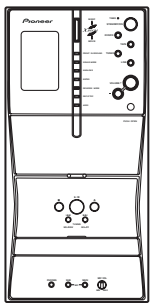
Pioneer *sound.vision.soul*

Service Manual



XV-EV1000

ORDER NO.
RRV3189

STEREO DVD CASETTE DECK RECEIVER

XV-EV700

tu2522

086-5306051

SAFETY INFORMATION

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

WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 650 nm
FOR CD : MAXIMUM OUTPUT POWER : 7 mW
WAVELENGTH : 780 nm

LABEL CHECK

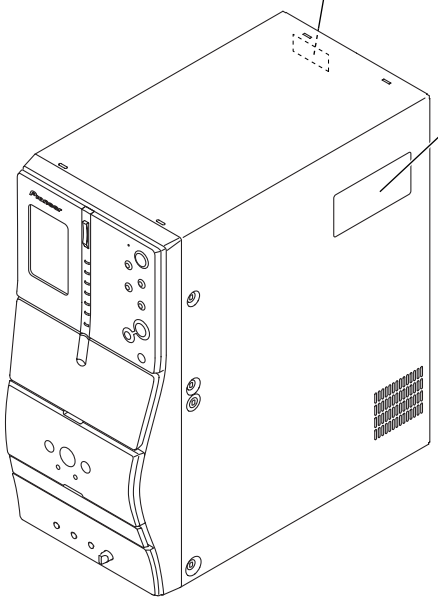
CAUTION	: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
VORSICHT	: SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENNABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN!
ADVARSEL	: SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARNING	: SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.
VARO!	: AVATTAESSA ALTISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLE. ÄLÄ KATSO SÄTEESEN.
CUIDADO	: RADIACIÓN LÁSER VISIBLE E INVISIBLE AL ESTAR ABIERTO. EVITAR EXPOSICIÓN AL RAYO.

VRW1872

VRW1872

CLASS 1
LASER PRODUCT

Printing on Rear Panel



Additional Laser Caution

1. Laser Interlock Mechanism
   • Loading switch (S101 on the LOAB Assy) is used for interlock mechanism of the laser.
   When this switch turned ON in SW2 (CLOSE) side (OPEN signal is 0V and CLOSE signal is 3.5V), a laser becomes the status which can completely oscillation.
   Furthermore, the laser completely oscillates in the disc judgment and disc playback.
   When player is power ON state and laser diode is not completely oscillating, 780nm laser diode is always oscillating by half power.
   • Laser diode is driving with Q307 (650nm LD) and Q308 (780nm LD) on the DVDM Assy.
   Therefore, when short-circuit between the emitter and collector of these transistors or the base voltage is supplied for transistors turn on, the laser oscillates. (failure mode)
   • In the test mode ∗ , there is the mode that the laser oscillates except for the disc judgment and playback. LD ON mode in the test mode oscillates with the laser forcibly.
   The interlock mechanism mentioned above becomes invalid in this mode.

2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

∗ : Refer to page 96.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

1. SPECIFICATIONS

• Amplifier section

Continuous power output:
Front . . . . . .100 W per channel (1kHz, 10 % T.H.D., 6Ω)
Center . . . . . 100 W (1kHz, 10 % T.H.D., 6Ω)
Surround . . . . . .100 W per channel (1kHz, 10 % T.H.D., 6Ω)
Subwoofer . . . . . 100 W (100Hz, 10 % T.H.D., 6Ω)

• Disc section

Digital audio characteristics . . . . . DVD fs: 96 kHz, 24-bit
Type. DVD system, Video CD/Super VCD system and Compact Disc digital audio system
Frequency response . . . . . .4 Hz to 44 kHz
S/N ratio . . . . . 95 dB
Dynamic range . . . . . 95 dB
Total harmonic distortion . . . . . 0.005 %
Wow and Flutter . . . . . .Limit of measurement (±0.001 % W.PEAK) or less (JEITA)

• Cassette deck section

Systems . . . . . 4 track, 2-channel stereo
Heads . . . . . .Recording/playback head x 1
Erasing head x 1
Motor . . . . . DC servo motor x 1
Tape types . . . . . Type I (Normal)

• FM tuner section

Frequency range . . . . . 87.5 MHz to 108 MHz
Antenna . . . . . .75Ω, unbalanced

• AM tuner section

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

• Miscellaneous

Power requirements
Multi voltage model . . . . AC 110-127/220-230/240 V (switchable), 50/60 Hz
Power consumption . . . . . 179 W
Power consumption in standby mode . . . . . 0.5 W
Dimensions:
DVD Tuner Deck Receiver . . . . 170(W) 352.5 (H) 340.1 (D) mm
Weight:
DVD Tuner Deck Receiver . . . . . 7.2 kg

• Accessories (Stereo DVD Tuner Deck)

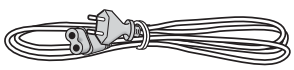
Remote control 1
Power cord
Central and South American, Taiwan, Philippines, Argentina, Mexico models 2
All other models 1
Power plug adapter (Central and South American, US Military and Duty Free models only) 1
Video cord 1
AM loop antenna 1
FM antenna 1
Dry cell batteries (AA/R6) 2
Warranty Card (US Military and Duty Free models only) 1
Operating instructions

Manufactured under license from Dolby Laboratories.“Dolby”, “Pro Logic” and the double-D symbol are trademarks of Dolby Laboratories.

“DTS” and “DTS Digital Surround” are registered trademarks of Digital Theater Systems, Inc.

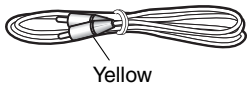
● Accessories

• Power cord (ADG1154)



• FM Antenna (ADH7030)

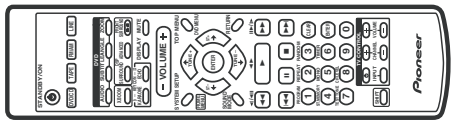
• Video Cord (L = 1.5m) (XDE3046)



• AM Loop Antenna (ATB7013)

• Dry Cell Batteries

• Remote Control (XXD3098)



Disc / content format playback compatibility

This player is compatible with a wide range of disc types (media) and formats. Playable discs will generally feature one of the following logos on the disc and/or disc packaging. Note however that some disc types, such as recordable CD and DVD, may be in an unplayable format.

See the Disc compatibility table below for more information.

DVD-Video DVD-R DVD-RW

Audio CD Video CD CD-R CD-RW

Fujicolor CD

- is a trademark of Fuji Photo Film Co. Ltd.
- is a trademark of DVD Format/Logo Licensing Corporation
- Also compatible with KODAK Picture CD

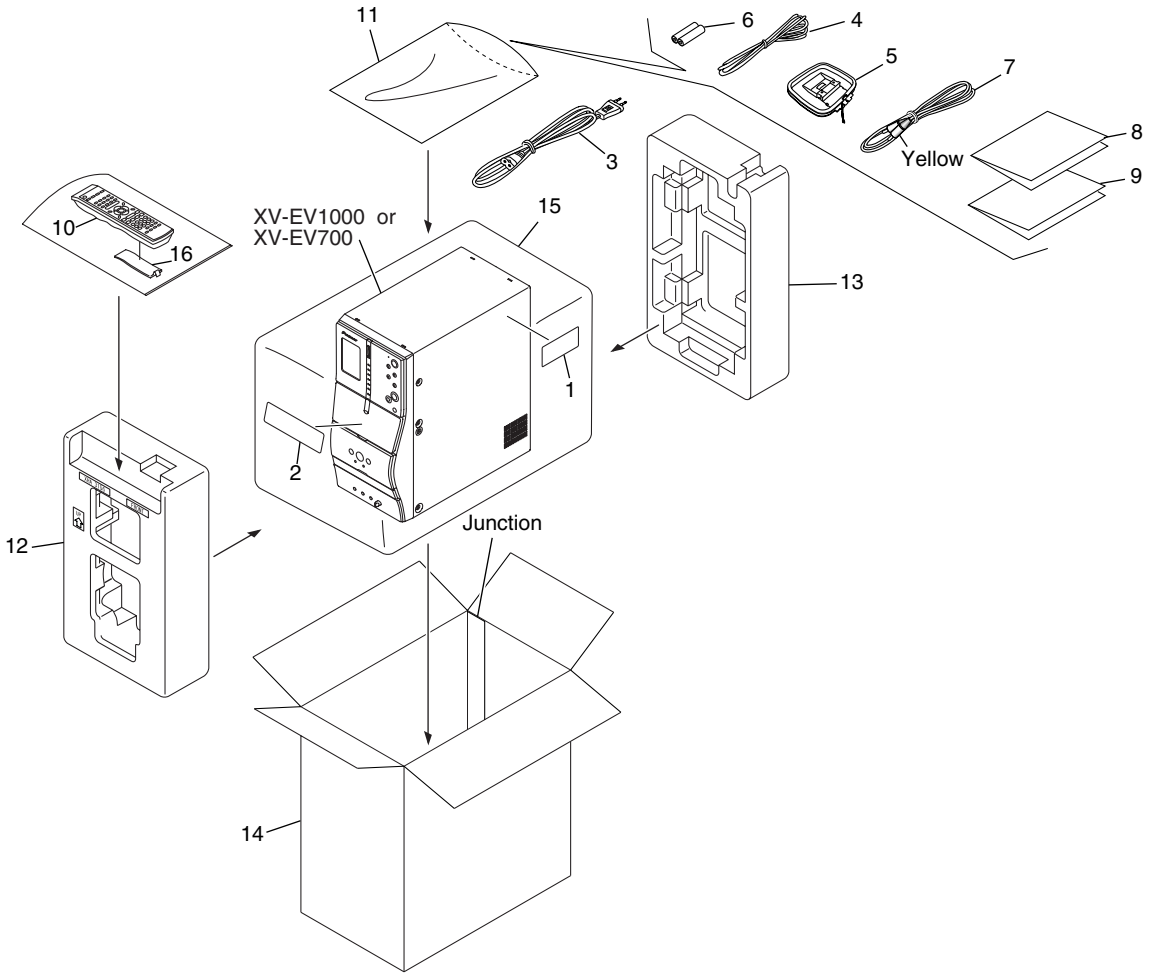
This player supports the IECís Super VCD standard for superior picture quality, dual soundtracks, and widescreen support.

Super Video CD (Super VCD)

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 product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



(1) PACKING SECTION PARTS LIST

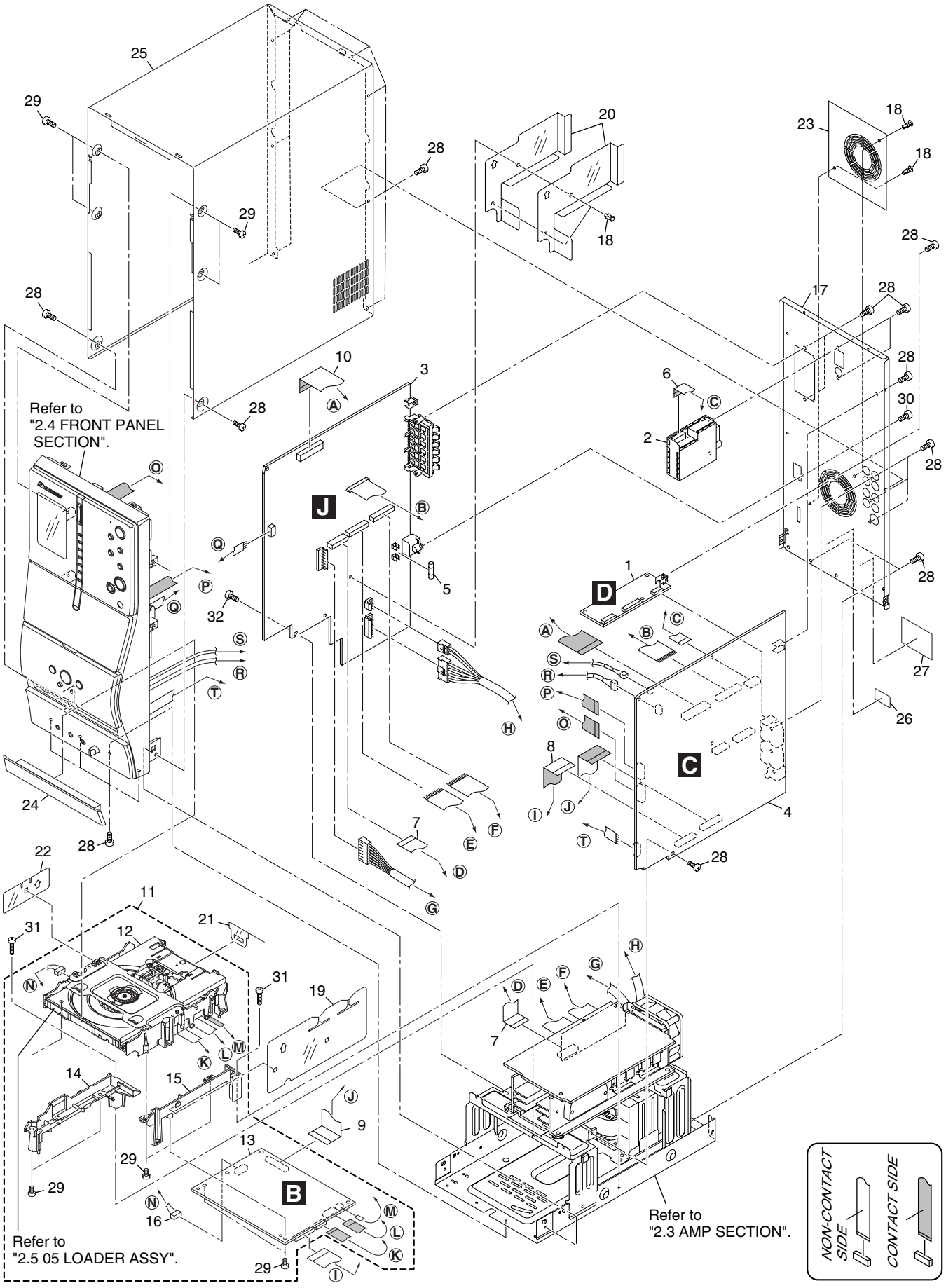
Mark	No.	Description	Part No.
	1	Label	VRW1872
NSP	2	Getter Label	See Contrast table (2)
⚠	3	AC Power Cord	ADG1154
	4	FM Antenna	ADH7030
	5	AM Loop Antenna	ATB7013
NSP	6	Dry Cell Batteries (AA/R6)	VEM1031
	7	Video Cord	XDE3046
	8	Operating Instructions (English)	XRB3053
	9	Operating Instructions (Chinese)	XRC3209
	10	Remote Control	XXD3098
NSP	11	Polyethylene Bag	Z21-038
	12	Front Pad	XHA3156
	13	Rear Pad	XHA3157
	14	Packing Case	See Contrast table (2)
	15	Packing Sheet	XHG3010
	16	Battery Cover	AZN7933

(2) CONTRAST TABLE

XV-EV700/DLXJ/NC and XV-EV1000/DLXJ/NC are constracted the same except for the following :

Mark	No.	Description	XV-EV1000/DLXJ/NC	XV-EV700/DLXJ/NC
NSP	2	Getter Label	XAX3539	XAX3526
	14	Packing Case	XHD3565	XHD3555

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

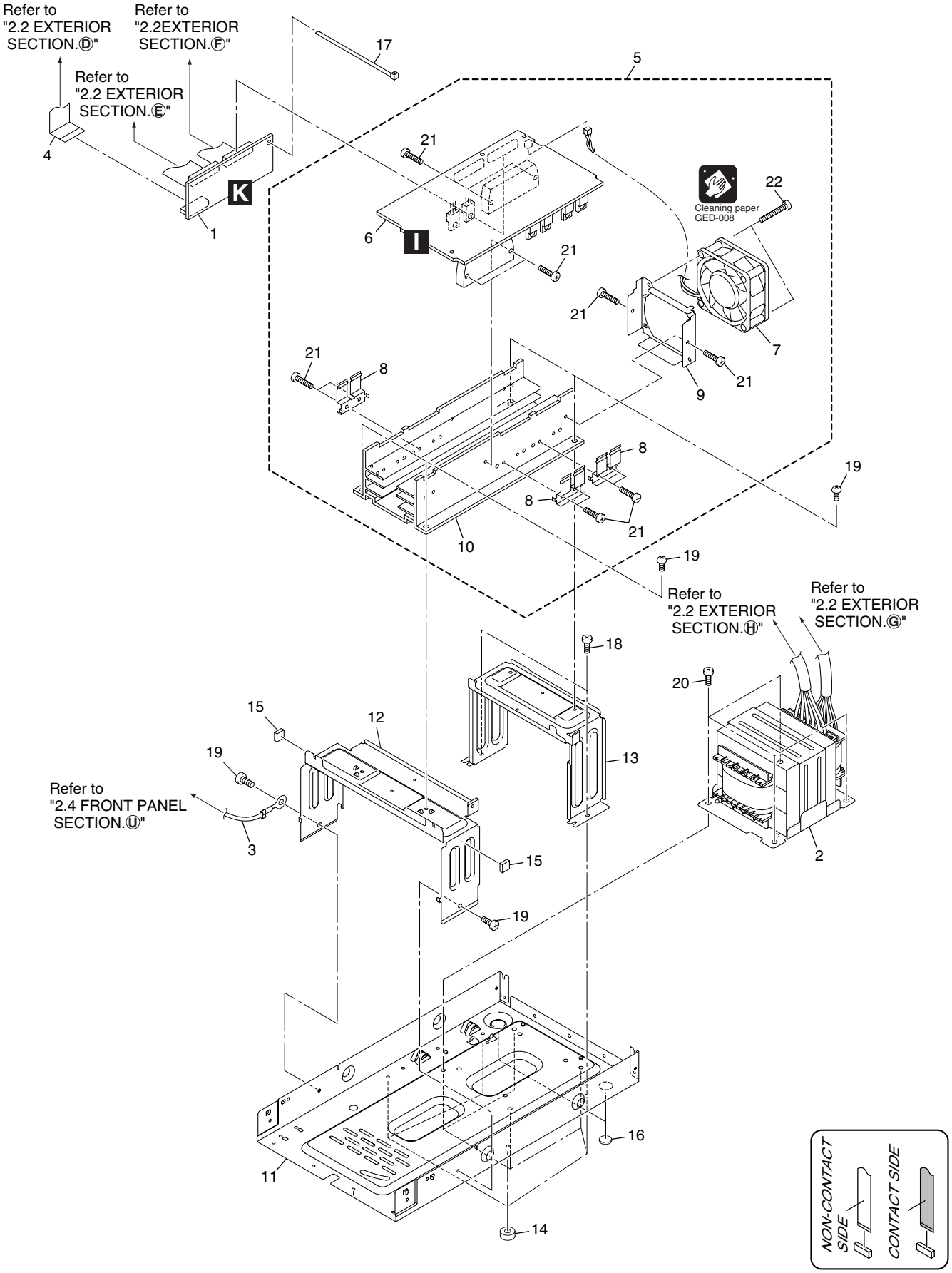
Mark	No.	Description	Part No.
	1	DSP Assy	AWX8588
	2	FM/AM TUNER Unit	AXX7173
	3	POWER Assy	See Contrast table (2)
	4	IFAF Assy	See Contrast table (2)
⚠	5	Fuse (FU1) (5.0A/250V)	REK1029
	6	11P F.F.C/60V	XDD3179
	7	17P F.F.C/60V	XDD3180
	8	25P F.F.C/60V	XDD3182
	9	27P F.F.C/60V	XDD3183
	10	27P F.F.C/60V	XDD3186
NSP	11	DVD Assy	XXA3037
NSP	12	05 LOADER Assy	VWT1219
	13	DVDM Assy	AWM7964
	14	Adaptor 05 L	XNW3014
	15	Adaptor 05 R	XNW3015
	16	Connector Assy	PG05KK-E07
	17	Rear Panel	See Contrast table (2)
	18	Push Rivet	XEC3034
	19	Mecha Barrier	XEC3062
	20	Primary Barrier	XEC3063
	21	FFC Barrier	XEC3064
	22	Cable Barrier	XEC3065
	23	Fan Barrier	XEC3066
	24	Tray Cap	XAK3504
	25	Bonnet Case	XZN3179
NSP	26	Label	VRW1629
NSP	27	ID Label Assy	VXW1002
	28	Screw	BBZ30P080FNI
	29	Screw	BPZ30P080FNI
	30	Screw	PPZ30P080FNI
	31	Screw	XBA3015
	32	Screw	ABA7112

(2) CONTRAST TABLE

XV-EV700/DLXJ/NC and XV-EV1000/DLXJ/NC are constracted the same except for the following :

Mark	No.	Description	XV-EV1000/DLXJ/NC	XV-EV700/DLXJ/NC
	3	POWER Assy	XWZ4016	XWZ4018
	4	IFAF Assy	XWZ4003	XWZ4006
	17	Rear Panel	XNC3399	XNC3381

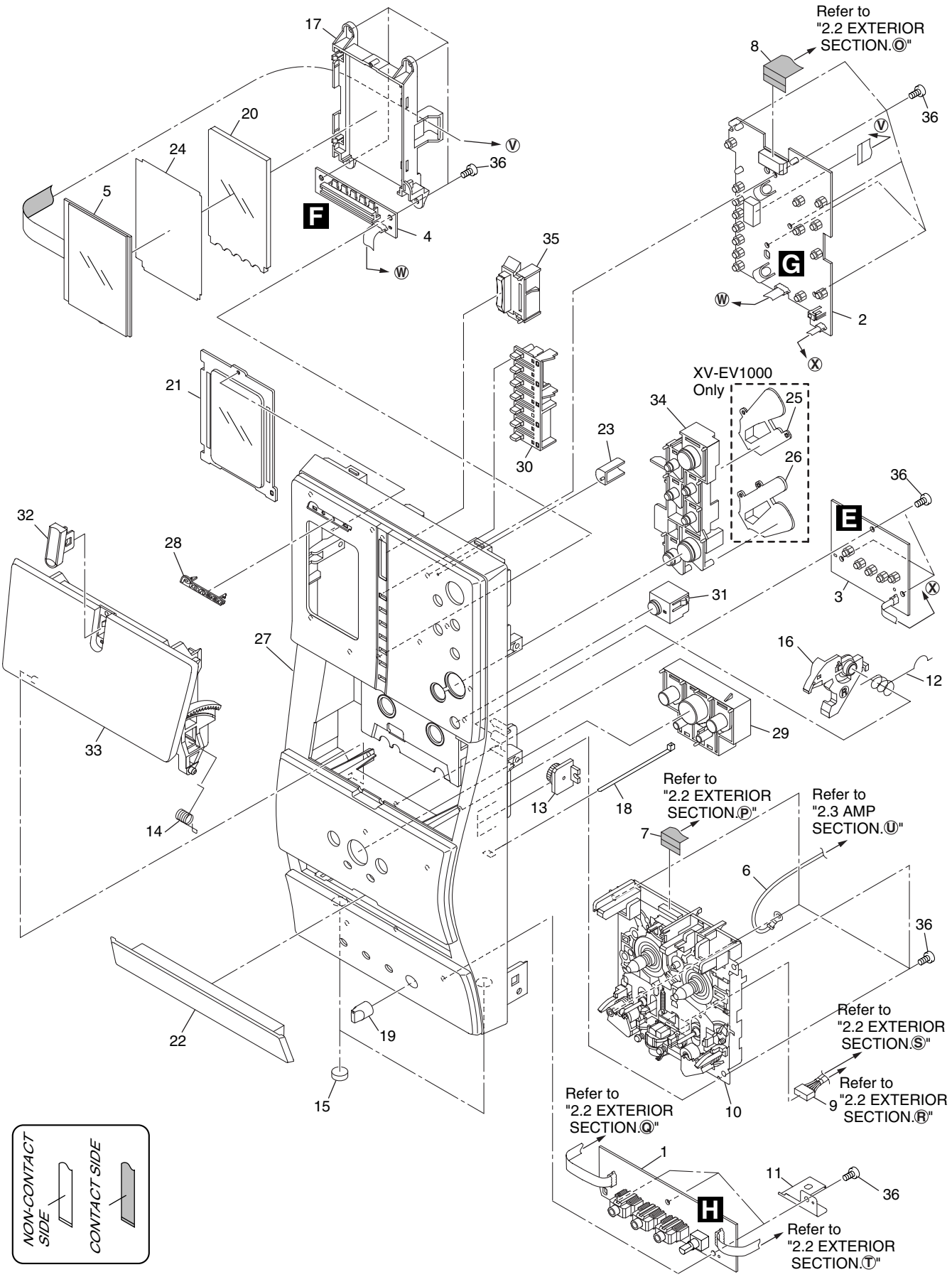
2.3 AMP SECTION



AMP SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	TRADE Assy	XWZ4022
⚠	2	Power Transformer (T1)	XTS3099
NSP	3	Cord With Plug	DE015VE0
	4	17P F.F.C/60V	XDD3180
NSP	5	AMP Unit	XXQ3005
	6	AMP Assy	XWK3202
	7	DC Fan Motor	XXM3009
	8	FET Bracket A	ANG7418
	9	Fan Plate	ANG7462
NSP	10	Heat Sink	XNH3038
NSP	11	Chassis Hal	XNA3025
	12	AMP Support F	XNG3141
	13	AMP Support R	XNG3142
NSP	14	Spacer	AEB7092
	15	Rubber Cushion	XEB3047
	16	LEG Cushion R	XEB3050
	17	Binder	ZCA-SKB90BK
	18	Screw	BBZ30P060FTC
	19	Screw	BBZ30P080FNI
	20	Screw	BBZ40P060FTC
	21	Screw	BBZ30P140FTC
	22	Screw	BBZ30P300FTC

2.4 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	HP/MIC Assy	XWZ4014
	2	DISPLAY Assy	See Contrast table (2)
	3	KEY Assy	XWZ4013
	4	LED Assy	XWZ4023
	5	Vertical LCD	XAV3028
NSP	6	Cord With Plug	DE015VE0
	7	11P F.F.C/60V	XDD3184
	8	13P F.F.C/60V	XDD3185
	9	Cable Assy	XDE3066
	10	DECK Mechanism Unit	XYM3019
	11	GND Plate	XNG3143
	12	Ratch Spring R	ABH7131
	13	Damper Assy	AXA7052
	14	Door Spring R	XBH3002
	15	Leg Cushion F	XEB3051
	16	Ratch Mold R	XMR3002
	17	LCD Holder	XMR3095
	18	Binder	ZCA-SKB90BK
	19	MIC Knob	XAA3029
	20	LCD LT Cond	XAK3502
	21	LCD Window	XAK3503
	22	Tray Cap	XAK3504
	23	Timer Lens	XAK3506
	24	Diffusion Sheet	XAK3510
	25	FUNC. LT. Cond.	See Contrast table (2)
	26	VOL. LT. Cond.	See Contrast table (2)
	27	Front Panel Assy	See Contrast table (2)
	28	Pioneer Name Plate	VAM1129
	29	Operation Button	XAD3225
	30	Sub Button	See Contrast table (2)
	31	Sensor Cover	XAK3505
	32	DECK Panel	See Contrast table (2)
	33	DECK Door	XAN3056
	34	Main Button Assy	See Contrast table (2)
	35	X.Boon Button Assy	XXG3230
	36	Screw	BPZ30P080FNI

(2) CONTRAST TABLE

XV-EV700/DLXJ/NC and XV-EV1000/DLXJ/NC are constracted the same except for the following :

Mark	No.	Description	XV-EV1000/DLXJ/NC	XV-EV700/DLXJ/NC
	2	DISPLAY Assy	XWZ4012	XWZ4010
	25	FUNC. LT. Cond.	XAK3514	Not used
	26	VOL. LT. Cond.	XAK3515	Not used
	27	Front Panel Assy	XZN3182	XZN3180
	30	Sub Button	XAD3227	XAD3224
	32	DECK Panel	XAK3512	XAK3508
	34	Main Button Assy	XXG3218	XXG3217

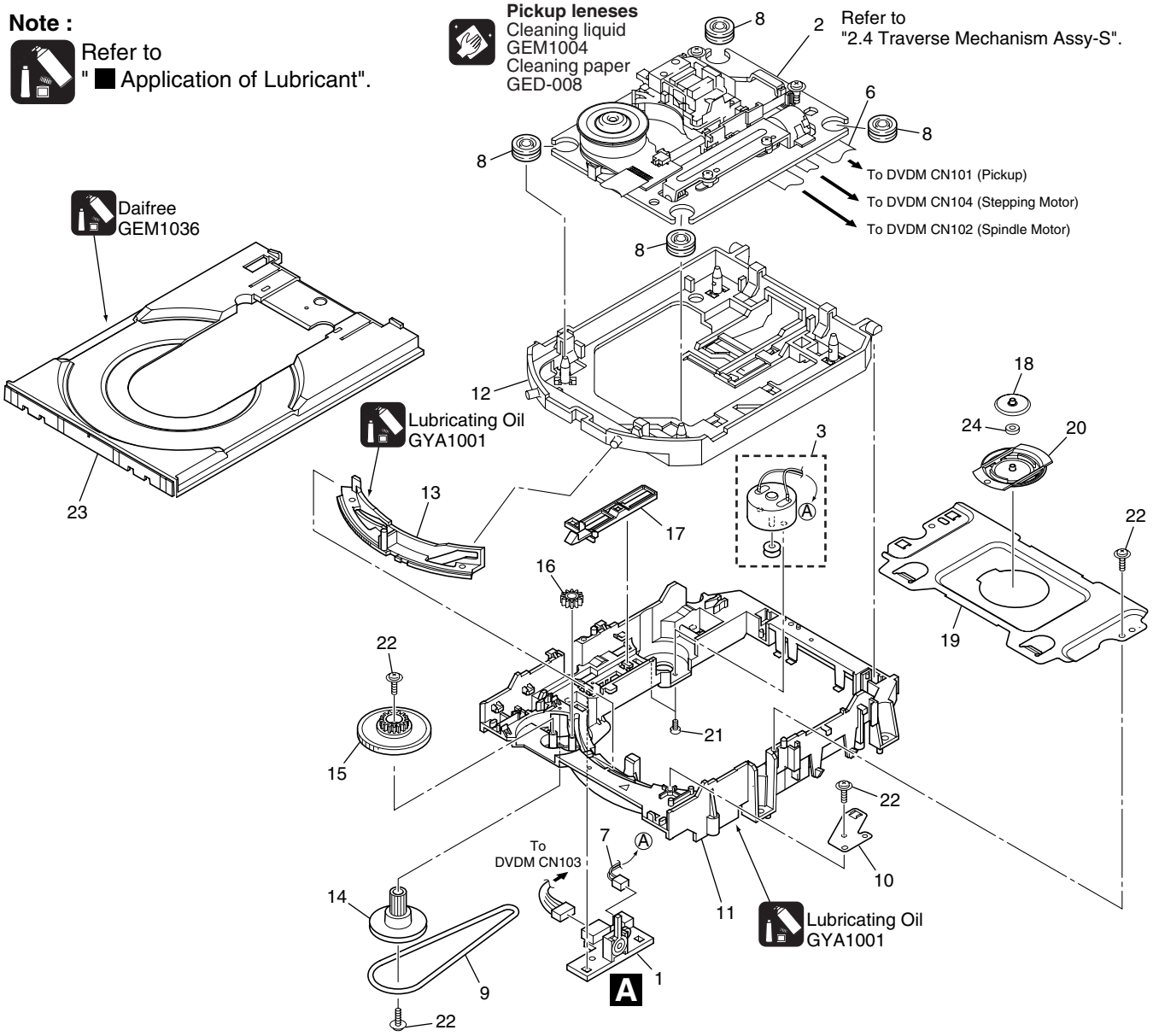
2.5 05 LOADER ASSY

Note :

Refer to
" ■ Application of Lubricant".

Pickup leneses
Cleaning liquid
GEM1004
Cleaning paper
GED-008

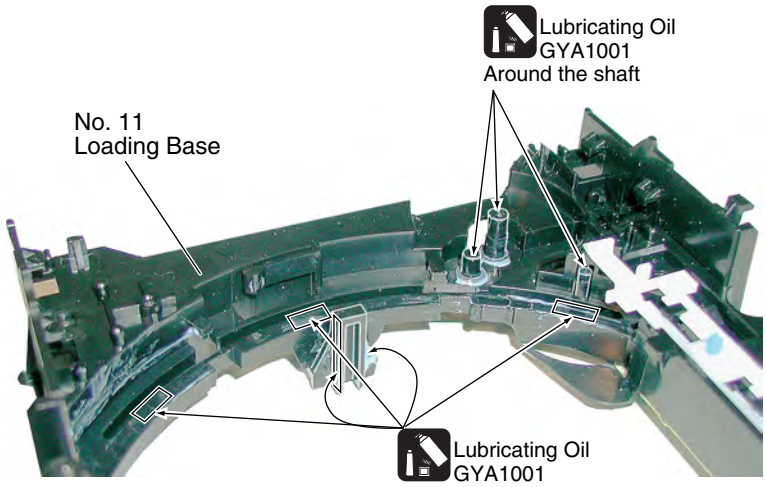
Refer to
"2.4 Traverse Mechanism Assy-S".

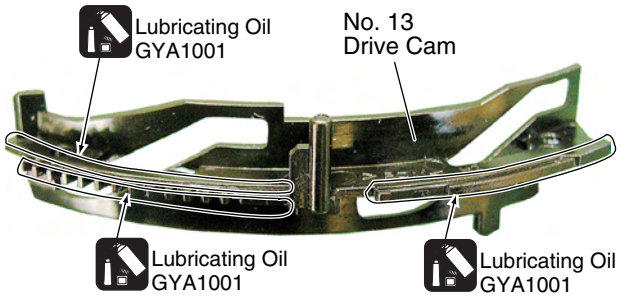


05 LOADER ASSY PARTS LIST

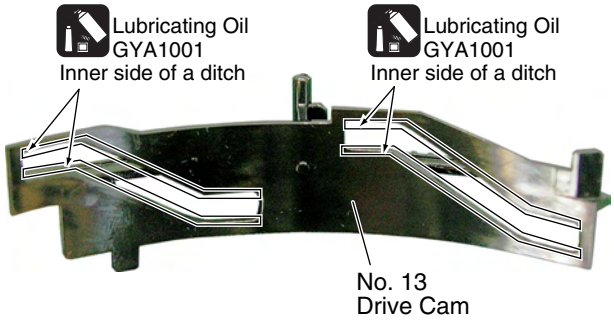
Mark	No.	Description	Part No.
NSP	1	LOAB Assy	VWG2346
	2	Traverse Mechanism Assy-S	DXX2568
	3	Loading Motor Assy	VXX2912
	4	• • • • •	
	5	• • • • •	
	6	Flexible Cable (24P)	VDA2008
	7	Connector Assy 2P	VKP2253
	8	Floating Rubber	VEB1351
	9	Belt	VEB1358
	10	Stabilizer	VNE2253
	11	Loading Base	VNL1917
	12	Float Base 04	VNL1968
	13	Drive Cam	VNL1919
	14	Gear Pulley	VNL1921
	15	Loading Gear	VNL1922
	16	Drive Gear	VNL1923
	17	SW Lever	VNL1925
	18	Clamper Plate 04	VNE2342
	19	Bridge 04	VNE2343
	20	Clamper 04	VNL1969
	21	Screw	JGZ17P028FTC
	22	Screw	VBA1094
	23	Tray	VNL1920
	24	Clamp Magnet	VMG1029

Application of Lubricant

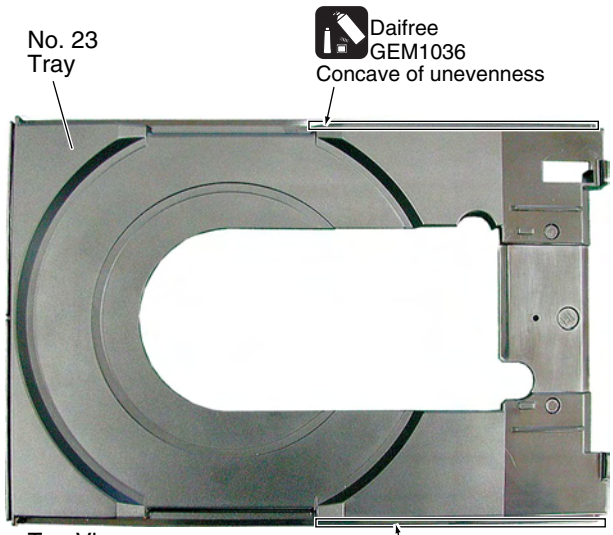




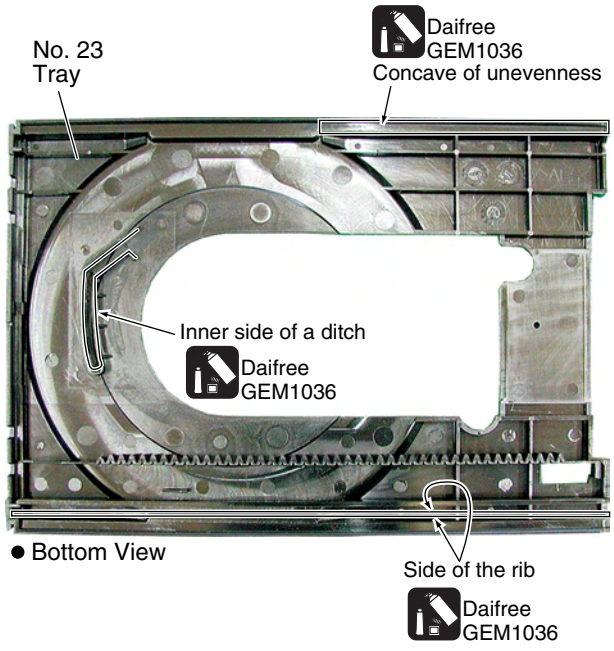
● Front View



● Rear View

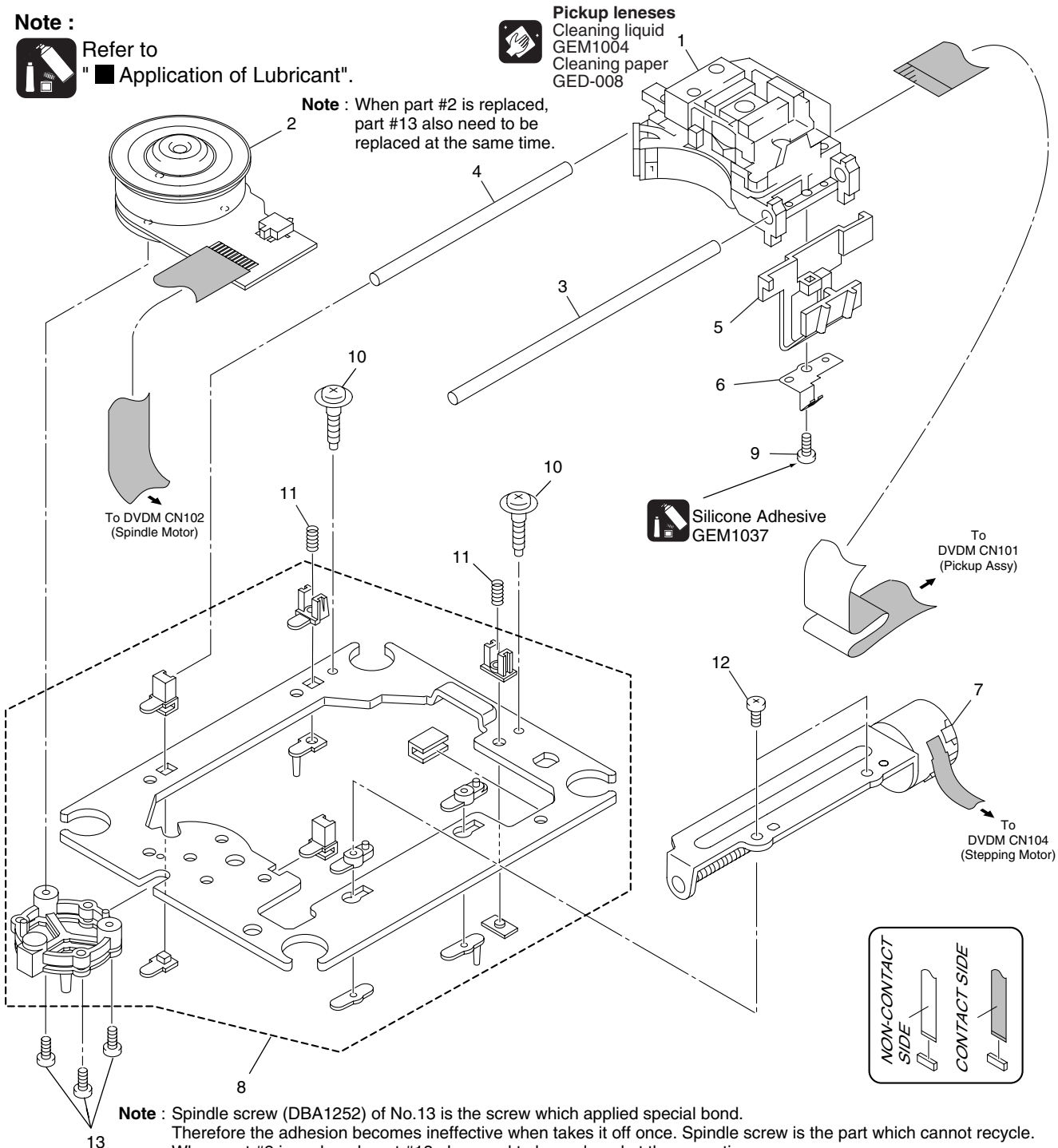


● Top View



● Bottom View

2.6 Traverse Mechanism Assy-S

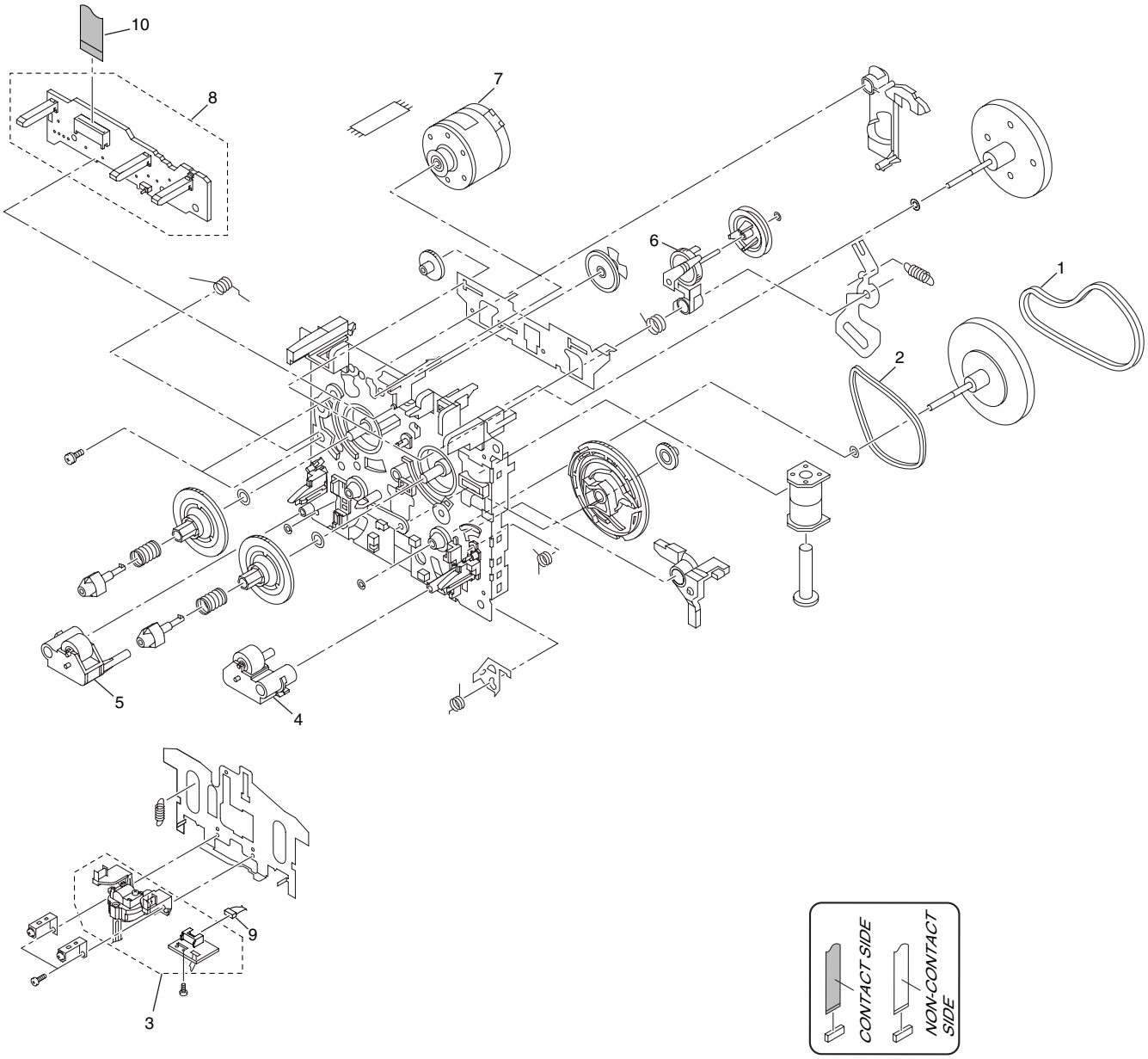


Note : Spindle screw (DBA1252) of No.13 is the screw which applied special bond.
Therefore the adhesion becomes ineffective when takes it off once. Spindle screw is the part which cannot recycle.
When part #2 is replaced, part #13 also need to be replaced at the same time.

Traverse Mechanism Assy-S PARTS LIST

Mark	No.	Description	Part No.
⚠	1	05SD Pickup Assy-S	OXX8014
	2	Spindle Motor N200	DXM1197
	3	Guide Shaft VK1	DLA1940
	4	Sub Guide Shaft VK1	DLA1941
NSP	5	Joint VK1B	DNK4272
	6	Joint Spring VK1	DBK1235
	7	Stepping Motor VK1	DXM1201
NSP	8	Mechanism Frame VK1	DNK4160
	9	Precision Screw VK1	DBA1209
	10	Skew Screw VK1	DBA1211
	11	Skew Spring VK1	DBH1516
NSP	12	Stepping Screw	DBA1205
	13	Spindle Screw VK1(for Service)	DBA1252

2.7 DECK MECHANISM ASSY



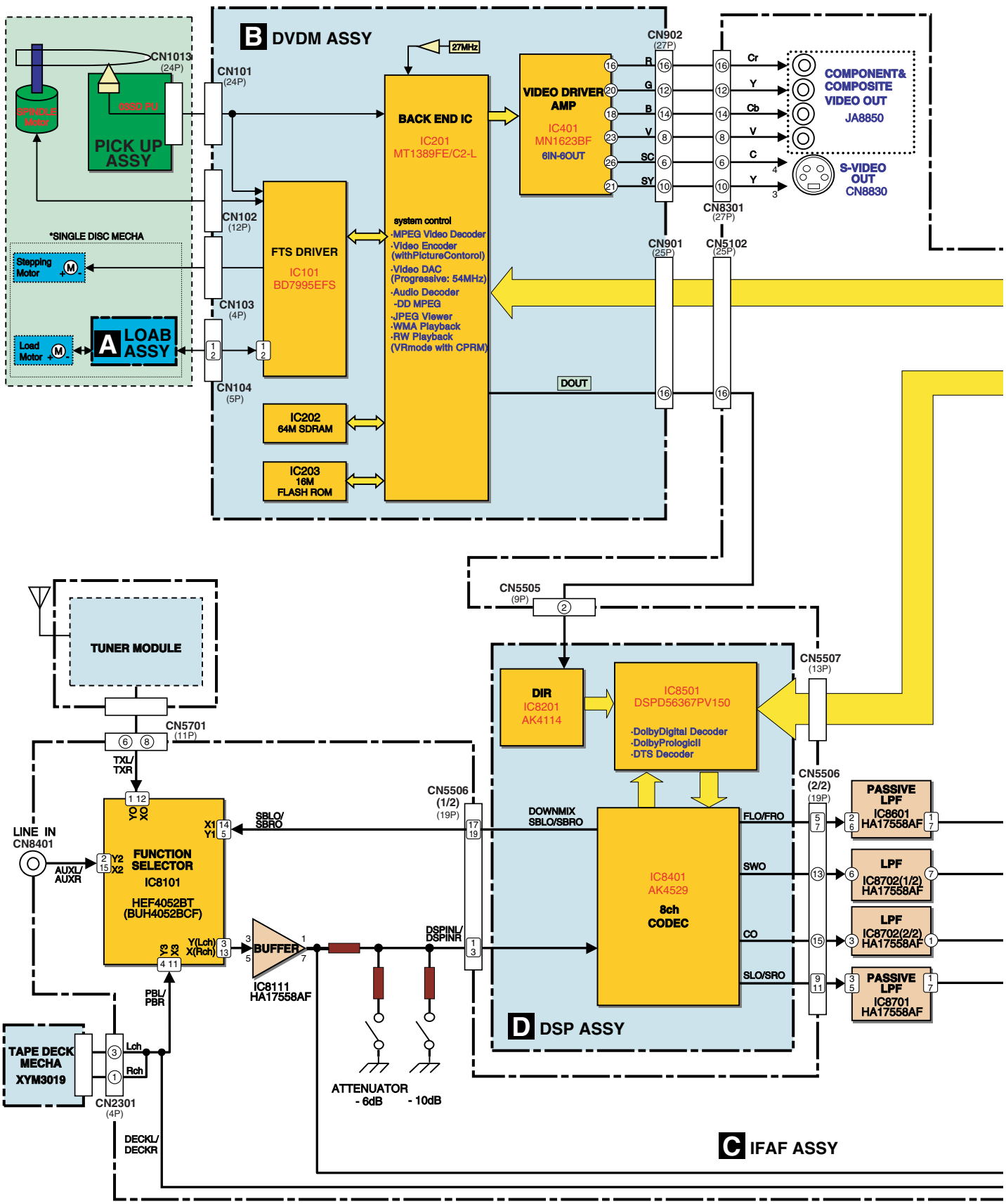
DECK MECHANISM ASSY PARTS LIST

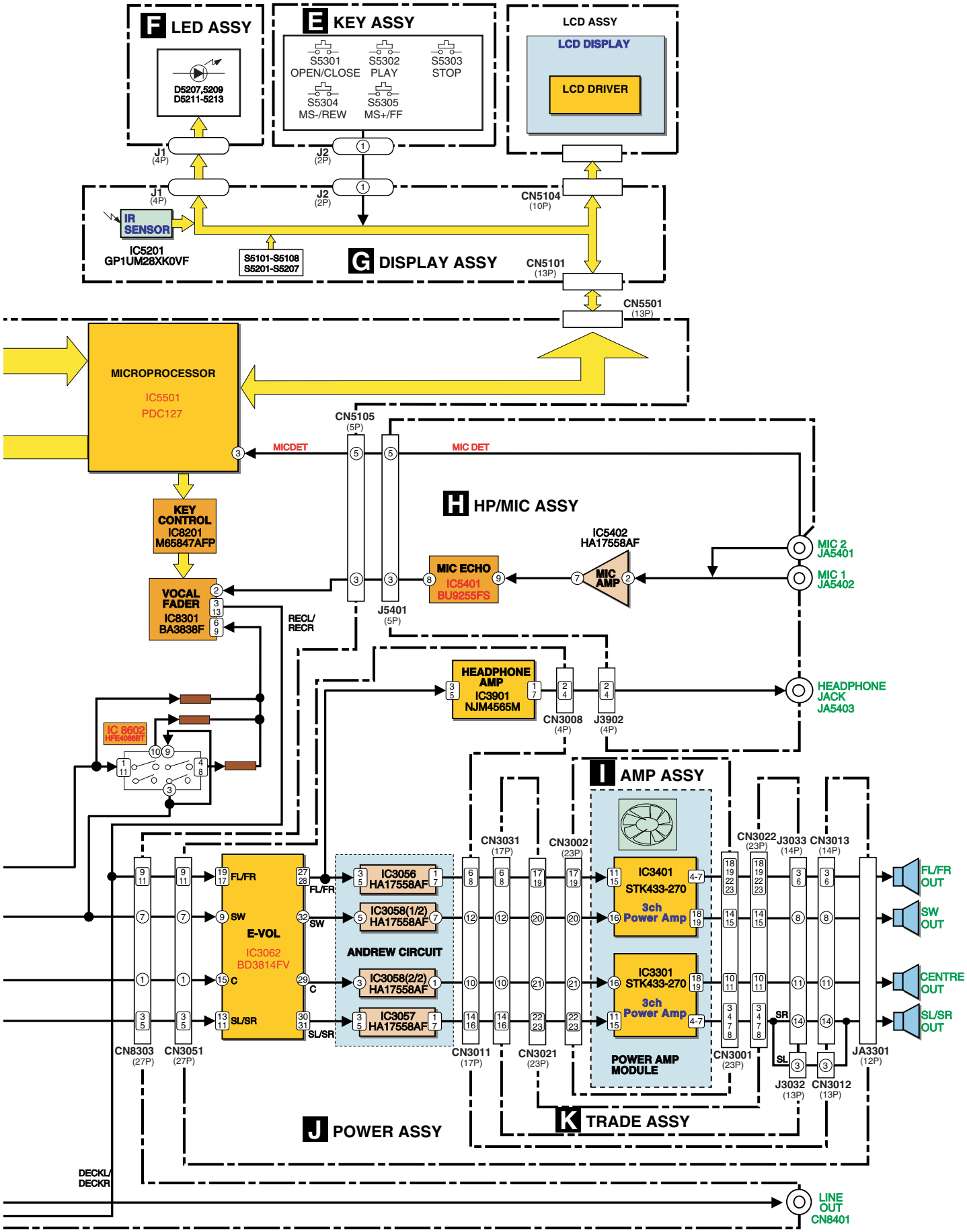
Mark No.	Description	Part No.
1	Main Belt	FF20B-13A
2	F/R Belt	FF19S-31
3	Plate HD Blk	F513-926
4	Roller Pinch Blk R	F514-133
5	Roller Pinch Blk L	F514-134
6	Clutch Assy Blk	F522-063
7	Motor Main Blk	F525-394
8	PCB Control Blk	F567-747
9	Cable Assy	XDE3066
10	11P F.F.C/60V	XDD3184

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

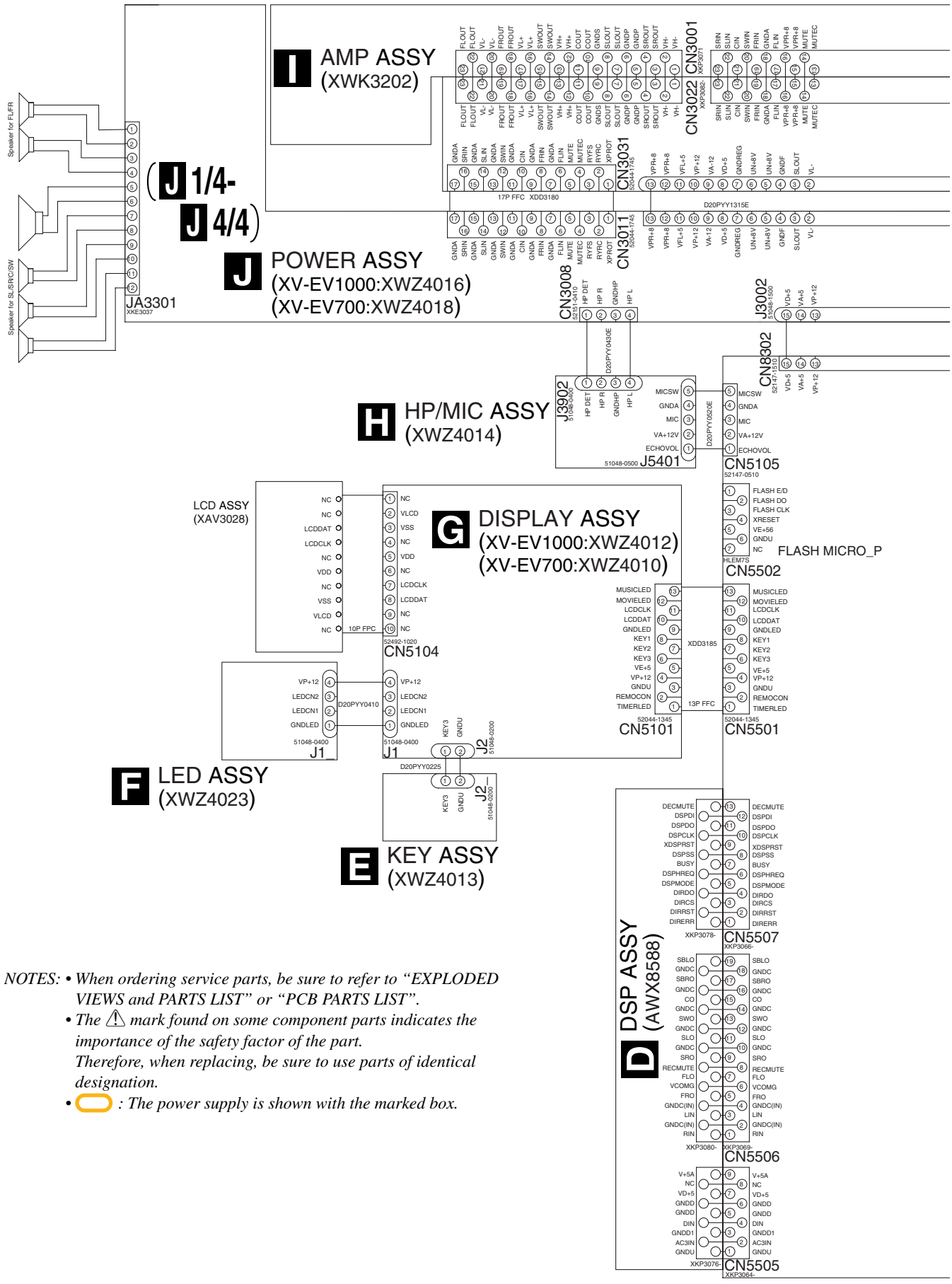
3.1 BLOCK DIAGRAM

VERTICAL Block Diagram




F LED ASSY
D5207,5209
D5211-5213
E KEY ASSY
S5301
OPEN/CLOSE
S5302
PLAY
S5303
STOP
S5304
MS-/REW
S5305
MS+/FF
LCD ASSY
LCD DISPLAY
LCD DRIVER
J1
(4P)
J2
(2P)
CN5104
(10P)
IR SENSOR
IC5201
GP1UM28XK0VF
S5101-S5108
S5201-S5207
G DISPLAY ASSY
CN5101
(13P)
CN5501
(13P)
MICROPROCESSOR
IC5501
PDC127
CN5105
(5P)
MICDET
MIC DET
H HP/MIC ASSY
KEY CONTROL
IC8201
M65847AFP
IC5402
HA17558AF
MIC 2
JA5401
MIC 1
JA5402
MIC ECHO
IC5401
BU9255FS
MIC AMP
VOCAL FADER
IC8301
BA3838F
J5401
(5P)
RECL/
RECR
HEADPHONE AMP
IC3901
NJM4565M
CN3008
(4P)
J3902
(4P)
HEADPHONE JACK
JA5403
IC 8602
HFE4066BT
I AMP ASSY
CN3031
(17P)
CN3002
(23P)
CN3022
(23P)
J3033
(14P)
CN3013
(14P)
FL/FR
SW
C
SL/SR
E-VOL
IC3062
BD3814FV
ANDREW CIRCUIT
IC3056
HA17558AF
IC3058(1/2)
HA17558AF
IC3058(2/2)
HA17558AF
IC3057
HA17558AF
IC3401
STK433-270
3ch
Power Amp
IC3301
STK433-270
3ch
Power Amp
POWER AMP
MODULE
FL/FR
OUT
SW
OUT
CENTRE
OUT
SL/SR
OUT
CN8303
(27P)
CN3051
(27P)
CN3011
(17P)
CN3021
(23P)
CN3001
(23P)
J3032
(13P)
CN3012
(13P)
JA3301
(12P)
J POWER ASSY
K TRADE ASSY
DECKL/
DECKR
LINE
OUT
CN8401

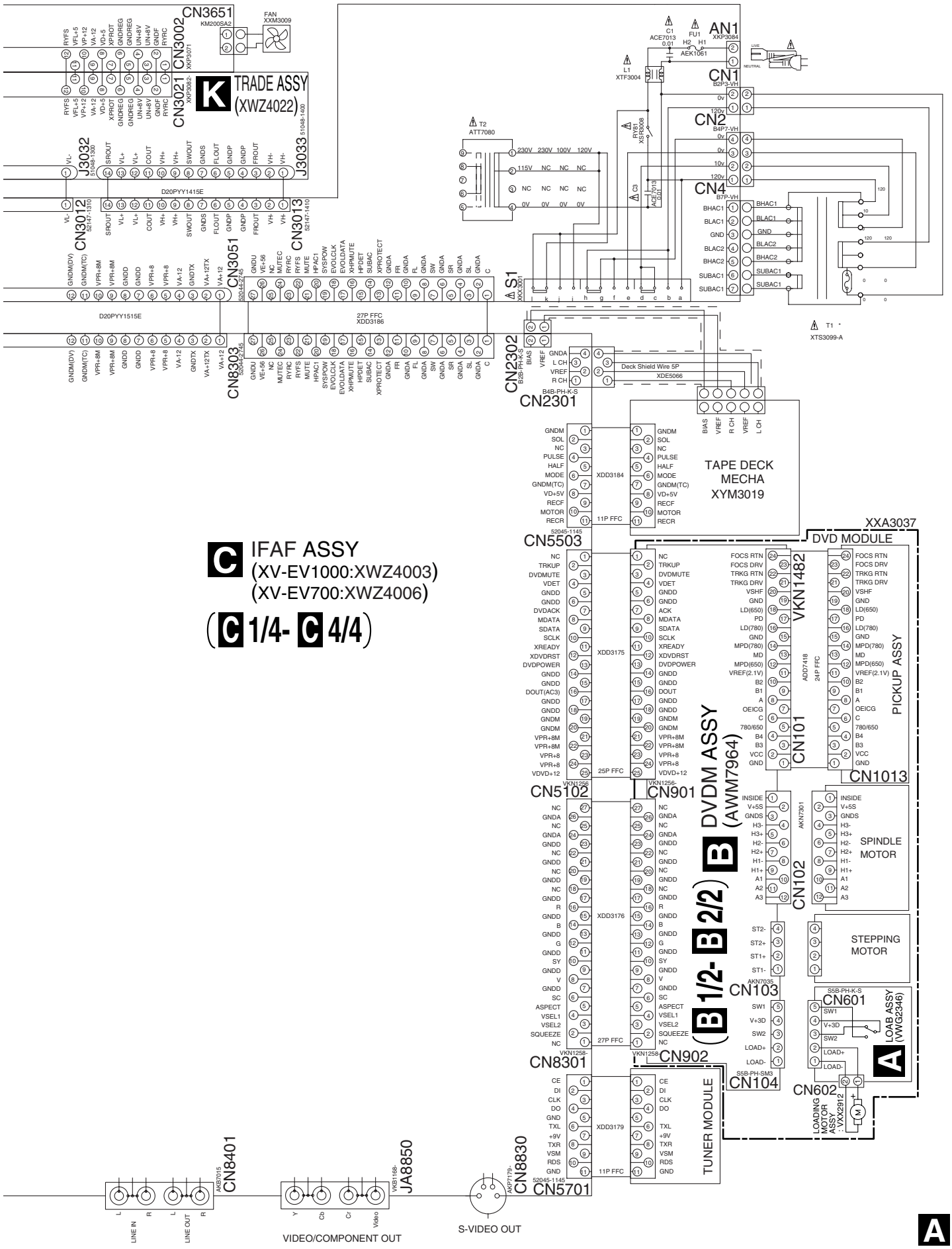
3.2 OVERALL WIRING CONNECTION DIAGRAM and LOAB ASSY



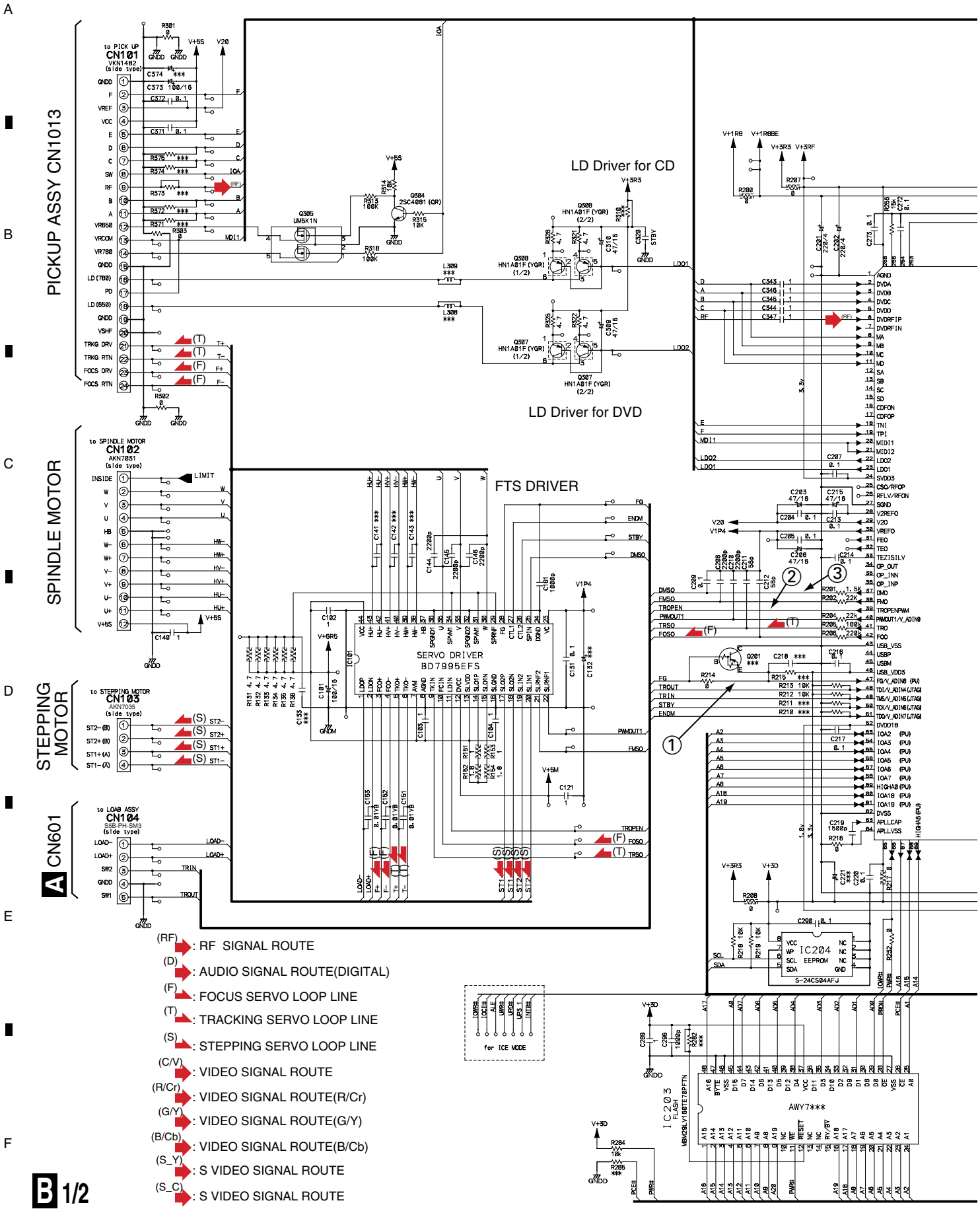
NOTES: • *When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".*

• *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.*

• ⬭ *: The power supply is shown with the marked box.*

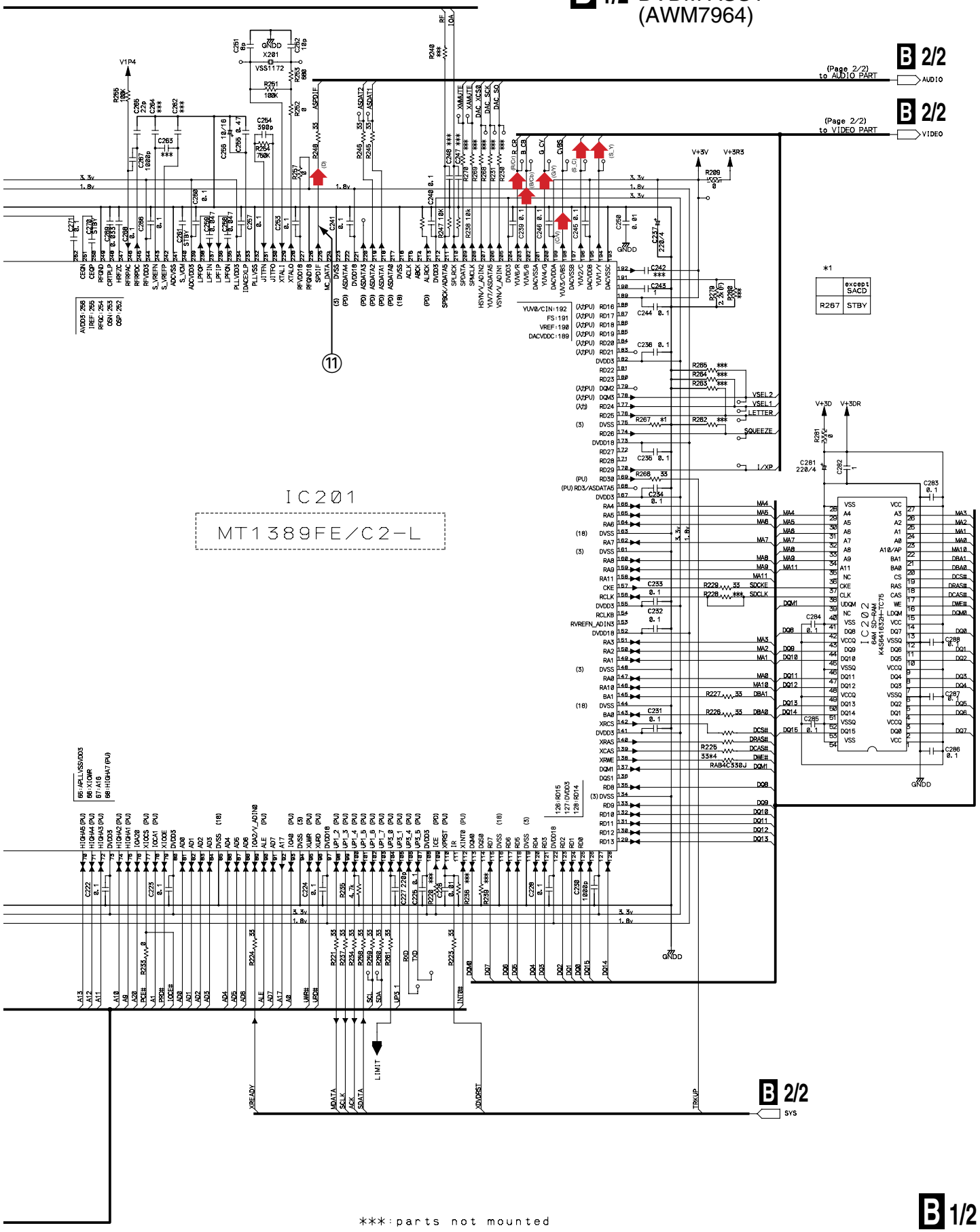

K TRADE ASSY (XWZ4022)
C IFAF ASSY (XV-EV1000:XWZ4003) (XV-EV700:XWZ4006)
(C 1/4- C 4/4)
B DVDM ASSY (AWM7964)
(B 1/2- B 2/2)
A LOAB ASSY (VWG2346)
TAPE DECK MECHA XYM3019
DVD MODULE
PICKUP ASSY
SPINDLE MOTOR
STEPPING MOTOR
TUNER MODULE
LOADING MOTOR ASSY : VXX2912
CN3651
CN3002
CN3021
CN3032
CN3033
CN3012
CN3013
CN3051
CN8303
CN2302
CN2301
CN5503
CN5102
CN8301
CN5701
CN8401
CN8830
JA8850
CN1
CN2
CN4
AN1
S1
T1
T2
XXA3037
CN1482
CN101
CN1013
CN102
CN103
CN104
CN901
CN902
CN601
CN602
LINE IN
LINE OUT
VIDEO/COMPONENT OUT
S-VIDEO OUT

3.3 DVDM ASSY (1/2)



B 1/2

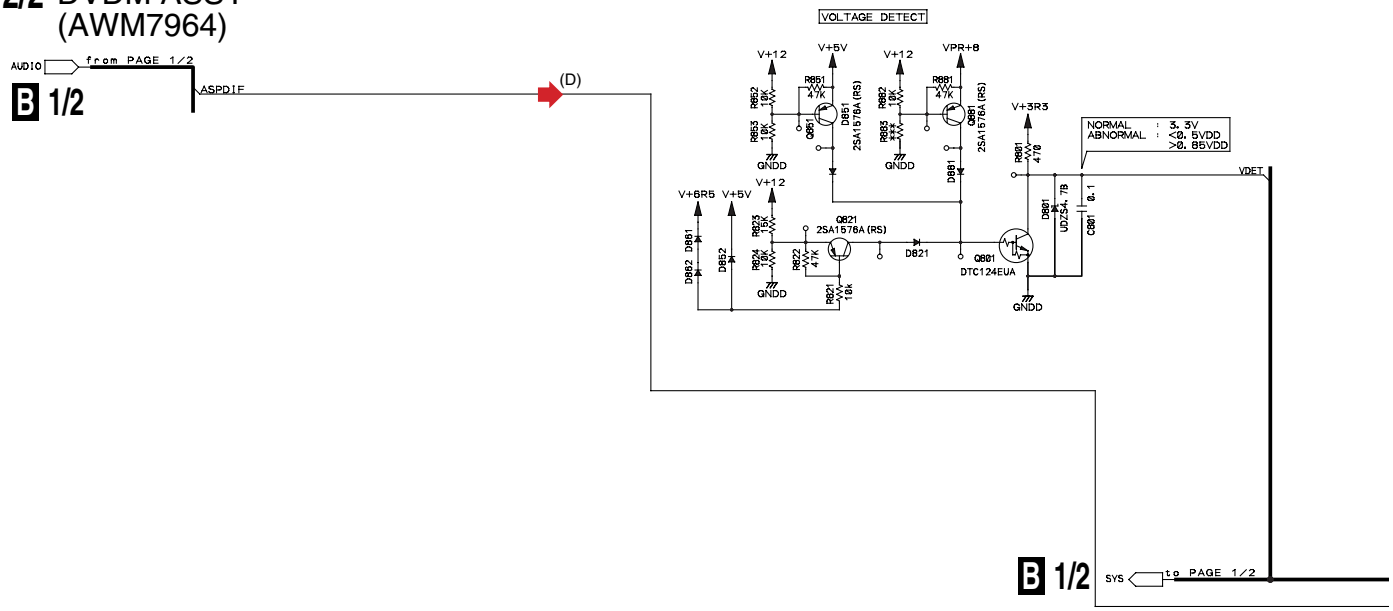
B 1/2 DVDM ASSY (AWM7964)



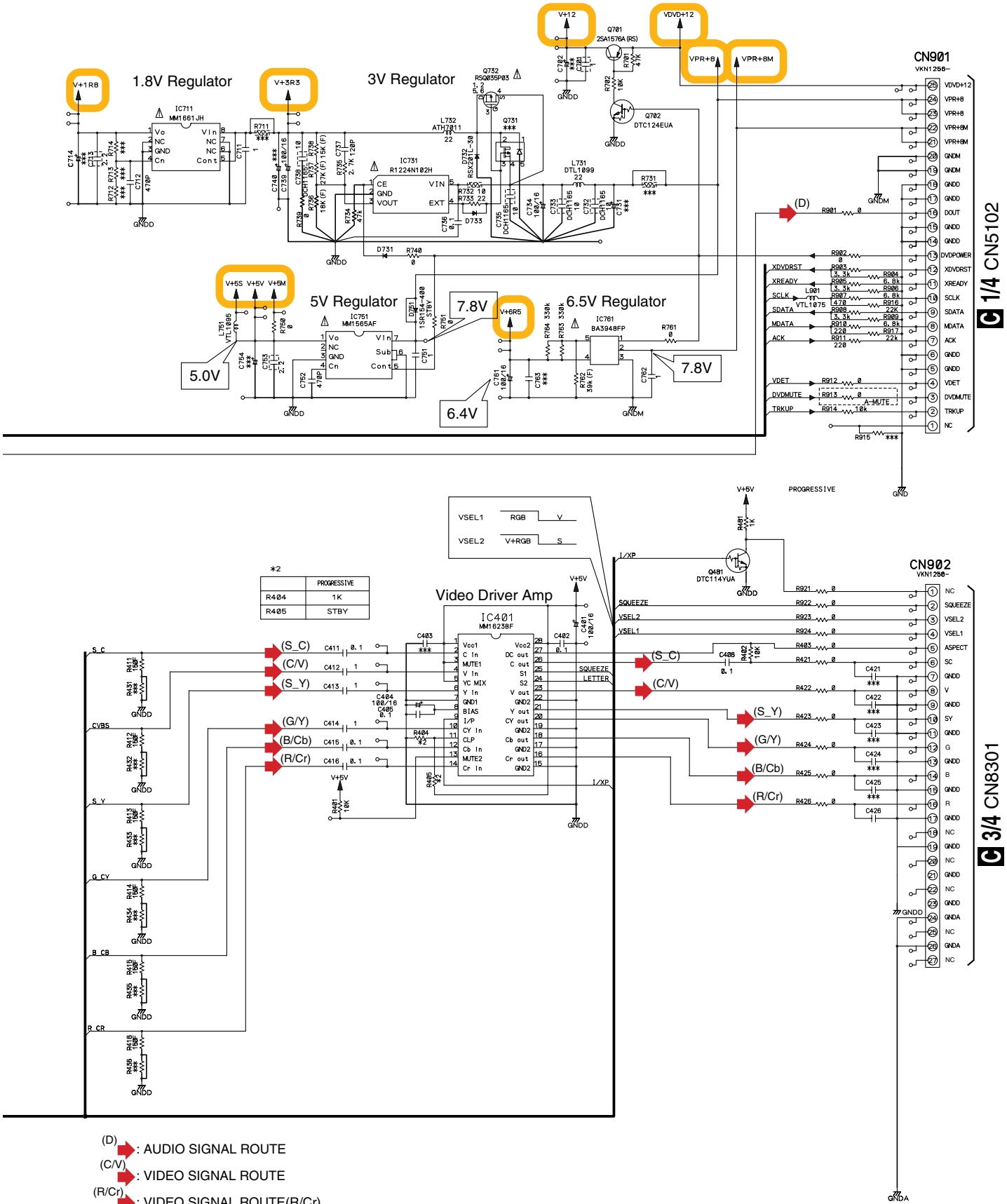
***: parts not mounted

3.4 DVDM ASSY (2/2)

B 2/2 DVDM ASSY
(AWM7964)



B 2/2



(D) : AUDIO SIGNAL ROUTE

(C/V) : VIDEO SIGNAL ROUTE

(R/Cr) : VIDEO SIGNAL ROUTE(R/Cr)

(G/Y) : VIDEO SIGNAL ROUTE(G/Y)

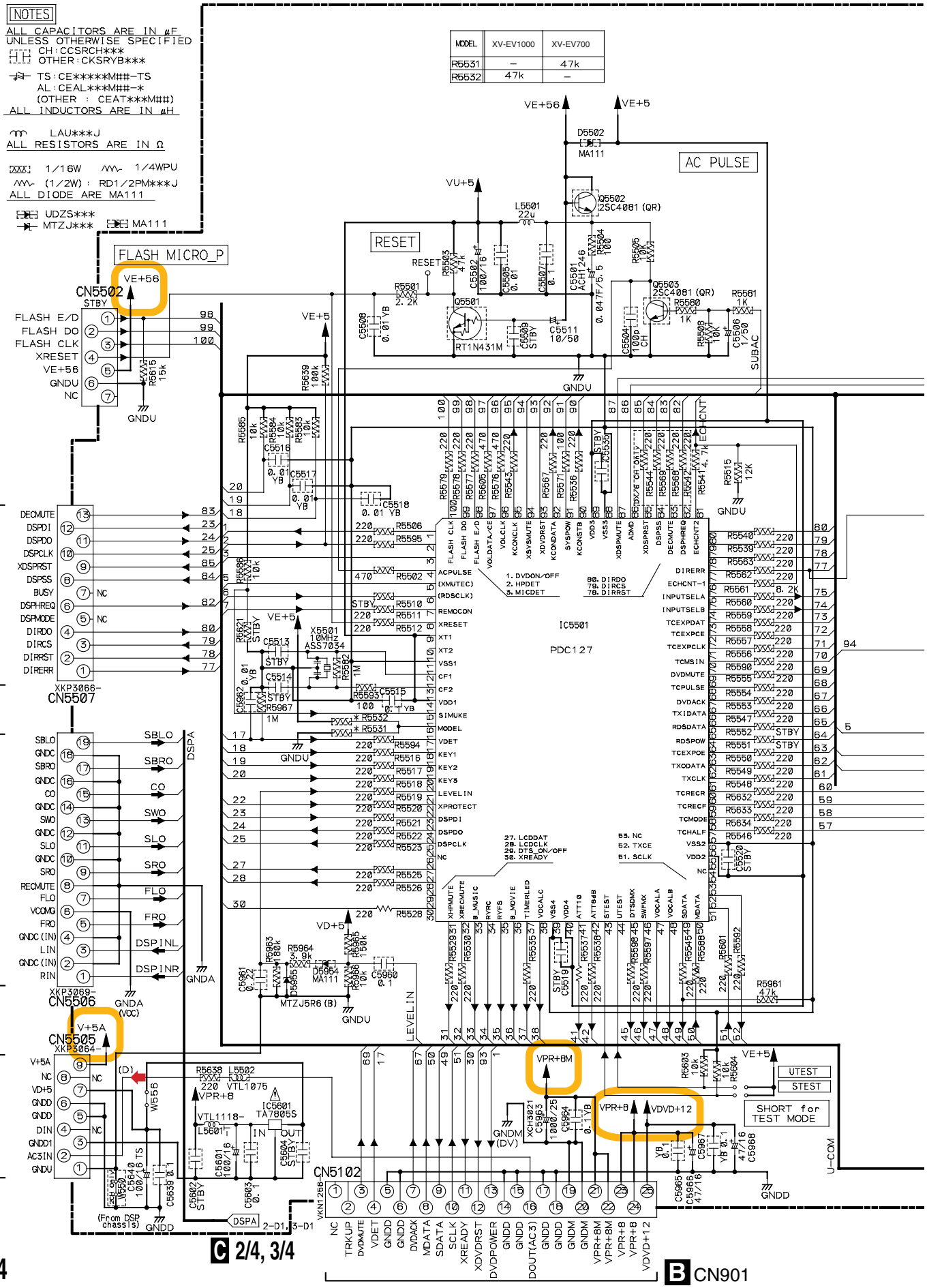
(B/Cb) : VIDEO SIGNAL ROUTE(B/Cb)

(S_Y) : S VIDEO SIGNAL ROUTE

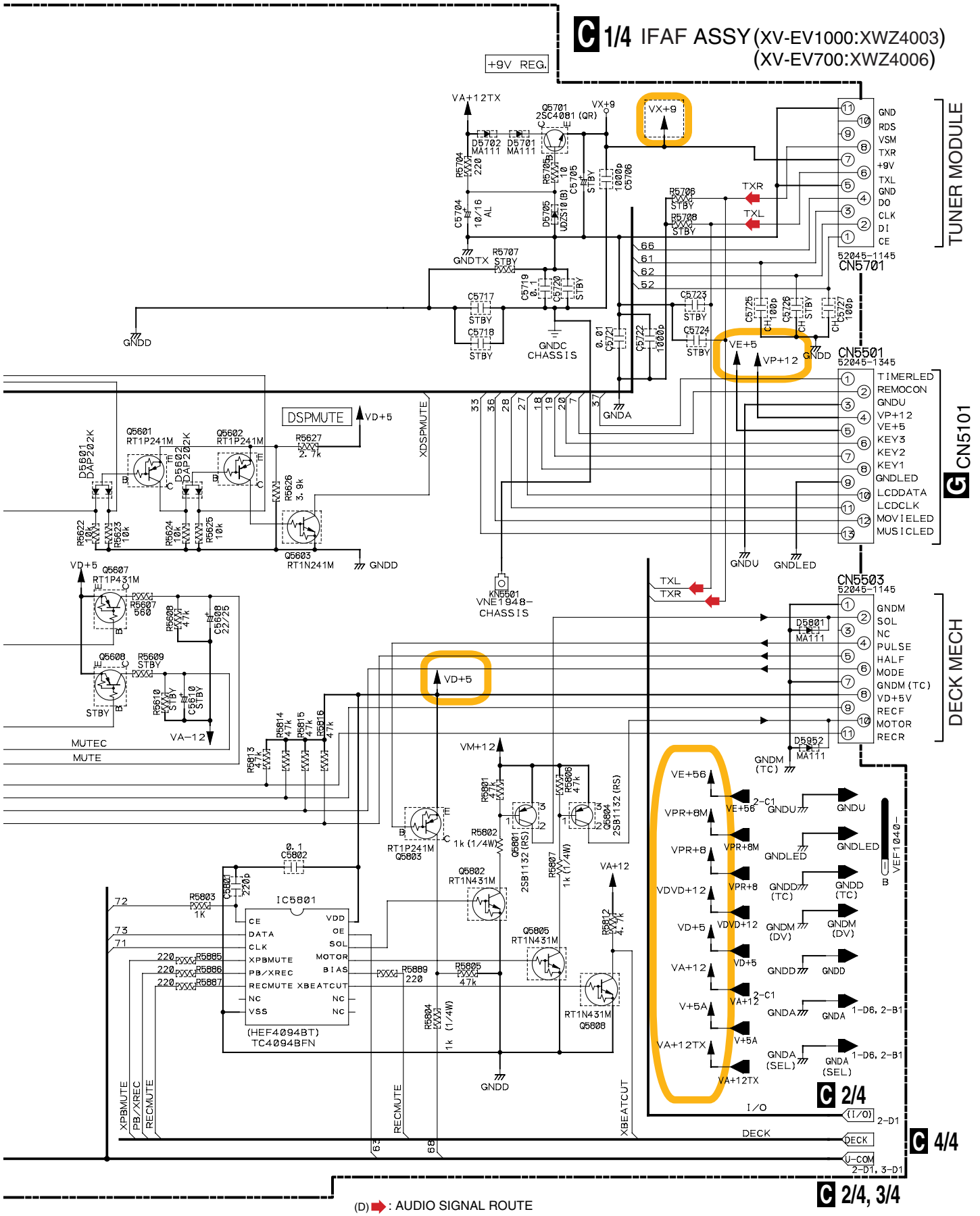
(S_C) : S VIDEO SIGNAL ROUTE

***: parts not mounted

3.5 IFAF ASSY (1/4)

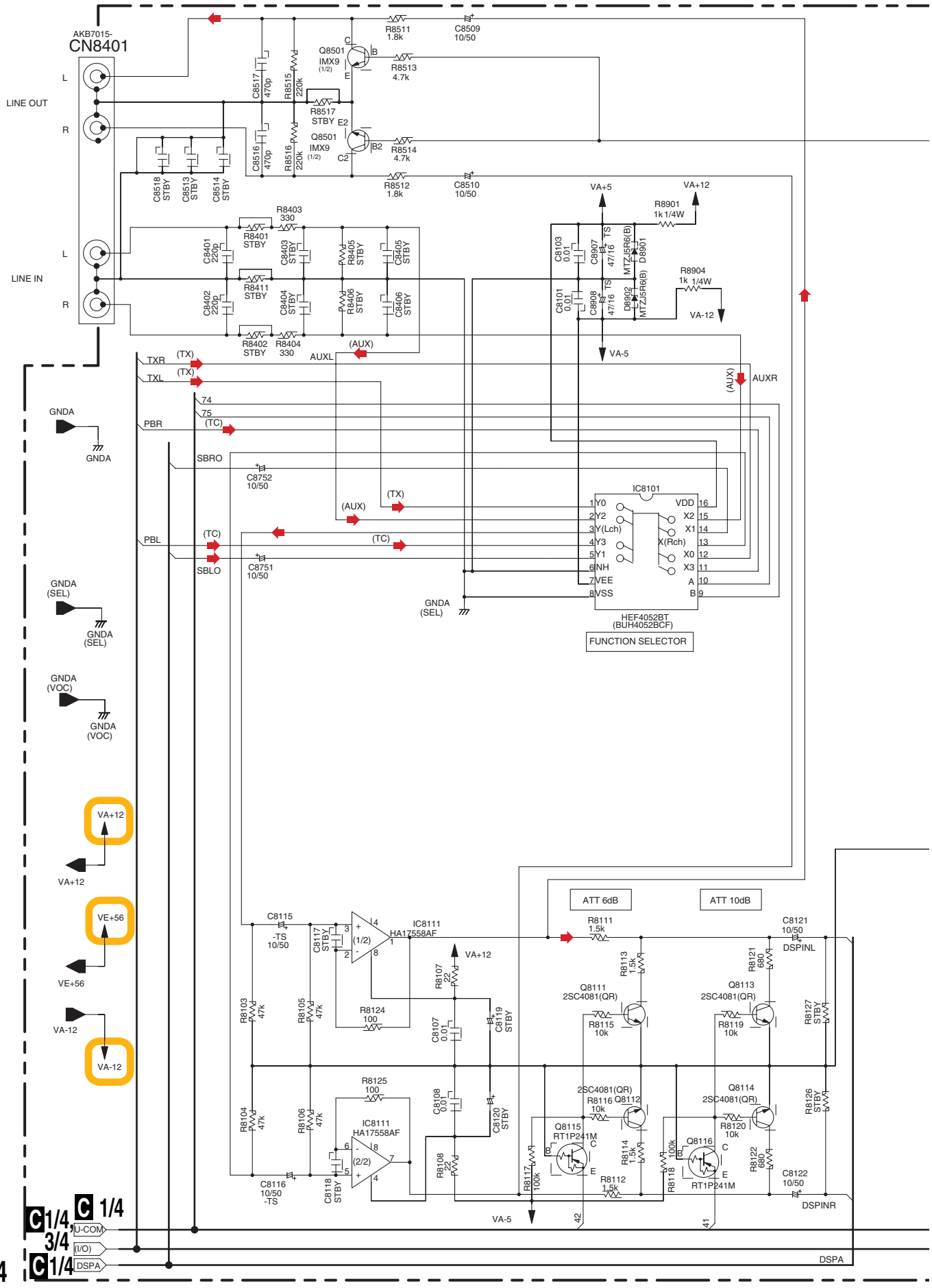


C 1/4 IFAF ASSY (XV-EV1000:XWZ4003) (XV-EV700:XWZ4006)



(D) ➡ : AUDIO SIGNAL ROUTE
(TXL) ➡ : AUDIO SIGNAL ROUTE
(TXR) ➡ : AUDIO SIGNAL ROUTE

3.6 IFAF ASSY (2/4)



C 2/4 IFAF ASSY (XV-EV1000:XWZ4003) (XV-EV700:XWZ4006)

NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH (OTHER : CKSR
TY : CFTYA
AL : CEAL (OTHER : CEAT)

ALL RESISTORS ARE IN
- RD1/4PU***J
RS1/16S***J

ALL DIODE
:MA111
:1SS133

H J5401

CN5105
52147-0510
MIC SW
GNDA
MIC
VA+12
ECHOVOL

VE+56
D8501 MA111
Q8503 RT1P241M
R8518 47k
VA-12
HPAC1
32

VD+5
R5403 10k
Q5403 RT1N431M
GNDD
R5404 220
Q5402 2SJ103 (GR)
R5431 1M
R5432 1M
C5433 0.22/50
R5434 22K
(MIC)
3 (MICDET)
ECHCNT

VEF1040-
A STBY
D STBY

U-COM
38
48
47
R8301 1k
R8302 1k
R8303 1k
C8301 0.1
C8302 0.1
C8303 0.1
C8304 0.22
C8305 2.2/50
C8306 0.047

IC8201 M65847AFP
ADCONT
DACCONT1
DACCONT2
KEYDOWN
KEYUP
CLKO
SDATA
SCK
STROBE
KEY4
KEY5
REF
GND
Vcc
MODE2
MODE1
DAINT OUT
DAINT IN
ADINT OUT
ADINT IN
LPF1IN
LPF1OUT
HPFIN
HPFOUT
LPF2IN
LPF2OUT
MIX IN
MIX OUT
KEY CON
92
95
90
CH
C8207 0.068
C8208 0.068
C8209 0.068
C8210 STBY
R8212 1k
R8213 1k
C8211
STBY R8214 1k
C8212 100p
C8213 47/16
C8224 STBY
C8206 8200p
C8214 0.22
R8217 15k
C8215 0.22
R8206 10k
C8216 4700p
C8217 470p
R8205 10k
C8219 1200p
R8207 6.8k
R8208 15k
R8210 4.7k
C8218 0.01
R8209 4.7k
C8220 1000p
R8211 6.8k
C8203 0.01
R8204 5.6k
C8205 0.01
C8202 0.047
C8204 0.01
R8203 10k
R8202 10k
C8201 47/16
R8201 10k
C8313 0.01
C8312 4.7/50
VA+12

IC8301 BA3838F
R8308 10k
MIC IN
LOUT
ROUT
LIN
RIN
SW1
SW2
C8310 2.2/50
C8309 2.2/50
REF
C8307 47/16
C8308 2.2/50
VOCAL FADER

L8201 68 STBY
Q8201 2SD1858X(QR)
R8216 1k 1/4W
R8215 68
C8222 47/16
C8223 0.047
C8221 10/50
D8201 MTZJ5R6(B)
GNDA (VOC)

Gain for IC8301 input | -12.7dB

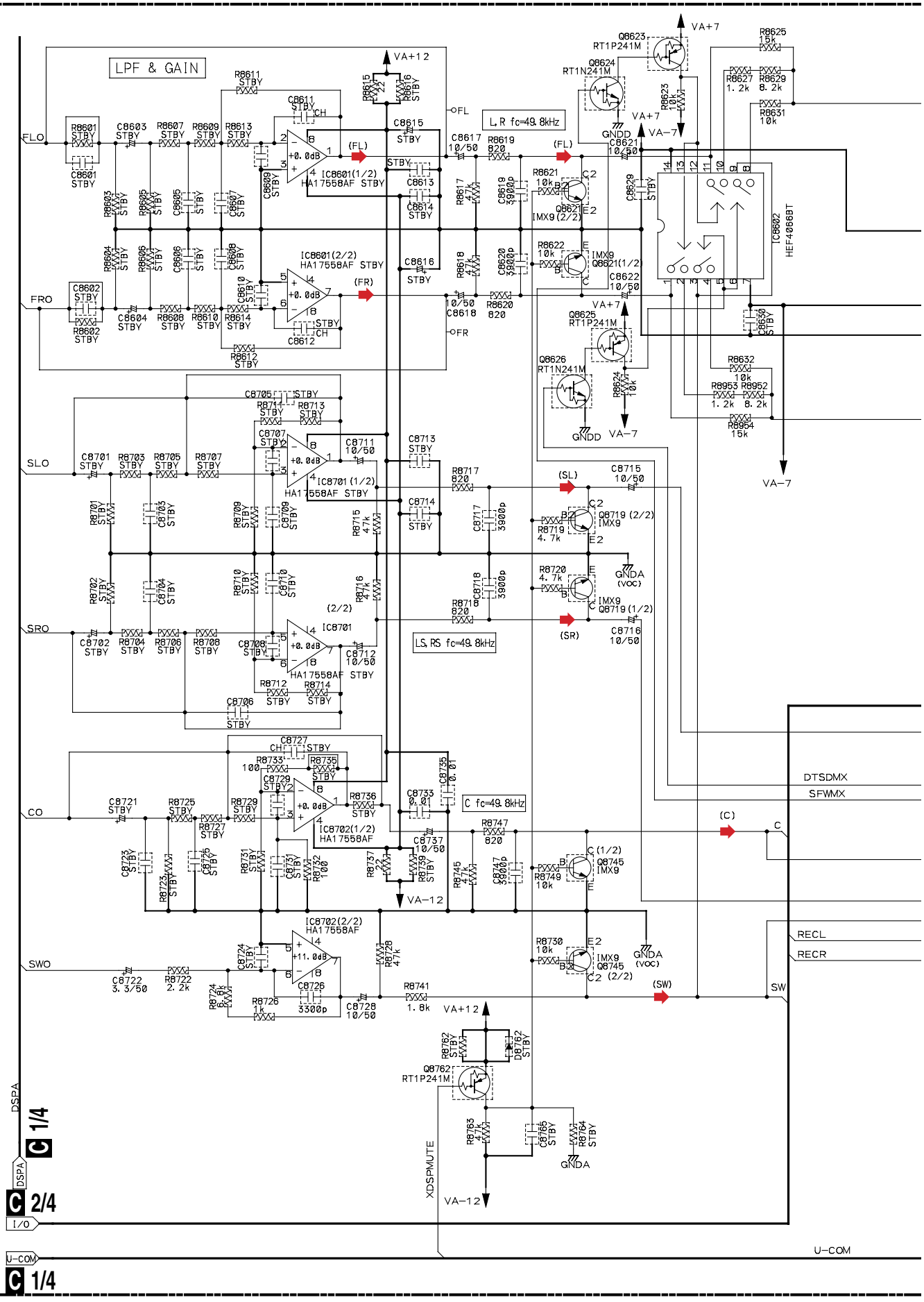
C8316 STBY
C8315 STBY
R8306 820
R8305 820
(FR)
(FL)
R8307 2.7k
R8304 2.7k
DECKL
RECL
RECR
DECKR
FR
FL
(FL)
C

R8805 56k
LEVELIN
C8803 STBY
IC8801 HA17558AF (1/2)
R8803 10K
C8835 10/50
R8801 10k
C8833 10/50
R8802 10k
C8834 10/50
(C)
(FL)
(FR)
LCD SPECTRUM INDICATOR
VA+12
C8831 STBY
R8816 STBY
C8830 0.01
IC8801 HA17558AF (2/2)
C8828 0.01
C8829 STBY
VA-12

: AUDIO SIGNAL ROUTE (L ch)
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(FR) : AUDIO SIGNAL ROUTE (Front R ch)
(C) : AUDIO SIGNAL ROUTE (Center ch)
(AUX) : AUDIO SIGNAL ROUTE
(TX) : AUDIO SIGNAL ROUTE
(TC) : AUDIO SIGNAL ROUTE

C 2/4

3.7 IFAF ASSY (3/4)



C 3/4 IFAF ASSY
(XV-EV1000:XWZ4003)
(XV-EV700:XWZ4006)

B 2/2 CN902

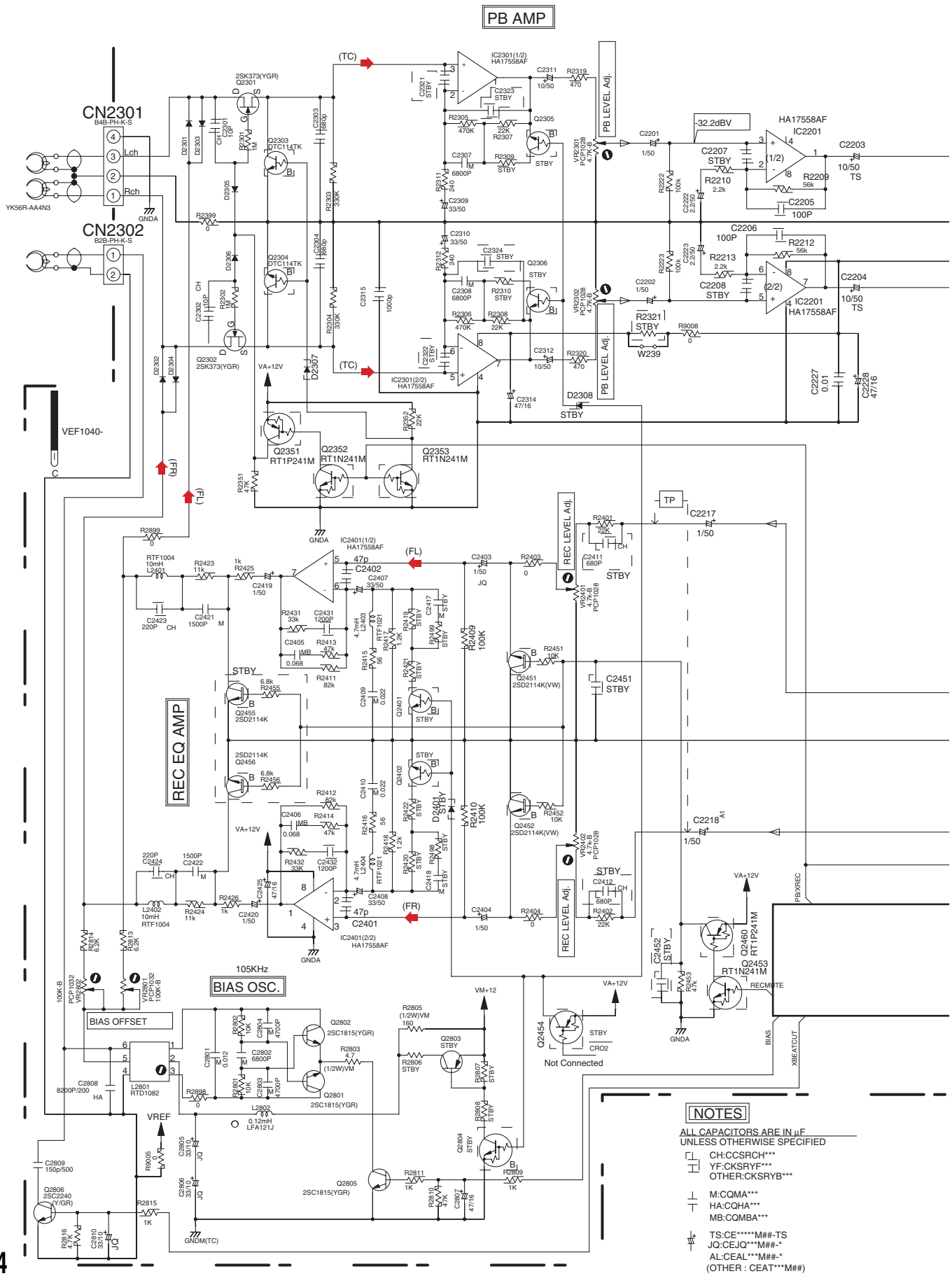
GAIN TABLE		LOGIC	
		SFWMX	DTSDMX
THROUGH	−4. 0dB	L	L
DTS MIX	+3. 6dB	H	L
LFE MIX	−2. 5dB	L	H

NOTES
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH (OTHER : CKSRYB)
TY : CFTYA
AL : CEAL (OTHER:CEAT)
ALL RESISTORS ARE IN Ω
RS1/16S***J
ALL INDUCTORS ARE IN μH
LAU***J
ALL DIODE
:MA111
:1SS133

(FR) : AUDIO SIGNAL ROUTE (Front R ch)
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(C) : AUDIO SIGNAL ROUTE (Center ch)
(SR) : AUDIO SIGNAL ROUTE (Surround Rch)
(SL) : AUDIO SIGNAL ROUTE(Surround Lch)
(SW) : AUDIO SIGNAL ROUTE(Sub Woofer ch)

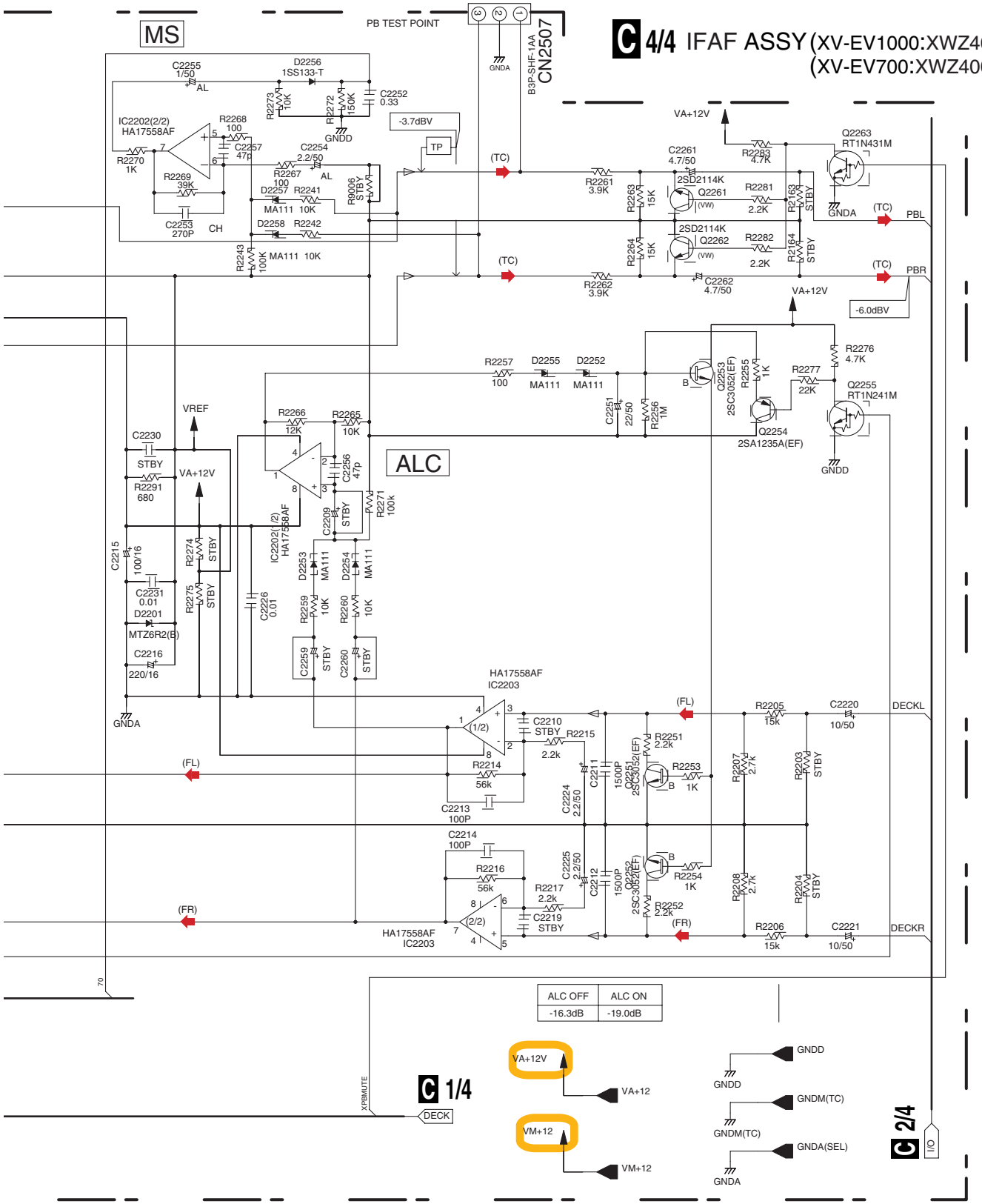
C 3/4

3.8 IFAF ASSY (4/4)



C 4/4

C 4/4 IFAF ASSY (XV-EV1000:XWZ4003) (XV-EV700:XWZ4006)



ALL RESISTORS ARE IN
UNLESS OTHERWISE SPECIFIED
1/16W 1/4WPU

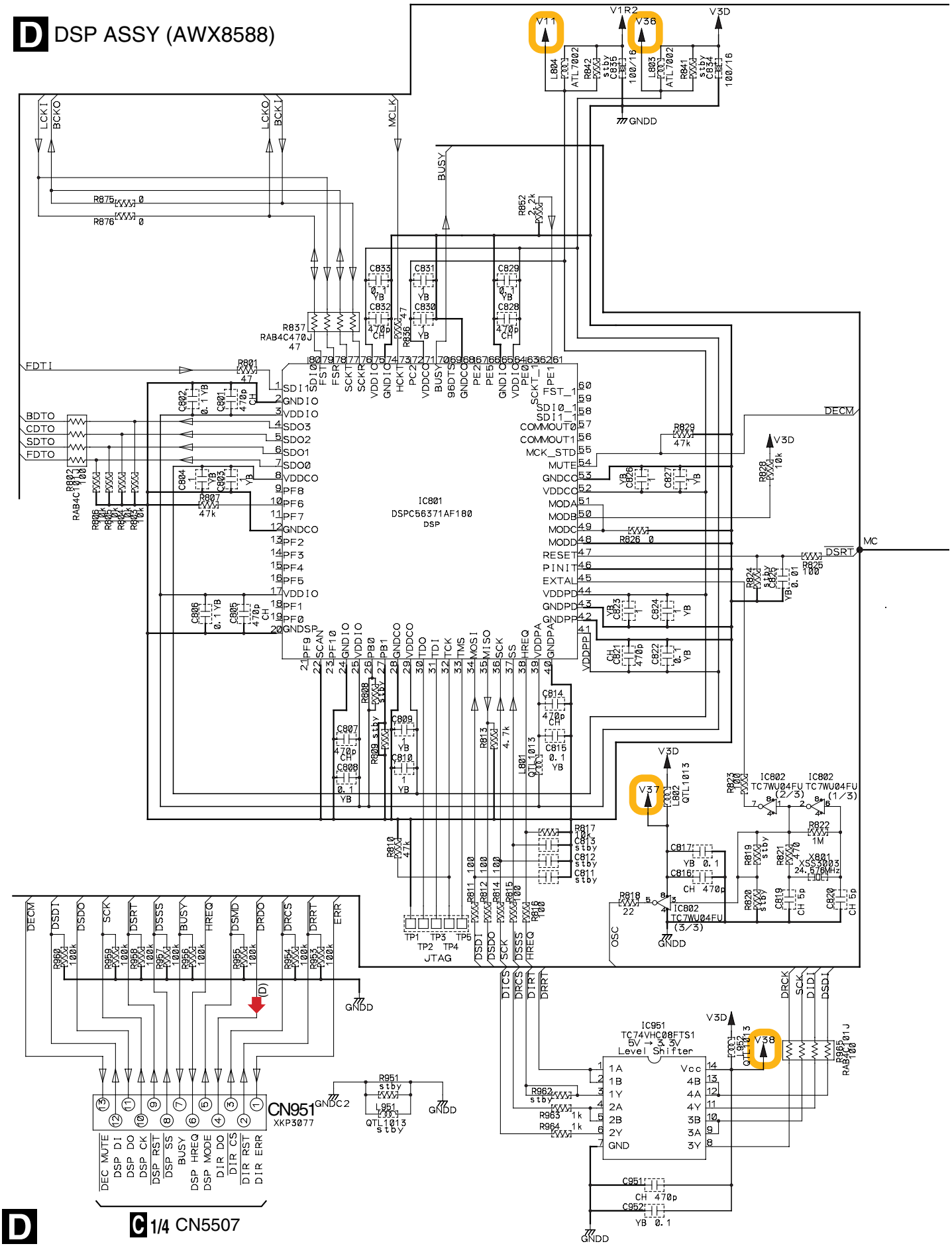
ALL COILS ARE IN µH
UNLESS OTHERWISE SPECIFIED
LAU***J

ALL DIODES ARE 1SS133
UNLESS OTHERWISE SPECIFIED
1SS133 MA111
MTZJ***

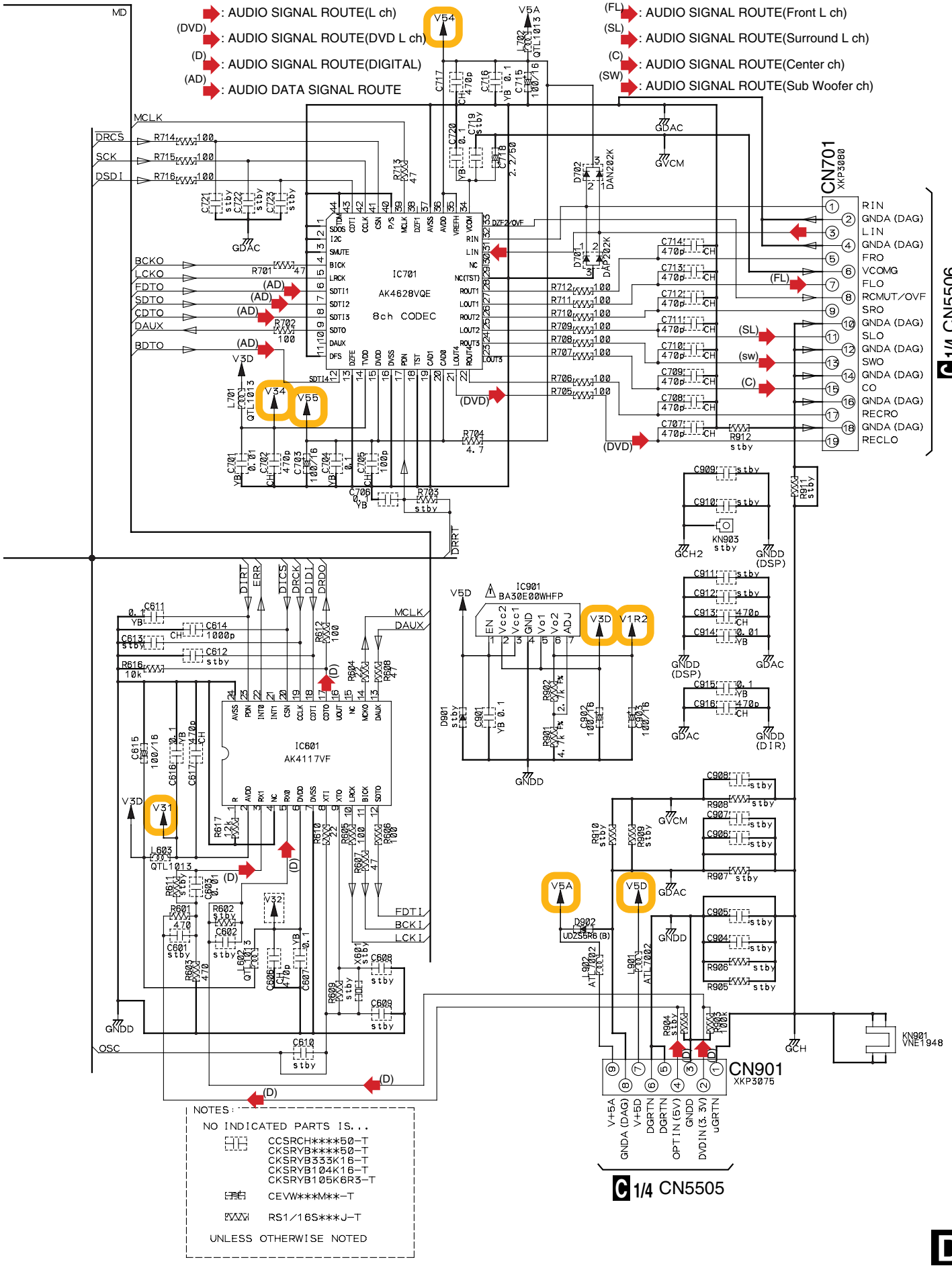
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(FR) : AUDIO SIGNAL ROUTE (Front R ch)
(TC) : AUDIO SIGNAL ROUTE

C 4/4

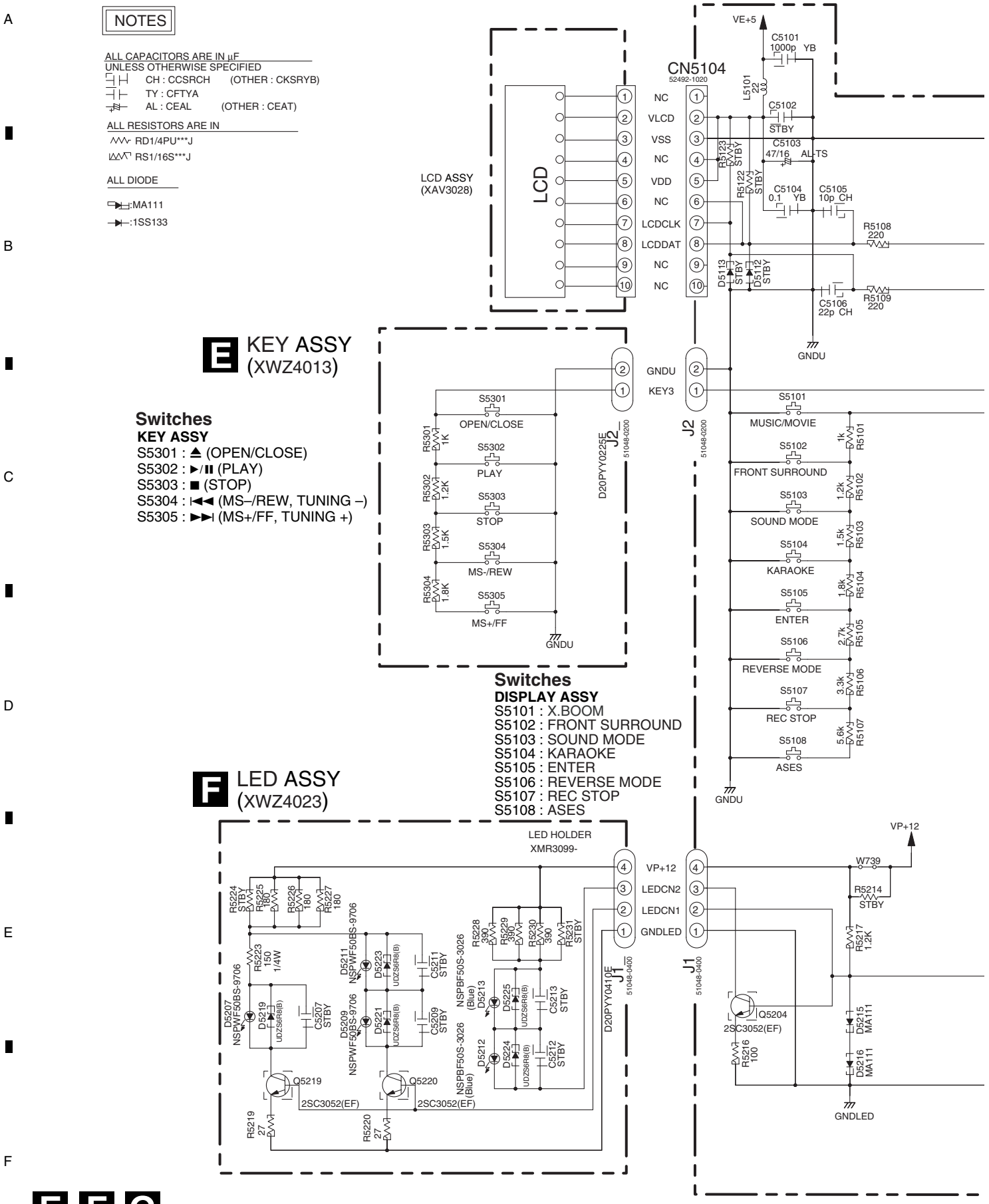
D DSP ASSY (AWX8588)



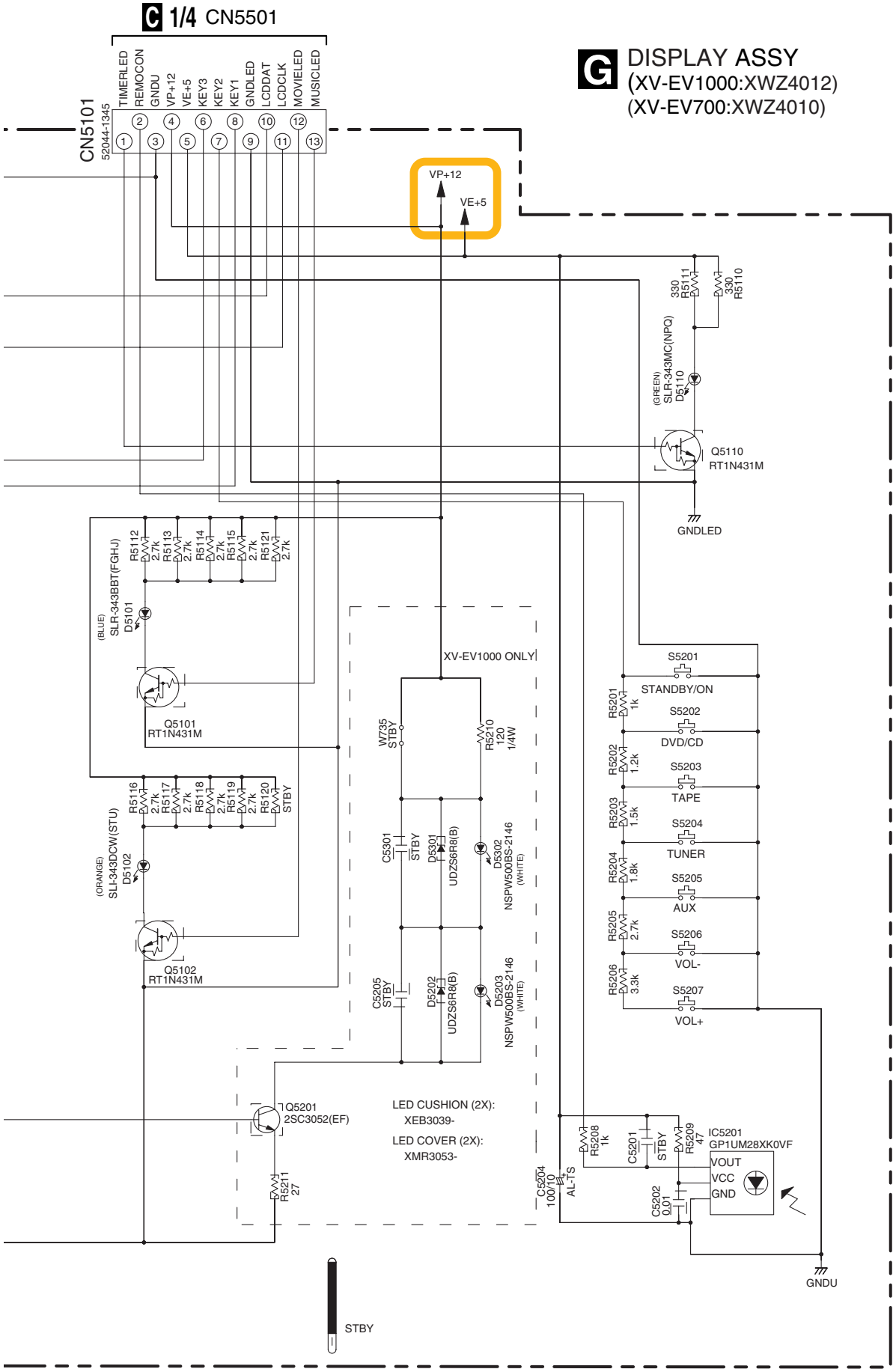
D 1/4 CN5507


: AUDIO SIGNAL ROUTE(L ch)
(DVD) : AUDIO SIGNAL ROUTE(DVD L ch)
(D) : AUDIO SIGNAL ROUTE(DIGITAL)
(AD) : AUDIO DATA SIGNAL ROUTE
(FL) : AUDIO SIGNAL ROUTE(Front L ch)
(SL) : AUDIO SIGNAL ROUTE(Surround L ch)
(C) : AUDIO SIGNAL ROUTE(Center ch)
(SW) : AUDIO SIGNAL ROUTE(Sub Woofer ch)
MD
IC701
AK4628VQE
8ch CODEC
IC601
AK4117VF
IC901
BA30E00WHFP
CN701
XKP3080
CN901
XKP3075
KN901
VNE1948
C 1/4 CN5506
C 1/4 CN5505
RIN
GNDA (DAG)
LIN
FRO
VCOMG
FLO
RCMUT/OVF
SRO
SLO
SWO
CO
RECRO
RECLO
V+5A
V+5D
DGRTN
OPTIN (5V)
GNDD
DVDIN (3.3V)
uGRTN
MCLK
DRCS
SCK
DSDI
BCKO
LCKO
FDTO
SDTO
CDTO
DAUX
BDTO
FDTI
BCKI
LCKI
OSC
DIRT
ERR
DICS
DRCK
DIDL
DRDO
DRRT
NOTES:
NO INDICATED PARTS IS...
CCSRCH****50-T
CKSRYB****50-T
CKSRYB333K16-T
CKSRYB104K16-T
CKSRYB105K6R3-T
CEVW***M**-T
RS1/16S***J-T
UNLESS OTHERWISE NOTED

3.10 KEY, LED and DISPLAY ASSYS



E F G

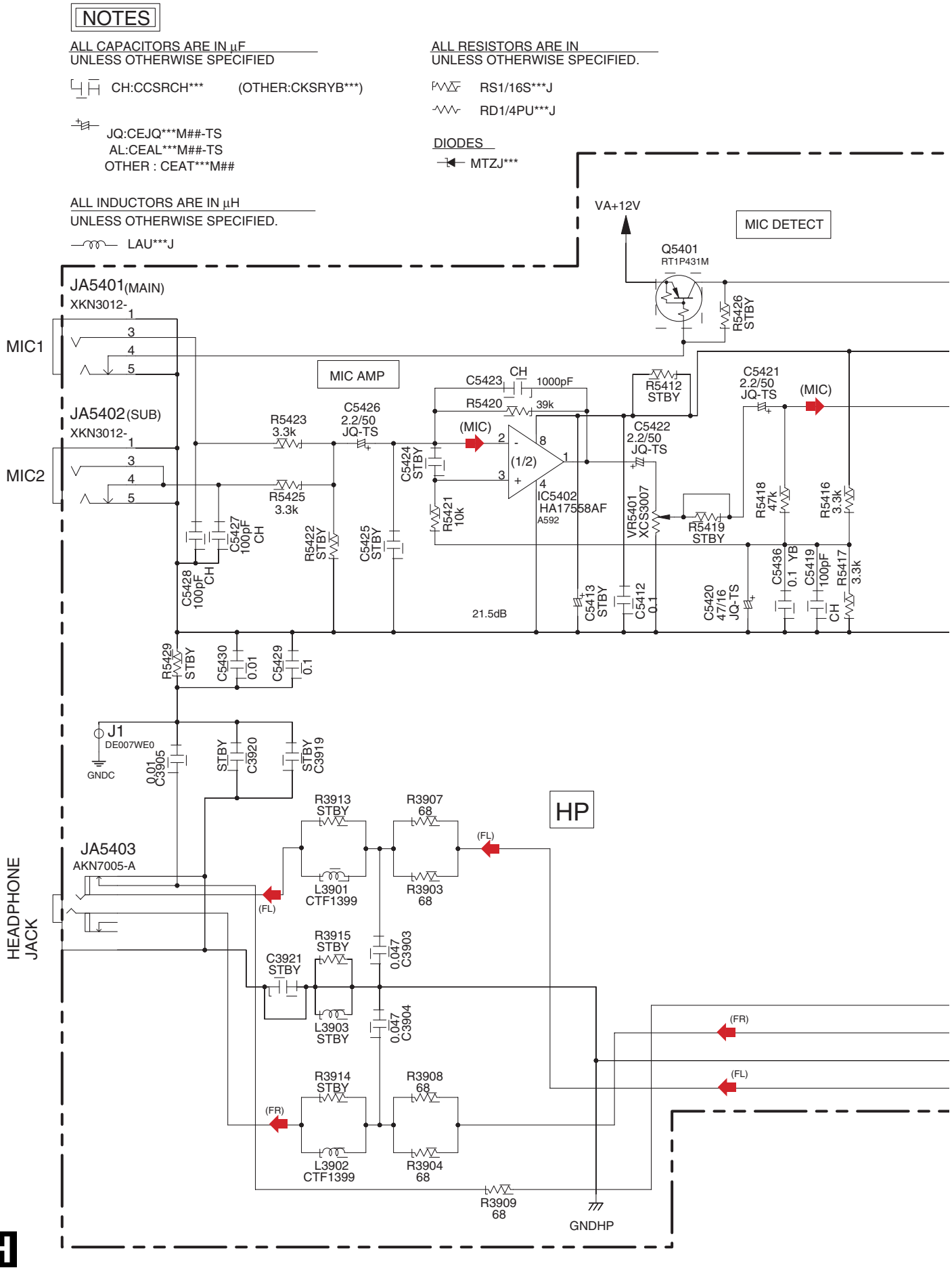


Switches

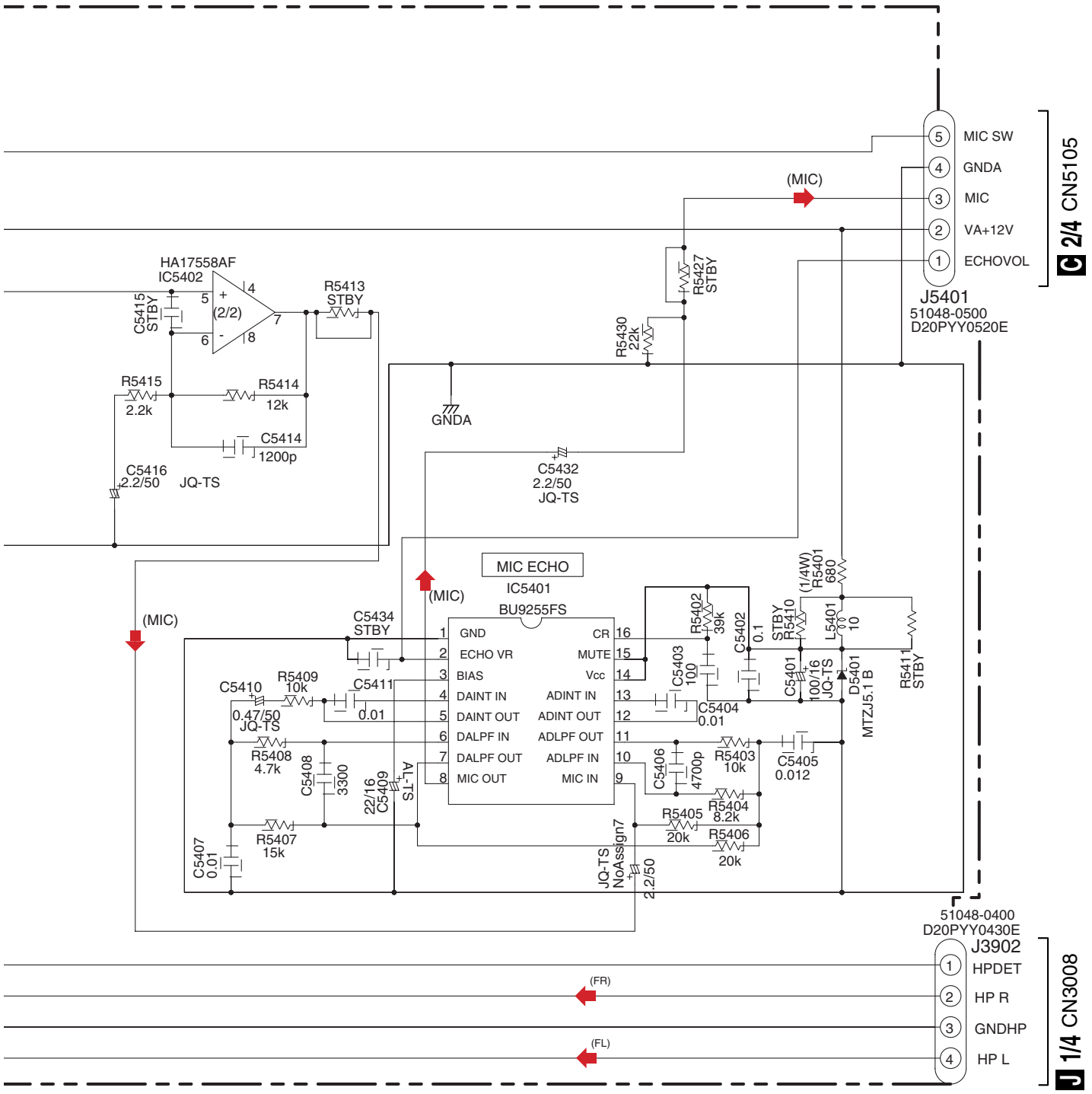
DISPLAY ASSY

S5201 : STANDBY/ON
S5202 : DVD/CD
S5203 : TAPE
S5204 : TUNER
S5205 : LINE
S5206 : VOLUME +
S5207 : VOLUME –

3.11 HP/MIC ASSY

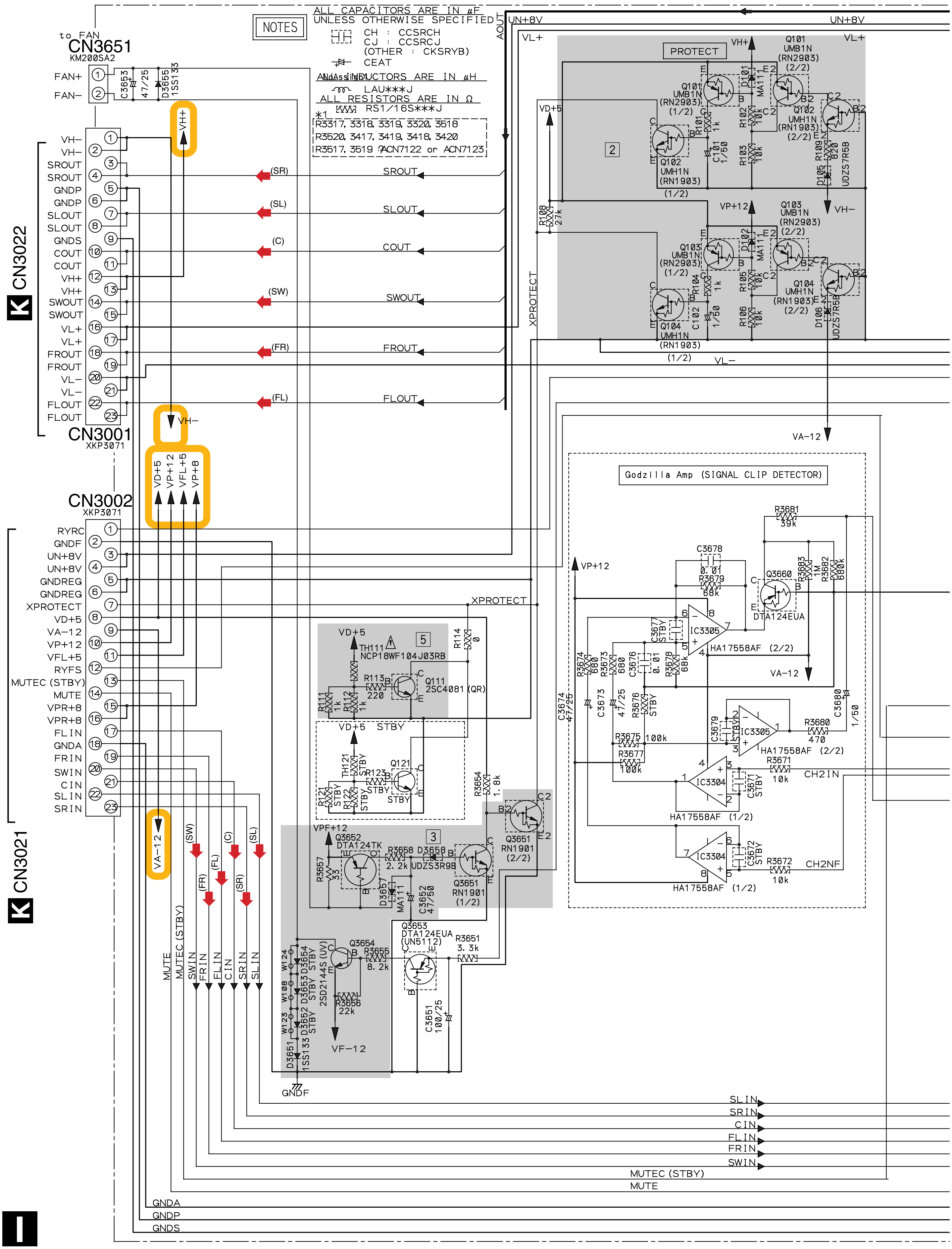


HP/MIC ASSY (XWZ4014)



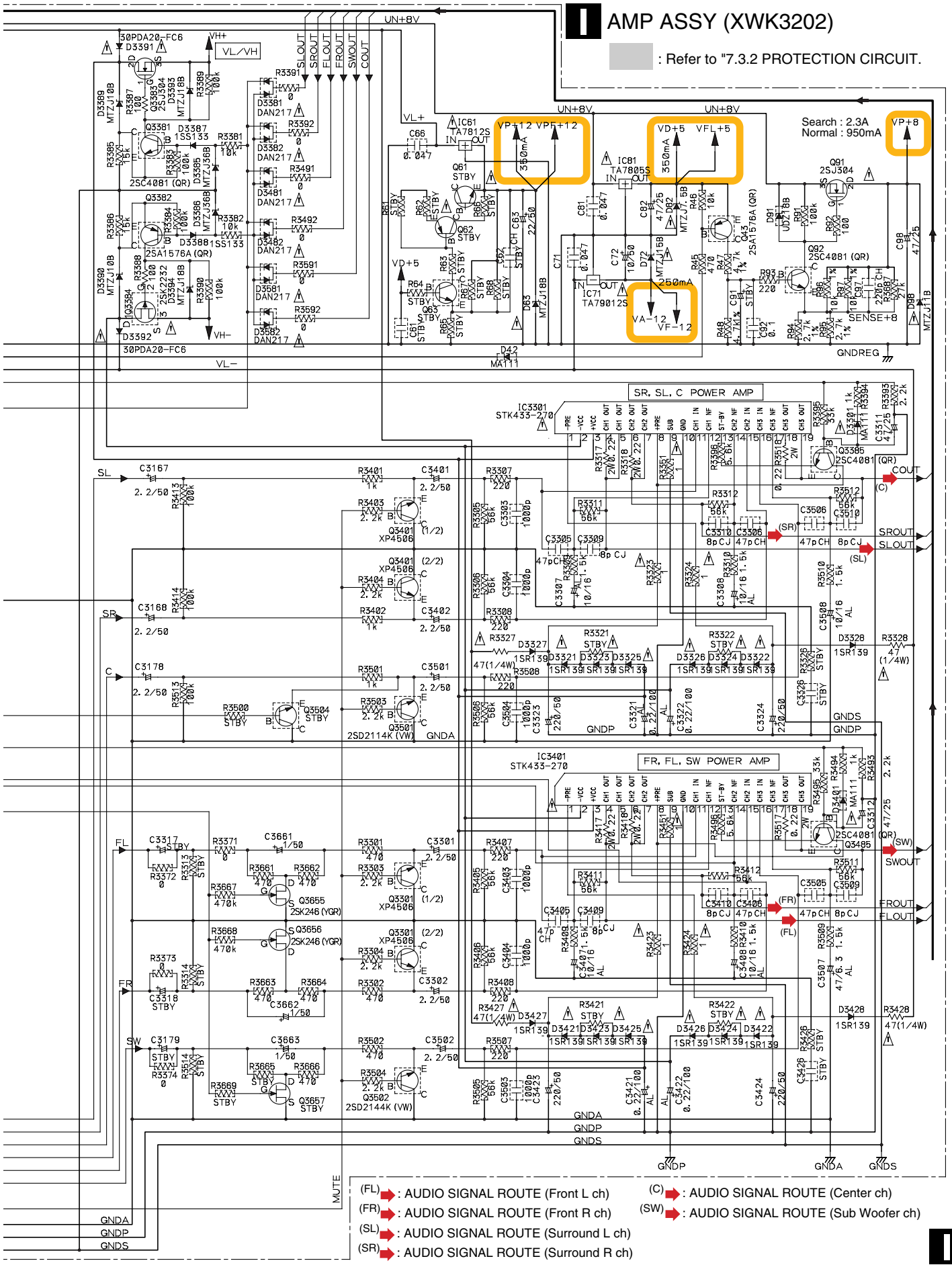
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(FR) : AUDIO SIGNAL ROUTE (Front R ch)
(MIC) : AUDIO SIGNAL ROUTE

3.12 AMP ASSY

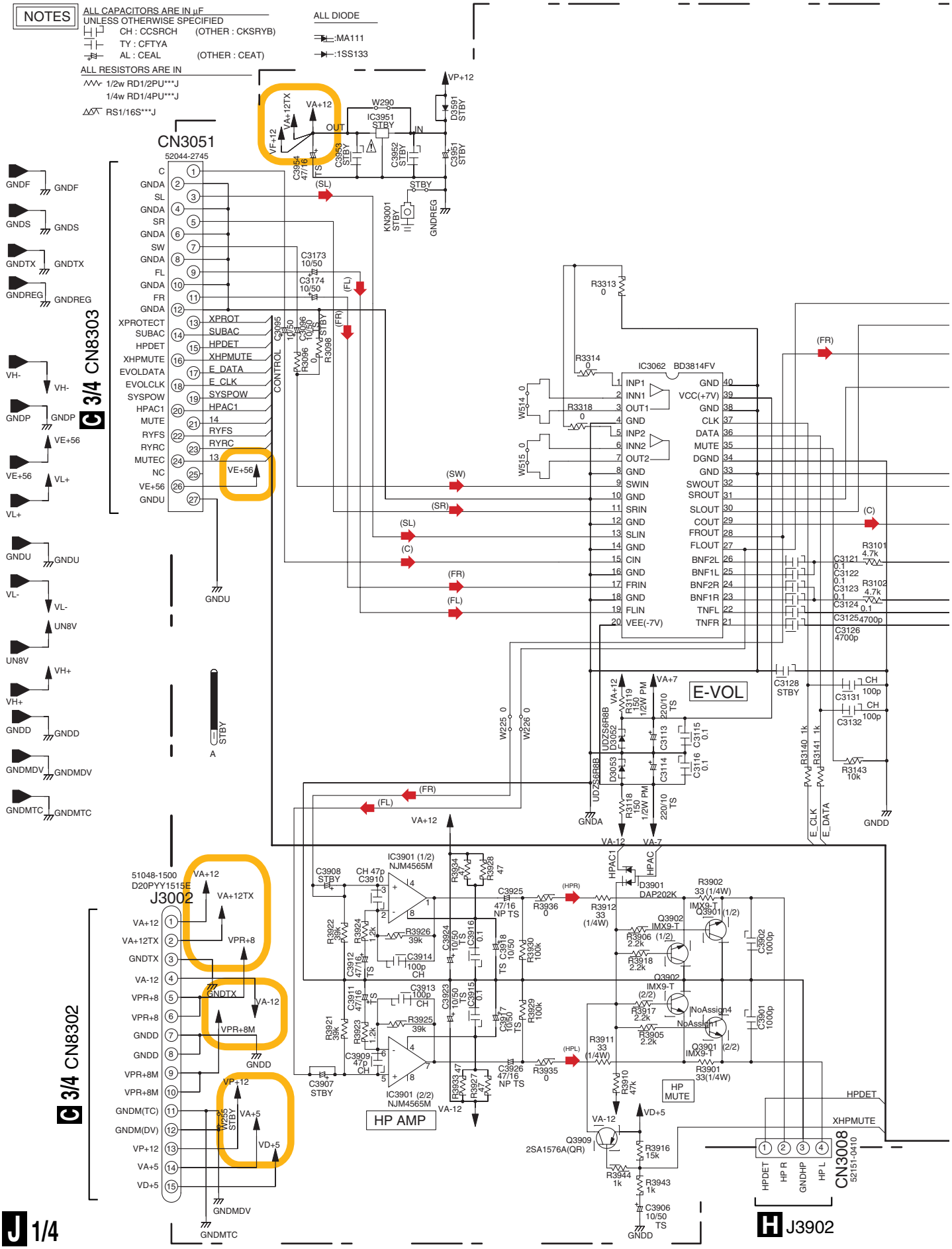

NOTES
ALL CAPACITORS ARE IN μF UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
CJ : CCSRCJ
(OTHER : CKSRYB)
CEAT
ALL INDUCTORS ARE IN μH
LAU***J
ALL RESISTORS ARE IN Ω
RS1/16S***J
*1
R3317, 3318, 3319, 3320, 3518
R3520, 3417, 3419, 3418, 3420
R3517, 3519 ACN7122 or ACN7123
to FAN
CN3651
KM200SA2
FAN+
FAN−
K CN3022
CN3001
XKP3071
CN3002
XKP3071
K CN3021
PROTECT
Godzilla Amp (SIGNAL CLIP DETECTOR)
SLIN
SRIN
CIN
FLIN
FRIN
SWIN
MUTEC (STBY)
MUTE
GNDA
GNDP
GNDS
GNDF
UN+8V
VL+
VL−
VH+
VH−
VA−12
VP+12
VD+5
VF−12
XPROTECT
CH2IN
CH2NF

AMP ASSY (XWK3202)

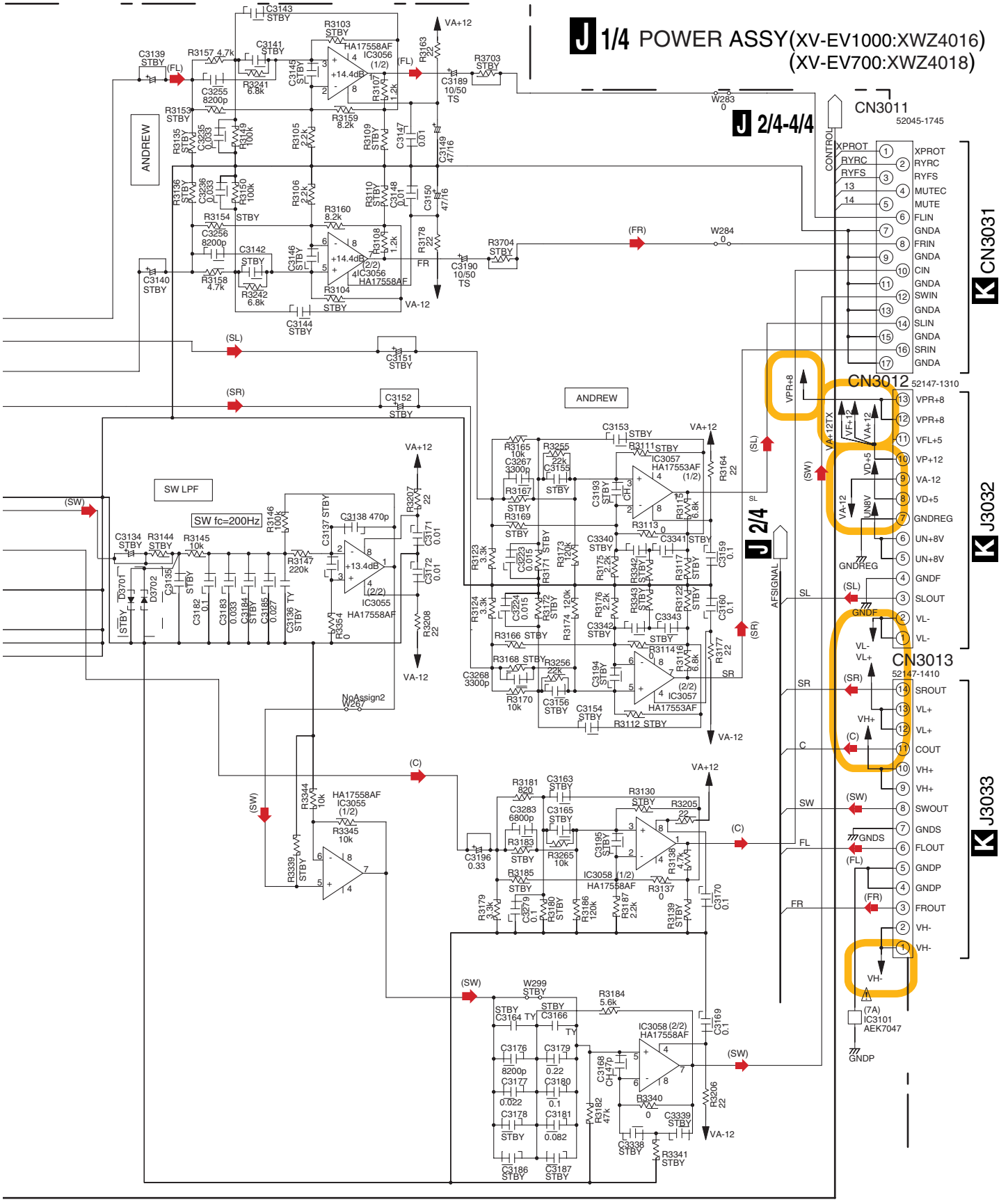
: Refer to "7.3.2 PROTECTION CIRCUIT.



3.13 POWER ASSY (1/4)



J 1/4 POWER ASSY(XV-EV1000:XWZ4016) (XV-EV700:XWZ4018)



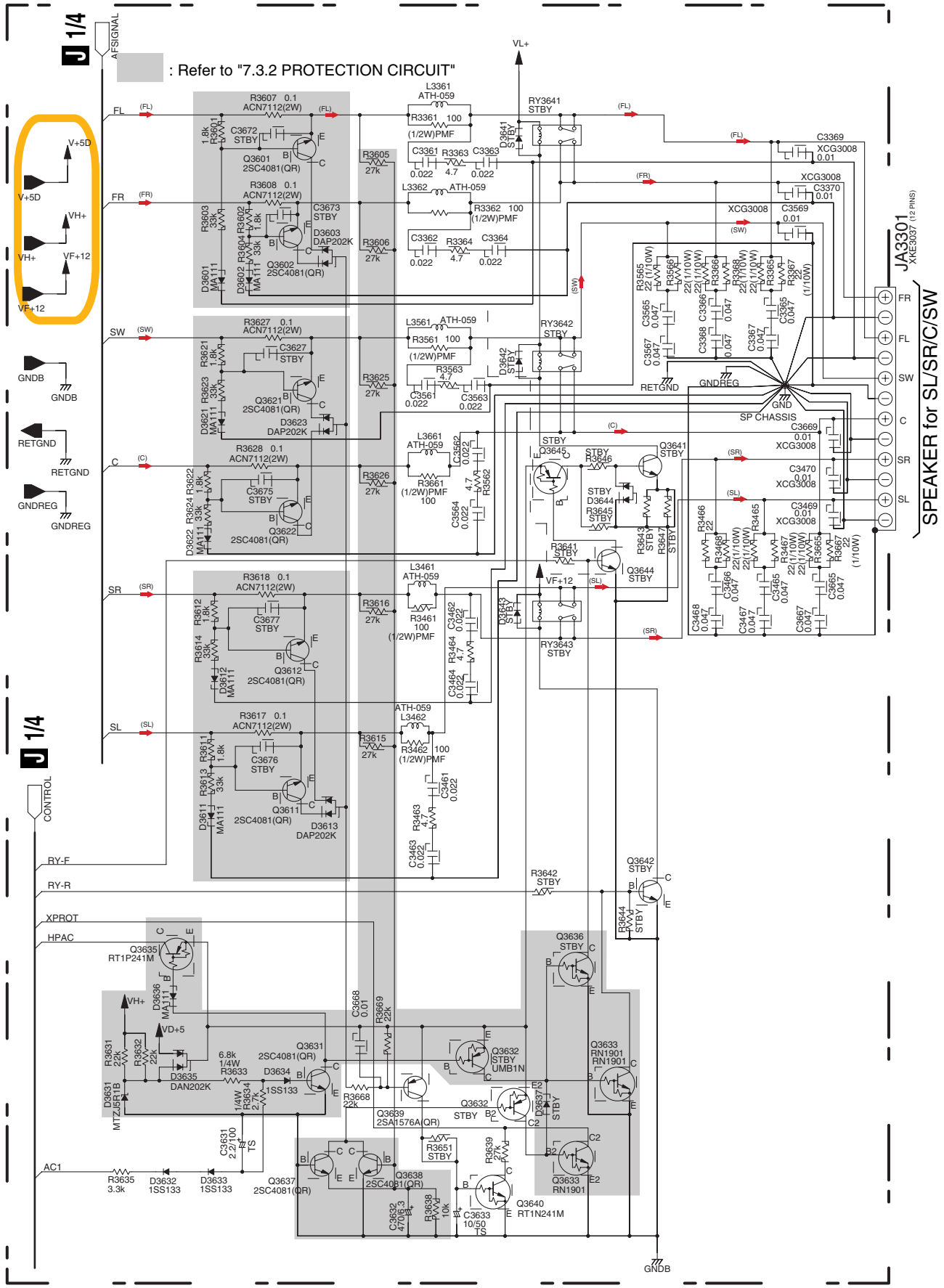
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(FR) : AUDIO SIGNAL ROUTE (Front R ch)
(HPL) : AUDIO SIGNAL ROUTE
(HPR) : AUDIO SIGNAL ROUTE
(C) : AUDIO SIGNAL ROUTE (Center ch)
(SL) : AUDIO SIGNAL ROUTE(Surround Lch)
(SR) : AUDIO SIGNAL ROUTE(Surround Rch)
(SW) : AUDIO SIGNAL ROUTE(Sub Woofer ch)

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR IC3101 (AEK7047).

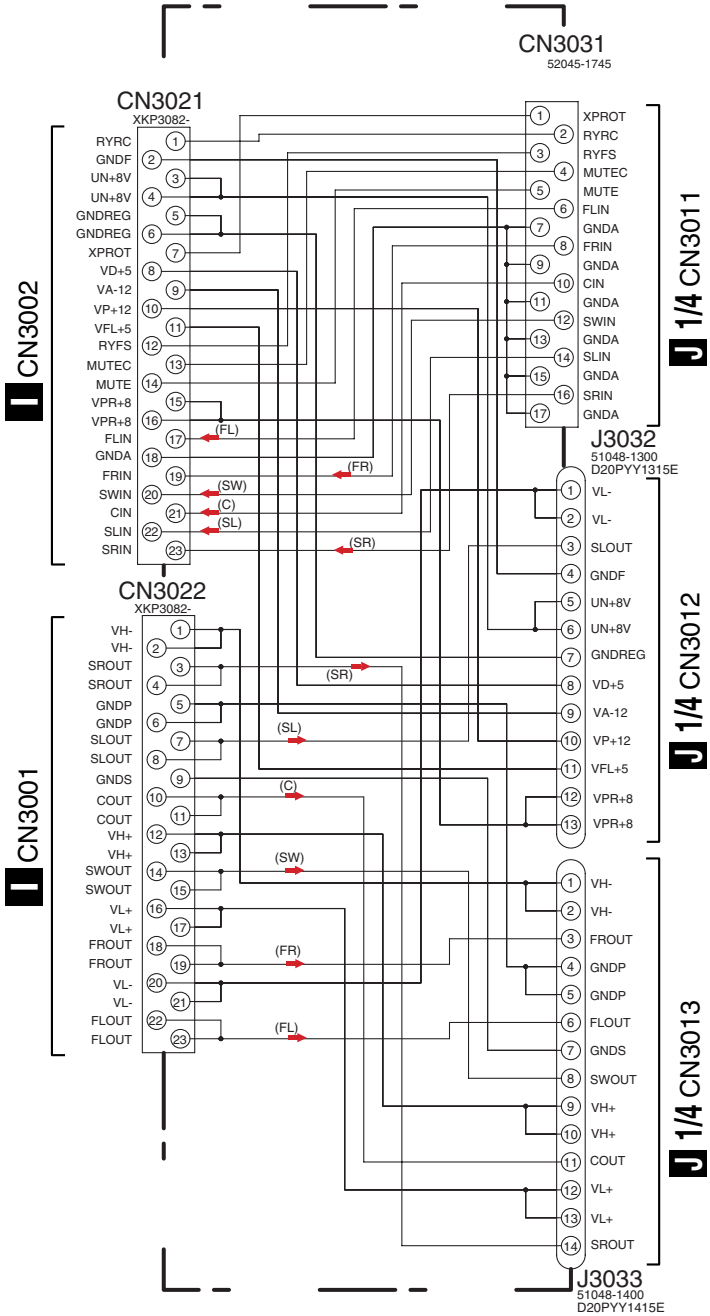
J 1/4

3.14 POWER (2/4) and TRADE ASSYS

J 2/4 POWER ASSY(XV-EV1000:XWZ4016)(XV-EV700:XWZ4018)



K TRADE ASSY(XWZ4022)



ALL RESISTORS ARE IN

	RS1/16S***J
(1/10W)	RS1/10S***J
	RD1/4PU***J
(1W)	RS1LMF***J
PMF(1/2W)	RD1/2PMF***J
FU(1/4W)	RF1/4PS***J

NOTES

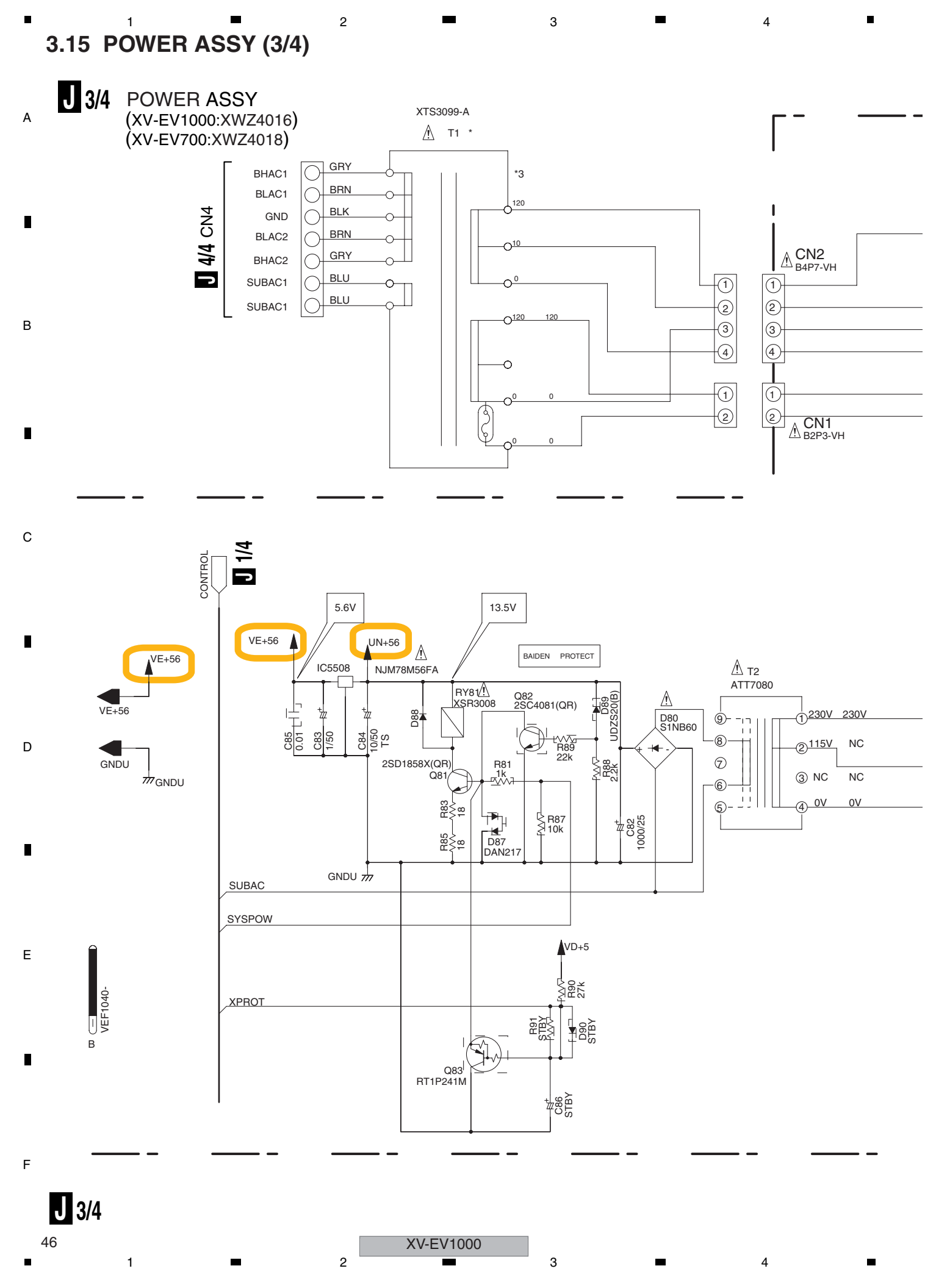
ALL CAPACITORS ARE IN μF

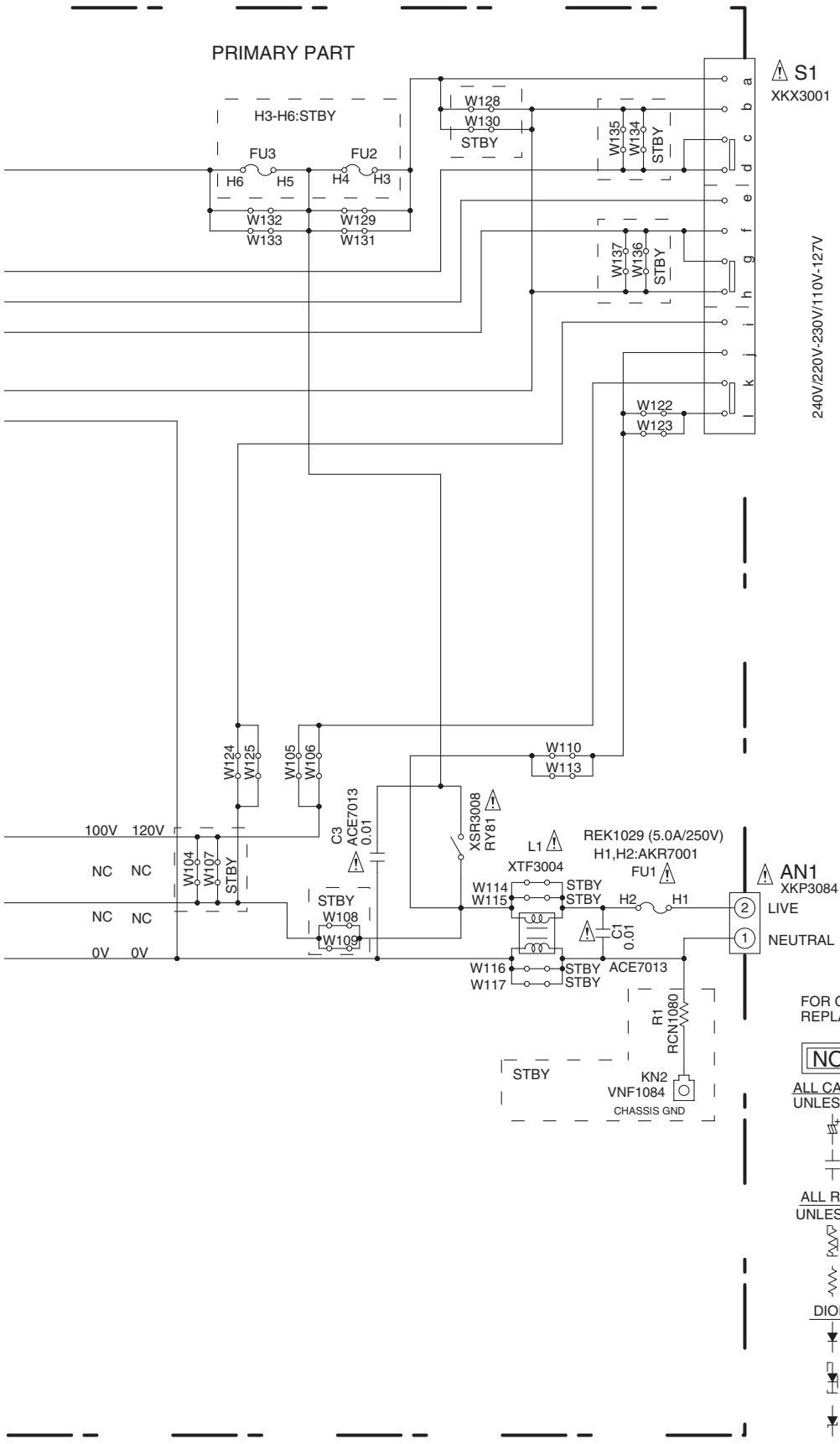
UNLESS OTHERWISE SPECIFIED

	CH:CCSRCH (OTHER: CKSRYB)
M	CQMA
	CEAT

(FL) ➡ : AUDIO SIGNAL ROUTE (Front L ch)
(FR) ➡ : AUDIO SIGNAL ROUTE (Front R ch)
(C) ➡ : AUDIO SIGNAL ROUTE (Center ch)
(SL) ➡ : AUDIO SIGNAL ROUTE (Surround Lch)
(SR) ➡ : AUDIO SIGNAL ROUTE (Surround Rch)
(SW) ➡ : AUDIO SIGNAL ROUTE (Sub Woofer ch)

3.15 POWER ASSY (3/4)





FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE WITH SAME TYPE AND RATINGS ONLY

NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED

CEAT***M##

CKSRYB

ALL RESISTORS ARE IN
UNLESS OTHERWISE SPECIFIED

RS1/4PU***J

RS1/16S***J

DIODE

1SS133

MA111

MTZJ***

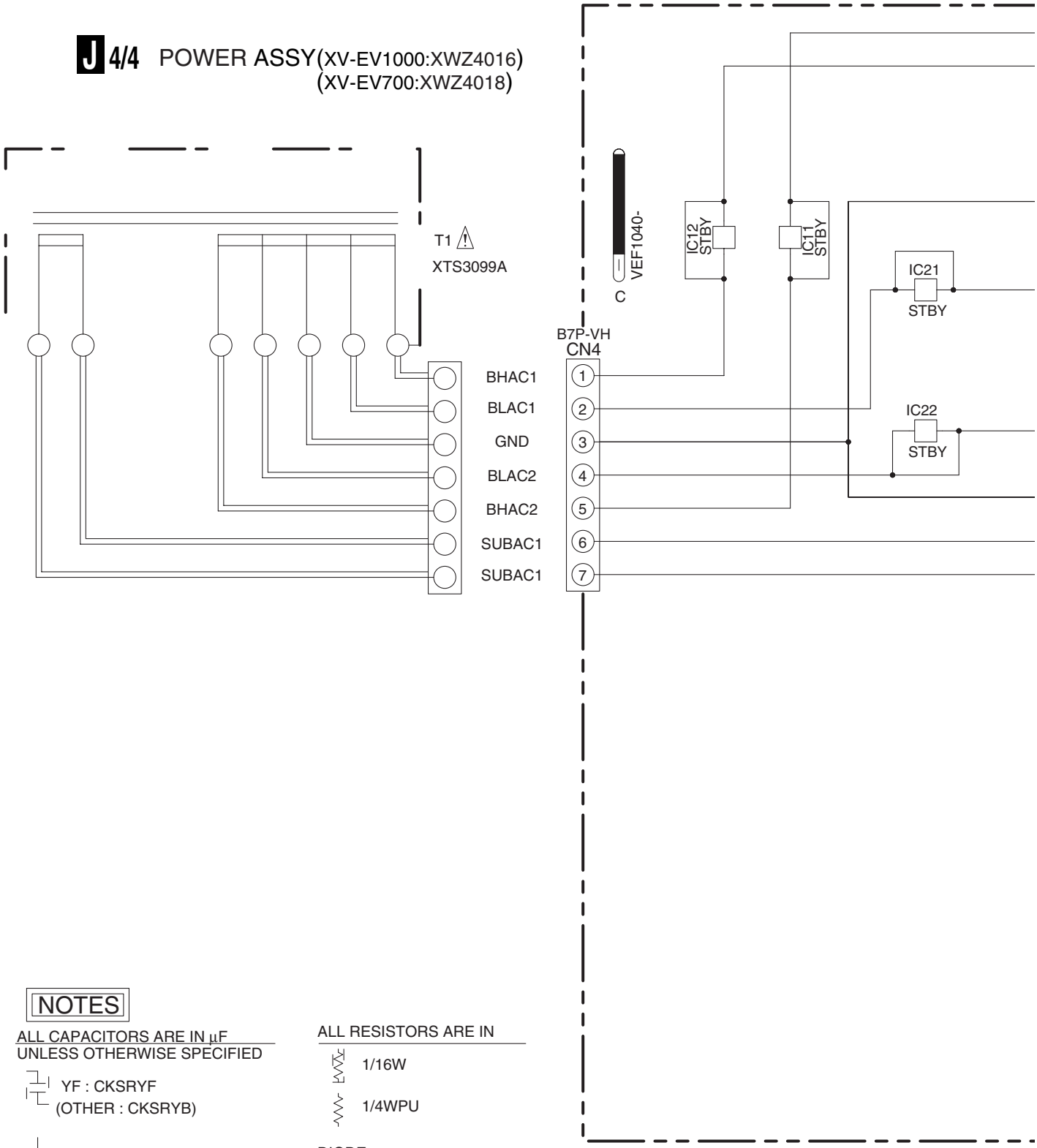
ALL VOLTAGE'S AT POWER ON CONDITION

• NOTE FOR FUSE REPLACEMENT

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

3.16 POWER ASSY (4/4)

J 4/4 POWER ASSY(XV-EV1000:XWZ4016) (XV-EV700:XWZ4018)



NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED

YF : CKSRYF
(OTHER : CKSRYB)

M : CQMBA

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

ALL RESISTORS ARE IN

1/16W

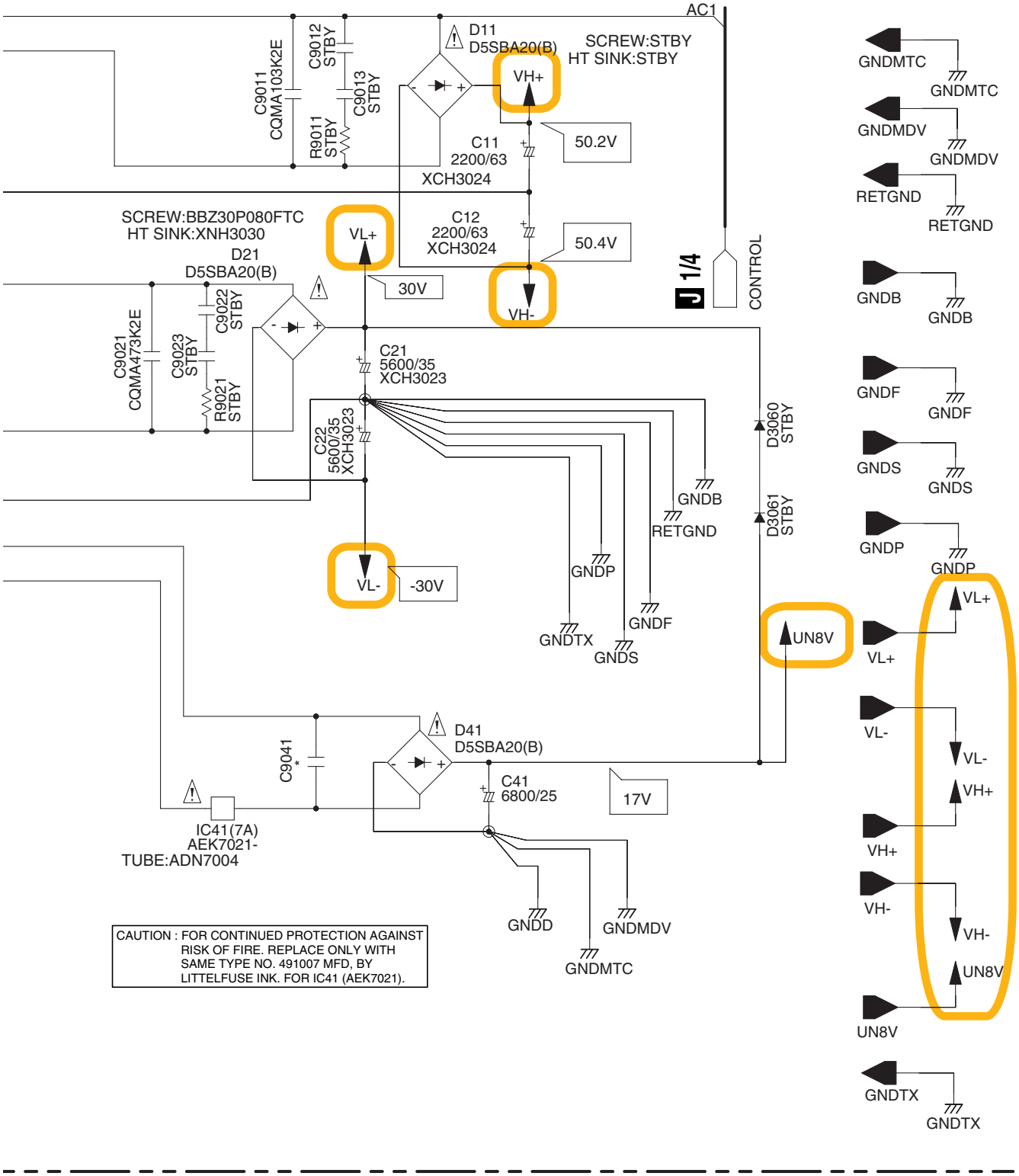
1/4WPU

DIODE

1SS133

MA111

J 4/4


AC1
D11
D5SBA20(B)
SCREW:STBY
HT SINK:STBY
VH+
50.2V
C11
2200/63
XCH3024
C12
2200/63
XCH3024
50.4V
VH-
VL+
30V
SCREW:BBZ30P080FTC
HT SINK:XNH3030
D21
D5SBA20(B)
C9011
CQMA103K2E
C9012
STBY
C9013
STBY
R9011
STBY
C9021
CQMA473K2E
C9022
STBY
C9023
STBY
R9021
STBY
C21
5600/35
XCH3023
C22
5600/35
XCH3023
VL-
-30V
J 1/4
CONTROL
D3060
STBY
D3061
STBY
GNDB
RETGND
GNDP
GNDTX
GNDF
GNDS
UN8V
D41
D5SBA20(B)
C9041
C41
6800/25
17V
IC41(7A)
AEK7021-
TUBE:ADN7004
GNDD
GNDMDV
GNDMTC
CAUTION : FOR CONTINUED PROTECTION AGAINST
RISK OF FIRE. REPLACE ONLY WITH
SAME TYPE NO. 491007 MFD, BY
LITTELFUSE INK. FOR IC41 (AEK7021).
GNDMTC
GNDMDV
RETGND
GNDB
GNDF
GNDS
GNDP
VL+
VL-
VH+
VH-
UN8V
GNDTX

J 4/4

3.17 WAVEFORMS

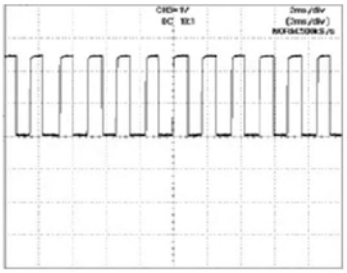
Note : The encircled numbers denote measuring point in the schematic diagram.

B DVDM ASSY

Measurement condition ;

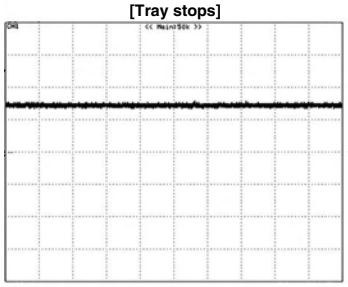
No. 1 to 10 : reference A1 (DVD), T2-chp 19, Color-bar
No. 11 to 14 : reference A1 (DVD), T1

① IC201-pin47 [FG]
V: 1V/div. H: 2msec/div.

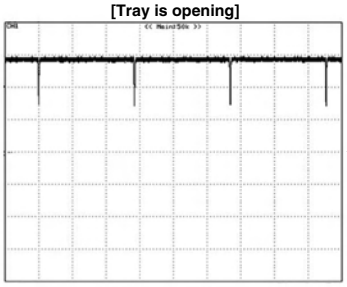


② IC201-pin 39 [TROPENPWM]
V: 1V/div. H: 5µsec/div.

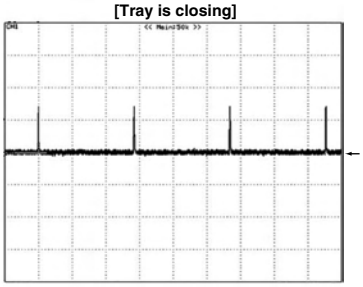
[Tray stops]



[Tray is opening]

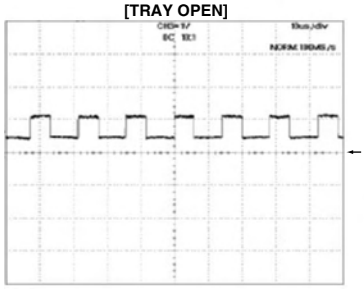


[Tray is closing]

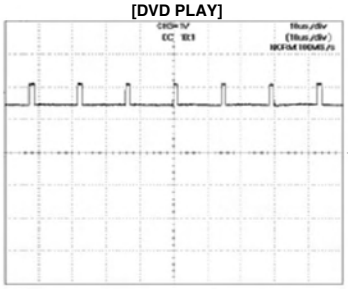


③ IC201-pin37 [DMSO]

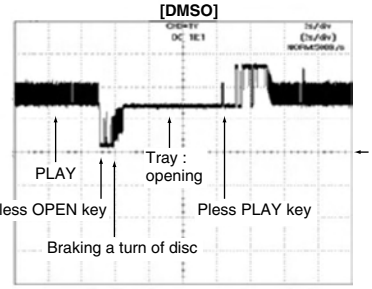
[TRAY OPEN] V: 1V/div. H: 10µsec/div.



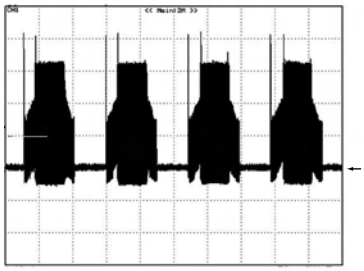
[DVD PLAY] V: 1V/div. H: 10µsec/div.



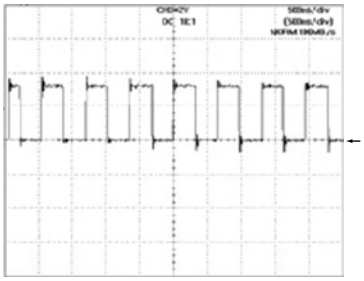
[DMSO] V: 1V/div. H: 2sec/div.



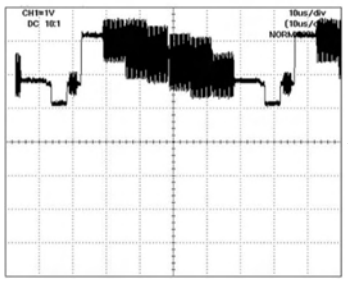
④ CN102-pin 11, 10, 9 (IC101-pin 14, 13, 12) [SPINDLE (WVU)]
V: 2V/div. H: 2msec/div.



⑪ IC201-pin225 [ASPDIF AUDIO DIGITAL SIGNAL]
V: 2V/div. H: 500nsec/div.

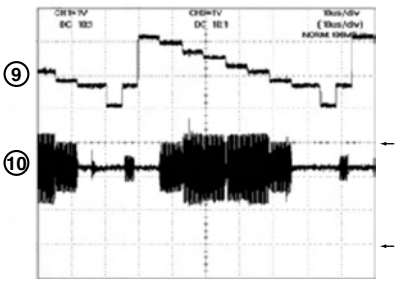


⑧ IC401-pin23 [CompositeVideo Out]
V: 1V/div. H: 10µsec/div.



⑨ IC401-pin21 [S VIDEO OUT - Y]
V: 1V/div. H: 10µsec/div.

⑩ IC401-pin26 [S VIDEO OUT - C]
V: 1V/div. H: 10µsec/div.



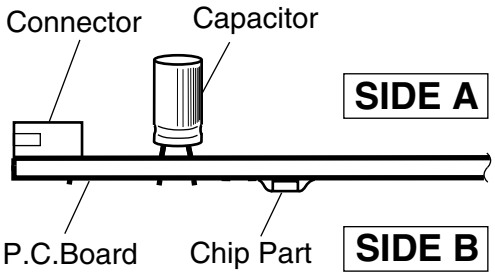
4. PCB CONNECTION DIAGRAM

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.

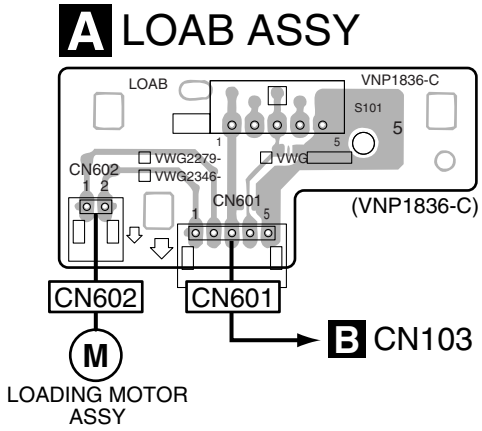
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

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.

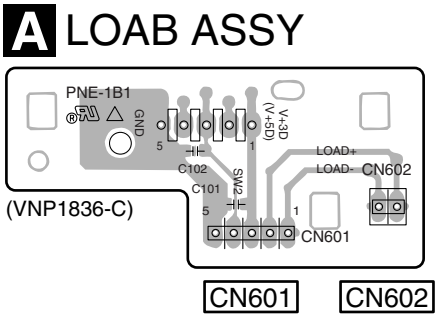


4.1 LOAB ASSY

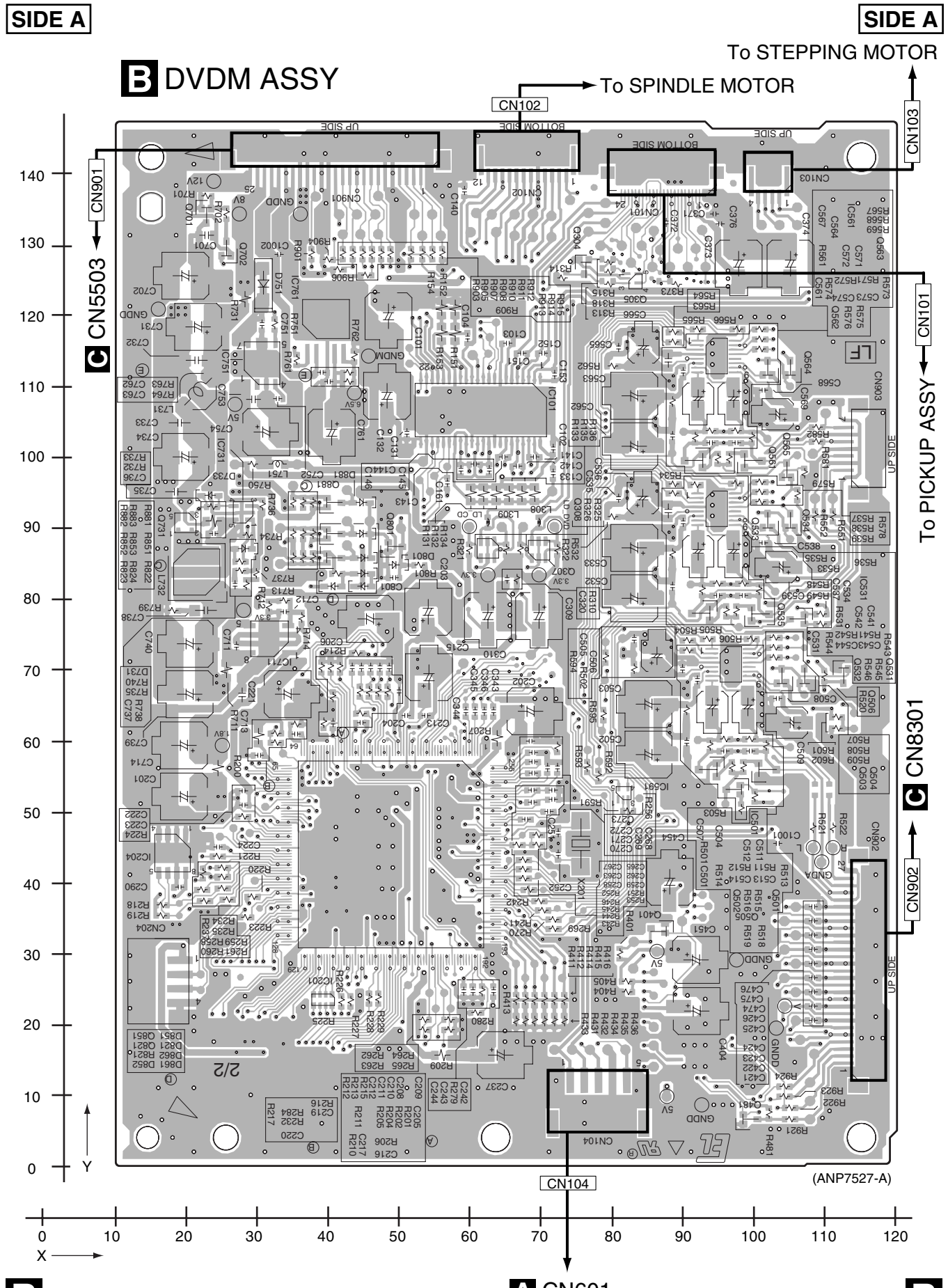
SIDE A



SIDE B



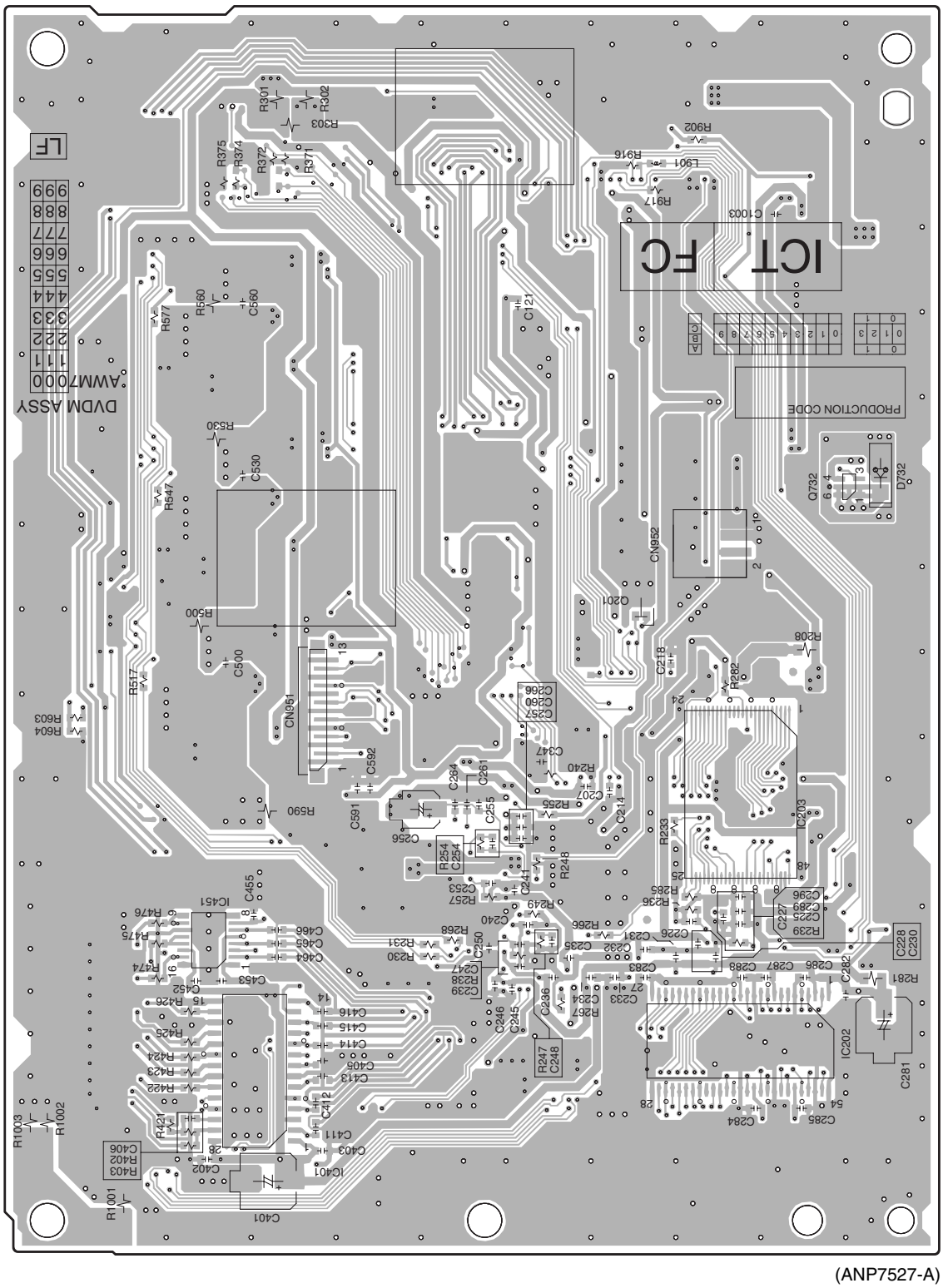
4.2 DVDM ASSY


SIDE A
SIDE A
B DVDM ASSY
To STEPPING MOTOR
To SPINDLE MOTOR
CN102
CN103
CN901
CN5503
C
CN101
To PICKUP ASSY
C
CN8301
CN902
(ANP7527-A)
CN104
A CN601
B
B
2/2
X
Y

SIDE B

SIDE B

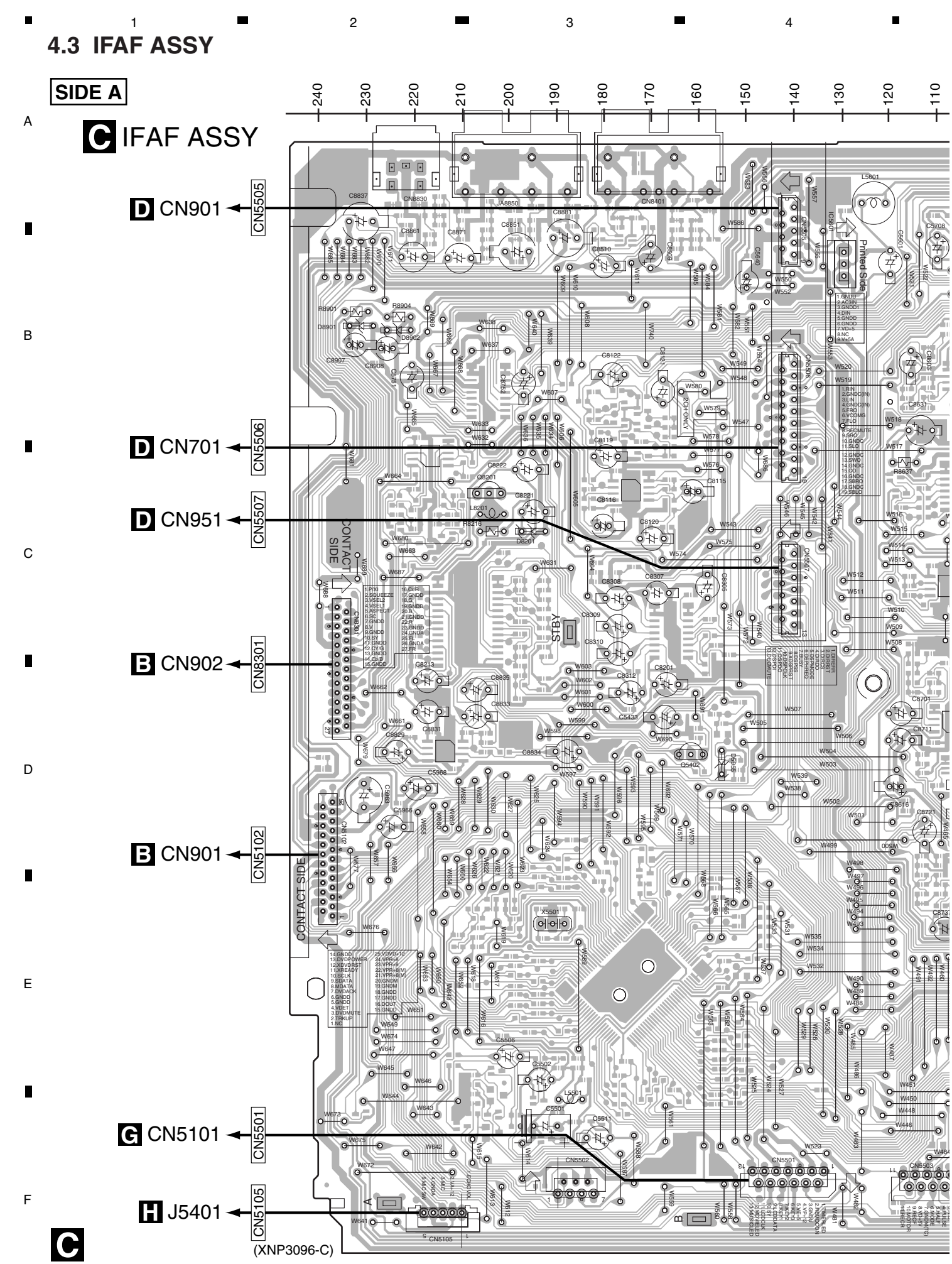
B DVDM ASSY

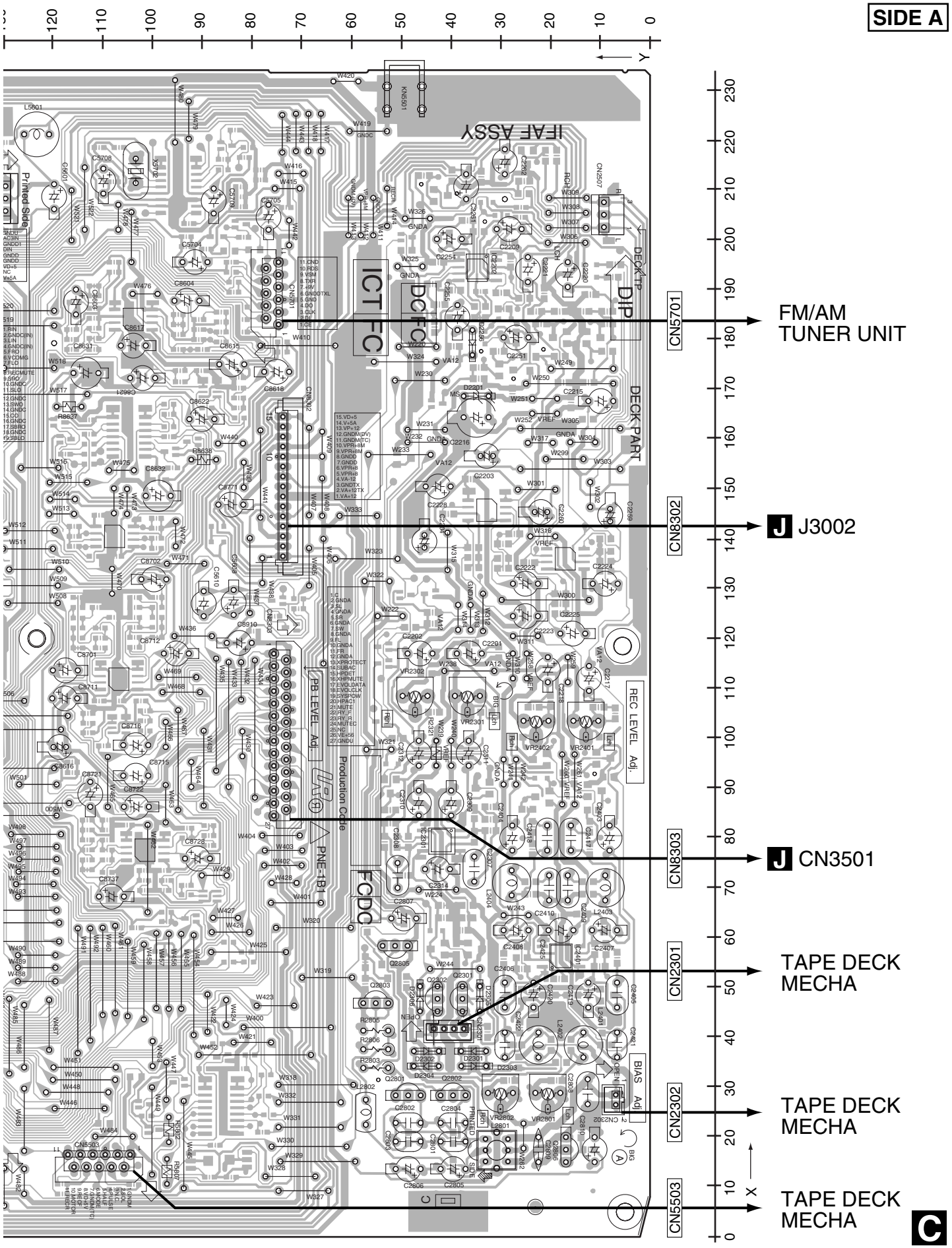


B

B

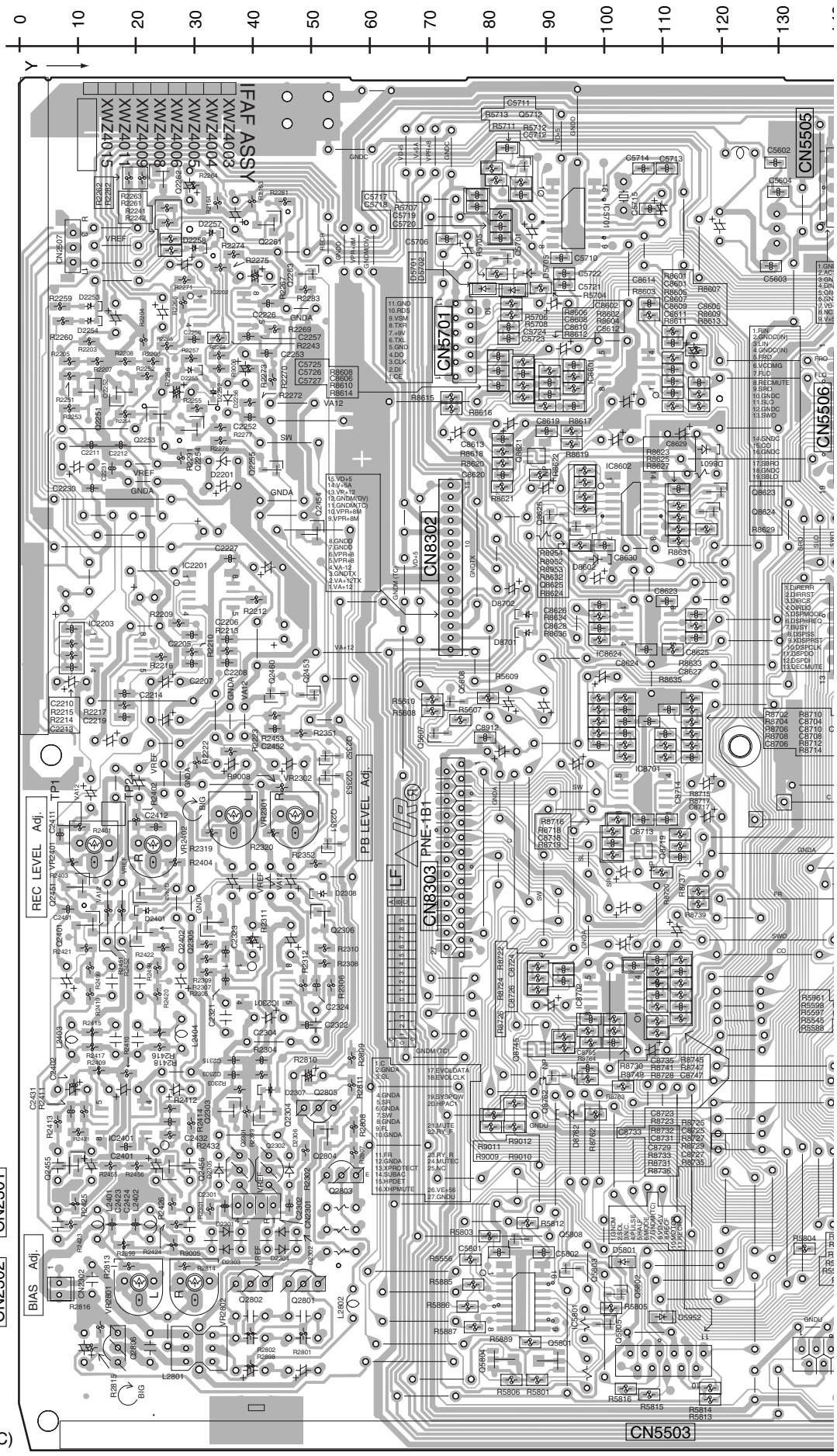
4.3 IFAF ASSY


SIDE A
C IFAF ASSY
D CN901
CN5505
D CN701
CN5506
D CN951
CN5507
B CN902
CN8301
B CN901
CN5102
G CN5101
CN5501
H J5401
CN5105
(XNP3096-C)
CONTACT SIDE
CONTACT SIDE
Printed Side
STBY
C


SIDE A
IFAF ASSY
ICT FC
DCI FC
DIP
DECK PART
FCDC
PNE-1B1
Printed Side
Production Code
PB LEVEL Adj
REC LEVEL Adj
BIAS Adj
CN5701
FM/AM TUNER UNIT
CN8302
J J3002
CN8303
J CN3501
CN2301
TAPE DECK MECHA
CN2302
TAPE DECK MECHA
CN5503
TAPE DECK MECHA
C

SIDE B

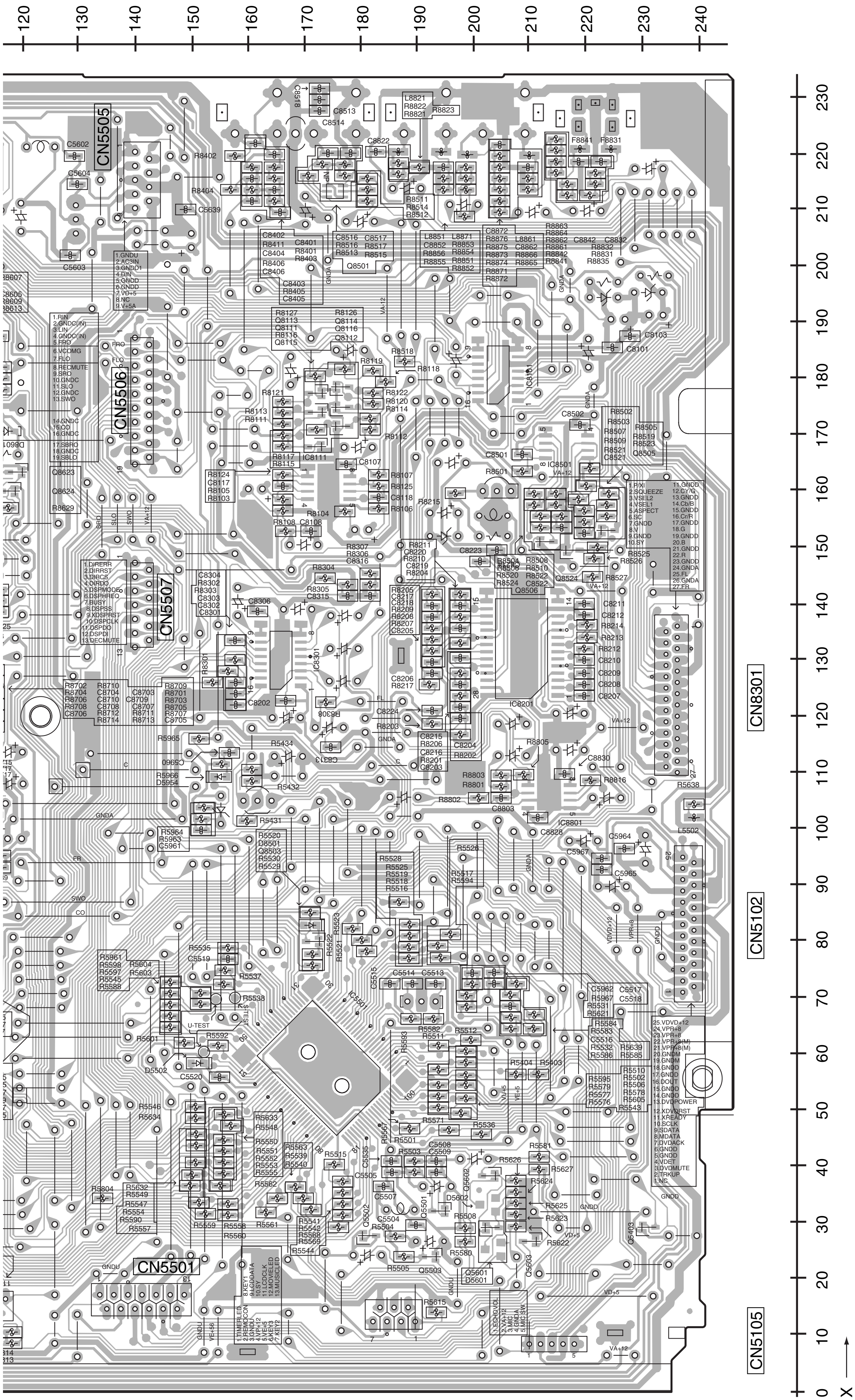
C IFAF ASSY



(XNP3096-C)

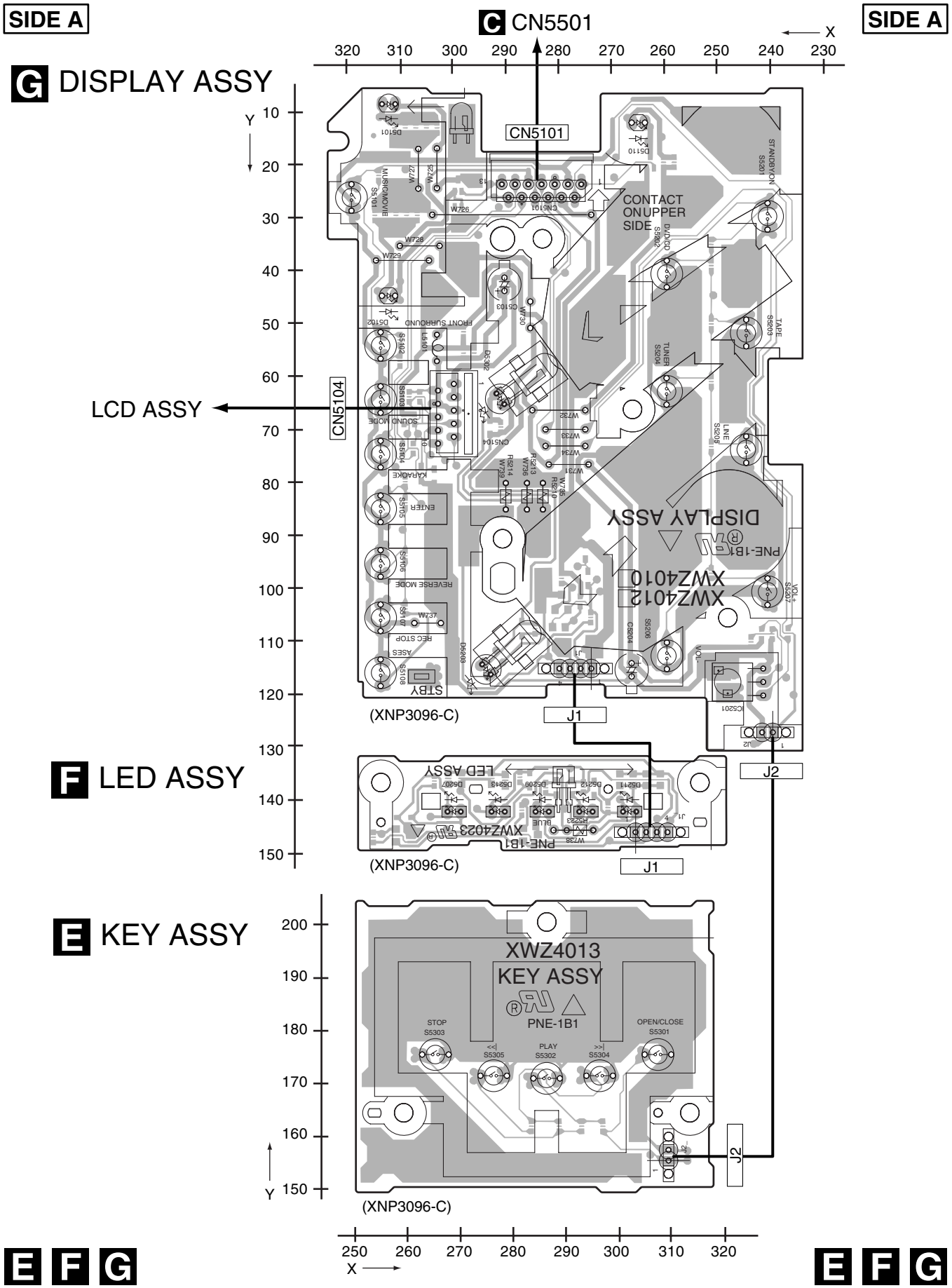
SIDE B

A B C D E F



C

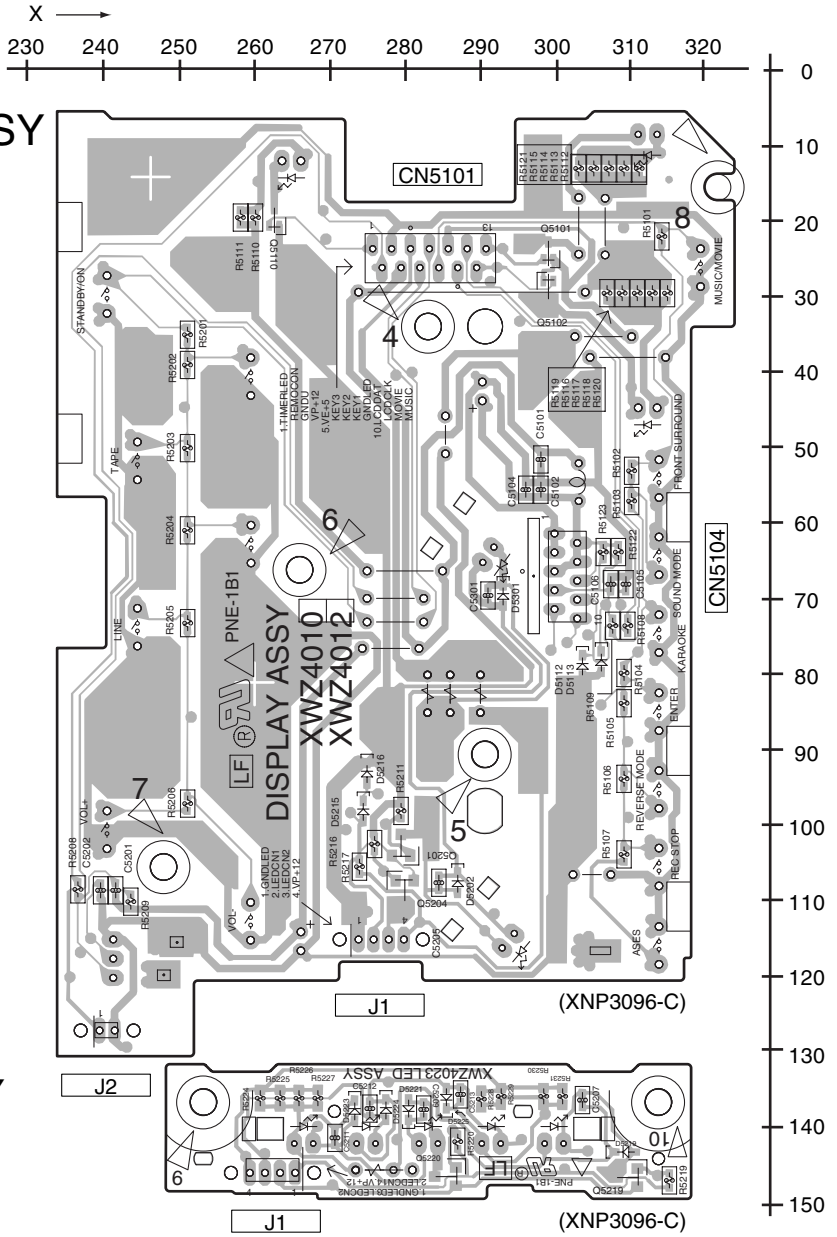
4.4 KEY, LED and DISPLAY ASSYS



SIDE B

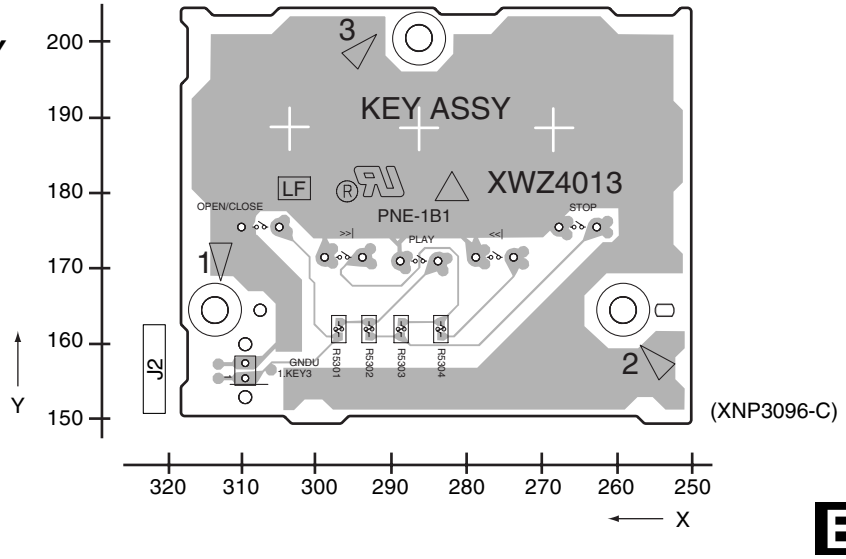
SIDE B

G DISPLAY ASSY



F LED ASSY

E KEY ASSY



E F G

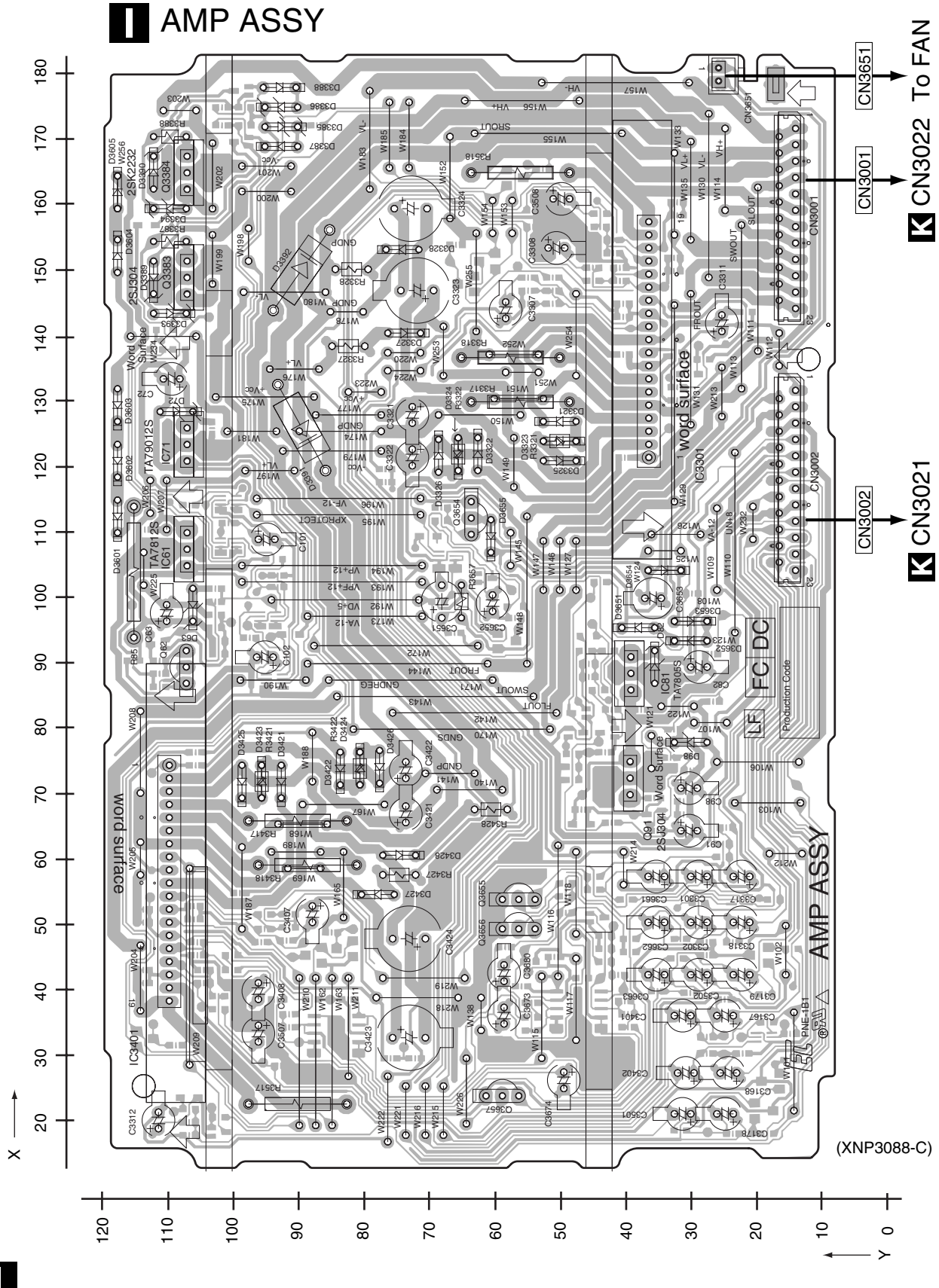
E F G

4.5 AMP ASSY

SIDE A

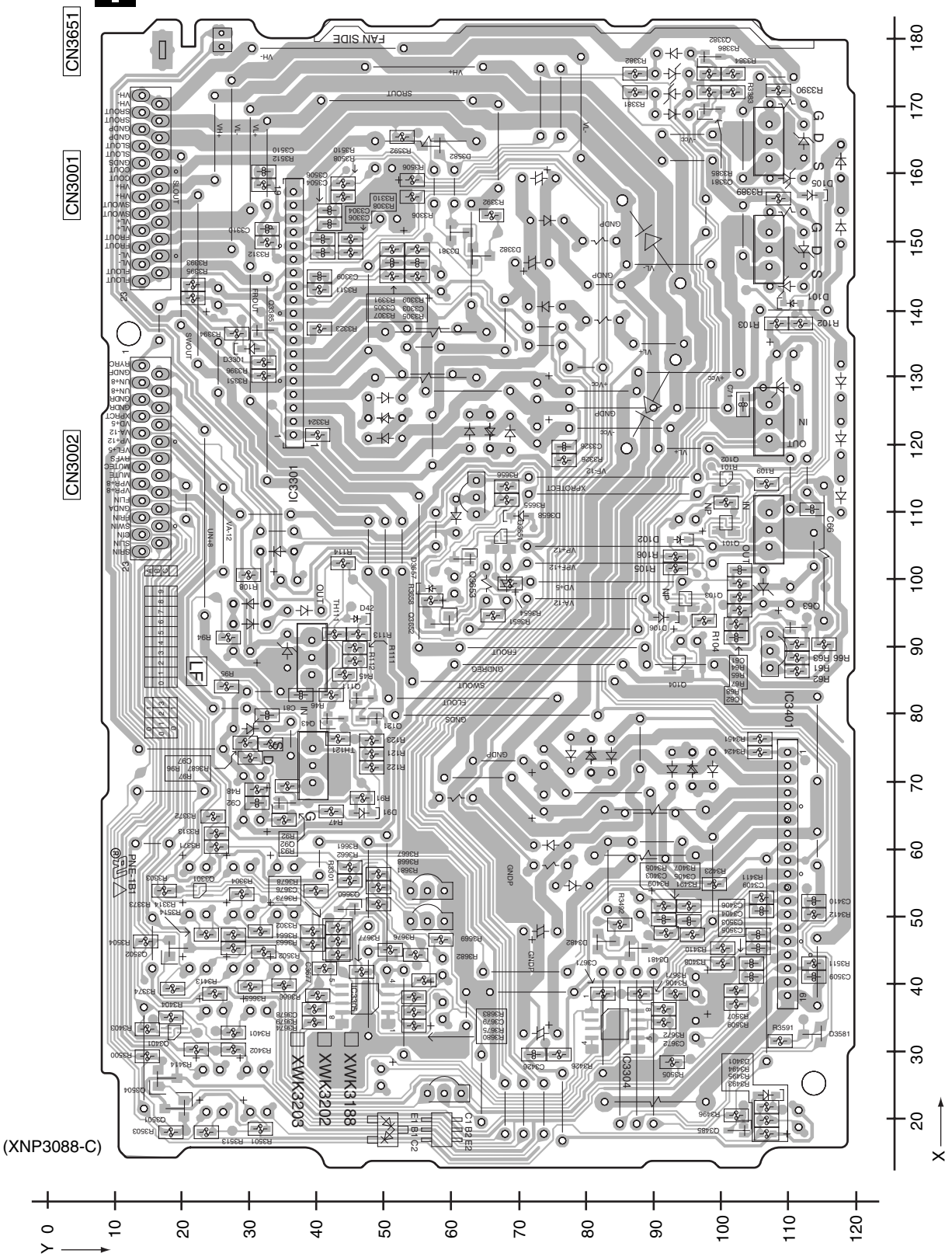
SIDE A

AMP ASSY

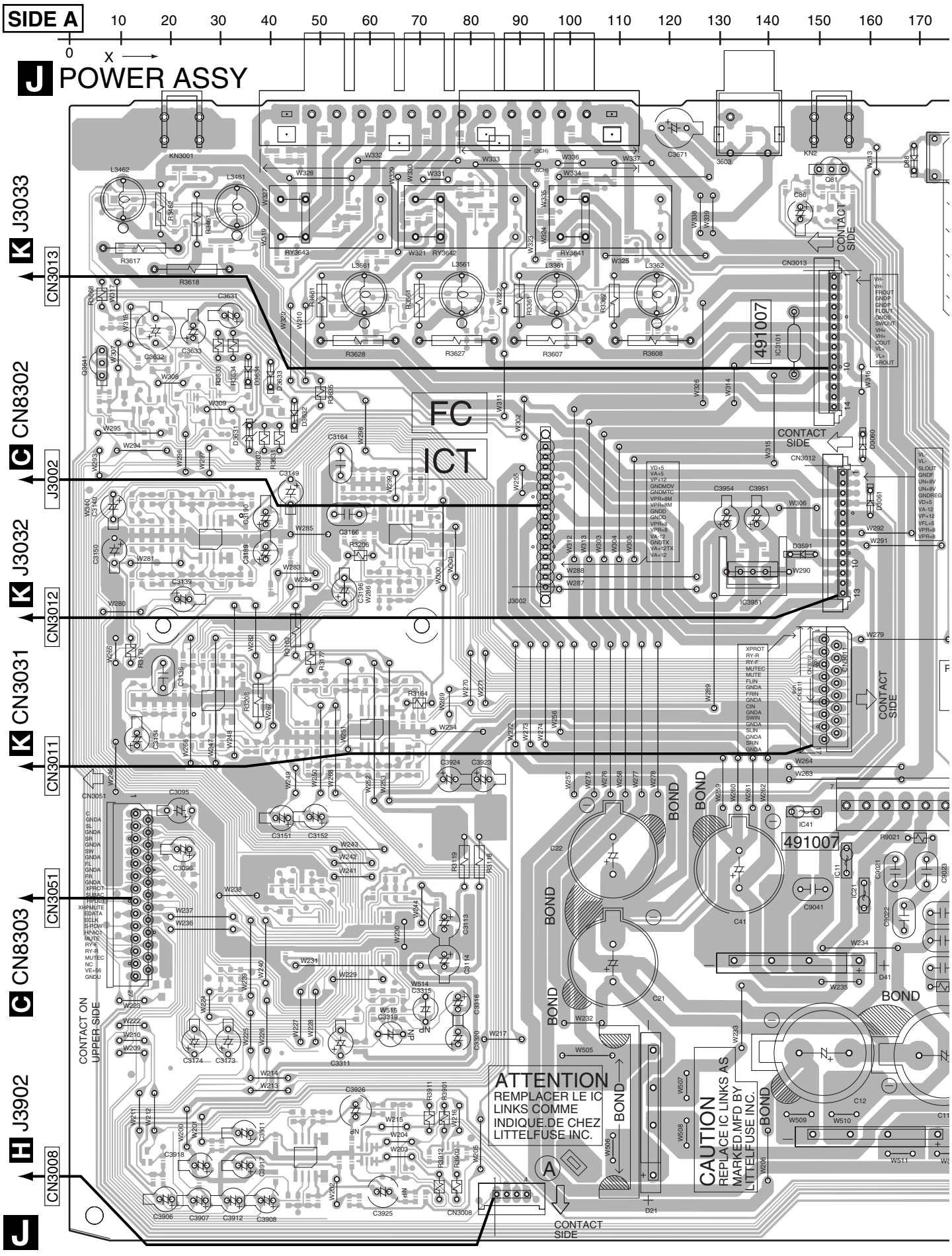


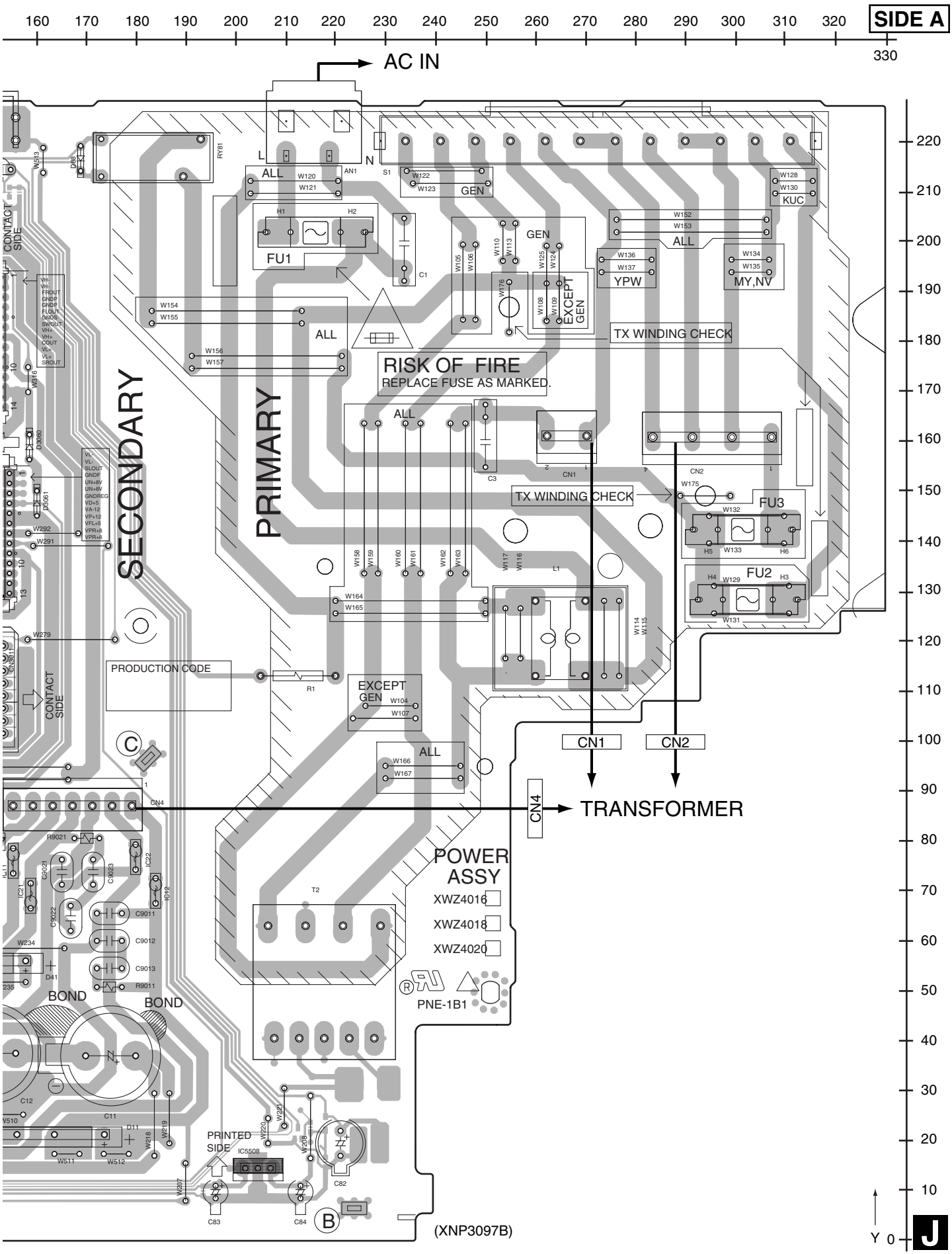
SIDE B **SIDEB**

AMP ASSY



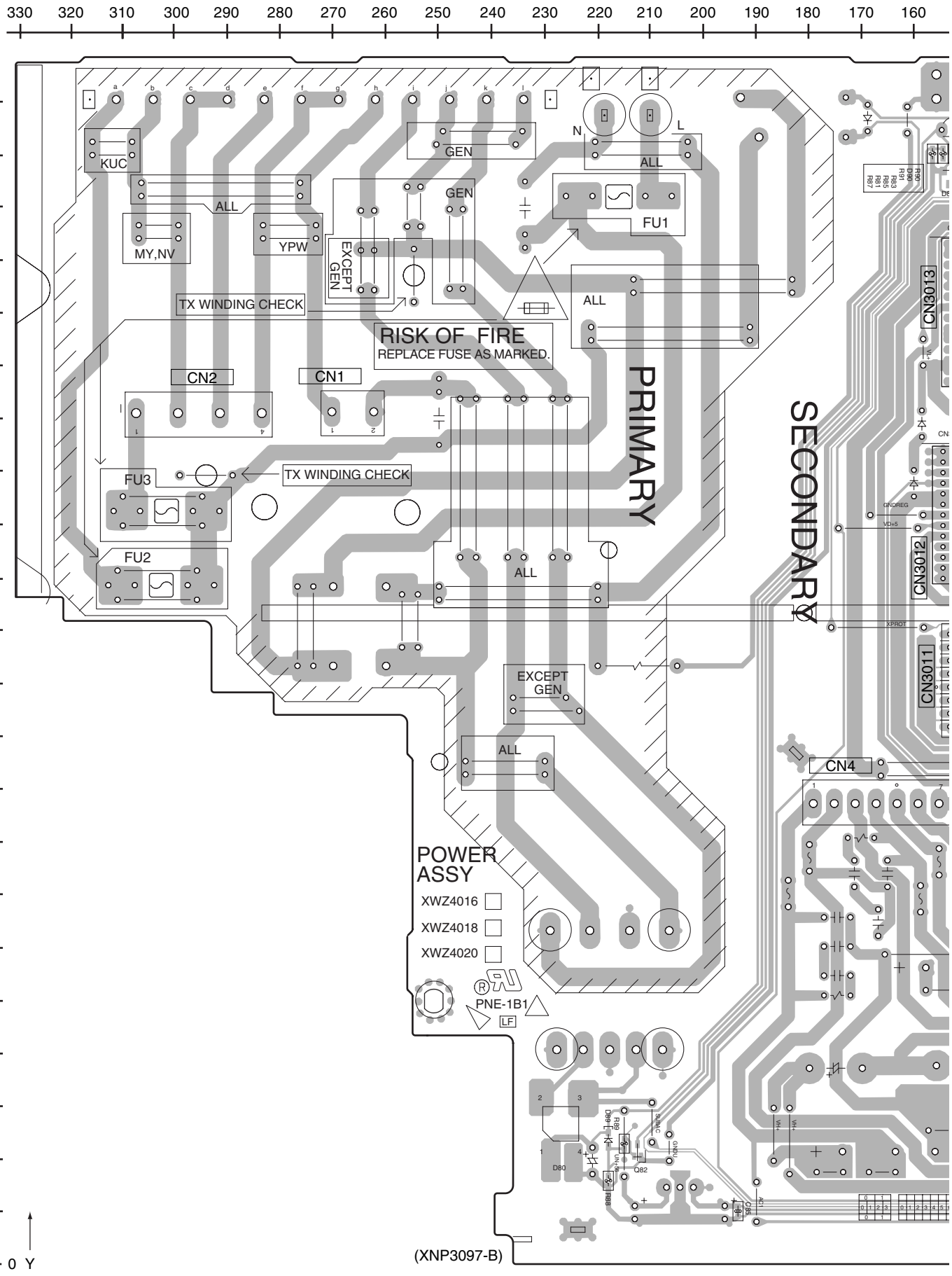
4.6 POWER ASSY

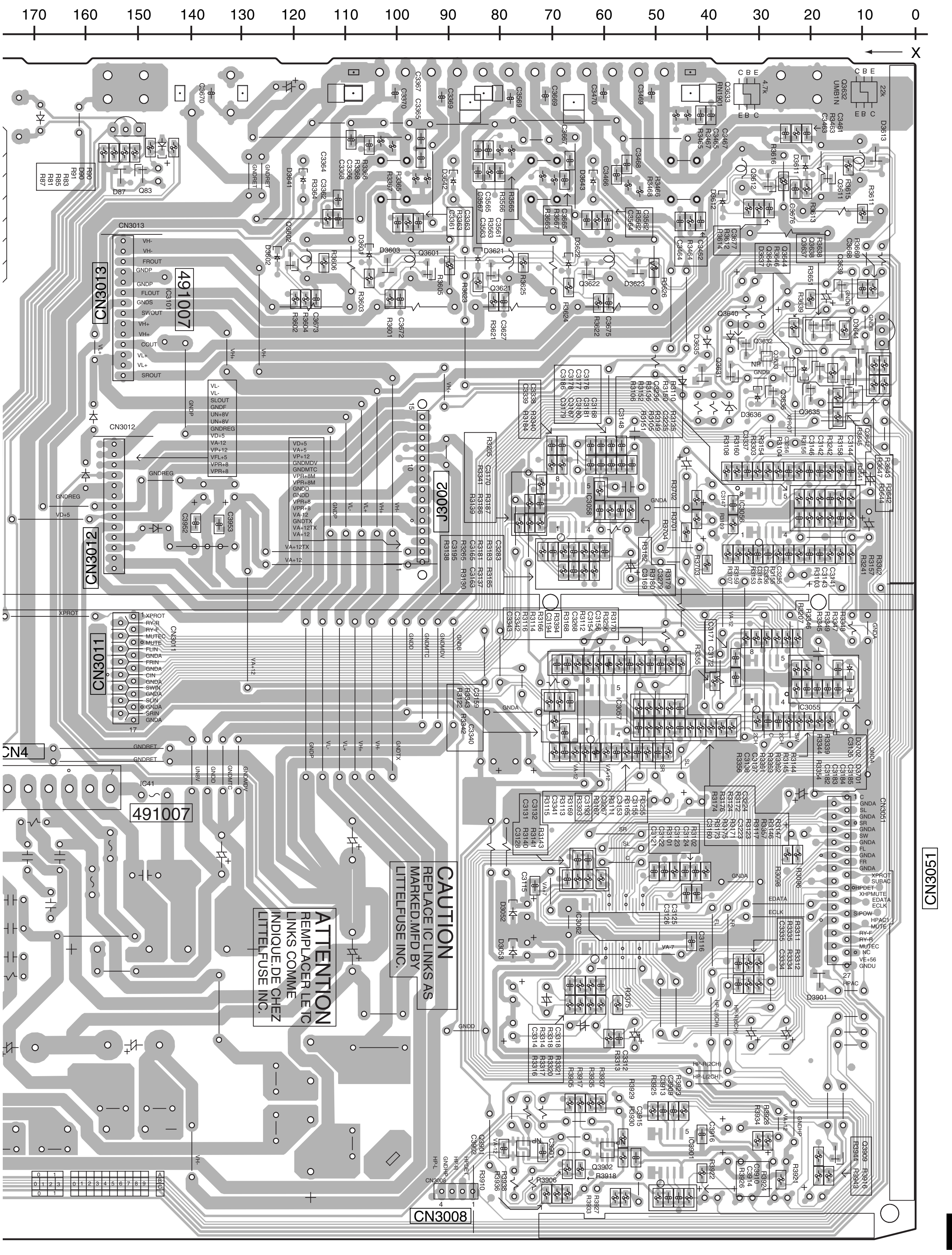



SIDE A
AC IN
SECONDARY
PRIMARY
RISK OF FIRE
REPLACE FUSE AS MARKED.
TX WINDING CHECK
PRODUCTION CODE
CONTACT SIDE
EXCEPT GEN
ALL
GEN
KUC
YPW
MY,NV
FU1
FU2
FU3
CN1
CN2
CN4
TRANSFORMER
POWER ASSY
XWZ4016
XWZ4018
XWZ4020
PNE-1B1
BOND
PRINTED SIDE
(XNP3097B)

SIDE B

J POWER ASSY

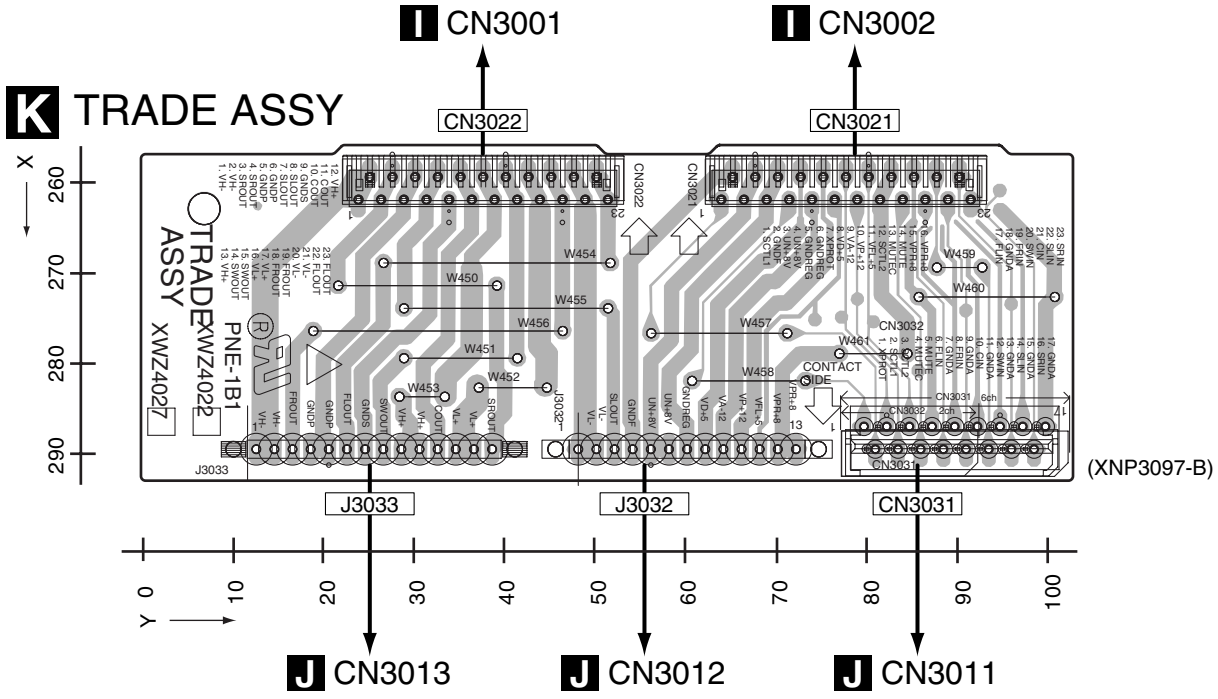


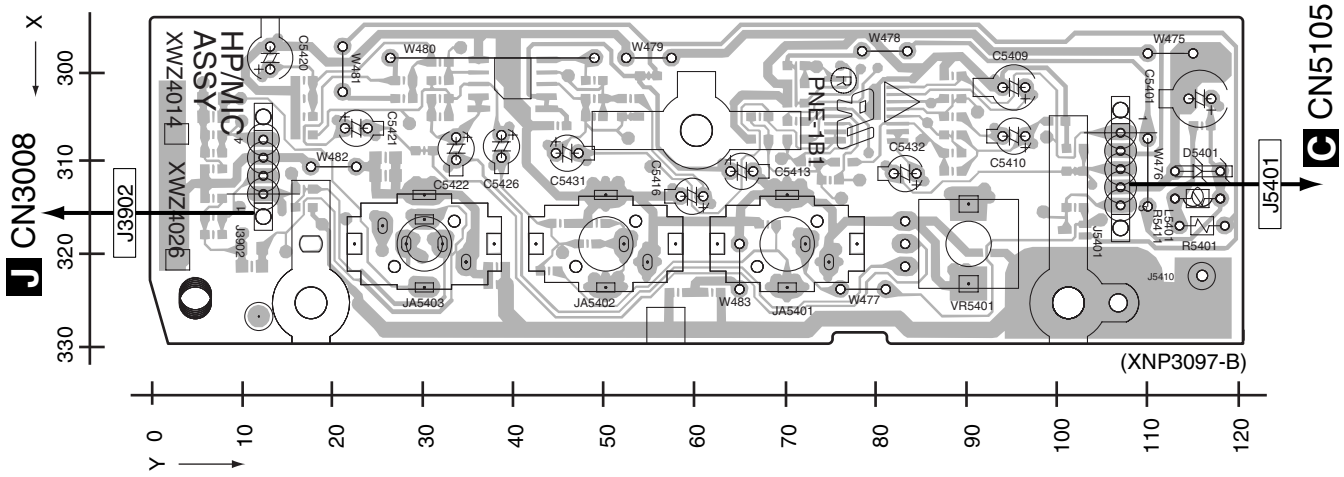

CAUTION
REPLACE IC LINKS AS
MARKED.MFD BY
LITTELFUSE INC.
ATTENTION
REMPLACER LE IC
LINKS COMME
INDIQUE.DE CHEZ
LITTELFUSE INC.
CN3013
CN3012
CN3011
CN3051
CN3008
J3002
491007

4.7 HP/MIC and TRADE ASSYS

SIDE A

SIDE A



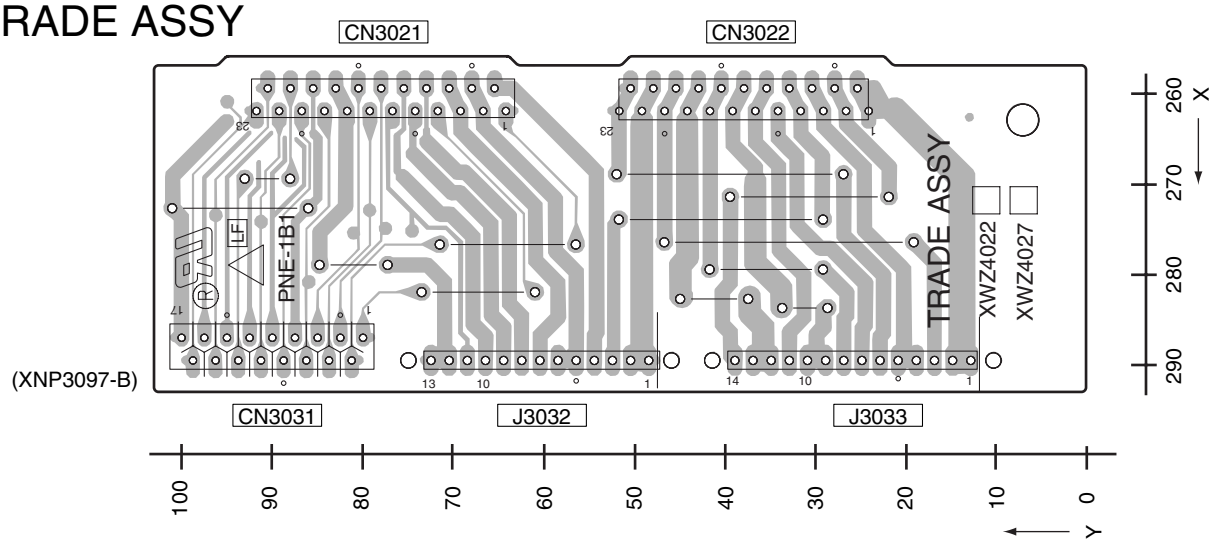


H K

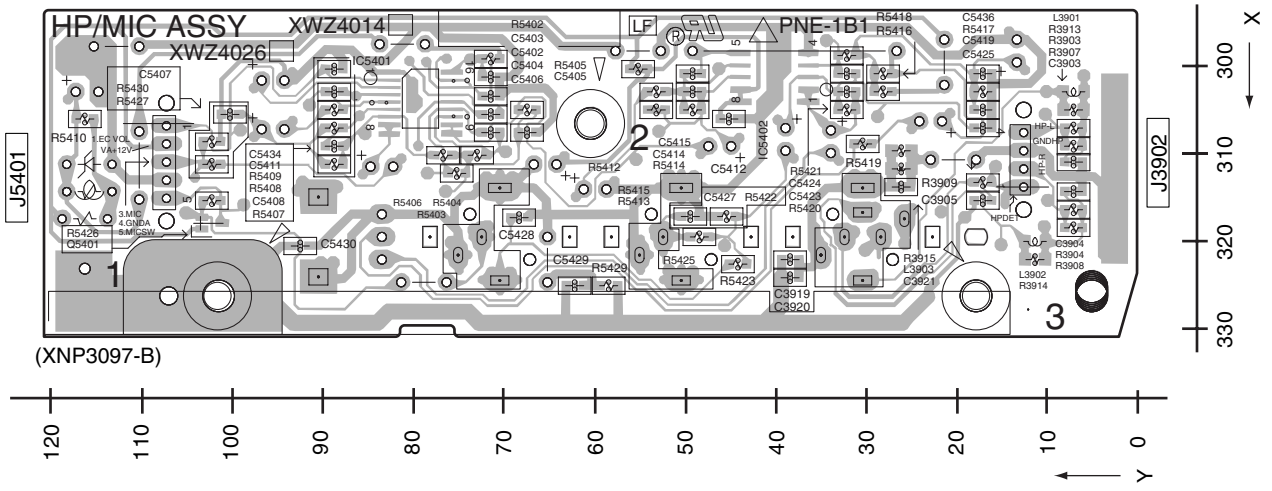
H K

SIDE B **SIDE B**

K TRADE ASSY



H HP/MIC ASSY



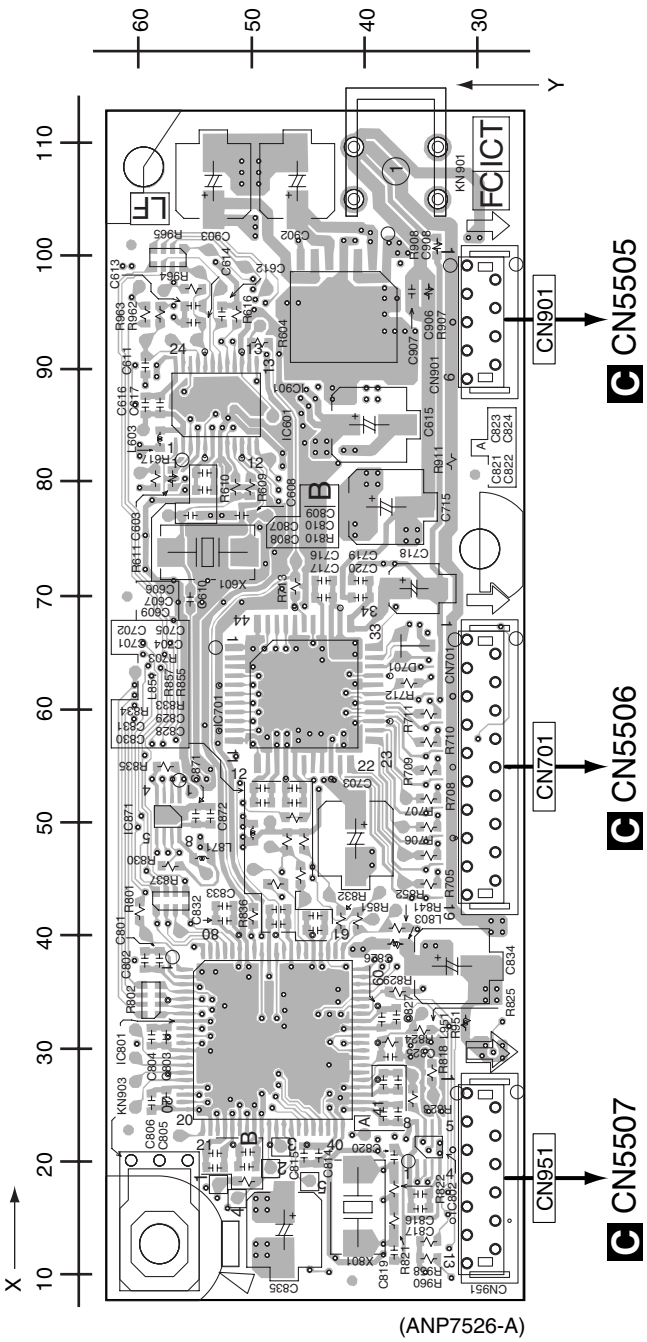
4.8 DSP ASSY

A

SIDE A

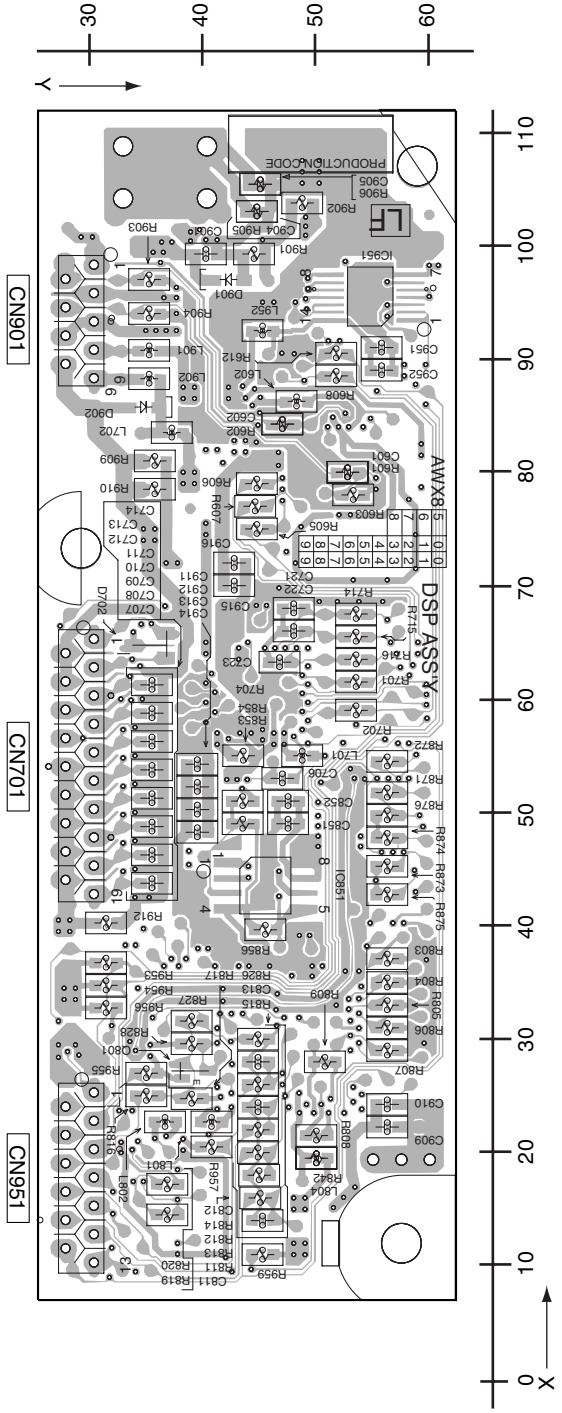
SIDE B

D DSP ASSY



(ANP7526-A)

D DSP ASSY



B C D E F

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 x 10¹* →	*561*	*RD1/4PU 5 6 1 J*
47k Ω	→ *47 x 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 x 10¹* →	*5621*	*RN1/4PC 5 6 2 1 F*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1	..DVD ASSY	XXA3037
	2	..DVDM ASSY	AWM7964
NSP	2	..05 LOADER ASSY	VWT1219
	3	..LOAB ASSY	VWG2346
NSP	1	..MEDIA ASSY (XV-EV1000)	XWM3294
NSP	1	..MEDIA ASSY (XV-EV700)	XWM3297
	2	..IFAF ASSY (XV-EV1000)	XWZ4003
	2	..IFAF ASSY (XV-EV700)	XWZ4006
	2	..DISPLAY ASSY (XV-EV1000)	XWZ4012
	2	..DISPLAY ASSY (XV-EV700)	XWZ4010
	2	..KEY ASSY	XWZ4013
	2	..LED ASSY	XWZ4023
NSP	1	..COMPLEX ASSY (XV-EV1000)	XWK3193
NSP	1	..COMPLEX ASSY (XV-EV700)	XWK3195
	2	..HP/MIC ASSY	XWZ4014
	2	..POWER ASSY (XV-EV1000)	XWZ4016
	2	..POWER ASSY (XV-EV700)	XWZ4018
	2	..TRADE ASSY	XWZ4022
	1	..DSP ASSY	AWX8588
NSP	1	..AMP UNIT 6CH	XXQ3005
	2	..AMP ASSY	XWK3202
	1	..FM/AM TUNER UNIT	AXX7173

■ CONTRAST OF PCB ASSEMBLIES

C IFAF ASSY

XWZ4006 and XWZ4003 are constructed the same except for the following:

Mark	Symbol and Description	XWZ4003	XWZ4006
	R5531	Not used	RS1/16S473J
	R5532	RS1/16S473J	Not used

G DISPLAY ASSY

XWZ4010 and XWZ4012 are constructed the same except for the following:

Mark	Symbol and Description	XWZ4012	XWZ4010
	Q5201	2SC3052	Not used
	D5202, D5301	UDZS6R8	Not used
	D5203, D5302	NSPW500BS-2146	Not used
	R5210	RD1/4PU121J	Not used
	R5211	RS1/16S270J	Not used
	PCB SPACER	XEB3039	Not used
	LED HOLDER	XMR3053	Not used

J POWER ASSY

Although XWZ4018 and XWZ4016 are different in part number, they consist of the same components.

• FM/AM TUNER UNIT

This assembly has no service parts.

■ PCB PARTS LIST FOR XV-EV1000/DLXJ/NC UNLESS OTHER WISE NOTED

Mark	No.	Description	Part No.
		A LOAB ASSY	
		MISCELLANEOUS	
	S 101		VSK1011
	CN602	CONNECTOR	S2B-PH-K
	CN601	CONNECTOR	S5B-PH-K
		B DVDM ASSY	
		MISCELLANEOUS	
	IC 101	(A,62 ,106) 6CH DRIVER IC	BD7995EFS
	IC 201	(A,50 ,44) DVD IC	MT1389FE/C2-L
	IC 202	(B,34 ,25) IC	K4S641632H-TC75
	IC 203	(B,34 ,54) FLASH ROM	AYW7069
	IC 204	(A,19 ,44) EEPROM	S-24CS04AFJ
	IC 401	(B,92 ,22) DVD VIDEO AMP IC	MM1623BF
⚠	IC 711	(A,33 ,74) REGULATOR (1.8V)	MM1661JH
⚠	IC 731	(A,29 ,92) DC/DC CONTROLLER IC	R1224N102H
⚠	IC 751	(A,32 ,113) REGULATOR IC (5.0V)	MM1565AF
⚠	IC 761	(A,41 ,119) REGURATOR (ADJ.)	BA3948FP
	Q 304	(A,77 ,127) TRANSISTOR	2SC4081
	Q 305	(A,84 ,125) NMOS FET TRANSISTOR	UM5K1N
	Q 307	(A,71 ,87) CHIP TRANSISTOR	HN1A01F
	Q 308	(A,63 ,87) CHIP TRANSISTOR	HN1A01F
	Q 481	(A,100 ,7) CHIP TRANSISTOR	DTC114YUA
	Q 701	(A,24 ,134) TRANSISTOR	2SA1576A
	Q 702	(A,27 ,129) DIGITAL TRANSISTOR	DTC124EUA
⚠	Q 732	(B,22 ,90) FET	RSQ035P03
	Q 801	(A,50 ,87) DIGITAL TRANSISTOR	DTC124EUA
	Q 821	(A,42 ,86) TRANSISTOR	2SA1576A
	Q 851	(A,42 ,89) TRANSISTOR	2SA1576A
	Q 881	(A,42 ,93) TRANSISTOR	2SA1576A
	D 731	(A,29 ,87) DIODE	1SS355
	D 732	(B,18 ,92) DIODE	RSX201L-30
	D 733	(A,24 ,94) DIODE	1SS355
	D 801	(A,50 ,85) DIODE	UDZS4R7(B)
	D 821	(A,46 ,86) DIODE	1SS355
	D 851	(A,46 ,89) DIODE	1SS355
	D 852	(A,42 ,82) DIODE	1SS355
	D 861	(A,46 ,82) DIODE	1SS355
	D 862	(A,46 ,83) DIODE	1SS355
	D 881	(A,46 ,93) DIODE	1SS355
	L 731	(A,23 ,109) POWER INDUCTOR(22U)	DTL1099
	L 732	(A,22 ,84) POWER INDUCTOR	ATH7011
	L 751	(A,34 ,99) CHIP BEADS	VTL1095
	L 901	(B,44 ,129) CHIP BEADS	VTL1075
	X 201	(A,77 ,45) CRYSTAL RESONATOR	VSS1172
	X 201	(A,77 ,45) CRYSTAL RESONATOR (27MHz)	VSS1172
	CN102	(A,69 ,142) 12P CONNECTOR	AKN7031
	CN103	(A,103 ,139) 04P CONNECTOR	RKN1045
	CN104	(A,79 ,9) CONNECTOR	AKM1291
	CN901	(A,42 ,142) 25P CONNECTOR	VKN1317
	CN902	(A,116 ,28) 27P CONNECTOR	VKN1319
		RESISTORS	
	R 131	(A,61 ,95)	RS1/10S4R7J
	R 132	(A,63 ,95)	RS1/10S4R7J
	R 133	(A,66 ,95)	RS1/10S4R7J
	R 134	(A,65 ,95)	RS1/10S4R7J
	R 135	(A,68 ,95)	RS1/10S4R7J
	R 136	(A,70 ,95)	RS1/10S4R7J
	R 151	(A,59 ,117)	RS1/10S1R0J
	R 152	(A,59 ,121)	RS1/10S1R8J
	R 153	(A,57 ,117)	RS1/10S1R0J
	R 154	(A,57 ,121)	RS1/10S1R8J
	R 200	(A,25 ,56)	RS1/10S0R0J
	R 201	(A,49 ,67)	RS1/16S152J
	R 202	(A,48 ,67)	RS1/16S223J
	R 204	(A,47 ,67)	RS1/16S223J
	R 205	(A,45 ,67)	RS1/16S184J
	R 206	(A,46 ,64)	RS1/16S224J
	R 207	(A,65 ,60)	RS1/10S0R0J
	R 208	(B,27 ,71)	RS1/10S0R0J
	R 209	(A,57 ,16)	RS1/10S0R0J
	R 212	(A,40 ,70)	RS1/16S103J
	R 213	(A,41 ,70)	RS1/16S103J
	R 214	(A,45 ,72)	RS1/16S0R0J
	R 216	(A,36 ,62)	RS1/16S0R0J
	R 217	(A,31 ,61)	RS1/10S0R0J
	R 218	(A,18 ,37)	RS1/16S103J
	R 219	(A,18 ,35)	RS1/16S103J
	R 221	(A,25 ,44)	RS1/16S330J
	R 223	(A,29 ,35)	RS1/16S330J
	R 224	(A,29 ,49)	RS1/16S330J
	R 225	(A,40 ,23) CHIP RESISTOR ARRAY	RAB4C330J
	R 226	(A,43 ,23)	RS1/16S330J
	R 227	(A,44 ,23)	RS1/16S330J
	R 229	(A,48 ,24)	RS1/16S330J
	R 232	(A,34 ,60)	RS1/16S0R0J
	R 233	(B,42 ,50)	RS1/16S0R0J
	R 234	(A,26 ,42)	RS1/16S330J
	R 235	(A,26 ,41)	RS1/16S472J
	R 237	(A,23 ,41)	RS1/16S330J
	R 238	(B,60 ,35)	RS1/16S103J
	R 247	(B,58 ,37)	RS1/16S103J
	R 248	(B,58 ,46)	RS1/16S330J
	R 249	(B,59 ,40)	RS1/16S103J
	R 251	(A,70 ,47)	RS1/16S104J
	R 252	(A,68 ,45)	RS1/16S0R0J
	R 253	(A,70 ,45)	RS1/16S681J
	R 254	(B,65 ,48)	RS1/16S754J
	R 255	(B,57 ,52)	RS1/16S104J
	R 256	(A,73 ,59)	RS1/16S153J
	R 257	(B,64 ,42)	RS1/16S0R0J
	R 258	(A,23 ,39)	RS1/16S330J
	R 259	(A,26 ,39)	RS1/16S330J
	R 260	(A,24 ,37)	RS1/16S330J
	R 261	(A,27 ,38)	RS1/16S330J
	R 266	(B,51 ,38)	RS1/16S330J
	R 279	(A,63 ,25) CHIP RESISTOR	RS1/16S2201F
	R 281	(B,19 ,33)	RS1/10S0R0J
	R 284	(A,34 ,61)	RS1/16S103J
	R 301	(B,89 ,136)	RS1/10S0R0J
	R 302	(B,86 ,136)	RS1/10S0R0J
	R 303	(B,87 ,133)	RS1/10S0R0J
	R 313	(A,80 ,125)	RS1/16S104J

Mark No.	Description	Part No.
R 314	(A,75 ,125)	RS1/16S103J
R 315	(A,80 ,128)	RS1/16S103J
R 318	(A,80 ,126)	RS1/16S104J
R 321	(A,61 ,87)	RS1/16S4R7J
R 322	(A,73 ,87)	RS1/16S4R7J
R 325	(A,68 ,87)	RS1/16S4R7J
R 326	(A,66 ,87)	RS1/16S4R7J
R 401	(A,82 ,30)	RS1/16S103J
R 402	(B,99 ,14)	RS1/16S103J
R 403	(B,99 ,13)	RS1/16S0R0J
R 404	(A,83 ,25)	RS1/16S102J
R 411	(A,69 ,23)	RS1/16S1500F
R 412	(A,70 ,23)	RS1/16S1500F
R 413	(A,67 ,23)	RS1/16S1500F
R 414	(A,71 ,23)	RS1/16S1500F
R 415	(A,73 ,23)	RS1/16S1500F
R 416	(A,74 ,23)	RS1/16S1500F
R 421	(B,102 ,15)	RS1/16S0R0J
R 422	(B,99 ,20)	RS1/16S0R0J
R 423	(B,99 ,21)	RS1/16S0R0J
R 424	(B,99 ,23)	RS1/16S0R0J
R 425	(B,99 ,25)	RS1/16S0R0J
R 426	(B,99 ,29)	RS1/16S0R0J
R 481	(A,103 ,7)	RS1/16S102J
R 500	(B,98 ,74)	RS1/10S0R0J
R 530	(B,96 ,96)	RS1/10S0R0J
R 560	(B,97 ,112)	RS1/10S0R0J
R 590	(B,90 ,52)	RS1/10S0R0J
R 701	(A,24 ,137)	RS1/16S473J
R 702	(A,27 ,134)	RS1/16S103J
R 732	(A,25 ,91)	RS1/10S100J
R 733	(A,25 ,93)	RS1/16S220J
R 734	(A,30 ,89)	RS1/16S473J
R 735	(A,29 ,84)	RS1/16S272J
R 736	(A,32 ,93)	RS1/16S1802F
R 737	(A,31 ,83)	RS1/16S2702F
R 738	(A,29 ,82)	RS1/16S1502F
R 739	(A,19 ,78)	RS1/16S0R0J
R 740	(A,29 ,85)	RS1/16S0R0J
R 750	(A,30 ,99)	RS1/16S0R0J
R 751	(A,33 ,119)	RS1/16S0R0J
R 761	(A,37 ,114)	RS1/16S0R0J
R 762	(A,45 ,114)	RS1/16S3902F
R 763	(A,44 ,112)	RS1/16S334J
R 764	(A,44 ,110)	RS1/16S334J
R 801	(A,54 ,85)	RS1/16S471J
R 821	(A,42 ,83)	RS1/16S103J
R 822	(A,39 ,86)	RS1/16S473J
R 823	(A,36 ,86)	RS1/16S153J
R 824	(A,37 ,86)	RS1/16S103J
R 851	(A,39 ,89)	RS1/16S473J
R 852	(A,36 ,89)	RS1/16S103J
R 853	(A,37 ,89)	RS1/16S103J
R 881	(A,39 ,93)	RS1/16S473J
R 882	(A,36 ,93)	RS1/16S103J
R 901	(A,39 ,128)	RS1/16S0R0J
R 902	(B,40 ,131)	RS1/16S0R0J
R 903	(A,43 ,128)	RS1/16S332J
R 904	(A,41 ,128)	RS1/16S682J
R 905	(A,44 ,128)	RS1/16S332J
R 906	(A,42 ,126)	RS1/16S682J
R 907	(A,46 ,128)	RS1/16S471J
R 908	(A,47 ,128)	RS1/16S332J
R 909	(A,46 ,125)	RS1/16S682J
R 910	(A,48 ,128)	RS1/16S221J
R 911	(A,50 ,128)	RS1/16S221J
R 912	(A,53 ,128)	RS1/16S0R0J
R 916	(B,47 ,128)	RS1/16S223J
R 917	(B,44 ,125)	RS1/16S223J
R 921	(A,106 ,7)	RS1/16S0R0J
R 922	(A,106 ,8)	RS1/16S0R0J
R 923	(A,105 ,10)	RS1/16S0R0J
R 924	(A,105 ,11)	RS1/16S0R0J
R 1001	(B,107 ,6)	RS1/10S0R0J
R 1002	(B,116 ,16)	RS1/10S0R0J
R 1003	(B,118 ,16)	RS1/10S0R0J

CAPACITORS

C 101	(A,49 ,120)		CEVW101M16
C 102	(A,73 ,101)		CKSRYB105K10
C 103	(A,66 ,116)		CKSRYB105K10
C 104	(A,61 ,117)		CKSRYB105K10
C 121	(B,61 ,112)		CKSRYB105K10
C 131	(A,52 ,103)		CKSRYB104K25
C 140	(A,60 ,137)		CKSRYB105K10
C 144	(A,62 ,99)		CKSRYB222K50
C 145	(A,64 ,98)		CKSRYB222K50
C 146	(A,60 ,98)		CKSRYB222K50
C 151	(A,68 ,114)		CKSRYB103K50
C 152	(A,71 ,114)		CKSRYB103K50
C 153	(A,73 ,111)		CKSRYB103K50
C 161	(A,58 ,96)		CKSRYB102K50
C 201	(A,21 ,52)	CHIP ELECT.CAPACITOR	CEVW221M4
C 202	(A,69 ,64)	CHIP ELECT.CAPACITOR	CEVW221M4
C 203	(A,55 ,78)	CHIP ELECT.CAPACITOR	CEVW470M16
C 204	(A,52 ,63)		CKSRYB104K25
C 205	(B,52 ,69)		CKSRYB104K25
C 206	(A,47 ,77)	CHIP ELECT.CAPACITOR	CEVW470M16
C 207	(B,53 ,55)		CKSRYB104K25
C 208	(A,48 ,70)		CKSRYB222K50
C 209	(A,50 ,70)		CKSRYB104K25
C 210	(A,47 ,70)		CKSRYB222K50
C 211	(A,46 ,70)		CCSRCH560J50
C 212	(A,44 ,70)		CCSRCH560J50
C 213	(A,55 ,63)		CKSRYB104K25
C 214	(B,50 ,54)		CKSRYB104K25
C 215	(A,55 ,69)	CHIP ELECT.CAPACITOR	CEVW470M16
C 216	(A,46 ,62)		CKSRYB104K25
C 217	(A,42 ,62)		CKSRYB104K25
C 219	(A,36 ,61)		CKSRYB152K50
C 220	(A,31 ,58)		CKSRYB104K25
C 222	(A,29 ,53)		CKSRYB104K25
C 223	(A,29 ,51)		CKSRYB104K25
C 224	(A,25 ,45)		CKSRYB104K25
C 225	(B,34 ,39)		CKSRYB104K25
C 226	(B,40 ,39)		CKSRYB103K50
C 227	(B,36 ,40)		CCSRCH221J50
C 228	(B,39 ,37)		CKSRYB104K25
C 230	(B,37 ,35)		CKSRYB102K50

Mark	No.	Description	Part No.
	C 231 (B,42 ,35)		CKSRYB104K25
	C 232 (B,46 ,36)		CKSRYB104K25
	C 233 (B,49 ,33)		CKSRYB104K25
A	C 234 (B,52 ,33)		CKSRYB104K25
	C 235 (B,55 ,35)		CKSRYB104K25
	C 236 (B,56 ,33)		CKSRYB104K25
	C 237 (A,65 ,16)	CHIP ELECT.CAPACITOR	CEVW221M4
	C 239 (B,60 ,34)		CKSRYB104K25
	C 240 (B,59 ,39)		CKSRYB104K25
	C 241 (B,61 ,43)		CKSRYB104K25
	C 243 (A,61 ,25)		CKSRYB105K10
	C 244 (A,60 ,25)		CKSRYB104K25
	C 245 (B,61 ,31)		CKSRYB104K25
	C 246 (B,63 ,32)		CKSRYB104K25
B	C 250 (B,64 ,36)		CKSRYB103K50
	C 251 (A,73 ,47)		CCSRCH8R0D50
	C 252 (A,73 ,44)		CCSRCH100D50
	C 253 (B,64 ,44)		CKSRYB104K25
	C 254 (B,64 ,48)		CCSRCH391J50
	C 255 (B,65 ,53)		CKSRYB474K10
	C 256 (B,72 ,52)		CEVW100M16
	C 257 (B,60 ,49)		CKSRYB104K25
	C 258 (A,69 ,49)		CKSRYB473K50
	C 259 (A,72 ,50)		CKSRYB473K50
C	C 260 (B,60 ,50)		CKSRYB104K25
	C 265 (A,73 ,53)		CCSRCH220J50
	C 266 (B,60 ,52)		CKSRYB104K25
	C 267 (A,70 ,53)		CKSRYB102K50
	C 268 (A,73 ,56)		CKSRYB104K25
	C 269 (A,72 ,56)		CKSRYB333K16
	C 271 (A,70 ,57)		CKSRYB104K25
	C 272 (A,70 ,58)		CKSRYB104K25
	C 273 (A,69 ,60)		CKSRYB104K25
	C 281 (B,18 ,27)	CHIP ELECT.CAPACITOR	CEVW221M4
	C 282 (B,22 ,31)		CKSRYB105K10
D	C 283 (B,46 ,33)		CKSRYB104K25
	C 284 (B,33 ,17)		CKSRYB104K25
	C 285 (B,27 ,17)		CKSRYB104K25
	C 286 (B,27 ,33)		CKSRYB104K25
	C 287 (B,31 ,33)		CKSRYB104K25
	C 288 (B,34 ,33)		CKSRYB104K25
	C 289 (B,34 ,40)		CKSRYB105K10
	C 290 (A,20 ,39)		CKSRYB104K25
	C 296 (B,34 ,42)		CKSRYB102K50
	C 309 (A,71 ,77)	CHIP ELECT.CAPACITOR	CEVW470M16
	C 310 (A,63 ,77)	CHIP ELECT.CAPACITOR	CEVW470M16
E	C 343 (A,64 ,64)		CKSRYB105K10
	C 344 (A,60 ,64)		CKSRYB105K10
	C 345 (A,62 ,64)		CKSRYB105K10
	C 346 (A,63 ,64)		CKSRYB105K10
	C 347 (A,59 ,64)		CKSRYB105K10
	C 371 (A,94 ,134)		CKSRYB104K25
	C 372 (B,94 ,134)		CKSRYB104K25
	C 373 (A,99 ,127)		CEVW101M16
	C 401 (B,90 ,9)		CEVW101M16
	C 402 (B,97 ,11)		CKSRYB104K25
	C 404 (A,93 ,23)		CEVW101M16
F	C 405 (B,84 ,22)		CKSRYB104K25
	C 406 (B,99 ,16)		CKSRYB104K25
	C 411 (B,84 ,15)		CKSRYB104K25

Mark	No.	Description	Part No.
	C 412 (B,84 ,18)		CKSRYB105K10
	C 413 (B,84 ,21)		CKSRYB105K10
	C 414 (B,84 ,25)		CKSRYB105K10
	C 415 (B,84 ,27)		CKSRYB104K25
	C 416 (B,84 ,29)		CKSRYB104K25
	C 701 (A,24 ,131)		CKSQYB105K16
	C 711 (A,28 ,73)		CKSRYB105K10
	C 712 (A,35 ,78)		CCSRCH471J50
	C 713 (A,29 ,66)		CKSQYB225K10
	C 732 (A,22 ,113)	CHIP CERAMIC C.	DCH1165
	C 733 (A,20 ,105)	CHIP CERAMIC C.	DCH1165
	C 734 (A,21 ,100)		CEVW101M16
	C 735 (A,20 ,95)	CHIP CERAMIC C.	DCH1165
	C 736 (A,25 ,89)		CKSRYB104K25
	C 737 (A,28 ,82)		CCSRCH121J50
	C 738 (A,24 ,78)	CHIP CERAMIC C.	DCH1165
	C 739 (A,21 ,66)		CEVW101M16
	C 751 (A,32 ,119)		CKSRYB105K10
	C 752 (A,34 ,108)		CCSRCH471J50
	C 753 (A,30 ,108)		CKSQYB225K10
	C 761 (A,41 ,103)		CEVW101M16
	C 762 (A,40 ,112)		CKSRYB105K10
	C 801 (A,50 ,83)		CKSRYB104K25

C IFAF ASSY

MISCELLANEOUS

IC 2201(B,146 ,33)	OP-AMP IC	HA17558AF
IC 2202(B,194 ,35)	OP-AMP IC	HA17558AF
IC 2203(B,136 ,17)	OP-AMP IC	HA17558AF
IC 2301(B,80 ,42)	OP-AMP IC	HA17558AF
IC 2401(B,56 ,18)	OP-AMP IC	HA17558AF
IC 5501(B,58 ,174)	CPU	PDC127A
⚠IC 5601(A,211 ,129)	IC	TA7805S
IC 5801(B,25 ,86)	LOGIC IC	TC4094BFN
IC 8101(B,181 ,204)	LOGIC IC	HEF4052BT
IC 8111(B,161 ,174)	OP-AMP IC	HA17558AF
IC 8201(B,132 ,209)	DIGITAL KEYCONTROL	M65847AFP
IC 8301(B,130 ,166)	VOCAL FADER	BA3838F
IC 8602(B,161 ,105)	ANALOG SWITCH	HEF4066BT
IC 8624(B,141 ,107)	OP-AMP IC	HA17558AF
IC 8702(B,78 ,101)	OP-AMP IC	HA17558AF
IC 8801(B,106 ,213)	OP-AMP IC	HA17558AF
Q 2251(B,180 ,11)	TRANSISTOR(SC-59)	2SC3052
Q 2252(B,180 ,18)	TRANSISTOR(SC-59)	2SC3052
Q 2253(B,175 ,24)	TRANSISTOR(SC-59)	2SC3052
Q 2254(B,174 ,29)	TRANSISTOR(SC-59)	2SA1235A
Q 2255(B,167 ,43)	TRANSISTOR	RT1N241M
Q 2261(B,209 ,42)	TRANSISTOR	2SD2114K
Q 2262(B,217 ,25)	TRANSISTOR	2SD2114K
Q 2263(B,201 ,49)	DIGITAL TR(SC-70)	RT1N431M
Q 2301(A,45 ,38)	N-FET	2SK373
Q 2302(A,45 ,43)	N-FET	2SK373
Q 2303(B,58 ,35)	TRANSISTOR	DTC114TK
Q 2304(B,58 ,43)	TRANSISTOR	DTC114TK
Q 2351(B,103 ,54)	DIGITAL TR(SC-70)	RT1P241M
Q 2352(B,118 ,54)	TRANSISTOR	RT1N241M
Q 2353(B,115 ,54)	TRANSISTOR	RT1N241M
Q 2451(B,96 ,9)	TRANSISTOR	2SD2114K
Q 2452(B,96 ,22)	TRANSISTOR	2SD2114K

Mark No.	Description	Part No.
Q 2453(B,129 ,49)	TRANSISTOR	RT1N241M
Q 2460(B,129 ,44)	DIGITAL TR(SC-70)	RT1P241M
Q 2801(A,28 ,51)	TRANSISTOR	2SC1815
Q 2802(A,28 ,42)	TRANSISTOR	2SC1815
Q 2805(A,58 ,49)	TRANSISTOR	2SC1815
Q 2806(A,20 ,17)	TRANSISTOR	2SC2240
Q 5402(A,105 ,164)	P-FET	2SJ103
Q 5403(B,29 ,231)	DIGITAL TR(SC-70)	RT1N431M
Q 5501(B,32 ,194)	DIGITAL TR(SC-70)	RT1N431M
Q 5502(B,28 ,181)	TRANSISTOR	2SC4081
Q 5503(B,24 ,192)	TRANSISTOR	2SC4081
Q 5601(B,29 ,203)	DIGITAL TR(SC-70)	RT1P241M
Q 5602(B,38 ,203)	DIGITAL TR(SC-70)	RT1P241M
Q 5603(B,27 ,210)	TRANSISTOR	RT1N241M
Q 5607(B,122 ,72)	DIGITAL TR(SC-70)	RT1P431M
Q 5701(B,203 ,82)	TRANSISTOR	2SC4081
Q 5801(B,15 ,90)	TRANSISTOR	2SB1132
Q 5802(B,27 ,102)	DIGITAL TR(SC-70)	RT1N431M
Q 5803(B,31 ,95)	DIGITAL TR(SC-70)	RT1P241M
Q 5804(B,16 ,83)	TRANSISTOR	2SB1132
Q 5805(B,22 ,100)	DIGITAL TR(SC-70)	RT1N431M
Q 5808(B,36 ,86)	DIGITAL TR(SC-70)	RT1N431M
Q 8111(B,174 ,172)	TRANSISTOR	2SC4081
Q 8112(B,172 ,177)	TRANSISTOR	2SC4081
Q 8113(B,177 ,172)	TRANSISTOR	2SC4081
Q 8114(B,179 ,177)	TRANSISTOR	2SC4081
Q 8115(B,168 ,172)	DIGITAL TR(SC-70)	RT1P241M
Q 8116(B,175 ,177)	DIGITAL TR(SC-70)	RT1P241M
Q 8201(A,160 ,207)	TRANSISTOR	2SD1858X
Q 8501(B,213 ,175)	TRANSISTOR	IMX9
Q 8503(B,80 ,171)	DIGITAL TR(SC-70)	RT1P241M
Q 8621(B,170 ,88)	TRANSISTOR	IMX9
Q 8623(B,163 ,119)	DIGITAL TR(SC-70)	RT1P241M
Q 8624(B,160 ,117)	TRANSISTOR	RT1N241M
Q 8625(B,158 ,96)	DIGITAL TR(SC-70)	RT1P241M
Q 8626(B,160 ,92)	TRANSISTOR	RT1N241M
Q 8719(B,102 ,107)	TRANSISTOR	IMX9
Q 8745(B,68 ,88)	TRANSISTOR	IMX9
Q 8762(B,64 ,92)	DIGITAL TR(SC-70)	RT1P241M
D 2201(A,169 ,32)	DIODE	MTZJ6R2(B)
D 2252(B,180 ,33)	DIODE	MA111
D 2253(B,195 ,12)	DIODE	MA111
D 2254(B,193 ,12)	DIODE	MA111
D 2255(B,184 ,29)	DIODE	MA111
D 2256(A,177 ,36)	DIODE	1SS133
D 2257(B,208 ,33)	DIODE	MA111
D 2258(B,205 ,30)	DIODE	MA111
D 2301(A,37 ,38)	DIODE	1SS133
D 2302(A,37 ,42)	DIODE	1SS133
D 2303(A,34 ,33)	DIODE	1SS133
D 2304(A,34 ,47)	DIODE	1SS133
D 2305(A,50 ,34)	DIODE	1SS133
D 2306(A,50 ,46)	DIODE	1SS133
D 2307(B,61 ,43)	DIODE	MA111
D 5502(B,58 ,151)	DIODE	MA111
D 5601(B,25 ,203)	DIODE	DAP202K
D 5602(B,33 ,202)	DIODE	DAP202K
D 5701(B,198 ,79)	DIODE	MA111
D 5702(B,198 ,84)	DIODE	MA111
D 5705(B,201 ,87)	DIODE	UDZS10(B)
D 5801(B,32 ,103)	DIODE	MA111
D 5952(B,23 ,110)	DIODE	MA111
D 5954(B,109 ,155)	DIODE	MA111
D 5955(A,101 ,155)	DIODE	MTZJ5R6(B)
D 8201(A,152 ,197)	DIODE	MTZJ5R6(B)
D 8501(B,83 ,171)	DIODE	MA111
D 8601(B,171 ,117)	DIODE	UDZS6R8(B)
D 8602(B,152 ,99)	DIODE	UDZS6R8(B)
D 8701(B,139 ,87)	DIODE	MA111
D 8702(B,143 ,87)	DIODE	MA111
D 8901(A,195 ,233)	DIODE	MTZJ5R6(B)
D 8902(A,194 ,226)	DIODE	MTZJ5R6(B)
L 2401(A,36 ,13)	COIL	RTF1004
L 2402(A,36 ,22)	COIL	RTF1004
L 2403(A,73 ,9)	COIL(4.7MH)	RTF1021
L 2404(A,74 ,28)	COIL(4.7MH)	RTF1021
L 2801(A,20 ,33)	COIL	RTD1082
L 2802(A,28 ,57)	RADIAL INDUCTOR	LRCA121J
L 5501(A,32 ,184)	AXIAL INDUCTOR	LAU220J
L 5502(B,102 ,239)	CHIP BEADS	VTL1075
L 5601(A,221 ,126)	RADIAL INDUCTOR	VTL1118
L 8861(B,220 ,210)	CHIP BEADS	VTL1089
L 8871(B,220 ,199)	CHIP BEADS	VTL1089
JA 8850(A,236 ,198)	JACK	VKB1168
KN5501(A,231 ,53)	SCREW PLATE	VNE1948
VR2301(A,109 ,34)	VR	PCP1028
VR2302(A,109 ,45)	VR	PCP1028
VR2401(A,104 ,10)	VR	PCP1028
VR2402(A,104 ,20)	VR	PCP1028
VR2801(A,29 ,18)	VR	PCP1032
VR2802(A,29 ,28)	VR	PCP1032
X 5501(A,69 ,193)	CERAMIC RESONATOR (10MHz)	ASS7034
CN2301(A,42 ,43)	CONNECTOR	B4B-PH
CN2302(A,29 ,7)	CONNECTOR POST	B2B-PH
CN2507(A,208 ,9)	CONNECTOR	B3P-SHF-1AA
CN5102(A,71 ,237)	25P CONNECTOR	VKN1256
CN5105(A,9 ,210)	5P JUMPER CONNECTOR	52147-0510
CN5501(A,17 ,134)	CONNECTOR	52045-1345
CN5503(A,17 ,104)	CONNECTOR	52045-1145
CN5505(A,220 ,140)	9P PLUG	XKP3064
CN5506(A,187 ,140)	19P PLUG	XKP3069
CN5507(A,147 ,140)	13P PLUG	XKP3066
CN5701(A,183 ,75)	CONNECTOR	52045-1145
CN8301(A,136 ,236)	27P CONNECTOR	VKN1258
CN8302(A,165 ,74)	15PJUMPER CONNECTOR	52147-1510
CN8303(A,117 ,75)	27P CONNECTOR	52045-2745
CN8401(A,236 ,168)	PIN JACK(4P)	AKB7015
CN8830(A,236 ,221)	SOCKET	AKP7179
2	PCB BINDER	VEF1040
3	PCB BINDER	VEF1040

RESISTORS

R 2205(B,186 ,9)		RS1/16S153J
R 2206(B,186 ,23)		RS1/16S153J
R 2207(B,186 ,13)		RS1/16S272J
R 2208(B,186 ,18)		RS1/16S272J
R 2209(B,141 ,27)		RS1/16S563J
R 2210(B,136 ,30)		RS1/16S222J
R 2212(B,145 ,41)		RS1/16S563J

Mark	No.	Description	Part No.
	R 2213(B,136 ,36)		RS1/16S222J
	R 2214(B,136 ,9)		RS1/16S563J
	R 2215(B,138 ,9)		RS1/16S222J
	R 2216(B,135 ,24)		RS1/16S563J
	R 2217(B,127 ,18)		RS1/16S222J
	R 2222(B,117 ,30)		RS1/16S104J
	R 2223(B,119 ,36)		RS1/16S104J
	R 2241(B,207 ,26)		RS1/16S103J
	R 2242(B,205 ,26)		RS1/16S103J
	R 2243(B,190 ,34)		RS1/16S104J
	R 2251(B,183 ,9)		RS1/16S222J
	R 2252(B,183 ,22)		RS1/16S222J
	R 2253(B,178 ,9)		RS1/16S102J
	R 2254(B,177 ,18)		RS1/16S102J
	R 2255(B,178 ,30)		RS1/16S102J
	R 2256(B,180 ,27)		RS1/16S105J
	R 2257(B,186 ,29)		RS1/16S101J
	R 2259(B,195 ,7)		RS1/16S103J
	R 2260(B,193 ,8)		RS1/16S103J
	R 2261(B,209 ,25)		RS1/16S392J
	R 2262(B,217 ,19)		RS1/16S392J
	R 2263(B,212 ,25)		RS1/16S153J
	R 2264(B,216 ,30)		RS1/16S153J
	R 2265(B,188 ,25)		RS1/16S103J
	R 2266(B,196 ,28)		RS1/16S123J
	R 2267(B,200 ,40)		RS1/16S101J
	R 2268(B,187 ,34)		RS1/16S101J
	R 2269(B,191 ,44)		RS1/16S393J
	R 2270(B,183 ,43)		RS1/16S102J
	R 2271(B,200 ,28)		RS1/16S104J
	R 2272(B,179 ,39)		RS1/16S154J
	R 2273(B,184 ,39)		RS1/16S103J
	R 2276(B,172 ,34)		RS1/16S472J
	R 2277(B,174 ,34)		RS1/16S223J
	R 2281(B,213 ,45)		RS1/16S222J
	R 2282(B,217 ,21)		RS1/16S222J
	R 2283(B,198 ,49)		RS1/16S472J
	R 2291(B,169 ,28)		RS1/16S681J
	R 2301(B,41 ,33)		RS1/16S105J
	R 2302(B,51 ,49)		RS1/16S105J
	R 2303(B,62 ,38)		RS1/16S334J
	R 2304(B,64 ,41)		RS1/16S334J
	R 2305(B,82 ,32)		RS1/16S474J
	R 2306(B,79 ,53)		RS1/16S474J
	R 2307(B,84 ,32)		RS1/16S223J
	R 2308(B,83 ,52)		RS1/16S223J
	R 2311(B,87 ,40)		RS1/16S241J
	R 2312(B,79 ,49)		RS1/16S241J
	R 2319(B,105 ,33)		RS1/16S471J
	R 2320(B,105 ,43)		RS1/16S471J
	R 2351(B,122 ,48)		RS1/16S473J
	R 2352(B,100 ,51)		RS1/16S223J
	R 2399(B,58 ,39)		RS1/16S0R0J
	R 2401(B,106 ,10)		RS1/16S223J
	R 2402(B,108 ,20)		RS1/16S223J
	R 2403(B,100 ,9)		RS1/16S0R0J
	R 2404(B,100 ,27)		RS1/16S0R0J
	R 2409(B,65 ,14)		RS1/16S104J
	R 2410(B,64 ,18)		RS1/16S104J
	R 2411(B,58 ,11)		RS1/16S823J
	R 2412(B,58 ,26)		RS1/16S823J
	R 2413(B,56 ,7)		RS1/16S473J
	R 2414(B,56 ,29)		RS1/16S473J
	R 2415(B,71 ,13)		RS1/16S560J
	R 2416(B,71 ,24)		RS1/16S560J
	R 2417(B,69 ,13)		RS1/16S122J
	R 2418(B,69 ,24)		RS1/16S122J
	R 2423(B,39 ,9)		RS1/16S113J
	R 2424(B,39 ,27)		RS1/16S113J
	R 2425(B,42 ,10)		RS1/16S102J
	R 2426(B,42 ,26)		RS1/16S102J
	R 2431(B,54 ,10)		RS1/16S333J
	R 2432(B,54 ,26)		RS1/16S333J
	R 2451(B,92 ,15)		RS1/16S103J
	R 2452(B,92 ,18)		RS1/16S103J
	R 2453(B,125 ,44)		RS1/16S473J
	R 2801(B,20 ,49)		RS1/16S103J
	R 2802(B,20 ,40)		RS1/16S103J
	R 2803(A,34 ,53)	CARBON FILM RESISTOR	RD1/2VM4R7J
	R 2805(A,41 ,53)	CARBON FILM RESISTOR	RD1/2VM161J
	R 2809(B,67 ,57)		RS1/16S102J
	R 2810(B,64 ,49)		RS1/16S473J
	R 2811(B,62 ,57)		RS1/16S102J
	R 2813(B,31 ,19)		RS1/16S622J
	R 2814(B,31 ,28)		RS1/16S622J
	R 2815(B,18 ,12)		RS1/16S102J
	R 2816(B,21 ,14)		RS1/16S472J
	R 2898(B,14 ,40)		RS1/16S0R0J
	R 2899(B,35 ,18)		RS1/16S0R0J
	R 5403(B,56 ,211)		RS1/16S103J
	R 5404(B,56 ,207)		RS1/16S221J
	R 5431(B,101 ,160)		RS1/16S105J
	R 5432(B,109 ,161)		RS1/16S105J
	R 5434(B,111 ,161)		RS1/16S223J
	R 5501(B,41 ,189)		RS1/16S222J
	R 5502(B,59 ,199)		RS1/16S471J
	R 5503(B,39 ,189)		RS1/16S473J
	R 5504(B,28 ,186)		RS1/16S101J
	R 5505(B,24 ,188)		RS1/16S103J
	R 5506(B,56 ,199)		RS1/16S221J
	R 5508(B,29 ,198)		RS1/16S103J
	R 5511(B,62 ,194)		RS1/16S221J
	R 5512(B,63 ,199)		RS1/16S221J
	R 5515(B,40 ,175)		RS1/16S123J
	R 5516(B,77 ,188)		RS1/16S221J
	R 5517(B,79 ,194)		RS1/16S221J
	R 5518(B,79 ,188)		RS1/16S221J
	R 5519(B,81 ,189)		RS1/16S221J
	R 5520(B,85 ,171)		RS1/16S221J
	R 5521(B,78 ,181)		RS1/16S221J
	R 5522(B,80 ,180)		RS1/16S221J
	R 5523(B,82 ,178)		RS1/16S221J
	R 5525(B,83 ,189)		RS1/16S221J
	R 5526(B,81 ,196)		RS1/16S221J
	R 5528(B,87 ,187)		RS1/16S221J
	R 5529(B,76 ,171)		RS1/16S221J
	R 5530(B,78 ,171)		RS1/16S221J
	R 5532(B,67 ,207)		RS1/16S473J
	R 5535(B,79 ,156)		RS1/16S221J
	R 5536(B,46 ,201)		RS1/16S221J

Mark No.	Description	Part No.	Mark No.	Description	Part No.
R 5537	(B,75 ,156)	RS1/16S221J	R 5627	(B,40 ,212)	RS1/16S272J
R 5538	(B,72 ,156)	RS1/16S221J	R 5632	(B,46 ,151)	RS1/16S221J
R 5539	(B,34 ,170)	RS1/16S221J	R 5633	(B,49 ,156)	RS1/16S221J
R 5540	(B,32 ,171)	RS1/16S221J	R 5634	(B,49 ,151)	RS1/16S221J
R 5541	(B,37 ,177)	RS1/16S472J	R 5638	(B,104 ,239)	RS1/16S221J
R 5542	(B,35 ,177)	RS1/16S221J	R 5639	(B,67 ,211)	RS1/16S104J
R 5543	(B,50 ,198)	RS1/16S221J	R 5704	(B,198 ,89)	RS1/16S221J
R 5544	(B,29 ,176)	RS1/16S221J	R 5705	(B,201 ,82)	RS1/16S100J
R 5545	(B,67 ,146)	RS1/16S221J	R 5801	(B,12 ,88)	RS1/16S473J
R 5546	(B,51 ,151)	RS1/16S221J	R 5802	(A,24 ,97)	RD1/4PU102J
R 5547	(B,41 ,151)	RS1/16S221J	R 5803	(B,37 ,80)	RS1/16S102J
R 5548	(B,47 ,157)	RS1/16S221J	R 5804	(B,34 ,134)	RS1/16S102J
R 5549	(B,44 ,151)	RS1/16S221J	R 5805	(B,24 ,101)	RS1/16S473J
R 5550	(B,45 ,156)	RS1/16S221J	R 5806	(B,12 ,84)	RS1/16S473J
R 5553	(B,39 ,156)	RS1/16S221J	R 5807	(A,16 ,97)	RD1/4PU102J
R 5554	(B,39 ,150)	RS1/16S221J	R 5812	(B,39 ,87)	RS1/16S472J
R 5555	(B,37 ,155)	RS1/16S221J	R 5813	(B,9 ,118)	RS1/16S473J
R 5556	(B,33 ,77)	RS1/16S221J	R 5814	(B,11 ,118)	RS1/16S473J
R 5557	(B,34 ,151)	RS1/16S221J	R 5815	(B,10 ,108)	RS1/16S473J
R 5558	(B,33 ,156)	RS1/16S221J	R 5816	(B,11 ,104)	RS1/16S473J
R 5559	(B,32 ,152)	RS1/16S221J	R 5885	(B,28 ,78)	RS1/16S221J
R 5560	(B,31 ,156)	RS1/16S221J	R 5886	(B,25 ,77)	RS1/16S221J
R 5561	(B,32 ,163)	RS1/16S822J	R 5887	(B,21 ,78)	RS1/16S221J
R 5562	(B,34 ,165)	RS1/16S221J	R 5889	(B,18 ,87)	RS1/16S221J
R 5563	(B,36 ,168)	RS1/16S221J	R 5961	(B,73 ,146)	RS1/16S473J
R 5567	(B,47 ,189)	RS1/16S221J	R 5963	(B,102 ,152)	RS1/16S184J
R 5568	(B,33 ,177)	RS1/16S221J	R 5964	(B,104 ,152)	RS1/16S392J
R 5569	(B,31 ,177)	RS1/16S221J	R 5965	(B,116 ,151)	RS1/16S154J
R 5571	(B,47 ,196)	RS1/16S101J	R 5966	(B,112 ,155)	RS1/16S103J
R 5576	(B,51 ,194)	RS1/16S471J	R 5967	(B,72 ,200)	RS1/16S105J
R 5577	(B,53 ,194)	RS1/16S221J	R 8103	(B,157 ,166)	RS1/16S473J
R 5578	(B,55 ,199)	RS1/16S221J	R 8104	(B,156 ,177)	RS1/16S473J
R 5579	(B,55 ,194)	RS1/16S221J	R 8105	(B,159 ,166)	RS1/16S473J
R 5580	(B,27 ,198)	RS1/16S102J	R 8106	(B,157 ,183)	RS1/16S473J
R 5581	(B,42 ,212)	RS1/16S102J	R 8107	(B,163 ,183)	RS1/16S220J
R 5582	(B,66 ,193)	RS1/16S105J	R 8108	(B,153 ,167)	RS1/16S220J
R 5583	(B,71 ,206)	RS1/16S103J	R 8111	(B,172 ,166)	RS1/16S152J
R 5584	(B,73 ,208)	RS1/16S103J	R 8112	(B,171 ,182)	RS1/16S152J
R 5585	(B,65 ,211)	RS1/16S103J	R 8113	(B,174 ,166)	RS1/16S152J
R 5586	(B,65 ,207)	RS1/16S103J	R 8114	(B,173 ,182)	RS1/16S152J
R 5588	(B,65 ,146)	RS1/16S221J	R 8115	(B,168 ,166)	RS1/16S103J
R 5590	(B,37 ,150)	RS1/16S221J	R 8116	(B,171 ,172)	RS1/16S103J
R 5592	(B,62 ,155)	RS1/16S221J	R 8117	(B,170 ,166)	RS1/16S104J
R 5593	(B,66 ,189)	RS1/16S101J	R 8118	(B,179 ,184)	RS1/16S104J
R 5594	(B,77 ,194)	RS1/16S221J	R 8119	(B,181 ,182)	RS1/16S103J
R 5595	(B,57 ,194)	RS1/16S221J	R 8120	(B,176 ,182)	RS1/16S103J
R 5597	(B,69 ,146)	RS1/16S221J	R 8121	(B,176 ,166)	RS1/16S681J
R 5598	(B,71 ,146)	RS1/16S221J	R 8122	(B,177 ,182)	RS1/16S681J
R 5601	(B,62 ,149)	RS1/16S221J	R 8124	(B,163 ,166)	RS1/16S101J
R 5603	(B,69 ,151)	RS1/16S103J	R 8125	(B,161 ,183)	RS1/16S101J
R 5604	(B,71 ,151)	RS1/16S103J	R 8201	(B,124 ,198)	RS1/16S103J
R 5605	(B,52 ,199)	RS1/16S471J	R 8202	(B,117 ,198)	RS1/16S103J
R 5607	(B,124 ,75)	RS1/16S561J	R 8203	(B,119 ,193)	RS1/16S103J
R 5608	(B,126 ,71)	RS1/16S473J	R 8204	(B,133 ,198)	RS1/16S562J
R 5615	(B,14 ,193)	RS1/16S153J	R 8205	(B,142 ,193)	RS1/16S103J
R 5622	(B,29 ,207)	RS1/16S103J	R 8206	(B,128 ,198)	RS1/16S103J
R 5623	(B,32 ,207)	RS1/16S103J	R 8207	(B,132 ,193)	RS1/16S682J
R 5624	(B,36 ,207)	RS1/16S103J	R 8208	(B,134 ,193)	RS1/16S153J
R 5625	(B,34 ,207)	RS1/16S103J	R 8209	(B,136 ,193)	RS1/16S472J
R 5626	(B,38 ,207)	RS1/16S392J	R 8210	(B,138 ,198)	RS1/16S472J

Mark	No.	Description	Part No.
	R 8211(B,142 ,198)		RS1/16S682J
	R 8212(B,132 ,220)		RS1/16S102J
	R 8213(B,134 ,220)		RS1/16S102J
A			
	R 8214(B,136 ,220)		RS1/16S102J
	R 8215(B,160 ,197)		RS1/16S680J
	R 8216(A,152 ,206)		RD1/4PU102J
	R 8217(B,126 ,192)		RS1/16S153J
	R 8301(B,126 ,154)		RS1/16S102J
	R 8302(B,130 ,158)		RS1/16S102J
	R 8303(B,128 ,156)		RS1/16S102J
	R 8304(B,145 ,174)		RS1/16S272J
	R 8305(B,143 ,178)		RS1/16S821J
	R 8306(B,143 ,182)		RS1/16S821J
B	R 8307(B,145 ,182)		RS1/16S272J
	R 8308(B,123 ,174)		RS1/16S103J
	R 8403(B,216 ,165)		RS1/16S331J
	R 8404(B,214 ,157)		RS1/16S331J
	R 8511(B,216 ,181)		RS1/16S182J
	R 8512(B,212 ,181)		RS1/16S182J
	R 8513(B,216 ,171)		RS1/16S472J
	R 8514(B,214 ,181)		RS1/16S472J
	R 8515(B,216 ,177)		RS1/16S224J
	R 8516(B,218 ,173)		RS1/16S224J
	R 8518(B,183 ,188)		RS1/16S473J
C	R 8615(B,180 ,74)		RS1/16S220J
	R 8617(B,174 ,94)		RS1/16S473J
	R 8618(B,170 ,83)		RS1/16S473J
	R 8619(B,172 ,94)		RS1/16S821J
	R 8620(B,168 ,83)		RS1/16S821J
	R 8621(B,164 ,82)		RS1/16S103J
	R 8622(B,166 ,89)		RS1/16S103J
	R 8623(B,161 ,113)		RS1/16S103J
	R 8624(B,154 ,96)		RS1/16S103J
	R 8625(B,159 ,113)		RS1/16S153J
	R 8627(B,157 ,113)		RS1/16S122J
D	R 8629(B,157 ,117)		RS1/16S822J
	R 8631(B,155 ,113)		RS1/16S103J
	R 8632(B,161 ,97)		RS1/16S103J
	R 8633(B,141 ,116)		RS1/16S103J
	R 8634(B,142 ,99)		RS1/16S103J
	R 8635(B,137 ,112)		RS1/16S103J
	R 8636(B,138 ,99)		RS1/16S103J
	R 8637(A,167 ,119)		RD1/4PU102J
	R 8638(A,156 ,92)		RD1/4PU102J
	R 8715(B,105 ,113)		RS1/16S473J
	R 8716(B,108 ,102)		RS1/16S473J
E	R 8717(B,103 ,113)		RS1/16S821J
	R 8718(B,106 ,101)		RS1/16S821J
	R 8719(B,102 ,101)		RS1/16S472J
	R 8720(B,99 ,110)		RS1/16S472J
	R 8722(B,83 ,89)		RS1/16S222J
	R 8724(B,81 ,89)		RS1/16S682J
	R 8726(B,79 ,89)		RS1/16S102J
	R 8728(B,70 ,98)		RS1/16S473J
	R 8730(B,71 ,93)		RS1/16S103J
	R 8732(B,80 ,109)		RS1/16S101J
F	R 8733(B,76 ,109)		RS1/16S101J
	R 8737(B,95 ,116)		RS1/16S220J
	R 8741(B,72 ,97)		RS1/16S182J
	R 8745(B,74 ,102)		RS1/16S473J

Mark	No.	Description	Part No.
	R 8747(B,72 ,102)		RS1/16S821J
	R 8749(B,69 ,93)		RS1/16S103J
	R 8763(B,62 ,103)		RS1/16S473J
	R 8801(B,108 ,205)		RS1/16S103J
	R 8802(B,106 ,201)		RS1/16S103J
	R 8803(B,110 ,205)		RS1/16S103J
	R 8805(B,110 ,209)		RS1/16S563J
	R 8821(B,216 ,187)	CHIP RESISTOR	RS1/16S75R0F
	R 8832(B,217 ,222)	CHIP RESISTOR	RS1/16S75R0F
	R 8842(B,215 ,217)	CHIP RESISTOR	RS1/16S75R0F
	R 8853(B,218 ,199)	CHIP RESISTOR	RS1/16S75R0F
	R 8863(B,223 ,215)	CHIP RESISTOR	RS1/16S75R0F
	R 8873(B,216 ,205)	CHIP RESISTOR	RS1/16S75R0F
	R 8901(A,198 ,230)		RD1/4PU102J
	R 8904(A,197 ,221)		RD1/4PU102J
	R 8952(B,165 ,97)		RS1/16S822J
	R 8953(B,163 ,97)		RS1/16S122J
	R 8954(B,167 ,97)		RS1/16S153J
	R 9005(B,35 ,26)		RS1/16S0R0J
	R 9008(B,113 ,45)		RS1/16S0R0J
	R 9009(B,55 ,81)		RS1/16S0R0J
	R 9010(B,55 ,85)		RS1/16S0R0J
	R 9011(B,57 ,81)		RS1/16S0R0J
	R 9012(B,59 ,85)		RS1/16S0R0J

CAPACITORS

C 2201(A,117 ,34)		CEAT1R0M50
C 2202(A,117 ,44)		CEAT1R0M50
C 2203(A,157 ,32)		CEAT100M50
C 2204(A,138 ,45)		CEAT100M50
C 2205(B,139 ,30)		CCSRCH101J50
C 2206(B,138 ,36)		CCSRCH101J50
C 2211(B,171 ,12)		CKSRYB152K50
C 2212(B,171 ,17)		CKSRYB152K50
C 2213(B,134 ,9)		CCSRCH101J50
C 2214(B,129 ,18)		CCSRCH101J50
C 2215(A,168 ,7)		CEAT101M16
C 2216(A,164 ,32)		CEAT221M16
C 2217(A,115 ,12)		CEAT1R0M50
C 2218(A,116 ,21)		CEAT1R0M50
C 2220(A,196 ,17)		CEAT100M50
C 2221(A,197 ,25)		CEAT100M50
C 2222(A,131 ,28)		CEAT2R2M50
C 2223(A,125 ,28)		CEAT2R2M50
C 2224(A,131 ,7)		CEAT2R2M50
C 2225(A,121 ,18)		CEAT2R2M50
C 2226(B,196 ,43)		CKSRYB103K50
C 2227(B,152 ,36)		CKSRYB103K50
C 2228(A,151 ,40)		CEAT470M16
C 2231(B,167 ,16)		CKSRYB103K50
C 2251(A,180 ,29)		CEAT220M50
C 2252(B,176 ,39)		CKSRYB334K10
C 2253(B,187 ,42)		CCSRCH271J50
C 2254(A,200 ,43)		CEAT2R2M50
C 2255(A,187 ,39)		CEAT1R0M50
C 2256(B,189 ,30)		CCSRCH470J50
C 2257(B,190 ,39)		CCSRCH470J50
C 2261(A,208 ,37)		CEAT4R7M50
C 2262(A,213 ,29)		CEAT4R7M50
C 2301(B,42 ,35)		CCSRCH100D50

Mark No.	Description	Part No.
C 2302(B,42 ,46)		CCSRCH100D50
C 2303(B,64 ,37)		CCSRCH681J50
C 2304(B,67 ,41)		CCSRCH681J50
C 2307(A,71 ,35)	FILM CAPACITOR	CQMBA682J50
C 2308(A,70 ,51)	FILM CAPACITOR	CQMBA682J50
C 2309(A,85 ,40)	ELECT. CAPACITOR	CEAT330M50
C 2310(A,85 ,46)	ELECT. CAPACITOR	CEAT330M50
C 2311(A,95 ,36)		CEAT100M50
C 2312(A,95 ,46)		CEAT100M50
C 2314(A,74 ,45)		CEAT470M16
C 2315(B,67 ,37)		CKSRYB102K50
C 2401(B,52 ,18)		CCSRCH470J50
C 2402(B,62 ,9)		CCSRCH470J50
C 2403(A,78 ,8)		CEAT1R0M50
C 2404(A,78 ,28)		CEAT1R0M50
C 2405(A,51 ,7)	FILM CAPACITOR	CQMBA683J50
C 2406(A,51 ,29)	FILM CAPACITOR	CQMBA683J50
C 2407(A,62 ,12)	ELECT. CAPACITOR	CEAT330M50
C 2408(A,62 ,24)	ELECT. CAPACITOR	CEAT330M50
C 2409(A,73 ,17)		CQMA223J50
C 2410(A,68 ,20)		CQMA223J50
C 2419(A,51 ,12)		CEJQ1R0M50
C 2420(A,51 ,23)		CEJQ1R0M50
C 2421(A,36 ,7)		CQMA152J50
C 2422(A,36 ,29)		CQMA152J50
C 2423(B,39 ,16)		CCSRCH221J50
C 2424(B,39 ,20)		CCSRCH221J50
C 2425(A,62 ,15)		CEAT470M16
C 2431(B,58 ,9)		CKSRYB122K50
C 2432(B,56 ,26)		CKSRYB122K50
C 2801(A,19 ,42)		CQMA123J50
C 2802(A,23 ,51)		CQMA682J50
C 2803(A,19 ,46)		CQMA472J50
C 2804(A,23 ,37)		CQMA472J50
C 2805(A,14 ,37)		CEJQ330M10
C 2806(A,14 ,46)		CEJQ330M10
C 2807(A,64 ,52)		CEAT470M16
C 2808(A,32 ,13)	PPS CAPACITOR	CQHA822J2A
C 2809(A,15 ,22)	CERAMIC CAPACITOR	CCCSL151K2H
C 2810(A,15 ,11)		CEJQ330M10
C 5433(A,113 ,165)	ELECT. CAPACITOR	CEJQR22M50
C 5501(A,27 ,190)		ACH1246
C 5502(A,37 ,191)		CEAT101M16
C 5504(B,30 ,190)		CCSRCH101J50
C 5505(B,39 ,185)		CKSRYB103K50
C 5506(A,41 ,203)		CEAT1R0M50
C 5507(B,37 ,184)		CKSRYB104K16
C 5508(B,41 ,193)		CKSRYB103K50
C 5511(A,24 ,179)		CEAT100M50
C 5515(B,73 ,185)		CKSRYB104K16
C 5516(B,69 ,206)		CKSRYB103K50
C 5517(B,75 ,204)		CKSRYB103K50
C 5518(B,73 ,204)		CKSRYB103K50
C 5601(A,211 ,120)		CEAT101M16
C 5603(B,202 ,128)		CKSRYB104K16
C 5608(A,125 ,84)		CEAT220M25
C 5639(B,210 ,149)		CKSRYB104K16
C 5640(A,203 ,150)		CEAT101M16
C 5704(A,196 ,89)		CEAL100M16
C 5706(B,207 ,73)		CKSRYB102K50

Mark No.	Description	Part No.
C 5719(B,209 ,82)		CKSRYB104K16
C 5721(B,199 ,93)		CKSRYB103K50
C 5722(B,201 ,93)		CKSRYB102K50
C 5725(B,187 ,82)		CCSRCH101J50
C 5727(B,182 ,82)		CCSRCH101J50
C 5801(B,34 ,82)		CCSRCH221J50
C 5802(B,34 ,90)		CKSRYB104K16
C 5960(B,114 ,157)		CKSRYB104K16
C 5961(B,100 ,152)		CKSRYB224K16
C 5962(B,74 ,200)		CKSRYB103K50
C 5963(A,99 ,230)	ELECT. CAPACITOR	XCH3021
C 5964(B,97 ,227)		CKSRYB104K16
C 5965(B,93 ,223)		CKSRYB104K16
C 5966(A,90 ,227)		CEAT470M16
C 5967(B,95 ,223)		CKSRYB104K16
C 5968(A,98 ,222)		CEAT470M16
C 8101(B,186 ,225)		CKSRYB103K50
C 8103(B,188 ,228)		CKSRYB103K50
C 8107(B,165 ,177)		CKSRYB103K50
C 8108(B,153 ,171)		CKSRYB103K50
C 8115(A,160 ,162)		CEAT100M50
C 8116(A,153 ,181)		CEAT100M50
C 8121(A,179 ,167)		CEAT100M50
C 8122(A,185 ,176)		CEAT100M50
C 8201(A,120 ,169)		CEAT470M16
C 8202(B,123 ,167)		CKSRYB473K25
C 8203(B,122 ,198)		CKSRYB103K50
C 8204(B,120 ,198)		CKSRYB103K50
C 8205(B,130 ,193)		CKSRYB103K50
C 8206(B,128 ,193)		CKSRYB822K50
C 8207(B,124 ,220)		CKSRYB683K25
C 8208(B,126 ,220)		CKSRYB683K25
C 8209(B,128 ,220)		CKSRYB683K25
C 8212(B,138 ,220)		CCSRCH101J50
C 8213(A,121 ,220)		CEAT470M16
C 8214(B,148 ,201)		CKSRYB224K16
C 8215(B,130 ,198)		CKSRYB224K16
C 8216(B,126 ,198)		CKSRYB472K50
C 8217(B,140 ,193)		CKSRYB471K50
C 8218(B,138 ,193)		CKSRYB103K50
C 8219(B,136 ,198)		CKSRYB122K50
C 8220(B,140 ,198)		CKSRYB102K50
C 8221(A,156 ,197)		CEAT100M50
C 8222(A,165 ,199)		CEAT470M16
C 8223(B,150 ,204)		CKSRYB473K25
C 8301(B,122 ,158)		CKSRYB104K16
C 8302(B,124 ,158)		CKSRYB104K16
C 8303(B,126 ,158)		CKSRYB104K16
C 8304(B,134 ,158)		CKSRYB224K16
C 8305(A,138 ,158)		CEAT2R2M50
C 8306(B,139 ,162)		CKSRYB473K25
C 8307(A,139 ,171)		CEAT470M16
C 8308(A,138 ,175)		CEAT2R2M50
C 8309(A,132 ,174)		CEAT2R2M50
C 8310(A,126 ,174)		CEAT2R2M50
C 8312(A,118 ,172)		CEAT4R7M50
C 8313(B,115 ,175)		CKSRYB103K50
C 8401(B,220 ,165)		CCSRCH221J50
C 8402(B,222 ,161)		CCSRCH221J50
C 8509(A,207 ,170)		CEAT100M50

Mark	No.		Description	Part No.
	C	8510(A,208 ,182)		CEAT100M50
	C	8516(B,220 ,174)		CKSRYB471K50
	C	8517(B,220 ,178)		CKSRYB471K50
	C	8617(A,179 ,106)		CEAT100M50
	C	8618(A,174 ,72)		CEAT100M50
	C	8619(B,174 ,90)		CKSRYB392K50
	C	8620(B,166 ,83)		CKSRYB392K50
	C	8621(A,172 ,104)		CEAT100M50
	C	8622(A,164 ,92)		CEAT100M50
	C	8623(B,145 ,111)		CKSRYB103K50
	C	8624(B,137 ,107)		CKSRYB103K50
	C	8631(A,173 ,116)		CEAT470M50
	C	8632(A,149 ,101)		CEAT470M50
	C	8711(A,108 ,120)		CEAT100M50
	C	8712(A,117 ,98)		CEAT100M50
	C	8715(A,93 ,101)		CEAT100M50
	C	8716(A,99 ,101)		CEAT100M50
	C	8717(B,101 ,113)		CKSRYB392K50
	C	8718(B,104 ,101)		CKSRYB392K50
	C	8722(A,86 ,106)		CEAT3R3M50
	C	8726(B,80 ,93)		CKSRYB332K50
	C	8728(A,76 ,93)		CEAT100M50
	C	8733(B,83 ,105)		CKSRYB103K50
	C	8735(B,74 ,98)		CKSRYB103K50
	C	8737(A,68 ,111)		CEAT100M50
	C	8747(B,70 ,101)		CKSRYB392K50
	C	8751(A,187 ,220)		CEAT100M50
	C	8752(A,186 ,197)		CEAT100M50
	C	8771(A,147 ,87)		CEAT470M16
	C	8822(B,220 ,183)		CCSRCH470J50
	C	8828(B,102 ,211)		CKSRYB103K50
	C	8830(B,110 ,216)		CKSRYB103K50
	C	8833(A,113 ,209)		CEAT100M50
	C	8834(A,106 ,185)		CEAT100M50
	C	8835(A,119 ,209)		CEAT100M50
	C	8837(A,217 ,234)	ELECT. CAPACITOR	CEAT102M6R3
	C	8851(A,211 ,196)	ELECT. CAPACITOR	CEAT102M6R3
	C	8852(B,218 ,195)		CCSRCH470J50
	C	8861(A,210 ,223)	ELECT. CAPACITOR	CEAT471M6R3
	C	8862(B,218 ,210)		CCSRCH470J50
	C	8871(A,210 ,213)	ELECT. CAPACITOR	CEAT471M6R3
	C	8872(B,222 ,205)		CCSRCH470J50
	C	8881(A,214 ,191)	ELECT. CAPACITOR	CEAT102M6R3
	C	8907(A,191 ,234)		CEAT470M16
	C	8908(A,191 ,227)		CEAT470M16

D DSP ASSY

MISCELLANEOUS

Mark	No.		Description	Part No.
	IC	601 (A,87,53)	DIR IC	AK4117VF
	IC	701 (A,61,45)	CODEC IC	AK4628VQE
	IC	801 (A,31,48)	DSP IC	DSPC56371AF180
	IC	802 (A,21,34)	IC	TC7WU04FU
⚠	IC	901 (A,95,42)	REGULATOR IC	BA30E00WHFP
	IC	951 (B,96,55)	IC	TC74VHC08FTS1
	D	701 (A,65,35)	DIODE	DAP202K
	D	702 (B,65,36)	DIODE	DAN202K
	D	902 (B,86,35)	DIODE	UDZS5R6(B)
	L	602 (B,87,49)	CHIP SOLID INDUCTOR	QTL1013
	L	603 (A,84,58)	CHIP SOLID INDUCTOR	QTL1013
	L	701 (B,56,49)	CHIP SOLID INDUCTOR	QTL1013
	L	702 (B,84,38)	CHIP SOLID INDUCTOR	QTL1013
	L	801 (B,23,41)	CHIP SOLID INDUCTOR	QTL1013
	L	802 (B,23,37)	CHIP SOLID INDUCTOR	QTL1013
	L	803 (A,39,37)	CHIP SOLID INDUCTOR	ATL7002
	L	804 (B,20,50)	CHIP SOLID INDUCTOR	ATL7002
	L	901 (B,91,36)	CHIP SOLID INDUCTOR	ATL7002
	L	902 (B,89,36)	CHIP SOLID INDUCTOR	ATL7002
	L	952 (B,93,46)	CHIP SOLID INDUCTOR	QTL1013
	X	801 (A,16,40)	CRYSTAL RESONATOR (24.576MHz)	XSS3003
	CN701	(A,66,31)	19P SOCKET	XKP3080
	CN901	(A,99,31)	9P SOCKET	XKP3075
	CN951	(A,26,31)	13P SOCKET	XKP3077
		901 (A,115,37)	SCREW PLATE	VNE1948

RESISTORS

R	601	(B,81,53)	RS1/16S471J
R	603	(B,79,54)	RS1/16S471J
R	604	(A,92,49)	RS1/16S220J
R	605	(B,76,45)	RS1/16S101J
R	606	(B,80,45)	RS1/16S101J
R	607	(B,78,45)	RS1/16S470J
R	608	(B,89,52)	RS1/16S470J
R	610	(A,79,51)	RS1/16S220J
R	612	(B,91,52)	RS1/16S101J
R	616	(A,95,51)	RS1/16S103J
R	617	(A,80,58)	RS1/16S123J
R	701	(B,62,54)	RS1/16S470J
R	702	(B,60,54)	RS1/16S101J
R	704	(B,56,44)	RS1/16S4R7J
R	705	(A,44,34)	RS1/16S101J
R	706	(A,47,34)	RS1/16S101J
R	707	(A,49,34)	RS1/16S101J
R	708	(A,52,34)	RS1/16S101J
R	709	(A,54,34)	RS1/16S101J
R	710	(A,57,34)	RS1/16S101J
R	711	(A,59,34)	RS1/16S101J
R	712	(A,62,36)	RS1/16S101J
R	713	(A,71,46)	RS1/16S470J
R	714	(B,68,54)	RS1/16S101J
R	715	(B,66,54)	RS1/16S101J
R	716	(B,64,54)	RS1/16S101J
R	801	(A,42,60)	RS1/16S470J
R	802	(A,34,59)	RAB4C101J
R	803	(B,38,57)	RS1/16S103J
R	804	(B,36,57)	RS1/16S103J
R	805	(B,34,57)	RS1/16S103J
R	806	(B,32,57)	RS1/16S103J
R	807	(B,30,57)	RS1/16S473J
R	810	(A,18,50)	RS1/16S473J
R	811	(B,17,45)	RS1/16S101J
R	812	(B,21,45)	RS1/16S101J
R	813	(B,19,45)	RS1/16S472J
R	814	(B,23,45)	RS1/16S101J
R	815	(B,27,45)	RS1/16S101J
R	816	(B,26,35)	RS1/16S101J
R	817	(B,25,39)	RS1/16S103J
R	818	(A,28,34)	RS1/16S220J

Mark No.	Description	Part No.
R 821	(A,15,37)	RS1/16S471J
R 822	(A,17,37)	RS1/16S105J
R 823	(A,25,35)	RS1/16S101J
R 825	(A,31,35)	RS1/16S101J
R 826	(B,31,45)	RS1/16S0R0J
R 828	(B,30,39)	RS1/16S103J
R 829	(A,35,37)	RS1/16S473J
R 836	(A,41,50)	RS1/16S470J
R 837	(A,43,57)	RAB4C470J
R 852	(A,40,37)	RS1/16S222J
R 875	(B,43,57)	RS1/16S0R0J
R 876	(B,50,57)	RS1/16S0R0J
R 901	(B,100,45)	RS1/16S4701F
R 902	(B,104,49)	RS1/16S2701F
R 903	(B,98,36)	RS1/16S104J
R 953	(B,37,32)	RS1/16S104J
R 954	(B,35,32)	RS1/16S104J
R 955	(B,28,35)	RS1/16S104J
R 956	(B,33,32)	RS1/16S104J
R 957	(B,21,41)	RS1/16S104J
R 958	(A,13,34)	RS1/16S104J
R 959	(B,12,46)	RS1/16S104J
R 960	(A,11,34)	RS1/16S104J
R 963	(A,95,59)	RS1/16S102J
R 964	(A,97,55)	RS1/16S102J
R 965	(A,100,57)	RAB4C101J

CAPACITORS

C 603	(A,80,57)	CKSRYB103K50
C 606	(A,81,54)	CCSRCH471J50
C 607	(A,79,54)	CKSRYB104K16
C 611	(A,90,59)	CKSRYB104K16
C 614	(A,94,55)	CKSRYB102K50
C 615	(A,85,39)	CEVW101M16
C 616	(A,87,59)	CKSRYB104K16
C 617	(A,87,58)	CCSRCH471J50
C 701	(A,51,49)	CKSRYB103K50
C 702	(A,53,49)	CCSRCH471J50
C 703	(A,48,40)	CEVW101M16
C 704	(A,51,46)	CKSRYB104K16
C 705	(A,53,46)	CCSRCH101J50
C 706	(B,54,47)	CKSRYB104K16
C 707	(B,44,36)	CCSRCH471J50
C 708	(B,47,36)	CCSRCH471J50
C 709	(B,49,36)	CCSRCH471J50
C 710	(B,52,36)	CCSRCH471J50
C 711	(B,54,36)	CCSRCH471J50
C 712	(B,57,36)	CCSRCH471J50
C 713	(B,59,36)	CCSRCH471J50
C 714	(B,62,36)	CCSRCH471J50
C 715	(A,78,38)	CEVW101M16
C 716	(A,71,43)	CKSRYB104K16
C 717	(A,70,43)	CCSRCH471J50
C 718	(A,70,35)	CEVW2R2M50
C 720	(A,70,40)	CKSRYB104K16
C 801	(A,38,58)	CCSRCH471J50
C 802	(A,38,59)	CKSRYB104K16
C 803	(A,31,57)	CKSRYB105K6R3
C 804	(A,31,58)	CKSRYB105K6R3
C 805	(A,25,57)	CCSRCH471J50

Mark No.	Description	Part No.
C 806	(A,25,58)	CKSRYB104K16
C 807	(A,21,53)	CCSRCH471J50
C 808	(A,19,53)	CKSRYB104K16
C 809	(A,21,50)	CKSRYB105K6R3
C 810	(A,19,50)	CKSRYB105K6R3
C 814	(A,20,44)	CCSRCH471J50
C 815	(A,20,45)	CKSRYB104K16
C 816	(A,17,35)	CCSRCH471J50
C 817	(A,16,35)	CKSRYB104K16
C 819	(A,12,37)	CCSRCH5R0C50
C 820	(A,20,37)	CCSRCH5R0C50
C 821	(A,24,38)	CCSRCH471J50
C 822	(A,24,37)	CKSRYB104K16
C 823	(A,27,38)	CKSRYB105K6R3
C 824	(A,27,37)	CKSRYB105K6R3
C 825	(A,29,37)	CKSRYB103K50
C 826	(A,32,38)	CKSRYB105K6R3
C 827	(A,33,37)	CKSRYB105K6R3
C 828	(A,40,44)	CCSRCH471J50
C 829	(A,41,44)	CKSRYB104K16
C 830	(A,41,47)	CKSRYB105K6R3
C 831	(A,42,47)	CKSRYB105K6R3
C 832	(A,41,52)	CCSRCH471J50
C 833	(A,42,52)	CKSRYB104K16
C 834	(A,37,32)	CEVW101M16
C 835	(A,14,47)	CEVW101M16
C 901	(B,100,41)	CKSRYB104K16
C 902	(A,106,46)	CEVW101M16
C 903	(A,106,53)	CEVW101M16
C 913	(B,51,40)	CCSRCH471J50
C 914	(B,49,40)	CKSRYB103K50
C 915	(B,71,43)	CKSRYB104K16
C 916	(B,73,43)	CCSRCH471J50
C 951	(B,92,56)	CCSRCH471J50
C 952	(B,90,56)	CKSRYB104K16

E KEY ASSY

MISCELLANEOUS

J 2	(A,240 ,127)	JUMPER WIRE	D20PYY0225E
S 5301	(A,305 ,175)	SWITCH	VSG1009
S 5302	(A,284 ,171)	SWITCH	VSG1009
S 5303	(A,263 ,175)	SWITCH	VSG1009
S 5304	(A,294 ,171)	SWITCH	VSG1009
S 5305	(A,274 ,171)	SWITCH	VSG1009
9		2P CABLE HOLDER	51048-0200

RESISTORS

R 5301	(B,297 ,162)	RS1/16S102J
R 5302	(B,293 ,162)	RS1/16S122J
R 5303	(B,289 ,162)	RS1/16S152J
R 5304	(A,325 ,5)	RS1/16S182J
R 5304	(A,283 ,204)	RS1/16S182J
R 5304	(A,259 ,204)	RS1/16S182J
R 5304	(A,250 ,159)	RS1/16S182J
R 5304	(A,248 ,141)	RS1/16S182J
R 5304	(A,312 ,121)	RS1/16S182J
R 5304	(A,303 ,149)	RS1/16S182J
R 5304	(A,309 ,132)	RS1/16S182J
R 5304	(A,291 ,121)	RS1/16S182J

Mark	No.	Description	Part No.
	R	5304(A,324 ,25)	RS1/16S182J
	R	5304(A,318 ,37)	RS1/16S182J
	R	5304(A,318 ,67)	RS1/16S182J
	R	5304(A,318 ,98)	RS1/16S182J
	R	5304(A,261 ,121)	RS1/16S182J
	R	5304(A,318 ,123)	RS1/16S182J
	R	5304(A,318 ,196)	RS1/16S182J
	R	5304(A,303 ,6)	RS1/16S182J
	R	5304(A,248 ,6)	RS1/16S182J
	R	5304(A,256 ,149)	RS1/16S182J
	R	5304(A,261 ,132)	RS1/16S182J
	R	5304(A,312 ,204)	RS1/16S182J
	R	5304(A,318 ,156)	RS1/16S182J
	R	5304(A,325 ,241)	RS1/16S182J
	R	5304(A,240 ,67)	RS1/16S182J
	R	5304(B,284 ,162)	RS1/16S182J

F LED ASSY

MISCELLANEOUS

	Q	5219(B,309 ,147) TRANSISTOR(SC-59)	2SC3052
	Q	5220(B,285 ,146) TRANSISTOR(SC-59)	2SC3052
	D	5207(A,301 ,142) LED(WHITE)	NSPWF50BS-9706
	D	5209(A,284 ,142) LED(WHITE)	NSPWF50BS-9706
	D	5211(A,268 ,142) LED(WHITE)	NSPWF50BS-9706
	D	5212(A,276 ,142) LED(BLUE)	NSPBF50S-3026
	D	5213(A,293 ,142) LED(BLUE)	NSPBF50S-3026
	D	5219(B,309 ,143) DIODE	UDZS6R8(B)
	D	5221(B,281 ,138) DIODE	UDZS6R8(B)
	D	5223(B,273 ,138) DIODE	UDZS6R8(B)
	D	5224(B,278 ,138) DIODE	UDZS6R8(B)
	D	5225(B,286 ,136) DIODE	UDZS6R8(B)
J	1	(A,274 ,115) JUMPER WIRE	D20PYY0410E
		LED COVER(PLS)	XMR3099
	10	4P CABLE HOLDER	51048-0400

RESISTORS

	R	5219(B,315 ,147)	RS1/16S270J
	R	5220(B,287 ,142)	RS1/16S270J
	R	5223(A,274 ,146)	RD1/4PU151J
	R	5225(B,264 ,136)	RS1/10S181J
	R	5226(B,266 ,136)	RS1/10S181J
	R	5227(B,269 ,136)	RS1/10S181J
	R	5228(B,290 ,136)	RS1/10S391J
	R	5229(B,293 ,136)	RS1/10S391J
	R	5230(B,298 ,136)	RS1/10S391J

G DISPLAY ASSY

MISCELLANEOUS

	Q	5101(B,299 ,24) DIGITAL TR(SC-70)	RT1N431M
	Q	5102(B,299 ,29) DIGITAL TR(SC-70)	RT1N431M
	Q	5110(B,263 ,20) DIGITAL TR(SC-70)	RT1N431M
	Q	5201(B,280 ,103) TRANSISTOR(SC-59)	2SC3052
	Q	5204(B,280 ,109) TRANSISTOR(SC-59)	2SC3052
	D	5101(A,311 ,9) LED(BLUE)	SLR-343BBT(FGHJ)
	D	5102(A,311 ,45) LED(ORANGE)	SLI-343DCW(STU)
	D	5110(A,264 ,12) LED(GREEN)	SLR-343MC(NPQ)
	D	5202(B,287 ,108) DIODE	UDZS6R8(B)
	D	5203(A,293 ,116) LED(WHITE)	NSPW500BS-2146
	D	5215(B,275 ,98) DIODE	MA111
	D	5216(B,275 ,93) DIODE	MA111
	D	5301(B,293 ,70) DIODE	UDZS6R8(B)
	D	5302(A,290 ,65) LED(WHITE)	NSPW500BS-2146
	L	5101(A,303 ,57) AXIAL INDUCTOR	LAU220J
	S	5101(A,319 ,24) SWITCH	VSG1009
	S	5102(A,314 ,52) SWITCH	VSG1009
	S	5103(A,314 ,62) SWITCH	VSG1009
	S	5104(A,314 ,72) SWITCH	VSG1009
	S	5105(A,314 ,82) SWITCH	VSG1009
	S	5106(A,314 ,93) SWITCH	VSG1009
	S	5107(A,314 ,103) SWITCH	VSG1009
	S	5108(A,314 ,113) SWITCH	VSG1009
	S	5201(A,241 ,27) SWITCH	VSG1009
	S	5202(A,260 ,38) SWITCH	VSG1009
	S	5203(A,245 ,49) SWITCH	VSG1009
	S	5204(A,260 ,60) SWITCH	VSG1009
	S	5205(A,245 ,71) SWITCH	VSG1009
	S	5206(A,260 ,110) SWITCH	VSG1009
	S	5207(A,241 ,98) SWITCH	VSG1009
	CN5101	(A,276 ,24) 13P CONNECTOR	52044-1345
	CN5104	(A,300 ,61) CONNECTOR 10P	52492-1020
		PCB SPACER (PLS)	XEB3039
	5	2P CABLE HOLDER	51048-0200
	6	4P CABLE HOLDER	51048-0400
	7	LED HOLDER (PLS)	XMR3053
	8	LED HOLDER (PLS)	XMR3053
	5201	REMOTE RECEIVER UNIT	GP1UM28XK0VF

RESISTORS

	R	5101(B,314 ,22)	RS1/16S102J
	R	5102(B,310 ,53)	RS1/16S122J
	R	5103(B,310 ,57)	RS1/16S152J
	R	5104(B,309 ,80)	RS1/16S182J
	R	5105(B,309 ,84)	RS1/16S272J
	R	5106(B,309 ,94)	RS1/16S332J
	R	5107(B,309 ,104)	RS1/16S562J
	R	5108(B,310 ,74)	RS1/16S221J
	R	5109(B,308 ,74)	RS1/16S221J
	R	5110(B,260 ,20)	RS1/16S331J
	R	5111(B,258 ,20)	RS1/16S331J
	R	5112(B,311 ,13)	RS1/16S272J
	R	5113(B,309 ,13)	RS1/16S272J
	R	5114(B,307 ,13)	RS1/16S272J
	R	5115(B,305 ,13)	RS1/16S272J
	R	5116(B,309 ,30)	RS1/16S272J
	R	5117(B,311 ,30)	RS1/16S272J
	R	5118(B,313 ,30)	RS1/16S272J
	R	5119(B,307 ,30)	RS1/16S272J
	R	5121(B,303 ,13)	RS1/16S272J
	R	5201(B,251 ,35)	RS1/16S102J
	R	5202(B,251 ,39)	RS1/16S122J
	R	5203(B,251 ,50)	RS1/16S152J
	R	5204(B,251 ,61)	RS1/16S182J
	R	5205(B,251 ,73)	RS1/16S272J
	R	5206(B,251 ,97)	RS1/16S332J
	R	5208(B,237 ,108)	RS1/16S102J
	R	5209(B,244 ,110)	RS1/16S470J
	R	5210(A,283 ,85)	RD1/4PU121J
	R	5211(B,280 ,98)	RS1/16S270J
	R	5216(B,276 ,102)	RS1/16S101J

Mark	No.	Description	Part No.
	R 5217	(B,274 ,105)	RS1/16S122J

CAPACITORS

	C 5101	(B,298 ,52)	CKSRYB102K50
	C 5103	(A,290 ,44)	CEAL470M16
	C 5104	(B,296 ,56)	CKSRYB104K16
	C 5105	(B,309 ,68)	CCSRCH100D50
	C 5106	(B,307 ,68)	CCSRCH220J50
	C 5202	(B,240 ,109)	CKSRYB103K50
	C 5204	(A,266 ,114)	CEAL101M10

H HP/MIC ASSY

MISCELLANEOUS

	IC 5401	(B,304 ,79) ECHO IC	BU9255FS
	IC 5402	(B,301 ,40) OP-AMP IC	HA17558AF
	Q 5401	(B,318 ,102) DIGITAL TR(SC-70)	RT1P431M
	D 5401	(A,311 ,118) ZENER DIODE	MTZJ5.1B
	L 3901	(B,303 ,7) INDUCTOR	CTF1399
	L 3902	(B,320 ,11) INDUCTOR	CTF1399
	L 5401	(A,314 ,118) FERRI INDUCTOR	LAU100J
	J 3902	(A,314 ,13) JUMPER WIRE	D20PYY0430E
	J 5401	(A,307 ,107) JUMPER WIRE	D20PYY0520E
	JA 5401	(A,319 ,70) MIC JACK	XKN3012
	JA 5402	(A,319 ,50) MIC JACK	XKN3012
	JA 5403	(A,319 ,30) MINITURE JACK	AKN7005
	VR 5401	(A,319 ,90) VARIABLE(10K-X1)	XCS3007
		5P CABLE HOLDER	51048-0500
		4P CABLE HOLDER	51048-0400

RESISTORS

	R 3903	(B,307 ,7)	RS1/16S680J
	R 3904	(B,316 ,7)	RS1/16S680J
	R 3907	(B,309 ,7)	RS1/16S680J
	R 3908	(B,318 ,7)	RS1/16S680J
	R 3909	(B,313 ,17)	RS1/16S680J
	R 5401	(A,317 ,114)	RD1/4PU681J
	R 5402	(B,299 ,71)	RS1/16S393J
	R 5403	(B,312 ,75)	RS1/16S103J
	R 5404	(B,310 ,73)	RS1/16S822J
	R 5405	(B,305 ,67)	RS1/16S203J
	R 5406	(B,310 ,77)	RS1/16S203J
	R 5407	(B,311 ,89)	RS1/16S153J
	R 5408	(B,307 ,89)	RS1/16S472J
	R 5409	(B,305 ,89)	RS1/16S103J
	R 5414	(B,305 ,49)	RS1/16S123J
	R 5415	(B,303 ,53)	RS1/16S222J
	R 5416	(B,303 ,28)	RS1/16S332J
	R 5417	(B,303 ,17)	RS1/16S332J
	R 5418	(B,301 ,28)	RS1/16S473J
	R 5420	(B,305 ,32)	RS1/16S393J
	R 5421	(B,299 ,32)	RS1/16S103J
	R 5423	(B,322 ,44)	RS1/16S332J
	R 5425	(B,319 ,48)	RS1/16S332J
	R 5430	(B,309 ,102)	RS1/16S223J

CAPACITORS

	C 3903	(B,311 ,7)	CKSRYB473K25
	C 3904	(B,314 ,7)	CKSRYB473K25
	C 3905	(B,315 ,17)	CKSRYB103K50
	C 5401	(A,303 ,117)	CEJQ101M16
	C 5402	(B,304 ,71)	CKSRYB104K25
	C 5403	(B,301 ,71)	CCSRCH101J50
	C 5404	(B,306 ,71)	CKSRYB103K50
	C 5405	(B,308 ,67)	CKSRYB123K50
	C 5406	(B,308 ,71)	CKSRYB472K50
	C 5407	(B,306 ,100)	CKSRYB103K50
	C 5408	(B,309 ,89)	CKSRYB332K50
	C 5409	(A,302 ,97)	CEAL220M16
	C 5410	(A,307 ,97)	CEJQR47M50
	C 5411	(B,303 ,89)	CKSRYB103K50
	C 5412	(B,306 ,45)	CKSRYB104K25
	C 5414	(B,303 ,49)	CKSRYB122K50
	C 5416	(A,314 ,61)	CEAL2R2M50
	C 5419	(B,305 ,17)	CCSRCH101J50
	C 5420	(A,300 ,13)	CEJQ470M16
	C 5421	(A,306 ,22)	CEJQ2R2M50
	C 5422	(A,307 ,34)	CEJQ2R2M50
	C 5423	(B,303 ,32)	CCSRCH102J50
	C 5426	(A,307 ,39)	CEJQ2R2M50
	C 5427	(B,317 ,49)	CCSRCH101J50
	C 5428	(B,317 ,68)	CCSRCH101J50
	C 5429	(B,324 ,62)	CKSRYB104K25
	C 5430	(B,320 ,92)	CKSRYB103K50
	C 5431	(A,309 ,45)	CEJQ2R2M50
	C 5432	(A,311 ,85)	CEJQ2R2M50
	C 5436	(B,301 ,17)	CKSRYB104K25

I AMP ASSY

MISCELLANEOUS

⚠	IC 61	(A,110,107) REGULATOR IC	TA7812S
⚠	IC 71	(A,126,107) REGULATOR IC	TA79012S
⚠	IC 81	(A,86,39) IC	TA7805S
⚠	IC 3301	(A,122,36) AUDIO IC	STK433-270
	IC 3304	(B,34,84) OP-AMP IC	HA17558AF
	IC 3305	(B,38,47) OP-AMP IC	HA17558AF
⚠	IC 3401	(A,75,110) AUDIO IC	STK433-270
	Q 43	(B,80,43) TRANSISTOR	2SA1576A
⚠	Q 91	(A,70,39) MOS FET	2SJ304
	Q 92	(B,67,36) TRANSISTOR	2SC4081
	Q 101	(B,109,101) CHIP TR (PNP X 2)	UMB1N
	Q 102	(B,115,101) TRANSISTOR	UMH1N
	Q 103	(B,97,95) CHIP TR (PNP X 2)	UMB1N
	Q 104	(B,88,94) TRANSISTOR	UMH1N
	Q 111	(B,83,47) TRANSISTOR	2SC4081
	Q 3301	(B,54,23) DUAL CHIP TRANSISTOR	XP4506
	Q 3381	(B,170,99) TRANSISTOR	2SC4081
	Q 3382	(B,178,99) TRANSISTOR	2SA1576A
⚠	Q 3383	(A,152,107) MOS FET	2SJ304
⚠	Q 3384	(A,168,107) MOS FET	2SK2232
	Q 3385	(B,137,32) TRANSISTOR	2SC4081
	Q 3401	(B,33,19) DUAL CHIP TRANSISTOR	XP4506
	Q 3485	(B,19,102) TRANSISTOR	2SC4081
	Q 3501	(B,22,19) TRANSISTOR	2SD2114K
	Q 3502	(B,46,20) TRANSISTOR	2SD2114K
	Q 3651	(B,107,67) CHIP TRANSISTOR	RN1901
	Q 3652	(B,94,58) TRANSISTOR	DTA124TK
	Q 3653	(B,103,61) CHIP DIGITAL TRANS.	DTA124EUA
	Q 3654	(A,115,64) TRANSISTOR	2SD2144S
	Q 3655	(A,54,59) N-FET	2SK246
	Q 3656	(A,50,59) N-FET	2SK246

Mark	No.		Description	Part No.
	Q	3657(A,24,61)	N-FET	2SK246
	Q	3660(B,51,44)	CHIP DIGITAL TRANS.	DTA124EUA
	D	42 (B,94,46)	DIODE	MA111
⚠	D	63 (A,97,106)	DIODE	MTZJ18(B)
⚠	D	72 (A,129,106)	DIODE	MTZJ15(B)
⚠	D	82 (A,92,36)	DIODE	MTZJ7R5(B)
	D	91 (B,66,47)	CHIP ZENER DIODE	UDZS18B
⚠	D	98 (A,78,33)	DIODE	MTZJ11(B)
	D	101 (B,141,110)	DIODE	MA111
	D	102 (B,106,94)	DIODE	MA111
	D	105 (B,157,113)	DIODE	UDZS7R5(B)
	D	106 (B,95,91)	DIODE	UDZS7R5(B)
⚠	D	3301(B,134,30)	DIODE	MA111
⚠	D	3321(A,127,53)	DIODE	1SR139-400
⚠	D	3322(A,125,63)	DIODE	1SR139-400
⚠	D	3323(A,124,48)	DIODE	1SR139-400
⚠	D	3324(A,120,66)	DIODE	1SR139-400
⚠	D	3325(A,121,48)	DIODE	1SR139-400
⚠	D	3326(A,124,69)	DIODE	1SR139-400
	D	3327(A,141,71)	DIODE	1SR139-400
	D	3328(A,153,77)	DIODE	1SR139-400
⚠	D	3381(B,152,61)	DIODE	DAN217
⚠	D	3382(B,148,64)	DIODE	DAN217
	D	3385(A,172,90)	DIODE	MTZJ36(B)
	D	3386(A,175,95)	DIODE	MTZJ36(B)
	D	3387(A,169,95)	DIODE	1SS133
	D	3388(A,178,90)	DIODE	1SS133
	D	3389(A,147,112)	DIODE	MTZJ10(B)
	D	3390(A,168,112)	DIODE	MTZJ10(B)
⚠	D	3391(A,120,86)	DIODE	30PDA20-FC6
⚠	D	3392(A,156,85)	DIODE	30PDA20-FC6
	D	3393(A,144,107)	DIODE	MTZJ18(B)
	D	3394(A,160,112)	DIODE	MTZJ18(B)
⚠	D	3401(B,24,107)	DIODE	MA111
⚠	D	3421(A,70,93)	DIODE	1SR139-400
⚠	D	3422(A,72,84)	DIODE	1SR139-400
⚠	D	3423(A,75,96)	DIODE	1SR139-400
⚠	D	3424(A,77,81)	DIODE	1SR139-400
⚠	D	3425(A,70,99)	DIODE	1SR139-400
⚠	D	3426(A,72,78)	DIODE	1SR139-400
	D	3427(A,55,80)	DIODE	1SR139-400
	D	3428(A,61,72)	DIODE	1SR139-400
⚠	D	3481(B,46,88)	DIODE	DAN217
⚠	D	3482(B,47,83)	DIODE	DAN217
⚠	D	3581(B,33,113)	DIODE	DAN217
⚠	D	3582(B,164,57)	DIODE	DAN217
	D	3601(A,110,118)	DIODE	S5688G
	D	3602(A,119,118)	DIODE	S5688G
	D	3603(A,127,118)	DIODE	S5688G
	D	3604(A,155,118)	DIODE	S5688G
	D	3651(A,96,41)	DIODE	1SS133
	D	3655(A,107,61)	DIODE	1SS133
	D	3657(B,99,57)	DIODE	MA111
	D	3658(B,110,70)	DIODE	UDZS3R9(B)
⚠	TH111	(B,92,43)	THERMISTOR	NCP18WF104J03RB
	CN3001	(A,172,14)	23P PLUG	XKP3071
	CN3002	(A,132,14)	23P PLUG	XKP3071
	CN3651	(A,181,26)	PLUG(2P)	KM200SA2

RESISTORS

Mark	No.		Description	Part No.
	R	45 (B,86,44)		RS1/16S471J
	R	46 (B,83,42)		RS1/16S103J
	R	47 (B,66,42)		RS1/16S4701F
	R	48 (B,69,31)		RS1/16S4701F
	R	85 (A,94,115)	METAL OXIDE RESISTOR	RS3LMF221J
	R	91 (B,68,47)		RS1/16S104J
	R	92 (B,70,36)		RS1/16S101J
	R	93 (B,65,35)		RS1/16S221J
	R	94 (B,92,27)		RS1/16S2701F
	R	95 (B,84,27)		RS1/16S2701F
	R	96 (B,76,29)		RS1/16S1002F
	R	97 (B,74,30)		RS1/16S1002F
	R	101 (B,112,101)		RS1/16S102J
	R	102 (B,138,112)		RS1/16S103J
	R	103 (B,138,108)		RS1/16S103J
	R	104 (B,94,97)		RS1/16S102J
	R	105 (B,102,93)		RS1/16S103J
	R	106 (B,104,93)		RS1/16S103J
	R	108 (B,101,30)		RS1/16S273J
	R	109 (B,114,107)		RS1/16S821J
	R	111 (B,90,46)		RS1/16S102J
	R	112 (B,88,46)		RS1/16S102J
	R	113 (B,92,46)		RS1/16S221J
	R	114 (B,103,44)		RS1/16S0R0J
	R	3301(B,54,40)		RS1/16S471J
	R	3302(B,48,32)		RS1/16S471J
	R	3303(B,54,17)		RS1/16S222J
	R	3304(B,54,29)		RS1/16S222J
	R	3305(B,145,55)		RS1/16S563J
	R	3306(B,157,54)		RS1/16S563J
	R	3307(B,145,51)		RS1/16S221J
	R	3308(B,149,45)		RS1/16S221J
	R	3309(B,149,55)		RS1/16S152J
	R	3310(B,151,45)		RS1/16S152J
	R	3311(B,143,40)		RS1/16S563J
	R	3312(B,150,33)		RS1/16S563J
	R	3313(B,63,25)		RS1/16S392J
	R	3314(B,48,28)		RS1/16S392J
	R	3317(A,130,49)	METAL OXIDE RESISTOR	ACN7123
	R	3318(A,137,50)	METAL OXIDE RESISTOR	ACN7123
⚠	R	3323(B,137,40)		RS1/16S1R0J
⚠	R	3324(B,122,40)		RS1/16S1R0J
⚠	R	3327(A,139,80)	CARBON FILM RESISTOR	RD1/4MUF470J
⚠	R	3328(A,150,79)	CARBON FILM RESISTOR	RD1/4MUF470J
⚠	R	3351(B,130,32)		RS1/16S1R0J
	R	3371(B,61,25)		RS1/16S0R0J
	R	3372(B,65,25)		RS1/16S0R0J
	R	3373(B,48,24)		RS1/16S0R0J
	R	3381(B,172,87)		RS1/16S103J
	R	3382(B,175,87)		RS1/16S103J
	R	3383(B,172,102)		RS1/16S104J
	R	3384(B,175,102)		RS1/16S104J
	R	3385(B,172,98)		RS1/16S153J
	R	3386(B,175,98)		RS1/16S153J
	R	3387(A,155,112)		RD1/4PU101J
	R	3388(A,171,112)		RD1/4PU101J
	R	3389(B,157,108)		RS1/16S104J
	R	3390(B,173,108)		RS1/16S104J
	R	3391(B,149,51)		RS1/16S0R0J
	R	3392(B,154,66)		RS1/16S0R0J

Mark	No.	Description	Part No.
	R 3393(B,144,22)		RS1/16S222J
	R 3394(B,137,28)		RS1/16S102J
	R 3395(B,142,22)		RS1/16S333J
	R 3396(B,132,32)		RS1/16S562J
	R 3401(B,33,28)		RS1/16S102J
	R 3402(B,31,28)		RS1/16S102J
	R 3403(B,34,15)		RS1/16S222J
	R 3404(B,35,18)		RS1/16S222J
	R 3405(B,52,91)		RS1/16S563J
	R 3406(B,39,93)		RS1/16S563J
	R 3407(B,52,95)		RS1/16S221J
	R 3408(B,43,100)		RS1/16S221J
	R 3409(B,48,92)		RS1/16S152J
	R 3410(B,46,100)		RS1/16S152J
	R 3411(B,53,106)		RS1/16S563J
	R 3412(B,51,114)		RS1/16S563J
	R 3413(B,39,25)		RS1/16S104J
	R 3414(B,31,22)		RS1/16S104J
	R 3417(A,66,98)	METAL OXIDE RESISTOR	ACN7123
	R 3418(A,59,96)	METAL OXIDE RESISTOR	ACN7123
⚠	R 3423(B,55,99)		RS1/16S1R0J
⚠	R 3424(B,75,106)		RS1/16S1R0J
⚠	R 3427(A,58,77)	CARBON FILM RESISTOR	RD1/4MUF470J
⚠	R 3428(A,68,58)	CARBON FILM RESISTOR	RD1/4MUF470J
⚠	R 3451(B,77,106)		RS1/16S1R0J
	R 3491(B,48,96)		RS1/16S0R0J
	R 3492(B,49,85)		RS1/16S0R0J
	R 3493(B,18,107)		RS1/16S222J
	R 3494(B,22,107)		RS1/16S102J
	R 3495(B,20,107)		RS1/16S333J
	R 3496(B,21,102)		RS1/16S562J
	R 3501(B,19,32)		RS1/16S102J
	R 3502(B,45,32)		RS1/16S471J
	R 3503(B,18,18)		RS1/16S222J
	R 3504(B,47,15)		RS1/16S222J
	R 3505(B,29,93)		RS1/16S563J
	R 3506(B,159,54)		RS1/16S563J
	R 3507(B,39,102)		RS1/16S221J
	R 3508(B,157,44)		RS1/16S221J
	R 3509(B,37,102)		RS1/16S152J
	R 3510(B,159,44)		RS1/16S152J
	R 3511(B,43,114)		RS1/16S563J
	R 3512(B,159,32)		RS1/16S563J
	R 3513(B,18,24)		RS1/16S104J
	R 3514(B,46,28)		RS1/16S473J
	R 3517(A,23,83)	METAL OXIDE RESISTOR	ACN7123
	R 3518(A,165,49)	METAL OXIDE RESISTOR	ACN7123
	R 3591(B,32,109)		RS1/16S0R0J
	R 3592(B,166,53)		RS1/16S0R0J
	R 3651(B,95,66)		RS1/16S332J
	R 3654(B,100,69)		RS1/16S182J
	R 3655(B,112,68)		RS1/16S822J
	R 3656(B,114,68)		RS1/16S223J
	R 3657(A,102,65)		RD1/4PU330J
	R 3658(B,97,57)		RS1/16S222J
	R 3661(B,58,45)		RS1/16S471J
	R 3662(B,56,45)		RS1/16S471J
	R 3663(B,46,39)		RS1/16S471J
	R 3664(B,48,39)		RS1/16S471J
	R 3665(B,40,30)		RS1/16S471J
	R 3666(B,40,35)		RS1/16S471J
	R 3667(B,57,49)		RS1/16S474J
	R 3668(B,55,49)		RS1/16S474J
	R 3669(B,47,58)		RS1/16S474J
	R 3671(B,39,88)		RS1/16S103J
	R 3672(B,37,91)		RS1/16S103J
	R 3673(B,45,43)		RS1/16S681J
	R 3674(B,35,40)		RS1/16S681J
	R 3675(B,36,54)		RS1/16S104J
	R 3677(B,42,47)		RS1/16S104J
	R 3678(B,49,43)		RS1/16S683J
	R 3679(B,37,40)		RS1/16S683J
	R 3680(B,34,54)		RS1/16S471J
	R 3681(B,52,49)		RS1/16S393J
	R 3682(B,45,55)		RS1/16S684J
	R 3683(B,41,56)		RS1/16S105J
	R 3687(B,76,33)		RS1/16S273J

CAPACITORS

	C 63	(A,97,110) ELECT. CAPACITOR	CEJQ220M35
	C 66	(B,111,113)	CKSRYB473K50
	C 71	(B,126,103)	CKSRYB473K50
	C 72	(A,134,108)	CEAT100M50
	C 81	(B,83,38)	CKSRYB473K50
	C 82	(A,90,30) ELECT. CAPACITOR	CEAT470M25
	C 92	(B,67,31)	CKSRYB104K16
	C 97	(B,80,33)	CCSRCH221J50
	C 98	(A,71,32) ELECTR. CAPACITOR	CEAL470M25
	C 101	(A,109,96)	CEAT1R0M50
	C 102	(A,91,94)	CEAT1R0M50
	C 3167	(A,36,24)	CEAL2R2M50
	C 3168	(A,28,23)	CEAL2R2M50
	C 3178	(A,21,24)	CEAL2R2M50
	C 3179	(A,43,21) ELECTR. CAPACITOR	CEAL100M50
	C 3301	(A,58,28)	CEAL2R2M50
	C 3302	(A,51,28)	CEAL2R2M50
	C 3303	(B,147,55)	CKSRYB102K50
	C 3304	(B,151,41)	CKSRYB102K50
	C 3305	(B,147,51)	CCSRCH470J50
	C 3306	(B,149,41)	CCSRCH470J50
	C 3307	(A,143,58)	CEAL100M16
	C 3308	(A,154,52)	CEAL100M16
	C 3309	(B,145,40)	CCSRCH8R0D50
	C 3310	(B,152,33)	CCSRCH8R0D50
	C 3311	(A,141,25) ELECT. CAPACITOR	CEAT470M25
	C 3312	(A,19,111) ELECT. CAPACITOR	CEAT470M25
	C 3321	(A,129,73) ELECT. CAPACITOR	CEATR22M2A
	C 3322	(A,123,73) ELECT. CAPACITOR	CEATR22M2A
	C 3323	(A,147,69)	CEAT221M50
	C 3324	(A,160,75)	CEAT221M50
	C 3401	(A,36,30)	CEAL2R2M50
	C 3402	(A,28,30)	CEAL2R2M50
	C 3403	(B,50,91)	CKSRYB102K50
	C 3404	(B,46,105)	CKSRYB102K50
	C 3405	(B,50,95)	CCSRCH470J50
	C 3406	(B,48,105)	CCSRCH470J50
	C 3407	(A,53,88)	CEAL100M16
	C 3408	(A,41,96)	CEAL100M16
	C 3409	(B,51,106)	CCSRCH8R0D50
	C 3410	(B,53,114)	CCSRCH8R0D50

Mark	No.		Description	Part No.
	C	3421(A,66,74)	ELECT. CAPACITOR	CEATR22M2A
	C	3422(A,73,74)	ELECT. CAPACITOR	CEATR22M2A
	C	3423(A,33,76)		CEAT221M50
	C	3424(A,48,71)		CEAT221M50
	C	3501(A,21,30)		CEAL2R2M50
	C	3502(A,43,28)		CEAL2R2M50
	C	3503(B,43,104)		CKSRYB102K50
	C	3504(B,153,42)		CKSRYB102K50
	C	3505(B,41,104)		CCSRCH470J50
	C	3506(B,155,42)		CCSRCH470J50
	C	3507(A,35,96)		CEAL470M6R3
	C	3508(A,161,51)		CEAL100M16
	C	3509(B,41,114)		CCSRCH8R0D50
	C	3510(B,161,32)		CCSRCH8R0D50
	C	3651(A,97,68)		CEAT101M25
	C	3652(A,98,60)	ELECT. CAPACITOR	CEAT470M25
	C	3653(A,100,35)	ELECT. CAPACITOR	CEAT470M35
	C	3661(A,58,34)		CEAL1R0M50
	C	3662(A,51,34)		CEAL1R0M50
	C	3663(A,43,34)		CEAL3R3M50
	C	3673(A,35,59)	ELECT. CAPACITOR	CEAT470M25
	C	3674(A,28,49)	ELECT. CAPACITOR	CEAT470M25
	C	3676(B,47,43)		CKSRYB103K50
	C	3678(B,39,40)		CKSRYB103K50
	C	3680(A,42,59)		CEAT1R0M50

J POWER ASSY

MISCELLANEOUS

Mark	No.		Description	Part No.
⚠	IC	41 (A,150 ,86)	PROTECTOR(7A)	AEK7021
	IC	3055(B,29 ,108)	OP-AMP IC	HA17558AF
	IC	3056(B,28 ,140)	OP-AMP IC	HA17558AF
	IC	3057(B,61 ,102)	OP-AMP IC	HA17558AF
	IC	3058(B,66 ,141)	OP-AMP IC	HA17558AF
	IC	3062(B,56 ,60)	ELECTRIC VOL IC 6CH	BD3814FV
⚠	IC	3101(A,145 ,186)	PROTECTOR(7A)	AEK7047
	IC	3901(B,47 ,17)	DUAL OP-AMP	NJM4565M
⚠	IC	5508(A,207 ,15)	REGULATOR IC	NJM78M56FA
	Q	81 (A,150 ,214)	TRANSISTOR	2SD1858X
	Q	82 (B,213 ,22)	TRANSISTOR	2SC4081
	Q	83 (B,149 ,205)	DIGITAL TR(SC-70)	RT1P241M
	Q	3601(B,94 ,188)	TRANSISTOR	2SC4081
	Q	3602(B,121 ,189)	TRANSISTOR	2SC4081
	Q	3611(B,17 ,206)	TRANSISTOR	2SC4081
	Q	3612(B,29 ,205)	TRANSISTOR	2SC4081
	Q	3621(B,82 ,187)	TRANSISTOR	2SC4081
	Q	3622(B,64 ,188)	TRANSISTOR	2SC4081
	Q	3631(B,36 ,168)	TRANSISTOR	2SC4081
	Q	3632(B,29 ,171)	CHIP TR (PNP X 2)	UMB1N
	Q	3633(B,24 ,168)	CHIP TRANSISTOR	RN1901
	Q	3635(B,20 ,163)	DIGITAL TR(SC-70)	RT1P241M
	Q	3637(B,20 ,175)	TRANSISTOR	2SC4081
	Q	3638(B,17 ,175)	TRANSISTOR	2SC4081
	Q	3639(B,14 ,183)	TRANSISTOR	2SA1576A
	Q	3640(B,33 ,172)	TRANSISTOR	RT1N241M
	Q	3901(B,76 ,18)	TRANSISTOR	IMX9
	Q	3902(B,60 ,17)	TRANSISTOR	IMX9
	Q	3909(B,16 ,17)	TRANSISTOR	2SA1576A
⚠	D	11 (A,174 ,21)	DIODE	D5SBA20(B)
⚠	D	21 (A,117 ,13)	DIODE	D5SBA20(B)
⚠	D	41 (A,158 ,56)	DIODE	D5SBA20(B)
⚠	D	80 (B,227 ,27)	BRIDGE DIODE	S1NB60
	D	87 (B,154 ,205)	DIODE	DAN217
	D	88 (A,169 ,214)	DIODE	1SS133
	D	89 (B,218 ,24)	DIODE	UDZS20(B)
	D	3052(B,78 ,63)	DIODE	UDZS6R8(B)
	D	3053(B,78 ,56)	DIODE	UDZS6R8(B)
	D	3601(B,106 ,190)	DIODE	MA111
	D	3602(B,123 ,190)	DIODE	MA111
	D	3603(B,102 ,188)	DIODE	DAP202K
	D	3611(B,21 ,207)	DIODE	MA111
	D	3612(B,37 ,200)	DIODE	MA111
	D	3613(B,8 ,210)	DIODE	DAP202K
	D	3621(B,85 ,189)	DIODE	MA111
	D	3622(B,67 ,188)	DIODE	MA111
	D	3623(B,54 ,188)	DIODE	DAP202K
	D	3631(A,36 ,163)	DIODE	MTZJ5R1(B)
	D	3632(A,45 ,163)	DIODE	1SS133
	D	3633(A,40 ,171)	DIODE	1SS133
	D	3634(A,36 ,172)	DIODE	1SS133
	D	3635(B,41 ,167)	DIODE	DAN202K
	D	3636(B,31 ,163)	DIODE	MA111
	D	3901(B,19 ,50)	DIODE	DAP202K
⚠	L	1 (A,260 ,128)	LINE FILTER	XTF3004
	L	3361(A,98 ,186)	COIL	ATH-059
	L	3362(A,118 ,186)	COIL	ATH-059
	L	3461(A,34 ,203)	COIL	ATH-059
	L	3462(A,11 ,205)	COIL	ATH-059
	L	3561(A,79 ,186)	COIL	ATH-059
	L	3661(A,59 ,186)	COIL	ATH-059
⚠	AN	1 (A,216 ,230)	AC INLET 1P	XKP3084
	H	1 (A,326 ,101)	FUSE CLIP	AKR7001
	H	1 (A,206 ,202)	FUSE CLIP	AKR7001
	H	2 (A,307 ,60)	FUSE CLIP	AKR7001
	H	2 (A,226 ,202)	FUSE CLIP	AKR7001
	J	3002(A,95 ,131)	JUMPER WIRE 15P	D20PYY1515E
	JA	3301(A,76 ,230)	SPEAKER TERMINAL 12P	XKE3037
⚠	RY	81 (A,173 ,213)	POWER RELAY	XSR3008
⚠	S	1 (A,311 ,220)	VOLTAGE SELECTOR	XKX3001
⚠	T	2 (A,207 ,63)	STANDBY TRANSFORMER	ATT7080
⚠	CN	1 (A,270 ,161)	CONNECTOR	B2P3-VH
⚠	CN	2 (A,307 ,161)	4P-VH CONNECTOR	B4P7-VH
	CN	4 (A,156 ,87)	CONNECTOR	B7P-VH
	CN	3008(A,86 ,9)	4PJUMPER CONNECTOR	52151-0410
	CN	3011(A,151 ,120)	CONNECTOR	52045-1745
	CN	3012(A,155 ,130)	13PJUMPER CONNECTOR	52147-1310
	CN	3013(A,153 ,167)	14PJUMPER CONNECTOR	52147-1410
	CN	3051(A,13 ,85)	27P CONNECTOR	52044-2745
	2		PCB BINDER	VEF1040
			SCREW	BBZ30P080FTC
	1		PCB BINDER	VEF1040

RESISTORS

	R	81 (B,155 ,210)		RS1/16S102J
	R	83 (B,151 ,210)		RS1/16S180J
	R	85 (B,153 ,210)		RS1/16S180J
	R	87 (B,157 ,210)		RS1/16S103J
	R	88 (B,218 ,16)		RS1/16S222J
	R	89 (B,215 ,23)		RS1/16S223J
	R	90 (B,143 ,211)		RS1/16S273J

Mark No.	Description	Part No.
R 3096(B,23 ,74)		RS1/16S0R0J
R 3101(B,47 ,71)		RS1/16S472J
R 3102(B,41 ,71)		RS1/16S472J
R 3105(B,19 ,139)		RS1/16S222J
R 3106(B,23 ,143)		RS1/16S222J
R 3107(B,36 ,132)		RS1/16S122J
R 3108(B,37 ,148)		RS1/16S122J
R 3113(B,66 ,94)		RS1/16S0R0J
R 3114(B,63 ,111)		RS1/16S0R0J
R 3115(B,70 ,94)		RS1/16S682J
R 3116(B,65 ,111)		RS1/16S682J
R 3118(A,82 ,81)		RD1/2PM151J
R 3119(A,79 ,71)		RD1/2PM151J
R 3137(B,64 ,129)		RS1/16S0R0J
R 3138(B,72 ,133)		RS1/16S472J
R 3140(B,65 ,70)		RS1/16S102J
R 3141(B,63 ,70)		RS1/16S102J
R 3143(B,61 ,70)		RS1/16S103J
R 3145(B,19 ,100)		RS1/16S103J
R 3146(B,38 ,99)		RS1/16S104J
R 3147(B,36 ,99)		RS1/16S224J
R 3157(B,15 ,132)		RS1/16S472J
R 3158(B,15 ,148)		RS1/16S472J
R 3159(B,34 ,132)		RS1/16S822J
R 3160(B,35 ,148)		RS1/16S822J
R 3163(A,45 ,127)		RD1/4PU220J
R 3164(A,68 ,108)		RD1/4PU220J
R 3165(B,52 ,94)		RS1/16S103J
R 3170(B,45 ,111)		RS1/16S103J
R 3173(B,52 ,99)		RS1/16S124J
R 3174(B,54 ,103)		RS1/16S124J
R 3175(B,50 ,99)		RS1/16S222J
R 3176(B,52 ,103)		RS1/16S222J
R 3177(A,48 ,114)		RD1/4PU220J
R 3178(A,12 ,121)		RD1/4PU220J
R 3181(B,64 ,133)		RS1/16S821J
R 3182(B,61 ,145)		RS1/16S473J
R 3184(B,70 ,150)		RS1/16S562J
R 3186(B,75 ,138)		RS1/16S124J
R 3187(B,73 ,138)		RS1/16S222J
R 3205(B,72 ,146)		RS1/16S220J
R 3206(A,61 ,137)		RD1/4PU220J
R 3207(B,33 ,116)		RS1/16S220J
R 3208(A,38 ,103)		RD1/4PU220J
R 3241(B,17 ,132)		RS1/16S682J
R 3242(B,17 ,148)		RS1/16S682J
R 3255(B,48 ,94)		RS1/16S223J
R 3256(B,47 ,111)		RS1/16S223J
R 3265(B,68 ,133)		RS1/16S103J
R 3313(B,59 ,39)		RS1/16S0R0J
R 3314(B,65 ,49)		RS1/16S0R0J
R 3318(B,63 ,49)		RS1/16S0R0J
R 3340(B,68 ,150)		RS1/16S0R0J
R 3345(B,29 ,116)		RS1/16S0R0J
R 3354(B,23 ,106)		RS1/16S0R0J
R 3361(A,90 ,183)	CARBON FILM RESISTOR	RD1/2PMF101J
R 3362(A,109 ,183)	CARBON FILM RESISTOR	RD1/2PMF101J
R 3363(B,98 ,196)		RS1/16S4R7J
R 3364(B,114 ,197)		RS1/16S4R7J
R 3365(B,94 ,205)		RS1/10S220J

Mark No.	Description	Part No.
R 3366(B,101 ,211)		RS1/10S220J
R 3367(B,97 ,205)		RS1/10S220J
R 3368(B,103 ,212)		RS1/10S220J
R 3461(A,26 ,199)	CARBON FILM RESISTOR	RD1/2PMF101J
R 3462(A,18 ,201)	CARBON FILM RESISTOR	RD1/2PMF101J
R 3463(B,23 ,214)		RS1/16S4R7J
R 3464(B,44 ,197)		RS1/16S4R7J
R 3465(B,46 ,217)		RS1/10S220J
R 3466(B,53 ,202)		RS1/10S220J
R 3467(B,44 ,217)		RS1/10S220J
R 3468(B,56 ,204)		RS1/10S220J
R 3561(A,70 ,183)	CARBON FILM RESISTOR	RD1/2PMF101J
R 3562(B,62 ,197)		RS1/16S4R7J
R 3563(B,82 ,206)		RS1/16S4R7J
R 3565(B,78 ,210)		RS1/10S220J
R 3566(B,80 ,210)		RS1/10S220J
R 3601(B,102 ,182)		RS1/16S182J
R 3602(B,120 ,182)		RS1/16S182J
R 3603(B,106 ,186)		RS1/16S333J
R 3604(B,118 ,182)		RS1/16S333J
R 3605(B,90 ,188)		RS1/16S273J
R 3606(B,114 ,189)		RS1/16S273J
R 3607(A,89 ,180)	RESISTOR (0.1OHM,2W)	ACN7112
R 3608(A,109 ,180)	RESISTOR (0.1OHM,2W)	ACN7112
R 3611(B,10 ,198)		RS1/16S182J
R 3612(B,30 ,199)		RS1/16S182J
R 3613(B,21 ,203)		RS1/16S333J
R 3614(B,32 ,199)		RS1/16S333J
R 3615(B,13 ,207)		RS1/16S273J
R 3616(B,26 ,204)		RS1/16S273J
R 3617(A,7 ,199)	RESISTOR (0.1OHM,2W)	ACN7112
R 3618(A,17 ,194)	RESISTOR (0.1OHM,2W)	ACN7112
R 3621(B,82 ,181)		RS1/16S182J
R 3622(B,61 ,181)		RS1/16S182J
R 3623(B,85 ,185)		RS1/16S333J
R 3624(B,67 ,184)		RS1/16S333J
R 3625(B,76 ,189)		RS1/16S273J
R 3626(B,51 ,188)		RS1/16S273J
R 3627(A,70 ,180)	RESISTOR (0.1OHM,2W)	ACN7112
R 3628(A,50 ,180)	RESISTOR (0.1OHM,2W)	ACN7112
R 3631(A,42 ,163)		RD1/4PU223J
R 3632(A,39 ,163)		RD1/4PU223J
R 3633(A,30 ,182)		RD1/4PU682J
R 3634(A,33 ,182)		RD1/4PU272J
R 3635(A,50 ,172)		RD1/4PU332J
R 3638(B,14 ,176)		RS1/16S103J
R 3639(B,24 ,176)		RS1/16S273J
R 3661(A,51 ,183)	CARBON FILM RESISTOR	RD1/2PMF101J
R 3665(B,72 ,205)		RS1/10S220J
R 3667(B,70 ,205)		RS1/10S220J
R 3668(A,7 ,192)		RD1/4PU223J
R 3669(B,8 ,184)		RS1/16S223J
R 3901(A,75 ,27)		RD1/4PU330J
R 3902(A,78 ,8)		RD1/4PU330J
R 3905(B,67 ,26)		RS1/16S222J
R 3906(B,67 ,14)		RS1/16S222J
R 3910(B,71 ,9)		RS1/16S473J
R 3911(A,72 ,27)		RD1/4PU330J
R 3912(A,74 ,8)		RD1/4PU330J
R 3916(B,17 ,12)		RS1/16S153J

Mark	No.	Description	Part No.
	R 3917	(B,65 ,26)	RS1/16S222J
	R 3918	(B,65 ,14)	RS1/16S222J
	R 3921	(B,26 ,12)	RS1/16S393J
	R 3922	(B,41 ,13)	RS1/16S393J
	R 3923	(B,45 ,25)	RS1/16S122J
	R 3924	(B,44 ,8)	RS1/16S122J
	R 3925	(B,51 ,25)	RS1/16S393J
	R 3926	(B,50 ,8)	RS1/16S393J
	R 3927	(B,56 ,8)	RS1/16S470J
	R 3928	(B,29 ,19)	RS1/16S470J
	R 3929	(B,57 ,20)	RS1/16S104J
	R 3930	(B,57 ,16)	RS1/16S104J
	R 3933	(B,58 ,8)	RS1/16S470J
	R 3934	(B,31 ,19)	RS1/16S470J
	R 3935	(B,63 ,26)	RS1/16S0R0J
	R 3936	(B,69 ,9)	RS1/16S0R0J
	R 3943	(B,19 ,12)	RS1/16S102J
	R 3944	(B,19 ,16)	RS1/16S102J

CAPACITORS

Mark	No.		Description	Part No.
⚠	C 1	(A,234 ,205)	FILM CAPACITOR	ACE7013
⚠	C 3	(A,250 ,155)	FILM CAPACITOR	ACE7013
	C 11	(A,180 ,37)	ELECT. CAPACITOR	XCH3024
	C 12	(A,156 ,38)	ELECT. CAPACITOR	XCH3024
	C 21	(A,109 ,52)	ELECT. CAPACITOR	XCH3023
	C 22	(A,109 ,73)	ELECT. CAPACITOR	XCH3023
	C 41	(A,134 ,71)	ELECT. CAPACITOR	CEAT682M25
	C 82	(A,221 ,22)	ELECT. CAPACITOR	CEAT102M25
	C 83	(A,196 ,11)		CEAT1R0M50
	C 84	(A,213 ,11)		CEAT100M50
	C 85	(B,194 ,10)		CKSRYB103K50
	C 3095	(A,25 ,86)		CEAT100M50
	C 3096	(A,24 ,78)		CEAT100M50
	C 3113	(A,75 ,65)		CEAT221M10
	C 3114	(A,75 ,57)		CEAT221M10
	C 3115	(B,74 ,68)		CKSRYB104K16
	C 3116	(B,43 ,58)		CKSRYB104K16
	C 3121	(B,51 ,71)		CKSRYB104K16
	C 3122	(B,49 ,71)		CKSRYB104K16
	C 3123	(B,45 ,71)		CKSRYB104K16
	C 3124	(B,43 ,71)		CKSRYB104K16
	C 3125	(B,42 ,67)		CKSRYB472K50
	C 3126	(B,44 ,67)		CKSRYB472K50
	C 3131	(B,65 ,73)		CCSRCH101J50
	C 3132	(B,63 ,73)		CCSRCH101J50
	C 3138	(B,29 ,100)		CCSRCH471J50
	C 3147	(B,35 ,142)		CKSRYB103K50
	C 3148	(B,23 ,139)		CKSRYB103K50
	C 3149	(A,44 ,152)		CEAT470M16
	C 3150	(A,9 ,141)		CEAT470M16
	C 3159	(B,67 ,104)		CKSRYB104K16
	C 3160	(B,54 ,99)		CKSRYB104K16
	C 3168	(B,55 ,150)		CCSRCH470J50
	C 3169	(B,61 ,141)		CKSRYB104K16
	C 3170	(B,73 ,142)		CKSRYB104K16
	C 3171	(B,35 ,112)		CKSRYB103K50
	C 3172	(B,35 ,109)		CKSRYB103K50
	C 3173	(A,32 ,37)		CEAT100M50
	C 3174	(A,25 ,37)		CEAT100M50
	C 3176	(B,57 ,153)		CKSRYB822K50
	C 3177	(B,59 ,153)		CKSRYB223K25
	C 3179	(B,63 ,150)		CKSRYB224K16
	C 3180	(B,59 ,150)		CKSRYB104K16
	C 3181	(B,57 ,150)	CHIP CAPACITOR	CKSRYB823K25
	C 3182	(B,21 ,106)		CKSRYB104K16
	C 3185	(B,15 ,106)		CKSRYB273K16
	C 3189	(A,39 ,136)		CEAT100M50
	C 3190	(A,39 ,143)		CEAT100M50
	C 3223	(B,46 ,99)		CKSRYB153K50
	C 3224	(B,46 ,103)		CKSRYB153K50
	C 3235	(B,15 ,139)		CKSRYB333K50
	C 3236	(B,17 ,143)		CKSRYB333K50
	C 3255	(B,25 ,132)		CKSRYB822K50
	C 3256	(B,25 ,148)		CKSRYB822K50
	C 3267	(B,58 ,94)		CKSRYB332K50
	C 3268	(B,55 ,111)		CKSRYB332K50
	C 3279	(B,57 ,141)		CKSRYB104K16
	C 3283	(B,60 ,133)		CKSRYB682K50
	C 3361	(B,100 ,196)		CKSRYB223K25
	C 3362	(B,112 ,197)		CKSRYB223K25
	C 3363	(B,96 ,196)		CKSRYB223K25
	C 3364	(B,112 ,201)		CKSRYB223K25
	C 3365	(B,96 ,209)		CKSRYB473K25
	C 3366	(B,106 ,211)		CKSRYB473K25
	C 3367	(B,96 ,213)		CKSRYB473K25
	C 3368	(B,109 ,212)		CKSRYB473K25
	C 3369	(B,92 ,221)	CHIP CAPACITOR	XCG3008
	C 3370	(B,101 ,221)	CHIP CAPACITOR	XCG3008
	C 3461	(B,21 ,214)		CKSRYB223K25
	C 3462	(B,42 ,197)		CKSRYB223K25
	C 3463	(B,25 ,214)		CKSRYB223K25
	C 3464	(B,46 ,197)		CKSRYB223K25
	C 3465	(B,42 ,217)		CKSRYB473K25
	C 3466	(B,58 ,206)		CKSRYB473K25
	C 3467	(B,40 ,217)		CKSRYB473K25
	C 3468	(B,56 ,208)		CKSRYB473K25
	C 3469	(B,51 ,221)	CHIP CAPACITOR	XCG3008
	C 3470	(B,60 ,221)	CHIP CAPACITOR	XCG3008
	C 3561	(B,80 ,206)		CKSRYB223K25
	C 3562	(B,60 ,197)		CKSRYB223K25
	C 3563	(B,85 ,206)		CKSRYB223K25
	C 3564	(B,64 ,197)		CKSRYB223K25
	C 3565	(B,83 ,210)		CKSRYB473K25
	C 3567	(B,85 ,210)		CKSRYB473K25
	C 3569	(B,78 ,220)	CHIP CAPACITOR	XCG3008
	C 3631	(A,34 ,185)	ELECT. CAPACITOR	CEAT2R2M2A
	C 3632	(A,17 ,180)	ELECT. CAPACITOR	CEAT471M6R3
	C 3633	(A,25 ,181)		CEAT100M50
	C 3665	(B,68 ,205)		CKSRYB473K25
	C 3667	(B,67 ,208)		CKSRYB473K25
	C 3668	(B,10 ,184)		CKSRYB103K50
	C 3669	(B,72 ,221)	CHIP CAPACITOR	XCG3008
	C 3901	(B,72 ,17)		CKSRYB102K50
	C 3902	(B,80 ,18)		CKSRYB102K50
	C 3906	(A,21 ,8)		CEAT100M50
	C 3909	(B,47 ,25)		CCSRCH470J50
	C 3910	(B,46 ,8)		CCSRCH470J50
	C 3911	(A,36 ,22)		CEAT470M16
	C 3912	(A,34 ,8)		CEAT470M16
	C 3913	(B,49 ,25)		CCSRCH101J50

Mark No.	Description	Part No.
C 3914(B,48 ,8)		CCSRCH101J50
C 3915(B,54 ,16)		CKSRYB104K16
C 3916(B,41 ,20)		CKSRYB104K16
C 3917(A,36 ,15)		CEAT100M50
C 3918(A,28 ,15)		CEAT100M50
C 3923(A,82 ,92)		CEAT100M50
C 3924(A,75 ,92)		CEAT100M50
C 3925(A,64 ,10)	ELECT. CAPACITOR	CEANP470M16
C 3926(A,57 ,25)	ELECT. CAPACITOR	CEANP470M16
C 3954(A,132 ,143)		CEAT470M16
C 9011(A,177 ,66)	MYLAR FILM CAPACITOR	CQMA103K2E
C 9021(A,165 ,71)	MYLAR FILM CAPACITOR	CQMA473K2E
C 9041(A,146 ,70)	MYLAR FILM CAPACITOR	CQMA103K2E

K TRADE ASSY

MISCELLANEOUS

J 3032(A,290 ,48)	JUMPER WIRE 13P	D20PYY1315E
J 3033(A,290 ,13)	JUMPER WIRE	D20PYY1415E
CN3021(A,262 ,91)	23P SOCKET	XKP3082
CN3022(A,262 ,51)	23P SOCKET	XKP3082
CN3031(A,287 ,100)	CONNECTOR	52045-1745
	13P CABLE HOLDER	51048-1300

6. ADJUSTMENT

6.1 DECK SECTION

6.1.1 ADJUSTMENT CONDITION

■ 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
NCT-112 : For Playback adjustment
STD–633 : Normal blank tape

* As the reference recording level is 250 nwb/m for NCT–112, the recording level will be higher than 4 dB for NCT–112 (160nwb/m). When adjusting, pay carefully attention to the type of tape used.

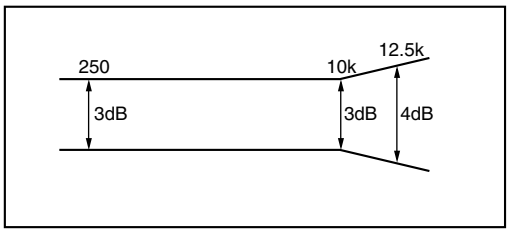
(5) Provide yourself with the following measuring devides:
● AC millivoltmeter
● Low-frequency oscillator
● Attenuator
● Oscilloscope
(6) Adjust both right and left channels unless other wise specified.
(7) Turn the DOLBY NR switch off unless otherwize specified.
(8) Warm up the unit for several minutes 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

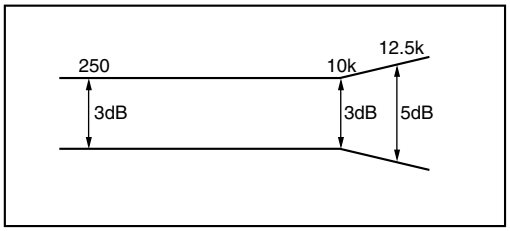


Fig. 6-1 Frequency Characteristics

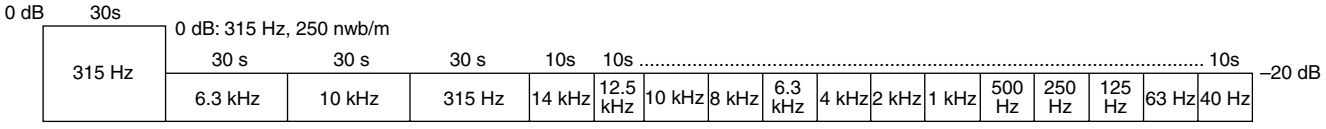


Fig. 6-2 Test Tape NCT– 112

6.1.2 PLAYBACK and RECORDING SECTION

■ 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)	ADJ. VR on CASSETTE MECHA (Refer to Fig. 6-3)	P1 R(CN2507) (IFAF ASSY)	3000 Hz $^{+10}_{-10}$ Hz	FWD adjustment REV Confirmation (3000 Hz $^{+40}_{-40}$ 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	NCT-110 test tape (Playback: 10 kHz, –20 dB)	Head azimuth adjustment Screw (Refer to Fig. 6-3)	P3 L (CN2507) P1 R (CN2507) (IFAF 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	NCT-112 test tape (Playback: 315 Hz, 4 dB)	L ch	VR2301	P3 L (CN2507) P1 R (CN2507) (IFAF ASSY)	–3.7 dBV	
			R ch	VR2302			

■ 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.

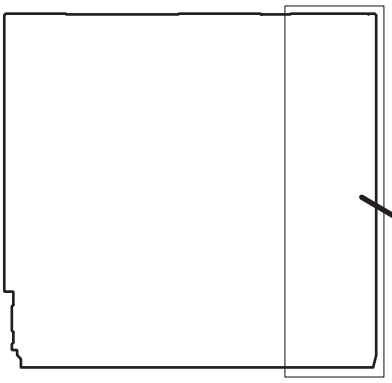
No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the LINE - IN terminal. *	Input signal level		P3 L (CN2507) P1 R (CN2507) (IFAF ASSY)	–23.7 dBV	
2	REC → PLAY	Load the STD–633 test tape and record/playback the 315Hz and 10kHz signals. (see the Note below)	L ch	VR2801		Repeat adjustment until playback level of the 10kHz signal is within 0dBV ±0.5dB from that of the 315Hz signal.	
			R ch	VR2802			

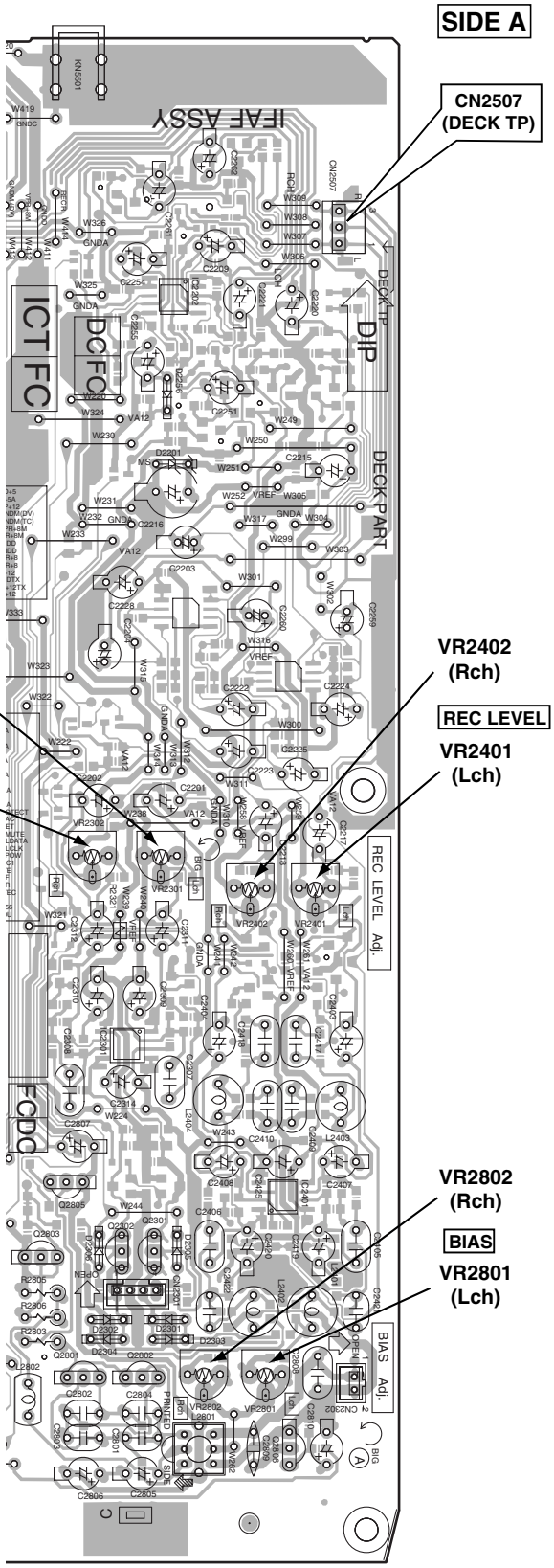
Note: Set the 10kHz input signal level to the same value as the 315Hz input signal level of step 1.

(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		P3 L (CN2507) P1 R (CN2507) (IFAF ASSY)	–7.7 dBV	
2	REC → PLAY	STD–633 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			

● **IFAF ASSY** **C**





● **MECHANISM UNIT**

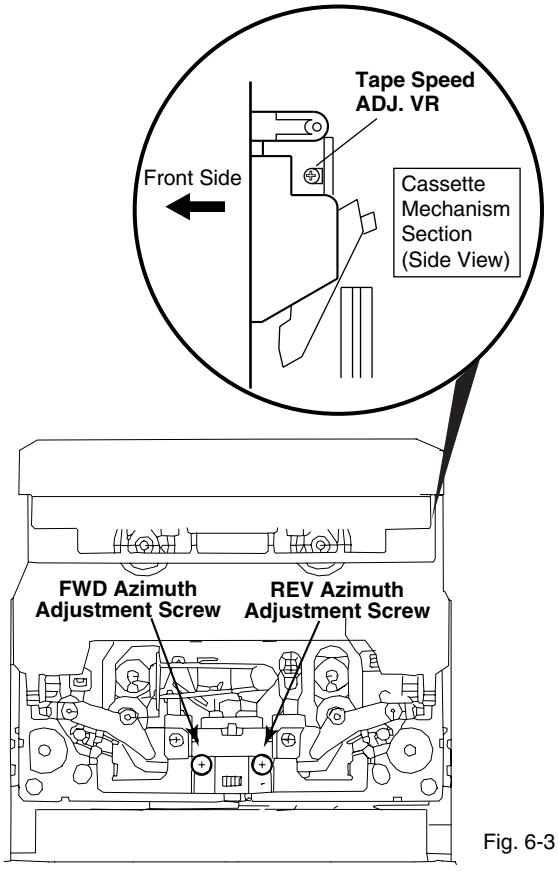


Fig. 6-3 Adjustment and Measurement Points

6.2 DVD SECTION

6.2.1 ADJUSTMENT ITEMS AND LOCATION

■ Adjustment Items

[Mechanism Part]

❶ Tangential and Radial Height Coarse Adjustment

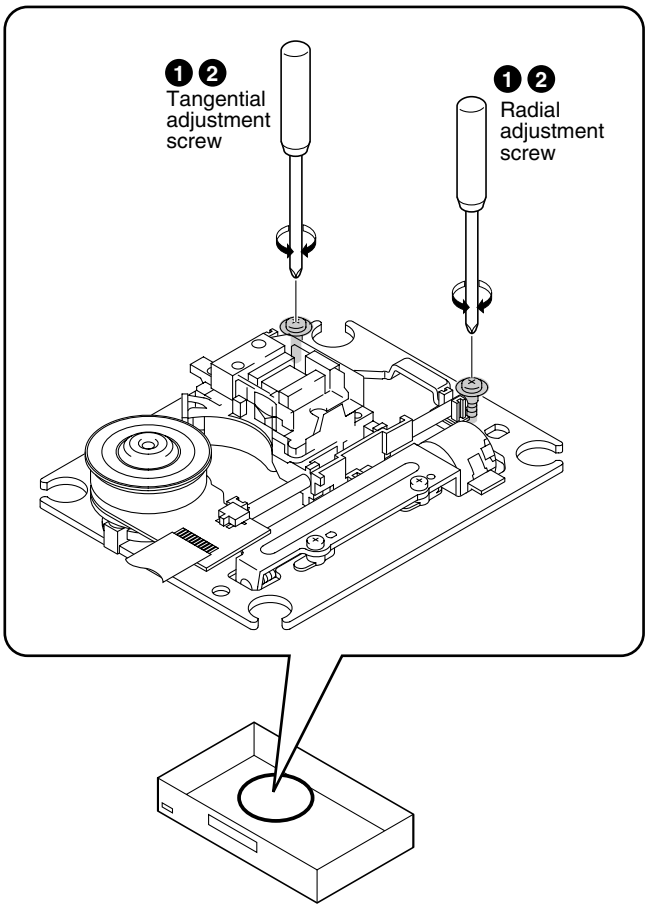
❷ DVD Error Rate Adjustment

[Electrical Part]

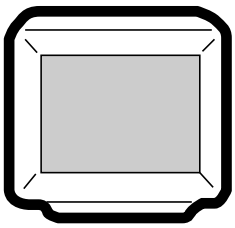
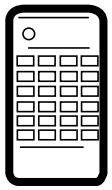
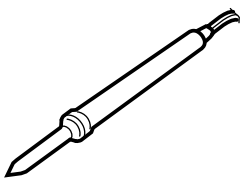
Electrical adjustments are not required.

■ Adjustment Points (Mechanism Part)

Cautions: After adjustment, adjustment screw locks with the Screw tight.



6.2.2 JIGS AND MEASURING INSTRUMENTS

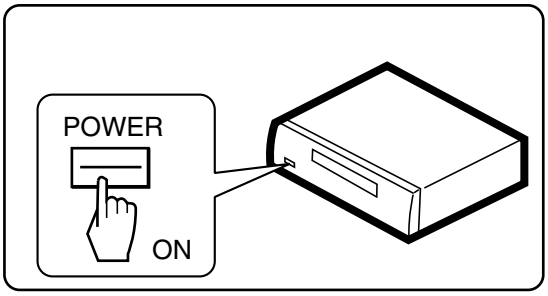
 ⊕ Screwdriver (large)	 ⊕ Screwdriver (medium)	 TV monitor	 Test mode remote control unit (GGF1381)
 ⊕ Precise screwdriver	 DVD test disc (GGV1025)	 Soldering iron	Screw tight (GYL1001)

6.2.3 NECESSARY ADJUSTMENT POINTS

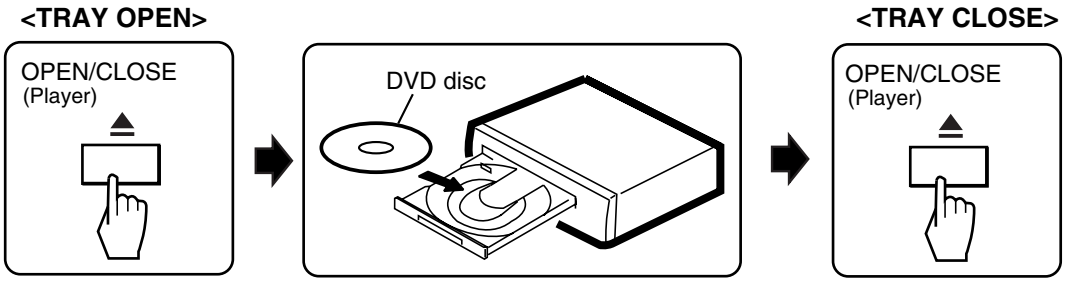
When	Adjustment Points		
■ Exchange Parts of Mechanism			
Exchange the 05SD Pickup Assy	Mechanical point	❶, ❷	＊ After adjustment, screw locks with the Screw tight.
	Electric point	———	
Exchange the Traverse Mechanism Assy-S	Mechanical point	———	
	Electric point	———	
Exchange the Spindle Motor	Mechanical point	❷	＊ After adjustment, screw locks with the Screw tight.
	Electric point	———	
■ Exchange PCB Assy			
Exchange PC Board LOAB and DVDM ASSYS	Mechanical point	———	
	Electric point	———	

6.2.4 TEST MODE

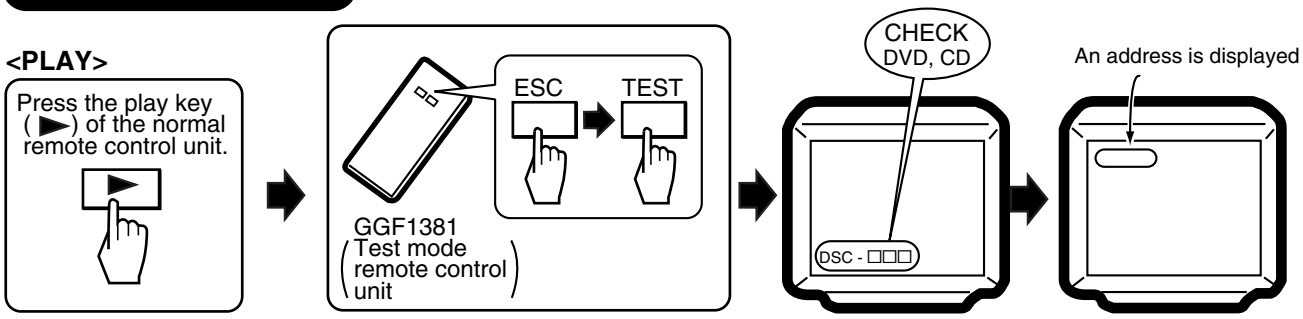
POWER ON



DISC SET

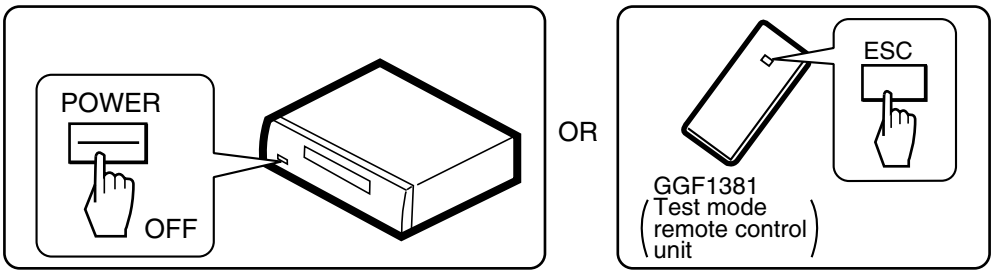


TEST MODE: PLAY



Notes:
- After going into test mode, if you play back the disc, "DISC-NON" is displayed.
- The video signal and the audio signal are outputted during the test mode.
- The SKIP key and the SCAN key are effective during the test mode.

TEST MODE: OFF



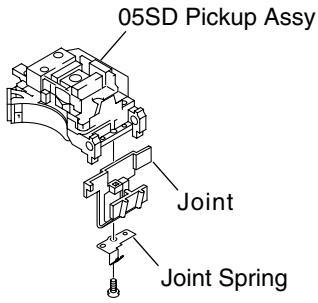
6.2.5 MECHANISM ADJUSTMENT

1 Tangential and Radial Height Coarse Adjustment

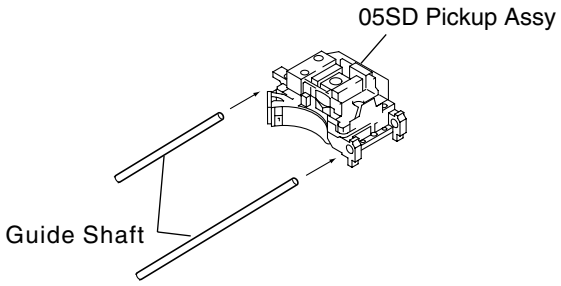
START

- Remove the 05SD Pickup Assy from the Traverse Mechanism Assy-S.
- Remove the joint and the joint spring of the 05SD Pickup Assy.

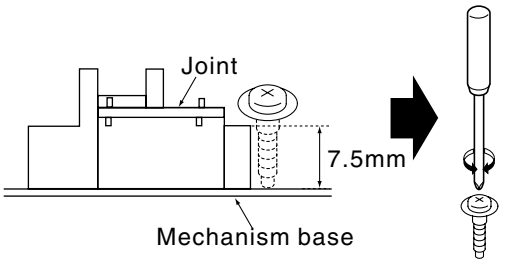
Note:
Before removing the flexible cable for the pickup, soldering of the pickup circuit is necessary.
For details, see "7.1.11 DISASSEMBLY".



- Pass through the guide shaft to a new 05SD Pickup Assy.
- Attach it to the Traverse Mechanism Assy-S.



- Put the joint between the Tangential (or Radial) adjustment screw and the mechanism base and turn each screw to adjust the height.
(Refer to "6.2.1 ADJUSTMENT ITEMS AND LOCATION".)



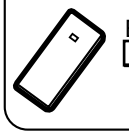
- Attach the Traverse Mechanism Assy-S to the 05 LOADER Assy.
- Turn it over and attach the joint and the joint spring.
- Arrange the flexible cables.
(Refer to "7.1.11 DISASSEMBLY".)

2 DVD Error Rate Adjustment

Notes:
• Use disc: GGV1025

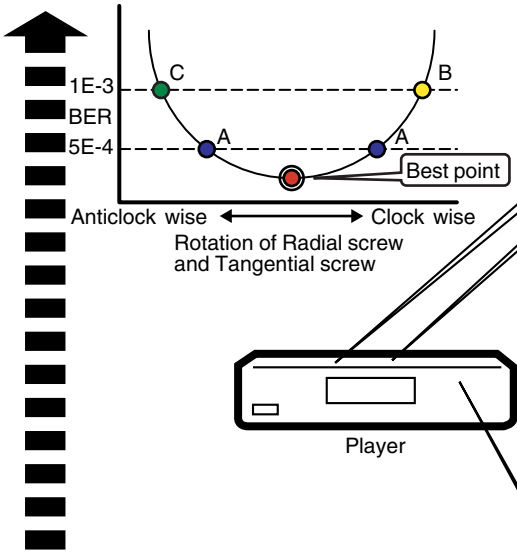
START

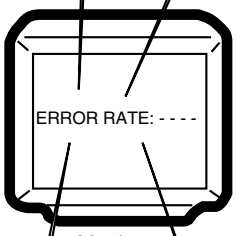
• Play the DVD test disc at inner track
• Display ERROR RATE on the monitor



Traverse Mechanism Assy-S
Adjust the radial adjustment screw so that ERROR RATE becomes around "5E-4". A

ERROR RATE : "5E-4"





Turn the POWER OFF in case of NG once, and perform the adjustment once again.

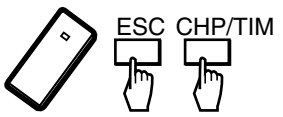
If error rate is OK, locks a root of tangential and radial adjustment screws with the Screw tight.
Screw tight: GYL1001

NG

OK

CHECK
In this check, the error rate that is less than "5E-5"is better.

Disc playback normally.
• The measurement of block error rate



• Unfasten the tangential screw by 90 degrees step till ERROR RATE becomes around "1E-3" again . C
• Record the number of rotation (N1).

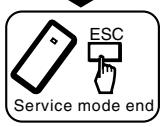
• Fasten the tangential adjustment screw till the number of rotation becomes harf of N1. Best tangential point

Traverse Mechanism Assy-S
Fasten the tangential adjustment screw so that ERROR RATE becomes around "1E-3". B

ERROR RATE : "1E-3"

• Play the DVD test disc at outer track (around #200000)

➡ Service mode



• Unfasten the radial adjustment screw by 90 degrees step till ERROR RATE becomes around "1E-3" again . C
• Record the number of rotation (N1).
(memorizing how much the screw was rotated.)

• Fasten the radial adjustment screw till the number of rotation becomes harf of N1. Best Radial point

Traverse Mechanism Assy-S
Fasten the radial adjustment screw so that ERROR RATE becomes around "1E-3". B

ERROR RATE : "1E-3"

• Play the DVD test disc at inner track (around #30000)

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

■ Test Mode Functional Specification

① Test mode entry

In the power ON state, press the [ESC] (A8-5F) key and [TEST] (A8-5E) key in order of the Test mode remote control unit.

• OSD displays test mode.

② LD ON

Enter the test mode.

DVD : Press the [TEST] (A8-5E) and [1] (A8-01) keys in order, and turn on the laser diode (650n).

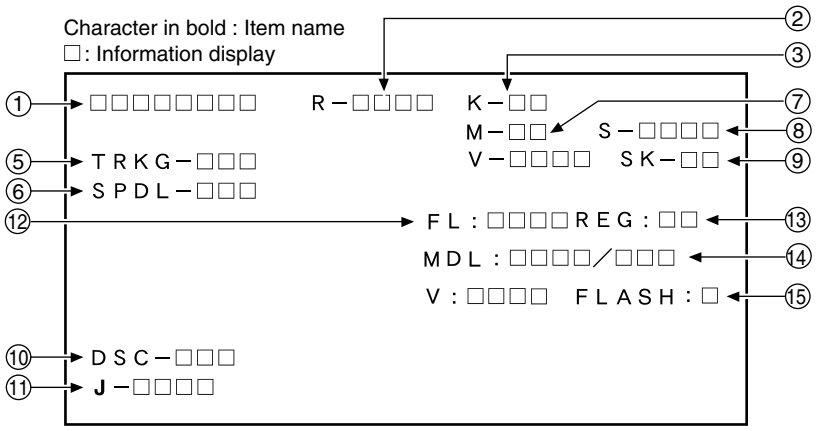
CD : Press the [TEST] (A8-5E) and [4] (A8-04) keys in order, and turn on the laser diode (780n).

③ Release the Test mode

• Turn off the power.

• Press the [ESC] (A8-5F) key of the remote control unit and reset it.

7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE



① **Address indication**
The address being traced is displayed in number.
(as for the DVD, indication of decimal number is possible.)
DVD : ID indication (hexadecimal number, 8 digits)
[＊＊＊＊＊＊＊＊]
CD : ID indication [＊＊＊＊＊＊＊＊]

② **Code indication of remote control unit [R – ＊＊＊＊]**
In case of double code, display a 2nd code.

③ **Main unit keycode indication [K – ＊＊]**

⑤ **Tracking status [TRKG – ＊＊＊]**
Tracking on : [ON]
Tracking off : [OFF]

⑥ **Spindle status [SPDL – ＊＊＊]**
CLV : [CLV]
Off : [OFF]

⑦ **Mechanism (loading) position value [M – ＊＊]**
Unknown : [01] or [41]
Open state : [04]
Close state : [08]
During opening : [12]
During closing : [22]

⑧ **Slider position [S – ＊＊＊＊]**
In Side Switch ON : [01]
In Side Switch OFF : [00]

⑨ **Output video system [V – ＊＊＊＊]**
NTSC system : [NTSC]
PAL system : [PAL]
Automatic setting : [AUTO]

Scart terminal output [SK – ＊＊]
(Display only the WY model which can do the output setting of scart terminal.)
VIDEO : [00]
S-VIDEO : [01]
RGB : [02]

⑩ **Disc sensing [DSC – ＊＊＊]**
The type of discs loaded is displayed.
[DVD], [CD]

⑪ **Jitter value [J – ＊＊＊＊]**
Note: Don't use it.

⑫ **Version of the FL controller [FL: ＊＊＊＊]**
Note: Don't use it.

⑬ **Region setting of the player [REG: ＊]**
Setting value : [1] to [6]

⑭ **Destination setting of the FL controller [MDL: ＊＊＊＊ / ＊＊＊]**
Four characters in the front represent code 01.
Three characters in the back represent the destination code.
J: /J, K: /KU, /KC, /KU/KC, R: /RL/RD, RAM : /RAM, LB: /LB, WY: /WY

⑮ **Version of the flash ROM [V: ＊＊. ＊＊]**
Flash ROM size [FLASH = ＊＊]

7.1.3 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY

Only during normal playback, the following shortcut keys can be assigned by pressing a required key after pressing the ESC key of the remote control unit. To quit, press the ESC key

Command Contents	Conditions	Remote Control Key Name	Remote Control Code
Memory clear and region / revision indication		CLEAR (∗1)	A8-45
Average value measurement of DVD error rate		5 (∗1)	A8-05
CD error rate measurement		5 (∗1)	A8-05
Scart terminal output : VIDEO	WY, models equipped with Scart terminal	AUDIO	A3-BE
Scart terminal output : S-VIDEO		SUBTITLE	A3-36
Scart terminal output : RGB		ANGLE	A3-B5
Progressive OFF	Only for progressive models	R_SKIP	A3-9D
Progressive ON		F_SKIP	A3-9C
FL indication of ID number		STEREO (∗1)	A8-4A
ZOOM ON (×4)		ZOOM	A3-37
Service mode indication (error rate indication, etc.)		CHP/TIM (∗1)	A8-13
Model information indication		CHAP (∗1)	A8-40
Title search Input mode IN Title No. input Search execution		SIDE A (∗1) Numbers (∗1) PLAY (∗1)	A8-4D A8-00 to A8-09 A8-17
Region confimation mode		A.MON (∗1) Numbers (∗1)	A8-1E A8-01 to A8-08

∗1 : Test mode remote control unit

• Service mode indication (ESC + CHP/TIM keys)
ID Address
The error rate is always displayed in exponential notation, e.g., ∗.∗ ∗ e - ∗, for both DVDs and CDs.
EDC/ID/AV 1 error history (ID Address, EDC/ID Error, last eight errors)

• Calculation of the average error rate (ESC + "5" [Test mode remote control unit] keys)
The average of the last eight error rates is calculated and indicated in exponential notation. After the calculation is completed, "OK" or "NG" is displayed. If "NG" is displayed, the disc tray will open (for both DVDs and CDs)
For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

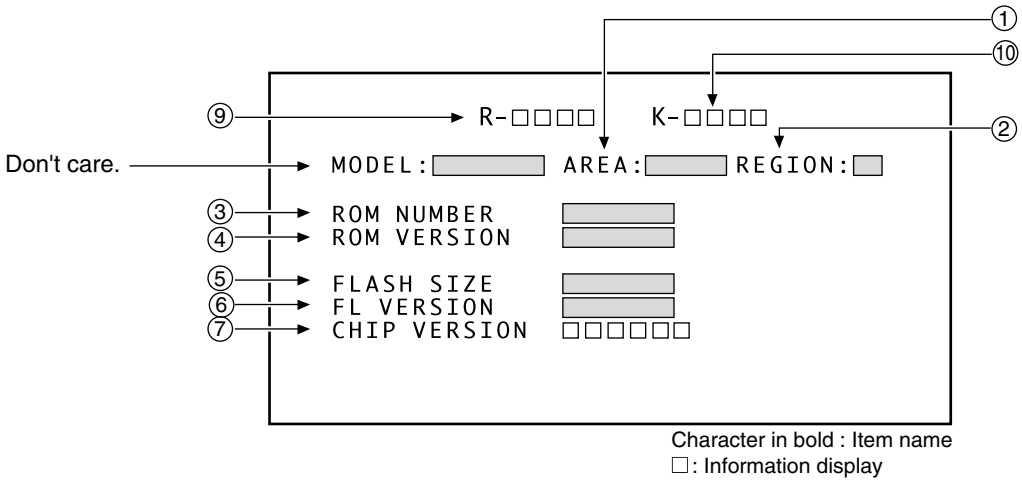
• Indication of model information (ESC + CHAP keys)
The items from 12 to 15 of the TEST MODE Indications are displayed. However, in the indications, S in the standard test mode is changed to CHIP VERSION, and M is changed to RF VERSION. For details, see 7.1.4.

• Region confirmation mode (ESC + A.MON [Test mode remote control unit] + "1"-"8" [Test mode remote control unit] keys)
After you press the AUDIO key while holding the ESC key pressed and then input the region number, if the number is different from that set in the unit, an error message is displayed, and the tray opens.

7.1.4 SPECIFICATION OF MODEL INFORMATION DISPLAY

To display model information : Press the ESC key then the CHAP key.
To close the model information display : Press the ESC key.

• Display contents



① **Destination indication**
Display it according to model information set from the FL controller.
② **Region No.**
③ **Part number**
④ **ROM version**
⑤ **Flash size**

⑥ **FL controller version**
⑦ **CHIP VERSION**

⑨ **Remote control code**
⑩ **Key code of Main unit**

7.1.5 FUNCTIONAL SPECIFICATION OF THE SERVICE MODE

• Display during Service Mode

To enter Service Mode, press the CHP/TIM key while holding the ESC key pressed.
To quit, press the ESC key.

Service mode display

① ID Address

② Error rate (always displayed), in exponential notation

ERROR RATE : * * * * * * *
(* * * *)
↑
Number of error

• Calculation of the average error rate
For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

ex) For DVDs

• Step 1		• Step 2	
△△e -□		△△e -4	
△△e -6	: OK	3.0e -4	: OK
△△e -5	: OK	4.0e -4	: OK
△△e -4	: Refer to Step 2	5.0e -4	: OK
△△e -3	: NG	6.0e -4	: NG
△△e -2	: NG	7.0e -4	: NG

③ EDC/ID error history (ID Address, EDC/ID errors, last eight errors)

Note:
* Error of AV1 is not supported in this player.

Indication plan contents

Character in bold : Item name
□: Information display

7.1.6 SERVICE TEST MODE

1. Specific conditions for Service Test mode

- VDET is neglected.
- XPROTECT is neglected.
- Even if the unit is urgently shut down in failure in Normal mode, you can turn it on without waiting for one minute.

2. How to enter Service Test mode

- While connecting STEST port (IC5501 Pin43) to "+5V", connect AC power cord. (See next page.)

3. How to quit Service Test mode, and the conditions for quitting

- To quit Service Test mode, turn the power off or disconnect the AC power cord.
- When quitting Service Test mode, only data on protection in RAM are cleared.

4. Indications when Service Test mode starts

- Indications on the FL display when Service Test mode starts differ depending on whether the unit was turned off normally or if the unit was urgently shut down because the abnormality of the power, as described below.

[After the power is turned off normally]

FL display `WELCOME!` ⇩
FL display `VOL 0` ⇩
FL display `DV SVC`

[After the power is shut down because of a failure in the AMP system]

FL display `PRT ERR` ⇩
FL display `VOL 0` ⇩
FL display `DV SVC`

[After the power is shut down because of an abnormality in the AMP system]

FL display `PRT WNG` ⇩
FL display `VOL 0` ⇩
FL display `DV SVC`

[After the power is shut down because of a failure in the DVD system]

FL display `DVD PRT` ⇩
FL display `VOL 0` ⇩
FL display `DV SVC`

5. Operations during Service Test mode

- Basically, operations in Service Test mode are the same as in Normal mode. However, to clarify that it is in Service Test mode, during this mode, when functions are changed, the indications on the FL display become as follows:

[Functions]	[Indications on the FL display]
DVD/CD	`DV SVC`
TUNER	`TX SVC`
LINE1	`L1 SVC`
TAPE	`TC SVC`

6. DSP error message mode

[How to enter DSP error message mode]

- Press "DISPLAY" button of the accessory remote control(*) in service test mode, to select the mode that DSP error message are displayed.

[How to quit DSP error message mode]

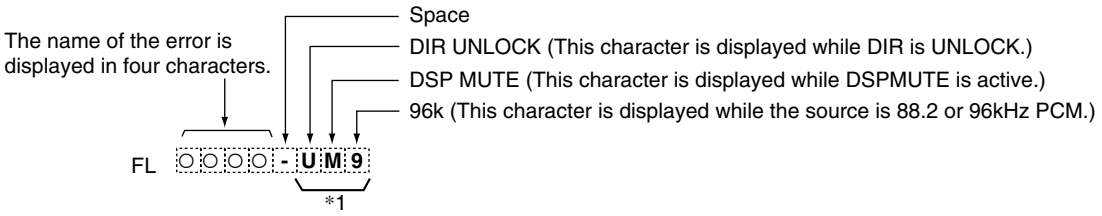
- Press "DISPLAY" button of the accessory remote control(*) again to select normal service test mode.

For this reason, the usual function of "display" is not effective during Service Test mode.

- DVD total running time/remaining time display is inactive.
- OSD changing on TV is also inactive.

(*) : The alternative control is "DISPLAY" button of the accessory remote control of Pioneer Home Theater System or "SYSTEM DISPLAY" button of Pioneer mini Component System.

■ Specification of DSP error display



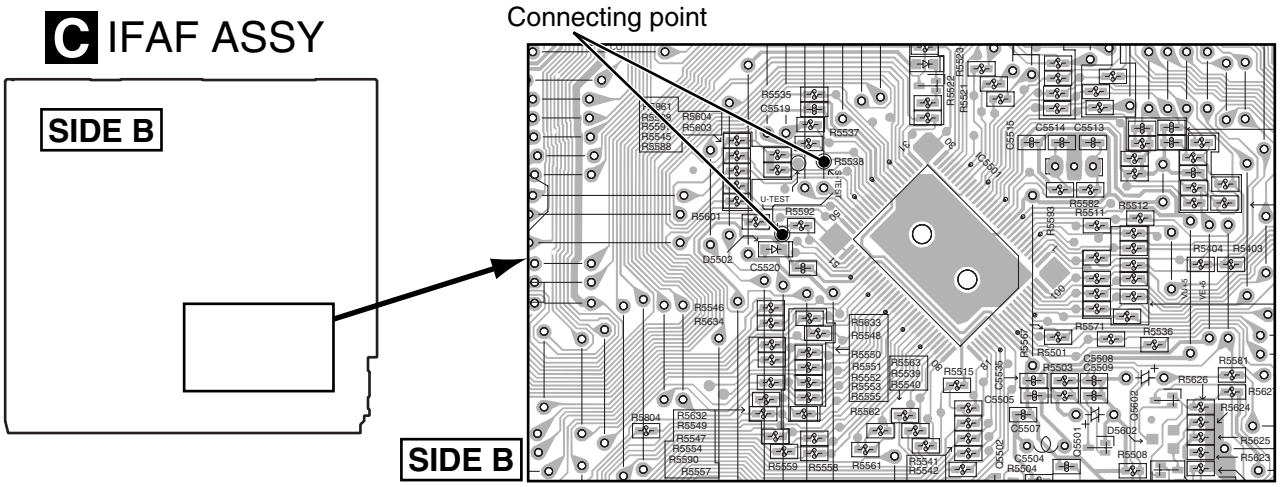
*1 : The "U", "M" and "9" are not displayed synchronizing with the display "ERR_0" - "ERR_4" ("DIRERR",etc), but it depends on the state each time.
The following example display of "ERR_0" - "ERR_4" is just a sample.

■ Example of DSP error display

[Error]	[Indications on the FL display] (1 2 3 4 5 6 7 8)
ERR. 0	D I E R - U M
ERR. 1	D S E R - U M
ERR. 2	H R E Q - U M
ERR. 3	D S N G - U M
ERR. 4	D M U T - M
NO ERR (Source is 88.2/96kHz.)	D S O K - 9
NO ERR (Source is not 88.2/96kHz.)	D S O K -

Refer to "7.1.10 DSP TROUBLE SHOOTING".

■ Service Test mode connecting point



7.1.7 METHOD FOR DIAGNOSING DEGRADATION OF THE LDs ON THE PICKUP ASSY

Case when this diagnosis is required :
When playback of any disc, including a test disc (DVD: GGV1025, CD: STD-905), won't play or doesn't play

■ How to diagnose

In the case mentioned above, degradation of the laser diodes (LDs) mounted on the 05SD Pickup Assy is suspected. Measure the voltage between the two ends of one of the resistors mentioned below.

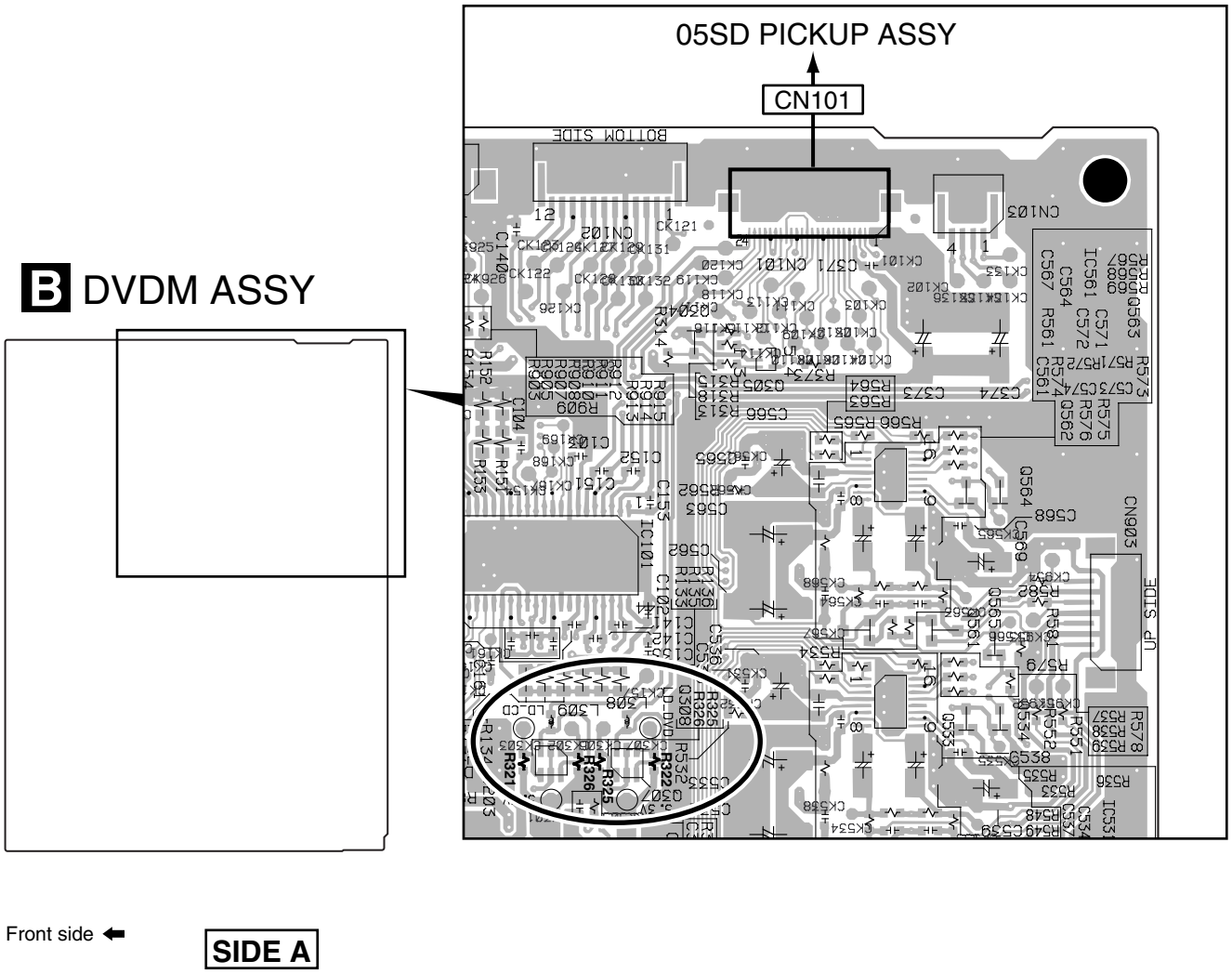
- **No playback of a DVD :**

  Measure the voltage between the both ends of R322 or R325 on the DVDM Assy. If the voltage is 0.4 V or higher, the 650-nm LD is degraded.

- **No playback of a CD :**

  Measure the voltage between the both ends of R321 or R326 on the DVDM Assy. If the voltage is 0.4 V or higher, the 780-nm LD is degraded.

If the measurements show degradation of an LD, replace the 05SD Pickup Assy.



7.1.8 DVD TROUBLE SHOOTING

No.	Symptoms	Diagnosis Contents	Possible Defective Points
1	The power is not turned on.	Are wires of output connector (POWER SUPPLY Unit) and CN901 (DVDM Assy) disconnected or damaged ?	Connector / cable
		Check that the following voltage is output : + side of C739 : 3.3V	**DVDM Assy** 3.3V Regulator IC (IC341)
2	An opening screen is not displayed on the monitor (The FL display lights. The mechanism does not work.)	Are the signals output from IC201-pin 98 (MDATA) and pin 99 (SCLK) on the DVDM Assy ? (in the range of 0-3V)	**DVDM Assy** DVD IC (IC201)
		Are the signals input into IC5501-pin 50 (MDATA) and pin 51 (SCLK) on the IFAF Assy ? (in the range of 0-3V)	**IFAF Assy** UCOM (IC5501)
		Check that the following voltage are output : IC751-pin 1 on the DVDM Assy : 5V	**DVDM Assy** 5V Regulator IC (IC751)
		Is a resonator (X201: 27MHz) on the DVDM Assy oscillating ?	**DVDM Assy** Crystal resonator (X201) DVD IC (IC201)
		• Is a signal input into IC203-pin26 (PCE#) on the DVDM Assy ? (Is a signal "H" for 80 mS and then "L" after the power is turned on ?) → Communication with flash ROM. • Are the signals input into IC202-pin 16 (DWE#), pin 19 (DCS#) and pin 38 (SDCLK) on the DVDM Assy ? (Is a signal fluctuating ?) → Communication with SDRAM	**DVDM Assy** DVD IC (IC201) Flash ROM (IC203) SDRAM (IC202)
		Is a signal output from IC203-pin 28 (PRD#) on the DVDM Assy? (Is a signal fluctuating for several hundred mS after the power is turned on ?)	**DVDM Assy** Flash ROM (IC203)
		Is a signal input into IC5501-pin 67 (DVD ACK) on the CONTROL Assy ? (Is a signal fluctuating ?) → Communication with FL Control IC	**DVDM Assy** DVD IC (IC201) **IFAF Assy** UCOM (IC5501)
		Is a signal output from IC5501-pin 30 (XREADY) on the CONTROL Assy ? (Is a signal fluctuating in the range of 0-5V ?)	**IFAF Assy** UCOM (IC5501)
		Are the signals output from IC5501-pin 49 (SDATA) on the CONTROL Assy ? (in the range of 0-5V)	**DVDM Assy** DVD IC (IC201) **IFAF Assy** UCOM (IC5501)
		Are the signals of IC204-pin 5(SDA) and pin 6(SCL) on the DVDM Assy fluctuating for one or two seconds after the power is turned ?	**DVDM Assy** EEPROM (IC204)
3	An opening screen is not displayed on the monitor (The FL display lights. The mechanism works.)	Check the video signal path between DVD IC (DVDM Assy IC201) and video-out terminal (see the block diagram)	**DVDM Assy** Video circuit after DVD IC (IC201)

No.	Symptoms	Diagnosis Contents	Possible Defective Points
4	A tray cannot be opened. (An opening screen is displayed on the monitor)	Does the voltage of CN104-pin 3 and pin 5 on the DVDM Assy change normally ? Pin 3 (SW2(TRIN)): Tray is fully closed: "L" Pin 5 (SW1(TROUT)): Tray is fully opened: "L"	**LOAB Assy** Tray SW (S101)
		Is the signal input into IC101-pin 11 (TROPEN) on the DVDM Assy ? At open: 3.3V, At close: 0V	**DVDM Assy** DVD IC (IC201)
		Are the signals output from IC101-pin 1 and pin 2 (CN103-pin 1 and pin 2) on the DVDM Assy ? Pin 2: Approx. 6V during opening tray approx. 0V during closing tray. Pin 1: Approx. 0V during opening tray approx. 6V during closing tray.	**DVDM Assy** FTS Driver IC (IC101)
		Are wires of CN104 and CN103 on the DVDM Assy disconnected or damaged ?	Connector / cable
		Does the voltage of CN102-pin 1 on the DVDM Assy change to 0V by pressing the Inside switch.	Inside switch
5	Playback impossible (no focusing)	Are the signals output from IC101-pin 3 (FOCS_DRV) and pin 4 (FOCS_RTN) on the DVDM Assy ?	**DVDM Assy** FTS Driver IC (IC101)
		Does 650-nm LD emit light ? Does a pickup lens move up / down ? Does an actuator spring bend ?	Pickup
		Are plastic parts damaged ? Or is a shaft detached ? Is the turntable detached or tilted ?	Mechanism section (motor)
		Is flexible cable of CN101 on the DVDM Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC201-pin 42 (FOSO) on the DVDM Assy ? (Device control of about 1.4 V is output usually. It is fluctuated by about ± 250 mV with focus up / down.)	**DVDM Assy** DVD IC (IC201)
6	Playback impossible (Spindle does not turn)	Are the signals output from IC101-pin 30 (W), pin 33 (V) and pin 35 (U) on the DVDM Assy ? Is pin 26 (STBY) fixed LOW ? (pin 26 is High at playback: 3V)	**DVDM Assy** FTS Driver IC (IC101)
		Is there any part detached from the spindle motor ? Or Is there any foreign object lodged in it ?	Mechanism section (Spindle motor)
		Are wires of CN102 on the DVDM Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC201-pin 37 (DMSO) on the DVDM Assy ?	**DVDM Assy** DVD IC (IC201)
7	Playback impossible (Playback stops)	Does 650-nm LD deteriorate ? If the voltage at each both ends of R322 and R325 on the DVDM Assy is 0.4 V or more, the 650-nm LD is definitely deteriorated.	650-nm LD deteriorated. (When playback of a DVD is impossible)
		Does 780-nm LD deteriorate ? If the voltage at each both ends of R321 and R326 on the DVDM Assy is 0.4 V or more, the 780-nm LD is definitely deteriorated.	780-nm LD deteriorated. (When playback of a CD is impossible)
		Is there abnormality in FG waveform ? (IC201-pin 47)	**DVDM Assy** FG output : FTS Driver IC (IC101)
		Are there scratches or dirt on the disc ?	Disc
8	Picture disturbance during playback (block noise, freeze, other)	Are there scratches or dirt on the disc ? Is there a problem with the format of the disc ?	Disc
		Check the video signals. Composite video signal (IC401-pin 25) S video signal (IC401-pin 21, pin 26) RGB video signal (IC401-pin 16, pin 18, pin 20)	**DVDM Assy** DVD IC (IC201) Video IC (IC401, IC451)
9	No sound (Picture is normal)	Check the waveform (SPDIF: CN901-pin 16).	**DVDM Assy** DVD IC (IC201)

● Symptoms that may occur when any of the following ICs is in failure

IC	Symptoms
EEP ROM (DVDM Assy : IC204)	User's data cannot be stored in memory. The ID number is lost.
Flash ROM (DVDM Assy : IC203)	The power cannot be turned on. Downloading of the firmware cannot be performed.
DVD IC (DVDM Assy : IC201)	Any kind of symptoms (no power, a failure in any of the servo, video and audio systems, etc.) may be generated, because the DVD processing is performed by a single chip.
64M SDRAM (DVDM Assy : IC202)	No power. Block noise is generated during playback.

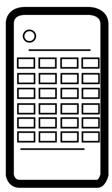
7.1.9 ID NUMBER AND ID DATA SETTING

Caution:
For the DVD players compatible with DVD-RW, for playback of a DVD-RW disc (CPRM), it is necessary that an individual ID number and ID data are set for each player. If the ID number and ID data be not properly set in the manner described below, future operations cannot be guaranteed. The ID number is written on the yellow label at the rear panel of the player.
If there is no yellow label, before downloading FLASH ROM, take note of the ID number set following the procedures outlined in "ID Number Confirmation Mode" on the next page.

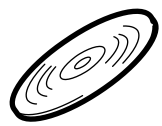
Note: Enter ID numbers while the unit is in Stop mode so that the values set will be immediately written to the flash ROM.

Setting an ID number or ID data is required in the following case:
If NoIDNum! or NOIDDATA is displayed on the FL display immediately after the power to the player is turned on or during Stop mode.

JIGS AND MEASURING INSTRUMENTS



Service Remote Control Unit
[GGF1381]



DVD Data Disc
[GGV1175]

■ ID Number Input Mode

① To enter ID Number Input Mode, with no ID number set, such as in a case of immediately after upgrading the firmware, press the ESC key then the STEREO key.

Note: If a previous ID number and ID data, such as a factory-preset ID number and ID data, are maintained, the unit enters ID Number Confirmation Mode when the above keys are pressed. However, if only an ID number is maintained, the unit enters ID Data Input Mode.

② Enter a 9-digit ID number. The ID number is also displayed on the FL display.

③ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.

[Player's ID Number Setting]
ID Number ?
② → - - - - - - - - -
③ → <CLEAR> Exit
Input ID Number !

④ After entering all 9 digits, if you press the PLAY key, the unit enters Compare mode. Enter the same ID number again. Only if your two input numbers match, the ID number is set. Compare mode helps eliminate mistyping of the ID number.

Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ② without doing anything else.

⑤ After entering all 9 digits, if you press the SEARCH key, the unit unconditionally sets the input number as the ID number. Then the unit automatically enters Player's Data Input Mode. (The SEARCH key is not accepted after all 9 digits have been entered.)

[Player's ID Number Setting]
ID Number ?
0 0 0 0 0 0 0 0 1
④ → <PLAY> Compare Mode
⑤ → <SEARCH> Enter
Input ID Number !

⑥ This display appears when the PLAY key is pressed in Step 4. Enter a 9-digit number to compare. The number is also displayed on the FL display.

⑦ By pressing the CLEAR key without having input a number, the unit returns to Step ② without doing anything else. Each press of this key after a number has been input deletes one digit.

[Player's ID Number Setting]
ID Number ?
0 0 0 0 0 0 0 0 1
Compare
⑥ → * * * * * * * * *
Input ID Number !

⑧ After entering all 9 digits, if you press the PLAY key, the unit compares the numbers input in Steps ② and ⑥, and only if the numbers match, that number is set as the ID. Then the unit automatically enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Input Mode.

Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ⑥ without doing anything else.

[Player's ID Number Setting]
ID Number ?
0 0 0 0 0 0 0 0 1
Compare
0 0 0 0 0 0 0 0 1
⑧ → <PLAY> Enter
Input ID Number !

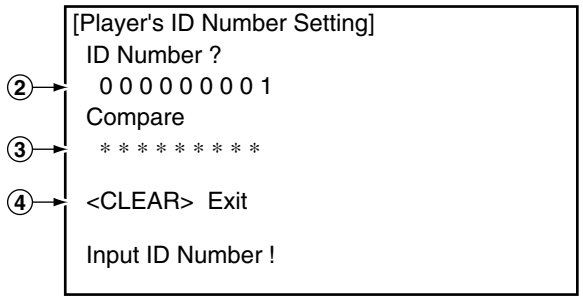
ID Number Confirmation Mode

① To enter ID Number Confirmation Mode after the ID number and the ID data are set, press the ESC key then the STEREO key.

② The ID number already set is displayed.
(It is also displayed on the FL display.)

③ Enter a 9-digit number for comparison. This is not required when you only wish to check the ID number visually.
(The number is also displayed on the FL display.)

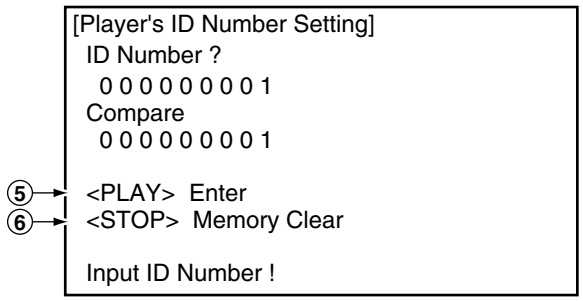
④ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.



⑤ After entering all 9 digits, if you press the PLAY key, the unit compares the number entered in Step ② with the ID number set, and only if the numbers match, the unit automatically exits ID Number Confirmation Mode. If an ID data has not been entered, the unit enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Confirmation Mode.

Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ④ without doing anything else.

⑥ After entering all 9 digits, if you press the STOP key, the unit compares the number entered in Step ③ with the ID number set, and only if the numbers match, the unit automatically deletes the ID number and exits this mode. If the numbers do not match, the disc tray is opened, and the unit exits this mode. (The STOP key is not accepted after all 9 digits have been entered.)



• Indication of an ID number already set

An ID number already set is displayed in the following cases:

1) When the ESC key then the CLEAR key are pressed, user settings are cleared, then the ID number set is displayed on the screen. In this case, the ID number is not displayed on the FL display.
2) When the unit enters ID Number Confirmation Mode by your pressing the ESC key then the CLEAR key, the ID number set is displayed. In this case, the ID number is also displayed on the FL display.
   If you only need to confirm the ID number, you can exit this mode by pressing the CLEAR key or turning off the power.

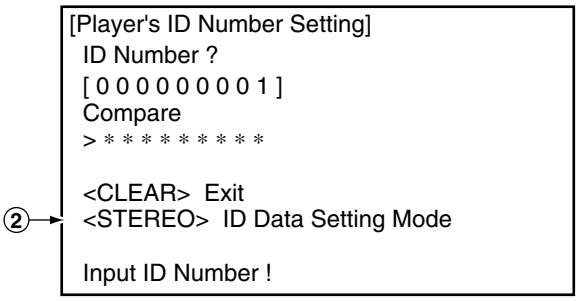
• Indication when no ID number is set

If no ID number is set, the message "No ID Num!" flashes on the screen and FL display for a few seconds after the power is turned on or during Stop mode.

ID DATA Input Mode

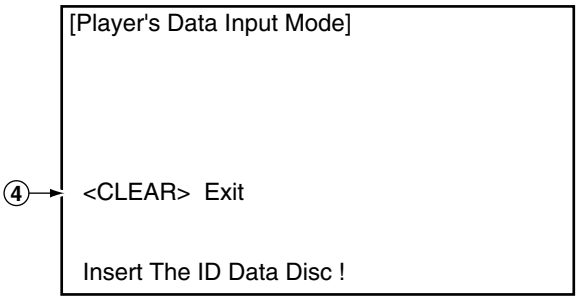
① To enter ID DATA Input Mode, with the ID number set, press the ESC key then the STEREO key.

② When the STEREO key is pressed, the unit enters ID DATA Input Mode.



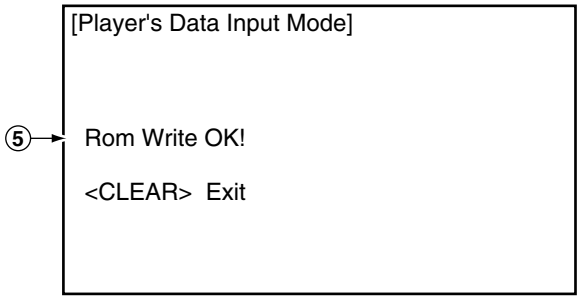
③ If the DVD DATA DISC is loaded in this mode, the unit automatically starts reading the data.
(If the DVD DATA DISC has already been loaded, the unit does not start reading the data. In this case, open then close the tray.)

④ To exit this mode, press the CLEAR key. While data are being read from the DVD DATA DISC, you cannot exit this mode.

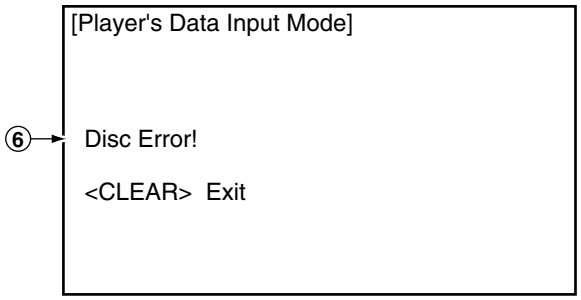


⑤ When writing of the data read from the disc to flash ROM is completed, "Rom Write OK!" is displayed. After seeing this message, you can exit this mode by pressing the CLEAR key.

Note: Whether or not the data have been written to flash ROM can be confirmed by watching for the message "Rom Write OK!" being displayed after the disc is read.



⑥ If the data cannot be read from the disc, "Disc Error!" is displayed on the screen, and the disc is ejected.



• Indication when the data have not been set
If no ID data are set after the ID number is changed, the message "NO ID DATA" displays on FL display after the power is turned on or during Stop mode.

7.1.10 DSP TROUBLE SHOOTING

Detectable DSP Errors

The following conditions are assumed,
in order to eliminate causes other than "DSP-assy" and "between DSP-assy and microcomputers".
- Electric power is correctly supplied to DSP-assy.
- The SPDIF signal is coming to the input port of DIR ("COAX IN" RX0 & "OPT IN" RX3 & "DVD" RX7).
- There is no audio output from DSP-assy, or audio output is unusual.

Check the signal route by referring the connection diagram between U-com and DSP module IC (next page).

* "U", "M" display below is a sample.
Those character display ON/OFF depends on the state.

• ERR_0 : –Cannot receive data from DIR– FL D I E R - U M
→Communication fault has occurred somewhere between DIR (PinNo.17 CDTO)– µ-com (PinNo.80 DIRDO).
→Communication fault has occurred somewhere between the µ- com-port (*1) which has sent the signal and each IC.

• ERR_1 : –Cannot receive data from DSP– FL D S E R - U M
→Communication fault has occurred somewhere between DSP (PinNo.35 MISO)–µ-com (PinNo.24 DSPDO).
→Communication fault has occurred somewhere between the µ-com-port (*1) which has sent the signal and each IC.
→Communication fault has occurred somewhere between the DIR and DSP.

• ERR_2 : –There is no return value of HREQ.– FL H R E Q - U M
→Communication fault has occurred somewhere between DSP (PinNo.38 HREQ)–µ-com (PinNo.82 DSPHREQ).
→Communication fault has occurred somewhere between the µ-com-port (*1) which has sent the signal and each IC.
→Communication fault has occurred somewhere between the DIR and DSP.

• ERR_3 : –ERR information from DSP– FL D S N G - U M
→Communication fault has occurred somewhere between the µ-com-port (*1) which has sent the signal and each IC.
(especially the fault inside DSP)
→Communication fault has occurred somewhere between the DIR and DSP.

• ERR_4 : –DECOMUTE continues being LOW(MUTE).– FL D M U T - M
→Communication fault has occurred somewhere between DSP (PinNo.54 MUTE)–µ-com (PinNo.83 DECMUTE).
→Communication fault has occurred somewhere between the µ-com-port (*1) which has sent the signal and each IC.
→Communication fault has occurred somewhere between the DIR and DSP.

Although the following are not errors, they are displayed separately and are helpful in finding a solution.

• INFO_0 : –DIRERR is HIGH (UNLOCK) in digital function.– FL D S O K - U M
If DIRERR continues being HIGH (UNLOCK) without the above-mentioned error display.
→Communication fault has occurred in somewhere between DIR (PinNo.22 INT0)–µ-com (PinNo.77 DIRERR).
→Check that the external set and this model is properly connected by the digital cable when selecting LINE2 (External Digital) function.

• INFO_1 : –DSPMUTE is LOW (MUTE).– FL D S O K - M
If DSPMUTE continues being LOW (MUTE) without the above-mentioned error display.
→Communication fault has occurred somewhere between µ-com (PinNo.87 XDSPMUTE)–E-VOL (IC3062) (PinNo.35 MUTE).

• INFO_2 : –Loading 88.2kHz/96kHz PCM– FL D S O K - 9
DSP function is limited when this information is displayed.

Notes :
Only the high priority error (near to ERR_0) is displayed when the multiple errors have occurred.

When the analog audio output of a DSP module is unusual but the above error information is not displayed, the fault is probably in the CODEC IC (IC701) and the peripheral circuits.
As the µ-com has not received data from the CODEC IC, it cannot detect the fault and display the error information.

*1 : μ-com-port which has sent the signal to IC

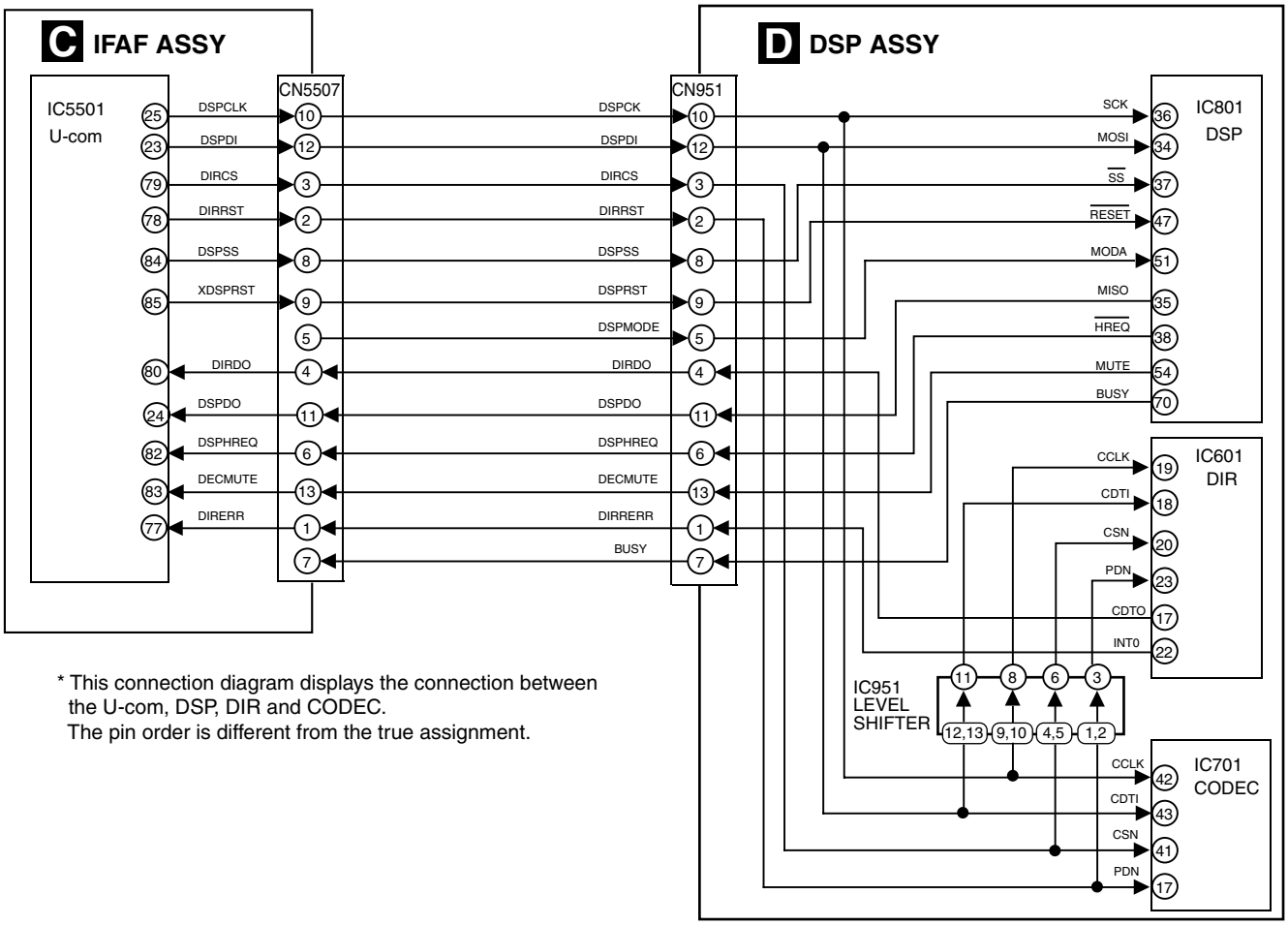
IC5501 μ-com port			IC601 DIR port		IC701 CODEC port	
Pin No.	Pin Name		Pin No.	Pin Name	Pin No.	Pin Name
No.25	DSPCLK	→	No.19	CCLK	No.42	CCLK
No.23	DSPDI	→	No.18	CDTI	No.43	CDTI
No.79	DIRCS	→	No.20	CSN	No.41	CSN
No.78	DIRRST	→	No.23	PDN	No.17	PDN

IC5501 μ-com port			IC801 DSP port	
Pin No.	Pin Name		Pin No.	Pin Name
No.25	DSPCLK	→	No.36	SCK
No.23	DSPDI	→	No.34	MOSI
No.84	DSPSS	→	No.37	$\overline{SS}$
No.85	XDSPRST	→	No.47	$\overline{RESET}$

IC5501 μ-com port			IC601 DIR port	
Pin No.	Pin Name		Pin No.	Pin Name
No.80	DIRDO	←	No.17	CDTO
No.77	DIRERR	←	No.22	INT0

IC5501 μ-com port			IC801 DSP port	
Pin No.	Pin Name		Pin No.	Pin Name
No.24	DSPDO	←	No.35	MISO
No.82	DSPHREQ	←	No.38	HREQ

■ CONNECTION DIAGRAM



* This connection diagram displays the connection between the U-com, DSP, DIR and CODEC.
The pin order is different from the true assignment.

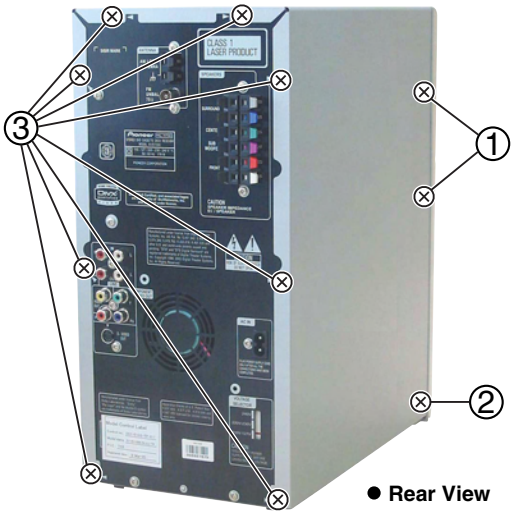
7.1.11 DISASSEMBLY

Note 1: Do NOT look directly into the pickup lens. The laser beam may cause eye injury.
Note 2: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.
Note 3: For performing the diagnosis shown below, the following jigs for service is required:
- Flexible cable for service (GGD1309)
- Cable for service (GGD1425)

Diagnosis of PCB's

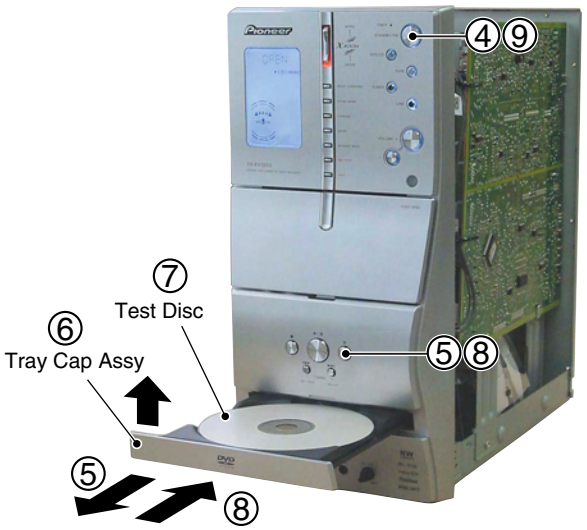
1 Bonnet and Tray panel

① Remove 4 screws from Bonnet L and R (BPZ30P080FNI).
② Remove 2 screws from Bonnet L and R (BBZ30P080FNI).
③ Remove the Bonnet by removing the 8 screws (BBZ30P080FNI).



● **Rear View**

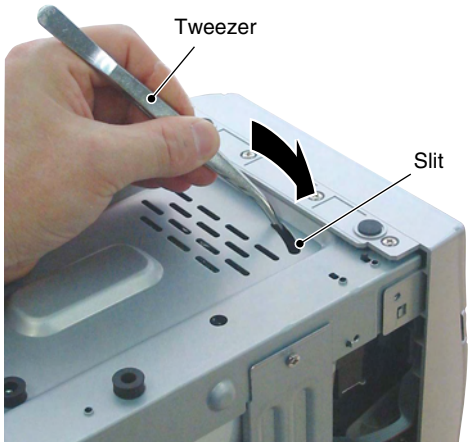
④ Press the ⏻ STANDBY/ON button to turn on the power.
⑤ Press the ⏏ OPEN/CLOSE button to open the Tray.
⑥ Remove the Tray Cap Assy.
⑦ Set the Test Disc.



⑧ Press the ⏏ OPEN/CLOSE button to close the Tray. (Test disc is clamped.)
⑨ Press the ⏻ STANDBY/ON button to turn off the power.
⑩ Pull out the Power cord.

● **How to open the tray when the power cannot be on**

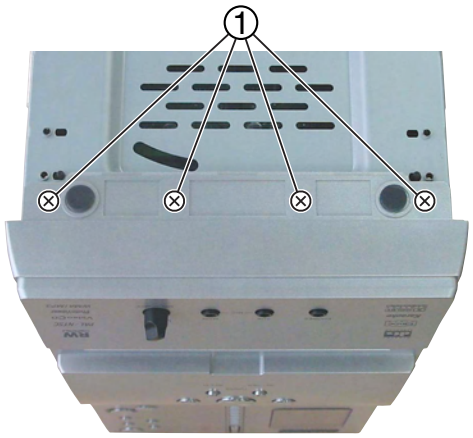
Insert a Tweezer(as shown in the photo) into the slit located at the bottom of the unit and slide the projection of the Drive Cam in the Loader Assy in the direction of the arrow, as indicated in the photo.
If the tray pops out a little, fully pull it out by hand.



● **Bottom View**

2 Front Panel, Amplifier Assy and DSP Board diagnosis

① Remove 4 screws at bottom side of the unit.

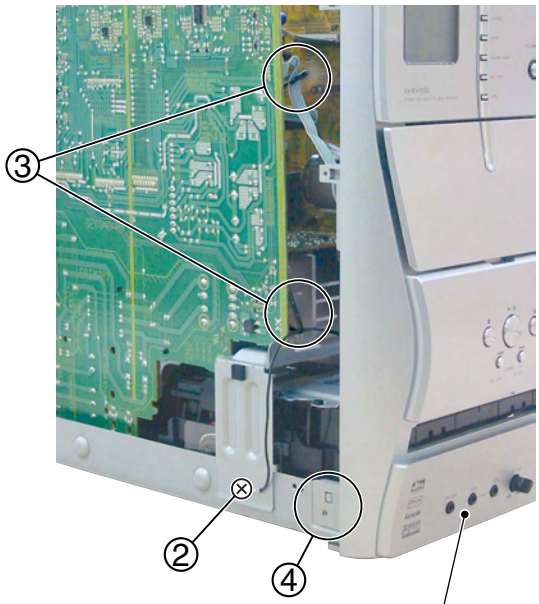


● **Bottom View**

② Remove the grounding screw.

③ Unhook the 2 cable hooks.

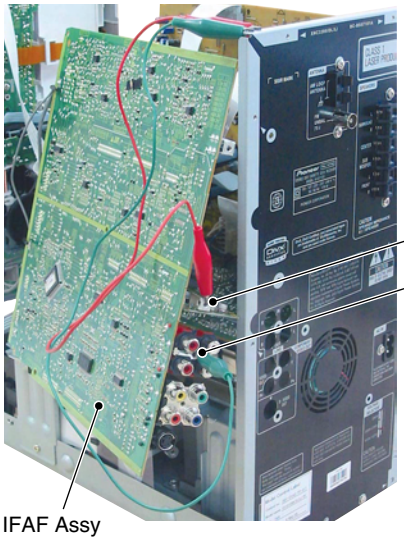
④ Released the hook at the right and left side of the Front Panel Assy.



Do not remove this cable, once removed, there is no amplify output signal, you need to use the headphone to hear the output signal.

Do not remove this cable, once removed, the display will indicate "Mic in" and you cannot select 5.1 channel output signal, only 2 channel signals will be output. Not affected for model with 2 channel output. (But display will also indicate "Mic in")

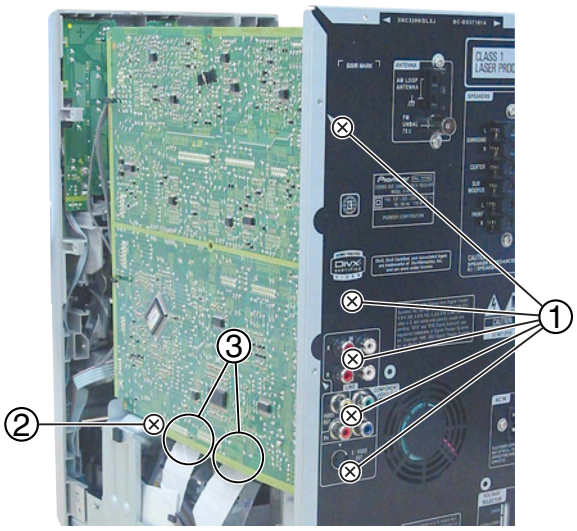
⑤ In the event that Power Amplifier Assy was removed and repaired(IFAF Assy had been removed)
If you want to power on the set with IFAF Assy removed from the Rear Panel, make sure both the DSP and RCA grounds are connected to the Rear Panel as shown in the attached photo.



● **Rear View**

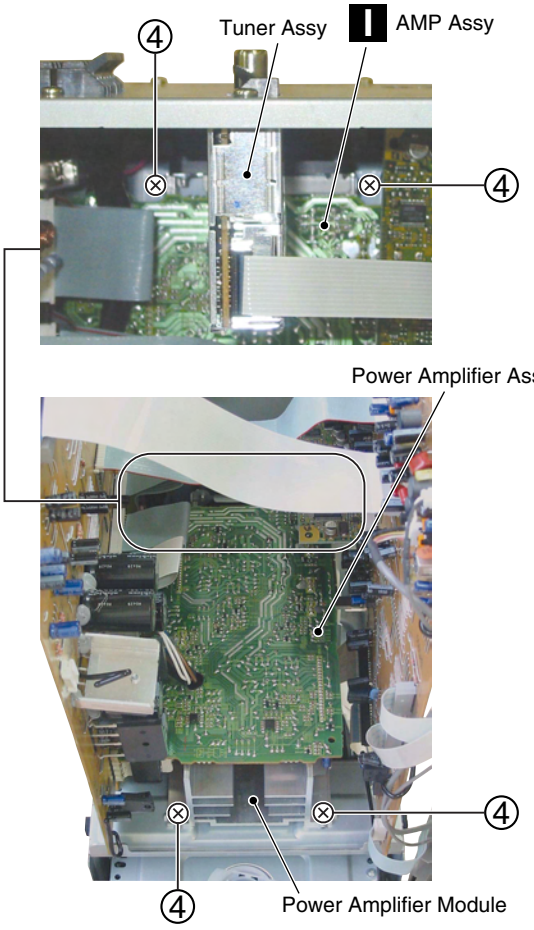
3 Disassembly of Power Amplifier Module

① Remove 5 screws at the Rear Panel of the unit.
② Remove 1 screw on the IFAF Assy Bracket.
③ Disconnect the FFC Cables at CN5102 and CN8301.

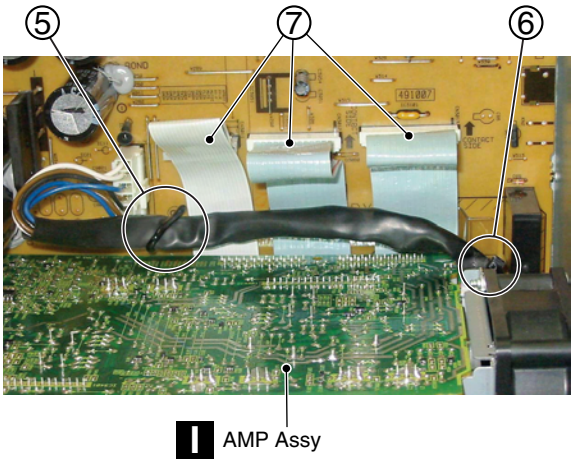


● **Rear View**

④ Remove 4 screws on the Power Amplifier Module.



⑤ Remove the cable hook.
⑥ Remove the binder.
⑦ Remove the cables on CN3011, CN3012 and CN3013

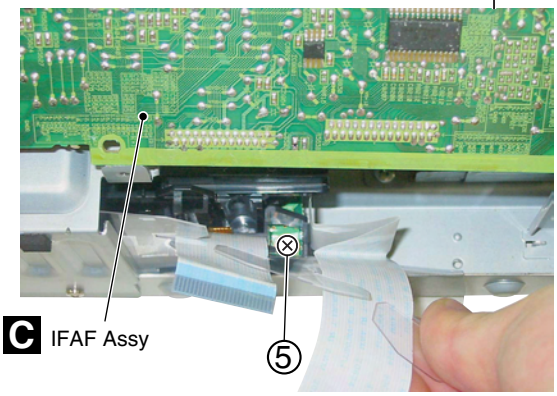


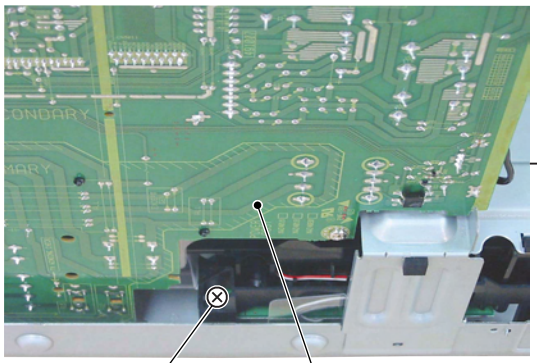
⑧ Lift up the IFAF Assy as shown in the photo above to remove the Power Amplifier Module.

4 DVD Main Board diagnosis

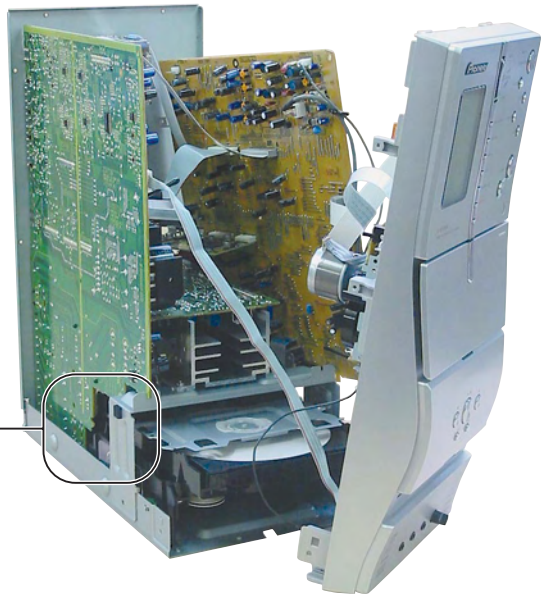
① Remove the Top Bonnet.
② Power on the unit, open the Tray and remove the Tray Cap.
③ Load in a DVD test disc and power off the unit.
④ Remove the IFAF Assy as in section 3 steps 1 to 3.

⑤ Remove 2 screws from the DVD Module.





⑥ Follow the procedure in section 2 (Steps 1 to 5) and remove the Front Panel Assy as shown in the photo.

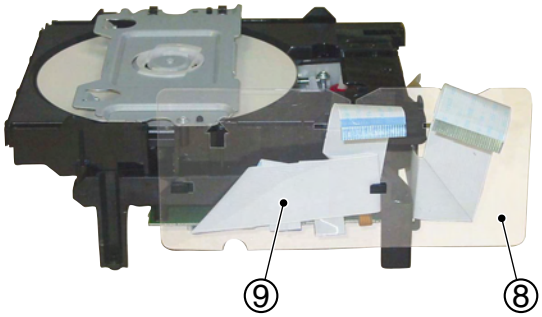


⑦ Carefully remove the DVD Module by lifting the Front Panel Assy upward.

Caution : Be careful not to damaged the 2 DVD FFC Cable

⑧ Remove the DVD FFC Plastic Holder as shown in the photo below.

⑨ Remove the FFC Cable and replaced it with GGD1309.

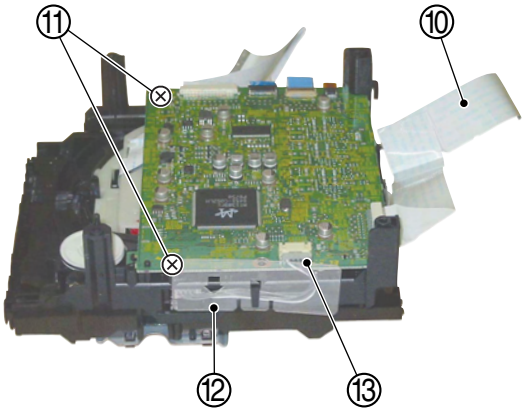


⑩ Remove the FFC Cable from the hooks.

⑪ Remove 2 screws.

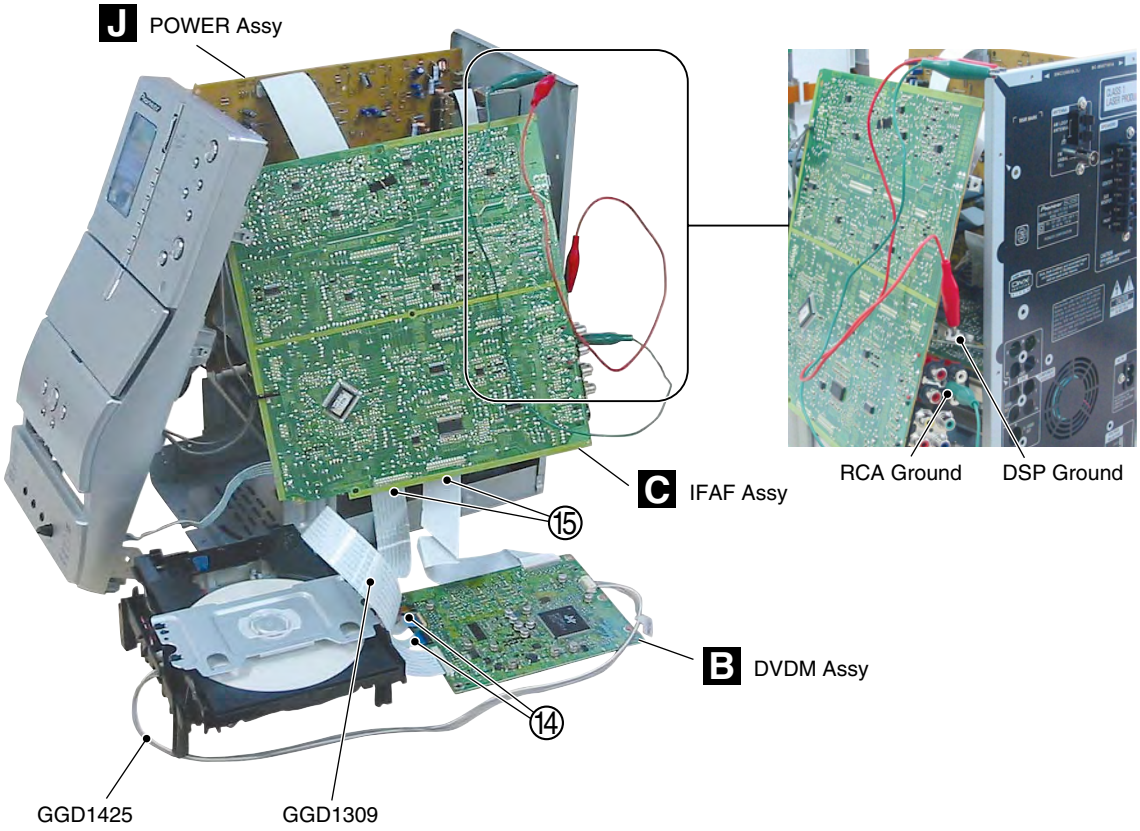
⑫ Remove Plastic Holder and unhook the cable.

⑬ Remove cables and replaced it with GGD1425.



⑭ Flip the DVD PCB and unhook the 2 flexible as shown in the photo.

⑮ Connect both FFC Cables onto IFAF Assy CN5102 (use GGD1309) and CN8301(use back original cable)
Flip the DVD Main Board as shown in the photo.
Also ensure that both the DSP and RCA ground are connected to the Rear Panel.

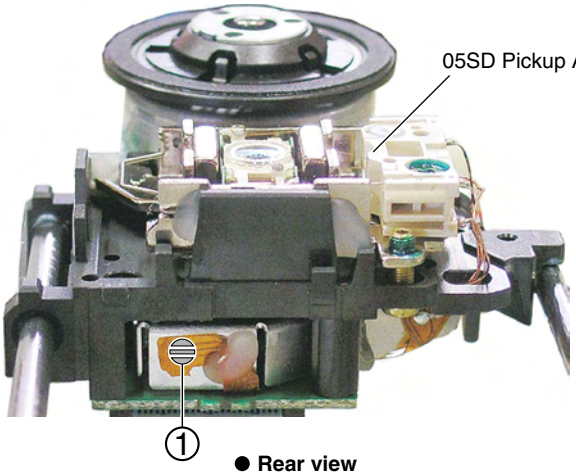


Removing the Traverse Mechanism Assy-S and 05SD Pickup Assy-S

1 05 LOADER Assy

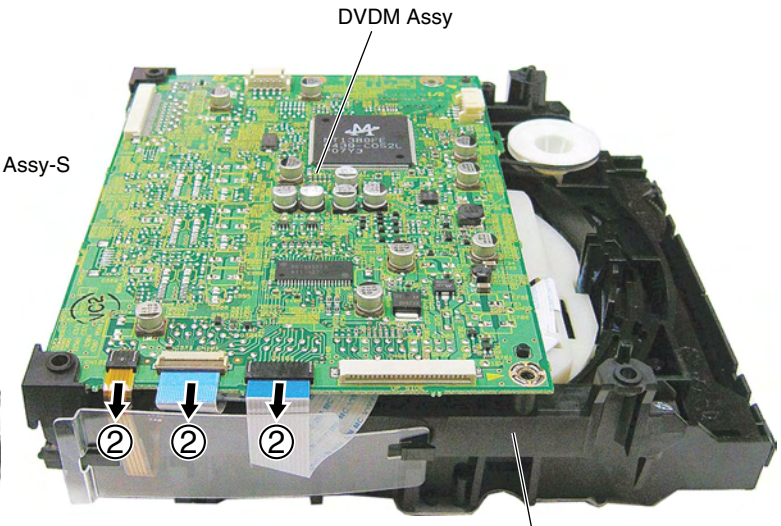
① Short-circuit point by soldering.

Note: After replacement, connect the flexible cable for pickup, then remove the soldered joint (open).



● **Rear view**

② Disconnect the three flexible cables.



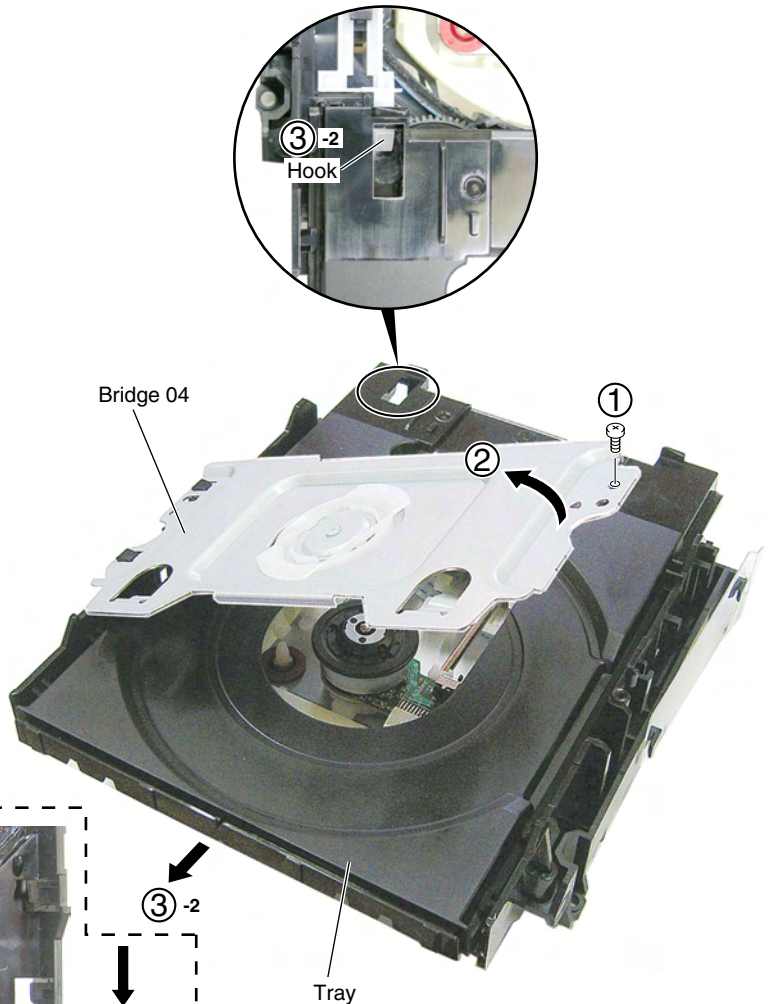
● **Bottom view**

2 Bridge 04, Tray

① Remove the one screw.

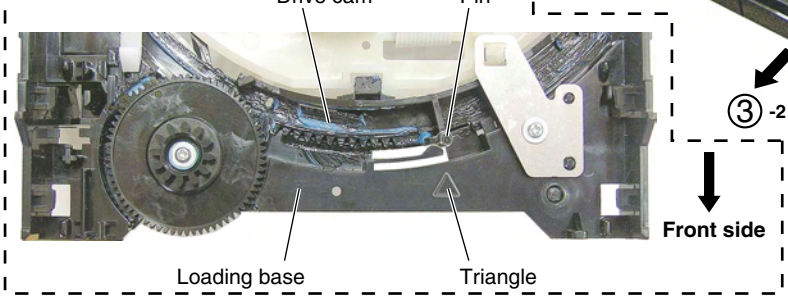
② Remove the bridge 04.

③ Pull out the tray, then remove it by pressing the hook.



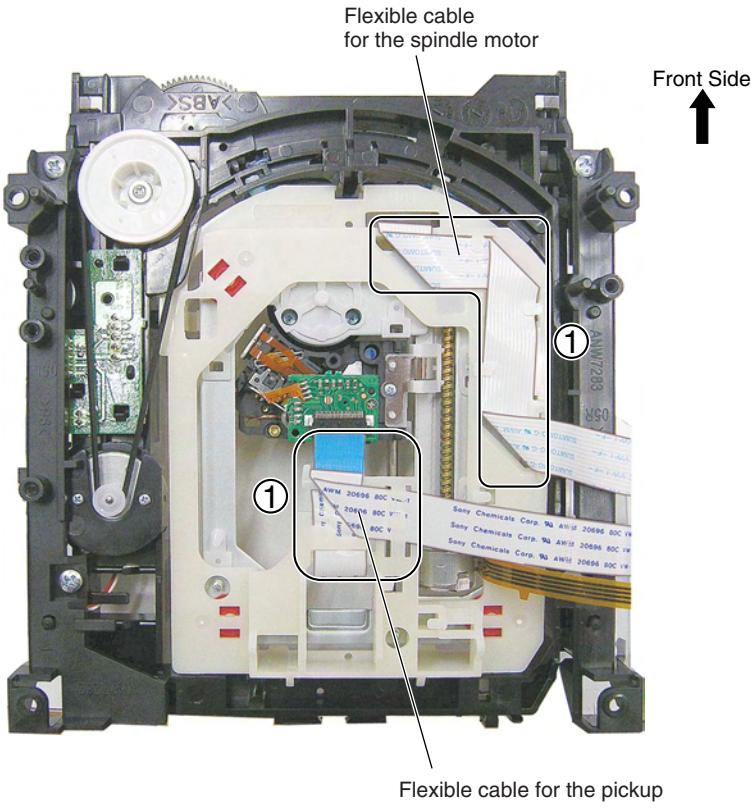
Note when reinserting the tray

When reinserting the tray, first align the triangle printed on the loading base and the pin of the drive cam, then insert the tray.



3 Traverse Mechanism Assy-S

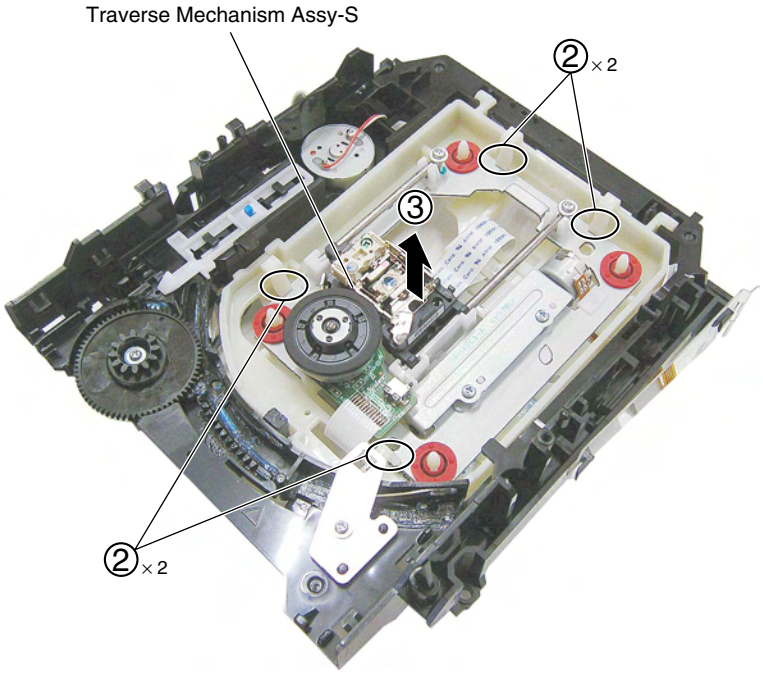
① Dislodge the two flexible cables from their factory placement.



● **Bottom view**

② Unhook the four hooks.

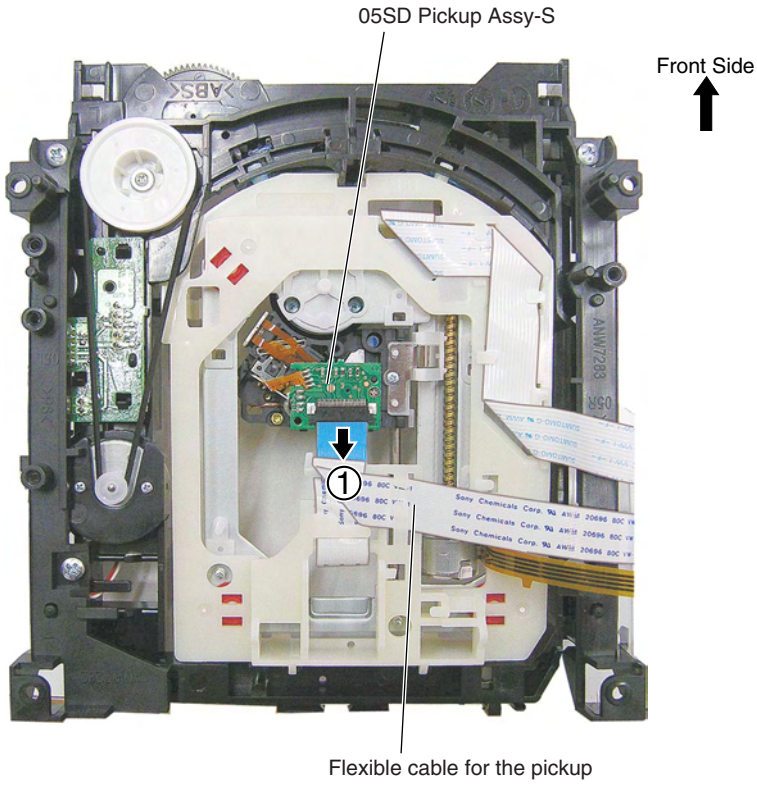
③ Remove the Traverse Mechanism Assy-S



4 05SD Pickup Assy-S

Note: The 05SD Pickup Assy can be removed without removing the TTraverse Mechanism Assy-S.(shown as Step 3.)

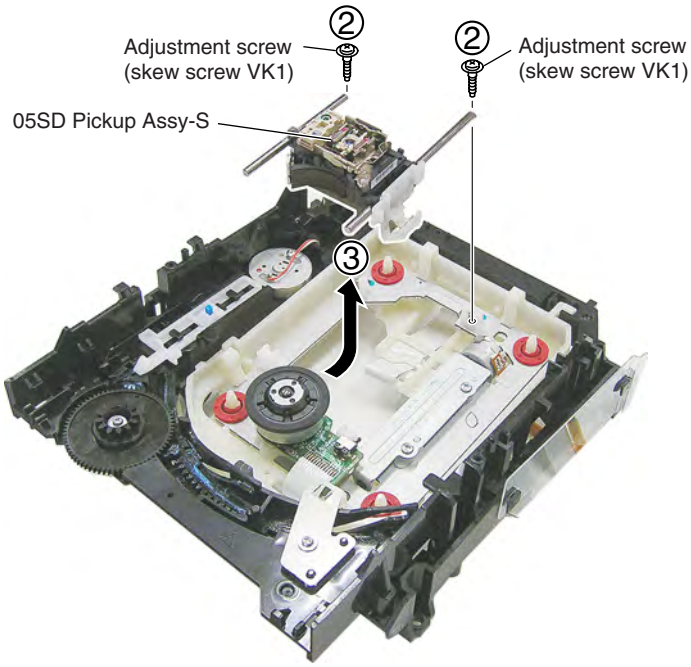
① Disconnect the flexible cable for the pickup.



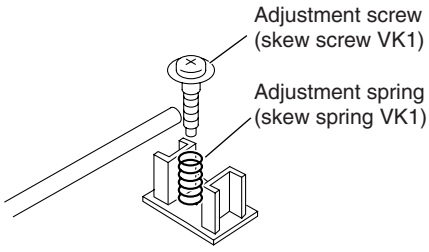
● **Bottom view**

② Remove the two adjustment screws.

③ Remove the 05SD Pickup Assy.

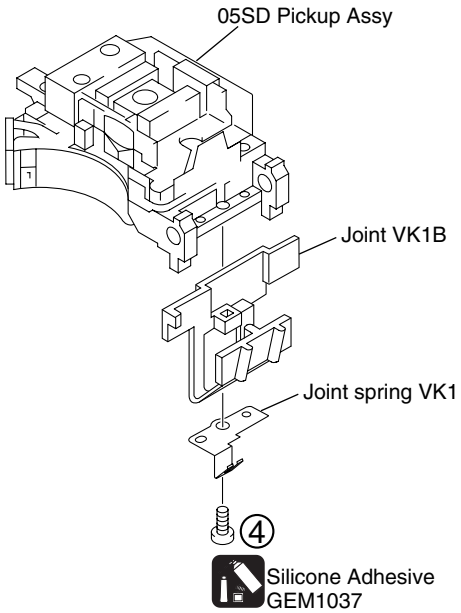


Note: Be careful not to lose the adjustment spring (skew spring VK1).



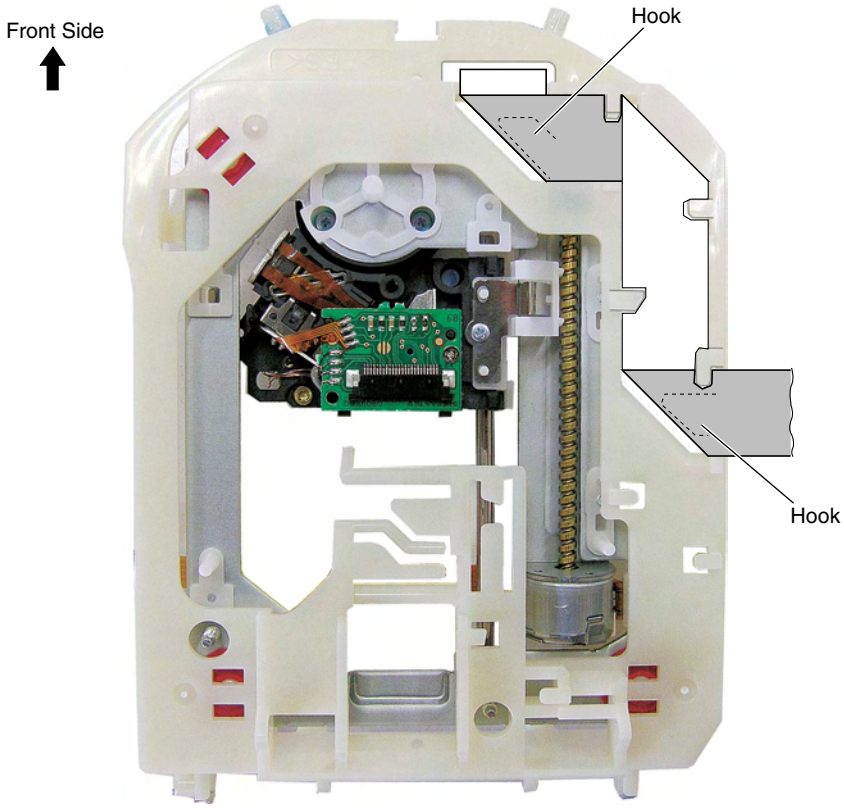
④ Remove the one screw.

Note: The screw is secured with the silicone adhesive.
Make sure to apply the silicone adhesive after reattaching the screw.



Arrangement of the flexible cable for the spindle motor

: Conductive surface



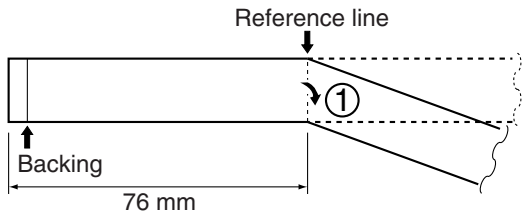
● **Bottom view**

Arrangement of the flexible cable for the pickup

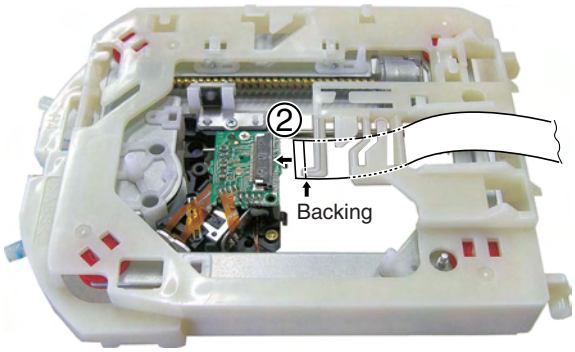
: Conductive surface

Note:
Be sure to move the 05SD Pickup Assy to the innermost perimeter.

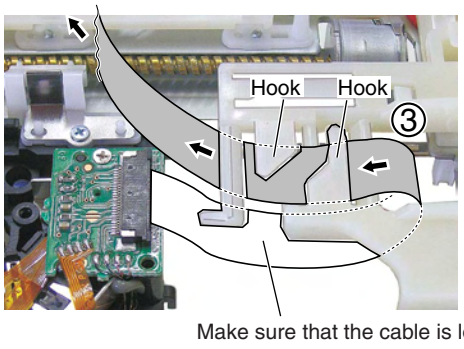
① Fold the flexible cable for the pickup with the backing outward in the illustration below.



② Attach the flexible cable for the pickup to the connector.

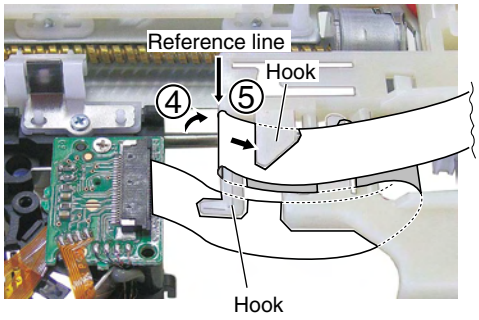


③ Pass the flexible cable through the hook.



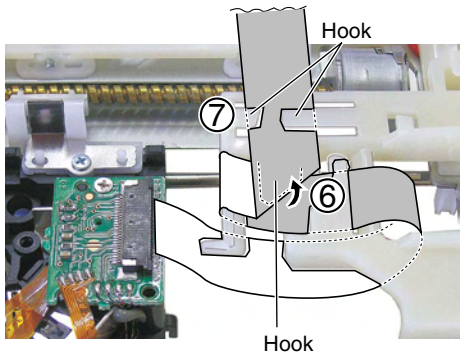
④ Hook the part folded in Step ① to the hook.

⑤ Pass the flexible cable through the hook.



⑥ Fold the flexible cable along the hook.

⑦ Pass the flexible cable through the hook.



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

PDC127A

■ PDC127A (IFAF ASSY : IC5501)

• System Control Microcomputer

● Pin Functions

No.	Pin Name	I/O	Pin Function
1	DVDON/OFF	O	Control power supply for DVD module
2	HPDET	I	Detect to insert headphone
3	MICDET	I	Mic Detection
4	ACPULSE	I	AC PULSE input detection (Interruption 0)
5	(XMUTEC)	O	Mute control for center speaker (Standby)
6	RDSCLK	I	Clock input from RDS decoder (Interruption 2, without RDS : Low output)
7	REMOCON	I	REMOCON signal input (Interruption 3)
8	XRESET	I	μ-com reset input
9	XT1	–	Subclock (connect to VDD when no use)
10	XT2	–	Subclock (leave open when no use, and set the bit 6 of OCR SFR)
11	VSS1	–	
12	CF1	–	Main Clock (connect to VDD when no use)
13	CF2	–	Main Clock (leave open when no use)
14	VDD1	–	
15	SIMUKE	I	Destination distinction input
16	MODEL	I	Model distinction input
17	VDET	I	DVD3.3V detection input
18	KEY1	I	Key1 input
19	KEY2	I	Key2 input
20	KEY3	I	Key3 input
21	LEVELIN	I	Level meter signal input
22	XPROTECT	I	Protection and Fan Error detection input
23	DSPDI	O	Data output to DSP (MOTOROLA) and DIR
24	DSPDO	I	Data input from DSP (MOTOROLA)
25	DSPCLK	O	Clock output to DSP (MOTOROLA) and DIR
26	NC	O	
27	LCDDAT	O	Data for FL(LCD) driver
28	LCDCLK	O	Clock for FL(LCD) driver
29	DTS_ON/OFF	O	Control for DTS
30	XREADY	O	Chip select for system bus (to DVD module)
31	XHPMUTE	O	HP MUTE ON/OFF
32	XRECMUTE	O	REC OUTPUT MUTE ON/OFF
33	B_MUSIC	O	Control for LED of BASS MUSIC
34	RYR	O	REAR RELAY ON/OFF
35	RYFSC	O	FRONT/SW/CENTER RELAY ON/OFF
36	B_MOVIE	O	Control for LED of BASS MOVIE
37	TIMERLED	O	Control TIMER LED
38	VOCALC	O	Control for VOCALC
39	VSS4	–	
40	VDD4	–	

No.	Pin Name	I/O	Pin Function
41	ATT10dB	O	Control for ATT 10dB
42	ATT6dB	O	Control for ATT 6dB
43	STEST	I	Set TESTMODE for Service
44	UTEST	I	Set UNITCHECK for checker
45	DTSDMX	O	Control of gain-up for DTS down-mix
46	SWFMX	O	Control for subwoofer mix
47	VOCALA	I	Control for VOCALA
48	VOCALB	I	Control for VOCALB
49	SDATA	O	System bus data output (AMP side output)
50	MDATA	I	System bus data input (AMP side input)
51	SCLK	I	System bus clock input
52	TXCE	O	Chip enable for Tuner LSI
53	NC	–	
54	NC	–	
55	VDD2	–	
56	VSS2	–	
57	TCHALF	I	Input switch of mecha half
58	TCMODE	I	Input switch of mecha mode
59	TCRECF	I	Input switch of mecha during recording forward
60	TCRECR	I	Input switch of mecha during recording reverse
61	TXCLK	O	Clock for tuner LSI
62	TXODATA	O	Data for tuner LSI
63	TCEXPOE	O	Output enable to EXPAND IC for deck
64	(RDSPOW)	O	Control power supply of RDS (L : POWER ON)
65	(RDSDATA)	O	Input RDS data
66	TXIDATA	I	Input data from tuner LSI
67	DVDACK	I	Ackknowlegement from DVD MODULE(Interruption 4)
68	TCPULSE	I	Input pulse of TC reel
69	DVDMUTE	I	Request of MUTE from DVD MODULE(Interruption 5)
70	TCMSIN	I	Input MS signa
71	TCEXPCLK	O	Clock to EXPAND IC for deck
72	TCEXPCE	O	Chip enable to EXPAND IC for deck
73	TCEXPDAT	O	Data to EXPAND IC for deck
74	INPUTSELB	O	AUDIO INPUT SELECT B
75	INPUTSELA	O	AUDIO INPUT SELECT A
76	ECHCNT1	O	Control for ECHO1
77	DIRERR	I	LOCK/UNLOCK from DIR
78	DIRRST	O	Reset to DIR /CODEC
79	DIRCS	O	Chip select to DIR/CODEC
80	DIRDO	I	Data input from DIR/CODEC

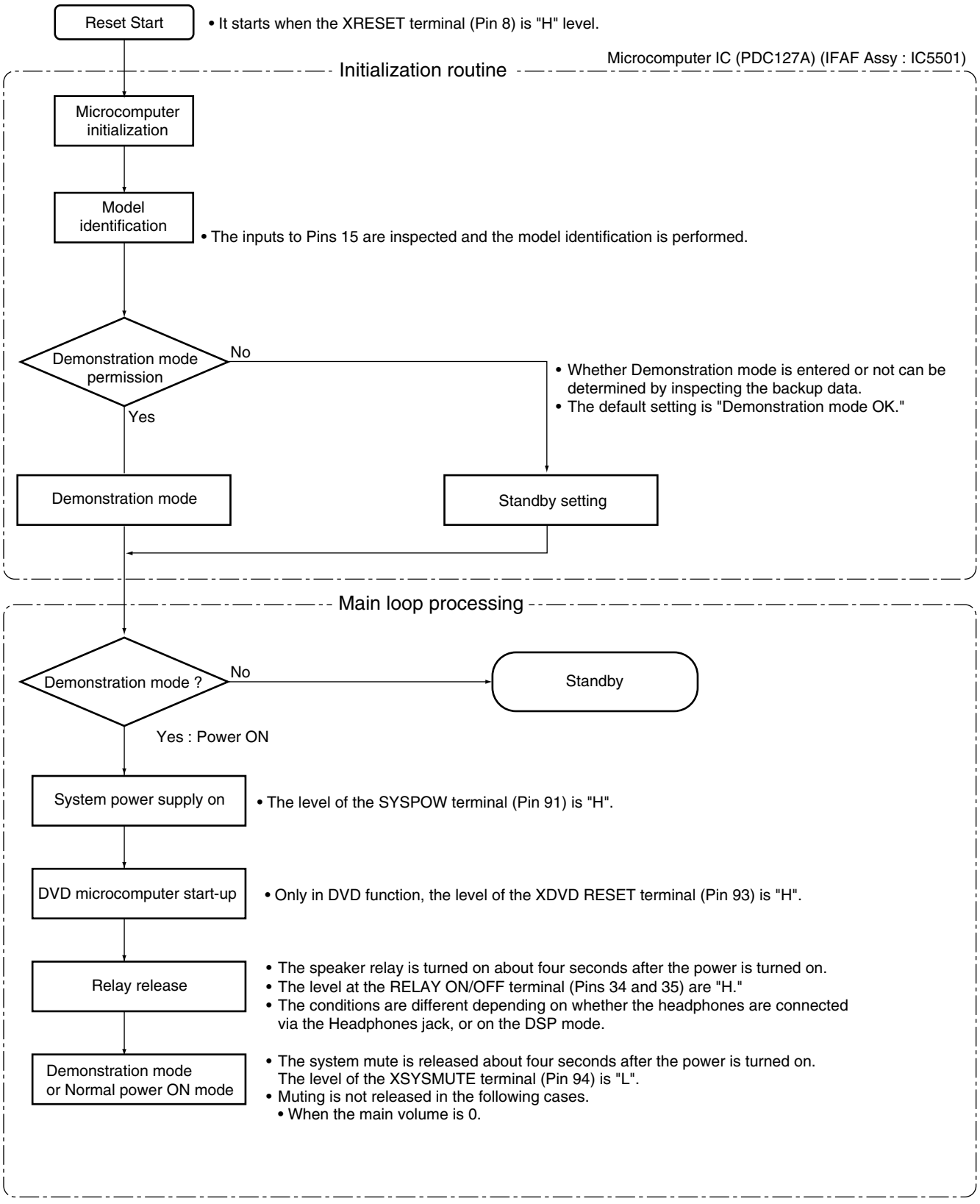
No.	Pin Name	I/O	Pin Function
81	ECHCNT2	O	Control for ECHO2
82	DSPHREQ	I	Error detection from DSP(MOTOROLA)
83	DECMUTE	I	Detection of 1stDSP boot success from DSP MODULE
84	DSPSS	O	Slave selection to DSP(MOTOROLA)
85	XDSPRST	O	RESET to DSP(MOTOROLA) MODULE
86	ADMD	I	Control of DSPMUTE combining DIRERR, "H" at digital mode, "L" at analog mode.
87	XDSPMUTE	O	MUTE request to DSP module
88	VSS3	–	
89	VDD3	–	
90	KCONSTB	O	Strobe for KEY CONTROL IC
91	SYSPOW	O	Control power supply of system
92	KCONDATA	O	Data for KEY CONTROL IC
93	XDVDRST	O	RESET to DVD MODULE
94	XSYSMUTE	O	Control mute of system
95	KCONCLK	O	Clock for KEY CONTROL IC
96	VOLCLK	O	Clock for E-vol IC
97	VOLDATA/CE	O	Data/CE for E-vol IC
98	FLASH E/D	–	for FLASH writing
99	FLASH DO	–	for FLASH writing
100	FLASH CLK	–	for FLASH writing

● **EXPAND IC (BU4094) Control for deck**

No.			actual function
1	Q1	XPBMUTE	Control PB mute
2	Q2	PB/XREC	Switch DOLBY PB/REC
3	Q3	RMUTE	Control REC mute
4	Q4	DOLBY	Control DOLBY NR (Standby)
5	Q5	SOL	Output tape solenoid
6	Q6	MOTOR	Output tape motor
7	Q7	BIAS	Control bias of deck
8	Q8	XBEATCUT	Control beat cut of deck

7.3 EXPLANATION

7.3.1 SEQUENCE AFTER POWER ON



- If no pulse is input to the AC terminal (Pin 4) for about 60 msec when the microcomputer is in Memory Backup mode, it will not do any processing.
- The unit will recover from Memory Backup mode if a reset command is input to the XRESET terminal (Pin 8).

7.3.2 PROTECTION CIRCUIT

If the TIMER LED on the front panel flashes, check the protection circuit.
Note: If the protection circuit activates, the unit will not recover for 60 seconds even if the AC power cord is disconnected then reconnected.
If you activate Service Test mode, the protection circuit becomes invalid, which makes diagnosis easy. (To activate Service Test mode, while connecting STEST port (IC5501 Pin43) to "+5V", connect AC power cord.) (Refer to "7.1.6 SERVICE TEST MODE")
There are three types of operations for the protection circuit, which are indicated on the FL display when Service Test mode is entered:

PRTCT WNG: The unit was shut down because of an abnormality in the AMP system. (The PROTECT line operates at the MID level.)
PRTCT ERR: The unit was shut down because of a failure in the AMP system. (The PROTECT line operates at the LO level.)
DVD PRTECT: The unit was shut down because of a failure in the DVD system. (The VDET line operates at the HI or LO level.)

■ Conditions for the protect circuit operations

	Voltage		Conditions	FL display in Service Test mode
PROTECT	HI level	>3.55V	Normal	
	MID level	1.8V - 3.5V	The unit is shut down because of an abnormality.	PRTCT WNG
	LO level	<1.8V	The unit is shut down because of a failure.	PRTCT ERR
VDET	HI level	>4.25V	The unit is shut down because of a failure.	DVD PRTECT
	MID level	3.3V	Normal	
	LO level	<2.5V	The unit is shut down because of an abnormality.	DVD PRTECT

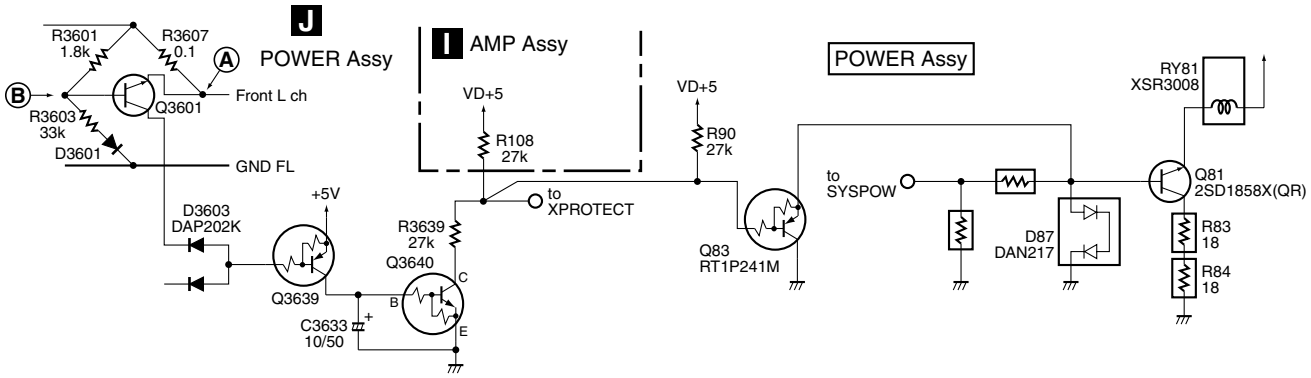
The possible failures for each error message are as follows:
PRTCT WNG:
- The Speaker terminal became overloaded because of short-circuit. (See ①.)

PRTCT ERR:
- The main power supply became LO level because of short-circuit or disconnection of connectors. (See ②.)
- Disconnection of the FAN connector or interruption of rotation of the fan (See ③.)
- DC was generated at the output because of a failure in the AMP system, etc. (See ④.)
- Abnormal temperature was detected by the thermistor. (See ⑤.)

DVD PRTECT:
- An error was generated in the main power supply inside the DVDM. (See ⑥.)

■ Protection circuit that activates against a PRTCT WNG error

① When the Speaker terminal becomes overloaded



In Normal mode, the speaker (6 ohms) is connected between the FL and GND FL points. Because the voltage at Point Ⓐ is higher than that at Point Ⓑ, Q3601 does not operate.

If the resistance between the FL and GND FL points becomes 1.83 ohms or less, Q3601 begins to operate, Q3639 is turned on, Q3640 (E, C, and B)is turned on, and the level of XPROTECT becomes MID.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

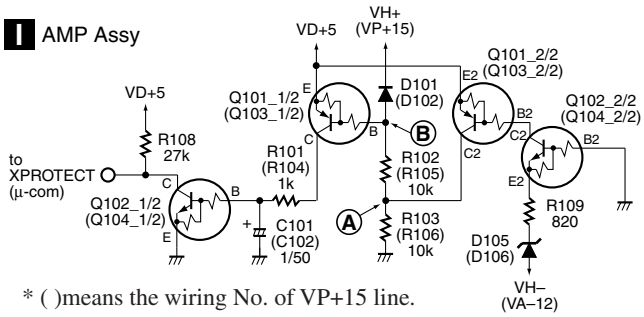
■ Protection circuit that activates against a PRTCT ERR error

② When the main power supply becomes LO level because of short-circuit or disconnection of connectors

② -1 Short-circuit-detection circuit for the amplifier power circuit (VH+[VP+15], VD+5, -12 V [VA-12])

Circuit for shutting the power off when VP+15, VD+5, or VA-12 is short-circuited to ground (GND)

I AMP Assy



* ( )means the wiring No. of VP+15 line.

- In Normal mode, as Q101 (Q103) (E2, B2, C2) and Q102 (Q104) (E2, B2, C2) are on, the voltage at Point Ⓐ is about 5 V. The voltage at Point Ⓑ is therefore about the same. As Q101 (Q103) (E, C, B) is off, Q102 (Q104) (E, C, B) is also off.

(1) When VH+(VP+15) is short-circuited to GND

As the voltage at Point Ⓑ becomes almost ground potential, and Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When VH-(VA-12) is short-circuited

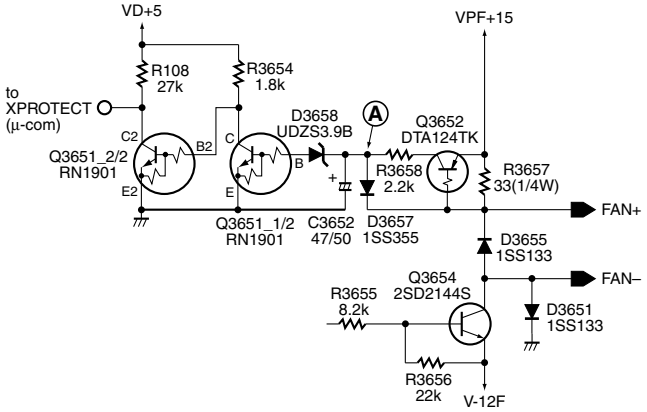
As the electric potential of VE at Q102 (Q104) (E2, C2, B2) becomes the same as that at VB, Q102 (Q104) (E2, C2, B2) is turned off. Following this, Q101 (Q103) (E2, B2, C2) is turned off, which changes the voltage at Points Ⓐ and Ⓑ to a value other than 5 V. Therefore, Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

(3) When VD+5 is short-circuited

The level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

③ When the FAN connector is disconnected or when rotation of the fan is interrupted

I AMP Assy

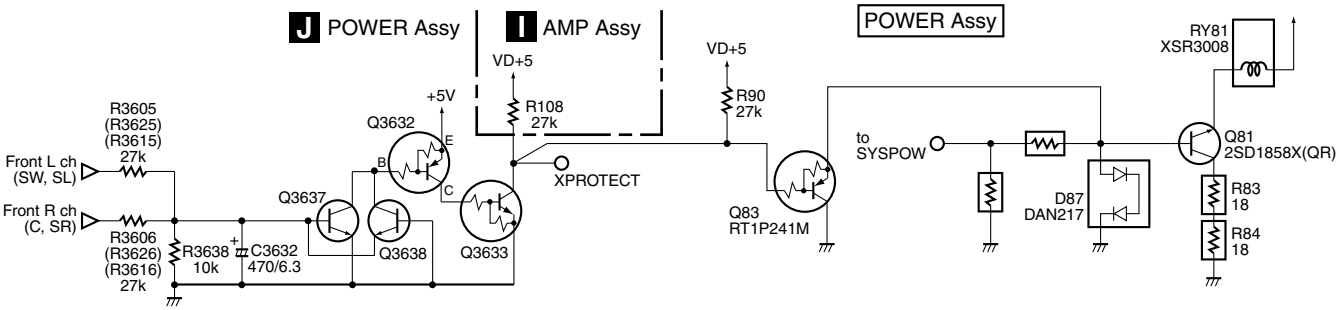


If no fan is connected between FAN+ and FAN-, or when the fan cannot rotate because of a foreign object caught in the blades, the BASE of Q3652 becomes OPEN, and Q3652 and Q3651-1/2 (E, C, B) are turned off. Then Q3651-2/2 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

When FAN+ and FAN- are short-circuited, the electric potential at Point Ⓐ becomes higher than GND level by the addition of the values at D3656 and D3657. As this value is lower than that at D3658, Q3651 (E, C, B) is turned off, Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

④ When DC is generated at the output because of a failure in the AMP system, etc.



• In Normal mode, both Q3637 and Q3638 are off.

(1) When positive (+) DC voltage is generated at the SP terminal

When positive (+) DC voltage is generated at the L or R channel, and VB of Q3637 becomes higher than that at the operation point, Q3632 (E, C, B) is turned on, and the level of XPROTECT becomes low.

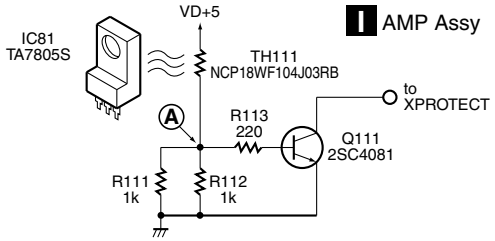
→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When negative (-) DC voltage was generated at the SP terminal

Q3638 is turned on, and XPROTECT is activated.

⑤ When abnormally high temperature is detected by the thermistor

⑤ -1 IC81 abnormal temperature detection circuit

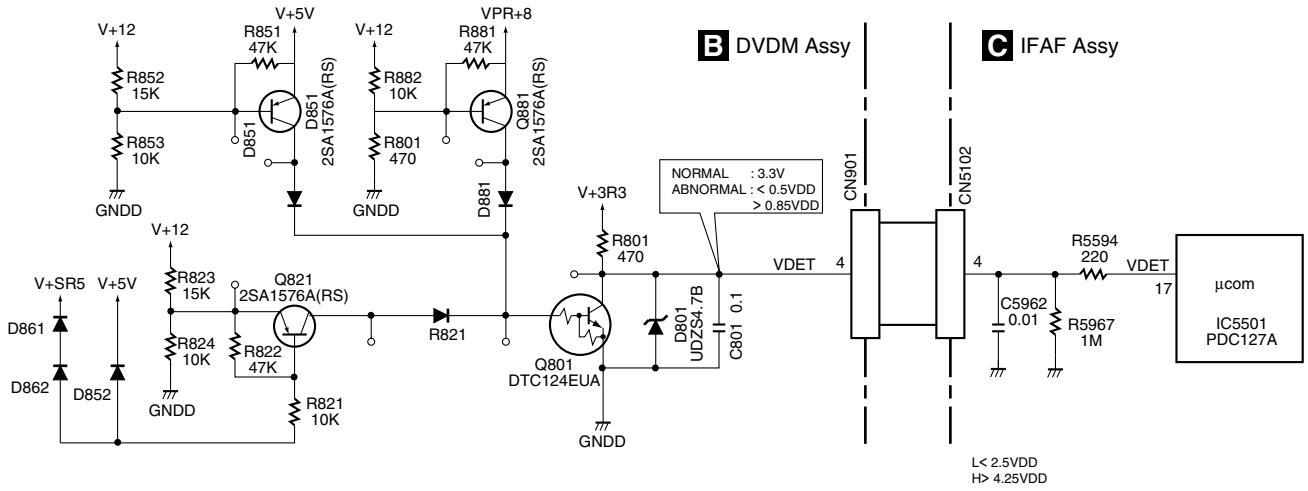


The voltage at Point Ⓐ becomes the divided voltage of TH111 and R111//R112 (combined resistance of parallel-connected resistors R111 and R112.) In Normal mode, the resistance at TH111 is much higher than R111//R112, and Q111 is off. (Note that the resistance at TH111 becomes lower as the temperature increases.) If the solder temperature at IC81 increases abnormally, the temperature at TH111 (thermistor) mounted closest to the land of IC81 increases accordingly, and the resistance at TH111 decreases.

When the temperature at TH111 reaches 90-110_C (varying according to conditions,) the voltage at Point (A) becomes high enough to turn Q111 on, and the level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

■ Protection circuit that activates against a DVD PRTECT error

⑥ The DVDM monitors the voltage of the main power supply by VDET signals.
In Normal mode, the VDET signal is at the MID level (3.3 V). In the following conditions, the VDET signal level becomes L or H, and the microcomputer is notified of this abnormality.



Items to be detected by VDET

(1) When the power voltages inside the DVDM become abnormal, as shown in the table below

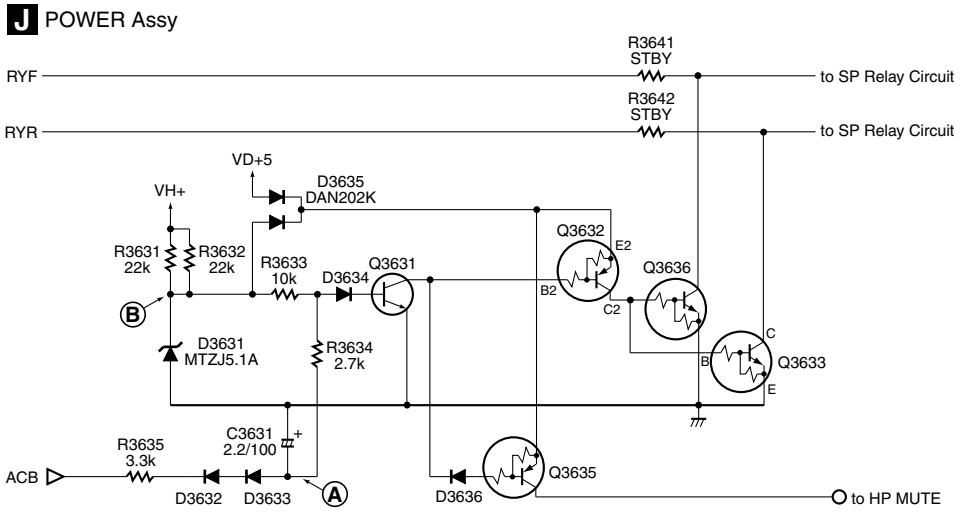
Status	Power	Voltage	Operation				VDET voltage
			Q881	Q851	Q821	Q801	
In Normal mode			off	off	off	off	Mid 3.3V
When an abnormality is generat	VDVD+12	<8.8V	on	on	off	on	L
		>15.5V	off	off	on	on	L
	VPR+8	<5.2V	–	off	on	on	L
		>12.6V	on	–	–	on	L
	V+6R5	<3V	–	–	on	on	L
	V+5	<3.6V	–	off	on	on	L
		>6.6V	–	on	off	on	L
	V+3R3	<2.5V	–	–	–	–	L
		>4.25V	–	–	–	–	H

(2) When the VDET signal to the microcomputer is interrupted because of defective soldering of the 30-pin connector or incomplete insertion of FFC
→ The VDET level is lowered by the pull-down resistor (1 Mohms) on the side of the microcomputer.

■ Other protection circuit

AC detection circuit

⑦ This is a protection circuit that prevents popping sounds in the Speaker and Headphones output when the AC power cord is connected or disconnected.



- The voltage at Point Ⓐ is a DC voltage which has been generated by half-wave rectification on the minus side of the AC power.
- The voltage at Point Ⓑ is approx. 5 V.

- The base voltage at Q3631 is a voltage between Points Ⓐ and Ⓑ divided by R3633 and R3634. As this voltage is negative (-) in Normal mode, Q3631 is off.
  When the AC power cord is disconnected and there is no AC power input, the base voltage at Q3631 becomes +0.6 V or more, and Q3631 is turned on. Then, the operations below follow.

(1) SP Relay

Q3632 (E2, C2, B2), Q3633, and Q3636 (E, C, B) are turned on, the line to activate the power amp mute becomes low level, and the power amp mute is turned on.

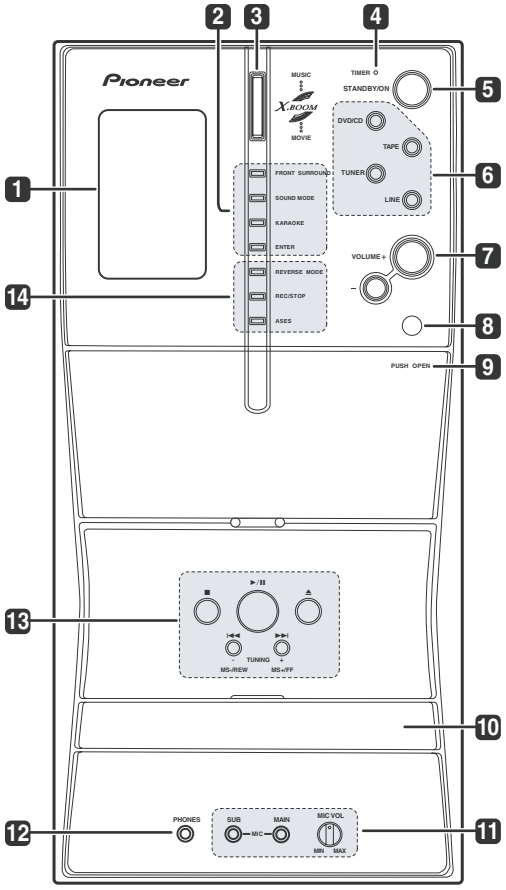
(2) HP MUTE

Q3635 is turned on, and the MUTE circuit for HP is turned on.

8. PANEL FACILITIES

Front panel

Illustration shows the EV700/1000 model



1 Display
See Display below.

2 Sound options
FRONT SURROUND (EV700/1000 only) – Switches on the Front Surround mode.

SFC (EV500 only) – Selects sound modes or custom settings from the Sound Field Control.

SOUND MODE
Accesses settings in the Sound menu, such as the tone controls.

KARAOKE – Selects audio channels for karaoke.

ENTER – Selects options or executes commands.

3 X.BOOM button
Press to switch on the bass boost.

4 TIMER indicator
Lights when the timer has been set.

5 ⏻ STANDBY/ON
Switches the player on or into standby.

6 Function select buttons
Selects the source you want to listen to.

7 VOLUME +/–
Adjusts the volume level.

8 Remote sensor

9 PUSH OPEN
Pressing down on this side on the cassette door will open the tape deck.

10 Disc tray

11 MIC VOL and MIC input jacks
Controls the volume of the karaoke mics (**MAIN** and **SUB**).

12 PHONES jack
Headphone jack.

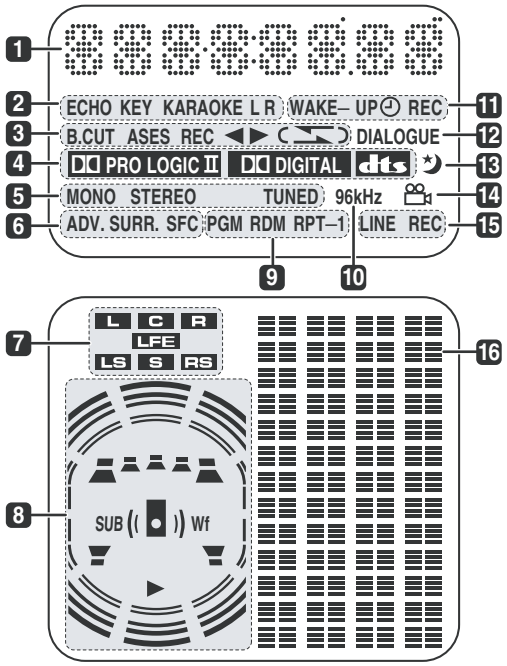
13 TUNING and playback control buttons
The tuning/scan/skip buttons are used for tuning into stations, skipping or scanning tracks on discs or tapes. The playback control buttons are used for playing, pausing and stopping playback (⏏ ejects the disc).

14 Tape cassette controls
REVERSE MODE – Selects the playback mode for tapes.

REC/STOP – Starts/stops recording on the tape deck.

ASES – Press for CD-to-tape synchro recording.

Display



1 Character display

2 Karaoke indicators
ECHO – Lights when the Karaoke **ECHO** effect is selected.

KEY – Lights when the Karaoke pitch control is selected.

KARAOKE (Vocal cancel) – Vocals in the backing track are partially eliminated using EQ.

L – Left channel only. Use for tracks that have a vocal recorded in the right channel.

R – Right channel only. Use for tracks that have a vocal recorded in the left channel.

L R – Use to put a single-channel vocal track into the center of the mix.

3 Cassette deck indicators
B.CUT – Lights when the beat cut mode has been switched to**B.CUT 2**.

ASES REC – Lights during ASES recording.

REC – Lights when recording to the tape deck.

◄ ► – Indicates the direction of tape playback.

( ) – Indicates the reverse mode.

4 Format indicators
PRO LOGIC II (EV700/1000 only) – Lights during Dolby Pro Logic II decoding.

DIGITAL – Lights during playback of a Dolby Digital signal.

DTS – Lights during playback of a DTS source.

5 Tuner indicators
MONO – Lights when FM mono reception is selected.

STEREO – Lights when a stereo FM broadcast is being received in auto stereo. mode

TUNED – Lights when a broadcast is being received.

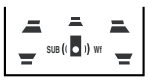
6 DSP indicators

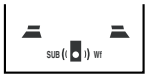
ADV.SURR. (EV700/1000 only)
Lights when one of the Advanced or Front Surround listening modes is selected.

SFC (EV500 only)
Lights when one of the Sound Field Control listening modes is selected.

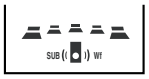
7 Channel indicators (EV700/1000 only)
These will light according to which channels are encoded on the Dolby Digital or DTS multichannel disc currently in the player. **LFE** lights when the disc has an LFE channel.

8 Speaker and playback indicators
The playback indicator (►) lights during playback, andthe speaker indicators (EV700/1000 only) show which speakers are being used to output the current source. The illustrations below show some example displays.


5.1 channel surround sound


Stereo (2.1 channel) sound


2 channel sound


5.1 channel surround sound with the Front Surround mode active

(When headphones are connected, none of the speaker indicators are lit.)

9 Playback mode indicators
PGM – Lights during program play
RDM – Lights during random playback
RPT-1 – **RPT** lights during repeat play (**RPT-1** lights during repeat one-track play)

10 96 kHz
Lights when a 96kHz source is detected (may not light if the source is copy – protected).

11 Timer indicators
WAKE-UP – Lights when the wake-up timer is set.
– Lights when the wake-up timer is set and flashes when it activates.
REC – Lights when the record timer is set and flashes when the timer starts recording.

12 DIALOGUE (EV700/1000 only)
Lights when Dialog Enhancement is on.

13
Lights when the sleep timer is active

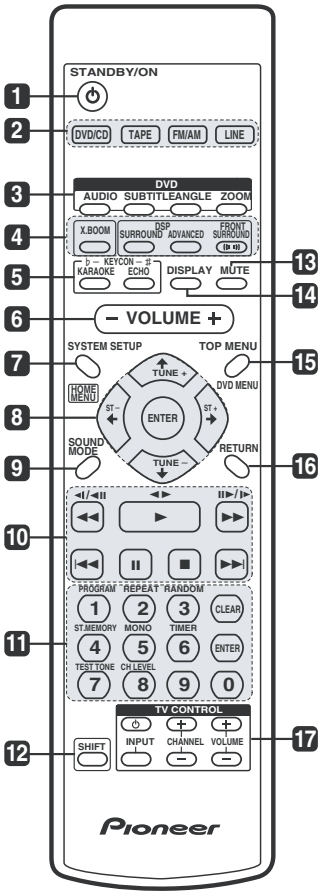
14
Lights during multi-angle scenes on a DVD

15 LINE REC (EV700/1000 only)
Lights when the line recording mode is switched on.

16 Level meter

Remote control

Illustration shows the EV700/1000 model



1 ⏻ STANDBY/ON

Switches the player on or into standby.

2 Input source function select

Selects the source you want to listen to.

3 DVD control buttons

AUDIO Selects the audio channel or language.

SUBTITLE – Selects a subtitle display.

ANGLE – Changes the camera angle during DVD multi-angle scene playback.

ZOOM – Changes the zoom level.

4 Sound Field / DSP buttons

X.BOOM – Switches the bass boost on or off.

SFC / SOUND FIELD(EV500 only)
Selects sound modes or custom settings from the Sound Field Control.

SURROUND (EV700/1000 only) – Selects a surround listening mode

ADVANCED (EV700/1000 only) – Selects an advanced listening mode

FRONT SURROUND (EV700/1000 only) – Switches on the Front Surround mode.

5 KARAOKE controls

KARAOKE – Selects audio channels for karaoke.

ECHO – Changes the echo level on the karaoke mics.

KEY CONTROL – Lowers/raises the pitch of the backing track.

6 VOLUME

Adjusts the volume level.

7 HOME MENU

Press to display (or exit) the on-screen menu for Initial Settings, Play Mode functions, etc.

SYSTEM SETUP (**SHIFT**+**HOME MENU**)
Use to make various system and surround sound settings (EV700/1000 only).
Also used when automatically saving station presets when using the tuner.

8 ENTER, TUNE & cursor control buttons

Navigates on-screen displays and menus.
ENTER selects an option or executes a command.

9 SOUND MODE
Accesses settings in the Sound menu, such as the tone controls.

10 Playback controls
► – Starts/resumes playback
◄◄ and◄I/◄II – Use for reverse slow motion playback, frame reverse and reverse scanning
►► and I►/II► – Use for forward slow motion playback, frame advance and forward scanning
►►I – Jumps to the next chapter or track
I◄◄ – Jumps to the beginning of the current chapter or track, then to previous chapters/tracks
II – Pauses playback; press again to restart
■ – Stops playback

11 Number buttons and SHIFT functions
The number buttons can be used for selecting tracks directly, the functions above the buttons are accessed by pressing **SHIFT** at the same time as the button.
PROGRAM (**SHIFT**+**1**) – Use to program/ play a program list.
REPEAT (**SHIFT**+**2**) – Selects a repeat play mode.
RANDOM (**SHIFT**+**3**) – Selects a random play mode.
ST.MEMORY (**SHIFT**+**4**) – Use for saving and listening to station presets.
MONO (**SHIFT**+**5**) – Press to listen to a stereo FM broadcast in mono.
TIMER (**SHIFT**+**6**) – Use for setting and checking the clock and the timers.
TEST TONE (**SHIFT**+**7**) (EV700/1000 only) – Press to output the test tone for speaker setup.
CH LEVEL (**SHIFT**+**8**) (EV700/1000 only) – Use to adjust the speaker level.
CLEAR – Clears an entry
ENTER – Selects menu options, etc. (works exactly the same as the**ENTER** button in **8** above)

12 SHIFT
Press to access the functions/commands written in green on the remote

13 MUTE
Mutes the volume.

14 DISPLAY
Switches between information displays.

15 TOP MENU
Displays the top menu of a DVD disc.

DVD MENU
Displays the DVD menu (for Video CD/ Super VCDs, DivX video and WMA/MP3/ JPEG discs, the Disc Navigator screen appears).

16 RETURN
Press to return to a previous menu screen.

17 TV CONTROL[1]
⏻ – Switches the TV on or into standby
INPUT – Switches the TV input
CHANNEL +/– – Selects channels
VOLUME +/– – Adjusts the TV volume

■ Jigs list

Name	Jig No.	Remarks
Service Remote Control Unit	GGF1381	adjustment, diagnosis
DVD Test Disc (DVD-Video)	GGV1025	Check of DVD-Video
CD Test Disc	STD-905	Check of CD
Cable (5P)	GGD1425	diagnosis of DVDM ASSY
Flexible Cable (25P)	GGD1309	diagnosis of DVDM ASSY
DVD Data Disc	GGV1175	diagnosis (ID data setting)
Test Tape	NCT-111	Tape Speed adjustment
Test Tape	NCT-112	Tape Playback adjustment
Test Tape	STD-633	Normal blank tape

■ Lubricants and Glues list

Name	Lubricants and Glues No.	Remarks
Lubricating Oil	GYA1001	refer to "2.5 05 LOADER ASSY"
Daifree	GEM1036	refer to "2.5 05 LOADER ASSY"
Silicone Adhesive	GEM1037	refer to "2.6 Traverse Mechanism Assy-S"
Screw tight	GYL1001	refer to "6.2.5 MECHANISM ADJUSTMENT"

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Pickup leneses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Position to be cleaned	Cleaning tools
Cassette heads Pinch rollers Capstans	Cleaning paper : GED-008

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008