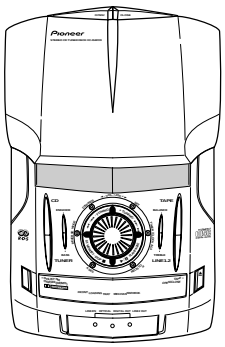
Service Manual



ORDER NO.
RRV2442

CD TUNER DECK
XC-IS22CD

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

Type	Model	Power Requirement	Remarks
	XC-IS22CD		
ZYXJ	O	DC power supply from other system	
ZVXJ	O	DC power supply from other system	

● **This product is a system(s) component.**
This product does not function properly when independent; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.

Component	System		Service Manual	Remarks
CD TUNER DECK	XC-IS22CD		RRV2442	This service manual
STEREO POWER AMPLIFIER	M-IS22		RRV2445	
SPEAKER SYSTEM	S-IS22	——	RRV2450	
	——	S-IS22S	RRV2451	

CONTENTS

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 NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Allexandra Road, #04-01, Singapore 159936

T – ZZY APR. 2001 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 INSTRCUTED PERSON.

LASER DIODE CHARACTERISTICS

MAXIMUM OUTPUT POWER: 5 mW
WAVELENGTH: 708-785 nm

LABEL CHECK

ZYXJ type Only

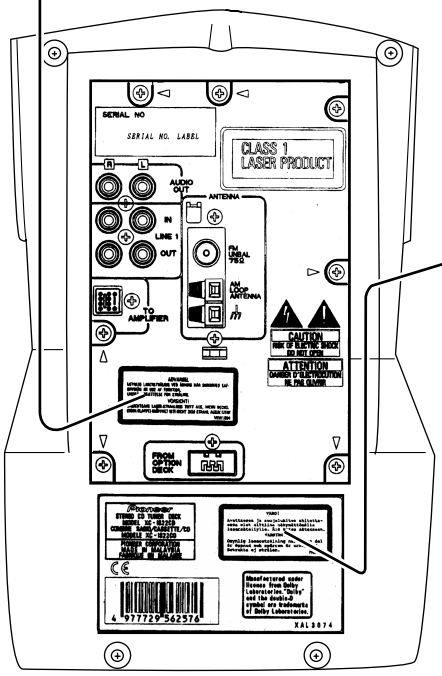
ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHED SAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT!
UNSICHTBARE LASER-STRAHLUNG TRITT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!
VRW1094

ZVXJ type Only

CAUTION
INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM
PRW1018

ZYXJ type Only

VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
PRW1233



(Rear view)

Additional Laser Caution

1. Laser Interlock Mechanism
   The loading position detect switch (in CD mechanism assembly) is set to "CLMP ON(CD CLOSE)" (ON:low level,OFF:high level) position, the system control IC(IC5501) get the "CLMP" signal, and hand the laser "LDON" signal to IC1101.
   Then a laser diode can be lighted except when the level of signal CLMP is low.
   The interlock also does not function in the test mode∗.
   Laser diode oscillation will continue, if pin 1 of TA2150FN (IC1101) on the CD ASSY is connected to GND, or pin 10 is connected to low level (ON), or else the terminals of Q1101 are shorted to each other (fault condition).

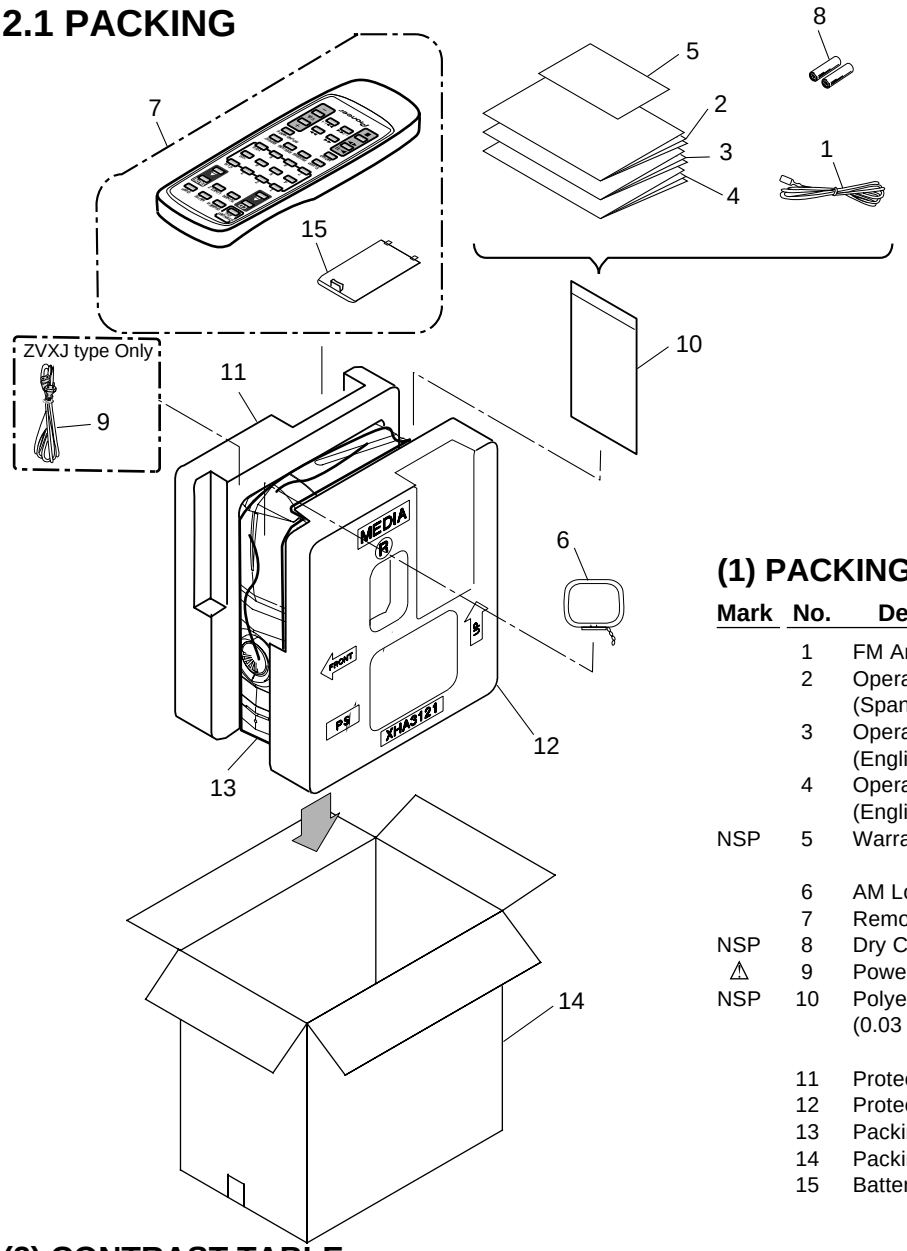
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

∗ : Refer to page 52.

2. EXPLODED VIEWS and PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

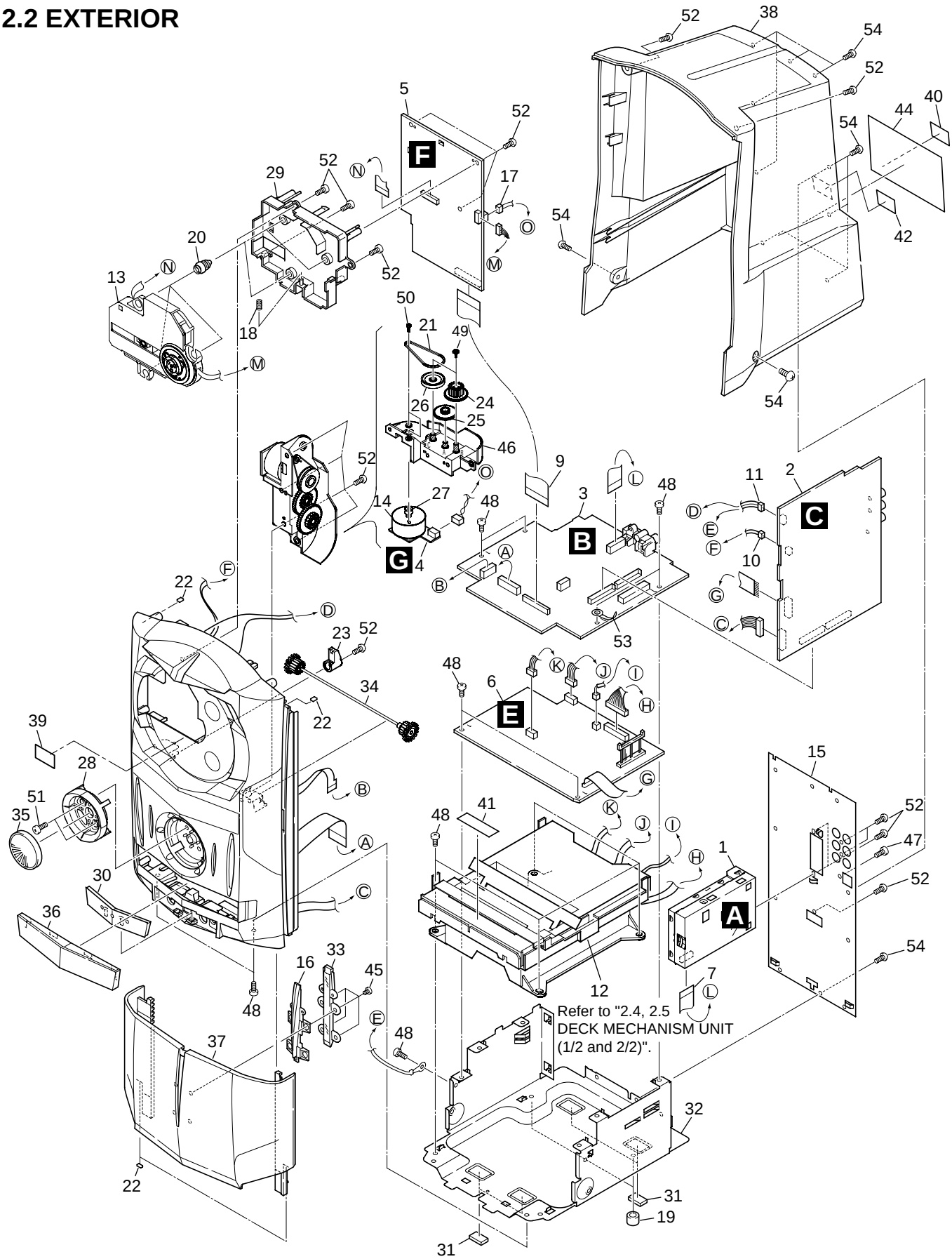
Mark	No.	Description	Part No.
	1	FM Antenna	ADH7005
	2	Operating Instructions (Spanish/Portuguese/Swedish/Dutch)	See Contrast table (2)
	3	Operating Instructions (English/French/German/Italian)	See Contrast table (2)
	4	Operating Instructions (English)	See Contrast table (2)
NSP	5	Warranty Card	ARY7022
	6	AM Loop Antenna	ATB7009
	7	Remote Control Unit	XXD3034
NSP	8	Dry Cell Batteries(AA/R6)	VEM-013
⚠	9	Power Cord	See Contrast table (2)
NSP	10	Polyethylene Bag (0.03 x 230 x 340)	Z21-038
	11	Protector L	XHA3120
	12	Protector R	XHA3121
	13	Packing Sheet	AHG7053
	14	Packing Case	XHD3169
	15	Battery Cover	XZN3115

(2) CONTRAST TABLE

XC-IS22CD/ZYXJ and ZVXJ are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			ZYXJ type	ZVXJ type	
	2	Operating Instructions (Spanish/Portuguese/Swedish/Dutch)	XRC3040	Not used	
	3	Operating Instructions (English/French/German/Italian)	XRE3040	Not used	
	4	Operating Instructions (English)	Not used	XRB3007	
⚠	9	Power Cord	Not used	ADG1156	

2.2 EXTERIOR



(1) EXTERIOR PARTS LIST

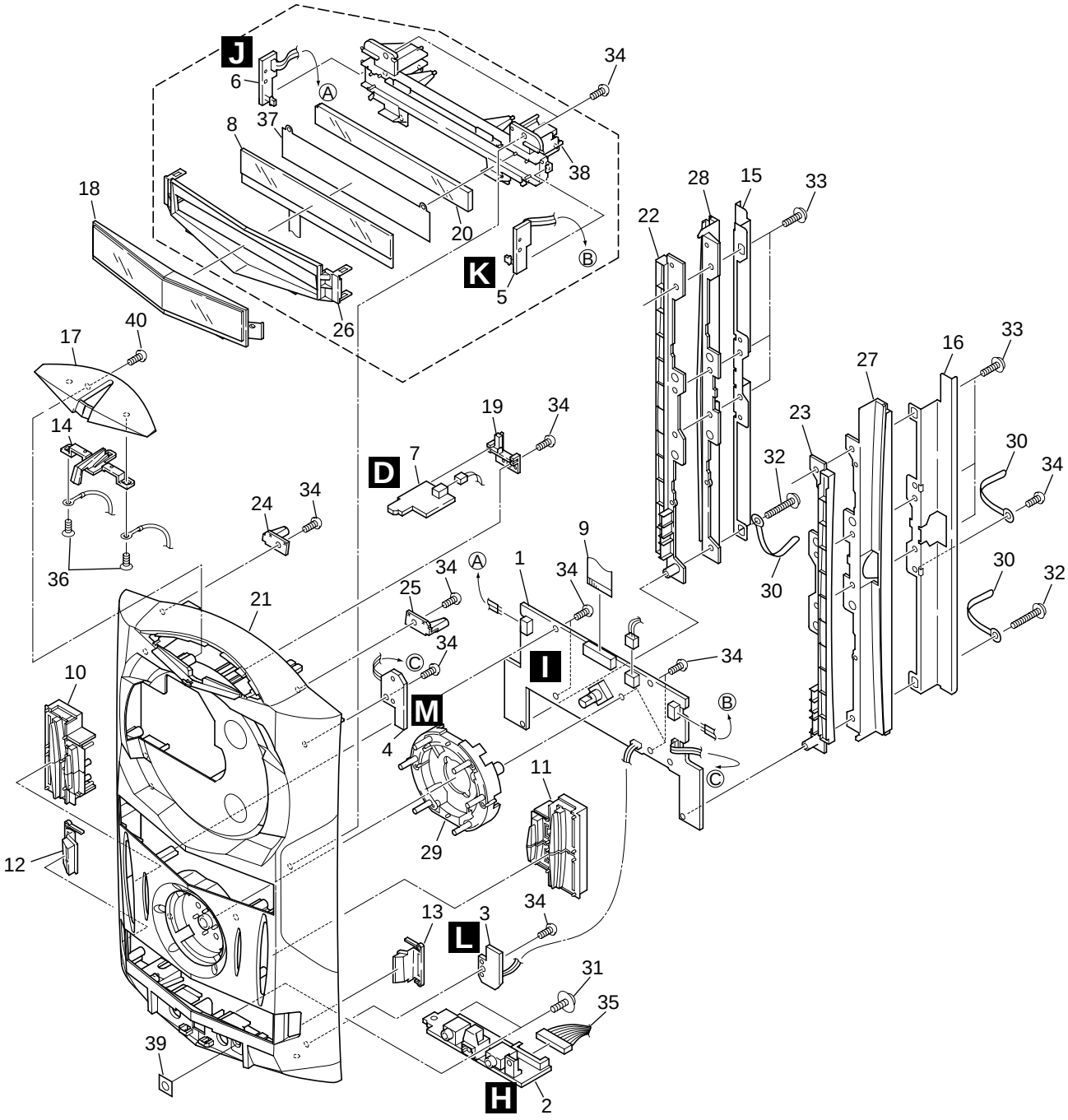
Mark	No.	Description	Parts No.
	1	FM/AM TUNER MODULE	AXQ7229
NSP	2	AF ASSY	XWZ3406
NSP	3	IF ASSY	XWZ3407
NSP	4	CD MOTOR ASSY	XWZ3410
	5	CD ASSY	XWP3001
NSP	6	DECK ASSY	XWX3037
	7	13p F.F.C/30V 27p	XDD3081
	8	• • • • •	
	9	Flexible Cable	XDD3095
	10	Connector Assy	PG02KK-F15
	11	Connector Assy 3p	XDX3016
	12	Deck Mechanism Unit	AXA7075
	13	CD Mecha	KSM-900AAA
	14	Slider Motor	VXM1033
	15	Rear Panel(Mtl)	XNC3093
	16	CD Door Lens	XAK3188
	17	Connector Ass'y	PG02KK2F07
	18	Float Spring	ABH7170
NSP	19	Spacer	AEB7092
	20	Float Rubber	AEB7129
	21	Belt	AEB7171
	22	Cussion Rubber	AEB7212
	23	Shaft Holder (Pls)	AMR7237
	24	Gear B	AMR7260
	25	Gear A	ANW7063
	26	Gear Pulley A	ANW7066
	27	Motor Pulley	PNW1634
	28	Play Button (Pls)	XAD3097
	29	Float Base CD (Pls)	XMR3020
	30	Jack Door(Pls)	XAN3030
	31	Rubber Sheet	AEB1111
NSP	32	Chassis M(Mtl)	XNA3007
	33	LT Conductor M (Pls)	XAK3217
	34	Shaft Assy	XXG3076
	35	Jog Knob(Pls)	XAA3018
	36	Tray Cap (Pls)	XAK3191
	37	CD Door(Pls)	XAN3029
	38	Rear Cover (Pls)	XMC3001
	39	Pu Caution Label	ARW7059
	40	Caution Label	See Contrast table (2)
NSP	41	Tray Seal	RRW1162
	42	Caution Label	See Contrast table (2)
NSP	43	Label	VRW1629
	44	Name Label	See Contrast table (2)
	45	Screw M3 (Steel)	XBA3005
	46	Gear Holder (Pls)	AMR7240
	47	Screw	BMZ30P060FZK
	48	Screw	BBZ30P080FMC
	49	Screw	Z39-019
	50	Screw	PMZ26P040FMC
	51	Screw	PPZ30P080FMC
	52	Screw	VPZ30P080FZK
	53	Cord Clamper (steel)	RNH-184
	54	Screw	BBZ30P080FZK

(2) CONTRAST TABLE

XC-IS22CD/ZYXJ and ZVXJ are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			ZYXJ type	ZVXJ type	
	40	Coution Label	PRW1233	Not used	
	42	Coution Label	VRW1094	PRW1018	
NSP	44	Name Label	XAL3074	XAL3073	

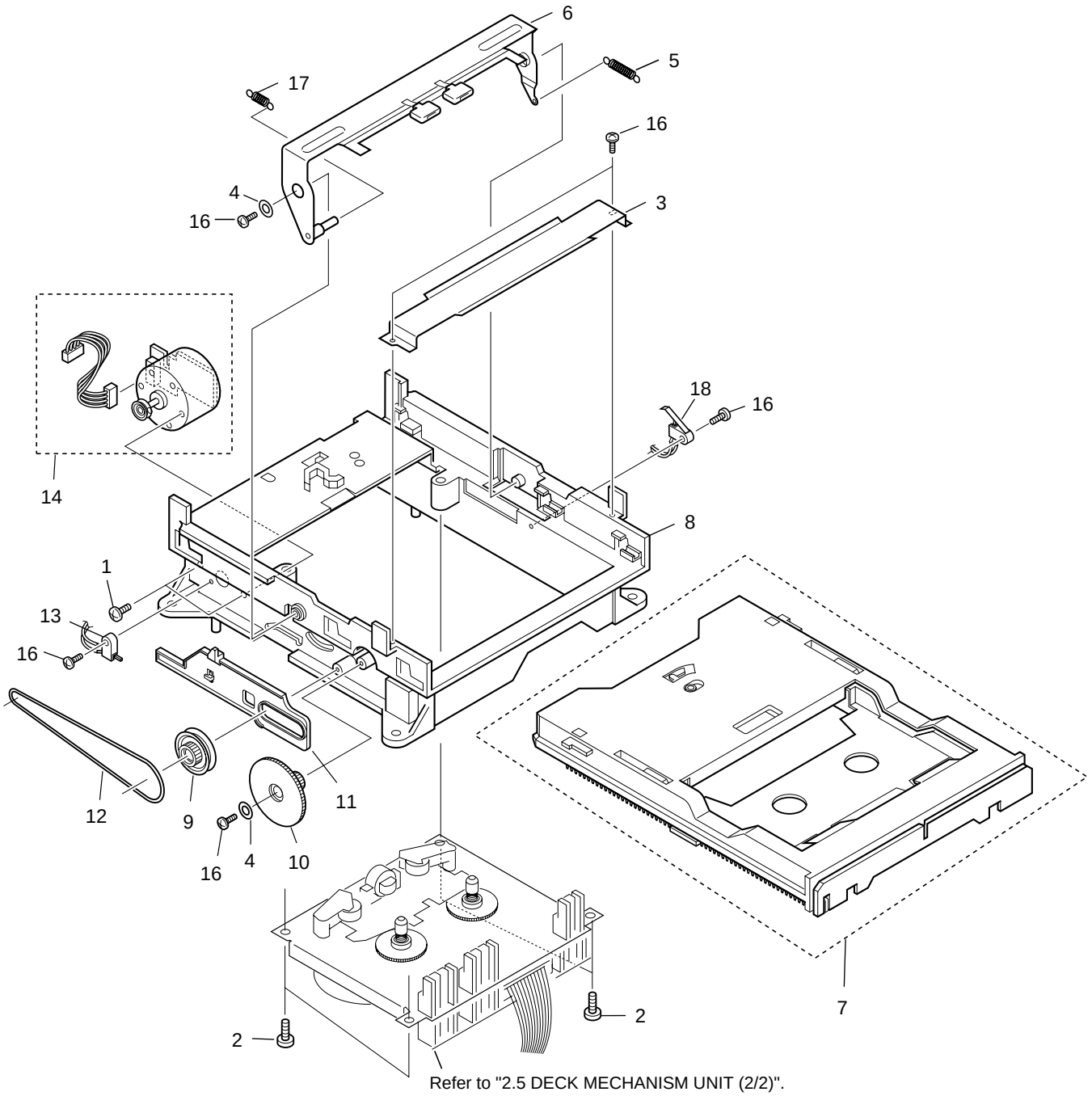
2.3 FRONT PANEL ASSY



● FRONT PANEL ASSY PARTS LIST

Mark	No.	Description	Parts No.
NSP	1	FRONT PANEL ASSY	XWZ3408
NSP	2	F-TERMINAL ASSY	XWZ3409
NSP	3	CD OPEN SW ASSY	XWZ3411
NSP	4	CD CLOSE SW ASSY	XWZ3412
NSP	5	LIGHT- L ASSY	XWZ3413
NSP	6	LIGHT- R ASSY	XWZ3414
NSP	7	MEDIA BLUE LED ASSY	XWZ3415
	8	LCD ASSY	XAV3012
	9	17p F.F.C/30V	XDD3082
	10	Func. Button L (Pls)	XAD3080
	11	Func. Button R (Pls)	XAD3081
	12	Side Button L (Pls)	XAD3082
	13	Side Button R (Pls)	XAD3083
	14	O/C Key(Pls)	XAD3084
	15	Frame L (Mtl)	XNG3048
	16	Frame R (Mtl)	XNG3049
	17	O/C Key Base (Pls)	XAK3189
	18	Display Window (Pls)	XAK3190
	19	PCB Holder(Pls)	XMR3030
	20	Lens M(Pls)	XAK3192
	21	Front Panel CD (Pls)	XMB3044
	22	Blind L(Pls)	XMR3023
	23	Blind R(Pls)	XMR3025
	24	R.C. Holder L (Pls)	XMR3039
	25	R.C. Holder R (Pls)	XMR3040
	26	LCD Cover (Pls)	XAK3233
	27	Rail R(Pls)	XMR3024
	28	Rail L(Pls)	XMR3022
	29	Ring Button (Pls)	XAD3098
	30	Cord Clamper (Steel)	RNH-184
	31	Screw With Washer	ABA1005
	32	Screw (P3 x 20)	XBA3006
	33	Screw	IPZ30P100FMC
	34	Screw	VPZ30P080FZK
	35	Connector Assy 12p	XDX3014
	36	Screw	BPZ30P060FZK
	37	Diffusion Sheet	XAK3234
	38	Lens Holder	XMR3028
	39	Sensor Cover	XAK3270
	40	Screw	BBZ30P060FZK

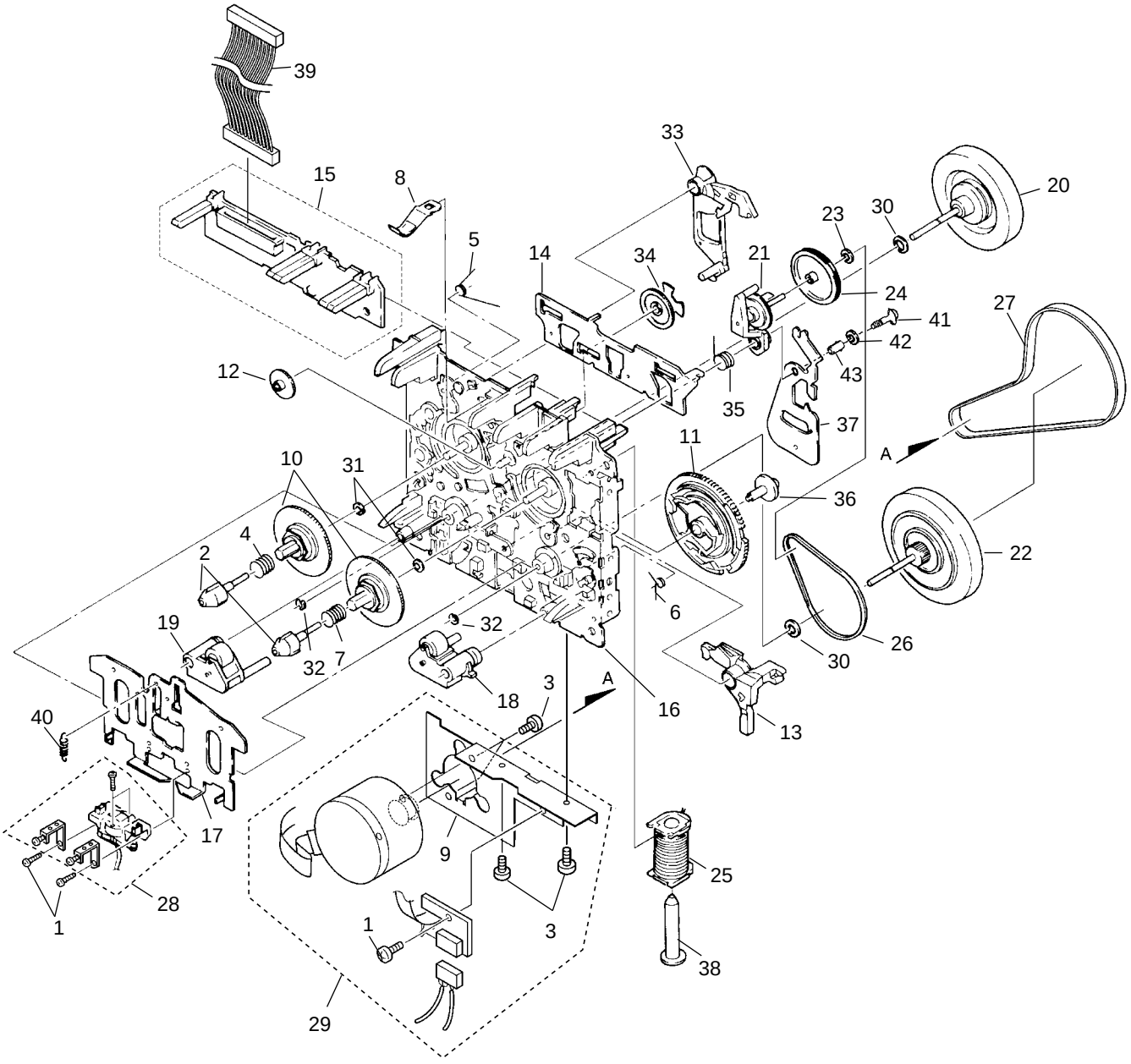
2.4 DECK MECHANISM UNIT (1/2)



● DECK MECHANISM UNIT (1/2) PARTS LIST

Mark	No.	Description	Parts No.
	1	Screw	FG114-14
	2	Screw	UG12H-15
	3	Front BKT	FC64K-11
	4	Washer	MJ112-22
	5	SP Return	FK34N-11
	6	Plate Hold BLK	F573-258
	7	Holder CST BLK	F527-078
	8	LDG Base	FD56R-12
	9	Pulley	FD56T-11
	10	LDG Gear	FD56U-11
	11	Slider	FD57E-11
	12	LDG Belt	FF19L-12
	13	Switch	UE15S-14
	14	MTR Reel BLK	F564-313
	15	.....	
	16	Screw	UG12H-28
	17	SP Clamper	FK34M-11
	18	Switch	UE18P-21

2.5 DECK MECHANISM UNIT (2/2)

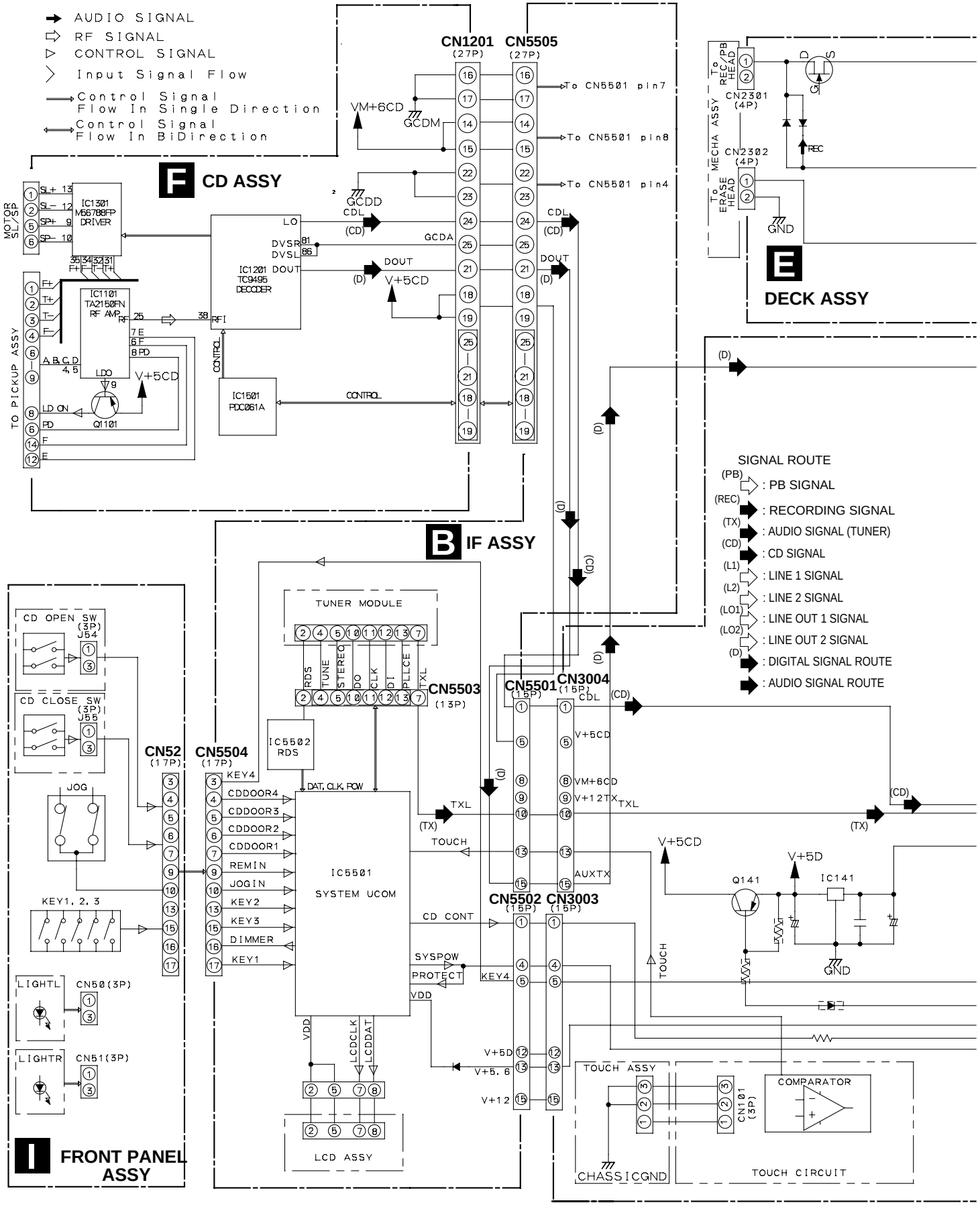


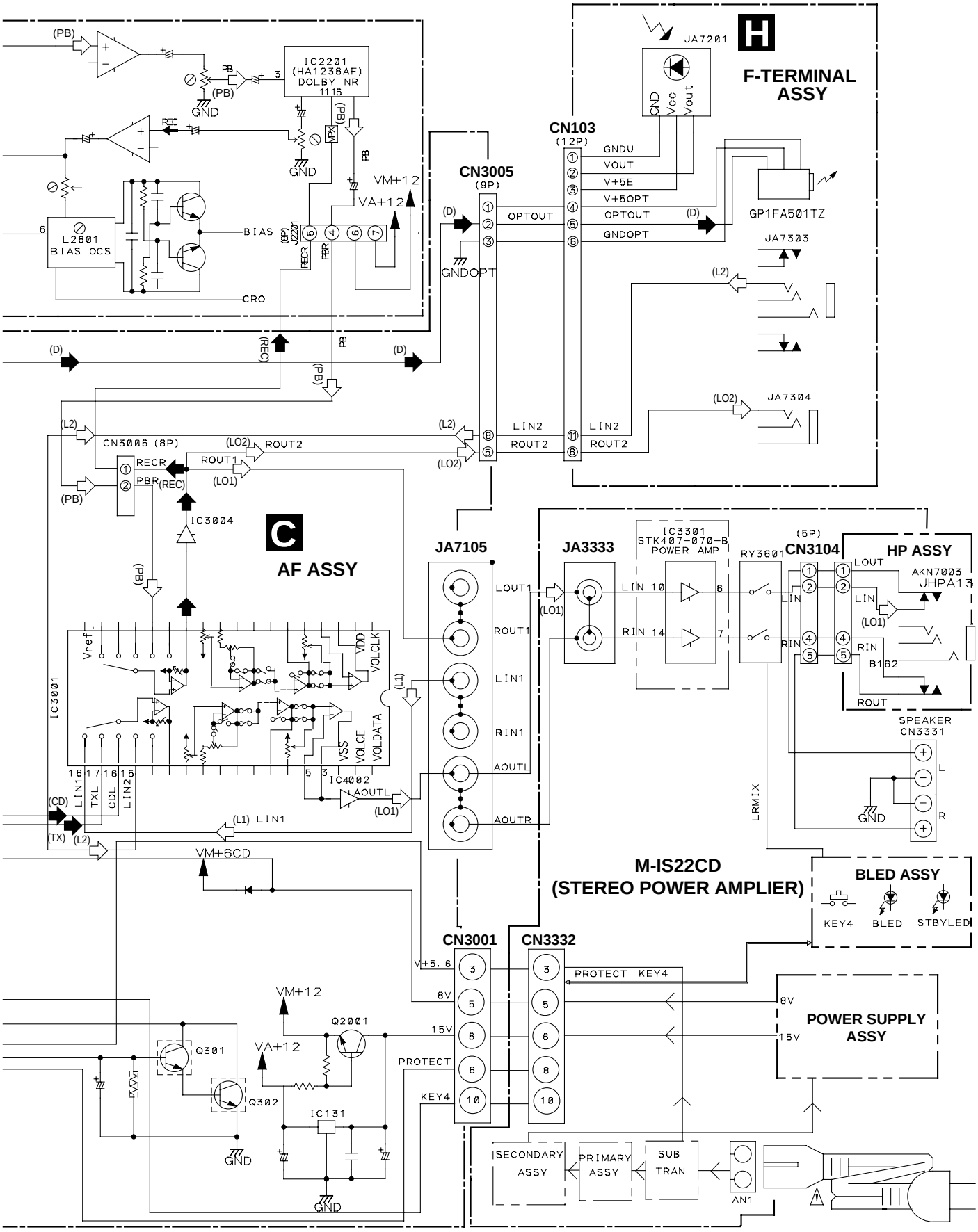
● DECK MECHANISM UNIT (2/2) PARTS LIST

Mark	No.	Description	Parts No.
	1	Screw	KG194-36
	2	Reel Feather	FD57D-13
	3	Screw	UG11S-14
	4	SP Reel(L)	FK32U-12
	5	SP Brake	FK33B-13
	6	SP Arm Play	FK33P-11
	7	SP Reel(R)	FK32V-12
	8	Spring Cassette	FC65M-11
	9	BKT MTR	FC64M-12
	10	Reel Base	FD52W-12
	11	Cam Gear	FD52Y-23
	12	Play Gear (A)	FD53K-12
	13	Arm Play	FD53D-19
	14	Plate Slide	FC61L-19
	15	PCB Control BLK	F567-617
	16	Chassis base BLK	F612-231
	17	Head Base	FC61K-32
	18	Roller Pinch BLK R	F514-129
	19	Roller Pinch BLK L	F514-130
	20	Assy F/W	FR24S-21
	21	Clutch Assy BLK	F522-037
	22	Clutch Assy BLK	F522-048
	23	Washer	FJ111-13
	24	F/R Pulley	FD53F-15
	25	Solenoid BLK	F765-279
	26	F/R Belt	FF18W-12
	27	Belt Main	FF19H-11
	28	Plate HD BLK	F513-824
	29	MTR MAIN BLK	F525-321
	30	Washer	FJ111-30
	31	Washer	FJ111-35
	32	Washer	UJ16F-11
	33	Lever Brake	FD53P-17
	34	FF Gear(A)	FD53L-12
	35	Cam SP	FK32S-14
	36	Screw	UJ14A-12
	37	Lever F/R	FC62G-14
	38	Plunger	FL41S-21
	39	Mecha-Cable	WH65N-11
	40	Spring HB	FK32T- 31
	41	Screw	UG15V-13
	42	Washer	MJ112- 22
	43	Spacer	UJ15V- 13

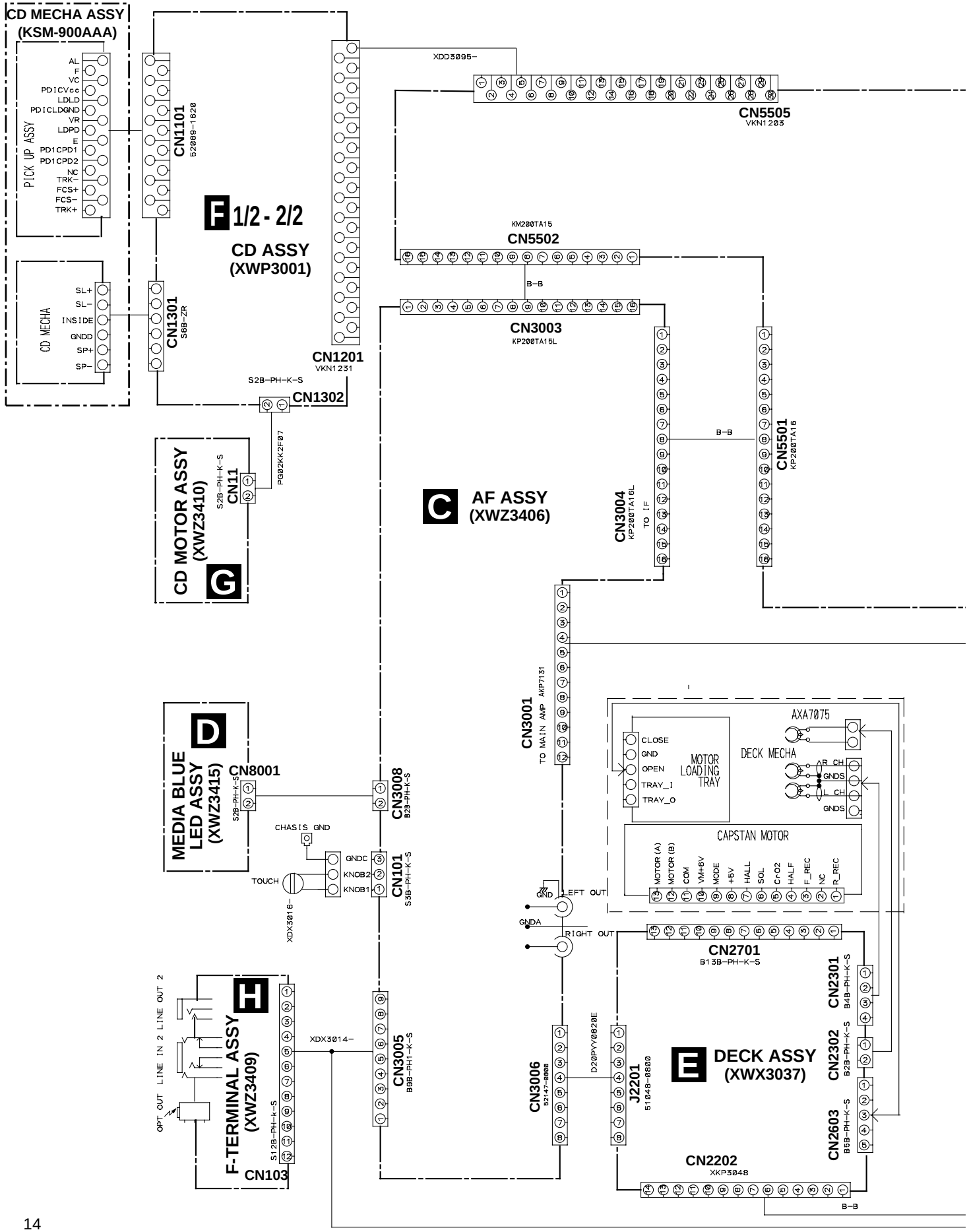
3. BLOCK DIAGRAM and SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

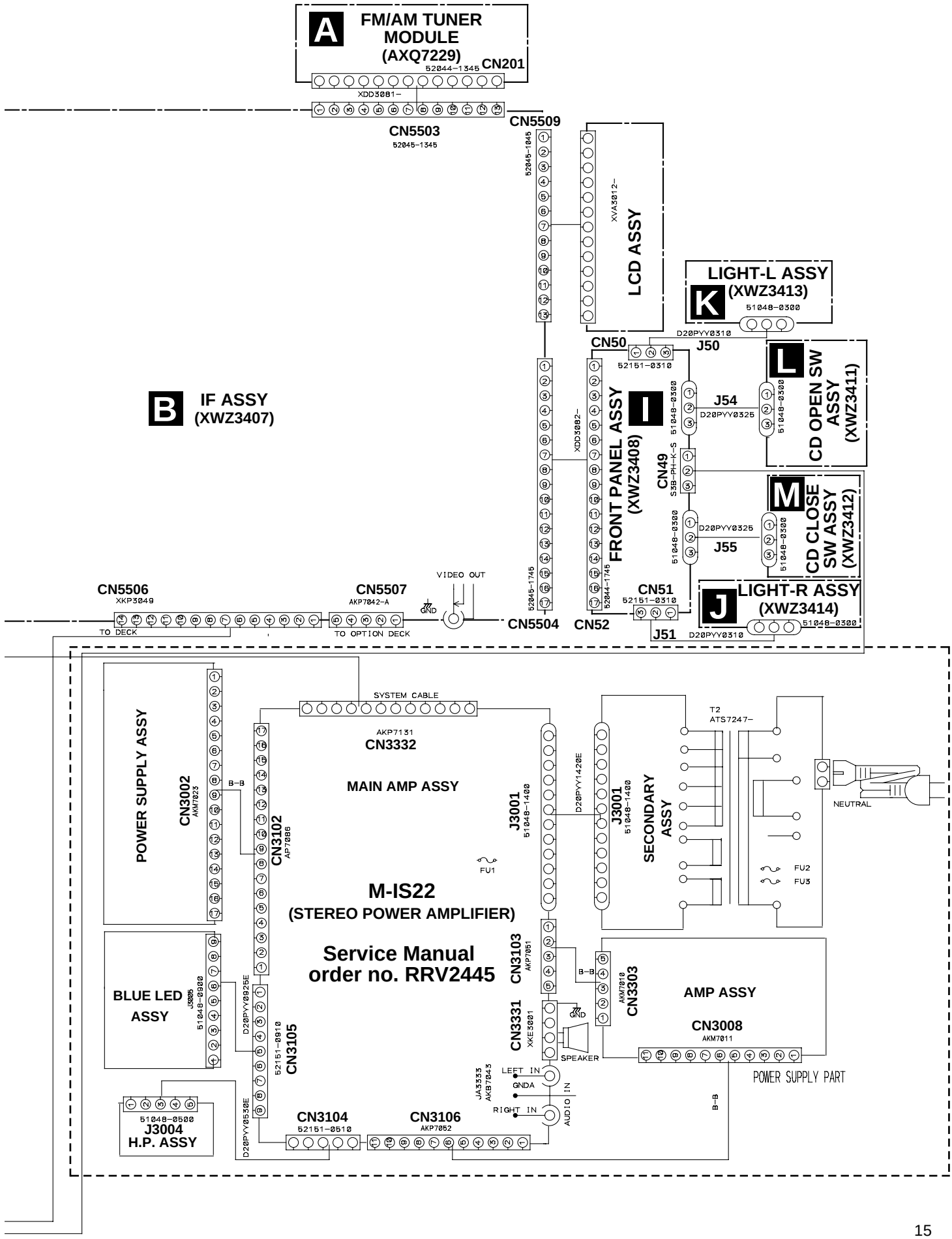



H
F-TERMINAL ASSY
JA7201
GND
Vcc
Vout
CN103
(12P)
GNDU
VOUT
V+5E
V+5OPT
OPTOUT
GNDOPT
GP1FA501TZ
JA7303
JA7304
CN3005
(9P)
OPTOUT
GNDOPT
LIN2
ROUT2
CN3006 (8P)
RECR
PBR
ROUT1
IC3004
C
AF ASSY
JA7105
LOUT1
ROUT1
LIN1
RIN1
AOUTL
AOUTR
JA3333
IC3301
STK407-070-B
POWER AMP
LIN 10
RIN 14
RY3601
CN3104
(5P)
HP ASSY
AKN7003
JHPA13
B162
SPEAKER
CN3331
LRMIX
IC3001
IC4002
M-IS22CD
(STEREO POWER AMPLIER)
BLED ASSY
KEY4
BLED
STBYLED
CN3001
CN3332
PROTECT KEY4
POWER SUPPLY ASSY
8V
15V
PROTECT
KEY4
VM+12
VA+12
VM+6CD
Q2001
Q301
Q302
IC131
SECONDARY ASSY
PRIMARY ASSY
SUB TRAN
AN1
BIAS
CRO
L2801
BIAS OCS
IC2201
(HA1236AF)
DOLBY NR
1116

3.2 OVERALL CONNECTION DIAGRAM

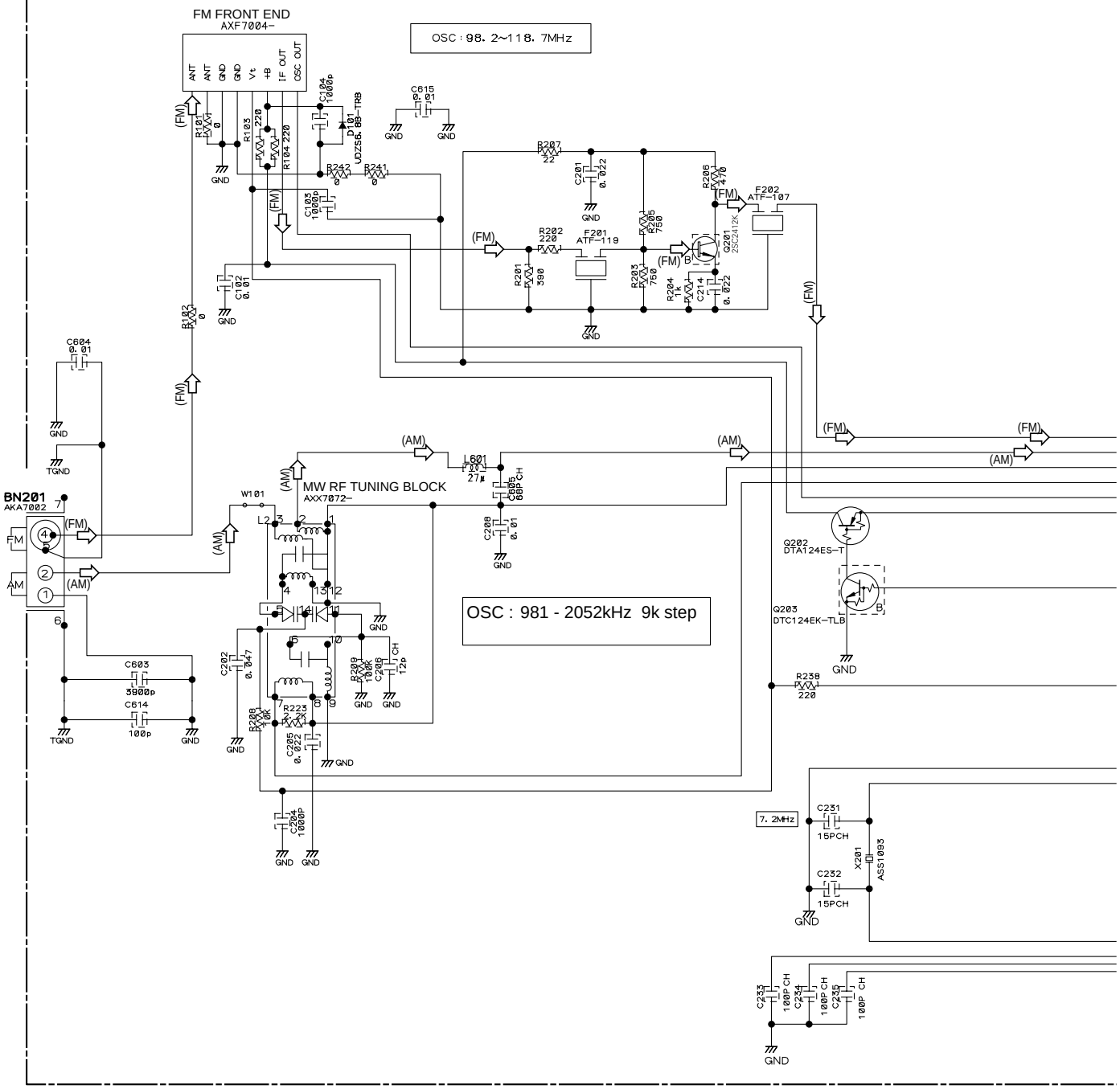


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



3.3 FM/AM TUNER MODULE

A **FM/AM TUNER MODULE (AXQ7229)**

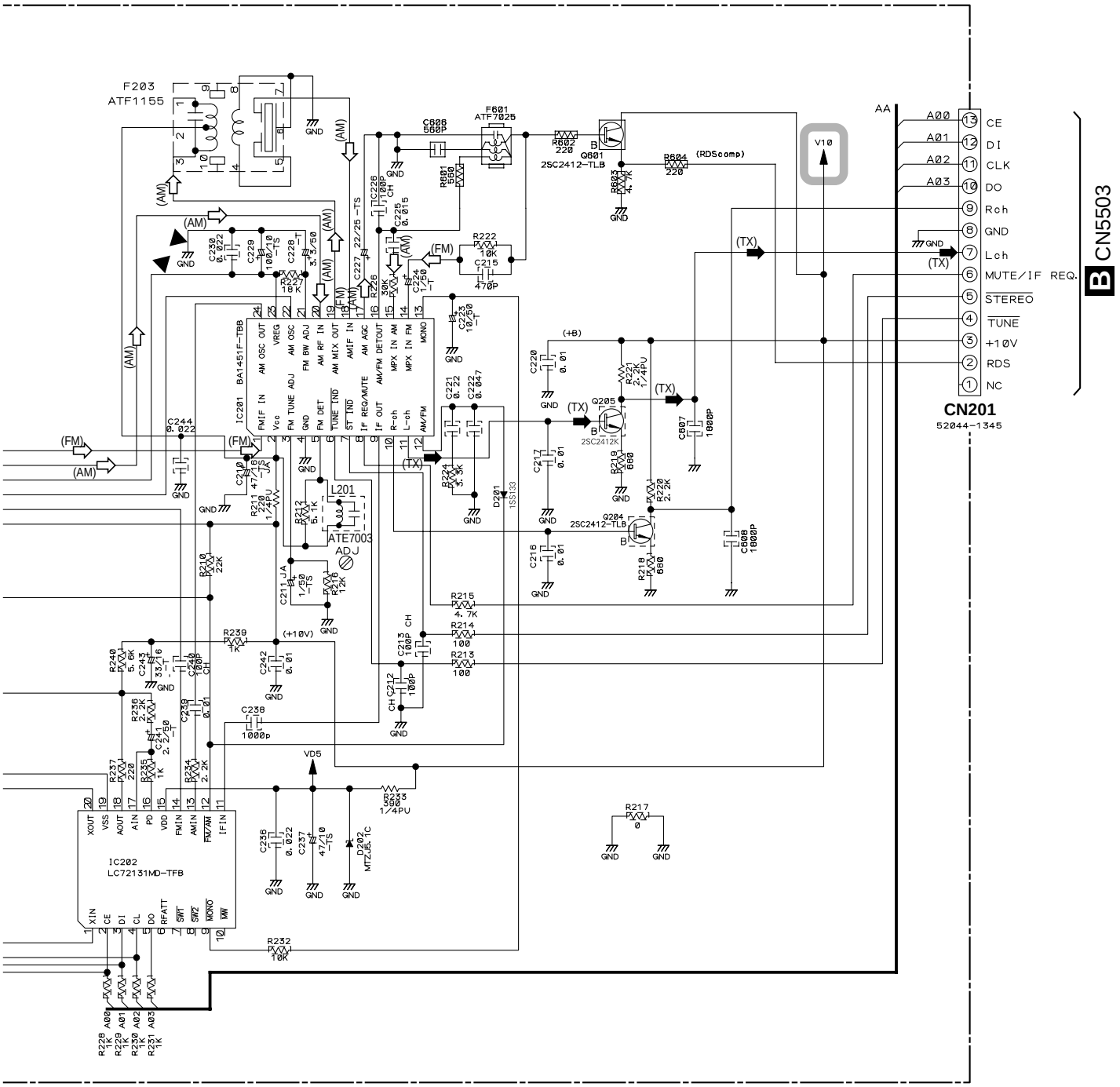


Notes

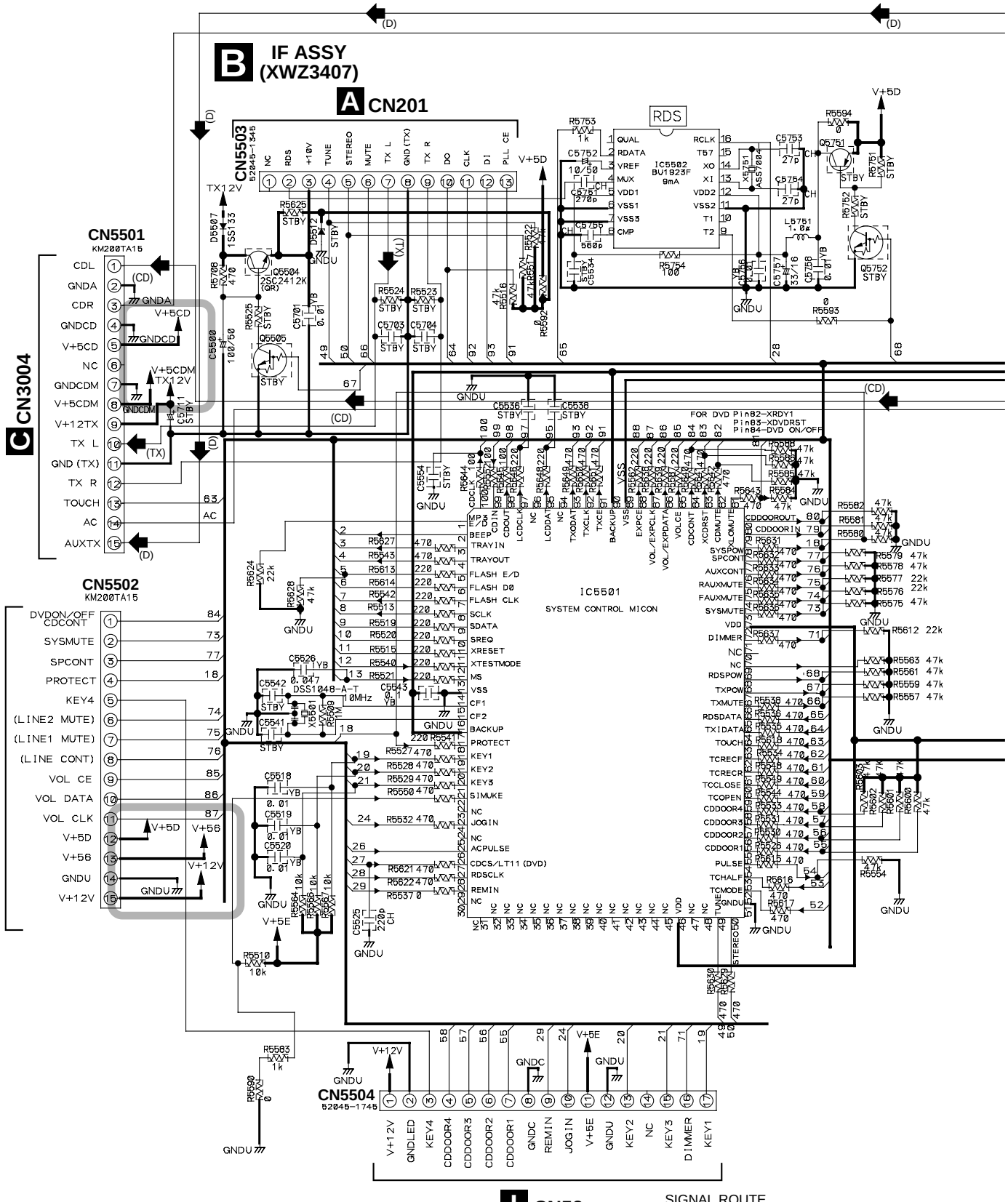
1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K;KΩ, M;MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P;PF.
3. DIODES
   No mark diode is 1SS133.

: The power supply is shown with the marked box.

(TX) : AUDIO SIGNAL ROUTE (TUNER)
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE



3.4 IF ASSY



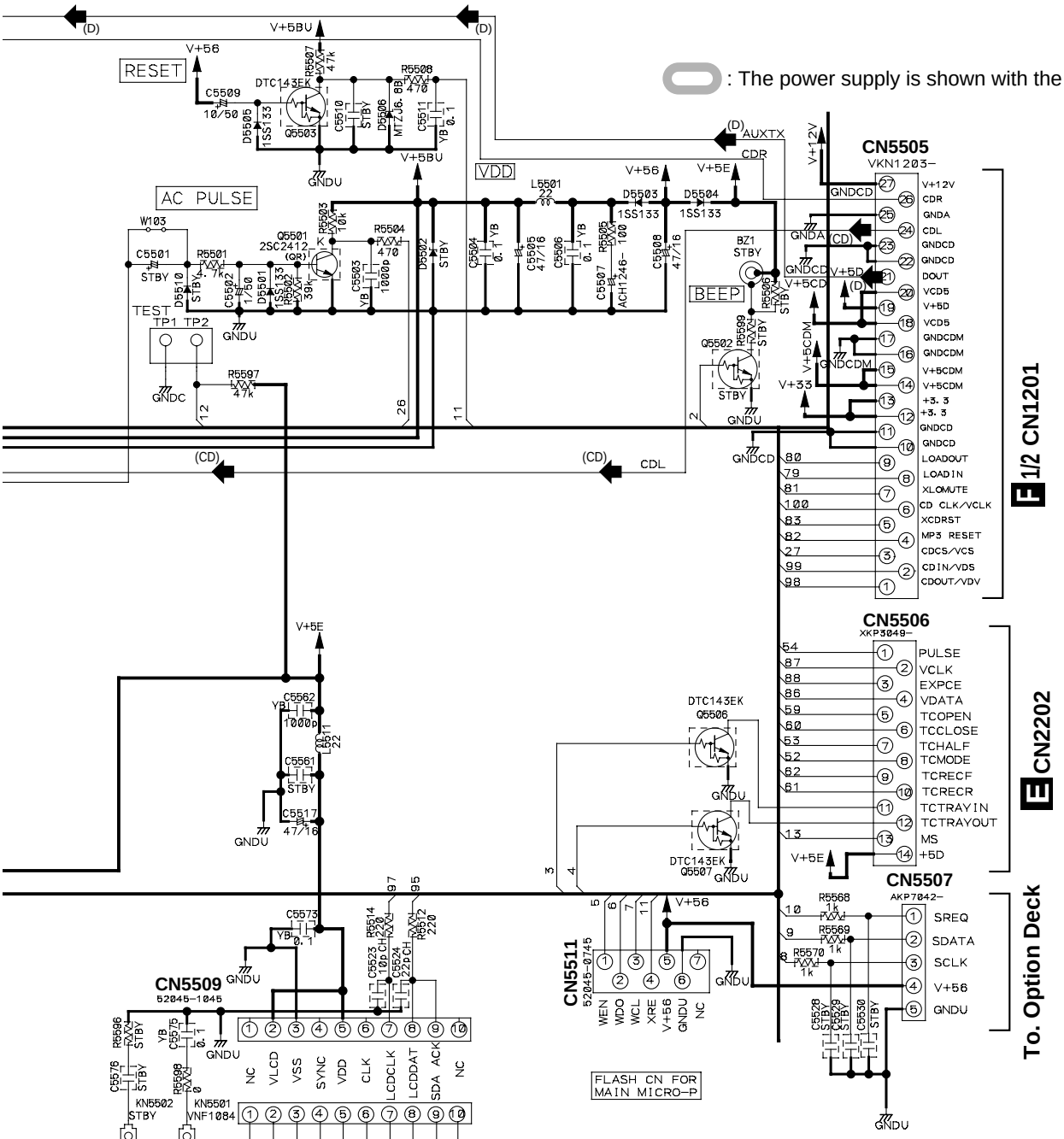
SIGNAL ROUTE

(CD) ➡ : CD AUDIO SIGNAL ROUTE

(TX) ➡ : AUDIO SIGNAL ROUTE (TUNER)

(D) ➡ : DIGITAL SIGNAL ROUTE

: The power supply is shown with the marked box.



(LCD ASS'Y)

NOTES

ALL RESISTORS ARE IN Ω, 1/16W, 5%.

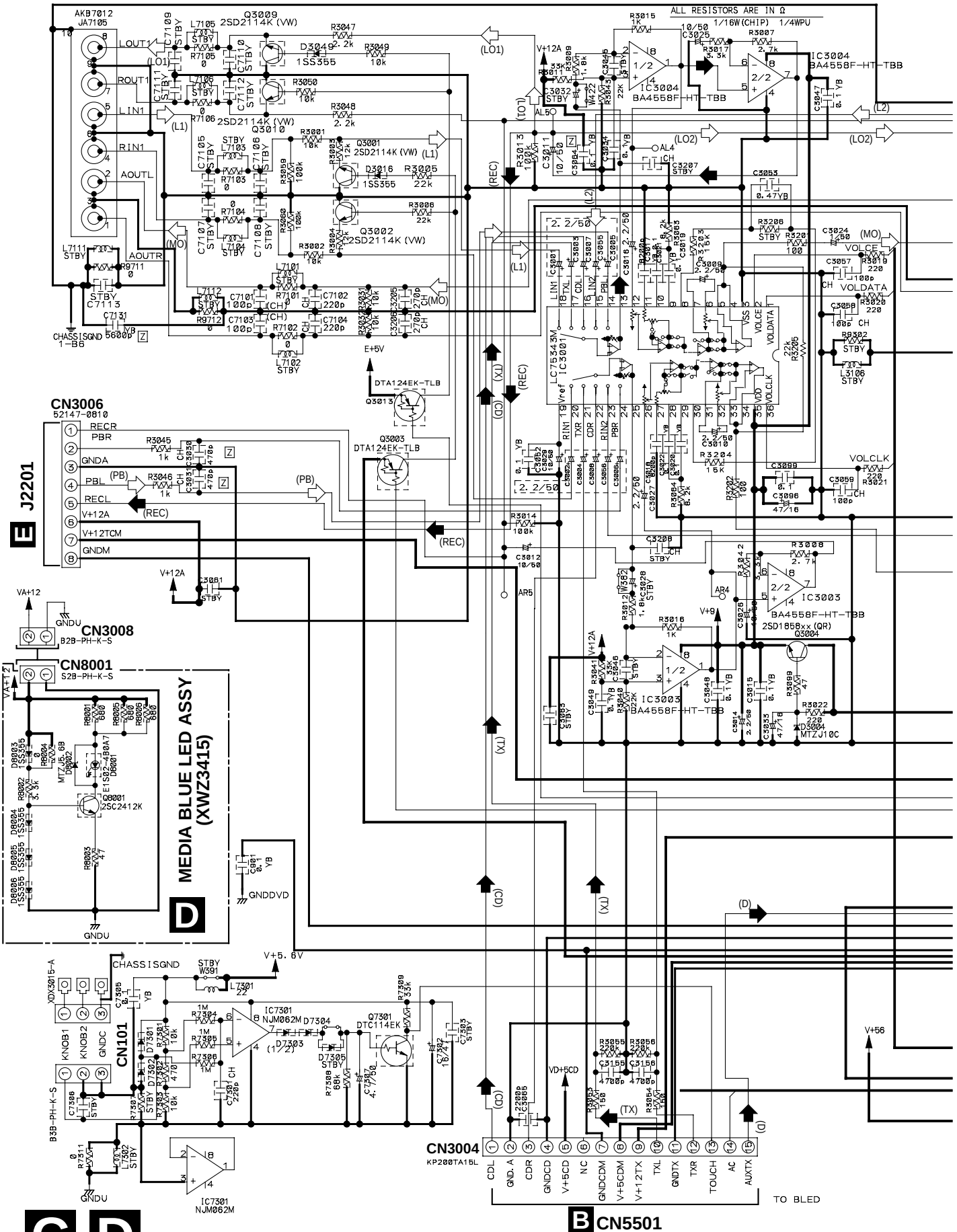
ALL CAPACITORS ARE IN μF UNLESS OTHERWISE SPECIFIED.

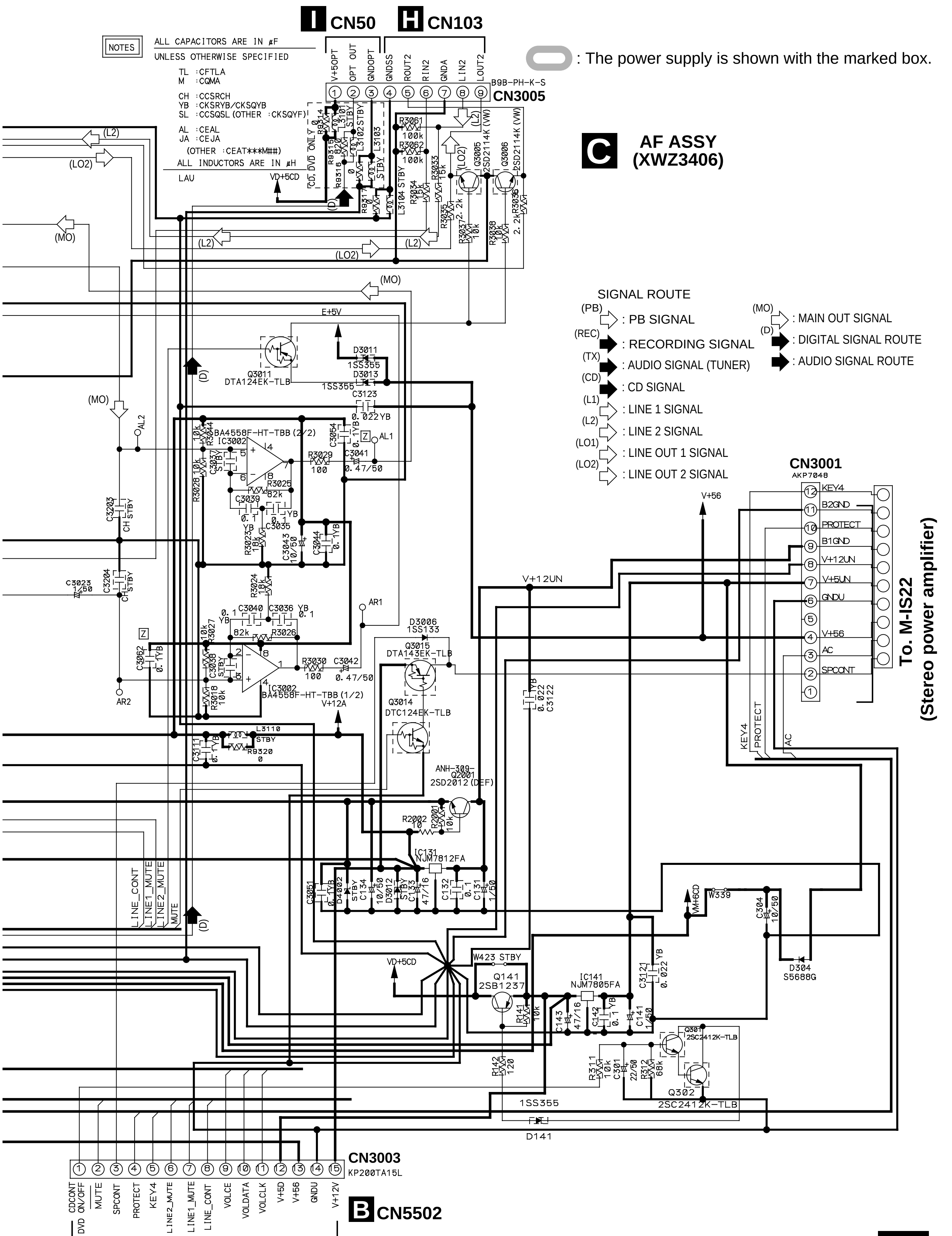
CH : CCSRCH***J##
YB : CKSRYB/CKSQYB***K##
OTHER : CEAT***M##

ALL INDUCTORS ARE IN LAU UNLESS OTHERWISE SPECIFIED.

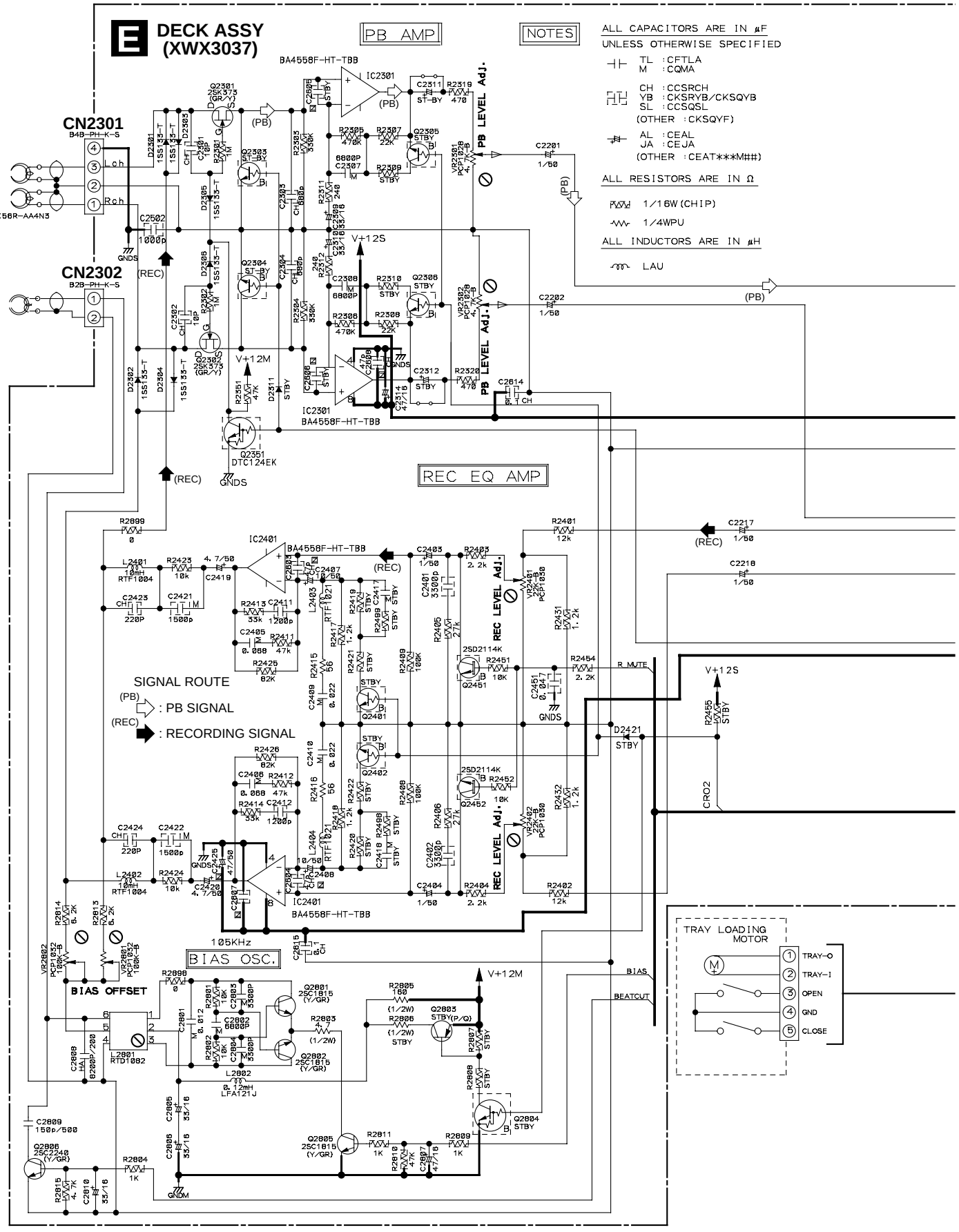
ALL DIODES ARE 1S133 UNLESS OTHERWISE SPECIFIED.

3.5 AF and MIDIA BLUE LED ASSYS

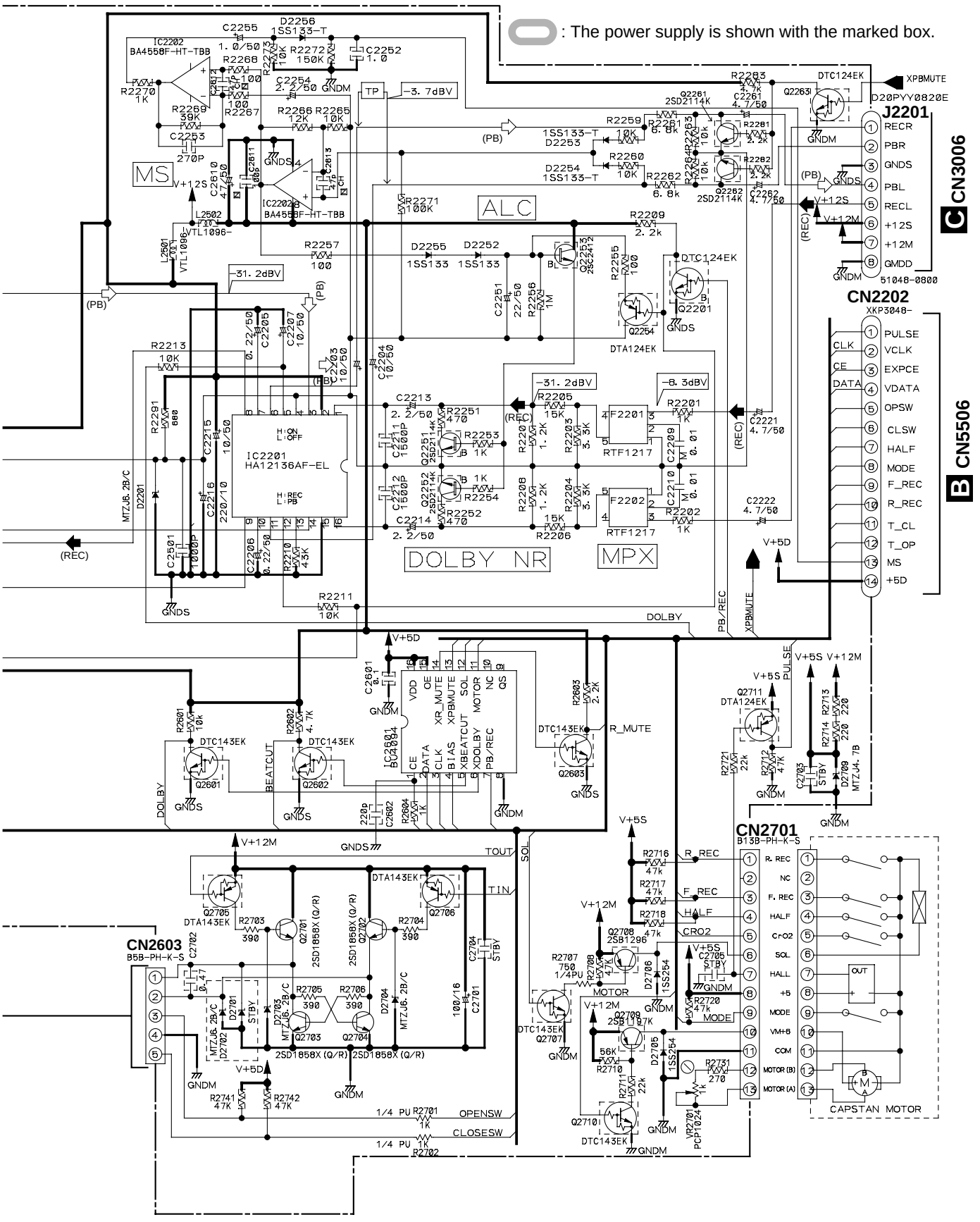



I CN50
H CN103
: The power supply is shown with the marked box.
NOTES
ALL CAPACITORS ARE IN µF
UNLESS OTHERWISE SPECIFIED
TL :CFTLA
M :CQMA
CH :CCSRCH
YB :CKSRYB/CKSQYB
SL :CCSQSL (OTHER :CKSQYF)
AL :CEAL
JA :CEJA
(OTHER :CEAT✱✱✱M##)
ALL INDUCTORS ARE IN µH
LAU
V+5OPT
OPT OUT
GNDOPT
GNDSS
ROUT2
RIN2
GNDA
LIN2
LOUT2
B9B-PH-K-S
CN3005
C AF ASSY
(XWZ3406)
SIGNAL ROUTE
(PB) : PB SIGNAL
(REC) : RECORDING SIGNAL
(TX) : AUDIO SIGNAL (TUNER)
(CD) : CD SIGNAL
(L1) : LINE 1 SIGNAL
(L2) : LINE 2 SIGNAL
(LO1) : LINE OUT 1 SIGNAL
(LO2) : LINE OUT 2 SIGNAL
(MO) : MAIN OUT SIGNAL
(D) : DIGITAL SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
Q3005 2SD2114K (VW)
Q3006 2SD2114K (VW)
Q3011 DTA124EK-TLB
D3011 1SS355
D3013 1SS355
IC3002 BA4558F-HT-TBB (2/2)
IC3002 BA4558F-HT-TBB (1/2)
D3006 1SS133
Q3015 DTA143EK-TLB
Q3014 DTC124EK-TLB
ANH-309-
Q2001 2SD2012 (DEF)
IC131 NJM7812FA
Q141 2SB1237
IC141 NJM7805FA
Q301 2SC2412K-TLB
Q302 2SC2412K-TLB
D141 1SS355
D304 S5688G
CN3001
AKP7048
KEY4
B2GND
PROTECT
B1GND
V+12UN
V+5UN
GNDU
V+56
AC
SPCONT
To. M-IS22
(Stereo power amplifier)
CN3003
KP200TA15L
CDCONT DVD ON/OFF
MUTE
SPCONT
PROTECT
KEY4
LINE2_MUTE
LINE1_MUTE
LINE_CONT
VOLCE
VOLDATA
VOLCLK
V+5D
V+56
GNDU
V+12V
B CN5502

3.6 DECK ASSY


DECK ASSY
(XWX3037)
PB AMP
NOTES
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
TL :CFTLA
M :CQMA
CH :CCSRCH
YB :CKSRYB/CKSQYB
SL :CCSQSL
(OTHER :CKSQYF)
AL :CEAL
JA :CEJA
(OTHER :CEAT***M###)
ALL RESISTORS ARE IN Ω
1/16W(CHIP)
1/4WPU
ALL INDUCTORS ARE IN μH
LAU
CN2301
B4B-PH-K-S
CN2302
B2B-PH-K-S
YK56R-AA4N3
L ch
R ch
BA4558F-HT-TBB
IC2301
PB LEVEL Adj.
V+12S
V+12M
GNDS
GNDM
(REC)
(PB)
DTC124EK
REC EQ AMP
IC2401
REC LEVEL Adj.
SIGNAL ROUTE
: PB SIGNAL
: RECORDING SIGNAL
105KHz
BIAS OSC.
BIAS OFFSET
R_MUTE
BIAS
BEATCUT
CRO2
TRAY LOADING MOTOR
TRAY-O
TRAY-I
OPEN
GND
CLOSE

: The power supply is shown with the marked box.



3.7 CD ASSY (1/2)

NOTES

ALL RESISTORS ARE IN Ω

RS1/16S***J

ALL CAPACITORS ARE IN μF

UNLESS OTHERWISE SPECIFIED

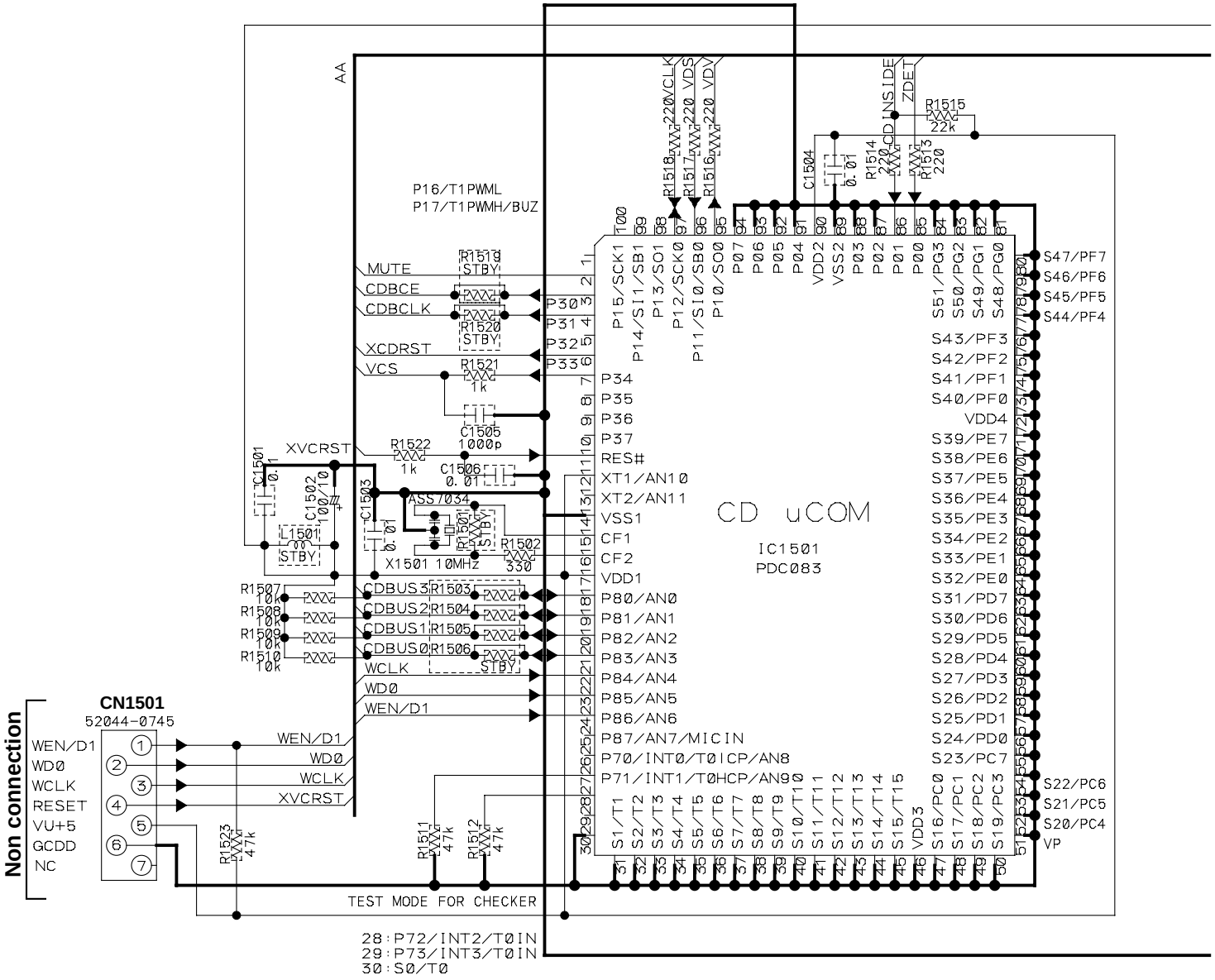
CH :CCSRCH
(OTHER :CKSRYB)

CEAT

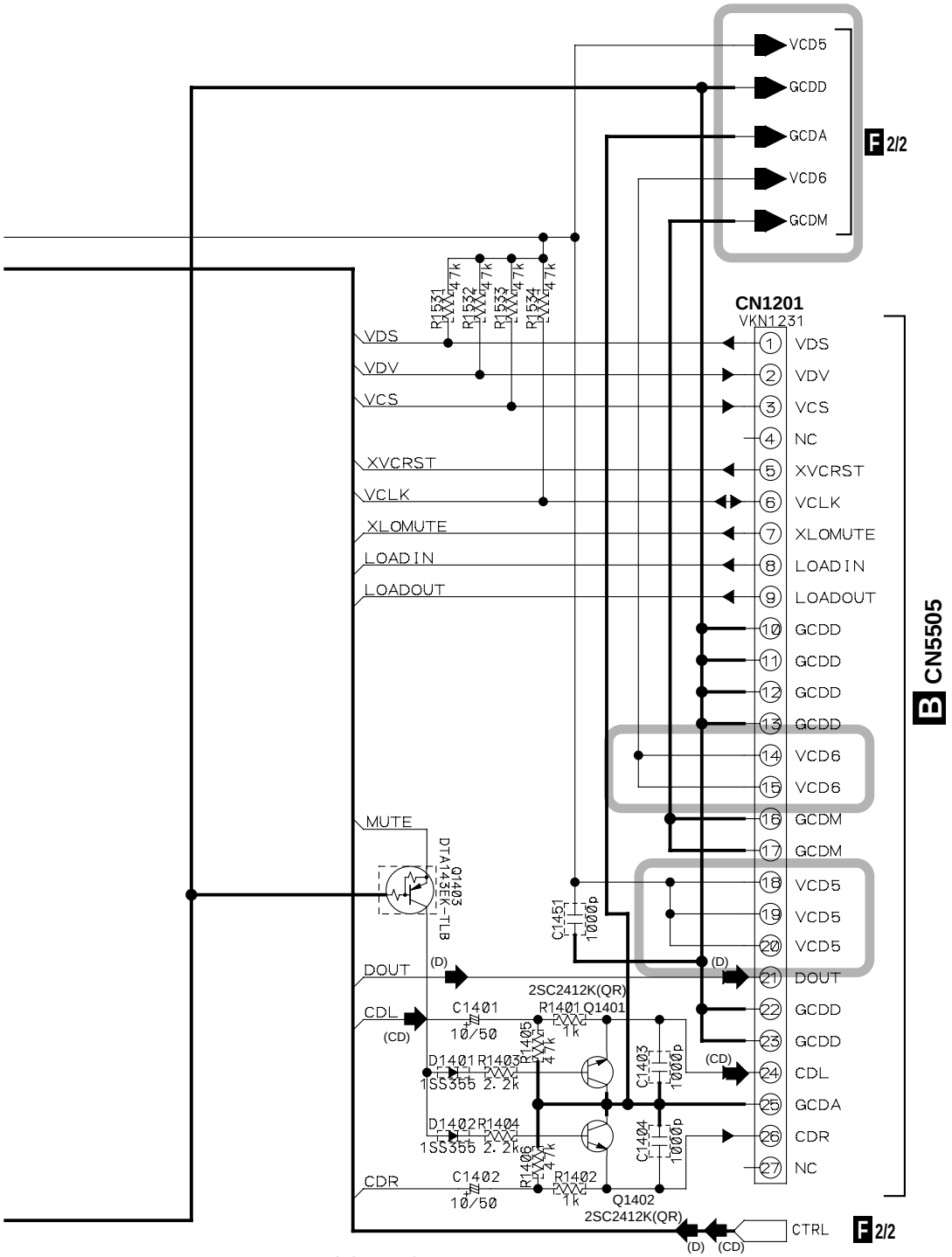
ALL INDUCTORS ARE IN μH

LFEA

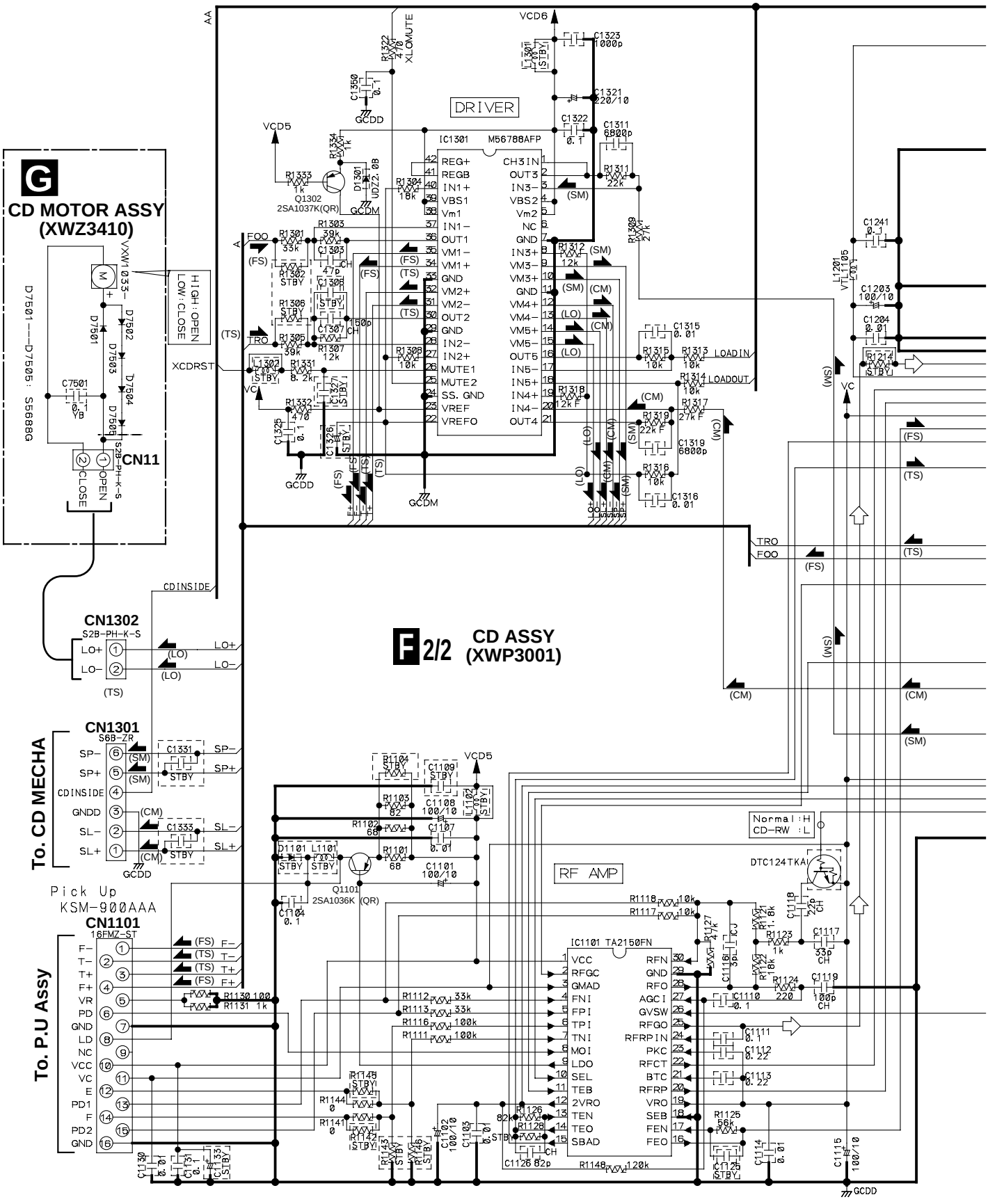
F 1/2 CD ASSY (XWP3001)



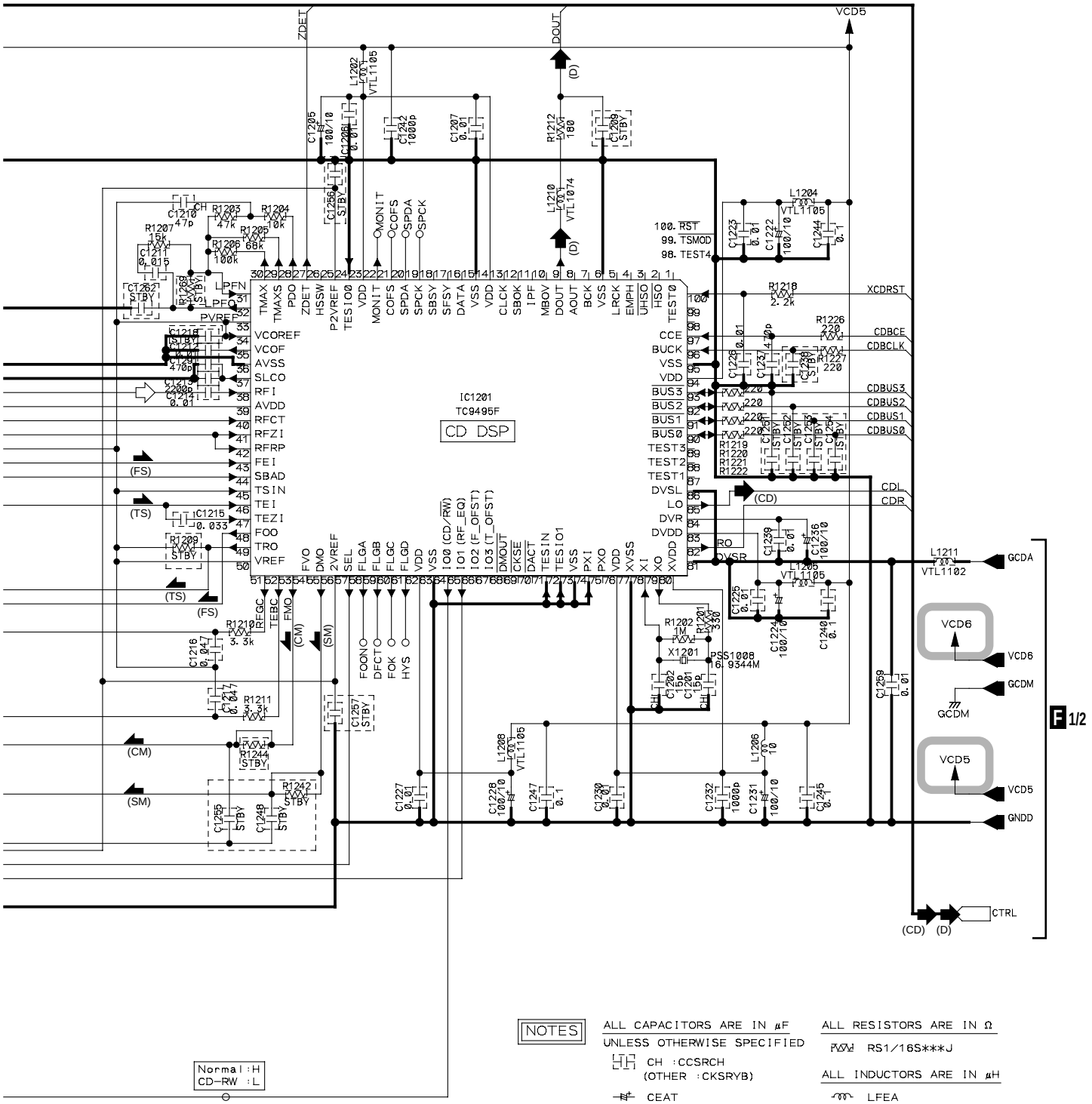
: The power supply is shown with the marked box.



3.8 CD ASSY (2/2)


G
CD MOTOR ASSY
(XWZ3410)
CN11
S2B-PH-K-S
CLOSE
OPEN
HIGH:OPEN
LOW:CLOSE
F 2/2
CD ASSY
(XWP3001)
DRIVER
IC1301 M56788AFP
REG+
REGB
IN1+
VBS1
Vm1
IN1−
OUT1
VM1−
VM1+
GND
VM2+
VM2−
OUT2
GND
IN2−
IN2+
MUTE1
MUTE2
SS. GND
VREF
VREFO
CH3IN
OUT3
IN3−
VBS2
Vm2
NC
GND
IN3+
VM3−
VM3+
GND
VM4+
VM4−
VM5+
VM5−
OUT5
IN5−
IN5+
IN4+
IN4−
OUT4
CN1302
S2B-PH-K-S
CN1301
S6B-ZR
To. CD MECHA
CN1101
16FMZ-ST
To. P.U Assy
Pick Up
KSM-900AAA
IC1101 TA2150FN
RF AMP
Q1302
2SA1037K(QR)
Q1101
2SA1036K (QR)
DTC124TKA
Normal:H
CD-RW :L
LOADIN
LOADOUT
XLOMUTE
XCDRST
CDINSIDE
TRO
FOO
VCD6
VCD5
GCDD
GCDM

: The power supply is shown with the marked box.



NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
(OTHER : CKSRYB)
CEAT

ALL RESISTORS ARE IN Ω
RS1/16S***J

ALL INDUCTORS ARE IN μH
LFEA

SIGNAL ROUTE

(CD) : CD AUDIO SIGNAL ROUTE
(D) : DIGITAL SIGNAL ROUTE
: RF SIGNAL ROUTE
(FS) : FOCUS SERVO LOOP LINE
(TS) : TRACKING SERVO LOOP LINE
(SM) : SPINDLE MOTOR ROUTE
(CM) : CARRIAGE MOTOR ROUTE
(LM) : LOADING MOTOR ROUTE

3.9 F-TERMINAL ASSY

NOTES

ALL RESISTORS ARE IN Ω

1/16W(CHIP)

1/4WPU

ALL INDUCTORS ARE IN μH

LAU

ALL CAPACITORS ARE IN μF

UNLESS OTHERWISE SPECIFIED

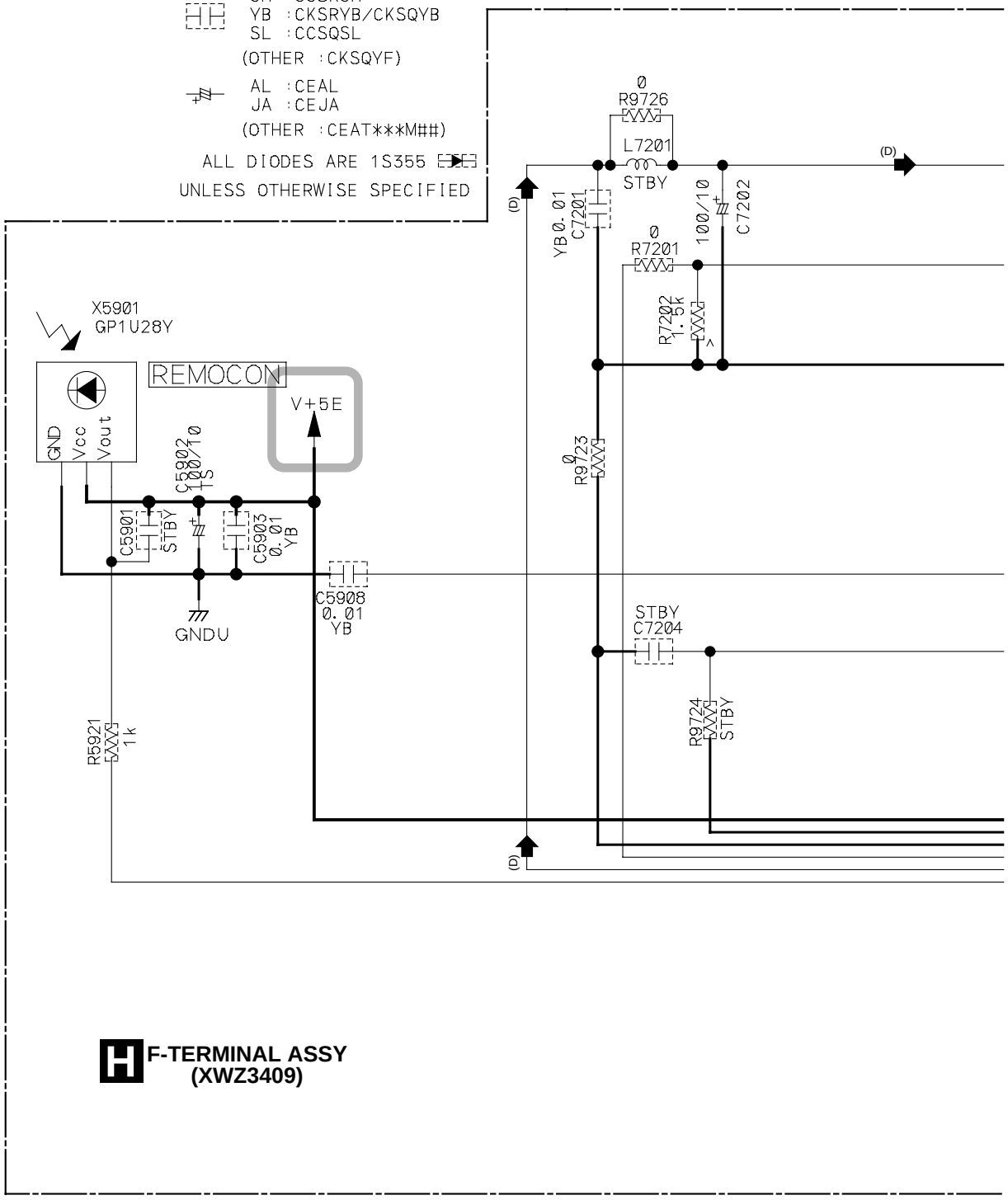
TL :CFTLA
M :CQMA

CH :CCSRCH
YB :CKSRYB/CKSQYB
SL :CCSQSL
(OTHER :CKSQYF)

AL :CEAL
JA :CEJA
(OTHER :CEAT***M##)

ALL DIODES ARE 1S355

UNLESS OTHERWISE SPECIFIED



F-TERMINAL ASSY (XWZ3409)

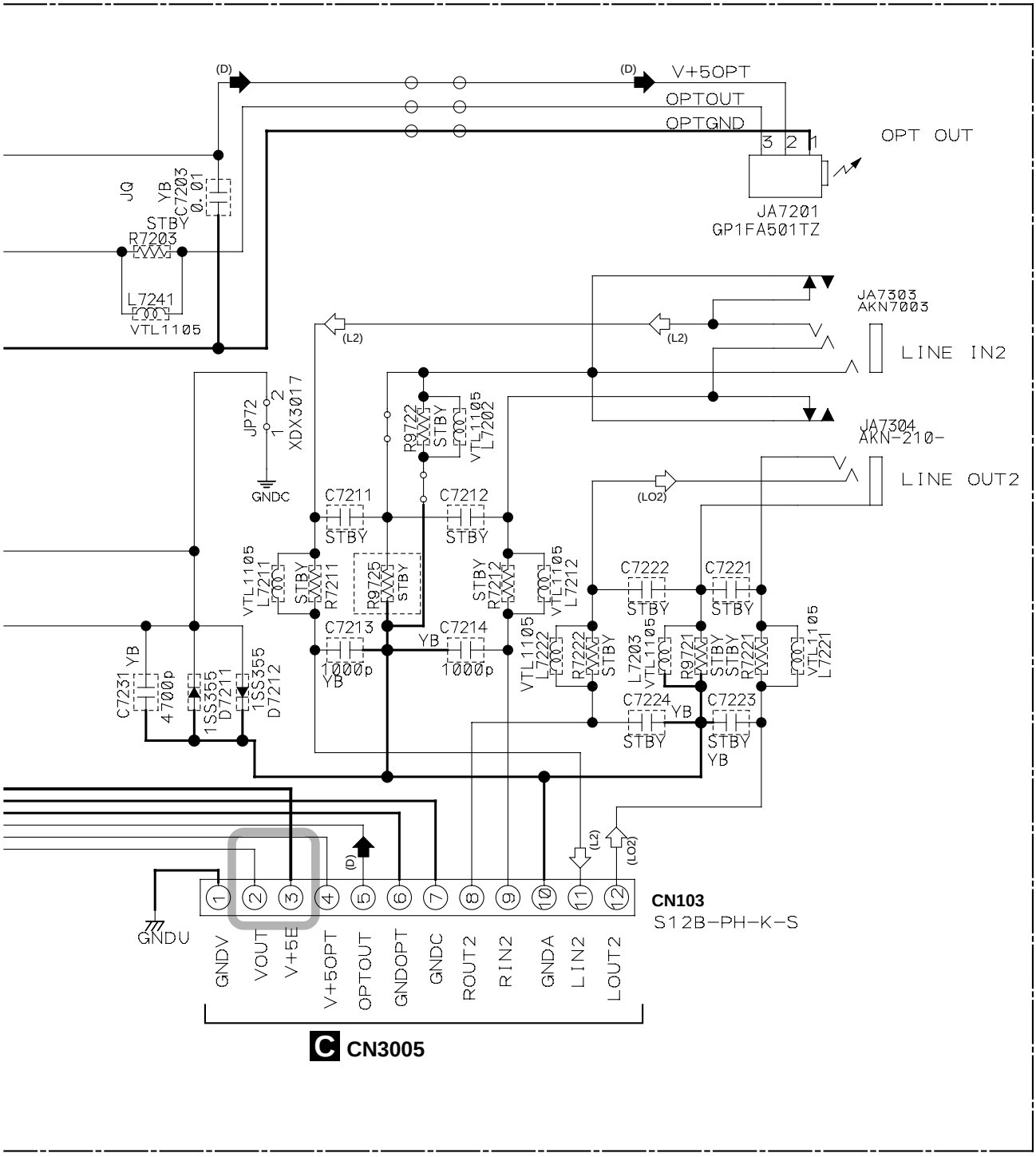
SIGNAL ROUTE

(L2) : LINE 2 SIGNAL

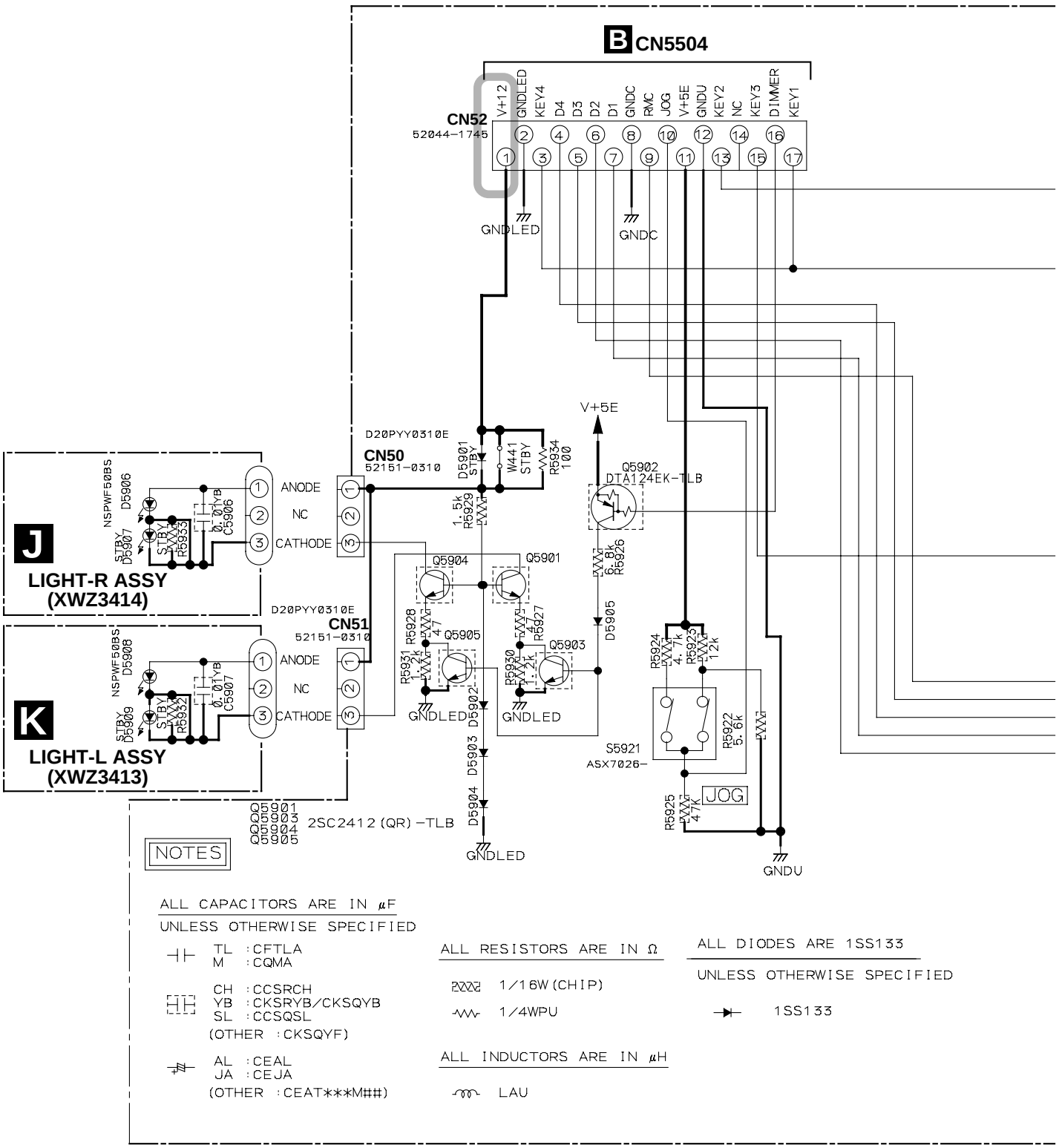
(LO2) : LINE OUT 2 SIGNAL

(D) : DIGITAL SIGNAL ROUTE

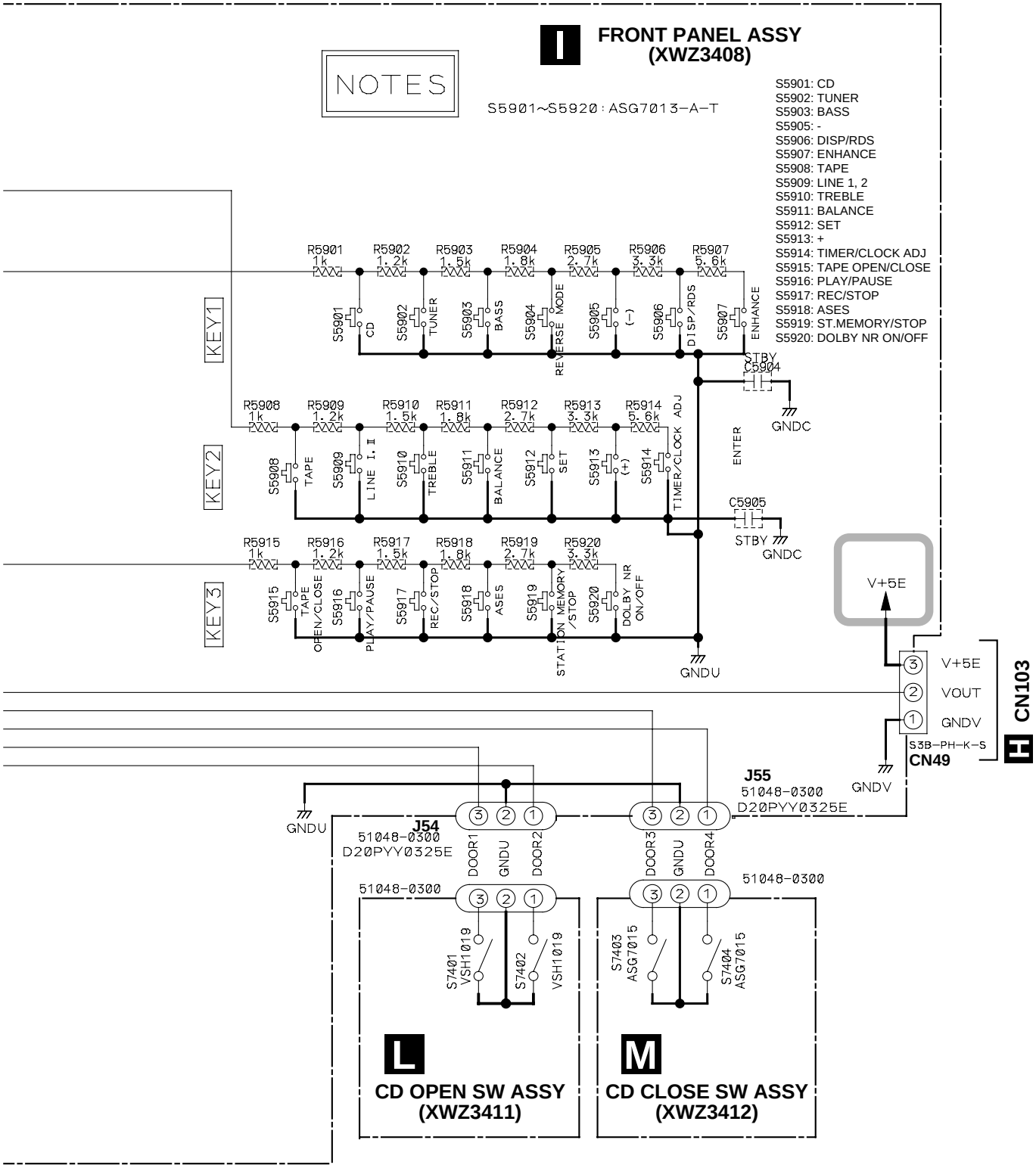
: The power supply is shown with the marked box.



3.10 FRONT PANEL, LIGHT-L, LIGHT-R, CD OPEN SW and CD CLOSE SW ASSYS



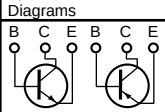
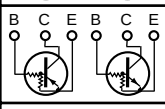
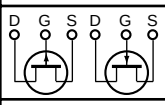
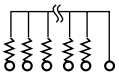
: The power supply is shown with the marked box.



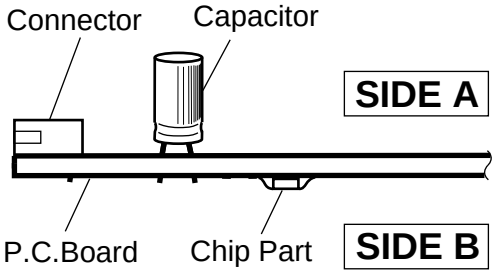
4. PCB CONNECTION DIAGRAM

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.

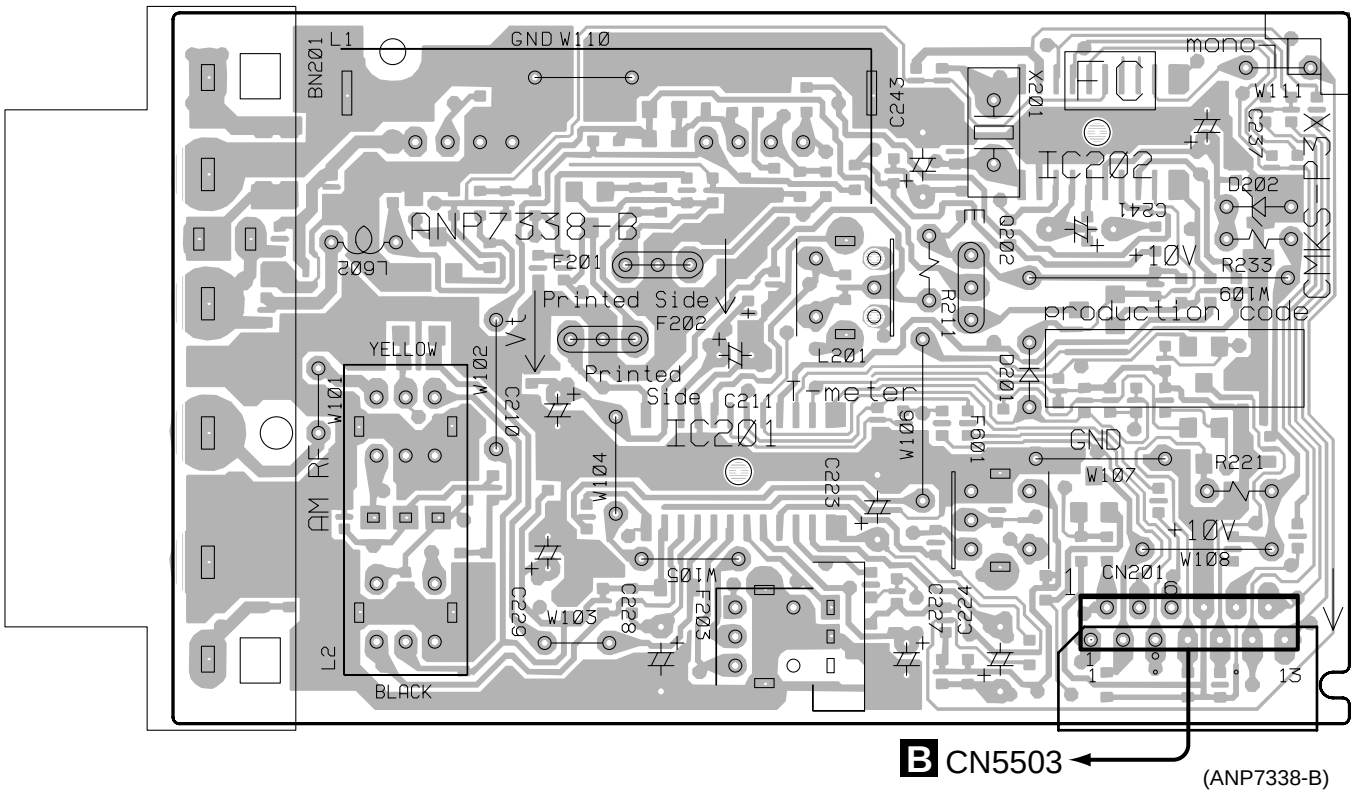
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

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.

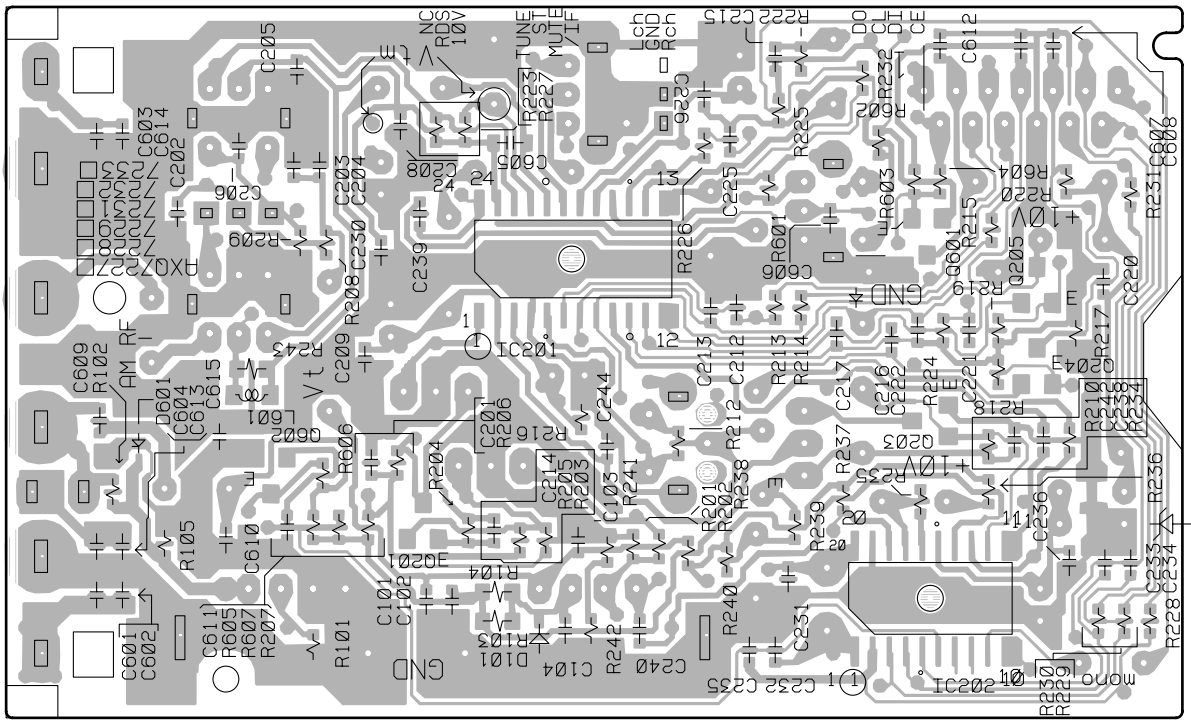


4.1 TUNER MODULE

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

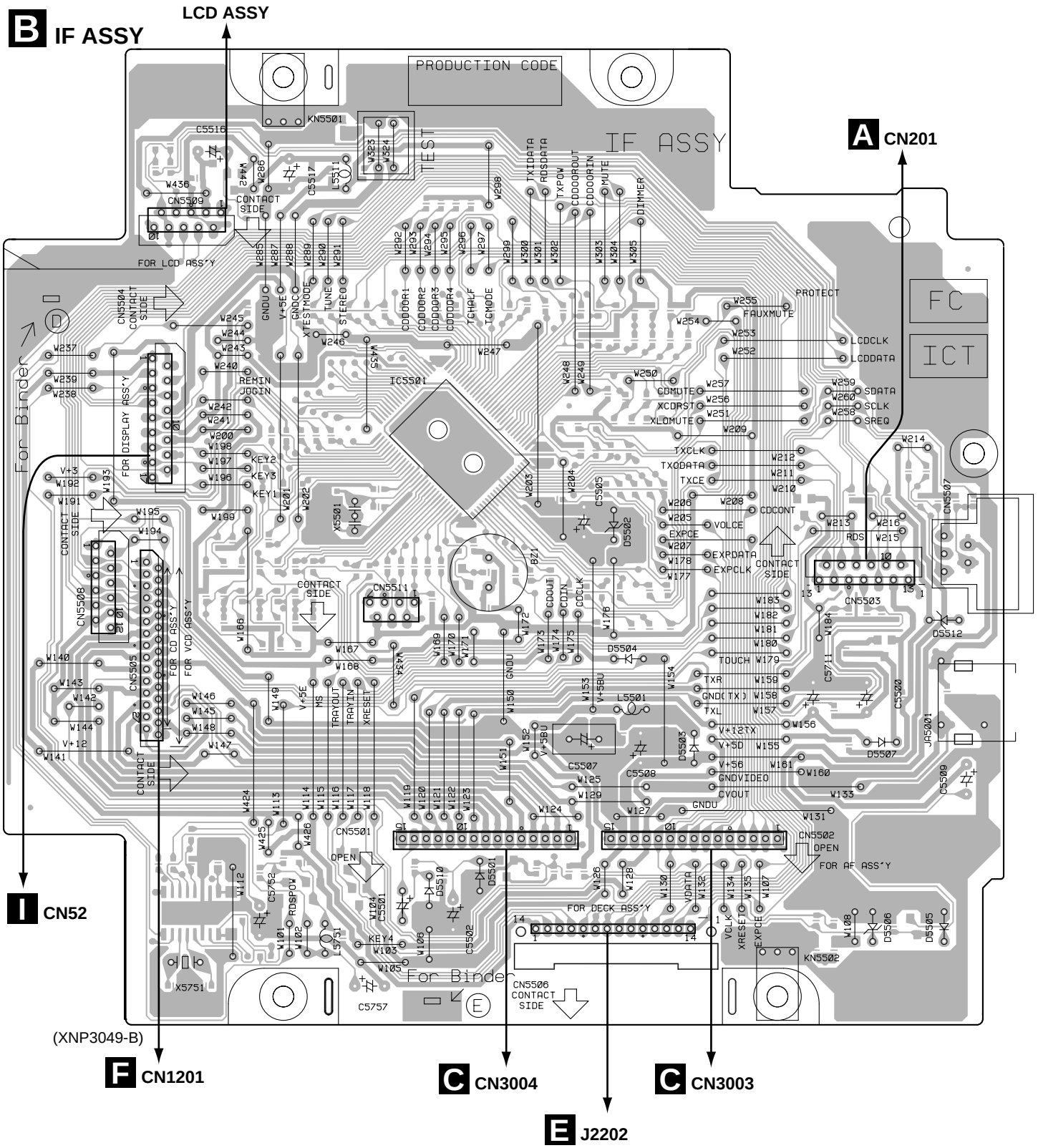


A FM/AM TUNER MODULE **SIDE B**



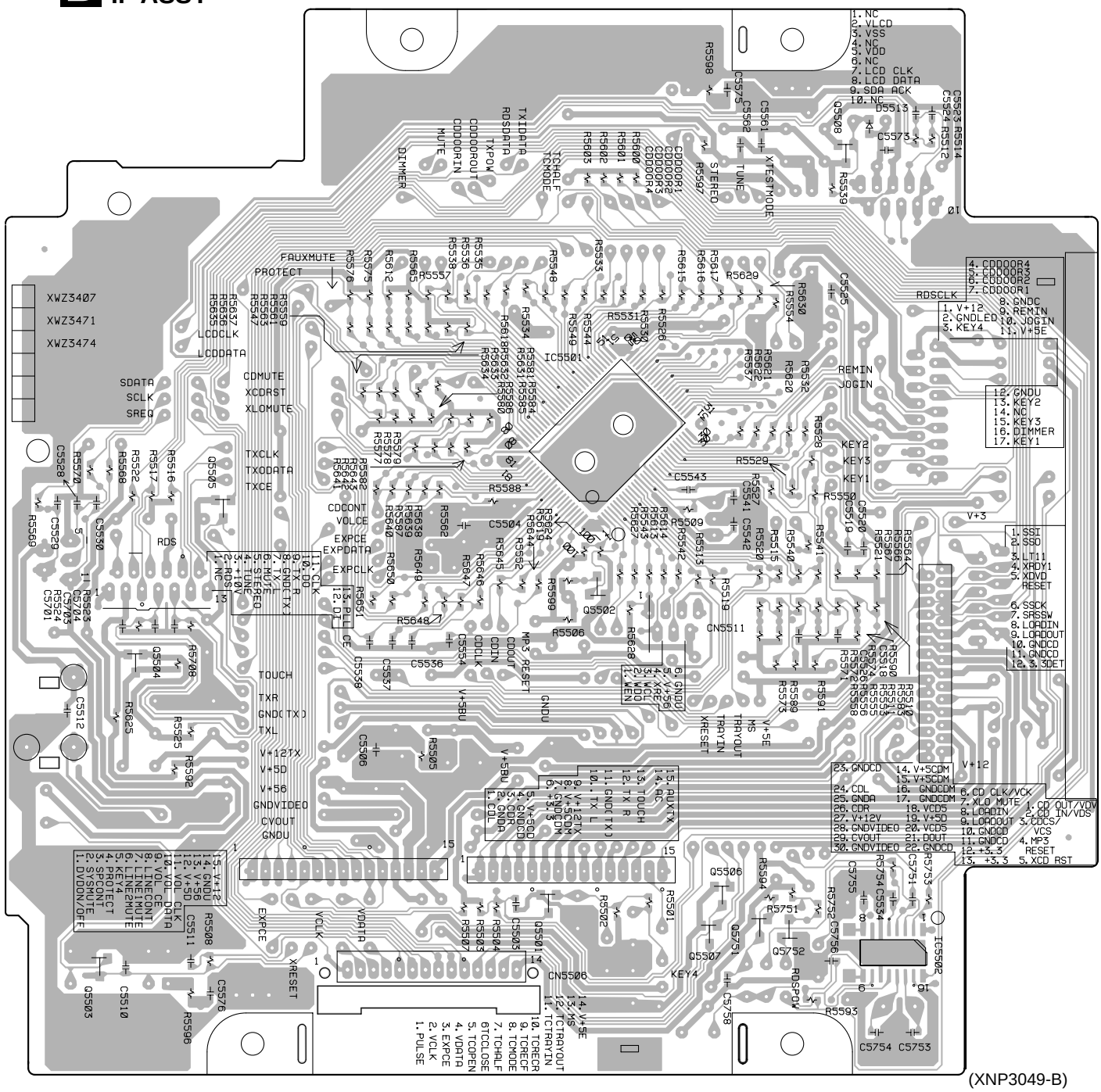
4.2 IF ASSY

SIDE A



SIDE B

B IF ASSY



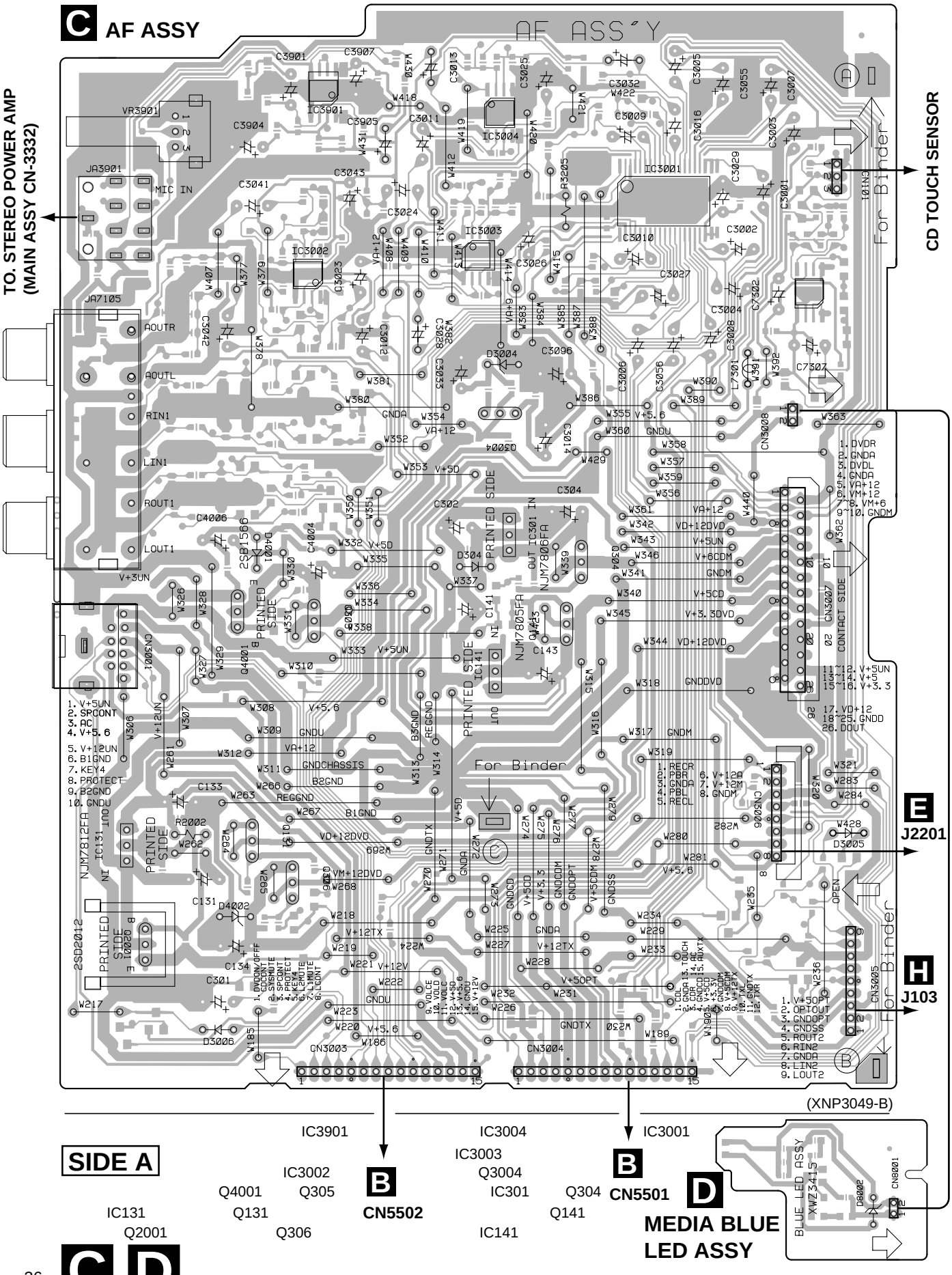
Q5505 IC5501 Q5508

Q5504 Q5501 Q5502 Q5506

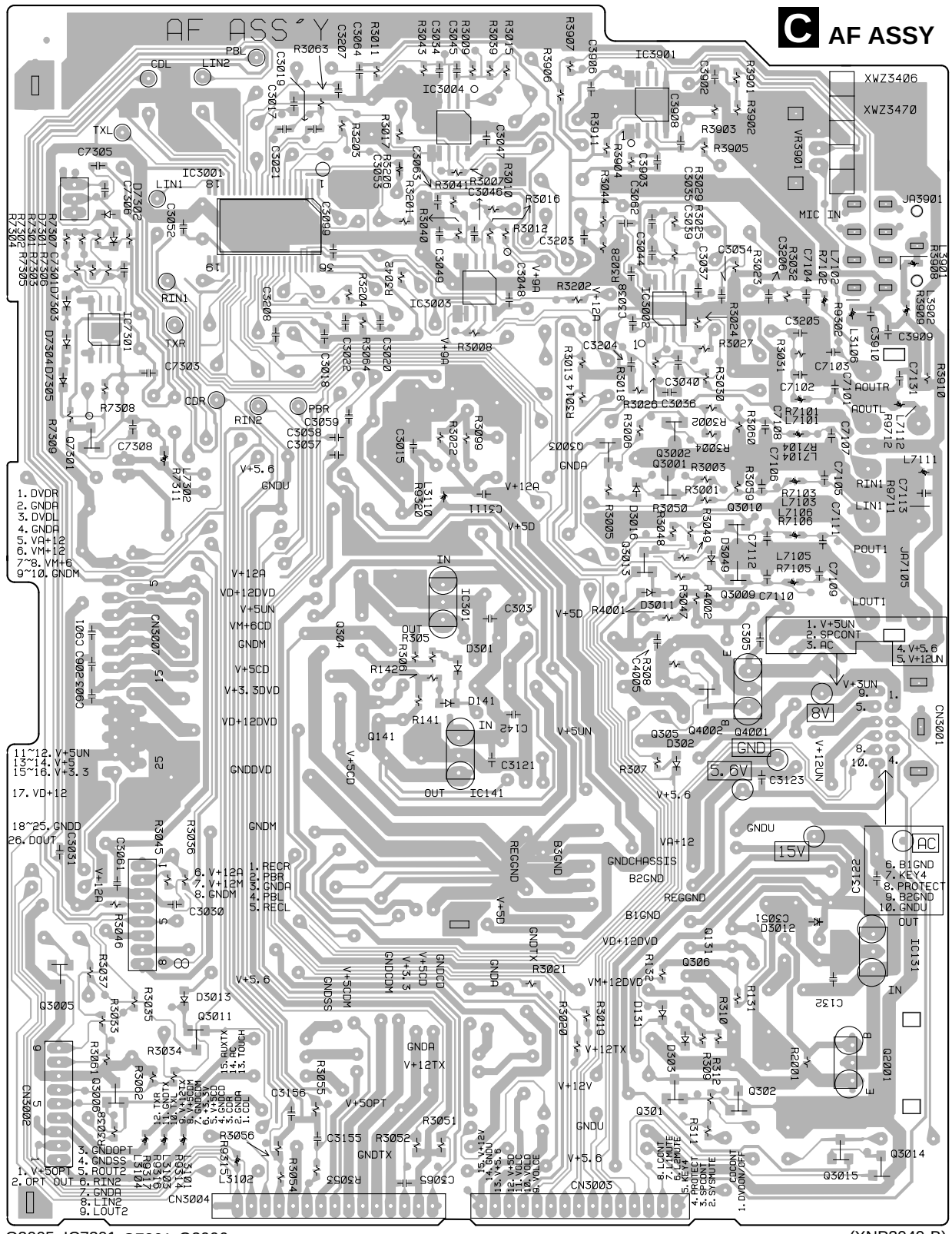
Q5751

Q5503 Q5507 Q5752 IC5502

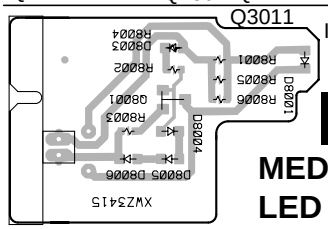
4.3 AF and MEDIA BLUE LED ASSYS



C AF ASSY



Q3005 IC7301 Q7301 Q3006 (XNP3049-B)



IC3001 IC3004 IC3901

IC3003 IC3002

Q3003 Q3002

Q3001 Q3010

Q3013 Q3009

Q4002

Q3015 Q3014

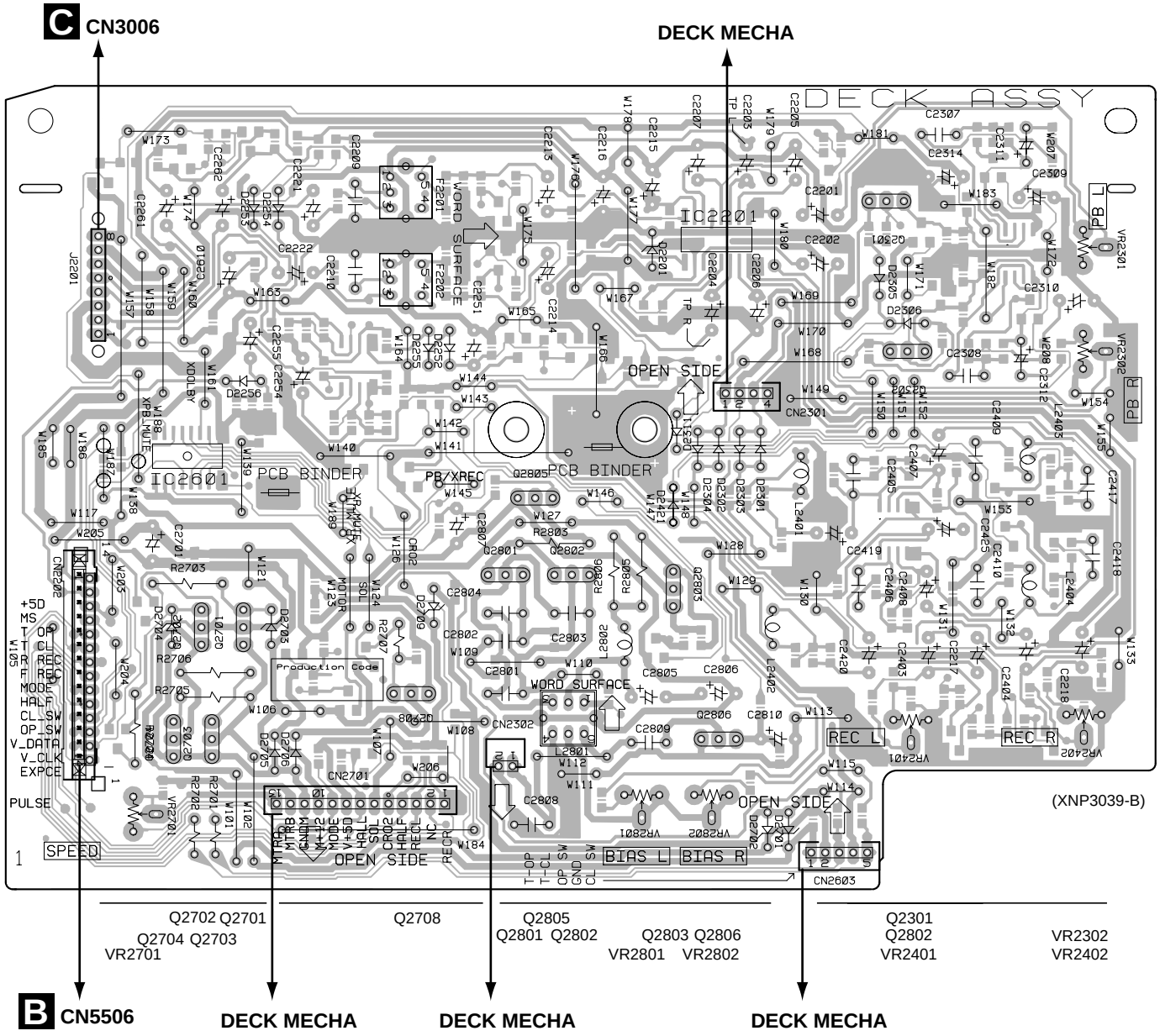
Q301 Q302

D MEDIA BLUE LED ASSY

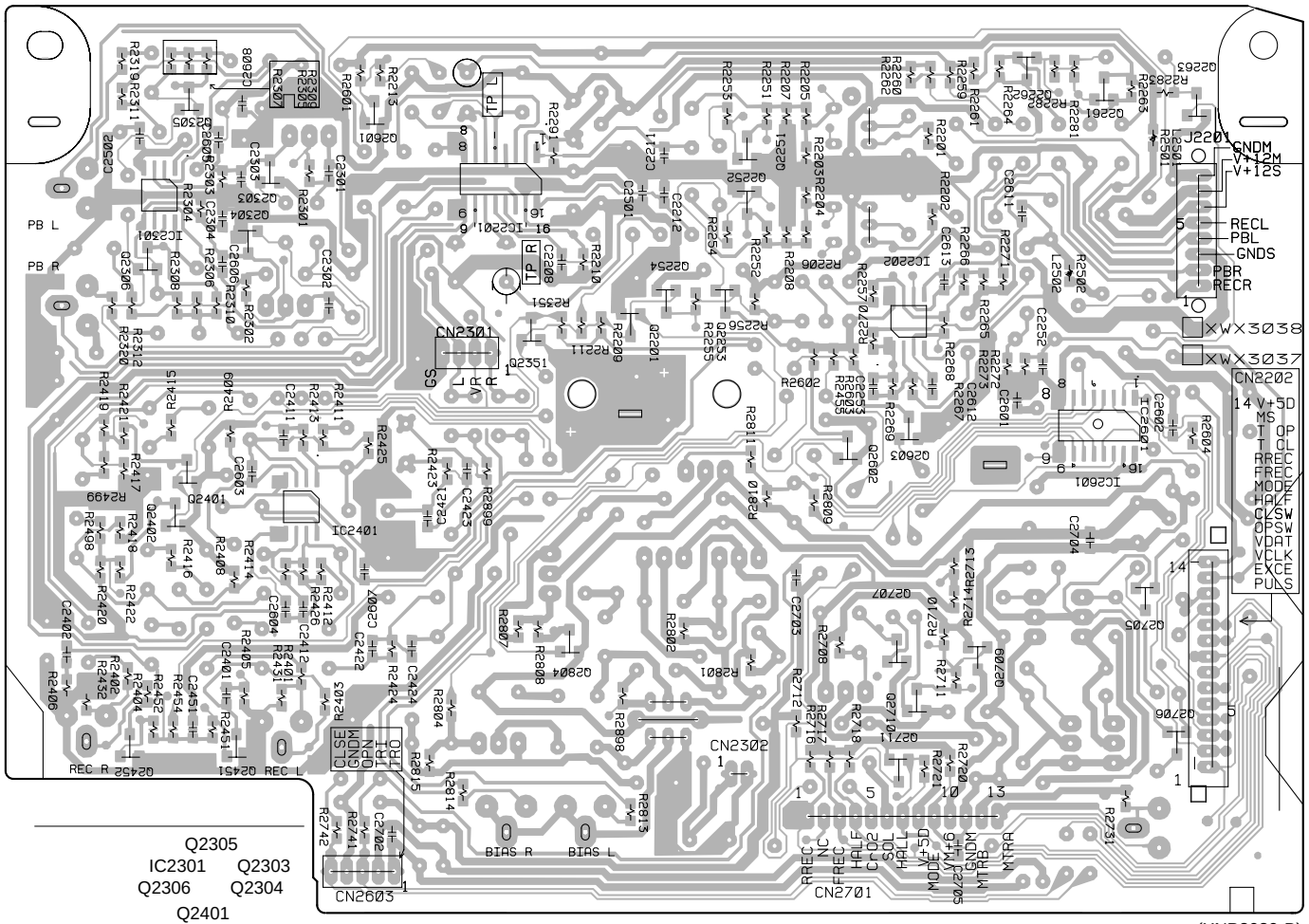
SIDE B

4.4 DECK ASSY

E DECK ASSY



SIDE A

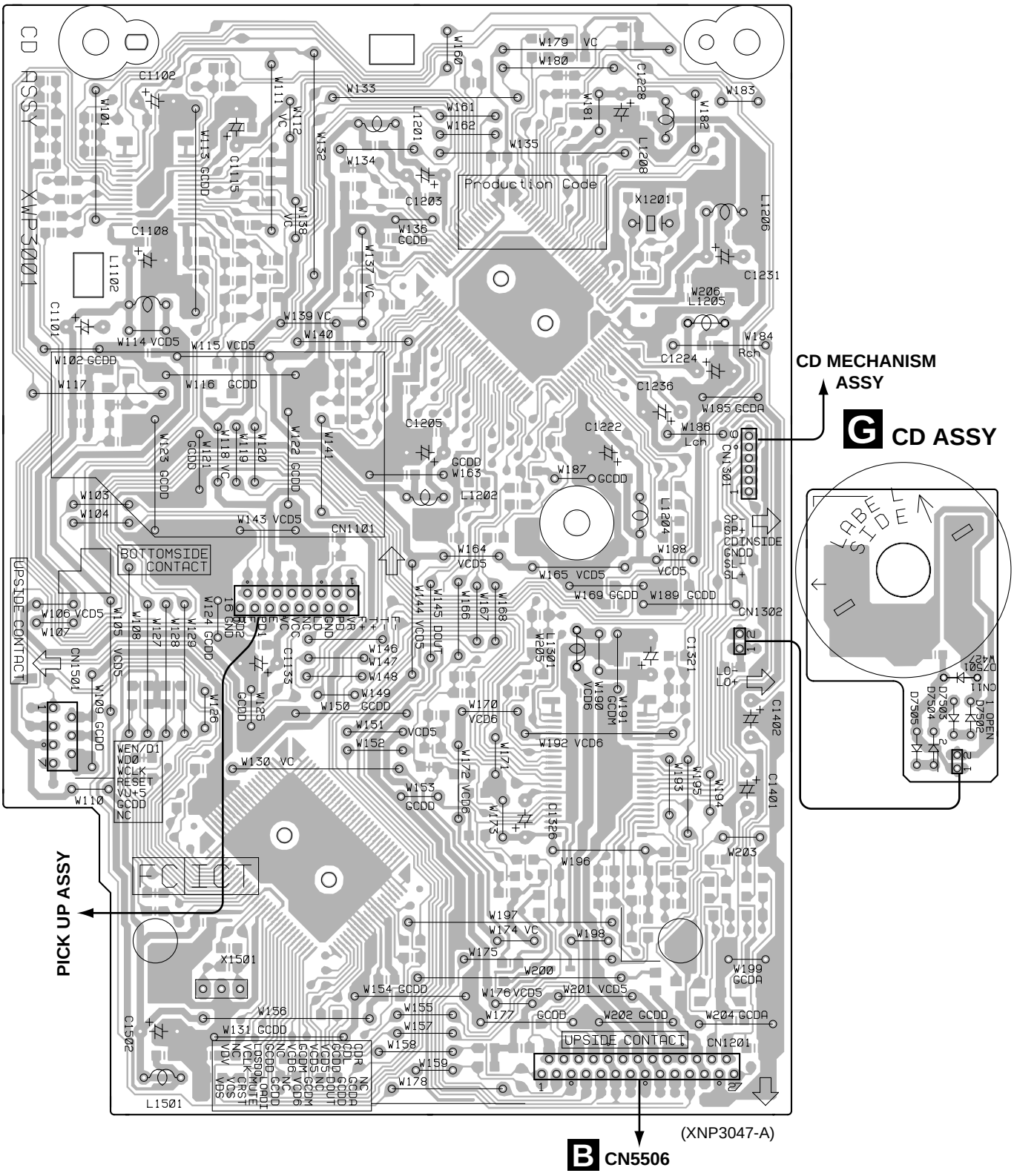

CN2301
CN2302
CN2603
CN2701
CN2202
J2201
IC2301
IC2401
IC2201
IC2202
IC2601
Q2305
Q2303
Q2306
Q2304
Q2401
Q2402
Q2452
Q2451
Q2254
Q2253
Q2251
Q2262
Q2261
Q2263
Q2351
Q2201
Q2252
Q2602
Q2603
Q2707
Q2709
Q2711
Q2710
Q2705
Q2706
(XNP3039-B)

SIDE B

4.4 CD and CD MOTOR ASSYS

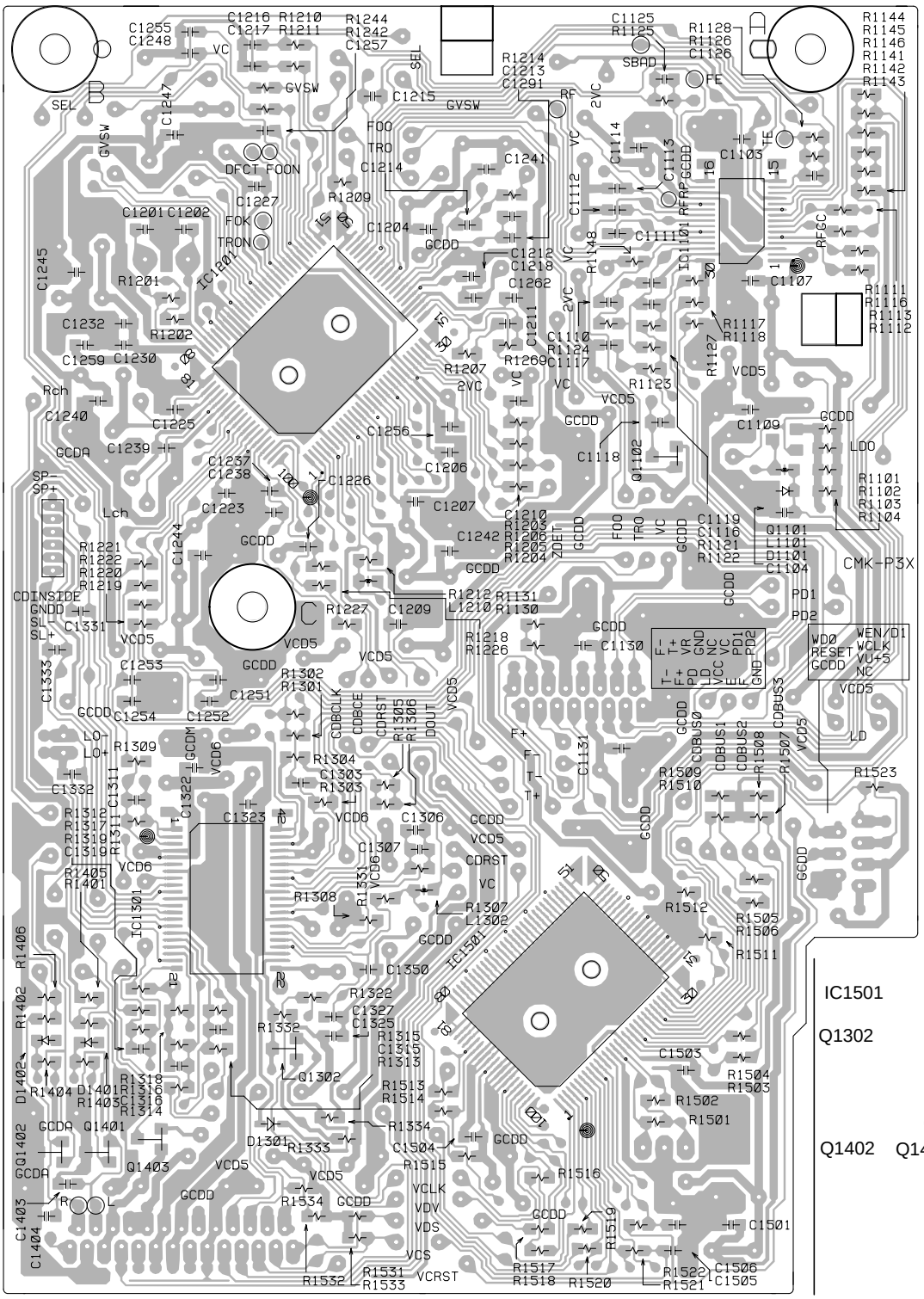
SIDE A

F CD ASSY



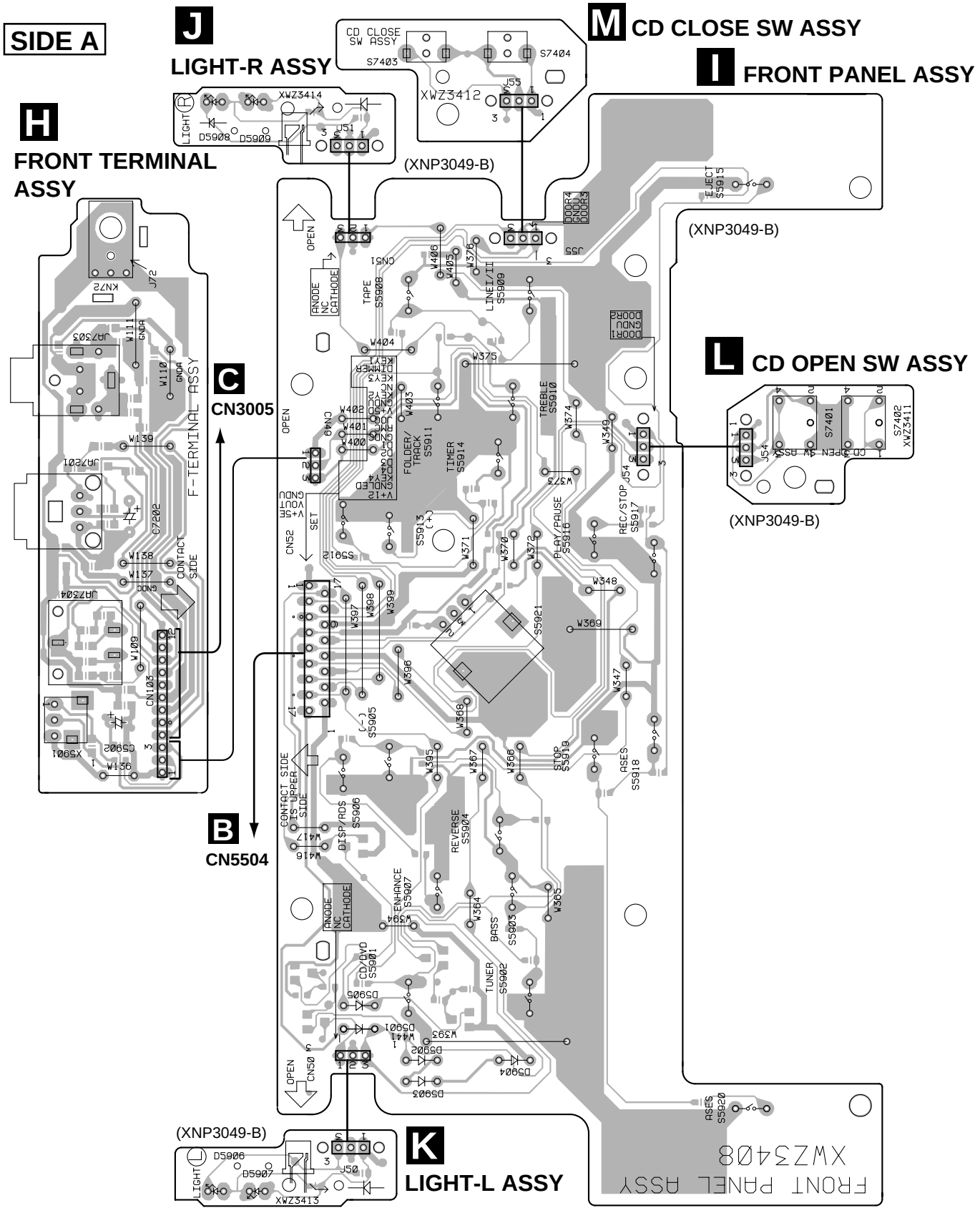
SIDE B

F CD ASSY



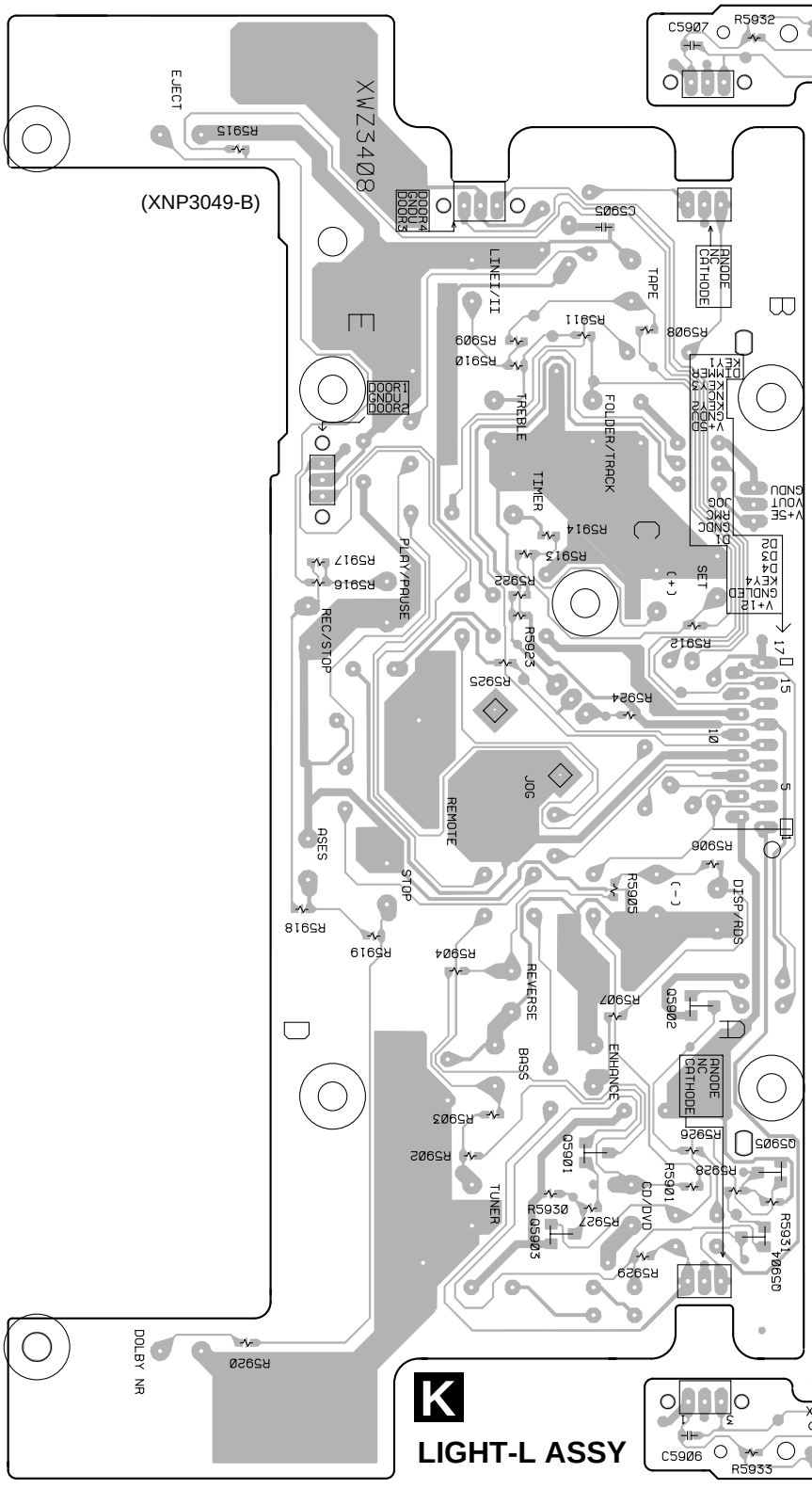
(XNP3047-A)

4.6 FRONT TERMINAL, FRONT PANEL, LIGHT-L, LIGHT-R, CD CLOSE SW and CD OPEN SW ASSYS

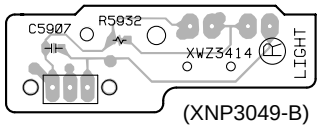


SIDE B

I FRONT PANEL ASSY

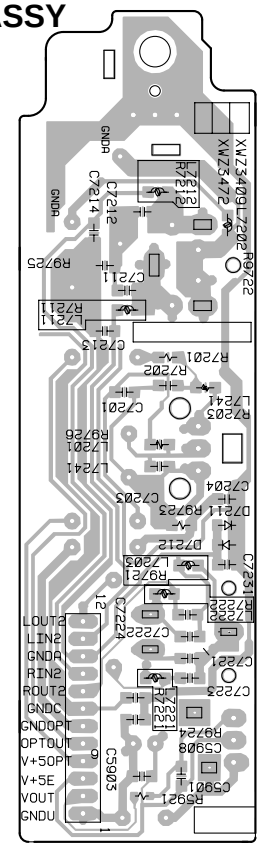


J LIGHT-R ASSY



(XNP3049-B)

H FRONT TERMINAL ASSY

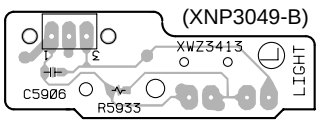


Q5902

Q5901
Q5905

Q5904

K LIGHT-L ASSY



5. PCB PARTS LIST

NOTES: ●*Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
●*The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
●*When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.
LIST OF ASSEMBLIES			
		FM/AM TUNER MODULE	AXQ7229
NSP		MEDIA ASSY	XWM3179
NSP		├─ AF ASSY	XWZ3406
NSP		├─ IF ASSY	XWZ3407
NSP		├─ FRONT PANEL ASSY	XWZ3408
NSP		├─ F-TERMINAL ASSY	XWZ3409
NSP		├─ CD MOTOR ASSY	XWZ3410
NSP		├─ CD OPEN SW ASSY	XWZ3411
NSP		├─ CD CLOSE SW ASSY	XWZ3412
NSP		├─ LIGHT- L ASSY	XWZ3413
NSP		├─ LIGHT- R ASSY	XWZ3414
NSP		└─ MEDIA BLUE LED ASSY	XWZ3415
		CD ASSY	XWP3001
NSP		DECK ASSY	XWX3037
A FM/AM TUNER MODULE			
SEMICONDUCTORS			
		IC201	BA1451F
		IC202	LC72131MD-TFB
		Q 201, Q 204, Q 205, Q 601	2SC2412K
		Q 202	DTA124ES
		Q 203	DTC124EK
		D 201	1SS133
		D 202	MTZJ5.1C
		D 101	UDZS6.8B
COILS AND FILTERS			
		L 201	ATE7003
		F 202	ATF-107
		F 201	ATF-119
		F 203	ATF1155
		F 601	ATF7025
		L 601	LCTA270J2520
CAPACITORS			
		C 605	CCSQCH680J50
		C 212, C 213, C 226, C 233–C 235	CCSRCH101J50
		C 240, C 614	CCSRCH101J50
		C 206	CCSRCH120J50
		C 231, C 232	CCSRCH150J50
		C 223	CEAT100M50
		C 229	CEAT101M10
		C 224	CEAT1R0M50
		C 227	CEAT220M25
		C 241	CEAT2R2M50
		C 243	CEAT330M16
		C 228	CEAT3R3M50
		C 237	CEAT470M10
		C 211	CEJA1R0M50
		C 210	CEJA470M16
		C 103, C 104, C 204, C 238	CKSRYB102K50
		C 102, C 208, C 216, C 217, C 220	CKSRYB103K50
		C 239, C 242, C 604, C 615	CKSRYB103K50
		C 225	CKSRYB153K50
		C 607, C 608	CKSRYB182K50
		C 201, C 205, C 214, C 230, C 236	CKSRYB223K50
		C 244	CKSRYB223K50
		C 221	CKSRYB224K10
		C 603	CKSRYB392K50
		C 215	CKSRYB471K50
		C 202, C 222	CKSRYB473K16
		C 606	CKSRYB561K50
RESISTORS			
		R 211	RD1/4PU221J
		R 221	RD1/4PU222J
		R 233	RD1/4PU391J
		R 103, R 104	RS1/10S221J
		Other Resistors	RS1/16S□□□ J
OTHERS			
	CN201	(13P CONNECTOR)	52044-1345
	BN201	(2P TERMINAL WITH PAL)	AKA7002
	0	(SHIELD CASE T (Mtl)	ANK7072
	0	(SHIELD CASE B (Mtl)	ANK7073
	X 201	(F= 7.2000 MHz)	ASS1093
	CN1501	(7P CONNECTOR)	52044-0745

Mark	No.	Description	Part No.

B IF ASSY

SEMICONDUCTORS

IC5502		BU1923F
IC5501		PDC075A
Q 5501,Q 5504		2SC2412K
Q 5503,Q 5506,Q 5507		DTC143EK
D 5501,D 5503-D 5505,D 5507		1SS133
D 5506	MTZJ6.8B	

COILS AND FILTERS

L 5751	LAU1R0J
L 5501,L 5511	LAU220J

CAPACITORS

C 5507 (0.047F/5.5V)	ACH1246
C 5523	CCSRCH100D50
C 5524	CCSRCH220J50
C 5525	CCSRCH221J50
C 5753,C 5754	CCSRCH270J50
C 5751	CCSRCH271J50
C 5755	CCSRCH561J50
C 5509,C 5752	CEAT100M50
C 5500	CEAT101M50
C 5502	CEAT1R0M50
C 5757	CEAT330M16
C 5505,C 5508,C 5517	CEAT470M16
C 5503,C 5562	CKSRYB102K50
C 5518-C 5520,C 5701,C 5756,C 5758	CKSRYB103K50
C 5504,C 5506,C 5511,C 5543,C 5573	CKSRYB104K25
C 5575	CKSRYB104K25
C 5526	CKSRYB473K50

RESISTORS

Other Resistors	RS1/16S□□□ J

OTHERS

CN5511	(7P FFC CONNECTOR)	52045-0745
CN5509	(10P FFC CONNECTOR)	52045-1045
CN5503	(13P FFC CONNECTOR)	52045-1345
CN5504	(17P FFC CONNECTOR)	52045-1745
CN5507	(5P SOCKET)	AKP7042
X 5501	(F= 10MHz)	DSS1048
X 5751	(F= 4.332MHz)	ASS7004
CN5501,CN5502	(15P PLUG)	KM200TA15
0	(PCB BINDER)	VEF1040
CN5505	(27P CONNECTOR)	VKN1203
KN5501	(EARTH METAL FITTING)	VNF1084
CN5506	(14P PLUG)	XKP3049

C AF ASSY

SEMICONDUCTORS

IC3002-IC3004	BA4558F-HT
IC3001	LC75343M
IC7301	NJM062M
IC141	NJM7805FA
IC131	NJM7812FA
Q 141	2SB1237X
Q 301, Q 302	2SC2412K
Q 3004	2SD1858X
Q 2001	2SD2012
Q 3001,Q 3002,Q 3005,Q 3006	2SD2114K
Q 3009,Q 3010	2SD2114K
Q 3003,Q 3011,Q 3013	DTA124EK
Q 3015	DTA143EK
Q 7301	DTC114EK
Q 3014	DTC124EK
D 3006	1SS133
D 141, D 3011,D 3013,D 3016,D 3049	1SS355
D 7301-D 7304	1SS355
D 3004	MTZJ10C
D 304	S5688G

COILS AND FILTERS

L 7301	LAU220J

CAPACITORS

C 3057-C 3059,C 7101,C 7103	CCSRCH101J50
C 7102,C 7104,C 7301	CCSRCH221J50
C 3205,C 3206	CCSRCH271J50
C 134, C 3011,C 3012,C 3025,C 3026	CEAT100M50
C 3029,C 3043	CEAT100M50
C 131, C 141, C 3023,C 3024	CEAT1R0M50
C 301	CEAT220M50
C 3001-C 3010,C 3014,C 3016,C 3027	CEAT2R2M50
C 3055,C 3056	CEAT2R2M50
C 133, C 143, C 3033,C 3096,C 7302C	EAT470M16
C 7307	CEAT4R7M50
C 3041,C 3042	CEATR47M50
C 132, C 142, C 3015,C 3019-C 3022C	KSRYB104K25
C 3034-C 3036,C 3039,C 3040,C 3044	CKSRYB104K25
C 3047-C 3049,C 3051,C 3052,C 3054	CKSRYB104K25
C 3062,C 3064,C 3099,C 3111	CKSRYB104K25
C 7305,C 7306,C 901	CKSRYB104K25
C 3065	CKSRYB222K50
C 3121-C 3123	CKSRYB223K50
C 3030,C 3031	CKSRYB471K50
C 3155,C 3156	CKSRYB472K50
C 3053	CKSRYB474K10
C 7131	CKSRYB562K50
C 3017,C 3018	CKSRYB822K50

RESISTORS

R 2002	RD1/4PU100J
R 3205	RD1/4PU223J
Other Resistors	RS1/16S□□□ J

OTHERS

CN3006	(8P JUMPER CONNECTOR)	52147-0810
7105	(6P PIN JACK)	AKB7012
CN3001	(10P SOCKET	AKP7048
CN3008	(2P CONNECTOR)	B2B-PH-K
CN101	(3P CONNECTOR)	B3B-PH-K
CN3005	(9P CONNECTOR)	B9B-PH-K
CN3003,CN3004	(15P SOCKET)	KP200TA15L
0	(PCB BINDER)	VEF1040

Mark	No.	Description	Part No.

D MEDIA BLUE LED ASSY

SEMICONDUCTORS

	Q 8001	2SC2412K
	D 8003-D 8006	1SS355
	D 8001	E1S02-4B0A7
	D 8002	MTZJ5.6B

RESISTORS

	Other Resistors	RS1/16S□□□ J

OTHERS

	CN8001 (2P CONNECTOR)	S2B-PH-K

E DECK ASSY

SEMICONDUCTORS

	IC2202,IC2301,IC2401	BA4558F-HT
	IC2601	BU4094BCF
	IC2201	HA12136AF
	Q 2709	2SB1197K
	Q 2708	2SB1296
	Q 2801,Q 2802,Q 2805	2SC1815
	Q 2806	2SC2240
	Q 2253	2SC2412K
	Q 2701-Q 2704	2SD1858X
	Q 2251,Q 2252,Q 2261,Q 2262	2SD2114K
	Q 2451,Q 2452	2SD2114K
	Q 2301,Q 2302	2SK373
	Q 2254,Q 2711	DTA124EK
	Q 2705,Q 2706	DTA143EK
	Q 2201,Q 2263,Q 2351	DTC124EK
	Q 2601-Q 2603,Q 2707,Q 2710	DTC143EK
	D 2252-D 2256,D 2301-D 2306	1SS133
	D 2705,D 2706	1SS133
	D 2709	MTZJ4.7B/C
	D 2201,D 2703,D 2704	MTZJ6.2B/C

COILS AND FILTERS

	L 2802	LFA121J
	L 2801	RTD1082
	L 2401,L 2402	RTF1004
	L 2403,L 2404	RTF1021
	F 2201,F 2202	RTF1217
	L 2501,L 2502	VTL1096

CAPACITORS

	C 2809	CCCSL151K2H
	C 2301,C 2302	CCSRCH100D50
	C 2611	CCSRCH101J50
	C 2423,C 2424,C 2602	CCSRCH221J50
	C 2253	CCSRCH271J50
	C 2603,C 2604,C 2608,C 2612,C 2613	CCSRCH470J50
	C 2303,C 2304	CCSRCH681J50
	C 2203,C 2204,C 2207,C 2215	CEAT100M50
	C 2407,C 2408	CEAT100M50
	C 2701	CEAT101M16
	C 2201,C 2202,C 2217,C 2218,C 2255	CEAT1R0M50
	C 2403,C 2404	CEAT1R0M50
	C 2251	CEAT220M50
	C 2216	CEAT221M10
	C 2213,C 2214,C 2254	CEAT2R2M50
	C 2309,C 2310,C 2805,C 2806,C 2810	CEAT330M16
	C 2314,C 2807	CEAT470M16
	C 2425,C 2610	CEAT470M50
	C 2221,C 2222,C 2261,C 2262	CEAT4R7M50
	C 2419,C 2420	CEAT4R7M50
	C 2205,C 2206	CEATR22M50
	C 2252	CKSQYB105K10
	C 2702	CKSQYB474K16
	C 2501,C 2502	CKSRYB102K50
	C 2607	CKSRYB103K50
	C 2601	CKSRYB104K25
	C 2411,C 2412	CKSRYB122K50
	C 2211,C 2212,C 2421,C 2422	CKSRYB152K50
	C 2401,C 2402	CKSRYB332K50
	C 2451	CKSRYB473K50
	C 2808	CQHA822J2A
	C 2209,C 2210	CQMA103J50
	C 2801	CQMA123J50
	C 2409,C 2410	CQMA223J50
	C 2803,C 2804	CQMA332J50
	C 2307,C 2308,C 2802	CQMA682J50
	C 2405,C 2406	CQMBA683J50

RESISTORS

	R 2805		RD1/2PM161J
	R 2703-R 2706		RD1/2PM391J
	R 2803		RD1/2PM4R7J
	R 2701,R 2702		RD1/4PU102J
	R 2707		RD1/4PU751J
	VR2701	(1kΩ)	PCP1024
	VR2301,VR2302	(4.7kΩ)	PCP1028
	VR2401,VR2402	(22kΩ)	PCP1030
	VR2801,VR2802	(100kΩ)	PCP1032
	Other Resistors		RS1/16S□□□ J

OTHERS

	102	(8P CABLE HOLDER)	51048-0800
	CN2701	(13P CONNECTOR)	B13B-PH-K
	CN2302	(2P CONNECTOR)	B2B-PH-K
	CN2301	(4P CONNECTOR)	B4B-PH-K
	CN2603	(5P CONNECTOR)	B5B-PH-K
	J2201	(8P FLAT CABLE)	D20PYY0825E
	0, 1	(PCB BINDER)	VEF1040
	CN2202	(14P CONNECTOR)	XKP3048

F CD ASSY

SEMICONDUCTORS

	IC1301	M56788AFP
	IC1501	PDC083A
	IC1101	TA2150FN
	IC1201	TC9495F
	Q 1101	2SA1036K
	Q 1302	2SA1037K
	Q 1401,Q 1402	2SC2412K
	Q 1403	DTA143EK
	Q 1102	DTC124TKA
	D 1401,D 1402	1SS355
	D 1301	UDZ2.0B

Mark	No.	Description	Part No.

COILS AND FILTERS

	L 1206		LFEA100J
	L 1210		VTL1074
	L 1211		VTL1102
	L 1201,L 1202,L 1204,L 1205,L 1208		VTL1105

CAPACITORS

	C 1119		CCSRCH101J50
	C 1403,C 1404		CCSRCH102J25
	C 1201,C 1202		CCSRCH150J50
	C 1307		CCSRCH151J50
	C 1118		CCSRCH220J50
	C 1117		CCSRCH330J50
	C 1210,C 1303		CCSRCH470J50
	C 1126		CCSRCH820J50
	C 1116		CCSRCJ3R0C50
	C 1401,C 1402		CEAT100M50
	C 1101,C 1102,C 1108,C 1115,C 1203		CEAT101M10
	C 1205,C 1222,C 1224,C 1228,C 1231		CEAT101M10
	C 1236,C 1502		CEAT101M10
	C 1321		CEAT221M10
	C 1232,C 1242,C 1323,C 1451,C 1505		CKSRYB102K50
	C 1103,C 1107,C 1114,C 1130,C 1204		CKSRYB103K50
	C 1206,C 1207,C 1212,C 1214,C 1223		CKSRYB103K50
	C 1225-C 1227,C 1230,C 1239,C 1259		CKSRYB103K50
	C 1315,C 1316,C 1503,C 1504,C 1506		CKSRYB103K50
	C 1104,C 1110,C 1111,C 1131		CKSRYB104K16
	C 1240,C 1241,C 1244,C 1245,C 1247		CKSRYB104K16
	C 1322,C 1325,C 1350,C 1501		CKSRYB104K16
	C 1211		CKSRYB153K25
	C 1213		CKSRYB222K50
	C 1112,C 1113		CKSRYB224K16
	C 1215		CKSRYB333K25
	C 1237,C 1291		CKSRYB471K50
	C 1216,C 1217		CKSRYB473K16
	C 1311,C 1319		CKSRYB682K50

RESISTORS

	R 1318		RS1/16S1202F
	R 1319		RS1/16S2202F
	R 1317		RS1/16S2702F
	Other Resistors		RS1/16S□□□ J

OTHERS

	X 1201	(F=16.9344MHz)	PSS1008
	X 1501	(F=10 MHz)	ASS7034
	CN1101	(16P FFC CONNECTOR)	16FMZ-ST
	CN1501	(7P FFC CONNECTOR)	52044-0745
	CN1302	(2P CONNECTOR)	S2B-PH-K
	CN1301	(6P CONNECTOR)	S6B-ZR
	CN1201	(27P CONNECTOR)	VKN1231

G CD MOTOR ASSY

SEMICONDUCTORS

	D 7506		11EQS04
	D 7501-D 7505		S5688G

CAPACITORS

	C 7501		CKSRYB104K25

OTHERS

	CN11	(2P CONNECTOR)	S2B-PH-K

Mark	No.	Description	Part No.

H F-TERMINAL ASSY

SEMICONDUCTORS

	D 7211,D 7212		1SS355

COILS AND FILTERS

	L 7202,L 7203,L 7211,L 7212		VTL1105
	L 7221,L 7222		VTL1105

CAPACITORS

	C 5902		CEAT101M10
	C 7202		CEJQ101M10
	C 7213,C 7214		CKSRYB102K50
	C 5903,C 5908,C 7201,C 7203		CKSRYB103K50
	C 7231		CKSRYB472K50

RESISTORS

	Other Resistors		RS1/16S□□□ J

OTHERS

	7304	(JACK)	AKN-210
	7303	(JACK)	AKN7003
	JA7201	(OPT. LINK OUT)	GP1FA501TZ
	5901	(REMOTE RECEIVER UNIT)	GP1U28Y

I FRONT PANEL ASSY

SEMICONDUCTORS

	Q 5901,Q 5903-Q 5905		2SC2412K
	Q 5902		DTA124EK
	D 5902-D 5905		1SS133

SWITCHES AND RELAYS

	S 5901-S 5920		ASG7013
	S 5921		ASX7026

RESISTORS

	R 5934		RD1/4PU101J
	Other Resistors		RS1/16S□□□ J

OTHERS

	54,55	(3P CABLE HOLDER)	51048-0300
	CN52	(17P CONNECTOR)	52044-1745
	CN50, CN51	(3PJUMPER CONNECTOR)	52151-0310
	J 54, J 55	(JUMPER WIRE)	D20PYY0325E
	CN49	(3P CONNECTOR)	S3B-PH-K

J LIGHT- R ASSY

SEMICONDUCTORS

	D 5908		NSPWF50BS-9706

CAPACITORS

	C 5907		CKSRYB103K50

OTHERS

	53	(3P CABLE HOLDER)	51048-0300
	J 51	(JUMPER WIRE9	D20PYY0310E

Mark	No.	Description	Part No.
K		**LIGHT- L ASSY**	
		SEMICONDUCTORS	
	D 5906		NSPWF50BS-9706
		CAPACITORS	
	C 5906		CKSRYB103K50
		OTHERS	
	52	(3P CABLE HOLDER)	51048-0300
	J 50	(JUMPER WIRE)	D20PYY0310E
L		**CD OPEN SW ASSY**	
		SWITCHES AND RELAYS	
	S 7401, S 7402		VSH1019
		OTHERS	
	57	(CABLE HOLDER)	51048-0300
M		**CD CLOSE SW ASSY**	
		SWITCHES AND RELAYS	
	S 7403, S 7404		ASG7015
		OTHERS	
	56	(CABLE HOLDER)	51048-0300

6. ADJUSTMENT

For adjustment, use the stereo power amplifier (M-IS21).

6.1 DECK SECTION

6.1.1 Adjustment Condition

(1) The ground at the time of adjustment shall be W166. (Refer to Fig. 6–3).
(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.
NCT–111 : For Tape Speed adjustment
STD-331E : For Playback adjustment
STD–632 : Normal blank tape

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

(5) Provide yourself with the following measuring devides:
- AC millivoltmeter
- Low-frequency oscillator
- Attenuator
- Oscilloscope

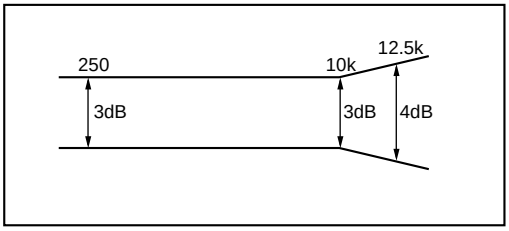
(6) Adjust both right and left channels unless other wise specified.
(7) Turn the DOLBY NR switch off unless otherwize specified.
(8) Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
(9) Always follow the indicated adjustment order. Otherwise, a complete adjustment may not be achieved.

■ List of Adjustments

● Playback Section
(1) Tape Speed Confirmation
(2) Head Azimuth Adjustment
(3) Playback Level Adjustment

● Recording Section
(1) Recording Bias Adjustment
(2) Recording Level Adjustment

PLAY BACK



RECORDING

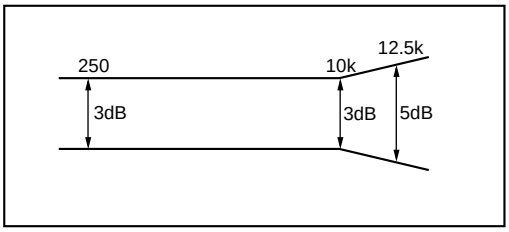


Fig. 6-1 Frequency Characteristics

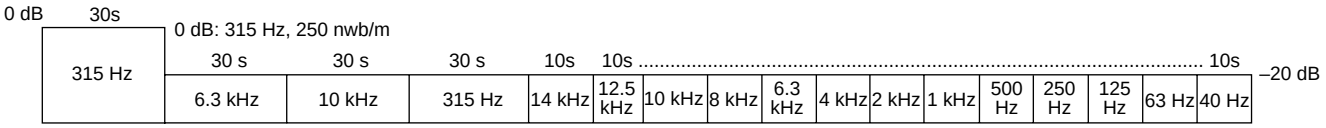


Fig. 6-2 Test Tape STD– 331E

6.1.2 Playback Section

(1) Tape Speed Confirmation

No.	Mode	Input Signal/Test Tape	Adjustment Points	Measurement Points	Adjustment Value	Remarks
1	PLAY	NCT-111 (3 kHz)	VR2701 (DECK ASSY) (Refer to Fig. 6-3)	TP R (C2204) (DECK ASSY)	3000 Hz $^{+10}_{-10}$ Hz	FWD adjustment REV Confirmation (3000 Hz $^{+60}_{-60}$Hz)

(2) Head Azimuth Adjustment

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

No.	Mode	Input Signal/Test Tape	Adjustment Points	Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 10 kHz, –20 dB)	Head azimuth adjustment Screw (Refer to Fig. 6-3)	TP L (C2203) TP R (C2204) (DECK ASSY)	Max. Playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.

(3) Playback Level Adjustment

- Since this adjustment determines playback DolbyNR level, Perform it carefully.

No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 315 Hz, 0 dB)	L ch	VR2301	TP L (C2203) TP R (C2204) (DECK ASSY)	–3.7 dBV	
			R ch	VR2302			

6.1.3 Recording Section

(1) Recording Bias Adjustment

- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

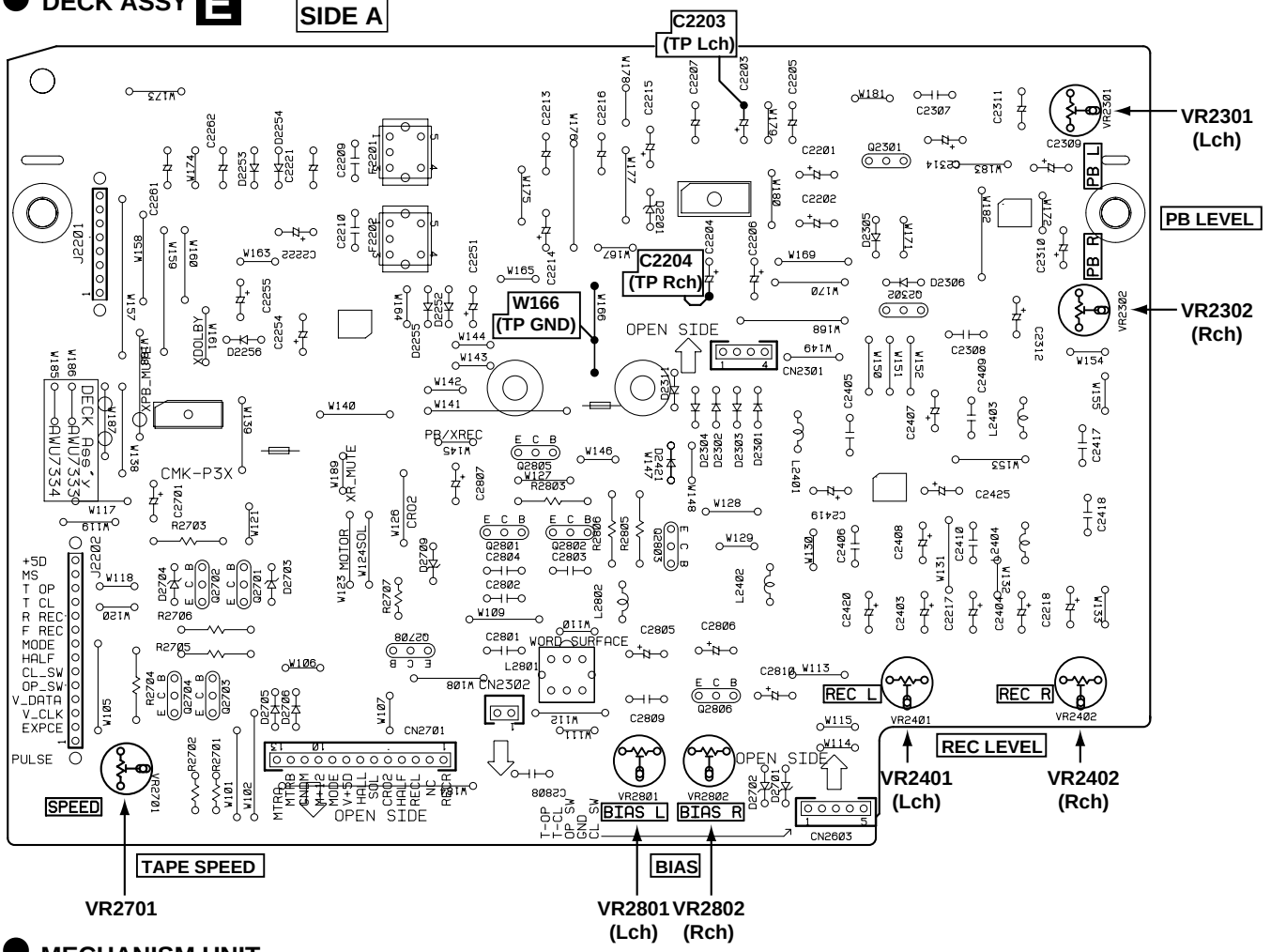
No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the LINE - IN terminal. *	Input signal level		TP L (C2203) TP R (C2204) (DECK ASSY)	–23.7 dBV	
2	REC → PLAY	Load the STD–632 test tape and record/playback the 315Hz and 10kHz signals. (see the Note below)	L ch	VR2801		Repeat adjustment until playback level of the 10kHz signal is within 0.5dBV ±0.5dB from that of the 315Hz signal.	
			R ch	VR2802			

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

(2) Recording Level Adjustment

No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the LINE- IN terminal.*	Input signal level		TP L (C2203) TP R (C2204) (DECK ASSY)	–7.7 dBV	
2	REC → PLAY	STD–632 test tape and record/ playback the 315Hz signal.	L ch	VR2401		Repeat recording, playback and adjustment until playback level of the 315Hz signal becomes –7.7dBV±0.5dB.	
			R ch	VR2402			

● **DECK ASSY** **E**



● **MECHANISM UNIT**

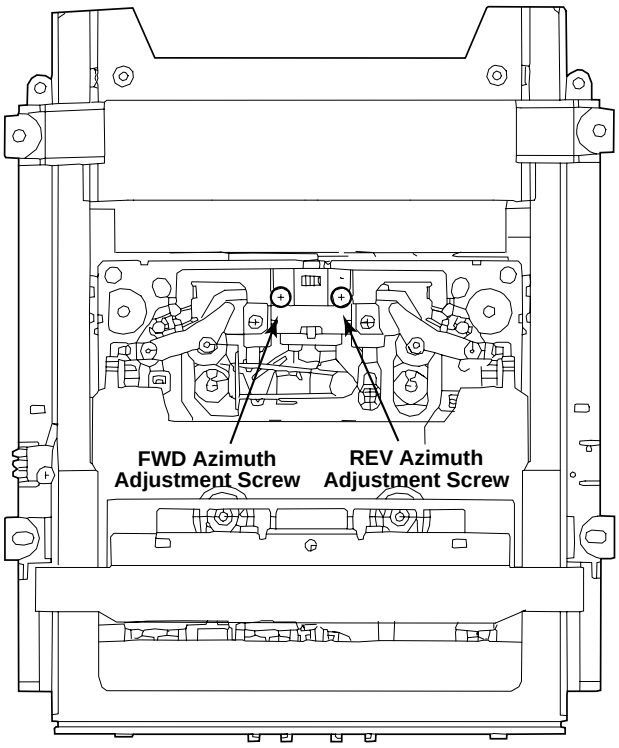


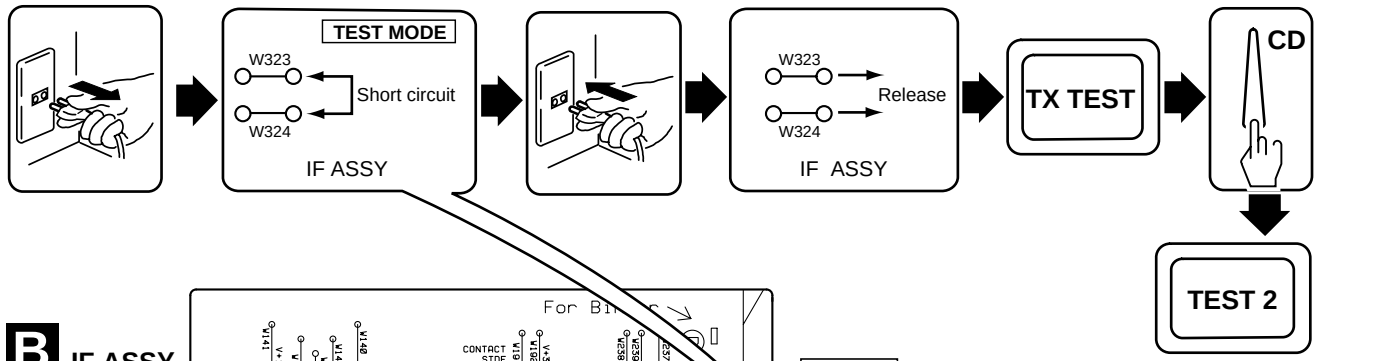
Fig. 6-3 Adjustment and Measurement Points

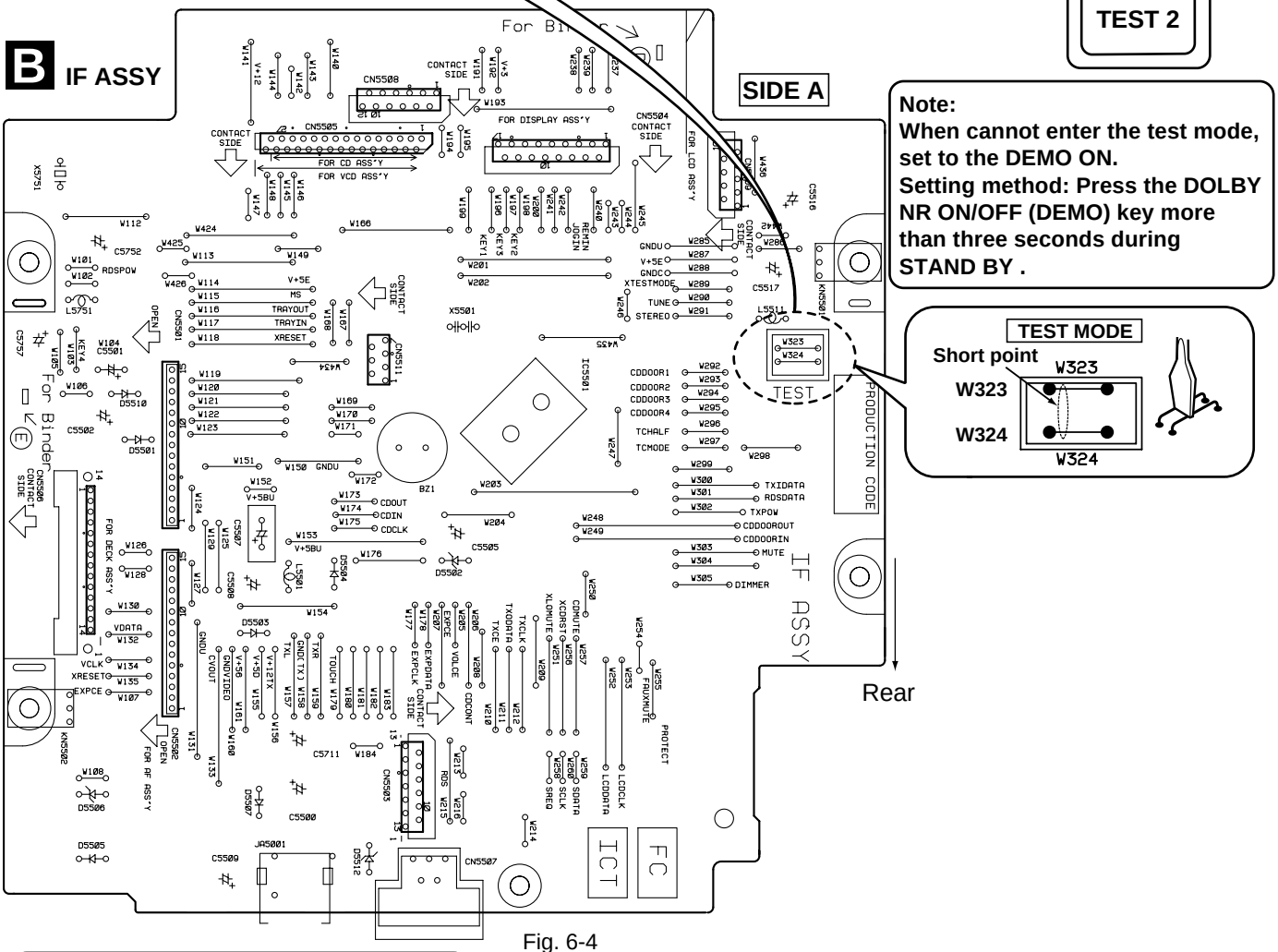
6.2 CD SECTION

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

6.2.1 HOW TO START / CANCEL TEST MODE

TEST MODE : ON

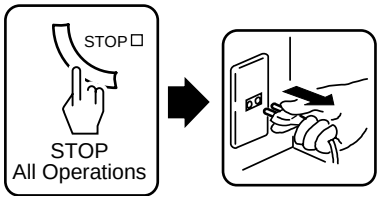




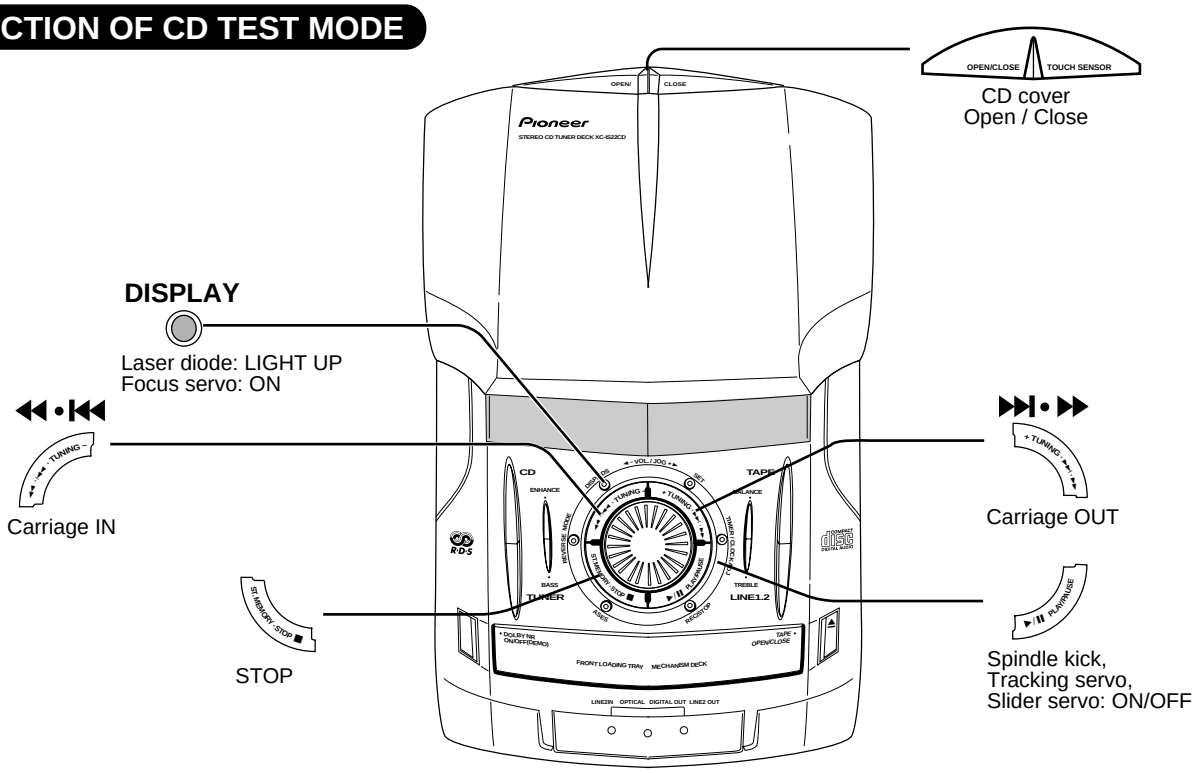
Note:
When cannot enter the test mode, set to the DEMO ON.
Setting method: Press the DOLBY NR ON/OFF (DEMO) key more than three seconds during STAND BY .

Fig. 6-4

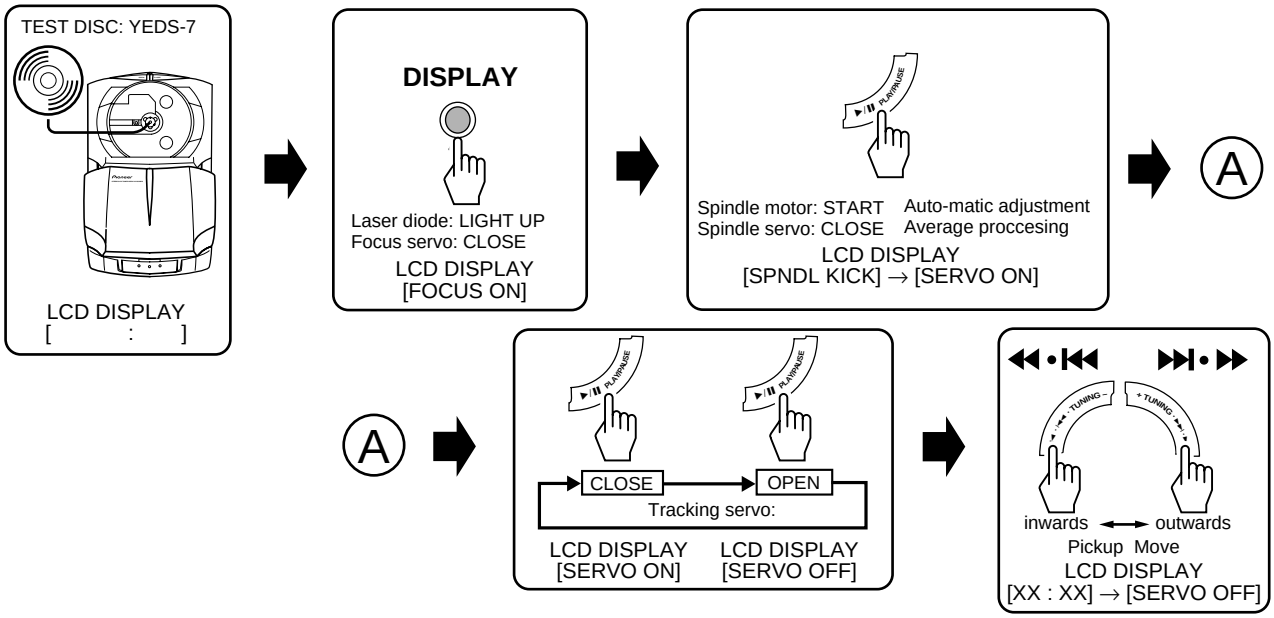
TEST MODE : STOP → CANCEL



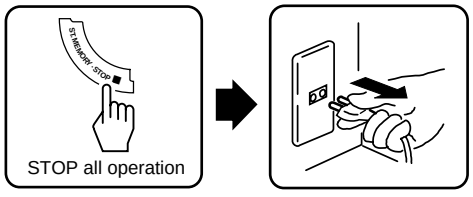
FUNCTION OF CD TEST MODE



TEST MODE : PLAY



TEST MODE : STOP → CANCEL



6.3 TUNER SECTION

6.3.1 AM TUNER SECTION

● There is no adjustment in the AM tuner.

6.3.2 FM TUNER SECTION

● Set the mode selector to FM BAND.
● Connect the wiring as shown in Fig. 6-5.

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

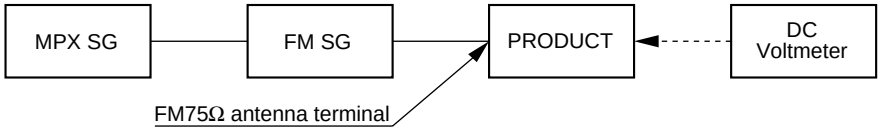


Fig.6.5 Adjustment Wiring Diagram

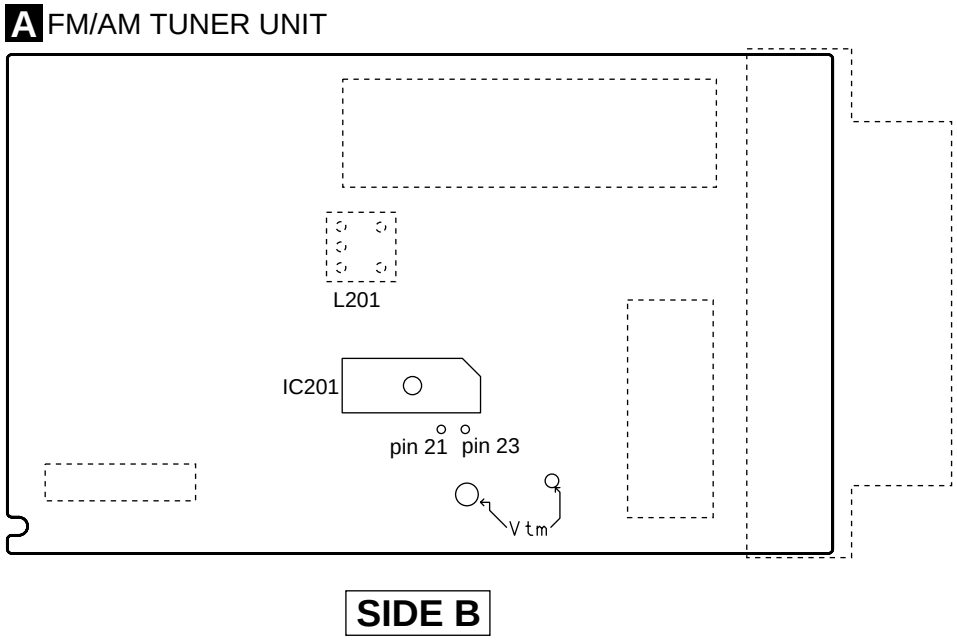


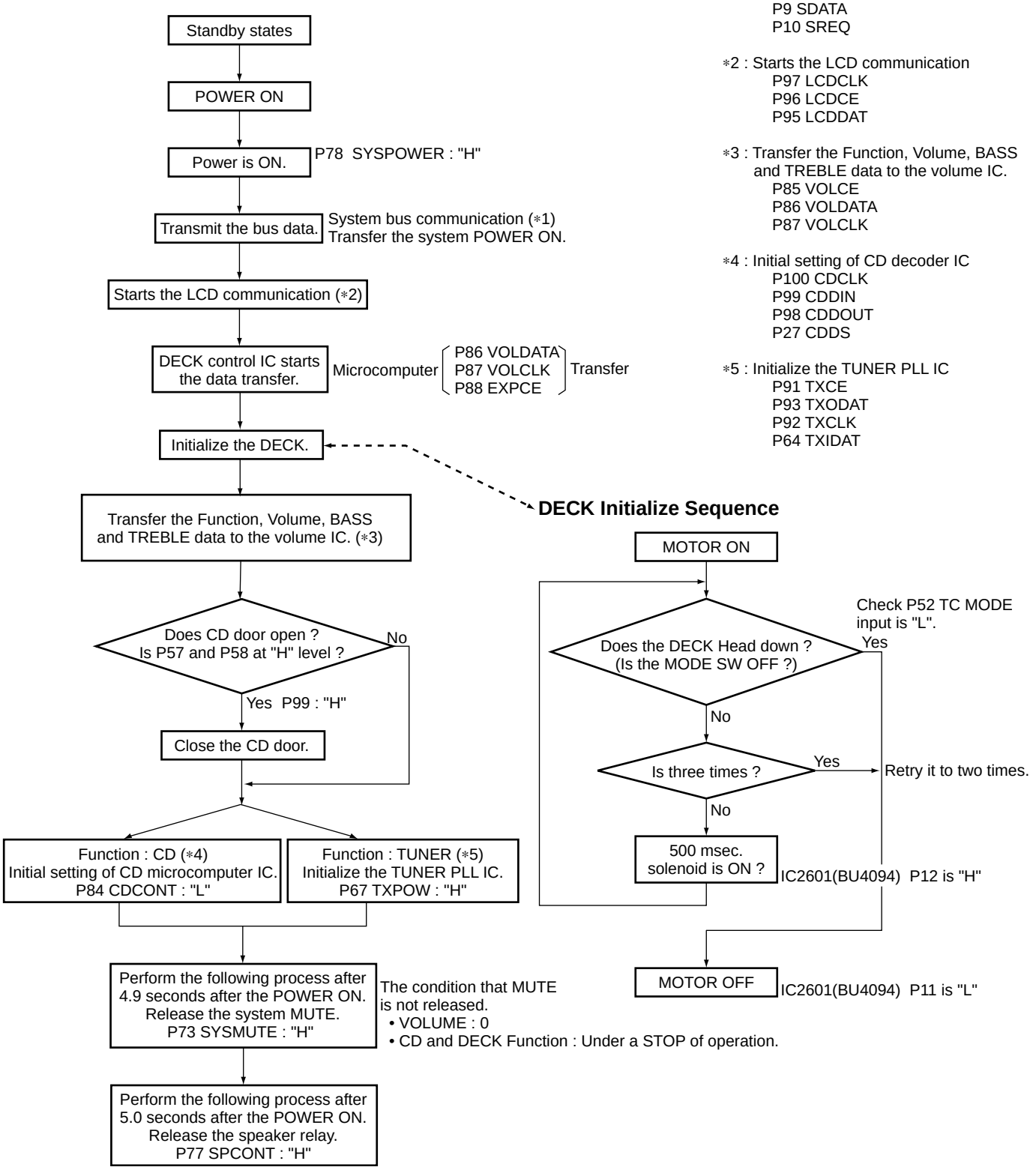
Fig.6.6 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 SEQUENCE AFTER THE POWER ON

Note 1 : IC No. or P∗∗ without name indicate the pin No. of microcomputer (IC5501).



Note ;

∗1 : System bus communication
- P8 SCLK
- P9 SDATA
- P10 SREQ

∗2 : Starts the LCD communication
- P97 LCDCLK
- P96 LCDCE
- P95 LCDDAT

∗3 : Transfer the Function, Volume, BASS and TREBLE data to the volume IC.
- P85 VOLCE
- P86 VOLDATA
- P87 VOLCLK

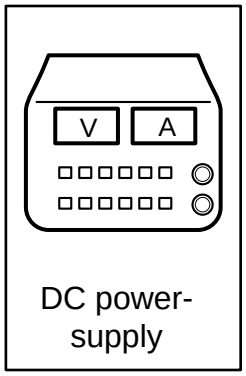
∗4 : Initial setting of CD decoder IC
- P100 CDCLK
- P99 CDDIN
- P98 CDDOUT
- P27 CDDS

∗5 : Initialize the TUNER PLL IC
- P91 TXCE
- P93 TXODAT
- P92 TXCLK
- P64 TXIDAT

7.1.2 SINGLE OPERATION METHOD

Single purpose operation test mode specification for IS22CD service.

■ Jigs and Measuring instruments



■ Single purpose operation method.

① Connect point Ⓐ of the AF ASSY [+8V, +15V, GND] and DC power-supply.
(Refer to Fig. 7-1.)

Connect point Ⓐ	DC power-supply	
	Voltage (V)	Remarks
AF ASSY: (+8V)	+8V	
AF ASSY: (+15V)	+15V	
AF ASSY: (GND)	GND	

② It keeps pushing main body "BASS key" and the "TREBLE" key together.
(Refer to Fig. 7-2.)

③ AF ASSY [Connect point Ⓑ: +5.6V] are connected under the condition (With doing a key 2-fold push.) of ②.
(Refer to Fig. 7-2.)

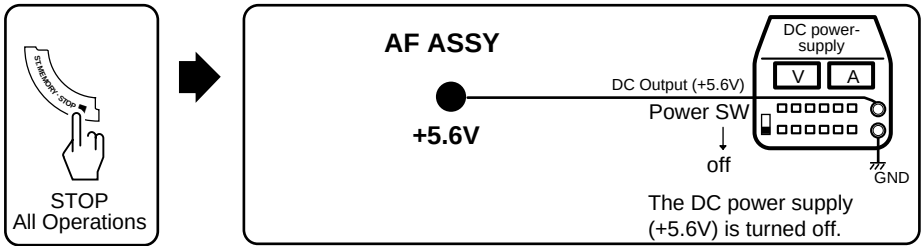
Connect point Ⓑ	DC power-supply	
	Voltage (V)	Remarks
AF ASSY: (+5.6V)	+5.6V	
AF ASSY: (GND)	GND	

④ It starts works.
Stop pushing "BASS" and "TREBLE" keys.

Note:

- The test mode is finished when a STANDBY/ON key is pushed during on or the power supply is cut off.
  Again, do the above operation when you make it work.
- It doesn't work only to connect a power supply. Do the above operation.
- A microcomputer does not perform AC CHECK at this time.

TEST MODE : STOP → CANCEL



CONNECTED POINT

C AF ASSY

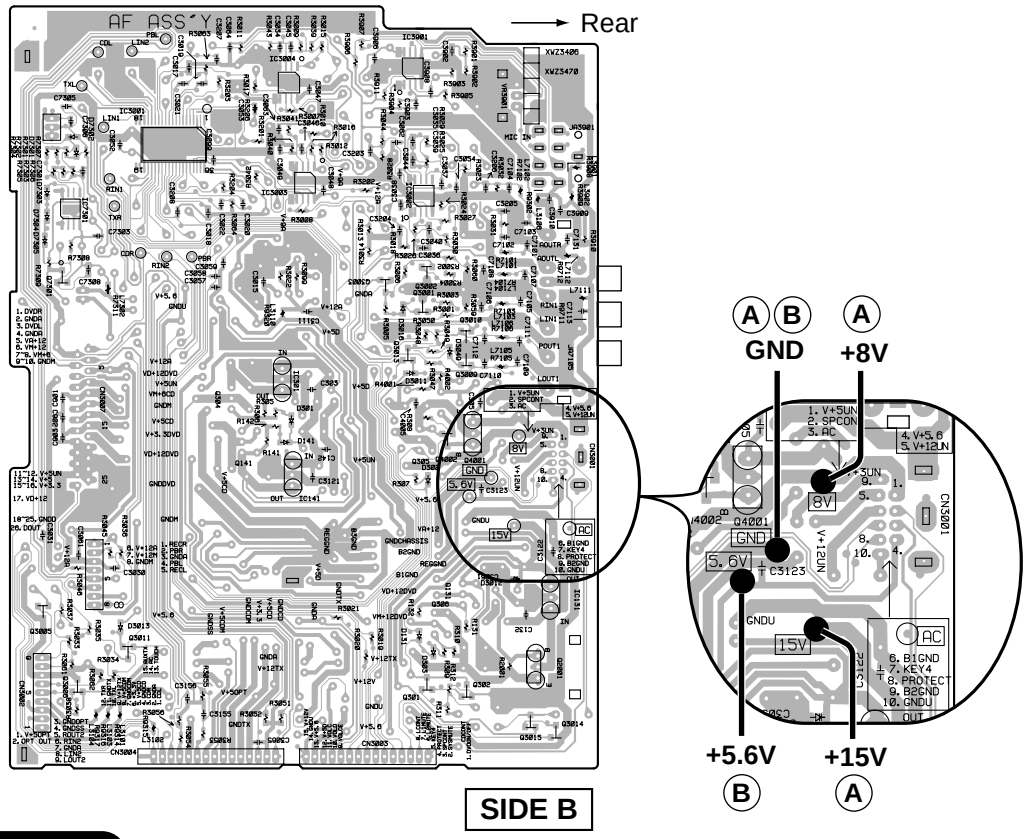
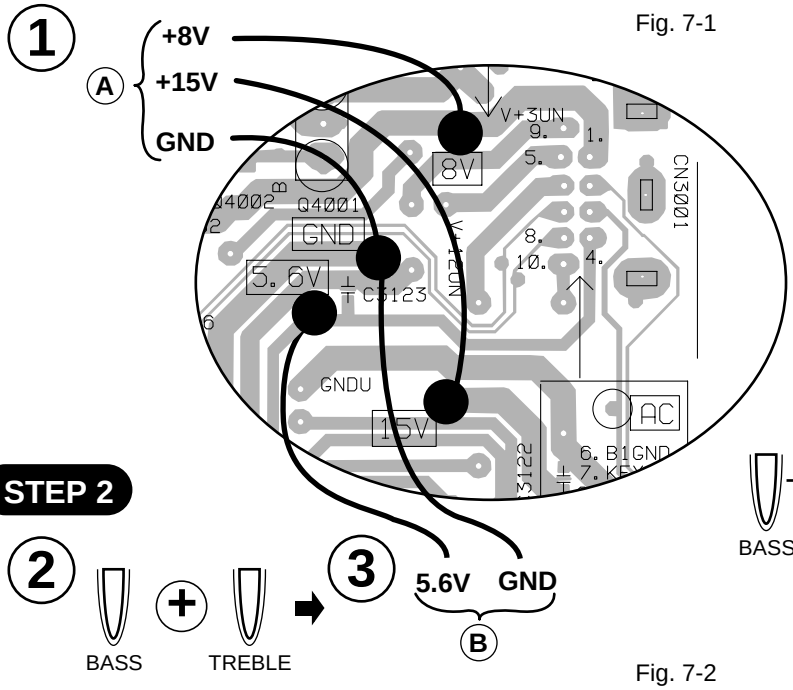


Fig. 7-1

STEP 1



STEP 2

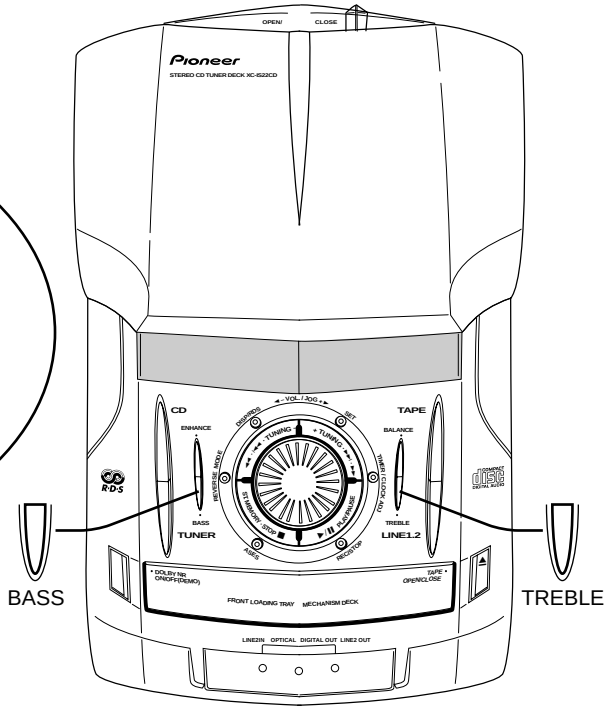


Fig. 7-2

7.1.3 TROUBLE SHOOTING

XC-IS22CD microcomputer trouble shooting.

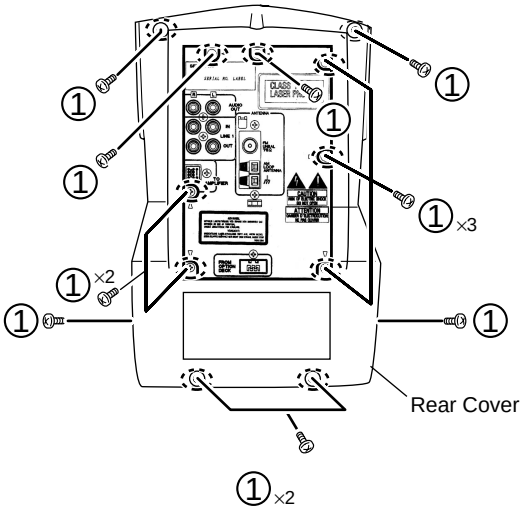
Symptom of problem	Thought cause	Check method
The power supply does not enter . The standby LED lights even if the POWER key is pushed.	The microcomputer is not reset.	Whether terminal RESET (11Pin) is "H" is confirmed. The operation of the RESET circuit is confirmed if not becoming "H".
	The AC pulse is not input.	Whether the AC pulse is input to AC input terminal (26Pin) is confirmed. If the AC pulse is not input, the AC pulse generation circuit is confirmed.
	The oscillation circuit of the microcomputer does not oscillate.	The microcomputer or the oscillation circuit is broken. The microcomputer or the oscillation circuit is exchanged.
It enters the state of POWER OFF soon even in case of the POWER ON.	The input of protection (18pin) is Low.	Operation of a power supply circuit is checked.
CD does not operate at all. Time is not displayed in LCD DISPLAY at the CD function.	It does not communicate with the CD microcomputer.	Whether terminal (27Pin, 98 -100Pin) for the communication with the CD microcomputer does the communication operation is confirmed. If the communication operation is not done, whether the B to B connector etc. are disconnected is confirmed. Whether "H" is output to terminal CD RESET(83Pin)is confirmed.
The operation key is not accepted at all.	It is recognized that other KEY has already been pushed.	When KEY is not pushed, whether KEY input terminal (19 - 21Pin) is 5V is confirmed. If the KEY input terminal is not 5V, whether KEY SW on the line breaks is confirmed.

7.1.4 DISASSEMBLY

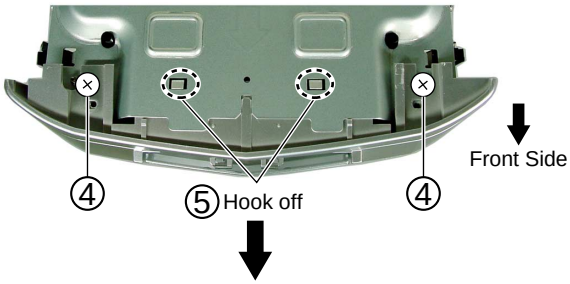
Note: The disassembly is the same although this photograph is XC-IS22VCD

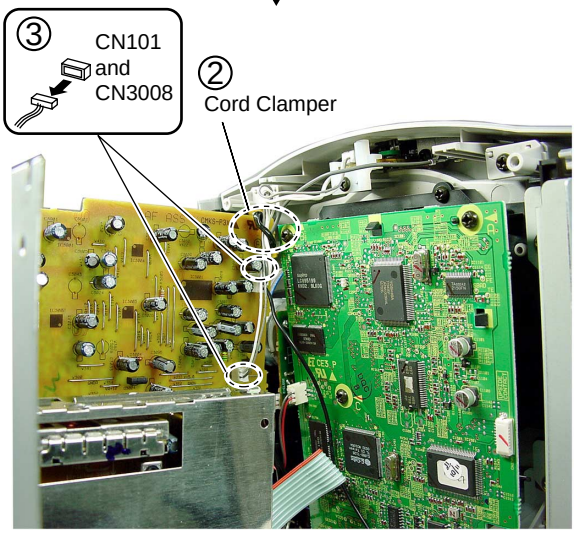
1 Front Panel Assy

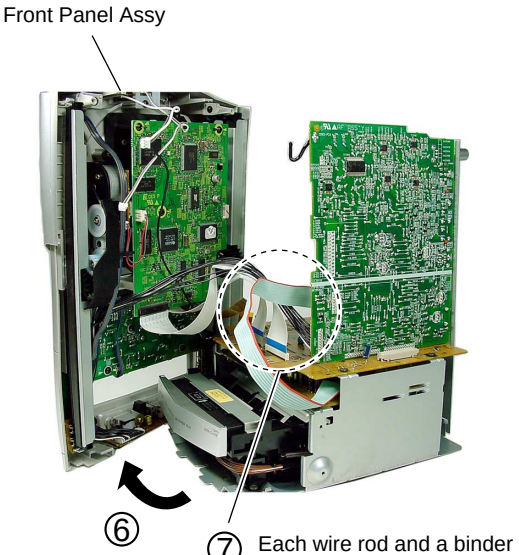
Note : Flexible cables are not removed in the case of the adjustment, but remove the Flexible cables to apply in the case of the exchange or repair.

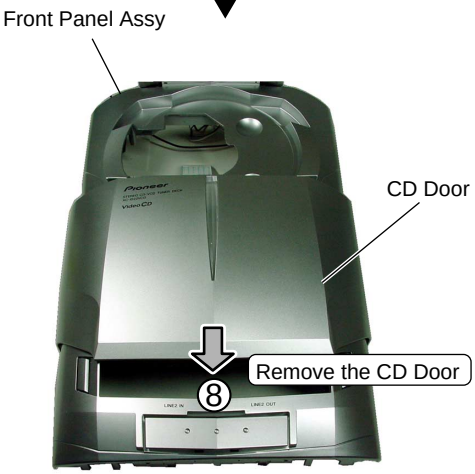


• Bottom View

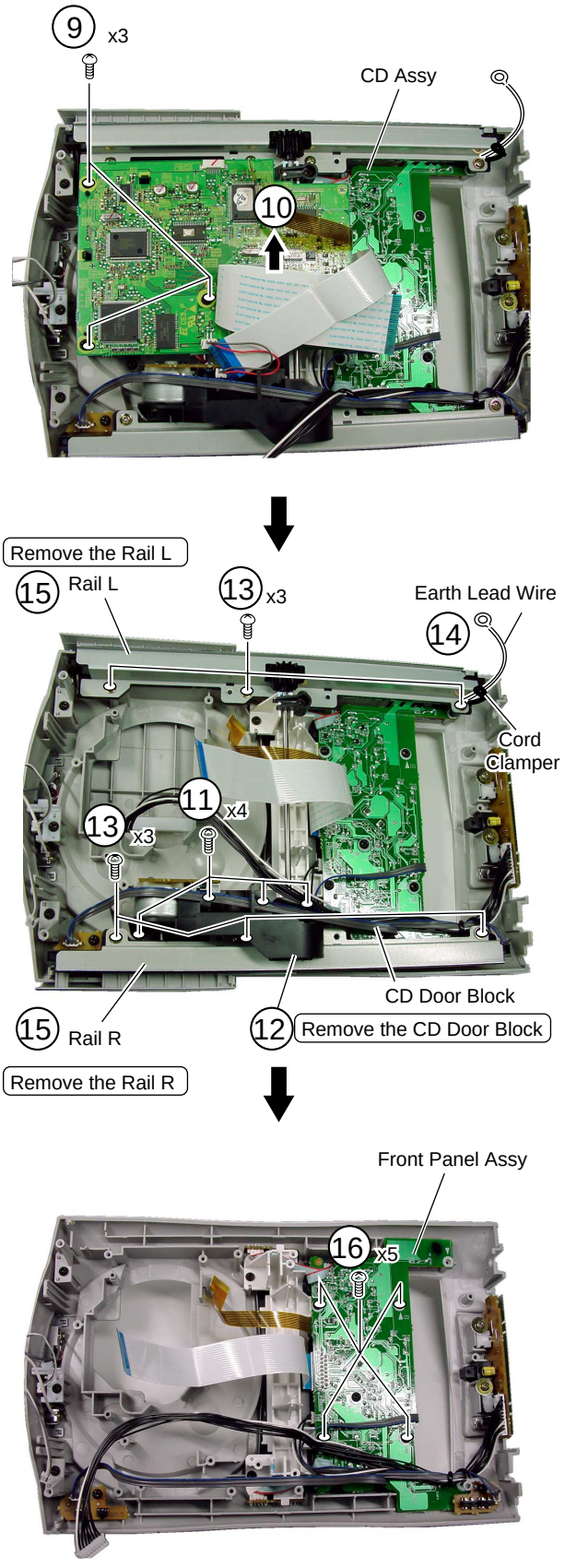


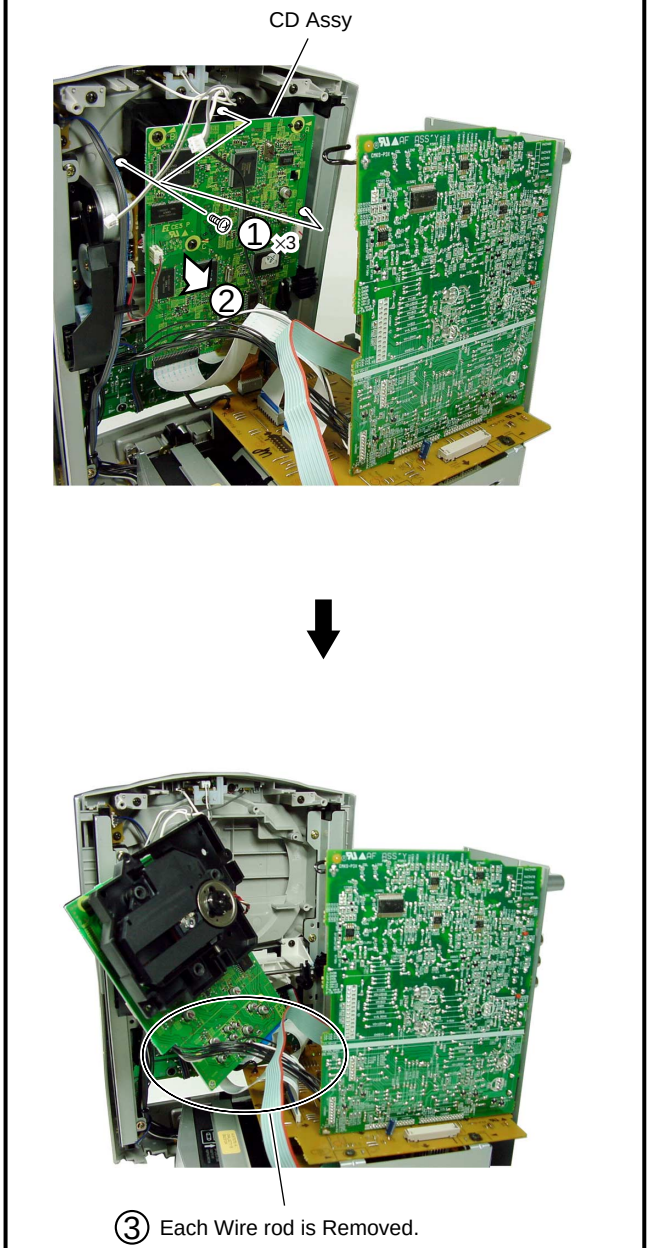


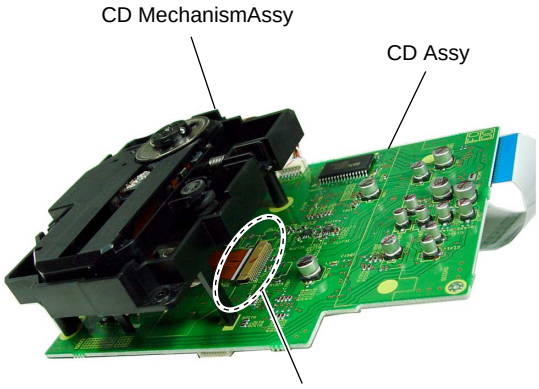




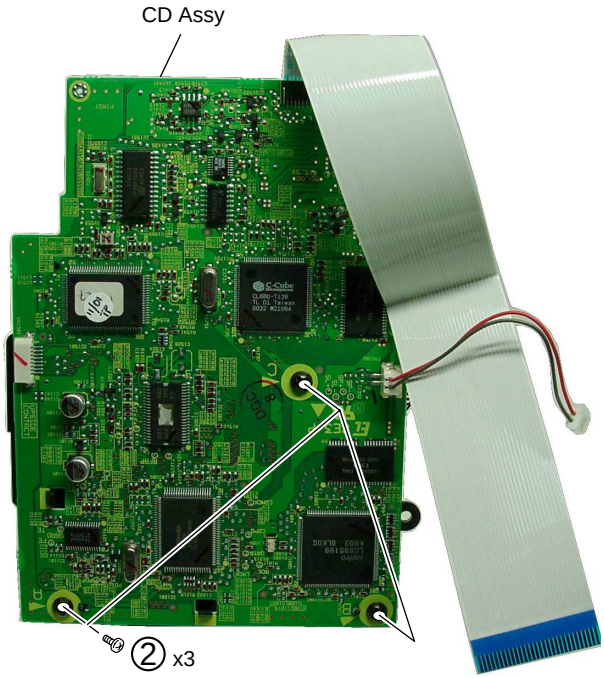
2 CD Mechanism Assy





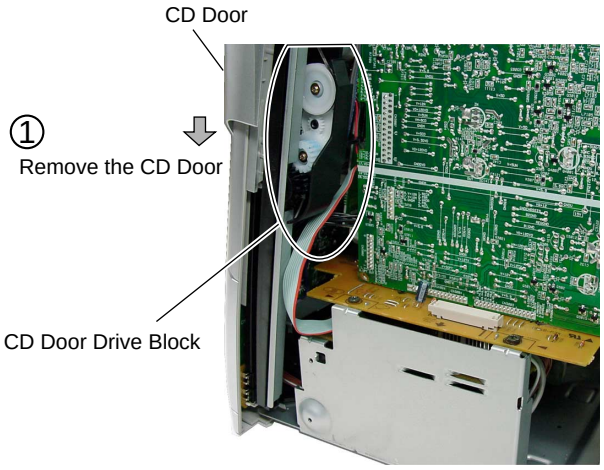


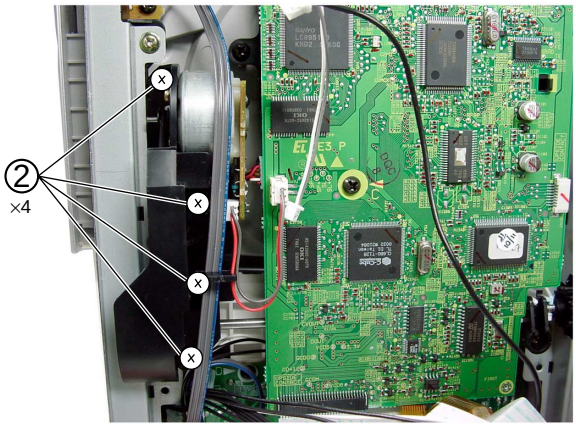
Caution : When the CD Assy is pulled out, be careful not to break Flexible Cable.



Exchange

3 CD Door Drive Block

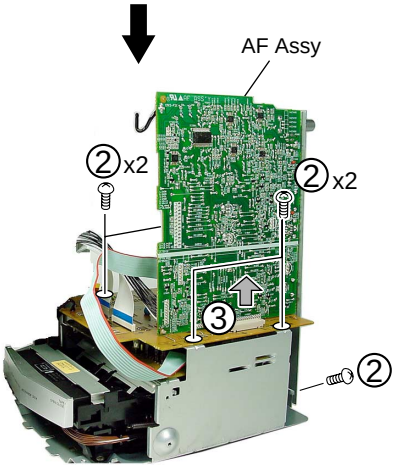




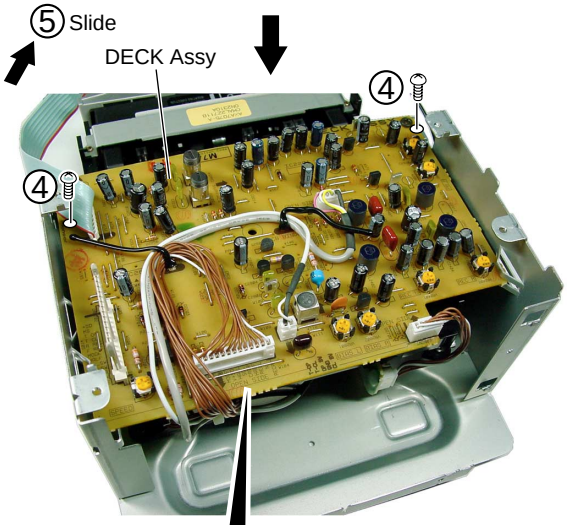
Exchange

4 Deck Mechanism Unit

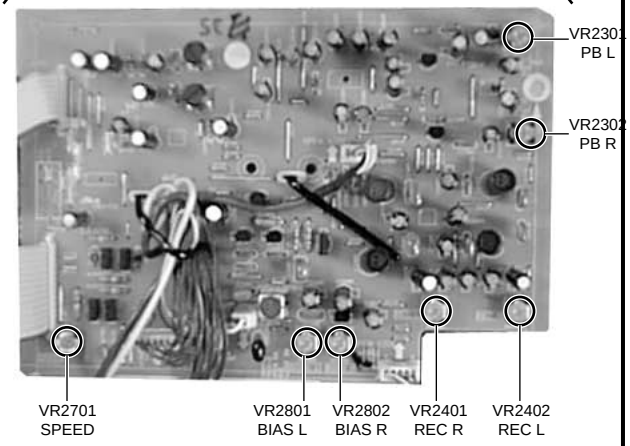
① Remove the Front panel Assy
(Refer to Front panel Assy)

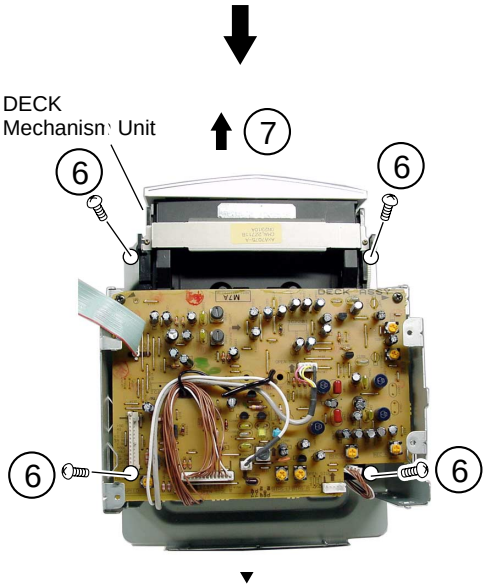


⑤ Slide



DECK Assy Adjustment Point



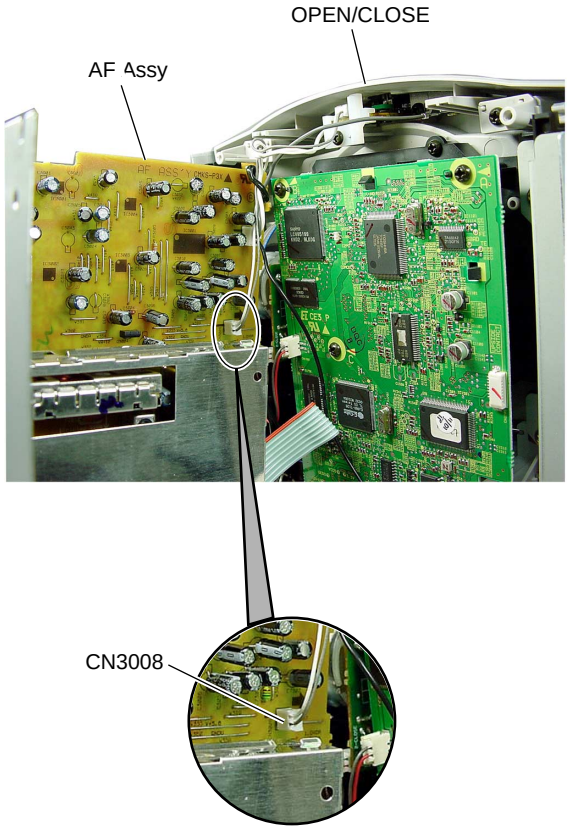


Exchange, Repair

Note

① **CD Door OPEN/CLOSE**

When a connector CN3008 of AF Assy is removed from the touch sensor system, sensor does not work and CD Door can't open and close. CD Door can open when the land of CN3008 at the foil side is short-circuited with the finger.



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.

●List of IC

PDC075A, PDC083A, LC75343M

■ PDC075A (IF ASSY : IC5501)

• System Control IC

●Pin Function (1/3)

No.	Mark	Pin Name	Type	Function
1	P16/T1PWML	NC	O	MP3 Model check
2	P17/T1PWMH/BUZ	BEEP	O	Buzzer Control
3	P30	TC TRAY IN	O	TAPE tray Load in
4	P31	TC TRAY OUT	O	TAPE tray Load out
5	P32	FLASH E/D	I/O	For FLASH Writing
6	P33	FLASH D0	I/O	For FLASH Writing
7	P34	FLASH CLK	O	For FLASH Writing
8	P35	SCLK	O	System bus Clock
9	P36	SDATA	I/O	System bus Data
10	P37	SREQ	I/O	System bus Request
11	RES	XRESET	-	Microcomputer Reset terminal
12	XT1/AN10	XTESTMODE	I	Test Mode Input
13	XT2/AN11	MS	I	MS Signal Input
14	VSS1	VSS	-	GND
15	CF1	CF1	-	OSC Input
16	CF2	CF2	-	OSC Output
17	VDD1	VDD	-	Power supply
18	P80/AN0	PROTECT	I	Protection and detection Input
19	P81/AN1	KEY1	I	Key Input
20	P82/AN2	KEY2	I	Key Input
21	P83/AN3	KEY3	I	Key Input
22	P84/AN4	SIMUKE	I	Model type select Input
23	P85/AN5	NC	O	-
24	P86/AN6	JOGIN	I	Multi-Jog Input
25	P87/AN7	NC	O	-
26	P70/INT0/TOLCP/AN8	ACPULS	I	AC Pulse Input
27	P70/INT0/TOLCP/AN9	CDCS	I	CD Microcomputer DATA Request
28	P70/INT2/TOIN	RDSCLK	I	RDS Clock Input
29	P70/INT3/TOIN	REMIN	I	Remote Control Input
30	SO/TO	NC	O	-
31	S1/T1	NC	O	-
32	S2/T2	NC	O	-
33	S3/T3	NC	O	-
34	S4/T4	NC	O	-
35	S5/T5	NC	O	-
36	S6/T6	NC	O	-
37	S7/T7	NC	O	-
38	S8/T8	NC	O	-
39	S9/T9	NC	O	-
40	S10/T10	NC	O	-

●Pin Function (2/3)

No.	Mark	Pin Name	Type	Function
41	S11/T11	NC	-	-
42	S12/T12	NC	-	-
43	S13/T13	NC	-	-
44	S14/T14	NC	-	-
45	S15/T15	NC	-	-
46	VDD3	NC	-	-
47	S16//PC0	NC	-	-
48	S17/PC1	NC	-	-
49	S18/PC2	TUNE	I	TX TUNED Input
50	S19/PC3	STEREO	I	TX STEREO Input
51	VP	GND	-	GND
52	S20/PC4	TCMODE	I	Mechanism MODE SW
53	S21/PC5	TCHALF	I	Mechanism HALF SW
54	S20/PC6	PULSE	I	TC Reel pulse
55	S21/PC7	CD DOOR1	I	CD door detection Input 1 (OPEN completion SW)
56	S22/PD0	CD DOOR2	I	CD door detection Input 2 (OPEN slowdown SW)
57	S23/PD1	CD DOOR3	I	CD door detection Input 3 (CLOSE slowdown SW)
58	S24/PD2	CD DOOR4	I	CD door detection Input 4 (CLOSE completion SW)
59	S25/PD3	TC OPEN	I	Tray OPEN SW
60	S26/PD4	TC CLOSE	I	Tray CLOSE SW
61	S27/PD5	TC RECR	I	Mechanism RECR SW
62	S28/PD6	TC RECL	I	Mechanism RECF SW
63	S29/PD7	TOUCH	I	Touch sensor Input
64	S30/PE0	TXIDAT	I	TX LSI data Input
65	S31/PE1	RDSDATA	I	RDS data Input
66	S32/PE2	TXMUTE	O	TX mute control
67	S33/PE3	TXPOW	O	TX power supply control
68	S34/PE4	RDSPOW	O	RDS power supply control
69	S35/PE5	NC	O	-
70	S36/PE6	LCDRESET	O	LCD driver RESET
71	S39/PE7	DIMMER	O	DIMA control
72	VDD4	VDD	-	VDD
73	S40/PF0	SYSMUTE	O	System mute control
74	S41/PF1	FAUXMUTE	O	Front mute control
75	S42/PF2	RAUXMUTE	O	Rear mute control
76	S43/PF3	AUXCONT	O	Digital Input change
77	S44/PF4	SPCONT	O	Speaker reay control
78	S45/PF5	SYSPOW	O	System power supply cotrol
79	S46/PF6	CD DOOR OUT	O	CD Door OPEN drive output
80	S47/PF7	CD DOOR IN	O	CD Door CLOSE drive output

●Pin Function (3/3)

No.	Mark	Pin Name	Type	Function
81	S48/PG0	XLOMUTE	O	CD Door driver-IC MUTE ON/OFF
82	S49/PG1	MP3RESET	O	CD/MP3 microcomputer oscillation control
83	S50/PG2	XCDRST	O	CD microcomputer reset output
84	S51/PG3	CDCONT	O	CD LSI power supply control
85	P00	VOLCE	O	Electronic volume IC chip enable
86	P01	VOLDATA	O	Electronic volume IC data
87	P02	VOLCLK	O	Electronic volume IC clock
88	P03	EXPCE	O	Extended IC chip enable
89	VSS2	VSS	-	GND
90	VDD2	VDD	-	Power supply
91	P04	TXCE	O	TX LSI chip enable
92	P05	TXCLK	O	TX LSI clock
93	P06	TXODAT	O	TX LSI data output
94	P07	NC	O	-
95	P10/SO0	LCDDAT	O	LCD driver DATA
96	P11/SIO/SBO	LCDCE	O	LCD driver CE (general-purpose pore)
97	P12/SCK0	LCDCLK	O	LCD driver CLOCK
98	P13/SO1	CDDOUT	O	CD microcomputer DATA OUT
99	P14/S11/SB1	CDDIN	I	CD microcomputer DATA IN
100	P15/SCK1	CDCLK	O	CD microcomputer DATA CLOCK

■ PDC083A (CD ASSY : IC1501)

• CD micro computer

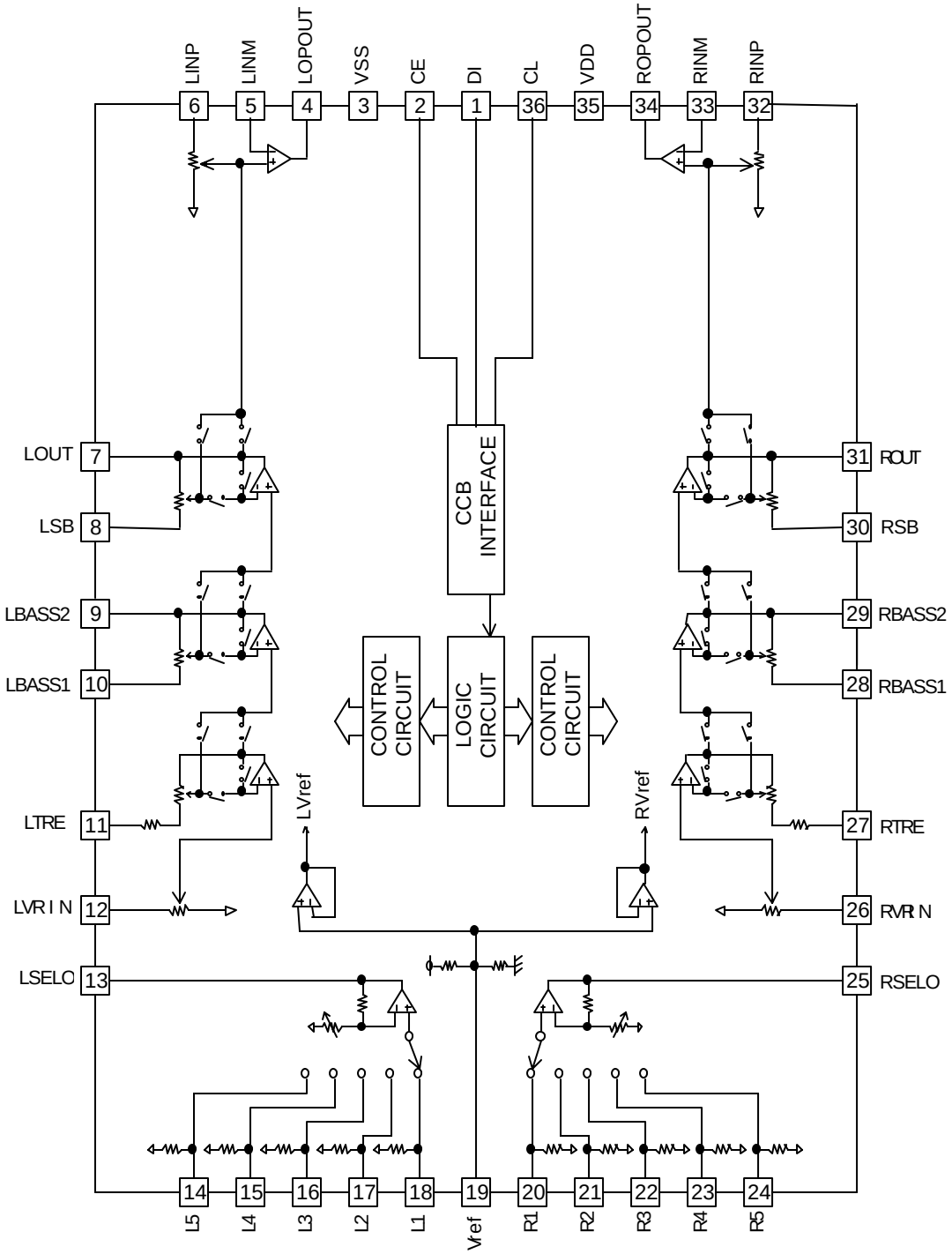
●Pin Function

No.	Name	I/O	Description
1	NC	-	-
2	CDMUTE	O	CD MUTE control (H:MUTE)
3	XCDCE	O	CD BUS communication (TC9495F CHIP ENABLE)
4	BUCK	O	CD BUS communication (TC9495F CLK OUT)
5	/HS	O	CD IC (TC9495F) Nomal/High speed select ACTIVE ("H" :NORMAL)
6	XRST	I	Reset output of TC9495F and CL680T ("L" : ACTIVE)
7	VCS	I	Communication with system microcomputer (CHIP SELECT)
8	NC	O	-
9	NC	I	-
10	NC	I	-
11	XVCRST	O	Reset input
12	(+5V)	O	Because it is unused, connects with +5V.
13	NC	O	-
14	GND	O	GND
15	CF1	O	Connects with a ceramic oscillator (10MHz)
16	CF2	O	Connects with a ceramic oscillator (10MHz)
17	VDD	O	Connects with a +5V
18	BUS3	O	CD BUS communication (TC9495F DATA INPUT OUTPUT)
19	BUS2	O	
20	BUS1	O	
21	BUS0	O	
22	WCLK	O	The terminal (It is unused in the mask ROM) (I) for the flash microcomputer writing
23	ED0	O	The terminal (It is unused in the mask ROM) (I/O) for the flash microcomputer writing
24	WEN/D1	O	The terminal (It is unused in the mask ROM) (I) for the flash microcomputer writing
25	-	O	-
26	-	O	-
27	TEST1	O	Checkers test mode input ("H" : MODE START & CD PLAY
28	TEST2	O	Checkers test mode end ("H" : CD STOP & MODE END
29	NC	O	-
30 I 38	(GND)	-	connects with the terminal GND . (It is not possible to use for VFD)
39 I 45	GND	-	GND
46	VDD	-	GND
47 I 50	(GND)	-	unused (GND connection)
51	VP	-	GND
52 I 71	(GND)	- - -	unused (GND connection)
72	VDD	-	GND
73 I 84	(GND)	-	unused (GND connection)
85	ZDET		Zero detection ("H" : ZERO)
86	CD INSIDE	I	CD INSIDE SW ("L": INSIDE)
87 I 89	(GND)	-	unused (GND connection)
90	VDD	I	+5V
91 I 94	(GND)	-	unused (GND connection)
95	VCV	O	Communication with system microcomputer (DATA INPUT/OUTPUT)
96	VCS	I	Communication with system microcomputer (DATA INPUT)
97	VCLK	I	Communication with system microcomputer (CLK)
98	NC	O	-
99	NC	I/O	-
100	NC	O	-

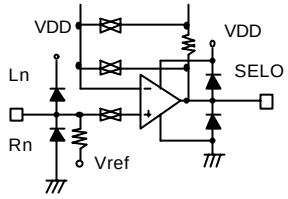
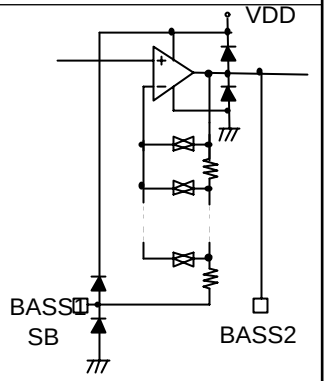
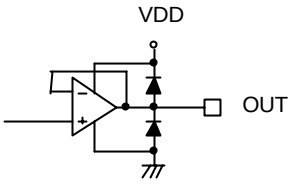
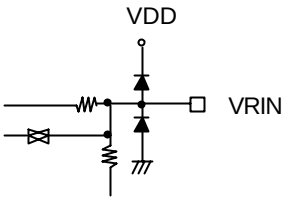
■ LC75343M (AF ASSY : IC3001)

- **Electronic Volume IC**

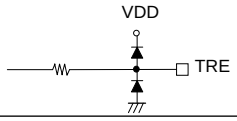
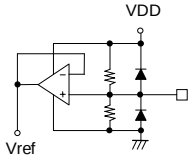
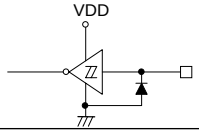
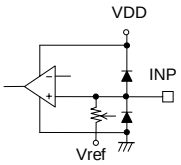
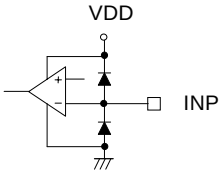
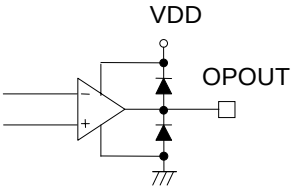
●Block Diagram



●Pin Function (1/2)

Pin Name	Pin No.	Function	Remarks
L1 L2 L3 L4 L5 R1 R2 R3 R4 R5	18 17 16 15 14 20 21 22 23 24	• Input signal terminal	
LSELO RSELO	13 25	• Input selector output terminal	
LBASS1 LBASS2 RBASS1 RBASS2 LSB RSB	10 9 28 29 8 30	• For BASS and SUPER BASS band use or MID and BASS use Connection terminal of capacitor and resistor which compose a filter.	
LOUT ROUT	7 31	• ATT+ Equalizer output terminal / capacitor connection terminal which compose a SUPER BASS filter	
LVRIN RVRIN	12 26	• Volume input terminal	

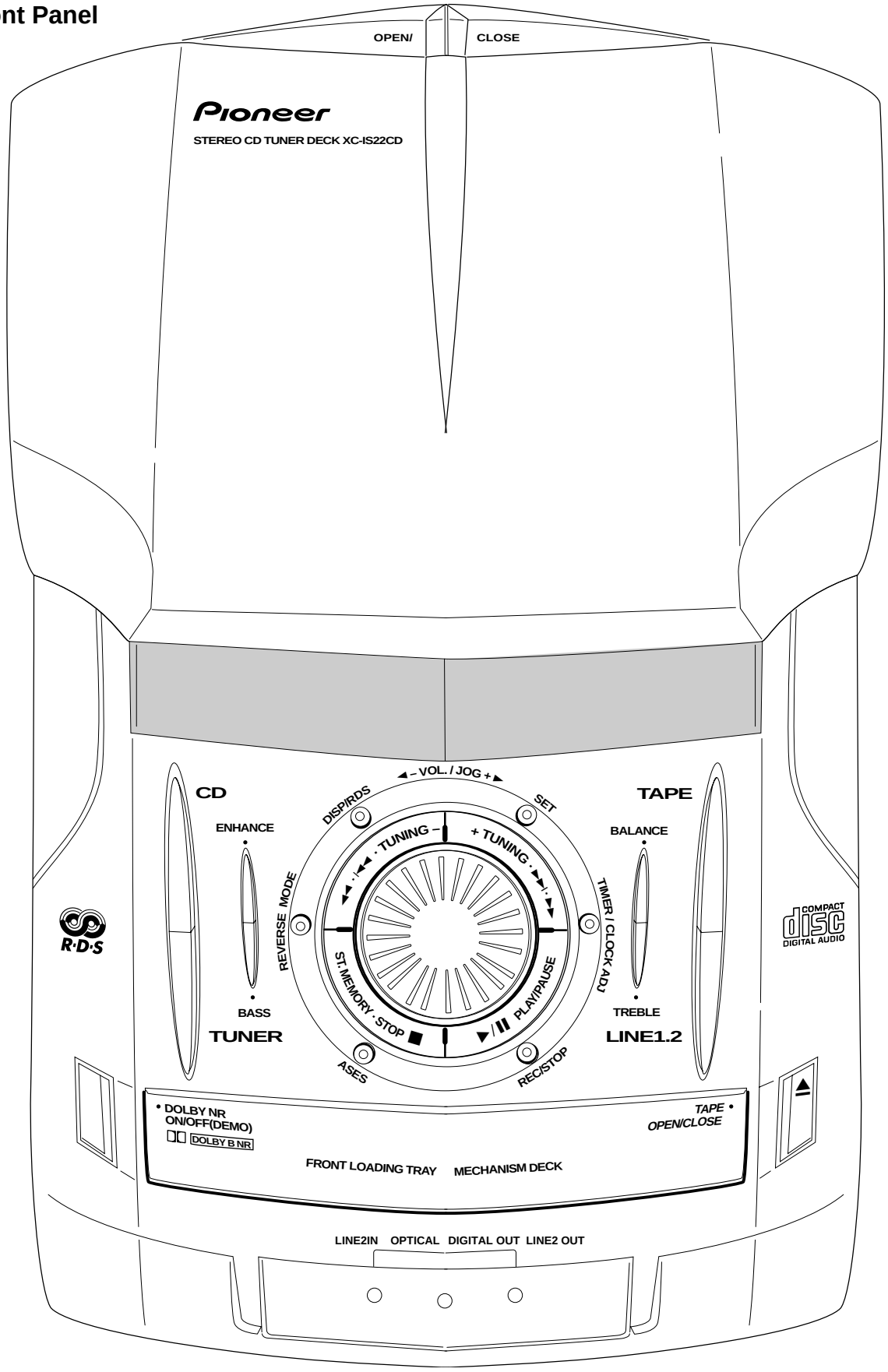
●Pin Function (2/2)

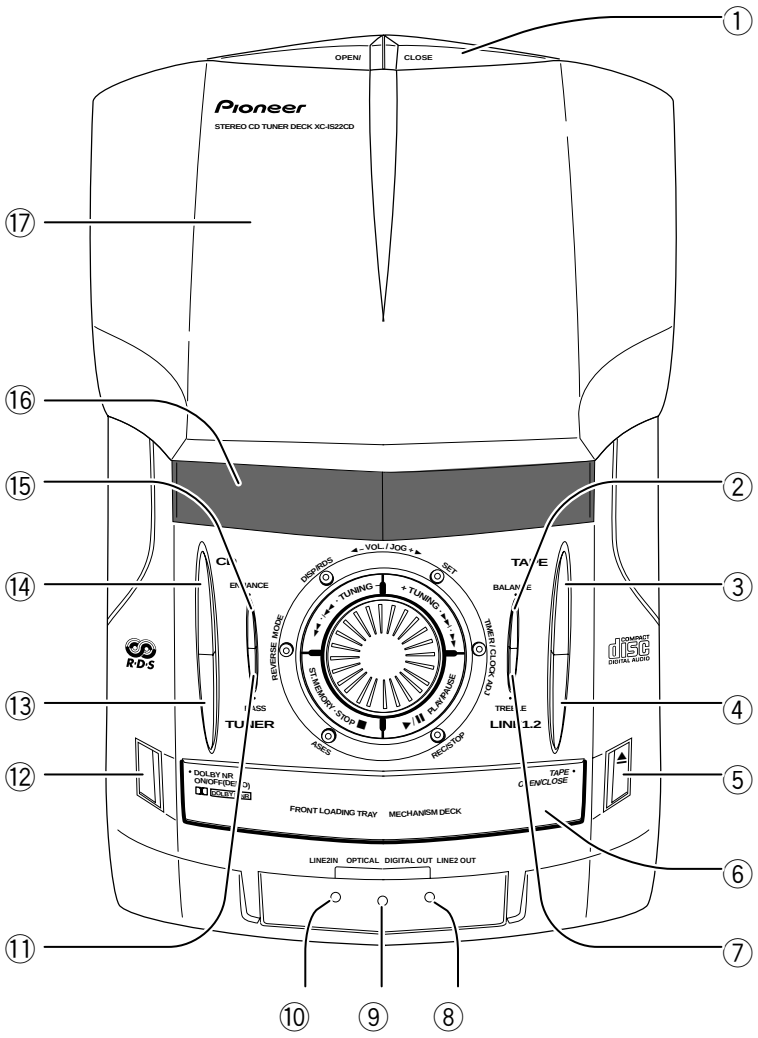
Pin Name	Pin No.	Function	Remarks
LTRE RTRE	11 27	• Capacitor connection terminal which compose a filter for TREBLE band.	
Vref	19	• 0.5 x VDD voltage generation section for analog ground	
VSS	3	• Ground terminal	
VDD	35	• Power supply terminal	
CE	2	• Chip enable terminal Data are written in the internal latch by a timing that it becomes "L" from "H", and each analog switch works. • Data transfer enables by "H" level.	
DI CL	1 36	• Data transfer enables with serial data and clock level for control.	
LINP RINP	6 32	① General purpose op-amp specification Non-inverting input terminal of general purpose op-amp. ② ATT control specification Non-inverting input terminal of op-amp for ATT. ③ 3 bands specification Non-inverting input terminal of op-amp for ATT.	
LINM RINM	5 33	① General purpose op-amp specification Non-inverting input terminal of general purpose op-amp. Connect to L (R) OPOUT terminal when this terminal is not used. (connect between pin 4 and pin 5) , (connect between pin 34 and pin 33) ② ATT control specification Inverting input terminal of op-amp for ATT. Connect to L (R) OPOUT terminal is not used. (connect between pin 4 and pin 5) , (connect between pin 34 and pin 33) ③ 3 bands specification Inverting input terminal of op-amp for ATT. Connect to L (R) OPOUT terminal is not used. (connect between pin 4 and pin 5) , (connect between pin 34 and pin 33)	
LOPOUT ROPOUT	4 34	① General purpose op-amp specification inverting output terminal of general purpose op-amp. Connect to L (R) INM terminal when this terminal is not used. (connect between pin 4 and pin 5) , (connect between pin 34 and pin ② ATT control specification Inverting output terminal of op-amp for ATT. Connect to L (R) INM terminal is not used. (connect between pin 4 and pin 5) , (connect between pin 34 and pin 33) ③ 3 bands specification Inverting output terminal of op-amp for ATT. Connect to L (R) INM terminal is not used. (connect between pin 4 and pin 5) , (connect between pin 34 and pin 33)	

8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES

■ Front Panel

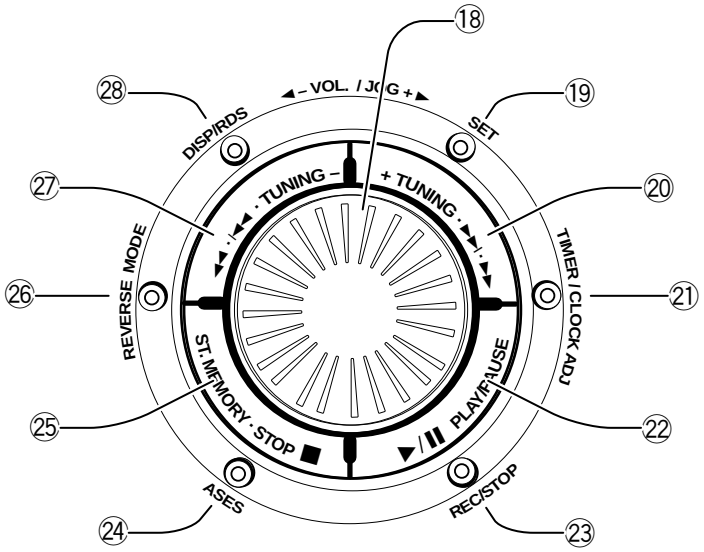




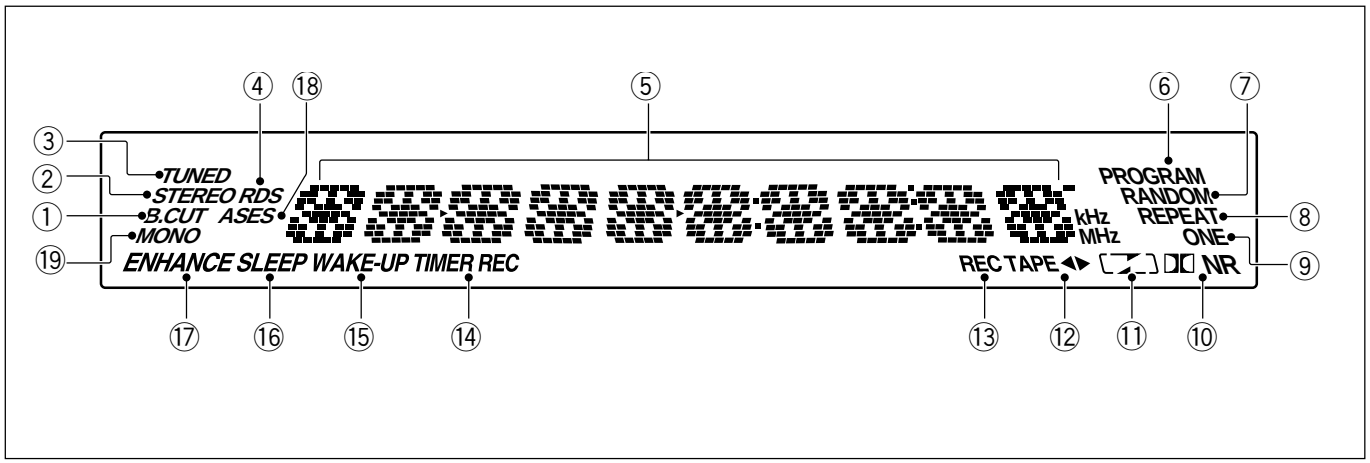
① OPEN/CLOSE touch sensor
② BALANCE
③ TAPE
④ LINE 1.2
⑤ TAPE OPEN/CLOSE ⏏
⑥ Cassette tray
⑦ TREBLE
⑧ LINE 2 OUT jack
⑨ OPTICAL DIGITAL OUT jack
⑩ LINE 2 IN jack
⑪ BASS
⑫ DOLBY NR ON/OFF (DEMO)
⑬ TUNER
⑭ CD
⑮ ENHANCE
⑯ Display
⑰ CD cover
⑱ ◄ - VOL. / JOG + ►
⑲ SET
⑳ + TUNING • ►►I • ►►
㉑ TIMER/CLOCK ADJUST
㉒ ►/II PLAY/PAUSE
㉓ REC/STOP
㉔ ASES
㉕ ST.MEMORY• STOP ■
㉖ REVERSE MODE
㉗ ◄◄ • I◄◄ • TUNING -
㉘ DISP/RDS

** Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*

** "DOLBY" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.*



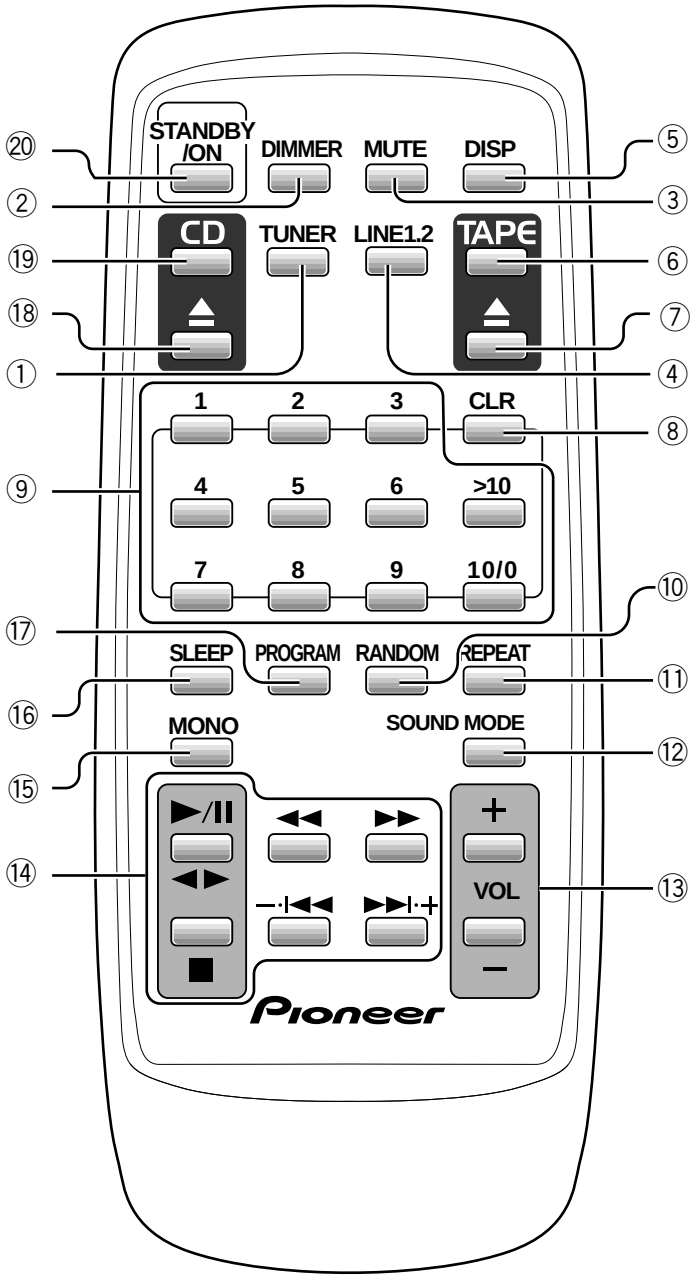
■ Display



Display window

① B.CUT Lights when beat cut 2 is active
② STEREO Lights when listening to FM stereo radio
③ TUNED Lights when tuned to a radio broadcast
④ RDS Lights when in one of the RDS display or search modes
⑤ Character display
⑥ PROGRAM Lights in program play
⑦ RANDOM Lights in random play
⑧ REPEAT Lights in repeat play
⑨ ONE Lights in repeat one-track play
⑩ NR Lights when Dolby B Noise Reduction is on
⑪ Indicates the reverse mode (, or)
⑫ TAPE ◄► Indicates the direction of tape travel (◄ (reverse)
or ► (forward))
⑬ REC Lights during tape recording
⑭ TIMER REC Lights when the record timer is active
⑮ WAKE UP Lights when the wake up timer is active
⑯ SLEEP Lights when the sleep timer is active
⑰ ENHANCE Lights when one of the Enhance modes is on
⑱ ASES Lights during ASES (Auto Synchro Editing System) recording
⑲ MONO Lights when FM mono mode is on

■ Remote Control Unit



① TUNER
② DIMMER
③ MUTE
④ LINE 1.2
⑤ DISP
⑥ TAPE
⑦ TAPE ▲ (open/close)
⑧ CLEAR
⑨ Number buttons (1 - 9, 10/0, >10)
⑩ RANDOM
⑪ REPEAT
⑫ SOUND MODE
⑬ VOL (volume) +, -
⑭ CD/TAPE/TUNER operation
CD operation
►/II (Play/pause)
■ (Stop)
◄◄, ►► (Manual search)
- •I◄◄ , ►►I, + (Track search)
TAPE operation
◄ ► (Play)
■ (Stop)
◄◄, ►► (Fast forward, rewind)
- •I◄◄ , ►►I, + (Music search)
TUNER operation
◄◄, ►► (Frequency down, up)
- •I◄◄ , ►►I, + (Memory station no. select)
• The - •I◄◄ and ►►I, + buttons can be used in place of the JOG dial (front panel).
⑮ MONO (for FM reception)
⑯ SLEEP
⑰ PROGRAM
⑱ CD ▲ (open/close)
⑲ CD
⑳ STANDBY/ON

8.2 SPECIFICATIONS

Amplifier section

Continuous Power (RMS) ..... 100 W + 100 W
(1 kHz, THD 10%, 6 Ω)
Continuous Power (DIN) ..... 65 W + 65 W
(1 kHz, THD 1%, 6 Ω)
Music Power (DIN) ..... 150 W + 150 W
(1 kHz, THD 1%, 6Ω)

FM Tuner Section

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

AM Tuner Section

Frequency Range .....
..... 531 kHz - 1,602 kHz (9 kHz step);
..... 530 kHz - 1,700 kHz (10 kHz step)
Antenna ..... Loop antenna

Compact Disc Player Section

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

Cassette Deck Section

System ..... 4-track, 2-channel stereo
Heads ..... Recording/playback head x 1
Erasing head x 1
Motor ..... DC Servo motor x 1
Tape type ..... TYPE I (Normal)

Miscellaneous

Power Requirements ..... AC 220-230 V, 50/60 Hz
Power Consumption ..... 140 W
Power Consumption in standby mode ..... 1 W
Dimensions:
CD Tuner Deck ..... 204 (W) x 300 (H) x 237 (D) mm
Power Amplifier .... 160 (W) x 300 (H) x 237 (D) mm
Weight:
CD Tuner Deck ..... 2.7 kg
Power Amplifier ..... 4.1 kg

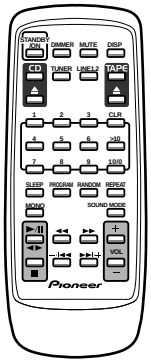
Accessories (CD Tuner Deck)

Operating Instructions ..... ZYXJ: 2, ZVXJ: 1
Remote control unit 1
Power cord ..... ZVXJ: 1
FM antenna 1
AM loop antenna 1
Dry cell batteries (AA/R6P) 2
Warranty Card 1

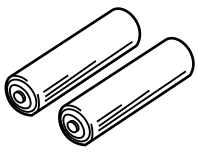
Note
Specifications and design subject to possible modification without notice, due to improvements.

■ Accessories

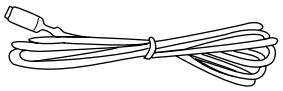
Remote control unit x1
(XXD3034)



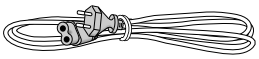
dry cell batteries (AA/R6P) x2
(VEM-013)



FM antenna x1
(ADH7005)



Power cord x1
(ADG1156) (ZVXJ)



AM Loop antenna x1
(ATB7009)