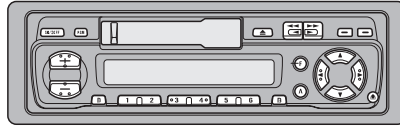


Pioneer

Service Manual

KEH-1900R/X1M/EW



ORDER NO.
CRT2267

HIGH POWER CASSETTE PLAYER WITH RDS TUNER

KEH-1900R

KEH-1930R

X1M/EW

X1M/EW

NOTE:

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

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

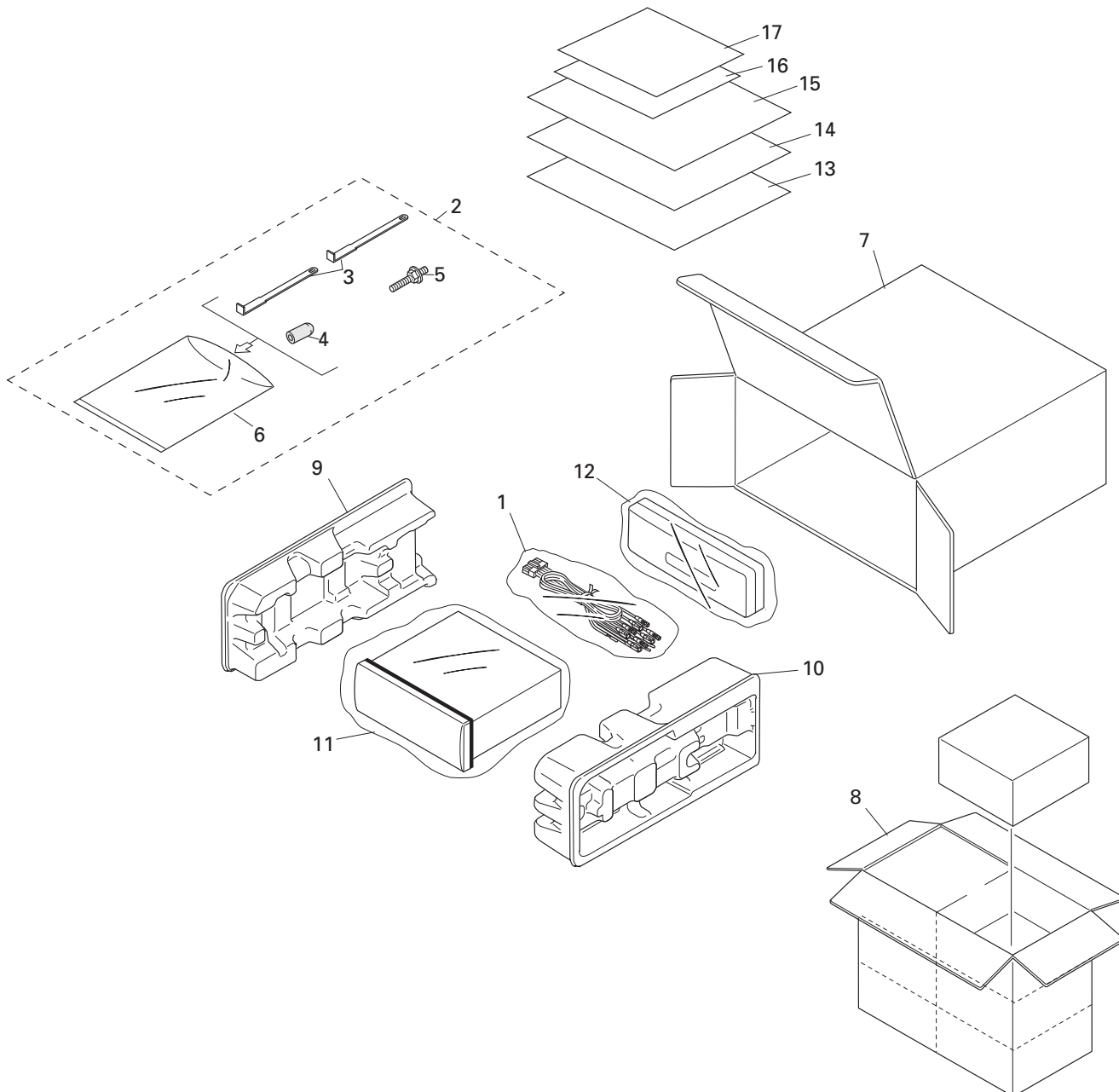
1. SAFETY INFORMATION

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.

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.

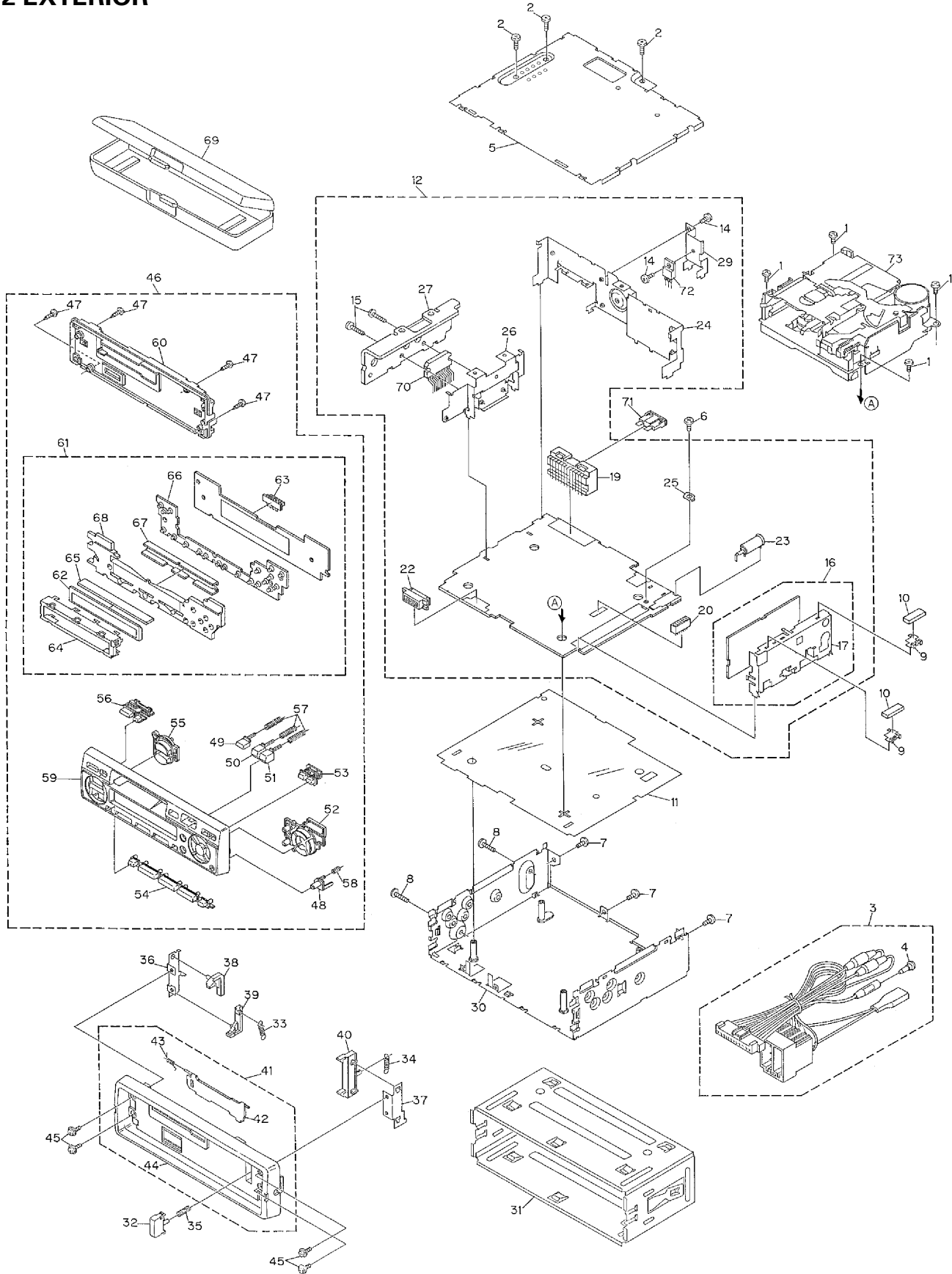
● PACKING SECTION PARTS LIST

Mark No.	Description	Part.No	
		KEH-1900R/X1M/EW	KEH-1930R/X1M/EW
1	Cord Assy	CDE5807	CDE5807
2	Accessory Assy	CEA1917	CEA1917
3	Handle	CNC5395	CNC5395
4	Bush	CNV3930	CNV3930
5	Screw	CBA1304	CBA1304
*	6 Polyethylene Bag	E36-615	E36-615
	7 Carton	CHG3600	CHG3601
	8 Contain Box	CHL3600	CHL3601
	9 Protector	CHP1622	CHP1622
	10 Protector	CHP1623	CHP1623
	11 Polyethylene Bag	CEG-162	CEG-162
	12 Case Assy	CXB3520	CXB3520
	13 Owner's Manual	CRD2806	CRD2806
	14 Owner's Manual	CRD2807	CRD2807
	15 Installation Manual	CRD2809	CRD2809
*	16 Passport	CRY1013	CRY1013
*	17 Warranty Card	CRY1087	CRY1087

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-1900R/X1M/EW	CRD2806	English,Spanish,Dutch
KEH-1930R/X1M/EW	CRD2807	French,Italian,German
	CRD2809	English,Spanish,Dutch,French,Italian,German

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

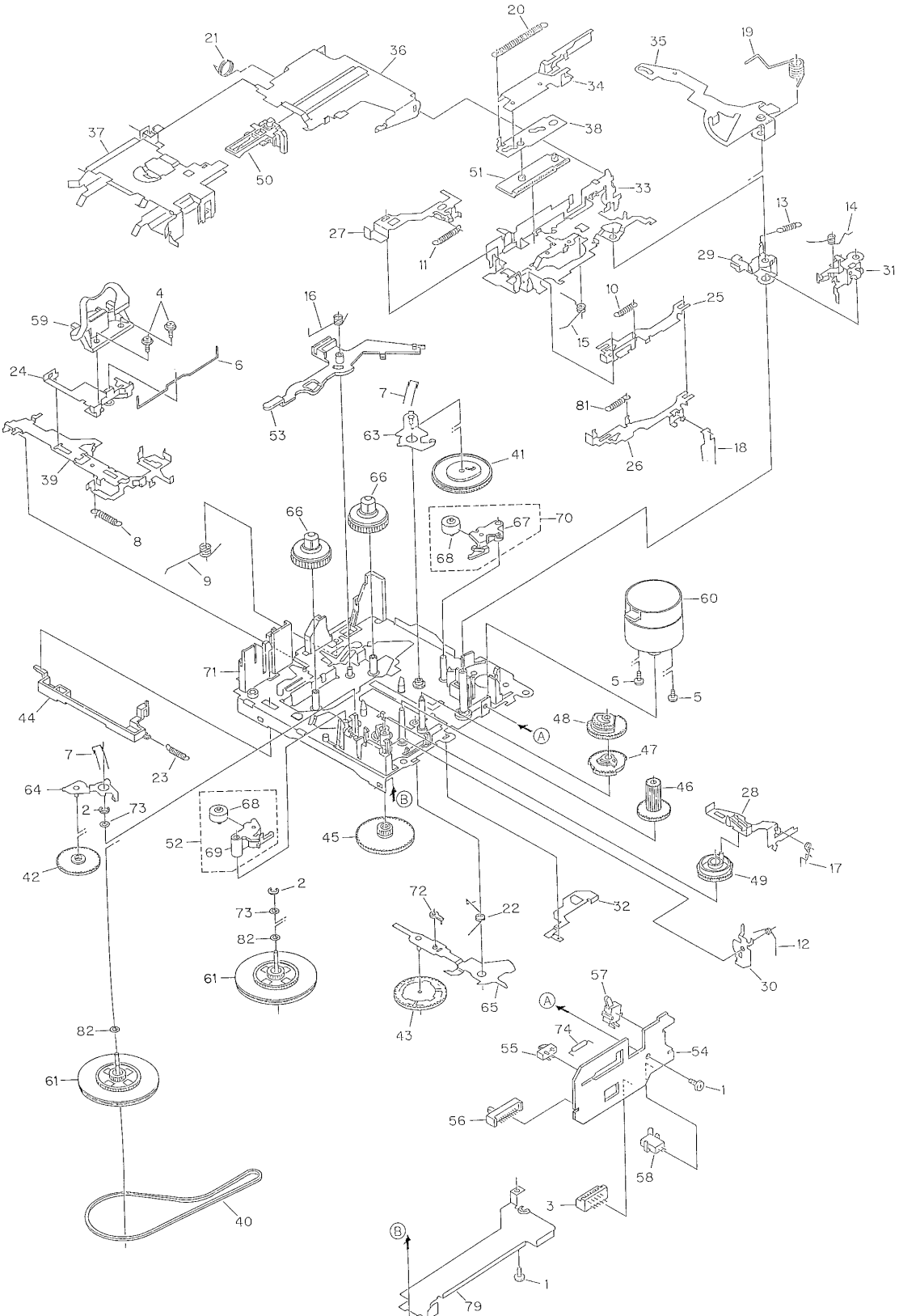
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	41	Panel Unit	See Contrast table(2)
2	Screw	BSZ30P100FMC	42	Door	See Contrast table(2)
3	Cord Assy	CDE5807	43	Spring	CBH1838
4	Terminal Cover	CKX-003	44	Panel	See Contrast table(2)
5	Case	CNB2481	45	Screw	IMS20P030FZK
6	Screw	BSZ30P055FUC	46	Detach Grille Assy	See Contrast table(2)
7	Screw	BSZ30P060FMC	47	Screw	BPZ20P120FZK
8	Screw	BSZ30P100FMC	48	Button(Detachable)	CAC5869
9	Holder	CNC5704	49	Button(Eject)	See Contrast table(2)
10	Cushion	CNM4870	50	Button(REW)	See Contrast table(2)
11	Insulator	CNM5025	51	Button(FF)	See Contrast table(2)
12	Tuner Amp Unit	CWM6350	52	Button(F,A,Cross)	See Contrast table(2)
13	*****		53	Button(-,-)	See Contrast table(2)
14	Screw	BSZ26P080FMC	54	Button(1-6,D,B)	CAC5881
15	Screw	BSZ26P140FMC	55	Button(+,-)	See Contrast table(2)
16	FM/AM Tuner Unit	CWE1466	56	Button(SO/OFF,PGM)	See Contrast table(2)
17	Holder	CNC6554	57	Spring	CBH1836
18	*****		58	Spring	CBH2103
19	Plug(CN601)	CKM1270	59	Grille Unit	See Contrast table(2)
20	Connector(CN604)	CKS3362	60	Cover	See Contrast table(2)
21	*****		61	Keyboard Unit	See Contrast table(2)
22	Connector(CN603)	CKS3581	62	LCD(LCD901)	CAW1512
23	Antenna Jack(CN301)	CKX1056	63	Connector(CN901)	CKS3580
24	Panel	CNB2246	64	Holder	CNC8054
25	Holder	CNC5399	65	Connector	CNV5586
26	Holder	CNC6216	66	Rubber	CNV5587
27	Heat Sink	CNC6217	67	Holder	CNV5589
28	*****		68	Lighting Conductor	CNV5752
29	Holder	CNC6845	69	Case Assy	CXB3520
30	Chassis Unit	See Contrast table(2)	70	IC(IC501)	TDA7384
31	Holder Unit	CXB2687	71	Fuse(10A)(FU951)	CEK1136
32	Button	CAC4836	72	Transistor(Q804)	2SD2396
33	Spring	CBH1834	73	Cassette Mechanism Assy	EXK3450
34	Spring	CBH1835			
35	Spring	CBH1996			
36	Bracket	CNC6135			
37	Bracket	CNC6791			
38	Arm	CNV4692			
39	Arm	CNV4693			
40	Arm	CNV4728			

(2) CONTRAST TABLE

KEH-1900R/X1M/EW and KEH-1930R/X1M/EW are constructed the same except for the following:

Mark	No.	Description	Part No.	
			KEH-1900R/X1M/EW	KEH-1930R/X1M/EW
	30	Chassis Unit	CXB3224	CXB3225
	41	Panel Unit	CXB3714	CXB3716
	42	Door	CAT2028	CAT2037
	44	Panel	CNS5211	CNS5212
	46	Detach Grille Assy	CXB3376	CXB3373
	49	Button(Eject)	CAC5870	CAC5871
	50	Button(REW)	CAC5872	CAC5873
	51	Button(FF)	CAC5874	CAC5875
	52	Button(Cross,A,F)	CAC6127	CAC5877
	53	Button(-,-)	CAC5878	CAC5879
	55	Button(+,-)	CAC6128	CAC5883
	56	Button(SO/OFF,PGM)	CAC5884	CAC5885
	59	Grille Unit	CXB4038	CXB4039
	60	Cover	CNS5209	CNS5210
	61	Keyboard Unit	CWM6272	CWM6274

2.3 CASSETTE MECHANISM ASSY



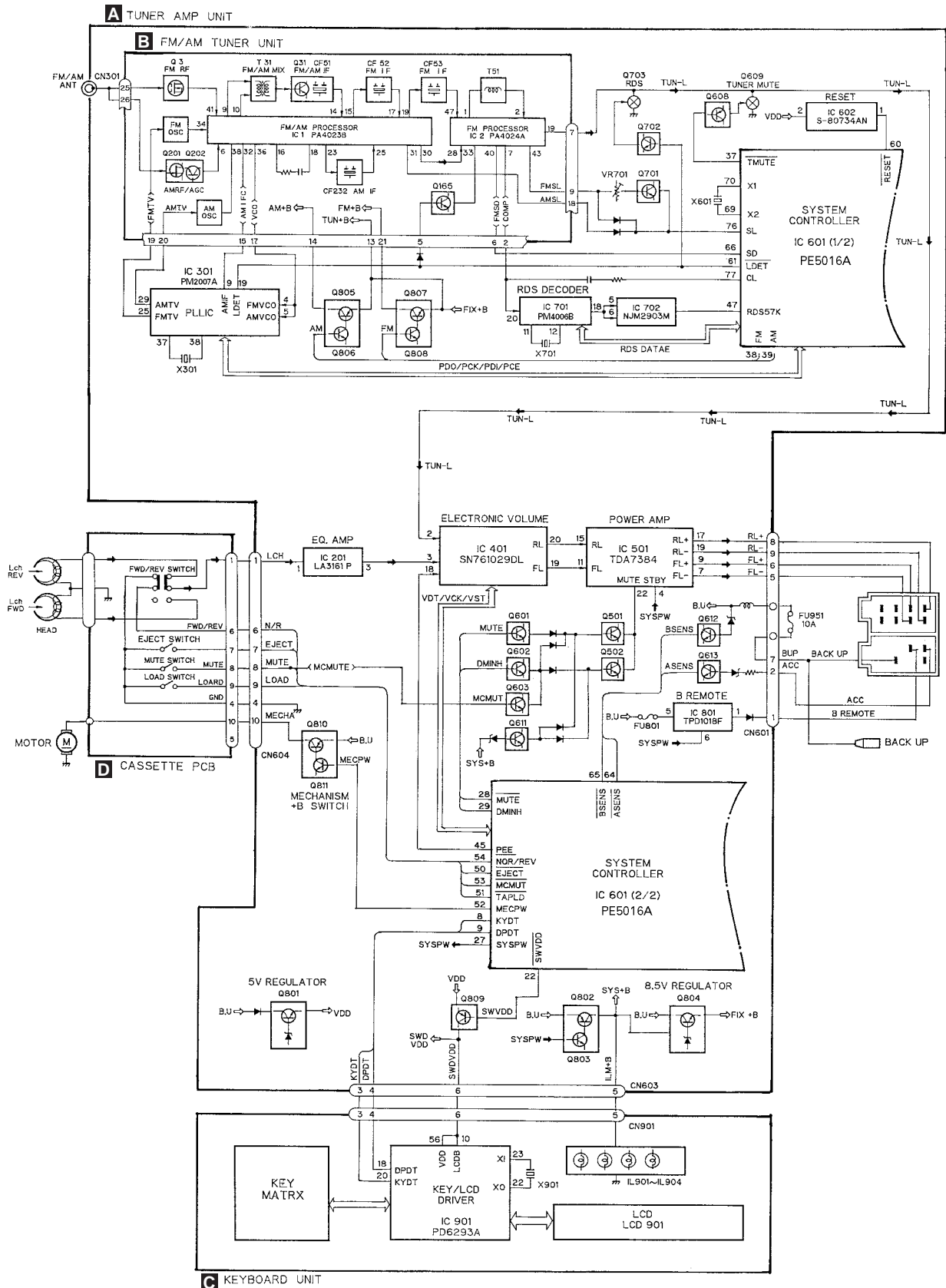
● CASSETTE MECHANISM ASSY SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ23P050FMC	46	Gear	ENV1475
2	Washer	CBG1003	47	Gear	ENV1512
3	Connector(CN1)	CKS2829	48	Gear	ENV1513
4	Screw(M2x5)	EBA1038	49	Gear	ENV1502
5	Screw(M2x2.5)	EBA1037	50	Lever	ENV1480
6	Spring	EBH1554	51	Lever	ENV1487
7	Spring	EBH1555	52	Pinch Holder Unit	EXA1516
8	Spring	EBH1556	53	Arm	ENV1519
9	Spring	EBH1603	* 54	PCB	ENP1161
10	Spring	EBH1591	55	Switch(EJECT)(S4)	ESG1006
11	Spring	EBH1559	56	Switch(FWD/REV)(S3)	ESH1006
12	Spring	EBH1593	57	Switch(LOAD)(S1)	ESN1016
13	Spring	EBH1561	58	Switch(MUTE)(S2)	ESN1017
14	Spring	EBH1562	59	Head Assy(HD1)	EXA1466
15	Spring	EBH1563	60	Motor Unit(M1)	EXA1467
16	Spring	EBH1590	61	Flywheel Unit	EXA1547
17	Spring	EBH1565	62	••••	
18	Spring	EBH1566	63	Arm Unit	EXA1447
19	Spring	EBH1567	64	Arm Unit	EXA1448
20	Spring	EBH1568	65	Arm Unit	EXA1550
21	Spring	EBH1569	66	Reel Unit	EXA1450
22	Spring	EBH1571	67	Pinch Holder	ENV1466
23	Spring	EBH1579	68	Pinch Roller	ENV1518
24	Head Base	ENC1475	69	Pinch Holder	ENV1467
25	Lever	ENC1429	70	Pinch Holder Unit	EXA1515
26	Lever	ENC1430	71	Chassis Unit	EXA1498
27	Lever	ENC1431	72	Arm	ENV1524
28	Lever	ENC1432	73	Washer	CBF-167
29	Arm	ENC1433	74	Resistor(R1)	RD1/4HM472J
30	Arm	ENC1434	75-78	••••	
31	Arm	ENC1480	79	Cover	ENC1452
32	Arm	ENC1476	80	••••	
33	Bracket	ENC1512	81	Spring	EBH1592
34	Lever	ENC1523	82	Washer	CBF1051
35	Arm	ENC1524			
36	Frame	ENC1440			
37	Holder	ENC1441			
38	Lever	ENC1446			
39	Lever	ENC1478			
40	Belt	ENT1027			
41	Gear	ENV1504			
42	Gear	ENV1470			
43	Gear	ENV1517			
44	Lever	ENV1472			
45	Gear	ENV1510			

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

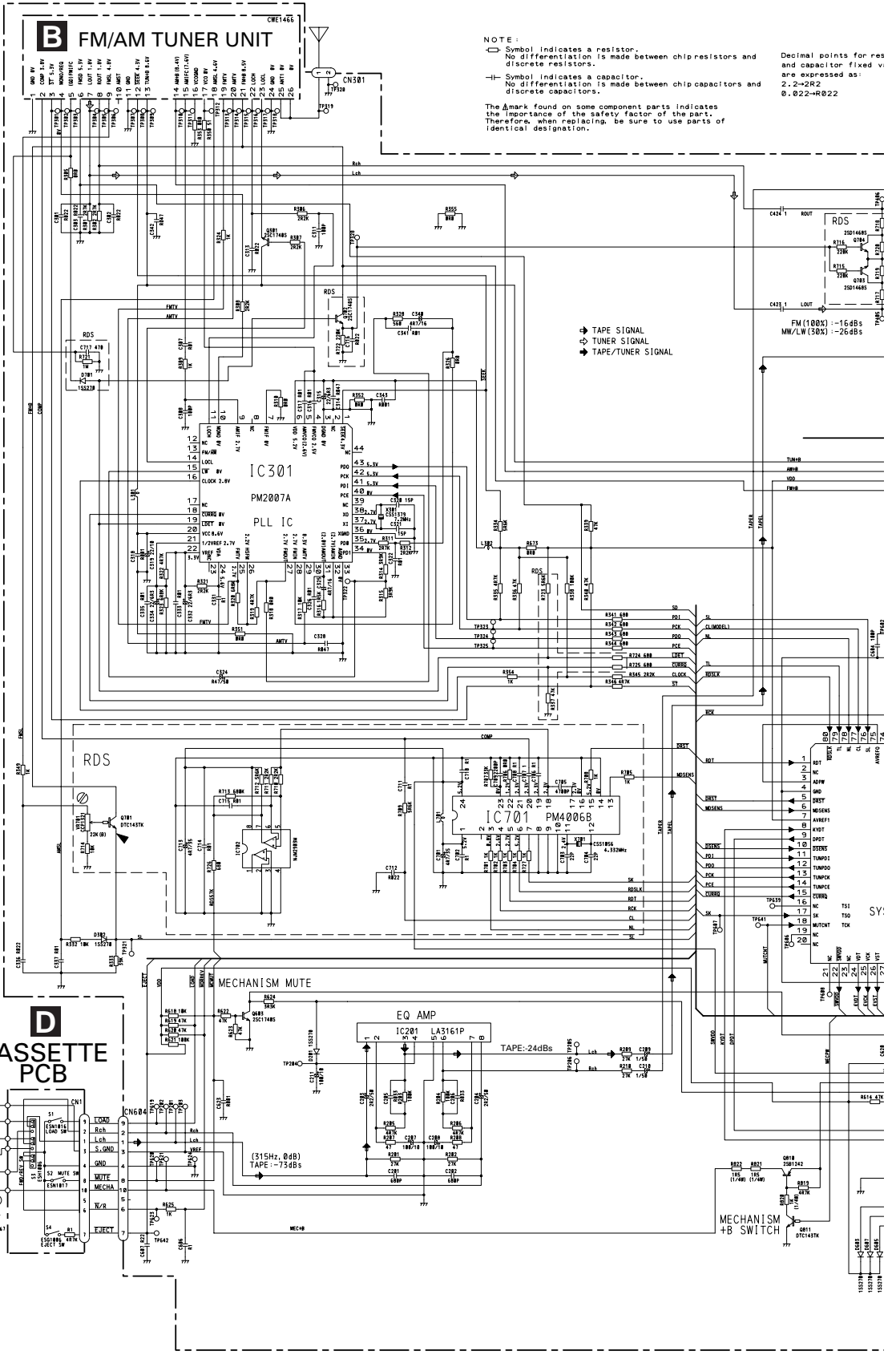
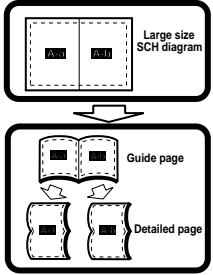
● KEH-1900R/X1M/EW



3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

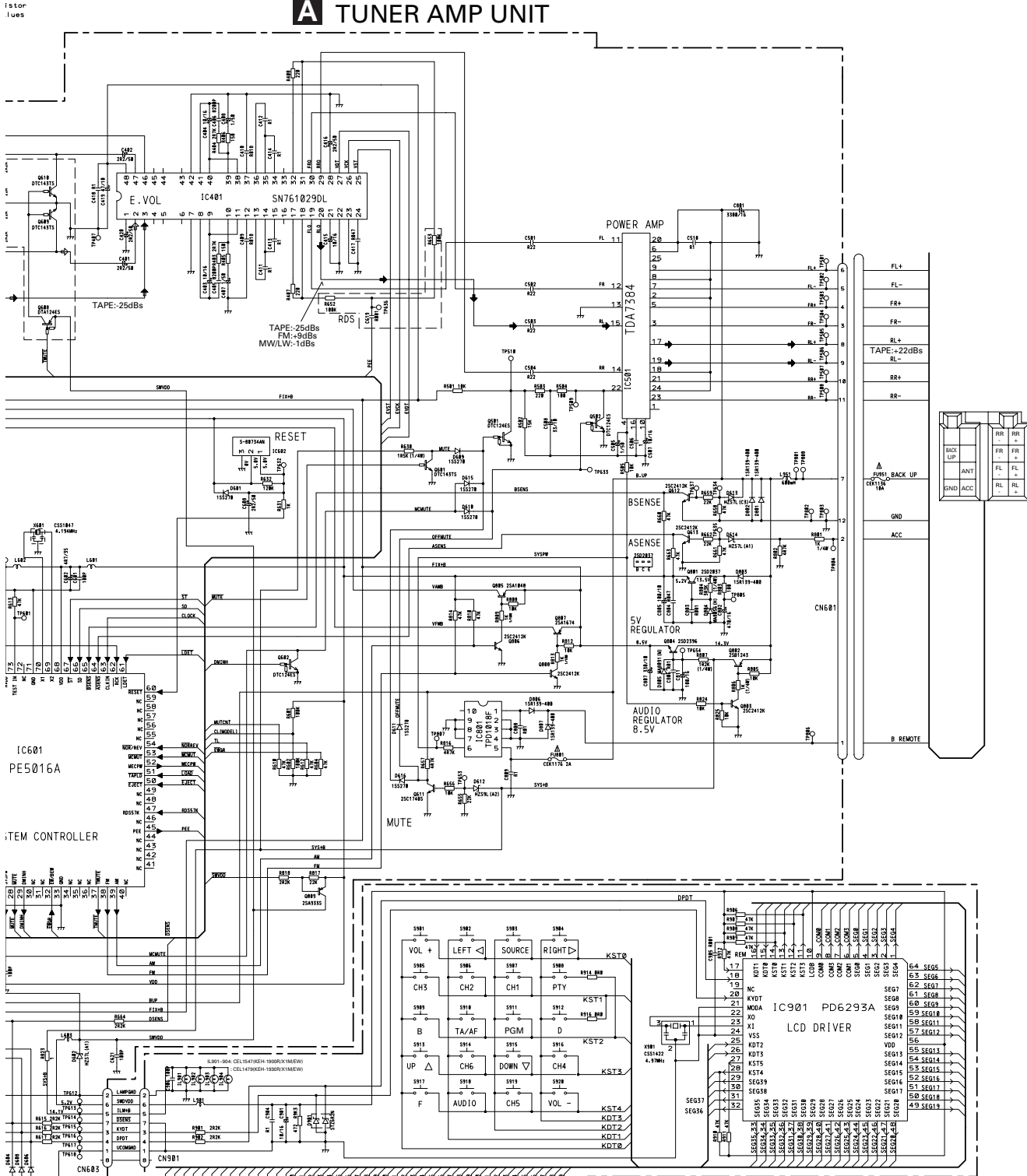
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A-a



A-b

A TUNER AMP UNIT



C KEYBOARD UNIT



A C

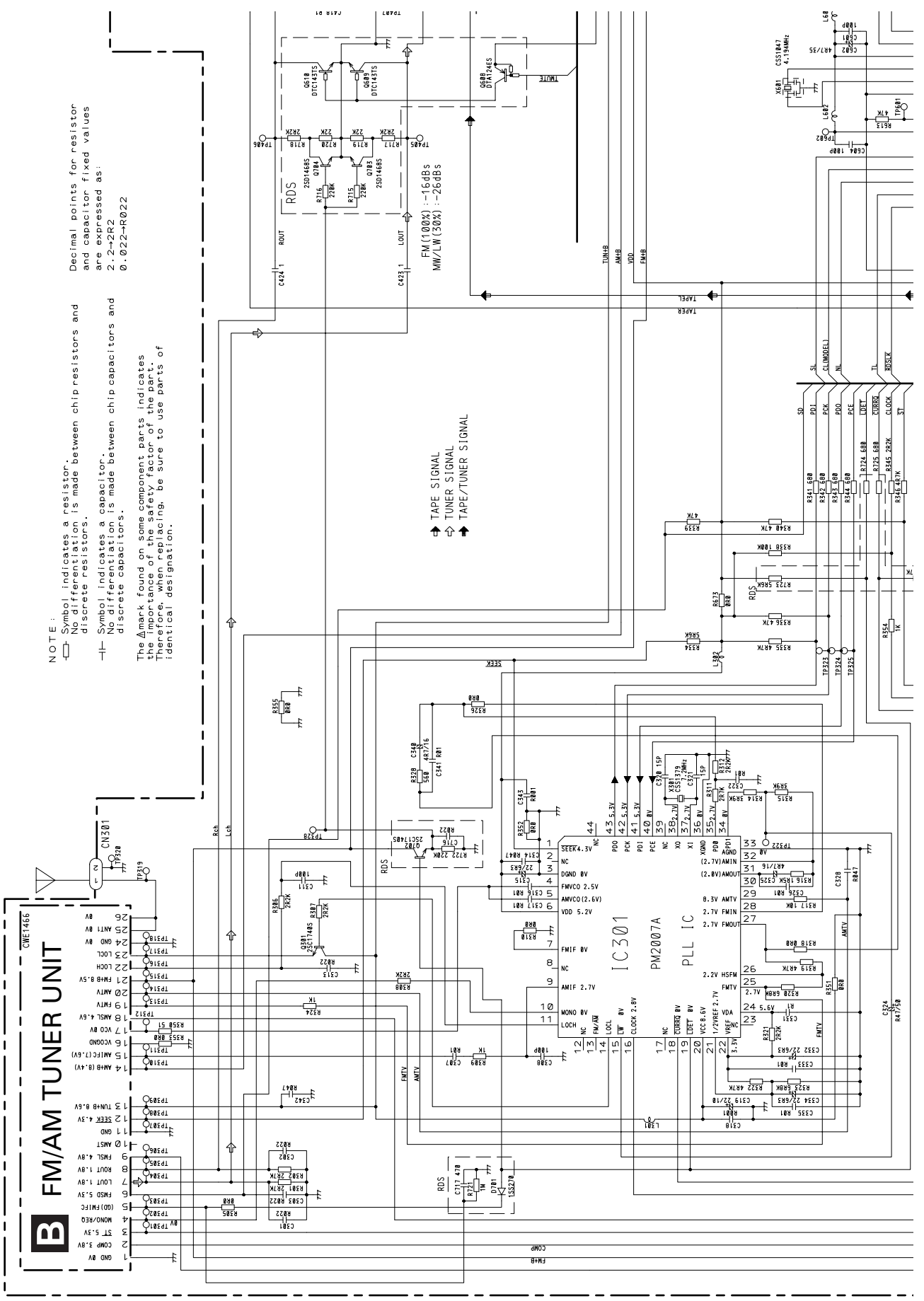
A-a A-b

A

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.

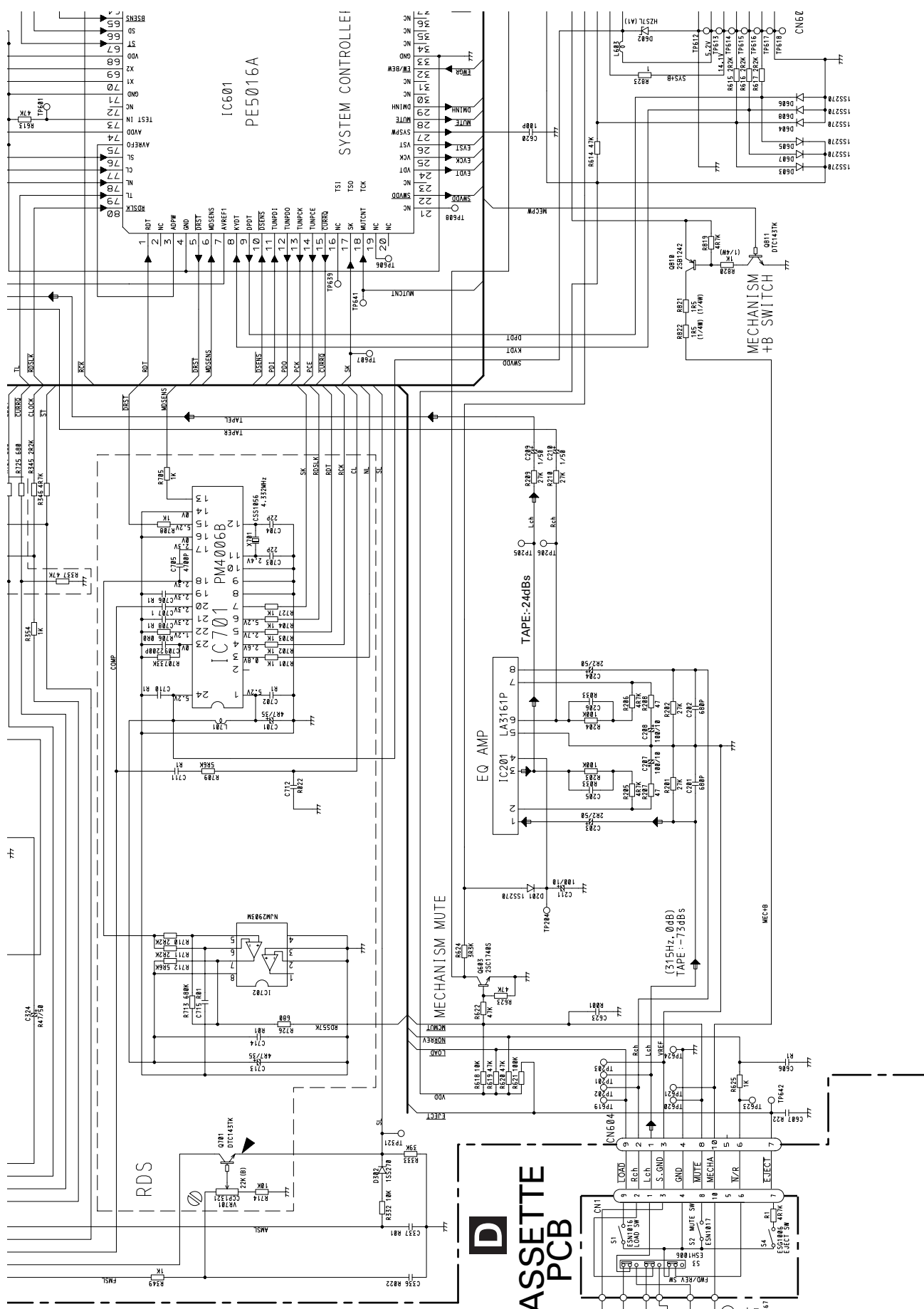
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

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

⇨ TAPE SIGNAL
 ⇨ TUNER SIGNAL
 ⇨ TAPE/TUNER SIGNAL

B FM/AM TUNER UNIT

A-a



A-a A-b

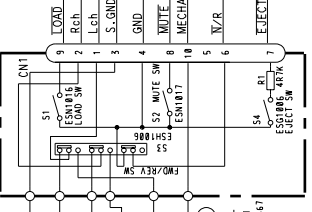
A

B

C

D

D
CASSETTE
PCB

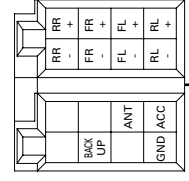
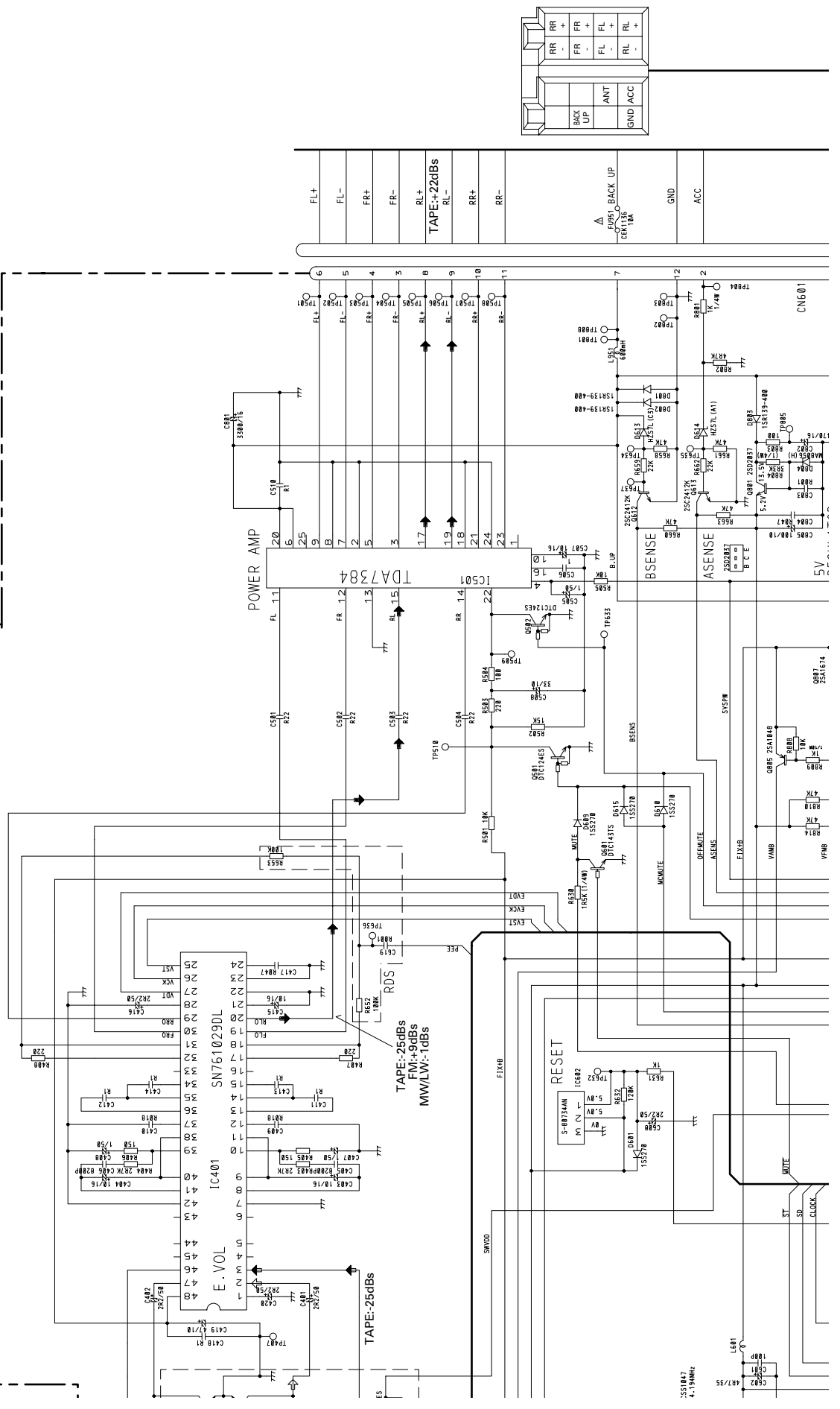


A-a

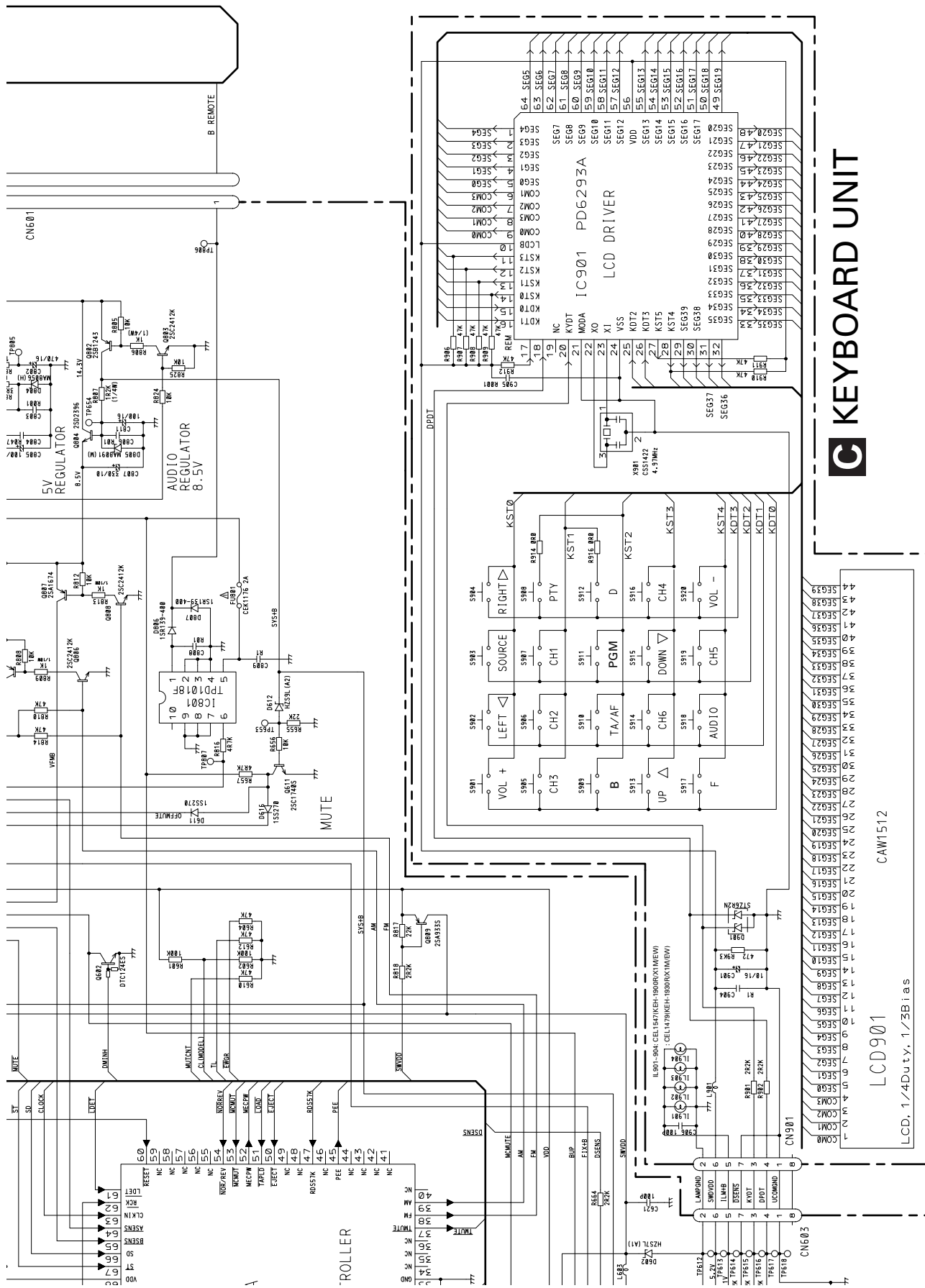
D

A-a A-b

A TUNER AMP UNIT



A-b



A-a A-b

A

B

C

D

A-b C

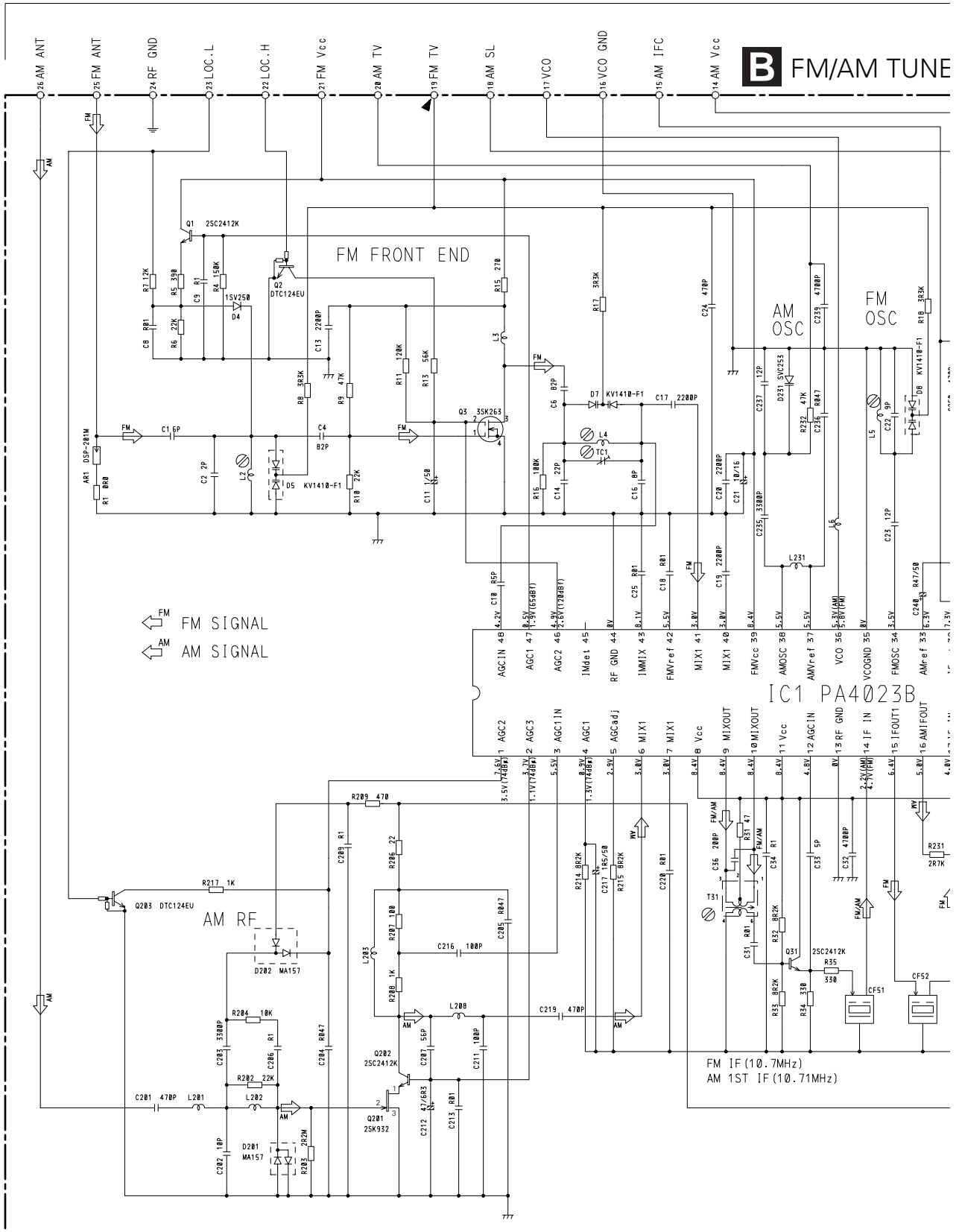
3.3 FM/AM TUNER UNIT

A

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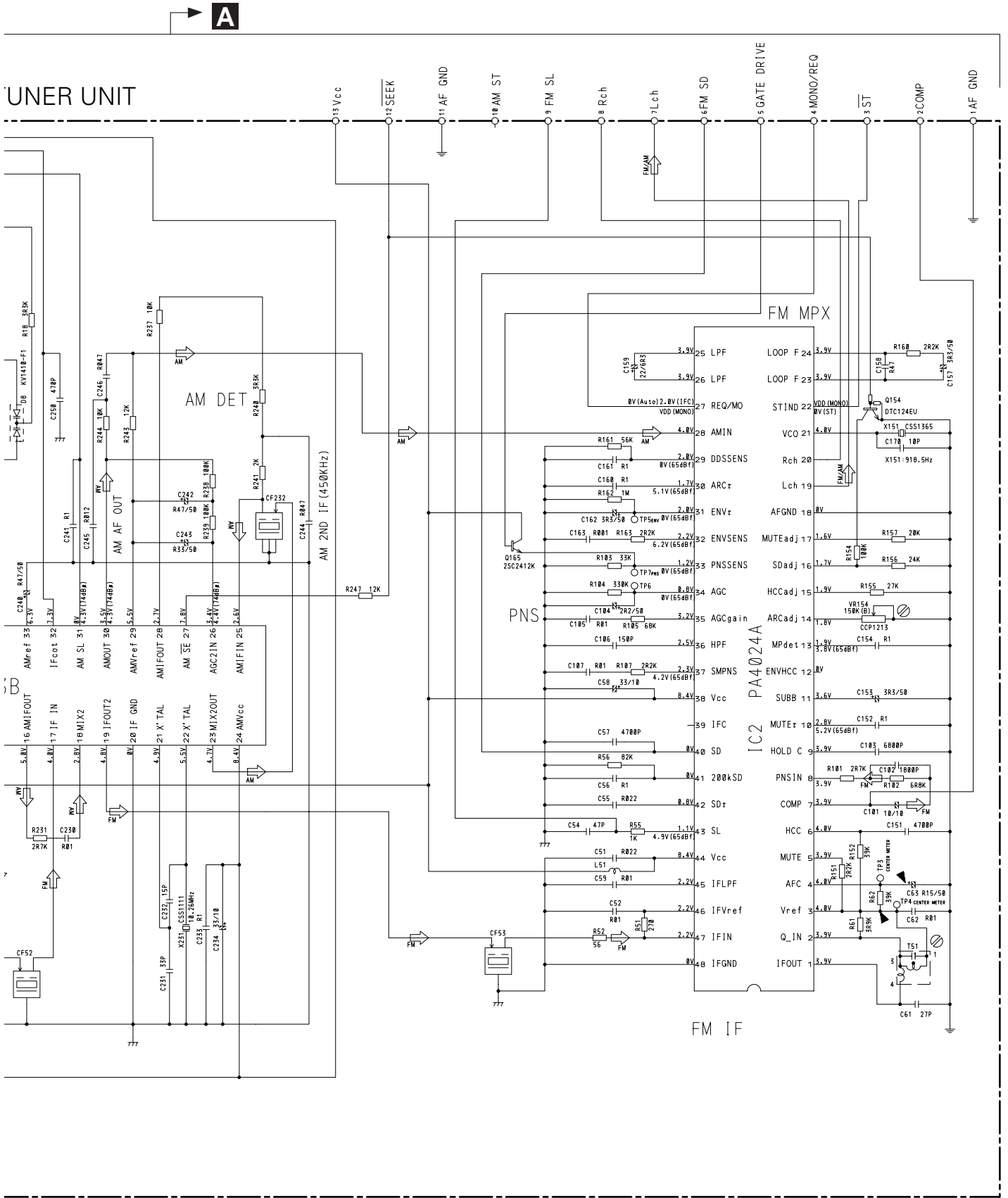


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3

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A

TUNER UNIT

FM MPX

AM DET

AM 2ND IF (450KHz)

PNS

IC2 PA4024A

FM IF

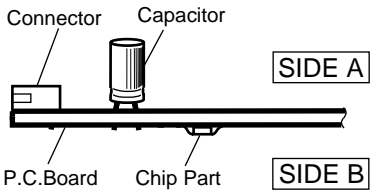
B

4. PCB CONNECTION DIAGRAM

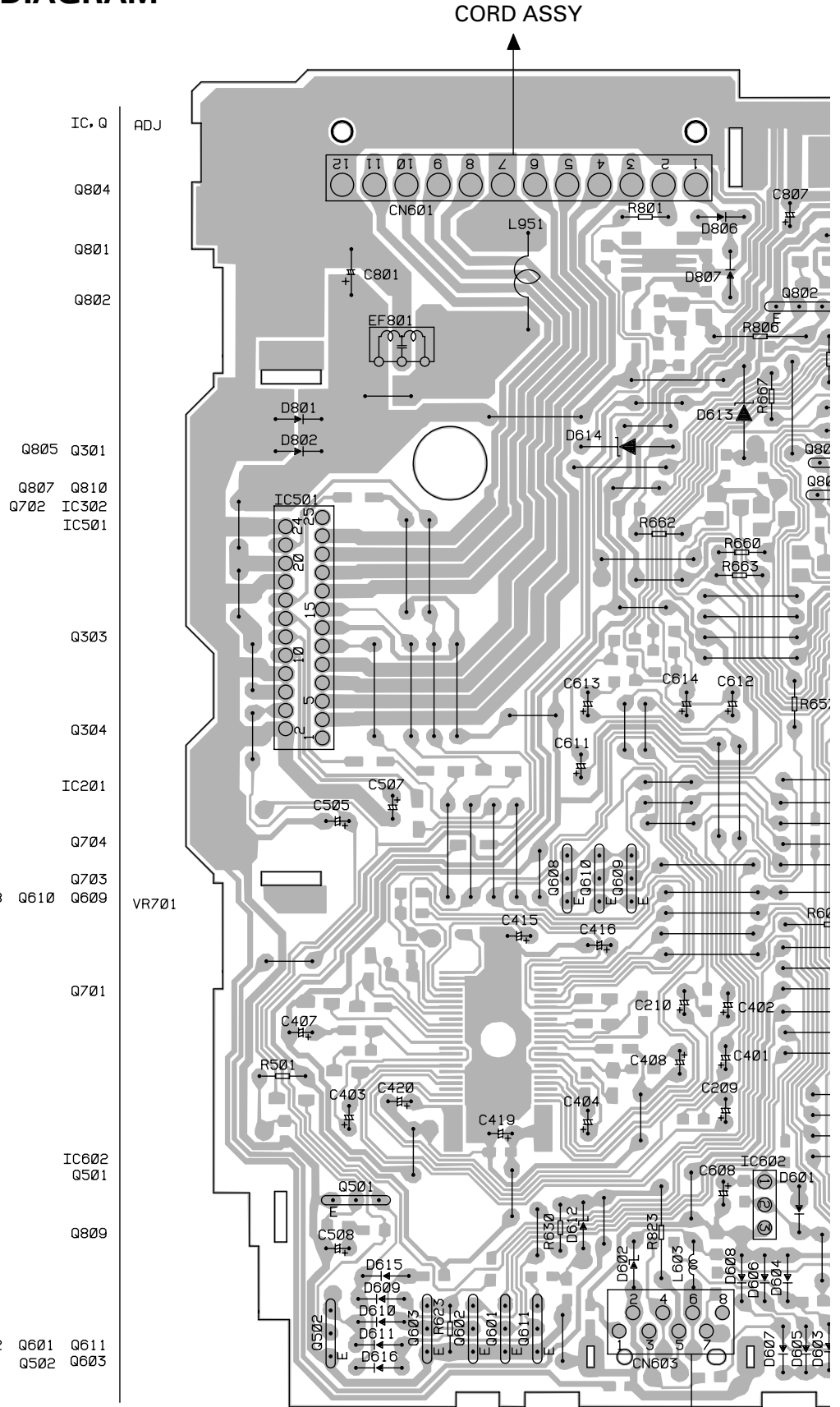
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

- 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.
- Viewpoint of PCB diagrams

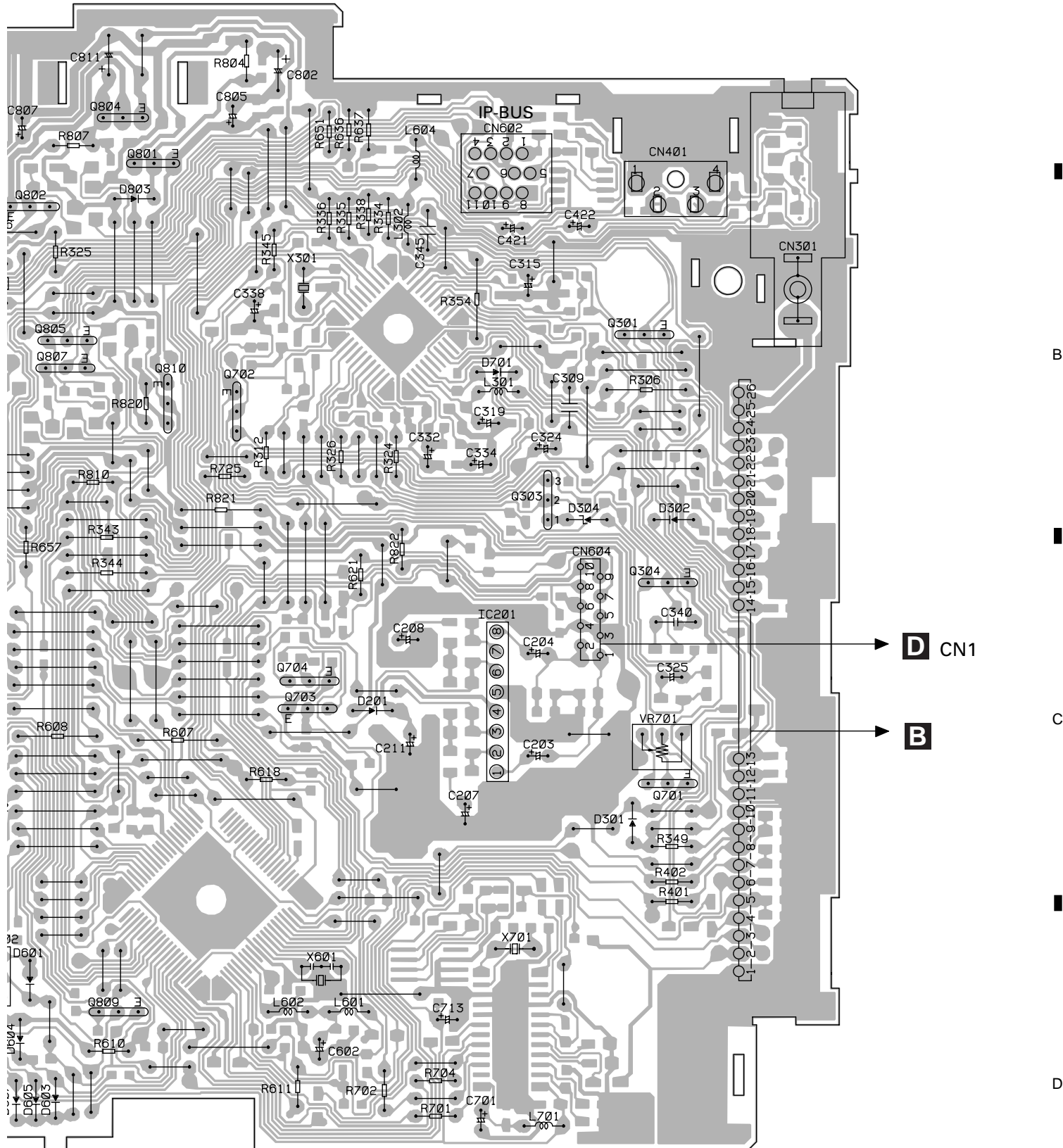


A TUNER AMP UNIT



C CN901

SIDE A



D CN1

B

A

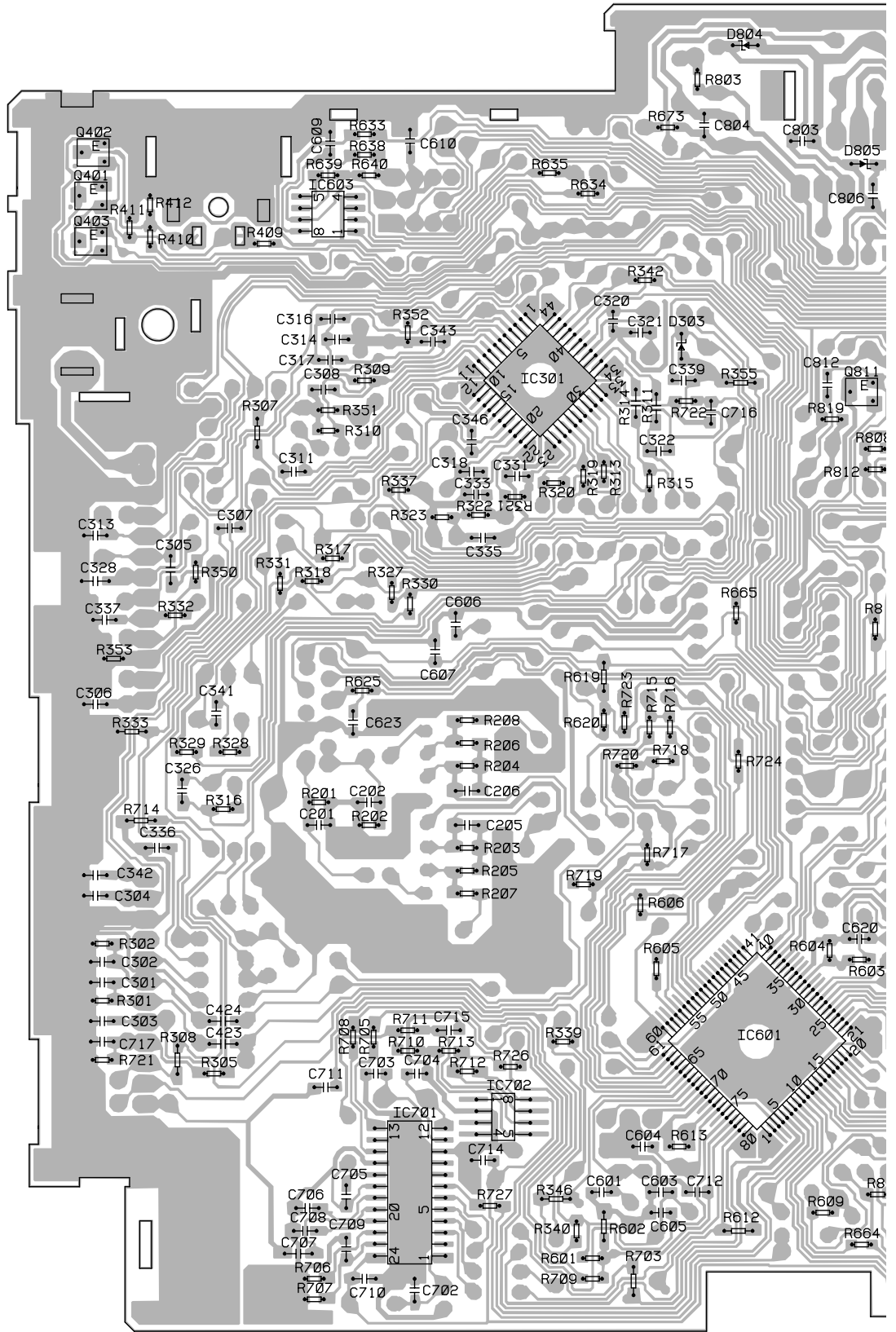
A TUNER AMP UNIT

A

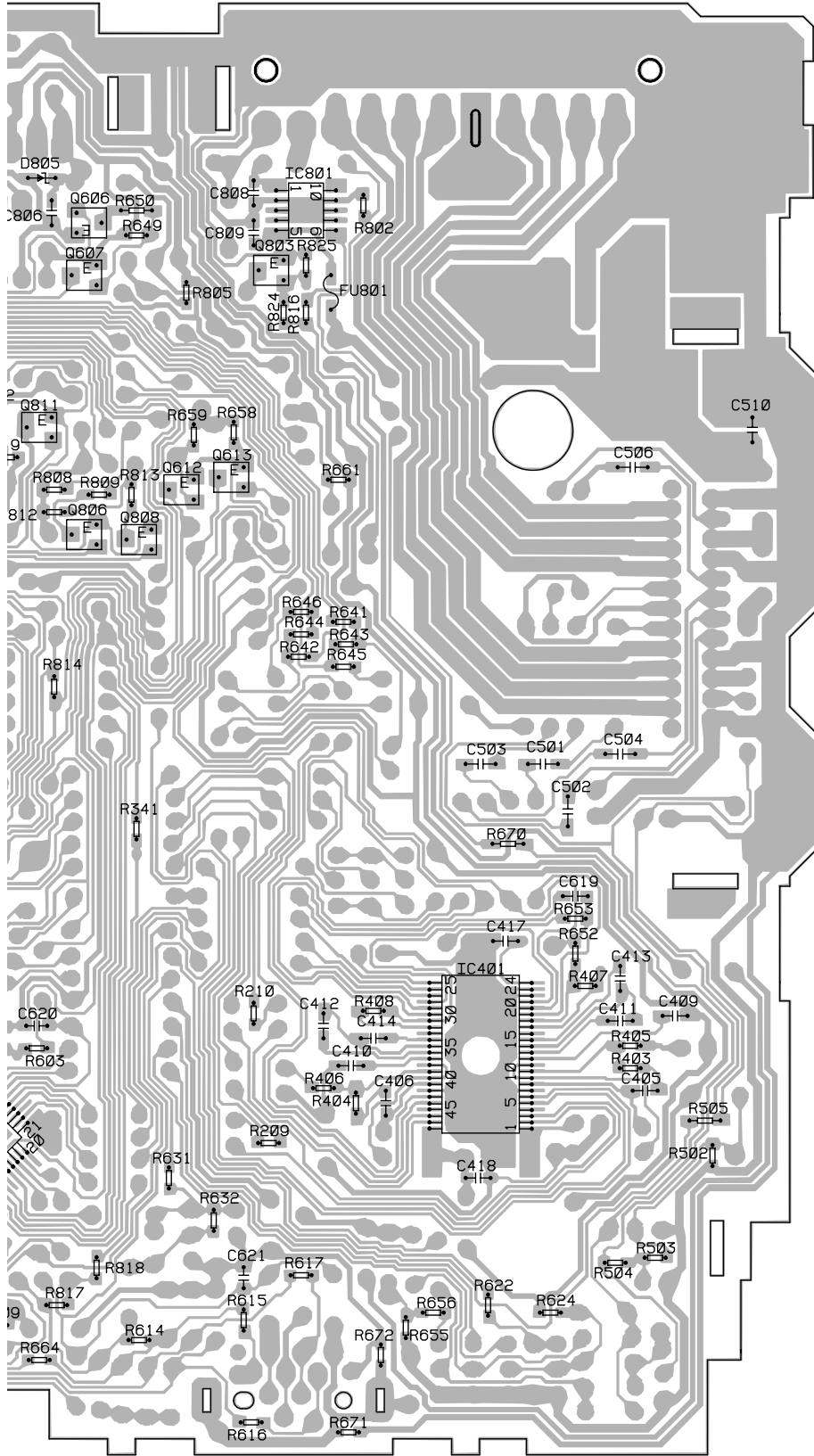
B

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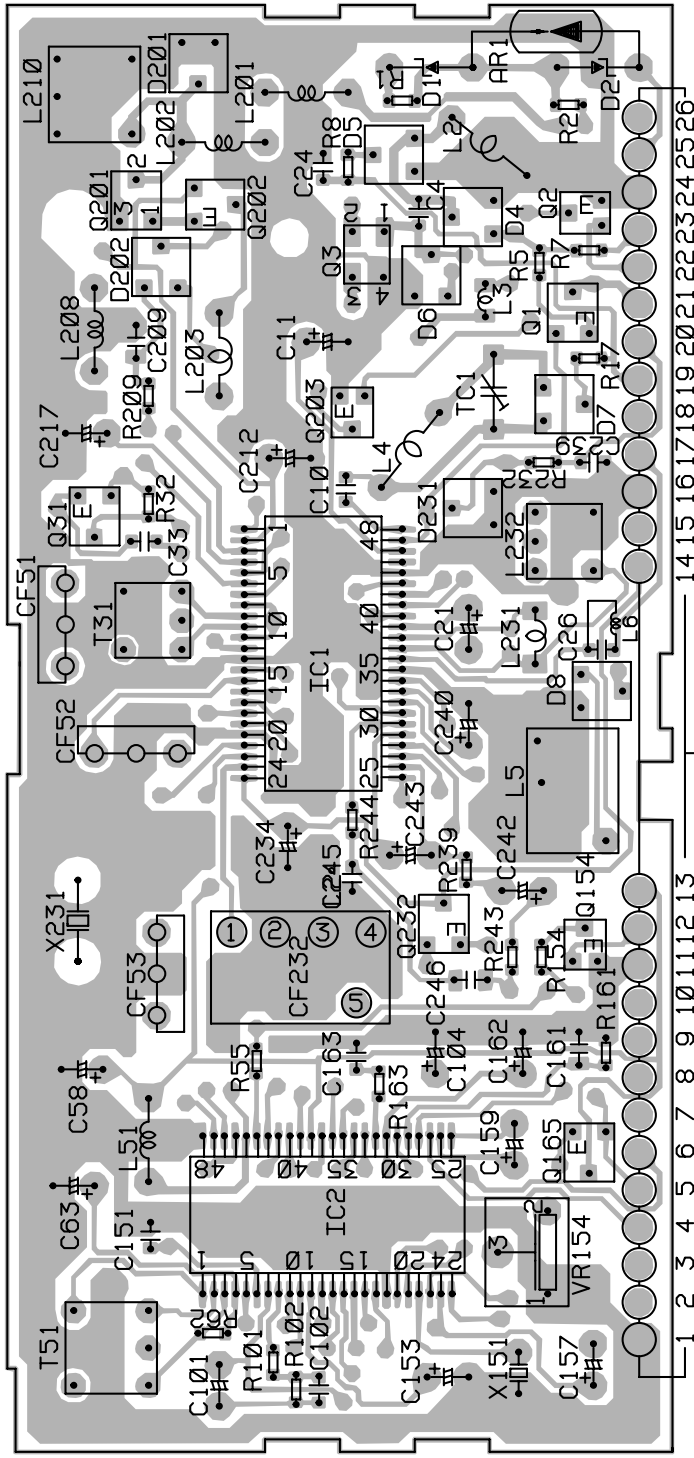
SIDE B



- IC, Q
- Q402
- IC801 Q606
- Q401 IC603
- Q403
- Q607 Q803
- Q811
- IC301
- Q613
- Q612
- Q806 Q808
- C510
- C506
- C505
- C501
- C504
- C502
- R670
- C619
- R653
- R652
- R407
- C413
- C417
- C414
- C410
- C406
- C409
- C411
- R405
- R403
- C405
- R505
- R502
- C418
- IC401
- IC601
- IC702
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4.2 FM/AM TUNER UNIT

FM/AM TUNER UNIT



SIDE A

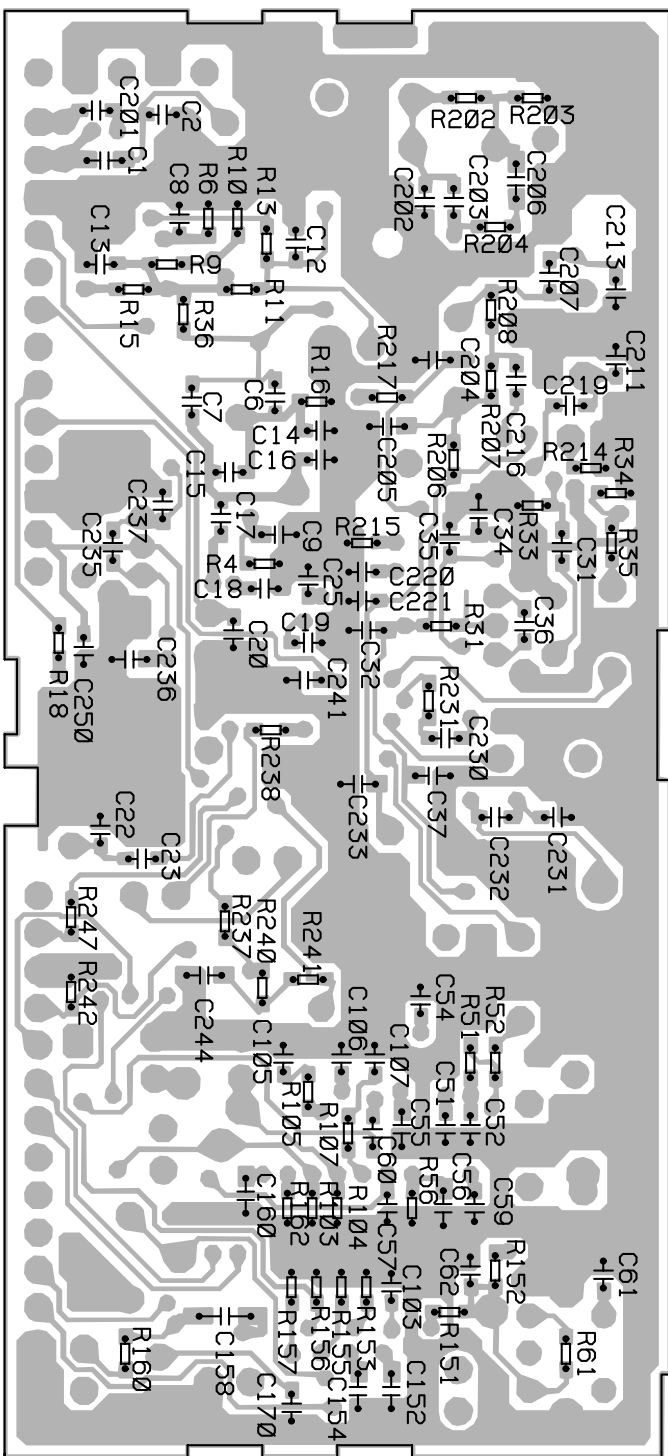
IC, Q	ADJ
Q31	T51
Q201	T31
Q202	
Q203	L4
IC2	L2
Q232	TC1
Q1	L5
Q165	VR154
Q2	
Q154	

A

B

B

SIDE B



FM/AM TUNER UNIT

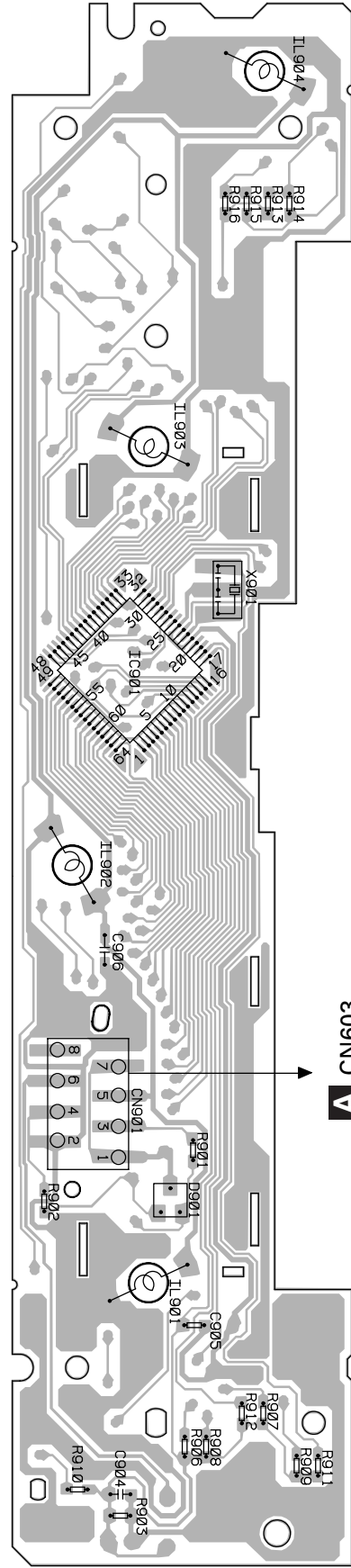
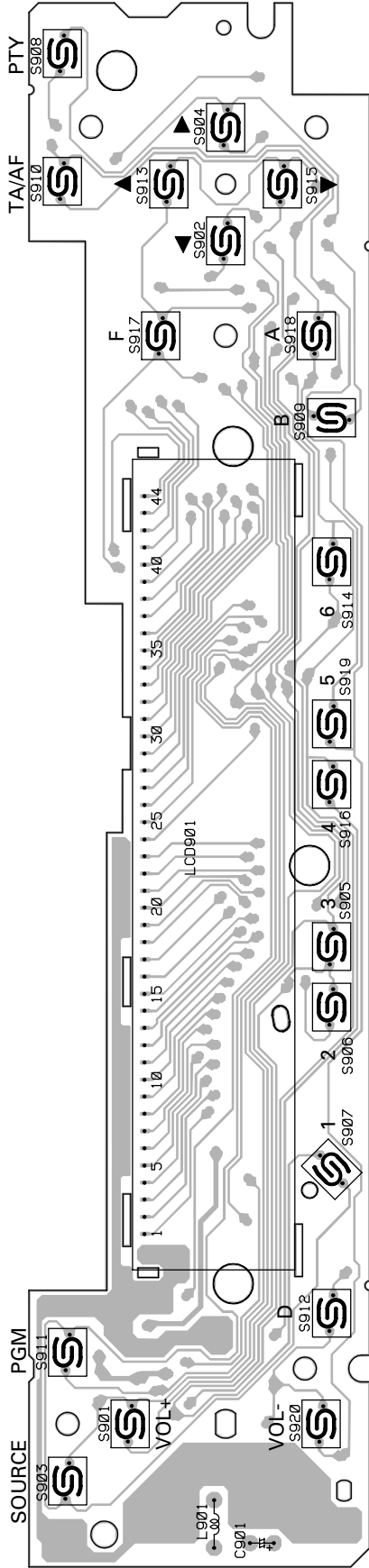
B

B

4.3 KEYBOARD UNIT

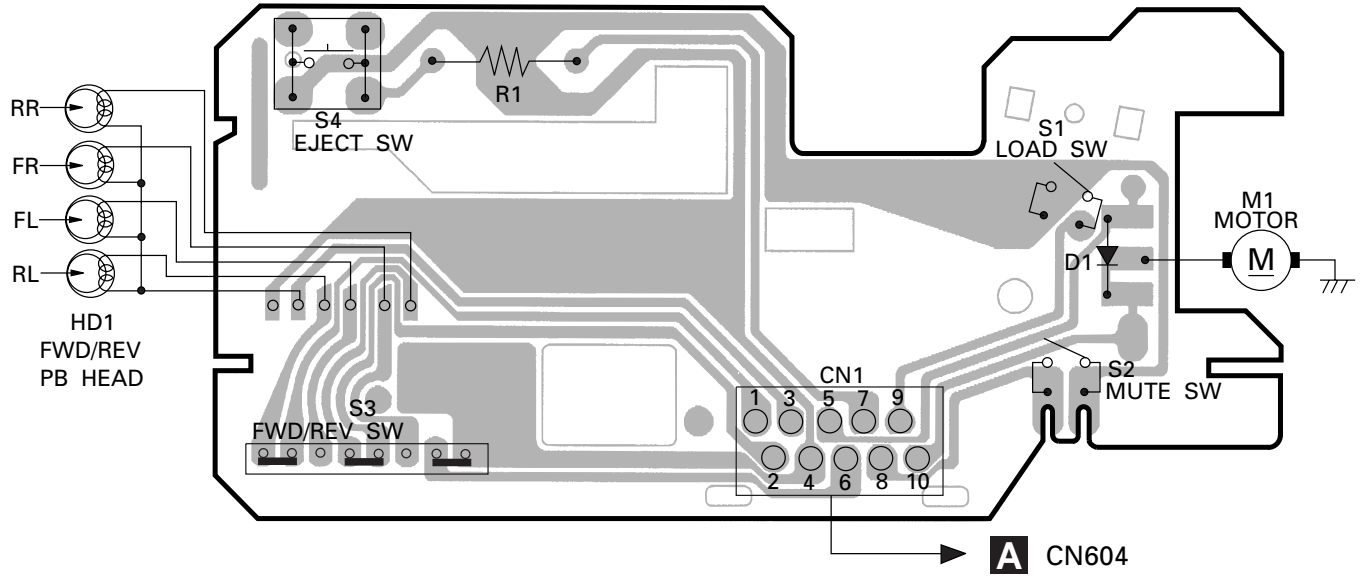
SIDE A

SIDE B



4.4 CASSETTE MECHANISM PCB

D CASSETTE PCB



5. ELECTRICAL PARTS LIST

NOTE:

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

● The part numbers shown below indicate chip components.

Chip Resistor


RS1/○S○○○○J,RS1/○○S○○○J

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

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

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
A Unit Number : CWM6350		D 613 Diode	HZS7L(C3)
Unit Name : Tuner Amp Unit		D 614 Diode	HZS7L(A1)
MISCELLANEOUS		D 615 Diode	1SS270
IC 201 IC	LA3161P	D 616 Diode	1SS270
IC 301 IC	PM2007A	D 701 Diode	1SS270
IC 401 IC	SN761029DL	D 801 Diode	1SR139-400
IC 501 IC	TDA7384	D 802 Diode	1SR139-400
IC 601 IC	PE5016A	D 803 Diode	1SR139-400
IC 602 IC	S-80734AN	D 804 Diode	MA8056(H)
IC 701 IC	PM4006B	D 805 Diode	MA8091(M)
IC 702 IC	NJM2903M	D 806 Diode	1SR139-400
IC 801 IC	TPD1018F	D 807 Diode	1SR139-400
Q 301 Transistor	2SC1740S	L 301 Ferri-Inductor	LAU101K
Q 501 Transistor	DTC124ES	L 302 Ferri-Inductor	LAU2R2K
Q 502 Transistor	DTC124ES	L 601 Ferri-Inductor	LAU101K
Q 601 Transistor	DTC143TS	L 602 Ferri-Inductor	LAU101K
Q 602 Transistor	DTC124ES	L 603 Ferri-Inductor	LAU101K
Q 603 Transistor	2SC1740S	L 701 Ferri-Inductor	LAU101K
Q 608 Transistor	DTA124ES	L 951 Choke Coil 600mH	CTH1168
Q 609 Transistor	DTC143TS	X 301 Crystal Resonator 7.200MHz	CSS1379
Q 610 Transistor	DTC143TS	X 601 Ceramic Resonator 4.194MHz	CSS1047
Q 611 Transistor	2SC1740S	X 701 Crystal Resonator 4.332MHz	CSS1056
Q 612 Transistor	2SC2412K	VR 701 Semi-fixed 22kΩ(B)	CCP1321
Q 613 Transistor	2SC2412K	FU 801 Fuse 2A	CEK1176
Q 701 Transistor	DTC143TS	FM/AM Tuner Unit	CWE1466
Q 702 Transistor	2SC1740S	RESISTORS	
Q 703 Transistor	2SD1468S	R 201	RS1/10S273J
Q 704 Transistor	2SD1468S	R 202	RS1/10S273J
Q 801 Transistor	2SD2037	R 203	RS1/10S104J
Q 802 Transistor	2SB1243	R 204	RS1/10S104J
Q 803 Transistor	2SC2412K	R 205	RS1/10S472J
Q 804 Transistor	2SD2396	R 206	RS1/10S472J
Q 805 Transistor	2SA1048	R 207	RS1/10S470J
Q 806 Transistor	2SC2412K	R 208	RS1/10S470J
Q 807 Transistor	2SA1674	R 209	RS1/10S273J
Q 808 Transistor	2SC2412K	R 210	RS1/10S273J
Q 809 Transistor	2SA933S	R 301	RS1/10S272J
Q 810 Transistor	2SB1242	R 302	RS1/10S272J
Q 811 Transistor	DTC143TK	R 305	RS1/10S0R0J
D 201 Diode	1SS270	R 306	RD1/4PU222J
D 302 Diode	1SS270	R 307	RS1/8S222J
D 601 Diode	1SS270	R 308	RS1/8S222J
D 602 Diode	HZS7L(A1)	R 309	RS1/10S102J
D 603 Diode	1SS270	R 310	RS1/10S0R0J
D 604 Diode	1SS270	R 311	RS1/8S272J
D 605 Diode	1SS270	R 312	RD1/4PU222J
D 606 Diode	1SS270	R 314	RS1/8S392J
D 607 Diode	1SS270	R 315	RS1/10S392J
D 608 Diode	1SS270	R 316	RS1/10S152J
D 609 Diode	1SS270	R 317	RS1/10S103J
D 610 Diode	1SS270	R 318	RS1/10S0R0J
D 611 Diode	1SS270	R 319	RS1/10S472J
D 612 Diode	HZS9L(A2)	R 320	RS1/10S682J
		R 321	RS1/10S222J
		R 322	RS1/10S472J
		R 323	RS1/10S682J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 324	RD1/4PU102J	R 701	RD1/4PU102J
R 326	RD1/4PU0R0J	R 702	RD1/4PU102J
R 328	RS1/10S561J	R 703	RS1/8S102J
R 332	RS1/10S103J	R 704	RD1/4PU102J
R 333	RS1/8S393J	R 705	RS1/10S102J
R 334	RD1/4PU562J	R 706	RS1/10S0R0J
R 335	RD1/4PU472J	R 707	RS1/10S333J
R 336	RD1/4PU473J	R 708	RS1/10S102J
R 337	RS1/10S473J	R 709	RS1/10S562J
R 338	RD1/4PU104J	R 710	RS1/10S222J
R 339	RS1/10S473J	R 711	RS1/10S222J
R 340	RS1/10S473J	R 712	RS1/10S562J
R 341	RS1/10S681J	R 713	RS1/10S684J
R 342	RS1/10S681J	R 714	RS1/8S103J
R 343	RD1/4PU681J	R 715	RS1/10S224J
R 344	RD1/4PU681J	R 716	RS1/10S224J
R 345	RD1/4PU222J	R 717	RS1/10S222J
R 346	RS1/8S472J	R 718	RS1/10S222J
R 349	RD1/4PU102J	R 719	RS1/10S223J
R 350	RS1/10S510J	R 720	RS1/10S223J
R 351	RS1/10S0R0J	R 721	RS1/10S105J
R 352	RS1/10S0R0J	R 722	RS1/10S224J
R 353	RS1/10S0R0J	R 723	RS1/10S562J
R 354	RD1/4PU102J	R 724	RS1/10S681J
R 355	RS1/8S0R0J	R 725	RD1/4PU681J
R 403	RS1/10S272J	R 726	RS1/10S681J
R 404	RS1/10S272J	R 727	RS1/10S102J
R 405	RS1/10S151J	R 801	RD1/4PU102J
R 406	RS1/10S151J	R 802	RS1/10S472J
R 407	RS1/10S221J	R 803	RS1/10S101J
R 408	RS1/10S221J	R 804	RD1/4PU332J
R 501	RD1/4PU103J	R 805	RS1/10S103J
R 502	RS1/10S153J	R 806	RD1/4PU102J
R 503	RS1/10S221J	R 807	RD1/4PU122J
R 504	RS1/10S101J	R 808	RS1/10S103J
R 505	RS1/8S103J	R 809	RS1/10S102J
R 601	RS1/10S104J	R 810	RD1/4PU473J
R 602	RS1/8S104J	R 812	RS1/10S103J
R 604	RS1/10S473J	R 813	RS1/10S102J
R 610	RD1/4PU473J	R 814	RS1/10S473J
R 612	RS1/8S473J	R 816	RS1/10S472J
R 613	RS1/10S473J	R 817	RS1/10S223J
R 614	RS1/10S473J	R 818	RS1/10S222J
R 615	RS1/10S222J	R 819	RS1/10S472J
R 616	RS1/10S222J	R 820	RD1/4PU102J
R 617	RS1/10S222J	R 821	RD1/4PU1R5J
R 618	RD1/4PU103J	R 822	RD1/4PU1R5J
R 619	RS1/8S473J	R 823	RD1/4PU1R0J
R 620	RS1/10S473J	R 824	RS1/10S103J
R 621	RD1/4PU104J	R 825	RS1/10S103J
R 622	RS1/10S473J		
R 623	RD1/4PU473J		
R 624	RS1/10S332J		
R 625	RS1/10S102J		
R 630	RD1/4PU152J		
R 631	RS1/10S102J		
R 632	RS1/10S124J		
R 652	RS1/10S104J		
R 653	RS1/10S104J		
R 655	RS1/10S223J		
R 656	RS1/10S103J		
R 657	RD1/4PU472J		
R 658	RS1/10S473J		
R 659	RS1/10S223J		
R 660	RD1/4PU473J		
R 661	RS1/10S473J		
R 662	RD1/4PU223J		
R 663	RD1/4PU473J		
R 664	RS1/10S222J		
R 673	RS1/10S0R0J		
CAPACITORS			
		C 201	CKSQYB681K50
		C 202	CKSQYB681K50
		C 203	CEJA2R2M50
		C 204	CEJA2R2M50
		C 205	CKSQYB333K50
		C 206	CKSQYB333K50
		C 207	CEJA101M10
		C 208	CEJA101M10
		C 209	CEJA1R0M50
		C 210	CEJA1R0M50
		C 211	CEJA101M10
		C 301	CKSQYB223K50
		C 302	CKSQYB223K50
		C 303	CKSQYB223K50
		C 307	CKSQYB103K50

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.	
C 308	CCSQCH101J50	C 620	CCSQCH101J50	
C 311	CCSQCH101J50	C 621	CCSQCH101J50	
C 313	CKSQYB223K50	C 623	CKSQYB102K50	
C 314	CKSQYB473K50	C 701	CEJA4R7M35	
C 315	CEJA220M6R3	C 702	CKSQYB104K16	
C 316	CKSQYB103K50	C 703	CCSQCH220J50	
C 317	CKSQYB103K50	C 704	CCSQCH220J50	
C 318	CKSQYB102K50	C 705	CKSQYB472K50	
C 319	CEJA220M10	C 706	CKSQYB104K16	
C 320	CCSQCH150J50	C 707	CKSYB105K16	
C 321	CCSQCH150J50	C 708	CKSQYB104K16	
C 322	CKSQYB103K50	C 709	CKSQYB222K50	
C 324	CEJAR47M50	C 710	CKSQYB104K16	
C 325	4.7μF/16V CCH1250	C 711	CKSQYB104K16	
C 326	CKSQYB103K50	C 712	CKSQYB223K50	
C 328	CKLSR473K16	C 713	CEJA4R7M35	
C 331	CKSQYB104K16	C 714	CKSQYB103K50	
C 332	CEJA220M6R3	C 715	CKSQYB103K50	
C 333	CKSQYB103K50	C 716	CKSQYB223K50	
C 334	CEJA220M6R3	C 717	CKSQYB471K50	
C 335	CKSQYB103K50	C 801	3300μF/16V CCH1018	
C 336	CKSQYB223K50	C 802	470μF/16V CCH1183	
C 337	CKSQYB103K50	C 803	CKSQYB102K50	
C 340	4.7μF/16V CCH1165	C 804	CKSQYB473K50	
C 341	CKSQYB103K50	C 805	CEJA101M10	
C 342	CKSQYB473K50	C 806	CKSQYB103K50	
C 343	CKSQYB102K50	C 807	330μF/10V CCH1181	
C 401	CEJA2R2M50	C 808	CKSQYB103K50	
C 402	CEJA2R2M50	C 809	CKSQYB104K16	
C 403	CEJA100M16	C 811	100μF/16V CCH1179	
C 404	CEJA100M16	 Unit Number : CWM6272 (KEH-1900R/X1M/EW) Unit Name : Keyboard Unit		
C 405	CKSQYB822K50			
C 406	CKSQYB822K50	MISCELLANEOUS		
C 407	CEJA1R0M50			
C 408	CEJA1R0M50	IC 901	IC	PD6293A
C 409	CKSQYB183K50	D 901	Diode	STZ6R2N
C 410	CKSQYB183K50	L 901	Ferri-Inductor	LAU101K
C 411	CKSQYB104K16	X 901	Ceramic Resonator 4.97MHz	CSS1422
C 412	CKSQYB104K16	IL 901	Lamp 14V 40mA	CEL1547
C 413	CKSQYB104K16	IL 902	Lamp 14V 40mA	CEL1547
C 414	CKSQYB104K16	IL 903	Lamp 14V 40mA	CEL1547
C 415	CEJA100M16	IL 904	Lamp 14V 40mA	CEL1547
C 416	CEJA2R2M50	LCD 901	LCD	CAW1512
C 417	CKSQYB473K50	RESISTORS		
C 418	CKSQYB104K16			
C 419	CEJA470M10	R 901		RS1/10S222J
C 420	CEJA2R2M50	R 902		RS1/10S222J
C 423	CKSYB105K16	R 903		RS1/10S472J
C 424	CKSYB105K16	R 906		RS1/10S473J
C 501	CKSYB224K16	R 907		RS1/10S473J
C 502	CKSYB224K16	R 908		RS1/10S473J
C 503	CKSYB224K16	R 909		RS1/10S473J
C 504	CKSYB224K16	R 910		RS1/10S473J
C 505	CEJA1R0M50	R 911		RS1/10S473J
C 506	CKSYB105K16	R 912		RS1/10S473J
C 507	CEJA100M16	R 914		RS1/10S0R0J
C 508	CEJA330M10	R 916		RS1/10S0R0J
C 510	CKSQYB104K16	CAPACITORS		
C 601	CCSQCH101J50			
C 602	CEJA4R7M35	C 901		CEAL100M16
C 604	CCSQCH101J50	C 904		CKSQYB104K16
C 606	CKSQYB104K16	C 905		CKSQYB102K50
C 607	CKSQYB224K16	C 906		CCSCH101J50
C 608	CEJA2R2M50			
C 619	CKSQYB102K50			

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

C Unit Number : CWM6274 (KEH-1930R/X1M/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	901	IC	PD6293A
D	901	Diode	STZ6R2N
L	901	Ferri-Inductor	LAU101K
X	901	Ceramic Resonator 4.97MHz	CSS1422
IL	901	Lamp 14V 40mA	CEL1479
IL	902	Lamp 14V 40mA	CEL1479
IL	903	Lamp 14V 40mA	CEL1479
IL	904	Lamp 14V 40mA	CEL1479
LCD	901	LCD	CAW1512

RESISTORS

R	901	RS1/10S222J
R	902	RS1/10S222J
R	903	RS1/10S472J
R	906	RS1/10S473J
R	907	RS1/10S473J
R	908	RS1/10S473J
R	909	RS1/10S473J
R	910	RS1/10S473J
R	911	RS1/10S473J
R	912	RS1/10S473J
R	914	RS1/10S0R0J
R	916	RS1/10S0R0J

CAPACITORS

C	901	CEAL100M16
C	904	CKSQYB104K16
C	905	CKSQYB102K50
C	906	CCSCH101J50

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

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

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

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	Capacitor with Discharge Gap	DSP-201M

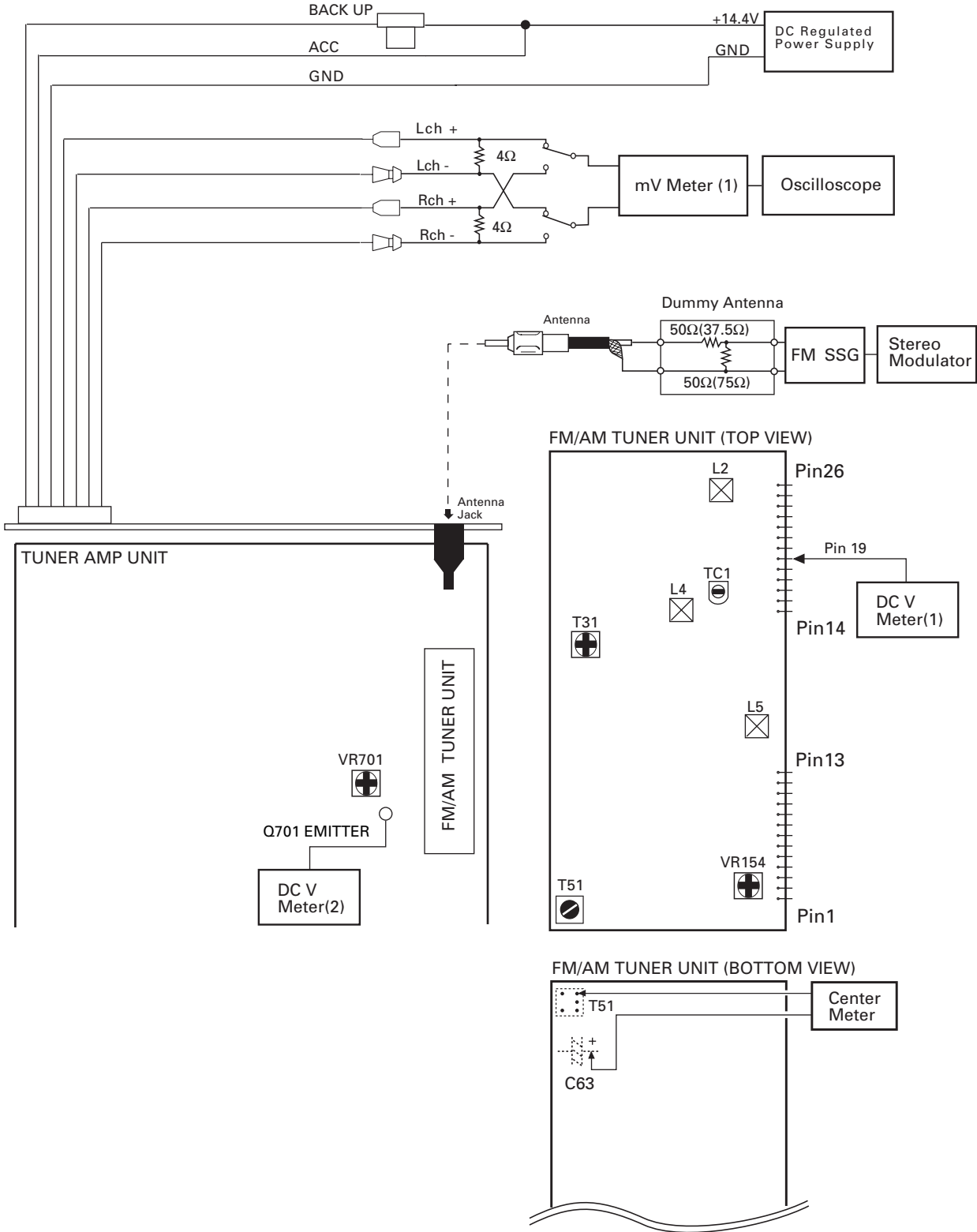
RESISTORS

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	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
R	206	RS1/16S220J
R	207	RS1/16S101J
R	208	RS1/16S102J
R	209	RS1/16S471J
R	214	RS1/16S822J
R	215	RS1/16S822J
R	217	RS1/16S102J
R	231	RS1/16S272J
R	232	RS1/16S473J
R	237	RS1/16S103J
R	238	RS1/16S104J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 239	RS1/16S104J	C 206	CKSQYB104K16
R 240	RS1/16S332J	C 207	CCSRCH560J50
R 241	RS1/16S202J	C 209	CKSQYB104K16
R 243	RS1/16S123J	C 211	CCSRCH101J50
R 244	RS1/16S103J	C 212	CEJA470M6R3
R 247	RS1/16S123J	C 213	CKSRYP103K25
CAPACITORS		C 216	CCSRCH101J50
C 1	CCSQCH6R0D50	C 217	CEJA1R5M50
C 2	CCSRCK2R0C50	C 219	CCSRCH471J50
C 4	CCSRCH820J50	C 220	CKSRYP103K25
C 6	CCSRCH820J50	C 230	CKSRYP103K25
C 8	CKSRYP103K25	C 231	CCSRCH330J50
C 9	CKSQYB104K16	C 232	CCSRCH150J50
C 10	CCSRCKR50C50	C 233	CKSQYB104K16
C 11	CEJA1R0M50	C 234	CEJA330M10
C 13	CKSRYP222K50	C 235	CKSRYP332K50
C 14	CCSRCH220J50	C 236	CKSQYB473K16
C 16	CCSRCH8R0D50	C 237	CCSRCH120J50
C 17	CKSRYP222K50	C 239	CKSRYP472K50
C 18	CKSRYP103K25	C 240	CEJAR47M50
C 19	CKSRYP222K50	C 241	CKSQYB104K16
C 20	CKSRYP222K50	C 242	CEJAR47M50
C 21	CEJA100M16	C 243	CEJAR33M50
C 22	CCSRTH9R0D50	C 244	CKSQYB473K16
C 23	CCSRTH120J50	C 245	CKSRYP123K25
C 24	CCSRCH471J50	C 246	CKSQYB473K16
C 25	CKSRYP103K25	C 250	CCSRCH471J50
C 31	CKSRYP103K25	D Unit Number :	
C 32	CKSQYB472K50	Unit Name : Cassette PCB	
C 33	CCSRCH5R0C50	S 1	Switch(LOAD)
C 34	CKSQYB104K16	S 2	Switch(MUTE)
C 36	CCSRRH201J50	S 3	Switch(FWD/REV)
C 51	CKSRYP223K25	S 4	Switch(EJECT)
C 52	CKSRYP103K25	R 1	
C 54	CCSRCH470J50	Miscellaneous Parts List	
C 55	CKSQYB223K25	M 1	Motor Unit
C 56	CKSQYB104K16	HD 1	Head Assy
C 57	CKSRYP472K50	FU 951	Fuse 10A
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 160	CKSQYB104K16		
C 161	CKSQYB104K16		
C 162	CEJA3R3M50		
C 163	CKSRYP102K50		
C 170	CCSRCH100D50		
C 201	CCSRCH471J50		
C 202	CCSRCH100D50		
C 203	CKSRYP332K50		
C 204	CKSQYB473K16		
C 205	CKSQYB473K16		

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 SL ADJUSTMENT

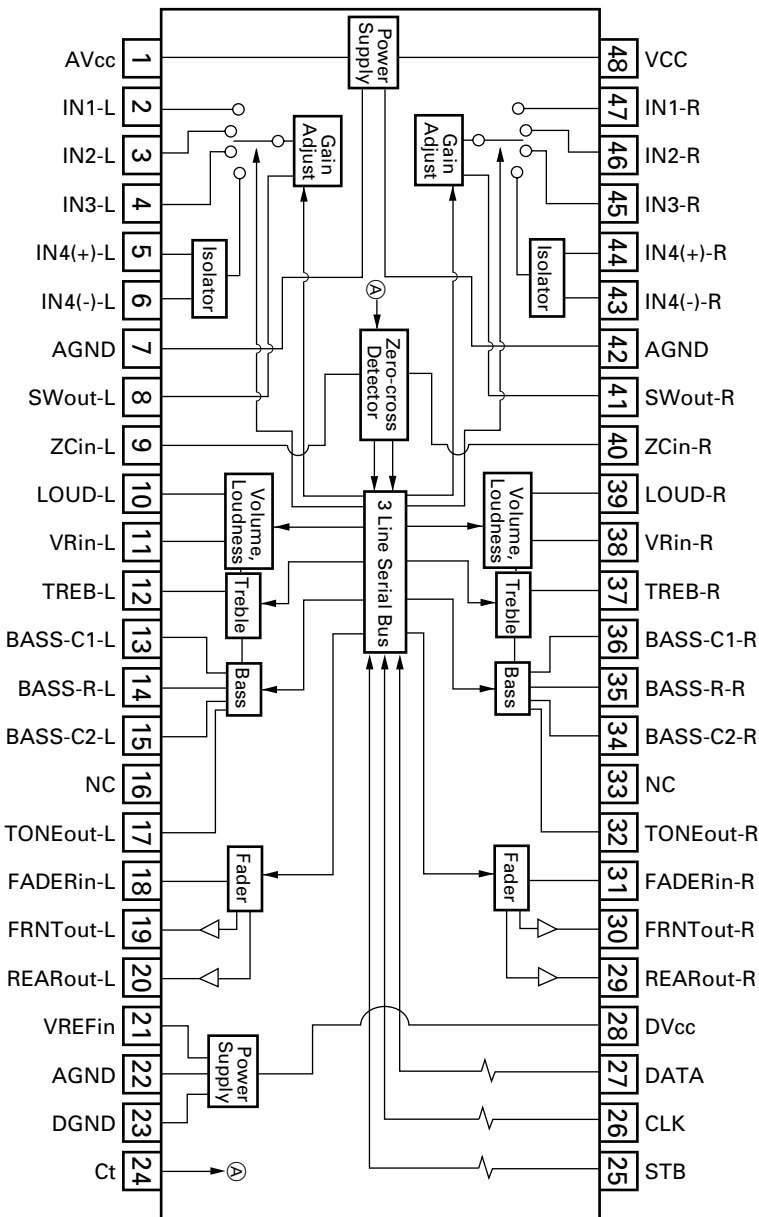
	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
	1	104.0 S	35	104.0	VR701	DC V Meter(2) : 1.75V+0.05,-0.35

7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

SN761029DL



● Pin Functions(PE5016A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	RDT	I		RDS data input
2	NC			Not used
3	ADPW			A/D converter power
4	GND			GND
5	DRST	O	C	RDS decoder reset output
6	MDSSENS	I		Modulation detect input
7	AVREF1			(Connect to VDD)
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	DSSENS	I		Grille detach sense input
11	TUNPDI	I		PLL IC data input
12	TUNPDO	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock output
14	TUNPCE	O	C	PLL IC chip enable output
15	CURRQ	O		Tuner voltage FIX output
16	NC			Not used
17	SK	I		SK signal input
18	MUTCNT	I		NF mute control input
19-21	NC			Not used
22	SWVDD	O	C	Grille power supply control output
23	NC			Not used
24	VDT	O	C	Data output for electronic volume
25	VCK	O	C	Clock output for electronic volume
26	VST	O	C	Strobe pulse output for electronic volume
27	SYSPW	O	C	System power supply control output
28	MUTE	O	C	System mute output
29	DMINH	O	C	Mechanism mute cancel output
30,31	NC			Not used
32	EW/BEW	I		Model select input
33	GND			GND
34-36	NC			Not used
37	TMUTE	O		Tuner mute output
38	FM	O	C	FM power control output
39	AM	O	C	AM power control output
40-44	NC			Not used
45	PEE	O	C	Beep tone output
46	NC			Not used
47	RDS57K	I		57kHzBP-OUT sense input
48,49	NC			Not used
50	EJECT	I		Eject key input
51	TAPLD	I		Tape loading input
52	MECPW	O	C	Cassette mechanism power output
53	MCMUT	I		Mechanism mute input
54	NOR/REV	I		Normal reverse input
55-59	NC			Not used
60	RESET	I		Reset input
61	LDET	I		PLL lock sense input
62	RCK	I		RDS clock input
63	CLKIN	I		Clock input
64	ASENS	I		ACC power sense input
65	BSENS	I		Back up power sense input
66	SD	I		SD input
67	ST	I		FM stereo input
68	VDD			Power supply
69	X2			Oscillator output
70	X1			Oscillator input
71	GND			GND
72	NC			Not used

Pin No.	Pin Name	I/O	Format	Function and Operation
73	TESTIN	I		Test program mode input
74	AVDD			A/D converter analog power supply (VDD)
75	AVREF0			(A/D converter standard voltage input)
76	SL	I		Signal level input
77	CL	I		Composite level input
78	NL	I		Noise level input
79	TL	I		Trigger level input
80	RDSLK	I		RDS LK signal input

● Pin Functions (PD6293A)

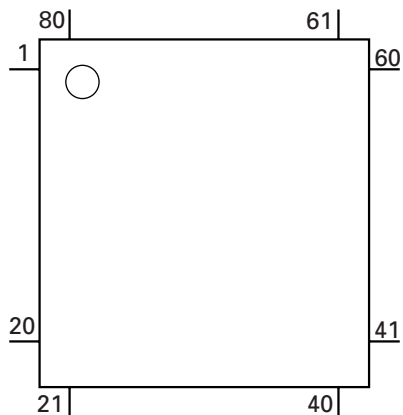
Pin No.	Pin Name	I/O	Function and Operation
1-5	SEG4-0	O	LCD segment output 4-0
6-8	COM1-3	O	Common driver output 1-3
9	COM0	O	Common driver output 0
10	LCDB		LCD bias power supply
11-14	KS3-0	O	Key strobe output 3-0
15,16	KDT0,1	I	Key data input 0,1
17	REM	I	Remote control reception
18	DPDT	I	Display data input
19	NC		Not used
20	KYDT	O	Key data output
21	MODA		GND
22	X0		Crystal oscillator connection pin
23	X1		Crystal oscillator connection pin
24	VSS		GND
25,26	KDT2,3	I	Key data input 2,3
27,28	KST5,4	O	Key strobe output 5,4
29-55	SEG39-13	O	LCD segment output 39-13
56	VCC		5V
57-64	SEG12-5	O	LCD segment output 12-5

IC's marked by* are MOS type.

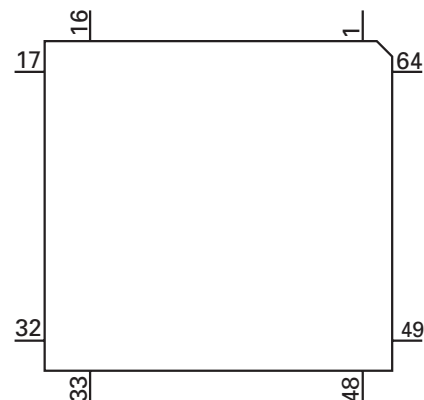
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

Format	Meaning
C	C MOS

*PE5016A



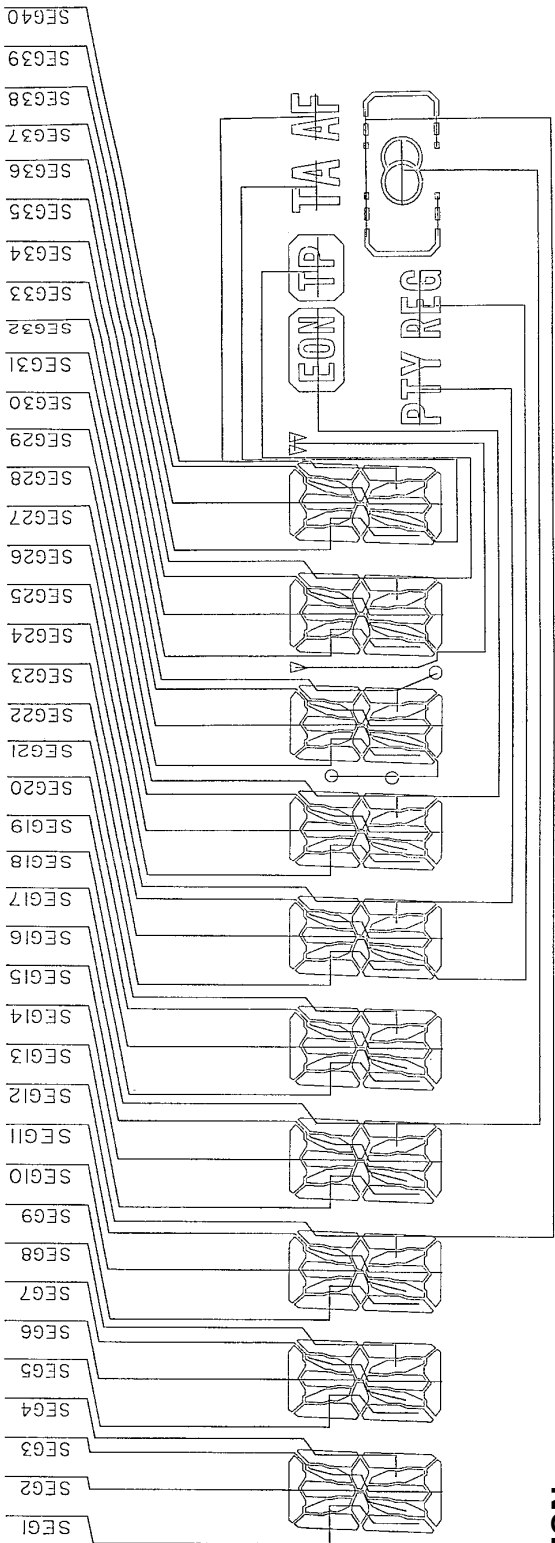
*PD6293A



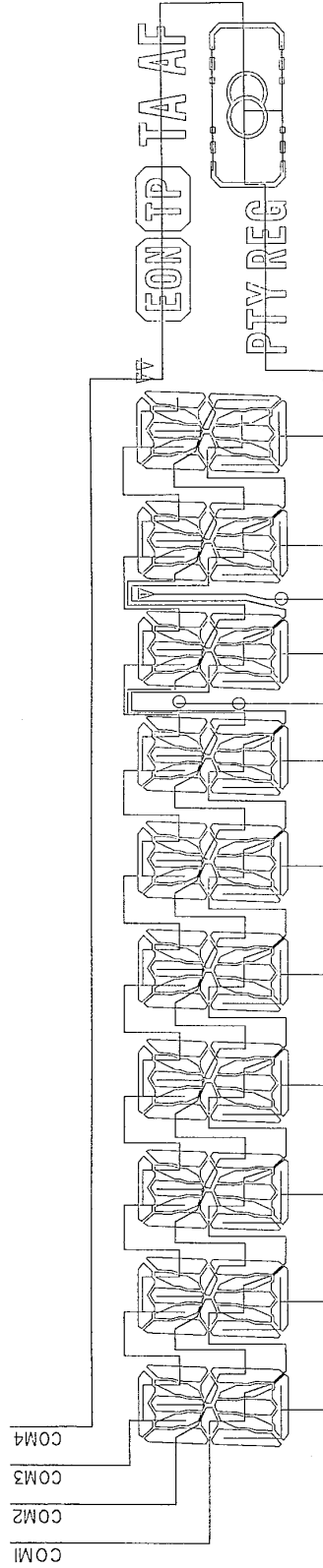
7.1.2 DISPLAY

● CAW1512

SEGMENT



COMMON



7.2 DISASSEMBLY

● Remove the Case(not shown)

1.Remove the three screws.

2.Remove the Case.

● Remove the Cassette Mechanism Assy (not shown)

1.Remove the four screws.

2.Disconnect the connector, and then remove the Cassette Mechanism Assy.

● Remove the Panel Unit(Fig.1)

1 Disengage the stopper at two locations indicated by arrow.

2 Remove the Panel Unit.

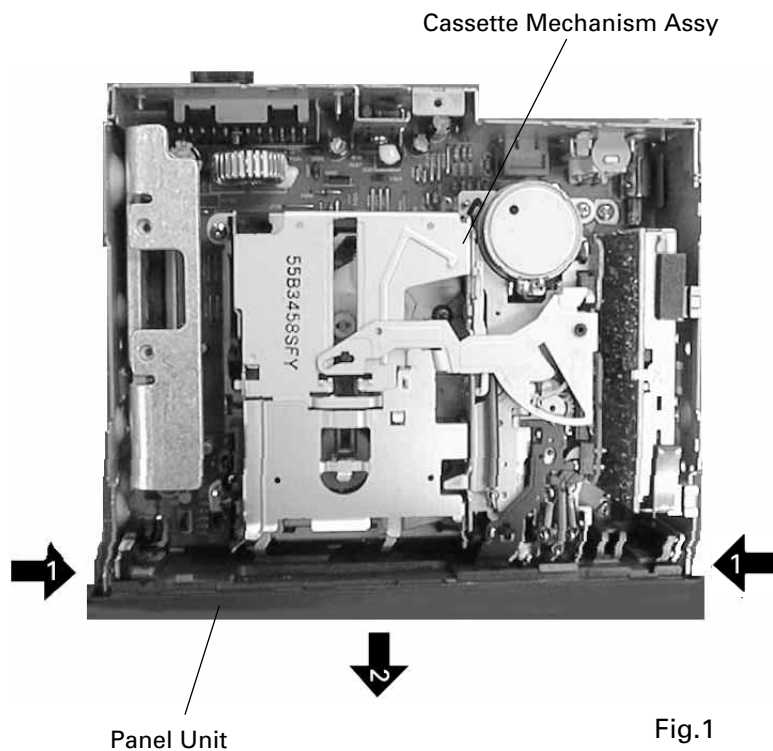


Fig.1

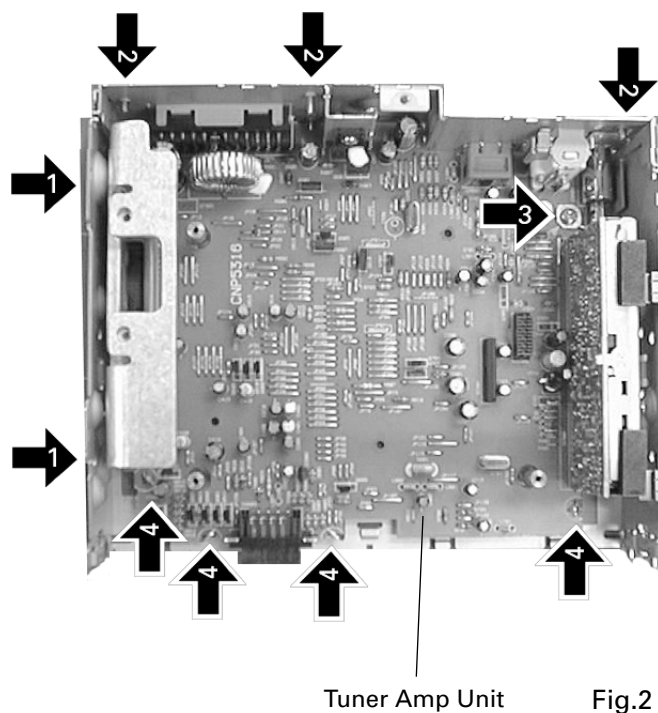
● Remove the Tuner Amp Unit(Fig.2)

1 Remove the two screws.

2 Remove the three screws.

3 Remove the screw.

4 Unbend the tabs at four locations indicated by arrow until straight.
Remove the Tuner Amp Unit.



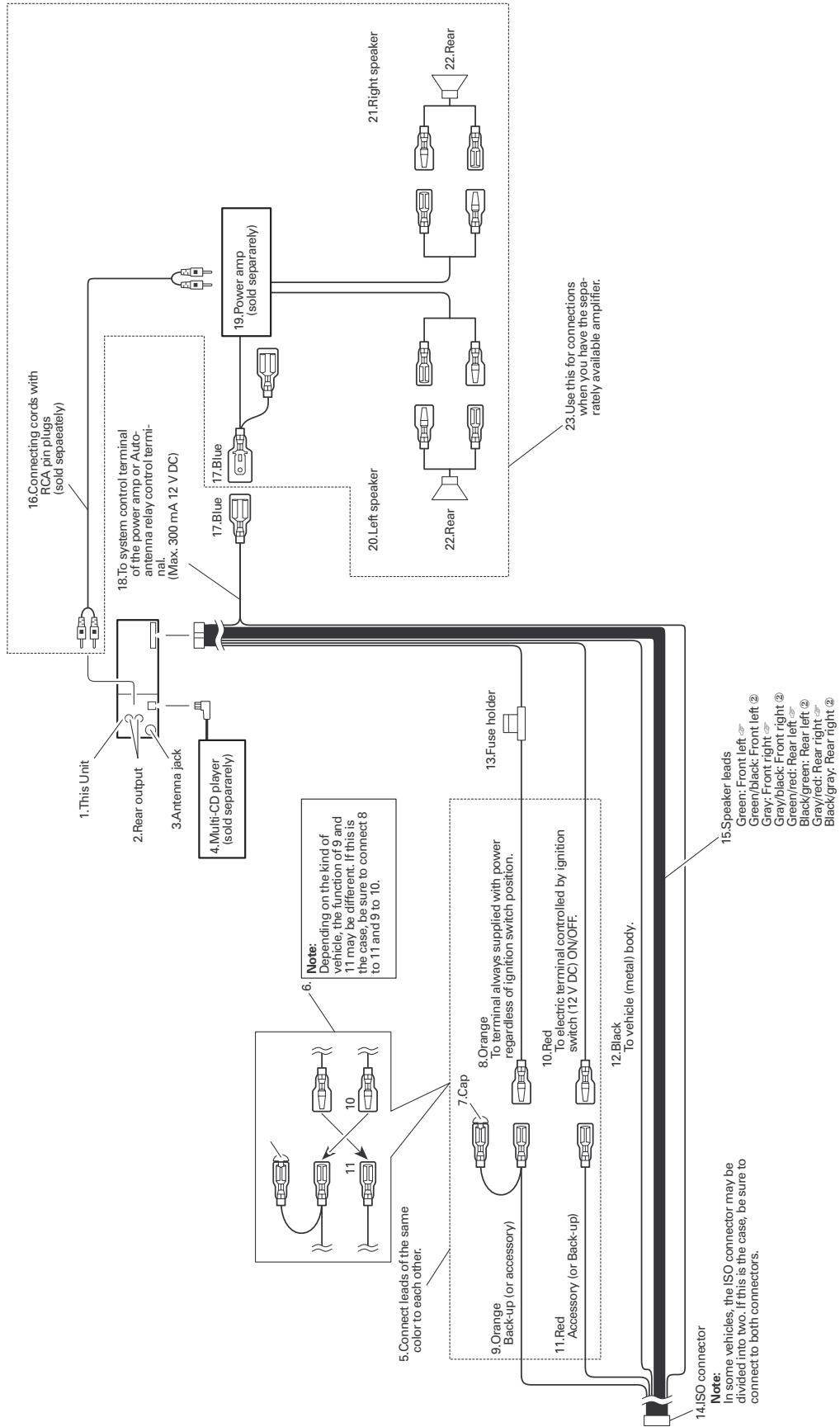
Tuner Amp Unit

Fig.2

8. OPERATIONS AND SPECIFICATIONS

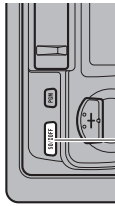
CAUTION

- Cords for this product and those for other products may be different colors even if they have the same function. When connecting this product to another product, refer to the supplied Installation manuals of both products and connect cords that have the same function.



Basic Operation of Tuner

1. Select Tuner.

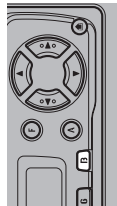


Each press changes the Source ...

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

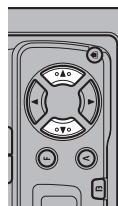


2. Select the desired band.



F1 → F11 → MW/LW

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



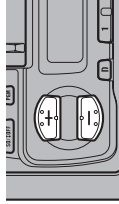
This product's tuner lets you select the tuning by changing the length of the time you press the button.

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

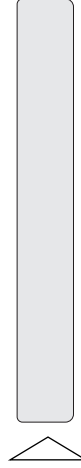
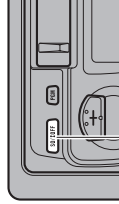
Note:

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

4. Raise or lower the volume.



5. Turn the source OFF.

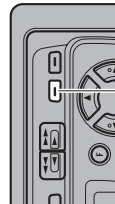


Hold for 1 second

AF Function Switching

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

- Switch AF OFF.



Hold for 2 seconds

"AF" disappears

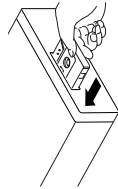
To switch AF ON, repeat the preceding operation.

Note:

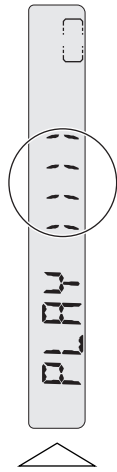
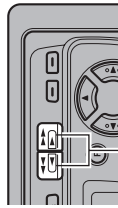
- You can also switch the AF Function ON/OFF in the Function Menu.

Basic Operation of Cassette Player

1. Insert the cassette tape.

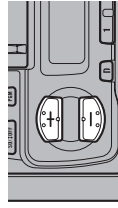


2. Switch tape playback from side A to side B, or vice versa.

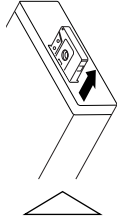


Same Time

3. Raise or lower the volume.

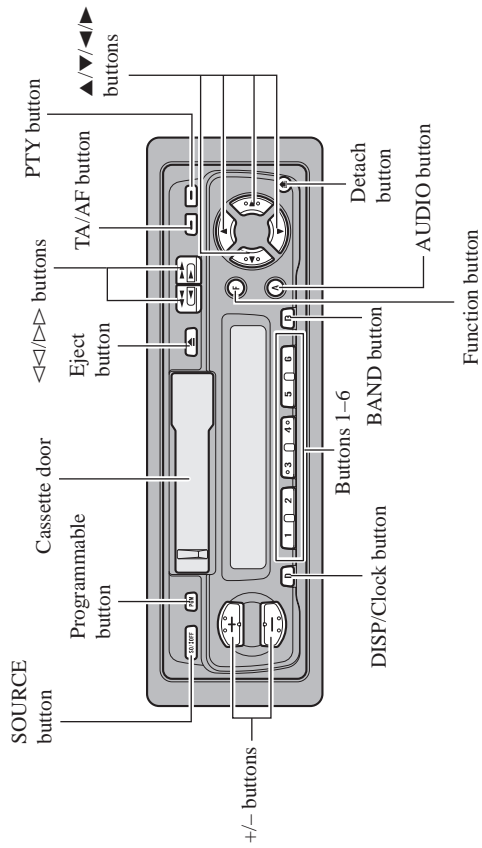


4. Remove the cassette tape.



Note:

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



8.2 SPECIFICATIONS

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) × 150 (D) mm
 (front face) 188 (W) × 58 (H) × 19 (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)
 Tone controls
 (Bass) ±12 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. 90 sec. for C-60
 Wow & flutter 0.13% (WRMS)
 Frequency response 40 – 14,000 Hz (±3 dB)
 Stereo separation 45 dB
 Signal-to-noise ratio 52 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.