PD6278C



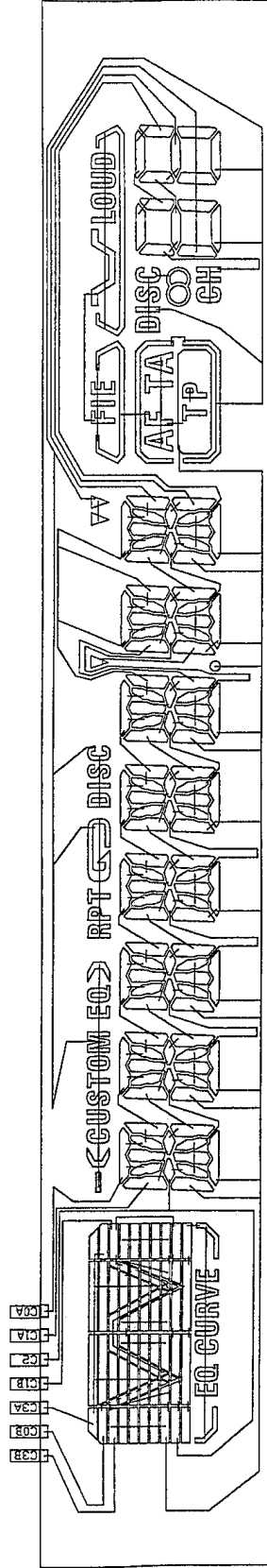
7.2.2 DISPLAY

● CAW1562

SEGMENT

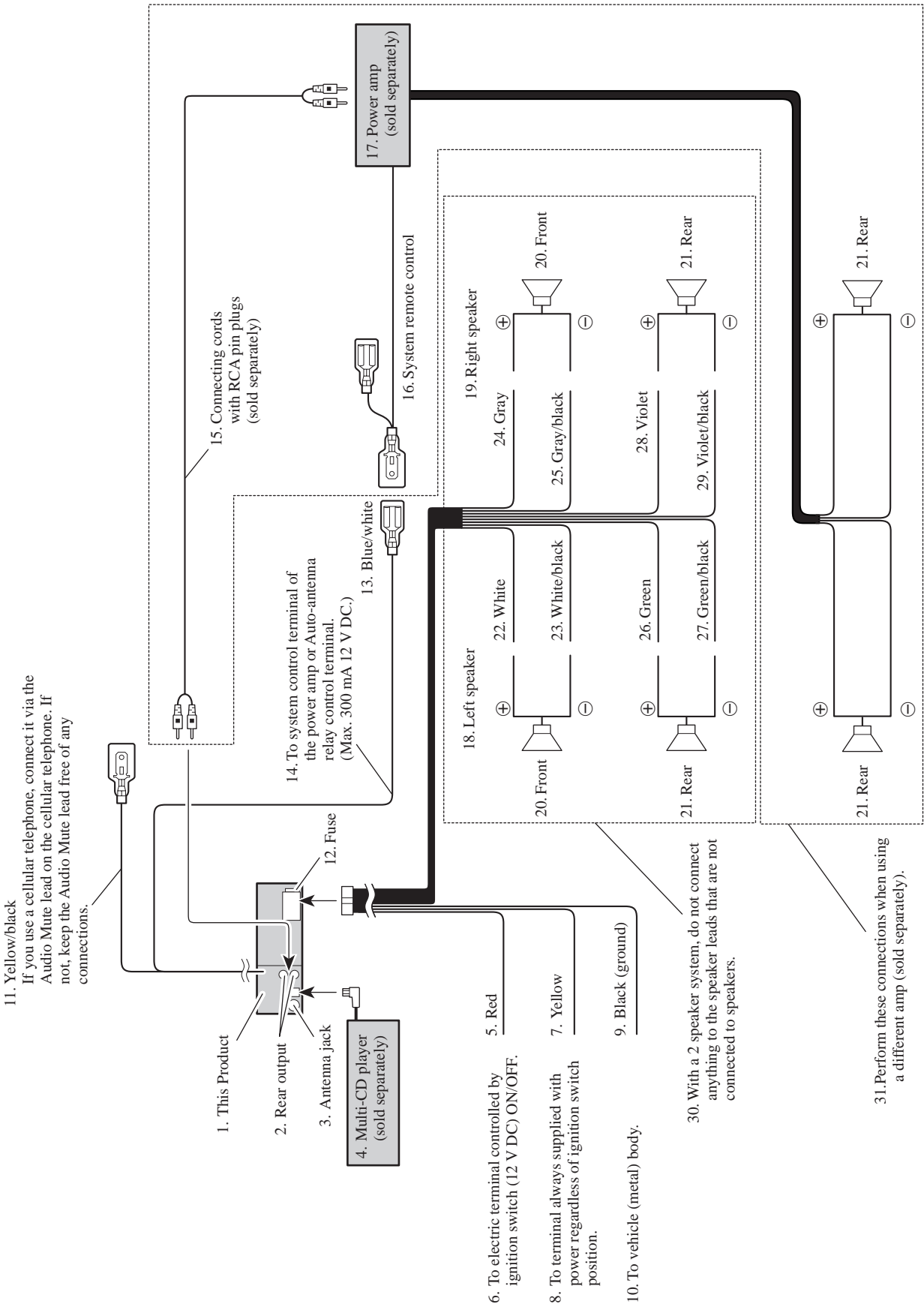


COMMON

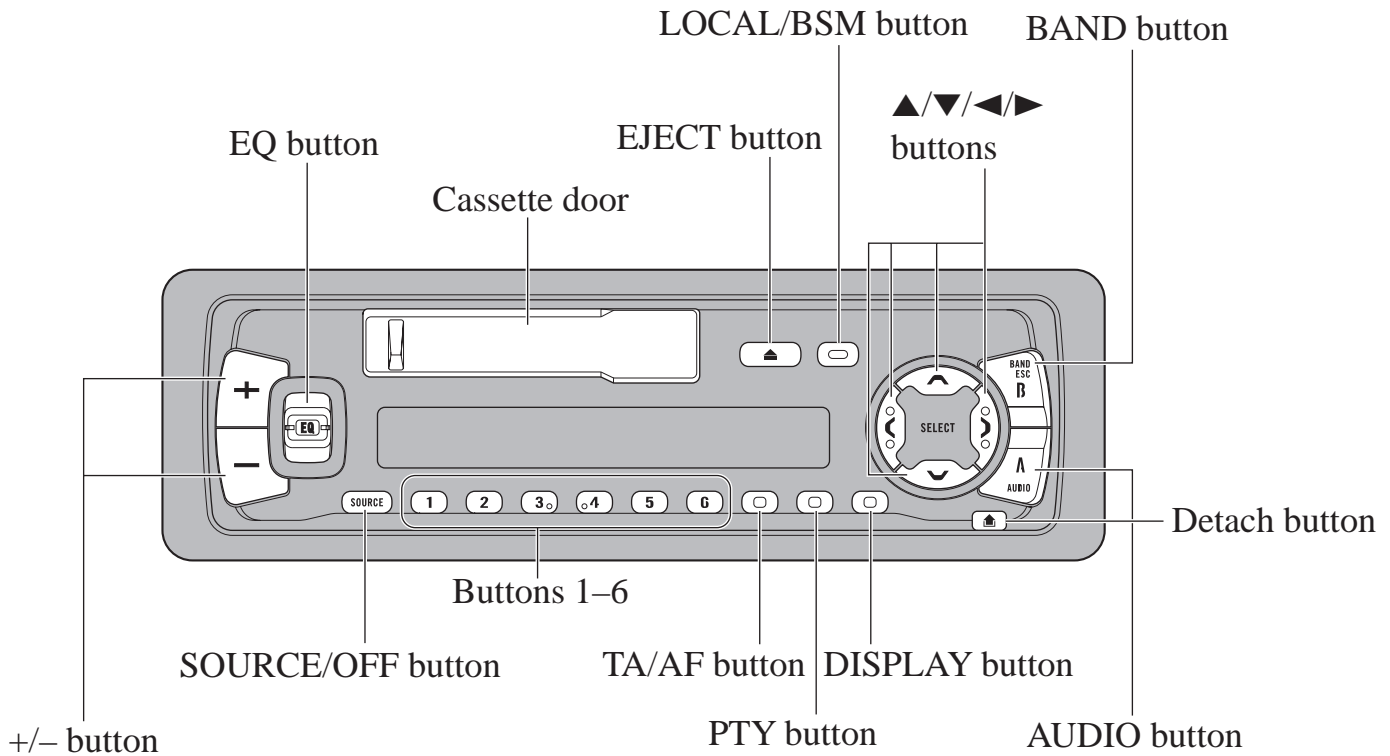


8. OPERATIONS AND SPECIFICATIONS

● Connection Diagram (KEH-P5900R/X1M/EW)



8.1 OPERATIONS (KEH-P5900R/X1M/EW)



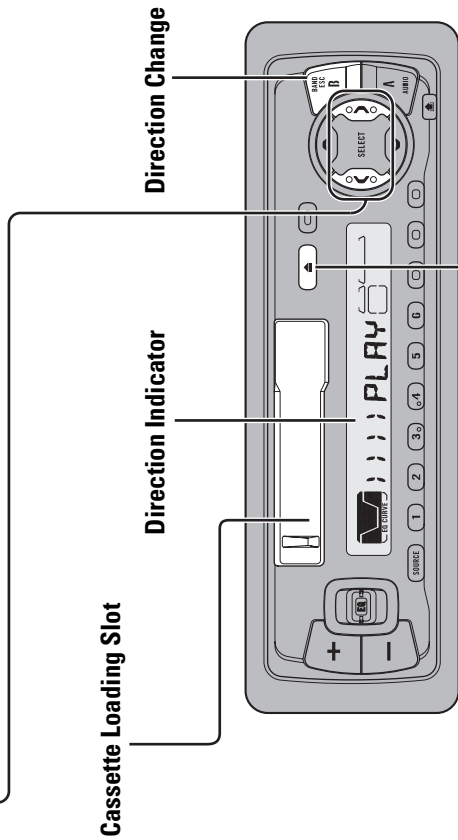
Basic Operation of Cassette Player

Fast Forward/Rewind and Music Search

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

Note:

- Fast Forward/Rewind and Music Search can be canceled by pressing the **BAND** button.



Eject

Note:

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

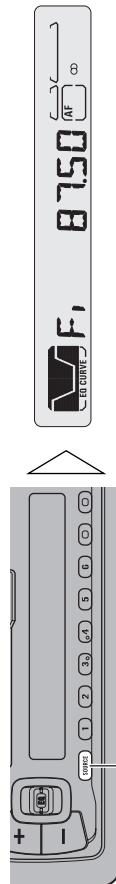
To Listen to Music

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).



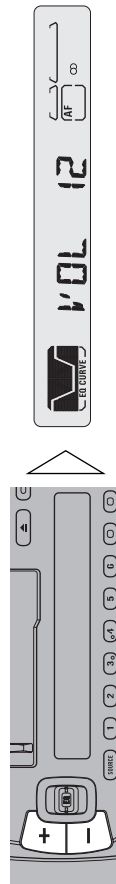
Each press changes the Source ...

Each press of the **SOURCE/OFF** button selects the desired source in the following order:
Tuner → Tape → Multi-CD player → External Unit → AUX

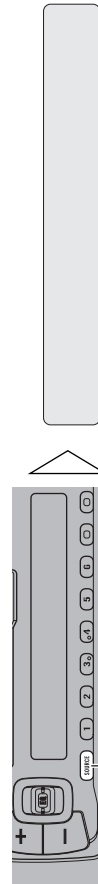
Note:

- External Unit refers to a Pioneer product (such as one available in the future) that, although incompatible as a source, enables control of basic functions by this product. Only one External Unit can be controlled by this product.
- In the following cases, the sound source will not change:
 - * When a product corresponding to each source is not connected to this product.
 - * When no tape is set in this product.
 - * When no magazine is set in the Multi-CD player.
 - * When the AUX (external input) is set to OFF.
- When this product's blue/white lead is connected to the car's Auto-antenna relay control terminal, the car's Auto-antenna extends when this product's source is switched ON. To retract the antenna, switch the source OFF.

2. Raise or lower the volume.



3. Turn the source OFF.



Hold for 1 second

Basic Operation of Tuner

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

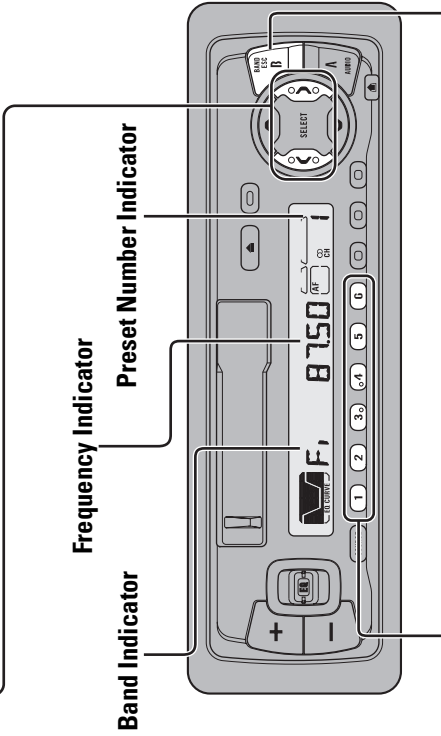
Manual and Seek Tuning

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

Manual Tuning (step by step)	0.5 seconds or less
Seek Tuning	0.5 seconds or more

Note:

- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcast stations. Seek Tuning starts as soon as you release the button.
- Stereo indicator "Ⓢ" lights when a stereo station is selected.



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 F_I (FM1), F_{II} (FM2) and F_{III} (FM3)) and 6 MW/LW stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Band

F_I (FM1) → F_{II} (FM2)
 → F_{III} (FM3)
 → MW/LW

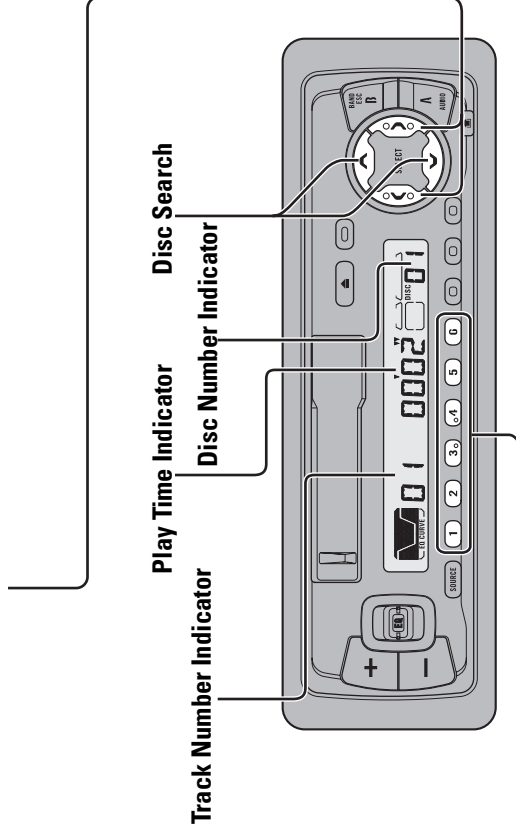
Basic Operation of Multi-CD Player

This product can control a Multi-CD player (sold separately).

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



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.

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.
- 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.

8.2 SPECIFICATIONS

General

Power source	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	8.5 A
Dimensions	
(mounting size)	178 (W) × 50 (H) × 155 (D) mm
(front face)	188 (W) × 58 (H) × 20 (D) mm
Weight	1.2 kg

Amplifier

Maximum power output	40 W × 4
Continuous power output	22 W × 4 (DIN45324, +B = 14.4 V)
Load impedance	4 Ω (4 – 8 Ω allowable)
Preout maximum output level/output impedance	2.2 V / 1 kΩ
Equalizer (3 band equalizer)	
(Low)	±12 dB
(Mid)	±12 dB
(High)	±12 dB
Loudness contour	
(Low)	+3.5 dB (100 Hz), +3 dB (10 kHz)
(Mid)	+10 dB (100 Hz), +6.5 dB (10 kHz)
(High)	+11 dB (100 Hz), +11 dB (10 kHz) (volume: –30 dB)

Cassette player

Tape	Compact cassette tape (C-30 – C-90)
Tape speed	4.76 cm/sec.(+0.14cm/sec.,-0.05cm/sec.)
Fast forward/rewinding time	Approx. 100 sec. for C-60
Wow & flutter	0.09% (WRMS)
Frequency response	30 – 16,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	61 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, 1 kHz)

MW tuner

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

LW tuner

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

Note:

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