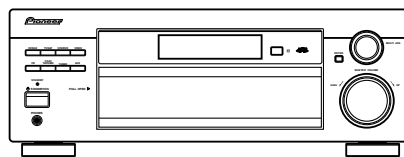


Service Manual



VSX-D912-S

ORDER NO.
RRV2745

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D912-S

VSX-D812-K

VSX-D812-S

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

Model	Type	Power Requirement	Remarks
VSX-D912-S	MYXJIEW	AC220-230V	
VSX-D812-K	MYXJIEW	AC220-230V	
VSX-D812-S	MYXJIEW	AC220-230V	
VSX-D812-S	MYXJIFG	AC220-230V	



For details, refer to "Important symbols for good services".

SAFETY INFORMATION



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

WARNING

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

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

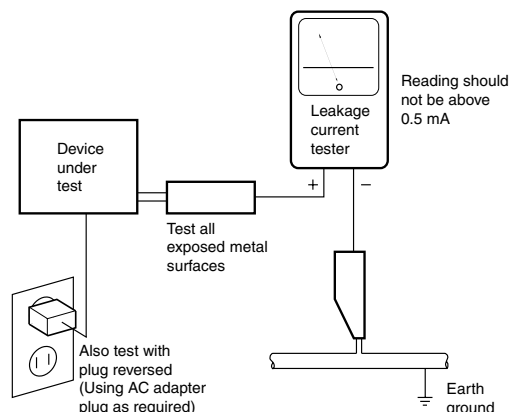
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

CONTENTS

	SAFETY INFORMATION	2
A	1. SPECIFICATIONS	5
	2. EXPLODED VIEWS AND PARTS LIST	7
	2.1 PACKING	7
	2.2 EXTERIOR SECTION	8
	2.3 FRONT PANEL SECTION	10
	3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM	12
	3.1 BLOCK DIAGRAM	12
	3.2 OVERALL WIRING CONNECTION DIAGRAM	14
	3.3 MAIN ASSY (1/3)	16
	3.4 MAIN ASSY (2/3)	18
	3.5 MAIN ASSY (3/3)	20
	3.6 DSP ASSY (1/2)	22
B	3.7 DSP ASSY (2/2)	24
	3.8 AMP & PRIMARY (1/2), TRANS2 and TRANS3 ASSYS	26
	3.9 AMP & PRIMARY (2/2), REG. , AMP INPUT and TRANS1 ASSYS	28
	3.10 VIDEO, 6CH IN, BOARD TO BOARD and S. VIDEO ASSYS	30
	3.11 FRONT, R. ENCODER and POWER SW ASSYS	32
	3.12 TRANS4, F.VIDEO, H.P., PRE., D.IN and F.OPT&MIC ASSYS	34
	3.13 FM/AM TUNER MODULE	36
	4. PCB CONNECTION DIAGRAM	38
	4.1 REGULATOR ASSY	38
	4.2 TRANS2, TRANS3, TRANS1 and TRANS4 ASSYS	39
	4.3 MAIN ASSY	40
	4.4 DSP ASSY	44
C	4.5 AMP & PRIMARY and AMP INPUT ASSYS	46
	4.6 FRONT, R. ENCODER, POWER SW and H. P. ASSYS	48
	4.7 BOARD TO BOARD, DIGITAL IN, VIDEO and 6CH IN ASSYS	52
	4.8 S.VIDEO, F.VIDEO, F.OPT&MIC and PRE-OUT ASSYS	54
	4.9 FM/AM TUNER MODULE	56
	5. PCB PARTS LIST	57
	6. ADJUSTMENT	64
	6.1 TUNER SECTION	64
	7. GENERAL INFORMATION	65
	7.1 DIAGNOSIS	65
	7.1.1 DISASSEMBLY AND DIAGNOSIS	65
	7.1.2 PCB LOCATION	66
D	7.2 PARTS	67
	7.2.1 IC	67
	7.2.2 DISPLAY	81
	7.3 EXPLANATION	83
	7.3.1 POWER ON AND OFF INITIAL TIMING CHART	83
	7.3.2 IC DATA TRANSMISSION TIMING CHART	85
	7.3.3 DETECTION CIRCUIT	86
	7.3.4 AMPLIFIER SYSTEM PROTECTION OPERATION SPECIFICATION	87
	7.4 CLEANING	87
	8. PANEL FACILITIES	88

1. SPECIFICATIONS

• Amplifier section

Continuous power output (stereo)

These specifications are applicable when the power supply is 230 V.

Front.....100 W per channel
(DIN 1kHz, THD 1 %, 8 Ω)

Continuous power output (surround)

These specifications are applicable when the power supply is 230 V.

Front.....100 W per channel
(1kHz, 1.0 %, 8 Ω)
Center.....100 W per channel
(1kHz, 1.0 %, 8 Ω)
Surround.....100 W per channel
(1kHz, 1.0 %, 8 Ω)
Surround Back.....100 W per channel
(1kHz, 1.0 %, 8 Ω)

Input (Sensitivity/Impedance)

CD, VCR/DVR, CD-R/TAPE/MD,
DVD/LD, TV/SAT.....200 mV/47 kΩ

Frequency response

CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD,
TV/SAT.....5 Hz to 100,000 Hz $^{+0}_{-3}$ dB

Output (Level/Impedance)

VCR/DVR REC, CD-R/TAPE/MD REC.....200mV/2.2kΩ

Tone control

Bass.....± 6 dB (100 Hz)
Treble.....± 6 dB (10 kHz)
Loudness.....± 6.5 dB/+3 dB (100 Hz/10 kHz)
(at volume level -50 dB)

Signal-to-Noise Ratio

[DIN (Continuous rated power output/50 mW)]

CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT.....96 dB

• Video Section

Input (Sensitivity/Impedance)

VCR/DVR, DVD/LD, TV/SAT.....1 Vp-p/75 Ω

Output (Level/Impedance)

VCR/DVR, MONITOR OUT.....1 Vp-p/75 Ω

Frequency Response

VCR/DVR, DVD/LD,
TV/SAT ⇒ MONITOR.....5 Hz to 7 MHz $^{+0}_{-3}$ dB
Signal-to-Noise Ratio.....55 dB

• FM Tuner Section

Frequency Range.....87.5 MHz to 108 MHz
Usable Sensitivity.....Mono:13.2 dBf, IHF
(1.3 μV/ 75 Ω)
50 dB Quieting Sensitivity.....Mono: 20.2 dB
Stereo: 38.6 dBf
Signal-to-Noise RatioStereo.....Mono: 73 dB (at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Distortion.....Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity.....60 dB
(400 kHz)
Stereo Separation.....40 dB (1 kHz)
Frequency response.....30 Hz to 15 kHz
(±1 dB)
Antenna Input (DIN).....75 Ω unbalanced

• AM Tuner Section

Frequency range.....531 kHz to 1,602 kHz
Selectivity (IHF, Loop antenna).....350 μV/m
Selectivity.....25 dB
Signal-to-Noise Ratio.....50 dB
Antenna.....Loop antenna

• Miscellaneous

Power Requirements.....AC 220-230 V, 50/60Hz
Power Consumption.....280 W
In standby.....0.5 W
Dimensions.....420 (W) x 158 (H) x 401 (D) mm
Weight (without package).....10.0 kg

• Furnished Parts

AM loop antenna.....	1
FM wire antenna.....	1
Dry cell batteries (AA size IEC R6).....	2
Remote control.....	1
Microphone (VSX-D912 only).....	1
Microphone stand (VSX-D912 only).....	1
These operating instructions.....	1



Note

- Specifications and the design are subject to possible modifications without notice, due to improvements.

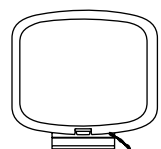
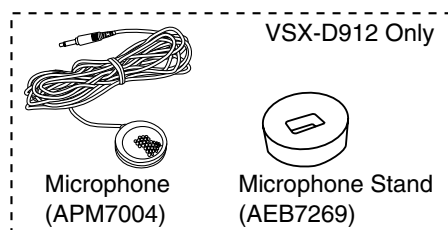
Cleaning the unit

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.

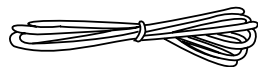
"DTS", "DTS-ES Extended Surround" and "Neo:6" are trademarks of Digital Theater Systems, Inc.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", "Surround EX", and the double-D symbol are trademarks of Dolby Laboratories.

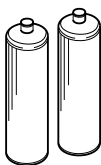
Accessories



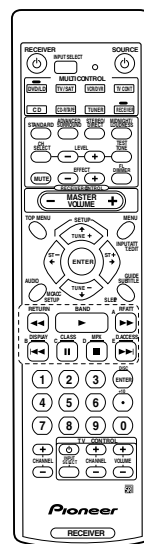
AM loop antenna
(ATB7009)



FM wire antenna
(ADH7030)



AA size IEC R6
Dry cell batteries (x2)



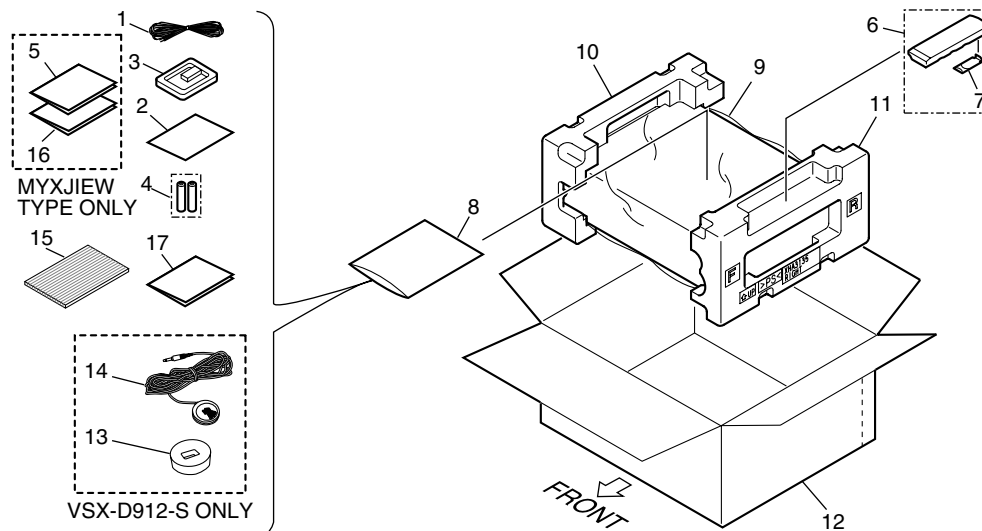
Remote control unit
(XXD3054)

2. EXPLODED VIEWS AND PARTS LIST

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

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



PACKING parts List

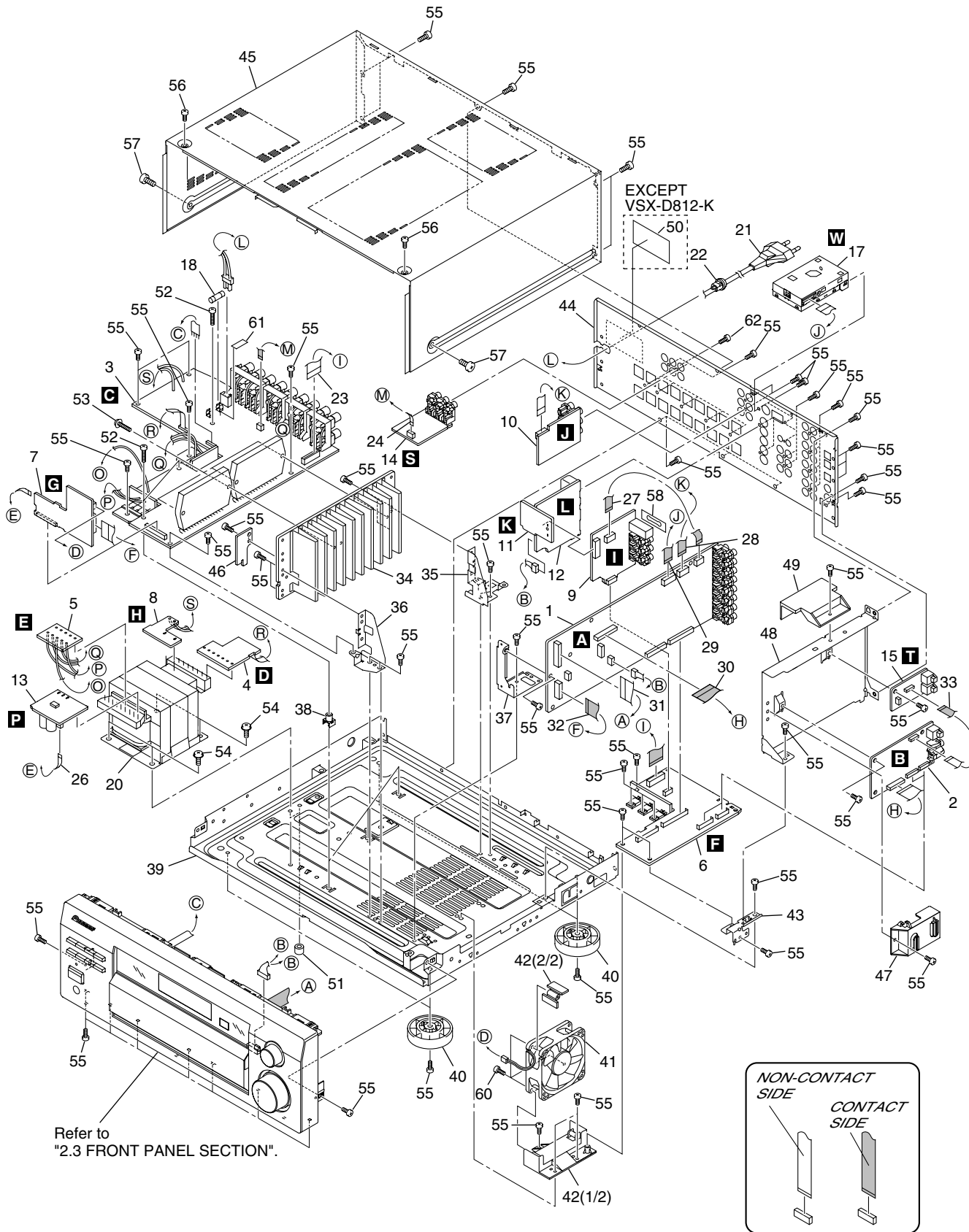
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FM wire antenna	ADH7030	11	Right Pad R6	XHA3135
NSP 2	Warranty Card	ARY7065	12	Packing Case	See Contrast table(2)
3	AM loop antenna	ATB7009	13	MIC Stand 45	See Contrast table(2)
NSP 4	Dry cell batteries (AA/R6)	VEM1031	14	Microphone Assy	See Contrast table(2)
5	Operating instructions (English/Italian)	See Contrast table(2)	NSP 15	Accessory Board R6	XHB3008
6	Remote Control Unit	XXD3054	16	Operating instructions (Dutch/Spanish)	See Contrast table(2)
7	Battery Cover	AZA7424	17	Operating instructions (French/German)	XRC3082
NSP 8	Literature Bag	AHG1180			
9	Packing Sheet	AHG7069			
10	Left Pad R6	XHA3134			

(2) CONTRAST TABLE

VSX-D912-S/MYXJIEW, VSX-D812-K/MYXJIEW, VSX-D812-S/MYXJIEW and MYXJIFG are constructed the same except for the following:

Mark	NO	Symbol and Description	VSX-D912-S/ MYXJIEW	VSX-D812-K/ MYXJIEW	VSX-D812-S/ MYXJIEW	VSX-D812-S/ MYXJIFG
	5	Operating Instructions (English/Italian)	XRE3070	XRE3070	XRE3070	Not used
	12	Packing Case	XHD3334	XHD3332	XHD3333	XHD3333
	13	MIC Stand 45	AEB7269	Not used	Not used	Not used
	14	Microphone Assy	APM7004	Not used	Not used	Not used
	16	Operating Instructions (Dutch/Spanish)	XRC3081	XRC3081	XRC3081	Not used

2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	MAIN Assy	See Contrast table(2)	33	J37 10P F.F.C/30V	XDD3127
2	DSP Assy	AWX1082	NSP 34	Heatsink R6A CORR	XNH3026
3	AMP&PRIMARY Assy	XWZ3670	35	H/S Angle Rear	XNG3095
4	TRANS2 Assy	XWZ3684			
5	TRANS3 Assy	XWZ3687	36	H/S Angle Front	XNG3094
			37	PCB Angle R5	XNG3073
6	REGULATOR Assy	XWZ3676	38	PCB Mold	AMR2533
7	AMP INPUT Assy	XWZ3679	NSP 39	Under Base R6	XNA3012
8	TRANS1 Assy	XWZ3681	40	Insulator	PNW2766
9	VIDEO Assy	XWZ3647			
10	6CH IN Assy	XWZ3650	⚠ 41	DC Fan Motor	XXM3006
			42	Fan Holder R6	XMR3066
11	BOARD TO BOARD Assy	XWZ3665	43	REG Support R6	XNG3093
12	S. VIDEO Assy	XWZ3660	44	Rear Panel 812K	XNC3196
13	TRANS4 Assy	XWZ3662	45	Bonnet	See Contrast table(2)
14	PRE-OUT Assy	XWZ3663			
15	DIGITAL IN Assy	See Contrast table(2)	NSP 46	HOLDER Assy	XWZ3693
			47	FFC Holder R6	XMR3072
16	•••••		48	Shield A R6	XNG3068
17	FM/AM TUNER MODULE	AXQ7232	49	FFC Cover R6	XMR3060
⚠ 18	FU1 Fuse (T3.15A)	REK1027	NSP 50	N Label	See Contrast table(2)
19	•••••				
⚠ 20	T1 Power Transformer	XTS3063	NSP 51	Spacer	AEB7092
			52	Screw	BBZ30P200FMC
⚠ 21	AC Power Cord	VDG1080	53	Screw 3x23	ABA7043
22	Cord Stopper	CM-22B	54	Screw	FBT40P080FZK
23	J36 23P F.F.C/30V	XDD3102	55	Screw	BBZ30P080FZK
24	J46 7P F.F.C/30V	XDD3105			
25	•••••		56	Screw	See Contrast table(2)
			57	Screw	See Contrast table(2)
26	J22 3P F.F.C/30V	XDD3107	58	Vjack Spacer R6	XEC3038
27	J33 11P F.F.C/30V	XDD3123	NSP 59	BINDER Assy	XWZ3691
28	J48 9P F.F.C/30V	XDD3124	60	Screw	BPZ30P120FMC
29	J34 13P F.F.C/30V	XDD3122			
30	J43 19P F.F.C/30V	XDD3126	61	Fuse Card	AAX7493
			62	Screw	BBT30P100FCC
31	J31 17P F.F.C/30V	XDD3118			
32	J35 19P F.F.C/30V	XDD3101			

(2) CONTRAST TABLE

VSX-D912-S/MYXJIEW, VSX-D812-K/MYXJIEW, VSX-D812-S/MYXJIEW and MYXJIFG are constructed the same except for the following:

Mark	NO	Symbol and Description	VSX-D912-S/ MYXJIEW	VSX-D812-K/ MYXJIEW	VSX-D812-S/ MYXJIEW	VSX-D812-S/ MYXJIFG
NSP	1	MAIN Assy	XWK3101	XWK3096	XWK3096	XWK3096
	15	DIGITAL IN Assy	XWZ3659	XWZ3658	XWZ3658	XWZ3658
	45	Bonnet D912S	XZN3127	Not used	XZN3127	XZN3127
	45	Bonnet D912K	Not used	XZN3126	Not used	Not used
NSP	50	N Label 912S/MY	XAL3173	Not used	Not used	Not used
	50	N Label 812S/MY	Not used	Not used	XAL3152	XAL3152
	56	Screw	BPZ30P080FNI	BPZ30P080FZK	BPZ30P080FNI	BPZ30P080FNI
	57	Screw	FBT40P080FNI	FBT40P080FZK	FBT40P080FNI	FBT40P080FNI

2.3 FRONT PANEL SECTION

A



Lubricating Oil
GYA1001

VSX-D912-S ONLY

B

VSX-D812-K,
VSX-D812-S
ONLY

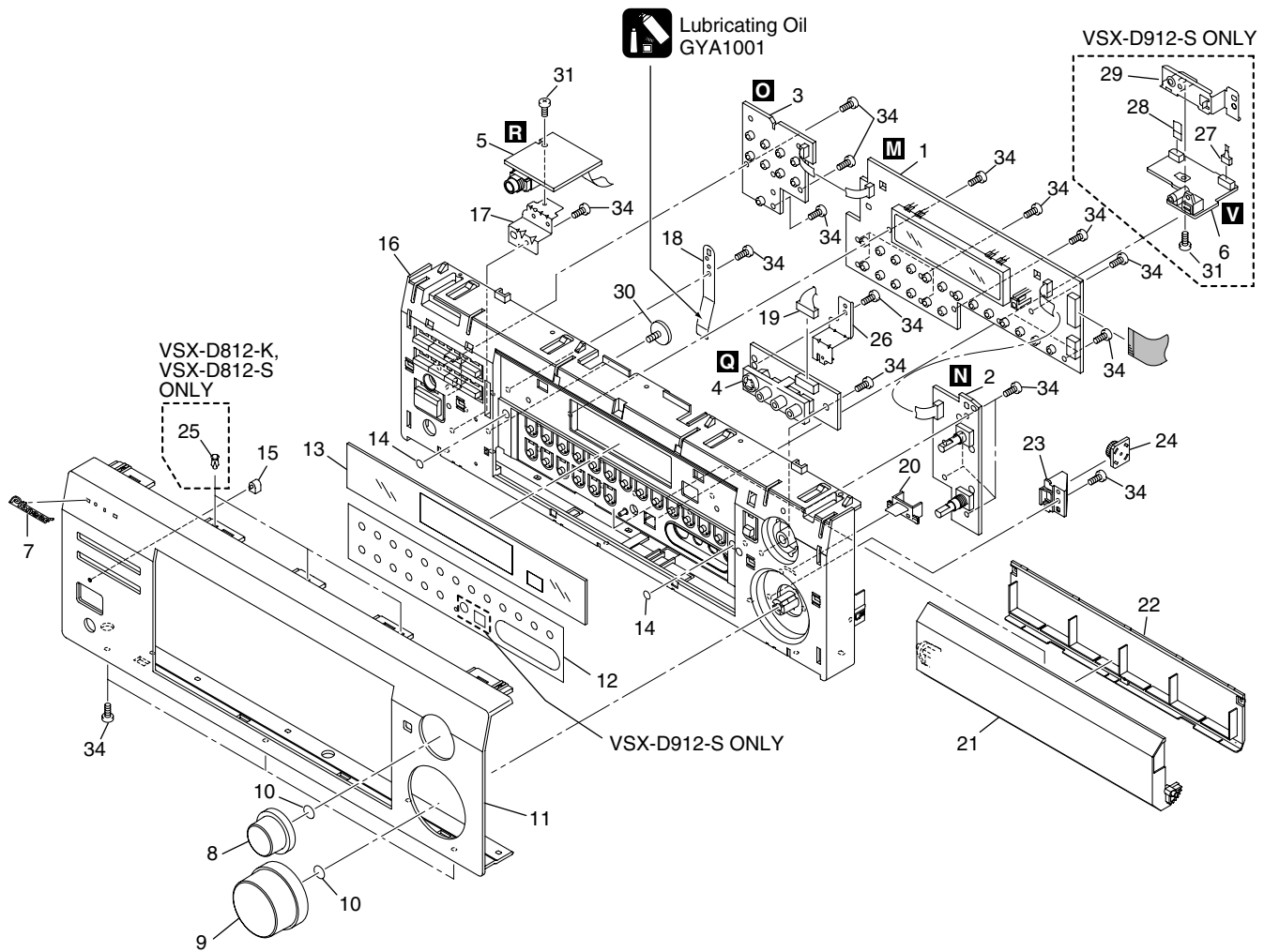
VSX-D912-S ONLY

C

D

E

F



FRONT PANEL SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FRONT ASSY	XWZ3648	19	J29 8P Shield Cable	XDX3012
2	R. ENCODER Assy	XWZ3653	20	B Lens R6	XAK3352
3	POWER SW Assy	XWZ3651			
4	FRONT VIDEO Assy	XWZ3655	21	Door	See Contrast table(2)
5	H.P. Assy	XWZ3654	22	Door Cover	See Contrast table(2)
			23	Holder L R6	XMR3059
6	FRONT OPTICAL & MIC Assy	See Contrast table(2)	24	Damper Assy	XXA3025
7	Pioneer Badge B	See Contrast table(2)	25	Push Rivet	See Contrast table(2)
8	Select Knob	See Contrast table(2)			
9	Volume Knob	See Contrast table(2)	26	Earth Plate FI R6	XNG3091
NSP 10	C Ring DIM 8.1	XBH3016	27	J30 5P Shield Cable	See Contrast table(2)
			28	J32 5P F.F.C/30V	See Contrast table(2)
11	FRT Panel	See Contrast table(2)	29	Earth Plate D R6	See Contrast table(2)
12	BN Cover	See Contrast table(2)	30	Screw	XBA3010
13	D Panel R6 W	XAK3348			
14	Cushion	See Contrast table(2)	31	Screw	BBZ30P080FZK
15	LED Lens	PNW2019	32	•••••	
			33	•••••	
16	Panel Stay	See Contrast table(2)	34	Screw	PPZ30P100FMC
17	Earth Plate R5 HP	XNG3066			
18	Door Spring R6	XBK3002			

(2) CONTRAST TABLE

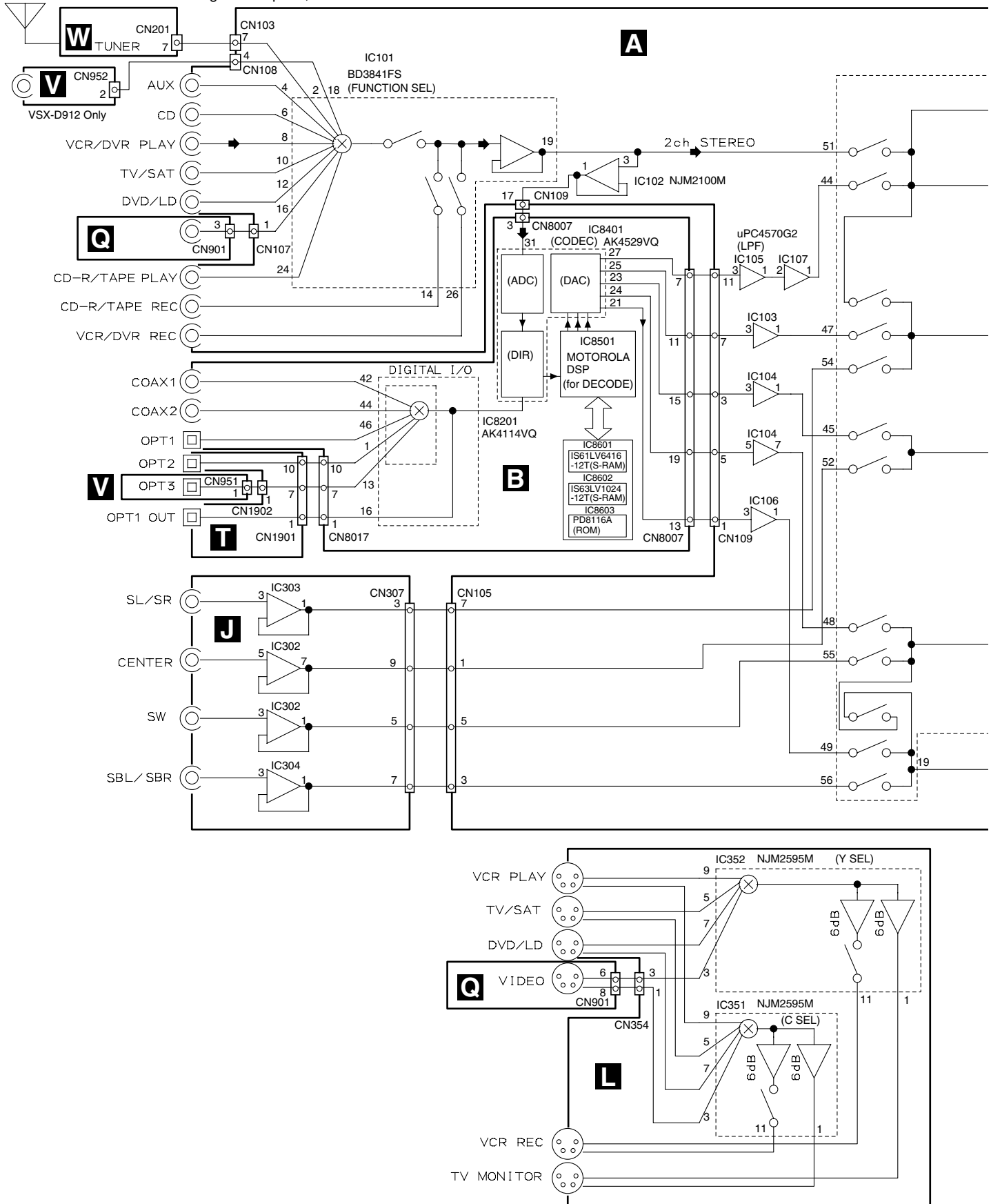
VSX-D912-S/MYXJIEW, VSX-D812-K/MYXJIEW, VSX-D812-S/MYXJIEW and MYXJIFG are constructed the same except for the following:

Mark	NO	Symbol and Description	VSX-D912-S/ MYXJIEW	VSX-D812-K/ MYXJIEW	VSX-D812-S/ MYXJIEW	VSX-D812-S/ MYXJIFG
	6	FRONT OPTICAL & MIC Assy	XWZ3656	Not used	Not used	Not used
	7	Pioneer Badge B	VAM1124	XAM3006	VAM1129	VAM1129
	8	SEL Plat Knob R6S	XAB3037	Not used	XAB3037	XAB3037
	8	Select Knob R5BH	Not used	XAB3023	Not used	Not used
	9	VOL Plat Knob R6S	XAB3036	Not used	XAB3036	XAB3036
	9	Volume Knob R5BH	Not used	XAB3025	Not used	Not used
	11	FRT Panel 912S/MY	XNB3001	Not used	Not used	Not used
	11	FRT Panel 812K/MY	Not used	XMB3106	Not used	Not used
	11	FRT Panel 812S/MY	Not used	Not used	XMB3107	XMB3107
	12	BN Cover 912S/MY	XAK3353	Not used	Not used	Not used
	12	BN Cover 712K/MY	Not used	XAK3378	Not used	Not used
	12	BN Cover 712S/MY	Not used	Not used	XAK3380	XAK3380
	14	Cushion R4G	XED3002	Not used	XED3002	XED3002
	14	Cushion R4B	Not used	XED3001	Not used	Not used
	16	Panel Stay 912S/MY	XMB3108	Not used	Not used	Not used
	16	Panel Stay 812K/MY	Not used	XMB3098	Not used	Not used
	16	Panel Stay 812S/MY	Not used	Not used	XMB3104	XMB3104
	21	Door R6S	XAK3357	Not used	XAK3357	XAK3357
	21	Door R6K	Not used	XAK3356	Not used	Not used
	22	Door Cover R6S	XAK3359	Not used	XAK3359	XAK3359
	22	Door Cover R6K	Not used	XAK3358	Not used	Not used
	25	Push Rivet	Not used	AEC7025	AEC7025	AEC7025
	27	J30 5P Shield Cable	XDX3019	Not used	Not used	Not used
	28	J32 5P F.F.C/30V	XDD3125	Not used	Not used	Not used
	29	Earth Plate D R6	XNG3092	Not used	Not used	Not used

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

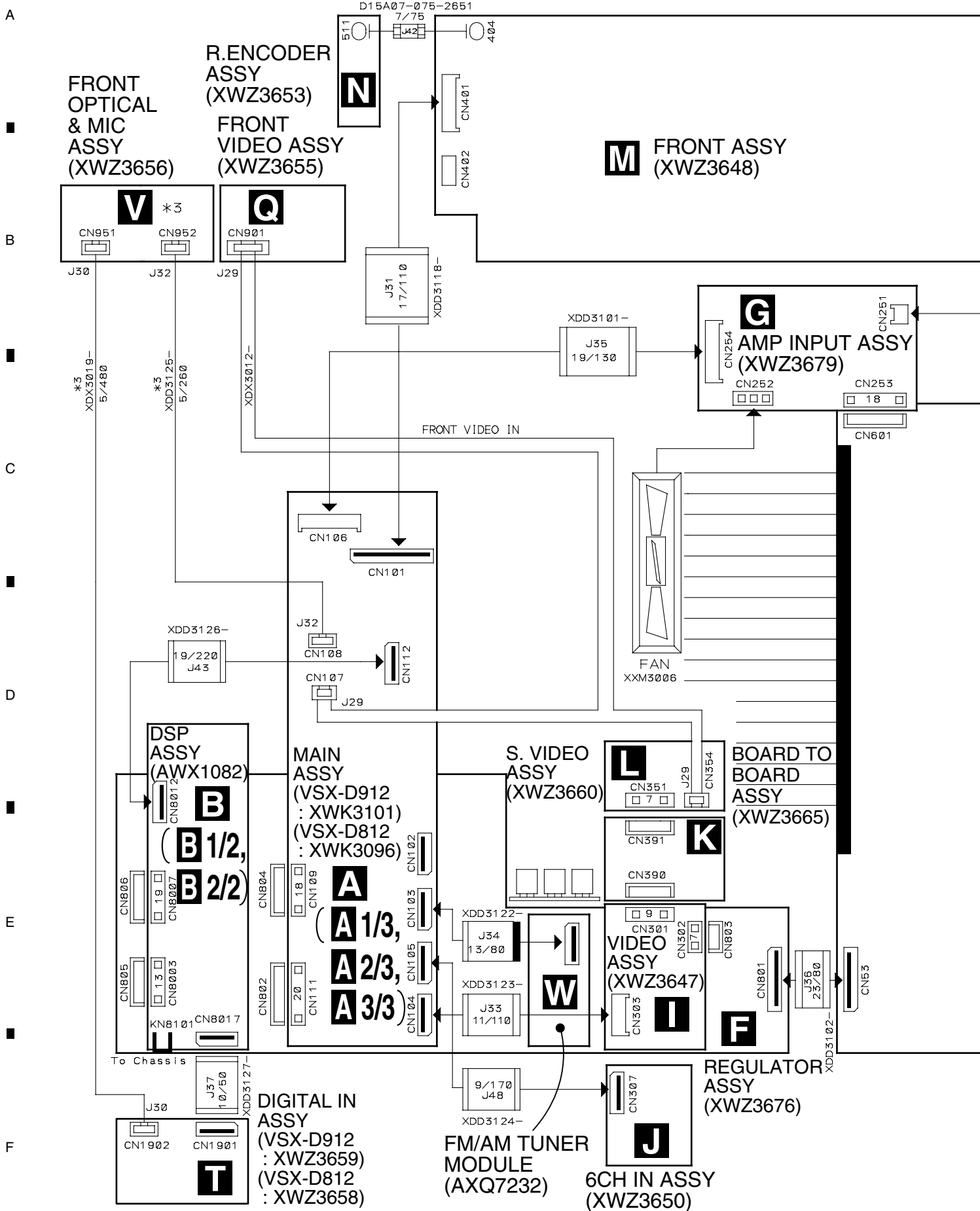
3.1 BLOCK DIAGRAM

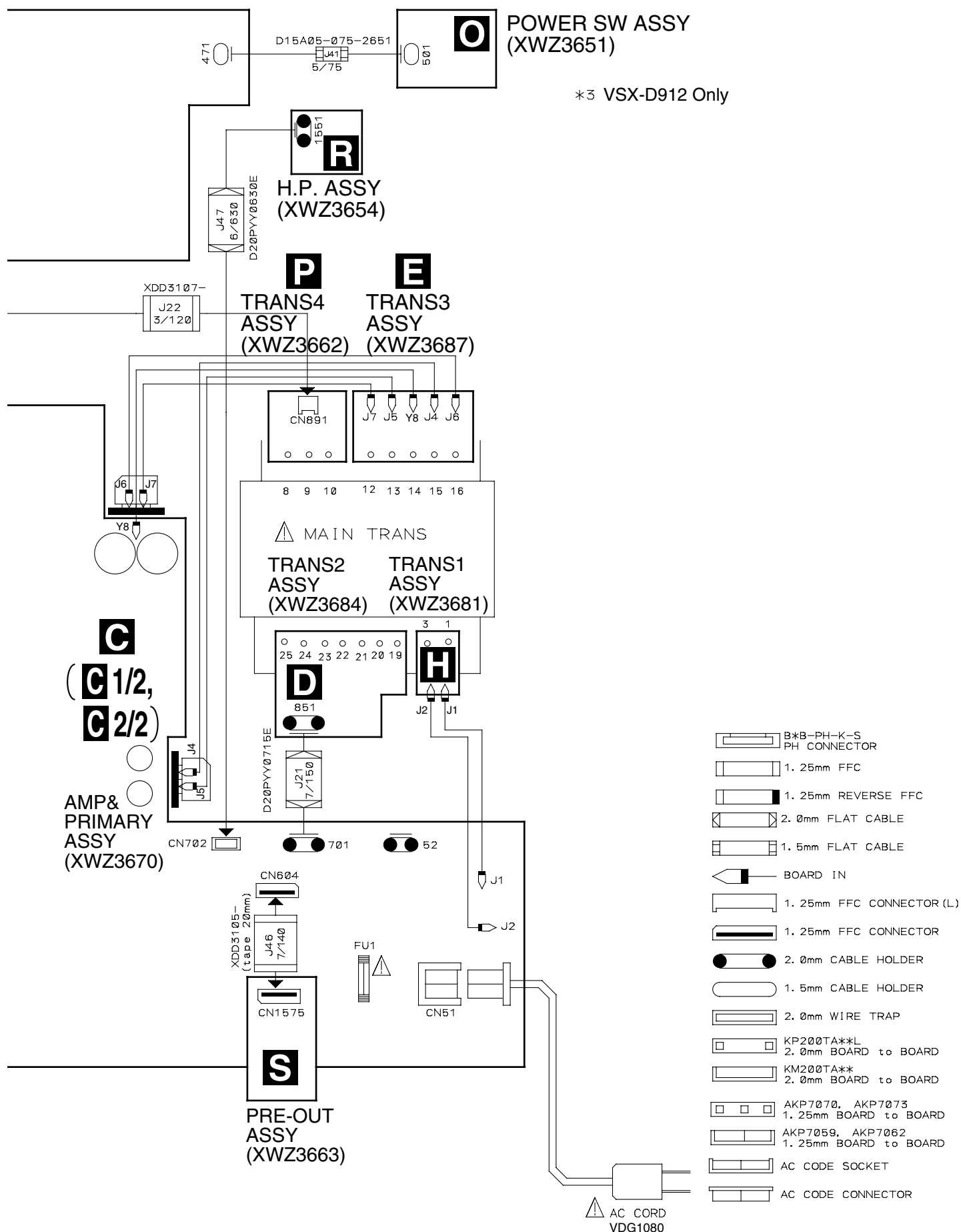
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

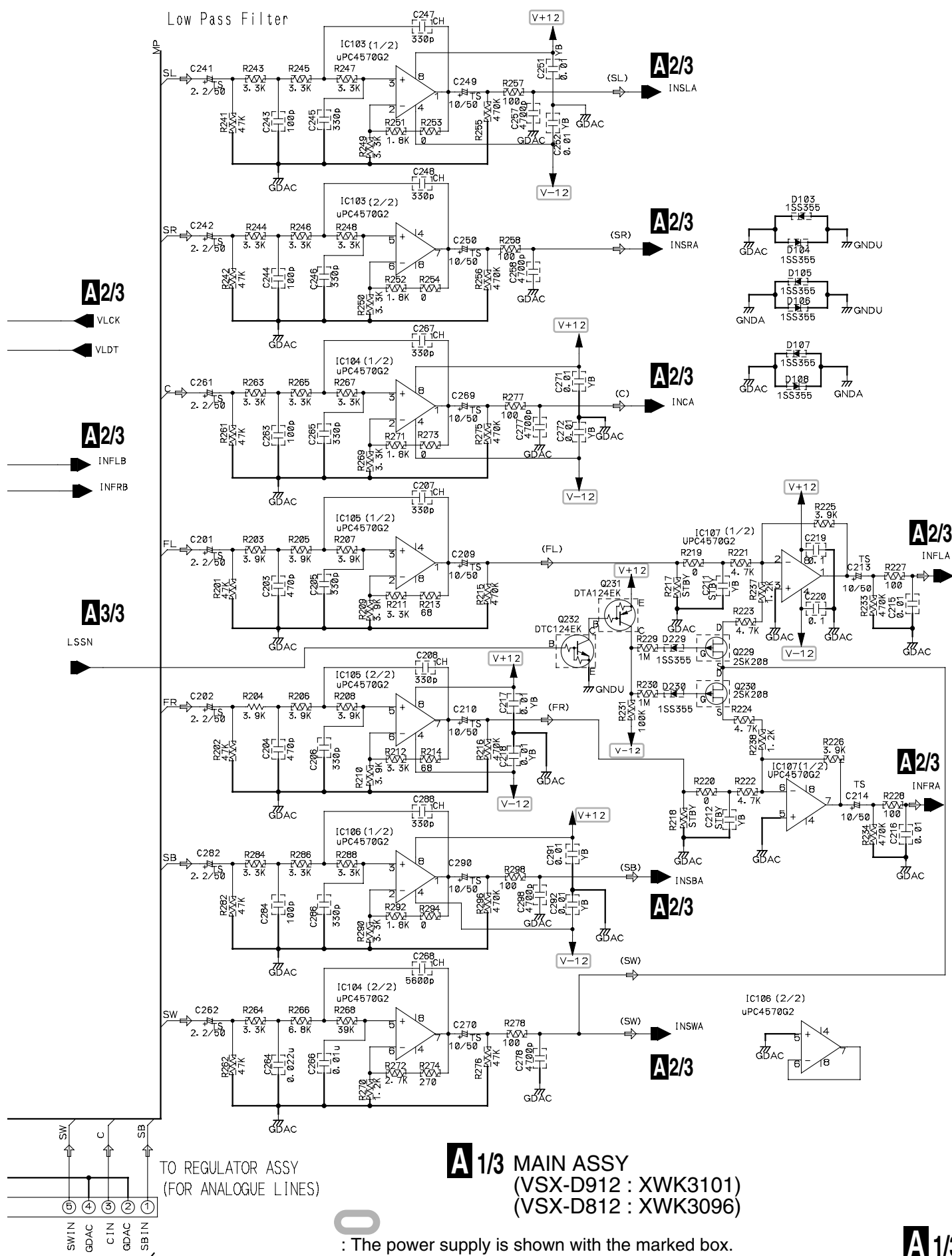




3.2 OVERALL WIRING CONNECTION DIAGRAM







3.4 MAIN ASSY (2/3)

A 2/3 MAIN ASSY
(VSX-D912 : XWK3101)
(VSX-D812 : XWK3096)

A1/3

A3/3

TO 6.1 INPUT ASSY

CN105
52044-0945

CN307

6 CH E-VOL

BD381 3K9

BD381 3K9

2 CH E-VOL
(SB CH)

$$\frac{2 \text{ CH}_3\text{E}}{(\text{SB} \text{ CH})}$$

A3/3 MVRATT

---NOTE.

1. RESISTORS
Unit: k- Ω , M-M Ω or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) $\pm 5\%$ unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity (μ F)/Voltage (V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
JA:CEJA

VSX-D912-S



3.5 MAIN ASSY (3/3)

A

B

C

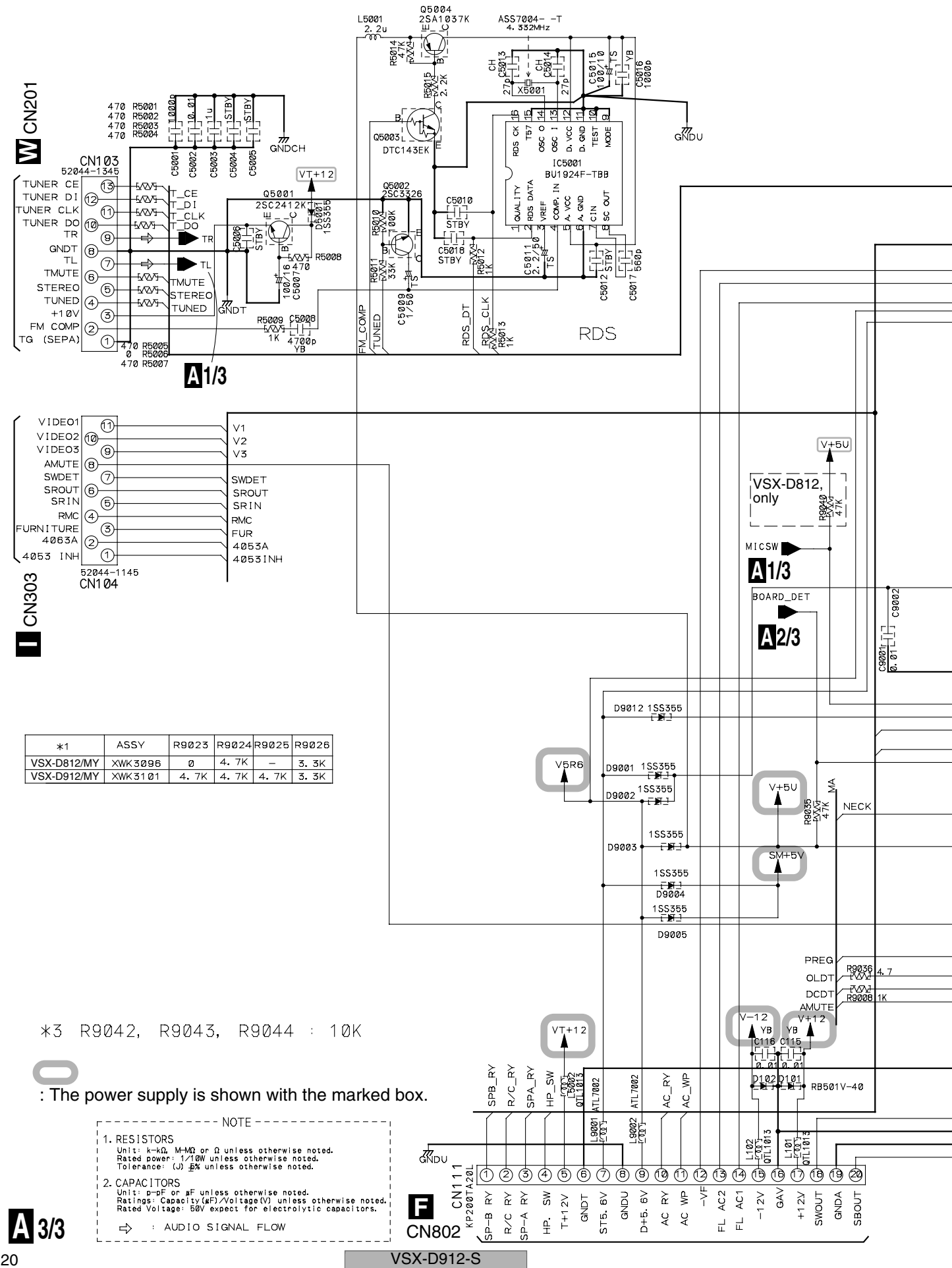
D

E

F

W CN201

I CN303



4

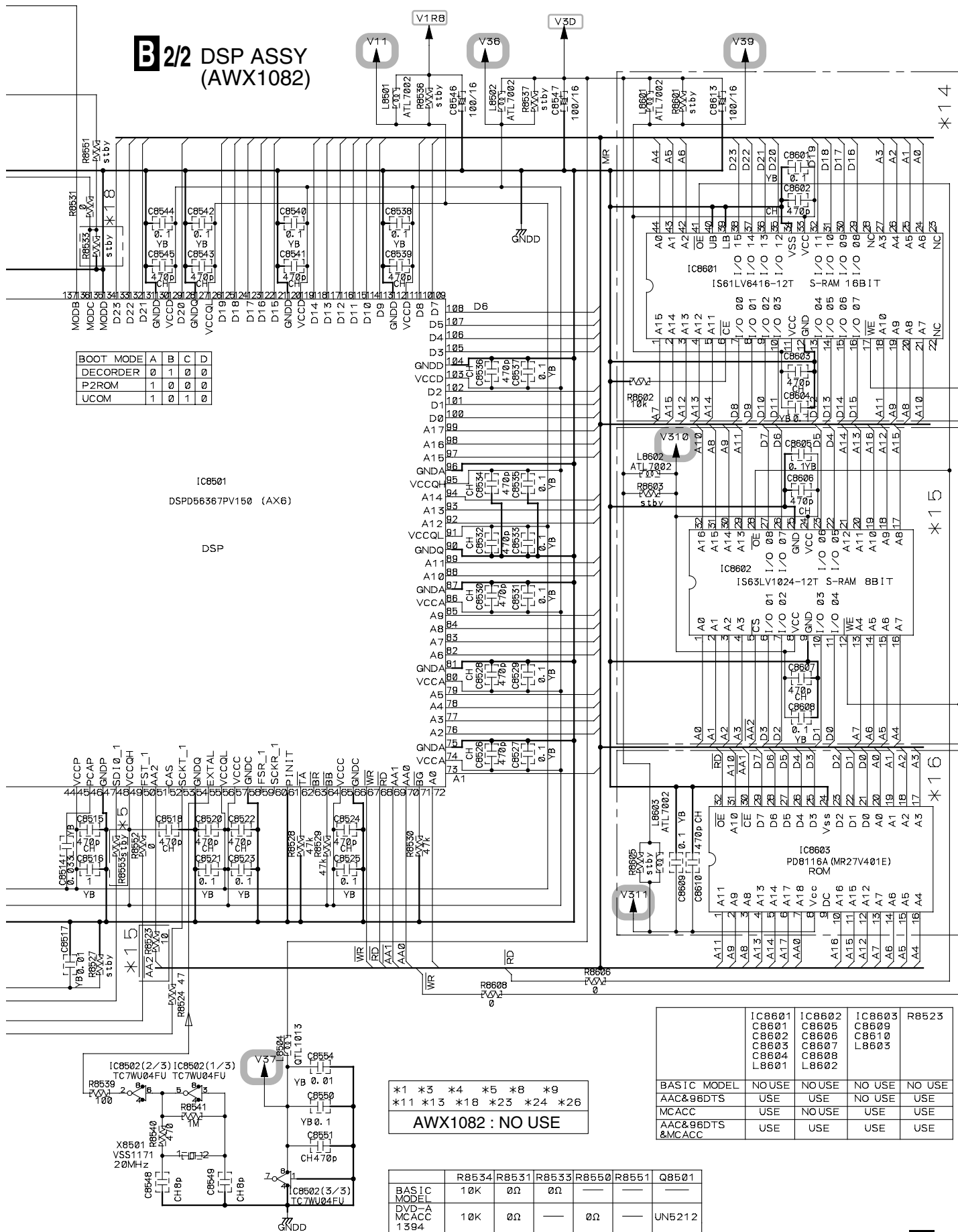




A3/3 CN112



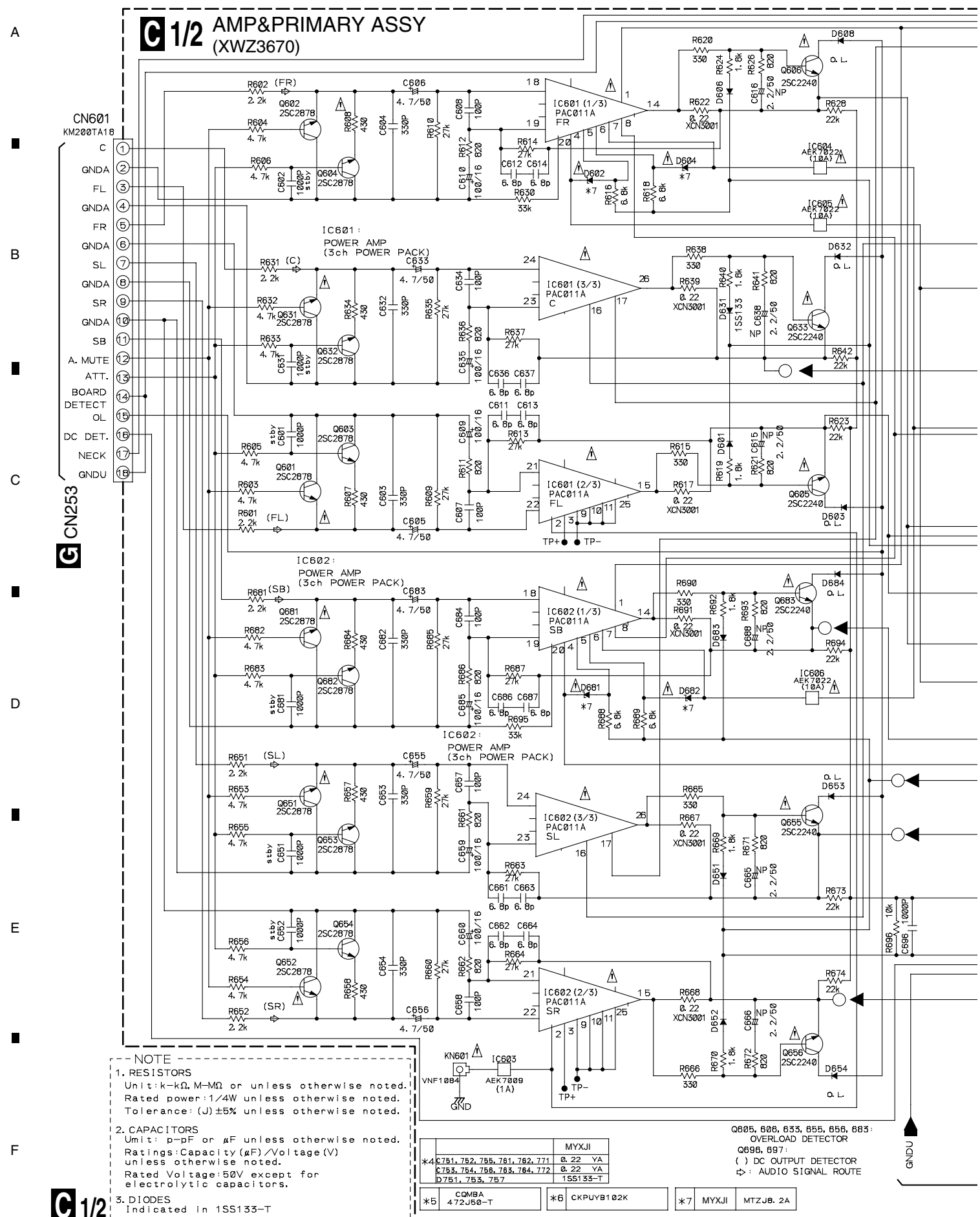
B 2/2 DSP ASSY (AWX1082)



AWX1082 : NO USE

	R8534	R8531	R8533	R8550	R8551	Q8501
BASIC MODEL	10K	0Ω	0Ω	—	—	—
DVD-A MCACC 1394	10K	0Ω	—	0Ω	—	UN5212

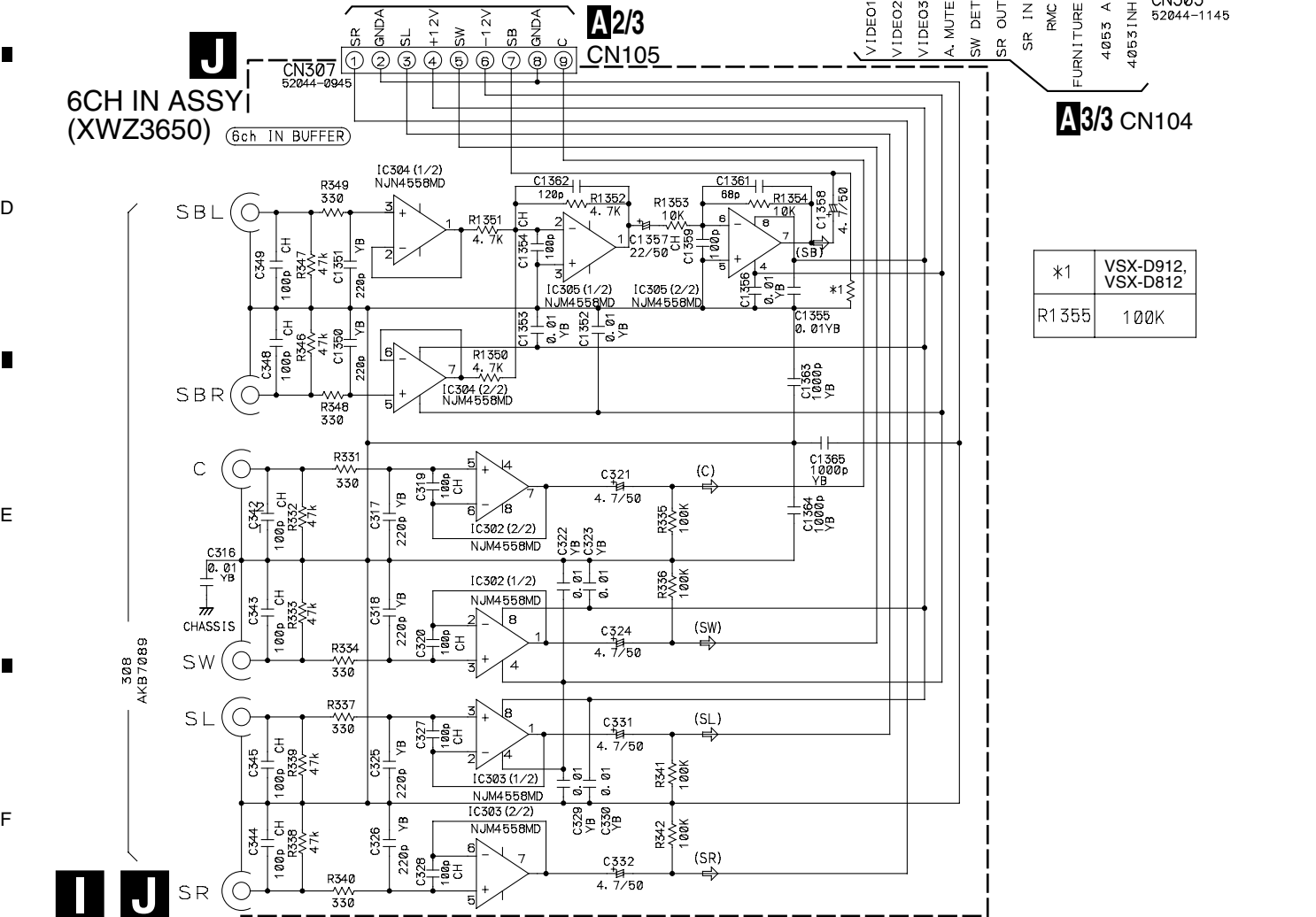
3.8 AMP & PRIMARY (1/2), TRANS2 and TRANS3 ASSYS







6CH IN ASSY
(XWZ3650) (6c)



*1	VSX-D912 VSX-D812
R1355	100K

K

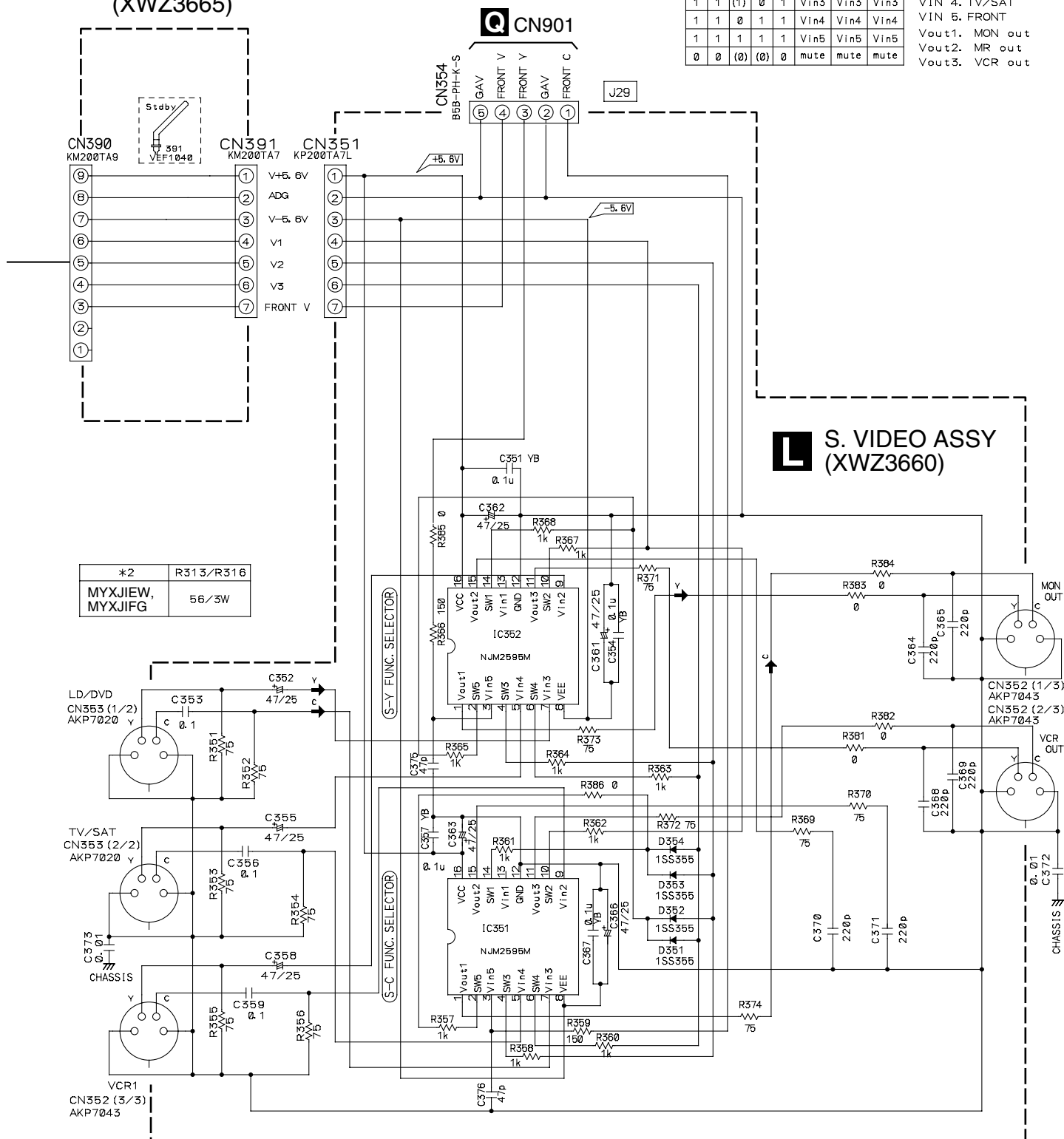
BOARD TO BOARD ASSY (XWZ3665)

- NOTE
1. RESISTORS
Unit: k- Ω , M-M Ω or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) 5% unless otherwise noted.
 2. CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

NJM2296D control port status

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
1	0	(1)	0	1	Vin2	Vin2	mute
1	1	(1)	0	1	Vin3	Vin3	Vin3
1	1	0	1	1	Vin4	Vin4	Vin4
1	1	1	1	1	Vin5	Vin5	Vin5
0	0	(0)	(0)	0	mute	mute	mute

VIN 2. VCR
VIN 3. DVD/LD
VIN 4. TV/SAT
VIN 5. FRONT
Vout1. MON out
Vout2. MR out
Vout3. VCR out



→ VIDEO SIGNAL FLOW
→ AUDIO SIGNAL FLOW

K L

3.11 FRONT, R. ENCODER and POWER SW ASSYS

A

R.ENCODER ASSY (XWZ3653)

R.ENCODER ASSY

S511 : ENTER
S512 : MULTI JOG DIAL
S513 : MASTER VOLUME

*1	D511	D512	R512
VSX-D912	UDZ55. 6B	SLR-3438BT	390
VSX-D812			

(J42)

D15A07-075-2651

B

C

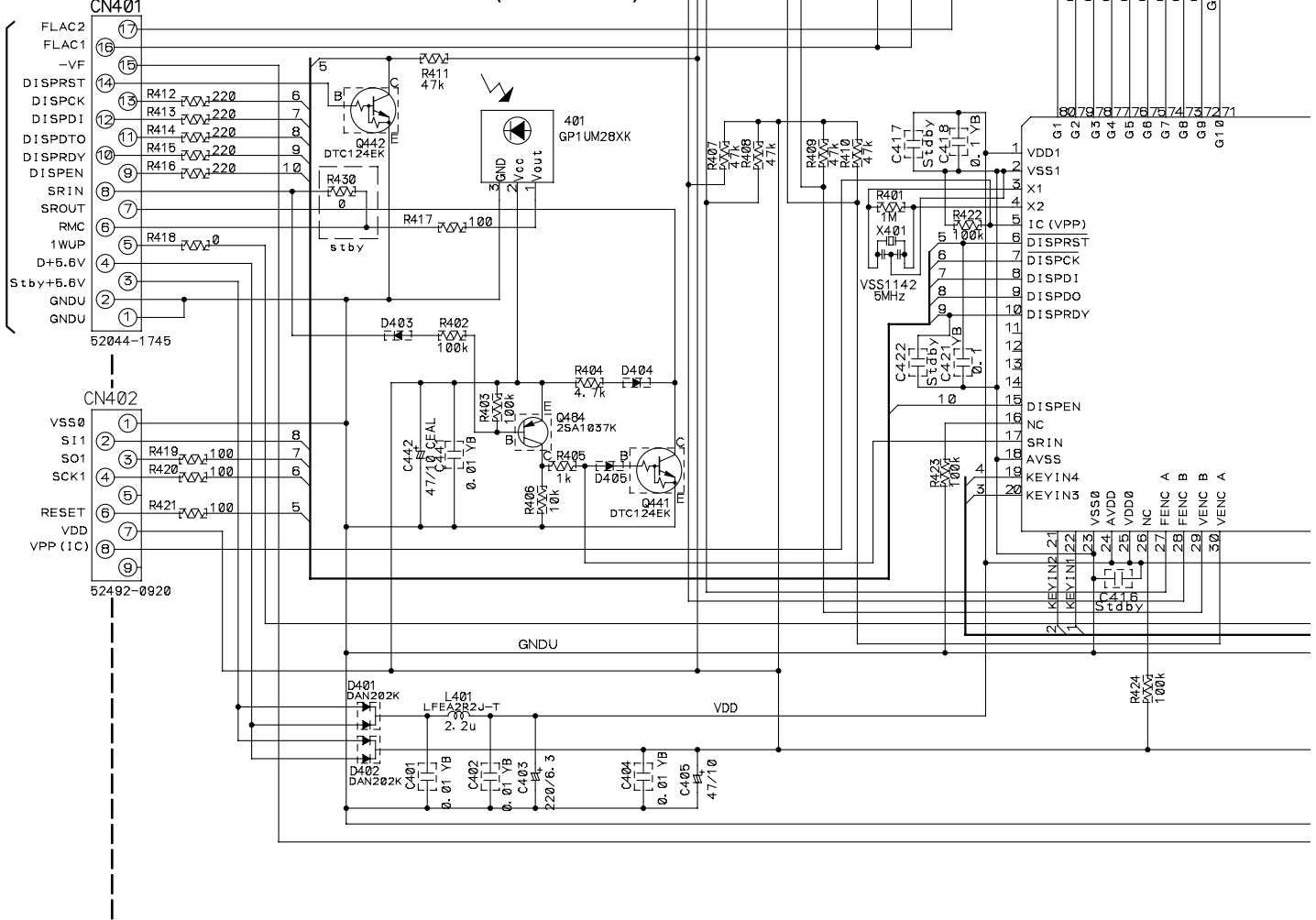
D

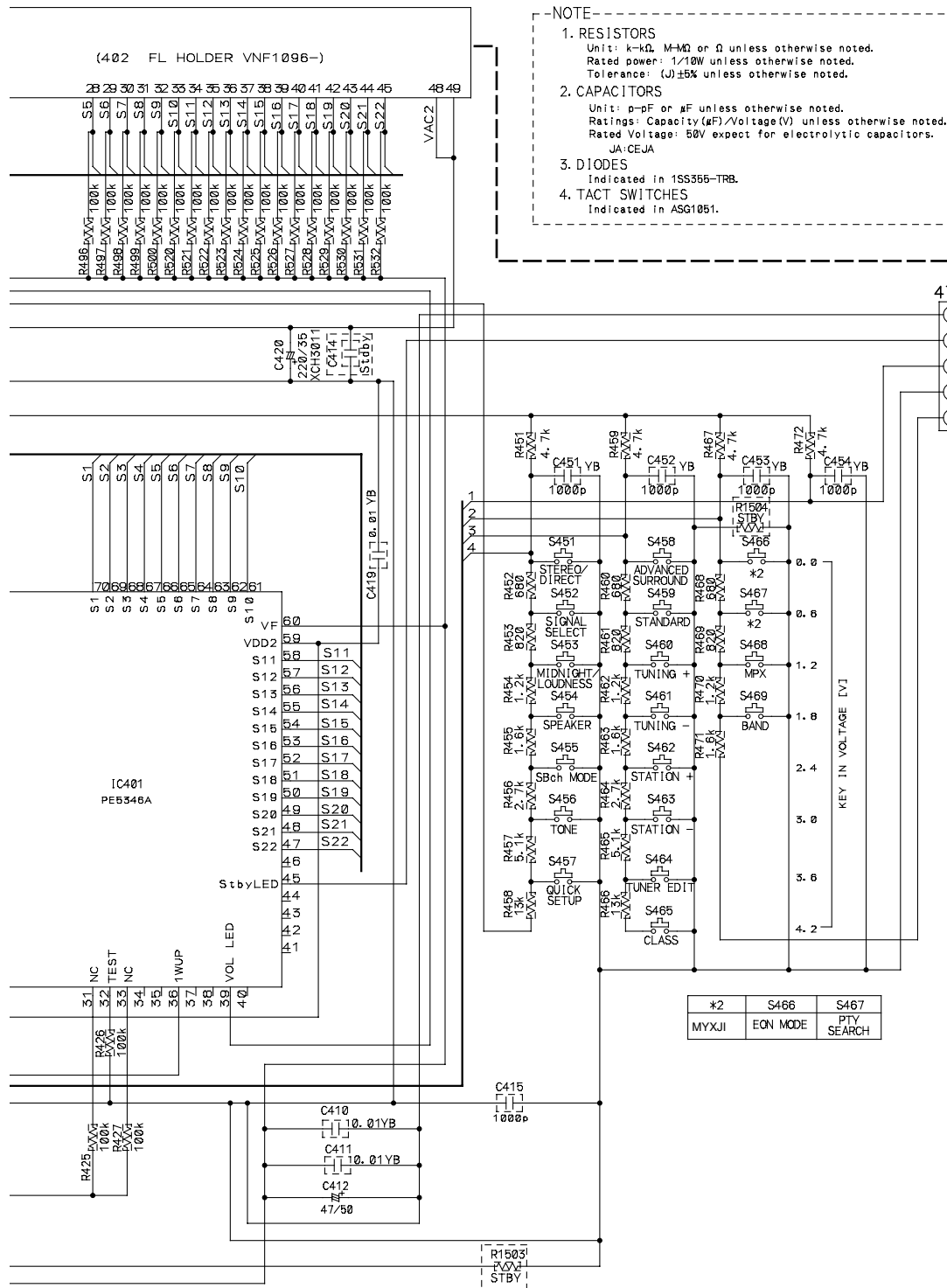
E

F

A3/3
CN101

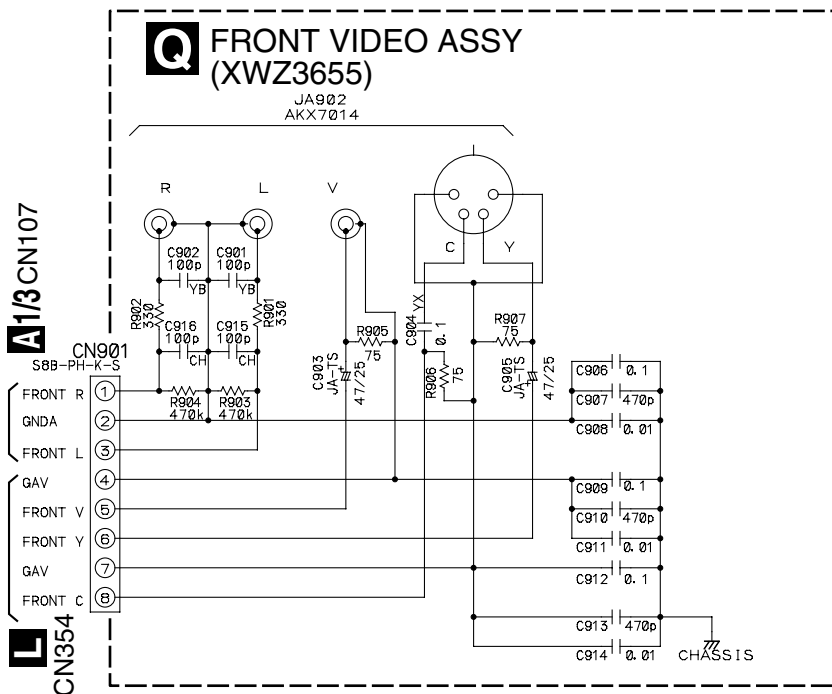
FRONT ASSY (XWZ3648)





3.12 TRANS4, F.VIDEO, H.P., PRE., D.IN and F.OPT&MIC ASSYS

A

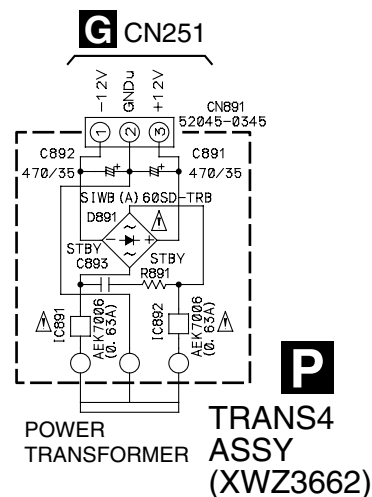
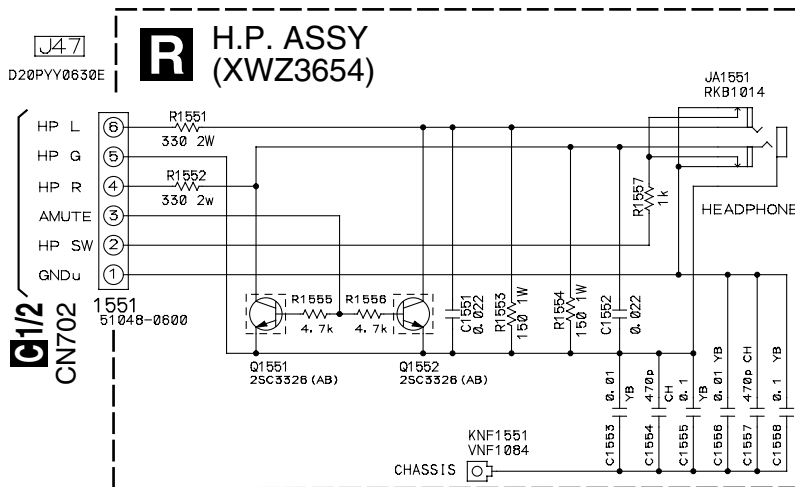


- NOTE

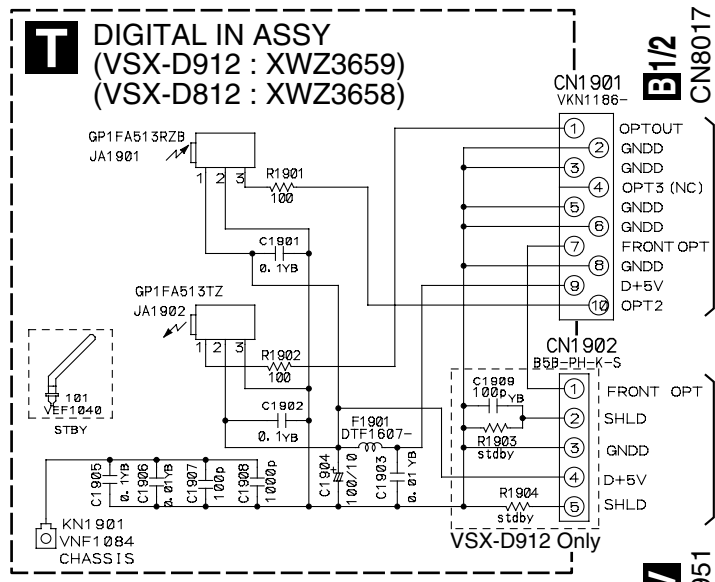
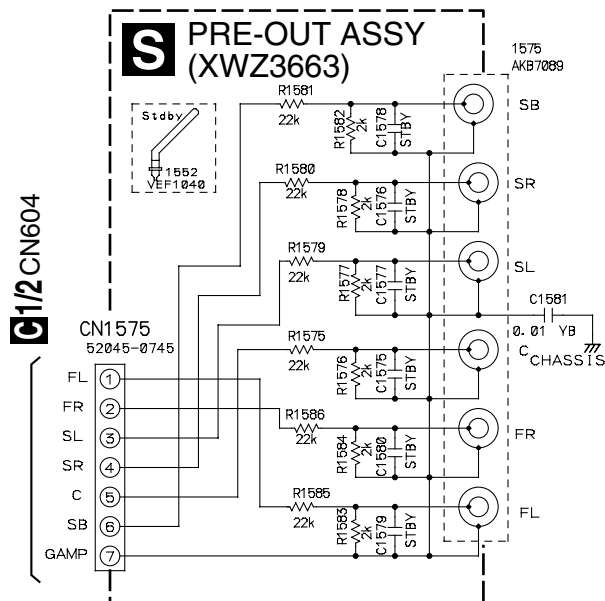
1. RESISTORS
Unit: k- Ω , M-M Ω or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) \pm % unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

**CAUTION : FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE
NO. 491.630 FOR IC891 AND IC892
MFD, BY LITTELFUSE INC.**

C



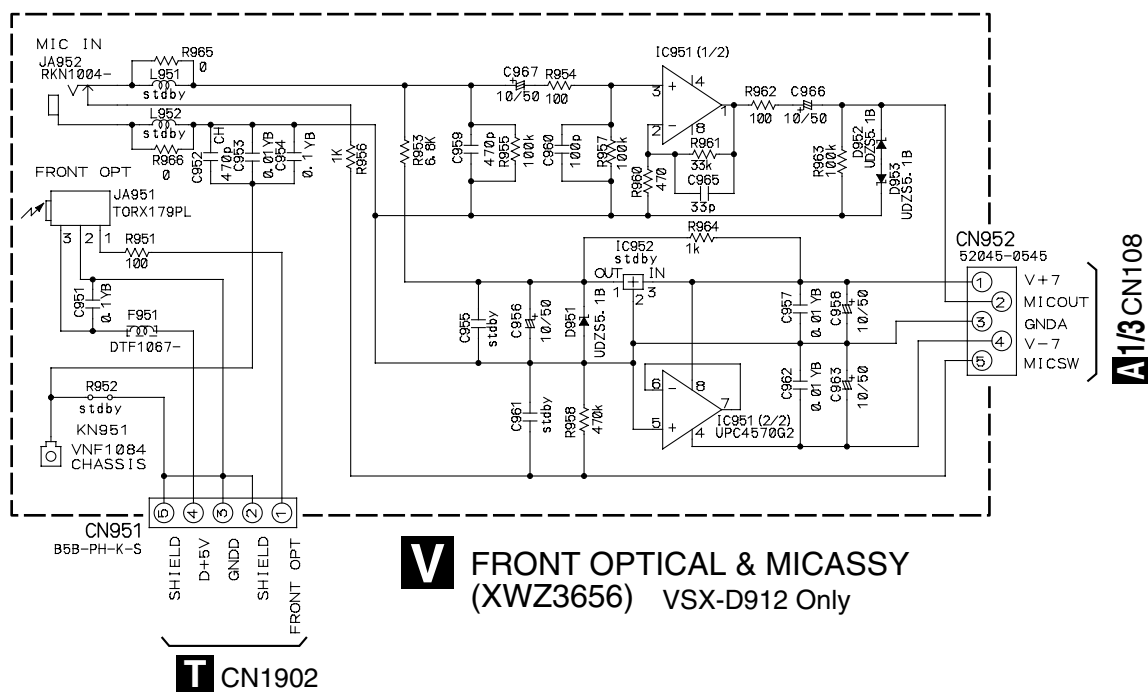
E



F

P Q R S T

V
CN951



Notes

1. RESISTORS


Indicated in Ω , $1/16W \pm 5\%$ Tolerance unless otherwise noted K:K Ω , M:M Ω .

2. CAPACITORS

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

3. DIODES

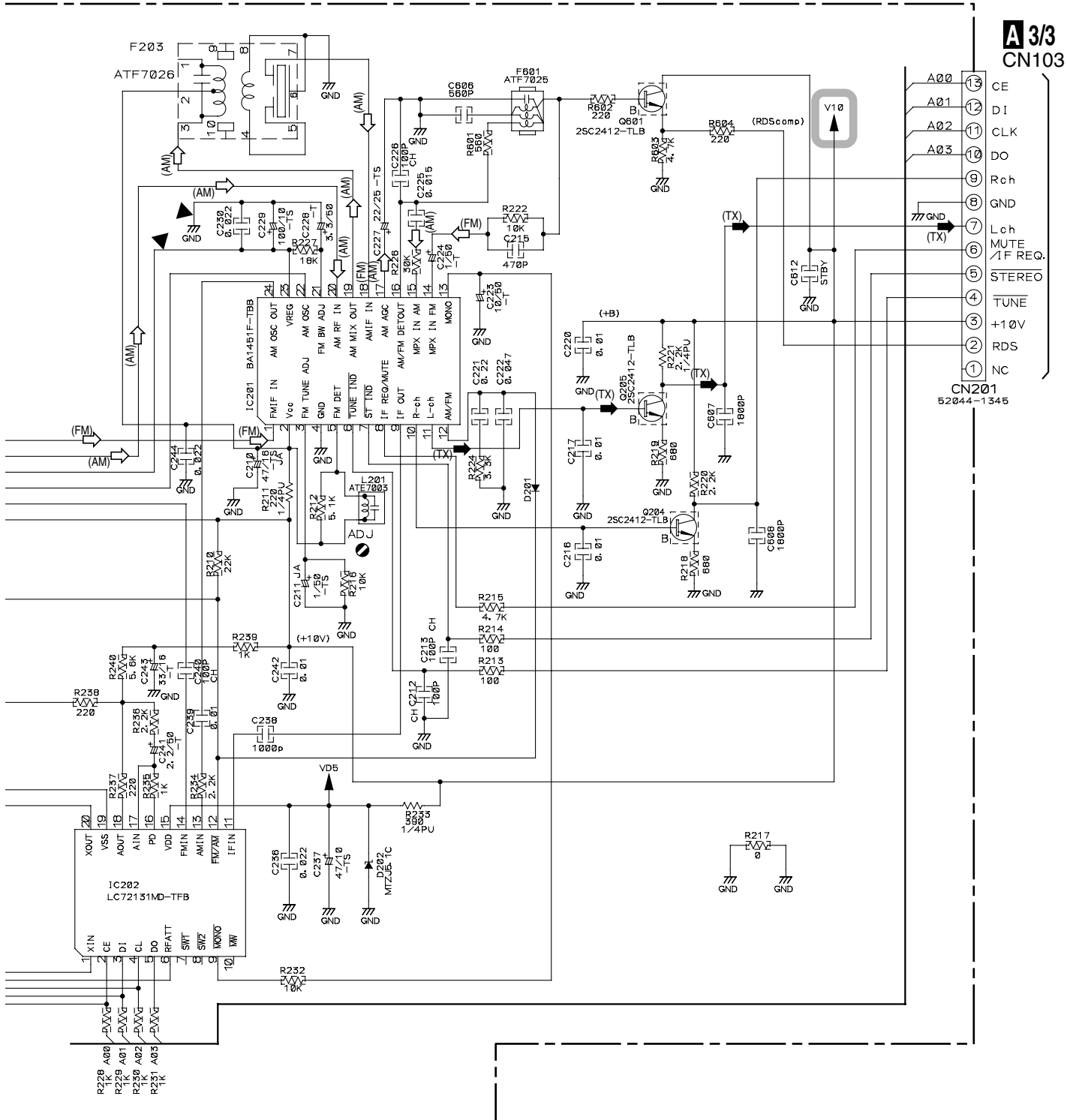
No mark diode is 1SS133.

 : The power supply is shown with the marked box.

(TX)  : AUDIO SIGNAL ROUTE (TUNER)

(AM)  : AM SIGNAL ROUTE

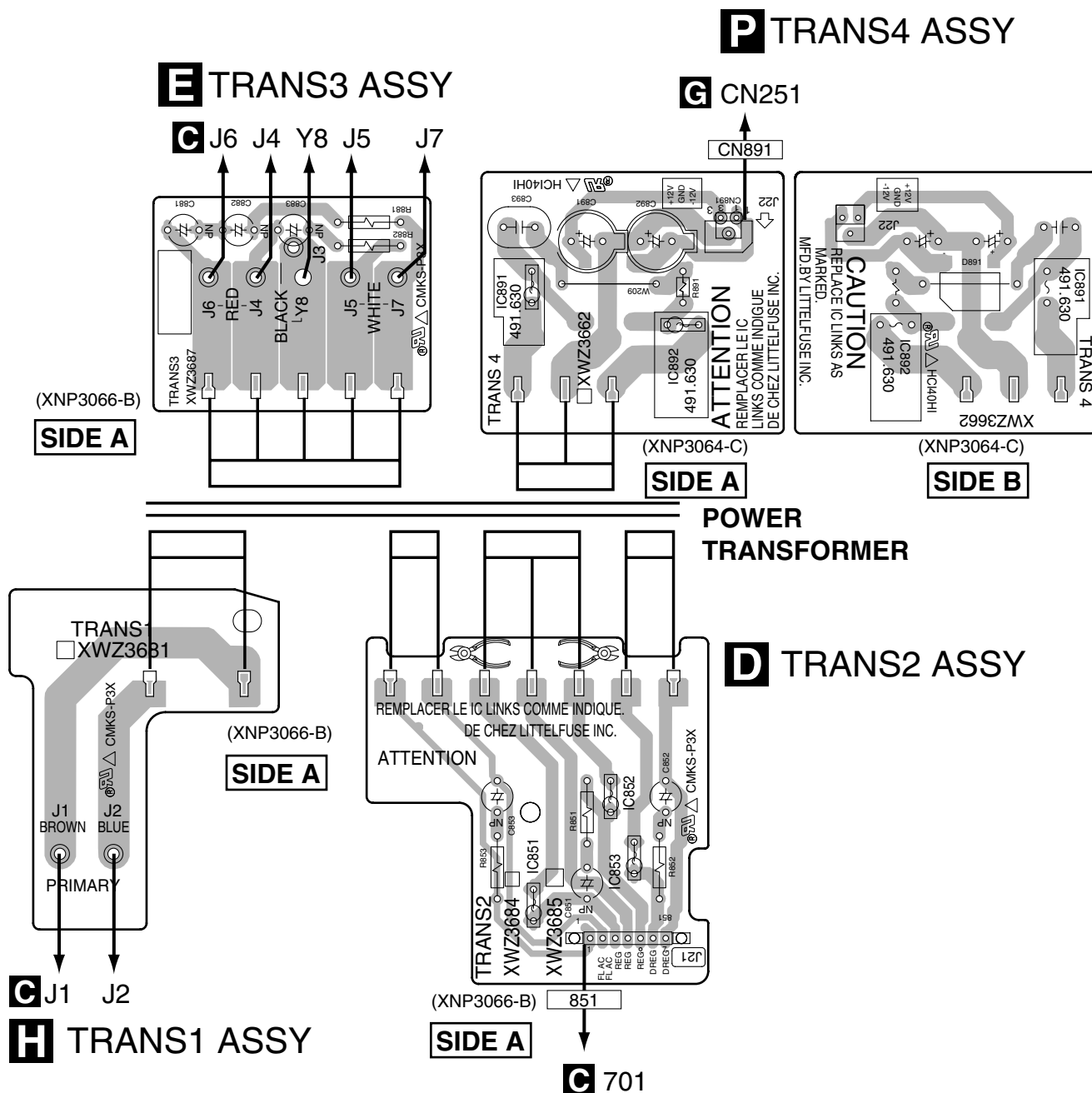
(FM)  : FM SIGNAL ROUTE



4.2 TRANS2,TRANS3,TRANS1 and TRANS4 ASSYS

SIDE A

SIDE B

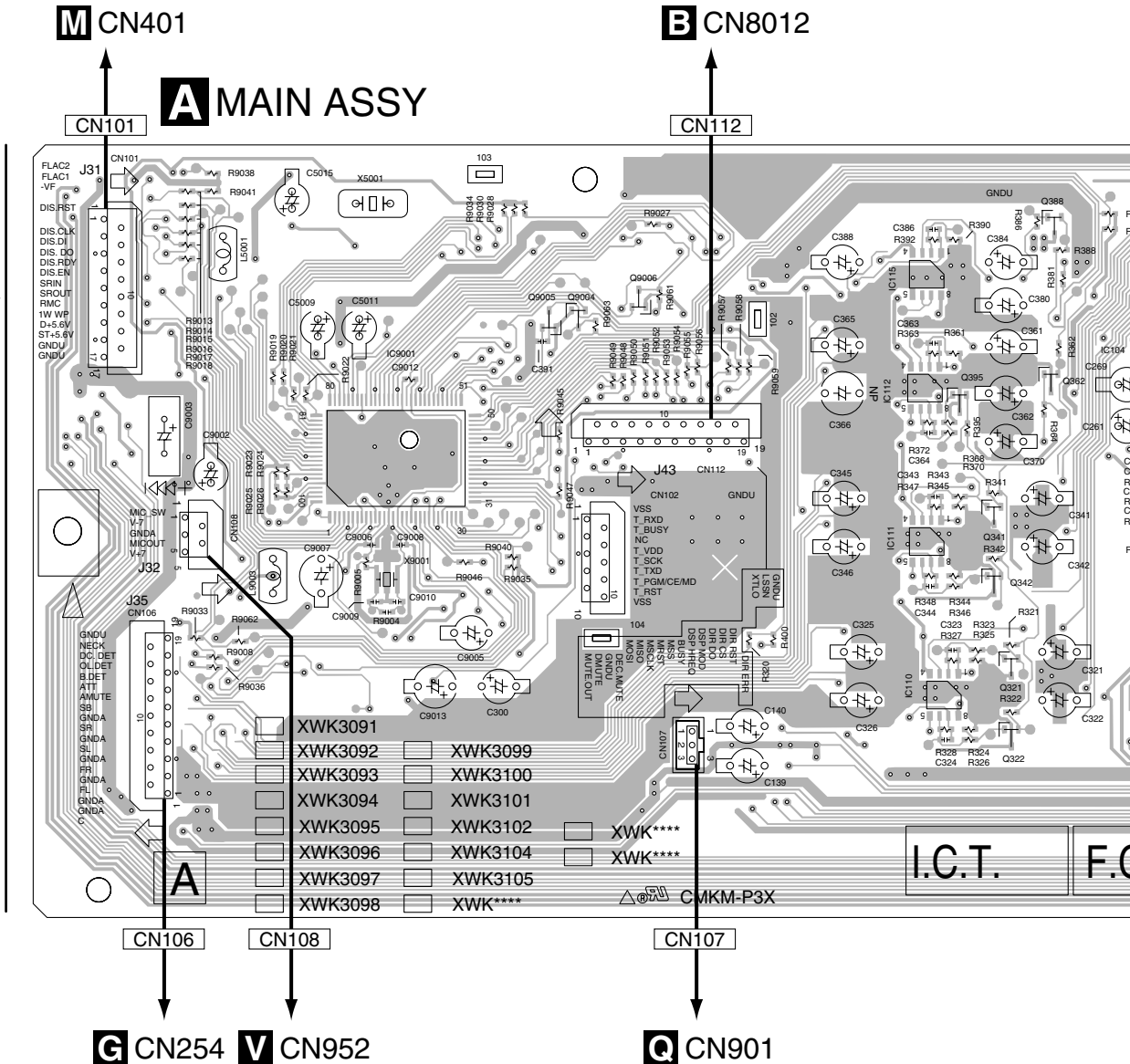


D E H P

D E H P

4.3 MAIN ASSY

SIDE A



A

SIDE A

A

B

C

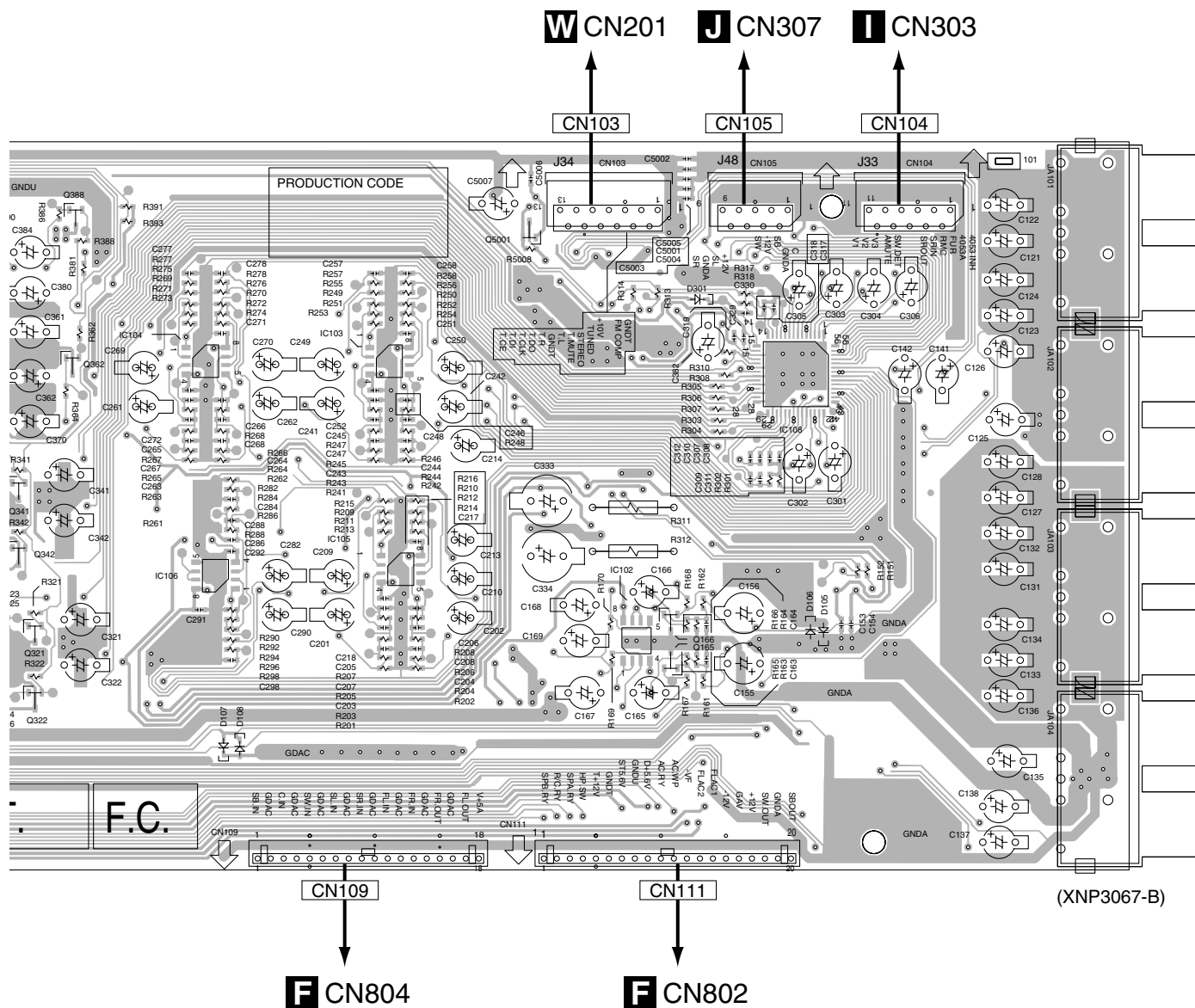
D

E

F

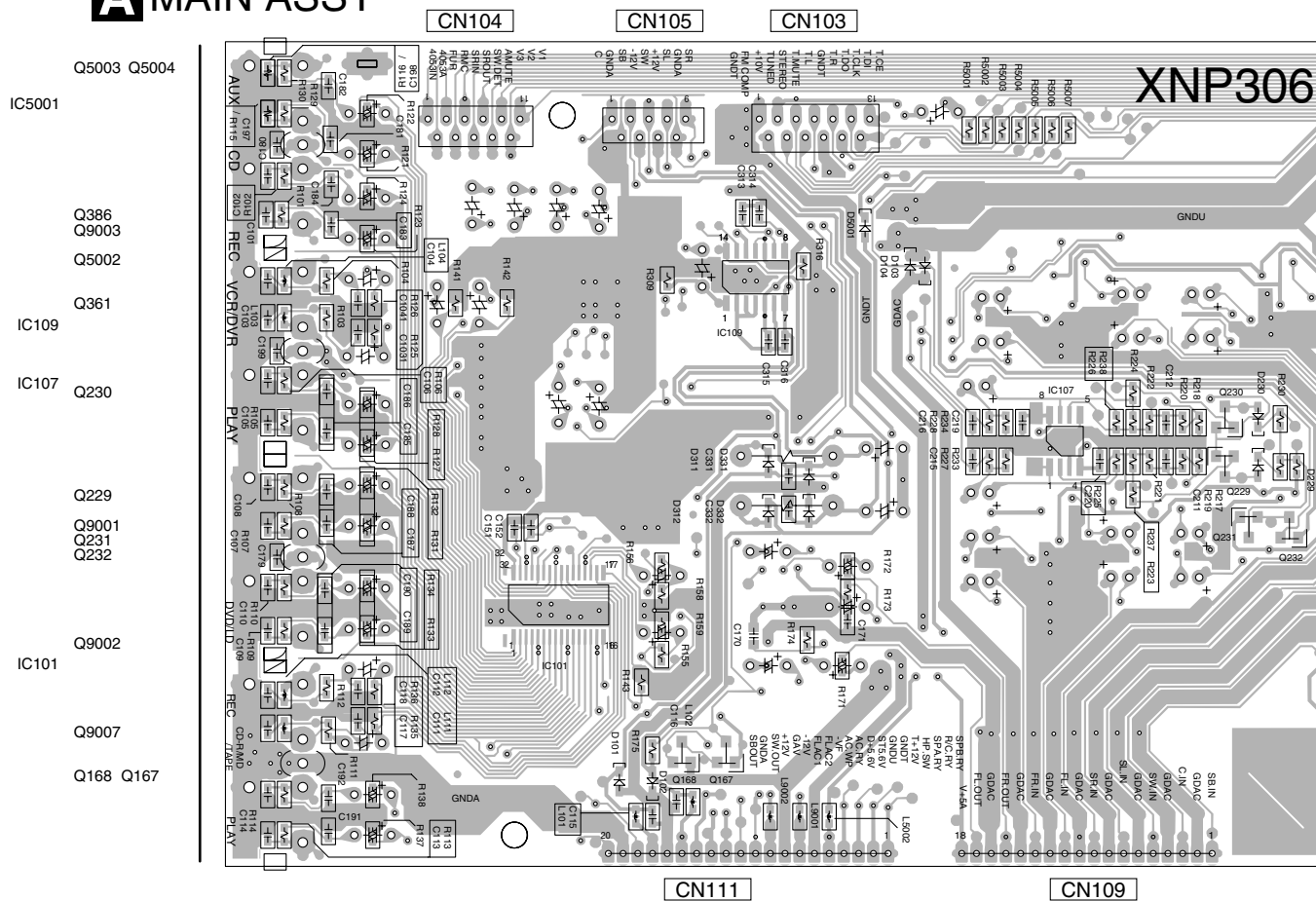
A

41



SIDE B

A MAIN ASSY



A

SIDE B

A

B

C

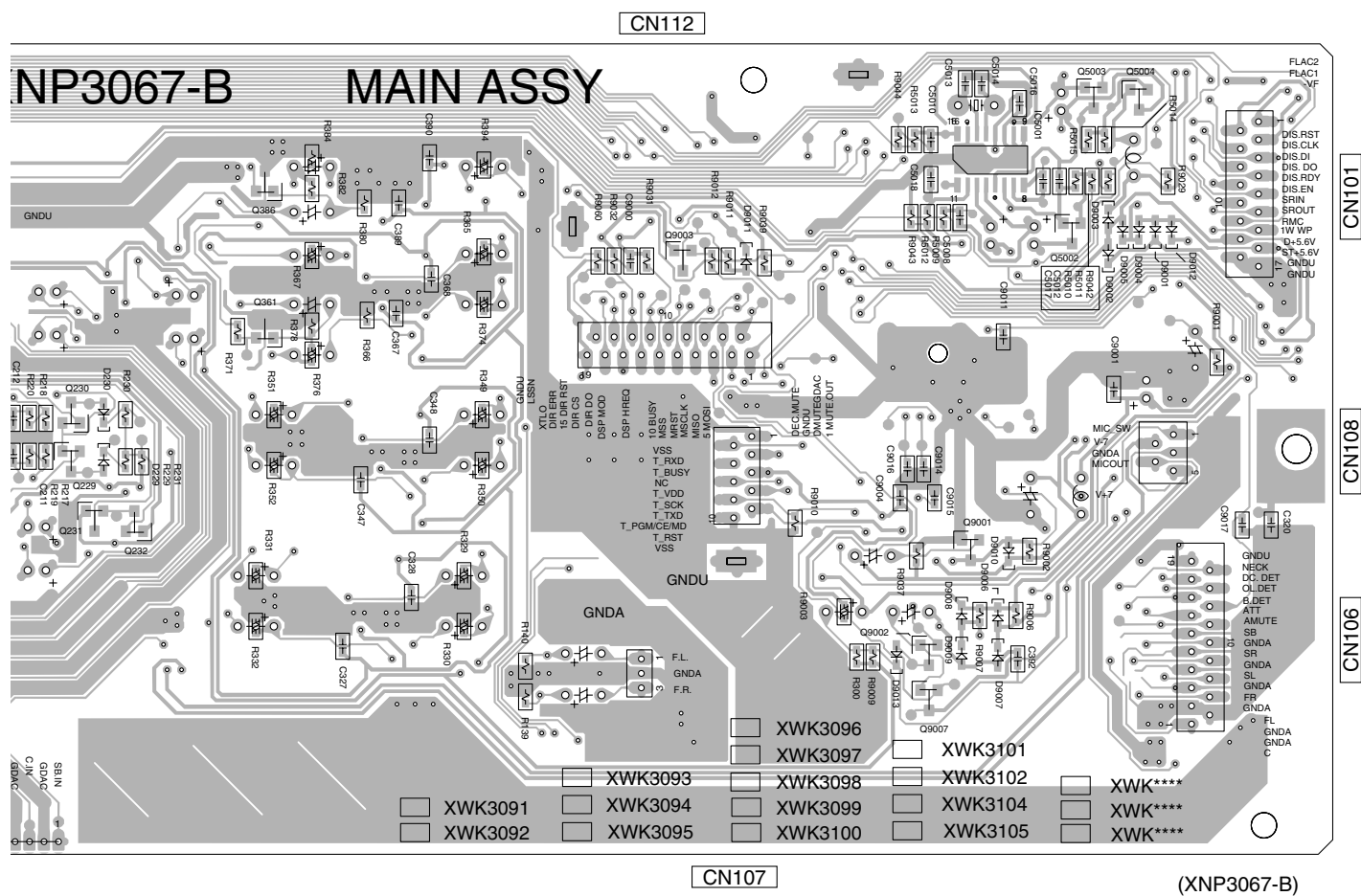
D

E

F

A

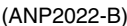
43



(XNP3067-B)

4

F

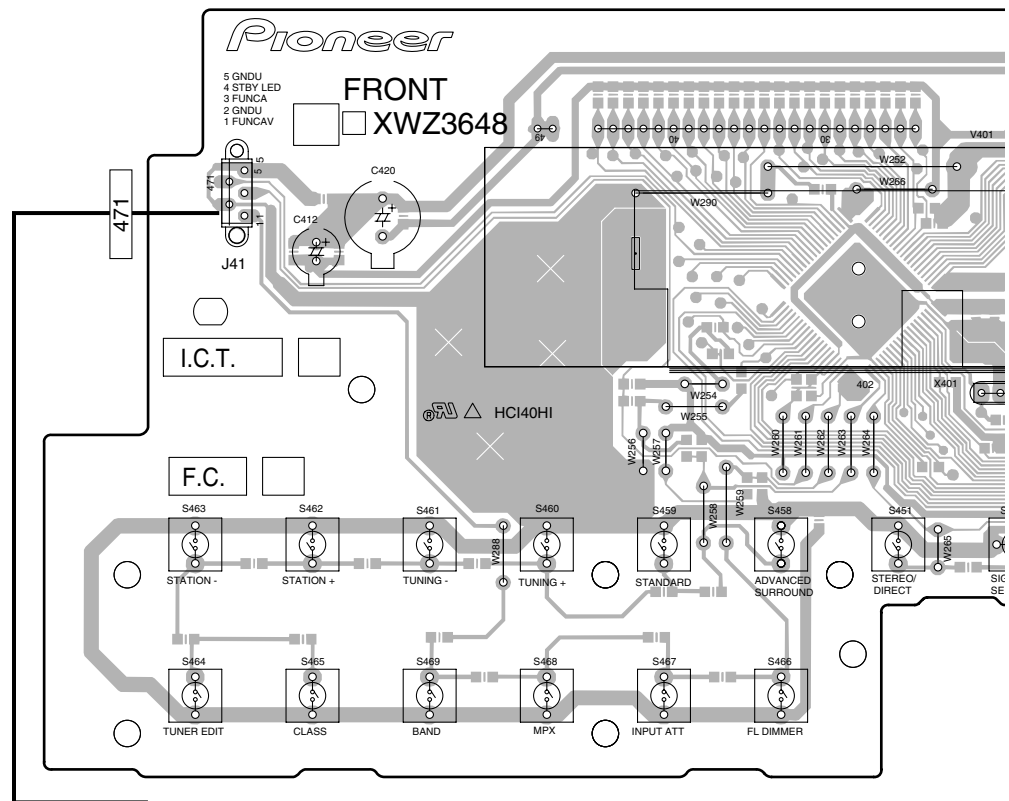




4.6 FRONT, R. ENCODER, POWER SW and H. P. ASSYS

SIDE A

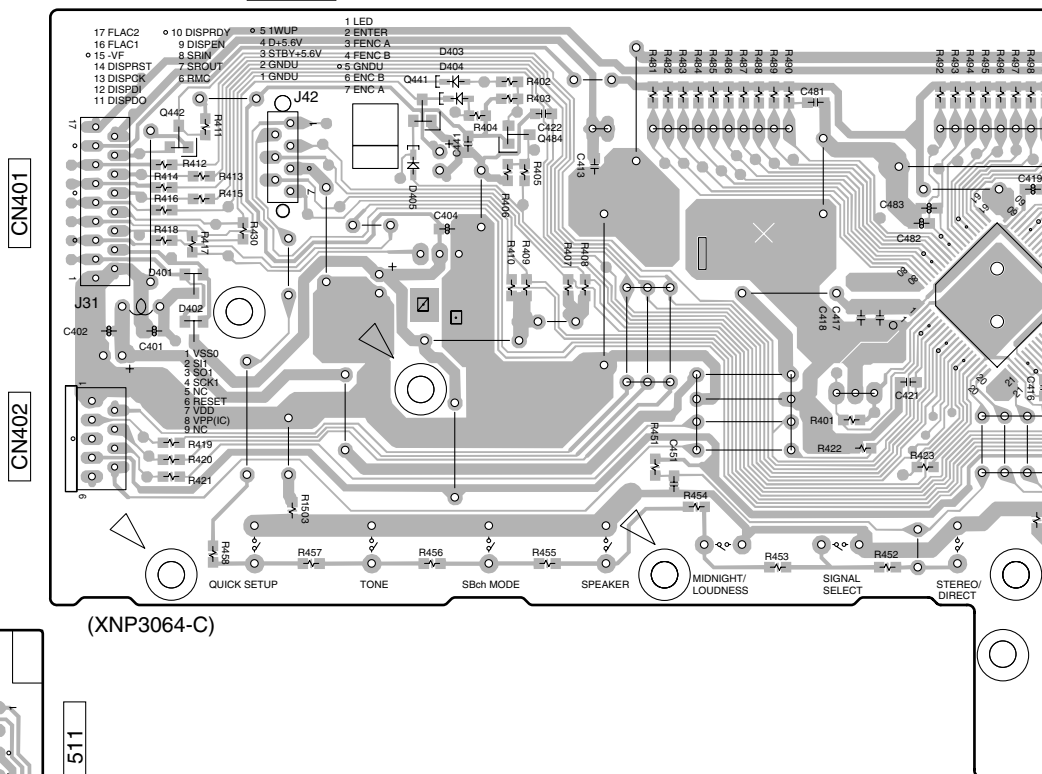
M FRONT ASSY



SIDE B

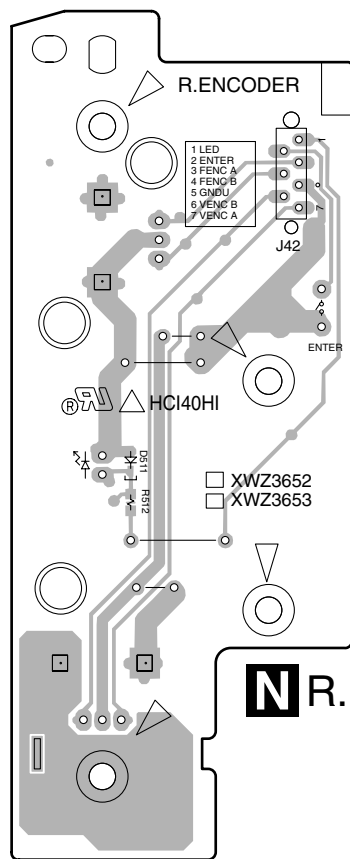
M FRONT ASSY

404



(XNP3064-C)

511



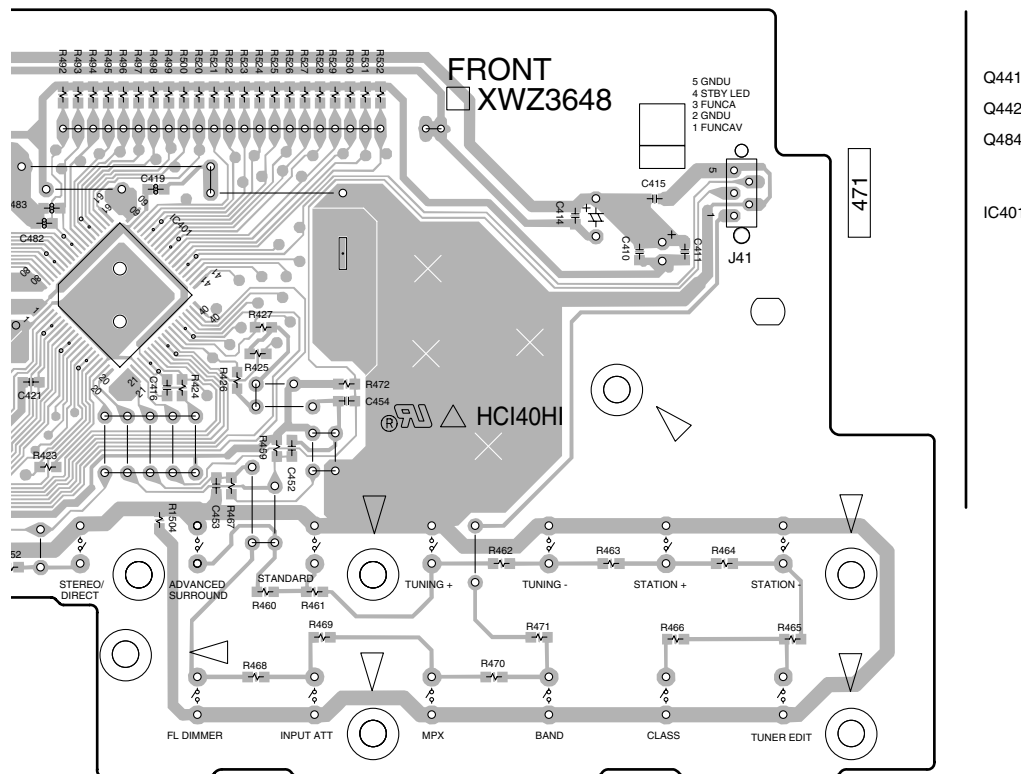
(XNP3064-C)

N R.ENCODER ASSY

M N

SIDE B

A

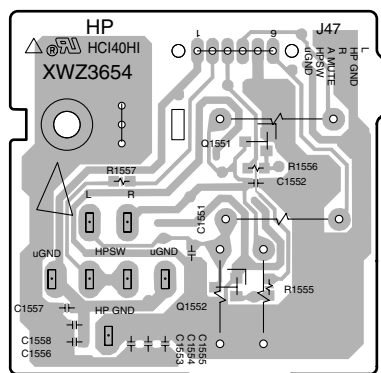


B

C

R H.P ASSY

1551



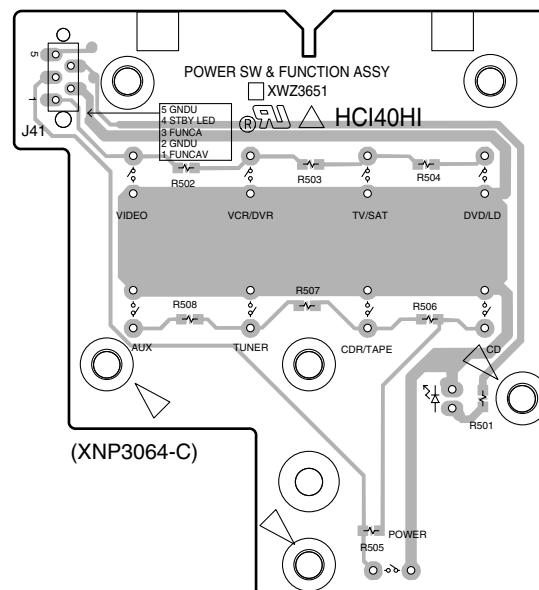
(XNP3064-C)

Q1551

Q1552

POWER SW ASSY

501



(XNP3064-C)

D

E

F

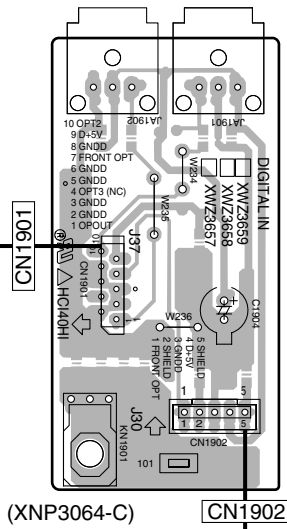
MOR

4.7 BOARD TO BOARD, DIGITAL IN, VIDEO and 6CH IN ASSYS

SIDE A

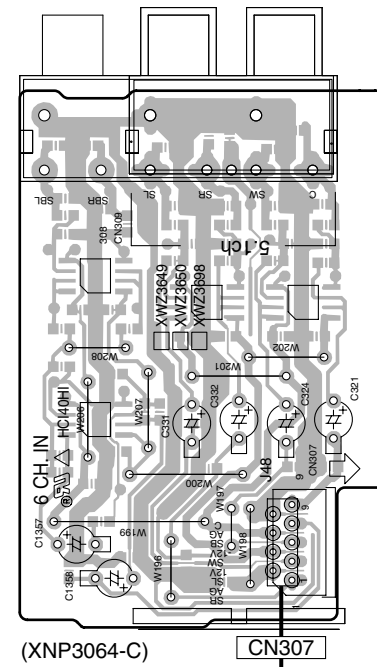
T DIGITAL IN ASSY

B CN8017



V CN951

J 6CH IN ASSY

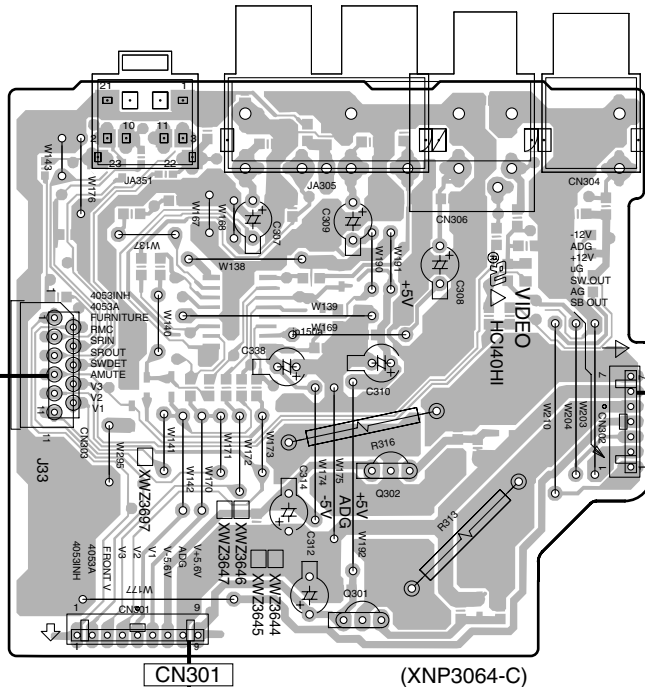


A CN105

I VIDEO ASSY

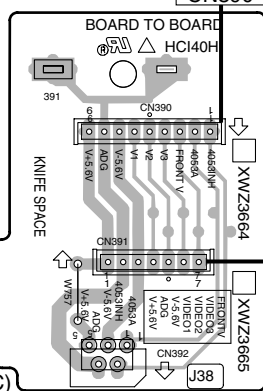
F CN803

A CN104



K BOARD TO BOARD ASSY

L CN351

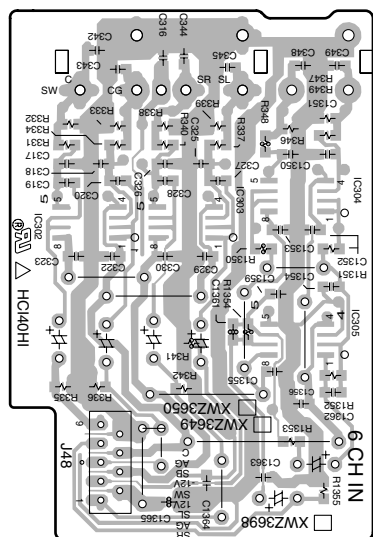


I J K T

I J K T

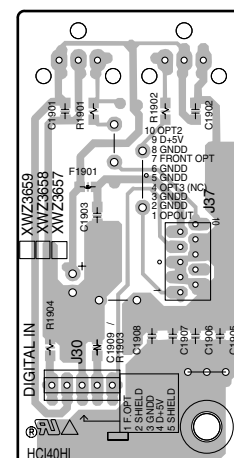
SIDE B**SIDE B**

J 6CH IN ASSY

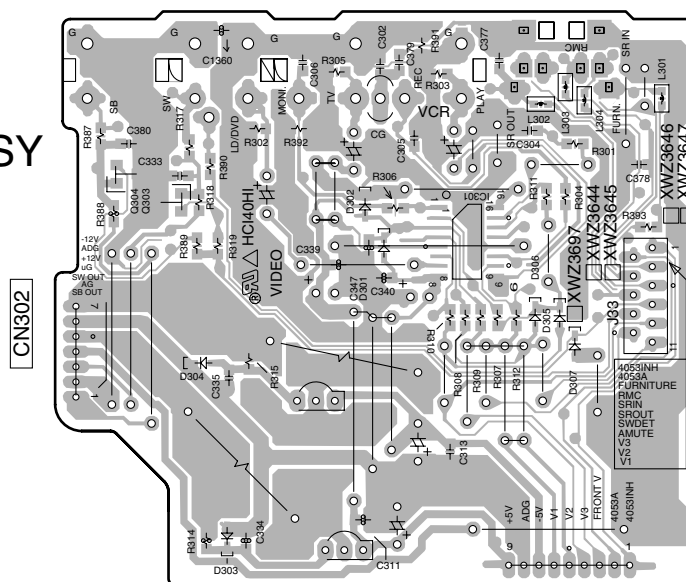


CN307 (XNP3064-C)

T DIGITAL IN ASSY



(XNP3064-C)

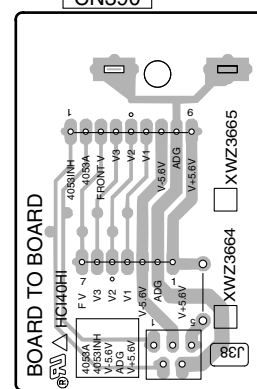
I VIDEO ASSY

(XNP3064-C)

CN301

CN390

K BOARD TO BOARD ASSY

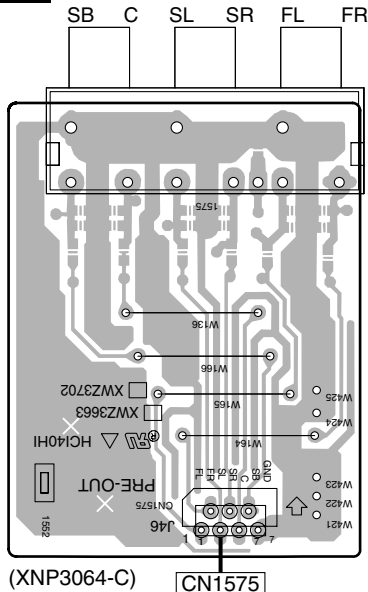
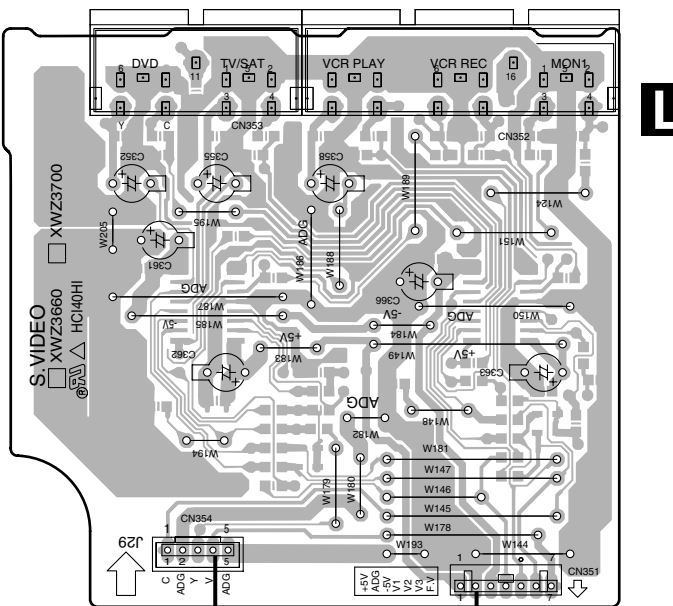


(XNP3064-C)

CN392	CN391
-------	-------

4.8 S.VIDEO, F.VIDEO, F.OPT&MIC and PRE-OUT ASSYS

SIDE A
S PRE-OUT ASSY

SIDE A

C CN604

L S.VIDEO ASSY

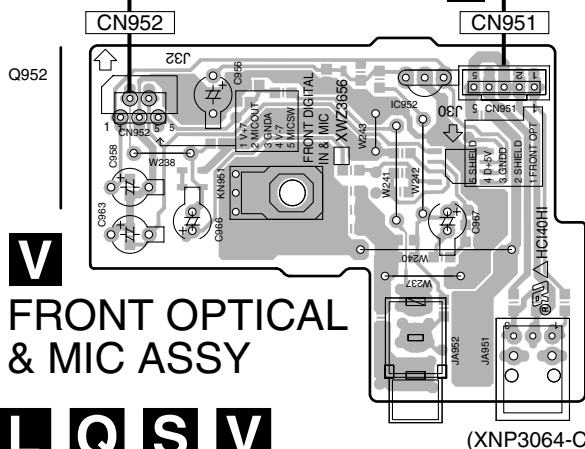
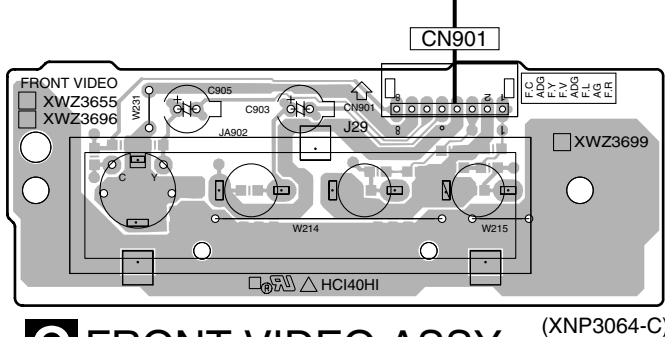
A CN108

Q CN901

T CN1902

K CN391

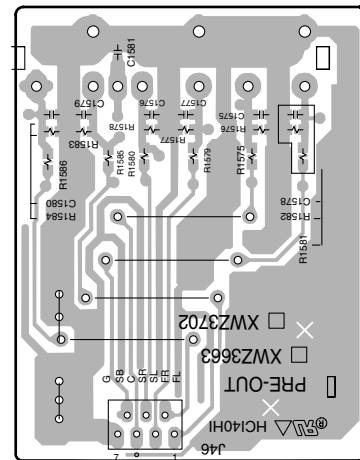
A CN107

L CN354

V FRONT OPTICAL & MIC ASSY


SIDE B

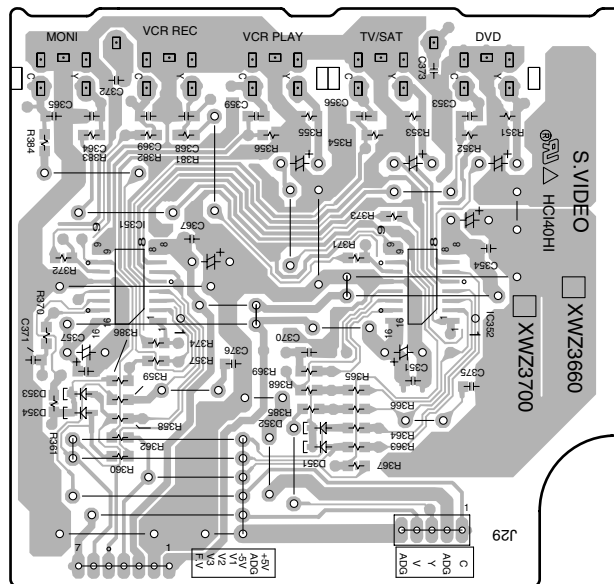
SIDE B

S PRE-OUT ASSY



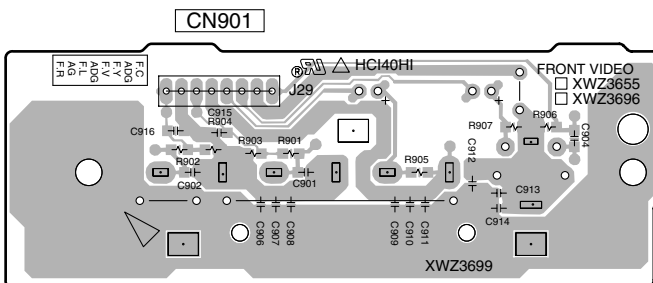
CN1575 (XNP3064-C)

L S. VIDEO ASSY

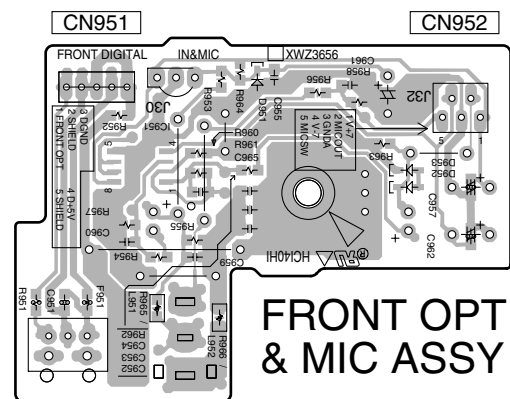


IC351
IC352

CN351 CN354 (XNP3064-C)



Q FRONT VIDEO ASSY (XNP3064-C)



V FRONT OPTICAL & MIC ASSY

L Q S V

L Q S V

5. PCB PARTS LIST

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

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

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

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

560 Ω \rightarrow 56 x 10¹ \rightarrow 561 RD1/4PU561J

47k Ω \rightarrow 47 x 10³ \rightarrow 473 RD1/4PU473J

0.5 Ω \rightarrow R50 RN2H50K

1 Ω \rightarrow 1R0 RS1P1R0K

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

5.62k Ω \rightarrow 562 x 10¹ \rightarrow 5621 RN1/4PC5621F

Mark No. Description

LIST OF ASSEMBLIES

	1..MAIN ASSY (VSX-D912)	XWK3101
	1..MAIN ASSY (VSX-D812)	XWK3096
	1..DSP ASSY	AWX1082
NSP	1..AMP & PS ASSY	XWK3086
	2..AMP & PRIMARY ASSY	XWZ3670
	2..REGULATOR ASSY	XWZ3676
	2..AMP INPUT ASSY	XWZ3679
NSP	2..TRANS1 ASSY	XWZ3681
	2..TRANS2 ASSY	XWZ3684
NSP	2..TRANS3 ASSY	XWZ3687
NSP	2..BINDER ASSY	XWZ3691
NSP	2..HOLDER ASSY	XWZ3693

Mark No. Description

NSP	1..COMPLEX ASSY (VSX-D912)	XWK3081
NSP	1..COMPLEX ASSY (VSX-D812)	XWK3079
	2..VIDEO ASSY	XWZ3647
	2..FRONT ASSY	XWZ3648
	2..6CH IN ASSY	XWZ3650
	2..POWER SW ASSY	XWZ3651
	2..R. ENCODER ASSY	XWZ3653
	2..H.P. ASSY	XWZ3654
	2..FRONT VIDEO ASSY	XWZ3655
	2..FRONT OPTICAL ASSY	XWZ3656
	(VSX-D912)	
	2..DIGITAL IN ASSY (VSX-D912)	XWZ3659
	2..DIGITAL IN ASSY (VSX-D812)	XWZ3658
	2..S. VIDEO ASSY	XWZ3660
	2..TRANS4 ASSY	XWZ3662
	2..PRE-OUT ASSY	XWZ3663
	2..BOARD TO BOARD ASSY	XWZ3665
	1..FM/AM TUNER MODULE	AXQ7232

● CONTRAST OF PCB ASSEMBLIES



MAIN ASSY

XWK3101 and XWK3096 are constructed the same except for the following :

Mark	Symbol and Description	XWK3101	XWK3096
	R143	Not used	RS1/16S103J
	R9023	RS1/16S472J	RS1/16S0R0J
	R9025	RS1/16S472J	Not used
	R9040	Not used	RS1/16S473J
	CN108 5P FFC CONNECTOR	52045-0545	Not used



DIGITAL IN ASSY

XWZ3659 and XWZ3658 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3659	XWZ3658
	CN1902 CONNECTOR POST	B5B-PH-K-S	Not used

Mark No. Description Part No.

• PARTS LIST FOR VSX-D912-S

COMPLEX ASSY

OTHERS

J 41 JUMPER WIRED	D15A05-075-2651
J 42 JUMPER WIRED	D15A07-075-2651
J 47 JUMPER WIRED	D20PYY0630E

AMP & PS ASSY

OTHERS

Y 8 AWG14 BOARD IN	ADX7284
J 21 JUMPER WIRED	D20PYY0715E

**A MAIN ASSY
SEMICONDUCTORS**

IC109	BD3812F
IC108	BD3813KS
IC101	BD3841FS
IC5001	BU1924F
IC102	NJM2100M

IC9001	PD5837A
IC103-IC107, IC110-IC112, IC115	UPC4570G2
Q5004	2SA1037K
Q5001	2SC2412K
Q165, Q166, Q321, Q322	2SC3326

Q341, Q342, Q361, Q362, Q395	2SC3326
Q5002	2SC3326
Q229, Q230	2SK208
Q167, Q231, Q9002-Q9005	DTA124EK
Q232	DTC124EK

Q168, Q5003, Q9001, Q9006	DTC143EK
Q9007	DTC143TK
D103-D108, D229, D230, D301	1SS355
D311, D312, D5001, D9001-D9013	1SS355
D101, D102	RB501V-40

D331, D332	UDZS6.8B
------------	----------

COILS AND FILTERS

L9001, L9002 CHIP SOLID INDUCTOR	ATL7002
L5001, L9003	LFEA2R2J
L101-L104, L111, L112, L5002	QTL1013
CHIP SOLID INDUCTOR	

CAPACITORS

C9003 (0.22F/5.5V)	ACH7144
C101-C114, C151, C152	CCSRCH101J50
C163, C164, C181-C192	CCSRCH101J50
C197, C198, C243, C244, C263	CCSRCH101J50
C284, C313, C314, C317, C318	CCSRCH101J50

C323, C324, C343, C344, C363	CCSRCH101J50
C386	CCSRCH101J50
C1031, C1041, C117, C118	CCSRCH220J50
C5013, C5014	CCSRCH270J50
C205-C208, C245-C248, C265	CCSRCH331J50

C267, C286, C288	CCSRCH331J50
C203, C204	CCSRCH471J50
C5017	CCSRCH561J50
C366	CEANP4R7M50
C121-C128, C131-C142	CEAT100M50

C167, C168, C209, C210	CEAT100M50
------------------------	------------

Mark No. Description Part No.

C213, C214, C249, C250	CEAT100M50
C269, C270, C290, C301-C306	CEAT100M50
C321, C322, C341, C342	CEAT100M50
C361, C362, C380, C382, C384	CEAT100M50

C5015	CEAT101M10
C5007	CEAT101M16
C5009	CEAT1R0M50
C169, C9002	CEAT221M6R3
C201, C202, C241, C242	CEAT2R2M50

C261, C262, C282, C5011, C9005	CEAT2R2M50
C9007	CEAT331M6R3
C325, C326, C345, C346, C365	CEAT470M25
C388	CEAT470M25
C155, C156	CEAT470M50

C333, C334	CEAT471M10
C9013	CEAT471M6R3
C165, C166, C370	CEAT4R7M50
C170	CKSQYB104K16
C320, C392, C5001, C5016	CKSRYB102K50

C9015, C9016	CKSRYB102K50
C115, C116, C153, C154, C171	CKSRYB103K50
C179, C180, C199, C215-C218	CKSRYB103K50
C251, C252, C266, C271, C272	CKSRYB103K50
C291, C292, C315, C316, C319	CKSRYB103K50

C327-C330, C347, C348	CKSRYB103K50
C367, C368, C389, C390, C5002	CKSRYB103K50
C9001, C9004, C9008, C9017	CKSRYB103K50
C219, C220, C309-C312	CKSRYB104K16
C5003, C9006	CKSRYB105K10

C264	CKSRYB223K25
C257, C258, C277, C278, C298	CKSRYB472K50
C307, C308, C364, C5008	CKSRYB472K50
C9011, C9014	CKSRYB473K16
C268	CKSRYB562K50

C391	CKSRYF104Z16
------	--------------

RESISTORS

⚠ R171, R172	RS1/16S470J
⚠ R173, R174	RS1/16S472J
⚠ R311, R312	RS1LMF101J
Other Resistors	RS1/16S###J

OTHERS

CN105 9P CONNECTOR	52044-0945
CN104 11P CONNECTOR	52044-1145
CN103 13P CONNECTOR	52044-1345
CN108 5P CONNECTOR	52045-0545
CN102 10P CONNECTOR	52045-1045

CN101 17P CONNECTOR	52045-1745
CN106, CN112 19P CONNECTOR	52045-1945
JA101-JA104 PIN JACK(4P)	AKB7048
CN107 CONNECTOR POST	B3B-PH-K
CN109 18P SOCKET	KP200TA18L

CN111 20P SOCKET	KP200TA20L
101-103 PCB BINDER	VEF1040
X5001 CRYSTAL RESONATOR (4.332 MHz)	ASS7004
X9001 CERAMIC RESONATOR (15.7 MHz)	ASS7032

B DSP ASSY

Mark No.	Description	Part No.
SEMICONDUCTORS		
IC8201		AK4114VQ
IC8401		AK4529VQ
IC8501		DSPD56367PV150
IC8601		IS61LV6416-12T
IC8602		IS63LV1024-12T
IC8901		NJM2391DL1-33
IC8902		NJU7223DL1-18
IC8603		PD8116A
IC8101		TC74HCU04AF
IC8701		TC74LVX244FT
IC8702		TC74VHCT244AFT
IC8503		TC7WH125FU
IC8502		TC7WU04FU
Q8504		UMD2N
Q8503		UN5112
Q8501		UN5212
D8501		1SS355
D8401		DAN202K
D8402,D8502,D8503		DAP202K

COILS AND FILTERS

L8002,L8004,L8501,L8502	ATL7002
L8601-L8603 CHIP SOLID INDUCTOR	ATL7002
L8101-L8104,L8201,L8203,L8204	QTL1013
L8401,L8402,L8504,L8505	QTL1013
L8701,L8702 CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

C8209,C8210	CCSRCH100D50
C8421	CCSRCH101J50
C8107,C8112	CCSRCH470J50
C8007,C8008,C8109,C8201,C8212	CCSRCH471J50
C8214,C8404,C8409-C8414	CCSRCH471J50
C8416,C8417,C8419,C8505,C8507	CCSRCH471J50
C8509,C8511,C8512,C8515,C8518	CCSRCH471J50
C8520,C8522,C8524,C8526,C8528	CCSRCH471J50
C8530,C8532,C8534,C8536,C8539	CCSRCH471J50
C8541,C8543,C8545,C8551,C8552	CCSRCH471J50
C8602,C8603,C8606,C8607,C8610	CCSRCH471J50
C8703,C8706	CCSRCH471J50
C8548,C8549	CCSRCH80RD50
C8701,C8704	CEV100M16
C8105,C8406,C8415,C8546,C8547	CEV101M16
C8613,C8902,C8904	CEV101M16
C8217,C8225,C8408	CEV470M6R3
C8204,C8555	CKSRYB102K50
C8009,C8104,C8114,C8405,C8418	CKSRYB103K50
C8517,C8554	CKSRYB103K50
C8010,C8115,C8202,C8207,C8213	CKSRYB104K16
C8215,C8407,C8420,C8422,C8504	CKSRYB104K16
C8513,C8521,C8523,C8525,C8527	CKSRYB104K16
C8529,C8531,C8533,C8535	CKSRYB104K16
C8537,C8538,C8540,C8542,C8544	CKSRYB104K16
C8550,C8553,C8601,C8604,C8605	CKSRYB104K16
C8608,C8609,C8702,C8705,C8901	CKSRYB104K16
C8903	CKSRYB104K16
C8110,C8516	CKSRYB105K6R3
C8514	CKSRYB333K16
C8203	CKSRYB473K50

RESISTORS

Mark No.	Description	Part No.
R8506		RAB4C101J
R8201		RS1/16S1802F
Other Resistors		RS1/16S###J

OTHERS

CN8012 19P CONNECTOR	52045-1945
JA8101 2P PIN JACK	AKB7131
CN8003 13P SOCKET	AKP7070
CN8007 19P SOCKET	AKP7073
JA8102 OPT. LINK IN	GP1FA513RZB
CN8017 10P CONNECTOR	VKN1414
X8501 CRYSTAL RESONATOR (20 MHz)	VSS1171
X8201 CRYSTAL RESONATOR (24.576 MHz)	XSS3003

C AMP & PRIMARY ASSY

SEMICONDUCTORS

⚠ IC52 PROTECTOR(500mA)	AEK7005
⚠ IC603 PROTECTOR(1A)	AEK7009
⚠ IC604-IC607 PROTECTOR(125mA)	AEK7022
⚠ IC701, IC702 PROTECTOR(400mA)	ICP-N10
IC51	NJM78M56FA

⚠ IC601, IC602	PAC011A
Q703	2SA1145
Q702	2SB1238X
Q696, Q697	2SC1740S
Q704	2SC1845

Q605, Q606, Q633, Q655, Q656	2SC2240
Q683	2SC2240
Q601-Q604, Q631, Q632	2SC2878
Q651-Q654, Q681, Q682	2SC2878
Q701	2SD1859X

Q51	KRC101M
D56, D57, D601, D603, D606	1SS133
D608, D631, D632, D651-D654	1SS133
D683, D684, D751-D754	1SS133
D757, D758	1SS133

⚠ D701, D702	D5SBA20
D711	MTZJ22D
D58	MTZJ5.1A
D712	MTZJ5.1B
D602, D604, D681, D682	MTZJ8.2A

⚠ D51-D55, D721-D724	S5688G
----------------------	--------

COILS AND FILTERS

⚠ L51 LINE FILTER	ATF7018
L751-L754, L761, L762 COIL	ATH1004

SWITCHES AND RELAYS

RY751-RY754	XSR3002
⚠ RY51	XSR3003

CAPACITORS

C707, C708 (0.01/AC250V)	ACG1005
⚠ C51, C52 (10000pF/AC250V)	ACG7020
C611-C614, C636, C637	CCPUCH6R8K50
C661-C664, C686, C687	CCPUCH6R8K50
C615, C616, C638, C665, C666	CEANP2R2M50
C688	CEANP2R2M50
C775, C776	CEANP470M50
C712	CEAT101M10
C609, C610, C635, C659, C660	CEAT101M16

Mark No.	Description	Part No.
C685		CEAT101M16
C711		CEAT101M35
C53		CEAT102M16
C697		CEAT221M10
C54		CEAT470M25
C605, C606, C633, C655, C656		CEAT4R7M50
C683		CEAT4R7M50
C705, C706		CEHAT100M2A
C751–C756, C761–C764		CFTYA224J50
C771, C772		CFTYA224J50
C607, C608, C634, C657, C658		CKPUYB101K50
C684		CKPUYB101K50
C696, C769, C770		CKPUYB102K50
C603, C604, C632, C653, C654		CKPUYB331K50
C682		CKPUYB331K50
C55–C57		CKPUYF103Z25
C757–C759, C765–C768, C773		CQ MBA472J50
C703, C704 (3300/42V)		XCH3012
C701, C702 (4700/71)		XCH3013

RESISTORS

⚠ R52	RD1/2PM270J
⚠ R615	RD1/4PU331J
⚠ R751, R752, R755, R761, R762	RD1/4PUF101J
⚠ R772	RD1/4PUF101J
⚠ R753, R754, R756, R763, R764	RS1LMF4R7J

⚠ R771	RS1LMF4R7J
⚠ R711	RS2LMF332J
⚠ R617, R622, R639, R667, R668	XCN3001
⚠ R691 (0.22/5W)	XCN3001
Other Resistors	RD1/4PU###J

OTHERS

CN604 7P CONNECTOR	52045-0745
CN53 23P CONNECTOR	52045-2345
CN702 6P JUMPER CONNECTOR	52147-0610
H51, H52 FUSE CLIP	AKR7001
⚠ T51 STANDBY TRANSFORMER	ATT7040
CN601 18P PLUG	KM200TA18
CN51 AC CODE SOCKET	RKP1751
KN51, KN601 EARTH METAL FITTING	VNF1084
CN751 SP TERMINAL 8-P	XKE3017
CN753 SP TERMINAL 6-P	XKE3018

CN752 SP TERMINAL 4-P	XKE3019
⚠ 701 7P CABLE HOLDER	XKP3047

D TRANS2 ASSY SEMICONDUCTORS

⚠ IC853 PROTECTOR (3A)	AEK7015
⚠ IC851, IC852 PROTECTOR (4A)	AEK7018

OTHERS

851 7P CABLE HOLDER	XKP3047
---------------------	---------

E TRANS3 ASSY

TRANS3 ASSY has no service part.

F REGULATOR ASSY SEMICONDUCTORS

IC803, IC804	NJM78M05FA
IC801, IC805	NJM78M12FA

Mark No.	Description	Part No.
IC806		NJM78M56FA
IC802		NJM79M12FA
Q801, Q803, Q805		KRA103M
Q802, Q804, Q806		KRC102M
D809–D811		MTZJ6.2A
⚠ D801–D804		S5688G

CAPACITORS

C808, C811, C815	CEAT101M10
C805, C806, C813	CEAT101M16
C801, C802	CEAT222M25
C809	CEAT472M16
C803, C804, C807, C810, C812	CKPUYF103Z25
C814	CKPUYF103Z25

OTHERS

CN801 23P CONNECTOR	52045-2345
CN805 13P PLUG	AKP7059
CN806 19P PLUG	AKP7062
CN804 18P PLUG	KM200TA18
CN802 20P PLUG	KM200TA20
CN803 7P PLUG	KM200TA7

G AMP INPUT ASSY SEMICONDUCTORS

IC251	NJM4558D-D
Q257	2SA933S
Q251, Q256	2SC2878
Q252	2SD1858X
Q254	KRA103M

Q253, Q255	KRC103M
D251, D252	1SS133
D253	MTZJ27D
D254	MTZJ5.1B

CAPACITORS

C251	CEANP470M25
C254	CEAT101M25
C252, C253	CKPUYF103Z25

RESISTORS

All Resistors	RD1/4PU###J
---------------	-------------

OTHERS

CN251 3P CONNECTOR	52044-0345
CN254 19P CONNECTOR	52044-1945
CN252 3P PLUG	KM250MA3L
CN253 18P SOCKET	KP200TA18L

H TRANS1 ASSY

TRANS1 ASSY has no service part.

I VIDEO ASSY SEMICONDUCTORS

IC301	NJM2595M
Q302	2SA1515
Q303	2SC3326
Q301	2SC3377
D301, D302, D305, D306	1SS355

D307	UDZS5.1B
D303, D304	UDZS6.2B

Mark No. Description Part No.

COILS AND FILTERS

L301-L304 CHIP SOLID INDUCTOR QTL1013

CAPACITORS

C347 CCSRCH470J50
C307-C310, C312, C314, C338 CEAT470M25
C1360,C302, C379 CKSRYB103K50
C339, C340 CKSRYB104K25
C304-C306 CKSRYB221K50

C333 CKSRYB331K50
C311, C313 CKSRYB473K25

RESISTORS

⚠ R313, R316 RS3LMF560J
Other Resistors RS1/16S###J

OTHERS

CN303 11P CONNECTOR 52044-1145
JA305 PIN JACK(4P)YELLOW AKB7100
CN302 7P SOCKET KP200TA7L
CN301 9P SOCKET KP200TA9L
CN306 2P PIN JACK XKB3041

JA351 2P JACK XKN3013

J 6CH IN ASSY SEMICONDUCTORS

IC302-IC305 NJM4558MD

CAPACITORS

C1354,C1359,C319, C320 CCSRCH101J50
C327, C328, C342-C345 CCSRCH101J50
C348, C349 CCSRCH101J50
C1362 CCSRCH121J50
C1361 CCSRCH680J50

C1357 CEAT220M25
C1358,C321, C324, C331, C332 CEAT4R7M50
C1363-C1365 CKSRYB102K50
C1352,C1353,C1355,C1356,C316 CKSRYB103K50
C322, C323, C329, C330 CKSRYB103K50

C1350,C1351,C317, C318 CKSRYB221K50
C325, C326 CKSRYB221K50

RESISTORS

All Resistors RS1/16S###J

OTHERS

CN307 9P CONNECTOR 52044-0945
308 6P PIN JACK AKB7089

K BOARD TO BOARD ASSY

OTHERS

CN391 7P PLUG KM200TA7
CN390 9P PLUG KM200TA9

L S. VIDEO ASSY SEMICONDUCTORS

IC351, IC352 NJM2595M
D351-D354 1SS355

CAPACITORS

C375, C376 CCSRCH470J50
C352, C355, C358, C361-C363 CEAT470M25

Mark No. Description Part No.

C366 CEAT470M25
C372, C373 CKSRYB103K50
C351, C353, C354, C356, C357 CKSRYB104K25

C359, C367 CKSRYB104K25
C364, C365, C368-C371 CKSRYB221K50

RESISTORS

All Resistors RS1/16S###J

OTHERS

CN353 2-4P MINI DIN SOCKET AKP7020
CN352 3-4P MINI DIN SOCKET AKP7043
CN354 CONNECTOR POST B5B-PH-K
CN351 7P SOCKET KP200TA7L

M FRONT ASSY SEMICONDUCTORS

IC401 PE5346A
Q484 2SA1037K
Q441, Q442 DTC124EK
D403-D405 1SS355
D401, D402 DAN202K

COILS AND FILTERS

L401 LFEA2R2J

SWITCHES AND RELAYS

S451-S469 ASG7013

CAPACITORS

C482, C483 CCSRCH221J50
C481 CCSRCH471J50
C442 CEAL470M10
C403 CEAT221M6R3
C405 CEAT470M10

C412 CEAT470M50
C415, C451-C454 CKSRYB102K50
C401, C402, C404, C410, C411 CKSRYB103K50
C419, C441 CKSRYB103K50
C418, C421 CKSRYB104K16

C420 XCH3011

RESISTORS

All Resistors RS1/16S###J

OTHERS

471 CABLE HOLDER (5P) 51063-0505
404 CABLE HOLDER (7P) 51063-0705
CN401 17P CONNECTOR 52044-1745
CN402 9P CONNECTOR 52492-0920
V401 FL TUBE XAV3018

X401 CERAMIC RESONATOR VSS1142
(5 MHz)
401 REMOTE RECEIVERUNIT GP1UM28XK

N R. ENCODER ASSY SEMICONDUCTORS

D512 SLR-343BBT
D511 UDZS5.6B

SWITCHES AND RELAYS

S511 ASG7013
S513 ROTARY ENCODER XSX3005
S512 ROTARY ENCODER XSX3006

Mark No. **Description** **Part No.**

RESISTORS

All Resistors

RS1/16S###J

OTHERS

511 CABLE HOLDER (7P)

51063-0705

POWER SW ASSY

SEMICONDUCTORS

D501

SLR-343VC

SWITCHES AND RELAYS

S501-S509

ASG7013

RESISTORS

All Resistors

RS1/16S###J

OTHERS

501 CABLE HOLDER (5P)

51063-0505

TRANS4 ASSY

SEMICONDUCTORS

IC891, IC892 PROTECTOR (630mA)
D891

AEK7006
S1WB(A)60SD

CAPACITORS

C891, C892

CEAT471M35

OTHERS

CN891

52045-0345

FRONT VIDEO ASSY

CAPACITORS

C901, C902, C915, C916
C903, C905
C908, C911, C914
C904, C906, C909, C912
C907, C910, C913

CCSRCH101J50
CEAL470M25
CKSRYB103K50
CKSRYB104K25
CKSRYB471K50

RESISTORS

All Resistors

RS1/16S###J

OTHERS

JA902 PIN JACK (4P)

AKX7014

H.P. ASSY

SEMICONDUCTORS

Q1551, Q1552

2SC3326

CAPACITORS

C1554, C1557
C1553, C1556
C1555, C1558
C1551, C1552

CCSRCH471J50
CKSRYB103K50
CKSRYB104K16
CKSRYB223K50

RESISTORS

⚠ R1553, R1554
⚠ R1551, R1552
Other Resistors

RS1LMF151J
RS2LMF331J
RS1/16S###J

OTHERS

1551 6P CABLE HOLDER
JA1551 HEADPHONE JACK
KN1551 EARTH METAL FITTING

51048-0600
RKB1014
VNF1084

Mark No. **Description** **Part No.**

PRE-OUT ASSY

CAPACITORS

C1581

CKSRYB103K50

RESISTORS

All Resistors

RS1/16S###J

OTHERS

CN1575 7P CONNECTOR
1575 PIN JACK(6P)

52045-0745
AKB7089

DIGITAL IN ASSY

COILS AND FILTERS

F1901 CHIP BEAD

DTF1067

CAPACITORS

C1907, C1909
C1904
C1908
C1903, C1906
C1901, C1902, C1905

CCSRCH101J50
CEAL101M10
CKSRYB102K50
CKSRYB103K50
CKSRYB104K25

RESISTORS

All Resistors

RS1/16S###J

OTHERS

CN1902 CONNECTOR POST
JA1901 OPT. LINK IN
JA1902 OPT. LINK OUT 12MB/S
CN1901 10P CONNECTOR
KN1901 WRAPPING TERMINAL

B5B-PH-K
GP1FA513RZB
GP1FA513TZ
VKN1186
VNF1084

FRONT OPTICAL ASSY

SEMICONDUCTORS

IC951
D951-D953

UPC4570G2
UDZS5.1B

COILS AND FILTERS

F951 CHIP BEAD

DTF1067

CAPACITORS

C960
C965
C952, C959
C956, C958, C963, C966, C967
C953, C957, C962

CCSRCH101J50
CCSRCH330J50
CCSRCH471J50
CEAT100M50
CKSRYB103K50

C951, C954

CKSRYB104K25

RESISTORS

All Resistors

RS1/16S###J

OTHERS

CN952 CONNECTOR 5P
CN951 CONNECTOR POST
JA952 JACK
JA951 OPTICAL INPUT JACK
KN951 WRAPPING TERMINAL

52045-0545
B5B-PH-K
RKN1004
TORX179PL
VNF1084

FM/AM TUNER MODULE

SEMICONDUCTORS

IC201
IC202
Q201, Q204, Q205, Q601

BA1451F
LC72131MD
2SC2412K

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
Q202		DTA124ES			
Q203, Q602		DTC124EK			
D201		1SS133			
D601		HVU187			
D202		MTZJ5.1C			
D101		UDZS6.8B			

COILS AND FILTERS

L201 FM DETECTOR COIL	ATE7003
F202 CERAMIC FILTER	ATF-107
F201 CERAMIC FILTER	ATF-119
F601 ANTIBIRDY FILTER	ATF7025
F203 AM CERAMIC FILTER	ATF7026

L602	LAU2R2J
L601	LCTA270J2520

CAPACITORS

C605	CCSQCH680J50
C212, C213, C226, C233–C235	CCSRCH101J50
C240, C614	CCSRCH101J50
C206	CCSRCH120J50
C231, C232	CCSRCH150J50

C223	CEAT100M50
C229	CEAT101M10
C224	CEAT1R0M50
C227	CEAT220M25
C241	CEAT2R2M50

C243	CEAT330M16
C228	CEAT3R3M50
C237	CEAT470M10
C211	CEJQ1R0M50
C210	CEJQ470M16

C103, C104, C204, C238, C609	CKSRYB102K50
C102, C208, C216, C217, C220	CKSRYB103K50
C239, C242, C604, C610, C615	CKSRYB103K50
C225	CKSRYB153K50
C607, C608	CKSRYB182K50

C201, C205, C214, C230, C236	CKSRYB223K50
C244, C611	CKSRYB223K50
C221	CKSRYB224K10
C603	CKSRYB392K50
C215	CKSRYB471K50

C202, C222	CKSRYB473K16
C606	CKSRYB561K50

RESISTORS

R211	RD1/4PU221J
R221	RD1/4PU222J
R233	RD1/4PU391J
R103, R104	RS1/10S221J
Other Resistors	RS1/16S###J

OTHERS

CN201 13P CONNECTOR	52044-1345
BN201 2P TERMINAL WITH PAL (SHIELD CASE T)	AKA7002
(SHIELD CASE B)	ANK7072
	ANK7073
X201 CRYSTAL RESONATOR (7.2MHz)	ASS1093

FM FRONTEND	AXF7005
AM RF TUNING BLOCK	AXX7072

6. ADJUSTMENT

6.1 TUNER SECTION

A



■ AM Tuner Section

- There is no adjustment in the AM tuner.

■ FM Tuner Section

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

B

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

C

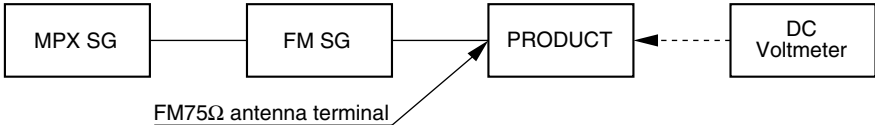


Fig.1 Adjustment Wiring Diagram

D

E

F

W FM/AM TUNER MODULE

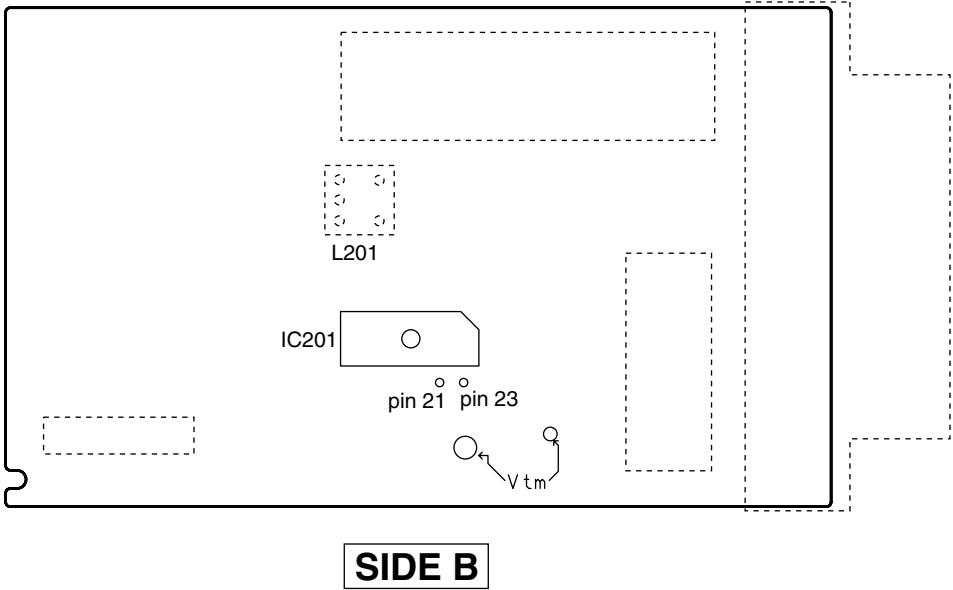


Fig.2 Adjustment Point

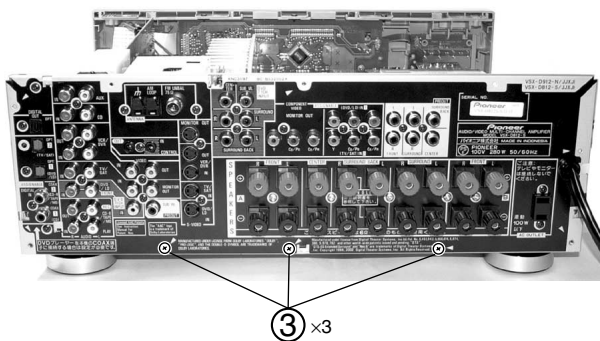
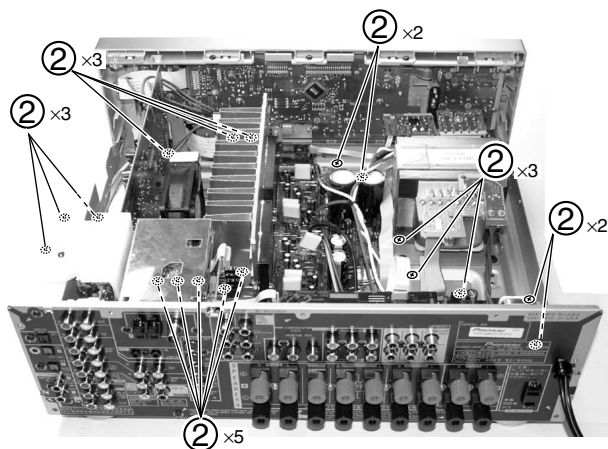
7. GENERAL INFORMATION

7.1 DIAGNOSIS

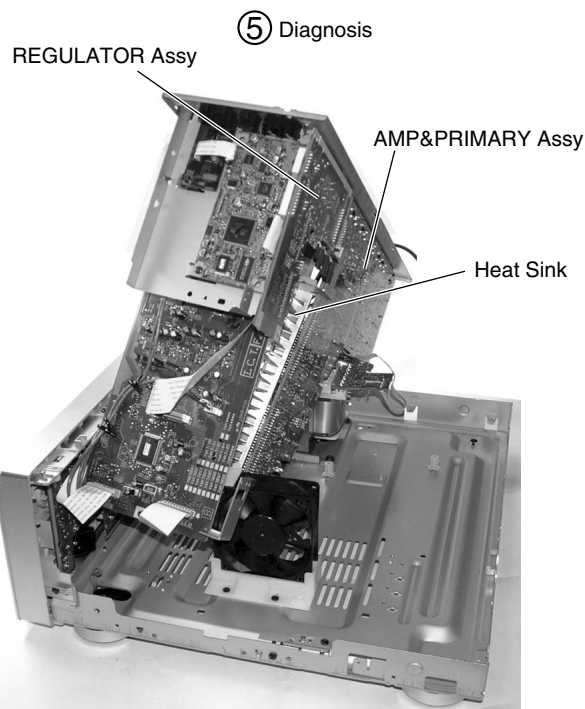
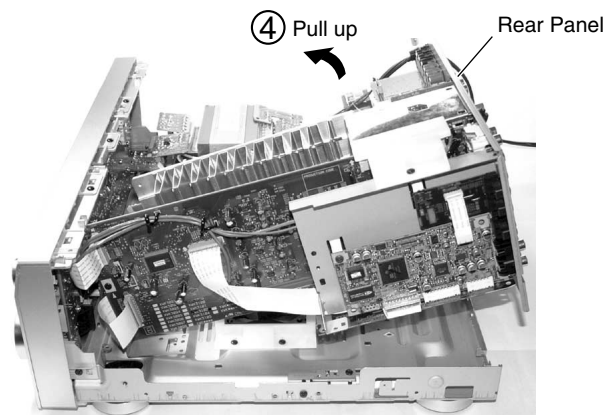
7.1.1 DISASSEMBLY AND DIAGNOSIS

■ Diagnosis

① Remove the top cover (nine screws).

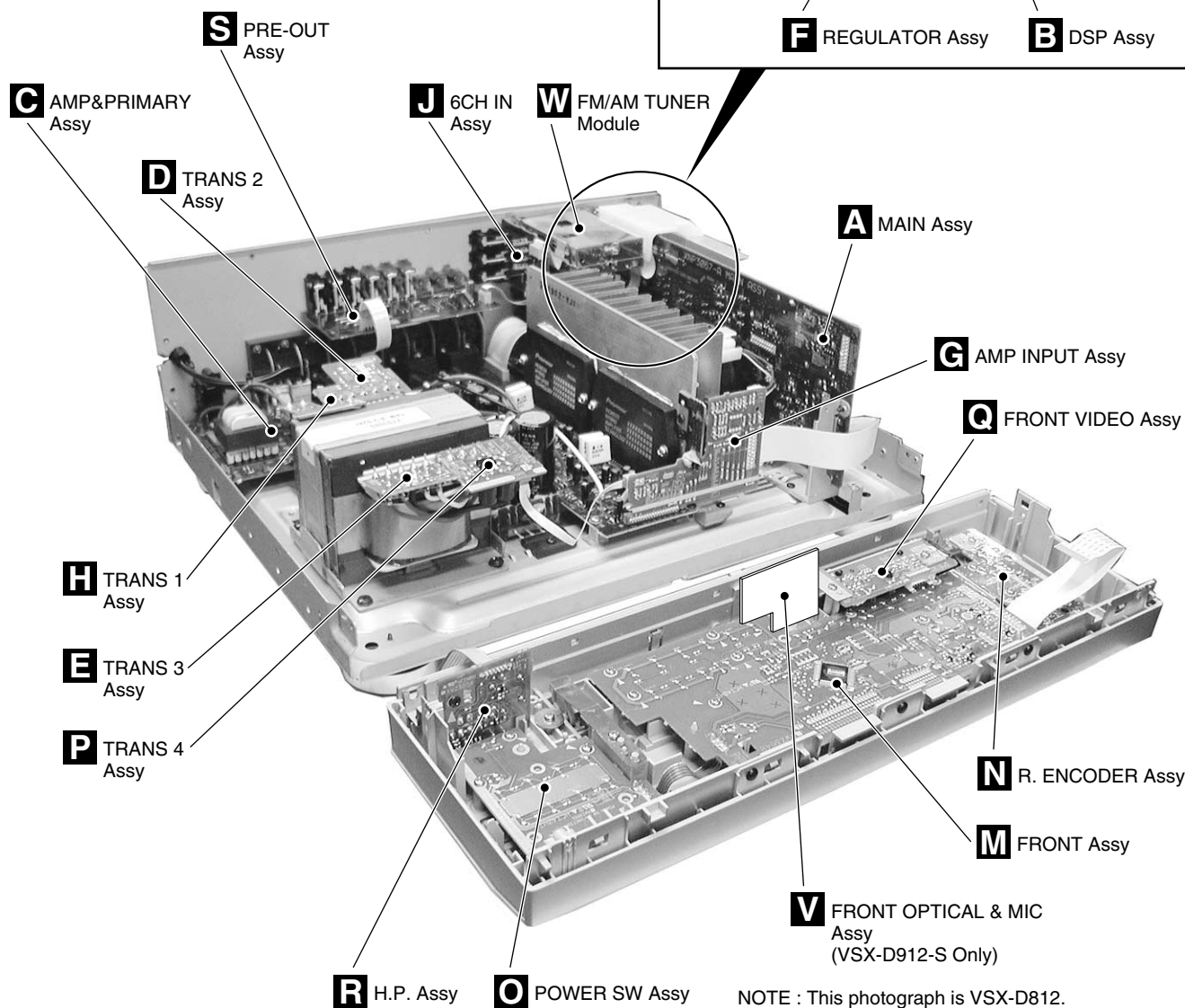
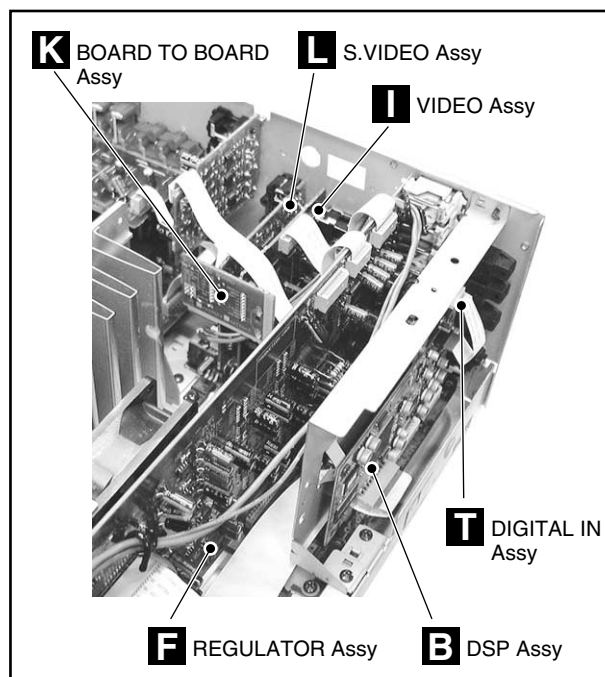


Note : This photograph may show a different model.
however, the method for disassembly is the same.



Note : The unit does not operate when the screws of Speaker Terminal are taken off from Rear Panel.
Even if the FM/AM TUNER MODULE is disconnected, other functions can operate.

7.1.2 PCB LOCATION



NOTE : This photograph is VSX-D812.

7.2.1 IC

- A

PD5837A, PE5346A, BD3813KS, BD3841FS, NJM2581, NJM2595, AK4529, BU1924F

- **System Control MCU**

■ Pin Arrangement (Top View)



• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	P96/ANEX1/SOUT4	NC	I/O	
2	P95/ANEX0/CLK4	DISP RST	I/O	Reset signal to display u-com
3	P94/DA1/TB4IN	DISP EN	I/O	Enable signal to display u-com
4	P93/DA0/TB3IN	DISP RDY	I/O	Ready signal from display u-com
5	P92/TB2IN/SOUT3	DISP DI	I/O	Data out to display u-com
6	P91/TB1IN/SIN3	DISP DO	I/O	Data input from display u-com
7	P90/TB0IN/CLK3	DISP CLK	I/O	Clock signal to display u-com
8	BYTE	GND		
9	CNVss	CNVSS		
10	P87/XCIN	NC	I/O	
11	P86/XCOUT	NC	I/O	
12	RESET	XRESET		
13	XOUT	XOUT		
14	VSS	GND		
15	XIN	XIN		
16	VCC	5V		
17	P85/NMI	NM	I	No use
18	P84/INT2	ACIN(WAKEUP)	I/O	AC pulse input
19	P83/INT1 P85/NMI	1394 INT	I/O	No use (Standby for 1394)
20	P82/INT0	1W WUP	I/O	Wake up signal from display u-com
21	P81/TA4IN/U	DECO MUTE	I/O	1st DSP detect port
22	P80/TA4OUT/U	NECK_SEL	I/O	5.1ch, surround mode and A+B Stereo : H / Stereo : L
23	P77/TA3IN	DC PROT	I/O	AMP DC detect
24	P76/TA3OUT	Boad DET	I/O	AMP INPUT ASSY detect, H : detected
25	P75/TA2IN/W	MIC DET	I/O	MIC detect (VSX-D912 only), L : detect
26	P74/TA2OUT/W	1394 RST	I/O	No use (Standby for 1394)
27	P73/CTS2/RTS2/TA1IN/V	1394 CS	I/O	No use (Standby for 1394)
28	P72/CLK2/TA1OUT/V	1394 CK	I/O	No use (Standby for 1394)
29	P71/RxD2/SCL/TA0IN/TB5IN	1394 DO	I/O	No use (Standby for 1394)
30	P70/TXD2/SDA/TA0OUT	1394 DI	I/O	No use (Standby for 1394)
31	P67/TXD1	232C RXD	I/O	For rewriting 232C (Data output)
32	P66/RxD1	232C TXD	I/O	For rewriting 232C (Data input)
33	P65/CLK1	CLK	I/O	It is necessary when writing for JIG
34	P64/CTS1/RTS1/CLKS1	232C CTS	I/O	For rewriting 232C (Admit communication)
35	P63/TXD0	DSP DI	I/O	Data output signal for communication with DSP and DIR
36	P62/RxD0	DSP DO	I/O	Data input signal for communication with DSP
37	P61/CLK0	DSP CLK	I/O	Clock signal for communication with DSP and DIR
38	P60/CTS0/RTS0	DSP RST	I/O	Reset signal for DSP
39	P57/RDY/CLKOUT	DSP SS	I/O	Srobe select signal to DSP
40	P56/ALE	BUSY	I/O	Use it in MCACC
41	P55/HOLD	DSP HREQ	I/O	DSP error detect signal
42	P54/HLDA	DSP MODE	I/O	Mode select of DSP (ROM/RAM)
43	P53/BCLK	DSP MUTE	I/O	DSP ASSY mute
44	P52/RD	NC	I/O	
45	P51/WRH/BHE	DIR DO	I/O	Data input signal for communication with DIR/DAC
46	P50/WRL/WR	DIR CS	I/O	Chip select signal for communication with DIR/DAC
47	P47/CS3	NC	I/O	
48	P46/CS2	DIR CDC RST	I/O	Reset signal for DIR CODEC
49	P45/CS1	DIR ERR	I/O	lock/unlock signal
50	P44/CS0	XTL0	I/O	DIR X'tal change

• Pin Function

No.	Port	Pin Name	I/O	Pin Function
51	P43/A19	INPUT_ATT	I/O	Analog input ATT(H : ATT ON)
52	P42/A18	GAIN_SEL	I/O	Gain select (5.1ch and Stereo of analog input : H)
53	P41/A17	AMUTE	I/O	System mute
54	P40/A16	RY_B	I/O	Speaker B relay ON/OFF
55	P37/A15	RY_C/R	I/O	Rear/Center Speaker relay ON/OFF
56	P36/A14	RY_A	I/O	Speaker A relay ON/OFF
57	P35/A13	HP DET	I/O	HP detect, H : detected
58	P34/A12	RY-AC	I/O	AC relay ON/OFF
59	P33/A11	MVRATT	I/O	ATT control of master volume (less than -15dB : L)
60	P32/A10	LOW_CONSUMPTION	I/O	If stop mode, port L, else H
61	P31/A9	EVR CLK	I/O	Clock signal for Function and E-volume
62	Vcc	5V		
63	P30/A8(/_D7)	EVR DT	I/O	Data signal for Function and E-volume
64	Vss	GND		
65	P27/A7(/D7/D6)	NC	I/O	
66	P26/A6(/D6/D5)	4053INH	I/O	Component terminal control
67	P25/A5(/D5/D4)	4053A	I/O	Component terminal control
68	P24/A4(/D4/D3)	furniture	I/O	Furniture control signal
69	P23/A3(/D3/D2)	SWDET	I/O	SWSP detect
70	P22/A2(/D2/D1)	VIDEO3	I/O	SWSP detect
71	P21/A1(/D1/D0)	VIDEO2	I/O	SWSP detect
72	P20/A0(/D0/_)	VIDEO1	I/O	NJM2296 control (VIDEO input select)
73	P17/D15/INT5	OL DET	I/O	Detect overload of AMP
74	P16/D14/INT4	NC	I/O	
75	P15/D13/INT3	RDS CLK	I/O	Clock input signal for RDS module
76	P14/D12 RDS	DT	I/O	Data input signal for RDS module
77	P13/D11 RDS	FM+	I/O	Power ON/OFF of RDS decoder
78	P12/D10	TUNED	I/O	L : TUNED
79	P11/D9	STEREO	I/O	L :STEREO
80	P10/D8	TMUTE	I/O	Tuner mute
81	P07/D7	TUNER DO	I/O	Data input signal for tuner control
82	P06/D6	TUNER CLK	I/O	Clock signal for tuner control
83	P05/D5	TUNER DI	I/O	Data output signal for tuner control
84	P04/D4	TUNER CE	I/O	Chip select signal for tuner control
85	P03/D3	NC	I/O	
86	P02/D2	NC	I/O	
87	P01/D1	NC	I/O	
88	P00/D0	NC	I/O	
89	P107/AN7/KI3	NC	I/O	
90	P106/AN6/KI2	NC	I/O	
91	P105/AN5/KI1	NC	I/O	
92	P104/AN4/KI0	NC	I/O	
93	P103/AN3	NC	I/O	
94	P102/AN2	SIMUKE1	I/O	Input 1 to switch region
95	P101/AN1	SIMUKE2	I/O	Input 2 to switch region
96	AVSS	AVSS		Connect to VSS
97	P100/AN0	NC	I/O	
98	VREF	VREF		Connect to VCC
99	AVcc	AVCC		Connect to VCC
100	P97/ADTRG/SIN4	NC	I/O	

• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	VDD1	+5V	-	positive power supply
2	VSS1	GND	-	ground potential
3	X1	Resonator	I	crystal connection for system clock oscillation
4	X2	Resonator	I	crystal connection for system clock oscillation
5	IC(VPP)	GND	-	
6	RESET	DISP RESET	I	receive reset signal from main u-com
7	P27/SCK1	DISP CK	I/O	clock signal from main u-com
8	P26/SI1	DISP DTI	I/O	datain from main u-com
9	P25/SO1	DISP DTO	I/O	data out to main u-com
10	P24/BUSY	DISP RDY	I/O	ready signal from main u-com
11	P23	NC	I/O	
12	P22	NC	I/O	
13	P21/SO3	NC	I/O	
14	P20/SCK3	NC	I/O	
15	P00/INTP0	DISP EN	I/O	enable signal from main u-com
16	P01/INTP1	NC	I/O	
17	P02/T1	SR IN	I/O	remote control signal input from main room
18	AVSS	GND	-	ground potential for A/D converter
19	ANI3	KEY IN4	I	
20	ANI2	KEY IN3	I	
21	ANI1	KEY IN2	I	
22	ANI0	KEY IN1	I	
23	VSS0	GND	-	ground potential for ports
24	AVDD	'+5V	-	analog power voltage input to A/D converter
25	VDD0	'+5V	-	positive power supply to ports
26	P64/FIP52	NC	I/O	
27	P63/FIP51	FEN A	I/O	MULTI JOG(Right)
28	P62/FIP50	FEN B	I/O	MULTI JOG(Left)
29	P61/FIP49	EN B	I/O	VOLUME JOG1(-)
30	P60/FIP48	EN A	I/O	VOLUME JOG1(+)
31	P57/FIP47	NC	I/O	
32	P56/FIP46	TEST	I/O	test mode input for checker
33	P55/FIP45	NC	I/O	
34	P54/FIP44	NC	I/O	
35	P53/FIP43	NC	I/O	
36	P52/FIP42	1W WUP	I/O	output wakeup signal to main u-com
37	P51/FIP41	NC	I/O	
38	P50/FIP40	NC	I/O	
39	P47/FIP39	VOL LED	I/O	LED Output
40	P46/FIP38	NC	I/O	

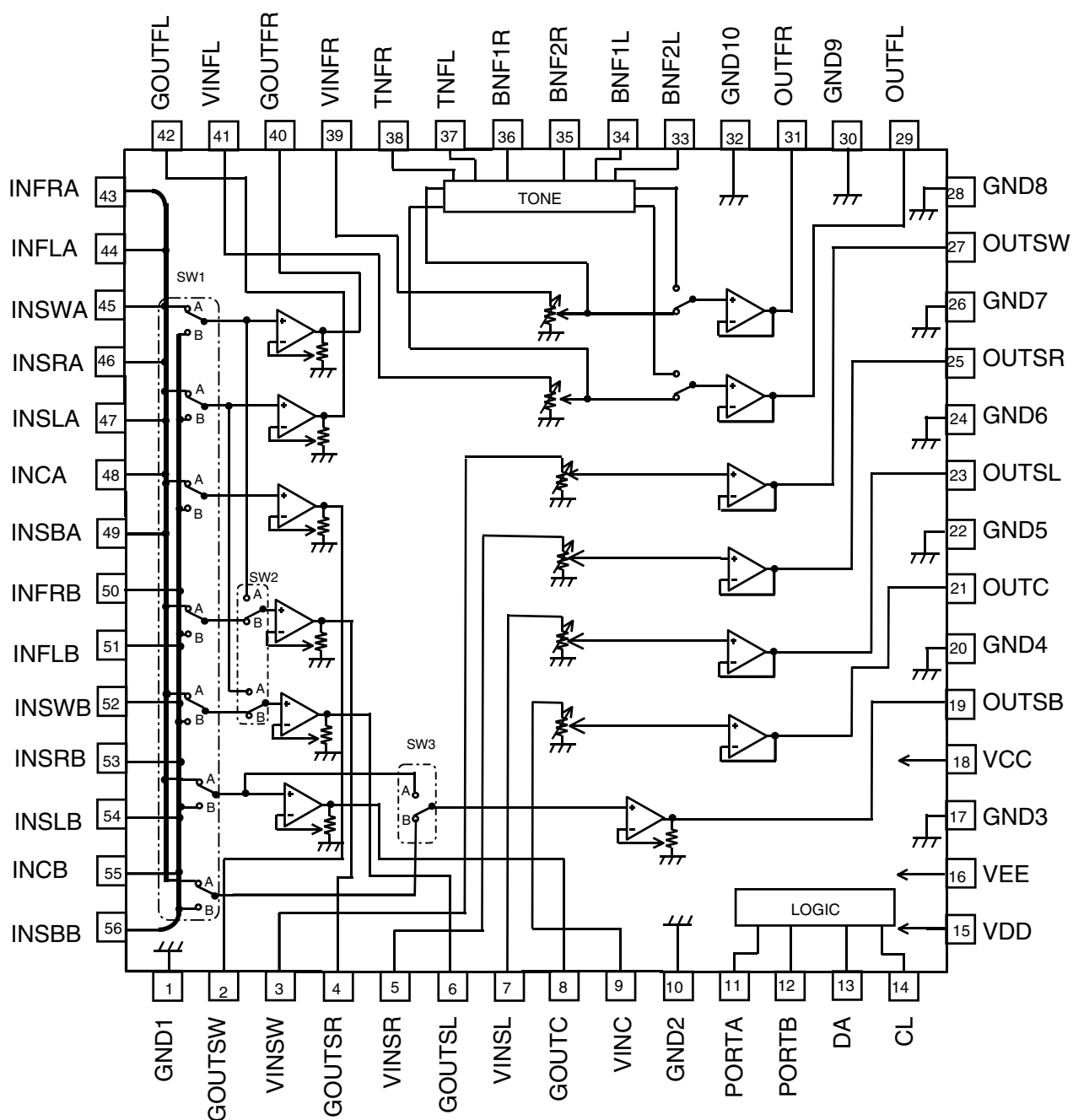
• Pin Function

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	NC	I/O	
42	FIP36/P44	NC	I/O	
42	FIP35/P43	NC	I/O	
44	FIP34/P42	NC	I/O	
45	FIP33/P41	STANDBY LED	I/O	LED Output
46	FIP32/P40	NC	I/O	
47	FIP31/P37	S22	I/O	Display
48	FIP30/P36	S21	I/O	Display
49	FIP29/P35	S20	I/O	Display
50	FIP28/P34	S19	I/O	Display
51	FIP27/P33	S18	I/O	Display
52	FIP26/P32	S17	I/O	Display
53	FIP25/P31	S16	I/O	Display
54	FIP24/P30	S15	I/O	Display
55	FIP23	S14	O	Display
56	FIP22	S13	O	Display
57	FIP21	S12	O	Display
58	FIP20	S11	O	Display
59	VDD2	'+5V	-	positive power supply to FIP controller.
60	VLOAD	VF	-	pull down resistor connection of FIP controller
61	FIP19	S10	O	Display
62	FIP18	S9	O	Display
63	FIP17	S8	O	Display
64	FIP16	S7	O	Display
65	FIP15	S6	O	Display
66	FIP14	S5	O	Display
67	FIP13	S4	O	Display
68	FIP12	S3	O	Display
69	FIP11	S2	O	Display
70	FIP10	S1	O	Display
71	FIP9	G10	O	Display
72	FIP8	G9	O	Display
73	FIP7	G8	O	Display
74	FIP6	G7	O	Display
75	FIP5	G6	O	Display
76	FIP4	G5	O	Display
77	FIP3	G4	O	Display
78	FIP2	G3	O	Display
79	FIP1	G2	O	Display
80	FIP0	G1	O	Display

■ **BD3813KS (MAIN ASSY : IC108)**

• 6.1ch Audio Sound Processor

■ **Block Diagram**



• Description of terminal

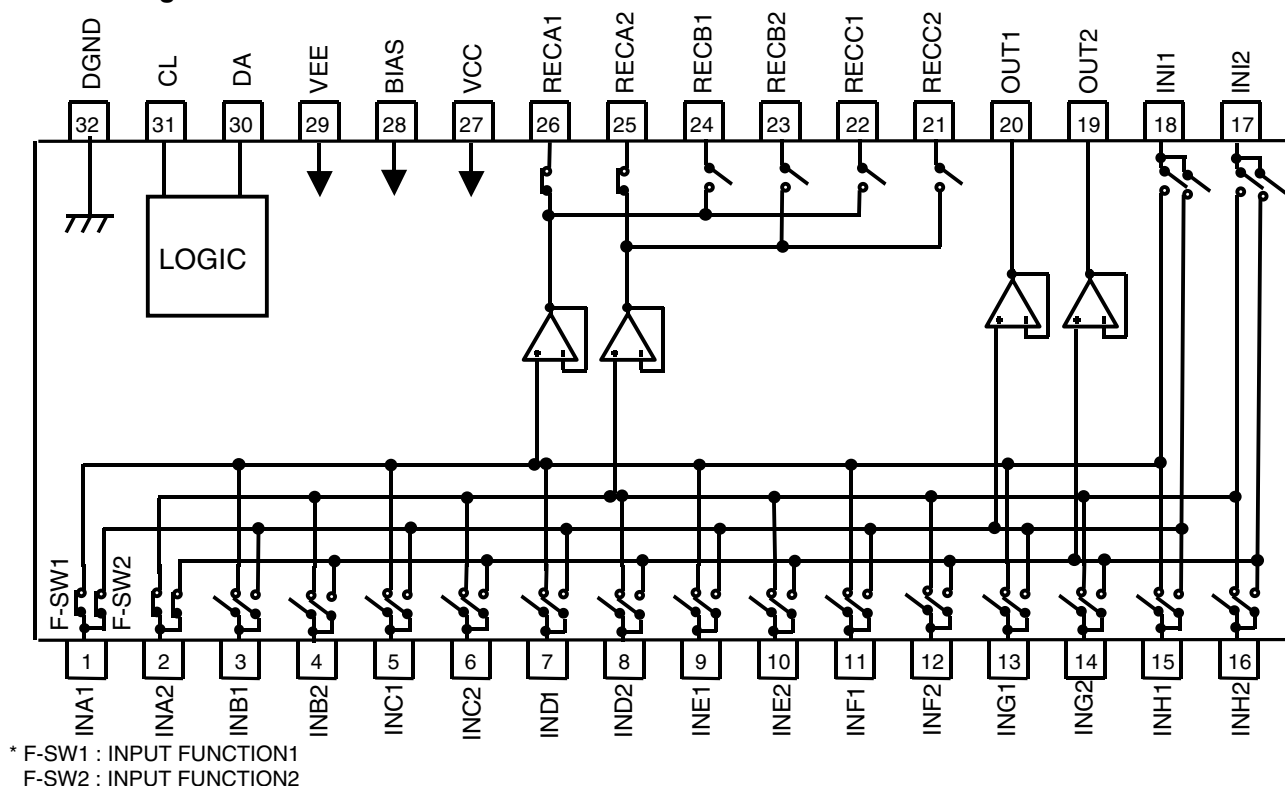
Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
1	GND1	Ground terminal	14	CL	Serial clock input terminal
2	GOUTSW	Sub woofer input gain output terminal	15	VDD	Power supply terminal for port
3	VINSW	Subwoofer volume input terminal	16	VEE	(-)Power supply terminal
4	GOUTSR	Surround Rch input gain output terminal	17	GND3	Ground terminal
5	VINSR	Surround Rch volume input terminal	18	VCC	(+)Power supply terminal
6	GOUTSL	Surround Lch input gain output terminal	19	OUTSB	Surround backoutput terminal
7	VINSL	Surround Lch volume input terminal	20	GND4	Ground terminal
8	GOUTC	Center speaker input gain output terminal	21	OUTC	Center speaker output terminal
9	VINC	Center speaker volume input terminal	22	GND5	Ground terminal
10	GND2	Ground terminal	23	OUTSL	Surround Lch output terminal
11	PORTA	Output terminal for port	24	GND6	Ground terminal
12	IPOBTB	Output terminal for port	25	OUTSR	Surround Rch output terminal
13	DA	Serial data and latch input terminal	26	GND7	Ground terminal

Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
27	OUTSW	Sub woofer output terminal	42	GOUTFL	Lch input gain output terminal
28	GND8	Ground terminal	43	INFRA	Rch DVD input terminal
29	OUTFL	Lch output terminal	44	INFLA	Lch DVD input terminal
30	GND9	Ground terminal	45	INSWA	SWch DVD input terminal
31	OUTFR	Rch output terminal	46	INSRA	SRch DVD input terminal
32	GND10	Ground terminal	47	INSLA	SLch DVD input terminal
33	BNF2L	Lch bass filter terminal 2	48	INCA	Cch DVD input terminal
34	BNF1L	Lch bass filter terminal 1	49	INSBA	SBch DVD input terminal
35	BNF2R	Rch bass filter terminal 2	50	INFRB	Rch DSP input terminal
36	BNF1R	Lch bass filter terminal 1	51	INFLB	Lch DSP input terminal
37	TNFL	Lch treble filter terminal	52	INSWB	SWch DSP input terminal
38	TNFR	Rch treble filter terminal	53	INSRB	SRch DSP input terminal
39	VINFR	Rch volume Input terminal	54	INSLB	SLch DSP input terminal
40	GOUTFR	Rch input gain output terminal	55	INCB	Cch DSP input terminal
41	VINFL	Lch volume Input terminal	56	INSBB	SBch DSP input terminal

■ BD3841FS (MAIN ASSY : IC101)

• 9ch Function Switch

■ Block Diagram



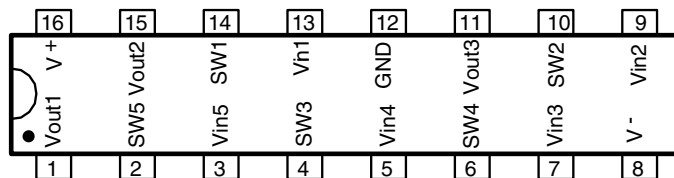
• Description of terminal

Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
1	INA1	A 1ch input terminal	17	INI2	I 2ch input terminal
2	INA2	A 2ch input terminal	18	INI1	I 1ch input terminal
3	INB1	B 1ch input terminal	19	OUT2	2ch output terminal
4	INB2	B 2ch input terminal	20	OUT1	1ch output terminal
5	INC1	C 1ch input terminal	21	RECC2	C 2ch REC output terminal
6	INC2	C 2ch input terminal	22	RECC1	C 1ch REC output terminal
7	IND1	D 1ch input terminal	23	RECB2	B 2ch REC output terminal
8	IND2	D 2ch input terminal	24	RECB1	B 1ch REC output terminal
9	INE1	E1ch input terminal	25	RECA2	A 2ch REC output terminal
10	INE2	E 2ch input terminal	26	RECA1	A 1ch REC output terminal
11	INF1	F 1ch input terminal	27	VCC	(+)Power supply terminal
12	INF2	F 2ch input terminal	28	BIAS	Bias input terminal
13	ING1	G1ch input terminal	29	VEE	(-)Power supply terminal
14	ING2	G2ch input terminal	30	DA	Serial date an latch input terminal
15	INH1	H 1ch input terminal	31	CL	Serial clock input terminal
16	INH2	H 2ch input terminal	32	DGND	Digital ground terminal

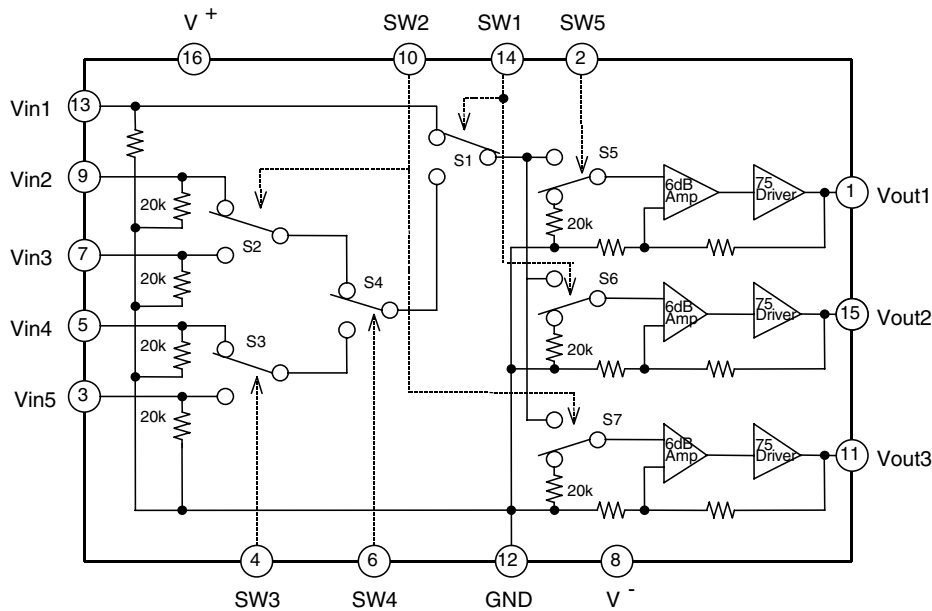
■ NJM2595 (VIDEO ASSY : IC301) (S. VIDEO ASSY : IC351, IC352)

- 5 input 3 output video SW for AV

■ Pin Arrangement (Top View)



■ Block Diagram



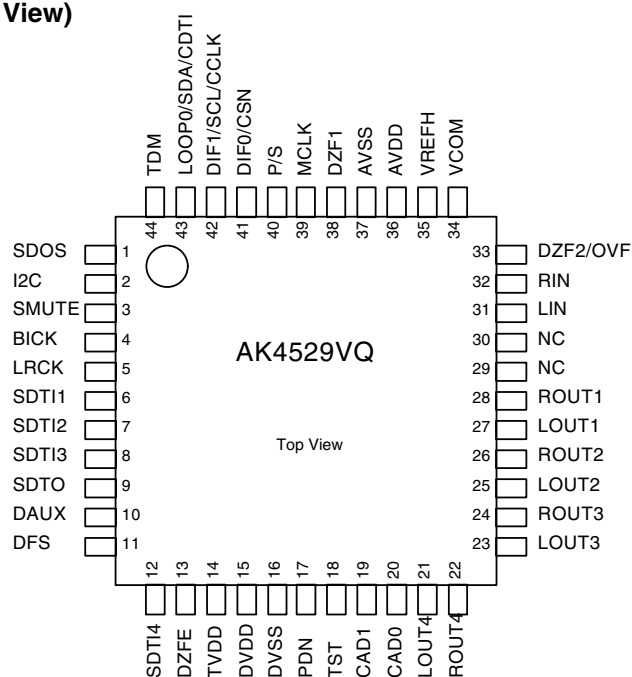
■ SW list for input and output (L=VCL,H=VCH,X=LorH)

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
L	H	X	X	H	Vin1	MUTE	Vin1
	L			H	Vin1	MUTE	MUTE
	H			L	MUTE	MUTE	Vin1
H	L	X	L	H	Vin2	Vin2	MUTE
				L	MUTE	Vin2	MUTE
H	H	X	L	H	Vin3	Vin3	Vin3
				L	MUTE	Vin3	Vin3
H	H	L	H	H	Vin4	Vin4	Vin4
	H			L	MUTE	Vin4	Vin4
	L			H	Vin4	Vin4	MUTE
	L			L	MUTE	Vin4	MUTE
H	H	H	H	H	Vin5	Vin5	Vin5
	H			L	MUTE	Vin5	Vin5
	L			H	Vin5	Vin5	MUTE
	L			L	MUTE	Vin5	MUTE
L	L	X	X	L	MUTE	MUTE	MUTE

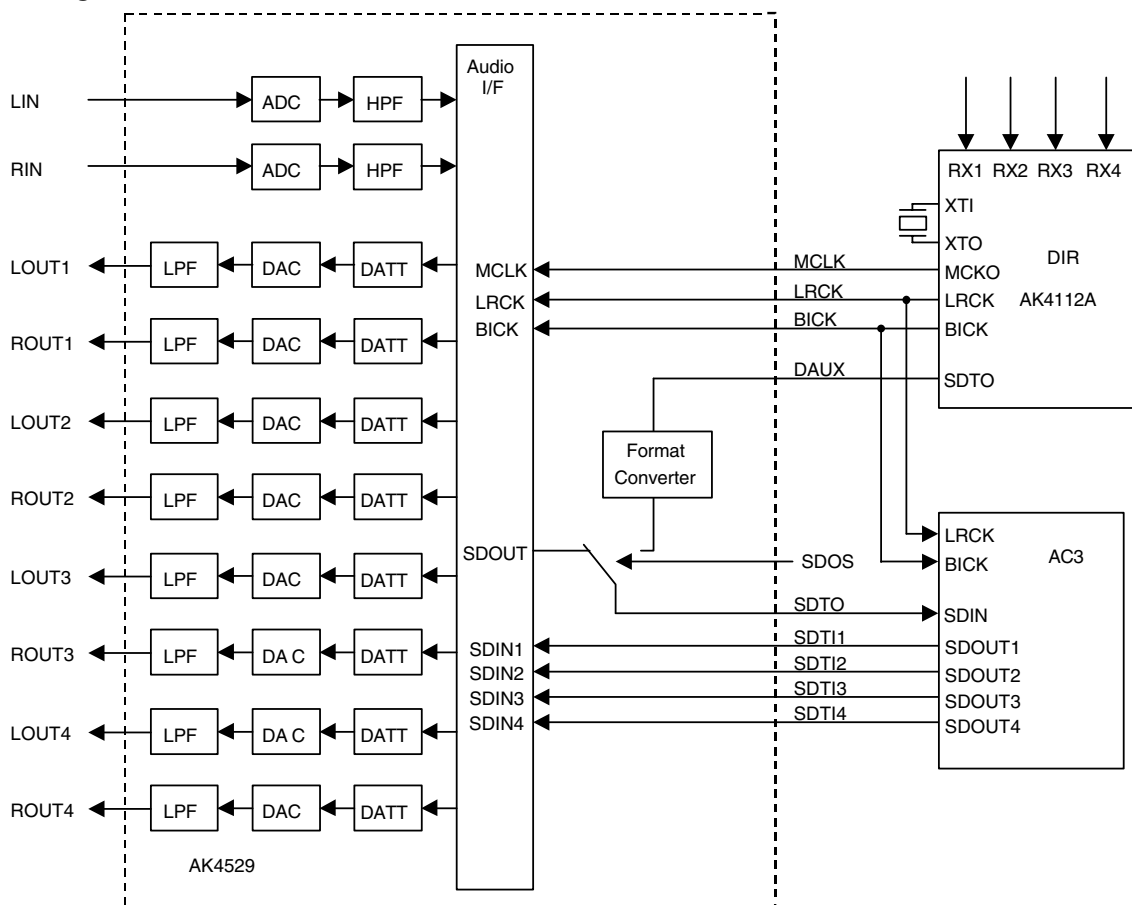
■ AK4529VQ (DSP ASSY : IC8401)

- High Performance Multi-channel Audio CODEC

■ Pin Arrangement (Top View)



■ Block Diagram



Block Diagram (DIR and AC-3 DSP are external parts)

• Pin Function

No.	Pin Name	I/O	Function
1	SDOS	I	SDTO Source Select Pin (Note 1) "L" : Internal ADC output, "H" : DAUX input SDOS pin should be set to "L" when TDM= "1".
2	I2C	I	Control Mode Select Pin "L" : 3-wire Serial, "H" : I ² C Bus
3	SMUTE	I	Soft Mute Pin (Note 1) When this pin goes to "H", soft mute cycle is initialized. When returning to "L", the output mute releases.
4	BICK	I	Audio Serial Data Clock Pin
5	LRCK	I	Input Channel Clock Pin
6	SDTI1	I	DAC1 Audio Serial Data Input Pin
7	SDTI2	I	DAC2 Audio Serial Data Input Pin
8	SDTI3	I	DAC3 Audio Serial Data Input Pin
9	SDTO	O	Audio Serial Data Output Pin
10	DAUX	I	AUX Audio Serial Data Input Pin
11	DFS	I	Double Speed Sampling Mode Pin (Note 1) "L" : Normal Speed, "H" : Double Speed
12	SDTI4	I	DAC4 Audio Serial Data Input Pin
13	DZFE	I	Zero Input Detect Enable Pin "L" : mode 7 (disable) at parallel mode, zero detect mode is selectable by DZFM3-0 bits at serial mode "H" : mode 0 (DZF1 is AND of all eight channels)
14	TVDD	-	Output Buffer Power Supply Pin, 2.7V~5.5V
15	DVDD	-	Digital Power Supply Pin, 4.5V~5.5V
16	DVSS	-	Digital Ground Pin, 0V
17	PDN	I	Power-Down & Reset Pin When "L", the AK4529 is powered-down and the control registers are reset to default state. If the state of P/S or CAD0-1 changes, then the AK4529 must be reset by PDN.
18	TST	I	Test Pin This pin should be connected to DVSS.
19	CAD1	I	Chip Address 1 Pin
20	CAD0	I	Chip Address 0 Pin
21	LOUT4	O	DAC4 Lch Analog Output Pin
22	ROUT4	O	DAC4 Rch Analog Output Pin

• Pin Function

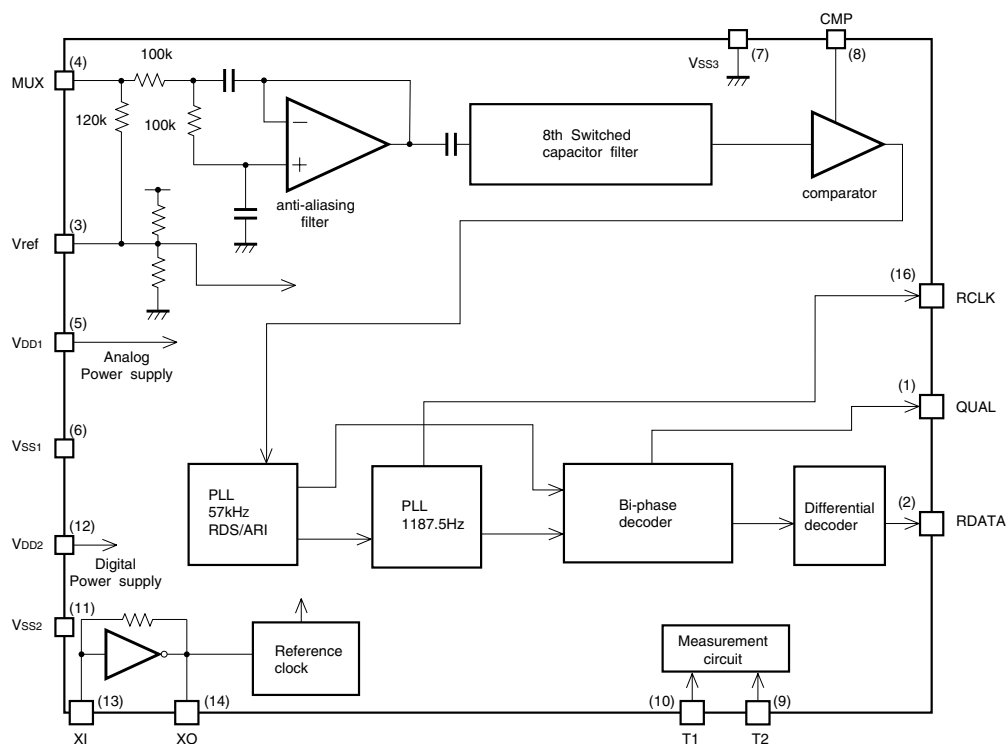
No.	Pin Name	I/O	Function
23	LOUT3	O	DAC3 Lch Analog Output Pin
24	ROUT3	O	DAC3 Rch Analog Output Pin
25	LOUT2	O	DAC2 Lch Analog Output Pin
26	ROUT2	O	DAC2 Rch Analog Output Pin
27	LOUT1	O	DAC1 Lch Analog Output Pin
28	ROUT1	O	DAC1 Rch Analog Output Pin
29	NC	-	No Connect No internal bonding.
30	NC	-	No Connect No internal bonding.
31	LIN	I	Lch Analog Input Pin
32	RIN	I	Rch Analog Input Pin
33	DZF2	O	Zero Input Detect 2 Pin (Note 2) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
	OVF	O	Analog Input Overflow Detect Pin (Note 3) This pin goes to "H" if the analog input of Lch or Rch is overflows.
34	VCOM	O	Common Voltage Output Pin, AVDD/2 Large external capacitor around 2.2μF is used to reduce power-supply noise.
35	VREFH	I	Positive Voltage Reference Input Pin, AVDD
36	AVDD	-	Analog Power Supply Pin, 4.5V~5.5V
37	AVSS	-	Analog Ground Pin, 0V
38	DZF1	O	Zero Input Detect 1 Pin (Note 2) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
39	MCLK	I	Master Clock Input Pin
40	P/S	I	Parallel/Serail Select Pin "L" : Serial control mode, "H" :Parallel control mode
41	DIF0	I	Audio Data Interface Format 0 Pin in parallel control mode
	CSN	I	Chip Select Pin in 3-wire serial control mode This pin should be connected to DVDD at I ² C bus control mode
42	DIF1	I	Audio Data Interface Format 1 Pin in parallel control mode
	SCL/CCLK	I	Control Data Clock Pin in serial control mode I2C= "L" : CCLK (3-wire Serial), I2C = "H" : SCL (I ² C Bus)
43	LOOP0	I	Loopback Mode 0 Pin in parallel control mode Enables digital loop-back from ADC to 4 DACs.
	SDA/CDTI	I/O	Control Data Input Pin in serial control mode I2C= "L" : CDTI (3-wire Serial), I2C = "H" : SDA (I ² C Bus)
44	TDM	I	TDM I/F Format Mode Pin (Note 1) "L" : Normal format, "H" :TDM format

- Notes: 1. SDOS, SMUTE, DFS, and TDM pins are ORed with register data if P/S = "L".
 2. The group 1 and 2 can be selected by DZFM3-0 bits if P/S = "L" and DZFE = "L".
 3. This pin becomes OVF pin if OVFE bit is set to "1" at serial control mode.
 4. All input pins should not be left floating.

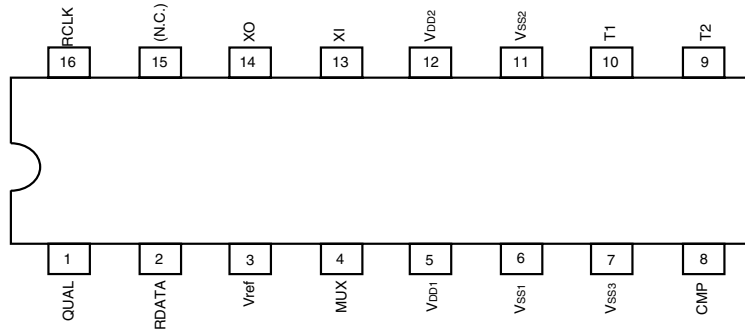
■ BU1924F (MAIN ASSY : IC5001)

• RDS / RBDS Demodulation IC

■ Block Diagram



■ Pin Arrangement (Top View)



■ Pin Function

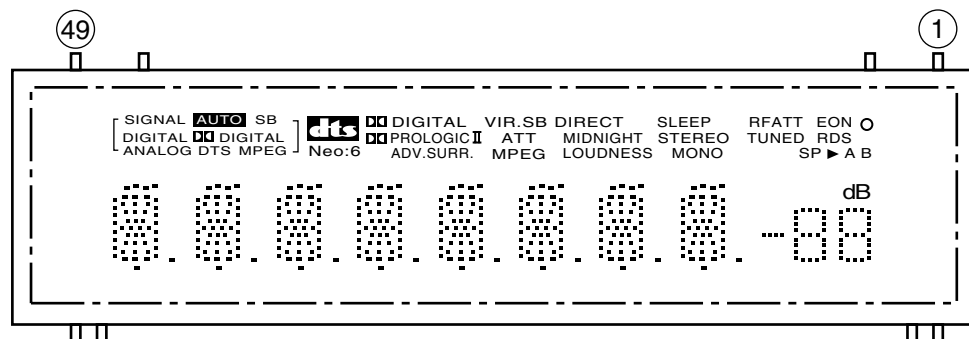
No.	Pin Name	Function	No.	Pin Name	Function
1	QUAL	Demodulation quality fine data :H , error data :L	9	T2	Test input Open or connect to GND.
2	RDATA	Demodulation data	10	T1	
3	Vref	Reference power supply (1/2 VDD1)	11	VSS2	Digital power supply (4.5V to 5.5V)
4	MUX	Composite signal input	12	VDD2	
5	VDD1	Analog power supply (4.5V to 5.5V)	13	XI	Connect the crystal resonator (4.332MHz)
6	VSS1		14	XO	
7	VSS3	GND	15	(NC)	Non connection
8	CMP	Comparator input	16	RCLK	Demodulation clock (1187.5kHz)

7.2.2 DISPLAY

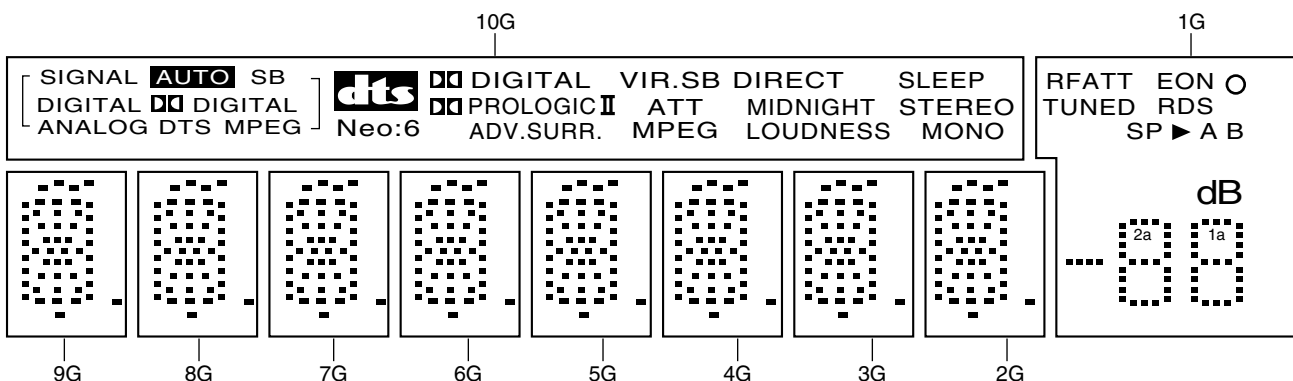
■ XAV3018 (FRONT ASSY : V401)

• FL DISPLAY

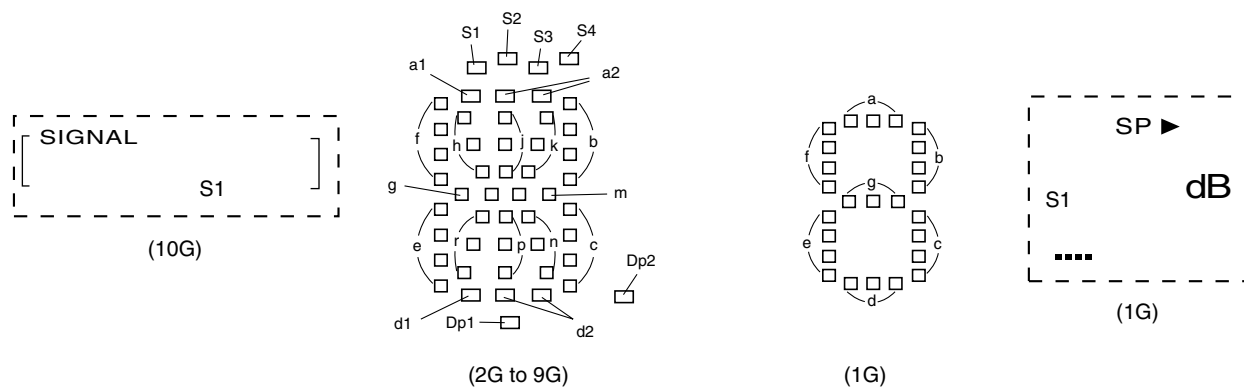
• Pin Assignment



• Grid Assignment



• Segment Designation



• Pin Connection

Pin No.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25
Connection	F2	F2	NP	NP	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2
Pin No.	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Connection	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1	

NOTE 1) F1, F2..... Filament
 2) NP..... No pin
 3) NX..... No extend pin
 4) DL..... Datum Line
 5) 1G to 10G..... Grid
 6) Field of vision is a minimum of 21.8° from the lower side.

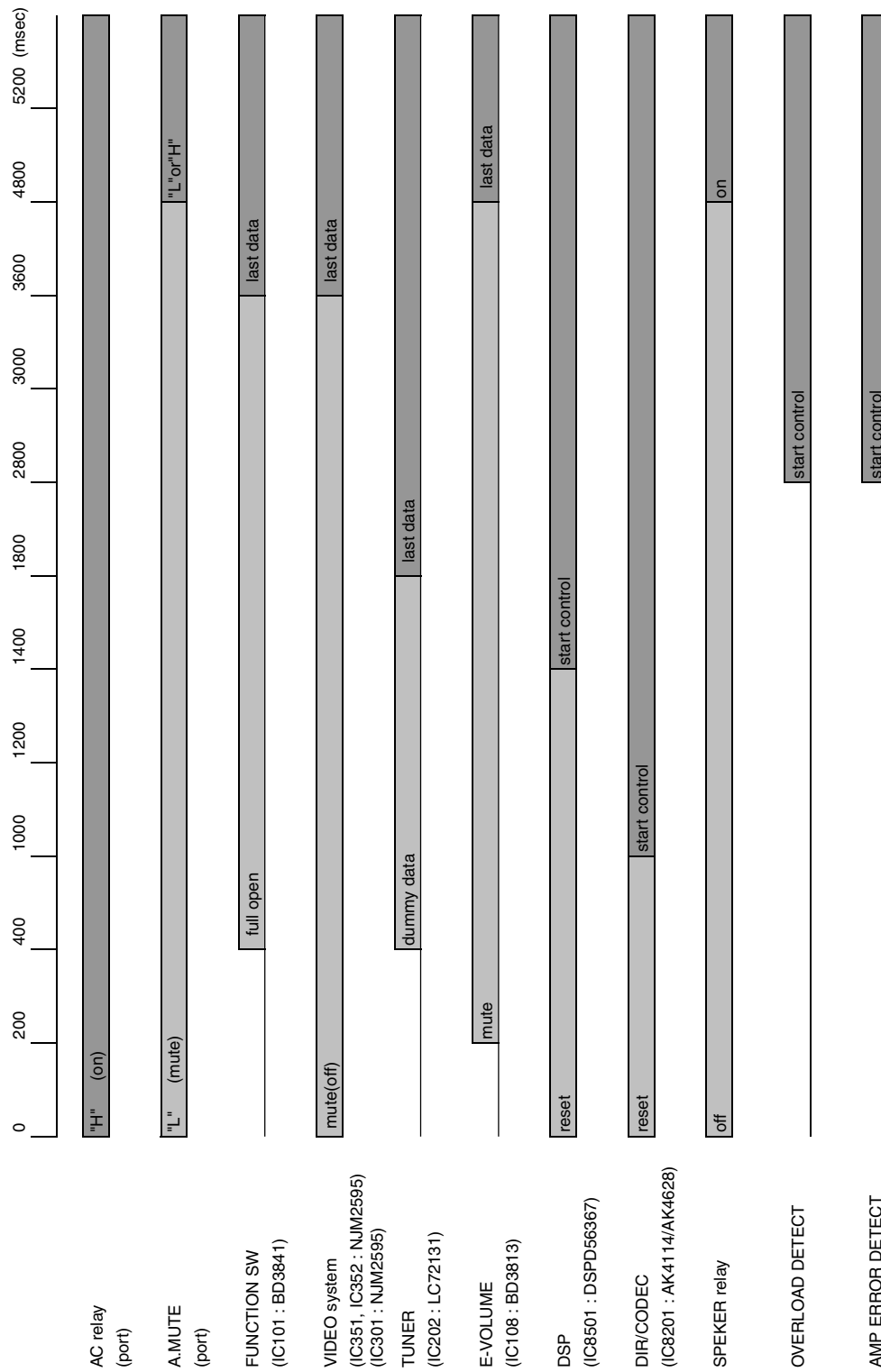
• Anode Connection

	10G	9G-2G	1G
P1	S1	a1	RFATT
P2	AUTO	a2	EON
P3	SB	h	○
P4	DIGITAL	j	TUNED
P5	ANALOG	k	RDS
P6	DIGITAL (L)	b	S1
P7	DTS	f	A
P8	MPEG	m	B
P9	DTS	g	1a
P10	MPEG	c	1b
P11	DIGITAL (R)	e	1f
P12	PROLOGIC II	r	1g
P13	Neo:6	p	1c
P14	VIR.SB	n	1e
P15	ADV.SURR.	d1	1d
P16	ATT	d2	2a
P17	DIRECT		2b
P18	MIDNIGHT		2f
P19	LOUDNESS	S1	2g
P20	SLEEP	S4	2c
P21	STEREO	S2	2e
P22	MONO	S3	2d

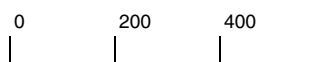
7.3 EXPLANATION

7.3.1 POWER ON AND OFF INITIAL TIMING CHART

■ POWER ON INITIAL TIMING CHART



■ POWER OFF INITIAL TIMING CHART



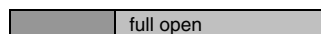
AC relay
(port)



A.MUTE
(port)



FUNCTION SW
(IC101 : BD3841)



VIDEO system
(IC301 : NJM2595)



TUNER
(IC202 : LC72131)



E-VOLUME
(IC108 : BD3813)



DSP
(IC8501 : DSPD56367)



DIR/CODEC
(IC8201 : AK4114/AK4628)



SPEKER relay
(port)



OVERLOAD DETECT



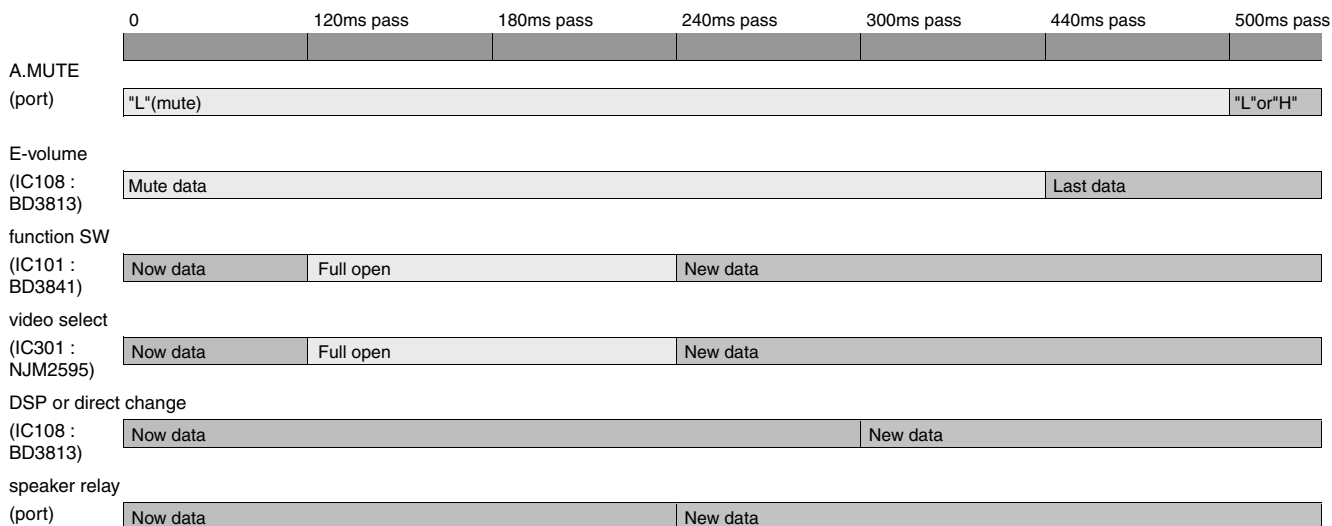
AMP ERROR DETECT



7.3.2 IC DATA TRANSMISSION TIMING CHART

IC data transmission timing chart

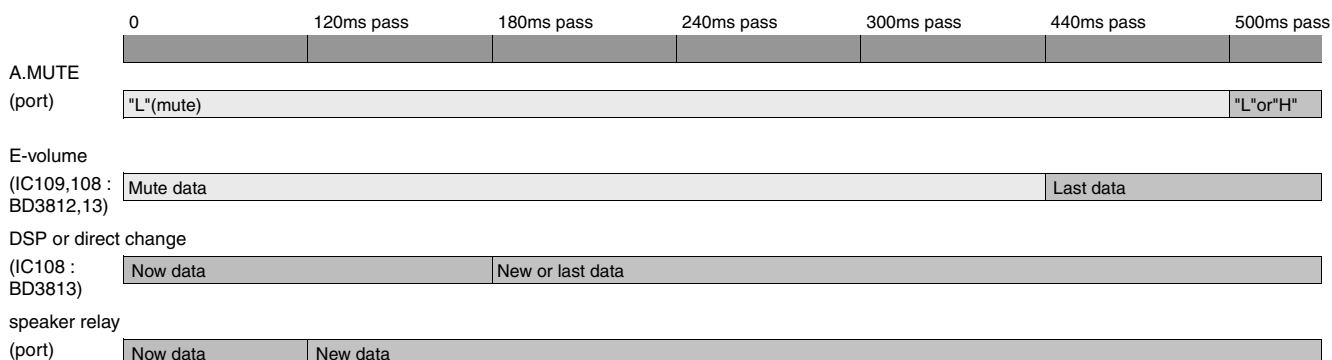
1. When function change



condition of mute cancel (system mute & E-volume mute)

- 1) when tuner mute during Tuner function
- 2) when communicate to DSP
- 3) when initial processing
- 4) when detect trouble of AMP DC
- 5) when detect overload of AMP
- 6) when Power off
- 7) when muting by key input

2. When except function change

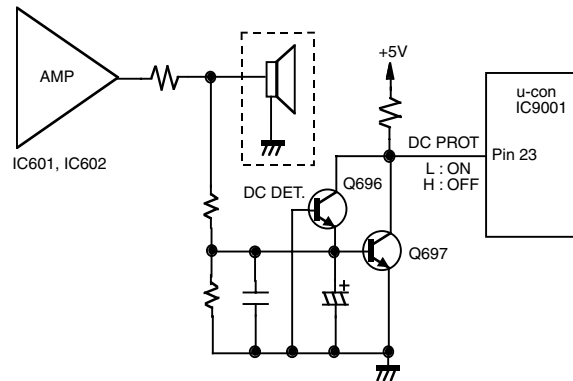


condition of mute cancel (system mute & E-volume mute)

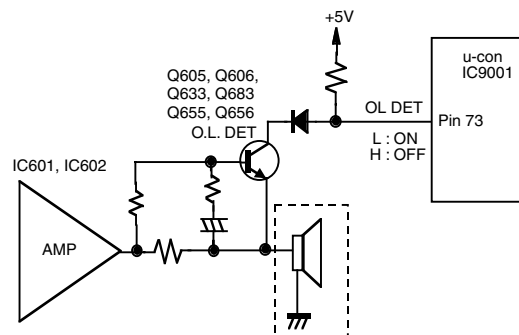
- 1) when tuner mute during Tuner function
- 2) when communicate to DSP
- 3) when initial processing
- 4) when detect trouble of AMP DC
- 5) when detect overload of AMP
- 6) when Power off
- 7) when muting by key input

7.3.3 DETECTION CIRCUIT

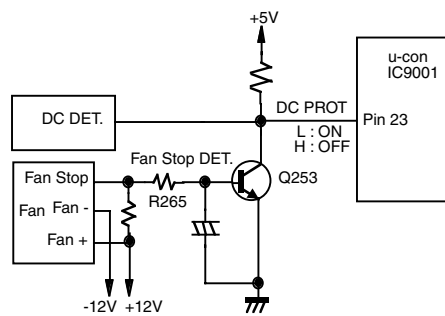
1.DC Detection Circuit Diagram:



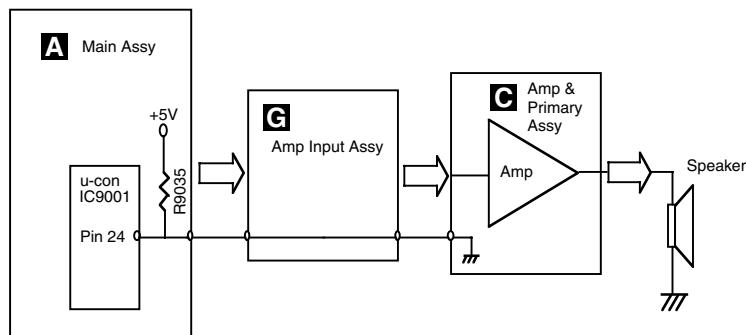
2. Overload Detection Circuit Diagram:



3. Fan Stop Protection Circuit Diagram:



4. PCB Board Protection Circuit Diagram



7.3.4 AMPLIFIER SYSTEM PROTECTION OPERATION SPECIFICATION

1. DC-abnormality detection

In the case of simultaneous detection with the overload protection circuit, DC-abnormality detection is performed preferentially to overload detection.

When a DC abnormality is detected, A.MUTE* is turned on, speaker relay is turned off, then "AMP_ERR" flashes on the display.

*A.MUTE : Audio mute command



The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓ Recovery

The program restarts.



The power key is disabled and Standby LED blinks.

But be switched on with the following methods.

① TESTMODE ON (A55F+A55F)

② When power off, push FRONT ENTER key + ADVANCED SURROUND key continuously 2sec.

(②: When a DC abnormality is detected and the power is shut off.)

2. Overload detection

When an overload is detected, A.MUTE* is turned on, speaker relay is turned off, then "OVERLOAD" flashes on the display.



The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓ Recovery

The power is shut off even if the unit recovers.

3. Board detection

In the case of simultaneous detection with the overload protection circuit, Board detection is performed preferentially to DC-abnormality detection and Overload detection.

When an board error is detected, A.MUTE* is turned on, speaker relay is turned off, then "BOARD ERR" flashes on the display.



The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓ Recovery

The power is shut off even if the unit recovers.

7.4 CLEANING

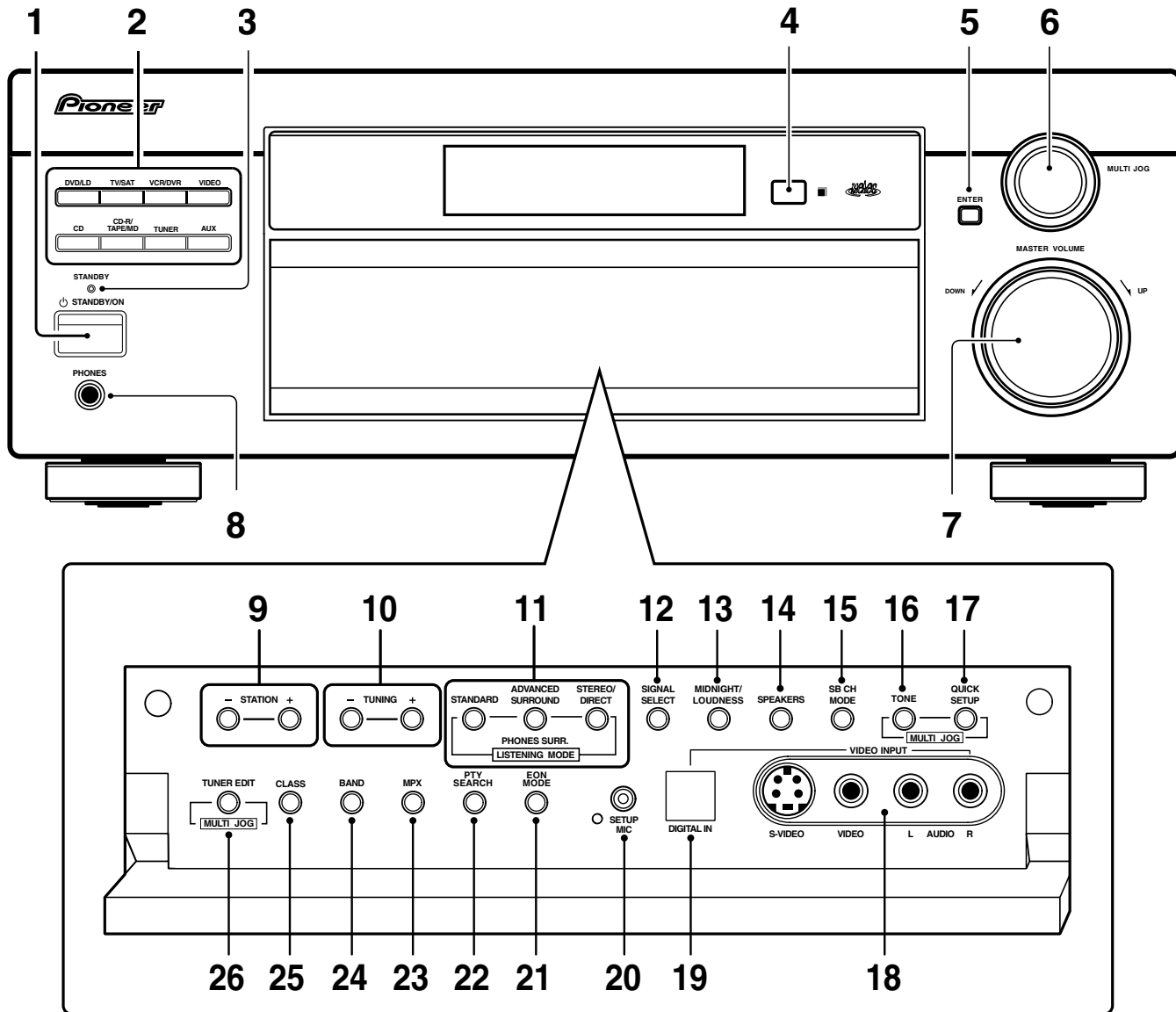


Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

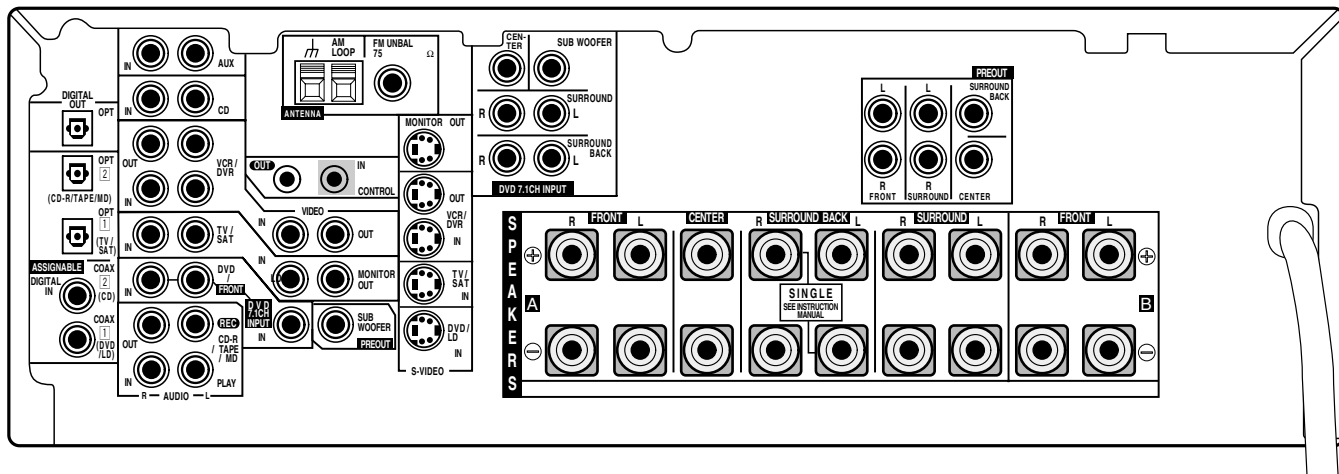
Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

8. PANEL FACILITIES

Front Panel



Rear Panel



1 **STANDBY/ON**

Switches the receiver between on and standby.

2 **Input select buttons**

Press to select an input source.

3 **STANDBY indicator**

Lights when the receiver is in standby.

4 **Remote sensor**

Receives the signals from the remote control.

5 **ENTER**

6 **MULTI JOG dial**

The **MULTI JOG** dial performs a number of tasks. Use it to select options after pressing **TONE**, **QUICK SETUP** or **TUNER EDIT**.

7 **MASTER VOLUME**

8 **PHONES jack**

Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

9 **STATION +/- buttons**

Selects station presets when using the tuner.

10 **TUNING +/- buttons**

Selects the frequency when using the tuner.

11 **LISTENING MODE buttons**

STANDARD

Press for Standard decoding and to switch between the various Pro Logic II and Neo:6 options.

ADVANCED SURROUND

Use to switch between the various surround modes.

STEREO/DIRECT

Switches between direct and stereo playback. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

12 **SIGNAL SELECT**

Use to select an input signal.

13 **MIDNIGHT/LOUDNESS**

Use Midnight when listening to movie soundtracks at low volume. Use Loudness to boost the bass and treble at low volume.

14 **SPEAKERS**

Use to cycle through the speaker system:

A → B → A+B.

15 **SB CH MODE**

Selects the Surround back channel mode and the Virtual Surround Back (VSB) mode.

16 **TONE**

Press this button to access the bass and treble controls, which you can then adjust with the **MULTI JOG** dial.

17 **QUICK SETUP**

18 **VIDEO INPUT**

19 **DIGITAL IN**

VSX-D912 only

20 **SETUP MIC**

VSX-D912 only

Connect the microphone supplied with your system to the **SETUP MIC** jack when using the auto surround setup (MCACC).

21 **EON MODE**

Use to search for different programs that are transmitting traffic or news information (this search method is called EON).

22 **PTY SEARCH**

Use to search for different program types in RDS mode.

23 **MPX**

Press to receive a radio broadcast in mono.

24 **BAND**

Switches between AM and FM radio bands.

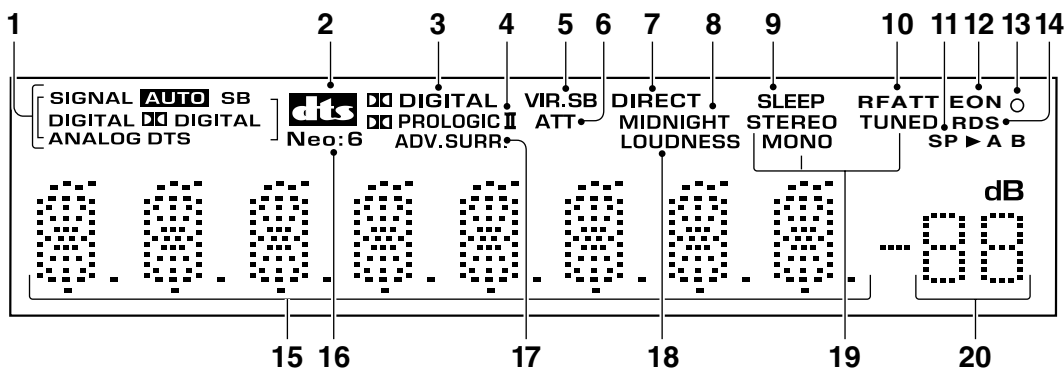
25 **CLASS**

Switches between the three banks (classes) of station presets.

26 **TUNER EDIT**

Press to memorize and name a station for recall.

Display



1 SIGNAL SELECT indicators

Lights to indicate the type of input signal assigned for the current component:

AUTO

Lights when **AUTO** signal select is on.

SB

Depending on the source, this lights when a signal with surround back channel encoding is detected.

DIGITAL

Lights when a digital audio signal is detected.

DIGITAL

Lights when a Dolby Digital encoded signal is detected.

ANALOG

Lights when an analog signal is detected.

DTS

Lights when a source with DTS encoded audio signals is detected.

2 DTS

When the **STANDARD** mode of the receiver is on, this lights to indicate decoding of a DTS signal.

3 DIGITAL

When the **STANDARD** mode of the receiver is on, this lights to indicate decoding of a Dolby Digital signal.

4 PRO LOGIC II

When the **(STANDARD)** Pro Logic II mode of the receiver is on, this lights to indicate Pro Logic II decoding.

5 VIR. SB

Lights during Virtual surround back processing.

6 ATT

Lights when **INPUT ATT** is used to attenuate (reduce) the level of the analog input signal.

7 DIRECT

Lights when source direct playback is in use. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

8 MIDNIGHT

Lights during Midnight listening.

9 SLEEP

Lights when the receiver is in sleep mode.

10 RF ATT

Lights when the RF attenuator is on.

11 Speaker indicator

Shows the speaker system currently in use.

12 EON

When the EON mode is set, the **EON** indicator lights, but during actual reception of an EON broadcast the **EON** indicator will flash.

13 O indicator

The **O** indicator lights to inform you that the currently tuned station carries the EON data service.

14 RDS

Lights when an RDS broadcast is received.

15 Character display

16 Neo:6

When the **(STANDARD)** NEO:6 mode of the receiver is on, this lights to indicate NEO:6 processing.

17 ADV. SURR. (Advanced Surround)

Lights when one of the Advanced Surround modes has been selected.

18 LOUDNESS

Lights when **LOUDNESS** has been selected.

19 TUNER indicators

STEREO

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

MONO

Lights when the mono mode is set using the **MPX** button.

TUNED

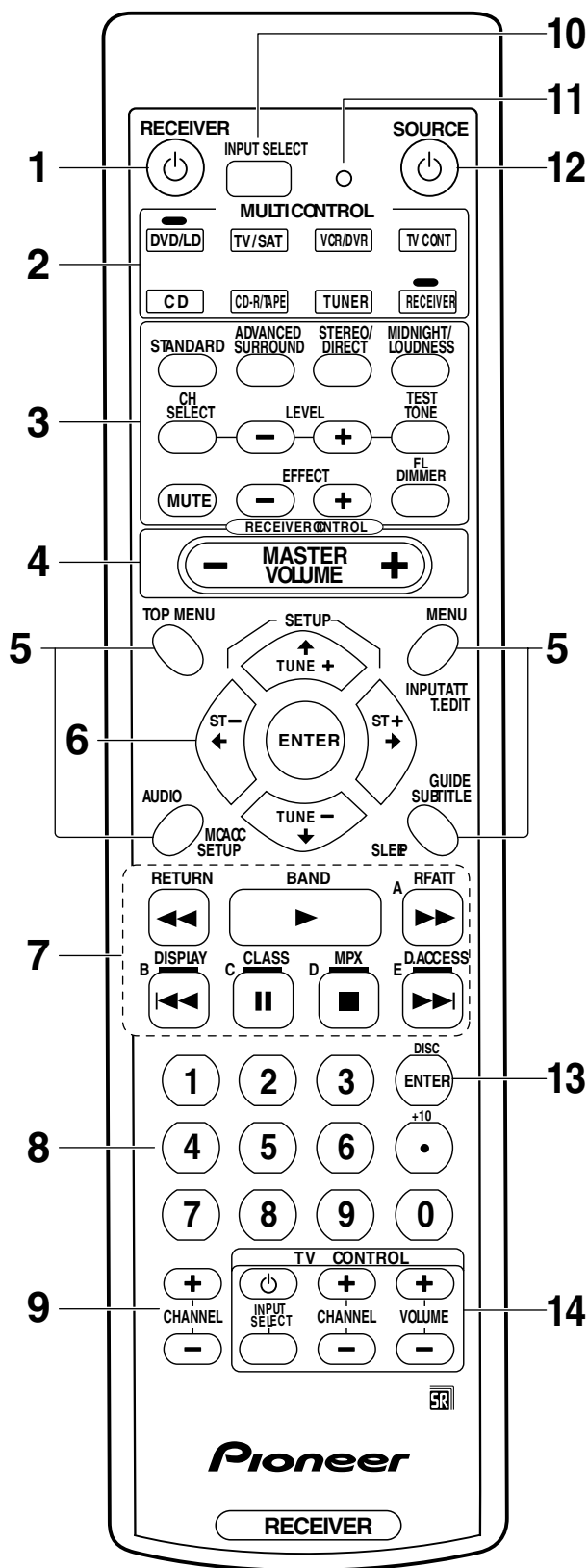
Lights when a broadcast is being received.

20 Master volume level

Shows the overall volume level. ---dB indicates the minimum level, and - 0 dB indicates the maximum level.

Depending on your level settings for each channel, the maximum volume can range between -10 dB and -0 dB.

Remote Control Unit



1 RECEIVER

This switches between standby and on for this receiver.

2 MULTI CONTROL buttons

Press to select control of other components.

RECEIVER

Switches the remote to control the receiver (used to select the features such as **SLEEP**, **MCACC SETUP**, etc). Also use this button to set up surround sound.

3 RECEIVER CONTROL buttons

STANDARD

Press for Standard decoding and to switch between the various Pro Logic II and Neo:6 options.

ADVANCED SURROUND

Use to switch between the various surround modes.

STEREO/DIRECT

Switches between direct and stereo playback. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

MIDNIGHT/LOUDNESS

Switches to Midnight or Loudness listening.

CH SELECT

Selects a speaker when setting up the surround sound of the receiver.

LEVEL +/-

Adjusts the levels of the surround sound of the receiver.

TEST TONE

Sounds the test tone when setting up the surround sound of the receiver.

MUTE

Mutes the sound (or restores the sound if it has been muted).

EFFECT +/-

Adds or subtracts the amount of effect with different advanced surround modes.

FL DIMMER

Dims or brightens the display.

4 MASTER VOLUME +/-

Use to set the listening volume.

5 Receiver and component control buttons (Press the corresponding **MULTI CONTROL** button first to access). These controls function according to the component you've selected.

TOP MENU

Displays the disc 'top' menu of a DVD.

AUDIO

Changes the audio language or channel with DVD discs.

MCACC SETUP

Use to setup your speaker system using the multi-channel acoustic calibration system.

MENU

Displays the disc menu of DVD-Video discs. It also displays TV and DTV menus.

INPUT ATT

Attenuates (lowers) the level of an analog input signal to prevent distortion.

T.EDIT

Use to memorize and name a station for recall using the **STATION +/-** buttons.

GUIDE

Displays the guides on a digital TV.

SUBTITLE

Displays/changes the subtitles included in multilingual DVD-Video discs.

SLEEP

Use to put the receiver in sleep mode and select the amount of time before the receiver turns off.

6 $\Leftarrow \Rightarrow \Downarrow \Uparrow$ (**TUNE +/-**, **ST +/-**) / **ENTER**

Use the arrow buttons when setting up your surround sound system. Also used to control DVD menus/options and for deck 1 of a double cassette deck player. Use the **TUNE +/-** buttons to find radio frequencies and use **ST +/-** to find preset stations.

7 Component/Tuner control buttons

The main buttons (\blacktriangleright , \blacksquare , etc.) are used to control a component after you have selected it using the **MULTI CONTROL** buttons. The tuner/DTV controls above these buttons can be accessed after you have selected the corresponding **MULTI CONTROL** button (**TUNER** or **TV/SAT** (when connected to DTV)).

RETURN

Returns to the last screen selected when using a digital TV tuner.

BAND

Switches between the tuner AM and FM bands.

RF ATT

Use to lower the input level of a radio signal that is too powerful or contains interference that causes the sound to distort.

DISPLAY

Use to switch the display between the station preset name, frequency and RDS data when using the tuner.

CLASS

Switches between the three banks (classes) of radio station presets.

MPX

Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality.

D.ACCESS

After pressing, you can access a radio station directly using the number buttons.

8 Number buttons

Use the number buttons to directly select a radio frequency or the tracks on a CD, DVD, etc.

9 CHANNEL +/-

Use to select channels when using a VCR, DVR, etc.

10 INPUT SELECT

Use to select the input source.

11 LED

This lights when a command is sent from the remote control.

12 SOURCE \odot

Press to turn on/off other components connected to the receiver.

13 DISC (ENTER)

The button's use depends on the component selected. It can be used to enter commands for TV or DTV, and can also be used to select a disc in a multi-CD player.

14 TV CONTROL buttons

These buttons are dedicated to control the TV assigned to the **TV CONT** button. Thus if you only have one TV to hook up to this system assign it to the **TV CONT MULTI CONTROL** button. If you have two TVs, assign the main TV to the **TV CONT** button.



Use to turn on/off the power of the TV.

(TV CONTROL) INPUT SELECT

Use select the TV function.

CHANNEL +/-

Use to select channels.

VOLUME +/-

Use to adjust the volume on your TV.