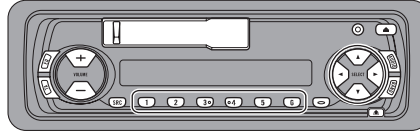


Service Manual

Pioneer

KEH-P5010R/X1M/EW



ORDER NO.
CRT2581

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH RDS TUNER

KEH-P5010R

X1M/EW

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

KEH-P5011

X1M/EE

HIGH POWER CASSETTE PLAYER WITH FM/MW/LW TUNER

KEH-4011

X1M/EE

- 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, 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.

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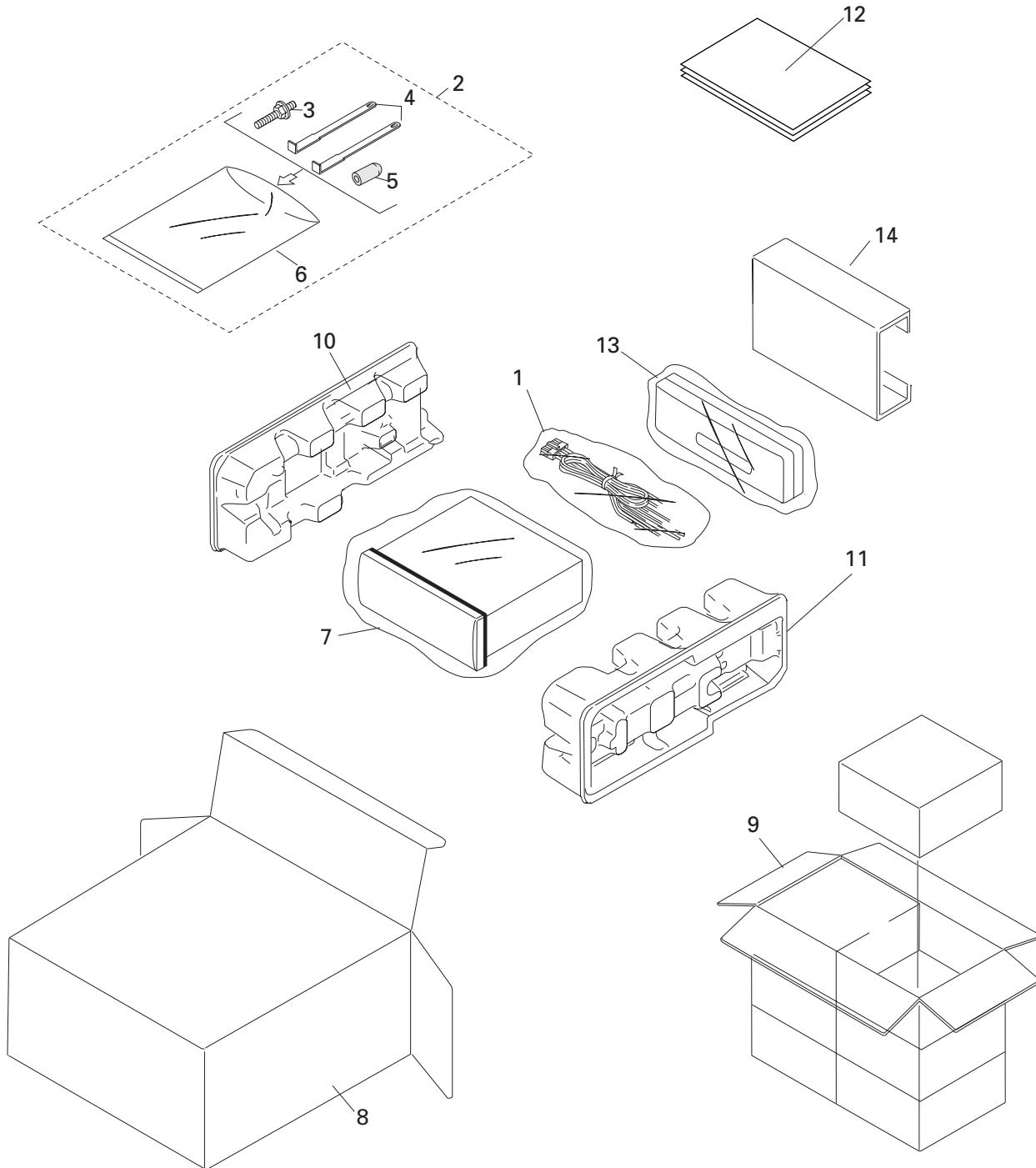
PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER EUROPE NV Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

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.

(1) PACKING SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Cord Assy	See Contrast table(2)	11	Protector	CHP2347
2	Accessory Assy	CEA1917	12-1	Owner's Manual	See Contrast table(2)
3	Screw	CBA1304	12-2	Owner's Manual	See Contrast table(2)
4	Handle	CNC5395	12-3	Installation Manual	See Contrast table(2)
5	Bush	CNV3930	*	12-4 Passport	See Contrast table(2)
*	6 Polyethylene Bag	E36-615	*	12-5 Warranty Card	CRY1157
	7 Polyethylene Bag	CEG-162	*	12-6 Caution Card	CRP1238
	8 Carton	See Contrast table(2)	13	Case Assy	CXB3520
	9 Contain Box	See Contrast table(2)	14	Inner Box	See Contrast table(2)
	10 Protector	CHP2346			

(2) CONTRAST TABLE

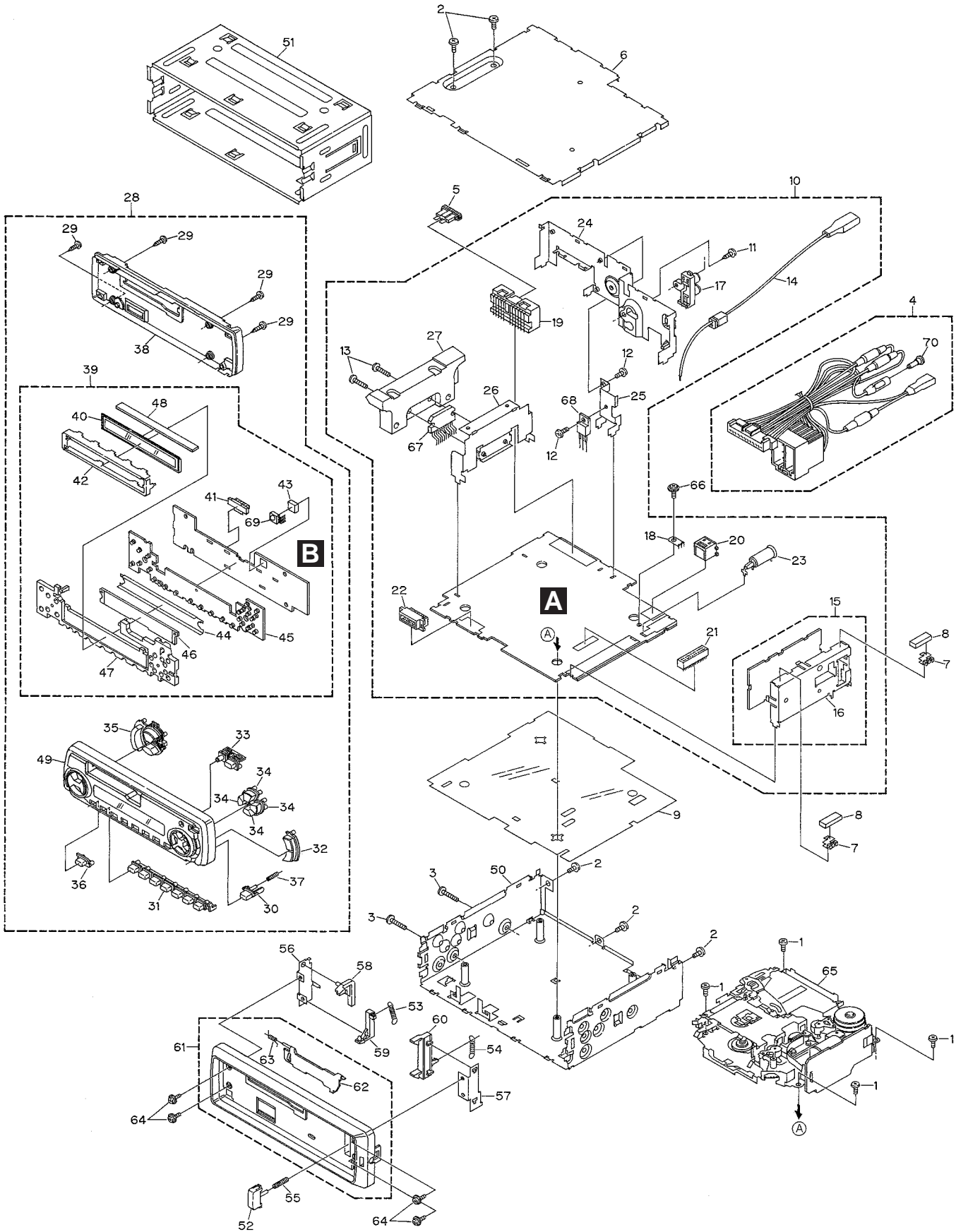
KEH-P5010R/X1M/EW, KEH-P5011/X1M/EE and KEH-4011/X1M/EE are constructed the same except for the following:

Mark No.	Symbol and Description	Part No.		
		KEH-P5010R/X1M/EW	KEH-P5011/X1M/EE	KEH-4011/X1M/EE
1	Cord Assy	CDE6514	CDE6222	CDE6548
8	Carton	CHG4179	CHG4276	CHG4181
9	Contain Box	CHL4179	CHL4276	CHL4181
12-1	Owner's Manual	CRD3286	CRD3358	CRD3292
12-2	Owner's Manual	CRD3287	Not used	Not used
12-3	Installation Manual	CRD3293	CRD3359	CRD3296
*	12-4 Passport	CRY1013	Not used	Not used
14	Inner Box	CHW1754	Not used	Not used

● **Owner's Manual, Installation Manual**

Model	Part No.	Language
KEH-P5010R/X1M/EW	CRD3286	English, Spanish, German
	CRD3287	French, Italian, Dutch
	CRD3293	English, Spanish, German, French, Italian, Dutch
KEH-P5011/X1M/EE	CRD3358	English, Russian
	CRD3359	English, Russian
KEH-4011/X1M/EE	CRD3292	English, Russian
	CRD3296	English, Russian

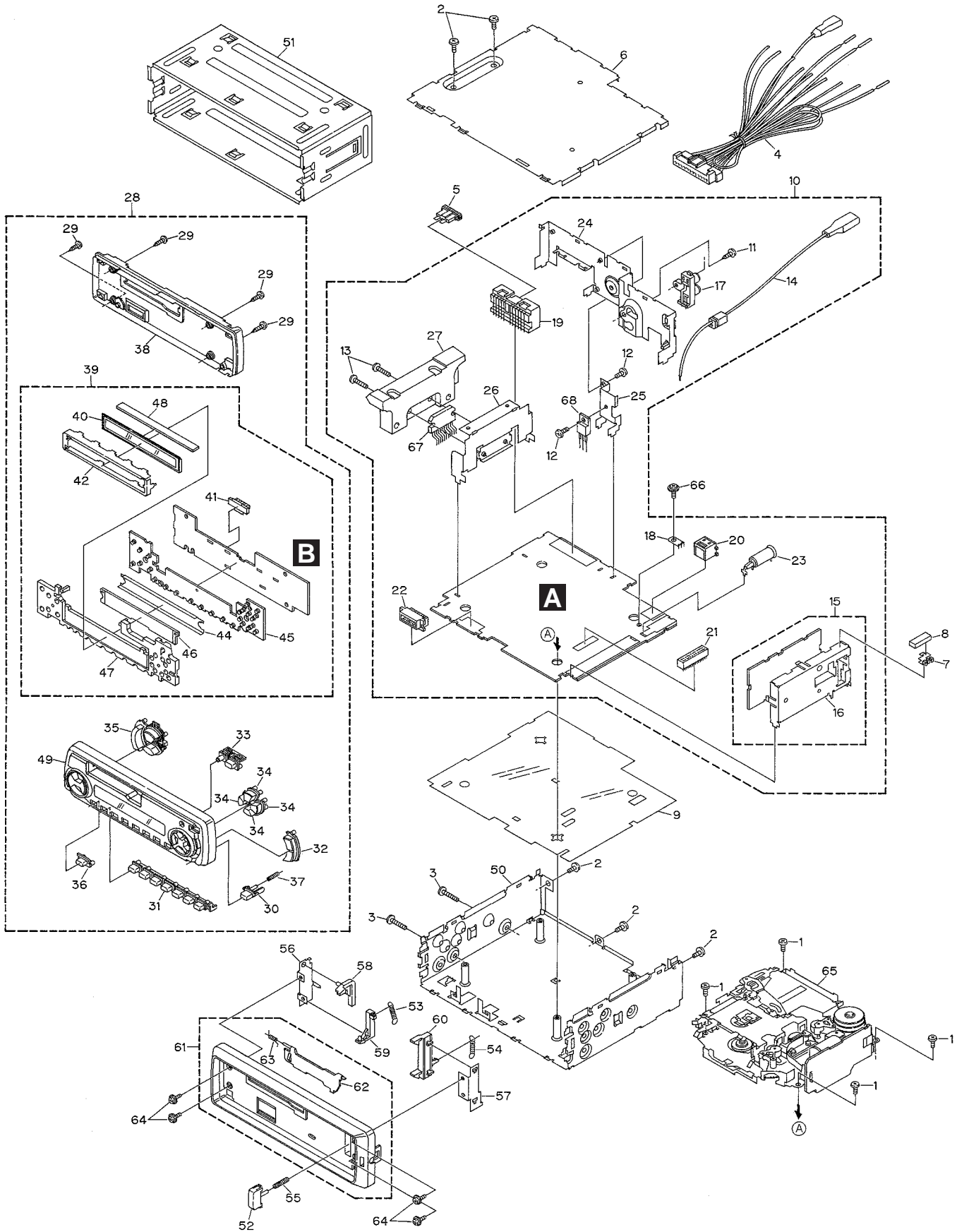
2.2 EXTERIOR(KEH-P5010R/X1M/EW)



● EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	36	Button(SOURCE)	CAC6851
2	Screw	BSZ30P050FMC	37	Spring	CBH2210
3	Screw	BSZ30P200FMC	38	Cover	CNS6171
4	Cord Assy	CDE6514	39	Keyboard Unit	CWM7339
5	Fuse(10A)	CEK1136	40	LCD(LCD1902)	CAW1616
6	Case	CNB2350	41	Connector(CN1901)	CKS3580
7	Holder	CNC5704	42	Holder	CNC9091
8	Cushion	CNM5210	43	Spacer	CNM5043
9	Insulator	CNM7083	44	Sheet	CNM7059
10	Tuner Amp Unit	CWM7327	45	Rubber	CNV6480
11	Screw	BPZ26P080FMC	46	Lighting Conductor	CNV6495
12	Screw	BSZ26P080FMC	47	Lighting Conductor	CNV6496
13	Screw	BSZ26P160FMC	48	Connector	CNV6497
14	Cord	CDE6450	49	Grille Unit	CXB6332
15	FM/AM Tuner Unit	CWE1562	50	Chassis Unit	CXB6659
16	Holder	CNC8815	51	Holder Unit	CXB6681
17	Pin Jack(CN301)	CKB1035	52	Button	CAC4836
18	Terminal(CN403)	CKF1059	53	Spring	CBH1834
19	Plug(CN952)	CKM1270	54	Spring	CBH1835
20	Connector(CN751)	CKS3408	55	Spring	CBH2182
21	Connector(CN602)	CKS3568	56	Bracket	CNC6135
22	Connector(CN601)	CKS3581	57	Bracket	CNC6791
23	Antenna Jack(CN401)	CKX1056	58	Arm	CNV4692
24	Panel	CNB2341	59	Arm	CNV4693
25	Holder	CNC6845	60	Arm	CNV4728
26	Holder	CNC7996	61	Panel Unit	CXB6715
27	Heat Sink	CNR1505	62	Door	CAT2109
28	Detach Grille Assy	CXB6154	63	Spring	CBH1838
29	Screw	BPZ20P100FZK	64	Screw	IMS20P030FZK
30	Button(DETACH)	CAC5789	65	Cassette Mechanism Module	EXK4170
31	Button(1-6)	CAC6822	66	Screw	ISS26P055FUC
32	Button(A,B)	CAC6823	67	IC(IC301)	PAL006A
33	Button(EJECT, BSM)	CAC6824	68	Transistor(Q951)	2SD2396
34	Button(CROSS)	CAC6825	69	IC(IC1902)	SBX8035-H
35	Button(+,-)	CAC6834	70	Terminal Cover	CKX-003

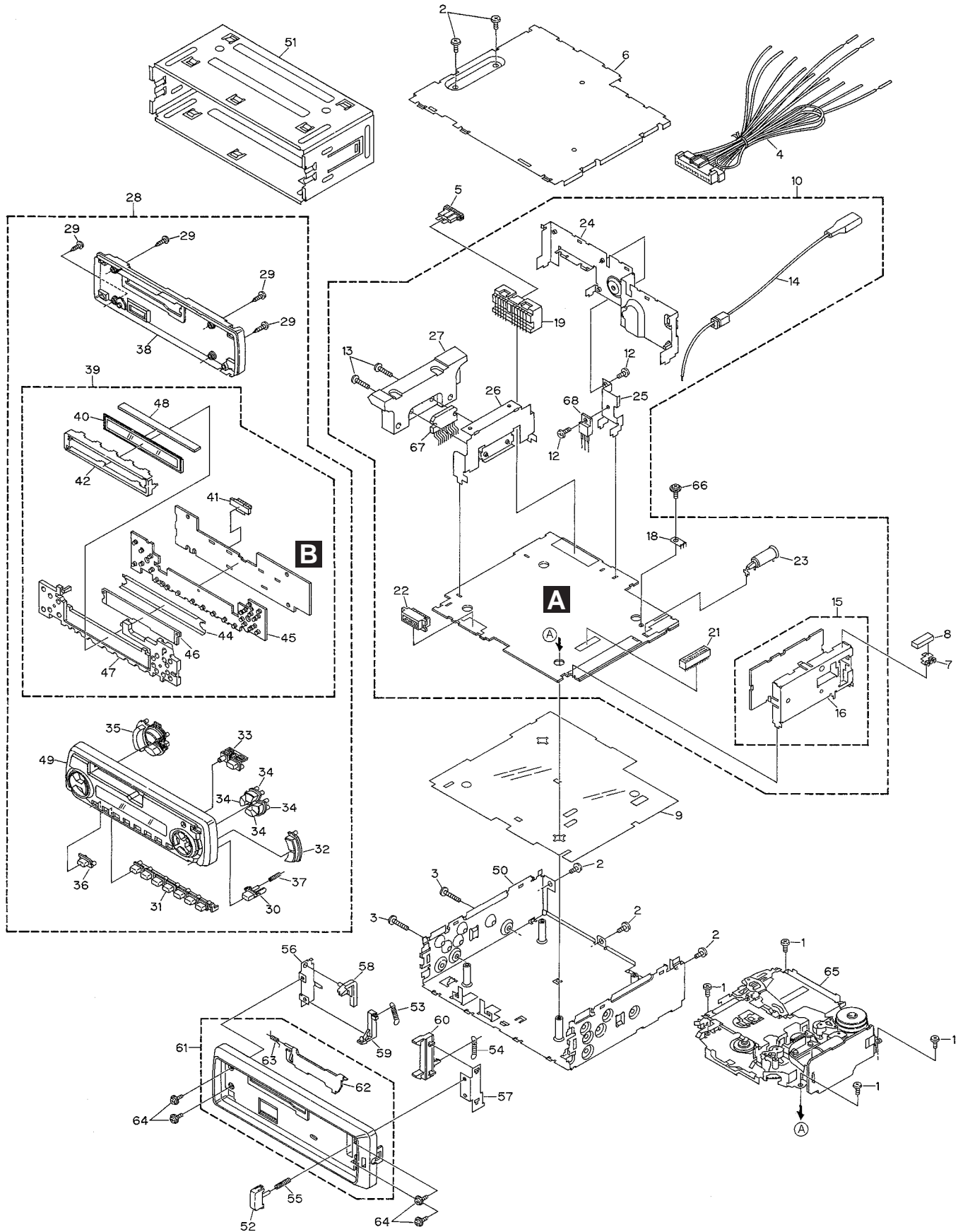
2.3 EXTERIOR(KEH-P5011/X1M/EE)



● EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	36	Button(SOURCE)	CAC6851
2	Screw	BSZ30P050FMC	37	Spring	CBH2210
3	Screw	BSZ30P200FMC	38	Cover	CNS6171
4	Cord Assy	CDE6222	39	Keyboard Unit	CWM7648
5	Fuse(10A)	CEK1136	40	LCD(LCD1902)	CAW1635
6	Case	CNB2350	41	Connector(CN1901)	CKS3580
7	Holder	CNC5704	42	Holder	CNC9091
8	Cushion	CNM5210	43	.....
9	Insulator	CNM7083	44	Sheet	CNM7059
10	Tuner Amp Unit	CWM7647	45	Rubber	CNV6480
11	Screw	BPZ26P080FMC	46	Lighting Conductor	CNV6495
12	Screw	BSZ26P080FMC	47	Lighting Conductor	CNV6496
13	Screw	BSZ26P160FMC	48	Connector	CNV6497
14	Cord	CDE6450	49	Grille Unit	CXB6948
15	FM/AM Tuner Unit	CWE1566	50	Chassis Unit	CXB6660
16	Holder	CNC8815	51	Holder Unit	CXB6681
17	Pin Jack(CN301)	CKB1035	52	Button	CAC4836
18	Terminal(CN403)	CKF1059	53	Spring	CBH1834
19	Plug(CN952)	CKM1270	54	Spring	CBH1835
20	Connector(CN751)	CKS3408	55	Spring	CBH2182
21	Connector(CN602)	CKS3568	56	Bracket	CNC6135
22	Connector(CN601)	CKS3581	57	Bracket	CNC6791
23	Antenna Jack(CN401)	CKX1056	58	Arm	CNV4692
24	Panel	CNB2341	59	Arm	CNV4693
25	Holder	CNC6845	60	Arm	CNV4728
26	Holder	CNC7996	61	Panel Unit	CXB6715
27	Heat Sink	CNR1505	62	Door	CAT2109
28	Detach Grille Assy	CXB6909	63	Spring	CBH1838
29	Screw	BPZ20P100FZK	64	Screw	IMS20P030FZK
30	Button(DETACH)	CAC5789	65	Cassette Mechanism Module	EXK4150
31	Button(1-6)	CAC6822	66	Screw	ISS26P055FUC
32	Button(A,B)	CAC6823	67	IC(IC301)	TA8277H
33	Button(EJECT, BSM)	CAC6824	68	Transistor(Q951)	2SD2396
34	Button(CROSS)	CAC6825			
35	Button(+,-)	CAC6821			

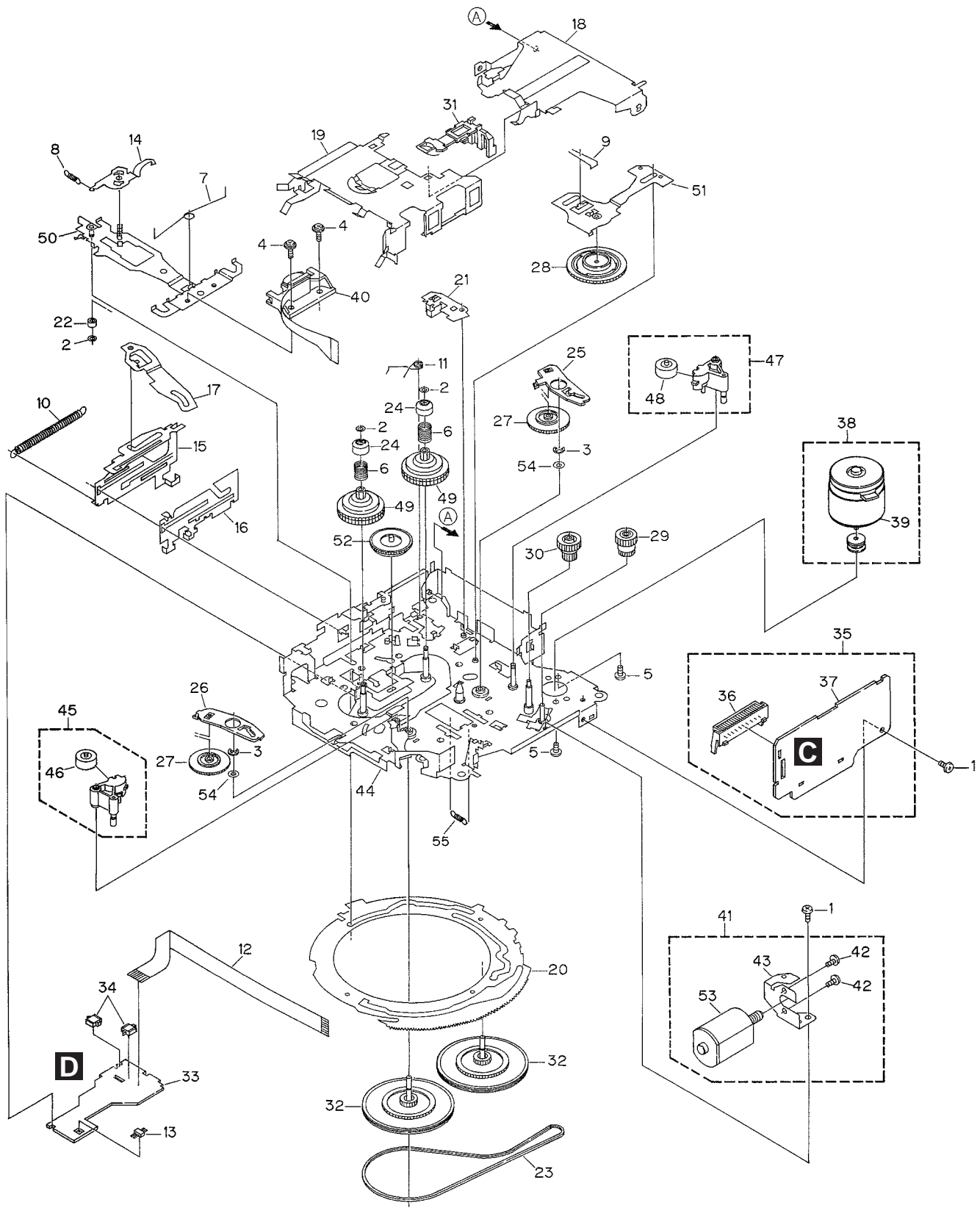
2.4 EXTERIOR(KEH-4011/X1M/EE)



● EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC	36	Button(SOURCE)	CAC6851
2	Screw	BSZ30P050FMC	37	Spring	CBH2210
3	Screw	BSZ30P200FMC	38	Cover	CNS6171
4	Cord Assy	CDE6548	39	Keyboard Unit	CWM7495
5	Fuse(10A)	CEK1136	40	LCD(LCD1902)	CAW1635
6	Case	CNB2350	41	Connector(CN1901)	CKS3580
7	Holder	CNC5704	42	Holder	CNC9091
8	Cushion	CNM5210	43	.....
9	Insulator	CNM7083	44	Sheet	CNM7059
10	Tuner Amp Unit	CWM7493	45	Rubber	CNV6480
11	.....		46	Lighting Conductor	CNV6495
12	Screw	BSZ26P080FMC	47	Lighting Conductor	CNV6496
13	Screw	BSZ26P160FMC	48	Connector	CNV6497
14	Cord	CDE6450	49	Grille Unit	CXB6709
15	FM/AM Tuner Unit	CWE1566	50	Chassis Unit	CXB6660
16	Holder	CNC8815	51	Holder Unit	CXB6681
17	.....		52	Button	CAC4836
18	Terminal(CN403)	CKF1059	53	Spring	CBH1834
19	Plug(CN952)	CKM1270	54	Spring	CBH1835
20	.....		55	Spring	CBH2182
21	Connector(CN602)	CKS3568	56	Bracket	CNC6135
22	Connector(CN601)	CKS3581	57	Bracket	CNC6791
23	Antenna Jack(CN401)	CKX1056	58	Arm	CNV4692
24	Panel	CNB2631	59	Arm	CNV4693
25	Holder	CNC6845	60	Arm	CNV4728
26	Holder	CNC7996	61	Panel Unit	CXB6715
27	Heat Sink	CNR1505	62	Door	CAT2109
28	Detach Grille Assy	CXB6645	63	Spring	CBH1838
29	Screw	BPZ20P100FZK	64	Screw	IMS20P030FZK
30	Button(DETACH)	CAC5789	65	Cassette Mechanism Module	EXK4150
31	Button(1-6)	CAC6822	66	Screw	ISS26P055FUC
32	Button(A,B)	CAC6823	67	IC(IC301)	TA8277H
33	Button(EJECT, BSM)	CAC6824	68	Transistor(Q951)	2SD2396
34	Button(CROSS)	CAC6825			
35	Button(+,-)	CAC6821			

2.5 CASSETTE MECHANISM MODULE



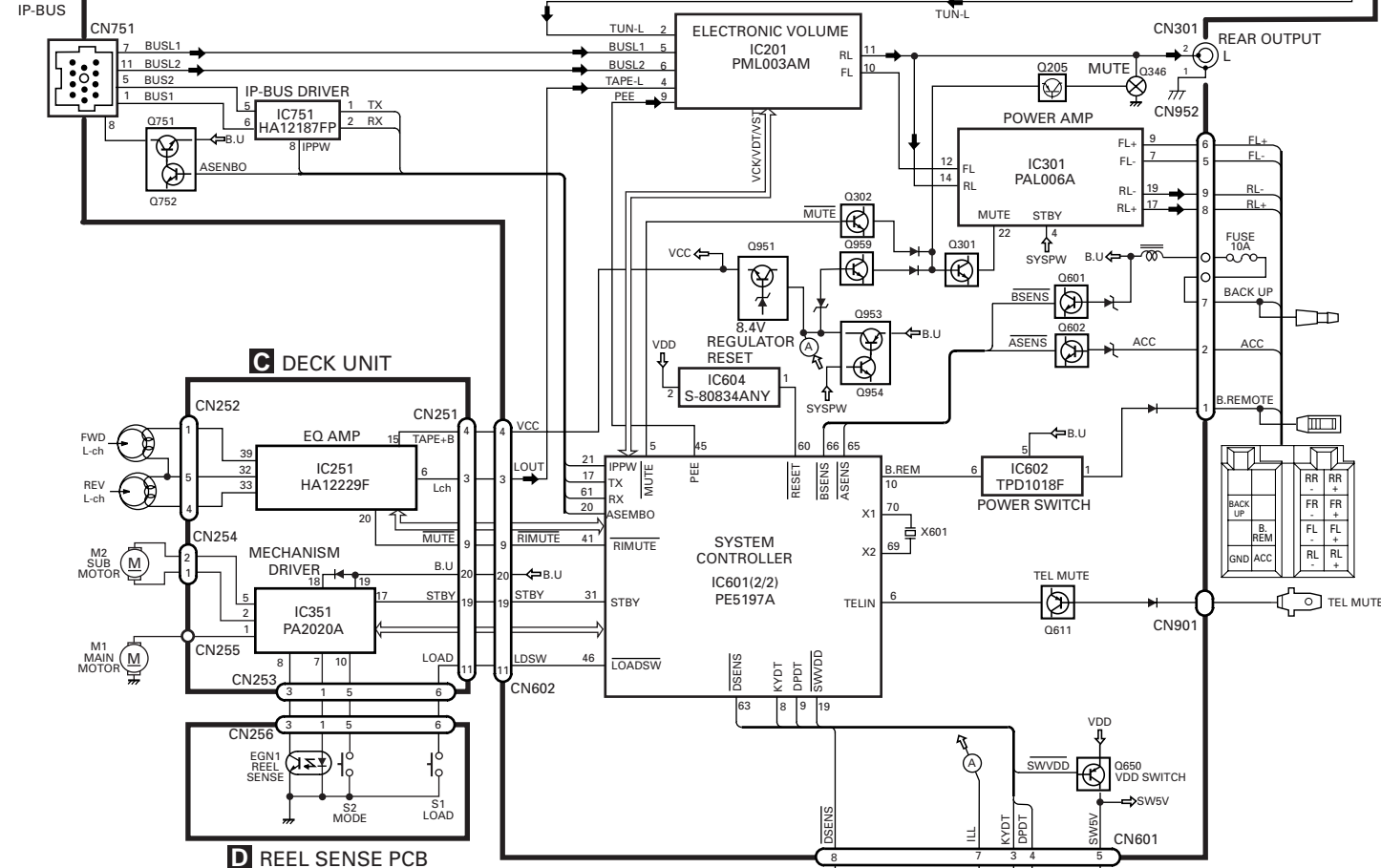
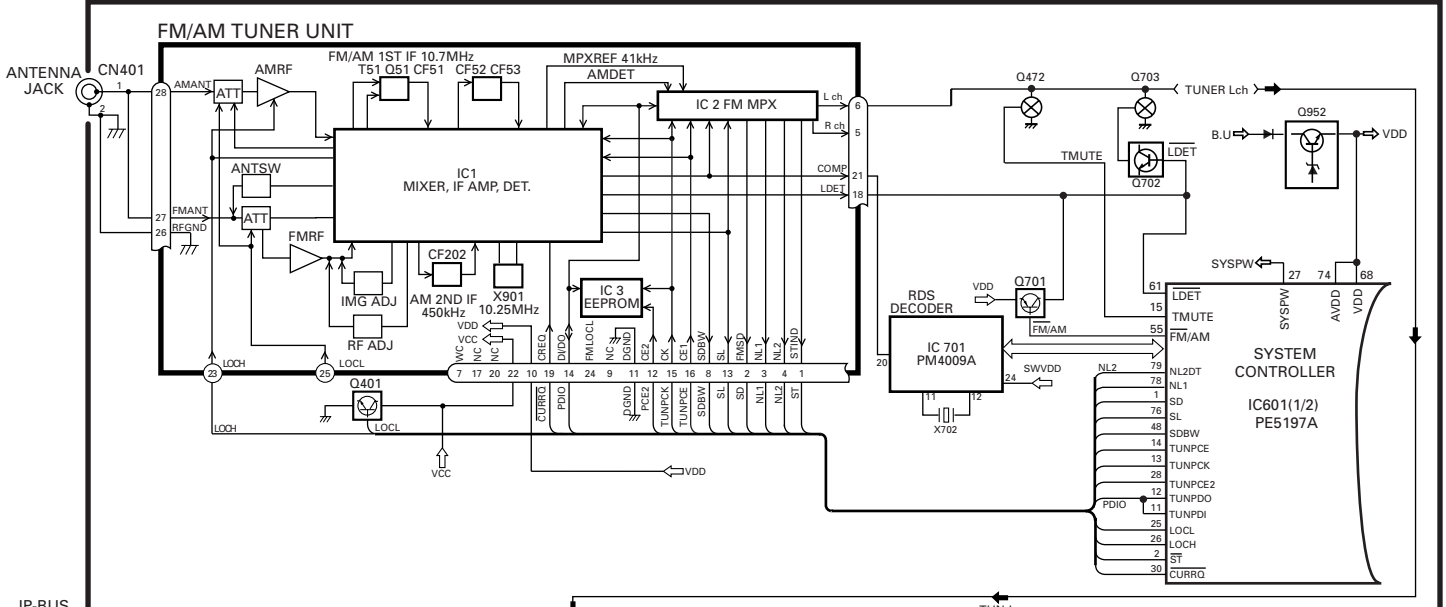
● CASSETTE MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC	31	Lever	ENV1551
2	Washer	CBF1037	32	Flywheel	ENV1554
3	Washer	CBG1003	33	Gathering PCB	ENX1068
4	Screw	EBA1028	34	Switch(S1,S2)	ESG1007
5	Screw	CBA1037	*	35 Deck Unit	EWM1032
6	Spring	EBH1531	36	Plug(CN251)	CKS3540
7	Spring	EBH1642	37	Gathering PCB	ENX1067
8	Spring	EBH1641	38	Motor Unit(M1)	EXA1491
9	Spring	EBH1626	39	Motor	EXM1028
10	Spring	EBH1627	40	Head Assy(HD1)	EXA1592
11	Spring	EBH1649	41	Motor Unit(M2)	EXA1580
12	Cord	EDD1024	42	Screw	BMZ20P022FMC
13	Photo-reflector(EGN1)	EGN1004	43	Bracket	ENC1528
14	Arm	ENC1526	44	Chassis Unit	EXA1615
15	Lever	ENC1544	45	Pinch Holder Unit	EXA1608
16	Lever	ENC1543	46	Pinch Roller	ENV1518
17	Arm	ENC1532	47	Pinch Holder Unit	EXA1607
18	Frame	ENC1533	48	Pinch Roller	ENV1518
19	Holder	ENC1534	49	Reel Unit	EXA1585
20	Gear	ENC1535	50	Head Base Unit	EXA1611
21	Arm	ENC1550	51	Lever Unit	EXA1587
22	Roller	ENR1040	52	Gear Unit	EXA1596
23	Belt	ENT1027	53	Motor Unit(Service)	EXX1055
24	Collar	ENV1508	54	Washer	HBF-179
25	Arm	ENV1539	55	Spring	EBH1537
26	Arm	ENV1540			
27	Gear	ENV1544			
28	Gear	ENV1547			
29	Gear	ENV1560			
30	Worm Wheel	ENV1566			

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

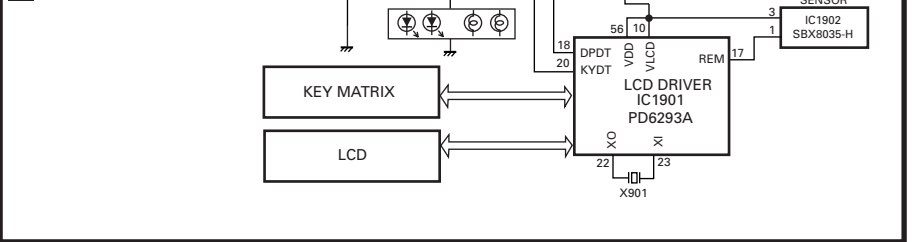
3.1 BLOCK DIAGRAM(KEH-P5010R/X1M/EW)

A TUNER AMP UNIT

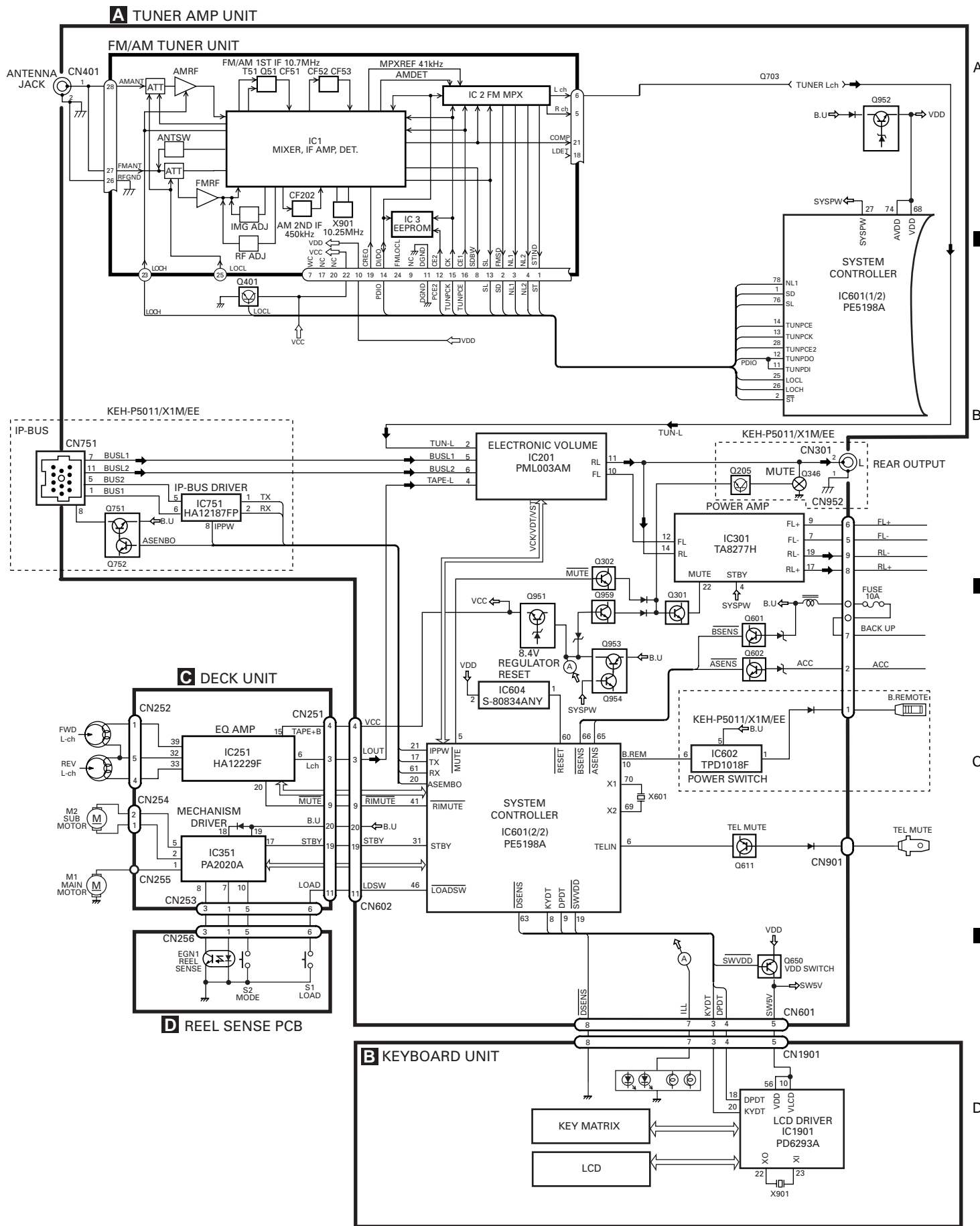


D REEL SENSE PCB

B KEYBOARD UNIT



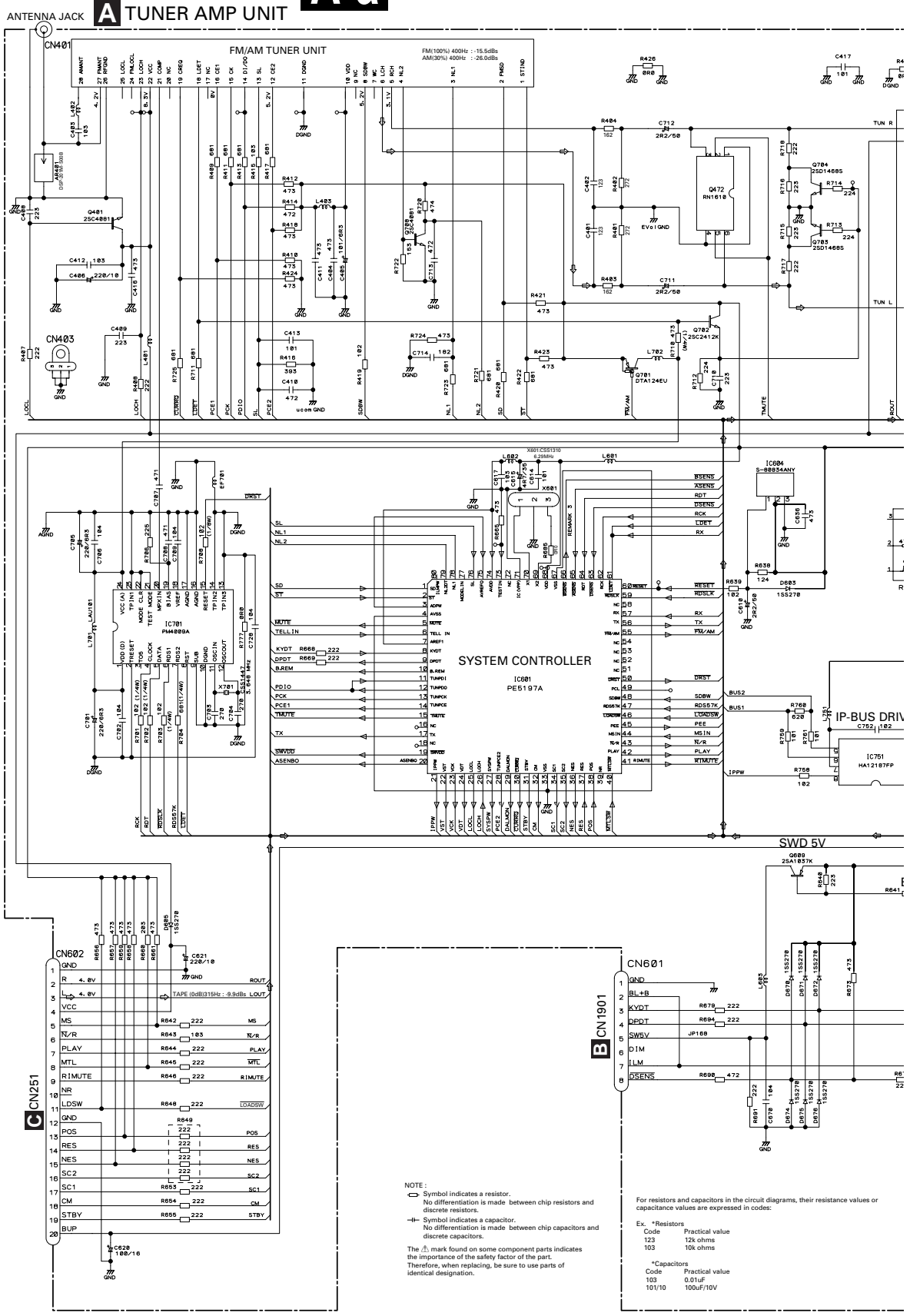
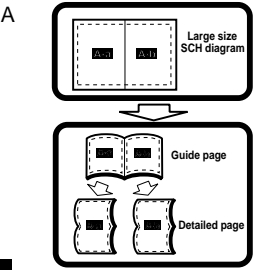
3.2 BLOCK DIAGRAM(KEH-P5011/X1M/EE, KEH-4011/X1M/EE)



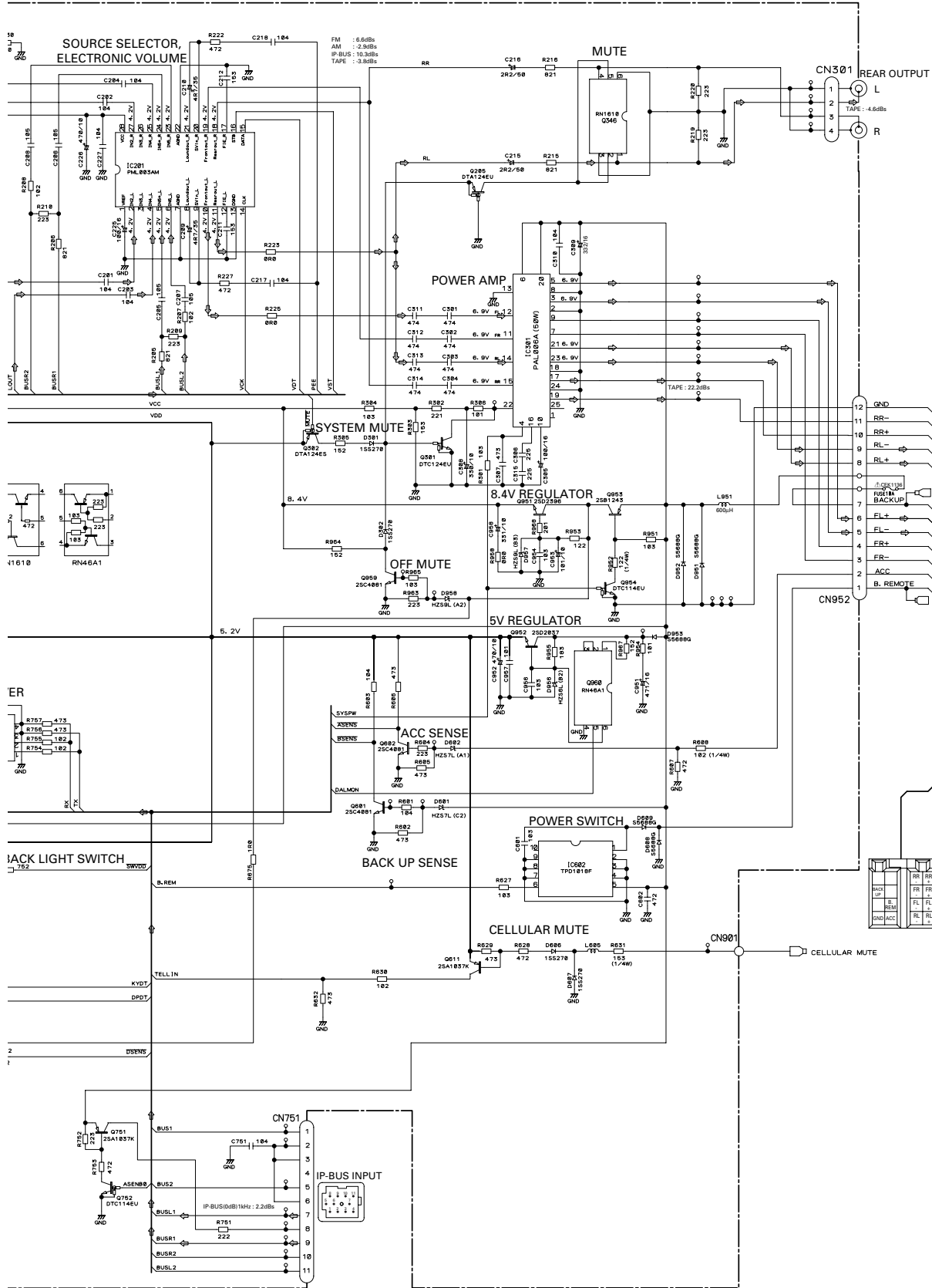
3.3 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)(KEH-P5010R/X1M/EW)

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

A-a



A-b



A

B

C

D



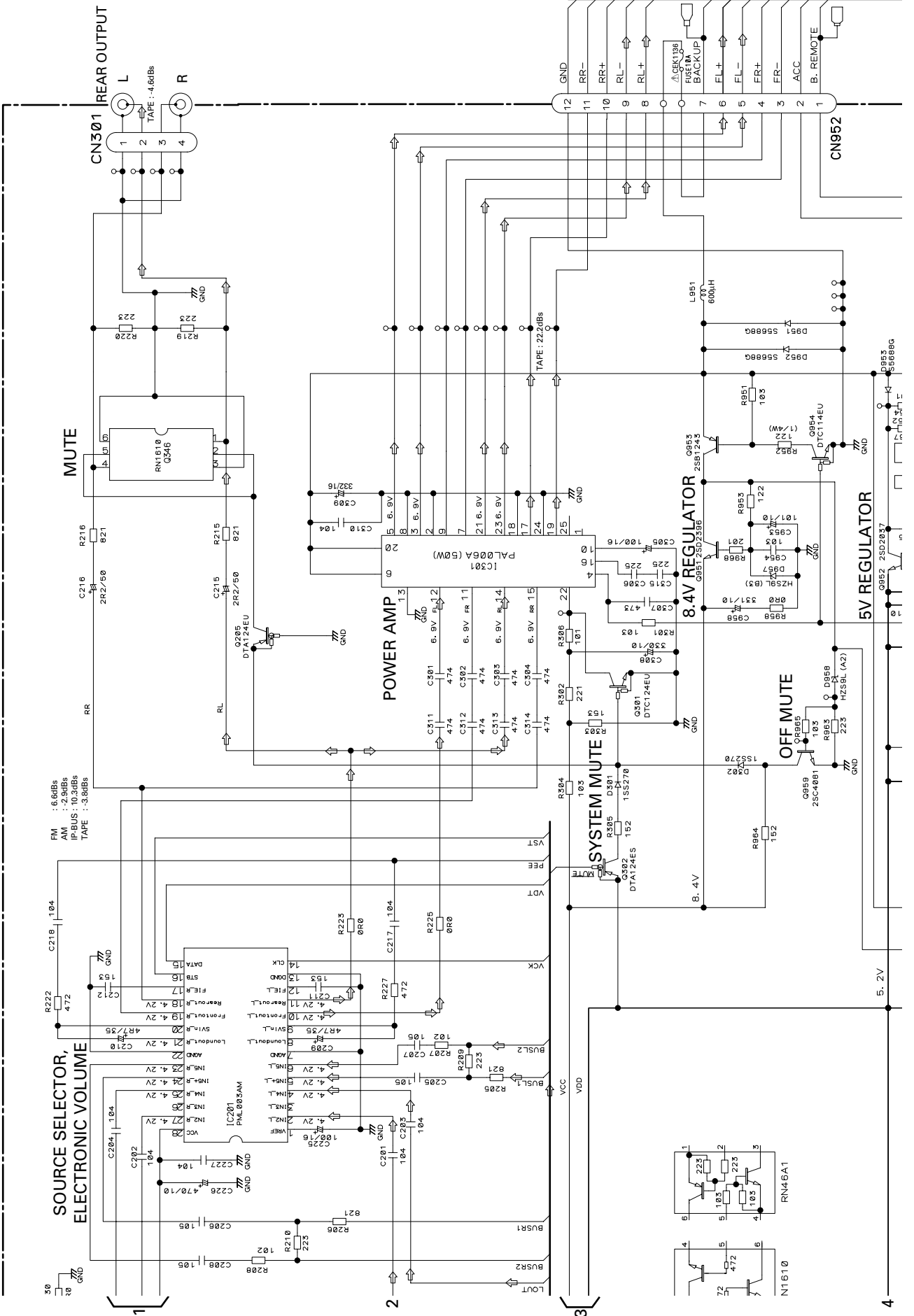
A-a A-b

A

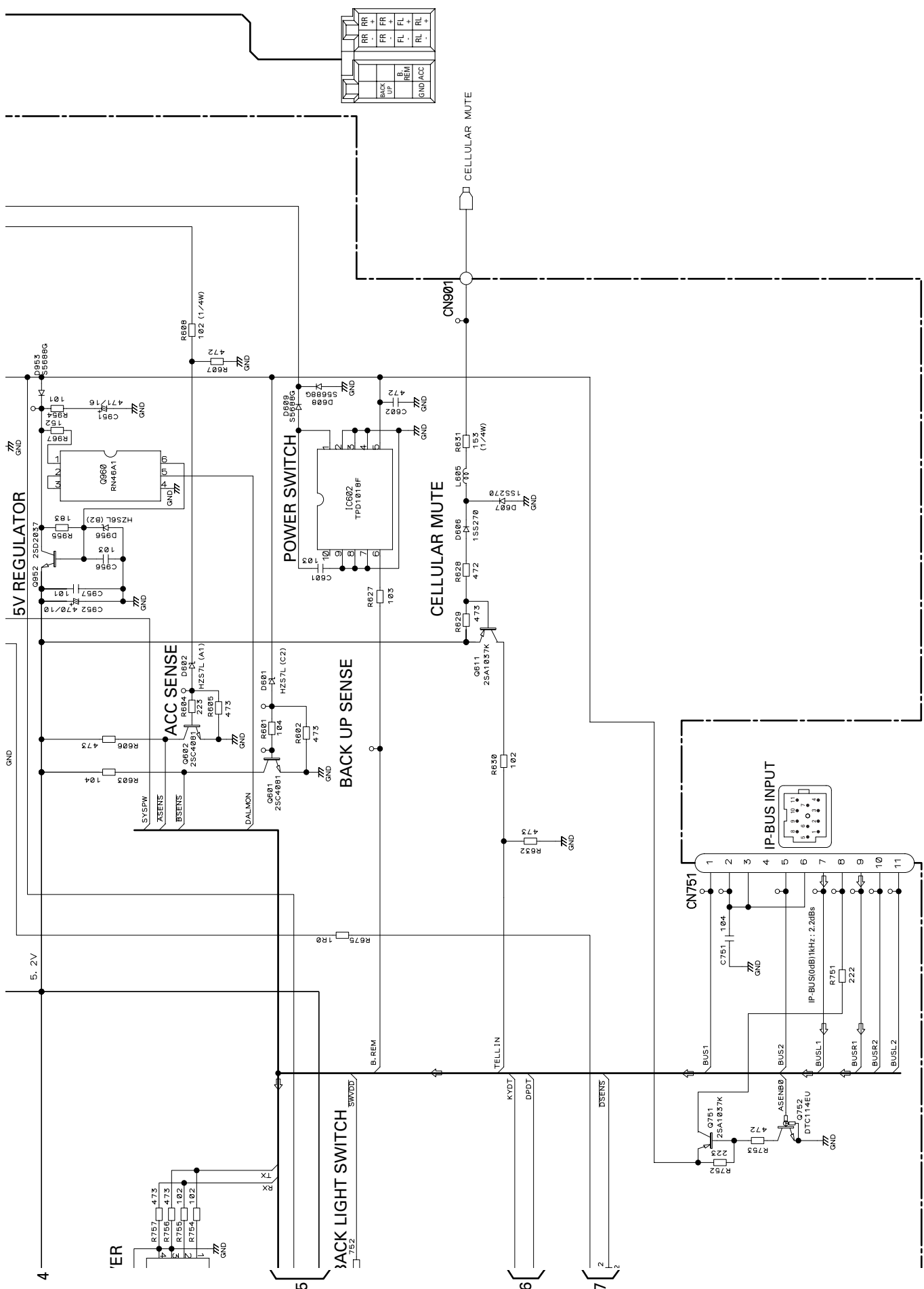
B

C

D

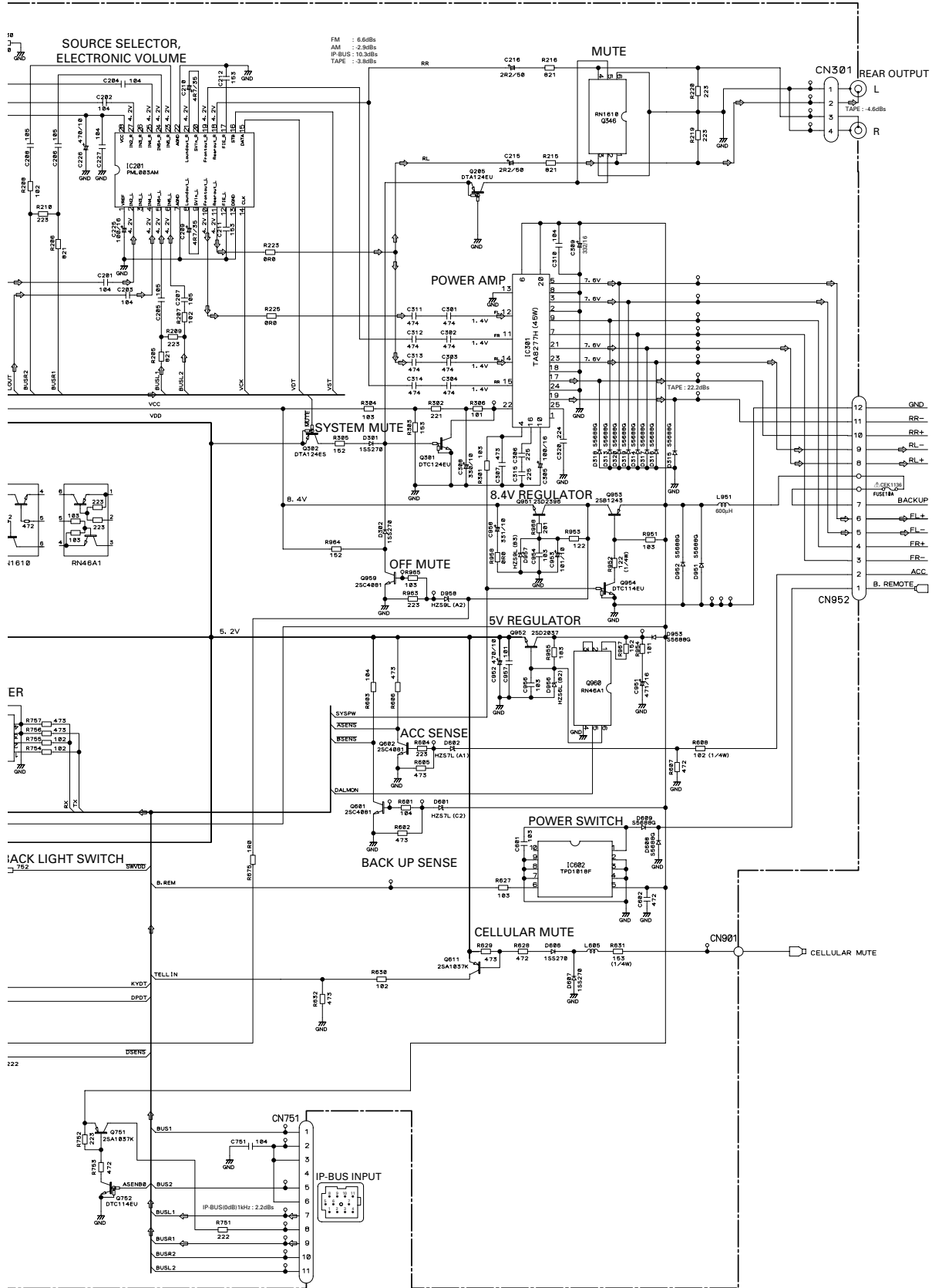


A-b



A B C D

A-b



A

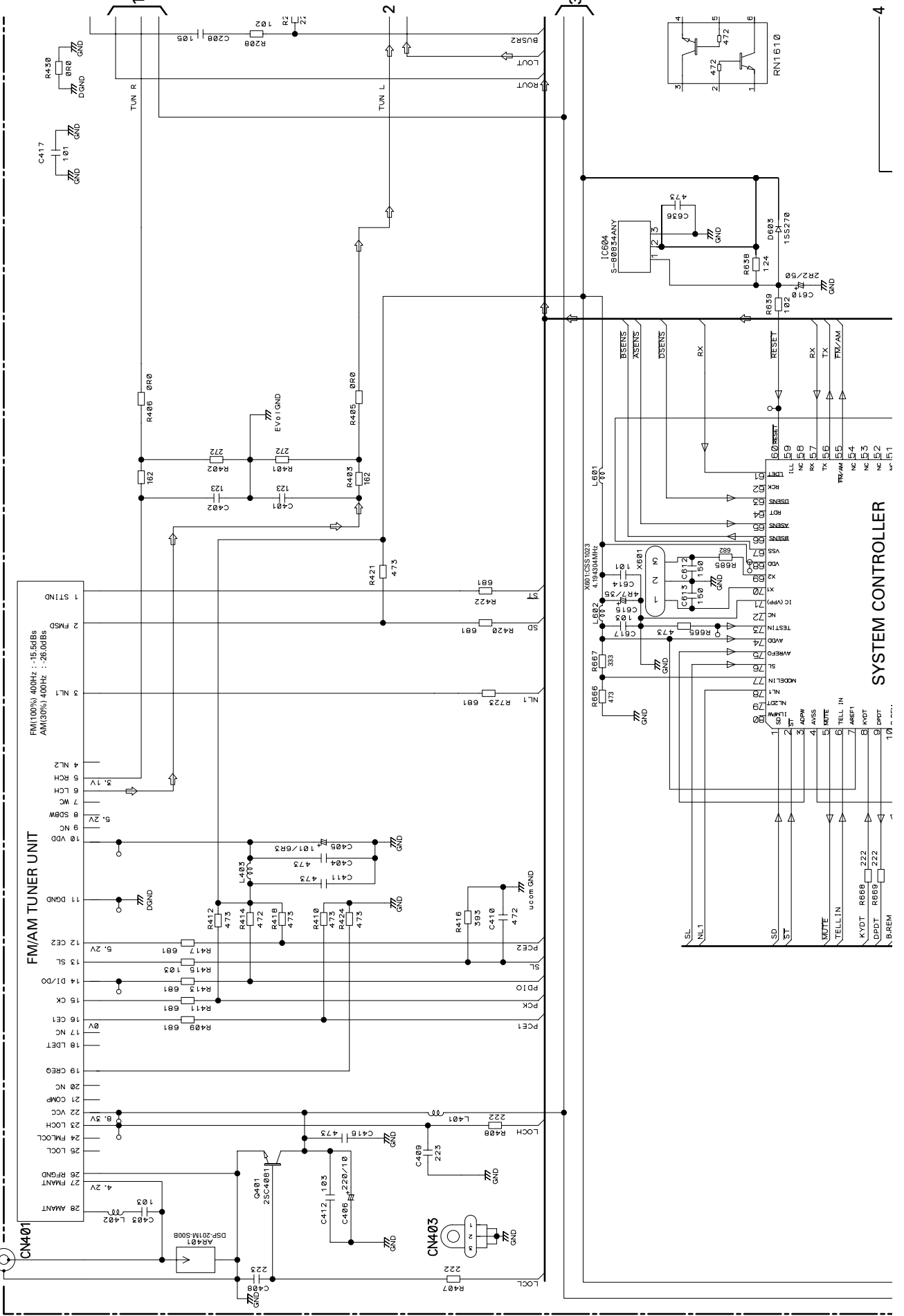
B

C

D

A TUNER AMP UNIT

A-a A-b



SYSTEM CONTROLLER

A

B

C

D

1

2

3

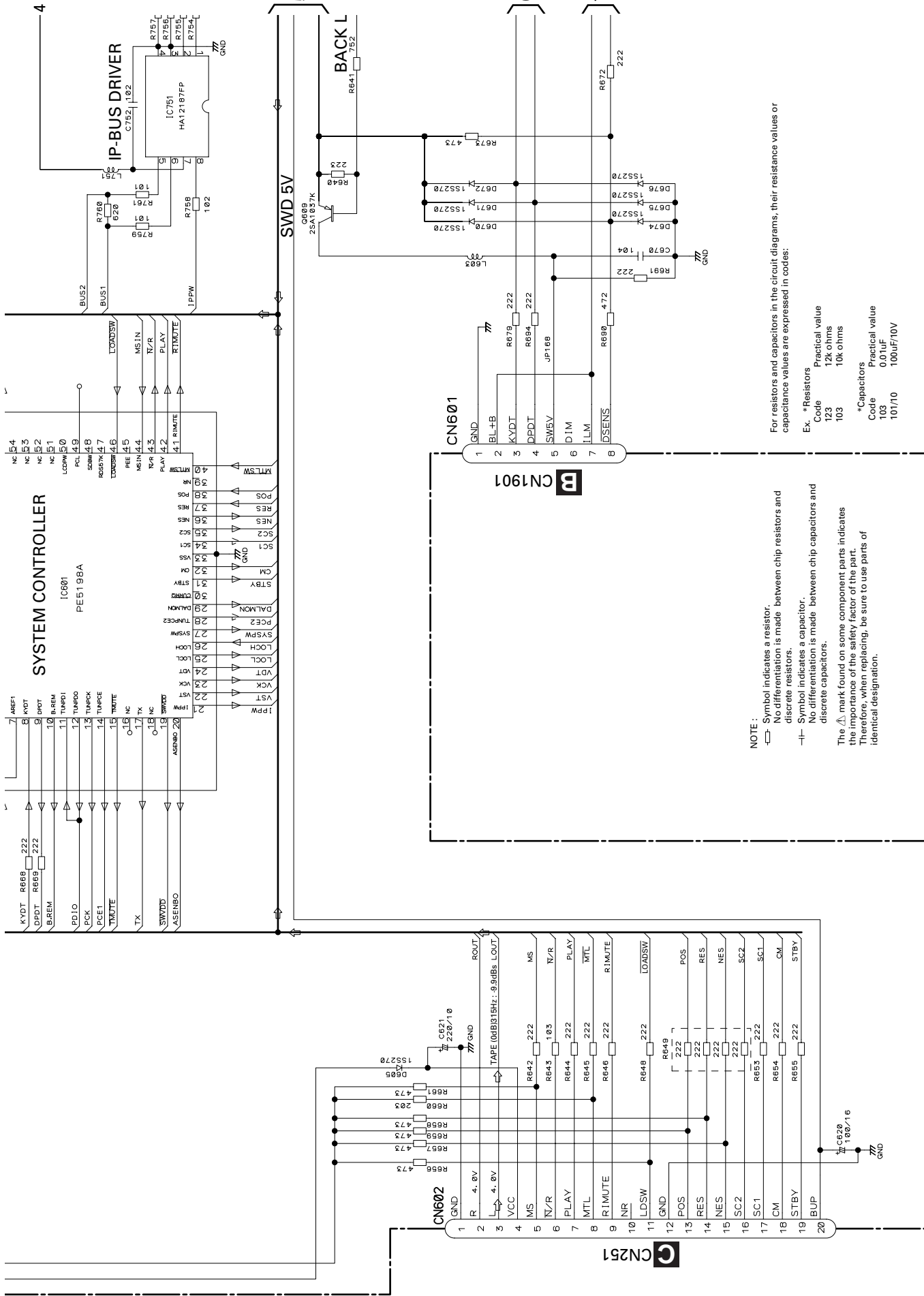
4

1

2

3

4



NOTE:

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

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

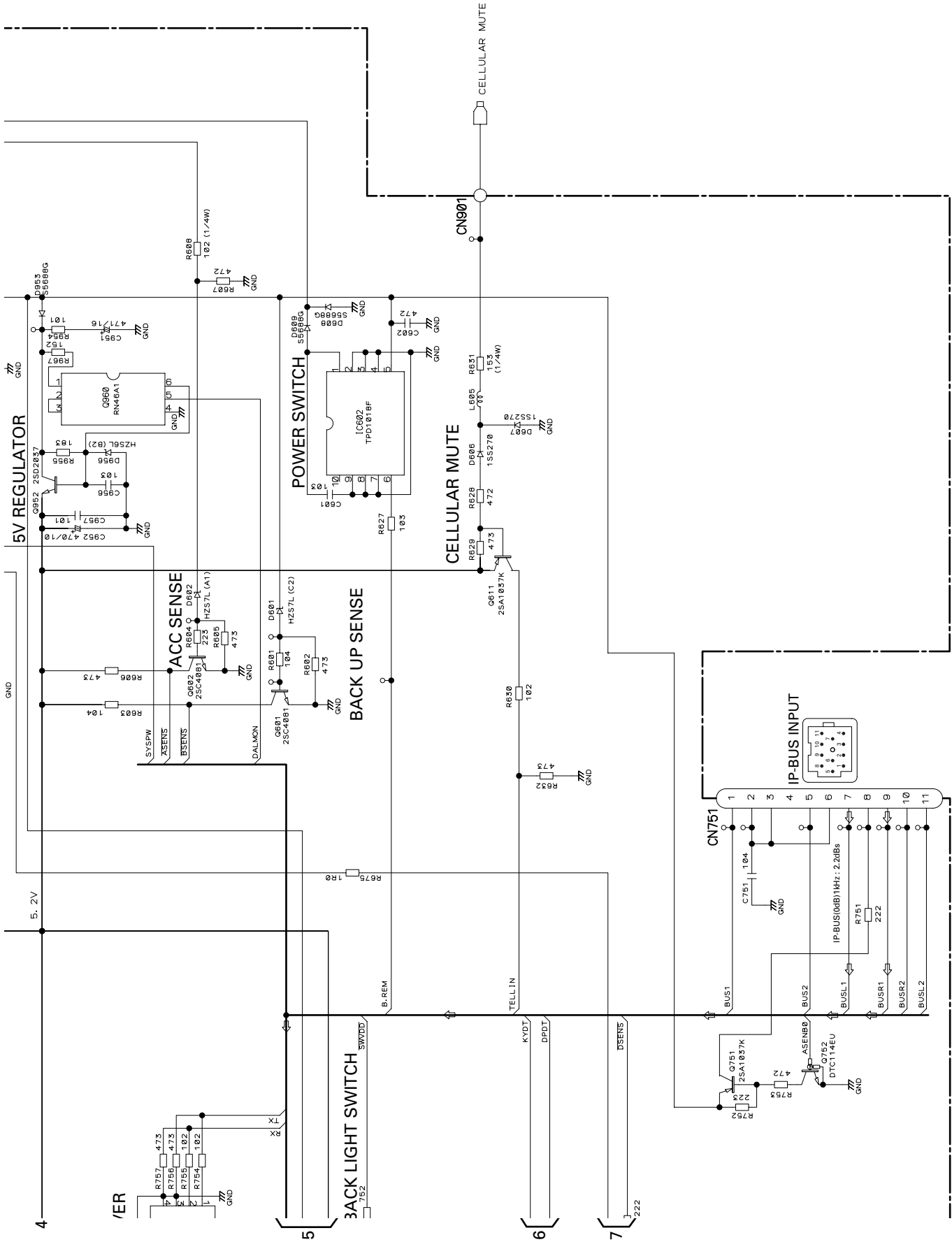
For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

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

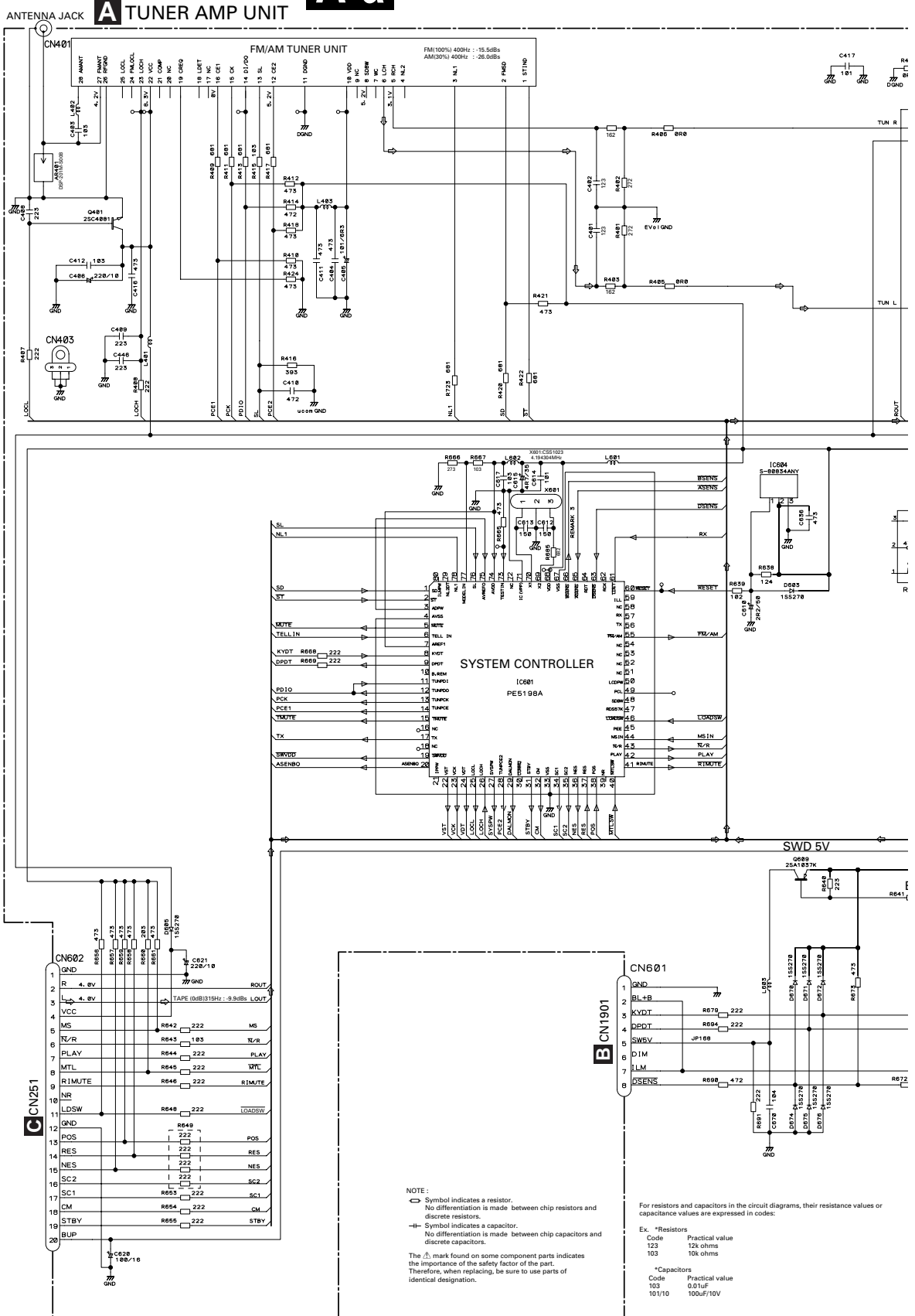
A-a A-b

A-a



3.5 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)(KEH-4011/X1M/EE)

A-a



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 codes:

Ex. *Resistors

Code	Practical value
123	12k ohms
103	10k ohms

*Capacitors

Code	Practical value
103	0.01μF
101/10	100μF/10V

A

B

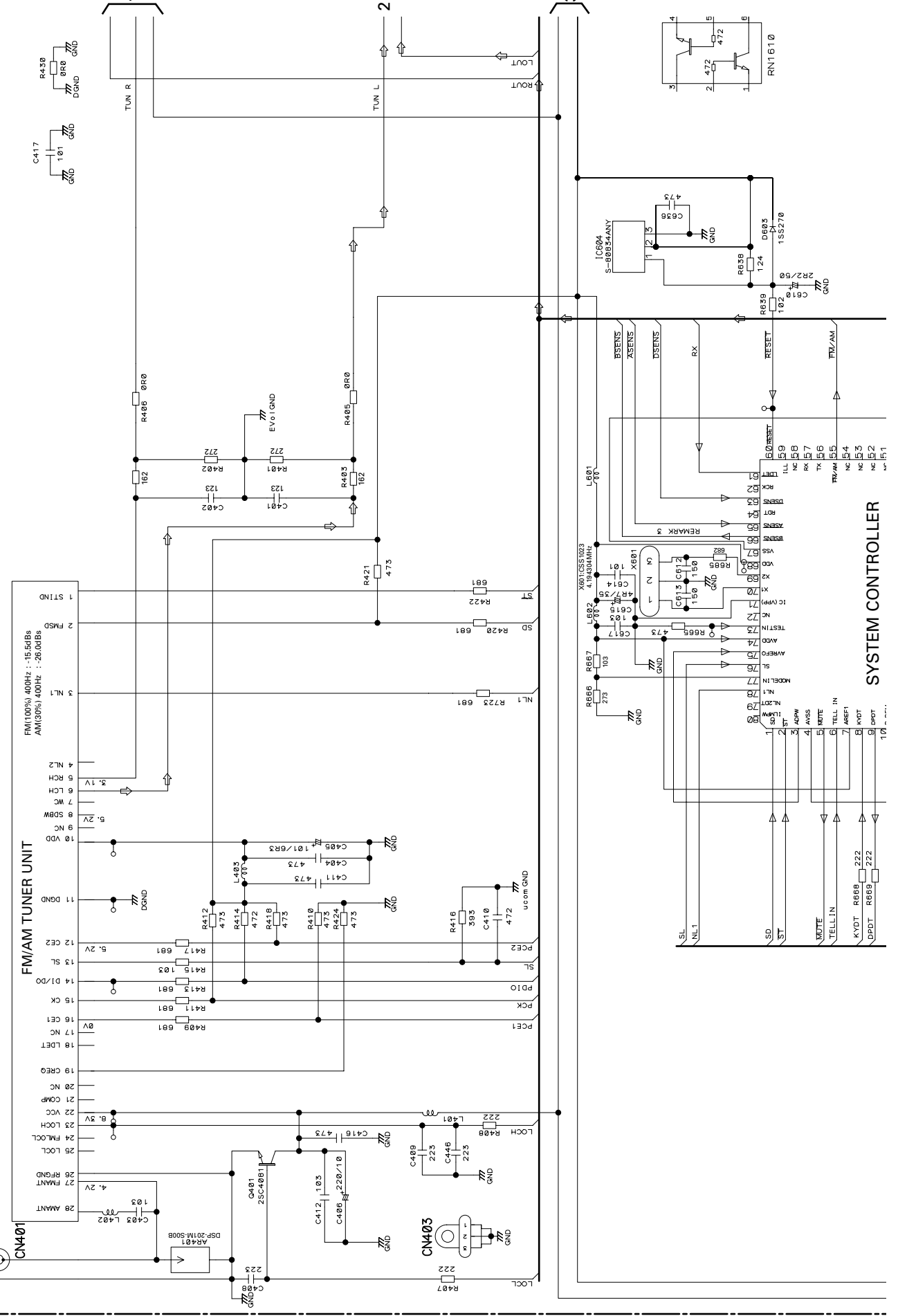
C

D

A

A TUNER AMP UNIT

ANTENNA JACK



1

2

3

4

1

2

3

4

A-a A-b

A

B

C

D

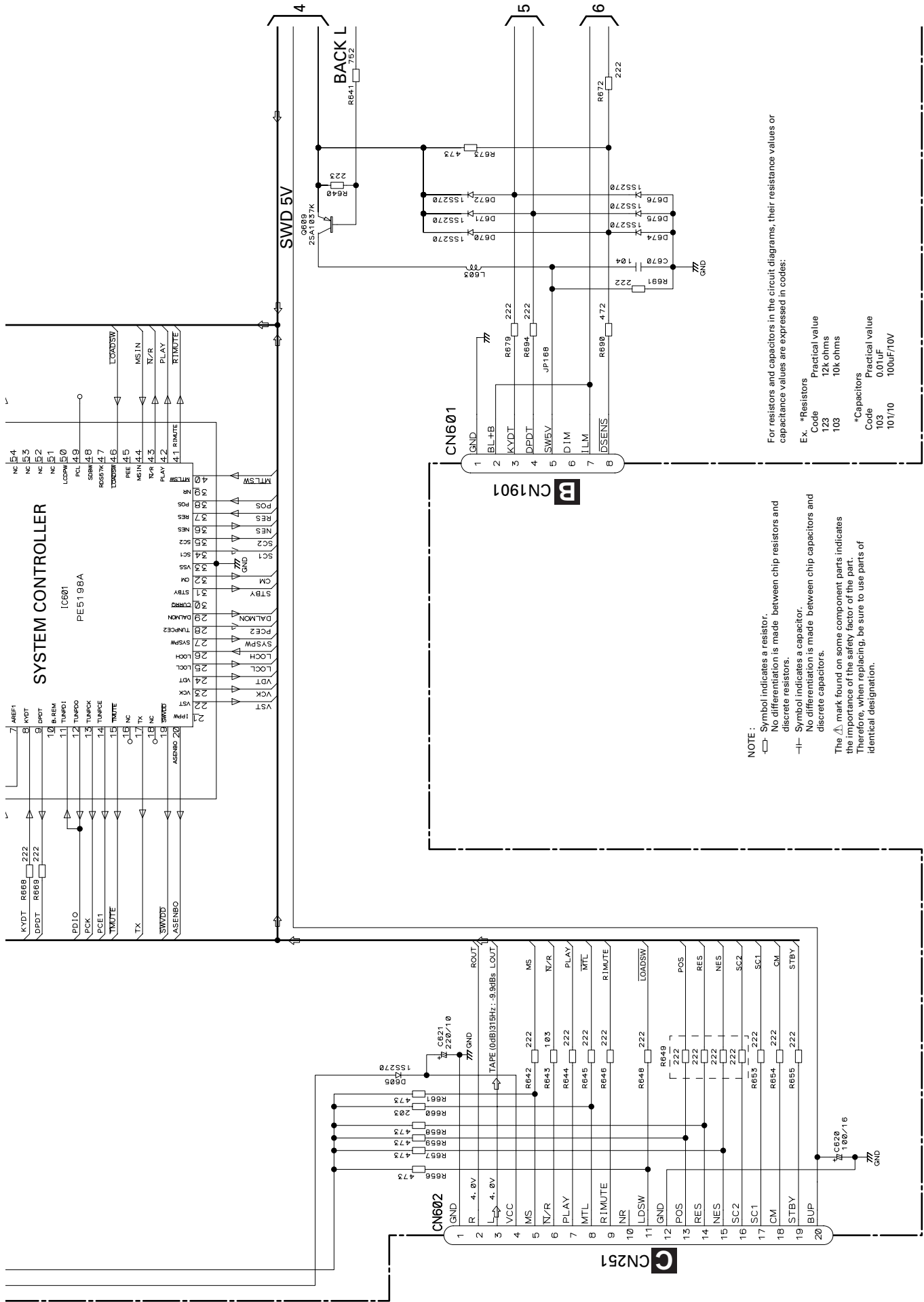
SYSTEM CONTROLLER

1

2

3

4



NOTE:

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

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

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

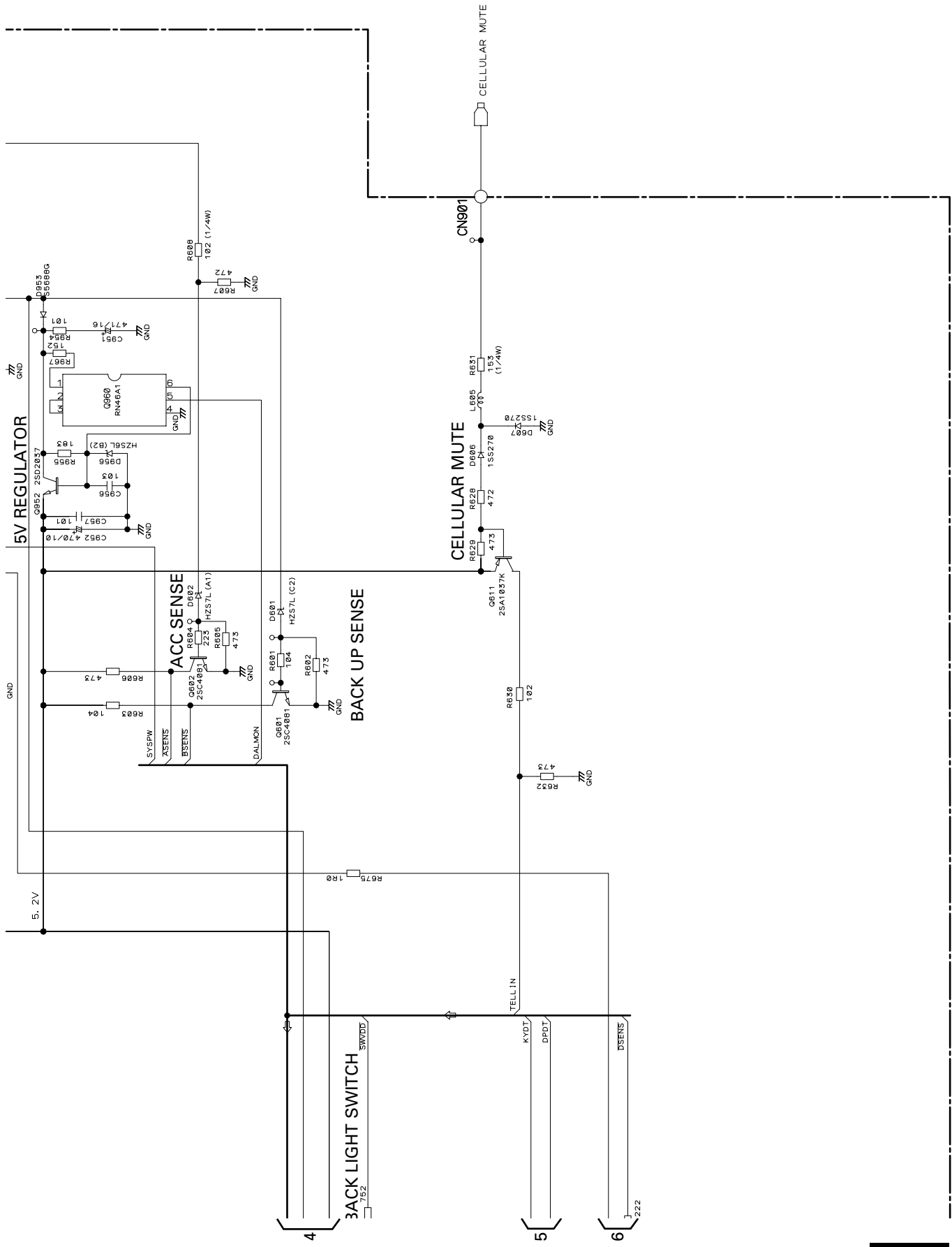
Ex. *Resistors
 Code Practical value
 123 12k ohms
 103 10k ohms

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

A-a A-b

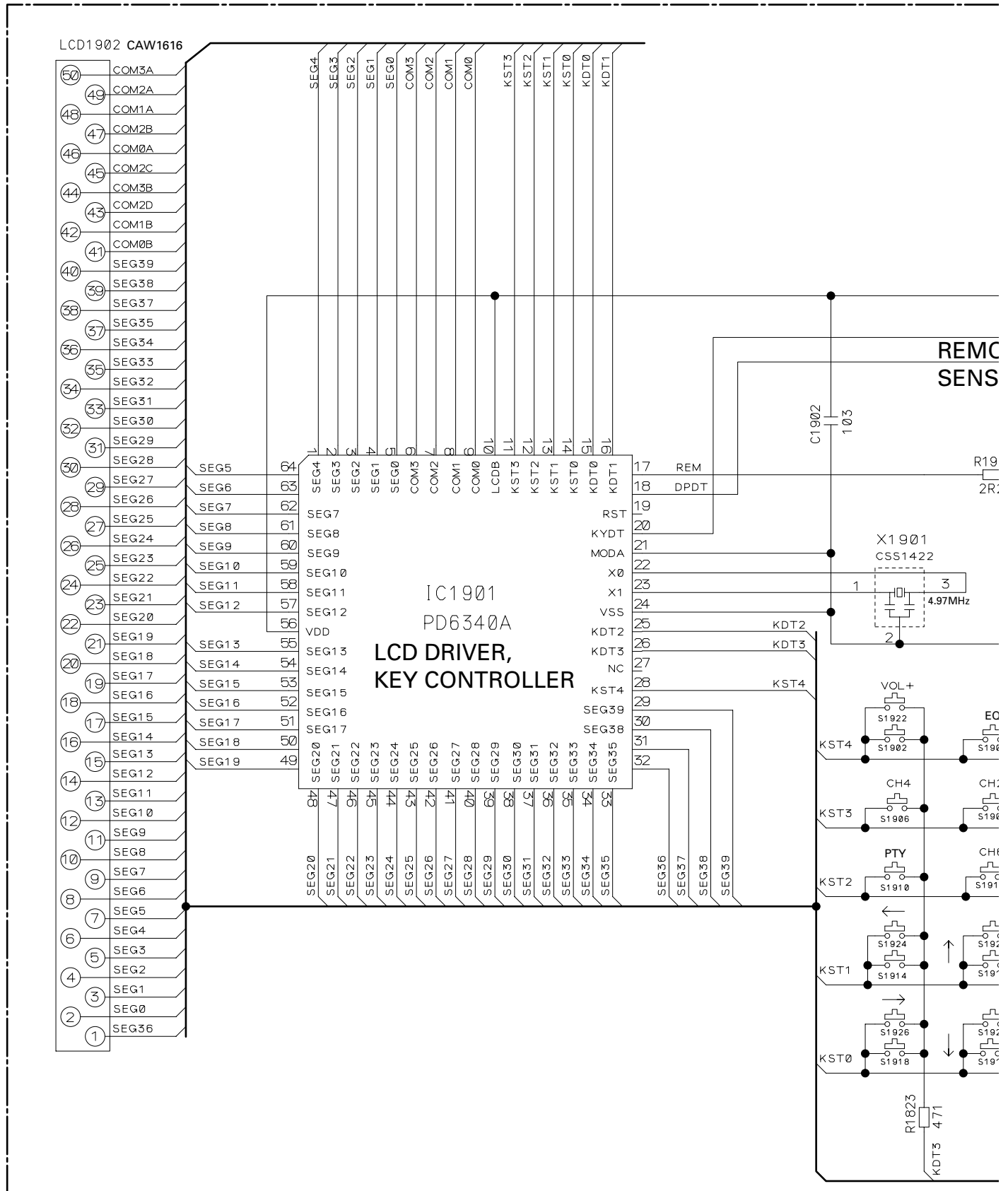
A B C D

A-a

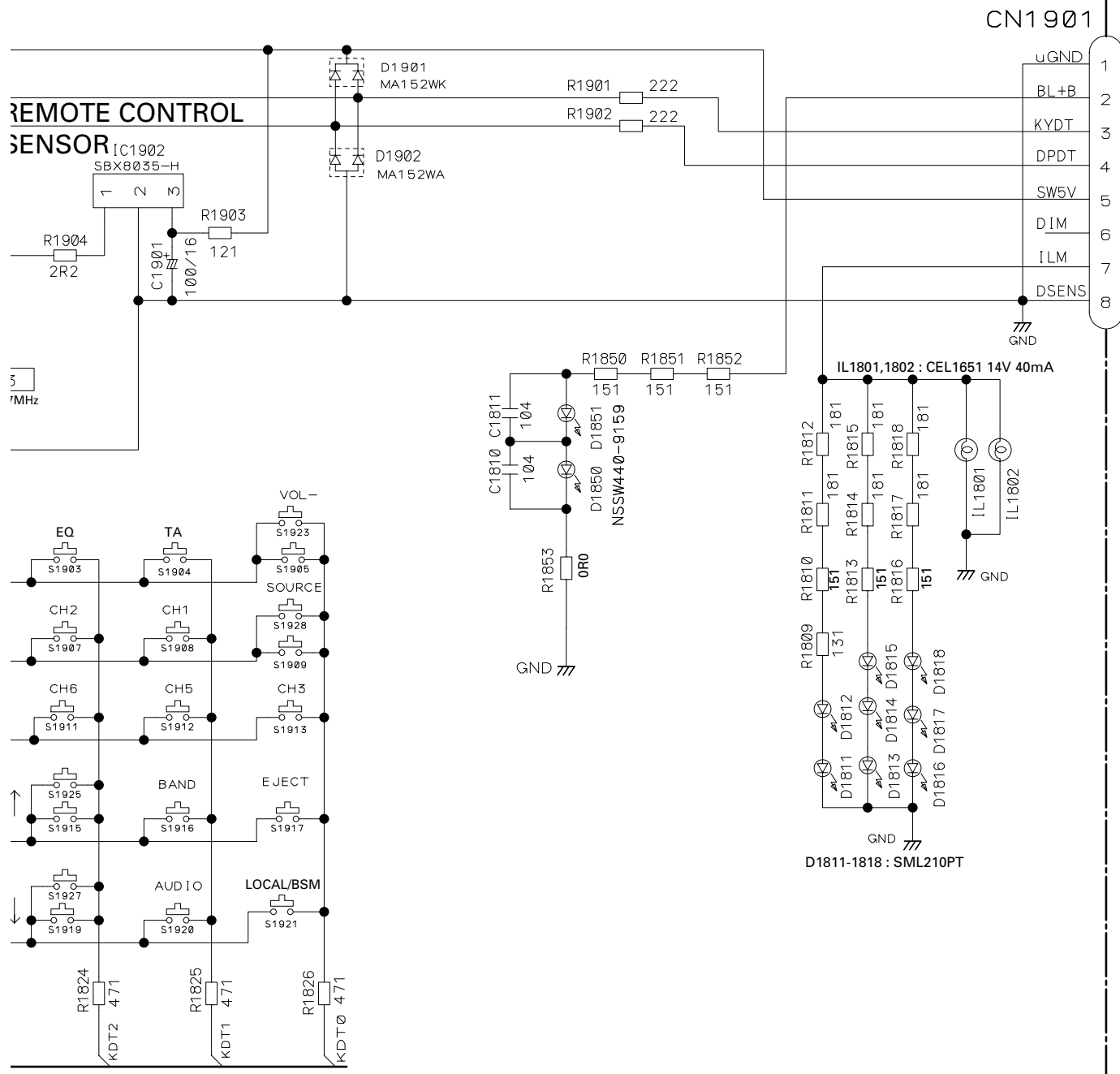


A B C D

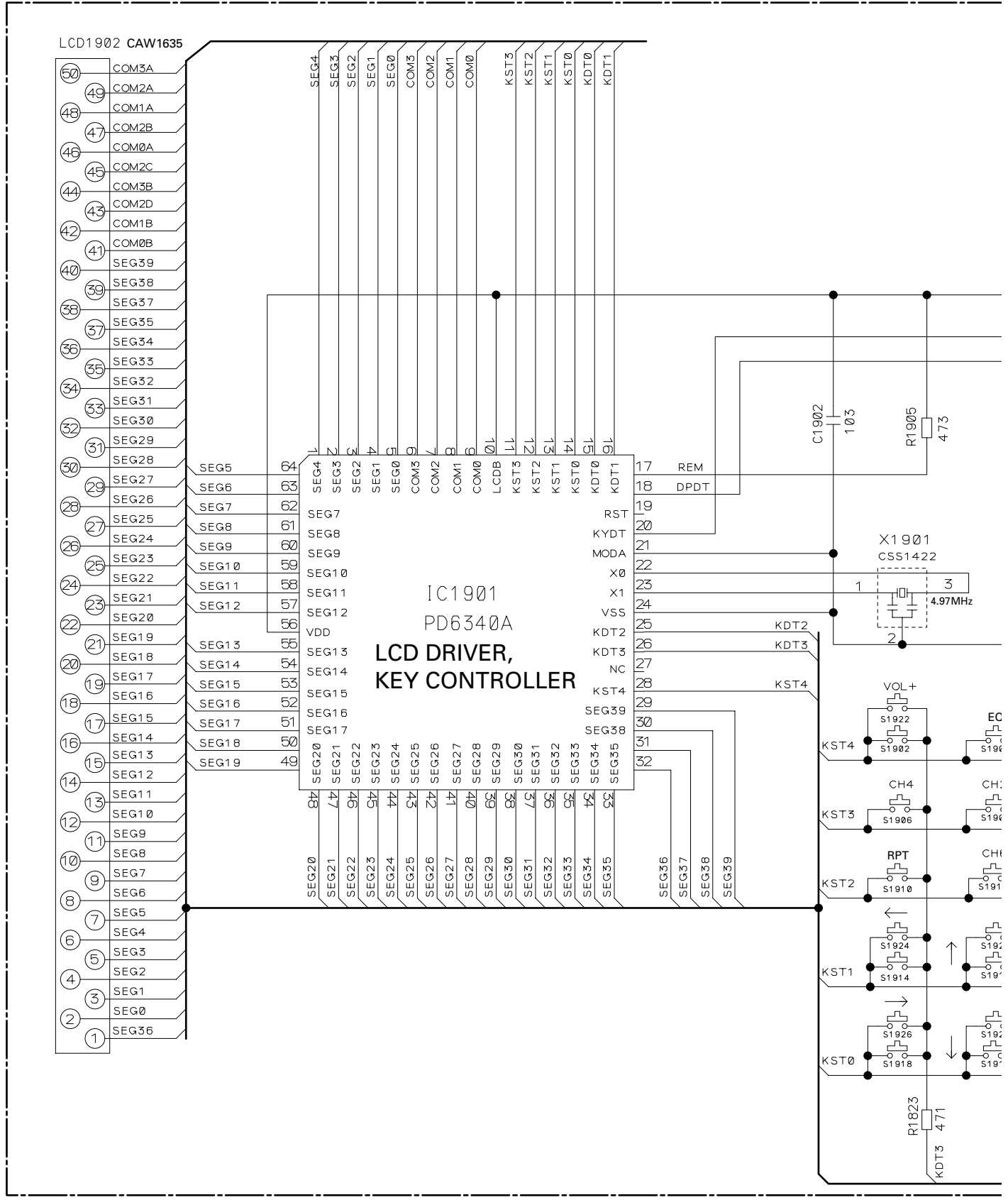
3.6 KEYBOARD UNIT(KEH-P5010R/X1M/EW)



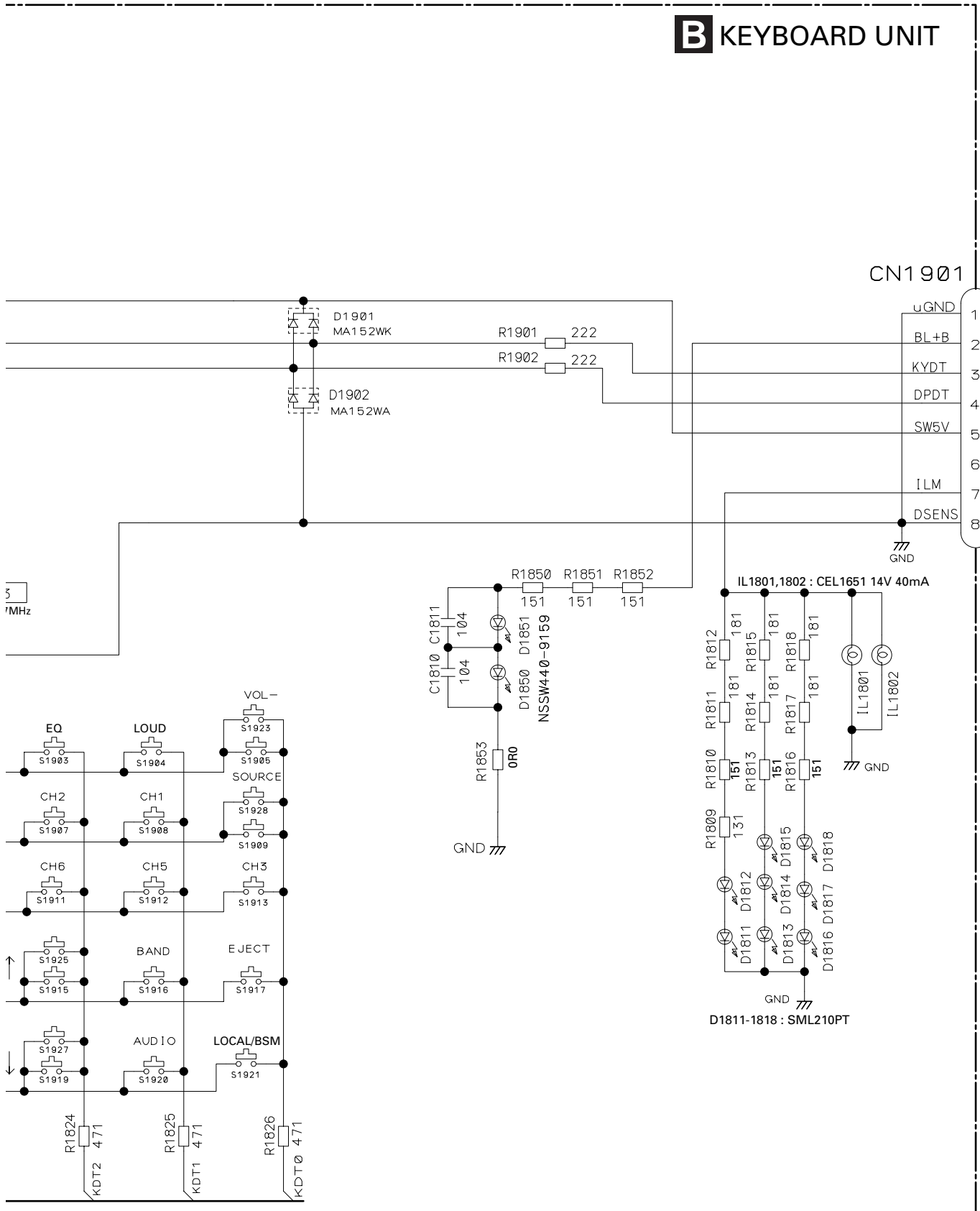
B KEYBOARD UNIT



3.7 KEYBOARD UNIT(KEH-P5011/X1M/EE, KEH-4011/X1M/EE)



B KEYBOARD UNIT

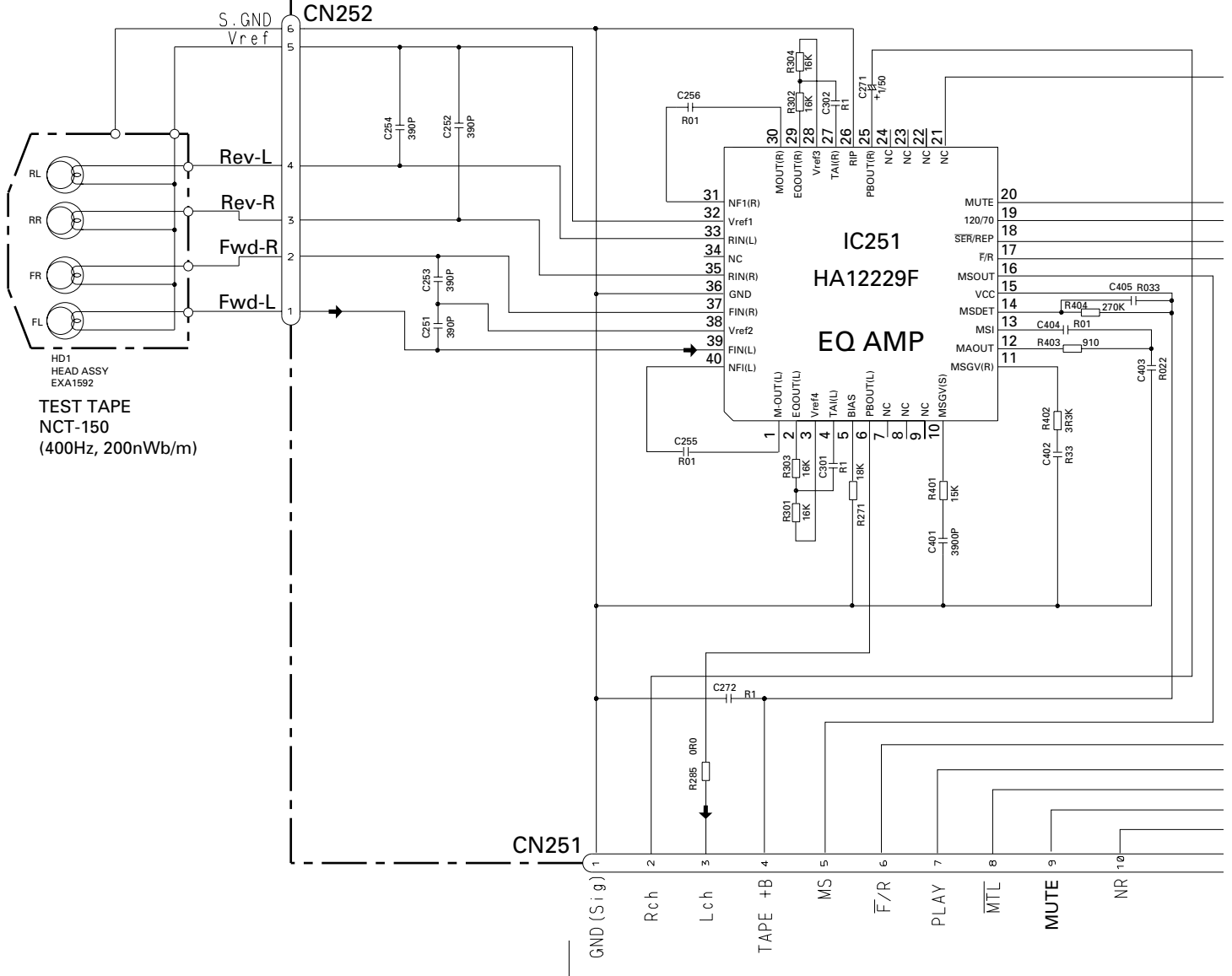


A CN601

B

3.8 CASSETTE MECHANISM MODULE

C DECK UNIT

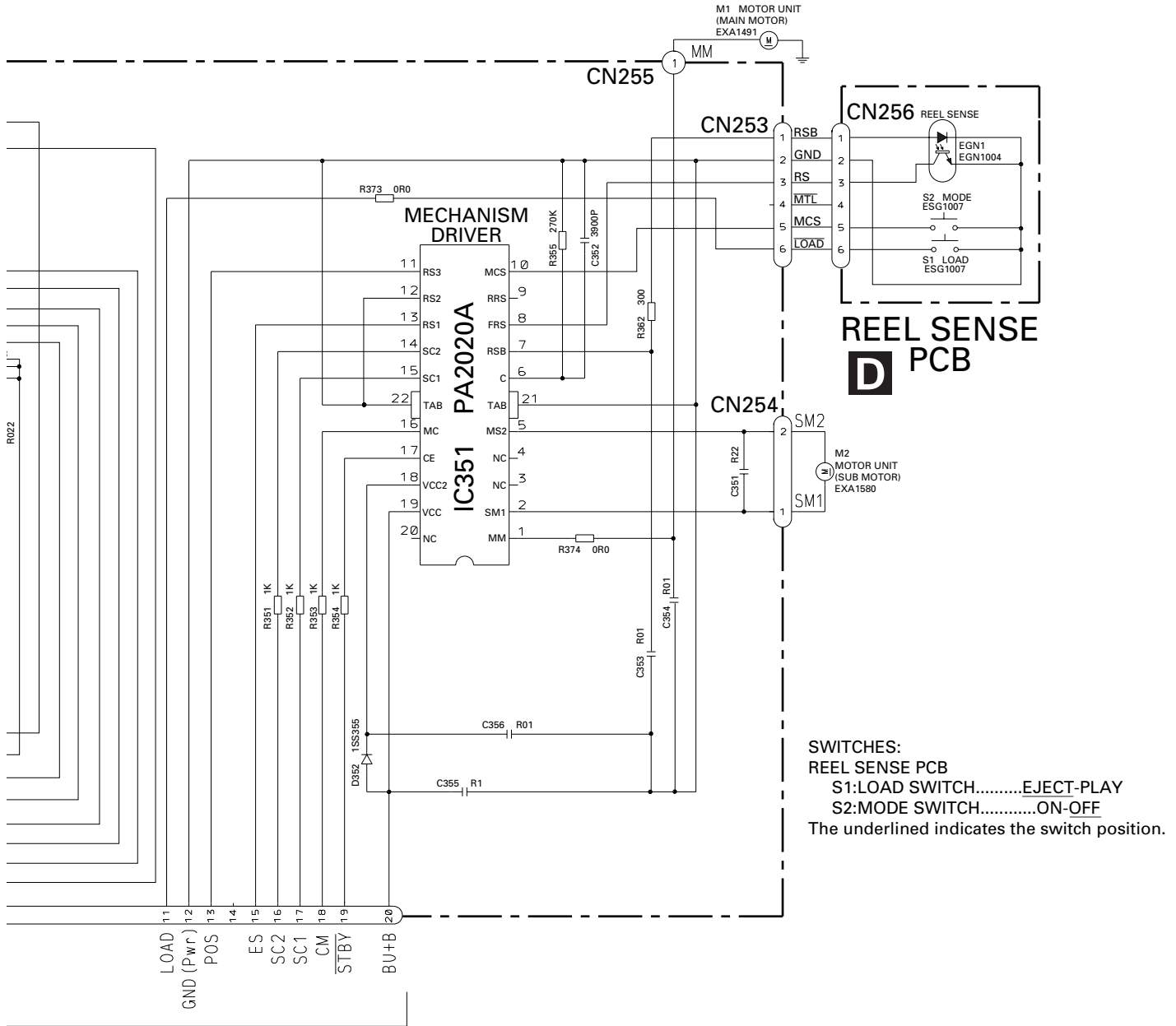


-8.24dBs±4dB

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

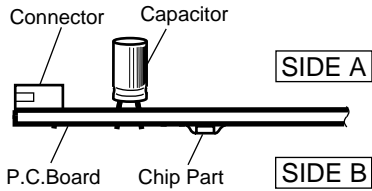


4. PCB CONNECTION DIAGRAM

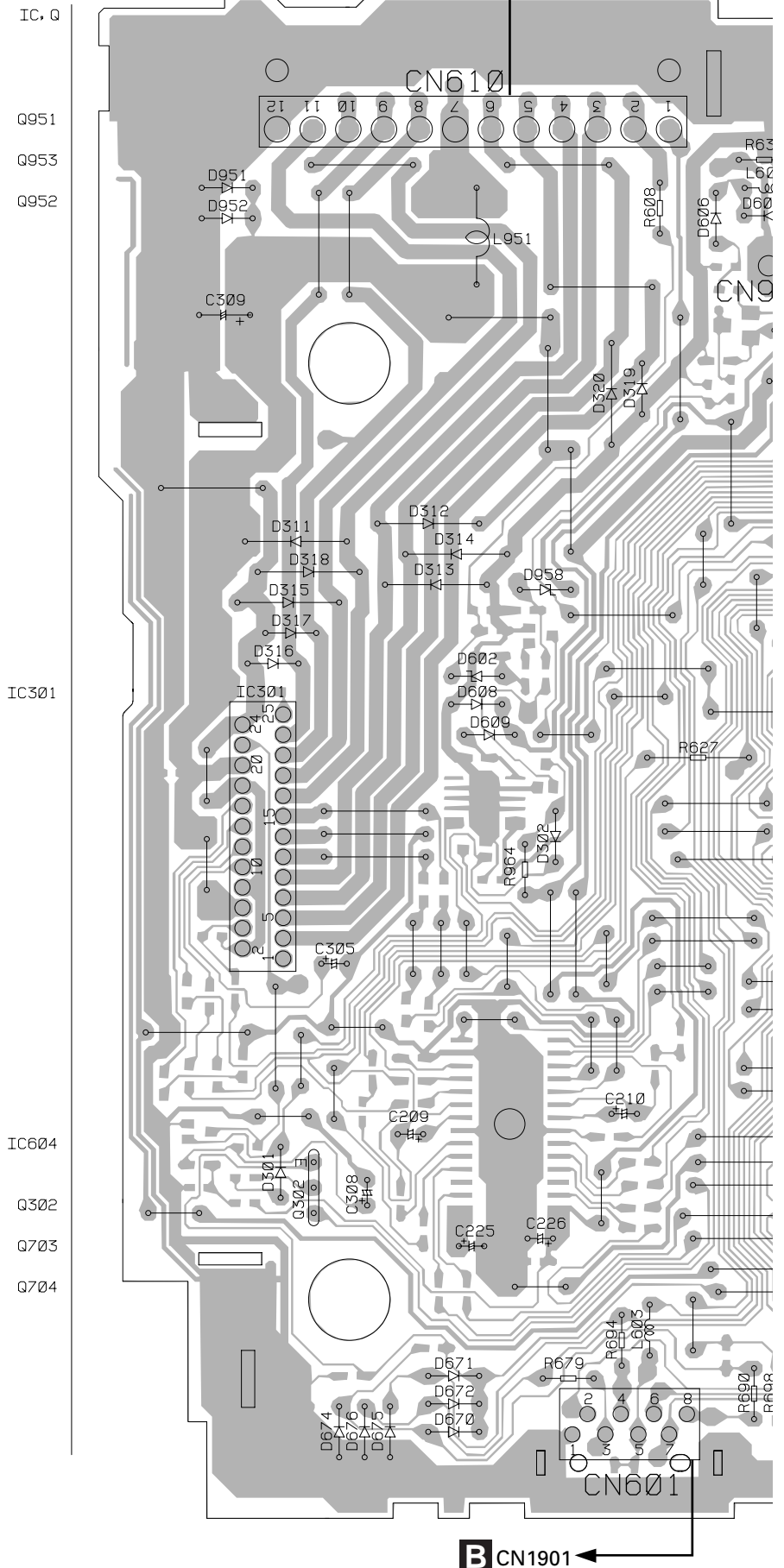
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

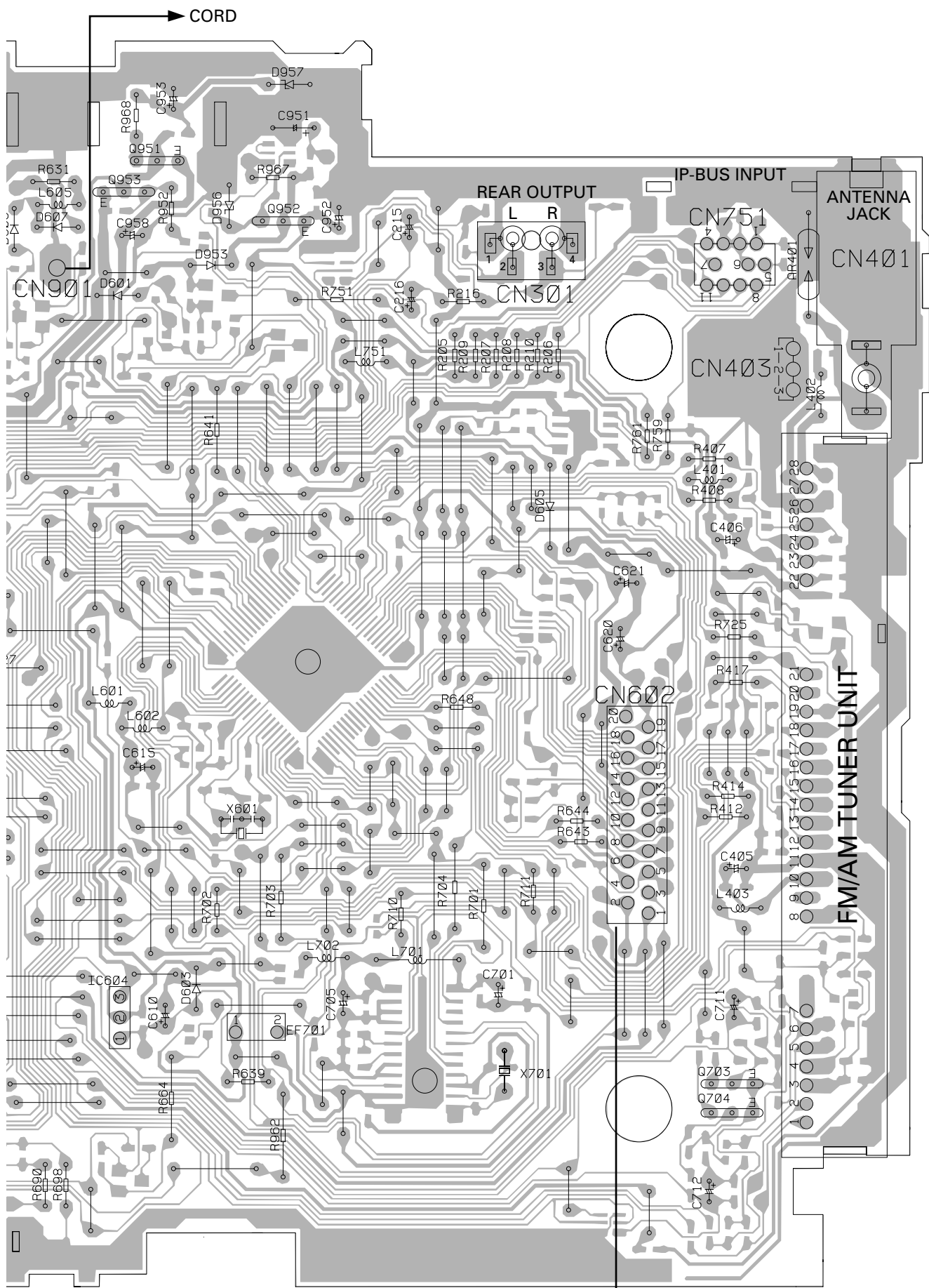
1. The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



A TUNER AMP UNIT



SIDE A



FRONT

CN251

A

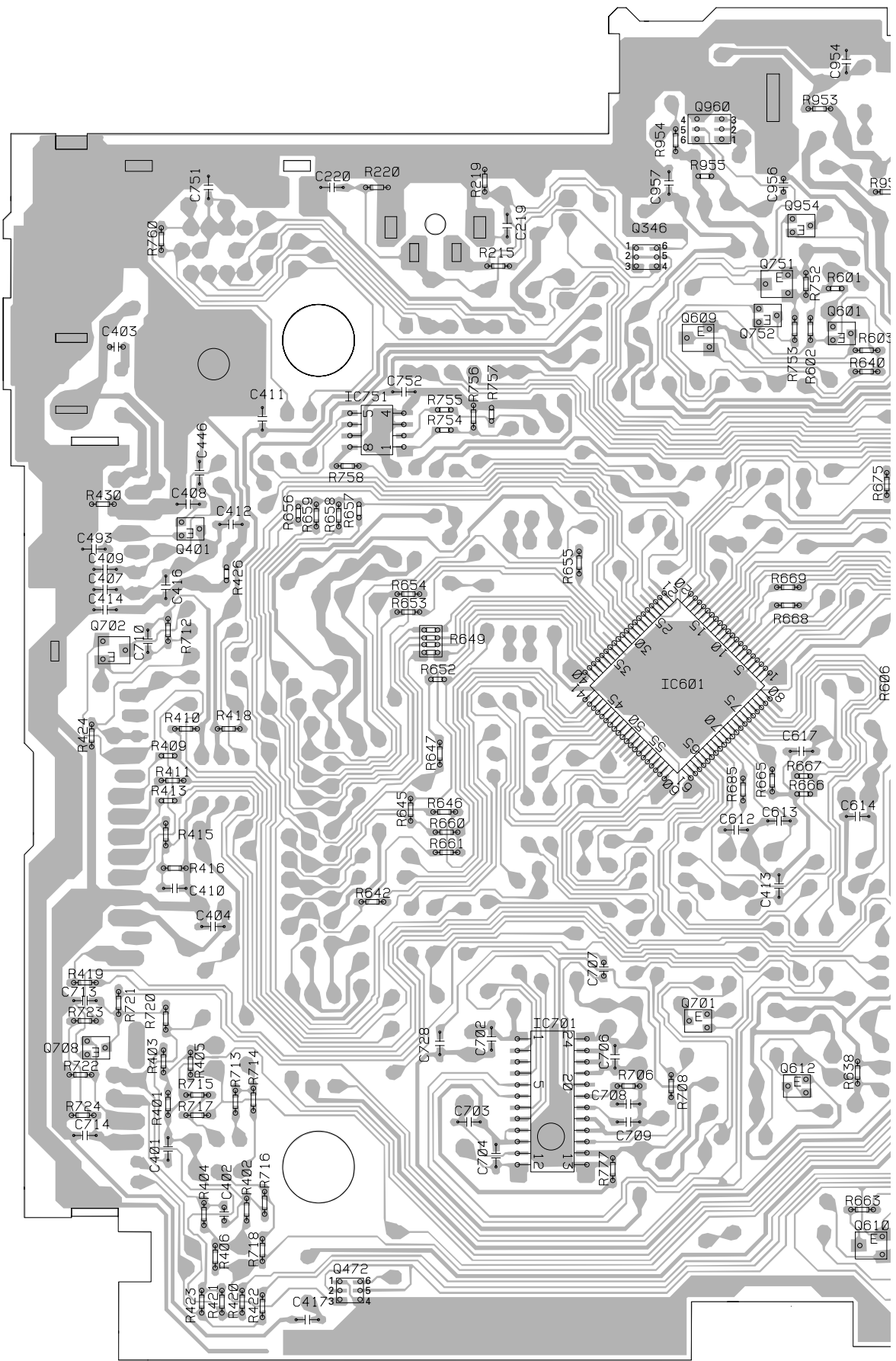
A TUNER AMP UNIT

A

B

C

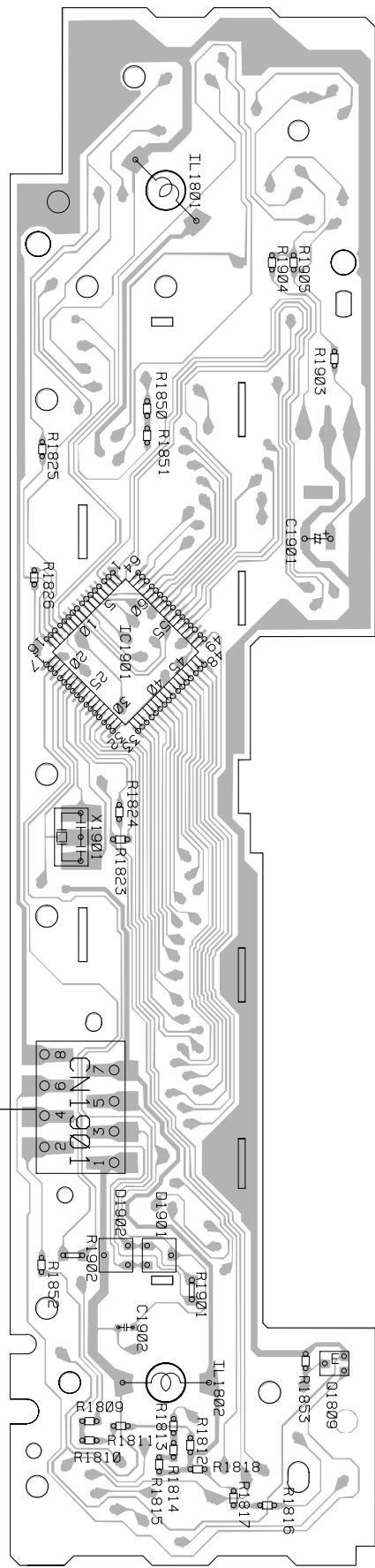
D



SIDE B

B KEYBOARD UNIT

A CN601



A

B

C

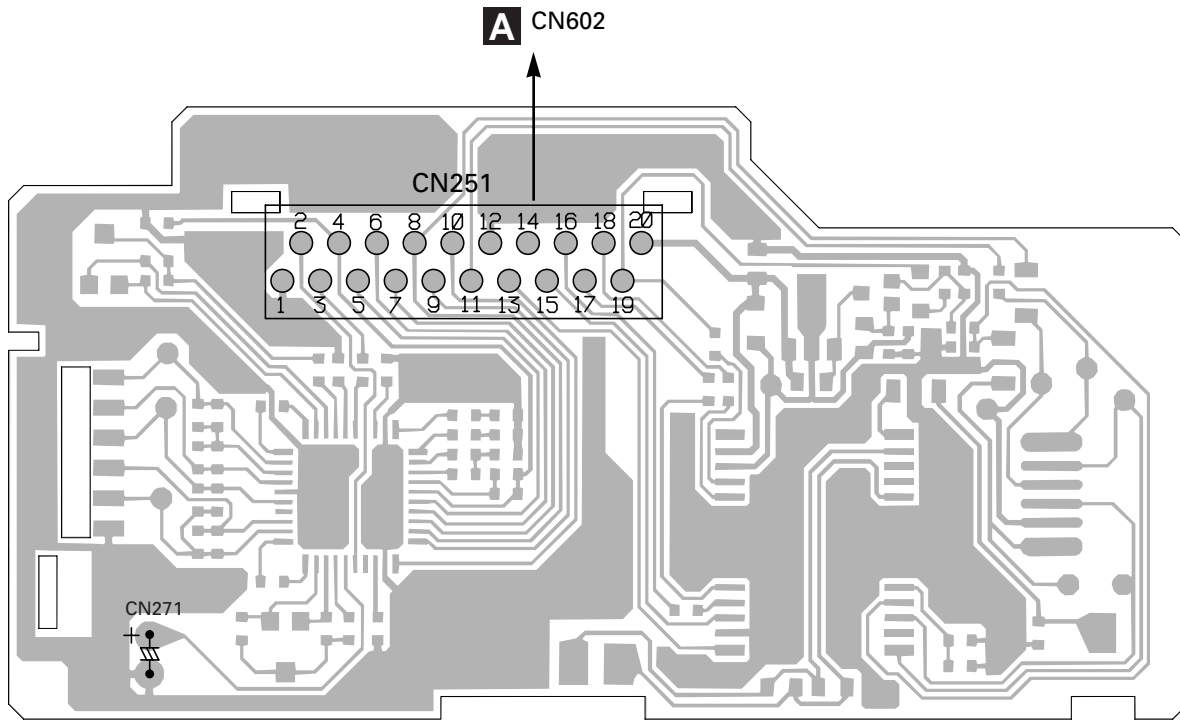
D

B

4.4 CASSETTE MECHANISM MODULE

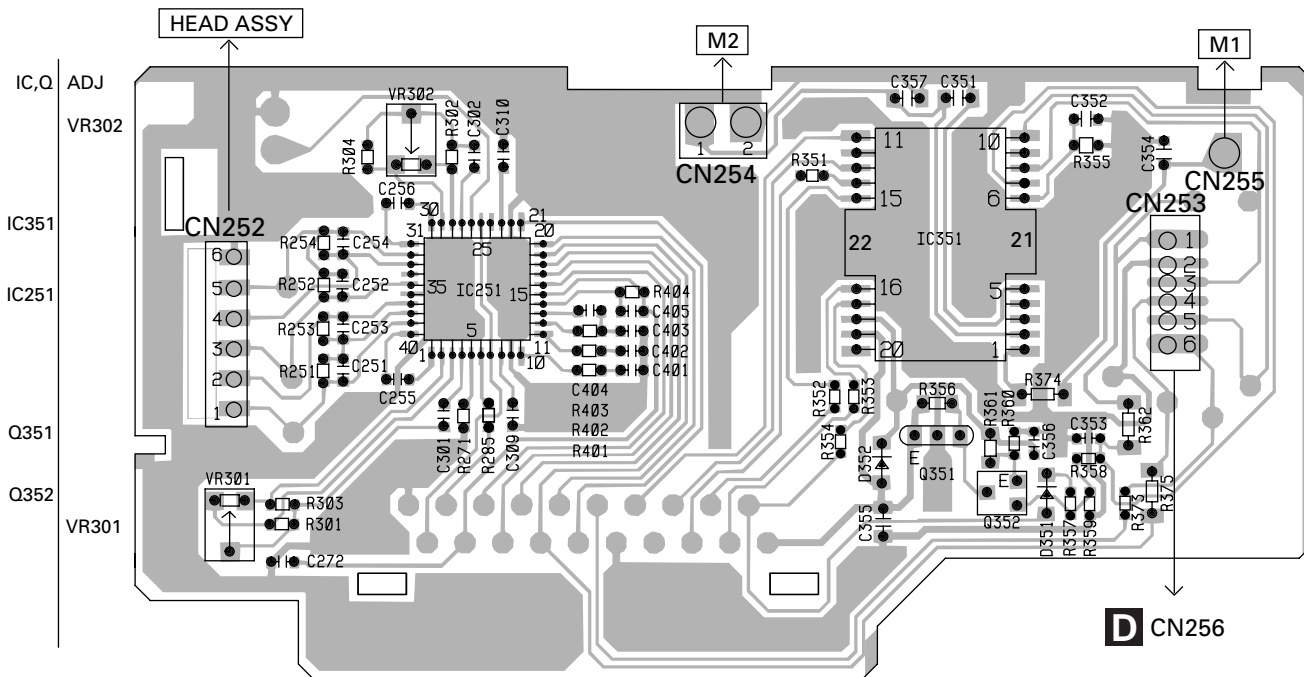
C DECK UNIT

SIDE A

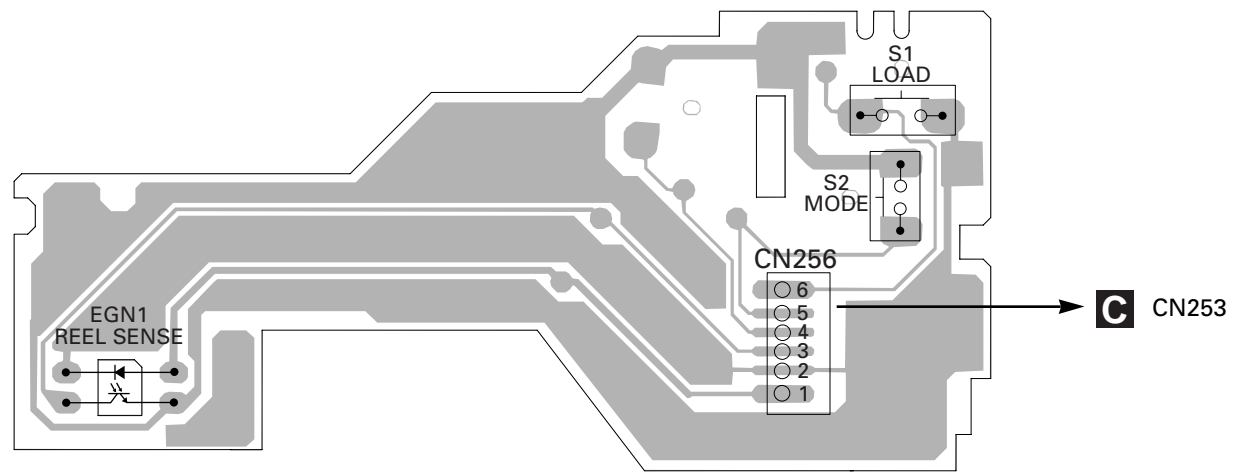


C DECK UNIT

SIDE B



D 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 : CWM7327 (KEH-P5010R/X1M/EW) Unit Name : Tuner Amp Unit		D 957 Diode	HZS9L(B3)
		D 958 Diode	HZS9L(A2)
		L 401 Ferri-Inductor	LAU1R0M
		L 402 Ferri-Inductor	LAU4R7K
		L 403 Ferri-Inductor	LAU1R0M
		L 601 Ferri-Inductor	LAU2R2K
		L 602 Inductor	LAU100K
		L 603 Ferri-Inductor	LAU2R2K
		L 605 Ferri-Inductor	LAU2R2K
		L 701 Ferri-Inductor	LAU101K
		L 702 Inductor	LAU100K
		L 751 Ferri-Inductor	LAU2R2K
		L 951 Choke Coil 600μH	CTH1168
		X 601 Ceramic Resonator 6.29MHz	CSS1310
		X 701 Crystal Resonator 3.648MHz	CSS1447
		EF 701 Filter	CTF1071
		AR 401 Surge Protector	DSP-201M-S00B
RESISTORS			
		R 205	RD1/4PU821J
		R 206	RD1/4PU821J
		R 207	RD1/4PU102J
		R 208	RD1/4PU102J
		R 209	RD1/4PU223J
		R 210	RD1/4PU223J
		R 215	RS1/16S821J
		R 216	RD1/4PU821J
		R 219	RS1/16S223J
		R 220	RS1/16S223J
		R 222	RS1/16S472J
		R 223	RS1/16S0R0J
		R 225	RS1/16S0R0J
		R 227	RS1/16S472J
		R 301	RS1/16S103J
		R 302	RS1/16S221J
		R 303	RS1/16S153J
		R 304	RS1/16S103J
		R 305	RS1/16S152J
		R 306	RS1/16S101J
		R 401	RS1/16S272J
		R 402	RS1/16S272J
		R 403	RS1/16S162J
		R 404	RS1/16S162J
		R 407	RD1/4PU222J
		R 408	RD1/4PU222J
		R 409	RS1/16S681J
		R 410	RS1/16S473J
		R 411	RS1/16S681J
		R 412	RD1/4PU473J
		R 413	RS1/16S681J
		R 414	RD1/4PU472J
		R 415	RS1/16S103J
		R 416	RS1/16S393J
		R 417	RD1/4PU681J
IC 201 IC	PML003AM		
IC 301 IC	PAL006A		
IC 601 IC	PE5197A		
IC 602 IC	TPD1018F		
IC 604 IC	S-80834ANY		
IC 701 IC	PM4009A		
IC 751 IC	HA12187FP		
Q 205 Transistor	DTA124EU		
Q 301 Transistor	DTC124EU		
Q 302 Transistor	DTA124ES		
Q 346 Transistor	RN1610		
Q 401 Transistor	2SC4081		
Q 472 Transistor	RN1610		
Q 601 Transistor	2SC4081		
Q 602 Transistor	2SC4081		
Q 609 Transistor	2SA1037K		
Q 611 Transistor	2SA1037K		
Q 701 Transistor	DTA124EU		
Q 702 Transistor	2SC2412K		
Q 703 Transistor	2SD1468S		
Q 704 Transistor	2SD1468S		
Q 708 Transistor	2SC4081		
Q 751 Transistor	2SA1037K		
Q 752 Transistor	DTC114EU		
Q 951 Transistor	2SD2396		
Q 952 Transistor	2SD2037		
Q 953 Transistor	2SB1243		
Q 954 Transistor	DTC114EU		
Q 959 Transistor	2SC4081		
Q 960 Transistor	RN46A1		
D 301 Diode	1SS270		
D 302 Diode	1SS270		
D 601 Diode	HZS7L(C2)		
D 602 Diode	HZS7L(A1)		
D 603 Diode	1SS270		
D 605 Diode	1SS270		
D 606 Diode	1SS270		
D 607 Diode	1SS270		
D 608 Diode	S5688G		
D 609 Diode	S5688G		
D 670 Diode	1SS270		
D 671 Diode	1SS270		
D 672 Diode	1SS270		
D 674 Diode	1SS270		
D 675 Diode	1SS270		
D 676 Diode	1SS270		
D 951 Diode	S5688G		
D 952 Diode	S5688G		
D 953 Diode	S5688G		
D 956 Diode	HZS6L(B2)		

KEH-P5010R,P5011,4011

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 312	CKSQYB474K16	Q 401	Transistor
C 313	CKSQYB474K16	Q 601	Transistor
C 314	CKSQYB474K16	Q 602	Transistor
C 315	CKSQYB225K10	Q 609	Transistor
C 401	CKSRYB123K25	Q 611	Transistor
C 402	CKSRYB123K25	Q 751	Transistor
C 403	CKSQYB103K50	Q 752	Transistor
C 404	CKSRYB473K16	Q 951	Transistor
C 405	CEJA101M6R3	Q 952	Transistor
C 406	CEJA220M10	Q 953	Transistor
C 408	CKSRYB223K25	Q 954	Transistor
C 409	CKSRYB223K25	Q 959	Transistor
C 410	CKSRYB472K50	Q 960	Transistor
C 411	CKSRYB473K16	D 301	Diode
C 412	CKSRYB103K50	D 302	Diode
C 413	CCSRCH101J50	D 313	Diode
C 416	CKSRYB473K16	D 314	Diode
C 417	CCSRCH101J50	D 315	Diode
C 601	CKSRYB103K50	D 316	Diode
C 602	CKSRYB472K50	D 317	Diode
C 610	CEJA2R2M50	D 318	Diode
C 614	CCSRCH101J50	D 319	Diode
C 615	CEJA4R7M35	D 320	Diode
C 617	CKSRYB103K50	D 601	Diode
C 620	CEJA100M16	D 602	Diode
C 621	CEJA220M10	D 603	Diode
C 636	CKSRYB473K16	D 605	Diode
C 670	CKSRYB104K16	D 606	Diode
C 701	CEJA220M6R3	D 607	Diode
C 702	CKSRYB104K16	D 608	Diode
C 703	CCSRCH270J50	D 609	Diode
C 704	CCSRCH270J50	D 670	Diode
C 705	CEJA220M6R3	D 671	Diode
C 706	CKSRYB104K16	D 672	Diode
C 707	CKSRYB471K50	D 674	Diode
C 708	CKSRYB471K50	D 675	Diode
C 709	CKSRYB104K16	D 676	Diode
C 710	CKSRYB223K25	D 951	Diode
C 711	CEJA2R2M50	D 952	Diode
C 712	CEJA2R2M50	D 953	Diode
C 713	CKSRYB472K50	D 956	Diode
C 714	CKSRYB182K50	D 957	Diode
C 728	CKSRYB104K16	D 958	Diode
C 751	CKSRYB104K16	L 401	Ferri-Inductor
C 752	CKSRYB102K50	L 402	Ferri-Inductor
C 951	470µF/16V	L 403	Ferri-Inductor
C 952		L 601	Ferri-Inductor
C 953	100µF/16V	L 602	Inductor
C 954		L 603	Ferri-Inductor
C 956		L 605	Ferri-Inductor
C 957		L 751	Ferri-Inductor
C 958	330µF/10V	L 951	Choke Coil 600µH
		X 601	Crystal Resonator 4.194304MHz
		AR 401	Surge Protector

A Unit Number : CWM7647
 (KEH-P5011/X1M/EE)
 Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC 201	IC	PML003AM
IC 301	IC	TA8277H
IC 601	IC	PE5198A
IC 602	IC	TPD1018F
IC 604	IC	S-80834ANY
IC 751	IC	HA12187FP
Q 205	Transistor	DTA124EU
Q 301	Transistor	DTC124EU
Q 302	Transistor	DTA124ES
Q 346	Transistor	RN1610

RESISTORS

R 205	RD1/4PU821J
R 206	RD1/4PU821J
R 207	RD1/4PU102J
R 208	RD1/4PU102J
R 209	RD1/4PU223J
R 210	RD1/4PU223J
R 215	RS1/16S821J
R 216	RD1/4PU821J
R 219	RS1/16S223J
R 220	RS1/16S223J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
R 604	RS1/16S223J	C 227	CKSRYP104K16
R 605	RS1/16S473J	C 301	CKSQYB474K16
R 606	RS1/16S473J	C 302	CKSQYB474K16
R 607	RS1/16S472J	C 303	CKSQYB474K16
R 608	RD1/4PU102J	C 304	CKSQYB474K16
R 628	RS1/16S472J	C 305	CEJA100M16
R 629	RS1/16S473J	C 306	CKSQYB225K10
R 630	RS1/16S102J	C 307	CKSRYP473K16
R 631	RD1/4PU153J	C 308	CEJA330M10
R 632	RS1/16S473J	C 309	3300µF/16V CCH1368
R 638	RS1/16S124J	C 310	CKSRYP104K16
R 639	RD1/4PU102J	C 311	CKSQYB474K16
R 640	RS1/16S223J	C 312	CKSQYB474K16
R 641	RD1/4PU752J	C 313	CKSQYB474K16
R 642	RS1/16S222J	C 314	CKSQYB474K16
R 643	RD1/4PU103J	C 315	CKSQYB225K10
R 644	RD1/4PU222J	C 320	CKSRYP224K16
R 645	RS1/16S222J	C 401	CKSRYP123K25
R 646	RS1/16S222J	C 402	CKSRYP123K25
R 648	RD1/4PU222J	C 403	CKSQYB103K50
R 649	RAB4C222J	C 404	CKSRYP473K16
R 653	RS1/16S222J	C 405	CEJA101M6R3
R 654	RS1/16S222J	C 406	CEJA220M10
R 655	RS1/16S222J	C 408	CKSRYP223K25
R 656	RS1/16S473J	C 409	CKSRYP223K25
R 657	RS1/16S473J	C 410	CKSRYP472K50
R 658	RS1/16S473J	C 411	CKSRYP473K16
R 659	RS1/16S473J	C 412	CKSRYP103K50
R 660	RS1/16S203J	C 416	CKSRYP473K16
R 661	RS1/16S473J	C 417	CCSRCH101J50
R 665	RS1/16S473J	C 610	CEJA2R2M50
R 666	RS1/16S273J	C 612	CCSRCH150J50
R 667	RS1/16S103J	C 613	CCSRCH150J50
R 668	RS1/16S222J	C 614	CCSRCH101J50
R 669	RS1/16S222J	C 615	CEJA4R7M35
R 672	RS1/16S222J	C 617	CKSRYP103K50
R 673	RS1/16S473J	C 620	CEJA100M16
R 675	RS1/16S1R0J	C 621	CEJA220M10
R 679	RD1/4PU222J	C 636	CKSRYP473K16
R 685	RS1/16S682J	C 670	CKSRYP104K16
R 690	RD1/4PU472J	C 951	470µF/16V CCH1183
R 691	RS1/16S222J	C 952	CEJA470M10
R 694	RD1/4PU222J	C 953	100µF/16V CCH1179
R 951	RS1/16S103J	C 954	CKSRYP103K50
R 952	RD1/4PU122J	C 956	CKSRYP103K50
R 953	RS1/16S122J	C 957	CCSRCH101J50
R 954	RS1/16S101J	C 958	330µF/10V CCH1181
R 955	RS1/16S183J		
R 958	RS1/16S0R0J		
R 963	RS1/16S223J		
R 964	RD1/4PU152J		
R 965	RS1/16S103J		
R 967	RD1/4PU152J		
R 968	RD1/4PU201J		

B Unit Number : CWM7339
(KEH-P5010R/X1M/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

CAPACITORS

C 201	CKSRYP104K16
C 202	CKSRYP104K16
C 203	CKSRYP104K16
C 204	CKSRYP104K16
C 209	CEJA4R7M35
C 210	CEJA4R7M35
C 211	CKSRYP153K25
C 212	CKSRYP153K25
C 225	CEJA100M16
C 226	CEJA470M10

IC 1901	IC	PD6340A
IC 1902	IC	SBX8035-H
D 1811	LED	SML210PT
D 1812	LED	SML210PT
D 1813	LED	SML210PT
D 1814	LED	SML210PT
D 1815	LED	SML210PT
D 1816	LED	SML210PT
D 1817	LED	SML210PT
D 1818	LED	SML210PT
D 1850	LED	NSSW440-9159
D 1851	LED	NSSW440-9159
D 1901	Diode	MA152WK
D 1902	Diode	MA152WA
X 1901	Ceramic Resonator 4.97MHz	CSS1422

KEH-P5010R,P5011,4011

====Circuit Symbol and No.====Part Name	Part No.
IL 1801 Lamp 14V 40mA	CEL1651
IL 1802 Lamp 14V 40mA	CEL1651
LCD1902 LCD	CAW1616

RESISTORS

R 1809	RS1/16S131J
R 1810	RS1/16S151J
R 1811	RS1/16S181J
R 1812	RS1/16S181J
R 1813	RS1/16S151J

R 1814	RS1/16S181J
R 1815	RS1/16S181J
R 1816	RS1/16S151J
R 1817	RS1/16S181J
R 1818	RS1/16S181J

R 1823	RS1/16S471J
R 1824	RS1/16S471J
R 1825	RS1/16S471J
R 1826	RS1/16S471J
R 1850	RS1/16S151J

R 1851	RS1/16S151J
R 1852	RS1/16S151J
R 1853	RS1/16S0R0J
R 1901	RS1/10S222J
R 1902	RS1/10S222J

R 1903	RS1/16S121J
R 1904	RS1/16S2R2J

CAPACITORS

C 1810	CKSQYB104K16
C 1811	CKSQYB104K16
C 1901	CEH100M6R3
C 1902	CKSRYB103K50

B Unit Number : CWM7648
(KEH-P5011/X1M/EE)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1901	IC	PD6340A
D 1811	LED	SML210PT
D 1812	LED	SML210PT
D 1813	LED	SML210PT
D 1814	LED	SML210PT

D 1815	LED	SML210PT
D 1816	LED	SML210PT
D 1817	LED	SML210PT
D 1818	LED	SML210PT
D 1850	LED	NSSW440-9159

D 1851	LED	NSSW440-9159
D 1901	Diode	MA152WK
D 1902	Diode	MA152WA
X 1901	Ceramic Resonator 4.97MHz	CSS1422
IL 1801	Lamp 14V 40mA	CEL1651

IL 1802	Lamp 14V 40mA	CEL1651
LCD1902	LCD	CAW1635

RESISTORS

R 1809	RS1/16S131J
R 1810	RS1/16S151J
R 1811	RS1/16S181J
R 1812	RS1/16S181J
R 1813	RS1/16S151J

R 1814	RS1/16S181J
R 1815	RS1/16S181J
R 1816	RS1/16S151J
R 1817	RS1/16S181J
R 1818	RS1/16S181J

====Circuit Symbol and No.====Part Name	Part No.
R 1823	RS1/16S471J
R 1824	RS1/16S471J
R 1825	RS1/16S471J
R 1826	RS1/16S471J
R 1850	RS1/16S151J

R 1851	RS1/16S151J
R 1852	RS1/16S151J
R 1853	RS1/16S0R0J
R 1901	RS1/10S222J
R 1902	RS1/10S222J

R 1905	RS1/16S473J
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CAPACITORS

C 1810	CKSQYB104K16
C 1811	CKSQYB104K16
C 1902	CKSRYB103K50

B Unit Number : CWM7495
(KEH-4011/X1M/EE)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1901	IC	PD6340A
D 1811	LED	SML210PT
D 1812	LED	SML210PT
D 1813	LED	SML210PT
D 1814	LED	SML210PT

D 1815	LED	SML210PT
D 1816	LED	SML210PT
D 1817	LED	SML210PT
D 1818	LED	SML210PT
D 1850	LED	NSSW440-9159

D 1851	LED	NSSW440-9159
D 1901	Diode	MA152WK
D 1902	Diode	MA152WA
X 1901	Ceramic Resonator 4.97MHz	CSS1422
IL 1801	Lamp 14V 40mA	CEL1651

IL 1802	Lamp 14V 40mA	CEL1651
LCD1902	LCD	CAW1635

RESISTORS

R 1809	RS1/16S131J
R 1810	RS1/16S151J
R 1811	RS1/16S181J
R 1812	RS1/16S181J
R 1813	RS1/16S151J

R 1814	RS1/16S181J
R 1815	RS1/16S181J
R 1816	RS1/16S151J
R 1817	RS1/16S181J
R 1818	RS1/16S181J

R 1823	RS1/16S471J
R 1824	RS1/16S471J
R 1825	RS1/16S471J
R 1826	RS1/16S471J
R 1850	RS1/16S151J

R 1851	RS1/16S151J
R 1852	RS1/16S151J
R 1853	RS1/16S0R0J
R 1901	RS1/10S222J
R 1902	RS1/10S222J

R 1905	RS1/16S473J
--------	-------------

CAPACITORS

C 1810	CKSQYB104K16
C 1811	CKSQYB104K16
C 1902	CKSRYB103K50

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

C Unit Number : EWM1032
Unit Name : Deck Unit

MISCELLANEOUS

IC 251 IC
IC 351 IC
D 352 Diode

RESISTORS

R 271	RS1/16S183J
R 285	RS1/16S0R0J
R 301	RS1/16S163J
R 302	RS1/16S163J
R 303	RS1/16S163J
R 304	RS1/16S163J
R 351	RS1/16S102J
R 352	RS1/16S102J
R 353	RS1/16S102J
R 354	RS1/16S102J
R 355	RS1/16S274J
R 362	RS1/8S301J
R 373	RS1/16S0R0J
R 374	RS1/8S0R0J
R 401	RS1/16S153J
R 402	RS1/16S332J
R 403	RS1/16S911J
R 404	RS1/16S274J

Part No.

HA12229F
PA2020A
1SS355

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

CAPACITORS

C 251		CKSRYB391K50
C 252		CKSRYB391K50
C 253		CKSRYB391K50
C 254		CKSRYB391K50
C 255		CKSRYB103K50
C 256		CKSRYB103K50
C 271	1μF/50V	ECH0002
C 272		CKSRYB104K16
C 301		CKSRYB104K16
C 302		CKSRYB104K16
C 351		CKSQYB224K25
C 352		CKSRYB392K50
C 353		CKSRYB103K50
C 354		CKSRYB103K50
C 355		CKSQYB104K50
C 356		CKSRYB103K50
C 401		CKSRYB392K50
C 402		CKSRYB334K10
C 403		CKSRYB223K25
C 404		CKSRYB103K50
C 405		CKSRYB333K16

D 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

6. ADJUSTMENT

There is no information to be shown in this chapter.

7 GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● **Removing the Case (not shown)**

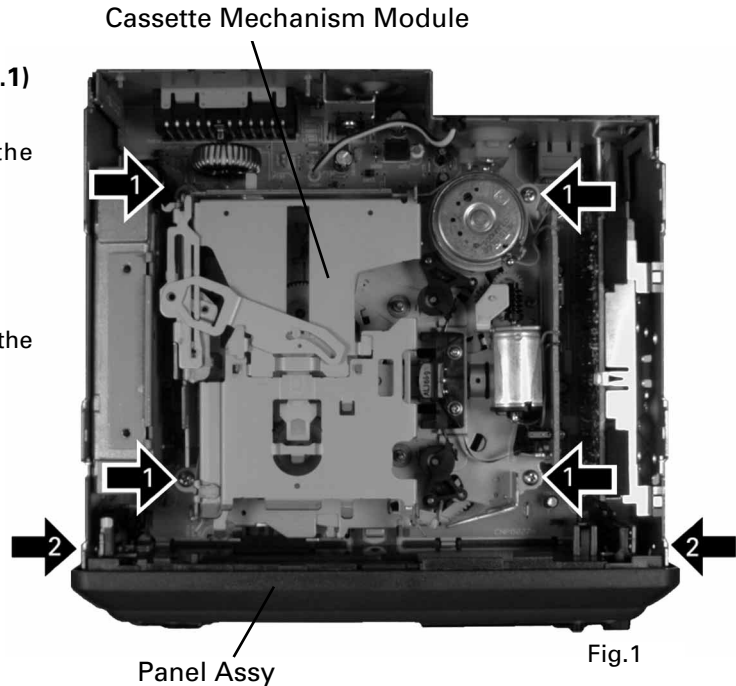
1. Remove the two screws.
2. Remove the Case.

● **Removing the Cassette Mechanism Module (Fig.1)**

- ➡ **1** Remove the four screws and then remove the Cassette Mechanism Module.

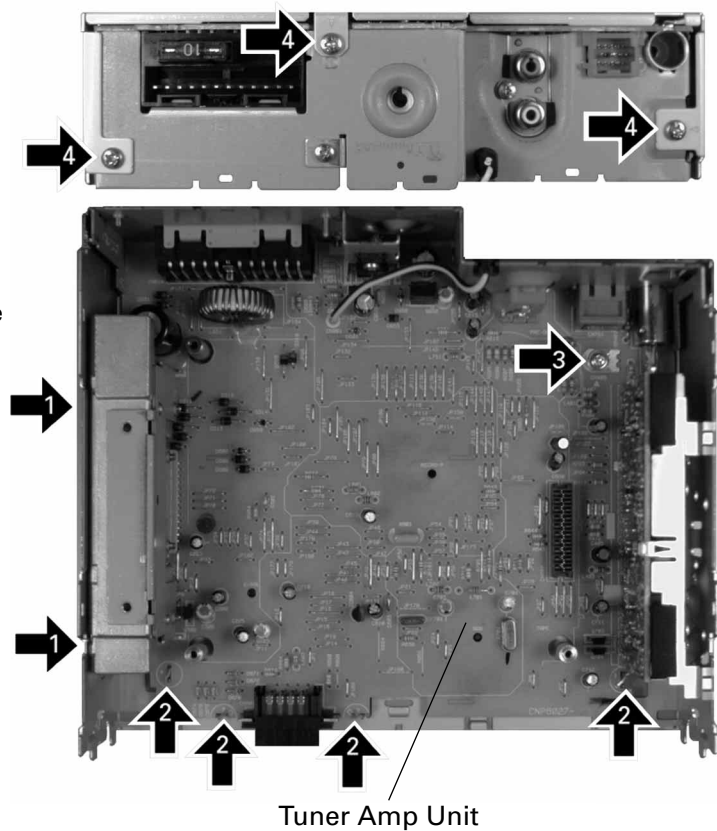
● **Removing the Panel Assy (Fig.1)**

- ➡ **2** Disconnect the two stoppers and then remove the Panel Assy.



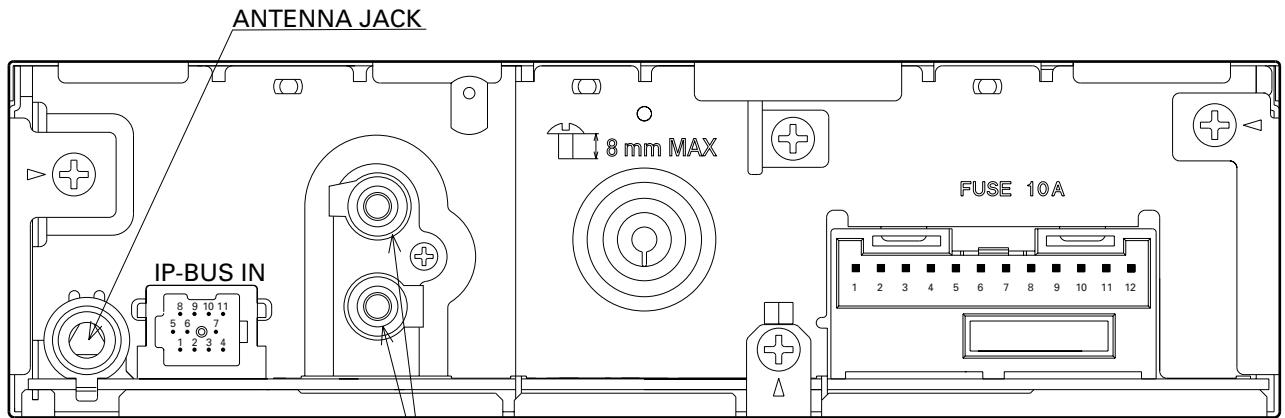
● **Removing the Tuner Amp Unit (Fig.2)**

- ➡ **1** Remove the two screws.
- ➡ **2** Straight the tabs at four locations indicated.
- ➡ **3** Remove the screw.
- ➡ **4** Remove the three screws and then remove the Tuner Amp Unit.



7.1.2 CONNECTOR FUNCTION DESCRIPTION

● KEH-P5010R/X1M/EW, KEH-P5011/X1M/EE

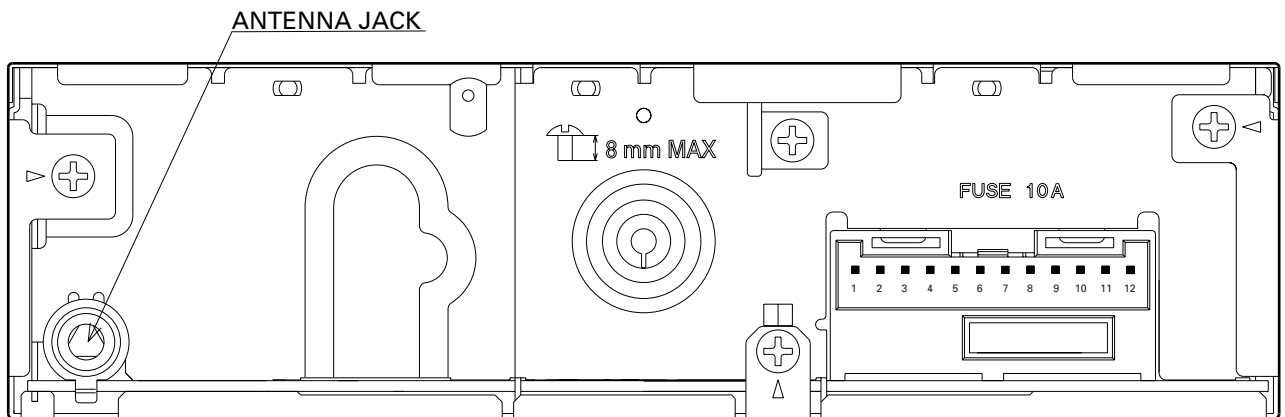


- 1. BUS+
- 2. GND
- 3. GND
- 4. NC
- 5. BUS-
- 6. GND
- 7. BUS L+ INPUT
- 8. ASEN B
- 9. BUS R+ INPUT
- 10. BUS R- INPUT
- 11. BUS L- INPUT

REAR OUTPUT

- 1. B.REMOTE
- 2. ACC
- 3. FR- OUTPUT
- 4. FR+ OUTPUT
- 5. FL- OUTPUT
- 6. FL+ OUTPUT
- 7. BACK UP
- 8. RL+ OUTPUT
- 9. RL- OUTPUT
- 10. RR+ OUTPUT
- 11. RR- OUTPUT
- 12. GND

● KEH-4011/X1M/EE



- 1. NC
- 2. ACC
- 3. FR- OUTPUT
- 4. FR+ OUTPUT
- 5. FL- OUTPUT
- 6. FL+ OUTPUT
- 7. BACK UP
- 8. RL+ OUTPUT
- 9. RL- OUTPUT
- 10. RR+ OUTPUT
- 11. RR- OUTPUT
- 12. GND

7.2 PARTS

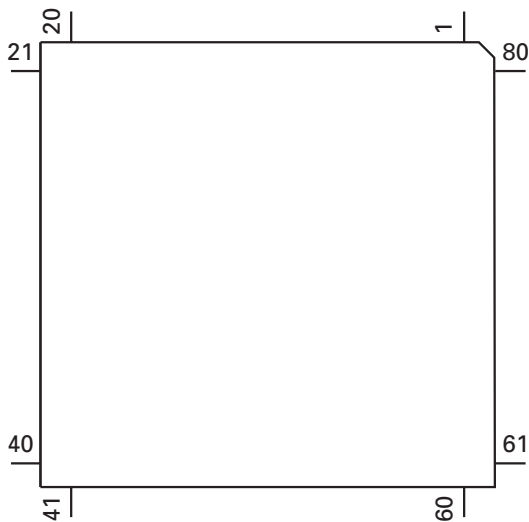
7.2.1 IC

● Pin Functions (PE5197A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	SD	I		Station detector input
2	\overline{ST}	I		FM stereo input
3	ADPW	O	C	A/D converter power supply output
4	AVSS			A/D converter GND
5	\overline{MUTE}	O	C	System mute output
6	TELLIN	I		Telephone mute input
7	AVREF1			A/D converter reference voltage
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	B.REM	O	C	B.REM control output
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	\overline{TMUTE}	O	C	Tuner mute output
16	NC			Not used
17	TX	O	C	IP BUS data output
18	NC			Not used
19	\overline{SWVDD}	O	C	Key board unit power supply control output
20	ASENBO	O	C	Slave power supply control output
21	IPPW	O	C	IP-BUS driver power supply 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	LOCL	O	C	Local L output
26	LOCH	O	C	Local H output
27	SYSPW	O	C	System power supply control output
28	TUNPCE2	O	C	EEPROM chip enable output
29	DALMON	O	C	DFS alarm output
30	\overline{CURRQ}	O		Tuner voltage FIX output
31	STBY	O	C	Cassette mechanism stand-by output
32	CM	O	C	Cassette mechanism capstan motor control output
33	VSS			GND
34	SC1	O	C	Cassette mechanism sub motor control output
35	SC2	O	C	Cassette mechanism sub motor control output
36	NES	I		Cassette mechanism forward end sense input
37	RES	I		Cassette mechanism reverse end sense input
38	POS	I		Cassette mechanism position sense input
39	NR	O	N	Cassette mechanism dolby NR ON/OFF select output
40	\overline{MTLSW}	I		Cassette mechanism metal tape sense input
41	RIMUTE	O	N	Cassette mechanism RI mute output
42	PLAY	O	C	Cassette mechanism tape MS filter select output
43	$\overline{N/R}$	I		Cassette mechanism tape direction input
44	MSIN	I		Cassette mechanism MS sense input
45	PEE	O	C	Beep tone output
46	\overline{LOADSW}	I		Tape loading sensor input
47	RDS57K	I		RDS 57kHz pulse count input
48	SDBW	O		SD bandwidth signal input
49	PCL	O	C	Clock adjustment output
50	\overline{DRST}	O	C	Decoder reset output
51-54	NC			Not used
55	$\overline{FM/AM}$	O	C	RDS decoder power supply control output
56	TX	O	C	IP BUS data output
57	RX	I		IP BUS data input
58	NC			Not used

Pin No.	Pin Name	I/O	Format	Function and Operation
59	RDSLK	I		RDS LK signal input
60	RESET	I		Reset input
61	LDET	I		PLL lock sense input
62	RCK	O	C	FROM clock output
63	DSENS	I		Grille detach sense input
64	RDT	I		FROM data input
65	ASENS	I		ACC power sense input
66	BSENS	I		Back up power sense input
67	VSS			GND
68	VDD			Power supply
69	X2			Crystal oscillator connection pin
70	X1			Crystal oscillator connection pin
71	IC			GND
72	NC			Not used
73	TESTIN	I		Test program mode input
74	AVDD			Power supply terminal
75	AVREF0			A/D converter reference voltage
75	SL	I		SD level input from tuner
77	MODEL	I		Model select input
78	NL1	I		RDS noise level input
79	NL2DT	I		RDS noise level input
80	ILMPW	O	C	Illumination power supply control output

*PE5197A

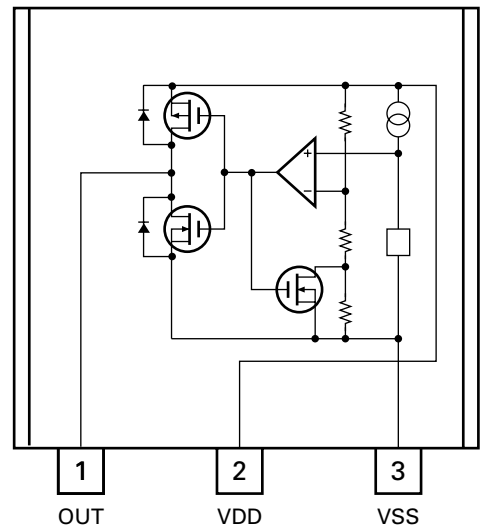


Format	Meaning
C	C MOS
N	N Channel open drain

IC's marked by* are MOS type.

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

S-80834ANY

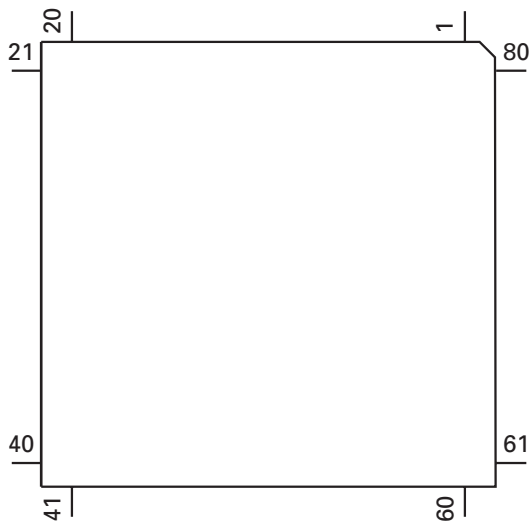


● Pin Functions (PE5198A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	SD	I		Station detector input
2	ST	I		FM stereo input
3	ADPW	O	C	A/D converter power supply output
4	AVSS			A/D converter GND
5	MUTE	O	C	System mute output
6	TELLIN	I		Telephone mute input
7	AVREF1			A/D converter reference voltage
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	B.REM	O	C	B.REM control output
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	TMUTE	O	C	Tuner mute output
16	NC			Not used
17	TX	O	C	IP BUS data output
18	NC			Not used
19	SWVDD	O	C	Key board unit power supply control output
20	ASENBO	O	C	Slave power supply control output
21	IPPW	O	C	IP-BUS driver power supply 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	LOCL	O	C	Local L output
26	LOCH	O	C	Local H output
27	SYSPW	O	C	System power supply control output
28	TUNPCE2	O	C	EEPROM chip enable output
29	DALMON	O	C	DFS alarm output
30	CURRO	O		Tuner voltage FIX output
31	STBY	O	C	Cassette mechanism stand-by output
32	CM	O	C	Cassette mechanism capstan motor control output
33	VSS			GND
34	SC1	O	C	Cassette mechanism sub motor control output
35	SC2	O	C	Cassette mechanism sub motor control output
36	NES	I		Cassette mechanism forward end sense input
37	RES	I		Cassette mechanism reverse end sense input
38	POS	I		Cassette mechanism position sense input
39	NR	O	N	Cassette mechanism dolby NR ON/OFF select output
40	MTLSW	I		Cassette mechanism metal tape sense input
41	RIMUTE	O	N	Cassette mechanism RI mute output
42	PLAY	O	C	Cassette mechanism tape MS filter select output
43	N/R	I		Cassette mechanism tape direction input
44	MSIN	I		Cassette mechanism MS sense input
45	PEE	O	C	Beep tone output
46	LOADSW	I		Tape loading sensor input
47	RDS57K	I		RDS 57kHz pulse count input
48	SDBW	O		SD bandwidth signal input
49	PCL	O	C	Clock adjustment output
50	LCDPW	O	C	LCD back light power supply control output
51-54	NC			Not used
55	FM/AM	O	C	RDS decoder power supply control output
56	TX	O	C	IP BUS data output
57	RX	I		IP BUS data input
58	NC			Not used

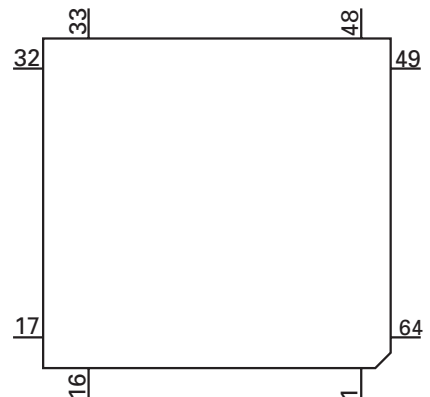
Pin No.	Pin Name	I/O	Format	Function and Operation
59	ILL	O	C	Illumination power supply control output
60	RESET	I		Reset input
61	LDET	I		PLL lock sense input
62	RCK	O	C	FROM clock output
63	DSENS	I		Grille detach sense input
64	RDT	I		FROM data input
65	ASENS	I		ACC power sense input
66	BSENS	I		Back up power sense input
67	VSS			GND
68	VDD			Power supply
69	X2			Crystal oscillator connection pin
70	X1			Crystal oscillator connection pin
71	IC			GND
72	NC			Not used
73	TESTIN	I		Test program mode input
74	AVDD			Power supply terminal
75	AVREF0			A/D converter reference voltage
75	SL	I		SD level input from tuner
77	MODEL	I		Model select input
78	NL1	I		RDS noise level input
79	NL2DT	I		RDS noise level input
80	ILMPW	O	C	Illumination power supply control output

*PE5198A



Format	Meaning
C	C MOS
N	N Channel open drain

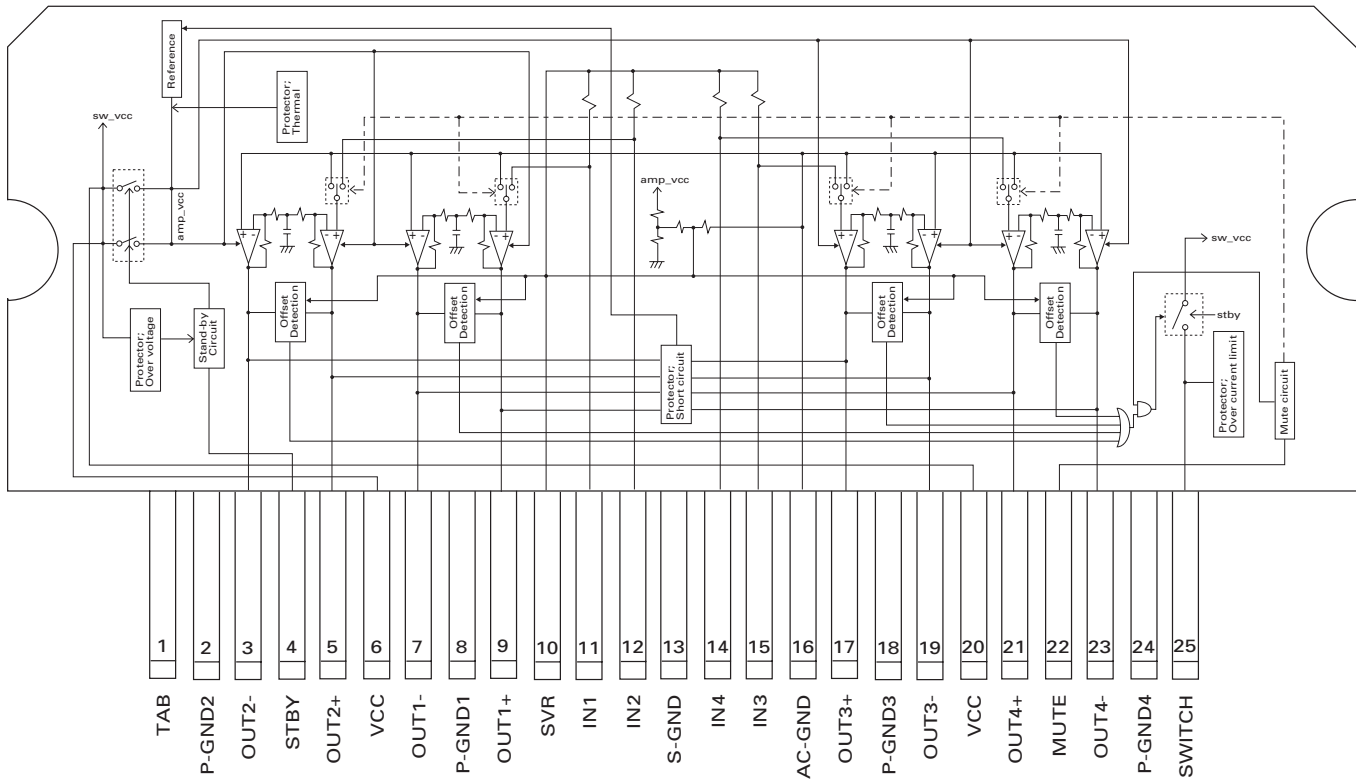
*PD6340A



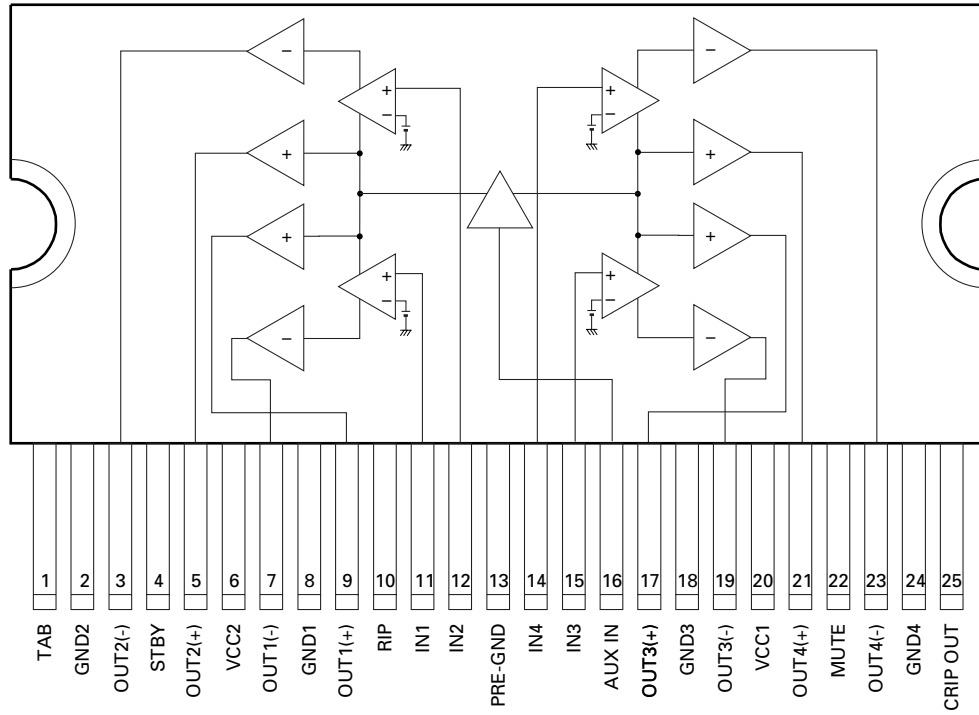
● Pin Functions (PD6340A)

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	RST		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
29-55	SEG39-13	O	LCD segment output
56	VDD		Power supply
57-64	SEG12-5	O	LCD segment output

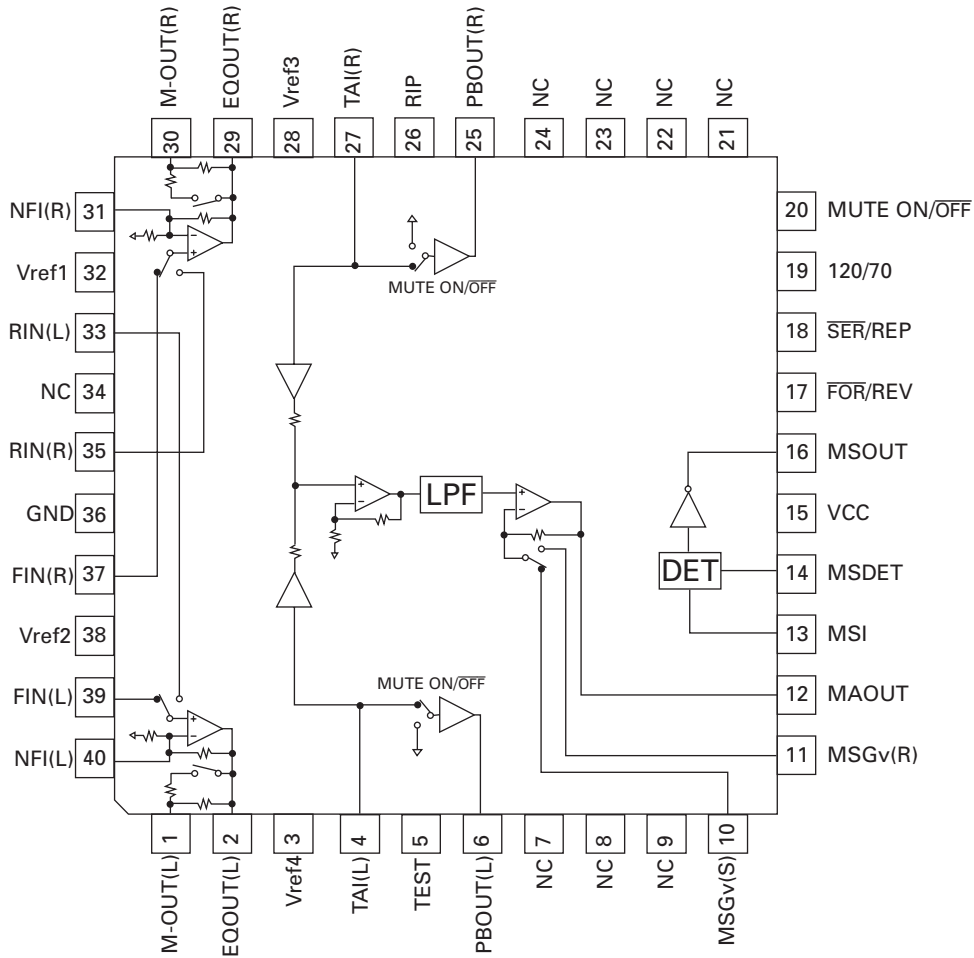
PAL006A



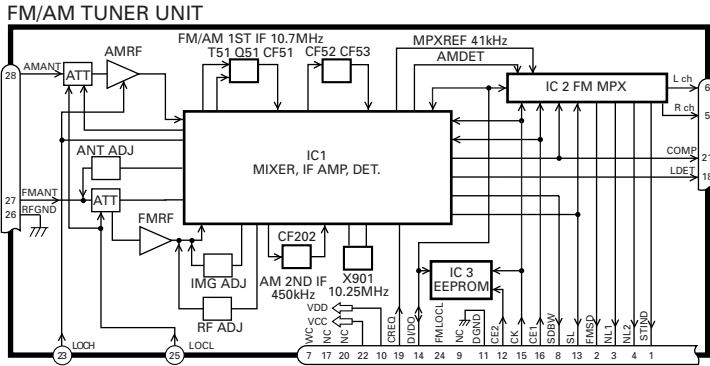
TA8277H



HA12229F



● FM/AM Tuner Unit

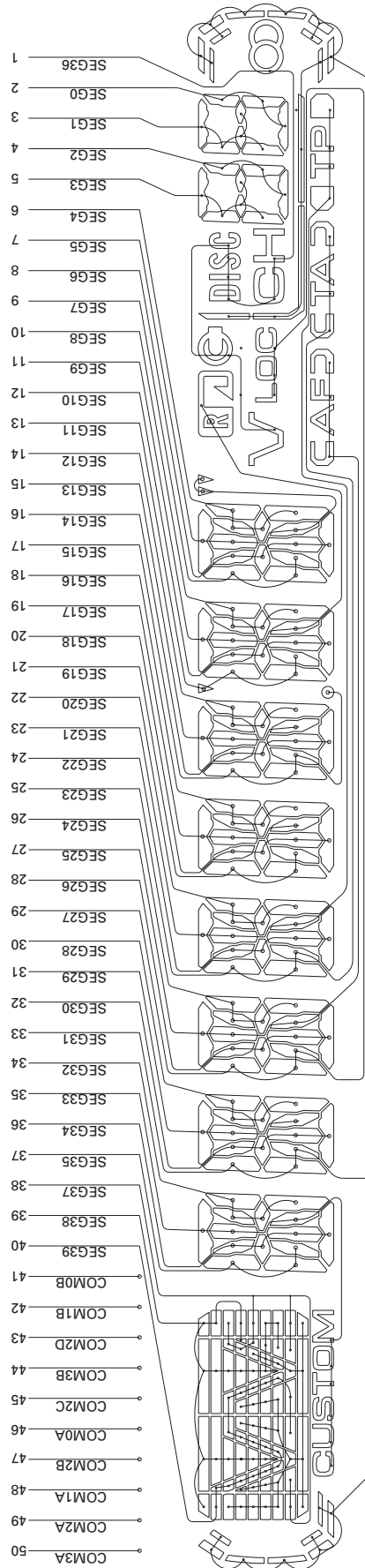


No.	Symbol	I/O	Explain
1	STIND	O	stereo indicator "Low" when the FM stereo signals are received. To be pulled up to the "VDD" at 47kΩ.
2	FMSD	O	FM station detector "High" when signals are received. To be pulled up to the "VDD" at 47kΩ Meanwhile, 10kΩ should be used when taking diver FIX trigger from here and "High: 0.9VDD or more" and "Low: 250mV or less". (Should satisfy the diver IC specifications)
3	NL1	O	noise level-1 "High" when noise is received. Output for the RDS. GND at 47kΩ //1,800pF.
4	NL2	O	noise level-2 "High" when noise is received. Output for the RDS. GND at 36kΩ //330pF.
5	Rch	O	R channel output FM stereo "R-ch" signal output or AM audio output. Add the specified di-emphasis constant.
6	Lch	O	L channel output FM stereo "L-ch" signal output or AM audio output. Add the specified di-emphasis constant.
7	WC		write control EEPROM write control. Writing permissible at "Low". Normally open.
8	SDBW	O	SD bandwidth SD bandwidth signal output. For detection of detuning data for the RDS.
9	NC		Not used
10	VDD		power supply Power supply pin for the digital section. D.C. 5V +/- 0.25V. Be careful about overlapping noise in the logic section.
11	DGND		digital ground Grounding for the digital section.
12	CE2	I	chip enable-2 EEPROM chip enable. Active a "Low" To be pulled up to the "VDD" at 47kΩ
13	SL	I/O	signal level Received FM/AM signal level (strength) output. Connect the specified load resistor and capacitor (10k Ω + 39k Ω //4,700pF)
14	DI/DO	I/O	data input/ data output Data input/Data output To be pulled up to the "VDD" at 47kΩ
15	CK	I	clock Clock input To be pulled up to the "VDD" at 47kΩ
16	CE1	I	chip enable-1 AF-RF chip enable. Active at "High" To be grounded at 47kΩ
17	NC		Not used
18	LDET	O	lock detector Active at "Low". To be pulled up to the "VDD" at 47kΩ
19	CREQ	I	current request Active at "Low". To be grounded at 47kΩ
20	NC		Not used
21	COMP	O	composite signal FM composite signal output. r out < 100Ω
22	VCC		power supply Analog section power supply pin.D.C.8.4V +/- 0.3V
23	LOCH	I	local high FM local high pin. When seeking local high, apply 5V together with "LOCL".
24	FMLOCL	I	FM local low FM local low pin. When seeking local low, apply 5V to the base of the NPN transistor with which the specified resistor is being connected to the emitter. Keep it open in case of ordinary marketed models.
25	LOCL	I	local low FM/AM local low pin. When seeking local low, apply 5V to the base of the NPN transistor. Since this pin is exclusive for AM when the FMLOCL is in use, do not drive it under FM.
26	RFGND		RF ground Grounding for the antenna section.
27	FMANT	I	FM antenna input FM antenna input. 75Ω. Serge absorber (DSP-201M-S00B) is necessary.
28	AMANT	I	AM antenna input AM antenna input. High impedance. Connect to the antenna through an L (LAU type) of 4.7μH.To cope with the power transmission line hums, insert a series circuit consisting of an L (a coil of about 100mH) + R (a resistor of 470 Ω to 2.2kΩ) between the GND.

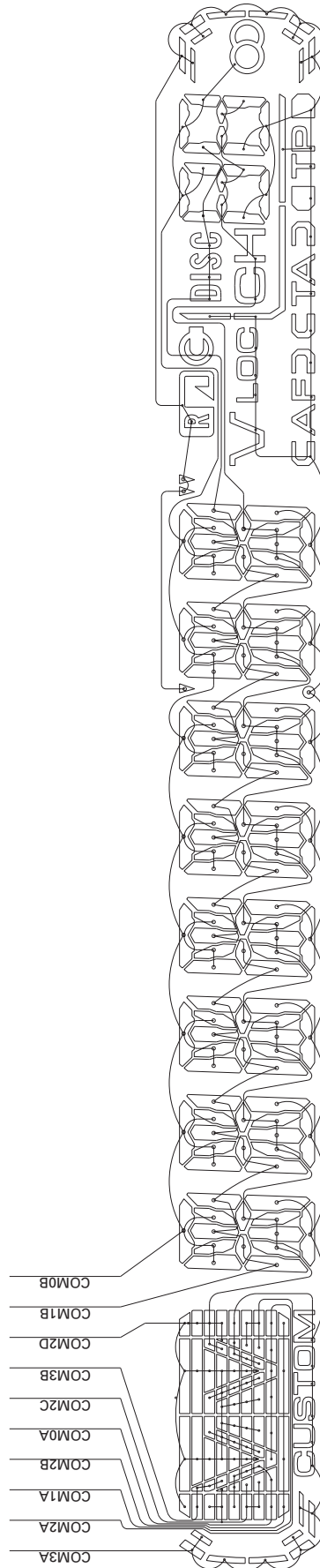
7.2.2 DISPLAY

● CAW1616(KEH-P5010R/X1M/EW)

SEGMENT

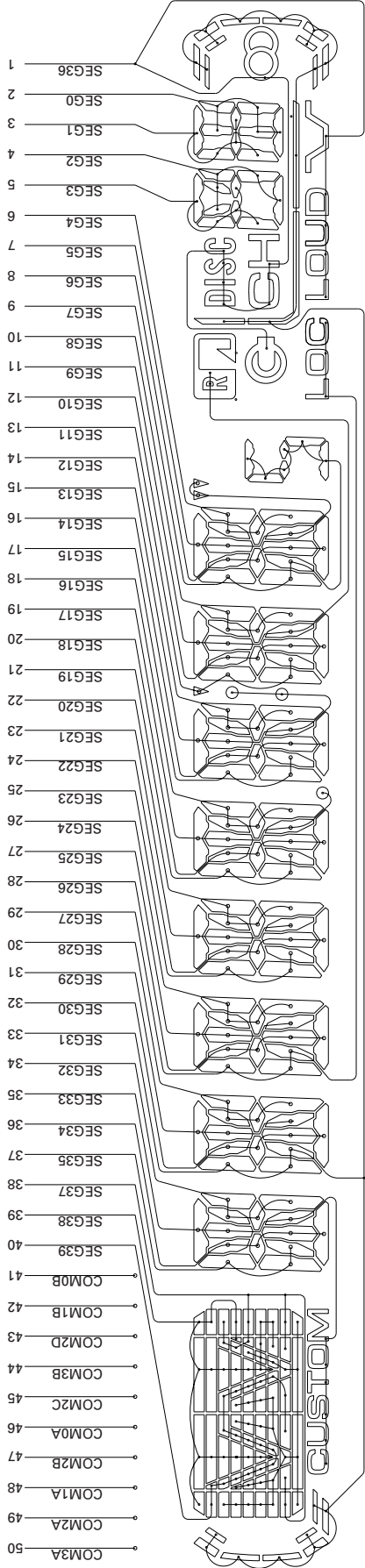


COMMON

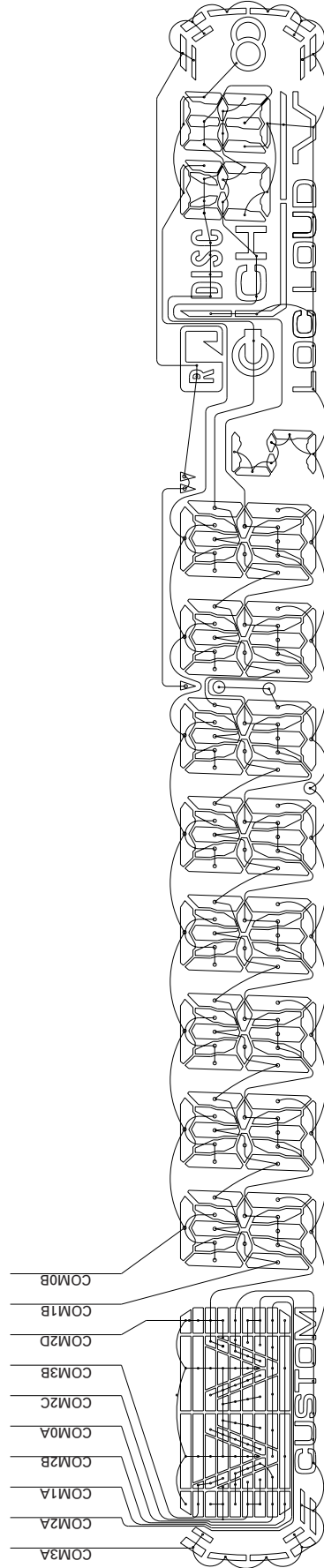


● CAW1635(KEH-P5011/X1M/EE, KEH-4011/X1M/EE)

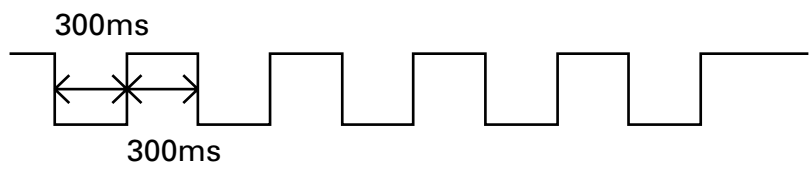
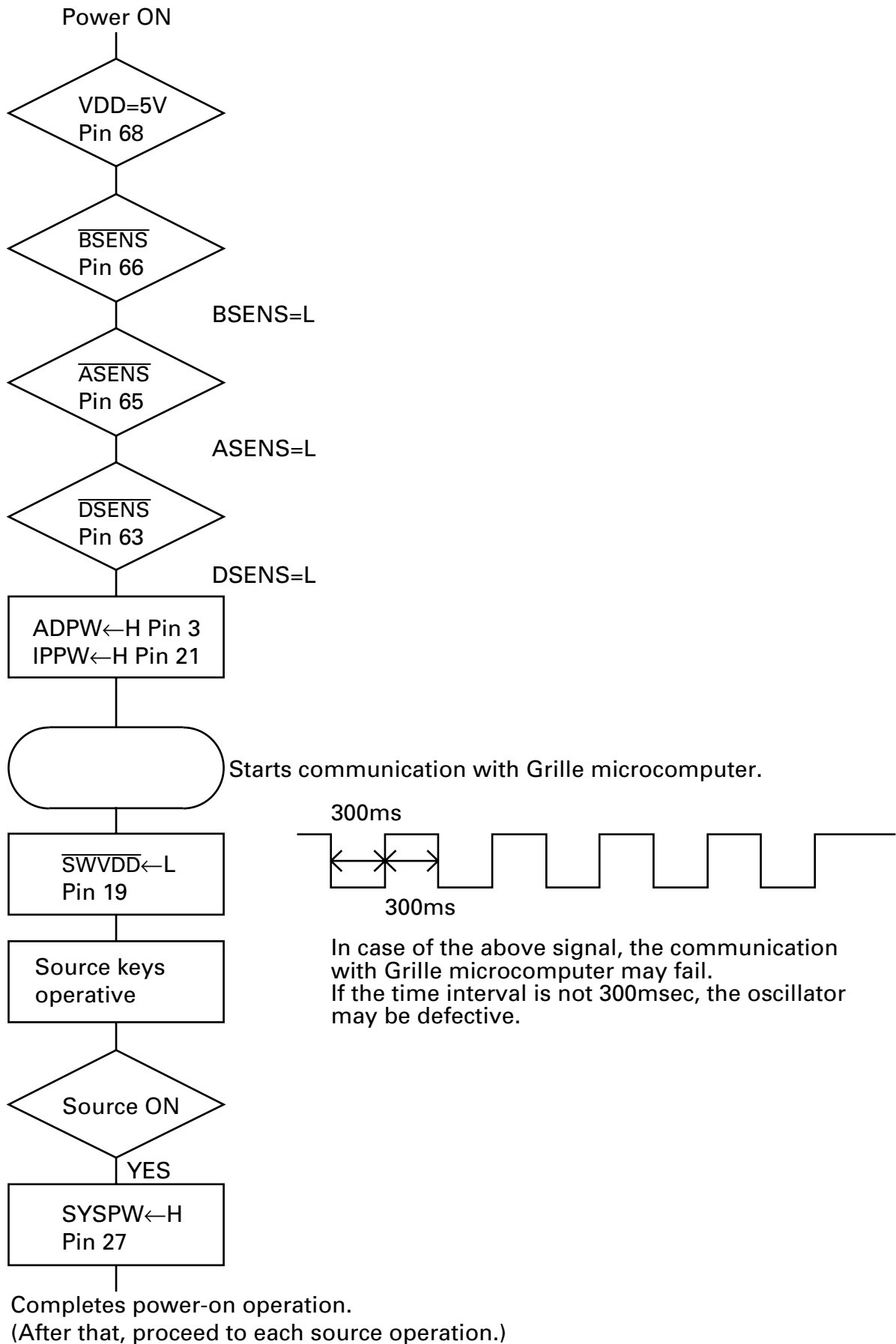
SEGMENT



COMMON



7.3 OPERATIONAL FLOW CHART

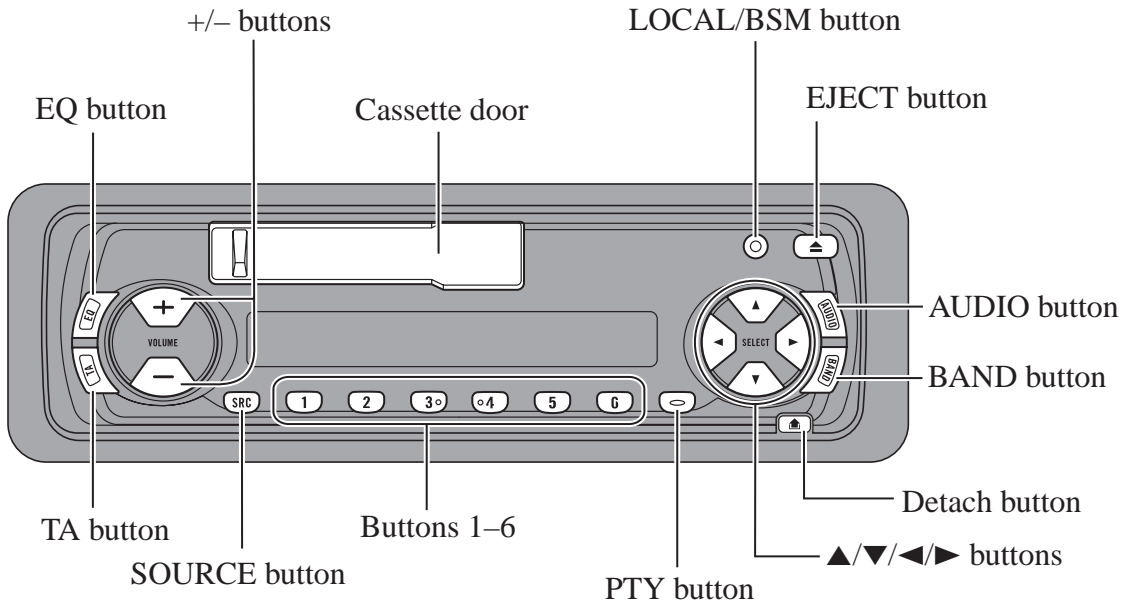


In case of the above signal, the communication with Grille microcomputer may fail. If the time interval is not 300msec, the oscillator may be defective.

8. OPERATIONS AND SPECIFICATIONS

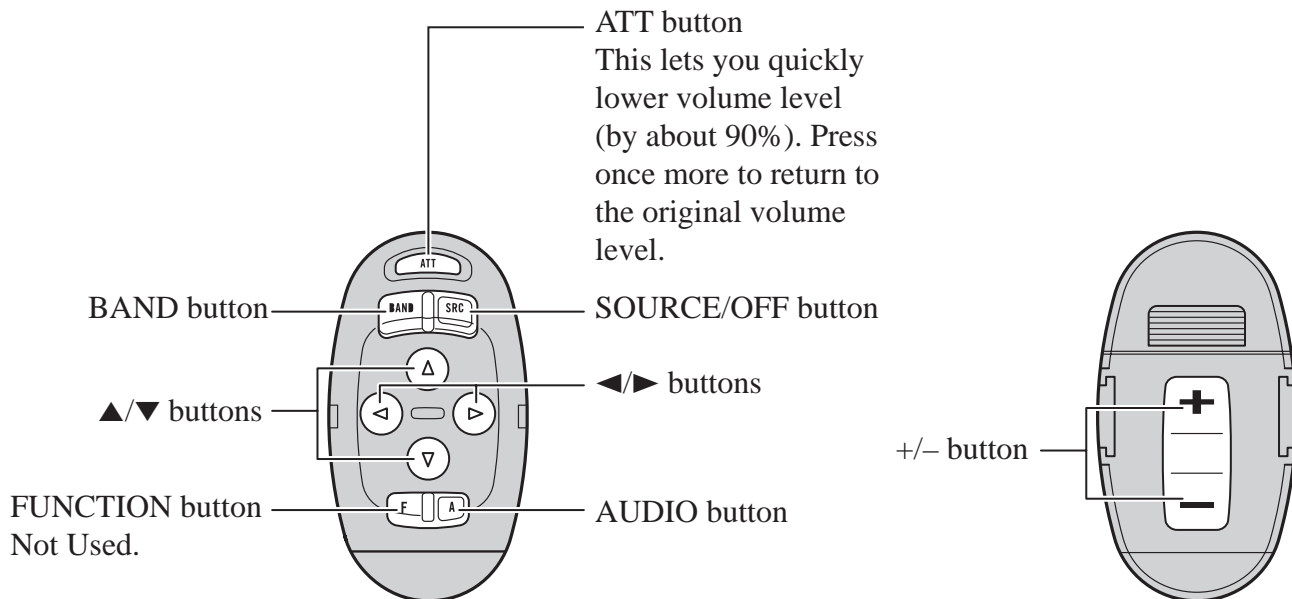
8.1 OPERATIONS

Head Unit(KEH-P5010R/X1M/EW)

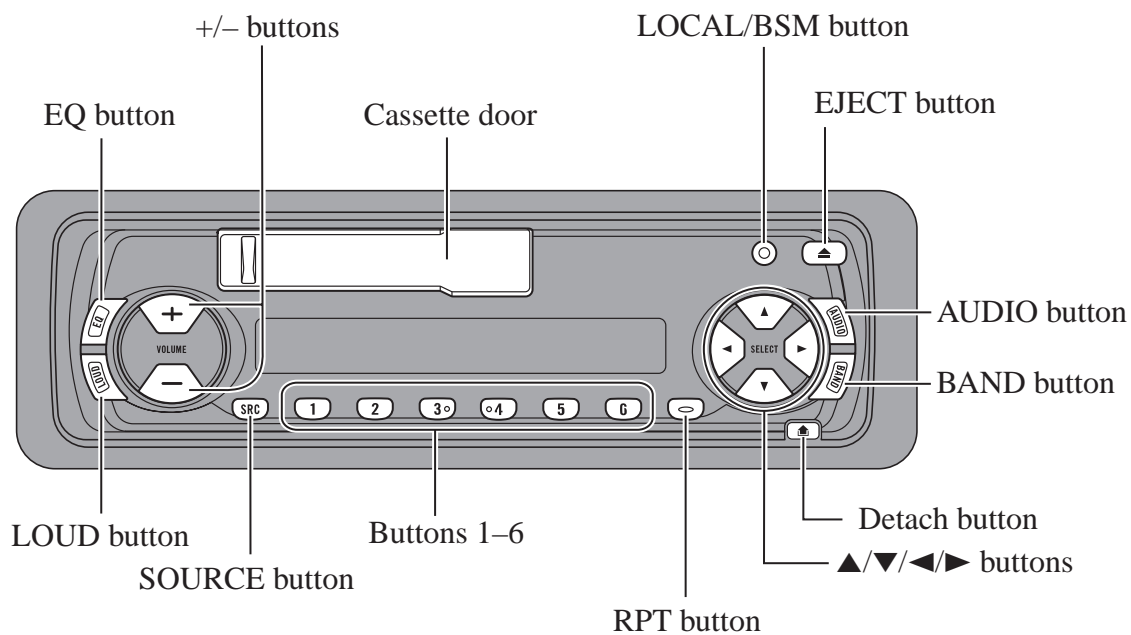


Steering Remote Controller (CD-SR80)

The steering remote controller (CD-SR80) is an option only for KEH-P5010R.



Head Unit(KEH-P5011/X1M/EE, KEH-4011/X1M/EE)

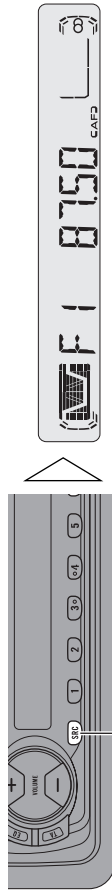


To Listen to Music

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).



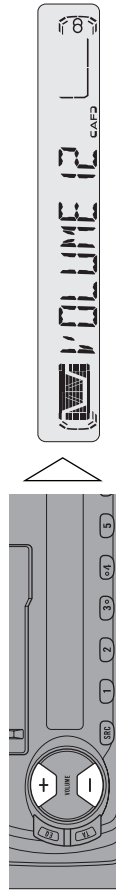
Each press changes the Source ...

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

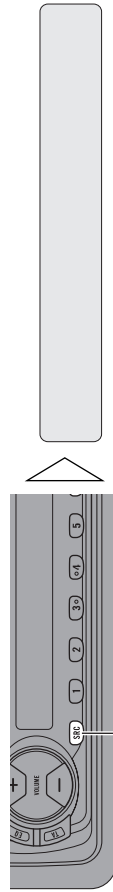
Note:

- 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.

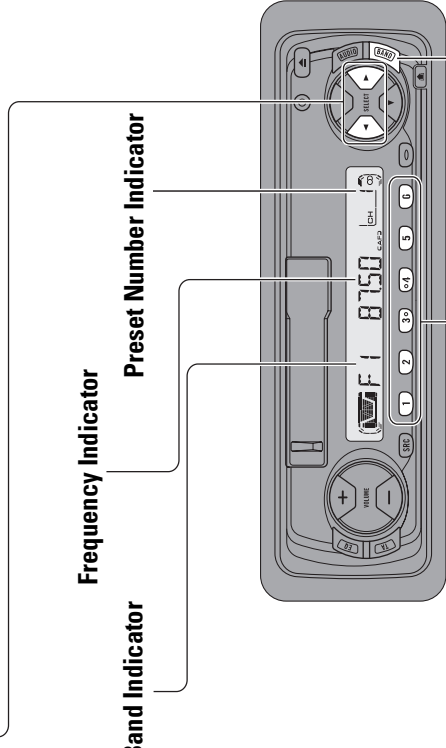
Manual and Seek Tuning

- 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 "STEREO" 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

Band

- F1 (FM1)
- F2 (FM2)
- MW/LW

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.

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

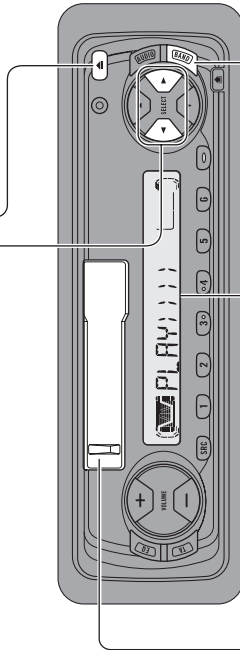
Note:

- 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.



Direction Indicator

Direction Change

Cassette Loading Slot

Note:

- Don't insert any materials except for cassette into Cassette Loading Slot.

Basic Operation of Multi-CD Player

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

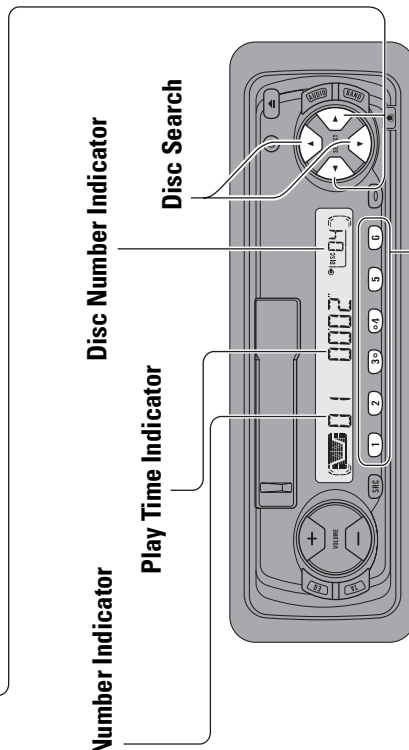
Track Search and Fast Forward/Reverse

- 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

Note:

- Multi-CD indicator "Ⓢ" lights when a Multi-CD source is selected.



Track Number Indicator

Disc Number Indicator

Play Time Indicator

Disc Search

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.

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.

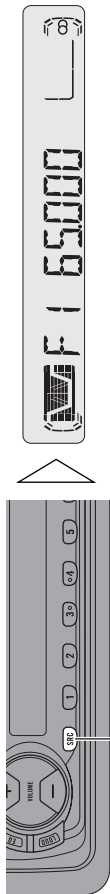
To Listen to Music

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).



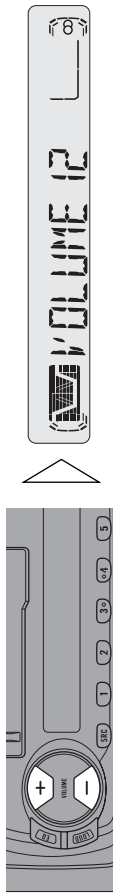
Each press changes the Source ...

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

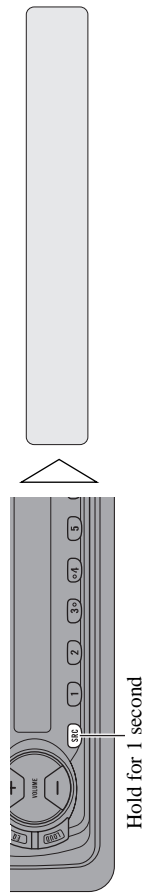
Note:

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

2. Raise or lower the volume.



3. Turn the source OFF.



Hold for 1 second

Basic Operation of Tuner

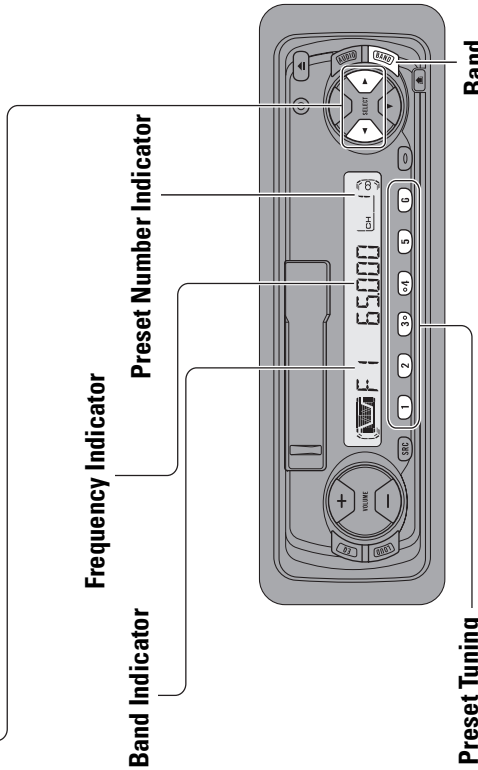
Manual and Seek Tuning

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

Manual Tuning (step by step)	0.5 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:

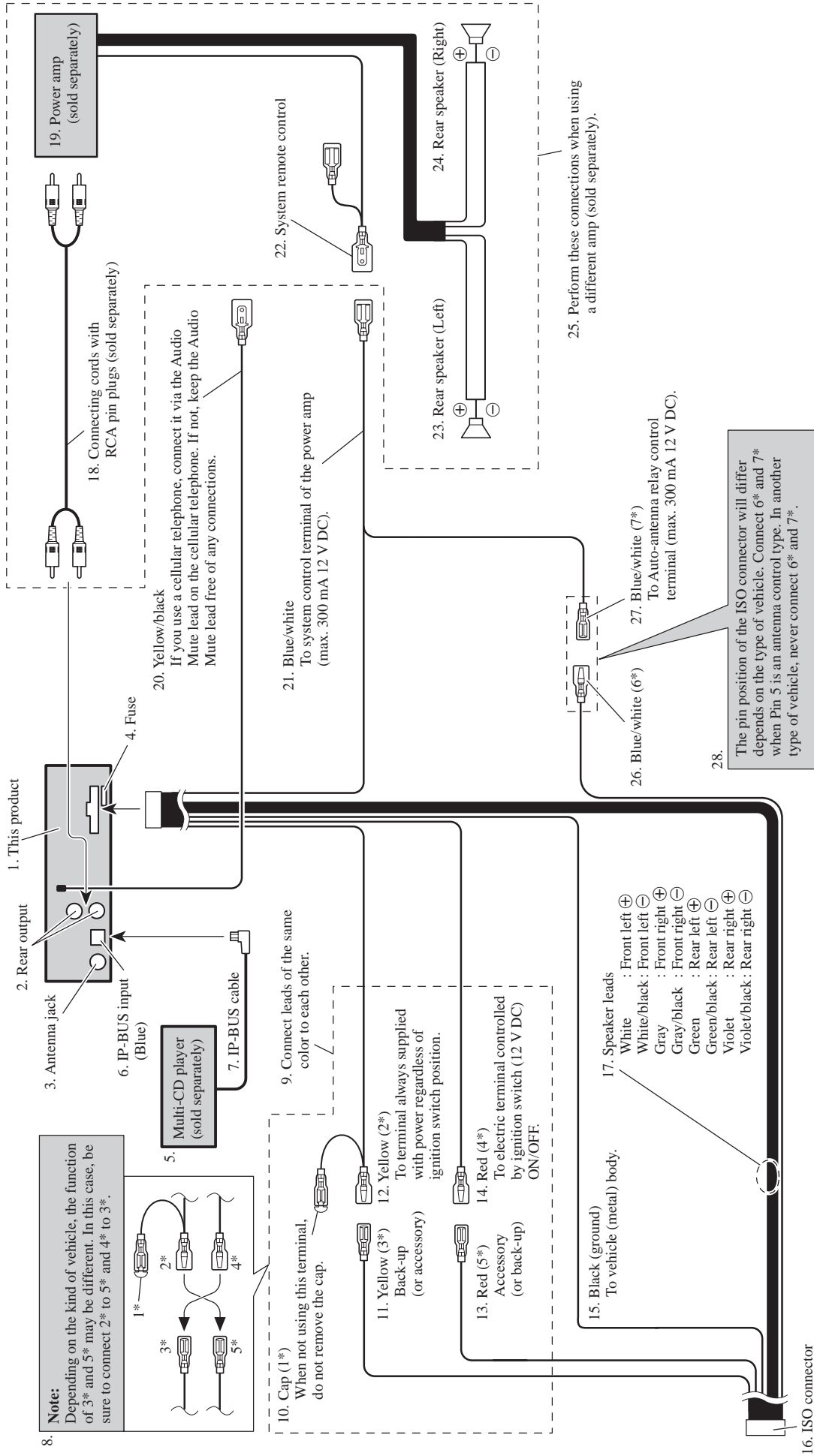
- Up to 18 FM stations (6 in F1 (FM1), F2 (FM2) and F3 (FM3)) and 6 MW/LW stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Band

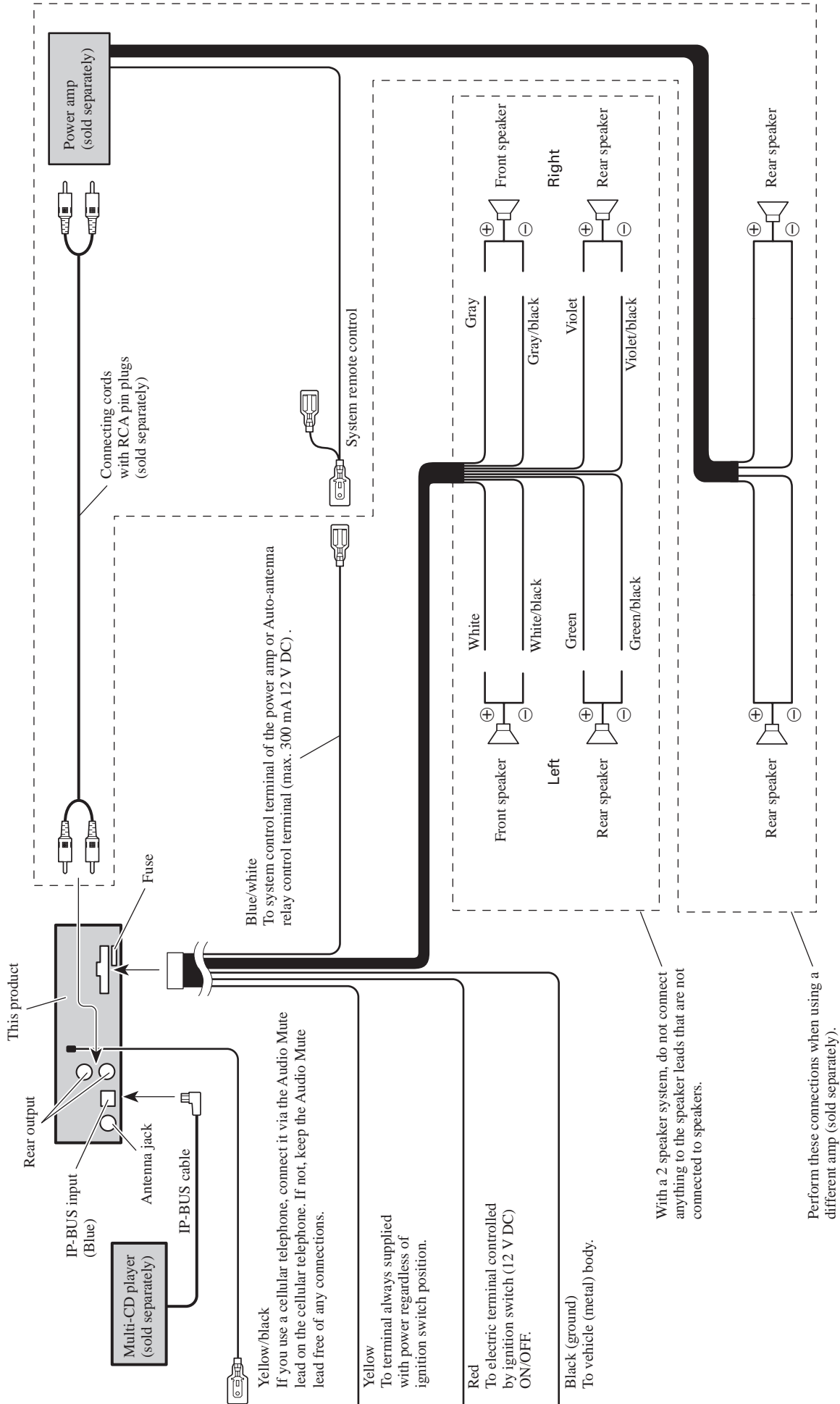
- F1 (FM1) → F2 (FM2)
- F3 (FM3)
- MW/LW

Note:

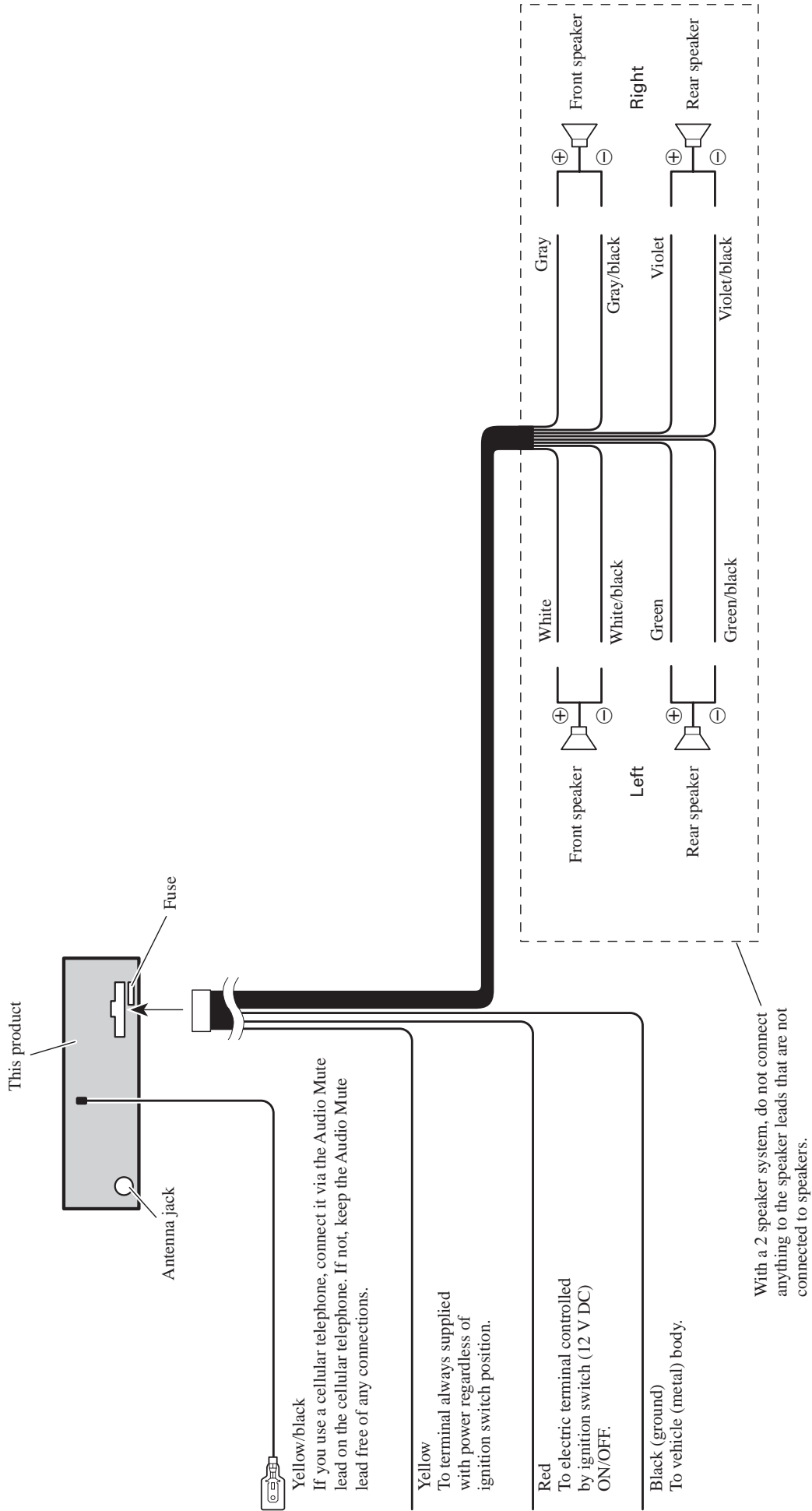
- The FM bands cover different frequency ranges as below:
F1 (FM1): 65 — 74 MHz
F2 (FM2), F3 (FM3): 87.5 — 108 MHz



● KEH-P5011/X1M/EE



● KEH-4011/X1M/EE



8.2 SPECIFICATIONS

● KEH-P5010R/X1M/EW

General

Power source	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	8.5 A
Electrode dark current	Less than 4 mA
Dimensions	
(mounting size)	178 (W) × 50 (H) × 155 (D) mm
(front face)	188 (W) × 58 (H) × 19 (D) mm
Weight	1.2 kg

Amplifier

Maximum power output	50 W × 4
Continuous power output	25 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)	Level: ±12 dB
(Mid)	Level: ±12 dB
(High)	Level: ±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	4.76cm/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	9 dBf (0.8 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	15 dBf (1.5 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 (9 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.

● KEH-P5011/X1M/EE, KEH-4011/X1M/EE

General

Power source 14.4 V DC (10.8 – 15.1 V allowable)
 Grounding system Negative type
 Max. current consumption 8.5 A
 Electrode dark current Less than 4 mA
 Dimensions
 (mounting size) 178 (W) × 50 (H) × 155 (D) mm
 (front face) 188 (W) × 58 (H) × 19 (D) mm
 Weight 1.2 kg

Amplifier

Maximum power output 45 W × 4
 Continuous power output 25 W × 4
 (DIN45324, +B = 14.4 V)
 Load impedance 4 Ω (4 – 8 Ω allowable)
 Preout maximum outpot(KEH-P5011/X1M/EE)
 level/output impedance 2.2 V/1 kΩ
 Equalizer (3-Band Equalizer)
 (Low) Level: ±12 dB
 (Mid) Level: ±12 dB
 (High) Level: ±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 4.76cm/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 - 16,000Hz (±3 dB)
 Stereo separation 45 dB
 Signal-to-noise ratio 61dB (IEC-A network)

FM tuner

Frequency range 65 – 74 MHz
 87.5 – 108 MHz
 Usable sensitivity 10 dBf
 (0.9 μV/75 Ω, mono, S/N: 30 dB)
 50 dB quieting sensitivity 15 dBf
 (1.5 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 (9 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.