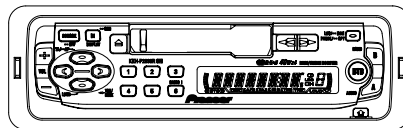


Service Manual



KEH-P2033R/XM/EW

ORDER NO.
CRT2979

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH RDS TUNER

KEH-P2033R XM/EW

KEH-P2030R XM/EW

● 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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For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) 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

A 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.

B [Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

1. SPECIFICATIONS

General

Power source	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	8.5 A
Dimensions (W × H × D):	
Chassis	178 × 50 × 155 mm
Nose	188 × 58 × 20 mm
Weight	1.4 kg
Backup current.....	Less than 3mA

Audio

Maximum power output	40 W × 4
Continuous power output ...	22 W × 4 (DIN 45324, +B=14.4 V)
Load impedance	4 Ω (4 – 8 Ω allowable)
Preout max output level/output impedance	2.2 V/1 kΩ
Bass/Treble:	
Bass	
Frequency	100 Hz
Gain	±12dB
Treble	
Frequency	10k Hz
Gain	±12dB
Loudness contour	
Low	+7 dB (100 Hz), +4 dB (10 kHz)
High	+10 dB (100 Hz), +6.5 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 (C-60)
Wow & flutter	0.13 % (WRMS)
Frequency response	30 – 16,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	52 dB (IEC-A network)

FM tuner

Frequency range	87.5 – 108.0 MHz
Usable sensitivity	9 dBf (0.8 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	15 dBf (1.7 μV/75 Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)

Distortion	0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response	30 – 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

MW tuner


Frequency range	531 – 1,602 kHz (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)

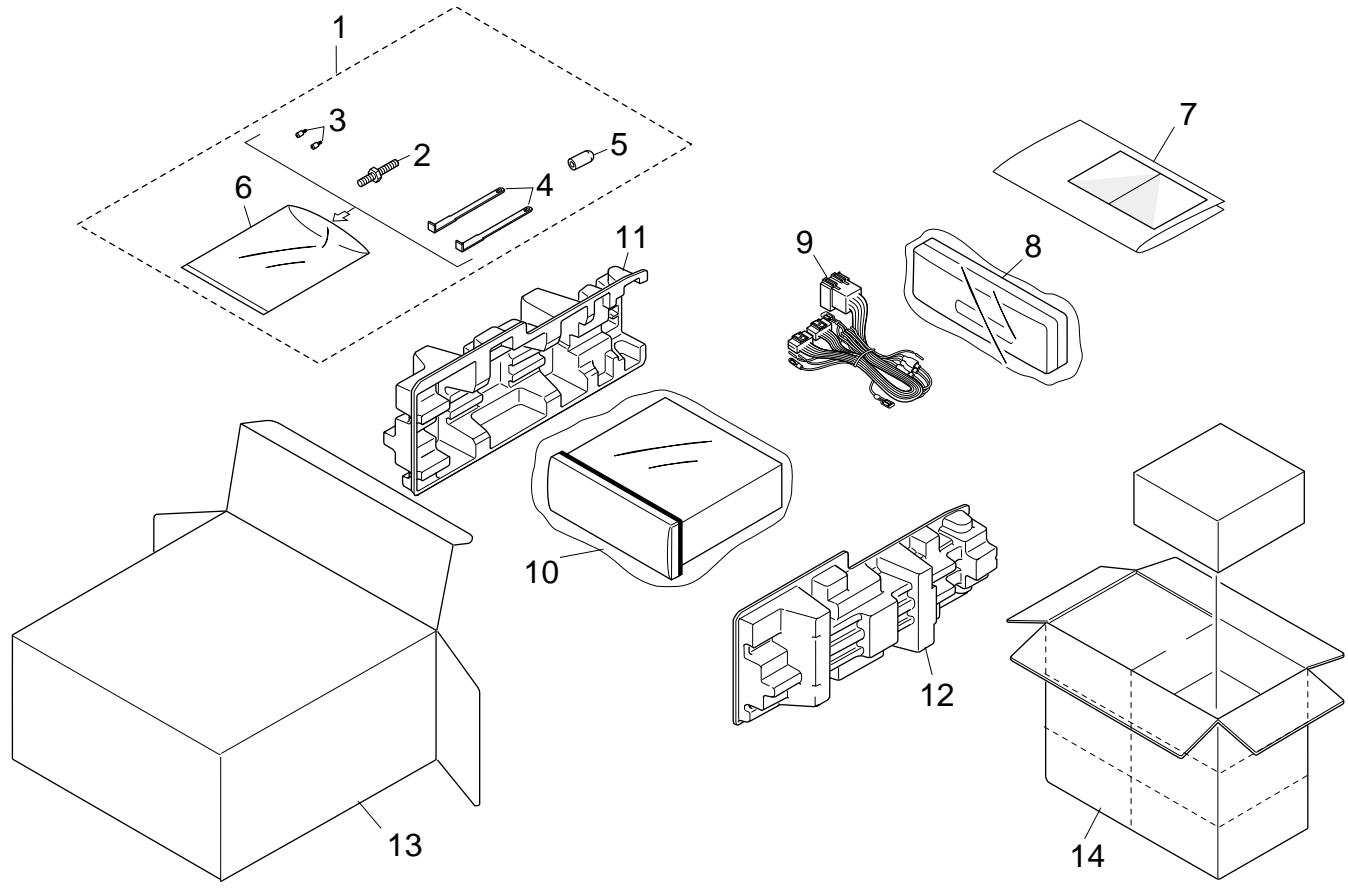


Note

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

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.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

● PACKING SECTION PARTS LIST

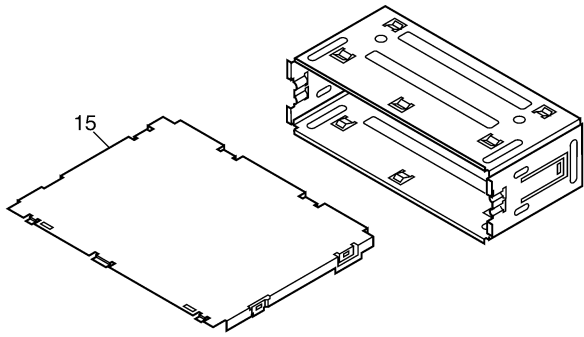
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Accessory Assy	CEA3094	12	Protector	CZH5591
2	Screw	CBA1002	13	Carton(KEH-P2033R)	CZH6601
3	Fixing Screw(M2x4)	CBA1488		Carton(KEH-P2030R)	CZH5599
4	Handle	CNC5395	14	Contain Box(KEH-P2033R)	CZH6602
5	Bush	CNV3930		Contain Box(KEH-P2030R)	CZH5600
*	6 Polyethylene Bag	E36-615			
*	7-1 Passport	CRY1013			
*	7-2 Warranty Card	CRY1157			
	7-3 Owner's Manual	CZR2959			
	7-4 Owner's Manual	CZR2960			
	7-5 Installation Manual	CZR2961			
	8 Case Assy	CXB3520			
	9 Cord Assy	CZD2977			
	10 Polyethylene Bag	CZE2903			
	11 Protector	CZH5592			

● Owner's Manual, Installation Manual

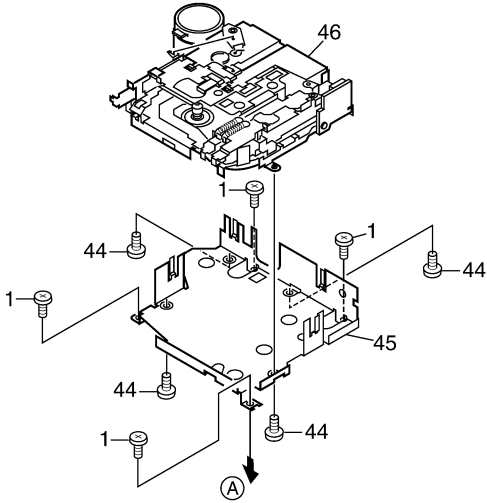
Model	Part No.	Language
KEH-P2030R/XM/EW	CZR2959	English, Spanish, German
KEH-P2033R/XM/EW	CZR2960	French, Italian, Dutch
	CZR2961	English, Spanish, German, French, Italian, Dutch

2.2 EXTERIOR

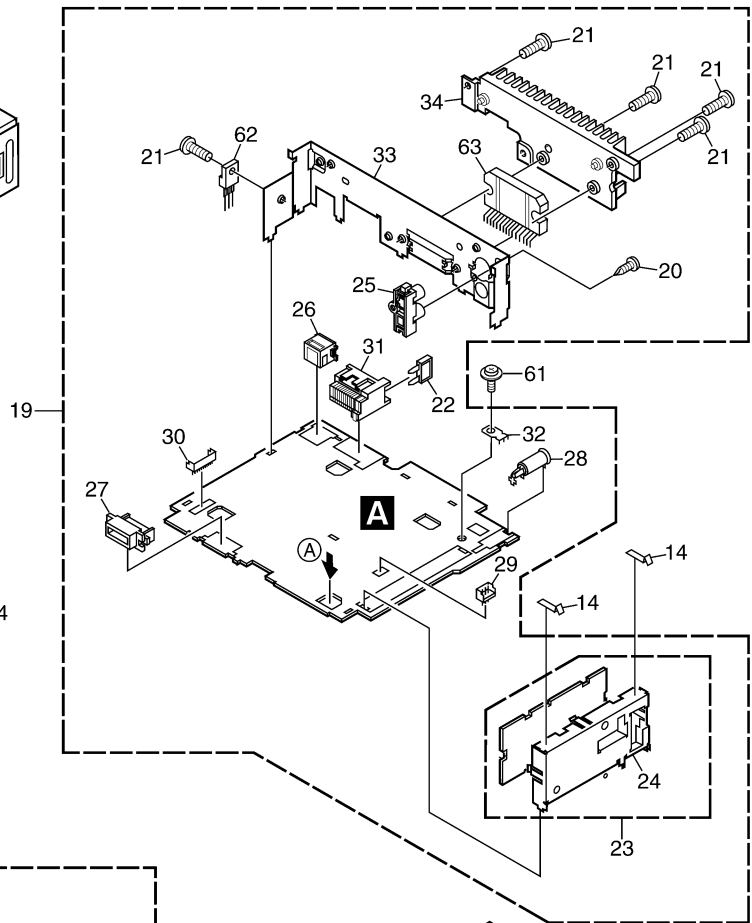
A



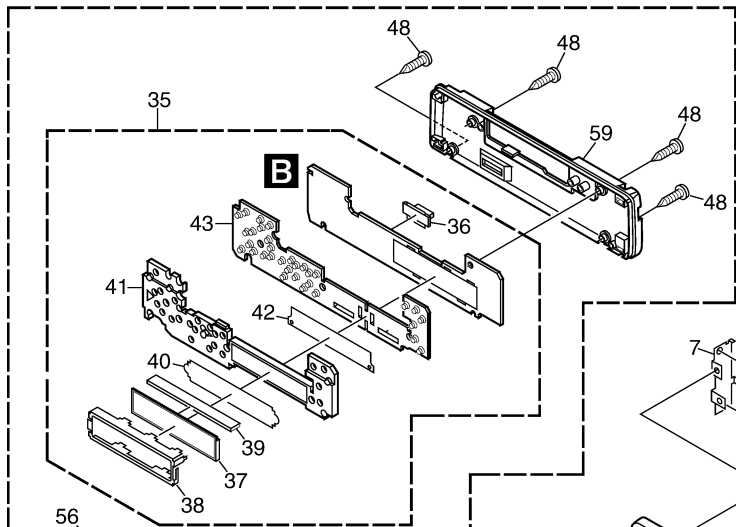
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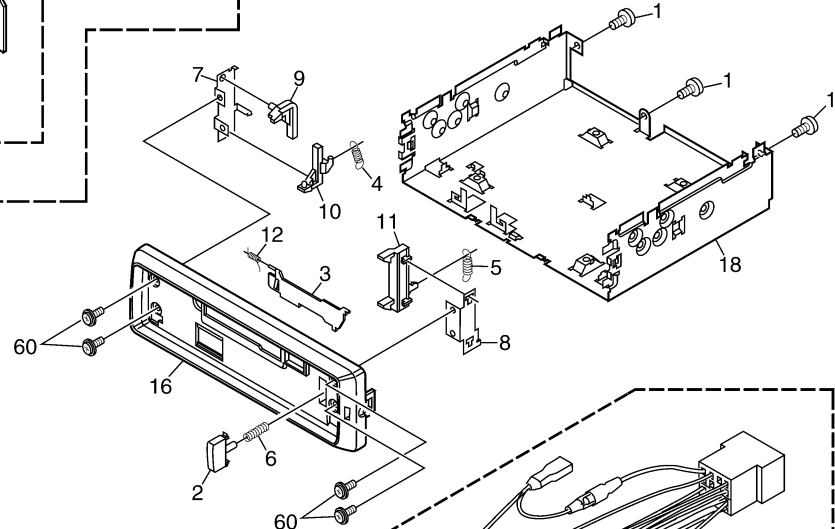
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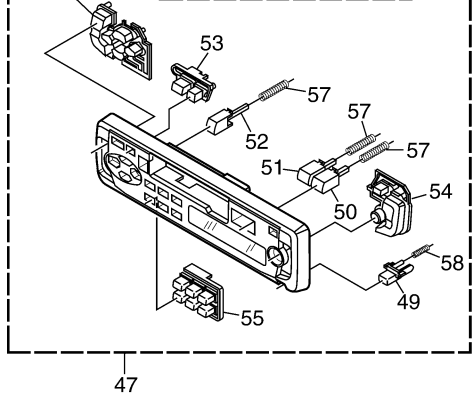
D



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G

(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ26P060FMC	41	Lighting Conductor	CZN6846
2	Button	CAC4836	42	Rubber	CZN6847
3	Door	See Contrast table(2)	43	Sheet	CZN6848
4	Spring	CBH1834	44	Screw	BMZ26P040FMC
5	Spring	CBH1835	45	Bracket	CZN6738
6	Spring	CBH1996	46	Mechanism	CZX5514
7	Bracket	CNC6135	47	Detach Grille Assy	See Contrast table(2)
8	Bracket	CNC6791	48	Screw	BPZ20P100FZK
9	Arm	CNV4692	49	Button(DETACH)	See Contrast table(2)
10	Arm	CNV4693	50	Button(FF)	CZA5529
11	Arm	CNV4728	51	Button(REW)	CZA5530
12	Spring	CZB2982	52	Button(EJECT)	CZA5531
13	Cord Assy	CZD2977	53	Button(SOURCE)	CZA5566
14	Plate	CZN6730	54	Button(BTB)	CZA5565
15	Case	CZN6739	55	Button(1-6)	CZA5564
16	Panel	See Contrast table(2)	56	Button(VOL)	CZA5563
17	Insulator	CZN6836	57	Spring	CZB2976
18	Chassis	See Contrast table(2)	58	Spring	CZB2977
19	Tuner Amp Unit	CZW5540	59	Cover	See Contrast table(2)
20	Screw	BPZ26P100FZK	60	Screw	IMS20P030FZK
21	Screw	BSZ26P100FMC	61	Screw	ISS26P055FUC
22	Fuse(10A)	CEK1208	62	Transistor(Q604)	2SD2396
23	FM/AM Tuner Unit	CWE1562	63	IC(IC500)	TDA7384
24	Holder	CNC8815			
25	Pin Jack(CN350)	CKB1041			
26	Connector(CN400)	CKS3408			
27	Connector(CN800)	CKS3581			
28	Antenna Jack(CN100)	CKX1056			
29	Connector(CN200)	CZK2945			
30	Connector(CN250)	CZK2946			
31	Connector(CN600)	CZK2951			
32	Connector(CN101)	CZK2954			
33	Rear Chassis	CZN6834			
34	Heat Sink	CZN6835			
35	Keyboard Unit	See Contrast table(2)			
36	Connector(CN900)	CKS3580			
37	LCD(LCD900)	CZA5579			
38	Holder	CZN6743			
39	Connector	CZN6745			
40	Light Plate	CZN6760			

(2) CONTRAST TABLE

KEH-P2033R/XM/EW and KEH-P2030R/XM/EW are constructed the same except for the following:

Mark No.	Symbol and Description	Part No.	
		KEH-P2033R/XM/EW	KEH-P2030R/XM/EW
3	Door	CAT2108	CAT2456
16	Panel	CZN6757	CZN6867
18	Chassis	CZN6856	CZN6855
35	Keyboard Unit	CZW5544	CZW5543
47	Detach Grille Assy	CZX5552	CZX5551
49	Button(DETACH)	CAC5929	CAC7870
59	Cover	CZN6754	CZN6753

2.3 CASSETTE MECHANISM

A

B

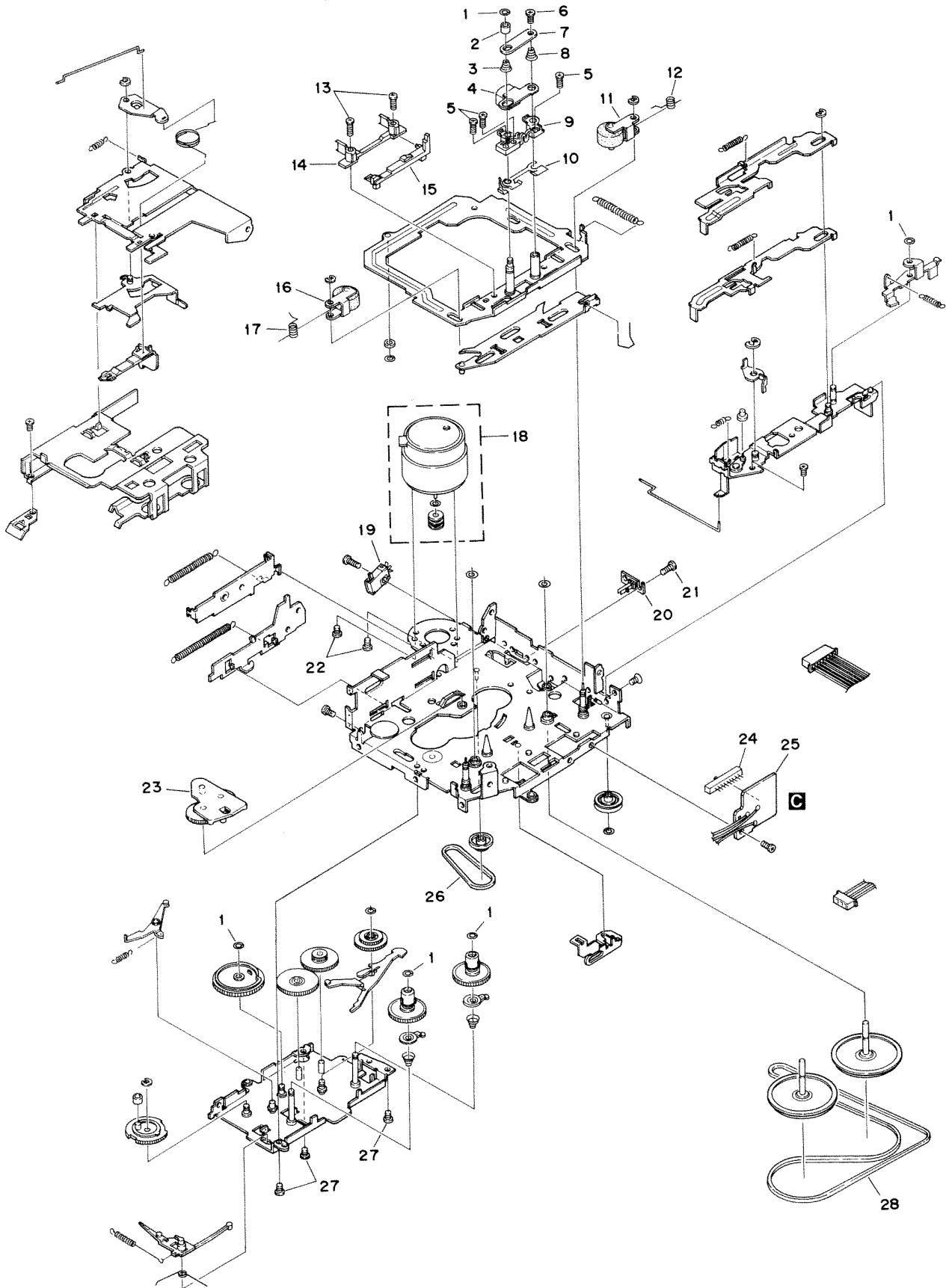
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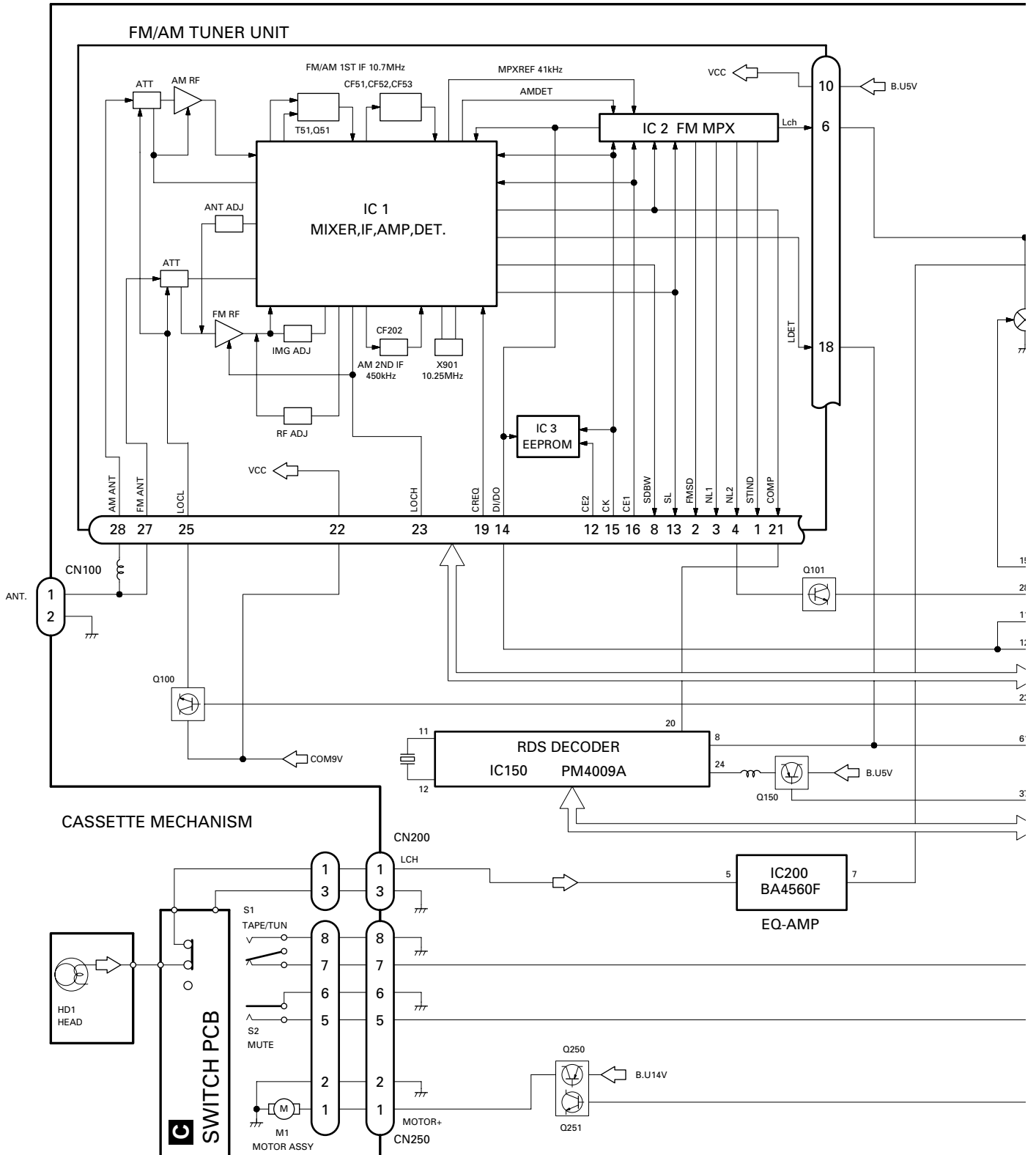
● CASSETTE MECHANISM SECTION PARTS LIST

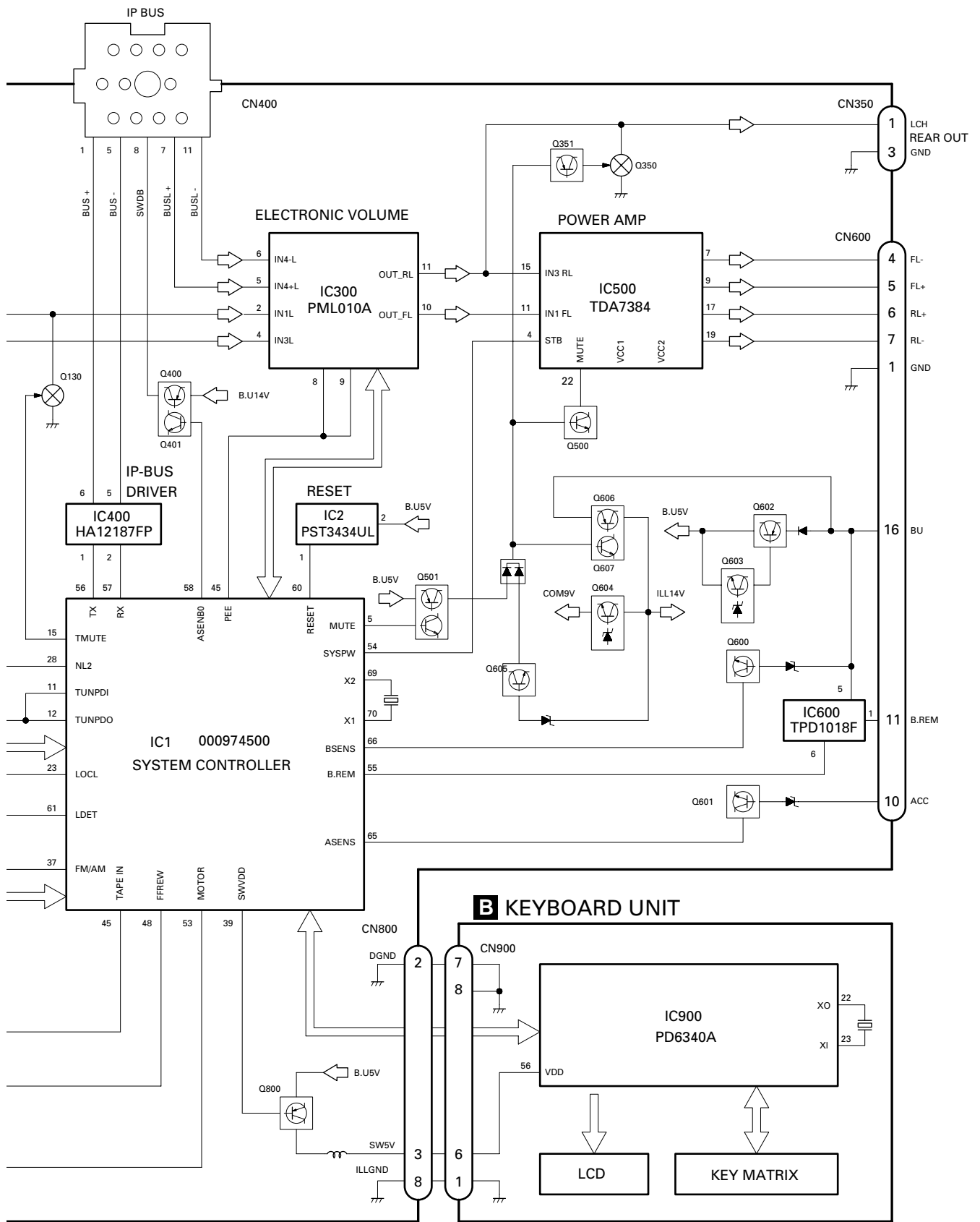
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Washer	1-0036-5024	26	Belt	1-0036-5018
2	Roller	1-0363-3018	27	Screw	213820030-C2
3	Spring	1-0036-4011	28	Belt	1-0036-5004
4	Head(HD1)	1-0036-7123			
5	Screw	1-0138-5002			
6	Screw	2-1012-0040-C2			
7	Plate	1-0036-1015			
8	Spring	1-0036-4010			
9	Arm	10138-2005-3			
10	Shim	1-0138-1006			
11	Pinch Arm (F) Assy	1-0036-6014			
12	Spring	1-0363-4003			
13	Screw	2-1032-0070-C2			
14	Tape Guide	1-0038-2018			
15	Link	1-0363-2006			
16	Pinch Arm (R) Assy	1-0036-6013			
17	Spring	1-0363-4004			
18	Motor Assy (M1)	X-0363-7006			
19	Power Switch (S1)	1-0363-7005			
20	Mute Switch (S2)	1-0363-7001			
21	Screw	213317040-C2			
22	Screw	2-1032-0025-C2			
23	Arm Assy	X-0363-6003			
24	Slide Switch (S3)	1-0363-7002			
25	SW PWB	1-0363-7008			

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

A TUNER AMP UNIT





A

B

C

D

E

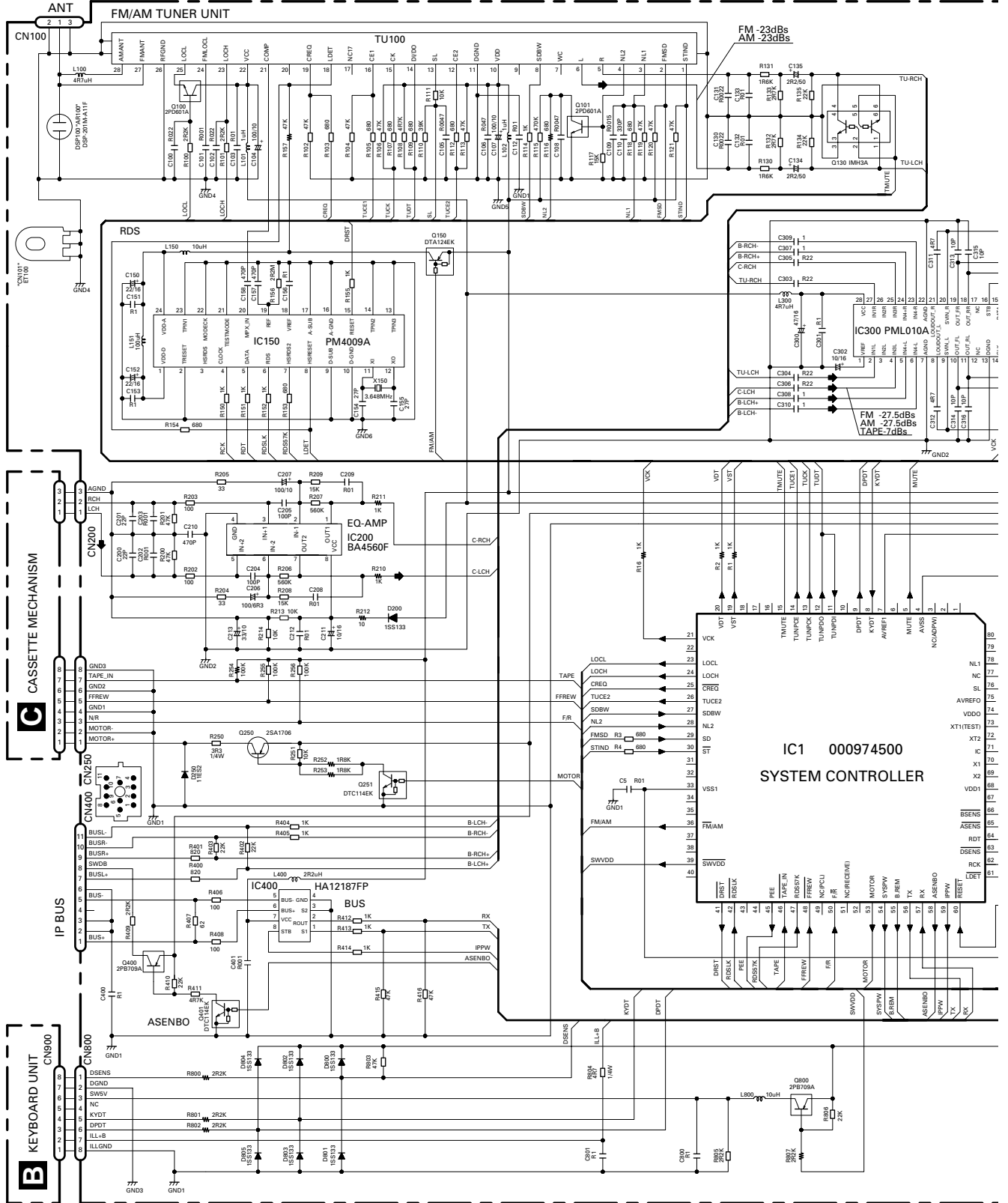
F

3.2 OVERALL CONNECTION DIAGRAM

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

A

A TUNER AMP UNIT



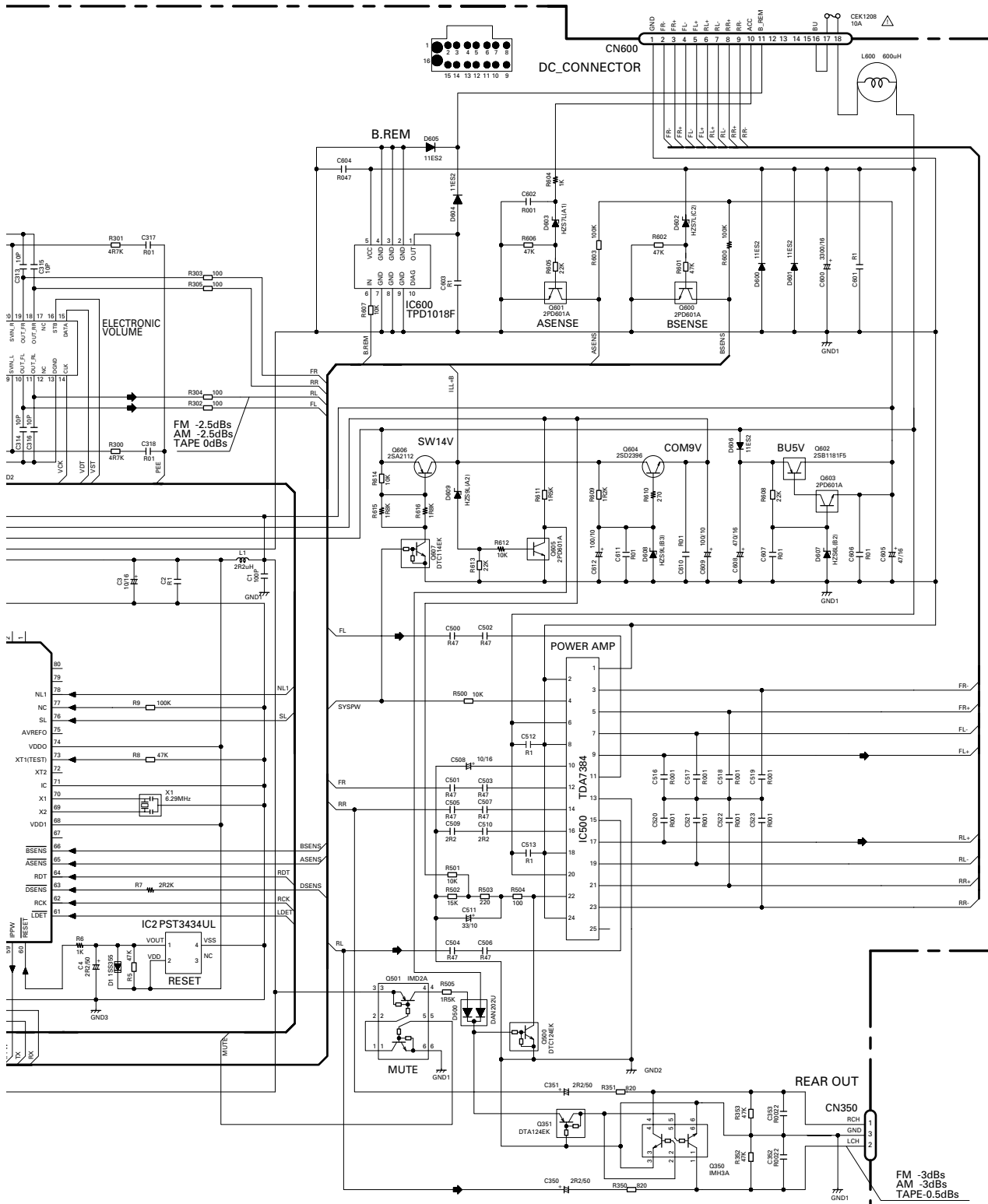
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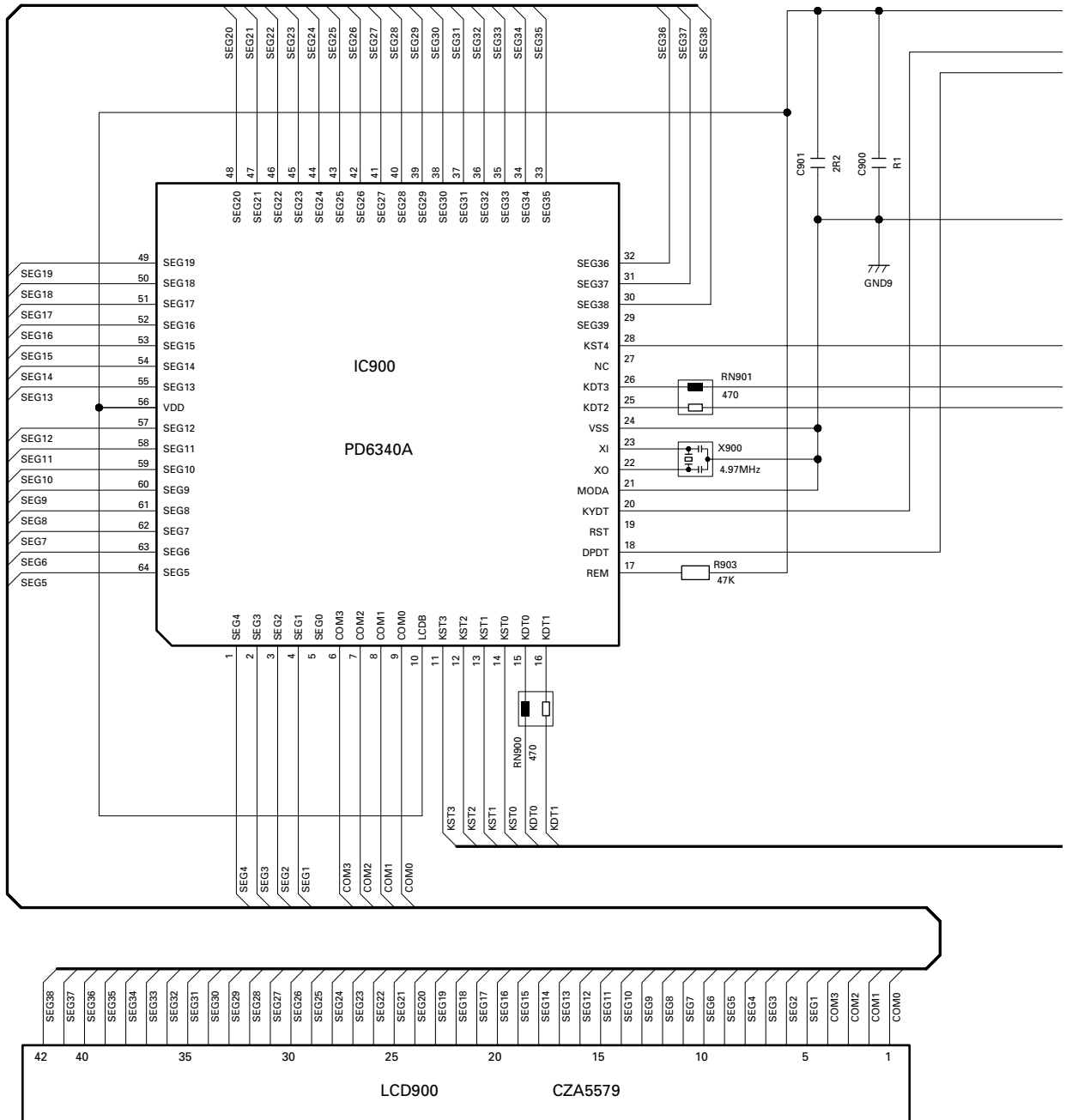
NOTE : Decimal points for resistor and capacitor fixed values are expressed as :
 2.2 → R22
 0.022 → R022

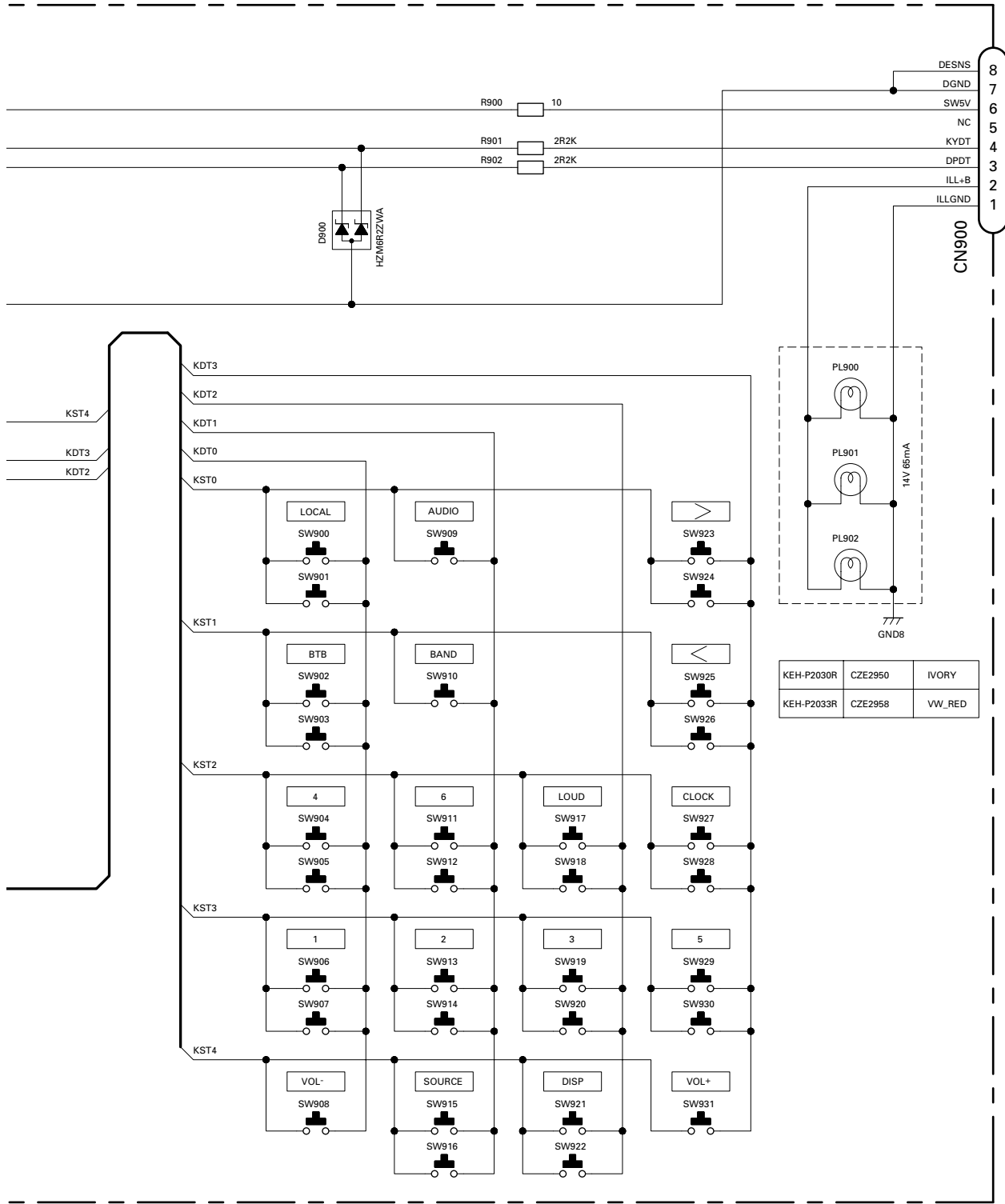
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.



3.3 KEYBOARD UNIT

B KEYBOARD UNIT





A CN800

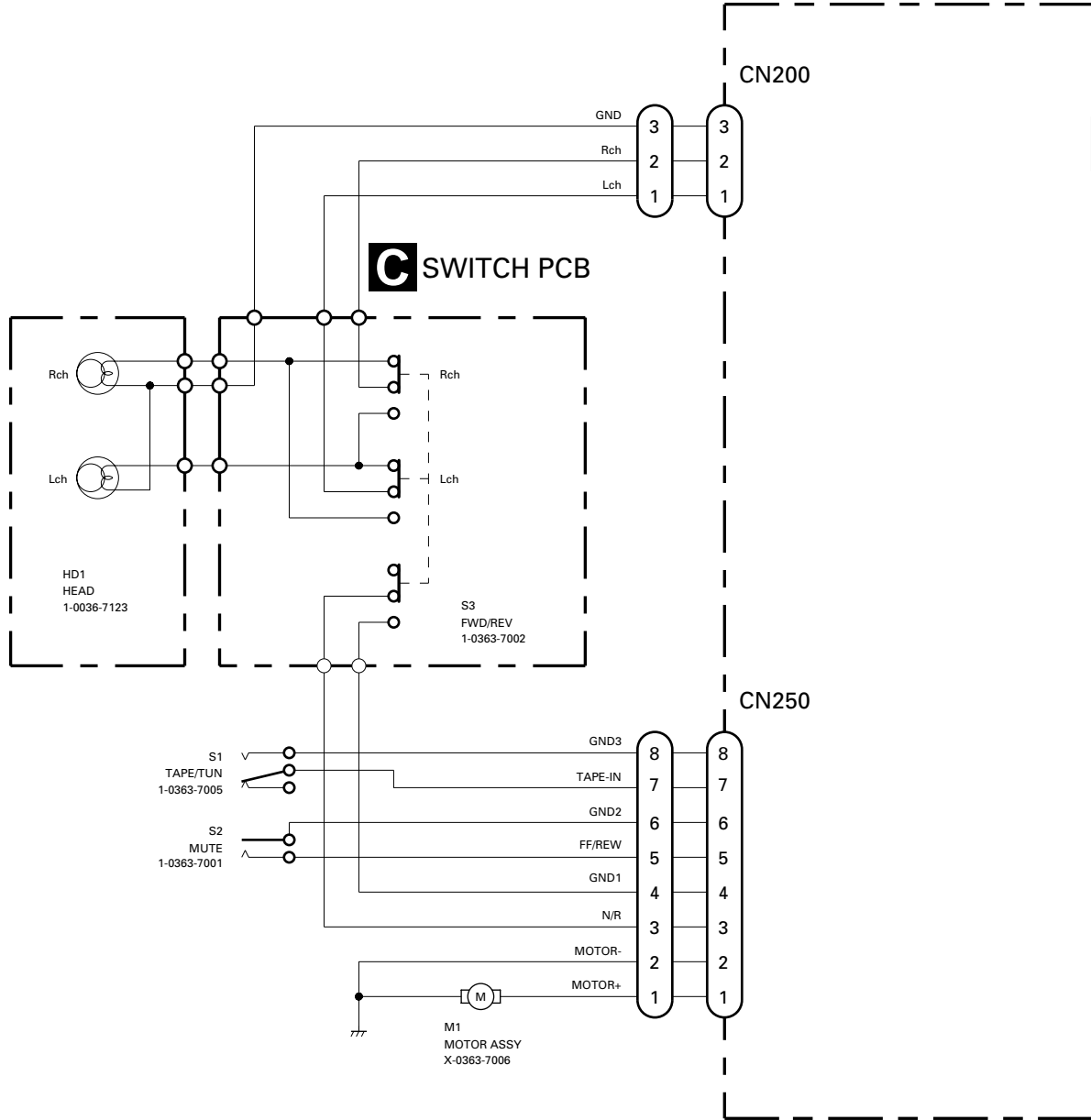
CN900
8
7
6
5
4
3
2
1

KEH-P2030R	CZE2950	IVORY
KEH-P2033R	CZE2958	VW_RED

3.4 CASSETTE MECHANISM

A TUNER AMP UNIT

C SWITCH PCB



A

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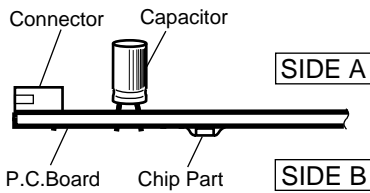
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

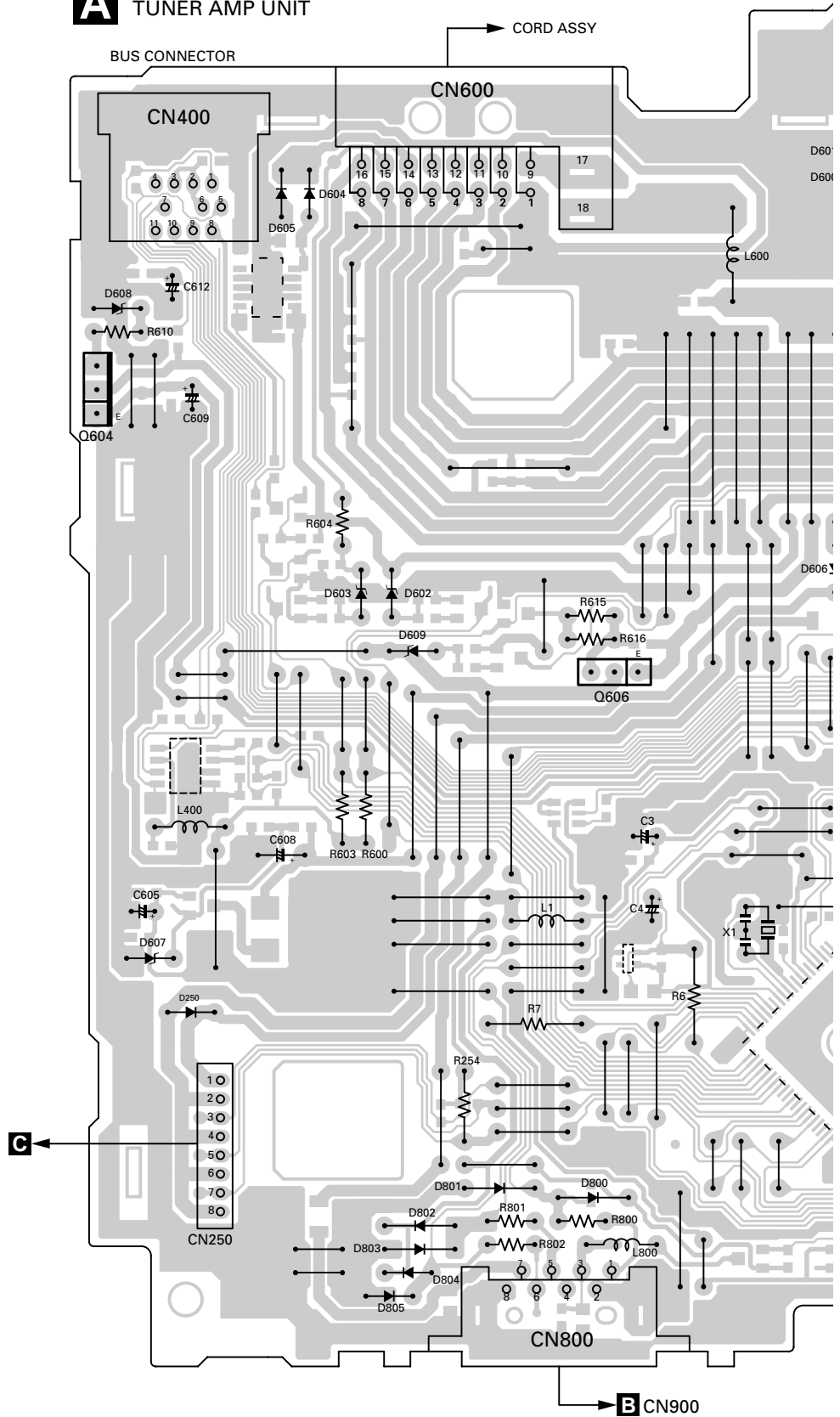
NOTE FOR PCB DIAGRAMS

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

2. Viewpoint of PCB diagrams

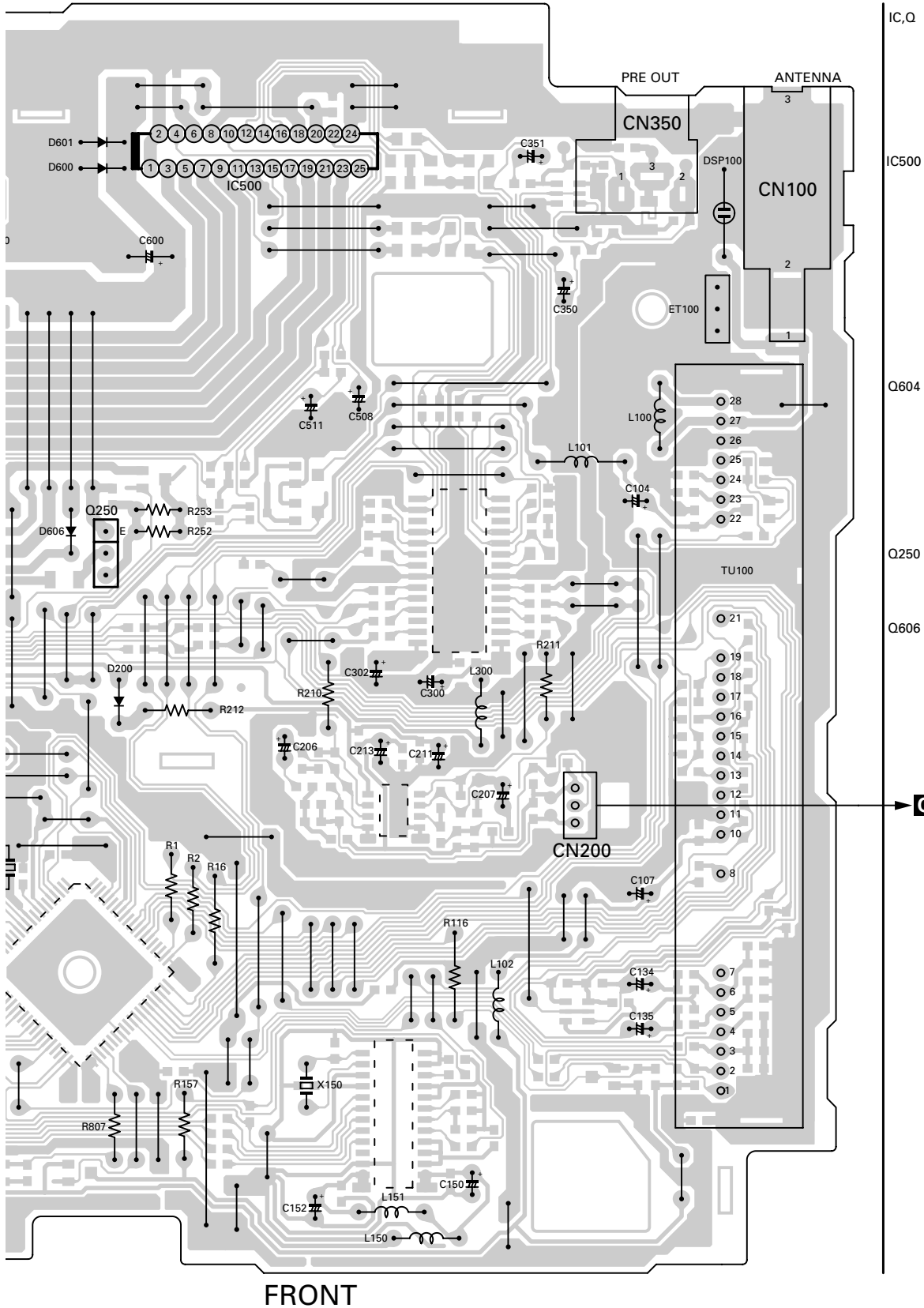


A TUNER AMP UNIT



SIDE A

A



B

C

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E

F

A

B

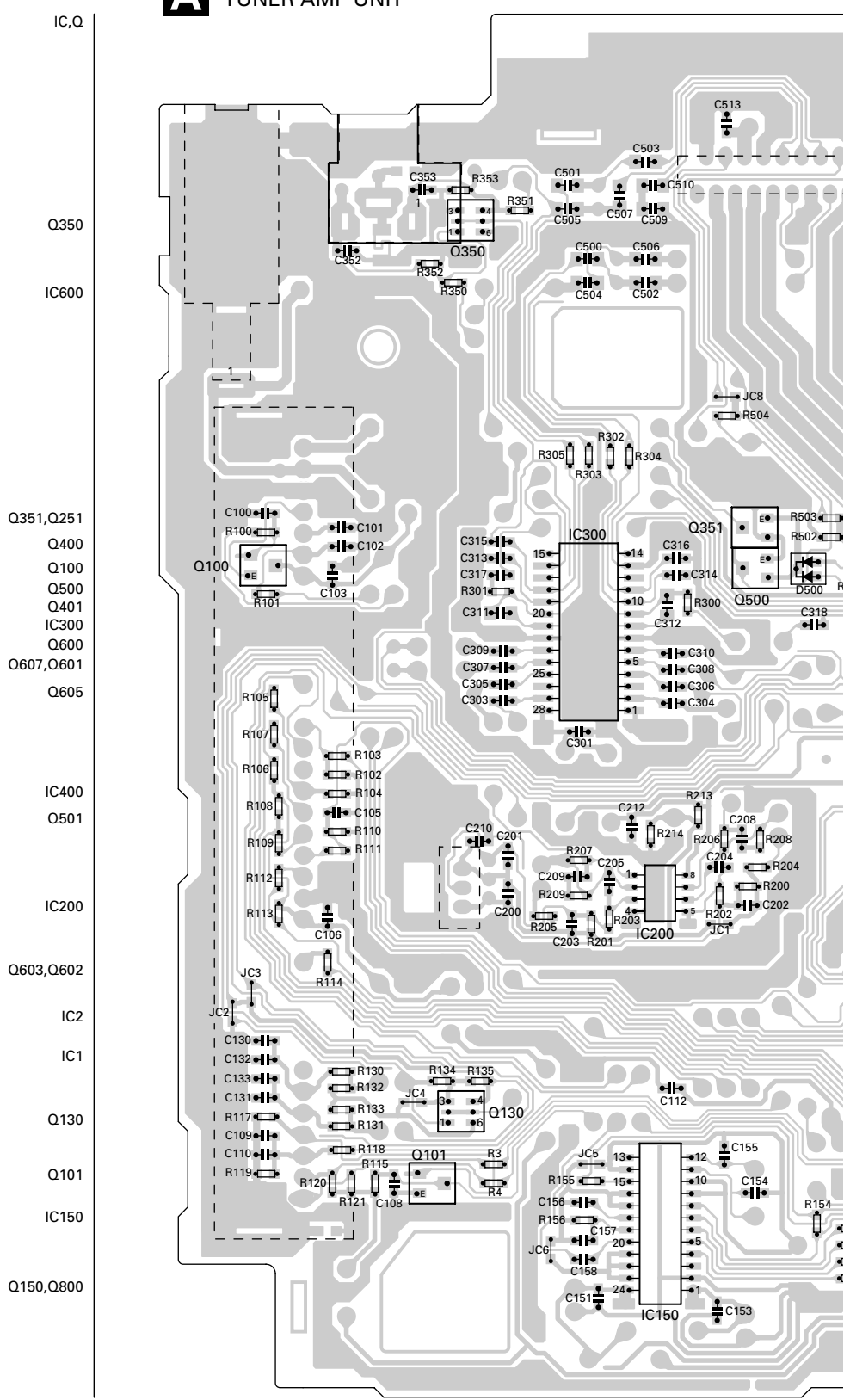
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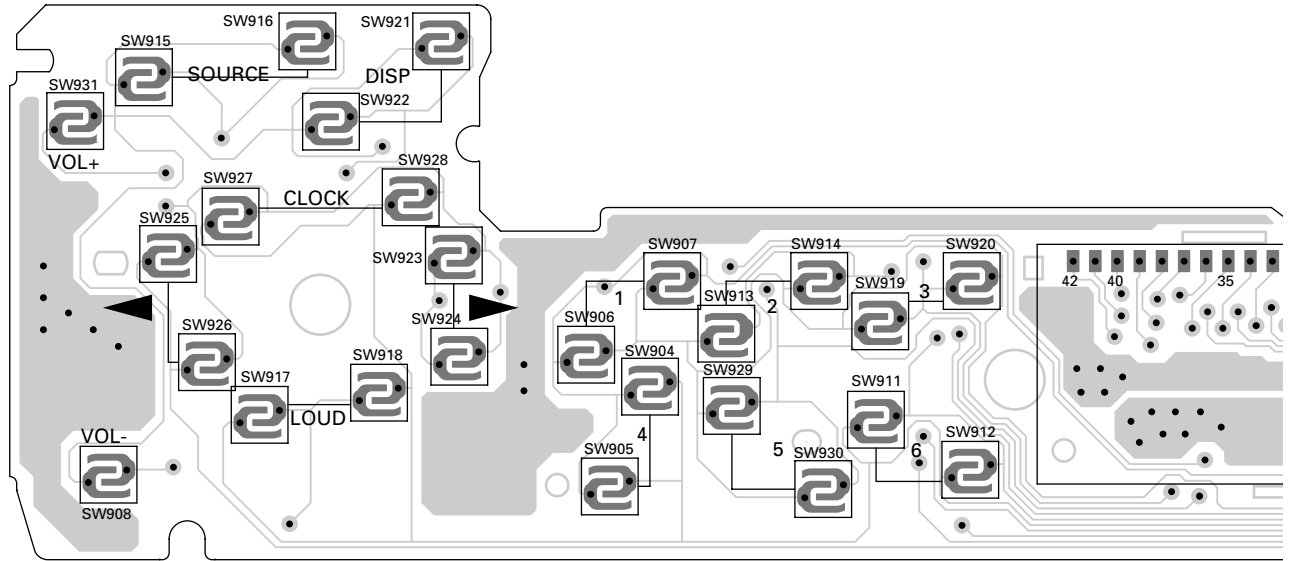
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A TUNER AMP UNIT

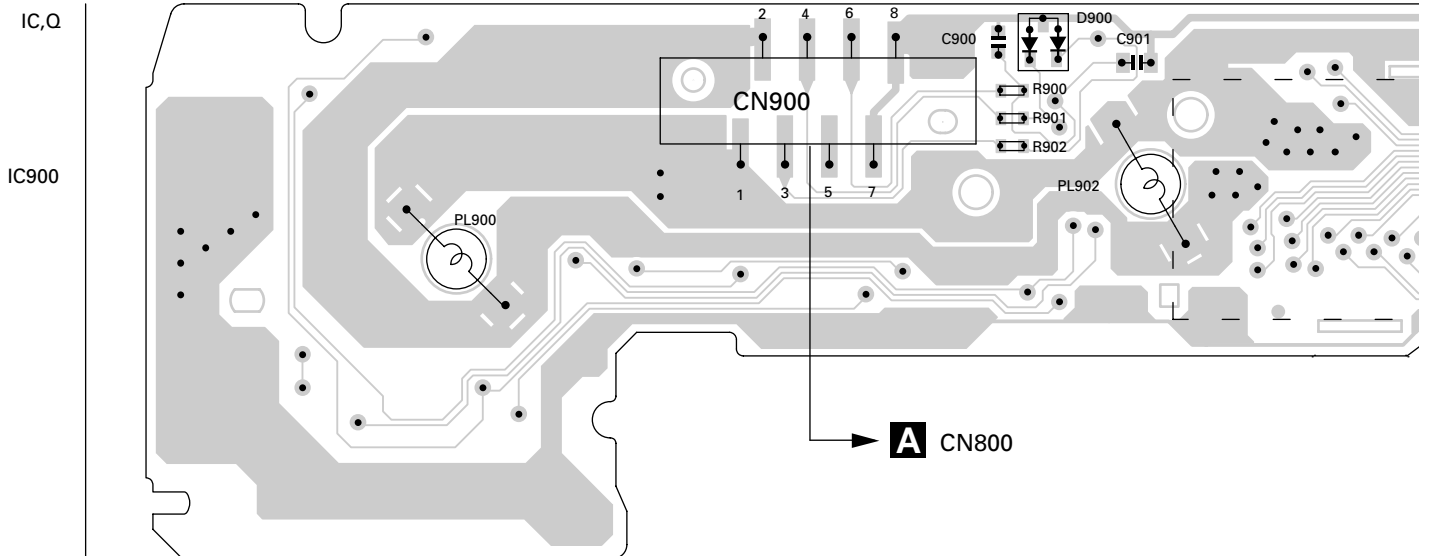


4.2 KEYBOARD UNIT

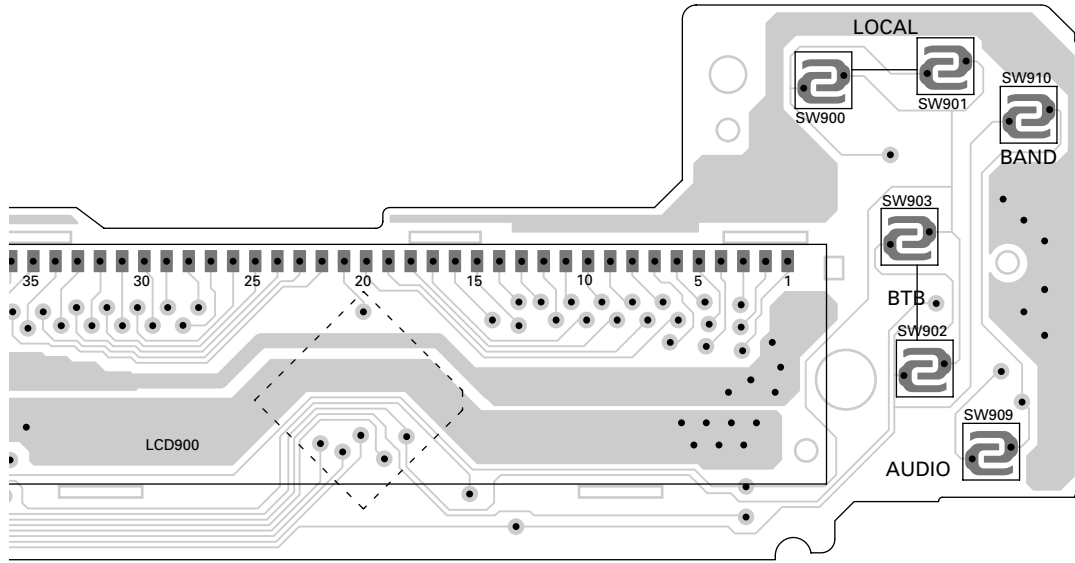
B KEYBOARD UNIT



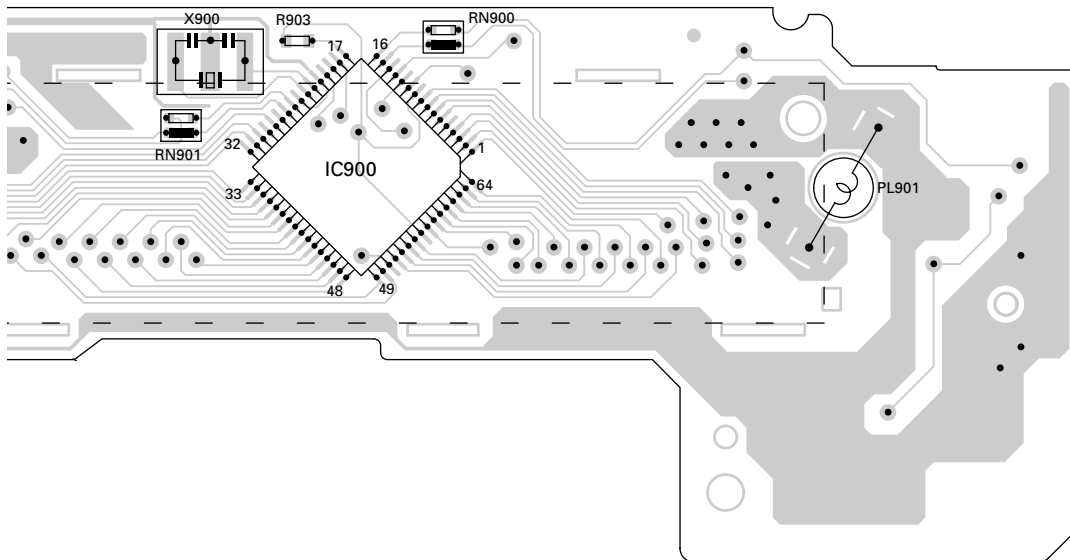
B KEYBOARD UNIT



SIDE A

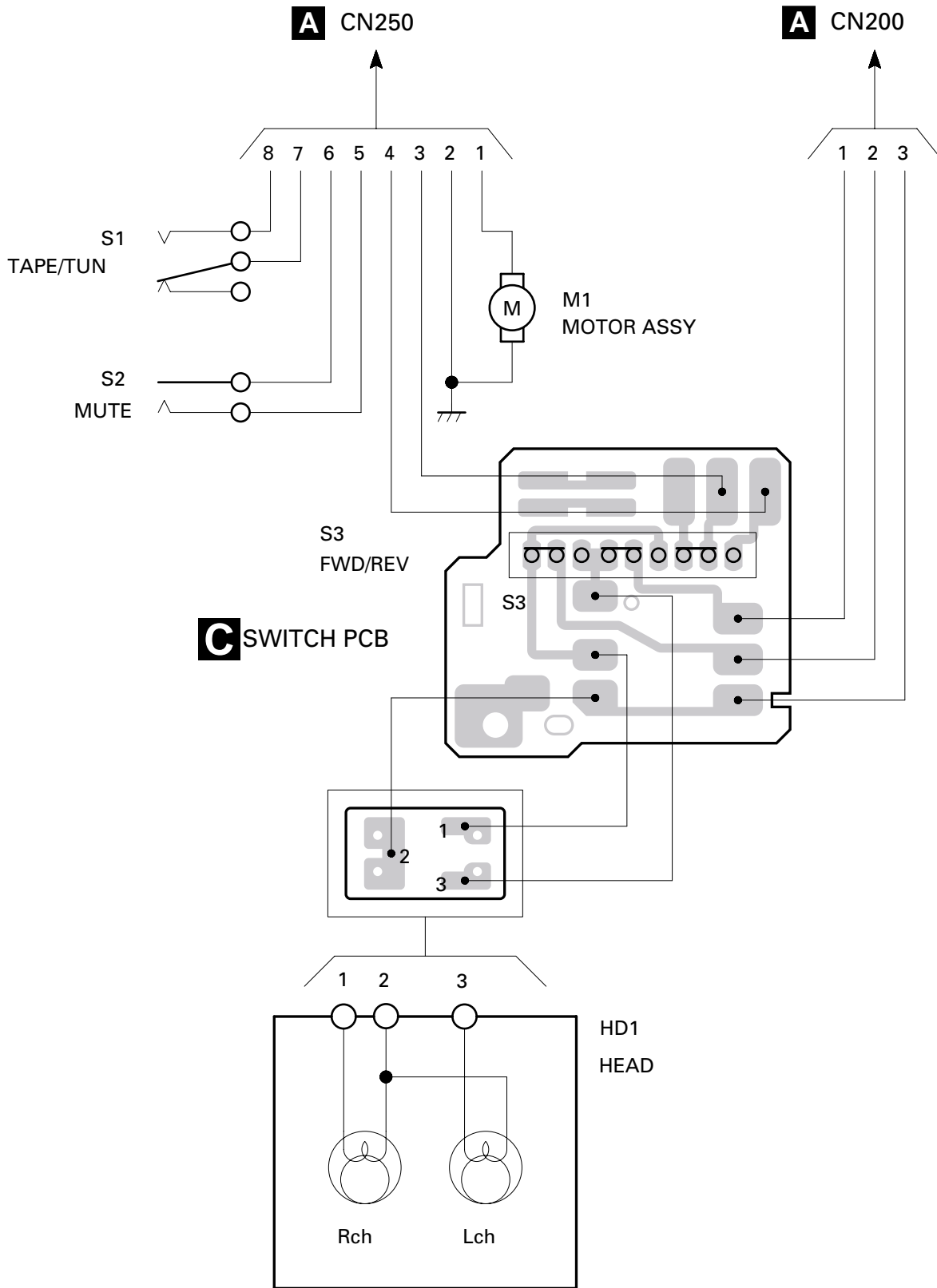


SIDE B



A
B
C
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4.3 CASSETTE MECHANISM



5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OS○○○○J,RS1/○○S○○○○J

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

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

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
A Unit Number : CZW5540		L 100 Ferri-Inductor	LAU4R7J
Unit Name : Tuner Amp Unit		L 101 Ferri-Inductor	LAU1R0J
MISCELLANEOUS		L 102 Ferri-Inductor	LAU1R0J
IC 1 IC	000974500	L 150 Ferri-Inductor	LAU100J
IC 2 IC	PST3434UL	L 151 Ferri-Inductor	LAU101J
IC 150 IC	PM4009A	L 300 Ferri-Inductor	LAU4R7J
IC 200 IC	BA4560F	L 400 Inductor	LAU2R2J
IC 300 IC	PML010A	L 600 Choke Coil 600μH	CTH1221
		L 800 Ferri-Inductor	LAU100J
		X 1 Ceramic Resonator 6.29MHz	CSS1310
IC 400 IC	HA12187FP	X 150 Crystal Resonator 3.648MHz	CSS1447
IC 500 IC	TDA7384	DSP 100 Surge Protector	DSP-201M-A11F
IC 600 IC	TPD1018F	TU 100 FM/AM Tuner Unit	CWE1562
Q 100 Transistor	2PD601A		
Q 101 Transistor	2PD601A	RESISTORS	
Q 130 Transistor	IMH3A	R 1	RD1/4PU102J
Q 150 Transistor	DTA124EK	R 2	RD1/4PU102J
Q 250 Transistor	2SA1706	R 3	RS1/16S681J
Q 251 Transistor	DTC114EK	R 4	RS1/16S681J
Q 350 Transistor	IMH3A	R 5	RS1/16S473J
Q 351 Transistor	DTA124EK	R 6	RD1/4PU102J
Q 400 Transistor	2PB709A	R 7	RD1/4PU222J
Q 401 Transistor	DTC114EK	R 8	RS1/16S473J
Q 500 Transistor	DTC124EK	R 9	RS1/16S104J
Q 501 Transistor	IMD2A	R 16	RD1/4PU102J
Q 600 Transistor	2PD601A	R 100	RS1/16S222J
Q 601 Transistor	2PD601A	R 101	RS1/16S222J
Q 602 Transistor	2SB1181F5	R 102	RS1/16S473J
Q 603 Transistor	2PD601A	R 103	RS1/16S681J
Q 604 Transistor	2SD2396	R 104	RS1/16S473J
Q 605 Transistor	2PD601A	R 105	RS1/16S681J
Q 606 Transistor	2SA2112	R 106	RS1/16S473J
Q 607 Transistor	DTC114EK	R 107	RS1/16S681J
Q 800 Transistor	2PB709A	R 108	RS1/16S472J
D 1 Diode	1SS355	R 109	RS1/16S681J
D 200 Diode	1SS133	R 110	RS1/16S393J
D 250 Diode	11ES2	R 111	RS1/16S103J
D 500 Diode	DAN202U	R 112	RS1/16S681J
D 600 Diode	11ES2	R 113	RS1/16S473J
D 601 Diode	11ES2	R 114	RS1/16S102J
D 602 Diode	HZS7L(C2)	R 115	RS1/16S474J
D 603 Diode	HZS7L(A1)	R 116	RD1/4PU681J
D 604 Diode	11ES2	R 117	RS1/16S153J
D 605 Diode	11ES2	R 118	RS1/16S681J
D 606 Diode	11ES2	R 119	RS1/16S473J
D 607 Diode	HZS6L(B2)	R 120	RS1/16S473J
D 608 Diode	HZS9L(B3)	R 121	RS1/16S473J
D 609 Diode	HZS9L(A2)	R 130	RS1/16S162J
D 800 Diode	1SS133	R 131	RS1/16S162J
D 801 Diode	1SS133	R 132	RS1/16S272J
D 802 Diode	1SS133	R 133	RS1/16S272J
D 803 Diode	1SS133	R 134	RS1/16S223J
D 804 Diode	1SS133	R 135	RS1/16S223J
D 805 Diode	1SS133	R 150	RS1/16S102J
L 1 Inductor	LAU2R2J	R 151	RS1/16S102J

	====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
A	R 152	RS1/16S102J	R 604	RD1/4PU102J
	R 153	RS1/16S681J	R 605	RS1/16S223J
	R 154	RS1/16S681J	R 606	RS1/16S473J
	R 155	RS1/16S102J	R 607	RS1/16S103J
	R 156	RS1/16S225J	R 608	RS1/16S223J
	R 157	RD1/4PU473J	R 609	RS1/16S122J
	R 200	RS1/16S473J	R 610	RD1/4PU271J
	R 201	RS1/16S473J	R 611	RS1/16S152J
	R 202	RS1/16S101J	R 612	RS1/16S103J
	R 203	RS1/16S101J	R 613	RS1/16S223J
	R 204	RS1/16S330J	R 614	RS1/16S103J
	R 205	RS1/16S330J	R 615	RD1/4PU182J
B	R 206	RS1/16S564J	R 616	RD1/4PU182J
	R 207	RS1/16S564J	R 800	RD1/4PU222J
	R 208	RS1/16S153J	R 801	RD1/4PU222J
	R 209	RS1/16S153J	R 802	RD1/4PU222J
	R 210	RD1/4PU102J	R 803	RS1/16S473J
	R 211	RD1/4PU102J	R 804	RS1/8S4R7J
	R 212	RD1/4PU100J	R 805	RS1/16S222J
	R 213	RS1/16S103J	R 806	RS1/16S223J
	R 214	RS1/16S103J	R 807	RD1/4PU222J
	R 250	RS1/8S3R3J	JC 1	RS1/16S0R0J
	R 251	RS1/16S103J	JC 2	RS1/16S0R0J
	R 252	RD1/4PU182J	JC 3	RS1/16S0R0J
	R 253	RD1/4PU182J	JC 4	RS1/16S0R0J
C	R 254	RD1/4PU104J	JC 5	RS1/16S0R0J
	R 255	RS1/16S104J	JC 6	RS1/16S0R0J
	R 256	RS1/16S104J	JC 8	RS1/16S0R0J
	R 300	RS1/16S472J		
	R 301	RS1/16S472J		
	R 302	RS1/16S101J	C 1	CCSRCH101J50
	R 303	RS1/16S101J	C 2	CKSRYB104K50
	R 304	RS1/16S101J	C 3	CEAL100M16
	R 305	RS1/16S101J	C 4	CEAL2R2M50
	R 350	RS1/16S821J	C 5	CKSRYB103K50
	R 351	RS1/16S821J	C 100	CKSRYB223K50
	R 352	RS1/16S473J	C 101	CKSRYB102K50
	R 353	RS1/16S473J	C 102	CKSRYB223K50
	R 400	RS1/16S821J	C 103	CKSRYB103K50
D	R 401	RS1/16S821J	C 104	100µF/10V CCH1191
	R 402	RS1/16S223J	C 105	CKSRYB472K50
	R 403	RS1/16S223J	C 106	CKSRYB473K50
	R 404	RS1/16S102J	C 107	100µF/10V CCH1191
	R 405	RS1/16S102J	C 108	CKSRYB472K50
	R 406	RS1/16S101J	C 109	CKSRYB152K50
	R 407	RS1/16S620J	C 110	CCSRCH331J50
	R 408	RS1/16S101J	C 112	CKSRYB103K50
	R 409	RS1/16S222J	C 130	CKSRYB222K50
	R 410	RS1/16S223J	C 131	CKSRYB222K50
	R 411	RS1/16S472J	C 132	CKSRYB103K50
	R 412	RS1/16S102J	C 133	CKSRYB103K50
	R 413	RS1/16S102J	C 134	CEAL2R2M50
E	R 414	RS1/16S102J	C 135	CEAL2R2M50
	R 415	RS1/16S473J	C 150	CEAL220M16
	R 416	RS1/16S473J	C 151	CKSRYB104K50
	R 500	RS1/16S103J	C 152	CEAL220M16
	R 501	RS1/16S103J	C 153	CKSRYB104K50
	R 502	RS1/16S153J	C 154	CCSRCH270J50
	R 503	RS1/16S221J	C 155	CCSRCH270J50
	R 504	RS1/16S101J	C 156	CKSRYB104K50
	R 505	RS1/16S152J	C 157	CCSRCH471J50
	R 600	RD1/4PU104J	C 158	CCSRCH471J50
	R 601	RS1/16S473J	C 200	CCSRCH220J50
	R 602	RS1/16S473J	C 201	CCSRCH220J50
	R 603	RD1/4PU104J	C 202	CKSRYB102K50
F				

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 203	CKSRYP102K50	C 521	CKSRYP102K50
C 204	CCSRCH101J50	C 522	CKSRYP102K50
C 205	CCSRCH101J50	C 523	CKSRYP102K50
C 206	CZC2643	C 600	3300μF/16V
C 207	CEAL101M10	C 601	CCH1018
C 208	CKSRYP103K50	C 602	CKSRYP102K50
C 209	CKSRYP103K50	C 603	CKSQYB104K50
C 210	CCSRCH471J50	C 604	CKSRYP473K50
C 211	CCH1377	C 605	CEAL470M16
C 212	CKSRYP103K50	C 606	CKSRYP103K50
C 213	CZC2642	C 607	CKSRYP103K50
C 300	CCH1378	C 608	470μF/16V
C 301	CKSRYP104K50	C 609	100μF/10V
C 302	CCH1377	C 610	CKSRYP103K50
C 303	CKSRYP224K16	C 611	CKSRYP103K50
C 304	CKSRYP224K16	C 612	100μF/10V
C 305	CKSRYP224K16	C 800	CCH1191
C 306	CKSRYP224K16	C 801	CKSQYB104K50
C 307	CKSRYP105K10		CKSQYB104K50
C 308	CKSRYP105K10		
C 309	CKSRYP105K10		
C 310	CKSRYP105K10		
C 311	CKSQYB475K6R3		
C 312	CKSQYB475K6R3		
C 313	CCSRCH100D50		
C 314	CCSRCH100D50		
C 315	CCSRCH100D50		
C 316	CCSRCH100D50		
C 317	CKSRYP103K50		
C 318	CKSRYP103K50		
C 350	CEAL2R2M50		
C 351	CEAL2R2M50		
C 352	CKSRYP222K50		
C 353	CKSRYP222K50		
C 400	CKSRYP104K50		
C 401	CKSRYP102K50		
C 500	CKSQYB474K25		
C 501	CKSQYB474K25		
C 502	CKSQYB474K25		
C 503	CKSQYB474K25		
C 504	CKSQYB474K25		
C 505	CKSQYB474K25		
C 506	CKSQYB474K25		
C 507	CKSQYB474K25		
C 508	CEAL100M16		
C 509	CKSQYB225K10		
C 510	CKSQYB225K10		
C 511	CEAL330M10		
C 512	CKSRYP104K50		
C 513	CKSRYP104K50		
C 516	CKSRYP102K50		
C 517	CKSRYP102K50		
C 518	CKSRYP102K50		
C 519	CKSRYP102K50		
C 520	CKSRYP102K50		

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 521	CKSRYP102K50	C 521	CKSRYP102K50
C 522	CKSRYP102K50	C 522	CKSRYP102K50
C 523	CKSRYP102K50	C 523	CKSRYP102K50
C 600	3300μF/16V	C 600	3300μF/16V
C 601	CCH1018	C 601	CCH1018
C 602	CKSRYP102K50	C 602	CKSRYP102K50
C 603	CKSQYB104K50	C 603	CKSQYB104K50
C 604	CKSRYP473K50	C 604	CKSRYP473K50
C 605	CEAL470M16	C 605	CEAL470M16
C 606	CKSRYP103K50	C 606	CKSRYP103K50
C 607	CKSRYP103K50	C 607	CKSRYP103K50
C 608	470μF/16V	C 608	470μF/16V
C 609	100μF/10V	C 609	100μF/10V
C 610	CKSRYP103K50	C 610	CKSRYP103K50
C 611	CKSRYP103K50	C 611	CKSRYP103K50
C 612	100μF/10V	C 612	100μF/10V
C 800	CCH1191	C 800	CCH1191
C 801	CKSQYB104K50	C 801	CKSQYB104K50

B Unit Number : CZW5544(KEH-P2033R)
: CZW5543(KEH-P2030R)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 900	IC	PD6340A
D 900	Diode	HZM6R2ZWA
X 900	Ceramic Resonator 4.97MHz	CSS1422
PL 900	Lamp 14V 65mA(KEH-P2033R)	CZE2958
PL 900	Lamp 14V 65mA(KEH-P2030R)	CZE2950
PL 901	Lamp 14V 65mA(KEH-P2033R)	CZE2958
PL 901	Lamp 14V 65mA(KEH-P2030R)	CZE2950
PL 902	Lamp 14V 65mA(KEH-P2033R)	CZE2958
PL 902	Lamp 14V 65mA(KEH-P2030R)	CZE2950
LCD 900	LCD	CZA5579

RESISTORS

R 900	RS1/16S100J
R 901	RS1/16S222J
R 902	RS1/16S222J
R 903	RS1/16S473J
RN 900	RA2S471J
RN 901	RA2S471J

CAPACITORS

C 900	CKSRYP104K50
C 901	CKSQYB225K10

C Unit Number :
Unit Name : Switch PCB

S 3 Slide Switch(FWD/REV) 1-0363-7002

Miscellaneous Parts List

S 1	Power Switch(TAPE/TUN)	1-0363-7005
S 2	Mute Switch(MUTE)	1-0363-7001
HD 1	Head	1-0036-7123
M 1	Motor Assy	X-0363-7006

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 Case.

● Removing the Cassette Mechanism (Fig.1)

1 Remove the four screws.

Disconnect the connector and then remove the Cassette Mechanism .

● Removing the Grille Assy (Fig.1)

2 Release the two latches and then remove the Grille Assy.

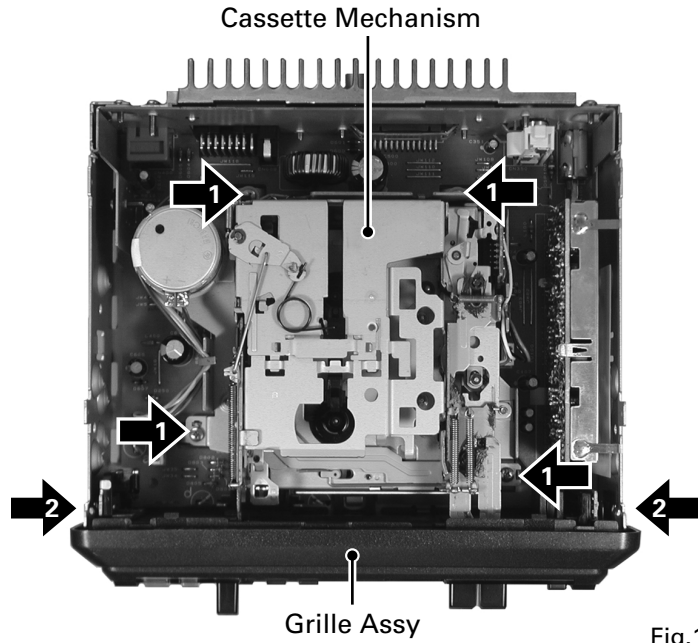


Fig.1

● Removing the Tuner Amp Unit (Fig.2)

1 Remove the three screws.

2 Straight the tabs at five locations indicated.

3 Remove the screw and then remove the Tuner Amp Unit.

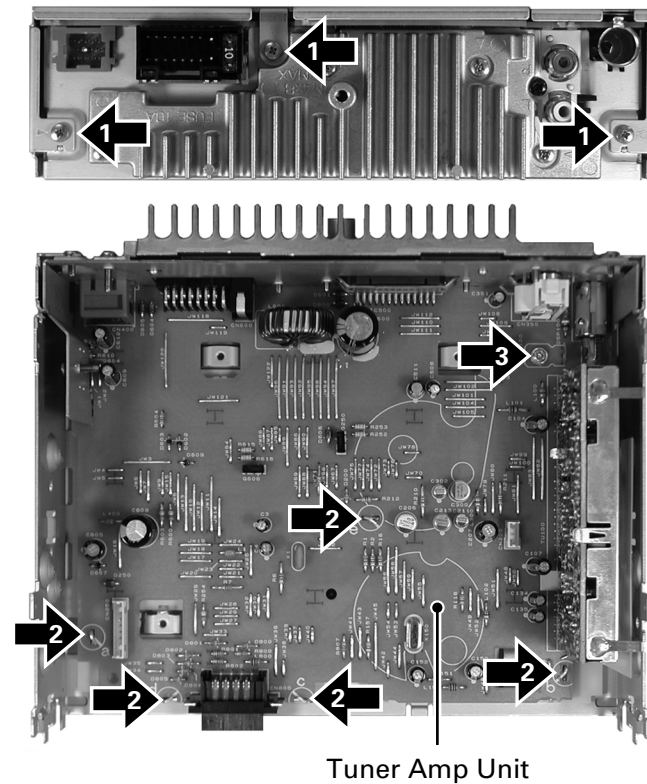
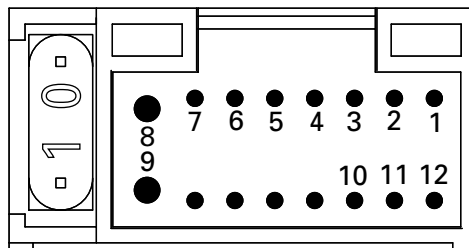
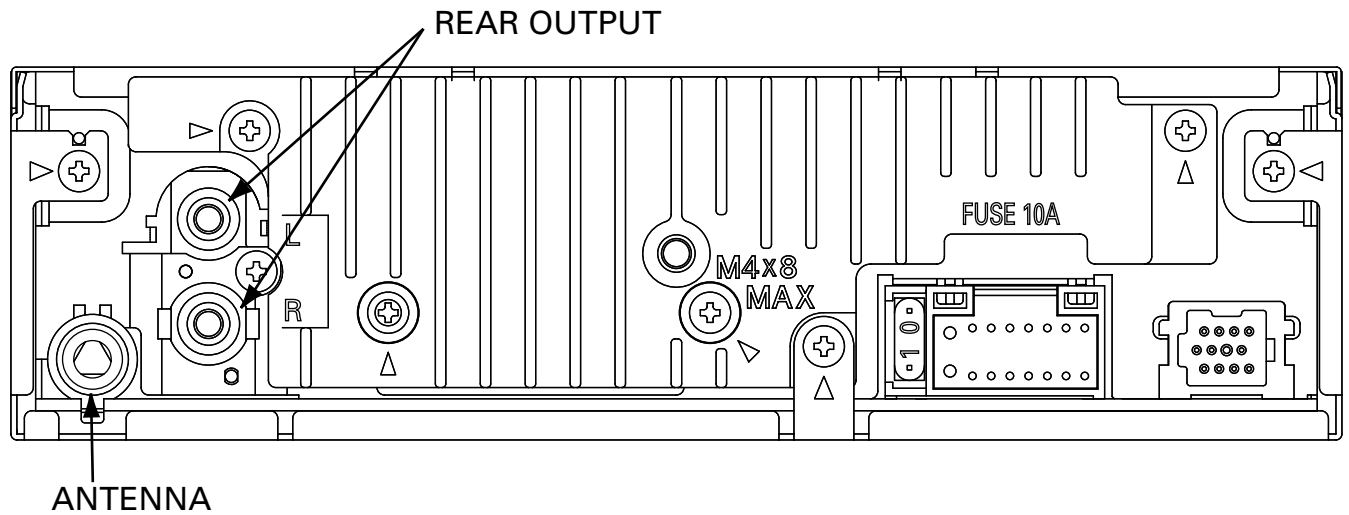
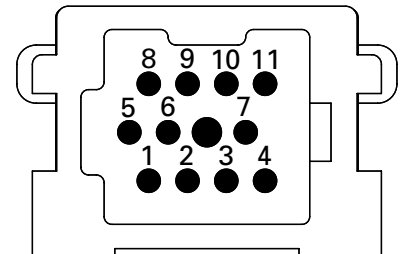


Fig.2

7.1.2 CONNECTOR FUNCTION DESCRIPTION



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



- | | |
|----|--------------|
| 1 | BUS+ |
| 2 | GND |
| 3 | GND |
| 4 | NC |
| 5 | BUS- |
| 6 | GND |
| 7 | BUS+ INPUT |
| 8 | ASENB |
| 9 | BUS R+ INPUT |
| 10 | BUS R- INPUT |
| 11 | BUS L- INPUT |

7.2 PARTS

7.2.1 IC

●Pin Functions(000974500)

Pin No.	Pin Name	I/O	Format	Function and Operation
1,2	NC			Not used
3	ADPW	O	C	A/D converter power supply control output
4	AVSS			GND
5	MUTE	O	C	System mute output
6	NC			Not used
7	AVREF1	I		D/A converter reference voltage terminal
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	NC			Not used
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
16-18	NC			Not used
19	VST	O	C	Strobe pulse output for electronic volume
20	VDT	O	C	Data output for electronic volume
21	VCK	O	C	Clock output for electronic volume
22	NC			Not used
23	LOCL	O	C	Local L output
24	LOCH	O	C	Local H output
25	CURRO	O	C	Tuner voltage FIX output
26	TUCE2	O	C	EEPROM chip enable output
27	SDBW	I		SD input at NF
28	NL2	I		RDS noise level input 2
29	SD	I		SD signal input
30	ST	I		FM stereo input
31,32	NC			Not used
33	VSS1			GND
34-36	NC			Not used
37	FM/AM	O	N	FM/AM band select pin"H":AM "L":FM
38	NC			Not used
39	SWVDD	O	N	Grille power supply control output(5V)
40	NC			Not used
41	DRST	O	C	RDS reset output
42	RDSLK	I		RDS LK input
43,44	NC			Not used
45	PEE	O	C	Beep tone output
46	TAPEIN	I		Tape insert sense input
47	RDS57K	I		RDS 57kHz pulse count input
48	FFREW	I		FF/REW sense input
49	PCL	O	C	Clock adjustment output
50	F/R	I		Tape direction sense input "H":NOR "L":REV
51	RECEIVE	O	C	RDS receive output
52	NC			Not used
53	MOTOR	O	C	Motor control output
54	SYSPW	O	C	System power output
55	B.REM	O	C	B.Remote ON/OFF output
56	TX	O	C	IP BUS data output
57	RX	I		IP BUS data input
58	ASENBO	O	C	Slave power supply control output
59	IPPW	O	C	Power supply control output for IP BUS interface IC
60	RESET	I		Reset input

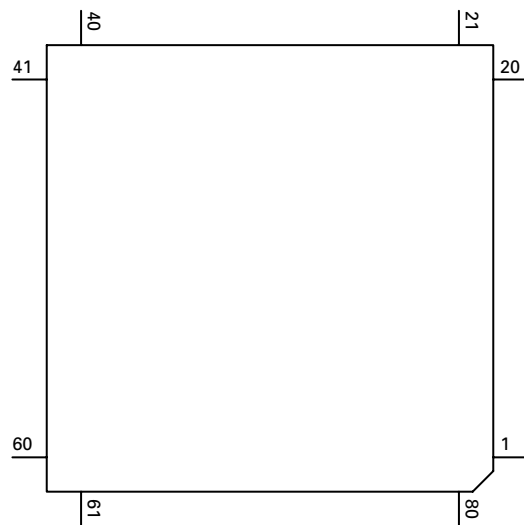
Pin No.	Pin Name	I/O	Format	Function and Operation
61	$\overline{\text{LDET}}$	I		PLL lock detect input
62	RCK	I		RDS clock input
63	$\overline{\text{DSENS}}$	I		Grille detach sense input
64	RDT	I		RDS data input
65	$\overline{\text{ASENS}}$	I		ACC power sense input
66	$\overline{\text{BSENS}}$	I		Backup power sense input
67	NC			Not used
68	VDD1			Power supply
69	X2			Crystal oscillator connection pin
70	X1	I		Crystal oscillator connection pin
71	IC			(GND)
72	XT2			Not used
73	TESTIN	I		Test program mode input
74	AVDD			A/D converter power supply terminal
75	AVREF0	I		A/D converter reference voltage terminal
76	SL	I		Signal level input
77	NC			Not used
78	NL1	I		RDS noise level input 1
79,80	NC			Not used

Format	Meaning
C	C MOS
N	N Channel open drain

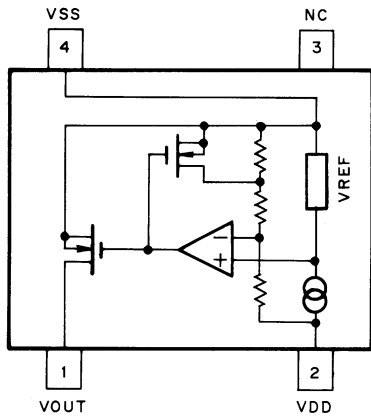
IC's marked by * are MOS type.

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

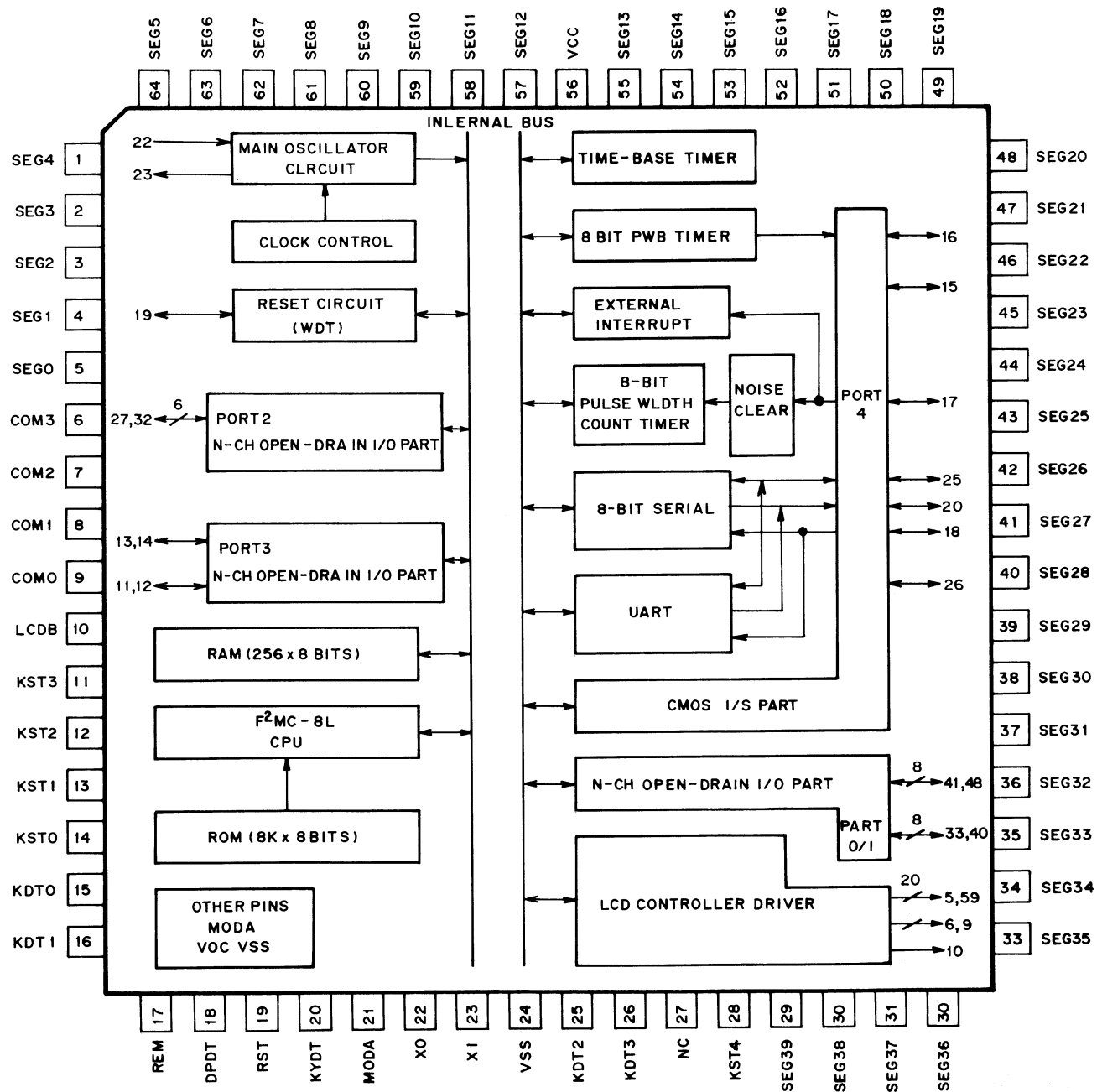
*000974500



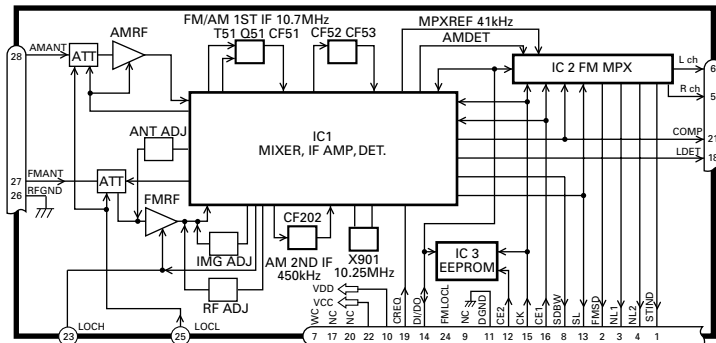
PST3434UL



*PD6340A



● 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 de-emphasis constant.
6	Lch	O	L channel output	FM stereo "L-ch" signal output or AM audio output. Add the specified de-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. DC 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 (10kΩ + 39kΩ // 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. DC 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. Surge 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

● CZA5579

A

B

C

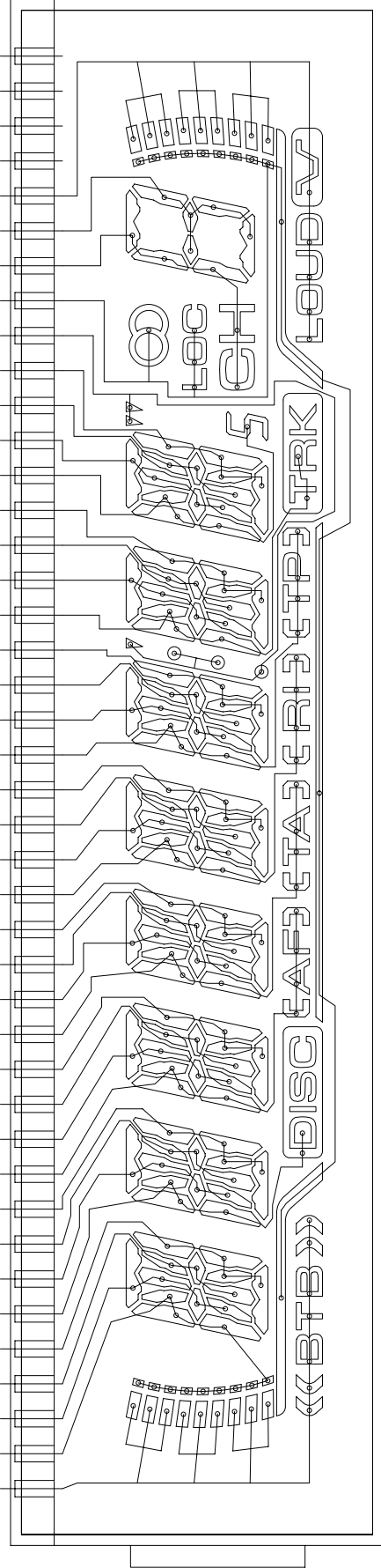
D

E

F

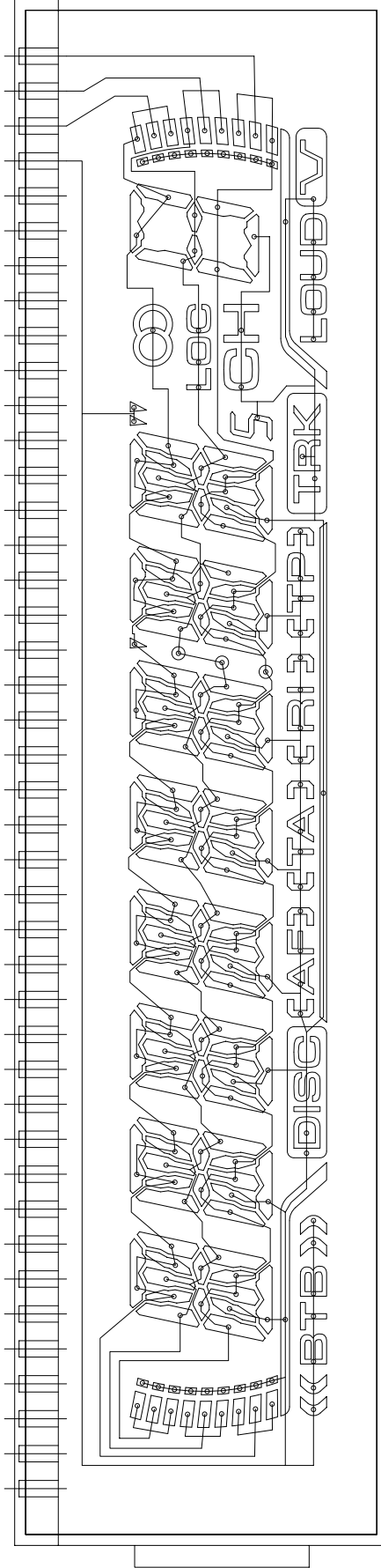
SEGMENT

SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
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SEG38

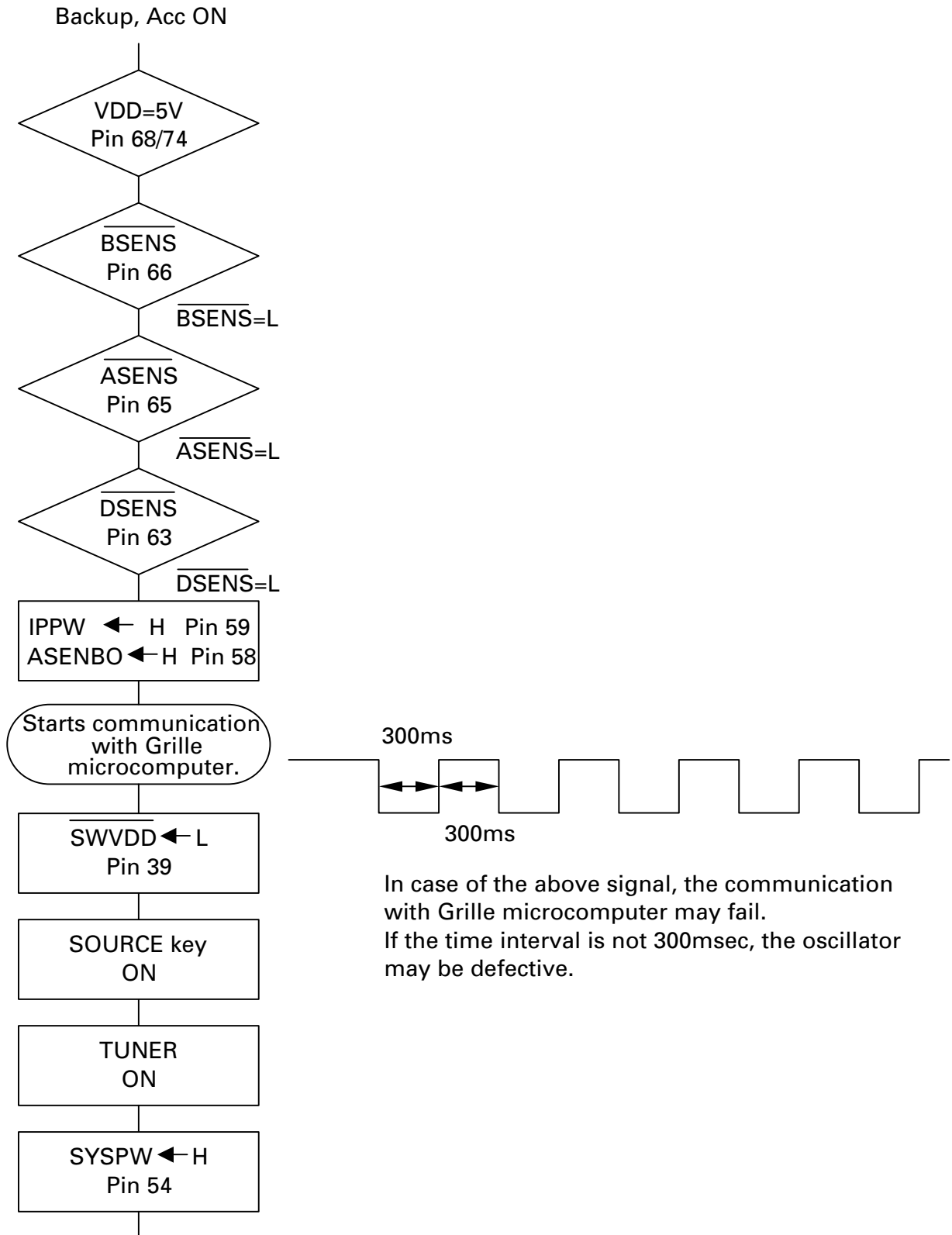


COM0
COM1
COM2
COM3

COMMON



7.3 OPERATIONAL FLOW CHART



Completes power-on operation.
(After that, proceed to each source operation.)

A

7.4 CLEANING



Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
Cassette heads Pinch rollers Capstans	Cleaning paper : GED-008

B

C

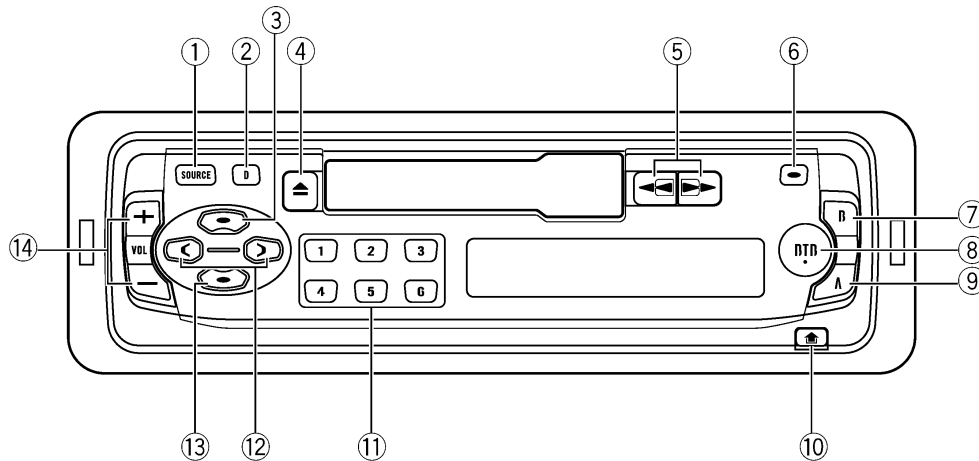
D

E

F

8. OPERATIONS

What's What



Head unit

① SOURCE button

This unit is turned on by selecting a source. Press to cycle through all of the available sources.

② DISP/REG button

Press to select different displays. Press and hold to turn the regional function on or off. Also, press to control external unit.

③ TA/AF button

Press to turn TA function on or off. Press and hold to turn AF function on or off.

④ TAPE EJECT button

Press to eject a tape from your cassette player.

⑤ ◀/▶ buttons

Press to fast forward or rewind the tape.

⑥ LOCAL/BSM button

Press to turn local function on or off when tuner is selected as a source.

Press and hold to turn BSM function on or off when tuner is selected as a source. Press to turn pause on or off when multi-CD is selected as a source. Press and hold to turn repeat on or off when multi-CD is selected as a source. Also, press to control external unit.

⑦ BAND button

Press to select among two FM and MW/LW bands and cancel the control mode of functions.

⑧ BTB button

Press to select various BTB (bass treble booster) setting.

⑨ AUDIO button

Press to select various sound quality controls.

⑩ DETACH button

Press to remove the front panel from the head unit.

What's What

11 1-6 buttons

Press for preset tuning and disc number search when using a multi-CD player. Also, press to control external unit.

12 ◀/▶ buttons

Press to do manual seek tuning. Also used for controlling functions.

13 LOUDNESS button

Press to turn loudness on or off.

14 VOLUME button

Press to increase or decrease the volume. 

Power ON/OFF

Turning the unit on

- **Press SOURCE to turn the unit on.** When you select a source the unit is turned on. 

Selecting a source

You can select a source you want to listen to. To switch to the cassette player, load a cassette tape in this unit .


- **Press SOURCE to select a source.**

Press **SOURCE** repeatedly to switch between the following sources:

Tuner—Cassette player—Multi-CD player—External unit



Notes

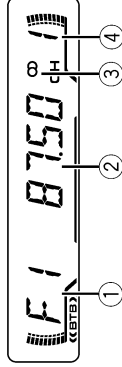
- In the following cases, the sound source will not change:
 - When a unit corresponding to each source is not connected to this unit.
 - When no cassette is set in this unit.
 - When no magazine is set in the multi-CD player.
- External unit refers to a Pioneer product (such as one available in the future) that, although incompatible as a source, enables control of basic functions by this unit. Only one external unit can be controlled by this unit.
- When this unit's blue/white lead is connected to the car's auto-antenna relay control terminal, the car's antenna extends when this unit's source is turned on. To retract the antenna, turn the source off. 

Turning the unit off

- **Press SOURCE and hold until the unit turns off.** 

Tuner

Listening to the radio



This unit's AF (alternative frequencies search) function can be turned on and off. AF should be off for normal tuning operation.

1 Band indicator

Shows which band the radio is tuned to, MW, LW or FM.

2 Frequency indicator

Shows to which frequency the tuner is tuned.

3 Stereo (OD) indicator

Shows that the frequency selected is being broadcast in stereo.

4 Preset number indicator

Shows what preset has been selected.

1 Press SOURCE to select the tuner.

2 Use VOLUME to adjust the sound level.

When you press **VOLUME** up/+, the volume is raised and when pressed down/–, the volume is lowered.

3 Press BAND to select a band.

Press **BAND** until the desired band is displayed, **F1, F2** for FM or **MW/LW**.

4 To perform manual tuning, press ◀ or ▶ with quick presses.

The frequencies move up or down step by step.

5 To perform seek tuning, press and hold ◀ or ▶ for about one second and release.

The tuner will scan the frequencies until a broadcast strong enough for good reception is found.

- You can cancel seek tuning by pressing either ◀ or ▶ with a quick press.
- If you press and hold ◀ or ▶ you can skip broadcasting stations. Seek tuning starts as soon as you release the buttons.



Note

When the frequency selected is being broadcast in stereo the stereo (OD) indicator will light. 

Storing and recalling broadcast frequencies

If you press any of the preset tuning buttons **1-6** you can easily store up to six broadcast frequencies for later recall with the touch of a button.

- **When you find a frequency that you want to store in memory press a preset tuning button 1-6 and hold until the preset number stops flashing.**

The number you have pressed will flash in the preset number indicator and then remain lit. The selected radio station frequency has been stored in memory.

The next time you press the same preset tuning button **1-6** the radio station frequency is recalled from memory.



Note

Up to 12 FM stations, 6 for each of the two FM bands, and 6 MW/LW stations can be stored in memory. 

Tuner

Tuning in strong signals

Local seek tuning lets you tune in only those radio stations with sufficiently strong signals for good reception.

- 1 Press **LOCAL/BSM** to turn local seek tuning on. LOC appears in the display.
- 2 When you want to return to normal seek tuning, press **LOCAL/BSM** to turn local seek tuning off. 

Storing the strongest broadcast frequencies

BSM (best stations memory) lets you automatically store the six strongest broadcast frequencies under preset tuning buttons **1-6** and once stored there you can tune in to those frequencies with the touch of a button.

- Press **LOCAL/BSM** and hold until the **BSM** turns on. BSM begins to flash. While **BSM** is flashing the six strongest broadcast frequencies will be stored under preset tuning buttons **1-6** in order of their signal strength. When finished, **BSM** stops flashing.
 - To cancel the storage process, press **LOCAL/BSM**.

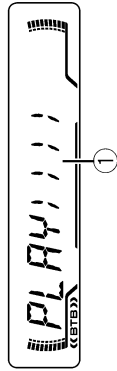


Note

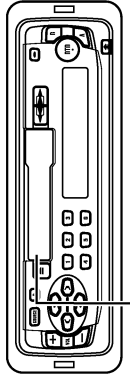
Storing broadcast frequencies with **BSM** may replace broadcast frequencies you have saved using **1-6**. 

Cassette Player

Playing a tape



- 1 **Tape direction indicator**
Shows the direction of the tape transport.
- 1 Insert a cassette tape into the cassette loading slot. Playback will automatically start.



Cassette loading slot

- You can eject a cassette tape by pressing **TAPE EJECT**.
- 2 After a cassette tape has been inserted, press **SOURCE** to select the cassette player. Press **SOURCE** until cassette player is selected as the source.
- 3 Use **VOLUME** to adjust the sound level. When you press **VOLUME** up/+, the volume is raised and when pressed down/–, the volume is lowered.
- 4 To perform fast forward or rewind, press **◀◀** or **▶▶**.
 - You can cancel fast forward or rewind by pressing **◀◀** or **▶▶** in the opposite direction lightly.
- 5 To change the direction of the tape transport, press **◀◀** and **▶▶** simultaneously.



Note

Do not insert anything other than a cassette tape into the cassette loading slot. 

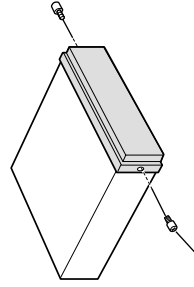
Radio intercept

Radio intercept allows you to listen to the radio during tape fast-forwarding/rewinding.

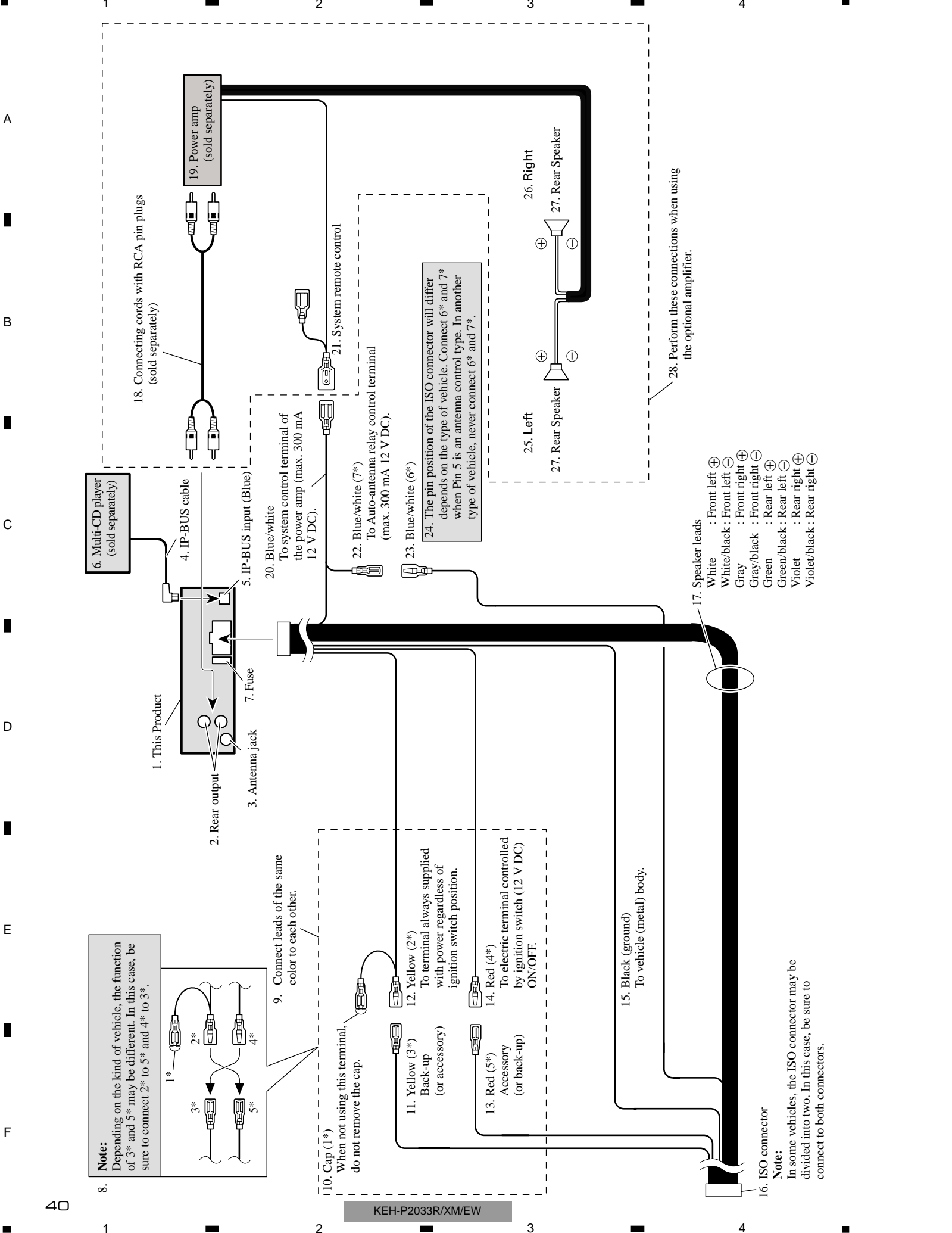
- Press **6** to turn radio intercept on or off. 

About the fixing screws for the front panel

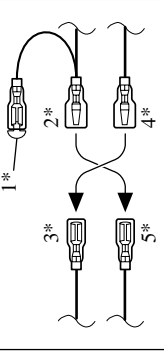
If you do not operate the Removing and Attaching the Front Panel Function, use the supplied fixing screws and fix the front panel to this unit.



Fixing screw
CBA1488



Note:
Depending on the kind of vehicle, the function of 3* and 5* may be different. In this case, be sure to connect 2* to 5* and 4* to 3*.



9. Connect leads of the same color to each other.

10. Cap (1*)
When not using this terminal, do not remove the cap.

11. Yellow (3*)
Back-up (or accessory)

12. Yellow (2*)
To terminal always supplied with power regardless of ignition switch position.

13. Red (5*)
Accessory (or back-up)

14. Red (4*)
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

15. Black (ground)
To vehicle (metal) body.

16. ISO connector
Note:
In some vehicles, the ISO connector may be divided into two. In this case, be sure to connect to both connectors.

17. Speaker leads
White : Front left ⊕
White/black : Front left ⊖
Gray : Front right ⊕
Gray/black : Front right ⊖
Green : Rear left ⊕
Green/black : Rear left ⊖
Violet : Rear right ⊕
Violet/black : Rear right ⊖

24. The pin position of the ISO connector will differ depends on the type of vehicle. Connect 6* and 7* when Pin 5 is an antenna control type. In another type of vehicle, never connect 6* and 7*.

28. Perform these connections when using the optional amplifier.