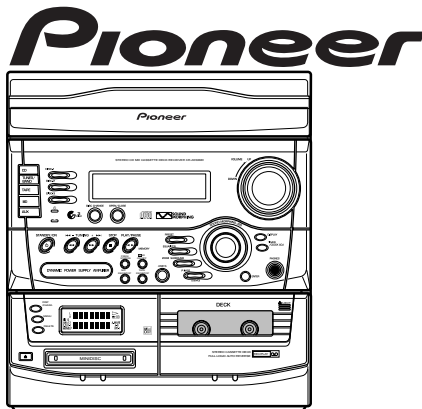


Service Manual



ORDER NO.
RRV2107

COMPACT MINI COMPONENT

XR-A550MD

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

Type	Model	Power Requirement	The Voltage can be converted by the following method.
	XR-A550MD		
KUCXJ	○	AC120V	
DBDXJ	○	AC110-127V/220-230V/240V	With the voltage selector

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T - IZE MAR. 1999 Printed in Japan

1. SAFETY INFORMATION

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



WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65



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.

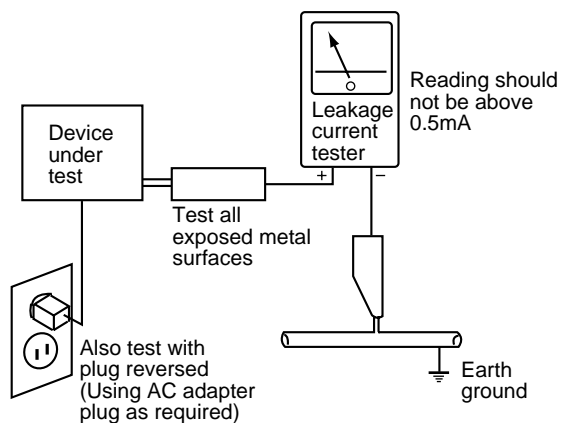
(FOR USA MODEL ONLY)

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 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



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 Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does 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.

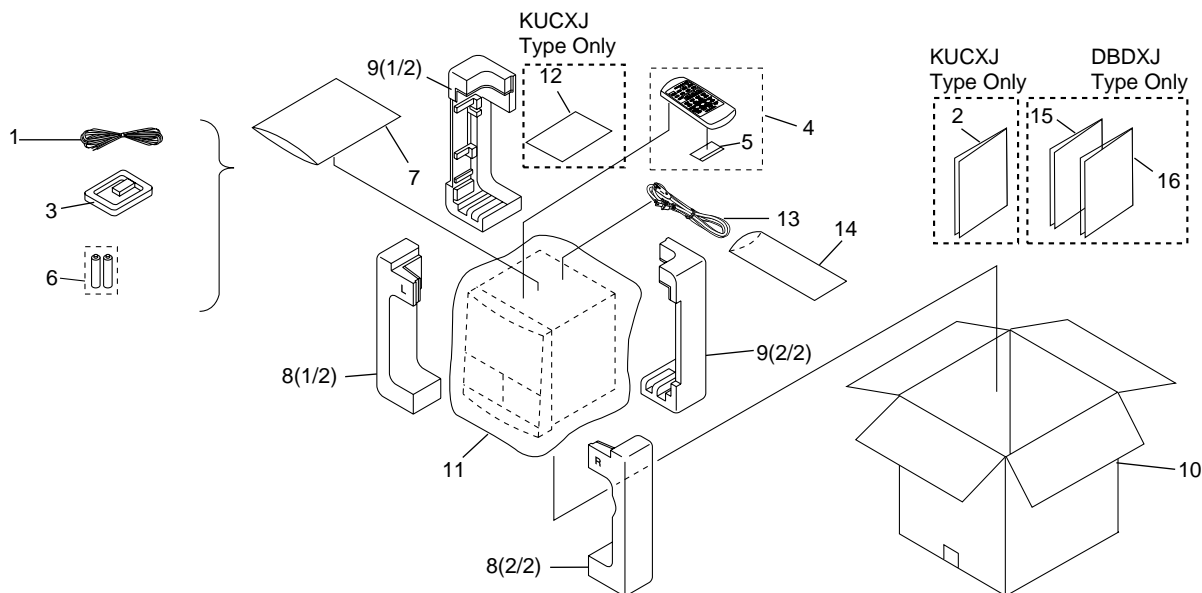
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" and ⊗ can not be supplied.

- 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



(1) PACKING PARTS LIST

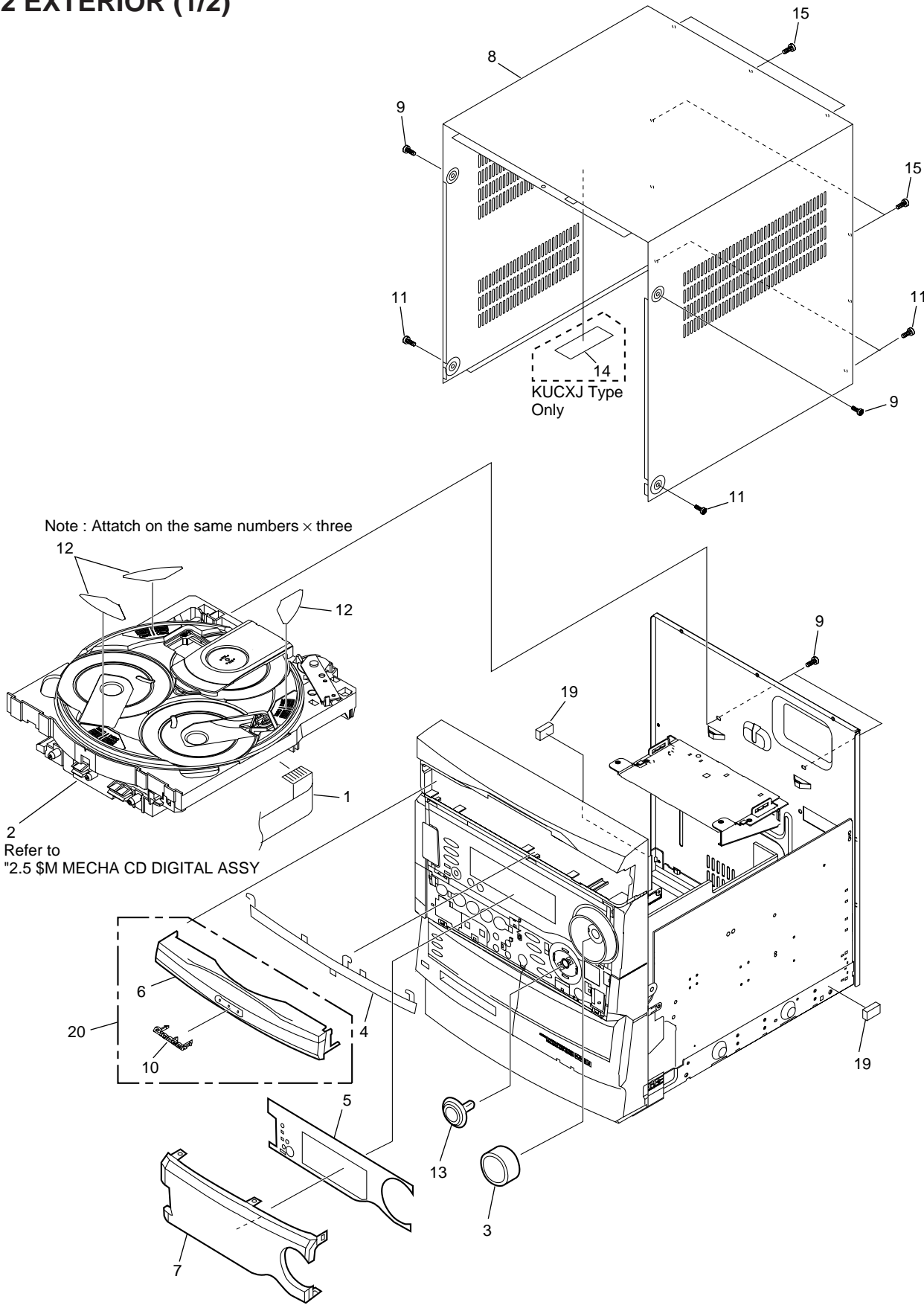
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	FM Antenna	ADH7004		9	Rear Pad	XHA3004
	2	Operating Instructions (English/French)	See Contrast table (2)		10	Packing Case	See Contrast table (2)
	3	AM Loop Antenna	XTB3001		11	Packing Sheet	AHG7049
	4	Remote Control Unit (CU-XR054)	XZN3046	NSP	12	Warranty Card	See Contrast table (2)
	5	Battery Cover	AZA7204	△	13	Power Cord	See Contrast table (2)
NSP	6	Dry Cell Battery (R6P, AA)	VEM-013	NSP	14	Polyethylene Bag	AHG7033
	7	Catalog Bag (0.03 × 230 × 340)	Z21-038		15	Operating Instructions (Chinese/portuguese)	See Contrast table (2)
	8	Front Pad	XHA3003		16	Operating Instructions (English/Spanish)	See Contrast table (2)

(2) CONTRAST TABLE

XR-A550MD/KUCXJ and DBDXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			KUCXJ Type	DBDXJ Type	
NSP △	2	Operating Instructions (English/French)	XRE3021	Not used	
	10	Packing Case	XHD3078	XHD3079	
	12	Warranty Card	ARY7023	Not used	
	13	Power Cord	ADG7022	ADG1158	
	15	Operating Instructions (Chinese/Portuguese)	Not used	XRC3011	
	16	Operating Instructions (English/Spanish)	Not used	XRE3022	

2.2 EXTERIOR (1/2)



(1) EXTERIOR (1/2) PARTS LIST

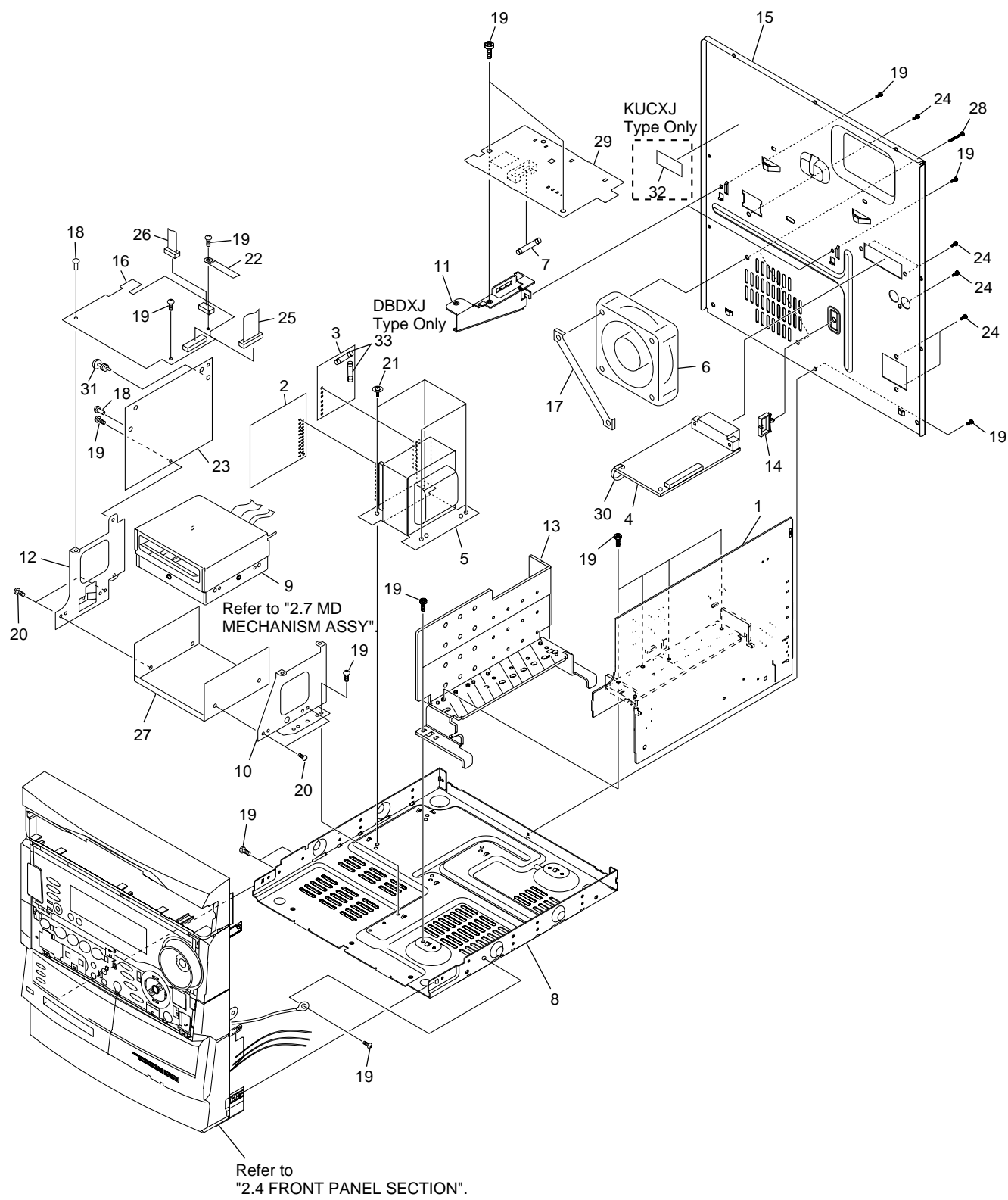
Mark	No.	Description	Part No.
NSP	1	22P F.F.C/30V	XDD3018
	2	\$M MECHA CD DIGITAL Assy	XXA3006
	3	Volume Knob	XAA3005
	4	FL Cover A	See Contrast table (2)
	5	FL Cover C	XAK3071
	6	Tray Cap	XAK3075
	7	Display Panel	See Contrast table (2)
	8	Bonnet Case	XZN3001
	9	Screw	BPZ30P100FZK
	10	Pioneer Badge	XAM3001
	11	Screw	VBZ30P080FZK
	12	Disc Label	XAX3127
	13	Jog Knob Assy	XXG3023
	14	65 Label	See Contrast table (2)
	15	Screw	BCZ30P080FZK
NSP	16	
	17	
	18	
	19	Cushion Rubber	XEB3002
	20	Tray Cap Assy	XXG3031

(2) CONTRAST TABLE

XR-A550MD/KUCXJ and DBDXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			KUCXJ Type	DBDXJ Type	
	4	FL Cover A	XAK3093	XAK3026	
	7	Display Panel	XAK3057	XAK3064	
	14	65 Label	ARW7050	Not used	

2.3 EXTERIOR (2/2)



(1) EXTERIOR (2/2) PARTS LIST

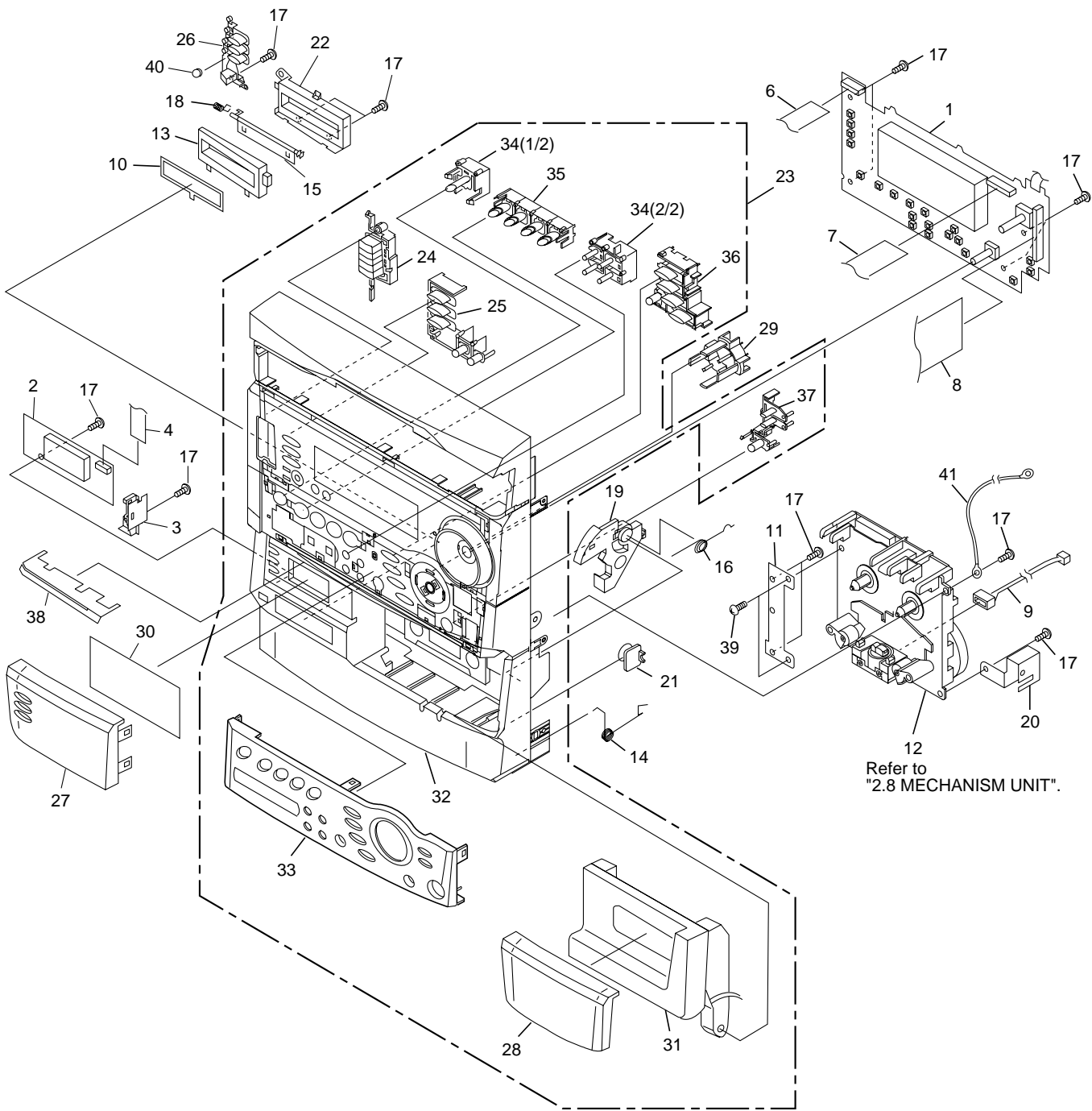
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⊗	1	AF Assy	See Contrast table (2)	⊗	16	MD MAIN Assy	See Contrast table (2)
⊗	2	SECONDARY Assy	See Contrast table (2)		17	Fan Plate	ANG7153
⊗	3	PRIMARY Assy	See Contrast table (2)		18	Push Rivet	AEC7149
	4	FM/AM TUNER MODULE	AXQ7065		19	Screw	VBZ30P080FZK
△	5	Power Transformer (T1)	See Contrast table (2)		20	M3 Plastic Screw	XBB3001
	6	DC Fan Motor	AXM7003		21	Screw	ASZ40P060FMC
△	7	Fuse (FU1)	See Contrast table (2)		22	Cord Clamper	RNH-184
NSP	8	Chassis	XNA3002	⊗	23	MD SUB Assy	See Contrast table (2)
	9	MD Mechanism Assy	AXA7054		24	Screw	BPZ30P100FZK
	10	MD Bracket R	XNG3011		25	Connector Assy 9P	XDE3008
	11	PCB Bracket	XNG3006		26	Connector Assy 3P	XDE3024
	12	MD Bracket L	XNG3010		27	Separation Sheet	XEC3010
	13	Heat Sink	XNH3003		28	Screw	BBZ30P300FMC
	14	Wire Clip	XEC3002	⊗	29	SUB TRANS Assy	See Contrast table (2)
	15	Rear Panel	See Contrast table (2)		30	Binder	ZCA-SKB90BK
				NSP	31	PCB Spacer	AEC7080
					32	Fuse Caution Label	See Contrast table (2)
				△	33	Fuse (FU2, FU3 : T1.6A)	See Contrast table (2)

(2) CONTRAST TABLE

XR-A550MD/KUCXJ and DBDXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			KUCXJ Type	DBDXJ Type	
⊗	1	AF Assy	XWZ3172	XWZ3181	
⊗	2	SECONDARY Assy	XWZ3173	XWZ3182	
⊗	3	PRIMARY Assy	XWZ3175	XWZ3184	
△	5	Power Transformer (T1)	XTS3030	XTS3028	
△	7	Fuse (FU1 : 4A)	REK1082	Not used	
△	7	Fuse (FU1 : T3.15A)	Not used	AEK1059	
	15	Rear Panel	XNC3031	XNC3032	
⊗	16	MD MAIN Assy	XWZ3177	XWZ3186	
⊗	23	MD SUB Assy	XWZ3179	XWZ3188	
⊗	29	SUB TRANS Assy	XWZ3176	XWZ3185	
	32	Fuse Caution Label	XAX3132	Not used	
△	33	Fuse (FU2, FU3 : T1.6A)	Not used	AEK1056	

2.4 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

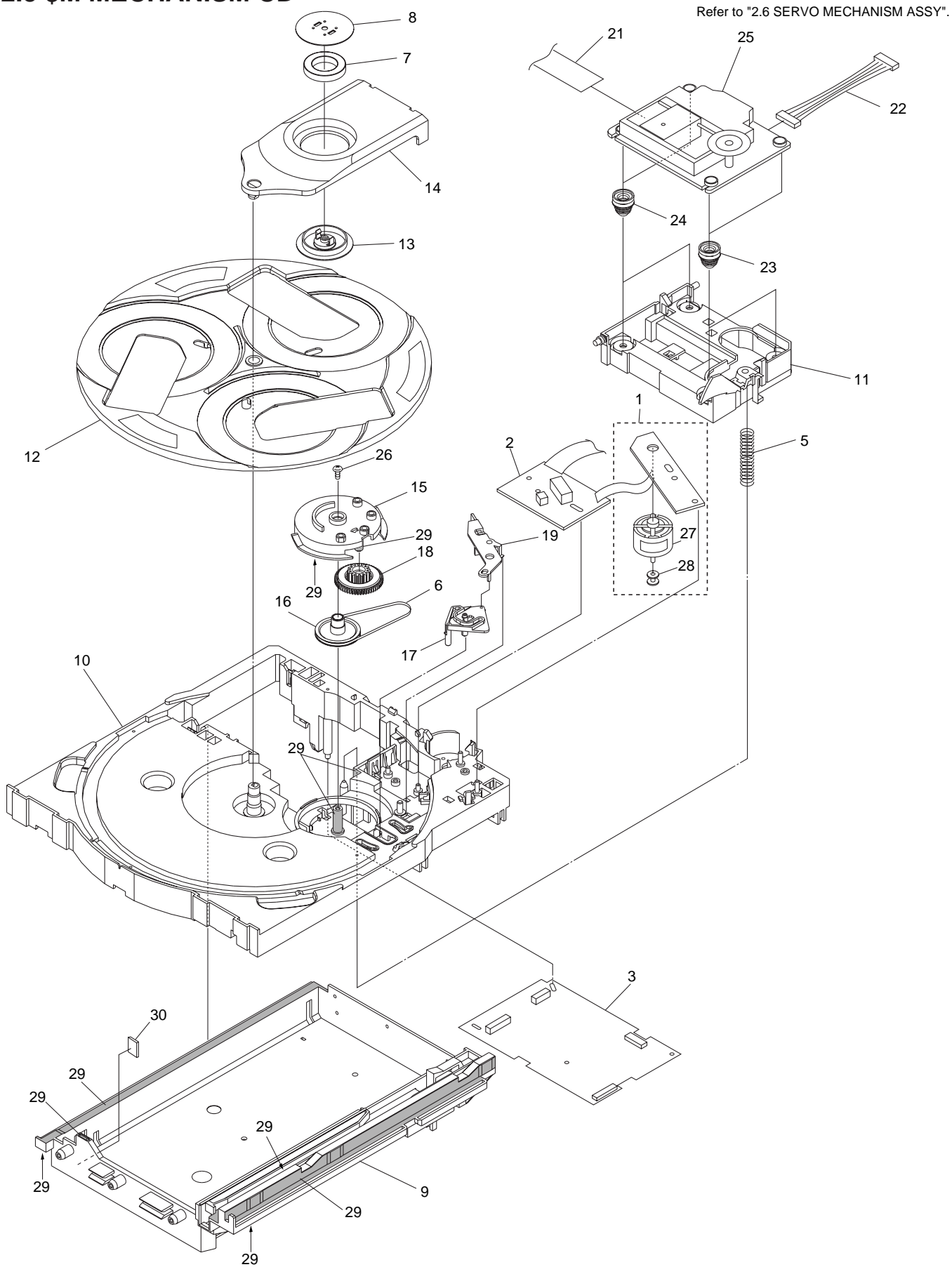
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⊗	1	DISPLAY Assy	See Contrast table (2)		21	Damper Assy	AXA7052
⊗	2	MD FRONT Assy	See Contrast table (2)		22	Flap Holder	XMR3004
⊗	3	MD LED Assy	See Contrast table (2)		23	Front Panel Assy	XXG3018
	4	Flexible Cable 11P	XDD3020		24	Function Button	XAD3020
	5	•••••			25	CD Button	XAD3010
	6	Flexible Cable 13P	XDD3021		26	Eject Button	XAD3023
	7	Flexible Cable 11P	XDD3019		27	FL Window MD	XAK3070
	8	Flexible Cable 38P	XDD3004		28	Deck Lens R	XZN3063
	9	Connector Assy 5P	XDE3002	NSP	29	Jog Lens	XAK3025
	10	MD Lens	XAK3073		30	FL Cover MD	XAK3072
	11	Deck Bracket	XNG3013		31	Deck Door R	XAN3009
	12	Mechanism Unit	XYM3004		32	Front Panel	XMB3015
	13	LT Conductor	XAK3074		33	Sub Panel A	XAK3046
	14	Door Spring R	XBH3002	NSP	34	Power Button	XAD3007
	15	MD Flap	AAN7186		35	Play Button	XAD3022
	16	Latch Spring R	ABH7131	NSP	36	S.C. Button	XAD3009
	17	Screw	BPZ30P100FZK	NSP	37	TIMER Button	XAD3016
	18	MD Spring	ABH7154		38	FL Cover D	See Contrast table (2)
	19	Latch Mold R	XMR3002		39	Screw	PCZ20P040FMC
	20	GND Plate C	XNG3012		40	Cushion A	PED1001
				NSP	41	Cord with Plug	DE007VE0

(2) CONTRAST TABLE

XR-A550MD/KUCXJ and DBDXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			KUCXJ Type	DBDXJ Type	
⊗	1	DISPLAY Assy	XWZ3174	XWZ3183	
⊗	2	MD FRONT Assy	XWZ3178	XWZ3187	
⊗	3	MD LED Assy	XWZ3180	XWZ3189	
	38	FL Cover D	XAK3094	XAK3092	

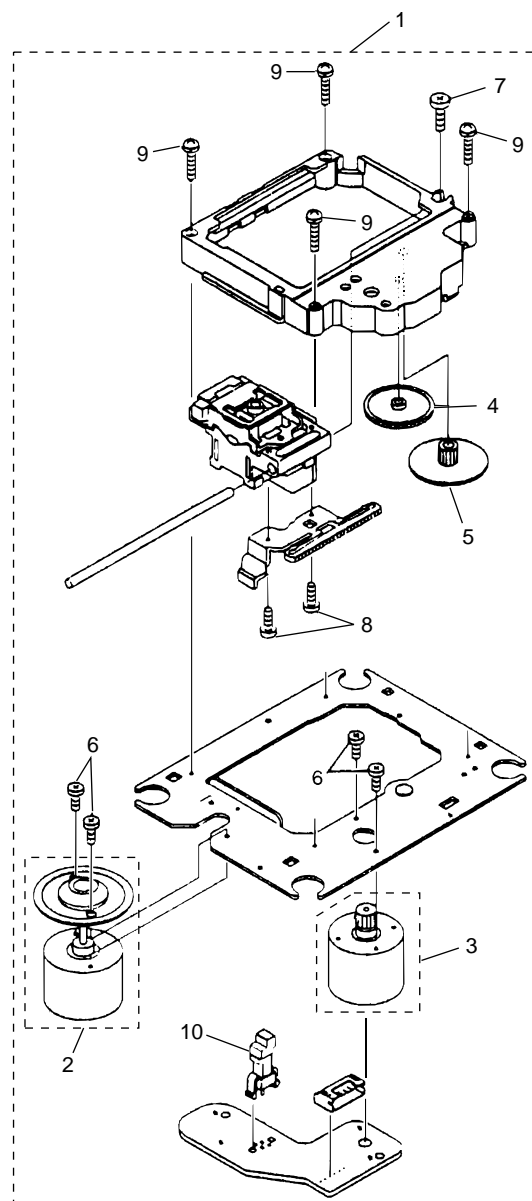
2.5 \$M MECHANISM CD



2.6 SERVO MECHANISM ASSY

● \$M MECHANISM CD PARTS LIST

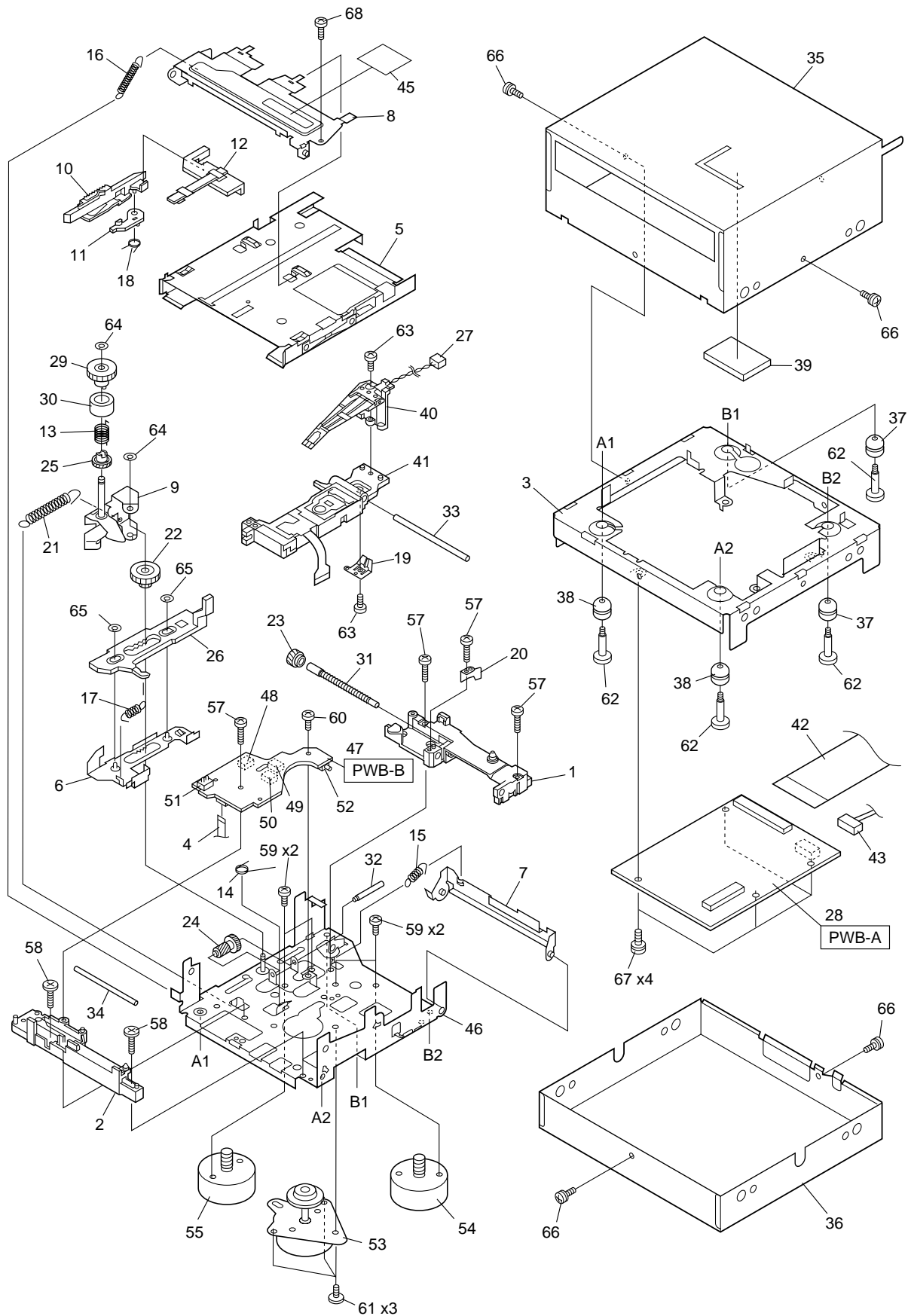
Mark	No.	Description	Part No.
⊗	1	MOTOR Assy	AWZ8428
NSP	2	SW Assy	AWZ8429
⊗	3	CD Assy	XWZ3141
	4	•••••	
	5	Servo Spring	ABH7126
	6	Belt	AEB7072
	7	Clamp Magnet	AMF7001
	8	Yoke	ANB7067
	9	Mecha Base	ANW7125
	10	Loading Tray	ANW7088
	11	Servo Base	ANW7089
	12	Rotary Tray	ANW7113
	13	Clamper	ANW7091
	14	Clamper Holder	ANW7092
	15	Main Cam	ANW7093
	16	Gear Pulley	ANW7094
	17	Lock Lever	ANW7095
	18	Planet Gear	ANW7096
	19	Actuator	ANW7097
	20	•••••	
	21	15P F.F.C/30V	ADD7038
	22	Connector Assy (6P)	ADE7010
	23	Float Rubber A	AEB7063
	24	Float Rubber B	AEB7066
	25	Servo Mechanism Assy	AXA7039
	26	Screw	IPZ30P080FMC
	27	Carriage Motor	VXM1033
	28	Motor Pulley	PNW1634
	29	Ha Narl	GEM1016
	30	Cushion Rubber	XEB3003



● SERVO MECHANISM ASSY PARTS LIST

Mark	No.	Description	Part No.
	1	Servo Mechanism	AXA7039
	2	SPINDLE MOTOR Assy	AEA7009
	3	SLEAD MOTOR Assy	AEA7010
	4	Gear A	AEA7013
	5	Gear B	AEA7014
	6	Screw	AEA7015
	7	Screw	AEA7016
	8	Screw	AEA7017
	9	Screw	AEA7018
	10	Leaf Switch	AEA7011

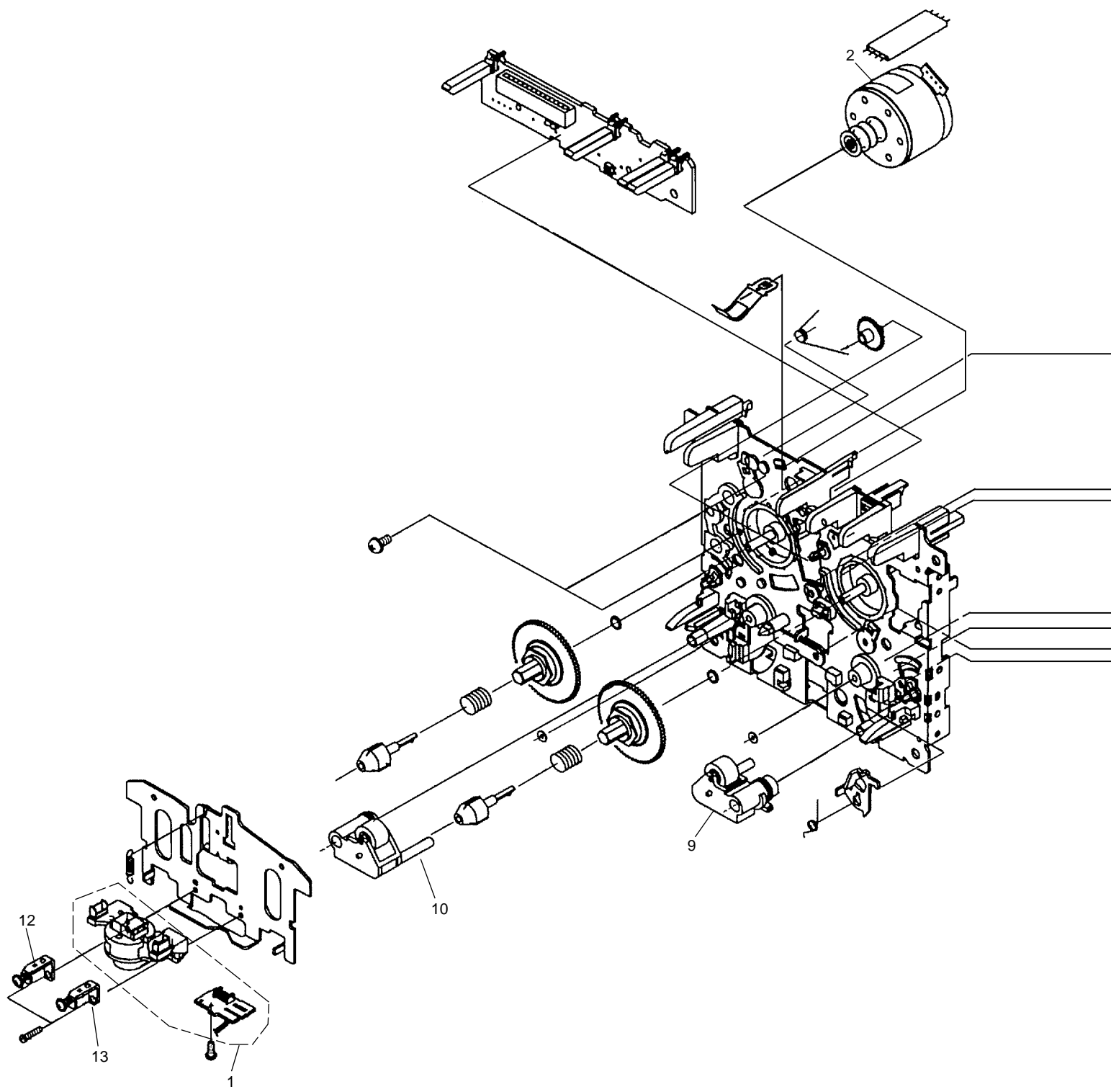
2.7 MD MECHANISM ASSY



● MD MECHANISM ASSY PARTS LIST

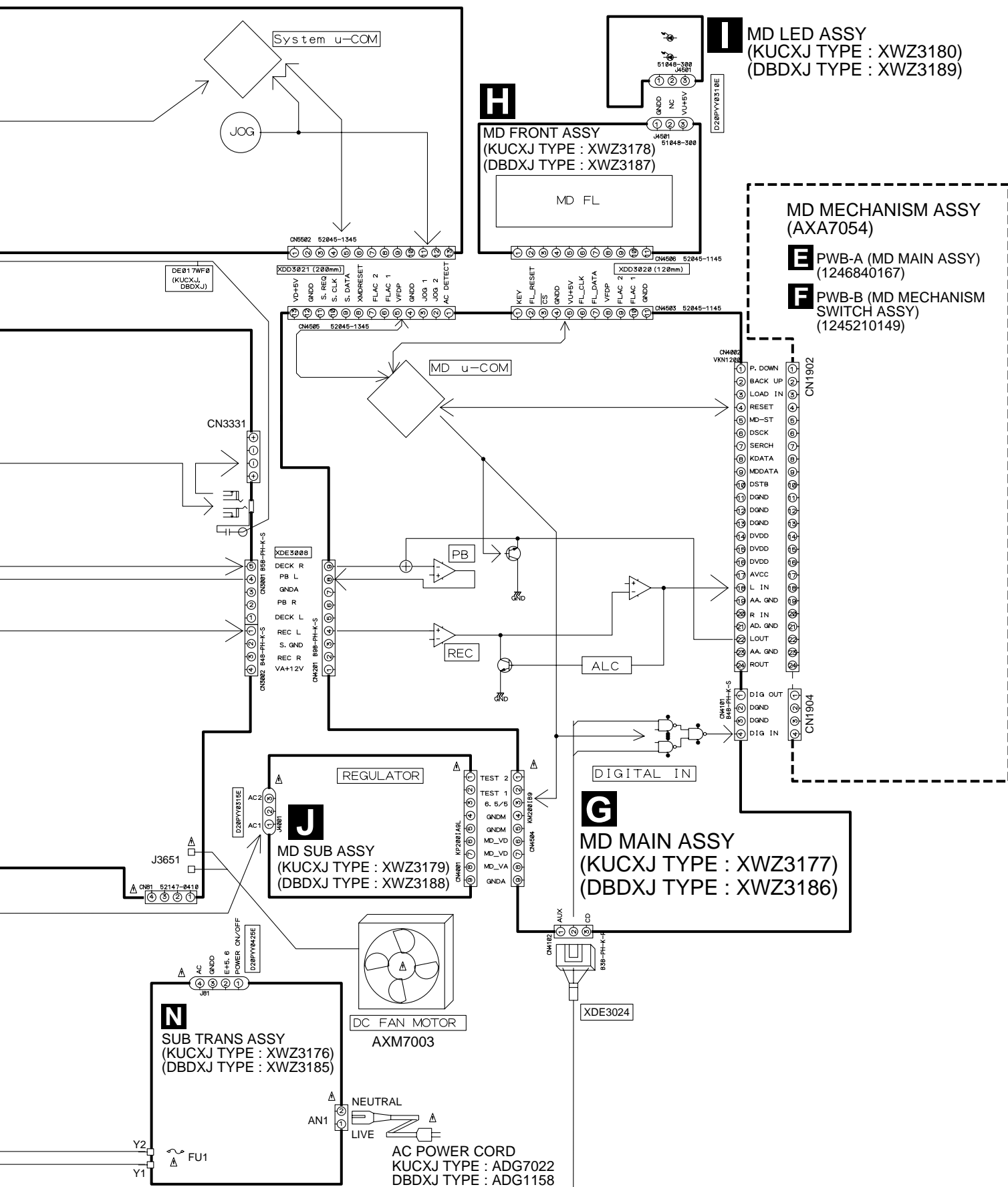
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Loading Gear Shaft	1242900108		36	Bottom Cover	1243230028
	2	MD Guide (B)	1242000209		37	Cushion (A)	1243260020
	3	Base Frame	1242000210		38	Cushion (B)	1243260021
	4	Flat Cable 5P (CW1901)	1245120287		39	Cushion	1243260097
	5	Cartridge Holder	1242140138		40	Magnet Head	1246100008
	6	Cam Plate Lever	1242480122		41	Pickup	1246170019
	7	H/A Shift Arm	1242480123		42	MD Flexible Cable (24P)	1245120301
	8	Holder Arm	1242480124		43	Connector Assy	1245120299
	9	Roller Arm Lever	1242480125		44	•••••	
	10	Clamper Lever	1242480126		45	Head Guard Sheet	1244030163
	11	Catch	1242480127		46	Drive Chassis	1242070047
	12	Slider Lever	1242480128		47	PWB-B	1245210149
	13	Roller Holder Spring	1242580157			(MD Mechanism Switch Assy)	
	14	Spring	1242580159		48	Push Switch (SW1956)	1245300025
	15	Shift Arm Spring	1242580053		49	Push Switch (SW1954)	1245300026
	16	Holder Arm Spring	1242580054		50	Push Switch (SW1955)	1245300026
	17	Rack Spring	1242580055		51	Push Switch (SW1952)	1245300027
	18	Catch Spring	1242580094		52	Slide Switch (SW1953)	1305301315
	19	Spring (A)	1242580160		53	Spindle Motor (M901)	1246300048
	20	Drive Shaft Spring	1242580161		54	Sled Motor (M902)	1246300049
	21	Roller Arm Spring	1242580093		55	Loading Motor (M903)	1246300050
	22	Loading Gear (B)	1242810063		56	•••••	
	23	Drive Gear	1242810064		57	Screw	1249700161
	24	Loading Gear (A)	1242810065		58	Screw	1249700162
	25	Roller Gear	1242810066		59	Screw	1249700163
	26	Rack Gear	1242810067		60	Screw	1249700061
	27	Connector 2P (CN1903)	1245120288		61	Screw	1249700065
	28	PWB-A (MD Main Assy)	1246840167		62	Screw	1249700076
	29	Roller Holder	1242860001		63	Screw	1249700108
	30	Transfer Roller	1242870014		64	Washer	1249900005
	31	Drive Shaft	1242900105		65	Washer	1249900006
	32	Pickup Guide Shaft	1242900040		66	Screw	1189700020
	33	MD Guide (A)	1242000208		67	Screw	1249700077
	34	Pickup Slide Shaft	1242900039		68	Screw	1249700011
	35	Top Cover	1243230027				

2.8 MECHANISM UNIT



Mark	No.	Description	Part No.
	1	Plate HD BLK	F513-811
	1	Plate HD BLK	F513-825
	2	Motor Main BLK	F525-324
	3	•••••	
	4	•••••	
	5	Clutch Assy BLK	F522-037
	6	Main Belt	FF17G-31
	7	•••••	
	8	Clutch Assy BLK	F522-045
	9	Roller Pinch BLK R	F514-129
	10	Roller Pinch BLK L	F514-130
	11	F/R Belt	FF18W-12
	12	Plate Base BLK	F512-127
	13	Plate Base BLK	F512-128

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



Notes

1.RESISTORS

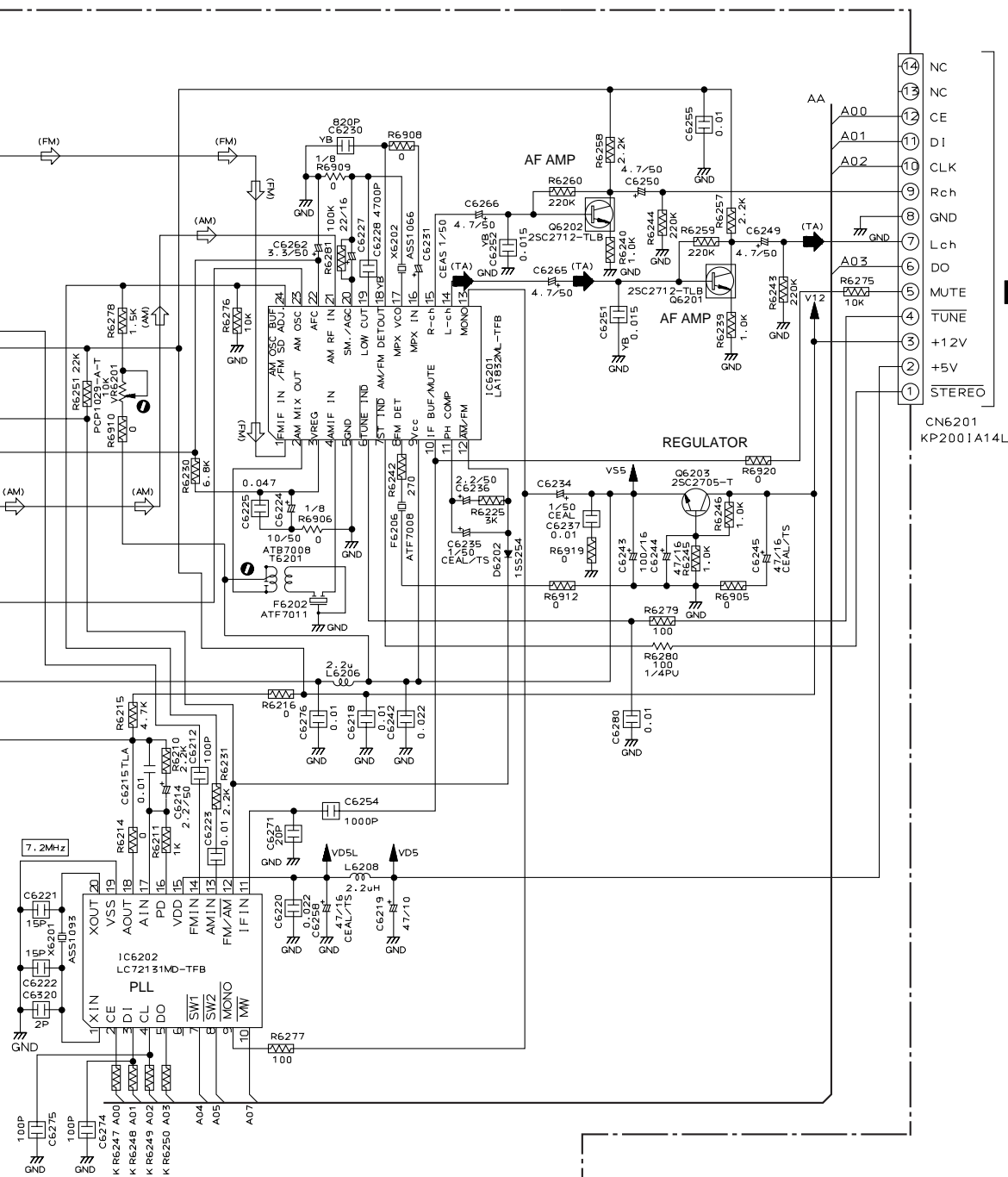
Indicated in Ω , 1/10W \pm 5% Tolerance unless otherwise noted K:K Ω , M:M Ω .

2.CAPACITORS

Indicated in Capacity (μ F)/VOLTAGE (V) unless otherwise noted P:PF.

3.DIODES

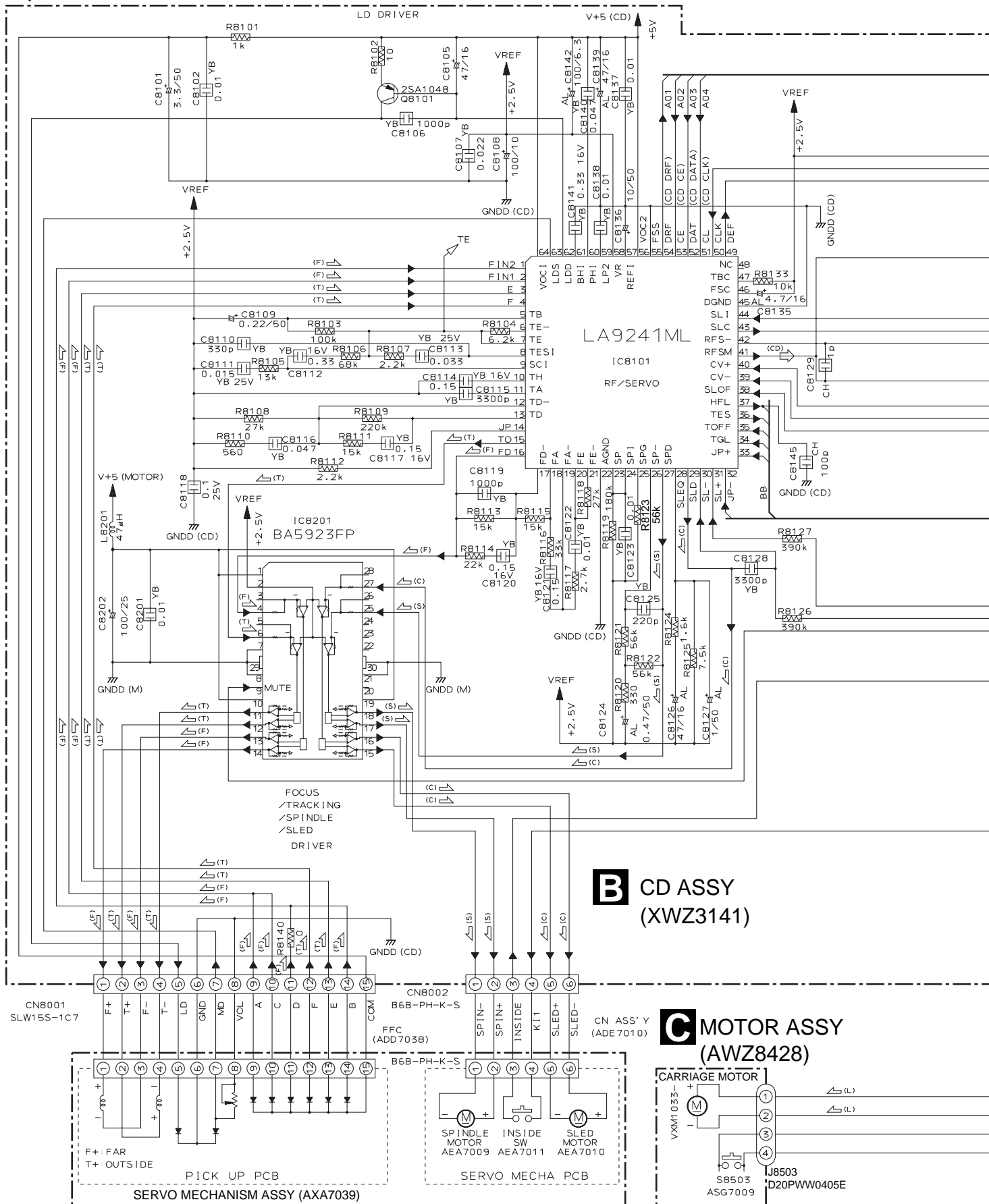
No mark diode is 1SS254.



K2/3 CN3051

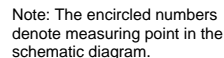
CN6201
KP2001A14L

3.3 CD, MOTOR and SW ASSEMBLIES



B CD ASSY
(XWZ3141)

C MOTOR ASSY
(AWZ8428)



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

① CN8005- Pin 1 :
PLAY MODE (RF)
H : 500nsec/div

② CN8005- Pin 2 :
TEST MODE,
Tracking Open(TRE
H : 5msec/div

VREF:CN8005- Pin3

+5 (CD)
DGND (CD)
CD_Rch
AGND
CD_Lch
DGND (M)
+5 (M)
CD_DRF
CD_CS
CD_RESE
CD_CE
CLAMP
OPEN
INSIDE
DISC123
K11
CD_DATA
CD_SQUO
CD_CLK
CD_WRO
DGND (CD)
DOUT

K ^{2/3} CN1052

HLEM22R-1

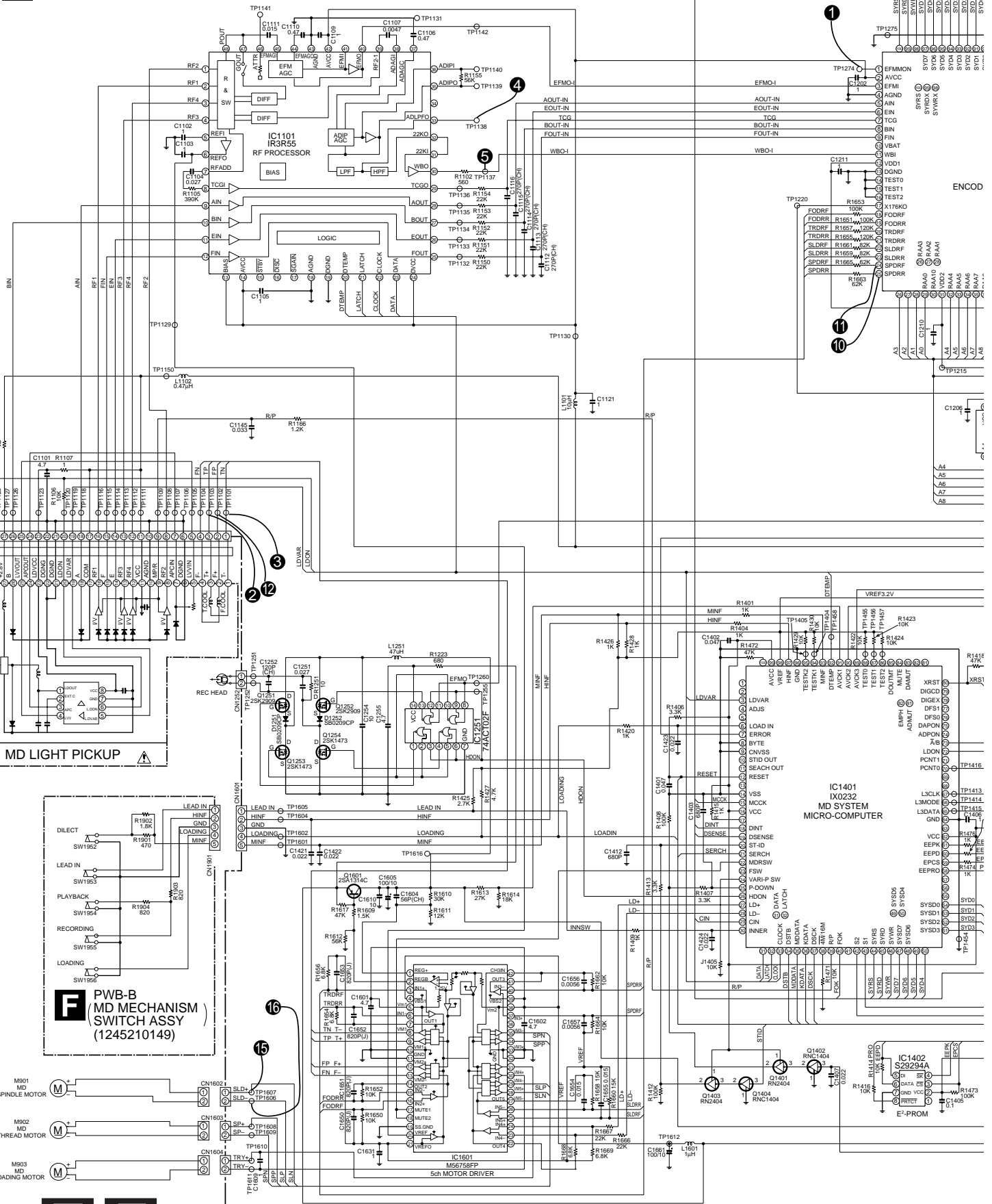
NOTES

1. Resistors :
Indicated in Ω , 1/10W, $\pm 5\%$ tolerance unless otherwise noted k: $k\Omega$ M: $M\Omega$.
2. Capacitors :
Indicated in μF /voltage unless otherwise noted p:pF. Indication without voltage is 50V except electronic capacitors.
*Electronic capacitors CEAS000M
AL:CEAL
*Ceramic capacitors:CKSQYF000Z
YB:CKSQYB CH:CCSQCH
3. Inductors :LFA000

D
SW ASSY
(AWZ8429)

3.4 PWB-A (MD MAIN ASSY) and PWB-B (MD MECHANISM SWITCH ASSY)

PWB-A (MD MAIN ASSY)(1246840167)





■ Voltages of PWB-A (MD MAIN ASSY)

Q1801	
PIN NO.	VOLTAGE
E	5V
C	5V
B	43V

Q1802	
PIN NO.	VOLTAGE
E	0V
C	0V
B	0.15V

Q1803	
PIN NO.	VOLTAGE
E	0V
C	0V
B	3.1V

Q1807	
PIN NO.	VOLTAGE
E	3.95V
C	3.2V
B	3.3V

Q1820	
PIN NO.	VOLTAGE
E	3.2V
C	3.18V
B	2.4V

Q1821	
PIN NO.	VOLTAGE
E	0V
C	0V
B	3.08V

Q1822	
PIN NO.	VOLTAGE
E	0V
C	0V
B	0.1V

Q1451	
PIN NO.	VOLTAGE
E	0V
C	3.18V
B	0.1V

Q1401	
PIN NO.	VOLTAGE
E	3.2V
C	3.2V
B	0V

Q1402	
PIN NO.	VOLTAGE
E	0V
C	0V
B	2.3V

Q1403	
PIN NO.	VOLTAGE
E	3.18V
C	0V
B	3.15V

IC1907	
PIN NO.	VOLTAGE
1	2.8V
2	2.6V
3	4.9V
4	2.6V
5	1.6V
6	0V
7	0V
8	4.9V
9	0V
10	2.2V
11	5V
12	5V
13	0V
14	3.2V
15	3.1V
16	5V

IC1990	
PIN NO.	VOLTAGE
1	1.45V
2	1.7V
3	1.45V
4	1.7V
5	1.45V
6	1.7V
7	0V
8	1.7V
9	1.45V
10	1.37V
11	1.7V
12	1.37V
13	1.7V
14	3.17V

IC1202	
PIN NO.	VOLTAGE
1	1.1V
2	1.1V
3	3V
4	2V
5	1.5V
6	1.8V
7	0.8V
8	2.4V
9	1.2V
10	3.2V
11	1.2V
12	2.5V
13	1.3V
14	1.7V
15	1.3V
16	2.2V
17	2.4V
18	1.2V
19	1.1V
20	0V

IC1101	
PIN NO.	VOLTAGE
1	0.7V
2	0.7V
3	0.7V
4	0.7V
5	1.6V
6	1.6V
7	0.7V
8	1.6V
9	1.6V
10	1.6V
11	1.6V
12	1.6V
13	3.2V
14	3.2V
15	0V
16	Groove:3.2V Pit:0V
17	Low-reflection: 0V High-reflection: 3.2V
18	0V
19	0V
20	1.45V
21	3.2V
22	0V
23	0V
24	3.2V
25	1.78V
26	1.78V
27	1.35V
28	1.36V
29	1.6V
30	1.6V
31	1.6V
32	1.6V
33	1.6V
34	0V
35	1.6V
36	1.6V
37	0.3V
38	1.6V
39	1.6V
40	1.6V
41	1.6V
42	3.2V
43	0V
44	1V
45	1.6V
46	1.6V
47	0.7V
48	0.7V

Q1404	
PIN NO.	VOLTAGE
E	0V
C	3.15V
B	2.1V

Q1601	
PIN NO.	VOLTAGE
E	5.45V
C	4.4V
B	4.8V

IC1201			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	1.48V	51	58V
2	0V	52	0V
3	1.6V	53	0V
4	0V	54	58V
5	1.36V	55	0V
6	1.77V	56	0V
7	1.6V	57	3.2V
8	1.36V	58	3.2V
9	1.77V	59	3.2V
10	1.25V	60	3.17V
11	1.6V	61	0V
12	3.17V	62	3.17V
13	0V	63	0V
14	0V	64	1.3V
15	0V	65	1.3V
16	0V	66	DIC input:1.58V Other:0V
17	1.45V	67	1.58V
18	1.56V	68	3.17V
19	1.62V	69	0V
20	1.7V	70	1.5V
21	1.5V	71	1.55V
22	1.63V	72	1.5V
23	1.53V	73	0V
24	1.8V	74	1V
25	1.4V	75	1.55V
26	1.2V	76	1.8V
27	2.5V	77	1.56V
28	0.8V	78	0V
29	1.8V	79	0V
30	1.4V	80	3.16V
31	3.2V	81	0V
32	1.2V	82	0V
33	2.5V	83	0V
34	1.3V	84	1.5V
35	1.7V	85	1.5V
36	1.3V	86	3.1V
37	2.2V	87	3.17V
38	0V	88	0V
39	2.4V	89	3.17V
40	1.2V	90	0.5V
41	1.1V	91	0.6V
42	1.5V	92	0.4V
43	2V	93	0.4V
44	3V	94	0.4V
45	1.1V	95	0.9V
46	1.1V	96	0.7V
47	0V	97	0.8V
48	3V	98	3.16V
49	1.56V	99	3.15V
50	PLAY:0V REC:1.5V	100	0V

IC1801	
PIN NO.	VOLTAGE
1	0V
2	44V
3	3.2V
4	3.1V
5	0V

IC1901	
PIN NO.	VOLTAGE
1	5.5V
2	1.6V
3	0V
4	2.8V
5	5.5V

IC1401			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0V	51	0V
2	0V	52	0V
3	0.2V	53	0V
4	3.2V	54	0V
5	0V	55	0V
6	0V	56	0V
7	3.1V	57	0V
8	0V	58	0V
9	0V	59	3.2V
10	0V	60	0V
11	0V	61	3.2V
12	3.18V	62	3.2V
13	144V	63	0V
14	0V	64	0V
15	1.5V	65	3.2V
16	3.2V	66	3.2V
17	3.2V	67	3.2V
18	3.1V	68	0V
19	0V	69	0V
20	0V	70	3.1V
21	0V	71	0V
22	3.15V	72	3.1V
23	3.2V	73	97A:0V 97B:3.2V
24	0V	74	0V
25	3.2V	75	3.2V
26	3.2V	76	3.2V
27	0V	77	0V
28	0V	78	0V
29	2V	79	0V
30	3.2V	80	3.15V
31	0V	81	0V
32	3.2V	82	0V
33	0V	83	3.2V
34	0.8V	84	3.2V
35	2.2V	85	3.2V
36	0.2V	86	3.2V
37	2.3V	87	3.2V
38	0V	88	3.2V
39	PLAY:3.15V REC:0V	89	1.7V
40	0V	90	1.8V
41	0V	91	1.8V
42	0V	92	1.4V
43	3.2V	93	Low-reflection: 2.2V High-reflection: 0.1V
44	0V	94	3.2V
45	0V	95	3.2V
46	3.15V	96	0V
47	0V	97	2V
48	0V	98	3.2V
49	0V	99	3.2V
50	0V	100	0V

IC1601	
PIN NO.	VOLTAGE
1	1.25V
2	4V
3	1.5V
4	5.5V
5	5.5V
6	1.5V
7	5V
8	2.7V
9	2.8V
10	0V
11	0V
12	2.7V
13	2.76V
14	1.6V
15	1.6V
16	1.6V
17	3.15V
18	3.15V
19	0V
20	1.6V
21	1.6V
22	1.6V
23	1.23V
24	1.23V
25	1.6V
26	1.6V
27	1.62V
28	2.7V
29	2.8V
30	2.7V
31	2.7V
32	0V
33	0V
34	3.0V
35	2.4V
36	0V
37	1.64V
38	5.5V
39	5.5V
40	1.64V
41	1.68V
42	1.68V

IC1251	
PIN NO.	VOLTAGE
1	2.6V
2	2.6V
3	0.1V
4	2.6V
5	2.6V
6	0.1V
7	0V
8	1.56V
9	0.1V
10	2.6V
11	1.56V
12	0.1V
13	2.6V
14	5.2V

Q1251	
PIN NO.	VOLTAGE
D	4.4V
S	1.4V
G	2.6V

Q1252	
PIN NO.	VOLTAGE
D	4.4V
S	1.4V
G	2.6V

Q1253	
PIN NO.	VOLTAGE
D	15V
S	0V
G	2.6V

Q1254	
PIN NO.	VOLTAGE
D	15V
S	0V
G	2.6V

IC1701	
PIN NO.	VOLTAGE
1	0V
2	3.2V
3	1.4V
4	1.5V
5	1.4V
6	0V
7	3.2V
8	0V
9	0V
10	3.2V
11	0V
12	1.5V
13	3.17V
14	3.17V
15	3.17V
16	1.55V
17	3.17V
18	0V
19	1V
20	0V
21	0V
22	0V
23	3.2V
24	1.57V
25	3.2V
26	1.57V
27	0V
28	1.6V

IC1916	
PIN NO.	VOLTAGE
1	1.58V
2	3.2V
3	1.58V
4	3.2V
5	DIG input:2.2V Other:0V
6	DIG input:1.58V Other:0V
7	1.55V
8	2.2V
9	3.2V
10	3.2V
11	97A:3.2V 97B:1V
12	97A:3.2V 97A:0.9V

Q1804	
PIN NO.	VOLTAGE
E	5.4V
C	5.4V
B	4.8V

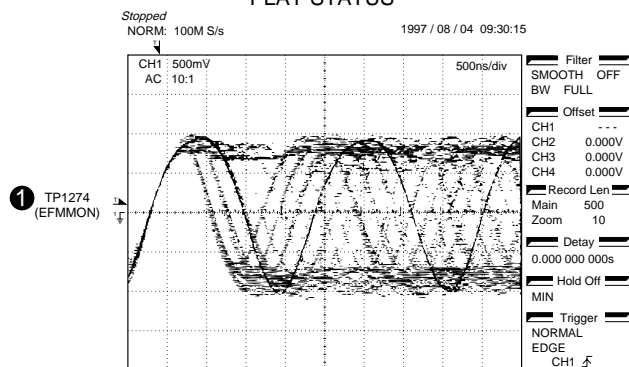
Q1805	
PIN NO.	VOLTAGE
E	0V
C	0.7V
B	3.1V

Q1701	
PIN NO.	VOLTAGE
E	3.2V
C	5.4V
B	3.85V

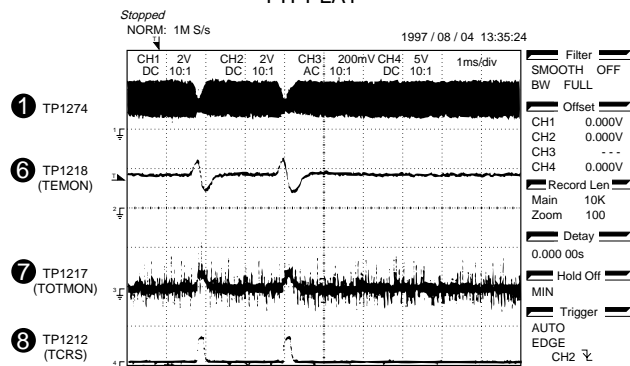
</

WAVEFORMS

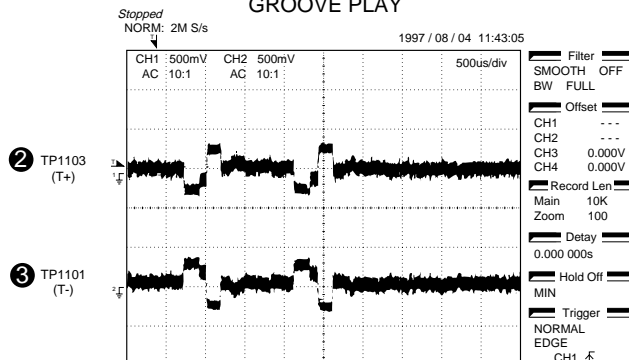
PLAY STATUS



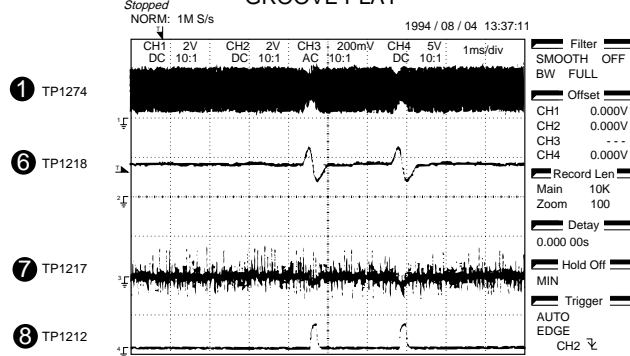
PIT PLAY



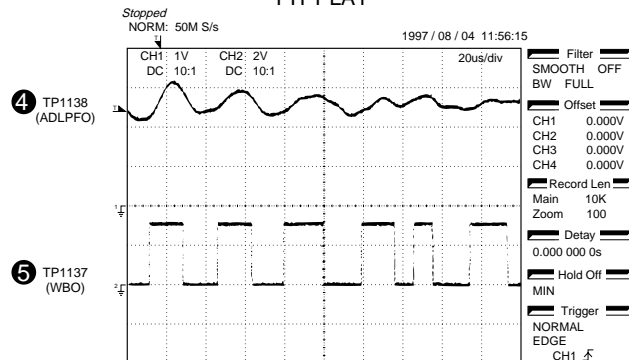
GROOVE PLAY



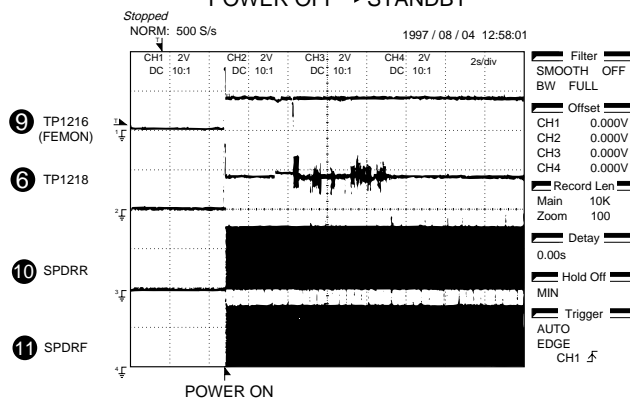
GROOVE PLAY



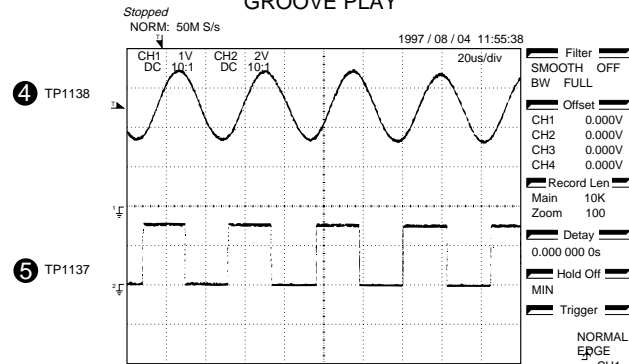
PIT PLAY



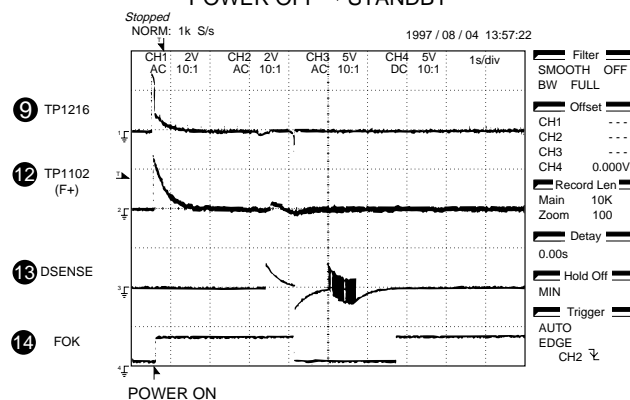
POWER OFF → STANDBY

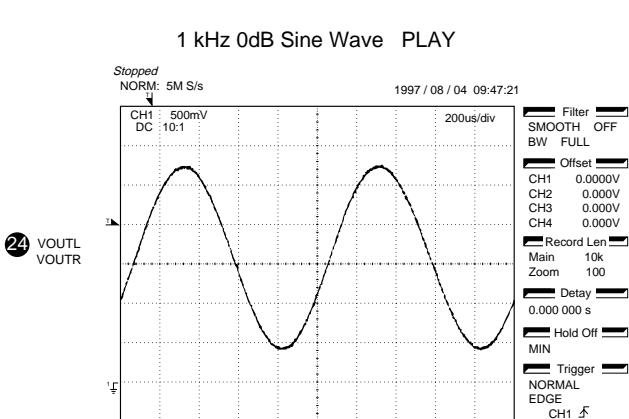
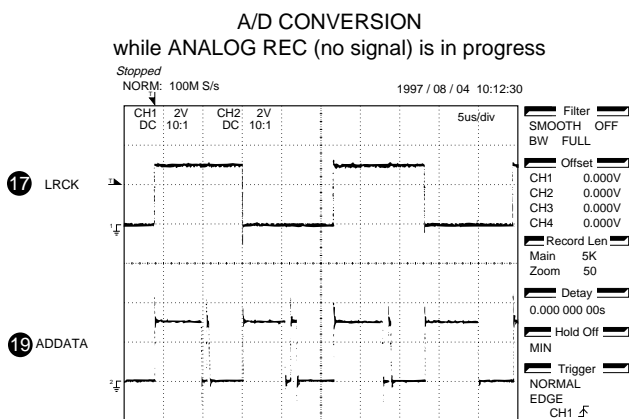
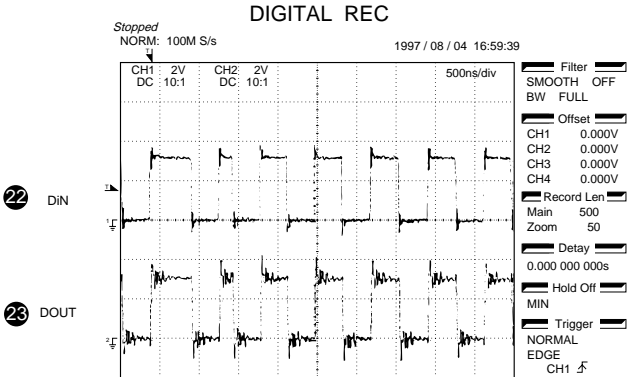
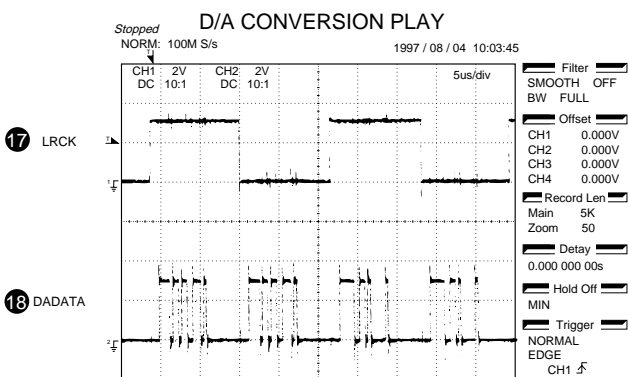
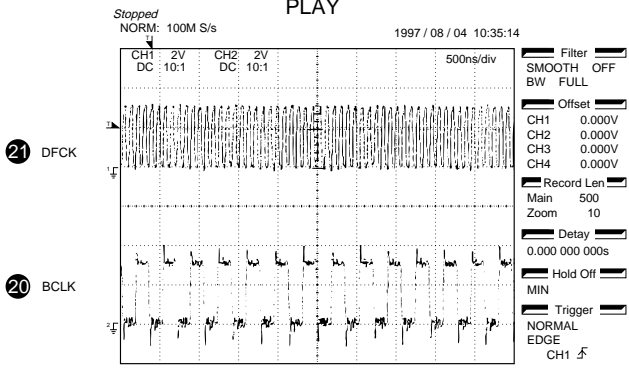
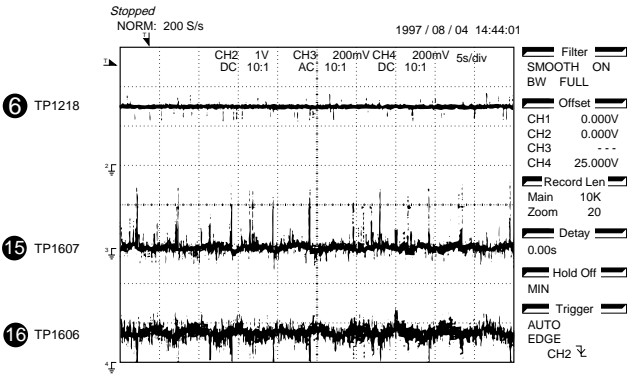
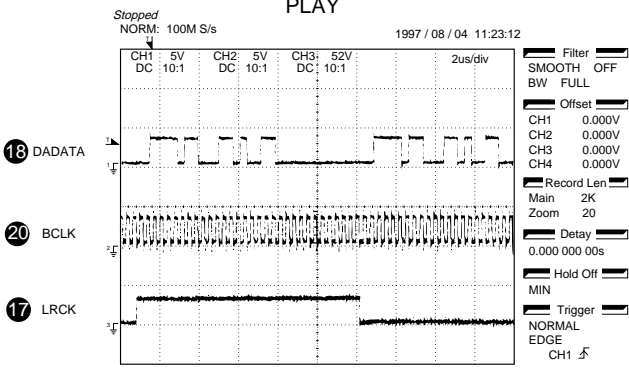
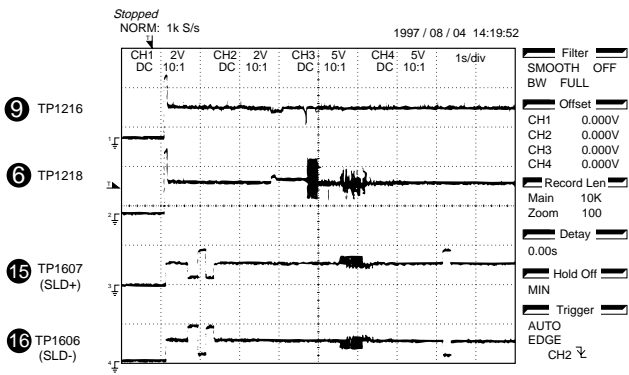


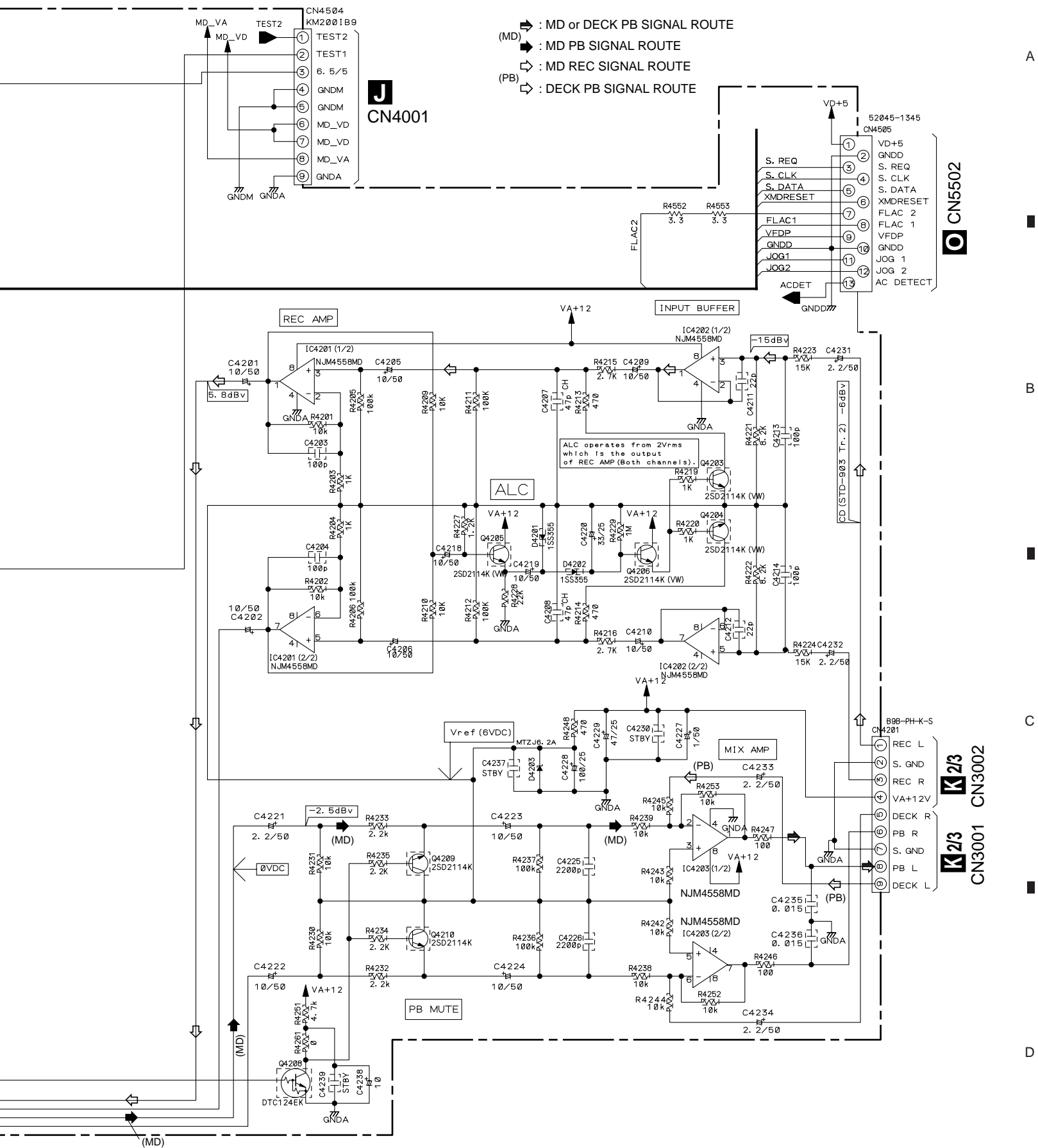
GROOVE PLAY

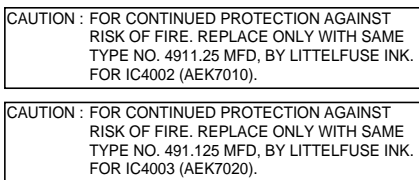


POWER OFF → STANDBY









3.7 AF ASSY (1/3)

K 1/3

AF ASSY

(KUCXJ TYPE : XWZ3172)

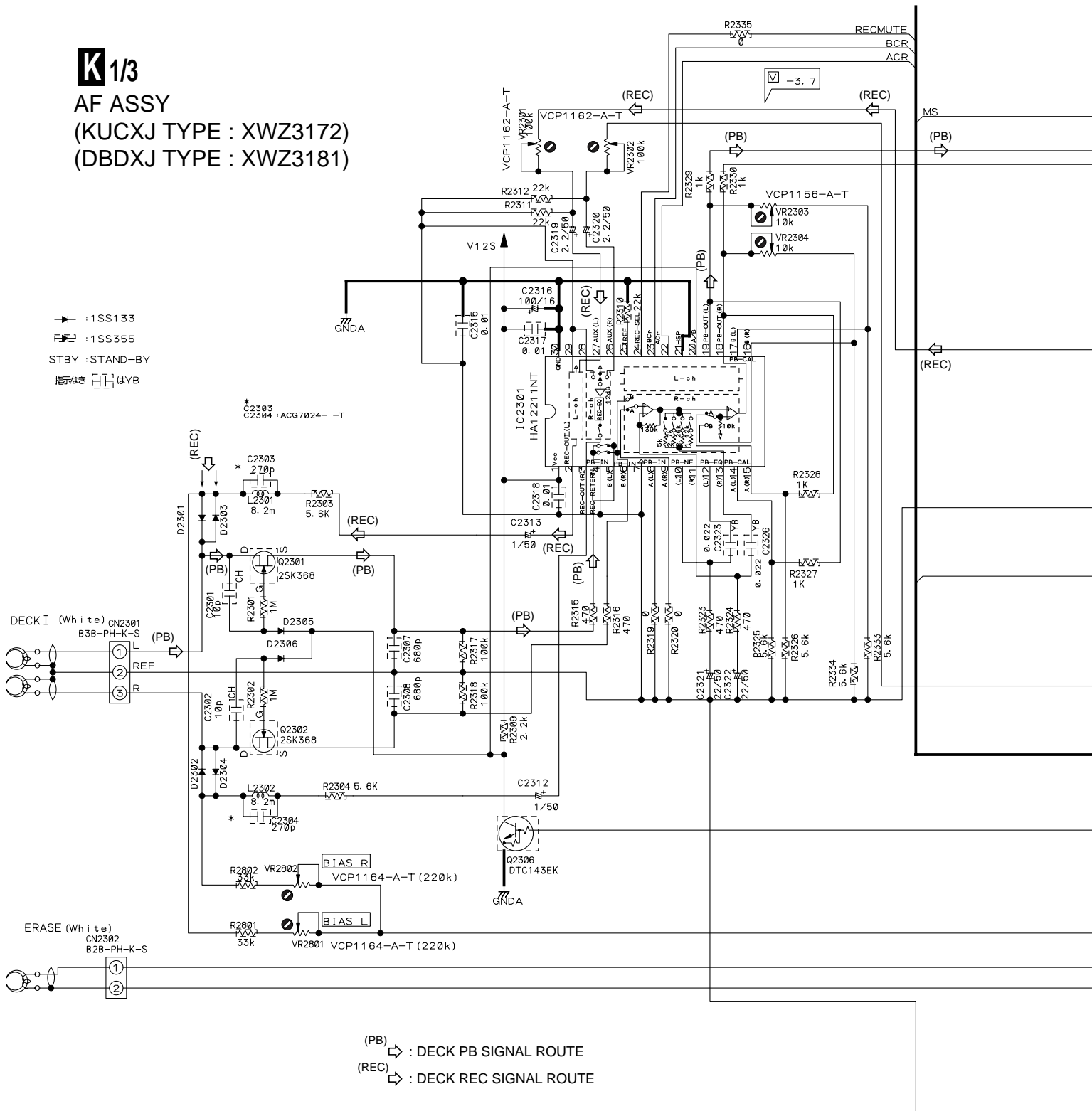
(DBDXJ TYPE : XWZ3181)

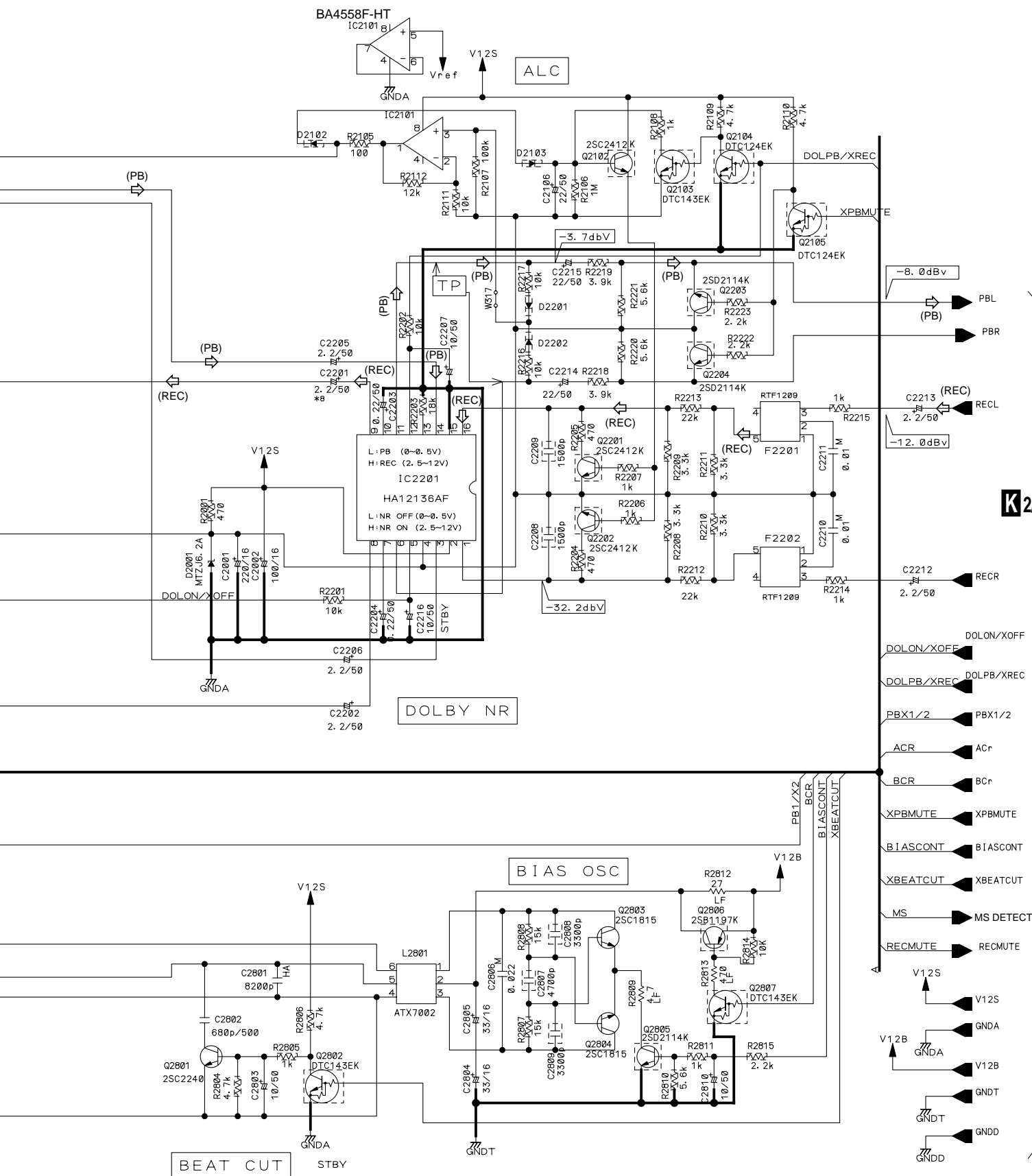
→ : 1SS133

⇨ : 1SS355

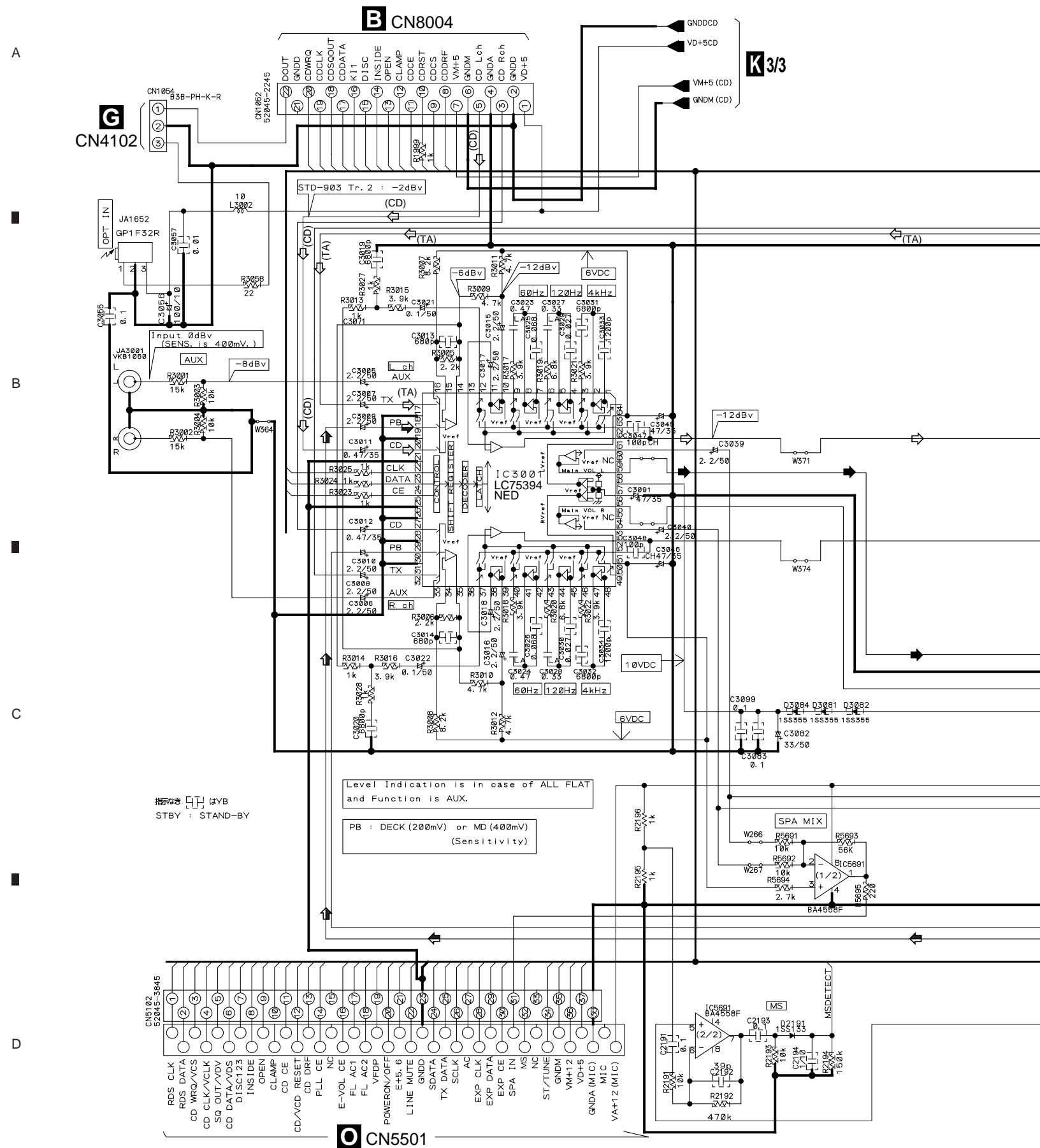
STBY : STAND-BY

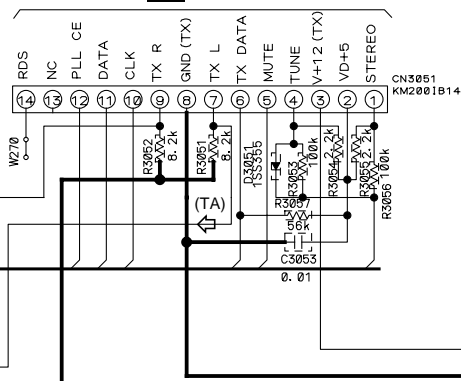
指示なき ⇨ は YB





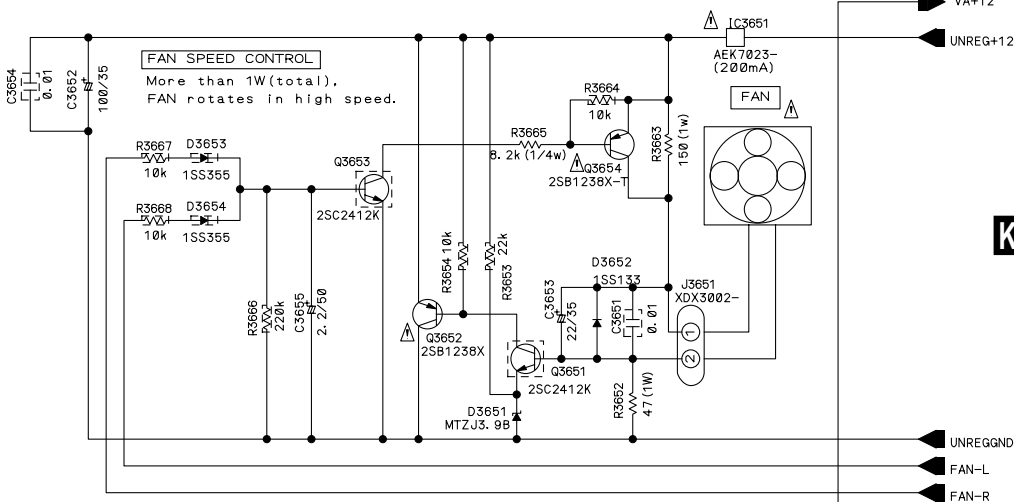
3.8 AF ASSY (2/3)



A CN6201

- ⇒ : MD or DECK PB SIGNAL ROUTE
- ⇒ : PB AUDIO SIGNAL ROUTE
- (MD) ⇒ : MD PB SIGNAL ROUTE
- ⇒ : MD REC SIGNAL ROUTE
- (PB) ⇒ : DECK PB SIGNAL ROUTE
- (REC) ⇒ : DECK REC SIGNAL ROUTE
- (CD) ⇒ : CD AUDIO SIGNAL ROUTE
- (TA) ⇒ : TUNER AUDIO SIGNAL ROUTE

FAN SPEED CONTROL
More than 1W (total).
FAN rotates in high speed.



CAUTION : FOR CONTINUED PROTECTION AGAINST
RISK OF FIRE. REPLACE ONLY WITH SAME
TYPE NO. 491.200 MFD, BY LITTELFUSE INK.
FOR IC3651 (AEK7023).

B5B-PH-K-S

CN3001

① DECK R

② PB R

③ S. GND

④ PB L

⑤ DECK L

⑥ S. GND

⑦ REC L

⑧ S. GND

⑨ REC R

⑩ VA +12V

B4B-PH-K-S

① V+12 (BIAS)

② GND (BIAS)

③ VA+12

④ GND

⑤ DOLBY/REC

⑥ PB1/X2

⑦ AC+

⑧ BC+

⑨ XPMUTE

⑩ BIASCONT

⑪ XBEATCUT

⑫ MS DETECT

⑬ REC MUTE

⑭ REC MUTE

⑮ REC MUTE

⑯ REC MUTE

⑰ REC MUTE

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(DBDXJ TYPE : XWZ3181)

CAUTION : FOR CONTINUED PROTECTION AGAINST
RISK OF FIRE, REPLACE ONLY WITH SAME
TYPE NO. 491004 MFD. BY LITTELFUSE INC.
FOR IC21 AND IC22 (AEK7053).

CAUTION : FOR CONTINUED PROTECTION AGAINST
RISK OF FIRE. REPLACE ONLY WITH SAME
TYPE NO. 491005 MFD. BY LITTELFUSE INC.
FOR IC11 AND IC12 (AEK7019).



C

D

L SECONDARY ASSY
(KUCXJ TYPE : XWZ3173)
(DBDXJ TYPE : XWZ3182)

3.10 PRIMARY and SUB TRANS ASSEMBLIES

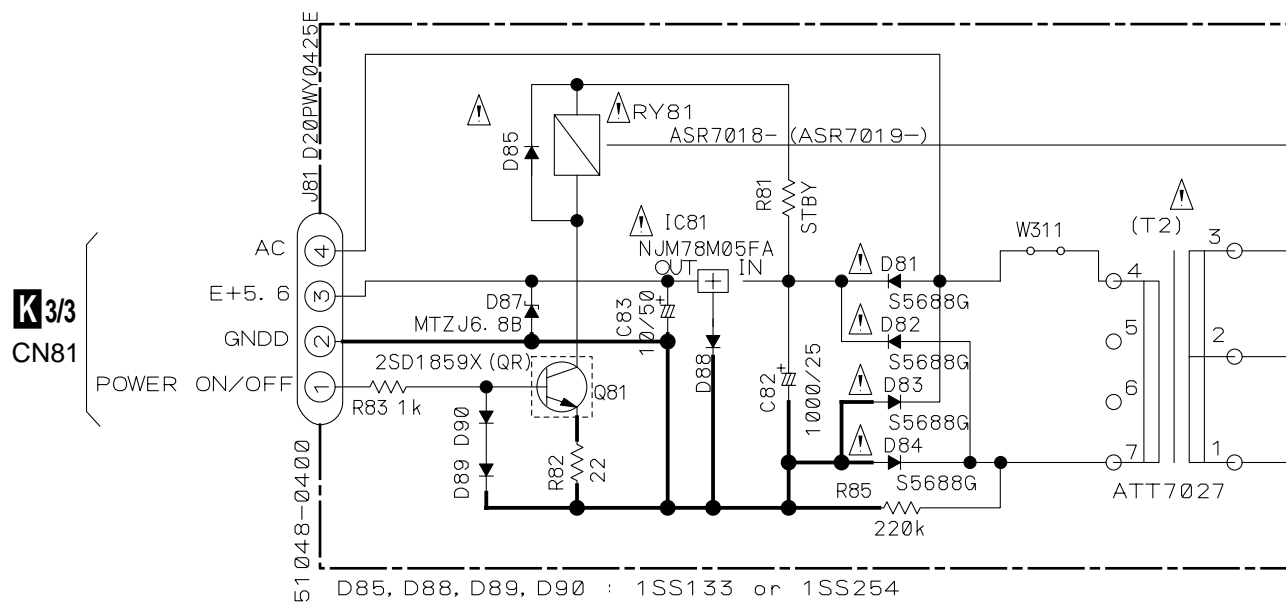
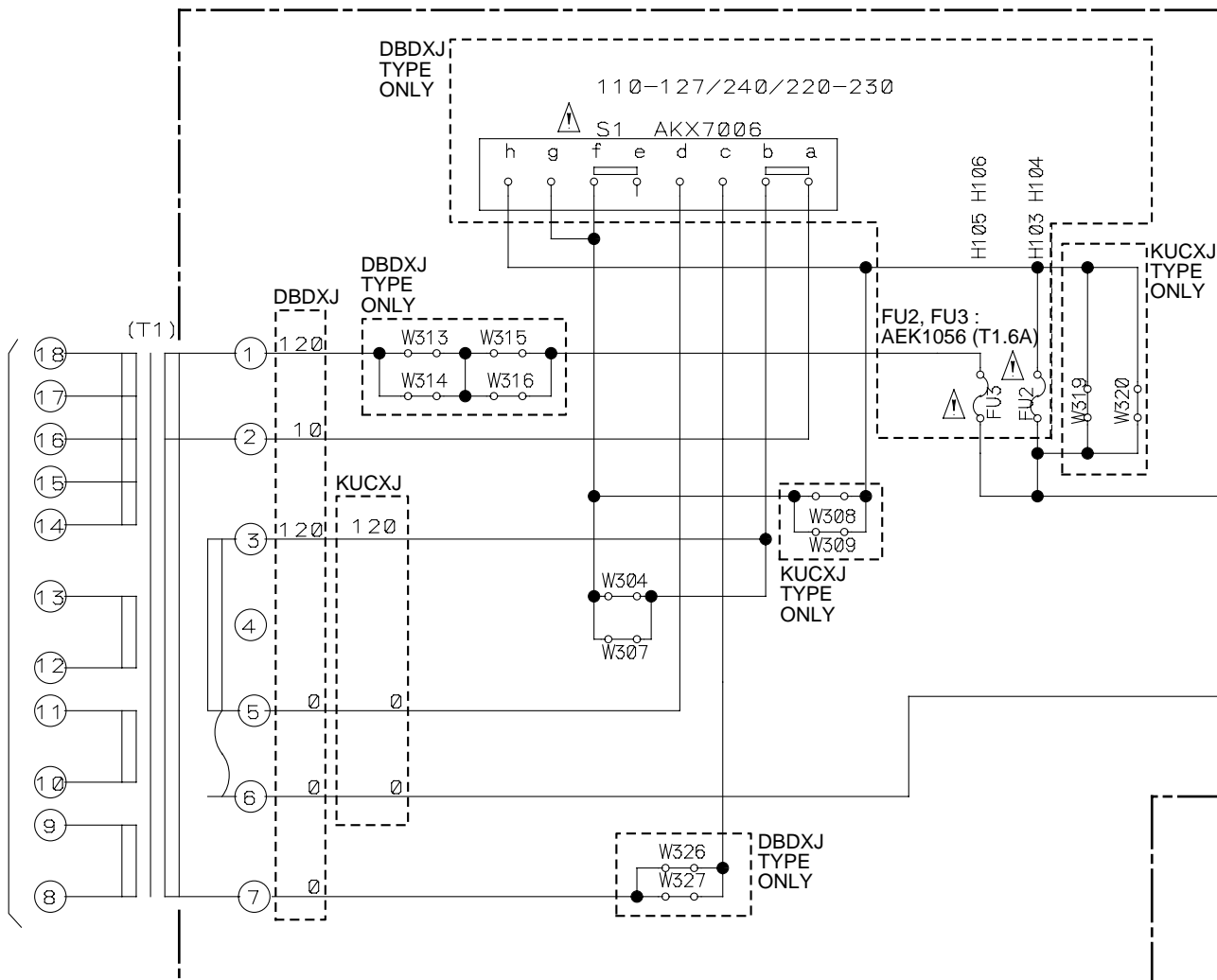
A

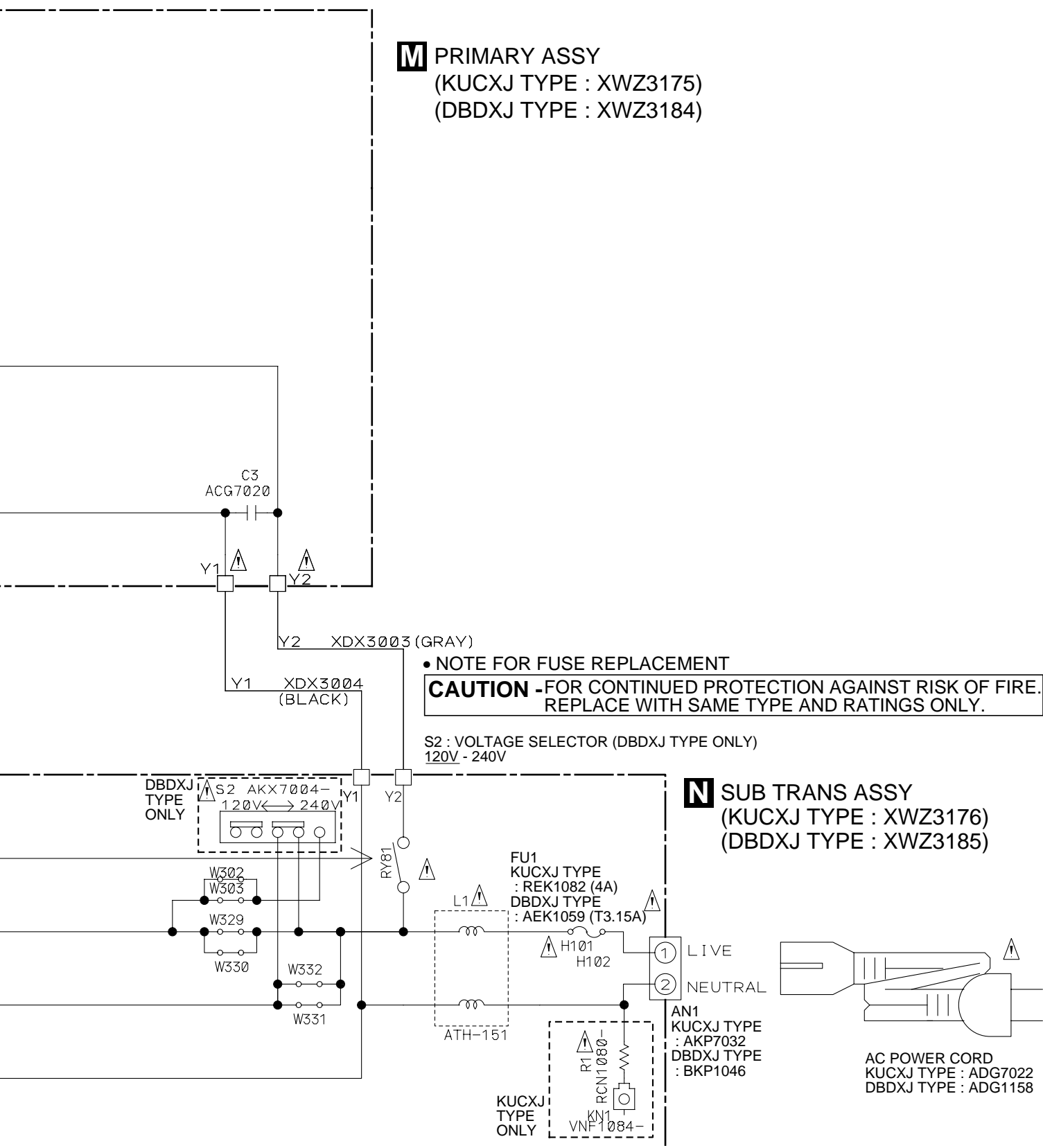
B

C

D

L



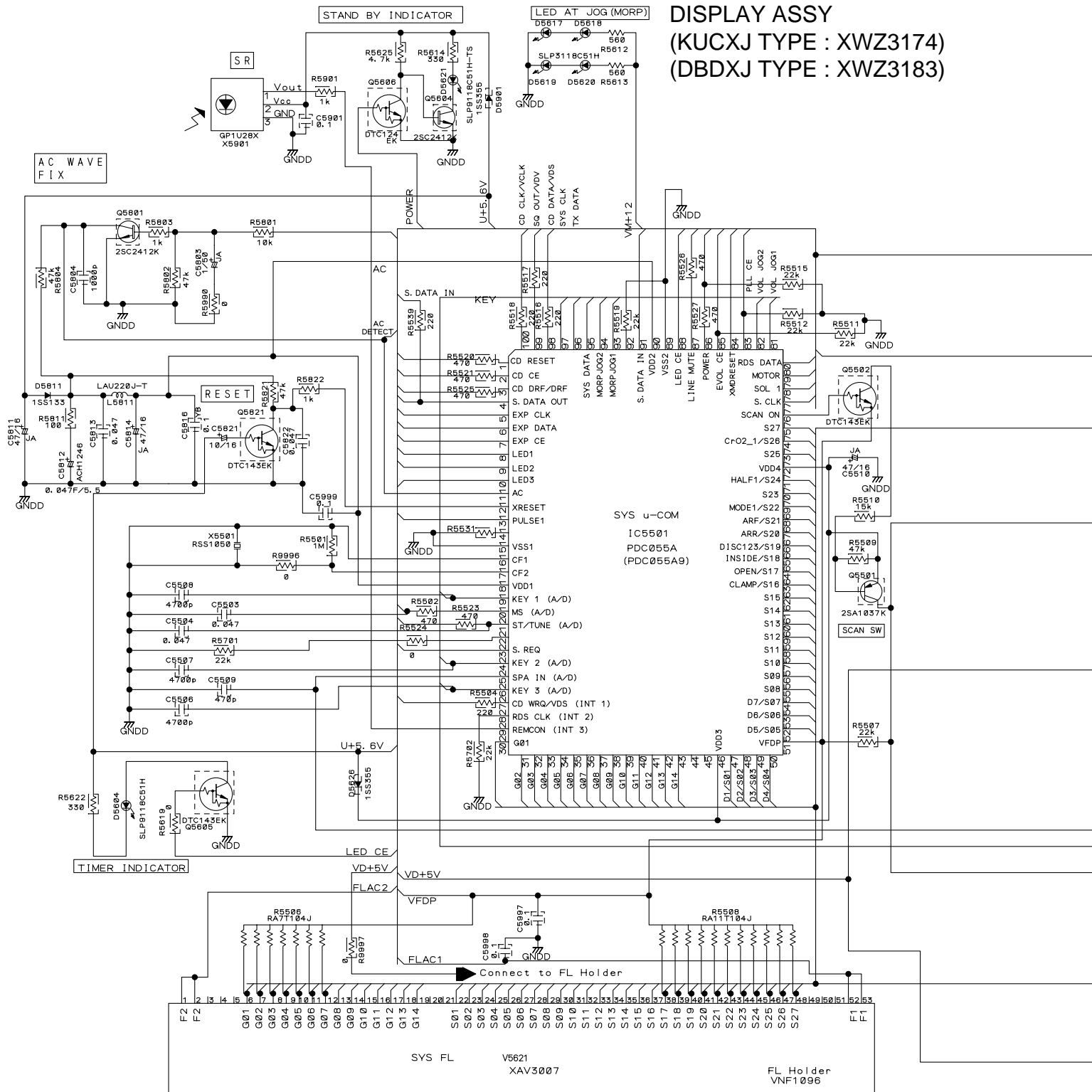


3.11 DISPLAY ASSY

S5911 : DISPLAY	S5920 : TUNING - I◀◀ (◀◀)	S5929 : TAPE	S5942 : MD
S5912 : TIMER	S5921 : TUNING + ▶▶ (▶▶)	S5930 : TUNER/BAND	S5951 : VOLUME
S5913 : ENTER	S5922 : STOP (■)	S5931 : CD	S5952 : SOUND MORPHING JOG
S5914 : P. BASS	S5923 : PLAY/PAUSE (◀▶)	S5932 : DISC-1	
S5915 : ZOOM SURROUND	S5924 : FREQ/STATION	S5933 : DISC-2	
S5916 : ASES	S5925 : <input checked="" type="checkbox"/> NR ON/OFF	S5934 : DISC-3	
S5917 : EQUALIZER	S5926 : TAPE REC/STOP	S5935 : DISC CHANGE	
S5918 : PRESET	S5927 : MD REC/STOP	S5936 : OPEN/CLOSE	
S5919 : STANDBY/ON (⏻)	S5928 : AUX		



DISPLAY ASSY
(KUCXJ TYPE : XWZ3174)
(DBDXJ TYPE : XWZ3183)





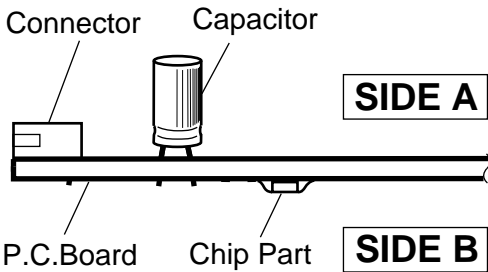
4. PCB CONNECTION DIAGRAM

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.

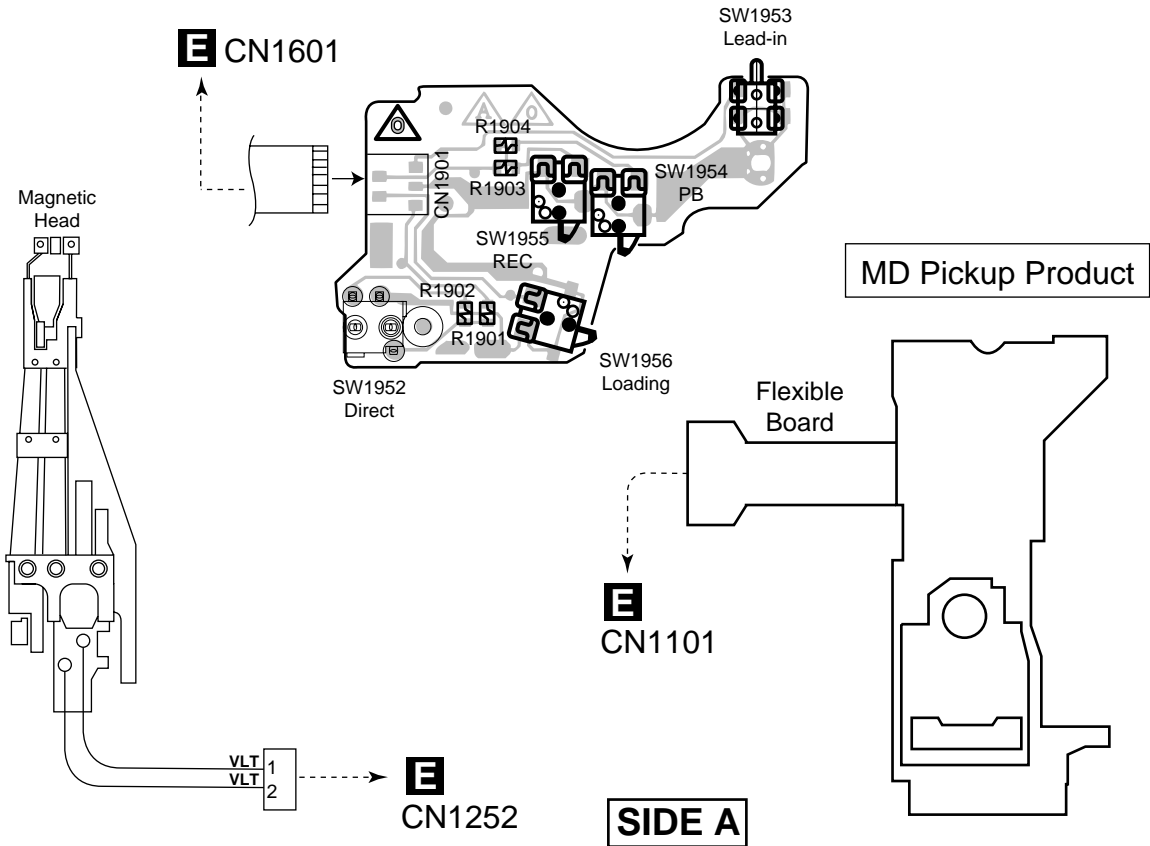
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

- 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.

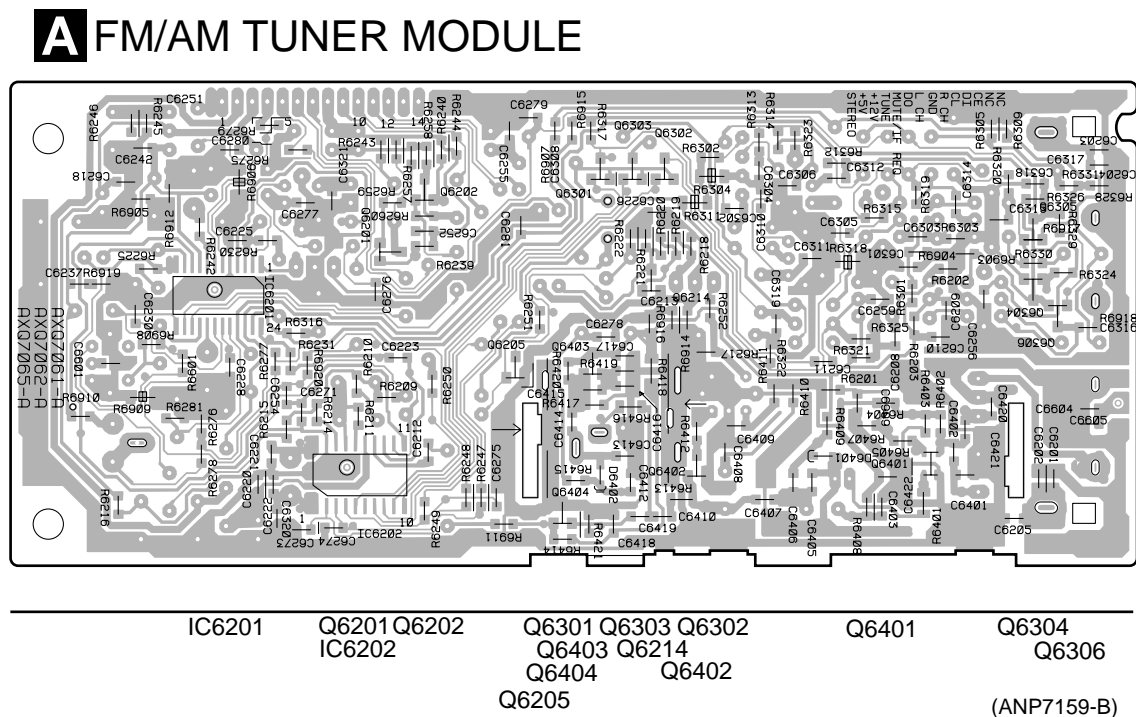
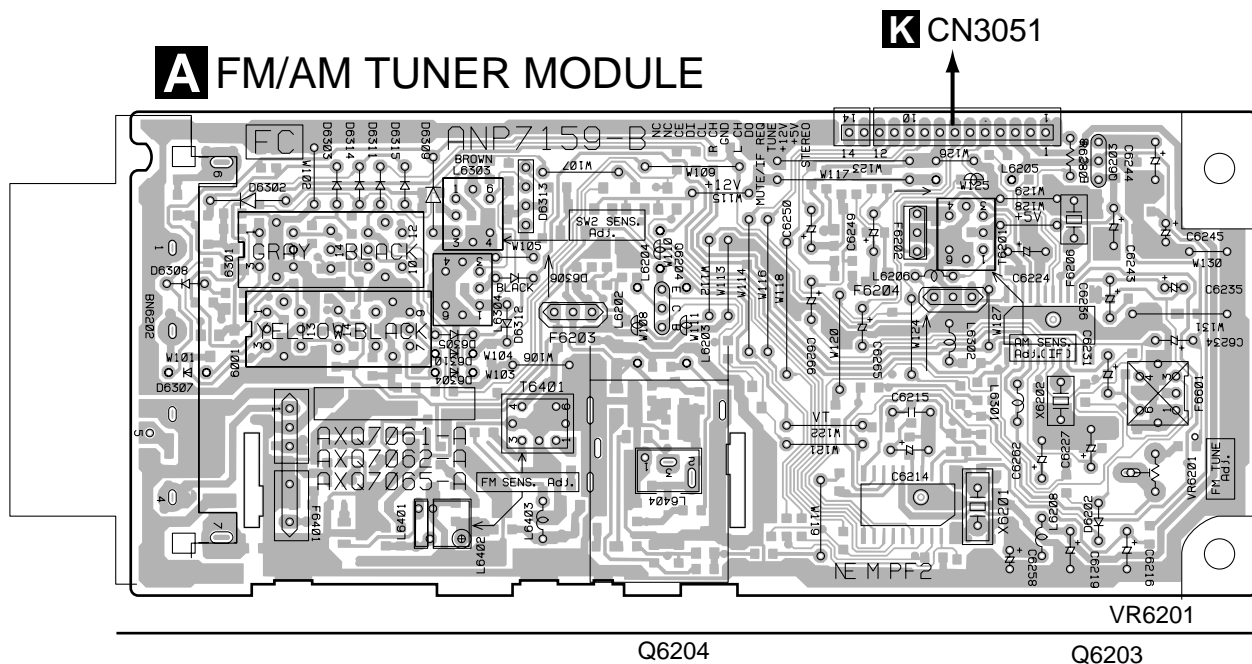


4.1 PWB-B (MD MECHANISM SWITCH ASSY)

PWB-B (MD MECHANISM SWITCH ASSY)



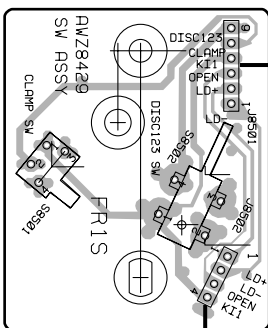
4.2 FM/AM TUNER MODULE



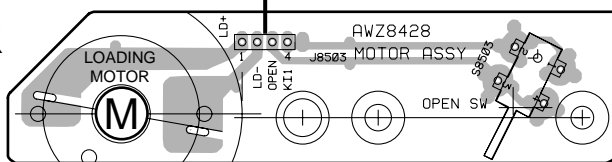
4.3 CD, MOTOR and SW ASSEMBLIES

A

D SW ASSY



C MOTOR ASSY



\$M SERVO
MECHANISM
ASSY

PICKUP
ASSY

B

C

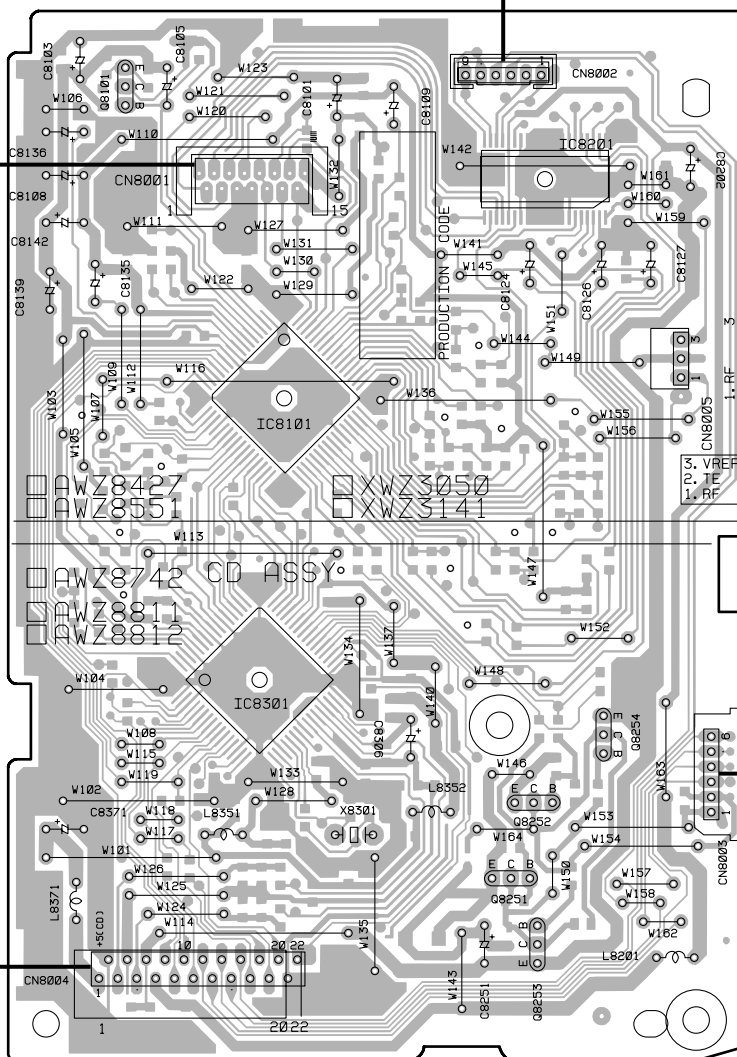
D

SIDE A

K
CN1052

B CD ASSY

(ANP7144-E)



Q8101

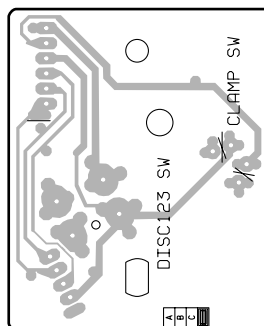
Q8254

Q8252

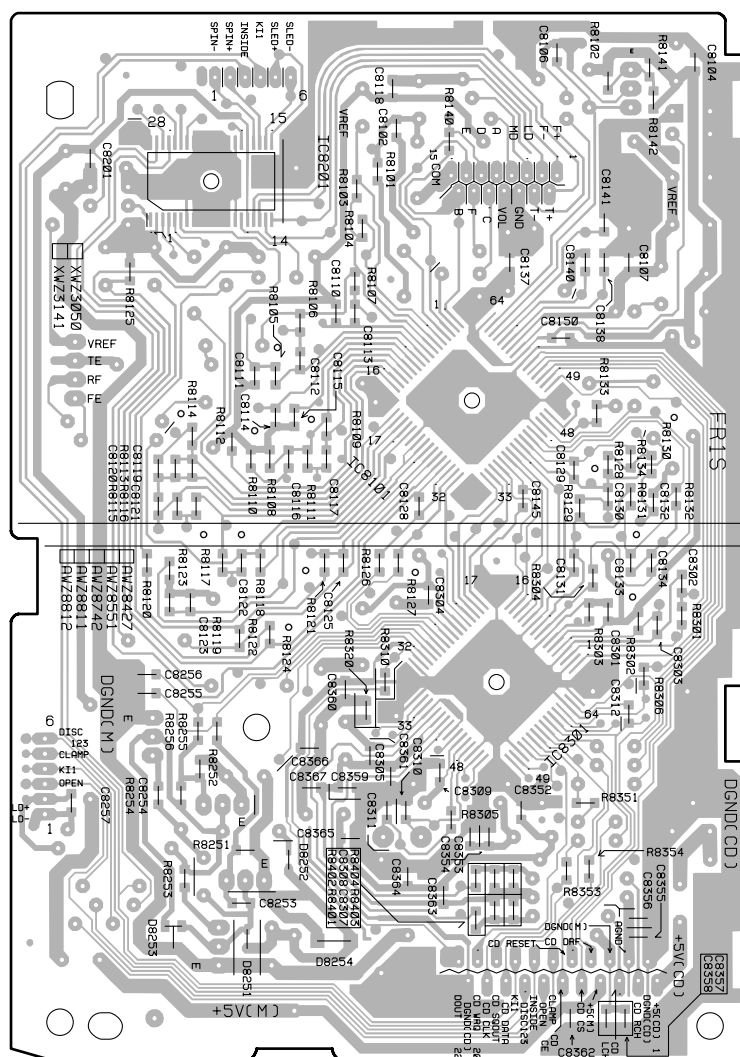
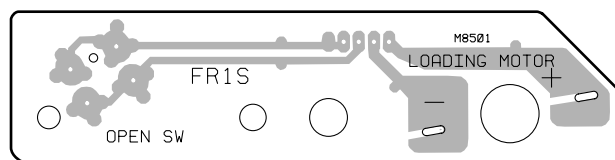
Q8251

Q8253

D SW ASSY



C MOTOR ASSY



B CD ASSY

(ANP7144-E)

SIDE B

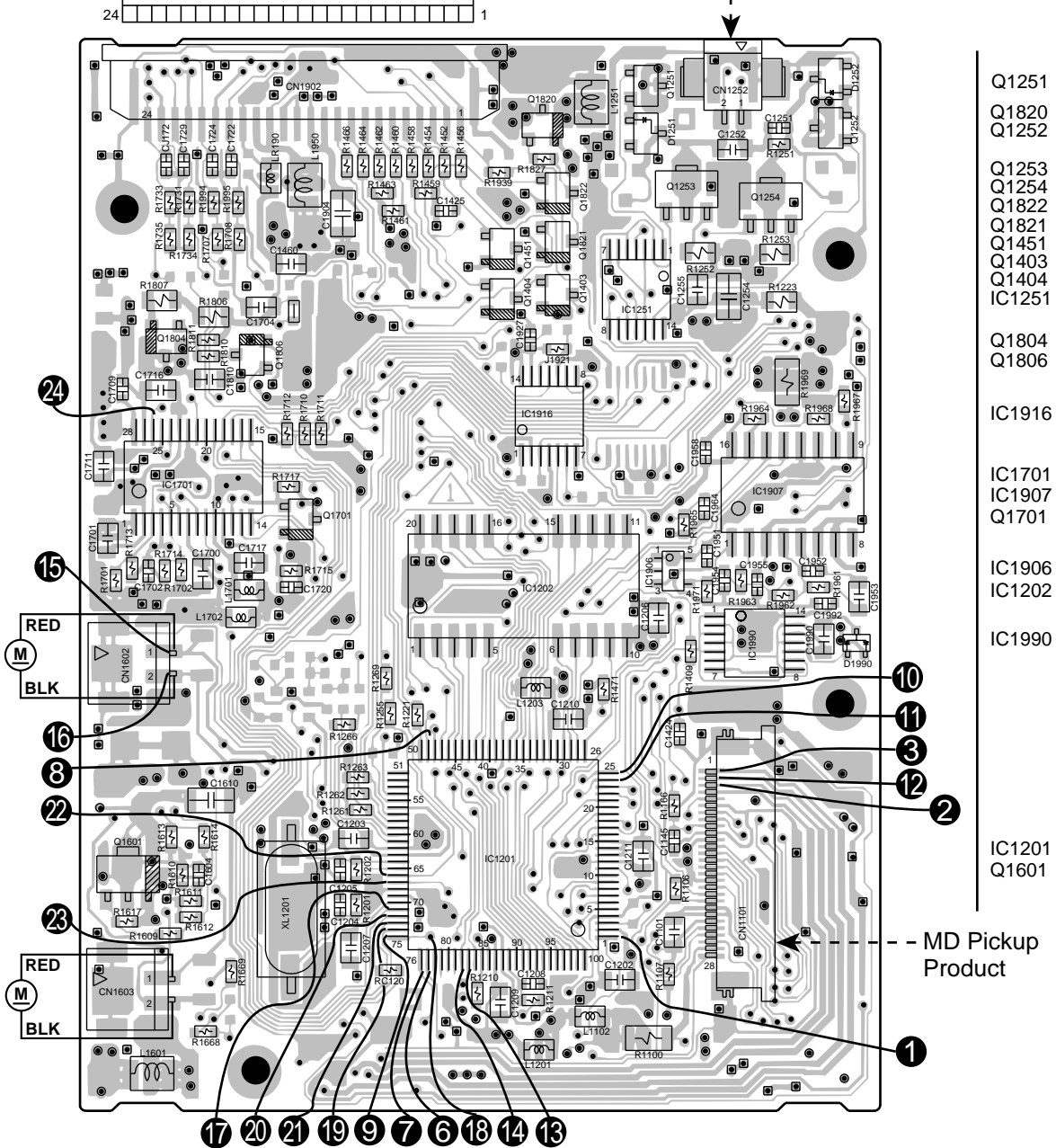
4.4 PWB-A

E PWB-A
(MD MAIN ASSY)

G CN4002

Magnetic Head

MD Flexible Board



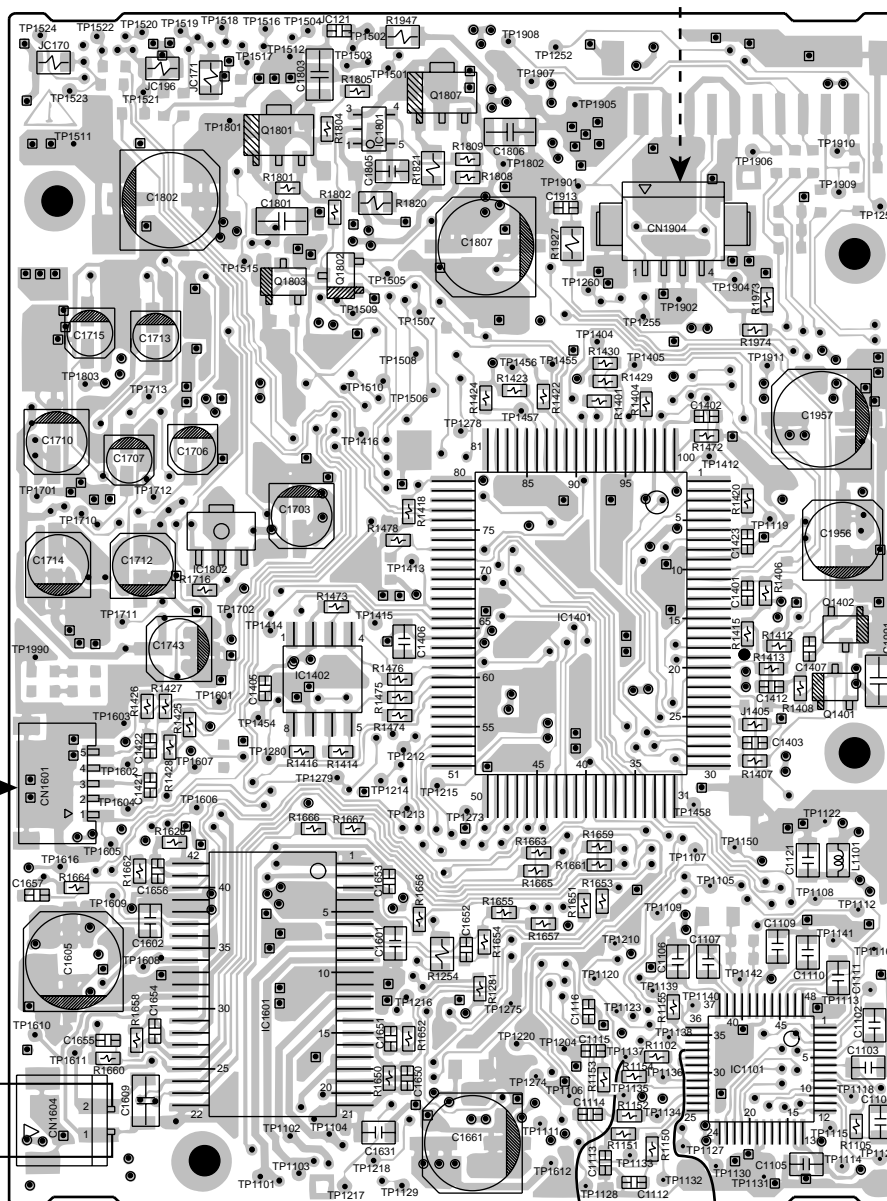
SIDE A

E PWB-A
(MD MAIN ASSY)

G CN4101

F CN1901 - →

M903
MD
LOADING
MOTOR



Q1807
IC1801
Q1801

Q1802
Q1803

IC1802

IC1401
Q1402

IC1402
Q1401

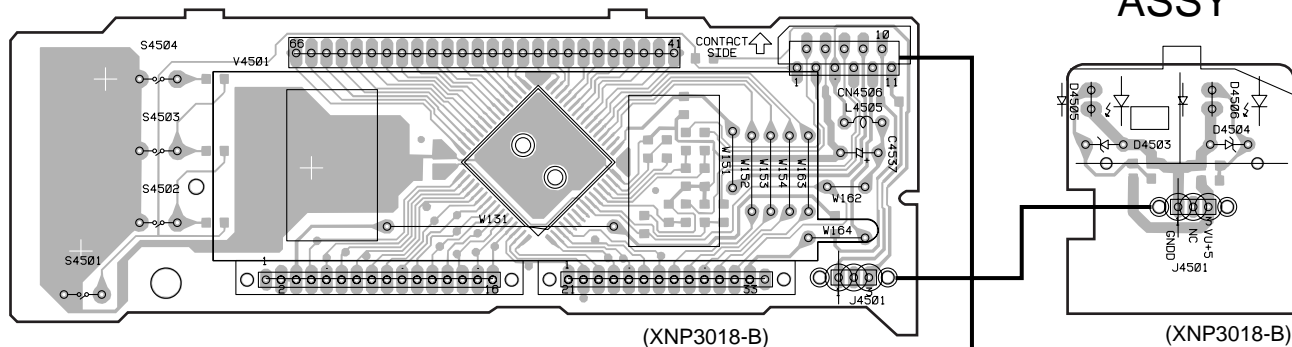
IC1601

IC1101

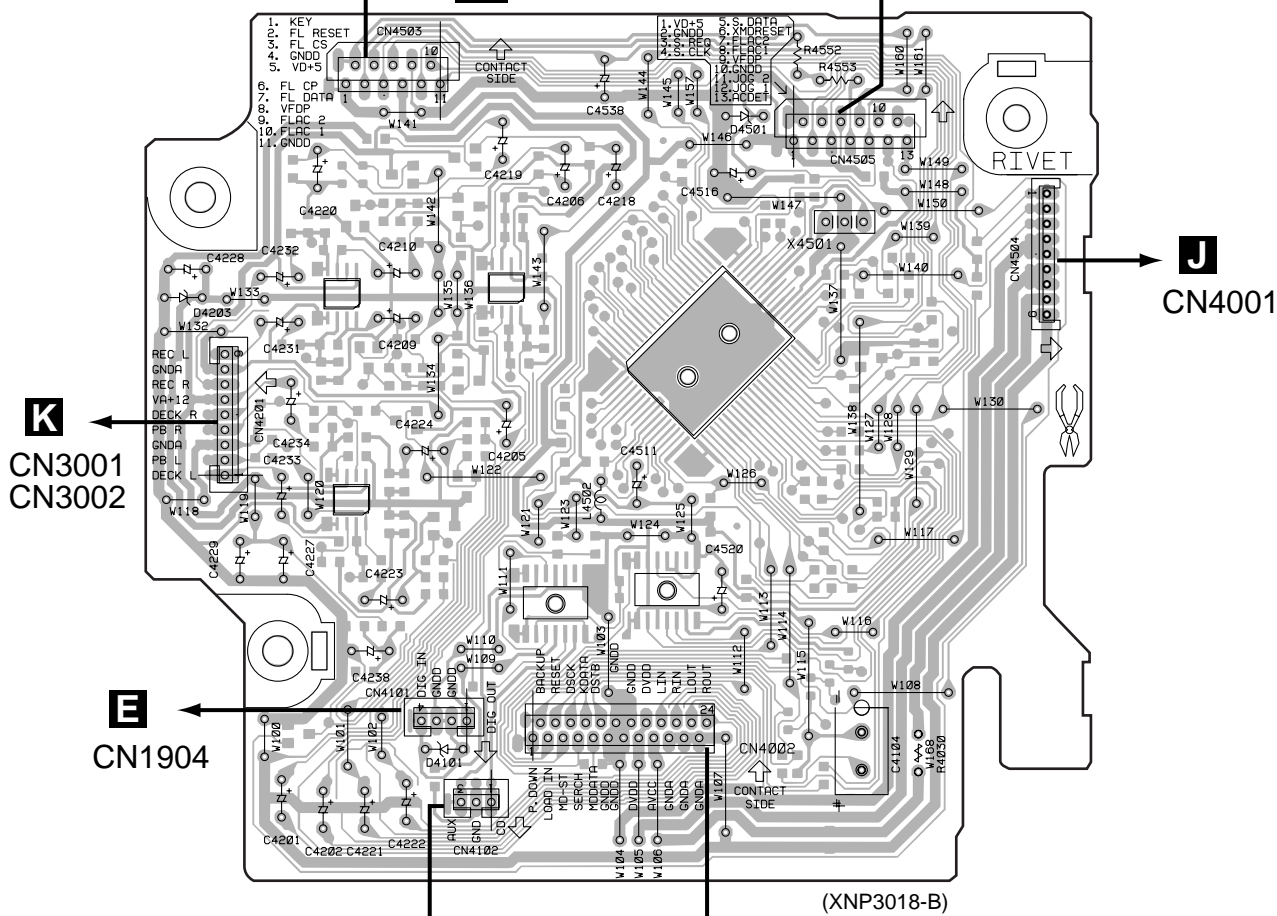
SIDE B

① - ②④ are waveform Nos. on pages 25 and 26.

IMD LED ASSY



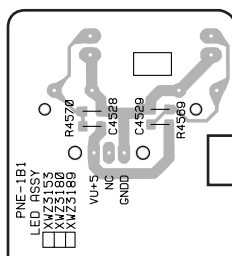
O CN5502

**SIDE A**

K CN1054

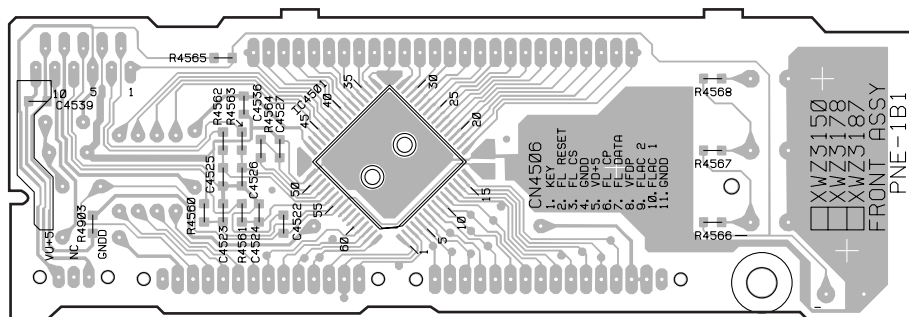
E CN1902

I MD LED ASSY



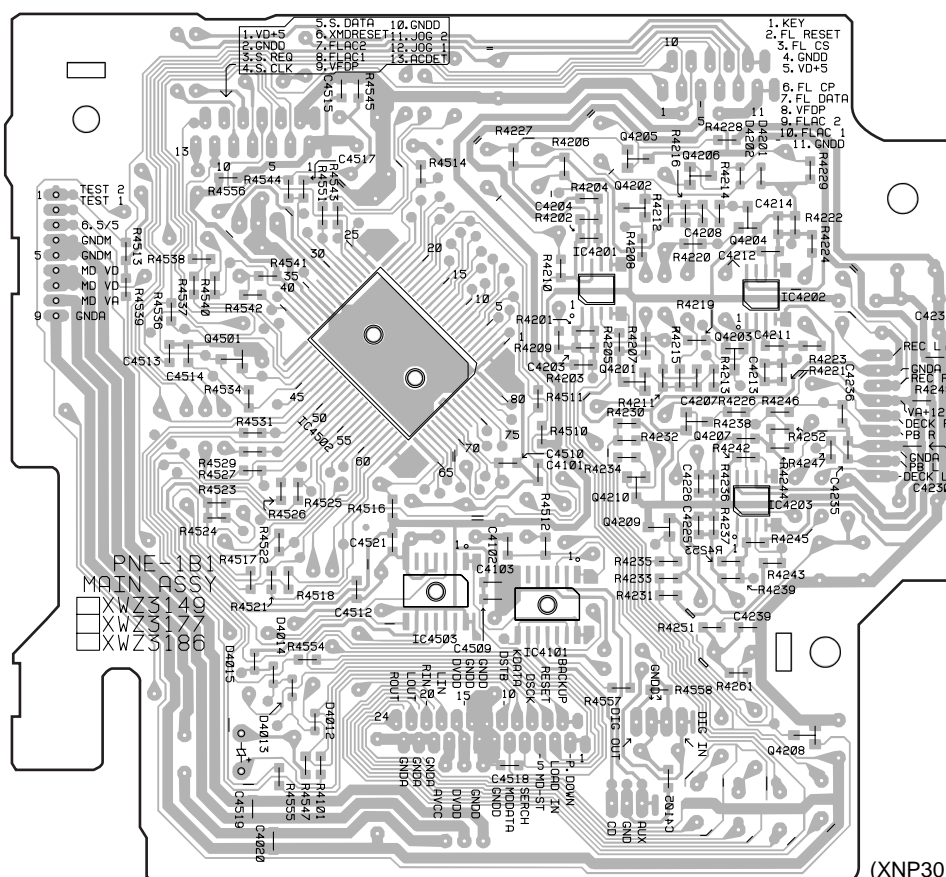
(XNP3018-B)

H MD FRONT ASSY



(XNP3018-B)

G MD MAIN ASSY



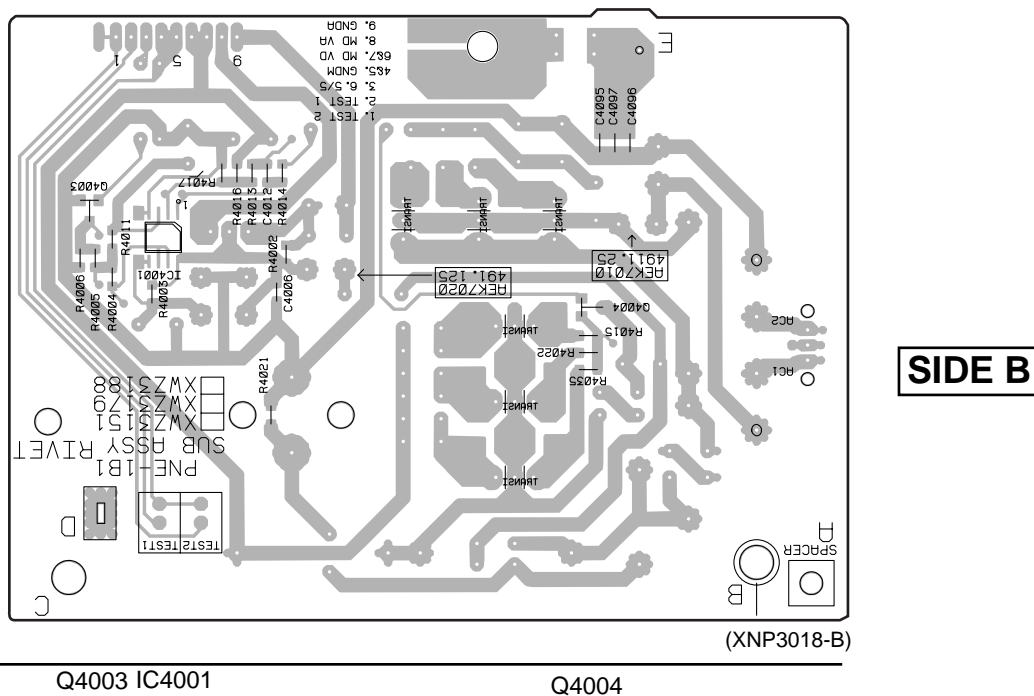
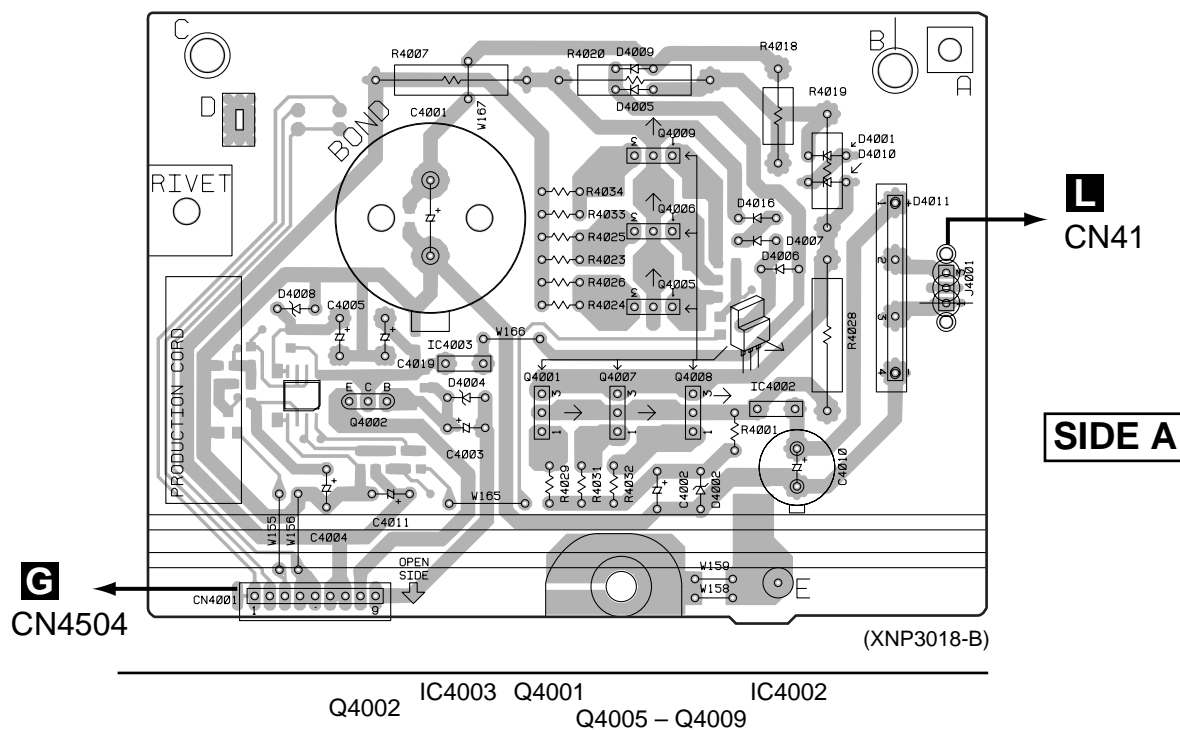
(XNP3018-B)

SIDE B

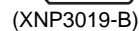
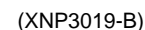
Q4501 IC4502
IC4503 IC4101 Q4207
Q4201 Q4203
Q4205 Q4206
Q4202 Q4204
Q4210 IC4203
Q4209 Q4208

4.6 MD SUB ASSY

J MD SUB ASSY



L SECONDARY ASSY





53

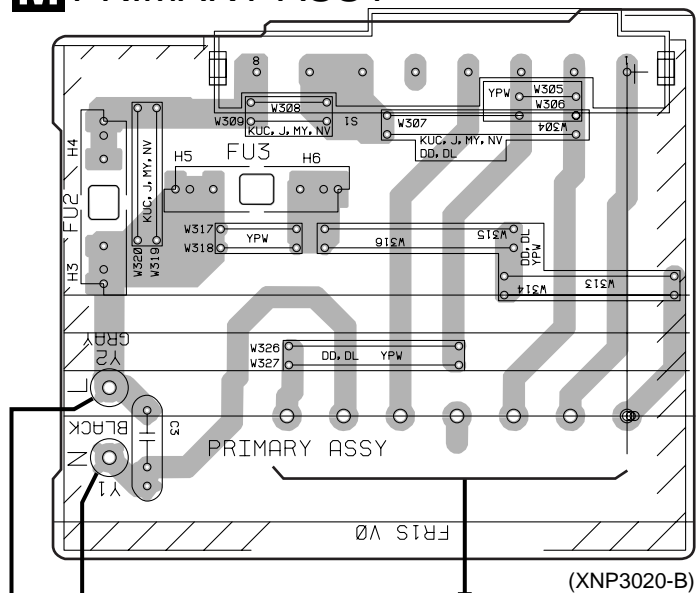
[illegible]



IC3001
Q3653 Q3651
Q71

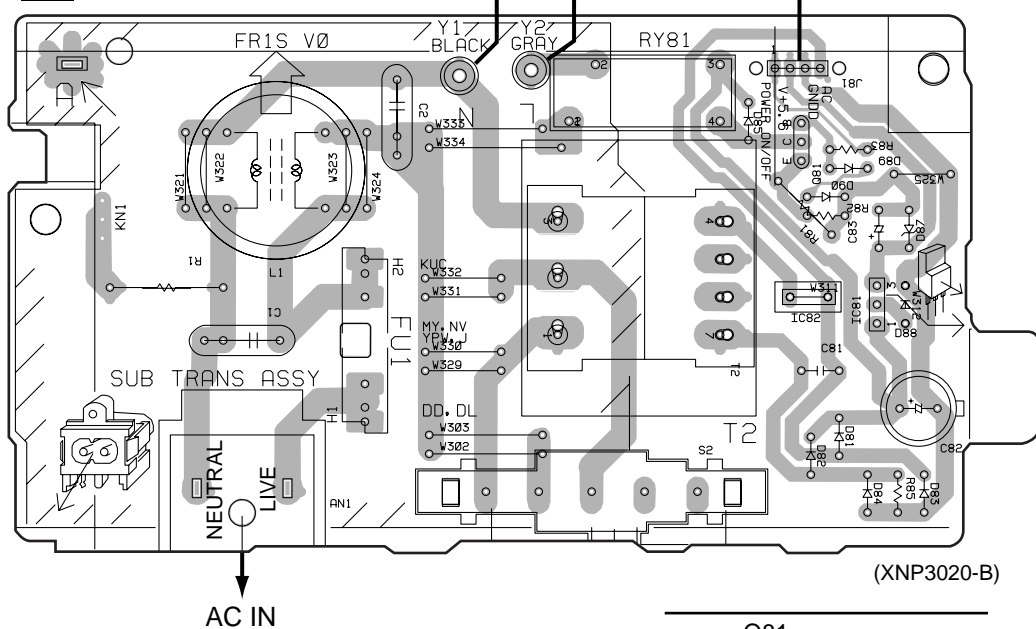
4.9 PRIMARY and SUB TRANS ASSEMBLIES

M PRIMARY ASSY



T1 POWER
TRANSFORMER

■ SUB TRANS ASSY

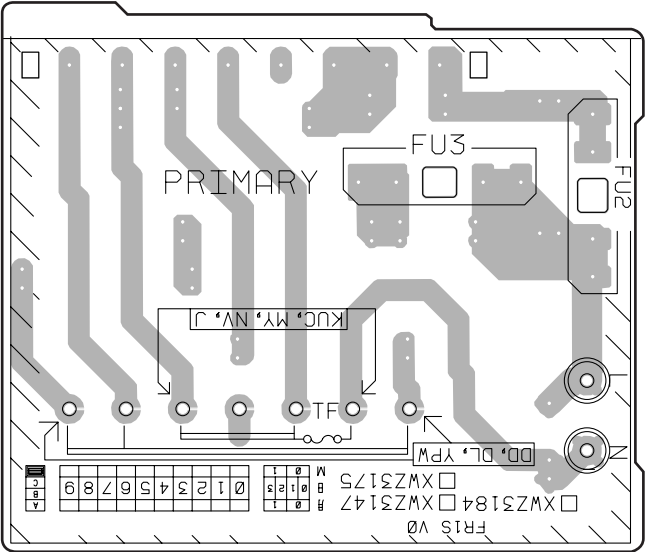


(XNP3020-B)

Q81	
IC82	IC81

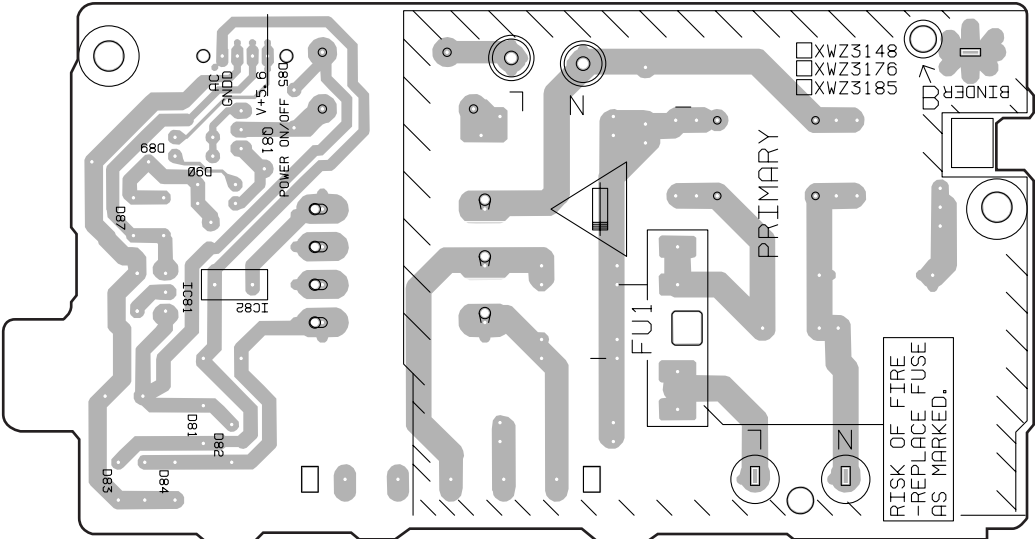
SIDE A

M PRIMARY ASSY



(XNP3020-B)

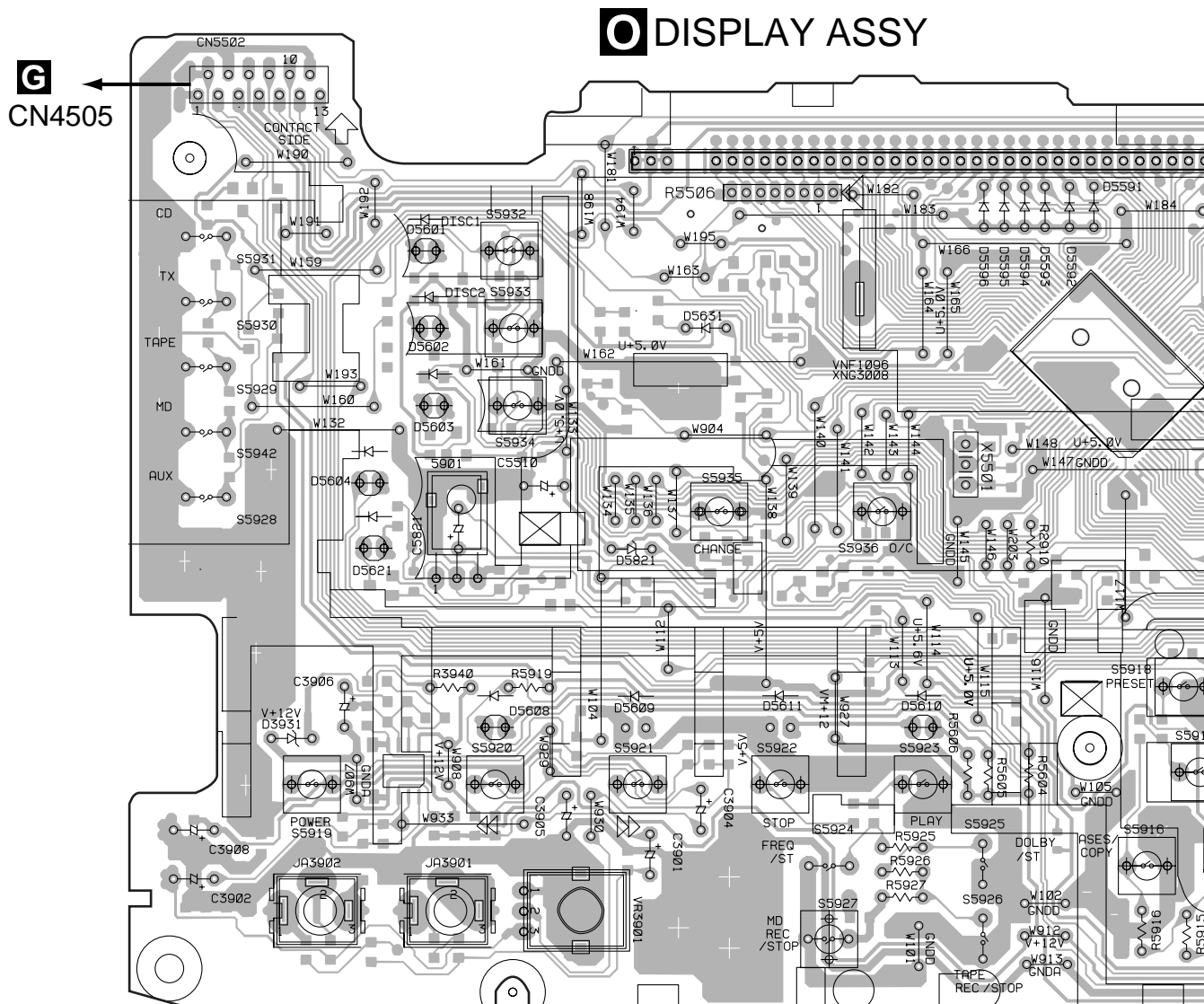
N SUB TRANS ASSY



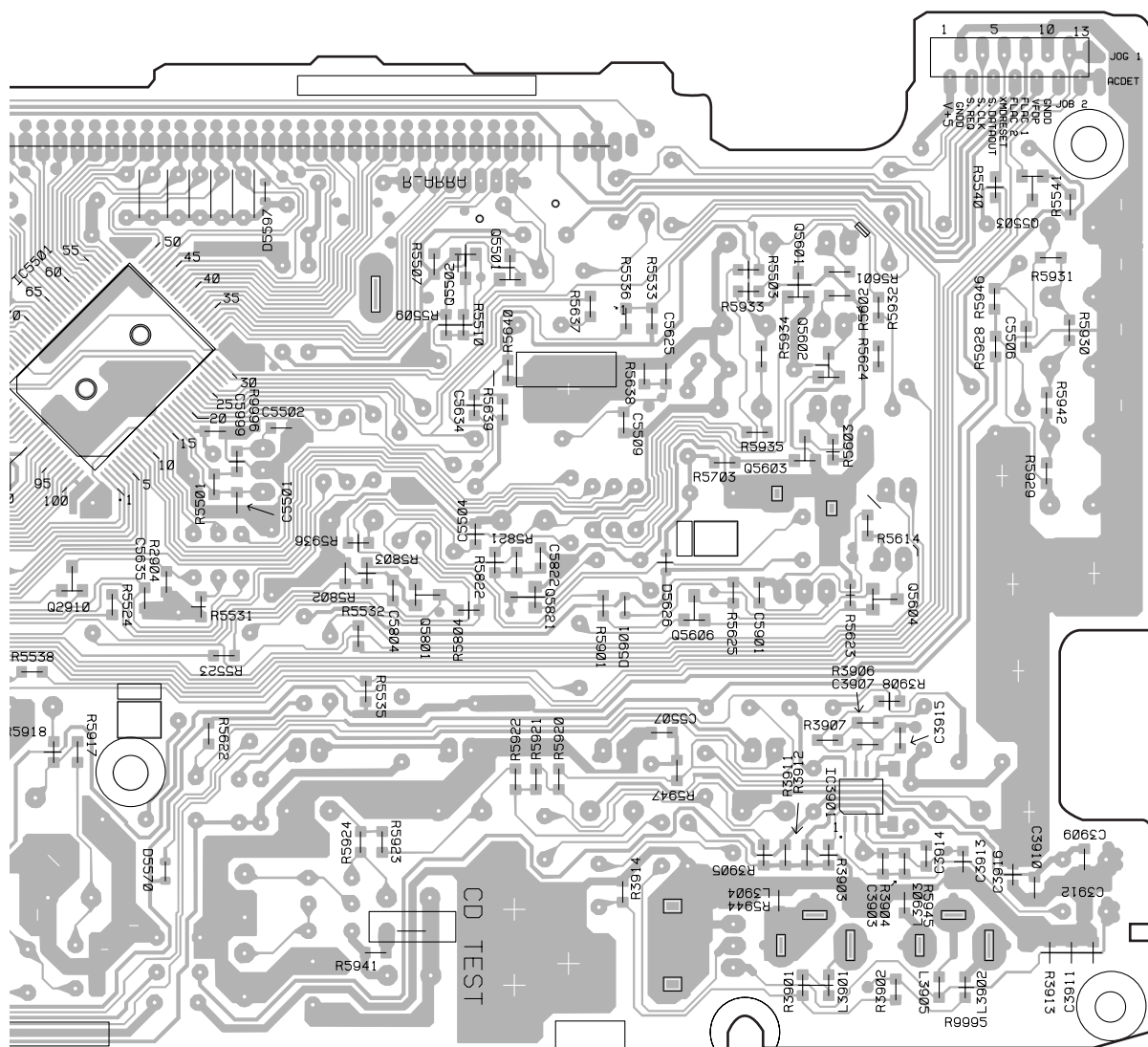
(XNP3020-B)

SIDE B

4.10 DISPLAY ASSY



SIDE A



(XNP3020-B)

IC5501	Q5502	Q5501	Q5601 – Q5604	Q5503
Q2910	Q5801	Q5821	Q5606	IC3901

5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" and ⊗ can not be supplied.

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

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	Part No.		Remarks
		XR-A550MD		
		KUCXJ Type	DBDXJ Type	
	FM/AM TUNER MODULE	AXQ7065	AXQ7065	
NSP	\$M MECHA CD DIGITAL ASSY	XXA3006	XXA3006	
NSP	└ \$M SERVO MECHANISM ASSY	XWX3005	XWX3005	
⊗	└└ CD ASSY	XWZ3141	XWZ3141	
NSP	└└ SW ASSY	AWZ8429	AWZ8429	
⊗	└└ MOTOR ASSY	AWZ8428	AWZ8428	
	MD MECHANISM ASSY	AXA7054	AXA7054	
	└ PWB-A (MD MAIN ASSY)	1246840167	1246840167	
	└ PWB-B (MD MECHANISM SWITCH ASSY)	1245210149	1245210149	
NSP	MD ASSY	XWM3075	XWM3076	
⊗	└ MD MAIN ASSY	XWZ3177	XWZ3186	
⊗	└ MD FRONT ASSY	XWZ3178	XWZ3187	
⊗	└ MD LED ASSY	XWZ3180	XWZ3189	
⊗	└ MD SUB ASSY	XWZ3179	XWZ3188	
NSP	MAIN ASSY	XWM3079	XWM3080	
⊗	└ AF ASSY	XWZ3172	XWZ3181	
⊗	└ SECONDARY ASSY	XWZ3173	XWZ3182	
NSP	COMPLEX ASSY	XWM3083	XWM3084	
⊗	└ PRIMARY ASSY	XWZ3175	XWZ3184	
⊗	└ SUB TRANS ASSY	XWZ3176	XWZ3185	
⊗	└ DISPLAY ASSY	XWZ3174	XWZ3183	

Mark	No.	Description	Part No.
A		FM/AM TUNER MODULE	
		SEMICONDUCTORS	
	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	1T378A	

Mark	No.	Description	Part No.
		COILS AND FILTERS	
	L6404	ATC1003	
	L6401	ATC1020	
	L6402	ATC1021	
	F6204	ATF-107	
	F6203	ATF-119	
	F6401	ATF-155	
	F6206	ATF7008	
	F6202	ATF7011	
	L6206,L6208,L6403	LAU2R2J	
		TRANSFORMERS	
	T6201	ATB7008	
	T6401	ATE7002	

Mark	No.	Description	Part No.
CAPACITORS			
	C6208		CCSQCH100D50
	C6212,C6274,C6275,C6408		CCSQCH101J50
	C6412		CCSQCH102J50
	C6221,C6222,C6416		CCSQCH150J50
	C6271		CCSQCH200J50
	C6415		CCSQCH330J50
	C6406		CCSQCH331J50
	C6401,C6419		CCSQCH5R0C50
	C6407		CCSQCK1R0C50
	C6410		CCSQCK2R0C50
	C6413		CCSQRH180J50
	C6414		CCSQRH8R0D50
	C6405		CCSQTH150J50
	C6234,C6235		CEAL1R0M50
	C6245		CEAL470M16
	C6224		CEAT100M50
	C6243		CEAT101M16
	C6231		CEAT1R0M50
	C6227		CEAT220M25
	C6214,C6236		CEAT2R2M50
	C6262		CEAT3R3M50
	C6219		CEAT470M10
	C6244		CEAT470M16
	C6249,C6250,C6265,C6266		CEAT4R7M50
	C6258		CEJA470M16
	C6215		CFTLA103J50
	C6211,C6254,C6403,C6417		CKSQYB102K50
	C6201,C6205,C6210,C6237,C6276		CKSQYB103K50
	C6278,C6280,C6281,C6402,C6409		CKSQYB103K50
	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		RS1/8S0R0J
	R6401		RS1/8S470J
	VR6201 (10k Ω)		PCP1029
	Other Resistors		RS1/10S□□□J
OTHERS			
	BN6202	TERMINAL 4P	AKE7025
	X6202	CERAMIC RESONATOR (456kHz)	ASS1066
	X6201	CRYSTAL RESONATOR (7.2MHz)	ASS1093
	CN6201	14P SOCKET AM RF TUNIG BLOCK	KP200IA14L AXX7041

Mark	No.	Description	Part No.
B CD ASSY			
SEMICONDUCTORS			
	IC8201		BA5923FP
	IC8101		LA9241ML
	IC8301		LC78622NE
	Q8101		2SA1048
	Q8251,Q8252		2SB1237X
	Q8253,Q8254		2SD1858X
	D8253		1SS181
	D8251,D8252		1SS355
COILS			
	L8351,L8352		LFA1R0K
	L8201,L8371		LFA470J
CAPACITORS			
	C8145,C8352,C8354,C8356,C8358		CCSQCH101J50
	C8361,C8362		CCSQCH101J50
	C8132,C8311		CCSQCH150J50
	C8310		CCSQCH180J50
	C8131		CCSQCH300J50
	C8129		CCSQCK1R0C50
	C8142		CEAL101M6R3
	C8127		CEAL1R0M50
	C8126,C8139		CEAL470M16
	C8135		CEAL4R7M16
	C8124		CEALR47M50
	C8136		CEAT100M50
	C8108,C8306,C8371		CEAT101M10
	C8202		CEAT101M25
	C8101		CEAT3R3M50
	C8105		CEAT470M16
	C8109		CEATR22M50
	C8106,C8119,C8133,C8307,C8308		CKSQYB102K50
	C8360		CKSQYB102K50
	C8102,C8122,C8123,C8130		CKSQYB103K50
	C8137,C8138,C8201,C8309,C8312		CKSQYB103K50
	C8134,C8302,C8303		CKSQYB104K25
	C8353,C8359		CKSQYB152K50
	C8111		CKSQYB153K25
	C8114,C8117,C8120,C8121		CKSQYB154K16
	C8125		CKSQYB221K50
	C8107		CKSQYB223K50
	C8110		CKSQYB331K50
	C8115,C8128		CKSQYB332K50
	C8113		CKSQYB333K25
	C8112,C8141		CKSQYB334K16
	C8116,C8140,C8355,C8357		CKSQYB473K50
	C8118,C8255-C8257,C8301		CKSQYF104Z25
	C8304,C8305		CKSQYF104Z25
RESISTORS			
	All Resistors		RS1/10S□□□J
OTHERS			
	X8301	CRYSTAL RESONATOR (16.9344MHz)	PSS1008
	CN8003	6P JUMPER CONNECTOR	52151-0610
	CN8002	KR CONNECTOR	B6B-PH-K-S
	CN8005	3P SIDE POST	BS3P-SHF-1AA
	CN8004	FFC CONNECTOR 22P	HLEM22R-1
	CN8001	FFC CONNECTOR	SLW15S-1C7

XR-A550MD

Mark	No.	Description	Part No.
------	-----	-------------	----------

C MOTOR ASSY SWITCH

S8503			ASG7009
-------	--	--	---------

OTHERS

J8502	JUMPER WIRE 4P MOTOR PULLEY CARRIAGE MOTOR	D20PWW0405E PNW1634 VXM1033
-------	--	-----------------------------------

D SW ASSY SWITCHES

S8502		ASG7009
S8501		DSG1017

OTHERS

J8501	JUMPER WIRE 6P	D20PWY0610E
-------	----------------	-------------

E PWB-A (MD MAIN ASSY) SEMICONDUCTORS

IC1251 (74ACT02F)	1245730043
IC1990 (74AC04FS)	1245730044
IC1906 (TC7ST08F)	1245730152
IC1907 (TC9246F)	1245730153
IC1202 (RH-IX2474AFZZ)	1245730207

IC1402 (S29294A)	1245730301
IC1101 (IR3R55)	1245730345
IC1601 (M56758FP)	1245730354
IC1802 (NJM431U)	1245730356
IC1701 (UDA1340)	1245730357

IC1801 (XC62EP32)	1245730367
IC1916 (74VHC08FT)	1245730368
IC1201 (LR376481)	1245730418
IC1401 (IX0261)	1245730480
Q1701 (2SC2412KR)	1115760132
Q1601,Q1801,Q1807 (2SA1314C)	1245760001
Q1253,Q1254 (2SK1473)	1245760016
Q1451,Q1821,Q1822	1245760031
Q1401,Q1403 (RN2404)	1245760032
Q1251,Q1252 (2SK2909)	1245760042

Q1802,Q1803 (RN1406)	1245760047
Q1402,Q1404,Q1806 (RNC1404)	1305760402
Q1804,Q1820 (2SA1162G)	1305760552
D1251,D1252 (SB0209CP-1)	1245700005
D1990 (1SS372)	1245700008

COILS

L1251 (47μH)	1245850002
L1101,L1701,L1702 (10μH)	1245850024
L1203,L190 (4.7μH)	1245850025
L1102,L1201 (0.47μH)	1245850026
L1601,L1950 (1μH)	1246140023

CAPACITORS

C1112,C1113,C1114,C1115,C1116	1185930004
C172,C1729	1185930010
C1957	1185940013
C1956	1185940016
C1654,C1655	1185950005

Mark	No.	Description	Part No.
------	-----	-------------	----------

C1254,C1610,C1803,C1806,C1991	1245900038
C1101,C1255,C1601,C1602	1245900039
C1605,C1661,C1802	1245940005
C1715	1245940006
C1106,C1110,C1953	1245950016

C1102,C1105,C1109,C1990	1245950017
C1807	1265940014
C1801	1275950006
C1722,C1724	1305930530
C1954	1305930557

C1913	1305930558
C1204,C1205	1305930581
C1604	1305930592
C1107	1305950192
C1609	1305950261

C1700,C1701,C1711,C1716,C1717	1305950271
C1111	1305950274
C1403,C1412	1305950311
C1720,C1952	1305950316
C1656,C1657	1305950331

C1964	1305950338
C1103,C1121,C1202,C1203,C1206	1305950342
C1207,C1209,C1210,C1211,C1406	1305950342
C1460,C1631,C1704,C1805,C1810	1305950342
C1251	1305950360

C1407,C1421,C1422,C1423,C1424	1305950393
C1145	1305950396
C1208,C121,C1401,C1402,C1425	1305950397
C1702,C1709,C1927,C1951,C1955	1305950397
C1958	1305950397

C1706,C1707	1425900305
C1252	1425930040
C1119	1425930083
C1650,C1651,C1652,C1653	1425930084
C1703,C1710,C1712,C1714,C1743	1425940037

C1104	1425950018
C1405,C1992	1425950096
C1904	1425950126

RESISTORS

R1707,R1708	1185810009
R1969	1185810011
R1107	1185810057
R1804	1245810056
R1614	1245810060

R1611	1245810079
R1716	1245810082
R1663,R1665	1245810086
R1805	1245810087
R1715	1245810105

R1610	1245810110
R1927	1305810607
R1254	1305810608
R1252,R1253,R170,R171,R196	1305810630
R1947	1305810671

R1223	1305810673
R1210,R1961	1305810907
R1401,R1404,R1409,R1415,R1420	1305810908
R1426,R1428,R1454,R1456,R1474	1305810908
R1475,R1476,R1810,R1939	1305810908

Mark	No.	Description	Part No.
	R1106,R1261,R1262,R1263,R1266		1305810909
	R1405,R1414,R1416,R1422,R1423		1305810909
	R1424,R1429,R1430,R1459,R1461		1305810909
	R1463,R1471,R1478,R1650,R1652		1305810909
	R1662,R1664,R1965		1305810909
	R1408,R1412,R1473,R1651,R1653		1305810910
	R1712		1305810910
	R1655,R1657		1305810912
	R1658,R1660		1305810914
	R120,R1211,R1221,R1464,R1466		1305810918
	R1968,R1974		1305810918
	R1994,R1995		1305810919
	R1962		1305810920
	R1406,R1407,R1413,R1452		1305810922
	R1809		1305810924
	R1105		1305810925
	R1102		1305810927
	R1155,R1612		1305810928
	R1458,R1460,R1462,R1654,R1656		1305810929
	R1668,R1669,R1964,R1973		1305810929
	R1702		1305810930
	R1255,R1269,R1620,R1921		1305810934
	R1801		1305810935
	R1418,R1472,R1617,R1734,R1735		1305810937
	R1202,R1701		1305810944
	R1427		1305810946
	R1609,R1963		1305810948
	R1201		1305810949
	R1150-R1154,R1666,R1667		1305810950
	R1717		1305810952
	R1802,R1827		1305810957
	R1613,R1808,R1811		1305810989
	R1425		1305810990
	R1711,R1713,R1714		1305810992
	R1281,R1731,R1733,R1967		1305810994
	R1251		1305810995
	R1659,R1661		1305811002
	R1710		1305811041
	R1100		1425810093
	R1166		1425810154
	R1820,R1821		1425810157
	R1806,R1807		1425810196

OTHERS

CN1101	23P PLUG	1245100161
CN1601	5P PLUG	1245100162
CN1602	2P PLUG	1245100163
CN1604	2P PLUG	1245100164
CN1902	24P SOCKET	1245100165
CN1252	2P PLUG	1425100204
CN1904	4P PLUG	1425100223
CN1603	2P PLUG	1425100236
X1201	CRYSTAL RESONATOR (33.8688MHz)	1246160018

Mark	No.	Description	Part No.
F	PWB-B		
	(MD MECHANISM SWITCH ASSY)		
	SWITCHES		
	S1954,S1955		1245300026
	S1952		1245300027
	S1956		1305301313
	S1953		1305301315
	RESISTORS		
	R1902		1305810605
	R1903,R1904		1305810618
	R1901		1305810732
	OTHERS		
	CN1901 5P SOCKET		1245100160
G	MD MAIN ASSY		
	Although XWZ3177 and XWZ3186 are different in part number, they consist of the same components.		
	● PARTS LIST FOR XWZ3177		
	SEMICONDUCTORS		
	IC4201-IC4203		NJM4558MD
	IC4502		PDG244A
	IC4101		TC74HC00AF
	IC4503		TC74HC08AF
	Q4203-Q4206,Q4209,Q4210		2SD2114K
	Q4208,Q4501		DTC124EK
	D4012-D4015,D4201,D4202		1SS355
	D4101		MTZJ5.1B
	D4203		MTZJ6.2A
	COIL		
	L4502		LAU470J
	CAPACITORS		
	C4104 (0.047F)		ACH1246
	C4203,C4204,C4213,C4214		CCSQSL101J50
	C4211,C4212		CCSQSL220J50
	C4207,C4208		CCSQSL470J50
	C4201,C4202,C4205,C4206		CEAT100M50
	C4209,C4210,C4218,C4219		CEAT100M50
	C4221-C4224,C4238		CEAT100M50
	C4228		CEAT101M25
	C4538		CEAT101M50
	C4227		CEAT1R0M50
	C4231-C4234		CEAT2R2M50
	C4220		CEAT330M25
	C4520,C4599		CEAT470M16
	C4229		CEAT470M25
	C4511		CEAT471M6R3
	C4020,C4101-C4103,C4509,C4510		CKSQYB103K50
	C4515,C4517,C4519,C4521		CKSQYB103K50
	C4105,C4518		CKSQYB104K25
	C4235,C4236		CKSQYB153K50
	C4225,C4226		CKSQYB222K50
	C4512-C4514		CKSQYB471K50

XR-A550MD

Mark	No.	Description	Part No.
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RESISTORS

R4599	RD1/4PU330J
R4552,R4553	RD1/4PU3R3J
Other Resistors	RS1/10S□□□□

OTHERS

X4501	CERAMIC RESONATOR (8.38MHz)	RSS1042
CN4503	11P FFC CONNECTOR	52045-1145
CN4505	13P FFC CONNECTOR	52045-1345
CN4102	KR CONNECTOR	B3B-PH-K-R
CN4101	KR CONNECTOR	B4B-PH-K-S
CN4504	9P PLUG	KM200IB9
CN4002	24P FFC CONNECTOR	VKN1200

H MD FRONT ASSY

Although XWZ3178 and XWZ3187 are different in part number, they consist of the same components.

● PARTS LIST FOR XWZ3178

SEMICONDUCTOR

IC4501	MSM9202-01
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COIL

L4505	LAU220J
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SWITCHES

S4501-S4504	XSG3001
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CAPACITORS

C4523-C4525	CCSQSL101J50
C4527	CCSQSL470J50
C4537	CEJA100M16
C4522,C4526	CKSQYB104K25
C4536,C4539	CKSQYB154K16

RESISTORS

All Resistors	RS1/10S□□□□
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OTHERS

4501	3P CABLE HOLDER	51048-0300
	16P CABLE HOLDER	51048-1600
CN4506	11P FFC CONNECTOR	52045-1145
V4501	FL TUBE	AAV7058

I MD LED ASSY

Although XWZ3180 and XWZ3189 are different in part number, they consist of the same components.

● PARTS LIST FOR XWZ3180

SEMICONDUCTORS

D4503,D4504	MTZJ5.6A
D4505,D4506	NSPBF50S-8451

RESISTORS

All Resistors	RS1/10S□□□□
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OTHERS

J4501	3P CABLE HOLDER	51048-0300
	JUMPER WIRE	D20PYY0320E
	LED HOLDER	XMR3005

Mark	No.	Description	Part No.
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J MD SUB ASSY

Although XWZ3179 and XWZ3188 are different in part number, they consist of the same components.

● PARTS LIST FOR XWZ3179

SEMICONDUCTORS

△	IC4002	AEK7010
△	IC4003	AEK7020
	IC4001	NJM2904M
	Q4004	2SC2412K
	Q4002	2SD1859X
	Q4001,Q4007	2SD2012
△	Q4008	2SD2012
	Q4005,Q4006	2SD2395
△	Q4009	2SD2395
	Q4003	DTC124EK
△	D4011	GBU4DL-5303
	D4002	MTZJ13B
	D4008	MTZJ5.1A
	D4004	MTZJ6.8B
	D4001,D4005-D4007,D4009,D4010	S5688G
	D4016	S5688G

CAPACITORS

	C4001 (22000μF/16V)	ACH7078
	C4004,C4005	CEAT100M50
△	C4010	CEAT222M25
	C4003,C4019	CEAT470M16
	C4002	CEAT470M25
	C4011	CEAT471M10
	C4006	CKSQYB103K50
	C4096	CKSQYB104K25

RESISTORS

R4001	RD1/4PU151J
R4023-R4026,R4033,R4034	RD1/4PU1R0J
R4029,R4031,R4032	RD1/4PU220J
R4018	RS1LMF181J
R4019	RS2LMF8R2J
R4020	RS3LMF150J
Other Resistors	RS1/10S□□□□

OTHERS

	3P CABLE HOLDER	51048-0300
J4001	JUMPER WIRE	D20PYY0320E
CN4001	9P SOCKET	KP200IA9L

K AF ASSY

Although XWZ3172 and XWZ3181 are different in part number, they consist of the same components.

● PARTS LIST FOR XWZ3172

SEMICONDUCTORS

△	IC3651	AEK7023
	IC2101,IC5691	BA4558F-HT
	IC5891,IC5892	BU4094BCF
	IC2201	HA12136AF
	IC2301	HA12211NT

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
△	IC3001		LC75394NED		C3303,C3304		CEAT101M50
△	IC42		NJM7805FA		C2312,C2313,C32,C42		CEAT1R0M50
△	IC32		NJM7812FA		C3653		CEAT220M35
△	IC3301		STK407-050B		C2106,C2214,C2215,C2321,C2322		CEAT220M50
	Q3354,Q3601,Q3621		2SA1037K		C72		CEAT220M50
△	Q71		2SA1837		C2001,C3601		CEAT221M16
	Q2806		2SB1197K		C71		CEAT221M63
△	Q3652,Q3654		2SB1238X	△	C41		CEAT222M25
	Q2803,Q2804		2SC1815	△	C31		CEAT222M35
	Q2801		2SC2240		C2201,C2202,C2205,C2206		CEAT2R2M50
	Q2102,Q2201,Q2202,Q3353,Q3603		2SC2412K		C2212,C2213,C2319,C2320		CEAT2R2M50
△	Q3605-Q3608,Q3651,Q3653		2SC2412K		C3005-C3010,C3015-C3018		CEAT2R2M50
	Q31		2SD2012		C3039,C3040,C3655		CEAT2R2M50
	Q2203,Q2204,Q2805,Q3311,Q3312		2SD2114K		C2804,C2805		CEAT330M16
	Q2301,Q2302		2SK368		C3082		CEAT330M50
	Q3313		DTA124EK		C3045,C3046,C3091		CEAT470M35
	Q2104,Q2105,Q3314		DTC124EK		C3021,C3022		CEATR10M50
	Q2103,Q2306,Q2802,Q2807		DTC143EK		C2203,C2204		CEATR22M50
	Q3351		IRFI9Z34G		C3011,C3012,C3325		CEATR47M50
	Q3352		IRFIZ34G		C3027,C3028		CFTLA334J50
	D3301,D3302		1SR139-100		C3023,C3024		CFTLA474J50
	D2191,D2301-D2306,D3351-D3354		1SS133		C2802		CKCYB681K2H
	D3361,D3362,D3601,D3603,D3604		1SS133		C5892		CKSQYB102K50
	D3621,D3622,D3625,D3626,D3652		1SS133		C2315,C2317,C2318,C3053,C3057		CKSQYB103K50
	D5891,D73		1SS133		C3083,C3098,C3651,C3654		CKSQYB103K50
	D2102,D2103,D2201,D2202,D3051		1SS355		C2191,C2193,C3055,C3099,C3991		CKSQYB104K25
	D3081,D3082,D3084,D3653,D3654		1SS355		C5891		CKSQYB104K25
	D3355,D3356		20E2-FC		C2194		CKSQYB105K10
	D3357,D3358		MTZJ10C		C3033,C3034		CKSQYB122K50
	D35,D36		MTZJ15C		C2208,C2209		CKSQYB152K50
	D3359,D3360		MTZJ18B		C3315,C3316		CKSQYB222K50
	D3651		MTZJ3.9B		C2323,C2326		CKSQYB223K50
	D74		MTZJ33C		C3029,C3030		CKSQYB273K50
	D3363,D3364		MTZJ39C		C2808,C2809		CKSQYB332K50
	D2001		MTZJ6.2A		C2807		CKSQYB472K50
	D48		MTZJ6.8C		C2307,C2308,C3013,C3014		CKSQYB681K50
△	D75		MTZJ8.2B		C3019,C3020,C3031,C3032		CKSQYB682K50
	D72,D76		S5688G		C3025,C3026		CKSQYB683K25
					C3331-C3333		CKSQYF104Z50
					C2801		CQHA822J2A
					C2210,C2211		CQMBA103J50
					C2806		CQMBA223J50
COILS AND FILTERS				RESISTORS			
	L3331,L3332		ATH-133		R72		RD1/2LMF222J
	L2801		ATX7002		R2812		RD1/2LMF270J
	L3002		LAU100J		R2813		RD1/2LMF471J
	L2301,L2302		LTA822J		R2809		RD1/2LMF47R7J
	F2201,F2202		RTF1209		R3333,R3334		RD1/4LMF100J
RELAY					R3353,R3354		RD1/4PU101J
	RY3601		ASR7008		R73		RD1/4PU103J
CAPACITORS					R3317,R3318		RD1/4PU683J
	C2303,C2304 (270pF)		ACG7024		R3665		RD1/4PU822J
	C2301,C2302		CCSQCH100D50		R3663		RS1LMF151J
	C3047,C3048		CCSQCH101J50		R3652		RS1LMF470J
	C2192		CCSQCH390J50		R3991,R3992		RS2LMF331J
	C3319,C3320		CCSQCH3R0C50		R3601,R3602		RS2LMFR22J
	C3311,C3312		CEANL1R0M50		VR2303,VR2304 (10kΩ)		VCP1156
	C3317,C3318		CEANP220M35		VR2301,VR2302 (100kΩ)		VCP1162
	C3621		CEANP2R2M2A		VR2801,VR2802 (220kΩ)		VCP1164
	C3313,C3314		CEANP2R2M50		Other Resistors		RS1/10S□□□□
	C73		CEAT100M2A				
	C2207,C2803,C2810,C33,C35		CEAT100M50				
	C3602,C43		CEAT100M50				
	C3056		CEAT101M10				
	C2002,C2316		CEAT101M16				
	C3652		CEAT101M35				

XR-A550MD

Mark	No.	Description	Part No.
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OTHERS

		CABLE HOLDER (15P)	51063-1505
CN1052		22P FFC CONNECTOR	52045-2245
CN5102		38P FFC CONNECTOR	52045-3845
CN81		4P JUMPER CONNECTOR	52147-0410
CN3331		SPEAKER TERMINAL 4P	AKE7001

CN2302		KR CONNECTOR	B2B-PH-K-S
CN1054		KR CONNECTOR	B3B-PH-K-R
CN2301		KR CONNECTOR	B3B-PH-K-S
CN3002		KR CONNECTOR	B4B-PH-K-S
CN3001		KR CONNECTOR	B5B-PH-K-S

JA1652		OPTICAL RECEIVE MOD.	GP1F32R
CN3051		14P PLUG	KM200IB14
JA3001		2P PIN JACK	VKB1060
J3651		CONNECTOR ASSY 2P	XDX3002
CN3991		HEADPHONE JACK	XKN3001

L SECONDARY ASSY

Although XWZ3173 and XWZ3182 are different in part number, they consist of the same components.

● PARTS LIST FOR XWZ3173

SEMICONDUCTORS

△	IC71	AEK7010
△	IC31	AEK7015
△	IC41	AEK7016
△	IC11,IC12	AEK7019
△	IC21,IC22	AEK7053

△	D11,D21	GBU4DL-5303
△	D31-D34,D41-D44	S5688G

CAPACITORS

△	C11,C12 (2200μF/63V)	ACH7071
	C21,C22	CEAT222M50

OTHERS

		CABLE HOLDER (15P)	51063-1505
CN41		3P JUMPER CONNECTOR	52147-0310
J11		JUMPER WIRE	D15A15-350-2651

M PRIMARY ASSY

(1) CONTRAST TABLE

XWZ3175 and XWZ3184 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3175	XWZ3184	
△	S1 VOLTAGE SELECTOR	Not used	AKX7006	
	H3-H6 FUSE CLIP	Not used	AKR7001	

(2) PARTS LIST FOR XWZ3175

CAPACITORS

△	C3 (10000pF/AC250V)	ACG7020
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Mark	No.	Description	Part No.
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N SUB TRANS ASSY

(1) CONTRAST TABLE

XWZ3176 and XWZ3185 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3176	XWZ3185	
△	S2 VOLTAGE SELECTOR	Not used	AKX7004	
△	R1	RCN1080	Not used	
△	AN1 AC INLET 1P	AKP7032	BKP1046	
	KN1	VNF1084	Not used	
	EARTH METAL FITTING			

(2) PARTS LIST FOR XWZ3176

SEMICONDUCTORS

△	IC81	NJM7805FA
	Q81	2SD1859X
	D85,D88-D90	1SS133
△	D81-D84	S5688G

COIL

△	L1	ATF-151
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TRANSFORMER

△	T2	ATT7027
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RELAY

△	RY81	ASR7018
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CAPACITORS

	C83	CEAT100M50
△	C82	CEAT102M25

RESISTORS

△	R1 (2.2MΩ)	RCN1080
	Other Resistors	RD1/4PU□□□□

OTHERS

△		4P CABLE HOLDER	51048-0400
	AN1	AC INLET 1P	AKP7032
	H1,H2	FUSE CLIP	AKR7001
	J81	JUMPER WIRE	D20PYY0425E
	KN1	EARTH METAL FITTING	VNF1084

O DISPLAY ASSY

(1) CONTRAST TABLE

XWZ3174 and XWZ3183 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3174	XWZ3183	
	D5597	1SS355	Not used	

(2) PARTS LIST FOR XWZ3174

SEMICONDUCTORS

IC5501	PDC055A
Q5501	2SA1037K
Q2903,Q2908	2SB1132
Q5503,Q5604,Q5801	2SC2412K
Q2910	DTA124EK

Mark	No.	Description	Part No.
	Q5606		DTC124EK
	Q2901,Q2907,Q5502,Q5601-Q5603		DTC143EK
	Q5605,Q5821		DTC143EK
	D5631,D5811		1SS133
	D5551-D5554,D5562,D5564		1SS181
	D5566-D5568		1SS181
	D2901,D2903,D5569,D5570,D5597		1SS355
	D5626,D5901		1SS355
	D5602,D5617-D5620		SLP3118C51H
	D5601		SLP7118C51H
	D5603,D5604,D5621		SLP9118C51H

COIL

L5811	LAU220J
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SWITCHES

S5951	ASX7004
S5952	ASX7017
S5911-S5936,S5942	XSG3001

CAPACITORS

C5812 (0.047F/5.5V)	ACH1246
C5821	CEJA100M16
C5803	CEJA1R0M50
C5510,C5811,C5814	CEJA470M16
C5804	CKSQYB102K50
C5995,C5996	CKSQYB103K50
C5816,C5997-C5999	CKSQYB104K25
C5530	CKSQYB222K50
C5509,C5951-C5954	CKSQYB471K50
C5506-C5508	CKSQYB472K50
C5634,C5901	CKSQYF104Z50
C5625	CKSQYF224Z25
C5503,C5504,C5813,C5822	CKSQYF473Z50

RESISTORS

R5529 (470Ω)	ACN7056
R5554,R5562 (1.5kΩ)	ACN7062
R5558,R5564 (47kΩ)	ACN7077
R5508	RA11T104J
R5506	RA7T104J
R2902,R2907,R2910,R5919	RD1/4PU102J
R5914	RD1/4PU151J
R5915	RD1/4PU181J
R5916	RD1/4PU271J
R5925	RD1/4PU331J
R5612,R5613,R5926	RD1/4PU561J
R5927	RD1/4PU821J
R5702	RS1/8S223J
Other Resistors	RS1/10S□□□J

OTHERS

X5501	CERAMIC RESONATOR (6MHz)	RSS1050
CN2901	11P FFC CONNECTOR	52045-1145
CN5502	13P FFC CONNECTOR	52045-1345
CN5501	38P FFC CONNECTOR	52045-3845
5901	REMOTE RECEIVER UNIT	GP1U28X
5631	FL HOLDER	VNF1096
V5621	FL TUBE	XAV3007

6. ADJUSTMENT

6.1 TUNER SECTION

FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 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 to 30	98MHz	L6402 T6401	Adjust so that the DC voltage between the IC6201-pin 20 and GND becomes at maximum level.
2	TUNED IND. Lighting Level	98	18 ± 2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

Note:
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.

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

Note (*1): For the area using 10kHz step, frequencies should be 1000kHz.

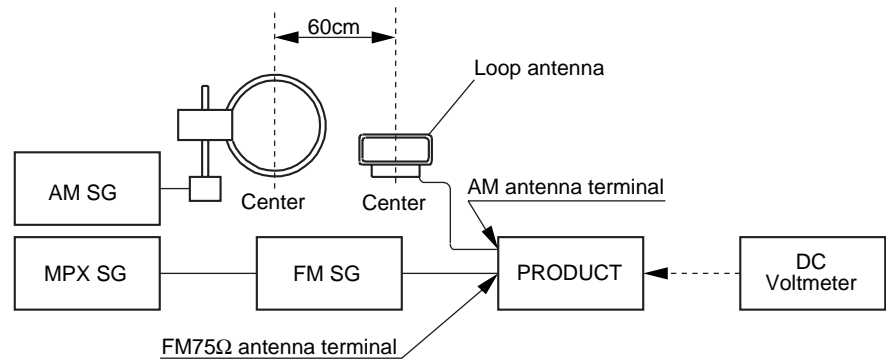


Fig.1 AM and FM Adjustment Wiring Diagram

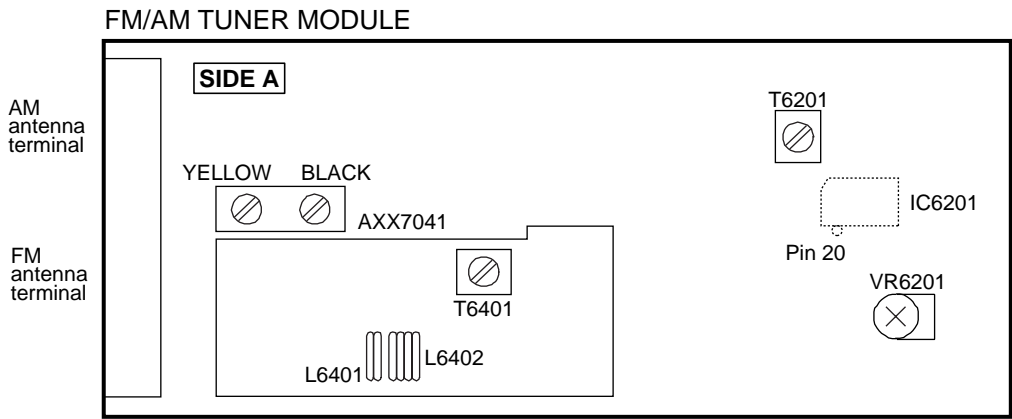


Fig.2 Adjustment Point

6.2 CASSETTE DECK SECTION

- Adjustment points and test points are shown in Fig.3, Fig.5 and Fig.7.

■ Mechanical Adjustment

- Test tape: NCT-111 (3kHz, 30min).

1. Tape Speed Adjustment

No.	Mode	Test Tape	Adjusting Points	Measurement Points	Adjustment Procedure	Remarks
1	PLAY	NCT-111 (Playback : 3kHz)	ADJ. VR on CASSETTE MECHA(Fig. 3)	TAPE TEST POINT (Rch) (AF Assy)	Press the PLAY SW and adjust so that the reading becomes $3000\text{Hz} \pm 20\text{Hz}$. Confirm that wow & flutter level is below 0.3% (in the reverse direction, confirm that the reading is within $3000\text{Hz} \pm 60\text{Hz}$).	

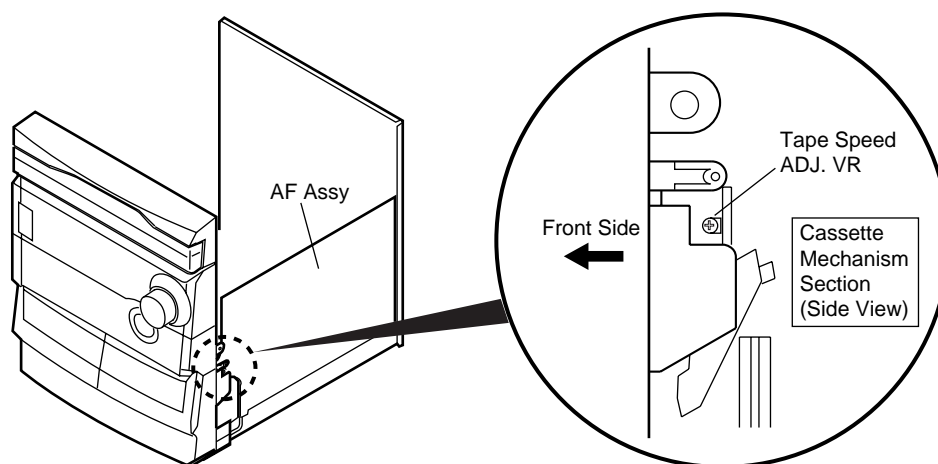


Fig.3 Tape Speed ADJ. Point

■ 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 $0\text{ dBV} = 1\text{ Vrms}$.
- (4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
STD-331E : For playback check
STD-632 : Normal blank tape
- (5) Provide yourself with the following measuring devices:
 - 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 otherwise 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

- (1) Head Azimuth Adjustment
- (2) Playback Level Adjustment

Recording Adjustment

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

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

*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.*

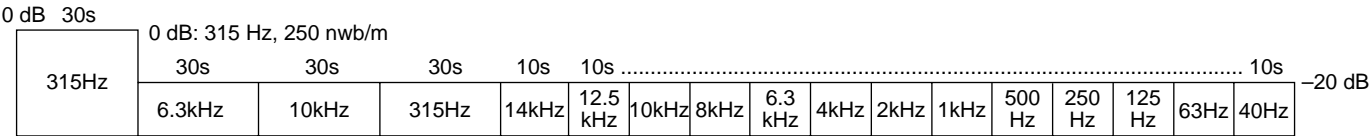


Fig.4 STD-331E Test Tape

■ Playback Adjustment

(1) Head Azimuth Adjustment

● Do not switch between forward and reverse operation with the screwdriver inserted.

Step	Mode	Input Signal/ Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 10kHz, -20dB)	Head azimuth adjustment screw (Fig. 5)	TAPE TEST POINT (L, Rch) (AF Assy)	Max. playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.

(2) Playback Level Adjustment

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

Step	Mode	Input Signal/ Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 315Hz,0dB)	VR2303(Lch) VR2304(Rch)	TAPE TEST POINT (L, Rch) (AF Assy)	- 3.7dBV	

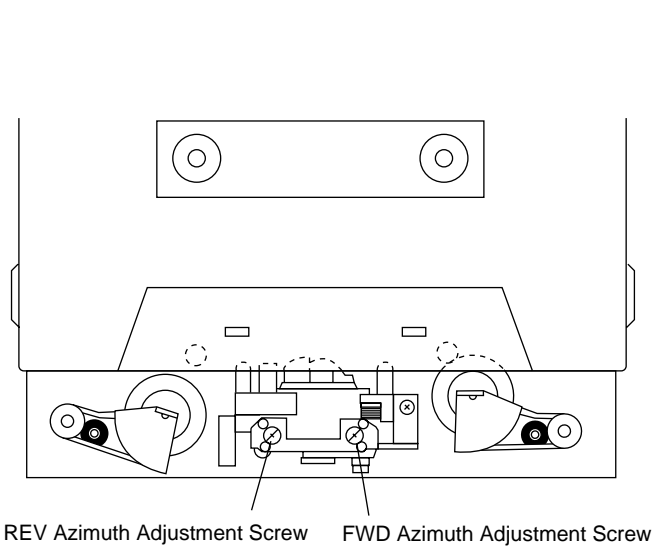


Fig.5 Head Azimuth Adjustment Screw

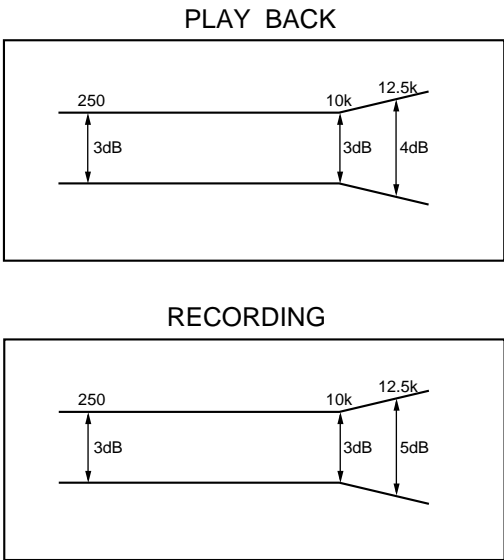


Fig.6 Frequency Characteristics

■ Recording Adjustment

(1) Bias Oscillation Frequency Adjustment

Step	Mode	Input Signal/ Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	REC	Load the STD-632 test tape and set the recording mode.	L2801 (AF Assy)	Between ① point in Fig.7 and GND.	Oscillation frequency to be 105.0kHz ± 2kHz.	If the REC/STOP button for four seconds while the power is in STAND BY mode, the frequency will decrease 2 to 3 kHz.

(2) Recording Bias Adjustment

- Since this adjustment affects recording bias, prevent distortion from increasing due to underbias.

Step	Mode	Input Signal/Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315Hz signal to the AUX terminal and set the input selector to AUX.	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	– 23.7dBV	
2	REC → PLAY	Load the STD-632 test tape and record/playback the 315Hz and 10kHz signals. (see the Note below)	VR2801(Lch) VR2802(Rch)	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat adjustment until playback level of the 10kHz signal is within $0 \pm 0.5\text{dB}$ from that of the 315Hz signal.	

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	Mode	Input Signal/Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315Hz signal to the AUX terminal and set the input selector to AUX.	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	– 7.7dBV	
2	REC → PLAY	Load the STD-632 test tape and record/playback the 315Hz signal.	VR2301(Lch) VR2302(Rch)	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat recording, playback and adjustment until playback level of the 315Hz signal becomes – 7.7dBV.	

(4) ALC Operation Check

Step	Mode	Input Signal/Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the AUX terminal and set the input selector to AUX.	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	– 8.2dBV	
2			Set to a level +10dB above the input level at step1.		Confirm that the reading is – $2.2 \pm 2.5\text{dBV}$.	

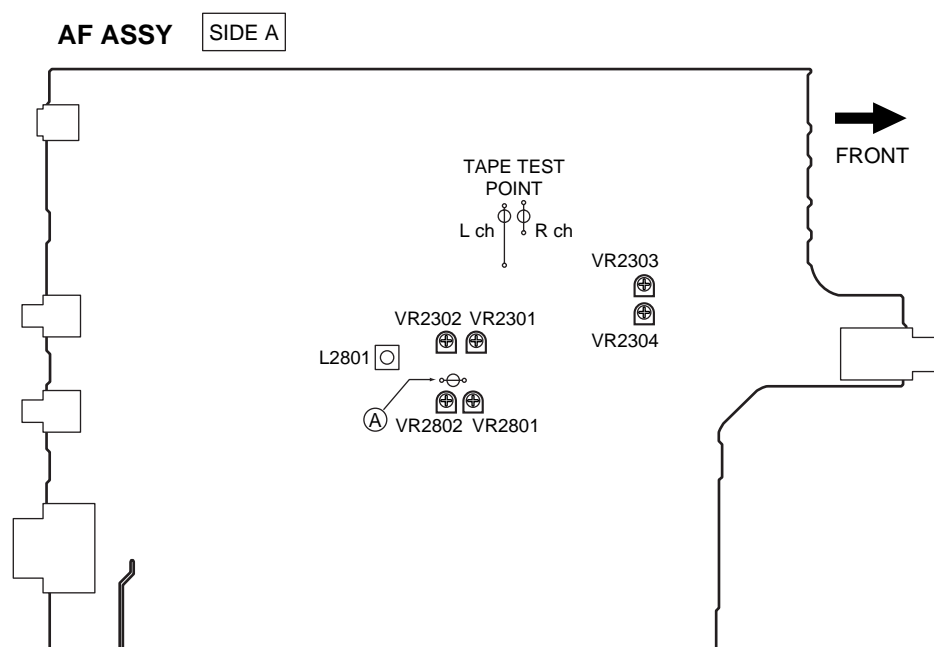


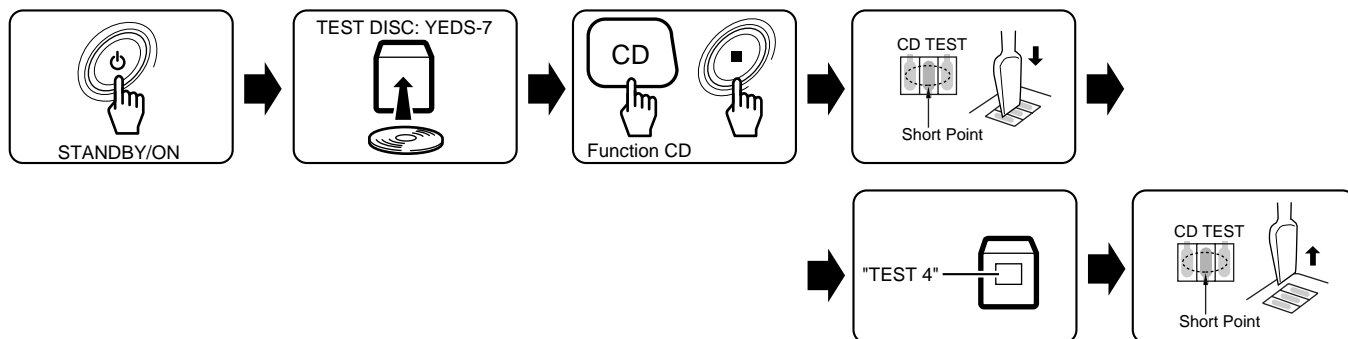
Fig.7 Adjustment and Measurement Points

6.3 CD SECTION TEST MODE

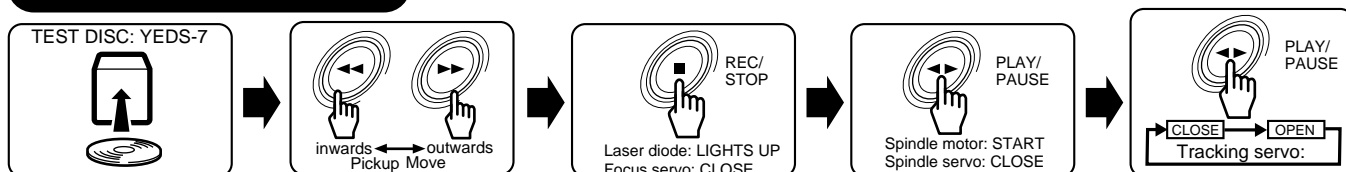
NOTE: There is no information to be shown in this CD adjustment.

■ How to Start/Cancel Test Mode

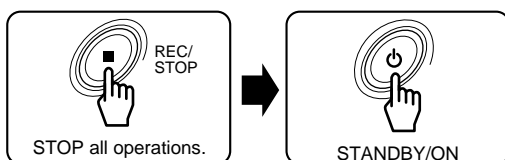
TEST MODE : ON



TEST MODE : PLAY



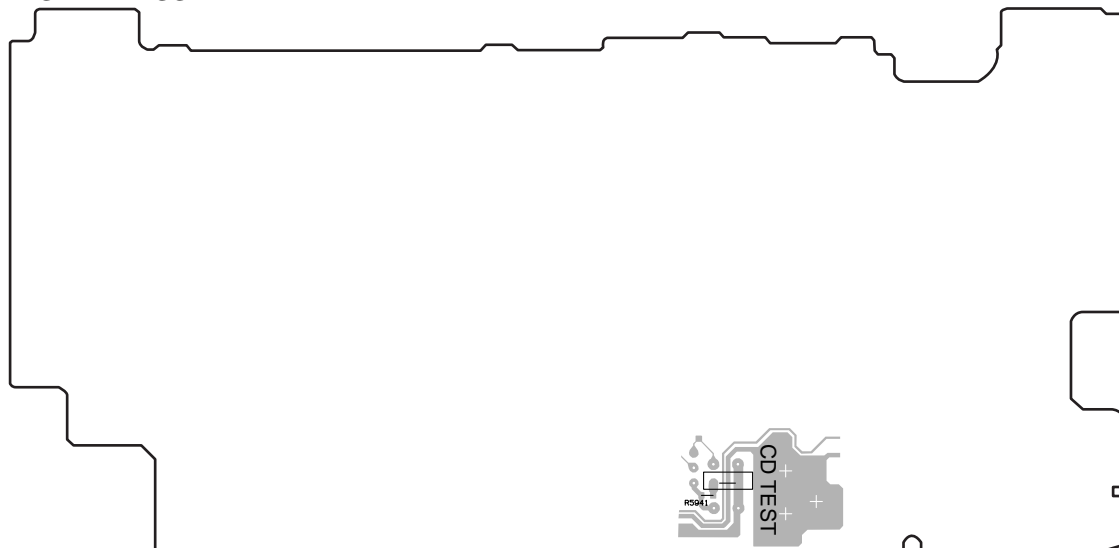
TEST MODE : STOP CANCEL



■ Test Point

DISPLAY ASSY

SIDE B



↓
Bottom Side

6.4 MD SECTION

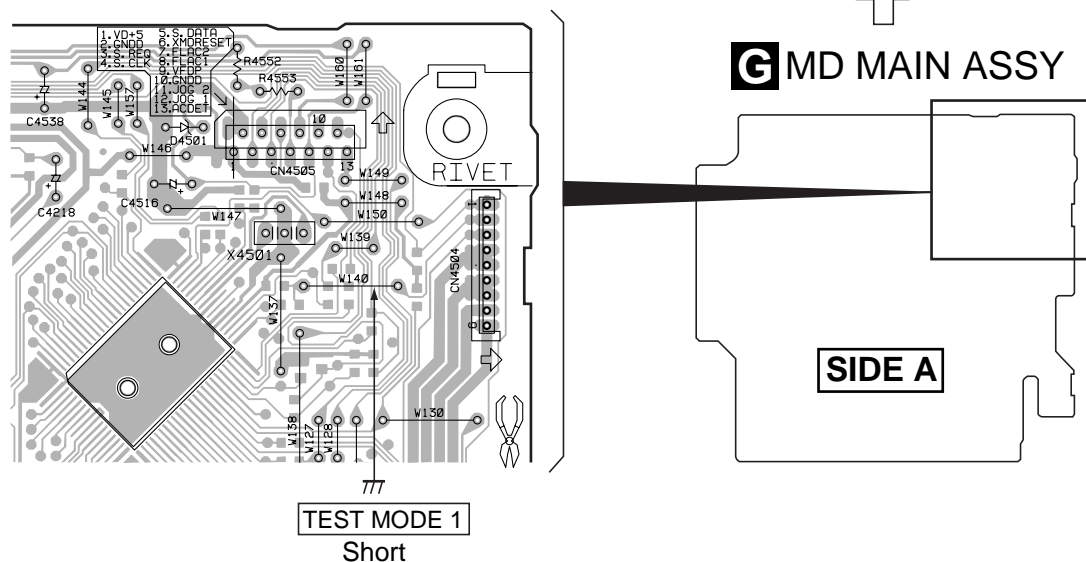
6.4.1 Test Mode 1

● Test Mode Types

Test Mode	Entering the Test Mode	Application
TEST 1	TEST 1 short	CA Check
TEST 2	TEST 2 short	For MD Mechanism Adjustment

TEST MODE : ON

- Short the TEST 1 terminal while the power is ON.



Notes)

- When the TEST1 terminal has been shorted without a bus being received even once after RESET, the bus data will be ignored and POWER ON status determined, and the unit will operate independently.
- When the TEST1 terminal is shorted again under these conditions, the normal operation will be restored.

TEST MODE : CANCEL

Turn the Power to STANDBY mode or short-circuit.

■ Test Mode Menu

● LCD Check

Changes the LCD pattern according to key input and checks for defects in the LCD.

● LED Check

Turn on and off the LED in order according to key input.

● Auto Recording/Palyback Check

Outputs a request for function changeover to AUX with a bus. REC is executed in analog after 1 second.

Stops recording after 3 seconds and outputs a request for function changeover to MD with a bus. After 1 second, the recorded portion will be played back for 3 seconds without confirming that the function has switched to MD.

- When the S.M. JOG key is turned counterclockwise, digital input is activated and the same operations as above will be performed.
- When the S.M. JOG key is turned clockwise, the function is switched to CD (1) and only signal ON/OFF will be confirmed digitally.

6.4.2 Test Mode 2

6.4.2.1 Preparations

● Test Disc

	Type	Test Disc	Code	Part Number
1	High reflective disc	TGYS1 (SONY)[for playback]	124 636 0001	TGYS1
2	Low reflective disc	Recording minidisc	124 957 0001	GGF1277
3	—————	Transparent disc for adjustment head	124 957 0002	GGF1276

● Extension Cable (Refer to Fig.7)

	Type	Code	Part Number
1	Extension board for servicing	124 685 0044	GGF1320
2	2-pin extension connector for servicing	124 512 0059	GGD1108
3	6-pin extension connector for servicing	124 512 0323	GGD1181
4	5-pin flat cable for servicing	124 512 0325	GGD1182
5	28-pin flat cable for servicing	124 512 0324	GGD1180

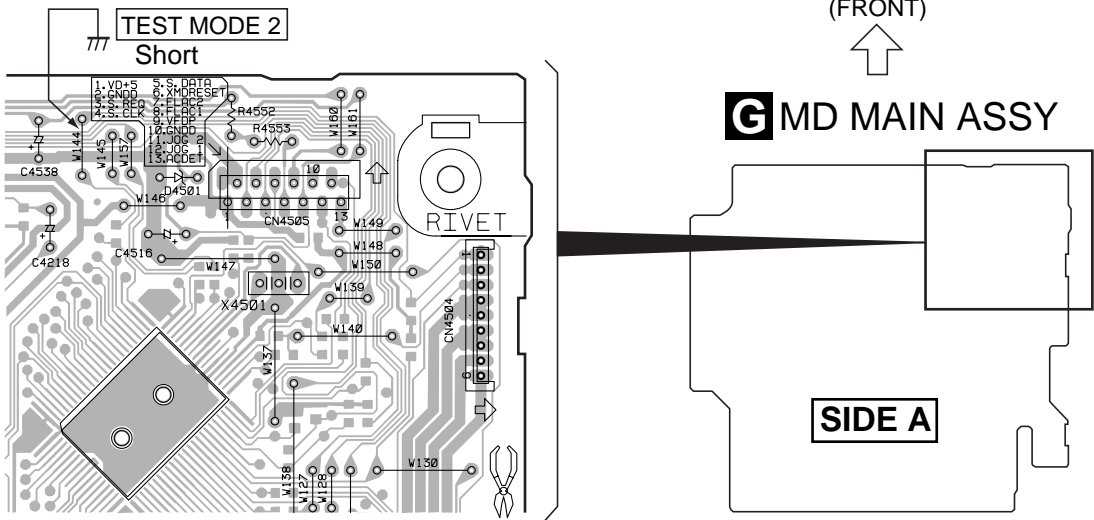
6.4.2.2 Test Mode

● Test Mode Types

Test Mode	Entering the Test Mode	Application
TEST 1	TEST 1 short	CA Check
TEST 2	TEST 2 short	For MD Mechanism Adjustment

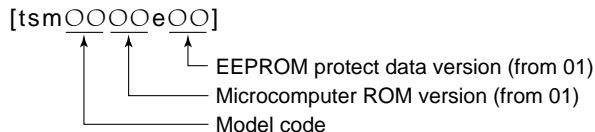
TEST MODE : ON

- Short the TEST 2 terminal while the power is ON.



Microcomputer Version Display (1 sec)

(1 second when EJECT is completed.)



When this is displayed, it is called "Test Mode Stop status."

In "Test Mode Stop status" and "EJECT status":

- Operation will switch to the mechanism forced EJECT direction while ►► button is pressed.
- Operation will switch to the mechanism forced LOAD direction while ◄◄ button is pressed.

In each Menu status:

- The mechanism slide outer track feed will operate while the S.M. JOG key is turned clockwise.
- The mechanism slide inner track feed will operate while the S.M. JOG key is turned counterclockwise.

To move according to the adjusted value set in Test Mode, Press the PRESET key in Test Mode Stop status. The adjusted value will be written to EEPROM and the AUTO Adjustment Disabled Mode will be engaged.

Notes)

- Canceling the AUTO Adjustment Disabled Mode will stop the power supply. (If a receiver is connected, disconnect the receiver power cord.)
- When a setting is changed in Test Mode and the unit is moved according to that setting, the mechanism may not operate if the set value is faulty. When changing a set value, therefore, make a note of the original value.
- In Test Mode the companion may be not only the SX-R9 but also the power jig. When the TEST2 terminal has been shorted without a bus being received even once after RESET, the bus data will be ignored and POWER ON status determined, and the unit will operate independently.
- When the TEST2 terminal is shorted again under these conditions, the normal operation will be restored.

TEST MODE : CANCEL

Turn the Power OFF.

● MD Mechanism Test Mode

When the MD mechanism pickup and PWB-A (MD MAIN Assy) are newly assembled enter the MD mechanism Test Mode and execute AUTO Preliminary Adjustment and AUTO Adjustment according to the following procedure.

- (1) Short-circuit pin 8 (PROTECT) and pin 2 (Vcc) of IC1402 (EEPROM).
- (2) Enter the MD mechanism Test Mode and execute AUTO Preliminary Adjustment and AUTO Adjustment.
- (3) Press the PRESET key and quit Test Mode. (EEPROM will then be written to.)
- (4) Cancel the shorting of pin 8 and pin 2 of IC1402.

Carry out the above procedure and turn the power OFF.

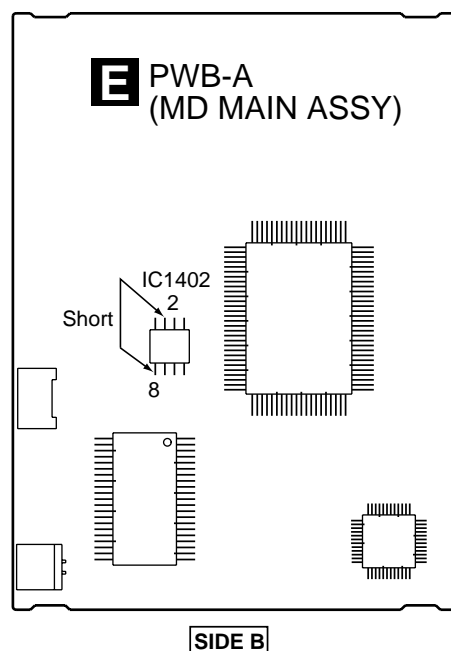







Fig.2 PWB-A (MD MAIN ASSY) Short Point

■ Key Allocation for Test Mode 2

Mode	Meaning and use of commands in Test Mode 2	Remarks
Short	Used when engaging Test Mode. Resets and starts the MD unit and inputs this command.	(Test Mode setting)
PRESET	Operates at adjusted value set in Test Mode, after writing to EEPROM and executing mechanism positioning.	Restart with this key after quitting Test Mode (Auto Adjustment Disabled Mode setting).
	EJECT command Ejects disc.	
MENU	Test Mode menu scan (1) (Scans menus related to adjustments and EEPROM.)	
ENTER	Test Mode menu scan (2) (Scans mainly menus related to continuous playback and continuous recording.)	
DISP/CHARA	Test Mode menu scan (3) (Scans INNER Mode, JUMP SELECT, and other menus.)	
MD REC/STOP	Test Mode menu reverse scan (Scans all Test Mode menus in reverse order.)	
	Selects or starts execution of a menu.	
	Stops a test item and moves to the next most important menu selection.	
S.M. JOG (clockwise)	1. Slide forced scan (FWD direction) 2. JUMP execution (FWD) 3. ADDRESS set value UP 4. Direction designation when setting tracking	Continuously pressed down
S.M. JOG (counterclockwise)	1. Slide forced scan (REV direction) 2. JUMP execution (REV) 3. ADDRESS set value DOWN 4. Direction designation when setting tracking	Continuously pressed down
	1. DISC forced EJECT 2. Set value UP	Continuously pressed down
	1. DISC forced LOAD 2. Set value DOWN	Continuously pressed down
DELETE	1. Laser power changeover in EJECT 2. Display changeover during continuous playback 3. Set value digit changeover when setting ADDRESS	

■ Test Mode 2 Menu

1. AUTO Preliminary Adjustment Mode	<ul style="list-style-type: none"> ● Executes AUTO Preliminary Adjustment. (After adjustment, Grating Adjustment Mode is engaged.) ● Outputs adjusted value.
2. AUTO Adjustment Mode	<ul style="list-style-type: none"> ● Executes AUTO Adjustment. ● Outputs adjusted value. ● Executes continuous playback (error rate display, jump test)
3. RESULT Preliminary Mode	<ul style="list-style-type: none"> ● Displays measured values, set values, and calculated values. ● Changes set value manually (in Servo OFF status).
4. RESULT Mode (this adjustment)	<ul style="list-style-type: none"> ● Displays set value (after calculation). ● Changes set value manually (in Servo OFF status).
5. MANUAL Preliminary Adjustment Mode	<ul style="list-style-type: none"> ● Executes RF side manual adjustment. ● Executes focus/tracking signal ATT manual adjustment. ● Executes focus/tracking signal offset adjustment.
6. MANUAL Adjustment Mode	<ul style="list-style-type: none"> ● Executes focus/tracking signal ATT manual adjustment.
7. EEPROM Setting Mode	<ul style="list-style-type: none"> ● Manually changes all digital servo coefficients, etc. ● Turns each servo ON independently. ● Measures temperature detector terminal voltage and standard value.
8. TEST-PLAY Mode	<ul style="list-style-type: none"> ● Executes continuous playback from designated address. ● Measures C1 error rate and ADIP error rate.
9. TEST-REC Mode	<ul style="list-style-type: none"> ● Executes continuous recording from designated address. ● Changes recording laser output (and also changes servo gain to match laser output).
10. INNER Mode	<ul style="list-style-type: none"> ● Measures point where INNER switch is turned ON.
11. EJECT Mode	<ul style="list-style-type: none"> ● To (EEPROM set) TEMP setting ● To (EEPROM set) CONTROL setting ● Laser power setting (Rec/Play power)

1. AUTO Preliminary Adjustment Mode (Low-Reflectance Disc Only)

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button once.	AUTO Preliminary Adjustment Menu	[_AUT_YOBI_]
Step 3	Press the ◀▶ button once. End of Adjustment	Slide moves to innermost track and AUTO Preliminary Adjustment is engaged. ● During AUTO Adjustment, *** will change as follows. HAo → RFg → SAg → SBg → PTG → PCH → GTG → GCH → RCG → SEG → RFG → SAG → HAO → HEO → TCO → LAO If adjustment is OK, go to step 4. If adjustment is NG, go to step 5.	[*** : _____]
Step 4	Grating adjustment, adjusted value output Press the STOP button.	Step 2	[_COMPLETE_]
Step 5	Adjusted value output Press the STOP button.	Step 2 AUTO Preliminary Adjustment Menu	[Can't_ADJ.]

● ***: Adjustment name, □□□□: Address

2. AUTO Adjustment Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 2 times.	AUTO Adjustment Menu	[AUTO_AJST_]
Step 3	Press the ◀▶ button once. End of Adjustment	Slide moves to innermost track and AUTO Adjustment is engaged. ● In the case of a high-reflectance disc, *** will change as follows. PEG → HAG ● In the case of a low-reflectance disc, *** will change as follows. PEG → LAG → GCG → GEG → LAG If adjustment is OK, go to step 4. If adjustment is NG, go to step 7.	[*** : _____]
Step 4	Adjusted value output Press the ◀▶ button. Press the STOP button.	Step 5 Step 2	[_COMPLETE_]
Step 5	Continuous playback (pit) Continuous playback (groove)		[s □□□□ c ○○○○] [a □□□□ c ○○○○]
Step 6	Press the DELETE button. Press the STOP button.	Continuous playback (groove) Step 2 AUTO Adjustment Menu	[a □□□□ a ○○○○]
Step 7	Adjusted value output Press the STOP button.	Step 2 AUTO Adjustment Menu	[Can't_ADJ.]

● ***: Adjustment name, ○○○○: Measured value, □□□□: Address

3. RESULT Preliminary Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 3 times.	RESULT Preliminary Menu	[_RST_YOBI_]
Step 3	Press the ◀▶ button.	Set value display	[RFG: _____●]
Step 4	Press the MENU button.	Set value display	[RCG: _____●]
Step 5	Press the MENU button.	Set value display	[PTG: _____●]
Step 6	Press the MENU button.	Set value display	[GTG: _____●]
Step 7	Press the MENU button.	Set value display	[PCH: _____●●]
Step 8	Press the MENU button.	Set value display	[GCH: _____●●]
Step 9	Press the MENU button.	Set value display	[SAG: _____●●●]
Step 10	Press the MENU button.	Set value display	[SBG: _____●●●]
Step 11	Press the MENU button.	Set value display	[SEG: _____●●●]

3. RESULT Preliminary Mode

Step No.	Setting Method	Remarks	Display
Step 12	Press the MENU button.	Set value display	[SFG: ____●●●]
Step 13	Press the MENU button.	Measured value display	[HAO: ○○○____]
Step 14	Press the MENU button.	Measured value display	[HBO: ○○○____]
Step 15	Press the MENU button.	Measured value display	[HEO: ○○○____]
Step 16	Press the MENU button.	Measured value display	[HFO: ○○○____]
Step 17	Press the MENU button.	Measured value display	[LAO: ○○○____]
Step 18	Press the MENU button.	Measured value display	[LBO: ○○○____]
Step 19	Press the MENU button.	Measured value display	[LEO: ○○○____]
Step 20	Press the MENU button.	Measured value display	[LFO: ○○○____]
Step 21	Press the MENU button.	Measured value display	[TCO: _○○____]
Step 22	Press the MENU button.	Adjustment error sequence No. display	[YOB: _□□____]
Step 23	Press the MENU button.	Adjustment status display	[DIF: _□□____]
Step 24	Press the MENU button.	Preliminary adjustment Not yet completed (00)/Completed (4B) display	[ADJ: _□□____]
Step 25	Press the STOP button.	RESULT Preliminary Menu status	[_RST_YOBI_]

- ○○: Measured value, ●●: Adjusted value, □□: Other data
- If the MD REC/STOP button is pressed, operation moves in reverse direction.
- If the ►► button is pressed while a set value is being displayed, the set value will increase and the new set value will be stored in RAM.
- If the ◄◄ button is pressed while a set value is being displayed, the set value will decrease and the new set value will be stored in RAM.
- If the ►►/◄◄ buttons are pressed and held down, data will change continuously in 100ms cycles.
- Digits increased/decreased with the ►►/◄◄ buttons can be moved with the DELETE button.

4. RESULT Mode (This Adjustment)

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 4 times.	RESULT Menu	[_RESULT____]
Step 3	Press the ◄► button.	Set value display	[HAG: ____●●●]
Step 4	Press the MENU button.	Set value display	[HBG: ____●●●]
Step 5	Press the MENU button.	Set value display	[LAG: ____●●●]
Step 6	Press the MENU button.	Set value display	[LBG: ____●●●]
Step 7	Press the MENU button.	Set value display	[PEG: ____●●●]
Step 8	Press the MENU button.	Set value display	[PFG: ____●●●]
Step 9	Press the MENU button.	Set value display	[GEG: ____●●●]
Step 10	Press the MENU button.	Set value display	[GFG: ____●●●]
Step 11	Press the MENU button.	Set value display	[GCG: ____●●]
Step 12	Press the STOP button.	RESULT Menu status	[_RESULT____]

- : Set value
- If the MD REC/STOP button is pressed, operation moves in reverse direction.
- If the ►► button is pressed while a set value is being displayed, the set value will increase and the new set value will be stored in RAM.
- If the ◄◄ button is pressed while a set value is being displayed, the set value will decrease and the new set value will be stored in RAM.
- If the ►►/◄◄ buttons are pressed and held down, data will change continuously in 100ms cycles.
- Digits increased/decreased with the ►►/◄◄ buttons can be moved with the DELETE button.

5. MANUAL Preliminary Adjustment Mode (Low-Reflectance Disc only)

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 5 times.	MANUAL Preliminary Adjustment Menu	[_MNU_YOBI_]
Step 3	Press the ◀▶ button.	Initial setting → Temperature Setting Mode	[TMP: _△△_]
Step 4	Press the MENU button.	Offset "0" setting → Signal A offset temporary measurement	[HAO: △△△_]
Step 5	Press the MENU button.	Signal B offset temporary measurement	[HBo: △△△_]
Step 6	Press the MENU button.	Signal E offset temporary measurement	[HEO: △△△_]
Step 7	Press the MENU button.	Signal F offset temporary measurement	[HFO: △△△_]
Step 8	Press the MENU button.	Offset temporary measurement → Laser ON	[LON: _]
Step 9	Press the MENU button.	Innermost track move → RF side FG rough adjustment	[RFg: △△△_●]
Step 10	Press the MENU button.	Focus ATT (signal A) temporary setting	[SAg: △△△○○]
Step 11	Press the MENU button.	Focus ATT (signal B) temporary setting	[SBg: △△△○○]
Step 12	Press the MENU button.	RF side pit TG adjustment	[PTG: △△△_●]
Step 13	Press the MENU button.	Pit COUT level setting	[PCH: △△△_○○]
Step 14	Press the MENU button.	Outer track move → RF side groove TG adjustment	[GTG: △△△_●]
Step 15	Press the MENU button.	Groove COUT level setting	[GCH: △△△_○○]
Step 16	Press the MENU button.	RF side TCRS adjustment	[RCG: △△△_●]
Step 17	Press the MENU button.	Tracking ATT (signal E) setting	[SEG: △△△○○]
Step 18	Press the MENU button.	Tracking ATT (signal F) setting	[SFG: △△△○○]
Step 19	Press the MENU button.	Tracking EFMIO measurement display	[gMI: △△△_]
Step 20	Press the MENU button.	RF side pit FG adjustment	[RFG: △△△_●]
Step 21	Press the MENU button.	Focus ATT (signal A) setting	[SAG: △△△○○]
Step 22	Press the MENU button.	Focus ATT (signal B) setting	[SBG: △△△○○]
Step 23	Press the MENU button.	Offset "0" setting → Signal A offset measurement	[HAO: △△△_]
Step 24	Press the MENU button.	Signal B offset measurement	[HBo: △△△_]
Step 25	Press the MENU button.	Signal E offset measurement	[HEO: △△△_]
Step 26	Press the MENU button.	Signal F offset measurement	[HFO: △△△_]
Step 27	Press the MENU button.	TCRS signal offset measurement	[TCO: △△△_]
Step 28	Press the MENU button.	Signal A offset measurement	[LAO: △△△_]
Step 29	Press the MENU button.	Signal B offset measurement	[LBo: △△△_]
Step 30	Press the MENU button.	Signal E offset measurement	[LEO: △△△_]
Step 31	Press the MENU button.	Signal F offset measurement	[LFO: △△△_]

- △△△: Measured value, ●: Set value, ○○○: Calculated value
- If the ▶▶/◀◀ buttons are pressed while a set value is being displayed, the set value will increase/decrease and the new set value will be stored in RAM.
- If the ▶▶/◀◀ buttons are pressed and held down, data will change continuously in 100ms cycles.
- If the MD REC/STOP button is pressed, operation will move back one step at a time, except for the following cases:
Signal A offset (HAO) → offset temporary setting → RF side FG adjustment (RFG)
RF side TCRS adjustment (RCG) → RF side groove TG adjustment (GTG)
RF side groove TG adjustment (GTG) → Innermost track move → RF side pit adjustment (PTG)
RF side pit TG adjustment (PTG) → RF side FG rough adjustment (RFg) → Laser ON (LON)
Laser ON (LON) → Offset "0" setting → Signal A offset temporary measurement (HAO)
If the measured value is within the OK range, an asterisk (*) will be displayed in the eighth character.

6. MANUAL Adjustment Mode

● High-Reflectance Disc

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 6 times.	MANUAL Adjustment Menu	[_MNU_AJST_]
Step 3	Press the ◀▶ button.	Initial setting → Temperature Setting Mode	[TMP: _△△_]
Step 4	Press the MENU button.	Laser ON	[LON: _]
Step 5	Press the MENU button.	Innermost track move → Tracking ATT (signal E) setting	[PEG: △△△○○]
Step 6	Press the MENU button.	Tracking ATT (signal F) setting	[PFG: △△△○○]
Step 7	Press the MENU button.	Tracking EFMIO measurement display	[PMI: △△△_]
Step 8	Press the MENU button.	Focus ATT (signal A) setting	[HAG: △△△○○]
Step 9	Press the MENU button.	Focus ATT (signal B) setting	[HBG: △△△○○]

- If the STOP (■) button is pressed while the MANUAL Adjustment Menu is being displayed, operation will move to Test Mode STOP status.
- If the MD REC/STOP button is pressed, operation will move back one step at a time.

● Low-Reflectance Disc

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 6 times.	MANUAL Adjustment Menu	[_MNU_AJST_]
Step 3	Press the ◀▶ button.	Initial setting → Temperature Setting Mode	[TMP: _△△_]
Step 4	Press the MENU button.	Laser ON	[LON: _]
Step 5	Press the MENU button.	Innermost track move → Tracking ATT (signal E) setting	[PEG: △△△○○]
Step 6	Press the MENU button.	Tracking ATT (signal F) setting	[PFG: △△△○○]
Step 7	Press the MENU button.	Tracking EFMIO measurement display (pit)	[PMI: △△△_]
Step 8	Press the MENU button.	Focus ATT (signal A) setting	[LAG: △△△○○]
Step 9	Press the MENU button.	Focus ATT (signal B) setting	[LBg: △△△○○]
Step 10	Press the MENU button.	Outer track move → Track cross setting	[GCG: △△△○○]
Step 11	Press the MENU button.	Tracking ATT (signal E) setting	[GEG: △△△○○]
Step 12	Press the MENU button.	Tracking ATT (signal F) setting	[GFG: △△△○○]
Step 13	Press the MENU button.	Tracking EFMIO measurement display (groove)	[GMI: △△△_]
Step 14	Press the MENU button.	Focus ATT (signal A) setting	[LAG: △△△○○]
Step 15	Press the MENU button.	Focus ATT (signal B) setting	[LBG: △△△○○]

- If the STOP (■) button is pressed while the MANUAL Adjustment Menu is being displayed, operation will move to Test Mode STOP status.
- If the MD REC/STOP button is pressed, operation will move back one step at a time, except for the following case:
- Track cross ATT setting (GCG) → Innermost track move → Focus ATT (signal B) setting (LBg)

7. EEPROM Setting Mode

(a) Focus Setting

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 7 times.	EEPROM Setting Menu	[EEPROM_SET]
Step 3	Press the ◀▶ button.	Focus Setting Menu	[__Focus__]
Step 4	Press the ◀▶ button.	Focus system loop filter gain constant setting	[FG _ _ _ _ _ ◆◆]
Step 5	Press the MENU button.	Focus system loop filter f characteristics 1 setting	[FF1 _ _ _ _ _ ◆◆]
Step 6	Press the MENU button.	Focus system loop filter f characteristics 2 setting	[FF2 _ _ _ _ _ ◆◆]
Step 7	Press the MENU button.	FZC detection hysteresis level setting a	[FZHLEV _ _ ◆◆]
Step 8	Press the MENU button.	Comparison level setting (normal) during FOK formation	[FOKLEVn _ ◆◆]
Step 9	Press the MENU button.	Comparison level setting (when Focus ON) during FOK formation	[FOKLEVf _ ◆◆]

(a) Focus Setting

Step No.	Setting Method	Remarks	Display
Step 10	Press the MENU button.	LPF coefficient measurement (normal) during FOK formation	[FOKLPFn_◆◆]
Step 11	Press the MENU button.	LPF coefficient measurement (when Focus ON) during FOK formation	[FOKLPFf_◆◆]
Step 12	Press the MENU button.	Wait setting for Auto Focus lead in	[WAITf_◆◆]

- ◆◆: Set value
- If the MD REC/STOP button is pressed, operation moves in reverse direction.
- If the ►► button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ◄◄ button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ►►/◄◄ buttons are pressed and held down, data will change continuously in 100ms cycles.

(b) Spin Setting

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 7 times.	EEPROM Setting Menu	[EEPROM_SET]
Step 3	Press the ◄► button.	Focus Setting Menu	[__Focus__]
Step 4	Press the MENU button.	Spin Setting Menu	[_Spindle__]
Step 5	Press the ◄► button.	Spin system loop filter gain constant setting (until tracking servo is ON)	[SPG_◆◆◆◆]
Step 6	Press the MENU button.	Spin system loop filter gain constant setting (subsequent to tracking servo ON, inner)	[SPG_in_◆◆◆◆]
Step 7	Press the MENU button.	Spin system loop filter gain constant setting (subsequent to tracking servo is ON, middle)	[SPG_mid_◆◆◆◆]
Step 8	Press the MENU button.	Spin system loop filter gain constant setting (subsequent to tracking servo is ON, outer)	[SPG_out_◆◆◆◆]
Step 9	Press the MENU button.	Spin system loop filter f characteristics 1 setting	[SP1_◆◆◆◆]
Step 10	Press the MENU button.	Spin system loop filter f characteristics 2 setting	[SP2_◆◆◆◆]
Step 11	Press the MENU button.	Spin system loop filter f characteristics 3 setting	[SP3_◆◆◆◆]
Step 12	Press the MENU button.	Spin system loop filter f characteristics 4 setting	[SP4_◆◆◆◆]
Step 13	Press the MENU button.	Spin system loop filter f characteristics 5 setting	[SP5_◆◆◆◆]
Step 14	Press the MENU button.	Spin drive output limiter setting	[SPDLIM_◆◆◆◆]

- ◆◆: Set value
- If the MD REC/STOP button is pressed, operation moves in reverse direction.
- If the ►► button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ◄◄ button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ►►/◄◄ buttons are pressed and held down, data will change continuously in 100ms cycles.

(c) Tracking Setting

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 7 times.	EEPROM Setting Menu	[EEPROM_SET]
Step 3	Press the ◄► button.	Focus Setting Menu	[__Focus__]
Step 4	Press the MENU button 2 times.	Tracking Setting Menu	[_Tracking_]
Step 5	Press the ◄► button.	Tracking system loop filter gain constant setting	[TG_◆◆◆◆]
Step 6	Press the MENU button.	Tracking system loop filter f characteristics 1 setting	[TF1_◆◆◆◆]
Step 7	Press the MENU button.	Tracking system loop filter f characteristics 2 setting	[TF2_◆◆◆◆]
Step 8	Press the MENU button.	Tracking system servo mode 4 setting	[SVCNT4_◆◆◆◆]

(c) Tracking Setting

Step No.	Setting Method	Remarks	Display
Step 9	Press the MENU button.	Tracking deceleration pulse level setting (for 1 jump)	[TRBLVo__◆◆]
Step 10	Press the MENU button.	Tracking deceleration pulse level setting (for 10 jumps)	[TRBLVt__◆◆]
Step 11	Press the MENU button.	Tracking kick pulse level setting (for 1 jump)	[TRKLVo__◆◆]
Step 12	Press the MENU button.	Tracking kick pulse level setting (for 10 jumps)	[TRKLvt__◆◆]
Step 13	Press the MENU button.	Tracking drive pulse width setting (for 1 jump)	[TDPWo____◆◆]
Step 14	Press the MENU button.	Tracking drive pulse width setting (for 10 jumps)	[TDPW+____◆◆]
Step 15	Press the MENU button.	Tracking slide Stop time setting (for 1 jump)	[SLCTo____◆◆]
Step 16	Press the MENU button.	Tracking slide Stop time setting (for 10 jumps)	[SLCTt____◆◆]
Step 17	Press the MENU button.	Tracking slide Stop time setting (Move)	[SLCTm____◆◆]
Step 18	Press the MENU button.	TCRS comparison level 1 for high-reflectance disc	[TCRSC1P__◆◆]
Step 19	Press the MENU button.	Comparison level during COUT formation (during playback)	[COTLVp__◆◆]
Step 20	Press the MENU button.	Comparison level during COUT formation (during recording)	[COTLVr__◆◆]
Step 21	Press the MENU button.	Wait time setting for Auto Move	[WAITm____◆◆]

- ◆◆: Set value
- If the MD REC/STOP button is pressed, operation moves in reverse direction.
- If the ►► button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ◄◄ button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ►►/◄◄ buttons are pressed and held down, data will change continuously in 100ms cycles.

(d) Slide Setting

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 7 times.	EEPROM Setting Menu	[EEPROM_SET]
Step 3	Press the ◄► button.	Focus Setting Menu	[__Focus__]
Step 4	Press the MENU button 3 times.	Slide Setting Menu	[___Sled___]
Step 5	Press the ◄► button.	Slide system loop filter gain constant setting	[SLG_____◆◆]
Step 6	Press the MENU button.	Slide system loop filter f characteristics 2 setting	[SL2 _____◆◆]
Step 7	Press the MENU button.	Slide output limiter setting	[SLDLIM__◆◆]
Step 8	Press the MENU button.	Slide servo output dead zone level setting	[SLDLEV__◆◆]
Step 9	Press the MENU button.	Slide kick pulse level setting (during forced Move)	[SLKLVk__◆◆]
Step 10	Press the MENU button.	Slide kick pulse level setting (for 10 auxiliary jumps)	[SLKLVt__◆◆]
Step 11	Press the MENU button.	Slide kick pulse level setting (during Move)	[SLKLVm__◆◆]

- ◆◆: Set value
- If the MD REC/STOP button is pressed, operation moves in reverse direction.
- If the ►► button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ◄◄ button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ►►/◄◄ buttons are pressed and held down, data will change continuously in 100ms cycles.

(e) TEMP Setting

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 7 times.	EEPROM Setting Menu	[EEPROM_SET]
Step 3	Press the ◀▶ button.	Focus Setting Menu	[__Focus__]
Step 4	Press the MENU button 4 times.	TEMP Setting Menu	[____Temp____]
Step 5	Press the ◀▶ button.	TEMP standard value setting	[TEMP_○○_◆◆]

Step No.	Setting Method	Remarks	Display
Step 1	EJECT status (or No Mechanism status)		[__EJECT__]
Step 2	Press the ENTER button.	TEMP standard value setting	[TEMP_○○_◆◆]

- ◆◆: Set value, ○○: Measured value
- If the ▶▶ button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ◀◀ button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ▶▶/◀◀ buttons are pressed and held down, data will change continuously in 100ms cycles.

Measured Temperature Values
Correction Table

Ambient temperature	Correction value
-0.9 °C to +2.7 °C	-06 H
+2.7 °C to +6.3 °C	-05 H
+6.3 °C to +10.0 °C	-04 H
+10.0 °C to +14.5 °C	-03 H
+14.5 °C to +18.2 °C	-02 H
+18.2 °C to +22.3 °C	-01 H
+22.3 °C to +26.3 °C	±0 H
+26.3 °C to +30.3 °C	+01 H
+30.3 °C to +34.6 °C	+02 H
+34.6 °C to +39.0 °C	+03 H
+39.0 °C to +42.8 °C	+04 H

EEPROM recording value = microcomputer measured value + correction value

* EEPROM recording value

Predicted value when measured with microcomputer when temperature is +25 °C.

* Microcomputer measured value

Predicted value when measured with microcomputer at a certain temperature.

* Correction value

Correction value for converting to +25 °C measured value (see Table at left).

Temperature Code Confirmation

After AUTO Adjustment has been completed, the temperature code will be read. If it is within the ranges below, it is OK.

Ambient temperature	Temperature Code
-18.2 °C to +30.3 °C	06
+6.3 °C to +18.2 °C	07

(f) CONTROL Setting

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the MENU button 7 times.	EEPROM Setting Menu	[EEPROM_SET]
Step 3	Press the ◀▶ button.	Focus Setting Menu	[__Focus__]
Step 4	Press the MENU button 5 times.	CONTROL Setting Menu	[_Control_]
Step 5	Press the ◀▶ button.	CONTROL 1 Setting	[CONTRL1_◆◆]
Step 6	Press the MENU button.	CONTROL 2 Setting	[CONTRL2_◆◆]
Step 7	Press the MENU button.	Spin kick level setting during Move	[SPKLEVm_◆◆]
Step 8	Press the MENU button.	Readjustment interval (minutes) setting	[ADJTMT_◆◆]
Step 9	Press the MENU button.	Equalizer coefficient A, D (high reflectance) setting	[HDEQAD_◆◆]
Step 10	Press the MENU button.	Equalizer coefficient A, D (low reflectance) setting	[LDEQAD_◆◆]
Step 11	Press the MENU button.	Equalizer coefficient A, D (low reflectance groove) setting	[GDEQAD_◆◆]
Step 12	Press the MENU button.	Equalizer coefficient B, C (high reflectance) setting	[HDEQBC_◆◆]
Step 13	Press the MENU button.	Equalizer coefficient B, C (low reflectance pit) setting	[LDEQBC_◆◆]

(e) CONTROL Setting

Step No.	Setting Method	Remarks	Display
Step 14	Press the MENU button.	Equalizer coefficient B, C (low reflectance groove) setting	[GDEQBC_◆◆]
Step 15	Press the MENU button.	Auto level slicer gain (high reflectance) setting	[HALSG_◆◆]
Step 16	Press the MENU button.	Auto level slicer gain (low reflectance pit) setting	[LALSG_◆◆]
Step 17	Press the MENU button.	Auto level slicer gain (low reflectance groove) setting	[GALSG_◆◆]
Step 18	Press the MENU button.	Auto level slicer offset (high reflectance) setting	[HALSOFS_◆◆]
Step 19	Press the MENU button.	Auto level slicer offset (low reflectance pit) setting	[LALSOFS_◆◆]
Step 20	Press the MENU button.	Auto level slicer offset (low reflectance groove) setting	[GALSOFS_◆◆]

Step No.	Setting Method	Remarks	Display
Step 1	EJECT status (or No Mechanism status)		[__EJECT__]
Step 2	Press the DISP/CHARA button.	CONTROL 1 setting	[CONTRL1_◆◆]
Step 3	Press the MENU button.	CONTROL 2 setting	[CONTRL2_◆◆]

- ◆◆: Set value
- If the ►► button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ◀◀ button is pressed while a setting item is being displayed, the set value will increase and the new set value will be set in LSI.
- If the ►►/◀◀ buttons are pressed and held down, data will change continuously in 100ms cycles.
- CONTROL 1
 - Pit 7: High-frequency weight ON/OFF during recording (0: OFF, 1: ON)
 - Pits 6 – 4: Play start SD number (30 – 100 sectors; 10-sector steps)
 - Pit 2 – 0: High-speed jump overrun amount (384 – 830 jumps; 64-jump steps)
- CONTROL 2
 - Pit 4 – 0: EEPROM version (a –)

8. TEST-PLAY Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the ENTER button.	TEST-PLAY Menu	[TEST_PLAY_]
Step 3	Press the DELITE button. Press the ◀► button.	ADRES setting (displays standard address initial setting) Sets Search output to "H" during Search operation and returns to "L" at start of playback.	[ADRES_0050]
Step 4	Continuous playback (pit) Continuous playback (groove)	(Address + C1 error display) (Address + C1 error display)	[s □□□□ c ○○○○] [a □□□□ c ○○○○]
Step 5	Press the DELETE button. Continuous playback (groove)	(Address + ADIP error display)	[a □□□□ a ○○○○]
Step 6	Press the STOP button.	TEST-PLAY Menu	[TEST_PLAY_]

- : Address, ○○○○: Error rate, ▲▲▲: Number of Jumps
- If the STOP (■) button is pressed while the TEST-PLAY Menu is displayed, operation moves to Test Mode STOP status.
- If the ◀► button is pressed while the TEST-PLAY Menu is displayed, continuous playback will commence from the pickup point at that time.
- Each time the ENTER button is pressed in Address Setting Mode, the address will change as follows:
0050 → 03C0 → 0700 → 08A0 → 0050 →
- Each time the DELETE button is pressed in Address Setting Mode, the digits will change as follows with the S.M. JOG button.
0050 → 0050 → 0050 → 0050 →
- In Address Setting Mode, the designated address digits can be changed +01H / -01H with the S.M. JOG and DELETE buttons (0 – F).
If the S.M. JOG button is turned and held down, the data will change in 100ms cycles.
- If the DISP/CHARA button is pressed in Continuous Play Mode, the number of Jumps will change as follows:
1 Jump → 10 Jumps → 400 Jumps → 1 Jump →
After the number of Jumps is displayed for 1 second, the Address display will be restored [▲▲▲TR_JUMP]
- If the S.M. JOG button is turned in Continuous Play Mode, the designated number of Jumps will be executed in FWD/REV directions.
If the S.M. JOG button is turned and held down, the data will change in 100ms cycles.

- Each time the DELETE button is pressed in Continuous Play Mode, the display will change as follows:
 Pit part: Continuous playback (SUBQ address display + C1 error display) is unchanged. [s □□□□ c ○○○○]
 Groove part: Continuous playback (ADIP address display + C1 error display) [a □□□□ c ○○○○]
 ↓
 Continuous playback (ADIP address display + ADIP error display) [a □□□□ a ○○○○]
 ↓
 Continuous playback (ADIP address display + C1 error display) [a □□□□ c ○○○○]
 ↓

9. TEST-REC Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the ENTER button 2 times.	TEST-REC Menu	[TEST_REC__]
Step 3	Press the DELITE button.	ADRES setting (displays standard address initial setting)	[a0050_pw∇∇]
Step 4	Press the ◀▶ button.	Sets Search output to "H" during Search operation and returns to "L" at start of playback. Continuous recording	[a □□□□ pw∇∇]
Step 5	Press the STOP button.	TEST-REC Menu	[TEST_REC__]

- : Address, ∇∇: Laser power code
- If the STOP (■) button is pressed while the TEST-REC Menu is displayed, operation moves to Test Mode STOP status.
- If the ◀▶ button is pressed while the TEST-REC Menu is displayed, continuous playback will commence from the pickup point at that time.
- Each time the ENTER button is pressed in Address Setting Mode, the address will change as follows:
0050 → 03C0 → 0700 → 08A0 → 0050 →
- Each time the DELETE button is pressed in Address Setting Mode, the digits will change as follows with the S.M. JOG button.
0050 → 0050 → 0050 → 0050 →
- In Address Setting Mode, the designated address digits can be changed +01H / -01H with the S.M. JOG button (0 - F).
If the S.M. JOG button is turned and held down, the data will change in 100ms cycles.
- If the Test Record Mode and Continuous Recording Mode ▶▶/◀◀ buttons are pressed, the laser recording power will change. (And the laser gain will change to match the recording power.)

10. INNER Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[tsm○○○○e○○]
Step 2	Press the DISP/CHARA button.	INNER Menu	[__INNER__]
Step 3	Press the ◀▶ button.	INNER switch position measurement (SUBQ address and C1 error are both displayed.)	[s □□□□ c ○○○○]
Step 4	Press the STOP button.	INNER Menu	[__INNER__]

- : Address
- Press the STOP (■) button in the INNER Menu and move to Test Mode STOP status.

11. EJECT Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test Mode EJECT status		[__EJECT__]
Step 2	Press the DELETE button.	Maximum power output status	[xpw_____]
Step 3	Press the DELETE button.	Recording power output status	[rpw_____]
Step 4	Press the DELETE button.	Playback power output status	[ppw_____]
Step 5	Press the ENTER button.	To EEPROM setting TEMP setting (Refer to EEPROM setting TEMP setting.)	
Step 6	Press the DISP/CHARA button.	To EEPROM setting CONTROL setting (Refer to EEPROM setting CONTROL setting.)	

● Read-IN Switch Position Measurement Mode

NOTE) Adjust the read-in switch position to 5F FF85 to FFD2.

1. Loosen the three screws (A) securing the MD MECHA SW ASSY.
2. While pressing the MD MECHA SW ASSY in the + direction, tighten the screws, and measure the read in switch position again. After adjusting the position, secure the three screws (A).

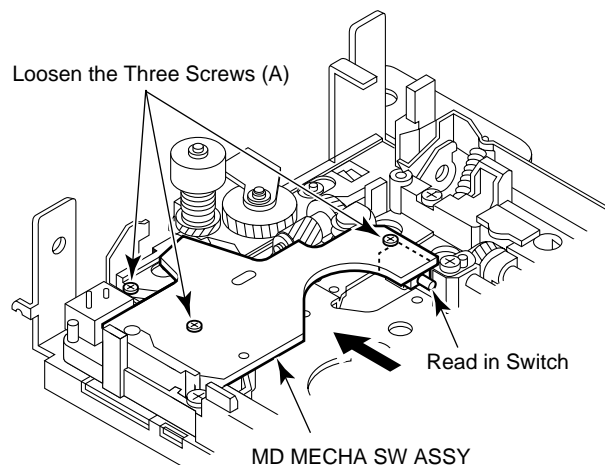


Fig.3

● Loading Motor Forced Rotation

When Test Mode STOP status and EJECT status are displayed, the loading motor can be forcefully rotated by pressing the ►►/◄◄ buttons.

6.4.2.3 Mechanism Adjustment

1. Detecting the Optical Pickup Grating

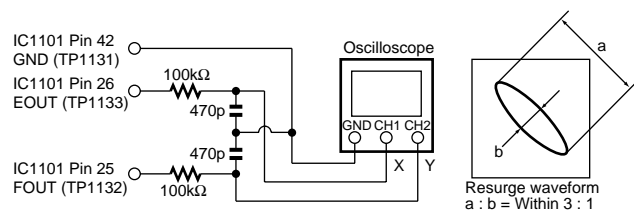


Fig.4 Measuring the Optical Pickup Grating Deviation

Using a high reflective MD disc, perform automatic adjustment in the AUTO test mode (COMPLETE is displayed), and adjust the EOUT: FOOT resurge waveform (x-y).

- (1) Desolder the two points of the disc motor board, solder the lead wire to the motor terminal and board temporarily as shown in the figure, loosen the three screws of the motor slightly, and while looking at the resurge waveform, adjust it.
- (2) After adjusting, tighten the screws in the order of ①, ②, and ③.

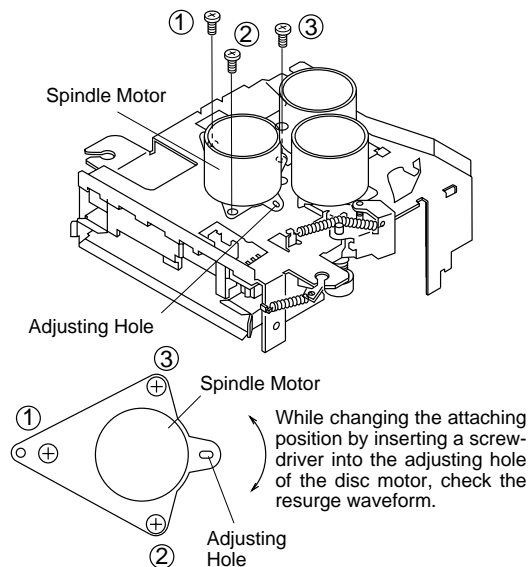


Fig.5

2. Checking Jitter

After automatic adjustment in the AUTO Mode of Test Mode for low-reflectance MD is completed, check the jitter with the pit Continuous Play Mode and groove Continuous Play Mode.

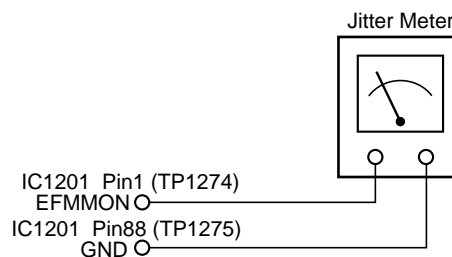


Fig.6

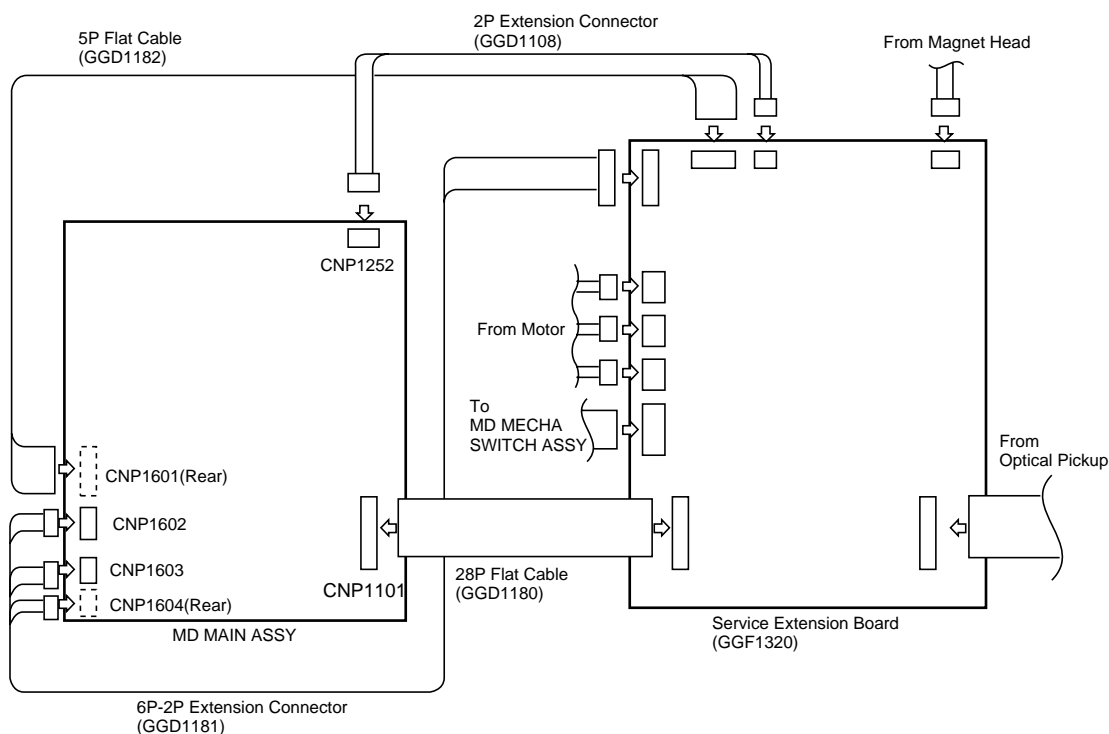


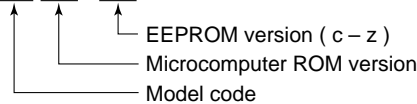
Fig.7 Connection

6.4.2.4 EEPROM (IC1402) Writing Procedure

1. Procedure for replacing EEPROM and writing microcomputer initial settings to EEPROM

- (1) Replace EEPROM.
- (2) Short the IC1402 (EEPROM) 8 pin (PROTECT) and 2 pin (Vcc).
- (3) Refer to the latest "EEPROM Content Table."
- (4) Short [TEST MODE2] while the power is ON and engage the Test Mode 2.
- (5) Version display

[tsm○○○○e○○]



- (6) Press the MENU button 7 times. [EEPROM_SET]
- (7) Perform the operation shown in the "EEPROM Setting Mode Transition Diagram," compare the "EEPROM Content Table" and the display, and set the "EEPROM Content Table" with the FADE-OUT button and the FADE-IN button.
- (8) Set the temperature standard value. (See "Temperature Standard Value Setting Method.")
- (9) Set all settings the same as those in the "EEPROM Content Table."
- (10) Execute AUTO Preliminary Adjustment and AUTO Adjustment.
- (11) Cancel the IC1402 8 pin and 2 pin short.
- (12) Press the PRESET button and write to EEPROM.

2. Temperature Standard Value Setting Method (Must be set with room temperature of 21°C – 29°C.)

- (1) Test Mode STOP status [tsm○○○○e○○]
- (2) Because of the ambient temperature, apply a temperature correction in accordance with the following table.

Ambient temperature	Correction value
-0.9 °C to +2.7 °C	-06 H
+2.7 °C to +6.3 °C	-05 H
+6.3 °C to +10.0 °C	-04 H
+10.0 °C to +14.5 °C	-03 H
+14.5 °C to +18.2 °C	-02 H
+18.2 °C to +22.3 °C	-01 H
+22.3 °C to +26.3 °C	±0 H
+26.3 °C to +30.3 °C	+01 H
+30.3 °C to +34.6 °C	+02 H
+34.6 °C to +39.0 °C	+03 H
+39.0 °C to +42.8 °C	+04 H

Example)

When the measured temperature is 73H and the ambient temperature 22°C,

Temperature set value =

$$73H - 01H = 72H.$$

When there is a discrepancy between two measured temperature values, set the lower value. (If the measured values are 73H and 72H, for example, use 72H.)

- (3) Press the MENU button 7 times [EEPROM_SET]
- (4) Press the ◀▶ button once [__Focus__]
- (5) Press the MENU button 4 times [__Temp__]
- (6) Press the ◀▶ button [TEMP_○○_◆◆]
○○: Measured value, ◆◆: Set value
- (7) Set the temperature set value to the value determined above, using the ▶▶/◀◀ buttons.
- (8) Press the ◀▶ button [__Temp__]

■ EEPROM Content Table

Focus Settings

Item display	Set value
FG	97H
FF1	9EH
FF2	E0H
FZHLV	EDH
FOKLEVn	08H
FOKLEVf	88H
FOKLPFn	00H
FOKLPFf	88H
WAITf	90H

Spin Settings

Item display	Set value
SPG	20H
SPG-in	B8H
SPG-mid	76H
SPG-out	50H
SP1	10H
SP2	87H
SP3	E3H
SP4	E3H
SP5	10H
SPDLIM	78H

Control Settings

Item display	Set value
CONTRL1	80H
CONTRL2	01H
SPKLEVm	26H
ADJTm	14H
HDEQAD	90H
LDEQAD	8FH
GDEQAD	91H
MDEQBC	90H
LDEQBC	8FH
GDEQBC	8AH
HALSG	21H
LALSG	21H
GALSG	21H
HALSOFS	FEH
LALSOFS	00H
GALSOFS	00H

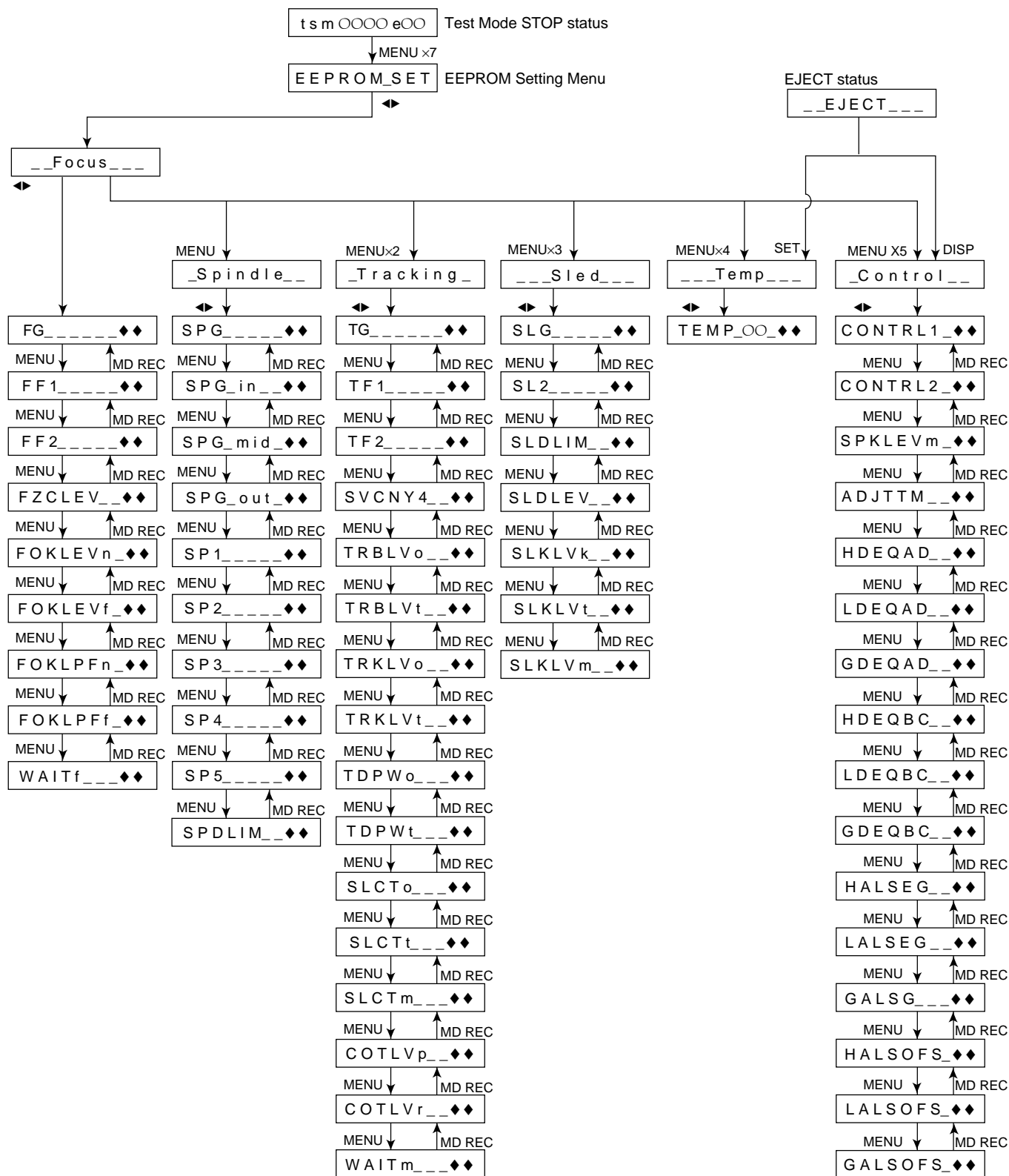
Tracking Settings

Item display	Set value
TG	45H
TF1	70H
TF2	E0H
SVCNT4	01H
TRBLVo	53H
TRBLVt	60H
TRKLVo	4CH
TRKLVt	38H
TDPWo	89H
TDPWt	1AH
SLCTo	00H
SLCTt	40H
SLCTm	53H
TCRSCIP	16H
COTLVp	14H
COTLVr	28H
WAITm	FFH

Slide Settings

Item display	Set value
SLG	35H
SL2	27H
SLDLIM	65H
SLDLV	16H
SLKLVk	55H
SLKLVt	3AH
SLKLVm	55H

EEPROM Setting Mode Transition Diagram



7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

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

■ PDG244A (MD MAIN ASSY : IC4502)

- MD Control Microcomputer

●Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	————	O	GND	41	JOG2	I	JOG2 input
2	————	O	NC	42	JOG1	I	JOG1 input
3	————	O	NC	43	S.REQ	I/O	System bus request
4	————	O	NC	44	S.DATA OUT	O	System bus data output
5	————	I	Pull up	45	S.DATA IN	I	System bus data input
6	————	O	NC	46	————	O	NC
7	————	O	NC	47	XMUTE	O	Line mute
8	————	O	NC	48	DSCK	O	MD unit communication clock
9	————	O	NC	49	MDDAT	I	MD unit→System control data
10	————	O	NC	50	KDAT	O	System control data→MD unit
11	————	O	NC	51	FL CP	O	FL driver clock
12	————	O	NC	52	MDST	O	MD unit ON
13	————	O	NC	53	FL DATA	O	FL driver data
14	————	O	NC	54	LOAD	I	Load-in detection
15	————	O	NC	55	DSTB	I	MD unit communication strobe
16	————	O	NC	56	————	I	Pull up
17	CDDIG	O	Digital in CD	57	————	I	Pull up
18	AUXDIG	O	Digital in AUX	58	————	O	NC
19	————	O	NC	59	————	O	NC
20	————	O	NC	60	S.CLK	I	System bus clock
21	————	O	NC	61	XREC MUTE	O	REC mute
22	————	O	NC	62	MDRST	O	MD unit reset
23	————	O	NC	63	SERCH	O	Cut in rehearsal pause request
24	XTEST2	I	Test terminal 2	64	ACDET	I	Power failure detection
25	————	O	NC	65	6.5/5	O	NC
26	PDWN	O	Transmit the power failure to the MD unit	66	————	O	NC
27	FL RESET	O	FL driver reset	67	————	O	NC
28	FL CS	O	FL driver chip select	68	————	O	NC
29	————	O	NC	69	————	O	NC
30	XMDRESET	I	MD microcomputer reset terminal	70	————	O	NC
31	EXTAL	I	Connect the oscillator (8.38MHz)	71	————	O	NC
32	XTAL	O		72	Vdd	—	
33	Vss	—		73	NC	—	
34	TX	O		74	————	O	NC
35	TEX	I		75	————	O	NC
36	AVss	—	A/D converter GND	76	————	O	NC
37	AVref	I	Reference voltage of A/D conversion	77	————	O	NC
38	KEY	I	Key input (A/D conversion)	78	————	O	NC
39	————	I	NC	79	————	O	NC
40	XTEST1	I	Test terminal 1	80	————	O	GND

PDC055A (DISPLAY ASSY : IC5501)

• System Control Microcomputer

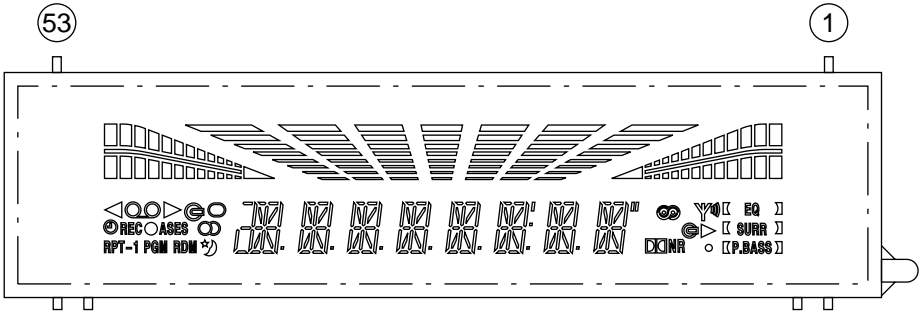
• Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	CD RESET	O	Reset output for CD LSI	51	VFDP	–	
2	CD CE	O	Strobe output for CD LSI	52	S05		
3	CD DRF	I	RF level detection input	53	S06		
4	S.DATA OUT	O	System bus data output	54	S07		
5	EXP CLK	O	Clock output for EXP IC (BU4094BCF)	55	S08		
6	EXP DATA	O	Data output for EXP IC (BU4094BCF)	56	S09		
7	EXP CE	O	Strobe output for EXP IC (BU4094BCF)	57	S10	O	
8	LED1	O	LED1 control	58	S11		
9	LED2	O	LED2 control	59	S12		
10	LED3	O	LED3 control	60	S13		
11	AC	I	AC pulse input for power supply monitor	61	S14		
12	XRESET	I	CPU reset input	62	S15		
13	REEL1	I	Pulse input for deck reel	63	CLAMP/S16		
14	————	I	Pull down	64	OPEN/S17		
15	VSS	–		65	INSIDE/S18		
16	CF1	I		66	DISC123/S19	I/O	
17	CF2	O		67	ARR/S20		
18	VDD	–		68	ARF/S21		
19	KEY1	I	Front key input 1	69	MODE1/S22		
20	MS	I	DECK MS signal input	70	S23	O	
21	ST/TUNE	I	TUNER TUNED (STEREO) detection	71	HALF1/S24	I/O	
22	————	I	Pull down	72	VDD	–	Power supply
23	S.REQ	I/O	System bus request input/output	73	S25	O	
24	KEY2	I	Front key input 2	74	CrO2_1/S26	I/O	FL display control segment
25	SPE-IN	I	Spectram analyzer signal input	75	S27	O	
26	KEY3	I	Front key input 3	76	SCAN ON	O	Key scan input control
27	CD WRQ	I	Q data OK signal input of CD sub code	77	S.CLK	O	System bus clock output
28	RDS CLK	I	Clock input (BU1923) for RDS IC	78	SOL1	O	Deck solenoid control
29	REMOCON	I	Remote control signal input	79	MOTOR	O	Deck motor control
30	G01			80	RDSDATA	I	Data input for RDS
31	G02			81	VOLJOG1		
32	G03			82	VOLJOG2	I	Pulse input for Volume JOG
33	G04			83	PLL CE	O	TUNER PLL IC strobe output
34	G05			84	XMDRESET	O	Reset output for MD system microcomputer
35	G06			85	EVOL CE	O	Main volume control IC strobe output
36	G07			86	POWER	O	Main power control
37	G08			87	LINE MUTE	O	Line mute control
38	G09	O	FL display control grid	88	LED CE	O	LED control for timer
39	G10			89	VSS	–	GND
40	G11			90	VDD	–	Power supply
41	G12			91	S.DATA IN	I	System bus data input
42	G13			92	————	I	Pull down
43	G14			93	MORP JOG1		
44	————			94	MORP JOG2	I	Pulse input for Sound Morphing JOG
45	————			95	SYSDATA	O	Serial data output
46	VDD	–	Power supply	96	TXDATA	I	Serial data input
47	D1/S01	I/O		97	SYS CLK	O	Serial clock output
48	D2/S02	I/O	FL display control segment	98	CD DATA	O	Serial data output for CD LSI
49	S03	O		99	SQ OUT	I	Serial data (Q data) input for CD LSI
50	S04	O		100	CD CLK	O	Serial clock output for LSI

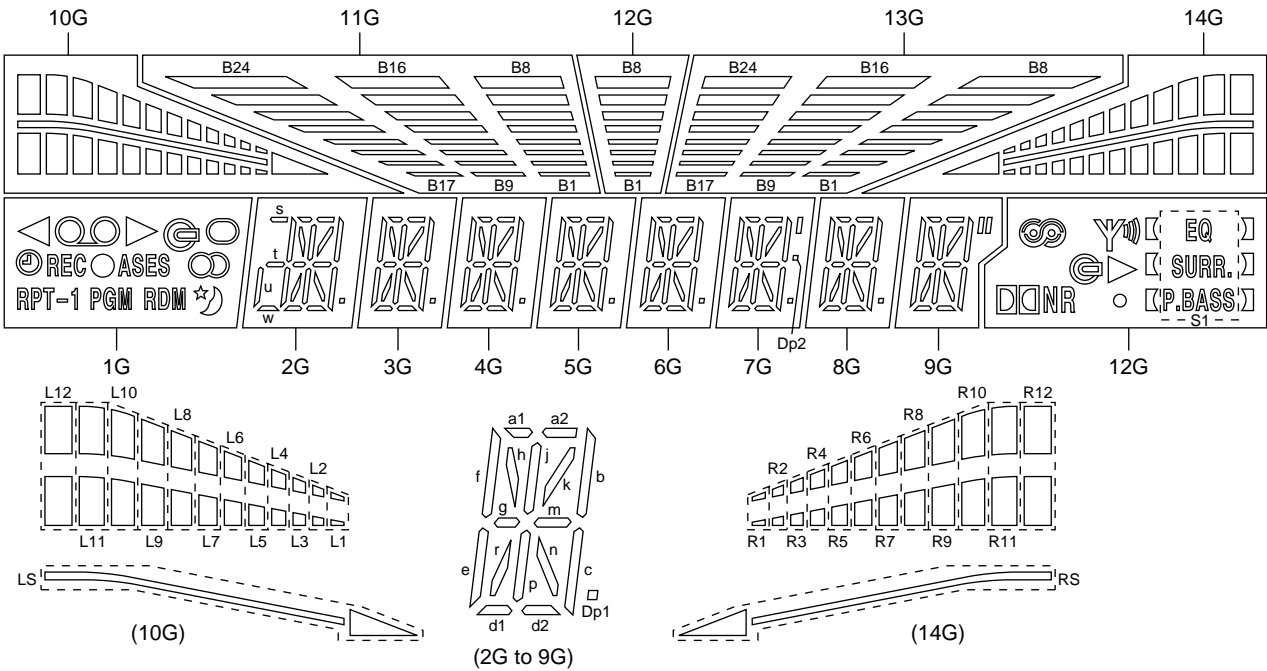
7.1.2 DISPLAY

■ XAV3007 (DISPLAY ASSY : V5621)
• FL Display

• Pin Assignment



• Grid Assignment



• Pin Connection

Pin No.	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27
Connection	F2	F2	NP	NP	NX	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	NX	NX	P1	P2	P3	P4	P5	P6

Pin No.	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	P26	P27	NX	NP	NP	F1	F1

NOTE 1) F1, F2..... Filament
 2) NP..... No pin
 3) NX..... No extend pin
 4) DL..... Datum Line
 5) 1G to 14G..... Grid
 6) Field of vision is a minimum of 25.8° from the lower side.

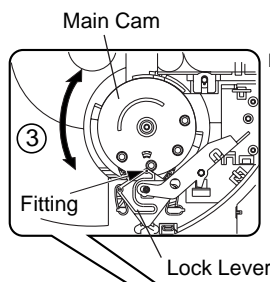
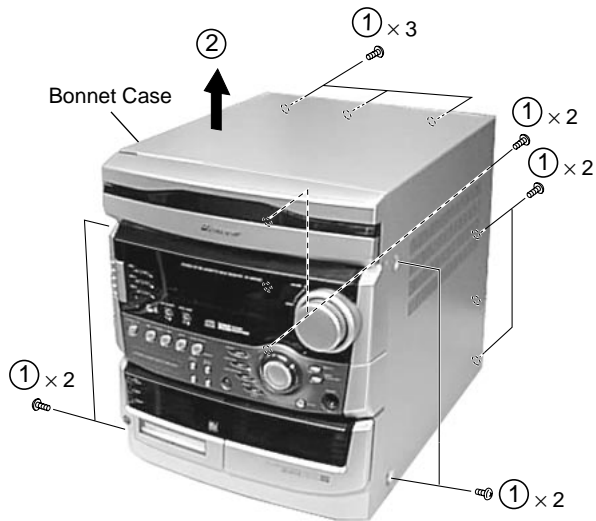
• Anode Connection

	1G	2G	3G to 6G	7G	8G	9G	10G	11G	12G	13G	14G
P1		a1	a1	a1	a1	a1	L1	B1	B1	B1	R1
P2		a2	a2	a2	a2	a2	L2	B2	B2	B2	R2
P3		h	h	h	h	h	L3	B3	B3	B3	R3
P4		j	j	j	j	j	L4	B4	B4	B4	R4
P5		k	k	k	k	k	L5	B5	B5	B5	R5
P6		b	b	b	b	b	L6	B6	B6	B6	R6
P7	REC	f	f	f	f	f	L7	B7	B7	B7	R7
P8		g	g	g	g	g	L8	B8	B8	B8	R8
P9	ASES	m	m	m	m	m	L9	B9		B9	R9
P10		c	c	c	c	c	L10	B10		B10	R10
P11	RPT	e	e	e	e	e	L11	B11		B11	R11
P12	-1	r	r	r	r	r	L12	B12		B12	R12
P13	PGM	p	p	p	p	p	—	B13		B13	—
P14	RDM	n	n	n	n	n	—	B14	—	B14	—
P15	☆)	d1	d1	d1	d1	d1	—	B15	—	B15	—
P16	—	d2	d2	d2	d2	d2	—	B16	—	B16	—
P17	—	s	—	—	—		LS	B17		B17	RS
P18	—	t	—	—	—	—	—	B18	S1	B18	—
P19	—	u	—	—	—	—	—	B19		B19	—
P20	—	w	—	—	—	—	—	B20		B20	—
P21	—	—	—	—	—	—	—	B21		B21	—
P22	—	—	—	—	—	—	—	B22	—	B22	—
P23	—	—	—	—	—	—	—	B23	—	B23	—
P24	—	—	—	—	—	—	—	B24	—	B24	—
P25	—	Dp1	Dp1	Dp1	Dp1	—	—	—	—	—	—
P26	—	—	—	Dp2	—	—	—	—	—	—	—
P27	—	—	—		—	—	—	—	—	—	—

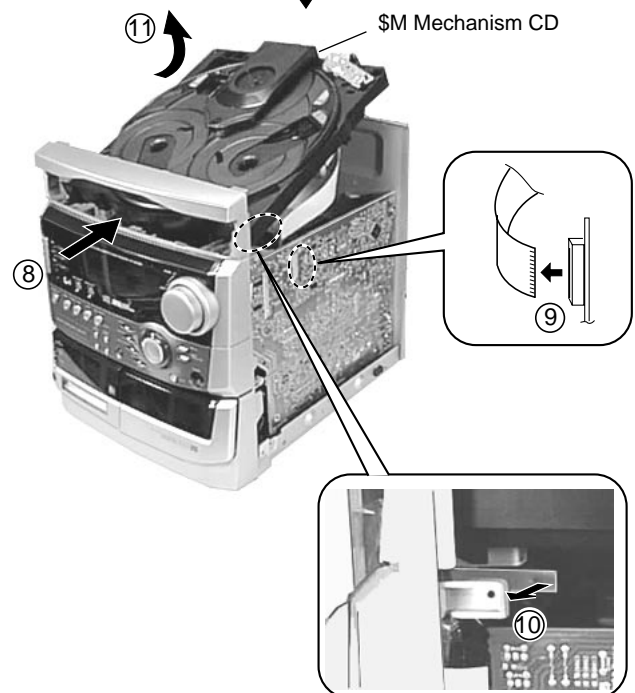
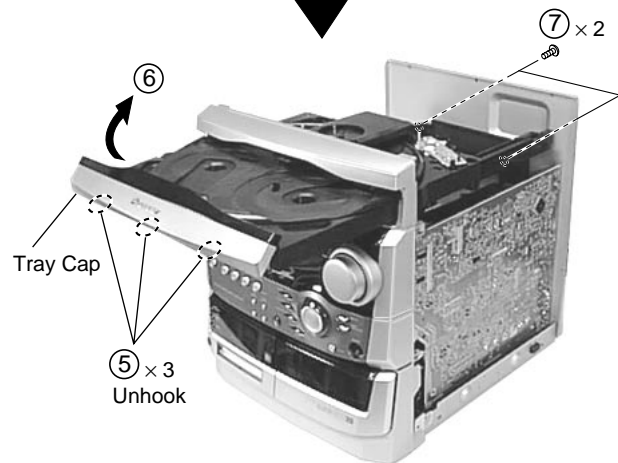
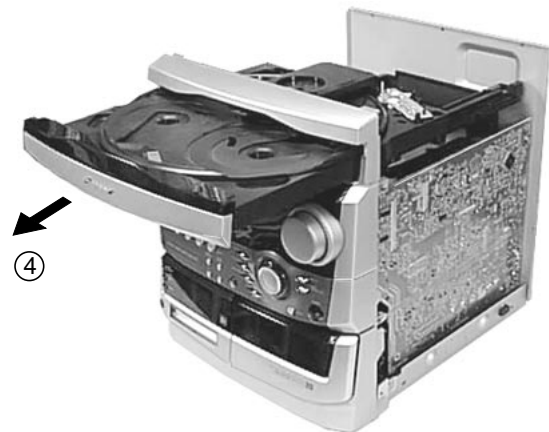
7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

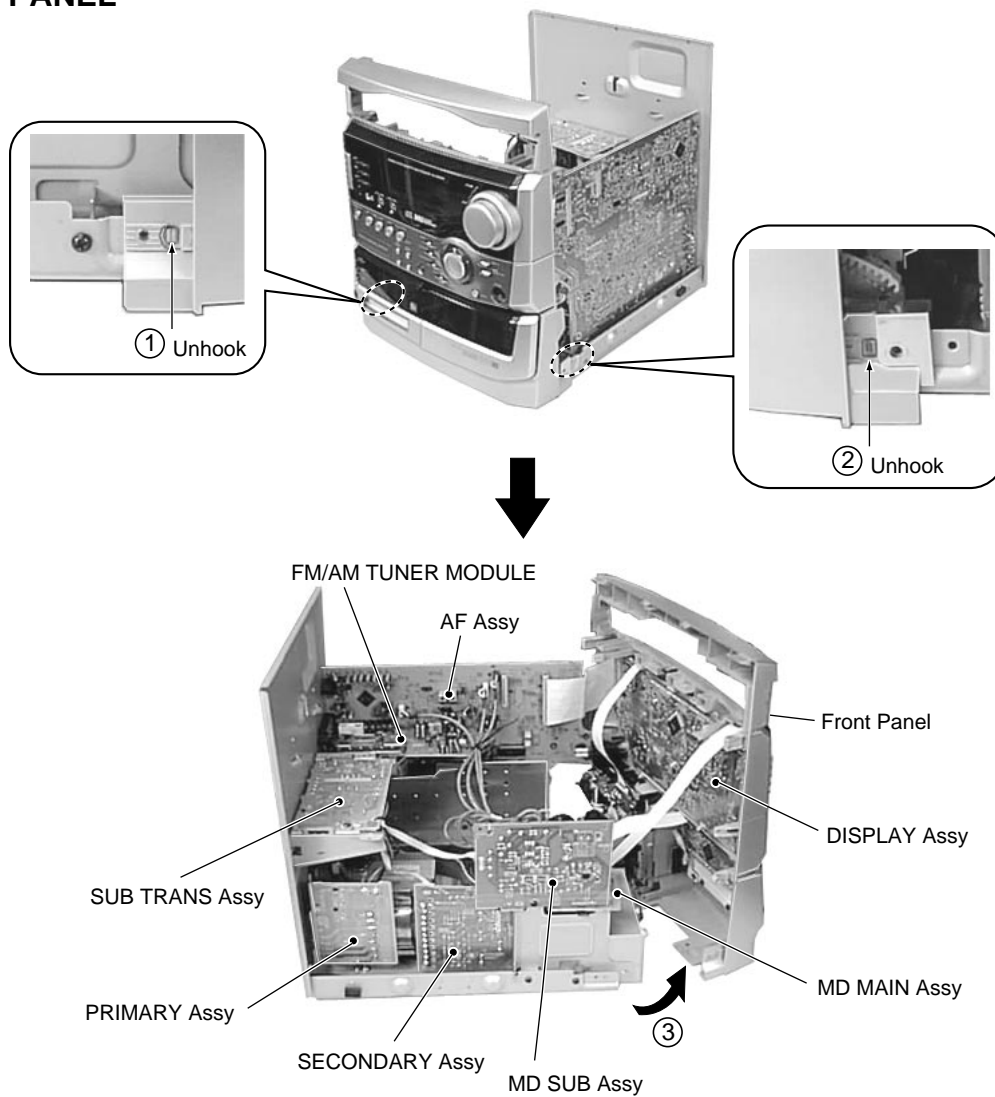
■ \$M MECHANISM CD



Note: The loading tray can be pulled out when the main cam is in this position.
(The Lock Lever should be in the notch of the Main Cam.)

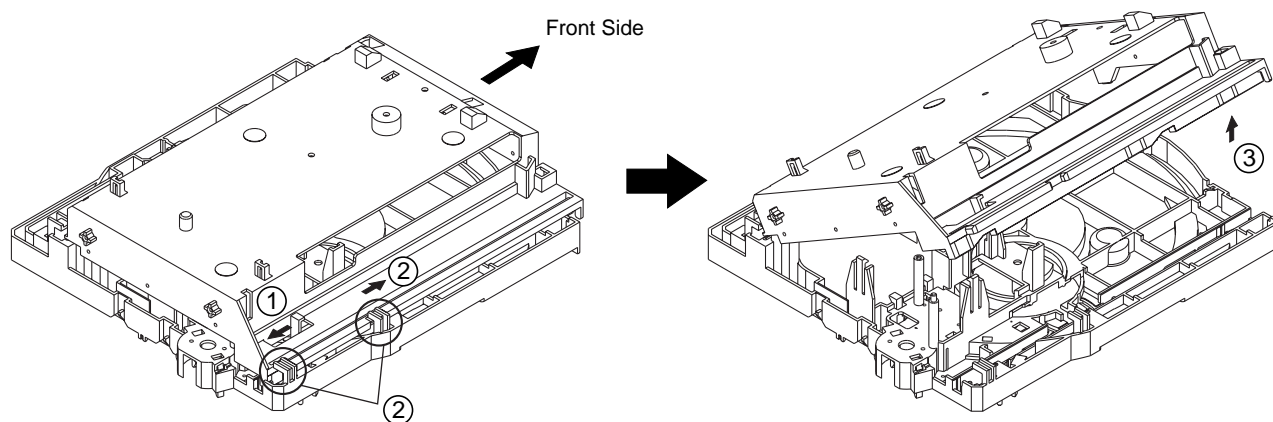


FRONT PANEL

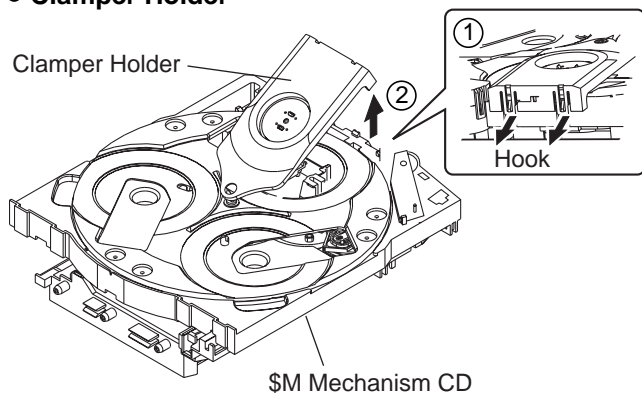


MECHANISM CD ADDITIONAL TO JOB

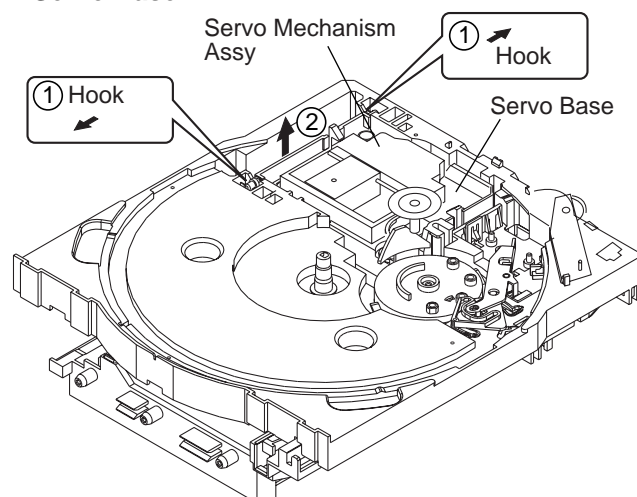
● Mechanism Base (Bottom View)



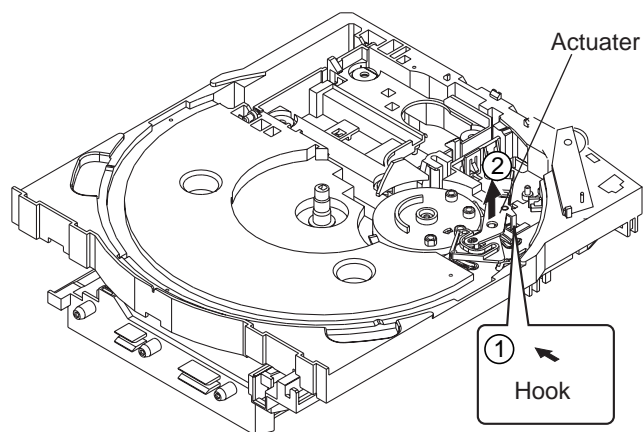
● Clamper Holder



● Servo Base

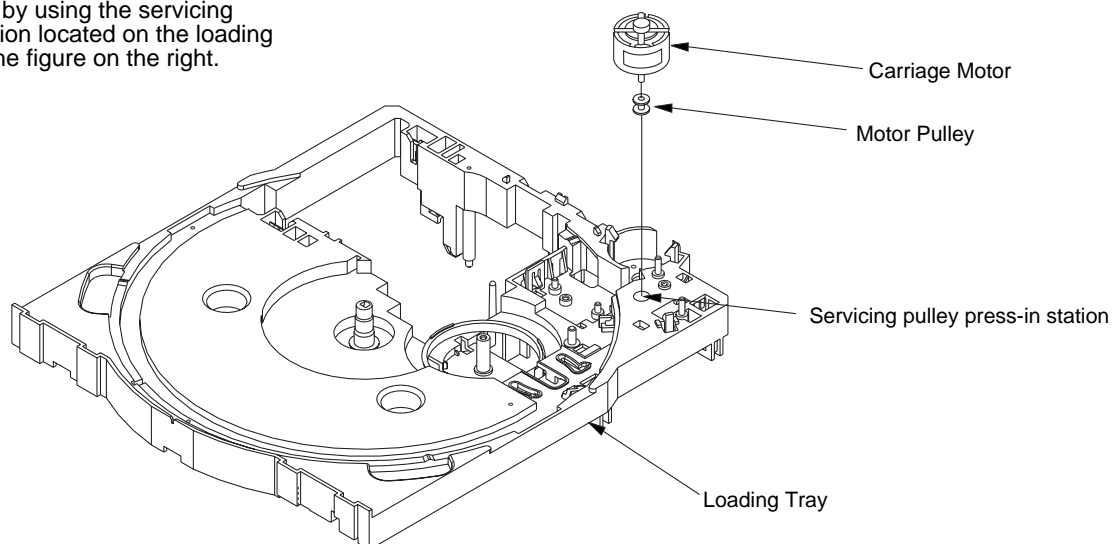


● Actuator

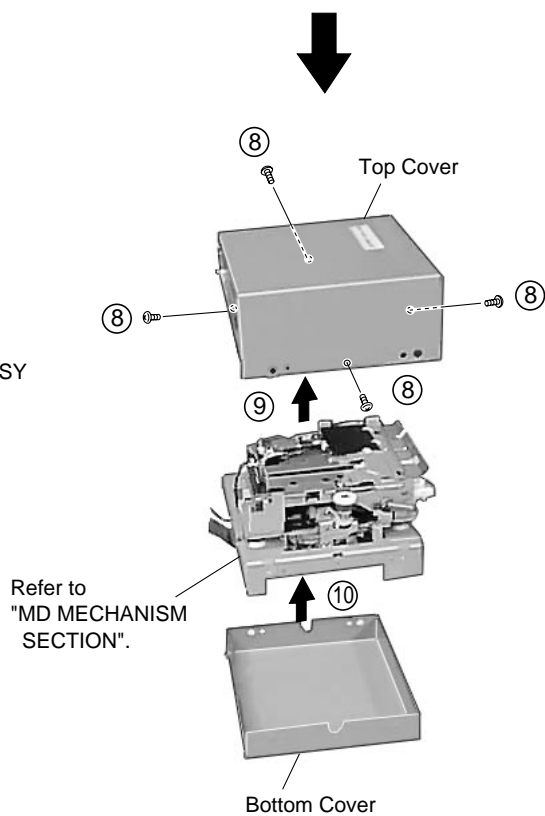
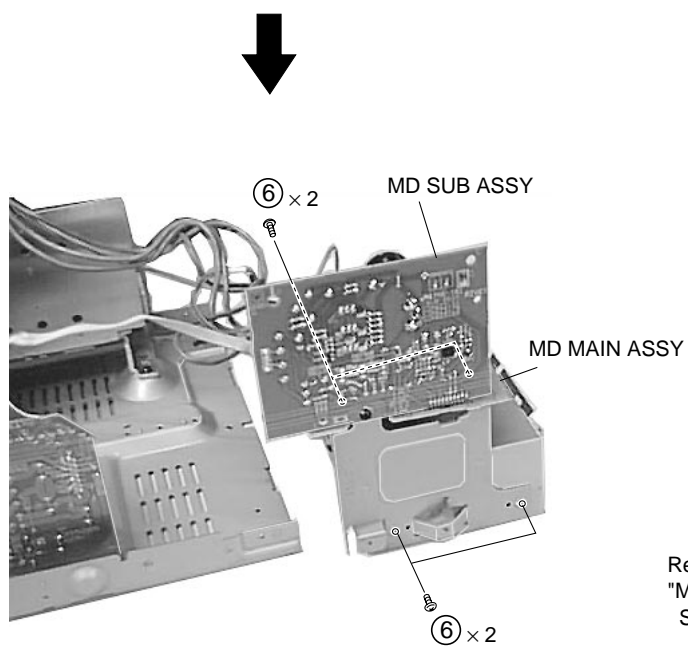
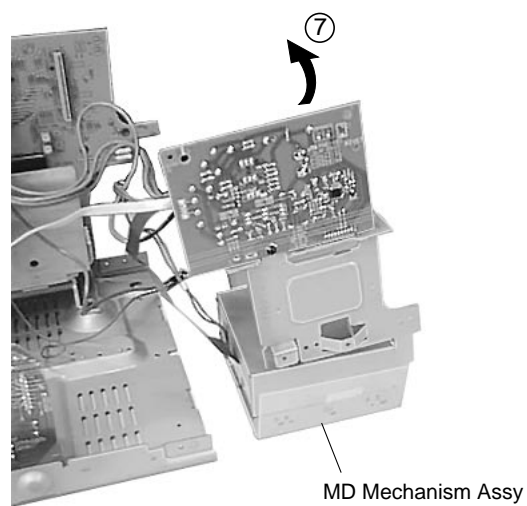
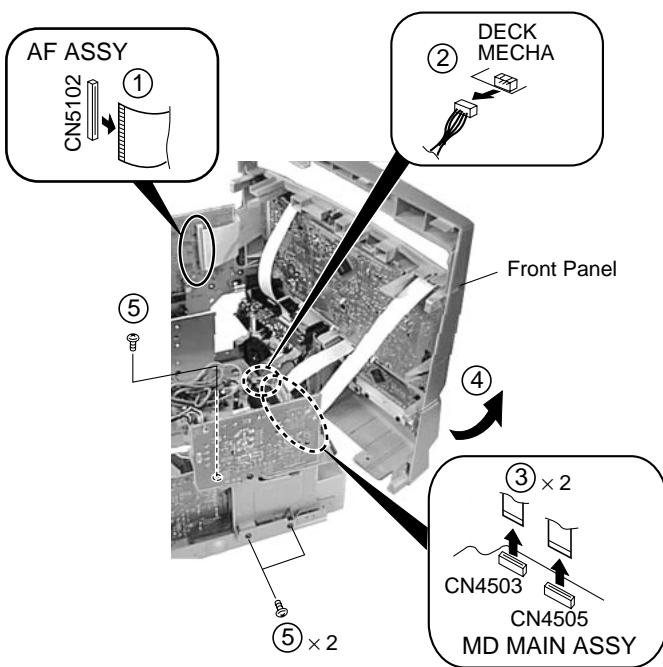


■ FITTING THE PULLEY INTO THE CARRIAGE MOTOR

For replacement of the carriage motor, fit the motor pulley by using the servicing pulley press-in station located on the loading tray, as shown in the figure on the right.



■ MD MECHANISM ASSY



■ MD MECHANISM SECTION

● Removing the Magnetic Head (Fig.1)

(1) Remove a Screw (A1).

CAUTION: Take adequate caution not to damage the Magnetic Head during reinstallation.

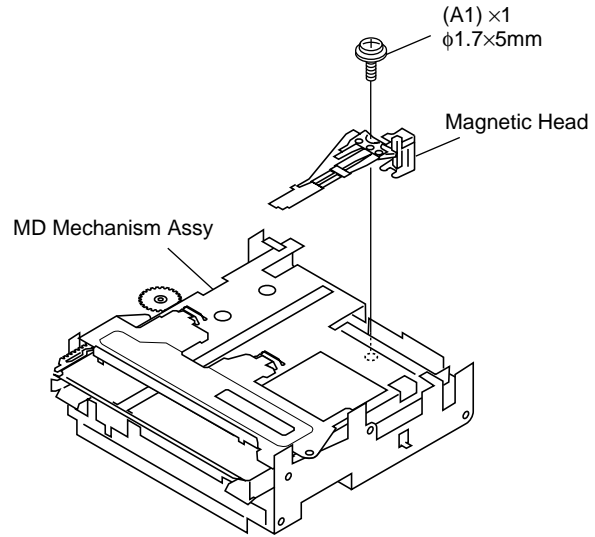


Fig.1

● Removing the Cartridge Holder (Fig.2)

- (1) Open the roller arm lever in the direction of the arrow, and lower the clamber lever until it reaches the unit rear.
- (2) Apply +5V to the red wire side of the loading motor blue connector, and push the rack gear in the direction of the arrow, moving it until the cam plate lever starts to clatter.
- (3) Remove the screw (B1) × 1 and spring (B2) × 1 holding the holder arm in place, and remove the cartridge holder, sliding it out to the left.

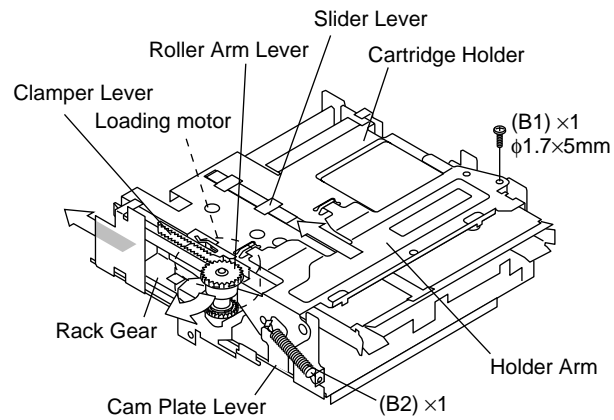


Fig.2

● Removing the MD MECHANISM SWITCH Assy (Fig.3)

- (1) Remove the two Screws (E1).
Remove the MD MECHA SW Assy.

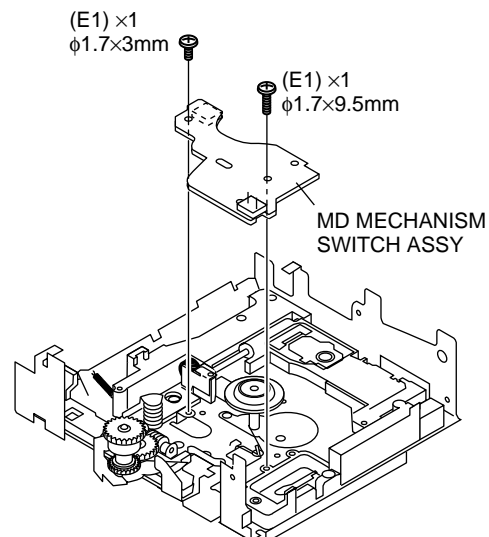


Fig.3

● Removing the Slide and Loading Motors (Fig.4)

(1) Remove the four Screws (D1) to remove the Slide and Loading Motors.

CAUTION: Be careful not to damage the Gears. (Damaged Gears may cause abnormal noise during searching.)

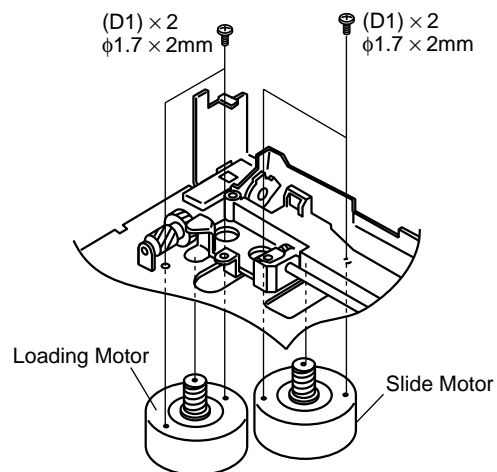


Fig.4

● Removing the Spindle Motor (Fig.5)

(1) Remove the three Screws (C1) to remove the Spindle Motor.

CAUTION : Be careful not to damage the Gears. (Damaged Gears may cause abnormal noise during searching.)

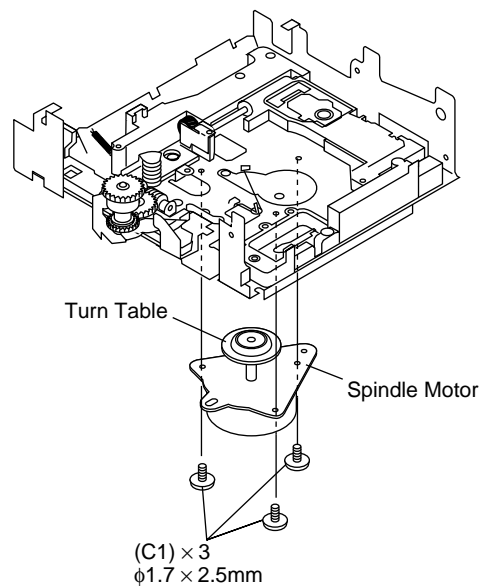


Fig.5

● Removing the Light Pickup (Fig.6)

(1) Remove the three Screws (F1).

CAUTION: Be careful not to damage the Gears. (Damaged Gears may cause abnormal noise during searching.)

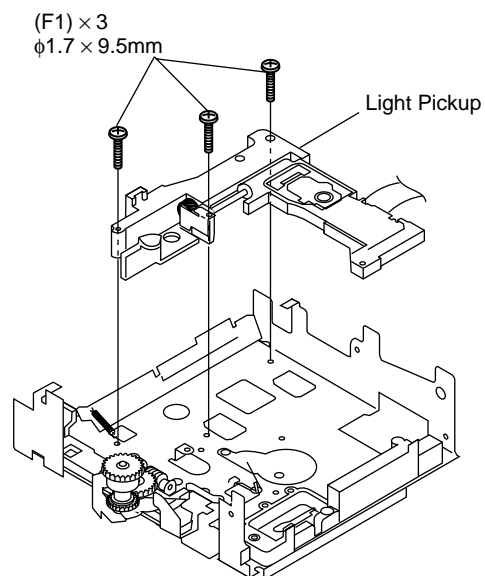


Fig.6

7.2.2 DETAILS OF ERROR DISPLAY

Error Display	Details of Error	Measure
Can't REC	<ul style="list-style-type: none"> DEFECT occurred 10 times continuously during REC-PLAY. Recordable cluster became 0 since DEFECT occurred during REC-PLAY. Address is unreadable. REC state can not be set for 20 seconds even after try again. 	<ul style="list-style-type: none"> Check if there are scratches, dusts, fingerprints, or black spots on disc. Check if disc fluctuates eccentrically or moves up and down largely.
Can't COPY	<ul style="list-style-type: none"> Determined as follows according to the channel status of the signals input from D-IN during REC-PAUSE or REC-PLAY. <ol style="list-style-type: none"> Other than audio Other than consumer use Copy NG due to inversion of COPY bit of CD 	<ul style="list-style-type: none"> Check if CD is copy-proof. (Example: CD-R, etc.)
D-IN UNLOCK	<ul style="list-style-type: none"> The following occurred for digital signal input from D-IN during REC-PAUSE, REC-PLAY, or CD FUNC playback <ol style="list-style-type: none"> Digital IN PLL unlocked. Locked at other than FS = 32, 44.1 and 48 kHz. 	<ul style="list-style-type: none"> Check if D-IN signal line is normal.
TOC FULL	<ul style="list-style-type: none"> No area for registering music number and character information during REC-PLAY (music name, disc number, etc.) 	<ul style="list-style-type: none"> Replace with recording/playback disc with space for registering UTOC.
UTOC R ERROR	<ul style="list-style-type: none"> FTNO > LTNO. FTNO ≠ 0 or 1. UTOC recorded on DISC could not be read. 	<ul style="list-style-type: none"> Replace with other discs to check if UTOC data is normal.
UTOC ERR A	<ul style="list-style-type: none"> Start address > End address. 	<ul style="list-style-type: none"> Replace with other discs to check if UTOC data is normal.
UTOC ERR L	<ul style="list-style-type: none"> Any one data of UTOC 0 to 4 has looped. 	<ul style="list-style-type: none"> Replace with other discs to check if UTOC data is normal.
NOT AUDIO	<ul style="list-style-type: none"> Data not for audio is recorded for TNO track mode currently selected. 	<ul style="list-style-type: none"> Select other TNO or replace with other discs.
UNKNOWN DISC	<ul style="list-style-type: none"> Data called MINI of system ID written in ASCII codes in TOC is incorrect. Disc type written in TOC is not pre-mastered MD, recording MD, or hybrid MD. 	<ul style="list-style-type: none"> Disc is outside specifications. Replace with different disc and check.
DISC FULL	<ul style="list-style-type: none"> No recordable space when attempted to set REC-PAUSE. 	<ul style="list-style-type: none"> Replace with different disc with recording space.
PREMASTERED	<ul style="list-style-type: none"> Disc only for playback was loaded when attempted to set REC-PAUSE or edit. 	<ul style="list-style-type: none"> Disc is for playback only. Replace with disc for recording.
PROTECTED	<ul style="list-style-type: none"> Attempted to record or edit even through REC-proof knob of disc for recording was in the REC-proof state. Attempted to edit track with write-protect according to information on UTOC. 	<ul style="list-style-type: none"> Track attempted to be edited is write-protected. Try again with different track. Restore the REC-proof knob and try again.
Can't EDIT	<ul style="list-style-type: none"> Editing conditions were not satisfied for each editing function. 	<ul style="list-style-type: none"> Operating method is wrong. Try again using correct method.
TEMP OVER	<ul style="list-style-type: none"> Temperature inside unit (MD unit) was too high due to fault. 	<ul style="list-style-type: none"> Check according to TROUBLESHOOTING.
DISC ERR	<ul style="list-style-type: none"> Data read was incorrect or could not be read properly. Error occurred during music data recording and recording could not be performed correctly. 	<ul style="list-style-type: none"> Faulty TOC or UTOC data or scratch on disc. Replaced with other discs.

Error Display	Details of Error	Measure
UNKNOWN DISC	<ul style="list-style-type: none"> TOC read was incorrect or could not be read properly. 	<ul style="list-style-type: none"> The TOC data recorded on the disc do not comply with MD Standards, so try using another disc. The disc may be scratched or damaged, so try using another disc.
UTOC W ERR	<ul style="list-style-type: none"> Fault occurred during rewriting of UTOC rewriting, and rewriting could not be performed correctly. 	<ul style="list-style-type: none"> Scratch on disc. Replaced with other discs.
UNKNOWN DISC	<ul style="list-style-type: none"> Inserted a disc but could not bring in FOCUS. 	<ul style="list-style-type: none"> Check if there are scratches, dusts, fingerprints, or black spots on disc. Check if disc fluctuates eccentrically or moves up and down largely.
BLANK MD	<ul style="list-style-type: none"> After reading UTOC, total number of TNO and NAME characters was 0. 	<ul style="list-style-type: none"> Record and check if disc is recordable.
DEFECT	<ul style="list-style-type: none"> Focus execution error, etc. occurred due to shock during REPLAY. 	<ul style="list-style-type: none"> Check if there are scratches, dusts, fingerprints, or black spots on disc. Check if disc fluctuates eccentrically or moves up and down largely.
UTOC W ERROR	<ul style="list-style-type: none"> UTOC read was correct but could not be rewrite it. 	<ul style="list-style-type: none"> Check to see if the recording head contact is correct or if there are any disconnections between the board and the recording head.
EEPROM ERROR	<ul style="list-style-type: none"> The EEPROM data are incorrect. 	<ul style="list-style-type: none"> Try doing a RESET operation again. If the problem still persists, replace the EEPROM.

Detail of Mechanism Error

Error Display	Details of Error
MECHA ERROR	<ul style="list-style-type: none"> Never completes EJECT. Never moves HEAD UP. Never moves HEAD DOWN. The set microcomputer and MD mechanism microcomputer are not communicating properly.

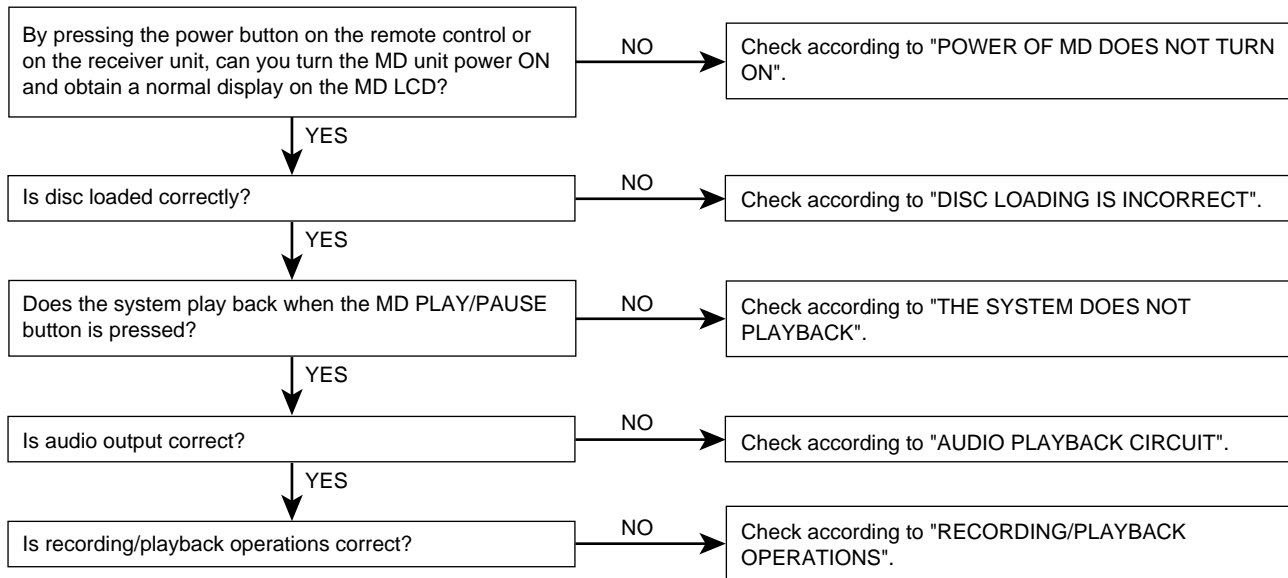
7.2.3 TROUBLESHOOTING

● MD does not Operate

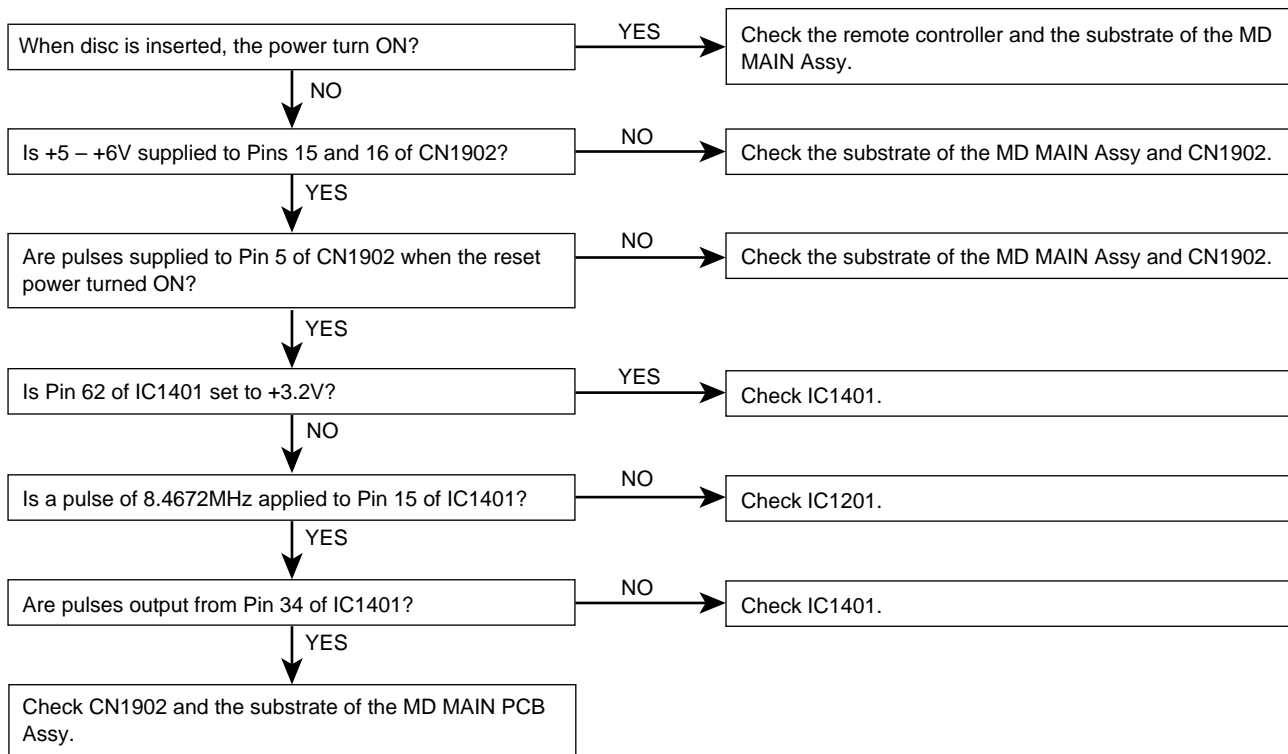
MD may not operate if the objective lens of the Light Pickup is soiled. Clean the objective lens, then check playback operation. If the symptom still persists, check the points according to the flowchart below.

If dust or foreign matter has deposited on the Pickup Lens, the system may skip tracks or may not display TOC (content of song titles). Confirm that the lens is clean before making adjustment. If the lens is soiled, perform as follows:

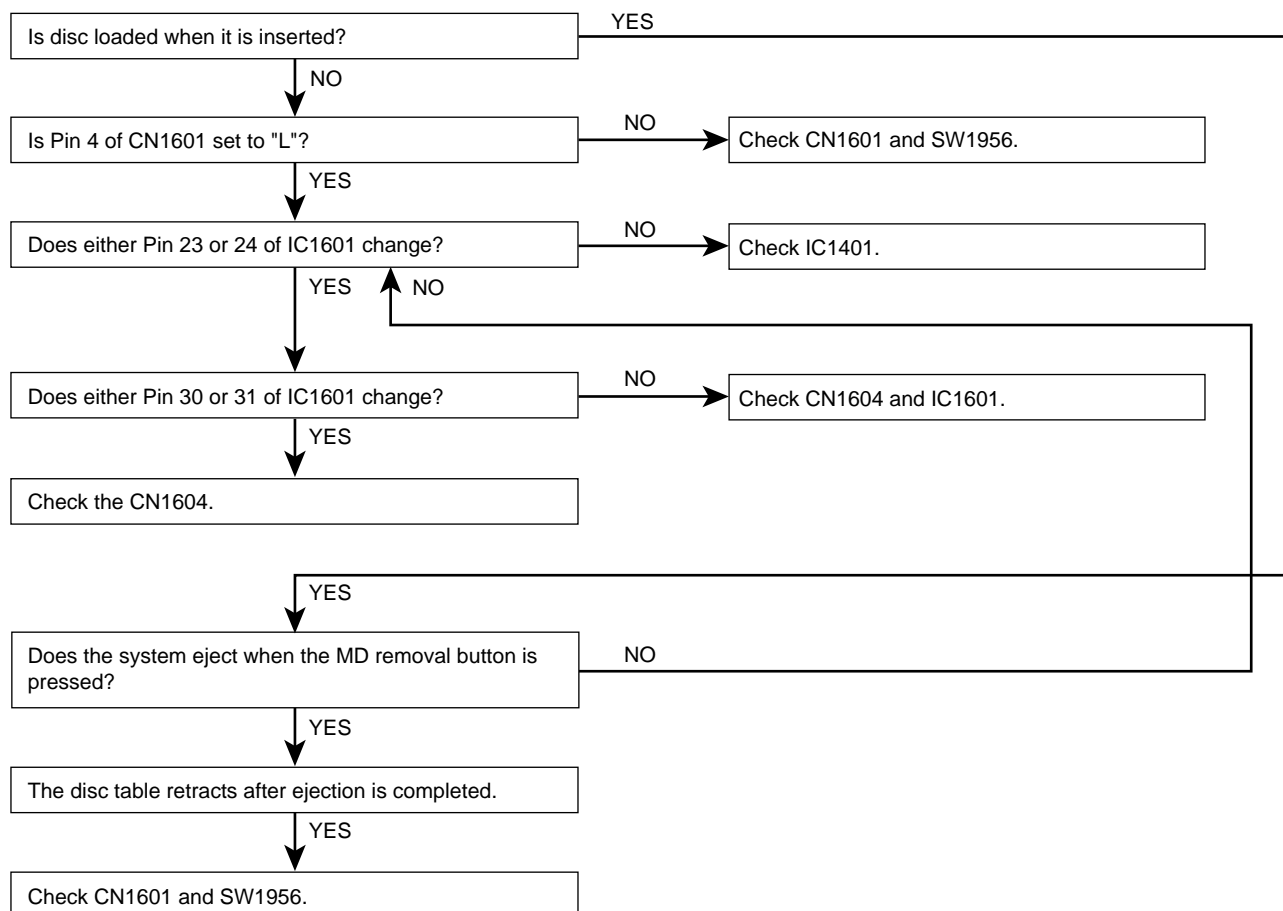
Switch the power of the unit OFF. Apply a small amount of isopropyl alcohol to the lens cleaning paper and clean the lens carefully. Be careful not to damage the lens. Do not touch the lens directly with your hand.



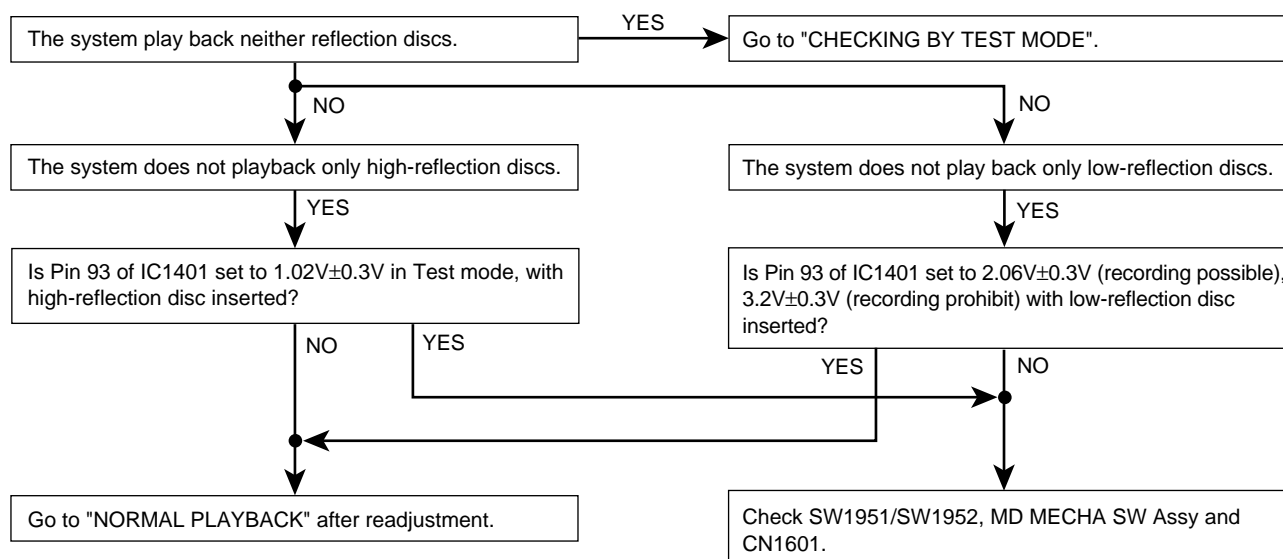
● Power of MD does not turn on



● Disc loading is incorrect

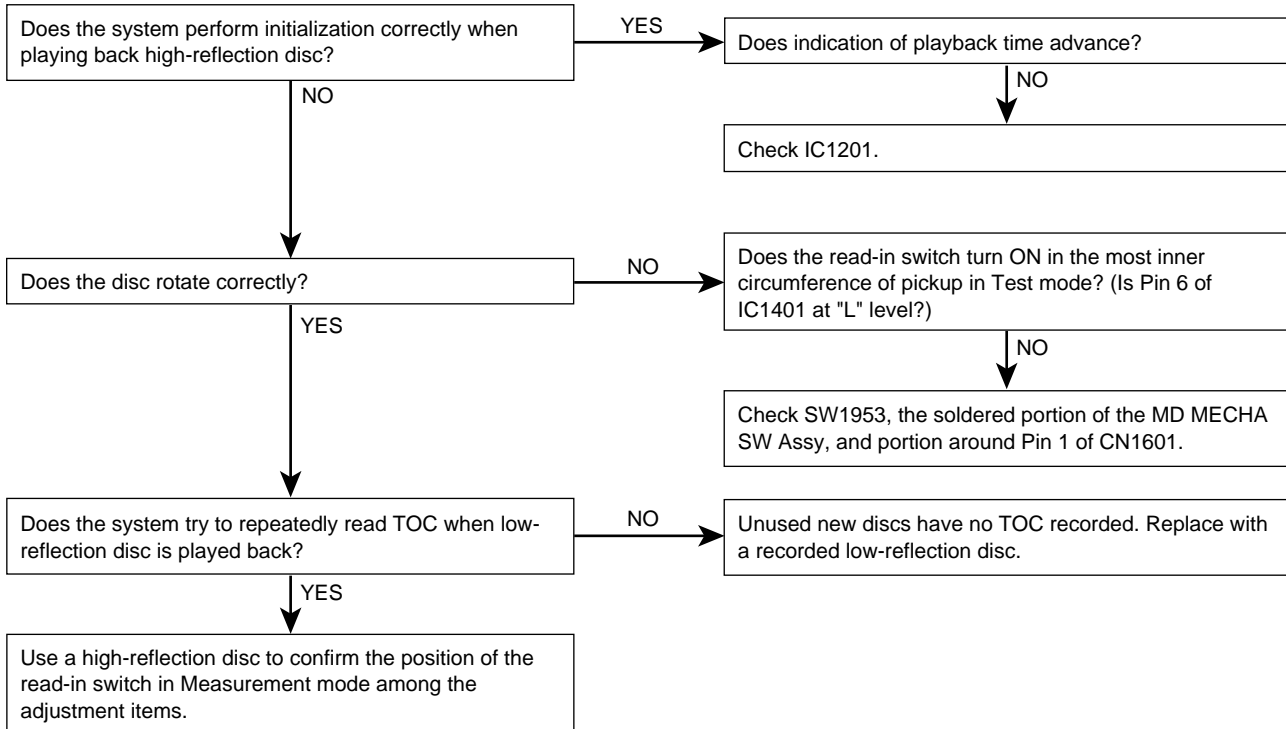


● The system does not playback



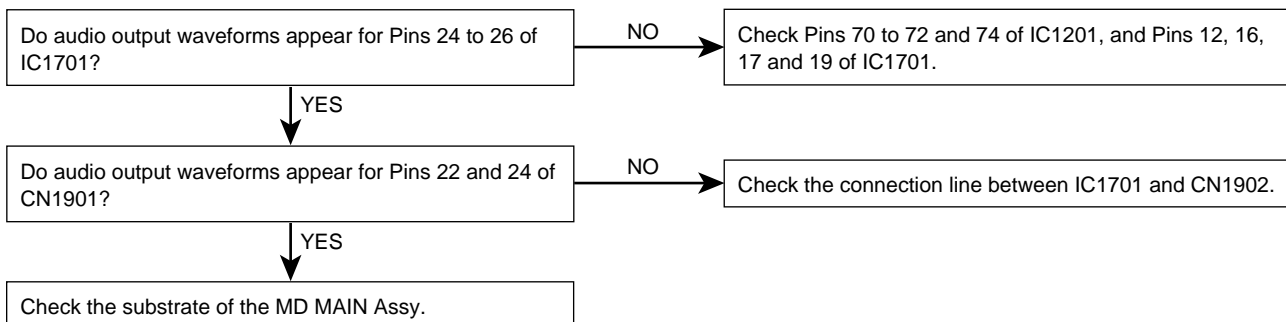
● Normal playback

It is confirmed that EEPROM value is correct in Test mode:



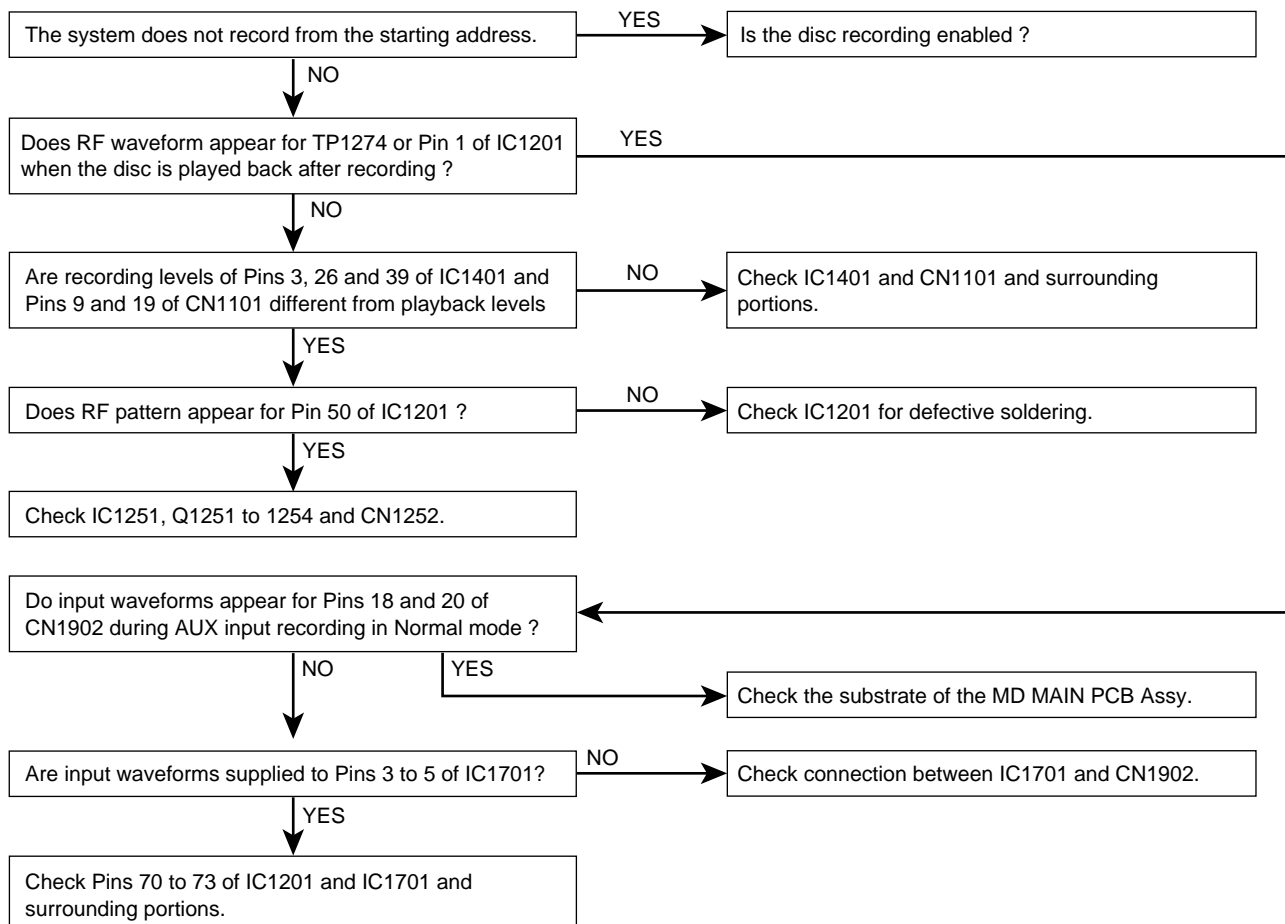
● Audio playback circuit

No sound is output even though indication of playback time advances during playback in Normal mode:

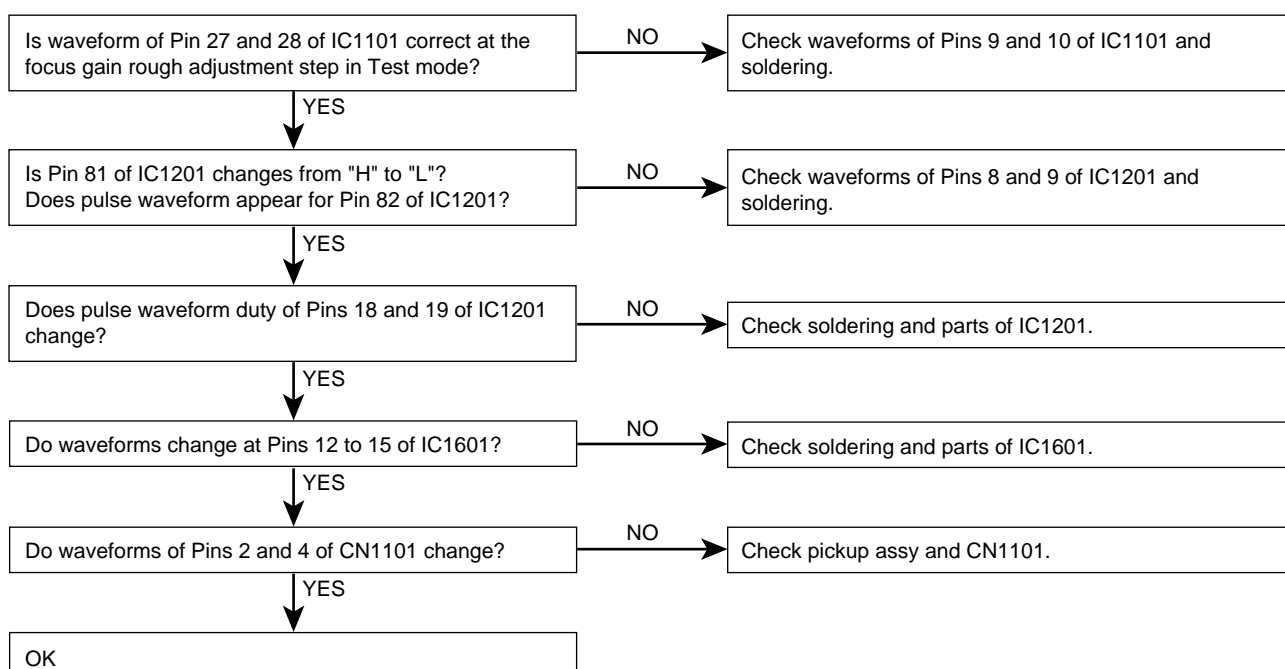


● Recording/playback operations

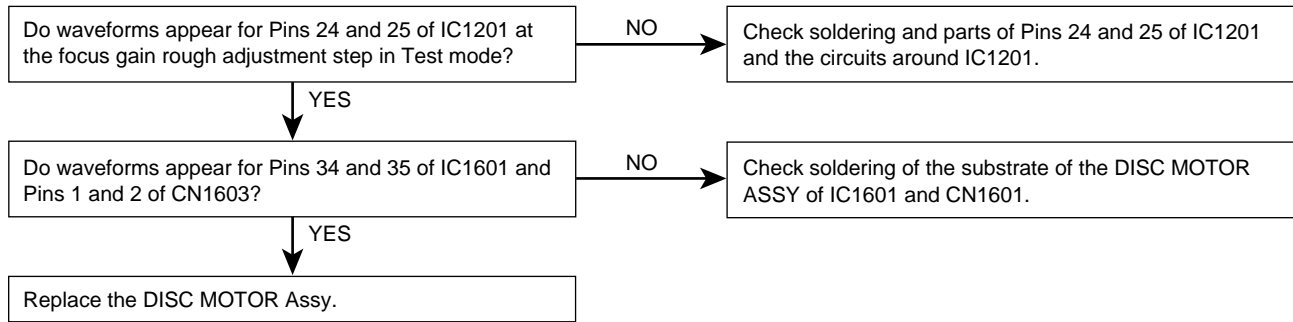
Insert a low-reflection disc to confirm audio output during playback in Normal mode, then set the system to Recording/Playback Test mode.



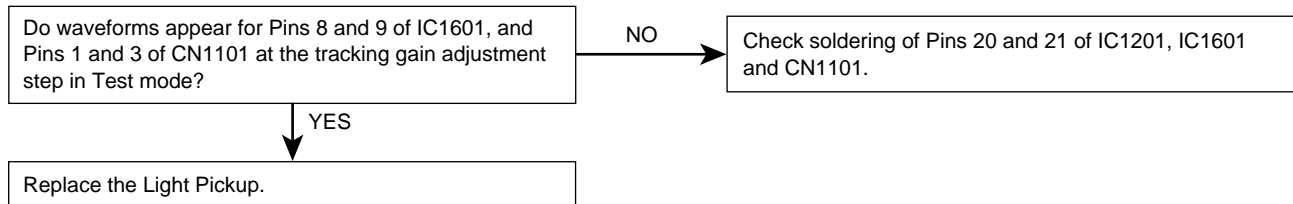
● The focus servo does not function



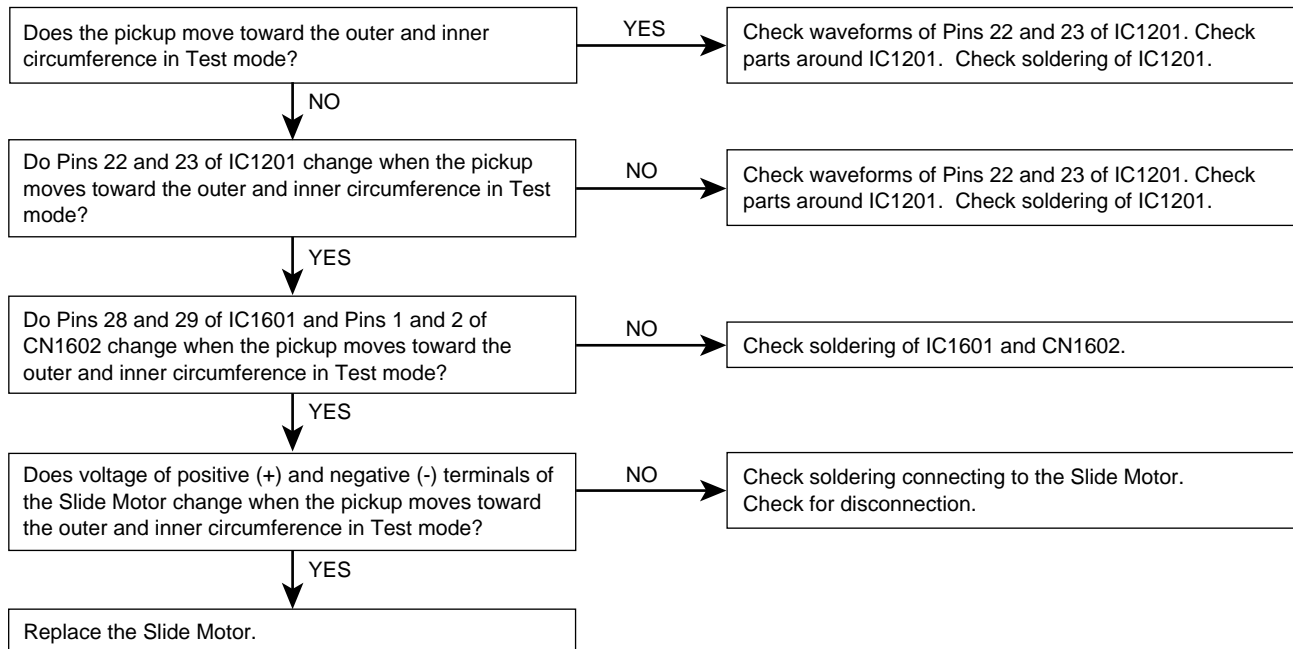
● The disc motor does not rotate



● The tracking servo does not function

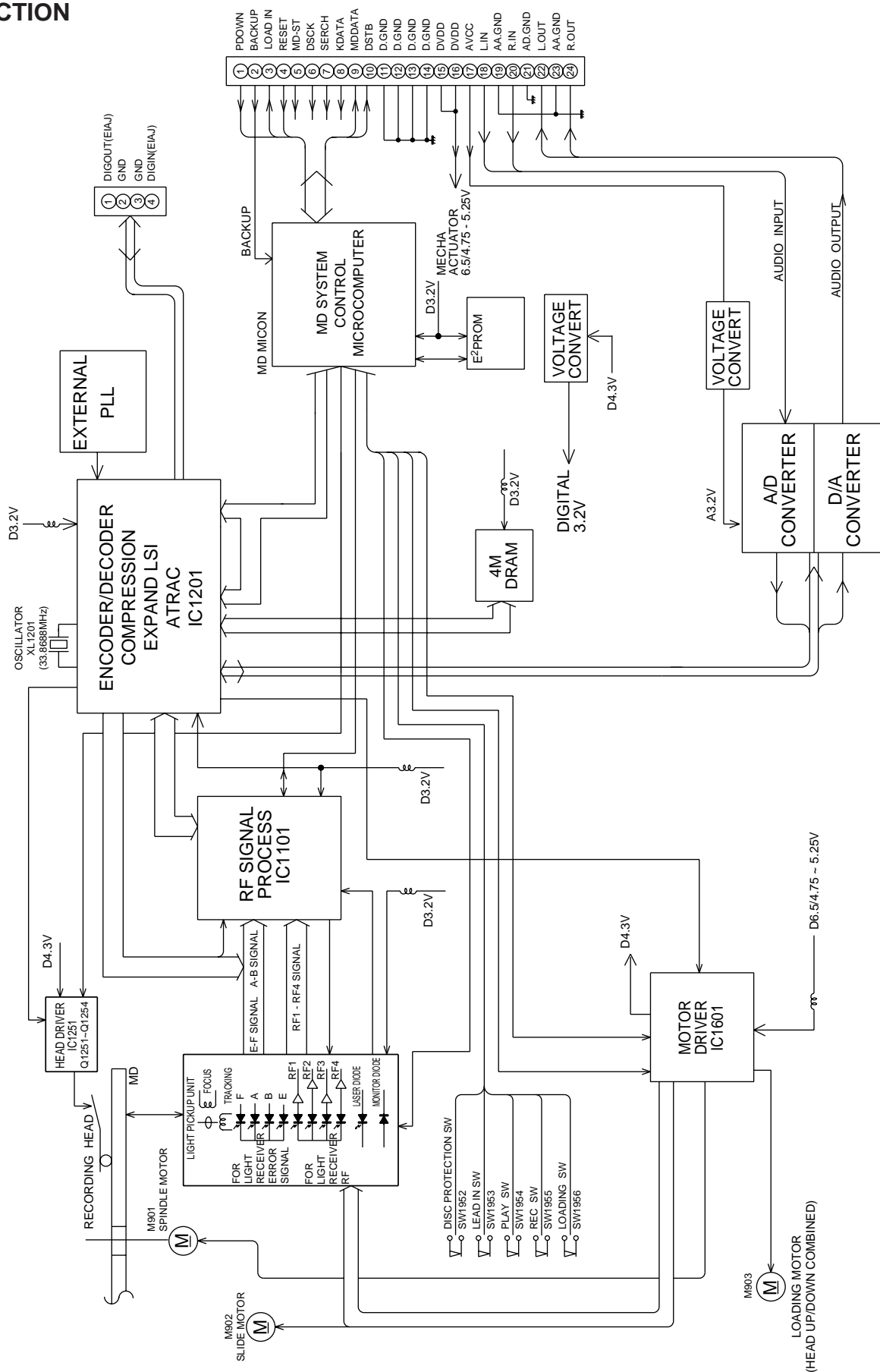


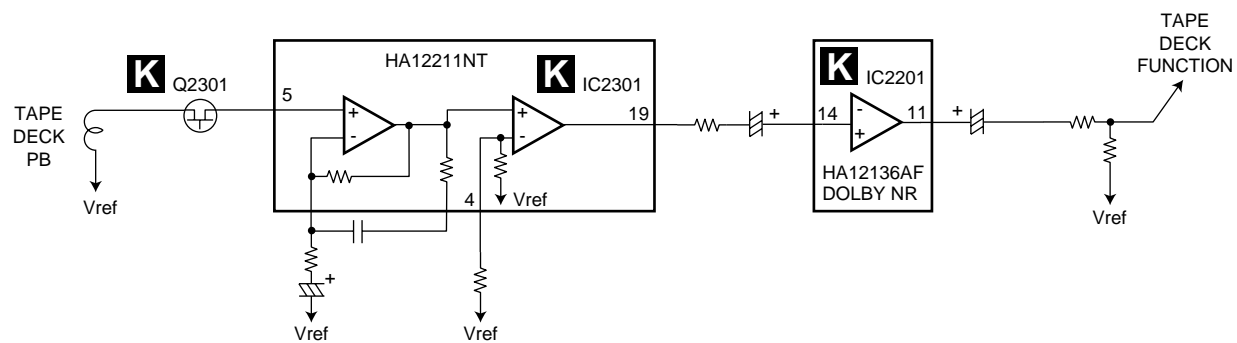
● The slide servo does not function

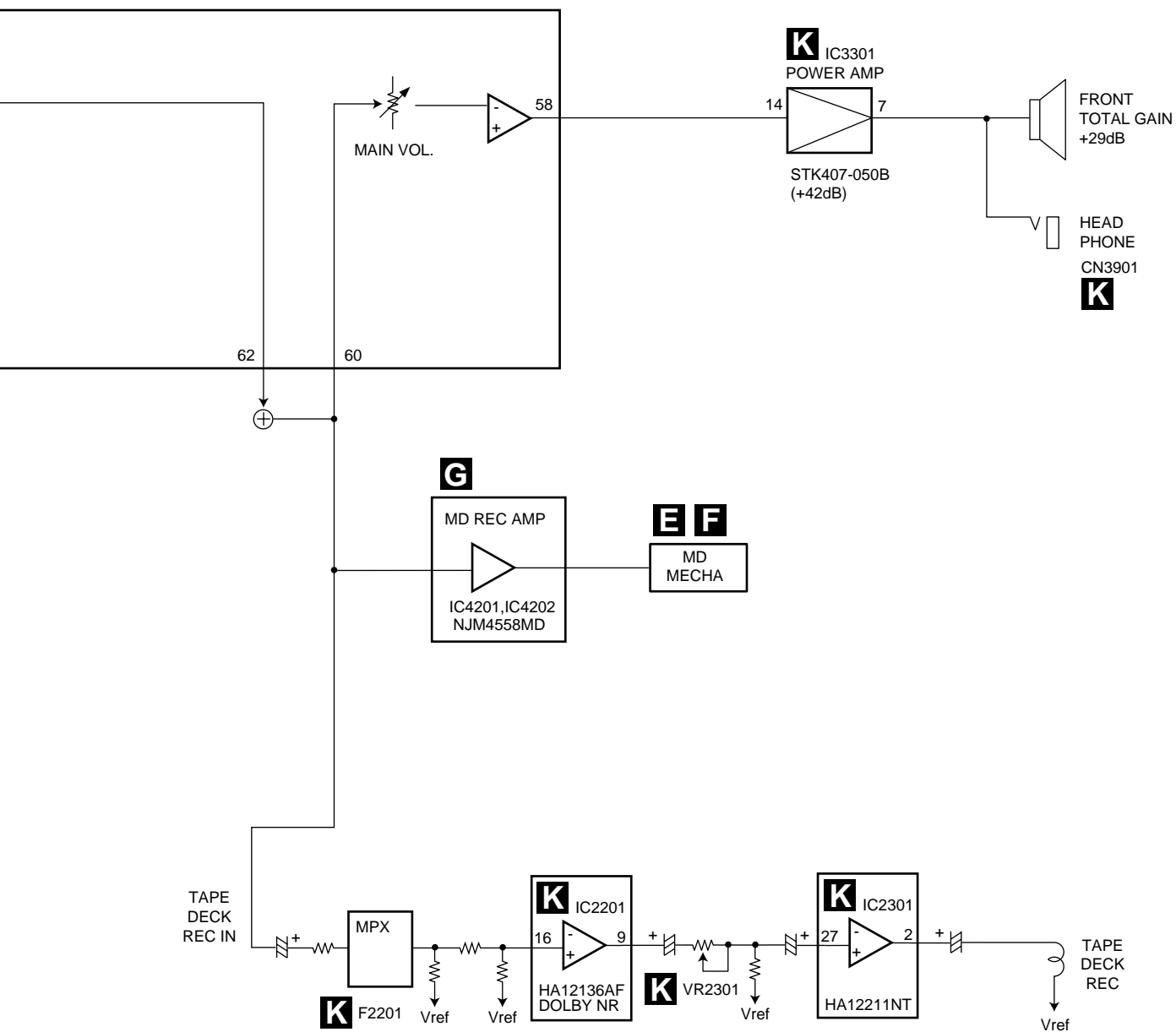


7.3 BLOCK DIAGRAM

MD SECTION

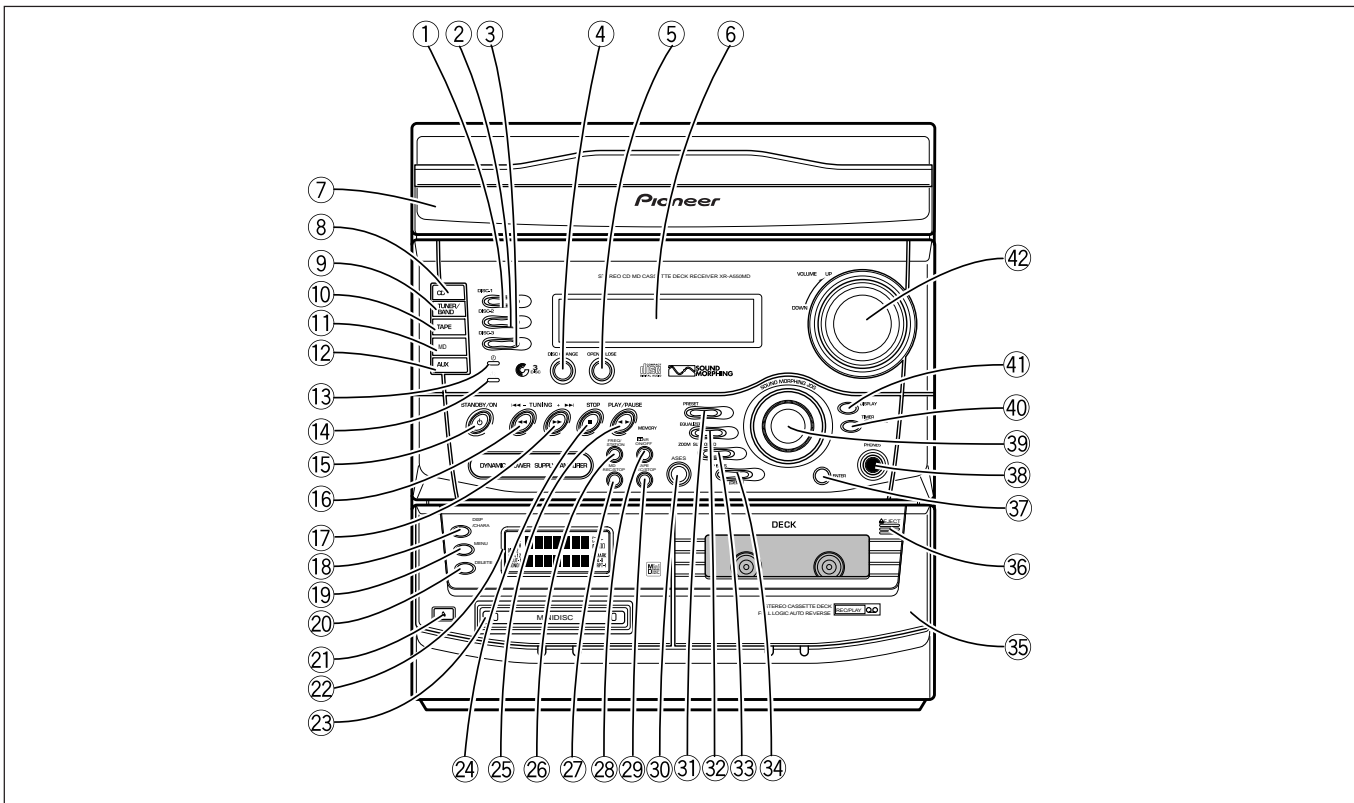






8. PANEL FACILITIES AND SPECIFICATIONS

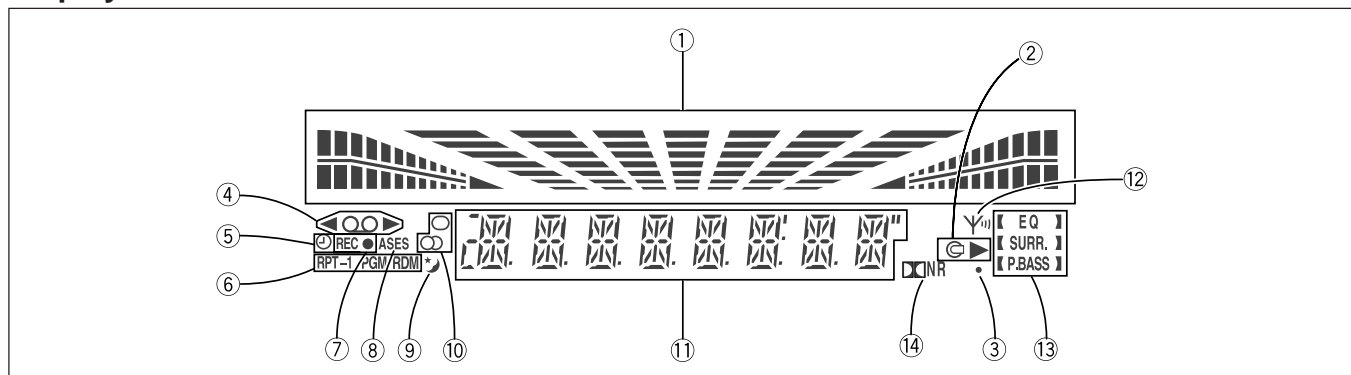
8.1 PANEL FACILITIES



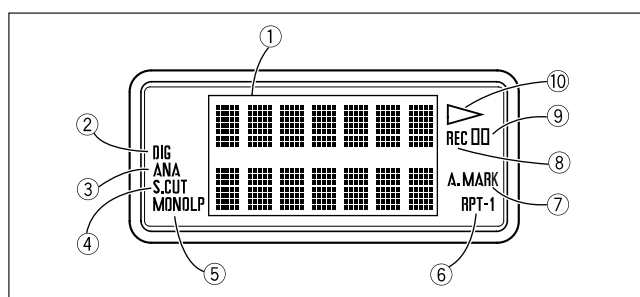
- | | |
|--|----------------------------------|
| ① DISC-1 select button & indicator | ②④ STOP (■) button |
| ② DISC-2 select button & indicator | ②⑤ PLAY / PAUSE , MEMORY button |
| ③ DISC-3 select button & indicator | ②⑥ FREQ/STATION button |
| ④ DISC CHANGE button | ②⑦ MD Record/Stop button |
| ⑤ OPEN/CLOSE button | ②⑧ Dolby® NR button |
| ⑥ Display | ②⑨ Tape Record/Stop button |
| ⑦ CD disc tray | ③⑩ A.S.E.S. button |
| ⑧ CD Function button | ③⑪ PRESET button |
| ⑨ TUNER / BAND Function button | ③⑫ EQUALIZER button |
| ⑩ TAPE Function button | ③⑬ ZOOM SURROUND button |
| ⑪ MD function button | ③⑭ P.BASS (DEMO) button |
| ⑫ AUX Function button | ③⑮ TAPE cassette door |
| ⑬ TIMER indicator | ③⑯ TAPE Eject button (▲) |
| Lights in Standby mode when the system has been set for timer operation. | ③⑰ ENTER button |
| ⑭ STANDBY indicator | ③⑱ PHONES jack (Headphones) |
| ⑮ STANDBY/ON switch | ③⑲ S.M. JOG (Sound Morphing JOG) |
| ⑯ TUNNING ◀◀◀ - button | ④⑰ TIMER/ CLOCK ADJ button |
| ⑰ TUNNING + ▶▶▶ button | ④⑱ DISPLAY button |
| ⑱ DISPLAY/CHARA button | ④⑲ Volume control (VOLUME) |
| ⑲ MENU button | |
| ⑳ DELETE button | |
| ㉑ MD Eject button | |
| ㉒ MD Display | |
| ㉓ MD insertion slot | |

- * Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- * "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Display section

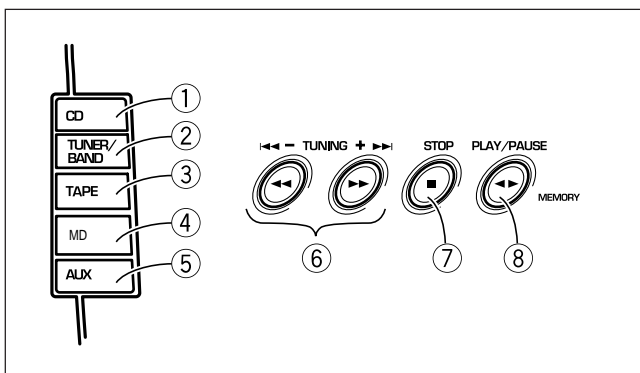


- ① Indicates Audio level.
- ② Indicates CD operation status.
- ③ Lights when BEAT CUT 2 is selected.
- ④ Indicates tape transport direction.
- ⑤ Displays timer function indications.
- ⑥ Lights when the selected function is CD.
- ⑦ Lights during tape recording.
- ⑧ Lights during ASES operation.
- ⑨ Lights during Sleep Timer operation.
- ⑩ Indicates tuner operation status.
- ⑪ Displays a wide range of operation status indications.
- ⑫ Indicates tuner reception status.
- ⑬ Indicates SOUND MORPHING status.
- ⑭ Lights when Dolby NR is switched ON.



- ① Alphanumeric display
- ② Lights when the unit is set for digital recording
- ③ Lights when the unit is set for analog recording
- ④ Lights when the unit is set for Synchro recording
- ⑤ Lights when the unit is set for extended monaural recording
- ⑥ Lights during Repeat play
- ⑦ Lights when the Auto Mark function is set
- ⑧ Lights during recording
- ⑨ Lights during pause
- ⑩ Lights during play and recording

Function button section



- ① CD function button
- ② TUNER/BAND function button
- ③ TAPE function button
- ④ MD function button
- ⑤ AUX function button
- ⑥ TUNING [◀◀, ▶▶ (-), (+) ▶▶▶▶] buttons
- ⑦ STOP button (■)
- ⑧ Play/Pause/Memory button

- The operations controlled by buttons ⑥ through ⑧ change as follows depending on whether you select CD with the CD function button, Tuner with the Tuner/Band function button, Tape with the Tape function button, or MD with the MD function button.

<When CD or MD is selected>

PLAY/PAUSE: Play/pause button
 STOP: Stop button
 (+) ▶▶▶▶: Fast forward/track search button
 ◀◀◀◀ (-): Fast reverse/track search button

<When TAPE is selected>

PLAY/PAUSE: Play button/Tape transport direction
 STOP: Stop button
 (+) ▶▶▶▶: Fast forward button/Music search button
 ◀◀◀◀ (-): Rewind button/Music search button

<When TUNER/BAND is selected>

PLAY/PAUSE MEMORY: STATION MEMORY button
 (+) ▶▶▶▶: Frequency & Station + (up) button
 ◀◀◀◀ (-): Frequency & Station - (down) button

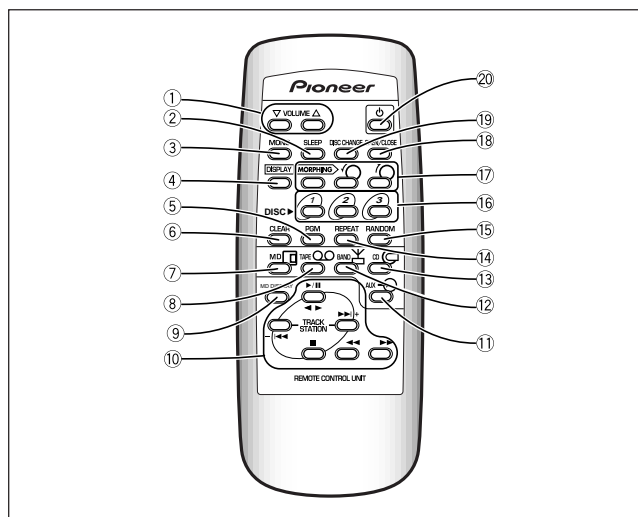
■ Function Auto Play

When a CD (or MD) is loaded, if you press the CD function button (or MD function button) the CD (or MD) starts playing. If there's a tape loaded in the deck, it starts playing as soon as you press the Tape function button.

NOTE:

You cannot select Function Auto Play during MD or tape recording.

REMOTE CONTROL UNIT



- ① VOLUME ▲ (up), ▼ (down) buttons
- ② SLEEP timer button
- ③ MONO button
- ④ DISPLAY button
- ⑤ PGM button
- ⑥ CLEAR button
- ⑦ MD function button
- ⑧ TAPE function button
- ⑨ MD display button
- ⑩ CD/MD/Tape/Tuner operation buttons
 - CD/MD operation buttons
(Play/Pause ▶/■, Track search ◀◀◀◀, Stop ■, Fast ◀◀◀◀)
 - TAPE operation buttons
(Play ◀▶, Music Search ◀◀◀◀, Stop ■, Fast ◀◀◀◀)
 - TUNER buttons
 - + Stations change in order in the upward direction.
 - Stations change in order in the downward direction.
 - ◀◀ Frequency down.
 - ▶▶ Frequency up.
- ⑪ AUX function button
- ⑫ BAND button
Use to switch between FM and AM bands.



- ⑬ CD function button
- ⑭ REPEAT button
- ⑮ RANDOM button
- ⑯ DISC select buttons (1-3)
- ⑰ SOUND MORPHING mode button & SOUND MORPHING jog control buttons
- ⑱ OPEN/CLOSE button
- ⑲ DISC CHANGE button
- ⑳ STANDBY / ON button

8.2 SPECIFICATIONS

■ STEREO FILE-TYPE CD CASSETTE DECK RECEIVER

Amplifier Section

Continuous Average Power Output is 45 Watts* per channel, min., at 6 ohms from 60 Hertz to 15,000 Hertz, with no more than 5.0 % total harmonic distortion.**

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.*

** *Measured by Audio Spectrum Analyzer.*

Continuous Power Output (RMS)

..... 70 W + 70 W(1kHz, T.H.D. 10 %, 6 Ω)

FM/AM Tuner section

FM tuner section

Frequency Range 87.5 MHz to 108 MHz

Antenna input 75 Ω unbalanced

AM tuner section

Frequency Range

With 10 kHz step 530 kHz to 1,700 kHz

With 9 kHz step 531 kHz to 1,602 kHz

Antenna input Loop antenna

CD section

Type Compact disc digital audio system

Wow and Flutter Limit of measurement
(±0.001 % W.PEAK) or less (EIAJ)

MD section

Type Mini Disc digital audio system

Recording system Field modulation overwrite system

Reproduce system Non-contact optical readout

Sampling frequencies 44.1 kHz

Frequency response 8 Hz to 20 kHz

S/N ratio 101 dB

Wow & flutter Below measurable limit

Cassette deck section

Systems 4 track, 2-channel stereo

Heads Recording/playback head x 1

..... Erasing head x 1

Motor DC servo motor x 1

Tape type TYPE I (Normal) tape / TYPE II (HIGH/CrO₂) tape

Miscellaneous

Power Requirements AC120V, 60 Hz

Power Consumption 96 W

Power Consumption in standby mode 1 W

Dimensions 270 (W) x 300 (H) x 336 (D) mm

10-5/8 (W) x 11-13/16 (H) x 13-1/4 (D) in.

Weight (without package) 8.2 kg (18 lb 2 oz)

Accessories

Operating instructions	1
Remote control unit	1
Size AA/R6P dry cell batteries	2
FM antenna	1
AM loop antenna	1
Power Cord	1

NOTE:

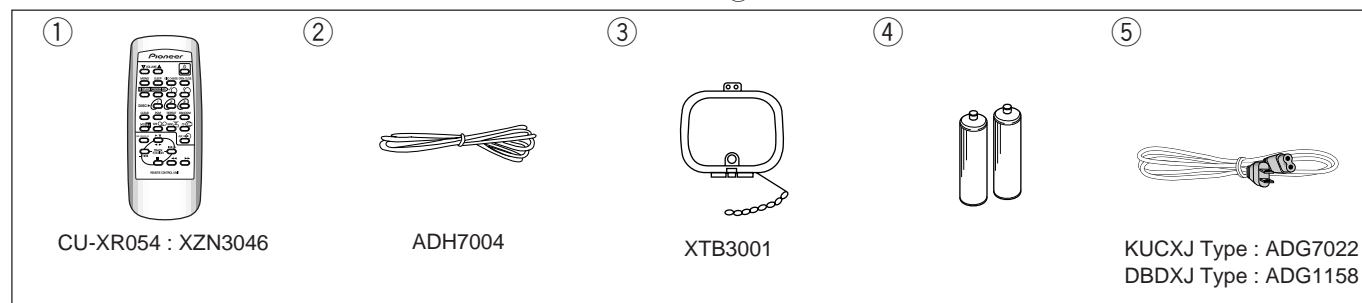
Specifications and design subject to possible modification without notice due to improvements.

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

Accessories



- ① Remote control unit × 1
- ② FM antenna × 1
- ③ AM loop antenna × 1
- ④ AA/R6P dry cell batteries × 2
- ⑤ Power Cord × 1