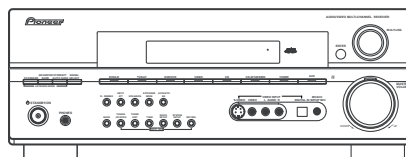


Service Manual



VSX-815-K

ORDER NO.
RRV3093

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-815-K

VSX-815-S

VSX-915-K

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

Model	Type	Power Requirement	Remarks
VSX-815-K	KUXJ/CA	AC 120V	
VSX-815-S	KUXJ/CA	AC 120V	
VSX-915-K	KUXJ/CA	AC 120V	



For details, refer to "Important Check Points for Good Servicing".

1234

SAFETY INFORMATION

A



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.

B

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

C

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.

Device under test

Test all exposed metal surfaces

Also test with plug reversed (Using AC adapter plug as required)

Leakage current tester

Reading should not be above 0.5 mA

Earth ground

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.

2

VSX-815-K

[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

	SAFETY INFORMATION.....	2
	1. SPECIFICATIONS	5
A	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
	3.7 DSP ASSY (2/2).....	24
B	3.8 AMP & PRIMARY (1/2), TRANS2 and TRANS3 ASSYS	26
	3.9 AMP&PRIMARY(2/2), REGULATOR, AMP INPUT and TRANS1 ASSYS.....	28
	3.10 VIDEO, 5.1CH, B TO B and S. VIDEO ASSYS	30
	3.11 FRONT DISPLAY, R. ENCODER, P. SW&FUNC KEY and F. KEY ASSYS	32
	3.12 TRANS4, H.P., PRE-OUT, D. IN, COMPONENT and F.OPT & MIC ASSYS.....	34
	3.13 VIDEO CONVERTER ASSY	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
	4.5 AMP & PRIMARY and AMP INPUT ASSYS	46
C	4.6 F. DISPLAY, R. ENCODER, P. SW & KEY, H. P. and F. KEY ASSYS	48
	4.7 B TO B, DIGITAL IN, VIDEO, 5.1CH and VIDEO CONVERTER ASSYS	52
	4.8 S.VIDEO, F. INPUT, COMPONENT and PRE-OUT ASSYS	54
	5. ELECTRICAL PARTS LIST	56
	6. ADJUSTMENT	62
	7. GENERAL INFORMATION	63
	7.1 DIAGNOSIS	63
	7.1.1 DISASSEMBLY	63
	7.2 PARTS.....	65
	7.2.1 IC	65
	7.3 EXPLANATION	71
	7.3.1 POWER ON AND OFF INITIAL TIMING CHART	71
D	7.3.2 IC DATA TRANSMISSION TIMING CHART.....	73
	7.3.3 DETECTION CIRCUIT	76
	7.3.4 AMPLIFIER SYSTEM PROTECTION OPERATION SPECIFICATION.....	77
	7.3.5 AMPLIFIER FAILURE DIAGNOSIS FLOW CHART	79
	7.4 CLEANING.....	79
	8. PANEL FACILITIES	80

Specifications

Amplifier section

- **Continuous power output (stereo)**

Front:

VSX-815 . . . 100 W (20–20,000 Hz, THD 0.7%, 8 Ω)

VSX-915 . . . 120 W (20–20,000 Hz, THD 0.7%, 8 Ω)¹

- **Continuous power output (surround)**

VSX-815 model:

Front 100 W per channel (1kHz, 1.0%, 8 Ω)

Center. 100 W (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)

VSX-915 model:

Front 110 W per channel (1kHz, 1.0%, 8 Ω)

Center. 110 W (1kHz, 1.0%, 8 Ω)

Surround 110 W per channel
(1kHz, 1.0%, 8 Ω)

Surround Back. 110 W per channel
(1kHz, 1.0%, 8 Ω)

Audio section

- **Input (Sensitivity/Impedance)**

CD, DVR/VCR, CD-R/TAPE/MD,

DVD/LD, TV/SAT. 200 mV/47 k Ω

- **Frequency response**

CD, DVR/VCR, CD-R/TAPE/MD, DVD/LD,

TV/SAT 5 Hz to 100,000 Hz ± 3 dB

- **Output (Level/Impedance)**

DVR/VCR REC, CD-R/TAPE/

MD REC 200 mV/2.2 k Ω

- **Tone control**

Bass ± 6 dB (100 Hz)

Treble ± 6 dB (10 kHz)

Loudness +10 dB/+5 dB (100 Hz/10 kHz)
(at volume level –50 dB)

- **Signal-to-Noise Ratio (IHF, short circuited, A network)**

CD, DVR/VCR, CD-R/TAPE/MD,

DVD/LD, TV/SAT 96 dB

- **Signal-to Noise Ratio [EIA, at 1 W (1 kHz)]**

CD, DVR/VCR, CD-R/TAPE/MD,

DVD/LD, TV/SAT 79 dB

Video Section

- **Input (Sensitivity/Impedance)**

DVR/VCR, DVD/LD, TV/SAT. 1 Vp-p/75 Ω

- **Output (Level/Impedance)**

DVR/VCR, MONITOR OUT. 1 Vp-p/75 Ω

- **Frequency response**

DVR/VCR, DVD/LD,

TV/SAT $\Rightarrow$ MONITOR. 5 Hz to 7 MHz ± 3 dB

Signal-to-Noise Ratio 55 dB

Crosstalk 50dB

Component video section

- **Input (Sensitivity)**

DVD/LD, TV/SAT 1 Vp-p/75 Ω

- **Output (Level/Impedance)**

MONITOR OUT 1 Vp-p/75 Ω

- **Frequency response**

DVD/LD,

TV/SAT $\Rightarrow$ MONITOR. 5 Hz to 40 MHz ± 3 dB

Signal-to-Noise Ratio 60 dB

Note

¹ Continuous average power output of 110 watts* per channel, min., at 8ohms, from 20 Hz to 20,000 Hz with no more than 0.7%** total harmonic distortion (front).

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.

** Measured by Audio Spectrum Analyzer.

FM Tuner Section

Frequency Range 87.5 MHz to 108 MHz
 Usable Sensitivity Mono: 13.2 dBf, IHF
 (1.3 μ V/ 75 Ω)
 50 dB Quieting Sensitivity Mono: 20.2 dB
 Stereo: 38.6 dBf
 Signal-to-Noise Ratio . . . 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 530 kHz to 1,700 kHz
 Sensitivity (IHF, Loop antenna) 350 μ V/m
 Signal-to-Noise Ratio 50 dB
 Antenna Loop antenna

Miscellaneous

Power requirements AC 120V / 60Hz
 Power consumption 360W / 480 VA
 In standby 0.5 W
 Dimensions . . . 16⁹/₁₆ (W) x 6¹/₄ (H) x 15⁷/₈ (D) in.
 420 (W) x 158 (H) x 402.5 (D) mm
 Weight (without package) 22.4 lb (10.2 kg)

Furnished Parts

Microphone (for Auto MCACC setup) 1
 Dry cell batteries (AA size IEC R6) 2
 Remote control 1
 AM loop antenna 1
 FM wire antenna 1
 Warranty card 1
 Operating instructions 1



Note

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

Cleaning the unit

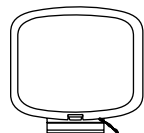
- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners,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

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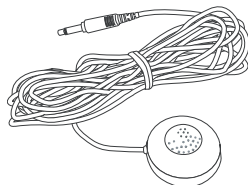
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Accessories



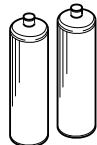
AM loop antenna
(ATB7013)



Microphone
(APM7006)



FM wire antenna
(ADH7030)



AA size IEC LR6
Dry cell batteries (x2)

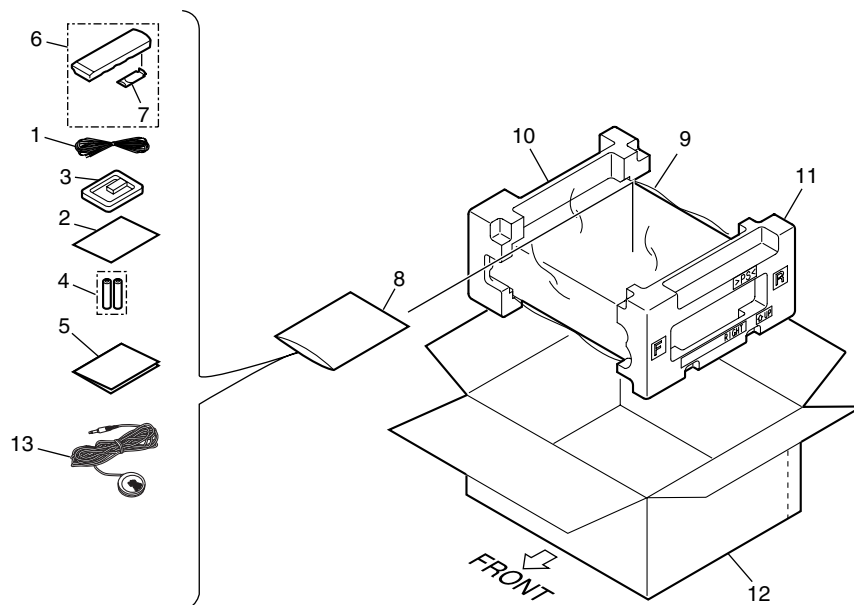


Remote control unit
(VSX-915 : XXD3083)
(VSX-815 : XXD3086)

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



PACKING PARTS LIST

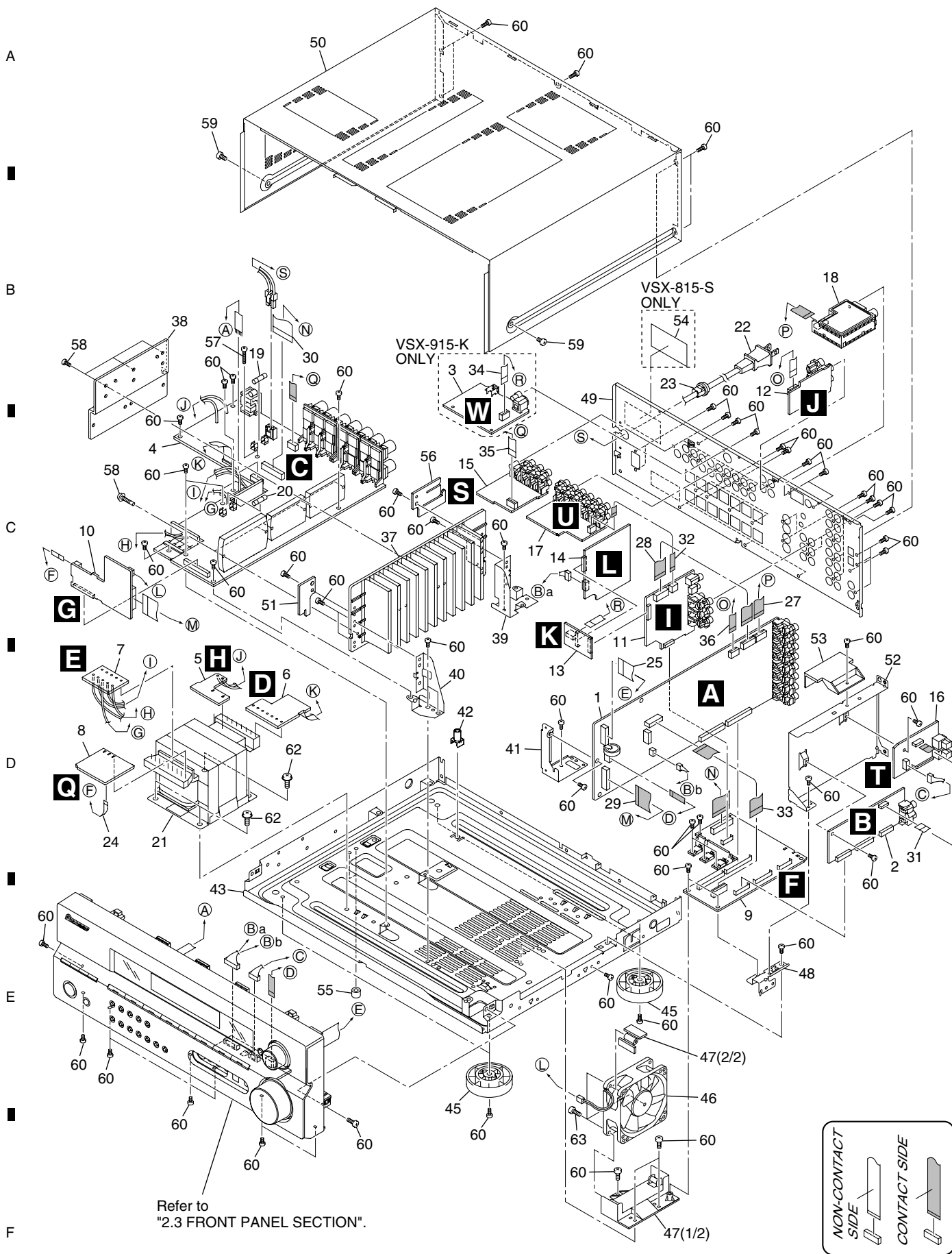
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FM wire antenna	ADH7030	11	Right Pad V2	XHA3150
NSP 2	Warranty Card	ARY7045	12	Packing Case	See Contrast table(2)
3	AM loop antenna	ATB7013	13	Microphone Assy	APM7006
NSP 4	Alkaline Dry cell batteries (AA/LR6)	VEM1031			
5	Operating instructions (English)	XRB3047			
6	Remote Control Unit	See Contrast table(2)			
7	Battery Cover	XZN3140			
NSP 8	Literature Bag	AHG1180			
9	Packing Sheet	AHG7069			
10	Left Pad V2	XHA3149			

(2) CONTRAST TABLE

VSX-815-K/KUXJ/CA, VSX-815-S/KUXJ/CA and VSX-915-K/KUXJ/CA are constructed the same except for the following:

Mark	NO	Description	VSX-815-K /KUXJ/CA	VSX-815-S /KUXJ/CA	VSX-915-K /KUXJ/CA
	6	Remote Control Unit	XXD3086	XXD3086	XXD3083
	12	Packing Case	XHD3472	XHD3473	XHD3471

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	J43 15P F.F.C/60V	XDD3162
2	DSP Assy	AWX8572	34	J45 7P F.F.C/30V	See Contrast table(2)
3	VIDEO CONVERTER Assy	See Contrast table(2)	35	J46 8P F.F.C/60V	XDD3168
4	AMP & PRIMARY Assy	See Contrast table(2)			
5	TRANS1 Assy	XWZ3958	36	J48 8P F.F.C/60V	XDD3165
			NSP 37	Heatsink V2A39 CORR	XNH3033
6	TRANS2 Assy	XWZ3959	NSP 38	Sub Heatsink	XNH3039
7	TRANS3 Assy	XWZ3961	39	H/S Angle Rear V2	XNG3133
8	TRANS4 Assy	XWZ3936	40	H/S Angle Front V2	XNG3132
9	REGULATOR Assy	XWZ3953			
10	AMP INPUT Assy	XWZ3956	41	PCB Angle R5	XNG3073
			42	PCB Mold	AMR2533
11	VIDEO Assy	XWZ3907	NSP 43	Under Base V2	XNA3023
12	5.1CH INPUT Assy	XWZ3915	44	•••••	
13	B TO B Assy	See Contrast table(2)	45	Insulator	PNW2766
14	S. VIDEO Assy	See Contrast table(2)			
15	PRE-OUT Assy	XWZ3938	⚠ 46	DC Fan Motor	XXM3007
			47	Fan Holder R6	XMR3066
16	DIGITAL INPUT Assy	XWZ3999	48	REG Support R6	XNG3093
17	COMPONENT Assy	XWZ3935	49	Rear Panel	See Contrast table(2)
18	FM/AM TUNER UNIT	AXX7172	50	Bonnet	See Contrast table(2)
⚠ 19	FU1 Fuse (10A)	REK1087			
⚠ 20	FU701 Fuse (10A)	REK1087	51	HOLDER ASSY	XWZ3964
			52	Shield V2	XNG3134
⚠ 21	Transformer 915KU	XTS3089	53	FFC Cover V2	XMR3091
⚠ 22	AC Power Cord	ADG7024	NSP 54	N Label	See Contrast table(2)
23	Cord Stopper	CM-22C			
24	J22 3P F.F.C/30V	XDD3107	NSP 55	Spacer	AEB7092
25	J31 17P F.F.C/30V	XDD3118	56	BINDER ASSY	XWZ3963
			57	Screw	BBZ30P200FTC
26	•••••		58	Screw 3x23	XBA3012
27	J33 13P F.F.C/30V	XDD3164	59	Screw	See Contrast table(2)
28	J34 11P F.F.C/30V	XDD3163	60	Screw	BBZ30P080FTC
29	J35 21P F.F.C/30V	XDD3160			
30	J36 23P F.F.C/60V	XDD3167	61	•••••	
			62	Screw	FBT40P080FNI
31	J37 10P F.F.C/30V	XDD3178	63	Screw	BPZ30P120FTC
32	J38 5P F.F.C/60V	XDD3166			

(2) CONTRAST TABLE

VSX-815-K/KUXJ/CA, VSX-815-S/KUXJ/CA and VSX-915-K/KUXJ/CA are constructed the same except for the following:

Mark	NO	Description	VSX-815-K /KUXJ/CA	VSX-815-S /KUXJ/CA	VSX-915-K /KUXJ/CA
	1	MAIN Assy	XWK3159	XWK3159	XWK3162
	3	VIDEO CONVERTER Assy	Not used	Not used	XWK3185
	4	AMP & PRIMARY Assy	XWZ3945	XWZ3945	XWZ3948
	13	B TO B Assy	XWZ3940	XWZ3940	XWZ3996
	14	S. VIDEO Assy	XWZ3932	XWZ3932	XWZ3995
	34	J45 7P F.F.C/30V	Not used	Not used	XDD3170
	49	Rear Panel	XNC3325	XNC3325	XNC3324
	50	Bonnet K V1	XZN3148	Not used	XZN3148
	50	Bonnet S V1	Not used	XZN3149	Not used
NSP	54	N Label 815S/KU	Not used	XAL3213	Not used
	59	Screw	FBT40P080FTB	FBT40P080FNI	FBT40P080FTB

1 2 3 4 2.3 FRONT PANEL SECTION

A

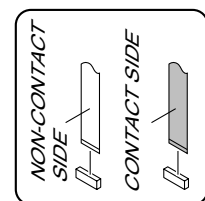
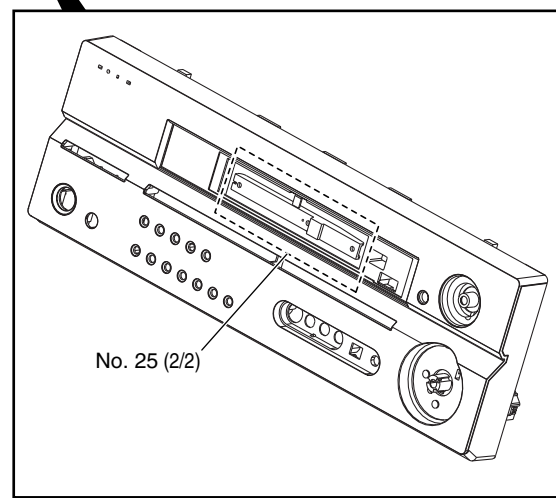
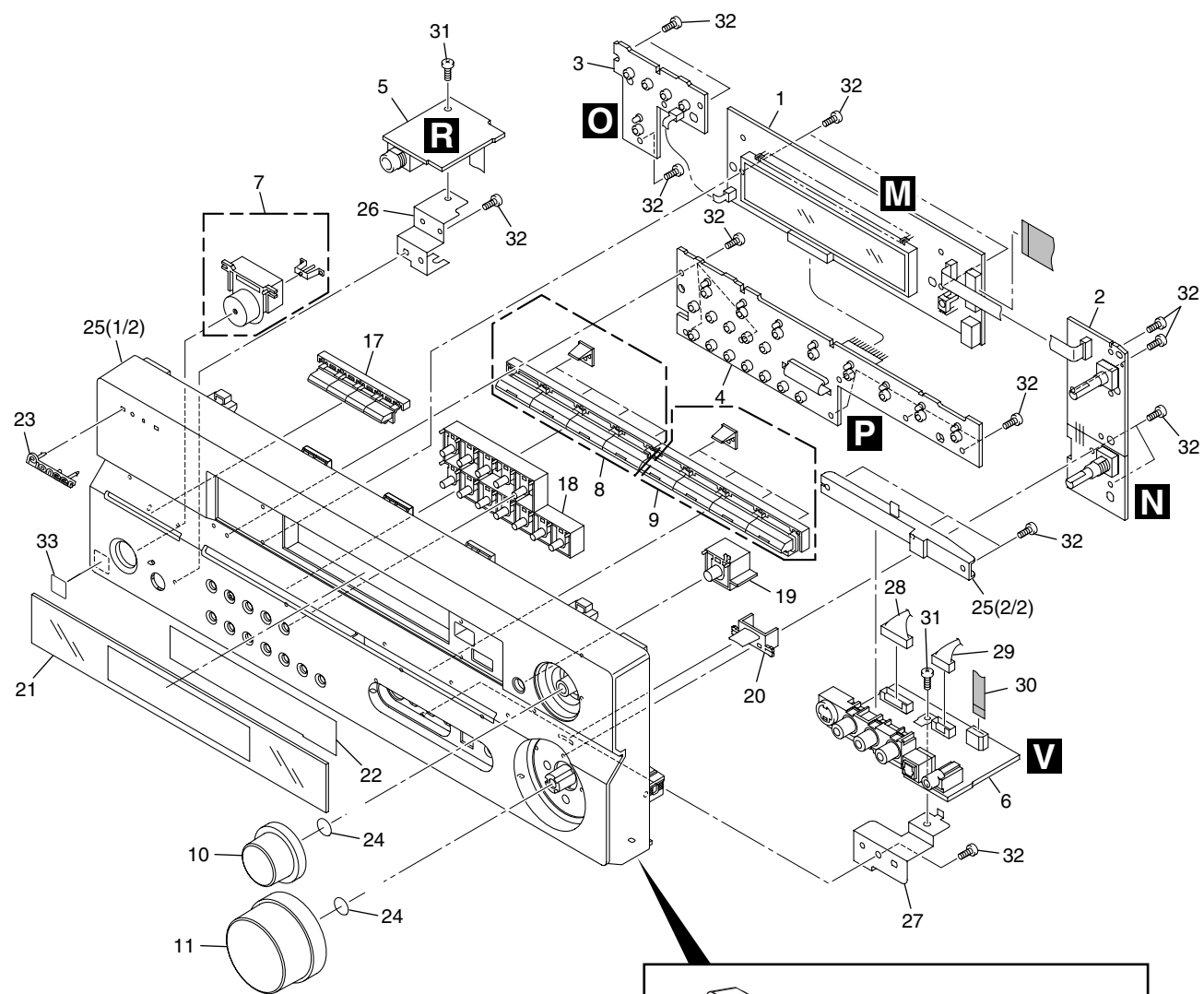
B

C

D

E

F



FRONT PANEL SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FRONT DISPLAY ASSY	XWZ3911	20	B Lens R6	XAK3352
2	R. ENCODER Assy	XWZ3922	21	D Panel MCACC S	XAK3481
3	POWER SW Assy	XWZ3919	22	FL Barrier V2	XAK3486
4	FRONT KEY Assy	XWZ3965	23	Pioneer Badge B	See Contrast table(2)
5	H.P. Assy	XWZ3924	NSP 24	C Ring DIM 8.1	XBH3016
6	FRONT INPUT Assy	XWZ3926	25	FRT Panel	See Contrast table(2)
7	Standby BTN Assy	See Contrast table(2)	26	Earth Plate HP V2	XNG3131
8	FUNC BTN L Assy	See Contrast table(2)	27	Earth Plate FI V2	XNG3130
9	FUNC BTN R Assy	See Contrast table(2)	28	J29 8P Shield Cable	XDX3025
10	JOG Knob	See Contrast table(2)	29	J30 5P Shield Cable	XDX3023
11	VOL Knob	See Contrast table(2)	30	J32 5P F.F.C/30V	XDD3161
12			31	Screw	BBZ30P080FTC
13			32	Screw	BPZ30P100FTC
14			NSP 33	Energy Star label	AAX8022
15					
16					
17	TUNER BTN	See Contrast table(2)			
18	Sub BTN	See Contrast table(2)			
19	JOG BUTTON	See Contrast table(2)			

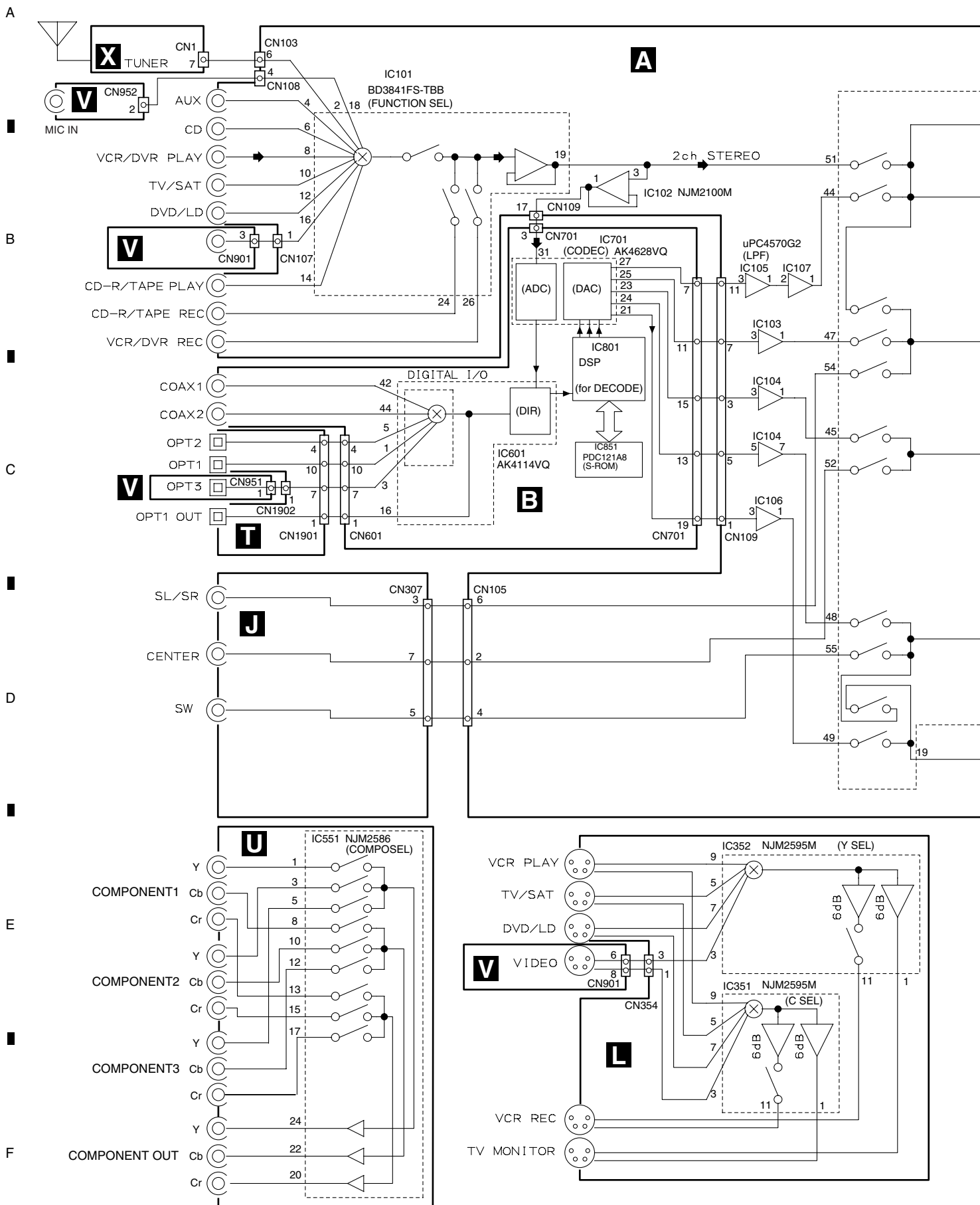
(2) CONTRAST TABLE

VSX-815-K/KUXJ/CA, VSX-815-S/KUXJ/CA and VSX-915-K/KUXJ/CA are constructed the same except for the following:

Mark	NO	Description	VSX-815-K /KUXJ/CA	VSX-815-S /KUXJ/CA	VSX-915-K /KUXJ/CA
	7	Standby BTN 915K Assy	XAD3216	Not used	XAD3216
	7	Standby BTN 915P Assy	Not used	XAD3217	Not used
	8	FUNC BTN 915K L Assy	XAD3212	Not used	XAD3212
	8	FUNC BTN 915S L Assy	Not used	XAD3214	Not used
	9	FUNC BTN 915K R Assy	XAD3213	Not used	XAD3213
	9	FUNC BTN 915S R Assy	Not used	XAD3215	Not used
	10	JOG Knob V1K	XAB3038	Not used	XAB3038
	10	JOG Knob V1P	Not used	XAB3040	Not used
	11	VOL Knob V1K	XAB3039	Not used	XAB3039
	11	VOL Knob V1P	Not used	XAB3041	Not used
	17	TUNER BTN V2K	XAD3192	Not used	XAD3192
	17	TUNER BTN V2S	Not used	XAD3193	Not used
	18	Sub BTN V2K	XAD3198	Not used	XAD3198
	18	Sub BTN V2P	Not used	XAD3218	Not used
	19	JOG BUTTON V2K	XAD3204	Not used	XAD3204
	19	JOG BUTTON V2S	Not used	XAD3205	Not used
	23	Pioneer Badge B	XAM3006	VAM1129	XAM3006
	25	FRT Panel 815K/KU	XMB3174	Not used	Not used
	25	FRT Panel 815S/KU	Not used	XMB3175	Not used
	25	FRT Panel 915K/KU	Not used	Not used	XMB3173

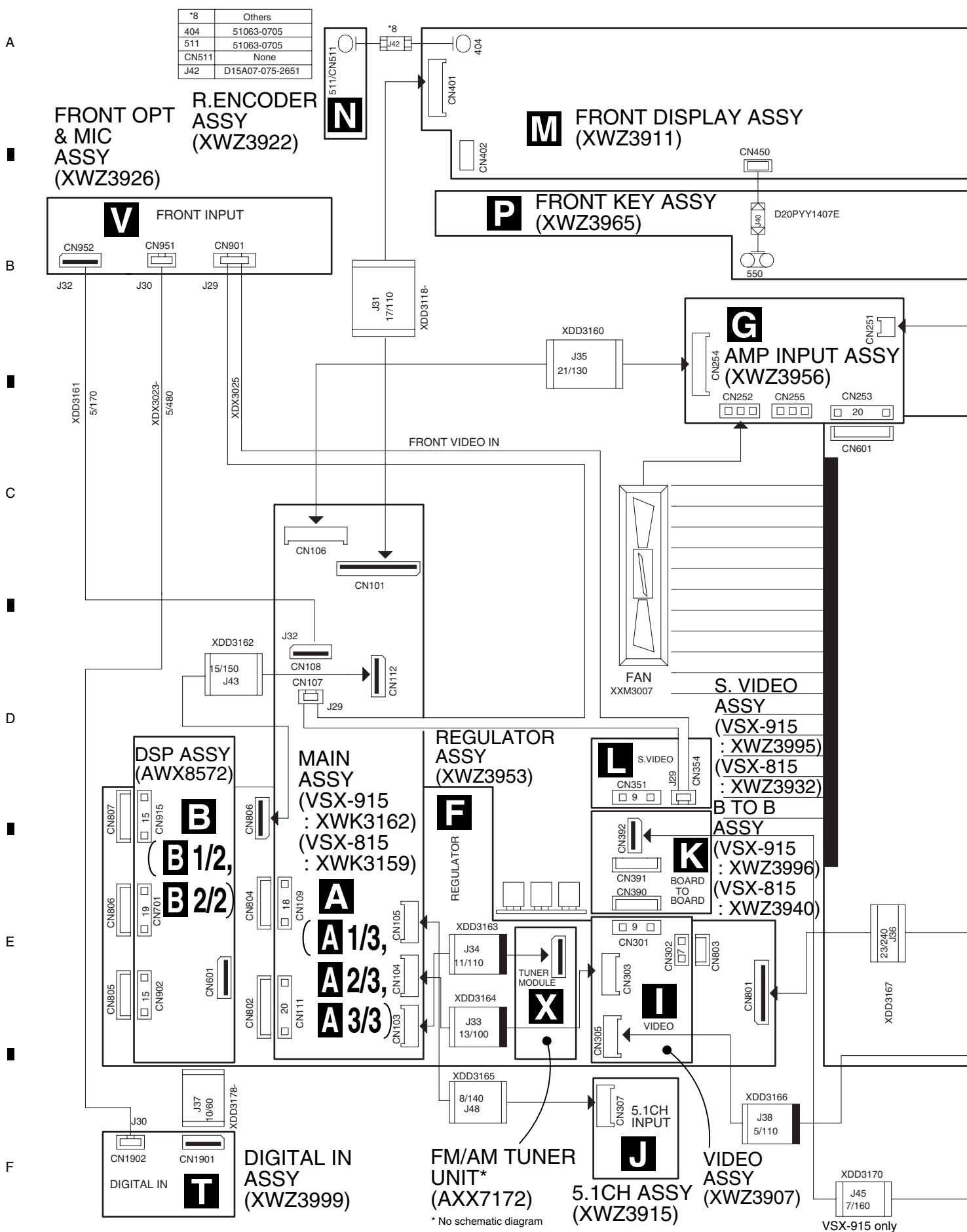
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM



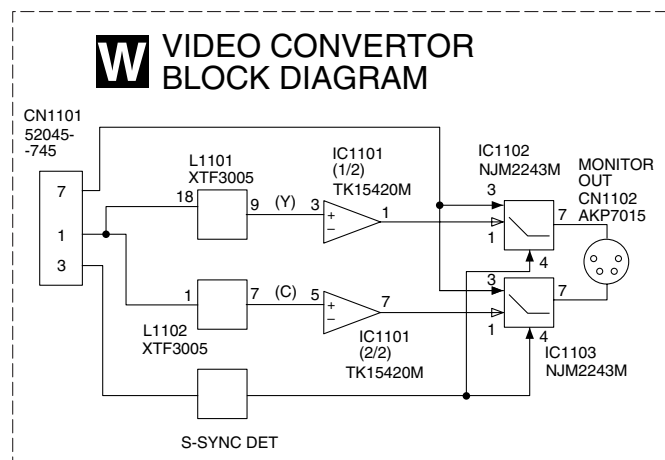
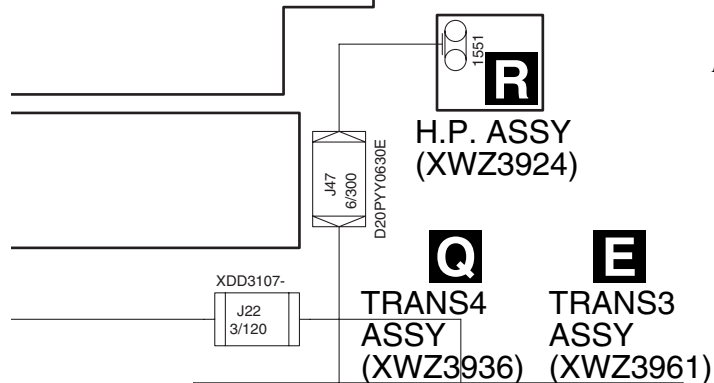


3.2 OVERALL WIRING CONNECTION DIAGRAM



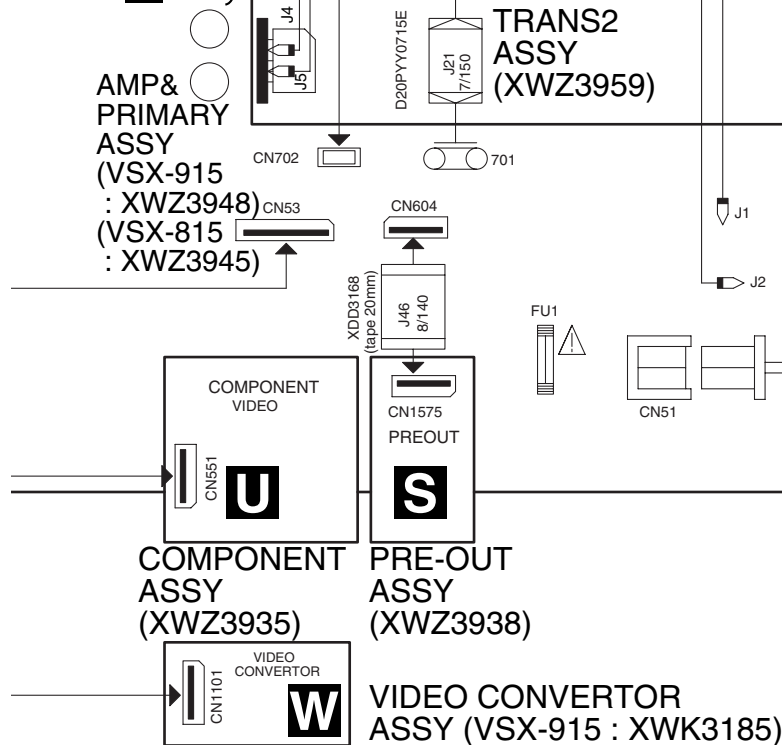


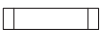
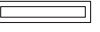
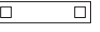
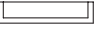
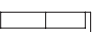
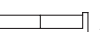
- NOTES:**
- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
 - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 -  : The power supply is shown with the marked box.



C
(**C1/2**,
C2/2)

AMP & PRIMARY ASSY (VSX-915 : XWZ3948) (VSX-815 : XWZ3945)



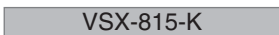
-  B*B-PH-K-S PH CONNECTOR
-  1.25mm FFC
-  1.25mm REVERSE FFC
-  2.0mm FLAT CABLE
-  1.5mm FLAT CABLE
-  BOARD IN
-  1.25mm FFC CONNECTOR(L)
-  1.25mm FFC CONNECTOR
-  2.0mm CABLE HOLDER
-  1.5mm CABLE HOLDER
-  2.0mm WIRE TRAP
-  KP200TA**L 2.0mm BOARD to BOARD
-  KM200TA** 2.0mm BOARD to BOARD
-  AKP7070, AKP7073 1.25mm BOARD to BOARD
-  AKP7059, AKP7062 1.25mm BOARD to BOARD
-  AC CODE SOCKET
-  AC CODE CONNECTOR

1





4

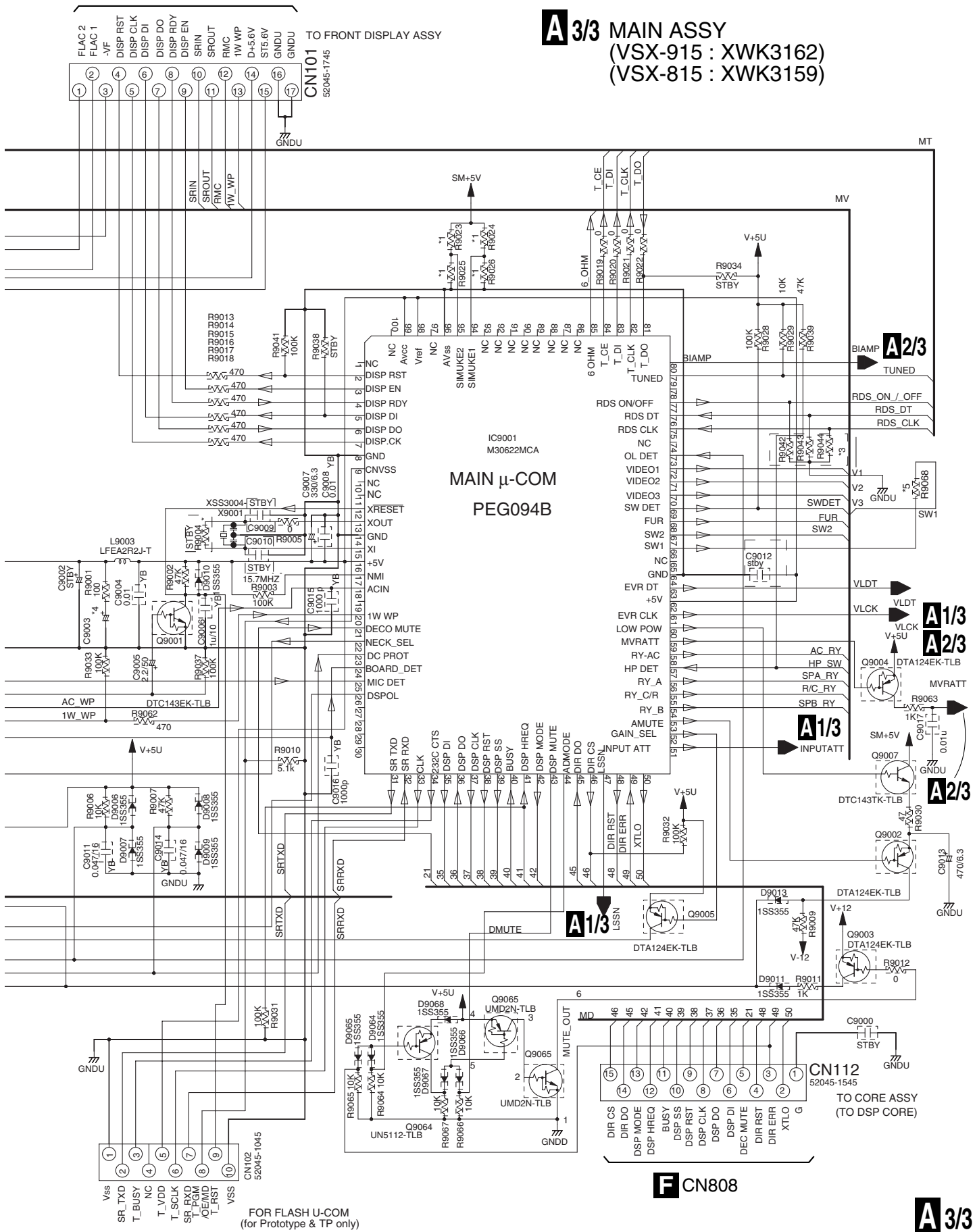


4

F

M CN401

A 3/3 MAIN ASSY
(VSX-915 : XWK3162)
(VSX-815 : XWK3159)



F CN808

A 3/3

3.6 DSP ASSY (1/2)

A

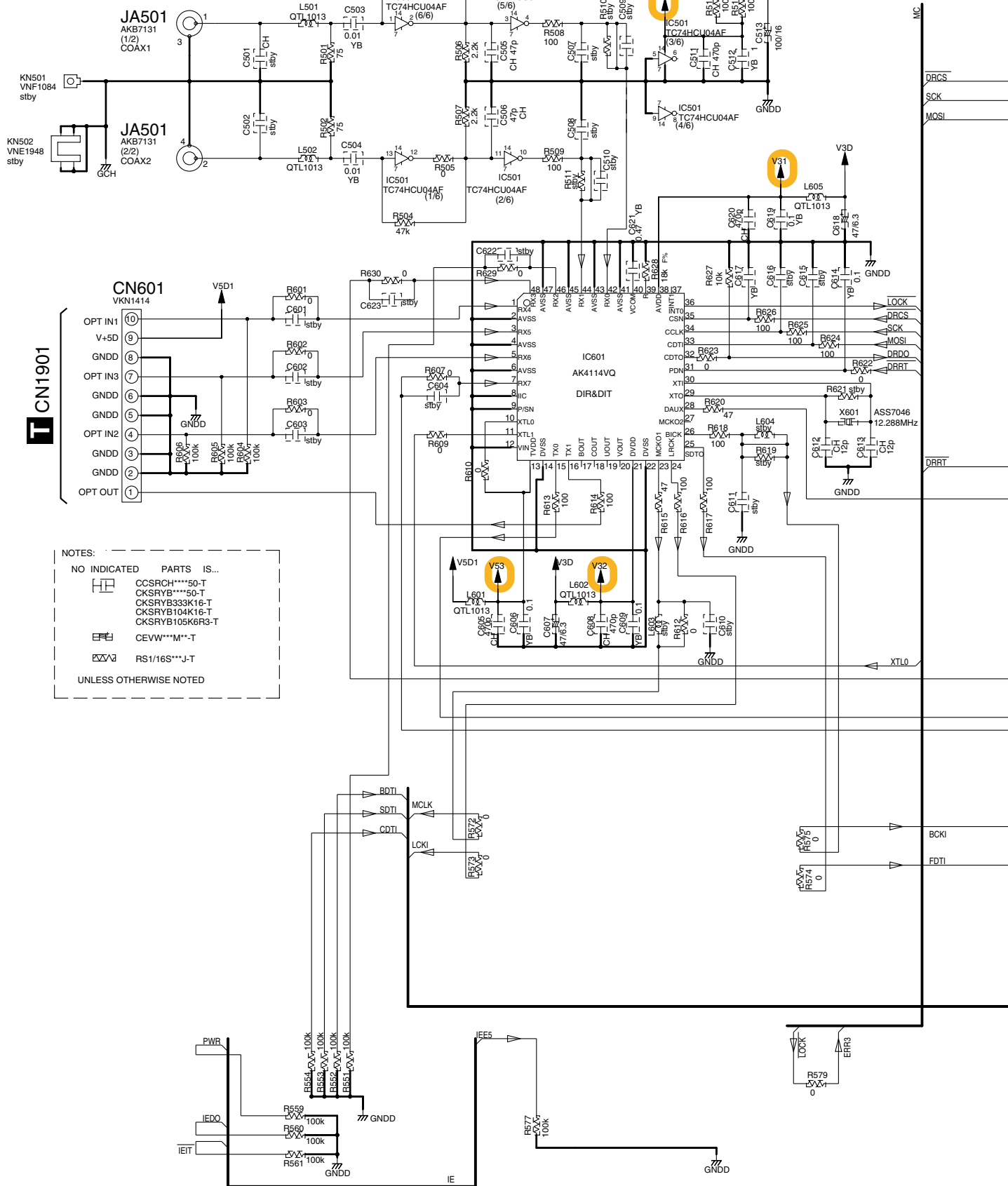
B

C

D

E

F

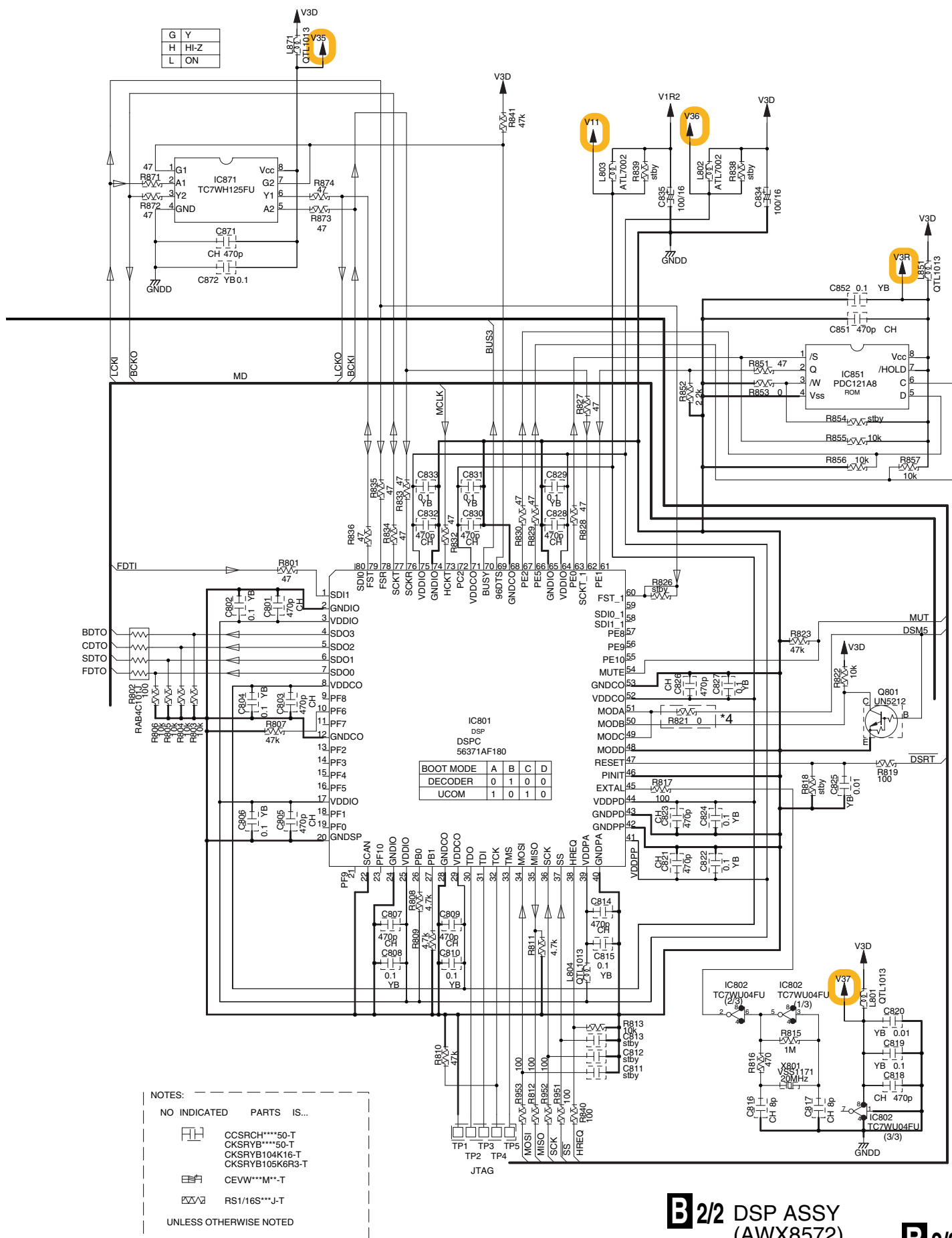


B 1/2

VSX-815-K



F



B 2/2 DSP ASSY
(AWX8572)

B 2/2

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

1/2 AMP&PRIMARY ASSY (VSX-915 : XWZ3948) (VSX-815 : XWZ3945)

A

B

C

D

E

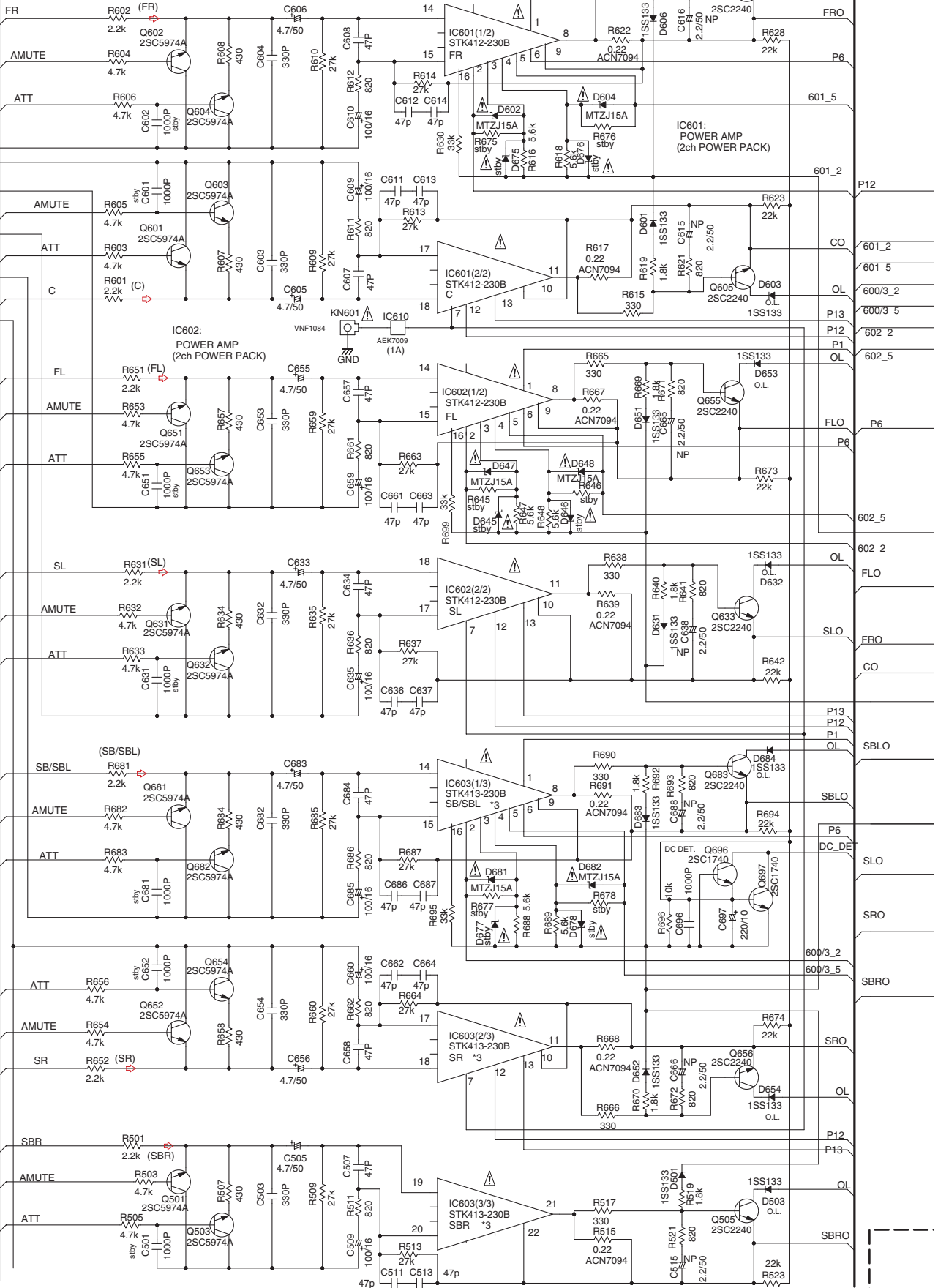
F

CN601
KM200TA20

1 GND A
2 FR
3 FR
4 GND A
5 SL
6 GND A
7 FL
8 GND A
9 SBR
10 GND A
11 SR
12 GND A
13 SB/SBL
14 A.MUTE
15 ATT.
16 Brd Det /6ohm
17 OL
18 DC DET.
19 NECK
20 GND U

CN253

1 GND U



△



NOTE

1.RESISTORS

Unit:k- $k\Omega$,M-M Ω or unless otherwise noted.
Rated power:1/4W unless otherwise noted.
Tolerance:(J) $\pm 5\%$ unless otherwise noted.

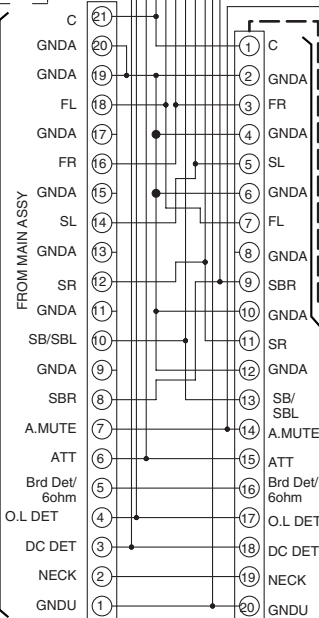
2.CAPACITORS

Unit: p-pF or μ F unless otherwise noted.
Ratings:Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage:50V except for electrolytic capacitors.

FAN MOTOR

AMP INPUT ASSY
(XWZ3956)

A 2/3 CN106

CN254
52044-2145

C1/2 CN601

CN253
KP200TA20LCN252
S3B-EH

CN891

CN251
52044-0345

C1/2

H

TRANS1
ASSY
(XWZ3958)POWER
TRANSFORMER

C 2/2

AMP&PRIMARY ASSY
(VSX-915 : XWZ3948) (VSX-815 : XWZ3945)

• NOTE FOR FUSE REPLACEMENT

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

C 2/2

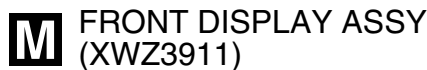
G H

4



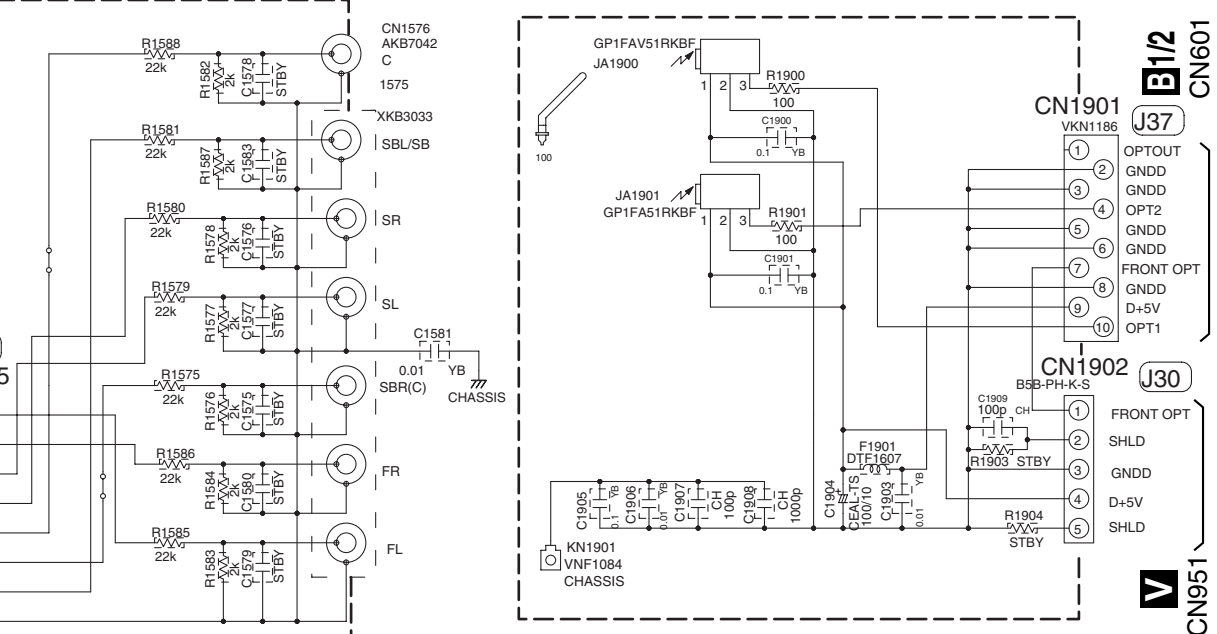
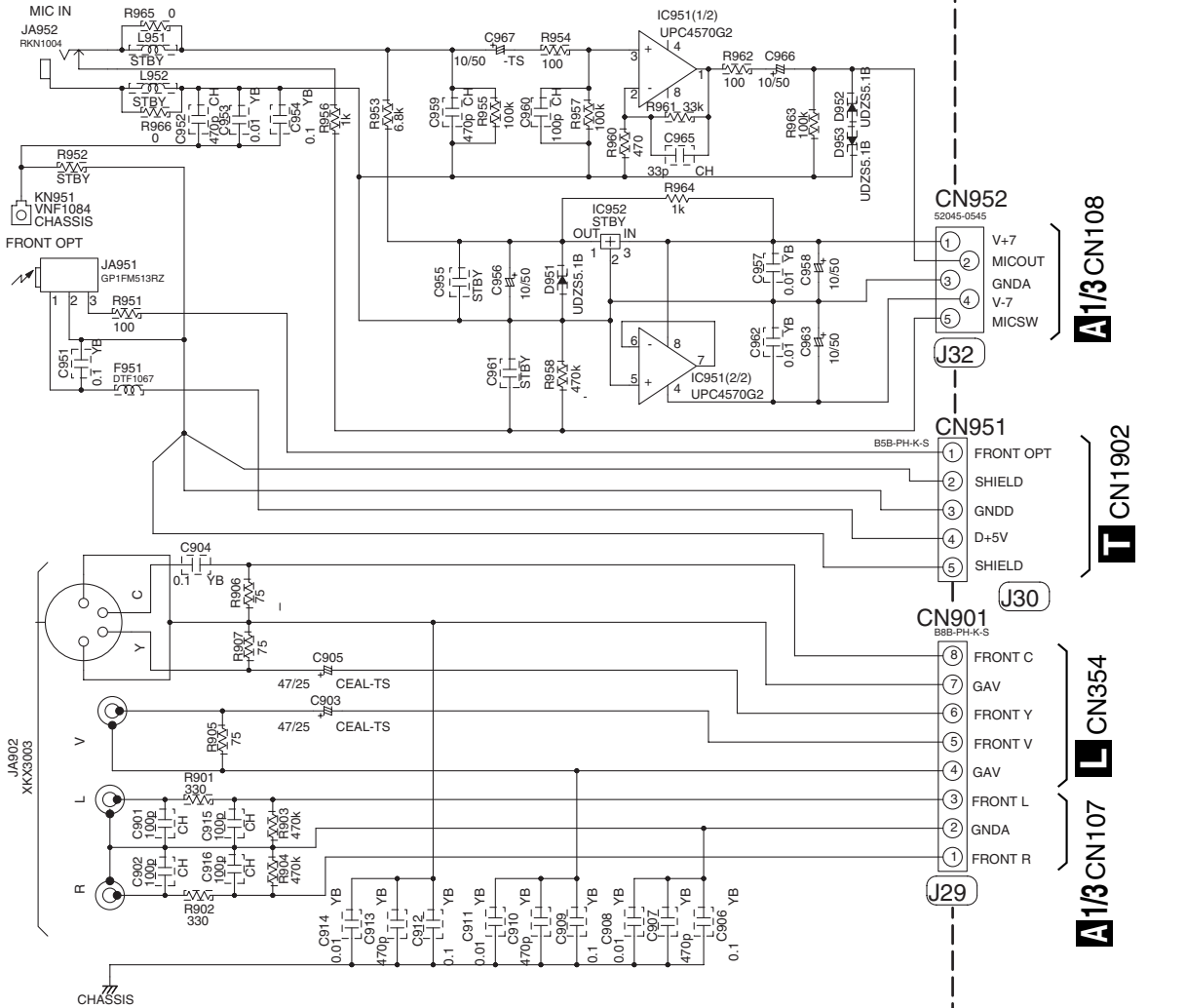
△

M N

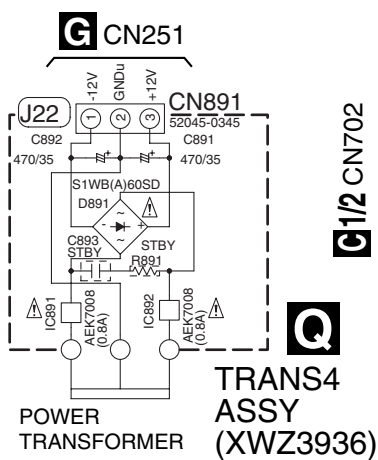
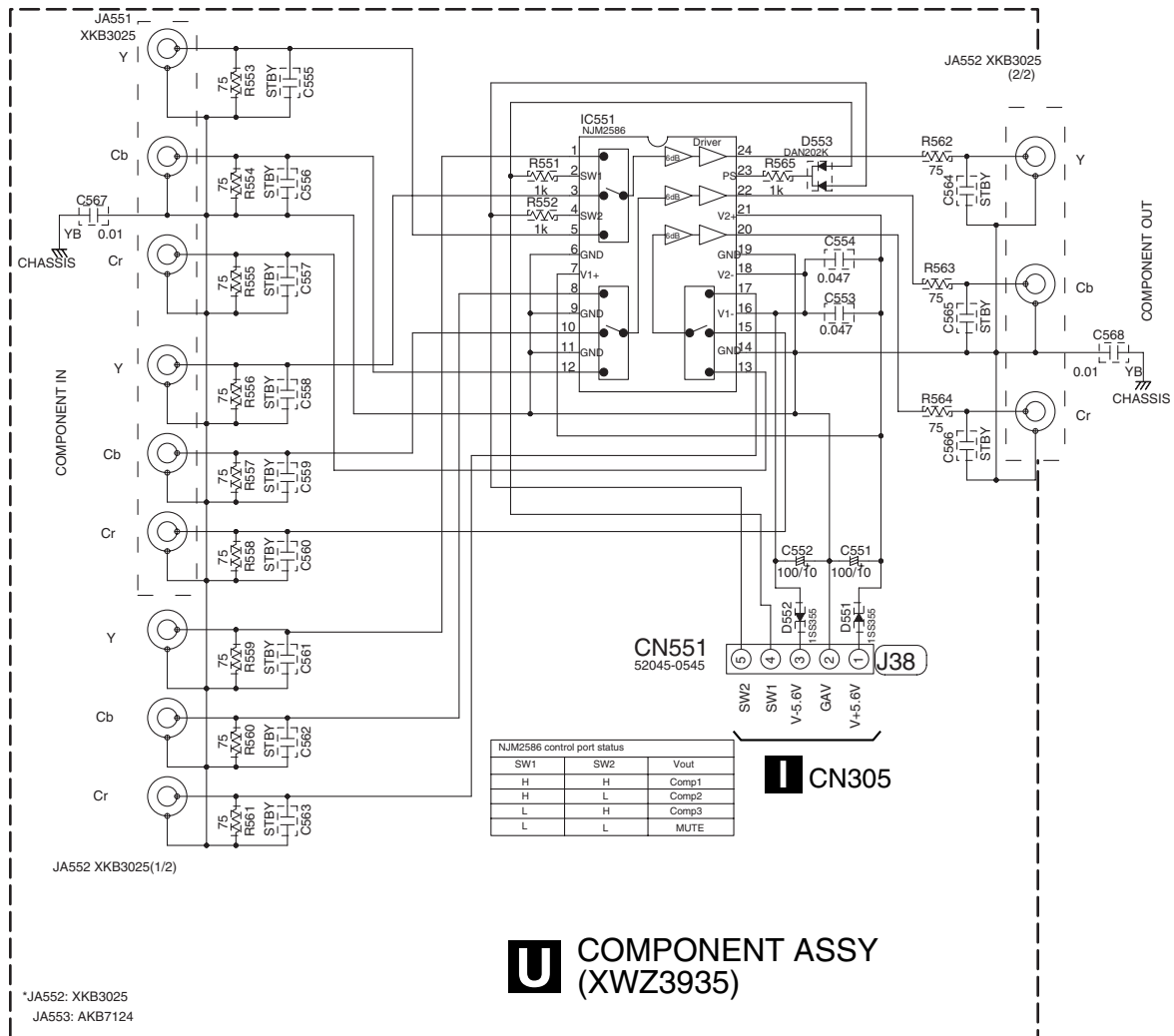


3.12 TRANS4, H.P., PRE-OUT, D. IN, COMPONENT and F.OPT & MIC ASSYS

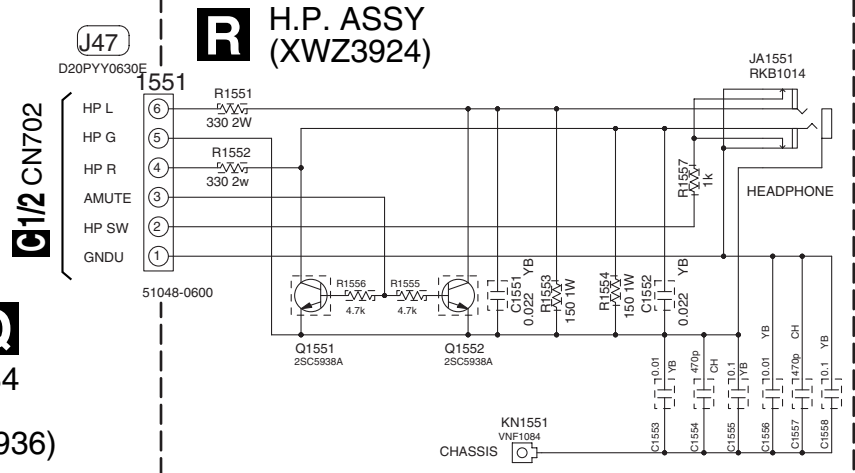
V FRONT OPT & MIC ASSY (XWZ3926)



T DIGITAL IN ASSY (XWZ3999)



CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE
NO. 491.800 FOR IC891 AND IC892
MFD, BY LITTELFUSE INC.



- NOTE**
- RESISTORS**
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.
 - CAPACITORS**
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

Q R U

3.13 VIDEO CONVERTER ASSY

W VIDEO CONVERTER ASSY
(XWK3185)

A

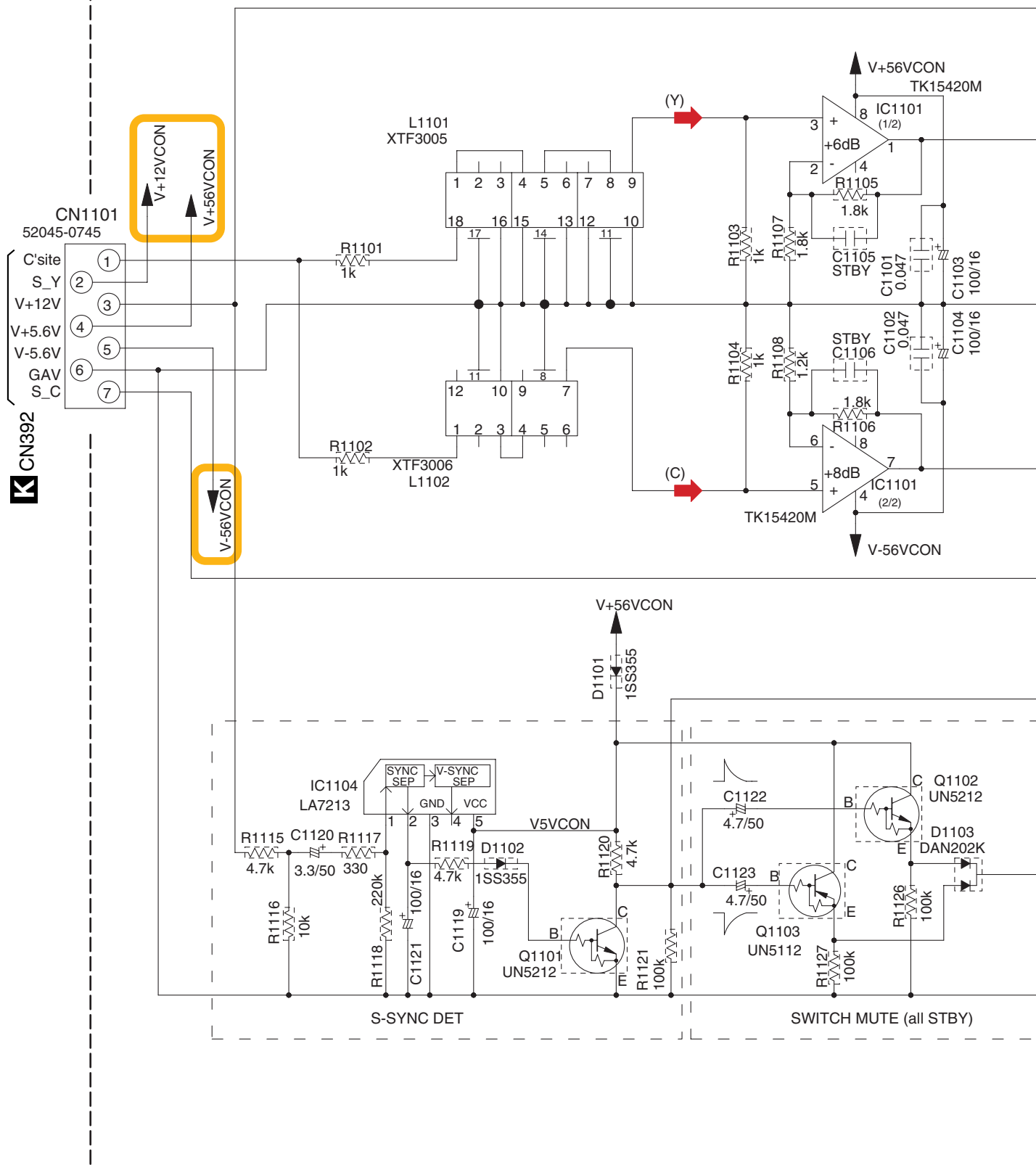
B

C

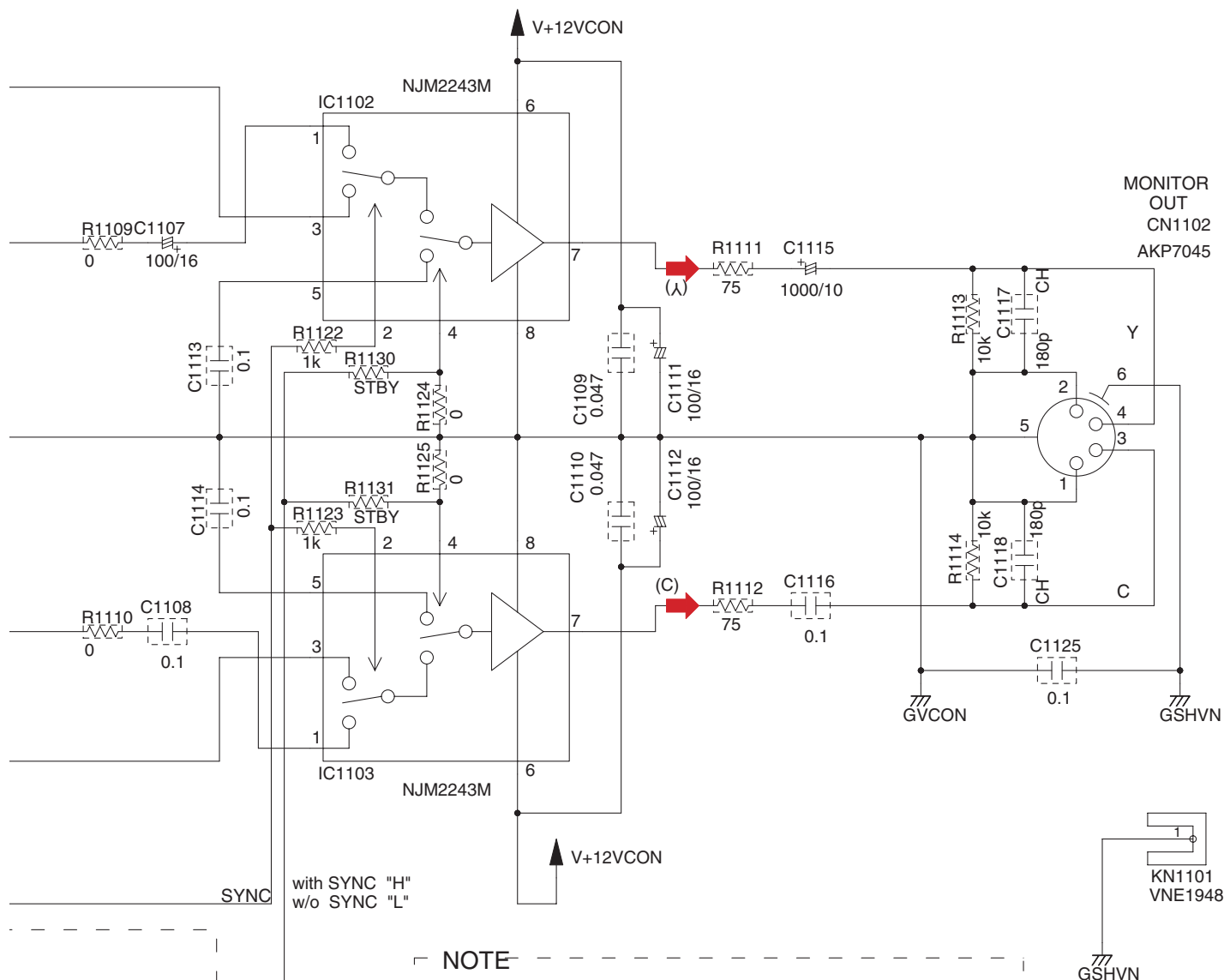
D

E

F



W



NOTE

1.RESISTORS

Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
 Rated power: 1/16W unless otherwise noted.
 Tolerance: (J) ±5% unless otherwise noted.

2.CAPACITORS

Unit: p-pF or μF unless otherwise noted.
 Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
 Rated Voltage: 50V expect for electrolytic capacitors.

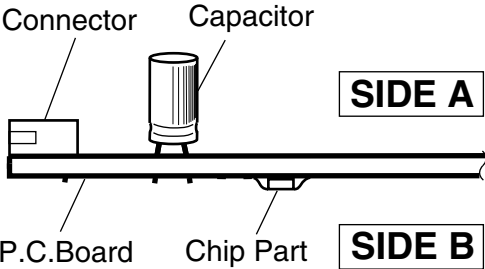
- (Y) → : Y SIGNAL ROUTE (S-VIDEO)
- (C) → : C SIGNAL ROUTE (S-VIDEO)
- (V) → : VIDEO SIGNAL ROUTE
 (CONVERT FROM S_VIDEO TO COMPOSITE_VIDEO)
- (OSD) → : OSD SIGNAL FLOW

4. PCB CONNECTION DIAGRAM

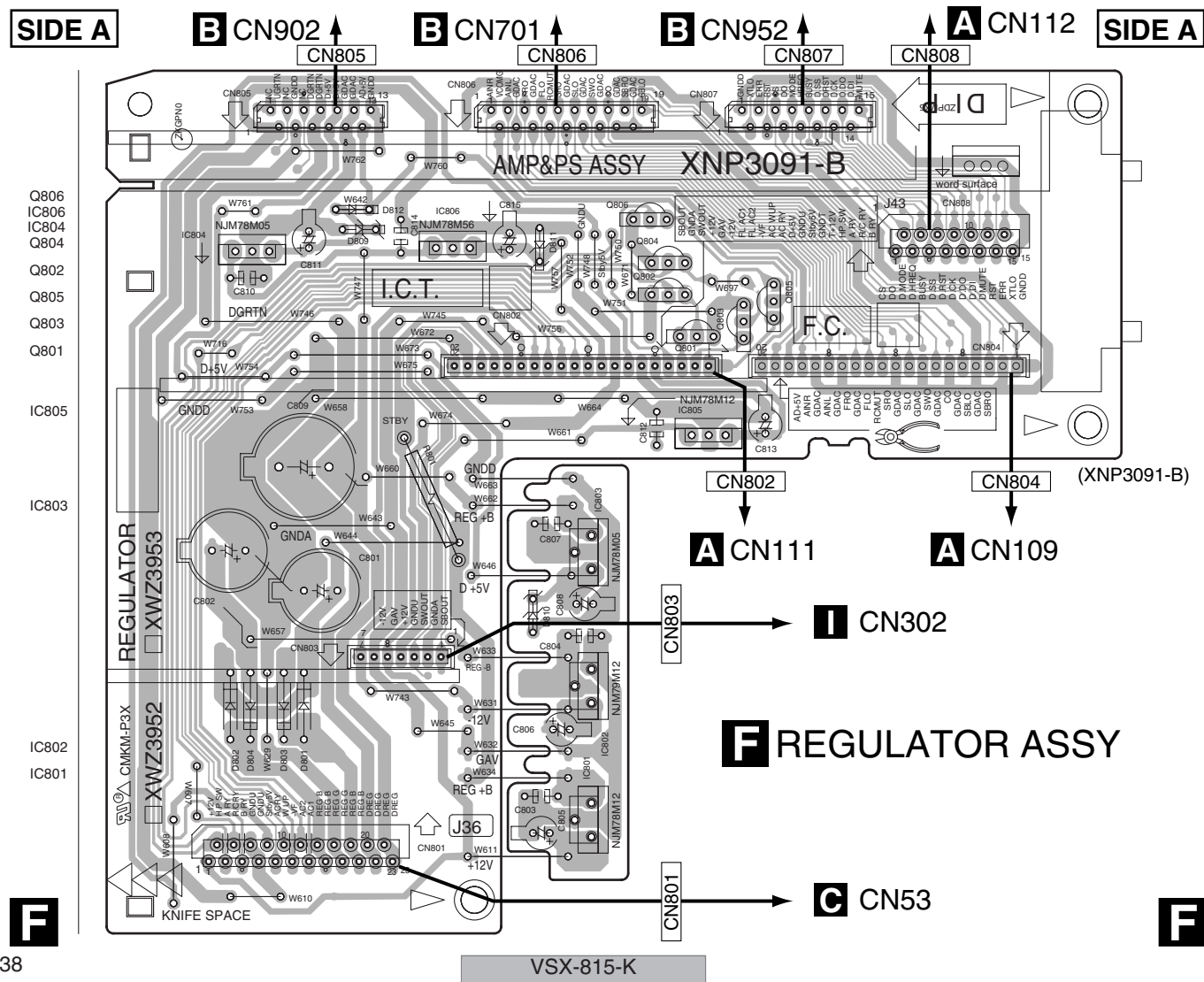
NOTE FOR PCB DIAGRAMS :

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

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



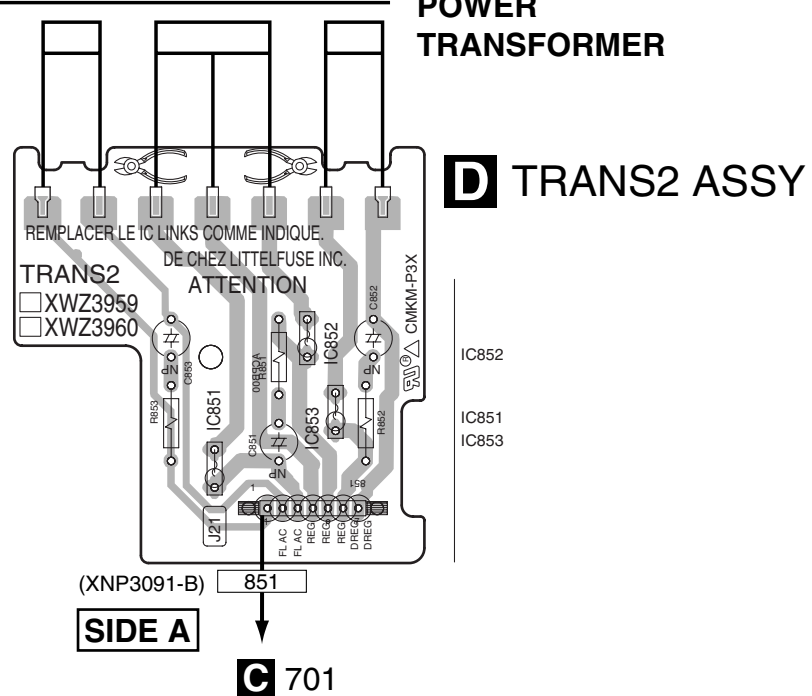
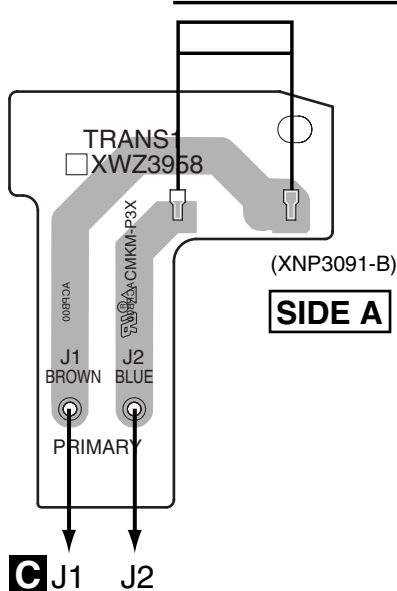
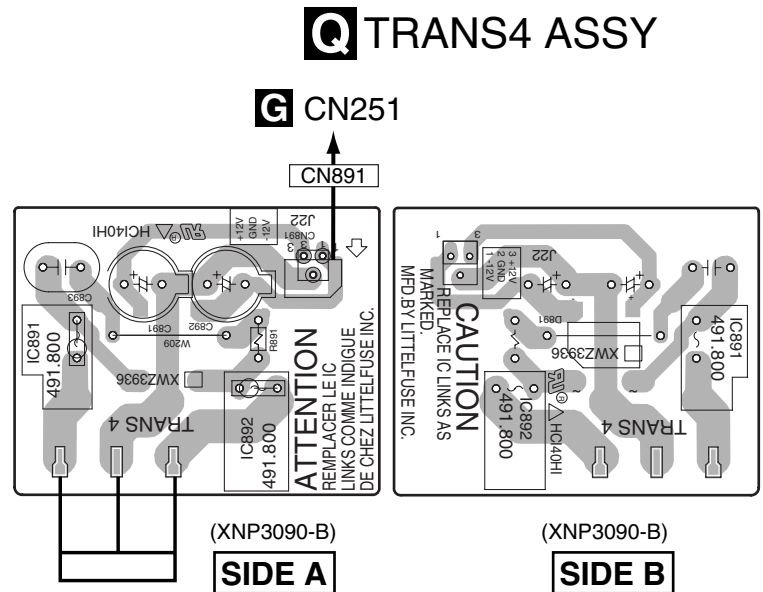
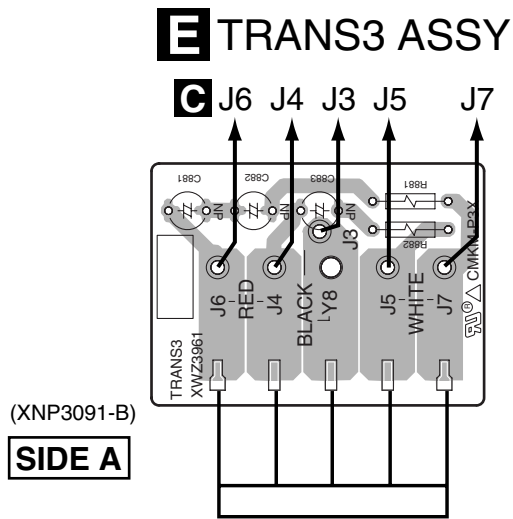
4.1 REGULATOR ASSY



4.2 TRANS2, TRANS3, TRANS1 and TRANS4 ASSYS

SIDE A

SIDE B



D E H Q

D E H Q

SIDE A

A

B

C

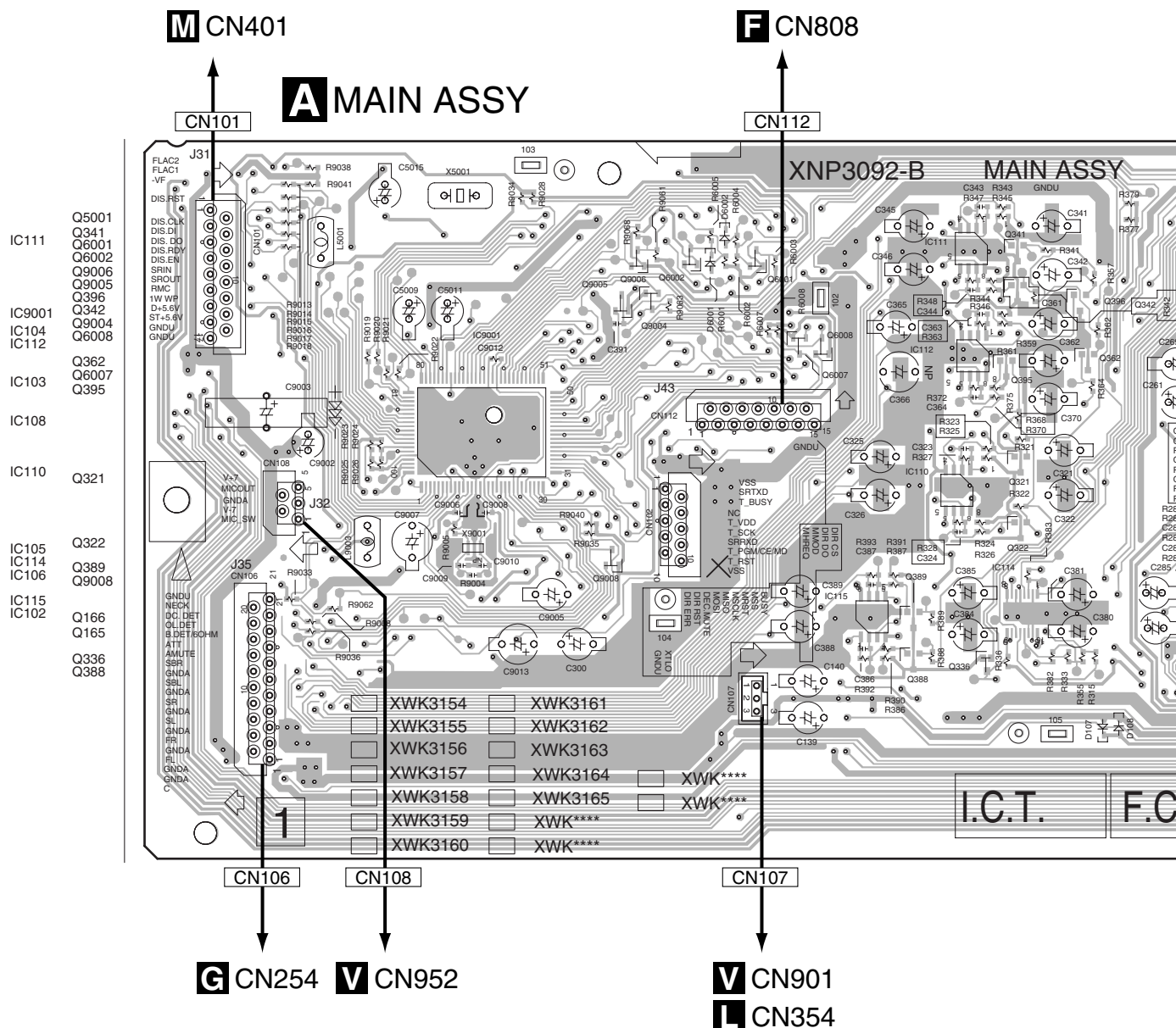
D

E

F

A

40



VSX-815-K

SIDE B

A

B

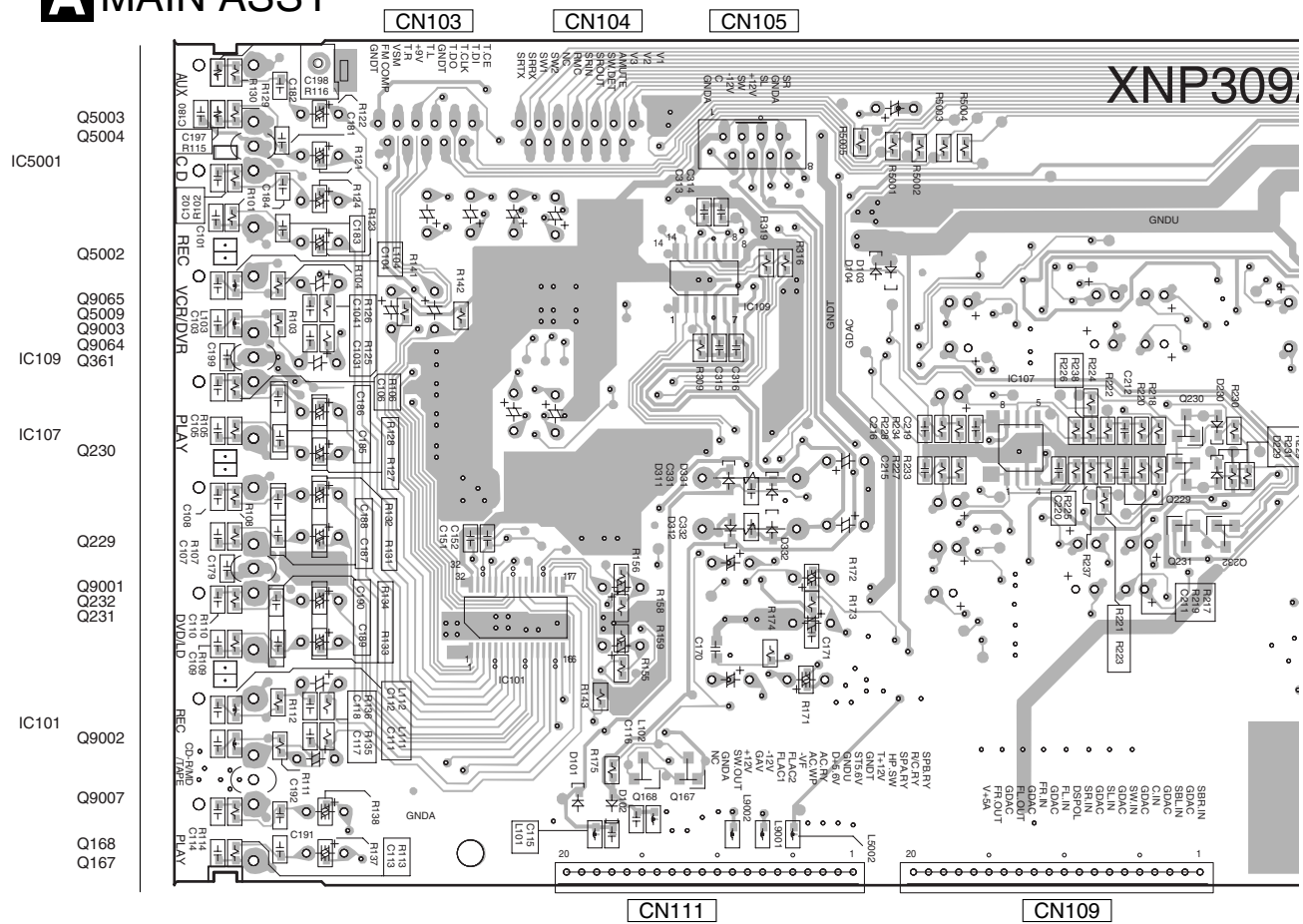
C

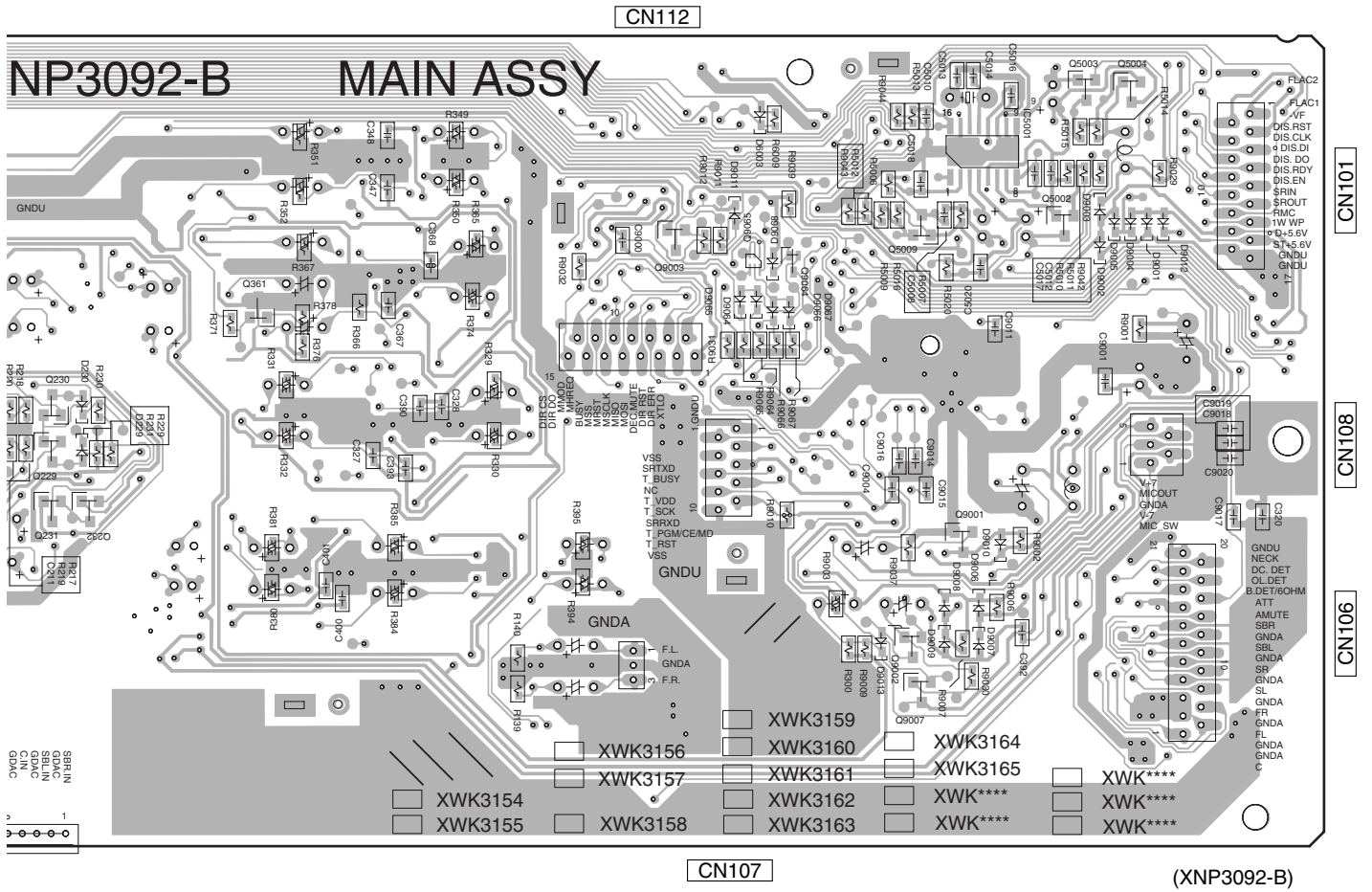
D

E

F

A MAIN ASSY





4.4 DSP ASSY

SIDE A

DSP ASSY

SIDE A

T CN1901

CN601

CN902

F CN805

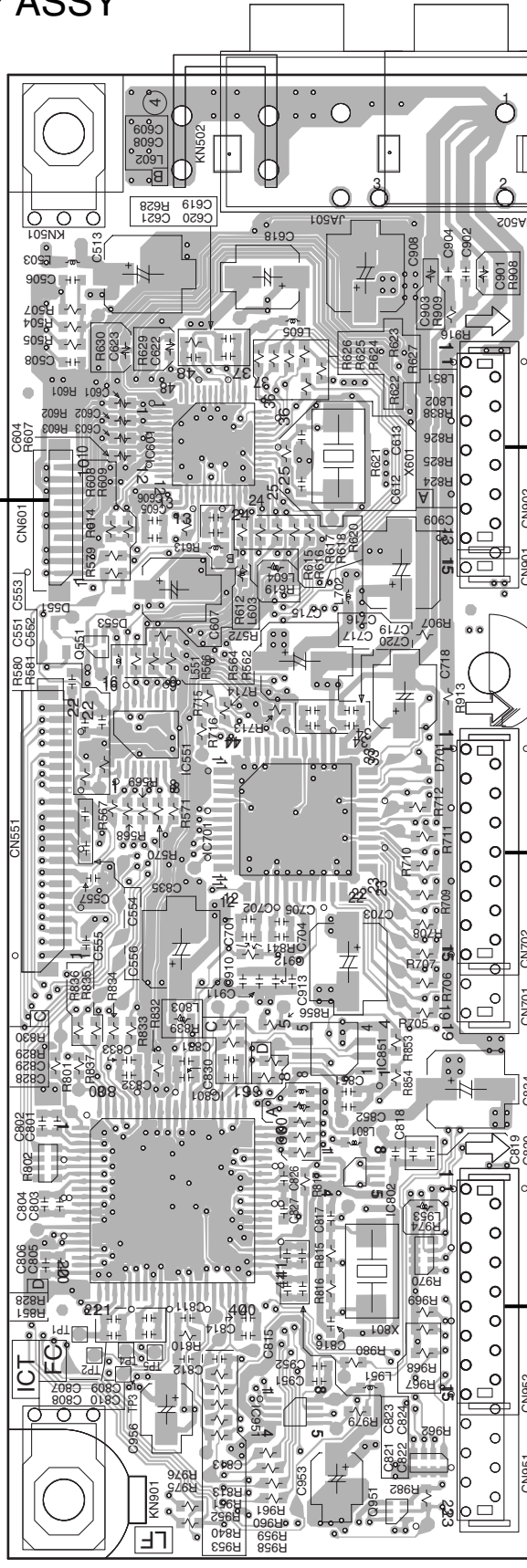
CN701

F CN806

CN952

F CN807

(ANP7525-A)



Q551

IC601
IC701
IC551
IC801
IC951

Q951
IC802
IC851

VSX-815-K

SIDE B

B DSP ASSY

SIDE B

A

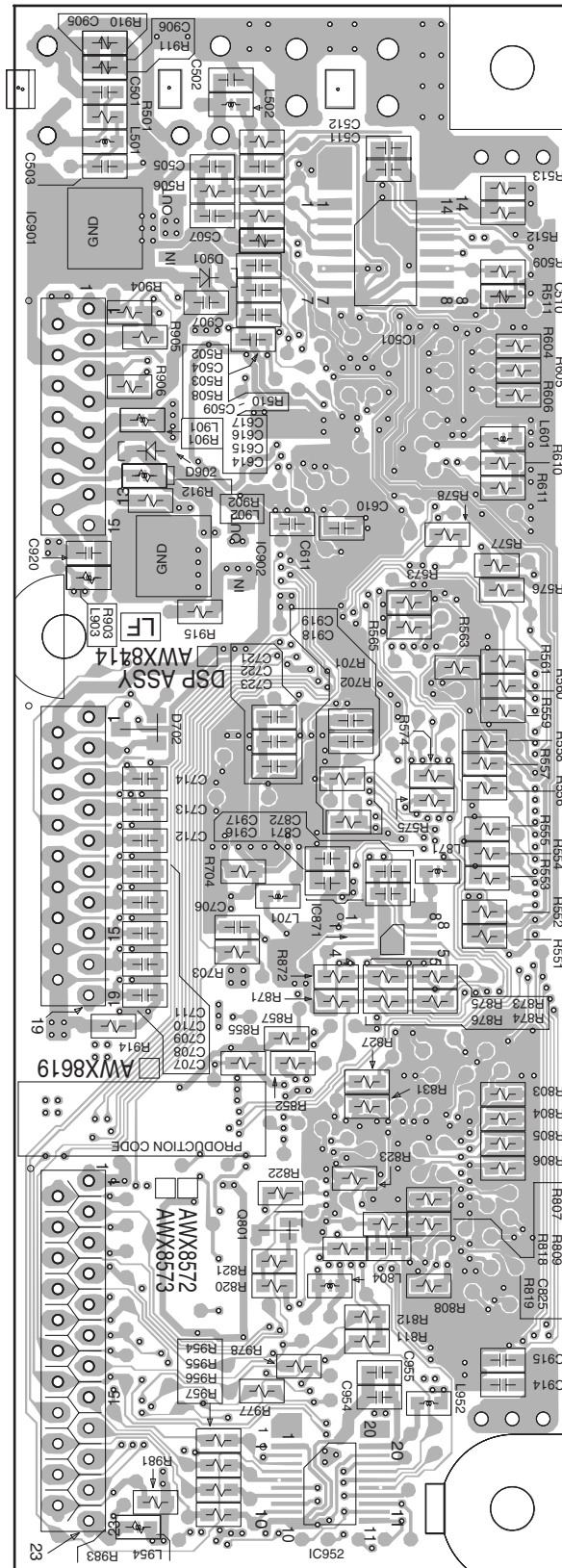
B

C

D

E

F



(ANP7525-A)

B

B

VSX-815-K

SIDE A

G AMP INPUT ASSY

Q CN891

A CN106

CAMP&PRIMARY ASSY

E J3

E J6 

E J7 ◀

(XNP3091-B)

ATTENTION
EMPLACER LE IC LINK
COMME INDIQUE DE
CHEZ ROHM
CO. LTD.

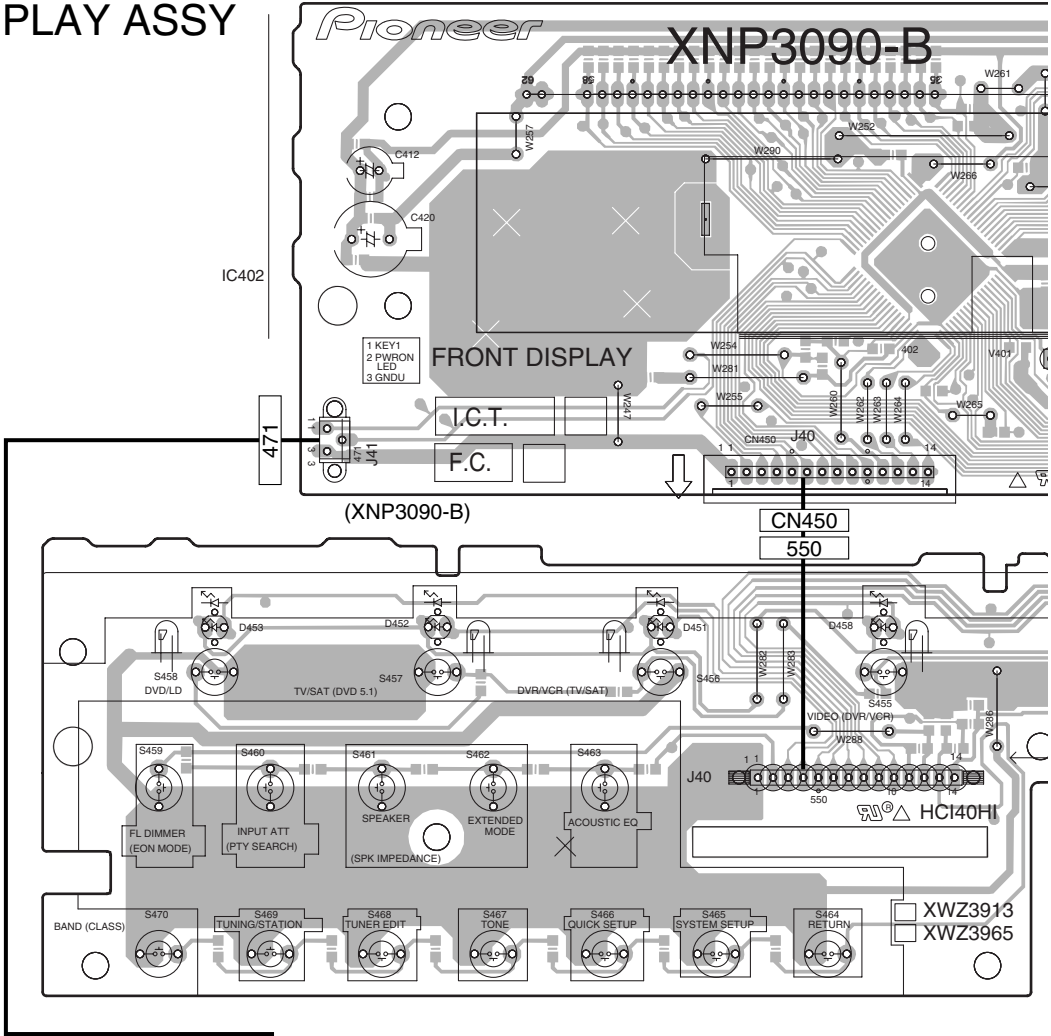
A close-up photograph of a printed circuit board (PCB) showing various electronic components and a prominent yellow caution label. The label, oriented vertically, reads "CAUTION" in large, bold, black letters, followed by "REPLACE IC AS MARKED." in smaller text. Below the text are two square boxes, each containing a schematic symbol for an integrated circuit (IC). To the left of the label, several component designators are visible: C659, C655, C637, W551, H657, C653, and N. To the right, H640 and W60H are visible. The PCB is populated with various components, including resistors, capacitors, and integrated circuits, all soldered onto the board.

VSX-815-K

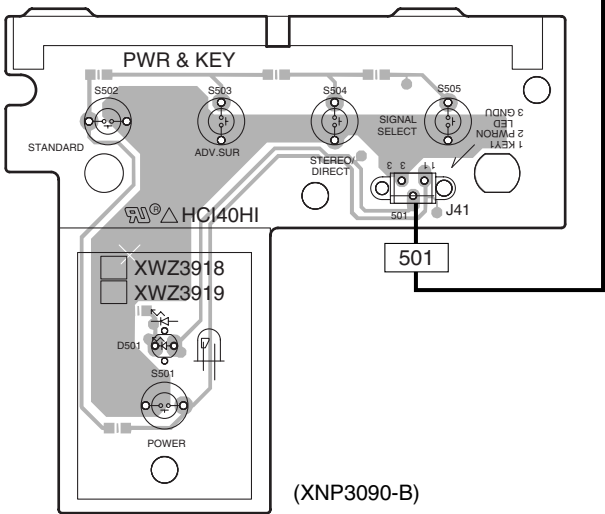
4.6 F. DISPLAY, R. ENCODER, P. SW & KEY, H. P. and F. KEY ASSYS

SIDE A

M FRONT DISPLAY ASSY

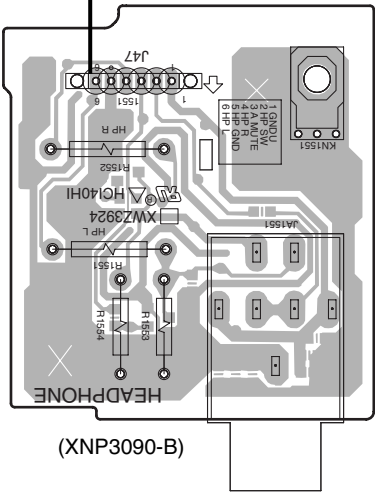


O POWER SW & KEY ASSY



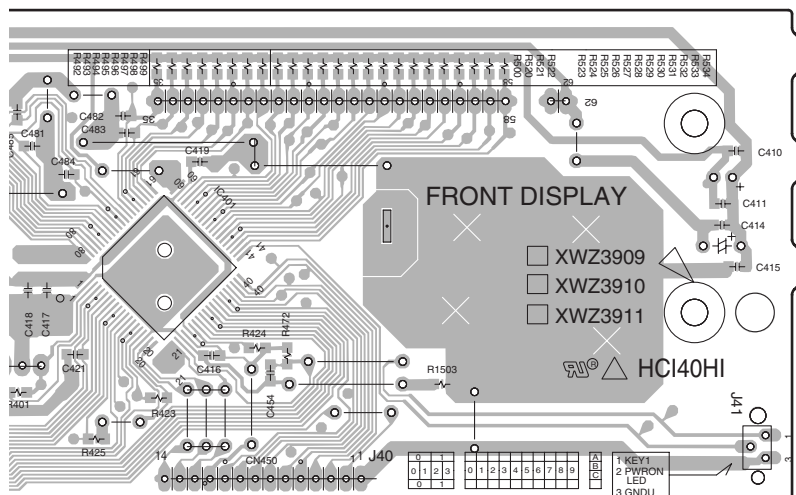
C CN702

R H.P ASSY



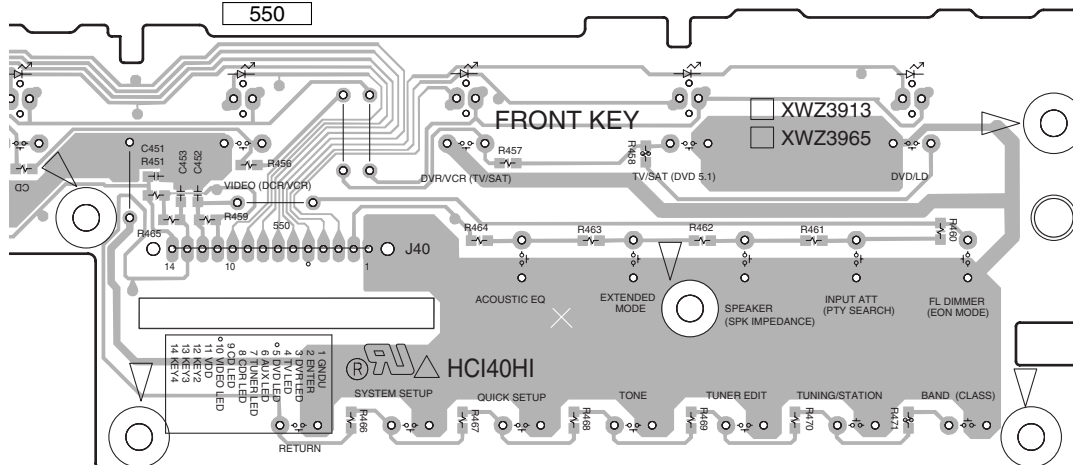
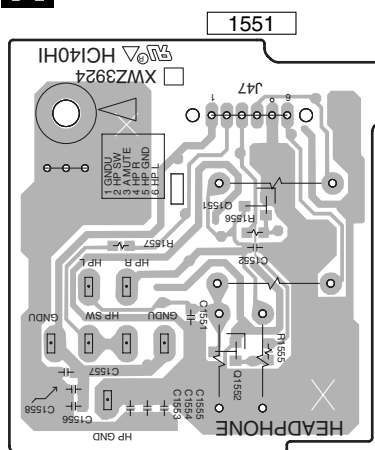
M O P R

VSX-815-K

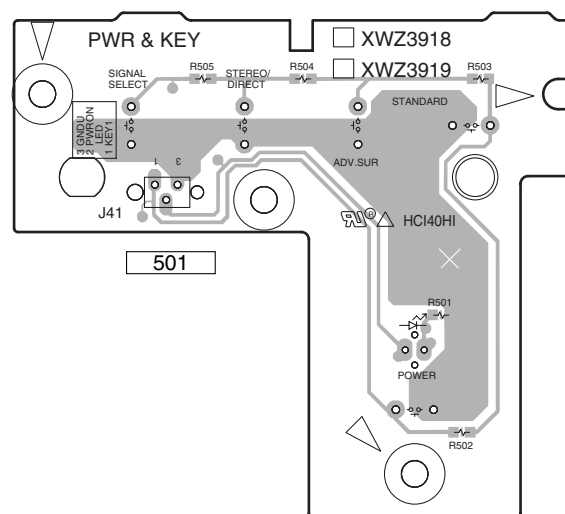
SIDE B**M** FRONT DISPLAY ASSY

471

(XNP3090-B)

CN450
550**R** H.P ASSY

(XNP3090-B)

O POWER SW & KEY ASSY

501

(XNP3090-B)

M O P R

4.7 B TO B, DIGITAL IN, VIDEO, 5.1CH and VIDEO CONVERTER ASSYS

SIDE A

T DIGITAL IN ASSY

SIDE A

J 5.1CH ASSY

A

B

C

D

E

F

B CN601

CN1901

(XNP3090-B)

V CN951

CN1902

(XNP3090-B)

A CN105

CN307

I VIDEO ASSY

U CN551

CN305

A CN104

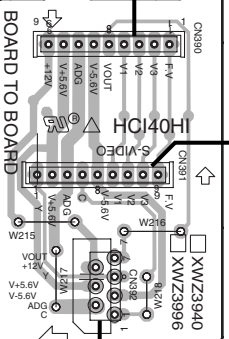
Q302

Q301

(XNP3090-B)

CN301

K B TO B ASSY



(XNP3090-B)

L CN351

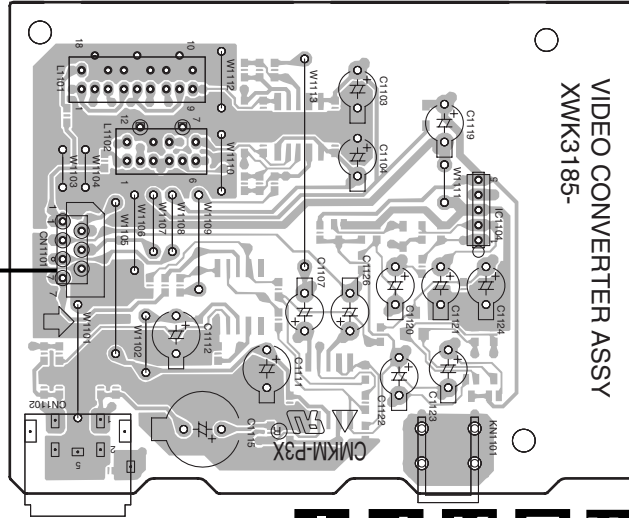
CN391

CN392

I J K T W

W VIDEO CONVERTER ASSY

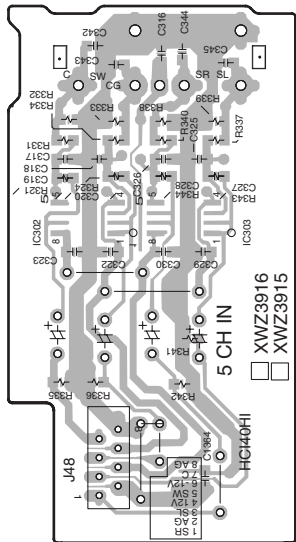
(XNP3093-A)



I J K T W

SIDE B

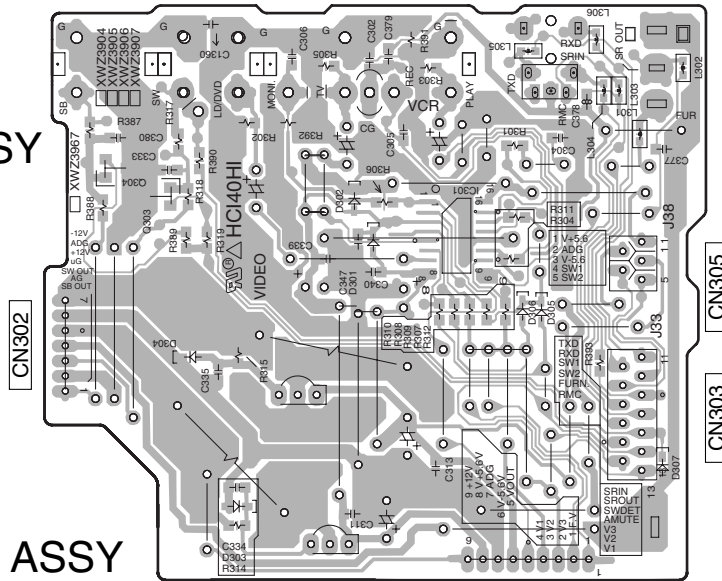
J 5.1CH ASSY



IC302
IC303

CN307 (XNP3090-B)

I VIDEO ASSY

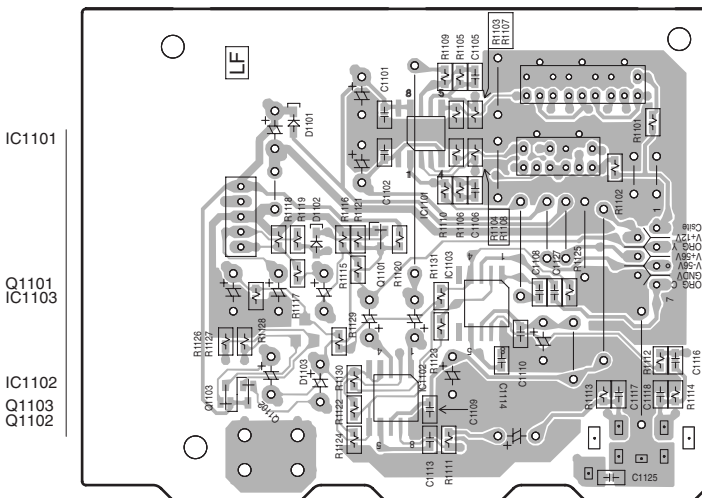


CN302

(XNP3090-B) CN301

Q304
Q303
IC301

W VIDEO CONVERTER ASSY



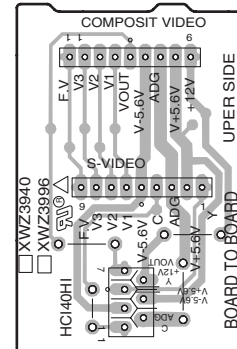
IC1101

Q1101
IC1103

IC1102
Q1103
Q1102

(XNP3093-A)

K B TO B ASSY

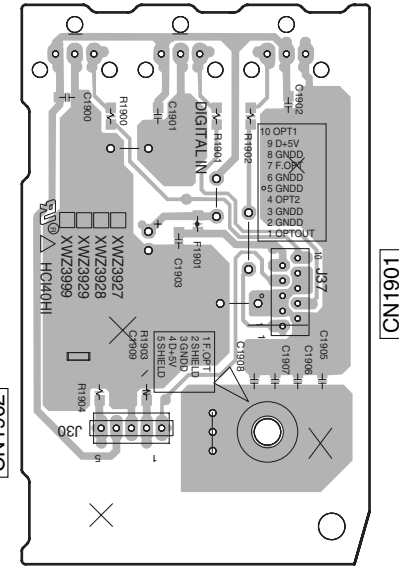


(XNP3090-B)

CN390

CN392
CN391

T DIGITAL IN ASSY



CN1902

CN1901

(XNP3090-B)

I J K T W

I J K T W

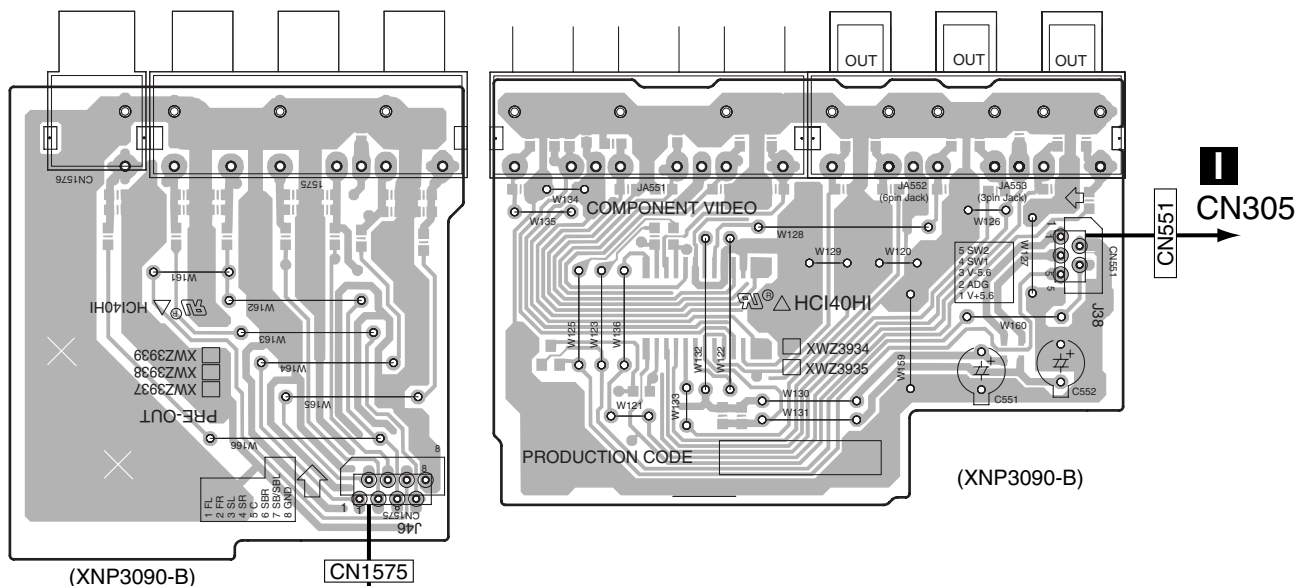
4.8 S.VIDEO, F. INPUT, COMPONENT and PRE-OUT ASSYS

SIDE A

S PRE-OUT ASSY

U COMPONENT ASSY

SIDE A



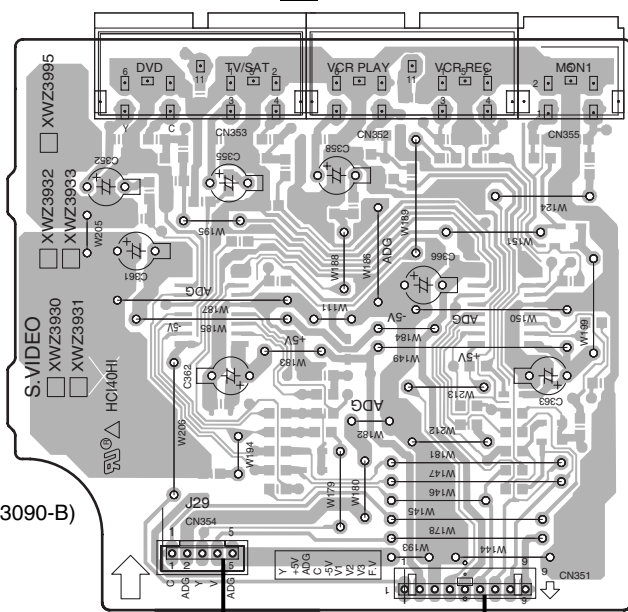
(XNP3090-B)

CN1575

C CN604

(XNP3090-B)

L S. VIDEO ASSY



A CN107

V CN901

K CN391

T CN1902

A CN108

CN952

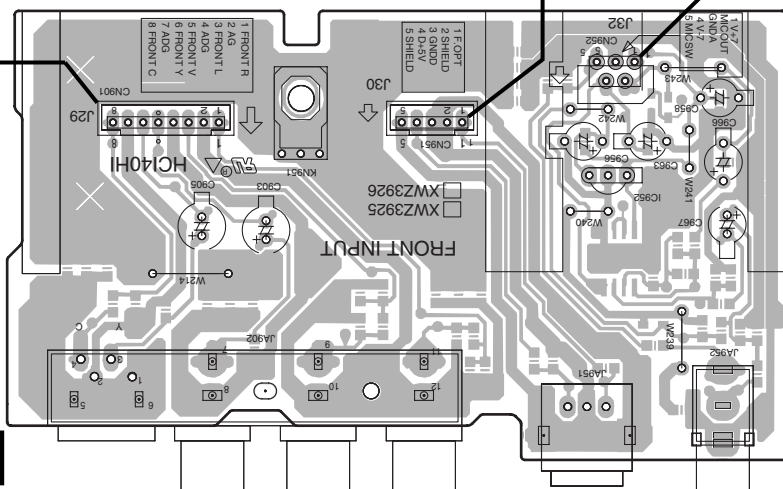
CN951

A CN107

L CN354

IC952

V FRONT INPUT ASSY



(XNP3090-B)

VSX-815-K

1 2 3 4

5. ELECTRICAL 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 RN2H R50K
1 Ω $\rightarrow$ 1R0 RS1P 1R0K
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	Part No.	Mark No.	Description	Part No.
LIST OF ASSEMBLIES					
1..MAIN ASSY (VSX-815)		XWK3159	NSP 1..COMPLEX ASSY (VSX-815)		XWK3191
1..MAIN ASSY (VSX-915)		XWK3162	NSP 1..COMPLEX ASSY (VSX-915)		XWK3186
			2..VIDEO ASSY		XWZ3907
1..DSP ASSY		AWX8572	2..FRONT DISPLAY ASSY		XWZ3911
			2..FRONT KEY ASSY		XWZ3965
1..VIDEO CONVERTER ASSY (VSX-915)		XWK3185	2..5.1CH INPUT ASSY		XWZ3915
			2..POWER SW ASSY		XWZ3919
NSP 1..AMP & PS ASSY (VSX-815)		XWK3178	2..H.P. ASSY		XWZ3924
NSP 1..AMP & PS ASSY (VSX-915)		XWK3181	2..FRONT INPUT ASSY		XWZ3926
2..AMP&PRIMARY ASSY (VSX-815)		XWZ3945	2..DIGITAL IN ASSY		XWZ3999
2..AMP&PRIMARY ASSY (VSX-915)		XWZ3948	2..S. VIDEO ASSY (VSX-815)		XWZ3932
2..REGULATOR ASSY		XWZ3753	2..S. VIDEO ASSY (VSX-915)		XWZ3995
2..AMP INPUT ASSY		XWZ3956	2..COMPONENT ASSY		XWZ3935
2..TRANS1 ASSY		XWZ3958	2..TRANS4 ASSY		XWZ3936
2..TRANS2 ASSY		XWZ3959	2..PRE-OUT ASSY		XWZ3938
2..TRANS3 ASSY		XWZ3961	2..B TO B ASSY (VSX-815)		XWZ3940
2..BINDER ASSY		XWZ3963	2..B TO B ASSY (VSX-915)		XWZ3996
2..HOLDER ASSY		XWZ3964	2..R. ENCODER ASSY		XWZ3922
			1..FM/AM TUNER UNIT		AXX7172

D • CONTRAST OF PCB ASSEMBLIES

A MAIN ASSY

XWK3162 and XWK3159 are constructed the same except for the following :

Mark	Symbol and Description	XWK3159	XWK3162
	R9025	Not used	RS1/16S472J

E C AMP & PRIMARY ASSY

XWZ3948 and XWZ3745 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3945	XWZ3948
	C701, C702 (4700/71V)	XCH3013	Not used
	C701, C702 (5600/71V)	Not used	XCH3015

F K B TO B ASSY

XWZ3996 and XWZ3940 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3940	XWZ3996
	CN392	Not used	52045-0745

L S. VIDEO ASSY

XWZ3995 and XWZ3932 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3932	XWZ3995
	D355, D356	1SS355	Not used
	R373, R374	RS1/16S750J	Not used
	R383, R384	RS1/16S0R0J	Not used
	C364, C365	CKSRYB221K50	Not used
	CN355	AKP7179	Not used

• PARTS LIST FOR VSX-815-K

Mark No. Description Part No.

COMPLEX ASSY

OTHERS

J41 JUMPER WIRE	D15A03-110-2651
J42 JUMPER WIRE	D15A07-075-2651
J47 JUMPER WIRE 6P	D20PYY0630E
J40 JUMPER WIRE 14P	D20PYY1407E

AMP & PS ASSY

OTHERS

Y701 AWG14 BOARD IN	ADX7286
J21 JUMPER WIRED 7P	D20PYY0715E

A MAIN ASSY

SEMICONDUCTORS

IC109	BD3812F
IC108	BD3813KS
IC101	BD3841FS
IC102	NJM2100M
IC9001	PEG094B
IC114	TC4052BFT
IC103-IC107, IC110-IC112, IC115	UPC4570G2
Q6001	2SA1037K
Q165, Q166, Q321, Q322	2SC5938A
Q341, Q342, Q361, Q362	2SC5938A
Q388, Q389, Q395, Q396	2SC5938A
Q5001	2SD1664
Q229, Q230	2SK208
Q167, Q231, Q9002-Q9005	DTA124EK
Q9008	DTA143TK
Q232, Q6002	DTC124EK
Q336	DTC124EUA
Q168, Q6007, Q6008, Q9001	DTC143EK
Q9007	DTC143TK
Q9065	UMD2N
Q9064	UN5112
D103-D108, D229, D230, D301	1SS355
D311, D312, D6001, D6002	1SS355
D9001-D9013, D9064-D9068	1SS355
D101, D102	RB501V-40
D5007	UDZS10(B)
D331, D332	UDZS6R8(B)

COILS AND FILTERS

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

Mark No. Description Part No.

CAPACITORS

C151, C152, C243, C244, C263	CCSRCH101J50
C283, C284, C313, C314	CCSRCH101J50
C317, C318, C323, C324	CCSRCH101J50
C343, C344, C363, C386, C387	CCSRCH101J50
C1031, C1041, C117, C118	CCSRCH220J50
C205-C208, C245-C248, C265	CCSRCH331J50
C267, C285-C288	CCSRCH331J50
C203, C204	CCSRCH471J50
C366	CEANP4R7M50
C121-C128, C131-C142	CEAT100M50
C167, C168, C209, C210	CEAT100M50
C213, C214, C249, C250	CEAT100M50
C269, C270, C289, C290	CEAT100M50
C301-C306, C321, C322	CEAT100M50
C341, C342, C361, C362	CEAT100M50
C380, C381, C384, C385	CEAT100M50
C5007	CEAT101M16
C169	CEAT221M6R3
C201, C202, C241, C242	CEAT2R2M50
C261, C262, C281, C282, C9005	CEAT2R2M50
C9007	CEAT331M6R3
C325, C326, C345, C346, C365	CEAT470M25
C388, C389	CEAT470M25
C155, C156	CEAT470M50
C333, C334	CEAT471M10
C9013	CEAT471M6R3
C165, C166, C370	CEAT4R7M50
C170	CKSQYB104K16
C320, C392, C5001, 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, C390, C393	CKSRYB103K50
C400, C401, C5002, C9004, C9008	CKSRYB103K50
C9017	CKSRYB103K50
C219, C220, C309-C312, C9018	CKSRYB104K16
C5003, C9006	CKSRYB105K10
C264	CKSRYB223K25
C257, C258, C277, C278	CKSRYB472K50
C297, C298, C307, C308, C364	CKSRYB472K50
C9011, C9014	CKSRYB473K16
C268	CKSRYB562K50
C391	CKSRYF104Z16
C9003 (1F/5.5V)	PCH1132

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

⚠ R311, R312
Other Resistors

RS1LMF101J
RS1/16S###J

OTHERS

CN105 8P CONNECTOR
CN103 11P CONNECTOR
CN104 13P CONNECTOR
CN108 5P CONNECTOR
CN102 10P CONNECTOR

52044-0845
52044-1145
52044-1345
52045-0545
52045-1045

CN112 15P CONNECTOR
CN101 17P CONNECTOR
CN106 21P CONNECTOR
CN107 CONNECTOR POST
CN109, CN111 20P SOCKET

52045-1545
52045-1745
52045-2145
B3B-PH-K
KP200TA20L

101, 102, 105 PCB BINDER
JA101-JA104 PIN JACK(4P)
X9001 CERAMIC RESONATOR
(15.7 MHz)

VEF1040
XKB3017
XSS3004

**DSP ASSY
SEMICONDUCTORS**

IC601
IC701
IC801
⚠ IC902
⚠ IC901

AK4114VQ
AK4628VQE
DSPC56371AF180
LM1117DT-ADJ
NJM2391DL1-33

IC851
IC501
IC952
IC871
IC802

PDC121A8
TC74HCU04AF
TC74VHCT244AFTS1
TC7WH125FU
TC7WU04FU

Q801
D702
D701
D901, D902

UN5212
DAN202K
DAP202K
UDZS5R6(B)

COILS AND FILTERS

L802, L803
L901, L902 CHIP SOLID INDUCTOR
L501-L503, L601, L602, L605
L701, L702, L801, L804, L851
L871, L952 CHIP SOLID INDUCTOR

ATL7002
ATL7002
QTL1013
QTL1013
QTL1013

CAPACITORS

C705
C612, C613
C505, C506
C511, C605, C608, C620, C702
C707-C714, C717, C801, C803

CCSRCH101J50
CCSRCH120J50
CCSRCH470J50
CCSRCH471J50
CCSRCH471J50

C805, C807, C809, C814, C818
C821, C823, C826, C828, C830
C832, C851, C871, C916, C919
C954
C816, C817

CCSRCH471J50
CCSRCH471J50
CCSRCH471J50
CCSRCH471J50
CCSRCH8R0D50

C956
C513, C703, C715, C834, C835
C908, C909
C607, C618, C718
C617

CEVW100M16
CEVW101M16
CEVW101M16
CEVW470M6R3
CKSRYB102K50

Mark No. Description**Part No.**

C503, C504, C701, C820, C825
C917
C606, C609, C614, C619, C704
C706, C716, C720, C802, C804
C806, C808, C810, C815, C819

CKSRYB103K50
CKSRYB103K50
CKSRYB104K16
CKSRYB104K16
CKSRYB104K16

C822, C824, C827, C829, C831
C833, C852, C872, C907, C918
C955
C512
C621

CKSRYB104K16
CKSRYB104K16
CKSRYB104K16
CKSRYB105K6R3
CKSRYB474K10

RESISTORS

R802
R962, R970
R628
Other Resistors

RAB4C101J
RAB4C104J
RS1/16S1802F
RS1/16S###J

OTHERS

JA501 2P PIN JACK
CN601 10P CONNECTOR
CN902 13P SOCKET
CN952 15P SOCKET
CN701 19P SOCKET

AKB7131
VKN1414
XKP3077
XKP3078
XKP3080

X601 CRYSTAL RESONATOR
(12.288 MHz)
X801 CRYSTAL RESONATOR
(20 MHz)

ASS7046
VSS1171

**CAMP & PRIMARY ASSY
SEMICONDUCTORS**

⚠ IC610 PROTECTOR(1A)
⚠ IC604-IC609 PROTECTOR(10A)
⚠ IC701, IC702 IC PROTECTOR
⚠ IC51
⚠ IC601, IC602

AEK7009
AEK7022
ICP-N10
NJM78M56FA
STK412-230B

⚠ IC603
Q703, Q721
⚠ Q702
Q696, Q697
Q704, Q722

STK413-230B
2SA1145
2SA2005
2SC1740S
2SC1845

Q505, Q605, Q606, Q633
Q655, Q656, Q683
⚠ Q701
Q501, Q503, Q601-Q604
Q631, Q632, Q651-Q654

2SC2240
2SC2240
2SC5511
2SC5974A
2SC5974A

Q681, Q682
Q51
D501, D503, D56, D601, D603
D606, D608, D631, D632
D651-D654, D683, D684, D752

2SC5974A
DTC143ES
1SS133
1SS133
1SS133

D754, D758
⚠ D701, D702
D602, D604, D647, D648
D681, D682
D711

1SS133
D5SBA20(B)
MTZJ15A
MTZJ15A
MTZJ22D

D58
D712
⚠ D51-D55, D721-D724

MTZJ5.1B
MTZJ6R8(B)
S5688

COILS AND FILTERS

L501, L751-L754, L761, L762 COIL
⚠ L51 LINE FILTER

ATH1004
XTF3004

5
Mark No. Description

6
Part No.

SWITCHES AND RELAYS

RY501, RY751-RY753 RELAY
 ⚠ RY51 RELAY

XSR3009
 XSR3010

CAPACITORS

C707, C708 (0.01/AC250V)
 C507, C511, C513, C607, C608
 C611-C614, C634, C636, C637
 C657, C658, C661-C664, C684
 C686, C687

ACG1005
 CCPUSL470J50
 CCPUSL470J50
 CCPUSL470J50
 CCPUSL470J50

C515, C615, C616, C638
 C665, C666, C688
 C775, C776
 C712
 C509, C609, C610, C635

CEANP2R2M50
 CEANP2R2M50
 CEANP470M50
 CEAT101M10
 CEAT101M16

C659, C660, C685
 C711
 C53
 C697
 C54

CEAT101M16
 CEAT101M35
 CEAT102M16
 CEAT221M10
 CEAT470M25

C505, C605, C606, C633
 C655, C656, C683
 C705, C706
 C696
 C503, C603, C604, C632

CEAT4R7M50
 CEAT4R7M50
 CEHAT100M2A
 CKPUYB102K50
 CKPUYB331K50

C653, C654, C682
 C55-C57
 C517, C751, C752, C755
 C761, C762, C771

CKPUYB331K50
 CKPUYF103Z25
 CQMBA104J50
 CQMBA104J50

⚠ C51, C52 (10000pF/250V(AC))

XCG3009

C703, C704 (3300/42V)
 C701, C702 (4700/71V)

XCH3012
 XCH3013

RESISTORS

⚠ R515, R617, R622, R639
 ⚠ R667, R668, R691 (0.22/5W)
 ⚠ R51 (2.2M/ 1/2W)
 ⚠ R52
 ⚠ R517, R615, R620, R638

ACN7094
 ACN7094
 RCN1080
 RD1/2PM270J
 RD1/4PU331J

⚠ R665, R666, R690
 ⚠ R525, R751, R752, R755
 ⚠ R761, R762, R772
 ⚠ R709, R710
 ⚠ R527, R753, R754, R756

RD1/4PU331J
 RD1/4PUF101J
 RD1/4PUF101J
 RS1LMF272J
 RS1LMF4R7J

⚠ R763, R764, R771
 ⚠ R711
 Other Resistors

RS1LMF4R7J
 RS2LMF242J
 RD1/4PU###J

OTHERS

CN604 8P CONNECTOR
 CN53 23P CONNECTOR
 CN702 6P JUMPER CONNECTOR
 ⚠ 51 AC SOCKET 1-P
 H51, H52, H701, H702 FUSE CLIP

52045-0845
 52045-2345
 52147-0610
 AKP1060
 AKR7001

⚠ T51 STANDBY TRANSFORMER
 CN601 20P PLUG
 ⚠ CN51 AC CODE SOCKET
 601 PCB BINDER
 KN51, KN601 EARTH METAL FITTING

ATT7043
 KM200TA20
 RKP1751
 VEF1040
 VNF1084

CN751 SP TERMINAL 8-P(V0)
 CN752 SP TERMINAL 6-P(V0)

XKE3030
 XKE3032

7
Mark No. Description

701 7P CABLE HOLDER

8
Part No.

XKP3047

D TRANS2 ASSY
SEMICONDUCTORS

⚠ IC853 PROTECTOR (4A)
 ⚠ IC851, IC852 PROTECTOR(5A)

AEK7018
 AEK7019

OTHERS

851 7P CABLE HOLDER

XKP3047

E TRANS3 ASSY

TRANS3 ASSY has no service part.

F REGULATOR ASSY
SEMICONDUCTORS

⚠ IC803, IC804
 ⚠ IC801, IC805
 ⚠ IC806
 ⚠ IC802
 Q801, Q803, Q805

NJM78M05FA
 NJM78M12FA
 NJM78M56FA
 NJM79M12FA
 DTA124ES

Q802, Q804, Q806
 D809-D811

DTC114ES
 MTZJ6.2B
 S5688G

⚠ D801-D804

CAPACITORS

C811, C815
 C813
 C801, C802
 C809
 C808

CEAT101M10
 CEAT101M16
 CEAT222M25
 CEAT472M16
 CEHAT101M10

C805, C806
 C803, C804, C807, C810, C812
 C814

CEHAT101M16
 CKPUYF103Z25
 CKPUYF103Z25

RESISTORS

⚠ R801

RS3LMF331J

OTHERS

CN808 15P CONNECTOR
 CN801 23P CONNECTOR
 CN802, CN804 20P PLUG
 CN803 7P PLUG
 CN805 13P PLUG

52045-1545
 52045-2345
 KM200TA20
 KM200TA7
 XKP3066

CN807 15P PLUG
 CN806 19P PLUG

XKP3067
 XKP3069

G AMP INPUT ASSY
SEMICONDUCTORS

IC251
 Q257
 Q251, Q256
 Q252
 Q254

NJM4558D-D
 2SA933S
 2SC5974A
 2SD1858X
 DTA124ES

Q253, Q255
 D251, D252
 D253
 D254

DTC124ES
 1SS133
 MTZJ27D
 MTZJ5.1B

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

C251
C254
C252, C253

CEANP470M25
CEAT101M25
CKPUYF103Z25

RESISTORS

All Resistors

RD1/4PU###J

OTHERS

CN251 3P CONNECTOR
CN254 21P CONNECTOR
CN253 20P SOCKET
CN252 3PIN CONNECTOR

52044-0345
52044-2145
KP200TA20L
S3B-EH

H TRANS1 ASSY

TRANS1 ASSY has no service part.

**I VIDEO ASSY
SEMICONDUCTORS**

IC301
Q302
Q301
Q303
D301, D302, D305, D306

NJM2595M
2SA1515
2SC3377
2SC5938A
1SS355

D307
D303, D304

UDZS5R1(B)
UDZS6R2(B)

COILS AND FILTERS

L301-L306 CHIP SOLID INDUCTOR QTL1013

CAPACITORS

C347
C307-C310, C312, C314, C338
C1360, C302, C379
C339, C340
C304-C306

CCSRCH470J50
CEAT470M25
CKSRYB103K50
CKSRYB104K25
CKSRYB221K50

C333
C311, C313

CKSRYB331K50
CKSRYB473K25

RESISTORS

⚠ R313, R316
Other Resistors

RS3LMF390J
RS1/16S###J

OTHERS

CN305 5P CONNECTOR
CN303 13P CONNECTOR
JA305 PIN JACK(4P)YELLOW
JA352 CONNECTOR
CN302 7P SOCKET

52044-0545
52044-1345
AKB7100
CKS4124
KP200TA7L

CN301 9P SOCKET
390 PCB BINDER
CN306 2P PIN JACK
JA351 MINI JACK(4P) /W SW

KP200TA9L
VEF1040
XKB3041
XKN3015

**J 5.1CH ASSY
CAPACITORS**

C342-C345
C321, C324, C331, C332
C1364
C316
C317, C318, C325, C326

CCSRCH101J50
CEAT4R7M50
CKSRYB102K50
CKSRYB103K50
CKSRYB221K50

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

All Resistors

RS1/16S###J

OTHERS

CN307 8P CONNECTOR
CN309 PIN JACK(4P)

52044-0845
XKB3035

K B TO B ASSY**OTHERS**

CN390, CN391 9P PLUG

KM200TA9

**L S. VIDEO ASSY
SEMICONDUCTORS**

IC351, IC352
D351-D358

NJM2595M
1SS355

CAPACITORS

C375, C376, C381-C386
C352, C355, C358, C361-C363
C366
C372, C373
C351, C353, C354, C356, C357

CCSRCH470J50
CEAT470M25
CEAT470M25
CKSRYB103K50
CKSRYB104K25

C359, C367
C364, C365, C368-C371

CKSRYB104K25
CKSRYB221K50

RESISTORS

R373, R374
R383, R384
Other Resistors

RS1/16S750J
RS1/16S0R0J
RS1/16S###J

OTHERS

CN354 CONNECTOR POST
CN351 9P SOCKET
CN352, CN353 SOCKET
CN355 SOCKET

B5B-PH-K
KP200TA9L
XKB3051
AKP7179

**M FRONT DISPLAY ASSY
SEMICONDUCTORS**

IC402
IC401
Q484
Q441, Q442
D403-D405

GP1UM27XK0VF
PE5487A
2SA1037K
DTC124EK
1SS355

D401
D500

DAN202K
SLI-343DCW(STU)

COILS AND FILTERS

L401

LFEA2R2J

CAPACITORS

C482, C483
C481
C442
C403
C412

CCSRCH221J50
CCSRCH471J50
CEAL470M10
CEAT221M6R3
CEAT470M50

C415, C454
C401, C402, C410, C411, C419
C441
C418, C421
C420 (220μF/35V)

CKSRYB102K50
CKSRYB103K50
CKSRYB103K50
CKSRYB104K16
XCH3011

Mark No.	Description	Part No.
RESISTORS		
	All Resistors	RS1/16S###J
OTHERS		
471	CABLE HOLDER (3P)	51063-0305
404	CABLE HOLDER (7P)	51063-0705
CN401	17P CONNECTOR	52044-1745
CN402	9P CONNECTOR	52492-0920
V401	FL TUBE	XAV3025
X401	CERAMIC RESONATOR (5 MHz)	VSS1142

R R.ENCODER ASSY SEMICONDUCTORS

D512		SLR-343BBT(FGHJ)
SWITCHES AND RELAYS		
S511		VSG1024
S513	ROTARY ENCODER	XSX3005
S512	ROTARY ENCODER	XSX3006

RESISTORS		
	All Resistors	RS1/16S###J

OTHERS		
511	CABLE HOLDER (7P)	51063-0705

O POWER SW & KEY ASSY SEMICONDUCTORS

D501		SLR-343BBT(FGHJ)
SWITCHES AND RELAYS		
S501-S505	SWITCH	VSG1024
RESISTORS		
	All Resistors	RS1/16S###J

OTHERS		
501	CABLE HOLDER (3P)	51063-0305

P FRONTER KEY ASSY SEMICONDUCTORS

D451-D458		SLI-343DCW(STU)
SWITCHES AND RELAYS		
S451-S470	SWITCH	VSG1024

CAPACITORS		
	C451-C453	CKSRYB102K50

RESISTORS		
	All Resistors	RS1/16S###J

Q TRANS4 ASSY SEMICONDUCTORS

⚠ IC891, IC892	PROTECTOR(800mA)	AEK7008
⚠ D891		S1WB(A)60SD

Mark No.	Description	Part No.
CAPACITORS		
	C891, C892	CEAT471M35
OTHERS		
	CN891 3P CONNECTOR	52045-0345

R H.P. ASSY SEMICONDUCTORS

	Q1551, Q1552	2SC5938A
CAPACITORS		
	C1554, C1557	CCSRCH471J50
	C1553, C1556	CKSRYB103K50
	C1555, C1558	CKSRYB104K16
	C1551, C1552	CKSRYB223K50

RESISTORS		
⚠ R1553, R1554		RS1LMF151J
⚠ R1551, R1552		RS2LMF331J
	Other Resistors	RS1/16S###J

OTHERS		
1551	6P CABLE HOLDER	51048-0600
JA1551	HEADPHONE JACK	RKB1014
KN1551	EARTH METAL FITTING	VNF1084

S PRE-OUT ASSY CAPACITORS

	C1581	CKSRYB103K50
RESISTORS		
	All Resistors	RS1/16S###J

OTHERS		
CN1575	8P CONNECTOR	52045-0845
CN1576	PIN JACK 1-P	AKB7042
1575	PIN JACK(6P)	XKB3033

T DIGITAL INPUT ASSY COILS AND FILTERS

	F1901 CHIP BEAD	DTF1067
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CAPACITORS		
	C1907, C1909	CCSRCH101J50
	C1904	CEAL101M10
	C1908	CKSRYB102K50
	C1903, C1906	CKSRYB103K50
	C1900, C1901, C1905	CKSRYB104K25

RESISTORS		
	All Resistors	RS1/16S###J

OTHERS		
CN1902	CONNECTOR POST	B5B-PH-K
JA1900, JA1901	OPT. LINK IN	GP1FAV51RKB
100	PCB BINDER	VEF1040
CN1901	10P CONNECTOR	VKN1186
KN1901	WRAPPING TERMINAL	VNF1084

U COMPONENT ASSY SEMICONDUCTORS

Mark No. Description

IC551
D551, D552
D553

Part No.

NJM2586AM
1SS355
DAN202K

CAPACITORS

C551, C552
C567, C568
C553, C554

CEAT101M10
CKSRYB103K50
CKSRYB473K50

RESISTORS

All Resistors

RS1/16S###J

OTHERS

CN551 5P CONNECTOR
JA551, JA552 6P RCA PINJACK

52045-0545
XKB3025

V FRONT INPUT ASSY

SEMICONDUCTORS

IC951
D951-D953

UPC4570G2
UDZS5R1(B)

COILS AND FILTERS

F951 CHIP BEAD

DTF1067

CAPACITORS

C901, C902, C915, C916, C960
C965
C952, C959
C903, C905
C956, C958, C963, C966, C967

CCSRCH101J50
CCSRCH330J50
CCSRCH471J50
CEAL470M25
CEAT100M50

C908, C911, C914, C953, C957
C962
C904, C906, C909, C912
C950, C951, C954
C907, C910, C913

CKSRYB103K50
CKSRYB103K50
CKSRYB104K25
CKSRYB104K25
CKSRYB471K50

RESISTORS

All Resistors

RS1/16S###J

OTHERS

CN952 CONNECTOR 5P
CN951 CONNECTOR POST
CN901 CONNECTOR
JA951 OPTICAL IN MOD.
JA952 JACK
KN951 WRAPPING TERMINAL
JA902 PIN JACK(4P)

52045-0545
B5B-PH-K
B8B-PH-K
GP1FM513RZ
RKN1004
VNF1084
XKX3003

W VIDEO CONVERTER ASSY

SEMICONDUCTORS

IC1104
IC1102, IC1103
IC1101
Q1101
D1101, D1102

LA7213
NJM2243M
TK15420M
UN5212
1SS355

COILS AND FILTERS

L1101 3 COMBINATION FILTER
L1102 2 COMBINATION FILTER

XTF3005
XTF3006

CAPACITORS

C1117, C1118
C1103, C1104, C1107, C1119, C1121
C1126

CCSRCH181J50
CEAT101M16
CEAT101M16

Mark No. Description

C1111, C1112
C1115

Part No.

CEAT101M25
CEAT102M10

C1120
C1108, C1113, C1114, C1116, C1125
C1127
C1101, C1102, C1109, C1110

CEAT3R3M50
CKSRYB104K25
CKSRYB104K25
CKSRYB473K25

RESISTORS

All Resistors

RS1/16S###J

OTHERS

CN1101 5P CONNECTOR
CN1102 SOCKET
KN1101 SCREW PLATE

52045-0745
AKP7045
VNE1948

X FM/AM TUNER UNIT

FM/AM TUNER UNIT has no service part.

6. ADJUSTMENT

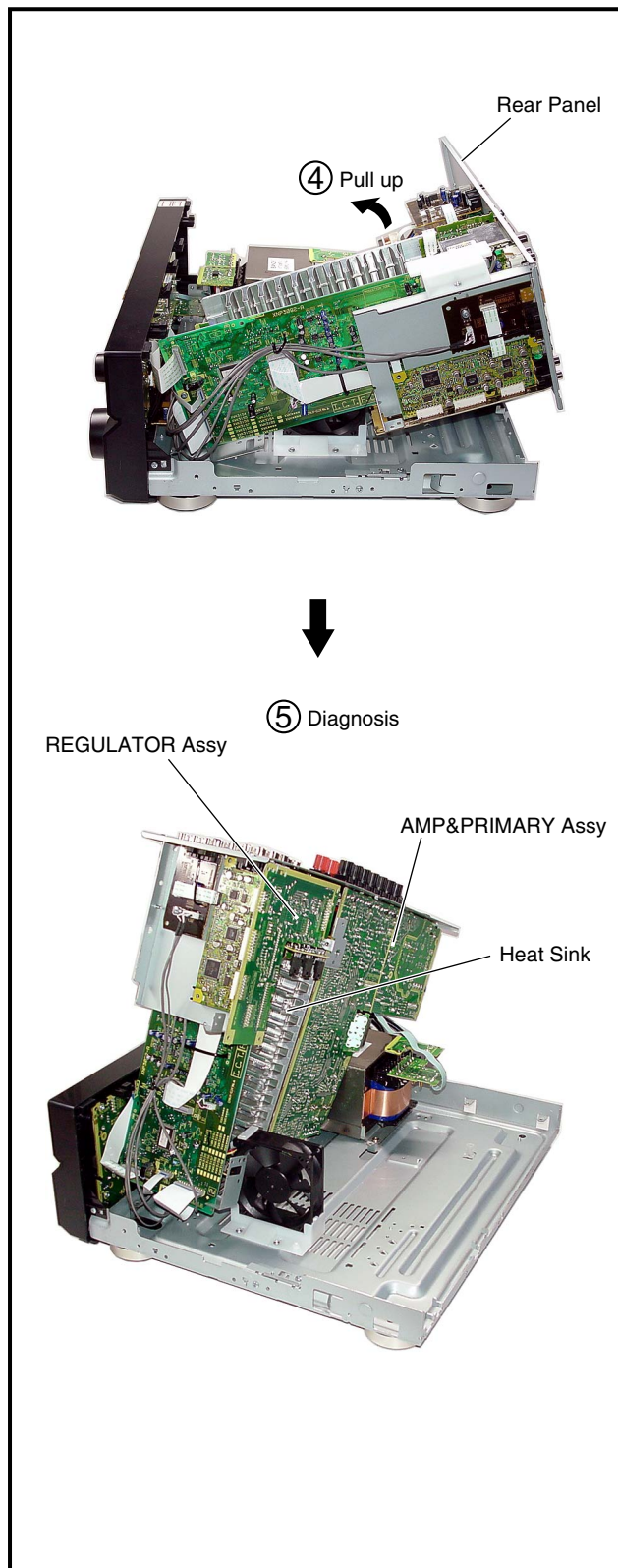
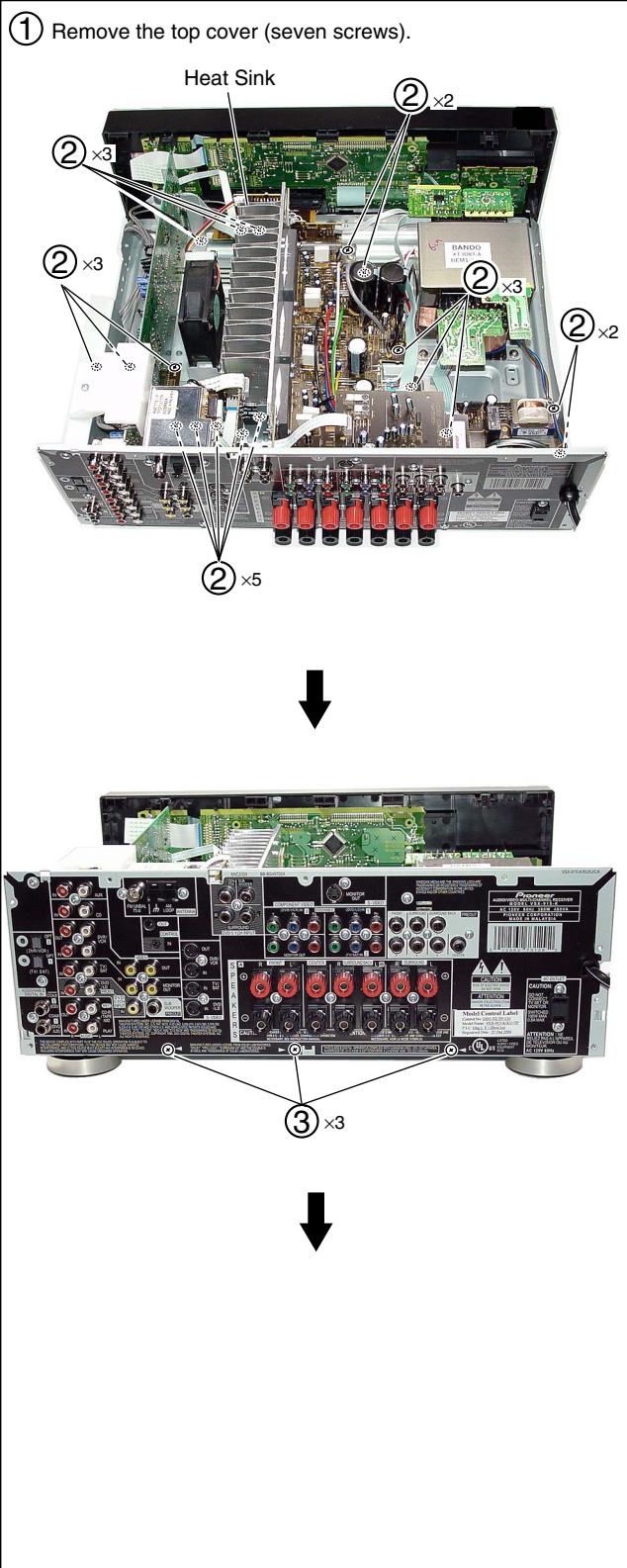
There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

Note: 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 : The unit does not operate when the screws of Speaker Terminal are taken off from Rear Panel.

Heat-sink caution in the disassembling : Because Heat-sink becomes hot, please pay attention.

A

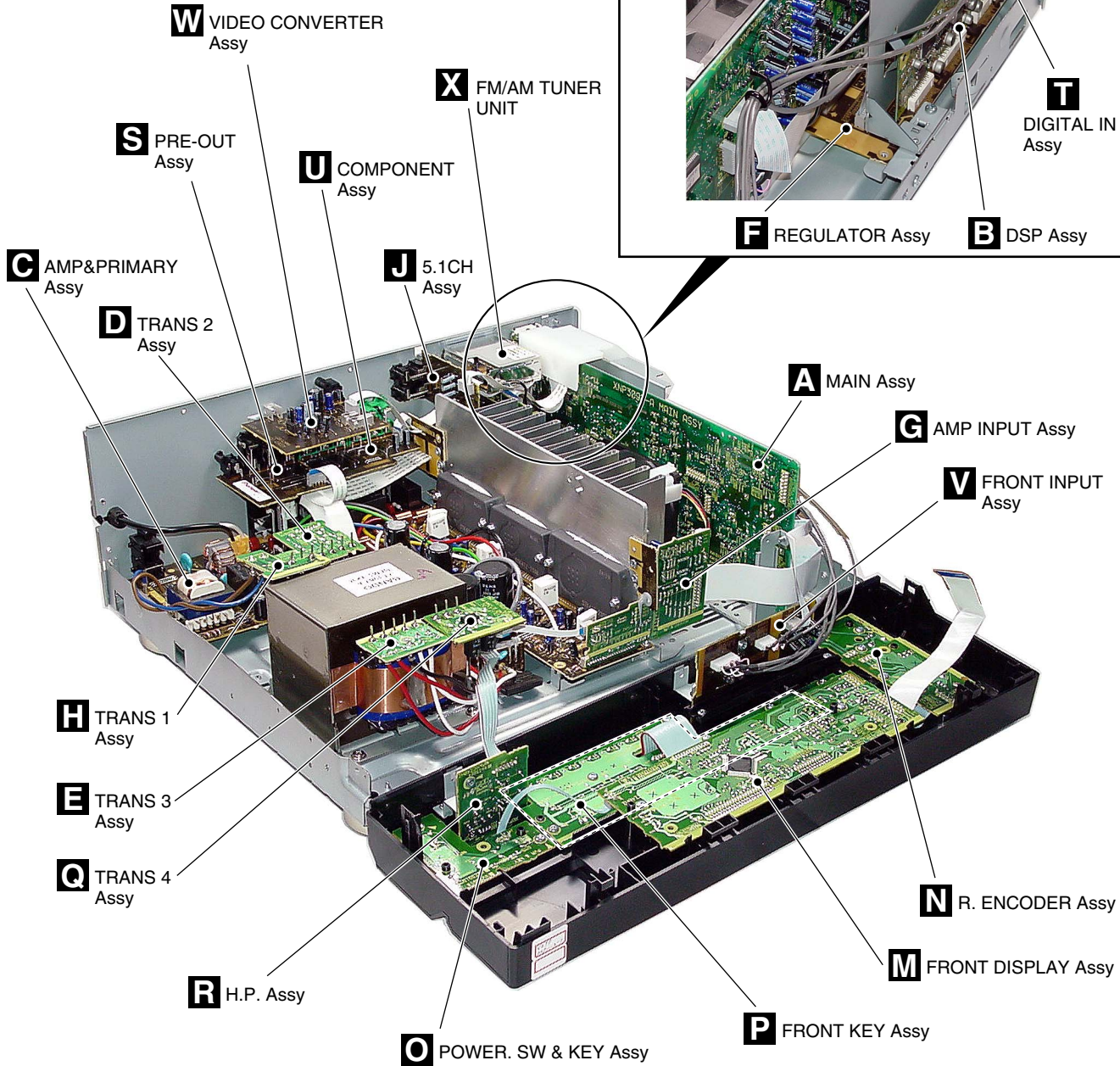
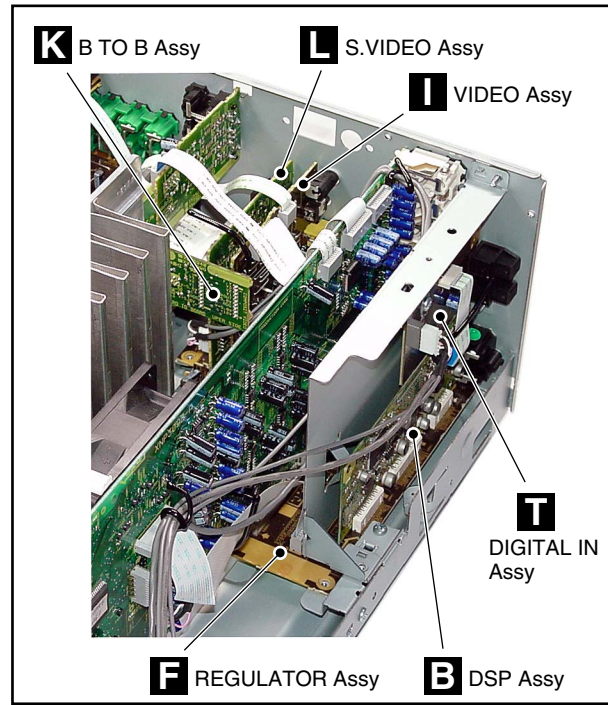
B

C

D

E

F



NOTE : This photograph is VSX-915-K.

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.

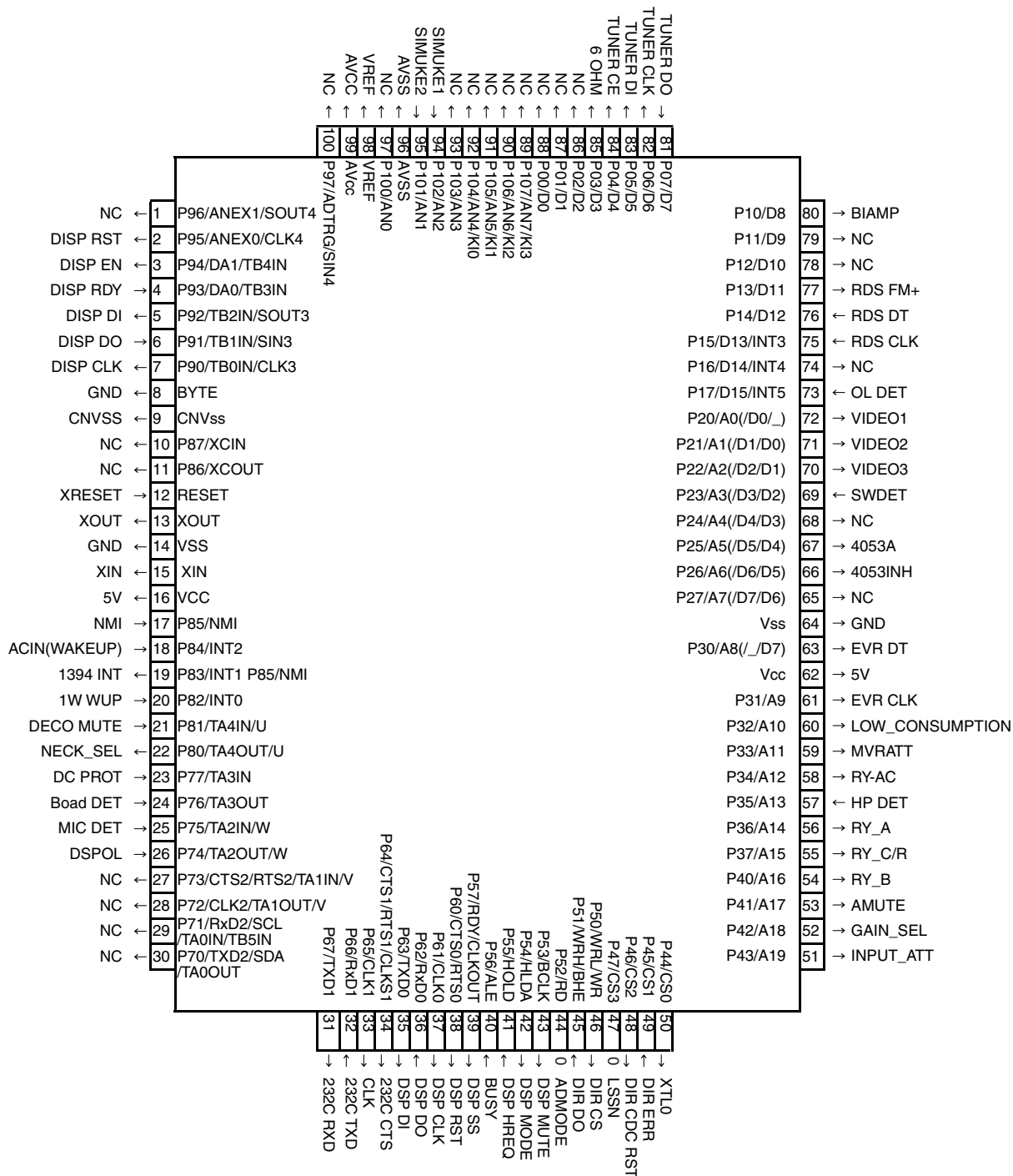
• List of IC

PEG094B, PE5487A

■ PEG094B (MAIN ASSY : IC9001)

• System Control MCU

■ Pin Arrangement (Top View)



• Pin Function

A

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-D914 only), L : detect
26	P74/TA2OUT/W	DSP OL	I/O	ANALOG OVER LOAD detect, H : detected
27	P73/CTS2/RTS2/TA1IN/V	NC(1394 CS)	I/O	No use (Standby for 1394)
28	P72/CLK2/TA1OUT/V	NC(1394 CK)	I/O	No use (Standby for 1394)
29	P71/RxD2/SCL/TA0IN/TB5IN	NC(1394 DO)	I/O	No use (Standby for 1394)
30	P70/TXD2/SDA/TA0OUT	NC(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	ADMODE	0	DSP ASSY
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	LSSN	0	DSP ASSY
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

F

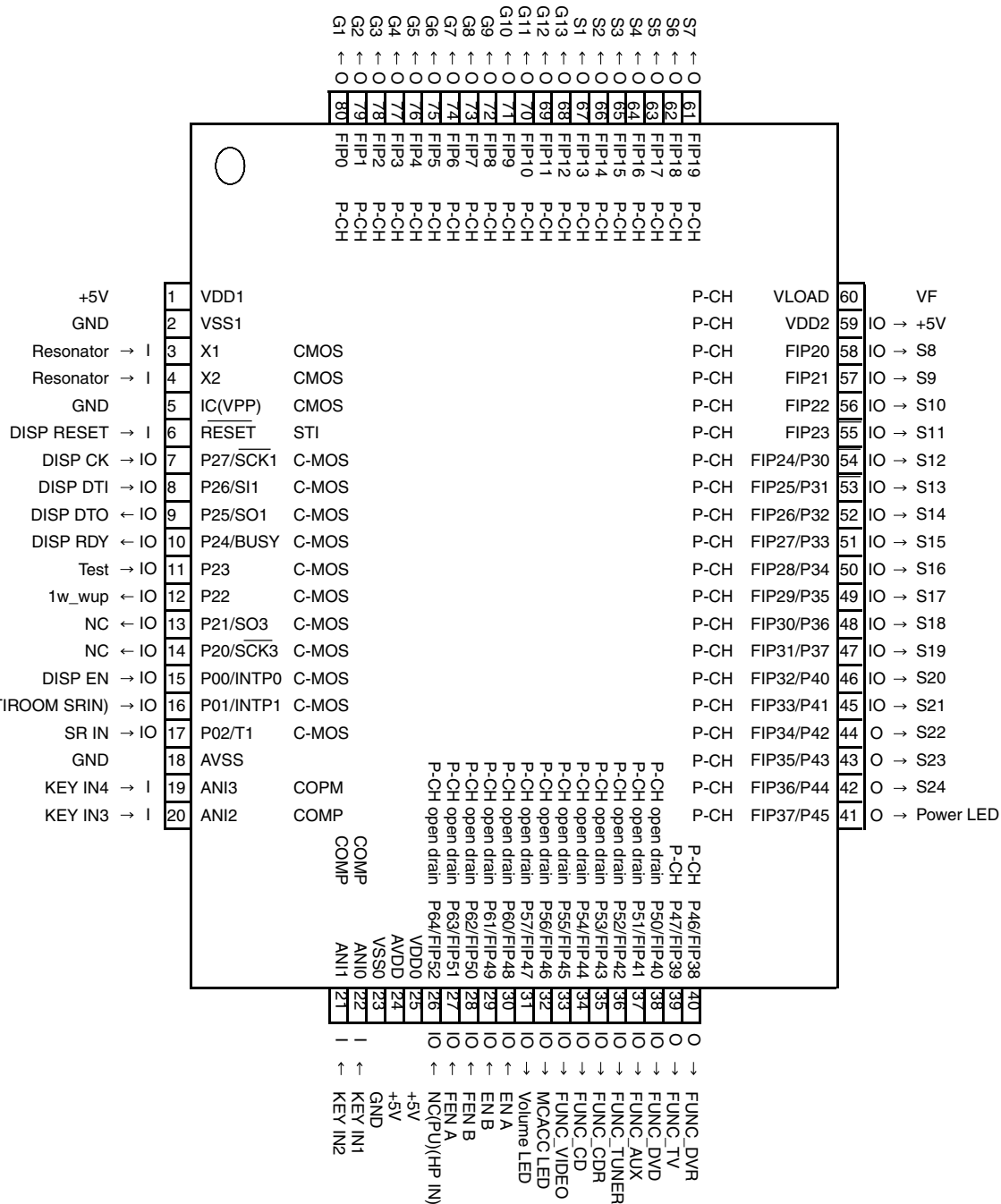
• Pin Function

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)	NC	I/O	
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	NC	I/O	
79	P11/D9	NC	I/O	
80	P10/D8	BIAMP	I/O	At the time of BiAMP: L and time of Normal:H
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	6 OHM	I/O	If stop mode, port L, else L/H depends on selection.
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	

■ PE5487A (FRONT DISPLAY ASSY : IC401)

• System Control MCU

■ Pin Arrangement (Top View)



• 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	-	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	Test	I/O	test mode input for checker
12	P22	1w_wup	I/O	output wakeup signal to main u-com
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	VOLUME LED	I/O	VOLUME LED Output
32	P56/FIP46	MCACC LED	I/O	MCACC LED Output
33	P55/FIP45	FUNC_VIDEO	I/O	FUNCLED Output
34	P54/FIP44	FUNC_CD	I/O	FUNCLED Output
35	P53/FIP43	FUNC_CDR	I/O	FUNCLED Output
36	P52/FIP42	FUNC_TUNER	I/O	FUNCLED Output
37	P51/FIP41	FUNC_AUX	I/O	FUNCLED Output
38	P50/FIP40	FUNC_DVD	I/O	FUNCLED Output
39	P47/FIP39	FUNC_TV	O	FUNCLED Output
40	P46/FIP38	FUNC_DVR	O	FUNCLED Output

• Pin Function

A

B

C

D

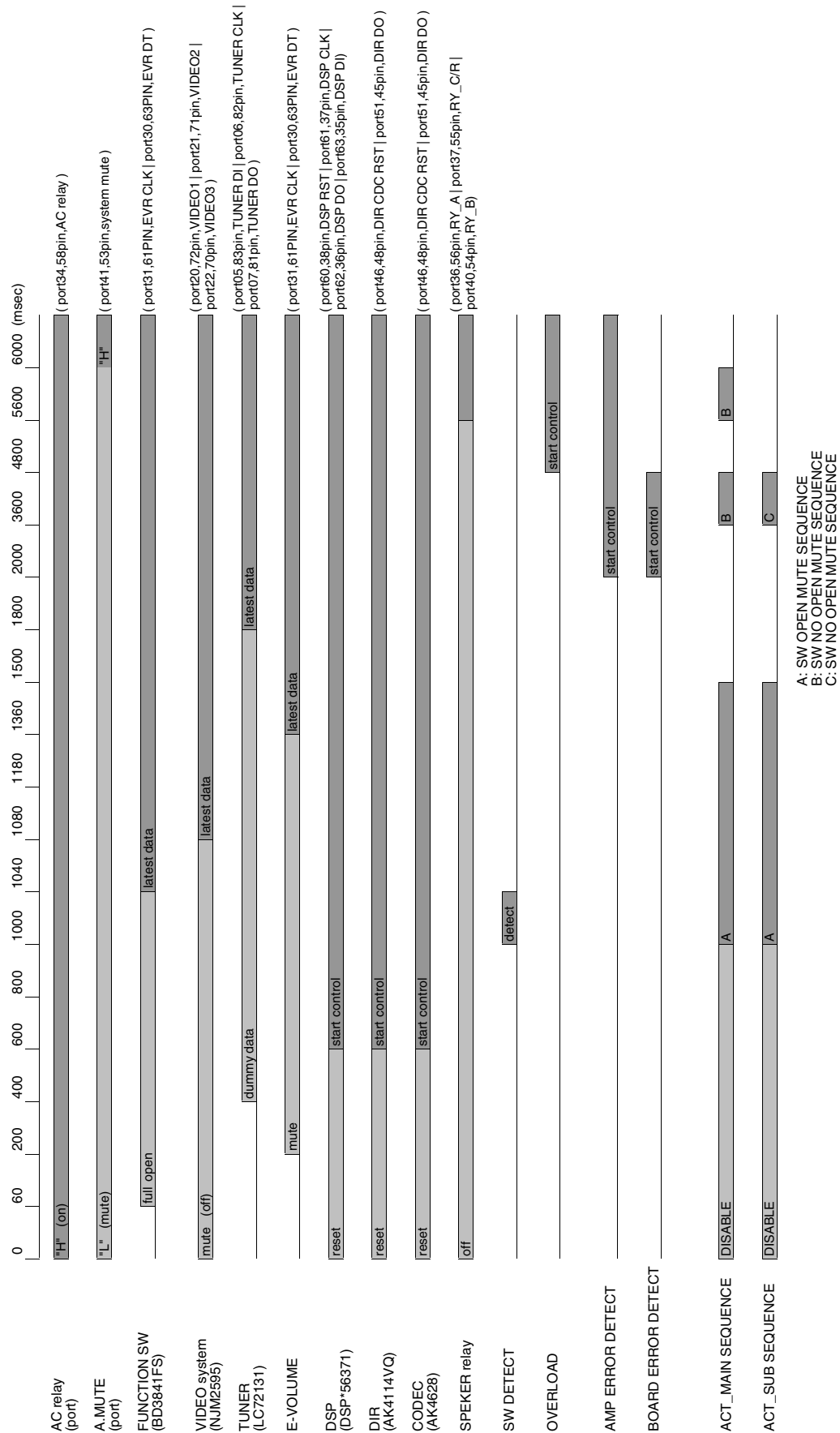
E

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	POWER LED	O	Power On LED Output
42	FIP36/P44	S24	O	Display
42	FIP35/P43	S23	O	Display
44	FIP34/P42	S22	O	Display
45	FIP33/P41	S21	O	Display
46	FIP32/P40	S20	O	Display
47	FIP31/P37	S19	O	Display
48	FIP30/P36	S18	O	Display
49	FIP29/P35	S17	O	Display
50	FIP28/P34	S16	O	Display
51	FIP27/P33	S15	O	Display
52	FIP26/P32	S14	O	Display
53	FIP25/P31	S13	O	Display
54	FIP24/P30	S12	O	Display
55	FIP23	S11	O	Display
56	FIP22	S10	O	Display
57	FIP21	S9	O	Display
58	FIP20	S8	O	Display
59	VDD2	+5V	-	positive power supply to FIP controller.
60	VLOAD	VF	-	pull down resistor connection of FIP controller
61	FIP19	S7	O	Display
62	FIP18	S6	O	Display
63	FIP17	S5	O	Display
64	FIP16	S4	O	Display
65	FIP15	S3	O	Display
66	FIP14	S2	O	Display
67	FIP13	S1	O	Display
68	FIP12	G13	O	Display
69	FIP11	G12	O	Display
70	FIP10	G11	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

7.3 EXPLANATION

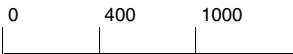
7.3.1 POWER ON AND OFF INITIAL TIMING CHART

POWER ON INITIAL TIMING CHART



POWER OFF INITIAL TIMING CHART

A



AC relay (port) ["H" | "L"] (port34,58pin,AC relay)

A.MUTE (port) ["L"] (port41,53pin,system mute)

FUNCTION SW (BD3841FS) [full open] (port31,61PIN,EVR CLK | port30,63PIN,EVR DT)

B

VIDEO system (NJM2595) [mute] (port20,72pin,VIDEO1 | port21,71pin,VIDEO2 | port22,70pin,VIDEO3)

(LC72131) [mute] (port05,83pin,TUNER DI | port06,82pin,TUNER CLK | port07,81pin,TUNER DO)

E-VOLUME (BD3813FS) [mute] (port31,61PIN,EVR CLK | port30,63PIN,EVR DT)

DSP (DSP*58387) [] (port60,38pin,DSP RST | port61,37pin,DSP CLK | port62,36pin,DSP DO | port63,35pin,DSP DI)

C

DIR (AK4114VQ) [] (port46,48pin,DIR CDC RST | port51,45pin,DIR DO)

CODEC (AK4628) [] (port46,48pin,DIR CDC RST | port51,45pin,DIR DO)

SPEKER relay (port) [off] (port36,56pin,RY_A | port37,55pin,RY_C/R | port40,54pin,RY_B)

SW DETECT []

OVERLOAD []

D

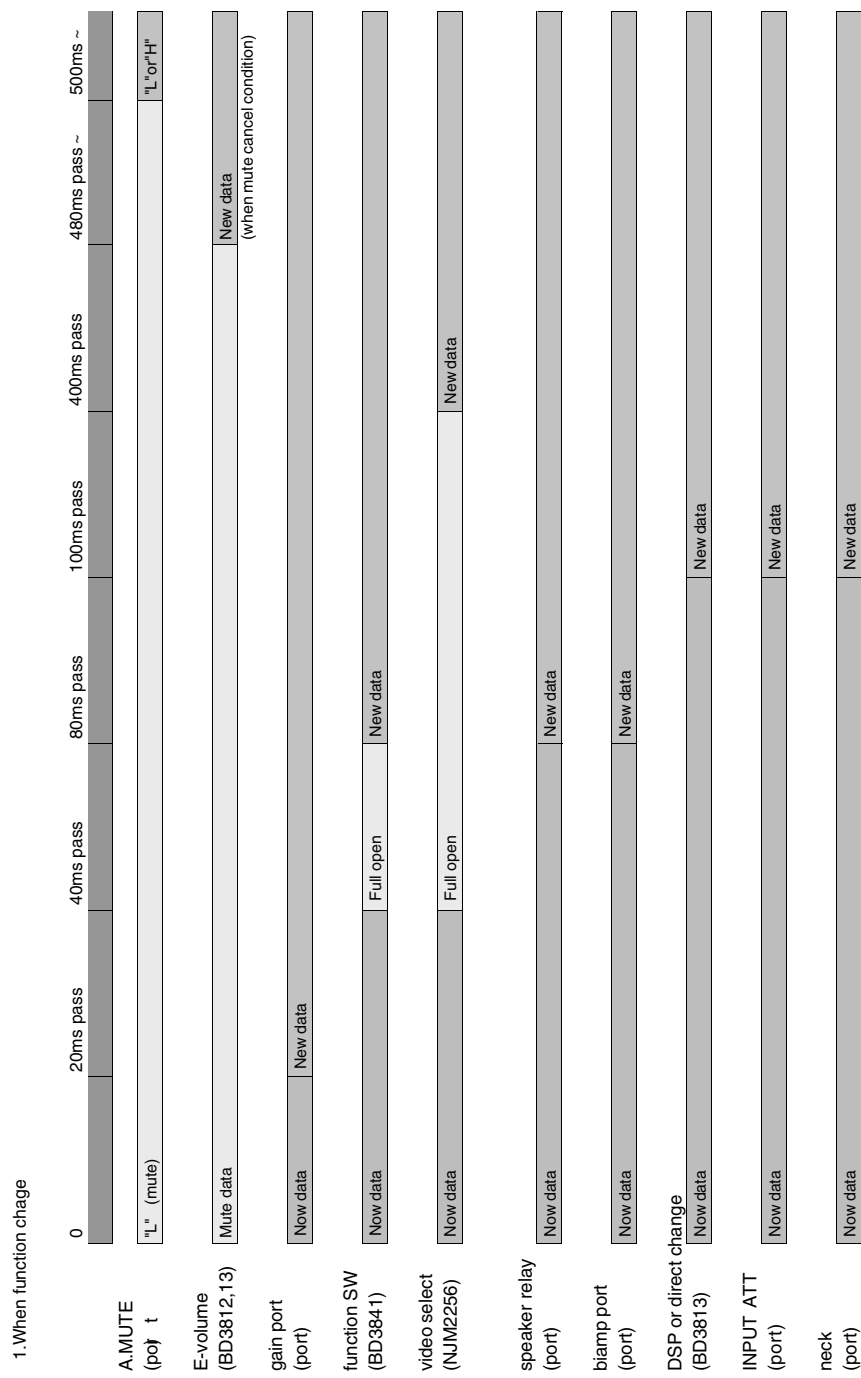
AMP ERROR DETECT []

BOARD ERROR DETECT []

E

F

IC data transmission timing chart



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

A

B

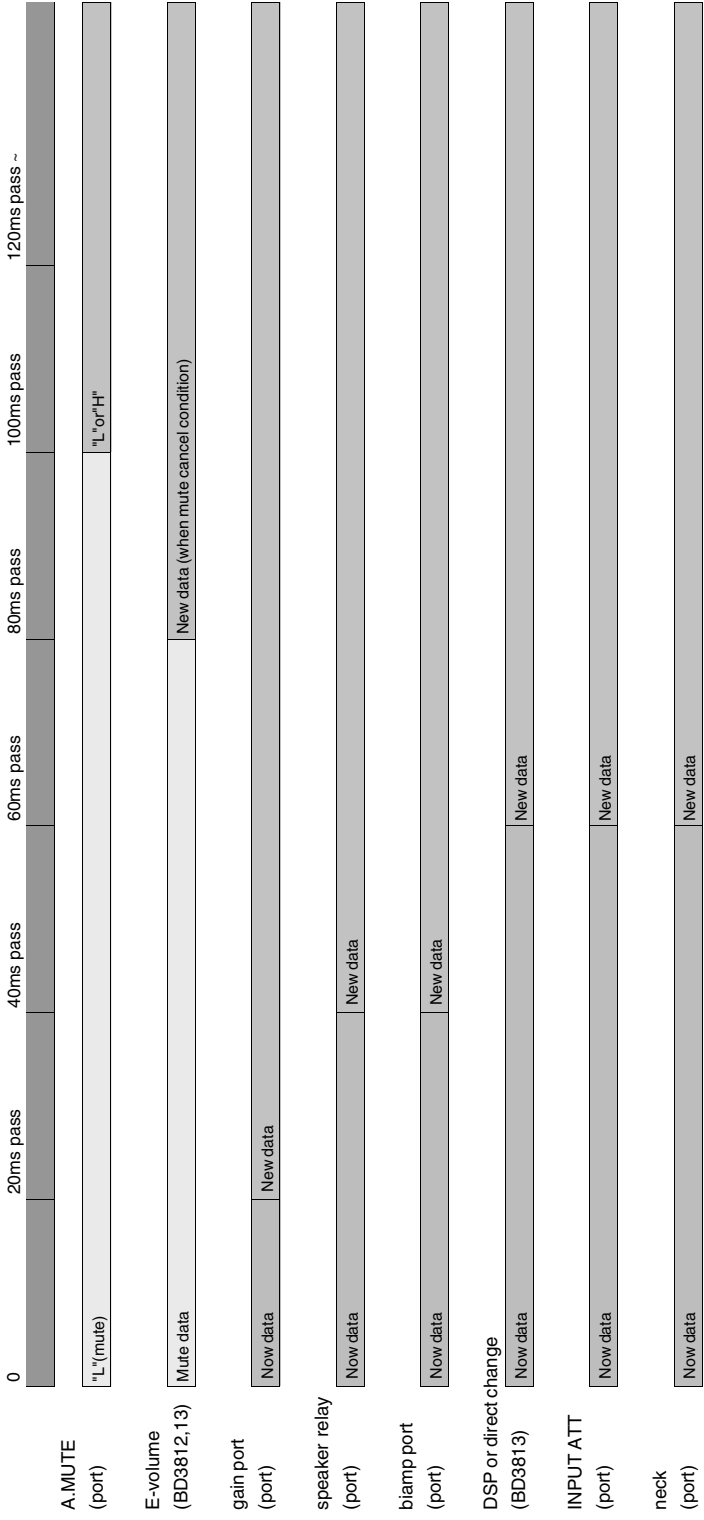
C

D

E

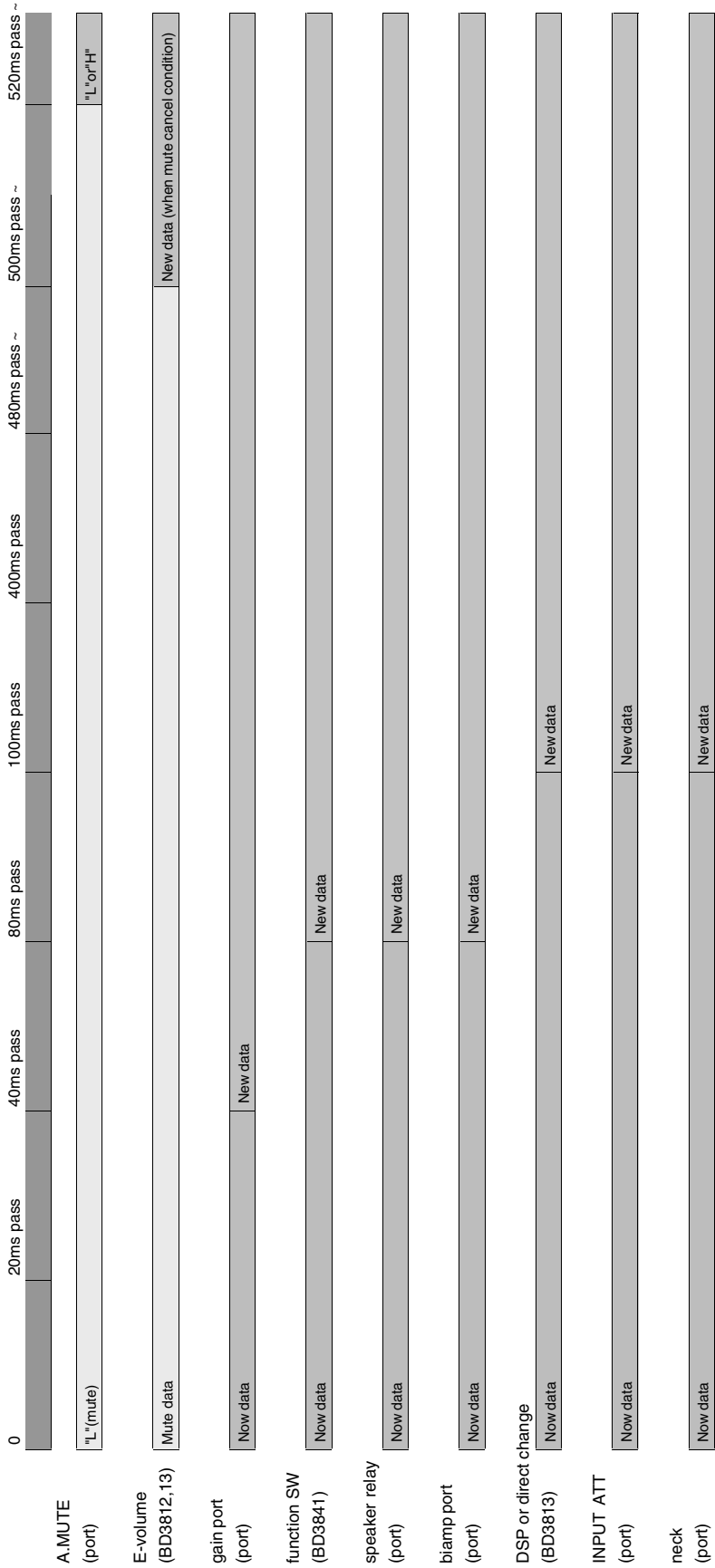
F

2. When except function chage



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

3. When except function change(case 2)



- (1) When standard mode change.
- (2) When listening mode change.
- (3) When surround back ch change.
- (4) When "dolby_set_with_mete" function call.

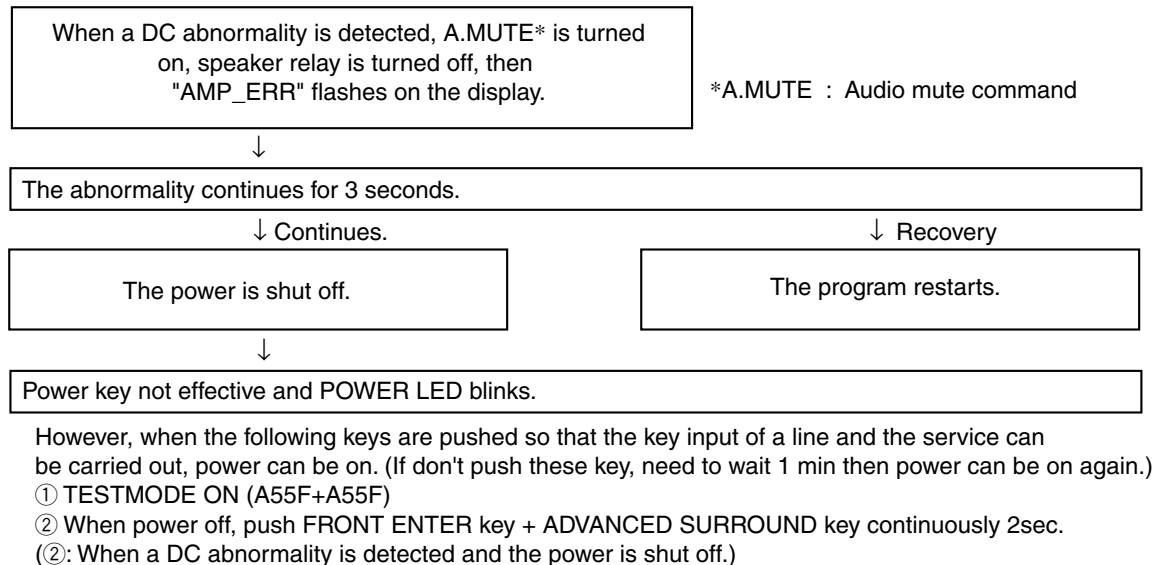
1. DC-abnormality detection

DC detection is only enabled 2 seconds after power-on.

If there is a fault in the power amplifier or a high-level signal lower than 5 Hz is input, the DC_DET port becomes "L".

If the "L" is detected, the microprocessor will perform as following flow chart.

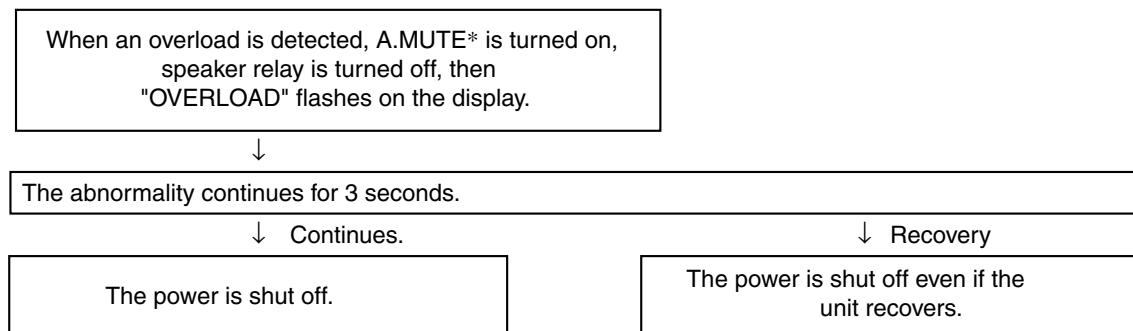
In the case of simultaneous detection with the overload protection circuit, DC-abnormality detection is performed preferentially to overload detection.



2. Overload detection

If the speaker terminals are short-circuited or low-load driving is detected, the OL_DET port becomes "L".

If the "L" is detected, the microprocessor will perform as following flow chart.

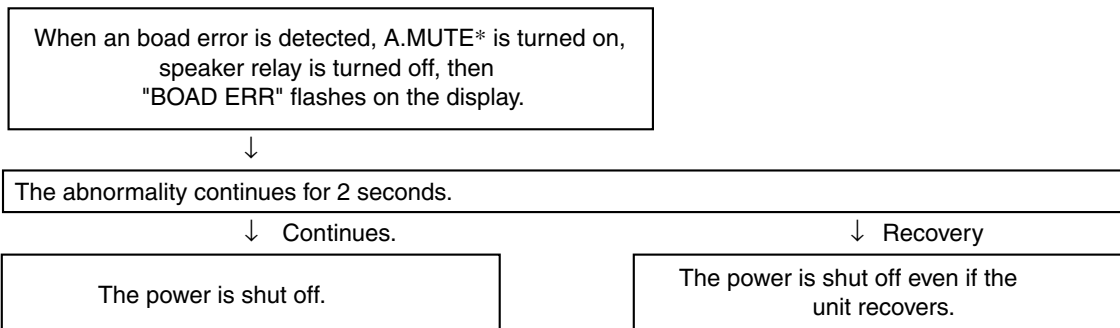


3. Board detection

If the board connection from Main Ass'y to Amp&Primary Ass'y is interrupted, the BOARD_DET port becomes "H".

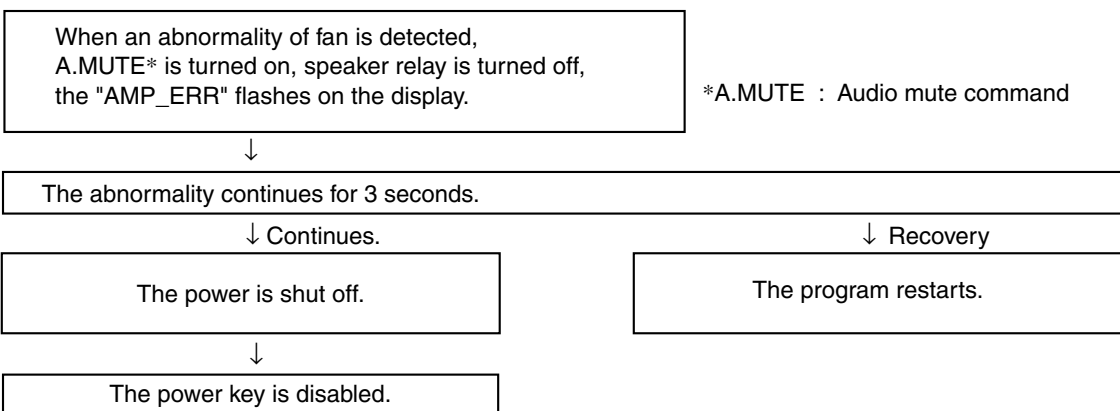
If the "H" is detected, the microprocessor will perform as following flow chart.

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



4. Fan stop detection operation flow in the DC abnormality detection

If the fan is forcibly stopped, the 'DC PROT' port becomes "L". Then an abnormality of fan is detected.



However, when the following keys are pushed so that the key input of a line and the service can be carried out, power can be on.

- ① TESTMODE ON (A55F+A55F)
- ② When power off, push FRONT ENTER key + ADVANCED SURROUND key continuously 2sec.
(Effective, only when power-off is carried out by DC detection)

7.3.5 AMPLIFIER FAILURE DIAGNOSIS FLOW CHART

■ Amplifier failure diagnosis flow chart

When DC detection is activated ("AMP_ERR" flashes on the display), failure (damage) of the power amplifier section is considered.

As DC detection and fan stop protection circuits commonly use same abnormality detection port in microprocessor, please make sure that the operation of fan motor is in normal condition before proceeding to the troubleshooting of amplifier.

Caution:

When release the lock state of power key before repair, please be careful because there is the possibility that more damages will occur when turns on the power once again!

- According to a symptom, perform the following confirmation beforehand.

- 1) Is the operation of fan motor in normal condition?
- 2) Are there any Fuses and IC protectors open?
- 3) After turn on the power, confirm that the supply voltage of the point that can be measured is appropriate.
- 4) Whether the voltage of pin3 of IC601 or IC602 is equal to (VL-0.7V). If not (eg, equal to VH), then change the corresponding power pack IC601 or IC602.
- 5) Furthermore, check the output DC voltage of each channel of power pack IC601 and IC602 to limit the failure channel and identify the defect power pack.

- After identify the failure channel, check that each part is not damaged (resistor, diode... etc. value / open / short)

7.4 CLEANING

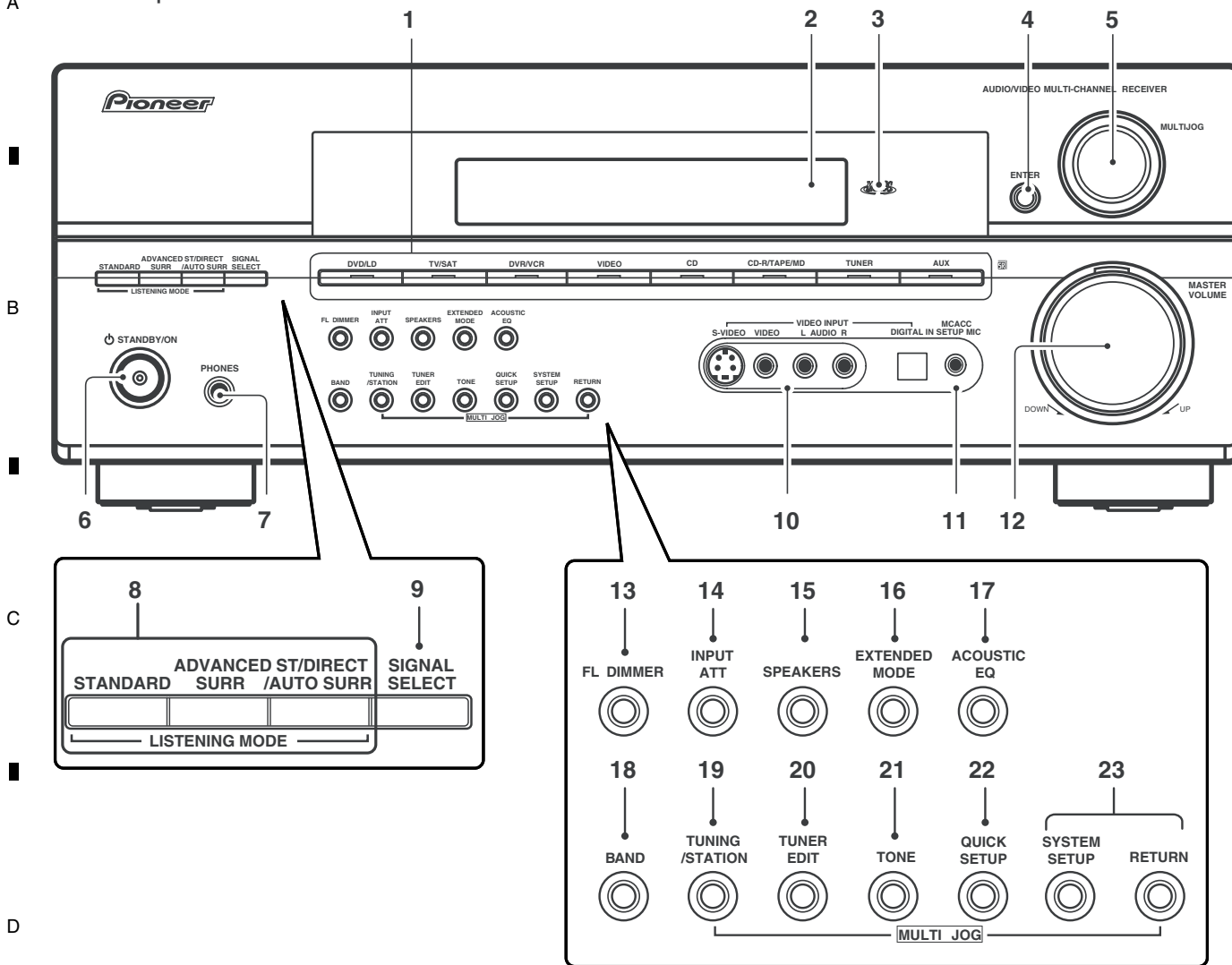


Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

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

8. PANEL FACILITIES

A Front panel



C

D

E

F

1 Input select buttons

Press to select an input source.

2 Character display

See Display.

3 MCACC indicator

Lights when Acoustic Calibration EQ is on (Acoustic Calibration EQ is automatically set to **ALL CH ADJUST** after the Auto MCACC Setup or EQ Auto Setup is complete).

4 ENTER

5 MULTI JOG dial

Use the **MULTI JOG** dial to select various settings and menu options.

6 STANDBY/ON

Switches the receiver between on and standby.

7 PHONES jack

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

8 LISTENING MODE buttons

STANDARD

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

ADVANCED SURROUND

Use to switch between the various surround modes.

STEREO/DIRECT (AUTO SURR)

Switches between direct and stereo playback. Direct playback bypasses the tone controls and any other signal processing for the most accurate reproduction of a source. Also selects the Auto Surround mode (Auto playback).

9 SIGNAL SELECT

Use to select an input signal.

10 VIDEO INPUT

See Connecting to the front panel video terminal.

11 MCACC SETUP MIC jack

Use to connect the supplied microphone.

12 MASTER VOLUME dial

13 FL DIMMER

Dims or brightens the display.

14 INPUT ATT

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

15 SPEAKERS

Use to change the speaker system and to change the impedance setting.

16 EXTENDED MODE

Selects the surround back channel mode or virtual surround back mode.

17 ACOUSTIC EQ

Press to select an Acoustic Calibration EQ setting.

18 BAND

Switches between the tuner AM and FM bands.

19 TUNING / STATION buttons

Selects the frequency and station presets when using the tuner.

20 TUNER EDIT

Press to memorize and name a station for recall.

21 TONE

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

22 QUICK SETUP

See Using the Quick Setup.

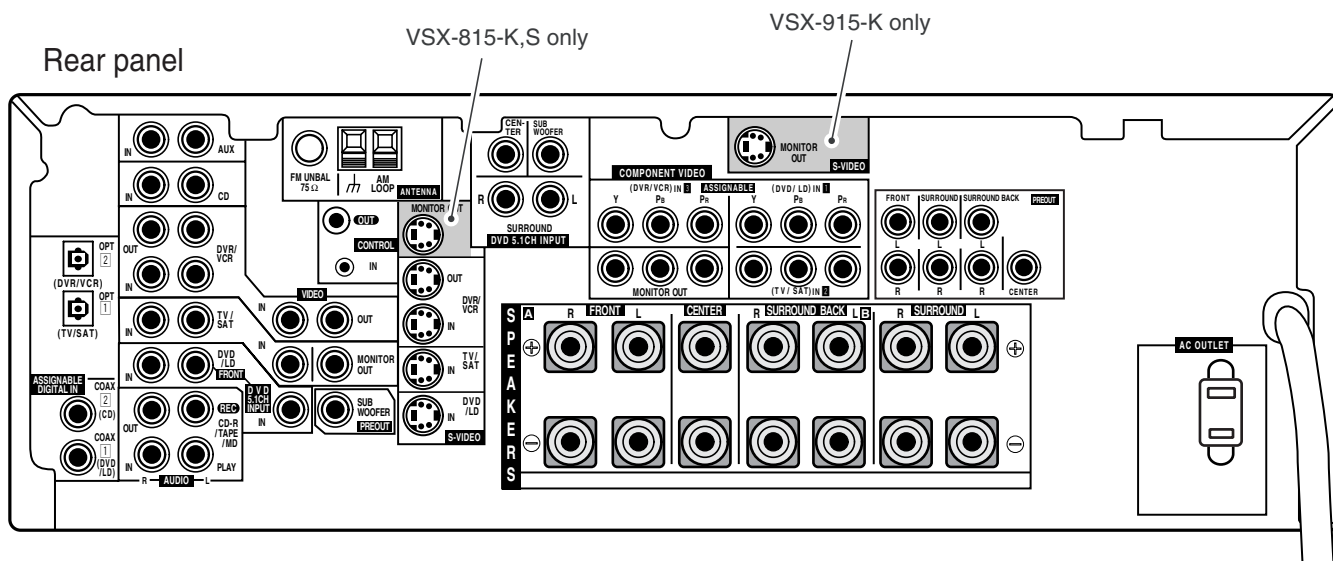
23 System Setup menu controls

SYSTEM SETUP

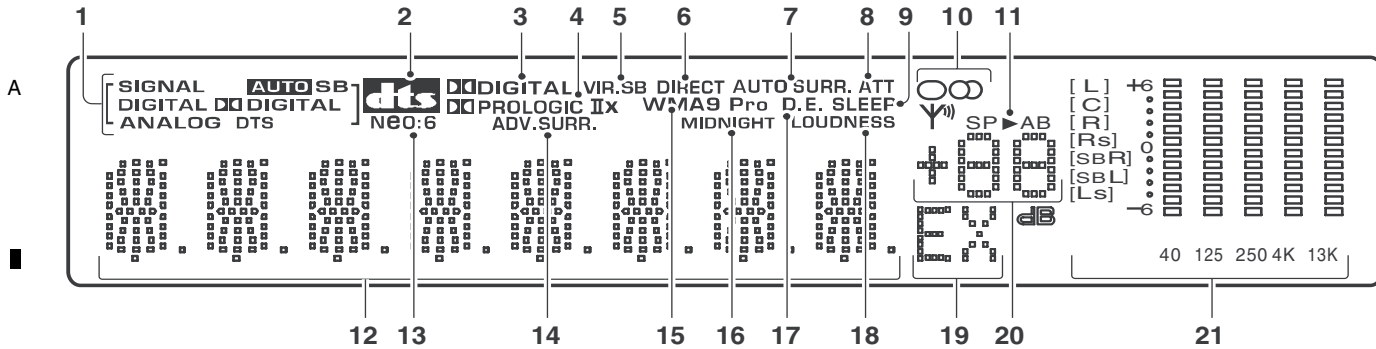
Use with the **MULTI JOG** dial to access the System Setup menu.

RETURN

Press to confirm and exit the current menu.



Display



1 SIGNAL SELECT indicators

Lights to indicate the type of input signal:

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 ■

When the **(STANDARD)** Neo:6 mode of the receiver is on, this lights to indicate decoding of a DTS multichannel signal.

3 ■ DIGITAL

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

4 ■ PRO LOGIC IIx

When the **(STANDARD)** Pro Logic II mode of the receiver is on, ■ **PRO LOGIC II** lights to indicate Pro Logic II decoding. ■ **PRO LOGIC IIx** lights to indicate Pro Logic IIx decoding (see *Listening in surround sound*).

5 VIR.SB

Lights during Virtual surround back processing.

6 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.

7 AUTO SURR.

Lights when the Auto Surround feature is switched on (see Auto playback).

8 ATT

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

9 SLEEP

Lights when the sleep mode is active.

10 Tuner indicators



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



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



Lights when a broadcast is being received.

11 Speaker indicators

Lights to indicate the current speaker system, **A** and/or **B**.

12 Character display

13 Neo:6

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

14 ADV.SURR. (Advanced Surround)

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

15 WMA9 Pro

Lights to indicate decoding of a WMA9 Pro signal.

16 MIDNIGHT

Lights during Midnight listening.

17 D.E.

Lights when Dialog Enhancement (**DIALOG E**) is switched on.

18 LOUDNESS

Lights during Loudness listening.

19 EX

Lights when a Dolby Digital Surround EX encoded signal is detected.

20 Master volume level

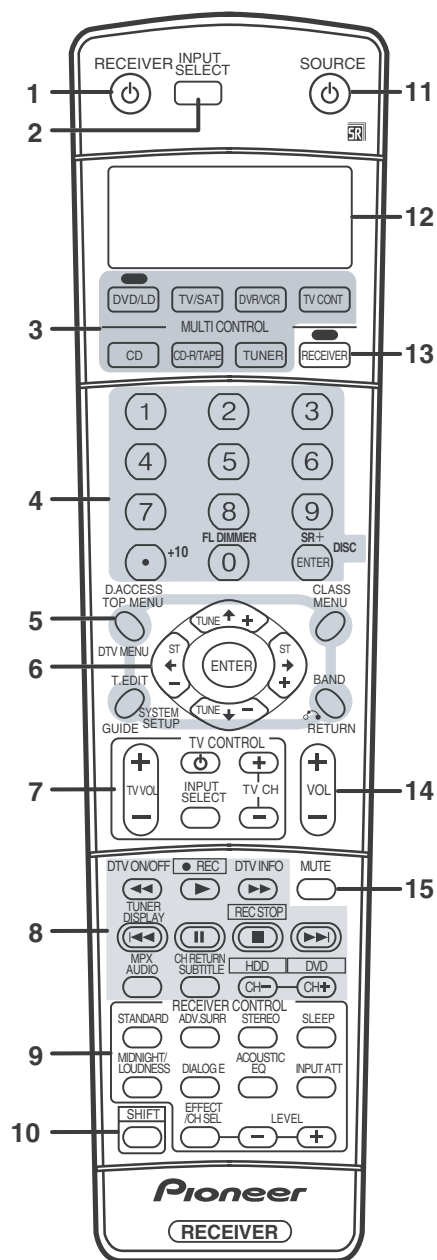
Shows the overall volume level. ---dB indicates the minimum level, and - 0 dB indicates the maximum level.

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

21 MCACC channel EQ indicators

These indicators show the EQ balance for each channel when checking your Acoustic Calibration EQ settings. See Checking your Acoustic Calibration EQ settings for more on this.

Remote control



1 RECEIVER

This switches between standby and on for this receiver.

2 INPUT SELECT

Use to select the input source.

3 MULTI CONTROL buttons

Press to select control of other components (see Controlling the rest of your system).

4 Number buttons and other receiver/ component controls

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

DISC (ENTER) can be used to enter commands for TV or DTV, and can also be used to select a disc in a multi-CD player.

The following are accessed by pressing the **RECEIVER** button first:

FL DIMMER

Dims or brightens the display.

SR+

Switches the SR+ mode on/off.

5 Tuner/component control buttons/ SYSTEM SETUP

The following button controls (except **SYSTEM SETUP**) can be accessed after you have selected the corresponding **MULTI CONTROL** button (**TUNER**, **DVD/LD**, **TV/SAT**, etc.)

D. ACCESS

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

TOP MENU

Displays the disc top menu of a DVD.

DTV MENU

Displays menus on a digital TV.

T. EDIT

Press to memorize and name a station for recall.

GUIDE

Displays the guides on a digital TV.

SYSTEM SETUP

(Press **RECEIVER** first to access)

Use to access the System Setup menu.

CLASS

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

MENU

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

BAND

Switches between the tuner AM and FM bands.

RETURN

Press to confirm and exit the current menu (also use to return to the previous menu with DVDs or to select closed captioning with DTV).

6 ◀▶↕ (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 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.

TV⏻

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

TV VOL +/-

Use to adjust the volume on your TV.

INPUT SELECT

Use to select the TV input signal.

TV CH +/-

Use to select channels.

8 Component control buttons

The main buttons (▶,■, etc.) are used to control a component after you have selected it using the **MULTI CONTROL** buttons.

The controls above these buttons can be accessed after you have selected the corresponding **MULTI CONTROL** button (for example **DVD/LD**, **DVR/VCR** or **TV/SAT** (when connected to a DTV)).

DTV ON/OFF

Switches a digital TV on/off.

DTV INFO

Use to bring up information screens on a digital TV.

TUNER DISPLAY

Switches between named station presets and radio frequencies.

MPX

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

AUDIO

Changes the audio language or channel on DVD discs.

CH RETURN

Returns to the last channel selected with DTV, SAT and some TVs.

SUBTITLE

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

CH +/-

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

The following DVR controls can be accessed by pressing **SHIFT**:

● REC

Starts recording.

REC STOP

Stops recording.

HDD/DVD

These buttons switch between the hard disk and DVD controls for DVD/HDD recorders.

9 RECEIVER CONTROL buttons

STANDARD

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

ADV. SURR

Use to switch between the various surround modes.

STEREO

Switches between direct and stereo playback. Direct playback bypasses the tone controls and any other signal processing for the most accurate reproduction of a source. Also selects the Auto Surround mode (Auto playback).

SLEEP

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

MIDNIGHT/LOUDNESS

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

DIALOG E

Use to make dialog stand out when watching TV or a movie.

ACOUSTIC EQ

Press to select an Acoustic Calibration EQ setting.

INPUT ATT

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

EFFECT/CH SEL

Press repeatedly to select a channel, then use **LEVEL +/-** to adjust the level. Also adjusts the level of the Advanced Surround effects as well as Dolby Pro Logic IIx Music and Neo:6 Music parameters. You can then use the **LEVEL +/-** buttons to make these adjustments.

LEVEL +/-

Use to adjust the effect and channel levels, as well as to change Dolby Pro Logic IIx and Neo:6 Music parameter settings.

10 SHIFT

Press to access the DVR controls (above the component control buttons) as well as some **RECEIVER** controls.

11 SOURCE

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

12 Character display (LCD)

This display shows information when transmitting control signals.

The following commands are shown when you're setting the remote to control other components (see Controlling the rest of your system):

SETUP

Indicates the setup mode, from which you choose the options below.

PRESET

See Selecting preset codes directly.

LEARN

See Programming signals from other remote controls.

DIRECT F

See Direct function.

ERASE

See Erasing one of the remote control button settings.

RESET

See Erasing all of the remote control presets.

READ ID

See Confirming preset codes.

13 RECEIVER

Switches the remote to control the receiver (used to select the green commands above the number buttons (**FL DIMMER**, etc). Also use this button to set up surround sound.

14 VOL +/-

Use to set the listening volume.

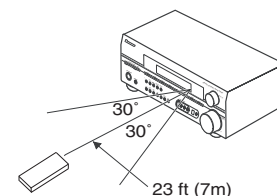
15 MUTE

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

Operating range of remote control unit

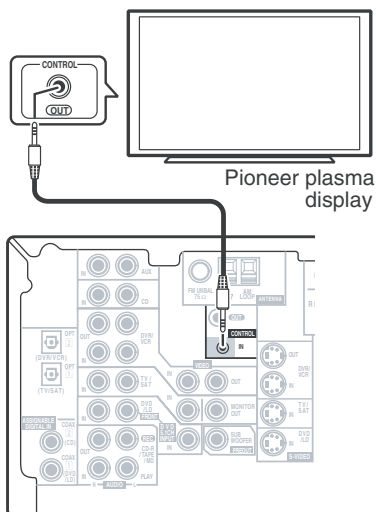
The remote control may not work properly if:

- There are obstacles between the remote control and the receiver's remote sensor.
- Direct sunlight or fluorescent light is shining onto the remote sensor.
- The receiver is located near a device that is emitting infrared rays.
- The receiver is operated simultaneously with another infrared remote control unit.



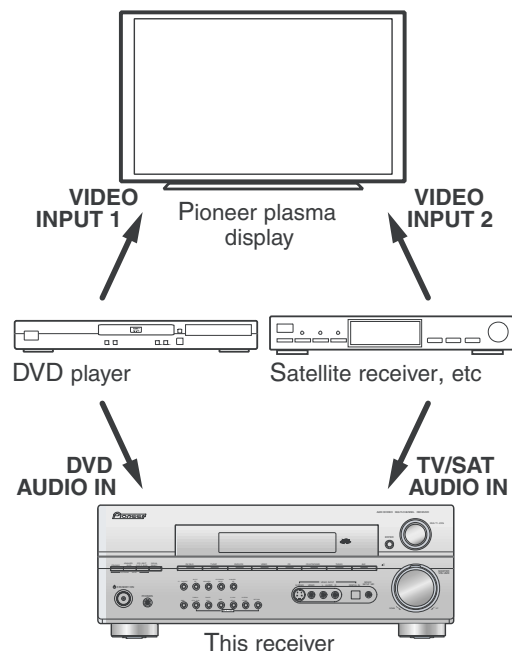
Using this receiver with a Pioneer plasma display

If you have a Pioneer plasma display¹, you can use an SR+ cable² to connect it to this unit and take advantage of various convenient features, such as automatic video input switching of the plasma display when the input is changed.



- Use a 3-ringed miniplug SR+ cable to connect the **CONTROL IN** jack of this receiver with the **CONTROL OUT** of your plasma display.

Before you can use the extra SR+ features, you need to make a few settings in the receiver. See The Input Assign menu for detailed instructions.



To make the most of the SR+ features, you should connect your source components (DVD player, etc.) in a slightly different way to that described in this chapter.

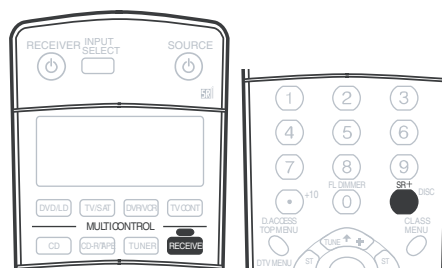
For each component, connect the video output directly to the plasma display, and just connect the audio (analog and/or digital) to this receiver.

Using the SR+ mode with a Pioneer plasma display

When connected using an SR+ cable, a number of features become available to make using this receiver with your Pioneer plasma display even easier. These features include:

- On-screen volume display.
- On-screen display of listening mode.
- Automatic video input switching on the plasma display.
- Automatic volume muting on the plasma display.¹

See also The Input Assign menu for more on setting up the receiver.



1 Make sure that the plasma display and this receiver are switched on and that they are connected with the SR+ cable.

See Using this receiver with a Pioneer plasma display above for more on this.

2 To switch SR+ mode on/off, press **RECEIVER**, then the **SR+** button.

The front panel display shows **SR+ ON** or **OFF**.

Note

¹ This receiver is compatible with all Pioneer plasma displays from 2003 onward.

² The 3-ringed SR+ cable from Pioneer is commercially available under the part number ADE7095. Contact the Pioneer Customer Support division for more information on obtaining an SR+ cable (you can also use a commercially available 3-ringed mini phone plug for the connection).

• If you connect to a Pioneer plasma display using an SR+ cable, you will need to point the remote control at the plasma display remote sensor to control the receiver. In this case, you won't be able to control the receiver using the remote control if you switch the plasma display off.

³ The automatic volume muting feature is enabled separately; see The Input Assign menu.

SERVICE PARTS

- SR+ mini-plug cable (ADE7095)

