

Service Manual

Pioneer



ORDER NO.
RRV2250

STEREO CD / CD-R RECEIVER XR-MR7

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

Type	Model	Power Requirement	Remarks
	XR-MR7		
KU/CA	○	AC120V	
MY	○	AC220-230V	

● This product is a system(s) component.

Be sure to connect it to the prescribed system component(s), otherwise damage may result.

Component	Model	Service manual	Remarks
STEREO CD/CD-R RECEIVER	XR-MR7	RRV2250	This manual.
SPEAKER SYSTEM	S-MR7	RRV2248	

— FOR U.S. MODELS —

NECESSARY INFORMATION FOR DHHS RULES MARKED ON THE REAR BASE AND ON THE TOP OF CD MECHANISM AS BELOW.

DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

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1. SAFETY INFORMATION

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

WARNING

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.

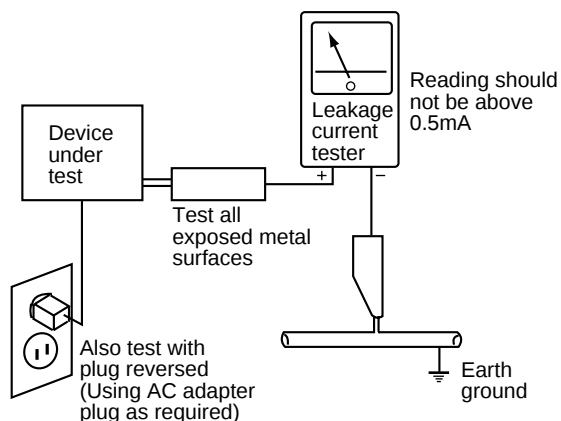
(FOR USA MODEL ONLY)

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.

— IMPORTANT —

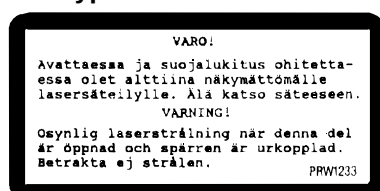
THIS PIONEER APPARATUS CONTAINS
LASER OF CLASS IIIb.
SERVICING OPERATION OF THE APPARATUS
SHOULD BE DONE BY A SPECIALLY
INSTRUCTED PERSON.

— LASER DIODE CHARACTERISTICS —

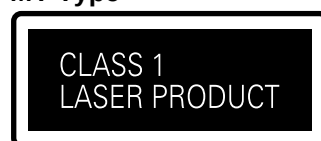
MAXIMUM OUTPUT POWER: 23 mW
WAVELENGTH: 778 – 787 nm

LABEL CHECK

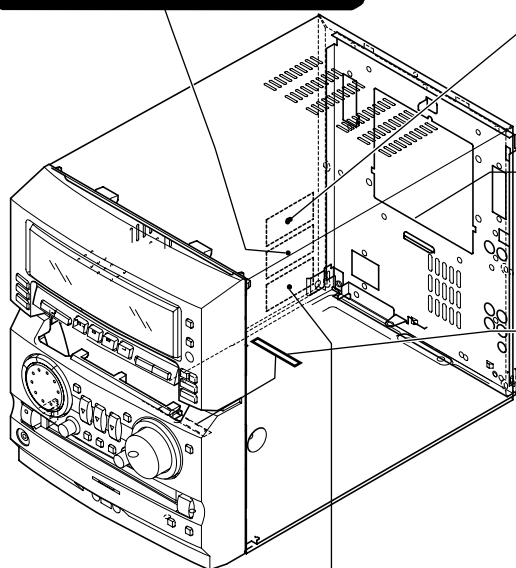
MY Type



MY Type



VRW-328



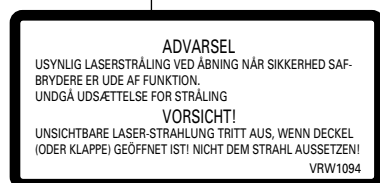
KU/CA Type

DANGER — LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

Printed on Rear Panel

DANGER — LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

PRW1516-A



MY Type

— Additional Laser Caution —

1. Laser Interlock Mechanism

The position of the switch (S601) on the SERVO MECHANISM Assy for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S601) is not on CLMP terminal side (CLMP signal is OFF or high level.). Thus, the interlock will no longer function if the switch (S601) is deliberately set to CLMP terminal side (low level).

The interlock also does not function in the test mode *.

Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the PRE-AMP BOARD ASSY mounted on the CD-R PICKUP is connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

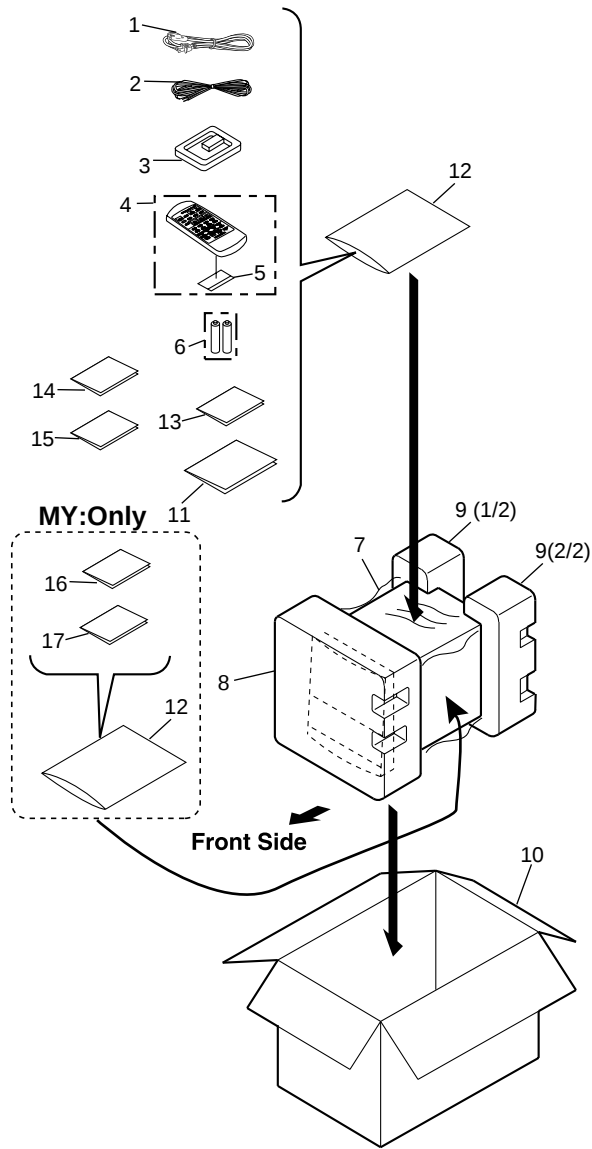
2. When the cover is opened with the servo mechanism block removed and turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* Refer to page 84.

2. EXPLODED VIEWS AND PARTS LIST

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

2.1 PACKING



(1) PACKING PARTS LIST

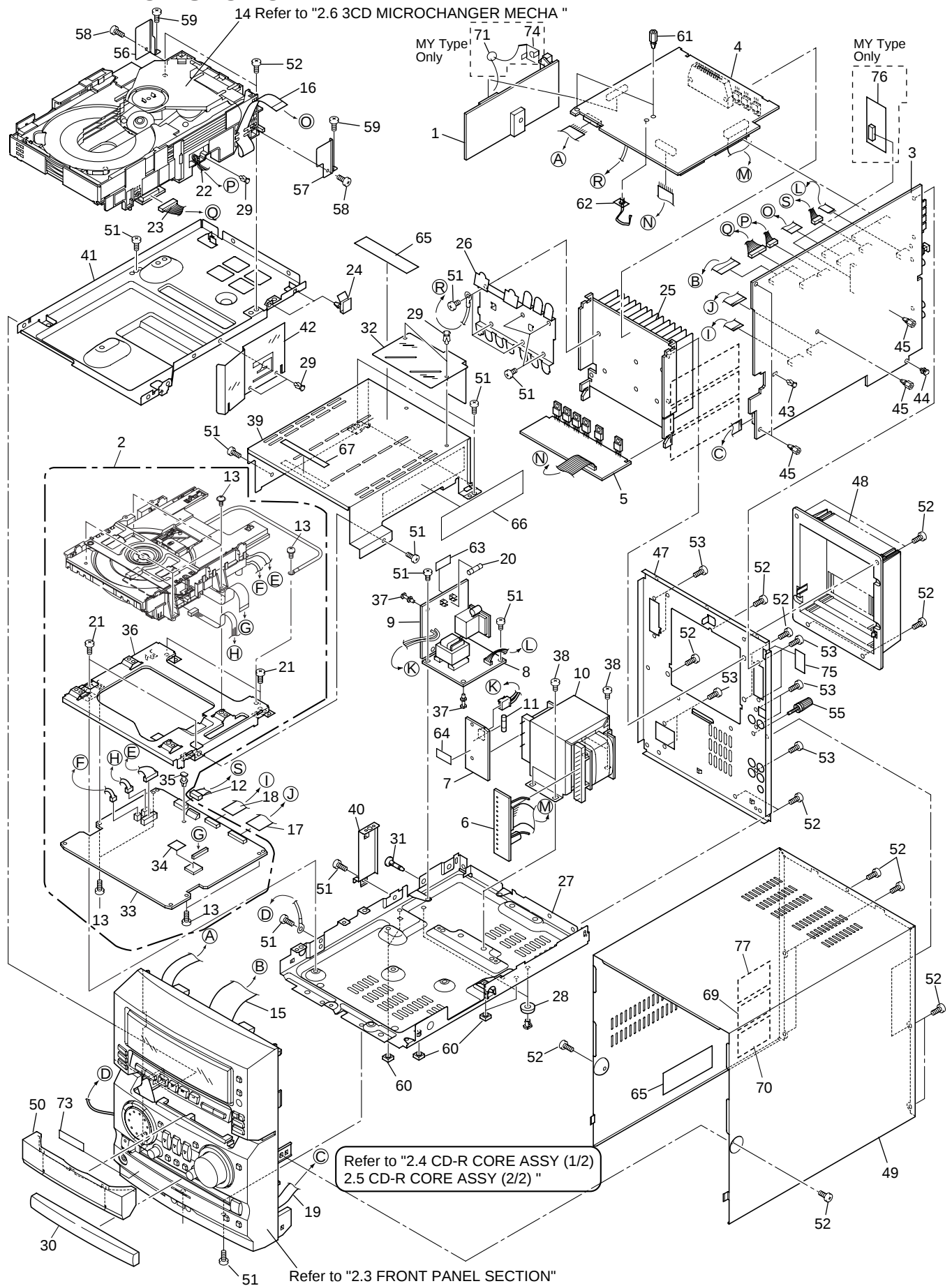
Mark	No.	Description	Part No.
Δ	1	Power Cord	See Contrast table (2)
	2	FM Antenna	See Contrast table (2)
	3	AM Loop Antenna	ATB7009
	4	Remote Control Unit (CU-XR059)	AXD7241
NSP	5	Battery Cover	AZA7378
	6	Dry Cell Battery (R6P, AA)	VEM-013
	7	Packing Sheet	AHG7003
	8	Front Pad	AHA7281
	9	Rear Pad LR	AHA7282
NSP	10	Packing Case	See Contrast table (2)
	11	Warranty Card	See Contrast table (2)
	12	Polyethylene Bag (0.03 x 230 x 340)	Z21-038
	13	Operating Instructions (English)	See Contrast table (2)
	14	Operating Instructions (English/French)	See Contrast table (2)
	15	Operating Instructions (German/Italian)	See Contrast table (2)
	16	Operating Instructions (Dutch/Swedish)	See Contrast table (2)
	17	Operating Instructions (Portuguese/Spanish)	See Contrast table (2)

(2) CONTRAST TABLE

XR-MR7/MY and /KU/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			MY type	KU/CA type	
NSP	Δ 1	Power Cord	ADG1127	ADG7021	
	2	FM Antenna	ADH7005	ADH7004	
	10	Packing Case	AHD7849	AHD7848	
	11	Warranty Card	ARY7022	ARY7033	
	13	Operating Instructions (E)	Not used	ARB7213	
	14	Operating Instructions (E/F)	ARE7238	Not used	
	15	Operating Instructions (G/I)	ARE7239	Not used	
	16	Operating Instructions (D/S)	ARC7290	Not used	
	17	Operating Instructions (P/Sp)	ARC7291	Not used	

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

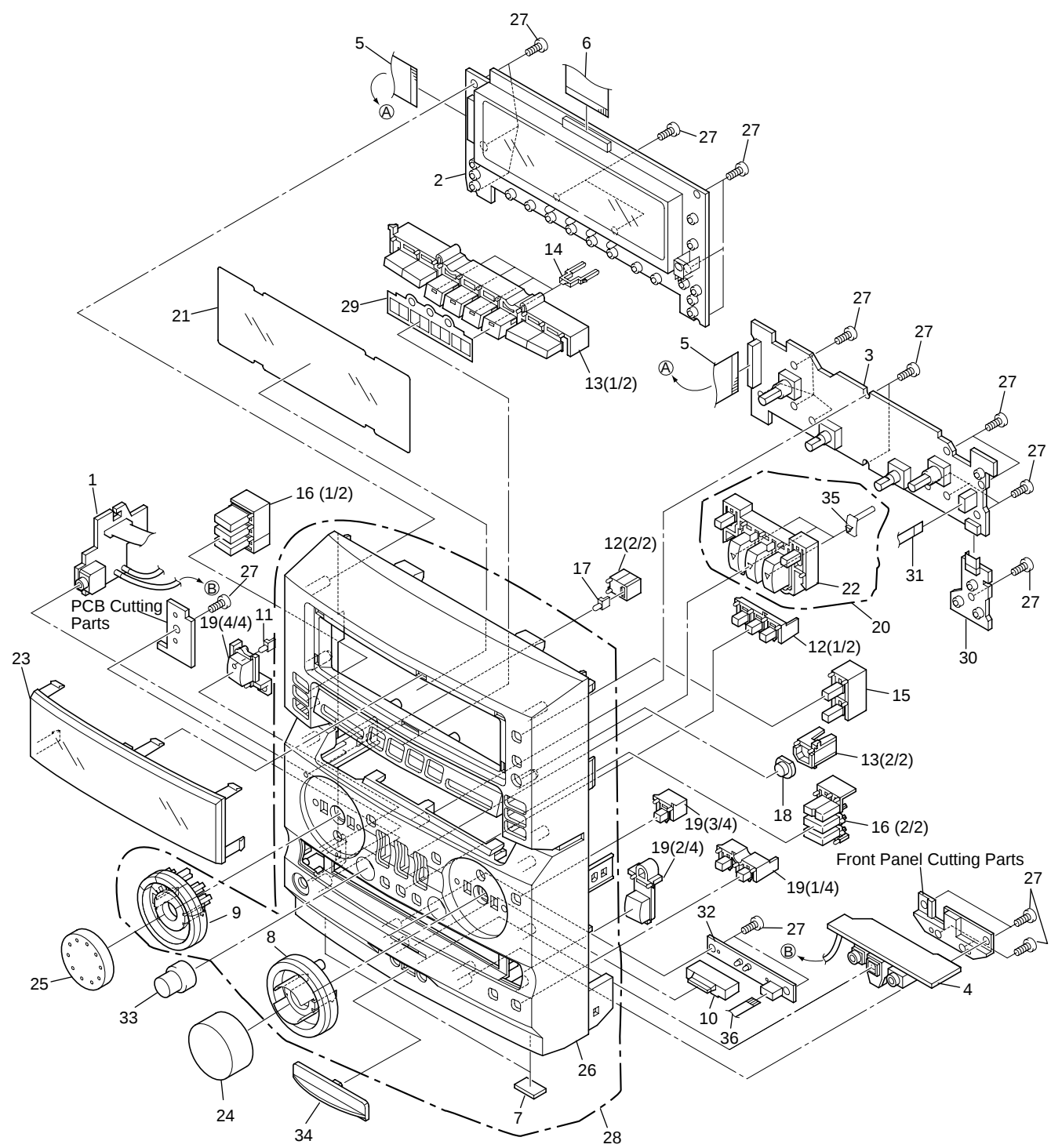
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	FM/AM TUNER Module	See Contrast table (2)	NSP	36	Mecha Base	PNB1613
	2	CD-R CORE ASSY	PXA1625		37	PCB Spacer (3x12)	AEC1372
	3	AF ASSY	See Contrast table (2)		38	Screw	IBZ40P060FCC
	4	AMP ASSY	See Contrast table (2)		39	Shield Case	ANG7272
	5	REG ASSY	AWU7468		40	Side Stay	ANG7261
△	6	SECONDARY ASSY	AWU7451		41	CD Stay	ANG7259
	7	PRIMARY ASSY	See Contrast table (2)		42	CD Sheet	AEC7253
	8	SUBTRANS ASSY	See Contrast table (2)		43	Rivet (PLASTIC: 3x4.5)	RBM-003
	9	AC IN/OUT ASSY	See Contrast table (2)		44	Tapping Card Spacer	AEC7098
	10	Power Transformer	See Contrast table (2)		45	Card Spacer	AEC7214
△	11	Fuse (FU 2 :)	See Contrast table (2)	NSP	46	PCB Spacer	AEC7254
	12	6P Connector Assy	ADE7055		47	Rear Panel R	See Contrast table (2)
	13	Screw	BBZ30P080FCC		48	Rear Cover	AMR7310
	14	3CD MICROCHANGER MECH	AXA7077		49	Bonnet Case R	AZN7824
	15	27P FFC/30V (DIS CN5601 ↔ AF CN5501)	ADD7203		50	Tray Panel (CD)	See Contrast table (2)
	16	16P FFC/60V (AF CN1101 ↔ 3CD MECHA)	ADD7178		51	Screw	BBZ30P060FCC
	17	21P FFC/60V (AF CN7701 ↔ CDR CN501)	ADD7200		52	Screw	BBZ30P080FNI
	18	15P FFC/60V (AF CN7702 ↔ CDR CN301)	ADD7201		53	Screw	BBZ30P080FZK
	19	9P FFC/60V (AF CN3201 ↔ FRO. CN5403)	ADD7205		54	Screw	BPZ30P060FMC
	20	Fuse (FU 1 :)	See Contrast table (2)		55	Terminal Screw	AKE- 031
△	21	Screw	BBT30P080FCC		56	Supporter Plate L	ANG7290
	22	2mm Connector ASSY 6P (AF CN1301 ↔ 3CD CN8002)	ADE7051		57	Supporter Plate R	ANG7291
	23	Connector ASSY 11P (AF CN1302 ↔ 3CD CN8003)	PG11KK-G20		58	Screw	IPZ30P060FMC
	24	Mini Clamper	VEC1597		59	Screw	PBZ30P120FMC
	25	Heat Sink	ANH7115		60	Spacer R	AEB7189
NSP	26	Heat Plate	ANG7266		61	Tapping Card Spacer	AEC7262
	27	Chassis	ANA7101		62	Harness Lifter	DEC1262
	28	Leg Assy	AEC7248		63	Fuse Label	See Contrast table (2)
	29	Pla Rivet	DEC1704		64	Fuse Label	See Contrast table (2)
	30	Tray Panel (CD-R)	AAK7712		65	65 Label	See Contrast table (2)
NSP	31	PCB Holder	PNW2029	NSP	66	Fuse Caution Label	See Contrast table (2)
	32	Flexible Holder	AEC7252		67	Laser Caution Label	See Contrast table (2)
	33	CD-R CORE ASSY	PYY1273		68	Disc Caution Label	See Contrast table (2)
	34	Radiator Sheet	PEB1305		69	Caution Label HE	See Contrast table (2)
	35	PCB Spacer	AEC1371		70	Caution Label	See Contrast table (2)
NSP	36	PCB Holder	PNW2029		71	Ceramic Capacitor	See Contrast table (2)
	37	Flexible Holder	AEC7252		72	Cord Clamper	RNH-184
	38	CD-R CORE ASSY	PYY1273		73	Getter	See Contrast table (2)
	39	Radiator Sheet	PEB1305		74	Earth Plate	See Contrast table (2)
	40	PCB Spacer	AEC1371		75	Speaker Caution Label	ARW7080
NSP	41	LEGATO ASSY	See Contrast table (2)		76	LEGATO ASSY	See Contrast table (2)
	42	Caution Label (F)	See Contrast table (2)		77	Caution Label (F)	See Contrast table (2)

(2) CONTRAST TABLE

XR-MR7/MY and /KU/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			MY type	KU/CA type	
	1	FM/AM TUNER Module	AXQ7068	AXQ7065	
	3	AF ASSY	AWU7460	AWU7448	
	4	AMP ASSY	AWU7464	AWU7555	
	7	PRIMARY ASSY	AWU7469	AWU7457	
	8	SUBTRANS ASSY	AWU7471	AWU7459	
	9	AC IN/OUT ASSY	AWU7470	AWU7458	
△	10	Power Transformer	ATS7271	ATS7272	
△	11	Fuse (FU 2 : 4A/125V)	Not used	REK1082	
△	11	Fuse (FU 2 : T2AL250V)	AEK1057	Not used	
△	20	Fuse (FU 1 : 5A/125V)	Not used	REK1083	
△	20	Fuse (FU 1 : T2.5AL250V)	AEK1058	Not used	
	47	Rear Panel R	ANC7880	ANC7879	
	50	Tray Panel (CD)	AAK7746	AAK7715	
NSP	63	Fuse Label	AAX1581	AAX1419	
NSP	64	Fuse Label	AAX1580	AAX1194	
	65	65 Label	Not used	ARW7050	
	66	Fuse Caution Label	Not used	ARW7081	
NSP	67	Laser Caution Label	Not used	PRW1516	
	68	Disc Caution Label	Not used	PRW1532	
	69	Caution Label HE	PRW1233	Not used	
	70	Caution Label	VRW1094	Not used	
	71	Ceramic Capacitor	CKPUYB102K50	Not used	
	73	Getter	ARW7086	ARW7077	
	74	Earth Plate	XNG3015	Not used	
	76	LEGATO ASSY	AWU7525	Not used	
	77	Caution Label (F)	VRW-328	Not used	

2.3 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

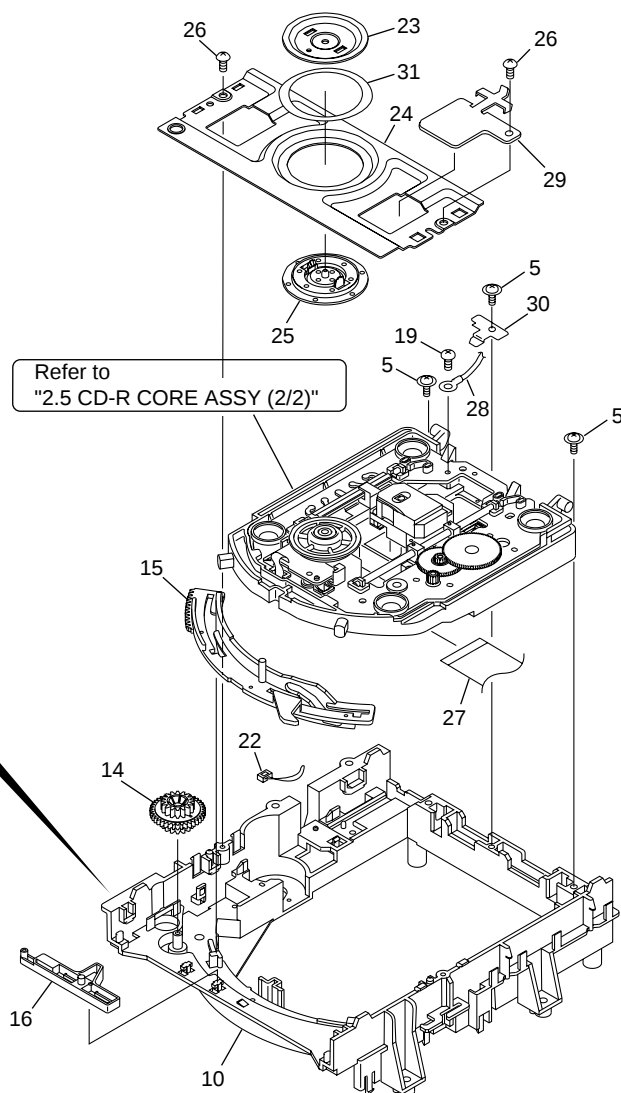
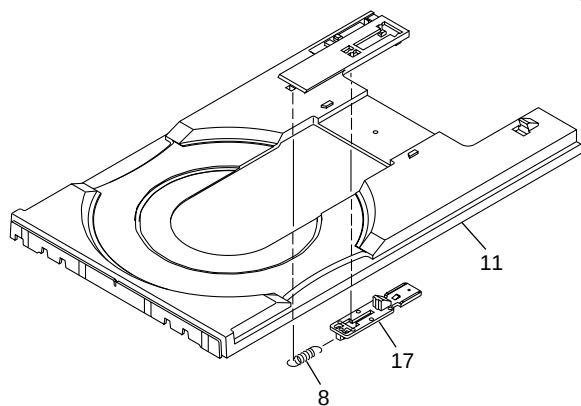
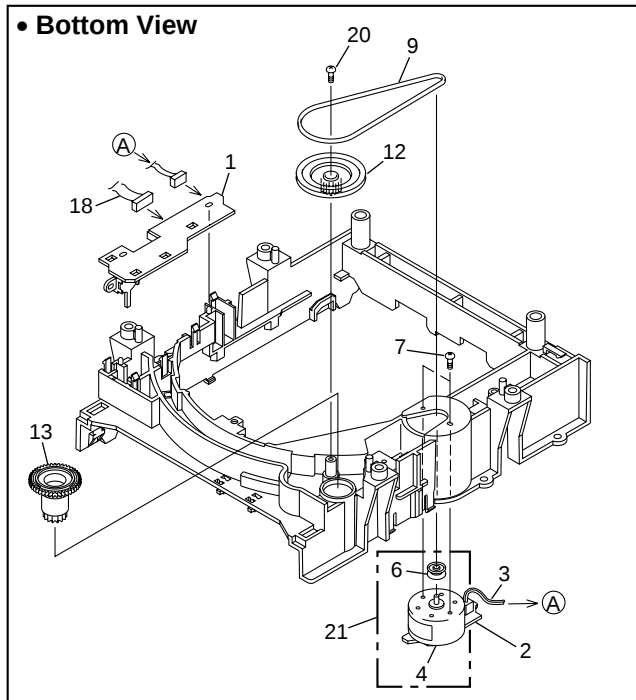
Mark	No.	Description	Part No.
	1	H.P ASSY	AWU7453
	2	DISPLAY ASSY	AWU7461
	3	SW JOG ASSY	AWU7466
	4	FRONT LINE ASSY	See Contrast table (2)
	5	21P FFC/60V	ADD7202
	6	27P FFC/60V	ADD7203
	7	Rubber Sheet	AEB1111
	8	VOL Ring R	AAB7219
	9	Button RE	AAD7559
	10	Function Lens	PNW2796
NSP	11	Indicate Lens	AAK7085
	12	Button RD	AAD7554
	13	Button RB	AAD7553
	14	Button Lens MRB	AAK7690
	15	Button RA	AAD7557
	16	Button RC	AAD7558
	17	LED Lens	PNW2745
	18	Receiv Lens	AAK7586
	19	Button RG ASSY	AXG7087
	20	Button RF ASSY	AXG7086
NSP	21	FL Plate	AAK7718
	22	Button RF	AAD7560
	23	Display Window R	AAK7710
	24	VOL Knob R	AAB7218
	25	Jog Knob R	AAB7217
NSP	26	Front Panel RK	AMB7690
	27	Screw	BPZ30P080FZK
	28	Front Panel RK ASSY	AXG7091
	29	Shield Sheet R	AED7041
	30	CDR SW ASSY	AWU7517
	31	5P FFC/60V	ADD7204
	32	CDR LED ASSY	AWU7467
	33	Knob R	AAB7216
	34	Cap	AAK7713
NSP	35	Button Lens MRF	AAK7691

(2) CONTRAST TABLE

XR-MR7/MY and /KU/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			MY type	KU/CA type	
	4	FRONT LINE ASSY	AWU7450	AWU7438	

2.4 CD-R CORE ASSY (1/2)

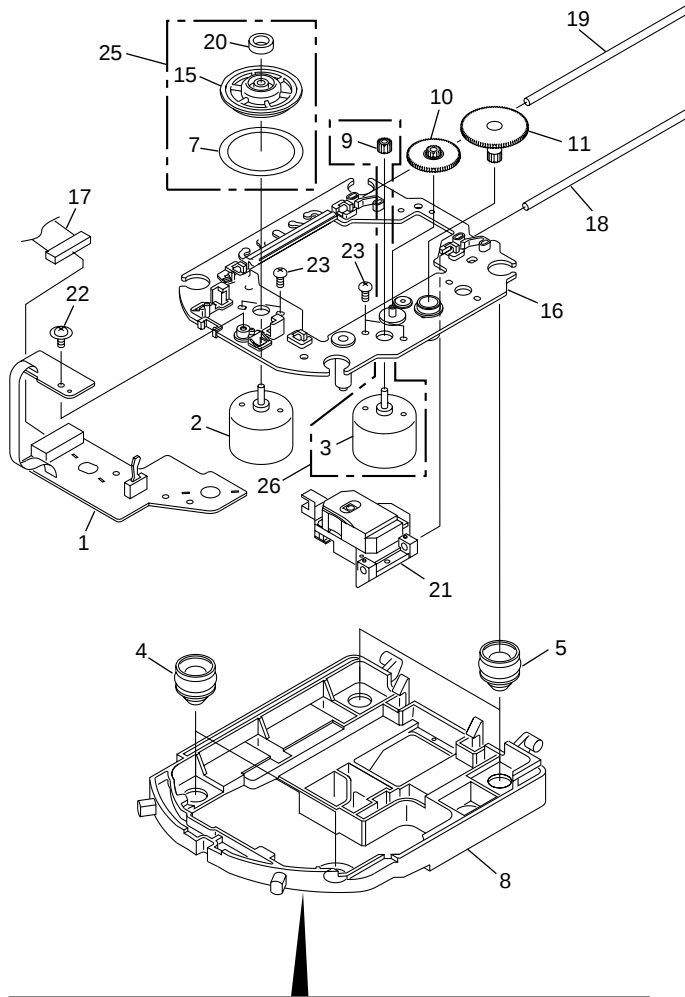


• CD-R CORE ASSY(1/2) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	LOADING A Assy	PWZ3760
NSP	2	LOADING B Assy	PWZ3761
	3	Connector Assy (LOADING B CN551 ↔ LOADING A CN502)	PG02KK-E15
	4	DC Motor (LOADING)	PXM1027
	5	Screw	DBA1006
	6	Motor Pulley	PNW1634
	7	Screw	VBA1055
	8	Tray Stopper Spring	VBH1277
	9	Rubber Belt	VEB1260
	10	Loading Base	VNL1844
	11	Tray	VNL1731
	12	Gear Pulley	VNL1733
	13	Loading Gear	VNL1734
	14	Drive Gear	VNL1735
	15	Drive Cam	VNL1736
	16	Lock Plate	VNL1820

Mark	No.	Description	Part No.
	17	Tray Stopper	VNL1739
	18	Connector Assy (LOADING A CN501 ↔ CD-R CORE CN451)	PF03KK-E37
	19	Screw	BBZ26P040FMC
	20	Screw	Z39-019
	21	Loading Motor Assy	VXX2505
	22	Binder	PEC-107
	23	Clamper Plate	VNE2068
	24	Bridge	VNE2069
	25	Clamper	VNL1738
	26	Screw	IPZ26P060FMC
	27	32P Flexible Cable / 30V (CD-R Pickup ↔ CD-R CORE CN101)	PDD1195
NSP	28	Earth Lead Unit	PDF1200
	29	Tray Holder	PNM1341
	30	Stopper	DNH2076
	31	Spacer	PNM1334

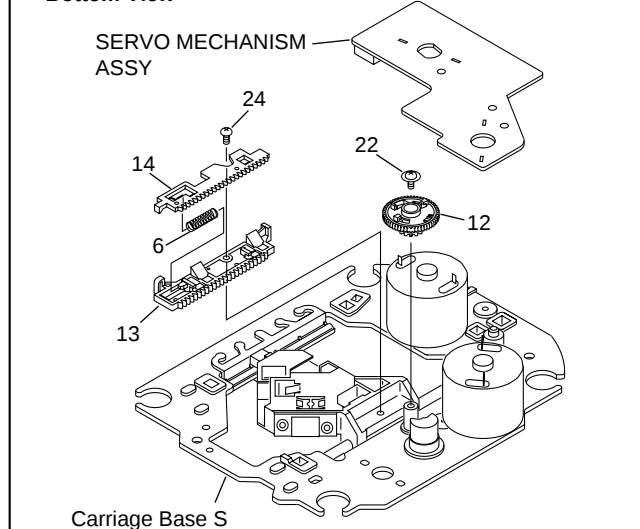
2.5 CD-R CORE ASSY (2/2)



● CD-R CORE ASSY(2/2) PARTS LIST

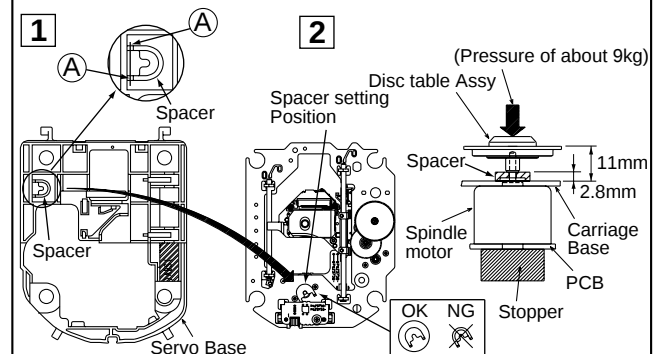
Mark	No.	Description	Part No.
NSP	1	SERVO MECHANISM Assy	PWZ3759
	2	DC Motor Assy (SPINDLE)	PEA1235
NSP	3	DC Motor (CARRIAGE)	PXM1042
	4	Float Rubber A	AEB7063
	5	Float Rubber B	AEB7066
NSP	6	Rack Spring	DBH1285
NSP	7	Reflection Sheet	PNM1325
	8	Servo Base	PNW2853
	9	Pinion Gear	PNW2854
	10	Gear A	PNW2855
	11	Gear B	PNW2856
	12	Gear C	PNW2857
	13	Rack	PNW2858
	14	Rack Stopper	PNW2859
NSP	15	Disc Table	PNW2860
	16	Carriage Base S	PNW2874
	17	Connector Assy (SERVO MECHANISM CN601↔CD-R CORE CN452)	PG09KK-E17
	18	Guide Bar	VLL1488
	19	Sub Guide Bar	VLL1489
NSP	20	Magnet	VYM1024
	21	CD-R Pickup	PEA1351
	22	Screw	Z39-018
	23	Screw	PMZ20P030FMC
	24	Screw	JGZ17P030FMC
	25	Disc Table Assy	PEA1349
	26	Carriage Motor Assy	PEA1350

● Bottom View

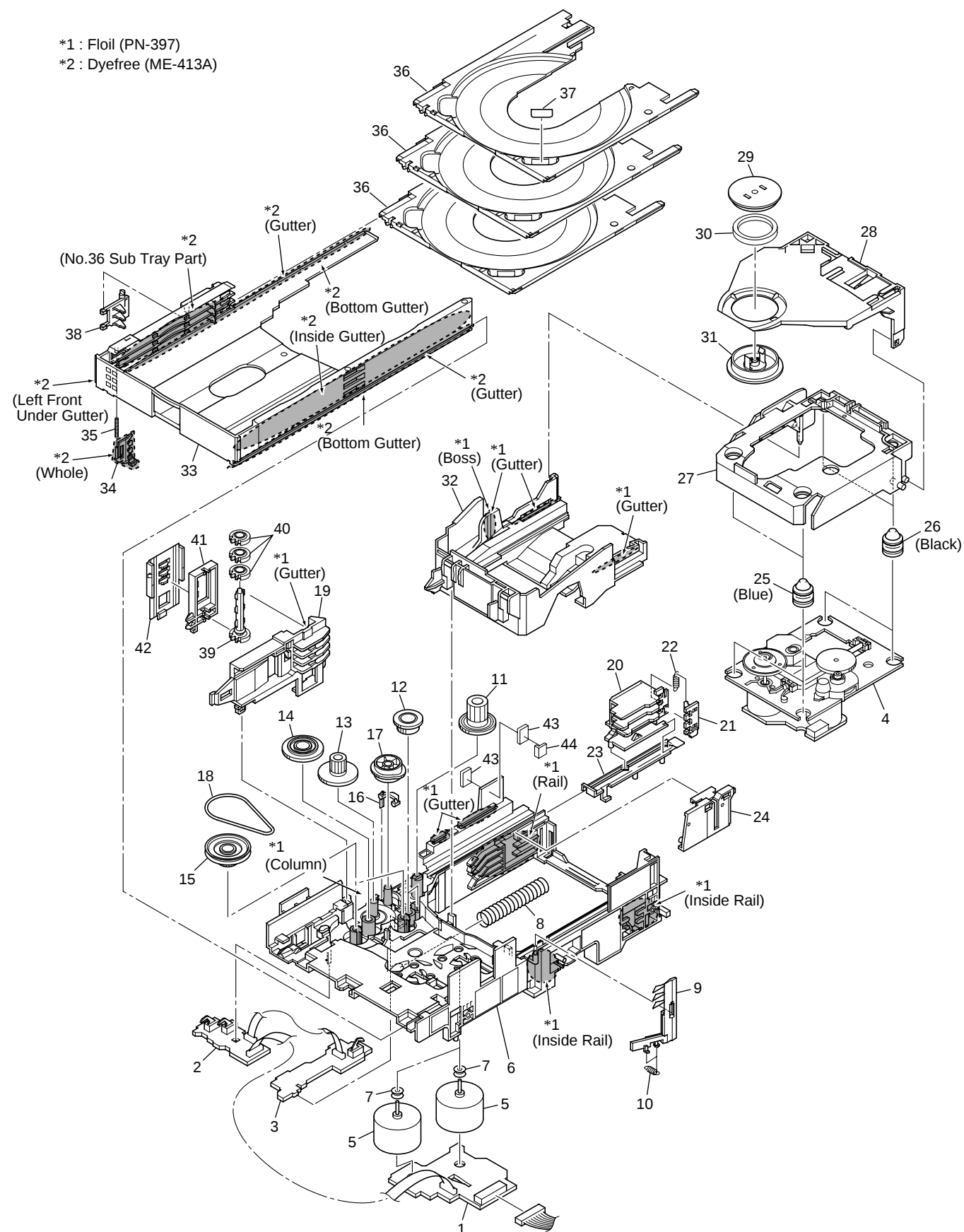


● How to Install the Disc Table

- 1 Use nippers or other tool to cut the two sections marked (A) in figure 1.
- 2 While supporting the spindle motor shaft with the stopper, put spacer on top of the carriage base, and stick the disc table on top (takes about 9kg pressure). Take off the spacer.



2.6 3CD MICROCHANGER MECHANISM

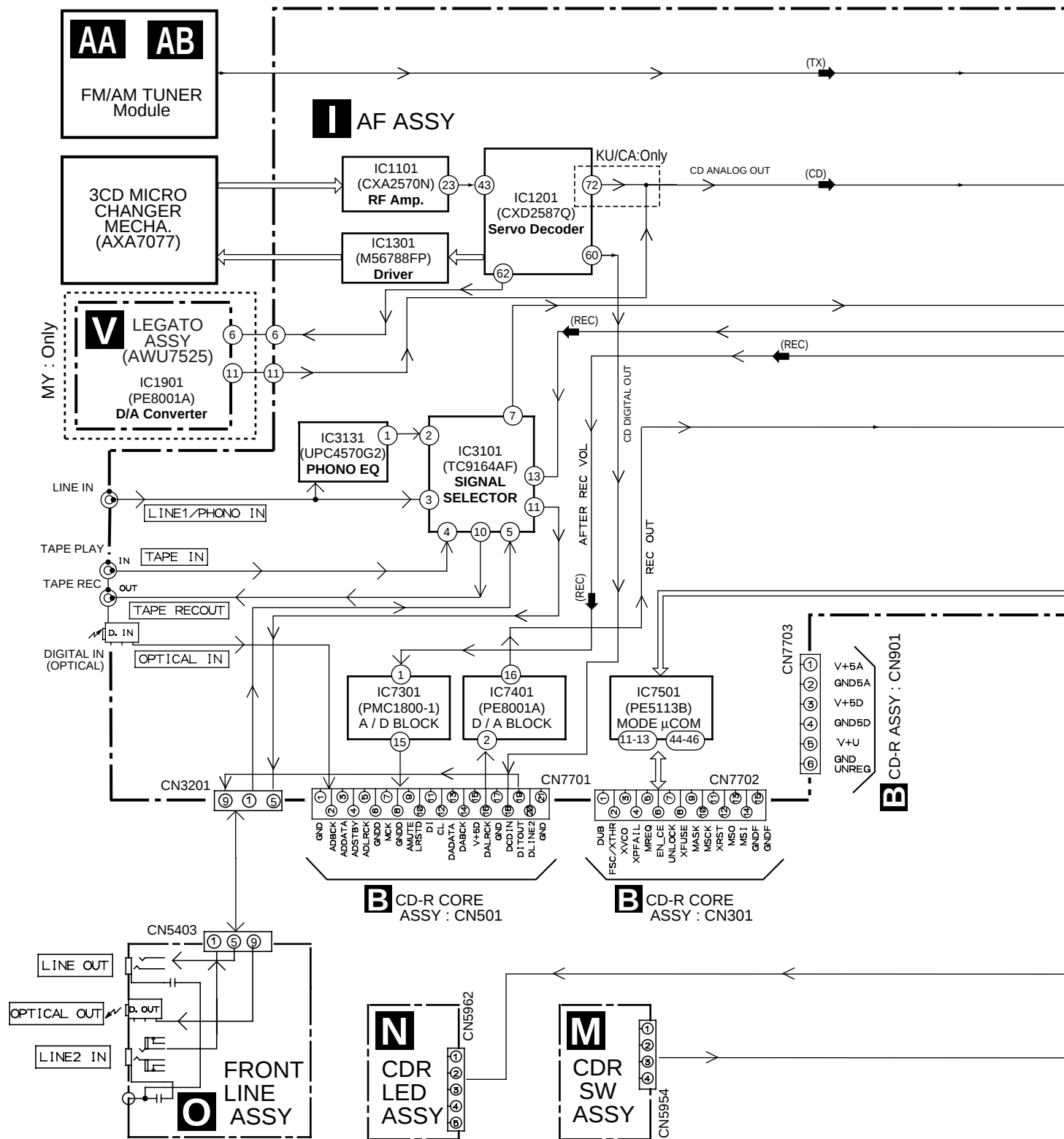


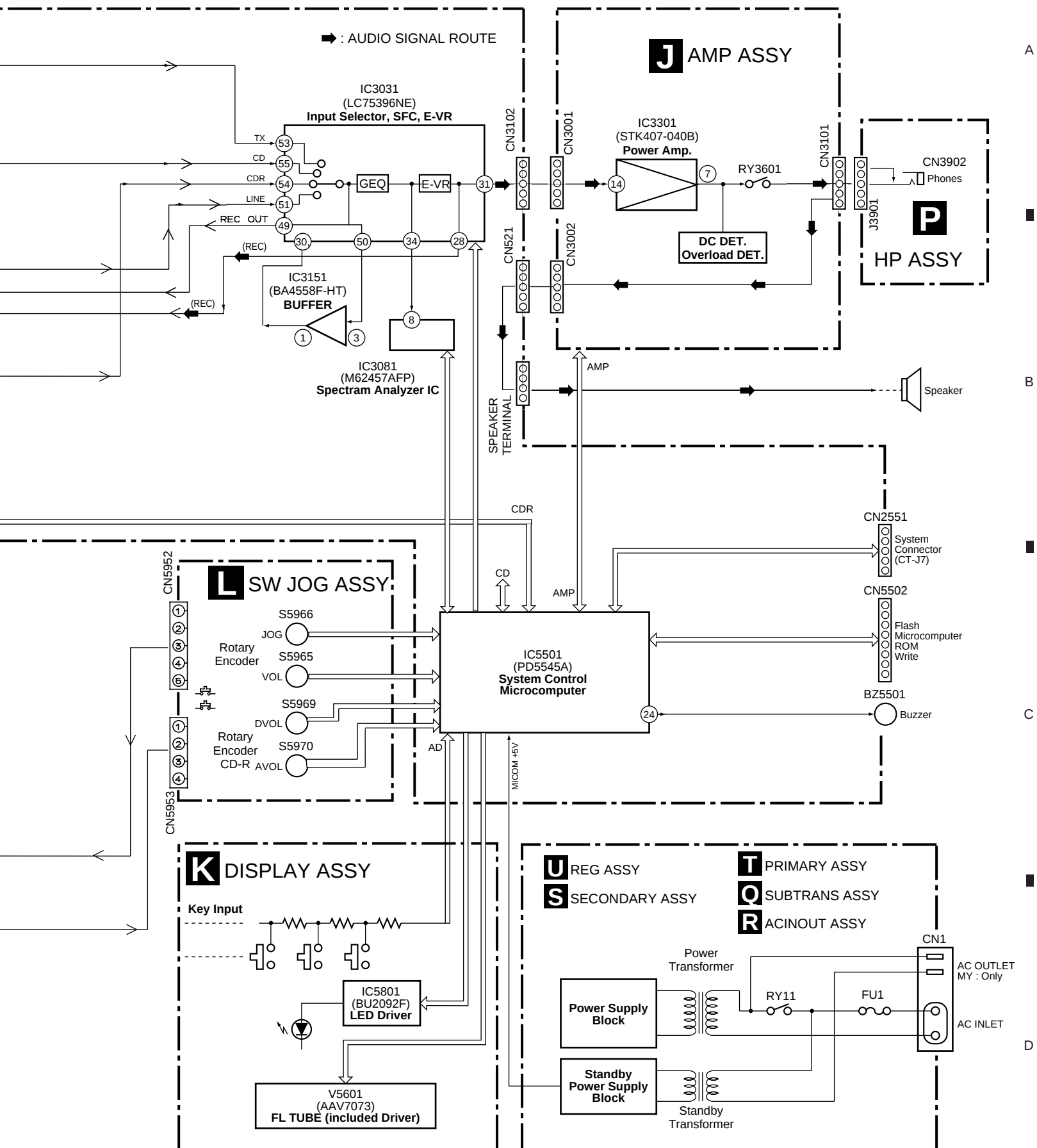
● 3CD MICROCHANGER MECHANISM PARTS LIST

Mark	No.	Description	Part No.
	1	MOTOR UNIT	AWU7431
	2	LOADING UNIT	AWU7432
	3	SELECT UNIT	AWU7433
	4	PICK-UP UNIT	KSM213CCM
	5	Slider Motor	VXM1033
	6	Mecha Base	ANW7129
	7	Motor Pulley	PNW1634
	8	Lift Spring	ABH7173
	9	Home Lever	ANW7153
	10	HL Spring	ABH7182
	11	Extended Gear A	ANW7138
	12	Gear A	ANW7136
	13	Extended Gear B	ANW7139
	14	Gear B	ANW7137
	15	Gear Pully	ANW7135
	16	Select Lever	ANW7143
	17	EV Camgear	ANW7140
	18	Belt	AEB7159
	19	Elevator Base	ANW7132
	20	Tray Guide	ANW7150
	21	TG Stopper	ANW7151
	22	TG Spring	ABH7175
	23	Cam Plate	ANW7147
	24	Lock Lever	ANW7148
	25	Float Rubber A (Blue)	AEB7063
	26	Float Rubber B (Black)	AEB7066
	27	Float Base	ANW7130
	28	Clamper Holder	ANW7152
	29	Yoke	ANG7257
	30	Clamper Magnet	AMF7001
	31	Clamper SO	XNW3007
	32	Swing Base	ANW7131
	33	Main Tray	ANW7133
	34	Lock Plate	ANW7144
	35	Lock Plate Spring	ABH7174
	36	SUB Tray	ANW7134
	37	Tray Label	ARW7070
	38	Stopper Arm	ANW7145
	39	gear Shaft	ANW7142
	40	Loading Gear	ANW7141
	41	Elevator	ANW7146
	42	Elevator Cover	ANW7149
NSP	43	MB Spacer	AEC7259
NSP	44	MB3 Spacer	AEC7263

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM (1/2)





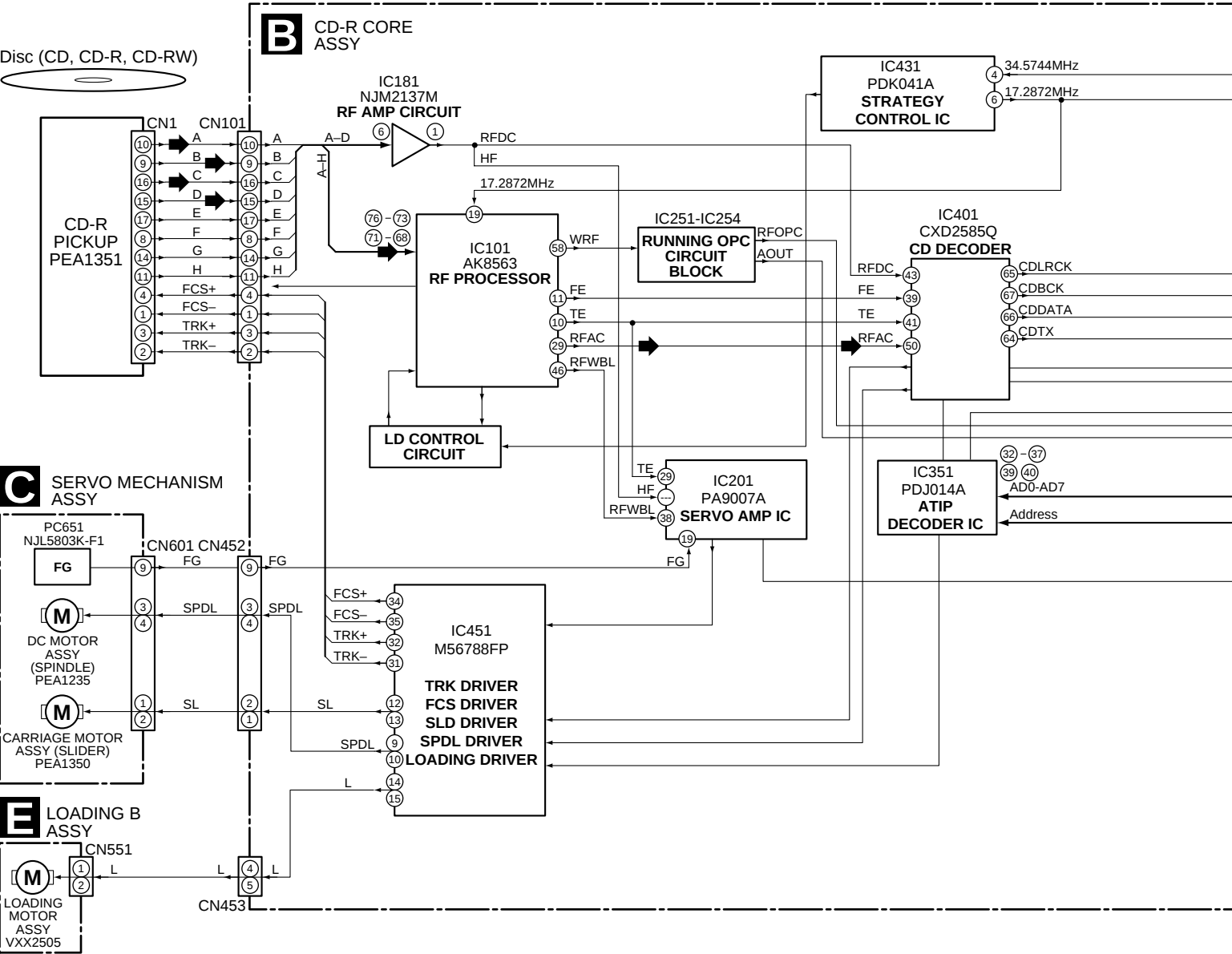
3.2 BLOCK DIAGRAM (2/2 : CD-R)

A

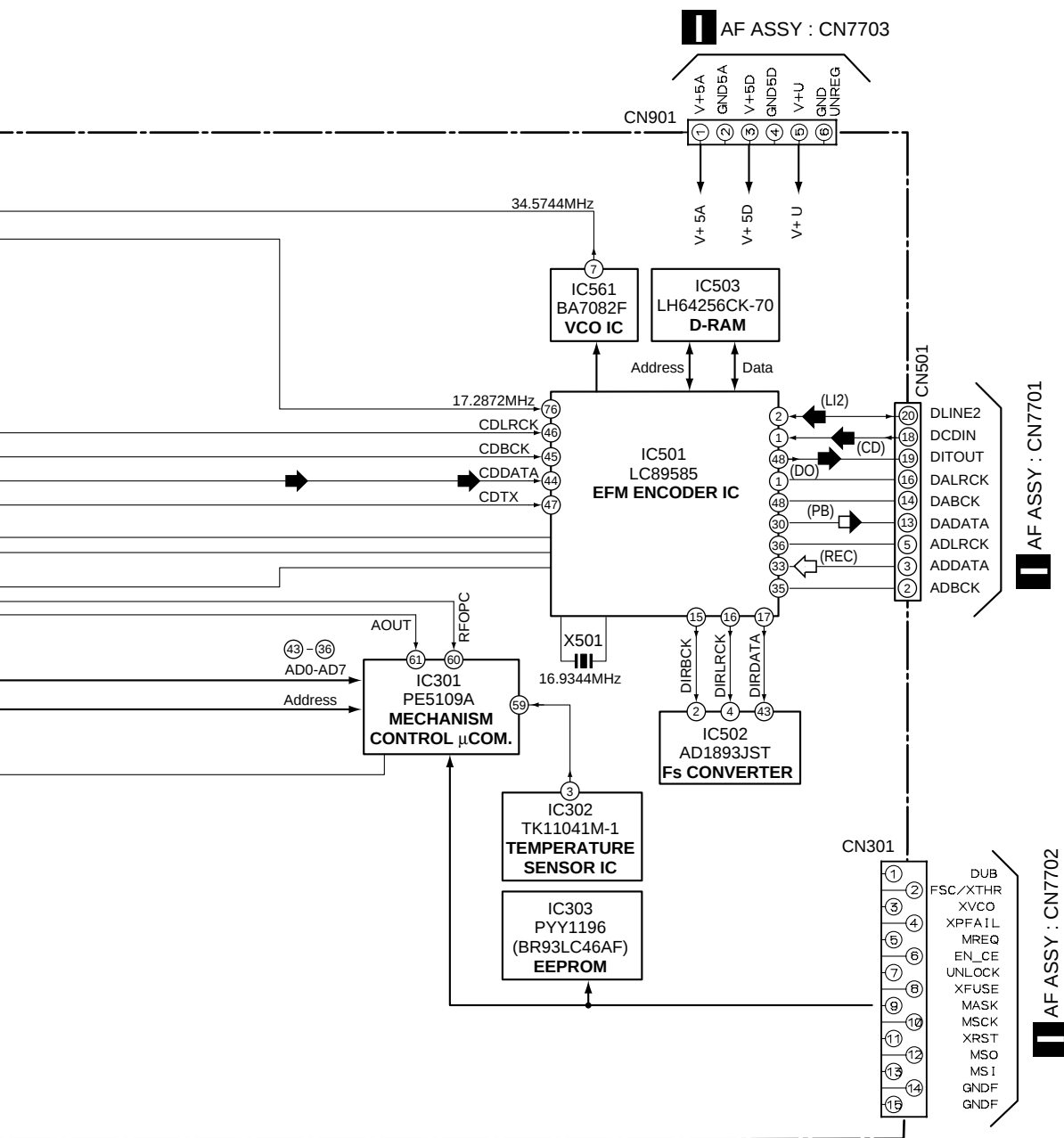
SIGNAL ROUTE

- (REC) : REC SIGNAL (after A/D)
- (PB) : PB OUT (before D/A)
- (CD) : DIGITAL CN INPUT
- (LI2) : DIGITAL LINE 2
- (DO) : DIGITAL OUT
- RF SIGNAL ROUTE

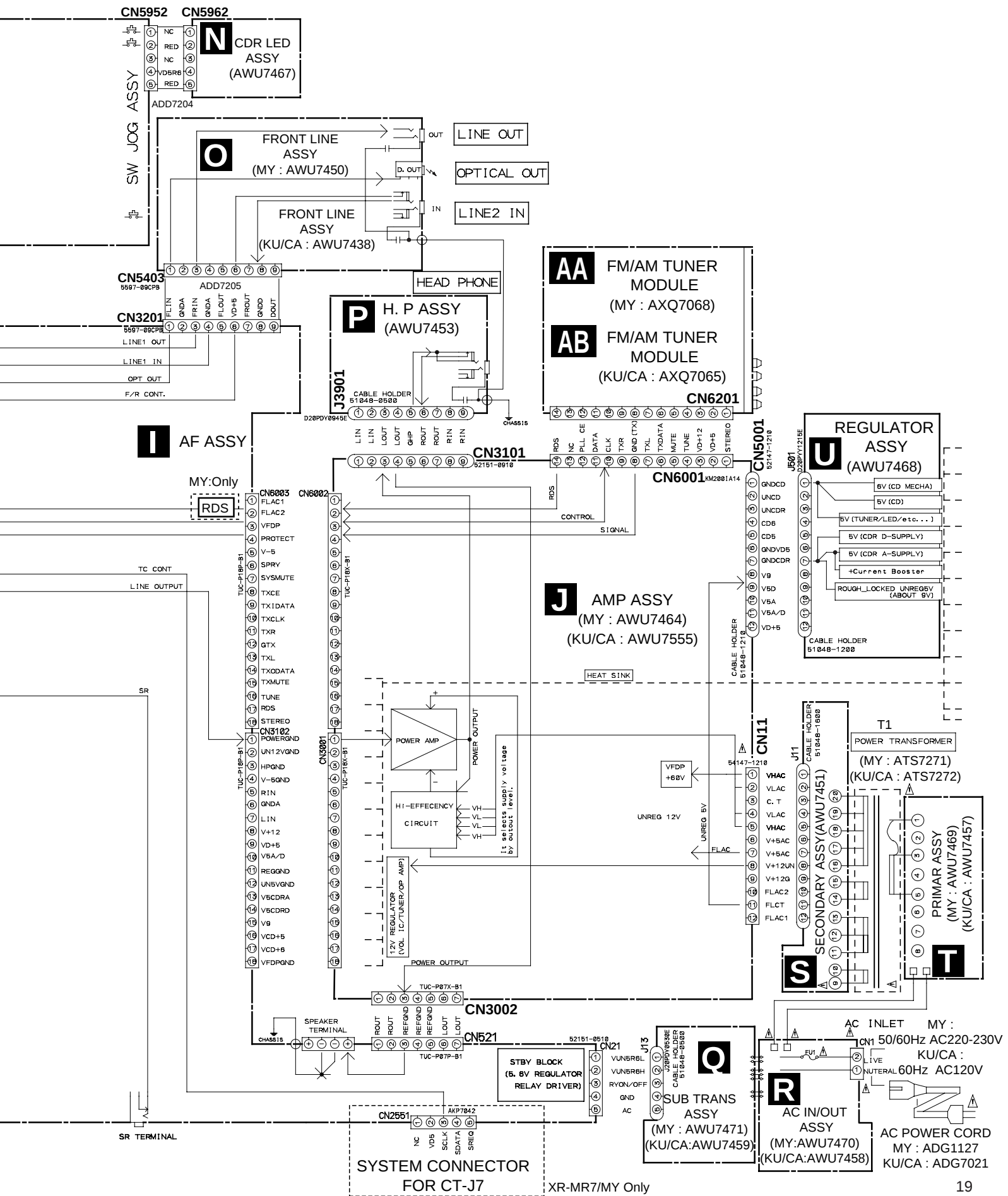
B



D



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



XR-MR7/MY Only

AA FM/AM TUNER MODULE (AXQ7068)

Notes

1. RESISTORS

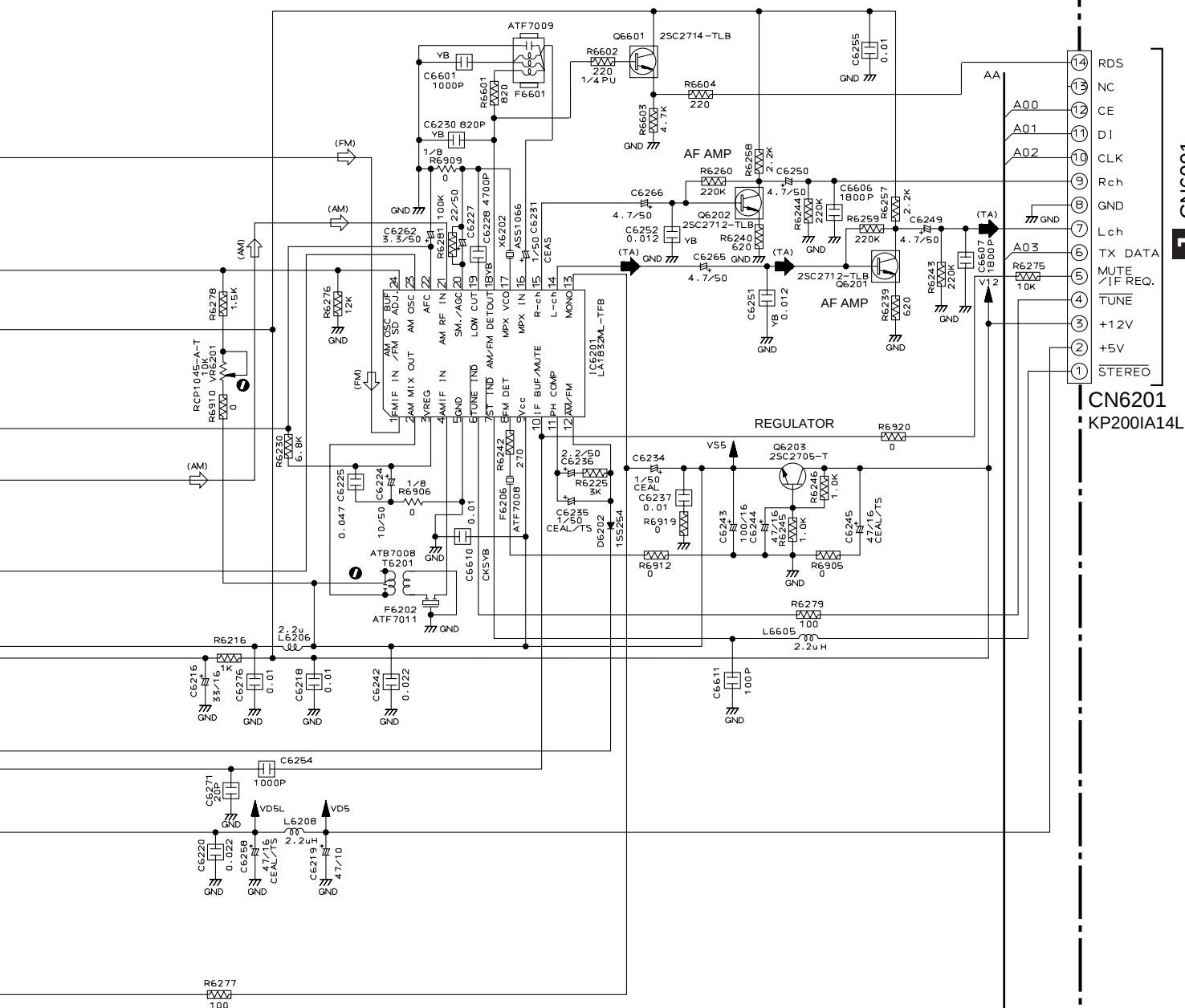
Indicated in Ω , $1/10W \pm 5\%$ Tolerance unless otherwise noted K:K Ω , M:M Ω .

2. CAPACITORS

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

3. DIODES

No mark diode is 1SS254.



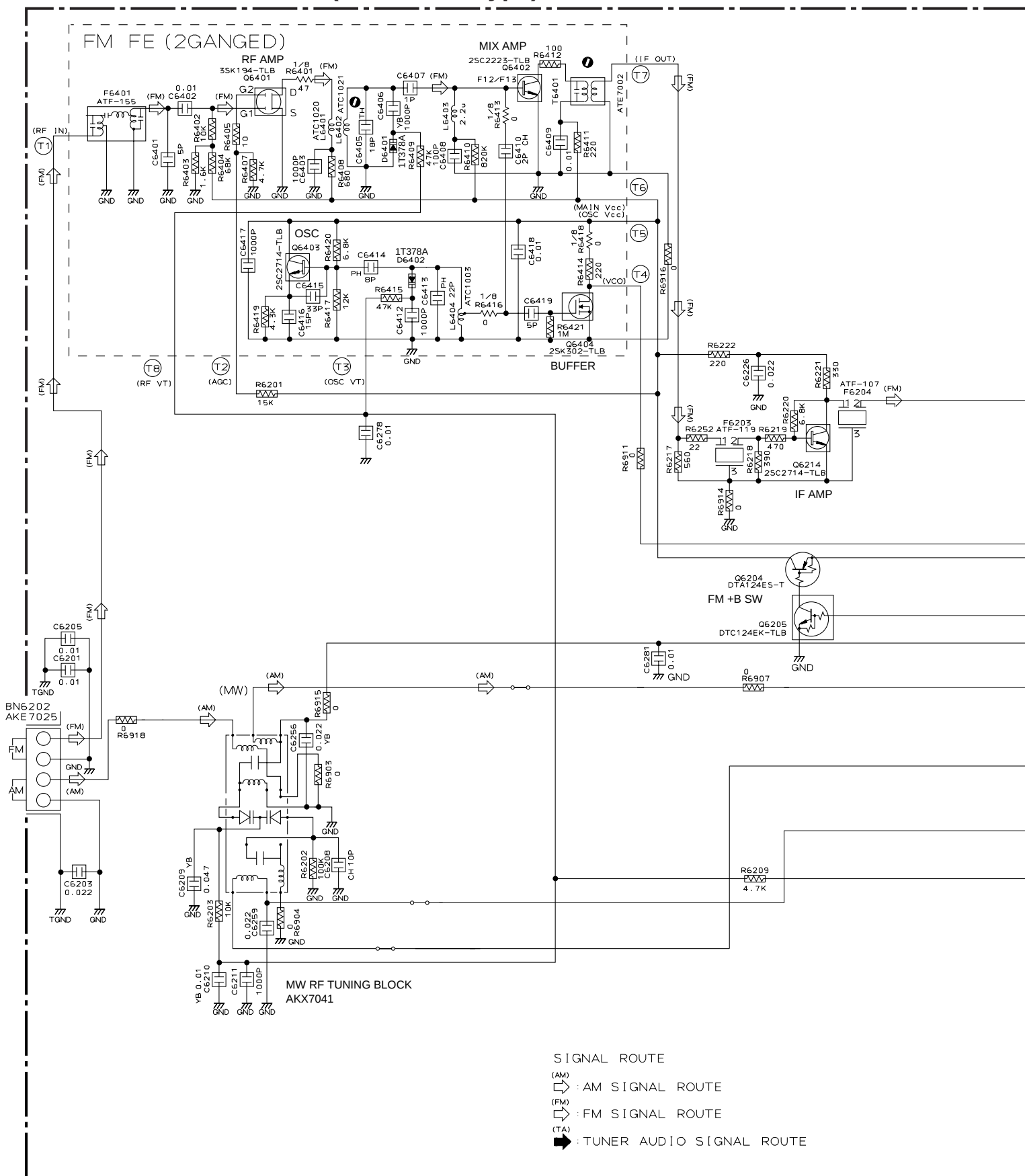
3.5 FM/AM TUNER MODULE (For KU/CA Type)

A

B

C

D



AB FM/AM TUNER MODULE (AXQ7065)

Notes

1. RESISTORS

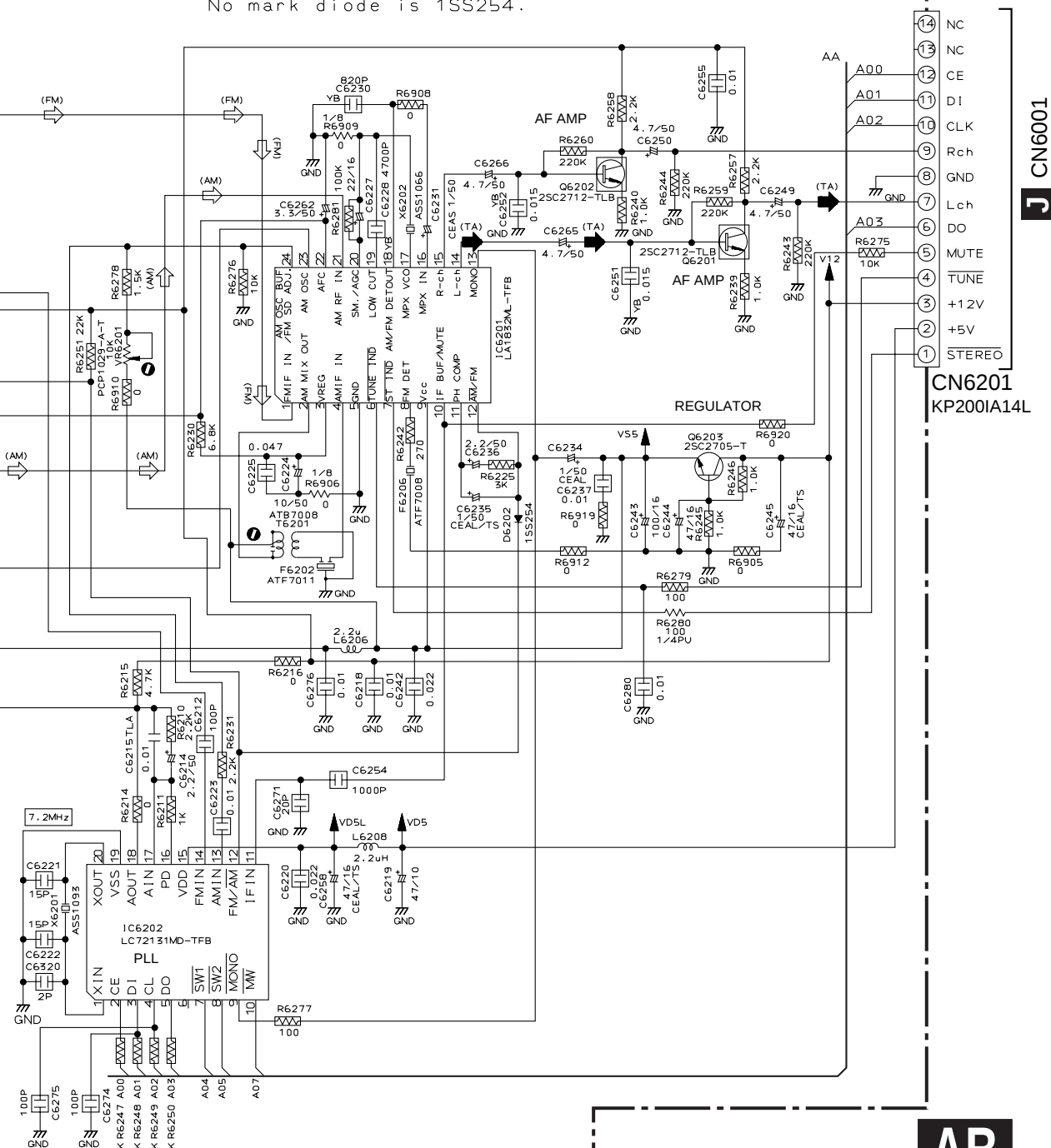
Indicated in Ω , $1/10W \pm 5\%$ Tolerance unless otherwise noted K:K Ω , M:M Ω .

2. CAPACITORS

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

3. DIODES

No mark diode is 1SS254.



3.6 CD-R CORE ASSY (1/5)

B1/5 CD-R CORE ASSY (PYY1273)
• MECHA. CONTROL μ COM BLOCK

B5/5

NOTES

ALL CAPACITORS ARE IN μ F

CH : CCSQCH

YF : CKSQYF

YB : CKSQYB

SL : CCSQSL

$\overline{TS}$: CEAL-TS

ALL RESISTORS ARE IN Ω

RS1/10S***J-T

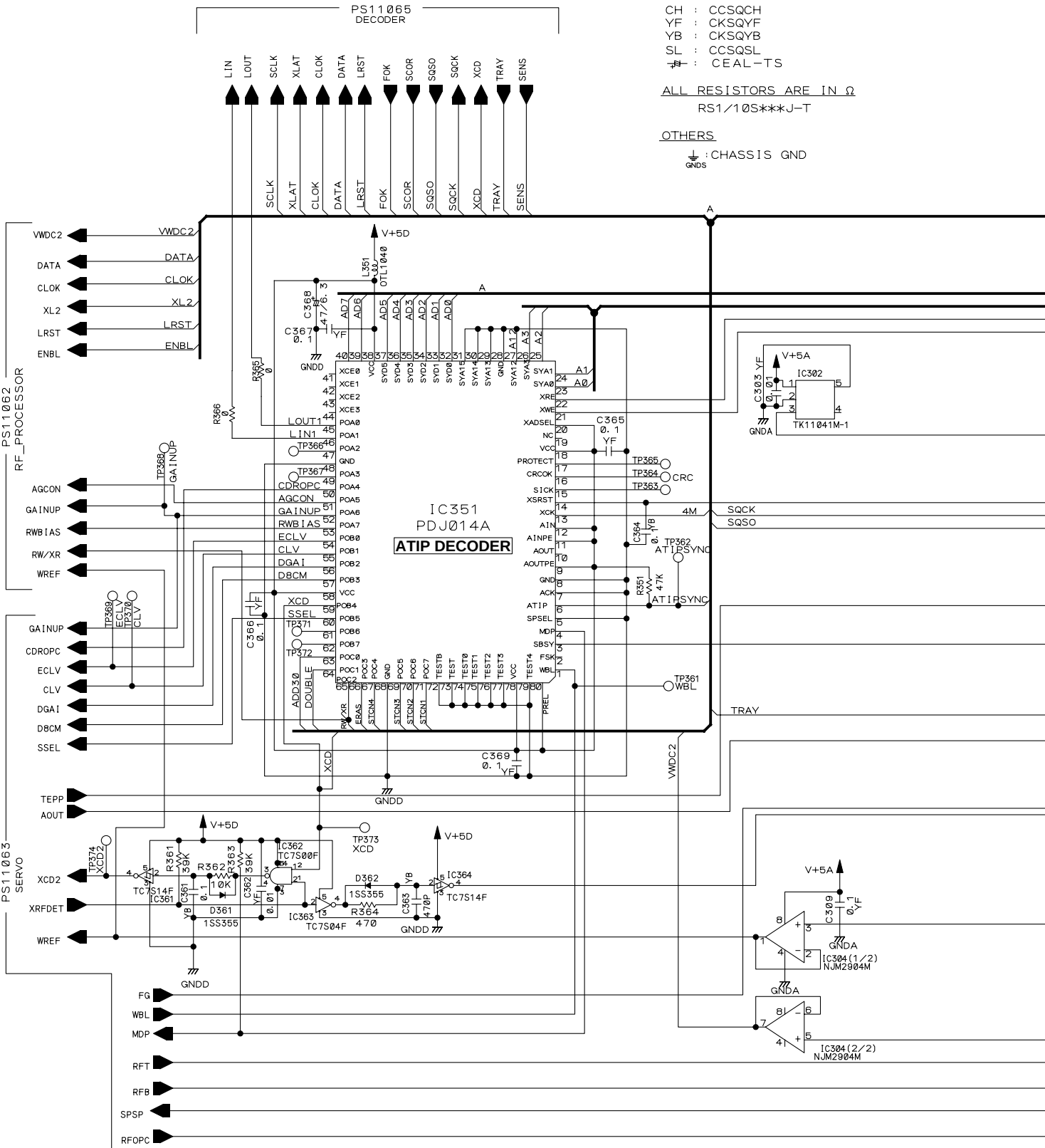
OTHERS

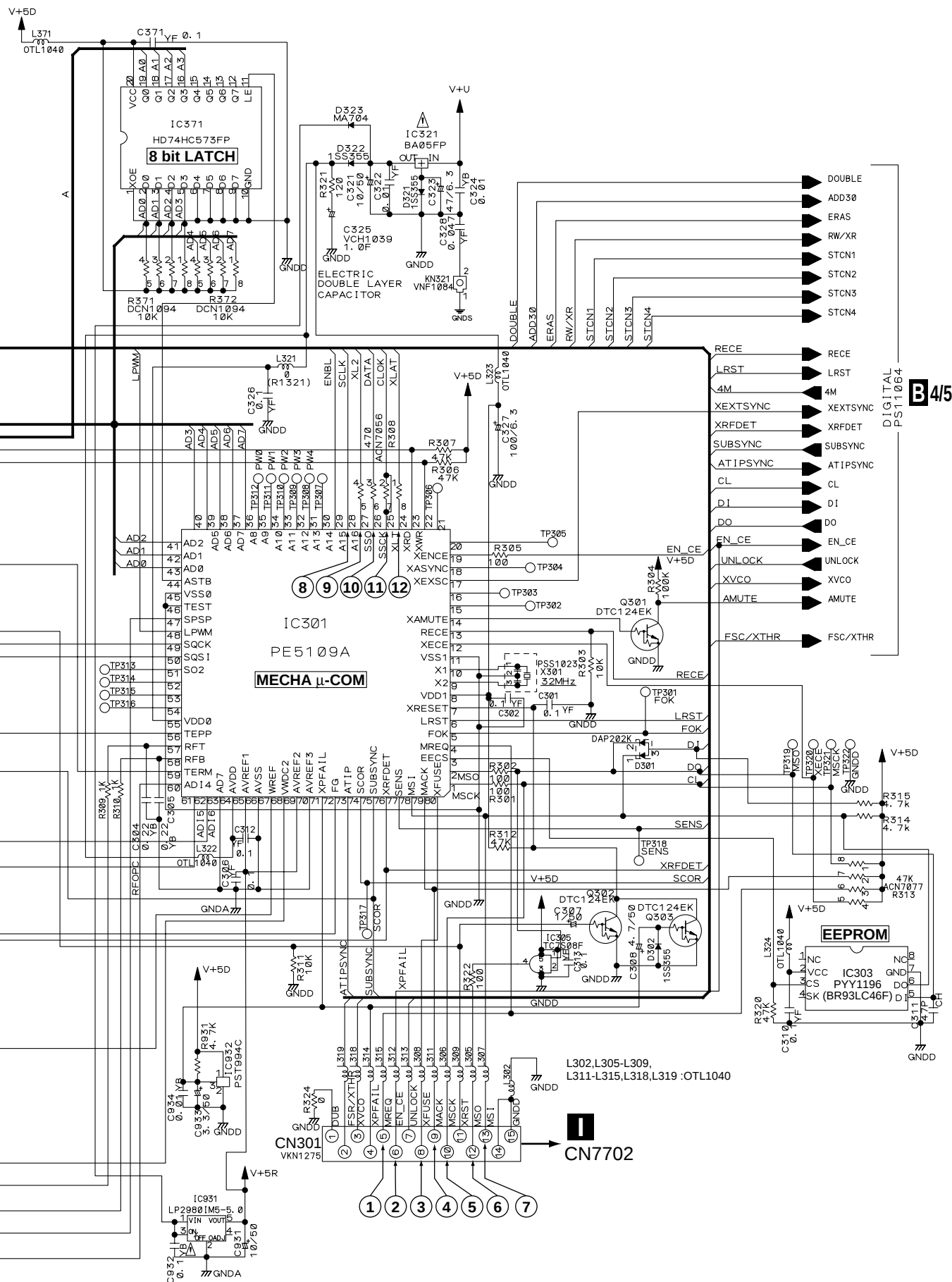
$\downarrow$: CHASSIS GND

B2/5

B3/5

24 **B1/5**





3.7 CD-R CORE ASSY(2/5) and CD-R PICKUP

NOTES

ALL CAPACITORS ARE IN μF

CH : CCSQCH
YF : CKSQYF
YB : CKSQYB
SL : CCSQSL
-T : CEAL-TS

ALL RESISTORS ARE IN Ω

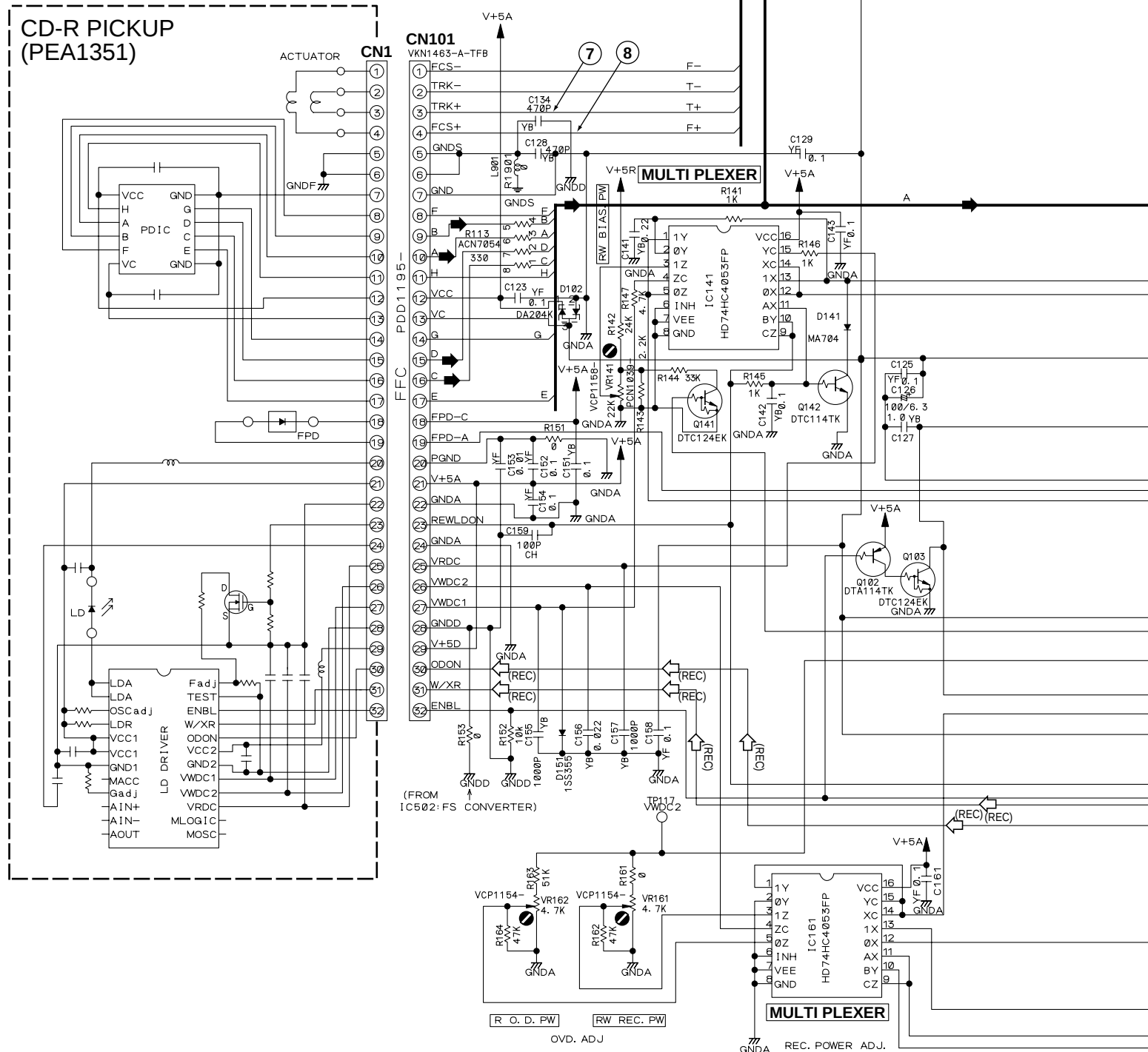
RS1/10S***J-T

OTHERS

$\downarrow$: CHASSIS GND
GND

B2/5 CD-R CORE ASSY (PYY1273)

• RF PROCESSOR BLOCK

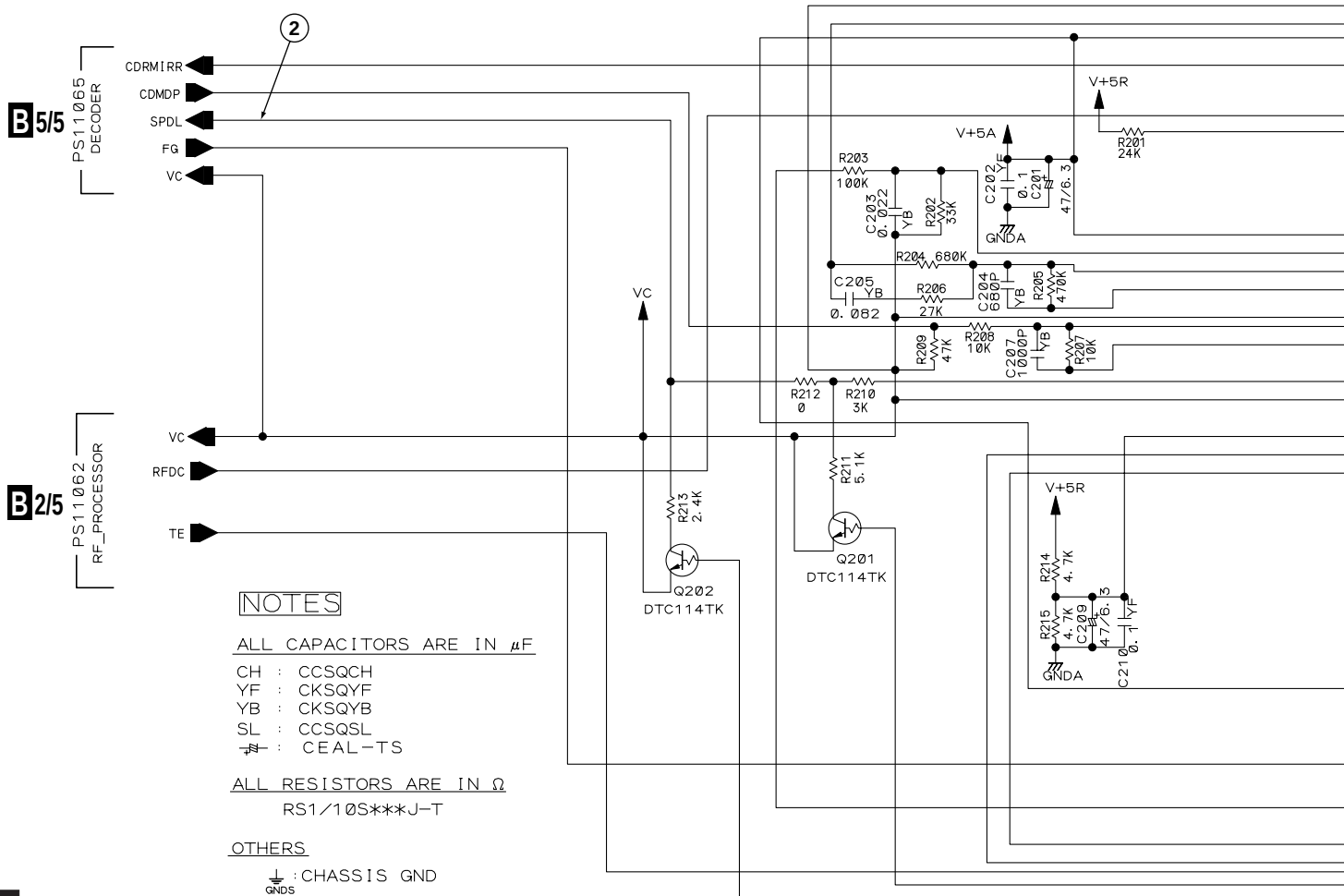
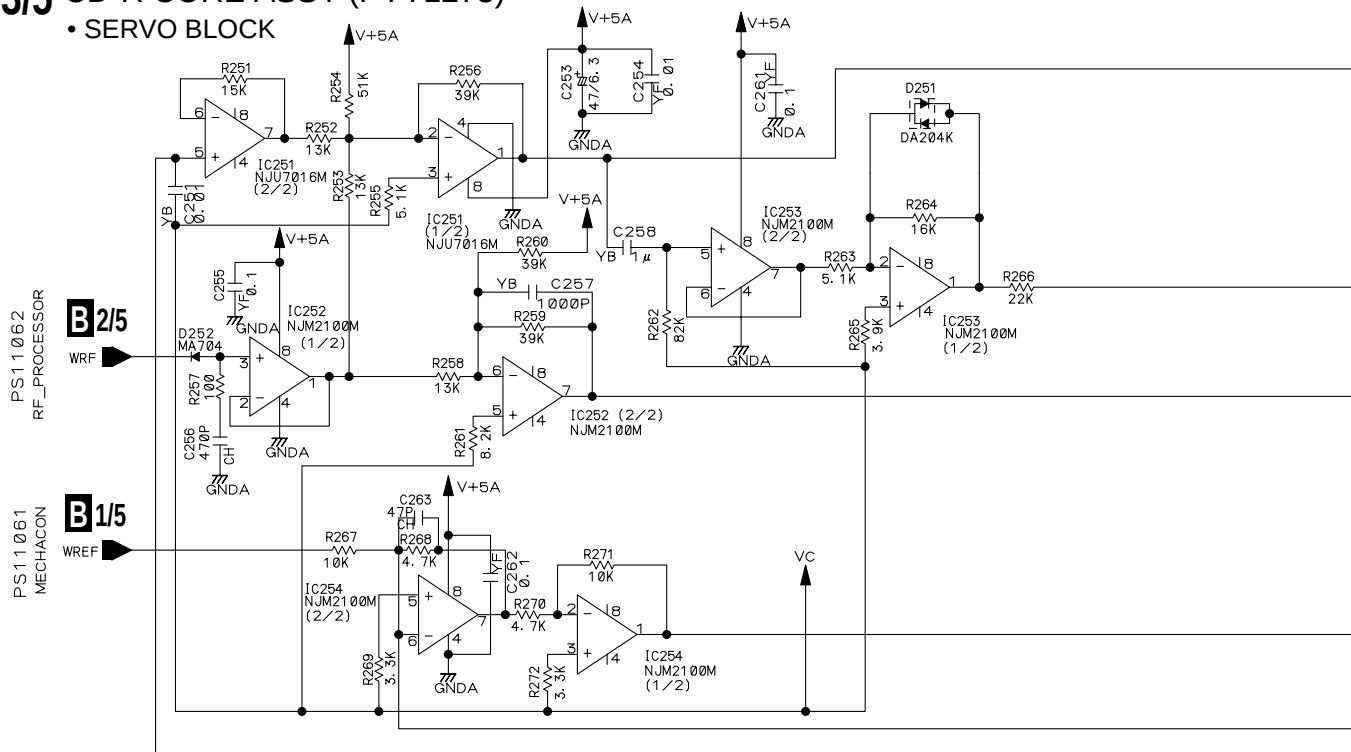


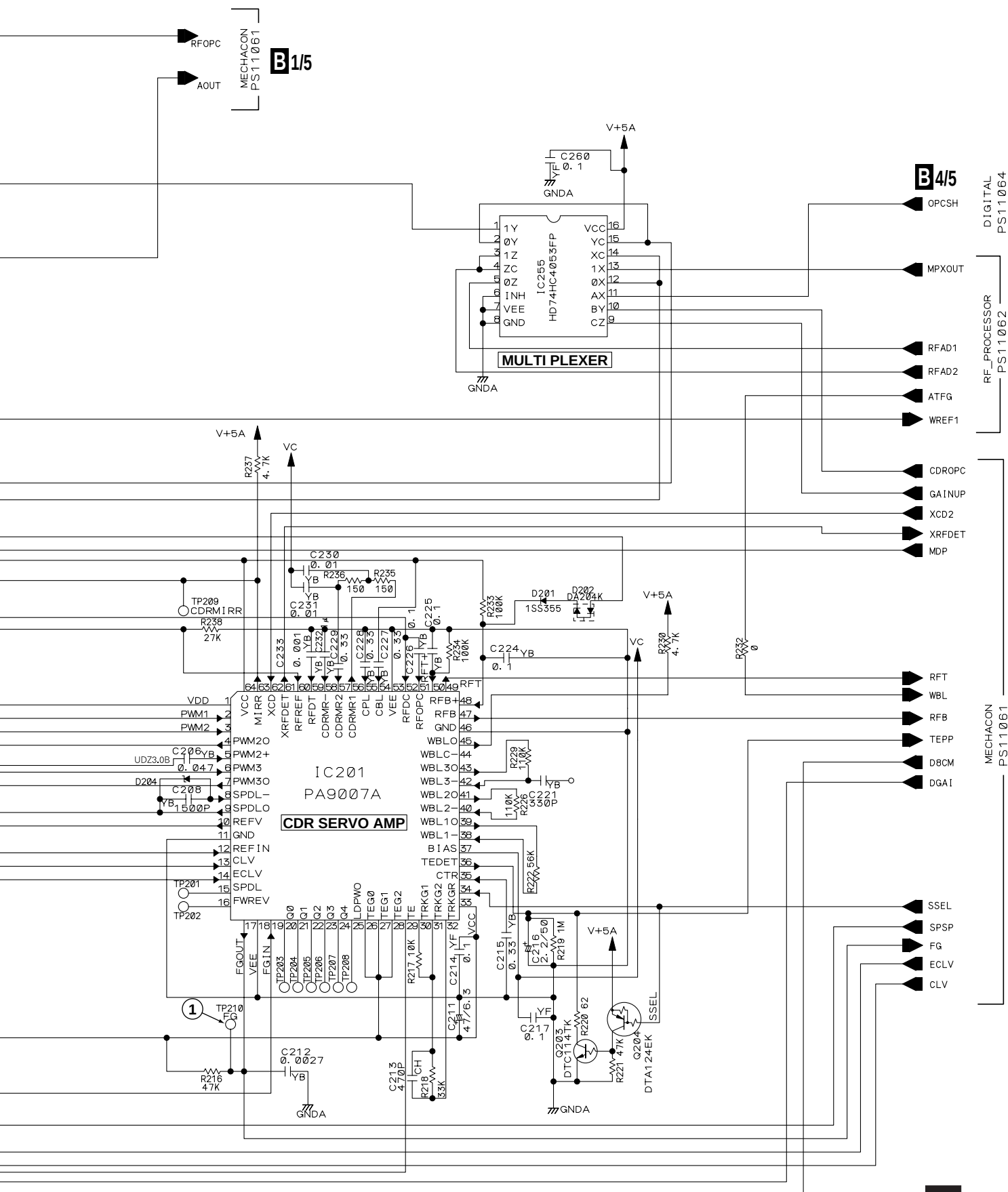


3.8 CD-R CORE ASSY (3/5)

B3/5 CD-R CORE ASSY (PYY1273)

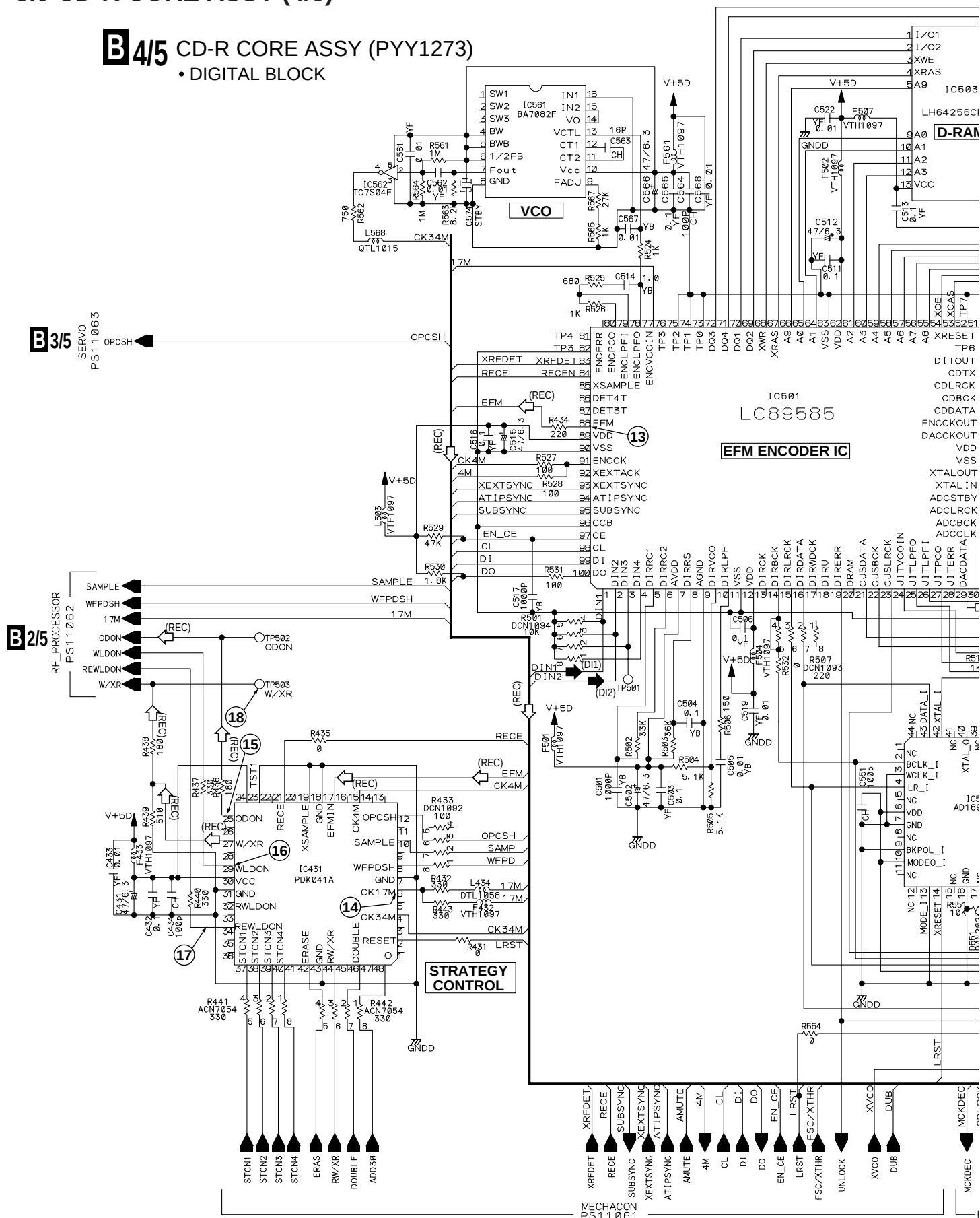
• SERVO BLOCK

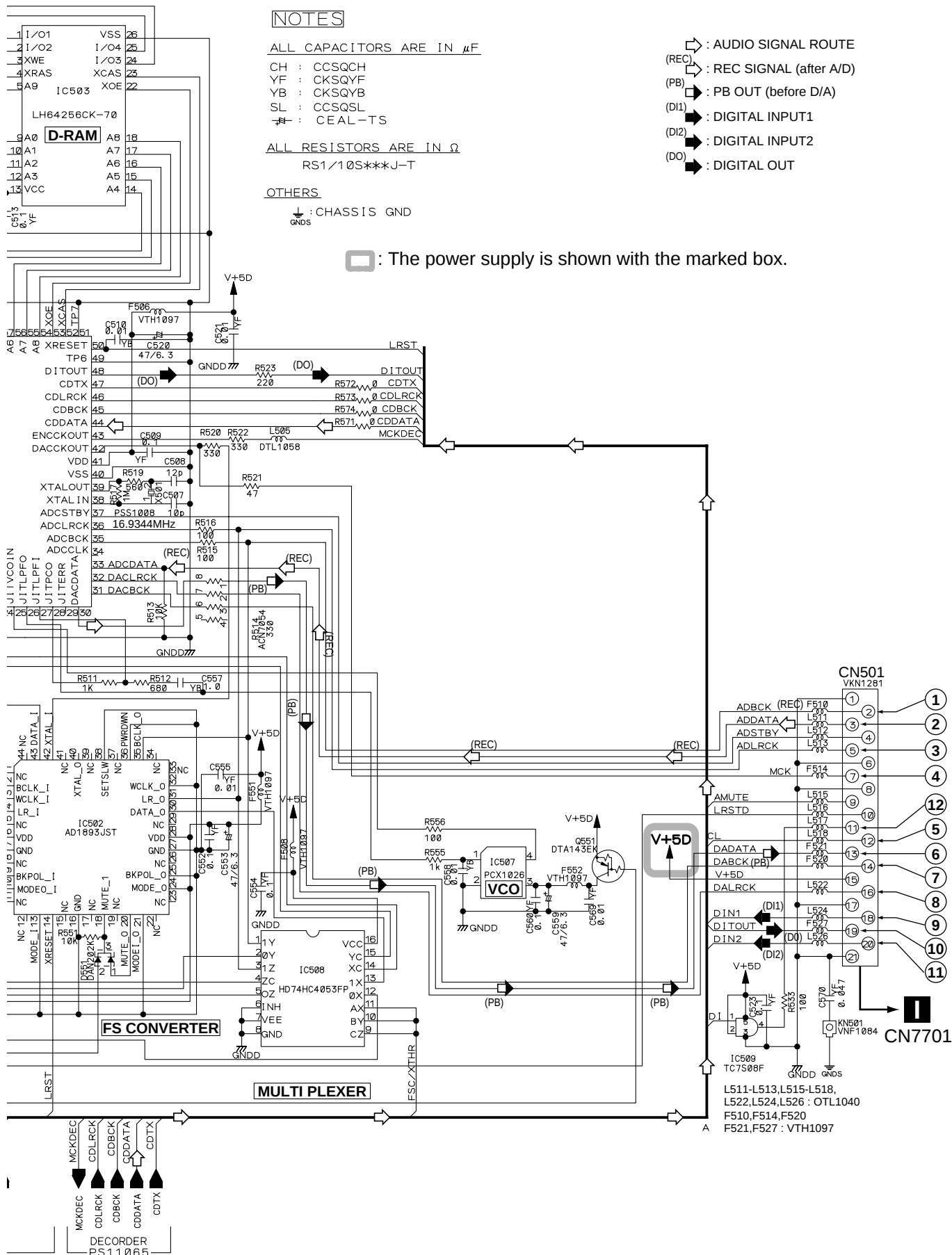




3.9 CD-R CORE ASSY (4/5)

B4/5 CD-R CORE ASSY (PYY1273)
• DIGITAL BLOCK





A

B

C

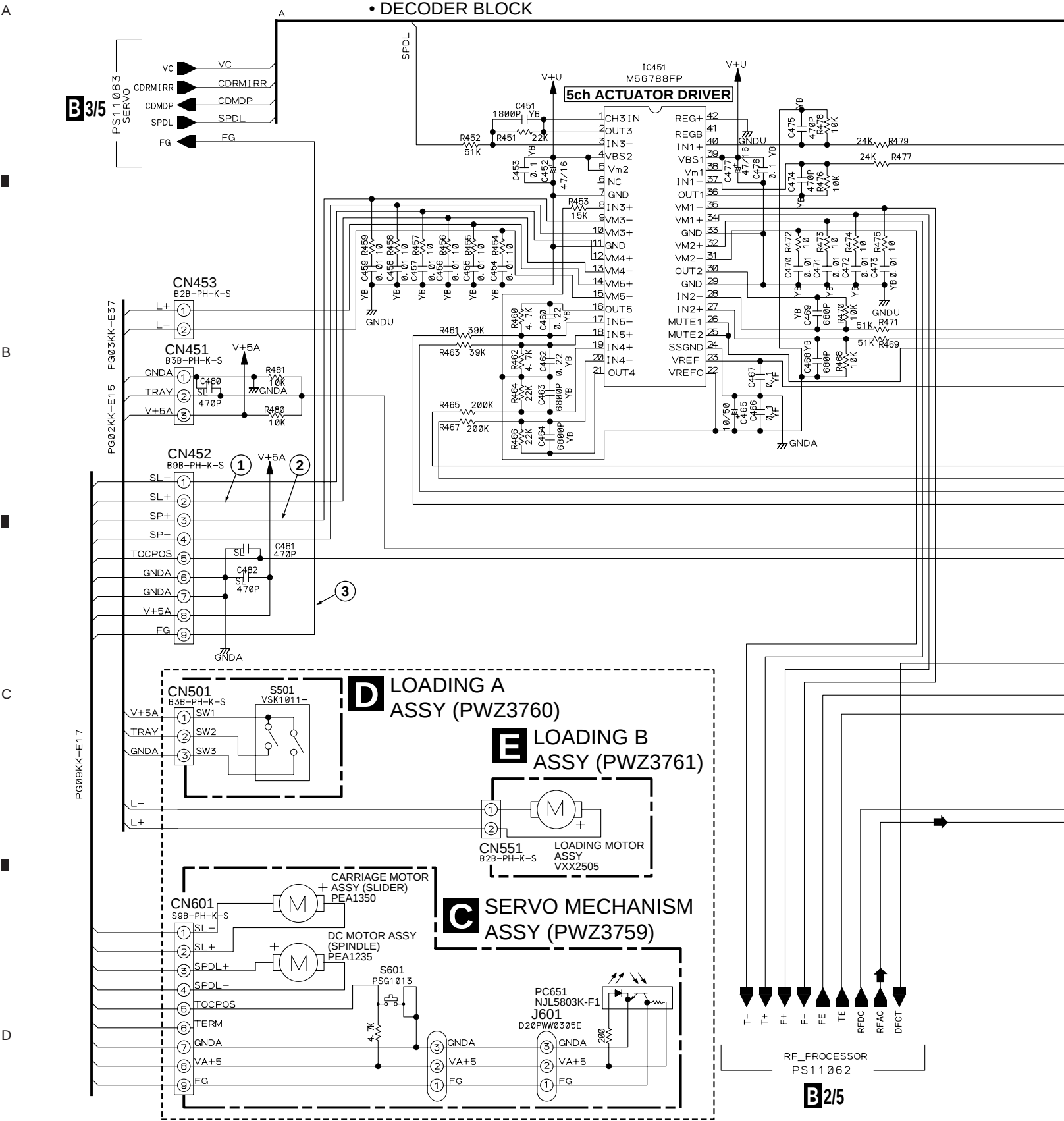
D

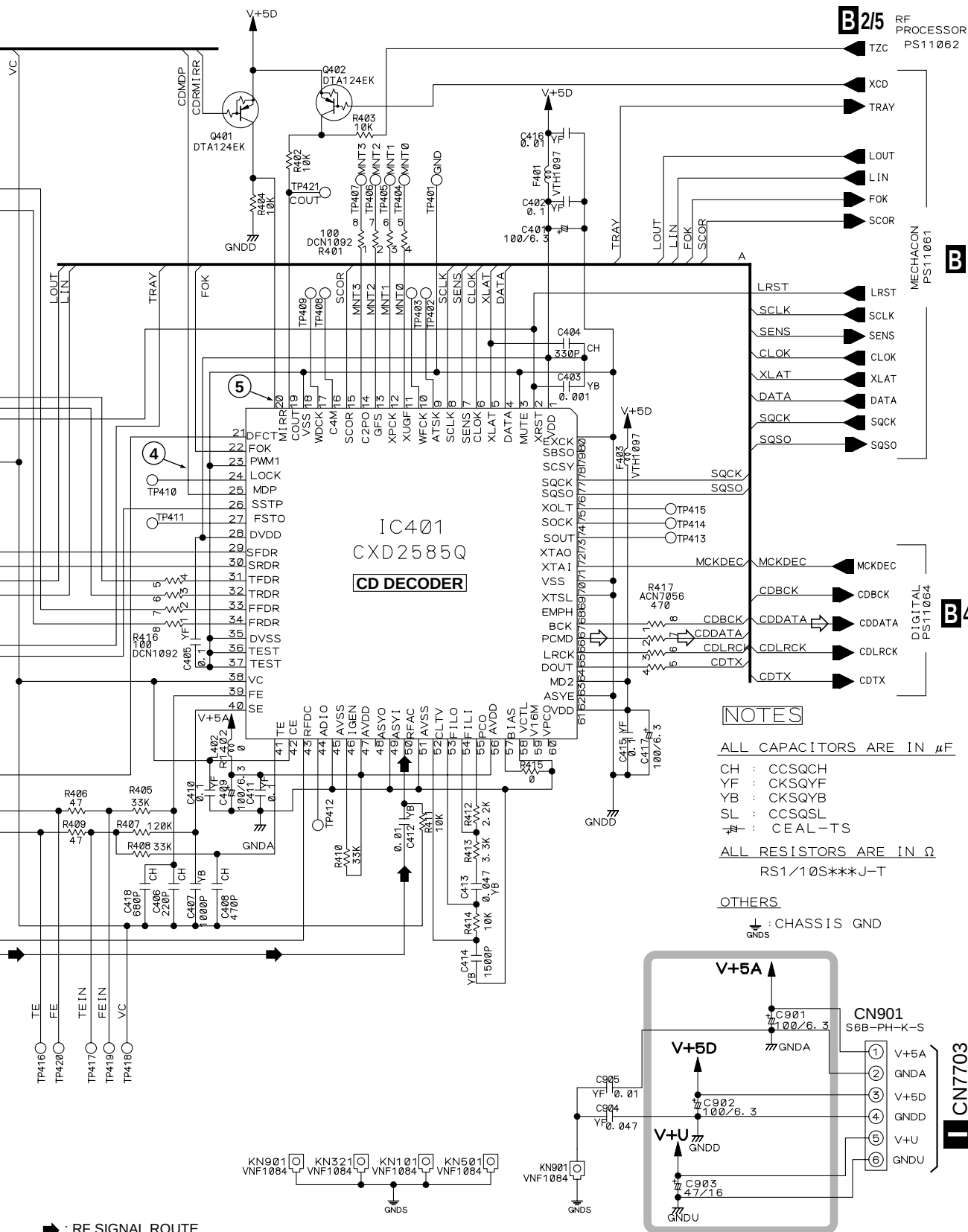
3.10 CD-R CORE ASSY(5/5), SERVO MECHANISM, LOADING A and LOADING

B ASSYS

B 5/5 CD-R CORE ASSY (PYY1273)

• DECODER BLOCK





RF SIGNAL ROUTE

AUDIO SIGNAL ROUTE

The power supply is shown with the marked box.

VOLTAGES and WAVEFORMS

B1/5 CD-R CORE ASSY

Media	Pickup Position	DGAI (IC351-pin56)	D8CM (IC351-pin57)
CD	12cm Inner	0V	0V
	12cm Outer	5V	0V
	8cm Inner	0V	0V
	8cm Outer	5V	0V
CD-R CD-RW	12cm Inner	5V	0V
	12cm Outer	5V	0V
	8cm Inner	0V	5V
	8cm Outer	5V	5V

	at FS = 44 kHz (at FS Converter through)	Others
FSR/XTHR (CN301-pin 2)	0V	5V
	at DIGITAL LOCK	at DIGITAL UNLOCK
XVCO (CN301-pin3)	0V	5V
UNLOCK (CN301-pin7)	0V	5V
XPFAIL (CN301-pin4)	5V	—
XRST (CN301-pin11)	5V	—

B3/5 CD-R CORE ASSY

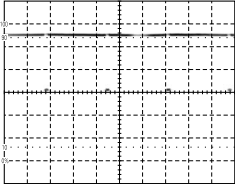
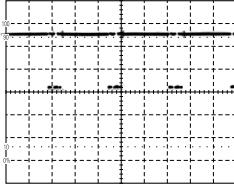
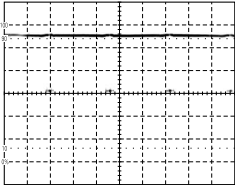
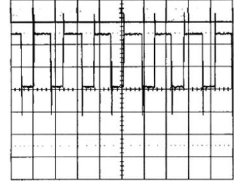
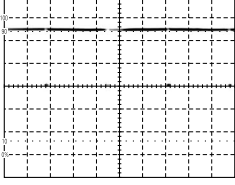
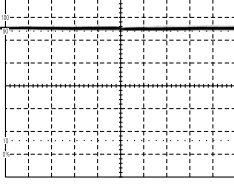
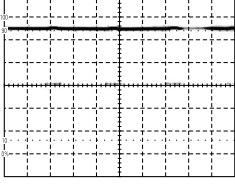
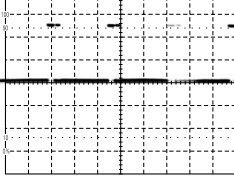
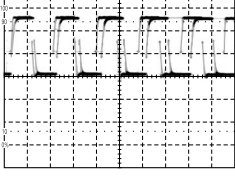
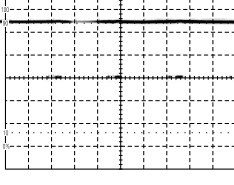
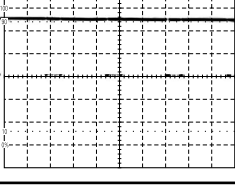
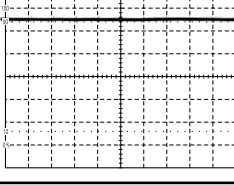
Operating Mode	CLV (IC201-pin13)	ECLV (IC201-pin14)
STOP	0V	0V
CAV	0V	5V
CLV	5V	0V
ECLV	5V	5V

B4/5 CD-R CORE ASSY

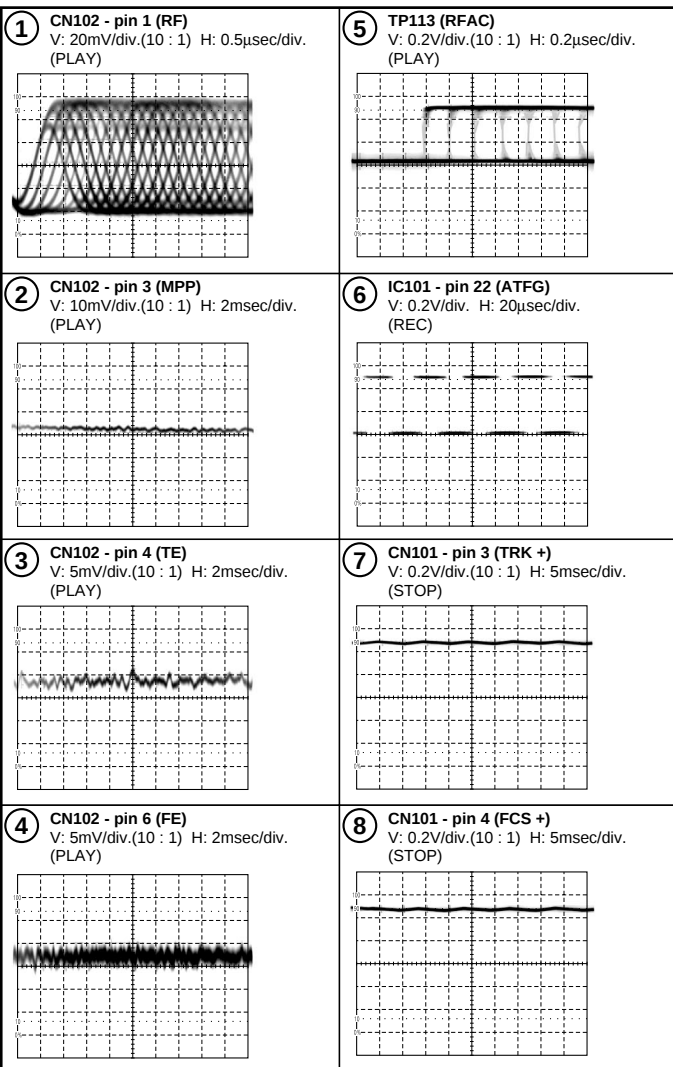
	A/D Converter used	
	at Analog REC Pause or REC	Others
ADSTBY (CN501-pin4)	0V	5V
	at MUTE ON (Audio Signal Not Output)	at MUTE OFF (Audio Signal Output)
AMUTE (CN501-pin9)	5V	0V
LRSTD (CN501-pin10)	5V	—

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

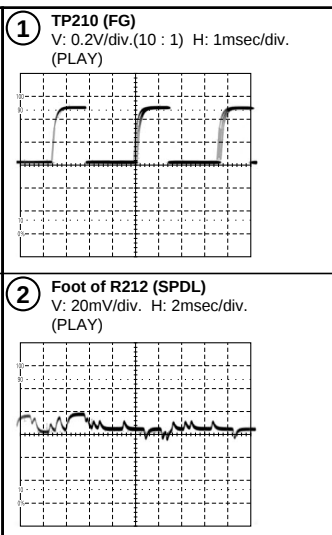
B1/5 CD-R CORE ASSY

① CN301 - pin 5 (MREQ) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 	⑦ CN301 - pin 13 (MSI) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 
② CN301 - pin 6 (EN_CE) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 	⑧ IC301 - pin 28 (SCLK) V: 2V/div. H: 2μsec/div. (Disk Loading) 
③ CN301 - pin 8 (XFUSE) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 	⑨ IC301 - pin 27 (XL2) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 
④ CN301 - pin 9 (MACK) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 	⑩ IC301 - pin 26 (DATA) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 
⑤ CN301 - pin 10 (MSCK) V: 0.2V/div.(10 : 1) H: 0.5μsec/div. (PLAY) 	⑪ IC301 - pin 25 (CLOCK) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 
⑥ CN301 - pin 12 (MSO) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 	⑫ IC301 - pin 24 (XLAT) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 

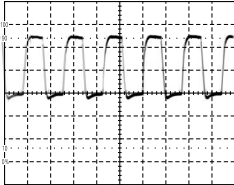
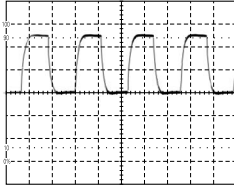
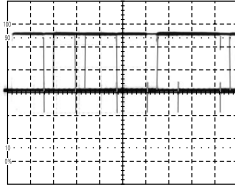
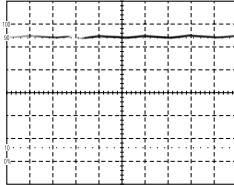
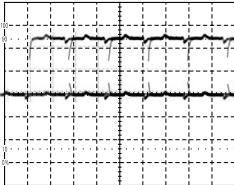
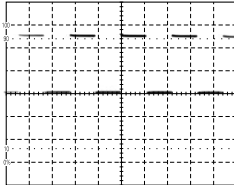
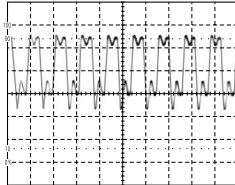
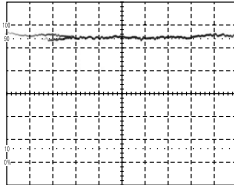
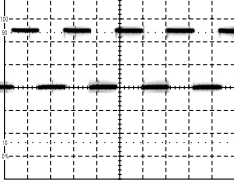
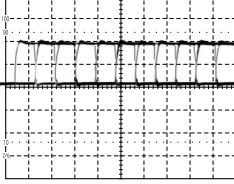
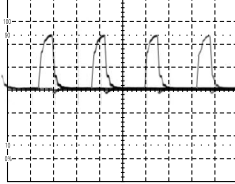
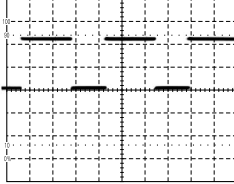
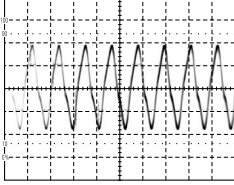
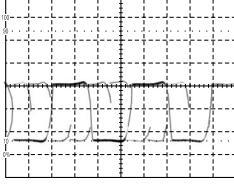
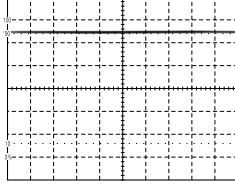
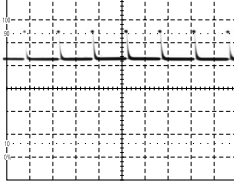
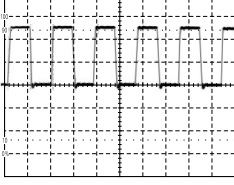
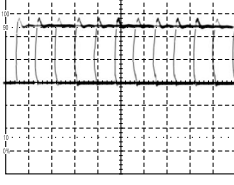
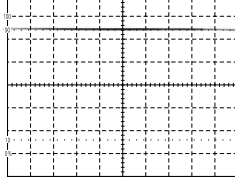
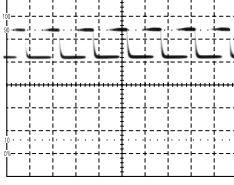
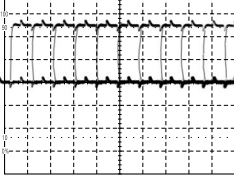
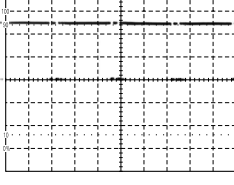
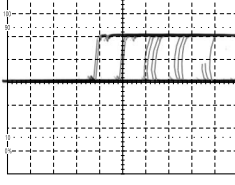
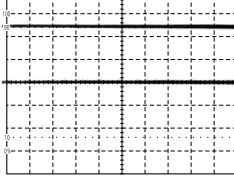
B2/5 CD-R CORE ASSY



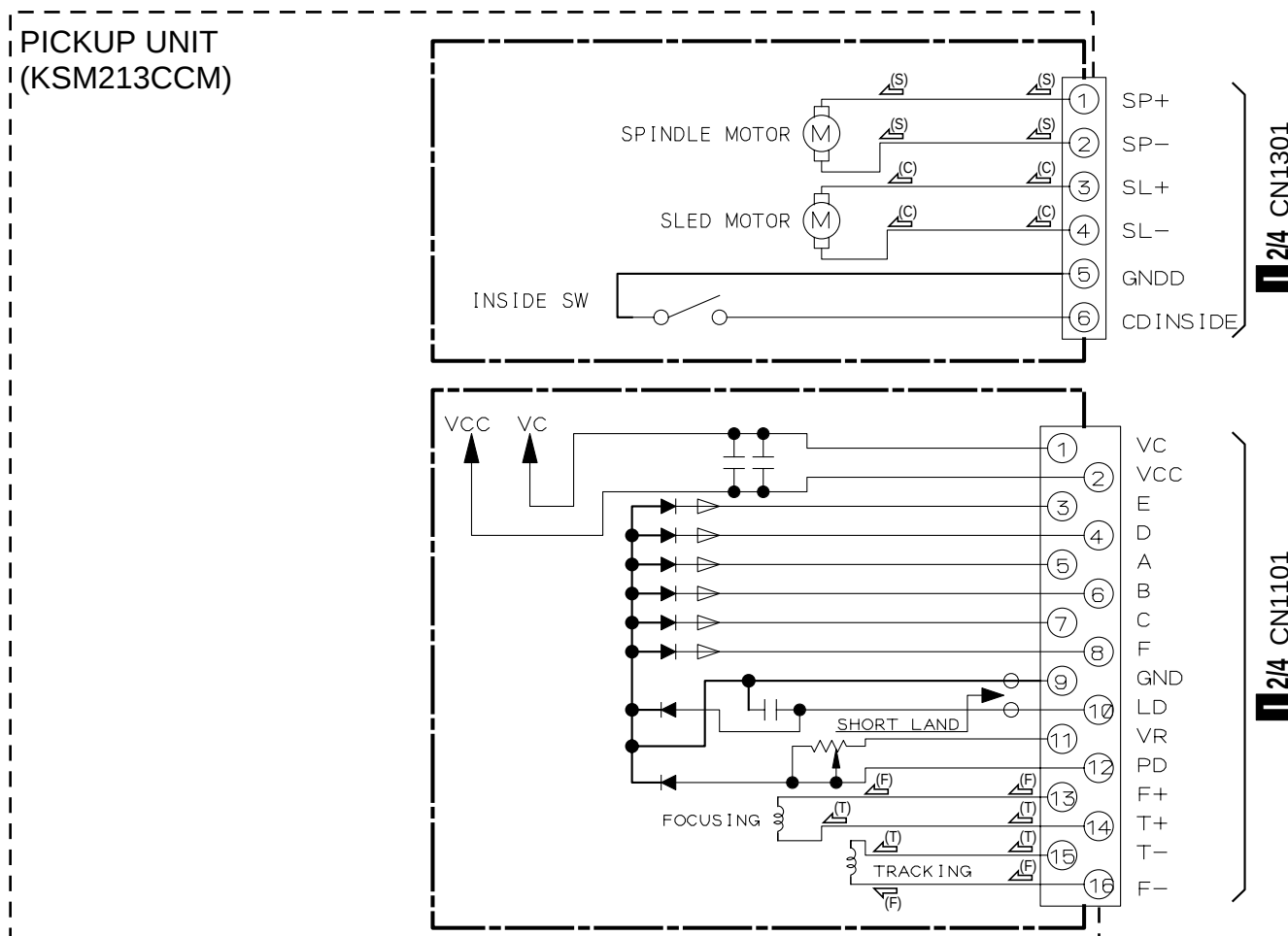
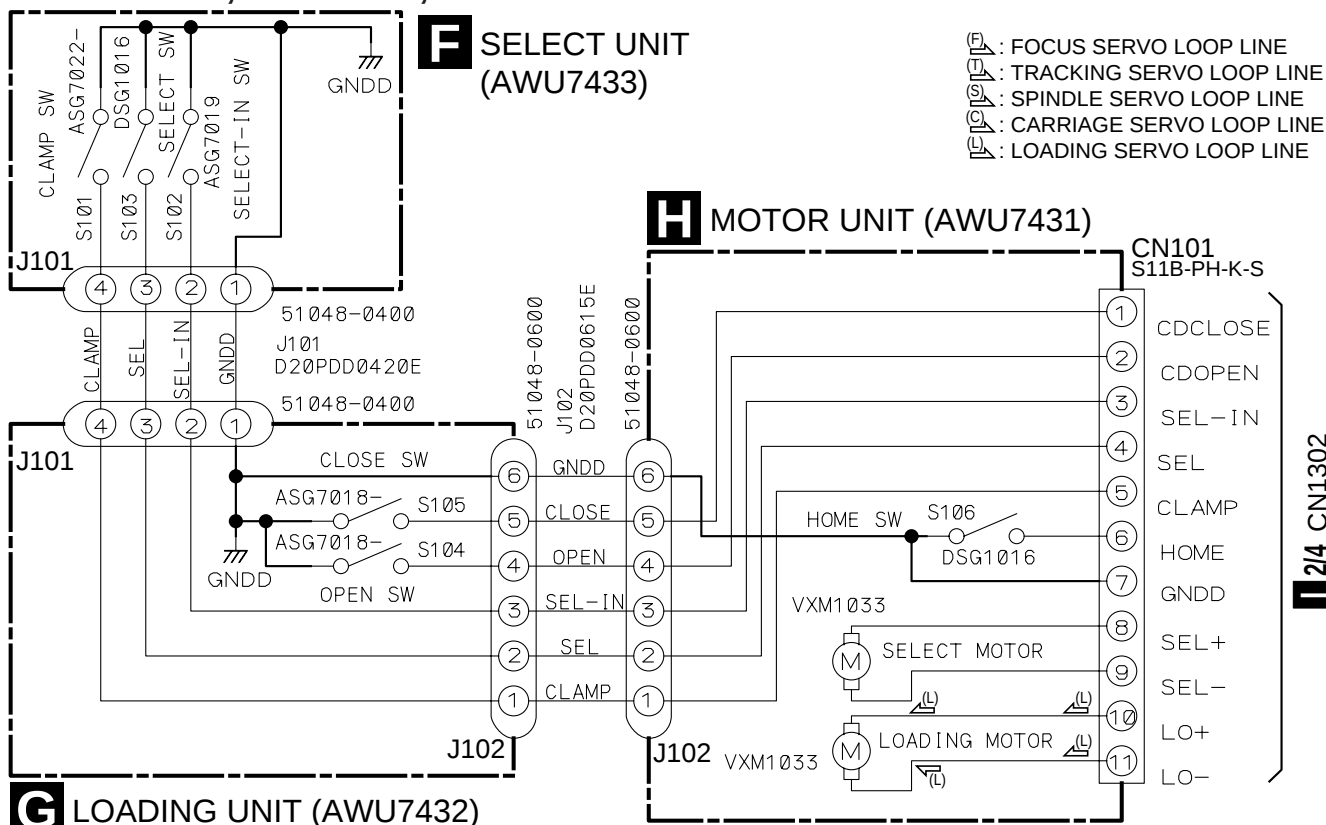
B3/5 CD-R CORE ASSY



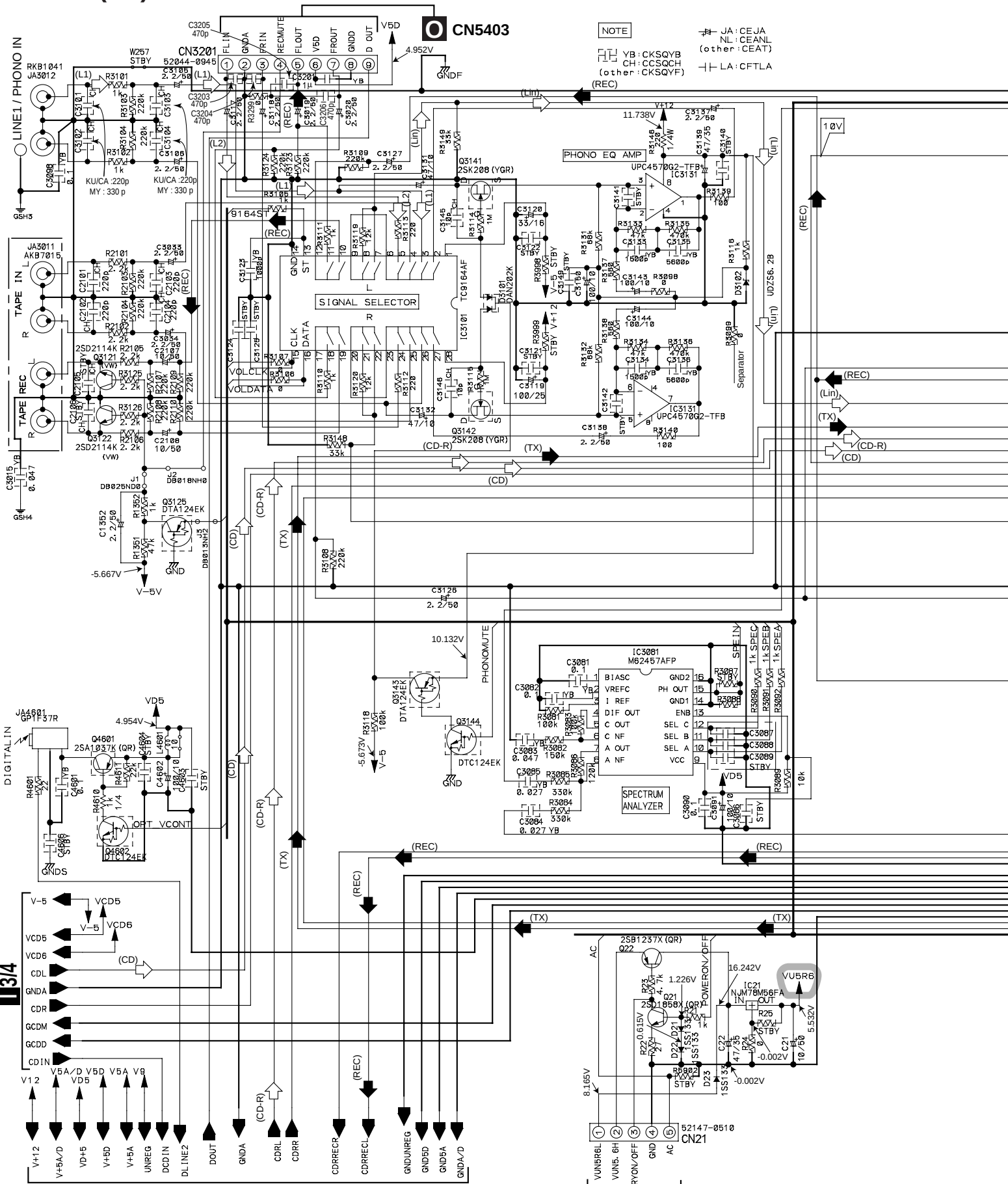
B4/5 CD-R CORE ASSY

① CN501 - pin 2 (ADBACK) V: 0.2V/div.(10 : 1) H: 0.2μsec/div. (STOP) 	⑦ CN501 - pin 14 (DABACK) V: 0.2V/div.(10 : 1) H: 0.2μsec/div. (STOP) 	⑬ IC501 - pin 88 (EFM) V: 0.2V/div.(10 : 1) H: 0.5μsec/div. (REC) 	① CN452 - pin 2 (SL +) V: 0.2V/div.(10 : 1) H: 5msec/div. (PLAY) 
② CN501 - pin 3 (ADDATA) V: 0.2V/div.(10 : 1) H: 0.2μsec/div. (REC) 	⑧ CN501 - pin 16 (DALRCK) V: 0.2V/div.(10 : 1) H: 10μsec/div. (STOP) 	⑭ IC431 - pin 6 (17M) V: 0.2V/div.(10 : 1) H: 50msec/div. (REC) 	② CN452 - pin 3 (SP +) V: 0.2V/div.(10 : 1) H: 5msec/div. (PLAY) 
③ CN501 - pin 5 (ADLRCK) V: 0.2V/div.(10 : 1) H: 10μsec/div. (STOP) 	⑨ CN501 - pin 18 (DIN1) V: 0.2V/div.(10 : 1) H: 0.2μsec/div. (REC_OPTICAL) 	⑮ IC431 - pin 25 (ODON) V: 0.2V/div.(10 : 1) H: 0.1μsec/div. (REC) 	③ CN452 - pin 9 (FG) V: 0.2V/div.(10 : 1) H: 1msec/div. 
④ CN501 - pin 7 (MCK) V: 0.1V/div.(10 : 1) H: 50msec/div. (STOP) 	⑩ CN501 - pin 19 (DITOUT) V: 0.2V/div.(10 : 1) H: 0.2μsec/div. (STOP) 	⑯ IC431 - pin 29 (WLDON) V: 0.2V/div.(10 : 1) H: 1msec/div. (REC) 	④ IC401 - pin 25 (MDP) V: 0.2V/div.(10 : 1) H: 5μsec/div. (PLAY) 
⑤ CN501 - pin 12 (CL) V: 0.2V/div.(10 : 1) H: 0.5μsec/div. (STOP) 	⑪ CN501 - pin 20 (DIN2) V: 0.2V/div.(10 : 1) H: 0.2μsec/div. (REC_Coaxial) 	⑰ IC431 - pin 34 (REWLDON) V: 0.2V/div.(10 : 1) H: 1msec/div. (REC) 	④ IC401 - pin 25 (MDP) V: 0.2V/div.(10 : 1) H: 5μsec/div. (REC) 
⑥ CN501 - pin 13 (DADDATA) V: 0.2V/div.(10 : 1) H: 0.5μsec/div. (PLAY) 	⑫ CN501 - pin 11 (DI) V: 0.2V/div.(10 : 1) H: 5msec/div. (STOP) 	⑱ TP503 (W/XR) V: 0.2V/div.(10 : 1) H: 1msec/div. (REC) 	⑤ IC401 - pin 20 (MIRR) V: 0.2V/div.(10 : 1) H: 20μsec/div. (REC_CD-RW) 

3.10 MOTOR, LOADING, SELECT and PICKUP UNITS



3.11 AF (1/4) and H.P ASSYS



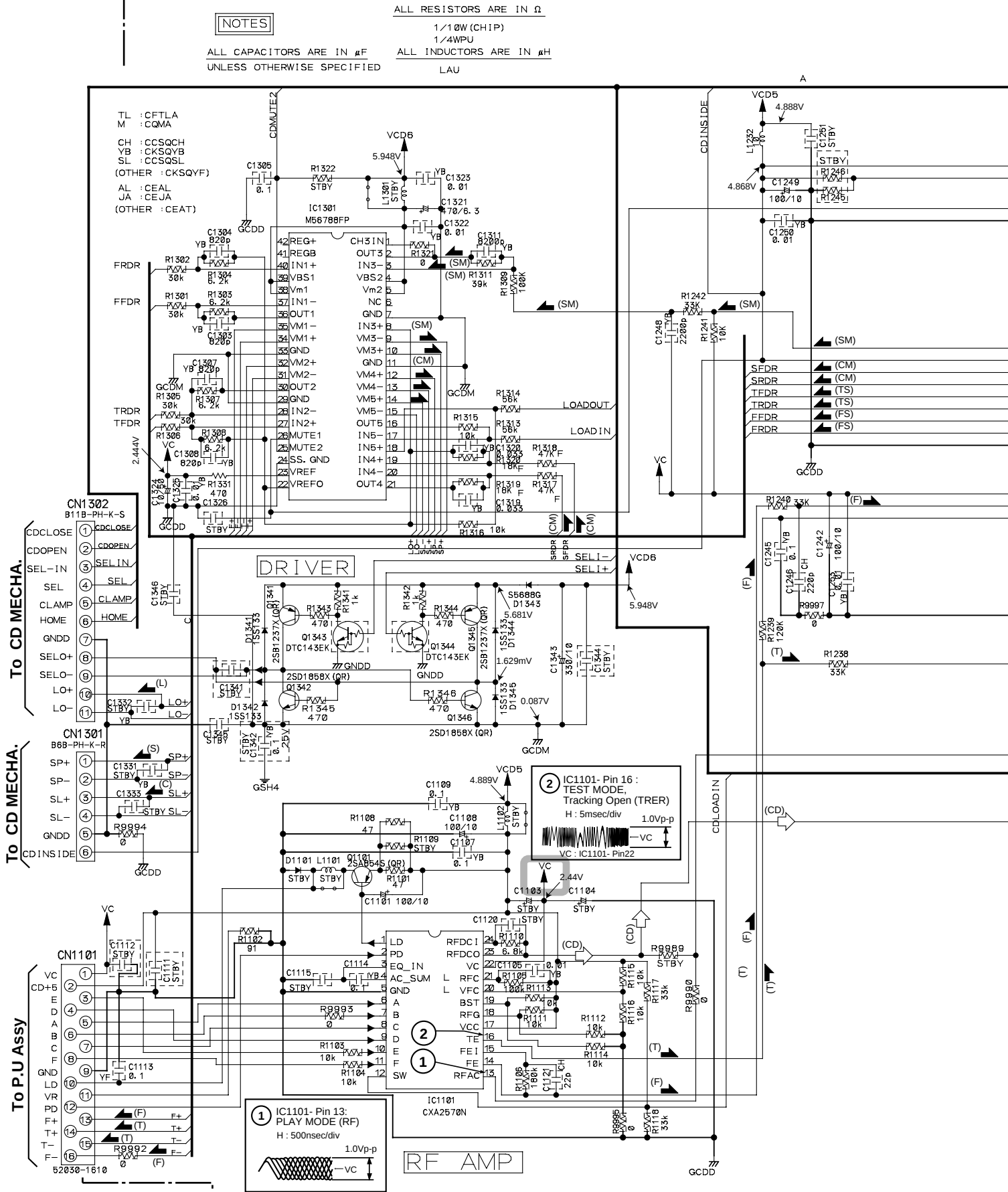
3.12 AF (2/4) and LEGATO ASSYS

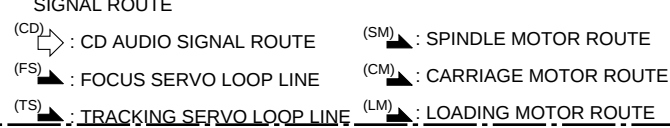
A

B

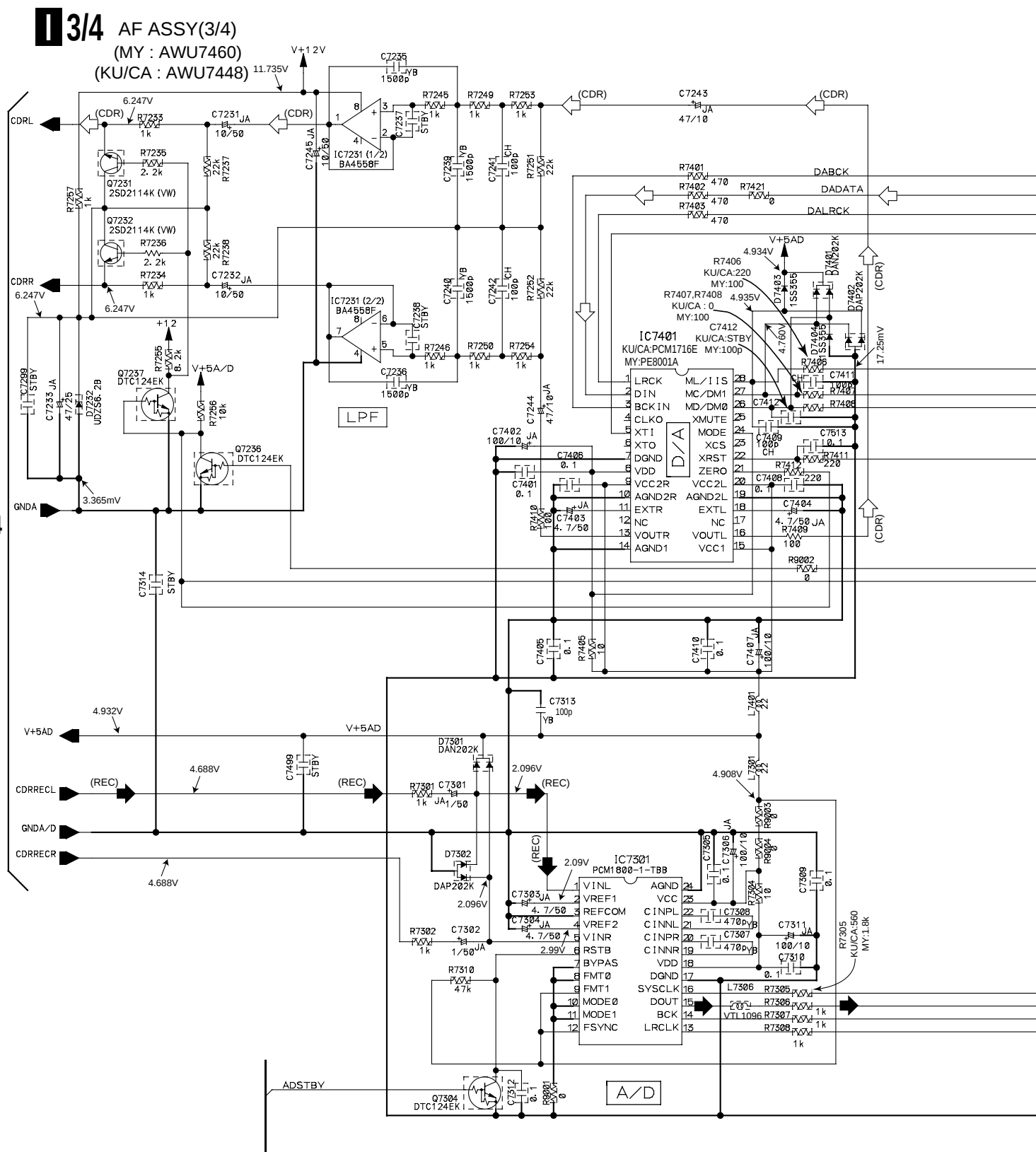
C

D





3.13 AF ASSY (3/4)



NOTE

YB:CKSQYB
 CH:CCSQCH
 (other:CKSQYF)
 JA:CEJA
 (other:CEAT)



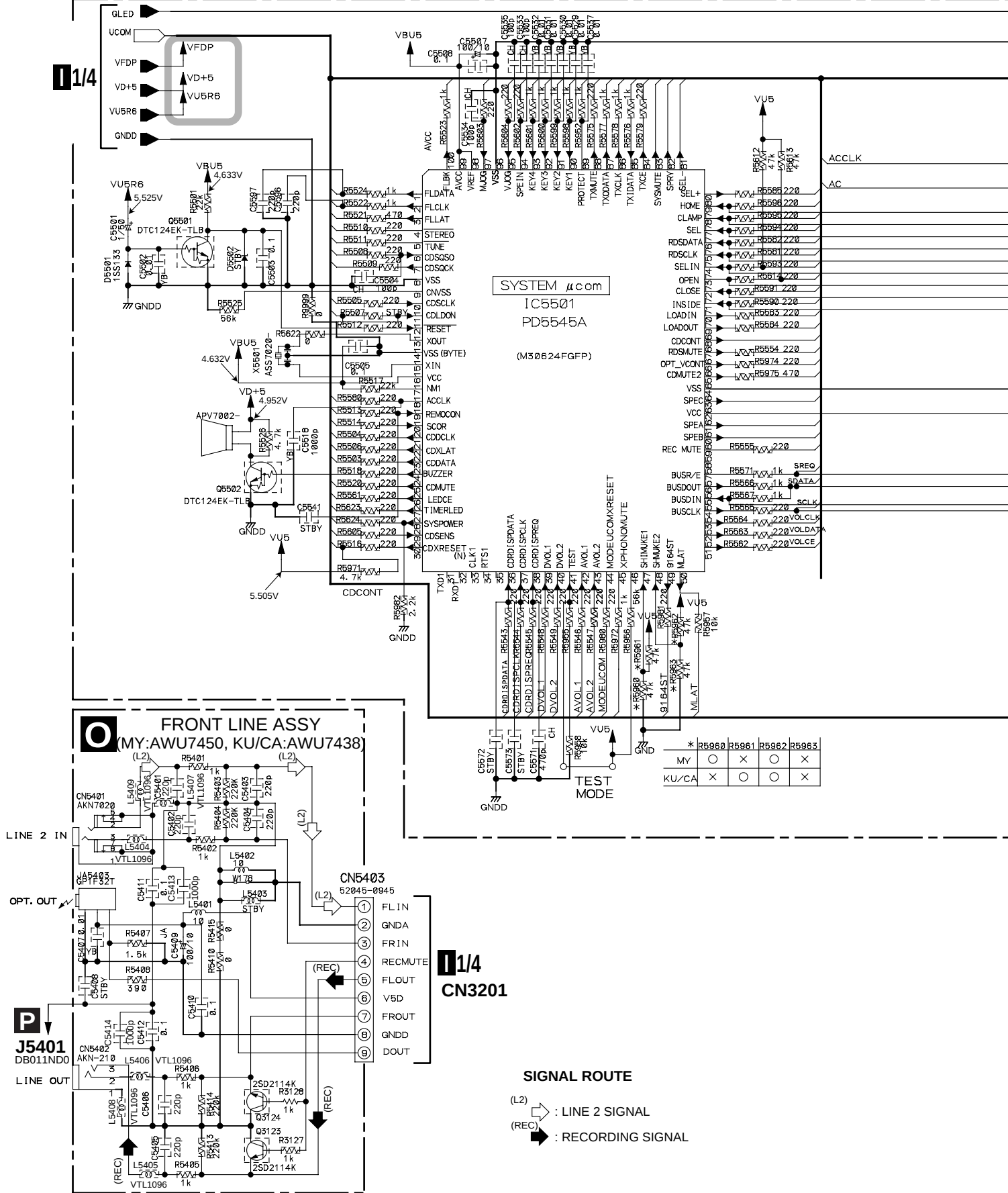
3.14 AF (4/4), FRONT LINE, CDR SW and CDR LED ASSYS

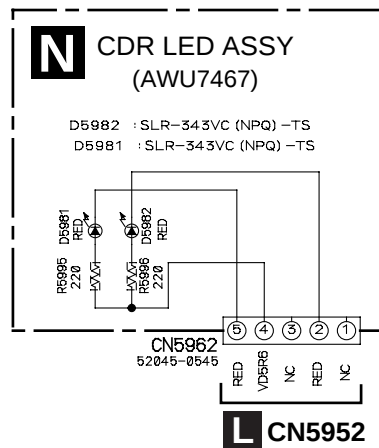
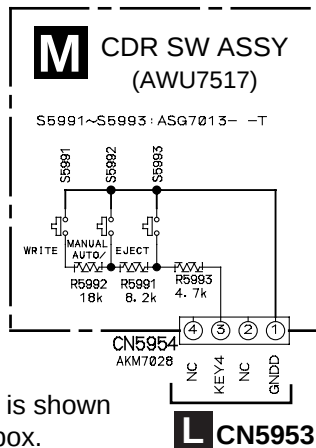
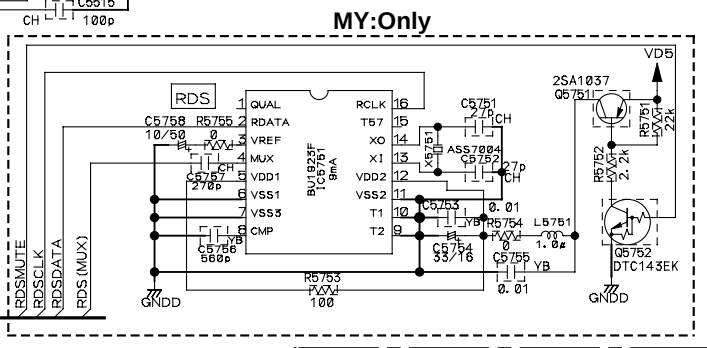
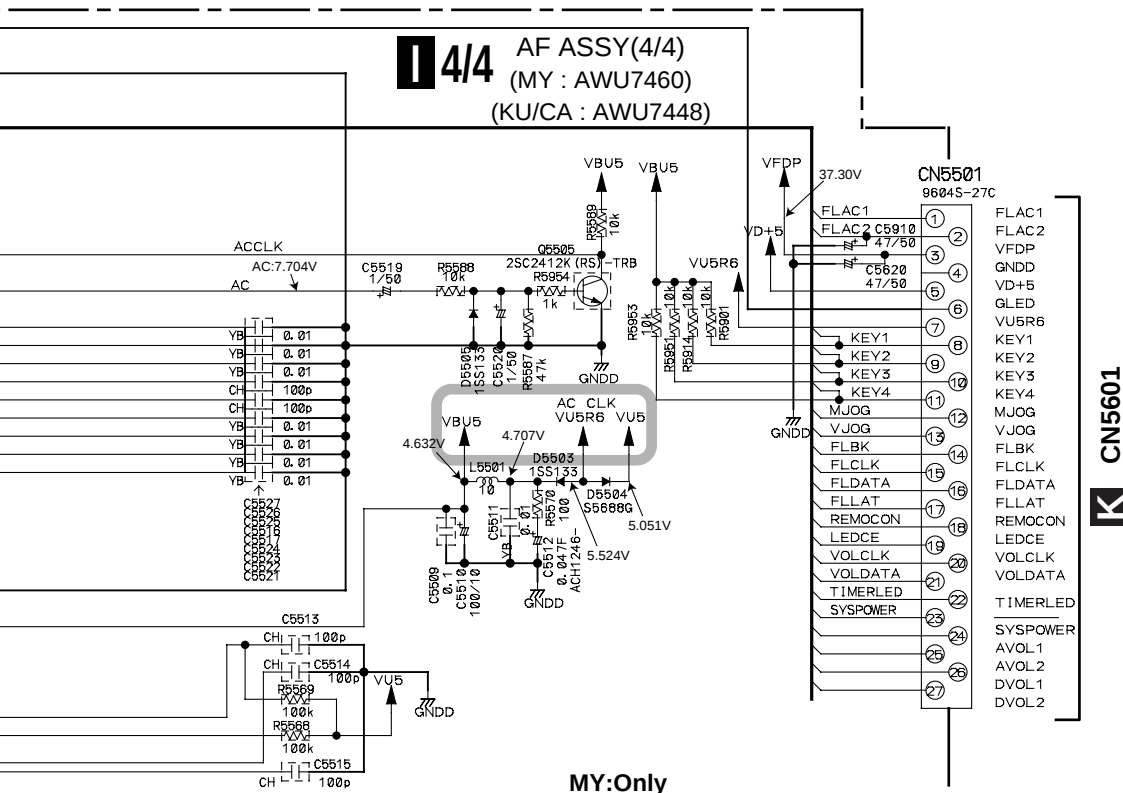
A

B

C

D





NOTE

YB:CKSQYB
CH:CCSQCH
(others:CKSQYF)

JA:CEJA
(others:CEAT)

: The power supply is shown with the marked box.

D



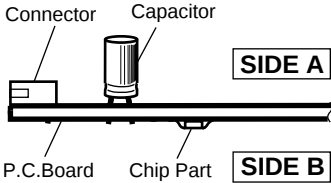


4. PCB CONNECTION DIAGRAM

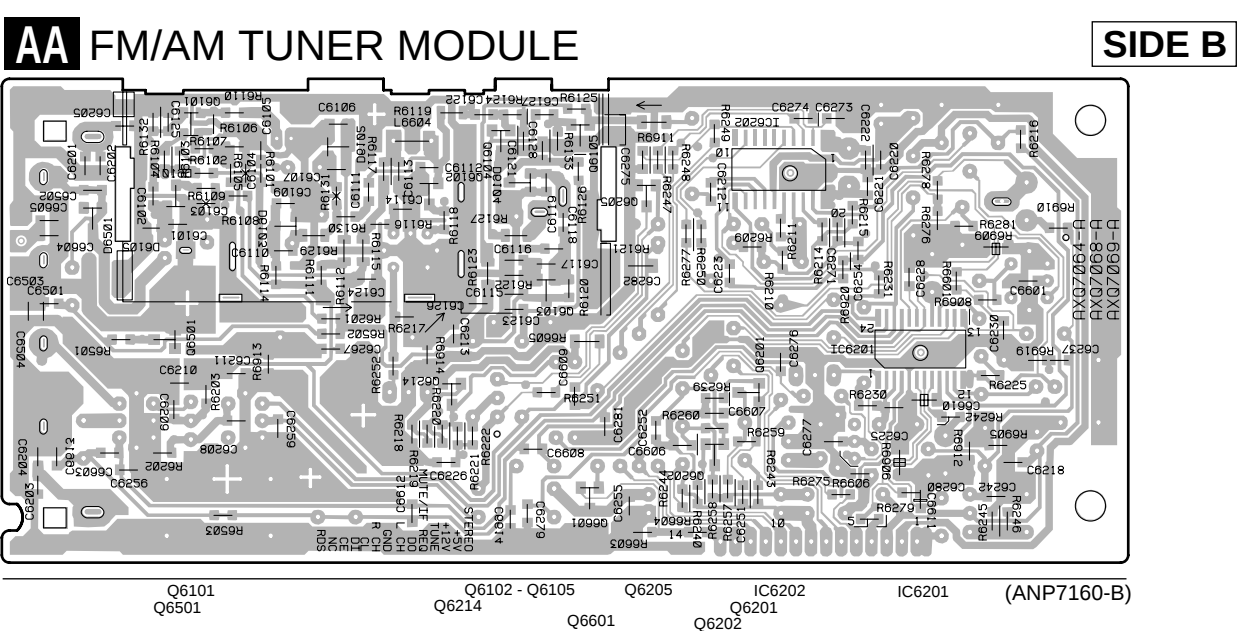
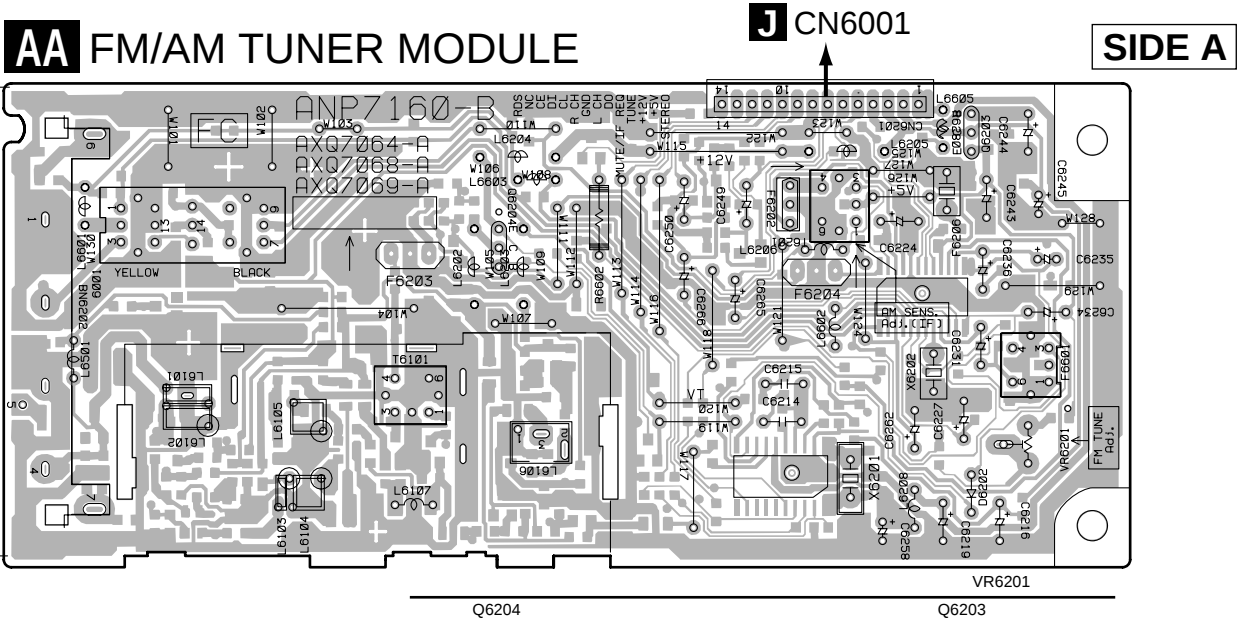
NOTE FOR PCB DIAGRAMS :

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.
3. The parts mounted on this PCB include all necessary parts for several destinations.
4. View point of PCB diagrams.

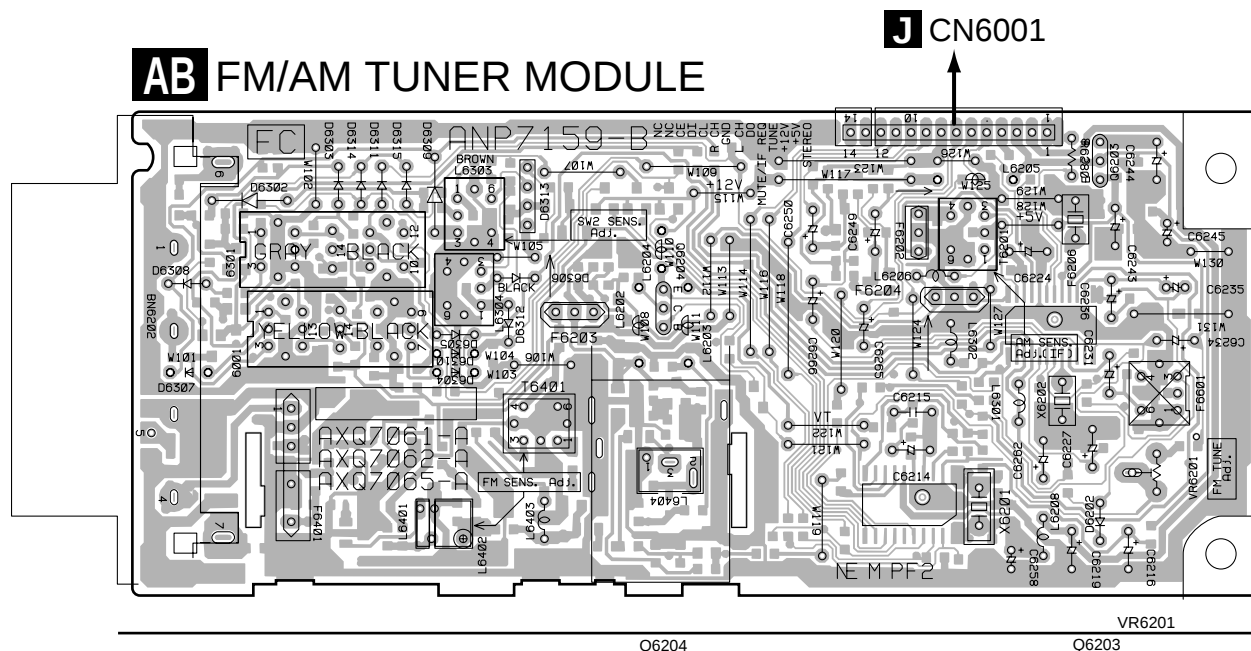
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator



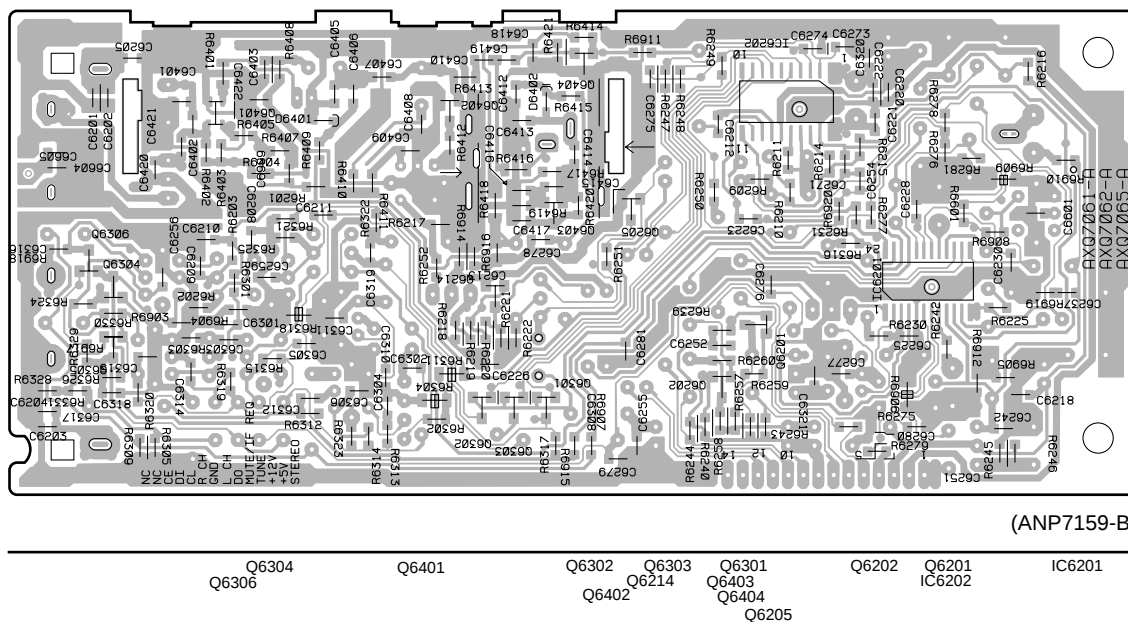
4.1 FM/AM TUNER MODULE (For MY Type)



4.2 FM/AM TUNER MODULE (For KU/CA Type)



SIDE A

AB FM/AM TUNER MODULE

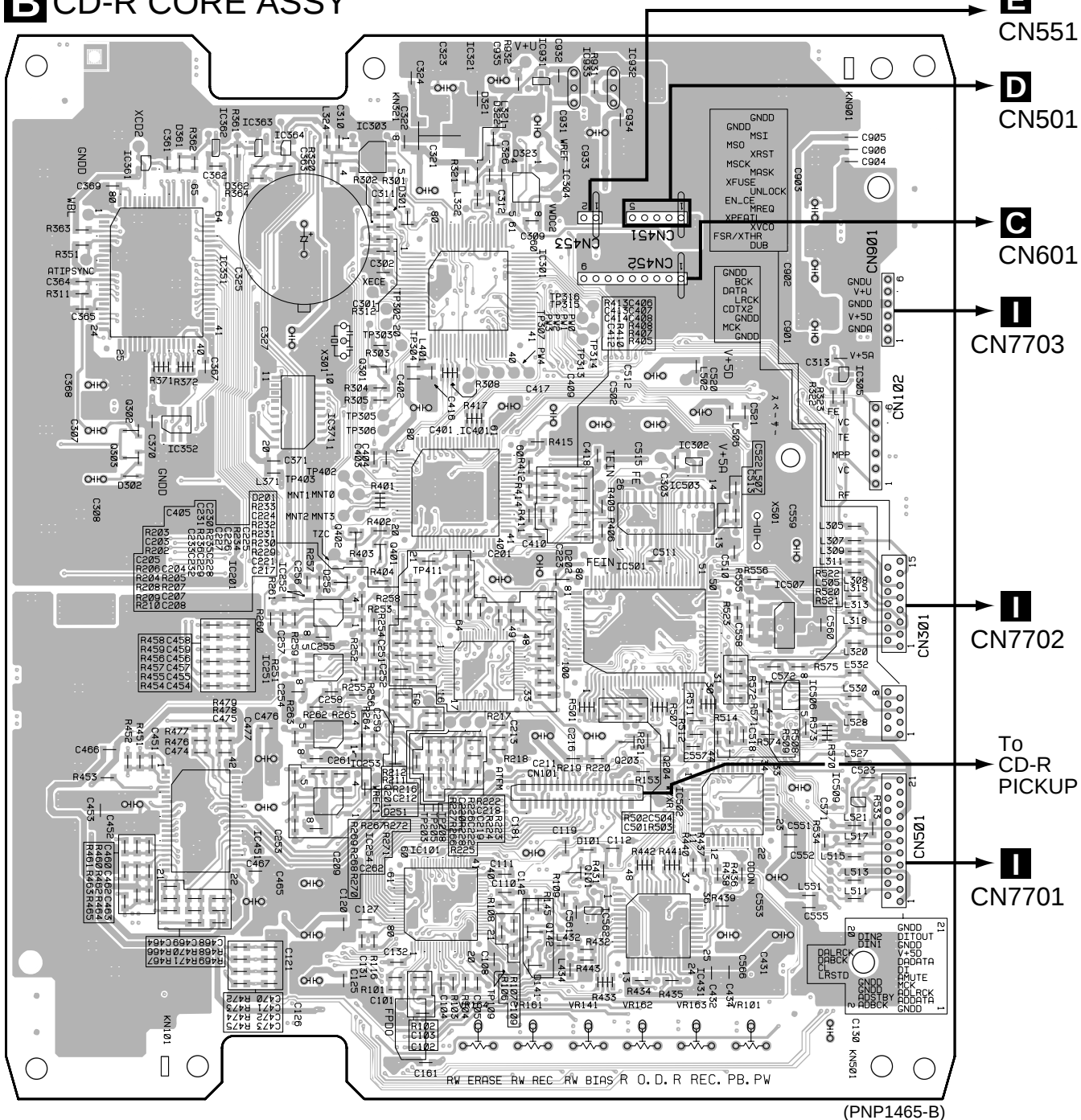
SIDE B

4.2 CD-R CORE ASSY

SIDE A

• This PCB is a four-layered board.

B CD-R CORE ASSY



(PNP1465-B)

VR164 VR161 VR141 VR162 VR163 VR101

IC361-IC364 IC303 IC931-IC933 IC302 IC305
IC351 IC371 Q301 IC301 IC304 IC503 IC507 IC506
Q302 Q303 IC352 IC451 Q402 Q401 IC401 IC201 IC501 Q203 IC502 IC509
IC251-IC254 Q201 IC101 Q142 IC562 IC431

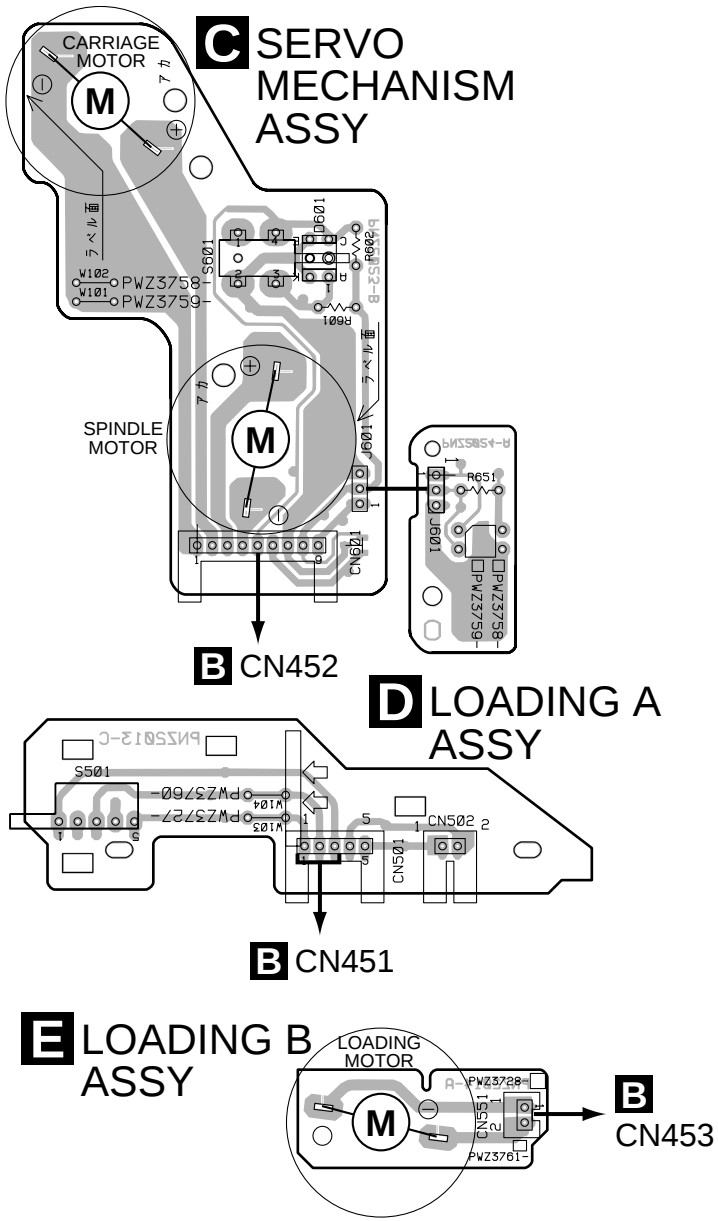
A

B

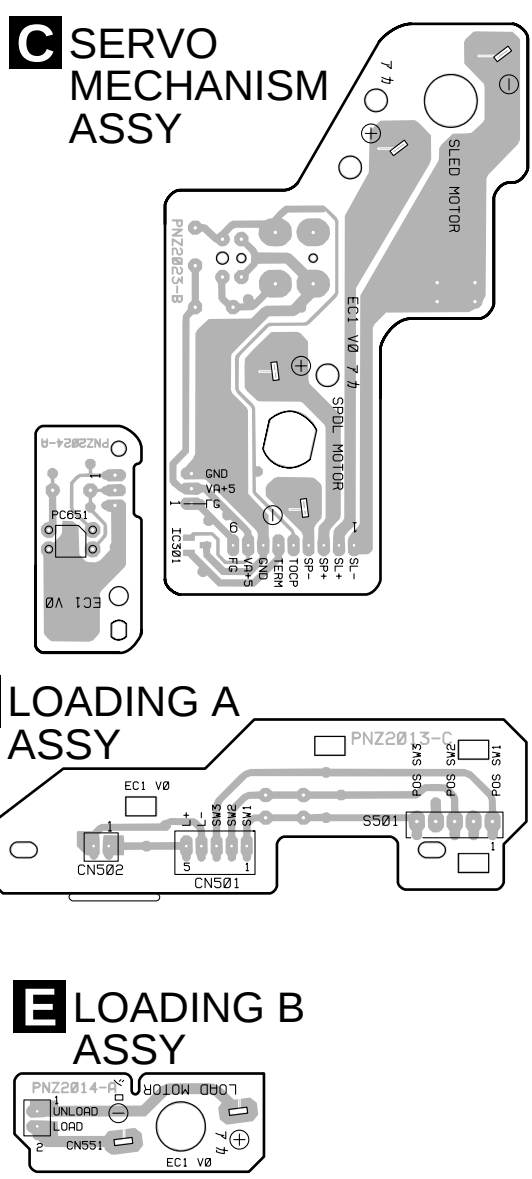
D

4.3 SERVO MECHA, LOADING A and LOADING B ASSYS

A



SIDE A

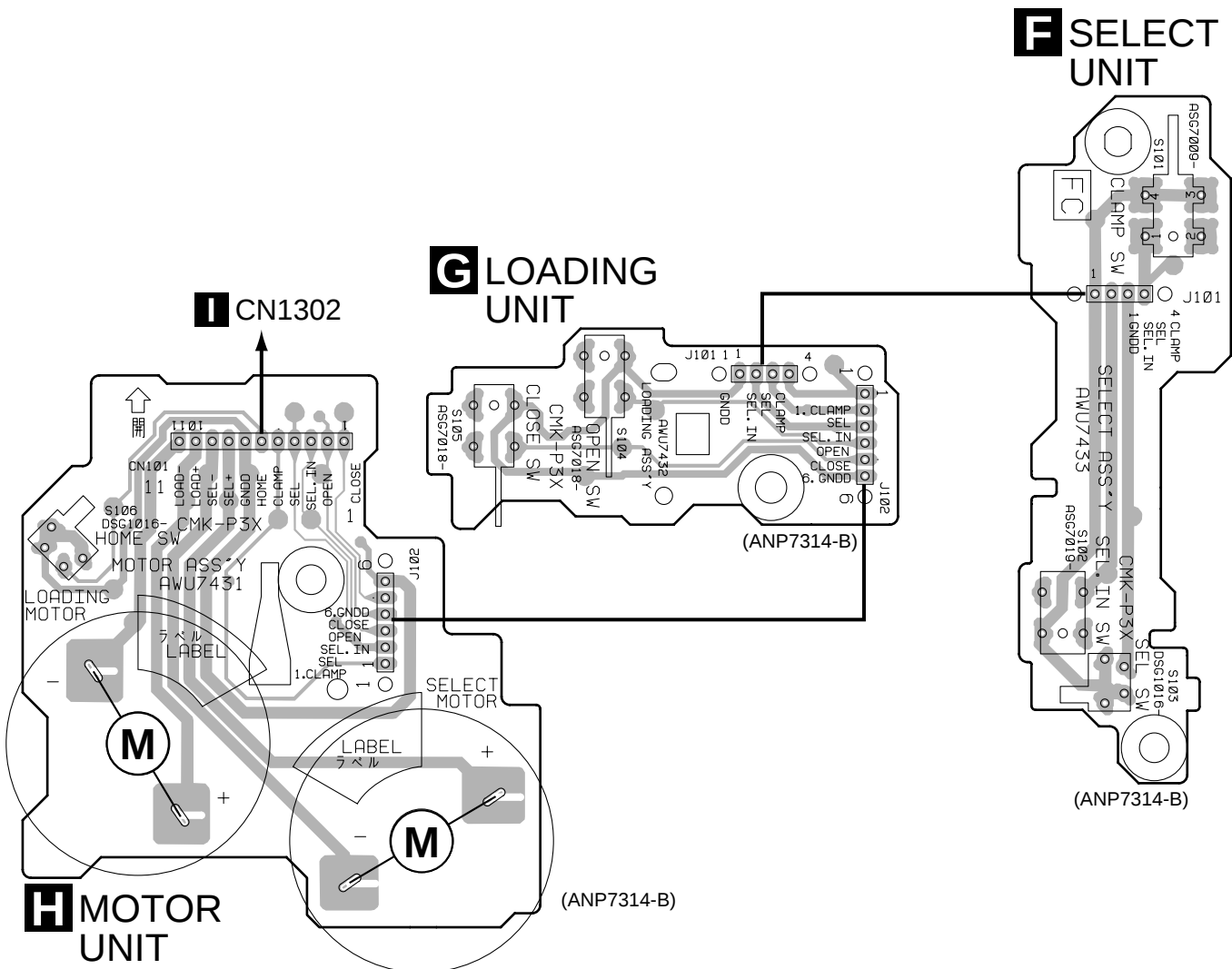


SIDE B

(PNP1447-C)

D

4.4 SELECT UNIT, LOADING UNIT and MOTOR UNIT

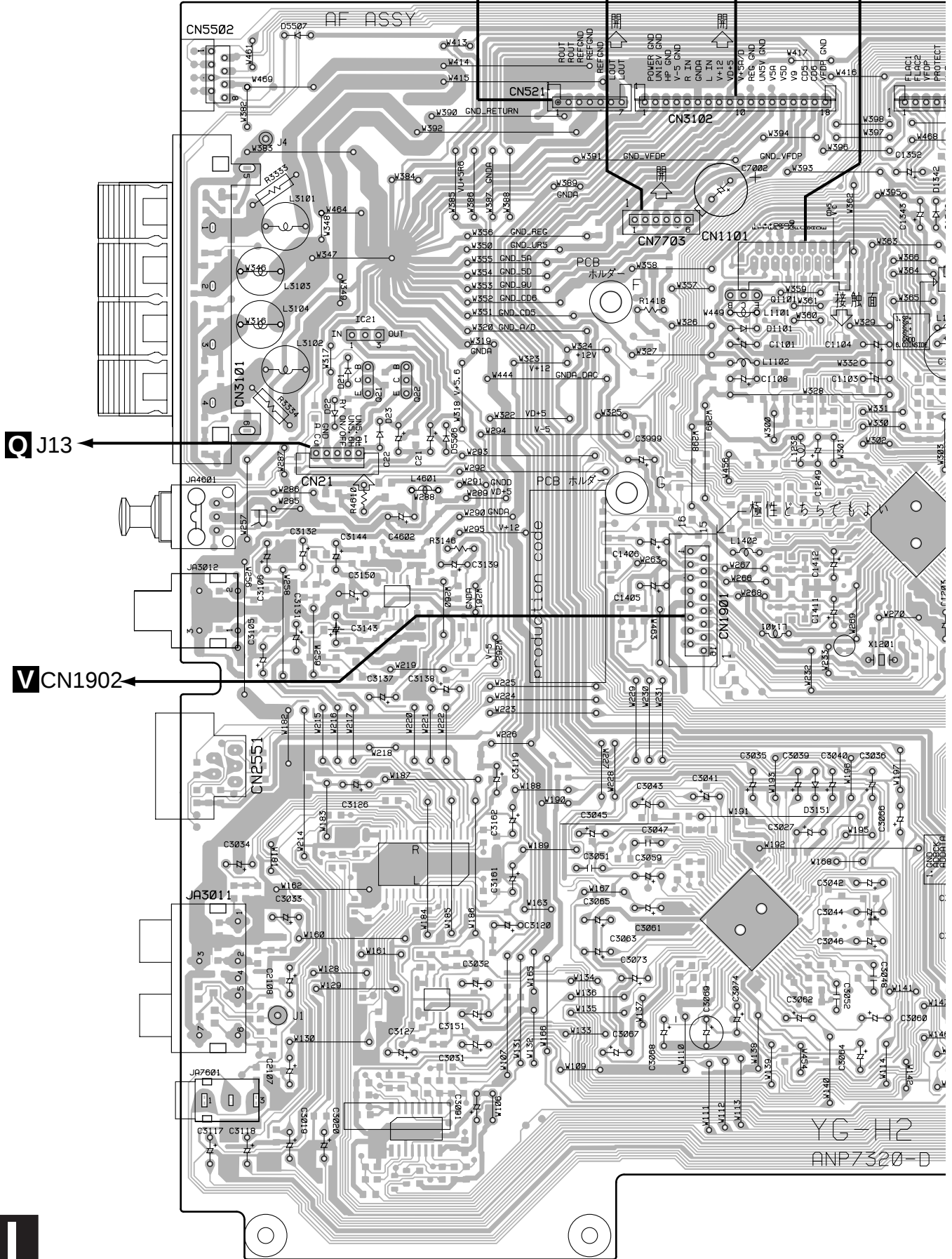


SIDE A

4.5 AF ASSY

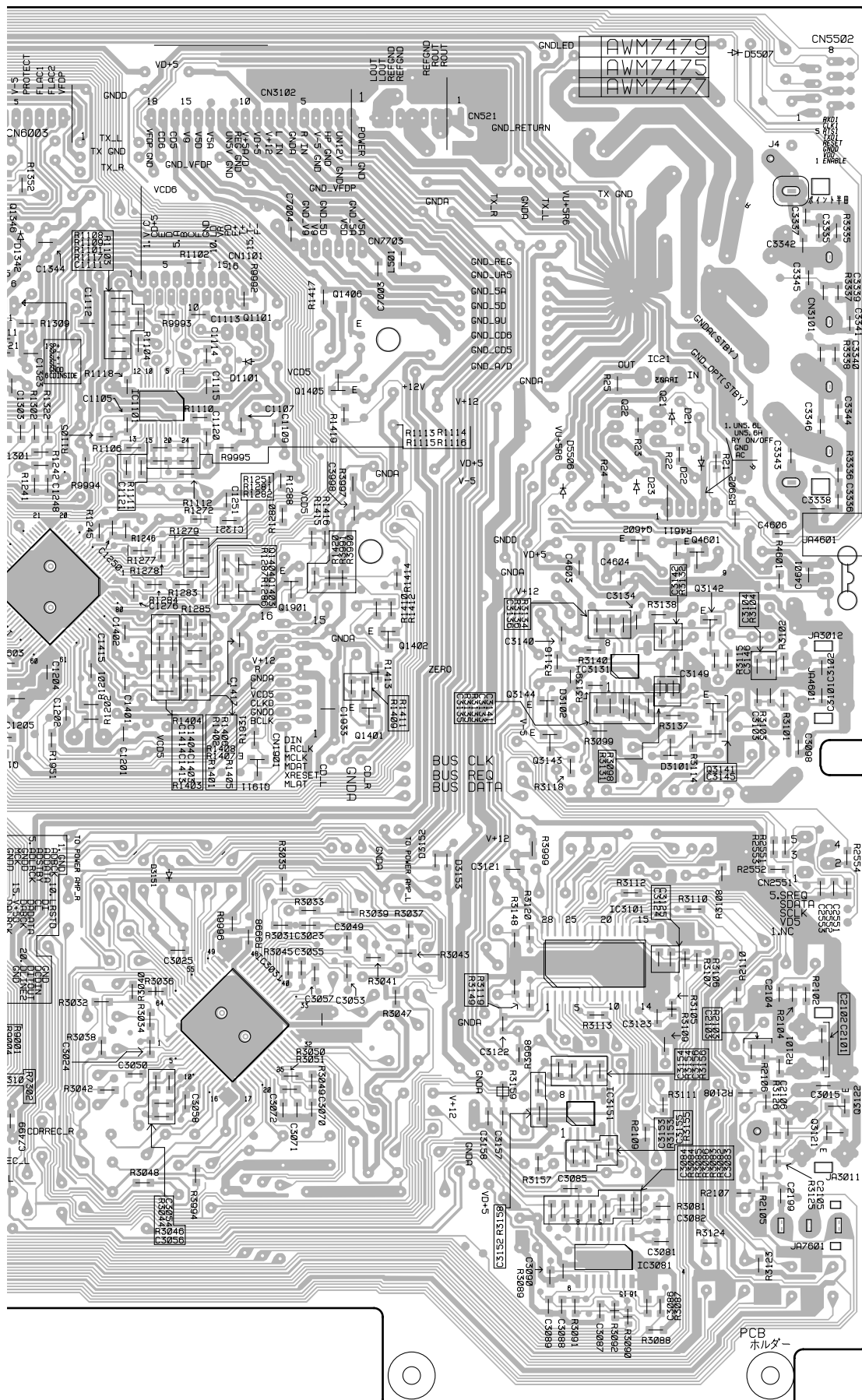
I AF ASSY

J CN3002 **B** CN901 **J** CN3001 CD MECHA CD M





SIDE B



Q5752 Q5751 Q3125

Q1343 Q1346
IC5751 Q1342
Q1345 Q1344 Q1341

Q5501 Q1406

Q5505
IC1301 Q1405
IC1101

Q22 Q21

IC5501
Q5502 Q1404 Q4602 Q4601
IC1201 Q1901
Q1403
Q1402 Q3142Q1402
IC3131
Q1203
Q5503 Q5504

Q1401 Q3144 Q3141

Q3143

Q7509 Q7510 Q1201 Q1911

Q7304

IC7502 IC3101

IC7401 IC3031

IC3031
IC7301 IC3151 Q3122
Q3121

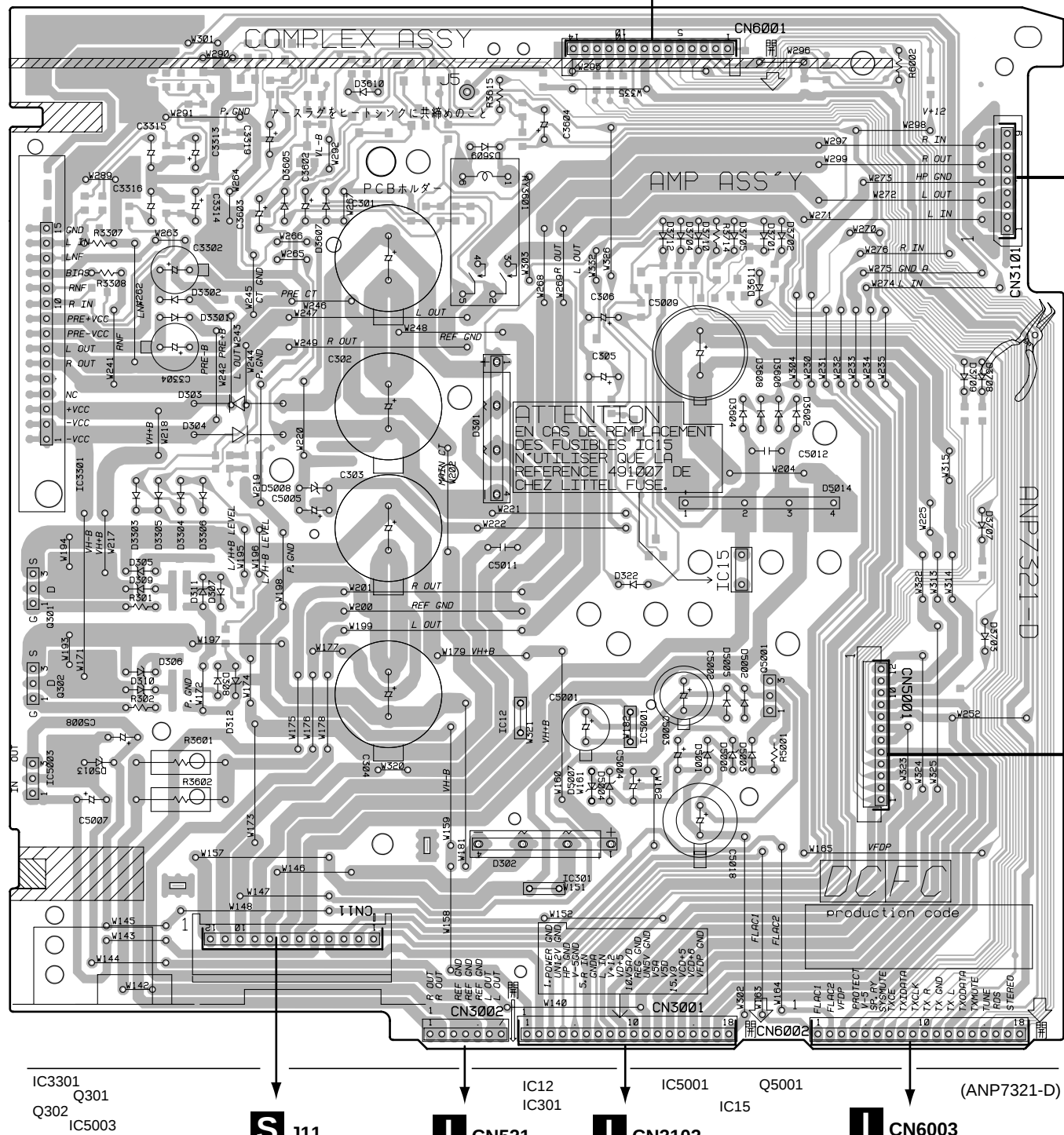
IC7501

Q7231
Q7502 IC7231 Q7232Q7236 Q7237
IC3081

(ANP7320-D)

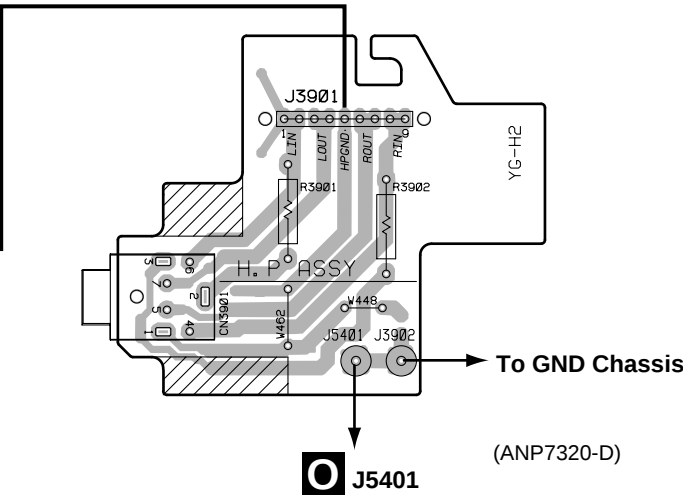
4.6 AMP, H.P and REGULATOR ASSYS

J AMP ASSY

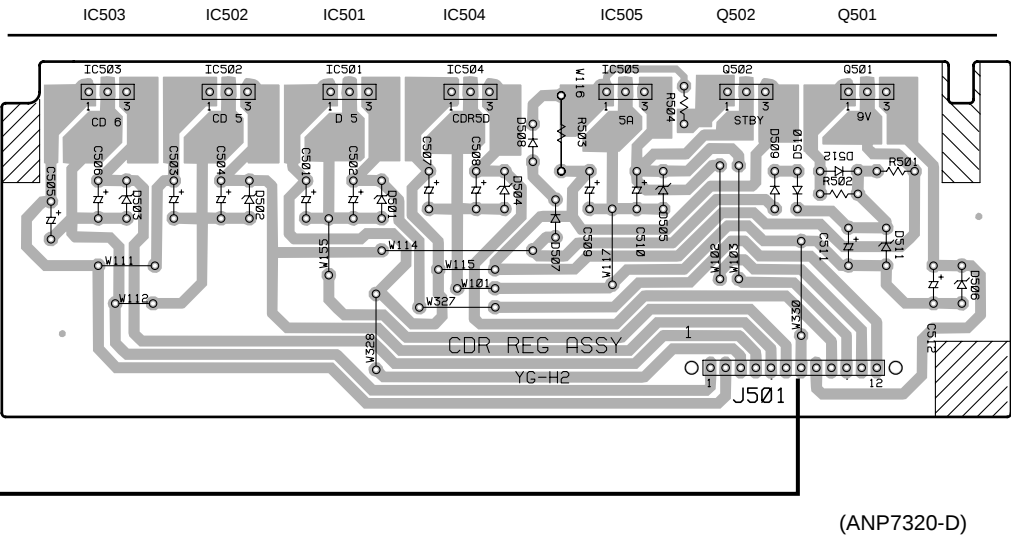


SIDE A

P H.P ASSY

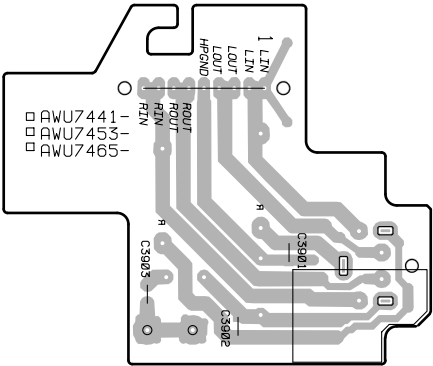


U REGULATOR ASSY



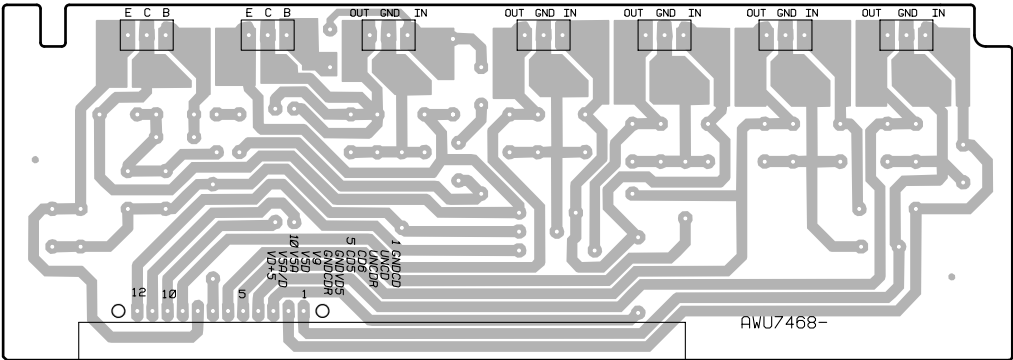
SIDE B

P H.P ASSY



(ANP7320-D)

U REGULATOR ASSY



(ANP7320-D)

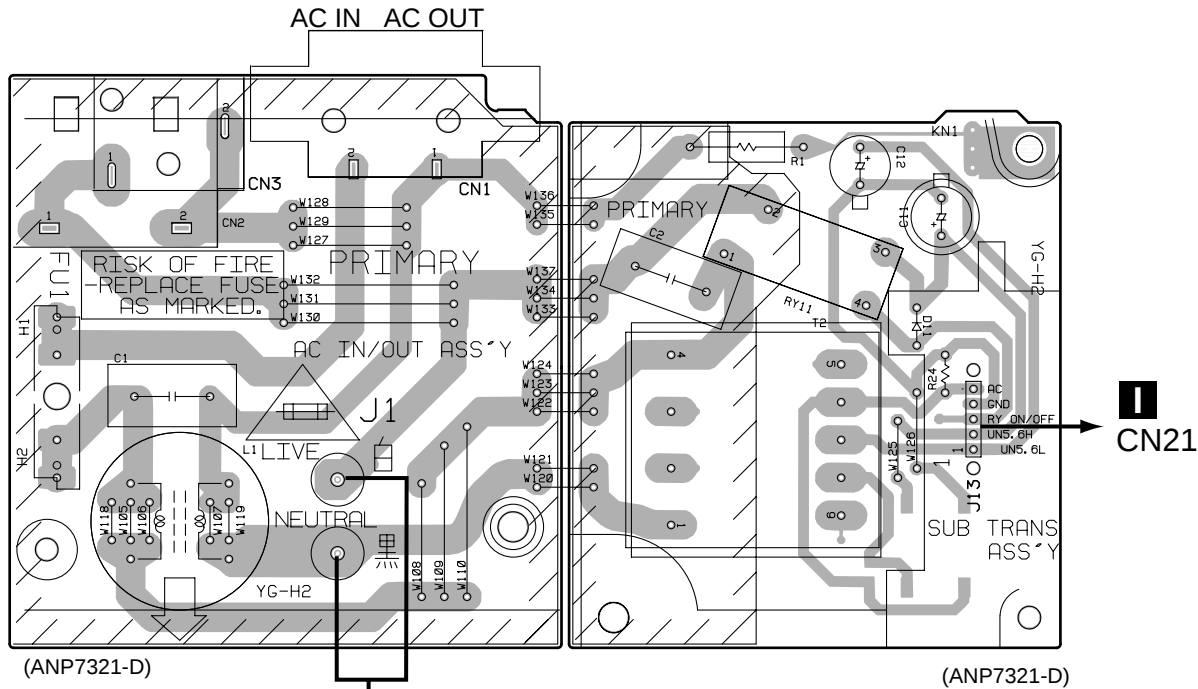
Q5001	Q3612	Q322	Q320 Q324	Q323	Q3608	Q3611 Q3605	Q3610 Q3607	Q3303 Q3302	Q3301 Q303	IC3301	Q301 Q302
		IC5001					Q3609		Q304		IC5003

4.7 AC IN/OUT, SUBTRANS, PRIMARY and SECONDARY ASSYS

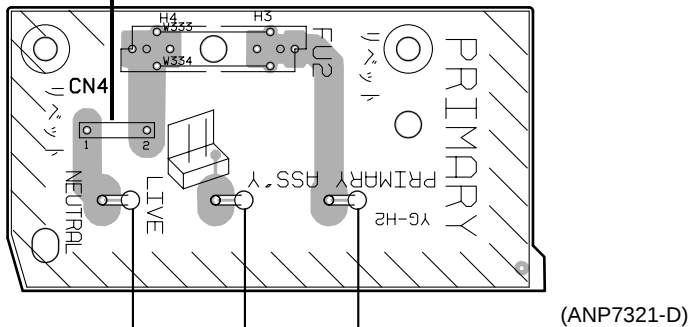
R AC IN/OUT
ASSY

Q SUBTRANS
ASSY

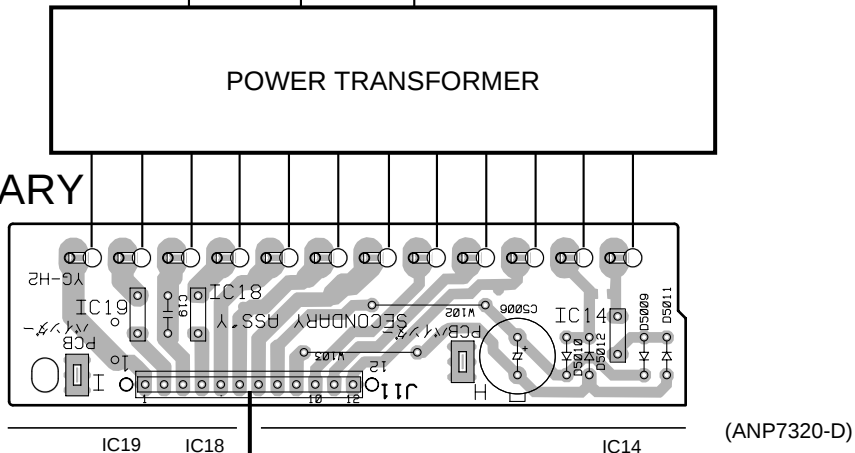
SIDE A



T PRIMARY
ASSY



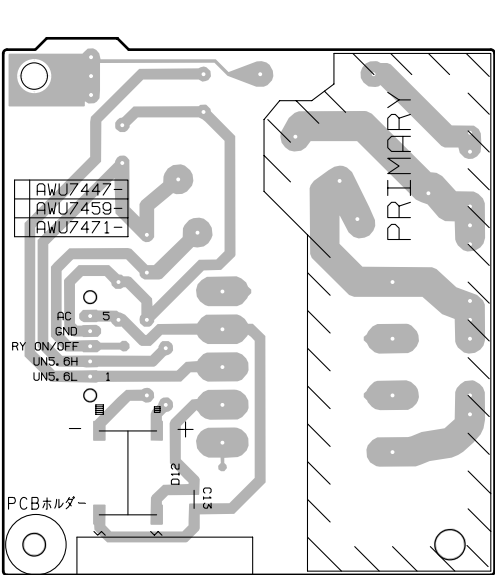
S SECONDARY
ASSY



J CN11

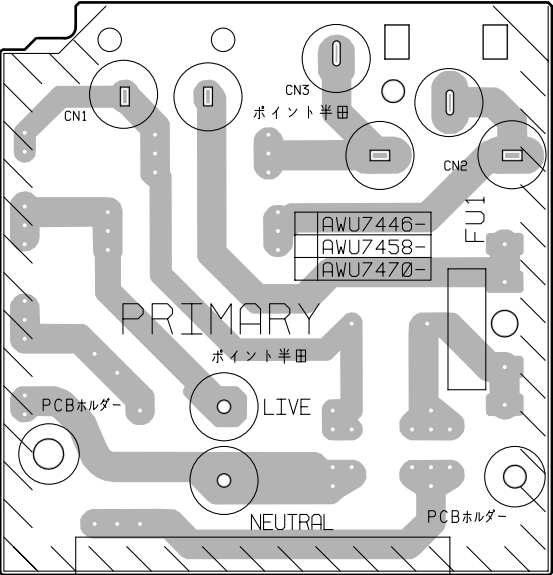
SIDE B

Q SUBTRANS ASSY



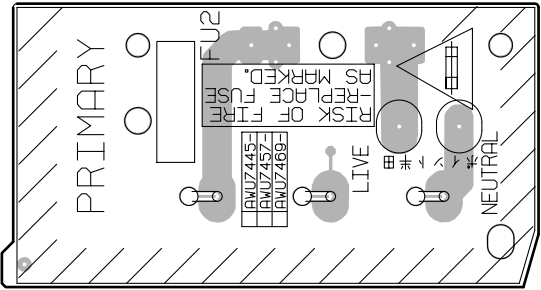
(ANP7321-D)

R AC IN/OUT ASSY



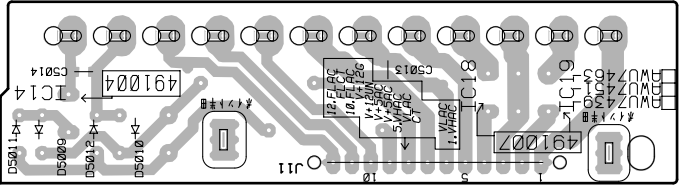
(ANP7321-D)

T PRIMARY ASSY



(ANP7321-D)

S SECONDARY ASSY



(ANP7320-D)

(ANP7321-D)

Q5603	IC5602	IC5601	Q5602	IC5801
-------	--------	--------	-------	--------

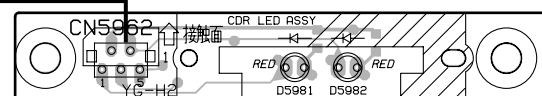
(ANP7321-D)

4.9 SW JOG, CDR SW and CDR LED ASSYS

SIDE A

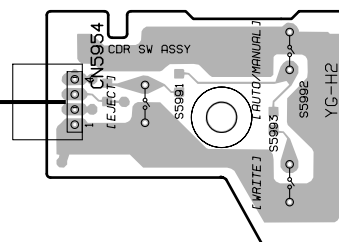
L SW JOG ASSY

N CDR LED ASSY



(ANP7320-D)

M CDR SW ASSY



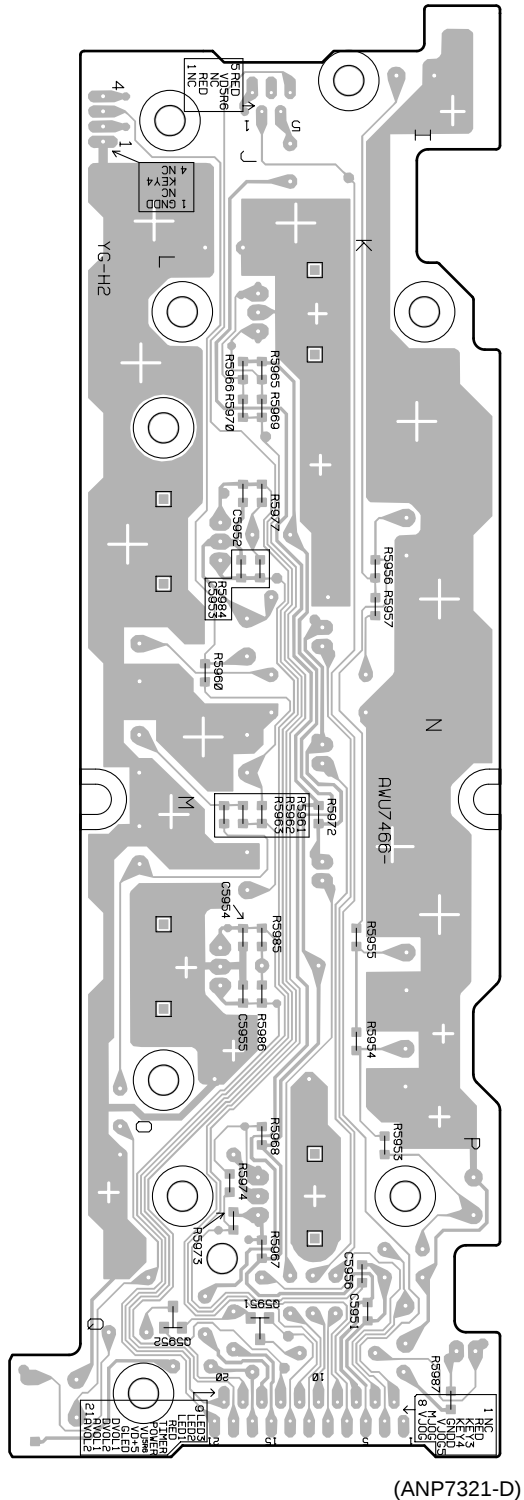
(ANP7320-D)

(ANP7321-D)

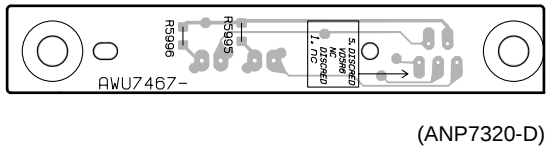
K CN5901

SIDE B

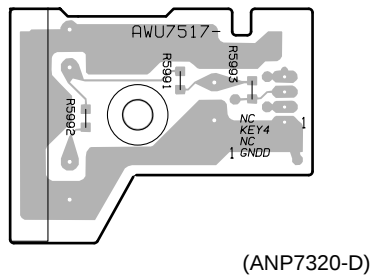
L SW JOG ASSY



N CDR LED ASSY



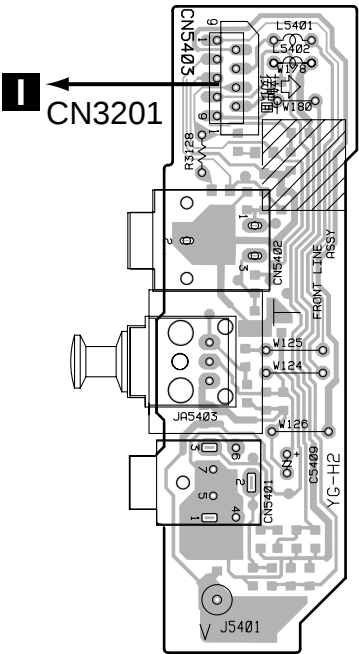
M CDR SW ASSY



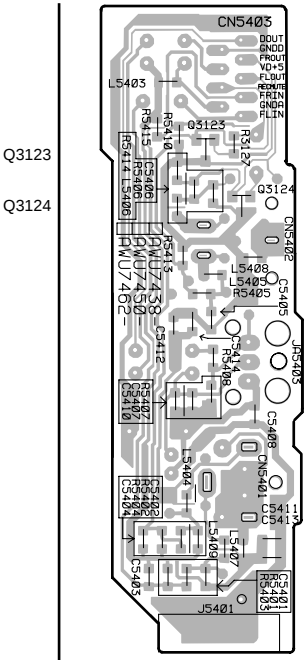
4.10 FRONT LINE and LEGATO ASSYS

O FRONT LINE ASSY

O FRONT LINE ASSY

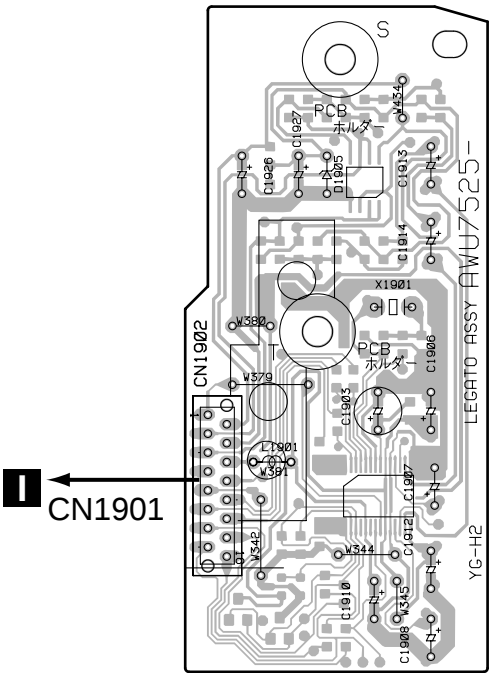


(ANP7320-D)

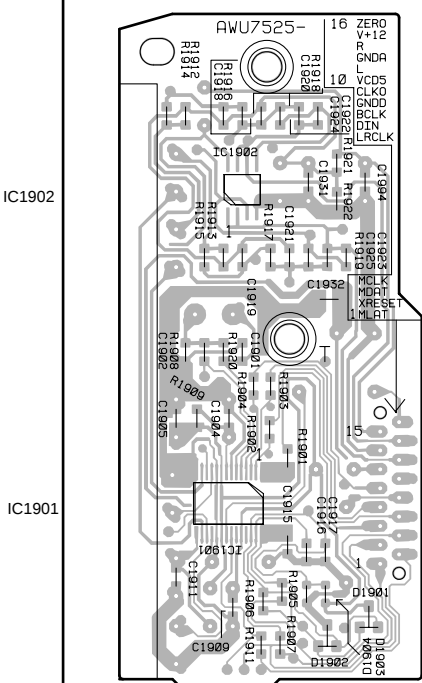


V LEGATO ASSY : MY Only

V LEGATO ASSY : MY Only



(ANP7320-D)



SIDE A

SIDE B

5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●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 $\rightarrow$ 56×10^1 $\rightarrow$ 561 RD1/4PU 5 6 1 J

47k Ω $\rightarrow$ 47×10^3 $\rightarrow$ 473 RD1/4PU 4 7 3 J

0.5 Ω $\rightarrow$ R50 RN2H R 5 0 K

1 Ω $\rightarrow$ 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 $\rightarrow$ 562×10^1 $\rightarrow$ 5621 RN1/4PC 5 6 2 1 F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.		Remarks
		MY Type	KU/CA Type	
	FM/AM TUNER MODULE	AXQ7068	AXQ7065	
	CD-R CORE ASSY	RYY1273	RYY1273	
NSP	MECHANISM ASSY	PWX1570	PWX1570	
NSP	└ SERVO MECHANISM ASSY	PWZ3759	PWZ3759	
NSP	└ LOADING A ASSY	PWZ3760	PWZ3760	
NSP	└ LOADING B ASSY	PWZ3761	PWZ3761	
	3CD UNIT	AWM7473	AWM7473	
	└ MOTOR UNIT	AWU7431	AWU7431	
	└ LOADING UNIT	AWU7432	AWU7432	
NSP	└ SELECT UNIT	AWU7433	AWU7433	
	MAIN ASSY	AWM7479	AWM7477	
	└ AF ASSY	AWU7460	AWU7448	
	└ FRONT LINE ASSY	AWU7450	AWU7438	
	└ H.P ASSY	AWU7453	AWU7453	
	└ SECONDARY ASSY	AWU7451	AWU7451	
NSP	└ CDR LED ASSY	AWU7467	AWU7467	
	└ CDR SW ASSY	AWU7517	AWU7517	
	└ LEGATO ASSY	AWU7525	Not used	
	COMPLEX ASSY	AWM7480	AWM7478	
	└ AMP ASSY	AWU7464	AWU7555	
	└ REG ASSY	AWU7468	AWU7468	
	└ PRIMARY ASSY	AWU7469	AWU7457	
	└ SUB TRANS ASSY	AWU7471	AWU7459	
	└ AC IN/OUT ASSY	AWU7470	AWU7458	
	└ DISPLAY ASSY	AWU7461	AWU7461	
	└ SW JOG ASSY	AWU7466	AWU7466	

■ CONTRAST OF PCB ASSEMBLIES

I AF ASSY

AWU7460 and AWU7448 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7460	AWU7448	
IC5751 IC7401 Q1201,Q1911 Q1403,Q1404 Q1901		BU1923F PE8001A 2SC2412K Not used DTA124EK	Not used PCM1716E Not used DTA124EK Not used	
Q4601 Q5751 Q5752 L5751 C22		2SA1037K(RS) 2SA1037K DTC143EK LAU1R0J CEAT470M25	2SA1037K(QR) Not used Not used Not used CEAT470M35	
C1107 C1201,C1202 C1204 C2551- C2553,C7412 C3015		CKSQYB103K50 Not used CCSQCH101J50 CCSQCH101J50 CKSQYB473K25	CKSQYB104K25 CCSQCH150J50 Not used Not used CKSQYB104K25	
C3101- C3104 C3126,C3127 C3335- C3340 C3345- C3346 C4601		CCSQCH331J50 CEAT2R2M50 CKSQYB104K25 ACG7041 CKSQYB104K25	CCSQCH221J50 CEAT100M50 Not used Not used CKSQYB103K50	
C5751, C5752 C5753,C5755 C5754 C5756 C5757		CCSQCH270J50 CKSQYB103K50 CEAT330M16 CKSQYB561K50 CCSQCH271J50	Not used Not used Not used Not used Not used	
C5758 D5506 R1201 R1202 R1205		CEAT100M50 1SS133 Not used Not used RS1/10S103J	Not used Not used RS1/10S331J RS1/10S105J Not used	
R1286,R1287 R1420,R1951,R3991,R5754,R5755 R1931 R2551- R2553 R2554		Not used RS1/10S0R0 RS1/10S103J RS1/10S221J RS1/10S472J	RS1/10S221J Not used Not used Not used Not used	
R3335- R3338 R5751 R5752 R5753 R5960		RD1/10S100J RS1/10S223J RD1/10S222J RS1/10S101J RS1/10S473J	Not used Not used Not used Not used Not used	
R5961 R7305 R7406- R7408 R7451 R7492		Not used RS1/10S182J RS1/10S101J RS1/10S0R0J RS1/10S182J	RS1/10S473J RS1/10S561J RS1/10S0R0J RS1/10S561J RS1/10S331J	
CN1901 CN2551 X1201 Crystal Resonator (16.9344MHz) X5751 Crystal Resonator (4.332MHz)		AKM7049 AKP7042 Not used ASS7004	Not used Not used PSS1008 Not used	

R AC IN/OUT ASSY

AWU7470 and AWU7458 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7470	AWU7458	
	CN 01 CN02	AKP1121 AKP1034	AKP1122 Not used	

Q SUB TRANS ASSY

AWU7471 and AWU7459 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AW7471	AWU7459	
△	KN01 R01 T02	Not used Not used ATT7064	VNF1084 RCN1080 ATT7063	

J AMP ASSY

AWU7464 and AWU7555 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7464	AWU7555	
	Q304 Q320 C3305 C3317 R6099	2SA1037K (RS) 2SA1037K (RS) CCSQCH101J50 CCSQCH101J50 RS1/10S0RJ	2SA1037K(QR) 2SA1037K (QR) Not used Not used RS1/10S1R2J	

O FRONT LINE ASSY

AWU7450 and AWU74638 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7450	AWU7438	
	CN5403	52045-0945	HLEM9S-1	

T PRIMARY ASSY

Although AWU7469 and AWU7457 are different in part number, they consist of the same components.

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
PCB PARTS LIST FOR XR-MR7/MY UNLESS OTHERWISE NOTED							
AA FM/AM TUNER MODULE (AXQ7068)							
SEMICONDUCTORS				C6244		CEAS470M16	
IC6201		LA1832ML		C6249,C6250,C6265,C6266		CEAS4R7M50	
IC6202		LC72131MD		C6258		CEJA470M16	
Q6102		2SC2223		C6215		CFTLA103J50	
Q6203		2SC2705		C6214		CFTLA224J50	
Q6201,Q6202		2SC2712		C6115,C6125,C6126,C6211,C6254	CKSQYB102K50		
				C6601	CKSQYB102K50		
Q6103,Q6214,Q6601		2SC2714		C6102,C6114,C6121,C6123,C6124	CKSQYB103K50		
Q6104,Q6105		2SK302		C6210,C6213,C6237,C6267,C6276	CKSQYB103K50		
Q6101		3SK194		C6279,C6281,C6604	CKSQYB103K50		
Q6204		DTA124ES		C6251,C6252	CKSQYB123K50		
Q6205		DTC124EK		C6606,C6607	CKSQYB182K50		
				C6203,C6259	CKSQYB223K50		
D6202		1SS254		C6228	CKSQYB472K50		
D6101-D6104		1SV228		C6209	CKSQYB473K50		
COILS AND FILTERS				C6230	CKSQYB821K50		
L6106	FM COIL	ATC1003		C6218,C6223,C6255	CKSQYF103Z50		
L6105	FM RF COIL	ATC1015		C6220,C6226,C6242,C6256	CKSQYF223Z50		
L6101	FM ANTENNA COIL	ATC1016		C6225	CKSQYF473Z50		
L6102	FM ANTENNA COIL	ATC1017		C6610	CKSYB103K50		
L6103	FM RF DRIVE COIL	ATC1018					
L6104	FM RF TUNING COIL	ATC1019		RESISTORS			
F6203	FM CERAMIC FILTER	ATF-119		R6602	RD1/4PU221J		
F6206	FM CERAMIC DISCLI.	ATF7008		R6115,R6119,R6123,R6127,R6129	RS1/8S0R0J		
F6601	ANTI BIRDY FILTER	ATF7009		R6906,R6909,R6911	RS1/8S0R0J		
F6204	FM CERAMIC FILTER	ATF7010		R6112	RS1/8S473J		
				VR6201 (10kΩ)	RCP1045		
F6202	AM CERAMIC FILTER	ATF7011		Other Resistors	RS1/10S□□□J		
L6107	CHIP COIL	ATH1043					
L6603		LAU220J		OTHERS			
L6206,L6208,L6605		LAU2R2J		BN6202	2P ANTENNA TERMINAL AKA7001		
TRANSFORMERS				X6202	CERAMIC RESONATORASS1066 (456kHz)		
T6201		ATB7008		X6201	CRYSTAL RESONATORASS1093 (7.2000MHz)		
T6101		ATE7002		CN6201	14P SOCKET	KP200IA14L	
CAPACITORS							
C6113,C6212,C6274,C6275,C6611	CCSQCH101J50			AB FM/AM TUNER MODULE (AXQ7065)			
C6116,C6208,C6221	CCSQCH150J50			SEMICONDUCTORS			
C6222	CCSQCH180J50			IC6201	LA1832ML		
C6271	CCSQCH200J50			IC6202	LC72131MD		
C6117	CCSQCH330J50			Q6402	2SC2223		
C6608	CCSQCH680J50			Q6203	2SC2705		
C6118	CCSQCH8R0D50			Q6201,Q6202	2SC2712		
C6111,C6122	CCSQCK1R0C50			Q6214,Q6403	2SC2714		
C6112,C6127	CCSQCK2R0C50			Q6404	2SK302		
C6105	CCSQSL471J50			Q6401	3SK194		
C6101	CCSQTH110J50			Q6204	DTA124ES		
C6119	CCSQTH150J50			Q6205	DTC124EK		
C6109	CCSQTH270J50			D6202	1SS254		
C6107,C6110	CCSQTH300J50			D6401,D6402	1T378A		
C6106	CCSQTH330J50						
C6234,C6235	CEAL1R0M50			COILS AND FILTERS			
C6245	CEAL470M16			L6404	FM COIL	ATC1003	
C6224	CEAS100M50			L6401	FM RF COIL	ATC1020	
C6243	CEAS101M16			L6402	FM RF COIL	ATC1021	
C6231	CEAS1R0M50			F6204	FM CERAMIC FILTER	ATF-107	
C6227	CEAS220M16			F6203	FM CERAMIC FILTER	ATF-119	
C6236	CEAS2R2M50						
C6216	CEAS330M16						
C6262	CEAS3R3M50						
C6219	CEAS470M10						

Mark	No.	Description	Part No.
	F6401	FM BAND PASS FILTER	ATF-155
	F6206	FM CERAMIC DISCLI.	ATF7008
	F6202	AM CERAMIC FILTER	ATF7011
	L6206,L6208,L6403		LAU2R2J

TRANSFORMERS

T6201	ATB7008
T6401	ATE7002

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 (10kΩ)	PCP1029
Other Resistors	RS1/10S□□□J

OTHERS

BN6202	4P ANTENNA TERMINAL	AKE7051
X6202	CERAMIC RESONATOR	RASS1066
	(456kHz)	
X6201	CRYSTAL RESONATOR	RASS1093
	(7.2000MHz)	
CN6201	14P SOCKET	KP200IA14L

Mark	No.	Description	Part No.
		CD-R CORE ASSY	
		SEMICONDUCTORS	

	IC502	AD1893JST
	IC101	AK8563
△	IC321	BA05FP
	IC561	BA7082F
	IC303 (BR93LC46F)	PYY1196
	IC401	CXD2585Q
	IC141,IC161,IC255,IC508	HD74HC4053FP
	IC371	HD74HC573FP
	IC501	LC89585
	IC503	LH64256CK-70
△	IC931	LP2980IM5-5.0
	IC451	M56788FP
	IC252-IC254	NJM2100M
	IC181	NJM2137M
	IC304	NJM2904M
	IC251	NJU7016M
	IC201	PA9007A
	IC507	PCX1026
	IC351	PDJ014A
	IC431	PK041A
	IC301	PE5109A
	IC932	PST994C
	IC362	TC7S00F
	IC363,IC562	TC7S04F
	IC305,IC509	TC7S08F
	IC361,IC364	TC7S14F
	IC302	TK11041M-1
	Q102	DTA114TK
	Q204,Q401,Q402	DTA124EK
	Q551	DTA143EK
	Q101,Q142,Q201-Q203	DTC114TK
	Q103,Q141,Q301-Q303	DTC124EK
	D101,D151,D182,D201,D302	1SS355
	D321,D322,D361,D362	1SS355
	D102,D181,D202,D251	DA204K
	D551	DAN202K
	D301	DAP202K
	D141,D252,D323	MA704
	D204	UDZ3.0B

COILS AND FILTERS

L434,L505 (CHIP COIL)	DTL1058
L101,L302,L305-L309	OTL1040
(CHIP SOLID INDUCTOR)	
L311-L315,L318,L319	OTL1040
(CHIP SOLID INDUCTOR)	
L322-L324,L351,L371	OTL1040
(CHIP SOLID INDUCTOR)	
L511-L513,L515-L518,L522	OTL1040
(CHIP SOLID INDUCTOR)	
L524,L526(CHIP SOLID INDUCTOR)	OTL1040
L568 (CHIP SOLID INDUCTOR)	QTL1015
F401,F403,F432,F433	VTF1097
(CHIP SOLID INDUCTOR)	
F501-F504,F506-F508,F510	VTF1097
(CHIP SOLID INDUCTOR)	
F514,F520,F521,F527	VTF1097
(CHIP SOLID INDUCTOR)	
F551,F552,F561	VTF1097
(CHIP SOLID INDUCTOR)	

XR-MR7

Mark	No.	Description	Part No.
CAPACITORS			
	C122,C507		CCSQCH100D50
	C159,C434,C551,C564		CCSQCH101J50
	C508		CCSQCH120J50
	C563		CCSQCH160J50
	C406		CCSQCH221J50
	C107,C404		CCSQCH331J50
	C263,C311		CCSQCH470J50
	C213,C256,C408		CCSQCH471J50
	C418		CCSQCH681J50
	C101		CCSQCH6R0D50
	C518		CCSQCH820J50
	C183,C184		CCSQCJ3R0C50
	C480-C482		CCSQSL471J50
	C321,C465,C931		CEAL100M50
	C121,C126,C327,C401,C409		CEAL101M6R3
	C417,C901,C902		CEAL101M6R3
	C307		CEAL1R0M50
	C216		CEAL2R2M50
	C933		CEAL3R3M50
	C181,C452,C477,C903		CEAL470M16
	C130,C201,C209,C211,C253		CEAL470M6R3
	C323,C368,C431,C502,C512		CEAL470M6R3
	C515,C520,C553,C559,C566		CEAL470M6R3
	C308		CEAL4R7M50
	C155,C157,C207,C233		CKSQYB102K50
	C257,C403,C407,C501,C517		CKSQYB103K50
	C109,C110,C112,C230,C231		CKSQYB103K50
	C251,C324,C412,C454-C459		CKSQYB103K50
	C470-C473,C505,C510,C558		CKSQYB103K50
	C567,C934		CKSQYB103K50
	C142,C151,C182,C224-C226		CKSQYB104K25
	C361,C364,C453,C476		CKSQYB104K25
	C504,C932		CKSQYB104K25
	C105,C116,C127,C232,C258		CKSQYB105K10
	C514,C557		CKSQYB105K10
	C208,C414		CKSQYB152K50
	C451		CKSQYB182K50
	C156,C203		CKSQYB223K50
	C113-C115,C117,C118		CKSQYB224K16
	C304,C305,C460,C462		CKSQYB224K16
	C212		CKSQYB272K50
	C104,C221		CKSQYB331K50
	C103		CKSQYB333K50
	C131,C215,C227-C229		CKSQYB334K16
	C128,C134,C363,C474,C475		CKSQYB471K50
	C206,C413		CKSQYB473K25
	C102		CKSQYB473K50
	C119,C204,C468,C469		CKSQYB681K50
	C463,C464		CKSQYB682K50
	C205		CKSQYB823K25
	C133,C153,C254,C303,C322		CKSQYF103Z50
	C362,C416,C433,C519		CKSQYF103Z50
	C521,C522,C555,C561,C562		CKSQYF103Z50
	C568,C569,C905		CKSQYF103Z50
	C106,C108,C111,C120,C123		CKSQYF104Z25
	C125,C129,C132,C143,C152		CKSQYF104Z25
	C154,C158,C161,C202,C210		CKSQYF104Z25
	C214,C217,C255,C260-C262		CKSQYF104Z25
	C301,C302,C306,C309,C310		CKSQYF104Z25
	C312,C313,C326,C365-C367		CKSQYF104Z25

Mark	No.	Description	Part No.
	C369,C371,C402,C405		CKSQYF104Z25
	C410,C411,C415,C432		CKSQYF104Z25
	C466,C467,C503,C506,C509		CKSQYF104Z25
	C511,C513,C516,C523,C552		CKSQYF104Z25
	C554,C560,C565		CKSQYF104Z25
	C124,C328,C570,C904		CKSQYF473Z25
	C325 (1F/5.5V)		VCH1039
RESISTORS			
	R113,R441,R442,R514 (330Ω)		ACN7054
	R308,R417 (470Ω)		ACN7056
	R313 (47kΩ)		ACN7077
	R401,R416,R433 (100Ω)		DCN1092
	R507 (220Ω)		DCN1093
	R181,R371,R372,R501 (10kΩ)		DCN1094
	R570 (0Ω)		DCN1106
	R143 (2.2kΩ)		PCN1039
	VR101,VR161-VR164 (4.7kΩ)		VCP1154
	VR141 (22kΩ)		VCP1158
	Other Resistors		RS1/10S□□□ J
OTHERS			
	X501 CRYSTAL (16.9344MHz)		PSS1008
	X301 CERAMIC (32MHz)		PSS1023
	CN453 KR CONNECTOR		B2B-PH-K-S
	CN451 KR CONNECTOR 3P		B3B-PH-K-S
	CN901 KR CONNECTOR		S6B-PH-K-S
	CN301 15P FFC CONNECTOR		VKN1275
	CN501 21P FFC CONNECTOR		VKN1281
	CN101 32P FFC CONNECTOR		VKN1463
	KN101, KN321, KN501, KN901		VNF1084
	EARTH METAL FITTING		
C SERVO MECHANISM ASSY			
SEMICONDUCTORS			
	PC651		NJL5803K-F1
SWITCH			
	S601		PSG1013
RESISTORS			
	All Resistors		RD1/4PU□□□ J
OTHERS			
	J601 (JUMPER WIRE)		D20PWW0305E
	CN601 (9P CONNECTOR)		S9B-PH-K-S
D LOADING A ASSY			
SWITCH			
	S501		VSK1011
OTHERS			
	CN501 (3P CONNECTOR)		S3B-PH-K-S
E LOADING B ASSY			
OTHERS			
	CN551 (2P CONNECTOR)		B2B-PH-K-S

Mark	No.	Description	Part No.
H		MOTOR UNIT	
		SWITCH	
	S106		DSG1016

OTHERS

6P CABLE HOLDER 51048-0600

G **LOADING UNIT**
SWITCHES

S104,S105 ASG7018

OTHERS

4P CABLE HOLDER 51048-0400
 6P CABLE HOLDER 51048-0600
 J101 2mm JUMPER WIRE 4P D20PDD0420E
 J102 2mm JUMPER WIRE 6P D20PDD0615E

F **SELECT UNIT**
SWITCHES

S102 ASG7019
 S101 ASG7022
 S103 DSG1016

OTHERS

4P CABLE HOLDER 51048-0400

I **AF ASSY**
SEMICONDUCTORS

IC3151,IC7231	BA4558F-HT
IC5751	BU1923F
IC1101	CXA2570N
IC1201	CXD2587Q
IC3031	LC75396NE
IC1301	M56788FP
IC3081	M62457AFP
△ IC21	NJM78M56FA
IC7301	PCM1800-1
IC5501	PD5545A
IC7501	PE51113B
IC7401	PE8001A
IC7502	TC7SU04F
IC3101	TC9164AF
IC3131	UPC45702G2
Q4601,Q5751	2SA1037K
Q1101	2SA854S
Q1406	2SB1132
Q1341,Q1345,Q22	2SB1237X
Q1201,Q1405,Q1911,Q5505	2SC2412K
Q1342,Q1346,Q21	2SD1858X
Q1401,Q1402,Q3121,Q3122	2SD2114K
Q7231,Q7232	2SD2114K
Q3141,Q3142	2SK208
Q1901,Q3125,Q3143	DTA124EK
Q3144,Q4602,Q5501,Q5502	DTC124EK
Q7236,Q7237,Q7304,Q7502	DTC124EK
Q7509,Q7510	DTC124TKA
Q1343,Q1344	DTC143EK
D1341,D1342,D1344,D1345	1SS133
D3151,D5501,D21-D23,D5503	1SS133

Mark	No.	Description	Part No.
		D5505-D5507,D7231	1SS133
		D3152,D3153,D7403,D7404	1SS355
		D3101,D7301,D7401	DAN202K
		D7302,D7402	DAP202K
		D1343,D5504	S5688G
		D3102,D7232	UDZS6.2B

COILS

L3101,L3102 ATH-133
 L1201,L1231,L1232,L1601,L4601 LAU100J
 L5501,L7501 LAU100J
 L5751 LAU1R0J
 L7301,L7401 LAU220J
 L501 VTL1094
 L7306,L7451,L7453,L7601 VTL1096
 L1602,L7451,L7452 VTL1105

CAPACITORS

C3345,C3346 ACG7041
 C5512 (0.047F) ACH1246
 C3145,C3146 CCSQCH100D50
 C1204,C2551- C2553,C5513- C5517 CCSQCH101J50
 C5504,C5533- C5535,C7241,C7242 CCSQCH101J50
 C7313,C7409,C7411,C7412,C7515 CCSQCH101J50
 C1401,C1402 CCSQCH151J50
 C1121 CCSQCH220J50
 C1239,C1246,C2103-C2104 CCSQCH221J50
 C3070-C3072 CCSQCH221J50
 C1247,C1351,C5571 CCSQCH471J50
 C5751,C5752 CCSQCH270J50
 C5757 CCSQCH271J50
 C3101-C3104 CCSQCH331J50
 C1247,C1351,C3203- C3206,C5571 CCSQCH471J50
 C1403,C1404 CCSQCH681J50
 C3065,C3066 CEANL2R2M50
 C1324,C21,C2107,C2108 CEAT100M50
 C3063,C3151,C2758 CEAT100M50
 C1101,C1108, C1233,C1240 CEAT101M10
 C1242,C1249,C1411,C1412,C1602 CEAT101M10
 C3091,C3143,C3144,C3150,C4602 CEAT101M10
 C5507,C5510 CEAT101M10
 C3119 CEAT101M25
 C7002 CEAT102M16
 C3059,C5501,C5519,C5520 CEAT1R0M50
 C3067 CEAT220M25
 C1352,C3019,C3020,C3031-C3036 CEAT2R2M50
 C3039,C3040,C3043,C3045,C3061 CEAT2R2M50
 C3073,C3105,C3106,C3117,C3118 CEAT2R2M50
 C3126,C3127,C3137,C3138 CEAT2R2M50
 C3161,C3162 CEAT2R2M50
 C3120,C5754 CEAT330M16
 C1343 CEAT331M10
 C3131,C3132 CEAT470M10
 C3027 CEAT470M16
 C22 CEAT470M35
 C3139 CEAT470M35
 C5620,C5910 CEAT470M50
 C1321 CEAT471M6R3
 C3041 CEATR10M50
 C1238 CEATR47M50
 C1405,C1406,C3064,C7231,C7232 CEJA100M50
 C7245 CEJA100M50
 C7306,C7311,C7402,C7407,C7509 CEJA101M10

Mark	No.	Description	Part No.
	C3060,C7301,C7302		CEJA1R0M50
	C3069		CEJA220M25
	C3999		CEJA220M35
	C3037,C3038,C3044,C3046,C3062		CEJA2R2M50
	C3074,C7504		CEJA2R2M50
	C7243,C7244		CEJA470M10
	C3068,C7233		CEJA470M25
	C7303,C7304,C7403,C7404		CEJA4R7M50
	C3042		CEJAR10M50
	C3051,C3052		CFTLA334J50
	C3047,C3048		CFTLA394J50
	C3123,C5518,C7003,C7004		CKSQYB102K50
	C1105,C1107,C1205,C1234,C1237		CKSQYB103K50
	C1241,C1250,C1253,C1322,C1323		CKSQYB103K50
	C1325,C1413-C1415,C1603,C5502		CKSQYB103K50
	C5511,C5521-C5527,C5529-C5532		CKSQYB103K50
	C5537,C5598,C5599,C5753,C5755		CKSQYB103K50
	C7451,C7508		CKSQYB103K50
	C1109,C1114,C1245,C1276		CKSQYB104K25
	C3081,C3082,C3098,C3335-C3340		CKSQYB104K25
	C4601,C7506,C7511,C7701		CKSQYB104K25
	C3057,C3058		CKSQYB122K50
	C1236,C3133,C3134,C7235,C7236		CKSQYB152K50
	C7239,C7240		CKSQYB152K50
	C1231,C1248		CKSQYB222K50
	C3053,C3054,C3084,C3085		CKSQYB273K50
	C1319,C1320		CKSQYB333K50
	C7307,C7308,C7503		CKSQYB471K50
	C3015		CKSQYB473K25
	C1235,C3083		CKSQYB473K50
	C5756		CKSQYB561K50
	C3135,C3136		CKSQYB562K50
	C3023,C3024,C3055,C3056		CKSQYB682K50
	C1303,C1304,C1307,C1308		CKSQYB821K50
	C1311		CKSQYB822K50
	C3049,C3050		CKSQYB823K25
	C1113,C1305,C3025,C3090,C5503		CKSQYF104Z25
	C5505,C5508,C5509,C7305		CKSQYF104Z25
	C7309,C7310,C7312,C7401		CKSQYF104Z25
	C7405,C7406,C7408,C7410,C7413		CKSQYF104Z25
	C2199,C3201		CKSQYF105Z16

RESISTORS

R3333,R3334	RD1/2LMF100J
R7409	RD1/4PU101J
R4610	RD1/4PU102J
R1431,R1432	RD1/4PU220J
R3146	RD1/4PU221J

R7236	RD1/4PU222J
R1331,R1418,R7603	RD1/4PU471J
R7516	RD1/4PU473J
R1319,R1320	RS1/10S1802F
R1317,R1318	RS1/10S4702F

Other Resistors	RS1/10S□□□J
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OTHERS

X5501	CERAMIC RESONATOR	ASS7020
	(16MHz)	
X5751	CRYSTAL RESONATOR	ASS7004
	(4.332MHz)	
X7501	S.C.R (4.19MHz)	VSS1014
CN1101	16P FFC CONNECTOR	52030-1610
CN3201	9P FFC CONNECTOR	52044-0945

Mark	No.	Description	Part No.
	CN21	5P JUMPER CON.	52147-0510
	CN5501	27P FFC CONNECTOR	9604S-27C
	CN3011	4P PIN JACK	AKB7015
	CN3101	4P SPEAKER TERMINAL	AKE7030
	CN1901	16P PLUG	AKM7049
	CN2551	5P SOCKET	AKP7042
	BZ5501	BUZZER	APV7002
	CN7703	KR CONNECTOR	B6B-PH-K-S
	JA4601	OPTICAL RECEIVE MOD.	GP1F37R
	JA3012	2P PIN JACK	RKB1041
	JA7601	REMOTE JACK	RKN1004
	CN521	CONNECTOR	TUC-P07P-B1
	CN3102,CN6003	CONNECTOR	TUC-P18P-B1
	CN7702	15P FFC CONNECTOR	VKN1191
	CN7701	21P FFC CONNECTOR	VKN1197
		PCB BINDER	VEF1040

P H.P ASSY

CAPACITORS

C3901,C3902	CCSQCH221J50
C3903	CKSQYF104Z25

RESISTORS

R3901,R3902	RS1LMF331J
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OTHERS

3902	MINI JACK	AKN7020
3901	9P CABLE HOLDER	51048-0900
J3901	9P (2mmP)JUMPER	D20PDY0935E

J AMP ASSY

SEMICONDUCTORS

△	IC15 (7A)	AEK7021
△	IC5003	NJM7812FA
△	IC3301	STK407-040B
	Q304,Q320,Q3608,Q3609	2SA1037K
	Q303,Q3605-Q3607,Q3610,Q3611	2SC2412K

△	Q3301,Q3302	2SD2114K
	Q5001	2SD2395
	Q324,Q3303,Q3612	DTA124EK
	Q322,Q323	DTC124EK
△	Q301	IRF19Z34G

△	Q302	IRFIZ34G
	D307,D308,D322,D3303-D3306	1SS133
	D3602,D3604-D36011,D3701-D3705	1SS133
	D3707-D3710,D3712,D5003	1SS133
	D303,D304	20E2-FC

△	D301,D302	D3SBA20(B)
△	D5014	D5SBA20(B)
	D309,D310	MTZJ10C
	D305,D306	MTZJ18B
	D5001,D5006	MTZJ20A

	D311,D312	MTZJ27C
	D5008	MTZJ5.6B
	D5004	MTZJ7.5A
△	D3301,D3302,D5002,D5005	S5688G

CAPACITORS

C3305,C3317	CCSQCH101J50
C3307,C3308	CCSQCJ3R0C50
C3315,C3316	CEANP220M35
C3319,C3603,C5008	CEAT100M50
C3302,C3304	CEAT101M50

Mark	No.	Description	Part No.
	C305,C3313,C3314,C3604,C5007		CEAT1R0M50
	C306		CEAT220M50
	C3602		CEAT221M16
	C301-C304		CEAT222M50
	C5001		CEAT330M2A
	C5004,C5005		CEAT470M10
	C5002		CEAT470M2A
	C5018		CEAT471M50
	C5009		CEAT472M25
	C5010		CKSQYB103K50
	C3318		CKSQYB104K25
	C3311,C3312		CKSQYB471K50
	C3301,C3303,C3306,C6001		CKSQYF104Z50
	C6002		CKSQYF105Z16

RESISTOR

R5001	RD1/2VM332J
R301,R302	RD1/4PU101J
R3615	RD1/4PU103J
R3714	RD1/4PU104J
R6002	RD1/4PU473J
R3307,R3308	RD1/4PU563J
R3601,R3602	RS2LMFR22J
Other Resistors	RS1/10S□□□□

OTHERS

△	CN5001	12P JUMPER CON.	52147-1210
	CN3101	9P JUMPER CON.	52151-0910
	RY3601	SP RELAY /12V	ASR7007
	CN6001	14P PLAG	KM200IA14
	CN3002	2mm CONNECTOR	TUC-P07X-B1
	CN6002	2mm CONNECTOR	TUC-P18X-B1
	CN3001	2mm CONNECTOR	TUC-P18X-B1
		PCB BINDER	VEF1040
	CN11	12P JUMPER CON.	KPD12

U REG ASSY**SEMICONDUCTORS**

△	IC501,IC502,IC504,IC505	NJM7805FA
△	IC503	NJM7806FA
△	Q501	2SD2395
△	D512	1S133
	D501-D505	MTZJ8.2B
	D511	MTZJ9.1C

CAPACITORS

C502,C504,C506,C508	CEAT100M50
C510,C511	CEAT100M50
C501,C503,C505,C507,C509	CEAT1R0M50
C512	CEAT470M50

RESISTORS

Other Resistors	RD1/4PU□□□□
-----------------	-------------

OTHERS

501	12P CABLE HOLDER	51048-1200
J501	2mm12P JUMPER WIR.	D20PDY1225E

S SECONDARY ASSY**SEMICONDUCTORS**

△	IC14 (4A)	AEK7018
△	IC18,IC19 (7A)	AEK7021
	D5009- D5012	S5688G

Mark	No.	Description	Part No.
CAPACITORS			
	C5006		CEAT102M25
	C19		CQMA103J50

OTHERS

1002	12P CABLE HOLDER	51052-1200
J11	2mm12P JUMPER WIR.	DXUY1230E
	PCB BINDER	VEF1040

T PRIMARY ASSY**OTHERS**

△	H3,H4	FUSE CLIP	AKR1003
	CN4	2P-VH CONNECTOR	B2P3-VH

Q SUBTRANS ASSY**SEMICONDUCTORS**

△	D11	1SS133
	D12	S1WB(A)60SD

CAPACITORS

△	C2 (10000pF/AC250V)	ACG7033
	C12	CEAT471M16
	C11	CEAT471M35

RESISTORS

R24	RD1/4PU224J
-----	-------------

OTHERS

△	13	5P CABLE HOLDER	51048-0500
△	T2	SUB TRANSFORMER	ATT7064
	J13	2mm 5P JUMPER WIR.	D20PDY0535E
△	RY11	RELAY	ASR7013

R AC IN/OUT ASSY**COIL**

△	L1	ATF-151
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CAPACITORS

△	C1	(10000pF/AC250V)	ACG7033
---	----	------------------	---------

OTHERS

△	J1	HOUSING WIRE	ADX7307
△	CN2	AC OUTLET	AKP1034
△	CN1	AC INLET	AKP1121
	H1,H2	FUSE CLIP	AKR1003

K DISPLAY ASSY**SEMICONDUCTORS**

IC5801	BU2092F
IC5601	TC7S32F
Q5601	2SB1238X
Q5602	2SC2412K
Q5603	DTC144EK
D5601,D5602,D5901	1SS133
D5801-D5804	SLR-343VC(NPQ)

COILS

L5901	LAU100J
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XR-MR7

Mark	No.	Description	Part No.
SWITCHES			
	S5901-S5909,S5914-S5921		ASG7013
CAPACITORS			
	C5612	CCSQCH101J50	
	C5928	CCSQCH221J50	
	C5610	CEAT101M10	
	C5608	CEAT220M50	
	C5601	CEAT470M50	
	C5903,C5904	CEJA220M50	
	C5901	CEJA470M6R3	
	C5902	CKSQYB103K50	
	C5615	CKSQYB104K25	
	C5616	CKSQYB224K16	
	C5606,C5609,C5801	CKSQYF104Z25	
	C5602,C5603,C5607	CKSQYF104Z50	
RESISTORS			
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN5601	27P FFC CONNECTOR	9604S-27F
	CN5901	21P FFC CONNECTOR	9607S-21F
	V5601	FL TUBE	AAV7073
	5901	REMOTE RECEIVER UNIT	GP1U28X
		PCB BINDER	VEF1040
		FL HOLDER	VNF1087
L SW JOG ASSY			
SEMICONDUCTORS			
	Q5952	DTA114EK	
	Q5951	DTA143EK	
	D5951	1SS133	
	D5953-D5955,D5959,D5960	SLR-343VC(NPQ)	
SWITCHES			
	S5951-S5957, S5959- S5964	ASG7013	
	S5965	ASX7032	
	S5966,S5969,S5970	ASX7033	
RESISTORS			
	R5952,R5964	RD1/4PU102J	
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN5952	5P FCC CONNECTOR	52045-0545
	CN5951	21P FF CONNECTOR	9607S-21C
	CN5953	4P SOCKET	KP200IB4L
N CDR LED ASSY			
SEMICONDUCTORS			
	D5981,D5982	SLR-343VC(NPQ)	
RESISTORS			
	R5995,R5996	RS1/10S221J	
OTHERS			
	CN5962	5P FFC CONNECTOR	52045-0545

Mark	No.	Description	Part No.
O FRONT LINE ASSY			
SEMICONDUCTORS			
	Q3123,Q3124		2SD2114K
COILS			
	L5401, L5402		LAU100J
	L5404- L5409		VTL1096
CAPACITORS			
	C5401-C5406	CCSQCH221J50	
	C5409	CEJA101M10	
	C5413,C5414	CKSQYB102K50	
	C5407	CKSQYB103K50	
	C5410- C5412	CKSQYF104Z25	
RESISTORS			
	R3128	RD1/4PU102J	
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN5403	9P FFC CONNECTOR	52045-0945
	5402	MINI JACK	AKN-210
	5401	MINI JACK	AKN7003
	JA5403	OPTICAL LINK OUT	GP1F32T
M CDR SW ASSY			
SWITCHES			
	S5991- S5993		ASG7013
RESISTORS			
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN5954	4P PLUG	AKM7028
V LEGATO ASSY			
SEMICONDUCTORS			
	IC1902	BA4558F-HT	
	IC1901	PA8001A	
	D1903,D1904	1SS355	
	D1901	DAN202K	
	D1902	DAP202K	
	D1905	MTZJ6.2B	
CAPACITORS			
	C1905-C1919	CCSQCH101J50	
	C1901	CKSQCH240J50	
	C1902	CKSQCH300J50	
	C1906,C1910,C1926	CEJA100M50	
	C1903,C1912	CEJA101M10	
	C1913,C1914	CEJA470M10	
	C1927	CEJA470M25	
	C1907,C1908	CEJA4R7M50	
	C1920,C1921,C1924,C1925	CKSQYB152K50	
	C1904,C1905,C1909,C1911	CKSQYF104Z25	
RESISTORS			
	Other Resistors		RS1/10S□□□J
OTHERS			
	X1901	CERAMIC (16MHz)	PSS1008
	CN1902	16P SOCKET	AKP7122

6. ADJUSTMENT

6.1 TUNER SECTION

6.1.1 For MY Type

■ 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, $\pm 75\text{kHz dev.}$)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dB μV)			
1	Front End Sensitivity	106	0 to 30	106MHz	L6104 L6105 L6102 T6101	Adjust so that the DC voltage between the IC6201 - pin 20 and GND becomes at maximum level.
2	Stereo Distortion	98 (ON STEREO)	80	98MHz	T6101	Minimize the distortion with 1/8 rotation of the core.
3	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 L6101 and L6102 as well as between L6103 and L6104. 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 (dB $\mu\text{V/m}$)			
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, frequency should be 1000kHz.

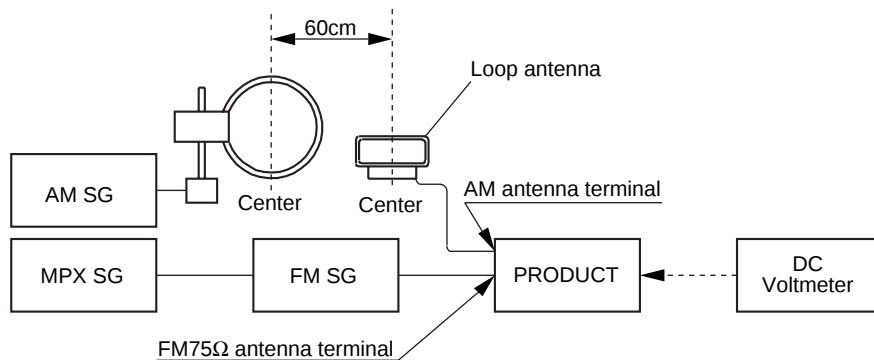


Fig.1 AM and FM Adjustment Wiring Diagram

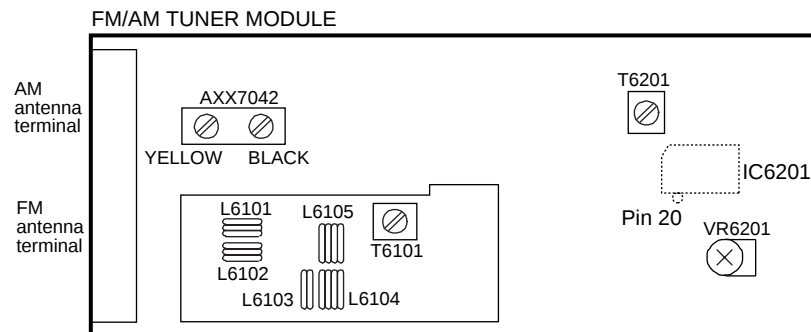


Fig.2 Adjustment Point

6.1.2 For KU/CA Type

■ FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 3.

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. strats 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. 3.

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, frequency should be 1000kHz.

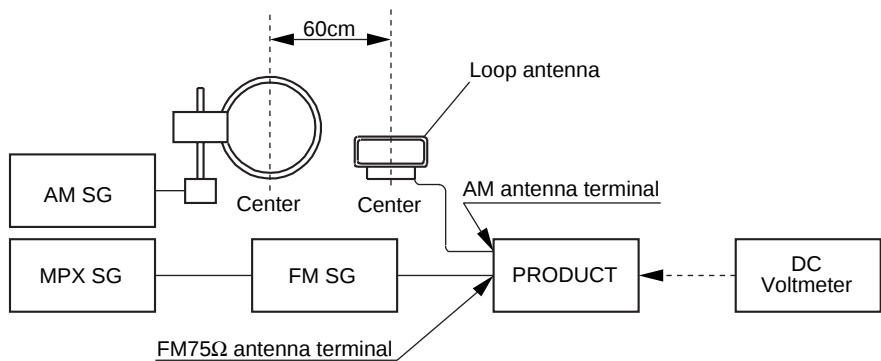


Fig.3 AM and FM Adjustment Wiring Diagram

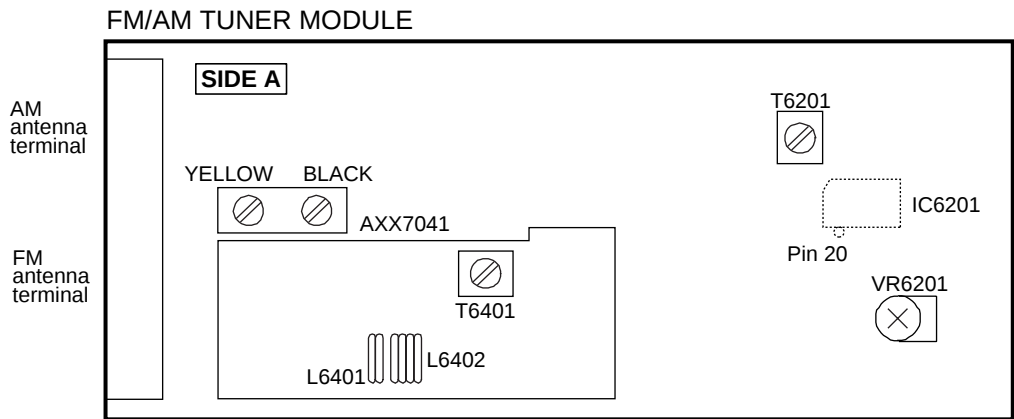


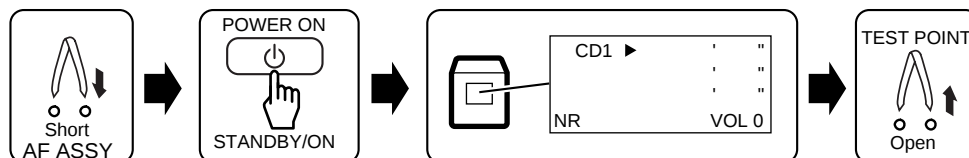
Fig.4 Adjustment Point

6.2 CD TEST MODE

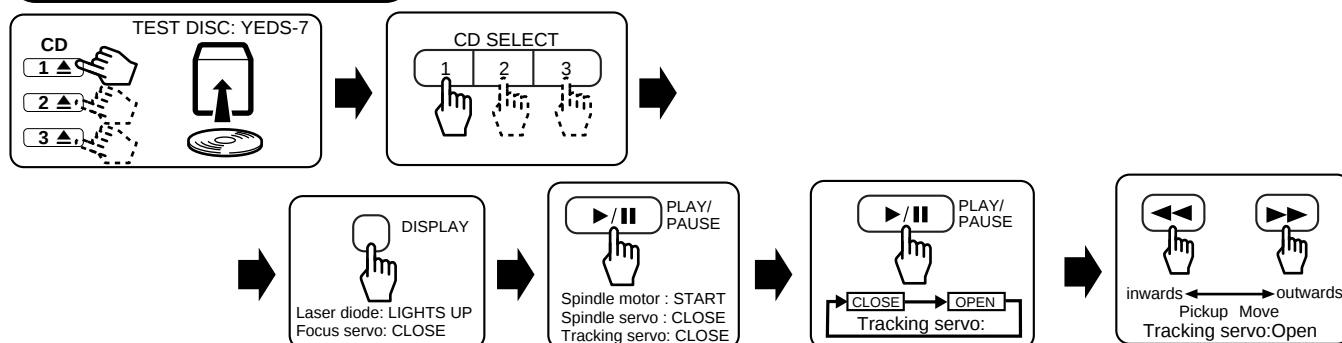
NOTE: There is no information to be shown in this CD adjustment.

■ How to Start/Cancel Test Mode

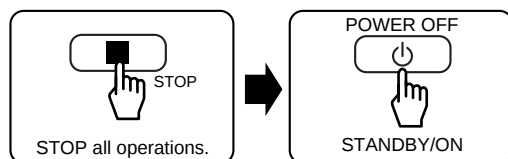
TEST MODE : ON



TEST MODE : PLAY



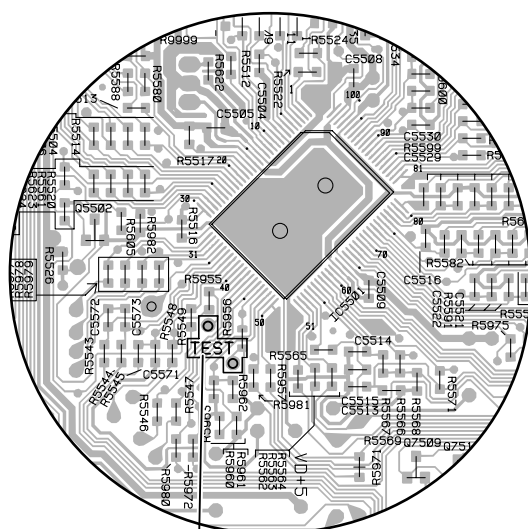
TEST MODE : STOP CANCEL



■ Test Point

I AF ASSY

SIDE B



TEST MODE
SHORT

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6.3.4 Operations in Test Mode

Please use the remote control provided with the XR-MR7 (AXD7242 or the LD sevice remote control (GGF1067)
In Test mode, the following adjustment functions are assigned to the buttons, as explained below.

Fig.1 During adjustment of LD power

[" ANA " segment lights this time]

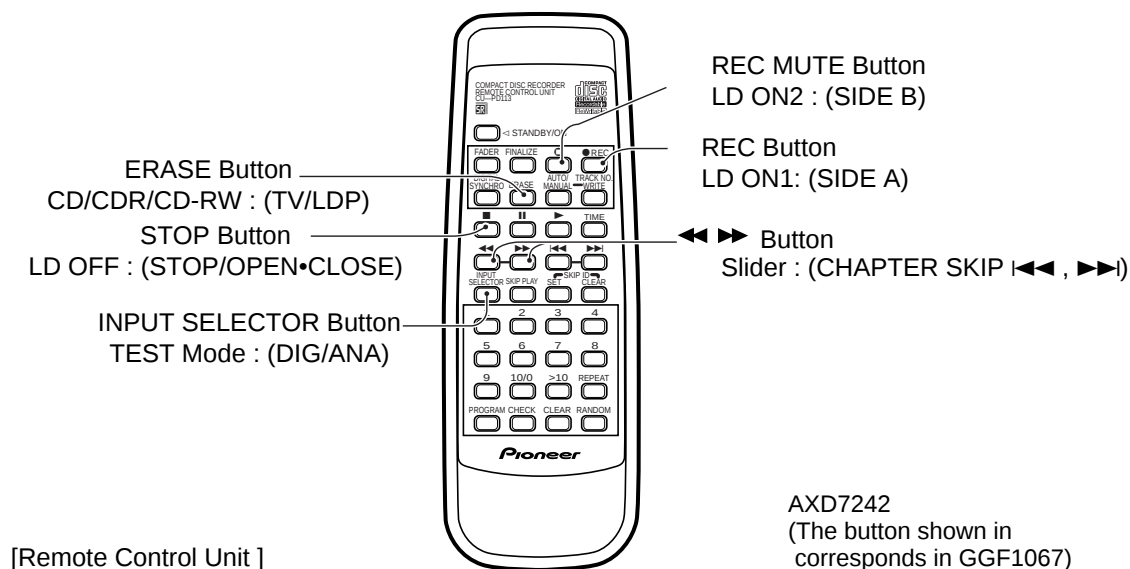
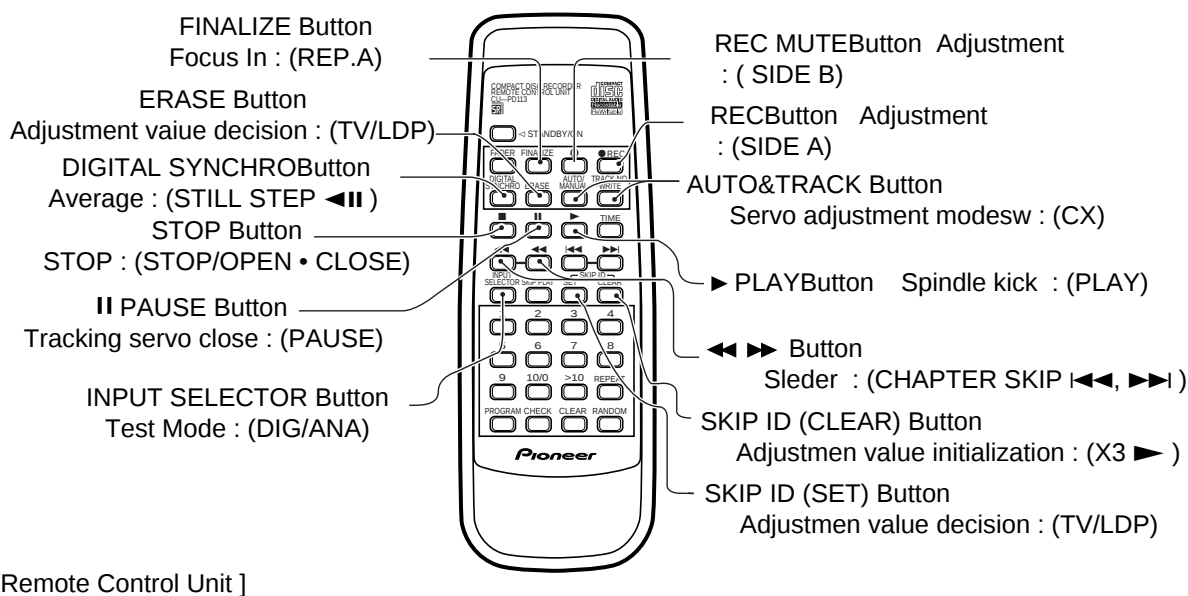


Fig.2 During adjustment of servo system

[" DIG " segment lights this time]



6.4 ADJUSTMENT 1 (LASER DIODE POWER ADJUSTMENT)

■ List of Adjustment

- (1) : 6.4.1 Playback Power Adjustment
- (2) : 6.4.2 CD-R Record Power Adjustment
- (2) : 6.4.3 CD-RW Record Power Adjustment

Note : (1) – (3) " ANA " Segment lights this time



CD-R CORE ASSY

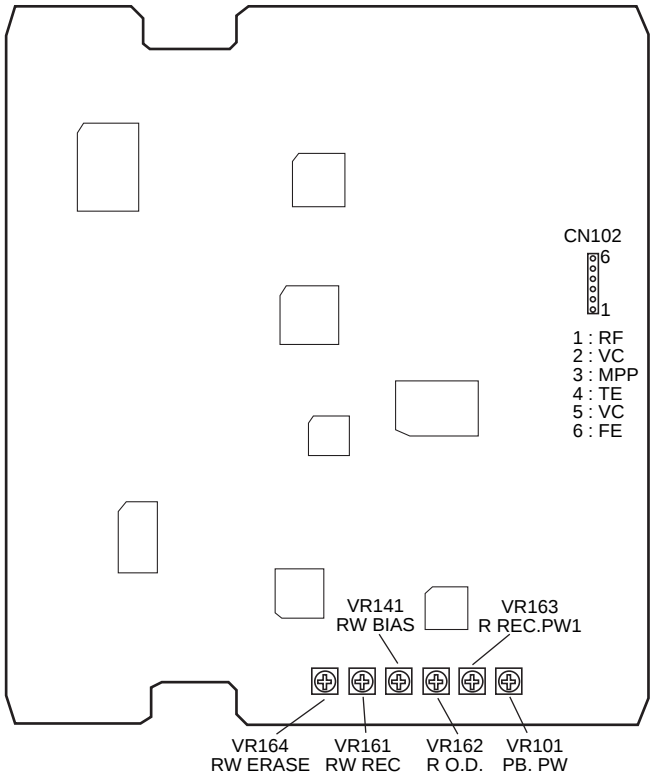


Fig. 4 Adjustment points

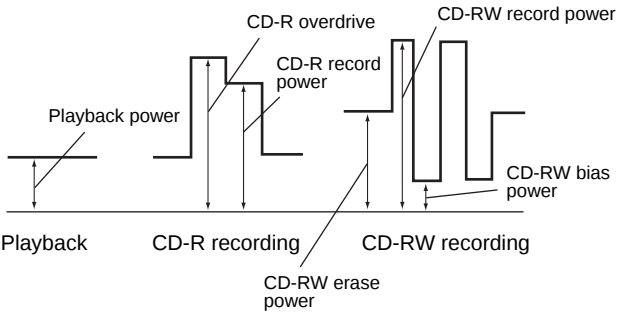


Fig.5 Output power of the laser diode

- Note 1 : Attach the remote sensor of the laser power meter to a point angled away about 10 degrees against the pickup lens and where the maximum power is detected, so that there will be no light reflected onto the pickup.
- Note 2 : When adjusting with VRs, first turn them completely counter-clockwise and then adjust clockwise, so that the value to be reached is not exceeded.
- Note 3 : The wave length setting of the lasser power meter is assumed to be 780 nm.

DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

6.4.1 Playback Power Adjustment

Test Point	Pickup objective lens
Adjustment Point	VR101 (PB. PW)
Adjustment Value	0.60 mW ± 0.05 mW

[Procedure]

- (1) Check that "CD" is displayed on the FL display. If "CD-R" or "CD-RW" is displayed, press the "ERASE" button repeatedly until "CD" is displayed.
- (2) Press the "RECORD" button.
- (3) Press the "REC MUTE" button. The LED for confirmation of LD emission will light in red. The LD is emitting in this status.
- (4) Turn VR101 clockwise until the adjustment value to be reached is obtained.
- (5) Press the "STOP" button to shut off the LD.

**DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.**

6.4.2 CD-R Record Power Adjustment

Test Point	Pickup objective lens
Adjustment Point	VR163 (R REC), VR162 (R O.D.)
Adjustment Value	VR163 : $4.60 \text{ mW} \pm 0.1 \text{ mW}$ VR162 : Addition of $0.1 \text{ mW} \pm 0.01 \text{ mW}$ to the adjustment value of VR163
[Procedure] - Turn VR163 and VR162 completely counterclockwise to set their power output to minimum. - Press the "ERASE" button once so that "CD-R" appears on the FL display. If the indication is "CD" or "CD-RW," press the ERASE button repeatedly until "CD-R" is displayed on the FL display. - Press the "RECORD" button. - Press the "REC MUTE" button. The LED for confirmation of LD emission will light in red. The LD is emitting in this status. Adjustment of CD-R record power - Turn VR163 clockwise until the adjusted value is $4.60 \text{ mW} \pm 0.1 \text{ mW}$. Adjustment of CD-R overdrive power - Turn VR162 clockwise until the adjusted value becomes adjustment value at Step 5 above + ($0.1 \text{ mW} \pm 0.01 \text{ mW}$). - Press the "STOP" button to shut off the LD.	

**DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.**

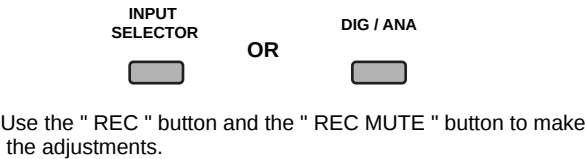
6.4.3 CD-RW Record Power Adjustment

Test Point	Pickup objective lens
Adjustment Point	VR141 (RW BIAS), VR161 (RW REC), VR164 (RW ERASE)
Adjustment Value	VR141 : $0.40 \text{ mW} \pm 0.05 \text{ mW}$ VR161 : $2.00 \text{ mW} \pm 0.1 \text{ mW}$ VR164 : $5.70 \text{ mW} \pm 0.1 \text{ mW}$
[Procedure] - Turn VR141, VR161 and VR164 completely counterclockwise to set their power output to minimum. - Press the "ERASE" button twice so that "CD-RW" appears on the FL display. If the indication is "CD" or "CD-R," press the "ERASE" button repeatedly until "CD-RW" appears on the FL display. - Press the RECORD button. - Press the REC MUTE button. The LED for confirmation of LD emission will light in red. The LD is emitting in this status. Adjustment of BIAS power - Turn VR141 clockwise until the adjusted value is $0.40 \text{ mW} \pm 0.05 \text{ mW}$. Adjustment of CD-RW record power - Turn VR161 clockwise until the adjusted value is $2.00 \text{ mW} \pm 0.1 \text{ mW}$. Adjustment of CD-RW erase power - Turn VR164 clockwise until the adjusted value is $5.70 \text{ mW} \pm 0.1 \text{ mW}$. - Press the "STOP" button to shut off the LD.	

6.5 ADJUSTMENT 2 (SERVO SYSTEM ADJUSTMENT)

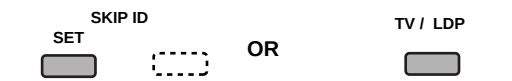
- List of Adjustment
- (4) : 6.5.1 Focus Offset Adjustment
- (5) : 6.5.2 M-S Mix Ratio Adjustment
- (6) : 6.5.3 Tracking Offset Adjustment
- (6) : 6.5.4 Focus Bias Adjustment

For servo adjustment, set the INPUT SELECTOR to OPTICAL.
" DIG " segment lights this time.



Use the " REC " button and the " REC MUTE " button to make the adjustments.

To register an adjustment, press the " (SKIP ID)SET " button.



To reset the adjusted values to the initial settings, press and hold the " (SKIP ID)CLEAR " button for 4 seconds.

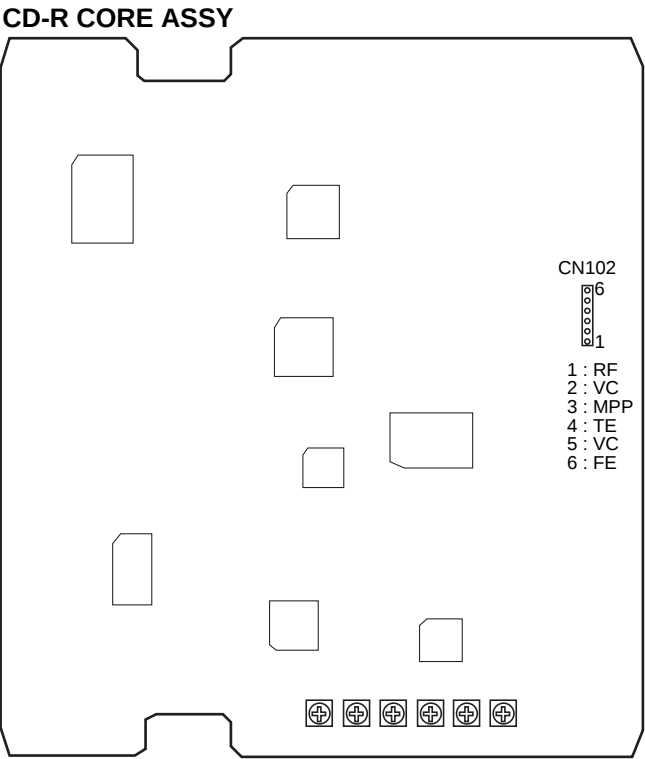
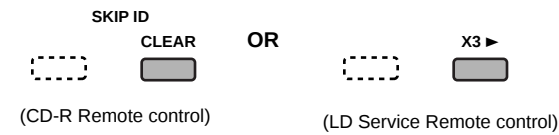


Fig. 6 Adjustment points

6.5.1 Focus Offset Adjustment

Test Point	CN102 - pin 6 (FE)
Adjustment Point	"RECORD" button and "REC MUTE" button
Adjustment Value	0 mV ± 10 mV
Symptom when out of adjustment	The model does not focus-in
[Procedure] (1) Press the "AUTO/MANUAL" button until "01 F4" appears on the FL display. (2) Adjust with the "RECORD" button and the "REC MUTE" button until the value for Pin 6 of CN102 is 0 mV ± 10 mV. (3) Press the "(SKIP ID)SET" button to register the adjustment. Once the adjustment is registered with the "SET" button, "D.VOL" on the FL display lights. FE ○ VC ○ 10 : 1 Oscilloscope 10:1 probe	

6.5.2 M-S Mix Ratio Adjustment

Test Point	CN102 - pin 4 (TE) and pin 3 (MPP)	Test Disc	STD-903
Adjustment Point	RECORD button and REC MUTE button		
Adjustment Value	Adjust until the value of the output signals from pin 4 (TE) and pin 3 (MPP) of CN102 are the same, or the differential output of these signals is minimal.		
Symptom when out of adjustment	Sound broken, record characteristics deteriorate		

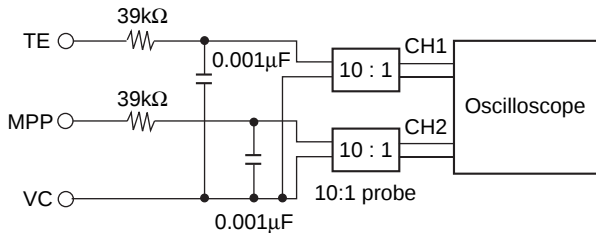
[Procedure]

- (1) Press the "AUTO/MANUAL" button so that "02 F3" appears on the FL display.
- (2) Press the "FINALIZE" button for focus-in.
- (3) Press the PLAY button for CAV-servo spindle kick (the status where the spindle rotates with the focus servo on and tracking servo off).
- (4) Adjust with the "RECORD" button and the "REC MUTE" button until the value to be reached is obtained.
- (5) Press the "SET" button to register the adjustment.

Once the adjustment is registered with the "SET" button, "D.VOL" on the FL display will disappear.

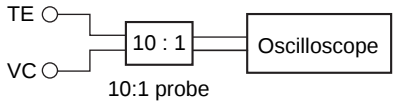
- (6) Press the "STOP" button to stop the unit.

Note: For adjustment, use the following circuits.



Note: Adjustment must be done around mid-radius on a disc.

6.5.3 Tracking Offset Adjustment

Test Point	CN102 - pin 4 (TE)
Adjustment Point	RECORD button and REC MUTE button
Adjustment Value	0 mV $\pm$ 10 mV
[Procedure] (1) Press the "AUTO/MANUAL" button so that "03 F6" appears on the FL display. (2) Adjust with the "RECORD" button and "REC MUTE" button until the above adjustment value to be reached is obtained. (3) Press the "SET" button to register the adjustment. Once the adjustment is registered with the "SET" button, "D.VOL" on the FL display will disappear.  Note: Perform the adjustment in Stop mode. This adjustment is possible with the low-pass filter used in adjustment 5 above attached.	

6.5.4 Focus Bias Adjustment

Test Point	CN102 - pin 1 (RF)	Test Disc	STD-903
Adjustment Point	RECORD button and REC MUTE button		
Adjustment Value	Adjust until RF jitter is minimal or that the eye pattern of the RF waveform is most open.		
Symptom when out of adjustment	Sound broken, record characteristics deteriorate		

[Procedure]

- (1) Press the "DIGITAL SYNCHRO" button in Stop mode.
Note: Make sure the unit is in Stop mode.

(2) Check that "SYNC" appears on the FL display.

(3) Press the "AUTO/MANUAL" button so that "04 34" appears on the FL display.

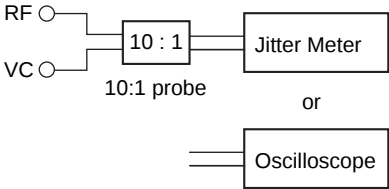
(4) Press the "FINALIZE" button for focus-in.

(5) Press the "PLAY" button for CAV-servo spindle kick.

(6) Press the "PAUSE" button to close the tracking servo, then set the unit to Playback mode.

(7) Adjust with the "RECORD" button and "REC MUTE" button until the above adjustment value to be reached is obtained.
Press the "SET" button to register the adjustment. Once the adjustment is registered with the "(SKIP ID)SET" button, "D.VOL" on the FL display will disappear.

(8) Press the "STOP" button to stop the unit.



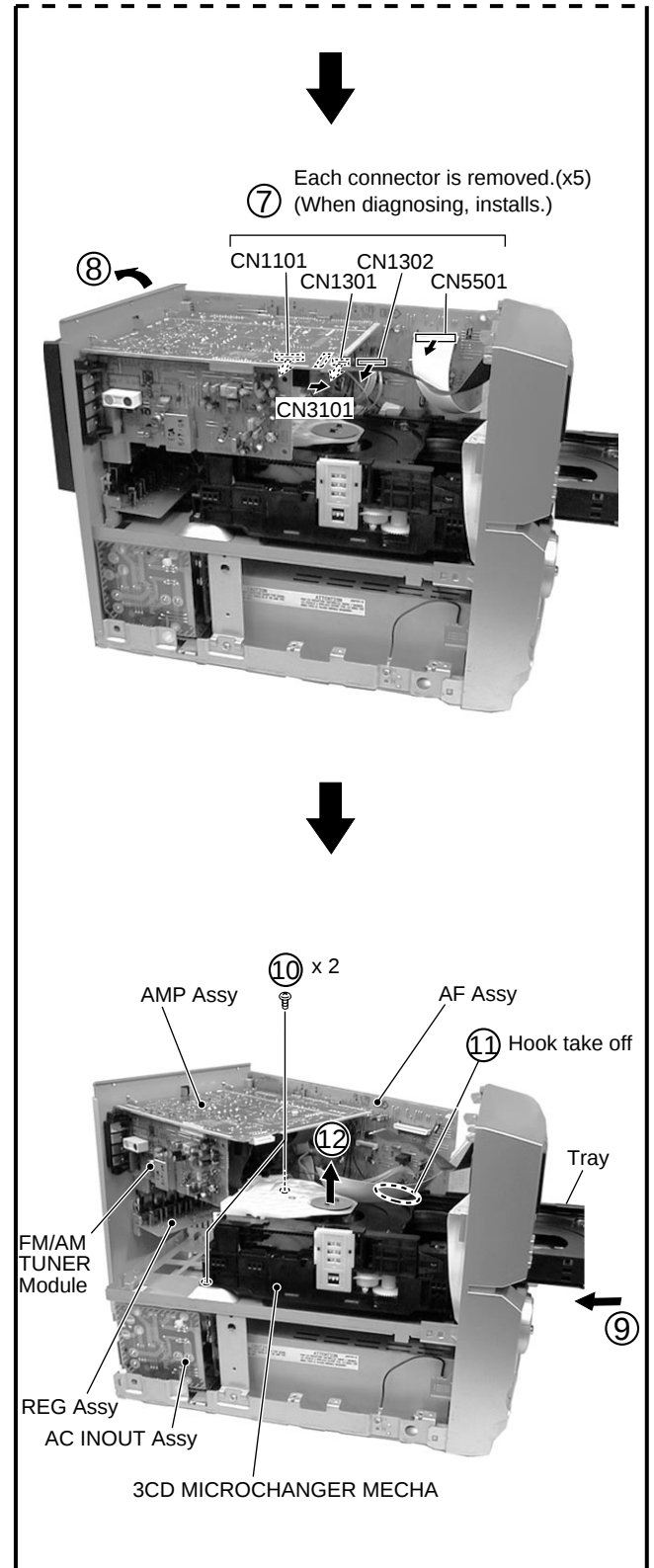
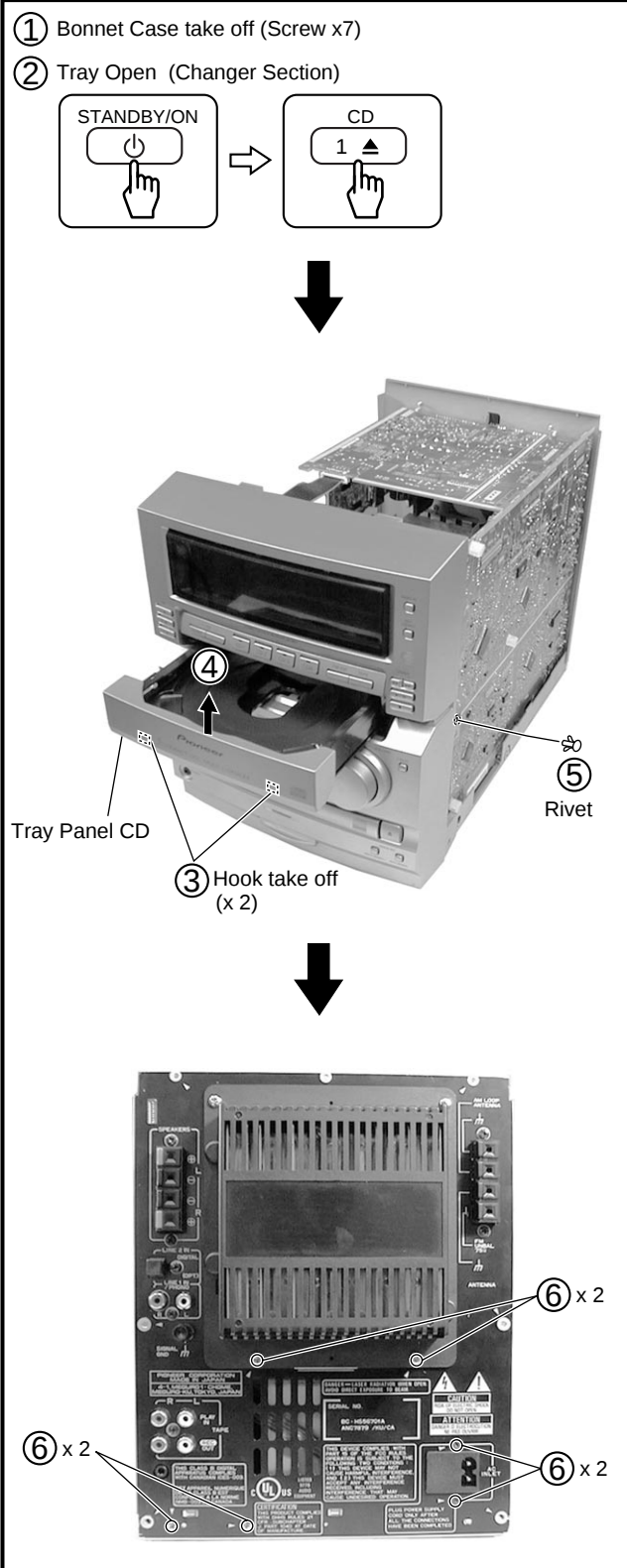
Note: Adjustment must be done around mid-radius on a disc.

7. GENERAL INFORMATION

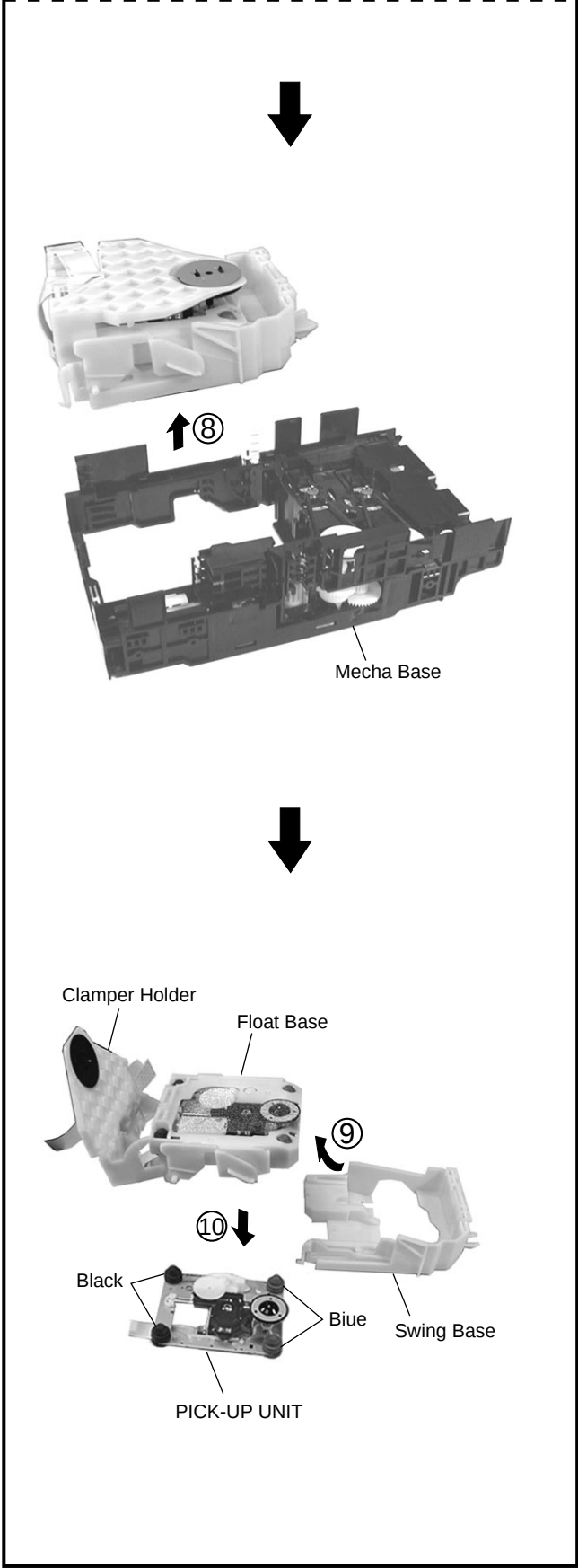
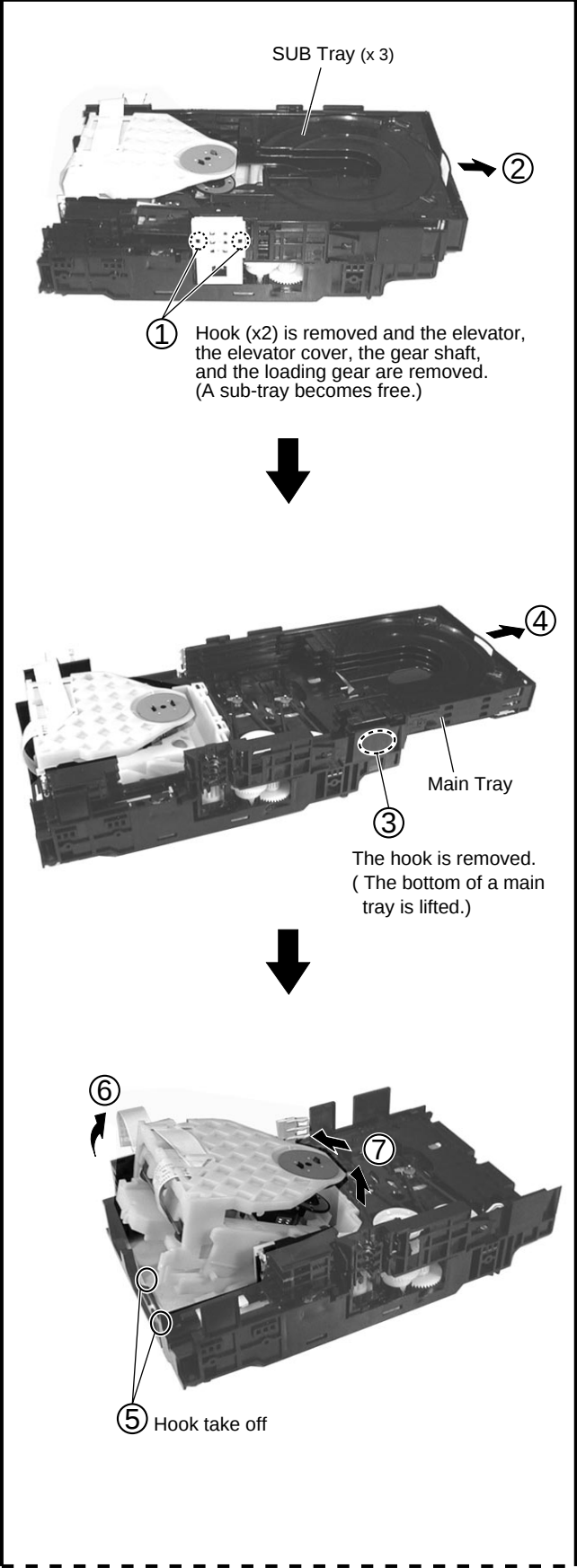
7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

CD CHANGER SECTION

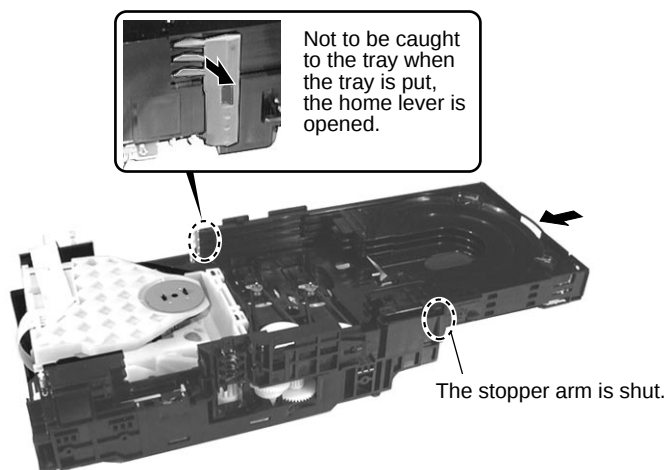


3CD MICROCHANGER MECHA

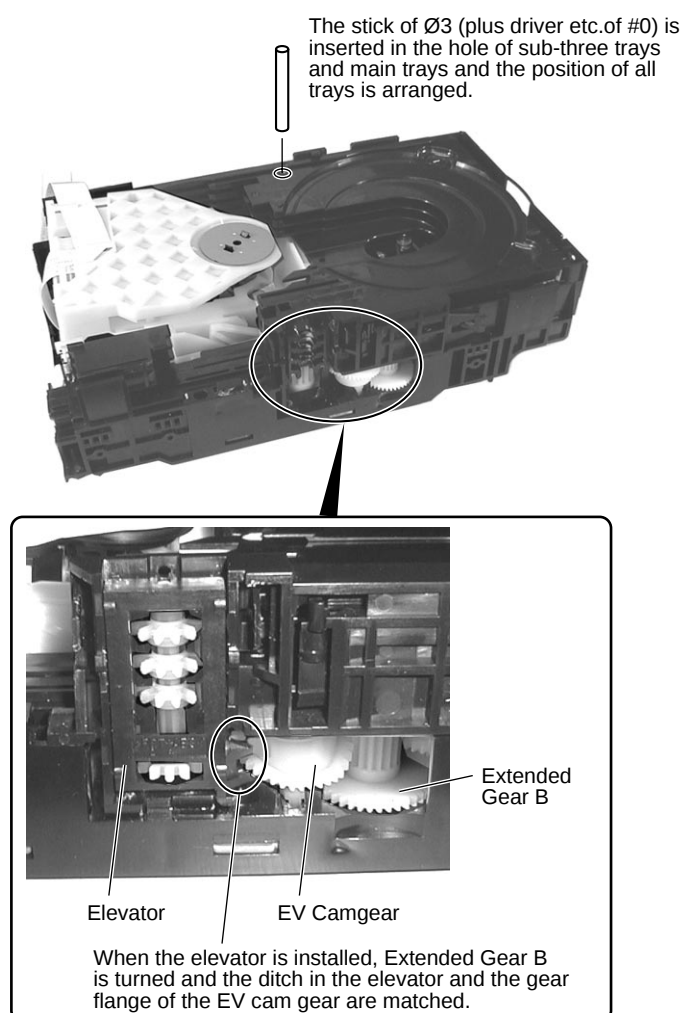


■ Attention when 3CD MICROCHANGER MECHA is assembled

① Tray installation



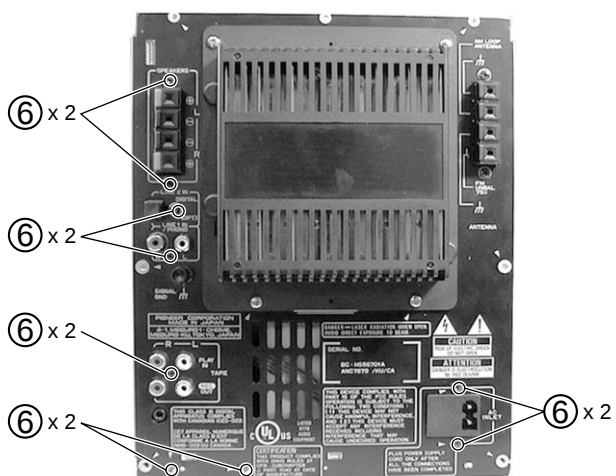
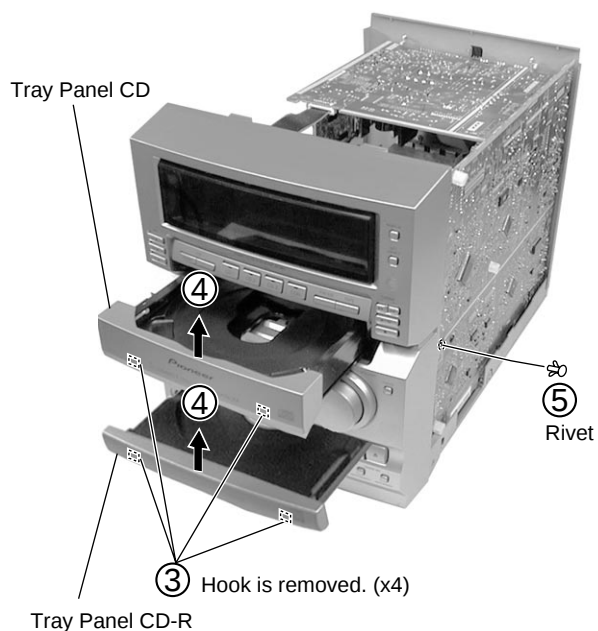
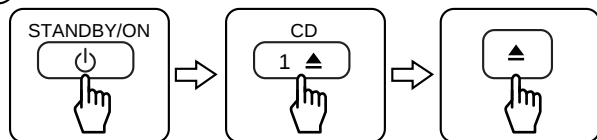
② Gear match of sub-tray



CD-R SECTION

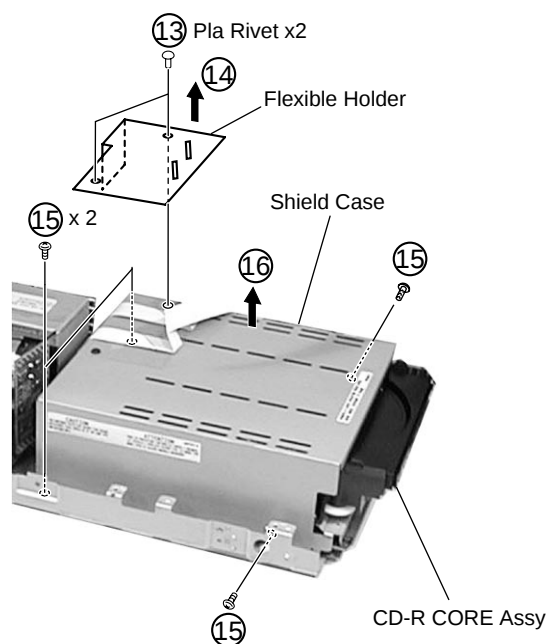
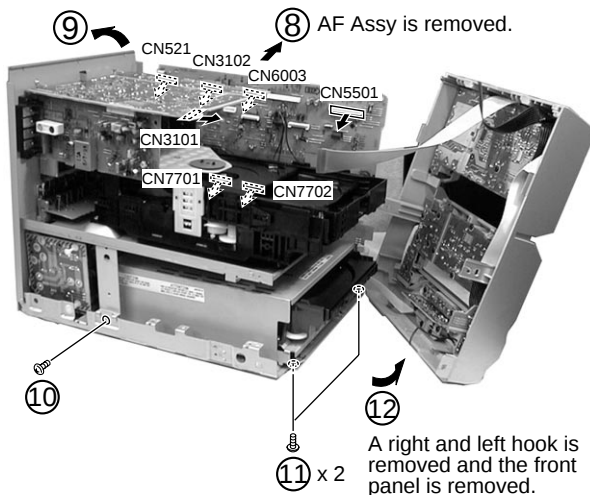
① Bonnet Case is removed. (Screw x7)

② Tray Open (Changer, CD-R)



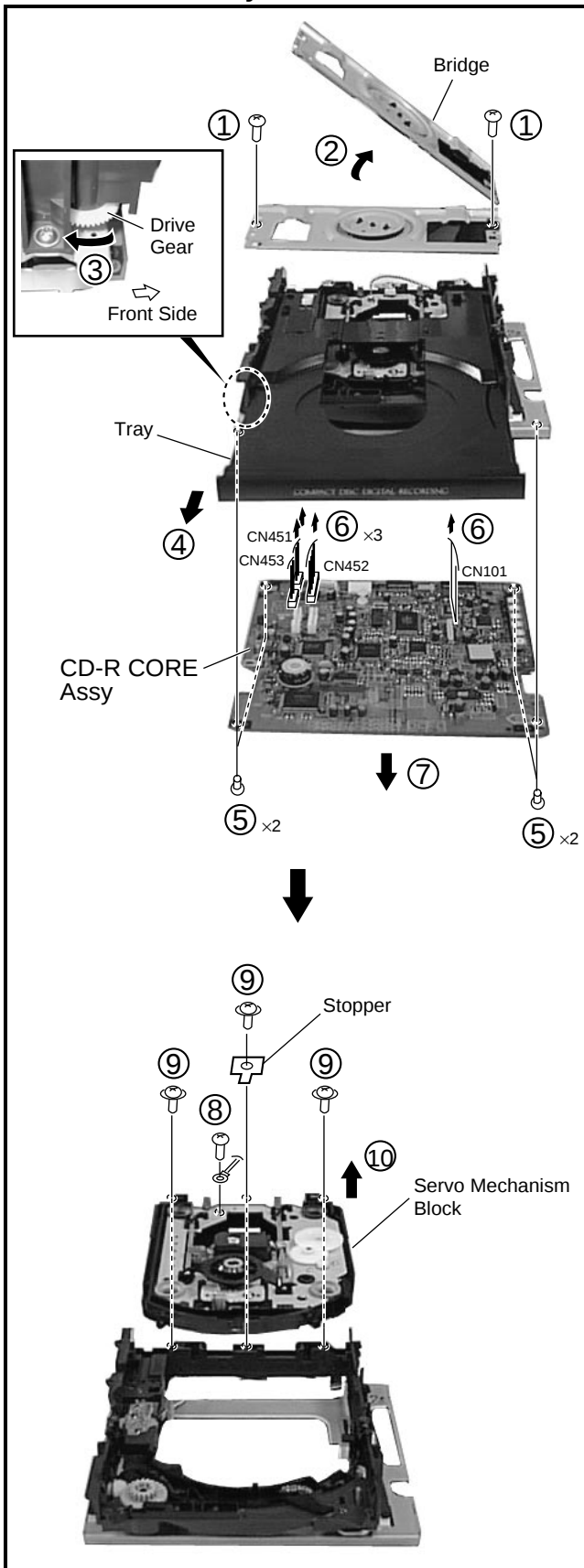
⑦ Each connector is removed. (x7)

⑧ AF Assy is removed.



⑰ CD-R CORE Assy is removed. (Screw x4)

CD-R CORE Assy

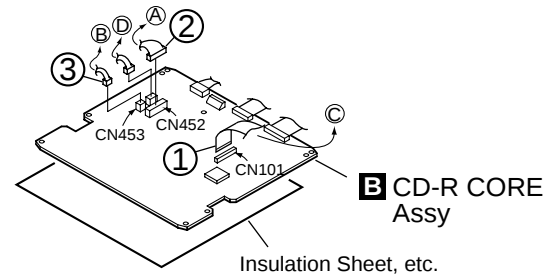
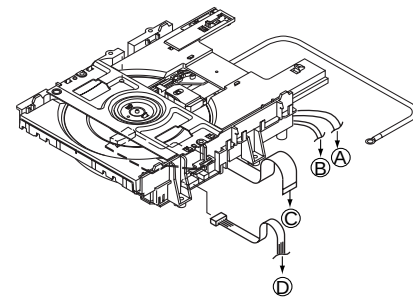


DIAGNOSIS OF CD-R CORE ASSY

When diagnosing the CD-R CORE Assy, use the following Flexible Cable and Connector Assys for service.

• Flexible Cable and Connector Assys for service

- ① CN101 ↔ CN1 (Pickup)
32P Flexible Cable : PDD1202
- ② CN452 ↔ CN601 (SERVO MECHANISM Assy)
Connector Assy (9P) : PG09KK-E35
- ③ CN453 ↔ CN551 (LOADING B Assy)
Connector Assy (2P) : PG02KK-E35



Caution :

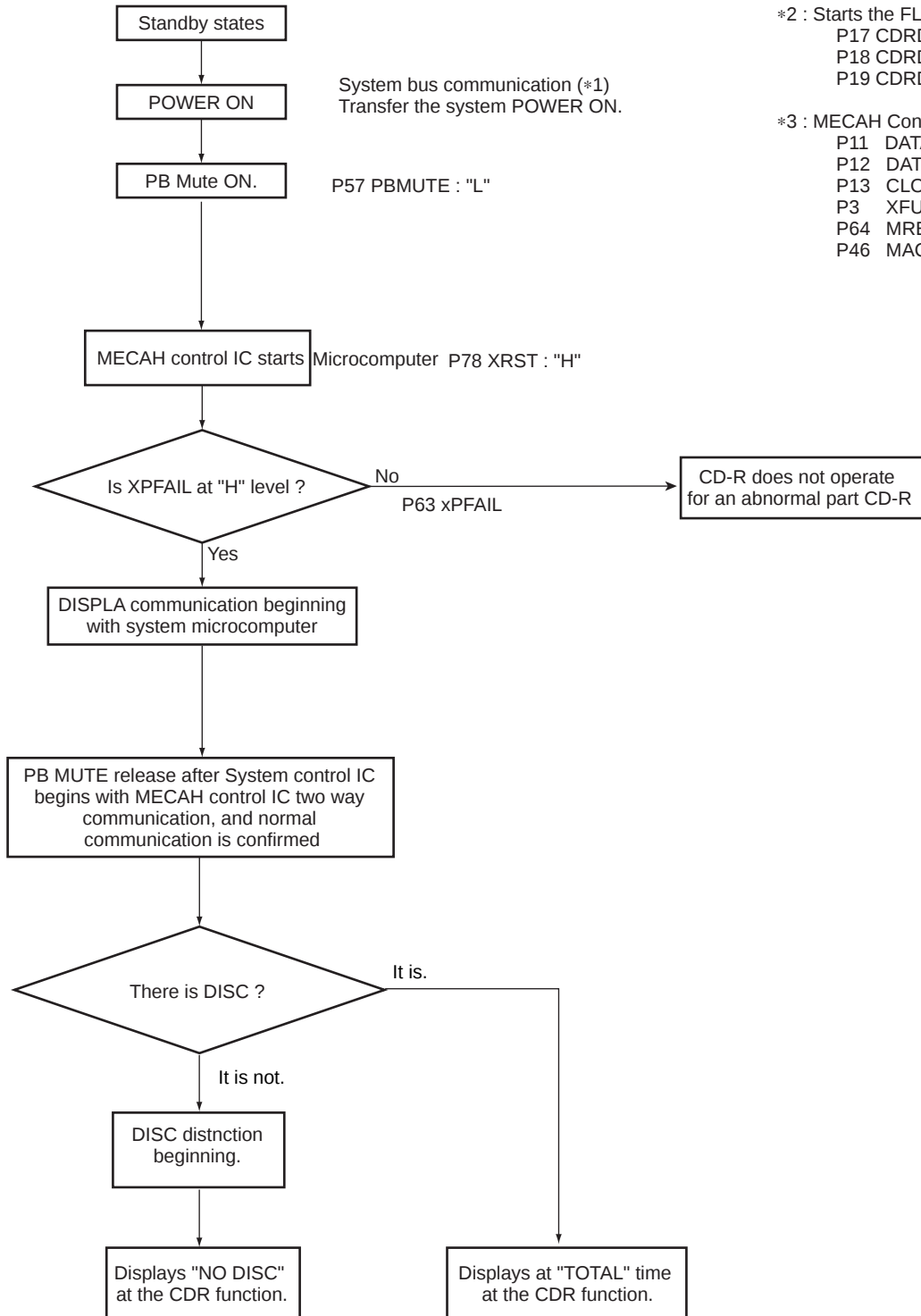
Do not touch the CD-R CORE Assy to the Under Base.

7.1.2 SEQUENCE AFTER THE POWER ON

Note 1 : IC No. or P** without name indicate the pin No. of microcomputer.

"H" = Hi "L" = Low

PE5113 (CD-R Control IC)



Note ;

*1 : System bus communication

P65 SCLK

P43 SDATAIN

P42 SDATAOUT

P41 SREQ

*2 : Starts the FL communication

P17 CDRDISPDATA

P18 CDRDISPCLK

P19 CDRDISPREQ

*3 : MECAH Control decoder IC

P11 DATA IN

P12 DATA OUT

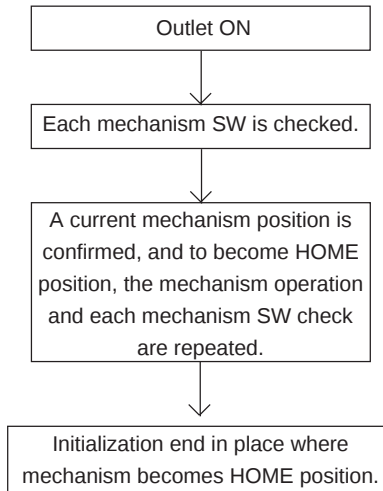
P13 CLOCK

P3 XFUSE

P64 MREQ

P46 MACK

● Initialization sequence at outlet ON of 3CD MICROCHANGER MECHA



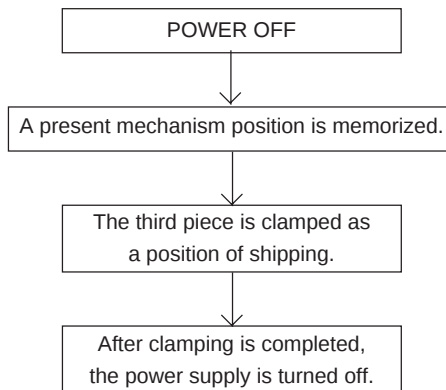
MECHA SW

- ESELINIT SW (74pin)
- ESEL SW (77pin)
- EOPEN SW (73pin)
- ECLOSE SW (72pin)
- ECLAMP SW (78pin)
- EHOME SW (79pin)

Mechanism SW logic at HOME position

- ESELINIT SW "L"
- ESEL SW "L"
- EOPEN SW "H"
- ECLOSE SW "L"
- ECLAMP SW "H"
- EHOME SW "L"

● Shipping mode sequence at POWER OFF of 3CD MICROCHANGER MECHA



Mechanism SW logic at shipping position

- ÅESELINIT SW "H"
- ÅESEL SW "L"
- ÅEOPEN SW "H"
- ÅECLOSE SW "L"
- ÅECLAMP SW "L"
- ÅEHOME SW "L"

Note:

operates to return to the memorized mechanism position at the time of the POWER ON.

7.1.3 ERROR CODE (CD-R)

Error Code Display for Service

The XR-MR7 can display the total turn-on time of the laser diode and error codes for service.

When the STOP key is held down for about 10 seconds in stop state in CD-R mode, an FL display as shown below is obtained.

• Display



Error code Number

Right 2 FL digits : Error code for service

The total turn-on time of the laser diode is displayed in the range of 0 to 5100.

The error code for service is displayed as a number (ERROR NUMBER), which follows a message "CHECK DISC" or "CHECK." For details, see the table below.

Error code table for service

Code	Symptom	Contents of Error	Possible Cause	Checkpoints
H0	No operation even when power is supplied.	Communication between mechanism controller and mode controller is not achieved.	• Improper soldering • Pattern short	IC301 (PE5109A) IC351 (PDJ014A)
H1	(CHECK display)	Defective mechanism controller terminals	• Short-circuiting of parts • Improper power supply	IC371 (HD74HC573FP)
H2	Pre-recording process does not complete, and the tray does not open. (CHECK display)	Improper input voltage at the mechanism-control terminals (pins 22, 23, 24)		IC201 (PA9007A)
H5	Pre-recording process disabled (CHECK display)	Improper IC303 data writing	• Defect in IC303	IC303 (PYY1196)
L*	The unit stops during the tray open/close operation. (CHECK display)	Improper loading	• Defective tray position sensor • Defective loading motor • Improper soldering • Pattern short • Improper power supply	IC451 (M56788FP)
E*	The unit stops when PLAY or REC/PAUSE starts. (CHECK display)	Defective slider • The pickup cannot be returned to the specified position.	• Disconnected flexible cable • Defective drive circuit • Abnormal power supply • Abnormal TOC position switch • Improper soldering	S601 (PSG1013) *1 IC451 (M56788FP) IC401 (CXD2585Q)
P*	The unit does not read the inserted disc, and stops. (CHECK DISC display)	Defect in spindle • Disc upside-down. • Dirty or cracked disc • Abnormal disc rotation • No signal obtained from the disc	• Defective spindle motor • Defective spindle drive circuit • Abnormal FG signals • Defective WBL circuit • Defective decoder circuit • Unable to read ATIP or subcode • High error rate	PC651 *1 (NJL5803K-F1) IC451 (M56788FP) IC401 (CXD2585Q)

*1 : SERVO MECHANISM Assy

Code	Symptom	Contents of Error	Possible Cause	Checkpoints
C*	The unit stops before it enters REC/PAUSE mode.	Defects related to the recording laser power • Dirty or cracked disc • The optimum recording power cannot be obtained. • Trouble in RF detection.	• Defective laser diode • Trouble in RF detection • Defective RFT RFB circuit • Recording power is not sufficient. • Improper soldering, pattern short • Trouble with power supply • Unable to read ATIP or subcode	IC201 (PA9007A) IC101 (AK8563) IC363 (TC7S04F) IC364 (TC7S14F)
F*	The unit stops during playback or recording.	Defective pickup • Unable to focus because of dirt or crack on the inserted disc. • Unable to output the proper laser power	• Defective laser diode • Defective focus drive circuits • Defective pickup • Improper soldering • Pattern short • Trouble of power supply	IC451 (M56788FP) IC401 (CXD2585Q)
A*	The unit stops in a recording-related operation, displaying "CHECK DISC."	• Unable to focus Stop during recording • The unit stops, being obstructed by a dirt or a crack on the disc.	If any hardware trouble occurs before displaying A* or d*, the unit stops displaying a code other than these codes. Therefore, these service codes are generated only for troubles with the disc.	
d*	The unit stops in a recording related operation, displaying "CHECK DISC." The unit does not read the inserted disc, and stops.			

The indication for * shows the mechanism mode listed below.

No.	Mechanism Mode	No.	Mechanism Mode	No.	Mechanism Mode
0	PLAY	5	SETUP	A	REC
1	OPEN	6	TOC READ	B	TOC REC
2	STOP	7	—	C	OPC
3	—	8	SEARCH	D	TOC CHECK
4	—	9	REC/PAUSE	E	PMA, ACTUAL PAUSE REC

• Resetting the error code

To initialize the total turn-on time of the laser diode, hold the "TIME" key down for about 10 seconds in stop state with the INPUT selector set to analog in Test mode.

The message "CLEAR" is displayed, and the total time is cleared.

7.2 PARTS

7.2.1 IC

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

■ PD5545A (AF ASSY : IC5501)

• System Control Microcomputer

• Pin Function

No.	Mark	Pin Name	I/O	Pin Function	Active
1	P96/ANEX1/TB4IN	FL DATA	O	FL data output	
2	P95/ANEX0/CLK4	FL CLK	O	FL clock output	Rise time
3	P94/DA1/TB4IN	FL LAT	O	FL latch output	H
4	P93/DA0/TB3IN	TX STEREO	I	TUNER STEREO input (Active "L")	L
5	P92/TB2IN/SOUT3	TX TUNED	I	TUNER TUNED input (Active "L")	L
6	P91/TB1IN/SIN3	CD SQSO	I	SUBQ80-bit input	
7	P90/TB0IN/CLK3	CD SQCK	O	Clock output for SQSO read out	Rise time
8	BYTE	VSS	–	Connect to GND	
9	CNVSS	VSS	–	Connect to GND	
10	P87/XCIN	CD SCLK	O	Clock output for reading out the SENS serial data	Rise time
11	P86/XCOUT	CD LDON	I/O	RF amp control (Hi-z : OFF, L : Gain-Normal, H : Gain-Up)	
12	RESET	XRESET	–	Reset input	L
13	XOUT	XOUT	–	Connect to ceramic oscillator (16MHz)	
14	VSS	VSS	–	Connect to GND	
15	XIN	XIN	–	Connect to ceramic oscillator (16MHz)	
16	VCC	VCC	–	Connect to +5V	
17	P85/NMI	VCC	–	Connect to +5V	
18	P84/INT2	ACCLK	I	Power failure detection (Power is cut off for about 50ms from the last falling edge.)	Fall time
19	P83/INT1	REMOCON	I	Remote control input	L
20	P82/INT0	SCOR	I	Subcode sync. input (Active "H")	H
21	P81/TA4IN/U	CD DCLK	O	Serial data transfer clock output	Rise time
22	P80/TA4OUT/U	CD XLAT	O	Latch output (Latch the serial data at the falling edge.)	
23	P77/TA3IN	CD DATA	O	Serial data output	
24	P76/TA3OUT	BUZZER	O	Buzzer output	
25	P75/TA2IN/W	CD MUTE	O	CD LINE MUTE	H
26	P74/TA2OUT/W	LED CE	O	LED CE	
27	P73/CTS2/RTS2/TA1IN/V	TIMER LED	O	Timer LED output	L
28	P72/CLK2/TA1OUT/V	SYS POWER	O	System power	H
29	P71/RXD2/SCL/TA0IN/TB5I	CD SENS	I	SENS input	
30	P70/TXD2/SDA/TA0OUT	CD RESET	O	Reset output of CXD2587 (Active "L")	L
31	P67/TXD1	TXD1	O	Writing pins of the flash microcomputer	
32	P66/RXD1	RDXD1	I		
33	P65/CLK1	CLK1	I		
34	P64/CTS1/RTS1/CTS0/CLK	RTS1	O		
35	P63/TXD0	SYS DATA1	O	N.C	
36	CDRDISP DATA	CDR DATA1	I	Display communication port with the CDR mode microcomputer. DATA input	
37	CDRDISPCLK	CDR SCK1	I	Display communication port with the CDR mode microcomputer. CLK input	
38	CDRDISPREQ	CDR REQ	I	Display communication port with the CDR mode microcomputer. REQ input	
39	P57/DVOL1	DVOL1	I	Input 1 for digital REC VOL	
40	P56/DVOL2	DVOL2	I	Input 2 for digital REC VOL	
41	P55/HOLD	TEST	–	Test mode input (H : MODE IN)	
42	P54/AVOL1	AVOL1	I	Input 1 for analog REC VOL	
43	P53/AVOL2	AVOL2	I	Input 2 for analog REC VOL	Fall time
44	MODEUCOMXRESET	M RESET	O	Reset control of the CDR mode microcomputer	
45	XPHONOMUTE	PH MUTE	O	PHONE MUTE control	L
46	P50/WRL/WR	Vcc	–	For writing the FLASH	
47	P47/CS3	SHIMUKE1	I	Destination input 1	Fall time
48	P46/CS2	SHIMUKE2	I	Destination input 2	
49	P45/CS1	9164ST	O	CE for TC9164	
50	P44/CS0	DACCE	O	CE for legato link IC	H

No.	Mark	Pin Name	I/O	Pin Function	Active
51	P43/A19	VOL CE	O	VOL CE	
52	P42/A18	VOL DATA	O	VOL• LED• CDR OUT DATA output (common use)	
53	P41/A17	VOL CLK	O	VOL• LED• CDR OUT CLK output (common use)	Fall time
54	P40/A16	BUS CLK	O	System bus CLK output	Rise time
55	P37/A15	BUS DIN	I	System bus DATA input	
56	P36/A14	BUS DOUT	O	System bus DATA output	
57	P35/A13	BUS R/E	I/O	System bus REQUEST/ENABLE	L
58	P34/A12	DIG-SEL2	O	N.C	
59	P33/A11	LINE MUTE	O	Mute for LINE2 OUT, TAPE REC OUT	
60	P32/A10	SPE B	O	Input selection B of the spectrum analyzer	
61	P31/A9	SPE A	O	Input selection A of the spectrum analyzer	
62	Vcc	Vcc	–	Connect to +5V	
63	P30/A8/(/D7)	SPE C	O	Input selection C of the spectrum analyzer	
64	Vss	Vss	–	Connect to GND	
65	P27/A7/(/D7/D6)	CD MUTE2	O	CD DRIVER MUTE	H
66	P26/A6/(/D6/D5)	DIN ON/OFF	O	Power control of LINE2 digital input	L
67	P25/A5/(/D5/D4)	RDS MUTE	O	RDS IC control output	
68	P24/A4/(/D4/D3)	CD CONT	O	CD LSI oscillation control (H : Oscillation OFF)	
69	P23/A3/(/D3/D2)	LOAD OUT	O	CD tray loading OUT	H
70	P22/A2/(/D2/D1)	LOAD IN	O	CD tray loading IN	H
71	P21/A1/(/D1/D0)	INSIDE	I	CD INSIDE SW input	
72	P20/A0/(/D0/-)	CLOSE	I	CD CLOSE SW input	
73	P17/D15/INT5	OPEN	I	CD OPEN SW input	
74	P16/D14/INT4	SEL INIT	I	SELECT INITIAL SW input	
75	P15/D13/INT3	RDS CLK	I	RDS IC CLK input	
76	P14/D12	RDS DATA	I	RDS IC DATA input	
77	P13/D11	SELECT	I	SELECT SW input	
78	P12/D10	CLAMP	I	CLAMP SW input	
79	P11/D9	HOME	I	HOME SW input	
80	P10/D8	SELECT+	O	SELECT DRIVE +	H
81	P07/D7	SELECT-	O	SELECT DRIVE -	H
82	P06/D6	SP RELAY	O	Speaker relay output	H
83	P05/D5	SYS MUTE	O	System mute output	H
84	P04/D4	TX CE	O	PLL CE output	
85	P03/D3	TX ODATA	O	PLL DATA output	
86	P02/D2	TX CLK	O	PLL CLK output	Rise time
87	P01/D1	TX IDATA	I	PLL DATA input	
88	P00/D0	TX MUTE	O	TUNER MUTE output (H : ON)	H
89	P107/AN7/KI3	PROTECT	I	PROTECT (A/D input)	
90	P106/AN6/KI2	KEY1	I	Key 1 input (A/D input)	
91	P105/AN5/KI1	KEY2	I	Key 2 input (A/D input)	
92	P104/AN4/KI0	KEY3	I	Key 3 input (A/D input)	
93	P103/AN3	KEY4	I	Key 4 input (A/D input)	
94	P102/AN2	SPE-IN	I	Spectrum analyzer input (A/D input)	
95	P101/AN1	VOL JOG	I	VOL JOG input (A/D input)	
96	AVSS	VSS	–	Connect to GND	
97	P100/AN0	MULTI JOG	I	MULTI JOG input (A/D input)	
98	VREF	VCC	–	Connect to +5V	
99	AVCC	VCC	–	Connect to +5V	
100	P97/ADTRG/SIN4	FLBK	O	FL blanking output	H

■ PE5113B (AF ASSY : IC7501)

• Pin Function

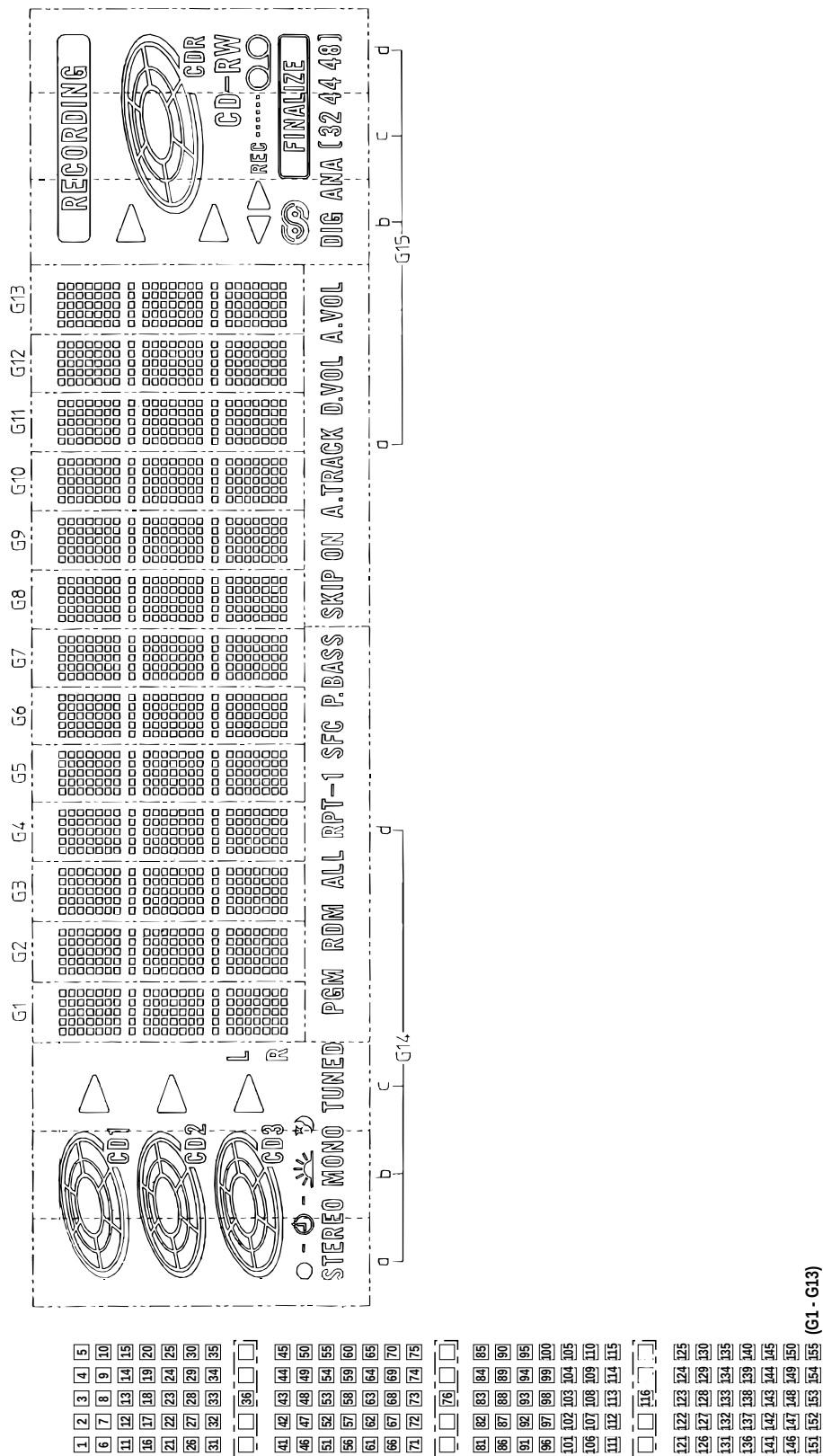
• MODE Control Microcomputer

No.	Mark	I/O	Pin Function	No.	Mark	I/O	Pin Function
1	P15/AN15	O	PLL ON(L)/OFF(H), (L at select the digital without FS converter)	41	P65/WR	O	System bus request
2	P16 / AN16	O	Connect to GND	42	P66/WAIT	O	System bus data output
3	P17 / AN17	O	During use the serial communication with LC89585 "L"	43	P67/ASTB	I	System bus data input
4	AVss	–	Ground of A/D converter	44	P30/TO0	I	Digital unlock detection H: Unlock
5	P130/ANO0	I	Destination switch L: NTR, H: MCR	45	P31/TO1	O	CE signal for LC89585 (L:Enable)
6	P131/ANO1	O	Not used	46	P32/TO2	O	Communication response for mechanism controller H > L: communication permit L > H: communication end
7	AVref1	–	Reference voltage input of A/D converter	47	P33/TI1	O	Not used
8	P70/SI2/RxD	O	Not used	48	P34/TI2	O	Not used
9	P71/SO2/TxD	O	Not used	49	P35/PCL	I	Test mode when reset start is "L"
10	P72/SCK2/ASCK	O	Not used	50	P36/BUZ	O	Not used
11	P20/SI1	I	Serial input of mechanism controller LSI	51	P37	O	Not used
12	P21/SO1	O	Serial output of mechanism controller LSI	52	P120/RTP0	O	Not used
13	P22/SCK1	I/O	Serial clock of mechanism controller LSI	53	P121/RTP1	O	Not used
14	P23/STB	O	Not used	54	P122/RTP2	O	Not used
15	P24/BUSY	O	Not used	55	P123/RTP3	O	Not used
16	P25/SI0/SB0/SDA0	O	Not used	56	P124/RTP4	O	Not used
17	P26/SO0/SB1/SDA1	O	Communication data of system and display	57	P125/RTP5	O	PB MUTE control
18	P27/SCK0/S-CL	O	Communication clock of system and display	58	P126/RTP6	O	Not used
19	P40/AD0	O	Communication request of system and display	59	P127/RTP7	O	Not used
20	P41/AD1	O	Not used	60	RESET	I	Reset pin
21	P42/AD2	O	Not used	61	P00/INTP0/TI00	I	Remote control input / RID writing (SR) (interrupt)
22	P43/AD3	O	Not used	62	P01/INTP1/TI01	I	
23	P44/AD4	O	Not used	63	P02/INTP2	I	Power down detection (L interrupt)
24	P45/AD5	O	Not used	64	P03/INTP3	I	Mechanism controller communication request (L interrupt)
25	P46/AD6	O	Not used	65	P04/INTP4	I	System bus clock (L interrupt)
26	P47/AD7	O	Not used	66	P05/INTP5	O	Not used
27	P50/A8	O	Not used	67	P06/INTP6	O	Not used
28	P51/A9	O	Not used	68	Vdd	–	Positive power supply
29	P52/A10	O	Not used	69	X2	–	Crystal for main system clock oscillation
30	P53/A11	O	Not used	70	X1	I	4.19MHz
31	P54/A12	O	Not used	71	IC(Vpp)	–	Internal connection (Connect to Vss)
32	P55/A13	O	Not used	72	XT2	–	Crystal for sub system clock oscillation
33	Vss	–	Ground	73	P07/INTP7	I	Not used
34	VSS	–	Digital GND	74	Avdd	–	Analog power supply for A/D converter
35	P56/A14	O	Not used	75	AVref0	I	Reference voltage input of A/D converter 5V
36	P60	O	Not used	76	P10/ANI10	I	Not used
37	P61	O	Not used	77	P11/ANI11	I	Not used
38	P62	O	Not used	78	P12/ANI12	O	Reset output for Mechanism controller and ATIP decoder (L: Reset)
39	P63	O	Not used	79	P13/ANI13	O	Communication latch output for D/A converter
40	P64/RD	O	Not used	80	P14/ANI14	O	FS through output (Digital input in the FS through ON 44.1k: L)

7.2.2 DISPLAY

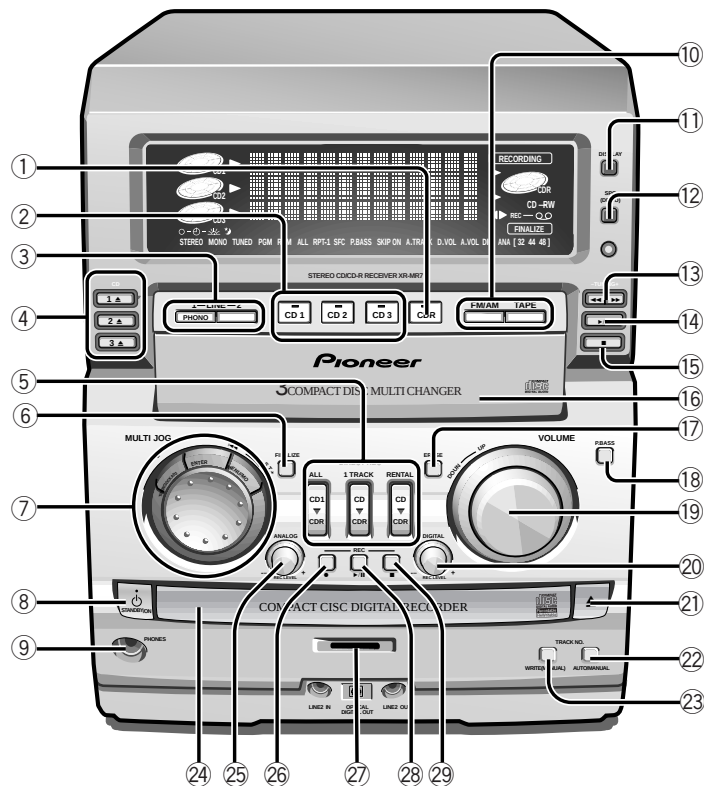
■ AAV7073 (DISPLAY ASSY : V5601)

- FL Display



8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACITIES

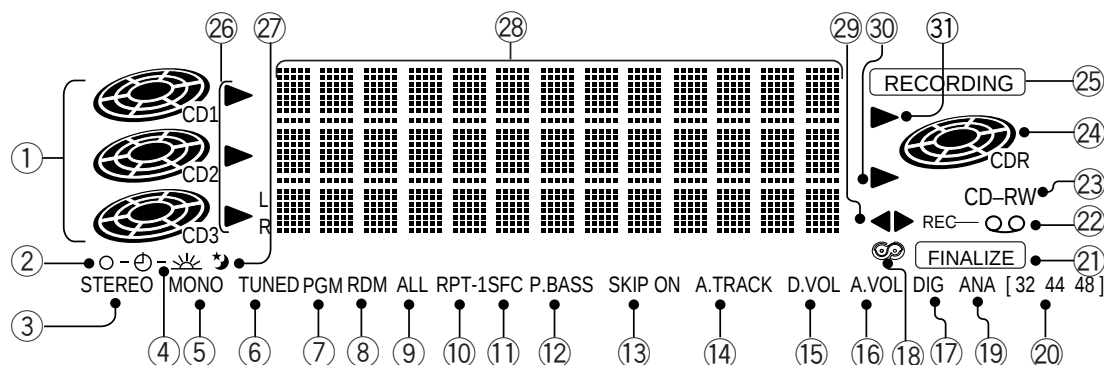


- ① **CDR**
Press this button when you want to play the disc in the CDR.
 - ② **CD SELECT**
Press these buttons when you want to play discs 1-3.
 - ③ **LINE**
Press these buttons when you want to use the external components connected to Line 1 or 2.
 - ④ **CD ▲**
 - ⑤ **DIRECT REC SELECT**
 - ⑥ **FINALIZE**
 - ⑦ **MULTI JOG**
TIMER/CLOCK ADJ
ENTER
Menu/No
 - ⑧ **STANDBY/ON**
Press once to turn power on. A second press puts the receiver in standby mode and the standby indicator will light.
 - ⑨ **PHONES jack**
 - ⑩ **FM/AM**
Press to select the radio; each press cycles between FM and AM band.
TAPE
Press to select the tape deck.
 - ⑪ **DISPLAY**
 - ⑫ **SFC (DEMO)**
 - ⑬ **◀◀ ▶▶**
Use these buttons for fast forwarding a CD, CD-R, CD-RW or tape. They can also be used for radio tuning.
 - ⑭ **CD, CDR ▶/||**
 - ⑮ **CD ■**
 - ⑯ **3 CD CHANGER tray**
 - ⑰ **ERASE**
 - ⑱ **P.BASS**
 - ⑲ **VOLUME**
 - ⑳ **DIGITAL REC LEVEL controls**
 - ㉑ **CDR ▲**
 - ㉒ **TRACK NO. AUTO/MANUAL**
 - ㉓ **TRACK NO. WRITE (MANUAL)**
 - ㉔ **CDR tray**
 - ㉕ **ANALOG REC LEVEL controls**
 - ㉖ **CDR/REC ●**
 - ㉗ **Recording indicator**
Lights when a CD-R or CD-RW is recording.
 - ㉘ **CDR/REC ▶/||**
 - ㉙ **CDR/REC ■**

■ Front Panel

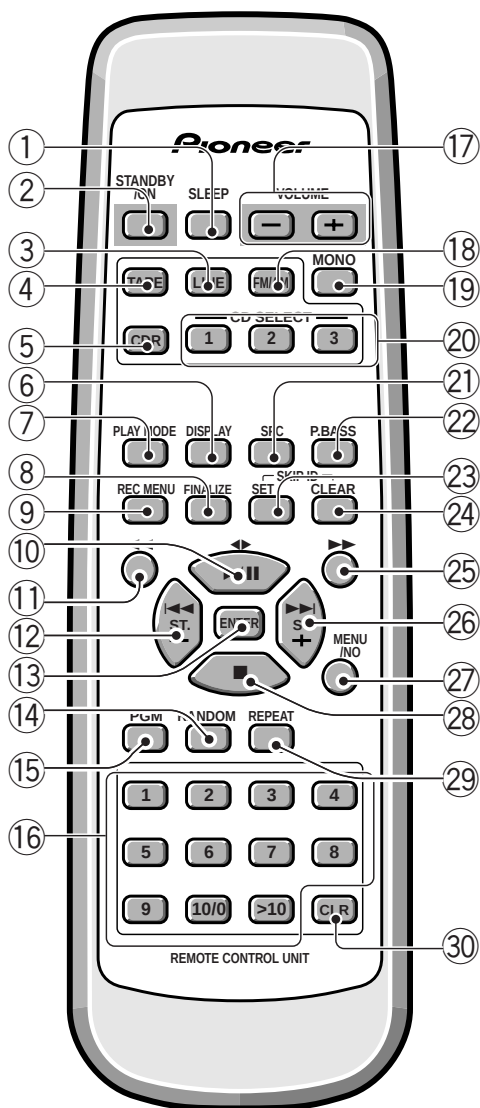


■ Display Section



- ① CD status display.
When no CD is in the tray an empty circle will light in the display. When a CD is inserted in the tray but not playing the display will light. If it's playing the display will light and turn.
- ② This displays lights when timer recording is set and blinks when timer recording is active.
- ③ This stereo lights when receiving a stereo broadcast.
- ④ The wake up timer indicator lights when it's set and blinks during the actual recording.
- ⑤ This displays lights when the remote control MONO button is pushed.
- ⑥ This indicator lights when receiving any FM or AM broadcast signal.
- ⑦ Lights when program play mode.
- ⑧ Light during random play mode.
- ⑨ When all disc play mode is up for CD, this indicator lights.
- ⑩ When all tracks are set to repeat RPT lights. When just one track is set to repeat RPT-1 lights.
- ⑪ When the sound is changed using the SFC function this indicator will light.
- ⑫ This displays lights when P.BASS is on.
- ⑬ This displays lights or blinks when SKIP is set or activated. When a disc with skip information on it is played the display lights.
- ⑭ Lights when automatic track numbering is on during recording.
- ⑮ Lights when the digital volume is set to something other than 0 dB.
- ⑯ Lights when the analog recording level is set to something other than 0 dB.
- ⑰ Lights when the optical digital input is selected.
- ⑱ Lights when the tuner is in an RDS mode.
- ⑲ This displays lights when the input selector is set to analog.
- ⑳ This displays shows the sampling rate.
- ㉑ Lights if the CD-RW currently loaded has been finalized.
- ㉒ Highlights when in tape deck mode.
- ㉓ Shows the type of disc as listed below:
with a CD or a finalized CD-R, "CD" will light. For a CD-R that is not finalized "CD-R" will light. For a CD-RW "CD-RW" will light.
- ㉔ CD recorder status display
When no CD-R disc is in the tray an empty circle will light. When a disc is loaded the displays fully lights and when playing a CD-R the display lights and turns.
- ㉕ This indicator lights during recording or record pause mode.
- ㉖ Lights when the selected disc is playing and blinks when paused.
- ㉗ The sleep timer indicator lights when it's set.
- ㉘ displays characters and numbers, the sound level and...
- ㉙ Indicates the current direction side of the tape.
- ㉚ This indicator lights for playing CD-R/CD-RW disc and blinks when paused.
- ㉛ This indicator lights during recording CD-R/CD-RW disc and blinks when record paused.

■ Remote Control Unit



- ① SLEEP
- ② STANDBY/ON
Press once to turn power on. A second press puts the receiver in standby mode and the standby indicator will light.
- ③ LINE
Press to select external component hooked up to line input jacks.
- ④ TAPE
Press to select the tape deck.
- ⑤ CDR
Press to select the CDR.
- ⑥ DISPLAY
- ⑦ PLAY MODE
- ⑧ FINALIZE
- ⑨ REC MENU
- ⑩ ►/||
- ⑪ ◀◀
- ⑫ ◀◀
- ⑬ ENTER
- ⑭ RANDOM
- ⑮ PGM (PROGRAM)
- ⑯ Number buttons
- ⑰ VOLUME
◀ button turns the volume up and ▶ button turns the it down.
- ⑱ FM/AM
Press to select the radio; each press cycles between FM and AM band.
- ⑲ MONO
- ⑳ CD SELECT
- ㉑ SFC
- ㉒ P.BASS
- ㉓ SKIP ID SET
- ㉔ SKIP ID CLEAR
- ㉕ ►►
- ㉖ ►►
- ㉗ MENU/NO
- ㉘ ■
- ㉙ REPEAT
- ㉚ CLR (CLEAR)

8.2 SPECIFICATIONS

Continuous Power Output

XR-MR7 (RMS)	50 W + 50 W (1 kHz, T.H.D. 10 %, 6Ω)
XR-MR7 (DIN)	35 W + 35 W (1 kHz, T.H.D. 1 %, 6Ω)

- Above specifications are for when power supply is 230 V.

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	531 kHz to 1,602 kHz
with 9 kHz step	531 kHz to 1,602 kHz
with 10 kHz step	530 kHz to 1,700 kHz
Antenna input	Loop antenna

CD section

Type	Compact disc digital audio system
Usable discs	Compact discs, CD-Rs
Channels	2 (stereo)
Frequency Response	4 Hz to 20 kHz
Signal-to-Noise Ratio	100 dB (EIAJ)
Wow and Flutter	Limit of measurement (±0.001 % W.PEAK) or less (EIAJ)

CD-R recorder section

Applicable discs	CDs, CD-Rs and CD-RWs
Frequency characteristics	2 Hz to 20 kHz
Playback S/N	108 dB (EIAJ)
Playback dynamic range	96 dB (EIAJ)
Playback total harmonic distortion	0.004 % (EIAJ)
Recording total harmonic distortion	0.006 %

Miscellaneous

Power Requirements (MY Model)	AC 220-230V, 50 Hz
Power Requirements (KU/CA Model)	AC 120V, 60 Hz
Power Consumption (ON mode) for MY	98 W
Power Consumption (ON mode) for KU/CA	86 W
Power Consumption (Standby mode) for MY	0.7 W
Power Consumption (Standby mode) for KU/CA	0.6 W
Dimensions	210 (W) x 260 (H) x 392 (D) mm
Weight (without package)	8.4kg

Speaker system

Type	Phase-inversion (bass-reflex), bookshelf type
Speaker Elements	14 cm (cone type) 25 mm (dome type)
Nominal impedance	6 Ω
Frequency response	45 Hz–60,000 Hz
Maximum input (Music Power DIN)	50 W
External dimensions	182 (W) x 320 (H) x 232.5 (D) mm
Weight	4.0kg

Accessories

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

NOTE:

Specifications and design subject to possible modification without notice, due to improvement.

Accessories

AC Power Cord (KU/CA Type)
(ADG7021)

AC Power Cord (MY Type)
(ADG1127)

~Also included~

- Warranty card
- Operating instructions

AM Loop Antenna
(ATB7009)

FM Antenna
(ADH7004)

Remote Control Unit
CU-XR059 (AXD7241)

Two "AA" size R6P Batteries