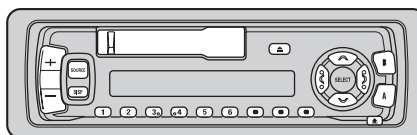


Service Manual

Pioneer

KEH-3930R/X1M/EW



ORDER NO.
CRT2420

HIGH POWER CASSETTE PLAYER WITH RDS TUNER

KEH-3930R

X1M/EW

KEH-3900R

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:Circuit Description, Mech.Description, Disassembly

CONTENTS

1. SAFETY INFORMATION	2	7. GENERAL INFORMATION	37
2. EXPLODED VIEWS AND PARTS LIST	2	7.1 DISASSEMBLY	37
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM	9	7.2 PARTS	38
4. PCB CONNECTION DIAGRAM	22	7.2.1 IC.....	38
5. ELECTRICAL PARTS LIST	32	7.2.2 DISPLAY	42
6. ADJUSTMENT.....	36	8. OPERATIONS AND SPECIFICATIONS.....	43

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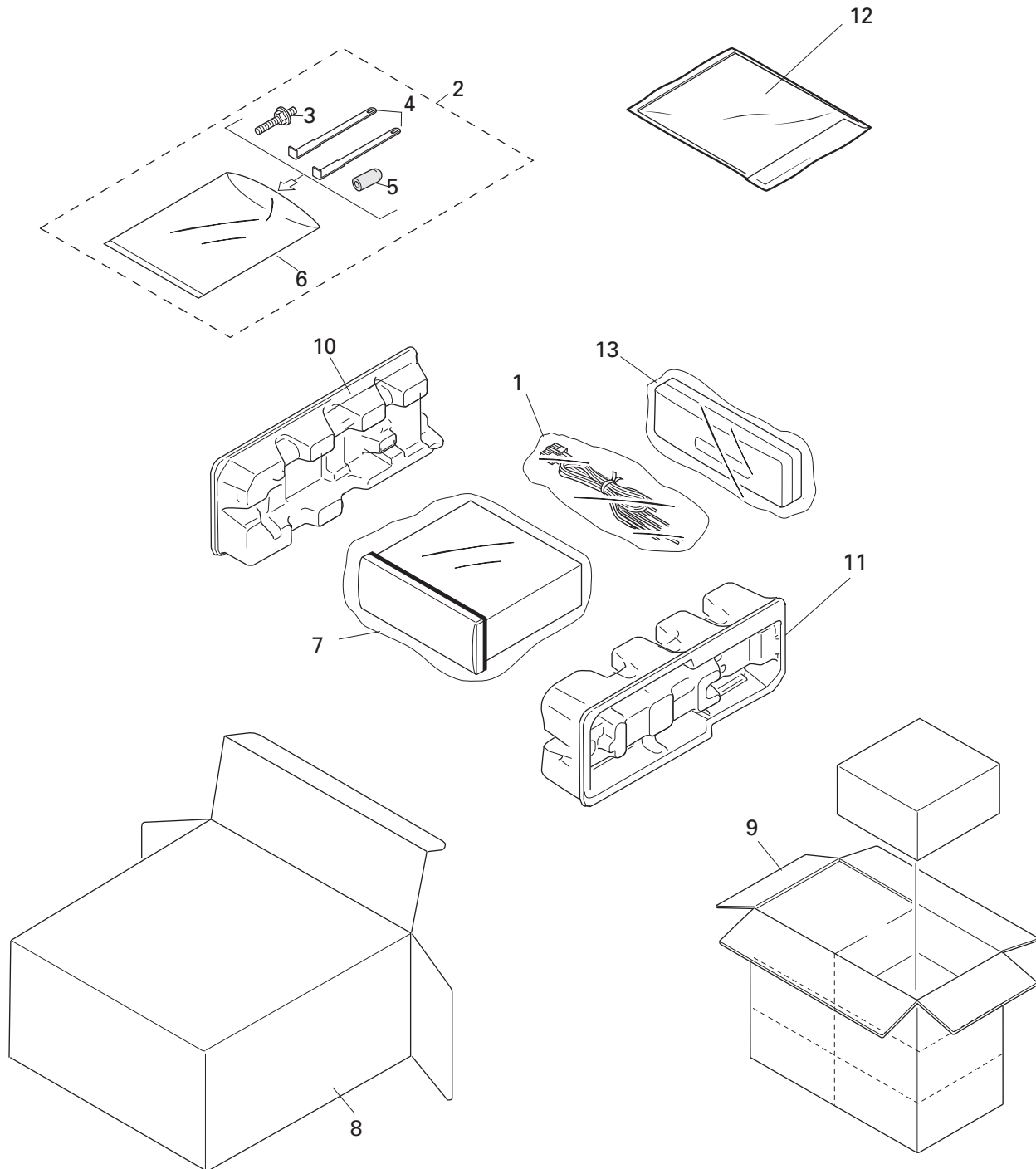
K-ZZD. NOV. 1999 Printed in Japan

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.

(1) PACKING SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
	1 Cord Assy	CDE6100	11	Protector	CHP2244
	2 Accessory Assy	CEA1917	12-1	Owner's Manual	CRD3122
	3 Screw	CBA1304	12-2	Owner's Manual	CRD3123
	4 Handle	CNC5395	12-3	Installation Manual	CRD3124
	5 Bush	CNV3930	*	12-4 Passport	CRY1013
*	6 Polyethylene Bag	E36-615	*	12-5 Warranty Card	CRY1157
	7 Polyethylene Bag	CEG-162	12-6	Polyethylene Bag	CEG1116
	8 Carton	See Contrast table(2)	13	Case Assy	CXB3520
	9 Contain Box	See Contrast table(2)			
	10 Protector	CHP2243			

(2) CONTRAST TABLE

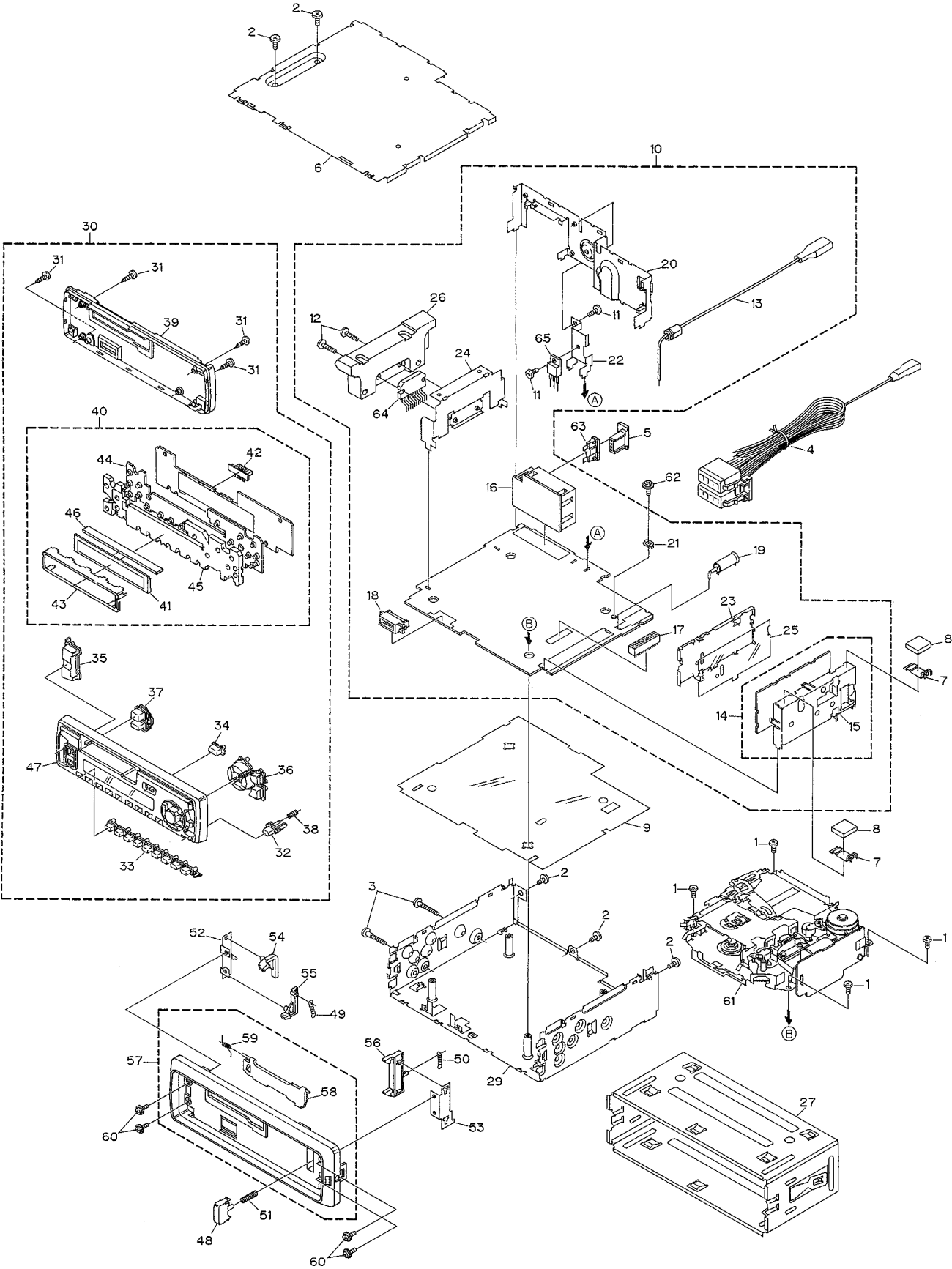
KEH-3930R/X1M/EW and KEH-3900R/X1M/EW are constructed the same except for the following:

Mark No.	Symbol and Description	Part No.	
		KEH-3930R/X1M/EW	KEH-3900R/X1M/EW
8	Carton	CHG3844	CHG3843
9	Contain Box	CHL3844	CHL3843

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-3930R/X1M/EW	CRD3122	English, Spanish, German
KEH-3900R/X1M/EW	CRD3123	French, Italian, Dutch
	CRD3124	English, Spanish, German, French, Italian, Dutch

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

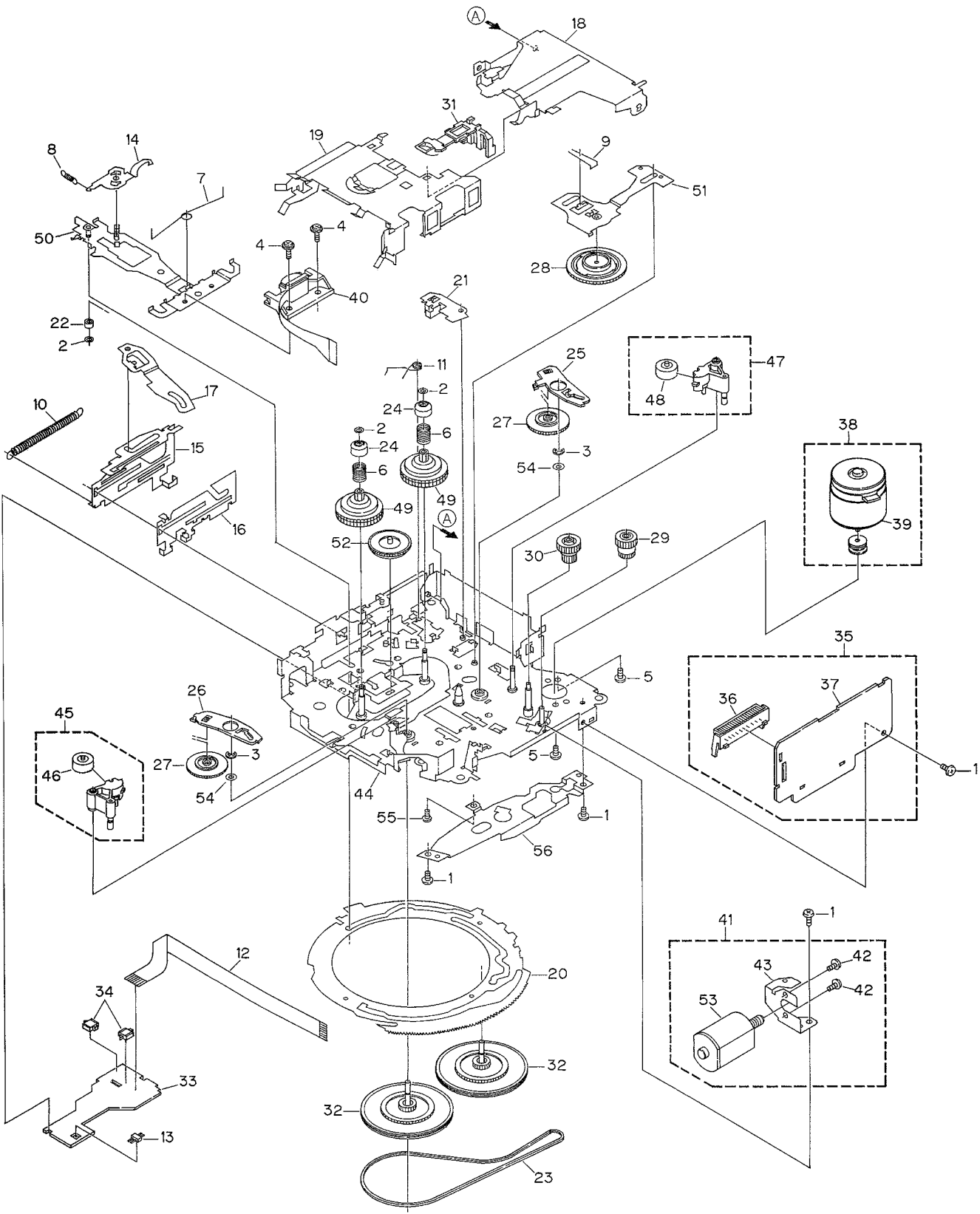
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	31	Screw	BPZ20P100FZK
2	Screw	BSZ30P050FMC	32	Button(DETACH)	See Contrast table(2)
3	Screw	BSZ30P200FMC	33	Button(1-6)	CAC6275
4	Cord Assy	CDE6100	34	Button(EJECT)	CAC6277
5	Plug	CKM1314	35	Button(+ -)	See Contrast table(2)
6	Case	CNB2350	36	Button(SELECT)	See Contrast table(2)
7	Earth Plate	CNC8368	37	Button(SOURCE/LOUD)	CAC6494
8	Spacer	CNM4913	38	Spring	CBH2210
9	Insulator	CNM5963	39	Cover	See Contrast table(2)
10	Tuner Amp Unit	CWM6806	40	Keyboard Unit	See Contrast table(2)
11	Screw	BSZ26P080FMC	41	LCD(LCD1801)	CAW1559
12	Screw	BSZ26P160FMC	42	Connector(CN1801)	CKS3580
13	Cord	CDE6158	43	Holder	CNC8517
14	FM/AM Tuner Unit	CWE1500	44	Rubber	CNV5954
15	Holder	CNC7532	45	Lighting Conductor	CNV6274
16	Plug(CN604)	CKM1288	46	Rubber	CNV5968
17	Connector(CN602)	CKS3568	47	Grille Unit	See Contrast table(2)
18	Connector(CN601)	CKS3581	48	Button	CAC4836
19	Antenna Jack(CN402)	CKX1056	49	Spring	CBH1834
20	Panel	CNB2344	50	Spring	CBH1835
21	Holder	CNC5399	51	Spring	CBH2182
22	Holder	CNC6845	52	Bracket	CNC6135
23	Holder	CNC7533	53	Bracket	CNC6791
24	Holder	CNC7996	54	Arm	CNV4692
25	Insulator	CNM5967	55	Arm	CNV4693
26	Heat Sink	CNR1505	56	Arm	CNV4728
27	Holder Unit	CXB2687	57	Panel Unit	See Contrast table(2)
28			58	Door	See Contrast table(2)
29	Chassis Unit	See Contrast table(2)	59	Spring	CBH1838
30	Detach Grille Assy	See Contrast table(2)	60	Screw	IMS20P030FZK
			61	Cassette Mechanism Module	EXK4100
			62	Screw	ISS26P055FUC
			63	Fuse(10A)	CEK1136
			64	IC(IC302)	TDA7384
			65	Transistor(Q904)	2SD2396

(2) CONTRAST TABLE

KEH-3930R/X1M/EW and KEH-3900R/X1M/EW are constructed the same except for the following:

Mark No.	Symbol and Description	Part No.	
		KEH-3930R/X1M/EW	KEH-3900R/X1M/EW
29	Chassis Unit	CXB4530	CXB4529
30	Detach Grille Assy	CXB4850	CXB4849
32	Button(DETACH)	CAC5929	CAC5789
35	Button(+ -)	CAC6458	CAC6273
36	Button(SELECT)	CAC6459	CAC6276
39	Cover	CNS5662	CNS5661
40	Keyboard Unit	CWM6813	CWM6812
47	Grille Unit	CXB5840	CXB4519
57	Panel Unit	CXB4929	CXB4928
58	Door	CAT2108	CAT2109

2.3 CASSETTE MECHANISM MODULE

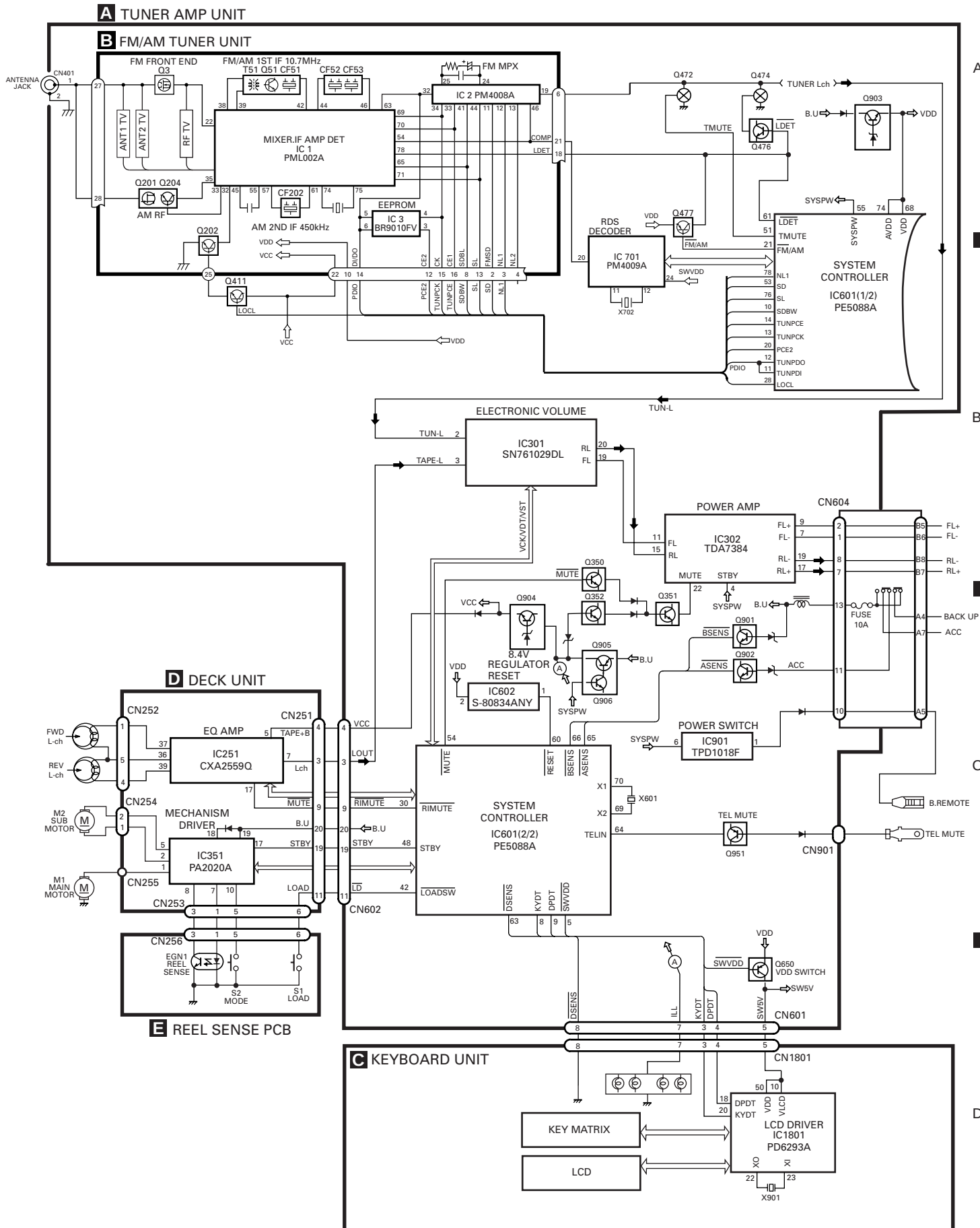


● CASSETTE MECHANISM MODULE SECTION PARTS LIST

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	CBA1037	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	55	Screw	CBA1250
11	Spring	EBH1628	56	Bracket	ENC1542
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)	EXA1592			
41	Motor Unit(M2)	EXA1580			
42	Screw	BMZ20P022FMC			
43	Bracket	ENC1528			
44	Chassis Unit	EXA1582			
45	Pinch Holder Unit	EXA1584			

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM



A TUNER AMP UNIT

B FM/AM TUNER UNIT

SOURCE SELECTOR/
ELECTRONIC VOLUME

POWER AMP

8.4V REGULATOR

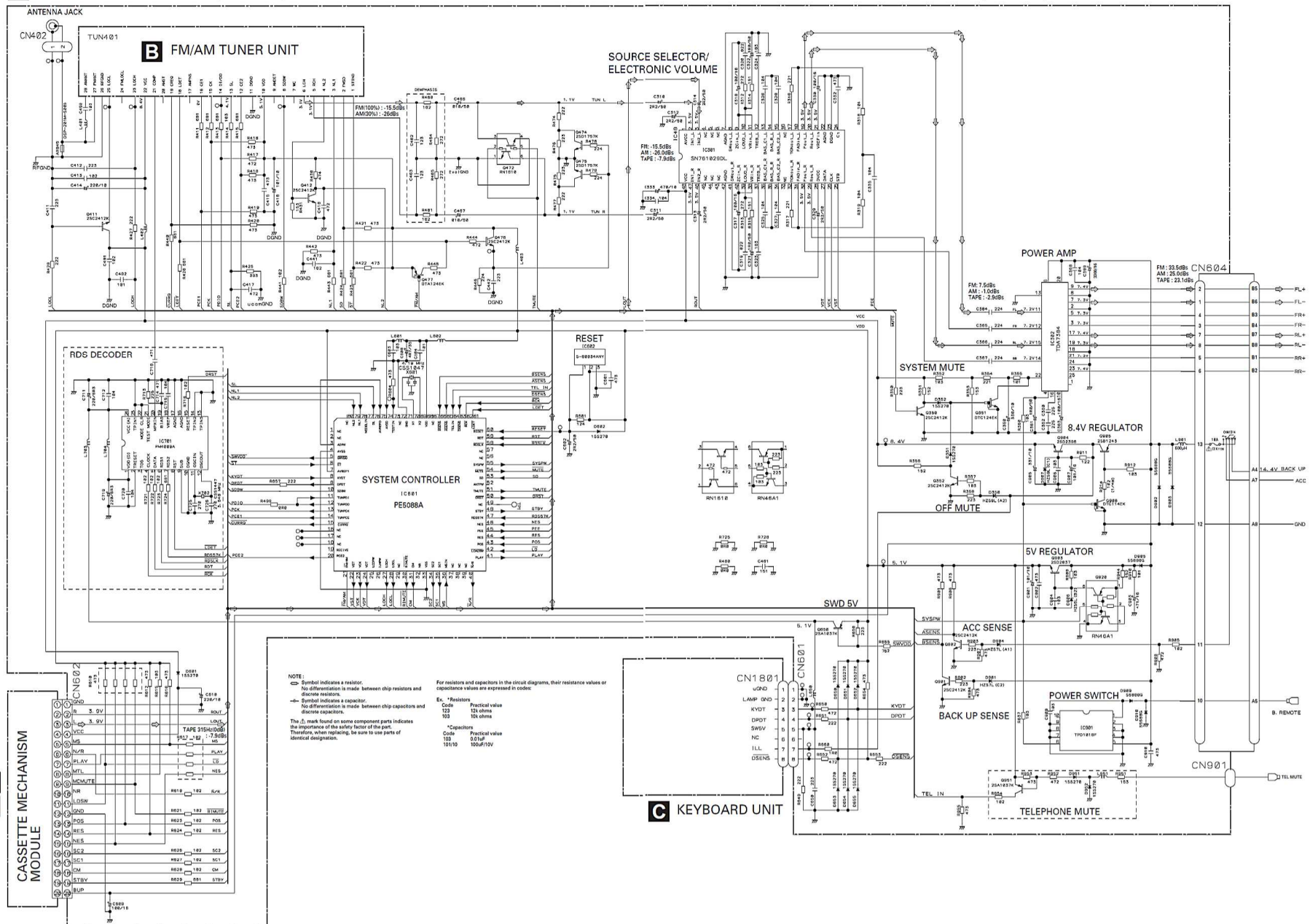
5V REGULATOR

SYSFW		
ASENS		ACC SENSE

POWER SWITCH 0989 510

LEPHONE MUTE

C KEYBOARD UNIT



NOTE : → Symbol indicates a resistor. → Difference is made between chip resistors and discrete resistors. → Symbol indicates a capacitor. → No differentiation is made between chip capacitors and discrete capacitors. The J 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.	For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes. Ex. *Resistors <table border="1"> <thead> <tr> <th>Code</th><th>Practical value</th></tr> </thead> <tbody> <tr> <td>123</td><td>12k ohms</td></tr> <tr> <td>103</td><td>10k ohms</td></tr> </tbody> </table> *Capacitors <table border="1"> <thead> <tr> <th>Code</th><th>Practical value</th></tr> </thead> <tbody> <tr> <td>100</td><td>0.01μF</td></tr> <tr> <td>1010</td><td>100nF/10V</td></tr> </tbody> </table>	Code	Practical value	123	12k ohms	103	10k ohms	Code	Practical value	100	0.01μF	1010	100nF/10V
Code	Practical value												
123	12k ohms												
103	10k ohms												
Code	Practical value												
100	0.01μF												
1010	100nF/10V												

A TUNER AMP UNIT

B FM/AM TUNER UNIT

SOURCE SELECTOR/
ELECTRONIC VOLUME

POWER AMP

SYSTEM MUTE

8.4V REGULATOR

OFF MUTE

5V REGULATOR

ACC SENSE

POWER SWITCH

BACK UP SENSE

TELEPHONE MUTE

SYSTEM CONTROLLER
IC601
PE5088A

C KEYBOARD UNIT

NOTE:

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

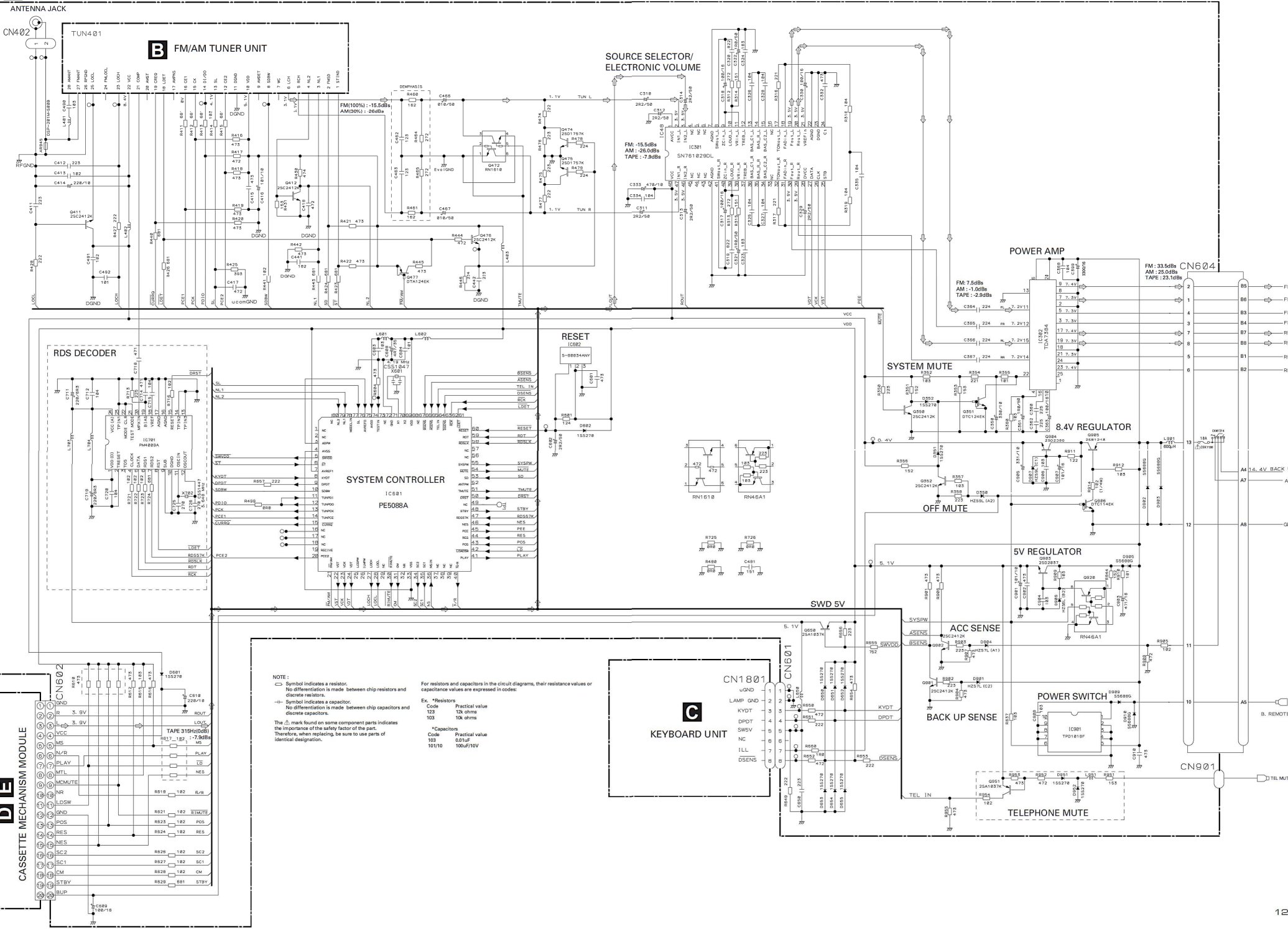
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in code:

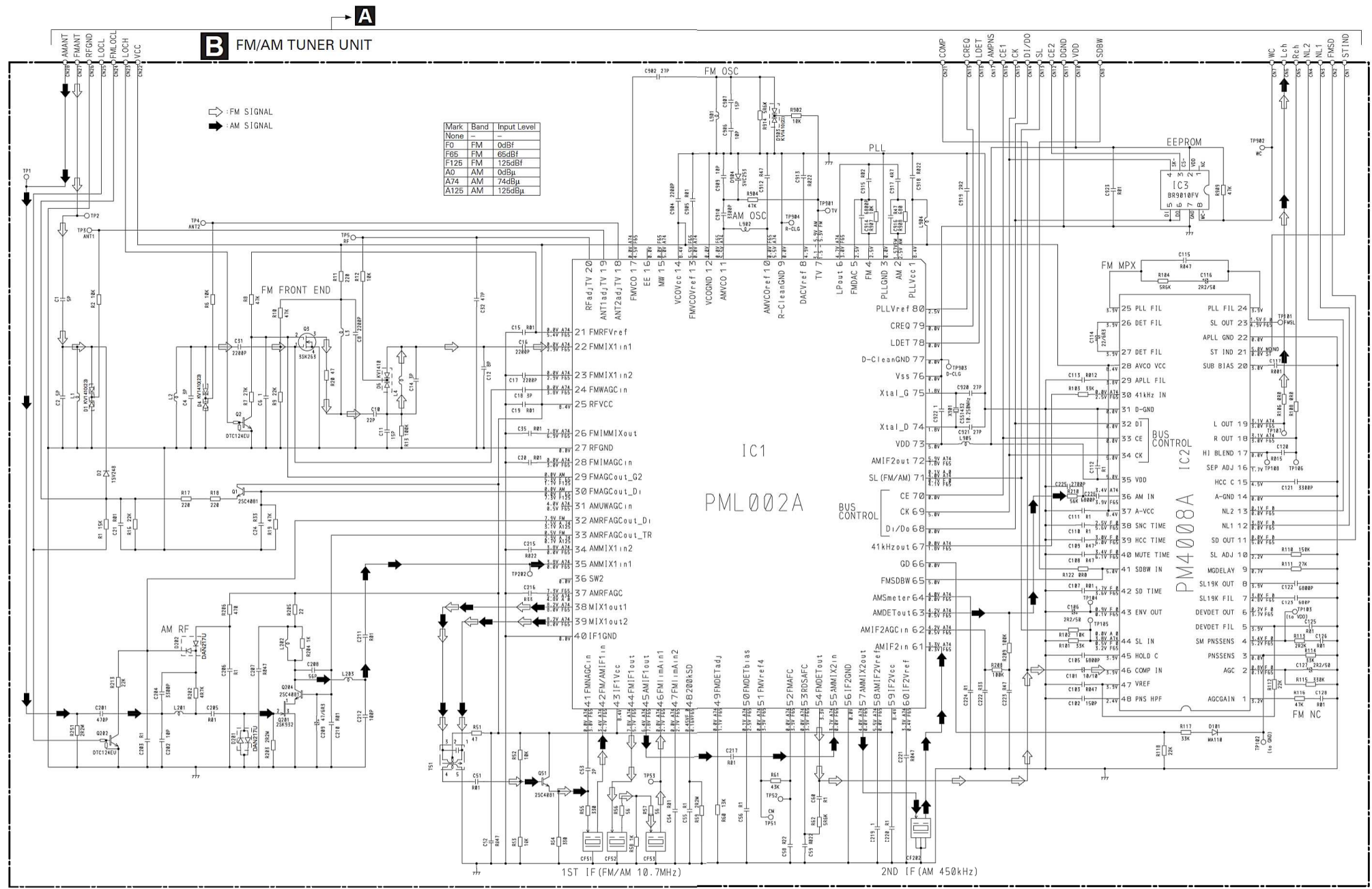
Ex. *Resistors
Code Practical value
123 12k ohms
103 10k ohms

*Capacitors
Code Practical value
103 0.01 μ F
101/10 100 μ F/10V

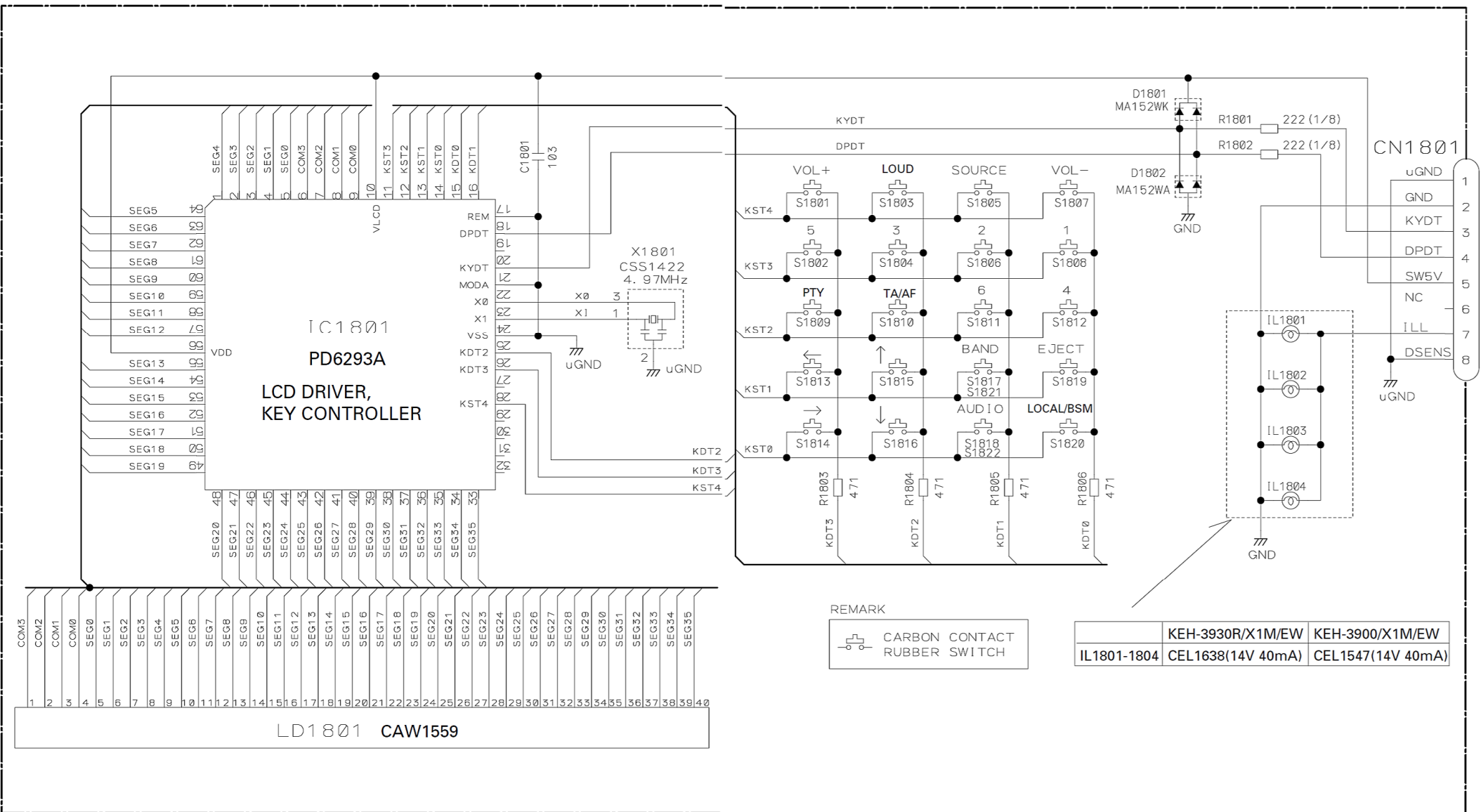
D CASSETTE MECHANISM MODULE



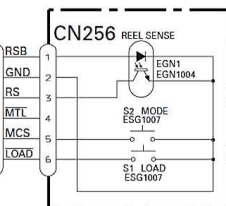
3.3 FM/AM TUNER UNIT



C KEYBOARD UNIT



D DECK UNIT



REEL SENSE
PCB

SWITCHES:
PCB UNIT
S1:LOAD SWITCH.....EJECT-PLAY
S2:MODE SWITCH.....ON-OFF
The underlined indicates the switch position.

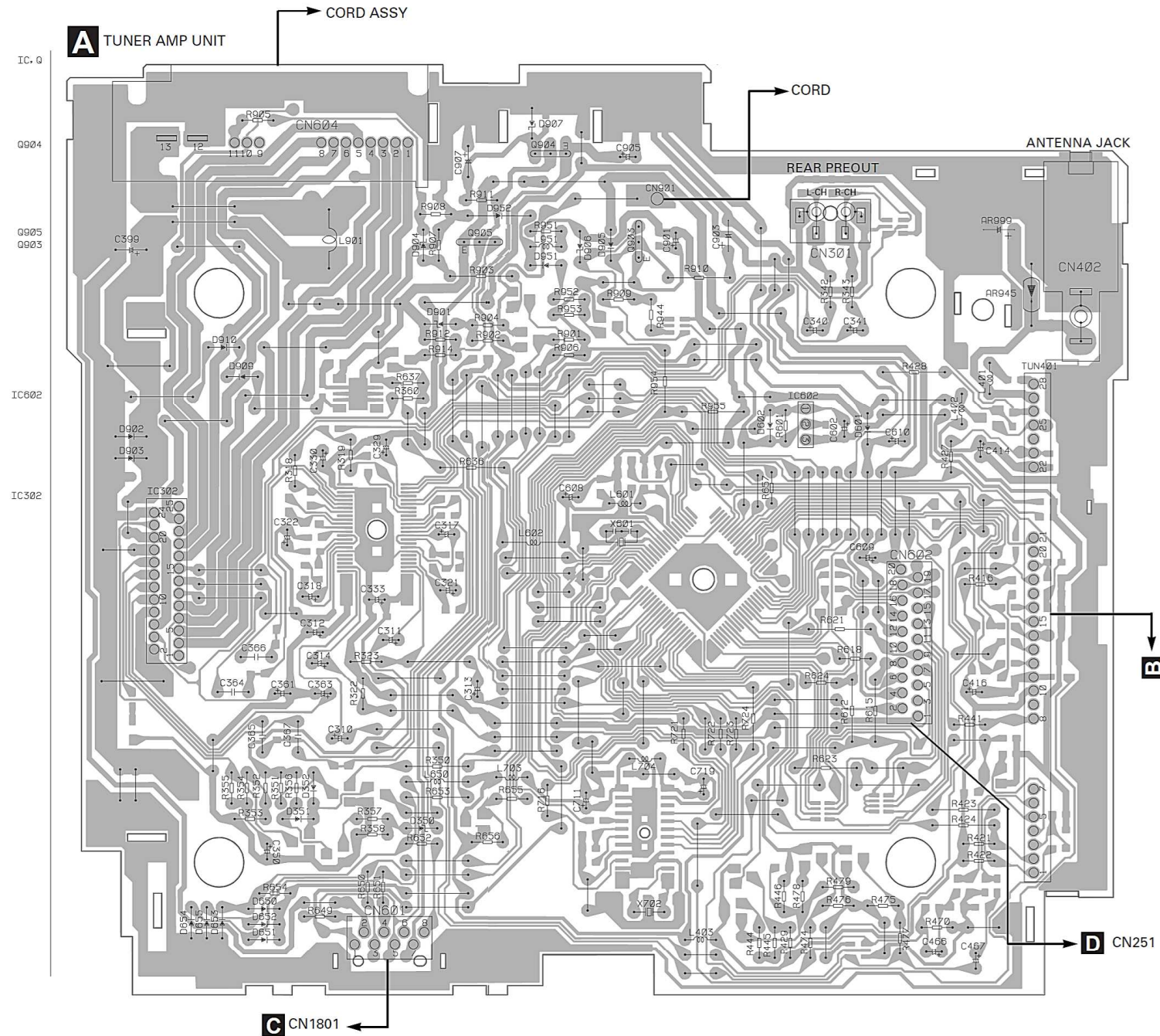
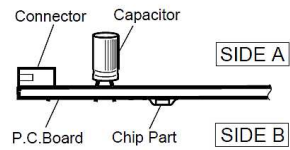
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

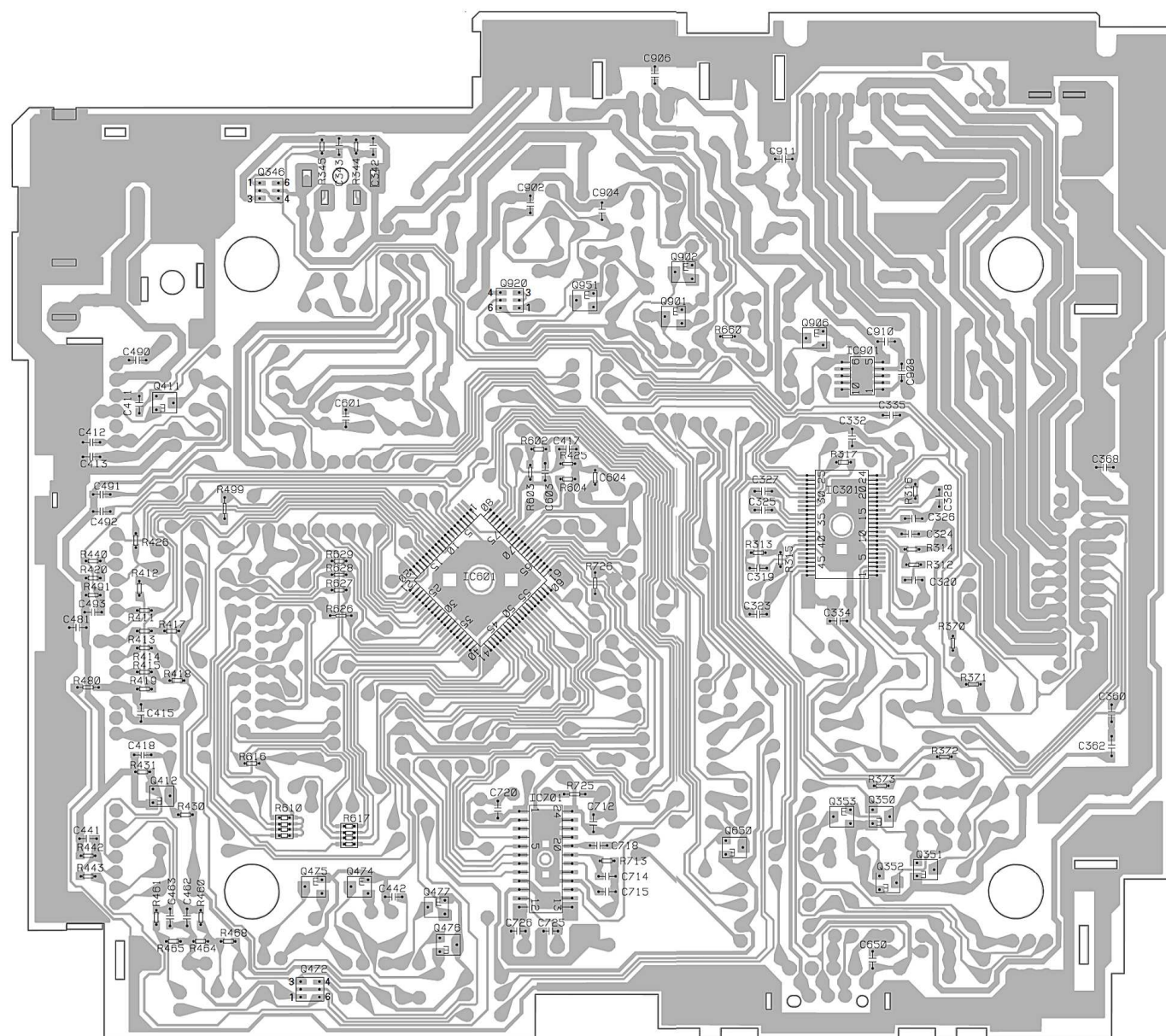
1. The parts mounted on this PCB include all necessary parts for several destination.
For further information for respective destinations, be sure to check with the schematic diagram.

2. Viewpoint of PCB diagrams



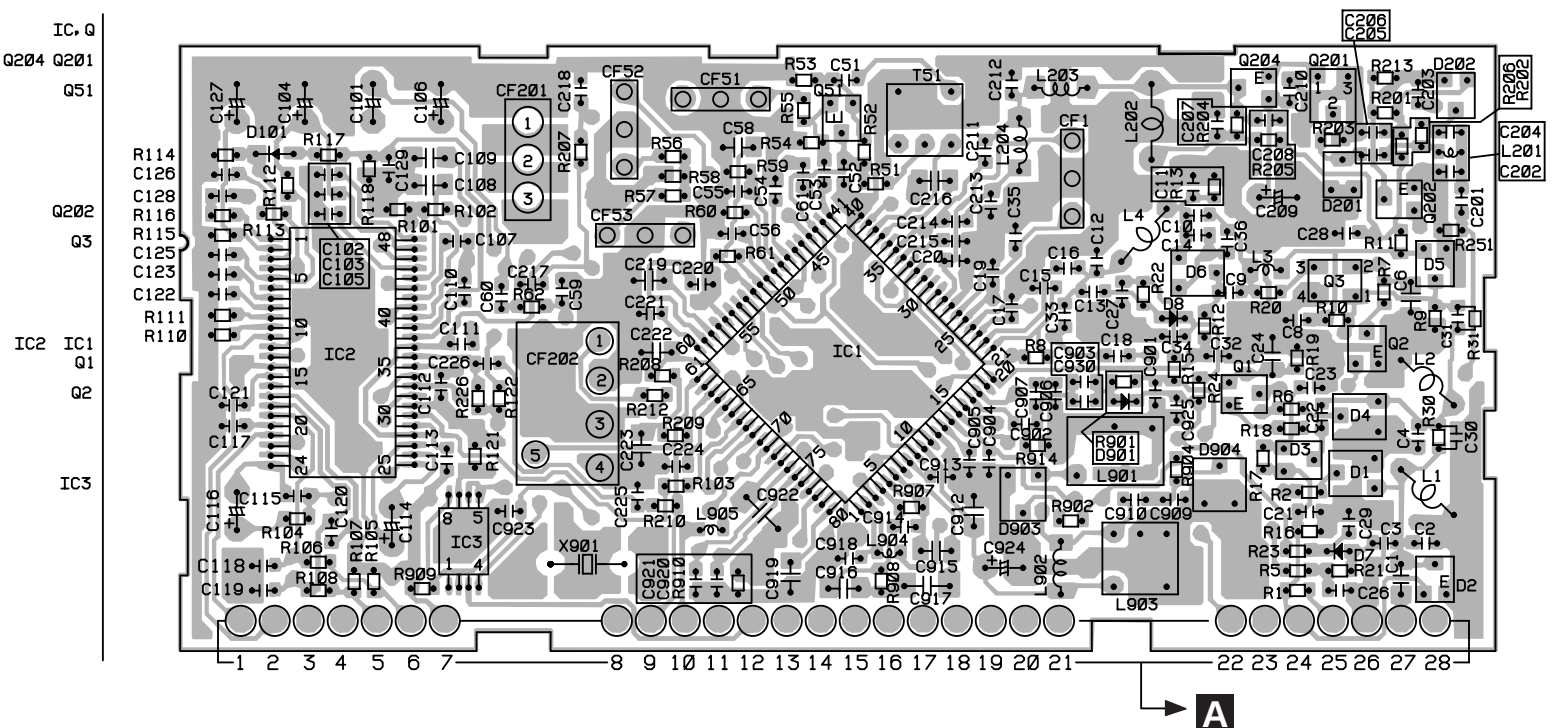
A TUNER AMP UNIT

SIDE B



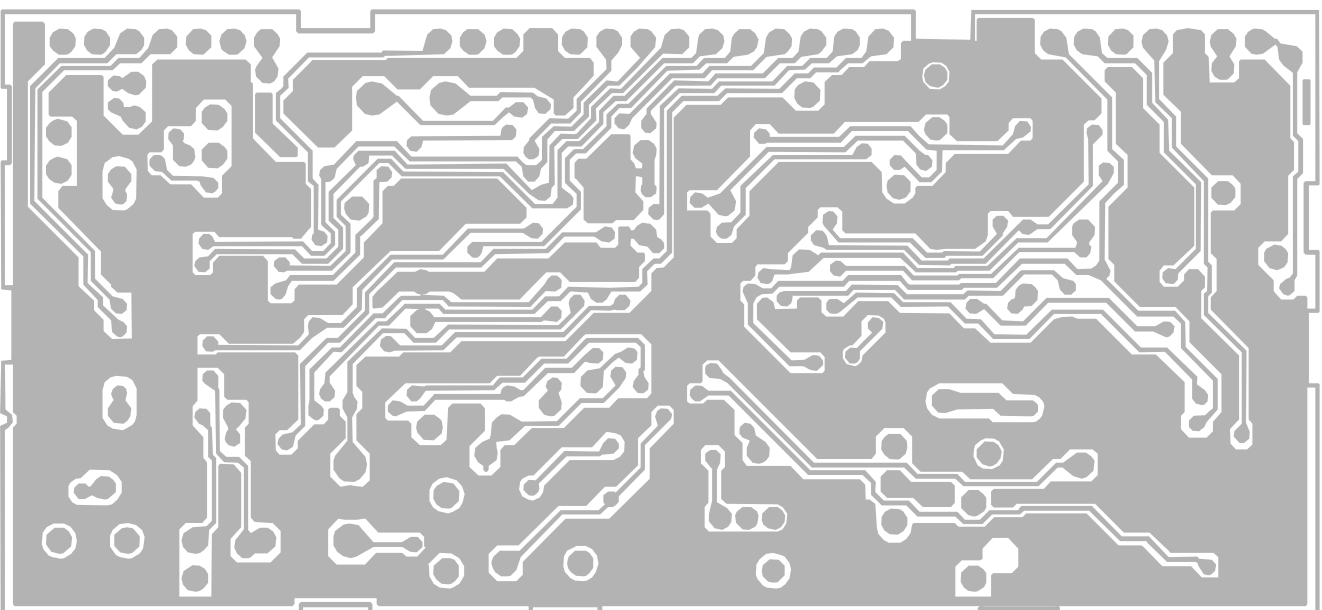
- IC. Q
- Q346
- Q902
- Q920 Q951
- Q901
- Q906
- IC901
- Q411
- IC301
- IC601
- Q412
- IC701 Q353
- Q350
- Q650
- Q351
- Q475 Q474
- Q477 Q352
- Q476
- Q472

SIDE A



FM/AM TUNER UNIT

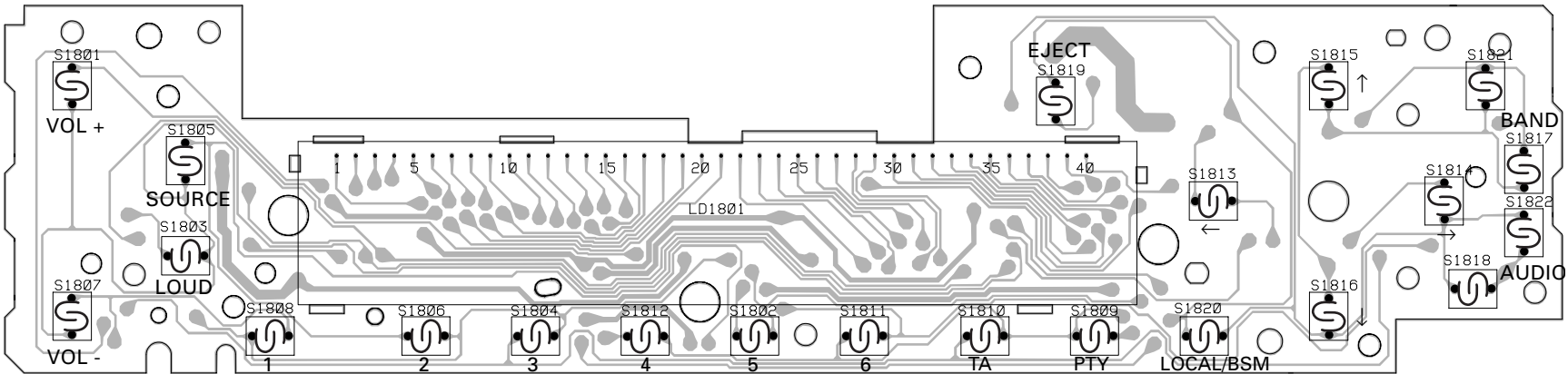
SIDE B



B FM/AM TUNER UNIT

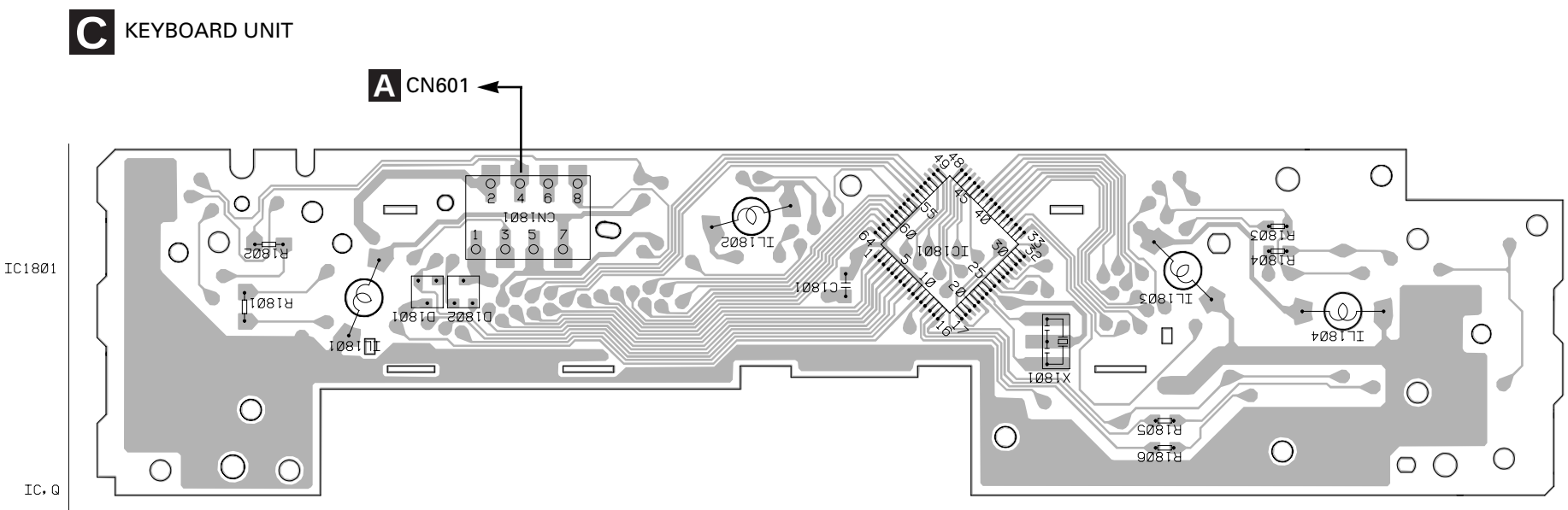
4.3 KEYBOARD UNIT

SIDE A



C KEYBOARD UNIT

SIDE B



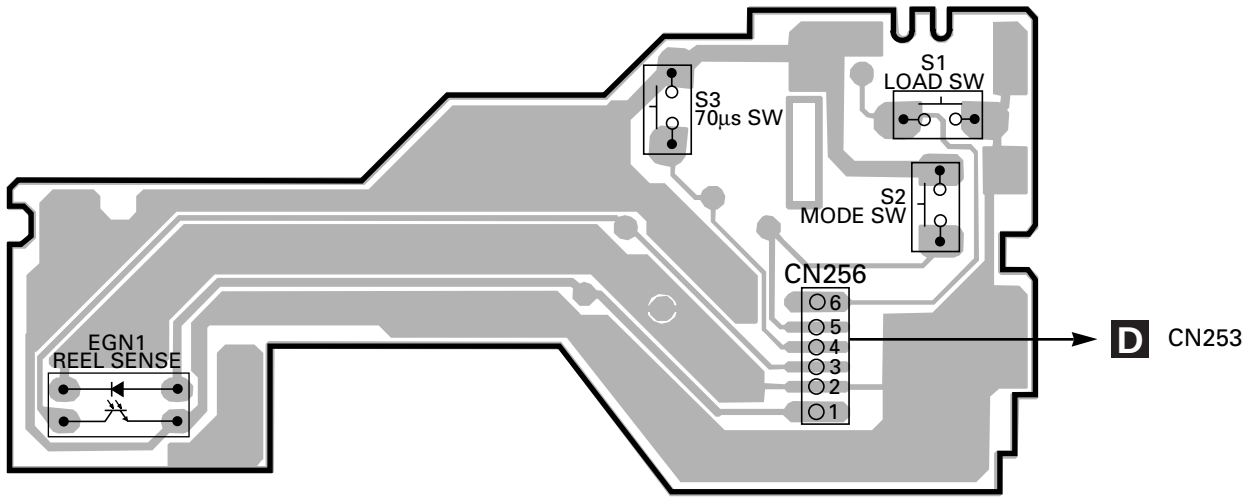
C KEYBOARD UNIT

A CN601

IC1801

IC, Q

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/○○○○○J,RS1/○○○○○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 : CWM6806 Unit Name : Tuner Amp Unit		L 601	Ferri-Inductor
		L 602	Ferri-Inductor
		L 650	Ferri-Inductor
		L 703	Inductor
		L 704	Ferri-Inductor
		L 901	Coil 600μH
		L 951	Ferri-Inductor
		X 601	Ceramic Resonator 4.194MHz
		X 702	Crystal Resonator 3.648MHz
		AR 945	
			LAU2R2K
			LAU2R2K
			LAU2R2K
			LAU100K
			LAU101K
			CTH1219
			LAU2R2K
			CSS1047
			CSS1447
			DSP-201M-S00B
MISCELLANEOUS		RESISTORS	
IC 301	IC SN761029DL	R 312	RS1/10S272J
IC 302	TDA7384	R 313	RS1/10S272J
IC 601	PE5088A	R 314	RS1/10S151J
IC 602	S-80834ANY	R 315	RS1/10S151J
IC 701	PM4009A	R 316	RS1/10S221J
IC 901	TPD1018F	R 317	RS1/10S221J
Q 350	2SC2412K	R 318	RD1/4PU104J
Q 351	DTC124EK	R 319	RD1/4PU104J
Q 352	2SC2412K	R 350	RD1/4PU223J
Q 411	2SC2412K	R 351	RD1/4PU152J
Q 412	2SC2412K	R 352	RD1/4PU103J
Q 472	RN1610	R 353	RD1/4PU153J
Q 474	2SD1757K	R 354	RD1/4PU221J
Q 475	2SD1757K	R 355	RD1/4PU101J
Q 476	2SC2412K	R 356	RD1/4PU152J
Q 477	DTA124EK	R 357	RD1/4PU103J
Q 650	2SA1037K	R 358	RD1/4PU223J
Q 901	2SC2412K	R 360	RD1/4PU103J
Q 902	2SC2412K	R 411	RS1/10S681J
Q 903	2SD2037	R 412	RS1/10S681J
Q 904	2SD2396	R 413	RS1/10S681J
Q 905	2SB1243	R 414	RS1/10S103J
Q 906	DTC114EK	R 415	RS1/10S681J
Q 920	RN46A1	R 416	RD1/4PU473J
Q 951	2SA1037K	R 417	RS1/10S472J
D 350	HZS9L(A2)	R 418	RS1/10S473J
D 351	1SS270	R 419	RS1/10S473J
D 352	1SS270	R 420	RS1/10S473J
D 601	1SS270	R 421	RD1/4PU473J
D 602	1SS270	R 422	RD1/4PU473J
D 650	1SS270	R 423	RD1/4PU681J
D 651	1SS270	R 424	RD1/4PU681J
D 652	1SS270	R 425	RS1/10S393J
D 653	1SS270	R 426	RS1/10S681J
D 654	1SS270	R 427	RD1/4PU222J
D 655	1SS270	R 428	RD1/4PU222J
D 901	HZS7L(C2)	R 430	RS1/10S474J
D 902	S5688G	R 431	RS1/10S153J
D 903	S5688G	R 440	RS1/10S681J
D 904	HZS7L(A1)	R 441	RD1/4PU102J
D 905	S5688G		
D 906	HZS6L(B2)		
D 907	HZS9L(C1)		
D 909	S5688G		
D 910	S5688G		
D 951	1SS270		
D 952	1SS270		
L 401	LAU4R7K		
L 402	LAU2R2K		
L 403	LAU100K		

====Circuit Symbol and No.==Part Name	Part No.	====Circuit Symbol and No.==Part Name	Part No.
R 442	RS1/10S473J	CAPACITORS	
R 443	RS1/10S681J	C 310	CEJA2R2M50
R 444	RD1/4PU472J	C 311	CEJA2R2M50
R 445	RD1/4PU473J	C 312	CEJA2R2M50
R 446	RD1/4PU224J	C 313	CEJA2R2M50
		C 314	CEJA2R2M50
R 460	RS1/10S162J		
R 461	RS1/10S162J	C 317	CEJA100M16
R 464	RS1/10S272J	C 318	CEJA100M16
R 465	RS1/10S272J	C 319	CKSQYB822K50
R 474	RD1/4PU222J	C 320	CKSQYB822K50
		C 321	CEJA1R0M50
R 475	RD1/4PU223J		
R 476	RD1/4PU223J	C 322	CEJA1R0M50
R 477	RD1/4PU222J	C 323	CKSQYB183K50
R 478	RD1/4PU224J	C 324	CKSQYB183K50
R 479	RD1/4PU224J	C 325	CKSQYB104K16
		C 326	CKSQYB104K16
R 480	RS1/8S0R0J		
R 499	RS1/8S0R0J	C 327	CKSQYB104K16
R 601	RD1/4PU124J	C 328	CKSQYB104K16
R 604	RS1/10S473J	C 329	CEJA2R2M50
R 610	RAB4C473J	C 330	CEJA100M16
		C 332	CKSQYB473K50
R 612	RD1/4PU473J		
R 615	RD1/4PU103J	C 333	CEJA470M10
R 616	RS1/10S473J	C 334	CKSQYB104K16
R 617	RAB4C102J	C 335	CKSQYB104K16
R 618	RD1/4PU102J	C 350	CEJA330M10
		C 360	CKSQYB225K10
R 621	RD1/4PU102J		
R 623	RD1/4PU102J	C 361	CEJA1R0M50
R 624	RD1/4PU102J	C 362	CKSYB225K16
R 626	RS1/8S102J	C 363	CEJA100M16
R 627	RS1/10S102J	C 364	CFTNA224J50
		C 365	CFTNA224J50
R 628	RS1/10S102J		
R 629	RS1/10S681J	C 366	CFTNA224J50
R 637	RD1/4PU103J	C 367	CFTNA224J50
R 649	RD1/4PU222J	C 368	CKSQYB104K16
R 650	RD1/4PU472J	C 399	CCH1344
		C 411	CKSQYB223K50
R 651	RD1/4PU222J		
R 652	RD1/4PU472J	C 412	CKSQYB223K50
R 653	RD1/4PU222J	C 413	CKSQYB102K50
R 654	RD1/4PU473J	C 414	CEJA220M10
R 655	RD1/4PU752J	C 415	CKSQYB473K50
		C 416	CEJA101M10
R 656	RD1/4PU223J		
R 657	RD1/4PU222J	C 417	CKSQYB472K50
R 660	RS1/10S1R0J	C 418	CKSQYB472K50
R 713	RS1/10S225J	C 441	CKSQYB182K50
R 716	RD1/4PU102J	C 442	CKSQYB223K50
		C 462	CKSQYB123K50
R 721	RD1/4PU102J		
R 722	RD1/4PU102J	C 463	CKSQYB123K50
R 723	RD1/4PU102J	C 466	CEJA1R0M50
R 724	RD1/4PU681J	C 467	CEJA1R0M50
R 725	RS1/8S0R0J	C 481	CCSQCH151J50
		C 490	CKSQYB103K50
R 726	RS1/8S0R0J		
R 901	RD1/4PU473J	C 491	CKSQYB102K50
R 902	RD1/4PU223J	C 492	CCSQCH101J50
R 903	RD1/4PU223J	C 601	CKSQYB473K50
R 904	RD1/4PU473J	C 602	CEJA2R2M50
		C 603	CKSQYB103K50
R 905	RD1/4PU102J		
R 906	RD1/4PU473J	C 604	CCSQCH101J50
R 907	RD1/4PU473J	C 608	CEJA4R7M35
R 908	RD1/4PU472J	C 609	CEJA100M16
R 909	RD1/4PU103J	C 610	CEJA220M10
		C 650	CKSQYB223K50
R 910	RD1/4PU101J		
R 911	RD1/4PU122J	C 711	CEJA220M6R3
R 912	RD1/4PU103J	C 712	CKSQYB104K16
R 914	RD1/4PU102J	C 714	CKSQYB471K50
R 944	RD1/4PU152J	C 715	CKSQYB104K16
		C 718	CKSQYB471K50
R 951	RD1/4PU153J		
R 952	RD1/4PU472J		
R 953	RD1/4PU473J		
R 954	RD1/4PU102J		
R 955	RD1/4PU473J		

====Circuit Symbol and No.==Part Name			Part No.	====Circuit Symbol and No.==Part Name			Part No.
C	719		CEJA220M6R3	R	16		RS1/16S223J
C	720		CKSQYB104K16	R	17		RS1/16S221J
C	725		CCSQCH270J50	R	18		RS1/16S221J
C	726		CCSQCH270J50	R	19		RS1/16S473J
C	901		CEJA101M10	R	20		RS1/16S470J
C	902		CKSQYB473K50	R	51		RS1/16S470J
C	903	470μF/16V	CCH1183	R	52		RS1/16S103J
C	904		CKSQYB103K50	R	53		RS1/16S103J
C	905	330μF/10V	CCH1181	R	54		RS1/16S331J
C	906		CKSQYB103K50	R	55		RS1/16S331J
C	907	100μF/16V	CCH1179	R	56		RS1/16S560J
C	908		CKSQYB103K50	R	57		RS1/16S560J
C	910		CKSQYB473K50	R	58		RS1/16S102J
				R	59		RS1/16S225J
				R	60		RS1/16S133J
				R	61		RS1/16S433J
				R	62		RS1/16S562J
				R	101		RS1/16S333J
				R	102		RS1/16S103J
				R	103		RS1/16S333J
IC	1	IC	PML002A				
IC	2	IC	PM4008A				
IC	3	IC	BR9010FV				
Q	1	Transistor	2SC4081	R	104		RS1/16S562J
Q	2	Transistor	DTC124EU	R	106		RS1/16S0R0J
				R	108		RS1/16S0R0J
Q	3	FET	3SK263	R	110		RS1/16S154J
Q	51	Transistor	2SC4081	R	111		RS1/16S273J
Q	201	FET	2SK932				
Q	202	Transistor	DTC124EU	R	112		RS1/16S223J
Q	204	Transistor	2SC4081	R	113		RS1/16S222J
				R	114		RS1/16S333J
				R	115		RS1/16S334J
				R	116		RS1/16S473J
D	1	Diode	KV1410(23)				
D	2	Diode	1SV248				
D	4	Diode	KV1410(23)	R	117		RS1/16S333J
D	6	Diode	KV1410(23)	R	118		RS1/16S223J
D	101	Diode	1SS355	R	122		RS1/16S0R0J
				R	202		RS1/16S472J
D	201	Diode	DAN217U	R	203		RS1/16S225J
D	202	Diode	DAN217U				
D	903	Diode	KV1410(23)				
D	904	Diode	SVC253	R	204		RS1/16S102J
L	1	Coil	CTC1155	R	205		RS1/16S220J
				R	206		RS1/16S471J
				R	208		RS1/16S104J
				R	209		RS1/16S104J
L	2	Coil	CTC1155				
L	3	Inductor	LCTB100K2125				
L	4	Coil	CTC1155	R	210		RS1/16S563J
L	201	Inductor	LCTB330K1608	R	213		RS1/16S223J
L	202	Inductor	CTF1287	R	251		RS1/16S225J
				R	902		RS1/16S103J
				R	904		RS1/16S473J
L	203	Inductor	LCTA121J3225				
L	901	Coil	CTC1154				
L	902	Inductor	LCTA3R3J3225				
L	904	Inductor	LCTBR47K1608	R	907		RS1/16S103J
L	905	Inductor	LCTBR47K1608	R	908		RS1/16S681J
				R	909		RS1/16S473J
				R	914		RS1/16S562J
T	51	Coil	CTE1132				
CF	51	Ceramic Filter	CTF1442				
CF	52	Ceramic Filter	CTF1442				
CF	53	Ceramic Filter	CTF1442				
CF	202	Ceramic Filter	CTF1348				
X	901	Crystal Resonator 10.250MHz	CSS1432				

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 21	CKSRYP103K50	C 914	CKSRYP682K25
C 24	CKSQYB334K16	C 915	CKSQYB223K25
C 31	CKSRYP222K50	C 916	CKSQYB474K16
C 32	CCSRCH470J50	C 917	CKSYB475K10
C 35	CKSRYP103K50	C 918	CKSRYP223K25
C 51	CKSRYP103K50	C 919	CKSQYB225K10
C 52	CKSRYP473K16	C 920	CCSRCH270J50
C 53	CCSRCK2R0C50	C 921	CCSRCH270J50
C 54	CKSRYP103K50	C 922	CKSYB105K16
C 55	CKSRYP104K16	C 923	CKSRYP103K50
C 56	CKSRYP104K16		
C 58	CKSQYB224K16	C Unit Number : CWM6813	
C 59	CKSRYP223K25	(KEH-3930R/X1M/EW)	
C 60	CKSRYP104K16	Unit Name : Keyboard Unit	
C 101	CEALNP100M10		
C 102	CCSRCH151J50	MISCELLANEOUS	
C 103	CKSRYP473K16	IC 1801 IC	PD6293A
C 105	CKSRYP682K25	D 1801 Diode	MA152WK
C 106	CEAL2R2M50	D 1802 Diode	MA152WA
C 107	CKSRYP103K50	X 1801 Ceramic Resonator 4.97MHz	CSS1422
C 108	CKSQYB474K16	IL 1801 Lamp 14V 40mA	CEL1638
C 109	CKSQYB474K16		
C 110	CKSRYP104K16	IL 1802 Lamp 14V 40mA	CEL1638
C 111	CKSRYP104K16	IL 1803 Lamp 14V 40mA	CEL1638
C 112	CKSRYP104K16	IL 1804 Lamp 14V 40mA	CEL1638
C 113	CKSRYP123K25	LCD1801 LCD	CAW1559
C 114	CEAL220M6R3		
C 115	CKSRYP473K16	RESISTORS	
C 116	CEAL2R2M50	R 1801	RS1/8S222J
C 117	CKSRYP102K50	R 1802	RS1/8S222J
C 120	CKSRYP153K25	R 1803	RS1/10S471J
C 121	CKSRYP332K50	R 1804	RS1/10S471J
C 122	CKSRYP682K25	R 1805	RS1/10S471J
C 123	CKSRYP681K50		
C 125	CKSRYP103K50	R 1806	RS1/10S471J
C 126	CKSRYP103K50		
C 127	CEAL2R2M50	CAPACITORS	
C 128	CKSRYP103K50	C 1801	CKSQYB103K50
C 201	CCSRCH471J50		
C 202	CCSRCH100D50	C Unit Number : CWM6812	
C 203	CKSRYP104K16	(KEH-3900R/X1M/EW)	
C 204	CKSRYP332K50	Unit Name : Keyboard Unit	
C 205	CKSRYP103K50		
C 206	CKSRYP104K16	MISCELLANEOUS	
C 207	CKSRYP473K16	IC 1801 IC	PD6293A
C 208	CCSRCH560J50	D 1801 Diode	MA152WK
C 209	CEAL470M6R3	D 1802 Diode	MA152WA
C 210	CKSRYP103K50	X 1801 Ceramic Resonator 4.97MHz	CSS1422
C 211	CKSRYP103K50	IL 1801 Lamp 14V 40mA	CEL1547
C 212	CCSRCH101J50		
C 215	CKSRYP223K25	IL 1802 Lamp 14V 40mA	CEL1547
C 216	CKSQYB334K16	IL 1803 Lamp 14V 40mA	CEL1547
C 217	CKSRYP103K50	IL 1804 Lamp 14V 40mA	CEL1547
C 219	CKSQYB105K10	LCD1801 LCD	CAW1559
C 220	CKSRYP104K16		
C 221	CKSRYP473K16	RESISTORS	
C 222	CKSQYB334K16	R 1801	RS1/8S222J
C 223	CKSQYB474K16	R 1802	RS1/8S222J
C 224	CKSRYP104K16	R 1803	RS1/10S471J
C 225	CKSRYP272K50	R 1804	RS1/10S471J
C 226	CKSRYP682K25	R 1805	RS1/10S471J
C 902	CCSRCH270J50	R 1806	RS1/10S471J
C 904	CKSRYP223K25	CAPACITORS	
C 905	CKSRYP103K50	C 1801	CKSQYB103K50
C 906	CCSRTH100D50		
C 907	CCSRTH150J50		
C 909	CCSRTH100D50		
C 910	CKSRYP332K50		
C 912	CKSQYB474K16		
C 913	CKSRYP223K25		

====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

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

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	EXA1592
Fuse(10A)	CEK1136

6. ADJUSTMENT

There is no information to be shown in this chapter.

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.

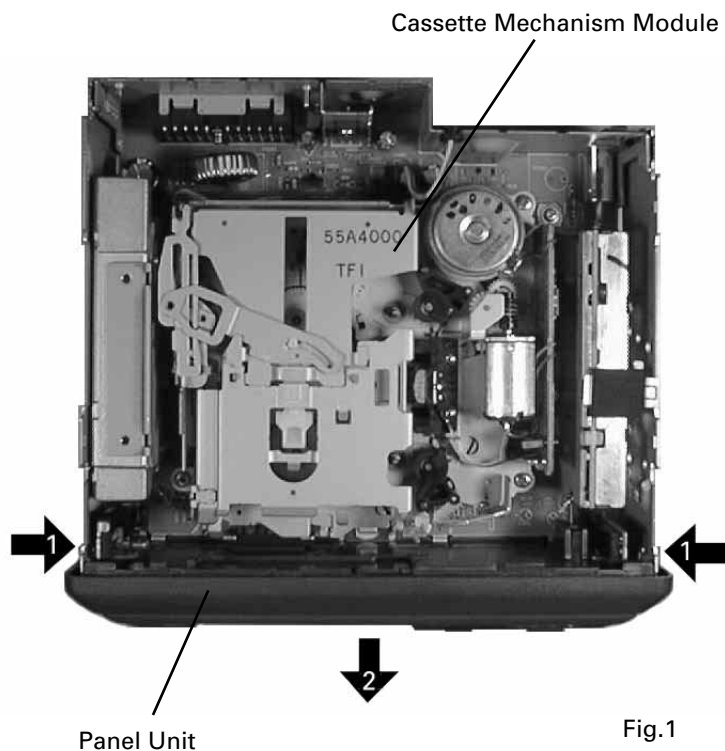
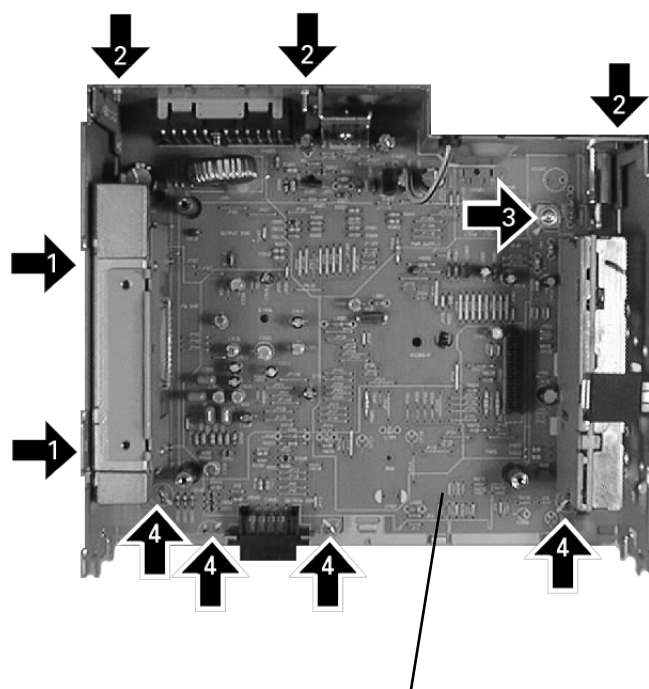


Fig.1

● Remove the Tuner Amp Unit(Fig.2)

-  1 Remove the two screws.
-  2 Remove the 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

7.2 PARTS

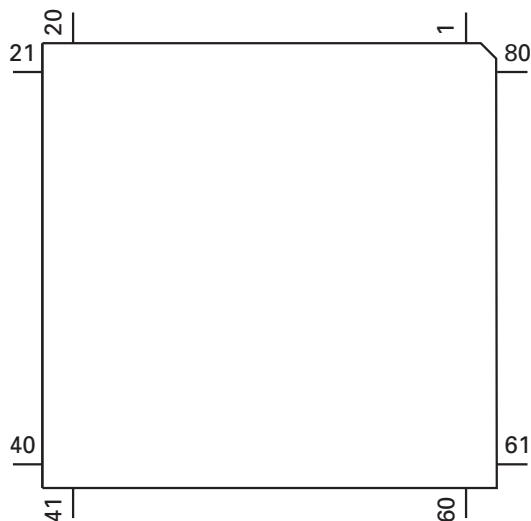
7.2.1 IC

● Pin Functions (PE5088A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1,2	NC			Not used
3	ADPW	O	C	A/D converter power supply output
4	AVSS			GND
5	SWVDD	O	C	Grille power supply control output
6	ST	I		FM stereo input
7	AVREF1			Connected to 5V line
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	SDBW	I		SDBW 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	C	Tuner voltage FIX output
16-18	NC			Not used
19	RECIVE	O	C	During RDS data reception output
20	PCE2	O	C	PLL IC chip enable output
21	FM/AM	O	C	FM/AM power select output
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	LCDPW	O	C	LCD back light power supply control output
26	ILMPW	O	C	Illumination power supply control output
27	LOCH	O	C	LOCH output
28	LOCL	O	C	LOCL output
29	NC			Not used
30	RIMUTE	O	N	RI output port
31	CM	O	C	Cassette mechanism capstan motor control output
32	NR	O	N	Dolby B NR 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	MSIN	I		Cassette mechanism MS sense input
37-39	NC			Not used
40	N/R	O		Tape direction forward / 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	NC			Not used
50	DRST	O	C	Decoder reset output
51	TMUTE	O	C	Tuner mute output
52	ANTPW	O		Antenna power output
53	SD	I		SD input
54	MUTE	O	C	Mute output
55	SYSPW	O	C	System power supply control output
56,57	NC			Not used
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

Pin No.	Pin Name	I/O	Format	Function and Operation
62	RCK	I		RDS clock input
63	DSENS	I		Grille detach sense input
64	TELIN	I		Telephone mute input
65	ASENS	I		ACC power sense input
66	BSSENS	I		Back up power sense input
67	NC			Not used
68	VDD			VDD
69	X2	O		Oscillator output
70	X1	I		Oscillator input
71	GND			Connect to 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	MODELIN	I		Model select input
78	NL1	I		Noise level 1 input
79	NL2	I		Noise level 2 input
80	NC			Not used

*PE5088A

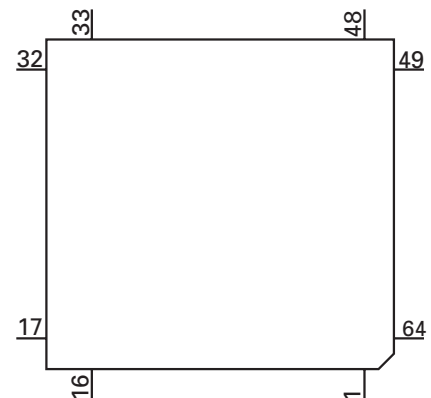


Format	Meaning
C	C MOS
N	N Channel open drain

IC's marked by* are MOS type.

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

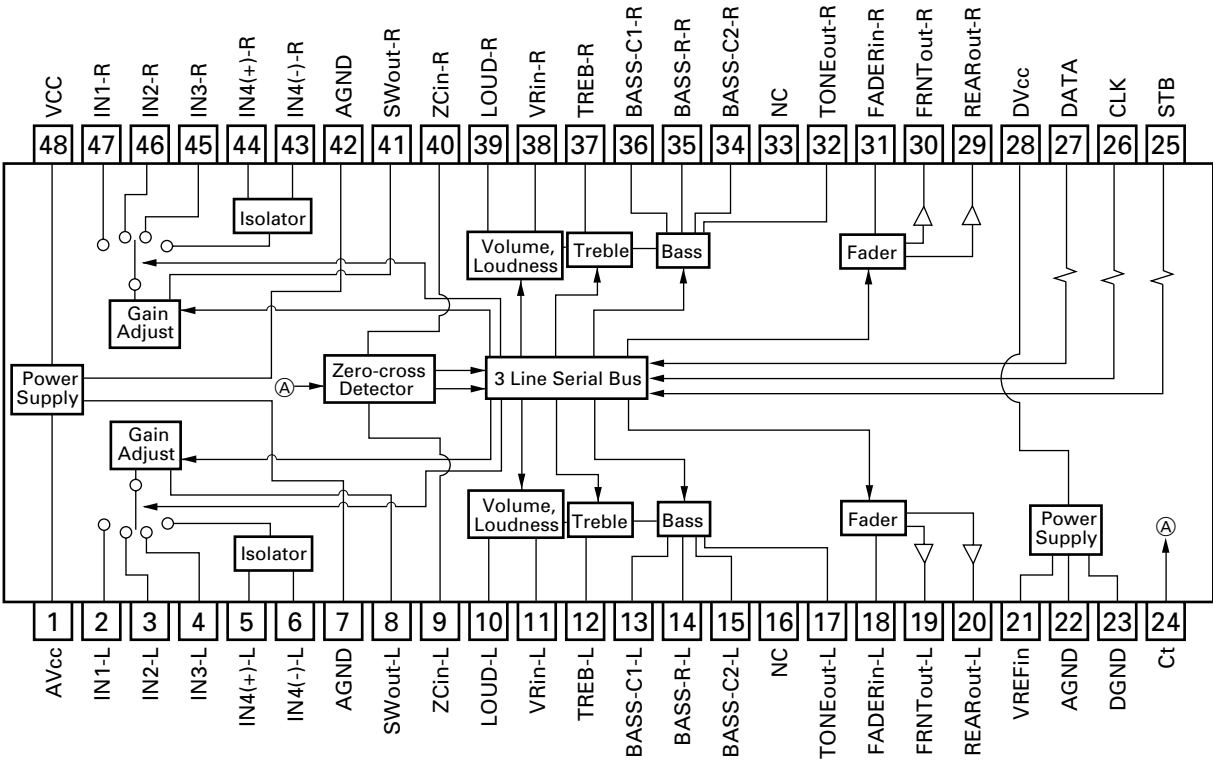
*PD6293A



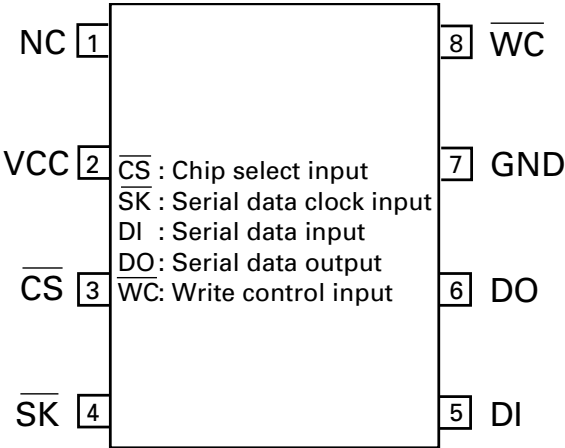
● Pin Functions (PD6293A)

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	VLCD		LCD drive power supply
11-14	KST3-0	O	Key strobe output
15,16	KDT0,1	I	Key data input (analogue input)
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
27	NC		Not used
28	KST4	O	Key strobe output
29-32	NC		Not used
33-55	SEG35-13	O	LCD segment output
56	VDD		Power supply
57-64	SEG12-5	O	LCD segment output

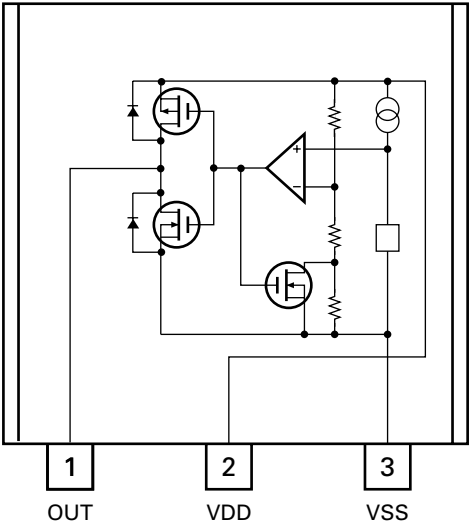
SN761029DL



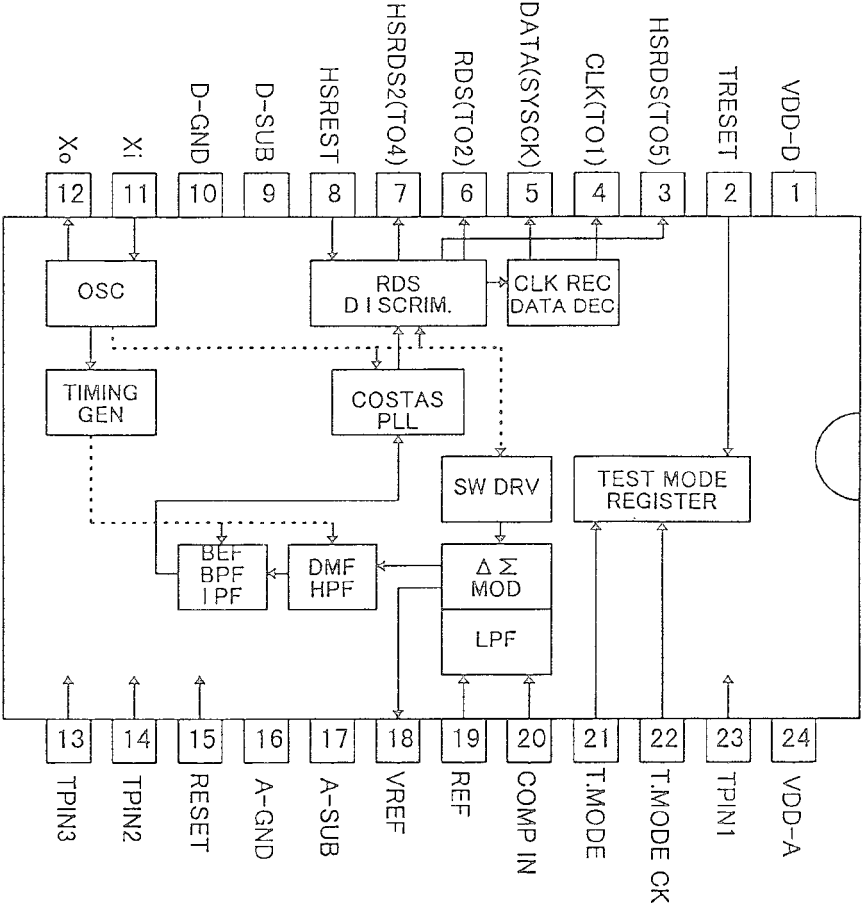
BR9010FV



S-80834ANY

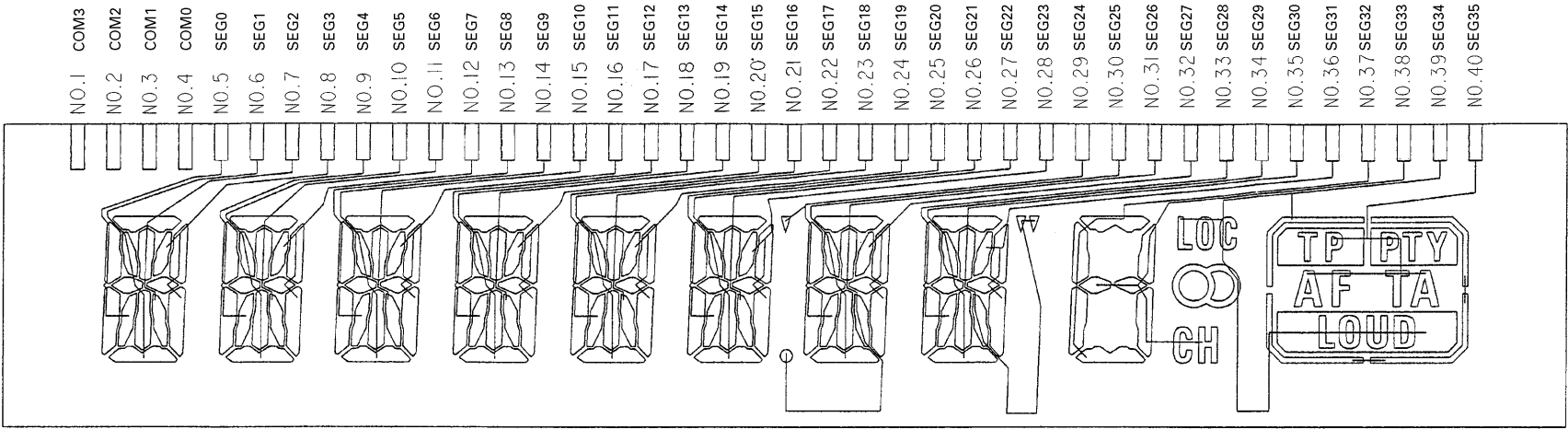


PM4009A

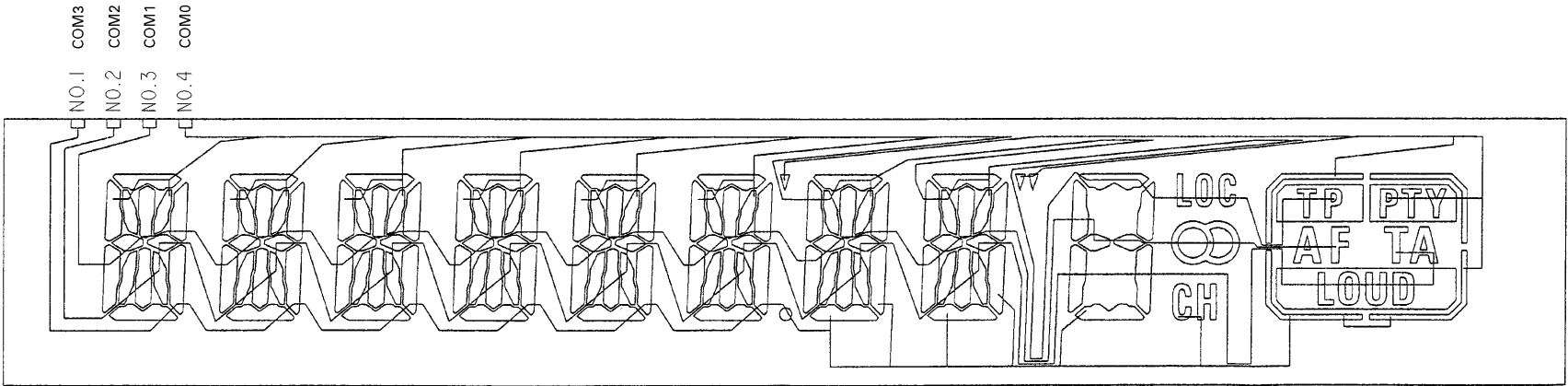


7.2.2 DISPLAY

● CAW1559

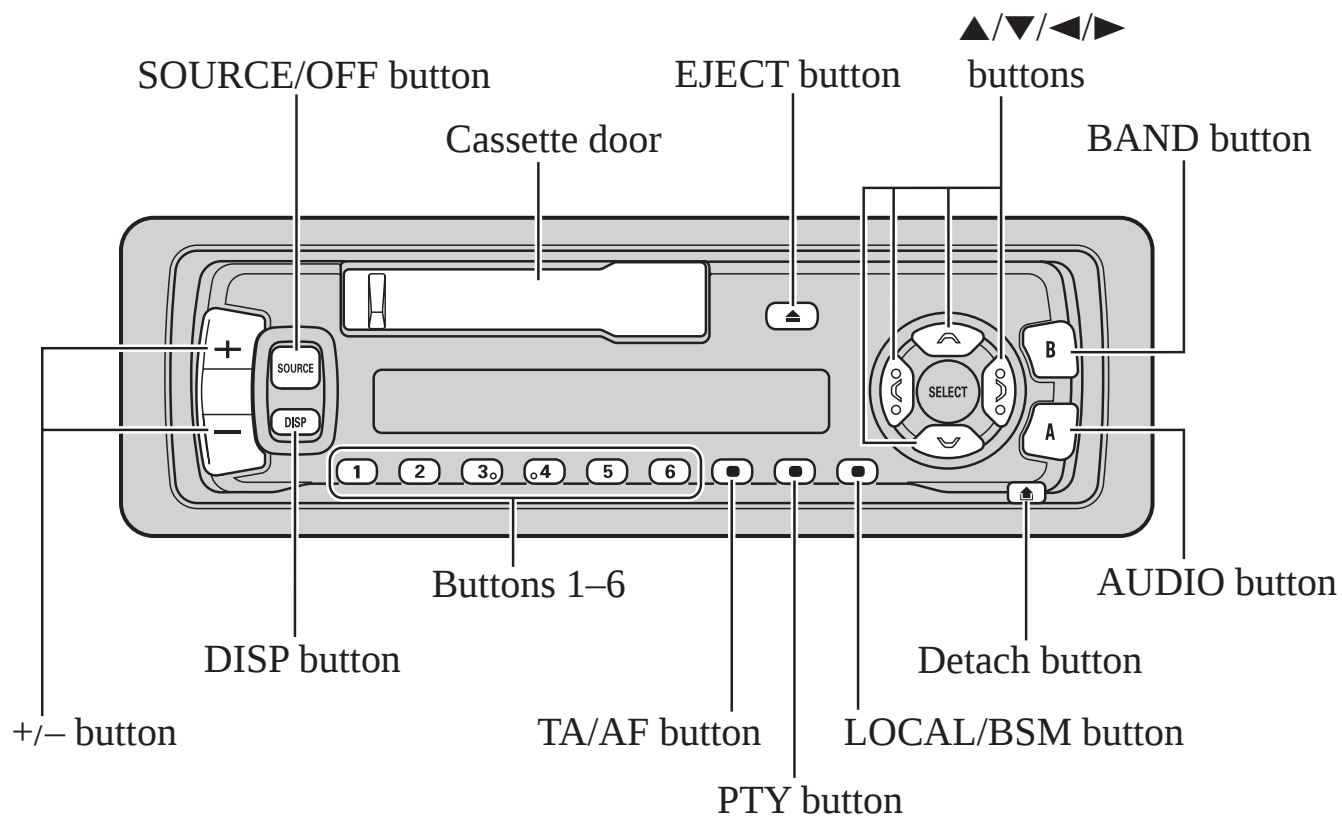


COMMON



8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS



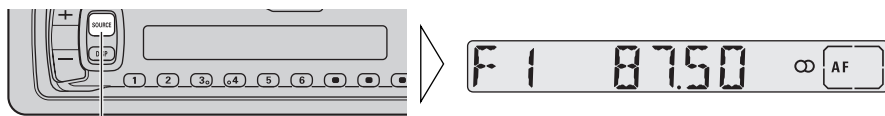
To Listen to Music

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).



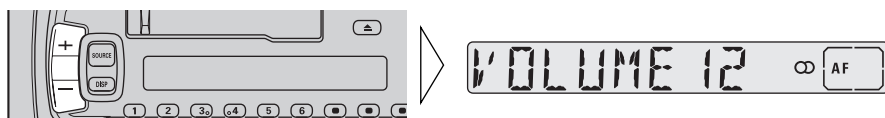
Each press changes the Source ...

Each press of the SOURCE/OFF button selects the desired source in the following order:
Tape → Tuner

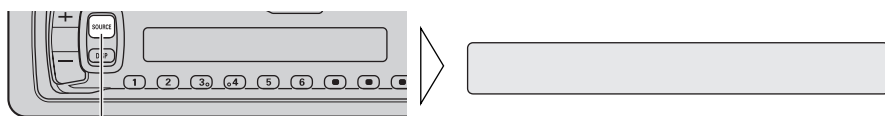
Note:

- The cassette player will not change when no tape is set in this product.
- 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.

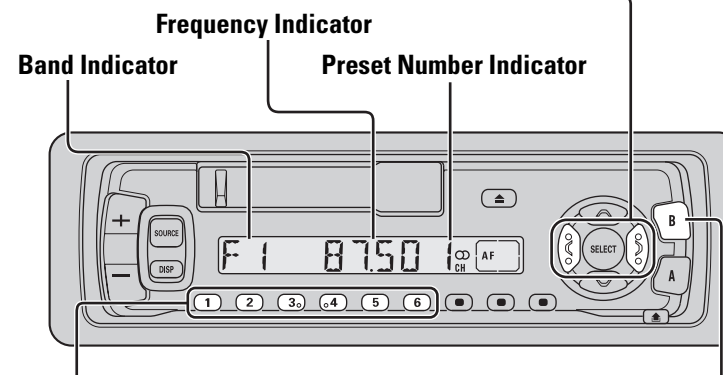
Manual and Seek Tuning

- 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 12 FM stations (6 in F1 (FM1) and F2 (FM2)) 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

F1 (FM1) → F2 (FM2)
→ MW/LW

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.

Cassette Loading Slot

Direction Indicator

Direction Change

Eject

Note:

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

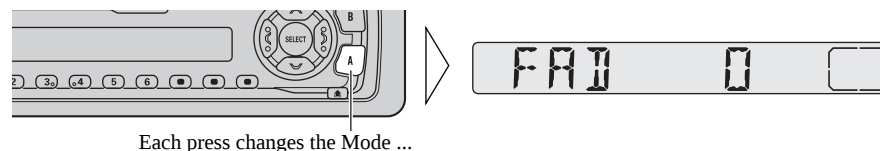
Entering the Audio Menu

With this Menu, you can adjust the sound quality.

Note:

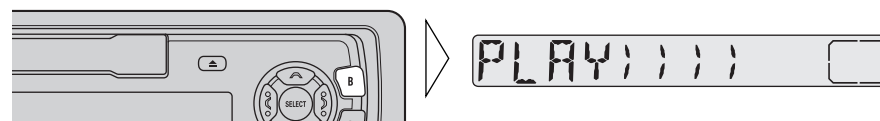
- After entering the Audio Menu, if you do not perform an operation within about 30 seconds, the Audio Menu is automatically canceled.

1. Select the desired mode in the Audio Menu.



2. Operate a mode.

3. Cancel the Audio Menu.



Audio Menu Functions

The Audio Menu features the following functions.

Balance Adjustment (FAD)

This function allows you to select a Fader/Balance setting that provides ideal listening conditions in all occupied seats.

1. Press the AUDIO button and select the Fader/Balance mode (FAD) in the Audio Menu.

2. Adjust front/rear speaker balance with the ▲/▼ buttons.
“FAD F15” – “FAD R15” is displayed as it moves from front to rear.



3. Adjust left/right speaker balance with the ◀/▶ buttons.
“BAL L9” – “BAL R9” is displayed as it moves from left to right.



Note:

- “FAD 0” is the proper setting when 2 speakers are in use.

Bass Adjustment (BAS)

You can adjust a Bass level as desired.

1. Press the AUDIO button and select the Bass mode (BAS) in the Audio Menu.

2. Boost or attenuate the bass level with the ▲/▼ buttons.
The display shows “+6” – “-6”



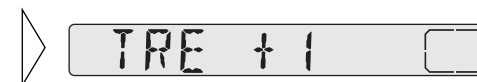
Treble Adjustment (TRE)

You can adjust a Treble level as desired.

1. Press the AUDIO button and select the Treble mode (TRE) in the Audio Menu.

2. Boost or attenuate the treble level with the ▲/▼ buttons.

The display shows “+6” – “-6”



Loudness Adjustment (LOUD)

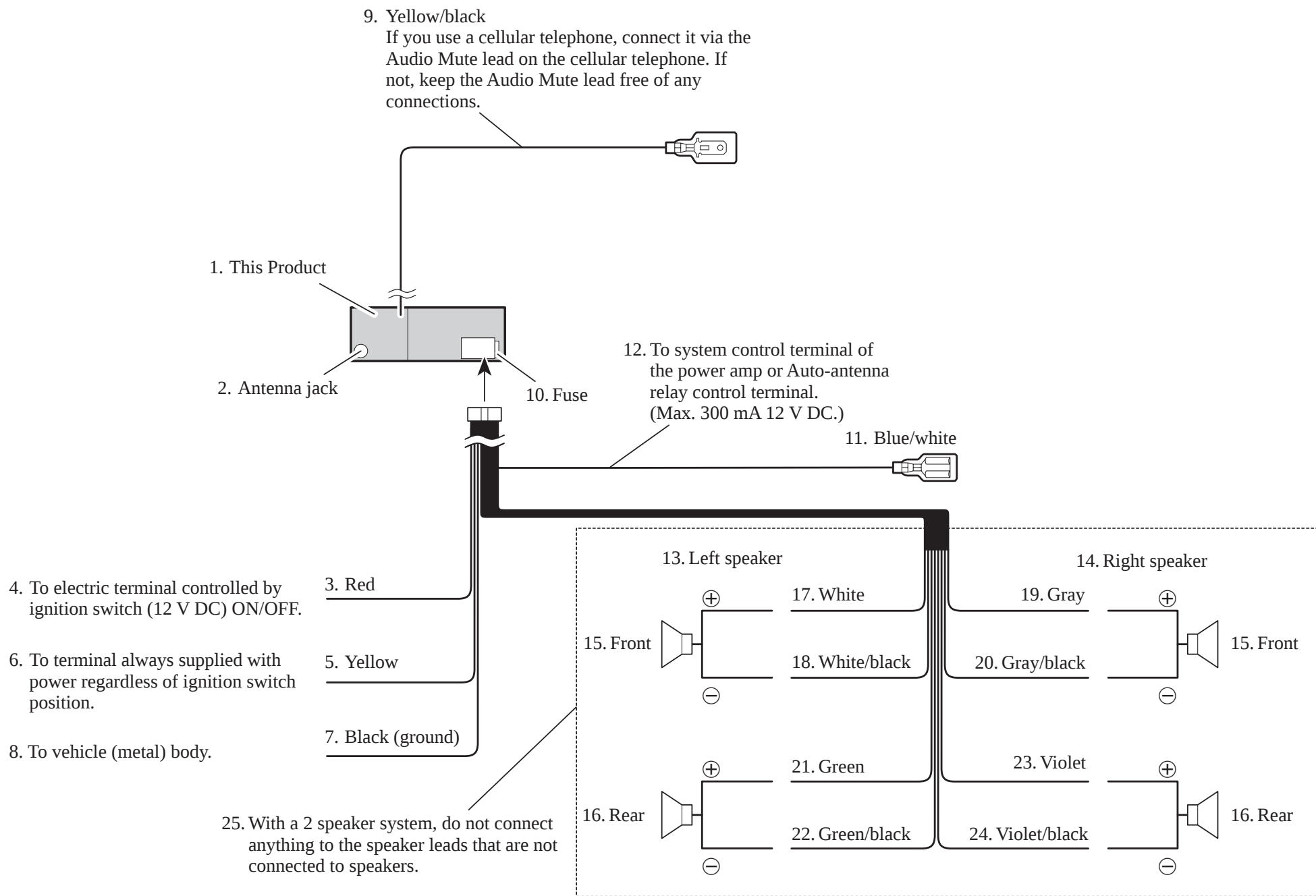
The Loudness function compensates for deficiencies in the low and high sound ranges at low volume.

1. Press the AUDIO button and select the Loudness mode (LOUD) in the Audio Menu.

2. Switch the Loudness function ON/OFF with the ▲/▼ buttons.



“LOUD”



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) × 19 (D) mm
Weight	1.2 kg

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)

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)

Frequency range	87.5 – 108 MHz
Usable sensitivity	11 dBf (1.0 μ V/75 Ω , mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 μ V/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 ($\pm$ 3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

Frequency range 531 – 1,602 kHz
Usable sensitivity 18 μ V (S/N: 20 dB)
Selectivity 50 dB ($\pm$ 9 kHz)

Frequency range 153 – 281 kHz
Usable sensitivity 30 μ V (S/N: 20 dB)
Selectivity 50 dB ($\pm$ 9 kHz)

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