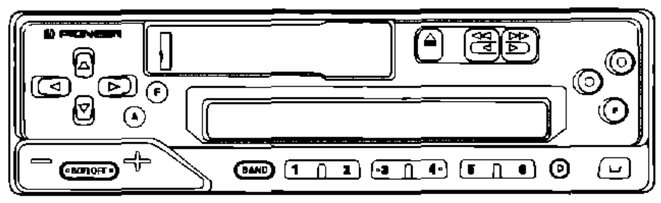
Service Manual

PIONEER®
The Art of Entertainment

• KEH-P3600/X1M/UC



ORDER NO.
CRT1952

MULTI-CD CONTROL HIGH POWER CASSETTE FM/AM TUNER

KEH-P3600 X1M/UC
KEH-P3650 X1M/ES

NOTE:

- **See the separate manual CX-644(CRT1800) for the cassette mechanism description.**
- **The cassette mechanism assy employed in this model is one of X-2M series**
- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **This model has no CD test mode. For the operations in the CD test mode, refer to the CD player's Service Manual.**

CONTENTS

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K-FFU. JAN. 1997 Printed in Japan

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should mot risk trying to do so and refer the repair to a qualified service technician.

UC model

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

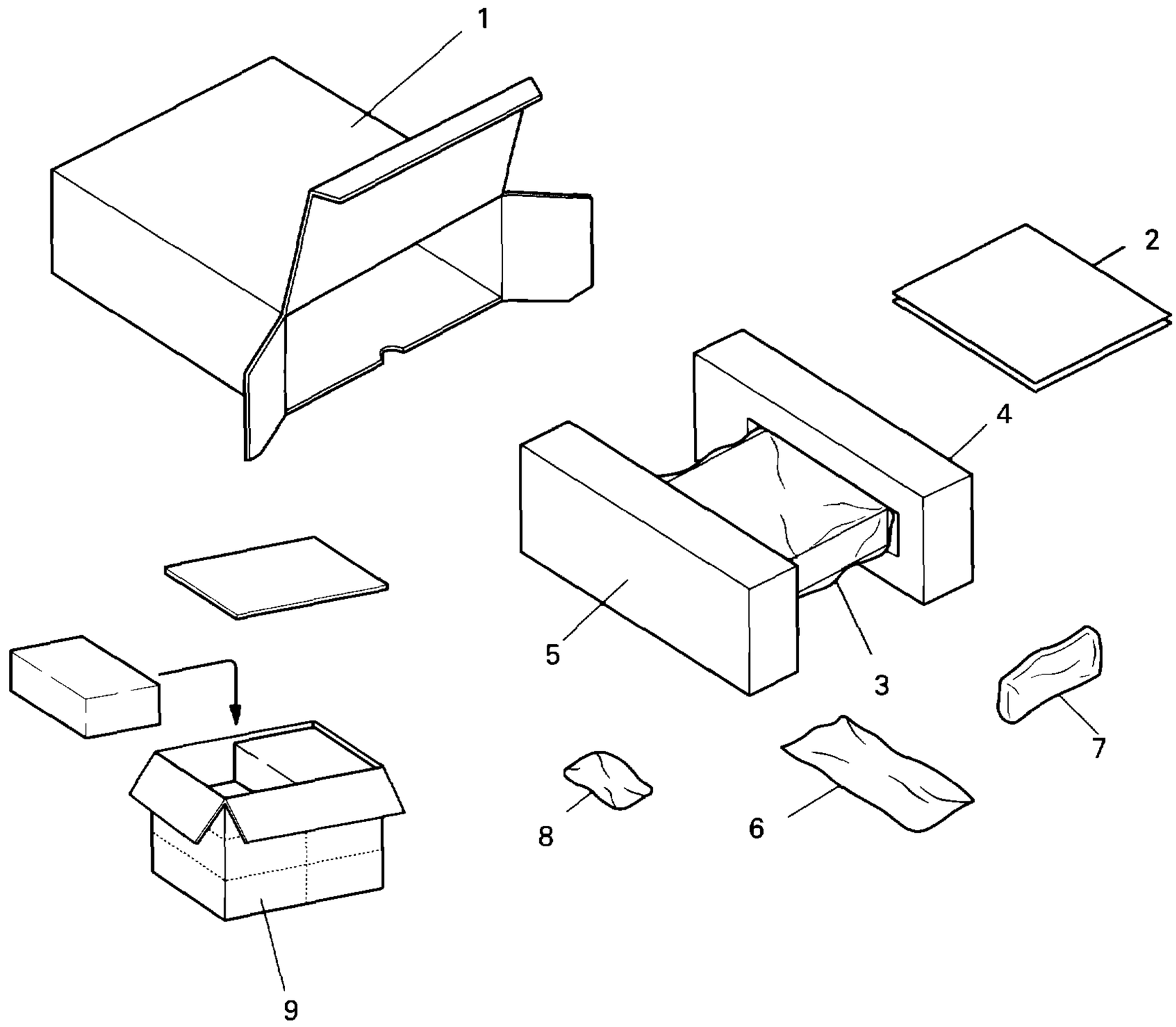


Fig. 1

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.

- **Parts List**

Mark	No.	Description	KEH-P3600/X1M/UC Part No.	KEH-P3650/X1M/ES Part No.
	1	Carton	CHG3167	CHG3168
	2-1	Owner's Manual	CRD2198	CRD2200
	2-2	Installation Manual	CRD2199	CRD2201
	2-3	Owner's Manual	•••••	CRD2283
*	2-4	Card	ARY1048	•••••
	3	Polyethylene Bag	CEG1173	CEG-162
	4	Protector	CHP1622	CHP1622
	5	Protector	CHP1623	CHP1623
	6	Cord Assy	CDE4849	CDE4849
	7	Case Assy	CXB1063	CXB1063
	8	Accessory Assy	CEA2002	CEA2002
	9	Contain Box	CHL3167	CHL3168

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-P3600/X1M/UC	CRD2198	English, French, Spanish
	CRD2199	English, French, Spanish
KEH-P3650/X1M/ES	CRD2200	English, Spanish
	CRD2283	Portuguese, Arabic
	CRD2201	English, Spanish, Portuguese, Arabic

● Accessory Assy

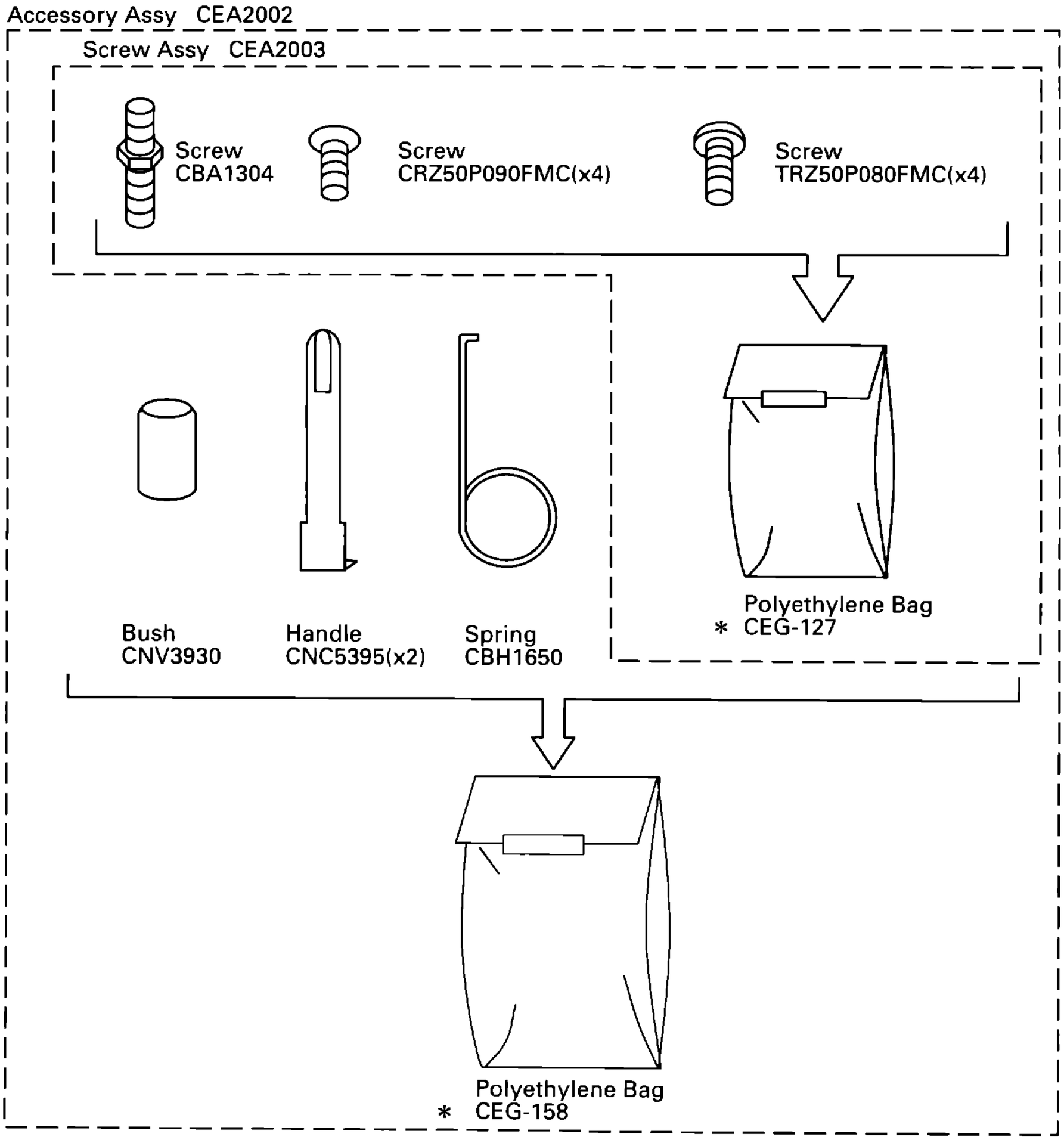


Fig. 2

2.2 EXTERIOR

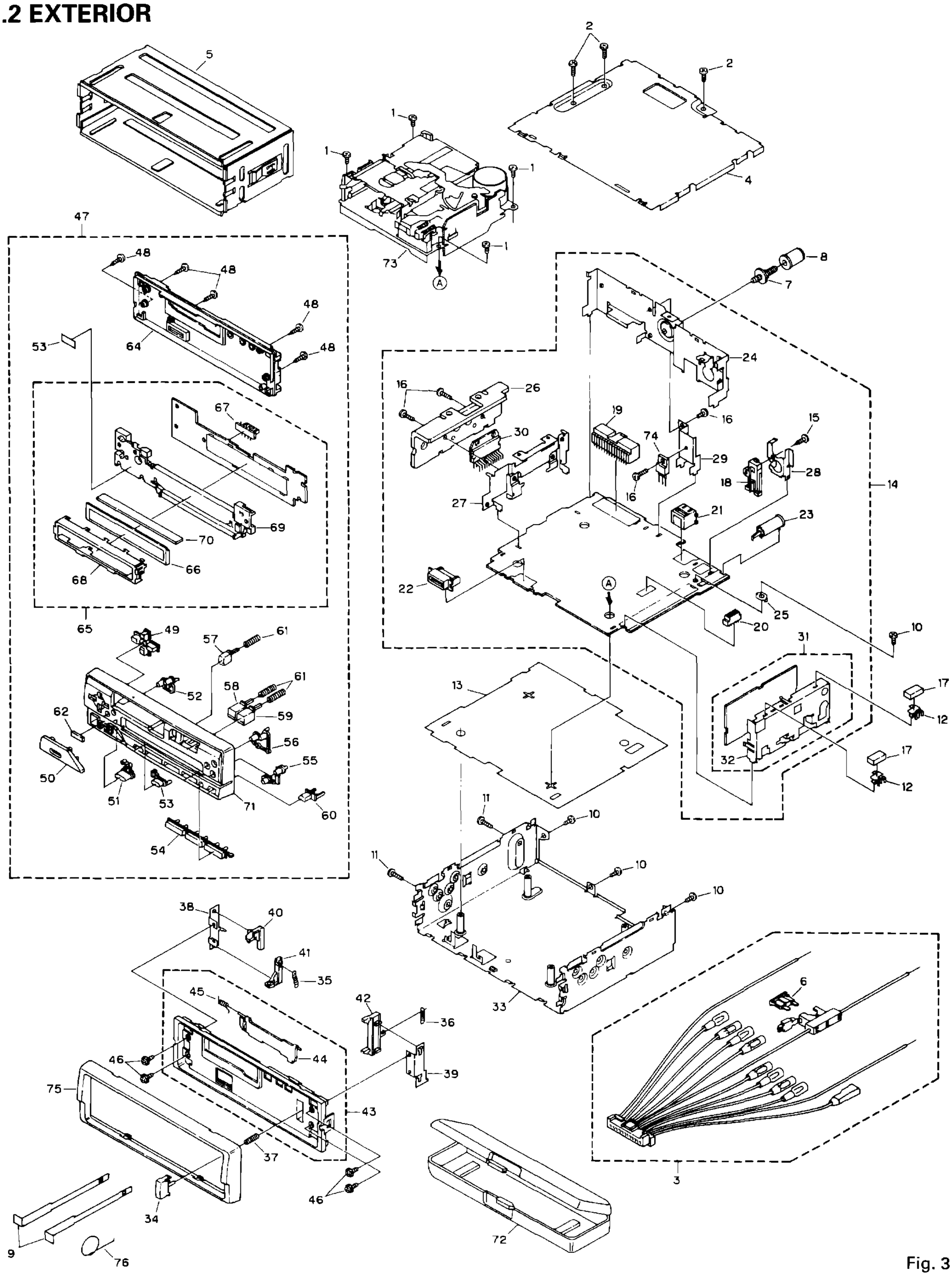


Fig. 3

● Parts List(KEH-P3600/X1M/UC)

Mark	No.	Description	Part No.
	1	Screw	BSZ26P050FMC
	2	Screw	BSZ30P100FMC
	3	Cord Assy	CDE4849
	4	Case	CNB2074
	5	Holder	CNC5394
	6	Fuse(10A)	CEK1136
	7	Screw	CBA1304
	8	Bush	CNV3930
	9	Handle	CNC5395
	10	Screw	BSZ30P060FMC
	11	Screw	BSZ30P100FMC
	12	Holder	CNC5704
	13	Insulator	CNM5025
	14	Tuner Amp Unit	CWM5175
	15	Screw	BPZ26P080FMC
	16	Screw	BSZ26P080FMC
	17	Cushion	CNM4870
	18	Pin Jack(CN401)	CKB1028
	19	Plug(CN601)	CKM1226
	20	Connector(CN604)	CKS3362
	21	Connector(CN602)	CKS3408
	22	Connector(CN603)	CKS3581
	23	Antenna Jack(CN301)	CKX1056
	24	Panel	CNB2109
	25	Holder	CNC5399
	26	Heat Sink	CNC6217
	27	Holder	CNC6372
	28	Holder	CNC6531
	29	Holder	CNC6845
	30	IC(IC501)	HA13155
	31	FM/AM Tuner Unit	CWE1417
	32	Holder	CNC6555
	33	Chassis Unit	CXA9851
	34	Button	CAC4836
	35	Spring	CBH1834
	36	Spring	CBH1835
	37	Spring	CBH1933
	38	Bracket	CNC6135
	39	Bracket	CNC6791
	40	Arm	CNV4692
	41	Arm	CNV4693
	42	Arm	CNV4728
	43	Panel Unit	CXA9861
	44	Door	CAT1836
	45	Spring	CBH1838
	46	Screw	IMS20P030FZK
	47	Detach Grille Assy	CXA9990
	48	Screw	BPZ20P120FZK
	49	Button	CAC4859
	50	Button(-,+)	CAC4860
	51	Button(SOURCE)	CAC4861
	52	Button(F,A)	CAC4862
	53	Button(BAND)	CAC4863
	54	Button(1-6)	CAC4864
	55	Button	CAC4865
	56	Button	CAC4866
	57	Button(⏏)	CAC4867
	58	Button(⏮)	CAC4868
	59	Button(⏭)	CAC4869
	60	Button(⌂)	CAC4870
	61	Spring	CBH1836
	62	Cushion	CNM5156
	63	Cushion	CNM5271
	64	Cover	CNS4180
	65	Key Board Unit	CWM5185
	66	LCD(LCD901)	CAW1387
	67	Connector(CN901)	CKS3580
	68	Holder	CNC6831
	69	Lighting Conductor	CNV4753
	70	Connector	CNV4754
	71	Grille Unit	CXA9844
	72	Case Assy	CXB1063
	73	Cassette Mechanism Assy	EXK3475
	74	Transistor(Q801)	2SD2037
	75	Panel	CNS4200
	76	Spring	CBH1650

● Parts List(KEH-P3650/X1M/ES)

Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC
2	Screw	BSZ30P100FMC
3	Cord Assy	CDE4849
4	Case	CNB2074
5	Holder	CNC5394
6	Fuse(10A)	CEK1136
7	Screw	CBA1304
8	Bush	CNV3930
9	Handle	CNC5395
10	Screw	BSZ30P060FMC
11	Screw	BSZ30P100FMC
12	Holder	CNC5704
13	Insulator	CNM5025
14	Tuner Amp Unit	CWM5176
15	Screw	BPZ26P080FMC
16	Screw	BSZ26P080FMC
17	Cushion	CNM4870
18	Pin Jack(CN401)	CKB1028
19	Plug(CN601)	CKM1226
20	Connector(CN604)	CKS3362
21	Connector(CN602)	CKS3408
22	Connector(CN603)	CKS3581
23	Antenna Jack(CN301)	CKX1056
24	Panel	CNB2109
25	Holder	CNC5399
26	Heat Sink	CNC6217
27	Holder	CNC6372
28	Holder	CNC6531
29	Holder	CNC6845
30	IC(IC501)	HA13155
31	FM/AM Tuner Unit	CWE1485
32	Holder	CNC6555
33	Chassis Unit	CXA9851
34	Button	CAC4836
35	Spring	CBH1834
36	Spring	CBH1835
37	Spring	CBH1933
38	Bracket	CNC6135
39	Bracket	CNC6791
40	Arm	CNV4692
41	Arm	CNV4693
42	Arm	CNV4728
43	Panel Unit	CXA9861
44	Door	CAT1836
45	Spring	CBH1838
46	Screw	IMS20P030FZK
47	Detach Grille Assy	CXA9991
48	Screw	BPZ20P120FZK
49	Button	CAC4859
50	Button(-,+)	CAC4860
51	Button(SOURCE)	CAC4861
52	Button(F,A)	CAC4862
53	Button(BAND)	CAC4863
54	Button(1-6)	CAC4864
55	Button	CAC4865
56	Button	CAC4866
57	Button(⏏)	CAC4867
58	Button(⏪)	CAC4868
59	Button(⏩)	CAC4869
60	Button(⌂)	CAC4870
61	Spring	CBH1836
62	Cushion	CNM5156
63	Cushion	CNM5271
64	Cover	CNS4180
65	Key Board Unit	CWM5186
66	LCD(LCD901)	CAW1387
67	Connector(CN901)	CKS3580
68	Holder	CNC6831
69	Lighting Conductor	CNV4753
70	Connector	CNV4754
71	Grille Unit	CXA9845
72	Case Assy	CXB1063
73	Cassette Mechanism Assy	EXK3475
74	Transistor(Q801)	2SD2037
75	Panel	CNS4200
76	Spring	CBH1650

2.3 CASSETTE MECHANISM ASSY

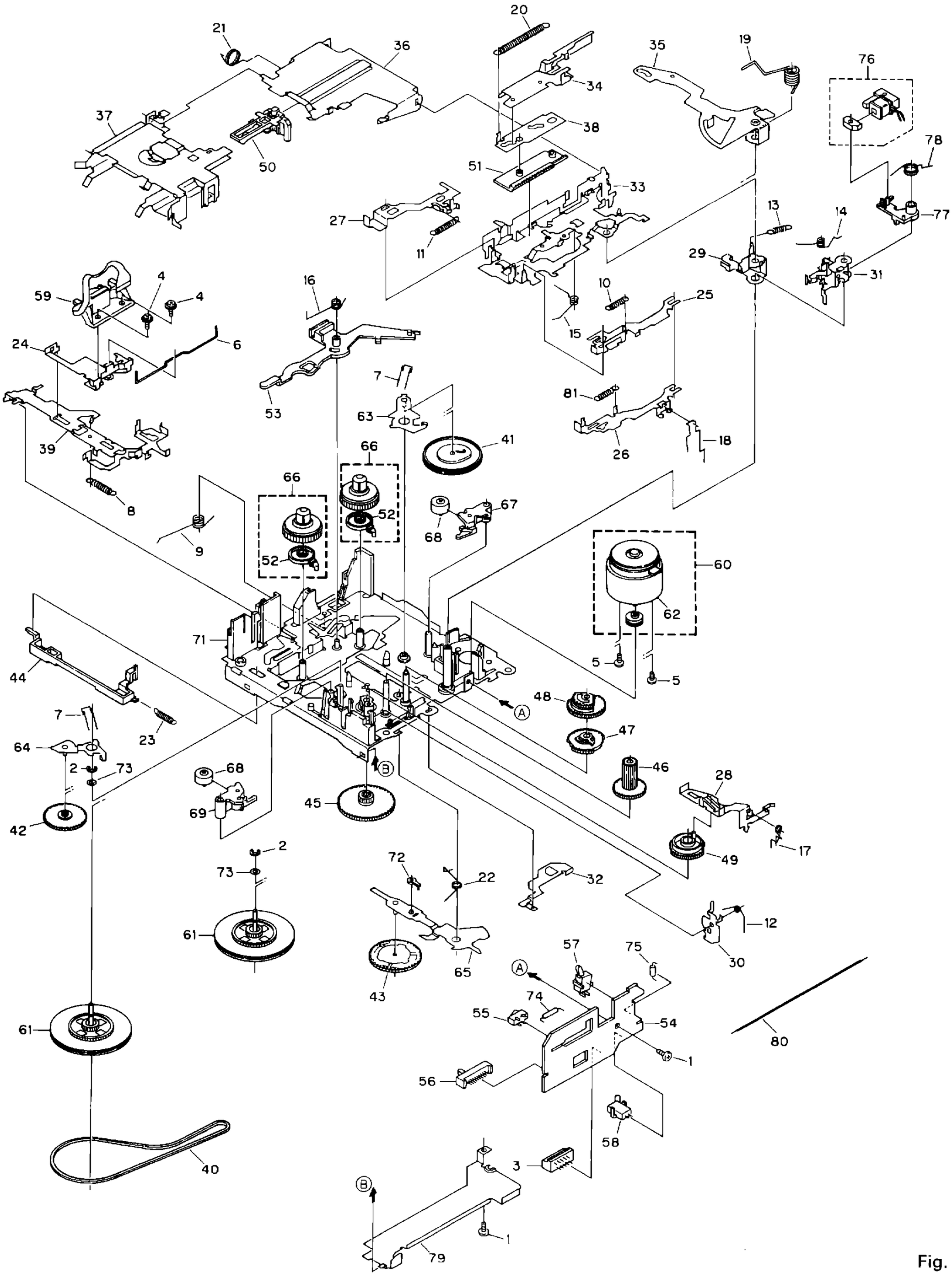


Fig. 4

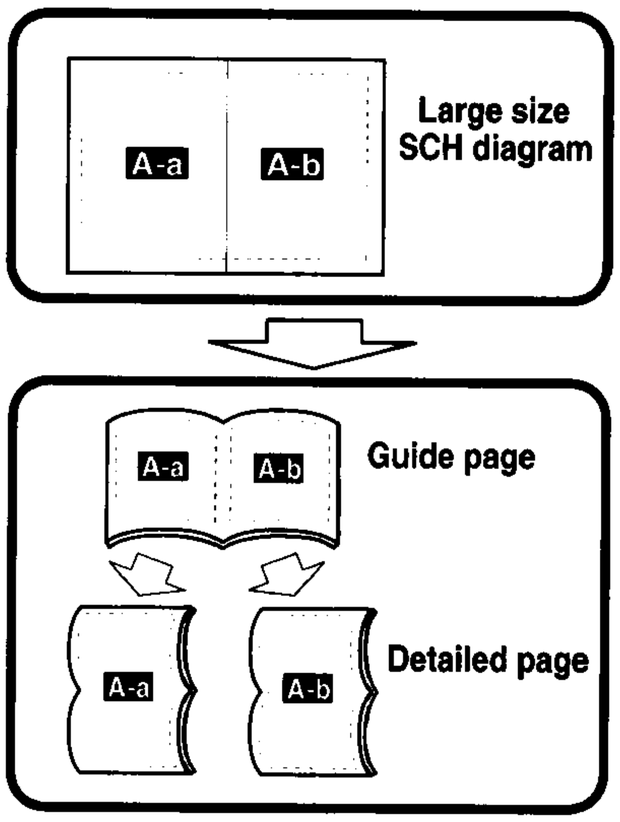
● Parts List

Mark	No.	Description	Part No.
	1	Screw	BSZ23P050FMC
	2	Washer	CBG1003
	3	Connector(CN1)	CKS2829
	4	Screw(M2x5)	EBA1028
	5	Screw(M2x2.5)	EBA1037
	6	Spring	EBH1554
	7	Spring	EBH1555
	8	Spring	EBH1556
	9	Spring	EBH1557
	10	Spring	EBH1591
	11	Spring	EBH1559
	12	Spring	EBH1593
	13	Spring	EBH1561
	14	Spring	EBH1562
	15	Spring	EBH1563
	16	Spring	EBH1590
	17	Spring	EBH1565
	18	Spring	EBH1566
	19	Spring	EBH1567
	20	Spring	EBH1568
	21	Spring	EBH1569
	22	Spring	EBH1571
	23	Spring	EBH1579
	24	Head Base	ENC1457
	25	Lever	ENC1429
	26	Lever	ENC1430
	27	Lever	ENC1431
	28	Lever	ENC1432
	29	Arm	ENC1433
	30	Arm	ENC1434
	31	Arm	ENC1435
	32	Arm	ENC1476
	33	Bracket	ENC1437
	34	Lever	ENC1438
	35	Arm	ENC1439
	36	Frame	ENC1440
	37	Holder	ENC1441
	38	Lever	ENC1446
	39	Lever	ENC1454
	40	Belt	ENT1027
	41	Gear	ENV1504
	42	Gear	ENV1470
	43	Gear	ENV1471
	44	Lever	ENV1472
	45	Gear	ENV1474
	46	Gear	ENV1475
	47	Gear	ENV1493
	48	Gear	ENV1477
	49	Gear	ENV1499
	50	Lever	ENV1480
	51	Lever	ENV1487
	52	Arm	ENV1464
	53	Arm	ENV1489
*	54	P.C.Board	ENP1148
	55	Switch(Eject)(S4)	ESG1002
	56	Switch(FWD)(REV)(S3)	ESH1006
	57	Switch(Load)(S1)	ESN1016
	58	Switch(Mute)(S2)	ESN1017
	59	Head Assy(HD1)	EXA1466
	60	Motor Unit	EXA1502
	61	Flywheel Unit	EXA1505
	62	Motor	EXM1028
	63	Arm Unit	EXA1447
	64	Arm Unit	EXA1448
	65	Arm Unit	EXA1449
	66	Reel Unit	EXA1450
	67	Pinch Holder	ENV1466
	68	Pinch Roller	ENV1514
	69	Pinch Holder	ENV1467
	70	•••••	
	71	Chassis Unit	EXA1465
	72	Service Arm	EXX1048
	73	Washer	HBF-179
	74	Resistor(R1)	RD1/4HM472J
	75	Diode(D1)	F1SR35-100A
	76	Solenoid(SO1)	EXP1012
	77	Arm	ENV1491
	78	Spring	EBH1582
	79	Cover	ENC1452
	80	Cord	EDC1006
	81	Spring	EBH1592

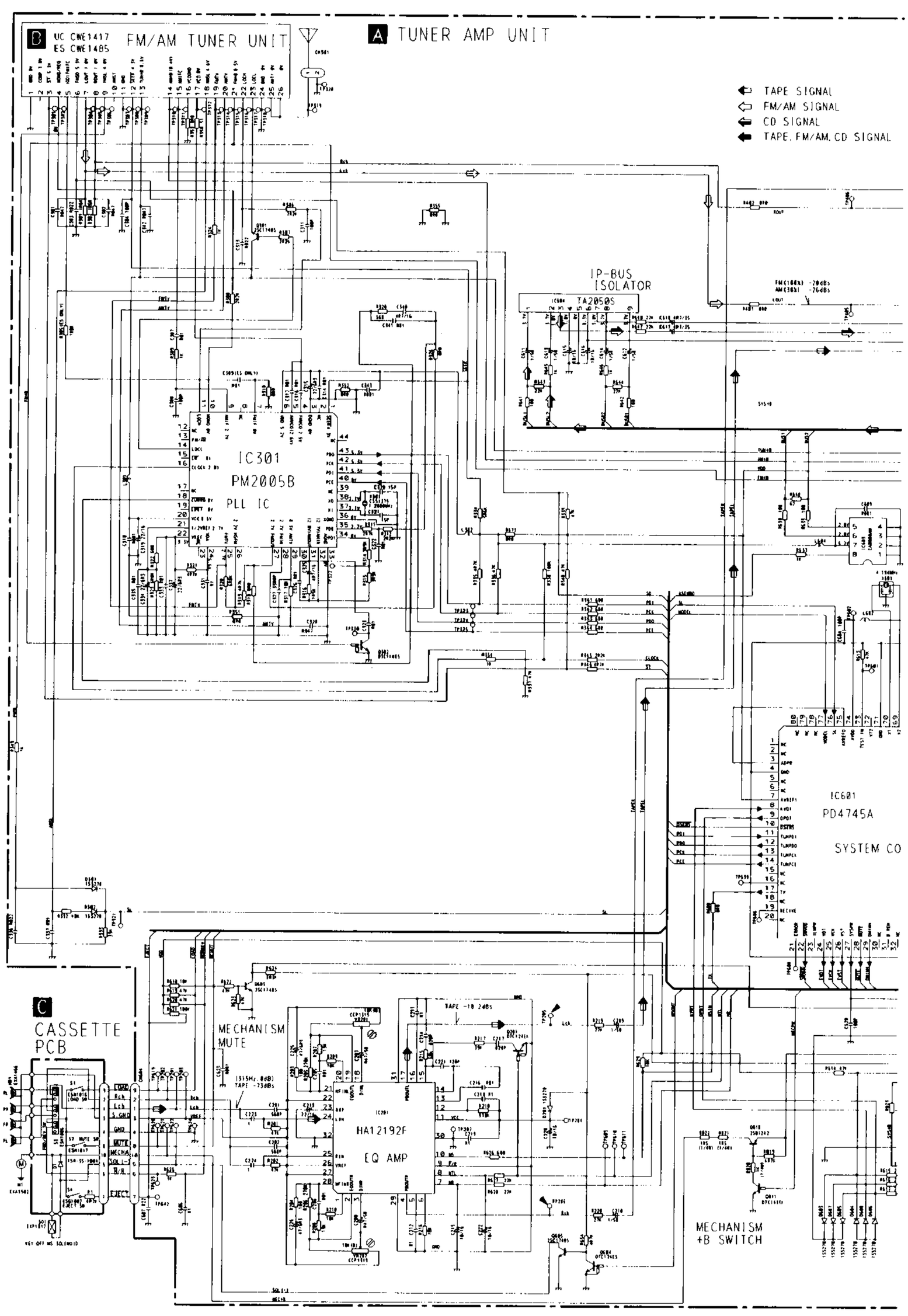
3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM (GUIDE PAGE)

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



A-a



AC

A-b

NOTE

⇨ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

⊣⊢ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

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

The ⚠ 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.

MODELS
UC KEH-P3600/XYM/UC
ES KEH-P3650/XYM/ES

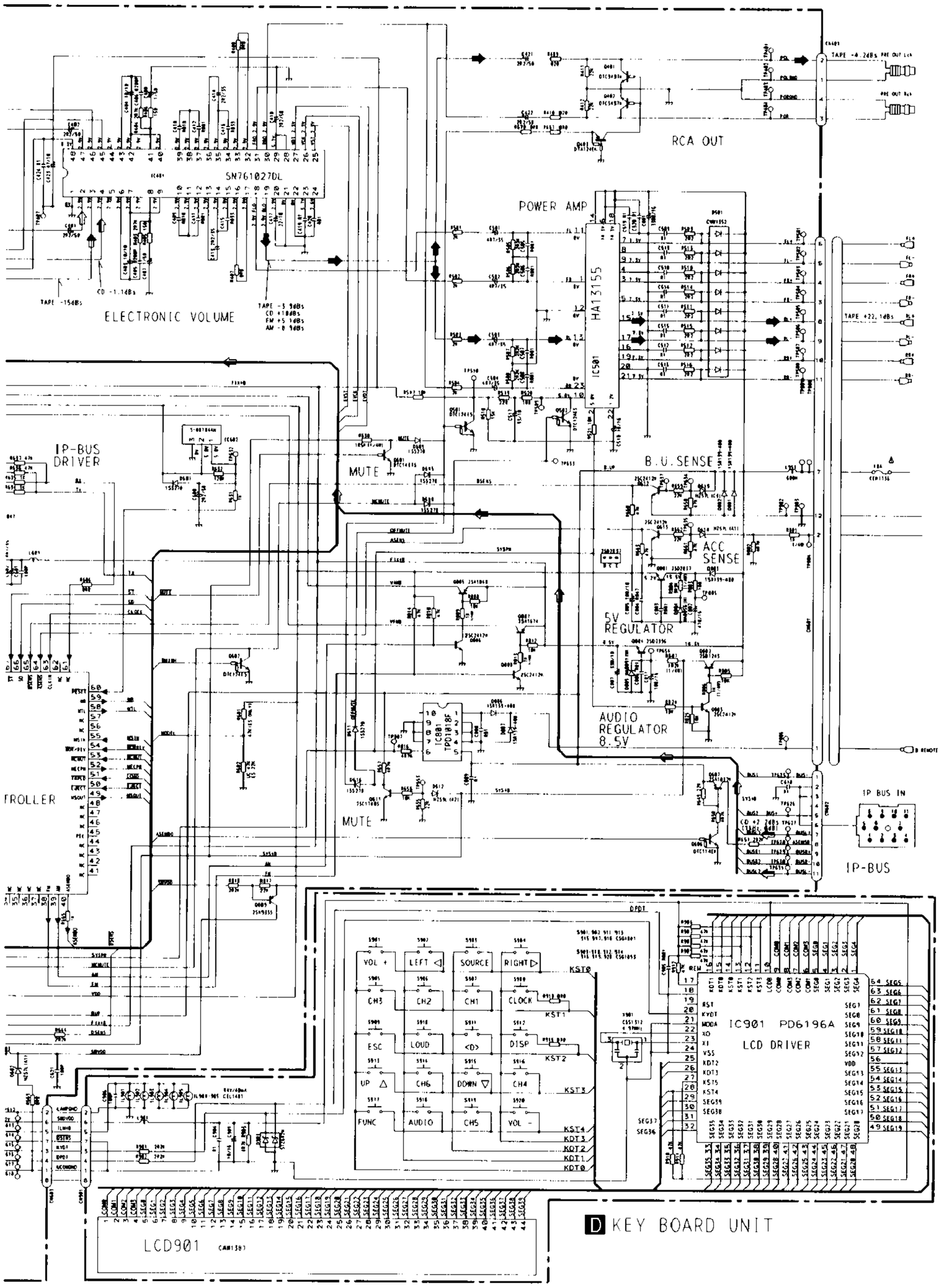


Fig. 5

A-b

A-a

TAPE SIGNAL
FM/AM SIGNAL
CD SIGNAL
TAPE, FM/AM, CD SIGNAL

A TUNER AMP UNIT

B UC CWE1417
ES CWE1485
FM/AM TUNER UNIT

IC301 PM2005B PLL IC

IP-BUS ISOLATOR IC604 TA2050S

IC603 CA0008AM

A-a

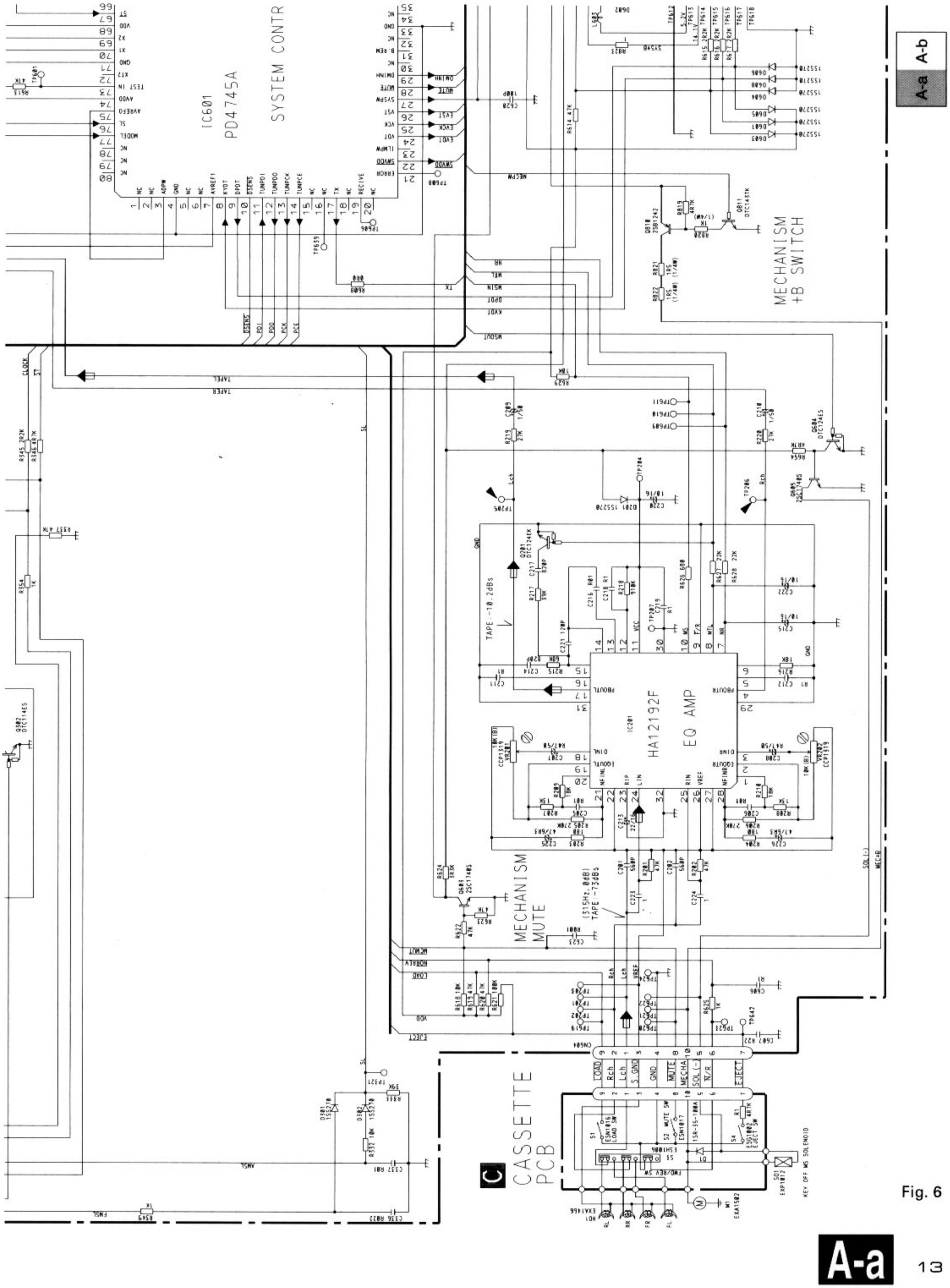

A-a
A-b
IC601
PD4745A
SYSTEM CONTR
MECHANISM
+B SWITCH
IC201
HA12192F
EQ AMP
MECHANISM
MUTE
CASSETTE
PCB
TAPE:-10.2dBs
(315Hz,0dB)
TAPE:-73dBs
LOAD
Rch
Lch
S.GND
GND
MUTE
MECHA
SOL(-)
N/R
EJECT
KEY OFF MS SOLENOID

Fig. 6

A-a A-b

MODELS
UC:KEH-P3600/X1M/UC
ES:KEH-P3650/X1M/ES

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

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

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.

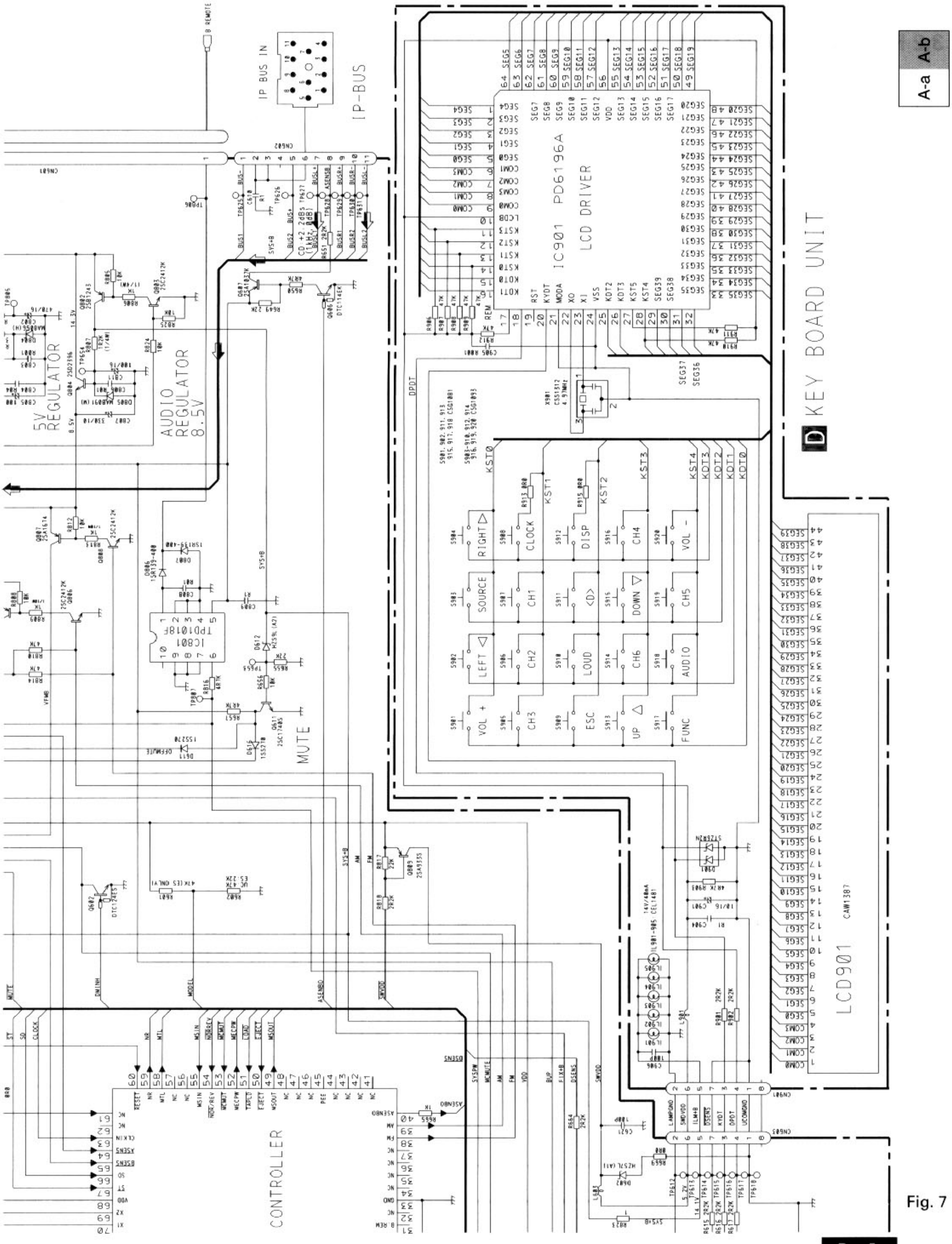
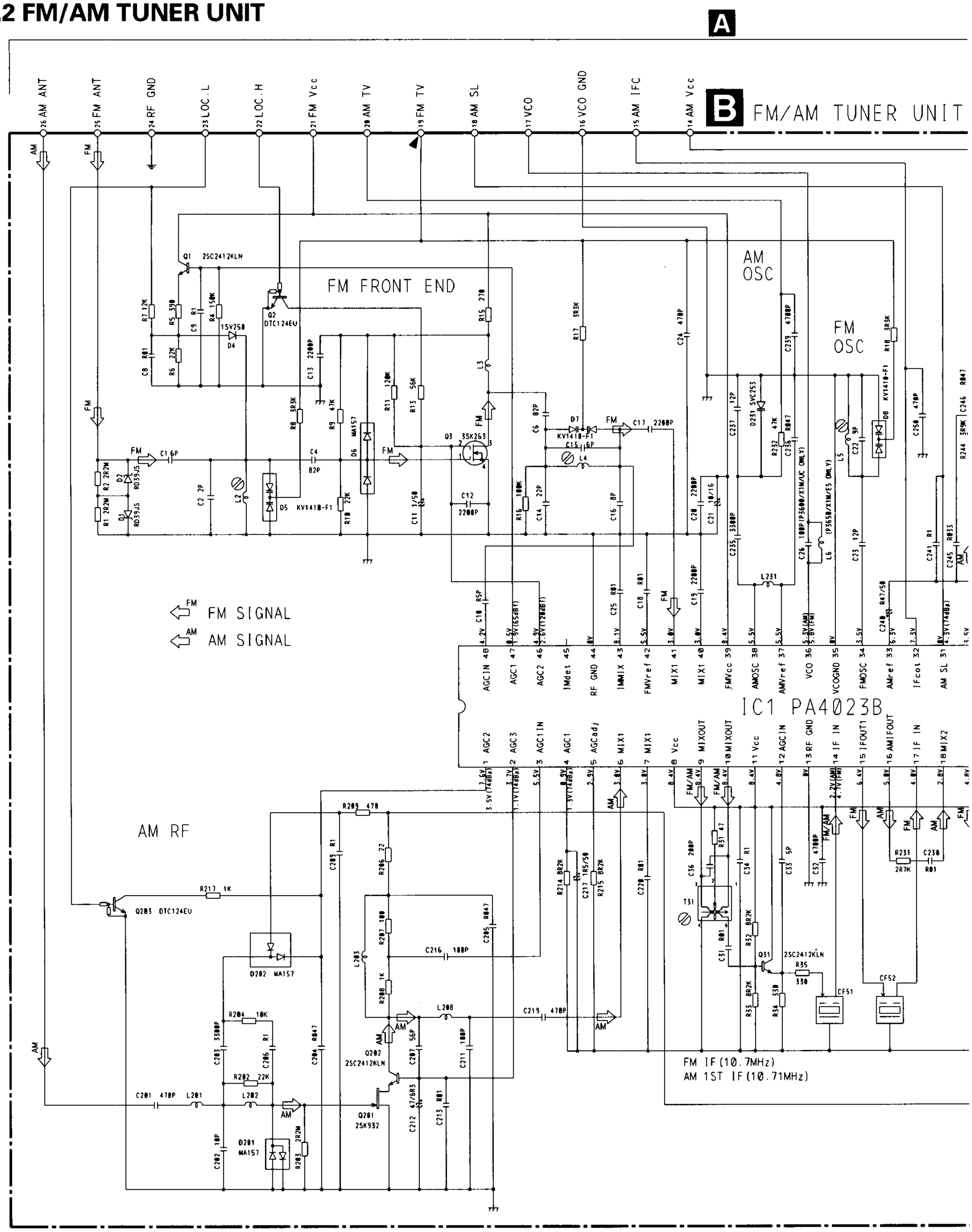

IP BUS IN
IP-BUS
B REMOTE
CN602
CN601
5V REGULATOR
AUDIO REGULATOR 8.5V
MUTE
CONTROLLER
IC801 TPD1018F
IC901 PD6196A
LCD DRIVER
KEY BOARD UNIT
LCD901
CAW1387
RIGHT
CLOCK
DISP
CH4
VOL -
SOURCE
CH1
<D>
DOWN
CH5
LEFT
CH2
LOUD
CH6
AUDIO
VOL +
CH3
ESC
UP
FUNC
KST0
KST1
KST2
KST3
KST4
KDT0
KDT1
KDT2
KDT3
DPDT
X901 CSS1312 4.91MHz
S901. 902. 911. 913 915. 917. 918 CSG1001
S903-910. 912. 914 916. 919. 920 CSG1093
CN603
CN901

Fig. 7

3.2 FM/AM TUNER UNIT



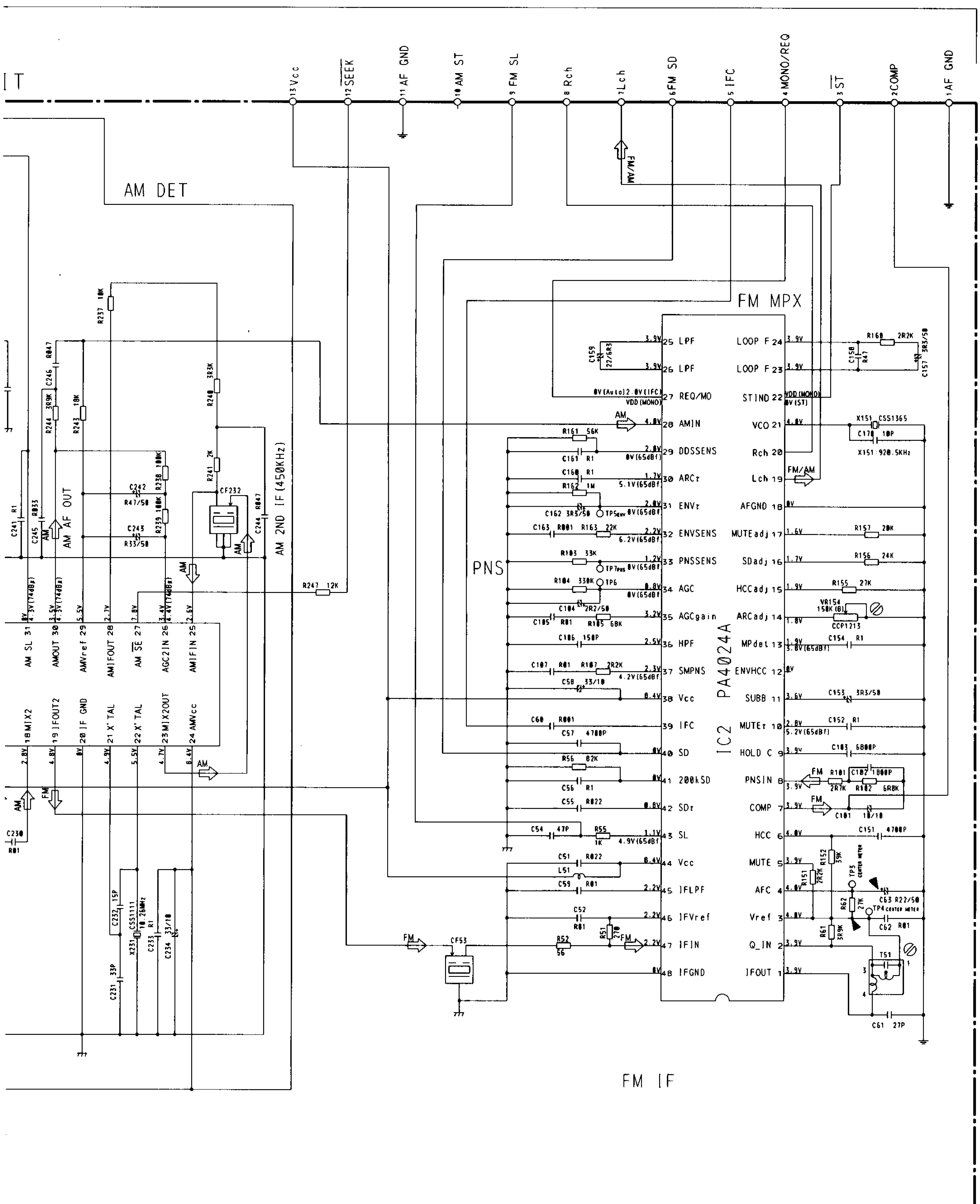

AM DET
AM AF OUT
AM 2ND IF (450KHz)
PNS
FM MPX
IC2 PA4024A
FM IF
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND

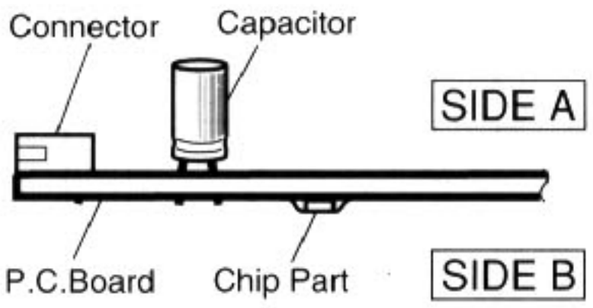
Fig. 8

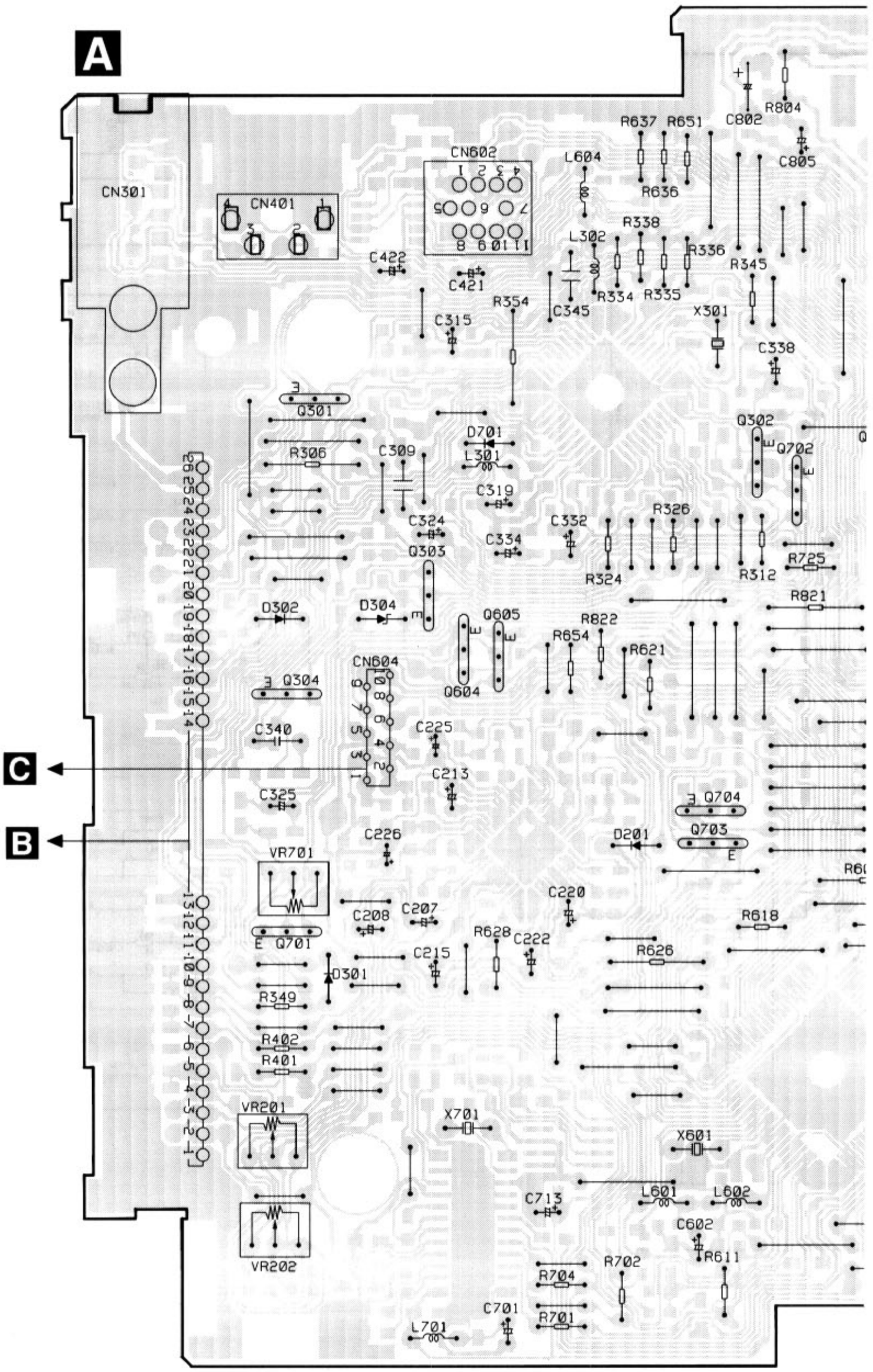
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

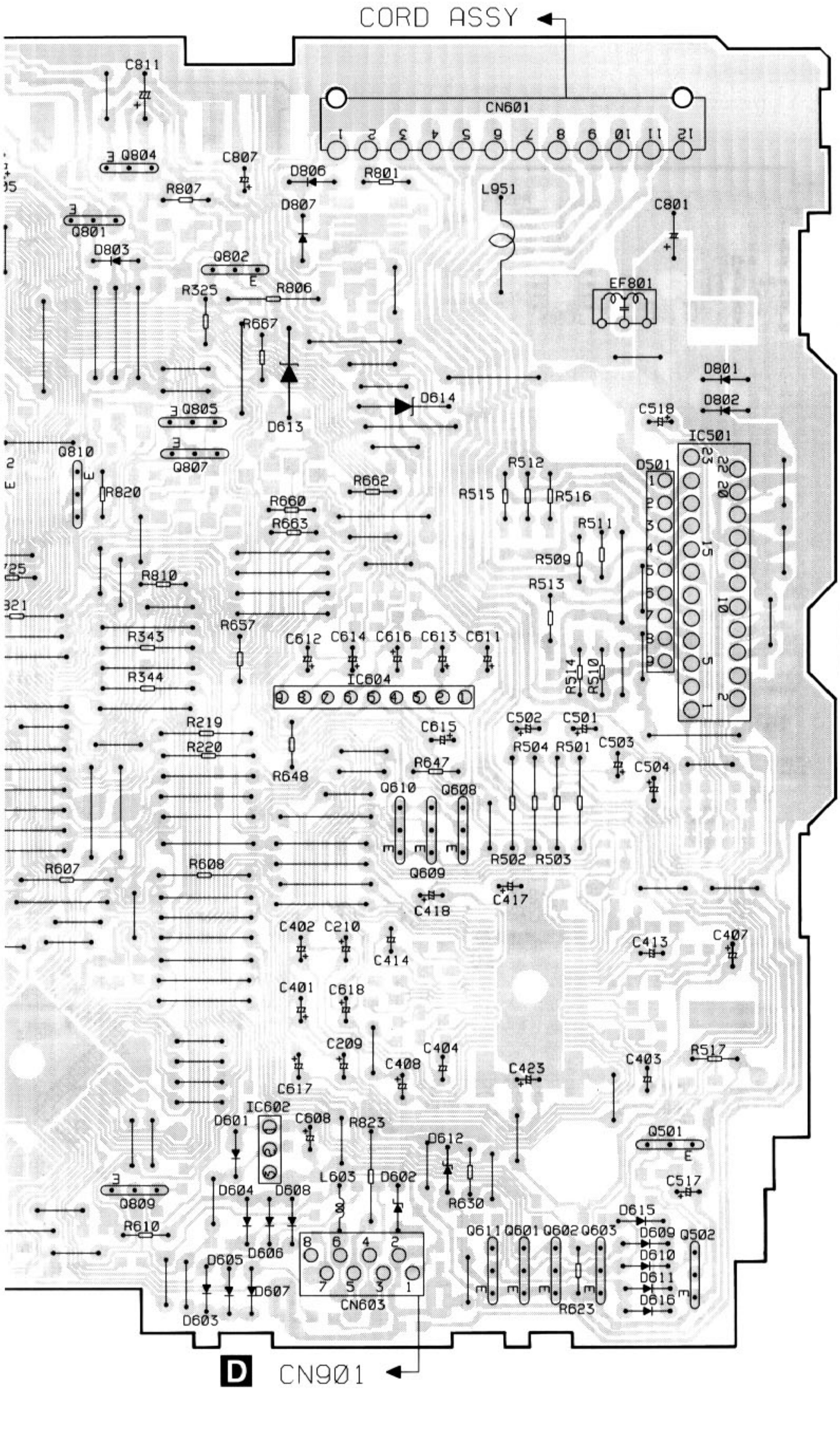
NOTE FOR PCB DIAGRAMS

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





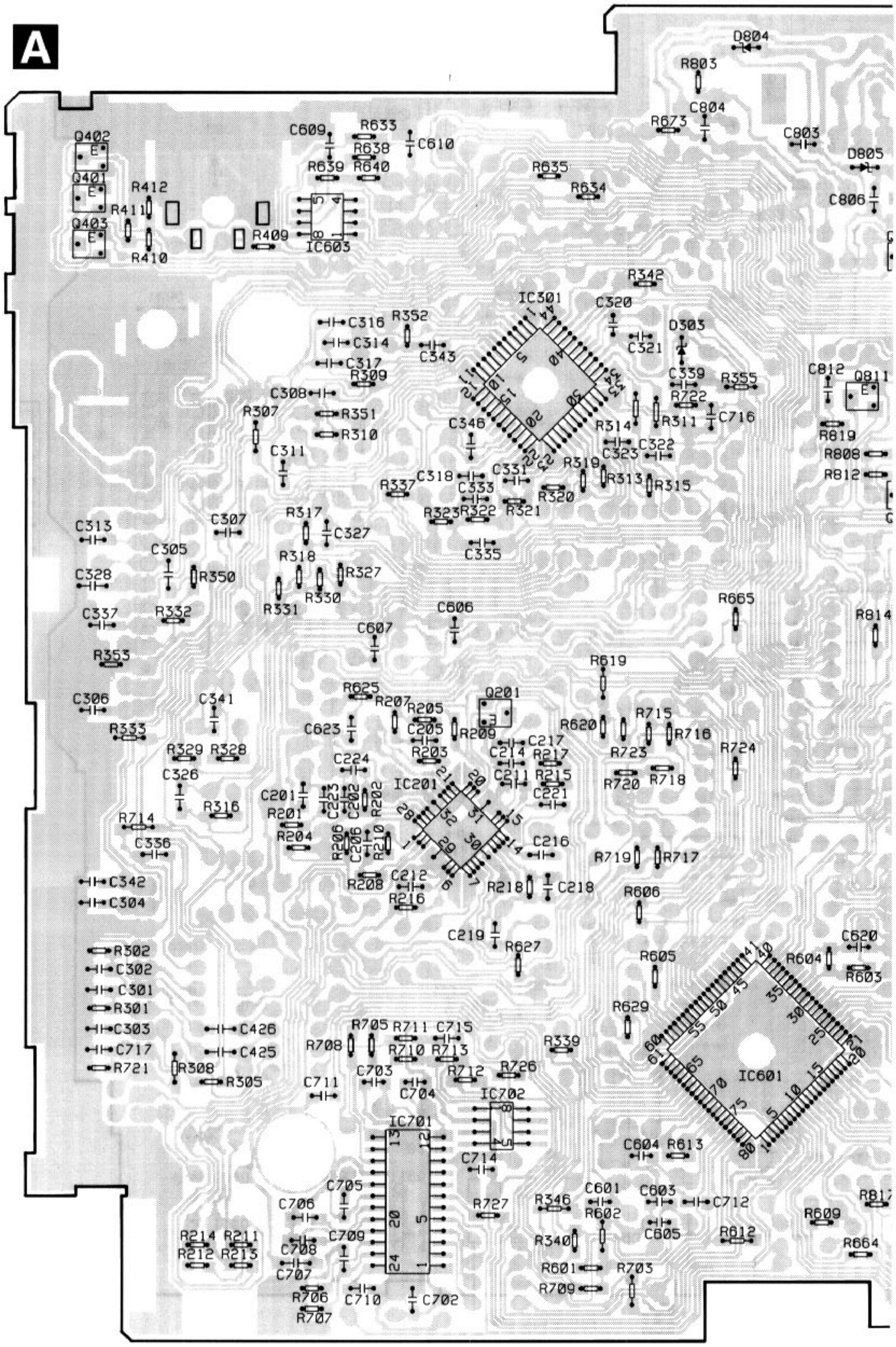
SIDE A



ADJ	IC, Q
	Q804
	Q801
	Q802
	Q301 Q805
	Q302 Q810 Q702 Q807
	Q303
	Q605
	Q304 IC604 Q604
	Q610 Q608 Q704 Q703
VR701	Q609
	Q701
VR201	IC602 Q501
	Q809
VR202	Q611 Q603 Q602 Q601 Q502

Fig. 9

A


D804
R803
C804
R673
C803
D805
C806
R635
R634
R633
C609
R638
C610
R639
R640
Q402
Q401
Q403
R412
R411
R410
R409
IC603
R342
IC301
C320
D303
C321
C316
R352
C314
C343
C317
R309
C339
R355
C812
Q811
R722
C716
C308
R307
R351
R310
C346
R314
R311
C322
C323
R819
R808
R812
C311
C318
C331
R319
R313
R315
R337
C333
R320
R323
R322
R321
C335
C313
C307
R317
C327
C305
R318
R327
C328
R350
R330
R331
C337
R332
C606
R665
R814
C607
R353
R619
R625
R207
R205
Q201
C623
C205
R209
C217
R715
R716
R620
R723
R724
R203
C214
R217
C224
C211
R215
R720
R718
C326
IC201
C221
C201
R316
R202
R201
R204
R714
C336
C216
R719
R717
C342
C304
R208
C212
R216
R218
C218
R606
C219
R627
R302
C302
C301
R301
C303
C717
R721
C426
C425
R308
R305
R605
R604
C620
R603
R629
R705
R711
C715
R708
R710
R713
R339
C703
R712
R726
C711
C704
IC702
IC601
IC701
C714
C604
R613
C705
C706
R727
R346
C601
C603
C712
R817
R609
R602
C605
R612
R664
R214
R211
R212
R213
C709
C708
C707
R340
R601
R703
R709
R706
R707
C710
C702

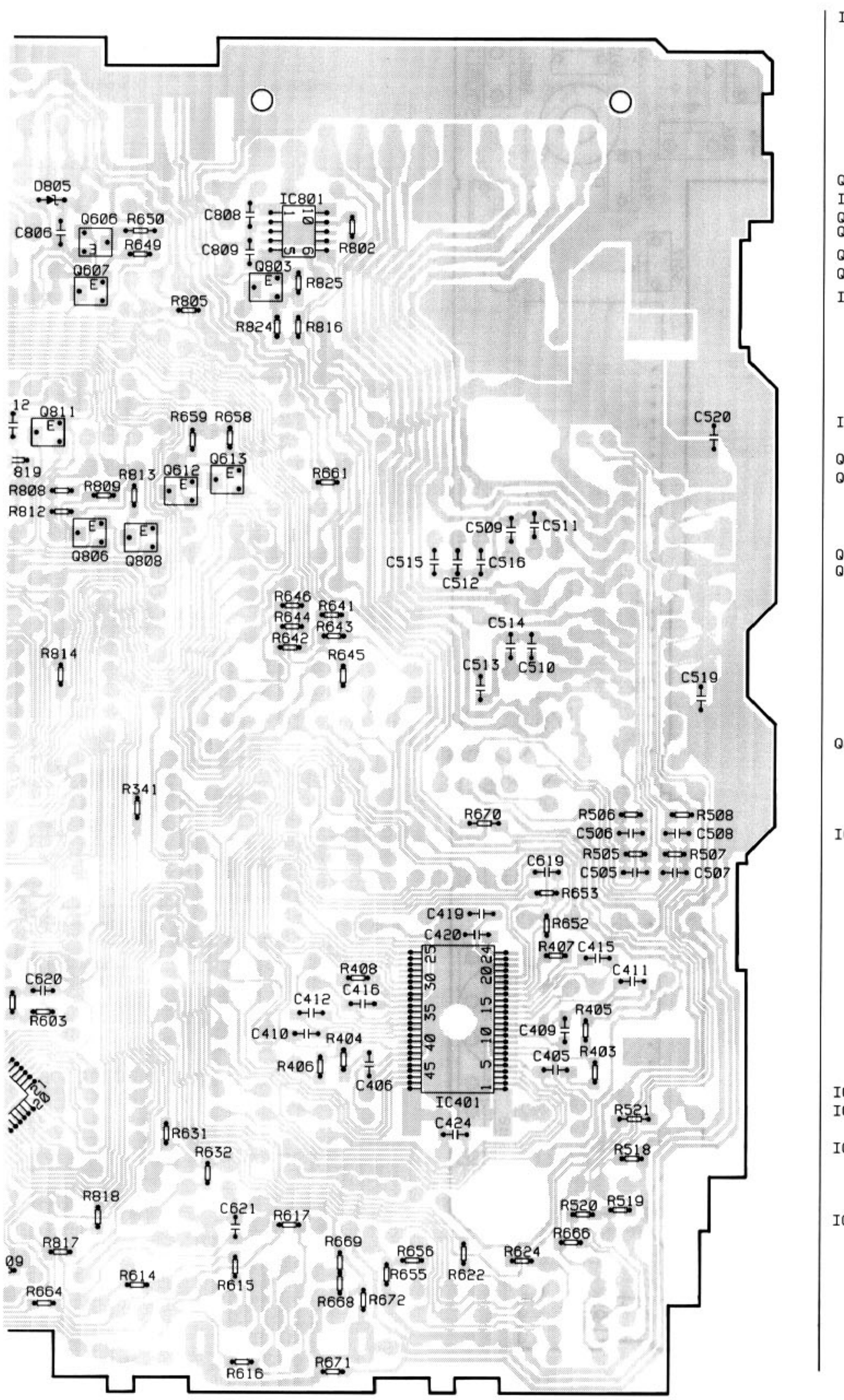

SIDE B
IC, Q
Q402
IC801
Q606
Q401
Q403
Q607 Q803
IC603
IC301 Q811
Q613 IC501
Q612
Q806
Q808
Q201
IC201
IC601
IC401
IC702
IC701
D805
C806
Q606
R650
R649
Q607
C808
C809
IC801
R802
Q803
R825
R805
R824
R816
12
Q811
819
R808
R809
R813
Q612
Q613
R659
R658
R661
R812
Q806
Q808
C509
C511
C515
C512
C516
C520
R646
R644
R642
R641
R643
R645
R814
C514
C513
C510
C519
R341
R670
R506
R508
C506
C508
R505
R507
C505
C507
C619
R653
C419
C420
R652
R407
C415
C411
R408
C416
C412
C410
R404
R406
C406
R405
C409
R403
C405
IC401
C424
R521
R518
C620
R603
R631
R632
R818
C621
R617
R520
R519
R666
R817
R669
R656
R624
R655
R622
R614
R615
R664
R668
R672
R616
R671

Fig. 10

4.2 KEY BOARD UNIT

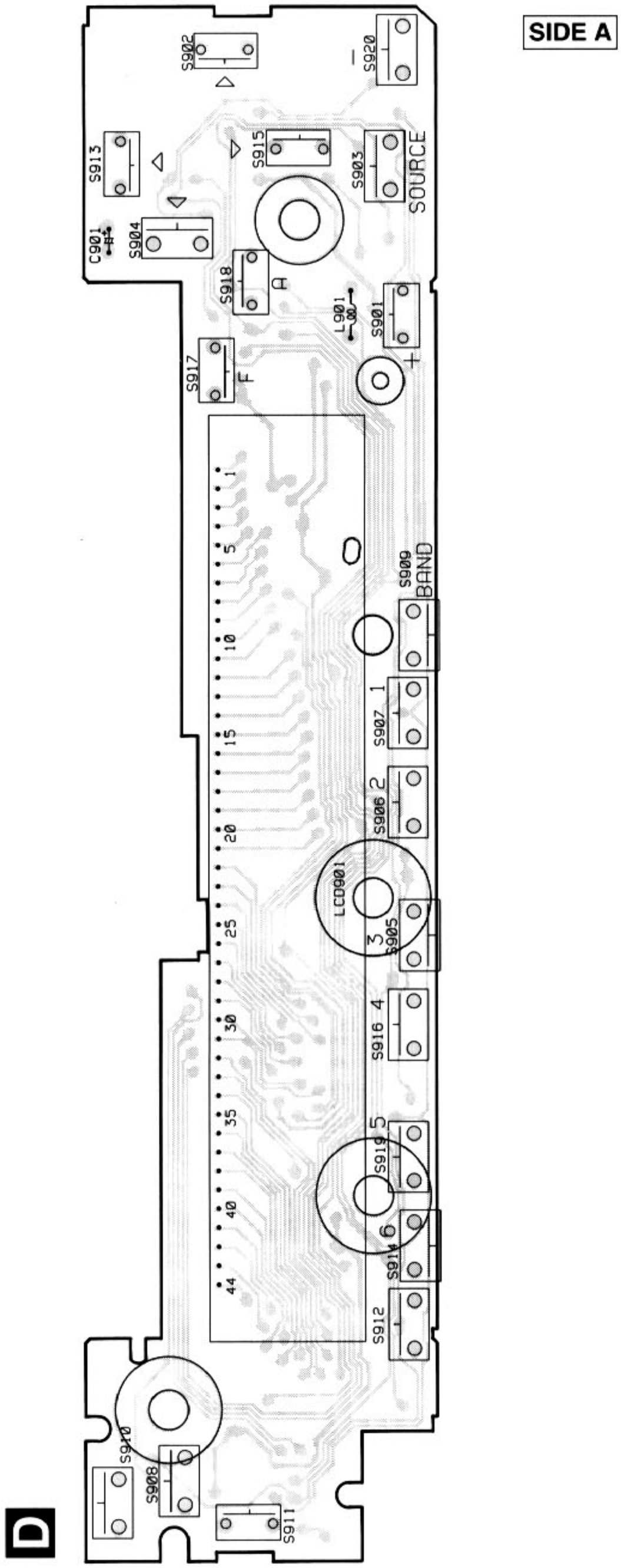


Fig. 11

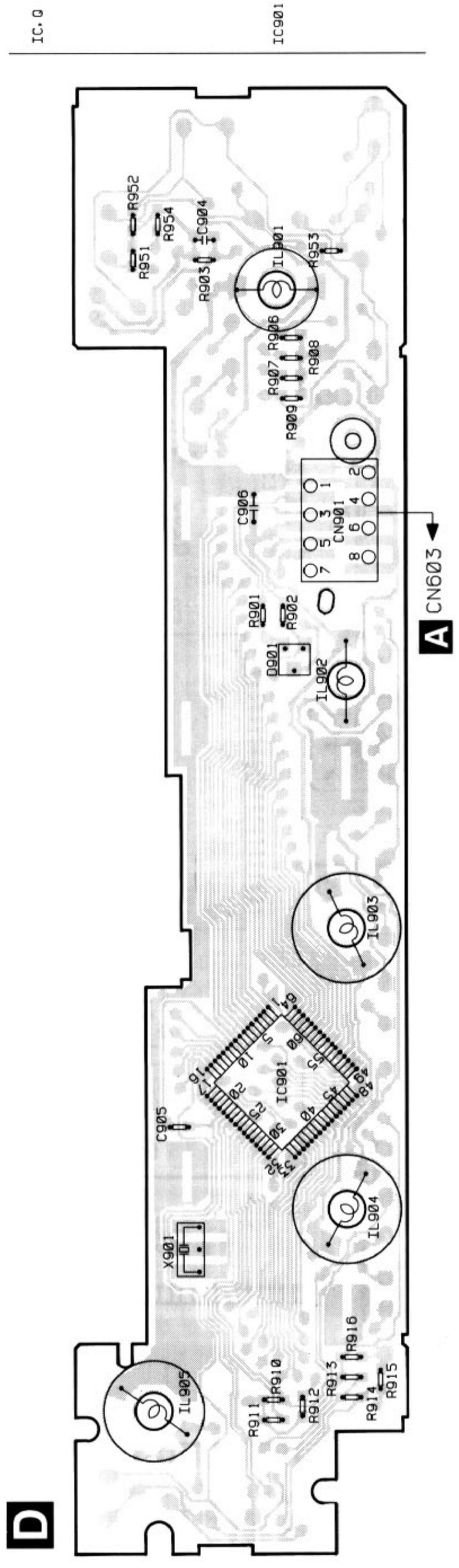

IC.0
IC901
SIDE B
R952
R954
R951
IC904
R903
IL901
R953
R906
R907
R908
R909
C906
CN901
1
2
3
4
5
6
7
8
R901
R902
D901
IL902
A
CN603
C905
IC901
X901
IL903
IL904
IL905
R910
R911
R912
R913
R914
R915
R916
D

Fig. 12

4.3 FM/AM TUNER UNIT

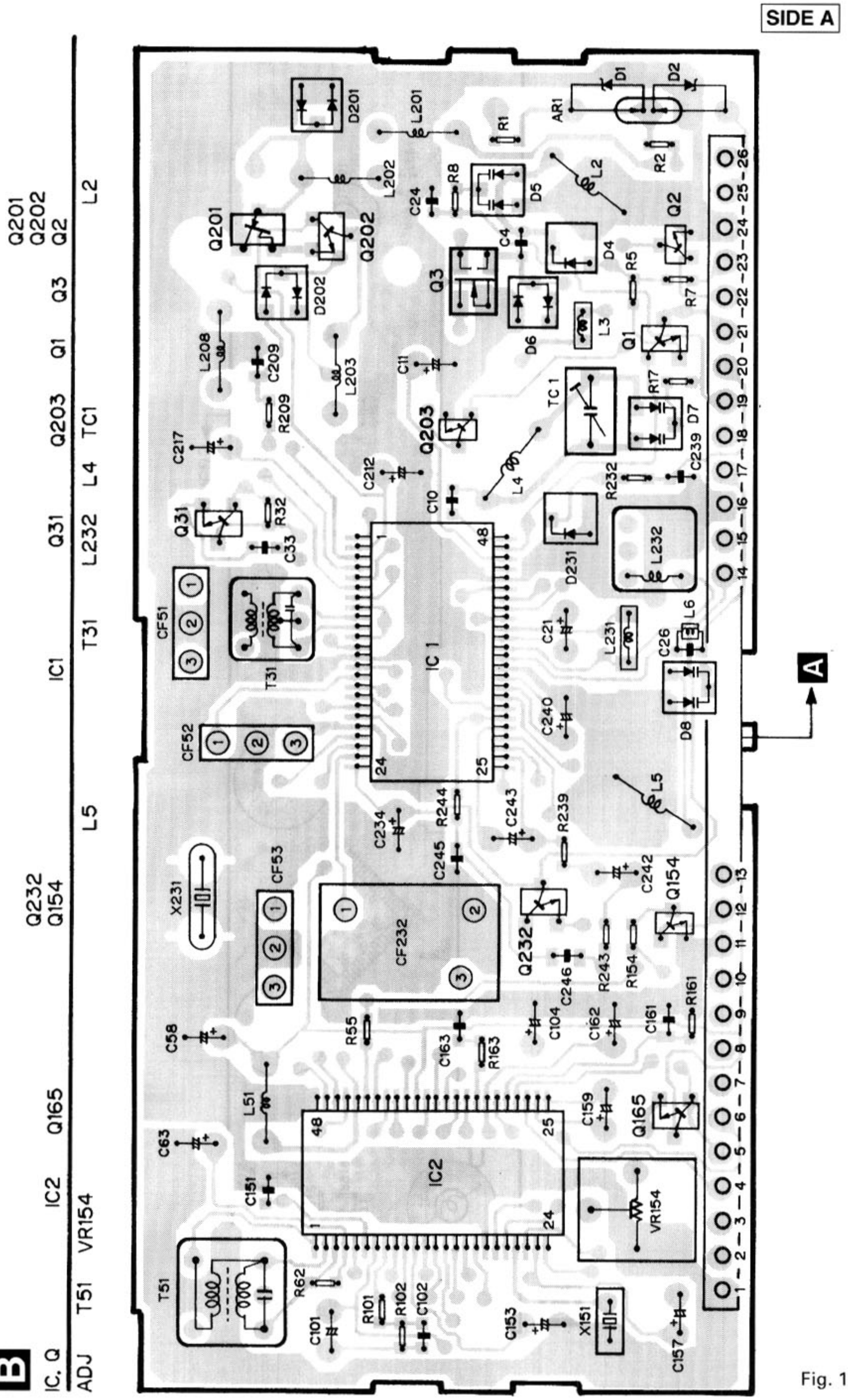
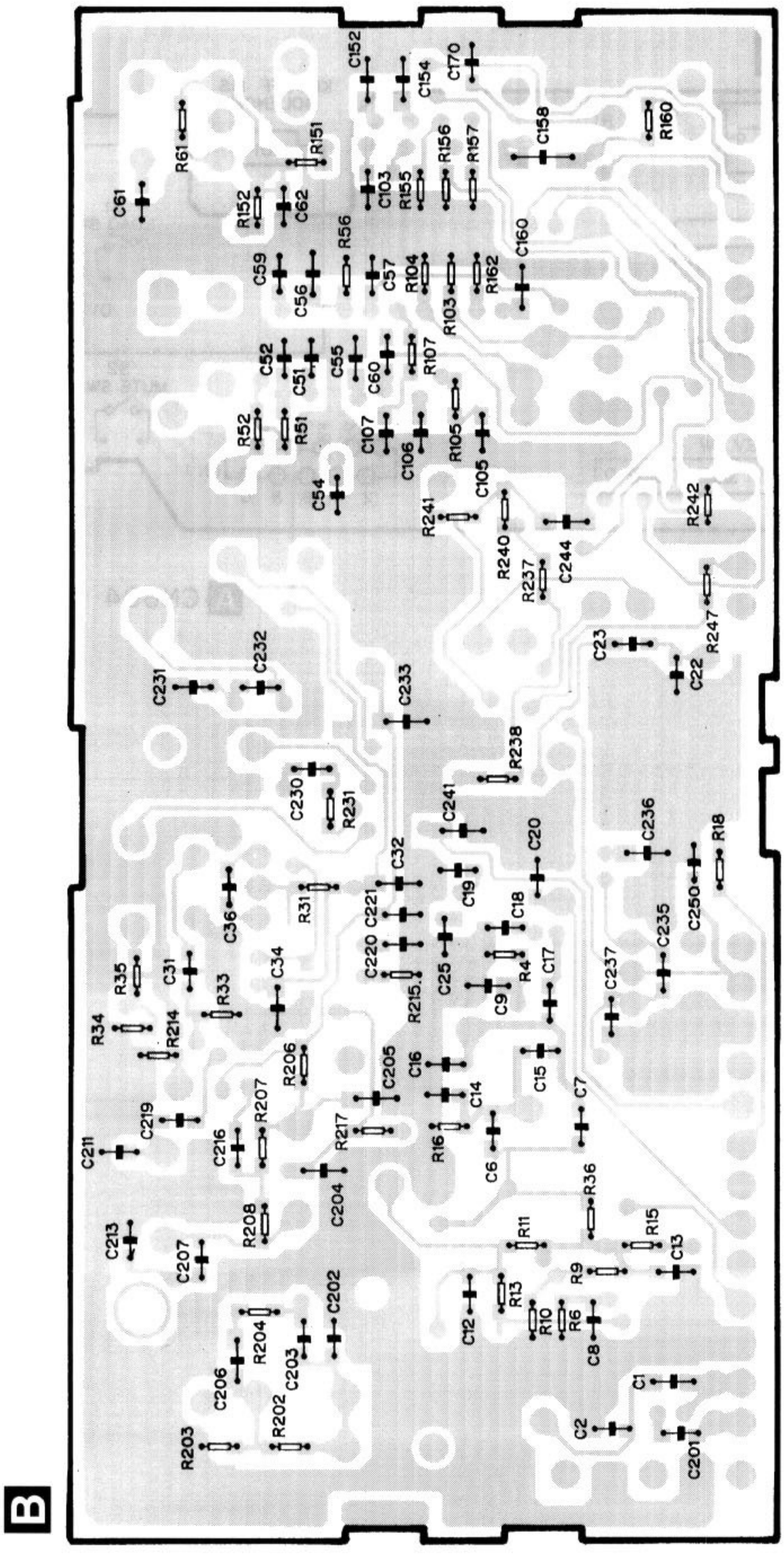


Fig. 13

SIDE B



B

Fig. 14

4.4 CASSETTE PCB

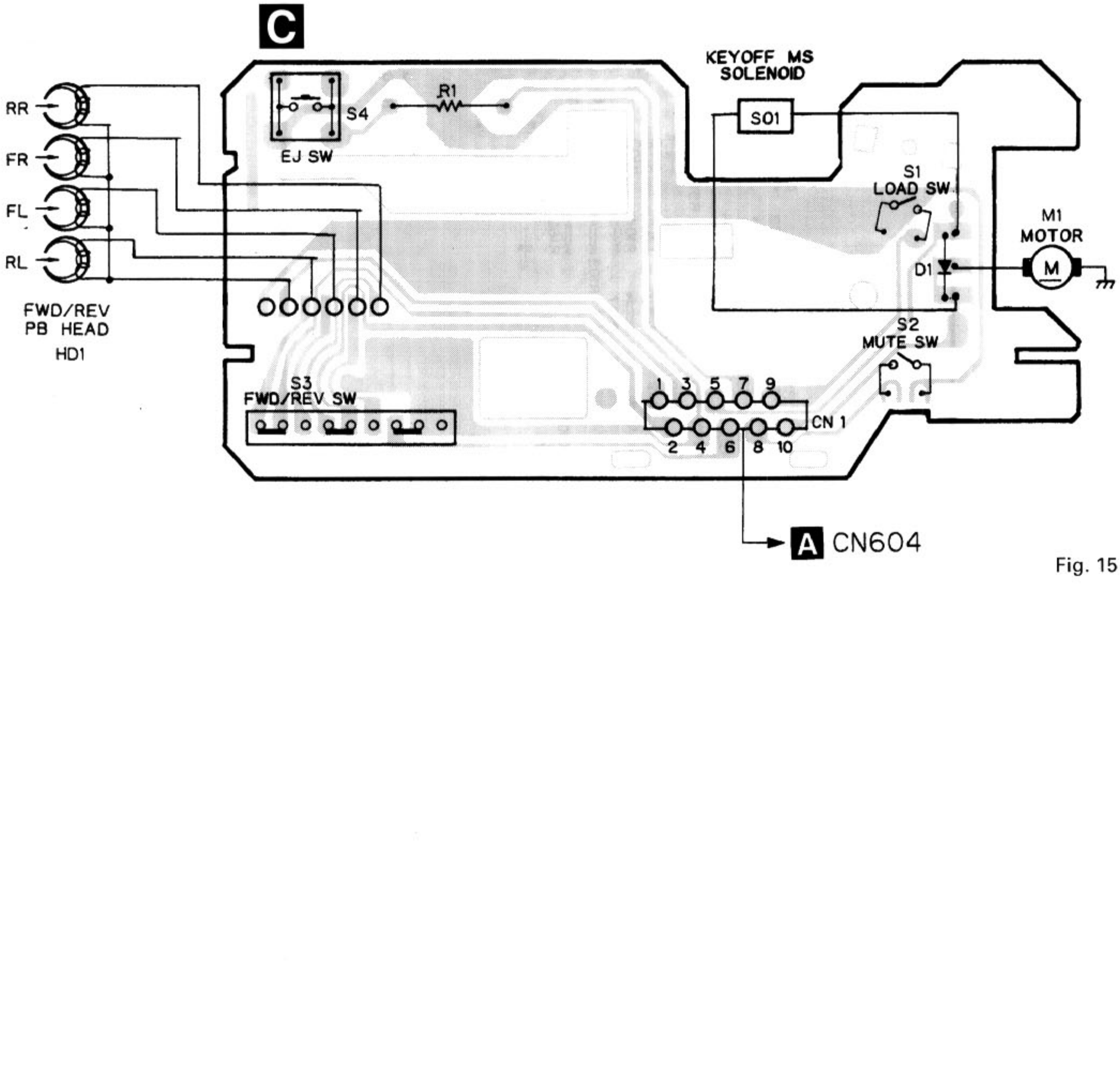


Fig. 15

5. ELECTRICAL PARTS LIST

NOTE:

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

  Chip Resistor

  RS1/○S○○○J,RS1/○○S○○○J

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

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

B Unit Number : CWE1417(KEH-P3600/X1M/UC)
: CWE1485(KEH-P3650/X1M/ES)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

=====Circuit Symbol & No.===Part Name			Part No.
IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412KLN
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412KLN
Q	201	FET	2SK932
Q	202	Transistor	2SC2412KLN
Q	203	Transistor	DTC124EU
D	1	Diode	RD39JS
D	2	Diode	RD39JS
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1108
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1108
L	5	Coil	CTC1107
L	6	Inductor(KEH-P3650/X1M/ES)	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1116
T	51	Coil	CTC1136
CF	51	Ceramic Filter	CTF1290
CF	52	Ceramic Filter	CTF1290
CF	53	Ceramic Filter	CTF1290
CF	232	Ceramic Filter	CTF1348
X	151	Resonator 920.5kHz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213

RESISTORS

R	1	RS1/16S225J
R	2	RS1/16S225J
R	4	RS1/16S154J
R	5	RS1/16S391J
R	6	RS1/16S223J
R	7	RS1/16S123J
R	8	RS1/16S332J
R	9	RS1/16S473J
R	10	RS1/16S223J
R	11	RS1/16S124J
R	13	RS1/16S563J
R	15	RS1/16S271J
R	16	RS1/16S104J
R	17	RS1/16S332J
R	18	RS1/16S332J
R	31	RS1/16S470J
R	32	RS1/16S822J
R	33	RS1/16S822J
R	34	RS1/16S331J
R	35	RS1/16S331J
R	51	RS1/16S271J
R	52	RS1/16S560J
R	55	RS1/16S102J
R	56	RS1/16S823J
R	61	RS1/16S392J
R	62	RS1/16S273J
R	101	RS1/16S272J
R	102	RS1/16S682J
R	103	RS1/16S333J
R	104	RS1/16S334J
R	105	RS1/16S683J
R	107	RS1/16S222J
R	151	RS1/16S222J
R	152	RS1/16S393J
R	155	RS1/16S273J
R	156	RS1/16S243J
R	157	RS1/16S203J
R	160	RS1/16S222J
R	161	RS1/16S563J
R	162	RS1/16S105J
R	163	RS1/16S223J
R	202	RS1/16S223J
R	203	RS1/16S225J
R	204	RS1/16S103J
R	206	RS1/16S220J
R	207	RS1/16S101J
R	208	RS1/16S102J
R	209	RS1/16S471J
R	214	RS1/16S822J
R	215	RS1/16S822J
R	217	RS1/16S102J
R	231	RS1/16S272J
R	232	RS1/16S473J
R	237	RS1/16S103J
R	238	RS1/16S104J
R	239	RS1/16S104J
R	240	RS1/16S332J
R	241	RS1/16S202J
R	243	RS1/16S183J
R	244	RS1/16S392J
R	247	RS1/16S123J

=====Circuit Symbol & No.===Part Name			Part No.
CAPACITORS			
C	1		CCSQCH6R0D50
C	2		CCSRCK2R0C50
C	4		CCSRCH820J50
C	6		CCSRCH820J50
C	8		CKSRYB103K25
C	9		CKSQYB104K16
C	10		CCSRCKR50C50
C	11		CEJA1R0M50
C	12		CKSRYB222K50
C	13		CKSRYB222K50
C	14		CCSRCH220J50
C	15		CCSRCH6R0D50
C	16		CCSRCH8R0D50
C	17		CKSRYB222K50
C	18		CKSRYB103K25
C	19		CKSRYB222K50
C	20		CKSRYB222K50
C	21		CEJA100M16
C	22		CCSRTH9R0D50
C	23		CCSRTH120J50
C	24		CCSRCH471J50
C	25		CKSRYB103K25
C	26	(KEH-P3600/X1M/UC)	CCSRCH101J50
C	31		CKSRYB103K25
C	32		CKSQYB472K50
C	33		CCSRCH5R0C50
C	34		CKSQYB104K16
C	36		CCSRRH201J50
C	51		CKSRYB223K25
C	52		CKSRYB103K25
C	54		CCSRCH470J50
C	55		CKSQYB223K25
C	56		CKSQYB104K16
C	57		CKSRYB472K50
C	58		CEJA330M10
C	59		CKSRYB103K25
C	60		CKSRYB102K50
C	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR22M50
C	101		CEJANP100M10
C	102		CKSRYB182K50
C	103		CKSRYB682K25
C	104		CEJA2R2M50
C	105		CKSRYB103K25
C	106		CCSRCH151J50
C	107		CKSRYB103K25
C	151		CKSRYB472K50
C	152		CKSQYB104K16
C	153		CEJA3R3M50
C	154		CKSQYB104K16
C	157		CEJA3R3M50
C	158		CKSYB474K16
C	159		CEJA220M6R3
C	160		CKSQYB104K16
C	161		CKSQYB104K16
C	162		CEJA3R3M50
C	163		CKSRYB102K50
C	170		CCSRCH100D50
C	201		CCSRCH471J50
C	202		CCSRCH100D50
C	203		CKSRYB332K50
C	204		CKSQYB473K16
C	205		CKSQYB473K16
C	206		CKSQYB104K16

=====Circuit Symbol & No.===Part Name			Part No.
C	207		CCSRCH560J50
C	209		CKSQYB104K16
C	211		CCSRCH101J50
C	212		CEJA470M6R3
C	213		CKSRYB103K25
C	216		CCSRCH101J50
C	217		CEJA1R5M50
C	219		CCSRCH471J50
C	220		CKSRYB103K25
C	230		CKSRYB103K25
C	231		CCSRCH330J50
C	232		CCSRCH150J50
C	233		CKSQYB104K16
C	234		CEJA330M10
C	235		CKSRYB332K50
C	236		CKSQYB473K16
C	237		CCSRCH120J50
C	239		CKSRYB472K50
C	240		CEJAR47M50
C	241		CKSQYB104K16
C	242		CEJAR47M50
C	243		CEJAR33M50
C	244		CKSQYB473K16
C	245		CKSRYB333K16
C	246		CKSQYB473K16
C	250		CCSRCH471J50

A Unit Number : CWM5175(KEH-P3600/X1M/UC)
: CWM5176(KEH-P3650/X1M/ES)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC	201	IC	HA12192F
IC	301	IC	PM2005B
IC	401	IC	SN761027DL
IC	501	IC	HA13155
IC	601	IC	PD4745A
IC	602	IC	S-80734AN
IC	603	IC	CA0008AM
IC	604	IC	TA2050S
IC	801	IC	TPD1018F
Q	201	Transistor	DTC124EK
Q	301	Transistor	2SC1740S
Q	302	Transistor	DTC114ES
Q	401	Transistor	DTC343TK
Q	402	Transistor	DTC343TK
Q	403	Transistor	DTA124EK
Q	501	Transistor	DTC124ES
Q	502	Transistor	DTC124ES
Q	601	Transistor	DTC143TS
Q	602	Transistor	DTC124ES
Q	603	Transistor	2SC1740S
Q	604	Transistor	DTC124ES
Q	605	Transistor	2SC1740S
Q	606	Transistor	DTC114EK
Q	607	Transistor	2SA1037K
Q	611	Transistor	2SC1740S
Q	612	Transistor	2SC2412K
Q	613	Transistor	2SC2412K
Q	801	Transistor	2SD2037
Q	802	Transistor	2SB1243
Q	803	Transistor	2SC2412K
Q	804	Transistor	2SD2396
Q	805	Transistor	2SA1048
Q	806	Transistor	2SC2412K
Q	807	Transistor	2SA1674
Q	808	Transistor	2SC2412K

=====Circuit Symbol & No.		===Part Name	Part No.
Q	809	Transistor	2SA933S
Q	810	Transistor	2SB1242
Q	811	Transistor	DTC143TK
D	201	Diode	1SS270
D	301	Diode	1SS270
D	302	Diode	1SS270
D	501	Diode	CWW1352
D	601	Diode	1SS270
D	602	Diode	HZS7L(A1)
D	603	Diode	1SS270
D	604	Diode	1SS270
D	605	Diode	1SS270
D	606	Diode	1SS270
D	607	Diode	1SS270
D	608	Diode	1SS270
D	609	Diode	1SS270
D	610	Diode	1SS270
D	611	Diode	1SS270
D	612	Diode	HZS9L(A2)
D	613	Diode	HZS7L(C3)
D	614	Diode	HZS7L(A1)
D	615	Diode	1SS270
D	616	Diode	1SS270
D	801	Diode	1SR139-400
D	802	Diode	1SR139-400
D	803	Diode	1SR139-400
D	804	Diode	MA8056(H)
D	805	Diode	MA8091(M)
D	806	Diode	1SR139-400
D	807	Diode	1SR139-400
L	301	Ferri-Inductor	LAU101K
L	302	Ferri-Inductor	LAU101K
L	601	Ferri-Inductor	LAU101K
L	602	Ferri-Inductor	LAU101K
L	603	Ferri-Inductor	LAU101K
L	604	Ferri-Inductor	LAU2R2K
L	951	600H	CTH1168
X	301	Crystal Resonator 7.200MHz	CSS1379
X	601	Ceramic Resonator 4.194MHz	CSS1047
VR	201	Semi-fixed 10kΩ(B)	CCP1319
VR	202	Semi-fixed 10kΩ(B)	CCP1319
		FM/AM Tuner Unit(KEH-P3600/X1M/UC)	CWE1417
		FM/AM Tuner Unit(KEH-P3650/X1M/ES)	CWE1485

RESISTORS

R	201		RS1/10S473J
R	202		RS1/10S473J
R	203		RS1/10S181J
R	204		RS1/10S181J
R	205		RS1/10S274J
R	206		RS1/10S274J
R	207		RS1/10S133J
R	208		RS1/10S133J
R	209		RS1/10S183J
R	210		RS1/10S183J
R	215		RS1/10S683J
R	216		RS1/10S183J
R	217		RS1/10S393J
R	218		RS1/10S914J
R	219		RD1/4PU273J
R	220		RD1/4PU273J
R	301		RS1/10S162J
R	302		RS1/10S162J
R	305	(KEH-P3650/X1M/ES)	RS1/10S182J
R	306		RD1/4PU222J
R	307		RS1/8S222J
R	308		RS1/8S222J
R	309		RS1/10S102J
R	310	(KEH-P3600/X1M/UC)	RS1/10S0R0J
R	311		RS1/8S272J
R	312		RD1/4PU222J
R	314		RS1/8S392J
R	315		RS1/10S392J
R	316		RS1/10S152J
R	317		RS1/10S103J
R	318		RS1/10S0R0J
R	319		RS1/10S472J
R	320		RS1/10S682J
R	321		RS1/10S472J
R	322		RS1/10S681J
R	323		RS1/10S682J
R	324		RD1/4PU102J
R	326		RD1/4PU0R0J
R	328		RS1/10S561J
R	332		RS1/10S103J
R	333		RS1/8S393J
R	334		RD1/4PU562J
R	335		RD1/4PU472J
R	336		RD1/4PU473J
R	337		RS1/10S473J
R	338		RD1/4PU104J
R	339		RS1/10S473J
R	340		RS1/10S473J
R	341		RS1/10S681J
R	342		RS1/10S681J
R	343		RD1/4PU681J
R	344		RD1/4PU681J
R	345		RD1/4PU222J
R	346		RS1/8S472J
R	349		RD1/4PU102J
R	350		RS1/10S510J
R	351		RS1/10S0R0J
R	352		RS1/10S0R0J
R	353		RS1/10S0R0J
R	354		RD1/4PU102J
R	355		RS1/8S0R0J
R	401		RD1/4PU0R0J
R	402		RD1/4PU0R0J
R	403		RS1/10S272J
R	404		RS1/10S272J
R	405		RS1/10S151J
R	406		RS1/10S151J
R	407		RS1/10S0R0J
R	408		RS1/10S0R0J
R	409		RS1/10S821J
R	410		RS1/10S821J
R	411		RS1/10S223J
R	412		RS1/10S223J
R	501		RD1/4PU202J
R	502		RD1/4PU202J
R	503		RD1/4PU202J
R	504		RD1/4PU202J
R	505		RS1/10S222J
R	506		RS1/10S222J
R	507		RS1/10S222J
R	508		RS1/10S222J
R	509		RD1/4PU2R2J
R	510		RD1/4PU2R2J
R	511		RD1/4PU2R2J
R	512		RD1/4PU2R2J

=====Circuit Symbol & No.===Part Name			Part No.
R	513		RD1/4PU2R2J
R	514		RD1/4PU2R2J
R	515		RD1/4PU2R2J
R	516		RD1/4PU2R2J
R	517		RD1/4PU103J
R	518		RS1/10S153J
R	519		RS1/10S221J
R	520		RS1/10S101J
R	521		RS1/8S103J
R	601	(KEH-P3650/X1M/ES)	RS1/10S473J
R	602	(KEH-P3600/X1M/UC)	RS1/8S473J
R	602	(KEH-P3650/X1M/ES)	RS1/8S223J
R	606		RS1/10S0R0J
R	608		RD1/4PU0R0J
R	613		RS1/10S473J
R	614		RS1/10S473J
R	615		RS1/10S222J
R	616		RS1/10S222J
R	617		RS1/10S222J
R	618		RD1/4PU103J
R	619		RS1/8S473J
R	620		RS1/10S473J
R	621		RD1/4PU104J
R	622		RS1/10S473J
R	623		RD1/4PU473J
R	624		RS1/10S332J
R	625		RS1/10S102J
R	626		RD1/4PU681J
R	627		RS1/10S223J
R	628		RD1/4PU223J
R	629		RS1/10S103J
R	630		RD1/4PU152J
R	631		RS1/10S102J
R	632		RS1/10S124J
R	633		RS1/10S102J
R	634		RS1/10S102J
R	635		RS1/10S102J
R	636		RD1/4PU473J
R	637		RD1/4PU473J
R	638		RS1/10S101J
R	639		RS1/10S101J
R	640		RS1/10S620J
R	641		RS1/10S181J
R	642		RS1/10S181J
R	643		RS1/10S223J
R	644		RS1/10S223J
R	645		RS1/10S102J
R	646		RS1/10S102J
R	647		RD1/4PU223J
R	648		RD1/4PU223J
R	649		RS1/10S223J
R	650		RS1/8S472J
R	651		RD1/4PU222J
R	654		RD1/4PU472J
R	655		RS1/10S223J
R	656		RS1/10S103J
R	657		RD1/4PU472J
R	658		RS1/10S473J
R	659		RS1/10S223J
R	660		RD1/4PU473J
R	661		RS1/10S473J
R	662		RD1/4PU223J
R	663		RD1/4PU473J
R	664		RS1/10S222J
R	665		RS1/10S102J
R	667		RD1/4PU0R0J
R	669		RS1/10S0R0J
R	670		RS1/8S0R0J
R	673		RS1/10S0R0J
R	801		RD1/4PU102J
R	802		RS1/10S472J
R	803		RS1/10S101J
R	804		RD1/4PU332J
R	805		RS1/10S103J
R	806		RD1/4PU102J
R	807		RD1/4PU122J
R	808		RS1/10S103J
R	809		RS1/10S102J
R	810		RD1/4PU473J
R	812		RS1/10S103J
R	813		RS1/10S102J
R	814		RS1/10S473J
R	816		RS1/10S472J
R	817		RS1/10S223J
R	818		RS1/10S222J
R	819		RS1/10S472J
R	820		RD1/4PU102J
R	821		RD1/4PU1R5J
R	822		RD1/4PU1R5J
R	823		RD1/4PU1R0J
R	824		RS1/10S103J
R	825		RS1/10S103J

CAPACITORS

C	201		CKSQYB561K50
C	202		CKSQYB561K50
C	205		CKSQYB103K25
C	206		CKSQYB103K25
C	207		CEALR47M50
C	208		CEALR47M50
C	209		CEJA1R0M50
C	210		CEJA1R0M50
C	211		CKSQYB104K16
C	212		CKSQYB104K16
C	213		CEAL220M16
C	214		CKSQYB821K50
C	215		CEAL100M16
C	216		CKSQYB103K25
C	217		CKSQYB821K50
C	218		CKSQYB104K16
C	219		CKSQYB104K16
C	220		CEAL100M16
C	221		CCSQCH121J50
C	222		CEAL100M16
C	223		CKSQYB105K10
C	224		CKSQYB105K10
C	225		CEAL470M6R3
C	226		CEAL470M6R3
C	301		CKSQYB473K16
C	302		CKSQYB473K16
C	303		CKSQYB223K25
C	304		CCSQCH101K50
C	307		CKSQYB103K25
C	308		CCSQCH101K50
C	309	(KEH-P3650/X1M/ES)	CKPUYY103M16
C	311		CCSQCH101K50
C	313		CKSQYB223K25
C	314		CKSQYB103K25
C	315		CEAL220M6R3

=====Circuit Symbol & No.		===Part Name	Part No.
C	316		CKSQYB103K25
C	317		CKSQYB103K25
C	318		CKSQYB102K50
C	319		CEAL220M16
C	320		CCSQCH150J50
C	321		CCSQCH150J50
C	322		CKSQYB103K25
C	323		CKSQYB103K25
C	325	4.7µF/16V	CCH1250
C	326		CKSQYB103K25
C	327		CKSQYB332K50
C	328		CKLSR473K16
C	331		CKSQYB104K16
C	332		CEAL220M6R3
C	333		CKSQYB103K25
C	334		CEAL220M6R3
C	335		CKSQYB103K25
C	336		CKSQYB223K25
C	337		CKSQYB103K25
C	340	4.7µF/16V	CCH1165
C	341		CKSQYB103K25
C	342		CKSQYB473K16
C	343		CKSQYB102K50
C	401		CEJA2R2M50
C	402		CEJA2R2M50
C	403		CEJANP100M10
C	404		CEJANP100M10
C	405		CKSQYB822K50
C	406		CKSQYB822K50
C	407		CEJA1R0M50
C	408		CEJA1R0M50
C	409		CKSQYB183K25
C	410		CKSQYB183K25
C	411		CKSQYB102K50
C	412		CKSQYB102K50
C	413		CEJANP2R2M35
C	414		CEJANP2R2M35
C	415		CKSQYB333K25
C	416		CKSQYB333K25
C	417		CEJA220M6R3
C	418		CEJA2R2M50
C	419		CKSQYB104K16
C	420		CKSQYB103K25
C	421		CEJA2R2M50
C	422		CEJA2R2M50
C	423		CEJA470M10
C	424		CKSQYB104K16
C	501		CEJA4R7M35
C	502		CEJA4R7M35
C	503		CEJA4R7M35
C	504		CEJA4R7M35
C	505		CKSQYB102K50
C	506		CKSQYB102K50
C	507		CKSQYB102K50
C	508		CKSQYB102K50
C	509		CKSQYB104K16
C	510		CKSQYB104K16
C	511		CKSQYB104K16
C	512		CKSQYB104K16
C	513		CKSQYB104K16
C	514		CKSQYB104K16
C	515		CKSQYB104K16
C	516		CKSQYB104K16
C	517		CEJA330M10
C	518		CEJA100M16

=====Circuit Symbol & No.		===Part Name	Part No.
C	519		CKSQYB104K16
C	520		CKSQYB104K16
C	601		CCSQCH101K50
C	602		CEAL4R7M35
C	604		CCSQCH101K50
C	606		CKSQYB104K16
C	607		CKSQYB224K16
C	608		CEJA2R2M50
C	609		CKSQYB102K50
C	610		CKSQYB104K16
C	611		CEJA1R0M50
C	612		CEJA1R0M50
C	613		CEJA1R0M50
C	614		CEJA1R0M50
C	615		CEJA100M16
C	616		CEJA100M16
C	617		CEJA4R7M35
C	618		CEJA4R7M35
C	620		CCSQCH101K50
C	621		CCSQCH101J50
C	623		CKSQYB102K50
C	801	3300µF/16V	CCH1018
C	802	470µF/16V	CCH1183
C	803		CKSQYB102K50
C	804		CKSQYB473K16
C	805		CEJA101M10
C	806		CKSQYB103K25
C	807	330µF/10V	CCH1181
C	808		CKSQYB103K25
C	809		CKSQYB104K16
C	811	100µF/16V	CCH1179

D

Unit Number : CWM5185(KEH-P3600/X1M/UC)
: CWM5186(KEH-P3650/X1M/ES)
Unit Name : Key Board Unit

MISCELLANEOUS

IC	901	IC	PD6196A
D	901	Diode	STZ6R2N
L	901	Ferri-Inductor	LAU101K
X	901	Ceramic Resonator 4.97MHz	CSS1312
S	901	Switch	CSG1081
S	902	Switch	CSG1081
S	903	Switch	CSG1093
S	904	Switch	CSG1093
S	905	Switch	CSG1093
S	906	Switch	CSG1093
S	907	Switch	CSG1093
S	908	Switch	CSG1093
S	909	Switch	CSG1093
S	910	Switch	CSG1093
S	911	Switch	CSG1081
S	912	Switch	CSG1093
S	913	Switch	CSG1081
S	914	Switch	CSG1093
S	915	Switch	CSG1081
S	916	Switch	CSG1093
S	917	Switch	CSG1081
S	918	Switch	CSG1081
S	919	Switch	CSG1093
S	920	Switch	CSG1093
IL	901	Lamp 14V 40mA	CEL1481
IL	902	Lamp 14V 40mA	CEL1481
IL	903	Lamp 14V 40mA	CEL1481
IL	904	Lamp 14V 40mA	CEL1481
IL	905	Lamp 14V 40mA	CEL1481
LCD	901	LCD	CAW1387

=====Circuit Symbol & No.===Part Name			Part No.
RESISTORS			
R	901		RS1/10S222J
R	902		RS1/10S222J
R	903		RS1/10S472J
R	906		RS1/10S473J
R	907		RS1/10S473J
R	908		RS1/10S473J
R	909		RS1/10S473J
R	910		RS1/10S473J
R	911		RS1/10S473J
R	912		RS1/10S473J
R	913		RS1/10S0R0J
R	915		RS1/10S0R0J
CAPACITORS			
C	901		CEAL100M16
C	904		CKSQYB104K50
C	905		CKSQYB102K50
C	906		CCSCH101J50

C Unit Number :
Unit Name : Cassette PCB

D	1	Diode	1SR-35-100A
S	1	Switch(Load)	ESN1016
S	2	Switch(Mute)	ESN1017
S	3	Switch(FWD/REV)	ESH1006
S	4	Switch(Eject)	ESG1002
R	1		RD1/4HM472J
Miscellaneous Parts List			
M	1	Motor Unit	EXA1502
HD	1	Head Assy	EXA1466
SO	1	Solenoid	EXP1012

6. ADJUSTMENT

● Connection Diagram

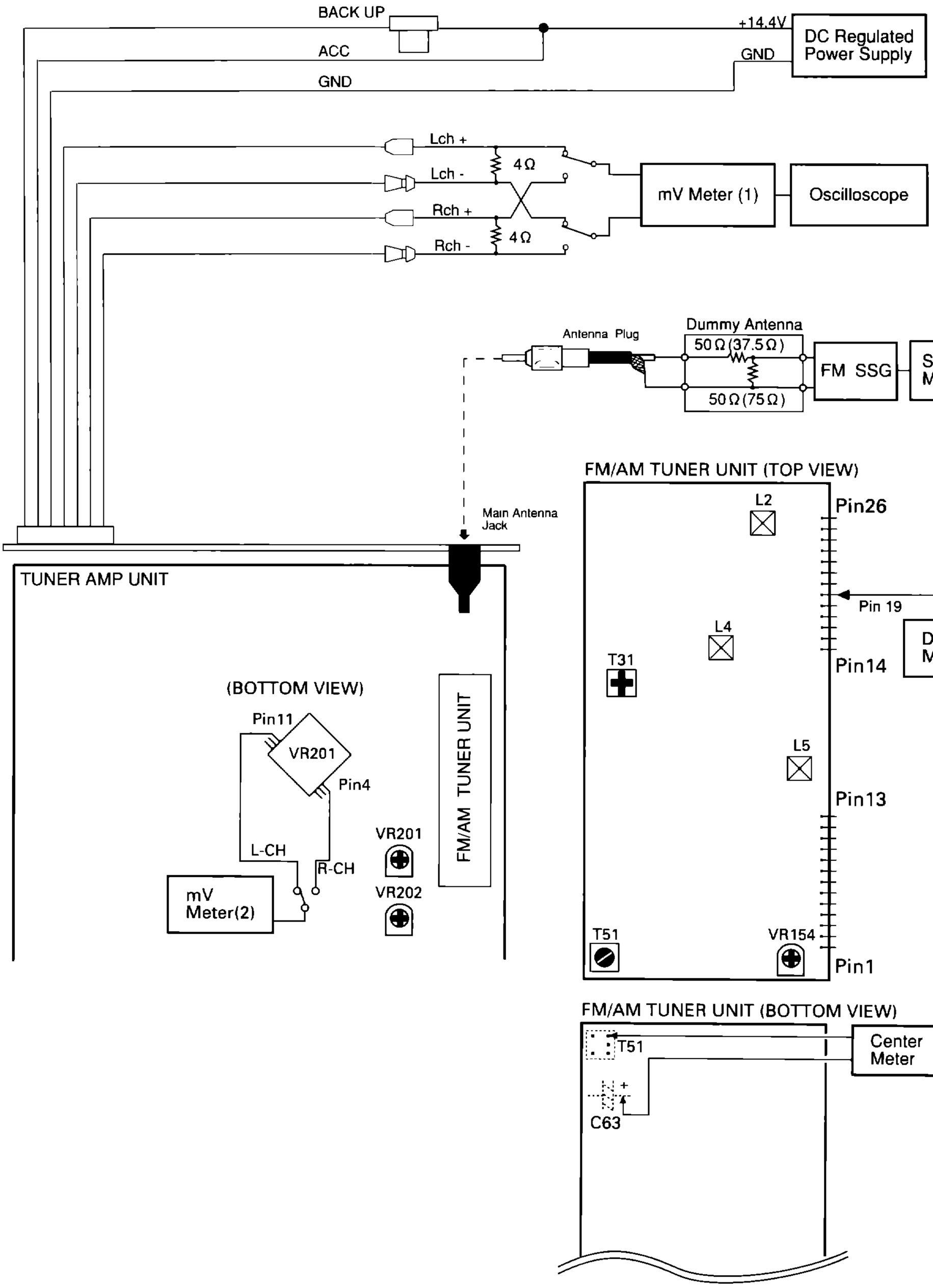


Fig. 16

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

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

FM ADJUSTMENT(UC MODEL)

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	·····	·····	107.9	L5	DC V Meter : 6V
IF	2	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

FM ADJUSTMENT(ES MODEL)

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	·····	·····	108.0	L5	DC V Meter : 6V
IF	2	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

DOLBY B NR ADJUSTMENT

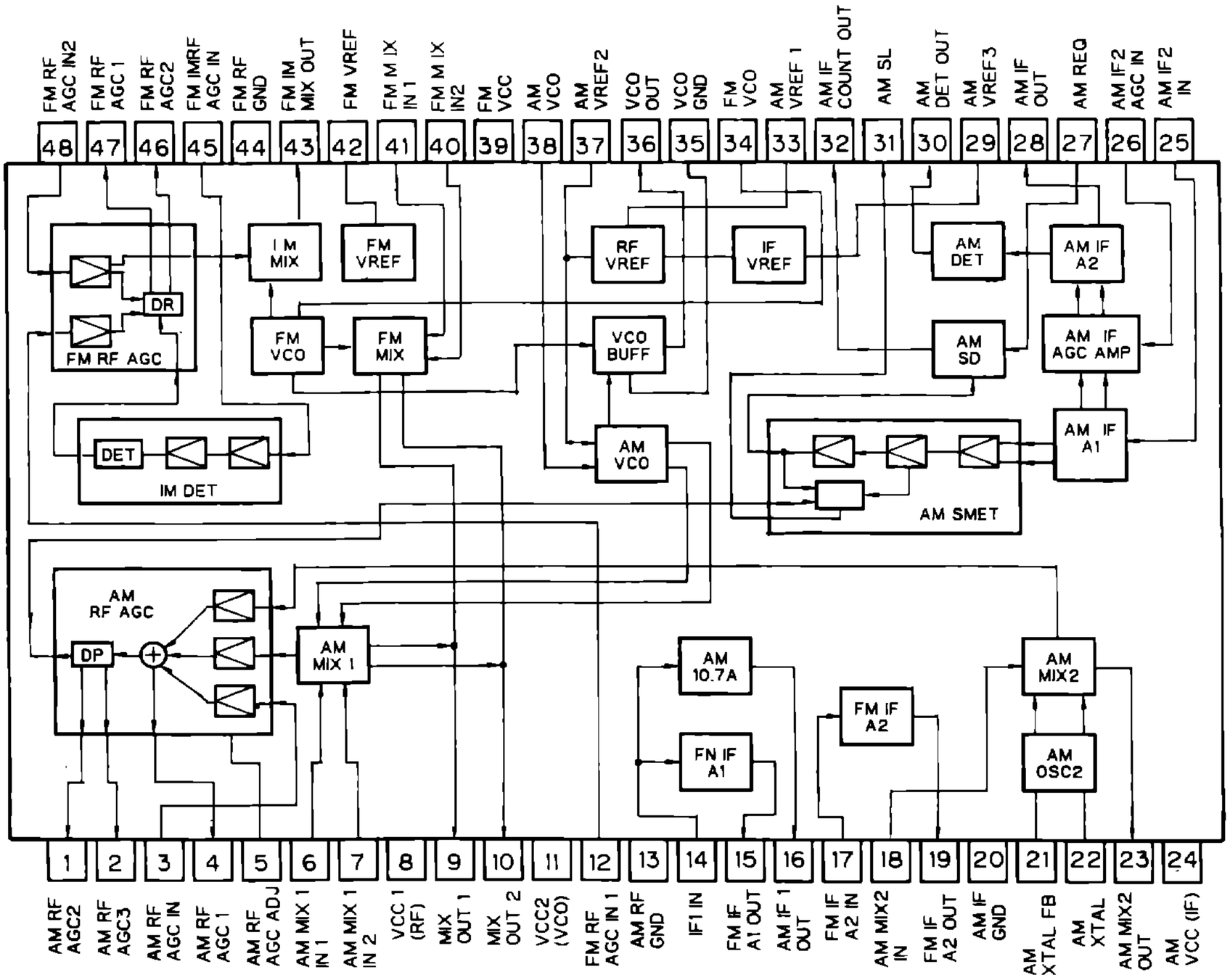
No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR201(Lch),VR202(Rch)	mV Meter(2) : -6.0dBs±1.0dB (DOLBY NR Switch : OFF)

7. GENERAL INFORMATION

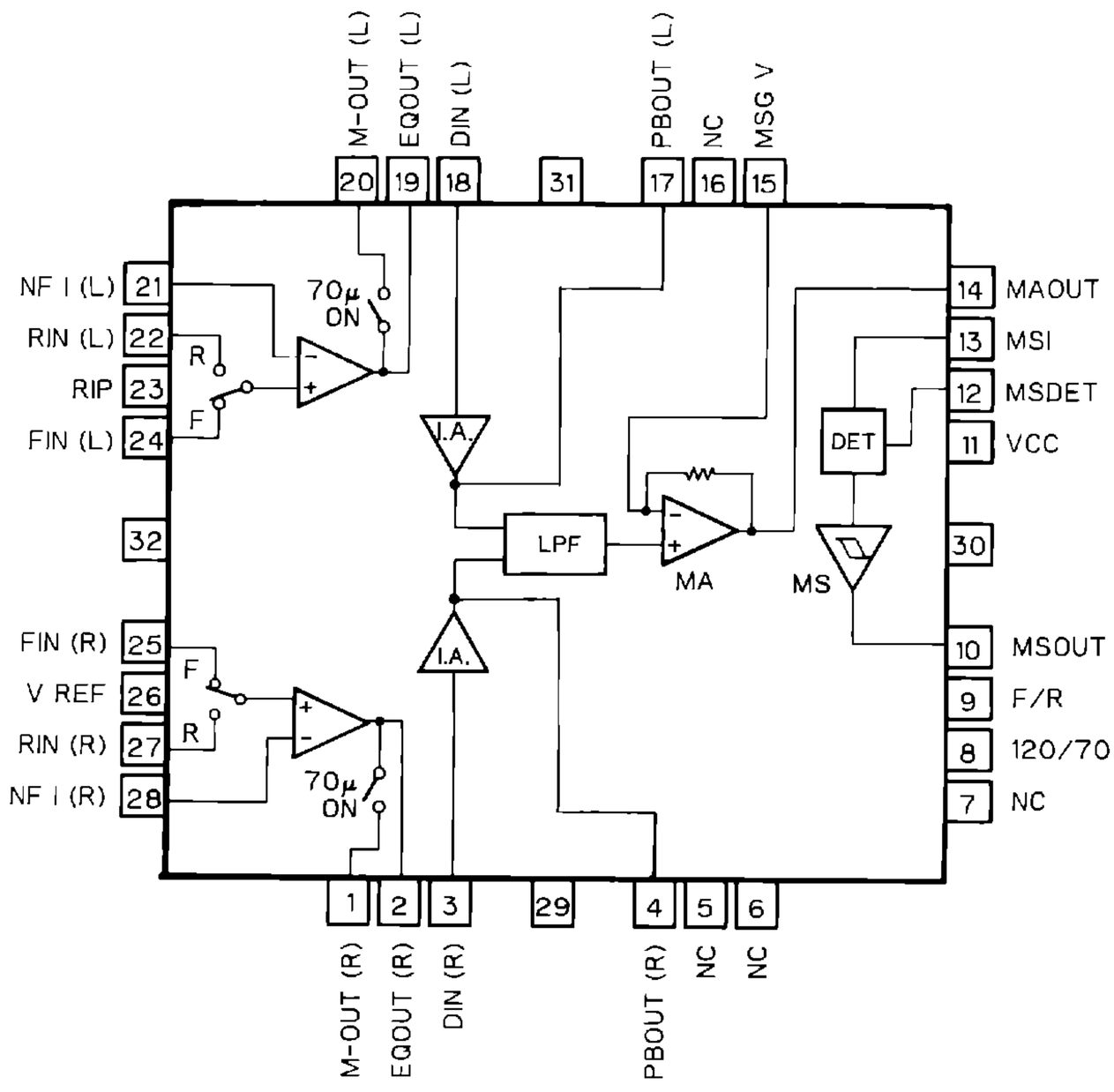
7.1 PARTS

7.1.1 IC

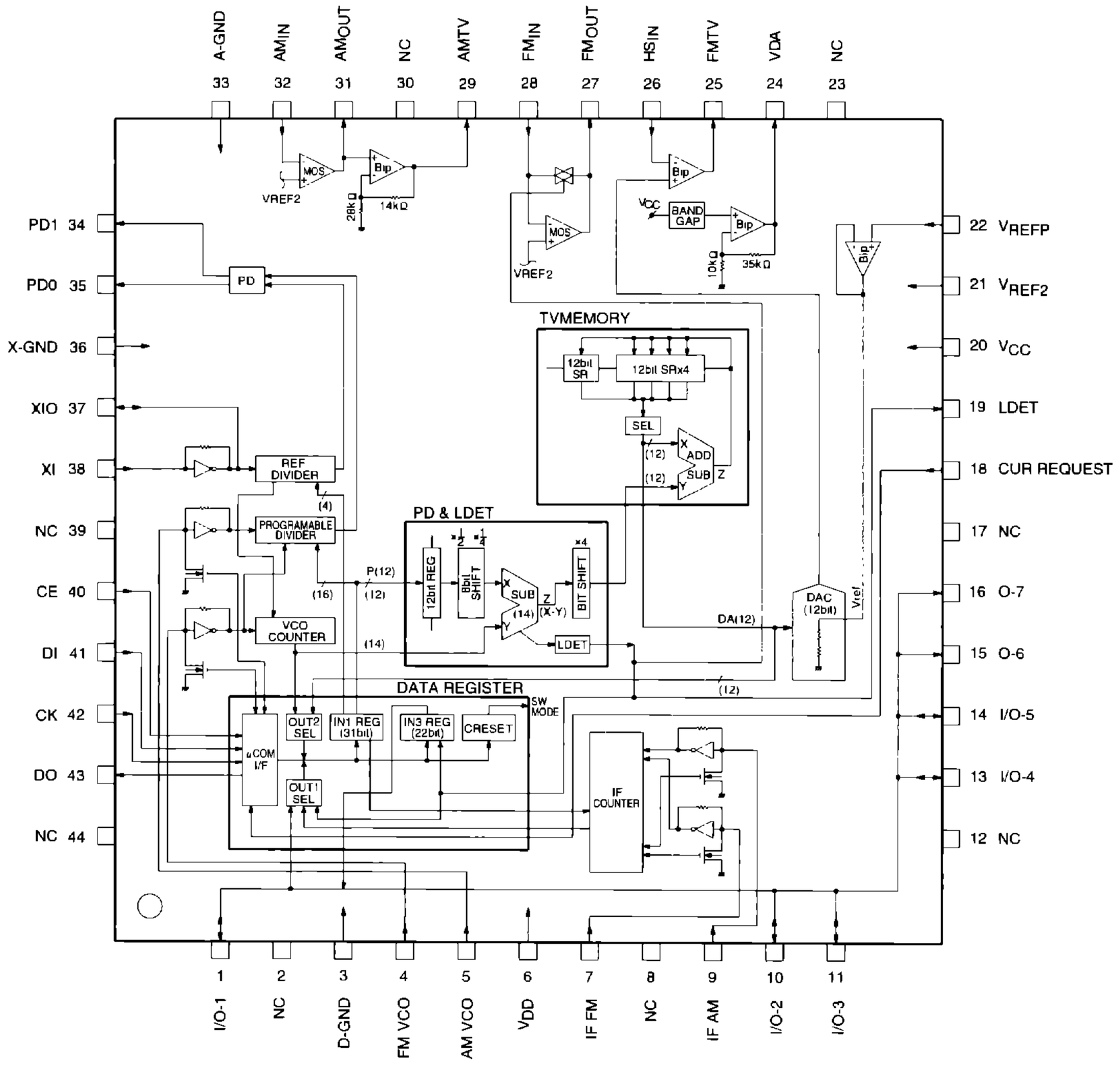
PA4023B



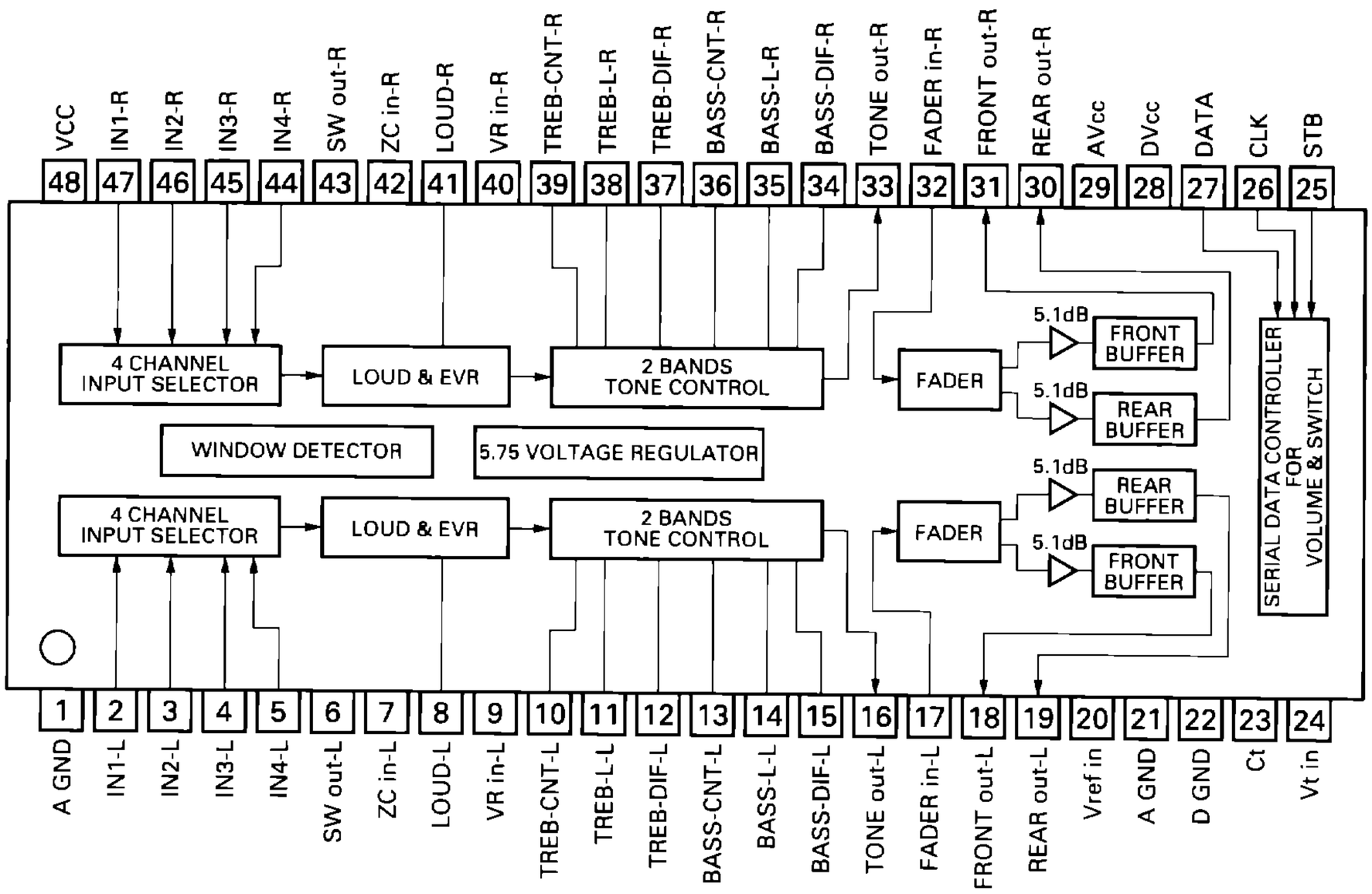
HA12197F



PM2005B



SN761027DL

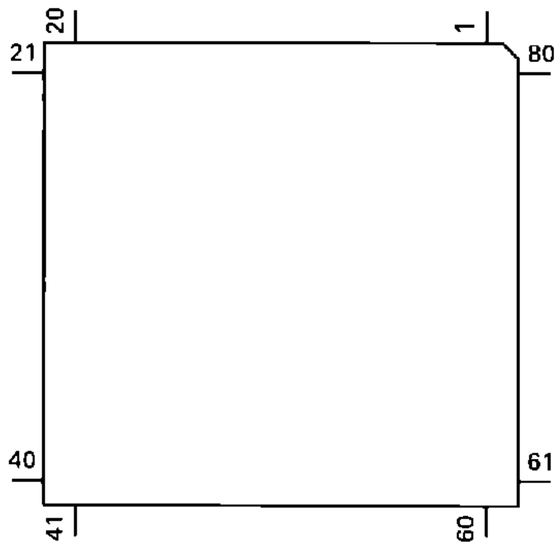


● Pin Functions (PD4745A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1,2	NC			Not used
3	ADPW	O	C	Control output for analog input reference power
4	GND			GND
5,6	NC			Not used
7	AVREF1			(D/A converter standard voltage)
8	KYDT	I		Key data input
9	DPDT	O	C	Key data output
10	$\overline{\text{DSENS}}$	I		Grille detach sense
11	TUNPDI	I		PLL IC data input
12	TUNPDO	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock
14	TUNPCE	O	C	PLL IC chip enable
15	$\overline{\text{CURRQ}}$	O	C	Tuner voltage FIX output
16	NC			Not used
17	TX	O	C	IP BUS output
18	NC			Not used
19	RECIVE	O	C	During RDS data reception output
20	NC			Not used
21	EORR	O	C	Correct RDS error output
22	$\overline{\text{SWVDD}}$	O	C	Grille power supply control output
23	ILMPW	O	C	Illumination power supply control output
24	VDT	O	C	Data output for electronic volume
25	VCK	O	C	Clock output for electronic volume
26	VST	O	C	Strobe pulse output for electronic volume
27	SYSPW	O	C	System power supply control output
28	$\overline{\text{MUTE}}$	O	C	System mute output
29	DMINH	O	C	Mechanism mute cancel output
30	NC			Not used
31	B.REM	O	C	B remote output
32	NC			Not used
33	GND			GND
34–37	NC			Not used
38	FM	O	N	FM power control output
39	AM	O	N	AM power control output
40	ASENBO	O	C	Slave power supply control output
41–48	NC			Not used
49	MSOUT	O	C	MS output
50	$\overline{\text{EJECT}}$	I		Eject key input pin
51	$\overline{\text{TAPLD}}$	I		Tape loading input
52	MECPW	O	C	Mechanism power output
53	$\overline{\text{MCMUT}}$	I	C	Mechanism mute request
54	$\overline{\text{NOR}}$/REW	I		Normal reverse input
55	MSIN	I		MS sense
56,57	NC			Not used
58	MTL	O	C	Metal output

Pin No.	Pin Name	I/O	Format	Function and Operation
59	NR	O	C	Dolby output
60	$\overline{\text{RESET}}$	I		Reset Input
61-62	NC			Not used
62	$\overline{\text{RCK}}$	I		RDS demodulation clock input
63	CLKIN	I		Clock input
64	$\overline{\text{ASENS}}$	I		ACC power sense input
65	$\overline{\text{BSENS}}$	I		Back up power sense input
66	SD	I		SD input
67	$\overline{\text{ST}}$	I		Stereo input
68	VDD			Power supply
69	X2			Crystal oscillator connection pin
70	X1			Crystal oscillator connection pin
71	GND			GND
72	XT2			Sub clock
73	TESTIN	I		Test program mode input
74	AVDD			Positive power supply terminal for analog circuit
75	AVREF0			(A/D converter standard voltage input)
76	SL	I		Signal level input
77	MODEL	I		Model select
78-80	NC			Not used

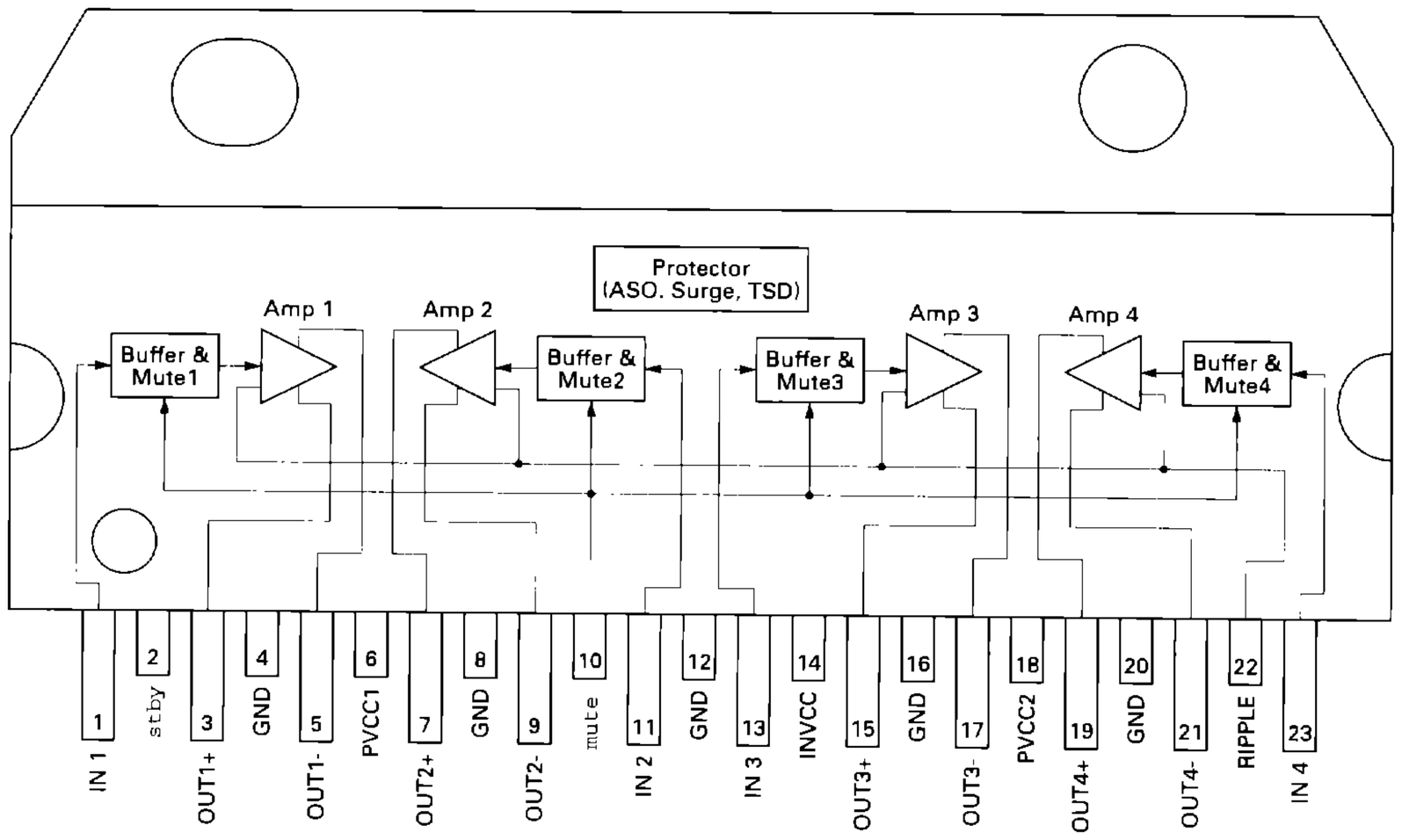
*PD4745A



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

Format	Meaning
C	C MOS
N	N channel open drain

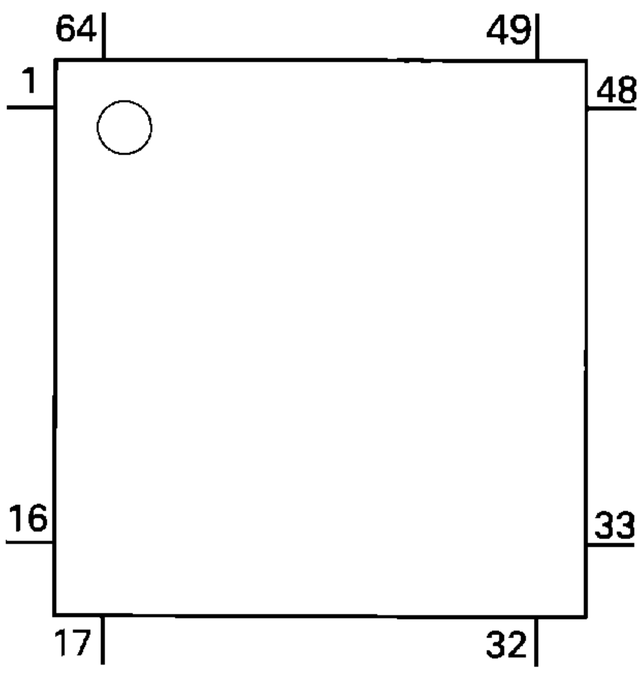
HA13155



● Pin Functions(PD6196A)

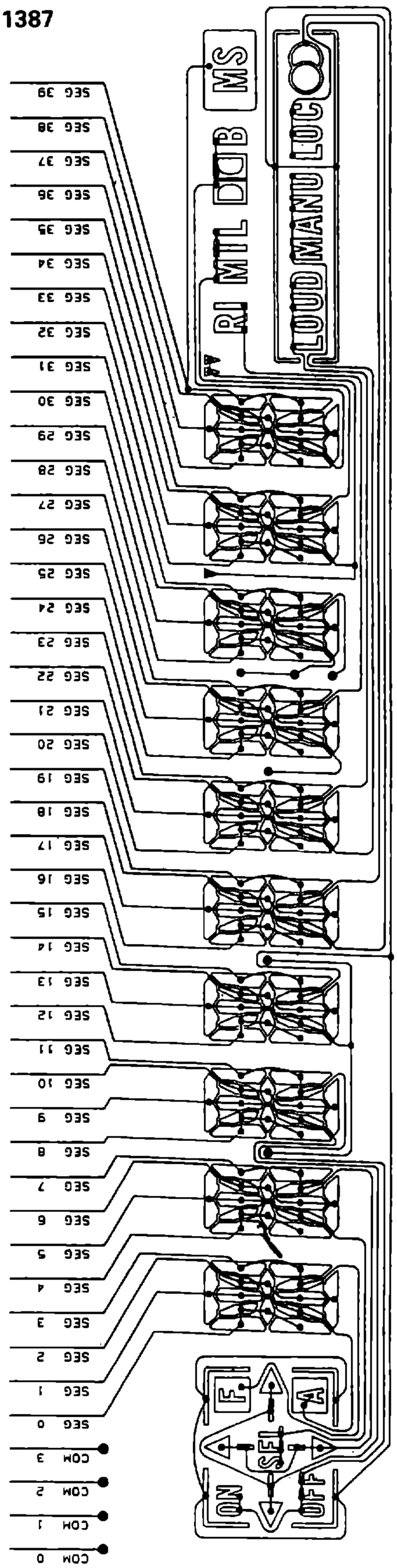
Pin No.	Pin Name	I/O	Function and Operation
1–5	SEG4-0	O	LCD segment output
6–9	COM3-0	O	Common driver output
10	V3		LCD bias power supply
11–14	KS4-1	O	Key strobe output
15,16	KD1,2	I	Key data input
17	REM	I	Remote control reception
18	SI	I	UART input
19	$\overline{RST}$	I	System reset
20	SO	O	UART output
21	MODA		GND
22	X0		Crystal oscillator connection pin
23	X1		Crystal oscillator connection pin
24	VSS		GND
25,26	KD3,4	I	Key data input
27,28	KS6,5	O	Key strobe output
29–55	SEG39-13	O	LCD segment output
56	VCC		5V
57–64	SEG12-5	O	LCD segment output

*PD6196A



7.1.2 DISPLAY

● **CAW1387**



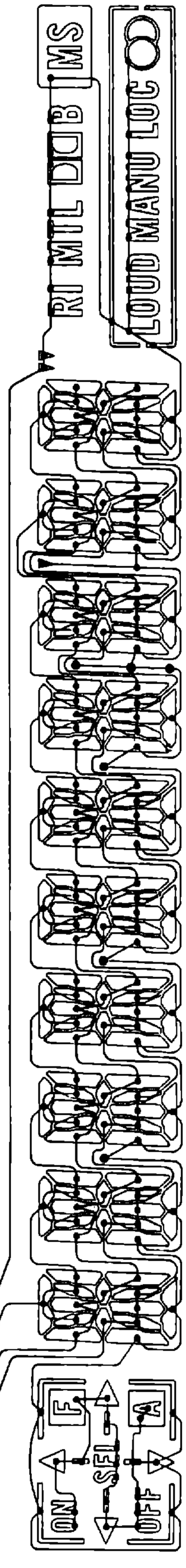


Fig. 17

7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

1. Detach Grille Assy

1. A×3

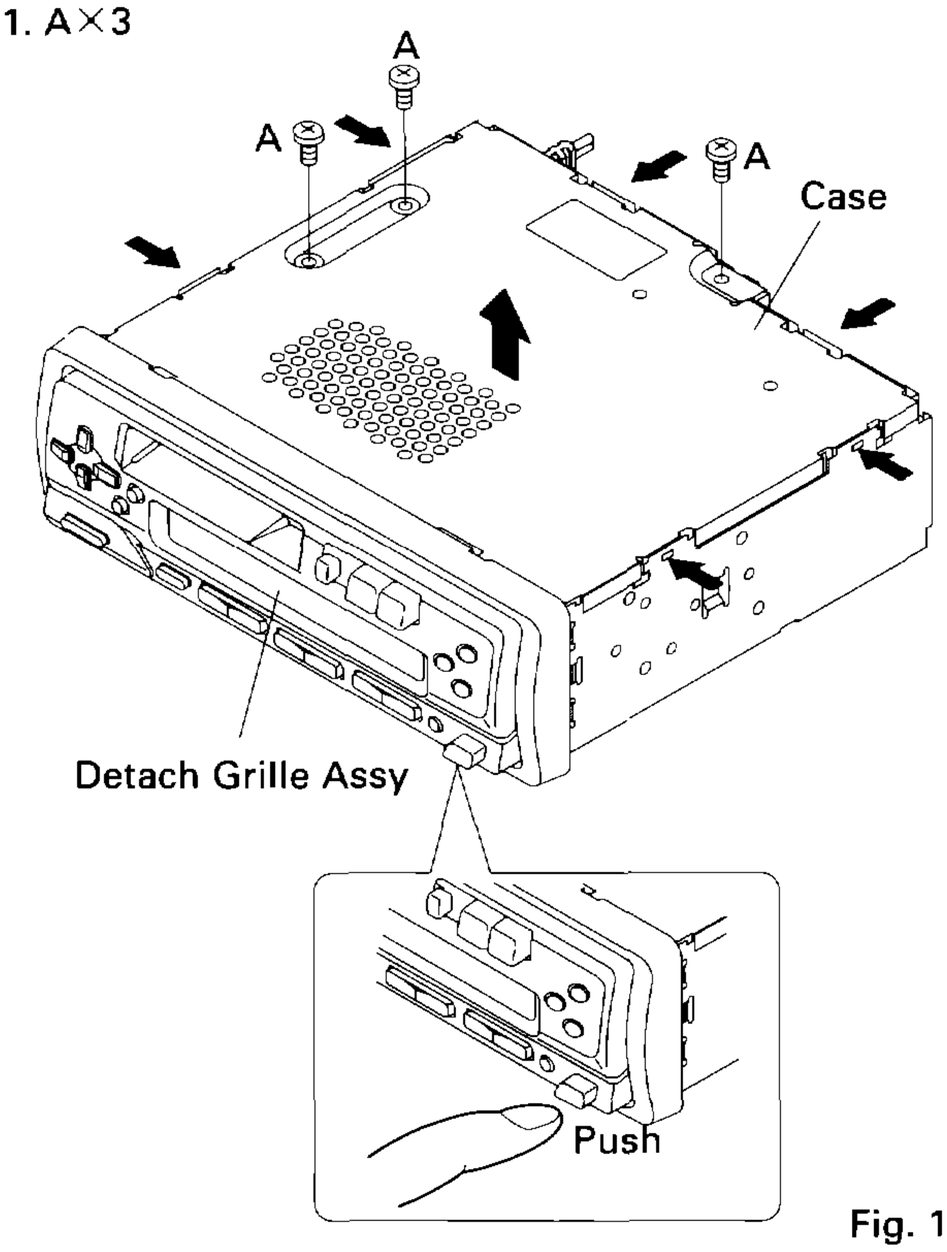


Fig. 18

2. Panel Assy

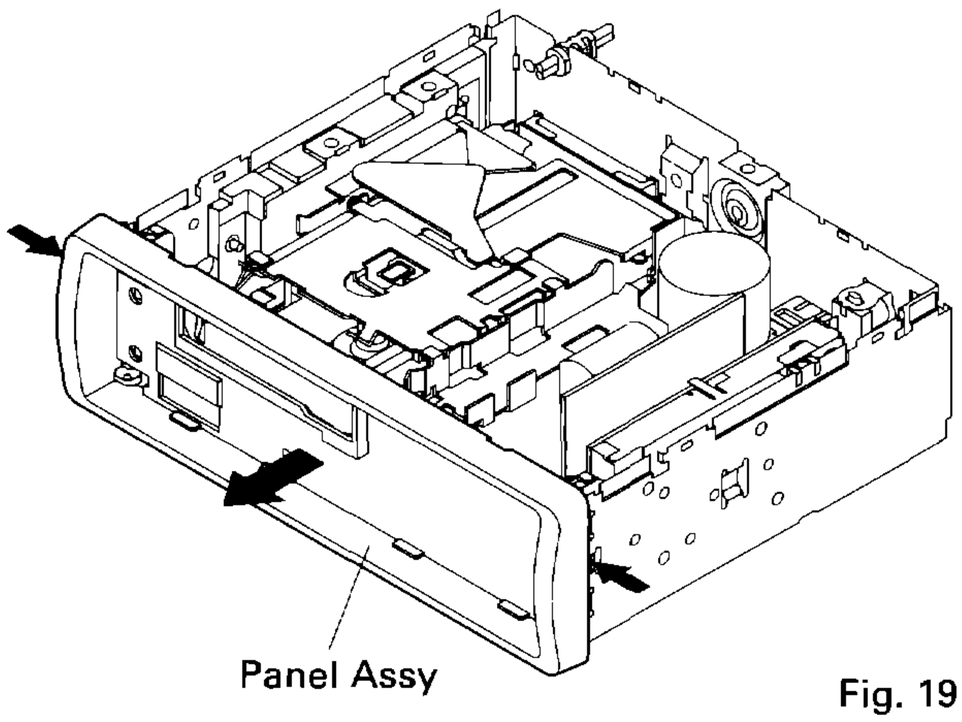


Fig. 19

3. Cassette Mechanism Assy

1. A×4

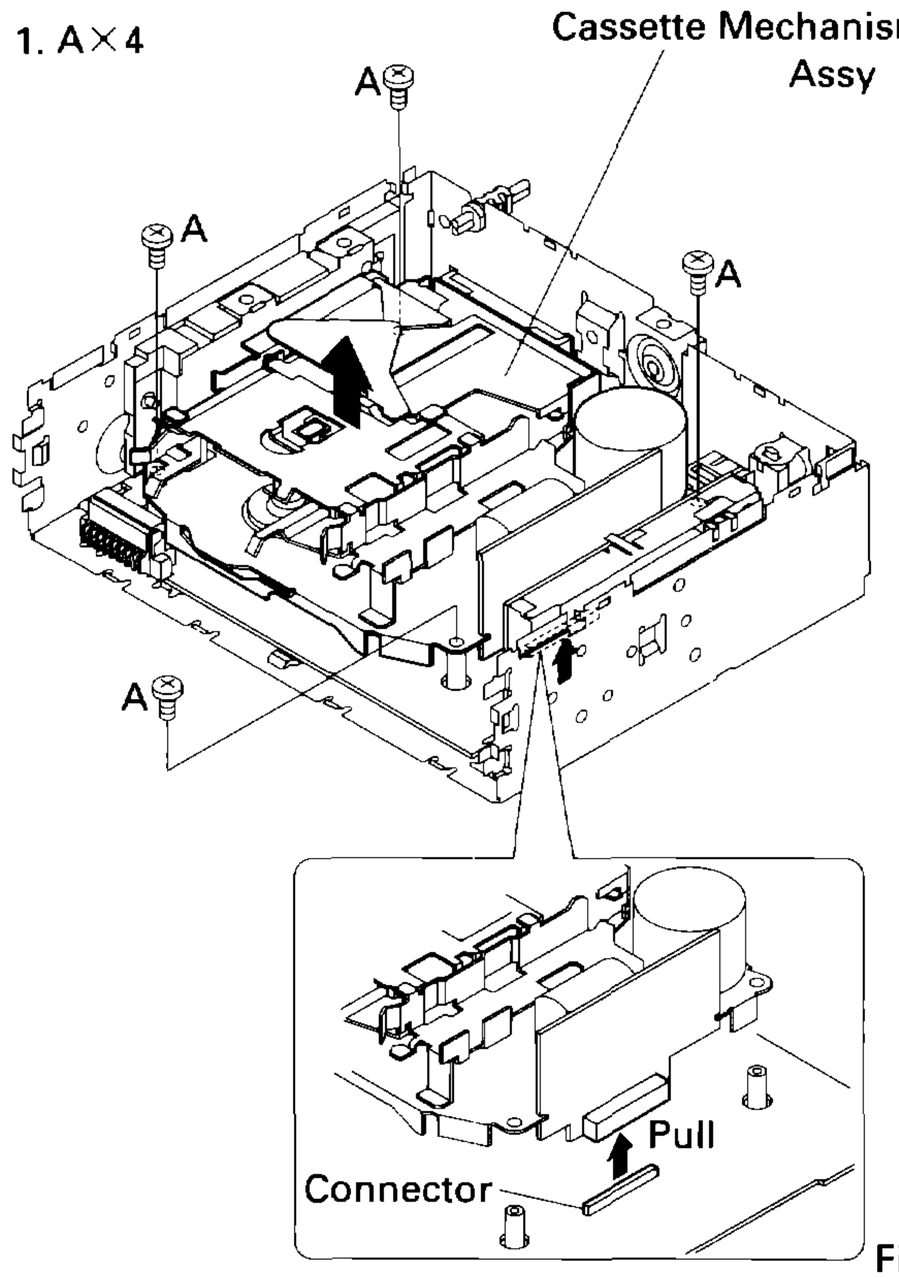


Fig. 20

4. Tuner Amp Unit

1. A×5
2. B×2

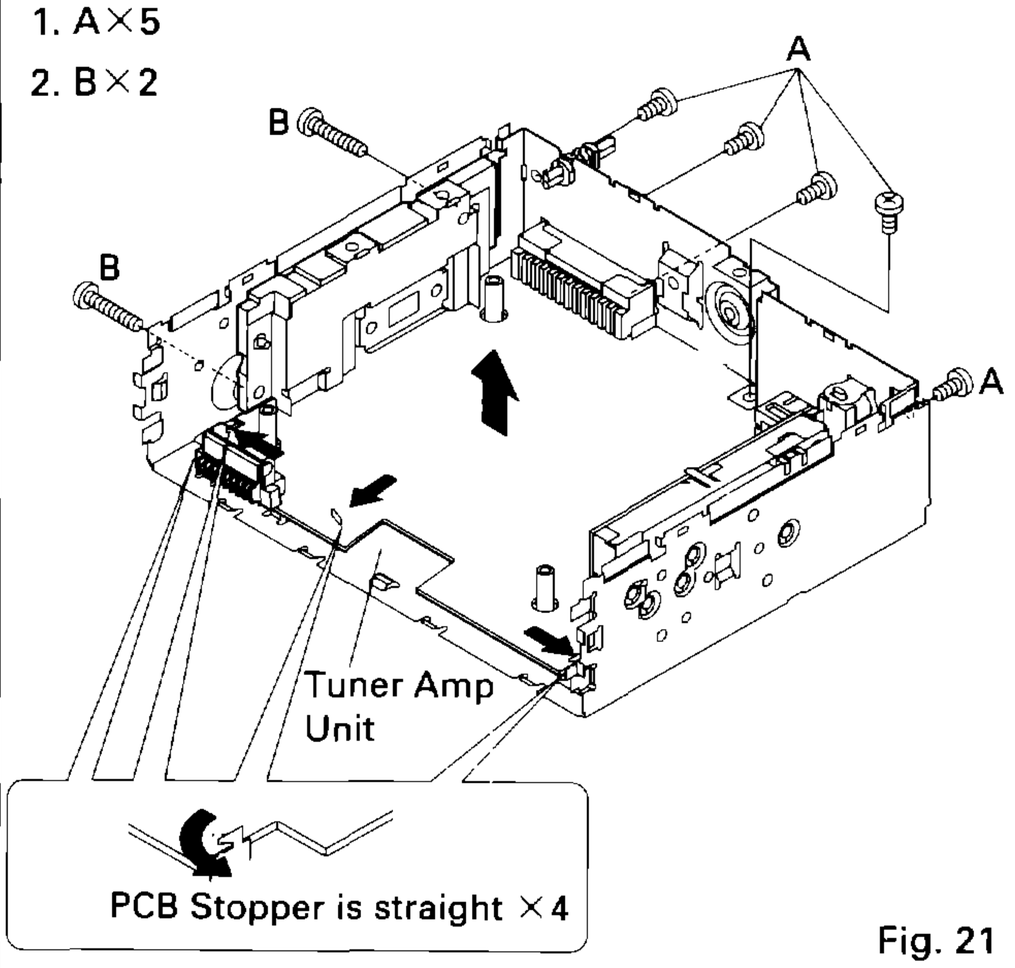
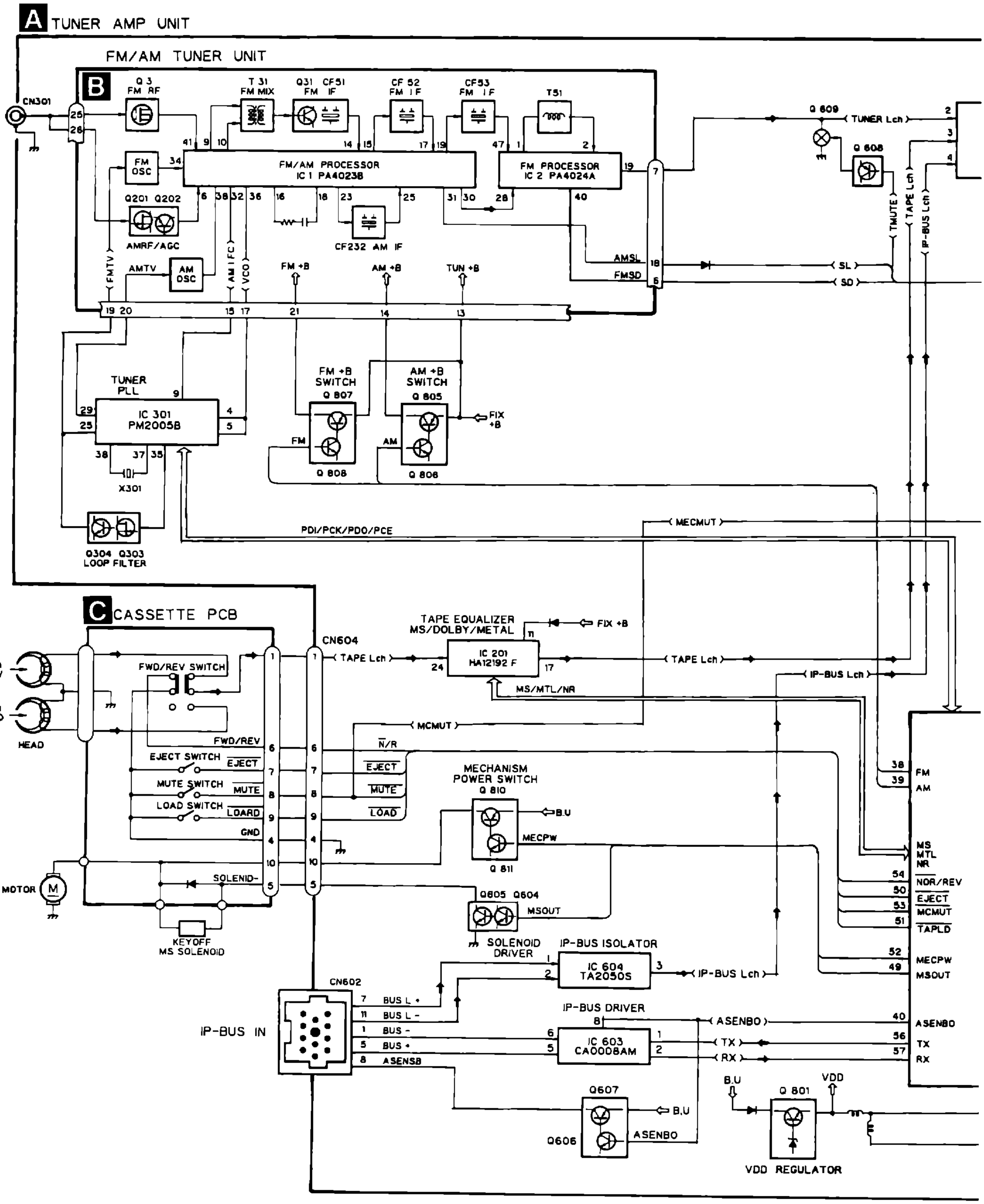


Fig. 21

7.3 EXPLANATION

7.3.1 BLOCK DIAGRAM



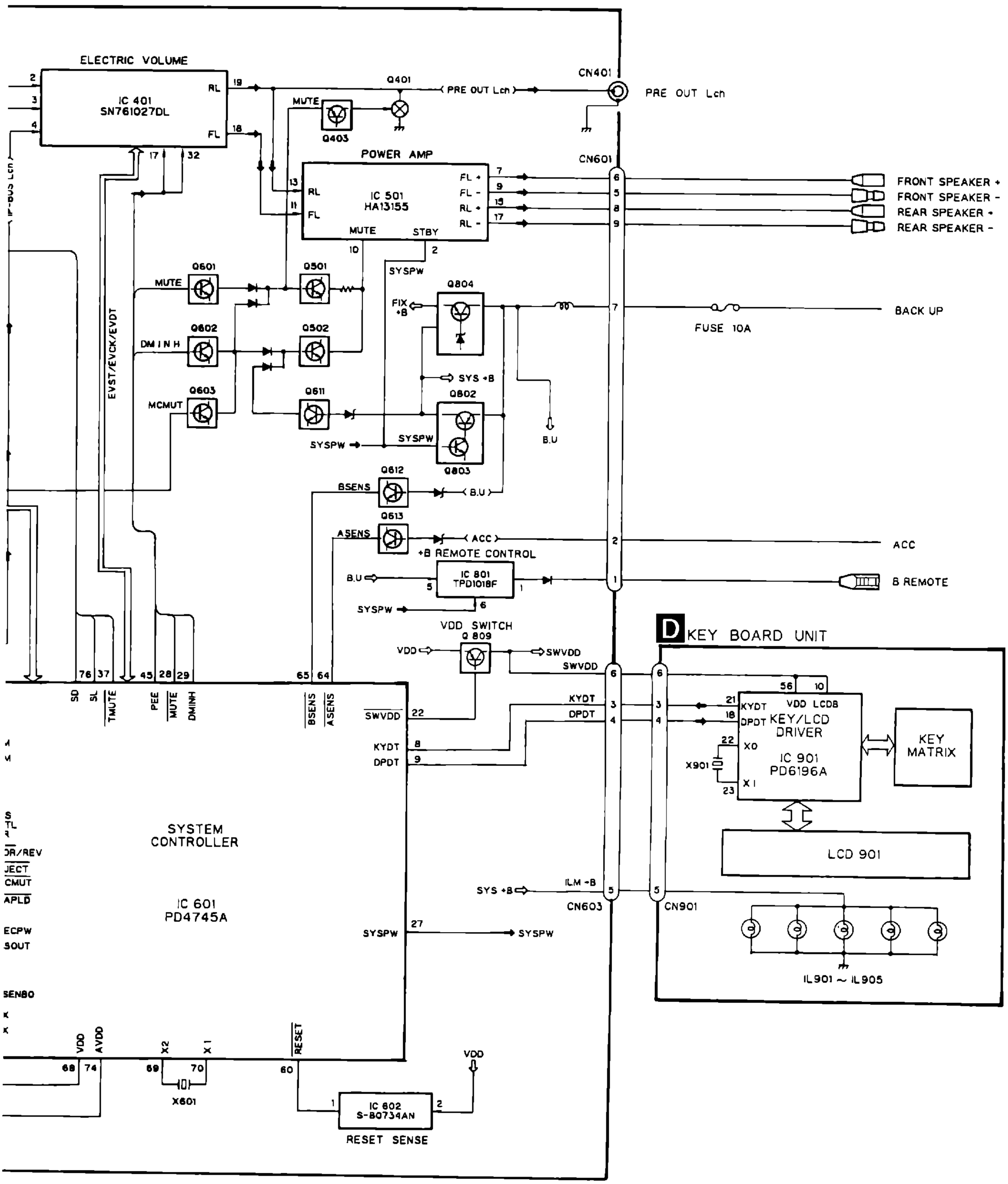

ELECTRIC VOLUME
IC 401
SN761027DL
RL
FL
Q401
PRE OUT Lch
CN401
MUTE
Q403
POWER AMP
IC 501
HA13155
FL +
FL -
RL +
RL -
MUTE
STBY
CN601
FRONT SPEAKER +
FRONT SPEAKER -
REAR SPEAKER +
REAR SPEAKER -
Q601
Q501
Q804
FIX +B
BACK UP
FUSE 10A
Q602
Q502
DMINH
SYS +B
Q603
Q611
Q802
MCMUT
SYSPW
B.U
Q803
Q612
BSENS
Q613
ASENS
ACC
+B REMOTE CONTROL
IC 801
TPD1018F
B REMOTE
VDD SWITCH
Q 809
VDD
SWVDD
D KEY BOARD UNIT
KEY/LCD
DRIVER
IC 901
PD6196A
KEY
MATRIX
LCD 901
IL901 ~ IL905
CN603
CN901
ILM +B
SYSTEM
CONTROLLER
IC 601
PD4745A
EVST/EVCK/EVDT
SD
SL
TMUTE
PEE
MUTE
DMINH
BSENS
ASENS
KYDT
DPDT
X901
RESET
IC 802
S-80734AN
RESET SENSE

Fig. 22

8. OPERATIONS AND SPECIFICATIONS

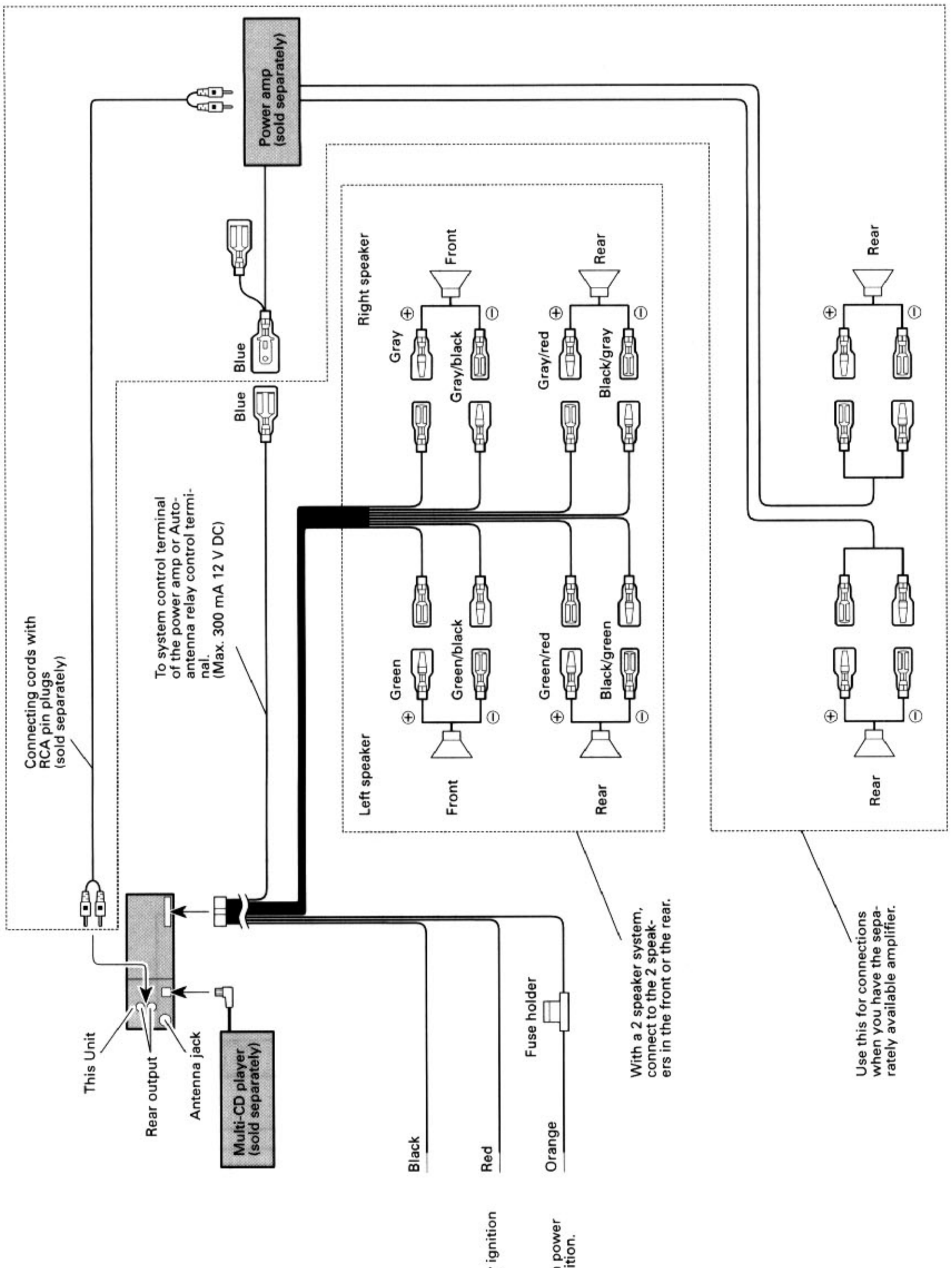
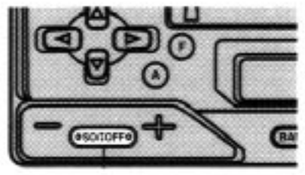


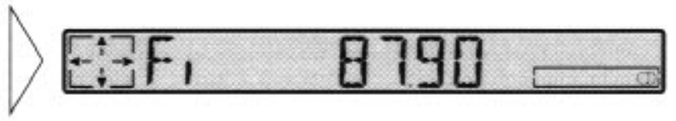
Fig. 23

Basic Operation

Switching Power On

- **Select the desired source (such as the tuner).**



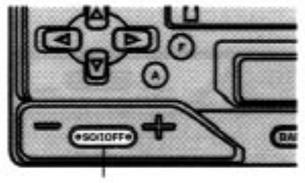


Each press of the SOURCE button selects the desired source in the following order:
CD player (one disc only) → Tuner → Tape → Multi-CD player → AUX

Note:
- In the following cases, the sound source will not change:
  * No Multi-CD player is connected to this unit.
  * No cassette tape is set in this unit.
  * No magazine is set in the Multi-CD player.
  * No disc is set in the CD player.
  * AUX (external input) is set to OFF.

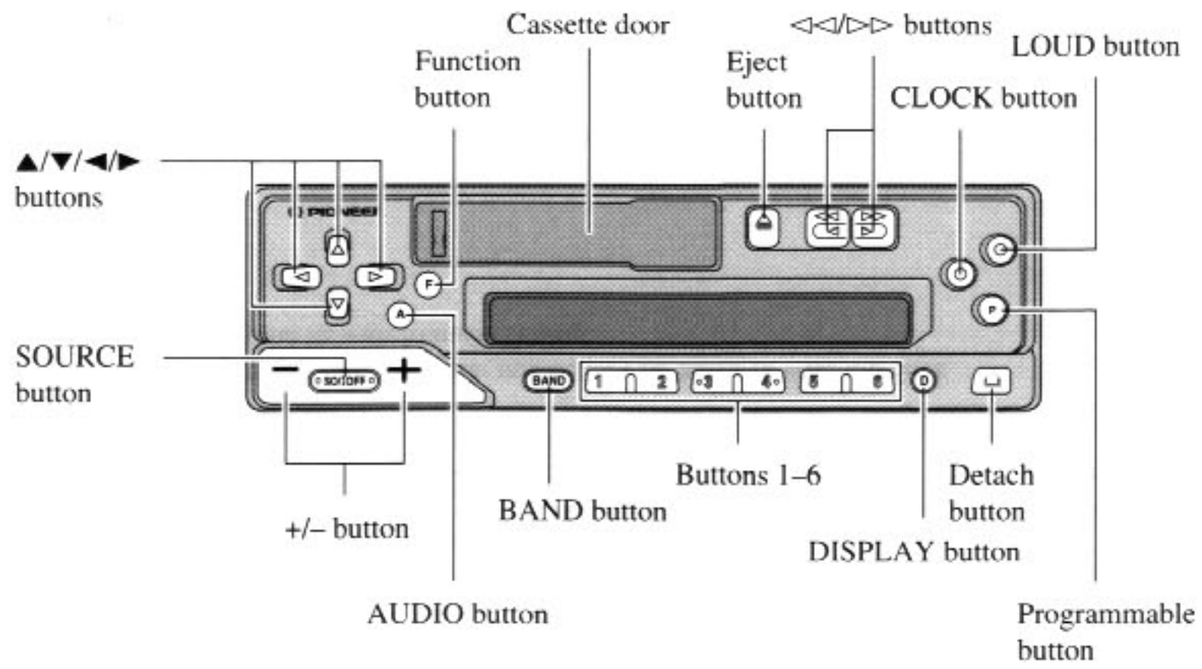
Switching Power Off

- **Switch the sources OFF.**



Hold for 1 second

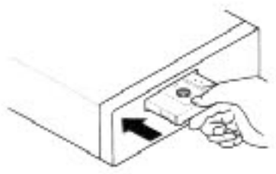
Key Finder



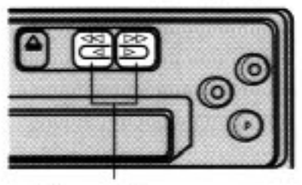
Using the Cassette Player

Basic Operation of Cassette Player

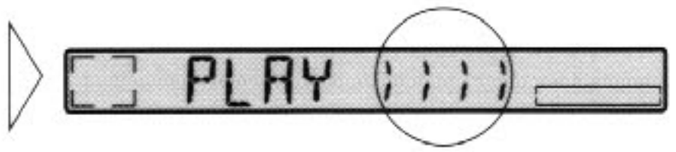
1. **Insert the cassette tape.**



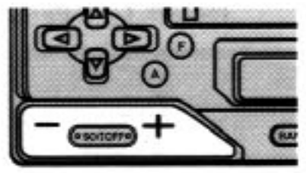
2. **Switch tape playback from side A to side B, or vice versa.**

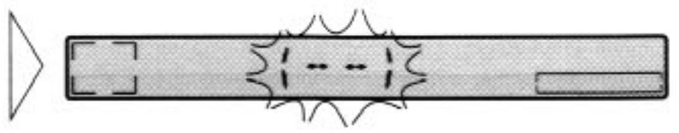


Same Time

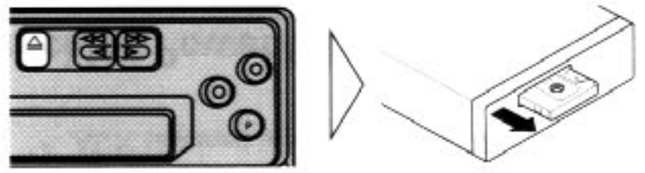


3. **Raise or lower the volume.**





4. **Remove the cassette tape.**

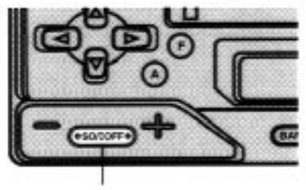


Note:
- The Tape function can be turned ON/OFF with the cassette tape remaining in this product. (See page 45.)

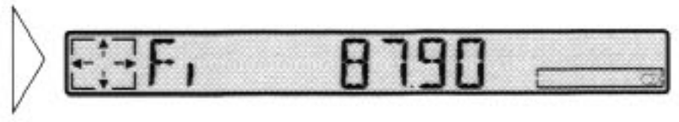
Tuner Operation

Basic Operation of Tuner

1. **Select Tuner. (See page 45.)**

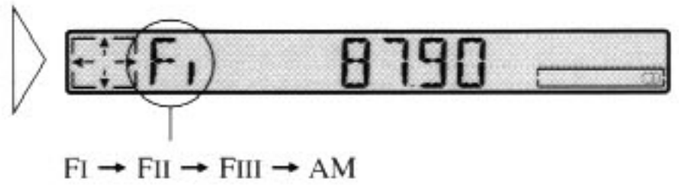


Each press
changes the Source ...



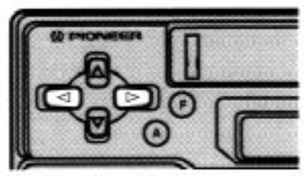
Frequency appears on the display.
("◯◯" indicator lights when a stereo station is selected.)

2. **Select the desired band.**



F1 → F2 → F3 → AM

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



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

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

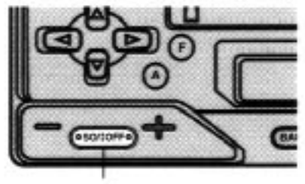
Note:
- To select a weak broadcasting station that cannot be tuned in with the Seek Tuning function, tune in with Manual Tuning.

Using Multi-CD Players

This product can control one or more multi-CD players.

Basic Operation of Multi-CD Players

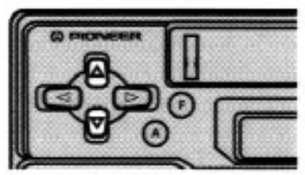
1. Select the multi-CD player source. (See page 45.)



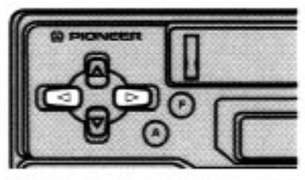
Each press
changes the Source ...

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.

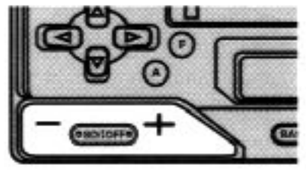
2. Select the desired disc.



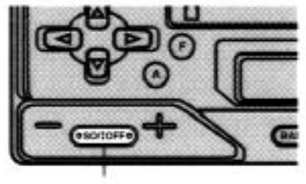
3. Reverse or advance track by track.



4. Raise or lower the volume.



5. Turn the source OFF. (See page 45.)



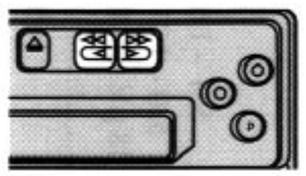
Hold for 1 second

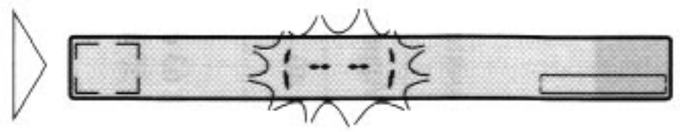
Fast Forward/Rewind

■ Fast Forward

While "<-->" is displayed, the system fast-forwards the cassette tape to the end of the current side.

- **Fast-forward the cassette tape by pressing the button for the same direction as the tape play indicator.**

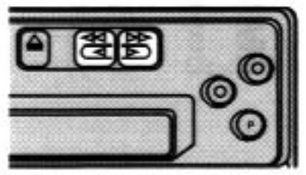


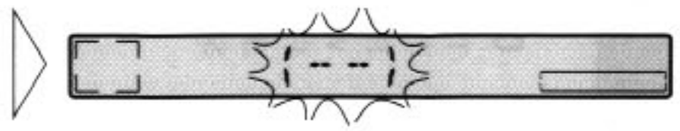


■ Rewind

While "<-->" is displayed, the system rewinds the cassette tape to the beginning of the current side.

- **Rewind the cassette tape by pressing the button for the opposite direction as the tape play indicator.**

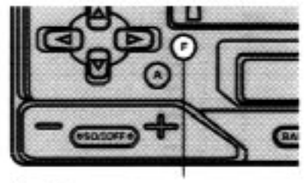




Entering the Function Menu

In this menu you can select Tape functions.

- **Select the desired mode in Function Menu.**



Each press
changes the Mode ...

Each press of the Function button selects the mode in the following order:
B NR → MS → METAL → RI

Note:
- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

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
(DIN) (chassis) .... 178 (W) × 50 (H) × 150 (D) mm
(nose) ..... 188 (W) × 58 (H) × 19 (D) mm
(D) (chassis) .... 178 (W) × 50 (H) × 155 (D) mm
(nose) ..... 170 (W) × 48 (H) × 14 (D) mm
Weight ..... 1.2 kg

Amplifier

Continuous power output is 17 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output ..... 35 W × 4
Continuous power output ..... 17 W × 4
(1% dist. at 1 kHz)
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout output level/output impedance ..... 500 mV/1 kΩ
Tone controls
(Bass) ..... +8 – –16 dB (100 Hz)
(Treble) ..... ±12 dB (10 kHz)
Loudness contour ..... +10 dB (100 Hz), +7 dB (10 kHz)
(volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)
Tape speed ..... 4.76 cm/sec.
Fast forward/rewinding time .... Approx. 90 sec. for C-60
Wow & flutter ..... 0.13% (WRMS)
Frequency response ..... Metal: 40 – 17,000 Hz (±3 dB)
Stereo separation ..... 45 dB
Signal-to-noise ratio
..... Metal: Dolby B NR IN: 63 dB (IEC-A network)
Dolby NR OUT: 55 dB (IEC-A network)

FM tuner

Frequency range ..... 87.5 – 108 MHz
Usable sensitivity
..... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range ..... 531 – 1,602 kHz (9 kHz)
530 – 1,710 kHz (10 kHz)
Usable sensitivity ..... 18 µV (25 dB) (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)
50 dB (±10 kHz)

Note:

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