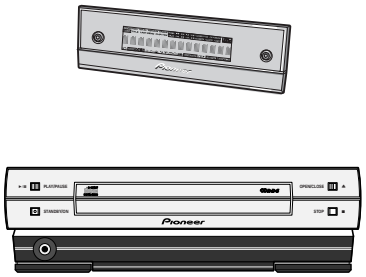
Service Manual



ORDER NO.
RRV2470

STEREO CD TUNER
XC-L11

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	XC-L11		
ZVYXJ	◯	DC power supplied from other system component	

- **This products are component of systems. This product does not operate normally by itself. Please connect it to the STEREO CD TUNER XC-L11 and the STEREO POWER AMPLIFIER M-L11, for adjustment and operation inspection.**

- **This product is a system(s) component.**
  Be sure to connect it to the prescribed system component(s), otherwise damage may result.

Component	Model		Service manual	Remarks
STEREO CD TUNER	XC-L11		RRV2470	This manual.
STEREO POWER AMPLIFIER	M-L11		RRV2479	
SPEAKER SYSTEM	S-L11-LRW	—	RRV2483	
	—	S-L11-Q-LRW	RRV2484	
STEREO CASSETTE DECK	CT-L11		RRV2471	
MINIDISC RECORDER	MJ-L11		RRV2472	

CONTENTS

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

T – ZZR JUNE 2001 Printed in Japan

1. SAFETY INFORMATION

LITHIUM BATTERY NOTICE

WARNING!

Lithium batteries. Danger of explosion. Replacement must be done by qualified personnel and only by following the instructions given in the service manual.

This warning is stated on the product or in the operating instructions. When replacing the lithium batteries, follow the note below.
Dispose of the used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.
The battery used in this device may present a fire or chemical hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate. Replace only with the same Part Number. Use of another battery may present a risk of fire or explosion.

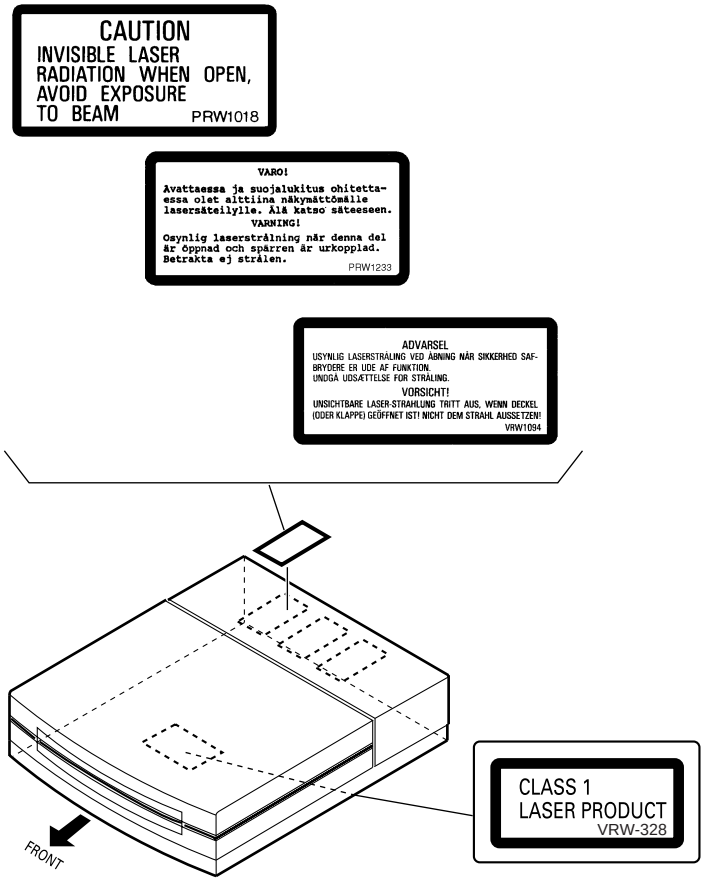
Note: The lithium battery installation position is shown in the exploded views.

ADVARSEL!

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

Denne advarsel or angivet på produktet eller i brugsvejledningen. Ved udskiftning af lithium batterierne følges nedenstående anveisning.
Batterierne må kun udskiftes med batterier af samme type og mærke.

LABEL CHECK



Additional Laser Caution

1. Laser Interlock Mechanism
   The loading position detect switch (in CD mechanism assembly) is set to "CLMP ON(CD CLOSE)" (ON:low level,OFF:high level) position, the system control IC(IC5501) get the "CLMP" signal, and hand the laser "LDON" signal to IC1101.
   Then a laser diode can be lighted except when the level of signal CLMP is low.
   The interlock also does not function in the test mode∗.
   Laser diode oscillation will continue, if pin 1 of TA2150FN (IC1101) on the RF AMP is connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q1101 are shorted to each other (fault condition).

2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

∗ : Refer to page 34.

IMPORTANT

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

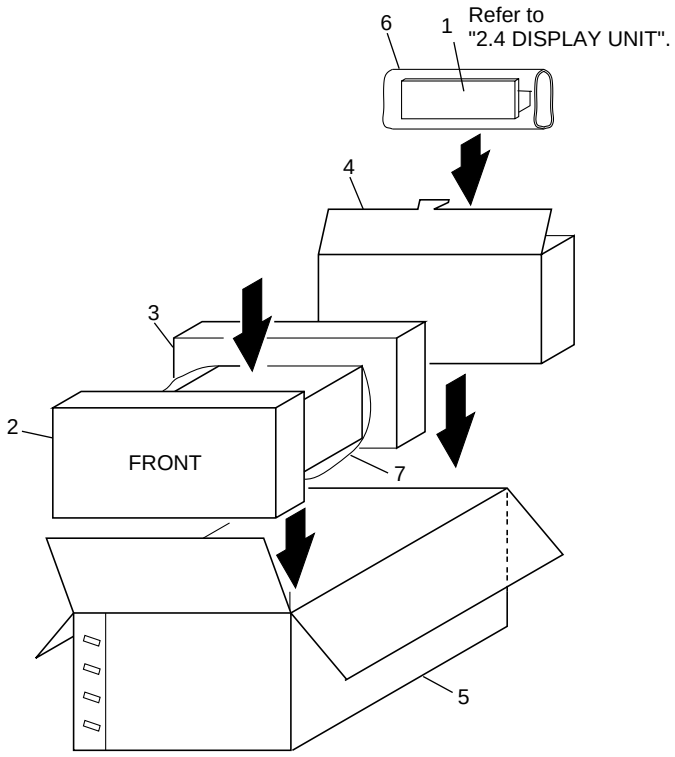
LASER DIODE CHARACTERISTICS

MAXIMUM OUTPUT POWER: 5 mW
WAVELENGTH: 780 – 785 nm

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *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.*
● *Screws adjacent to ▼ mark on the product are used for disassembly.*

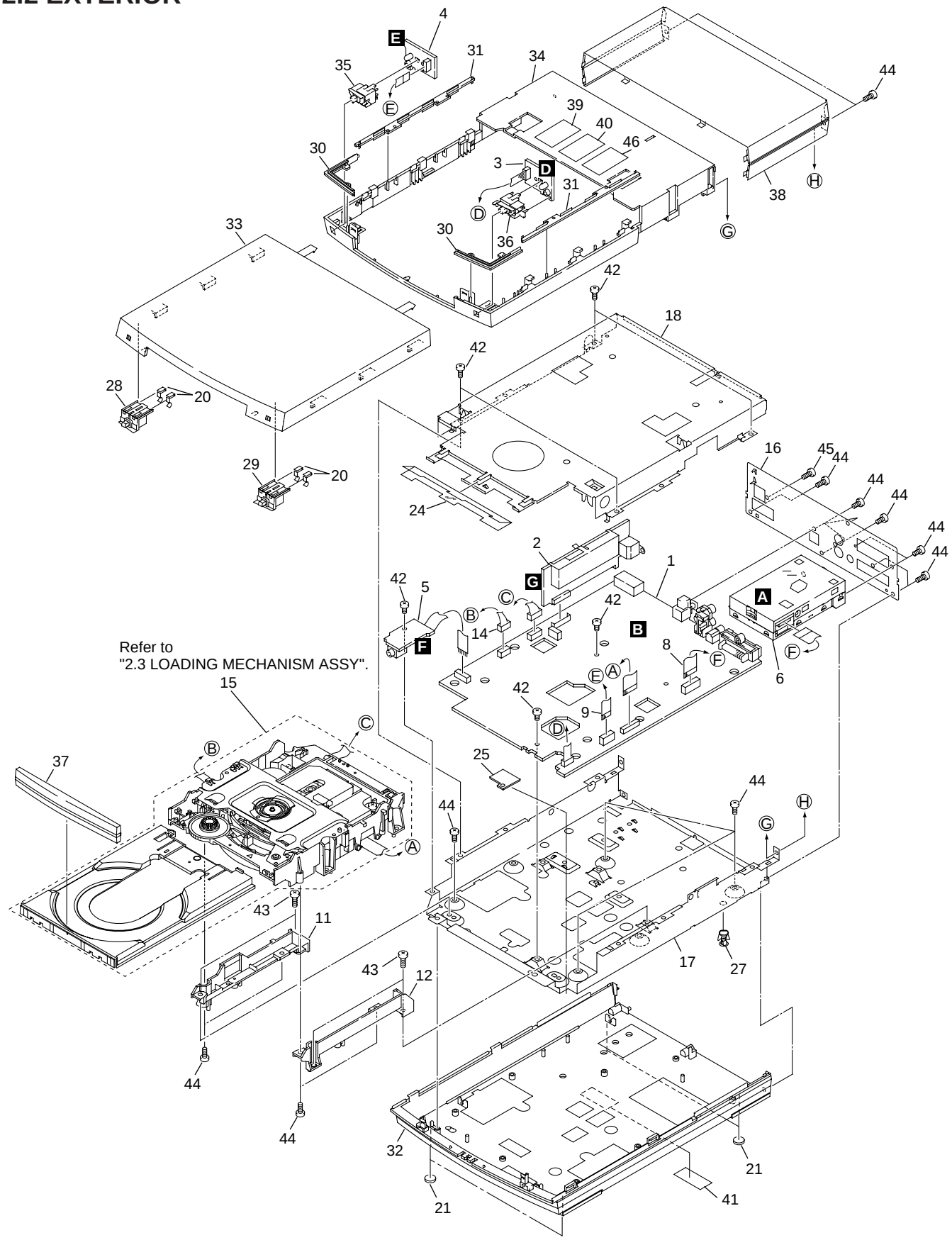
2.1 PACKING



• PACKING PARTS LIST

Mark	No.	Description	Part No.
	1	DISPLAY UNIT	AXX7107
	2	Front Pad	AHA7340
	3	Rear Pad	AHA7341
	4	Spacer NS2001	AHB7056
	5	Packing Case CD/Y	AHD7988
	6	Packing Sheet	AHG7073
	7	Seat	Z23-007

2.2 EXTERIOR



• EXTERIOR PARTS LIST

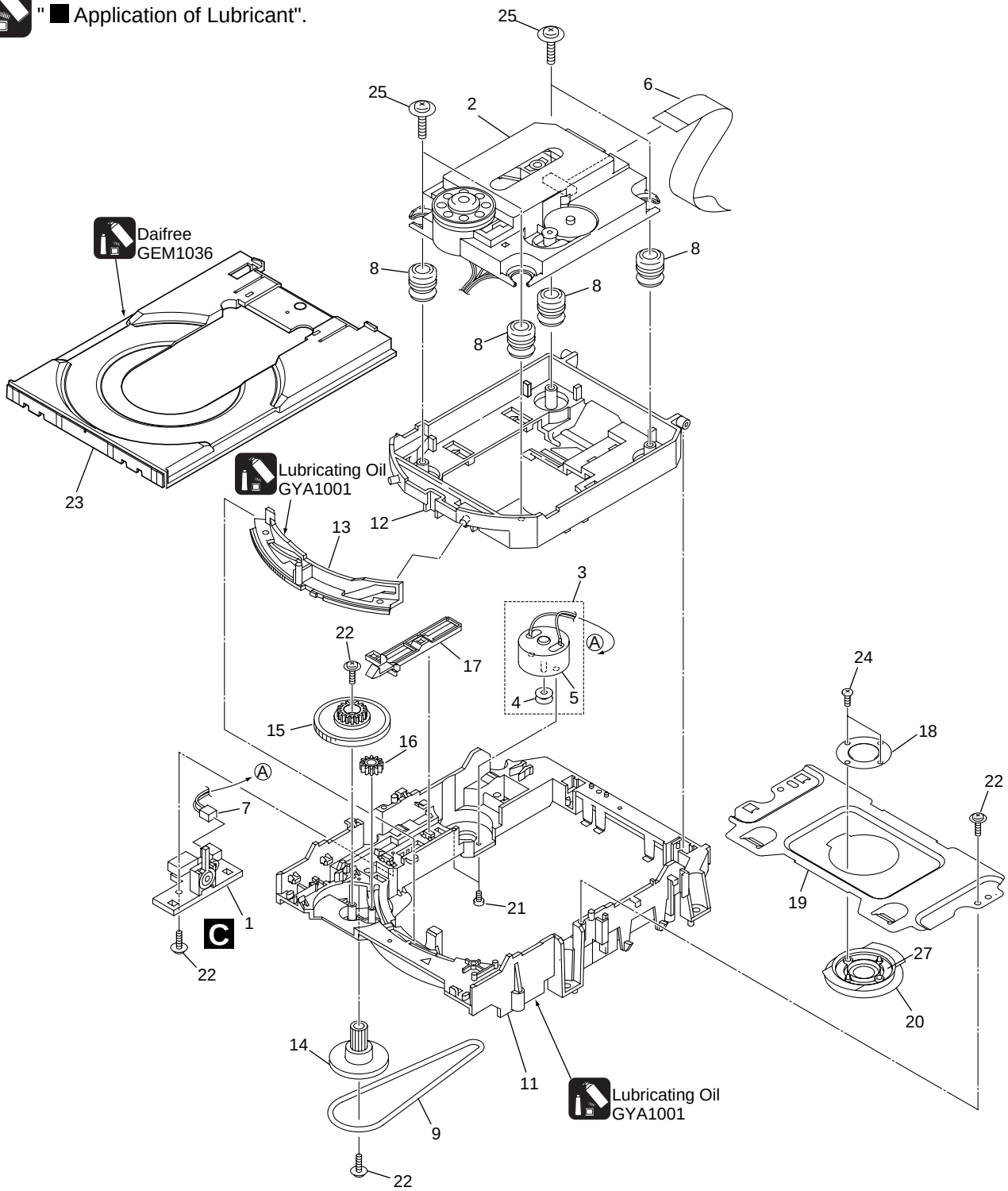
Mark	No.	Description	Part No.
	1	MOTHER ASSY	AWU7836
	2	FLAC ASSY	AWU7837
	3	KEYR ASSY	AWU7838
	4	KEYL ASSY	AWU7839
	5	HP ASSY	AWU7840
	6	FM/AM TUNER MODULE	AXQ7229
	7	• • • • •	
	8	13P FFC/60V	ADD7319
	9	9P FFC/60V	ADD7321
	10	• • • • •	
	11	Adapter12 L	ANW7231
	12	Adapter12 R	ANW7232
	13	• • • • •	
	14	Connector Ass'y	PG05KK-E07
NSP	15	Loading Mecha. Ass'y	AXA7101
	16	Rear Panel	ANC8001
NSP	17	Bottom Plate	ANF7027
NSP	18	Top Plate	ANF7028
	19	• • • • •	
	20	Sensor Plate	ANG7360
	21	Leg	AEB7090
	22	• • • • •	
	23	• • • • •	
	24	Lead Barrier	AEC7361
	25	Wire Barrier	AEC7379
	26	• • • • •	
NSP	27	PC Support	VEC1749
	28	Sensor Button L	AAD7622
	29	Sensor Button R	AAD7623
	30	Illuminate Lens	AAK7896

Mark	No.	Description	Part No.
	31	Side Line	AAP7088
	32	Bottom Base	AMA7025
	33	Top Panel 1	AMB7779
	34	Top Panel 2	AMB7755
	35	Button L Assy	AXG7110
	36	Button R Assy	AXG7111
	37	Tray Cap Assy	AXG7112
	38	Bonnet	ANE7270
	39	Caution Label	PRW1018
	40	Caution Label	PRW1233
NSP	41	Caution Label	VRW-328
	42	Screw	BBZ30P060FMC
	43	Screw	BBZ30P100FMC
	44	Screw	BPZ30P080FZK
	45	Screw	PSC30P080FNI
	46	Caution Label	VRW1094

2.3 LOADING MECHANISM ASSY

Note :

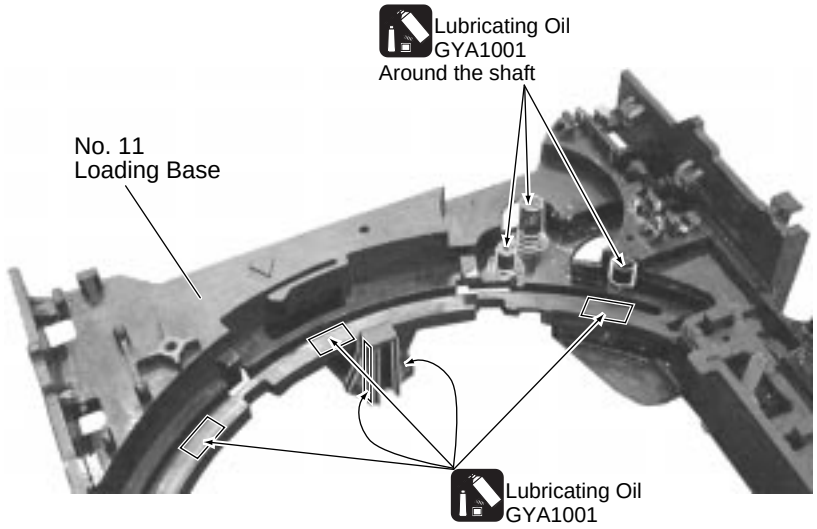
Refer to
" ■ Application of Lubricant".

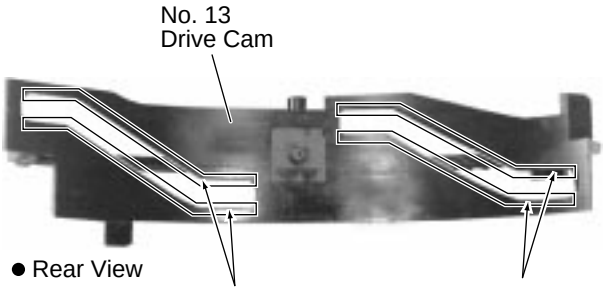


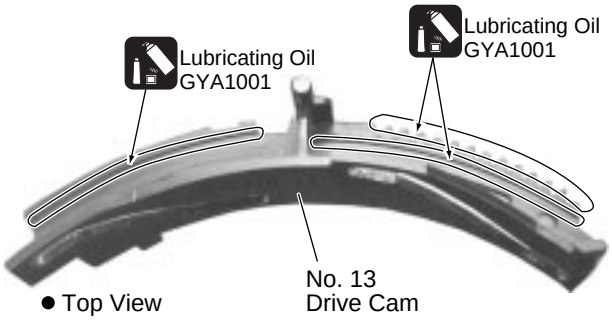
• LOADING MECHANISM ASSY PARTS LIST

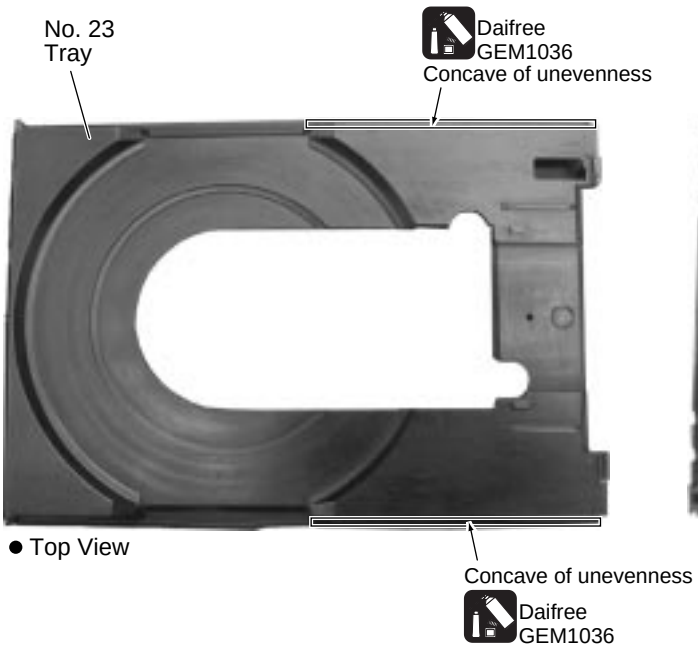
Mark	No.	Description	Part No.
NSP	1	LOAB Assy	VWG2279
	2	CD Traverse Mechanism	VAM2202/03
	3	Loading Motor Assy	VXX2505
	4	Motor Pulley	PNW1634
	5	Carriage DC Motor / 0.3W	PXM1027
	6	Flexible Cable (15P)	ADD7317
	7	Connector Assy 2P	VKP2253
	8	Float Rubber	AEB7227
	9	Belt	VEB1330
	10	• • • • •	
	11	Loading Base	VNL1917
	12	Float Base CD	ANW7233
	13	Drive Cam	VNL1919
	14	Gear Pulley	VNL1921
	15	Loading Gear	VNL1922
	16	Drive Gear	VNL1923
	17	SW Lever	VNL1925
	18	Clamper Plate CD	ANB7261
	19	Bridge	VNE2252
	20	Clamper CD	ANW7234
	21	Screw	JGZ17P028FMC
	22	Screw	Z39-019
	23	Tray	VNL1920
	24	Screw	PBA1069
	25	Screw	ABA7069
	26	• • • •	
	27	Clamp Magnet	AMG7006

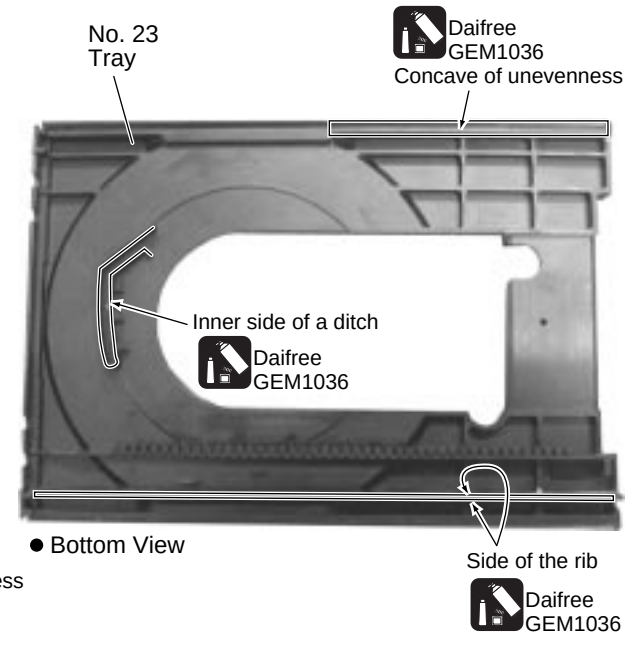
Application of Lubricant



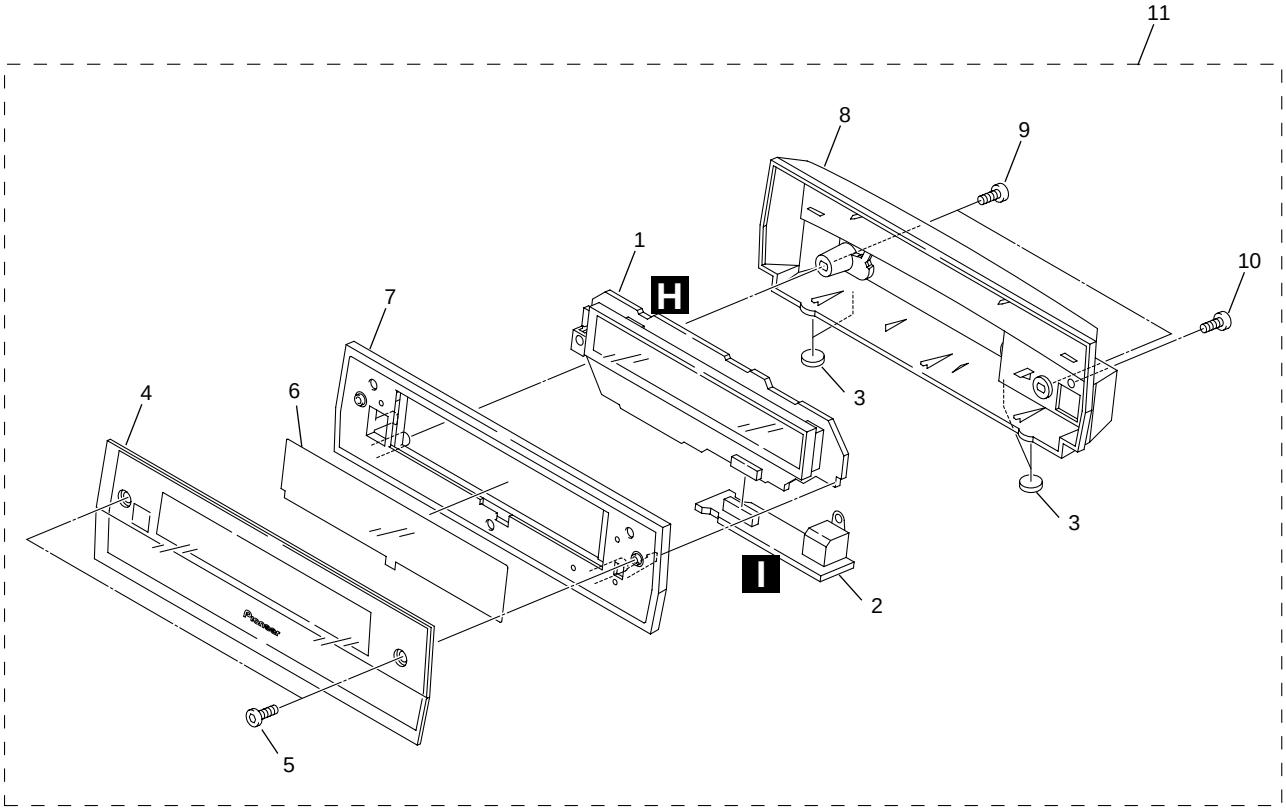








2.4 DISPLAY UNIT

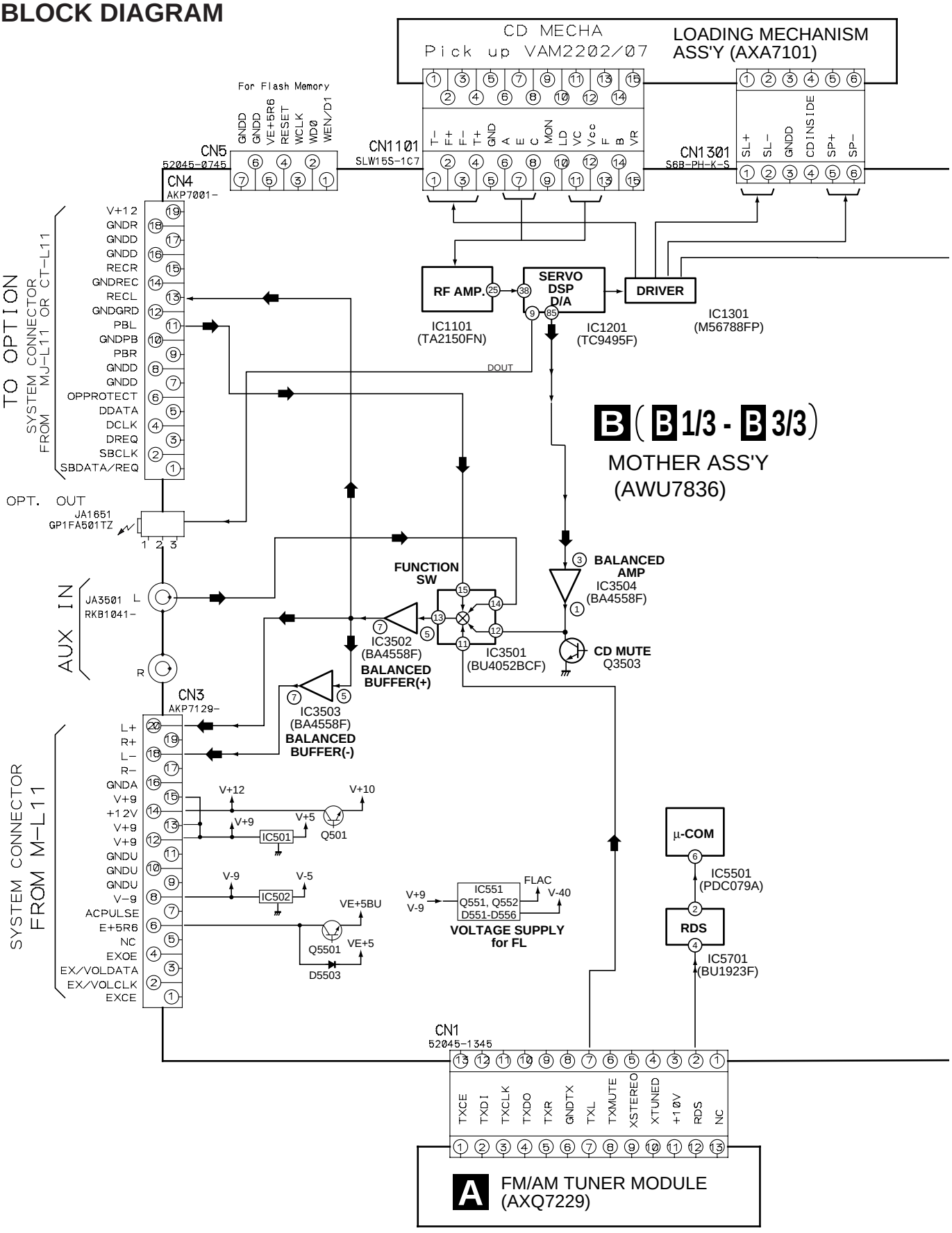


• DISPLAY UNIT PARTS LIST

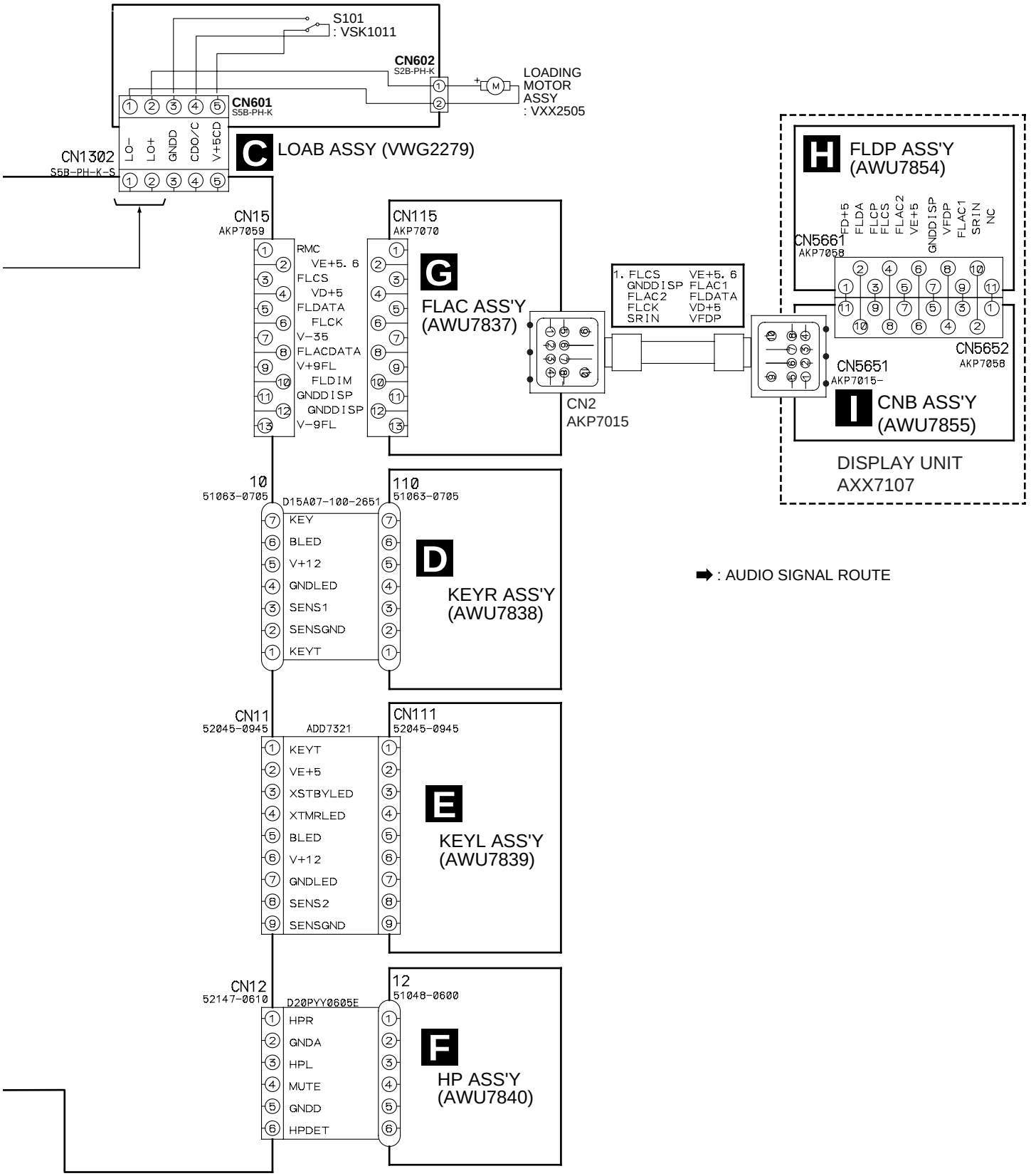
Mark	No.	Description	Part No.
	1	FLDP ASSY	AWU7854
	2	CNB ASSY	AWU7855
	3	Leg	AEB7090
	4	Window	AAK7889
	5	Deco Screw	ABA7072
	6	FL Filter	AEC7195
	7	Display Panel	AMB7750
	8	Display Cover	AMC7048
	9	Screw	BPZ30P080FZK
	10	Screw	PSC30P080FNI
	11	DISPLAY UNIT	AXX7107

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

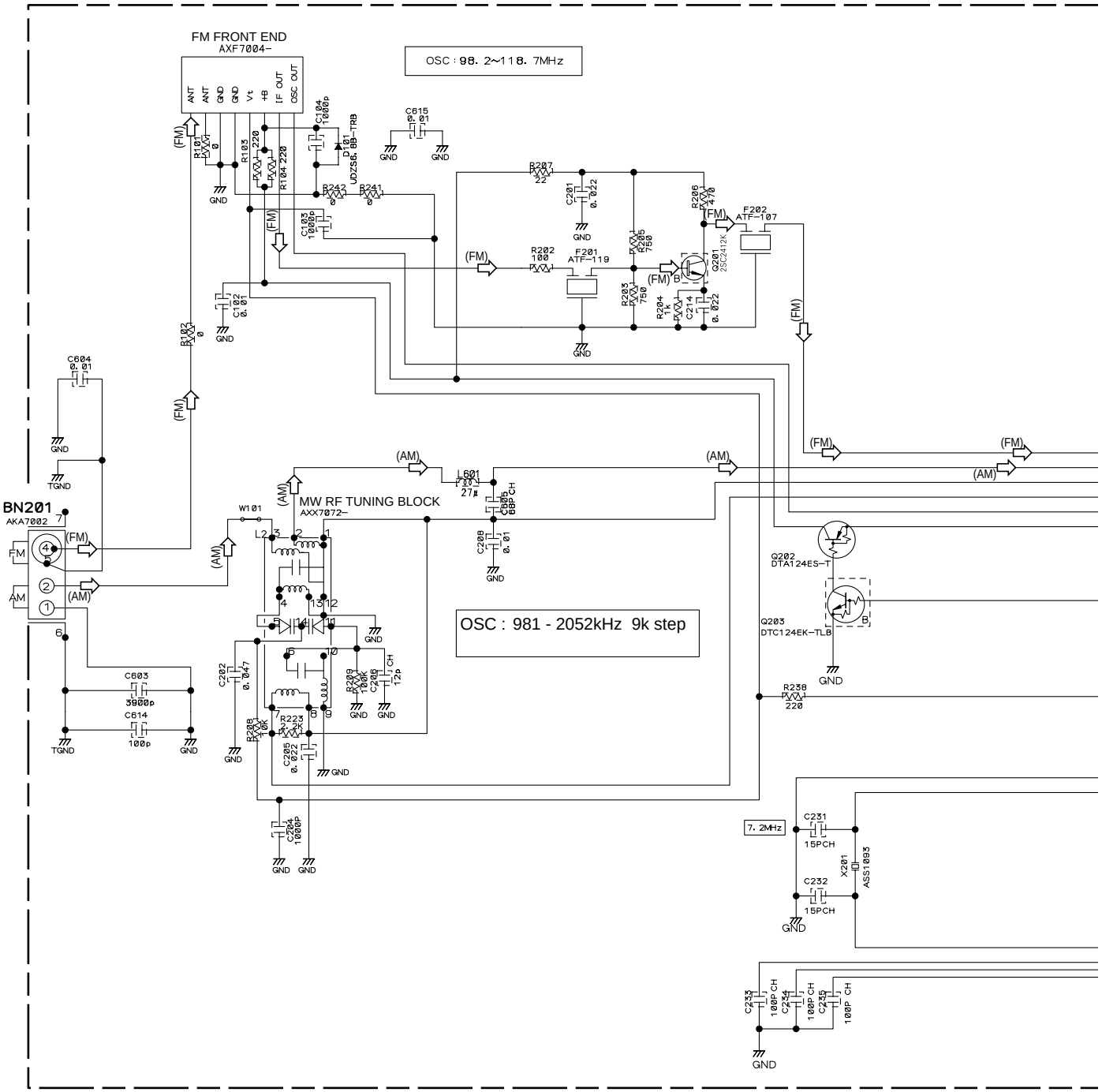


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



3.2 FM/AM TUNER MODULE

A FM/AM TUNER MODULE (AXQ7229)



Notes

1. RESISTORS

Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K;KΩ, M;MΩ.

2. CAPACITORS

Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P;PF.

3. DIODES

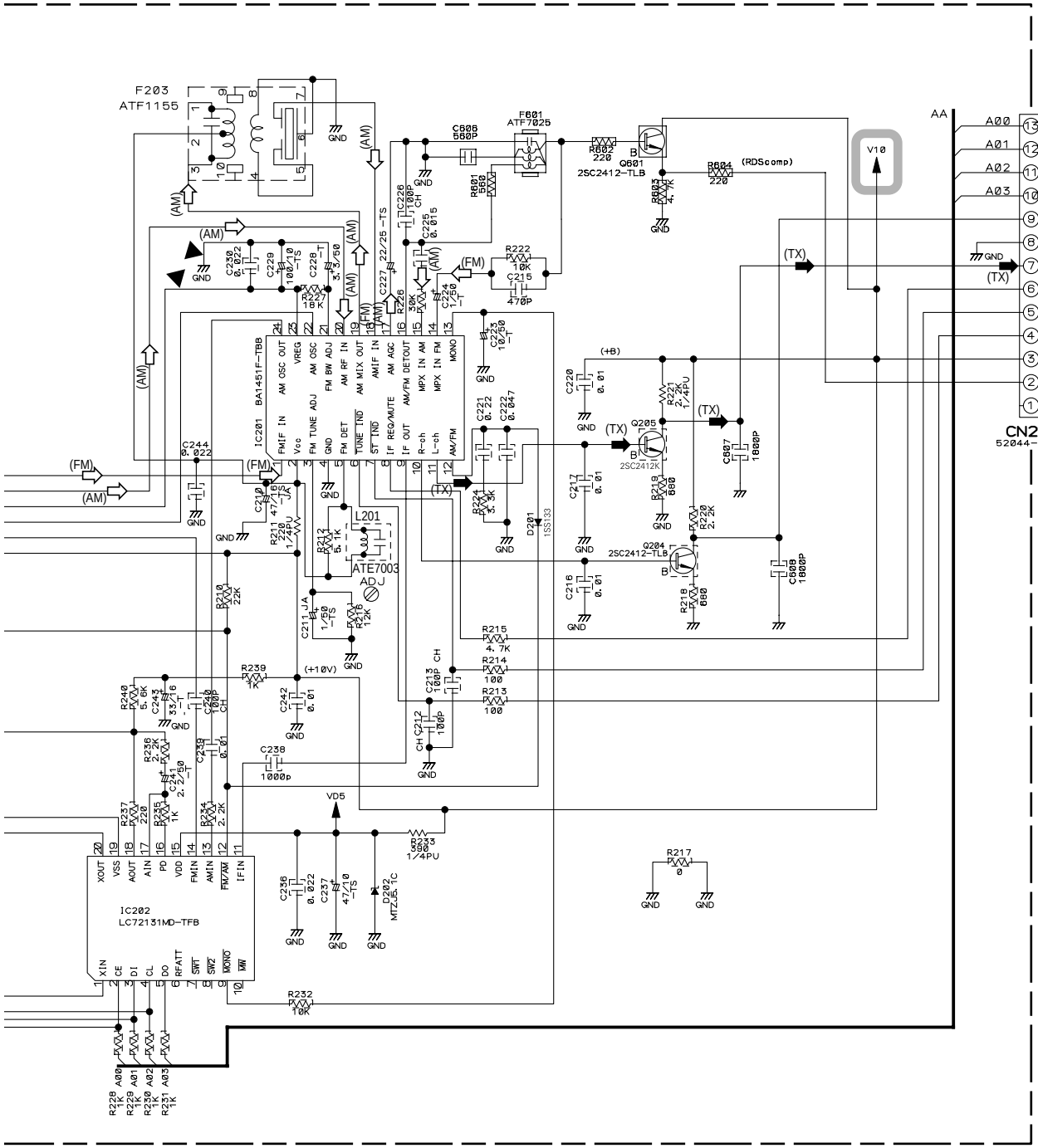
No mark diode is 1SS133.

: The power supply is shown with the marked box.

(TX) : AUDIO SIGNAL ROUTE (TUNER)

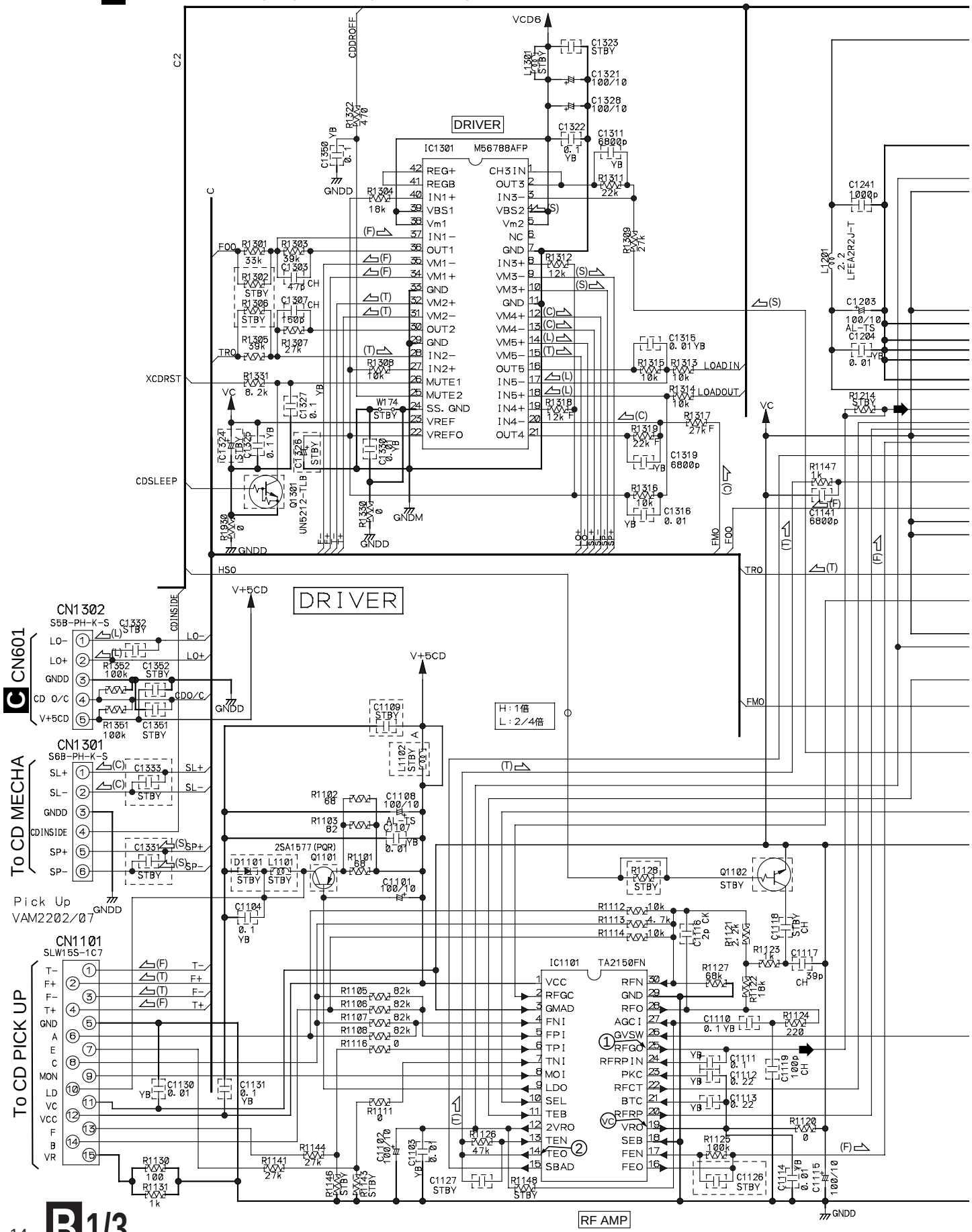
(AM) : AM SIGNAL ROUTE

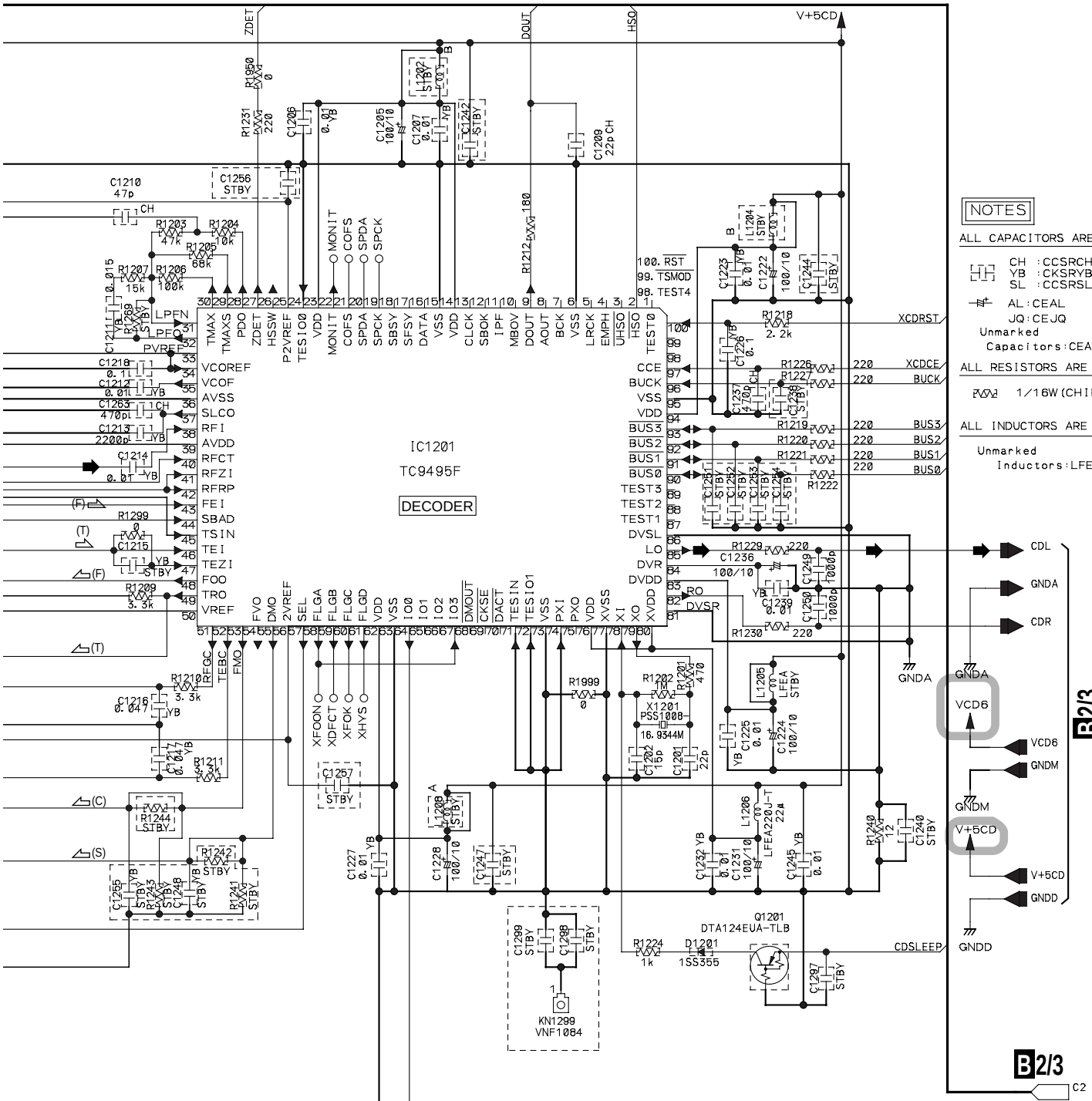
(FM) : FM SIGNAL ROUTE



3.3 MOTHER(1/3) ASSY

B 1/3 MOTHER(1/3) ASSY (AWU7836)



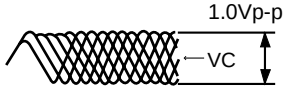


GND : CD-RW
VCC : Normal

➡ : CD AUDIO SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SPINDLE SERVO LOOP LINE
(C) : CARRIAGE SERVO LOOP LINE
(L) : LOADING SERVO LOOP LINE

Note: The encircled numbers denote measuring point in the schematic diagram.

① IC1101- Pin 25:
PLAY MODE (RF)
H : 500nsec/div

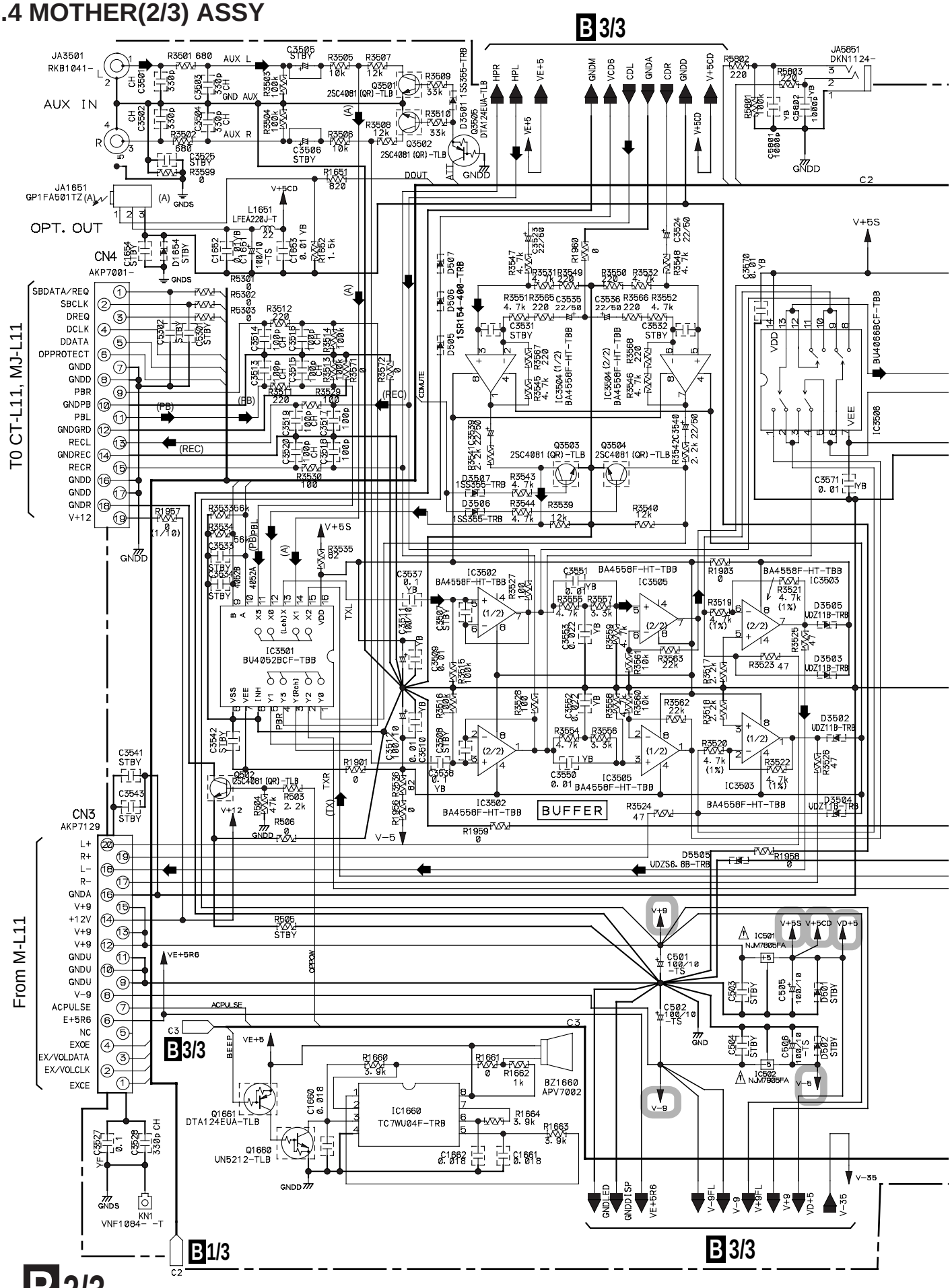


② IC1101- Pin 14 :
TEST MODE,
Tracking Open (TRER)
H : 5msec/div

VC : IC1101- Pin19

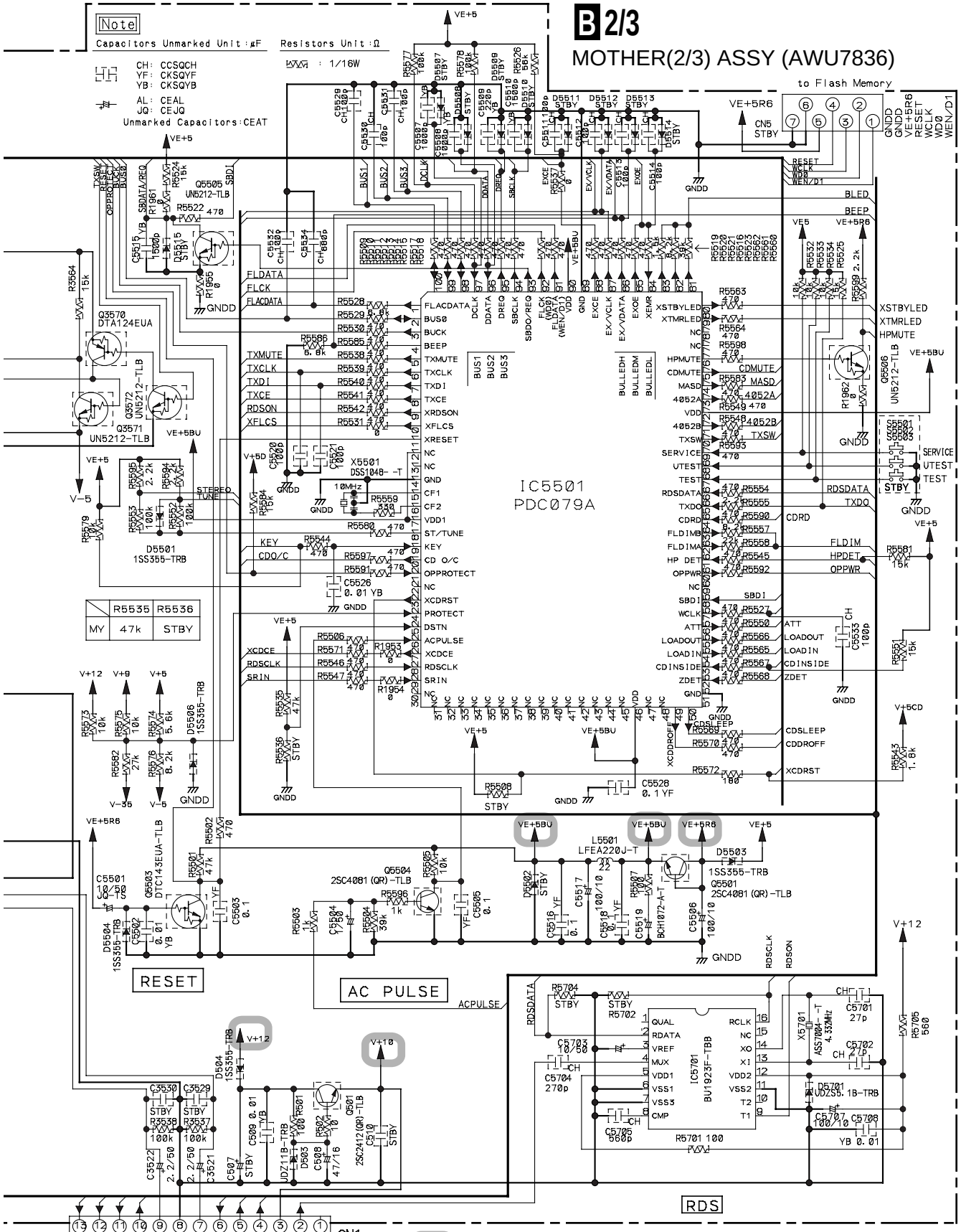
: The power supply is shown with the marked box.

3.4 MOTHER(2/3) ASSY



B 2/3

MOTHER(2/3) ASSY (AWU7836)



: The power supply is shown with the marked box.

: AUDIO SIGNAL ROUTE

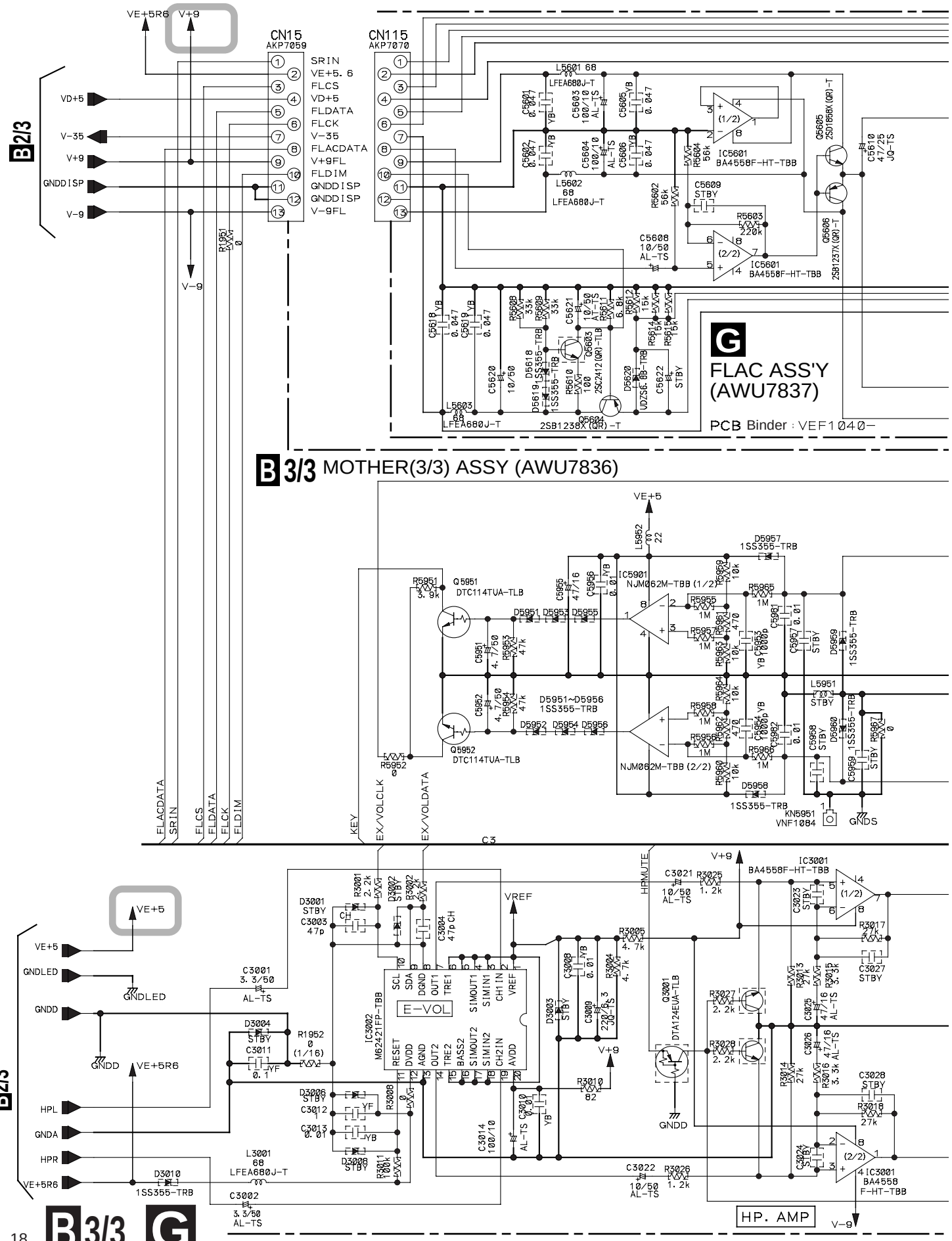
(TX) : TUNER AUDIO SIGNAL ROUTE

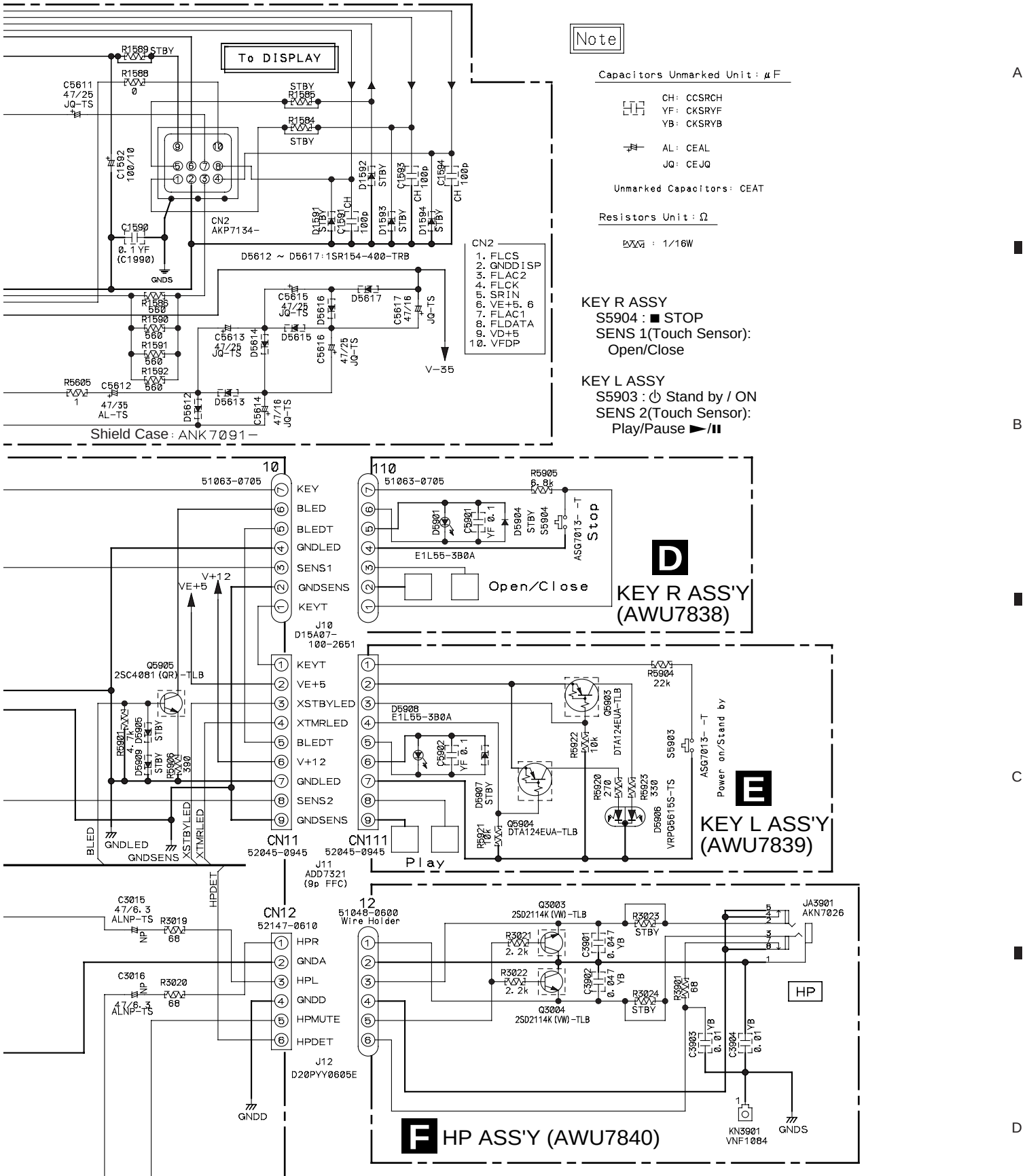
(A) : AUX AUDIO SIGNAL ROUTE

(REC) : REC AUDIO SIGNAL ROUTE

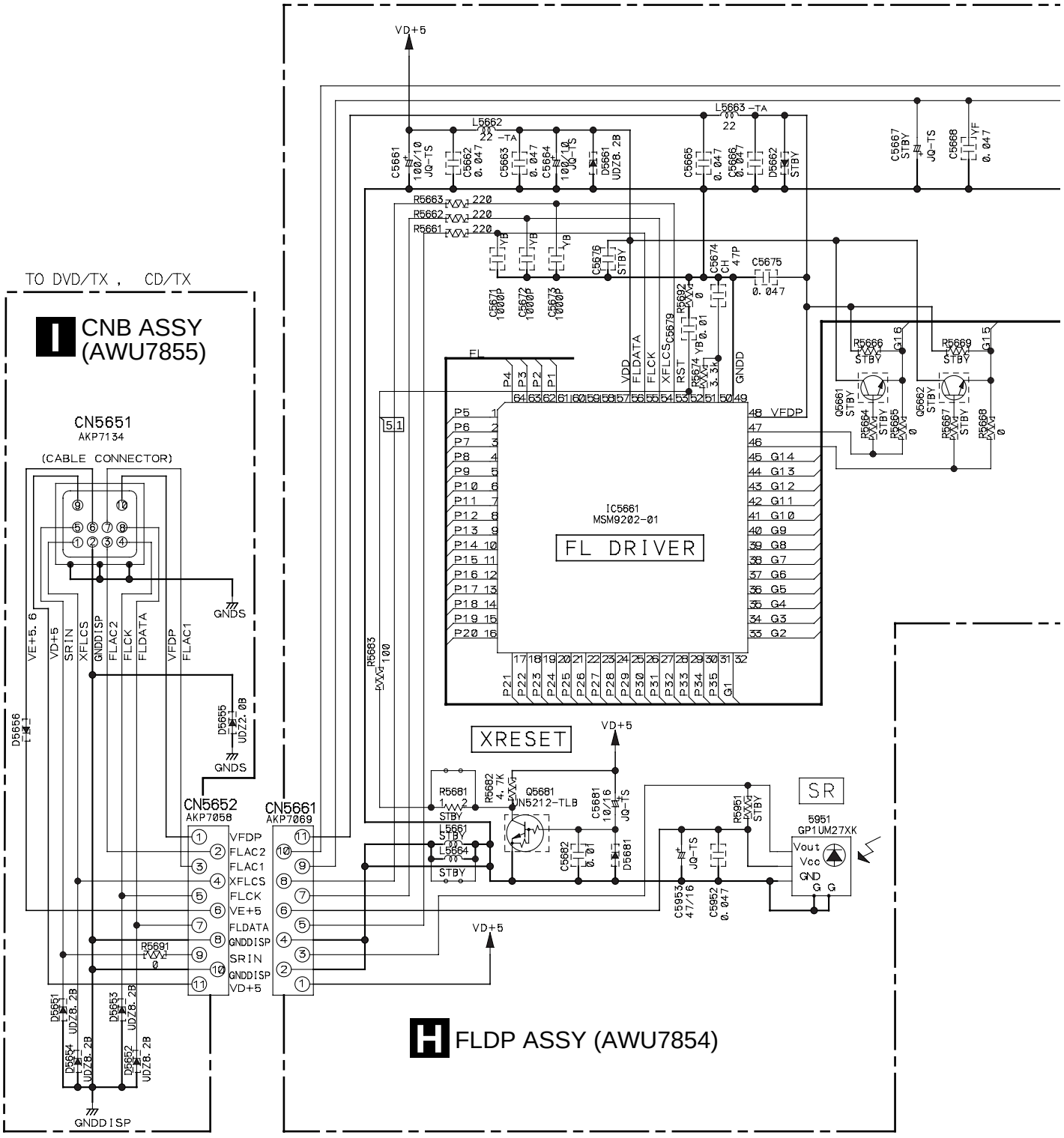
(PB) : PB AUDIO SIGNAL ROUTE

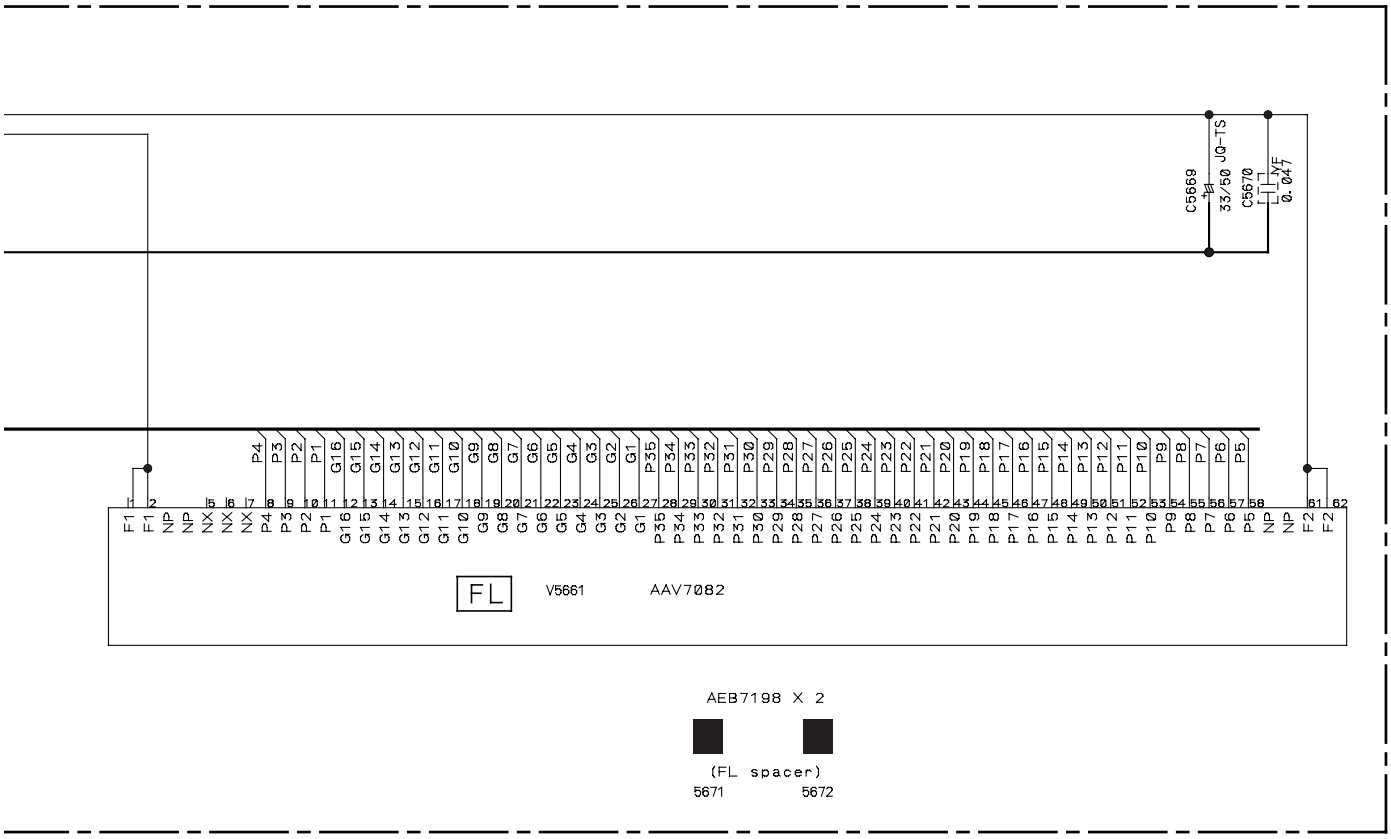
3.5 MOTHER(3/3), FLAC, KEY R, KEY L and HP ASSYS




To DISPLAY
Note
Capacitors Unmarked Unit : μF
CH : CCSRCH
YF : CKSRYF
YB : CKSRYB
AL : CEAL
JQ : CEJQ
Unmarked Capacitors : CEAT
Resistors Unit : Ω
: 1/16W
CN2
1. FLCS
2. GNDDISP
3. FLAC2
4. FLCK
5. SRIN
6. VE+5. 6
7. FLAC1
8. FLDATA
9. VD+5
10. VFDP
D5612 ~ D5617 : 1SR154-400-TRB
Shield Case : ANK7091-
KEY R ASSY
S5904 : ■ STOP
SENS 1(Touch Sensor):
Open/Close
KEY L ASSY
S5903 : ⏻ Stand by / ON
SENS 2(Touch Sensor):
Play/Pause ►/II
10
51063-0705
KEY
BLED
BLEDT
GNDLED
SENS1
GNDSENS
KEYT
110
51063-0705
E1L55-3B0A
Open/Close
Stop
D
KEY R ASS'Y
(AWU7838)
J10
D15A07-
100-2651
Q5905
2SC4081 (QR)-TLB
V+12
VE+5
XSTBYLED
XTMRLED
BLEDT
SENS2
CN11
52045-0945
CN111
52045-0945
J11
ADD7321
(9p FFC)
Play
Power on/Stand by
E
KEY L ASS'Y
(AWU7839)
CN12
52147-0610
HPR
GNDA
HPL
GNDD
HPMUTE
HPDET
12
51048-0600
Wire Holder
J12
D20PYY0605E
Q3003
2SD2114K (VW)-TLB
Q3004
2SD2114K (VW)-TLB
JA3901
AKN7026
KN3901
VNF1084
HP
F
HP ASS'Y (AWU7840)
: The power supply is shown with the marked box.

3.6 FLDP and CNB ASSYS





NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED

CH : CCSRCH
YF : CKSRYF
(OTHER : CKSRYB)

: CEJQ −TS
JQ-TS

ALL RESISTORS ARE IN Ω

1/16W
1/4WPU

ALL INDUCTORS ARE IN μH

LAU −TA
−TA

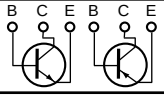
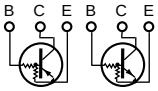
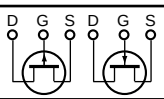
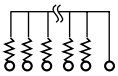
NO MARK DIODE

1SS355

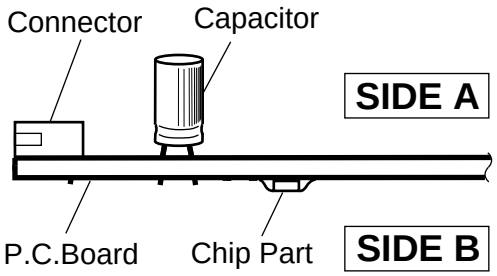
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

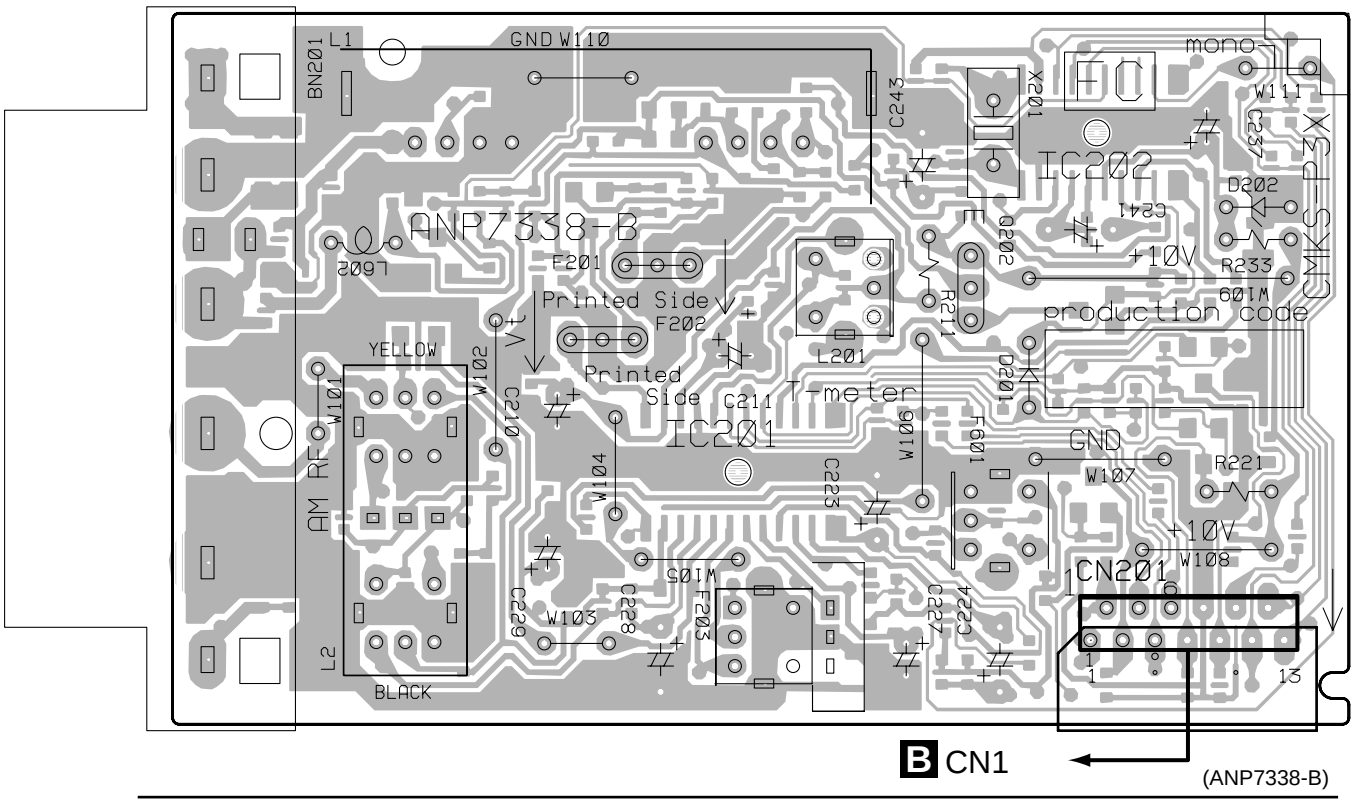
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

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



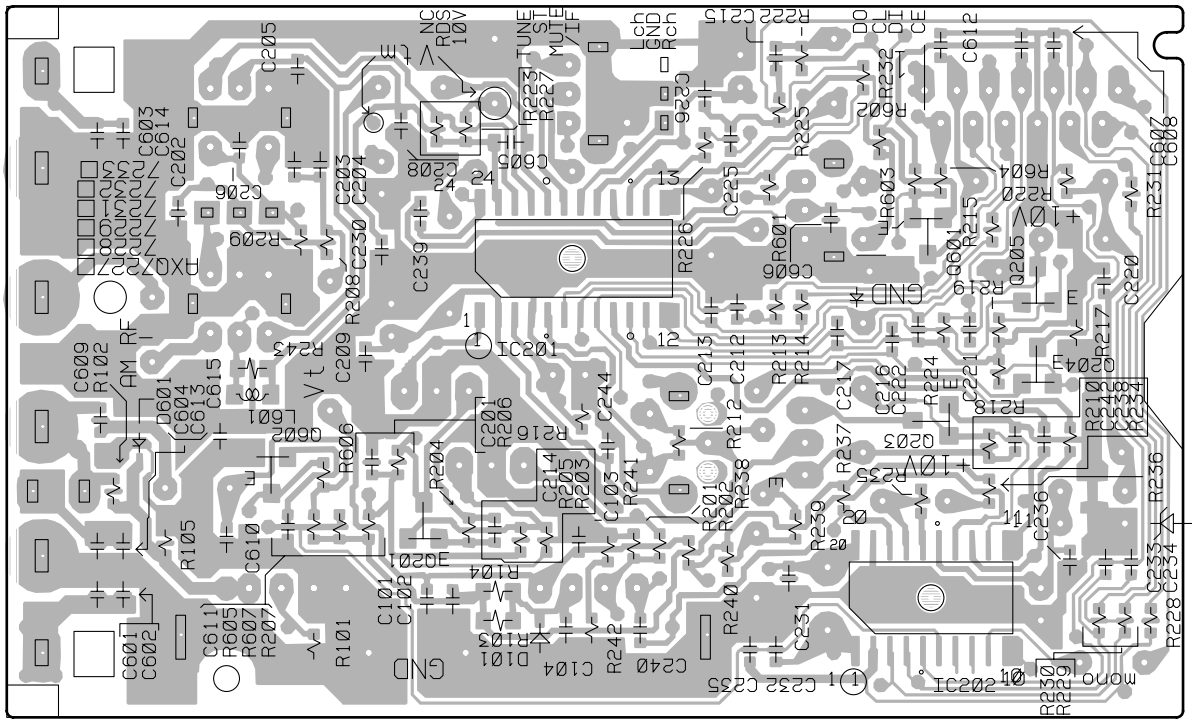
4.1 FM/AM TUNER MODULE

A FM/AM TUNER MODULE **SIDE A**



Q202

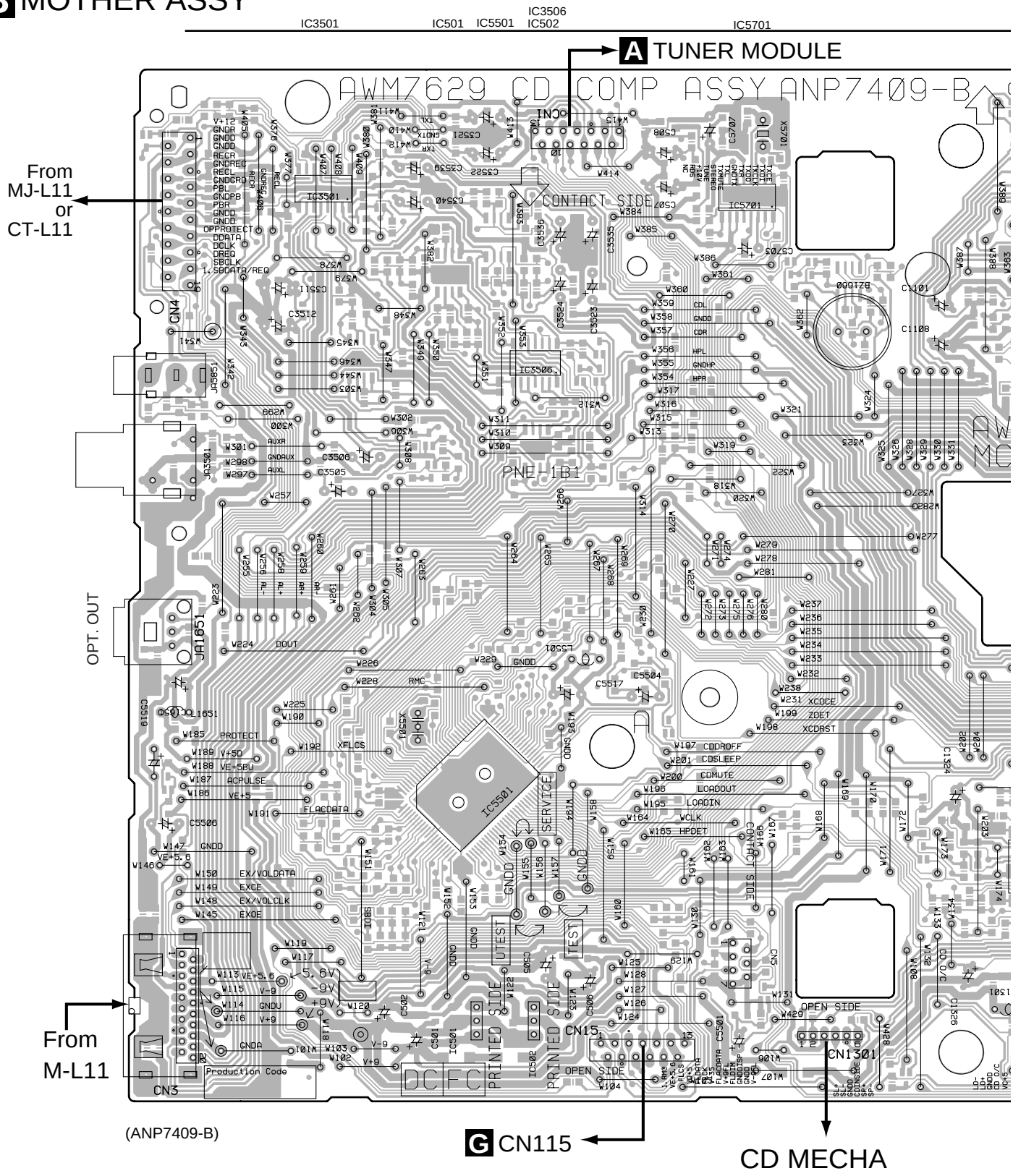
A FM/AM TUNER MODULE **SIDE B**



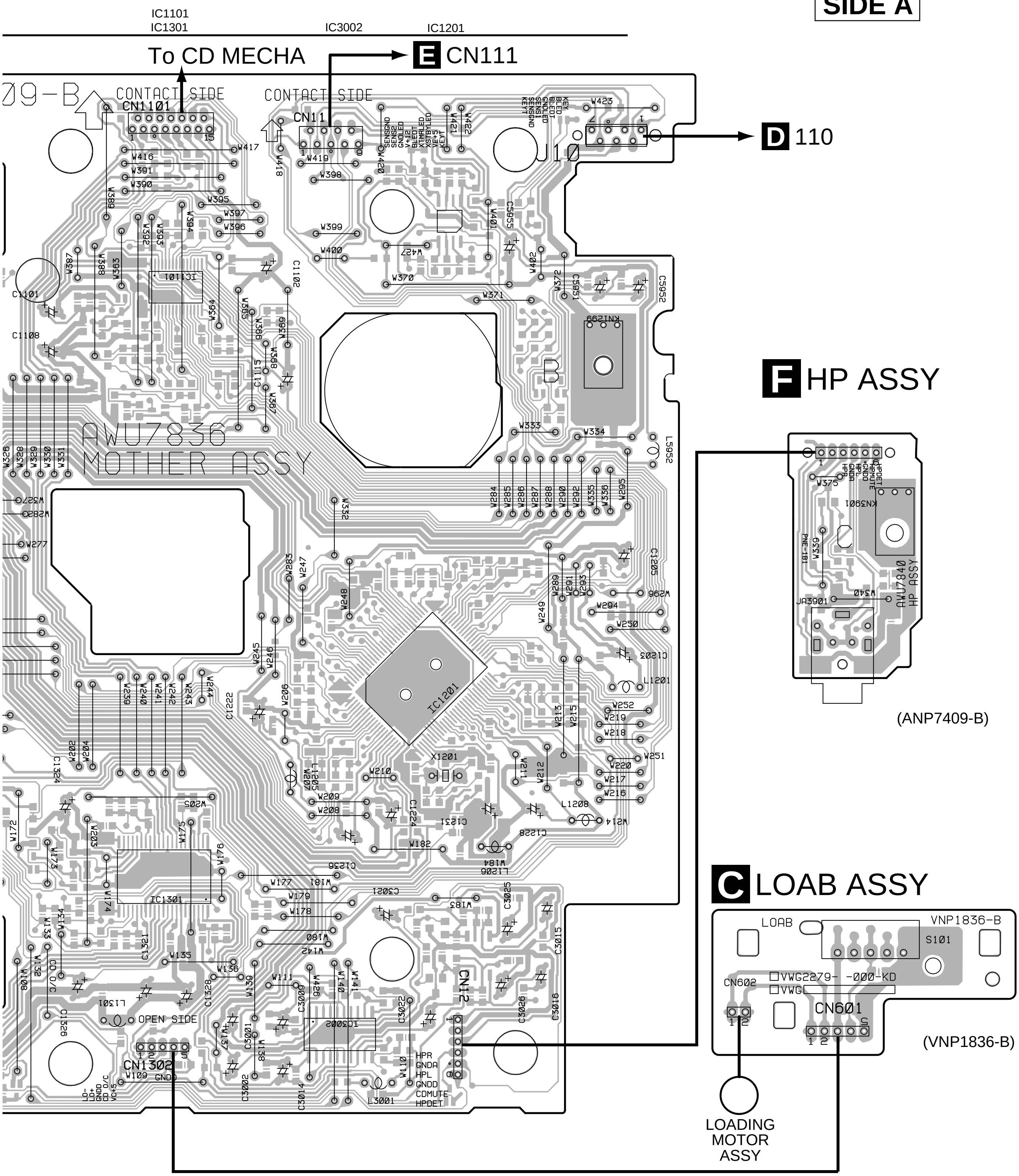
Q201 IC201 Q203 IC202 Q205 Q204

4.2 MOTHER, LOAB and HP ASSYS

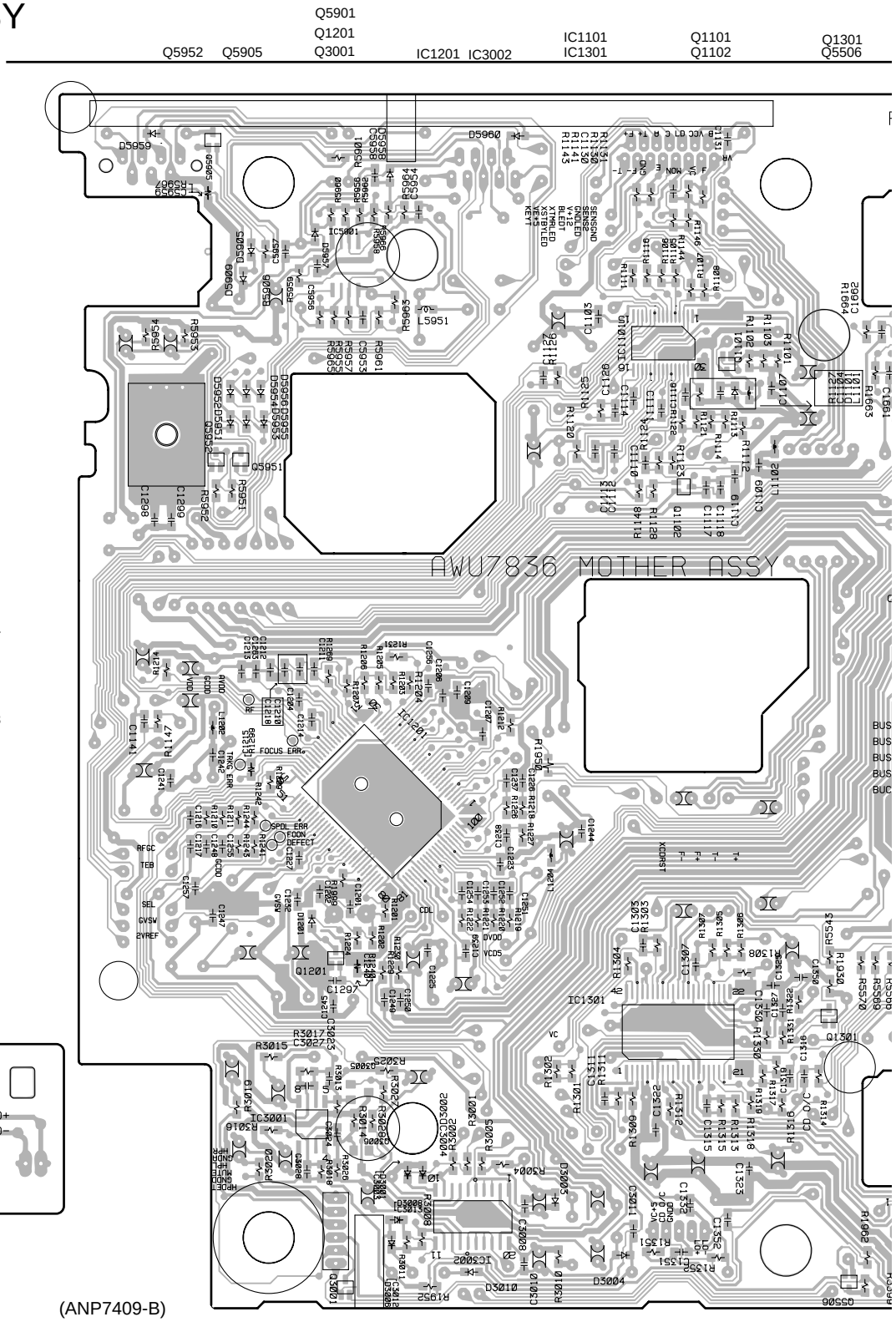
B MOTHER ASSY



SIDE A

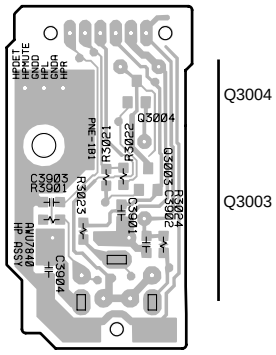

IC1101
IC1301
IC3002
IC1201
To CD MECHA
E CN111
D 110
AWU7836
MOTHER ASSY
CONTACT SIDE
CN1101
CN11
CN12
CN1302
OPEN SIDE
F HP ASSY
AWU7840
HP ASSY
(ANP7409-B)
C LOAB ASSY
VNP1836-B
S101
CN602
CN601
(VNP1836-B)
LOADING
MOTOR
ASSY

B MOTHER ASSY



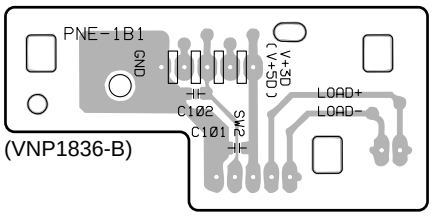
(ANP7409-B)

F HP ASSY



(ANP7409-B)

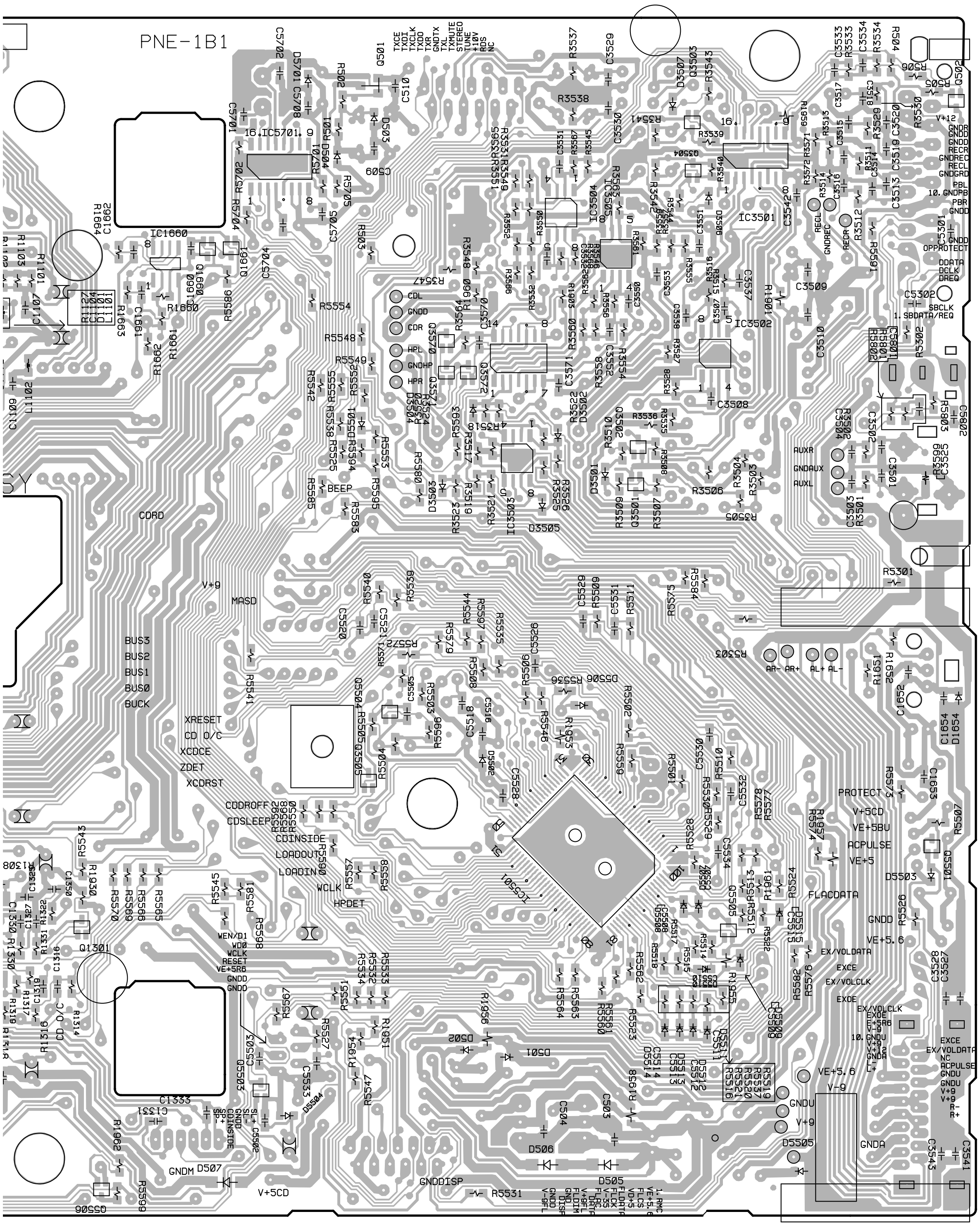
C LOAB ASSY



(VNP1836-B)

SIDE B

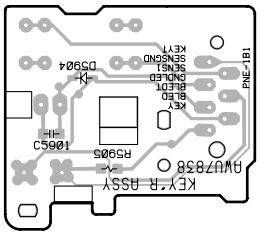
Q1301 Q5506 | Q5503 | Q3505 | Q3571 | Q3572 IC5501 | Q3505 IC3504 Q3502 Q3501 | Q3503 Q5505 | Q5501

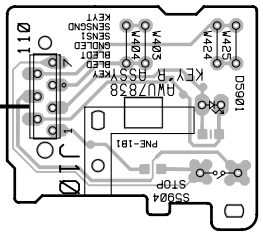


A
B
C
D

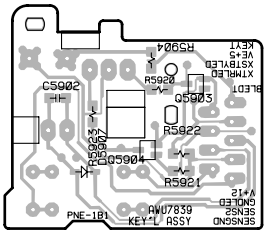
4.3 KEYR, KEYL and FLAC ASSYS

D KEYR ASSY



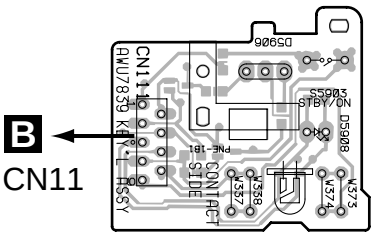


E KEYL ASSY

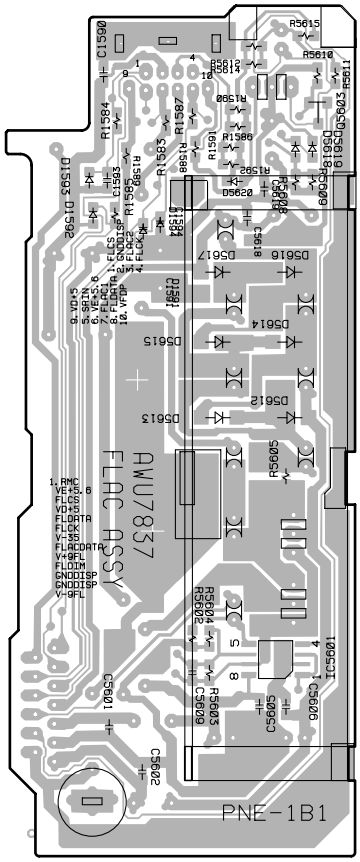


Q5903

Q5904



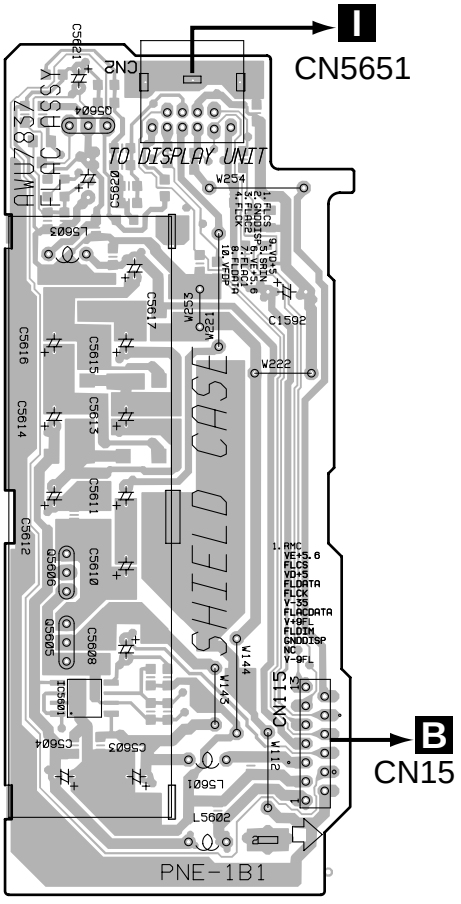
G FLAC ASSY



Q5603

IC5601

(ANP7409-B)



Q5604

Q5606

Q5605

IC5601

(ANP7409-B)

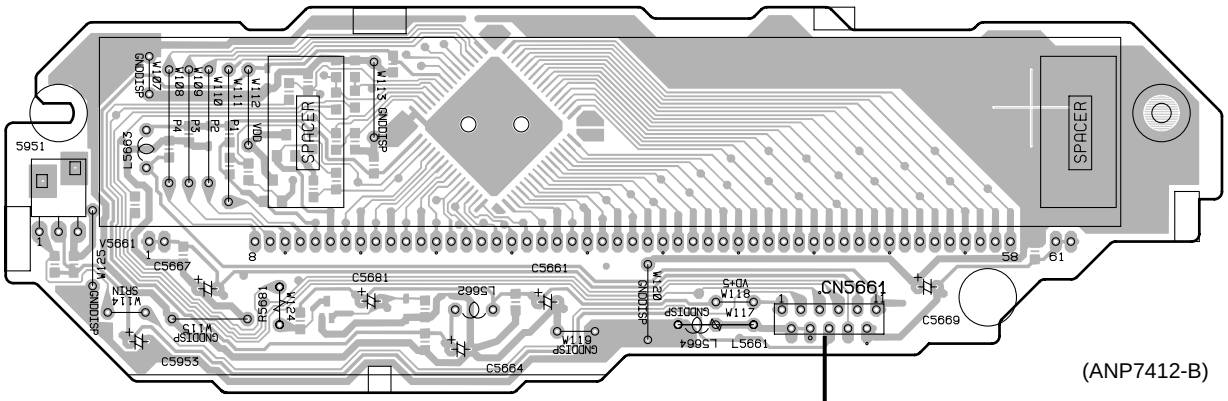
SIDE A

SIDE B

4.4 FLDP and CNB ASSYS

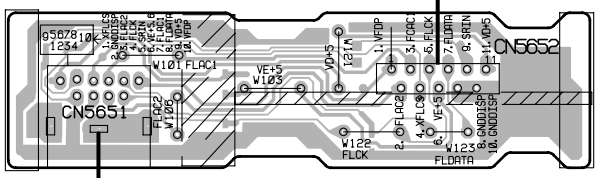
H FLDP ASSY

SIDE A



(ANP7412-B)

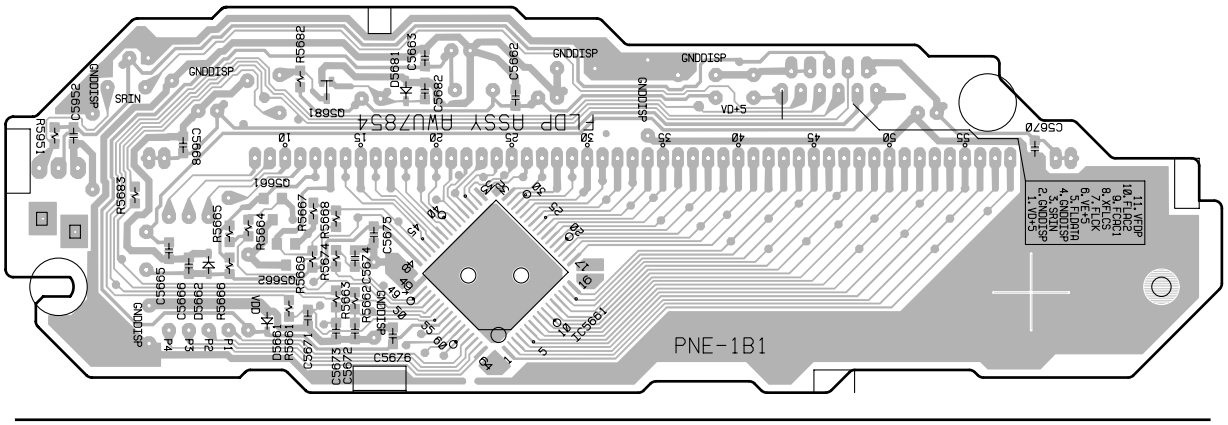
I CNB ASSY



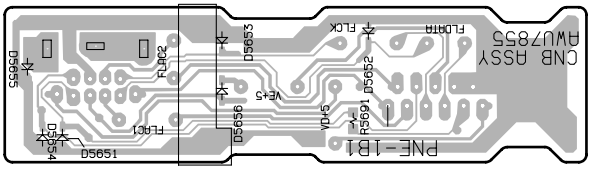
G CN2

(ANP7412-B)

SIDE B



(ANP7412-B)



(ANP7412-B)

5. PCB PARTS LIST

NOTES: ●*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.*

●*When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.

LIST OF PCB ASSEMBLIES

	FM/AM TUNER MODULE	AXQ7229
NSP	CD COMP	AWM7629
	├ MOTHER ASSY	AWU7836
	├ FLAC ASSY	AWU7837
	├ KEYR ASSY	AWU7838
	├ KEYL ASSY	AWU7839
	└ HP ASSY	AWU7840
	DISPLAY	AWM7633
	├ FLDP ASSY	AWU7854
	└ CNB ASSY	AWU7855
NSP	LOADING MECHAISM ASSY	AXA7101
NSP	└ LOAB ASSY	AWG2279

A FM/AM TUNER MODULE

SEMICONDUCTORS

	IC201	BA1451F
	IC202	LC72131MD-TFB
	Q201, Q204, Q205, Q601	2SC2412K
	Q202	DTA124ES
	Q203	DTC124EK
	D201	1SS133
	D202	MTZJ5.1C
	D101	UDZS6.8B

COILS AND FILTERS

	L201	FM DETECTOR COIL	ATE7003
	F202	CERAMIC FILTER	ATF-107
	F201	CERAMIC FILTER	ATF-119
	F203	AM CERAMIC FILTER	ATF1155
	F601	ANTIBIRDY FILTER	ATF7025
	L601		LCTA270J2520

CAPACITORS

	C605	CCSQCH680J50
	C212, C213, C226, C233–C235	CCSRCH101J50
	C240, C614	CCSRCH101J50
	C206	CCSRCH120J50
	C231, C232	CCSRCH150J50
	C223	CEAT100M50
	C229	CEAT101M10
	C224	CEAT1R0M50
	C227	CEAT220M25
	C241	CEAT2R2M50
	C243	CEAT330M16
	C228	CEAT3R3M50
	C237	CEAT470M10
	C211	CEJA1R0M50
	C210	CEJA470M16
	C103, C104, C204, C238	CKSRYB102K50
	C102, C208, C216, C217, C220	CKSRYB103K50
	C239, C242, C604, C615	CKSRYB103K50
	C225	CKSRYB153K50
	C607, C608	CKSRYB182K50
	C201, C205, C214, C230, C236	CKSRYB223K50
	C244	CKSRYB223K50
	C221	CKSRYB224K10
	C603	CKSRYB392K50
	C215	CKSRYB471K50
	C202, C222	CKSRYB473K16
	C606	CKSRYB561K50

RESISTORS

	R211	RD1/4PU221J
	R221	RD1/4PU222J
	R233	RD1/4PU391J
	R103, R104	RS1/10S221J
	Other Resistors	RS1/16S□□□J

OTHERS

	CN201	13P CONNECTOR	52044-1345
	BN201	2P TERMINAL WITHPAL	AKA7002
	0	SHIELD CASE T	ANK7072
	0	SHIELD CASE B	ANK7073
	X201	CRYSTAL RES.(7.2MHz)	ASS1093
	0	FM FRONT END	AXF7004
		AM RF TUNING BLOCK	AXX7072

B MOTHER ASSY

SEMICONDUCTORS

⚠	IC3001	BA4558F-HT
	IC3502-IC3505	BA4558F-HT
	IC5701	BU1923F
	IC3501	BU4052BCF
	IC3506	BU4066BCF
⚠	IC1301	M56788AFP
⚠	IC3002	M62421FP
	IC5901	NJM062M
⚠	IC501	NJM7805FA
⚠	IC502	NJM7905FA
	IC5501	PDC079A
⚠	IC1101	TA2150FN

Mark	No.	Description	Part No.
⚠	IC1660		TC7WU04F
⚠	IC1201		TC9495F
	Q1101		2SA1577
	Q501		2SC2412K
	Q3501-Q3504, Q502, Q5501, Q5504		2SC4081
	Q5905		2SC4081
	Q3005, Q3006		2SD2114K
	Q1201, Q1661, Q3505, Q3570		DTA124EUA
	Q5951, Q5952		DTC114TUA
	Q5503		DTC143EUA
	Q1301, Q1660, Q3571, Q3572		UN5212
	Q5505, Q5506		UN5212
	D505–D507		1SR154-400
	D1201, D3010, D3501, D3506, D3507		1SS355
	D504, D5501, D5503, D5504, D5506		1SS355
	D5951-D5960		1SS355
	D3502-D3505, D503		UDZ11B
	D5701		UDZS5.1B
	D5505		UDZS6.8B

COILS AND FILTERS

	X5701	CRYSTAL RES.(4.3MHz)	ASS7004
	X5501	CERAMIC RES.(10MHz)	DSS1048
	L1206, L1651, L5501, L5952		LFEA220J
	L1201		LFEA2R2J
	L3001		LFEA680J
	X1201	CRYSTAL RES.	PSS1008

CAPACITORS

	C5519	BCH1072
	C1119, C3513-C3520, C5511-C5514	CCSRCH101J50
	C5520, C5521, C5529-C5533	CCSRCH101J50
	C1201	CCSRCH150J50
	C1307	CCSRCH151J50
	C1202, C1209	CCSRCH220J50
	C5509	CCSRCH221J50
	C5701, C5702	CCSRCH270J50
	C5704	CCSRCH271J50
	C3501-C3504, C3528	CCSRCH331J50
	C1117	CCSRCH390J50
	C1210, C1303, C3003, C3004	CCSRCH470J50
	C1237, C1263	CCSRCH471J50
	C5705	CCSRCH561J50
	C5534	CCSRCH681J25
	C1116	CCSRCK2R0C50
	C3021, C3022	CEAL100M50
	C1101, C1102, C1108, C1115, C1203	CEAL101M10
	C1205, C1222, C1224, C1228, C1231	CEAL101M10
	C1236, C1321, C1328, C3014	CEAL101M10
	C3001, C3002	CEAL3R3M50
	C3025, C3026, C5955	CEAL470M16
	C5951, C5952	CEAL4R7M50
	C3015, C3016	CEALNP470M6R3
	C5703	CEAT100M50
	C1651, C3511, C3512, C501, C502	CEAT101M10
	C505, C506, C5506, C5517, C5707	CEAT101M10
	C5504	CEAT1R0M50
	C3523, C3524, C3535, C3536	CEAT220M50
	C3539, C3540	CEAT220M50
	C3521, C3522	CEAT2R2M50
	C508	CEAT470M16
	C5501	CEJQ100M50
	C3009	CEJQ221M6R3
	C3537, C3538	CKSQYB104K25
	C1241, C1249, C1250, C5507, C5508	CKSRYB102K50
	C5801, C5802, C5953, C5954	CKSRYB102K50
	C1103, C1107, C1114, C1130, C1204	CKSRYB103K50
	C1206, C1207, C1212, C1214, C1223	CKSRYB103K50
	C1225, C1227, C1232, C1239, C1245	CKSRYB103K50
	C1315, C1316, C1330, C1652, C1653	CKSRYB103K50
	C3008, C3010, C3013, C3509, C3510	CKSRYB103K50
	C3550, C3551, C3570, C3571, C509	CKSRYB103K50
	C5502, C5526, C5708, C5956	CKSRYB103K50
	C5981, C5982	CKSRYB103K50
	C1104, C1110, C1111, C1131, C1218	CKSRYB104K16
	C1226, C1322, C1325, C1327, C1350	CKSRYB104K16
	C5510, C5515	CKSRYB152K50
	C1211	CKSRYB153K50
	C1660-C1662	CKSRYB183K25
	C1213	CKSRYB222K50
	C3552, C3553	CKSRYB223K25
	C1112, C1113	CKSRYB224K10
	C1216, C1217	CKSRYB473K25
	C1141, C1311, C1319	CKSRYB682K50
	C3011, C3527, C5503, C5505, C5516	CKSRYF104Z25
	C5518, C5528	CKSRYF104Z25
	C3012	CKSRYF105Z10

RESISTORS

	R1901, R1950, R1953, R1955-R1959	RS1/10S0R0J
⚠	R5573	RS1/16S103J
	R1318	RS1/16S1202F
	R3549, R3550, R3565-R3568	RS1/16S2200F
	R1319	RS1/16S2202F
	R1317	RS1/16S2702F
	R3519-R3522, R3531, R3532	RS1/16S4701F
	R3545-R3548, R3551, R3552	RS1/16S4701F
	Other Resistors	RS1/16S□□□J

OTHERS

10	7P CABLE HOLDER	51063-0705
CN11	9P FFC CONNECTOR	52045-0945
CN1	13P FFC CONNECTOR	52045-1345
CN12	6P JUMPER CONN.	52147-0610
CN4	19P SOCKET	AKP7001
CN15	13P PLUG	AKP7059
CN3	20P SOCKET	AKP7129
BZ1660	BUZZER	APV7002
CN1302	KR CONNECTOR	B5B-PH-K
CN1301	KR CONNECTOR	B6B-PH-K
JA5851	MINI JACK	DKN1124
JA1651	OPTICAL LINK JACK	GP1FA501TZ
JA3501	2P PIN JACK	RKB1041
CN1101	FCC CONNECTOR	SLW15S-1C7
KN1299	EARH METAL FITTING	VNF1084

G FLAC ASSY

SEMICONDUCTORS

IC5601	BA4558F-HT
Q5606	2SB1237X
Q5604	2SB1238X
Q5603	2SC2412K
Q5605	2SD1858X

Mark	No.	Description	Part No.
	D5612-D5617		1SR154-400
	D5618, D5619		1SS355
	D5620		UDZS6.8B
COILS AND FILTERS			
	L5601-L5603		LFEA680J
CAPACITORS			
	C1591, C1593, C1594		CCSRCH101J50
	C5608		CEAL100M50
	C5603, C5604		CEAL101M10
	C5612		CEAL470M35
	C5620, C5621		CEAT100M50
	C1592		CEAT101M10
	C5610, C5611, C5613-C5617		CEJQ470M25
	C5601, C5602, C5605, C5606		CKSRYB473K25
	C5618, C5619		CKSRYB473K25
	C1590		CKSRYF104Z25
RESISTORS			
	R5605		RS1/10S1R0J
	Other Resistors		RS1/16S□□□J
OTHERS			
	CN115	13P SOCKET	AKP7070
	CN2	10P CONNECTOR	AKP7134
	1	SHIELD CASE CD	ANK7091
	2	PCB BINDER	VEF1040
D KEYR ASSY			
SEMICONDUCTORS			
	D5901	LED(BLUE)	E1L55-3B0A
SWITCHES AND RELAYS			
	S5904		ASG7013
CAPACITORS			
	C5901		CKSRYF104Z25
RESISTORS			
	R5905		RS1/16S682J
OTHERS			
	110	7P JUMPER WIRE	51063-0705
	J 10	7P CABLE HOLDER	D15A07-100-2651
E KEYL ASSY			
SEMICONDUCTORS			
	Q5903, Q5904		DTA124EUA
	D5908	LED(BLUE)	E1L55-3B0A
	D5906	LED(RED, GREEN)	VRPG5615S
SWITCHES AND RELAYS			
	S5903		ASG7013
CAPACITORS			
	C5902		CKSRYF104Z25
RESISTORS			
	Other Resistors		RS1/16S□□□J
OTHERS			
	CN111	9P FFC CONNECTOR	52045-0945

Mark	No.	Description	Part No.
F HP ASSY			
SEMICONDUCTORS			
	Q3003, Q3004		2SD2114K
	Q3001		DTA124EUA
CAPACITORS			
	C3903, C3904		CKSRYB103K50
	C3901, C3902		CKSRYB473K25
RESISTORS			
	Other Resistors		RS1/16S□□□J
OTHERS			
	112	6P CABLE HOLDER	51048-0600
	3901	MINI JACK	AKN7026
	J 12	6P JUMPER WIRE	D20PYY0605E
	KN3901	EARTH METAL FITTING	VNF1084
H FLDP ASSY			
SEMICONDUCTORS			
	IC5661		MSM9202-01
	Q5681		UN5212
	D5681		1SS355
	D5661		UDZS8.2B
COILS AND FILTERS			
	L5663		LAU100J
	L5662		LAU220J
CAPACITORS			
	C5674		CCSRCH470J50
	C5681		CEJQ100M16
	C5661, C5664		CEJQ101M10
	C5669		CEJQ330M35
	C5953		CEJQ470M16
	C5671-C5673		CKSRYB102K50
	C5679, C5682		CKSRYB103K50
	C5662, C5663, C5665, C5666, C5668		CKSRYF473Z50
	C5670, C5675, C5952		CKSRYF473Z50
RESISTORS			
	Other Resistors		RS1/16S□□□J
OTHERS			
	V5661	FL TUBE	AAV7082
	CN5661	11P SOCKET	AKP7069
	5951	REMOTE RECEIVER UNIT	GP1UM27XK
I CNB ASSY			
SEMICONDUCTORS			
	D5656		1SS355
	D5655		UDZ2.0B
	D5651-D5654		UDZS8.2B
RESISTORS			
	Other Resistors		RS1/16S□□□J
OTHERS			
	CN5652	11P PLUG	AKP7058
	CN5651	10P CONNECTOR	AKP7134

Mark	No.	Description	Part No.

J LOAB ASSY

SWITCHES AND RELAYS

	S101		VSK1011

OTHERS

	CN602	CONNECTOR POST	S2B-PH-K
	CN601	CONNECTOR POST	S5B-PH-K
		PC BOARD LOAB	VNP1836

6. ADJUSTMENT

6.1 TEST MODE

Kind of test mode
The following four modes exist.
There is no information to be shown in this CD adjustment .

1-1. TEST mode. : For adjustment in main body distance of production line
1-2. Unit TEST mode. : For inspection by the function checker of production line

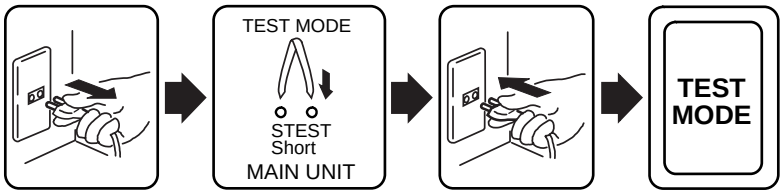
1-3. Service TEST mode. : For inspection by service
It is not possible to operate at all by recognition because of there is no AC pulse if it is CD tuner alone and there is no part AMP as the power failure.
Then, to be able to move the CD tuner, mode yet in the inconvenience without the part AMP.
It is possible to operate only in the CD tuner even if the part AMP is not connected.
An initial function becomes CD if the product starts in this mode, and CD becomes CD TEST mode different from a usual operation.
Even if the function is returned to the CD function again, the product does not become CD TEST mode when the function is made functions other than CD once. The product becomes a usual CD operation.
To put the product from the state in the CD TEST mode, the remote control code of A25F is received.

1-4. CD TEST mode. : For inspection by service
When the remote control code of A25F is received at the CD function when it is on, power becomes CDTEST mode.
The CD tuner is effective to this even the ordinary mode.
However, the product becomes off this mode when the function is changed besides CD.
The step in the part CD can operate. From LD ON to SPDL LOCK , TRKG ON/OFF and etc.

6.1.1 How to Start/Cancel Service Test Mode

NOTE: There is no information to be shown in this CD adjustment.

TEST MODE : ON



An initial function becomes CD, then becomes CD TEST MODE. And becomes a blank display [:].

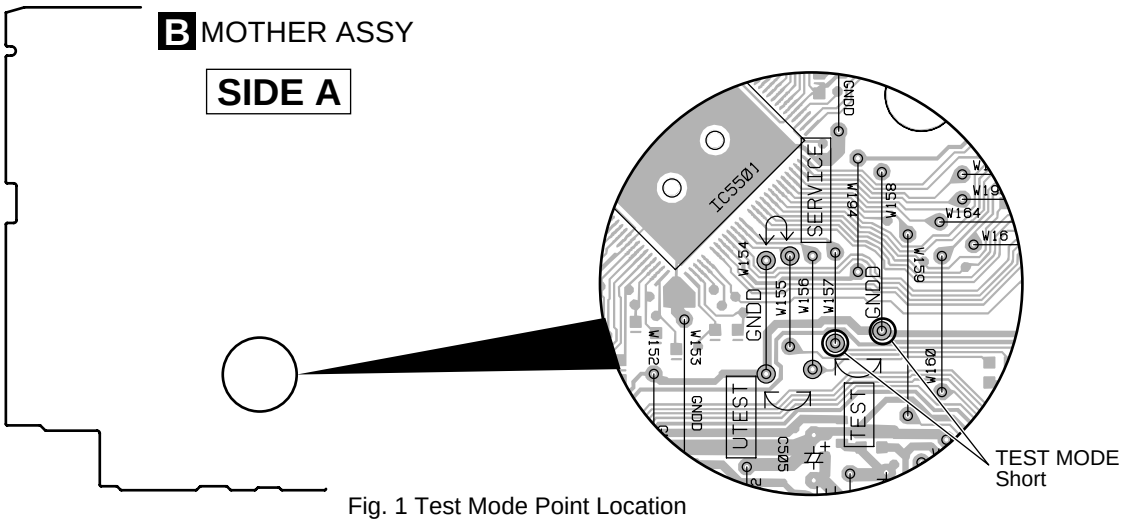
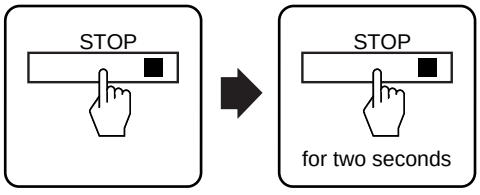


Fig. 1 Test Mode Point Location

CD TEST MODE : CANCEL



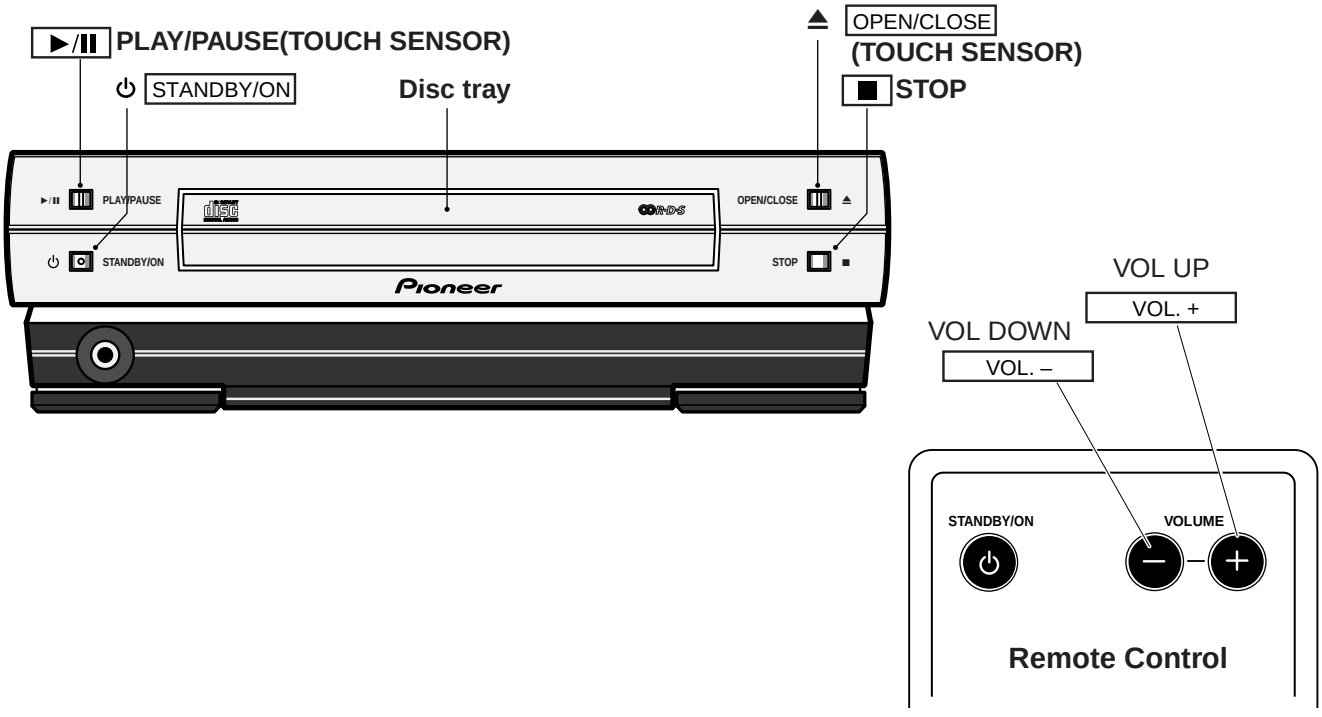
The function is changed.
Becomes a usual CD operation

TEST MODE : STOP

6.1.2 Function And Operation In CD Test Mode

Main body key	Single goods CD remote control unit	Operation condition	Content of operation	FL display
OPEN/CLOSE	(None)	When CD STOP	The CD tray opens and close.	
STOP	STOP	When CD STOP	The function is changed.	
		When Servo ON	All servos are turned off.	CD :
POWER (∗1)	RANDOM (A24A)	When CD STOP	LD is turned on, and auto focus is done.	FOCUS ON
PLAY/PAUSE	PLAY (A217)	After FOK	The spindle is kicked. And, the self adjustment processing tracking servo is turned on and MUTE is released. (∗2)	SPNDL KICK ↓ SERVO ON
PLAY/PAUSE	PLAY (A217)	When TRK SERVO OFF	The tracking servo is turned on, and MUTE is released.	SERVO ON
PLAY/PAUSE	PLAY (A217) PAUSE (A218)	When TRK SERVO ON	The tracking servo is turned off, and MUTE is put.	SERVO OFF
VOL UP	TRK UP (A210)	When TRK SERVO ON	The tracking servo is turned off, MUTE is put, and the slider is moved in the direction of FWD.	CD XX : XX ↓ SERVO OFF
VOL DOWN	TRK DOWN (A211)	When TRK SERVO ON	The tracking servo is turned off, MUTE is put, and the slider is moved in the direction of RVS.	CD XX : XX ↓ SERVO OFF
(None) (∗3)	PGM (A20D)	When CD has Stopped	LDON → Auto focus → Spindle kick → Self adjustment → TOC lead → The 2th search → Tracking servo ON → MUTE release	FOCUS ON ↓ SPNDL KICK ↓ SERVO ON

∗1 Method of making POWER OFF when there is no remote control.
The function is changed besides CD keeping pushing the STOP key again for two seconds after CD is stopped with the STOP key. And, please push the POWER key.
∗2 If the slider is not sent to outer a little to turn on the servo by surroundings the in DISC, the sound is not occasionally emitted.
∗3 It is possible to operate only by remote control for the unit check mode.



6.2 TUNER SECTION

■ AM Tuner Section

• There is no adjustment in the AM tuner.

■ FM Tuner Section

• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

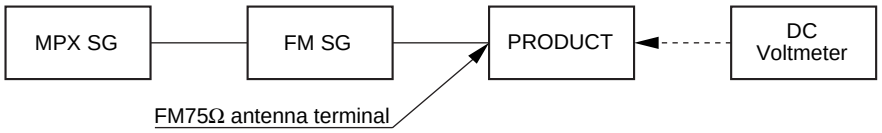


Fig.1 Adjustment Wiring Diagram

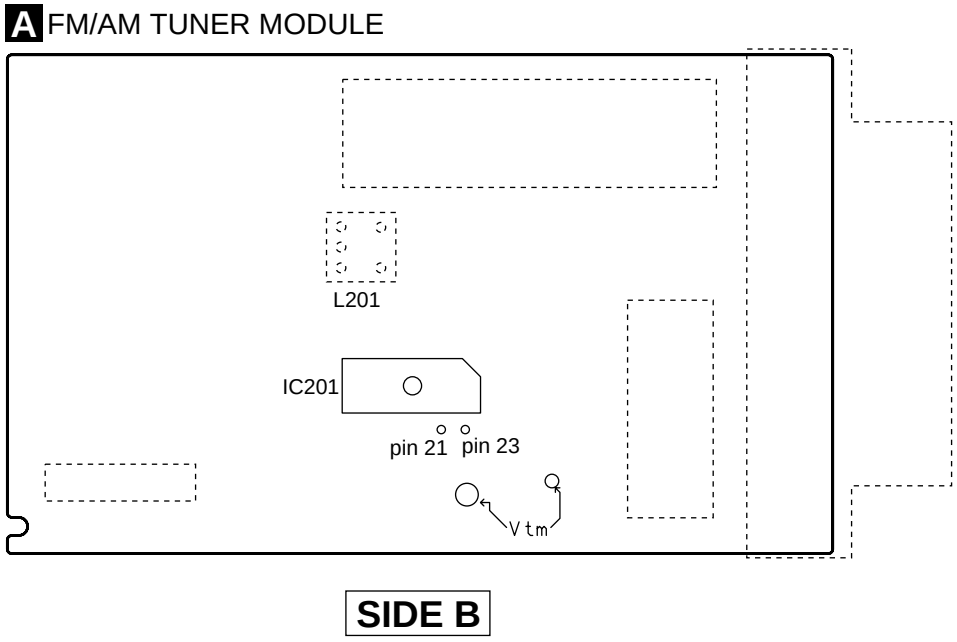


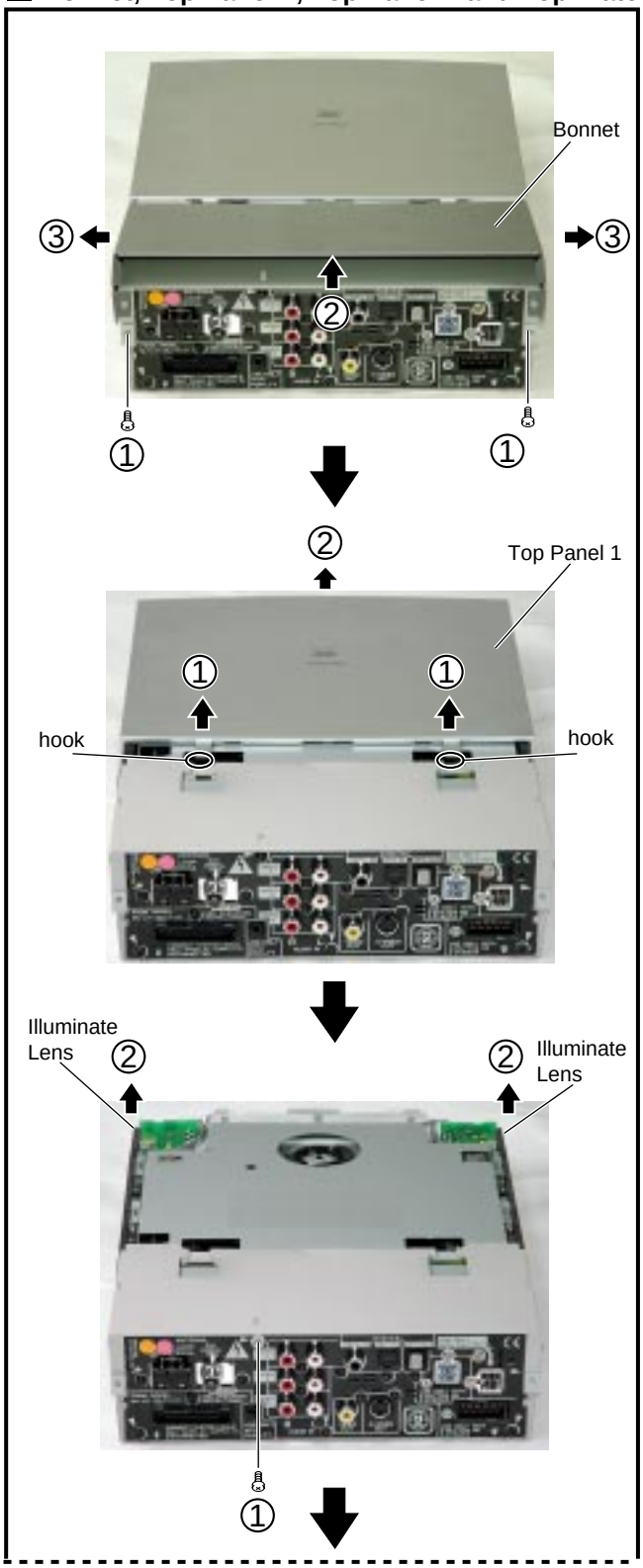
Fig.2 Adjustment Point

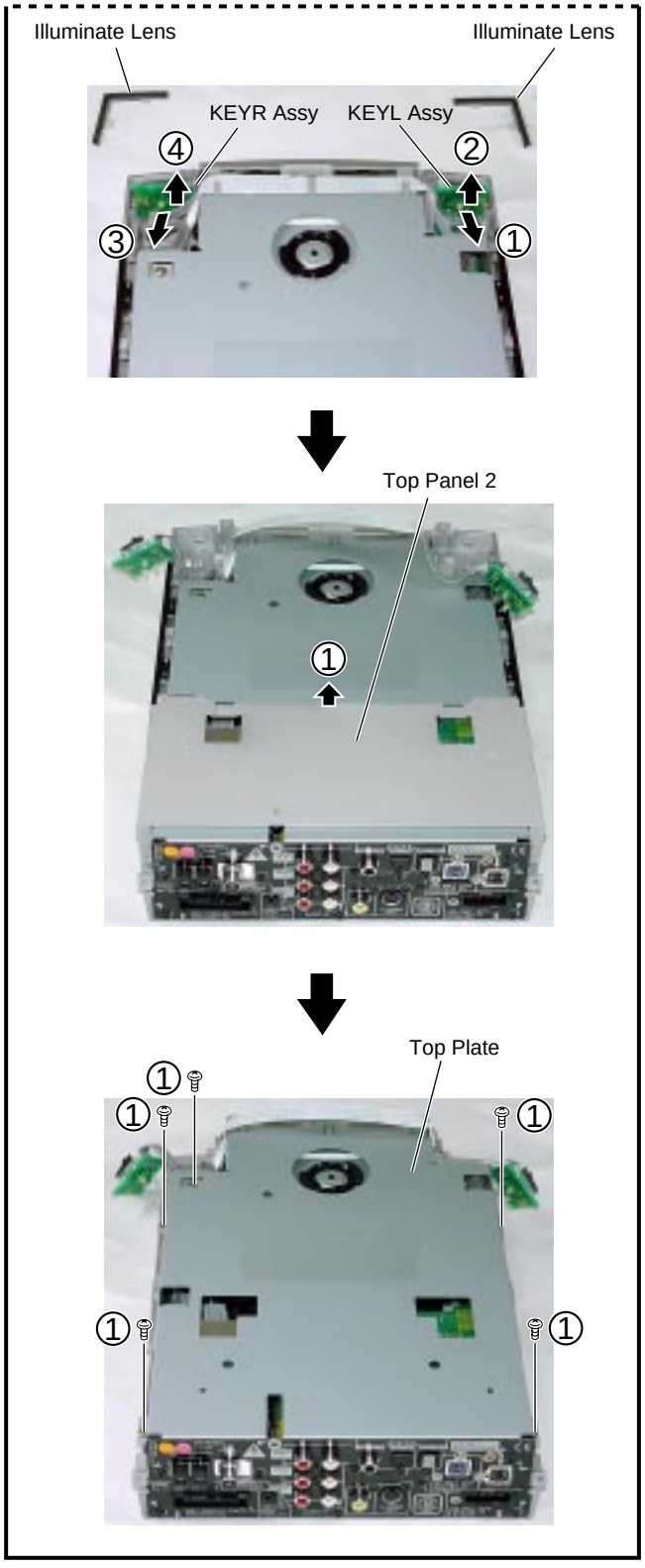
7. GENERAL INFORMATION

7.1 DISASSEMBLY

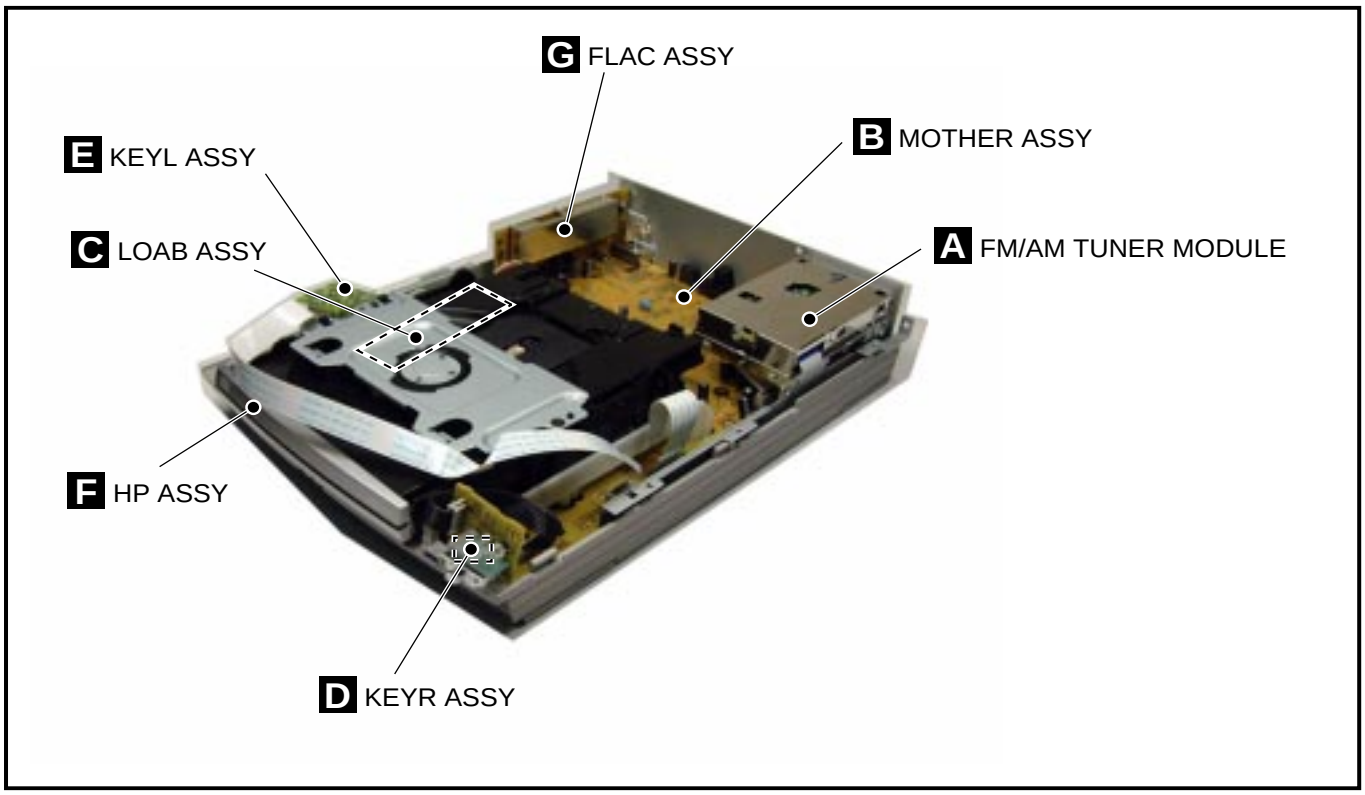
■ DIAGNOSIS OF PCBs

■ Bonnet, Top Panel 1, Top Panel 2 and Top Plate

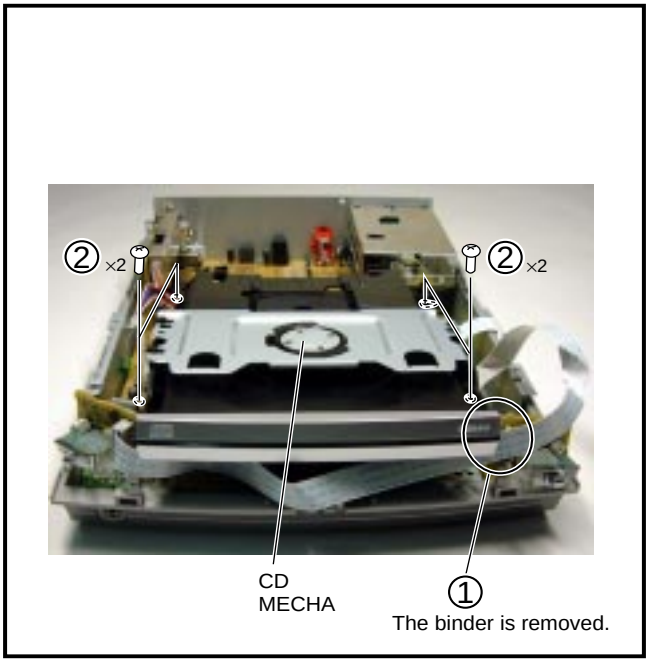




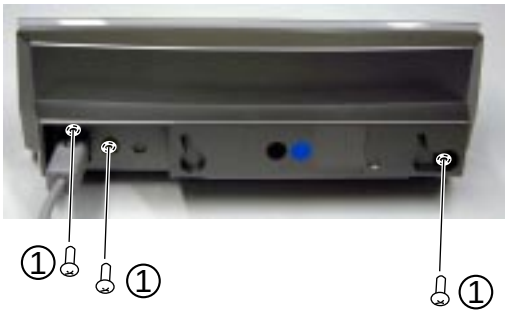
■ PCB Location



■ CD MECHA



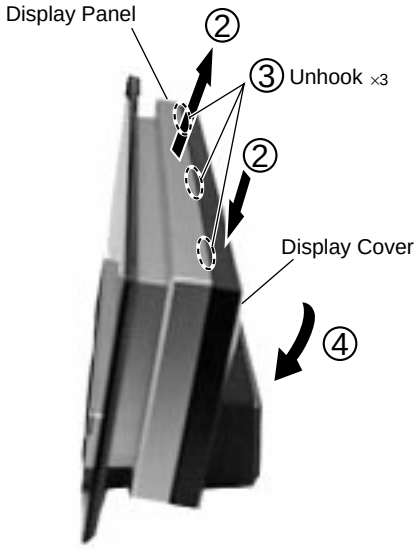
■ Display Unit

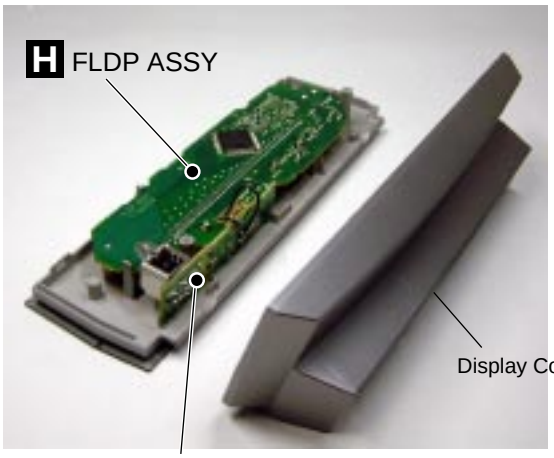


② Display Panel and Display Cover are vertically moved.

③ The hook three places of the upper part are removed.

④ Removes while rotating Display Cover in the direction of the arrow.





7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PDC079A (MOTHER ASSY : IC5501)

• System Control IC

● Pin Function

No.	Pin Name	I/O	MOS	Function	Pin Function	Active
1	FLACDATA	O	C	Port	FL AC Control Data	-
2	BUS0	I/O	C	Port	CD LSI Communication Bus	-
3	BUCK	O	C	Port	CD LSI Communication Bus Clock	-
4	BEEP	O	C	Port	BEEP Output	
5	TXMUTE	O	C	Port	FM/AM Tuner module Mute	
6	TXCLK	O	C	Port	FM/AM Tuner module Control Clock	-
7	TXDI	O	C	Port	FM/AM Tuner module Control Data	
8	TXCE	O	C	Port	FM/AM Tuner module Control CE	
9	XRDSON	O	C	Port	RDS Decoder Control (H : Stop)	L
10	XFLCS	O	C	Port	FL Connect Signal	-
11	XRESET	I	-	RESET	RESET	L
12	(NC)	-	-		Connect VDD1 for Not used	-
13	(NC)	-	-		Open for Not used	-
14	GND	-	-	GND	GND	-
15	CF1	-	-	SERALOCK	Seramic resonator Connected terminal	-
16	CF2	-	-	SERALOCK	Seramic resonator Connected terminal	-
17	VDD1	-	-	VDD	VDD	-
18	ST/TUNE	O	N	Port	FL Driver Hardware Reset	L
19	KEY	I	N	Anarog Input	KEY Input	-
20	CD O/C	I	N	Anarog Input	CD DOOR SW Input	-
21	OPPROTECT	O	N	Port	Not used	-
22	(NC)	O	N	Port	Not used	-
23	XCDRST	O	N	Port	CD LSI Hardware Reset	L
24	PROTECT	I	N	Anarog Input	Measures of short test with Summing circuit	-
25	DSTN	I	N	Anarog Input	Destination Switch	-
26	ACPULSE	I	N	INT0 Port	AC Pulse Input	-
27	XCDCE	O	C	INT1 Port	CD LSI CE	
28	RDSCLK	I	C	INT2 Port	Clock Input from RDS Decoder (Without RDS : Low Output)	-
29	SR IN	I	C	INT3 Port	System Remote Control Signal Input	-
30	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
31	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
32	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
33	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
34	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
35	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
36	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
37	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
38	(NC)	O	P	VFD Controller	Prohibition of use only for VFD	-
39	(NC)	O	P	Port	Not used	-
40	(NC)	O	P	Port	Not used	-
41	(NC)	O	P	Port	Not used	-
42	(NC)	O	P	Port	Not used	-
43	(NC)	O	P	Port	Not used	-
44	(NC)	O	P	Port	Not used	-
45	(NC)	O	P	Port	Not used	-
46	VDD	-	-	VDD	VDD	-
47	(NC)	O	P	Port	Not used	-
48	(NC)	O	P	Port	Not used	-
49	XCDDROFF	O	P	Port	CD Door Driver Control ON/OFF (0 : OFF, 1 : Drive ON)	L
50	CDSLEEP	O	P	Port	CD LSI Function Stop (0 : OFF, LSI Stop : LSI Operation)	H

No.	Pin Name	I/O	MOS	Function	Pin Function	Active
51	GND	-	-	GND	GND	-
52	ZDET	I	P	Port	CD Zero Detection Input	
53	CDINSIDE	I	P	Port	CD INSIDE SW Input	
54	LOADIN	O	P	Port	CD Door Driver Control (Direction where door is closed)	H
55	LOADOUT	O	P	Port	CD Door Driver Control (Direction where door is opened)	H
56	ATT	O	P	Port	LINE Input ATT Control	L
57	WCLK	O	P	Port	For Flash Rewrite	L
58	SBD1	O	P	Port	DISC LED Control, lights brightly *3	H
59	NC	O	P	Port	DISC LED Control, lights a little darkly *3	H
60	OPPWR	O	P	Port	DISC LED Control, lights considerably darkly *3	H
61	HP DET	O	P	Port	Infrared RadiationControl for Sensor	L
62	FLDIMA	O	P	Port	FL Dimmer Control A	
63	FLDIMB	O	P	Port	FL Dimmer Control B	
64	CDRD	O	P	Port	Not used	
65	TXDO	I	P	Port	Data Input from FM/AM Tuner module	-
66	RDSDATA	I	P	Port	Data Input from RDS Decoder	-
67	TEST	I	P	Port	CD Core Checker Mode Detection Jumper	
68	UTEST	I	P	Port	Unit Test Mode Detection Jumper	L
69	SERVICE	O	P	Port	Service Mode Detection Jumper	H
70	TXSW	O	P	Port	TX SW Output	H
71	4052B	O	P	Port	BU4052BCF Control A *1	-
72	VDD	-	-	VDD	VDD	-
73	4052A	O	P	Port	BU4052BCF Control B *1	-
74	MA SD	O	P	Port	Not used	-
75	CD MUTE	O	P	Port	CD Mute Output	L
76	HP MUTE	O	P	Port	H.P AMP Mute	L
77	(NC)	O	P	Port	Not used	L
78	(NC)	O	P	Port	Not used	L
79	XTMRLED	O	P	Port	Timer Standby Display LED Control	-
80	XSTBYLED	I	P	Port	Standby Display LED Control	-
81	BULLEDL	O	P	Port	Not used	-
82	BULLEDM	O	P	Port	Not used	-
83	BULLEDH	O	P	Port	System Bus Received Data	-
84	XEMR	I	P	Port	Signal of emergency generation from amplifier	L
85	EXOE	O	C	Port	BU4094BCF Output E , Using combinedly with WD0 for Flash Rewrite *3	H
86	EX/V DATA	O	C	Port	BU4094BCF / VOL-IC Control Data *3	-
87	EX/V CLK	O	C	Port	BU4094BCF / VOL-IC Control Clock *3	-
88	EXCE	O	C	Port	BU4094BCF CE , Using combinedly with WEN/D1 for Flash Rewrite *3	H
89	GND	-	-	GND	GND -	
90	VDD	-	-	VDD	VDD	-
91	FL DATA	O	C	Port	FL Driver Control Data	-
92	FL CLK	O	C	Port	FL Driver Control Clock	-
93	SBDO/REQ	O	C	Port	System Bus Sending Data / Request	-
94	SBCLK	O	C	Port	System Bus Clock	-
95	DREQ	O	C	Port	Display Data Communication Request	-
96	DDATA	I	C	Hard Serial	Display Data Communication Received Data	-
97	DCLK	I	C	Hard Serial	Display Data Communication Clock	-
98	BUS3	I/O	C	Port	CD LSI Communication Bus	-
99	BUS2	I/O	C	Port	CD LSI Communication Bus	-
100	BUS1	I/O	C	Port	CD LSI Communication Bus	-

***1 : Change of function. The truth value table of BU4052BCF.**

A	B	Switch turned on	Function
L	L	X0, Y0	CD
H	L	X1, Y1	AUX
L	H	X2, Y2	PB
H	H	X3, Y3	TX

***2 : The truth value table of Expander IC (BU4094BCF / M-L11 COMPLEX ASSY IC5801).**

Function Name	Port Kind	Active
OE	C-MOS	H
ACRY	C-MOS	H
SPRY	C-MOS	H
XMUTE	C-MOS	L
IND	C-MOS	H
HPPOW	C-MOS	(Not used)
WF1*	C-MOS	L
WF2*	C-MOS	L

*****

Woofer Level	WF1	WF2
HIGH	H	H
MID	H	L
LOW	L	H

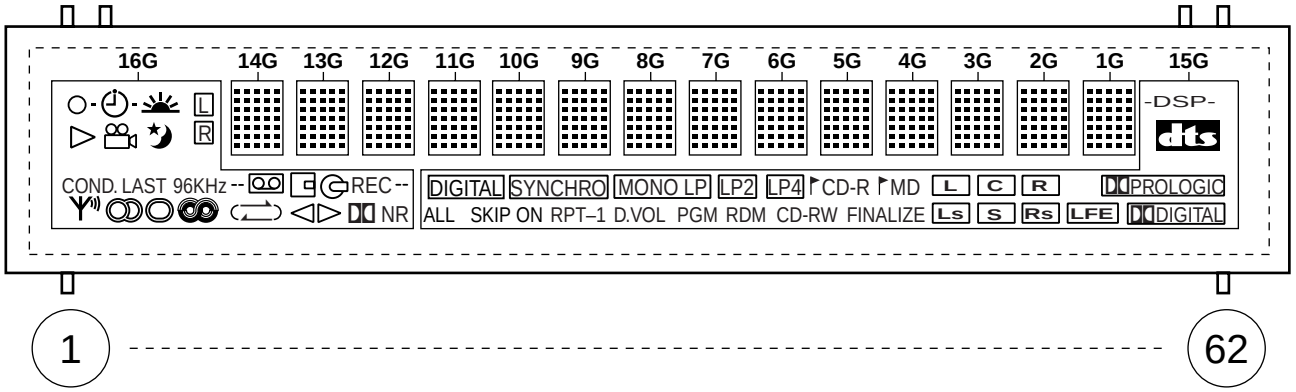
***3 : The truth value table of PLAY LED brightness.**

Brightness	DISCLED	LEDDIMA	LEDDIMB
OFF	L	L	L
LOW	L	L	H
MID	L	H	L
HIGH	H	L	L

7.2.2 DISPLAY

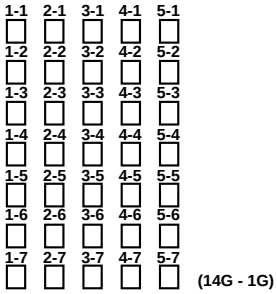
■ AAV7082 (FLDP ASSY : V5661)

• **FL DISPLAY**



● **Anode Connection**

	16G	15G	14G - 1G
P1	L R	-DSP-	1-1
P2		dts	2-1
P3		PROLOGIC	3-1
P4		DIGITAL	4-1
P5		LFE	5-1
P6		Rs	1-2
P7		S	2-2
P8	COND.	Ls	3-2
P9		R	4-2
P10		C	5-2
P11	LAST	L	1-3
P12		FINALIZE	2-3
P13		MD	3-3
P14		CD-R	4-3
P15		W	5-3
P16	96KHz	–R	1-4
P17		CD	2-4
P18		RDM	3-4
P19	NR	PGM	4-4
P20	-- REC --	LP4	5-4
P21		LP2	1-5
P22		D.VOL	2-5
P23		MONO LP	3-5
P24		–1	4-5
P25	–	RPT	5-5
P26	–	SYNCHRO	1-6
P27	–	ON	2-6
P28	–	SKIP	3-6
P29	–	DIGITAL	4-6
P30	–	ALL	5-6
P31	–	–	1-7
P32	–	–	2-7
P33	–	–	3-7
P34	–	–	4-7
P35	–	–	5-7



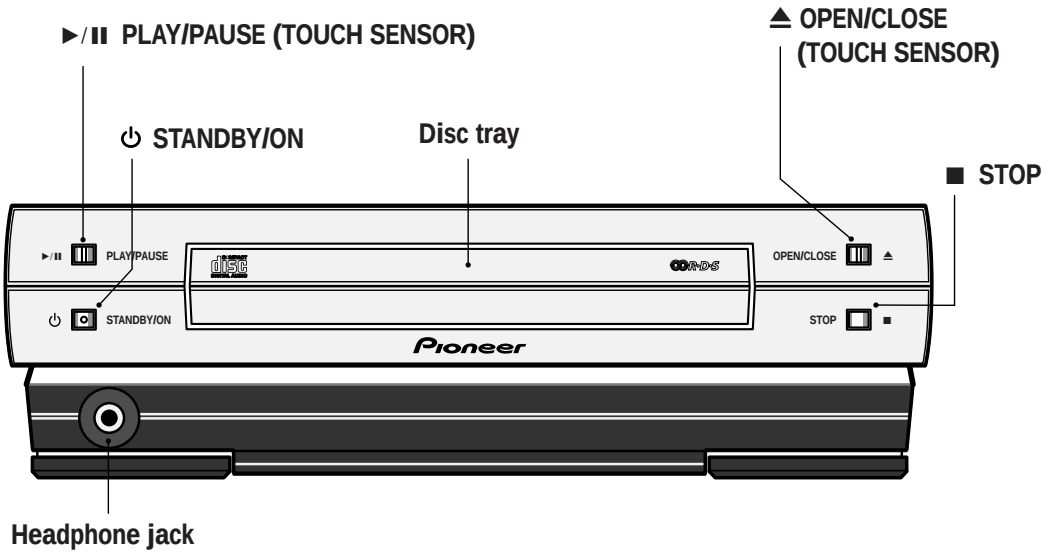
● **Pin Connection**

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Connection	F1	F1	NP	NP	NX	NX	NX	P4	P3	P2	P1	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	P35	P34	P33	P32
Pin No.	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
Connection	P31	P30	P29	P28	P27	P26	P25	P24	P23	P22	P21	P20	P19	P18	P17	916	P15	P14	913	P12	P11	P10	P9	P8	P7	P6	P5	NP	NP	F2	F2

F1, F2 : Filament 1G~16G : Grid NP : No Pin NX : No extend pin DL : Datum Line

8. PANEL FACILITIES AND SPECIFICATIONS
8.1 PANEL FACILITIES

Front Panel



CD Tuner

1 **CD tray**

2 **Power light** – Lights when the unit is switched on.

3 ▷/▯▯ **button** – Press to play a disc, or pause a disc that's already playing (press again to restart playback).

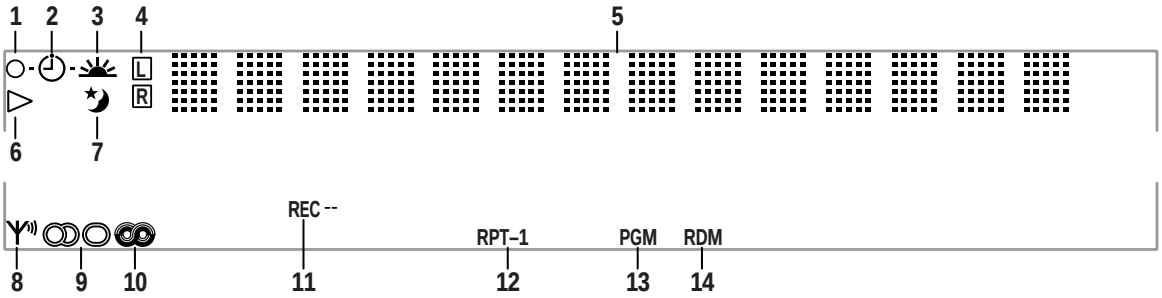
4 ⏏ **button** – Press to open or close the CD tray.

5 **Play light** – Lights when a CD is playing

6 **Standby/On button** – Press to switch the unit between standby and on modes. Indicator lights in standby mode. **Note:** this unit consumes a small amount of electricity in standby mode (0.9W).

7 **HeadPphone jack** – Connect a pair of headphones for private listening. When plugged in, the speakers are automatically switched off.

Display



1 ○ **Record timer** – Lights when setting the timer; flashes once set.

2 **Timer** – Lights when setting the timer; flashes once set.

3 **Wake up timer** – Lights when the wake up timer is set; flashes during wake up timer playback.

4 **STEREO Indicator** – Stereo channel indicators.

5 **Character display**

6 ▷ **Indicator** – Lights when a tape or a disc is playing mode.

7 **Sleep timer** – Lights when the sleep timer is set.

8 **Indicator** – Indicates strenghth of broadcast signal.

9 **Stereo to Mono** – Auto stereo/mono mode.

10 **RDS** – Lights when the tuner is in an RDS mode.

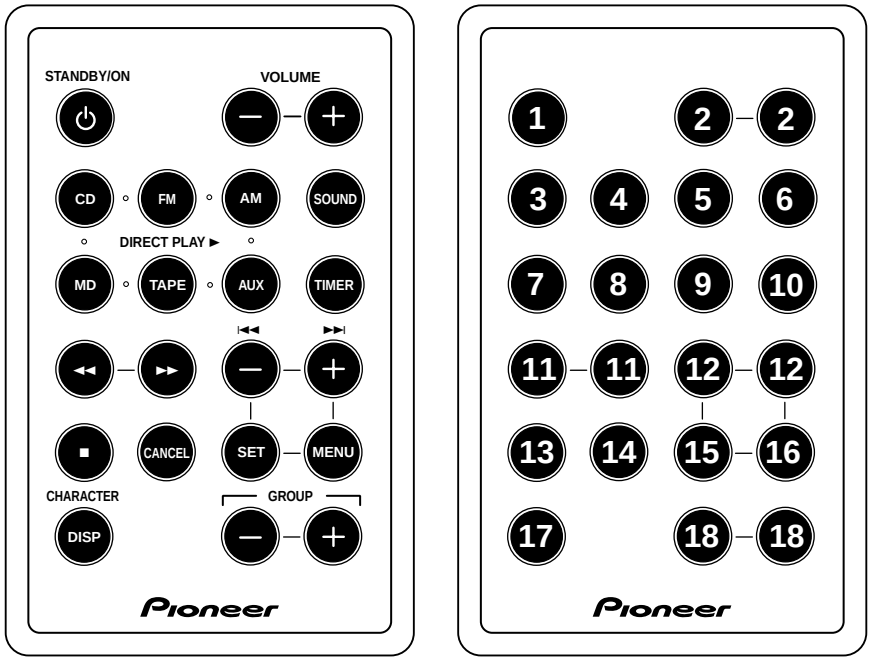
11 **REC** – Lights when recording to the optional tape or MD mode.

12 **RPT-1** – Lights during repeat play.

13 **PGM** – Lights during Program play.

14 **RDM** – Lights during Random play. the tape.

Remote Control



1 **STANDBY/ON** – Press to switch the unit between standby and on modes.
Note: this unit consumes about 1W of electricity in standby mode.

2 **+** – Use to raise the volume.
- – Use to lower the volume.

3 **CD mode** – Press to switch the sound to CD and start the disc playing (if there's one loaded).

4 **FM Tuner mode** – Press to switch the sound to tuner, switch between FM and switch between preset station memories.

5 **AM Tuner mode** – Press to switch the sound to tuner, switch between AM and switch between preset station memories.

6 **SOUND** – Press to put the ⏮ and ⏭ buttons into tone, subwoofer level and balance control mode.

7 **MD mode** – Press to switch the sound to MD and start the disc playing (if there's one loaded).

8 **Tape deck mode** – Press to switch the sound to tape deck and start the tape playing (if there's one loaded).

9 **AUX mode** – Press to switch the sound to the component connected to the AUX inputs.

10 **TIMER/CHARACTER** – Press to start setting the timer. Also use to select characters when naming tuner station memories, etc.

11 ◁◁ ▷▷ **buttons** – Press to fast-reverse / fast-forward scanning.

12 ⏮ ⏭ **buttons** – Press to fast-reverse / fast-forward the CD/MD/tape.

13 □ **STOP** – Press to stop playback (or recording) of the CD/MD/tape.

14 **CANCEL** – Also use to cancel operations, such as setting the clock, before the **SET** button has been pressed.

15 **SET** – Press to finish operations such as setting the clock, setting the reverse mode, and so on.

16 **MENU** – Press to access various features, including station memory naming, changing the tape reverse mode, and so on.

17 **CHARACTER/DISP** – Press to change the kind of information that the display shows. The choices available depend on the current function (CD, tape, etc.).

18 **GUOUP +/-** – Use to switch +/- remote locator.

8.2 SPECIFICATIONS

Stereo CD Tuner: XC-L11

FM Tuner Section

Frequency Range ..... 87.5 - 108MHz
Antenna ..... 75 Ω, unbalanced

AM Tuner Section

Frequency Range 522 kHz - 1,602 kHz(9 kHz step)
Antenna ..... Loop antenna
..... (supplied)

Compact Disc Player Section

Type ..... Compact disc digital audio system
Usable discs ..... Compact discs
Channels ..... 2 (stereo)
Frequency Response ..... 4 Hz–20 kHz
Signal-to-Noise Ratio ..... 110 dB (EIAJ)
Dynamic range ..... 96 dB (EIAJ)
Wow and Flutter ..... Below measurable levels
..... (±0.001% W.PEAK)
Dimensions ..... 220 (W) × 317 (H) × 65 (D) mm
(without stands and door closed)
Weight ..... 2.2 kg

Display Unit

Dimensions ..... 206 (W) × 50 (H) × 65 (D) mm
Weight ..... 0.2 kg

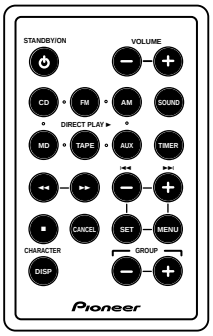
Accessories

Remote control unit 1
Lithium battery (CR2025) 1
AM loop antenna 1
FM wire antenna 1
AC power cord 1
10P cable 1
20P cable 1
Operating instructions 1
Warranty card 1

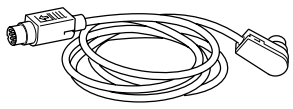
NOTE: Specifications and design subject to possible modification without notice, due to improvements.

• ACCESSORIES

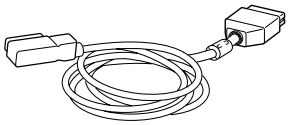
• Remote control unit
(AXD7306)



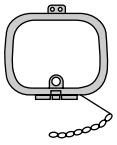
•10P cable
(ADE7077)



•20P cable
(ADE7057)



• AM loop antenna
(ATB7009)
(shown assembled)



• Lithium battery
[VEM1009 (CR2025)]

• FM wire antenna
(ADH7005)