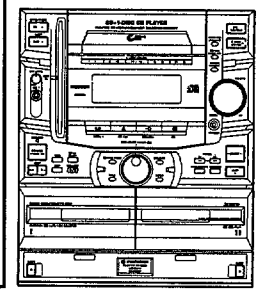
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
RRV1685

STEREO FILE-TYPE CD CASSETTEDECK RECEIVER

XR-P970F

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

Type	Model	Power Requirement	Remarks
	XR-P970F		
YPW	O	AC240V	———

- **For the circuit and mechanism descriptions, refer to the service manual RRV1430 for XR-P760F.**

CONTENTS

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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.

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

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

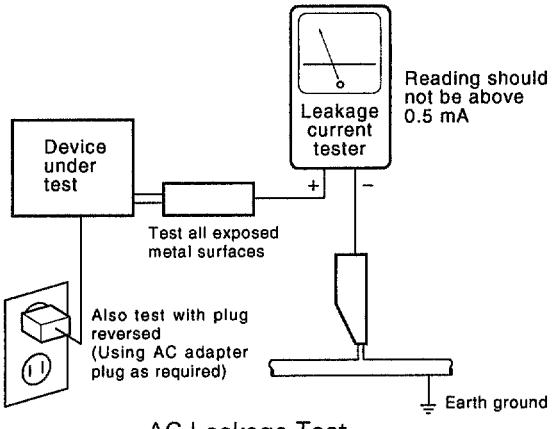
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage , etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

(FOR EUROPEAN MODEL ONLY)

VARO !
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING !
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn varoitusmerkki

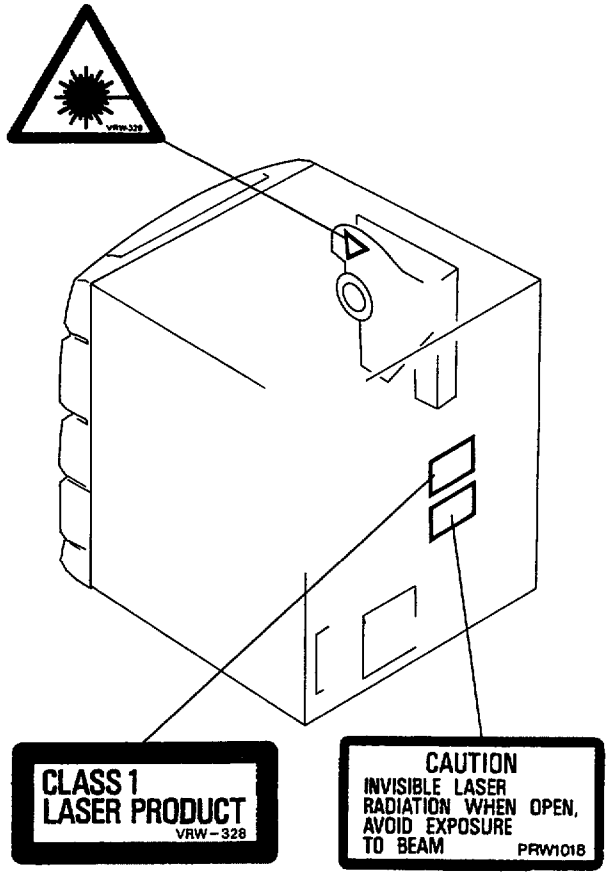
WARNING !
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

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

LASER
Picture 1
Warning sign for laser radiation

LABEL CHECK



Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S651) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S651) is not on $\overline{\text{CLMP}}$ terminal side ($\overline{\text{CLMP}}$ signal is OFF or high level.) Thus, the interlock will no longer function if the switch (S651) is deliberately set to $\overline{\text{CLMP}}$ terminal side. (low level)
   The interlock also does not function in the test mode*.
   Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the PRE-AMP BOARD ASSY mounted on the pickup assembly is connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 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 70.*

2. DISASSEMBLY (各部のはずしかた)

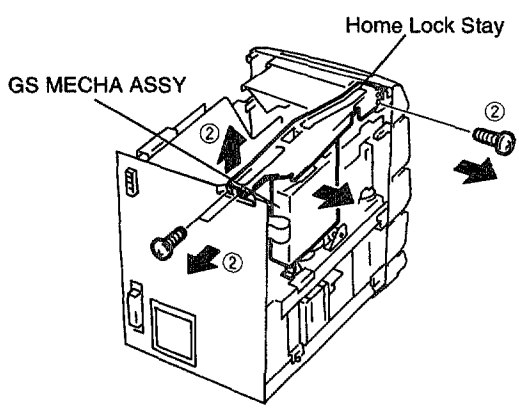
■ REMOVING THE GS MECHA ASSY (GSメカASSYのはずしかた)

NOTE : Before removing the GS Mecha Assy, make sure you turn the power OFF and disconnect the AC power cord.

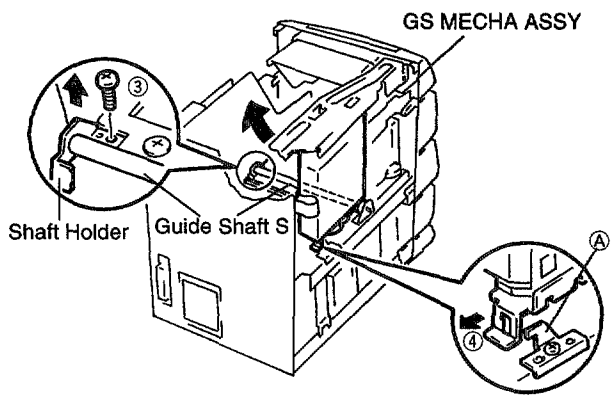
(注意 : はずす前に必ず電源を切ってから電源コードを抜いてください。)

① Remove the bonnet. (Since the front of the home lock stay makes contact, hold the bonnet in that place and pull and lift at the same time.)
(ボンネットをはずす。ホームロックステイのフロント側があたるので、その箇所のボンネットを持ち上げながら引く。)

② Move the GS Mecha ASSY to the right (viewed from the rear), watching out for the 2 Lock locations (part Ⓐ).
(GSメカASSYをロック2ヶ所(Ⓐ部)を解除して、リア側から見て右端に移動する。)



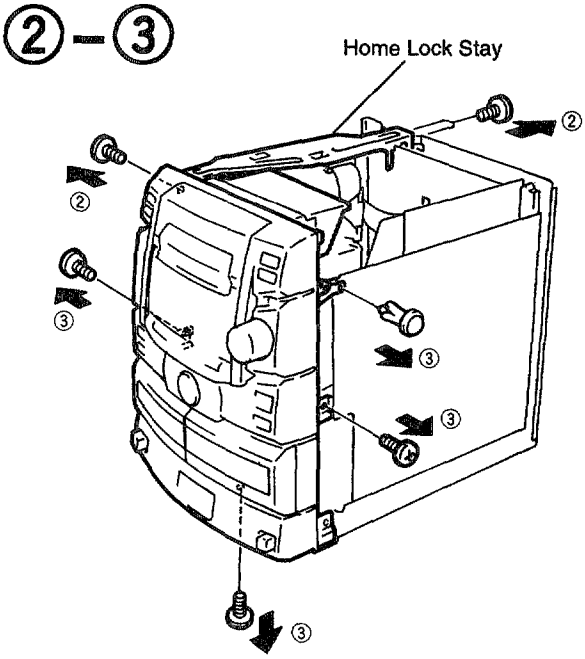
③, ④
Release the shaft holder that fixes guide shaft S in place (screw ③), release the lock location (part Ⓐ) of the GS Mecha ASSY and remove the GS Mecha ASSY together with the guide shaft S.
(ガイドシャフトSを固定しているシャフトフォルダーをはずし(ネジ③)、GSメカAssyのロック(Ⓐ部)を解除して、ガイドシャフトSごとGSメカASSYをはずす。)



■ REMOVING THE FRONT PANEL (フロントパネルのはずしかた)

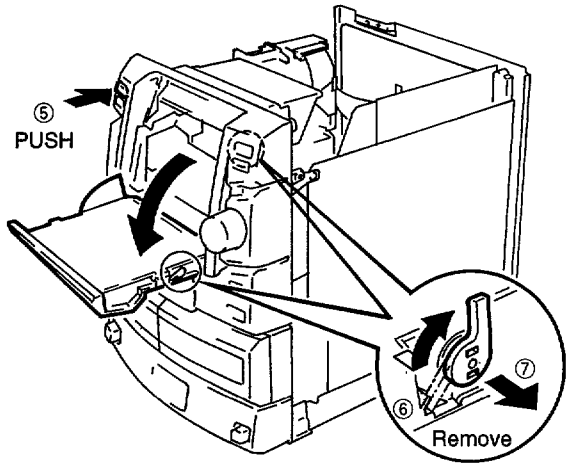
① Remove the bonnet.
(ボンネットをはずす。)

②–③

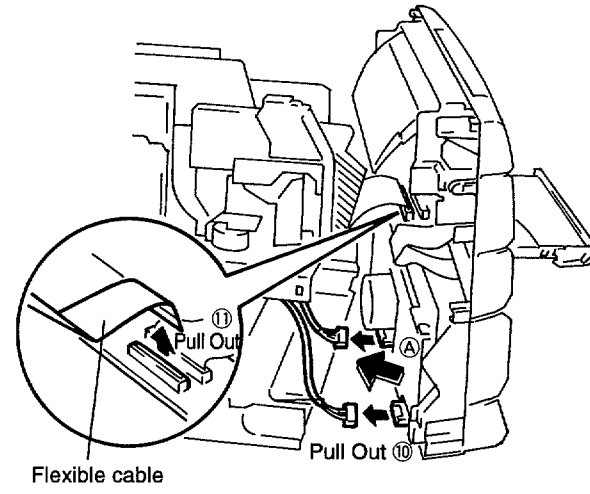


④ Remove the HEADPHONE ASSY wire rod.
(HEADPHONE ASSYの線材はずす。)

⑤–⑦

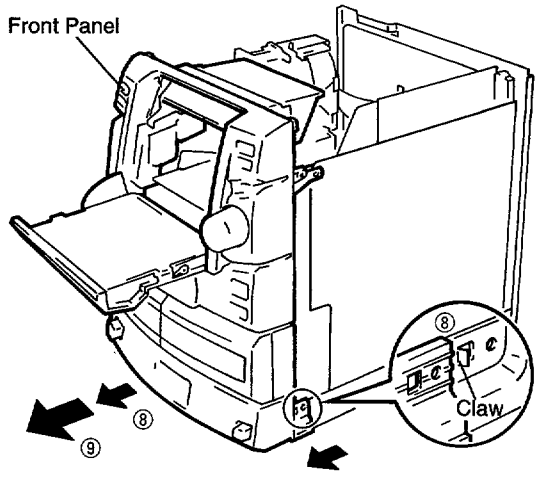


⑩, ⑪



⑧ Shift the front panel slightly toward you, being cautious of the left and right catches on the chassis and sub chassis.
(フロントパネルをシャーシとサブシャーシの左右のツメに注意しながら手前に少しずらす。)

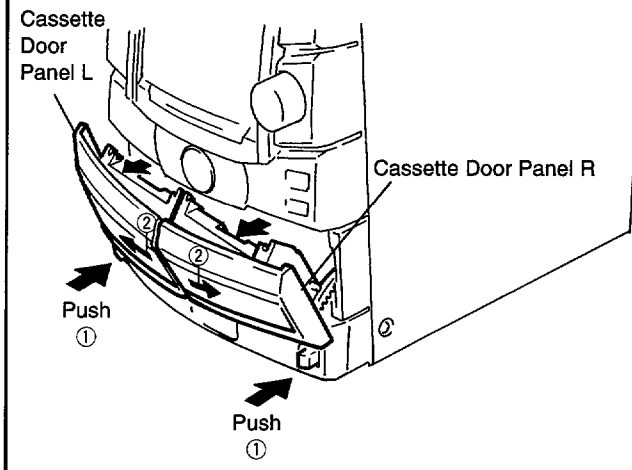
⑨ Pull the front panel further toward you, and remove it from the chassis.
(フロントパネルをさらに手前に引き、シャーシから抜く。)



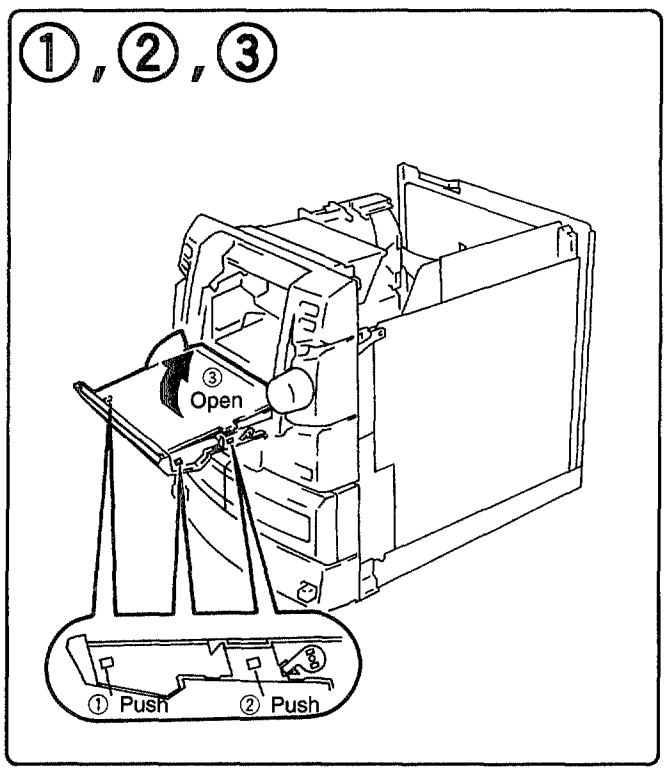
■ HOW TO REMOVE THE DOOR PANEL
(カセットドアパネルのはずしかた)

① Open the Cassette Door Panel.
(カセットドアパネルをOPENする。)

② Slide the Cassette Door Panel, then remove it.
(カセットドアパネルをスライドさせはずす。)

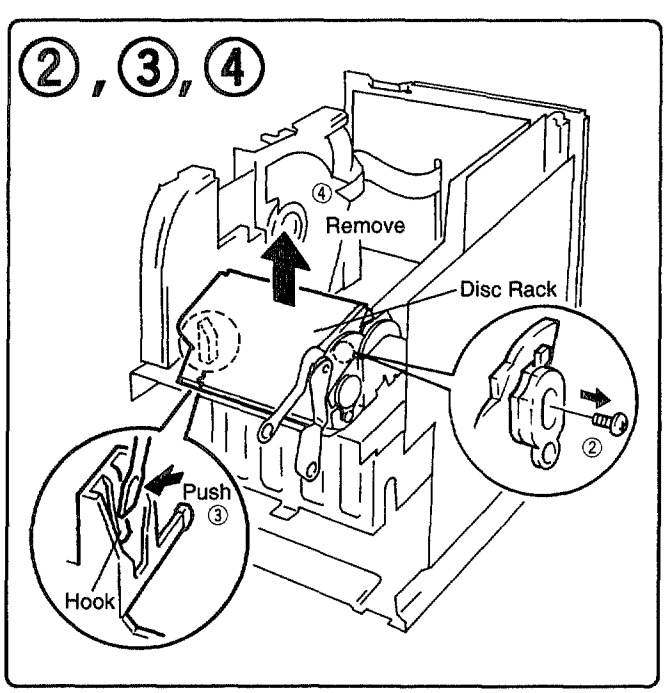


■ MICRO COMPUTER IC REPLACEMENT METHOD (マイコンICの交換方法)



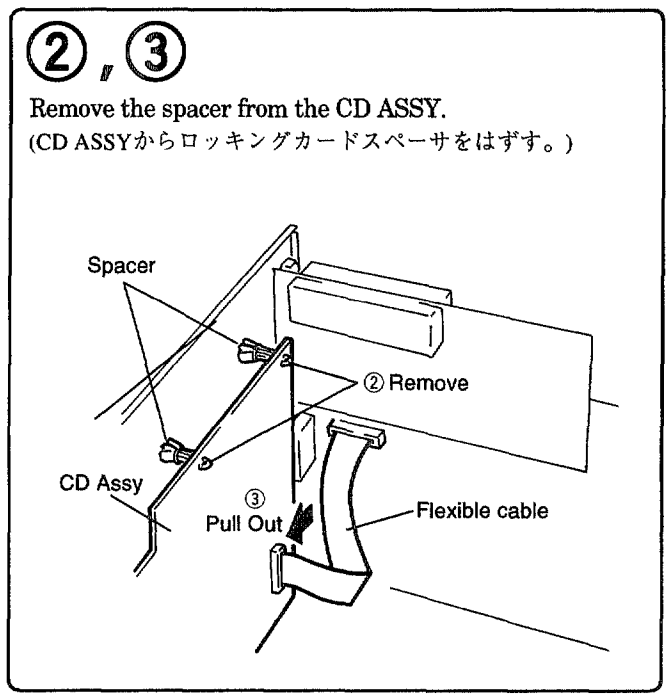
■ REMOVING THE DISC RACK (ディスクラックのはずしかた)

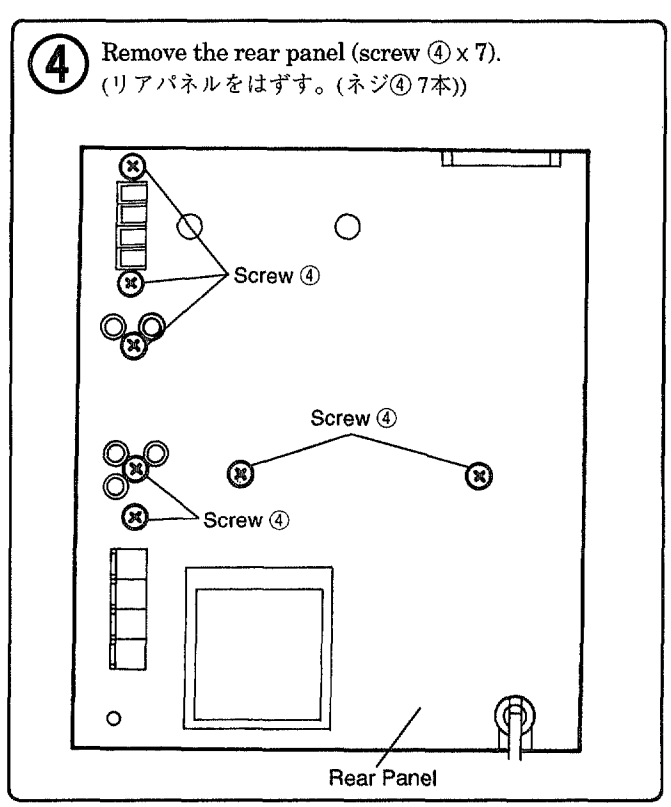
① Remove the front panel.
(フロントパネルをはずす。)



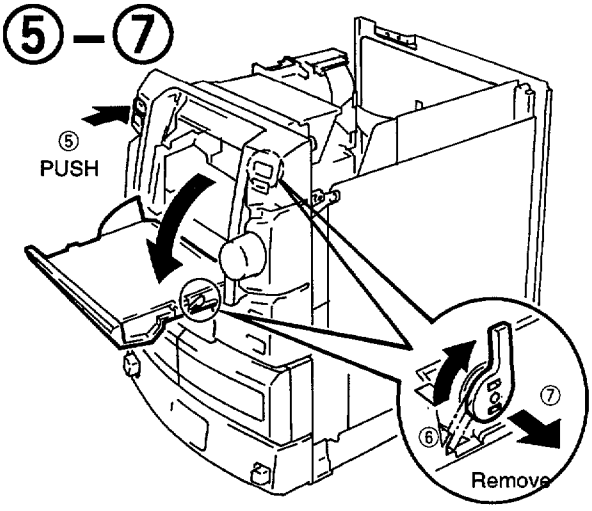
■ REMOVING THE POWER AMP MODULE (パワーアンプモジュールのはずしかた)

① Remove the bonnet and home lock stay.
(Refer to "■ Removing the Front Panel")
(ボンネットとホームロックステイをはずす。)
(“フロントパネルのはずし方” 参照)



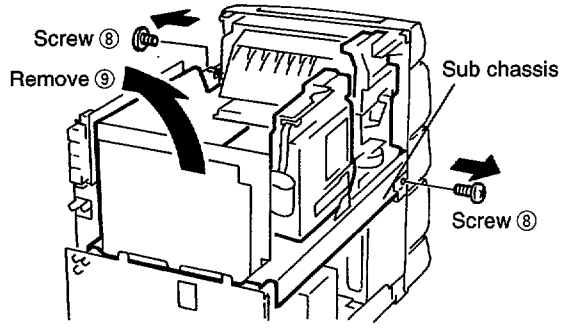


⑤–⑦

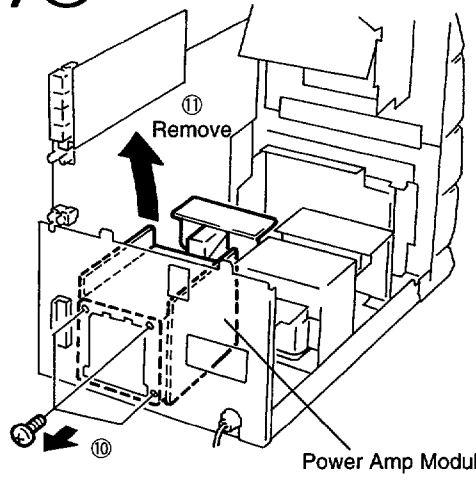


⑧, ⑨

Remove screw ⑧ and remove the sub chassis together with the GS Slot-In Mecha ASSY and the GS Mecha ASSY.
(ネジ⑧をはずしてGSスロットインメカ、GSメカごとサブシャーシをはずす。)

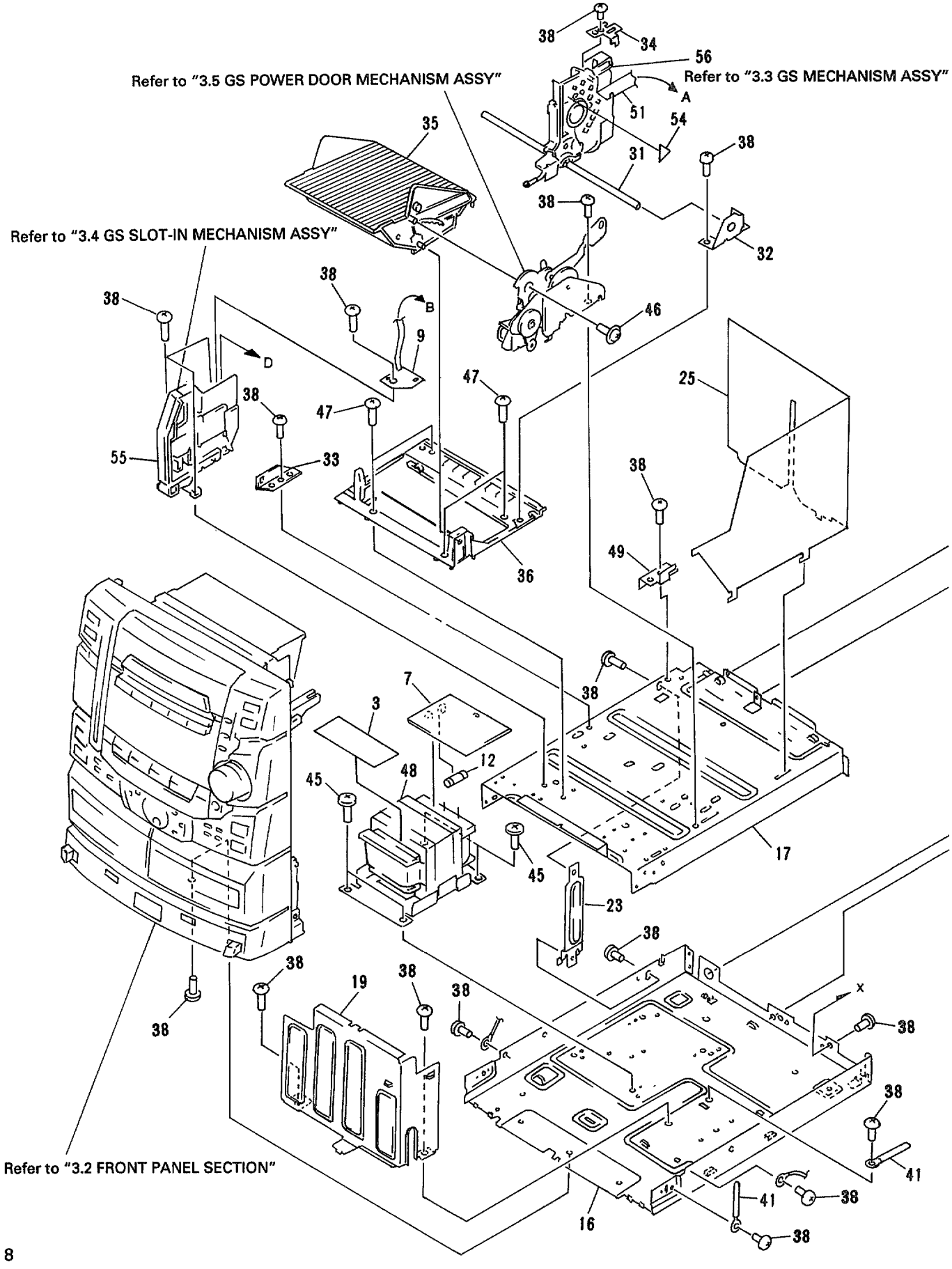


⑩, ⑪

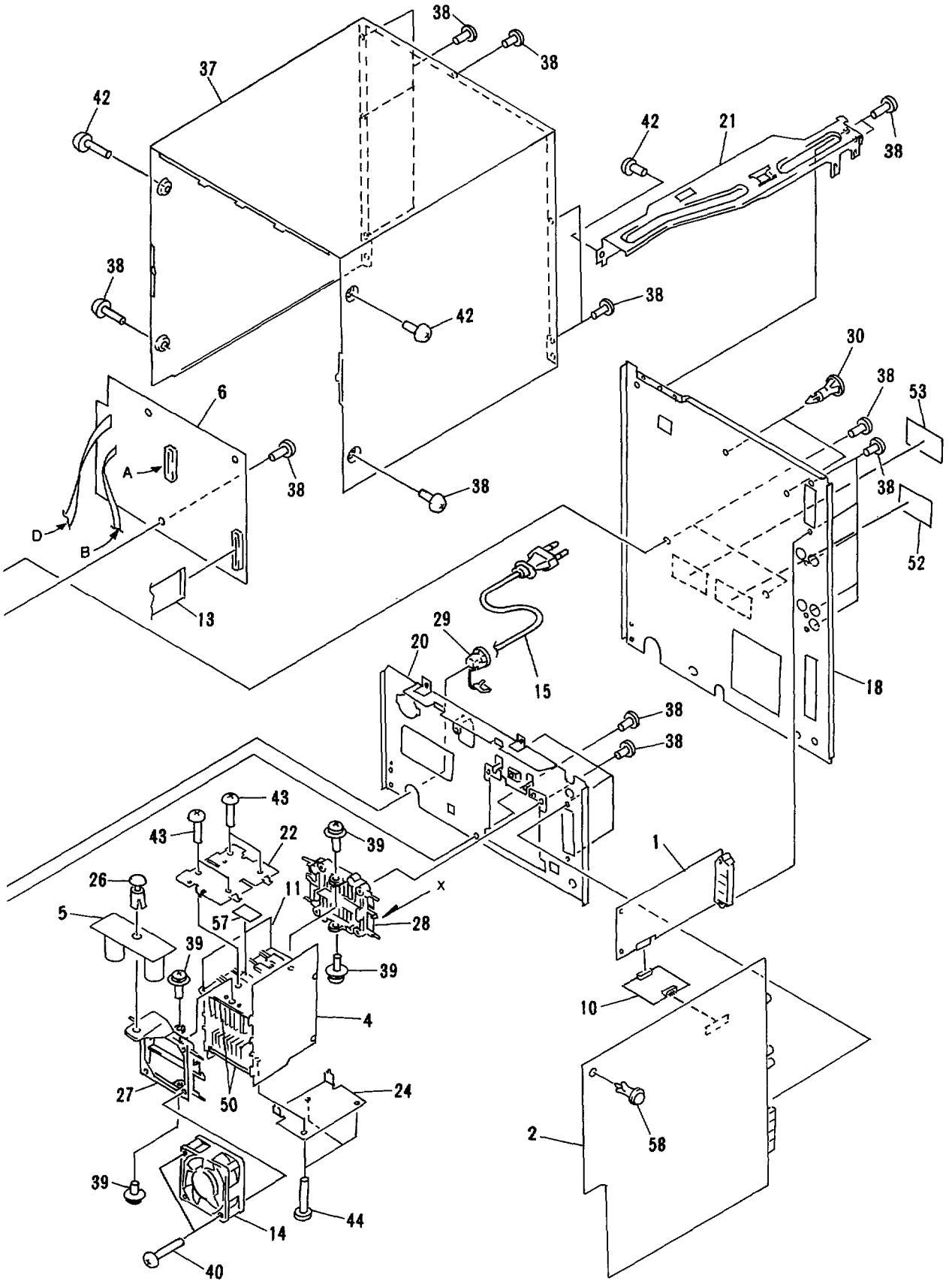


3. EXPLODED VIEWS AND PARTS LIST

3.1 EXTERIOR



NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.



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 parts. Therefore, when replacing, be sure to use parts of identical designation.*

EXTERIOR

Parts List

Mark	No.	Description	Parts No.
	1	FM/AM Tuner Module	AXQ7051
	2	AF Assy	AWZ8696
	3	Secondary Assy	AWZ8758
	4	Front AMP Assy	AWZ8698
	5	G.C Assy	AWZ8565
	6	CD Assy	AWZ8751
	7	Primary Assy	AWZ8705
	8	.....	
NSP	9	Home SW Assy	AWZ8575
	10	TX Connect Assy	AWZ8591
	11	Rear-Amp Reg Assy	AWZ8699
⚠	12	Fuse (FU1: T1.6A)	AEK1056
	13	35P F•F•C/30V	ADD7045
	14	DC Fan Motor	AXM7003
⚠	15	AC Power Cord	ADG1123
NSP	16	Chassis (MTL)	ANA7053
NSP	17	Subschssis	ANA7054
	18	Rear Panel	ANC7507
	19	Front Stay (MTL)	AND7006
	20	Rear Stay (MTL)	AND7007
	21	Home Lock (MTL)	AND7022
	22	Bracket	ANG1868
	23	Side Angle (MTL)	ANG7091
	24	Power Pac Holder	ANG7109
	25	CD Cover (PVC)	AAK7333
	26	Push Rivet (MOD)	AEC7068
	27	Mold A	AMR2594
	28	Mold B	AMR2595
	29	Strain Relief	CM-22B
NSP	30	Locking Cade Spacer	VEC1596
	31	Guide Shaft S	ALA7008
	32	Shaft Holder	ANB7021
	33	Shaft Holder S	ANB7024
	34	Assist Angle 2	ANB7065
	35	Disk Rack	ANW7069
	36	Rackbase SP	ANW7109
	37	Bonnet Case	ANE7142
	38	Screw	BBZ30P080FZK
	39	Screw	ABA1021
	40	Screw	BPZ30P350FZK
NSP	41	Clamper	RNE1277
	42	Screw	VPZ30P120FZK
	43	Screw	BBZ30P140FZK
	44	Screw	BBZ30P180FMC
	45	Screw	BBZ40P080FZK
	46	Screw	IPZ30P080FMC
	47	Screw C	PBA1106
⚠	48	Power Transformer	ATS7148
	49	Lock Angle 2 (MTL)	ANG7117
	50	Heat Sink	ANH7007
	51	22P F•F•C/30V	ADD7016
	52	Caution Label	PRW1018
NSP	53	Label (Paper)	VRW-328
	54	Caution Label (G)	VRW-329
NSP	55	GS Slot-In Mechanism Assy	AXA7044
NSP	56	GS Mechanism Assy	AXA7047
	57	Sheet	AEE1014
	58	Push Rivet	AEC7069

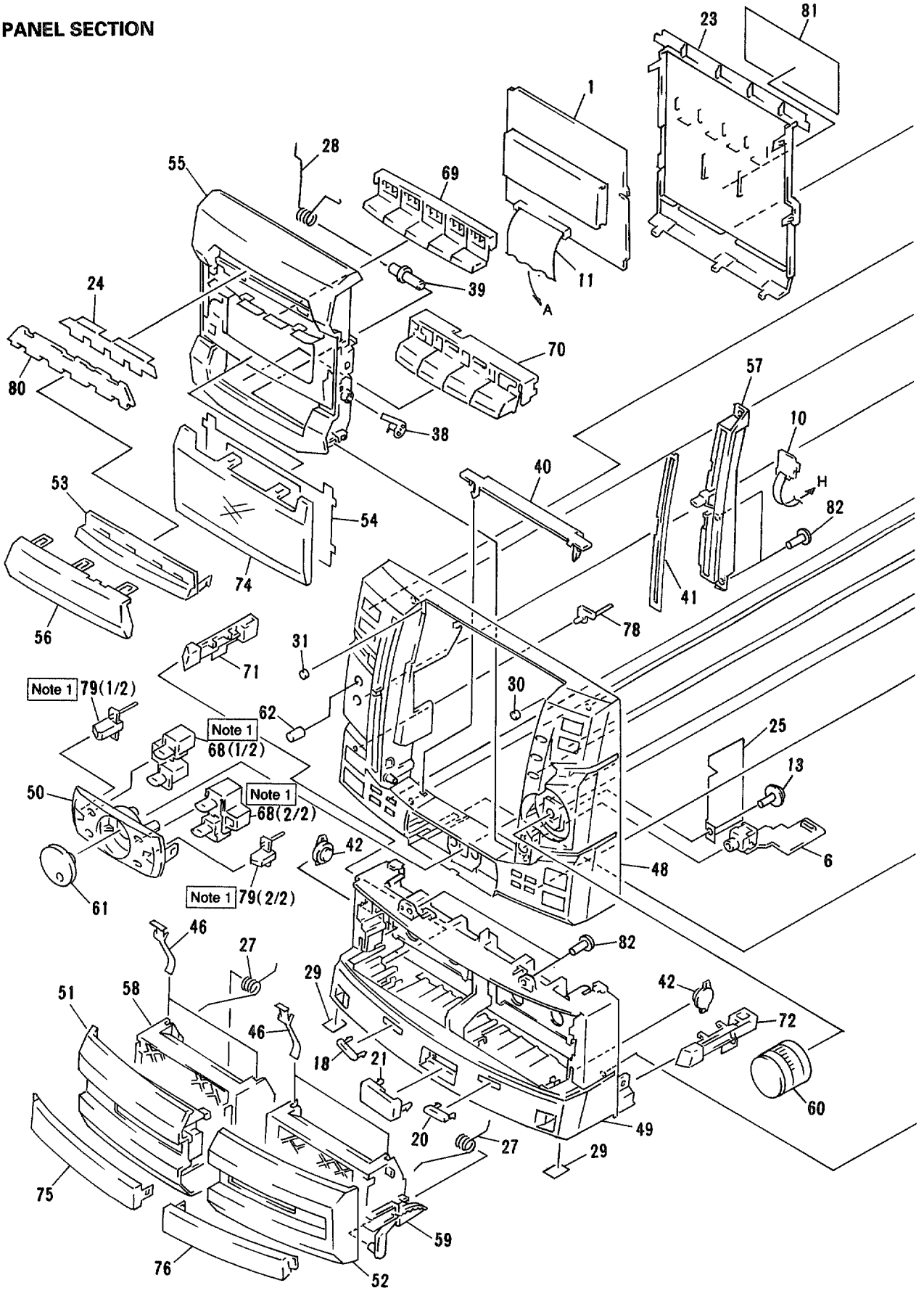
3.2 FRONT PANEL SECTION

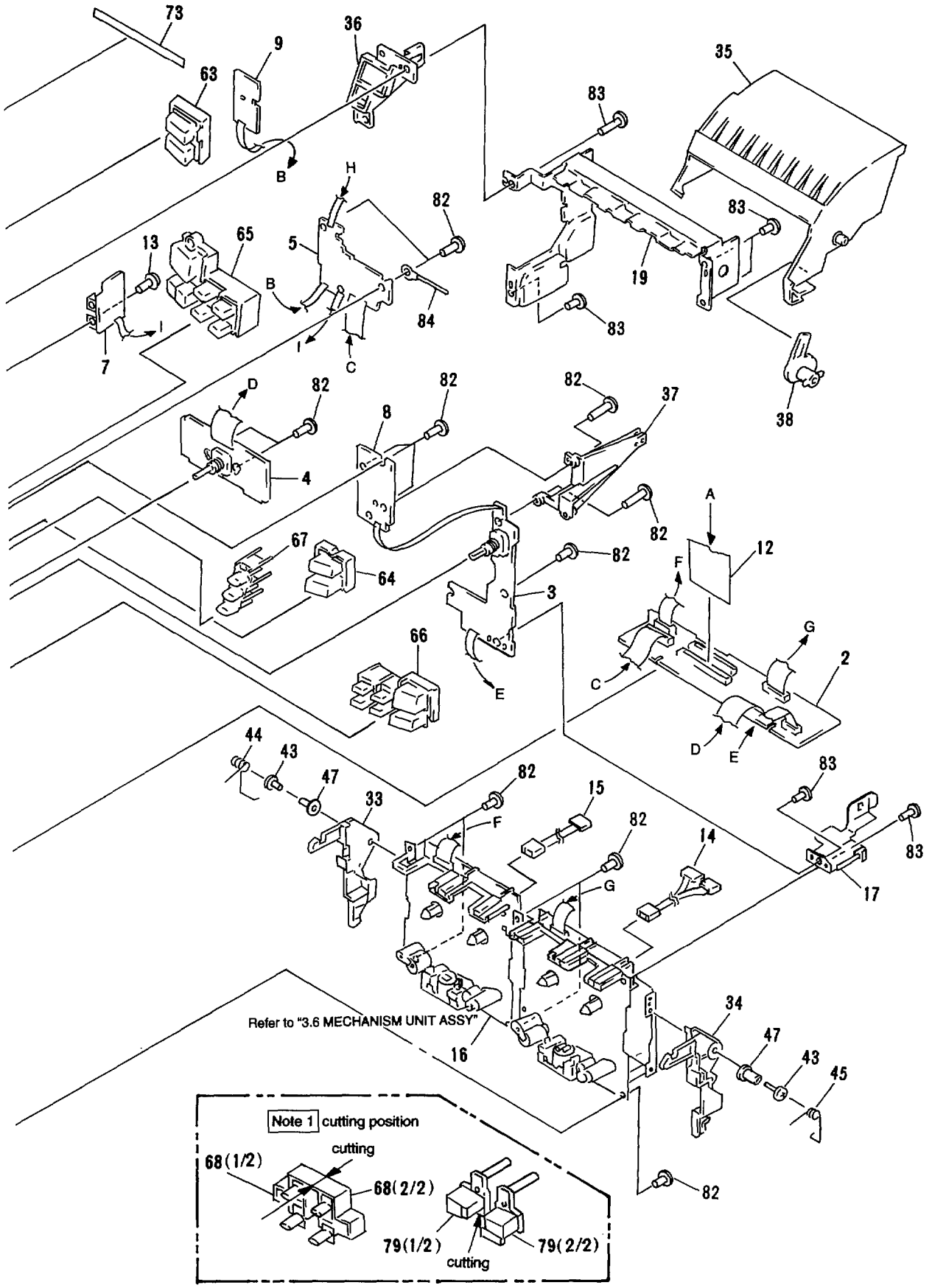
Parts List

Mark	No.	Description	Parts No.
	1	CD Door Assy	AWZ8700
	2	Ope. Center Assy	AWZ8567
	3	Ope. Right Assy	AWZ8568
	4	Jog Assy	AWZ8702
	5	Ope. Left Assy	AWZ8570
	6	Headphone Assy	AWZ8703
	7	Mic Assy	AWZ8714
NSP	8	SW1 Assy	AWZ8579
	9	SW2 Assy	AWZ8581
NSP	10	LED Assy	AWZ8582
	11	39P F•F•C/60V	ADD7043
	12	35P F•F•C/60V	ADD7044
	13	Screw With Washer	ABA1005
	14	Connector Assy 5P	RKP1582
	15	Connector Assy 3P	RKP1583
	16	Meshanism Unit	RYM1248
	17	Earth Plate	ANG7110
	18	Azimuth Cover L	AZA7214
	19	Subpanel (MTL)	ANG7113
	20	Azimuth Cover R	AZA7215
	21	Name Plate	AAK7335
	22	.....	
	23	CD Door Cover (PLS)	AAK7318
	24	Edge Light Sheet	AAK7373
	25	Link Sheet (PVC)	AAK7386
	26	.....	
	27	Deck Door Spring	ABH7134
	28	CD Door Sping	ABH7143
	29	Rubber Sheet	AEB1111
	30	Rubber Sheet	AEB7054
	31	Cussion Rubber	AEB7068
	32	.....	
	33	Eject ARM (L)	AMR7020
	34	Eject ARM (R)	AMR7021
	35	Barrier (PLS)	AMR7135
	36	PCB Holder	AMR7140
	37	AF PCB Holder	AMR7141
	38	Link Holder (PLS)	AMR7142
	39	Shaft Mold (PLS)	AMR7143
	40	FFC Holder	AMR7159
	41	Slot Sheet	AWL7022
	42	Damper Assy	AXA7021
	43	Screw	BSZ20P120FMC
	44	Spring (L)	RBH1411
	45	Spring (R)	RBH1412
	46	Spring (Stainless)	RBK1004
	47	Corrar	RNK2135
	48	Front Panel A	AZA7207
	49	Front Panel B	AZA7209
	50	Jog Panel A	AZA7210

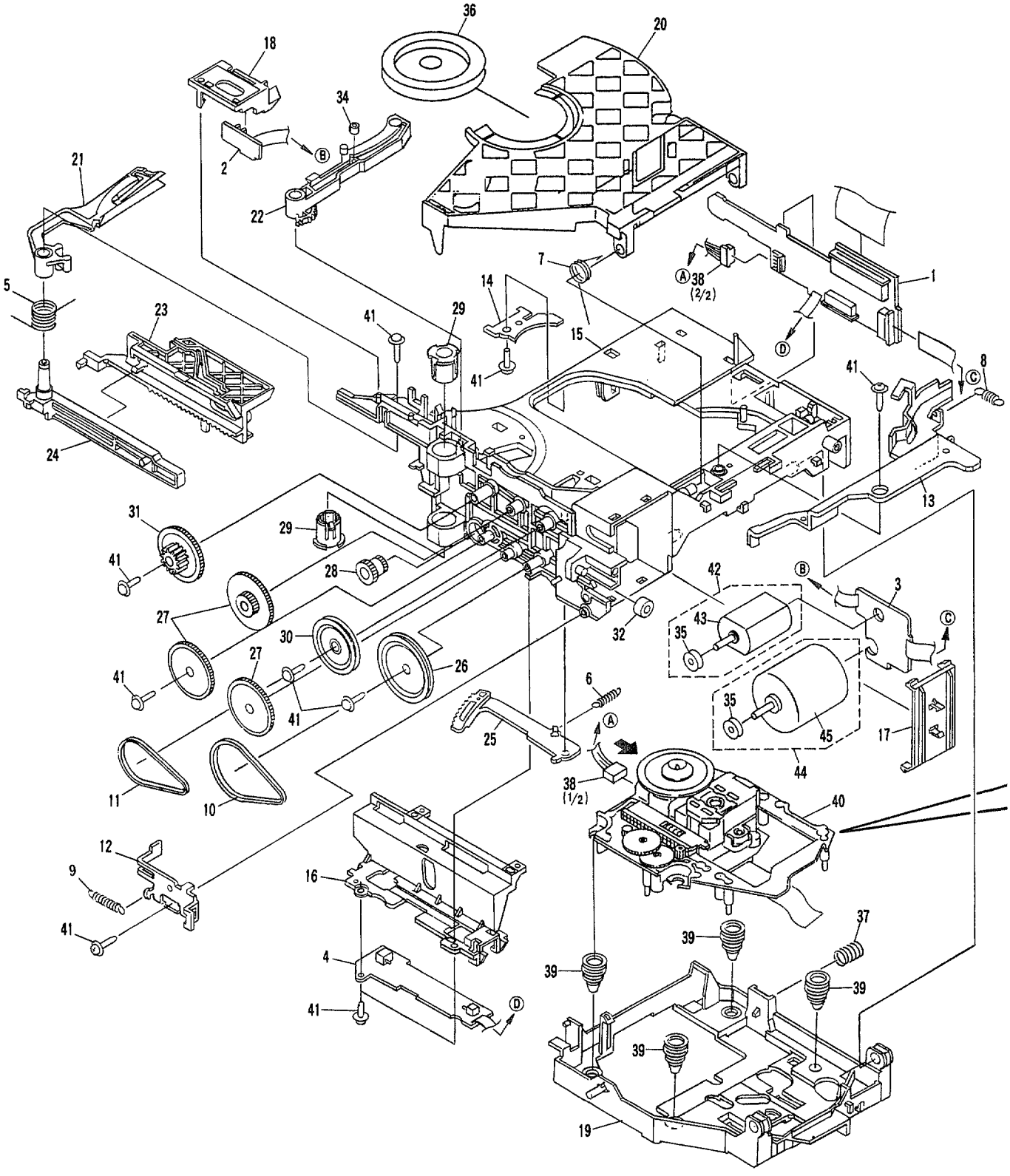
Mark	No.	Description	Parts No.
	51	Cassette door Panel L	AZA7212
	52	Cassette door Panel R	AZA7213
	53	Genru Panel (PLS)	AAK7315
	54	Amp Window Sheet	AAK7362
	55	CD Door (PLS)	AAN7155
	56	Edge Light Cover (PLS)	AMR7136
	57	Slot Sheet Mold	AMR7139
	58	Door Pocket L	AAN7158
	59	Door Pocket R	AAN7159
	60	Vol Knob (PLS)	AAB7111
	61	Jog Knob (PLS)	AAB7112
	62	Mic Volume Knob	AAB7118
	63	Slot Eject Button	AAD7337
	64	SFC Button	AAD7338
	65	Power Button	AAD7339
	66	Play Button	AAD7340
	67	Timer Button	AAD7341
	68	Name Button	AAD7342
	69	Genru Button (PLS)	AAD7343
	70	Function Button (PLS)	AAD7366
	71	Eject Button L	AAD7345
	72	Eject Button R	AAD7346
	73	Disc Rack Panel (PVC)	AAK7251
	74	Amp Window (PLS)	AAK7341
	75	Door Window L	AAK7307
	76	Door Window R	AAK7308
	77	.....	
	78	Standby Lenz	AAK7310
	79	Jog Lenz	AAK7311
	80	Edge Light Lenz (PLS)	AAK7314
	81	Caution Label	ARW7024
	82	Screw	BPZ30P080FMC
	83	Screw	VPZ30P120FZK
	84	Binder	RNE1277

FRONT PANEL SECTION

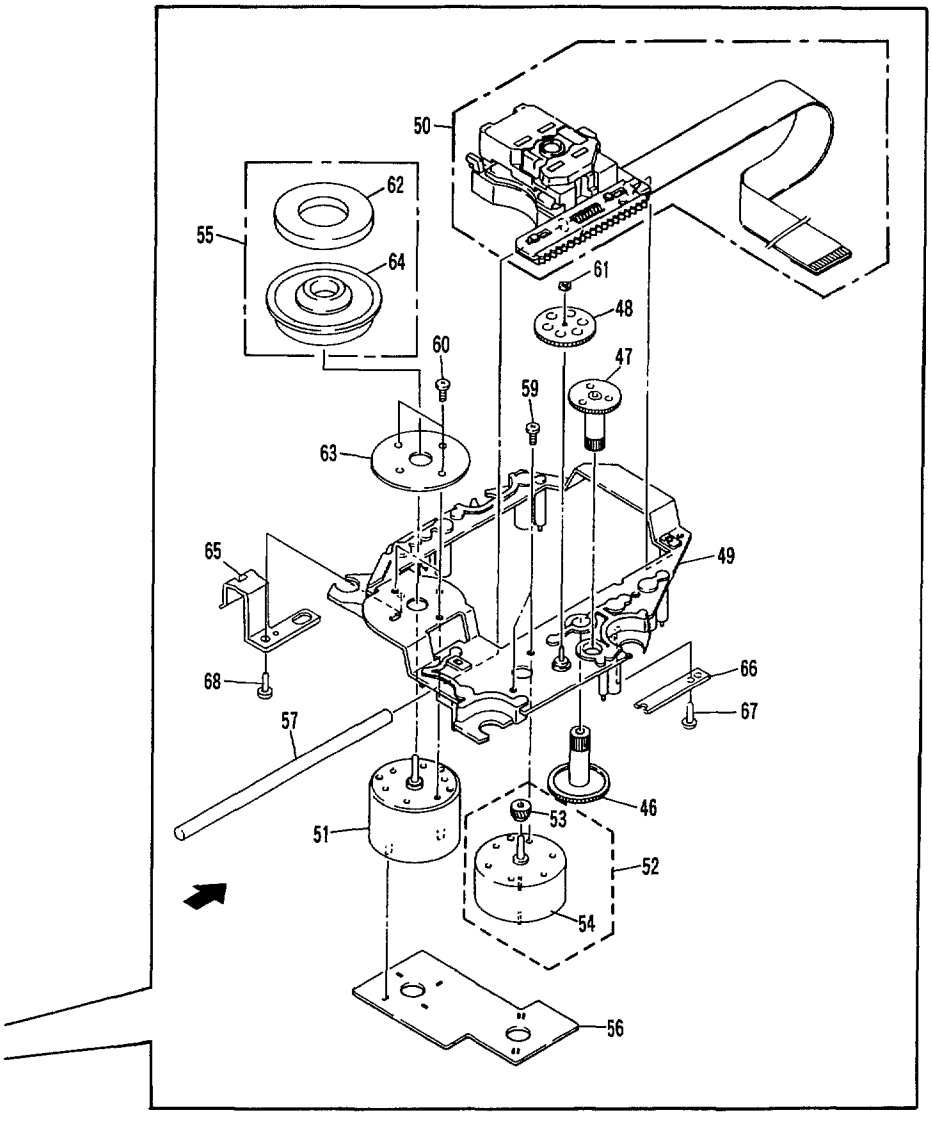



Refer to "3.6 MECHANISM UNIT ASSY"
Note 1 cutting position
cutting
68(1/2)
68(2/2)
79(1/2)
79(2/2)
cutting

3.3 GS MECHANISM ASSY



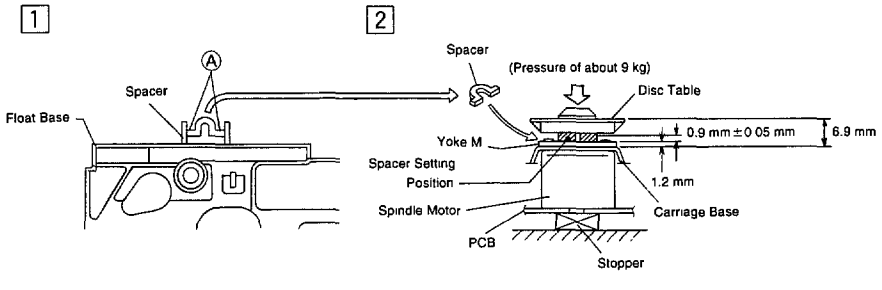
Servo Mechanism Assy GM



● How to install the disc table

1 Use nipper or other tool to cut the two sections marked Ⓐ figure 1. Then remove the spacer.

2 While supporting the spindle motor shaft with the stopper, put spacer on top of the yoke M, and stick the disc table on top (takes about 9kg pressure). Take off the spacer.



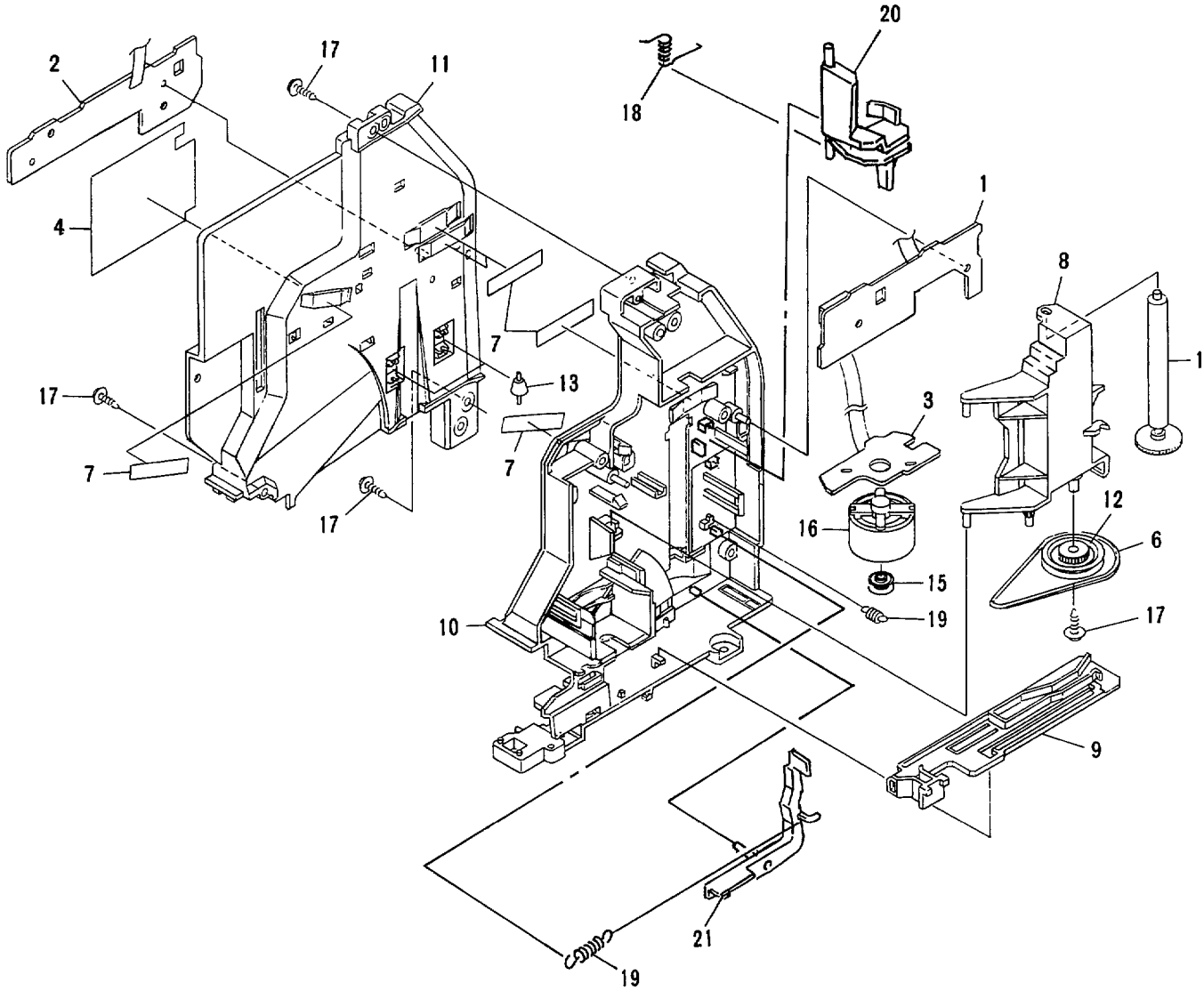
GS MECHANISM ASSY

Parts List

Mark	No.	Description	Parts No.
NSP	1	MECHA PCB ASSY	AWZ8802
NSP	2	SENSOR PCB ASSY	AWZ7836
NSP	3	MOTOR PCB ASSY	AWZ7837
NSP	4	SW PCB ASSY	AWZ7838
	5	ARM A SPRING 2	ABH7124
	6	GEAR PLATE SPRING	ABH7051
	7	CLAMP SPRING	ABH7107
	8	LOCK LEVER SPRING B	ABH7142
	9	LOCK ANGLE SPRING 2	ABH7123
	10	LOADING BELT	AEB7029
	11	BELT	AEB7030
NSP	12	LOCK ANGLE	ANB7027
NSP	13	LOCK LEVER	ANB7038
NSP	14	SERVO STOPPER S	ANB7047
	15	LOADING BASE	ANW7086
	16	CAM COVER	ANW7052
	17	MOTOR HOLDER	ANW7053
	18	SENSOR HOLDER	ANW7054
	19	FLOAT BASE	ANW7080
	20	CLAMPER HOLDER	ANW7084
	21	ARM (A)	ANW7057
	22	ARM (B)	ANW7058
	23	DRIVE PLATE	ANW7059
	24	ARM PLATE	ANW7060
	25	GEAR PLATE	ANW7082
	26	GEAR PULLEY (B)	ANW7062
	27	GEAR A	ANW7063
	28	DRIVE GEAR	ANW7064
	29	BEARING	ANW7065
	30	GEAR PULLEY A	ANW7066
	31	SELECT GEAR	ANW7067
	32	ROLLER	ANW7068
	33	.....	
	34	ROLLER B	ANW7075
	35	MOTOR PULLEY	PNW1634
	36	CLAMPER	PNW2692
	37	FLOAT SPRING	ABH7049
	38	CONNECTOR ASSY (4P)	ADE7006
	39	FLOAT RUBBER	AEB7028
NSP	40	SERVO MECHANISM ASSY GM	AXA7028
	41	SCREW	IPZ20P080FMC
	42	MOTOR ASSY (SELECT)	AEA7005
NSP	43	MOTOR	PXM1002
	44	MOTOR ASSY	AEA7006
	45	LOADING MOTOR	VXM1034
	46	GEAR 1	PNW2052
	47	GEAR 2	PNW2053
	48	GEAR 3	PNW2054
	49	CARRIAGE BASE	PNW2699
	50	PICKUP ASSY	AEA7004

Mark	No.	Description	Parts No.
	51	D.C. MOTOR ASSY (SPDL)	PEA1235
	52	CARRIAGE DC MOTOR ASSY	PEA1246
	53	PINION GEAR	PNW2055
NSP	54	CARRIAGE DC MOTOR/0.3W	PXM1027
	55	DISC TABLE ASSY	PEA1314
	56	MECHANISM BOARD ASSY	PWX1192
	57	GUIDE BAR	PLA1094
	58	.....	
	59	SCREW	JFZ17P025FZK
	60	SCREW	JFZ20P040FMC
	61	WASHER	WT12D032D025
	62	CLAMP MAGNET	PMF1014
	63	YOKE M	PNB1312
NSP	64	DISC TABLE	PNW2410
NSP	65	FLOAT ANGLE	ANB7020
	66	GEAR STOPPER	PNB1303
	67	SCREW	BPZ20P060FMC
	68	SCREW	BPZ26P100FMC
		FROIL (for service)	GYA1001
		HA NARL (for service)	GEM1016

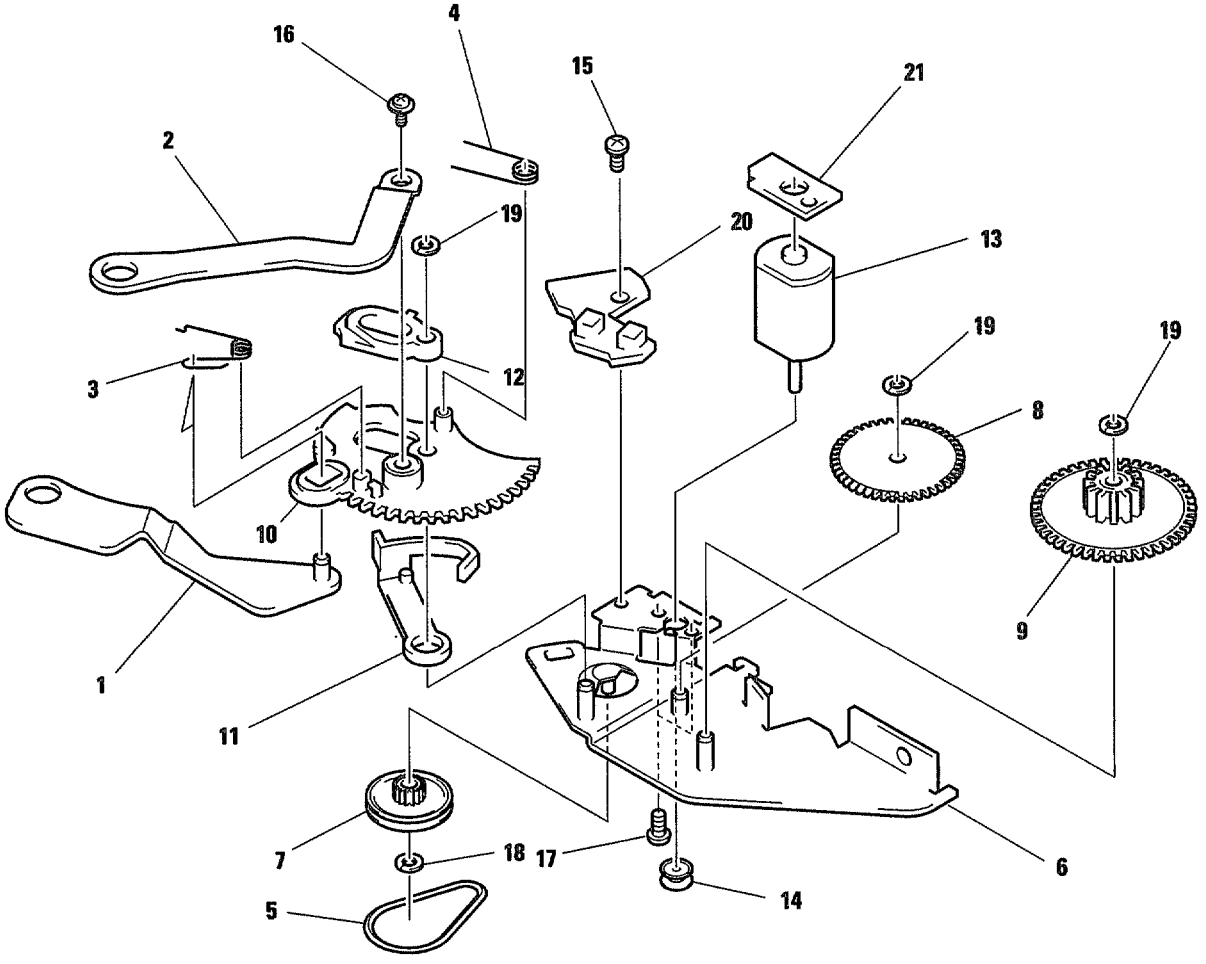
3.4 GS SLOT-IN MECHANISM ASSY



Parts List

Mark	No.	Description	Parts No.
NSP	1	Sensor Board Assy	AWZ8560
NSP	2	LED Board Assy	AWZ8561
NSP	3	Motor Board Assy	AWZ8744
	4	Blind	AAK7219
	5	.....	
	6	Belt	AEB7033
	7	Ecsaine	AED7004
	8	Gear Holder	ANW7110
	9	Slide Plate	ANW7048
	10	Case (M)	ANW7101
	11	Case (S)	ANW7102
	12	Gear Pulley A	ANW7066
	13	Guide Roller	ANW7076
	14	Roller Assy	AXA7029
	15	Motor Pulley	PNW1634
	16	DC Motor/0.75W	PXM1010
	17	Screw	IPZ20P080FMC
	18	Shutter Spring	ABH7136
	19	P.B Spring	ABH7137
	20	Shutter	ANW7099
	21	Lever	ANW7100

3.5 GS POWER DOOR MECHANISM ASSY



Parts List

Mark	No.	Description	Parts No.
	1	Link A (MTL)	ANG7111
	2	Link B (MTL)	ANG7115
	3	Door Spring	ABH7144
	4	Rack Spring	ABH7145
	5	Door Belt	AEB7067
	6	Base Plate (SECC)	ANB7081
	7	Gear Pulley (POM)	ANW7103
	8	Gear B (POM)	ANW7104
	9	Gear A (POM)	ANW7105
	10	Drive Gear (ABS)	ANW7106
	11	SW Lever (ABS)	ANW7107
	12	Push Plate (ABS)	ANW7108
NSP	13	Motor	AXM7010
	14	Motor Pulley (POM)	PNW1634
	15	Screw	BBZ20P060FMC
	16	Screw	IPZ20P080FMC
	17	Screw	PMA20P030FMC
	18	Washer	WT26D060D025
	19	Washer	WT36D072D025
NSP	20	CD Door SW Assy	AWZ8576
NSP	21	CD Door Motor Assy	AWZ8577

3.6 MECHANISM UNIT

Parts list

■ Mechanism unit I and II (1/2)

Mark	No.	Description	Parts No.
	1	ASSY MOTOR	RXM1080
NSP	2	JUMPER WIRE	RDD1012
	3	BRACKET MOTOR	RNE1830
	4	SPACER	RNK1822
	5	SCREW	RBA1100
	6	SCREW	PCZ20P040FMC

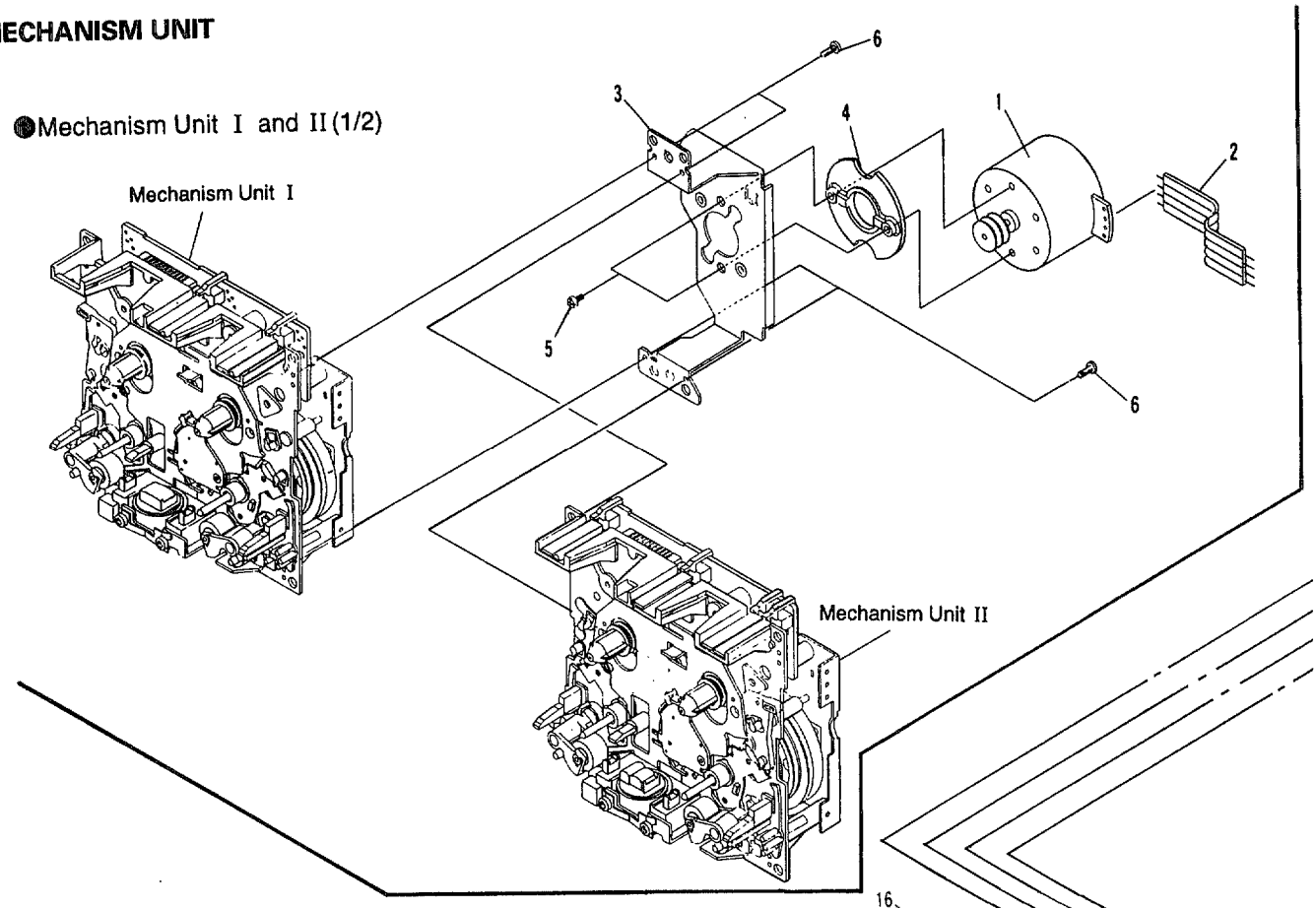
■ Mechanism unit I and II (2/2)

Mark	No.	Description	Parts No.
	1	ASSY HOLDER HEAD (*1)	RXA1400
	1	ASSY HOLDER HEAD (*2)	RXA1664
	2	FRAME HEAD	RNK1715
	3	LEVER HEAD	RNK1716
	4	SPRING AZIMUTH	RBK1006
	5	ASSY ARM ASSIST	RXA1401
	6	GEAR ARM HEAD	RNK1717
	7	SPRING CASSETTE	RBK1039
	8	EJECT LOCK	RNK1718
	9	CAP REEL	RNK1719
	10	ASSY PINCH ARM L	RXA1403
	11	CHASSIS HEAD	RNE1437
	12	ASSY PINCH ARM R	RXA1404
	13	ARM PLAY L	RNK1866
	14	GEAR PLAY	RNK1867
	15	ARM PLAY R	RNK1868
	16	CHASSIS OS	RXA1411
	17	ASSY SUB REEL L	RXA1407
	18	SOLENOID	RXP1020
	19	WIRE	RDC1006
	20	ARM RVS	RNK1721
	21	GEAR FF	RNK1723
	22	ASSY ARM FR	RXA1412
	23	ASSY PULLEY FR	RXA1413
	24	BELT FR	REB1292
	25	METAL	RNG1048
	26	ASSY FLYWHEEL L	RXA1690
	27	METAL	RNG1005
	28	ARM BRAKE	RNK1724
	29	ASSY SUB REEL R	RXA1408
	30	ARM TRIGER	RNK1722
	31	GEAR CAM	RNK1725
	32	METAL	RNG1049
	33	ASSY FLYWHEEL R	RXA1691
	34	METAL	RNG1004
	35	.....	
	36	.....	
	37	P. C. BOARD	RNP1610
	38	SWITCH MODE	RSN1020
	39	SWITCH (LEAF)	RSN1019
	40	HALL IC	DN6851A
	41	BRACKET FW (*1)	RNE1854
	41	BRACKET FW (*2)	RNE1438
	42	PULLEY (*1 only)	RNK2132
	43	.....	
	44	BELT FW (*1 only)	REB1291
	45	BELT MAIN (* 1)	REB1290
	45	BELT MAIN (* 2)	REB1289
	46	P. C. BOARD	RNP1348
	47	HOUSING (*1)	RKP1396
	47	HOUSING (*2)	RKP1397
	48	CONNECTOR (*1)	RKP1713
	48	CONNECTOR (*2)	RKP1714
	49	ASSY HOLDER (*1 only)	RXA1689
	50	.....	
	51	SPRING	RBH1282
	52	SPRING	RBH1283
	53	SPRING	RBH1284
	54	SPRING	RBH1286
	55	SPRING	RBH1288
	56	SPRING	RBH1291
	57	SPRING	RBH1285
	58	SPRING	RBH1287
	59	SPRING	RBH1289
	60	SPRING	RBH1290
	61	SPRING	RBH1292
	62	FWP SP (SPRING)	RBH1061
	63	SPRING	RBH1325
	64	SCREW (For AZIMUTH)	RBA1023
	65	SCREW	RBA1027
	66	SCREW	RBA1030
	67	SCREW	PCZ20P040FMC
	68	SCREW	RBA1093
	69	SCREW	RBA1094
	70	WASHER	RBF1046
	71	WASHER	WA26D047D013
	72	WASHER (*1 only)	WT13D030D025
	73	SCREW (*1 only)	RBA1118

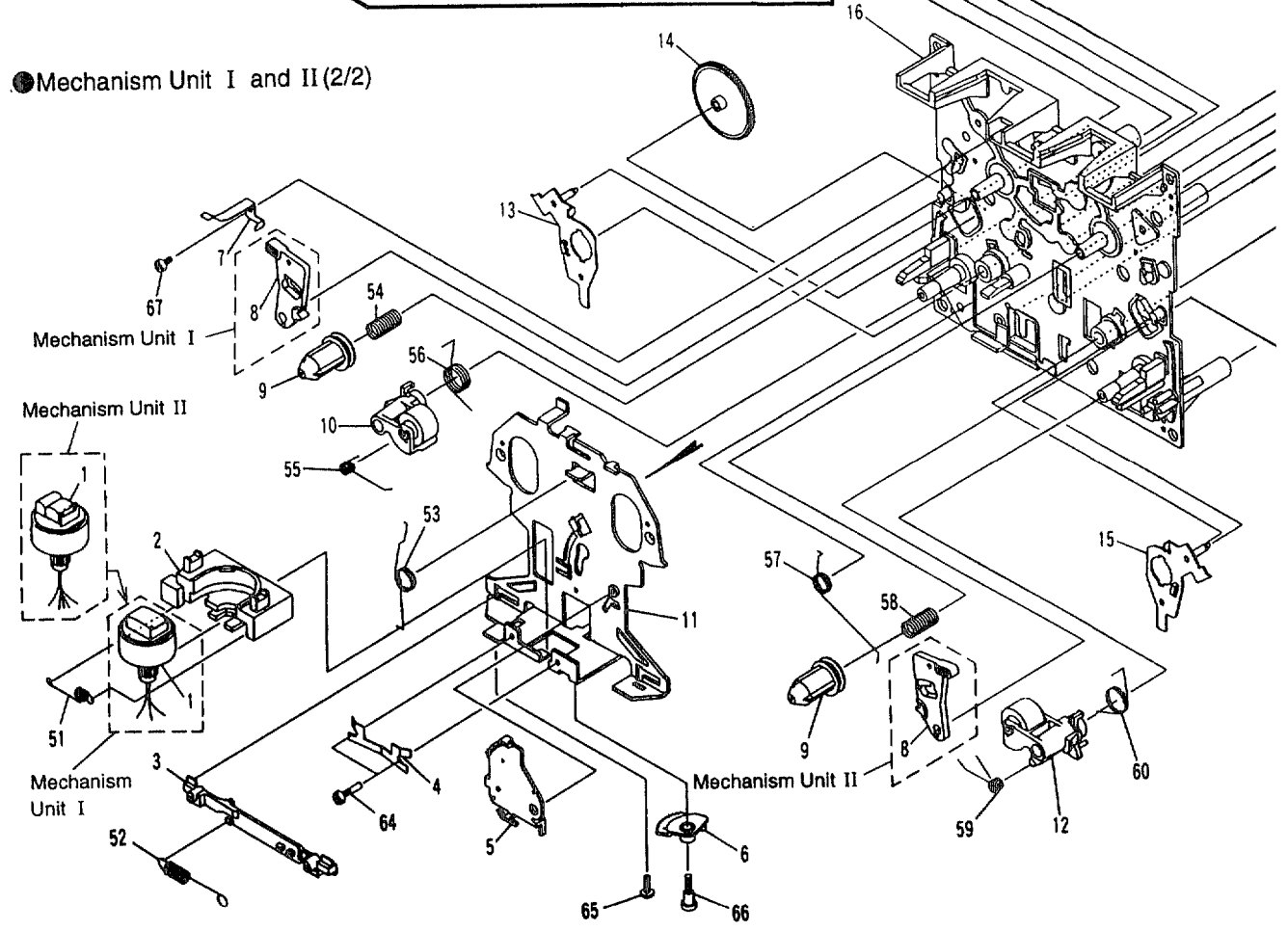
*Note) *1: Mechanism Unit I*
2: Mechanism Unit II

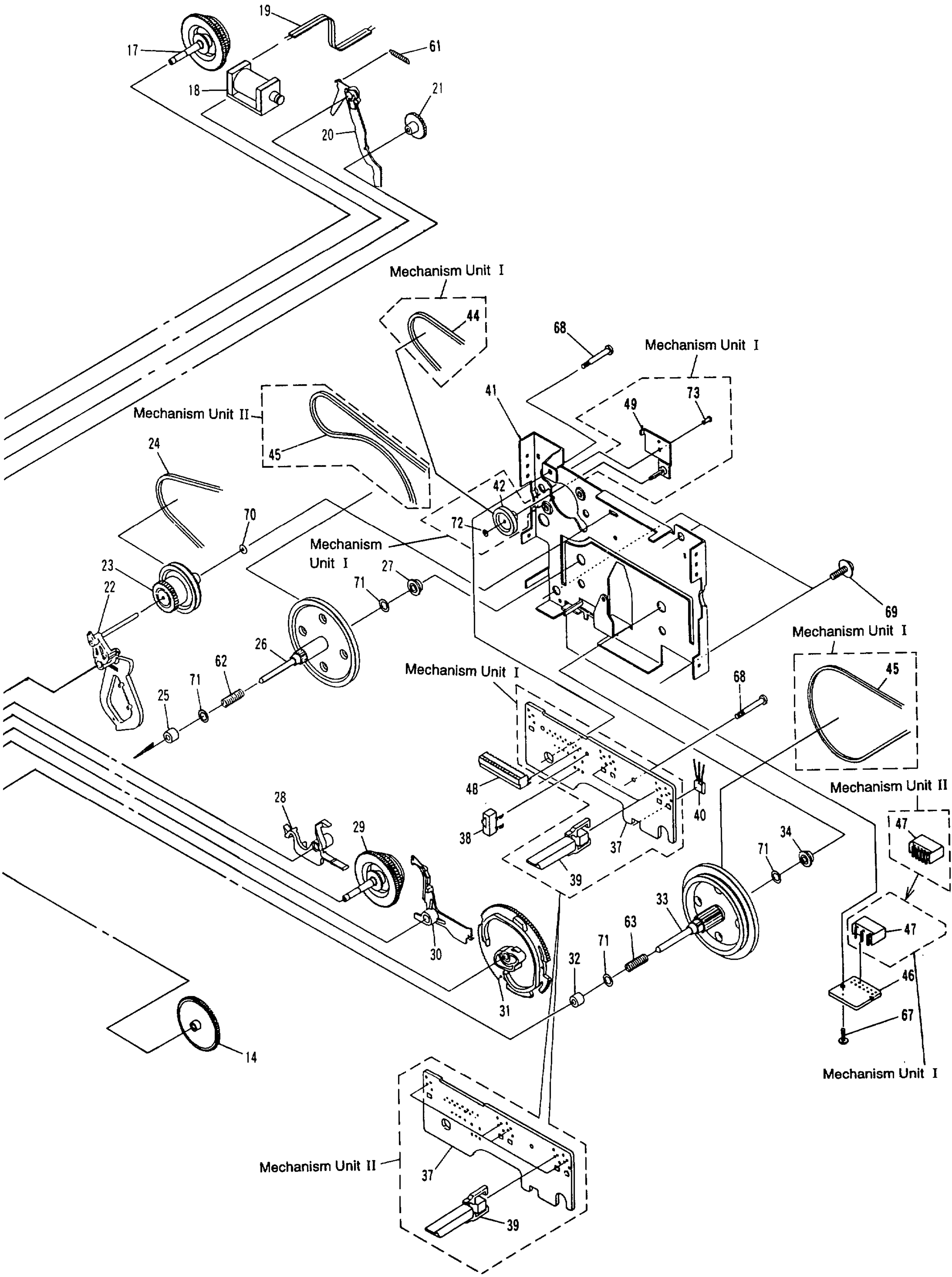
MECHANISM UNIT

●Mechanism Unit I and II (1/2)



●Mechanism Unit I and II (2/2)




17
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Mechanism Unit I
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Mechanism Unit I
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Mechanism Unit II
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Mechanism
Unit I
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Mechanism Unit I
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Mechanism Unit I
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Mechanism Unit II
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Mechanism Unit I
Mechanism Unit II
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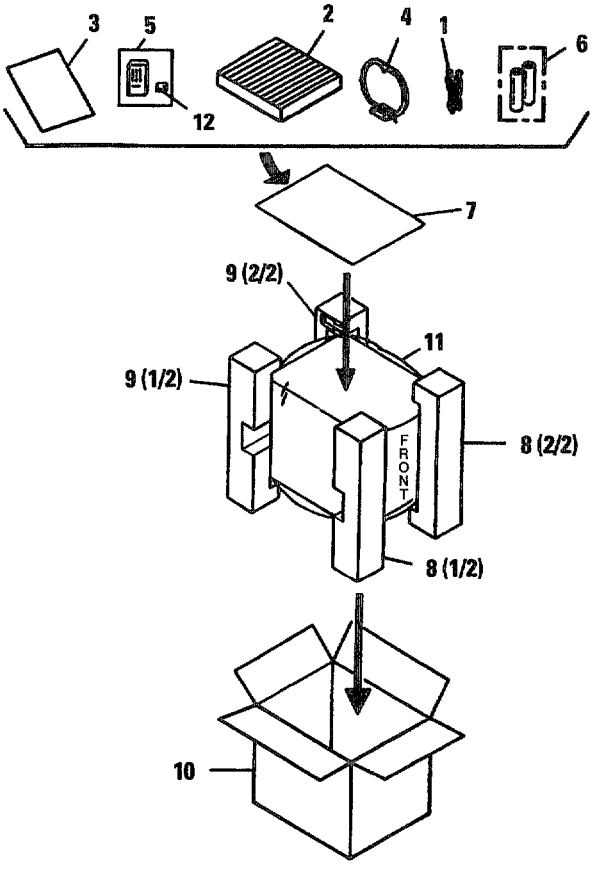
3.7 PACKING

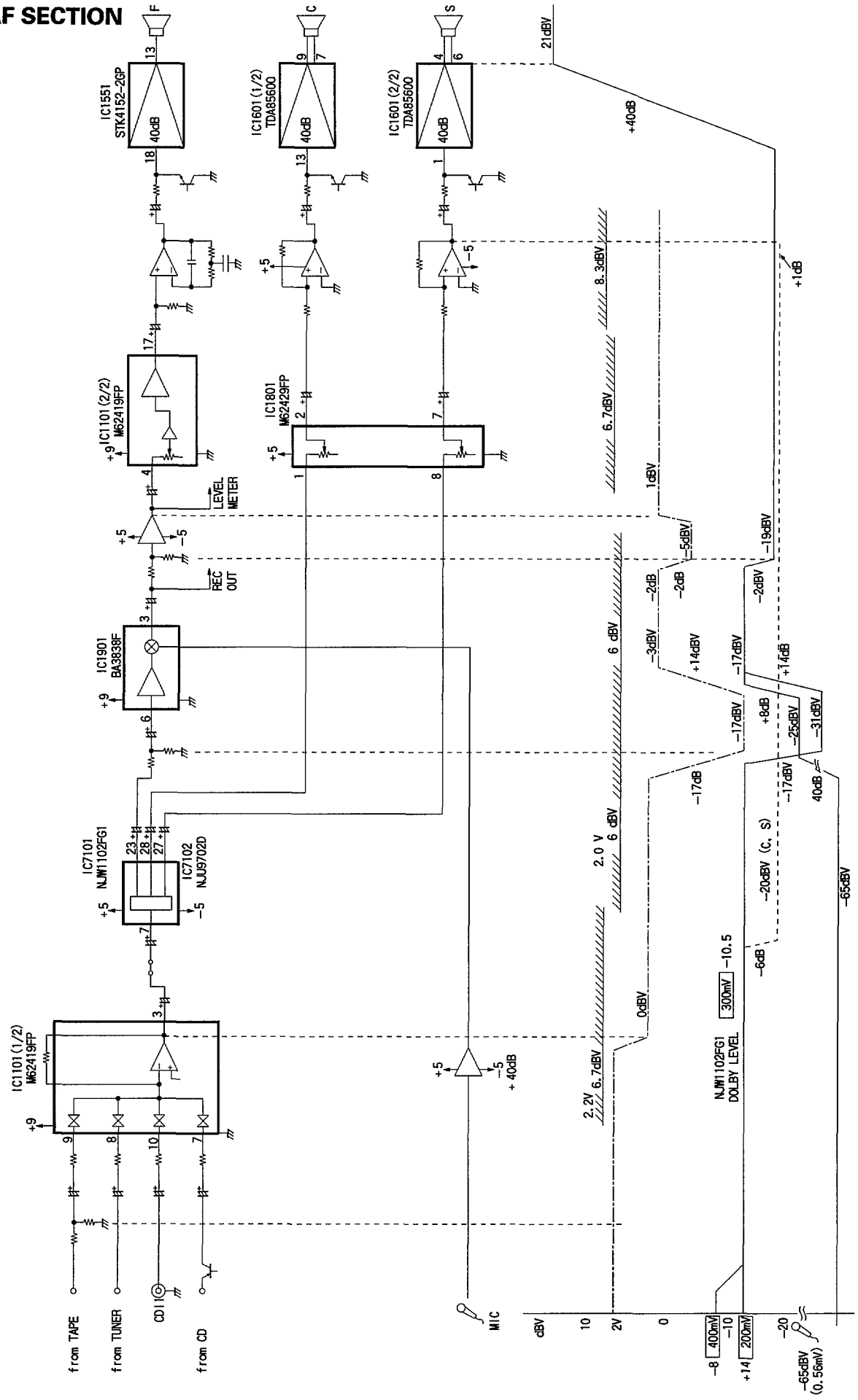
Parts List

Mark	No.	Description	Parts No.
	1	FM Antenna	ADH7007
	2	Case Rack	AMR7066
	3	Operating Instructions (English)	ARB7104
	4	Loop Antenna	ATB7004
	5	Remote Control Unit (CU-XR028)	AXD7103
NSP	6	Battery (R6P, AA)	VEM-013
NSP	7	Polyethylene Bag	Z21-040
	8	Front Pad LR	AHA7142
	9	Rear Pad LR	AHA7143
	10	Packing Case	AHD7393
	11	Packing Sheet	AHG7003
	12	Battery Cover	AZA7123

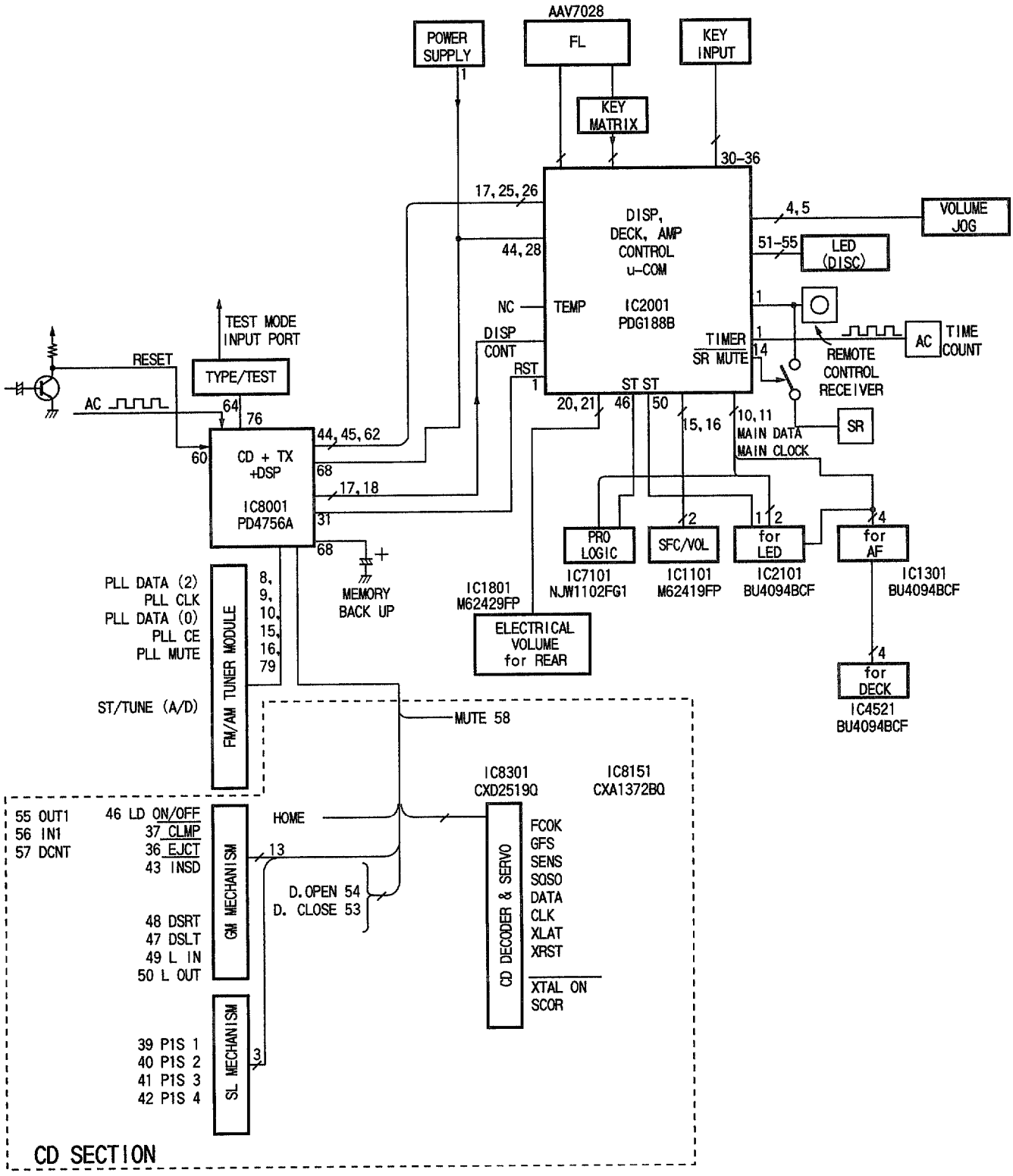


4. BLOCK DIAGRAM

4.1 AF SECTION



4.2 µ-COM SECTION



5. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   or ← V :
   DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA or ← mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ◐ : Adjusting point.
   - ◄ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH-□ ON THE SCHEMATIC DIAGRAM:**
   - SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

CD DOOR ASSY
S2101: 6—10
S2102: 16—20
S2103: 21—25
S2104: 1—5
S2105: 11—15
S2106: MD/CD2
S2107: CD
S2108: AM/FM
S2109 : TAPE

OPE. RIGHT ASSY
S2201 : STOP
S2202: START
S2208: ▶▶, ▶▶|
S2209: |◀◀, ◀◀
S2210: FREQ/STATION
S2211: PROGRAM

OPE. LEFT ASSY
S2301: ASES/COPY
S2302: POWER STANDBY/ON
S2303: BEST A
S2304: BEST B
S2307: DOLBY
S2308: REC/STOP
S2309: RENTAL ASES

JOG ASSY
S2401 : ENTER
S2402: NAME
S2403: PROLOGIC
S2405: CENTER MODE

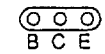
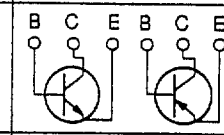
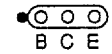
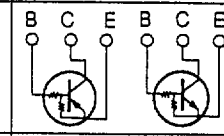
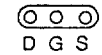
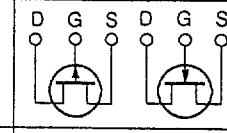
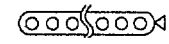
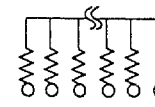
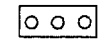
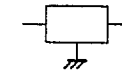
SW1 ASSY
S2203: STATION MEMORY
S2204: DISPLAY CLOCK ADJ
S2205: TIMER REC/WAKE-UP
S2206: P.BASS(DEMO)
S2207: SFC/KARAOKE

CD DOOR SW ASSY
S8002: OPEN
S8003: CLOSE

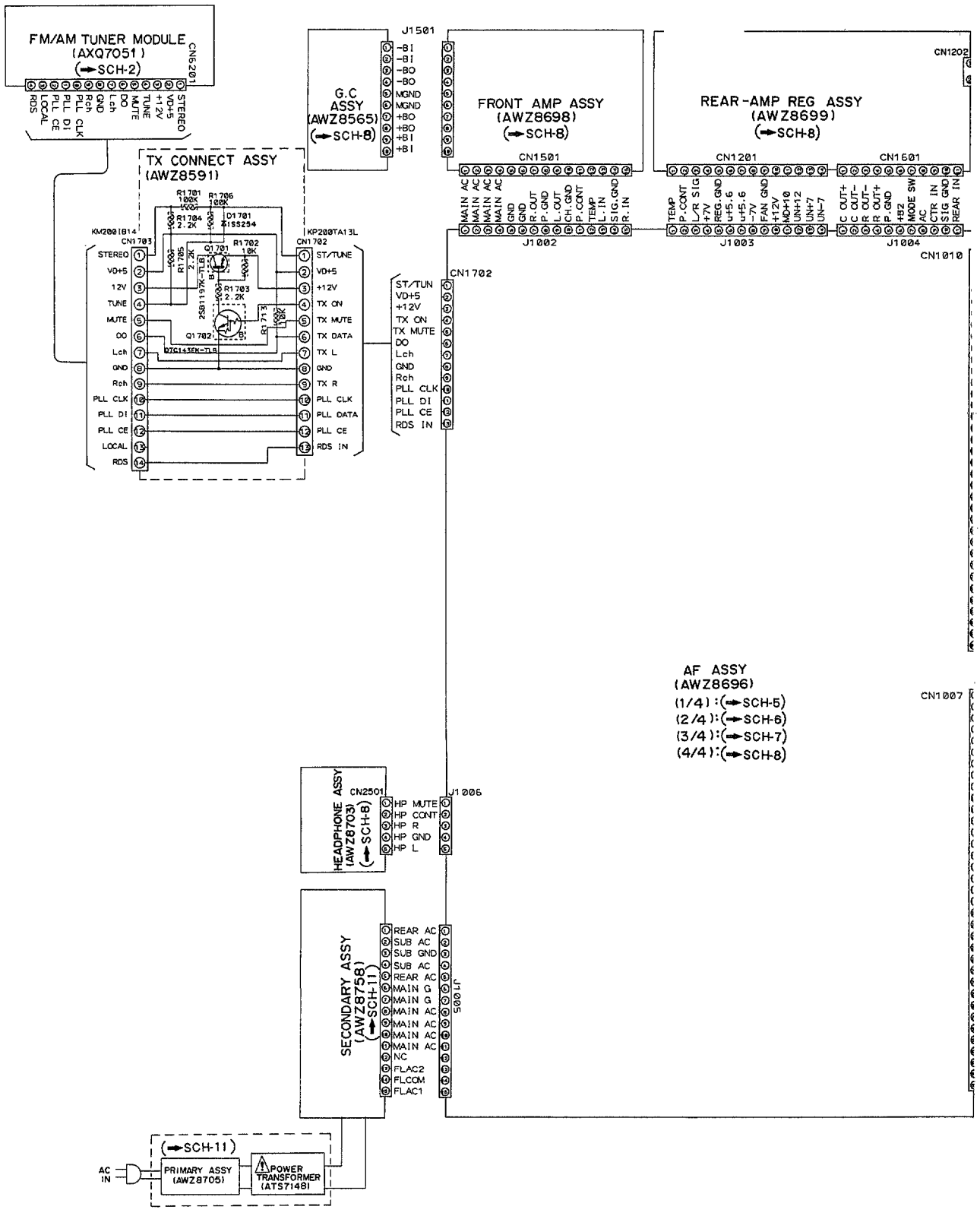
SW2 ASSY
S2305: SLOT EJECT
S2306: 25 EJECT

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.

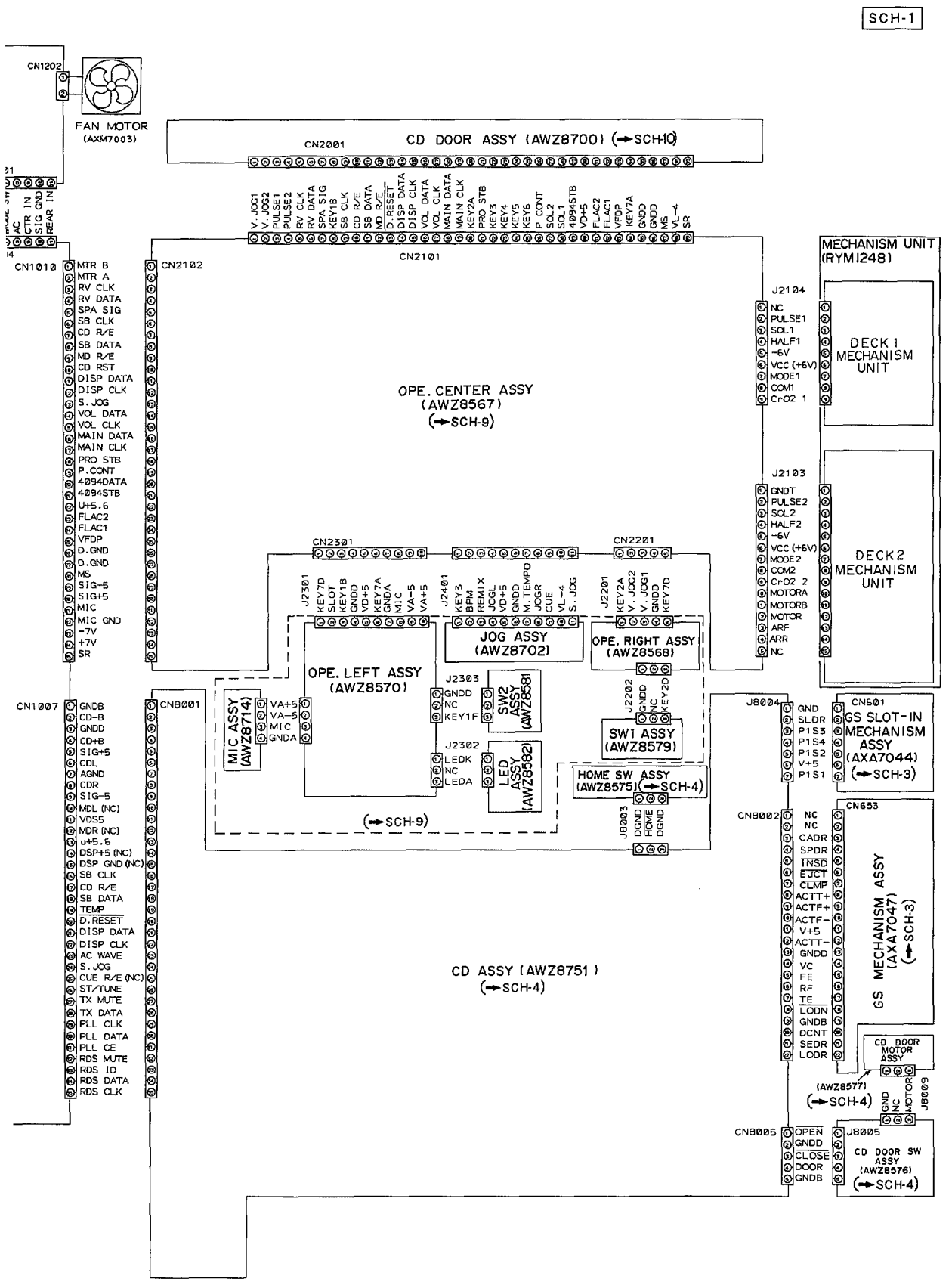
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3- terminal regulator

5.1 OVERALL WIRING DIAGRAM AND TX CONNECT ASSY



SCH-1 OVERALL WIRING DIAGRAM, TX CONNECT ASSY

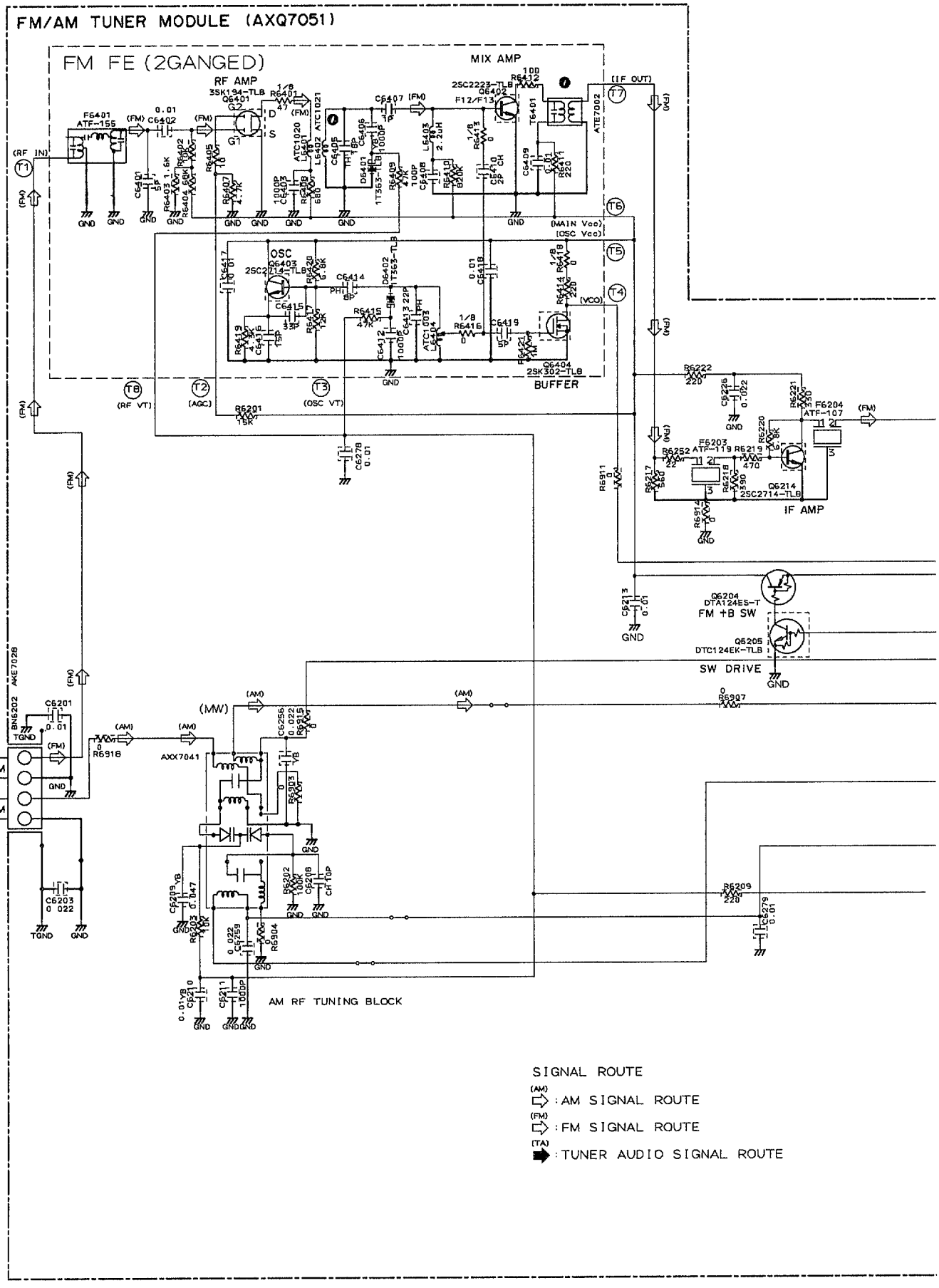
SCH-1



OVERALL WIRING DIAGRAM,
TX CONNECT ASSY

SCH-1

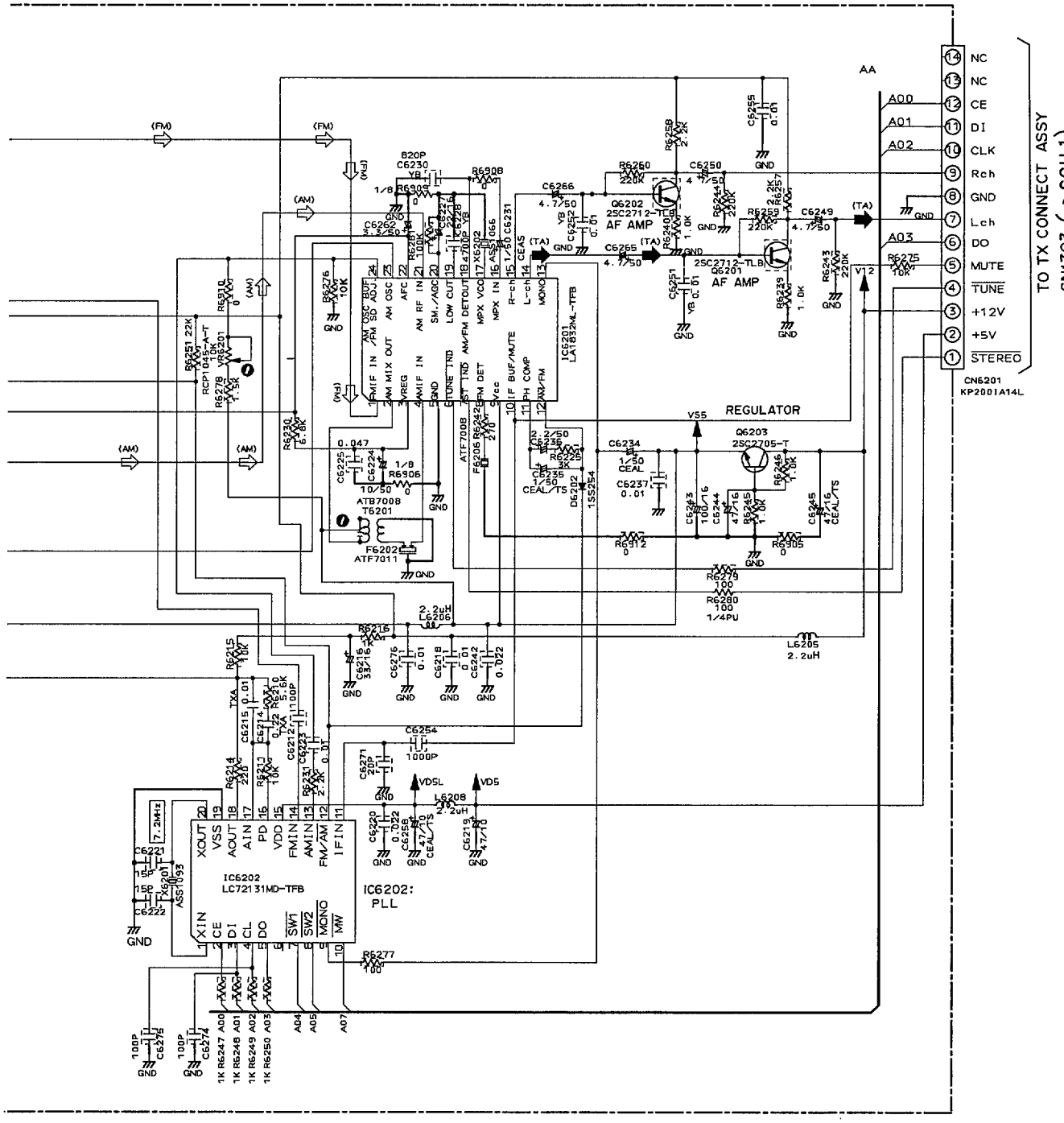
5.2 FM/AM TUNER MODULE



FM/AM TUNER MODULE

SCH-2

SCH-2



FM/AM TUNER MODULE

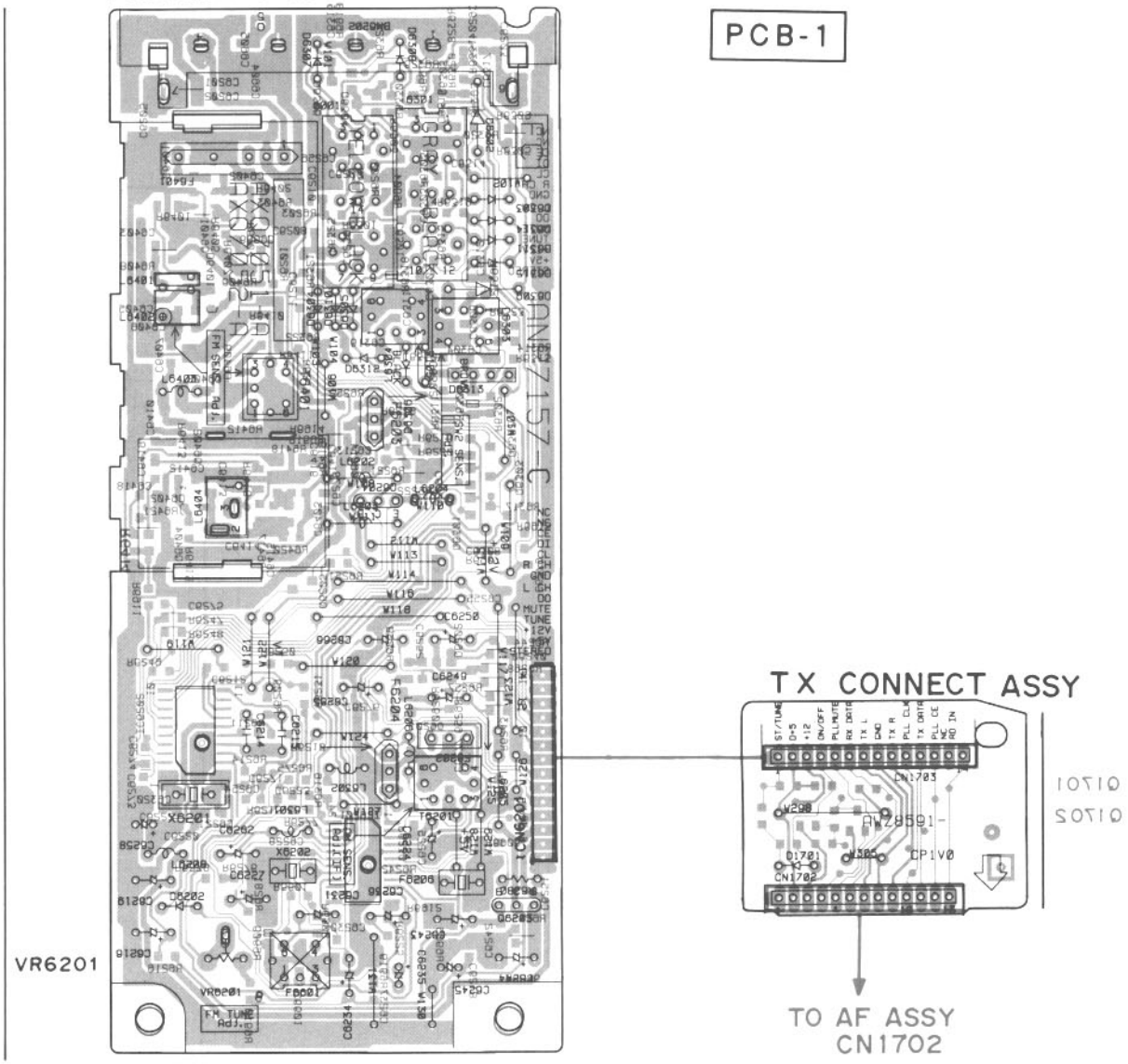
SCH-2

- This diagram is viewed from the mounted parts side.

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

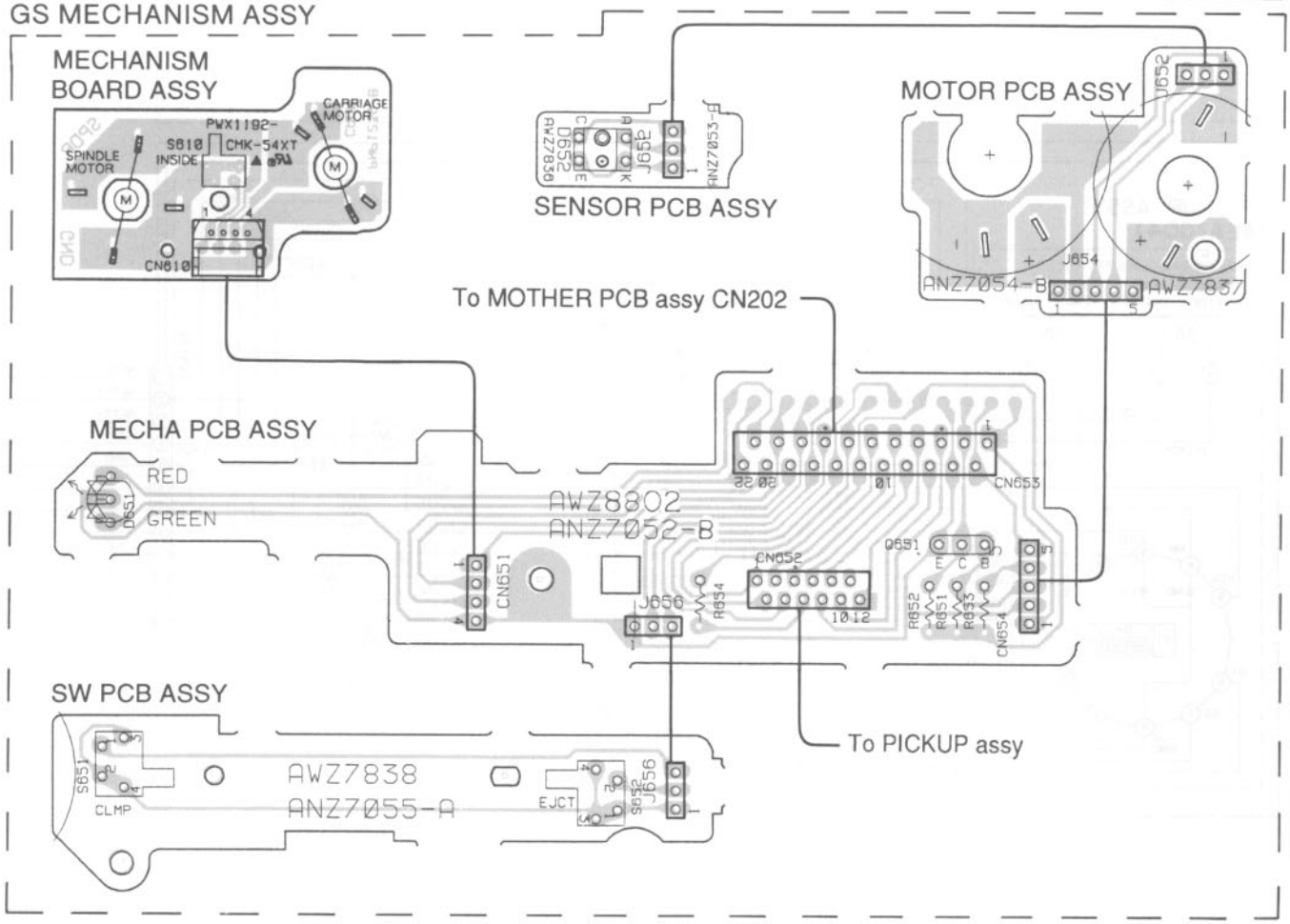
FM/AM TUNER MODULE

PCB-1



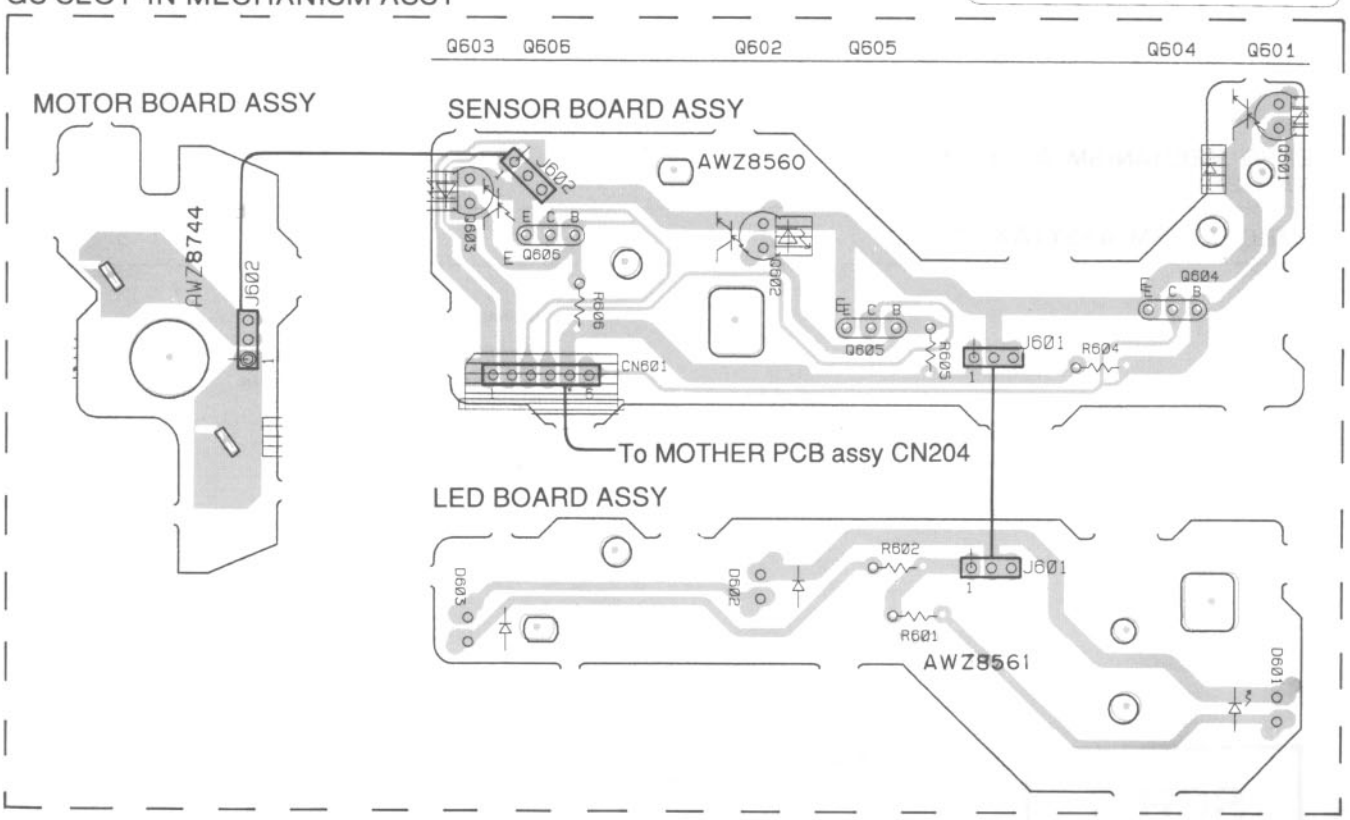
5.3 GS MECHANISM AND GS SLOT-IN MECHANISM ASSEMBLIES

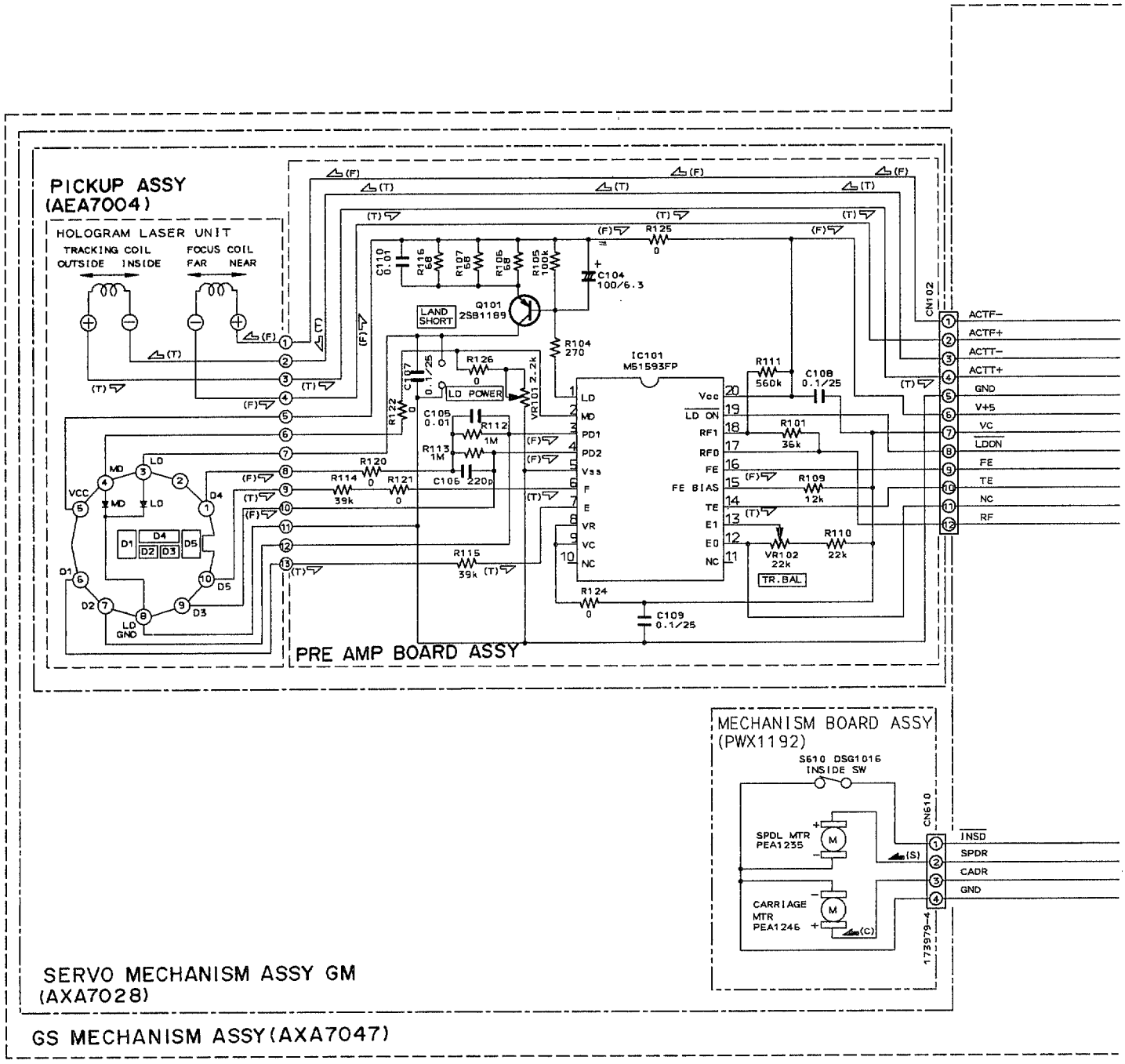
PCB-2



- This diagram is viewed from the mounted parts side.

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.





SIGNAL ROUTE

(F) : FOCUS SERVO LOOP LINE

(T) : TRACKING SERVO LOOP LINE

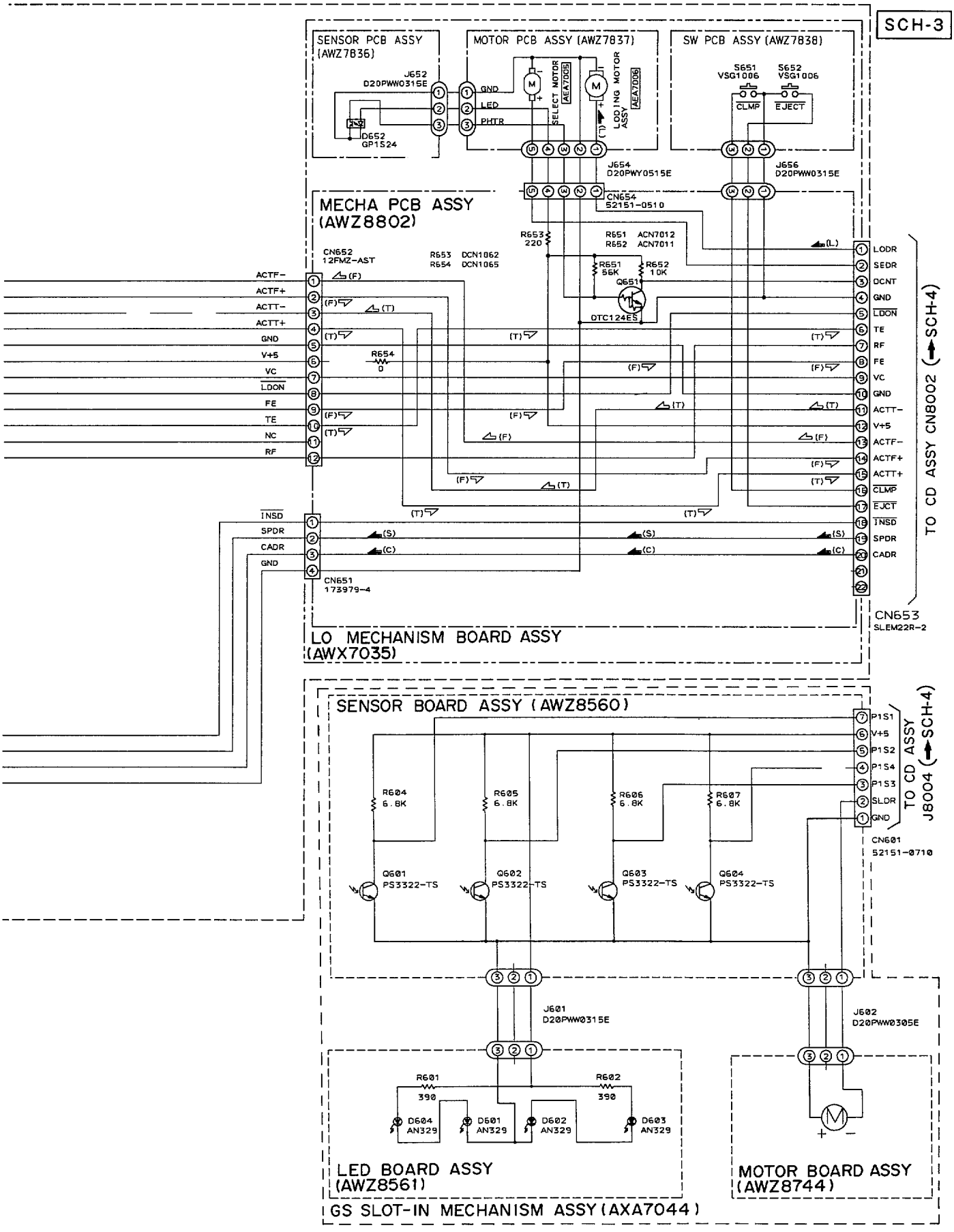
(L) : LOADING MOTOR ROUTE

(S) : SPINDLE MOTOR ROUTE

(C) : CARRIAGE MOTOR ROUTE

SCH-3

GS MECHANISM ASSEMBLIE
GS SLOT-IN MECHANISM ASSEMBLIE



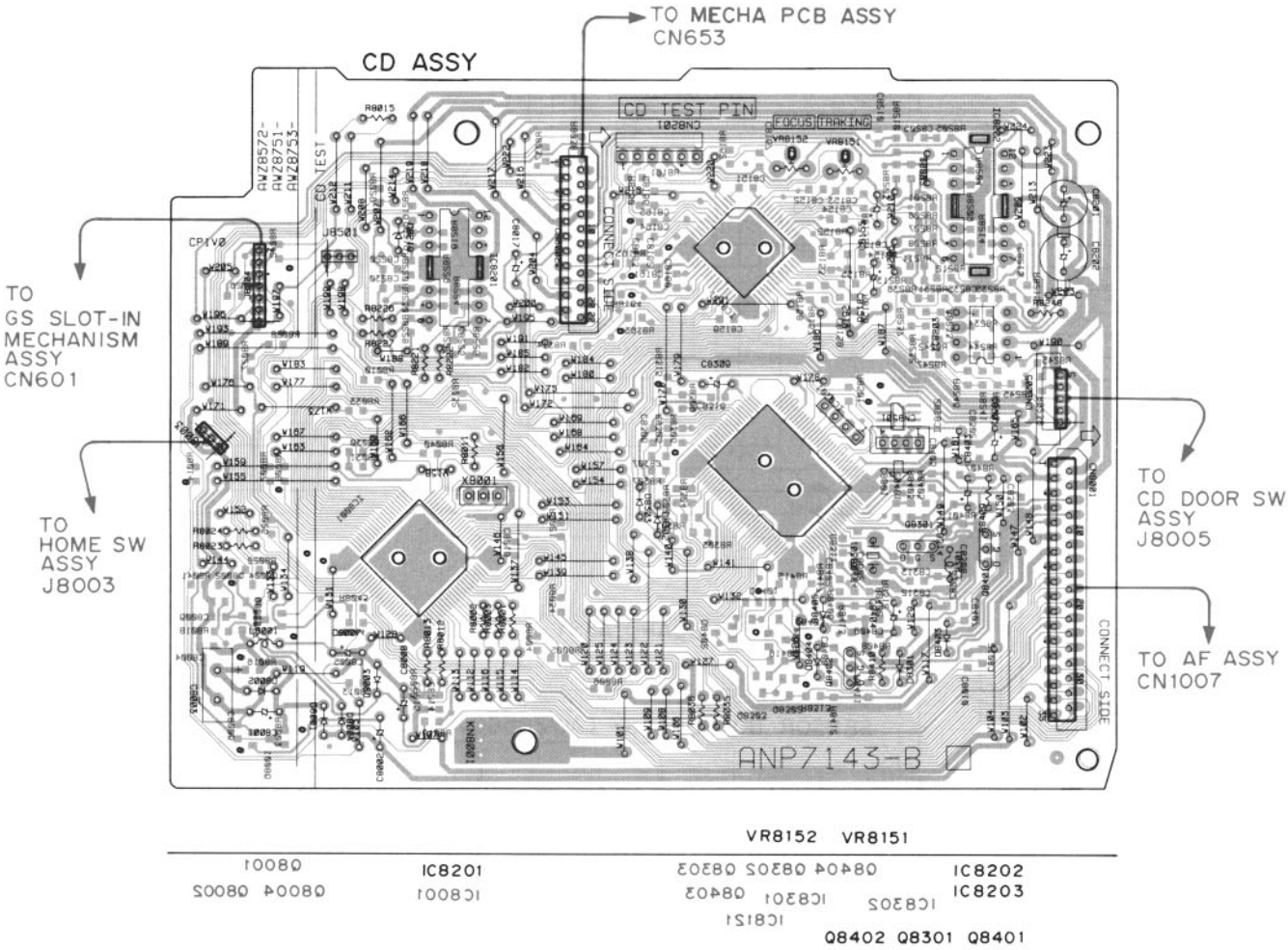
GS MECHANISM ASSEMBLIE
GS SLOT-IN MECHANISM ASSEMBLIE

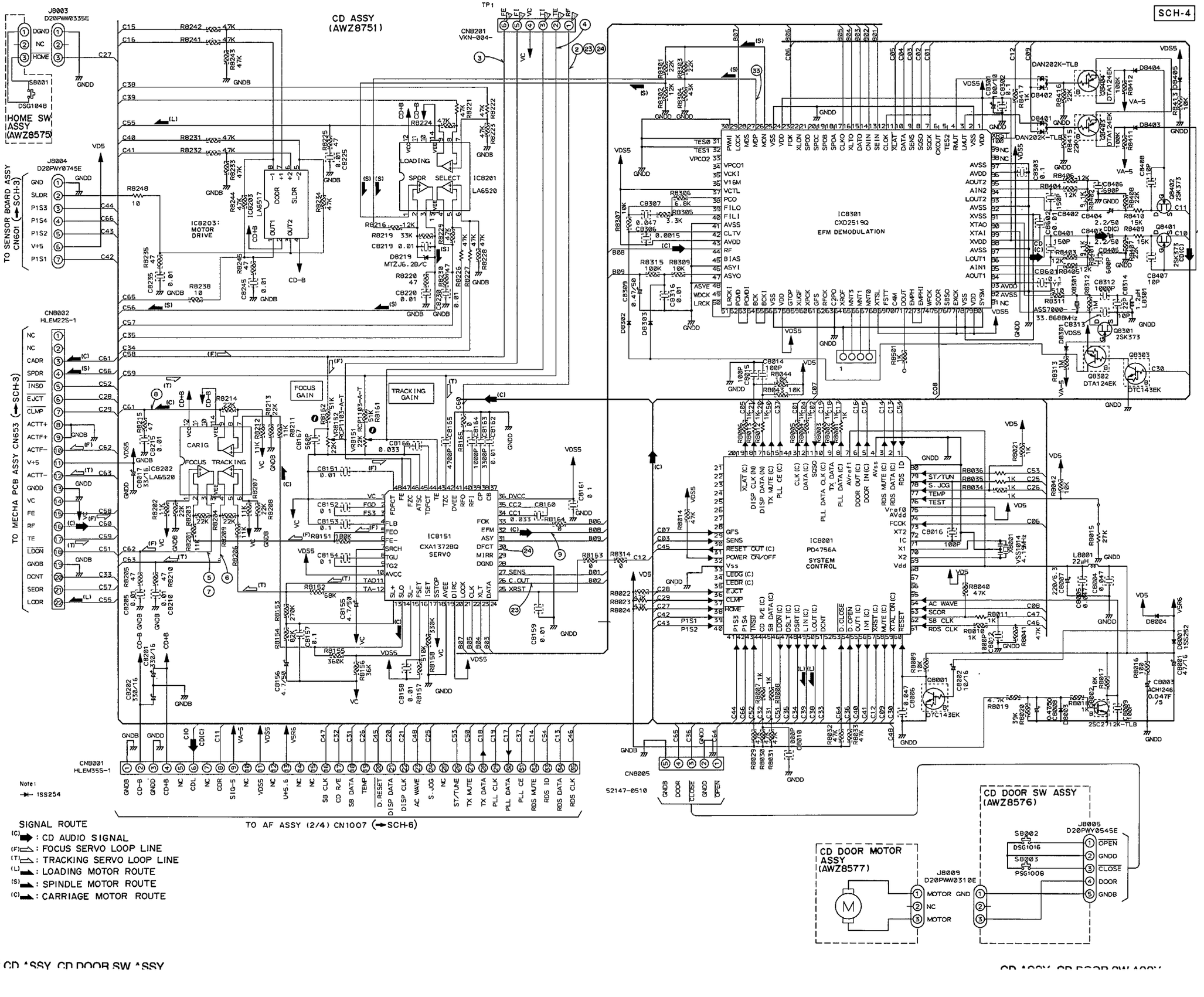
SCH-3

5.4 CD ASSY, CD DOOR SW ASSY, CD DOOR MOTOR ASSY AND HOME SW ASSY

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations. For further infromation for respective destinations, be sure to check with the schematic diagram.

PCB-3




SCH-4
CD ASSY
(AWZ8751)
HOME SW
ASSY
(AWZ8575)
IC8203:
MOTOR
DRIVE
LOADING
SPDR
SELECT
IC8201
LA6520
IC8301
CXD2519Q
EFM DEMODULATION
IC8151
CXA1372BQ
SERVO
IC8001
PD4756A
SYSTEM
CONTROL
FOCUS
GAIN
TRACKING
GAIN
CARIG
FOCUS
TRACKING
IC8202
LA6520
CD DOOR MOTOR
ASSY
(AWZ8577)
CD DOOR SW ASSY
(AWZ8576)
TO SENSOR BOARD ASSY
CN601 (←SCH-3)
TO MECHA PCB ASSY CN653 (←SCH-3)
TO AF ASSY (2/4) CN1007 (←SCH-6)
Note:
1SS254
SIGNAL ROUTE
(C) : CD AUDIO SIGNAL
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(L) : LOADING MOTOR ROUTE
(S) : SPINDLE MOTOR ROUTE
(C) : CARRIAGE MOTOR ROUTE

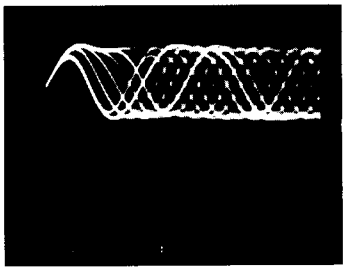
XR-P970F

WAVEFORMS

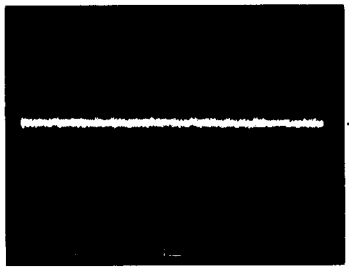
Note : The encircled numbers denote measuring points in the schematic diagram.

*1 FOCUS-IN : Press the key without loading a disc.

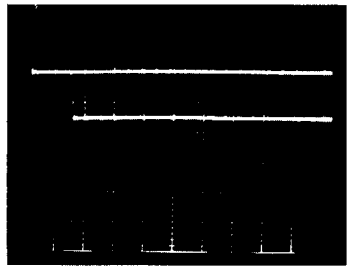
② TP1-Pin 1 : PLAY MODE
(RF)
500mV/div 500nsec/div



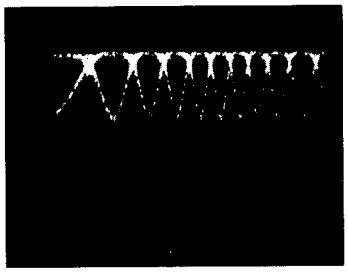
⑤ IC8202-Pin 3 : PLAY MODE
(FODR)
1V/div 1msec/div



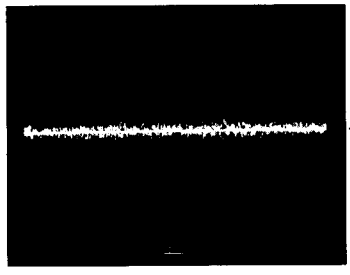
⑨ IC8151-Pin 32 : PLAY MODE
(EFM)
2V/div 500nsec/div



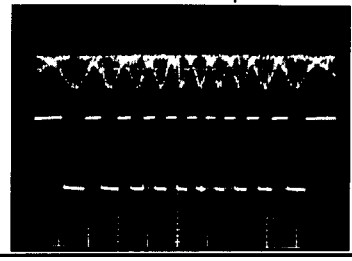
② TP1-Pin 1 : TRACK SEARCH MODE
(RF)
500mV/div 200µsec/div



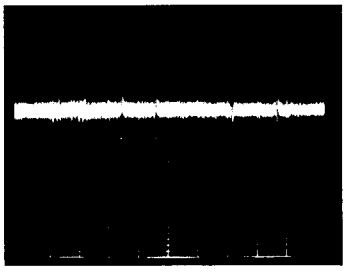
⑥ IC8202-Pin 4 : PLAY MODE
(TRDR)
500mV/div 1msec/div



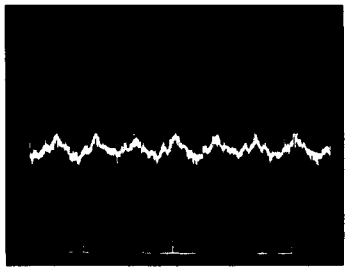
㉓ : TRACK SEARCH MODE
Upper : TP1-Pin 1 (RF) 1V/div
Lower : IC8151-Pin 26 (C.OUT)
2V/div 200µsec/div



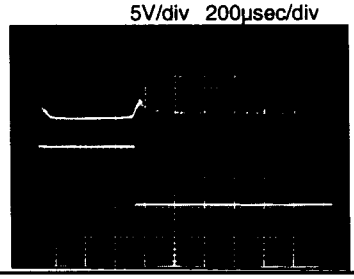
③ TP1-Pin 6 : PLAY MODE
(FOER)
100mV/div 10msec/div



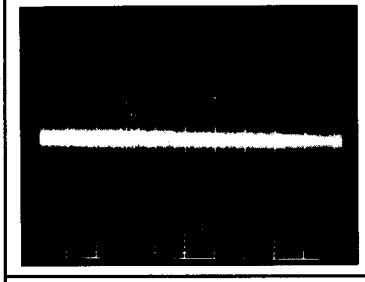
⑦ IC8202-Pin 3 : PLAY MODE
(SPDR)
1V/div 50msec/div



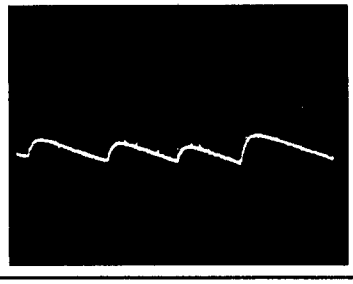
㉔ : PLAY MODE
Upper : TP1-Pin 1 (RF) 1V/div
Lower : IC8151-Pin 30 (DFCT)
5V/div 200µsec/div



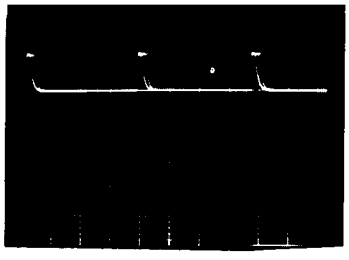
④ TP1-Pin 2 : PLAY MODE
(TRER)
1V/div 10msec/div



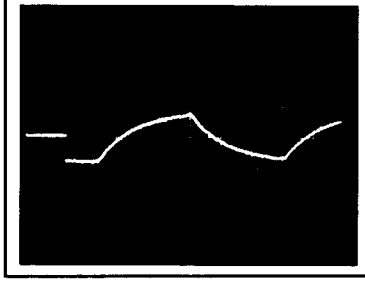
⑧ IC8202-Pin 9 : PLAY MODE
(CADR)
1V/div 2S/div



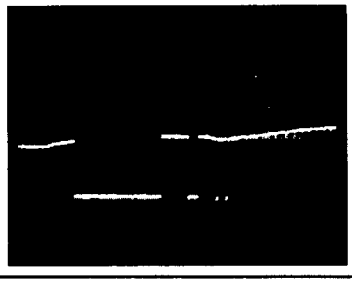
㉝ IC8301-Pin 26 : PLAY MODE
(MDP)
2V/div 2µsec/div



⑤ IC8202-Pin 3 : FOCUS-IN (*1) MODE
(FODR)
1V/div 200msec/div



⑧ IC8202-Pin 9 : TRACK SEARCH MODE
(CADR)
2V/div 200msec/div

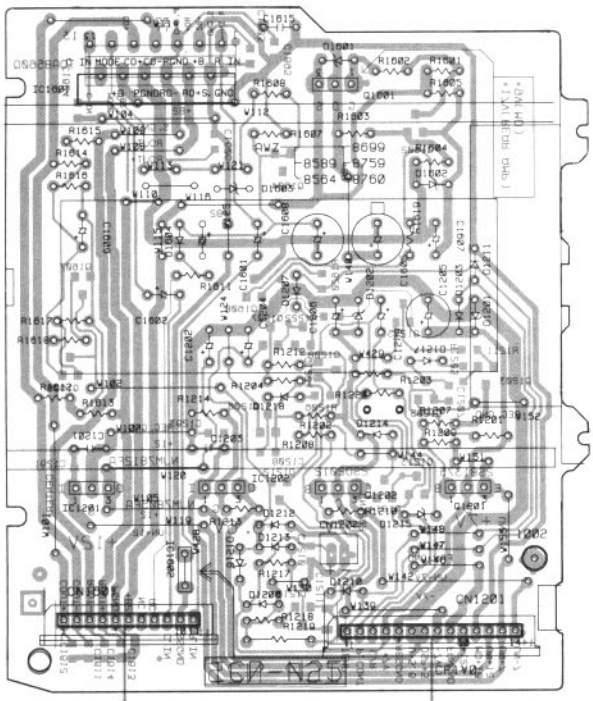


5.5 AF ASSY, REAR-AMP REG ASSY, FRONT AMP ASSY, HEADPHONE ASSY AND G.C ASSY

- This diagram is viewed from the mounted parts side.

PCB-4

REAR-AMP REG ASSY



IC1601 Q1601

IC1201 Q1202

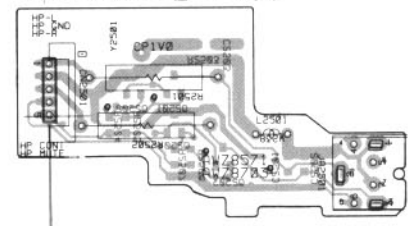
IC1202 Q1201

IC1602

TO AF ASSY J1004

TO AF ASSY J1003

HEADPHONE ASSY

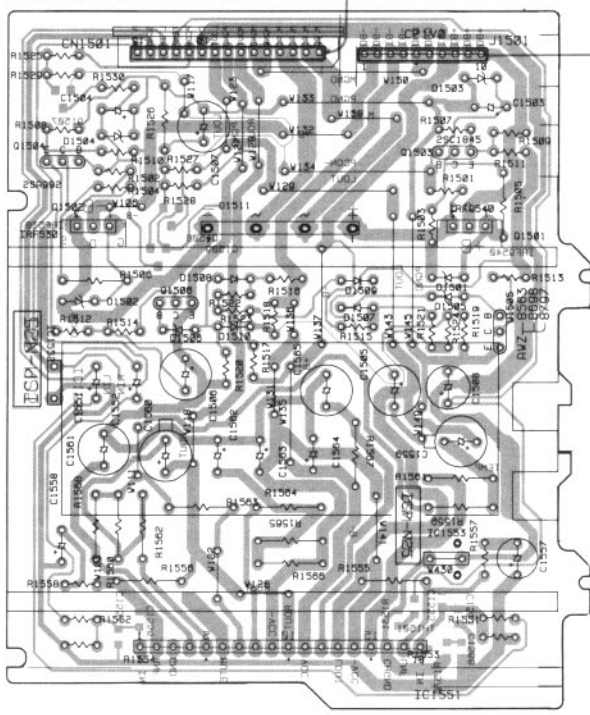


ANP7143-B

TO AF ASSY J1006

FRONT AMP ASSY

TO AF ASSY J1002



Q1504 Q1503

Q1502 Q1501

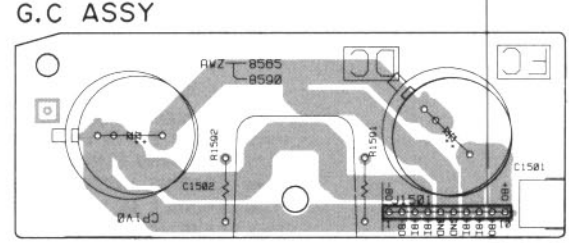
Q1506 Q1505

IC1552

IC1553

IC1551

G.C ASSY

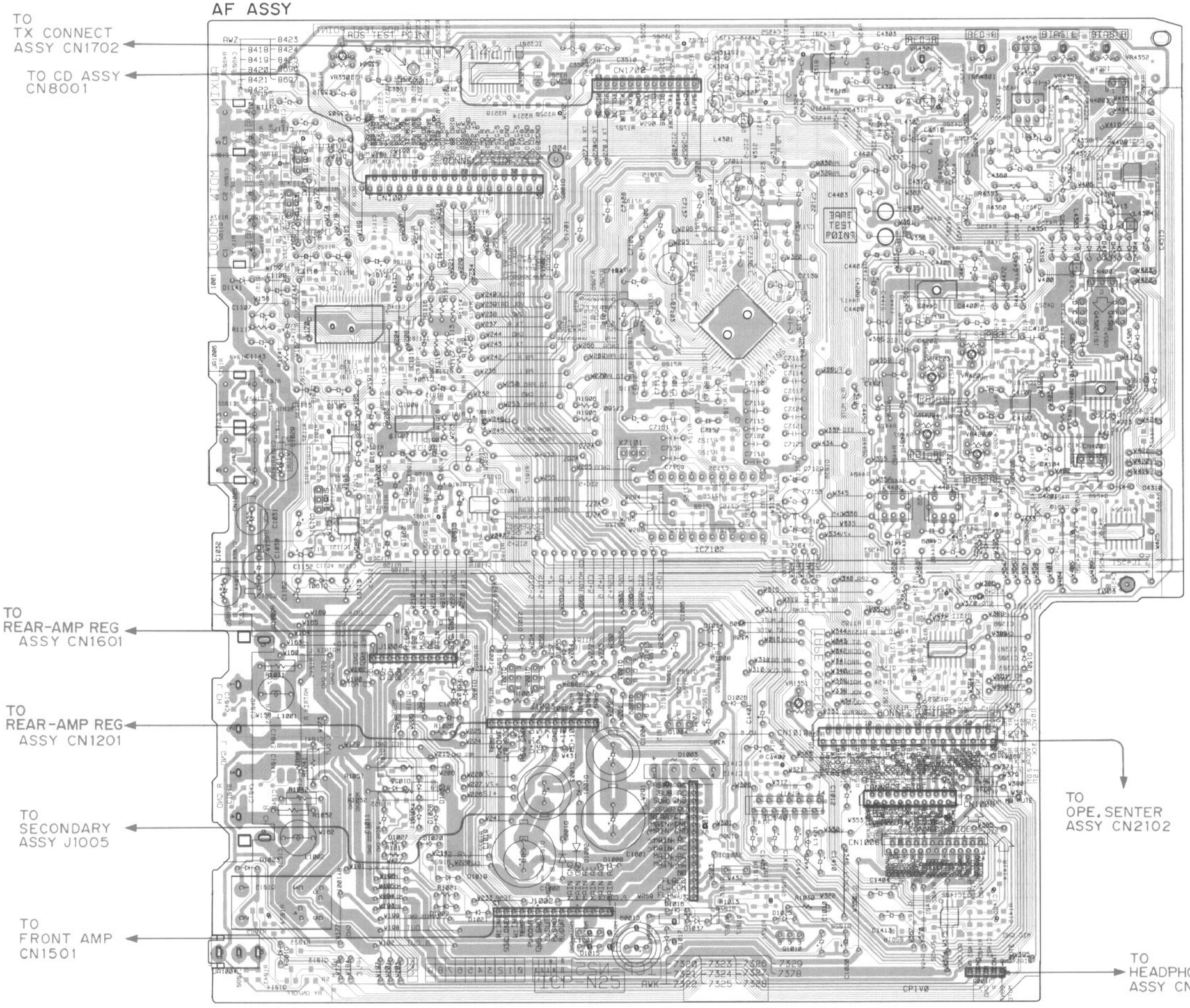


ANP7142-B

PCB-5

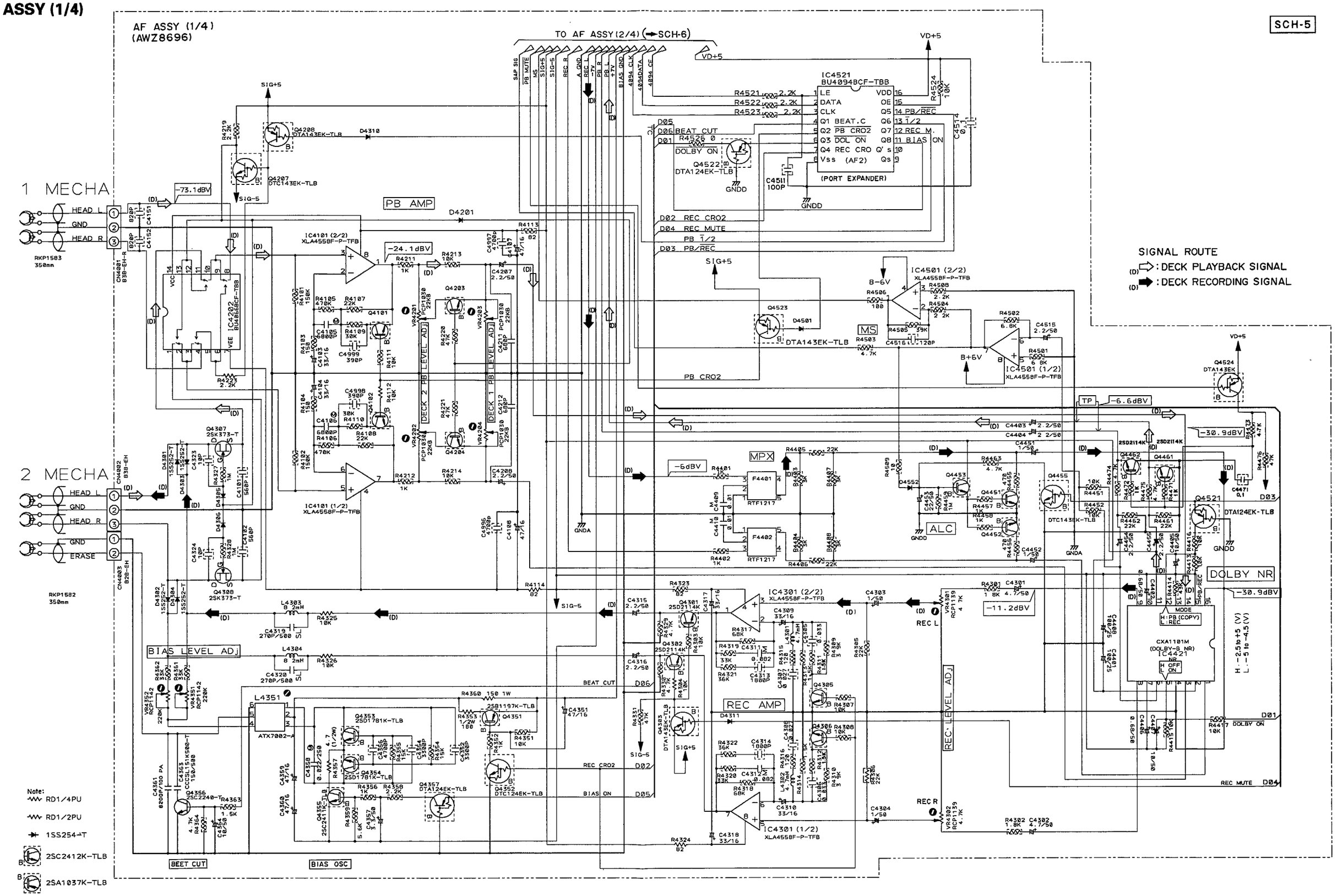
- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations. For further infromation for respective destinations, be sure to check with the schematic diagram.

AF ASSY



XR-P970F

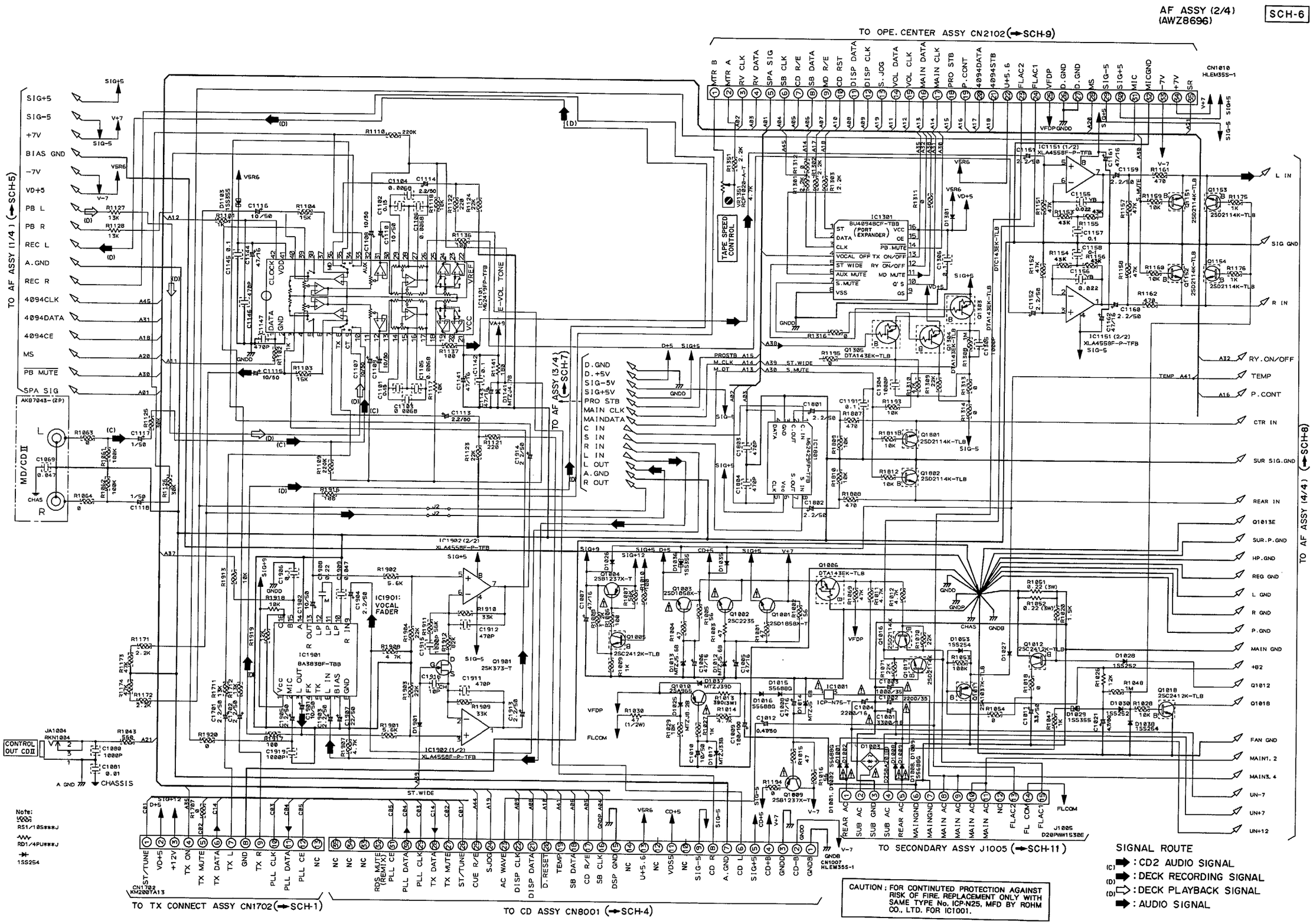
• AF ASSY (1/4)



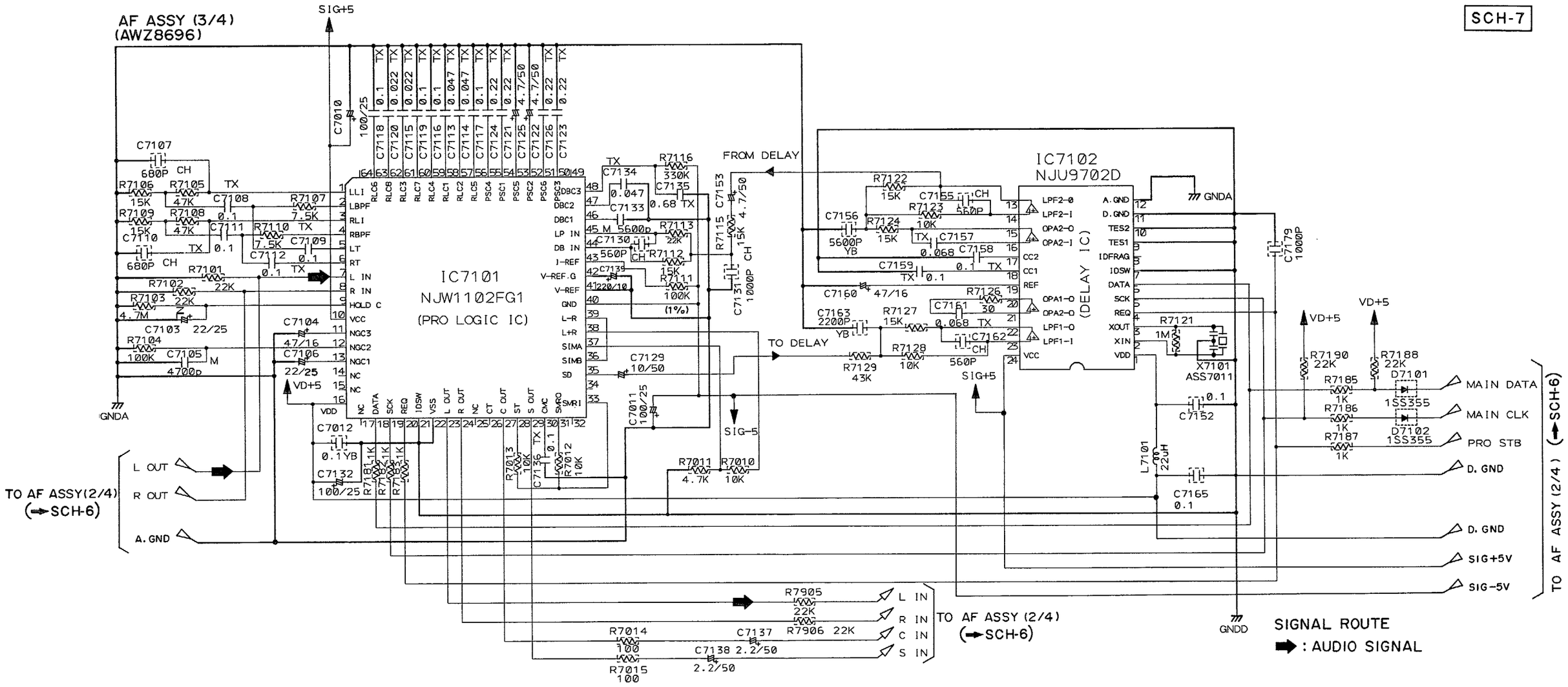
AF ASSY (1/4)

AF ASSY (2/4)
(AWZ8696)

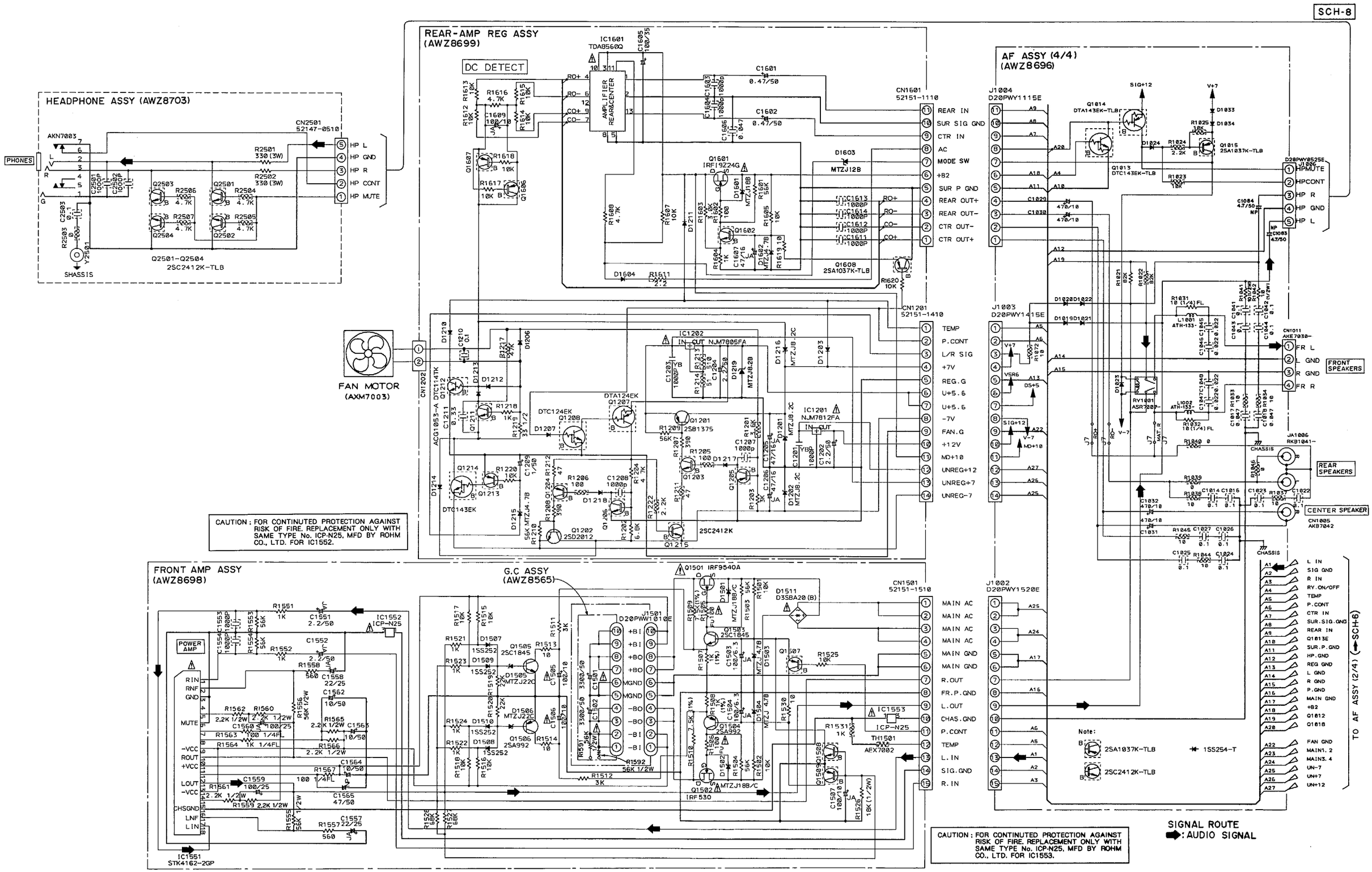
SCH-6



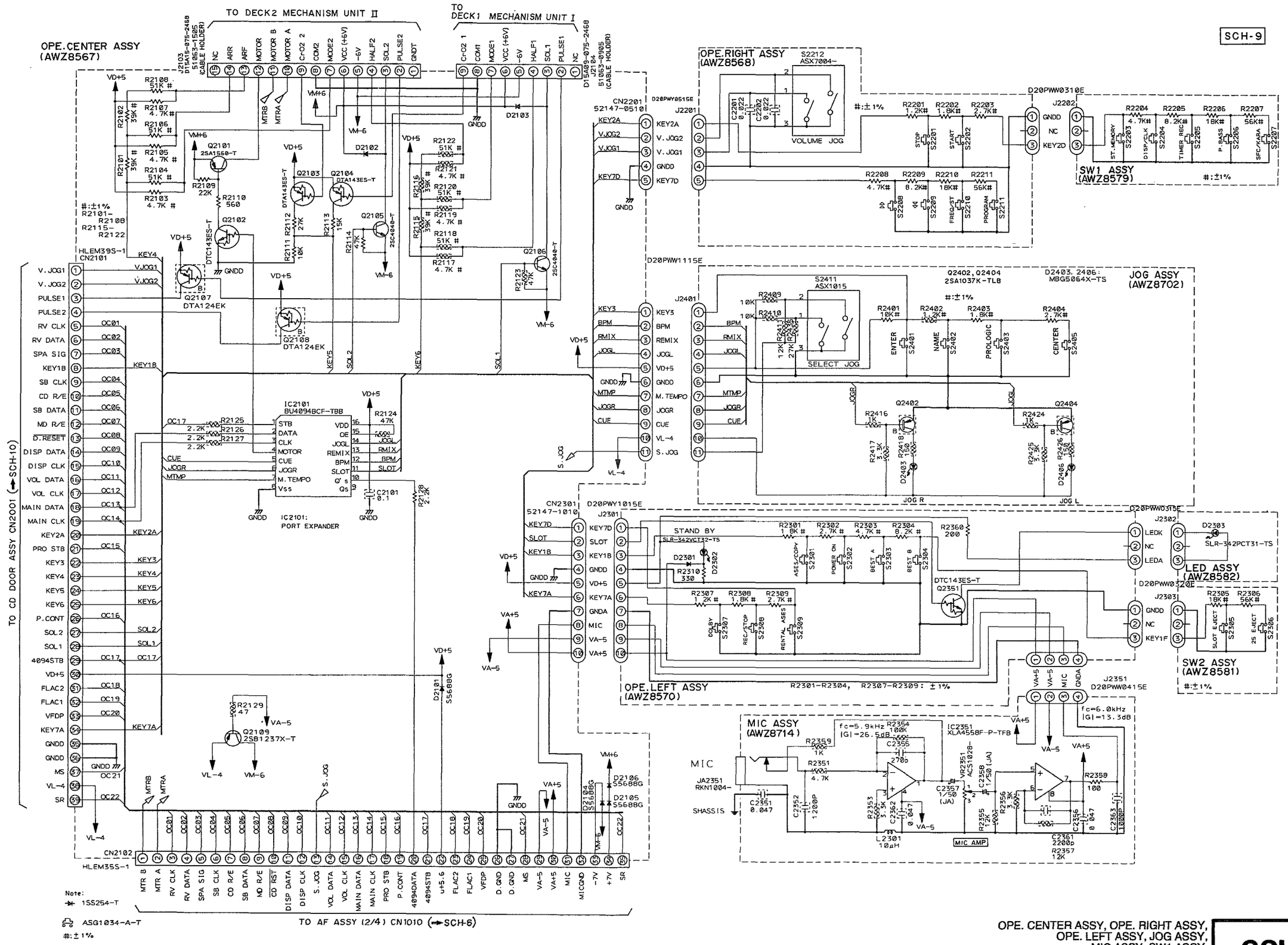
• AF ASSY (3/4)


AF ASSY (3/4)
(AWZ8696)
SCH-7
SIG+5
IC7101
NJW1102FG1
(PRO LOGIC IC)
IC7102
NJU9702D
(DELAY IC)
FROM DELAY
TO DELAY
SIG-5
SIG+5
VD+5
GNDA
GNDD
X7101
ASS7011
L OUT
R OUT
A. GND
TO AF ASSY(2/4)
(➡SCH-6)
MAIN DATA
MAIN CLK
PRO STB
D. GND
D. GND
SIG+5V
SIG-5V
TO AF ASSY (2/4) (➡SCH-6)
L IN
R IN
C IN
S IN
TO AF ASSY (2/4)
(➡SCH-6)
SIGNAL ROUTE
➡ : AUDIO SIGNAL

• AF ASSY (4/4), REAR-AMP REG ASSY, FRONT AMP ASSY, HEADPHONE ASSY AND G.C ASSY



5.6 OPE. CENTER ASSY, OPE. RIGHT ASSY, OPE. LEFT ASSY, JOG ASSY, MIC ASSY, SW1 ASSY, SW2 ASSY AND LED ASSY



CD DOOR ASSY (AWZ8700)

SCH-10

IC2001
PDG188B
CONTROL
μ-COM

V2001
AAV7028
(FL DISPLAY)

FL HOLDER
ANG7112

IC2002
BA3835F-TBB
(B.P.F)

X2001
EFOEC8004A4-T
8.00MHz

X2002
GP1U27X
REMOTE CONTROL RECEIVER

CN2001
HLEM39S-1

TO OPE. CENTER ASSY
CN2101 (→SCH-9)

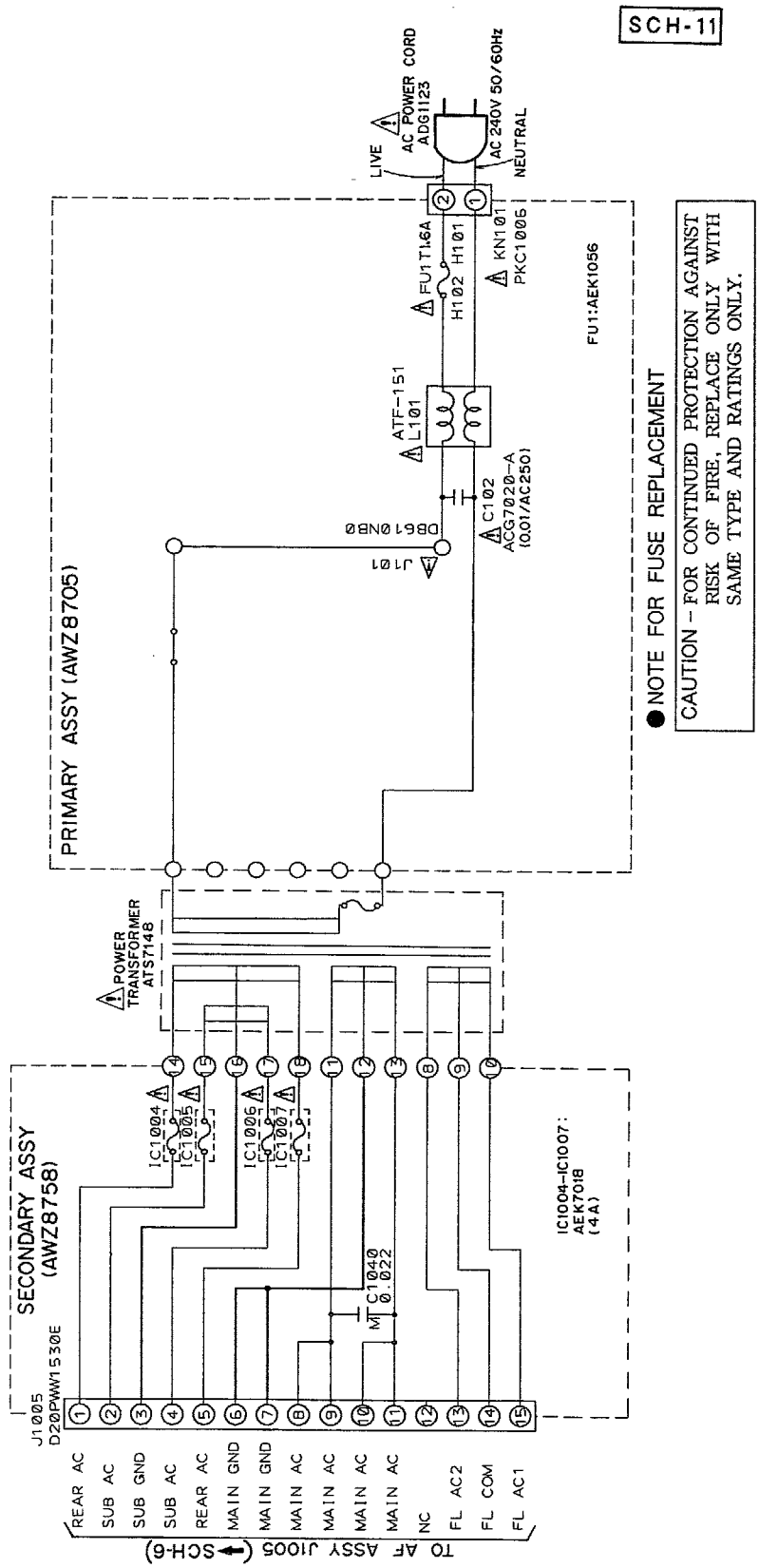
Note:
- B 2SA1037K-TLB
- ASG1034
- 1SS254-T

RESISTORS MARKED #: 1%

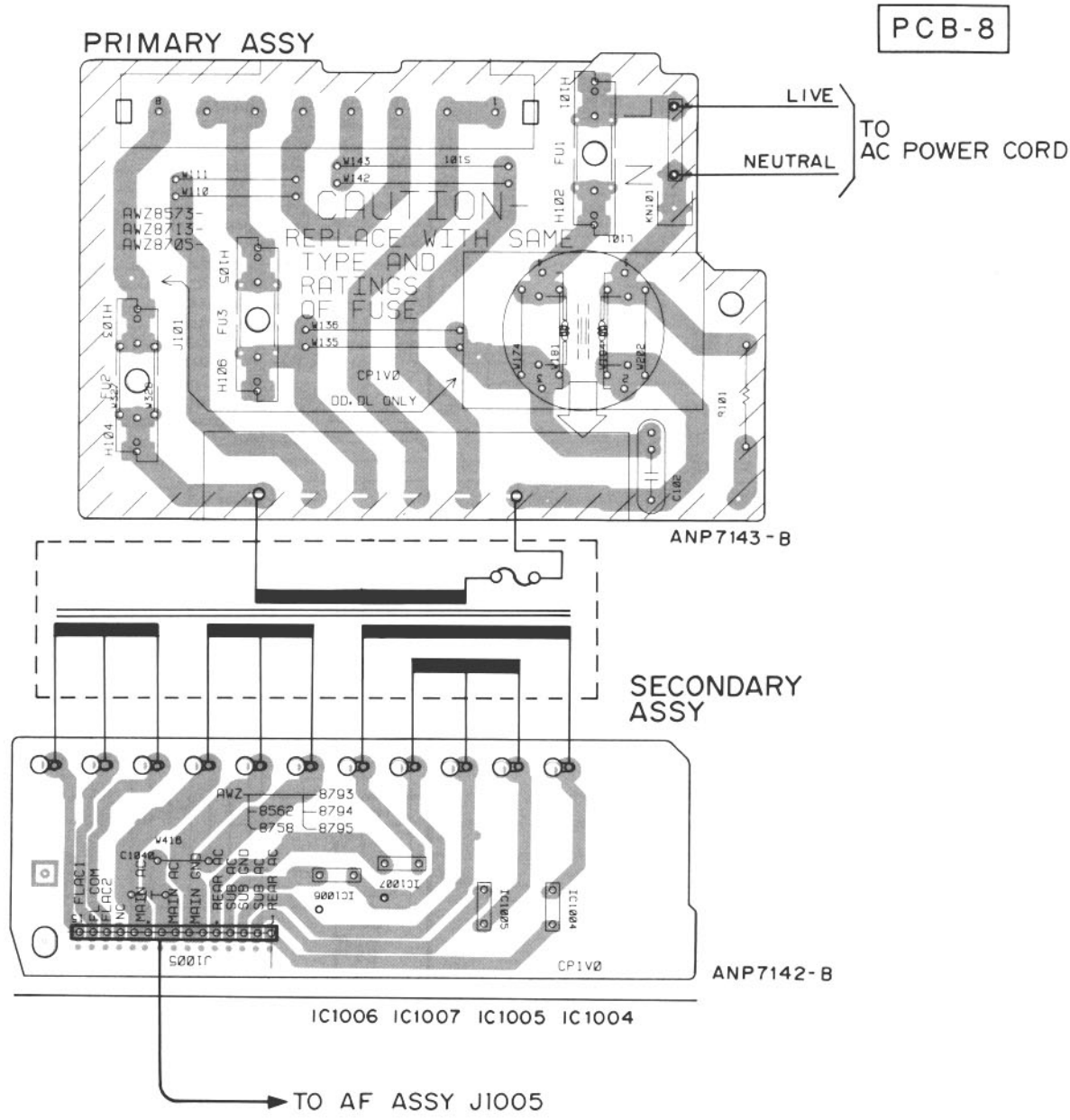
D2011~2015:MPG5064X-TS

CD DOOR ASSY

5.8 PRIMARY ASSY AND SECONDARY ASSY



- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations. For further infromation for respective destinations, be sure to check with the schematic diagram.



6. PCB 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.*
- *Parts marked by " ⊙ "are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *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
47 kΩ → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → 0R5 ..... RN2H 0 R 5 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).

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

LIST OF ASSEMBLIES

Mark	No.	Description	Parts No.
		FM/AM TUNER MODULE	AXQ7051
NSP		MAIN ASSY	AWK7326
		├ G. C ASSY	AWZ8565
		├ AF ASSY	AWZ8696
		├ FRONT AMP ASSY	AWZ8698
		├ REAR-AMP REG ASSY	AWZ8699
		└ SECONDARY ASSY	AWZ8758
NSP		COMPLEX ASSY	AWM7233
		├ OPE. CENTER ASSY	AWZ8567
		├ OPE. RIGHT ASSY	AWZ8568
		├ OPE. LEFT ASSY	AWZ8570
NSP		├ HOME SW ASSY	AWZ8575
NSP		├ CD DOOR SW ASSY	AWZ8576
NSP		├ CD DOOR MOTOR ASSY	AWZ8577
NSP		├ SW1 ASSY	AWZ8579
		├ SW2 ASSSY	AWZ8581
NSP		├ LED ASSY	AWZ8582
		├ TX CONNECT ASSY	AWZ8591
		├ CD DOOR ASSY	AWZ8700
		├ JOG ASSY	AWZ8702
		├ HEADPHONE ASSY	AWZ8703
		├ PRIMARY ASSY	AWZ8705
		├ MIC ASSY	AWZ8714
		└ CD ASSY	AWZ8751
NSP		GS MECHANISM ASSY	AXA7047
NSP		├ LO MECHNISM BOARD ASSY	AWX7035
NSP		│ ├ MECHA PCB ASSY	AWZ8802
NSP		│ ├ SENSOR PCB ASSY	AWZ7836
NSP		│ ├ MOTOR PCB ASSY	AWZ7837
NSP		│ └ SW PCB ASSY	AWZ7838
NSP		└ SERVO MECHANISM ASSY GM	AXA7028
		└ MECHANISM BOARD ASSY	PWX1192
NSP		GS SLOT-IN MECHANISM ASSY	AXA7044
NSP		└ SL MECHANISM ASSY	AWX7031
NSP		├ SENSOR BOARD ASSY	AWZ8560
NSP		├ LED BOARD ASSY	AWZ8561
NSP		└ MOTOR BOARD ASSY	AWZ8744

FM/AM TUNER MODULE

SEMICONDUCTORS

Mark	No.	Description	Parts No.
		IC6201	LA1832ML
		IC6202	LC72131MD
		Q6402	2SC2223
		Q6203	2SC2705
		Q6201, Q6202	2SC2712
		Q6214, Q6403	2SC2714
		Q6404	2SK302
		Q6401	3SK194
		Q6204	DTA124ES
		Q6205	DTC124EK
		D6202	1SS254
		D6401, D6402	1T363

COILS AND FILTERS

Mark	No.	Description	Parts No.
		L6404	ATC1003
		L6401	ATC1020
		L6402	ATC1021
		F6204	ATF-107
		F6203	ATF-119
		F6401	ATF-155
		F6206	ATF7008
		F6202 (455kHz)	ATF7011
		L6206, L6208, L6403	LAU2R2J

TRANSFORMERS

Mark	No.	Description	Parts No.
		T6201	ATB7008
		T6401	ATE7002

CAPACITORS

Mark	No.	Description	Parts No.
		C6407	CCSQCH010C50
		C6410	CCSQCH020C50
		C6401, C6419	CCSQCH050C50
		C6208	CCSQCH100D50
		C6212, C6274, C6275, C6408	CCSQCH101J50
		C6221, C6222, C6416	CCSQCH150J50
		C6271	CCSQCH200J50
		C6415	CCSQCH330J50
		C6414	CCSQPH080D50
		C6413	CCSQPH220J50

Mark	No.	Description	Parts No.
	C6405		CCSQTH180J50
	C6234, C6235		CEAL010M50
	C6245		CEAL470M16
	C6231		CEAS010M50
	C6224		CEAS100M50
	C6243		CEAS101M16
	C6227		CEAS220M16
	C6236		CEAS2R2M50
	C6216		CEAS330M16
	C6262		CEAS3R3M50
	C6219		CEAS470M10
	C6244		CEAS470M16
	C6249, C6250, C6265, C6266		CEAS4R7M50
	C6258		CEJA470M16
	C6215		CFTXA103J50
	C6214		CFTXA224J50
	C6211, C6254, C6403, C6406, C6412		CKSQYB102K50
	C6201, C6205, C6210, C6213, C6237		CKSQYB103K50
	C6276, C6278, C6280, C6281, C6402		CKSQYB103K50
	C6409, C6417, C6418		CKSQYB103K50
	C6251, C6252		CKSQYB153K50
	C6203, C6259		CKSQYB223K50
	C6228		CKSQYB472K50
	C6209		CKSQYB473K50
	C6230		CKSQYB821K50
	C6218, C6223, C6255		CKSQYF103Z50
	C6220, C6226, C6242, C6256		CKSQYF223Z50
	C6225		CKSQYF473Z50

RESISTORS

	R6280		RD1/4PU101J
	R6413, R6416, R6418, R6906, R6909		RS1/8S000J
	R6401		RS1/8S470J
	VR6201 (10kΩ)		RCP1045
	Other Resistors		RS1/10S□□□J

OTHERS

	BN6202	TERMINAL 4-P	AKE7028
	X6202	CRYSTAL RESONATOR (456kHz)	ASS1066
	X6201	CRYSTAL RESONATOR (7.2MHz)	ASS1093
		AM RF TUNING BLOCK	AXX7041
	CN6201	14P SOCKET	KP200IA14L

G. C ASSY

CAPACITORS

⚠	C1501, C1502 (3300μF/50V)	ACH7056

RESISTORS

	R1591, R1592	RD1/2PM563J

AF ASSY

SEMICONDUCTORS

	IC1901	BA3838F
	IC4202	BU4066BCF
	IC1301, IC4521	BU4094BCF
	IC4421	CXA1101M
⚠	IC1001	ICP-N75
	IC1101	M62419FP
	IC1801	M62429FP
	IC7102	NJU9702D
	IC7101	NJW1102FG1
	IC1151, IC1902, IC4101, IC4301, IC4501	XLA4558F-P
	Q1011, Q1015	2SA1037K
⚠	Q1010	2SA965
	Q4351	2SB1197K
⚠	Q1004, Q1009	2SB1237X
⚠	Q1002	2SC2235
	Q4356	2SC2240
	Q4355	2SC2411K
	Q1005, Q1012, Q1018, Q4101, Q4102	2SC2412K
	Q4203, Q4204, Q4305, Q4306	2SC2412K
	Q4451 -Q4453	2SC2412K
	Q4353, Q4354	2SD1781K
⚠	Q1001, Q1003	2SD1858X
	Q1016, Q1017, Q1151 -Q1154	2SD2114K
	Q1801, Q1802, Q4301, Q4302, Q4461, Q4462	2SD2114K
	Q1901, Q4307, Q4308	2SK373
	Q4357, Q4521, Q4522	DTA124EK
	Q1006, Q1014, Q1303 -Q1305, Q4208	DTA143EK
	Q4303, Q4523, Q4524	DTA143EK
	Q4352	DTC124EK
	Q1013, Q4207, Q4455	DTC143EK
	D1028, D1030, D4301 -D4304	1SS252
	D1019, D1024, D1026, D1027	1SS254
	D1033, D1034, D1035, D1038, D1053	1SS254
	D1301, D1901, D4201, D4305, D4306	1SS254
	D4310, D4311, D4501, D4552	1SS254
	D1029, D1036, D1103, D7101, D7102	1SS355
	D1003	D2SBA20
	D1017	MTZJ33B
	D1037	MTZJ39D
	D1141	MTZJ4.7B
	D1012 -D1014	MTZJ5.6B
	D1025	MTZJ8.2B
⚠	D1001, D1002, D1008, D1009	S5688G
	D1015, D1016	S5688G

COILS AND FILTERS

	L1001, L1002 (1μH)	ATH-133
	L4351	ATX7002
	L7101	LAU220J
	L4301, L4302	LTA472J
	L4303, L4304	LTA822J
	F4401, F4402	RTF1217

SWITCHES AND RELAYS

	RY1001	ASR7007

CAPACITORS

	C4363	CCCSL151K500
	C4319, C4320	CCCSL271K500
	C1916, C4323, C4324	CCSQCH100D50
	C7131	CCSQCH102J50
	C4516	CCSQCH121J50

Mark	No.	Description	Parts No.
	C4998, C4999		CCSQCH391J50
	C4101, C4102, C7130, C7155, C7162		CCSQCH561J50
	C4211, C4212, C7107, C7110		CCSQCH681J50
	C4151, C4152		CCSQCH821J50
	C7103		CEANL220M25
	C1083, C1084		CEANP4R7M50
	C1117, C1118, C4303, C4304		CEAS010M50
	C4451, C4452		CEAS010M50
	C1107, C1108, C1109, C1110		CEAS100M50
	C1010, C1020, C4364		CEAS100M50
	C4405, C4407, C7129, C1115, C1116		CEAS100M50
	C1901, C1902		CEAS100M50
	C1009		CEAS101M100
	C4401, C4408, C7010, C7011, C7132		CEAS101M25
⚠	C1003		CEAS102M35
	C1907, C4453		CEAS220M50
	C7139		CEAS221M10
⚠	C1004		CEAS222M16
⚠	C1002		CEAS222M35
	C1151, C1152		CEAS2R2M50
	C1159, C1160, C1701, C1702		CEAS2R2M50
	C1801, C1802, C1903 -C1905		CEAS2R2M50
	C1913, C1914, C4207, C4208		CEAS2R2M50
	C4315, C4316, C4403, C4404		CEAS2R2M50
	C4454, C4455, C4515, C7137, C7138		CEAS2R2M50
	C4103, C4104, C4309, C4310		CEAS330M16
	C4317, C4318		CEAS330M16
⚠	C1001		CEAS332M16
	C1011, C4357		CEAS3R3M50
	C1005 -C1008, C1141, C1143, C1144		CEAS470M16
	C1161, C1162, C4107, C4108, C4351		CEAS470M16
	C4359, C4360, C7104, C7160		CEAS470M16
	C1029 -C1032		CEAS471M10
	C1012, C1021, C4301, C4302, C7122		CEAS4R7M50
	C7125, C7153		CEAS4R7M50
	C4402, C4406		CEASR68M50
	C7106		CEJA220M25
	C1113, C1114		CEJA2R2M50
	C7108, C7109, C7111, C7112		CFTXA104J50
	C7116 -C7119, C7136, C7158, C7159		CFTXA104J50
	C7115, C7120		CFTXA223J50
	C1908, C7121, C7123, C7124, C7126		CFTXA224J50
	C7113, C7114, C7134		CFTXA473J50
	C4511		CKSQCH101J50
	C7157, C7161		CFTXA683J50
	C7135		CFTXA684J50
	C1080, C1304, C1305, C1915, C1919		CKSQYB102K50
	C7179		CKSQYB102K50
	C1081		CKSQYB103K50
	C1014, C1016, C1022 -C1027, C7012		CKSQYB104K25
	C1157, C1158, C7165		CKSQYB104K25
	C4313, C4314		CKSQYB182K50
	C7163		CKSQYB222K50
	C1045 -C1048, C1155, C1156		CKSQYB223K50
	C1101, C1102		CKSQYB154K
	C4307, C4308		CKSQYB273K50

Mark	No.	Description	Parts No.
	C4352, C4354		CKSQYB332K50
	C4305, C4306		CKSQYB333K50
	C1146, C1147, C1803, C1804		CKSQYB471K50
	C1911, C1912		CKSQYB471K50
	C4356, C4996, C4997		CKSQYB472K50
	C1017, C1018, C1069		CKSQYB473K50
	C1909		CKSQYB473K50
	C7156		CKSQYB562K50
	C1103 -C1106		CKSQYB682K50
	C1041 -C1044, C1142, C1145, C1191		CKSQYF104Z50
	C1306, C1906, , C4471, C4514, C7152		CKSQYF104Z50
	C4409, C4410		CQMA103J50
	C4358		CQMA223K250
	C7105		CQMA472J50
	C7133		CQMA562J50
	C4105, C4106		CQMA682J50
	C4311, C4312		CQMA823J50
	C4361		CQPA822J100

RESISTORS

	R1041, R1042	RD1/2PM100J
	R4353	RD1/2PM181J
	R1030	RD1/2PM470J
	R4357	RD1/2PM4R7J
	R1031, R1032	RD1/4PMFL100J
	R1117, R1918, R4112, R4304, R4325, R4326	RD1/4PU103J
	R4471, R4472	RD1/4PU102J
	R1026	RD1/4PU123J
	R1127, R1128	RD1/4PU133J
	R1141	RD1/4PU181J
	R4223	RD1/4PU222J
	R1003	RD1/4PU470J
	R4114, R4324	RD1/4PU820J
	R7111	RS1/10S104F
	R4360	RS1LMF151J
	R1013	RS3LMF391J
	R1051, R1052	RS3LMFR22J
	VR4201-VR4204 (22kΩ)	PCP1030
	VR1351 (4.7kΩ)	RCP1020
	VR4301,VR4302 (4.7kΩ)	RCP1139
	VR4351,VR4352 (220kΩ)	RCP1142
	Other Resistors	RS1/10S□□□J

OTHERS

	CN1005	PIN JACK 1-P	AKB7042
	JA1001	2P PIN-JACK	AKB7043
	CN1011	SPEAKER TERMINAL 4-P	AKE7030
	CN4003	2P TOP POST	B2B-EH
	CN4002	3P TOP POST	B3B-EH
	CN4001	3P TOP POST (RED)	B3B-EH-R
	CN1007,CN1010	35P CONNECTOR	HLEM35S-1
	CN1702	13P PLUG	KM200TA13
	JA1006	2P PIN-JACK	RKB1041
	JA1004	JACK	RKN1004
		PCB BINDER	VEF1008
	X7101	CERAMIC RESONATOR (2.00MHz)	ASS7011

Mark	No.	Description	Parts No.

FRONT AMP ASSY

SEMICONDUCTORS

⚠	IC1552, IC1553		ICP-N25
⚠	IC1551		STK4162-2GP
	Q1507, Q1509		2SA1037K
	Q1504, Q1506		2SA992
	Q1503, Q1505		2SC1845
	Q1508		2SC2412K
⚠	Q1502		IRF530
⚠	Q1501		IRF9540A
	D1507 -D1510		1SS252
⚠	D1511		D3SBA20
	D1501, D1502		MTZJ18B
	D1505, D1506		MTZJ22C
	D1503, D1504		MTZJ4.7B

CAPACITORS

	C1565		CEANP470M50
	C1562 -C1564		CEAS100M50
	C1559, C1560		CEAS101M25
⚠	C1505, C1506		CEJA101M10
	C1507		CEJA101M10
	C1503, C1504		CEJA101M6R3
	C1557, C1558		CEJA220M25
	C1551, C1552		CEJA2R2M50
	C1553, C1554		CKSQYB102K50

RESISTORS

	R1526		RD1/2PM183J
	R1559 -R1562, R1565, R1566		RD1/2PM222J
	R1555, R1556		RD1/2PM563J
	R1563, R1567		RD1/4PMFL101J
	R1564		RD1/4PMFL102J
⚠	R1505, R1506		RFA1/4PS101J
	R1507, R1508		RN1/6PQ1001F
	R1509, R1510		RN1/6PQ7501F
	R1205, R1206		RS1/10S101J
	R1531		RS1/10S102J
	R1222		RS1/10S222J
	R1211		RS1/10S470J
	Other Resistors		RD1/4PU□□□J

OTHER

	TH1501	THERMISTOR	AEX7002

REAR-AMP REG ASSY

SEMICONDUCTORS

⚠	IC1202		NJM7805FA
⚠	IC1201		NJM7812FA
	IC1601		TDA8560Q
	Q1204, Q1205, Q1213, Q1606 -Q1608		2SA1037K
	Q1201		2SB1375
	Q1203, Q1206, Q1211, Q1215, Q1602		2SC2412K
	Q1202		2SD2012
	Q1207		DTA124EK
	Q1212		DTC114TK
	Q1208		DTC124EK
	Q1214		DTC143EK
⚠	Q1601		IRFI9Z24G
	D1203, D1206, D1207, D1210 -D1214		1SS254
	D1217, D1218, D1604		1SS254
	D1601		MTZJ18B
	D1603		MTZJ12B
	D1215, D1602		MTZJ4.7B
	D1219		MTZ8.2B
	D1201, D1202, D1216		MTZJ8.2C

CAPACITORS

	C1211 (0.33μF/50V)		ACG1053
	C1209		CEAS010M50
	C1605		CEAS101M35
	C1202, C1204		CEAS2R2M50
	C1206		CEAS470M16
	C1601, C1602		CEASR47M50
	C1609		CEJA101M10
	C1205, C1607		CEJA470M16
	C1201, C1203		CKPUYB102K50
	C1207, C1208, C1603, C1604		CKSQYB102K50
	C1611 -C1614		CKSQYB102K50
	C1606		CKSQYB473K50
	C1210		CKSQYF104Z50
	C1040		CQMA223K250

RESISTORS

	R1219		RD1/2PM330J
	R1620		RS1/10S103J
	Other Resistors		RD1/4PU□□□J

OTHERS

	PCB BINDER		VEF1008

SECONDARY ASSY

OTHERS

⚠	IC1004-IC1007	IC PROTECTOR (4A)	AEK7018

OPE. CENTER ASSY

SEMICONDUCTORS

	IC2101		BU4094BCF
	Q2101		2SA1560
	Q2109		2SB1237X
	Q2105, Q2106		2SC4040
	Q2107, Q2108		DTA124EK
	Q2103, Q2104		DTA143ES
	Q2102		DTC143ES
	D2102, D2103		1SS254
	D2101, D2104 -D2106		S5688G

CAPACITORS

	C2101	CKSQYF104Z50	

RESISTORS

	R2101, R2102		RN1/6PQ3902F
	R2103, R2105, R2107		RN1/6PQ4701F
	R2104, R2106, R2108		RN1/6PQ5102F
	R2125 -R2127		RS1/10S222J
	R2115, R2116		RS1/10S393F

Mark	No.	Description	Parts No.
	R2129		RS1/10S470J
	R2117, R2119, R2121		RS1/10S472F
	R2123, R2124		RS1/10S473J
	R2118, R2120, R2122		RS1/10S513F
	Other Resistors		RD1/4PU□□□J
OTHERS			
		CABLE HODLER (15P)	51063-0905
		CABLE HOLDER (9P)	51063-1505
	CN2201	5P JUMPER CONNECTOR	52147-0510
	CN2301	10P JUMPER CONNECTOR	52147-1010
	J2104	JUMPER WIRE	D15A09-075-2468
	CN2102	35P CONNECTOR	HLEM35S-1
	CN2101	39P CONNECTOR	HLEM39S-1

OPE. RIGHT ASSY

SWITCHES AND RELAYS

S2201, S2202, S2208 -S2211		ASG1034
S2212		ASX7004

CAPACITORS

C2201, C2202	CKSQYB223K50

RESISTORS

R2201	RN1/6PQ1201F
R2202	RN1/6PQ1801F
R2210	RN1/6PQ1802F
R2203	RN1/6PQ2701F
R2208	RN1/6PQ4701F
R2211	RN1/6PQ5602F
R2209	RN1/6PQ8201F

OPE. LEFT ASSY

SEMICONDUCTORS

Q2351	DTC143EK
D2301	1SS254
D2302 (RED)	SLR-342VCT32

SWITCHES AND RELAYS

S2301 -S2304, S2307 -S2309	ASG1034

RESISTORS

R2307	RN1/6PQ1201F
R2301, R2308	RN1/6PQ1801F
R2302, R2309	RN1/6PQ2701F
R2303	RN1/6PQ4701F
R2304	RN1/6PQ8201F
Other Resistors	RD1/4PU□□□J

HOME SW ASSY

SWITCHES AND RELAYS

S8001	DSG1048

CD DOOR SW ASSY

SWITCHES AND RELAYS

S8002	DSG1016
S8003	PSG1008

Mark	No.	Description	Parts No.

CD DOOR MOTOR ASSY

OTHERS

	J8009	3P JUMPER WIRE	D20PWW0310E

SW 1 ASSY

SWITCHES AND RELAYS

S2203 -S2207	ASG1034

RESISTORS

R2206	RN1/6PQ1802F
R2204	RN1/6PQ4701F
R2207	RN1/6PQ5602F
R2205	RN1/6PQ8201F

OTHERS

	J2202	3P JUMPER WIRE	D20PWW0310E

SW 2 ASSY

SWITCHES AND RELAYS

S2305, S2306	ASG1034

RESISTORS

R2305	RN1/6PQ1802F
R2306	RN1/6PQ5602F

LED ASSY

SEMICONDUCTORS

D2303 (GREEN)	SLR-342PCT31

OTHERS

	J2302	3P JUMPER WIRE	D20PWW0315E

TX CONNECT ASSY

SEMICONDUCTORS

Q1701	2SB1197K
Q1702	DTC143EK
D1701	1SS254

RESISTORS

Other Resistors	RS1/10S□□□J

OTHERS

	CN1703	14P PLUG	KM200IB14
	CN1702	13P SOCKET	KP200TA13L

CD DOOR ASSY

SEMICONDUCTORS

IC2002	BA3835F
IC2001	PDG188B
Q2004 -Q2008	2SA1037K
Q2001	2SC2458
Q2002	DTA143EK
Q2003	DTC143EK
D2002 -D2006, D2016 -D2019	1SS254
D2011 -D2015	MPG5064X
D2007	MTZJ5.1B

Mark	No.	Description	Parts No.
COILS AND FILTERS			
	L2001		LAU220J
SWITCHES AND RELAYS			
	S2101 -S2109		ASG1034
CAPACITORS			
	C2015, C2016		CEJA010M50
	C2004		CEJA221M10
	C2001		CEJA470M10
	C2005, C2006		CEJAR47M50
	C2007, C2017 -C2020		CKSQYB102K50
	C2008 -C2011		CKSQYB104K25
	C2002, C2003		CKSQYB473K50
	C2012		CKSQYF104Z50
	C2014, C2022		CKSQYF105Z16
RESISTORS			
	R2038		RA10T473J
	R2039, R2040		RA15T473J
	R2016, R2017		RN1/6PQ1002F
	R2099		RS1/10S000J
	R2006 -R2008, R2010, R2021		RS1/10S102J
	R2059, R2060, R2066 -R2069, R2073		RS1/10S102J
	R2014		RS1/10S103F
	R2009, R2011 -R2013, R2072		RS1/10S103J
	R2005		RS1/10S104J
	R2015		RS1/10S122F
	R2081		RS1/10S152J
	R2080		RS1/10S183J
	R2064, R2065, R2070, R2071		RS1/10S222J
	R2019, R2041, R2042, R2049, R2050		RS1/10S223J
	R2004	RS1/10S472J	
	R2020, R2045 -R2048		RS1/10S473J
	Other Resistors		RD1/4PU□□□J
OTHERS			
	V2001	FL TUBE	AAV7028
	X2001	CERAMIC RESONATOR (8MHz)	EFOEC8004A4
		FL HOLDER	ANG7112
		REMOTE RECEIVER UNIT	GP1U27X
	CN2001	39P CONNECTOR	HLEM39S-1

JOG ASSY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	Q2402, Q2404		2SA1037K
	D2403, D2406 (GREEN)		MBG5064X
SWITCHES AND RELAYS			
	S2401 -S2403, S2405		ASG1034
	S2411		ASX1015
RESISTORS			
	R2401		RN1/6PQ1002F
	R2403		RN1/6PQ1801F
	R2404		RN1/6PQ2701F
	R2402	RS1/10S122F	
	Other Resistors		RS1/10S□□□J

HEADPHONE ASSY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	Q2501 -Q2504		2SC2412K
CAPACITORS			
	C2501, C2502		CKSQYB102K50
	C2503		CKSQYF104Z50
RESISTORS			
	R2501, R2502		RS3LMF331J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN2501	5P JUMPER CONNECTOR	52147-0510
		JACK	AKN7003

PRIMARY ASSY

Mark	No.	Description	Parts No.
COILS AND FILTERS			
⚠	L101		ATF-151
CAPACITORS			
⚠	C102 (0.01μF/AC250V)		ACG7020
OTHERS			
	H101,.H102	FUSE CLIP	AKR1003

MIC ASSY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC2351		XLA4558F-P
COILS AND FILTERS			
	L2301		LAU100J
CAPACITORS			
	C2355		CCSQCH271J50
	C2357, C2358		CEJA010M50
	C2363		CKSQYB102K50
	C2352		CKSQYB122K50
	C2361		CKSQYB222K50
	C2351		CKSQYB473K50
	C2356, C2362		CKSQYF473Z50
RESISTORS			
	R2358	RD1/4PU101J	
	VR2351 (10kΩ–B)		ACS1028
	Other Resistors		RS1/10S□□□J
OTHERS			
	JA2351	JACK	RKN1004

CD ASSY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC8151		CXA1372BQ
	IC8301		CXD2519Q
	IC8203		LA6517
	IC8201,IC8202		LA6520
	IC8001		PD4756A
	Q8002		2SC2712
	Q8301, Q8401, Q8402		2SK373
	Q8302, Q8403, Q8404		DTA124EK
	Q8001 ,Q8303		DTC143EK
	D8001		1SS252
	D8003, D8004, D8301 -D8303		1SS254
	D8403 -D8405		1SS254

Mark	No.	Description	Parts No.
	D8401, D8402		DAN202K
	D8219		MTZJ6.2B/C
COILS AND FILTERS			
	L8301		LAU1R2J
	L8001		LAU220J
CAPACITORS			
	C8003 (0.047F/5V)		ACH1246
	C8313, C8407, C8408		CCSQCH100D50
	C8009, C8014 -C8016		CCSQCH101J50
	C8401, C8402		CCSQCH151J50
	C8314		CCSQCH220J50
	C8167		CCSQCH561J50
	C8002		CEAS100M16
	C8301		CEAS101M10
	C8007		CEAS221M6R3
	C8403, C8404		CEAS2R2M50
	C8017		CEAS330M16
	C8201, C8202		CEAS331M16
	C8001		CEAS470M16
	C8155, C8156		CEAS4R7M50
	C8008, C8309		CEASR47M50
	C8010, C8012, C8164, C8312		CKSQYB102K50
	C8151, C8158, C8162, C8316, C8602		CKSQYB103K50
	C8306		CKSQYB152K50
	C8163		CKSQYB332K50
	C8160, C8166		CKSQYB333K50
	C8165		CKSQYB472K50
	C8004 -C8006, C8307		CKSQYB473K50
	C8405, C8406		CKSQYB681K50
	C8159, C8205, C8210, C8215		CKSQYF103Z50
	C8219, C8220, C8225, C8230, C8235		CKSQYF103Z50
	C8245		CKSQYF103Z50
	C8152 -C8154, C8157, C8161		CKSQYF104Z50
	C8302, C8303, C8601		CKSQYF104Z50
RESISTORS			
	R8248		RD1/4PU100J
	R8001 -R8003, R8011 -R8013		RD1/4PU102J
	R8035, R8036		RD1/4PU102J
	R8409, R8410		RD1/4PU153J
	R8015		RD1/4PU272J
	R8023, R8024, R8221, R8222		RD1/4PU473J
	R8226, R8227		RD1/4PU473J
	VR8151,VR8152 (22kΩ)		RCP1103
	Other Resistors		RS1/10S□□□J
OTHERS			
	X8301 (33.8688MHz)		ASS7000
	X8001 (4.19MHz)		VSS1014
	CN8005	5P JUMPER CONNECTOR	52147-0510
	CN8002	22P CONNECTOR	HLEM22S-1
	CN8001	35P CONNECTOR	HLEM35S-1
	CN8201	6P JACK	VKN-004

MECHA PCB ASSY

SEMICONDUCTORS

	Q651		DTC124ES
	R652 (10KΩ)		ACN7011
	R651 (56KΩ)		ACN7012
	R653 (220Ω)		DCN1062
	R654 (0Ω)		DCN1065
OTHERS			
	CN652	12P CONNECTOR	12FMZ-AST
	CN651	4P CONNECTOR	173979-4
	CN653	22P CONNETOR	SLEM22R-2

SENSOR PCB ASSY

SEMICONDUCTORS

	D652		GP1S24
OTHERS			
	J652	3P JUMPER WIRE	D20PWW0315E

MOTOR PCB ASSY

OTHERS

		LOADING MOTOR	VXM1034

SW PCB ASSY

SWITCHES AND RELAYS

	S651, S652		VSG1006
OTHERS			
	J656	3P JUMPER WIRE	D20PWW0315E

MECHANISM BOARD ASSY

SWITCHES AND RELAYS

	S610		DSG1016
OTHERS			
	CN610	4P CONNECTOR	173979-4

SENSOR BOARD ASSY

SEMICONDUCTORS

	Q601 -Q604		PS3322
RESISTORS			
	Other Resistors		RD1/4PU□□□J
OTHERS			
	CN601	7P JUMPER WIRE	52151-0710

LED BOARD ASSY

SEMICONDUCTORS

	D601 -D604		AN329
RESISTORS			
	Other Resistors		RD1/4PU□□□J
OTHERS			
	J601	3P JUMPER WIRE	D20PWW0315E

MOTOR BOARD ASSY

OTHERS

	J602	3P JUMPER WIRE	D20PWW0305E

7. ADJUSTMENTS

7.1 TUNER SECTION

■ FM Tuner Section

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

Step No.	Adjustment Title	FM SG (1kHz, ±75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Front End Sensitivity	98	0-30	98MHz	L6402 T6401	Adjust so that the DC voltage between the IC6201-Pin 20 becomes at maximum level.
2	TUNED IND. Lighting Level	98	15±2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

Notes:

- *Before adjusting, make sure there is no gap between L6401 and L6402. If there is a gap between them, bring them into contact with each other first, and then make adjustments.*

■ AM Tuner Section

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 1–1.

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dBμV/m)			
1	AM Front and Sensitivity Adjustment	999*1	35–45	999kHz*1	T6201	Adjust so that the DC voltage between the IC6201-Pin 20 becomes at maximum level.

*1: For the area using 10kHz step, frequencies should be 1000 kHz

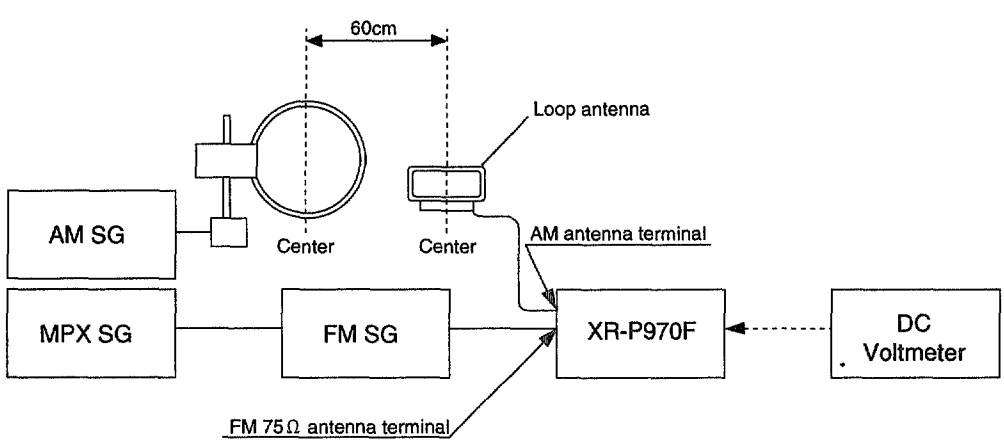


Fig. 1–1 AM and FM Adjustment Wiring Diagram

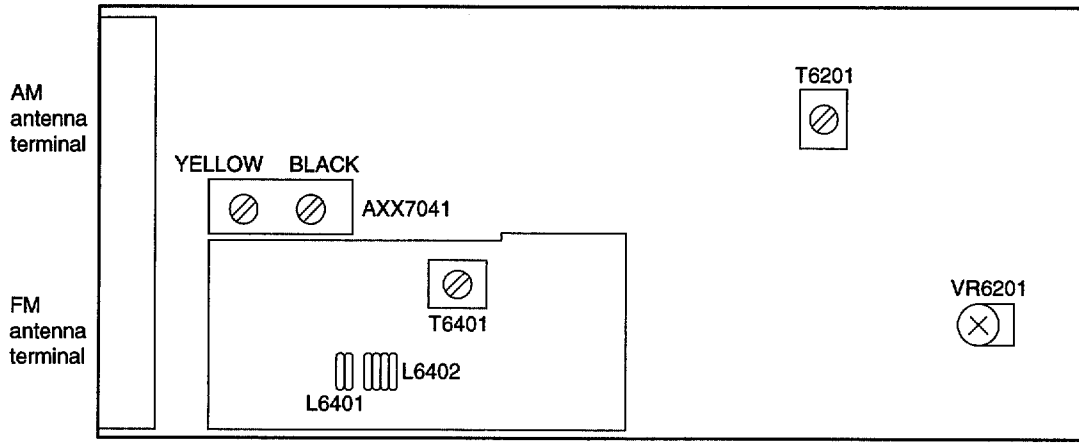


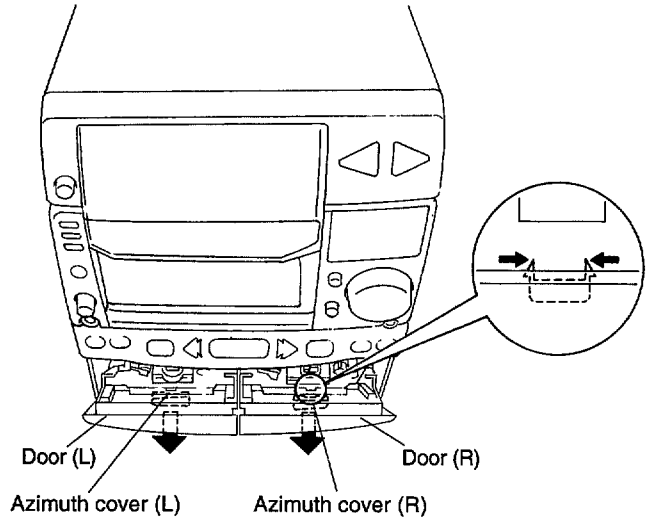
Fig. 1–2 Adjustment Points

7.2 CASSETTE DECK SECTION

• Adjustment points and test points are shown in Fig. 2-3 and Fig. 2-4.

■ Before Adjustment

1. For execution of head angle adjustment, first remove the Azimuth cover (L) and (R).
2. Open the cassette doors (L) and (R).
3. Insert your fingers into the cassette door, push down the two hooks at the upper side of the Azimuth cover, and push them slightly out to the front. Excessive pushing at this time may make it impossible to close the cassette door.
4. Confirm that the Azimuth cover (L) and (R) have been pushed out a little to the front, and then close the cassette doors (L) and (R) and remove the Azimuth cover.



■ Mechanical Adjustment

• Test tape: STD-301 (3kHz, 30min).

1. Tape Speed Adjustment

No.	Mode	Test Tape	Adjusting Points	Measurement Points	Adjustment Procedure	Remarks
1	Deck ₀ PLAY	STD-301 (Playback: 3kHz)	AF BOARD Assy VR1351	TAPE TEST POINT (Rch) (AF Assy)	Press the PLAY SW and adjust so that the reading becomes 3000Hz ±20Hz. Confirm that wow & flutter level is below 0.2% (in the reverse direction, confirm that the reading is within 3000Hz ±60Hz).	

■ Electrical Adjustment

Check the following before starting.

1. Confirm that the tape speed adjustment has been completed.
2. Clean the heads and demagnetize them using a head eraser.
3. Set the measurement level to 0 dBV = 1 Vrms.
4. Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
   STD-331E: For playback adjustment
   STD-631or STD-632: Normal blank tape
5. Provide yourself with the following measuring devides:
   - AC millivoltmeter
   - Low-frequency oscillator
   - Attenuator
   - Oscilloscope
6. Adjust both right and left channels unless otherwise specified.
7. Turn the DOLBY NR switch off unless otherwize specified.
8. Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
9. Always follow the indicated adjustment order. Otherwise, a complete adjustment may not be achieved.

Playback Adjustment (Decks I and II)

1. Head Azimuth Adjustment
2. Playback Level Adjustment

Recording Adjustment (Deck II)

1. Bias Oscillation Frequency Adjustment
2. Recording Bias Adjustment
3. Recording Level Adjustment.
4. ALC Operation Check

* *As the reference recording level is 250nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160nwb/m). When adjusting, pay carefull attention to the type of tape used.*

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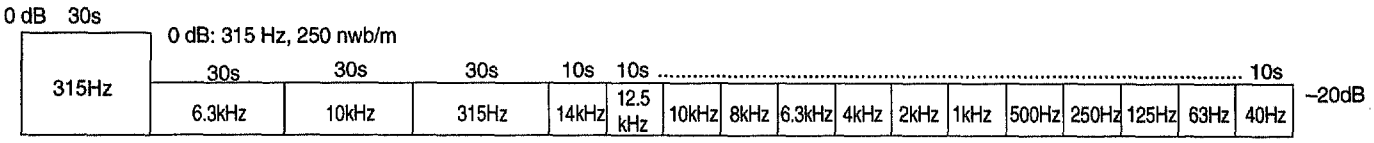


Fig. 2–1 STD-331E Test Tape

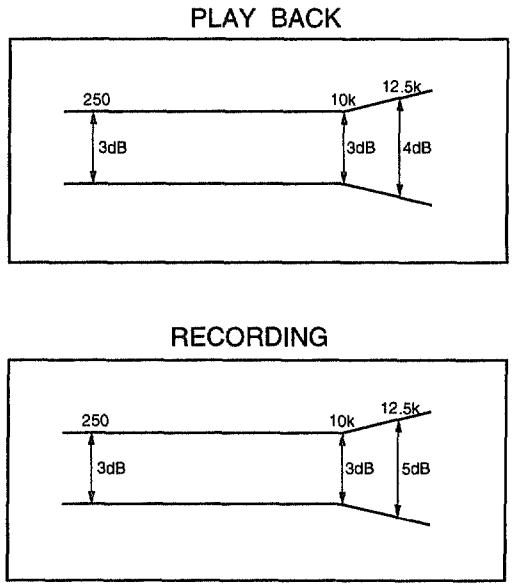


Fig. 2–2 Frequency Characteristics

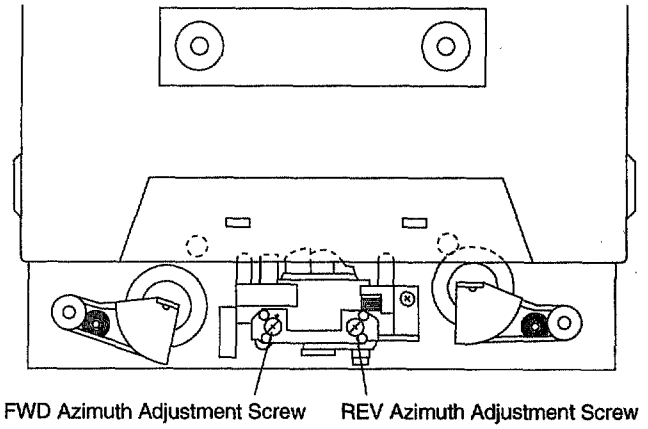


Fig. 2–3 Head Azimuth Adjustment

■ Playback Adjustment

- This unit is equipped with auto tape selector.
- Do not switch between forward and reverse operation with the screwdriver inserted.

1. Head Azimuth Adjustment

Step	Tape Selector (AUTO)	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	AUTO (NORMAL)	PLAY	STD-331E test tape (Playback: 10kHz, –20dB)	Deck I	Head azimuth adjustment screw (Fig. 2-3)	TAPE TEST POINT (L, Rch)	Max. playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.
				Deck II				

2. Playback Level Adjustment

- Since this adjustment determines playback Dolby NR level, perform it carefully.

Step	Tape Selector (AUTO)	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	AUTO (NORMAL)	PLAY	STD-331E test tape (Playback: 315Hz, 0dB)	Deck I	VR4203 (Lch) VR4204 (Rch)	TAPE TEST POINT (L, Rch)	– 6.9 dBV	
				Deck II	VR4201 (Lch) VR4202 (Rch)			

Note: Please execute playback level adjustment always in the order of deck I → deckI
When deck I has been adjusted, always adjust deck I also.

■ Recording Adjustment

1. Bias Oscillation Frequency Adjustment

Step	Tape Selector (AUTO)	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	AUTO (NORMAL)	REC	Load the STD–631 or STD–632 test tape and set the recording mode.	Deck I	————	————	Oscillation frequency to be 105.0kHz ±2kHz.	When the power is turned ON while the MEMORY button is depressed, the frequency will decrease 2 – 3 kHz.
				Deck II	L4351	Between Ⓐ point in Fig. 2-4 and GND.		

2. Recording Bias Adjustment

Step	Tape Selector (AUTO)	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	AUTO (NORMAL)	REC	Input a 315Hz signal to the MD/ CD II terminal and set the input selector to MD/CD II.	Deck I	——	TAPE TEST POINT (L, Rch)	– 26.9 dBV	
				Deck II	Input signal level			
2	AUTO (NORMAL)	REC→ PLAY	Load the STD-631 or STD-632 test tape and record/playback the 315Hz and 10kHz signals. (see the Note below)	Deck I	——	TAPE TEST POINT (L, Rch)	Repeat adjustment until playback level of the 10kHz signal is within 0±0.5dB from that of the 315Hz signal.	
				Deck II	VR4351 (Lch) VR4352 (Rch)			

Note: Set the 10kHz input signal level to the same value as the 315Hz input signal level of step 1.

3. Recording Level Adjustment

Step	Tape Selector (AUTO)	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	AUTO (NORMAL)	REC	Input a 315Hz signal to the MD/CD II terminal and set the input selector to MD/CD II.	Deck I Deck II	Input signal level	TAPE TEST POINT (L, Rch)	– 10.9 dBV	
2	AUTO (NORMAL)	REC → PLAY	STD-631 or STD-632 test tape and record/playback the 315Hz signal.	Deck I Deck II	—— VR4301 (Lch) VR4302 (Rch)	TAPE TEST POINT (L, Rch)	Repeat recording, playback and adjustment until playback level of the 315Hz signal becomes –10.9dBV.	

4. ALC Operation Check

Step	Tape Selector (AUTO)	Mode	Input Signal/Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	AUTO (NORMAL)	REC	Input a 315Hz signal to the MD/CD II terminal and set the input selector to MD/CD II.	Input signal level	TAPE TEST POINT (L, Rch)	– 8.2 dBV	
2				Set to a level +10 dB above the input level at step 1.		Confirm that the reading is –3.2±2.5dBV.	

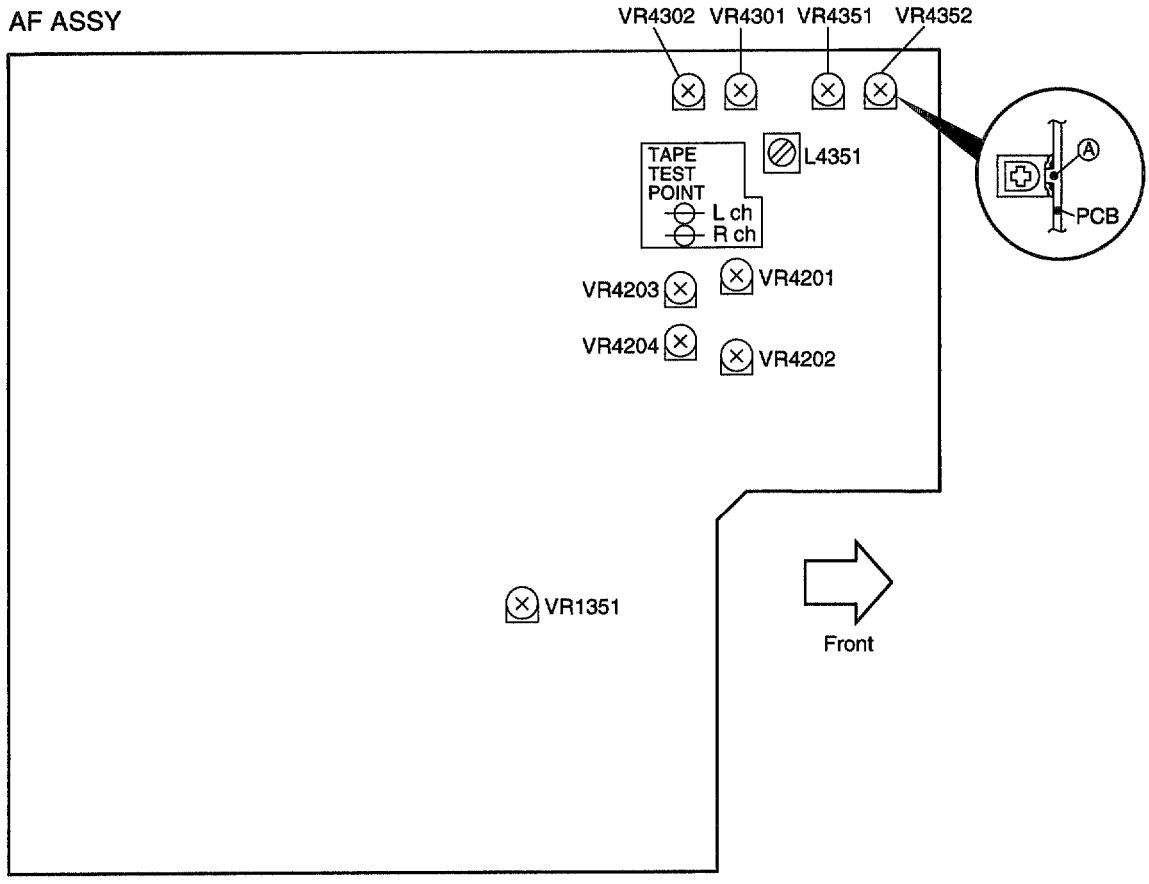
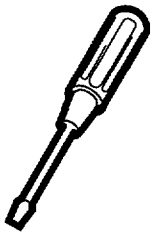
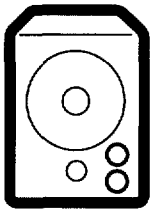
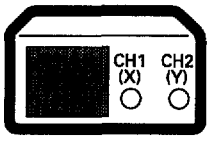
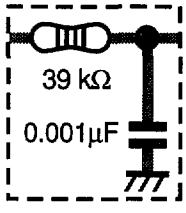


Fig. 2–4 Adjustment and Measurement points

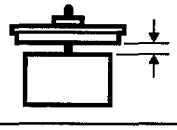
7.3 CD SECTION (CD部の調整)

1. PREPARATIONS (準備)

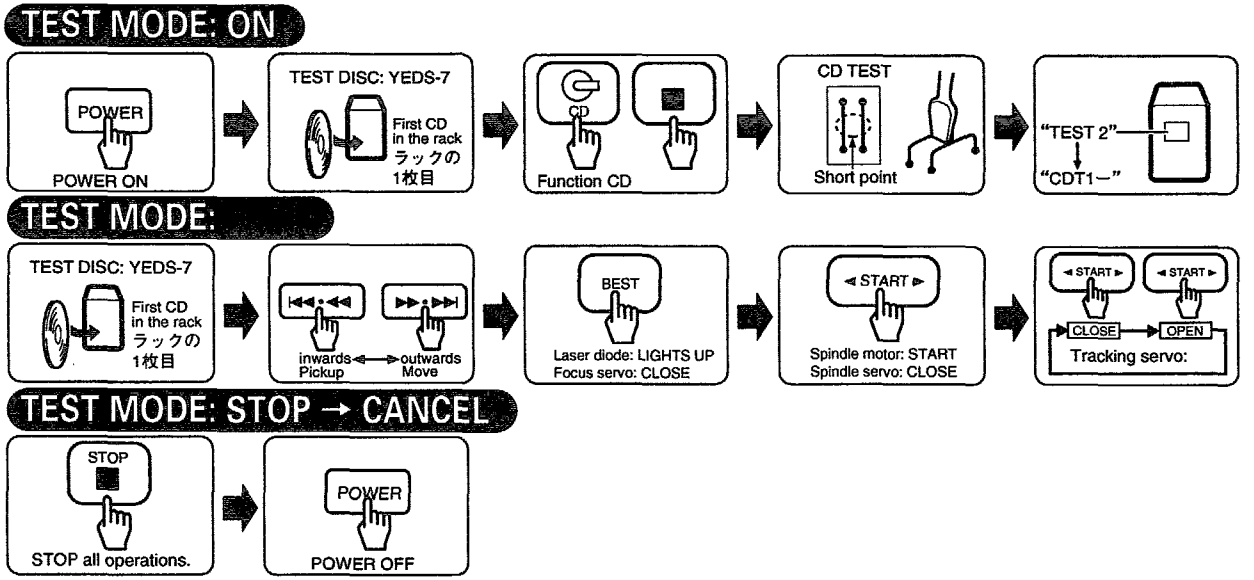
1.1 Jigs and Measuring Instruments (使用測定器/治工具類)

 CD TEST DISC (YEDS-7)	 ⊖ Precise screwdriver	 ⊖ screwdriver (small)	 ⊕ screwdriver (medium)
 ⊕ screwdriver (large)	 Low-frequency oscillator	 Dual-trace oscilloscope (10 : 1 probe)	 Low pass filter (39 kΩ + 0.001μF)

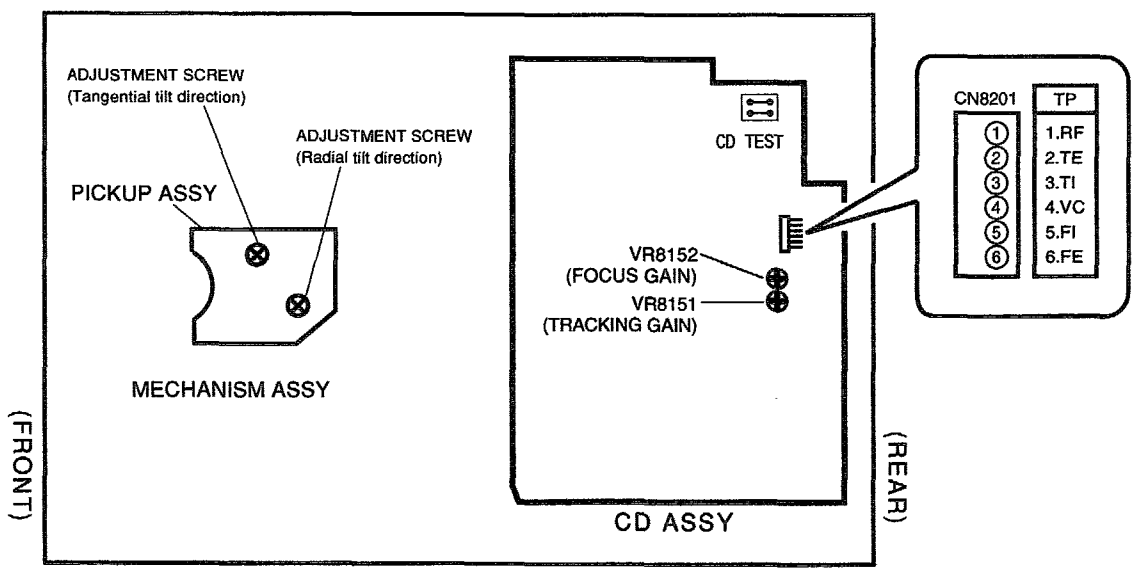
1.2 Necessary Adjustment Points (調整に必要な項目)

When (このような時)	Adjustment points
Exchange PICKUP (ピックアップを交換した時)	1.2.3.4.5.6. → Page 71—73
Exchange CD ASSY (CD ASSYを交換した時)	1.2.3.4.5.6. → Page 71—73
Exchange SERVO MECH ASSY (サーボメカ ASSYを交換した時)	1.2.3.4.5.6. → Page 71—73
Exchange SPINDLE MOTOR (スピンドルモーターを交換した時)	 ADJ → Page 15

2.1 How to Start/Cancel Test Mode （テストモ-ドの設定/解除）

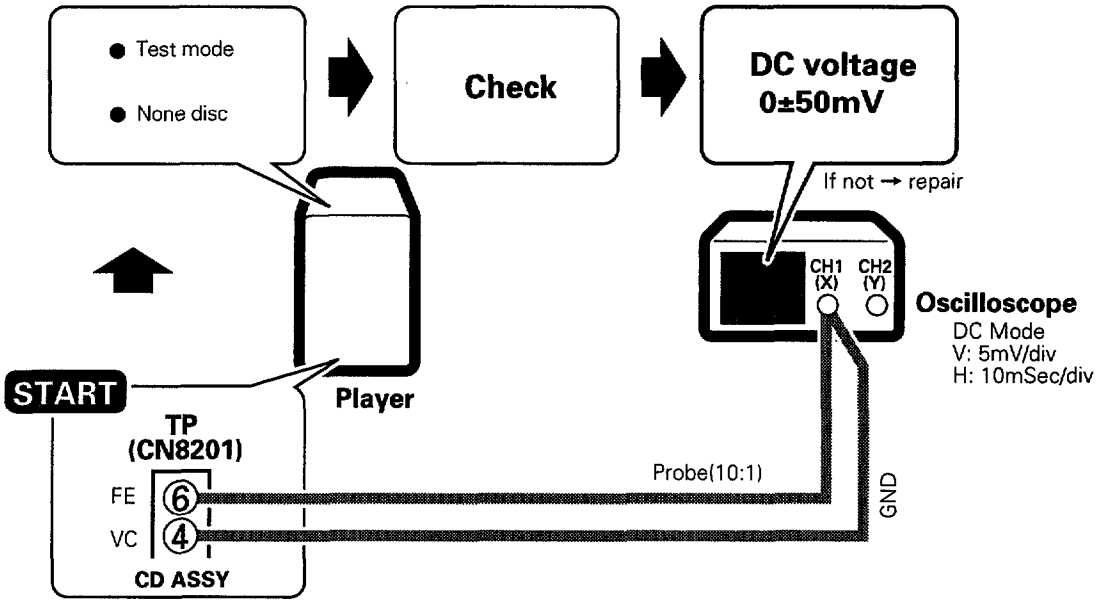


2.2Adjustment Locations（テストポイントと調整用VRの位置）

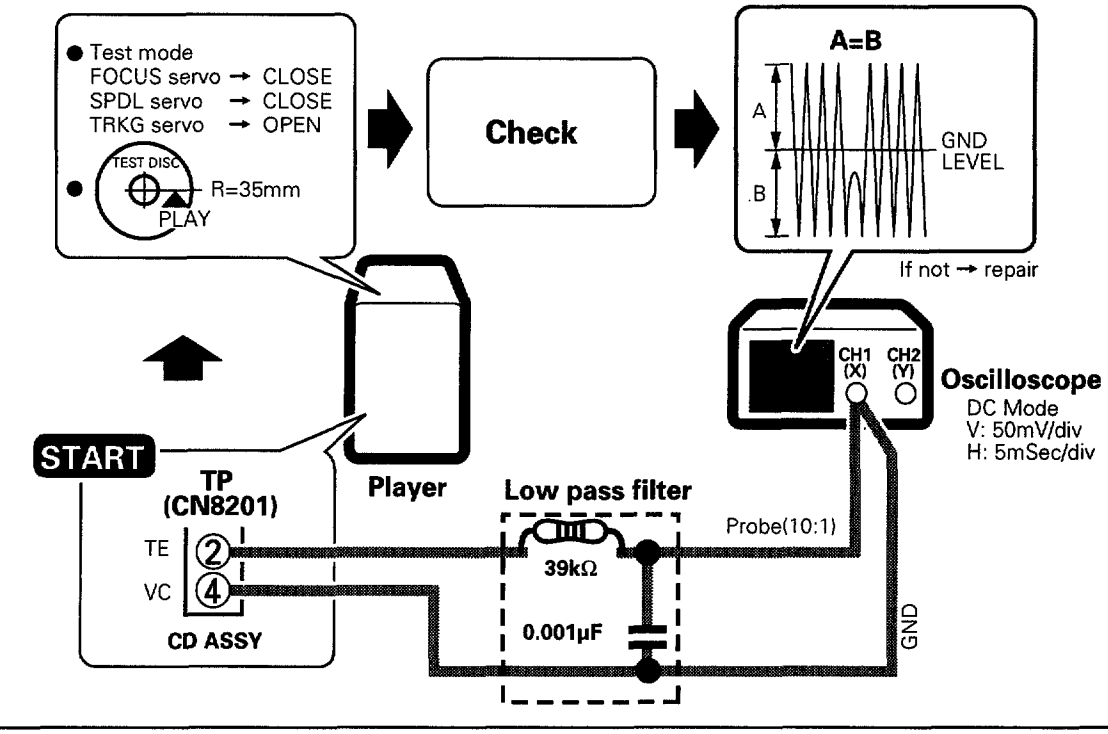


2.3 Check and Adjustment (確認、調整)

1. Focus Offset Check
(フォーカスオフセット確認)

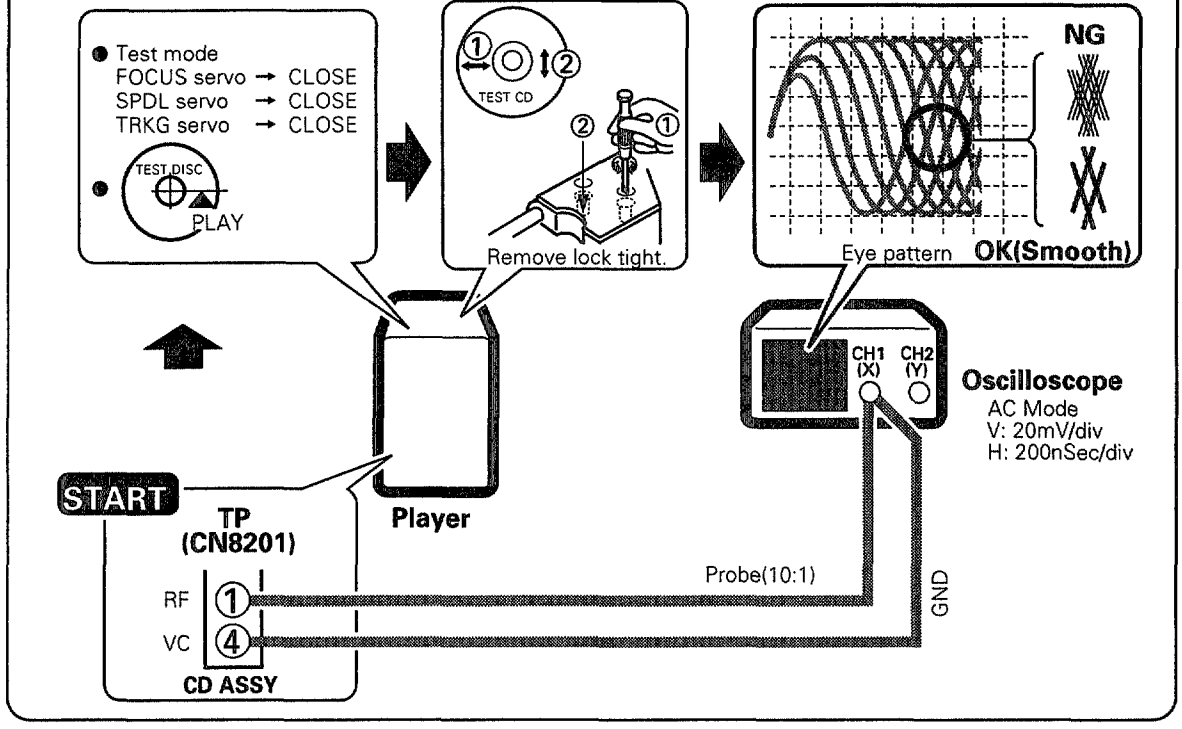


2. Tracking Error Balance Check
(トラッキングエラーバランス確認)



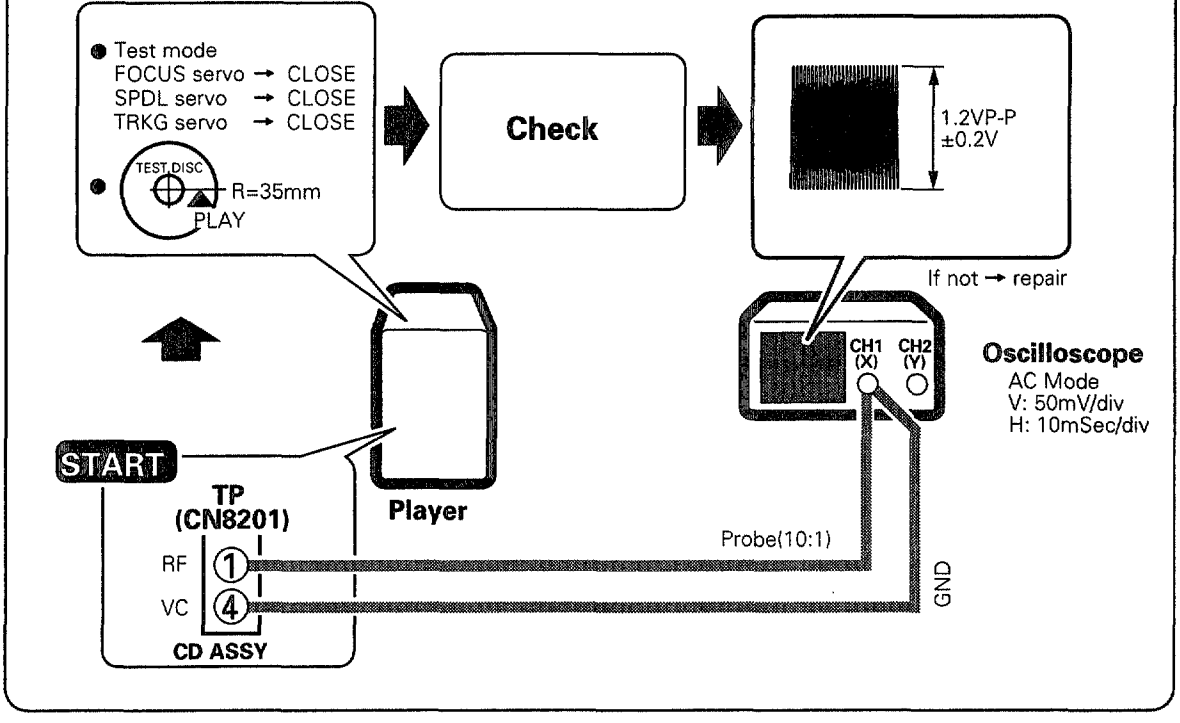
3. PICKUP ①RADIAL / ②TANGENTIAL DIRECTION TILT ADJUSTMENT

(ピックアップ①ラジアル方向②タンジェンシャル方向の傾き調整)

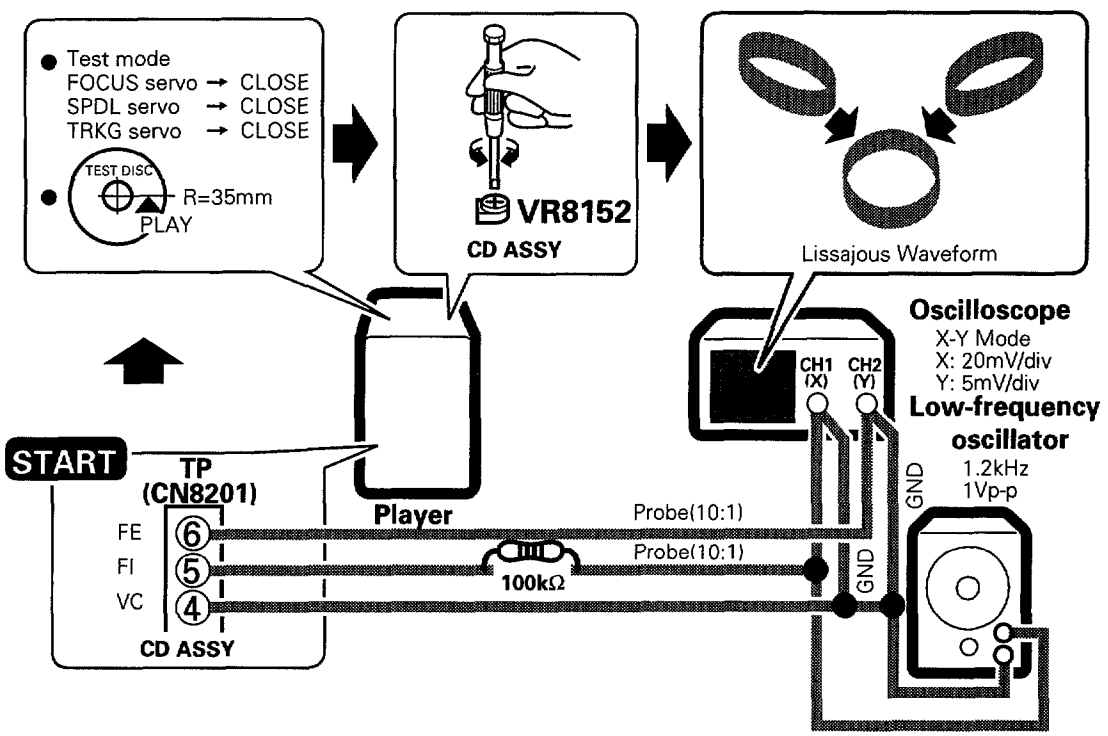


4. RF LEVEL CHECK

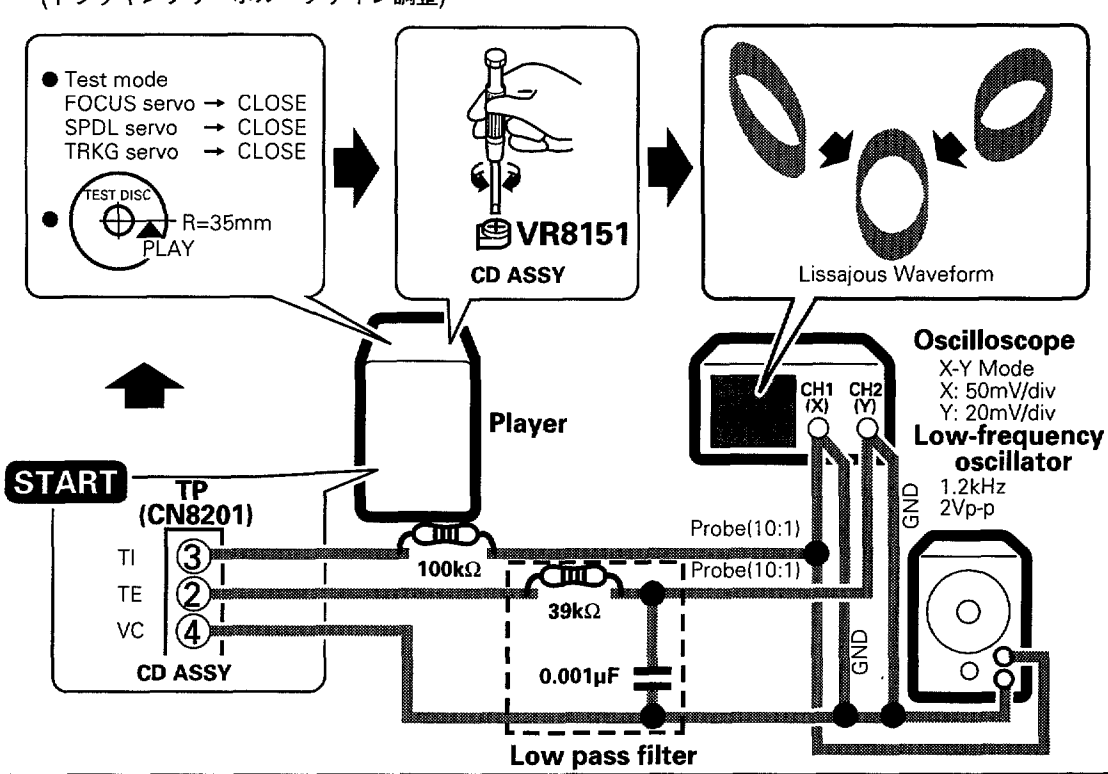
(RFレベル確認)



5. Focus Servo Loop Gain Adjustment
(フォーカスサーボループゲイン調整)



6. Tracking Servo Loop Gain Adjustment
(トラッキングサーボループゲイン調整)



8. IC INFORMATION

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

■ PD4756A (IC8001 : CD ASSY)

● CD, Tuner, DSP Control Microcomputer

● Pin Function

No.	Pin Name	I/O	Function CD/TUNER	Description
1	P15	I	TUNER	RDS ID
2	P16	I	TUNER	RDS DATA
3	P17	O	TUNER	RDS MUTE
4	AVss	–	—	GND
5	P130	O	CD	DOOR IN *1
6	P131	O	CD	DOOR OUT *1
7	AVref1	–	—	+5V
8	P70	I	TUNER	PLL DATA IN
9	P71	O	TUNER	PLL DATA OUT
10	P72	O	TUNER	PLL DATA CLK
11	S11	I	CD	SQSO
12	S01	O	CD	CD LSI DATA
13	SCK 1	O	CD	CD LSI CLK
14	P23/STB	O	—	NC
15	P24	O	TUNER	PLL CE
16	P25	O	TUNER	TX MUTE
17	S00	O	—	DISP DATA
18	SCK0	O	—	DISP CLK
19	P40	O	CD	XLAT
20	P41/AD1	O	—	NC
21	P42/AD2	O	—	NC
22	P43/AD3	O		NC
23	P44/AD4	O	—	NC
24	P45/AD5	O	—	NC
25	P46/AD6	O	—	NC
26	P47/AD7	O	—	NC
27	P50/A8	O	—	NC
28	P51/A9	O	—	NC
29	P52	I	CD	GFS
30	P53	I	CD	SENS
31	P54	O	—	RESET OUT * System microprossor hard reset output. (システムマイコンリセット出力)
32	P55	I	—	POWER ON/OFF
33	Vss	–	—	GND
34	P56	O	CD	LEDG * LED Green L : lights (LED グリーン L : 点灯)
35	P57	O	CD	LEDR * LED Red L : lights (LED レッド L : 点灯)
36	P60	I	CD	EJECT * L : Complete return (L : リターン完)
37	P61	I	CD	CLMP * L : Complete clamp (L : クランプ完)
38	P62	I	CD	HOME * L : Home position (L : ホーム位置)
39	P63	I	CD	PIS1
40	P64	I	CD	PIS2
41	P65	I	CD	P1S3
42	P66	I	CD	P1S4
43	P67	I	CD	INSD *L : Carridge inside
44	P30	I/O	—	SB R/E
45	P31	I/O	—	SB DATA
46	P32	O	CD	LDON *L : LD ON
47	P33	O	CD	DSLT *2
48	P34	O	CD	DSRT *2
49	P35	O	CD	L IN *3
50	P36	O	CD	L OUT *3
51	P37	I	CD	D CNT
52	P120/RTP0	O	—	NC
53	P121	I	CD	DOOR CLOSE * L : Complete close (L : クローズ完)
54	P122	I	CD	DOOR OPEN * L : Complete open (L : オープン完)
55	P123	O	CD	OUT 1 *4
56	P124	O	CD	IN 1 *4
57	P125	O	CD	XRST
58	P126	O	CD	MUTE
59	P127	O	CD	XTAL ON/OFF
60	RESET	–	—	RESET
61	INTP0	I	TUNER	RDS CLK
62	INTP1	I	—	SB CLK
63	INTP2	I	CD	SCOR
64	INTP3	I	—	AC WAVE
65	P04/INTP4	–	—	NC
66	P05/INTP5	–	—	NC
67	P06/INTP6	–	—	NC
68	Vdd	–	—	+5V
69	X2	–	—	*Main system clock (4.19MHz)

No.	Pin Name	I/O	Function CD/TUNER	Description	No.	Pin Name	I/O	Function CD/TUNER	Description
70	X1	–	—	*Main system clock (4.19MHz)	76	ANI0	I	—	TEST * Type check when initialising (イニシャライズ時仕向チェック)
71	IC	–	—	GND	77	ANI1	I	—	TEMP * Decide abnormal if below 3.8 (V) at Power ON (Power ON時3.8 (V) 以下異常と判定)
72	XT2	–	—	NC					
73	P07	I	CD	FCOK	78	ANI2	I	CD	JOG
74	AVdd	–	—	+5V	79	ANI3	I	TUNER	ST/TUNED
75	AVref0	–	—	+5V	80	P14	I	—	MODEL CHECK * L : GS2 system H : GS1 system

*1 Electric door operation (電動ドア動作)

Operation	Door IN	Door OUT
STOP	L	L
OPEN	L	H
CLOSE	H	L
Setting prohibition	H	H

*2 Select operation (セレクト動作)

Operation	DSLT	DSRT
STOP	L	L
Right direction (1 → 25)	L	H
Left direction (25 → 1)	H	L
Setting prohibition	H	H

*3 Clamp/return operation (クランプ/リターン動作)

Operation	L IN	L OUT
STOP	L	L
RETURN	L	H
CLAMP	H	L
Setting prohibition	H	H

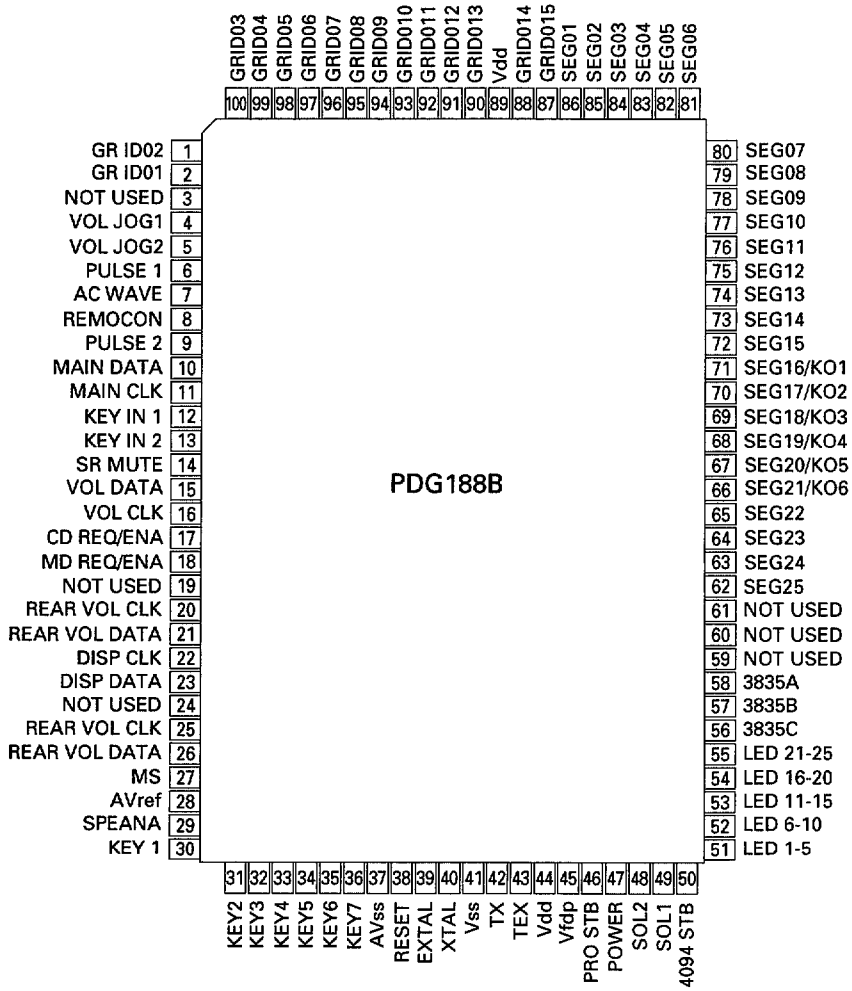
*4 Slot/mechanical operation (スロット・メカ動作)

Operation	IN 1	OUT 1
STOP	L	L
EJECT	L	H
LOAD	H	L
Setting prohibition	H	H

■ PDG188B (IC2001 : CD DOOR ASSY)

● Display, Deck, Amp Control Microcomputer

● Block Diagram



● Pin Function

Pin No.	Pin Name	I/O	Description	Pin No.	Pin Name	I/O	Description
1	G1/A1	O	GRID02	41	Vss	–	Connected to GND
2	G0/A0	O	GRID01	42	TX	O	OPEN
3	NC	–	Connected to Vdd	43	TEX	I	Connected to GND
4	PE0/EC0/INT0	I	VOL JOG1	44	Vdd	–	Connected to 5V
5	PE1/EC1/INT1	I	VOL JOG2	45	Vfdp	–	Connected to -30V
6	PE2/INT2	I	PULSE1	46	PD0/A55	O	PRO STB
7	PE3/INT3/NMI	I	AC WAVE	47	PD1/A54	O	POWER
8	PE4/RMC	I	REMOCON	48	PD2/A53	O	SOL 2
9	PE5	I	PULSE2	49	PD3/A52	O	SOL 1
10	PE6/PWM	O	MAIN DATA	50	PD4/A51	O	4094 STB
11	PE7/TO/ADJ	O	MAIN CLK	51	PD5/A50	O	LED 1-5
12	PC0/KR0	I/O	KEY IN 1	52	PD6/A49	O	LED 6-10
13	PC1/KR1	I/O	KEY IN 2	53	PD7/A48	O	LED 11-15
14	PC2/KR2	I/O	SR MUTE	54	PF0/A47	O	LED 16-20
15	PC3/KR3	I/O	VOL DATA	55	PF1/A46	O	LED 21-25
16	PC4/KR4	I/O	VOL CLK	56	PF2/A45	O	3835C
17	PC5/KR5	I/O	CD REQ/ENA	57	PF3/A44	O	3835B
18	PC6/KR6	I/O	MD REQ/ENA	58	PF4/A43	O	3835A
19	PC7/KR7	I/O	Not used	59	PF5/A42	O	Not used
20	PB0/CINT	I/O	REAR VOL CLK	60	PF6/A41	O	Not used
21	PB1/CS0	I/O	REAR VOL DATA	61	PF7/A40	O	Not used
22	PB2/SCK0	I/O	DISP CLK	62	PG0/A39	O	SEG25
23	PB3/SIO	I/O	DISP DATA	63	PG1/A38	O	SEG24
24	PB4/SO0	I/O	Not used	64	PG2/A37	O	SEG23
25	PB5/SCK1	I/O	SB CLK	65	PG3/A36	O	SEG22
26	PB6/SI1	I/O	SB DATA	66	PG4/A35	O	SEG21/KO6
27	PB7/SO1	I/O	MS	67	PG5/A34	O	SEG20/KO5
28	AVref	–	Connected to 5V	68	PG6/A33	O	SEG19/KO4
29	PA0/AN0	I/O	SPEANA	69	PG7/A32	O	SEG18/KO3
30	PA1/AN1	I/O	KEY1	70	PH0/A31	O	SEG17/KO2
31	PA2/AN2	I/O	KEY2	71	PH1/A30	O	SEG16/KO1
32	PA3/AN3	I/O	KEY3	72	PH2/A29	O	SEG15
33	PA4/AN4	I/O	KEY4	73	PH3/A28	O	SEG14
34	PA5/AN5	I/O	KEY5	74	PH4/A27	O	SEG13
35	PA6/AN6	I/O	KEY6	75	PH5/A26	O	SEG12
36	PA7/AN7	I/O	KEY7	76	PH6/A25	O	SEG11
37	AVss	–	Connected to GND	77	PH7/A24	O	SEG10
38	RST	–	RESET	78	A23	O	SEG09
39	EXTAL	I	Connected to osillator (8 MHz)	79	A22	O	SEG08
40	XTAL	O	Connected to osillator (8 MHz)	80	A21	O	SEG07

Pin No.	Pin Name	I/O	Description	Pin No.	Pin Name	I/O	Description
81	A20	O	SEG06	91	G11/A11	O	GRID12
82	A19	O	SEG05	92	G10/A10	O	GRID11
83	A18	O	SEG04	93	G9/A9	O	GRID10
84	A17	O	SEG03	94	G8/A8	O	GRID09
85	A16	O	SEG02	95	G7/A7	O	GRID08
86	G15/A15	O	SEG01	96	G6/A6	O	GRID07
87	G14/A14	O	GRID15	97	G5/A5	O	GRID06
88	G13/A13	O	GRID14	98	G4/A4	O	GRID05
89	Vdd	–	Connected to 5V	99	G3/A3	O	GRID04
90	G12/A12	O	GRID13	100	G2/A2	O	GRID03

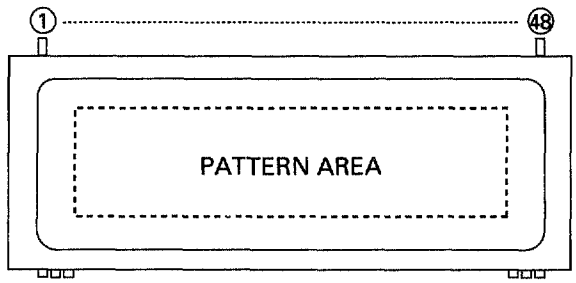
I/O : INPUT/OUTPUT
I : INPUT
O : OUTPUT

9. FL INFORMATION

■ AAV7028 (V2001 : CD DOOR ASSY)

● FL Tube

● Pin Assignment



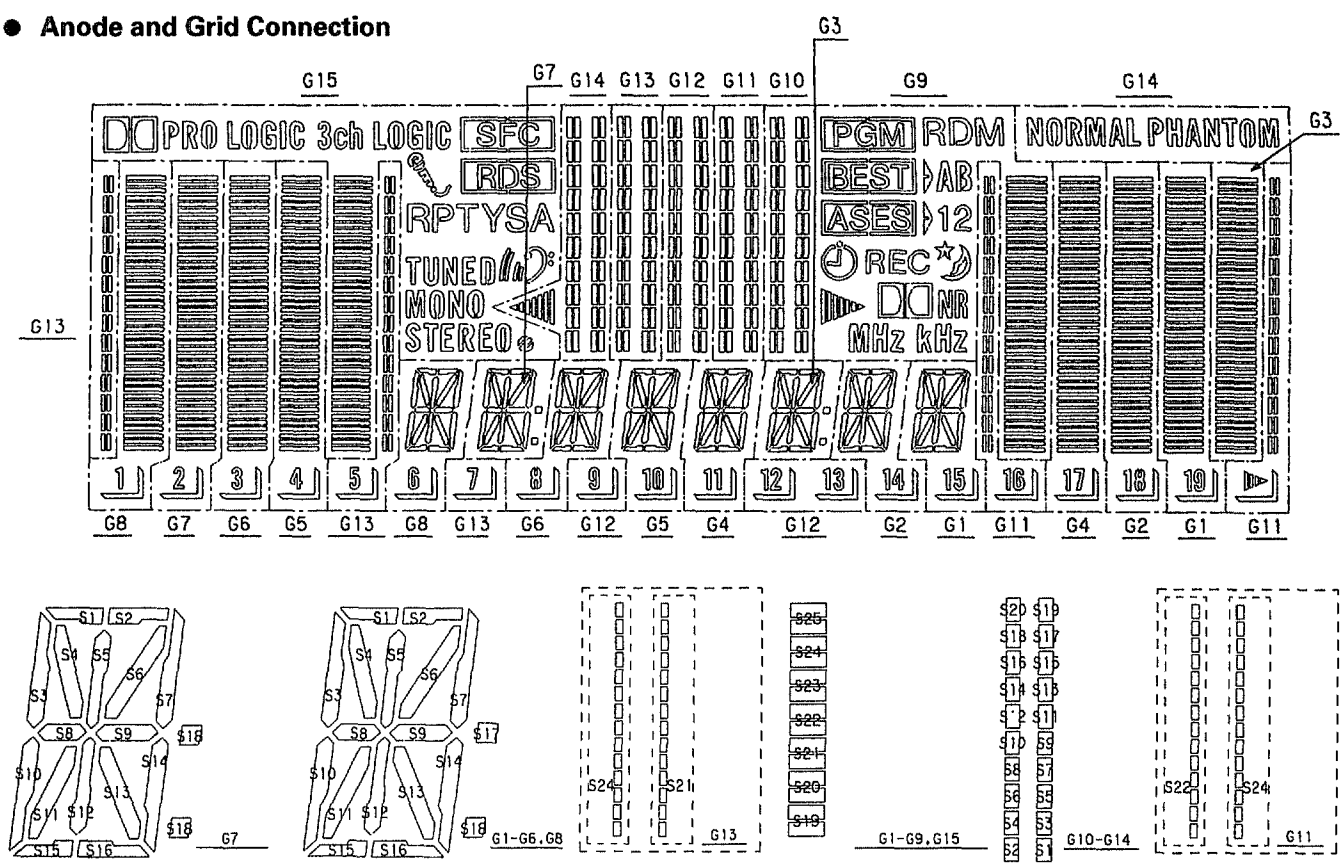
● Pin Connection

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
Assignment	F1	F1	F1	D	S25	S24	S23	S22	S21	S20	S19	S18	S17	S16	S15	S14	S13	S12	S11	S10	S9	S8	S7	S6

Pin No.	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Assignment	S5	S4	S3	S2	S1	G15	G14	G13	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1	H	F2	F2	F2

F1, F2 : Filoment G1-G15 : Grid S1-S25 : Anode D : Connect externaly to F1. (F1に外部接続する。)
H : Usual current grid (ec level = Impress direct current voltage of Typ 31.0 Vdc)
(常時通電グリッド (ecレベル=Typ 31.0 Vdc の直流電圧を印加する。))

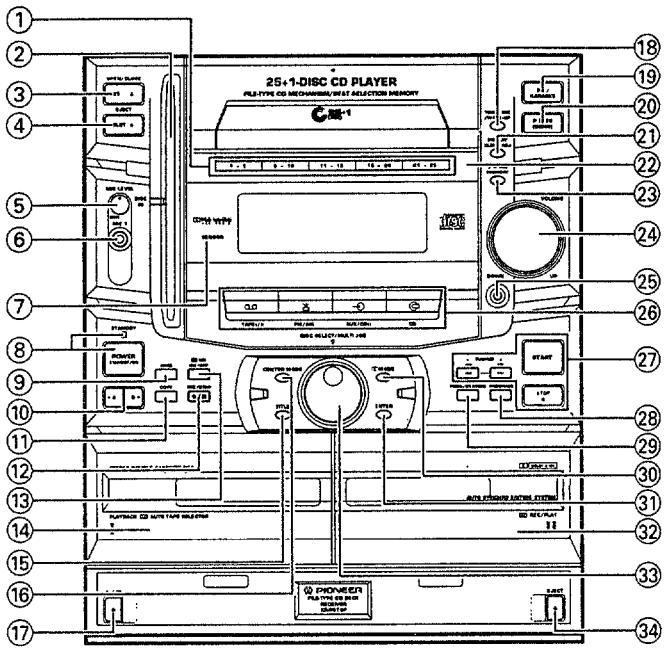
● Anode and Grid Connection



● Anode and Grid Assignment

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	GW15
S1	S1	S1	S1	S1	S1	S1	S1	S1	MHz	S1	S1	S1	S1	S1	
S2	S2	S2	S2	S2	S2	S2	S2	S2	KHz	S2	S2	S2	S2	S2	STEREO
S3	S3	S3	S3	S3	S3	S3	S3	S3		S3	S3	S3	S3	S3	MONO
S4	S4	S4	S4	S4	S4	S4	S4	S4	NR	S4	S4	S4	S4	S4	
S5	S5	S5	S5	S5	S5	S5	S5	S5		S5	S5	S5	S5	S5	
S6	S6	S6	S6	S6	S6	S6	S6	S6	REC	S6	S6	S6	S6	S6	
S7	S7	S7	S7	S7	S7	S7	S7	S7		S7	S7	S7	S7	S7	TUNED
S8	S8	S8	S8	S8	S8	S8	S8	S8	ASES	S8	S8	S8	S8	S8	A
S9	S9	S9	S9	S9	S9	S9	S9	S9	12	S9	S9	S9	S9	S9	S
S10	S10	S10	S10	S10	S10	S10	S10	S10	1	S10	S10	S10	S10	S10	Y
S11	S11	S11	S11	S11	S11	S11	S11	S11	2	S11	S11	S11	S11	S11	T
S12	S12	S12	S12	S12	S12	S12	S12	S12	BEST	S12	S12	S12	S12	S12	P
S13	S13	S13	S13	S13	S13	S13	S13	S13	AB	S13	S13	S13	S13	S13	R
S14	S14	S14	S14	S14	S14	S14	S14	S14	A	S14	S14	S14	S14	S14	RDS
S15	S15	S15	S15	S15	S15	S15	S15	S15	B	S15	S15	S15	S15	S15	
S16	S16	S16	S16	S16	S16	S16	S16	S16	PGM	S16	S16	S16	S16	S16	SFC
S17	19	18	○(UP)	17	4	3	2	1	RDM	S17	S17	S17	S17	S17	3ch LOGIC
S18	15	14	○(DOWN)	11	10	8	○	6		S18	S18	S18S	S18	S18	PRO LOGIC
S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19
S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20
S21	S21	S21	S21	S21	S21	S21	S21	S21	S21			12	S21		S21
S22	S22	S22	S22	S22	S22	S22	S22	S22	S22		S22	13			S22
S23	S23	S23	S23	S23		S23	S23	S23	S23		16	9	5		S23
S24	S24	S24	S24	S24	S24	S24	S24	S24	S24		S24		S24	NORMAL	S24
S25	S25	S25	S25	S25	S25	S25	S25	S25	S25				7	PHANTOM	S25

10. PANEL FACILITIES



① 5-DISC ACCESS button

② Plus 1 disc slot

③ 25 OPEN/CLOSE button

④ SLOT EJECT button

⑤ Microphone level (MIC LEVEL)

⑥ Microphone jack

⑦ Remote sensor

⑧ POWER STANDBY/ON switch and STANDBY indicator

This is the switch for electric power.

ON : When set to the ON position, power is supplied and the unit becomes operational.

STANDBY : When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness. (The STANDBY indicator lights.)

⑨ ASES button

⑩ BEST (A, B) button

⑪ COPY button

⑫ REC/STOP button (●/■)

⑬ Dolby* NR ON/OFF button

Each time this button is pressed, the Dolby NR system turns on and off.

⑭ TAPE I cassette door

⑮ TITLE button

⑯ CENTER MODE button

⑰ TAPE I Eject button (⏏)

**.....This knob is used for multi-functions.

⑱ TIMER REC/WAKE-UP button

⑲ SFC/KARAOKE button

Each time this button is pressed, the mode changes in the following sequence:

HALL → MOVIE → LIVE → DISCO → KARAOKE → off → HALL

NOTE:

If KARAOKE is selected, the vocal part in songs is muted and only the instrumental accompaniment (backup) is played.

⑳ P.BASS (DEMO) button

㉑ DISPLAY CLOCK ADJ button

㉒ Door panel

㉓ STATION MEMORY button

㉔ VOLUME control

㉕ Headphones jack (PHONES)

㉖ Function buttons

㉗ Common operation button section

㉘ PROGRAM button

㉙ FREQ/STATION button

㉚ ▯▯ MODE button

㉛ ENTER button

㉜ TAPE II cassette door

㉝ DISC SELECT/MULTI JOG knob**

㉞ TAPE II Eject button (⏏)

*

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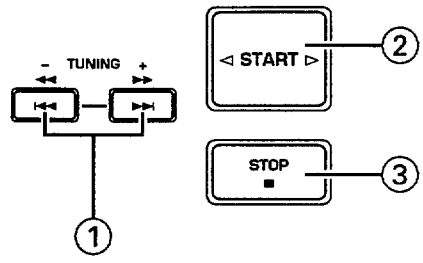
Common operation button section



① ⏮, ⏭ buttons

② START button (◄ ►)

③ STOP button (■)

•Roles of the common operation buttons (The roles of the buttons vary depending on the input functions as shown below.)

During CD input

START	:	Play/pause button
STOP	:	Stop button
⏭	:	Fast forward/track search button
⏮	:	Fast reverse/track search button

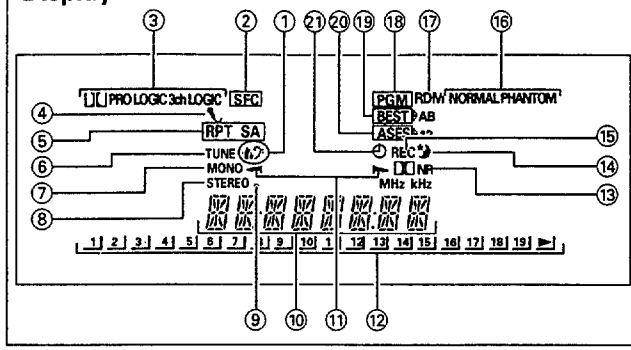
During cassette deck input

START	:	Play button/Tape transport direction
STOP	:	Stop button
⏭	:	Fast forward/Review button
⏮	:	Rewind/Review button

During tuner operation

⏭	:	Frequency Up button
⏮	:	Frequency Down button

Display



① Lights when you press the P.BASS button.

② Lights during SFC mode operation.

③ Lights during Dolby Pro Logic* or 3ch Logic.

④ Lights during KARAOKE mode operation.

⑤ RPT : Lights during repeat play.
S : Lights during SINGLE mode operation.
A : Lights during ALL mode operation.

⑥ Lights during radio broadcast reception.

⑦ Lights when you press the MONO button.

⑧ Lights during FM stereo reception.

⑨ Lights when setting the Beat Cut function.

⑩ Indicates frequency and major operation status.

⑪ Lights to show tape direction.

⑫ Displays a CD track number. Playing track number and waiting track numbers are displayed. In program play, lights the programmed tracks. ► lights when programmed tracks are more than 20.

⑬ Lights when Dolby NR is ON.

⑭ Lights during sleep timer operation.

⑮ Lights during recording and timer recording operation.

⑯ Lights during Dolby Surround Center Mode.
Fixed to NORMAL position in Dolby 3ch Logic.

⑰ Lights when you press the RANDOM button.

⑱ Lights when you press the PGM button.

⑲ Flashes during Best Selection setting (A or B), and lights during play.

⑳ Lights when setting up A.S.E.S.

㉑ Lights when setting the timer.

*

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11. SPECIFICATIONS

■ STEREO FILE-TYPE CD CASSETTE DECK RECEIVER:

Amplifier Section

Continuous Power Output (RMS)
XR-P970F
FRONT ..... 100 W + 100 W
(1 kHz, T.H.D. 10 %, 8 Ω)
CENTER, REAR ..... 20 W
(1 kHz, T.H.D. 10 %, 4 Ω)
XR-P770F ..... 100 W + 100 W
(1 kHz, T.H.D. 10 %, 8 Ω)

FM Tuner Section

Reception frequencies ..... 87.5 MHz to 108 MHz
Antenna input ..... 75 Ω unbalanced

AM Tuner Section

Reception frequencies ..... 531 kHz to 1,602 kHz (9 kHz step)
530 kHz to 1,700 kHz (10 kHz step)
Antenna ..... Loop antenna (included)

Double Cassette Deck Section

System type ..... 4-track, 2-channel stereo
Heads ..... Recording/playback head x 1
Playback head x 1
Erasing head x 1
Motor ..... DC servo motor x 1
Frequency response
Type II (High/CrO_2) tape ..... *35 Hz to 15,000 Hz ±6 dB
(recorded at –20 dB)
Type I (Normal) tape ..... *35 Hz to 14,000 Hz ±6 dB
(recorded at –20 dB)
SN ratio ..... *56 dB
(peak recording level, audible compensation)
Dolby B type NR on ..... 10 dB compensation at 5 kHz

* Values measured in accordance with EIAJ standards.

■ FILE TYPE CD PLAYER

Type ..... Compact disc audio system
Usable discs ..... Compact audio discs
Channels ..... 2 channels (stereo)
Program steps ..... 32 steps maximum

■ ELECTRICAL REQUIREMENTS, ETC.

Power Requirements ..... AC 240 V, 50 Hz
Power Consumption
XR-P970F ..... 510 W
XR-P770F ..... 530 W
External dimensions ..... 260 (W) x 310 (H) x 371.5 (D) mm
Weight ..... 11 kg

■ ACCESSORIES

Operating Instructions 1
FM T-type antenna 1
AM loop antenna 1
Remote control unit 1
AA/R6P dry cell batteries 2
Speaker cords (supplied with speaker system) 2
CD case stand 1

NOTE:

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