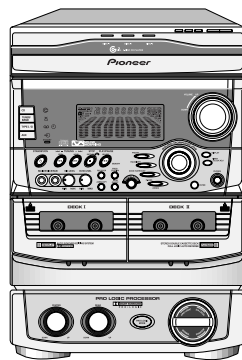


Service Manual

Pioneer



ORDER NO.
RRV2036

STEREO CD/VCD CASSETTE DECK RECEIVER

XR-VS99

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

Type	Model	Power Requirement	The Voltage can be converted by the following method.
	XR-VS99		
DBDXJ	○	AC110-127V/220-230V/240V	With the voltage selector
DLXJ/NC	○	AC110-127V/220-230V/240V	With the voltage selector

CONTENTS

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Wheelock Place, Singapore 238880
©PIONEER ELECTRONIC CORPORATION 1998

T – ZZK OCT. 1998 Printed in Japan

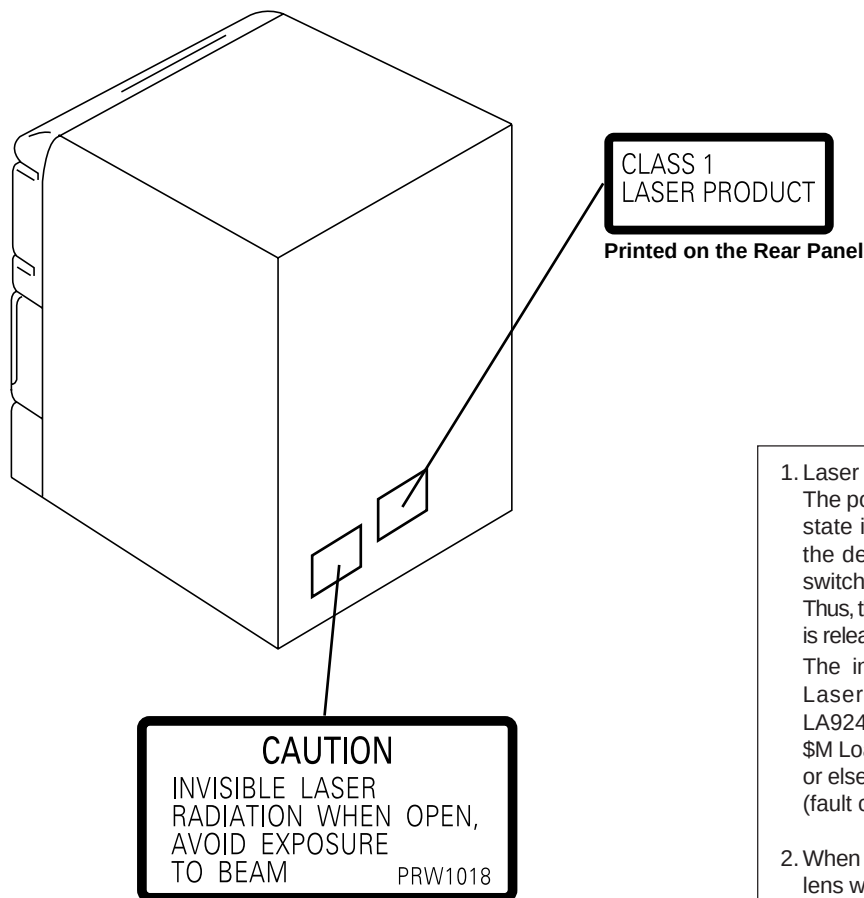
1. SAFETY INFORMATION

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

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

— LASER DIODE CHARACTERISTICS —
MAXIMUM OUTPUT POWER: 1.3 mW
WAVELENGTH: 790 nm ± 25 nm

LABEL CHECK (For DLXJ/NC type)



— Additional Laser Caution —

1. Laser Interlock Mechanism
The position of the switch (S8501) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S8501) is pressed physically. Thus, the interlock will no longer function if the switch (S8501) is released physically and deliberately.
The interlock also does not function in the test mode *. Laser diode oscillation will continue, if pin 62 of LA9240ML (IC8101) on the CD ASSY mounted on the \$M Loading Mechanism assembly is connected to GND, or else the terminals of Q8101 are shorted to each other (fault condition).
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

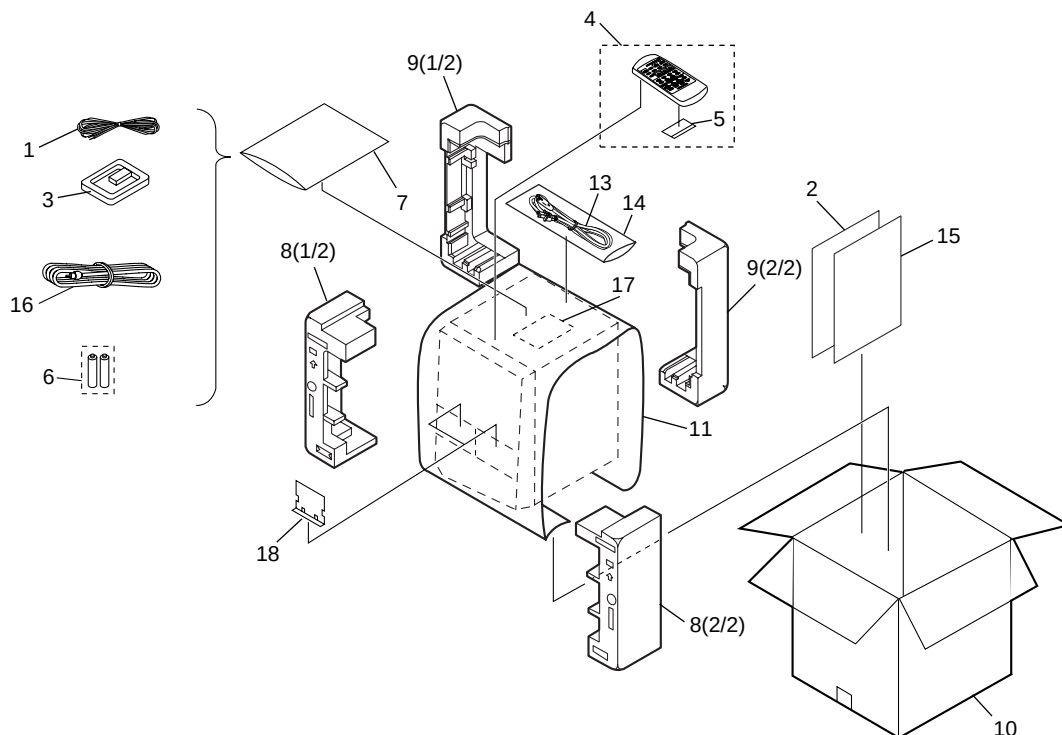
* : Refer to page 60.

2. EXPLODED VIEWS AND PARTS LIST

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

- The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ▼ mark on the product are used for disassembly.

2.1 PACKING



(1) PACKING PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	FM Antenna	ADH7004		9	Rear Pad	XHA3006
	2	Operating Instructions (English/Chinese)	XRE3019		10	Packing Case	See Contrast table (2)
	3	AM Loop Antenna	XTB3001		11	Packing Sheet	AHG7049
	4	Remote Control Unit (CU-XR052)	XZN3010	△	12	•••••	
	5	Battery Cover	AZA7204		13	Power Cord	See Contrast table (2)
NSP	6	Dry Cell Battery (R6P, AA)	VEM-013	NSP	14	Polyethylene Bag	AHG7033
	7	Polyethylene Bag (0.03 × 230 × 340)	Z21-038		15	Operating Instructions	XRE3018
	8	Front Pad	XHA3005	NSP	16	Video Cord	VDE1034
				NSP	17	Caution Card	XAX3130
				NSP	18	Door Spacer	XHG3002

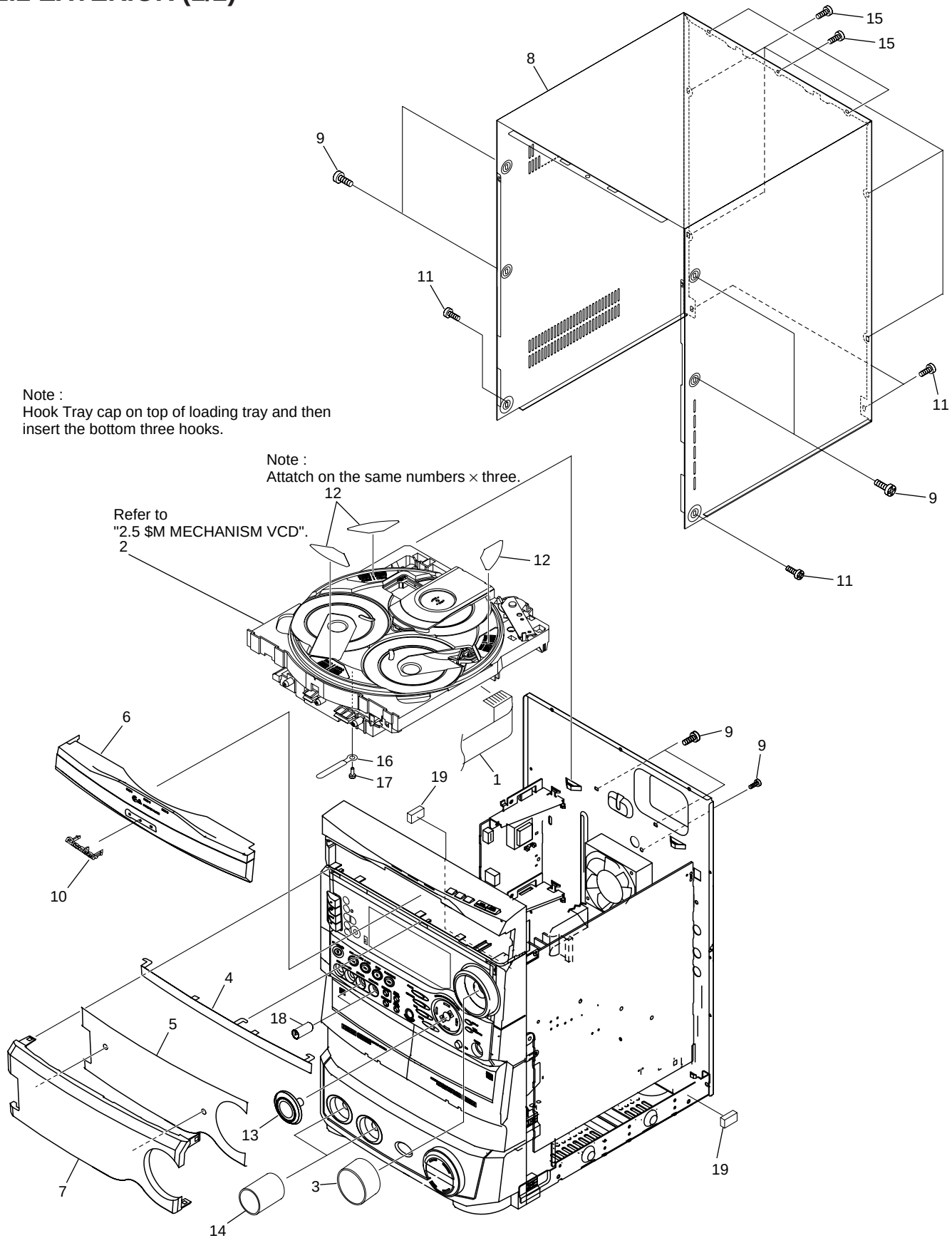
(2) CONTRAST TABLE

XR-VS99/DBDXJ and DLXJ/NC are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			XR-VS99 /DBDXJ	XR-VS99 /DLXJ/NC	
△	10	Packing Case	XHD3055	XHD3038	
	13	Power Cord	ADG1158	ADG1154	

2.2 EXTERIOR (1/2)

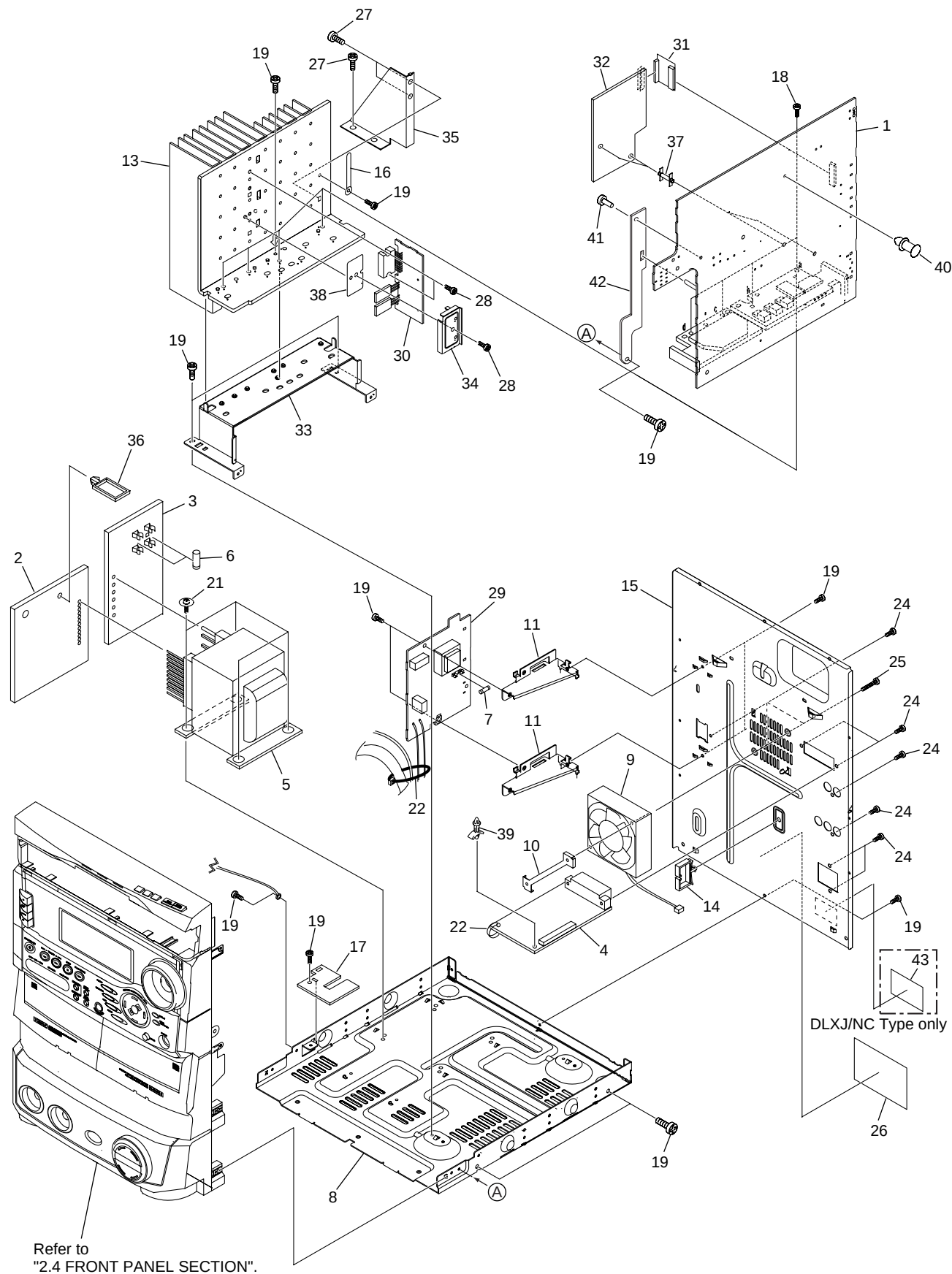
Note :
Hook Tray cap on top of loading tray and then
insert the bottom three hooks.



(1) EXTERIOR (1/2) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	16P F.F.C/30V	XDD3006
	2	\$M Mechanism VCD	XXA3007
	3	Volume Knob	XAA3005
	4	FL Cover A	XAK3026
	5	FL Cover B	XAK3036
	6	Tray Cap	XZN3047
	7	Display Panel	XAK3047
	8	Bonnet Case	XZN3040
	9	Screw	BPZ30P100FZK
	10	Pioneer Badge	XZN3049
	11	Screw	VBZ30P080FZK
	12	Disc Label	XAX3127
	13	Jog Knob Assy	XXG3024
	14	Bass Knob	XAB3005
	15	Screw	BCZ30P080FZK
	16	Cord Stopper	DNF1128
	17	Push Rivet	AEC7138
	18	Mic Knob	XAB3004
	19	Cushion Rubber	XEB3002

2.3 EXTERIOR (2/2)



(1) EXTERIOR (2/2) PARTS LIST

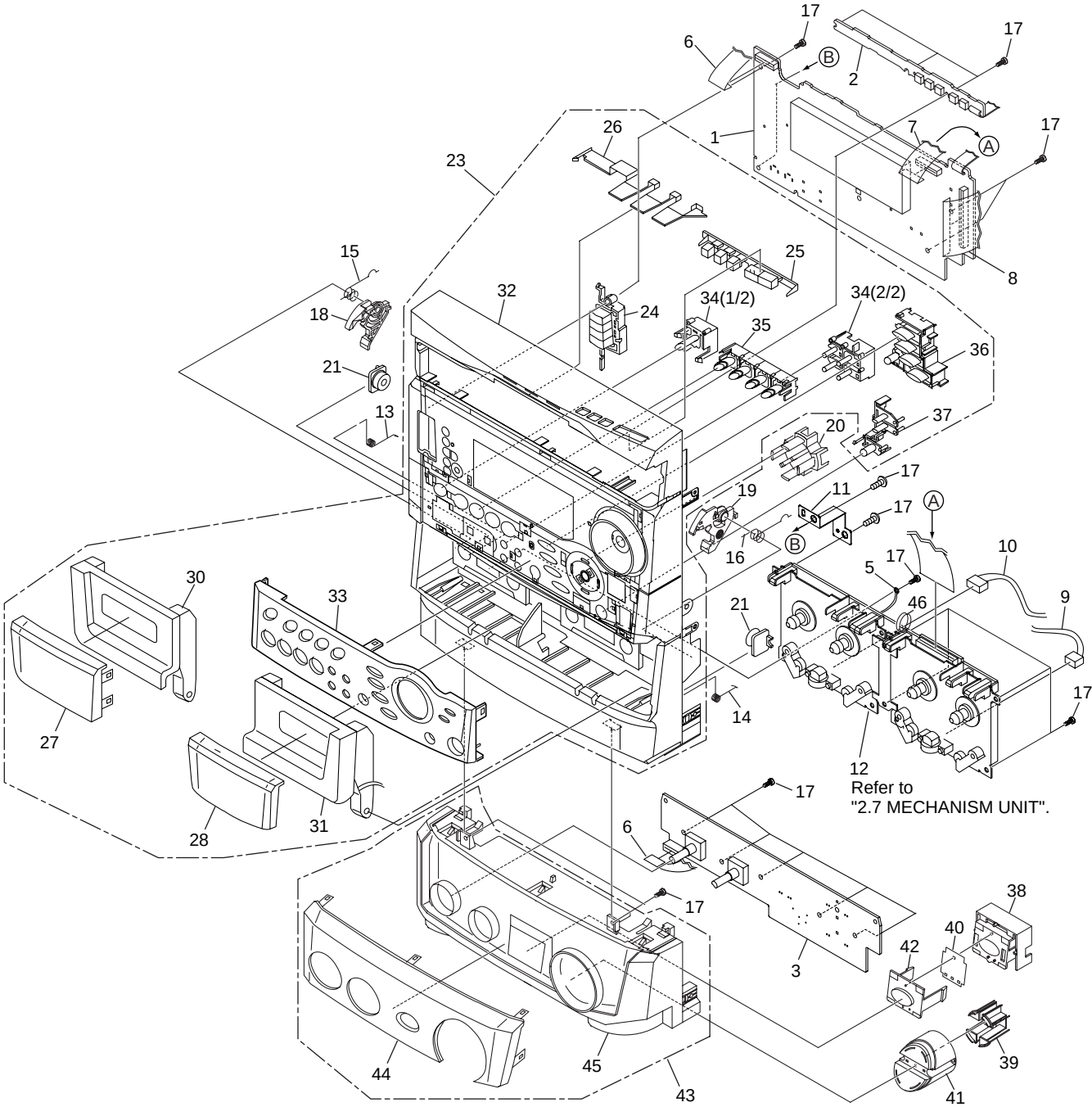
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⊗	1	AF Assy	XWZ3136		21	Screw	ASZ40P060FMC
⊗	2	SECONDARY Assy	XWZ3137		22	Binder	ZCA-SKB90BK
⊗	3	PRIMARY Assy	XWZ3111		23	•••••	
⊗	4	FM/AM TUNER MODULE	AXQ7065		24	Screw	BPZ30P100FZK
△	5	Power Transformer (T1)	XTS3018		25	Screw	BBZ30P300FMC
△	6	Fuse (FU2, FU3 : T3.15A)	AEK1059	NSP	26	Name Label	See Contrast table (2)
△	7	Fuse (FU1 : 6.3A)	REK1030		27	Screw	BBZ30P060FMC
NSP	8	Chassis	XNA3001		28	Screw	IBZ30P135FMC
	9	DC Fan Motor	AXM7003	⊗	29	SUB TRANS Assy	XWZ3113
	10	Fan Plate	ANG7153	⊗	30	REAR AMP Assy	XWZ3160
	11	PCB Bracket	XNG3006	⊗	31	TRADE Assy	XWZ3140
	12	•••••		⊗	32	PRO LOGIC Assy	XWZ3133
	13	Heat Sink	XNH3004		33	H.S.Bracket	XNG3007
	14	Wire Clip A	XEC3003		34	FET Bracket	XNG3009
	15	Rear Panel	XNC3007		35	H.S.Support	XNG3014
NSP	16	Cord Stopper	DNF1128		36	Wire Clip B	XEC3004
	17	SUPPORT Assy	XNP3009		37	PCB Spacer B	XEC3005
	18	Screw	BBZ30P140FMC		38	Mica Sheet	XEE3002
	19	Screw	VBZ30P080FZK		39	Locking Spacer	XEC3009
	20	•••••			40	Card Spacer	XEC3008
					41	Push Rivet	AEC7069
					42	Shield Plate	XNK3004
					43	Caution Label	See Contrast table (2)

(2) CONTRAST TABLE

XR-VS99/DBDXJ and DLXJ/NC are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			XR-VS99 /DBDXJ	XR-VS99 /DLXJ/NC	
NSP	26	Name Label	XAL3015	Not used	
	43	Caution Label	Not used	PRW1018	

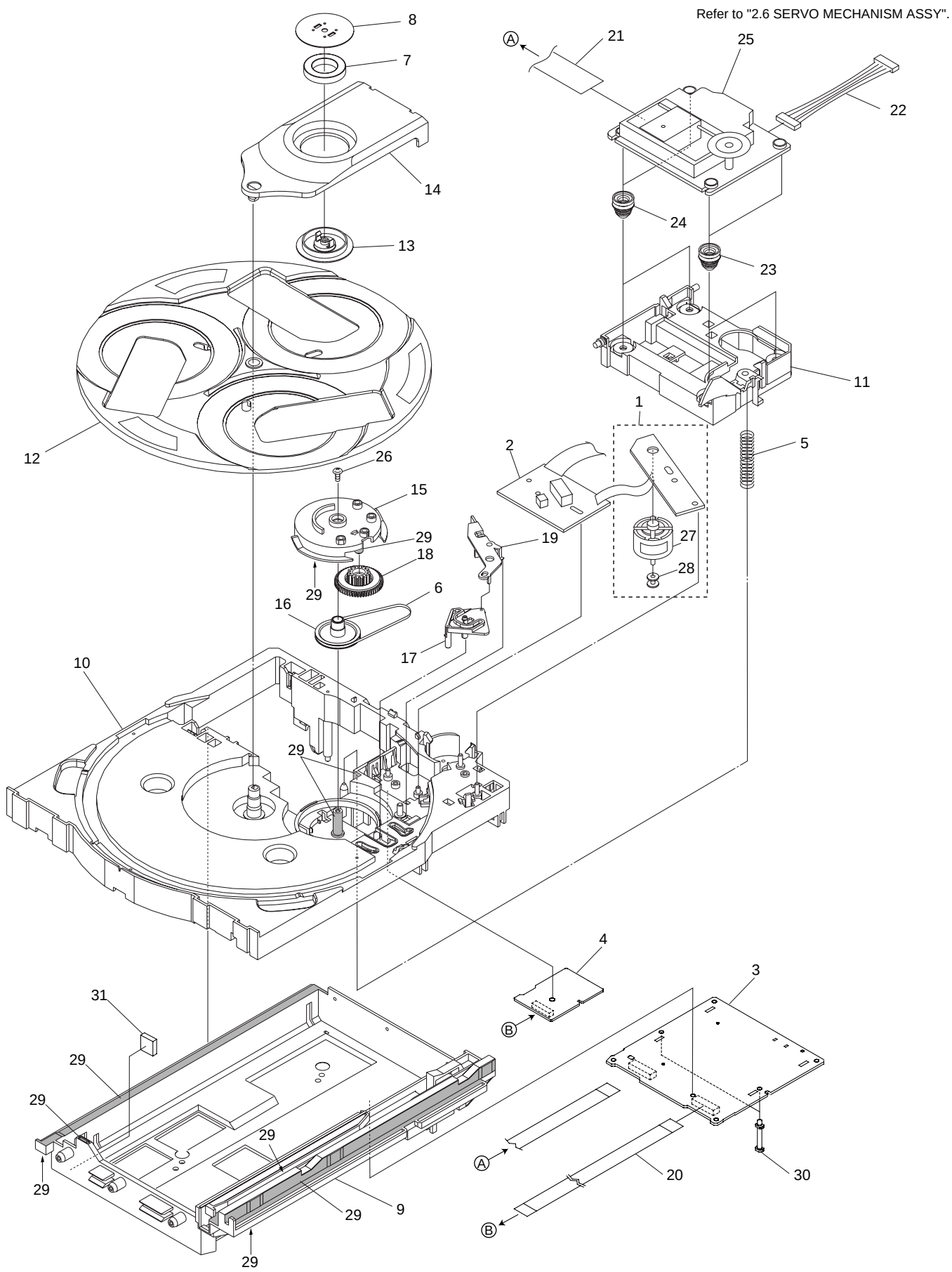
2.4 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⊗	1	DISPLAY Assy	XWZ3138		26	CD Lens	XZN3037
⊗	2	CD SW LED Assy	XWZ3131		27	Deck Lens L	XZN3035
⊗	3	SUB DISPLAY Assy	XXG3014		28	Deck Lens R	XZN3036
	4	•••••			29	•••••	
	5	Cord With Plug	DE007VE0		30	Door Pocket L	XZN3013
	6	Flexible Cable 14P	XDD3011		31	Door Pocket R	XZN3015
	7	Flexible Cable 19P	XDD3009		32	Front Panel A	XZN3011
	8	Flexible Cable 40P	XDD3005		33	Sub Panel A	XZN3032
	9	Connector Assy 3P	XDE3013		34	Power Button	XZN3022
	10	Connector Assy 5P	XDE3014		35	Play Button	XZN3024
	11	GND Plate A	XNG3004		36	S.C. Button	XZN3026
	12	Mechanism Unit	XYM3003		37	TIMER Button	XZN3029
	13	Door Spring L	XBH3001		38	Sub Buttun	XAD3012
	14	Door Spring R	XBH3002		39	Dolby Lens	XAK3034
	15	Latch Spring L	ABH7130		40	Diffusion Sheet	XAK3035
	16	Latch Spring R	ABH7131		41	Dolby Panel	XAK3042
	17	Screw	BPZ30P100FZK		42	Button Lens	XAK3044
	18	Latch Mold L	XMR3001	NSP	43	Front Panel Assy B	XXG3028
	19	Latch Mold R	XMR3002		44	Sub Panel B	XZN3054
NSP	20	Jog Lens	XAK3025		45	Front Panel B	XZN3051
	21	Damper Assy	AXA7052		46	Binder	ZCA-SKB90BK
	22	•••••					
NSP	23	Front Panel Assy	XXG3015				
	24	Function Button	XZN3020				
	25	CD Button	XZN3018				

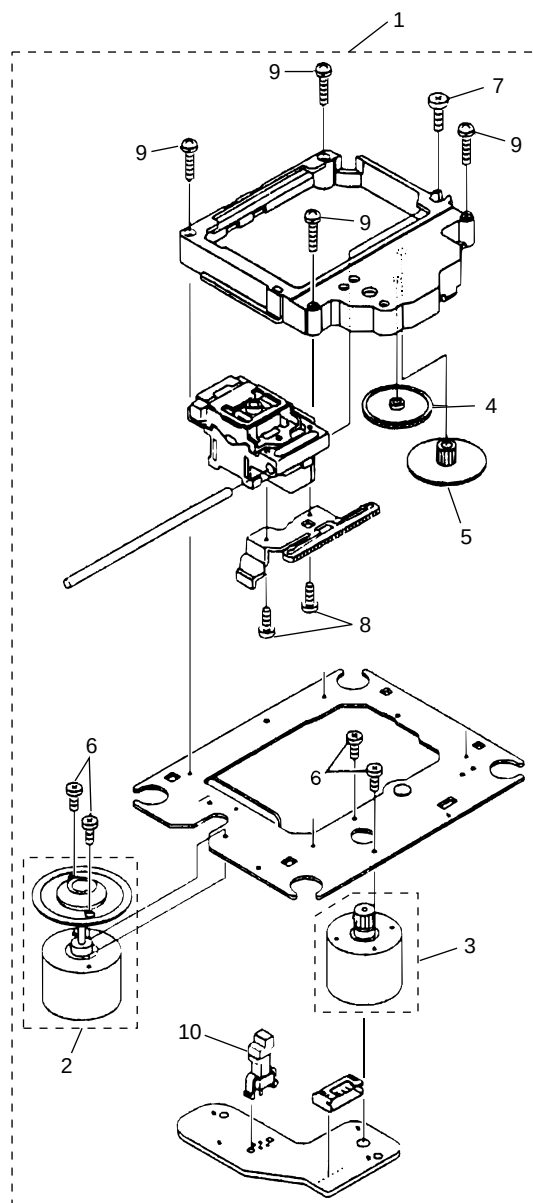
2.5 \$M MECHANISM VCD



2.6 SERVO MECHANISM ASSY

● \$M MECHANISM VCD PARTS LIST

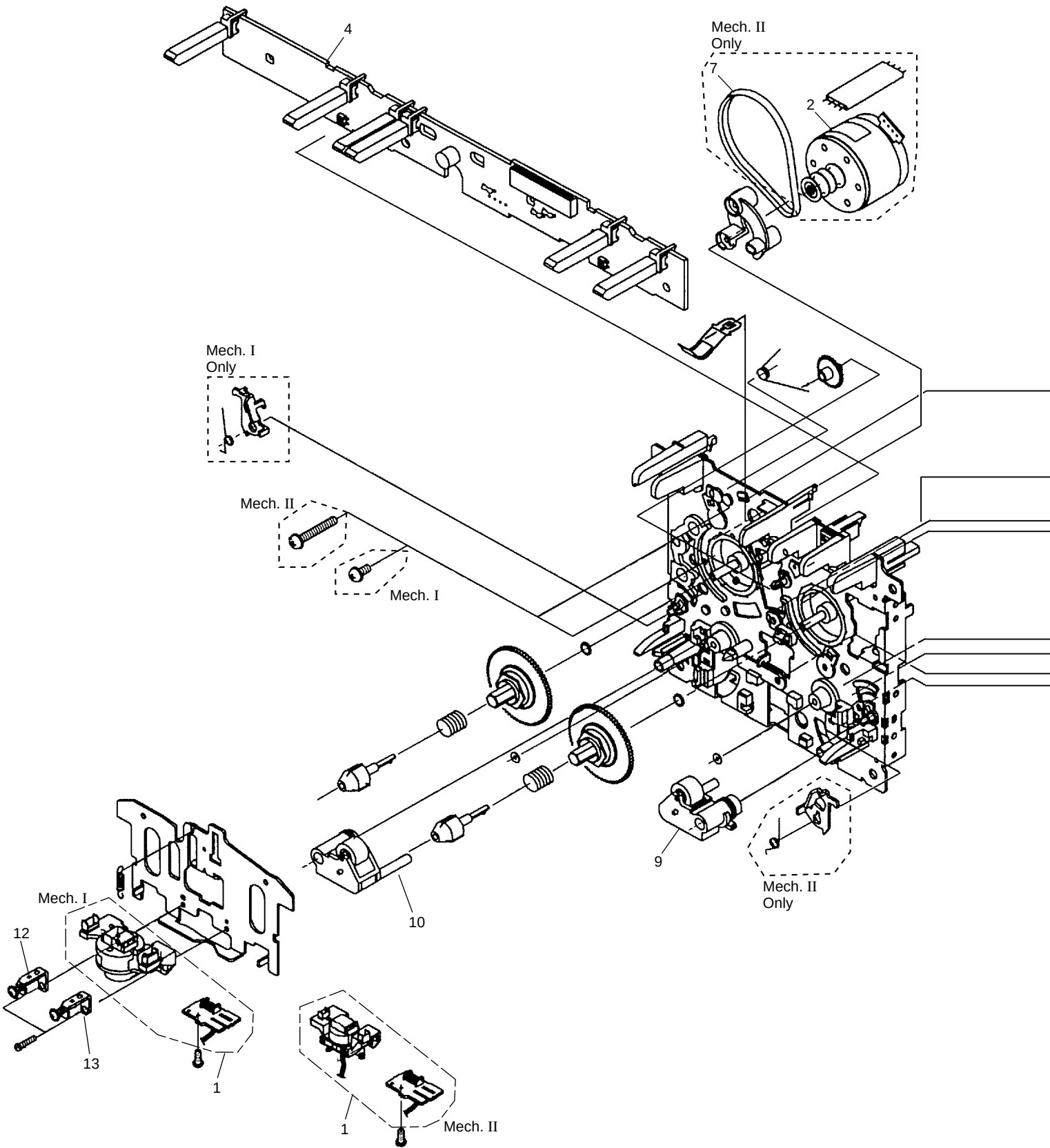
Mark	No.	Description	Part No.
⊗	1	MOTOR Assy	XWZ3080
NSP	2	SW Assy	XWZ3081
⊗	3	VCD SURVO Assy	XWX3003
⊗	4	TRADE Assy	XWZ3082
	5	Servo Spring	ABH7126
	6	Belt	AEB7072
	7	Clamp Magnet	AMF7001
	8	Yoke	ANB7067
	9	Mecha Base	XNW3001
	10	Loading Tray	XNW3002
	11	Servo Base	XNW3003
	12	Rotary Tray	ANW7113
	13	Clamper	ANW7091
	14	Clamper Holder	XNW3004
	15	Main Cam	ANW7093
	16	Gear Pulley	ANW7094
	17	Lock Lever	ANW7095
	18	Planet Gear	ANW7096
	19	Actuator	ANW7097
	20	13P F.F.C/30V	XDD3008
	21	15P F.F.C/30V	XDD3007
	22	Connector Assy (6P)	ADE7010
	23	Float Rubber A	AEB7063
	24	Float Rubber B	AEB7066
	25	Servo Mechanism Assy	AXA7039
	26	Screw	IPZ30P080FMC
	27	Carriage Motor	VXM1033
	28	Motor Pulley	PNW1634
	29	Ha Narl	GEM1016
	30	Card Spacer	AEC7143
	31	Cushion Rubber	XEB3004

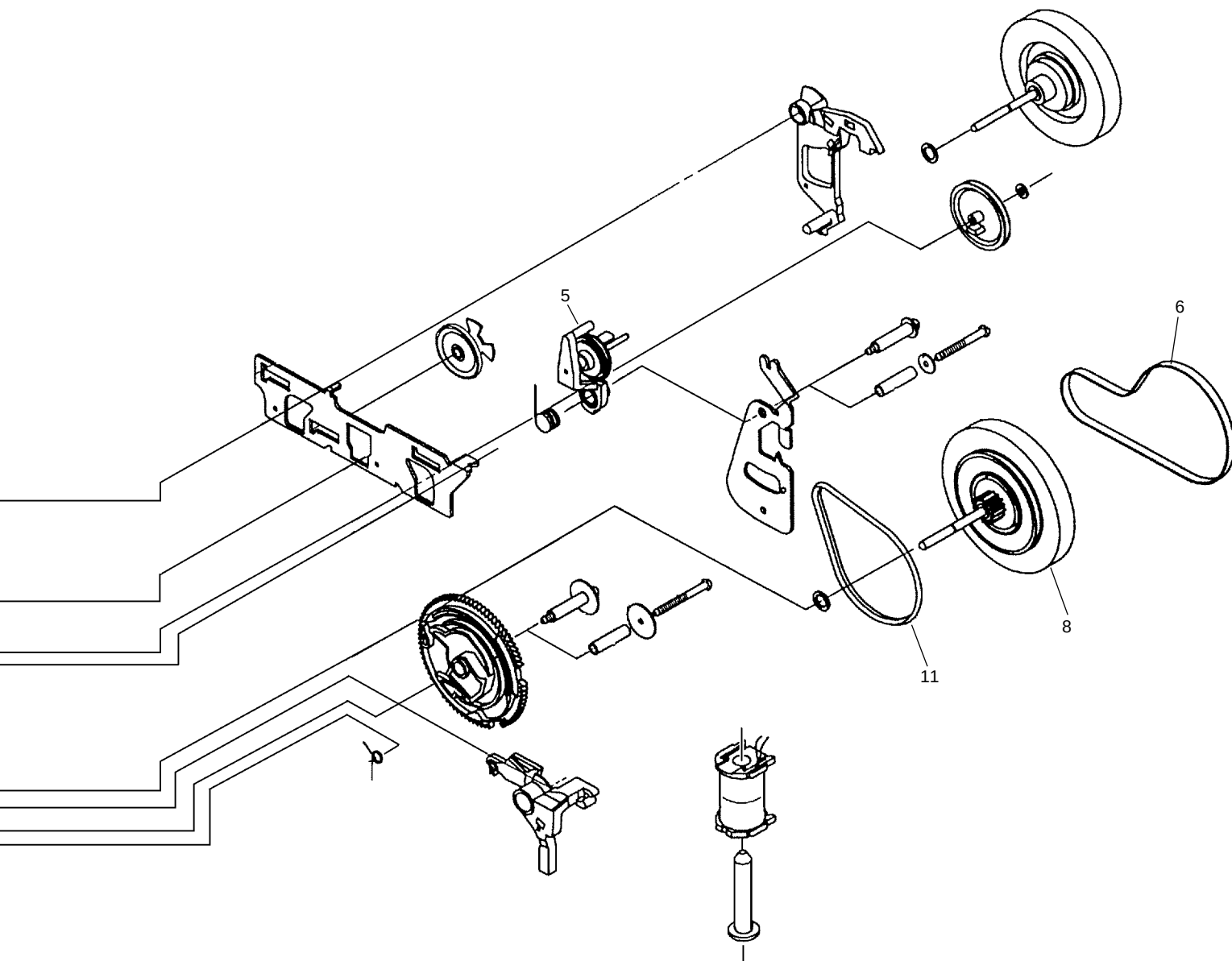


● SERVO MECHANISM ASSY PARTS LIST

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

2.7 MECHANISM UNIT



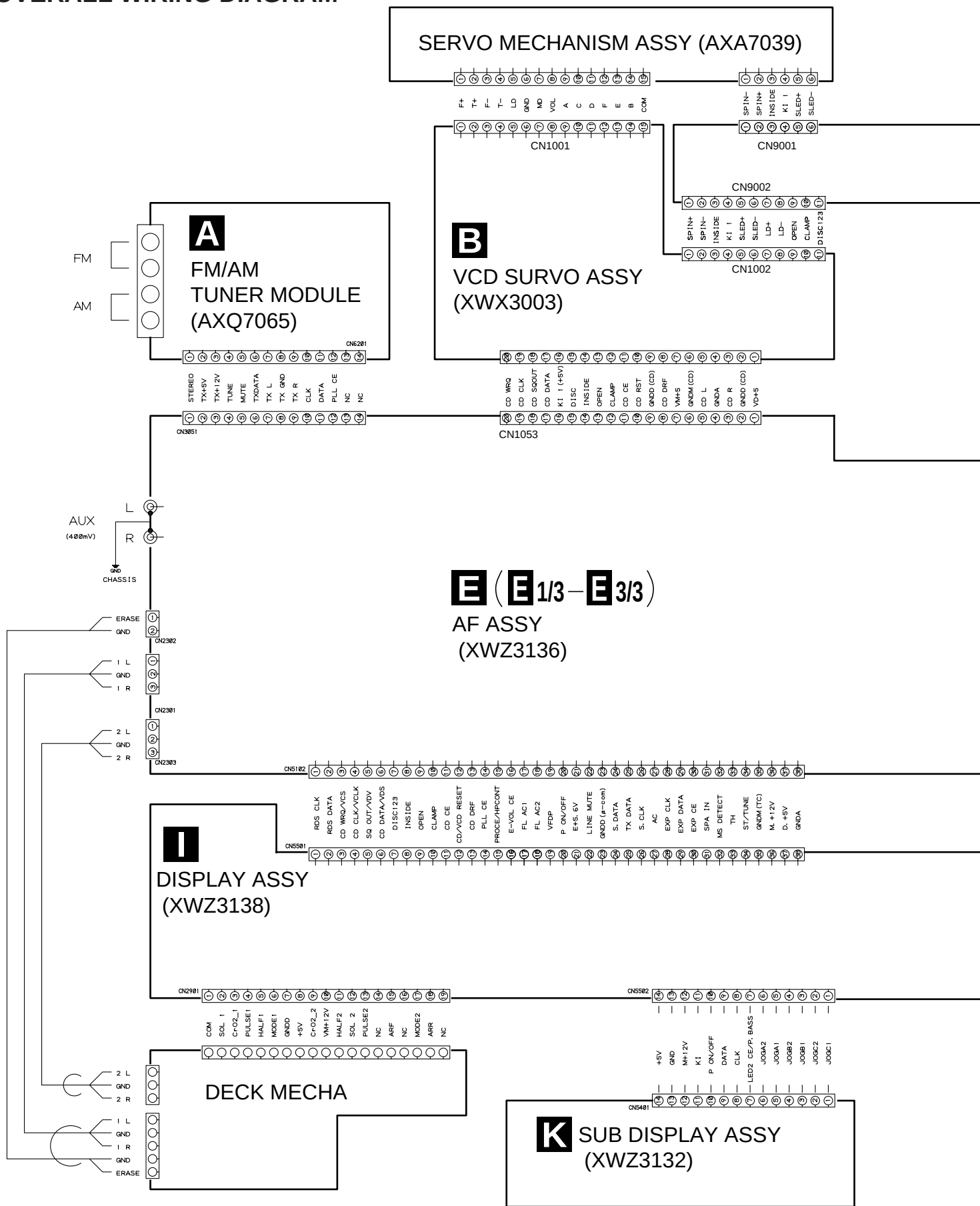


● MECHANISM UNIT PARTS LIST

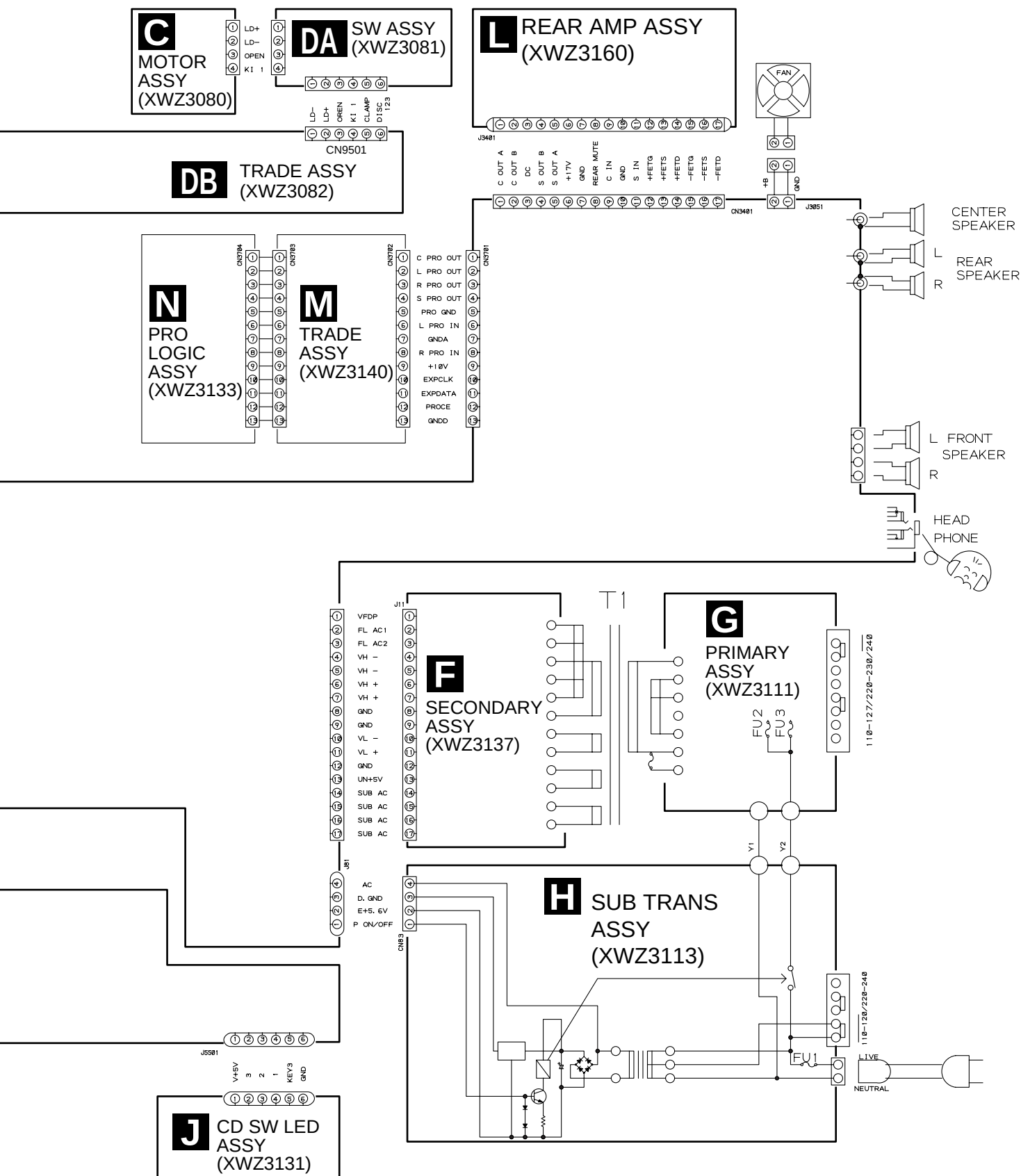
Mark	No.	Description	Part No.
	1	Plate HD BLK (Mech. II)	F513-811
	1	Plate HD BLK (Mech. I)	F513-819
	2	Motor Main BLK (Mech. II only)	F525-324
	3		
	4	PCB Control BLK	F567-621
	5	Clutch Assy BLK	F522-037
	6	Main Belt	FF17G-31
	7	Joint Belt 113 (Mech. II only)	FF19D-21
	8	Clutch Assy BLK	F522-045
	9	Roller Pinch BLK R	F514-129
	10	Roller Pinch BLK L	F514-130
	11	F/R Belt	FF18W-12
	12	Plate Base BLK	F512-127
	13	Plate Base BLK	F512-128

3. SCHEMATIC DIAGRAM

3.1 OVERALL WIRING DIAGRAM



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



A

B

C

D

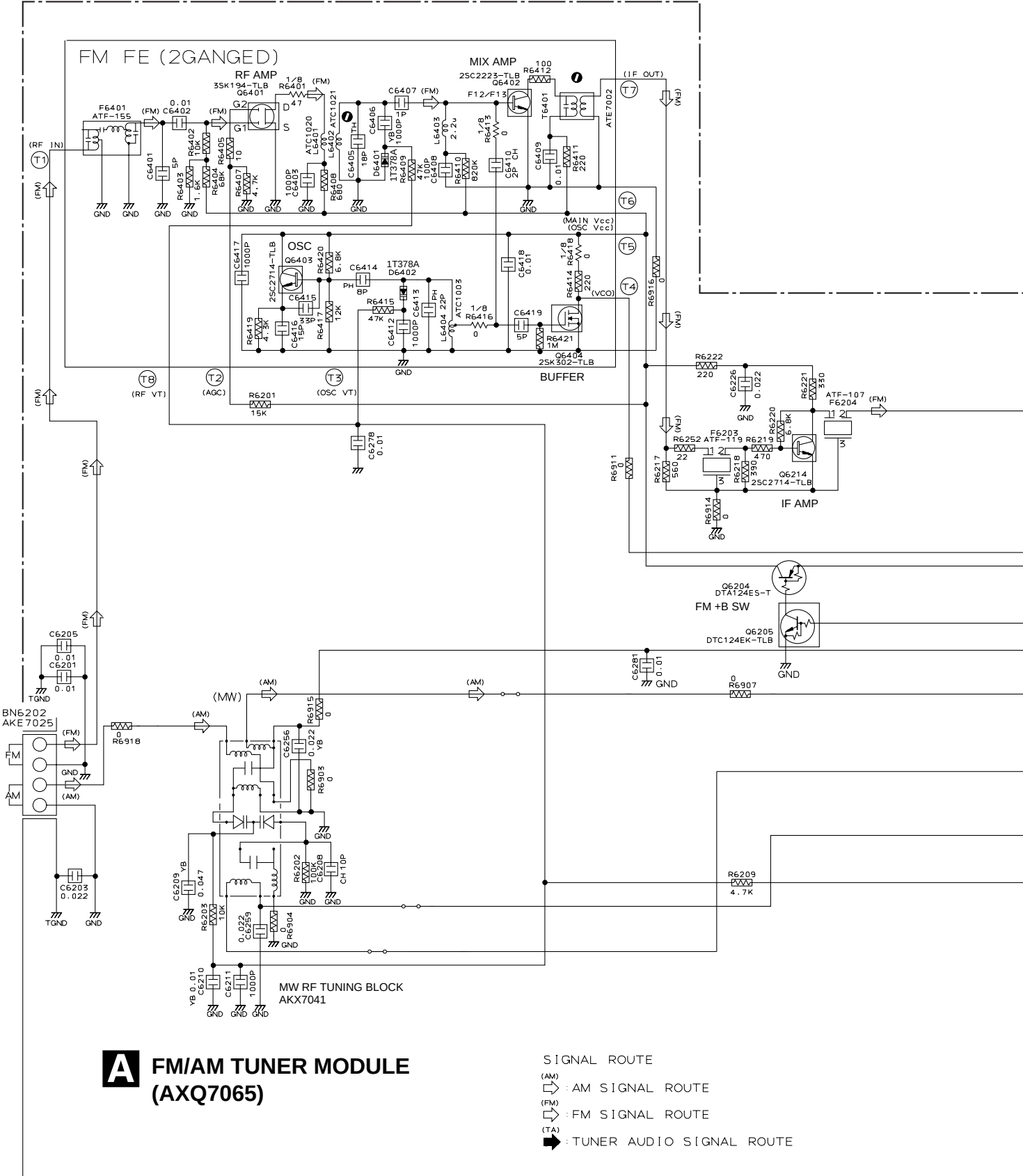
3.2 FM/AM TUNER MODULE

A

B

C

D



A FM/AM TUNER MODULE (AXQ7065)

SIGNAL ROUTE
(AM) AM SIGNAL ROUTE
(FM) FM SIGNAL ROUTE
(TA) TUNER AUDIO SIGNAL ROUTE

Notes

1.RESISTORS

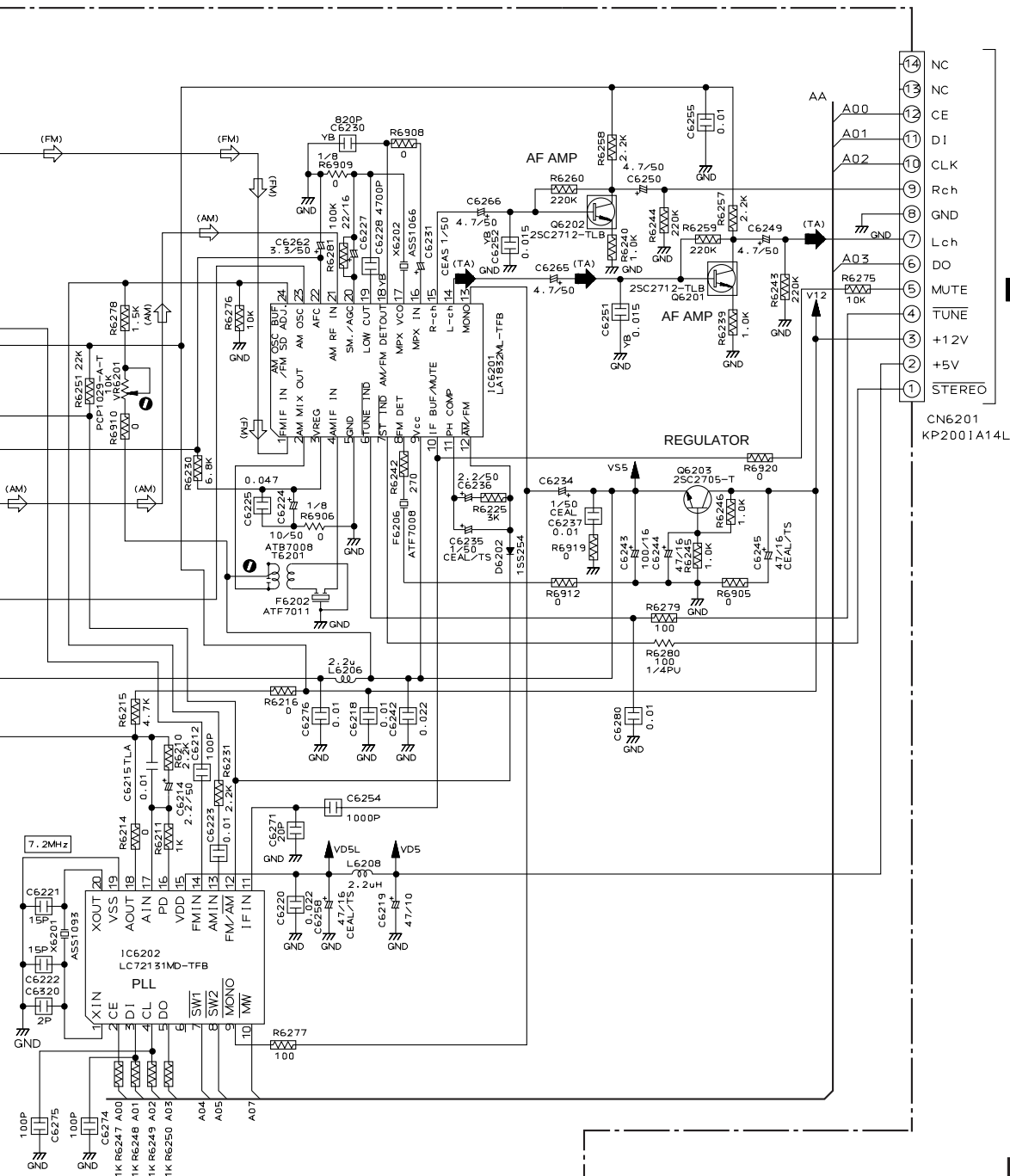
Indicated in Ω , $1/10W \pm 5\%$ Tolerance unless otherwise noted K:K Ω , M:M Ω .

2.CAPACITORS

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

3.DIODES

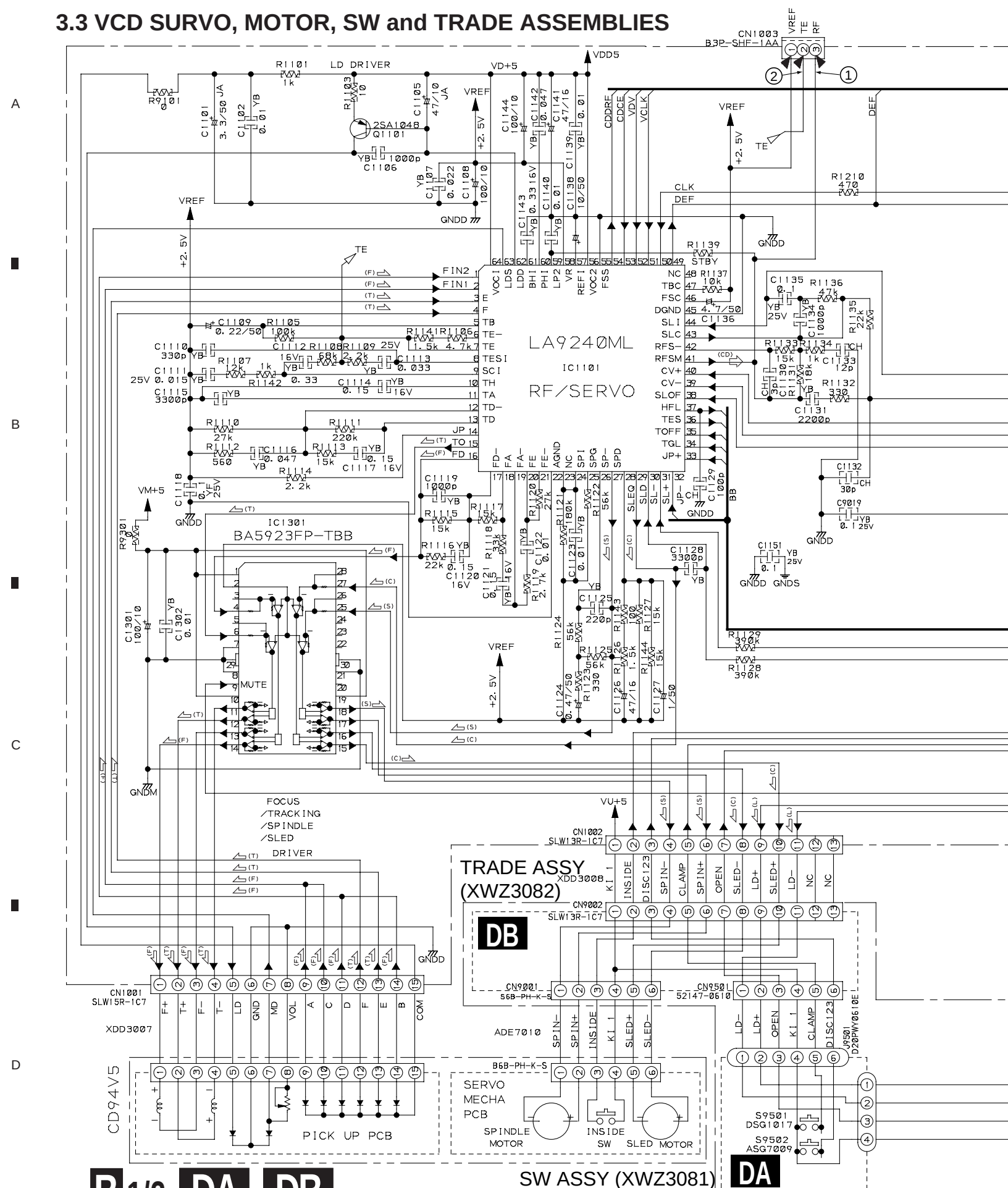
No mark diode is 1SS254.

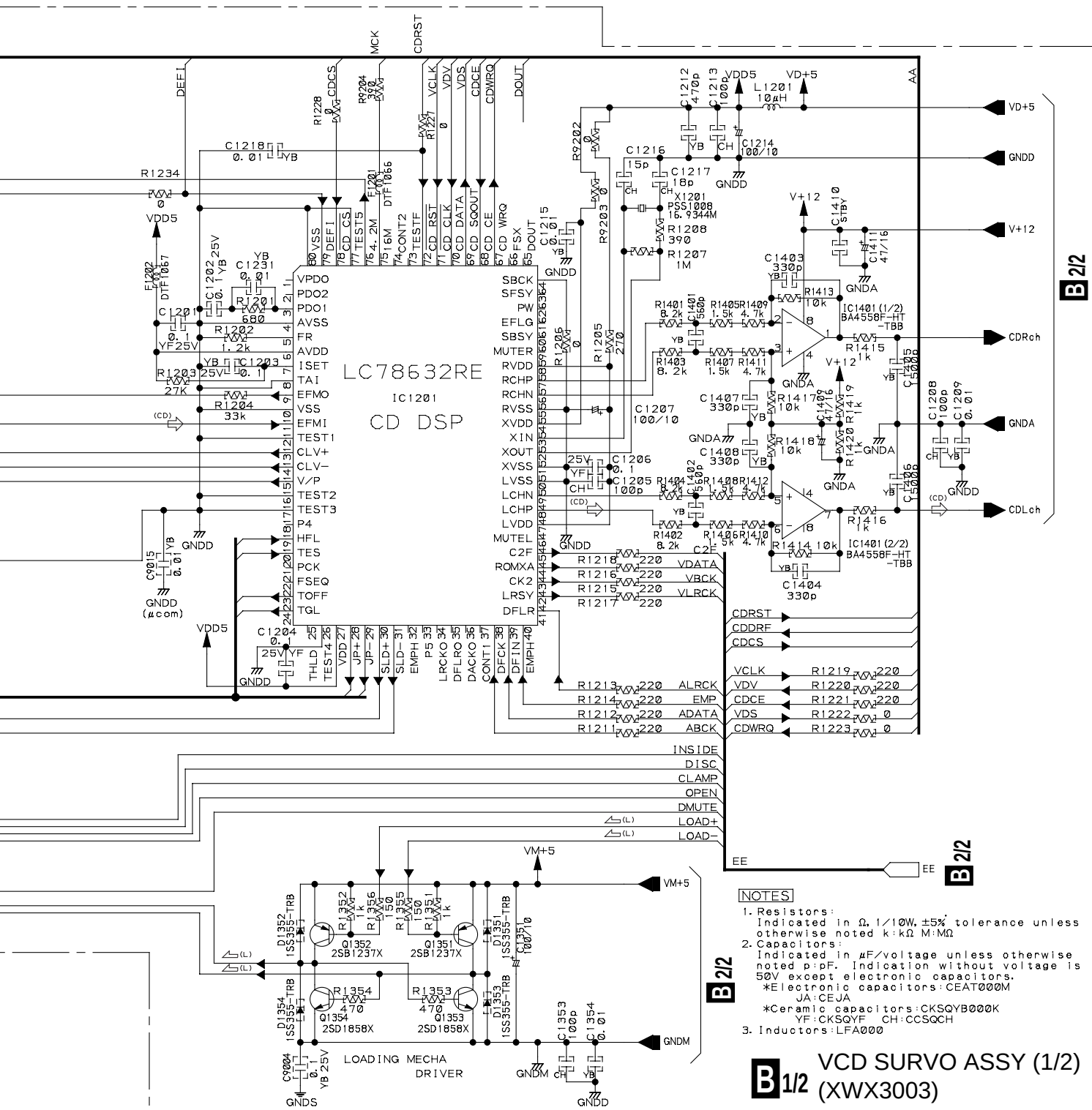


E2/3 CN3051

CN6201
KP2001A14L

3.3 VCD SURVO, MOTOR, SW and TRADE ASSEMBLIES



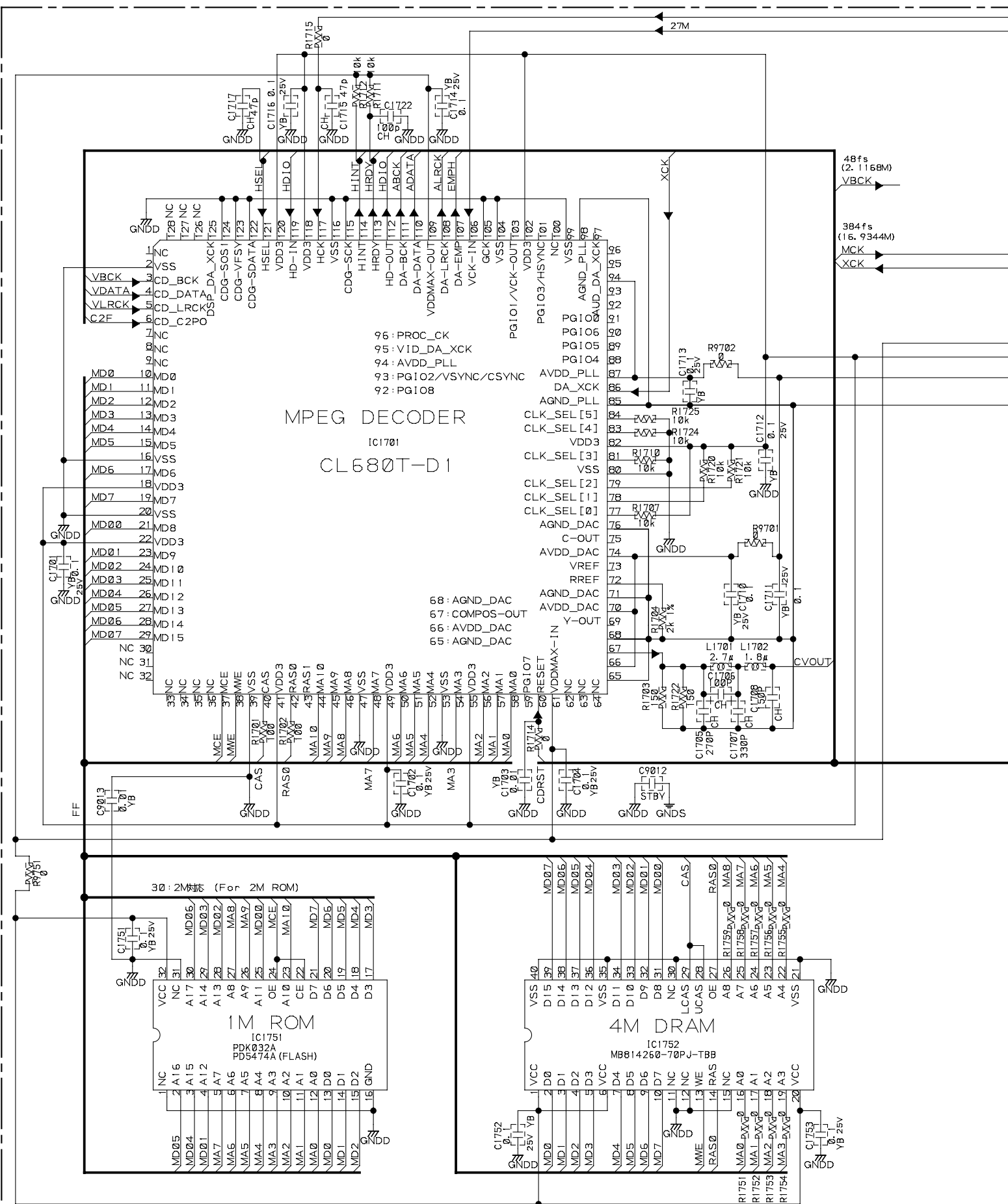


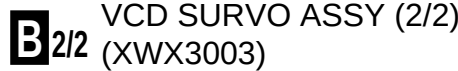
A

B

C

D





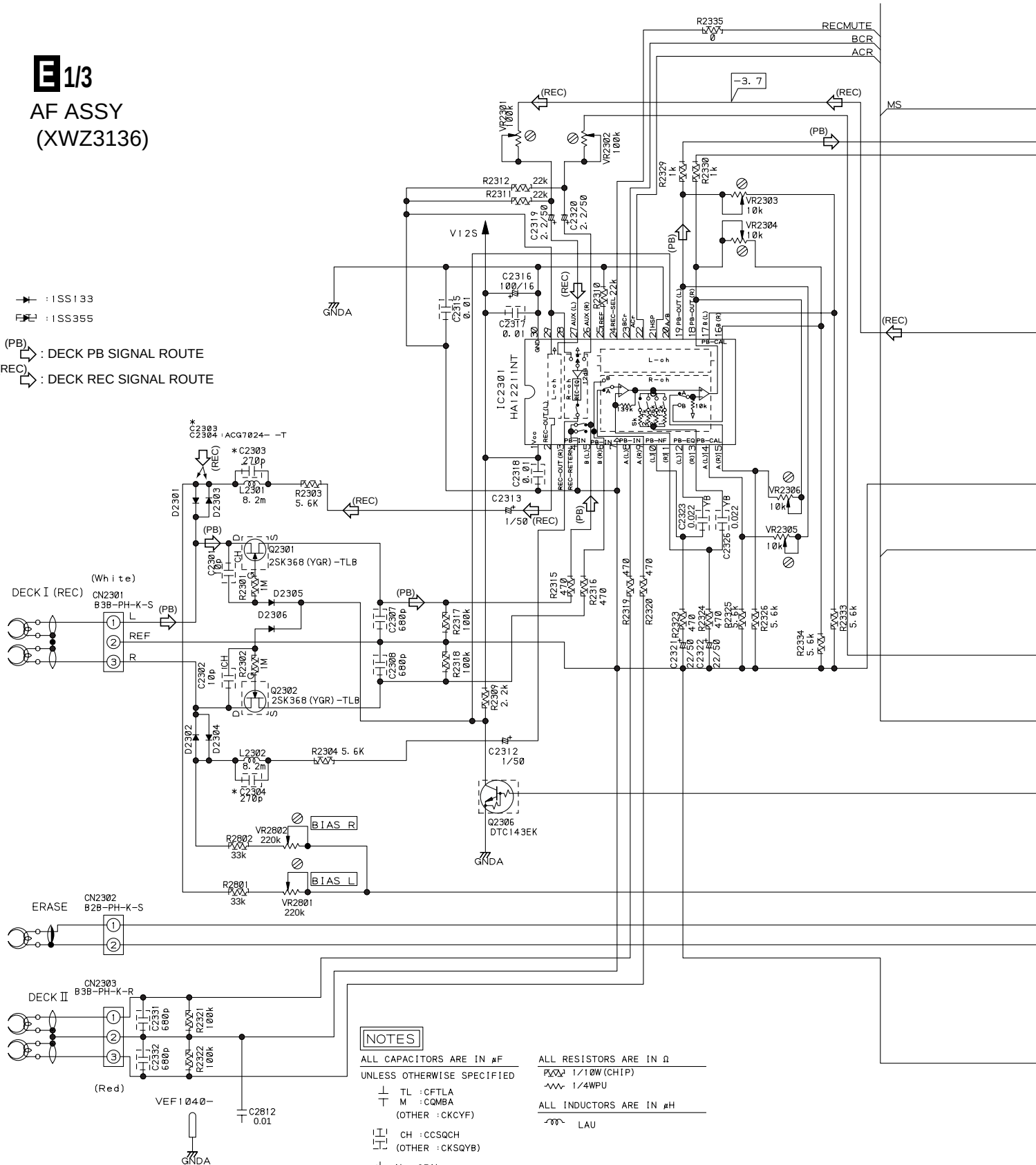
3.4 AF ASSY (1/3)

E 1/3

AF ASSY
(XWZ3136)

→ : ISS133
→ : ISS355

(PB) : DECK PB SIGNAL ROUTE
(REC) : DECK REC SIGNAL ROUTE



E 1/3



B CN1004

E 3/3

ALL CAPACITORS ARE IN μ F
UNLESS OTHERWISE SPECIFIED

TL : CFTLA CH : CCSQCH
M : COMBA YB : CKSQVB (OTHER
(OTHER:CKCYF) SL : CCSQSL CKSQYF)

AL : CEAL (OTHER : CEAS**M##
HAQ : CEHAQ or CEAT**M##)

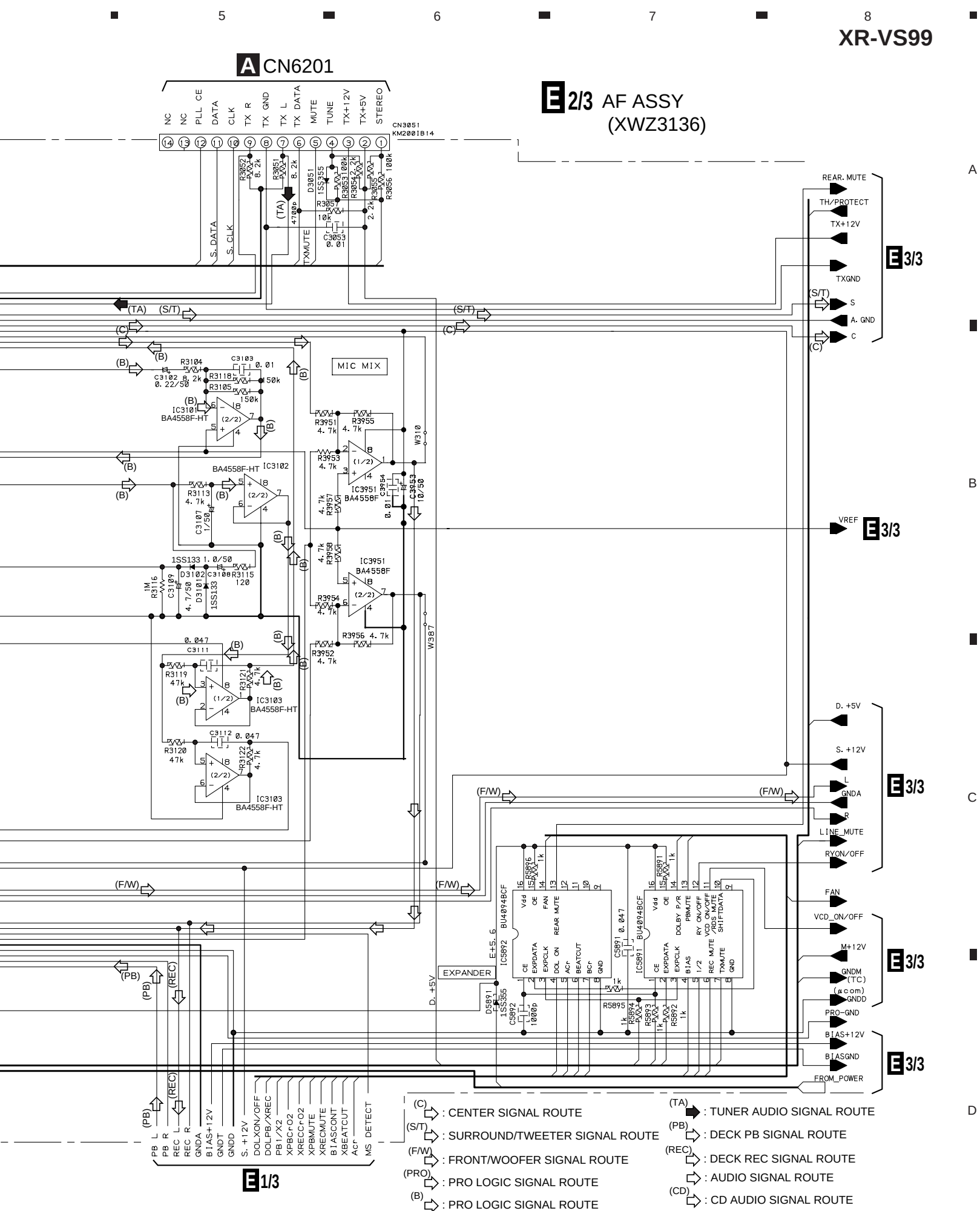
ALL RESISTORS ARE IN Ω $\frac{1}{4}$ W (CHIP)
 $\frac{1}{4}$ W 1/4WPU

ALL INDUCTORS ARE IN μ H LAU

M CN3702

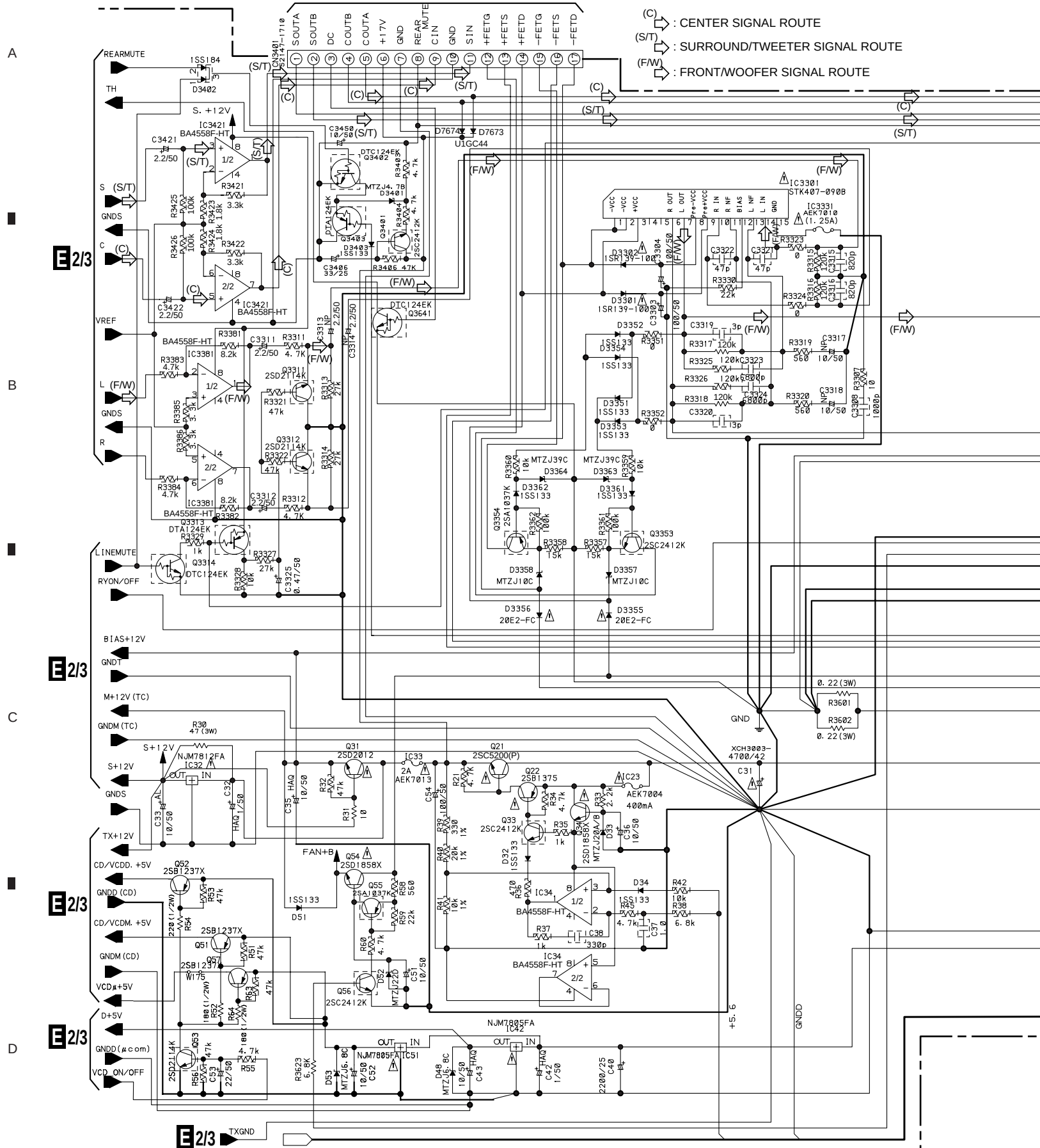
I CN5501

H CN83



3.6 AF (3/3) and SECONDARY ASSEMBLIES

L J3401



F 3/3 AF ASSY (XWZ3136)

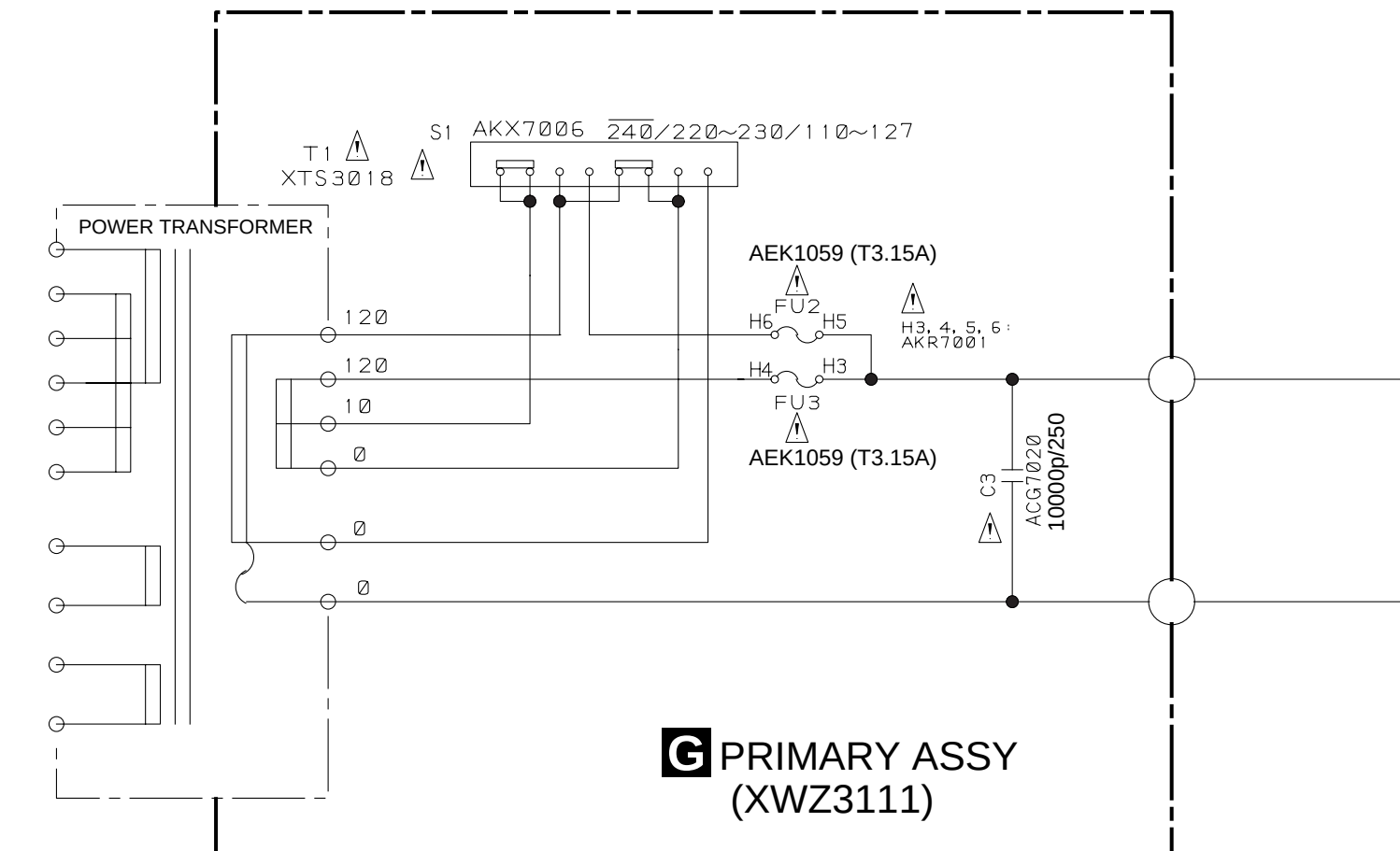
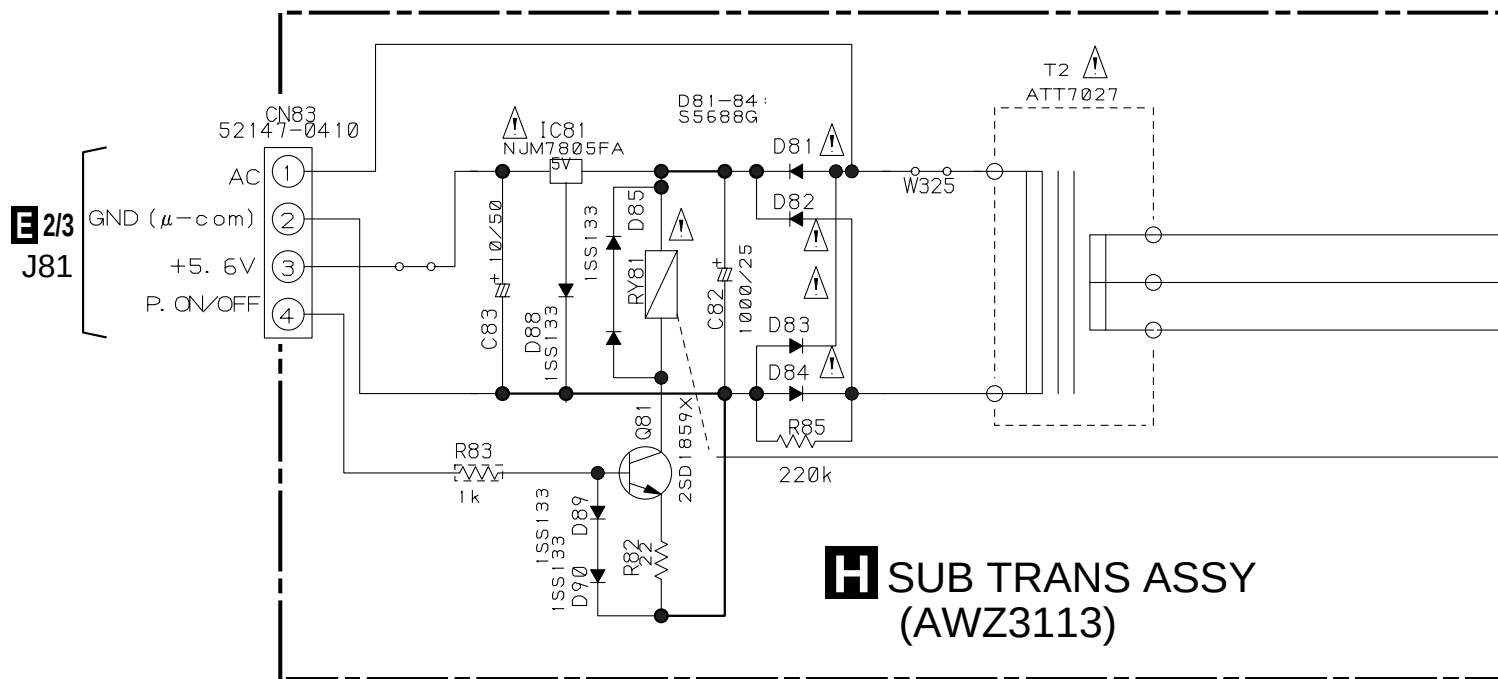


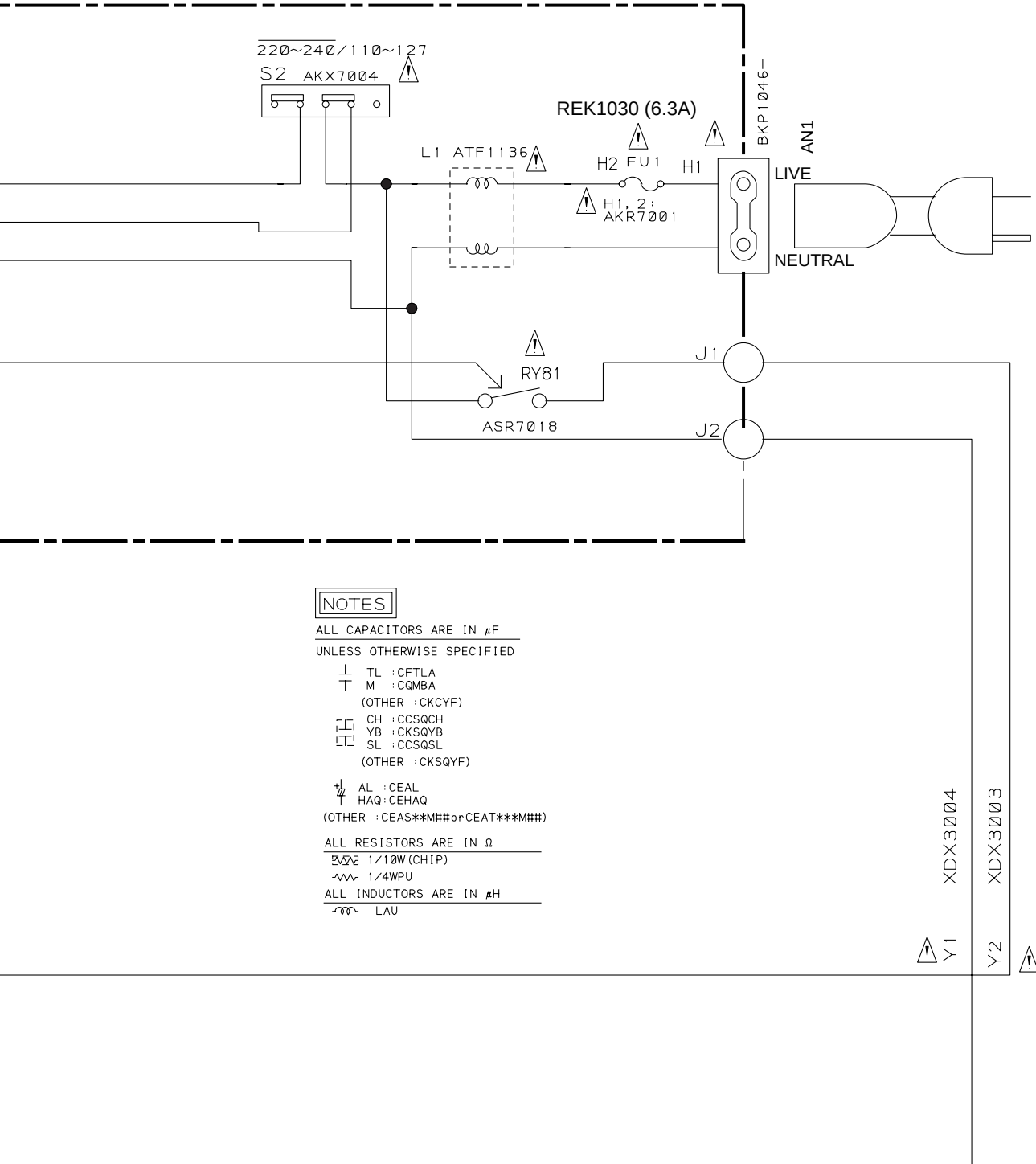
C



CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY
LITTELFUSE INC. FOR IC41 (AEK7019).

3.7 PRIMARY and SUB TRANS ASSEMBLIES





NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED

TL : CFTLA
M : CQMB
(OTHER : CKCYF)

CH : CCSQCH
YB : CKSQYB
SL : CCSQSL
(OTHER : CKSQYF)

AL : CEAL
HAQ : CEHAQ
(OTHER : CEAS**M##orCEAT**M##)

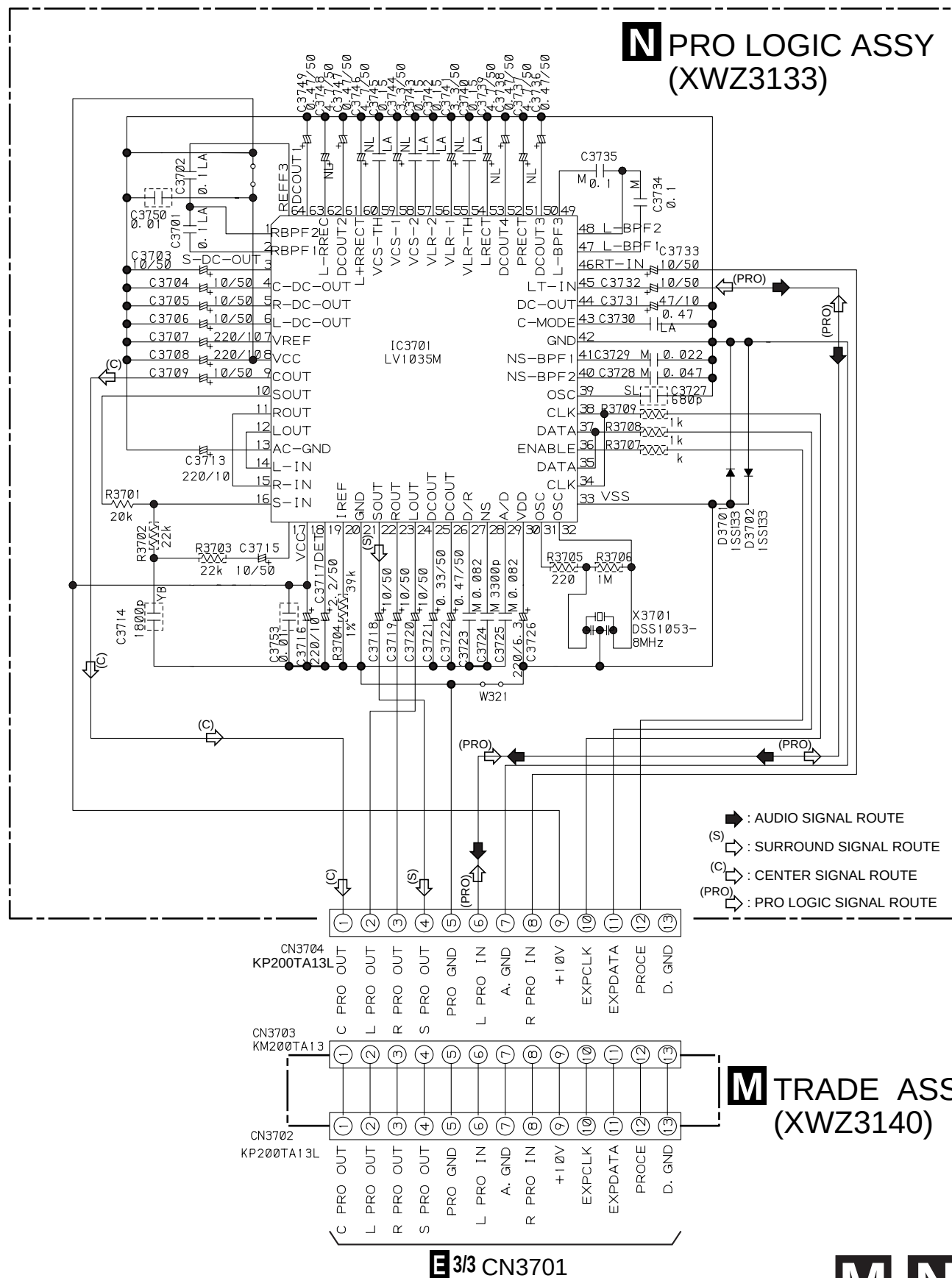
ALL RESISTORS ARE IN Ω
1/10W (CHIP)
1/4WPU

ALL INDUCTORS ARE IN μH
LAU

• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.



3.10 TRADE and PRO LOGIC ASSEMBLIES (XR-A880 ONLY)



A

B

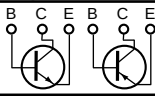
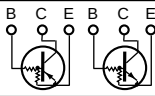
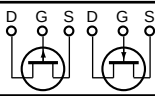
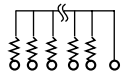
C

D

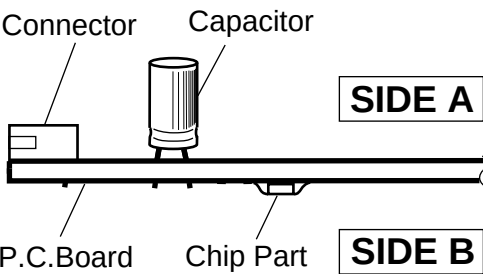
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

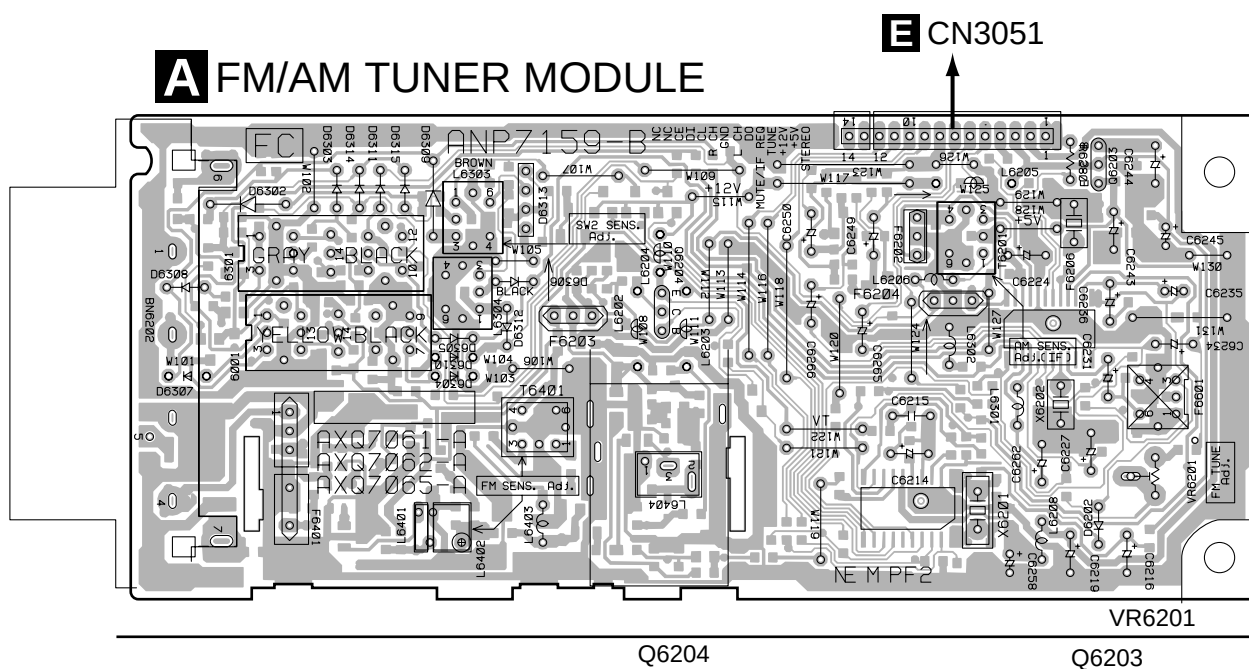
- 1. Part numbers in PCB diagrams match those in the schematic diagrams.
- 2. A comparison between the main parts of PCB and schematic diagrams is shown below.

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

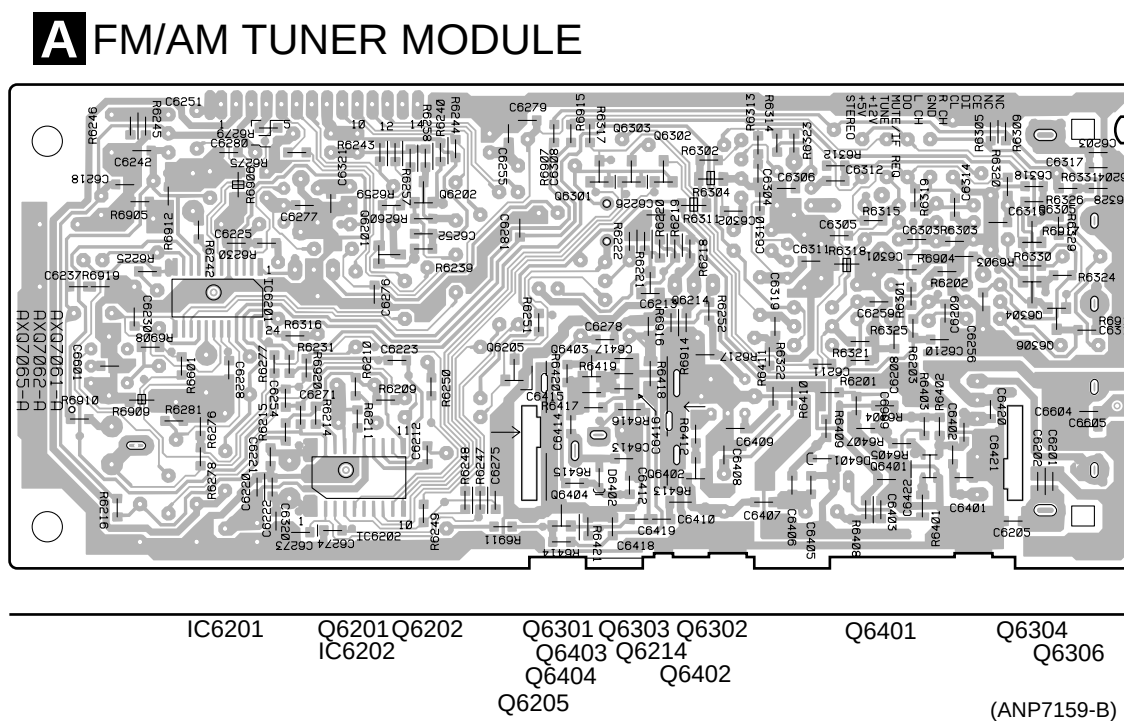
- 3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
- 4. View point of PCB diagrams.



4.1 FM/AM TUNER MODULE

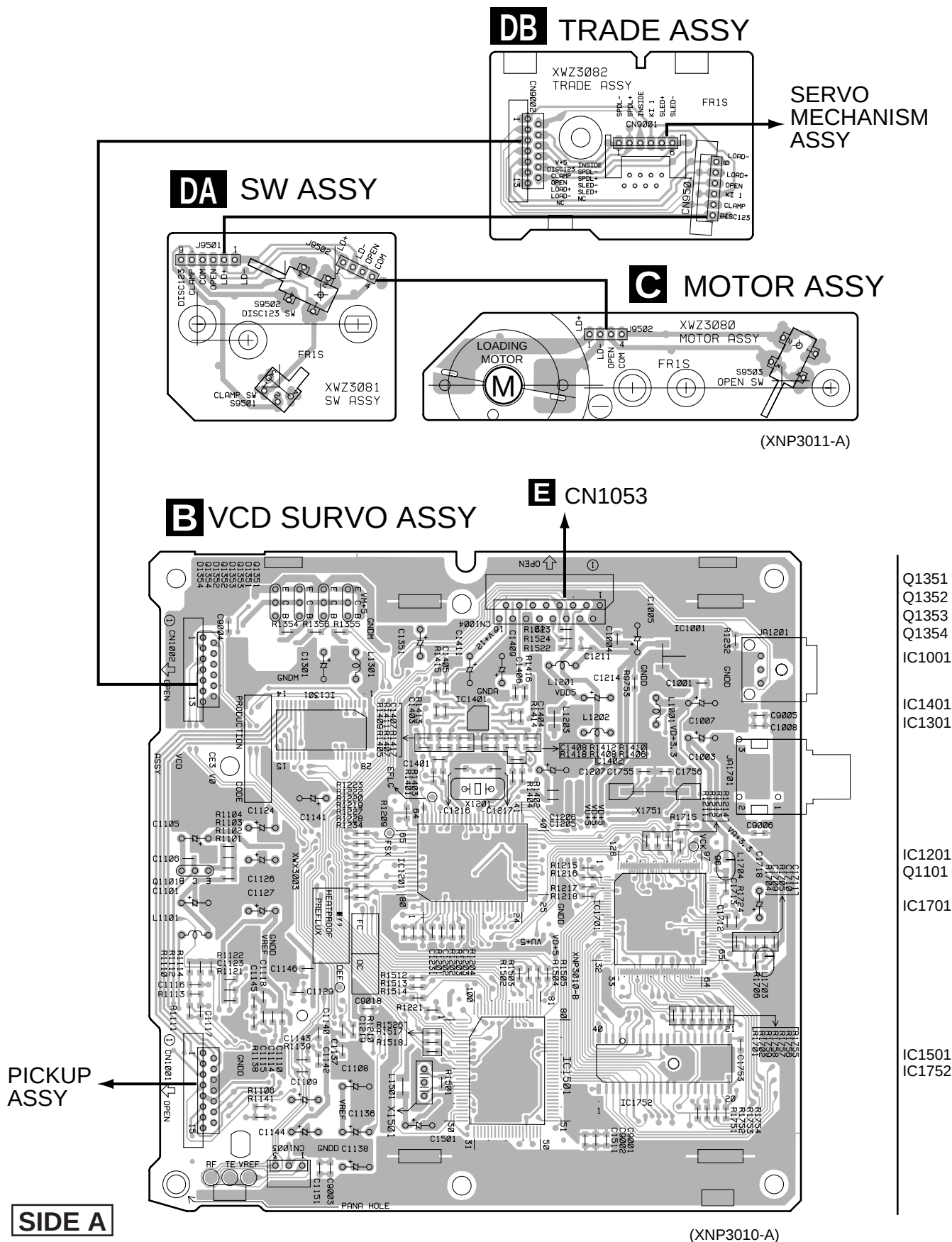


SIDE A



SIDE B

4.2 VCD SURVO, MOTOR, SW and TRADE ASSEMBLIES

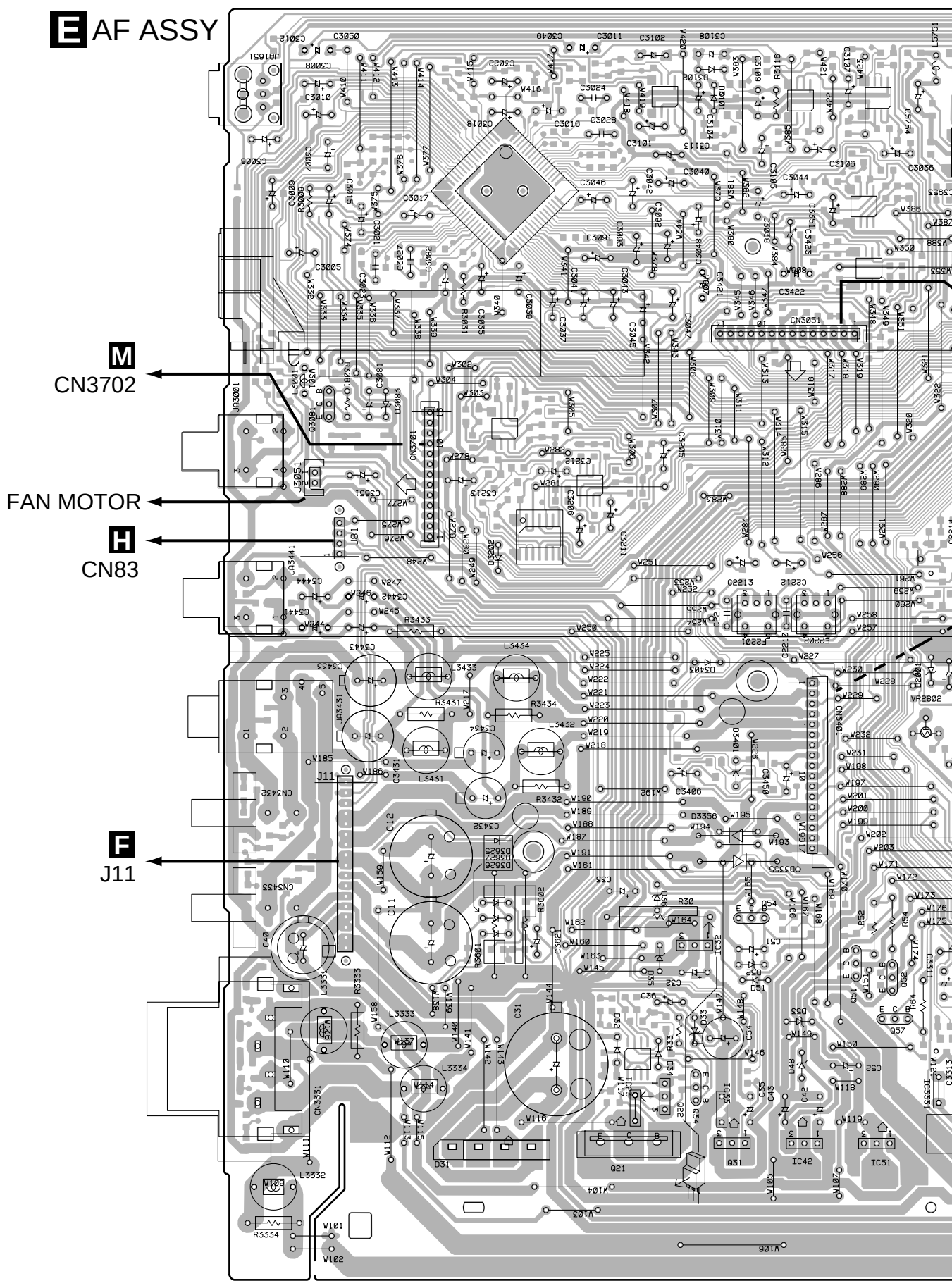


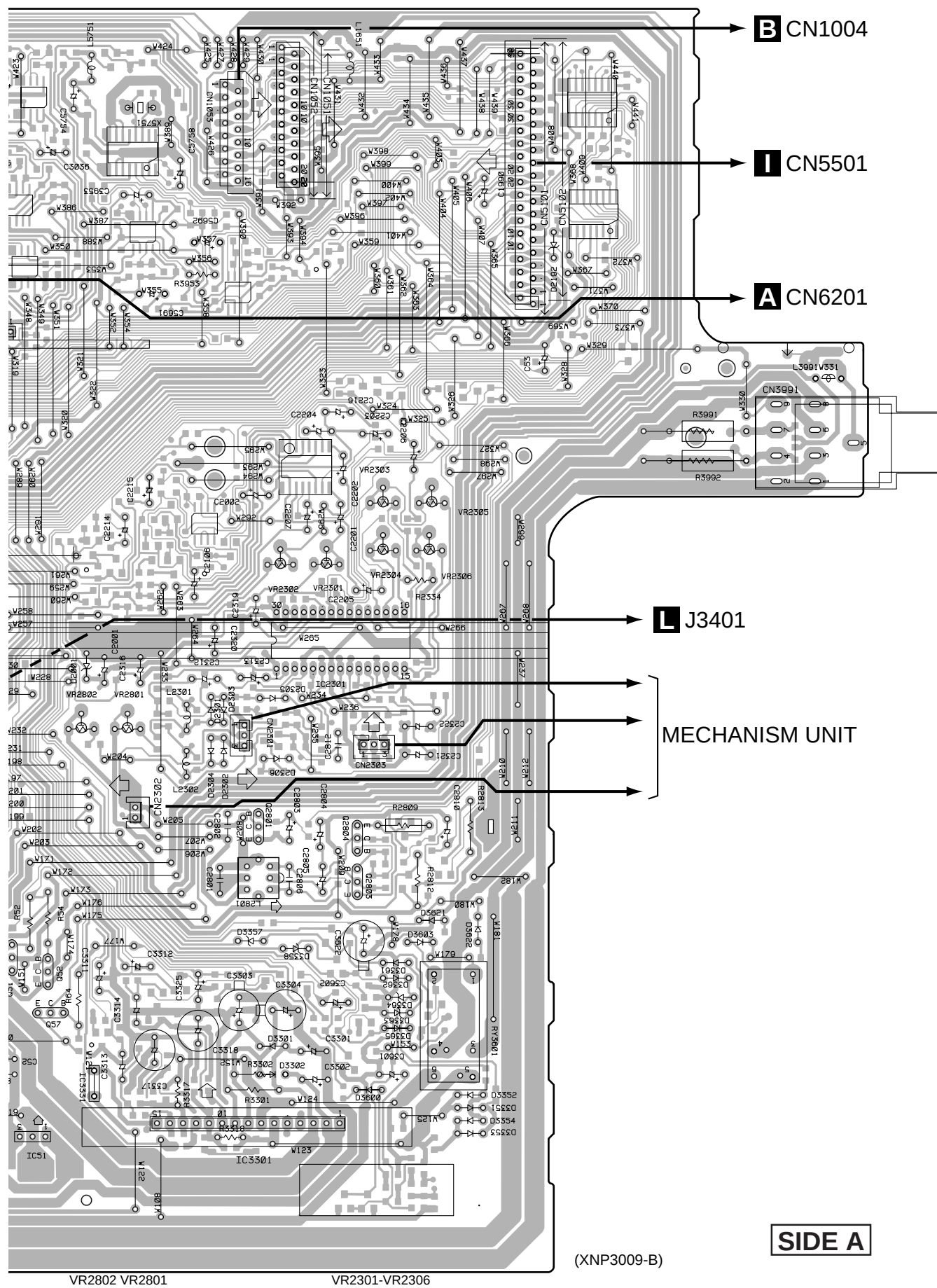
SIDE B

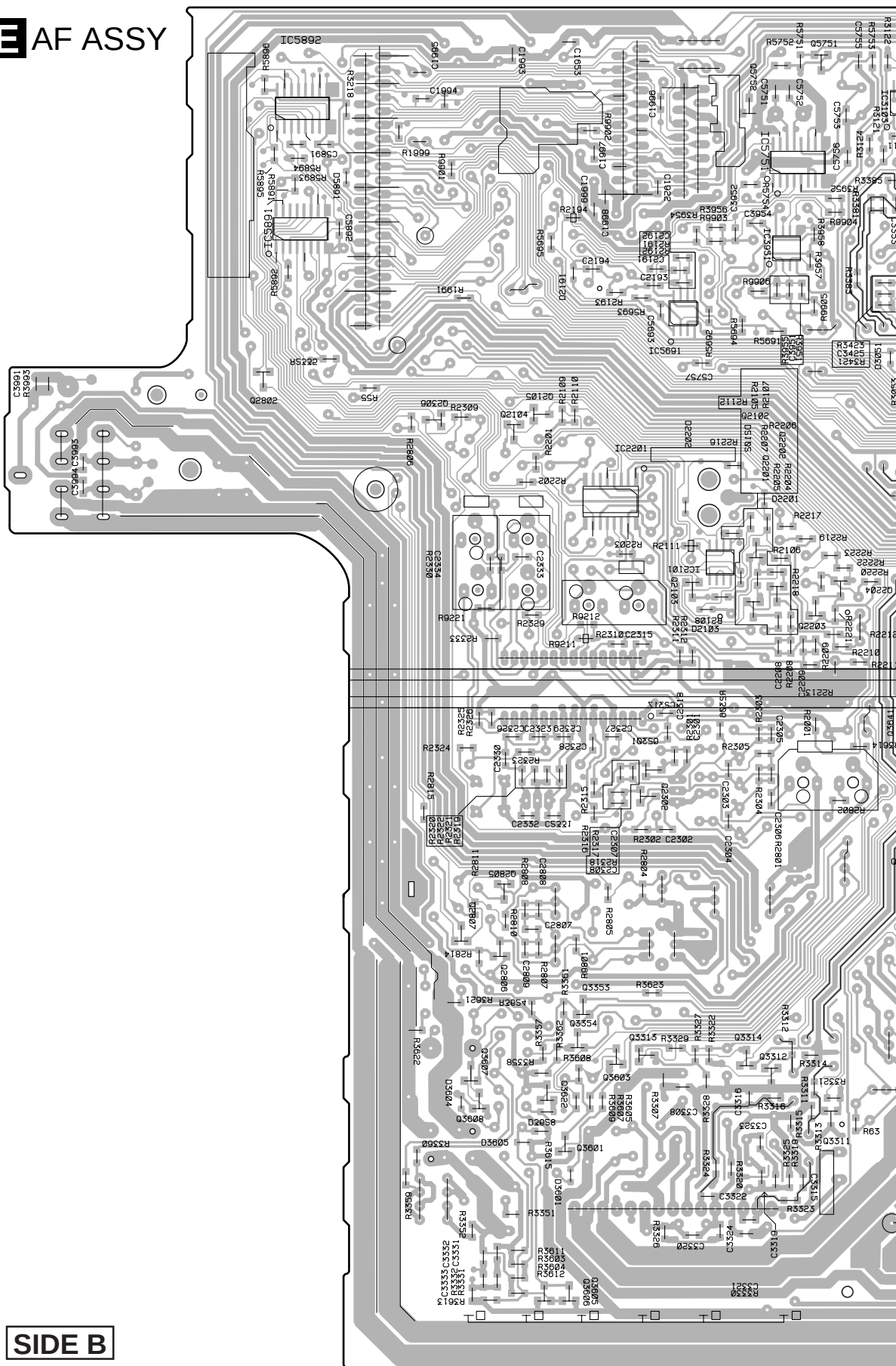


(XNP3010-A)

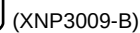
E AF ASSY







Q5751 Q5752 IC5751 IC5751
Q2203 Q2204
Q3311-Q3314

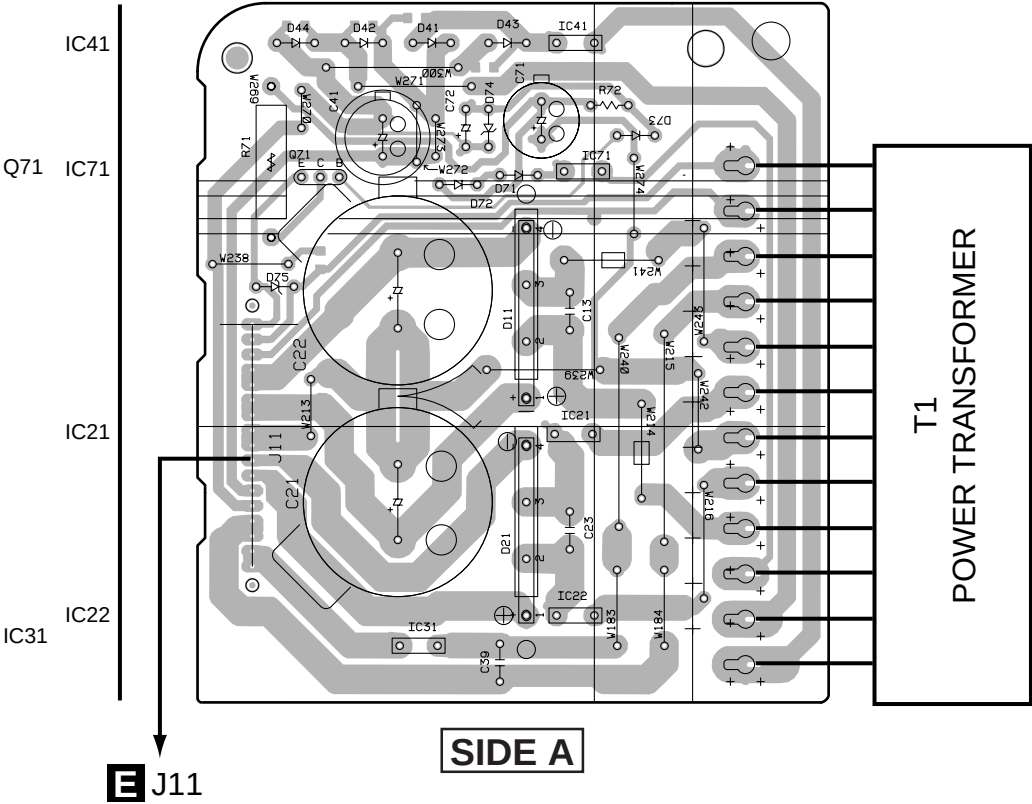


IC3001

4.4 SECONDARY ASSY

A

F SECONDARY ASSY

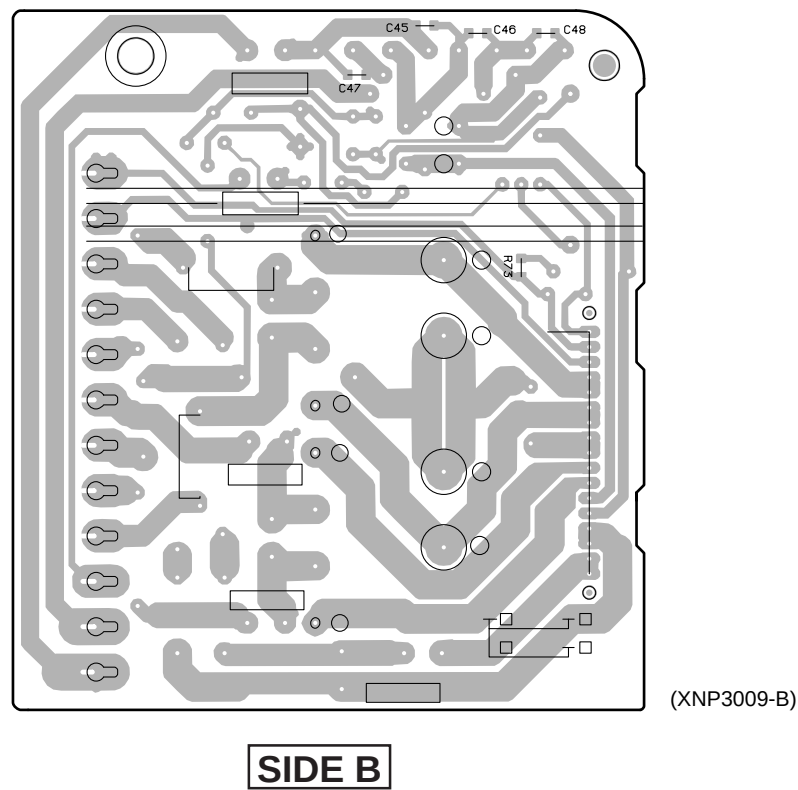


B

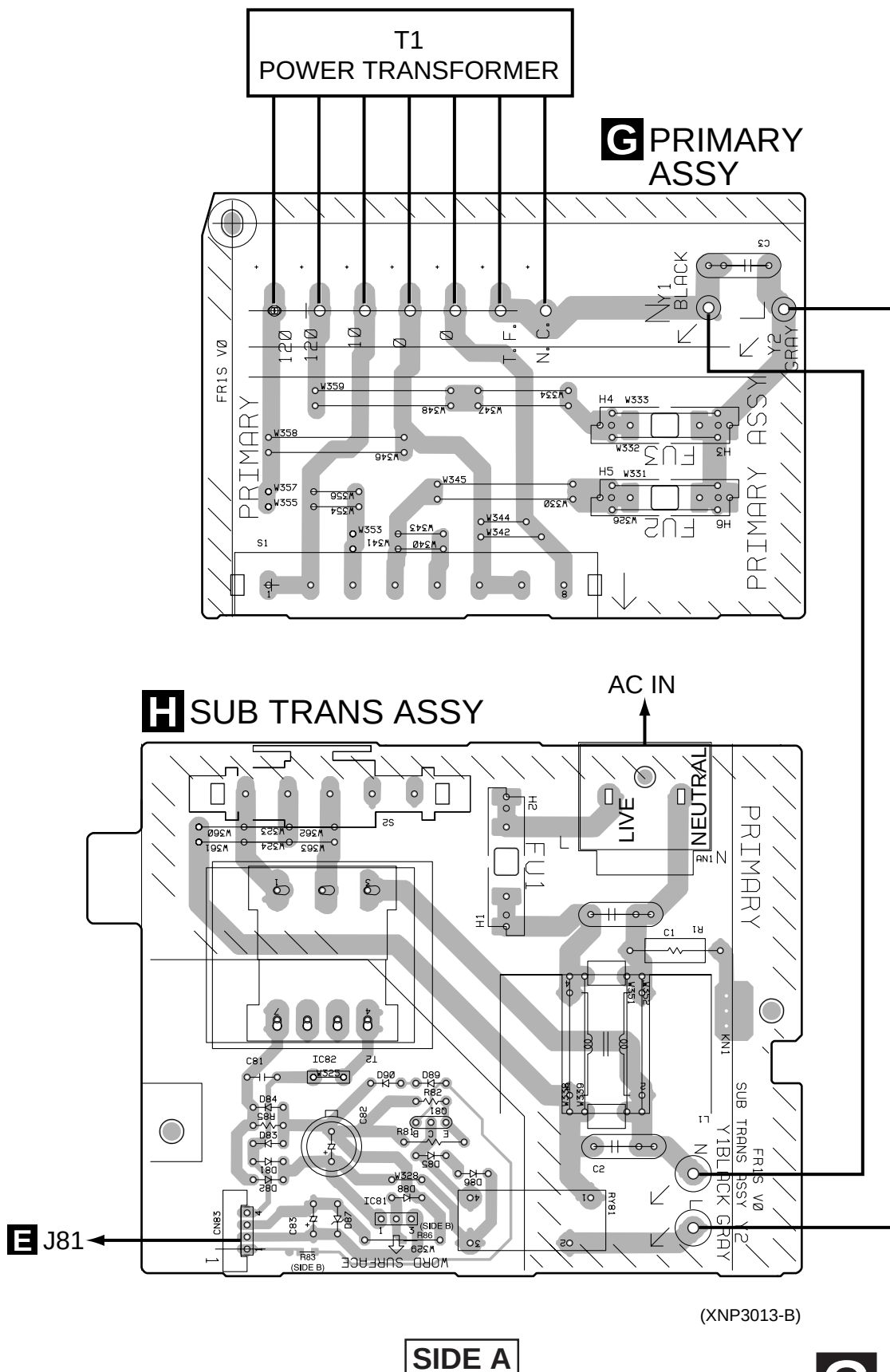
C

D

F SECONDARY ASSY



4.5 PRIMARY and SUB TRANS ASSEMBLIES



4.6 DISPLAY and CD SW LED ASSEMBLIES

A

B

C

D

SIDE A

E
CN5102

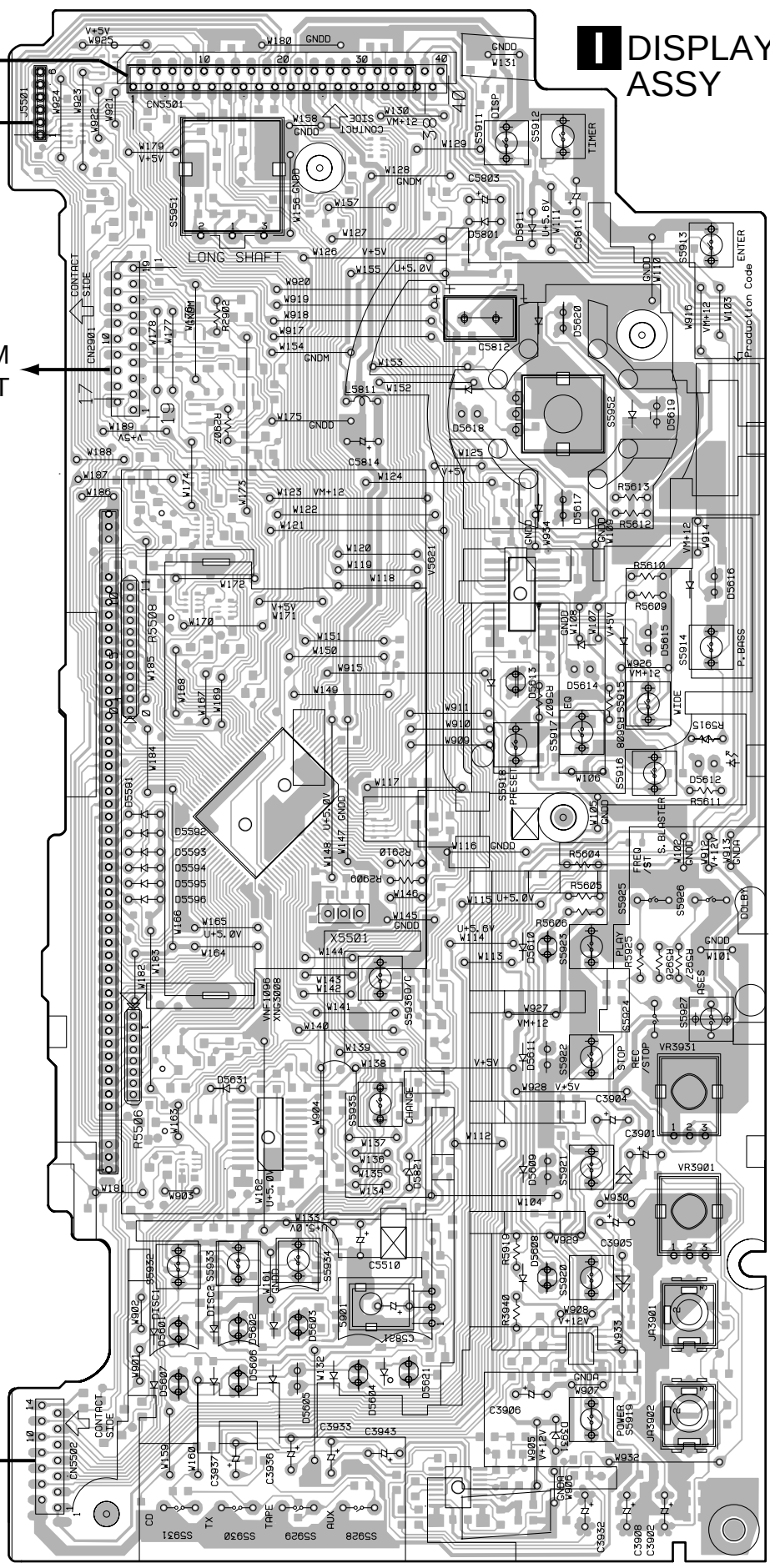
MECHANISM UNIT

J CD SW LED ASSY

(XNP3013-B)

K
CN5401

I DISPLAY ASSY



DISPLAY
ASSY

Q2901
Q2903

Q2906
Q2908

Q5605 IC5601

Q2904

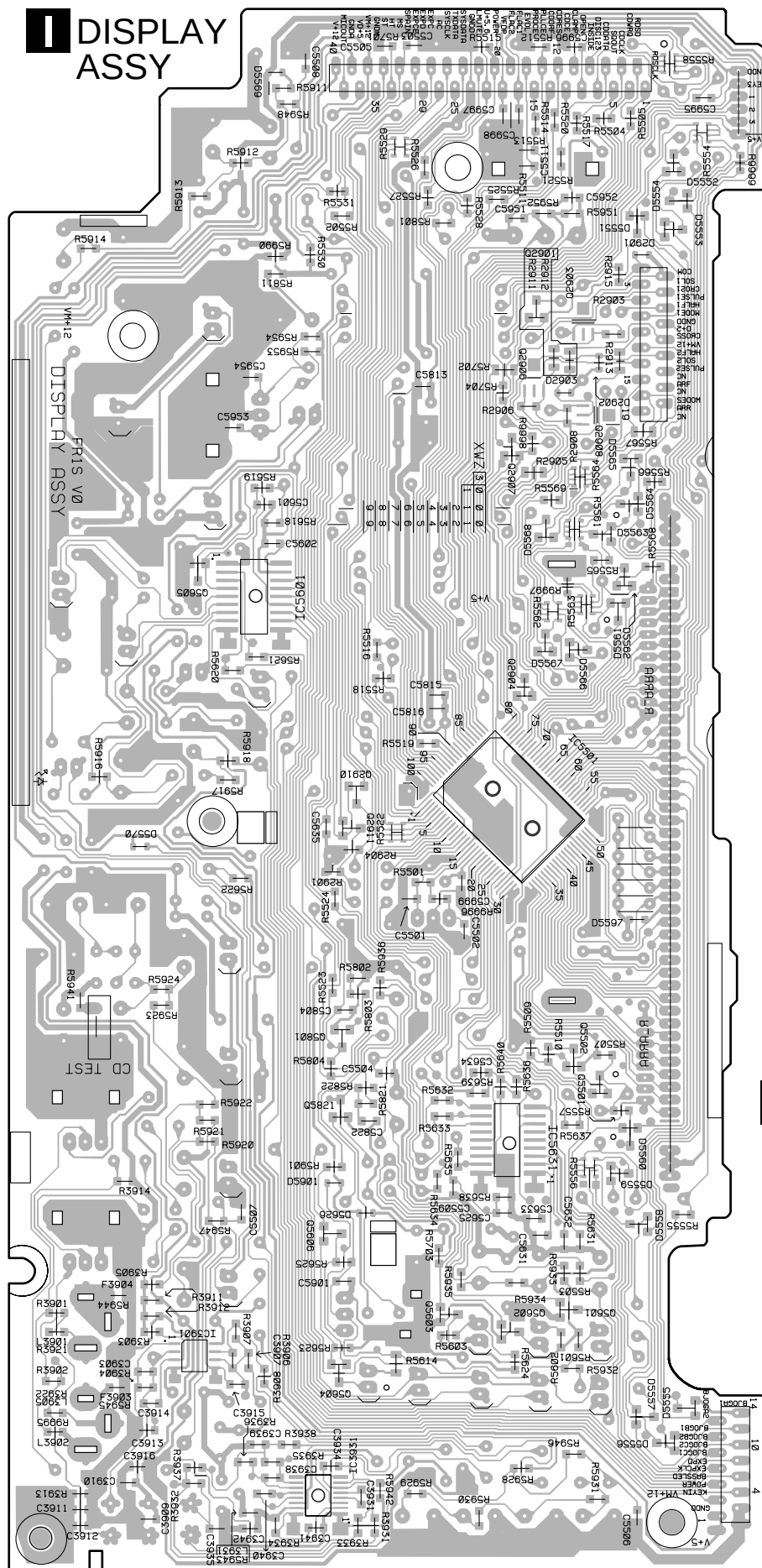
IC5501
Q2910

Q5502
Q5501
Q5821 IC5631

Q5601
Q5604

IC3901

IC3931



J CD SW
LED
ASSY

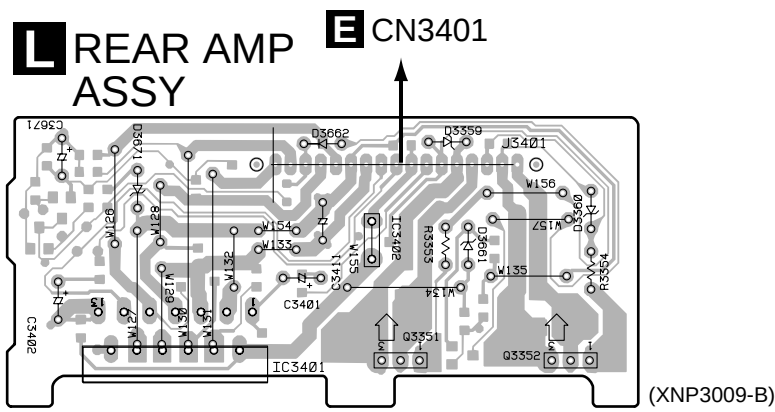
SIDE B

(XNP3013-B)

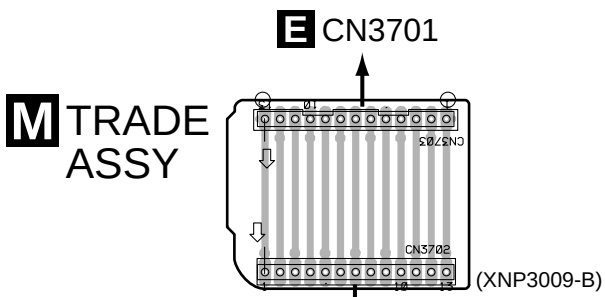
I J

4.7 REAR AMP, TRADE and PRO LOGIC ASSEMBLIES

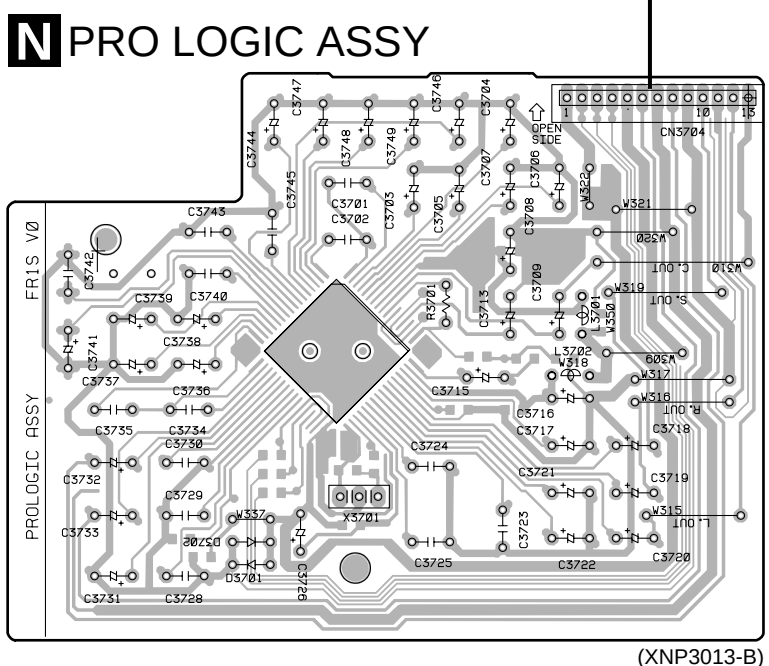
A



B



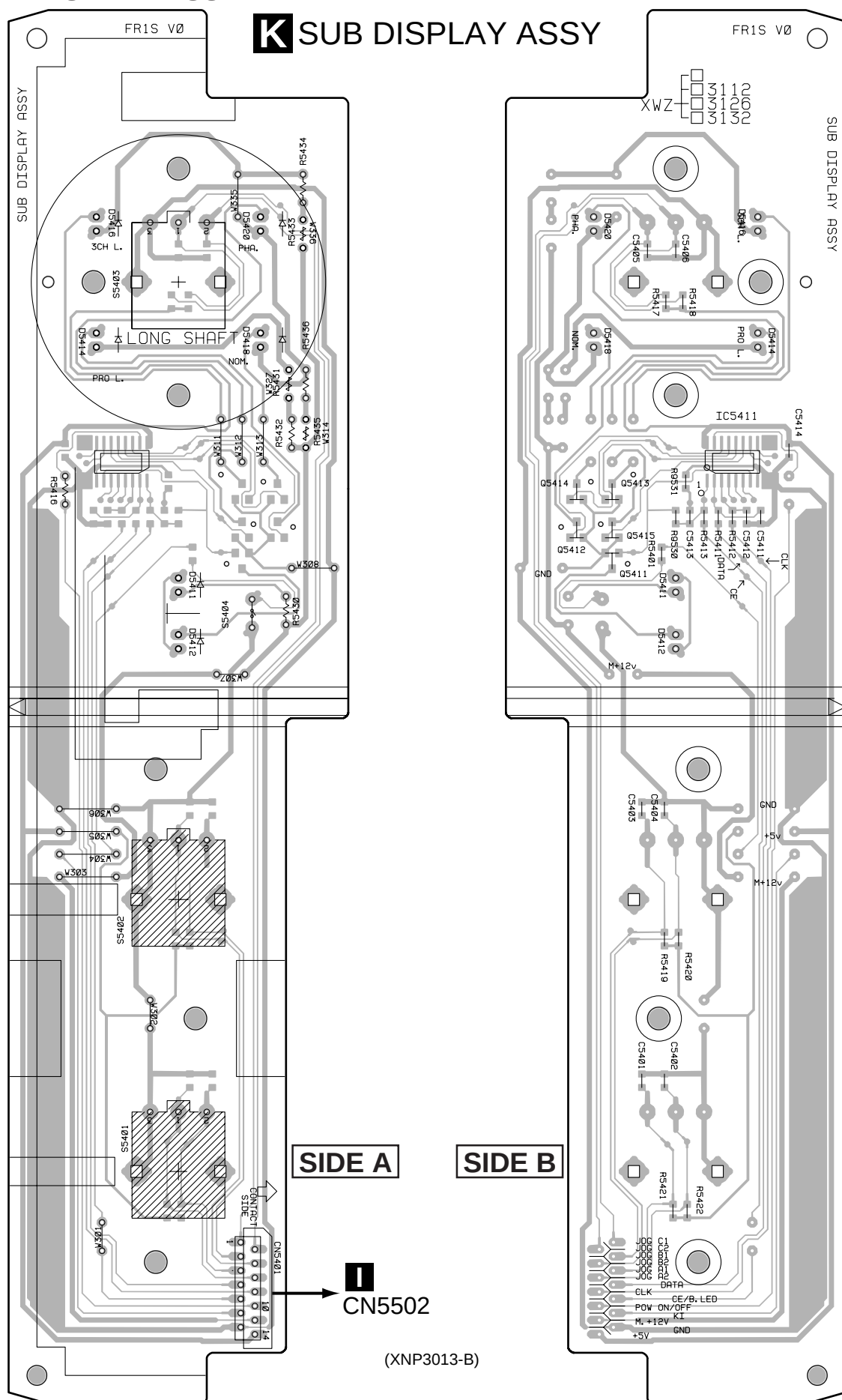
C



D

SIDE A

4.8 SUB DISPLAY ASSY



IC5411
Q5411
|
Q5415

5. PCB PARTS LIST

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

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

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

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

560 Ω	→	56×10^1	→	561		RD1/4PU	5 6 1	J
47k Ω	→	47×10^3	→	473		RD1/4PU	4 7 3	J
0.5 Ω	→	R50				RN2H	R 5 0	K
1 Ω	→	1R0				RS1P	1 R 0	K

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

5.62k Ω	→	562×10^1	→	5621		RN1/4PC	5 6 2 1	F
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Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
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LIST OF PCB ASSEMBLIES							
⊗		FM/AM TUNER MODULE	AXQ7065	F6401	FM BAND PASS FILTER	ATF-155	
⊗		VCD SURBO ASSY	XWX3003	F6206	FM CERAMIC DISCRIMINATOR	ATF7008	
NSP	\$M	MECHA PCB ASSY	XWX3004	F6202	AM CERAMIC FILTER	ATF7011	
⊗	└	MOTOR ASSY	XWZ3080	L6206,L6208,L6403		LAU2R2J	
⊗	└	SW ASSY	XWZ3081	TRANSFORMERS			
NSP	└	TRADE ASSY	XWZ3082	T6201	AM IF TRANS.	ATB7008	
NSP		MAIN ASSY	XWM3071	T6401	FM CONNECT TRANS.	ATE7002	
⊗	└	REAR AMP ASSY	XWZ3160	CAPACITORS			
⊗	└	AF ASSY	XWZ3136	C6208		CCSQCH100D50	
⊗	└	SECONDARY ASSY	XWZ3137	C6212,C6274,C6275,C6408		CCSQCH101J50	
⊗	└	TRADE ASSY	XWZ3140	C6412		CCSQCH102J50	
NSP		COMPLEX ASSY	XWM3072	C6221,C6222,C6416		CCSQCH150J50	
⊗	└	PRIMARY ASSY	XWZ3111	C6271		CCSQCH200J50	
⊗	└	SUB TRANS ASSY	XWZ3113	C6415		CCSQCH330J50	
⊗	└	DISPLAY ASSY	XWZ3138	C6406		CCSQCH331J50	
⊗	└	CD SW LED ASSY	XWZ3131	C6401,C6419		CCSQCH5R0C50	
⊗	└	SUB DISPLAY ASSY	XWZ3132	C6407		CCSQCK1R0C50	
⊗	└	PRO LOGIC ASSY	XWZ3133	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	

FM/AM TUNER MODULE							
SEMICONDUCTORS							
	IC6201		LA1832ML				
	IC6202		LC72131MD				
	Q6402		2SC2223				
	Q6203		2SC2705				
	Q6201,Q6202		2SC2712				
	Q6214,Q6403		2SC2714				
	Q6404		2SK302				
	Q6401		3SK194				
	Q6204		DTA124ES				
	Q6205		DTC124EK				
	D6202		1SS254				
	D6401,D6402		1T378A				
COILS AND FILTERS							
	L6404	FM COIL	ATC1003				
	L6401	FM RF COIL	ATC1020				
	L6402	FM RF COIL	ATC1021				
	F6204	FM CERAMIC FILTER	ATF-107				
	F6203	FM CERAMIC FILTER	ATF-119				

XR-VS99

Mark	No.	Description	Part No.
	C6218, C6223, C6255 C6220, C6226, C6242, C6256 C6225		CKSQYF103Z50 CKSQYF223Z50 CKSQYF473Z50

RESISTORS

R6280 R6413, R6416, R6418, R6906, R6909 R6401 VR6201 (10kΩ) Other Resistors	RD1/4PU101J RS1/8S0R0J RS1/8S470J PCP1029 RS1/10S□□□J
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OTHERS

BN6202 X6202	4P ANTENNA TERMINAL CERAMIC RESONATOR (456kHz)	AKE7025 ASS1066
X6201	CRYSTAL RESONATOR (7.2000MHz)	ASS1093
CN6201	14P SOCKET MW RF TUNING BLOCK	KP200IA14L AXX7041

B VCD SURVO ASSY

SEMICONDUCTORS

△ IC1001 IC1401 IC1301 IC1701 IC1101	BA033FP BA4558F-HT BA5923FP CL680T-D1 LA9240ML
IC1201 IC1752 IC1501 IC1751 IC1754	LC78632RE MB814260-70PJ PDC051A PDK032A TC7W14F
IC1753 Q1101 Q1351, Q1352 Q1353, Q1354 D1351-D1354	TC7WU04F 2SA1048 2SB1237X 2SD1858X 1SS355

COILS AND FILTERS

F1501 F1201 F1202 F1705, F1706 L1702	DTF1064 DTF1066 DTF1067 DTF1069 LCTB1R8K2125
L1701 L1201 L1001	LCTB2R7K2125 LFA100J LFA220J

CAPACITORS

C1129, C1205, C1208, C1213, C1353 C1706, C1722 C1133, C1755, C1756 C1720 C1216	CCSQCH101J50 CCSQCH101J50 CCSQCH120J50 CCSQCH121J50 CCSQCH150J50
C1708 C1217 C1705 C1132 C1707	CCSQCH151J50 CCSQCH180J50 CCSQCH271J50 CCSQCH300J50 CCSQCH331J50

Mark	No.	Description	Part No.
	C1130 C1715, C1717 C1138 C1003, C1108, C1144, C1207, C1214 C1301, C1351, C1501		CCSQCH3R0C50 CCSQCH470J50 CEAT100M50 CEAT101M10 CEAT101M10

C1127 C1005, C1007, C1126, C1141, C1409 C1411 C1718 C1136	CEAT1R0M50 CEAT470M16 CEAT470M16 CEAT471M6R3 CEAT4R7M50
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C1109 C1124 C1101 C1105 C1106, C1119, C1134	CEATR22M50 CEATR47M50 CEJA3R3M50 CEJA470M10 CKSQYB102K50
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C1102, C1122, C1123, C1139, C1140 C1209, C1215, C1218, C1231, C1302 C1354, C1502-C1506, C1703, C9002 C9005, C9013, C9015 C1001, C1002, C1004, C1008, C1135	CKSQYB103K50 CKSQYB103K50 CKSQYB103K50 CKSQYB103K50 CKSQYB104K25
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C1151, C1202, C1203, C1511 C1701, C1702, C1704, C1710-C1714 C1716, C1751-C1754, C1757, C9004 C9006, C9008, C9017, C9019 C1405, C1406	CKSQYB104K25 CKSQYB104K25 CKSQYB104K25 CKSQYB104K25 CKSQYB152K50
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C1111 C1114, C1117, C1120, C1121 C1125 C1131 C1107	CKSQYB153K25 CKSQYB154K16 CKSQYB221K50 CKSQYB222K50 CKSQYB223K50
--	--

C1110, C1403, C1404, C1407, C1408 C1115, C1128 C1113 C1112, C1143 C1212	CKSQYB331K50 CKSQYB332K50 CKSQYB333K25 CKSQYB334K16 CKSQYB471K50
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C1507 C1116, C1142 C1401, C1402 C1118, C1201, C1204, C1206	CKSQYB472K50 CKSQYB473K50 CKSQYB561K50 CKSQYF104Z25
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RESISTORS

R1704 Other Resistors	RS1/10S2001F RS1/10S□□□J
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OTHERS

CN1004 CN1003 CN1002 CN1001 JA1701	16P FFC CONNECTOR 3P SIDE POST 13P FFC CONNECTOR 15P FFC CONNECTOR 1P PIN JACK	52044-1645 B3P-SHF-1AA SLW13R-1C7 SLW15R-1C7 VKB1063
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X1201	CRYSTAL RESONATOR (16.9344MHz)	PSS1008
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X1501	CERAMIC RESONATOR (6MHz)	RSS1050
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X1751	CRYSTAL RESONATOR (27MHz)	VSS1086
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Mark	No.	Description	Part No.
C		MOTOR ASSY	
		SWITCHES AND RELAYS	
	S9503		ASG7009
		OTHERS	
	J9502	JUMPER WIRE 4P MOTOR PULLEY CARRIAGE MOTOR	D20PWW0405E PNW1634 VXM1033
DA		SW ASSY	
		SWITCHES AND RELAYS	
	S9502		ASG7009
	S9501		DSG1017
		OTHERS	
	J9501	JUMPER WIRE 6P	D20PWY0610E
DB		TRADE ASSY	
		OTHERS	
	CN9501		52147-0610
	CN9001		S6B-PH-K-S
	CN9002		SLW13R-1C7
E		AF ASSY	
		SEMICONDUCTORS	
△	IC23		AEK7004
△	IC3331		AEK7010
△	IC33		AEK7013
	IC2101, IC3101-IC3103, IC3381, IC34		BA4558F-HT
	IC3421, IC3951, IC5691		BA4558F-HT
	IC5891, IC5892		BU4094BCF
	IC2201		HA12136AF
	IC2301		HA12211NT
	IC3001		LC75396NE
△	IC42, IC51		NJM7805FA
△	IC32		NJM7812FA
△	IC3301		STK407-090B
	Q3354, Q3601, Q3621, Q55		2SA1037K
	Q51, Q52, Q57		2SB1237X
△	Q22		2SB1375
	Q2803, Q2804		2SC1815
	Q2801		2SC2240
	Q2102, Q2201, Q2202, Q3101, Q3102		2SC2412K
	Q33, Q3353, Q3401, Q3603		2SC2412K
	Q3605-Q3608, Q56		2SC2412K
△	Q21		2SC5200(P)
	Q3081		2SD1858X
△	Q34, Q54		2SD1858X
△	Q31		2SD2012
	Q2203, Q2204, Q2805, Q3311, Q3312		2SD2114K
	Q53		2SD2114K
	Q2301, Q2302		2SK368
	Q3313, Q3403		DTA124EK
	Q2104, Q2105, Q3314, Q3402, Q3641		DTC124EK
	Q2103, Q2306, Q2802		DTC143EK

Mark	No.	Description	Part No.
△	D3301, D3302		1SR139-100
	D2301-D2306, D3101, D3102, D32		1SS133
	D3351-D3354, D3361, D3362, D34		1SS133
	D3403, D3603, D3621, D3622		1SS133
	D3625-D3627, D51		1SS133
	D3402		1SS184
	D2102, D2103, D2191, D2201, D2202		1SS355
	D3051, D3601, D3604, D3623, D3624		1SS355
△	D5891		1SS355
△	D3355, D3356		20E2-FC
△	D31		GBU4D
	D3357, D3358		MTZJ10C
	D3083		MTZJ11C
	D33		MTZJ20A
	D52		MTZJ22D
	D3363, D3364		MTZJ39C
	D3401		MTZJ4.7B
	D2001		MTZJ6.2A
	D48, D53		MTZJ6.8C
	D3673, D3674		U1GC44
		OILS AND FILTERS	
	L3331, L3332		ATH-133
	L2801		ATX7002
	L3001		LAU1R0J
	L3991		LAU4R7J
	L2301, L2302		LTA822J
	F2201, F2202		RTF1209
		SWITCHES AND RELAYS	
	RY3601		ASR7008
		CAPACITORS	
	C2303, C2304		ACG7024
	C2301, C2302		CCSQCH100D50
	C2192		CCSQCH220J50
	C38		CCSQCH331J50
	C3319, C3320		CCSQCH3R0C50
	C3321, C3322		CCSQCH470J50
	C33		CEAL100M50
	C3621		CEAL2R2M50
	C3317, C3318		CEANP100M35
	C3313, C3314		CEANP2R2M50
	C2207, C2803, C2810, C3041, C3042		CEAT100M50
	C3047, C3048, C3081, C3091-C3093		CEAT100M50
	C3450, C36, C3602, C3953		CEAT100M50
	C51, C52		CEAT100M50
	C2002, C2316		CEAT101M16
	C3651		CEAT101M35
	C3303, C3304, C3622, C54		CEAT101M50
	C3432, C3434		CEAT102M10
	C2312, C2313, C3035, C3036		CEAT1R0M50
	C3107, C3108		CEAT1R0M50
	C1990, C2106, C2214, C2215		CEAT220M50
	C2321, C2322, C53		CEAT220M50
	C2001		CEAT221M16
	C40		CEAT222M25
	C2201, C2202, C2205, C2206		CEAT2R2M50
	C2212, C2213, C2319, C2320		CEAT2R2M50
	C3005-C3010, C3015-C3018		CEAT2R2M50
	C3037-C3040, C3043-C3046		CEAT2R2M50
	C3049, C3050, C3104, C3311, C3312		CEAT2R2M50
	C3421, C3422		CEAT2R2M50

Mark	No.	Description	Part No.
△	C2804, C2805, C3105 C3406 C11, C12 C3431, C3433 C3106, C3109	CEAT330M16 CEAT330M25 CEAT332M35 CEAT471M10 CEAT4R7M50	
	C3021, C3022 C2203, C2204, C3101, C3102 C3325 C35, C43 C32, C42	CEATR10M50 CEATR22M50 CEATR47M50 CEHAQ100M50 CEHAQ1R0M50	
	C3601 C3027, C3028 C3023, C3024 C2812 C2802	CEHAQ221M16 CFTLA334J50 CFTLA474J50 CKCYB103K50 CKCYB681K2H	
	C1996, C3308, C5693, C5892 C1922, C1993—C1995, C1998, C1999 C2315, C2317, C2318, C3053, C3103 C1997, C2191, C2193, C3097, C3099 C3652	CKSQYB102K50 CKSQYB103K50 CKSQYB103K50 CKSQYB104K25 CKSQYB104K25	
	C2194 C3033, C3034 C2208, C2209 C2323, C2326 C3029, C3030	CKSQYB105K10 CKSQYB122K50 CKSQYB152K50 CKSQYB223K25 CKSQYB273K25	
	C2808, C2809 C2333, C2334 C2807 C3111, C3112, C5891 C2307, C2308, C2331, C2332	CKSQYB332K50 CKSQYB392K50 CKSQYB472K50 CKSQYB473K25 CKSQYB681K50	
	C3013, C3014 C3019, C3020, C3031, C3032 C3323, C3324 C3025, C3026 C3315, C3316	CKSQYB681K50 CKSQYB682K50 CKSQYB682K50 CKSQYB683K25 CKSQYB821K50	
	C3954 C3331—C3333 C37 C2801 C2210, C2211	CKSQYF103Z50 CKSQYF104Z50 CKSQYF105Z16 CQHA822J2A CQMBA103J50	
△	C2806 C31	CQMBA223J50 XCH3003	
RESISTORS			
	R2809 R52, R64 R54 R2812 R3333, R3334	RD1/2LMF4R7J RD1/2PM181J RD1/2PM221J RD1/2PM270J RD1/4LMF100J	
	R3116 R3317, R3318 R3081 R33 R3009, R3953	RD1/4PU105J RD1/4PU124J RD1/4PU221J RD1/4PU222J RD1/4PU472J	
	R2334 R41 R40 R39	RD1/4PU562J RN1/10SE1002D RN1/10SE2002D RS1/10S3300F	
	R3991, R3992	RS2LMF331J	

Mark	No.	Description	Part No.
	R30 R3601, R3602 VR2303-VR2306 VR2301, VR2302 VR2801, VR2802		RS3LMF470J RS3LMFR22J VCP1156 VCP1162 VCP1164
	Other Resistors		RS1/10S□□□J
OTHERS			
	4P CABLE HOLDER		51048-0400
CN1053	16P FFC CONNECTOR		52045-1645
CN5101	40P FFC CONNECTOR		52045-4045
CN3401	17P JUMPER CONNECTOR		52147-1710
CN3331	4P SPEAKER TERMINAL		AKE7001
CN2302	KR CONNECTOR		B2B-PH-K-S
CN2303	KR CONNECTOR		B3B-PH-K-R
CN2301	KR CONNECTOR 3P		B3B-PH-K-S
J81	JUMPER WIRE		D20PYY0440E
CN3051	14P PLUG		KM200IB14
CN3701	13P PLUG		KM200TA13
JA3431	JACK		RKB1044
	PCB BINDER		VEF1040
JA3001	2P PIN JACK		VKB1060
J3051	CONNECTOR ASSEMBLY		XDX3002
CN3991	HEADPHONE JACK		XKN3001

F SECONDARY ASSY SEMICONDUCTORS

△	IC71 (630mA)	AEK7006
△	IC41 (5A)	AEK7019
△	IC21, IC22, IC31 (7A)	AEK7021
△	IC11, IC12 (10A)	AEK7068
△	Q71	2SA965
	D73	1SS133
△	D21	GBU4DL-5303
△	D11	GBU6DL-5302
	D74	MTZJ36A
	D75	MTZJ8.2B
△	D41-D44, D71, D72	S5688G

CAPACITORS

△	C72	CEAT220M50
△	C71	CEAT221M63
△	C41	CEAT222M25
	C13	CQMA103K2E
△	C21, C22 (4700μF/80V)	XCH3001

RESISTORS

R72	RD1/4PU222J
Other Resistors	RS1/10S□□□J

OTHERS

J11 JUMPER WIRE 17P	D20PYY1740E
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Mark	No.	Description	Part No.
G		PRIMARY ASSY	
		CAPACITOR	
△	C3	(10000pF/AC250V)	ACG7020
		SWITCH	
△	S1		AKX7006
		OTHERS	
△	H3-H6	FUSE CLIP	AKR7001
H		SUB TRANS ASSY	
		SEMICONDUCTORS	
△	IC81		NJM7805FA
	Q81		2SD1859X
	D85, D88-D90		1SS133
△	D81-D84		S5688G
		SWITCH AND RELAY	
△	S2		AKX7004
△	RY81		ASR7018
		COIL	
△	L1	LINE FILTER	ATF1136
		TRANSFORMER	
△	T2		ATT7027
		CAPACITORS	
	C83		CEAT100M50
	C82		CEAT102M25
		RESISTORS	
	R83		RS1/10S102J
	Other Resistors		RD1/4PU□□□□
		OTHERS	
△	CN83	4P JUMPER CONNECTOR	52147-0410
△	H1, H2	FUSE CLIP	AKR7001
△	AN1	1P AC INLET	BKP1046

I DISPLAY ASSY

SEMICONDUCTORS

IC5631	BA3835F
IC3901	BA4558F-HT
IC5601	BU2092F
IC3931	BU9253FS
IC5501	PDC050B
Q5501	2SA1037K
Q2903, Q2906, Q2908	2SB1132
Q5604, Q5801	2SC2412K
Q2910, Q2911	DTA124EK
Q5606	DTC124EK
Q2901, Q2904, Q2907, Q5502, Q5603	DTC143EK
Q5821	DTC143EK
D5591-D5593, D5811	1SS133
D5557-D5560, D5563-D5568	1SS181
D2901-D2903, D5569, D5570, D5626	1SS355

Mark	No.	Description	Part No.
	D5901		1SS355
	D5612		BR5064X
	D5613-D5616		MAA5064X
	D5608-D5611		MBG5064X
	D3931		MTZJ5.1B
	D5617-D5620		SLP6118C51H
	D5603-D5607, D5621		SLP9118C51H
		COILS AND FILTERS	
	F3903, F3904		DTF1069
	L5811		LAU220J
	L3931		LCTB100K2125
		SWITCHES AND RELAYS	
	S5951		ASX7004
	S5952		ASX7017
	S5911-S5931		XSG3001
		CAPACITORS	
	C5812		ACH1246
	C3941		CCSQCH101J50
	C5601		CCSQSL151J50
	C3903		CCSQSL331J50
	C5821		CEJA100M16
	C3943		CEJA101M16
	C5803		CEJA1R0M50
	C3933		CEJA220M16
	C3901, C3902, C3904, C3906		CEJA2R2M50
	C3905, C5510, C5811, C5814		CEJA470M16
	C3936, C3937		CEJA4R7M50
	C3932		CEJAR47M50
	C5804		CKSQYB102K50
	C3911, C3931, C3934, C3940		CKSQYB103K50
	C3910, C5816, C5997-C5999		CKSQYB104K25
	C3939		CKSQYB123K50
	C5505, C5509, C5951-C5954		CKSQYB471K50
	C3907, C3938, C5506-C5508		CKSQYB472K50
	C3935		CKSQYB473K50
	C3942, C5602, C5631-C5634, C5901		CKSQYF104Z50
	C5503, C5504, C5813, C5822		CKSQYF473Z50
		RESISTORS	
	R5529		ACN7056
	R5556, R5561, R5562		ACN7062
	R5563, R5564		ACN7077
	R5508		RA11T104J
	R5506		RA7T104J
	R2907, R2909, R2910, R5611, R5919	RD1/4PU102J	
	R5915	RD1/4PU181J	
	R5925	RD1/4PU331J	
	R3940	RD1/4PU471J	
	R5605, R5606, R5612, R5613, R5926	RD1/4PU561J	
	R2902, R5604, R5607-R5610	RD1/4PU681J	
	R5927	RD1/4PU821J	
	R2911-R2913, R5567	RS1/8S0R0J	
	R5702	RS1/8S223J	
	R5614	RS1/8S331J	
	R2905	RS1/8S681J	
	VR3901, VR3931	XCS3002	
	Other Resistors	RS1/10S□□□□	

XR-VS99

Mark	No.	Description	Part No.
OTHERS			
	CN5502	14P FFC CONNECTOR	52045-1445
	CN2901	19P FFC CONNECTOR	52045-1945
	CN5501	40P FFC CONNECTOR	52045-4045
	JA3901,JA3902		AKN7004
	5901	REMOTE RECEIVER UNIT	GP1U28X
	V5621	FL TUBE	XAV3004
	2902	FL HOLDER	XNG3008
	X5501	CERAMIC RESONATOR (6MHz)	RSS1050

J CD SW LED ASSY

SEMICONDUCTORS

	D5623	SLP3118C51H
	D5624	SLP7118C51H
	D5622	SLP9118C51H

SWITCHES

	S5937-S5941	XSG3001
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RESISTORS

	All Resistors	RS1/10S□□□J
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OTHERS

	J5501	JUMPER WIRE	D20PWW0615E
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K SUB DISPLAY ASSY

SEMICONDUCTORS

	IC5411	BU4094BCF
	Q5411-Q5415	DTC143EK
	D5411,D5412	SLP7118C51H
	D5414,D5416,D5418,D5420	SLP9118C51H

SWITCHES

	S5404	XSG3001
	S5401,S5402	XSX3002

CAPACITORS

	C5411-C5413	CCSQCH101J50
	C5414	CKSQYB103K50

RESISTORS

	R5416	RD1/4PU221J
	R5430	RD1/4PU561J
	R5432,R5434	RD1/4PU681J
	Other Resistors	RS1/10S□□□J

OTHERS

	CN5401	14P FFC CONNECTOR	52045-1445
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L REAR AMP ASSY

SEMICONDUCTORS

△	IC3401	TDA8560Q
	Q3661	2SA1037K
△	Q3352	IRF540A
△	Q3351	IRF9540A
	D3662	1SS133

Mark	No.	Description	Part No.
	D3663		1SS355
	D3359,D3360		MTZJ18B
	D3661		MTZJ2.7A
	D3671		MTZJ20A
	D3371,D3372		U1GC44
	TH3661		AEX7002

CAPACITORS

	C3411	CEAT101M35
	C3401,C3402	CEATR47M50

RESISTORS

	R3353,R3354	RD1/4PU101J
	Other Resistors	RS1/10S□□□J

OTHERS

	J3401	JUMPER WIRE 17P	D20PYY1720E
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M TRADE ASSY

OTHERS

	CN3703	13P PLUG	KM200TA13
	CN3702	13P SOCKET	KP200TA13L

N PRO LOGIC ASSY

SEMICONDUCTORS

	IC3701	LV1035M
	D3701,D3702	1SS133

CAPACITORS

	C3727	CCSQCH681J50
	C3741,C3744	CEANL3R3M50
	C3737,C3739,C3746,C3748	CEANL4R7M50
	C3703-C3706,C3709,C3715	CEAT100M50
	C3718-C3720,C3732,C3733	CEAT100M50

	C3707,C3708,C3713,C3716	CEAT221M10
	C3726	CEAT221M6R3
	C3717	CEAT2R2M50
	C3731	CEAT470M10
	C3721	CEATR33M50

	C3722,C3736,C3738,C3747,C3749	CEATR47M50
	C3701,C3702	CFTLA104J50
	C3740,C3742,C3743,C3745	CFTLA154J50
	C3730	CFTLA474J50
	C3750,C3753	CKSQYB103K50

	C3714	CKSQYB182K50
	C3734,C3735	CQMBA104J50
	C3729	CQMBA223J50
	C3724	CQMBA332J50
	C3728	CQMBA473J50

	C3723,C3725	CQMBA823J50
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RESISTORS

	R3701	RD1/4PU183J
	R3704	RS1/10S3902F
	Other Resistors	RS1/10S□□□J

OTHERS

	X3701	CERAMIC RESONATOR (8MHz)	DSS1053
	CN3704	13P SOCKET	KP200TA13L

6. ADJUSTMENT

6.1 TUNER SECTION

■ FM Tuner Section

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

Step No.	Adjustment Title	FM SG (1kHz, ± 75 kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dB μ V)			
1	Front End Sensitivity	98	0-30	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 $\pm$ 2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

Note:

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

■ AM Tuner Section

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

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

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

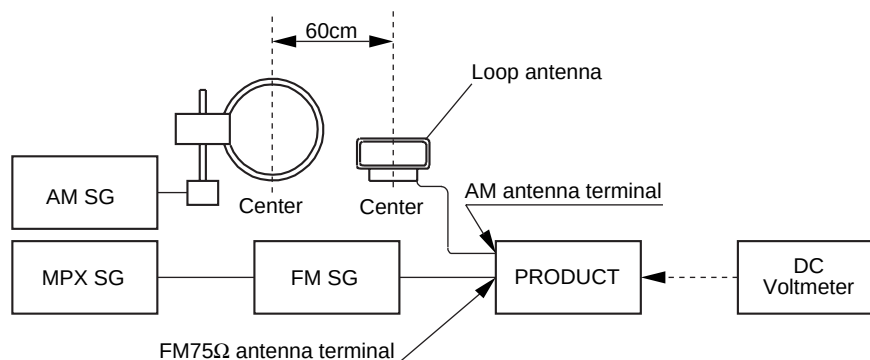


Fig. 1 AM and FM Adjustment Wiring Diagram

FM/AM TUNER MODULE

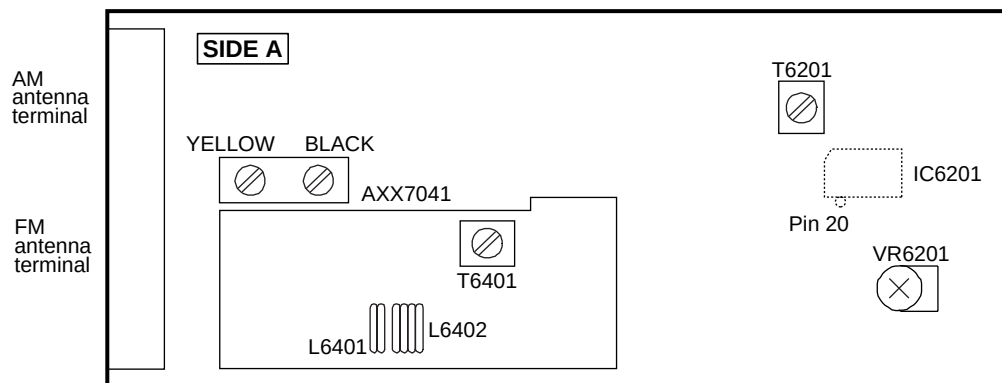


Fig. 2 Adjustment Point

6.2 CASSETTE DECK SECTION

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

■ Mechanical Adjustment

● Test tape: NCT-111 (3kHz, 30min).

1. Tape Speed Adjustment

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

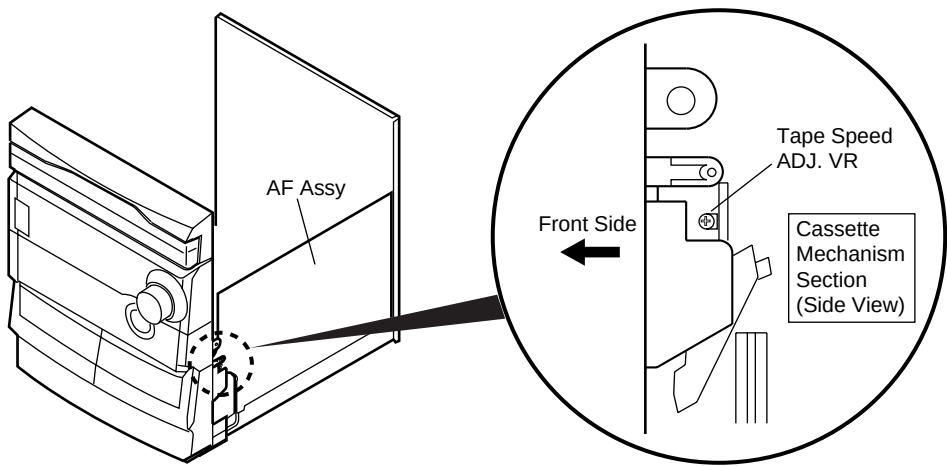


Fig.3 Tape Speed ADJ. Point

■ Electrical Adjustment

Check the following before starting.

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

Playback Adjustment (Decks I and II)

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

Recording Adjustment (Deck I)

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

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

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“DOLBY” and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

0 dB 30s

315Hz	0 dB: 315 Hz, 250 nwb/m															
	30s	30s	30s	10s	10s	10s	10s	10s	10s	10s	10s	10s	10s	10s	10s	10s
	6.3kHz	10kHz	315Hz	14kHz	12.5 kHz	10kHz	8kHz	6.3 kHz	4kHz	2kHz	1kHz	500 Hz	250 Hz	125 Hz	63Hz	40Hz

Fig. 4 STD-331E Test Tape

■ Playback Adjustment

(1) Head Azimuth Adjustment

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

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

(2) Playback Level Adjustment

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

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 315Hz,0dB)	Deck I	VR2303(Lch) VR2304(Rch)	TAPE TEST POINT (L, Rch) (AF Assy)	- 3.7dBV	
			Deck II	VR2305(Lch) VR2306(Rch)			

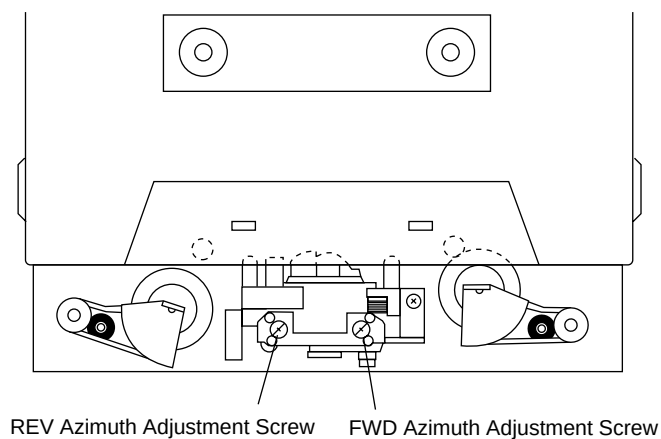
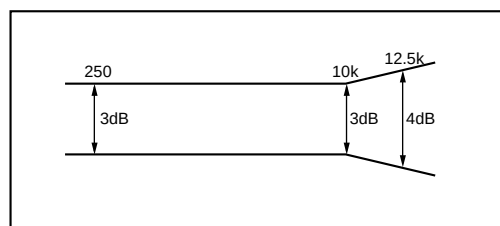


Fig. 5 Head Azimuth Adjustment Screw

PLAY BACK



RECORDING

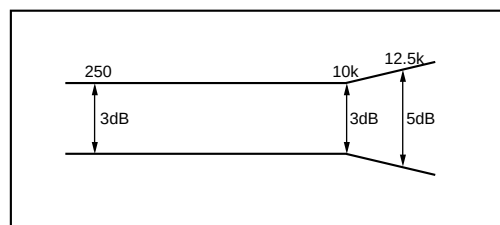


Fig. 6 Frequency Characteristics

■ Recording Adjustment

(1) Bias Oscillation Frequency Adjustment

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

(2) Recording Bias Adjustment

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

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

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

(3) Recording Level Adjustment

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

(4) ALC Operation Check

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

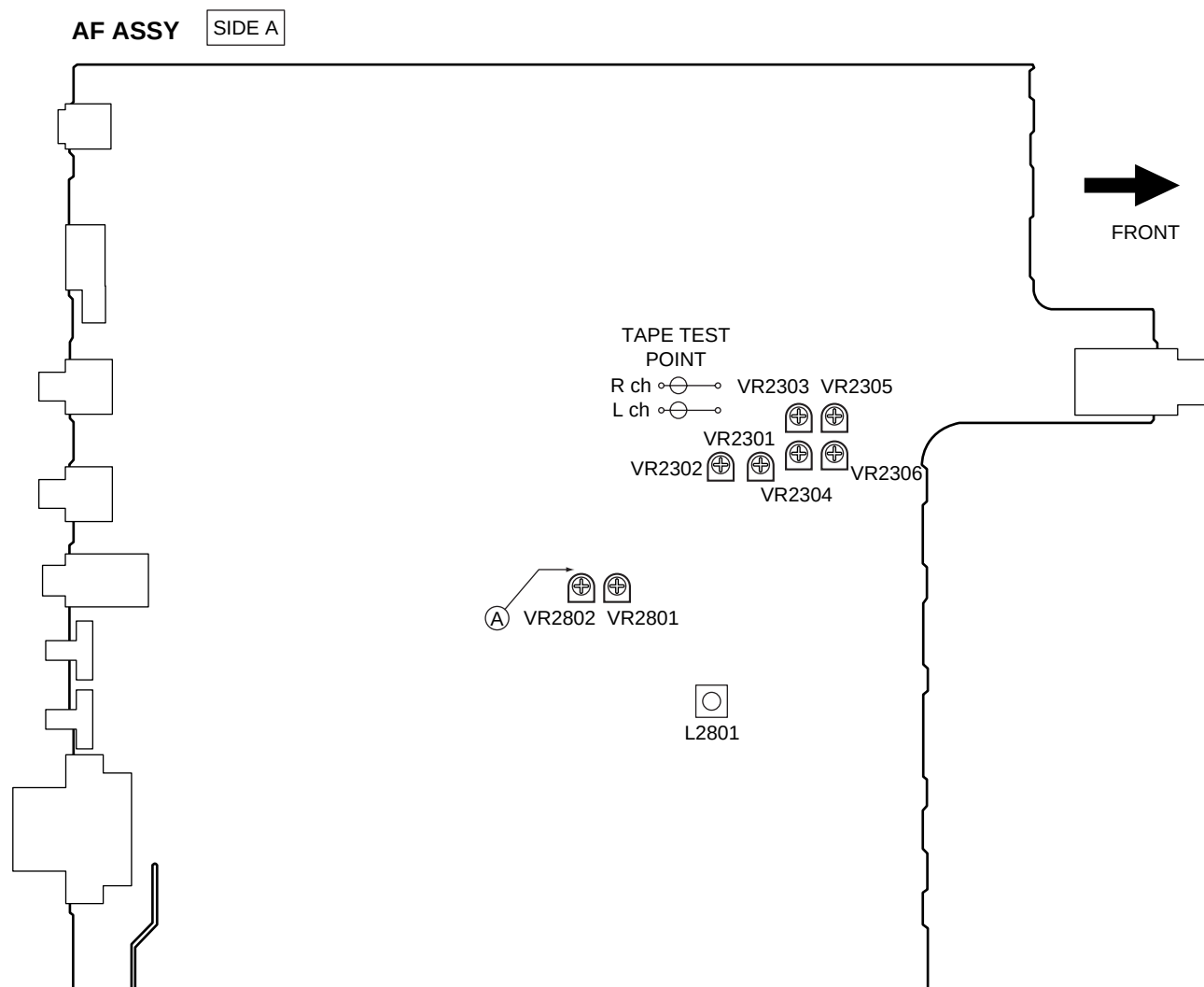


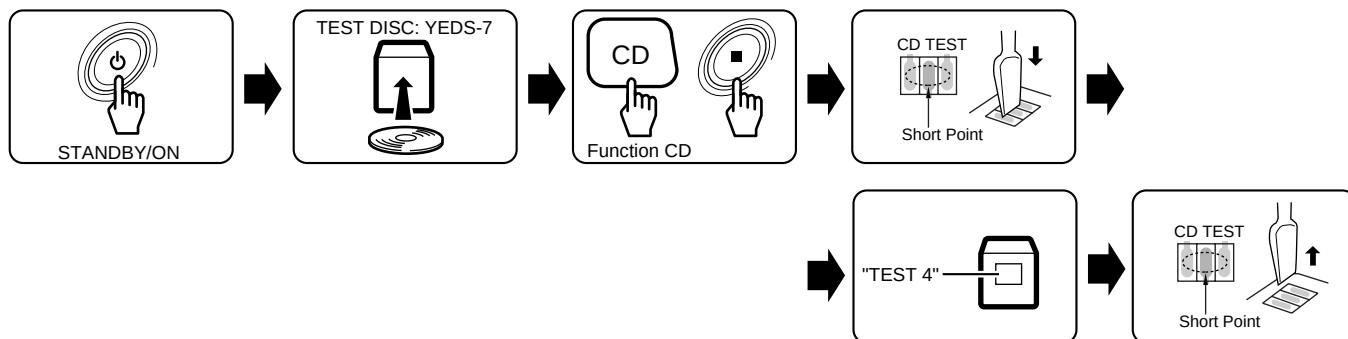
Fig.7 Adjustment and Measurement Points

6.3 TEST MODE

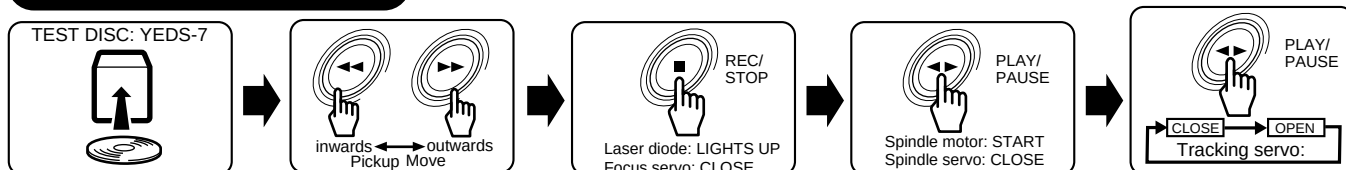
NOTE: There is no information to be shown in this CD adjustment.

■ How to Start/Cancel Test Mode

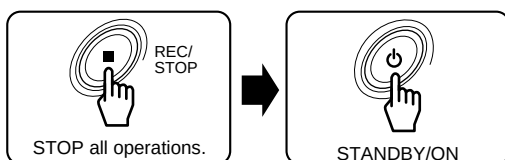
TEST MODE : ON



TEST MODE : PLAY



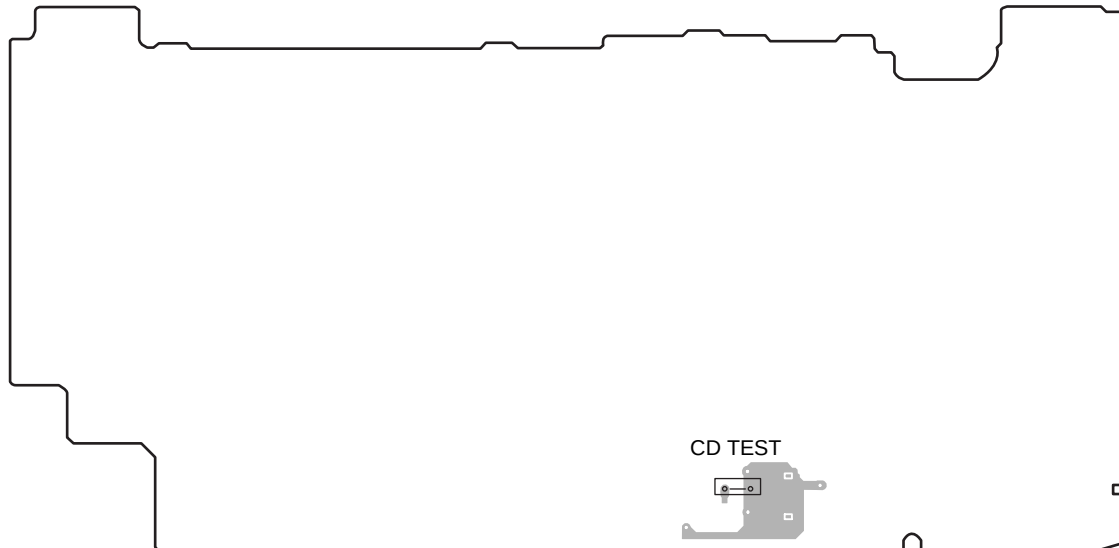
TEST MODE : STOP CANCEL



■ Test Point

DISPLAY ASSY

SIDE B



7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

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

■ HA12136AF (AF ASSY : IC2201)

- Dolby B Type NR System IC

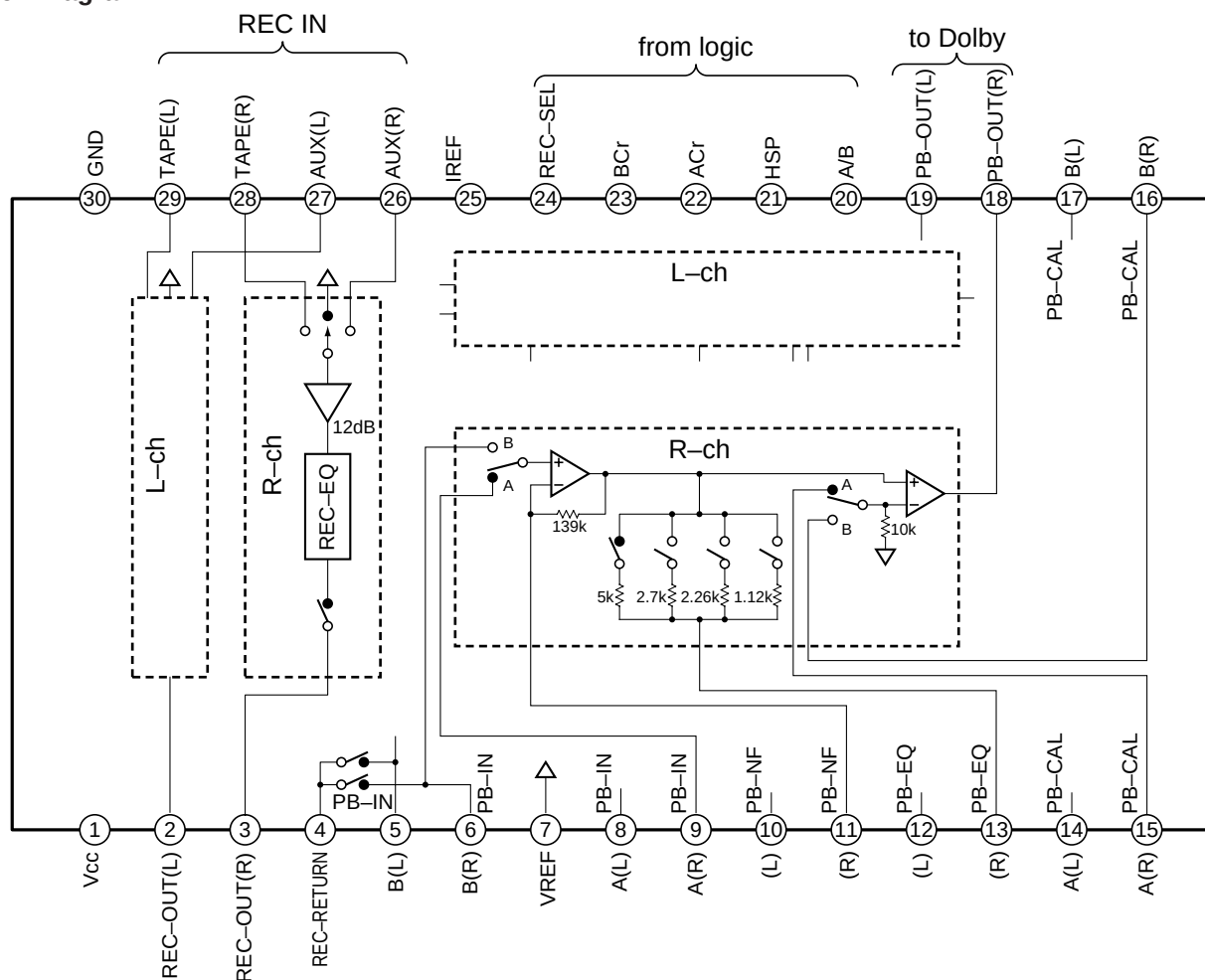
●Pin Function

No.	Pin Name	Function	No.	Pin Name	Function
1	REC IN	Recording (Encode) input	9	REC OUT	Recording (Encode) output
2	Vcc	Power supply	10	DET	Time constant pin for the level detector
3	PB IN	Playback (Decode) input	11	PB OUT	Playback (Decode) output
4	Vref	Reference voltage	12	REC/PB	Mode control pin for REC/PB (Encode/Decode) "H" : REC (Encode), "L" : PB (Decode)
5	NR ON/OFF	Mode control pin for NR ON/OFF "H" : NR ON, "L" : NR OFF	13	BIAS	Reference current input pin for the active filters
6	PB OUT	Playback (Decode) output	14	PB IN	Playback (Decode) input
7	DET	Time constant pin for the level detector	15	GND	Ground
8	REC OUT	Recording (Encode) output	16	REC IN	Recording (Encode) input

■ HA12211NT (AF ASSY : IC2301)

- REC Equalizer and PB Equalizer System IC

●Block Diagram



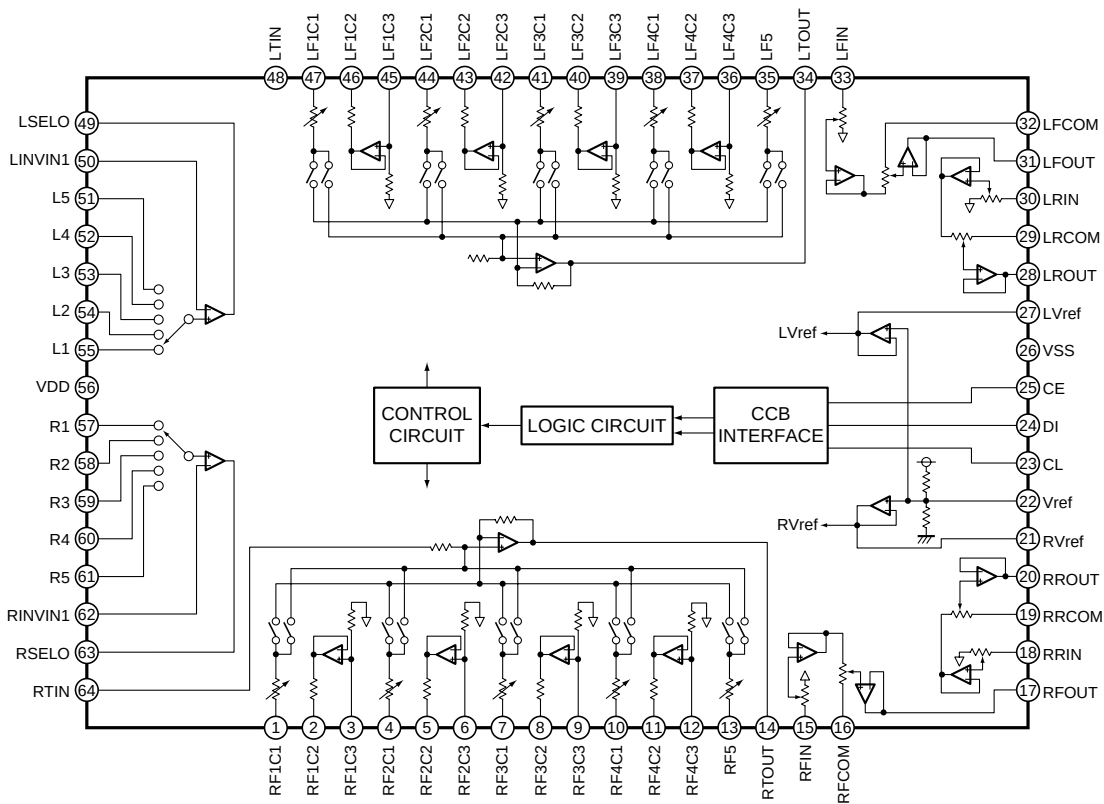
●Pin Function

No.	Pin Name	Function	No.	Pin Name	Function
1	Vcc	Vcc pin	16	PB-Cal B (R)	Feed back input for gain adjustment
2	RECOUT (L)	REC-EQ output	17	PB-Cal B (L)	
3	RECOUT (R)		18	PB OUT (R)	PB output
4	REC-RETURN	REC return	19	PB OUT (L)	
5	PB-IN B (L)	PB B deck input	20	A/B	Mode control input
6	PB-IN B (R)		21	HSP	
7	VREF	Reference voltage	22	Acr	
8	PB-IN A (L)	PB A deck input	23	Bcr	
9	PB-IN A (R)		24	REC-SEL	Mode control input
10	PB-NF (L)	PB EQ feed back	25	IREF	Equalizer reference current input
11	PB-NF (R)		26	AUX (R)	REC-EQ input
12	PB-EQ (L)	NAB output	27	AUX (L)	
13	PB-EQ (R)		28	TAPE (R)	
14	PB-Cal A (L)	Feed back input for gain adjustment	29	TAPE (L)	
15	PB-Cal A (R)		30	GND	GND pin

■ LC75396NE (AF ASSY : IC3001)

• Electrical Volume IC

●Block Diagram



PDC049A (DISPLAY ASSY : IC5501)

• System Control Microcomputer

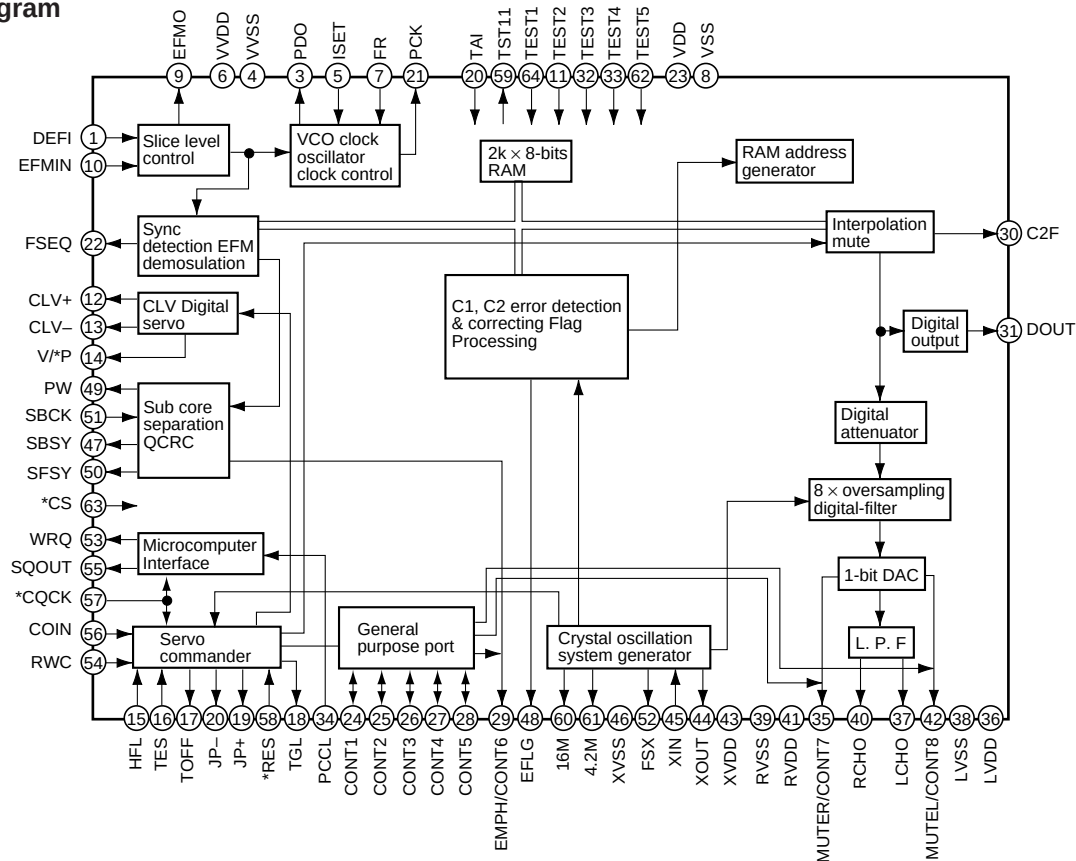
• Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	VCD RESET	O	Reset output for VCD LSI	51	VFDP	–	
2	NC	O	Not used	52	S*/D5593	*	
3	NC	I	Not used	53	S*/D5592	*	
4	BASSLED/LED CE2	O	LED control for P.BASS indicator (LED BASS)	54	S*/D5591	*	
5	EXP CLK	O	Clock output for EXP IC (BU4094), LED IC (BU2092) and Prologic IC (LV1035)	55	S*/BJOGC2	I/O	
6	EXP DATA	O	Data output for EXP IC (BU4094), LED IC (BU2092) and Prologic IC (LV1035)	56	S*/BJOGC1	I/O	
7	EXP CE	O	EXP IC (BU4094), LED IC (BU2092) strobe output	57	S*/BJOGB2	I/O	
8	LED1/SPE A	O	LED control / Spectrum analyzer IC (BU1923) output control	58	S*/BJOGB1	I/O	
9	LED2/SPE B	O		59	S*/BJOGA2	I/O	
10	LED3/SPE C	O		60	S*/BJOGA1	I/O	
11	AC	I	AC pulse input (for clock , power supply monitor)	61	S*	I/O	FL display control anode
12	XRESET	I	CPU reset input	62	S*	I/O	
13	REEL1	I	Pulse input for deck 2 reel	63	S*	I/O	
14	REEL2	I	Pulse input for deck 1 reel	64	S*	I/O	
15	VSS	–	Ground	65	S*	I/O	
16	CF1	I		66	S*	I/O	
17	CF2	O		67	S*/ARR	I/O	
18	VDD	–	Power supply	68	S*/ARF	I/O	
19	KEY1	I	Front key input	69	S*/MODE1	I/O	
20	MS	I	Deck MS signal input	70	S*/MODE2	I/O	
21	ST/TUNE	I	Tuner tuned (STEREO) detection	71	S*/HALF1	I/O	
22	TH	I	Temperature and protection circuit detection	72	VDD	–	
23	TIMER LED	O	LED control (for timer)	73	S*/HALF2	I/O	
24	KEY2	I	Front key input	74	S*/CrO2_1	I/O	FL display control anode
25	SPE-IN	I	Spectrum analyzer signal input	75	S*/CrO2_2	I/O	
26	KEY3	I	Front key input	76	SCAN ON	O	Key scan input control
27	VCS	I	Strobe input from VCD LSI	77	SOL2	O	Deck 1 solenoid control
28	NC	I	Not used	78	SOL1	O	Deck 2 solenoid control
29	REMOCON	I	Remote control signal input	79	MOTOR	O	Deck motor control
30	G*	O	FL display control anode	80	RDSDATA	I	Data input for RDS
31	G*			81	VOLJOG1	I	Pulse input for volume jog
32	G*			82	VOLJOG2		
33	G*			83	PLL CE	O	Tuner PLL IC strobe output
34	G*			84	HPSW/PRO CE	I/O	Headphone SW detect input / Prologic IC (LV1035) strobe output
35	G*			85	EVOL CE	O	Main volume control IC (LC75394) strobe output
36	G*			86	POWER	O	Main power control
37	G*			87	LINE MUTE	O	Line mute control
38	G*			88	LED CE	O	LED control IC (BU2092) strobe output
39	G*			89	VSS	–	Ground
40	G*			90	VDD	–	Power supply
41	G*			91	NC	I	No connection
42	G*			92	NC		
43	G*			93	MORP JOG1	I	Pulse input for sound morphing jog
44	G*			94	MORP JOG2		
45	G*			95	SYSDATA	O	Serial data output
46	VDD	–	Power supply	96	TXDATA	I	Serial data input
47	S*/D5597	O	FL display control anode	97	SCLK	O	Serial clock output
48	S*/D5596	O		98	VDS	O	Serial data output for VCD LSI
49	S*/D5595	*		99	VDV	I	Serial data input for VCD LSI
50	S*/D5594	*		100	VCLK	O	Clock output for VCD LSI

■ LC78622NE (CD ASSY : IC8301)

• CD DSP IC

• Block Diagram



• Pin Function

No.	Pin Name	I/O	Function	
1	DEFI	I	Defect detection signal (DEF) input pin (Must be connected to 0V when unused).	
2	TAI	I	PLL pins	Test input pin A pull-down resistor is built-in. Must be connected to 0V.
3	PDO	O		External VCO control phase comparator output pin
4	VVSS	–		Internal VCO ground pin Must be connected to 0V.
5	ISET	AI		PDO output current adjustment resistor connection pin
6	VVDD	–		Internal VCO power supply pin
7	FR	AI		VCO frequency range adjustment
8	VSS	–	Digital system ground pin Must be connected to 0V.	
9	EFMO	O	Slice level control	EFM signal output pin
10	EFMIN	I		EFM signal input pin
11	TEST2	I	Test input pin A pull-down resistor is built-in. Must be connected to 0V.	
12	CLV+	O	Disc motor control output	
13	CLV–	O	Can be set to three-value output by microprocessor command.	
14	V/*P	O	Rough servo/phase control automatic switching monitor output pin Outputs a high level during rough servo a low level.	
15	HFL	I	Track detection signal input pin This is a Schmitt input.	
16	TES	I	Tracking error signal input pin This is a Schmitt input.	
17	TOFF	O	Tracking off output pin	
18	TGL	O	Tracking gain switching output pin Increase the gain when low.	
19	JP+	O	Track jump output	
20	JP–	O	Three-value output is also possible when specified by microprocessor command.	

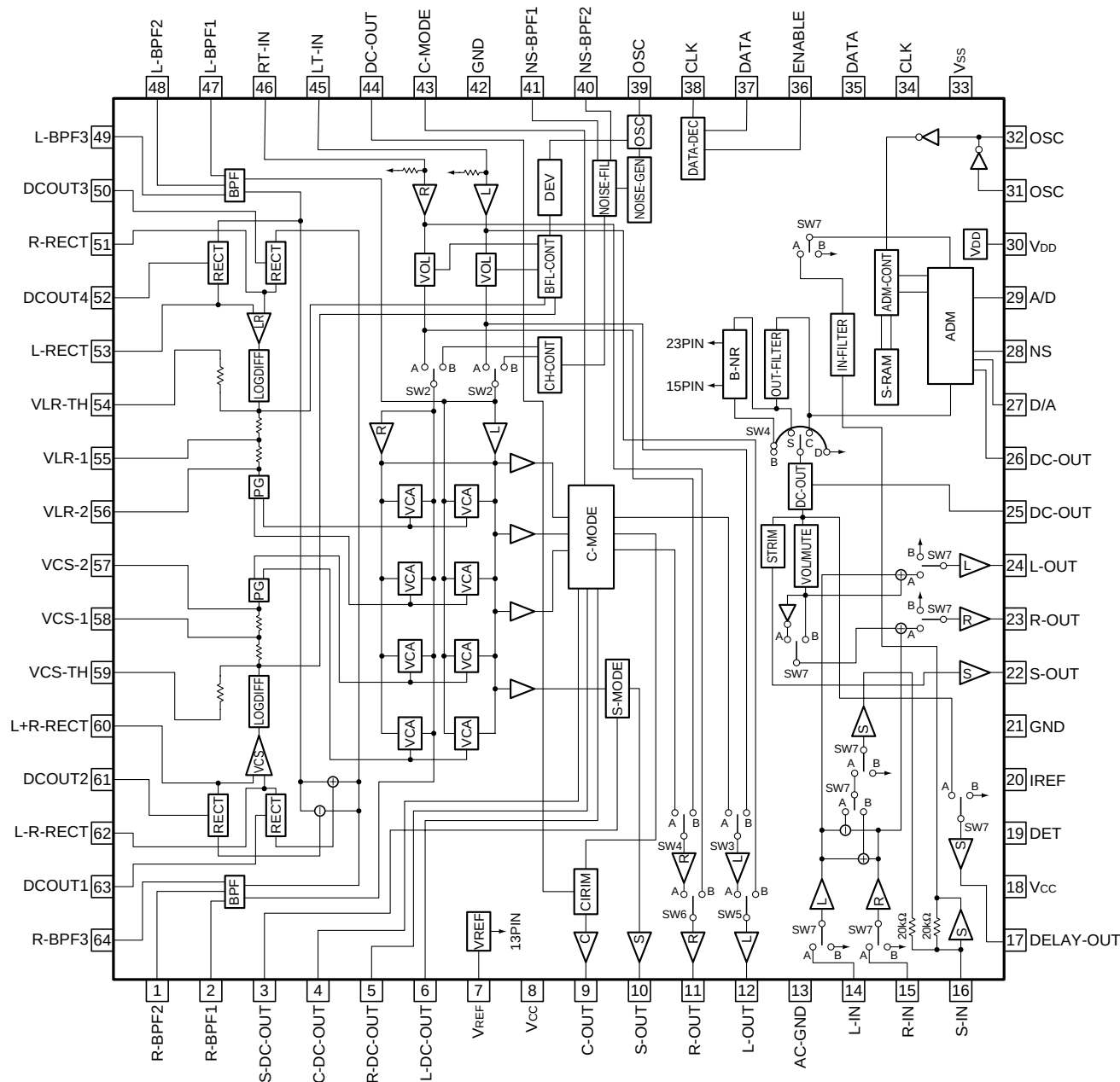
No.	Pin Name	I/O	Function	
21	PCK	O	EFM data playback clock monitor pin Output pin 4.3218MHz when the phase is locked.	
22	FSEQ	O	Synchronization signal detection output pin Output a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal range.	
23	VDD	–	Digital system power supply pin	
24	CONT1	I/O	General-purpose 1	Controlled by serial data commands from the microprocessor. Any of these that are unused must be either set up as input pin ports and connected to 0V, or set up as output pin ports and left open.
25	CONT2		General-purpose 2	
26	CONT3		General-purpose 3	
27	CONT4		General-purpose 4	
28	CONT5		General-purpose 5	
29	EMPH/CONT6	O	De-emphasis monitor pin A high level indicates playback of a de-emphasis disk. / General-purpose 6	
30	C2F	O	C2 flag output pin	
31	DOUT	O	Digital output pin (EIJ format)	
32	TEST3	I	Test input pin A pull-down resistor is built-in. Must be connected to 0V.	
33	TEST4	I		
34	PCCL	I	General-purpose input / output command identifying pin Must be connected to 0V when used with functions similar to those of LC78622E. H: Control possible only for the general-purpose input / output port command L: Control possible for all commands	
35	MUTEL/CONT7	O	Left channel one-bit D/A converter	Left channel mute output pin
36	LVDD	–		Left channel power supply pin
37	LCHO	O		Left channel output pin
38	LVSS	–		Left channel ground pin Must be connected to 0V.
39	RVSS	–	Right channel one-bit D/A converter	Right channel ground pin Must be connected to 0V.
40	RCHO	O		Right channel output pin
41	RVDD	–		Right channel power supply pin
42	MUTER/CONT8	O		Right channel mute output pin
43	XVDD	–	Crystal oscillator power supply pin	
44	XOUT	O	Connections for a 16.9344MHz crystal oscillator element pin	
45	XIN	I		
46	XVSS	–	Crystal oscillator ground pin Must be connected to 0V.	
47	SBSY	O	Subcode clock synchronization signal output pin	
48	EFLG	O	C1, C2 single and double error correction monitor pin	
49	PW	O	Subcode P, Q, R, S, T, U and W output pin	
50	SFSY	O	Subcode frame synchronization signal output pin This signal falls when the subcode are in standby state.	
51	SBCK	I	Subcode readout clock input pin This is a Schmitt input. (Must be connected to 0V when unused.)	
52	FSX	O	Output pin for the 7.35kHz synchronization signal divided from the crystal oscillator	
53	WRQ	O	Subcode Q output standby output pin	
54	RWC	I	Read/write control input pin This is a Schmitt input.	
55	SQOUT	O	Subcode Q output pin	
56	COIN	I	Command input pin from control microprocessor	
57	*CQCK	I	Input for both the command input acquisition clock and the SQOUT pin subcode readout clock input pin. This is a Schmitt input.	
58	*RES	I	Reset input pin This pin must be set low briefly after power is first applied.	
59	TST11	O	Test output pin Leave open. (Normally output a low level.)	
60	16M	O	16.9344MHz output pin	
61	4.2M	O	4.2336MHz output pin	
62	TEST5	I	Test input pin A pull-down resistor is built-in. Must be connected to 0V.	
63	*CS	I	Chip select input pin A pull-down resistor is built-in. Must be connected to 0V if not controlled.	
64	TEST1	I	Test input pin No pull-down resistor. Must be connected to 0V.	

Note: The same potential must be supplied to all power supply pins, i.e., VDD, VVDD, LVDD, RVDD and XVDD.

■ LV1035M (PRO LOGIC ASSY : IC3701)

• Dolby Pro Logic Decoder IC

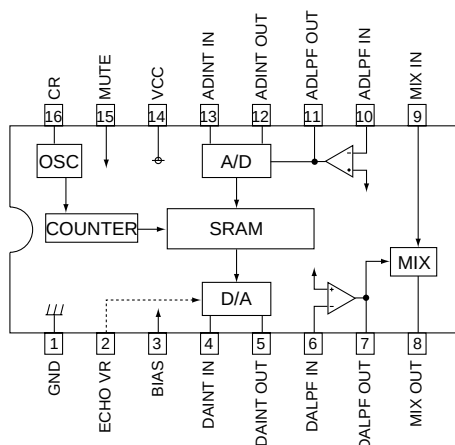
● Block Diagram



■ BU9253FS (DISPLAY ASSY : IC3931)

- 1 Chip Karaoke Echo LSI

●Block Diagram



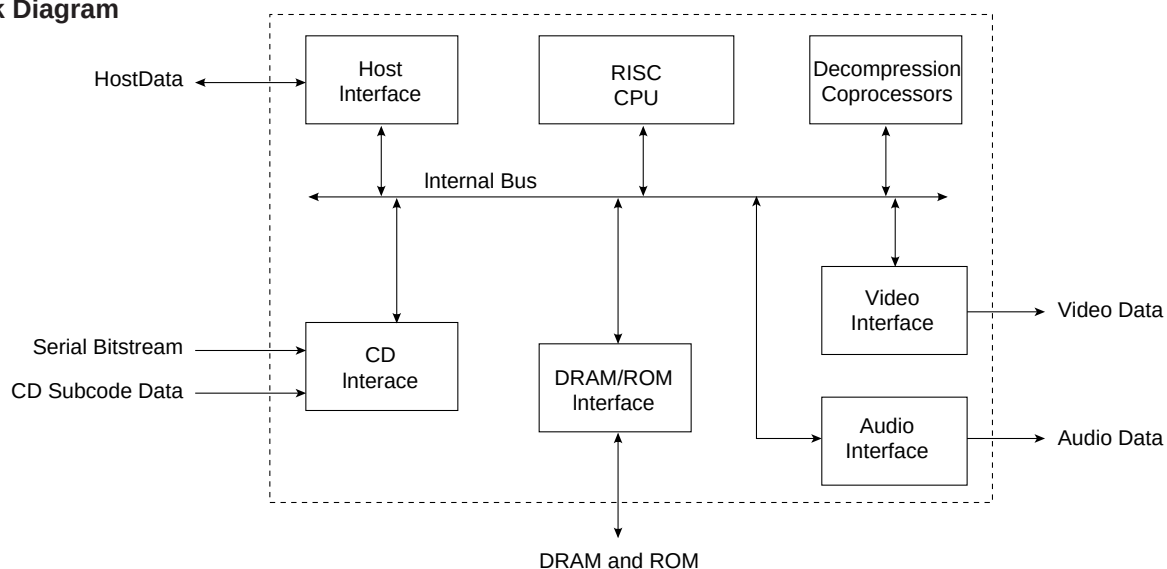
●Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	GND	-	Ground Pin	9	MIX IN	I	MIX AMP input
2	ECHO VREcho	I	Echo level control	10	ADLPF IN	I	AD side LPF input
3	BIAS	-	Analog part DC bias	11	ADLPF OUT	O	AD side LPF output
4	DAINT IN	I	DA side Integrator input	12	ADINT OUT	O	AD side Integrator output
5	DAINT OUT	O	DA side Integrator output	13	ADINT IN	I	AD side Integrator input
6	DALPF IN	I	DA side LPF input	14	VCC	-	VCC pin
7	DALPF OUT	O	DA side LPF output	15	MUTE	I	Mute control
8	MIX OUT	O	MIX AMP output	16	CR	-	CR Pin for Oscillator

■ CL680T-D1 (VCD ASSY : IC1701)

- MPEG Decoder

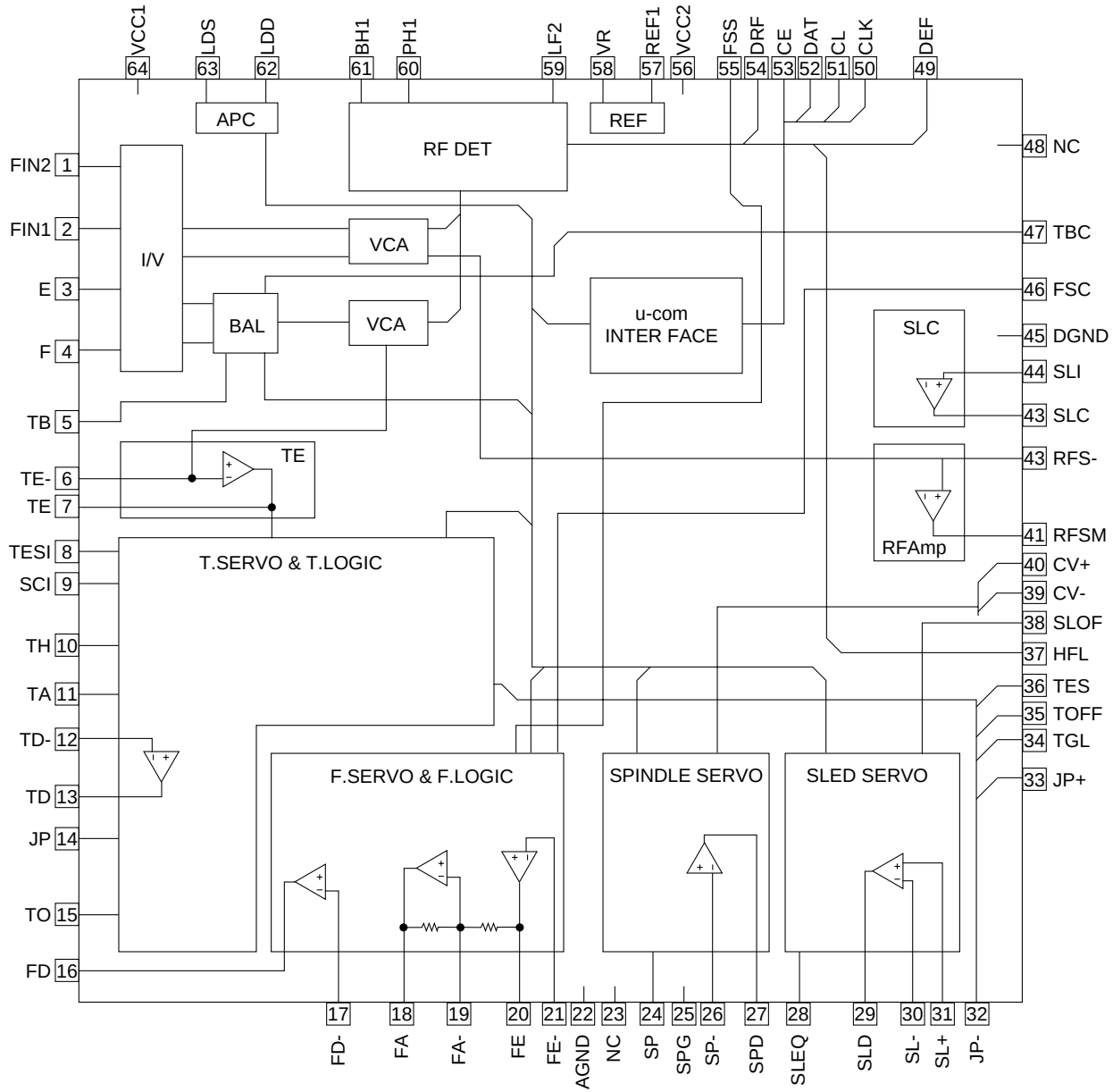
●Block Diagram



■ LA9241ML (VCD ASSY : IC1101)

• CD RF/SERVO

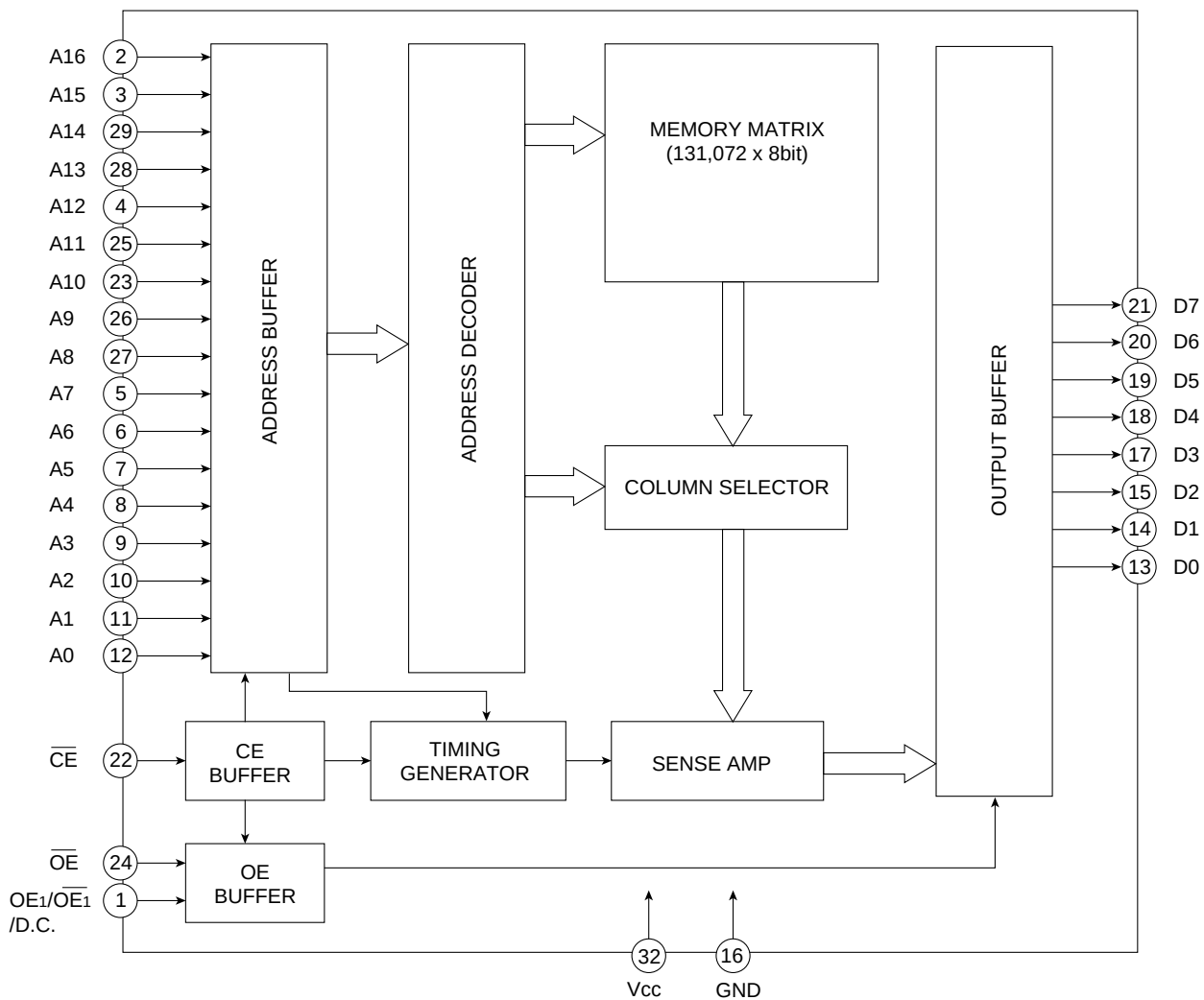
●Block Diagram



■ PDK032A (VCD ASSY : IC1751)

• 1M ROM

●Block Diagram



■ LC78632 (VCD ASSY : IC1201)

- Compact Disc Signal Processing and Servo control for Video Compact Disc player.

●Pin Function

No.	Pin symbol	I/O	Description
1	VPDO	O	Test output pin.
2	PD02	O	Double-speed and quad-speed mode playback PLL charge pump output. Must be left open if unused.
3	PD01	O	Normal-speed pit clock playback PLL charge pump output pin.
4	AVSS		Analog system ground pin. Normally to be connected to 0V.
5	FR		Resistor connection pin to set the built-in VCO frequency range.
6	AVDD		Analog system ground pin.
7	ISSET		Resistor connection pin to set PD01 and PD02 output current.
8	TAI	I	Test input pin. A pull-down resistor is built-in. Must be connected to VSS.
9	EFMO	O	EFM signal output pin.
10	VSS		Digital system ground pin. Normal be connected to 0V.
11	EFMIN	I	EFM signal input pin.
12	TEST1	I	Test input pin. A pull-down resistor is built-in. Must be connected to VSS.
13	CLV+	O	Spindle servo control output pin. CLV+ outputs a high-level for acceleration, and CLV- outputs a high level for deceleration.
14	CLV-	O	
15	V/P	O	Rough servo/phase control automatic switching monitor output pin. A high-level output indicates rough servo, and a low-level output indicates phase control.
16	TEST2	I	Test input pin. A pull-down resistor is built-in. Must be connected to VSS.
17	TEST3	I	Test input pin. A pull-down resistor is built-in. Must be connected to VSS.
18	P4	I/O	I/O port, which should either be set to the output and opened or set to the input and connected to VOD or VSS when not used.
19	HFL	I	Track detection signal input pin. This is a Schmitt input.
20	TES	I	Tracking error signal input pin. This is a Schmitt input.
21	PCK	O	EFM data playback bit clock monitor pin. Output pin 4.3218MHz when the phase is locked.
22	FSEQ	O	Sync signal detection output pin. "H" when the sync signal detected from the EFM signal agrees with the internally generated sync signal.
23	TOFF	O	Tracking off output pin.
24	TGL	O	Tracking gain switching output pin. Increase the gain when low.
25	THLD		Tracking hold output.
26	TEST4	I	Test input pin. A pull-down resistor is built-in. Must be connected to VSS.
27	VDD		Digital system power supply pin.
28	JP+	O	Track jump output pin. JP+ output a high level both for acceleration during out jumps and for deceleration during inward direction jumps. JP- outputs a high level both for acceleration during inward direction jumps and for deceleration during outward jumps.
29	JP-	O	
30	SLD+	O	Sled output. This pin can be set to 1 of 4 levels by commands sent from the system control microprocessor.
31	SLD-	O	
32	EMPH	O	De-emphasis monitor pin. A high level indicates playback of a De-emphasis disk.
33	P5	I/O	I/O port, which should either be set to the output and opened or set to the input and connected to VDD or VSS when not used.
34	LRCKO	O	Digital filter outputs : LR clock output pin.
35	DFOLO	O	Digital filter outputs : LR data output pin. The digital filter can be turned with the DFOFF command.
36	DACKO	O	Digital filter outputs : But clock output pin.
37	CONT1	O	Output port.
38	P0/DFCK	I/O	I/O port or DF bit clock input pin, which should either be set to the output and opened or set to the input and connected to VDD or VSS when not used.
39	P1/DFIN	I/O	I/O port or DF data input pin, which should either be set to the output and opened or set to the input and connected to VDD or VSS when not used.
40	P2	I/O	I/O port, which also acts as an input for On/Off changeover of the de-emphasis filter in the anti-shock mode and should either be set to the output and opened or set to the input and connected to VDD or VSS when not used.

No.	Pin symbol	I/O	Description
41	P3/DFLR	I/O	Port output or DFclock input pin, which should either be set to the output and opened or set to the input and connected to VDD or VSS when not used.
42	LRSY	O	ROMXA : LR clock output pin.
43	CK2	O	ROMXA : Bit clock output pin. The polarity can be inverted with the CK2CON command.
44	R0MXA	O	ROMXA : Interpolated data output pin. Data that has not been interpolated can be output by issuing the ROMXA command.
45	C2F	O	ROMXA : C2 flag output pin.
46	MUTEL	O	1-bit DAC : Left channel mute output pin.
47	LVDD		1-bit DAC : Left channel power supply pin.
48	LCHP	O	1-bit DAC : Left channel P output pin.
49	LCHN	O	1-bit DAC : Left channel N output pin.
50	LVSS		1-bit DAC : Left channel ground pin. Must be connected to 0V.
51	XVSS		Crystal oscillator ground. Must be connected to 0V.
52	XOUT	O	Connections for a 16.9344MHz crystal oscillator element pin. Use a 33.8688MHz crystal oscillator for quad-speed playback.
53	XIN	I	Spindle servo control output pin. CLV+outputs a high-level for acceleration, and CLV-outputs a high level for deceleration.
54	XVDD		Crystal oscillator power supply pin.
55	RVSS		1-bit DAC : Right channel ground pin. Must be connected to 0V.
56	RCHN	O	1-bit DAC : Right channel N output pin.
57	RCHP	O	1-bit DAC : Right channel P output pin.
58	RVDD		1-bit DAC : Right channel power supply pin.
59	MUTER	O	1-bit DAC : Right channel mute output pin.
60	SBSY	O	Subcode clock synchronization signal output pin.
61	EFLG	O	CI and C2 error correction state monitor.
62	PW	O	Subcode P,Q,R,S,T,U and W output pin.
63	SFSY	O	Subcode frame synchronization signal output pin. This signal falls when the subcode are in standby stage.
64	SBCK	I	Subcode readout clock input pin. This is a Schmitt input. This pin must be connected to 0V if unused.
65	DOUT	O	Digital output pin.
66	FSX	O	output pin for the 7.35kHz synchronization signal divided from the crystal oscillator.
67	WRQ	O	Subcode Q output standby output pin.
68	RWC	I	Read/write control input pin.
69	SQOUT	O	Subcode Q output pin.
70	COIN	I	Command input pin from control microprocessor.
71	CQCK	I	Input for both the commad input acquisition clock and the SQOUT pin subcode readout clock input pin. This is Schmitt input.
72	RES	I	Chip reset input pin. This pin must be set low briefly after power is first applied.
73	TESTF	O	Test output pin.
74	CONT2	O	Output port.
75	16M	O	16.9344MHz output pin.
76	4.2M	O	4.2336MHz output pin.
77	TEST5	I	Test input pin. A pull-down resistor is built-in. Must be connected to 0V.
78	CS	I	Chip select input pin.A pull-down resistor is built-in. Be sure to connect to VSS to select DSP when not controlled.
79	DEFI	I	Defect detection signal input pin. Be sure to use this pin. If not. connect the pin to VSS.
80	VCOC	I	Test input pin. Must be connected to VSS.

■ PDC051A (VCD ASSY : IC1501)

• VCD Control Microcomputer

●Pin Function

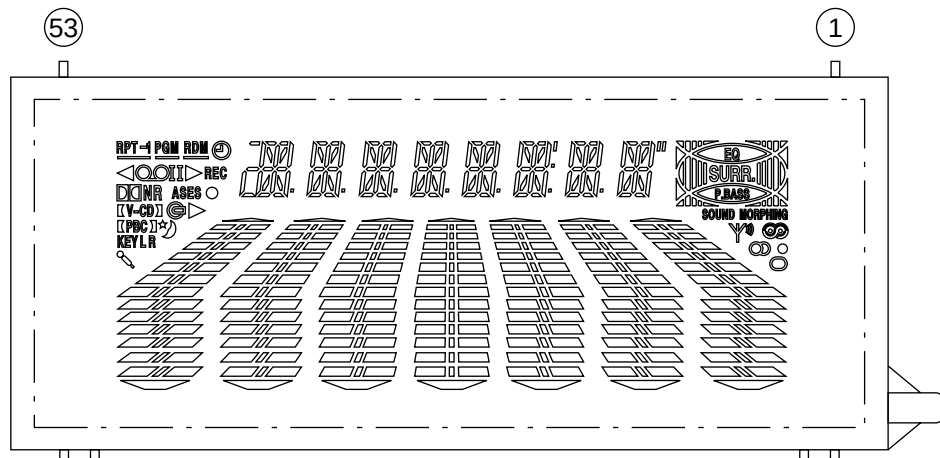
No.	Symbol	I/O	Pin Name	Function	No.	Pin Name	I/O	Pin Name	Function
1	P16/BUZZ	O	—	Not used (NC)	51	VP	—	—	Connected to GND
2	P17/PWM0	O	—	Not used (NC)	52	S20/PC4	O	—	Not used (NC)
3	P30	O	CDCE	Read-Write control terminal for CD LSI ("H" : Write)	55	S23/PC7	O	—	Not used (NC)
4	P31	I	CDDRF	RF level detection terminal	56	S24/PD0	O	—	Not used (NC)
5	P32	O	CDCF	Chip select for CD LSI ("L" : Active)	63	S31/PD7	O	—	Not used (NC)
6	P33	O	CDRST	Reset terminal for CD/VCD LSI	64	S32/PE0	O	—	Not used (NC)
7	P34	O	VCS	Chip select for MAIN microcomputer ("L" : Active)	71	S39/PE7	O	—	Not used (NC)
8	P35	I	HRDY	Data delay signal for CDV LSI ("L" : Active)	72	VDD4	—	—	Connected to +5V
9	P36	O	—	Not used (NC)	73	S40/PF0	O	—	Not used (NC)
10	P37	O	—	Not used (NC)	80	S47/PF7	O	—	Not used (NC)
11	P70/INT0	I	HINT	Interrupt input for VCD LSI ("L" : Active)	81	S48/PG0	I	DISC	Input detection of disc position (CD mechanism)
12	RES	I	VRST	Reset input terminal	82	S49/PG1	I	INSIDE	Input detection of slider position (CD mechanism)
13	P74	I	—	Not used (Connected to VDD)	83	S50/PG2	I	OPEN	Input detection of open/close position (CD mechanism)
14	P75	O	—	Not used (NC)	84	S51/PG3	I	CLAMP	Input detection of disc clamp (CD mechanism)
15	VSS1	—	—	Connected to GND	85	P00	O	—	Not used (NC)
16	CF1	I	—	Connected to 6MHz Ceramic resonator	88	P03	O	—	Not used (NC)
17	CF2	O	—	Connected to 6MHz Ceramic resonator	89	VSS2	—	—	Connected to GND
18	VDD1	—	—	Connected to +5V	90	VDD2	—	—	Connected to +5V
19	P80/AN0	I	—	Not used (Connected to GND)	91	P04	O	LOAD+	Control of Loading motor driver
22	P83/AN3	I	—	Not used (Connected to GND)	92	P05	O	LOAD-	Control of Loading motor driver
23	P84/AN4	O	—	Not used (NC)	93	P06	O	DMUTE	Mute of servo driver ("L" : Active)
26	P87/AN7	O	—	Not used (NC)	94	P07	O	HSEL	Address/Data select output for VCD LSI ("H" : Address)
27	P71/INT1	I	CD WRQ	CD subcode Q data standby signal ("L" : OK) Track count Interrupt ("L" : Active)	95	P10/SO0	O	VDV /CD DATA	Serial data output (MAIN microcomputer/CD LSI)
28	P72/INT2	O	—	Not used (NC)	96	P11/SI0/SB0	I	VDS/SQ OUT	Serial data input (MAIN microcomputer/CD LSI)
29	P73/INT3	O	—	Not used (NC)	97	P12/SCK0	I/O	VCLK/CD CLK	Serial clock input/output (MAIN microcomputer/CD LSI)
30	S0/T0	O	—	Not used (NC)	98	P13/SO1	O	—	Not used (NC)
45	S15/T15	O	—	Not used (NC)	99	P14/SI1/SB1	I/O	HDIO	Serial data input/output for VCD LSI
46	VDD3	—	—	Connected to +5V	100	P15/SCK1	O	HCK	Serial clock output for VCD LSI
47	S16/PC0	—	—	Not used (NC)					
50	S19/PC3	—	—	Not used (NC)					

7.1.2 DISPLAY

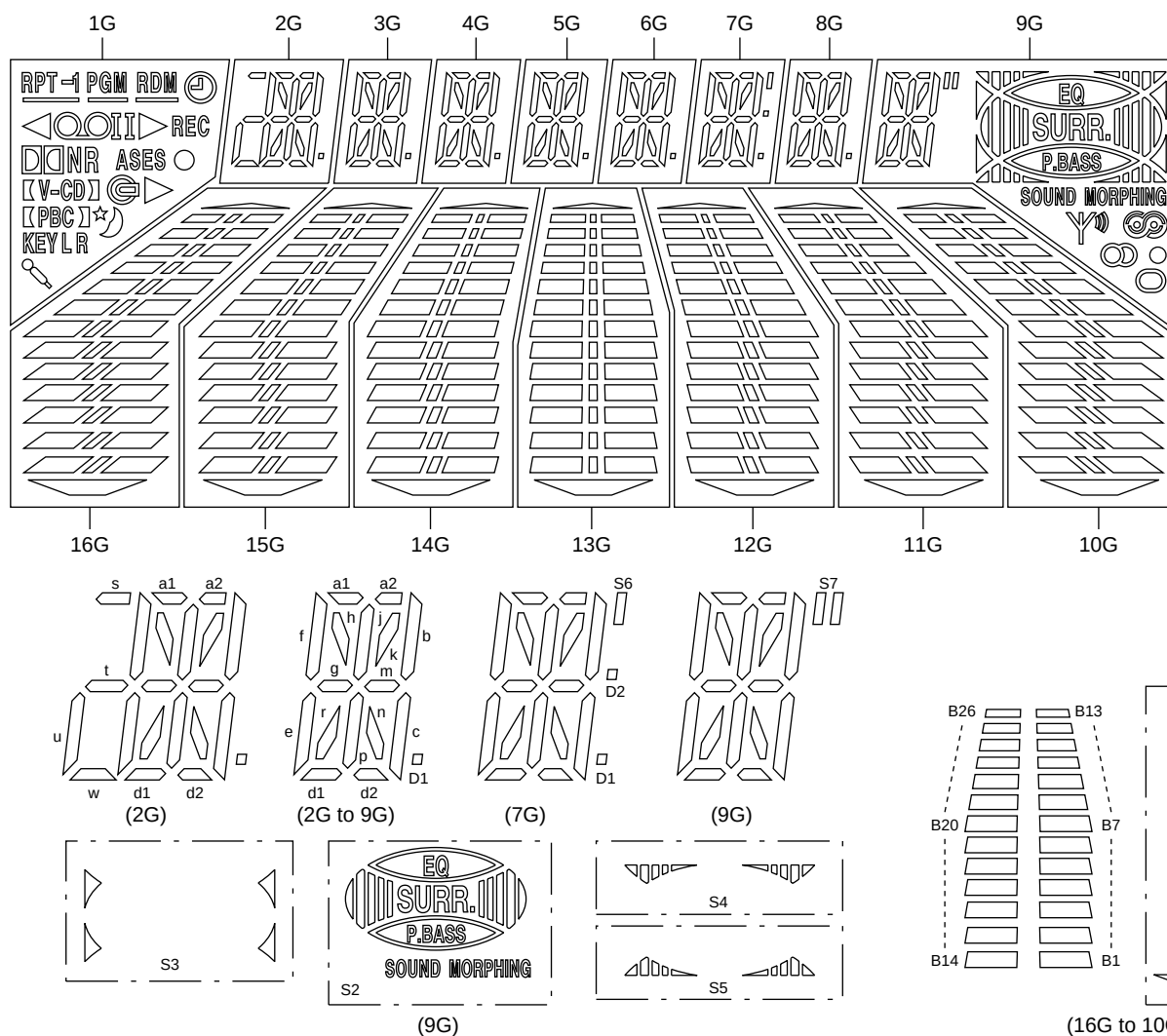
■ XAV3004 (DISPLAY ASSY : V5621)

- FL Display

- Pin Assignment



- Grid Assignment



• Pin Connection

Pin No.	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27
Connection	F2	F2	F2	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	P1	P2	P3	P4	P5	P6

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

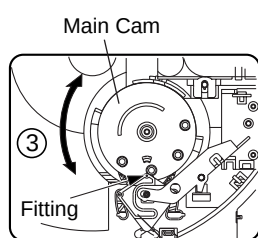
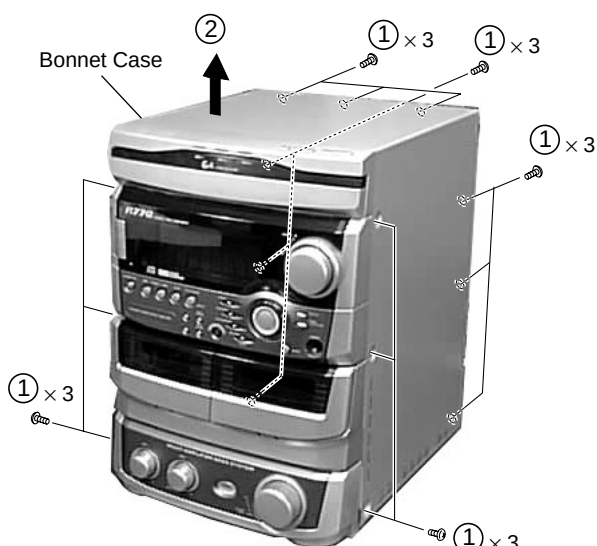
NOTE 1) F1, F2..... Filament
 2) NP..... No pin
 3) DL..... Datum Line
 4) 1G to 16G..... Grid

• Anode Connection

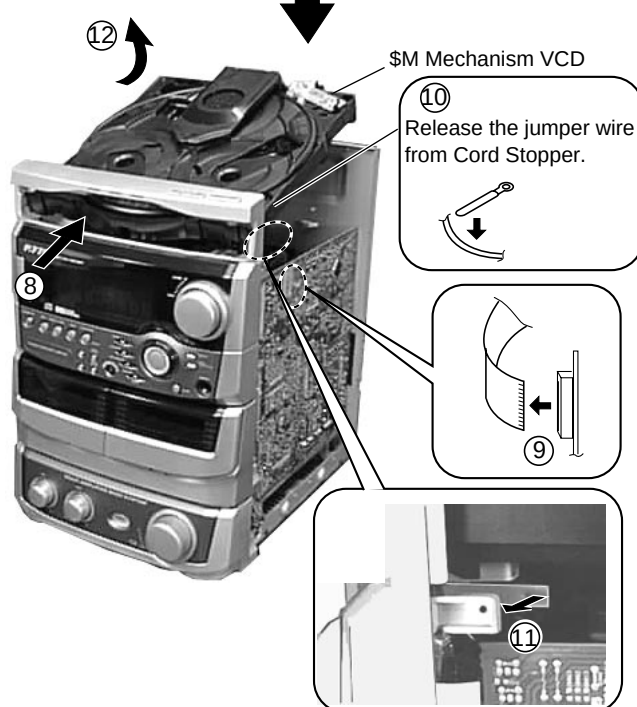
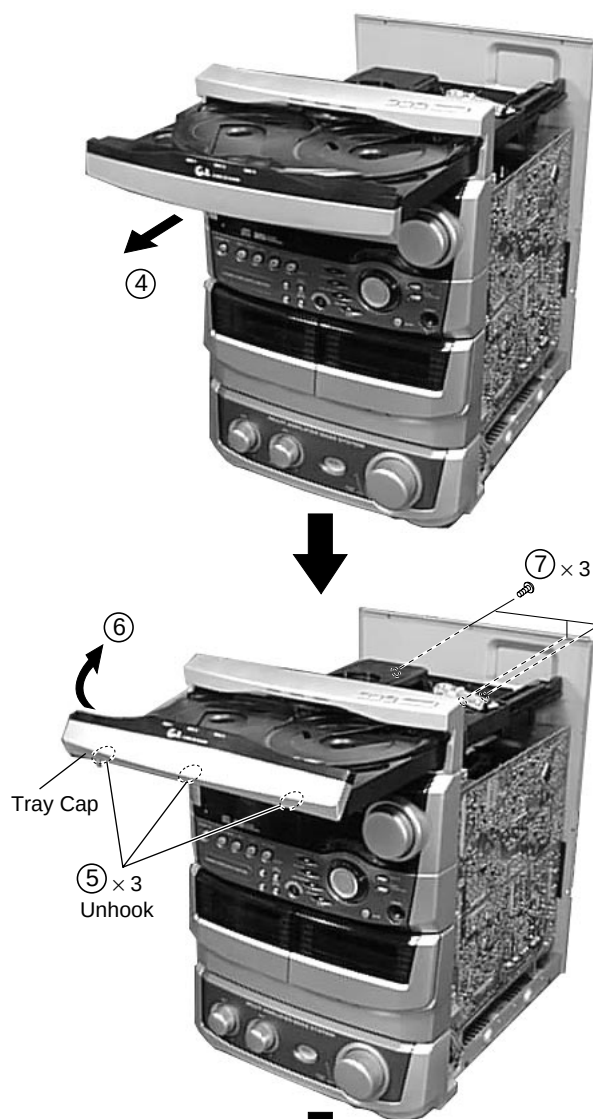
	1G	2G	3G to 6G	7G	8G	9G	10G to 16G
P1	—	a1	a1	a1	a1	a1	B14
P2		a2	a2	a2	a2	a2	B15
P3		h	h	h	h	h	B16
P4		j	j	j	j	j	B17
P5		k	k	k	k	k	B18
P6		b	b	b	b	b	B19
P7	(Left)	f	f	f	f	f	B20
P8		g	g	g	g	g	B21
P9	(Right)	m	m	m	m	m	B1
P10	(Upper right)	c	c	c	c	c	B2
P11		e	e	e	e	e	B3
P12		r	r	r	r	r	B4
P13		p	p	p	p	p	B5
P14		n	n	n	n	n	B6
P15		d1	d1	d1	d1	d1	B7
P16		d2	d2	d2	d2	d2	B8
P17		s	—	—	—	S7	B22
P18	(Under)	t	—	—	—	S2	B23
P19		u	—	—	—	S3	B24
P20		w	—	—	—	S4	B25
P21		—	—	—	—	S5	B9
P22		—	—	—	—		B10
P23		—	—	—	—		B11
P24		—	—	—	—		B12
P25		D1	D1	D1	D1		B26
P26	—	—	—	D2	—		B13
P27	—	—	—	S6	—	—	S1

7.2 DISASSEMBLY

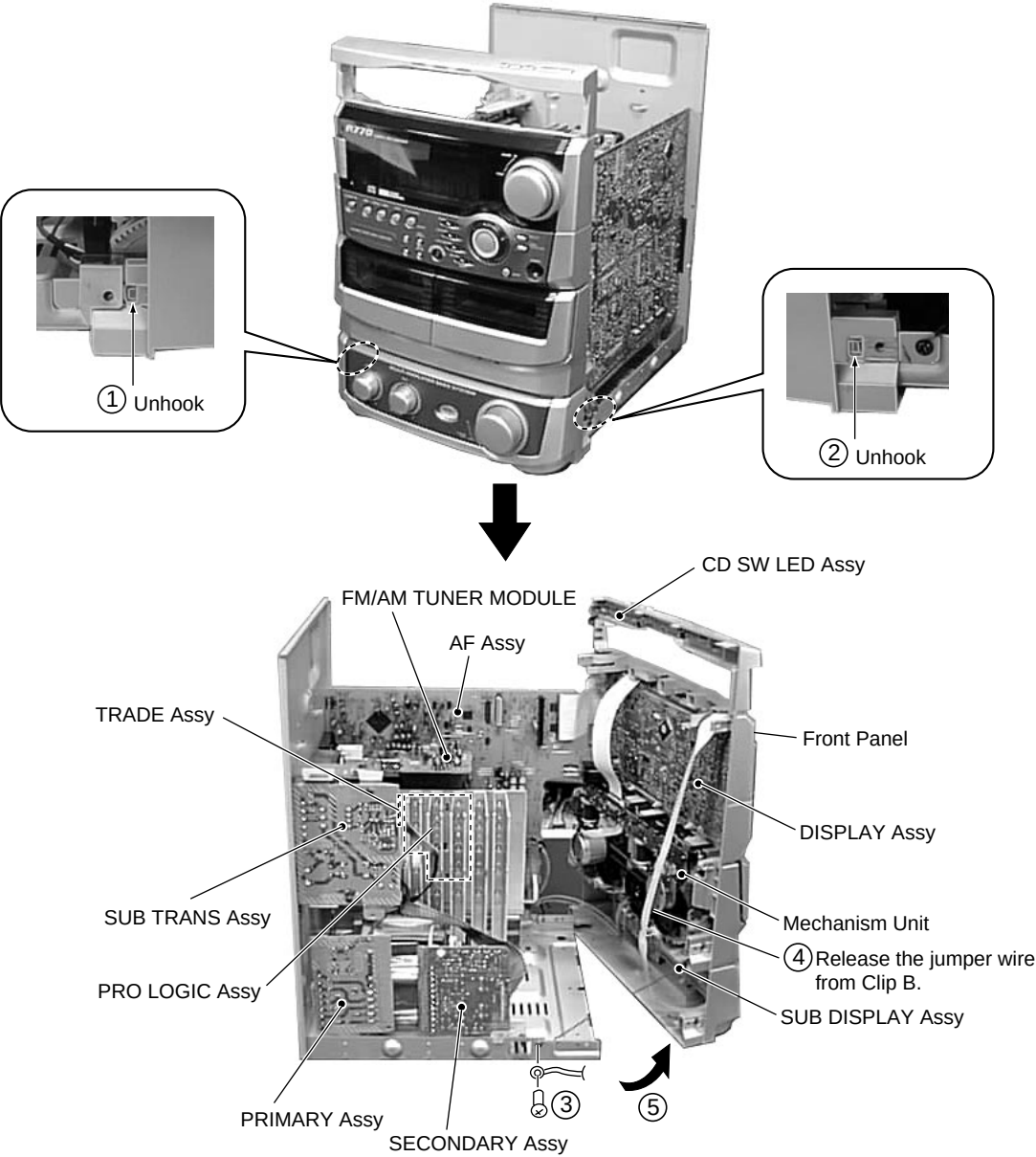
■ \$M MECHANISM VCD



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

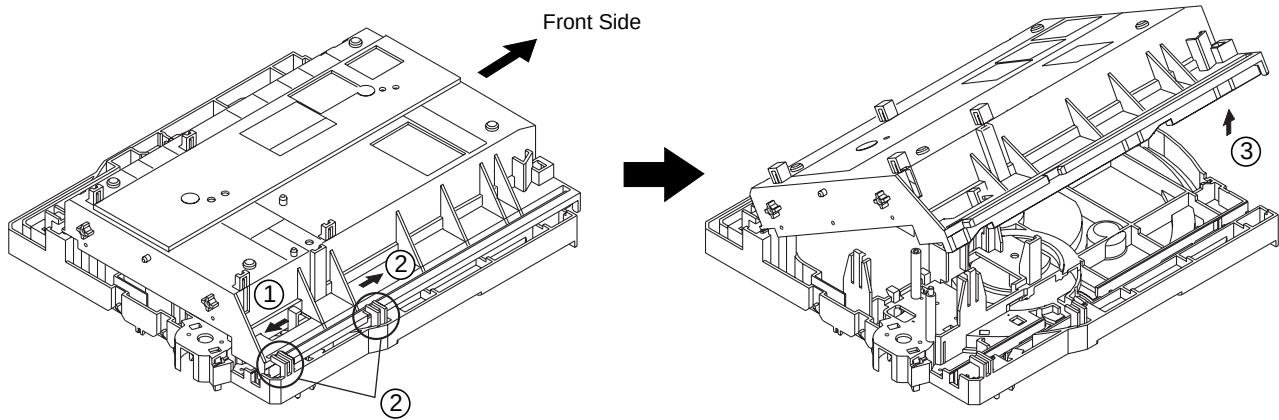


FRONT PANEL

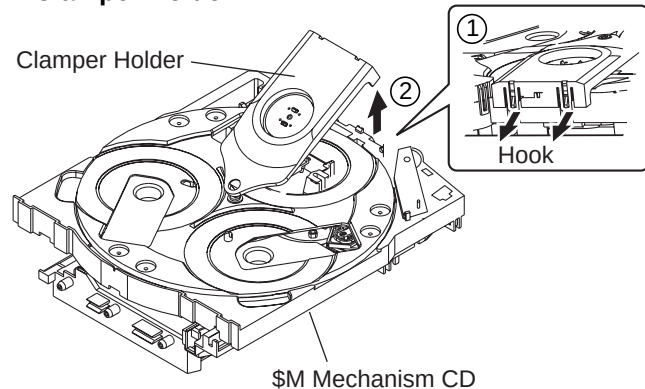


\$M MECHANISM VCD ADDITIONAL TO JOB

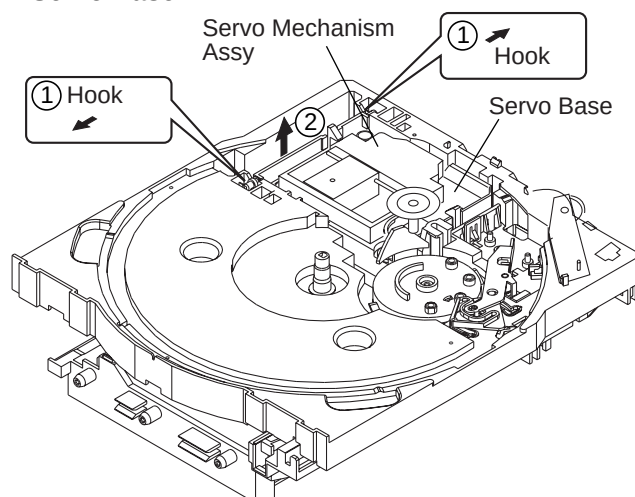
● Mechanism Base (Bottom View)



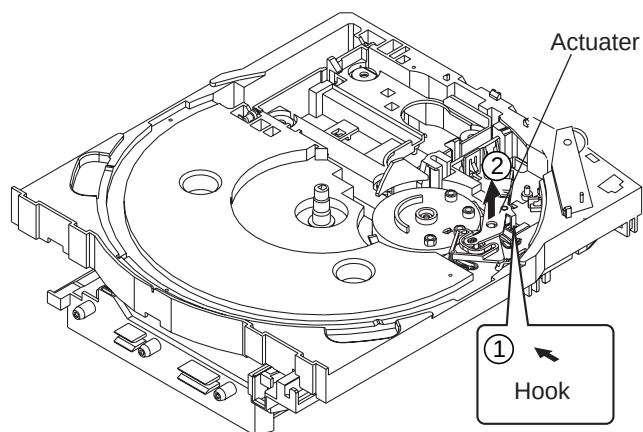
● Clamper Holder



● Servo Base

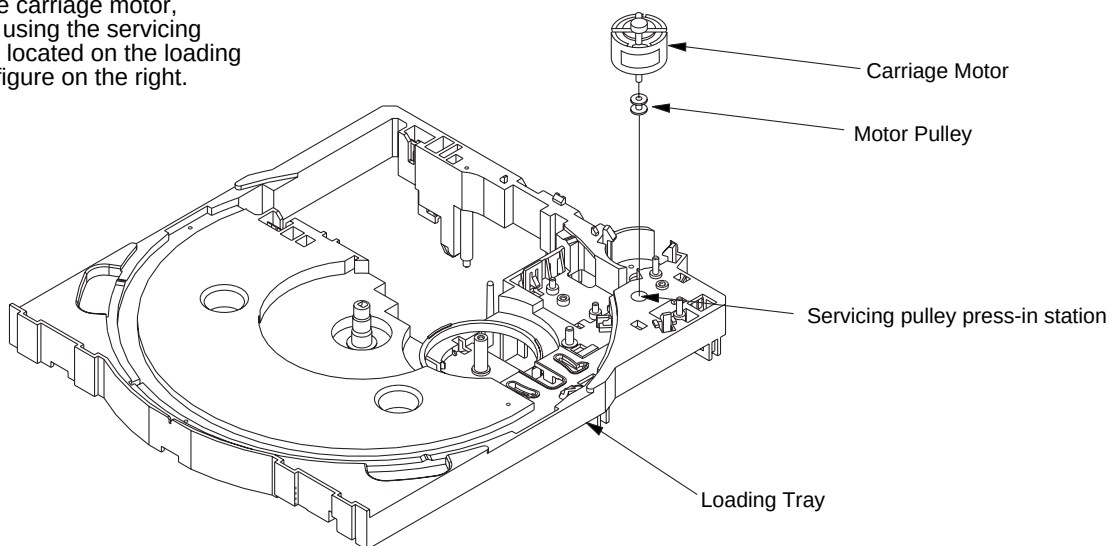


● Actuator

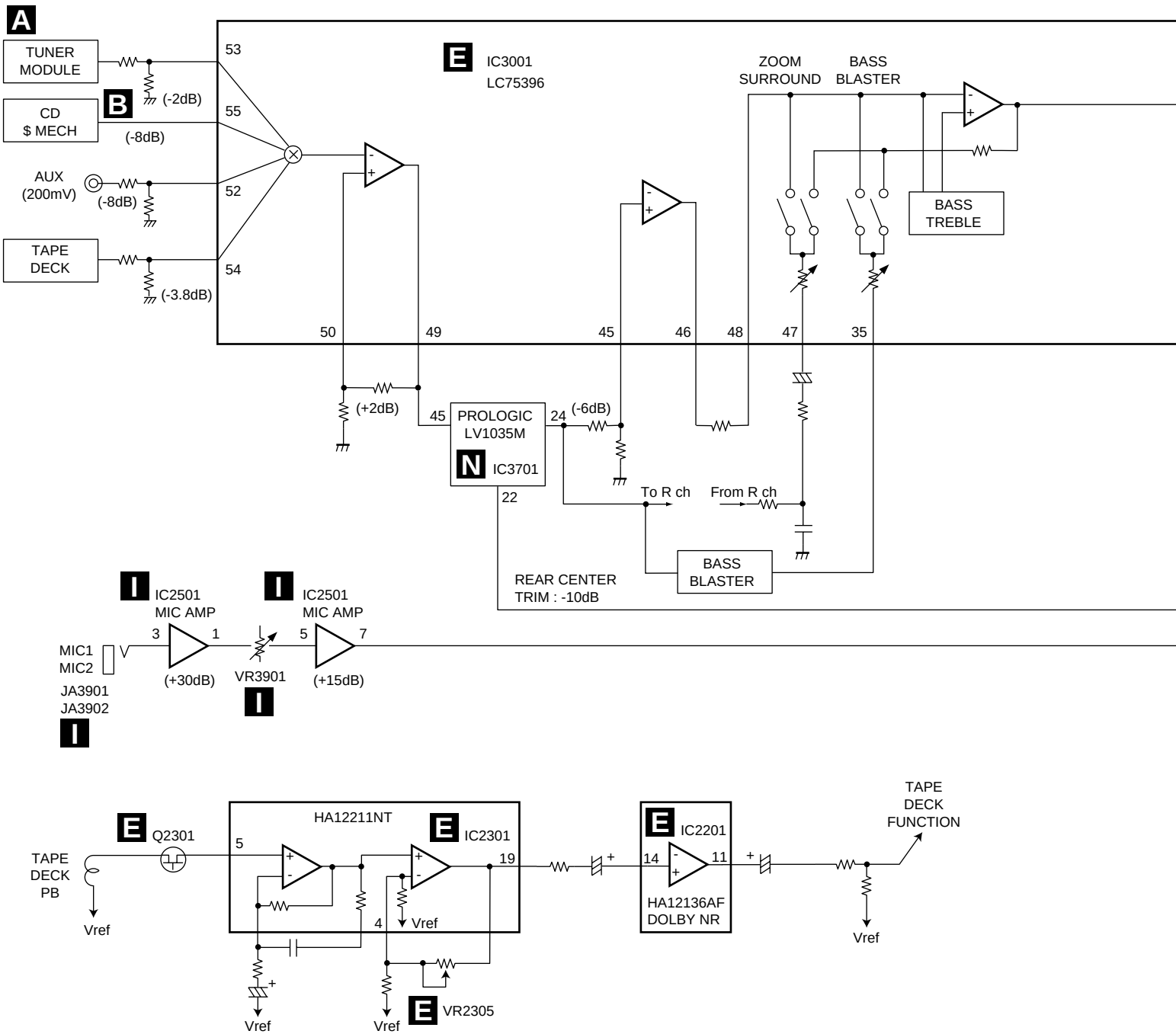


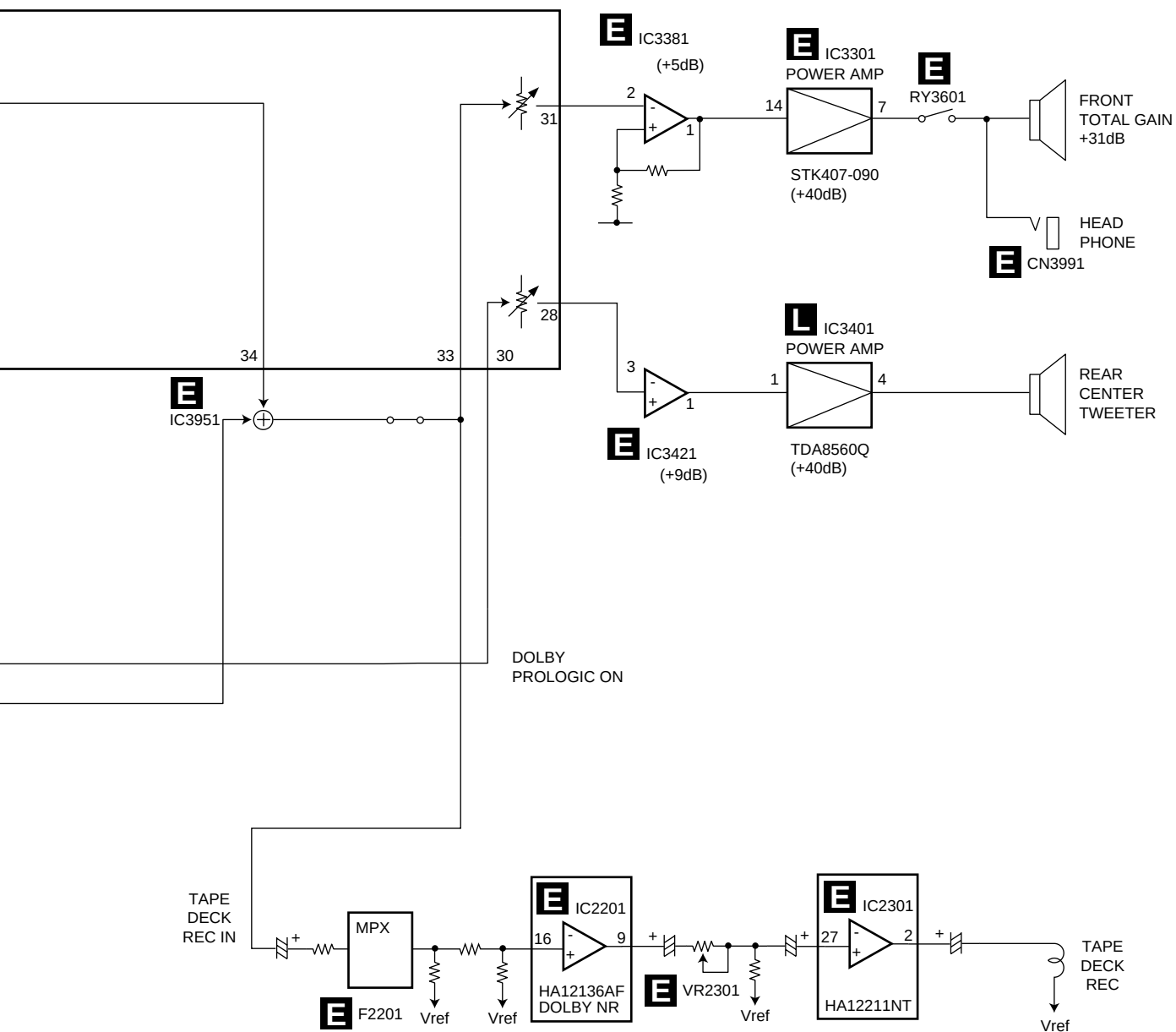
■ FITTING THE PULLEY INTO THE CARRIAGE MOTOR

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



7.3 BLOCK DIAGRAM

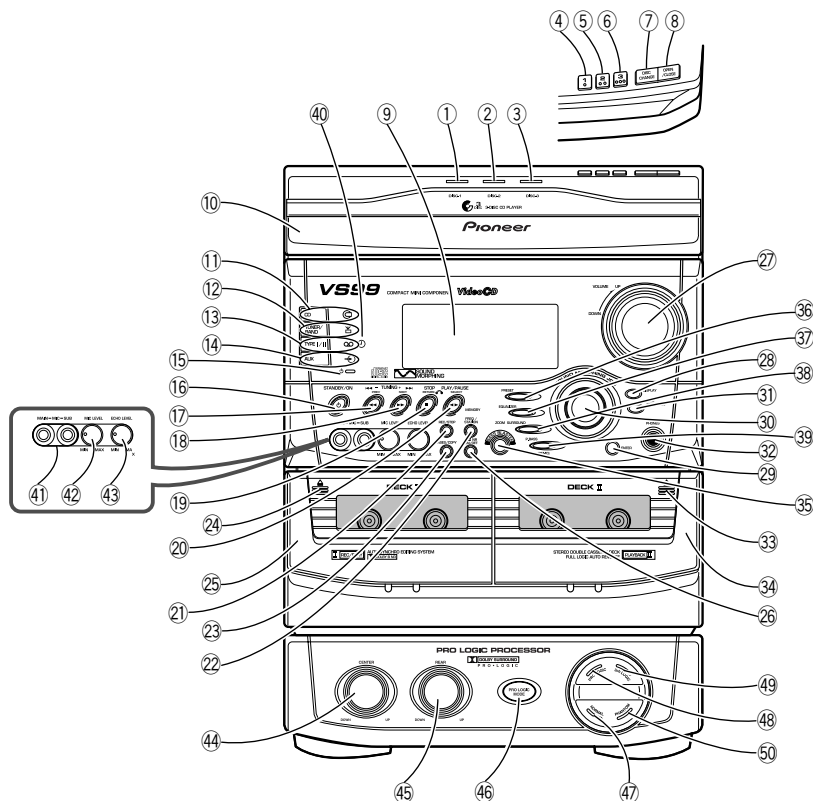




8. PANEL FACILITIES AND SPECIFICATIONS

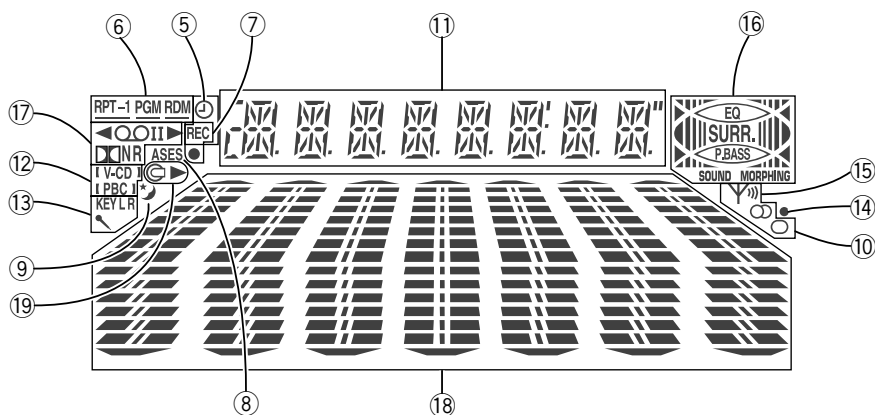
• PANEL FACILITIES

■ XR-VS99



- | | |
|--|--|
| ① DISC-1 indicator | ②8 DISPLAY button |
| ② DISC-2 indicator | ②9 ENTER button |
| ③ DISC-3 indicator | ③0 SOUND MORPHING JOG dial |
| ④ DISC-1 select button | ③1 TIMER/CLOCK ADJ button |
| ⑤ DISC-2 select button | ③2 PHONES jack (Headphones) |
| ⑥ DISC-3 select button | ③3 TAPE II Eject button (▲) |
| ⑦ DISC CHANGE button | ③4 TAPE II cassette door |
| ⑧ OPEN/CLOSE button | ③5 BASS BLASTER button & indicator |
| ⑨ Display | ③6 PRESET button & indicator |
| ⑩ CD disc tray | ③7 EQUALIZER button & indicator |
| ⑪ CD Function button & indicator | ③8 ZOOM SURROUND button & indicator |
| ⑫ TUNER/BAND Function button & indicator | ③9 P.BASS (DEMO) button & indicator |
| ⑬ TAPE I/II Function button & indicator | ④0 TIMER indicator |
| ⑭ AUX Function button & indicator | Lights in Standby mode when the system has been set for timer operation. |
| ⑮ STANDBY indicator | ④1 MIC MAIN SUB jack |
| ⑯ STANDBY/ON switch | ④2 MIC LEVEL knob |
| ⑰ TUNING ◀◀ ◀◀ – PREV button | ④3 ECHO LEVEL knob |
| ⑱ TUNING + ▶▶ ▶▶ NEXT button | ④4 CENTER level control |
| ⑲ STOP/RETURN ⏮(■) button | ④5 REAR level control |
| ⑳ PLAY/PAUSE SELECT ◀▶, MEMORY button | ④6 PRO LOGIC MODE button & indicator |
| ㉑ REC/STOP button | ④7 NORMAL indicator |
| ㉒ FREQ/STATION button | ④8 PRO LOGIC indicator |
| ㉓ ASES/COPY button | ④9 3ch LOGIC indicator |
| ㉔ TAPE I Eject button (▲) | ⑤0 PHANTOM indicator |
| ㉕ TAPE I cassette door | |
| ㉖ Dolby* NR ON/OFF button | |
| ㉗ Volume control (VOLUME) | |

■ For model XR-VS99

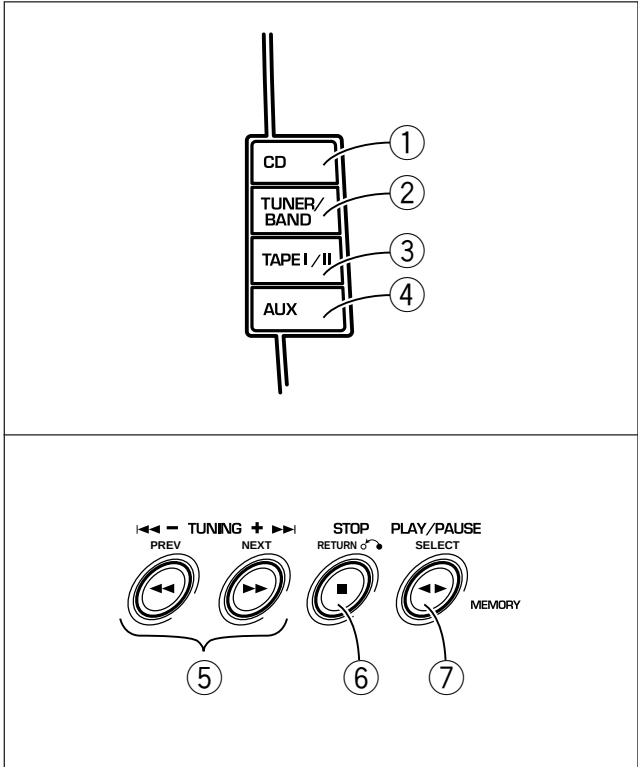


Display section

- ⑤ Displays timer function indications.
- ⑥ Indicates CD function status.
- ⑦ Lights during recording.
- ⑧ Lights during ASES operation.
- ⑨ Lights during Sleep Timer operation.
- ⑩ Indicates tuner operation status.
- ⑪ Displays a wide range of operation status indications.
- ⑫ Indicates Video CD function status.
- ⑬ Indicates Karaoke function status.
- ⑭ Lights when BEAT CUT 2 is selected.
- ⑮ Indicates tuner reception status.
- ⑯ Indicates SOUND MORPHING status.
- ⑰ Indicates TAPE status.
- ⑱ Displays audio level, spectrum analyzer and other indications.
- ⑲ Indicates CD player operation status.

*

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



Function button section

- ① CD function button
- ② TUNER/BAND function button
- ③ TAPE I/II function button
- ④ AUX function button
- ⑤ TUNING ◀◀, ▶▶ (-) PREV, (+) ▶▶, ▶▶ NEXT buttons
- ⑥ STOP/RETURN ⏏ button (■)
- ⑦ PLAY/PAUSE SELECT button (◀▶)

● **Roles of the common operation buttons (The rules of the buttons vary depending on the input functions as shown below.)**

- During CD input**
- PLAY/PAUSE/SELECT: Play/pause button/SELECT for VCD playback control
- STOP/RETURN: Stop button/RETURN for VCD playback control
- (+) ▶▶, ▶▶/NEXT: Fast forward/track search button/NEXT for VCD playback control
- ◀◀, ◀◀ (-)/PREV: Fast reverse/track search button/PREV for VCD playback control

- During cassette deck input**
- PLAY/PAUSE: Play button/Tape transport direction
- STOP: Stop button
- (+) ▶▶, ▶▶: Fast forward button/Music search button
- ◀◀, ◀◀ (-): Rewind button/Music search button

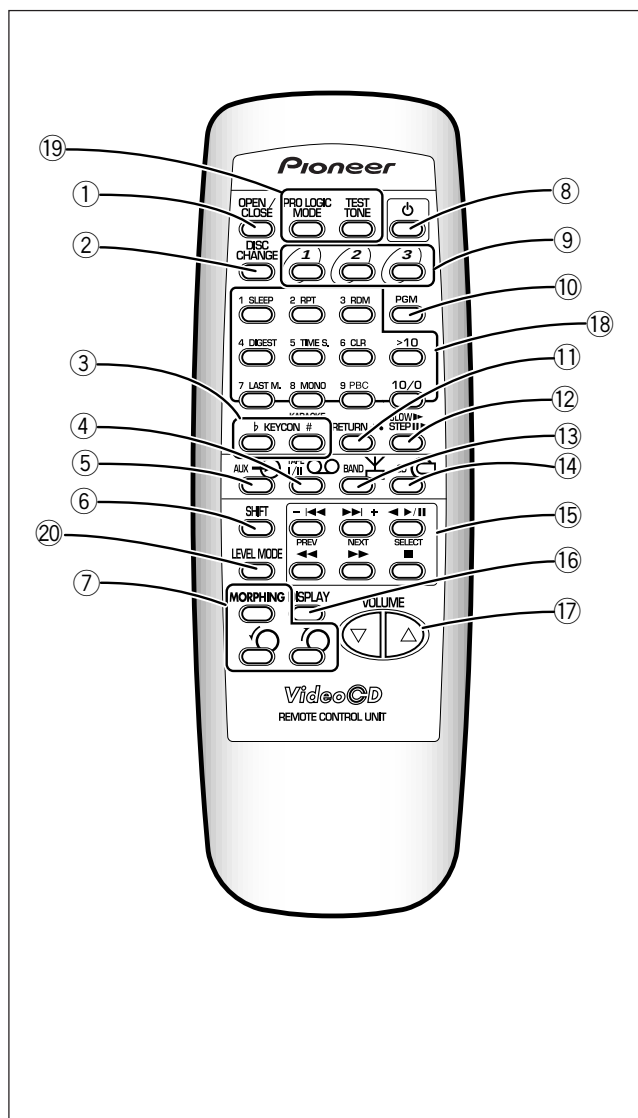
- During tuner operation**
- PLAY/PAUSE MEMORY: STATION MEMORY button
- (+) ▶▶, ▶▶: Frequency & Station + (up) button
- ◀◀, ◀◀ (-): Frequency & Station – (down) button

■ **Function Auto Play**

If you press the CD function button when a CD is loaded, the CD automatically starts playing. If you press the TAPE I/II function button when a tape is loaded in the cassette deck, the tape automatically starts playing.

NOTE:

The function cannot be switched during recording and tape copying.



Remote control unit

- ① **OPEN/CLOSE button**
- ② **DISC CHANGE button**
- ③ **KEYCON buttons**
- ④ **TAPE I/II function button**
- ⑤ **AUX function button**
- ⑥ **SHIFT button**

To operate an indicated function on the numerical key-pad, press the desired button while pressing the SHIFT button.

Ex. Press   -> 1

Press  while pressing  -> SLEEP
- ⑦ **SOUND MORPHING mode button & SOUND MORPHING jog control buttons**
- ⑧ **STANDBY/ON button**
- ⑨ **DISC select buttons (1-3)**
- ⑩ **PGM button**
- ⑪ **RETURN  button**
- ⑫ **SLOW , STEP II  button**
- ⑬ **BAND button**

Use to switch between FM and AM bands.


- ⑭ **CD function button**
- ⑮ **CD/TAPE/STATION (up,down) operation buttons**
 - **CD operation buttons**

(Play/Pause , II, Track search , I, Stop , Fast )
(SELECT, NEXT , I, PREV , I for VCD playback control)
 - **TAPE operation buttons**

(Play , Music Search , I, Stop , Fast )
The XR-VS55 does not feature the Music Search , I, function.
 - **TUNER buttons**
 - + Stations change in order in the upward direction.
 - Stations change in order in the downward direction.
 - ◀◀ Frequency down.
 - ▶▶ Frequency up.
- ⑯ **DISPLAY button**
- ⑰ **VOLUME ▲ (up), ▼ (down) buttons**
- ⑱ **Used both as Numerical key-pad and various functions.**

When using for radio station tuning:

Pressing these buttons tunes the unit to the frequencies stored in memory.

Examples:

Station 5		1 SLEEP	3 RDM
Station 13		2 RPT	10/0
Station 20			

When using for the CD player:

Pressing these buttons lets you directly select the tracks you want from the program you entered.

Examples:

3rd track  3 RDM

99th track  >10  9 PBC  9 PBC

- ⑲ PRO LOGIC button, TEST TONE button**
Refer to Supplementary Operating Instructions.
- ⑳ LEVEL MODE button**
Refer to Supplementary Operating Instructions.

• SPECIFICATIONS

STEREO CD/VCD CASSETTE DECK RECEIVER

Amplifier section

<XR-VS99>

[FRONT]

Continuous Power Output (RMS)
..... 120 W + 120 W (1 kHz, 10%, 6 Ω)

[REAR]

Continuous Power Output (RMS)
..... 30 W + 30 W (1 kHz, 10%, 4 Ω)

[CENTER]

Continuous Power Output (RMS)
..... 30 W + 30 W (1 kHz, 10%, 4 Ω)
Peak Music Power Output 3,000 W

FM/AM Tuner section

FM tuner section

Frequency Range 87.5 MHz to 108 MHz
Antenna input 75 Ω unbalanced

AM tuner section

Frequency Range
With 9 kHz step 531 kHz to 1,602 kHz
With 10 kHz step 530 kHz to 1,700 kHz
Antenna Loop antenna

Miscellaneous

Power Requirements ... AC 110 – 127, 220 – 230, 240 V, 50/60 Hz
Power Consumption
XR-VS99/DBDXJ 800 W
DLXJ 230 W
DAMXJ 720 W
Power Consumption in Standby mode 1 W

CD section

Type Compact disc digital audio system
Wow and Flutter Limit of measurement
(±0.001 % W.PEAK) or less (EIAJ)

Cassette deck section

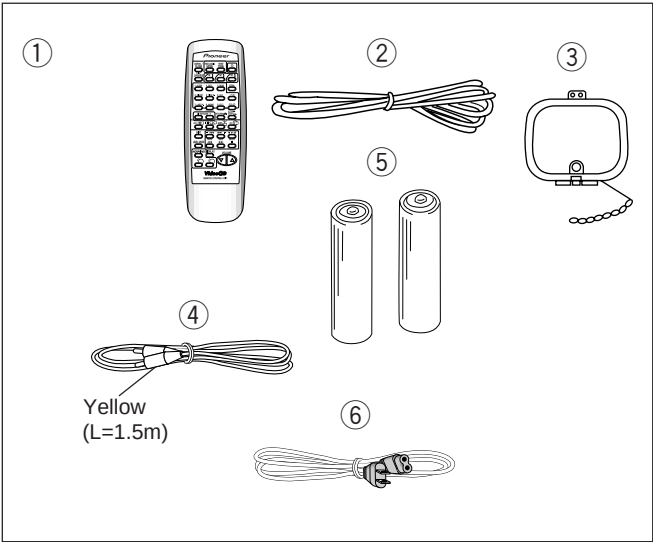
Systems 4 track, 2-channel stereo
Heads Recording/playback head x 1
Playback head x 1
Erasing head x 1
Motor DC servo motor x 1
Tape type TYPE I (Normal) tape
Dimensions
XR-VS99 270 (W) x 380 (H) x 343 (D) mm
Weight (without package)
XR-VS99 10 kg

Accessories

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

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



- ① Remote control unit x 1 : XZN3010 (CUXR052)
- ② FM antenna x 1 : ADH7004
- ③ AM loop antenna x 1 : XTB3001
- ④ Video cord x 1 : VDE1034
- ⑤ AA/R6P dry cell batteries x 2
- ⑥ Power Cord x 1 : ADG1158 (DBDXJ type)
ADG1154 (DLXJ/NC type)