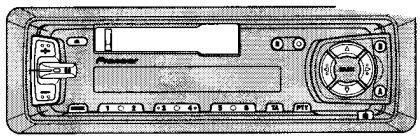
Service Manual

Pioneer

KEH-3830R/X1M/EW



ORDER NO.
CRT2257

HIGH POWER CASSETTE PLAYER WITH RDS TUNER

KEH-3830R X1M/EW

KEH-3800R X1M/EW

KEH-3820R X1M/GR

NOTE:

- **See the separate manual CX-631(CRT1640) for the cassette mechanism description.**
- **The cassette mechanism assy employed in this model is one of 2L series.**

RTV servis Horvat
Kešinci, 31402 Semeljci
031-856-139
031-856-637
098-788-319
rtv-servis-horvat@os.tel.hr
Croatia

RTV servis Horvat
Tel: ++385-31-856-637
Tel/fax: ++385-31-856-139
Mob: 098-788-319
www.rtv-horvat-dj.hr

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 501 Orchard Road, #10-00, Wheelock Place, Singapore 238880

© PIONEER ELECTRONIC CORPORATION 1998

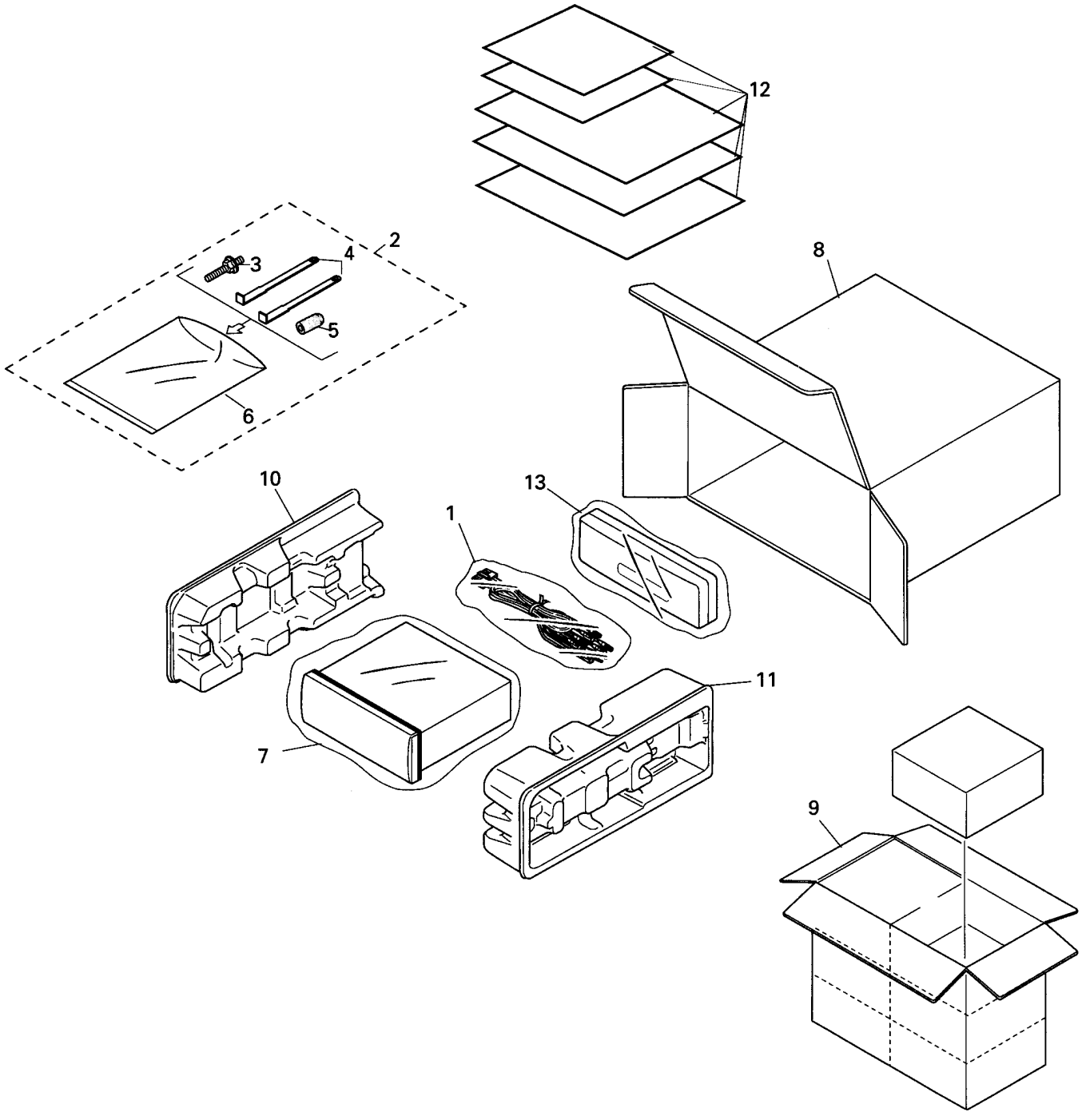
K-ZZU. OCT. 1998 Printed in Belgium

1. SAFETY INFORMATION

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

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Cord Assy	CDE5797
	2	Accessory Assy	CEA1917
	3	Screw	CBA1304
	4	Handle	CNC5395
	5	Bush	CNV3930
*	6	Polyethylene Bag	E36-615
	7	Polyethylene Bag	CEG-162
	8	Carton	See Contrast table(2)
	9	Contain Box	See Contrast table(2)
	10	Protector	CHP2102
	11	Protector	CHP2101
	12-1	Owner's Manual	See Contrast table(2)
	12-2	Owner's Manual	See Contrast table(2)
	12-3	Installation Manual	See Contrast table(2)
*	12-4	Passport	CRY1013
*	12-5	Warranty Card	CRY1087
	13	Case Assy	CXB3520

(2) CONTRAST TABLE

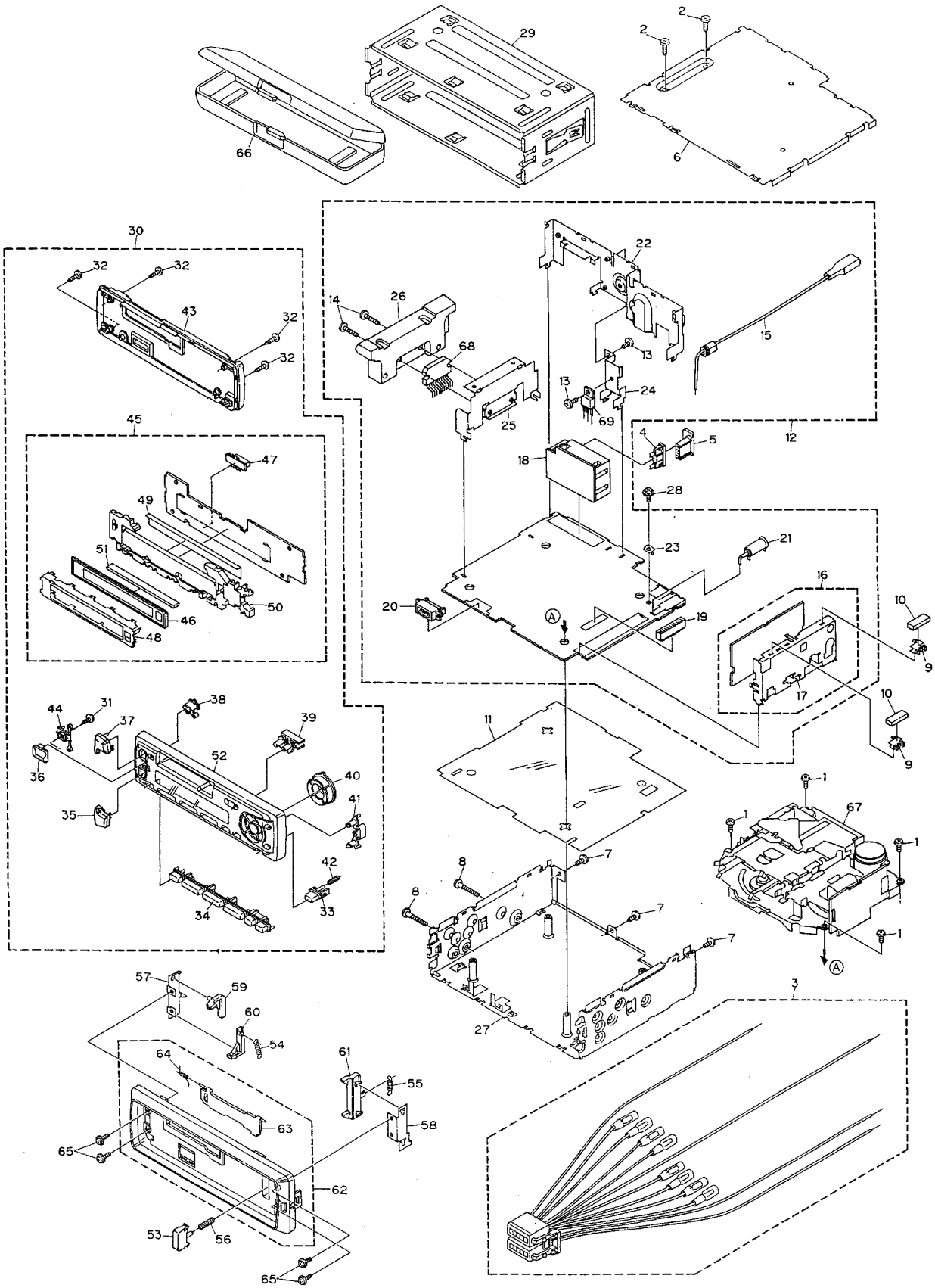
KEH-3830R/X1M/EW, KEH-3800R/X1M/EW and KEH-3820R/X1M/GR are constructed the same except for the following:

Mark No.	Description	Part No.		
		KEH-3830R/X1M/EW	KEH-3800R/X1M/EW	KEH-3820R/X1M/GR
8	Carton	CHG3572	CHG3708	CHG3589
9	Contain Box	CHL3572	CHL3708	CHL3589
12-1	Owner's Manual	CRD2791	CRD2791	CRB1521
12-2	Owner's Manual	CRD2792	CRD2792	Not used
12-3	Installation Manual	CRD2793	CRD2793	CRB1522

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-3830R/X1M/EW	CRD2791	English,Spanish,German
KEH-3800R/X1M/EW	CRD2792	French,Italian,Dutch
	CRD2793	English,Spanish,German, French,Italian,Dutch
KEH-3820R/X1M/GR	CRB1521,CRB1522	German

2.2 EXTERIOR


66
29
2
2
6
30
32
32
43
32
32
45
47
49
51
50
46
48
14
26
68
25
22
13
24
69
15
12
4
5
18
28
23
21
20
19
16
10
9
17
10
9
44
31
37
38
39
36
52
40
41
35
42
34
33
11
1
67
1
1
1
8
8
7
7
7
27
57
59
60
54
64
61
55
58
63
65
62
53
56
65
3

(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC
2	Screw	BSZ30P050FMC
3	Cord Assy	CDE5797
4	Fuse(10A)	CEK1136
5	Plug	CKM1290
6	Case	CNB2350
7	Screw	BSZ30P050FMC
8	Screw	BSZ30P200FMC
9	Holder	CNC5704
10	Cushion	CNM5210
11	Insulator	CNM5963
12	Tuner Amp Unit	See Contrast table(2)
13	Screw	BSZ26P080FMC
14	Screw	BSZ26P160FMC
15	Cord	CDE5752
16	FM/AM Tuner Unit	See Contrast table(2)
17	Holder	CNC6554
18	Plug(CN603)	CKM1288
19	Connector(CN602)	CKS3568
20	Connector(CN601)	CKS3581
21	Antenna Jack(CN402)	CKX1056
22	Panel	CNB2344
23	Holder	CNC5399
24	Holder	CNC6845
25	Holder	CNC7996
26	Heat Sink	CNR1505
27	Chassis Unit	See Contrast table(2)
28	Screw	ISS26P055FUC
29	Holder Unit	CXB2687
30	Detach Grille Assy	See Contrast table(2)
31	Screw	BPZ20P060FMC
32	Screw	BPZ20P100FZK
33	Button	See Contrast table(2)
34	Button(1-6)	CAC5785
35	Button	See Contrast table(2)

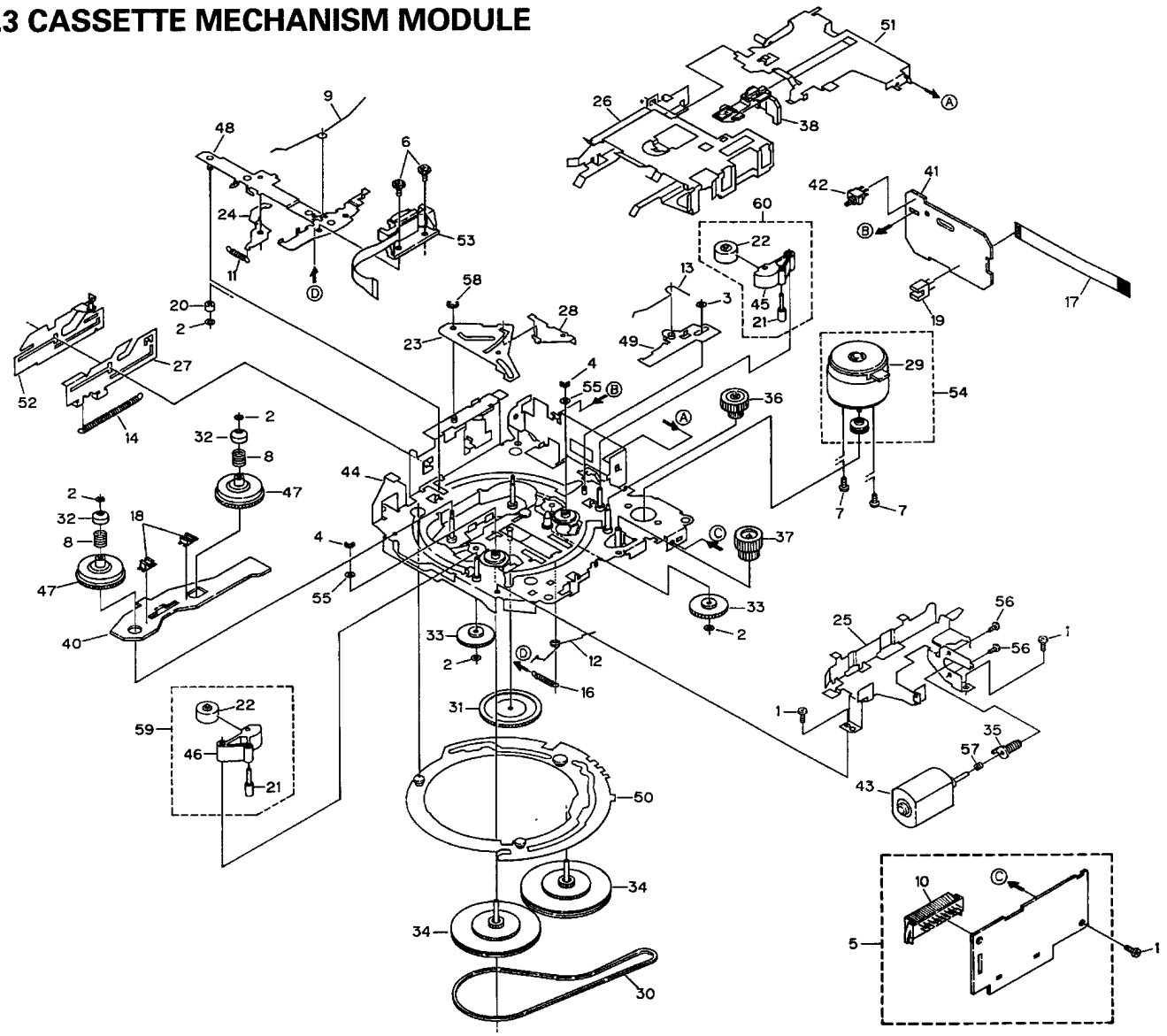
Mark No.	Description	Part No.
36	Button	See Contrast table(2)
37	Button	See Contrast table(2)
38	Button(Eject)	CAC5793
39	Button(Display)	CAC5934
40	Button	See Contrast table(2)
41	Button	See Contrast table(2)
42	Spring	CBH2103
43	Cover	See Contrast table(2)
44	Housing	CNV5528
45	Keyboard Unit	See Contrast table(2)
46	LCD(LCD1901)	CAW1542
47	Connector(CN1901)	CKS3580
48	Holder	CNC7981
49	Sheet	CNM5941
50	Lighting Conductor	CNV5527
51	Connector	CNV5531
52	Grille Unit	See Contrast table(2)
53	Button	CAC4836
54	Spring	CBH1834
55	Spring	CBH1835
56	Spring	CBH2182
57	Bracket	CNC6135
58	Bracket	CNC6791
59	Arm	CNV4692
60	Arm	CNV4693
61	Arm	CNV4728
62	Panel Unit	CXB3022
63	Door	CAT1835
64	Spring	CBH1838
65	Screw	IMS20P030FZK
66	Case Assy	CXB3520
67	Cassette Mechanism Module	EXK3695
68	IC(IC302)	TDA7384
69	Transistor(Q904)	2SD2396

(2)CONTRAST TABLE

KEH-3830R/X1M/EW , KEH-3800R/X1M/EW and KEH-3820R/X1M/GR have the same construction except for the following:

Mark No.	Description	Part No. KEH-3830R/X1M/EW	KEH-3800R/X1M/EW	KEH-3820R/X1M/GR
12	Tuner Amp Unit	CWM6251	CWM6251	CWM6250
16	FM/AM Tuner Unit	CWE1466	CWE1466	CWE1470
27	Chassis Unit	CXB3016	CXB3018	CXB3017
30	Detach Grille Assy	CXB3325	CXB3880	CXB3324
33	Button(Detach)	CAC5929	CAC5789	CAC5789
35	Button(-)	CAC5931	CAC5930	CAC5930
36	Button(EQ)	CAC6136	CAC6135	CAC6135
37	Button(+)	CAC5797	CAC5783	CAC5783
40	Button(Cross)	CAC5799	CAC5786	CAC5786
41	Button(A,B)	CAC5801	CAC5787	CAC5787
43	Cover	CNS5131	CNS5130	CNS5130
45	Keyboard Unit	CWM6262	CWM6465	CWM6261
52	Grille Unit	CXB4067	CXB4070	CXB4068
62	Panel Unit	CXB3022	CXB3021	CXB3021
63	Door	CAT1835	CAT2028	CAT2028

2.3 CASSETTE MECHANISM MODULE



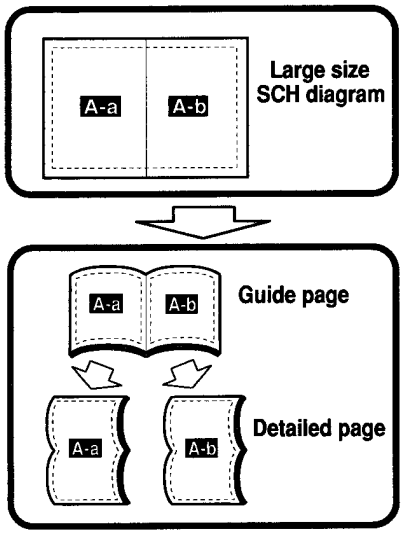
● CASSETTE MECHANISM MODULE SECTION PARTS LIST

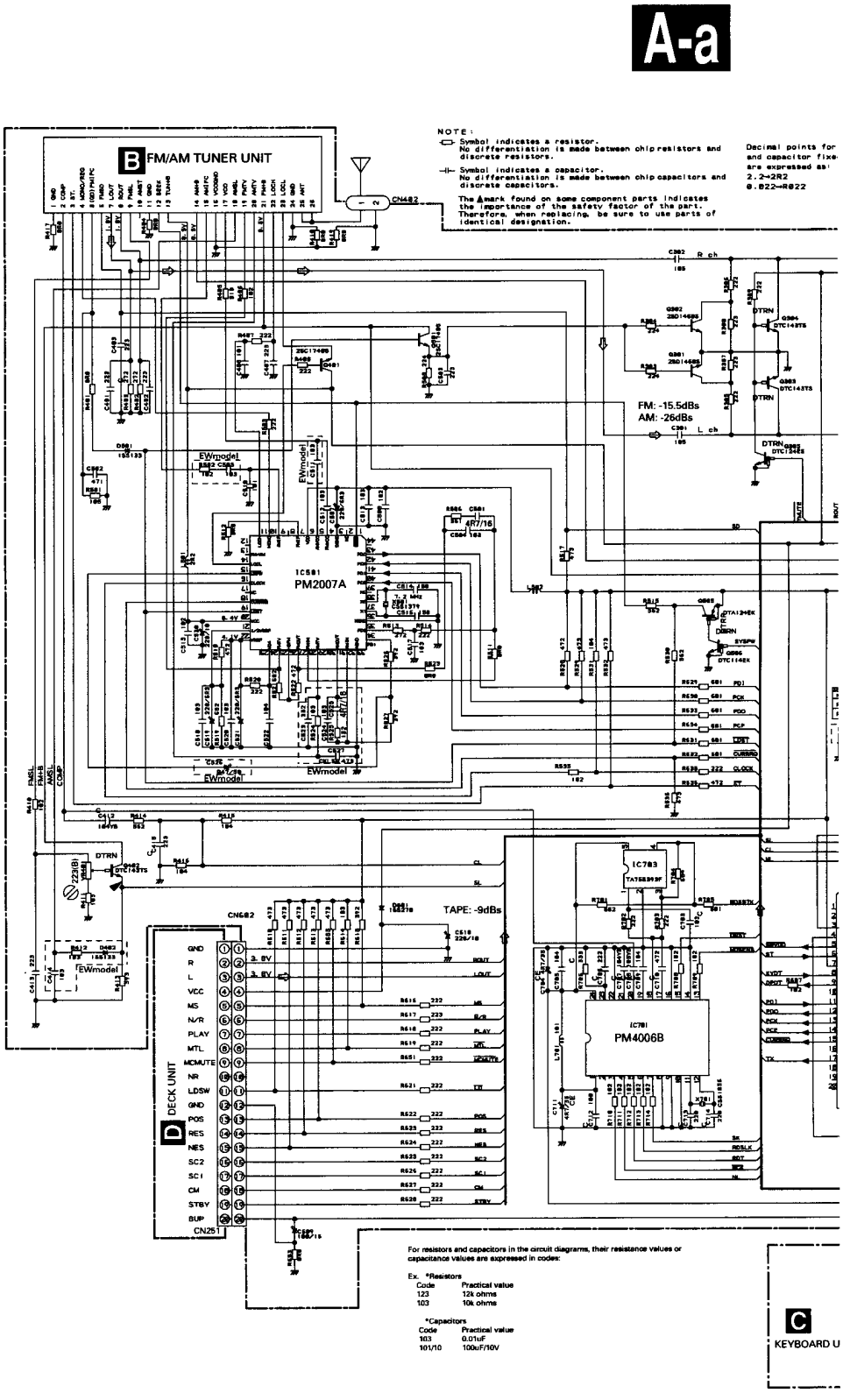
Mark	No.	Description	Part No.
	1	Screw	BSZ20P040FMC
	2	Washer	CBF1037
	3	Washer	CBF1038
	4	Washer	CBG1003
	5	Deck Unit	EWM1021
	6	Screw	EBA1028
	7	Screw	EBA1037
	8	Spring	EBH1531
	9	Spring	EBH1575
	10	Plug(CN251)	CKS3540
	11	Spring	EBH1515
	12	Spring	EBH1587
	13	Spring	EBH1517
	14	Spring	EBH1518
	15	•••••	
	16	Spring	EBH1537
	17	Cord	EDD1020
	18	Photo-interrupter(EGN2,3)	EGN1006
	19	Photo-interrupter(EGN1)	EGN1005
	20	Roller	ENR1031
	21	Shaft	ELA1373
	22	Pinch Roller	ENV1518
	23	Arm	ENC1489
	24	Arm	ENC1397
	25	Guide	ENC1481
	26	Holder	ENC1417
	27	Lever	ENC1448
	28	Arm	ENC1488
*	29	Motor	EXM1031
	30	Belt	ENT1027
	31	Gear	ENV1347
	32	Collar	ENV1508
	33	Gear	ENV1350
	34	Flywheel	ENV1500
	35	Worm Gear	ENV1439
	36	Worm Wheel	ENV1440
	37	Gear	ENR1028
	38	Lever	ENV1442
	39	•••••	
	40	Gathering PCB	ENX1037
	41	Gathering PCB	ENX1042
	42	Switch(S1)	ESG1004
	43	Motor Unit(M2)	EXA1485
	44	Chassis Unit	EXA1511
	45	Pinch Holder	ENV1485
	46	Pinch Holder	ENV1486
	47	Reel Unit	EXA1543
	48	Head Base Unit	EXA1457
	49	Lever Unit	EXA1438
	50	Gear Unit	EXA1574
	51	Frame Unit	EXA1458
	52	Lever Unit	EXA1439
	53	Head Assy(HD1)	EXA1506
	54	Motor Unit(M1)	EXA1490
	55	Washer	HBF-179
	56	Screw	BMZ20P022FMC
	57	Spring	EBH1545
	58	Washer	YE20FUC
	59	Pinch Holder Unit	EXA1529
	60	Pinch Holder Unit	EXA1528

3. SCHEMATIC DIAGRAM

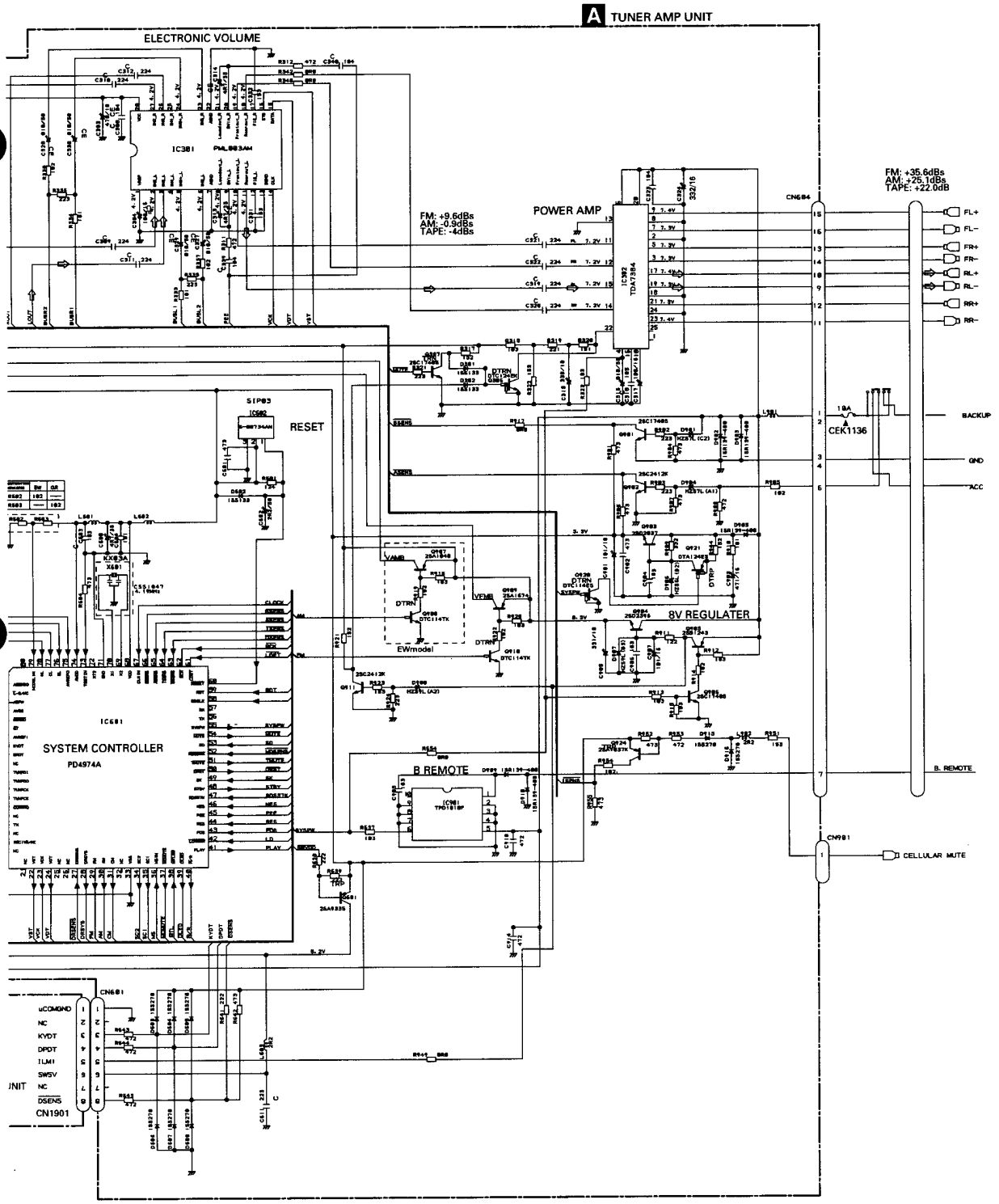
3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

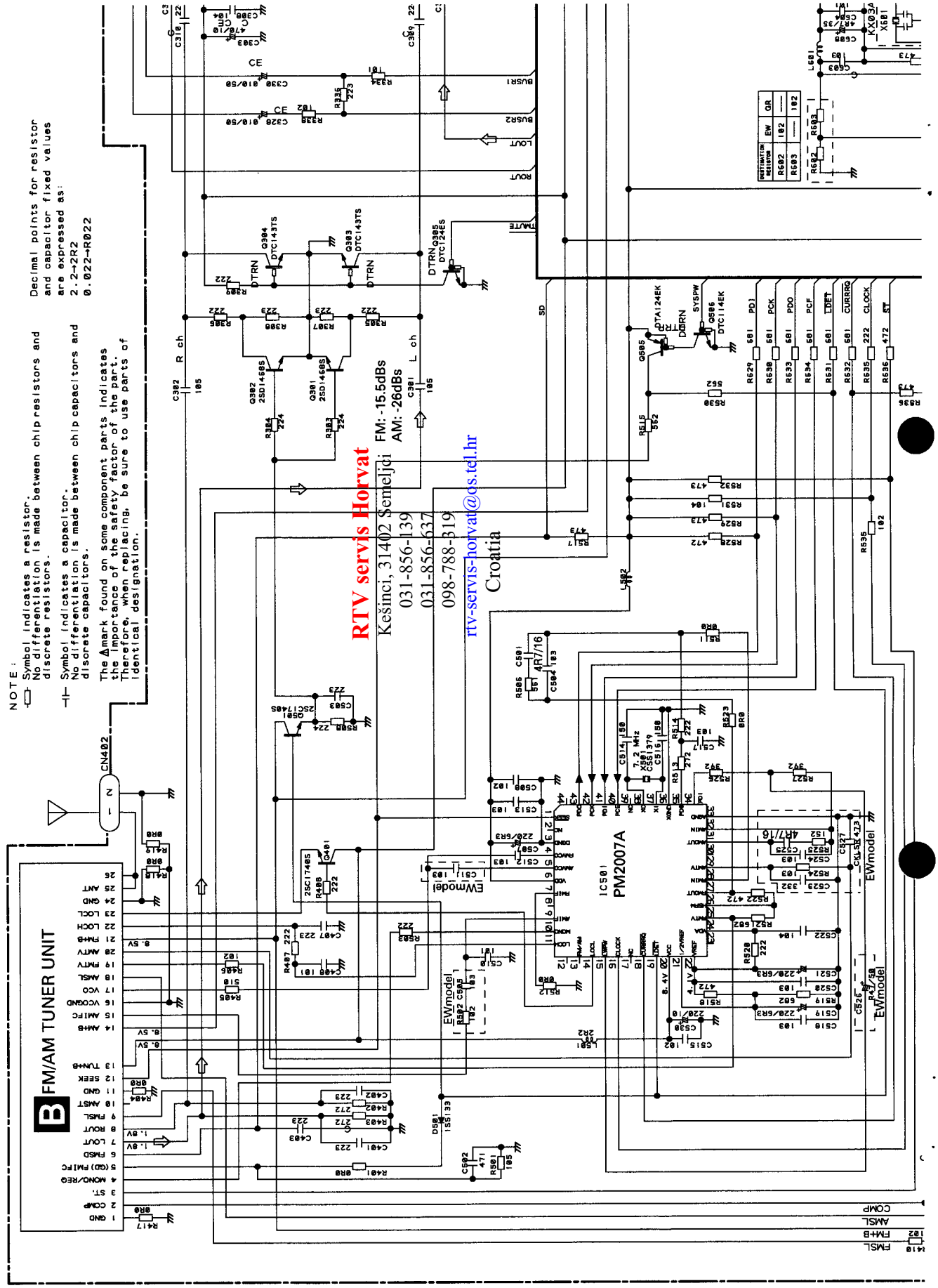
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

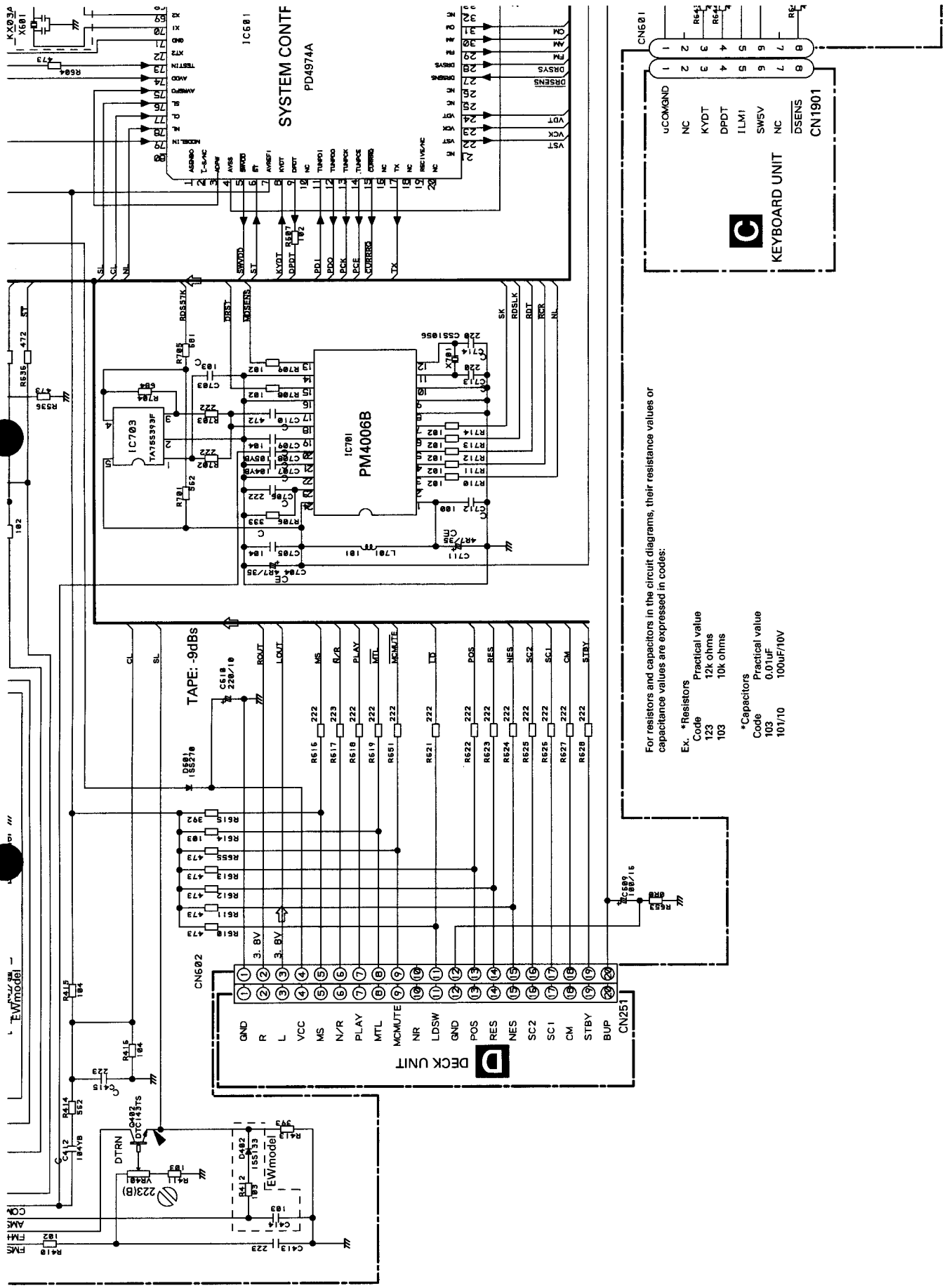


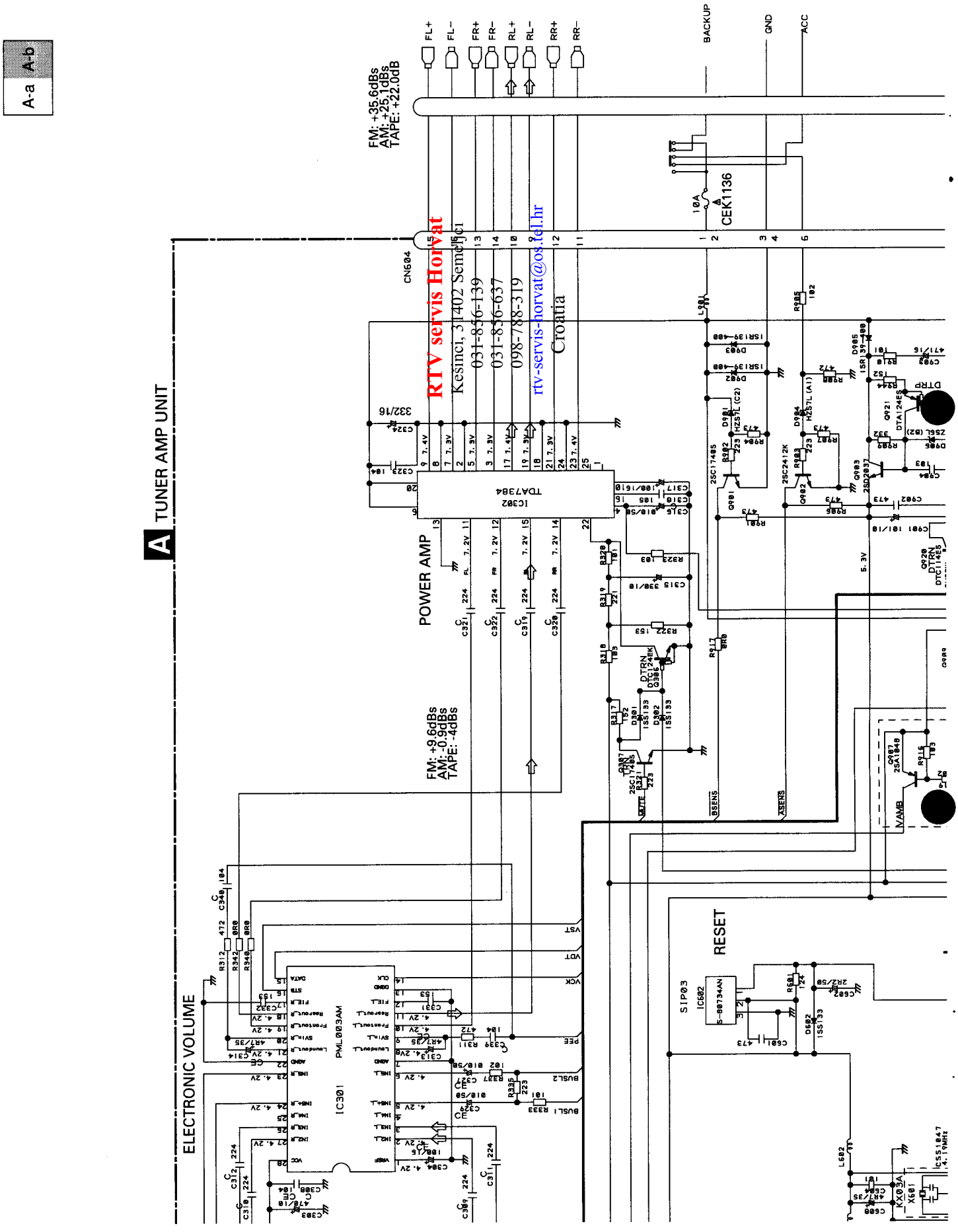


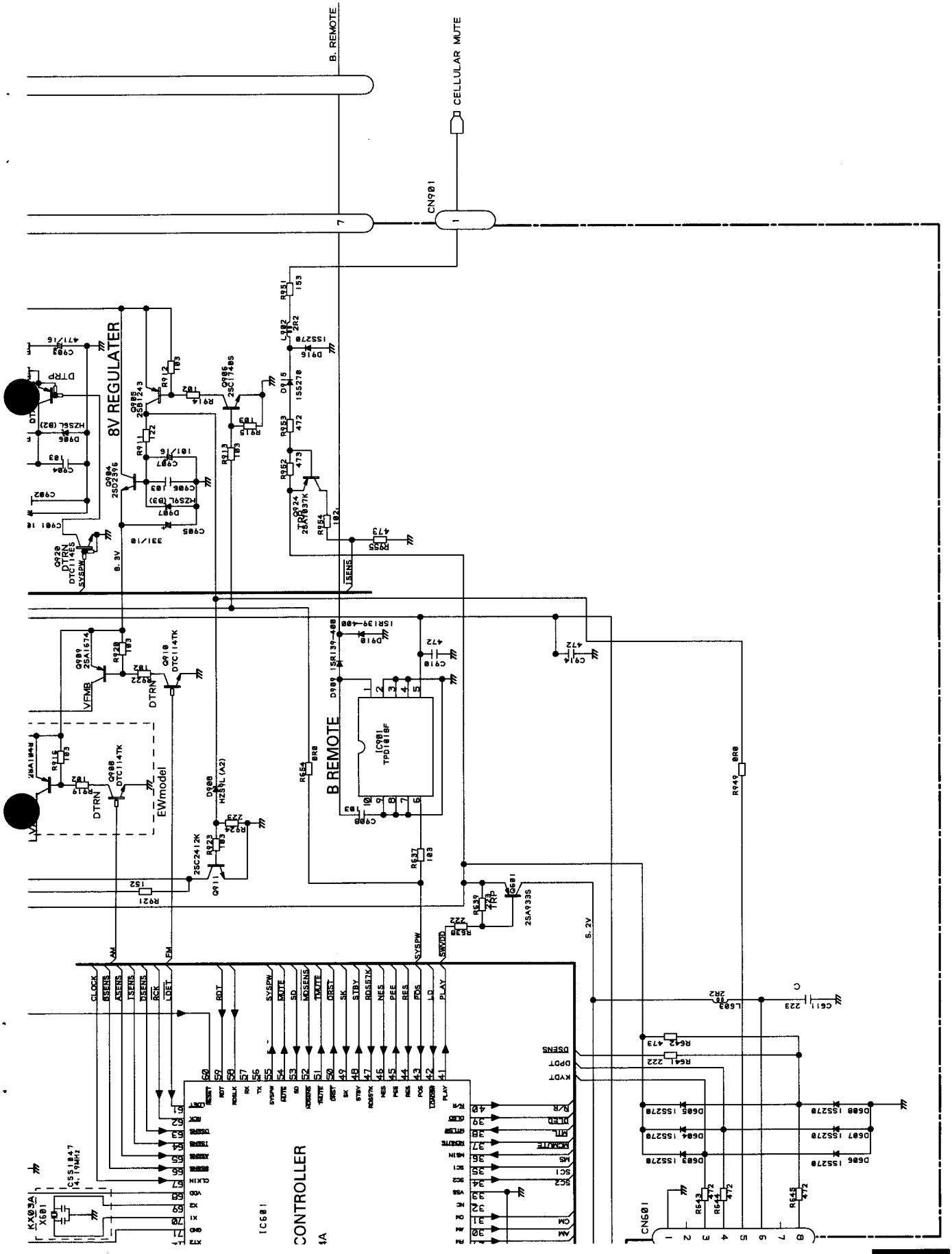
A-b


A TUNER AMP UNIT
ELECTRONIC VOLUME
IC381
PML883AM
POWER AMP
IC382
TDA7384
FM: +9.6dBs
AM: -0.9dBs
TAPE: -6dBs
FM: +35.6dBs
AM: +25.1dBs
TAPE: +22.0dB
CN684
FL+
FL-
FR+
FR-
RL+
RL-
RR+
RR-
BACKUP
GND
ACC
B. REMOTE
CELLULAR MUTE
CN981
CEK1136
10A
RESET
S1P83
IC682
X683A
X681
IC681
SYSTEM CONTROLLER
PD4974A
B REMOTE
EWmodel
8V REGULATER
CN681
uCOMOND
NC
KYDT
DPDT
ILM1
SWSV
NC
DSEN5
CN1901
UNIT


A-a A-b
Decimal points for resistor 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.
The Δmark 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.
B FM/AM TUNER UNIT
CN402
IC501 PM2007A
R ch
L ch
FM: -15.5dBs
AM: -26dBs
RTV servis Horvat
Kešinci, 31402 Semeljci
031-856-139
031-856-637
098-788-319
rtv-servis-horvat@os.tel.hr
Croatia
EWmodel

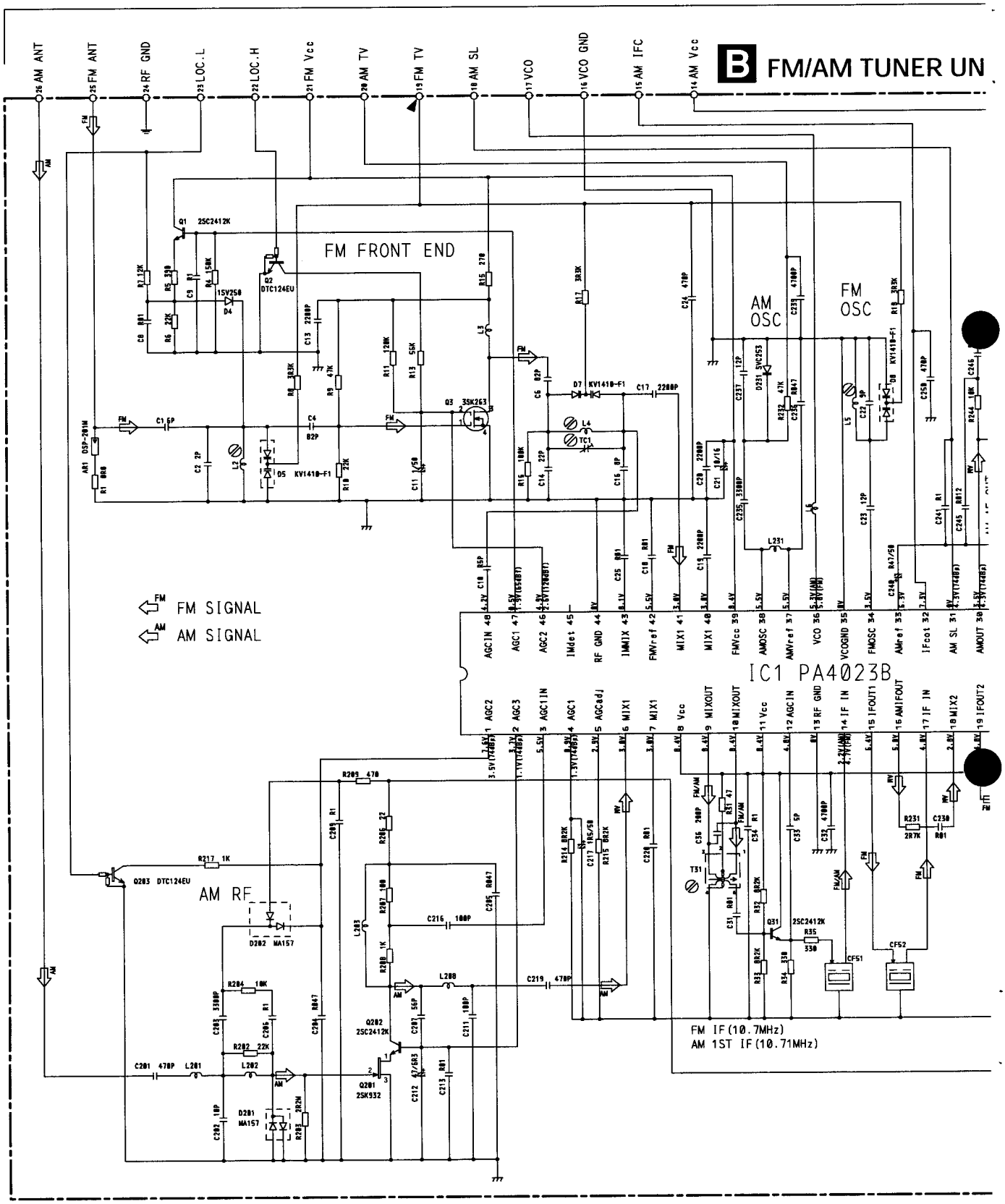

SYSTEM CONTF
PD4974A
IC601
PM4006B
IC701
IC703
TA7553393F
KEYBOARD UNIT
CN1901
CN601
uCOMGND
NC
KYDT
DPDT
ILM!
SW5V
NC
DSENS
TAPE: -9dBs
CN602
CN251
DECK UNIT
GND
R
L
VCC
MS
N/R
PLAY
MTL
MCMUTE
NR
LDSW
GND
POS
RES
NES
SC2
SC1
CM
STBY
BUP
DTRN
EW/model
For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:
Ex. *Resistors
Code Practical value
123 12k ohms
103 10k ohms
*Capacitors
Code Practical value
103 0.01uF
101/10 100uF/10V

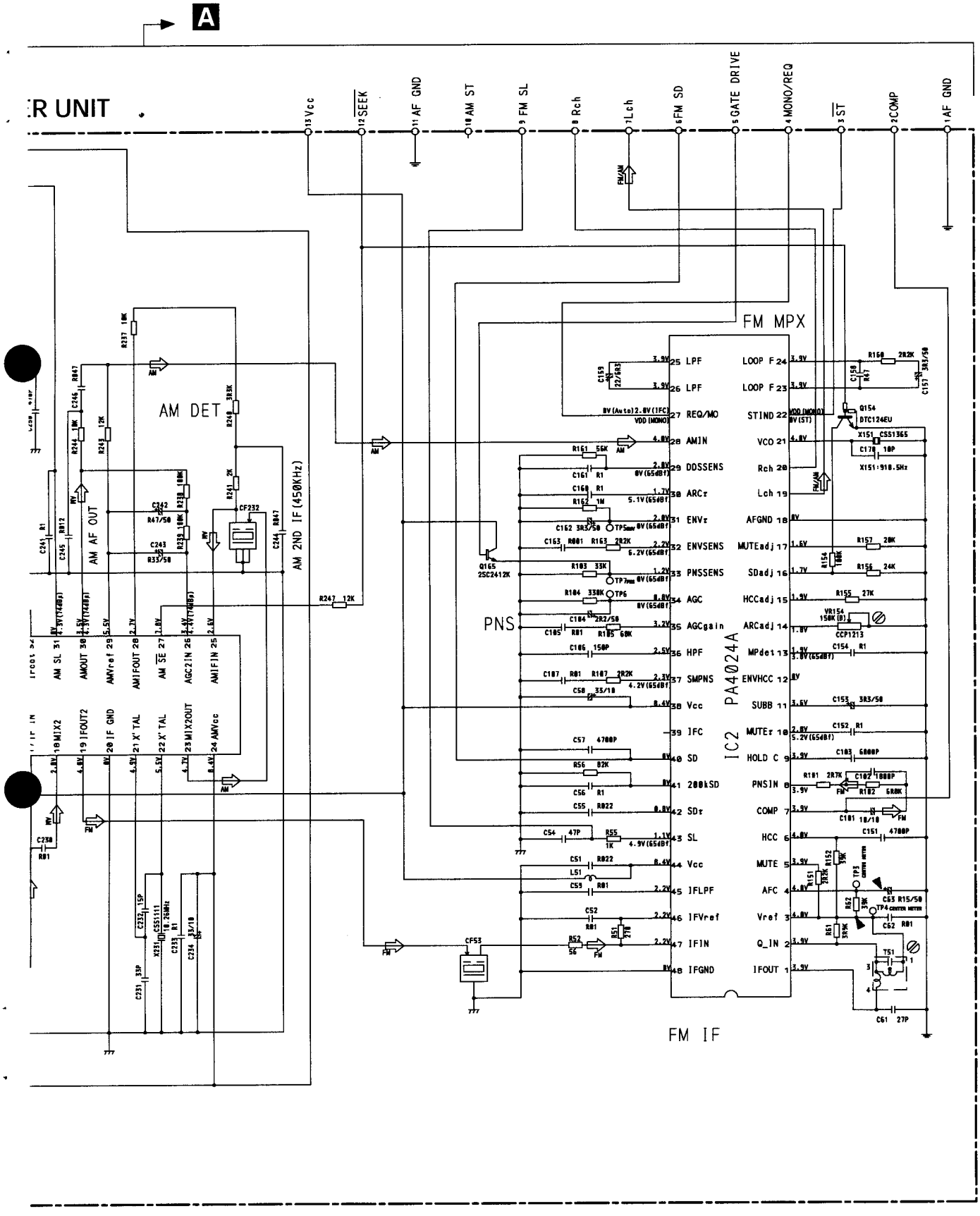

A TUNER AMP UNIT
ELECTRONIC VOLUME
POWER AMP
RESET
FM: +35.6dBs
AM: +25.10dBs
TAPE: +22.0dB
FM: +9.6dBs
AM: -0.9dBs
TAPE: -4dBs
FL+
FL-
FR+
FR-
RL+
RL-
RR+
RR-
BACKUP
GND
ACC
CN604
IC302
TDA7384
IC301
PML083AM
IC602
S-80734AN
CEK1136
RTV servis Horvat
Kesinci, 31402 Semeljci
031-856-139
031-856-637
098-788-319
rtv-servis-horvat@os.tel.hr
Croatia


B. REMOTE
CELLULAR MUTE
CN901
8V REGULATOR
B REMOTE
EWmodel
CONTROLLER
IC601
CN601
A-a
A-b
A-b

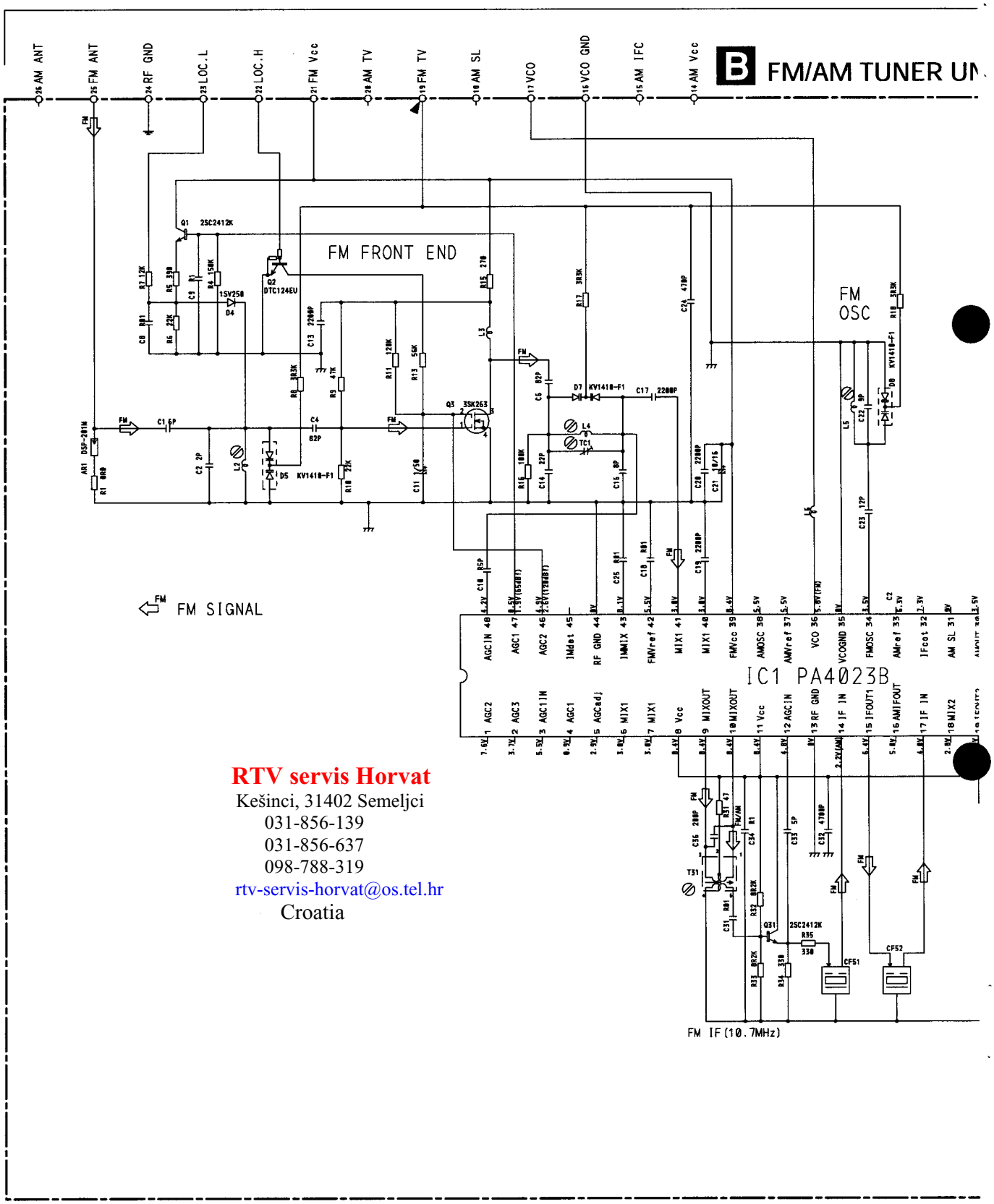
3.2 FM/AM TUNER UNIT

● KEH-3830R/X1M/EW,3800R/X1M/EW

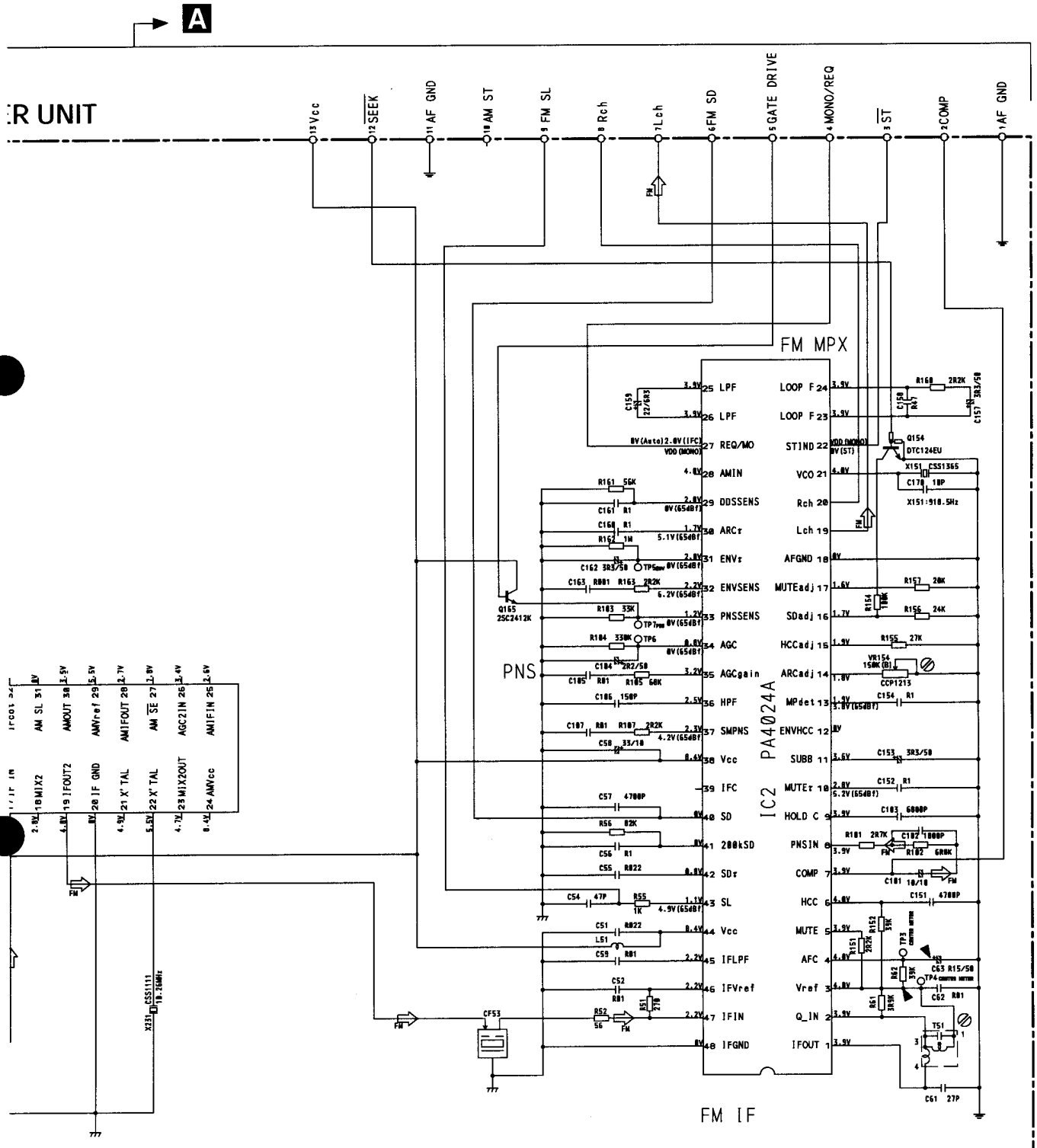



A
:R UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 GATE DRIVE
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM MPX
AM DET
AM AF OUT
AM 2ND IF (450KHz)
PNS
IC2 PA4024A
FM IF
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCr
31 ENVr
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDr
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
24 LOOP F
23 LOOP F
22 STIND
21 VCO
20 Rch
19 Lch
18 AFGND
17 MUTEadj
16 SDadj
15 HCCadj
14 ARCadj
13 MPdet
12 ENVHCC
11 SUBB
10 MUTEr
9 HOLD C
8 PNSIN
7 COMP
6 HCC
5 MUTE
4 AFC
3 Vref
2 Q_IN
1 IFOUT
B

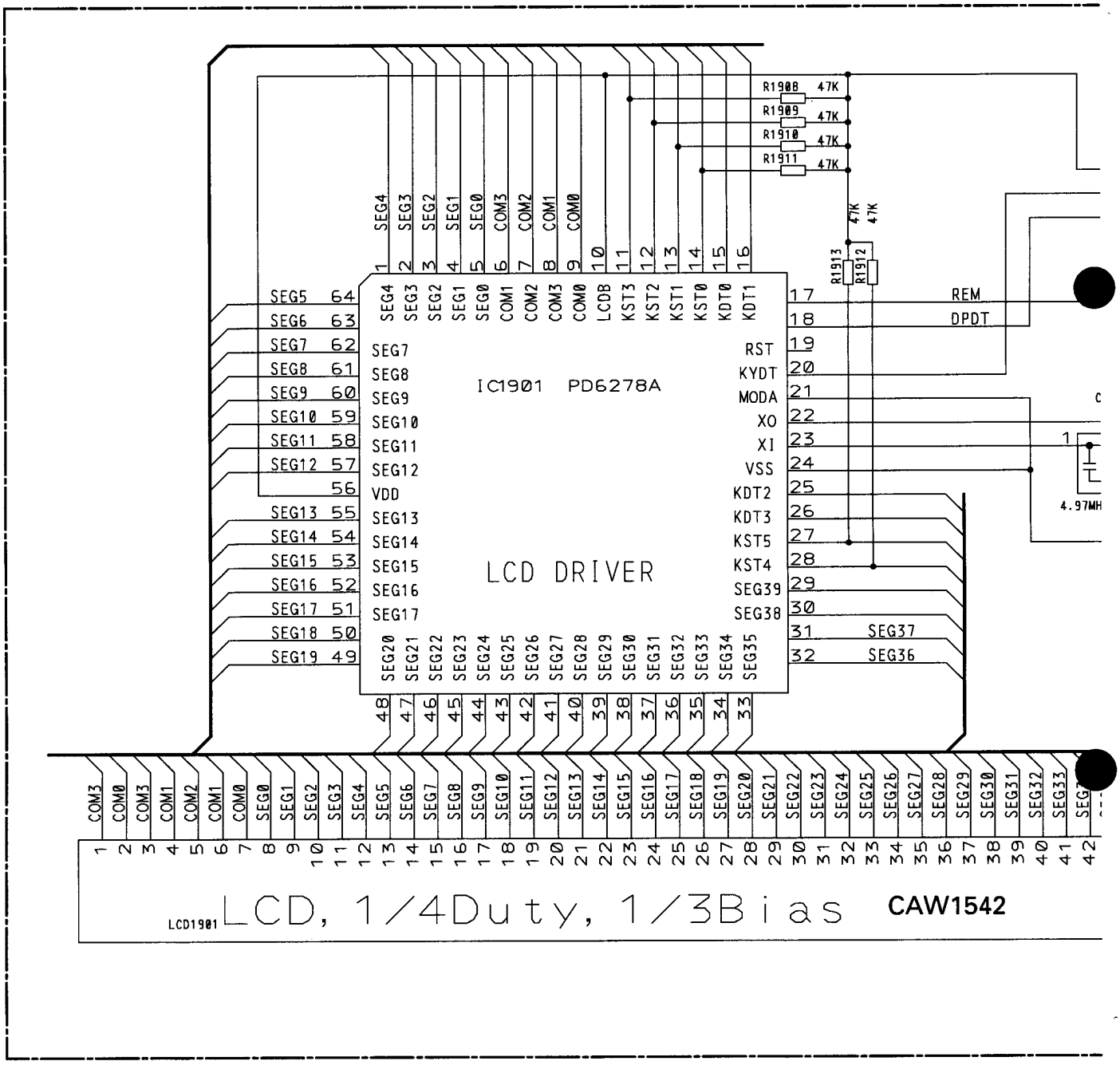
● KEH-3820R/X1M/GR



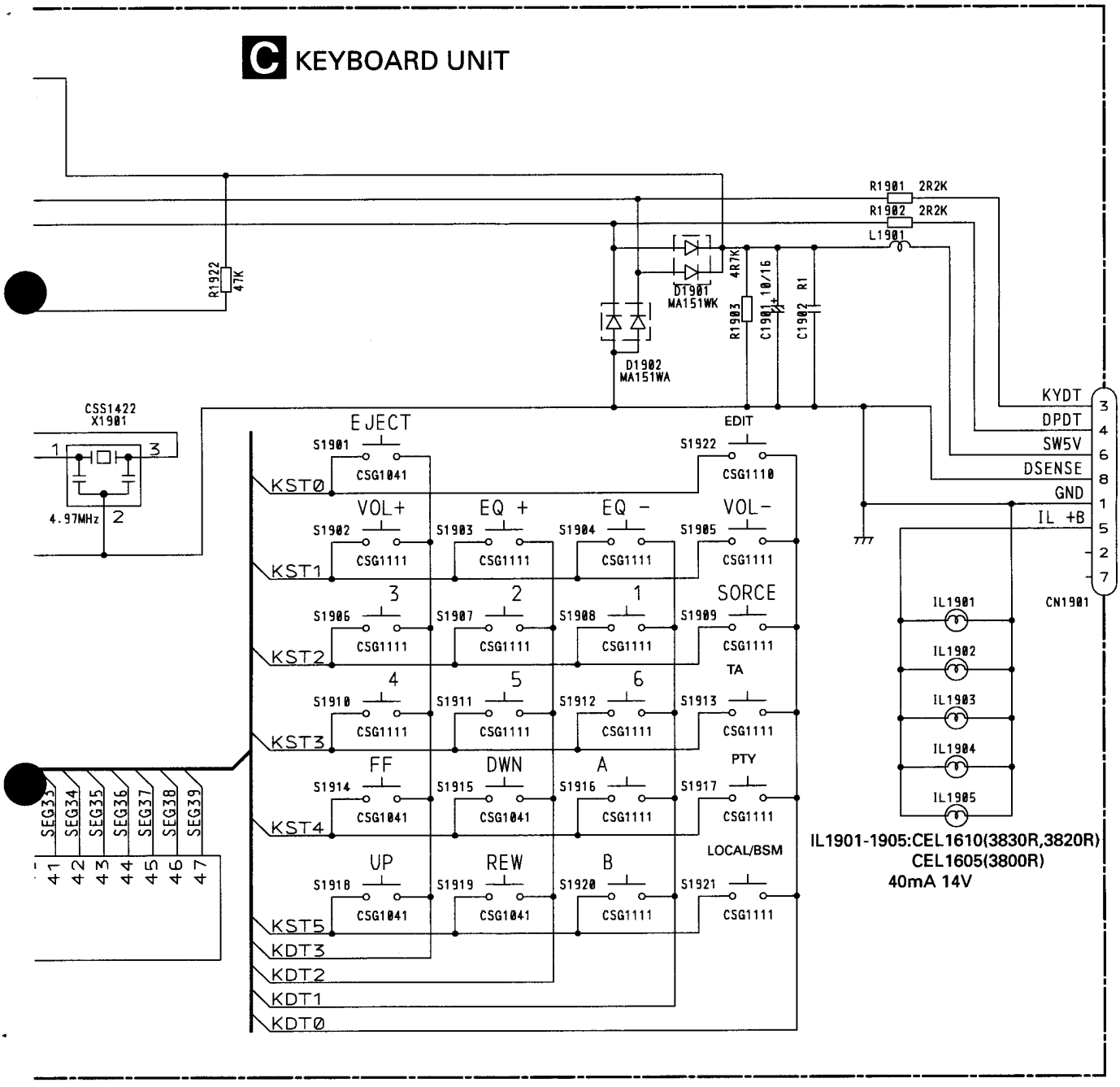
RTV servis Horvat
Kešinci, 31402 Semeljci
031-856-139
031-856-637
098-788-319
rtv-servis-horvat@os.tel.hr
Croatia


A
:R UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 GATE DRIVE
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM MPX
IC2 PA4024A
PNS
FM IF
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCr
31 ENVr
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 280kSD
42 SDr
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
24 LOOP F
23 LOOP F
22 STIND
21 VCO
20 Rch
19 Lch
18 AFGND
17 MUTEadj
16 SDadj
15 HCCadj
14 ARCadj
13 MPdet
12 ENVHCC
11 SUBB
10 MUTEr
9 HOLD C
8 PNSIN
7 COMP
6 HCC
5 MUTE
4 AFC
3 Vref
2 Q_IN
1 IFOUT
Q154 DTC124EU
X151 CSS1365
X151:918.5Hz
Q165 2SC2412K
CF53
X131 CSS1111 19.26MHz
TS1
AM SL 31
AMOUT 30
AMVref 29
AMIFOUT 28
AM SE 27
AGC2IN 26
AMIFIN 25
IFOUT2
IF GND
IF TAL
X' TAL
MIX2OUT
AMVcc
MIXI

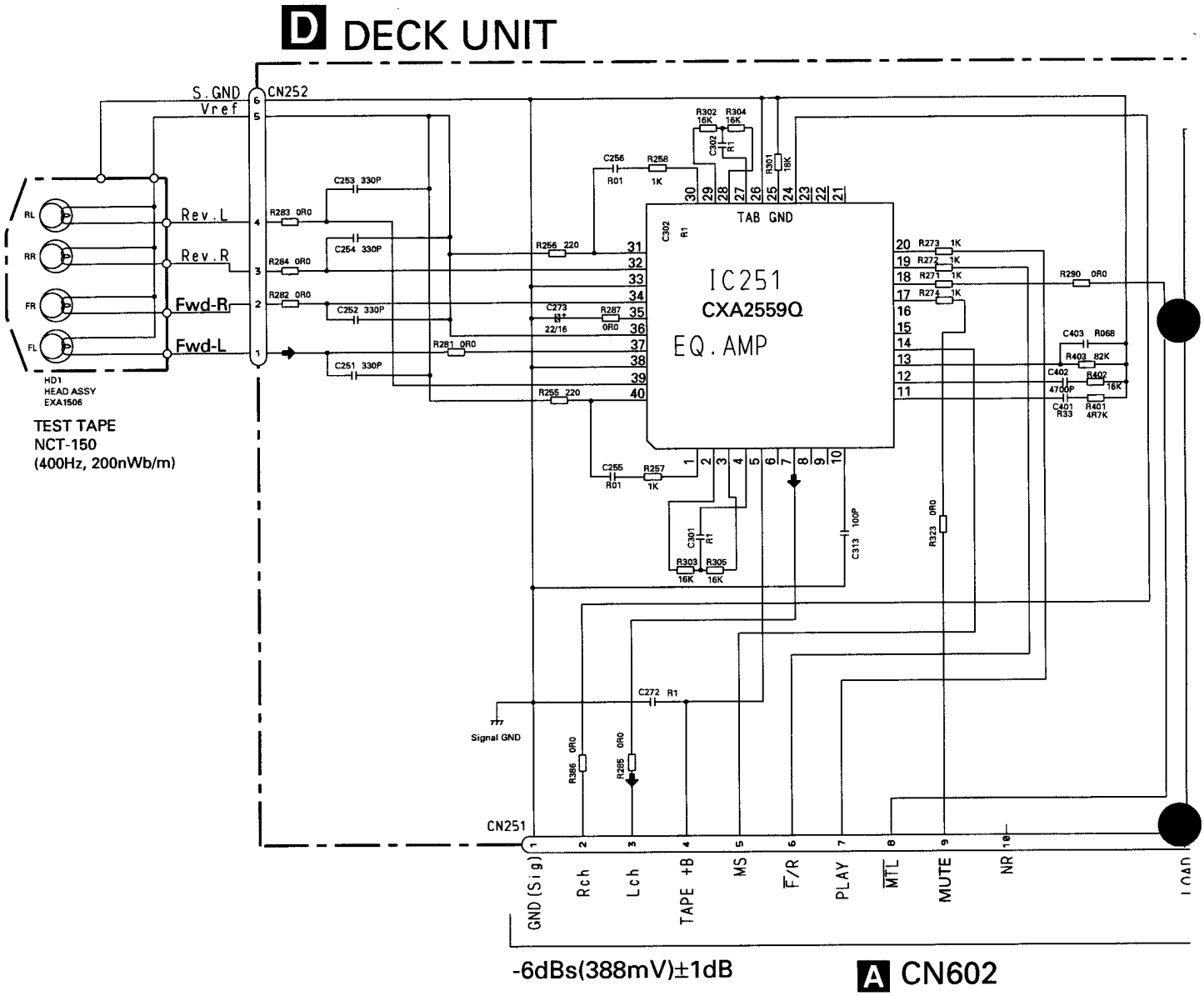
3.3 KEYBOARD UNIT

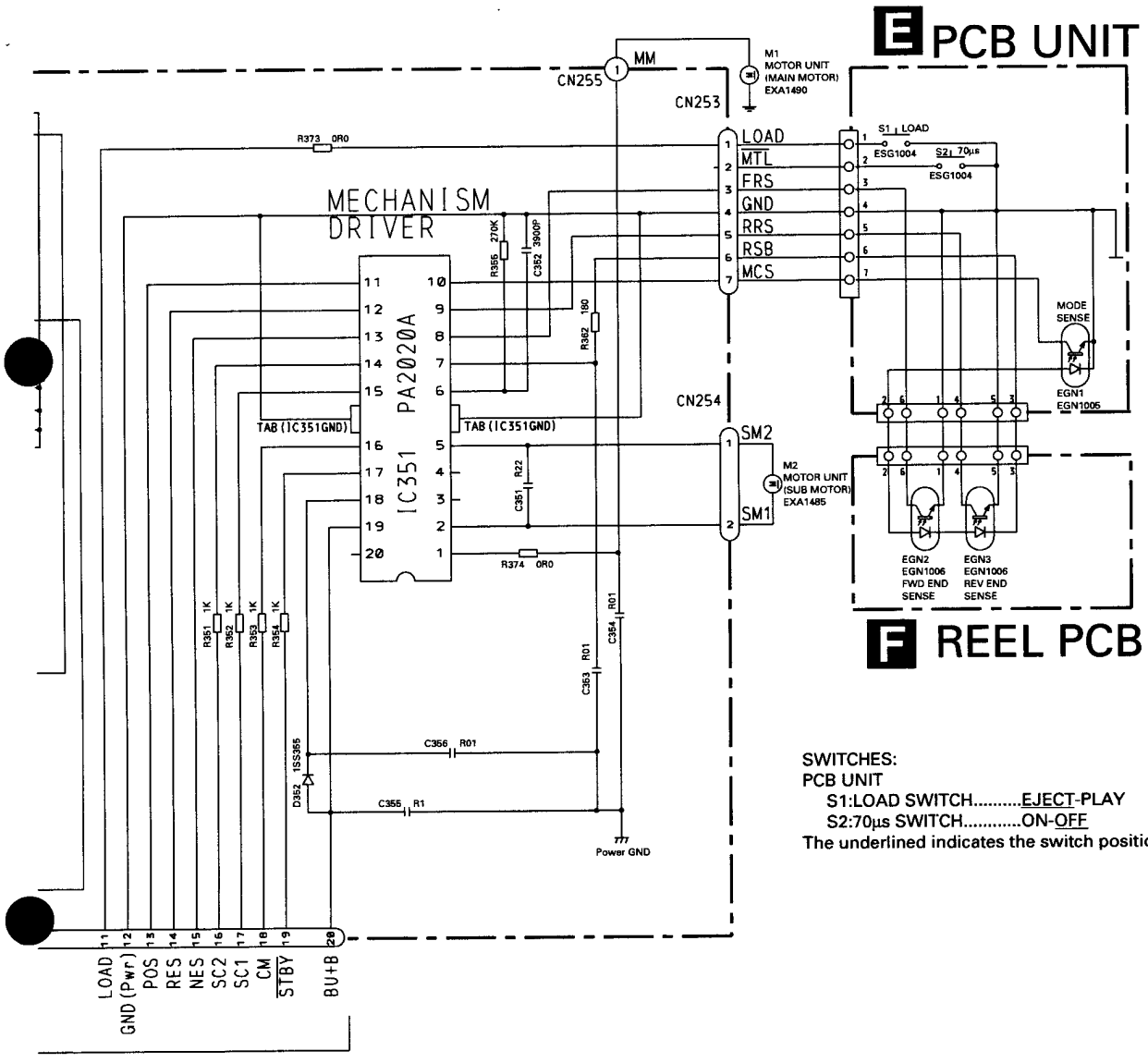


C KEYBOARD UNIT



3.4 CASSETTE MECHANISM MODULE





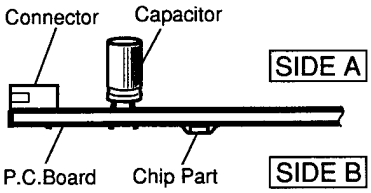
SWITCHES:
PCB UNIT
S1:LOAD SWITCH.....EJECT-PLAY
S2:70µs SWITCH.....ON-OFF
The underlined indicates the switch position.

4. PCB CONNECTION DIAGRAM

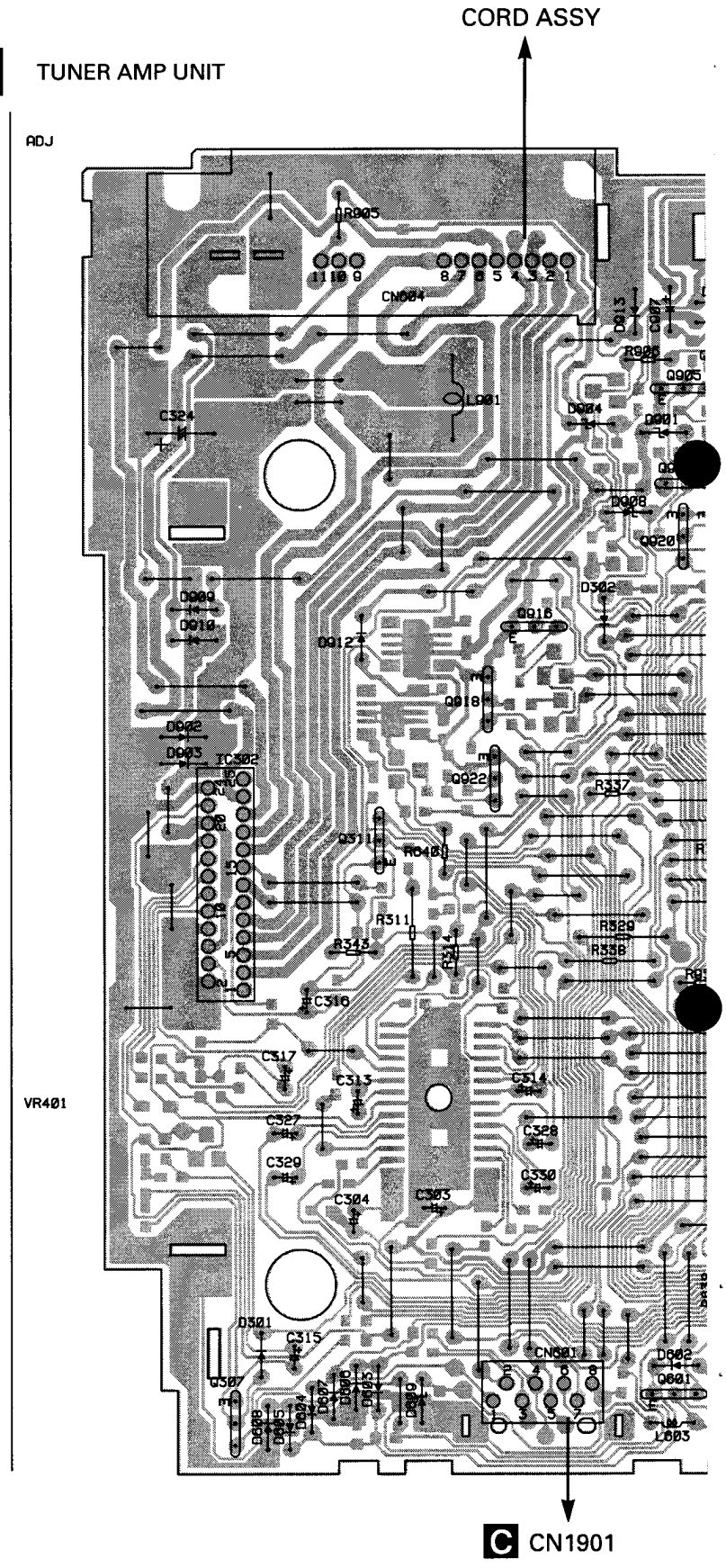
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

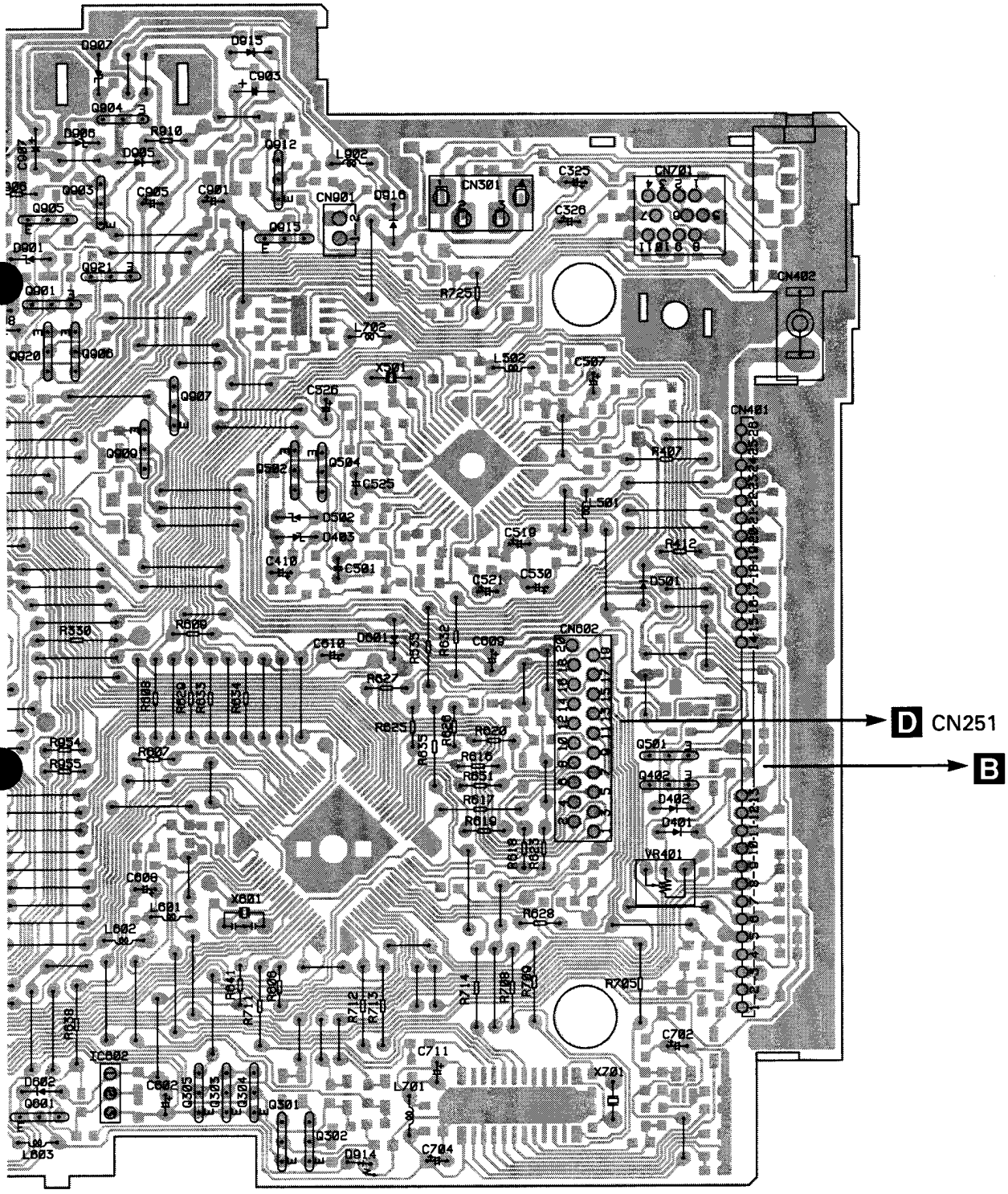
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



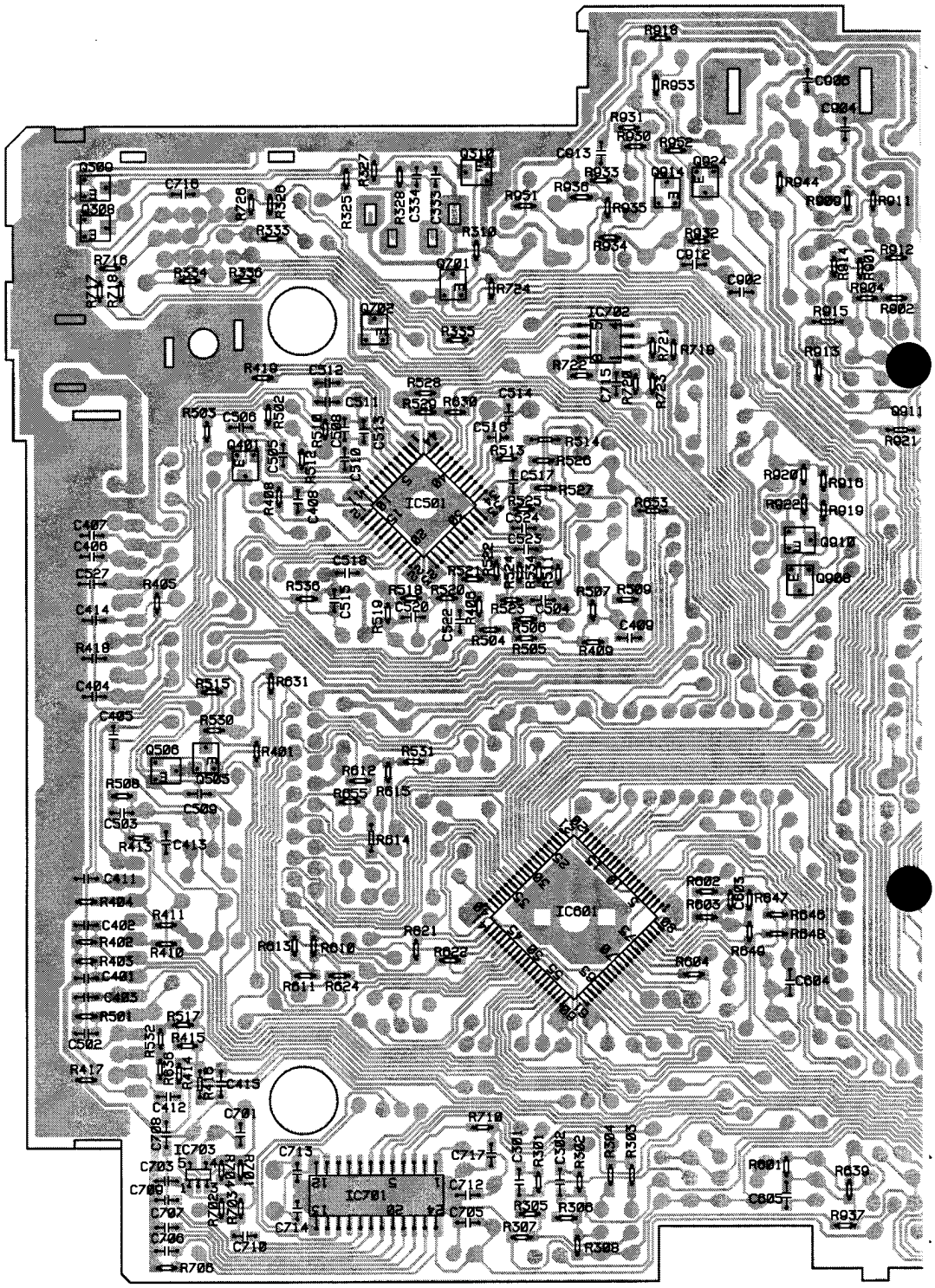
A TUNER AMP UNIT



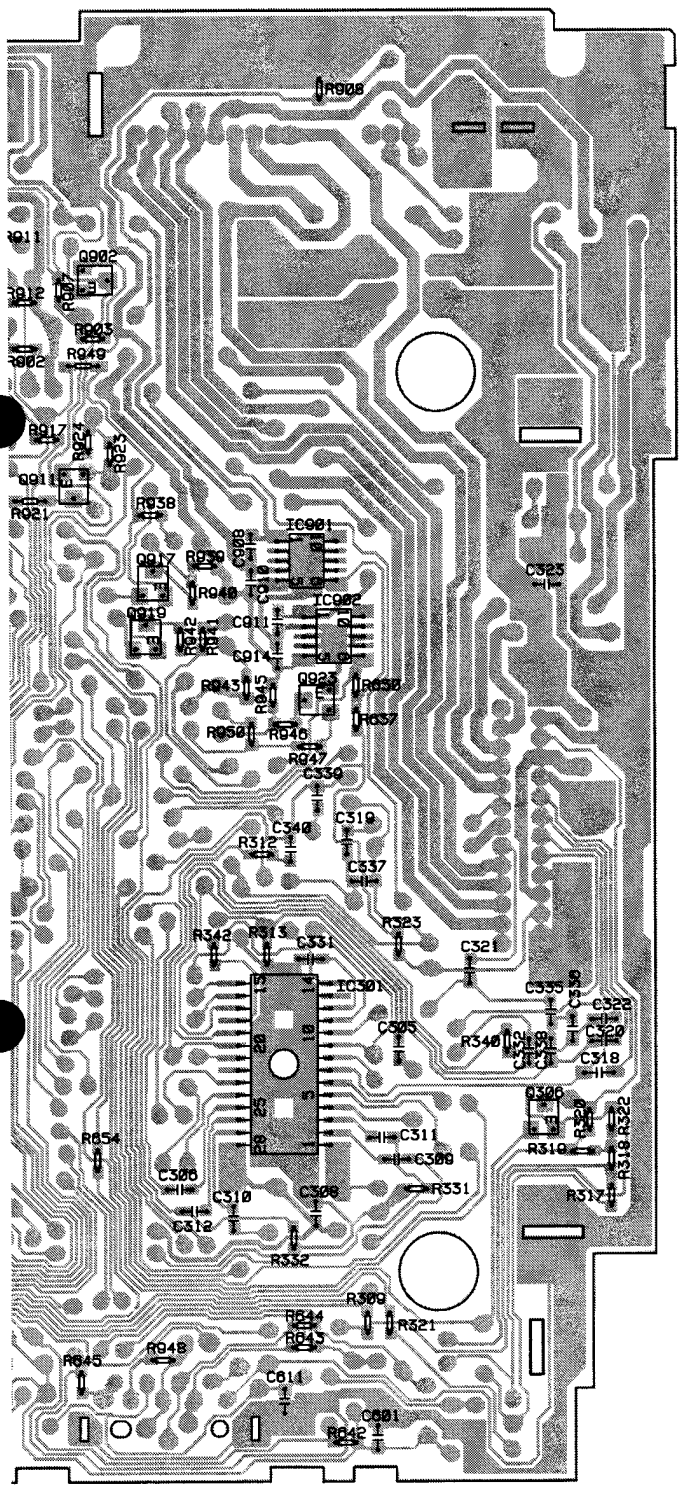
SIDE A



A TUNER AMP UNIT



SIDE B



IC, Q

Q310
Q309 Q914
Q924
Q308
Q902

Q701

Q702
IC702

Q911

Q401
IC901
Q917

IC501
Q919 IC902
Q910

Q908
Q923

Q506

Q505

IC301

IC601

Q306

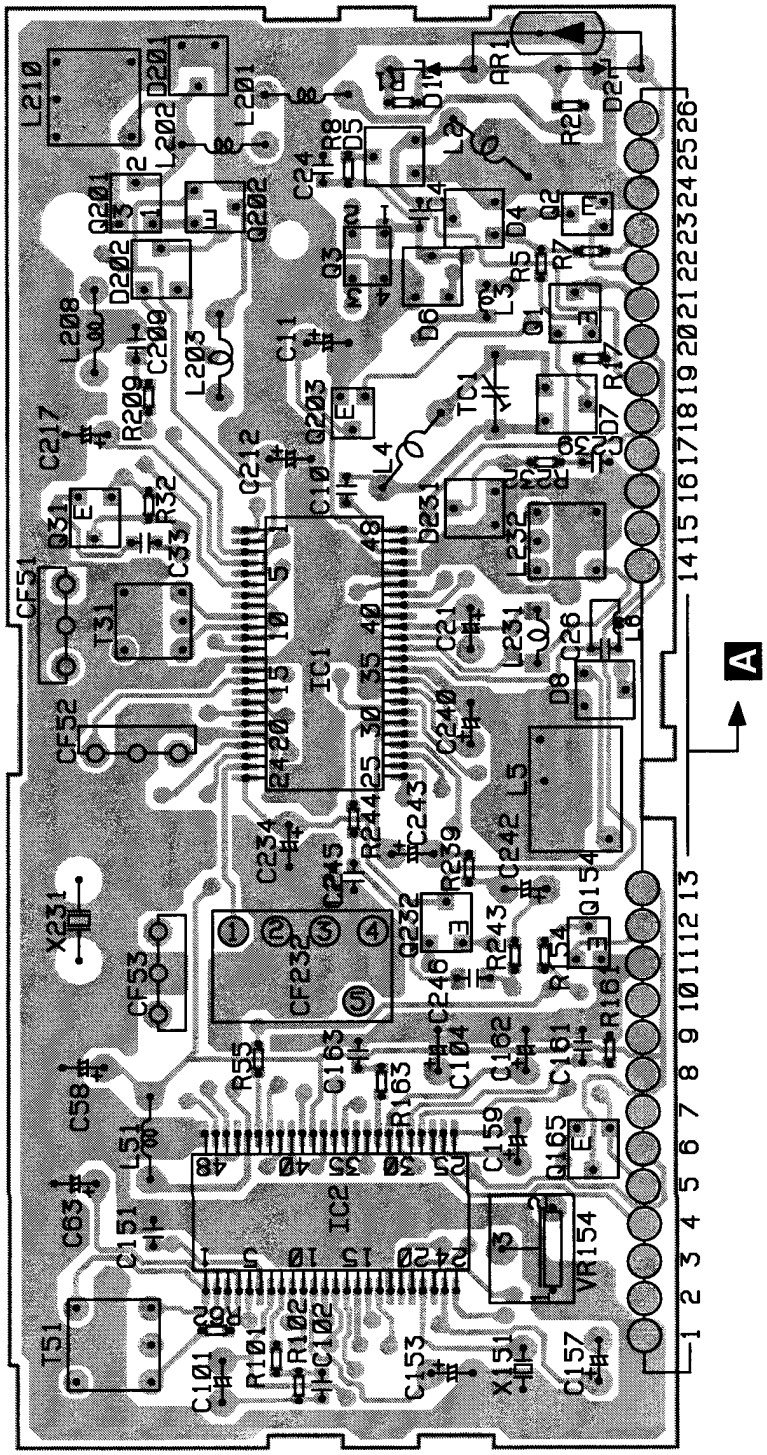
IC703

IC701

A B C D

4.2 FM/AM TUNER UNIT

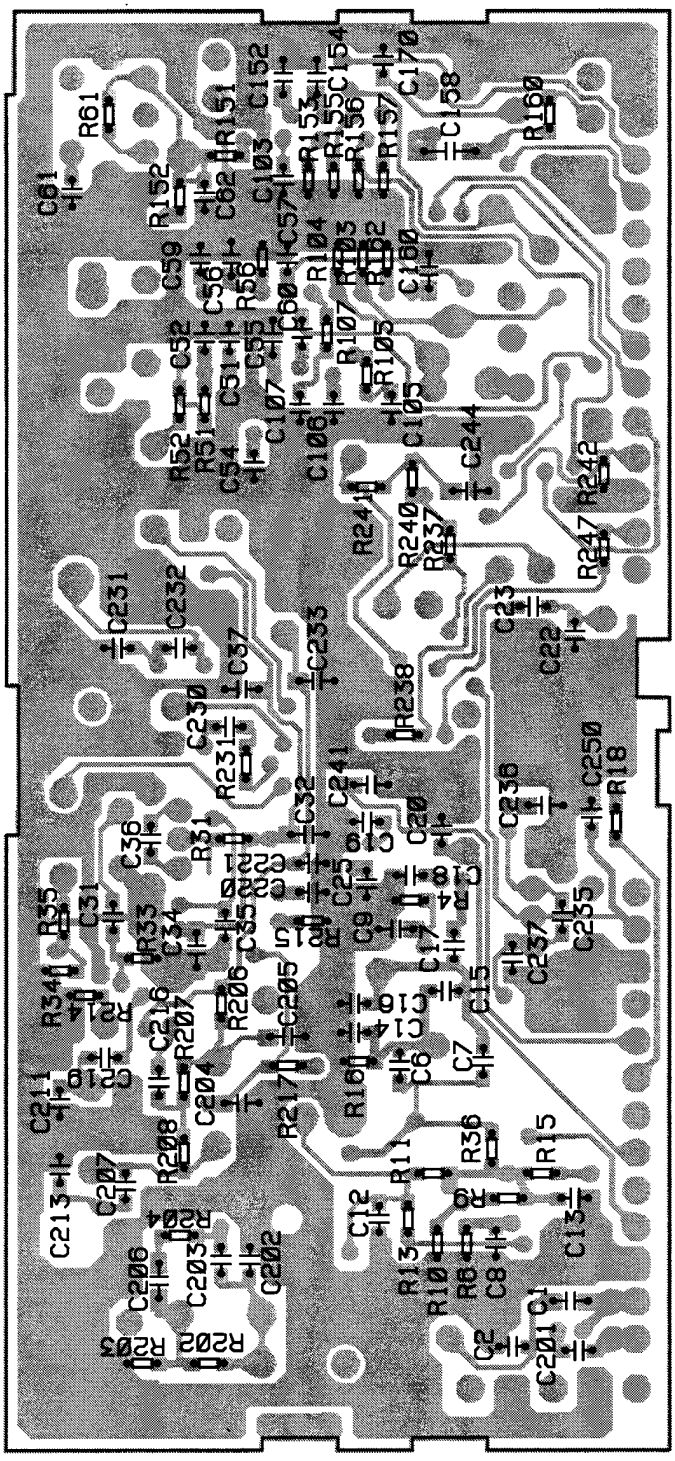
SIDE A



IC, Q	ADJ
Q31	T51
Q201	T31
Q202	L4
Q203 Q3	L2
IC2 IC1	TC1
Q232	L5
Q1	VR154
Q165 Q2	
Q154	

FM/AM TUNER UNIT

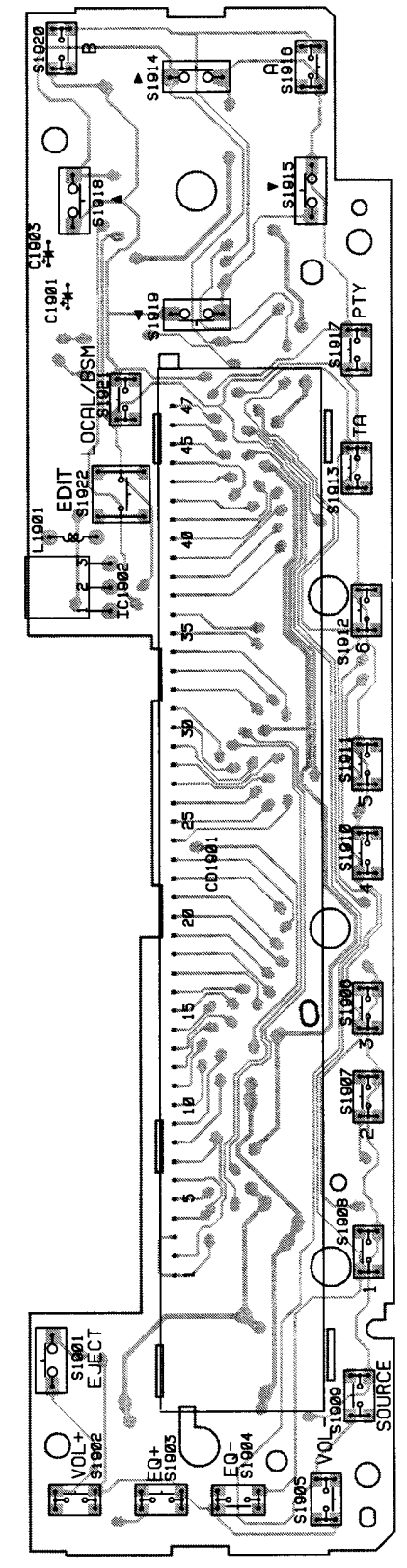
SIDE B



B FM/AM TUNER UNIT

4.3 KEYBOARD UNIT

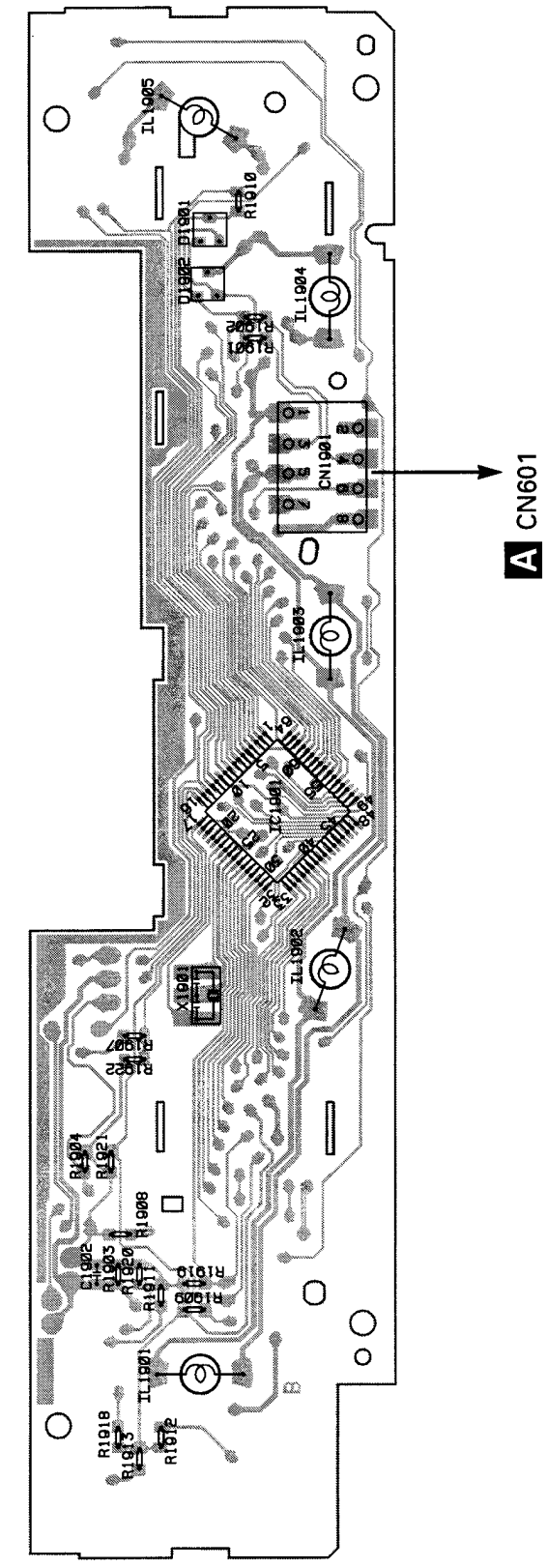
SIDE A



IC1902

KEYBOARD UNIT

SIDE B

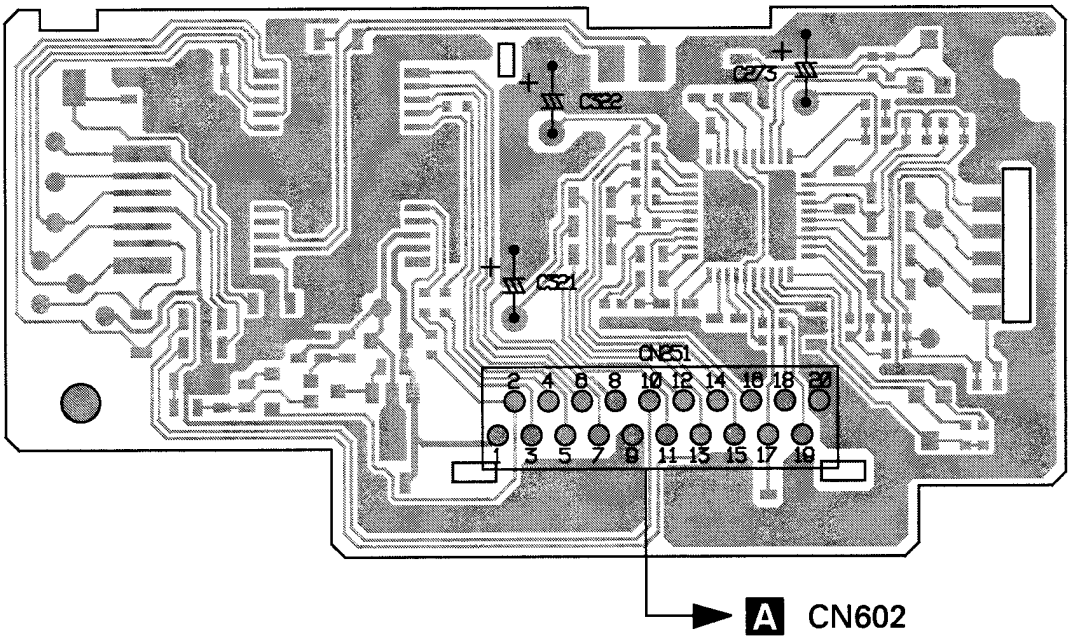


C KEYBOARD UNIT

4.4 CASSETTE MECHANISM MODULE

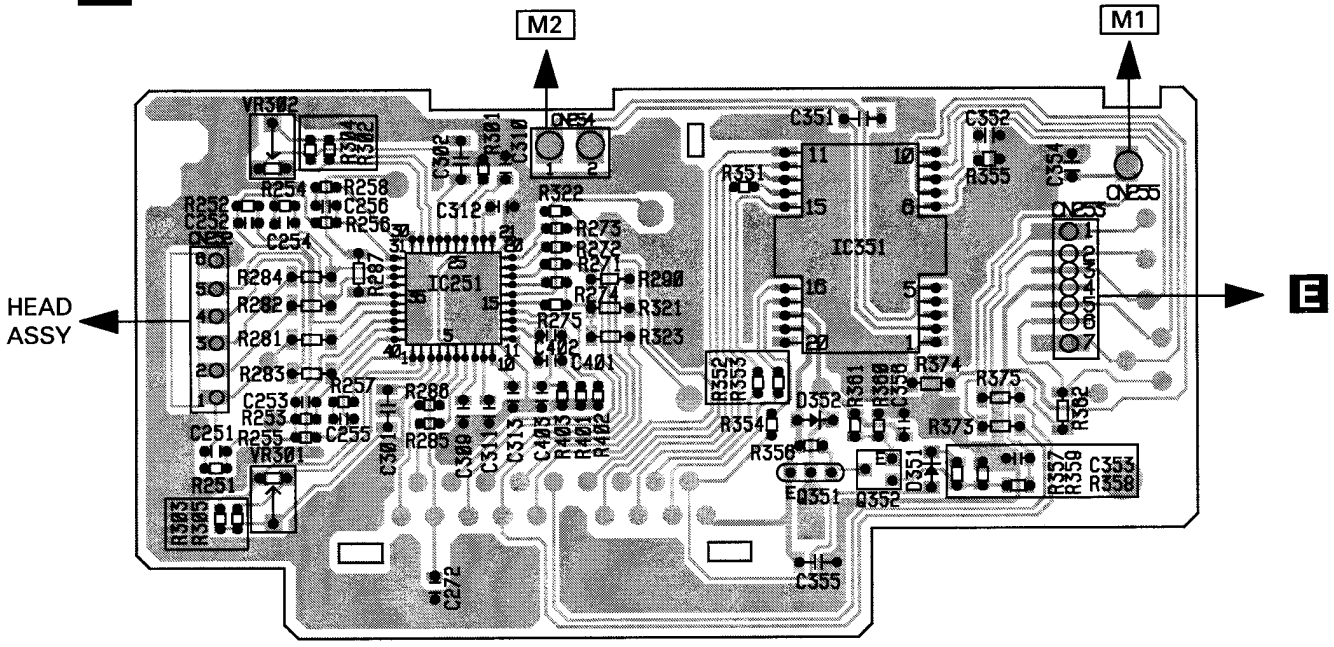
D DECK UNIT

SIDE A

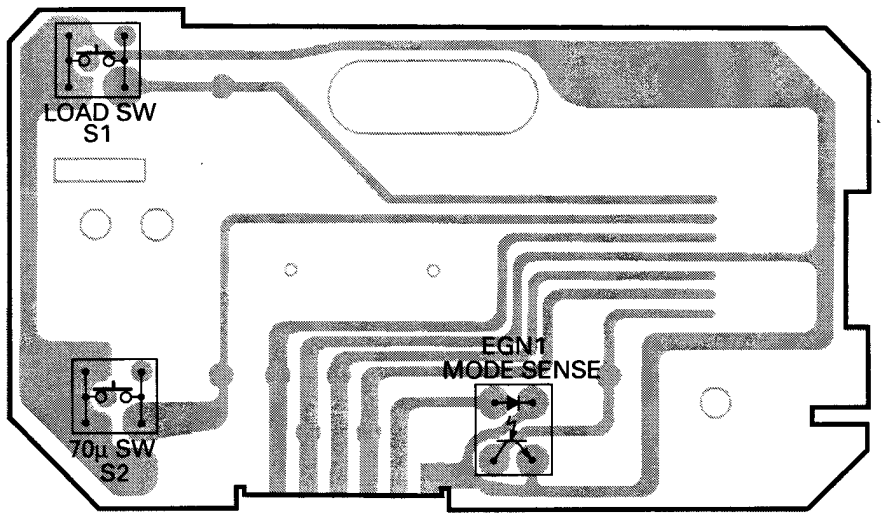


D DECK UNIT

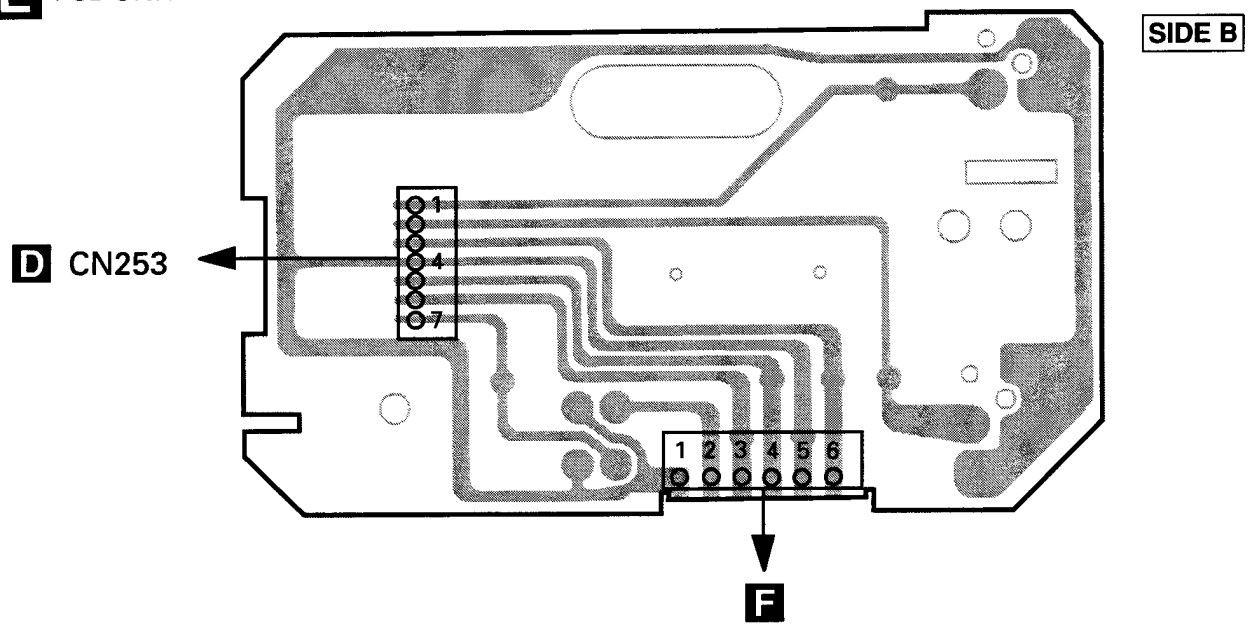
SIDE B



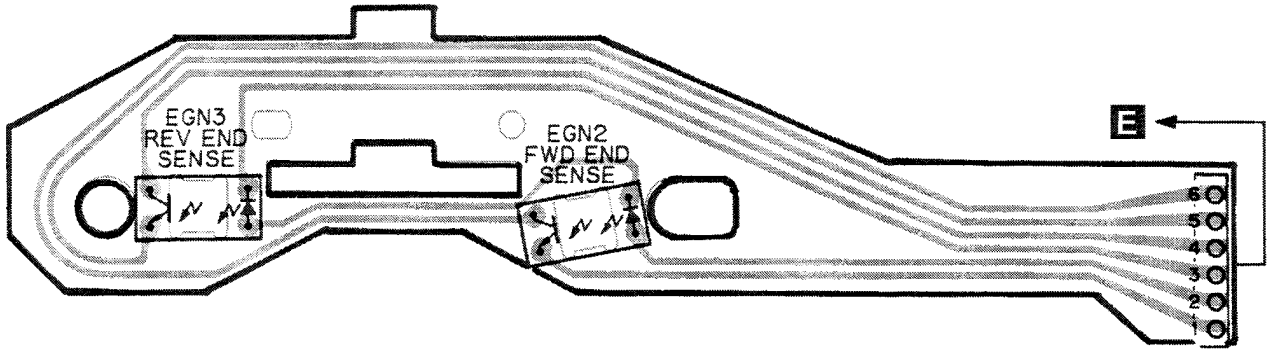
E PCB UNIT



E PCB UNIT



F REEL PCB



5. ELECTRICAL PARTS LIST

NOTE:

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

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

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

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

=====Circuit Symbol and No.	===	Part Name	Part No.
A	Unit Number:	CWM6251(EWmodel) CWM6250(GRmodel)	
	Unit Name :	Tuner Amp Unit	
MISCELLANEOUS			
IC 301		IC	PML003AM
IC 302		IC	TDA7384
IC 501		IC	PM2007A
IC 601		IC	PD4974A
IC 602		IC	S-80734AN
IC 701		IC	PM4006B
IC 703		IC	TA75S393F
IC 901		IC	TPD1018F
L 501		Ferri-Inductor	LAU2R2K
L 502		Ferri-Inductor	LAU2R2K
L 601		Ferri-Inductor	LAU2R2K
L 602		Ferri-Inductor	LAU2R2K
L 603		Ferri-Inductor	LAU2R2K
L 701		Ferri-Inductor	LAU101K
L 901		Coil	CTH1219
L 902		Ferri-Inductor	LAU2R2K
Q 301		Transistor	2SD1468S
Q 302		Transistor	2SD1468S
Q 303		Transistor	DTC143TS
Q 304		Transistor	DTC143TS
Q 305		Transistor	DTC124ES
Q 306		Transistor	DTC124EK
Q 307		Transistor	2SC1740S
Q 401		Transistor	2SC2412K
Q 402		Transistor	DTC143TS
Q 501		Transistor	2SC1740S
Q 505		Transistor	DTA124EK
Q 506		Transistor	DTC114EK
Q 601		Transistor	2SA933S
Q 901		Transistor	2SC1740S
Q 902		Transistor	2SC2412K
Q 903		Transistor	2SD2037
Q 904		Transistor	2SD2396
Q 905		Transistor	2SB1243
Q 906		Transistor	2SC1740S
Q 907		Transistor(EWmodel)	2SA1048
Q 908		Transistor(EWmodel)	DTC114TK
Q 909		Transistor	2SA1674
Q 910		Transistor	DTC114TK
Q 911		Transistor	2SC2412K
Q 920		Transistor	DTC114ES
Q 921		Transistor	DTA124ES
Q 924		Transistor	2SA1037K
D 301		Diode	1SS270
D 302		Diode	1SS270
D 402		Diode(EWmodel)	1SS270
D 501		Diode	1SS270
D 601		Diode	1SS270
D 602		Diode	1SS270
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 901		Diode	HZS7L(C2)
D 902		Diode	1SR139-400
D 903		Diode	1SR139-400
D 904		Diode	HZS7L(A1)
D 905		Diode	1SR139-400
D 906		Diode	HZS6L(B2)
D 907		Diode	HZS9L(B3)
D 908		Diode	HZS9L(A2)
D 909		Diode	1SR139-400
D 910		Diode	1SR139-400
D 915		Diode	1SS270
D 916		Diode	1SS270
X 501		Crystal Resonator 7.200MHz	CSS1379
X 601		Ceramic Resonator 4.194MHz	CSS1047
X 701		Crystal Resonator 4.332MHz	CSS1056
VR 401		Semi-fixed 22kΩ(B)	CCP1321
RESISTORS			
R 303			RS1/8S224J
R 304			RS1/8S224J
R 305			RS1/10S222J
R 306			RS1/10S222J
R 307			RS1/10S223J
R 308			RS1/10S223J
R 309			RS1/10S222J
R 311			RD1/4PU472J
R 312			RS1/10S472J
R 317			RS1/10S152J
R 318			RS1/10S103J
R 319			RS1/10S221J
R 320			RS1/10S101J
R 321			RS1/10S223J
R 322			RS1/10S153J
R 323			RS1/10S103J
R 340			RS1/10S0R0J
R 342			RS1/10S0R0J
R 401			RS1/10S0R0J
R 402			RS1/10S272J
R 403			RS1/10S272J
R 404			RS1/10S0R0J
R 405			RS1/10S510J
R 406			RS1/10S102J
R 407			RD1/4PU222J
R 408			RS1/10S222J
R 410			RS1/10S102J
R 411			RS1/10S103J
R 412		(EWmodel)	RD1/4PU103J
R 413			RS1/10S393J

=====Circuit Symbol and No.		===Part Name	Part No.
R	414		RS1/10S104J
R	415		RS1/10S123J
R	416		RS1/8S104J
R	417		RS1/10S0R0J
R	418		RS1/10S0R0J
R	419		RS1/10S0R0J
R	501		RS1/10S105J
R	502	(EWmodel)	RS1/10S102J
R	503		RS1/10S222J
R	506		RS1/10S561J
R	508		RS1/10S224J
R	510		RS1/10S0R0J
R	511		RS1/10S0R0J
R	512		RS1/10S0R0J
R	513		RS1/10S272J
R	514		RS1/8S222J
R	515		RS1/10S562J
R	517		RS1/10S473J
R	518		RS1/10S472J
R	519		RS1/10S682J
R	520		RS1/10S222J
R	521		RS1/10S682J
R	522		RS1/10S472J
R	523		RS1/10S0R0J
R	524	(EWmodel)	RS1/10S103J
R	525	(EWmodel)	RS1/10S152J
R	526		RS1/10S392J
R	527		RS1/10S392J
R	528		RS1/10S472J
R	529		RS1/10S473J
R	530		RS1/10S562J
R	531		RS1/10S104J
R	532		RS1/10S473J
R	535		RD1/4PU102J
R	536		RS1/10S473J
R	601		RS1/10S124J
R	602	(EWmodel)	RS1/10S102J
R	603	(GRmodel)	RS1/10S102J
R	604		RS1/10S473J
R	607		RD1/4PU102J
R	610		RS1/10S473J
R	611		RS1/10S473J
R	612		RS1/10S473J
R	613		RS1/10S473J
R	614		RS1/8S103J
R	615		RS1/10S392J
R	616		RD1/4PU222J
R	617		RD1/4PU223J
R	618		RD1/4PU222J
R	619		RD1/4PU222J
R	621		RS1/10S222J
R	622		RS1/10S222J
R	623		RD1/4PU222J
R	624		RS1/10S222J
R	625		RD1/4PU222J
R	626		RD1/4PU222J
R	627		RD1/4PU222J
R	628		RD1/4PU222J
R	629		RD1/4PU681J
R	630		RS1/10S681J
R	631		RS1/10S681J
R	632		RD1/4PU681J
R	633		RD1/4PU681J
R	634		RD1/4PU681J
R	635		RD1/4PU222J

=====Circuit Symbol and No.		===Part Name	Part No.
R	636		RS1/10S472J
R	637		RS1/10S103J
R	638		RD1/4PU222J
R	639		RS1/10S223J
R	641		RD1/4PU222J
R	642		RS1/10S473J
R	643		RS1/10S472J
R	644		RS1/10S472J
R	645		RS1/10S472J
R	651		RD1/4PU222J
R	653		RS1/8S0R0J
R	654		RS1/10S0R0J
R	655		RS1/10S473J
R	701		RS1/10S562J
R	702		RS1/10S222J
R	703		RS1/10S222J
R	704		RS1/10S684J
R	705		RD1/4PU681J
R	706		RS1/10S333J
R	708		RD1/4PU102J
R	709		RD1/4PU102J
R	710		RS1/10S102J
R	711		RD1/4PU102J
R	712		RD1/4PU102J
R	713		RD1/4PU102J
R	714		RD1/4PU102J
R	901		RS1/10S473J
R	902		RS1/10S223J
R	903		RS1/10S223J
R	904		RS1/10S473J
R	905		RD1/4PU102J
R	906		RD1/4PU473J
R	907		RS1/10S473J
R	908		RS1/10S472J
R	909		RS1/10S332J
R	910		RD1/4PU101J
R	911		RS1/10S122J
R	912		RS1/10S103J
R	913		RS1/10S103J
R	914		RS1/10S102J
R	915		RS1/10S103J
R	916	(EWmodel)	RS1/10S103J
R	917		RS1/10S0R0J
R	919	(EWmodel)	RS1/10S102J
R	920		RS1/10S103J
R	921		RS1/10S152J
R	922		RS1/10S102J
R	923		RS1/10S103J
R	924		RS1/10S223J
R	944		RS1/10S152J
R	948		RS1/10S0R0J
R	949		RS1/8S0R0J
R	951		RS1/10S153J
R	952		RS1/10S472J
R	953		RS1/10S472J
R	954		RD1/4PU102J
R	955		RD1/4PU473J

CAPACITORS

C	301		CKSQYB105K10
C	302		CKSQYB105K10
C	303		CEJA470M10
C	304		CEJA100M16
C	308		CKSQYB104K50

=====Circuit Symbol and No.		===Part Name	Part No.
C	309		CKSQYB224K16
C	310		CKSQYB224K16
C	311		CKSQYB224K16
C	312		CKSQYB224K16
C	313		CEJA4R7M35
C	314		CEJA4R7M35
C	315		CEJA330M10
C	316		CEJA1R0M50
C	317		CEJA100M16
C	318		CKSYB105K16
C	319		CKSQYB224K16
C	320		CKSQYB224K16
C	321		CKSQYB224K16
C	322		CKSQYB224K16
C	323		CKSQYB104K50
C	324	3300μF/16V	CCH1169
C	331		CKSQYB153K50
C	332		CKSQYB153K50
C	339		CKSQYB104K50
C	340		CKSQYB104K50
C	401		CKSQYB223K25
C	402		CKSQYB223K25
C	403		CKSQYB223K25
C	407		CKSQYB223K50
C	408		CCSQSL101J50
C	412		CKSQYB104K50
C	413		CKSQYB223K50
C	414	(EWmodel)	CKSQYB103K50
C	415		CKSYB223K50
C	501	4.7μF/16V	CCH1165
C	502		CKSQYB471K50
C	503		CKSQYB223K50
C	504		CKSQYB103K50
C	505	(EWmodel)	CKSQYB103K50
C	507		CEJA220M6R3
C	508		CKSQYB102K50
C	510		CCSQSL101J50
C	511	(EWmodel)	CKSQYB103K50
C	512		CKSQYB103K50
C	513		CKSQYB103K50
C	514		CCSQCH150J50
C	515		CKSQYB102K50
C	516		CCSQCH150J50
C	517		CKSQYB103K50
C	518		CKSQYB103K50
C	519		CEJA220M6R3
C	520		CKSQYB103K50
C	521		CEJA220M6R3
C	522		CKSQYB104K50
C	523	(EWmodel)	CKSQYB332K50
C	524	(EWmodel)	CKSQYB103K50
C	525	4.7μF/16V(EWmodel)	CCH1250
C	526	(EWmodel)	CEJAR47M50
C	527	(EWmodel)	CKLSR473K16
C	530		CEJA220M10
C	601		CKSQYB473K50
C	602		CEJA2R2M50
C	603		CKSQYB103K50
C	604		CCSQCH101J50
C	608		CEJA4R7M35
C	609		CEJA100M16
C	610		CEJA220M10
C	611		CKSQYB223K50
C	703		CKSQYB103K50
C	704		CEJA4R7M35

=====Circuit Symbol and No.		===Part Name	Part No.
C	705		CKSQYB104K50
C	706		CKSQYB222K50
C	707		CKSQYB104K50
C	708		CKSYB105K16
C	709		CKSQYB104K50
C	710		CKSQYB472K50
C	711		CEJA4R7M35
C	712		CCSQCH100D50
C	713		CCSQCH220J50
C	714		CCSQCH220J50
C	717		CCSQCH101J50
C	901		CEJA101M10
C	902		CKSQYB473K50
C	903	470μF/16V	CCH1183
C	904		CKSQYB103K50
C	905	330μF/10V	CCH1181
C	906		CKSQYB103K50
C	907	100μF/16V	CCH1179
C	908		CKSQYB103K50
C	910		CKSQYB472K50

C Unit Number : CWM6262(KEH-3830R/X1M/EW)
CWM6465(KEH-3800R/X1M/EW)
CWM6261(KEH-3820R/X1M/GR)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	1901	IC	PD6278A
L	1901	Ferri-Inductor	LAU101K
D	1901	Chip Diode	MA151WK
D	1902	Diode	MA151WA
X	1901	Ceramic Resonator 4.97MHz	CSS1422
S	1901	Switch	CSG1041
S	1902	Switch	CSG1111
S	1903	Switch	CSG1111
S	1904	Switch	CSG1111
S	1905	Switch	CSG1111
S	1906	Switch	CSG1111
S	1907	Switch	CSG1111
S	1908	Switch	CSG1111
S	1909	Switch	CSG1111
S	1910	Switch	CSG1111
S	1911	Switch	CSG1111
S	1912	Switch	CSG1111
S	1913	Switch	CSG1111
S	1914	Switch	CSG1041
S	1915	Switch	CSG1041
S	1916	Switch	CSG1111
S	1917	Switch	CSG1111
S	1918	Switch	CSG1041
S	1919	Switch	CSG1041
S	1920	Switch	CSG1111
S	1921	Switch	CSG1111
S	1922	Switch	CSG1110
IL	1901	Lamp 40mA 14V (KEH-3830R/X1M/EW,3820R/X1M/GR)	CEL1610
IL	1901	Lamp 40mA 14V(3800R/X1M/EW)	CEL1605
IL	1902	Lamp 40mA 14V (KEH-3830R/X1M/EW,3820R/X1M/GR)	CEL1610
IL	1902	Lamp 40mA 14V(3800R/X1M/EW)	CEL1605
IL	1903	Lamp 40mA 14V (KEH-3830R/X1M/EW,3820R/X1M/GR)	CEL1610
IL	1903	Lamp 40mA 14V(3800R/X1M/EW)	CEL1605
IL	1904	Lamp 40mA 14V (KEH-3830R/X1M/EW,3820R/X1M/GR)	CEL1610
IL	1904	Lamp 40mA 14V(3800R/X1M/EW)	CEL1605
IL	1905	Lamp 40mA 14V (KEH-3830R/X1M/EW,3820R/X1M/GR)	CEL1610
IL	1905	Lamp 40mA 14V(3800R/X1M/EW)	CEL1605
LCD	1901	LCD	CAW1542

=====Circuit Symbol and No.	===Part Name	Part No.
RESISTORS		
R 1901		RS1/10S222J
R 1902		RS1/10S222J
R 1903		RS1/10S472J
R 1908		RS1/10S473J
R 1909		RS1/10S473J
R 1910		RS1/10S473J
R 1911		RS1/10S473J
R 1912		RS1/10S473J
R 1913		RS1/10S473J
R 1922		RS1/10S473J
CAPACITORS		
C 1901		CEAL100M16
C 1902		CKSQYB104K16
D Unit Number : EWM1021		
Unit Name : Deck Unit		
MISCELLANEOUS		
IC 251	IC	CXA2559Q
IC 351	IC	PA2020A
D 352	Diode	1SS355
RESISTORS		
R 255		RS1/16S221J
R 256		RS1/16S221J
R 257		RS1/16S102J
R 258		RS1/16S102J
R 271		RS1/16S102J
R 272		RS1/16S102J
R 273		RS1/16S102J
R 274		RS1/16S102J
R 281		RS1/8S0R0J
R 282		RS1/8S0R0J
R 283		RS1/8S0R0J
R 284		RS1/8S0R0J
R 285		RS1/16S0R0J
R 286		RS1/16S0R0J
R 287		RS1/8S0R0J
R 290		RS1/8S0R0J
R 301		RS1/16S183J
R 302		RS1/16S163J
R 303		RS1/16S163J
R 304		RS1/16S163J
R 305		RS1/16S163J
R 323		RS1/8S0R0J
R 351		RS1/16S102J
R 352		RS1/16S102J
R 353		RS1/16S102J
R 354		RS1/16S102J
R 355		RS1/10S274J
R 362		RS1/8S181J
R 373		RS1/8S0R0J
R 374		RS1/8S0R0J
R 401		RS1/16S472J
R 402		RS1/16S163J
R 403		RS1/16S823J
CAPACITORS		
C 251		CKSRYB331K50
C 252		CKSRYB331K50
C 253		CKSRYB331K50
C 254		CKSRYB331K50
C 255		CKSRYB103K25

=====Circuit Symbol and No.	===Part Name	Part No.
C 256		CKSRYB103K25
C 272		CKSQYB104K16
C 273		CEJA220M16
C 301		CKSYB104K50
C 302		CKSYB104K50
C 313		CCSQCH101K50
C 351		CKSYB224K25
C 352		CKSQYB392K50
C 353		CKSQYB103K50
C 354		CKSQYB103K50
C 355		CKSYB104K50
C 356		CKSQYB103K50
C 401		CKSQYB334K16
C 402		CKSQYB472K50
C 403		CKSQYB683K16
E Unit Number :		
Unit Name : PCB Unit		
S 1	Switch (Load)	ESG1004
EGN 1	Photo-Interrupter	EGN1005
F Unit Number :		
Unit Name : Reel PCB		
EGN 2	Photo-Interrupter	EGN1006
EGN 3	Photo-Interrupter	EGN1006
B Unit Number : CWE1466(EW model)		
Unit Name : FM/AM Tuner Unit		
MISCELLANEOUS		
IC 1	IC	PA4023B
IC 2	IC	PA4024A
Q 1	Transistor	2SC2412K
Q 2	Transistor	DTC124EU
Q 3	FET	3SK263
Q 31	Transistor	2SC2412K
Q 154	Transistor	DTC124EU
Q 165	Transistor	2SC2412K
Q 201	FET	2SK932
Q 202	Transistor	2SC2412K
Q 203	Transistor	DTC124EU
D 4	Diode	1SV250
D 5	Diode	KV1410-F1
D 7	Diode	KV1410-F1
D 8	Diode	KV1410-F1
D 201	Diode	MA157
D 202	Diode	MA157
D 231	Diode	SVC253
L 2	Coil	CTC1133
L 3	Inductor	LCTB2R2K2125
L 4	Coil	CTC1133
L 5	Coil	CTC1132
L 6	Inductor	LCTBR15K1608
L 51	Ferri-Inductor	LAU150K
L 201	Ferri-Inductor	LAU4R7K
L 202	Ferri-Inductor	LAU330K
L 203	Inductor	CTF1287
L 208	Inductor	LAU121K
L 231	Inductor	LCTA3R3J3225
T 31	Coil	CTE1116

=====Circuit Symbol and No.		===Part Name	Part No.
T	51	Coil	CTC1136
TC	1	Trimmer	CCL1046
CF	51	Ceramic Filter	CTF1442
CF	52	Ceramic Filter	CTF1442
CF	53	Ceramic Filter	CTF1442
CF	232	Ceramic Filter	CTF1348
X	151	Radiator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213
AR	1	Capacitor with Discharge Gap	DSP-201M
RESISTORS			
R	1		RS1/16S0R0J
R	4		RS1/16S154J
R	5		RS1/16S391J
R	6		RS1/16S223J
R	7		RS1/16S123J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	13		RS1/16S563J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	31		RS1/16S470J
R	32		RS1/16S822J
R	33		RS1/16S822J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	51		RS1/16S271J
R	52		RS1/16S560J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S393J
R	101		RS1/16S272J
R	102		RS1/16S682J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	151		RS1/16S222J
R	152		RS1/16S393J
R	154		RS1/16S104J
R	155		RS1/16S273J
R	156		RS1/16S243J
R	157		RS1/16S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S105J
R	163		RS1/16S222J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	206		RS1/16S220J
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S471J
R	214		RS1/16S822J
R	215		RS1/16S822J
R	217		RS1/16S102J
R	231		RS1/16S272J
R	232		RS1/16S473J
R	237		RS1/16S103J
R	238		RS1/16S104J

=====Circuit Symbol and No.		===Part Name	Part No.
R	239		RS1/16S104J
R	240		RS1/16S332J
R	241		RS1/16S202J
R	243		RS1/16S123J
R	244		RS1/16S103J
R	247		RS1/16S123J
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	13		CKSRYB222K50
C	14		CCSRCH220J50
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	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	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR15M50
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

=====Circuit Symbol and No.	===	Part Name	Part No.
C	206		CKSQYB104K16
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		CKSRYB123K25
C	246		CKSQYB473K16
C	250		CCSRCH471J50

B Unit Number : CWE1470(GR model)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412K
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412K
Q	154	Transistor	DTC124EU
Q	165	Transistor	2SC2412K
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
L	2	Coil	CTC1133
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1133
L	5	Coil	CTC1132
L	6	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
T	31	Coil	CTE1117
T	51	Coil	CTC1136
TC	1	Trimmer	CCL1046
CF	51	Ceramic Filter	CTF1442
CF	52	Ceramic Filter	CTF1442
CF	53	Ceramic Filter	CTF1442
X	151	Radiator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213
AR	1	Capacitor with Discharge Gap	DSP-201M

RESISTORS

R	1	RS1/16S0R0J
R	4	RS1/16S154J
R	5	RS1/16S391J
R	6	RS1/16S223J
R	7	RS1/16S123J
R	8	RS1/16S332J
R	9	RS1/16S473J
R	10	RS1/16S223J
R	11	RS1/16S124J
R	13	RS1/16S563J
R	15	RS1/16S271J
R	16	RS1/16S104J
R	17	RS1/16S332J
R	18	RS1/16S332J
R	31	RS1/16S470J
R	32	RS1/16S822J
R	33	RS1/16S822J
R	34	RS1/16S331J
R	35	RS1/16S331J
R	51	RS1/16S271J
R	52	RS1/16S560J
R	55	RS1/16S102J
R	56	RS1/16S823J
R	61	RS1/16S392J
R	62	RS1/16S393J
R	101	RS1/16S272J
R	102	RS1/16S682J
R	103	RS1/16S333J
R	104	RS1/16S334J
R	105	RS1/16S683J
R	107	RS1/16S222J
R	151	RS1/16S222J
R	152	RS1/16S393J
R	154	RS1/16S104J
R	155	RS1/16S273J
R	156	RS1/16S243J
R	157	RS1/16S203J
R	160	RS1/16S222J
R	161	RS1/16S563J
R	162	RS1/16S105J
R	163	RS1/16S222J

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	13	CKSRYB222K50
C	14	CCSRCH220J50
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	31	CKSRYB103K25
C	32	CKSQYB472K50
C	33	CCSRCH5R0C50
C	34	CKSQYB104K16
C	36	CCSRRH201J50

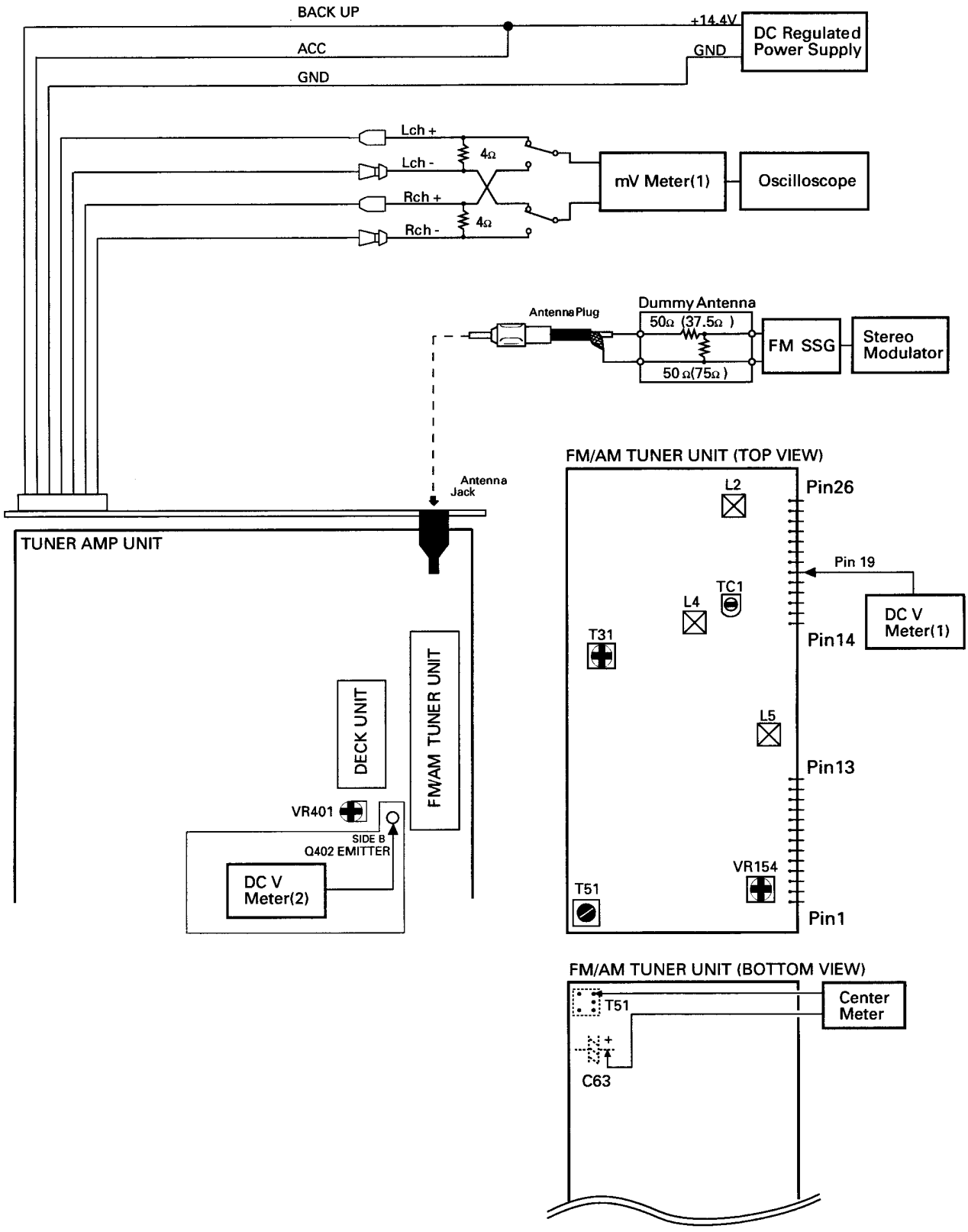
=====Circuit Symbol and No.		===Part Name	Part No.
C	51		CKSRYB223K25
C	52		CKSRYB103K25
C	54		CCSRCH470J50
C	55		CKSQYB223K25
C	56		CKSQYB104K16
C	57		CKSRYB472K50
C	58		CEJA330M10
C	59		CKSRYB103K25
C	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR15M50
C	101		CEJANP100M10
C	102		CKSRYB182K50
C	103		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

Miscellaneous Parts List

M	1	Motor Unit (Main)	EXA1490
M	2	Motor Unit (Sub)	EXA1485
HD	1	Head Assy	EXA1506
		Fuse(10A)	CEK1136

6. ADJUSTMENT

● Connection Diagram



FM ADJUSTMENT

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

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

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60—100	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
RF Trimmer	5	129.3 M	60—80	107.9	TC1	mV Meter(1) : Minimum
	6	RF Coil and RF Trimmer shall be adjusted twice or more				
IFT	7	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	8	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

RDS SL ADJUSTMENT

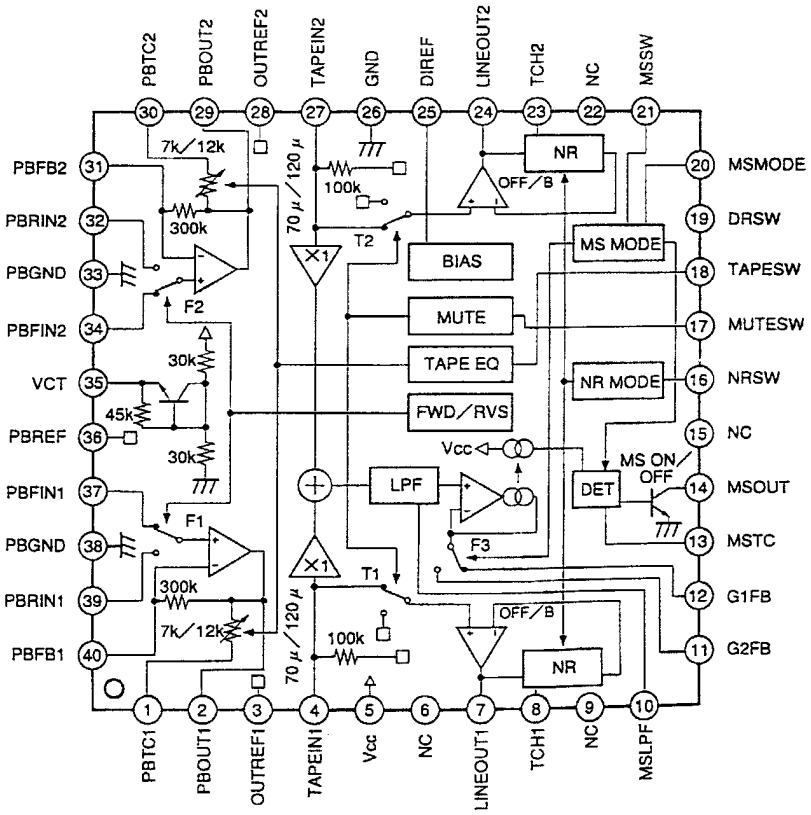
	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
	1	104.0 S	35	104.0	VR401	DC V Meter(2) : 1.75V+0.05,-0.35

7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

CXA2559Q

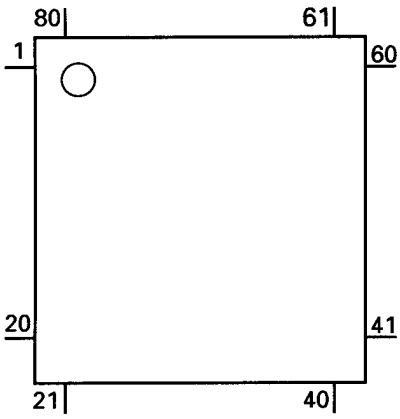


● **Pin Functions(PD4974A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	ASENBO	O	C	Slave power supply control output
2	L/S	O	C	RDS time constant control output
3	ADPW	O	C	A/D converter power
4	AVSS			GND
5	SWVDD	O	C	Grille power supply control output
6	ST	I		FM stereo input
7	AVREF1			D/A converter standard voltage
8	KYDT	I		Grille MicroComputer data input
9	DPDT	O	C	Grille MicroComputer 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	CURRRQ	O	C	Tuner voltage FIX output
16–18	NC			Not used
19	RECIVE	O	C	During RDS data reception output
20	DILM	O	C	DILM output
21	EORR	O	C	Correct RDS error output
22	VST	O	C	Strobe pulse output for electronic volume
23	VCK	O	C	Clock output for electronic volume
24	VDT	O	C	Data output for electronic volume
25	LCDPW	O	C	LCD back light power supply control output
26	ILMPW	O	C	Illumination power supply control output
27	DRSENS	I		Door open/close sense input
28	DRSYS	O	C	Door system select output
29	FM	O	C	FM power control output
30	AM	O	C	AM power control output
31	CM	O	C	Cassette mechanism capstan motor control output
32	NC			Not used
33	VSS			GND
34	SC2	O	C	Cassette mechanism sub motor control output
35	SC1	O	C	Cassette mechanism sub motor control output
36	MSIN	I		Cassette mechanism MS sense input
37	RIMUTE	O	N	RI output port
38	MTLSW	I		Metal sense input
39	DLED	O	N	Alarm LED output
40	N/R	O		Normal reverse output
41	PLAY	O	C	Tape MS filter select output
42	LOADSW	I		Tape loading input
43	POS	I		Cassette mechanism position sense input
44	RES	I		Cassette mechanism reverse end sense input
45	PEE	O	C	Beep tone output
46	NES	I		Cassette mechanism forward end sense input
47	RDS57K	I		57kHzBP-OUT sense input
48	STBY	O	C	Stand-by output
49	SK	I		SK signal input
50	DRST	O	C	Decoder reset output
51	TMUTE	O	C	Tuner mute output
52	MDSENS	I		Modulation detect input
53	SD	I		SD input
54	MUTE	O	C	Mute output
55	SYSPW	O	C	System power supply control output
56	TX	O	C	IP BUS data output
57	RX	I		IP BUS data input
58	RDSLK	I		RDS LK signal input
59	RDT	I		RDS data input
60	RESET	I		Reset input
61	LDET	I		PLL lock sense input

Pin No.	Pin Name	I/O	Format	Function and Operation
62	$\overline{RCK}$	I		RDS clock input
63	$\overline{DSENS}$	I		Grille detach sense input
64	TELIN	I		Cellular mute input
65	$\overline{ASENS}$	I		ACC power sense input
66	$\overline{BSENS}$	I		Back up power sense input
67	NC			Not used
68	VDD			VDD
69	X2	O		Oscillator output
70	X1	I		Oscillator input
71	IC			Connect to GND
72	XT2			Sub Clock terminal
73	TESTIN	I		Test program mode input
74	AVDD			A/D converter analog power supply (VDD)
75	AVREF0	I		A/D converter standard voltage input
76	SL	I		Signal level input
77	CL	I		Synchronizing signal input of display data latch
78	NL	I		Noise level input
79	MODELIN	I		Model select input
80	ALMUTE	O	C	Mute output for Detach alarm

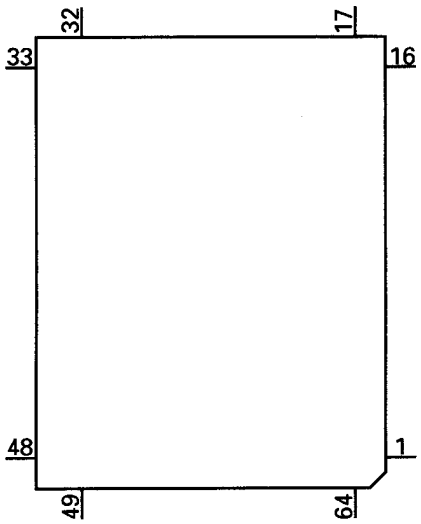
*PD4974A



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.

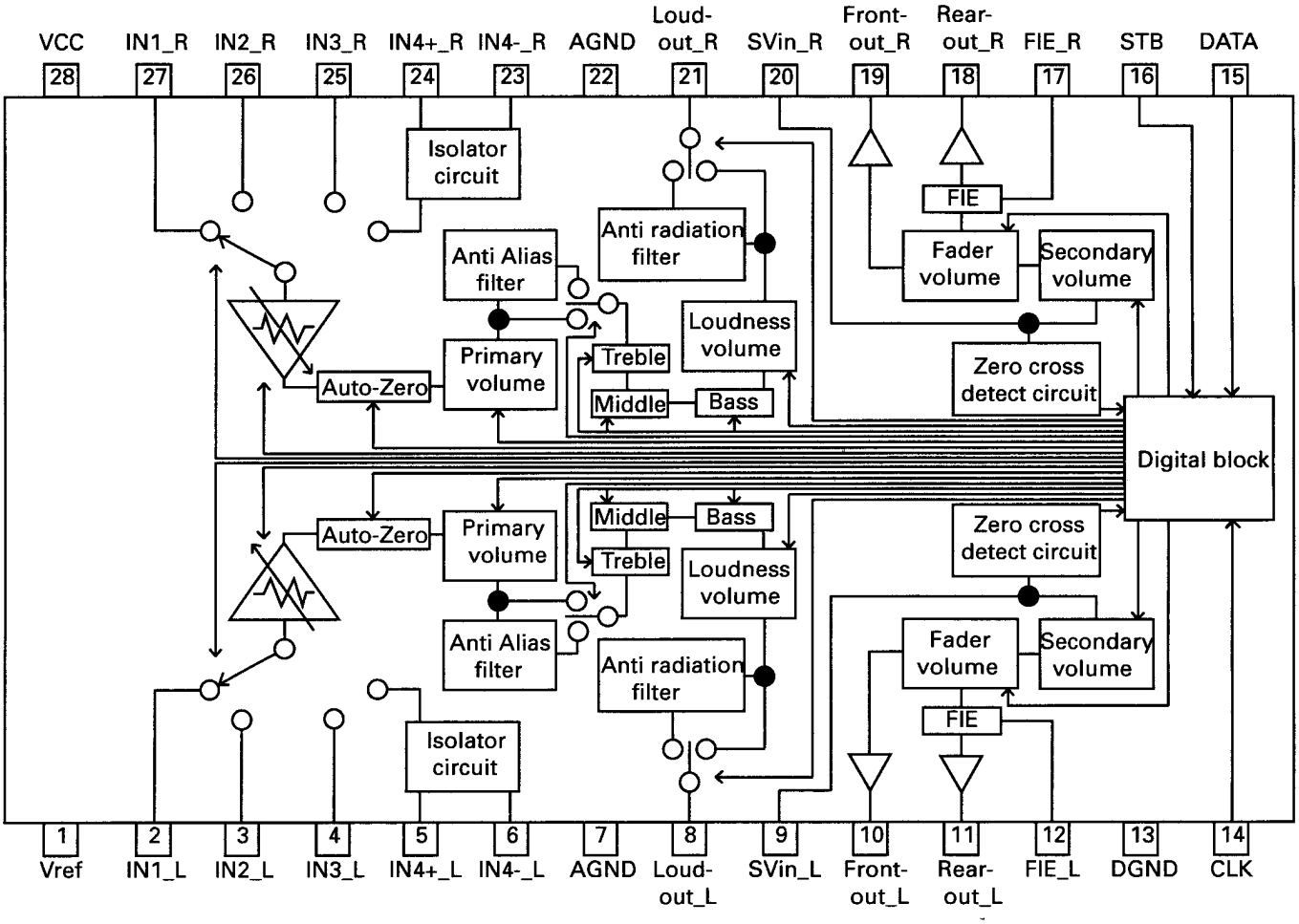
*PD6278A



● Pin Functions (PD6278A)

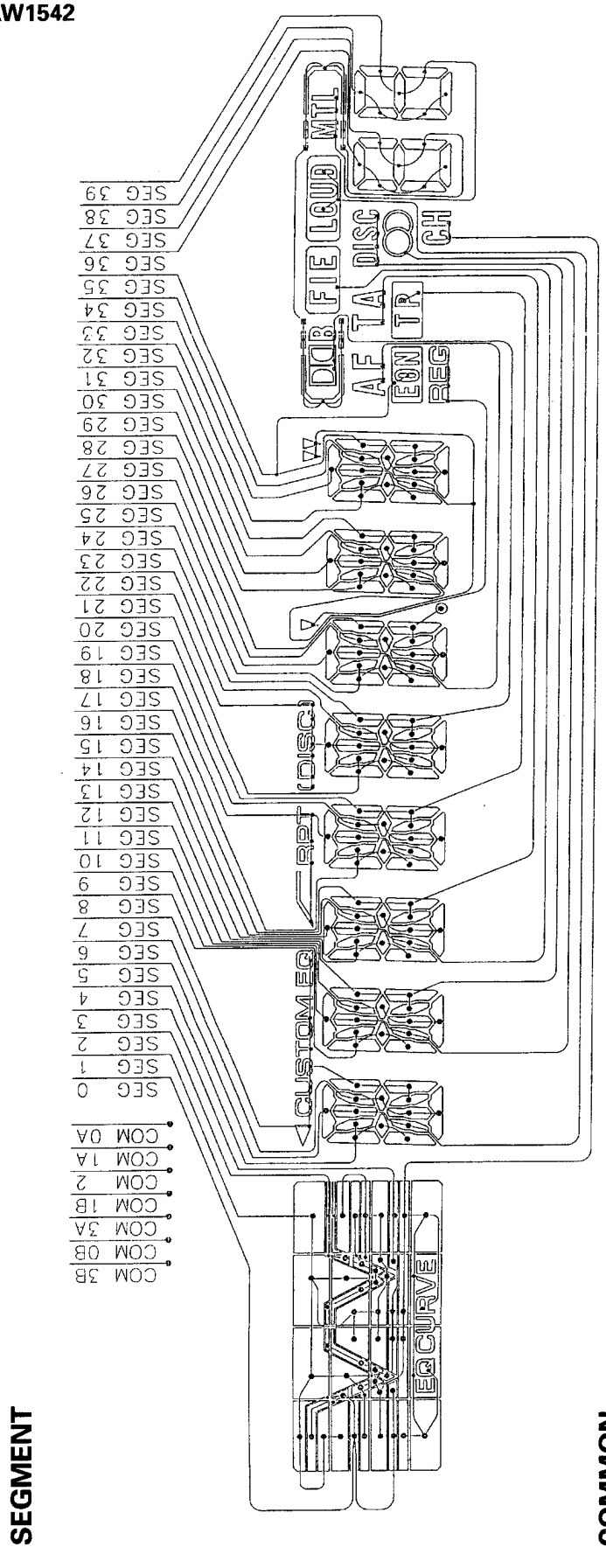
Pin No.	Pin Name	I/O	Function and Operation
1-5	SEG4-0	O	LCD segment output
6-9	COM3-0	O	LCD common output
10	V3		LCD drive power supply
11-14	KS4-1	O	Key strobe output
15,16	KD1,2	I	Key data input (analogue input)
17	REM	I	Remote control reception
18	RXD	I	System micro computer UART communication data input
19	$\overline{RST}$	I	System reset
20	TXD	O	System micro computer UART communication data 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	LLCD segment output
56	VCC		Power supply
57-64	SEG12-5	O	LCD segment output

PML003AM

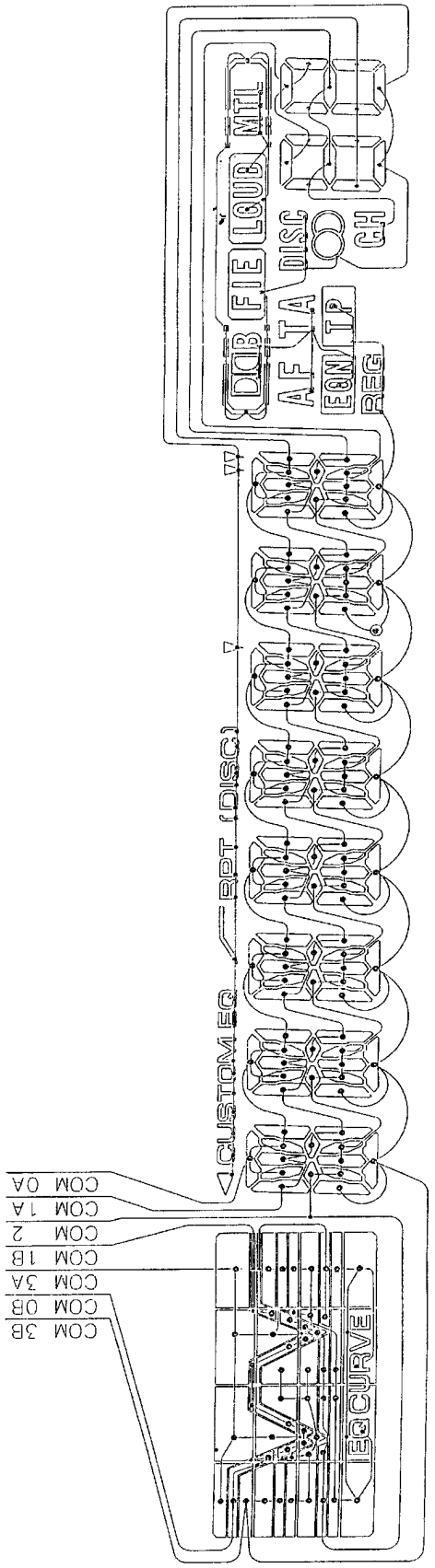


7.1.2 DISPLAY

● **CAW1542**



SEGMENT



COMMON

7.2 DISASSEMBLY

● **Removing the Case(not shown)**

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

● **Removing the Cassette Mechanism Module (not shown)**

1. Remove the four screws.
2. Disconnect the connector, and then removing the Cassette Mechanism Module.

● **Removing the Panel Unit(Fig.1)**

1 Remove the two screws.

2 Disengage the stopper at two locations indicated and remove the Panel Unit.

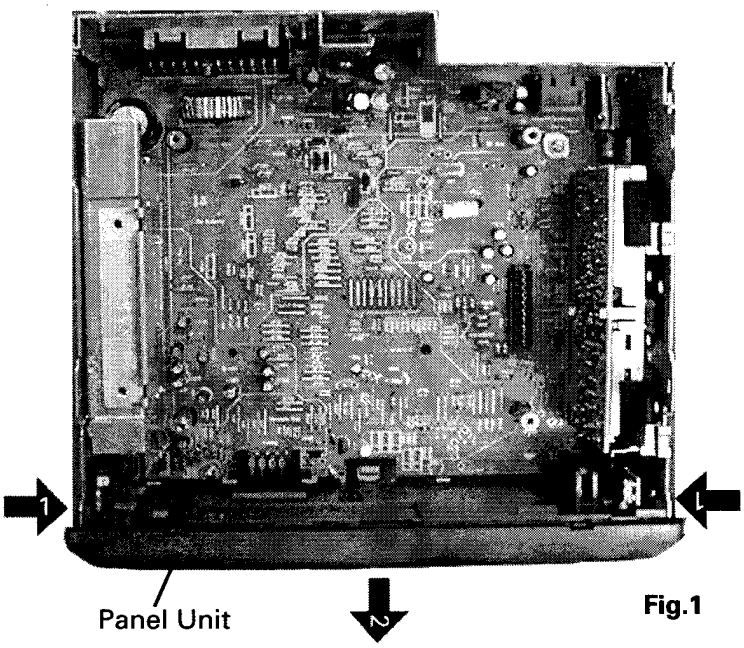


Fig.1

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

1 Removing the two screws.

2 Removing the three screws.

3 Removing the screw.

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

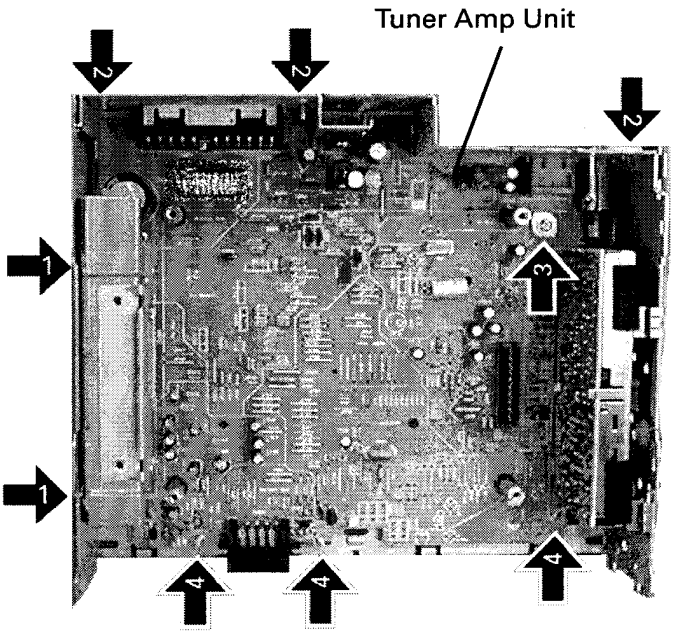
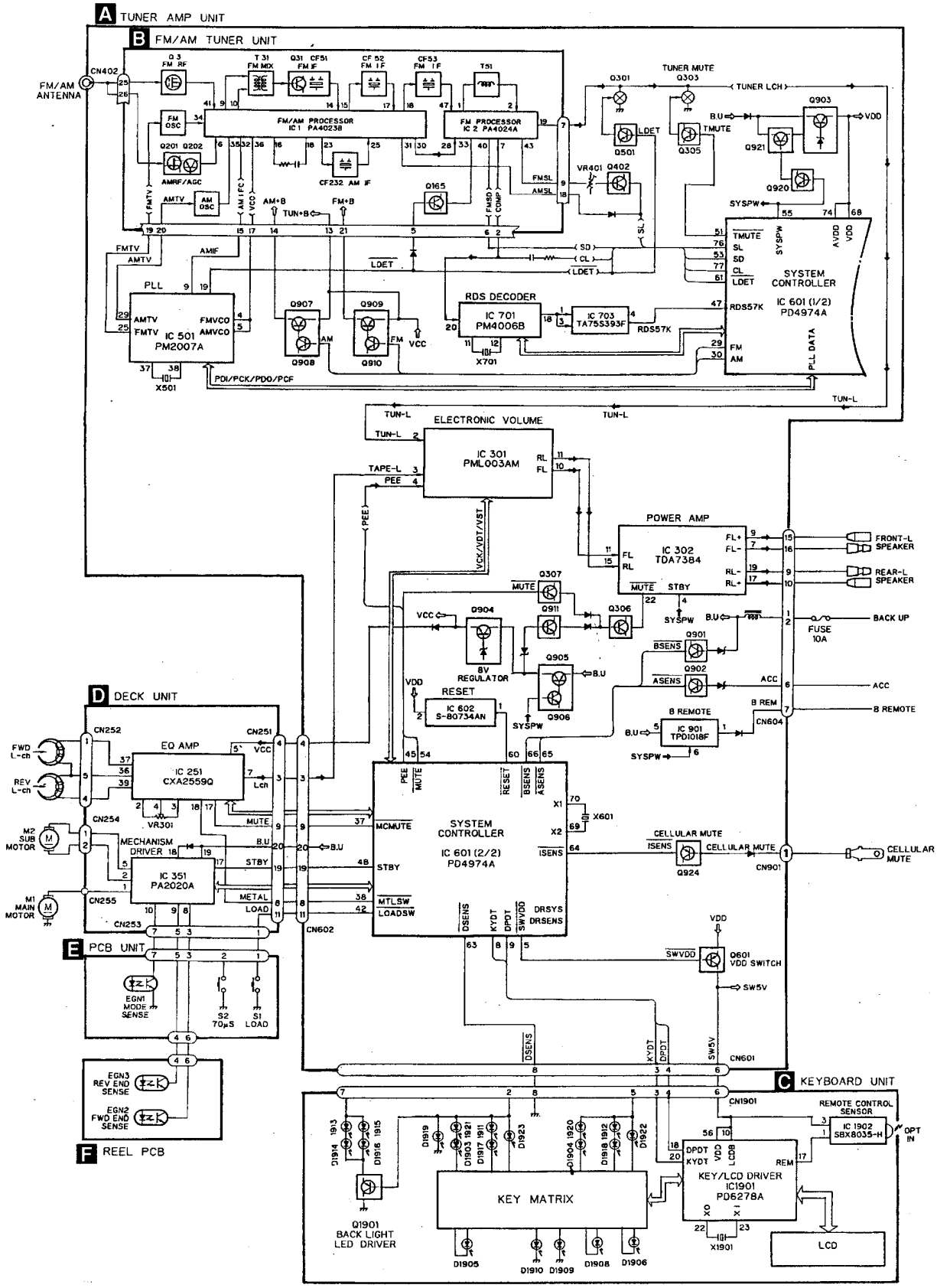


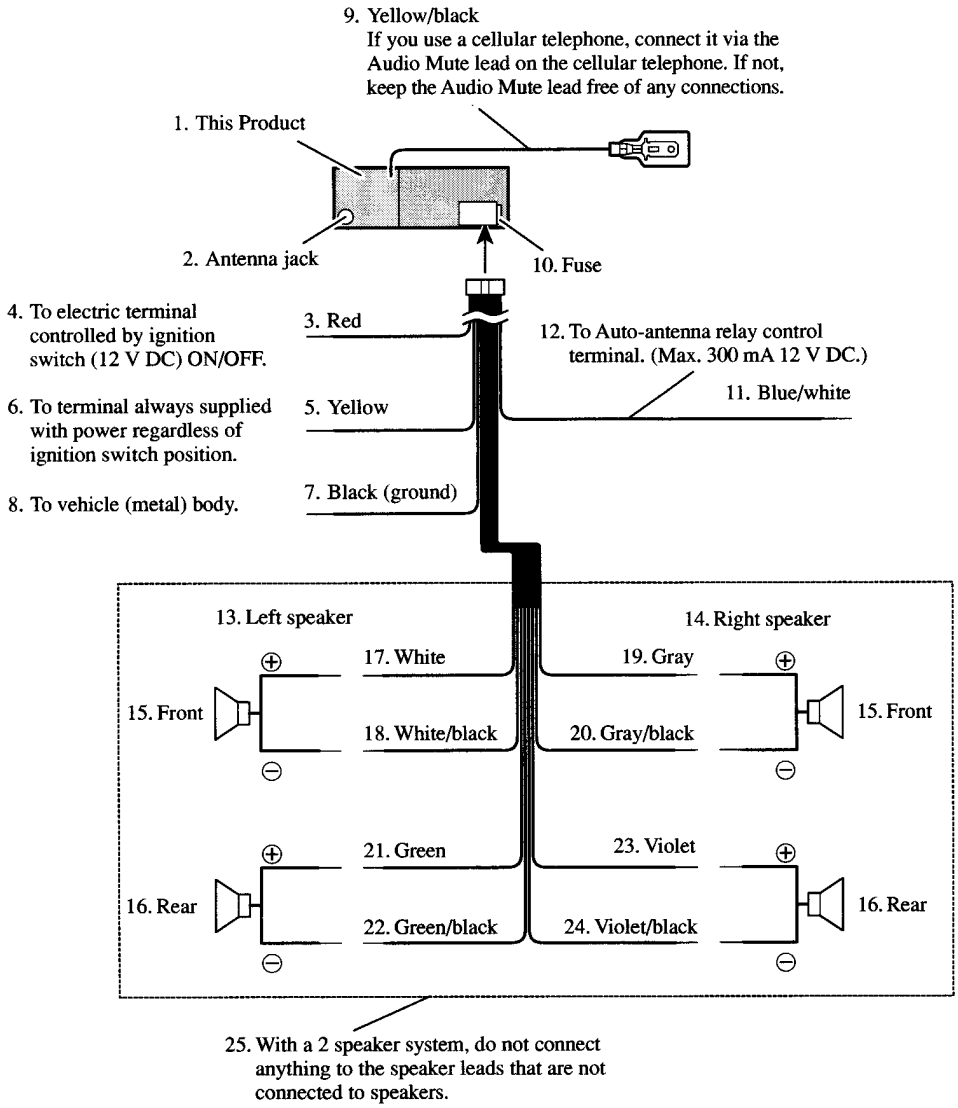
Fig.2

7.3 BLOCK DIAGRAM

● KEH-3830R/X1M/EW



8. OPERATIONS AND SPECIFICATIONS

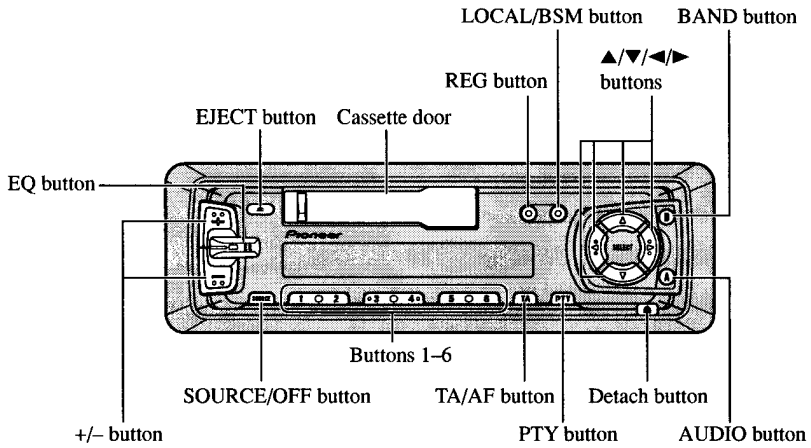


26. **⚠ CAUTION**

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

Key Finder

Head Unit



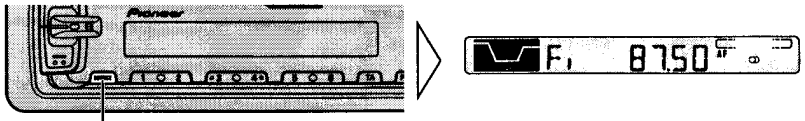
Basic Operation

To Listen to Music

The following explains the initial operations required before you can listen to music.

Note:
- Loading a cassette in this product.

1. Select the desired source (e.g. Tuner).

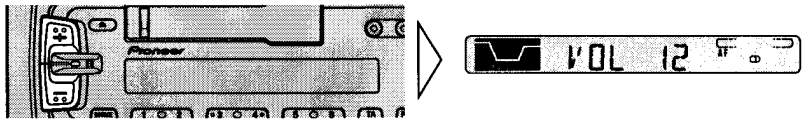


Each press changes the Source ...

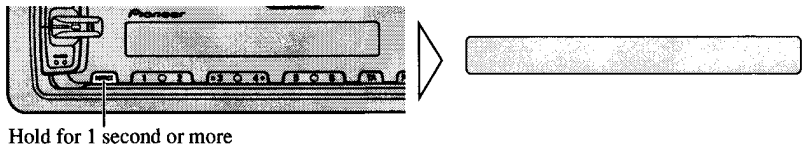
Each press of the SOURCE/OFF button selects the desired source in the following order:
Tuner → Tape

Note:
- The sound source will not change when a cassette tape is not set in this unit.

2. Raise or lower the volume.



3. Turn the source OFF.



Hold for 1 second or more

Basic Operation of Tuner

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

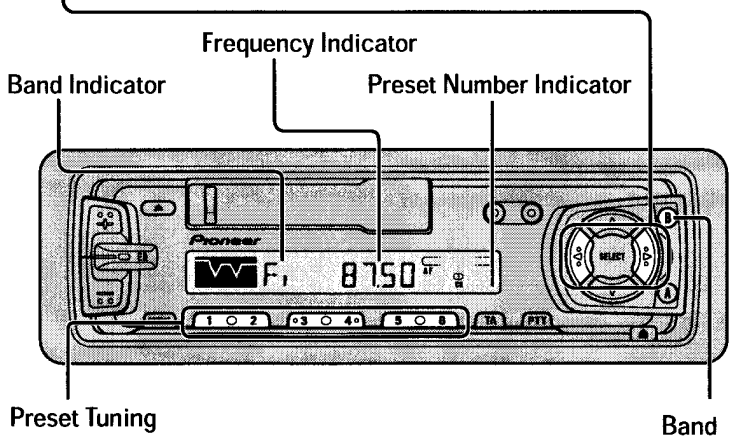
Manual and Seek Tuning

- **You can select the tuning method by changing the length of time you press the ◄/► button.**

Manual Tuning (step by step)	0.5 seconds or less
Seek Tuning	0.5 seconds or more

Note:
- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcast stations. Seek Tuning starts as soon as you stop pressing the button.

Note:
- "◯◯" stereo indicator lights when a stereo station is selected.



- **You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.**

Preset station recall	2 seconds or less
Broadcast station preset memory	2 seconds or more

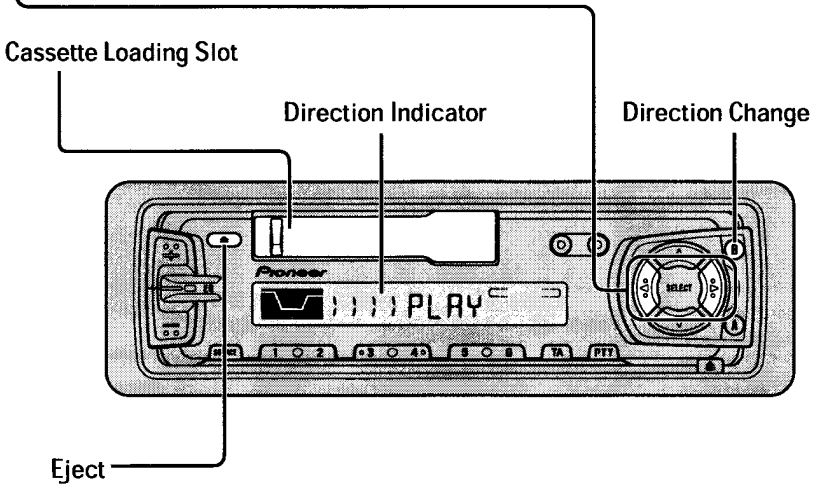
Note:
- Up to 12 FM stations (6 in FI (FM1) and FII (FM2)) and 6 MW/LW stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Basic Operation of Cassette Player

Fast Forward/Rewind and Music Search

- **Each press of the ► button selects Fast forward or Forward-Music Search.**
  FF (Fast forward) → F-MS (Forward-Music Search) → Normal Playback
- **Each press of the ◄ button selects Rewind or Rewind-Music Search.**
  REW (Rewind) → R-MS (Rewind-Music Search) → Normal Playback

Note:
- Fast forward/Rewind and Music Search can be canceled by pressing the BAND button.



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

8.2. SPECIFICATIONS

General

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

Amplifier

Maximum power output ..... 40 W × 4
Continuous power output ..... 22 W × 4
(DIN45324, +B = 14.4 V)
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Equalizer (3 band equalizer)
(Low) ..... ±12 dB
(Mid) ..... ±12 dB
(High) ..... ±12 dB
Loudness contour
(Low) .....+3.5 dB (100 Hz), +3 dB (10 kHz)
(Mid) .....+10 dB (100 Hz), +6.5 dB (10 kHz)
(High) .....+11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)
Tape speed ..... 4.76 cm/sec.(+0.14cm/sec.,-0.05cm/sec.)
Fast forward/rewinding time .... Approx. 100 sec. for C-60
Wow & flutter ..... 0.09% (WRMS)
Frequency response ..... Metal: 30 – 16,000 Hz (±3 dB)
Stereo separation ..... 45 dB
Signal-to-noise ratio..... 61 dB (IEC-A network)

FM tuner

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

MW tuner(EWmodel)

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

LW tuner(EWmodel)

Frequency range ..... 153 – 281 kHz
Usable sensitivity ..... 30 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)

Note:

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