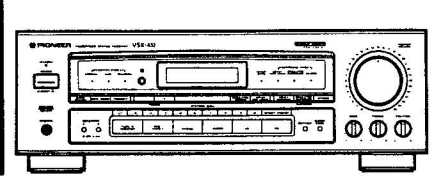
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
ARP2716

AUDIO/VIDEO STEREO RECEIVER

VSX-452
VSX-402
VSX-462S

VSX-452, VSX-402 AND VSX-462S HAVE THE FOLLOWING :

Type	Model			Power Requirement	Remarks
	VSX-452	VSX-402	VSX-462S		
KUXJ	○	○	—	AC120V only	
KCXJ	○	○	○	AC120V only	
SDXJ	○	—	—	AC110V, 120-127V, 220V, 240V (Swichable)	

- **This manual is applicable to the following : VSX-452/KUXJ, KCXJ and SDXJ ; VSX-402/KUXJ and KCXJ ; VSX-462S/KCXJ.**
- **The "S" at the end of the model number indicates that a programable remote control unit is supplied.**

CONTENTS

1. SAFETY INFORMATION

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

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

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.

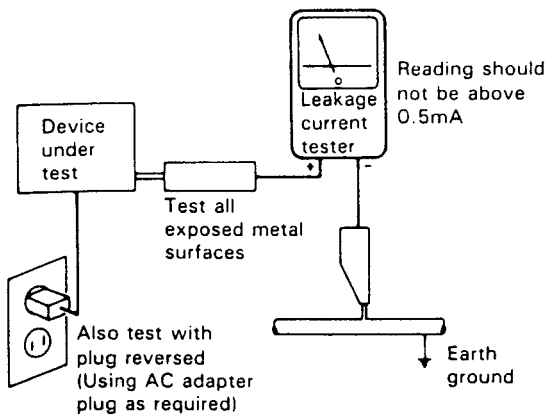
(FOR USA MODEL ONLY)

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 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



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 dose 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. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES :

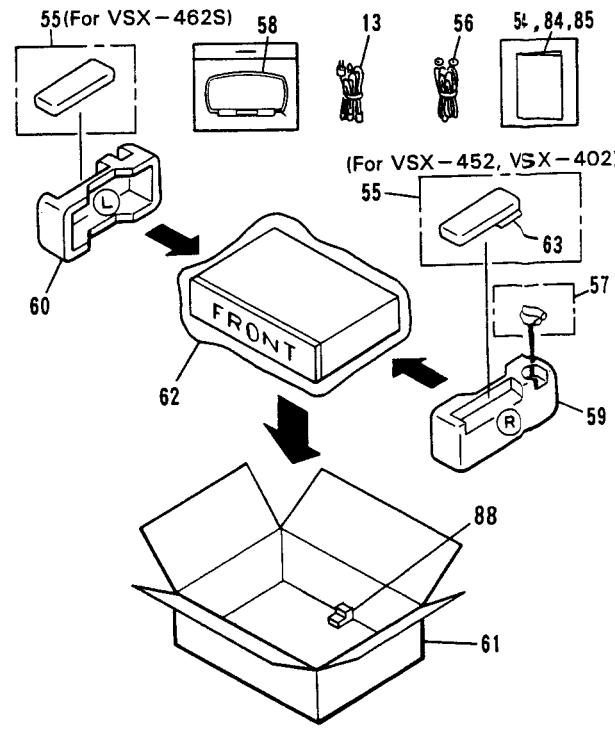
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts list of Exterior and Packing

Mark	No.	Description	Parts No.
⚠	1	TRANSISTOR (Q3) (Except VSX−402)	2SA1265N
⚠	1	TRANSISTOR (Q3) (For VSX−402)	2SA1302
⚠	2	TRANSISTOR (Q4) (Except VSX−402)	2SA1265N
⚠	2	TRANSISTOR (Q4) (For VSX−402)	2SA1302
⚠	3	TRANSISTOR (Q6) (Except VSX−402)	2SA1265N
⚠	4	POWER TRANSISTOR (Q8)	2SA1803
⚠	5	TRANSISTOR (Q1) (Except VSX−402)	2SC3182N
⚠	5	TRANSISTOR (Q1) (For VSX−402)	2SC3281
⚠	6	TRANSISTOR (Q2) (Except VSX−402)	2SC3182N
⚠	6	TRANSISTOR (Q2) (For VSX−402)	2SC3281
⚠	7	TRANSISTOR (Q5) (Except VSX−402)	2SC3182N
⚠	8	POWER TRANSISTOR (Q7)	2SC4688
⚠	9	POWER TRANSFORMER (T1) (For VSX−452/KUXJ, KCXJ and VSX−462S)	ATS1482
⚠	9	POWER TRANSFORMER (T1) (For VSX−452/SDXJ)	ATS1484
⚠	9	POWER TRANSFORMER (T1) (For VSX−402)	ATS1485
⚠	10	FUSE (4A/125V, FU3)	AEK−125
⚠	11	FUSE (4A/125V, FU4)	AEK−125
⚠	12	FUSE (8A/125V, FU1) (Except VSX−452/SDXJ)	AEK1002
⚠	12	FUSE (4A/125V, FU1) (For VSX−452/SDXJ)	AEK−125
⚠	13	AC POWER CORD (Except VSX−452/SDXJ)	ADG1126
⚠	13	AC POWER CORD (For VSX−452/SDXJ)	ADG1129
NSP	14	CHASSIS (MTL)	ANA1212
	15	REAR PANEL (MTL) (For VSX−452/KUXJ, KCXJ and VSX−462S)	ANC2059
	15	REAR PANEL (MTL) (For VSX−452/SDXJ)	ANC2061
	15	REAR PANEL (MTL) (For VSX−402)	ANC2060
NSP	16	RADIATOR (Except VSX−402)	ANH1424
NSP	16	RADIATOR (For VSX−402)	ANH1431
	17	INSULATOR (Except VSX−402)	PNW1912
	18	VOLUME HOLDER	ANG1852
NSP	19	NYLON BINDER	AEC−093
NSP	20	PCB SUPPORT	AEC1013
NSP	21	PCB HOLDER	AEC1097
	22	MICA SHEET	AEE1014
	23	BINDER	AEP−215
	24	PCB MOLD (PP)	AMR2533
	25	PCB MOLD (PP)	AMR2534
	26	SPACER (PLS)	AMR2544
	27	SCREW	ABA−298
	28	SCREW	ABA1018
	29	SCREW	ABA1024
	30	SCREW (STEEL)	ABA1053
	31	SCREW	ABA1147
	32	SCREW	ABA1082
	33	SCREW	BBZ30P080FZK
	34	SCREW	BCZ30P080FMC
	35	SCREW	BPZ26P080FMC
	36	NUT	NK70FUC
	37	FRONT PANEL (PLS) (For VSX−452)	AMB2126
	37	FRONT PANEL (PLS) (For VSX−402)	AMB2127
	37	FRONT PANEL (PLS) (For VSX−462S)	AMB2133
	38	DISPLAY PANEL (PLS) (Except VSX−402)	AAK2443
	38	DISPLAY PANEL (PLS) (For VSX−402)	AAK2444
	39	SASH (PLS)(Except VSX−402)	AAK2445
	39	SASH (PLS) (For VSX−402)	AAK2446
	40	INDICATOR PANEL A (Except VSX−402)	AAK2450
	40	INDICATOR PANEL A (For VSX−402)	AAK2454
	41	INDICATOR PANEL B	AAK2451
	42	SASH S (PLS)	AAP1368
	43	BADGE (PIONEER)	PAM1608
	44	LED LENS	PNW2019
	45	ROUND KNOB L (PLS)	AAB1340
	46	ROUND KNOB M (PLS)	AAB1341
	47	FUNCTION BUTTON (PLS)	AAD2412
	48	HINGE BUTTON A (PLS)	AAD2413
	49	HINGE BUTTON B (PLS) (Except VSX−402)	AAD2414
	49	HINGE BUTTON B (PLS) (For VSX−402)	AAD2415
	50	SPEAKER BUTTON (PLS)	AAD2416
	51	TACT BUTTON (PLS)	AAD2417
	52	POWER BUTTON (PLS)	AAD2418
	53	BONNET CASE (MTL)	ANE1431
	54	OPERATING INSTRUCTIONS (English) (For VSX−452)	ARB1424
	54	OPERATING INSTRUCTIONS (English) (For VSX−402)	ARB1426

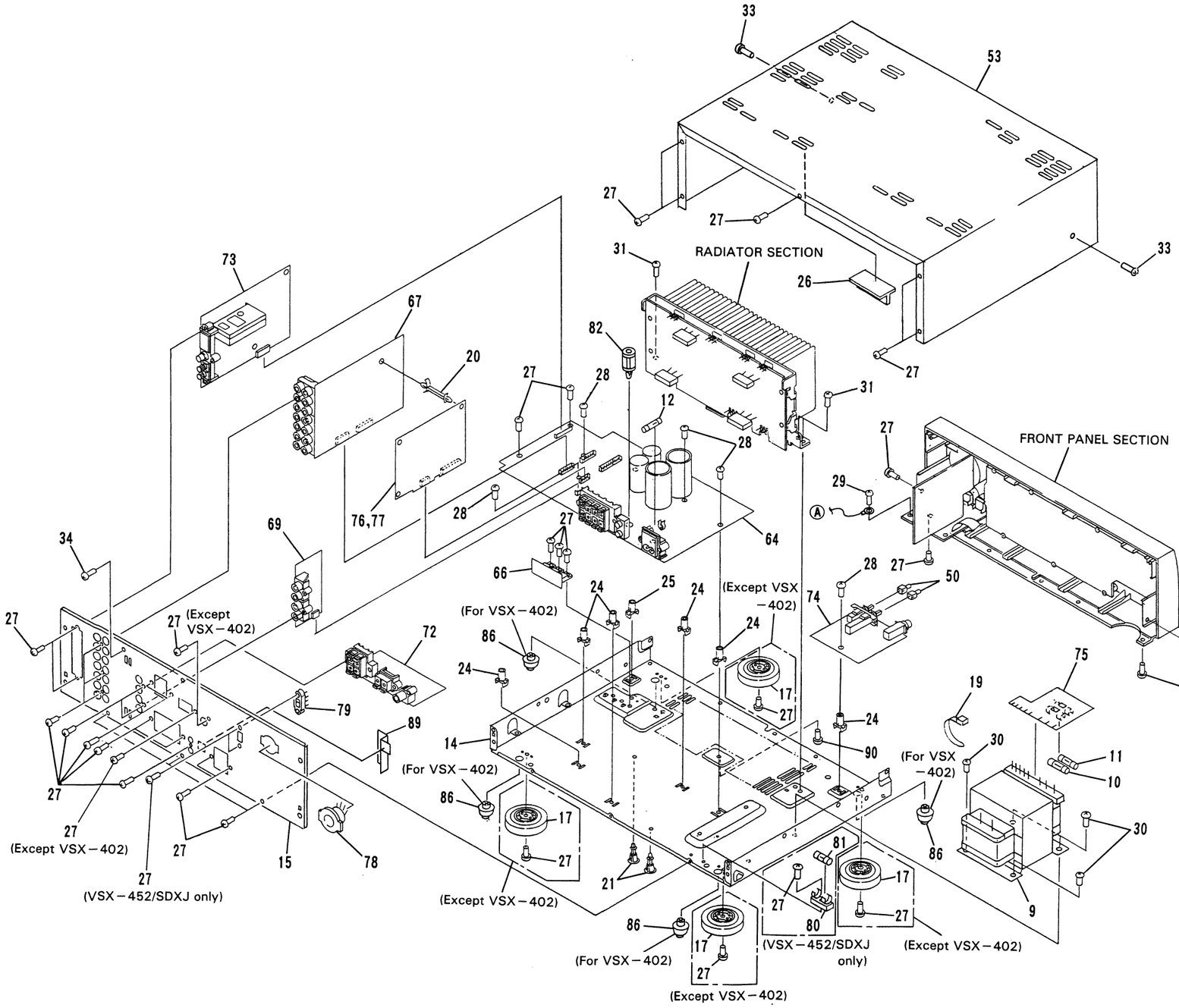
Mark	No.	Description	Parts No.
	55	REMOTE CONSOLE UNIT (CU-VSX063) (For VSX-452)	AXD1338
	55	REMOTE CONSOLE UNIT (CU-VSX066) (For VSX-402)	AXD1340
	55	REMOTE CONSOLE UNIT (CU-VSX065) (For VSX-462S)	AXD1342
	56	FM ANTENNA	ADH1008
NSP	57	BATTERY (R03, AAA) (Except VSX-462S)	AEX-021
NSP	57	BATTERY (LR6, AA) (For VSX-462S)	AEX1007
	58	LOOP ANTENNA (L)	ATB1009
	59	SIDE PAD R (PS)	AHA1588
	60	SIDE PAD L (PS)	AHA1589
	61	PACKING CASE (For VSX-452/KUXJ, KCXJ)	AHD2520
	61	PACKING CASE (For VSX-452/SDXJ)	AHD2527
	61	PACKING CASE (For VSX-402)	AHD2529
	61	PACKING CASE (For VSX-462S)	AHD2553
	62	PACKING SHEET	AHG1016
	63	BATTERY COVER (Except VSX-462S)	AZN2240
	64	MOTHER ASSEMBLY (For VSX-452/KUXJ, KCXJ and VSX-462S)	AWZ4757
◉	64	MOTHER ASSEMBLY (For VSX-452/SDXJ)	AWZ4776
	64	MOTHER ASSEMBLY (For VSX-402)	AWZ4768
◉	65	FRONT. FL ASSEMBLY (For VSX-452/KUXJ, KCXJ and VSX-462S)	AWZ4758
◉	65	FRONT. FL ASSEMBLY (For VSX-452/SDXJ)	AWZ4777
◉	65	FRONT. FL ASSEMBLY (For VSX-402)	AWZ4769
	66	REG. ASSEMBLY	AWZ5039
	67	A. FUNC ASSEMBLY (For VSX-452 and VSX-462S)	AWZ4759
	67	A. FUNC ASSEMBLY (For VSX-402)	AWZ4770
	68	POWER. AMP ASSEMBLY (For VSX-452 and VSX-462S)	AWZ4761
	68	POWER. AMP ASSEMBLY (For VSX-402)	AWZ4772
	69	VIDEO. AMP ASSEMBLY	AWZ4763
	70	M. VOL ASSEMBLY (For VSX-452 and VSX-462S)	AWZ4764
	70	M. VOL ASSEMBLY (For VSX-402)	AWZ4773
	71	TONE. CON ASSEMBLY (For VSX-452 and VSX-462S)	AWZ4765
◉	71	TONE. CON ASSEMBLY (For VSX-402)	AWZ4774
◉	72	R, C. SP ASSEMBLY (For VSX-452 and VSX-462S)	AWZ4760
◉	72	R, C. SP ASSEMBLY (For VSX-402)	AWZ4771
◉	73	TUNER ASSEMBLY	AWZ4762
◉	74	H. PHNE, SP. SW ASSEMBLY	AWZ4766
◉	75	TRANS ASSEMBLY	AWZ4767
	76	DOL. PRO. MOD. ASSEMBLY (Except VSX-402)	AXQ1009
	77	DOLBY. SURR ASSEMBLY (VSX-402 only)	AWZ4775
⚠	78	VOLTAGE SELECTOR (S1) (VSX-452/SDXJ only)	AKX-507
⚠	79	VOLTAGE SELECTOR (S2) (VSX-452/SDXJ only)	AKX1004
⚠	80	FUSE HOLDER (VSX-452/SDXJ only)	AKR1001
⚠	81	FUSE (4A/125V, FU2) (VSX-452/SDXJ only)	AEK-125
NSP	82	PCB SUPPORT (VSX-452/SDXJ only)	AEC1447
	83	ROUND KNOB S (PLS) (VSX-402 only)	AAB1342
	84	OPERATING INSTRUCTIONS (French) (For VSX-452/KCXJ)	ARC1428
	84	OPERATING INSTRUCTIONS (French) (For VSX-402/KCXJ)	ARC1418
	85	OPERATING INSTRUCTIONS (English, French) (For VSX-462S/KCXJ)	ARE1274
	86	FOOT (For VSX-402)	AEC1505
	87	LEAD WIRE (J13)	ADX1915
	88	SUB PAD	AHB1113
	89	BARRIER	AMR2570
	90	SCREW	ABA1054

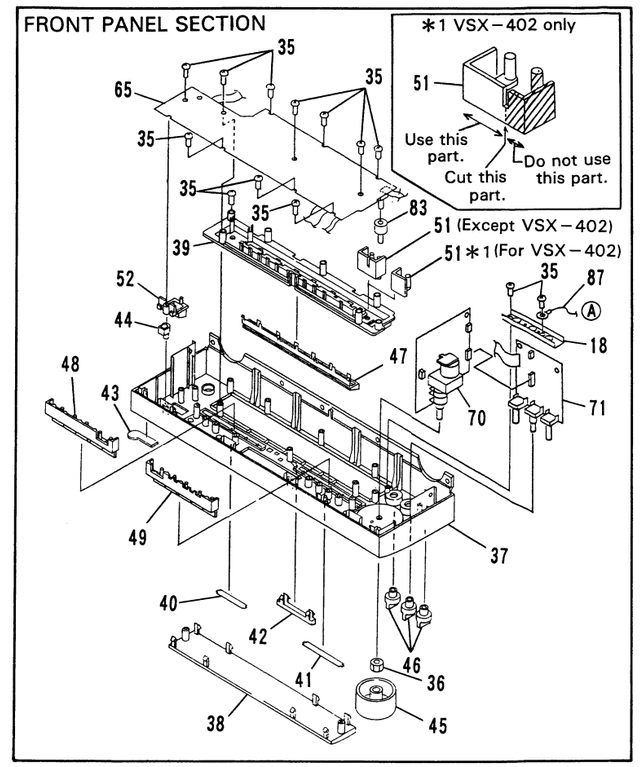
● PACKING

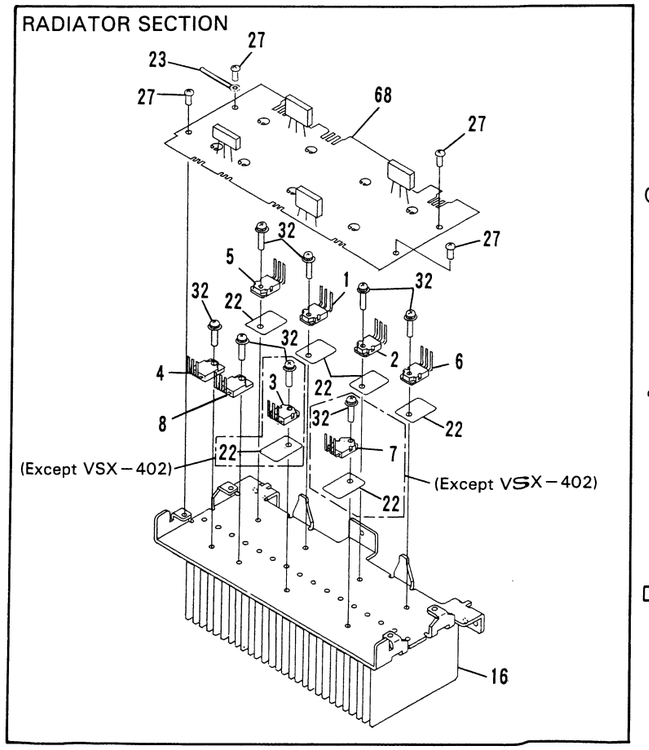


● EXTERIOR

NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.

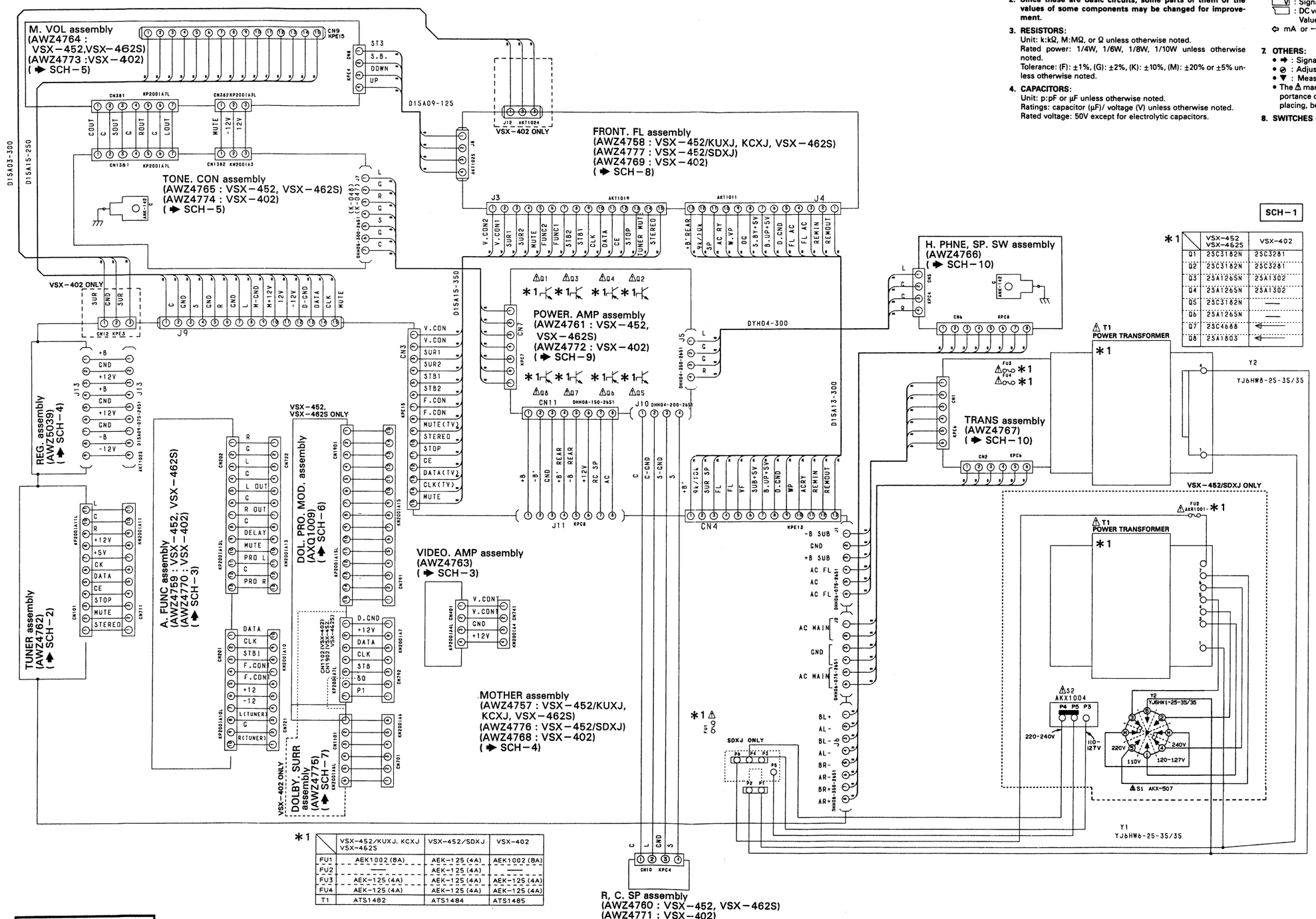






3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

3.1 OVERALL SCHEMATIC DIAGRAM



*1

	VSX-452/KUXJ, KCXJ VSX-462S	VSX-452/SDXJ	VSX-402
FU1	AEK1002 (8A)	AEK-125 (4A)	AEK1002 (8A)
FU2	—	AEK-125 (4A)	—
FU3	AEK-125 (4A)	AEK-125 (4A)	AEK-125 (4A)
FU4	AEK-125 (4A)	AEK-125 (4A)	AEK-125 (4A)
T1	ATS1482	ATS1484	ATS1485

*1

	VSX-452 VSX-462S	VSX-402
Q1	2SC3182N	2SC3281
Q2	2SC3182N	2SC3281
Q3	2SA1265N	2SA1302
Q4	2SA1265N	2SA1302
Q5	2SC3182N	—
Q6	2SA1265N	—
Q7	2SC4688	⇦
Q8	2SA1803	⇦

Note: Type 1

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   : DC voltage (V) at no input signal unless otherwise noted. Value in ( ) is DC voltage at rated power.
   ⇦ mA or ⇨ mA : DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

S1	VOLTAGE SELECTOR	(VSX-452/SDXJ ONLY) AC110V/120-127V/220V/240V
S2	VOLTAGE SELECTOR	(VSX-452/SDXJ ONLY) AC110-127V/220-240V

FRONT. FL assembly

S801	POWER	
S802	BAND FM/AM	
S803	MPX MODE	
S804	MEMORY	
S805	TUNE −	
S806	TUNE +	
S807	SIMULATED STEREO	
S808	DOLBY 3CH LOGIC	(VSX-452,VSX-462S) SUPER-BASS (VSX-402)
S809	DOLBY PRO LOGIC	
S810	SIMULATED SURROUND	
S811	STUDIO	
S812	*1	
S813	*2	
S814	*3	
S815	*4	
S816	*5	
S817	*6	
S818	*7	
S819	*8	
S820	*9	
S821	*0	
S822	DIRECT ACCESS	
S826	TAPE2/MONITOR	
S827	VCR1/TAPE1	
S828	LD	
S829	CD	
S830	TUNER	
S831	PHONO	
S832	SUPER-BASS	(VSX-452,VSX-462S ONLY)
S833	RETURN	

H. PHNE, SP. SW assembly

S670	SPEAKERS A ON/OFF
	SPEAKERS B ON/OFF

9. **For SCH-□ on the schematic diagram**
   - SCH-□ indicates the drawing number of the schematic diagram.
     (SCH stands for schematic diagram.)

SCH-1

SCH-1 OVERALL SCHEMATIC DIAGRAM

3.2 TUNER ASSEMBLY

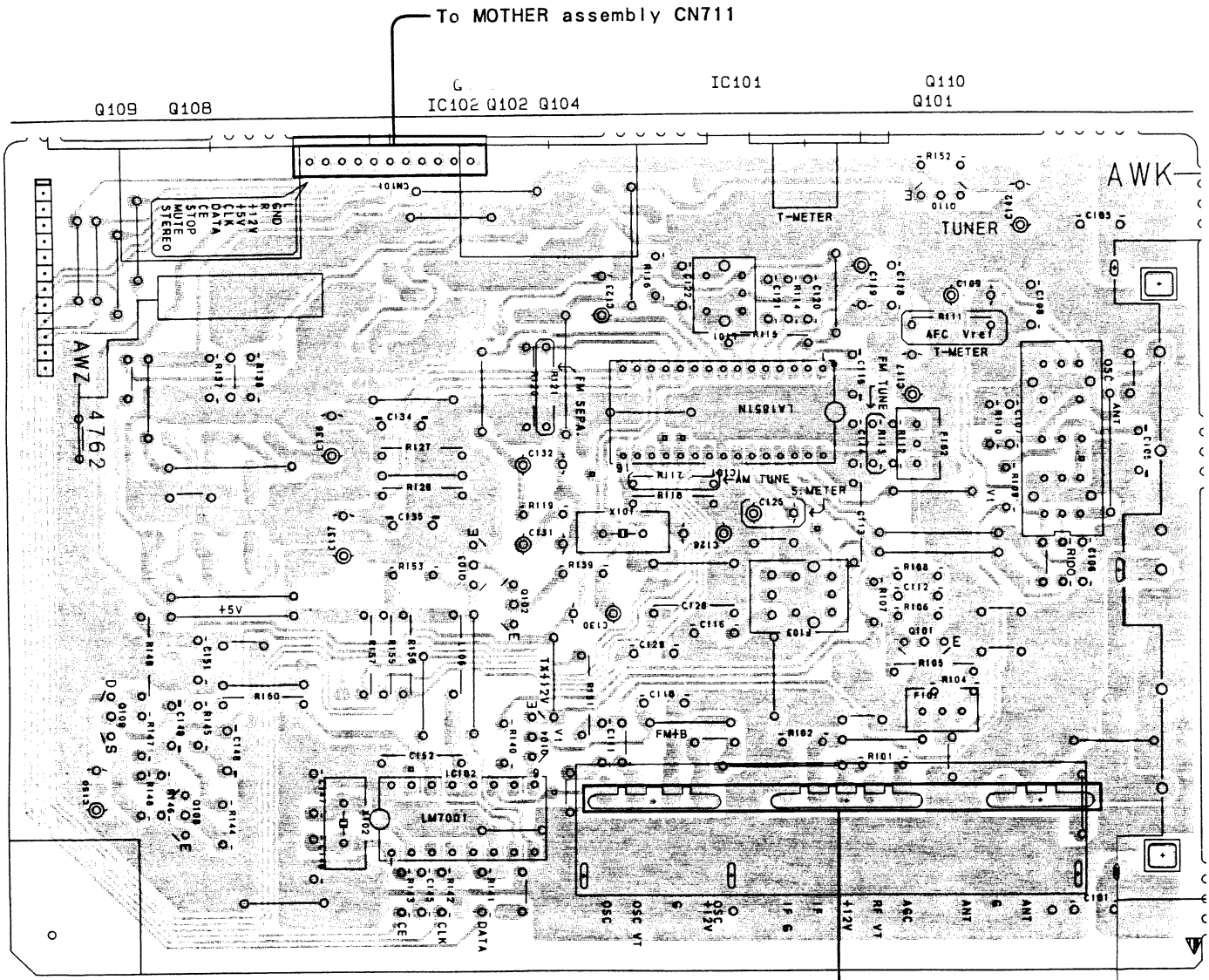
TUNER assembly (AWZ1762)

2 serial F. E. module assembly (AXQ1002)

This PCB connection diagram is viwed from the foil side.

3.2 TUNER ASSEMBLY

PCB-1



TUNER assembly (AWZ4762)

This PCB connection diagram is viewd from the parts mounted side.

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 (E B C)	or	Transistor
Q215 (B C E)	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513		Capacitor (Polarized)
C518		Capacitor (Non-polarized)

2 serial F. E. module assembly (AXQ1002)

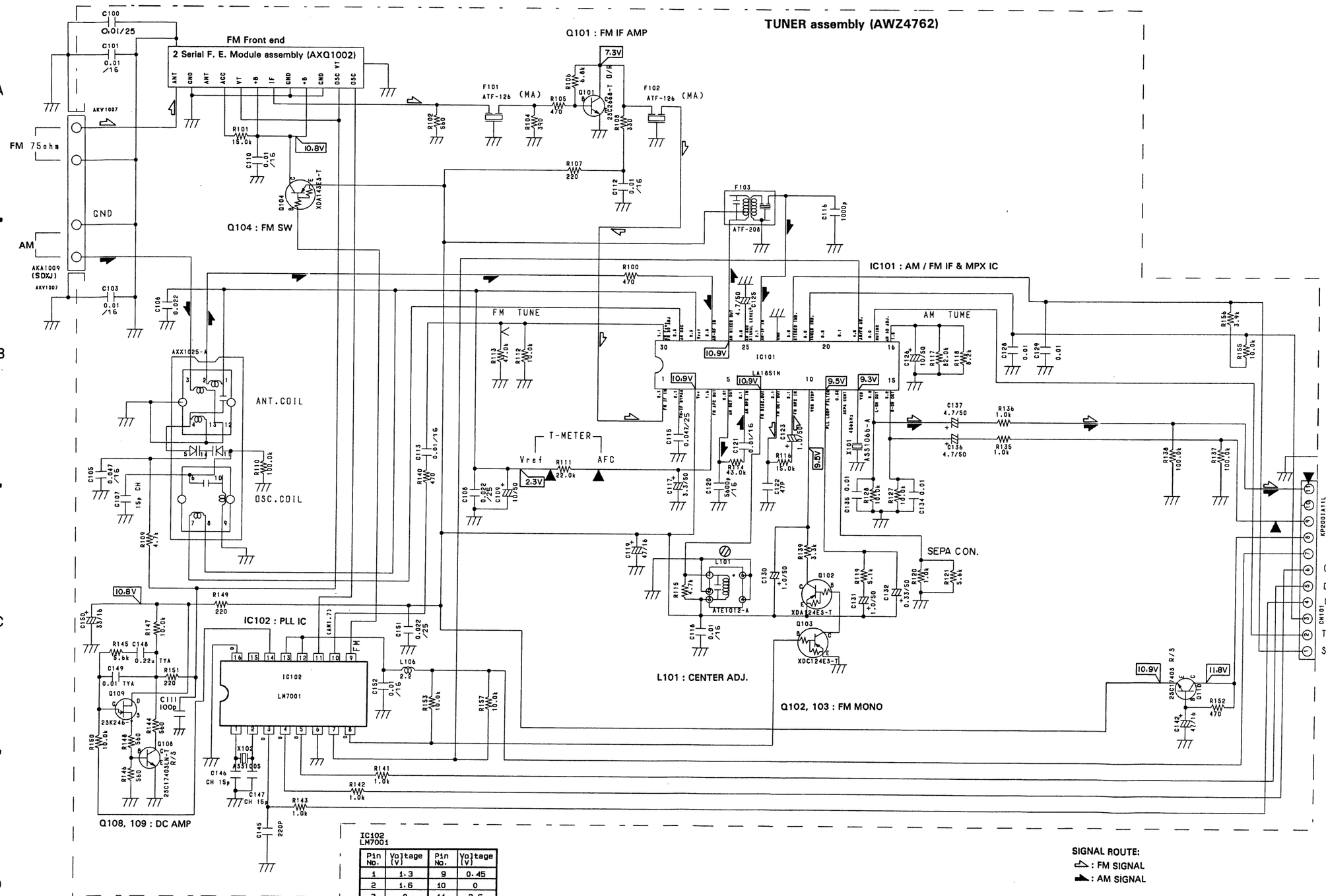
Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ⊖ (double circles) shows negatine terminal.
4. The diode terminal marked with ⊖ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

SCH-2

TUNER assembly (AWZ4762)



IC102
LM7001

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	1.3	9	0.45
2	1.6	10	0
3	0	11	2.6
4	0	12	5.1
5	0	13	5.1
6	0	14	0
7	4.5	15	0
8	0	16	0

SIGNAL ROUTE:
▱ : FM SIGNAL
▬ : AM SIGNAL

Note:

VOLTAGE AND CURRENT:

mV : Signal voltage at FM 1kHz, 100% MOD.

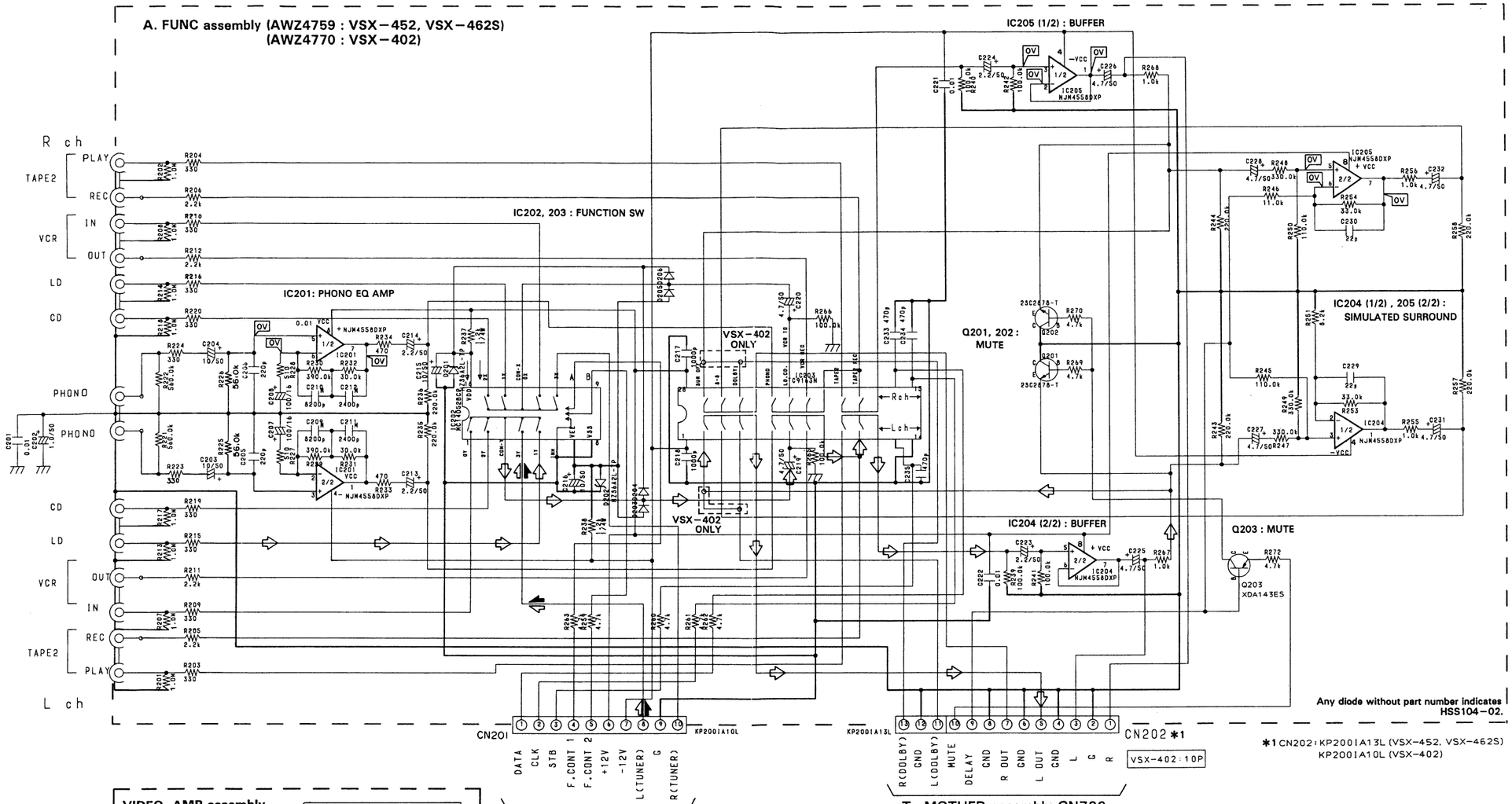
▭ : DC voltage (V) at no input signal unless otherwise noted. Value in ( ) is DC voltage at rated power.

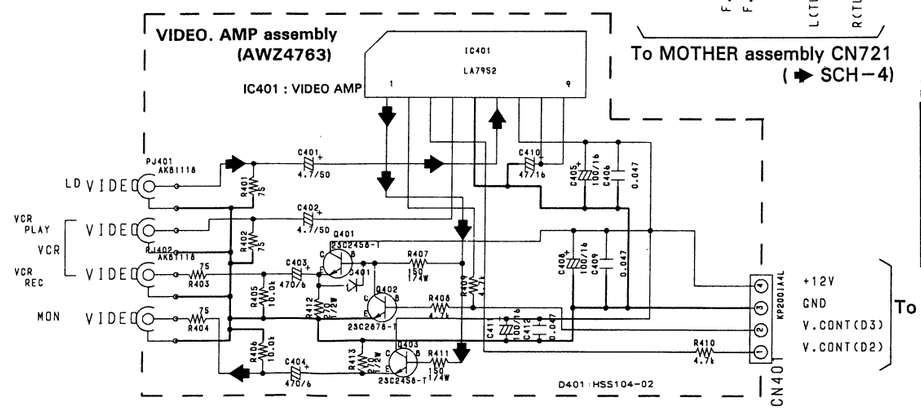
⇦ mA or ← mA : DC current at no input signal unless otherwise noted.

3.3 A. FUNC ASSEMBLY AND VIDEO. AMP ASSEMBLY

SCH-3

A. FUNC assembly (AWZ4759 : VSX-452, VSX-462S)
(AWZ4770 : VSX-402)





IC401
LA7952

Pin No.	Voltage (V)
1	6.3
2	0
3	0
4	3.1
5	0
6	3.1
7	11.8
8	3.1
9	3.1

IC202
MC140528CP

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	0
2	0	10	0
3	0	11	0
4	0	12	0
5	0	13	0
6	0	14	0
7	-5.6	15	0
8	0	16	5.6

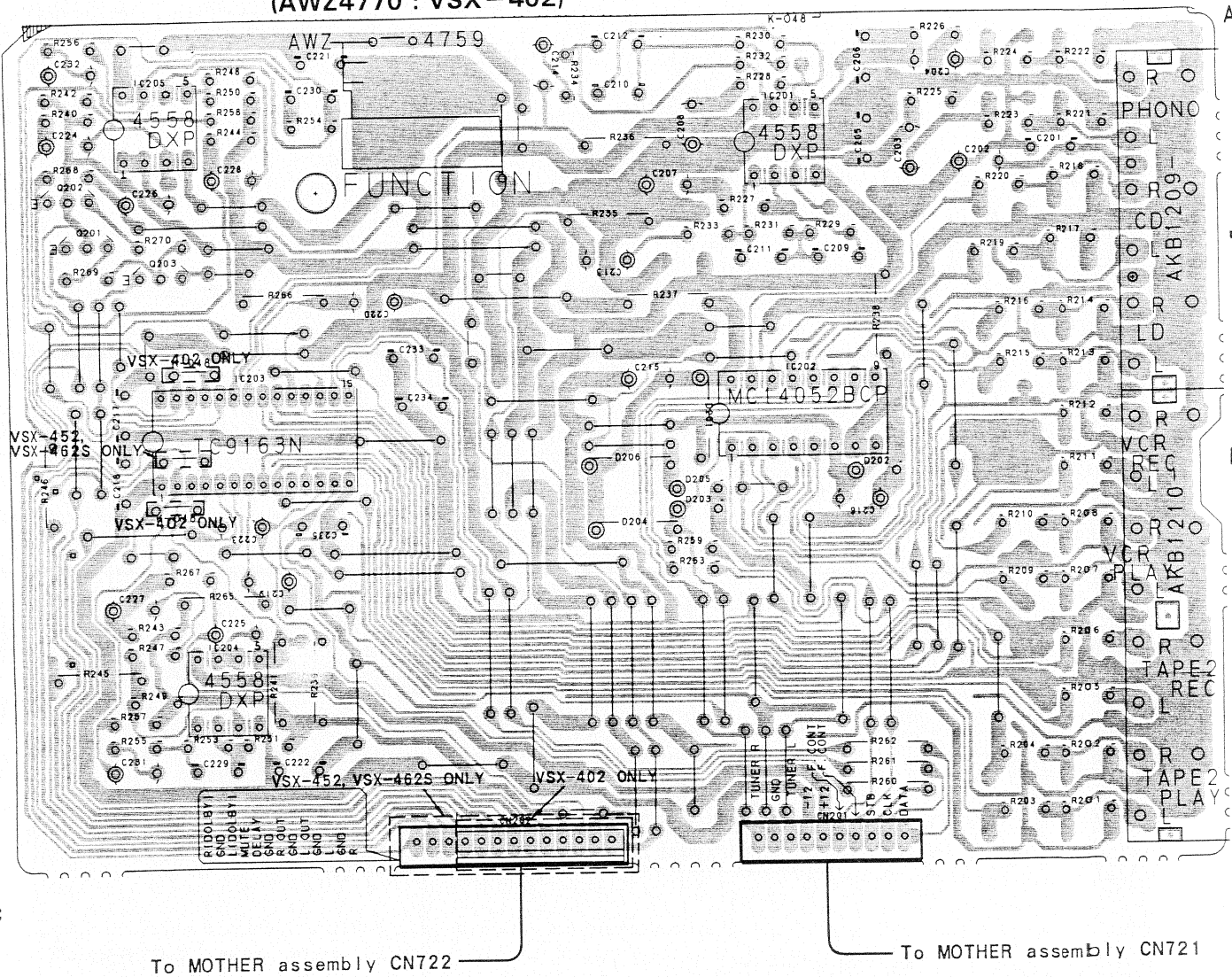
IC203
TC9163N

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	-11.7	8	–	15	0	22	0
2	–	9	–	16	5.2	23	0
3	–	10	–	17	0	24	0
4	–	11	–	18	0	25	0
5	–	12	–	19	0	26	0
6	–	13	0	20	0	27	0
7	–	14	0	21	0	28	11.9

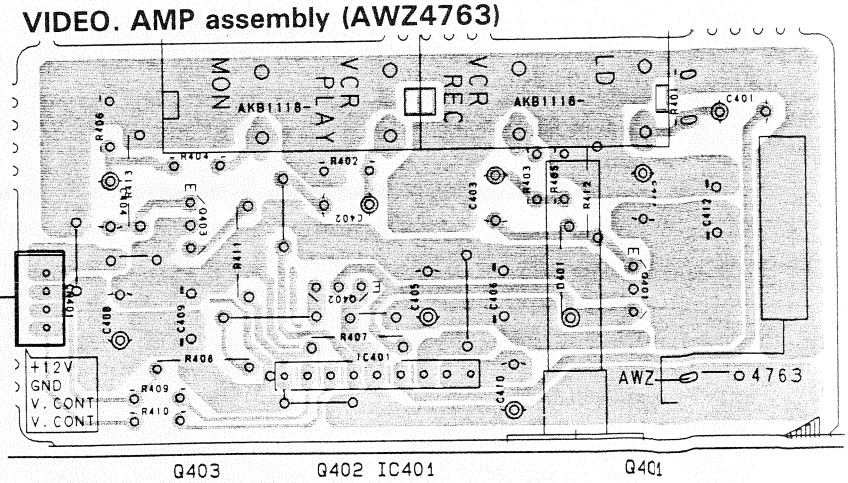
SIGNAL ROUTE:
- ➡ : VIDEO SIGNAL
- ⇨ : AUDIO SIGNAL
- ⇊ : FM SIGNAL
- ⇈ : AM SIGNAL

Q202 Q201 IC205 Q203 IC204 IC203 IC201 IC202

A. FUNC assembly (AWZ4759 : VSX – 452, VSX – 462S) (AWZ4770 : VSX – 402)



VIDEO. AMP assembly (AWZ4763)



This PCB connection diagram is viewd from the parts mounted side.

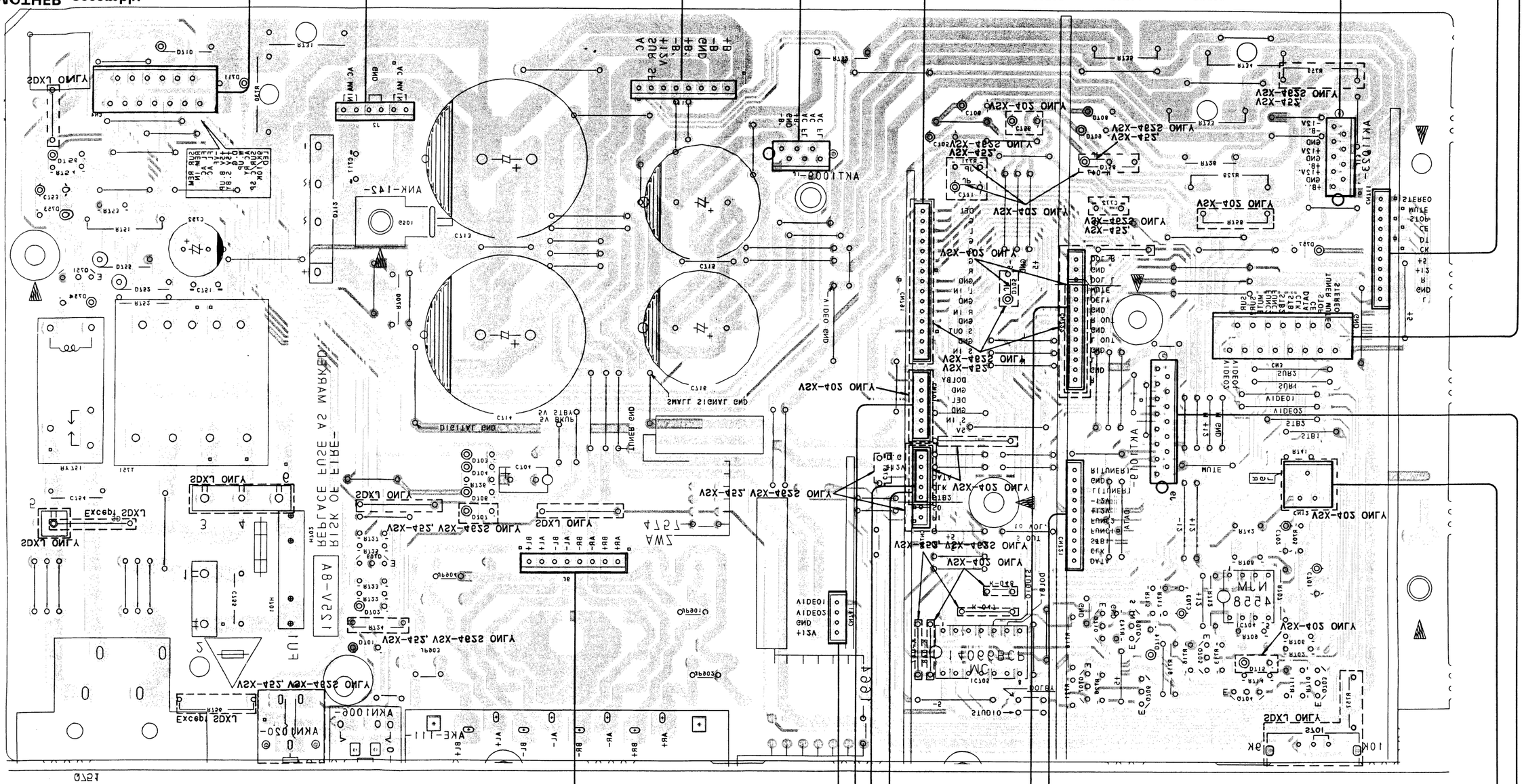
A. FUNC assembly (AWZ4759 : VSX-452, VSX-462S)
(AWZ4770 : VSX-402)

VIDEO. AMP assembly (AWZ4763)

This PCB connection diagram is viwed from the foil side.

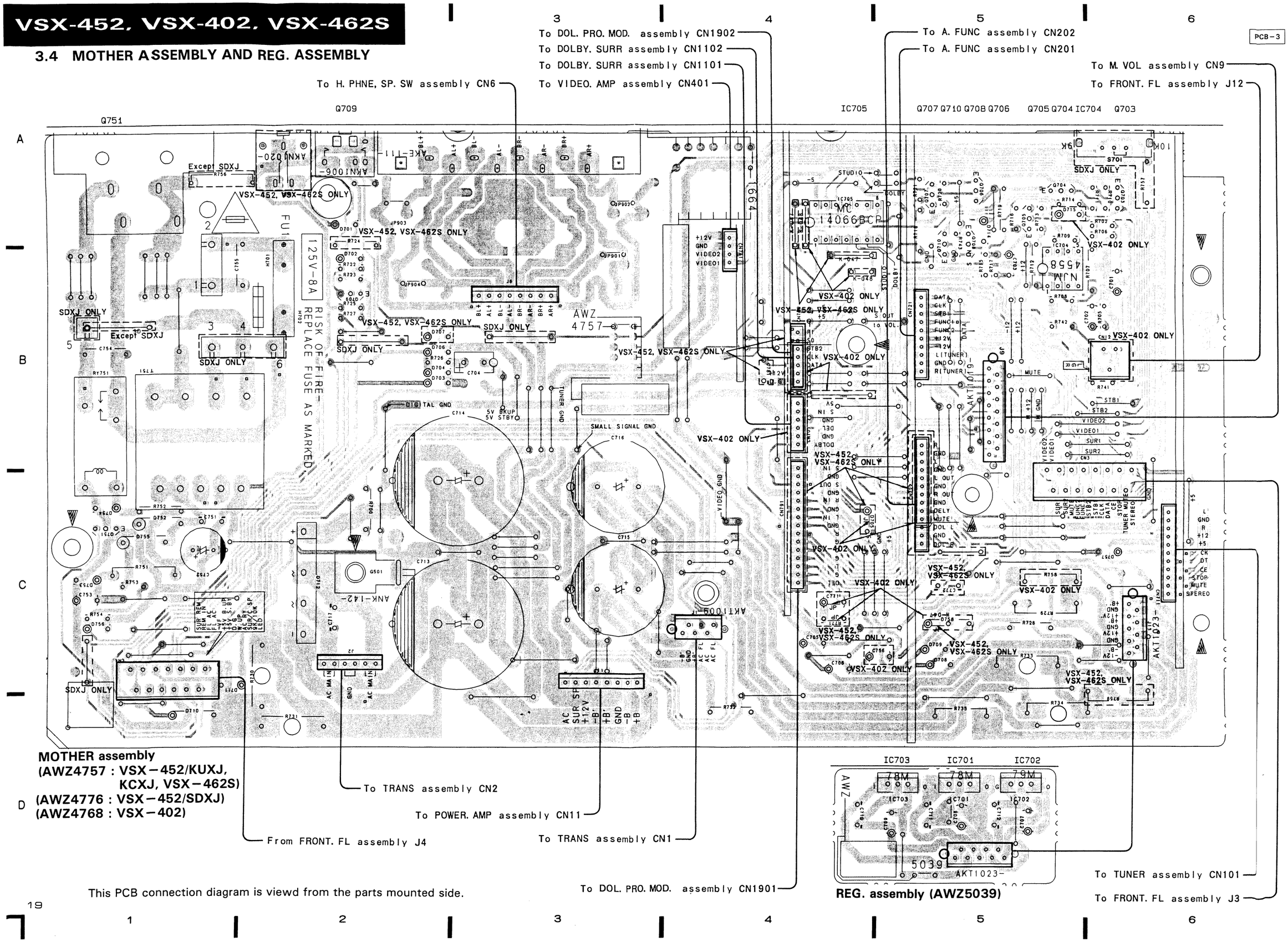
VSX-4S2, VSX-4O4, VSX-4es2

4.4 MOTHER ASSEMBLY AND REC. ASSEMBLY


MOTHER assembly
(AWZ4718 : VSX-4S2\KU\LXU\KCXJ, VSX-4es2)
(AWZ4717 : VSX-4S2\S2\SDXJ\LXJ)
(AWZ4718 : VSX-4O4)
From FRONT. LF assembly AL
To TRANS assembly CN3
To POWER. MAN assembly CN11
To TRANS assembly CN1
To DOL. PRO. MOD. assembly CN106
To TUNER assembly CN101
To FRONT. LF assembly CL
REC. assembly (AWZ2032)
This PCB connection diagram is viewed from the foil side.
To H. PHNE. SP. SW assembly CN8
To VIDEO. MAN assembly CN401
To DOLBY. SURR assembly CN111
To DOLBY. SURR assembly CN110
To DOL. PRO. MOD. assembly CN106
To A. FUNC assembly CN102
To A. FUNC assembly CN103
To M.VOL assembly CN9
To FRONT. LF assembly CL15
REPLACE FUSE AS MARKED
AB-4521
Except SDXJ
SDXJ ONLY
VSX-4S2, VSX-4es2 ONLY
VSX-4O4 ONLY
IC703
IC704
IC705
IC702
IC701
IC706
IC707
IC708
IC709
IC710
IC711
IC712
IC713
IC714
IC715
IC716
IC717
IC718
IC719
IC720
IC721
IC722
IC723
IC724
IC725
IC726
IC727
IC728
IC729
IC730
IC731
IC732
IC733
IC734
IC735
IC736
IC737
IC738
IC739
IC740
IC741
IC742
IC743
IC744
IC745

VSX-452, VSX-402, VSX-462S

3.4 MOTHER ASSEMBLY AND REG. ASSEMBLY



SCH-4

VSX-402 ONLY
To FRONT. FL assembly J12 (➡ SCH-8)
From FRONT. FL assembly J3 (➡ SCH-8)
To M. VOL assembly CN9 (➡ SCH-5)
To POWER. AMP assembly CN11 (➡ SCH-9)
From FRONT. FL assembly J4 (➡ SCH-8)
VSX-452/SDXJ ONLY
To TUNER assembly CN101 (➡ SCH-2)
To A. FUNC assembly CN201 (➡ SCH-3)
To A. FUNC assembly CN202 (➡ SCH-3)
To VIDEO. AMP assembly CN401 (➡ SCH-3)
To TRANS assembly CN1 (➡ SCH-10)
To TRANS assembly CN2 (➡ SCH-10)
REG. assembly (AWZ5039)
3 TERMINAL REGULATOR SECTION
IC704, 705 : SURROUND SWITCHING
Q709 : SR REM IN
SR REM OUT
To DOL. PRO. MOD. assembly CN1901 (➡ SCH-6)
To DOLBY. SURR assembly CN1101 (➡ SCH-7)
To H. PHNE, SP. SW assembly CN6 (➡ SCH-10)
To DOLBY. SURR assembly CN1102 (VSX-402) (➡ SCH-7)
To DOL. PRO. MOD. assembly CN1902 (VSX-452, VSX-462S) (➡ SCH-6)
Q751 : STAND BY POWER SUPPLY
FU1 : 8A/125V (VSX-452, VSX-462S) 4A/125V (VSX-402)
Except VSX-452/SDXJ
SDXJ ONLY
(Except SDXJ)
T751 : ATT1223 (KUXJ, KCXJ) ATT1224 (SDXJ)
1P AC INLET WITH OUTLET AKP1124 (VSX-452/KUXJ, KCXJ, VSX-402, VSX-462S) AKP1123 (VSX-452/SDXJ)
VSX-452, VSX-462S ONLY
VSX-402 ONLY
VSX-402 : SP
Any diode without part number indicates HSS104-02.

IC705 MC14066BCP

Pin No.	Voltage (V)
1	0
2	0
3	0
4	0
5	5.3
6	-5.9
7	-5.9
8	0
9	0
10	0
11	0
12	5.3
13	-5.9
14	5.3

MOTHER assembly
(AWZ4757 : VSX-452/KUXJ, KCXJ, VSX-462S)
(AWZ4776 : VSX-452/SDXJ)
(AWZ4768 : VSX-402)

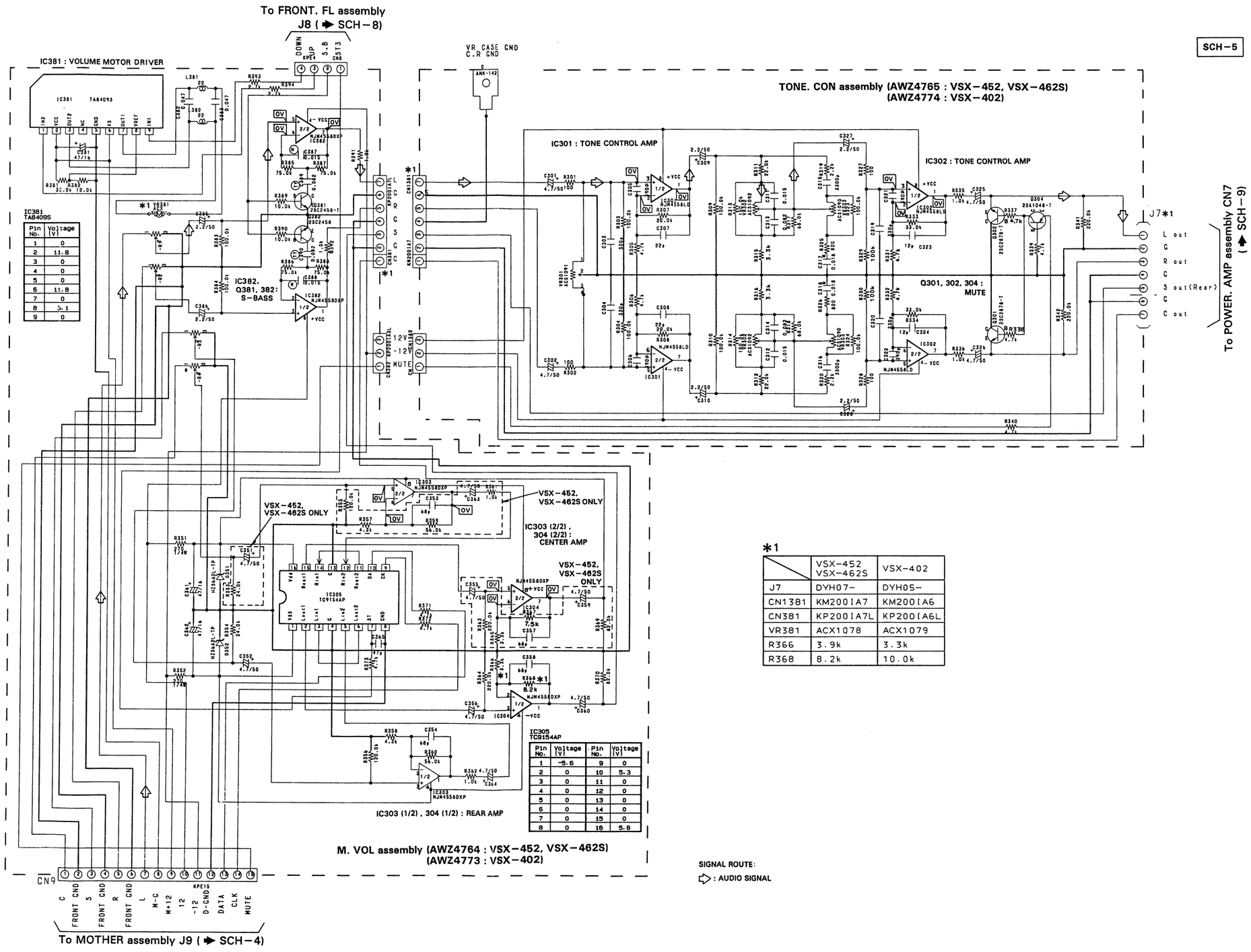
*1

	VSX-452 VSX-462S	VSX-402		VSX-452 VSX-462S	VSX-402
R758	—	○	CN791	○	—
C756	—	○	CN792	KM2001A7	KM2001A5
D758	—	○	CN701	—	○
D705	○	—	CN722	KM2001A13	KM2001A10
D707	○	—	C713	ACH1044	ACH1204
R724	○	—	C714	ACH1044	ACH1204
R717	1.8k	3.9k	R730	3.9k	4.7k
R715	5.6k	4.3k	R731	3.3k	4.7k
			D715	—	○

SIGNAL ROUTE:
⇨ : AUDIO SIGNAL
⇨ : FM SIGNAL
➡ : AM SIGNAL

* C755 (VSX-452/SDXJ) D-02 ACG1030

3.5 TONE. CON ASSEMBLY AND M. VOL ASSEMBLY

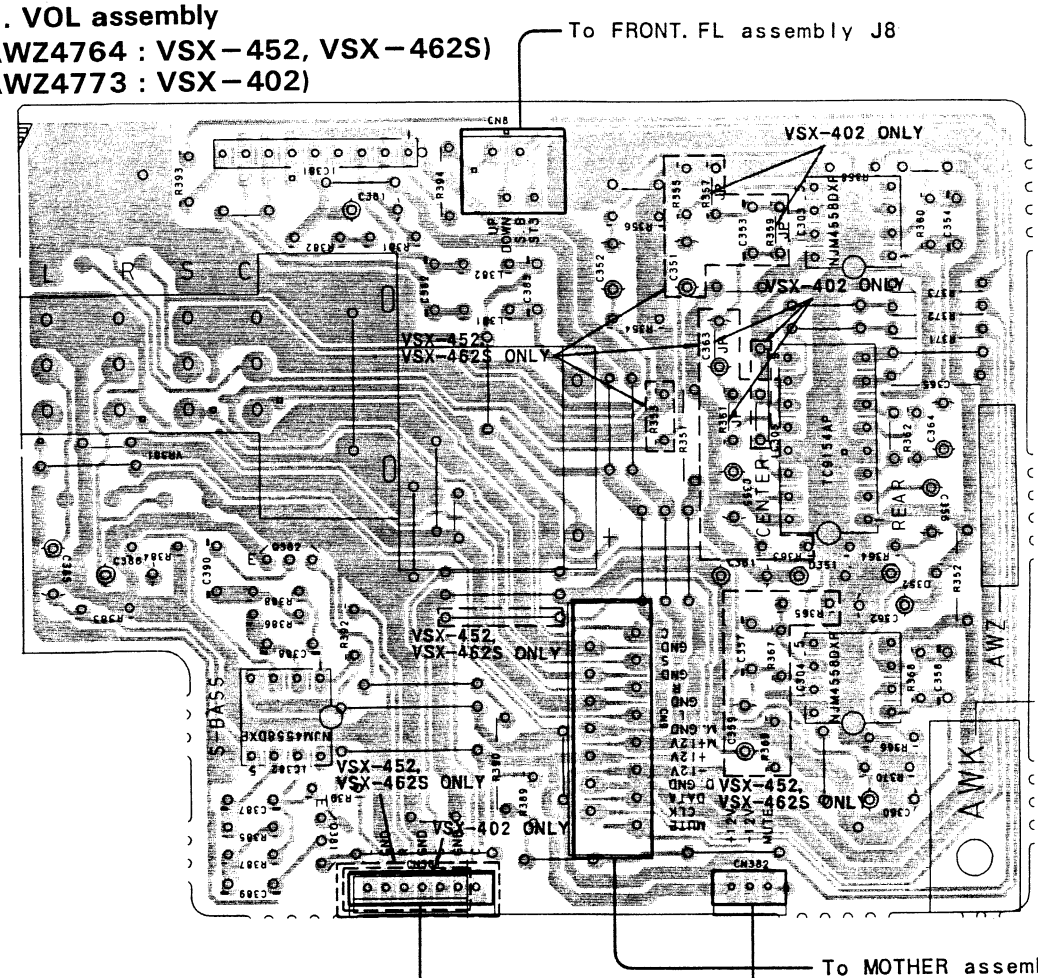


*1

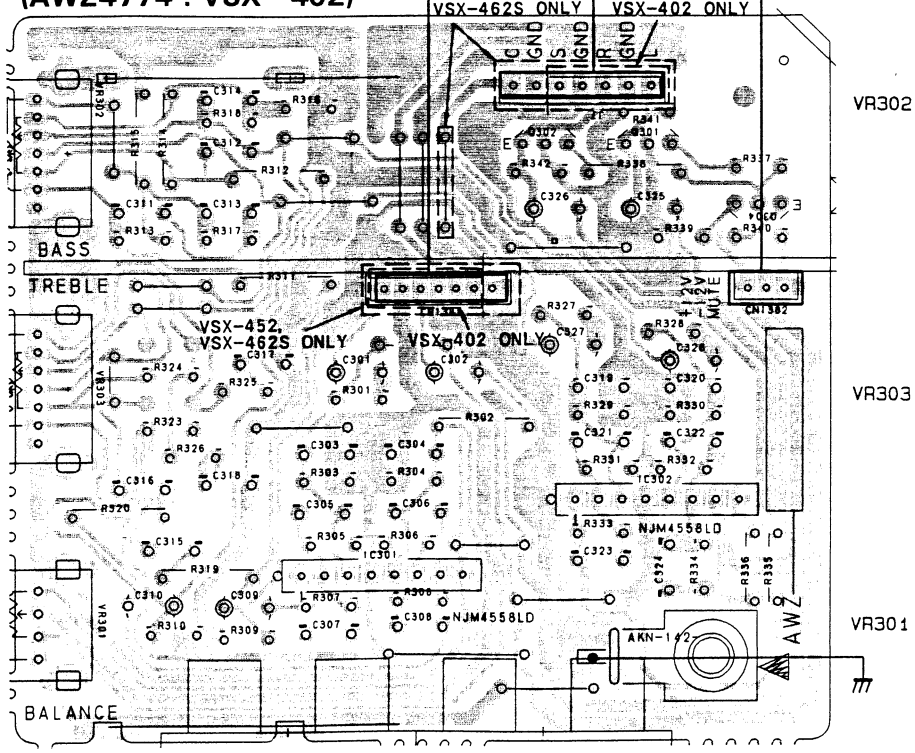
	VSX-452 VSX-462S	VSX-402
J7	DYH07−	DYH05−
CN1381	KM2001A7	KM2001A6
CN381	KP2001A7L	KP2001A6L
VR381	ACX1078	ACX1079
R366	3.9k	3.3k
R368	8.2k	10.0k

SIGNAL ROUTE:
▷ : AUDIO SIGNAL

M. VOL assembly
(AWZ4764 : VSX-452, VSX-462S)
(AWZ4773 : VSX-402)



TONE. CON assembly
(AWZ4765 : VSX-452, VSX-462S)
(AWZ4774 : VSX-402)



This PCB connection diagram is viewd from the parts mounted side.

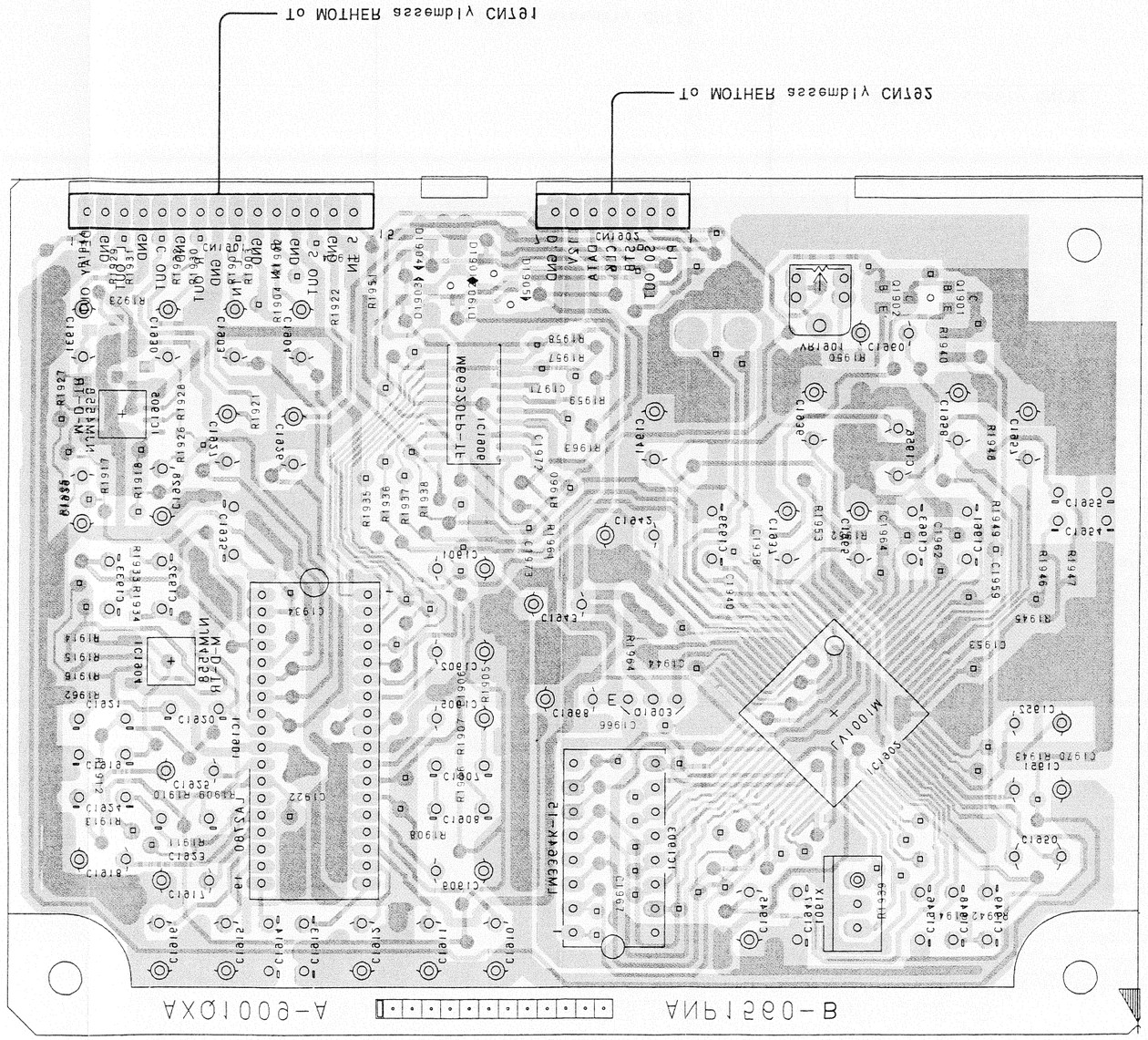
M. VOL assembly
(AWZ4764 : VSX-452, VSX-462S)
(AWZ4773 : VSX-402)

TONE. CON assembly
(AWZ4765 : VSX-452, VSX-462S)
(AWZ4774 : VSX-402)

This PCB connection diagram is viwed from the foil side.

3.6 DOL. PRO. MOD. ASSEMBLY

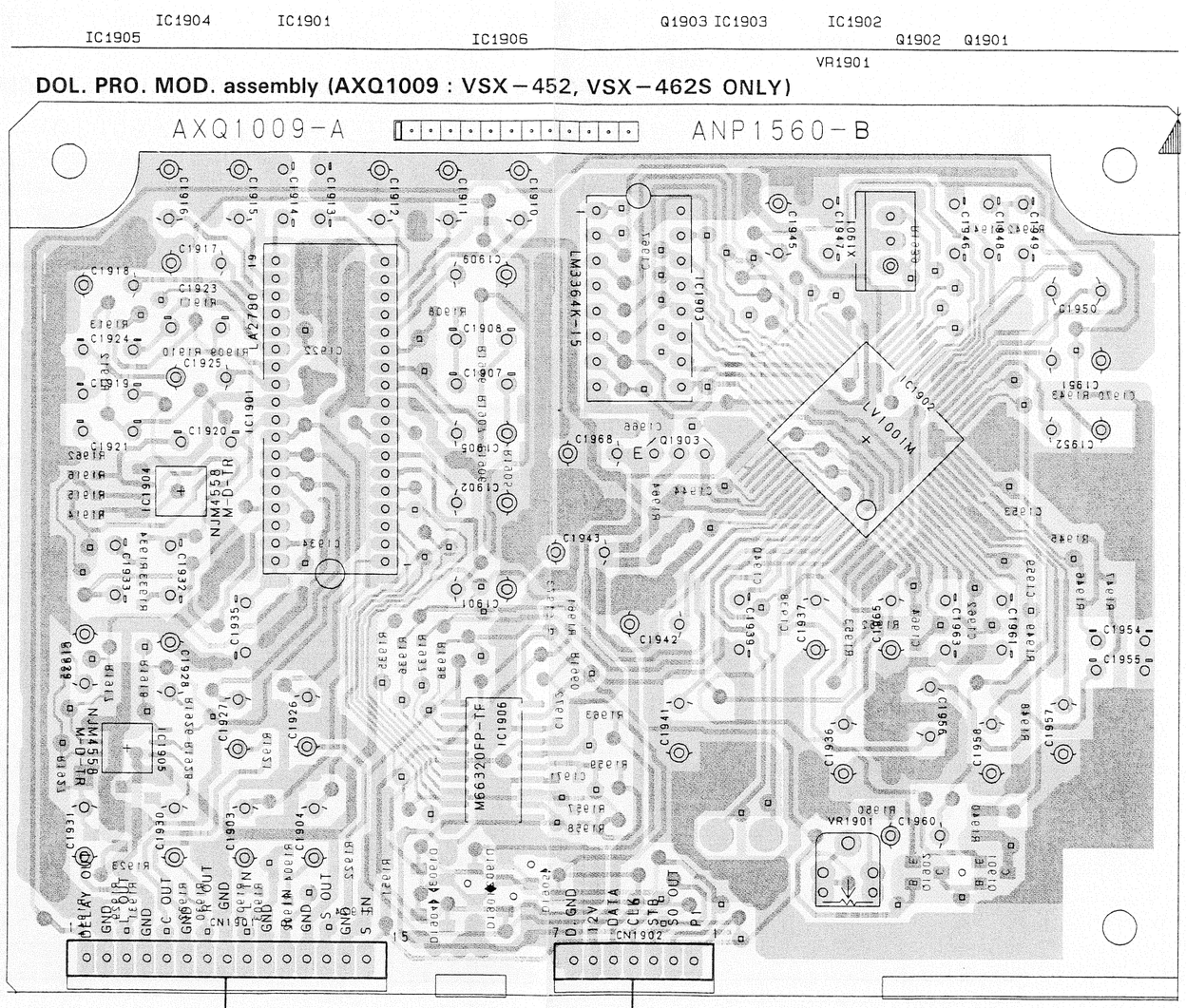
This PCB connection diagram is viwed from the foil side.



3.6 DOL. PRO. MOD. ASSEMBLY

This PCB connection diagram is viewd from the parts mounted side.

DOL. PRO. MOD. assembly (AXQ1009 : VSX–452, VSX–462S ONLY)



VSX−452, VSX−462S ONLY

DOL. PRO. MOD. assembly (AXQ1009)

IC1902 : TIME LINK DELAY

IC1902
LV1001M-A

IC1903 : D−RAM

IC1903
LH32164K-15

VR1901 : DOLBY LEVEL ADJ.

IC1906 : PORT EXPANDER

IC1906
M66320FP

NR ON/OFF	
DELAY TIME 1 (31)	
DELAY TIME 2 (32)	
DELAY TIME 3 (34)	
DELAY TIME 4 (38)	
CENTER MODE 1	
CENTER MODE 2	
NOISE ch.SEL.1	
NOISE ch.SEL.2	
NOISE MODE 1	
NOISE MODE 2	

IC1901 : DOLBY PROLOGIC

IC1901
LA2780

To MOTHER assembly CN791(◆SCH−4)

S (DELAY) OUT	
GND	
L OUT	
GND	
C OUT	
GND	
R OUT	
GND	
L IN	
GND	
R IN	
GND	
S (DOLBY) OUT	
GND	
S IN	

To MOTHER assembly CN792(◆SCH−4)

D.GND	
+12V	
DATA	
CLK	
STB	
SD	
P1	

(CN53)

Note:
IC1906

DELAY TIME

S8 (15 pin)	S4 (16 pin)	S2 (17 pin)	S1 (18 pin)	SHORT MODE
0	0	0	0	20.4ms
0	0	0	1	30.7ms
0	0	1	0	28.7ms
0	0	1	1	26.6ms
0	1	0	0	24.6ms
0	1	0	1	22.5ms
0	1	1	0	20.5ms
0	1	0	1	18.4ms
1	0	0	0	16.4ms
1	0	1	1	14.3ms
1	0	1	0	12.3ms
1	0	0	1	10.2ms
1	1	0	0	8.2ms
1	1	1	1	6.1ms
1	1	1	0	4.1ms
1	1	1	1	2.0ms

Note:
IC1906

NOISE MODE1 (9pin)	NOISE MODE2 (8pin)	
H	H	3ch
H	L	4ch
L	H	4ch
L	L	NOISE

NOISE ch.SEL.1 (12pin)	AUTO BALANCE
H	ON
L	OFF

NOISE ch.SEL.2 (11pin)	AUTO BALANCE
H	ON
L	Test Mode

(✱ 3,4ch MODE)

CENTER MODE1 (14pin)	CENTER MODE2 (13pin)	
L	L	NORMAL
L	H	WIDE
H	L	PHANTOM
H	H	OFF

(✱ 3,4ch MODE)

NOISE ch.SEL.1 (12pin)	NOISE ch.SEL.2 (11pin)	ch
L	L	Lch
L	H	Cch
H	L	Rch
H	H	Sch

(✱ NOISE MODE)

SCH−6

DOL. PRO. MOD. ASSEMBLY

3.7 DOLBY SURR ASSEMBLY

SCH-7

VSX-402 ONLY

DOLBY SURR assembly (AWZ4775)

IC1101
MS0198P

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.3	13	2.6
2	2.5	14	2.6
3	2.2	15	2.6
4	5.1	16	0.55
5	4.3	17	0.55
6	0	18	0.55
7	-	19	2.6
8	-	20	2.6
9	0	21	2.6
10	0	22	2.6
11	0	23	2.6
12	0	24	5.3

To MOTHER assembly CN701 (▲ SCH-4)

CN1101 KP2001ASL: +5V, S IN, GND, DELAY, GND, DELAY(Do)

D1101-1104: HSS104-02

IC1101 MS0198P (Delay-IC)

DELAY SECTION

X1101 A331016

Q1101 XDC124ES-T

To MOTHER assembly CN792 Pin 3-7 (▲ SCH-4)

CN1102 KP2001ASL: D GND, +12V, DATA, CLK, STB

DOLBY TP

IC1102 LA2730

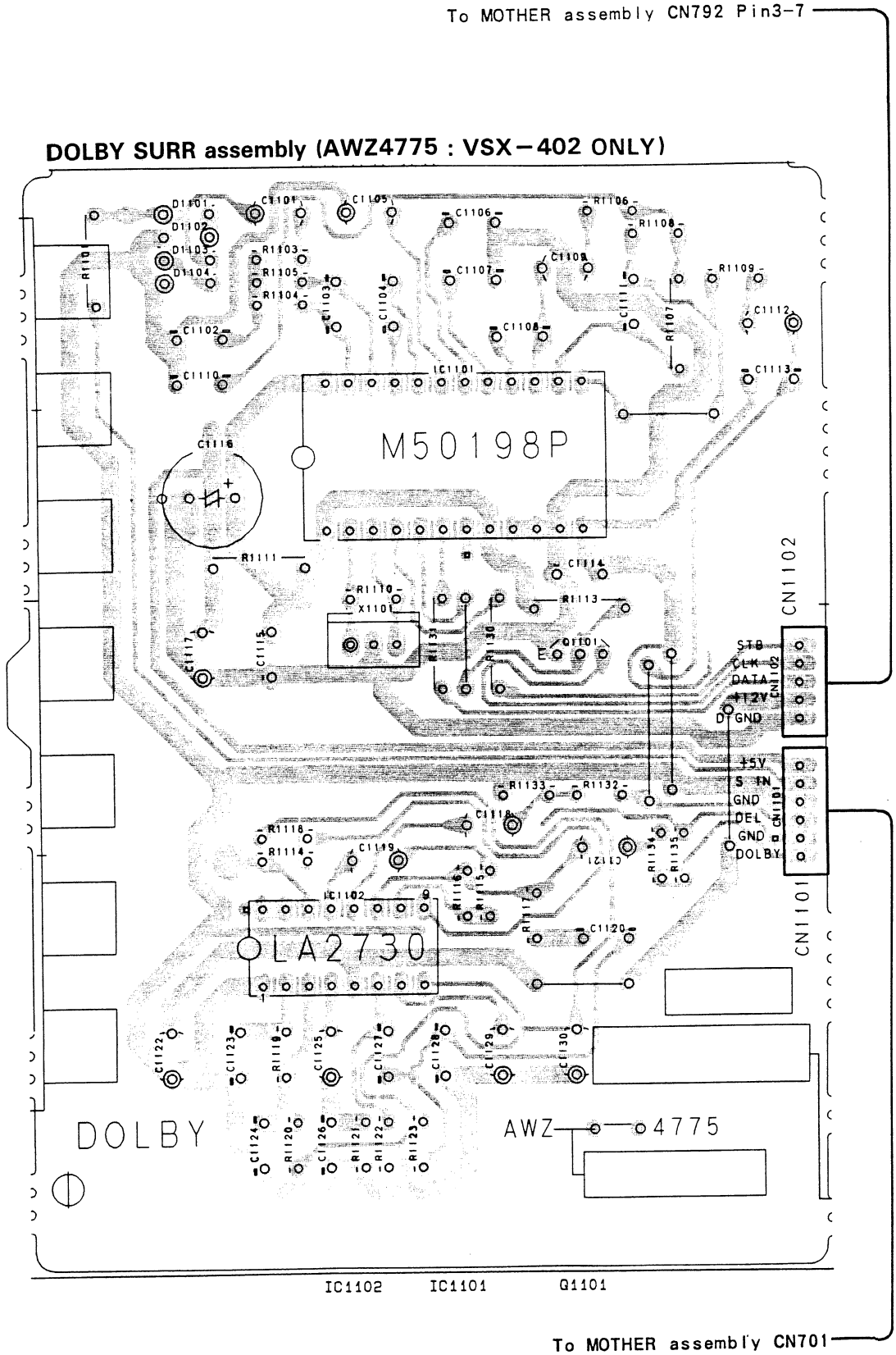
DOLBY DECODER SECTION

IC1102
LA2730

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	6.3
2	6.0	10	5.9
3	6.2	11	5.8
4	6.6	12	6.3
5	11.8	13	6.3
6	6.3	14	6.3
7	6.3	15	5.8
8	6.3	16	5.8

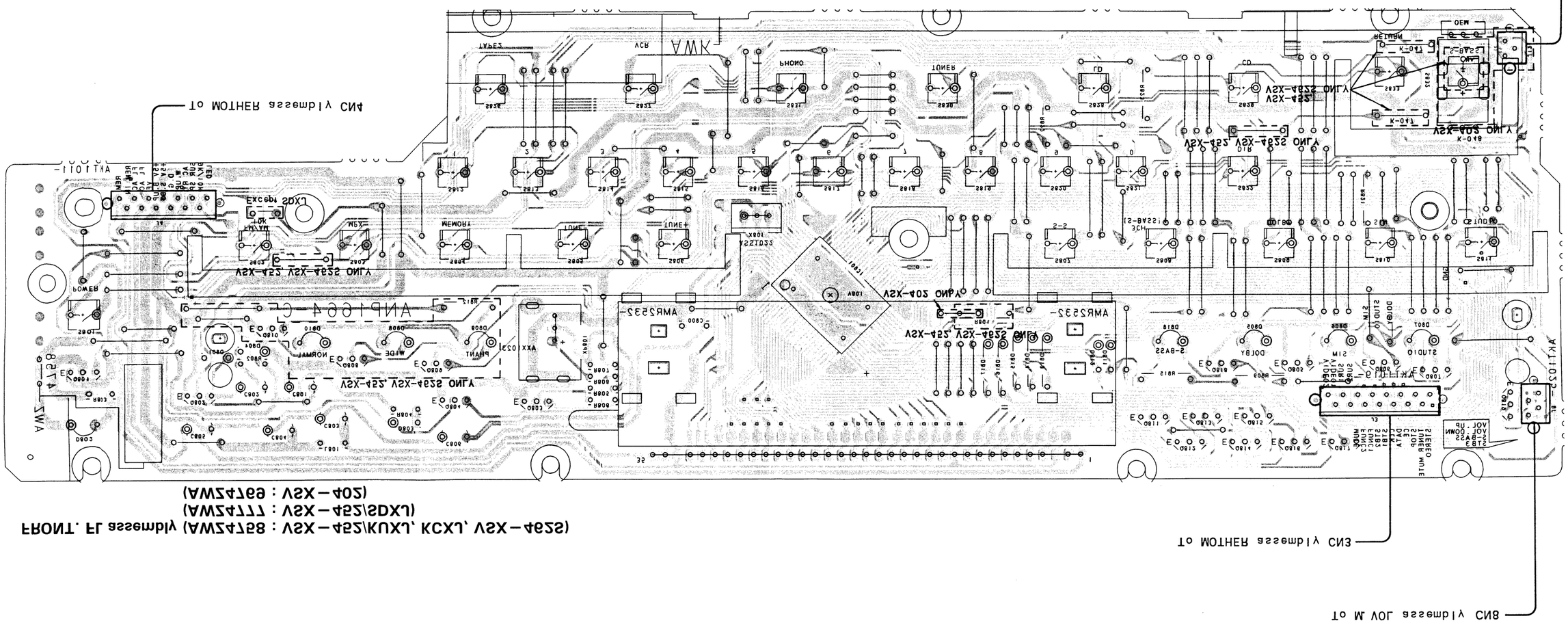
DOLBY SURR ASSEMBLY SCH-7

This PCB connection diagram is viewd from the parts mounted side.



This PCB connection diagram is viwed from the foil side.

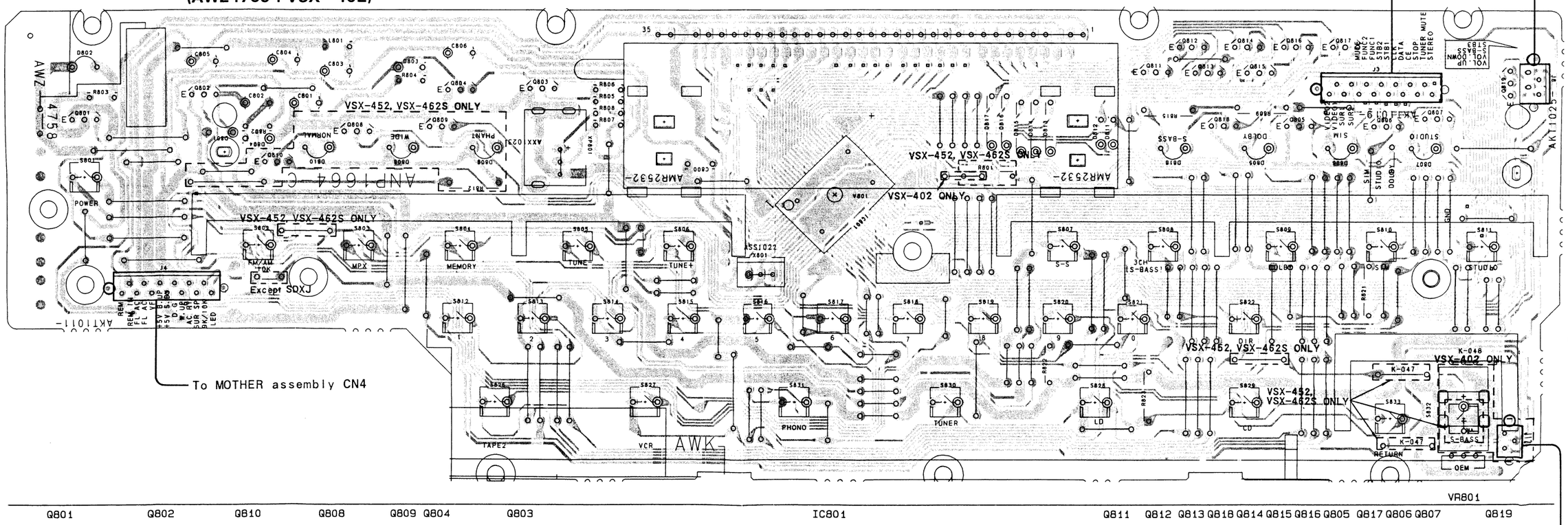
8.6 FRONT. LR ASSEMBLY



3.8 FRONT. FL ASSEMBLY

This PCB connection diagram is viewd from the parts mounted side.

FRONT. FL assembly (AWZ4758 : VSX-452/KUXJ, KCXJ, VSX-462S)
(AWZ4777 : VSX-452/SDXJ)
(AWZ4769 : VSX-402)



SCH-8

To M. VOL assembly CN8 (➡ SCH-5)

To MOTHER assembly CN3 (➡ SCH-4)

To MOTHER assembly CN4 (➡ SCH-4)

FRONT. FL assembly
(AWZ4758 : VSX-452/KUXJ, KCXJ, VSX-462S)
(AWZ4777 : VSX-452/SDXJ)
(AWZ4769 : VSX-402)

J8 AKT1025: STB3, S-BASS, VOL DOWN, VOL UP

J3 AKT1019: V-CONT2 (D3), V-CONT1 (D2), SUR1 (DOLBY), SUR2 (STUDIO), MUTE, FUNC2 (E3), FUNC1 (E2), STB2, STB1, CLK, DATA, CE, STOP, TUNER MUTE, STEREO

J4 AKT1011: REM, REM IN, FL AC, FL AC, -VF, +5V B.UP, +5V S.BY, D.C, AC W.UP, AC RY, SURR/C SP, 9K/10K, REAR+B

Q819 : S-BASS SW (XDA124E5-T)

V(1:3)

A(1:10)

S(1:21)

IC801 : SYSTEM CONTROL

IC801
PDG095B

X801 AS31022

V801 AAV1174

FL HOLDER X2
AHR2532

C(1:3)

SURR(1:3)

Q801:LED DRIVER (XDA124E5-T)

D802 AEL1151-A-T

DOLBY D805 AEL1065-A-T
SIM D806 AEL1065-A-T
STUDIO D807 AEL1065-A-T
WIDE D808 AEL1065-A-T
PHANTOM D809 AEL1065-A-T
NORMAL D810 AEL1065-A-T
S-BASS D816 AEL1065-A-T

XDC124E5-TXDC124E5-TXDC124E5-TXDC124E5-TXDC124E5-TXDC124E5-T

VSX-452, VSX-462S ONLY

Q805-810, 818 : LED DRIVER

Q803, 804 : DRIVER

XP801 AXX1023

S801-S833: ASG1029-

9k / 10k JP — Except SDXJ

3CH (VSX-452, VSX-462S) S-BASS (VSX-402)

POWER, FM/AM, MPX, MEMORY, TUNE -, TUNE +, S-S, DOLBY, SIM, STUDIO, DIR, RETURN
TAPE2, VCR1, LD, CD, TUNER, PHONO, S-BASS

R821 47.0k, R822 47.0k, R823 47.0k

VSX-402 ONLY — VR801 ACS1093

VSX-452, VSX-462S ONLY

J12 AKI1024

To MOTHER assembly CN12 (➡ SCH-4)

T(1:11)

T'(1:7)

Q811-817 : FL DRIVER

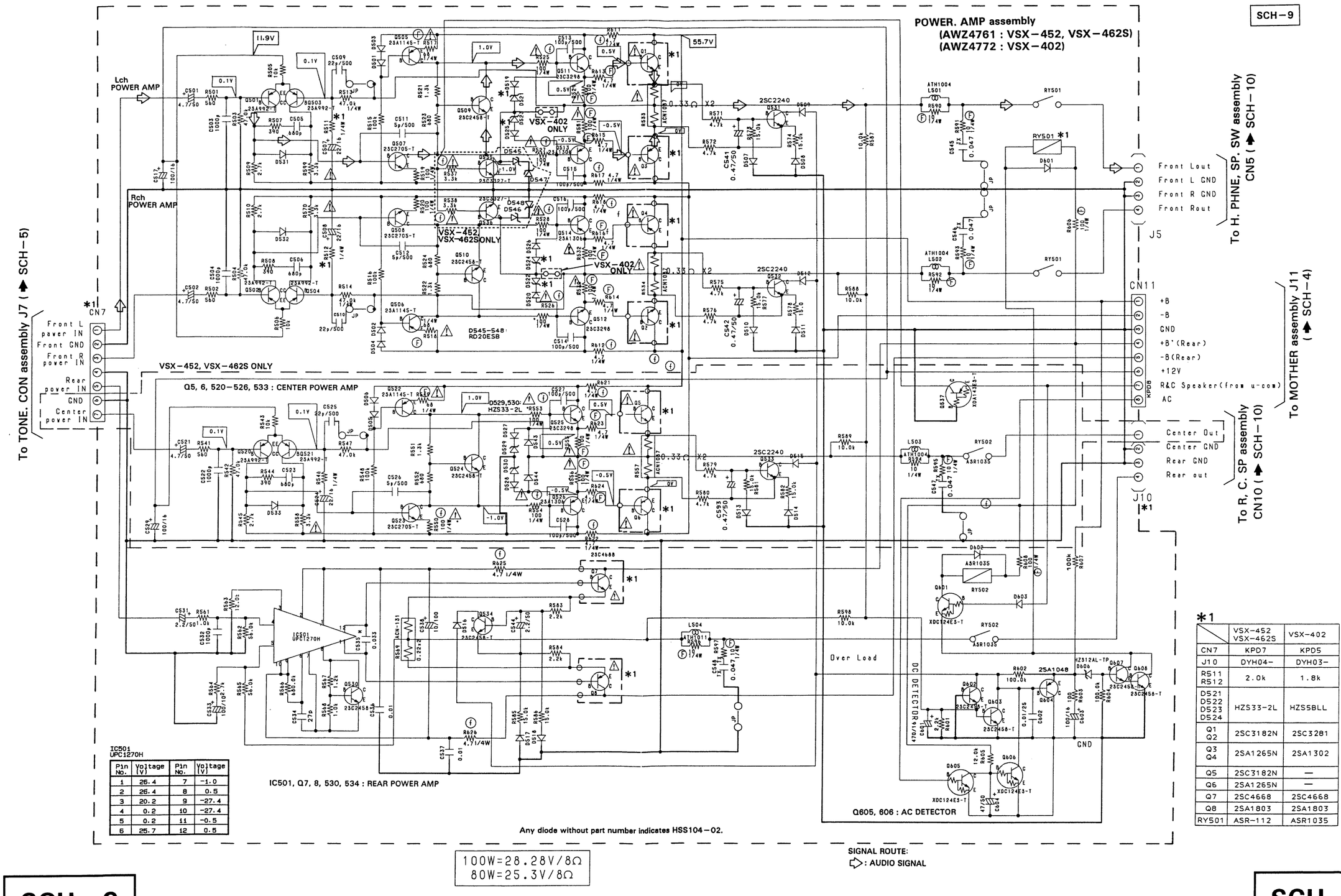
VSX-402 ONLY

VSX-452, VSX-462S ONLY

Q802 : RESET

D804 RD2.7ESB

3.9 POWER. AMP ASSEMBLY



IC501
UPC1270H

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	26.4	7	-1.0
2	26.4	8	0.5
3	20.2	9	-27.4
4	0.2	10	-27.4
5	0.2	11	-0.5
6	25.7	12	0.5

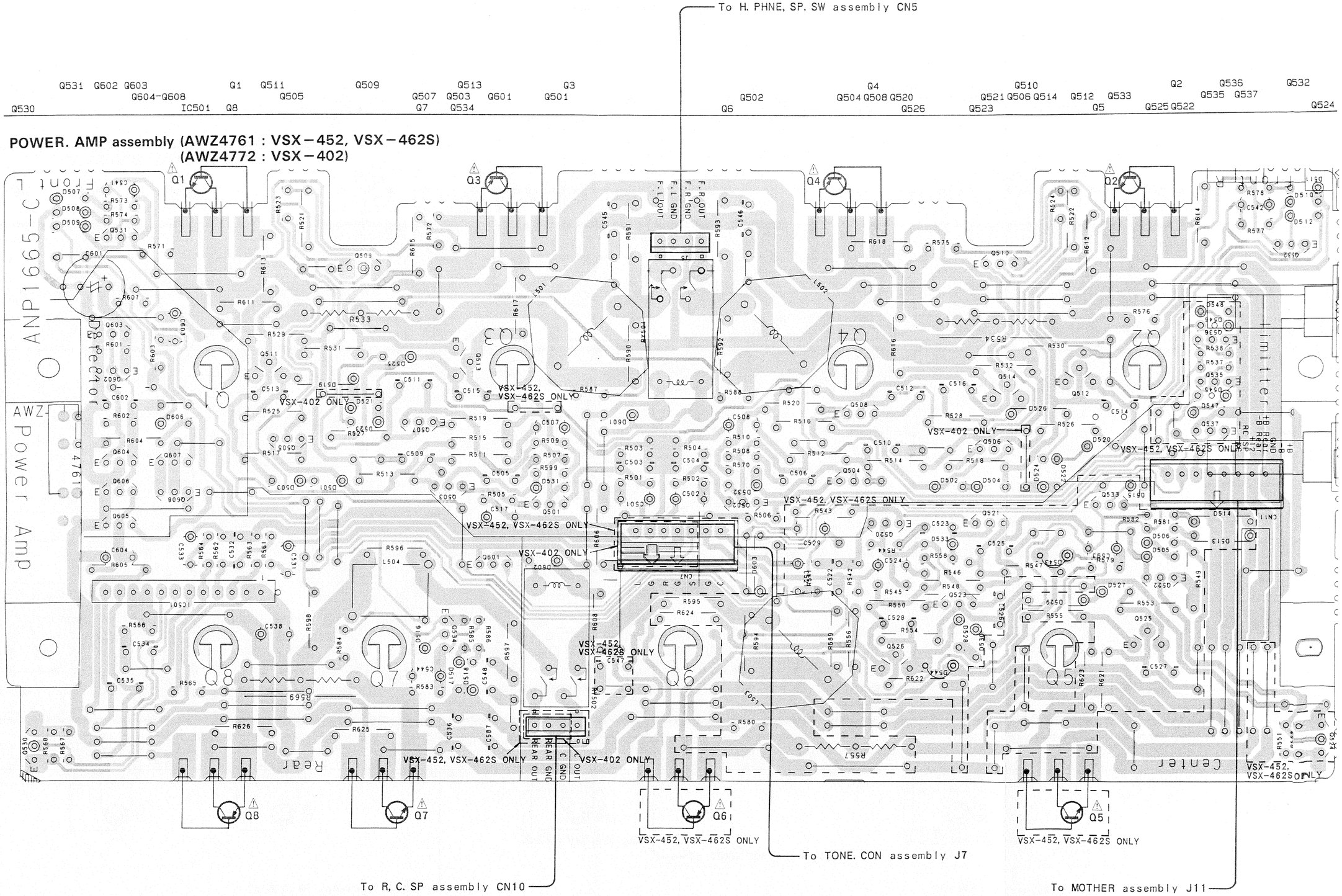
*1

	VSX-452 VSX-462S	VSX-402
CN7	KPD7	KPD5
J10	DYH04-	DYH03-
RS11 RS12	2.0k	1.8k
D521 D522 D523 D524	HZS33-2L	HZS5BLL
Q1 Q2	2SC3182N	2SC3281
Q3 Q4	2SA1265N	2SA1302
Q5	2SC3182N	—
Q6	2SA1265N	—
Q7	2SC4668	2SC4668
Q8	2SA1803	2SA1803
RY501	ASR-112	ASR1035

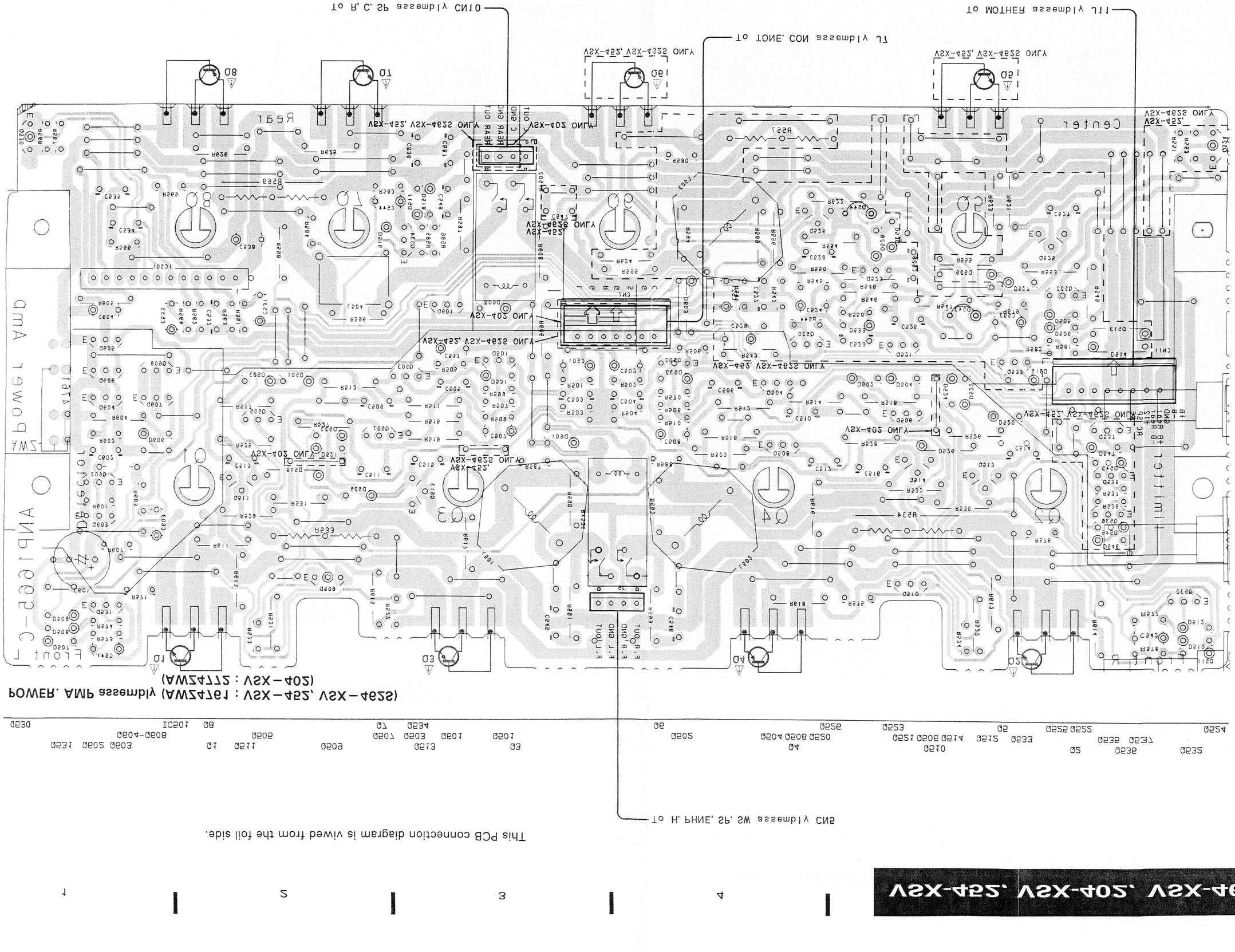
POWER. AMP ASSEMBLY SCH-9

This PCB connection diagram is viewd from the parts mounted side.

POWER. AMP assembly (AWZ4761 : VSX-452, VSX-462S)
(AWZ4772 : VSX-402)



VSX-D25, VSX-D05, VSX-D05S



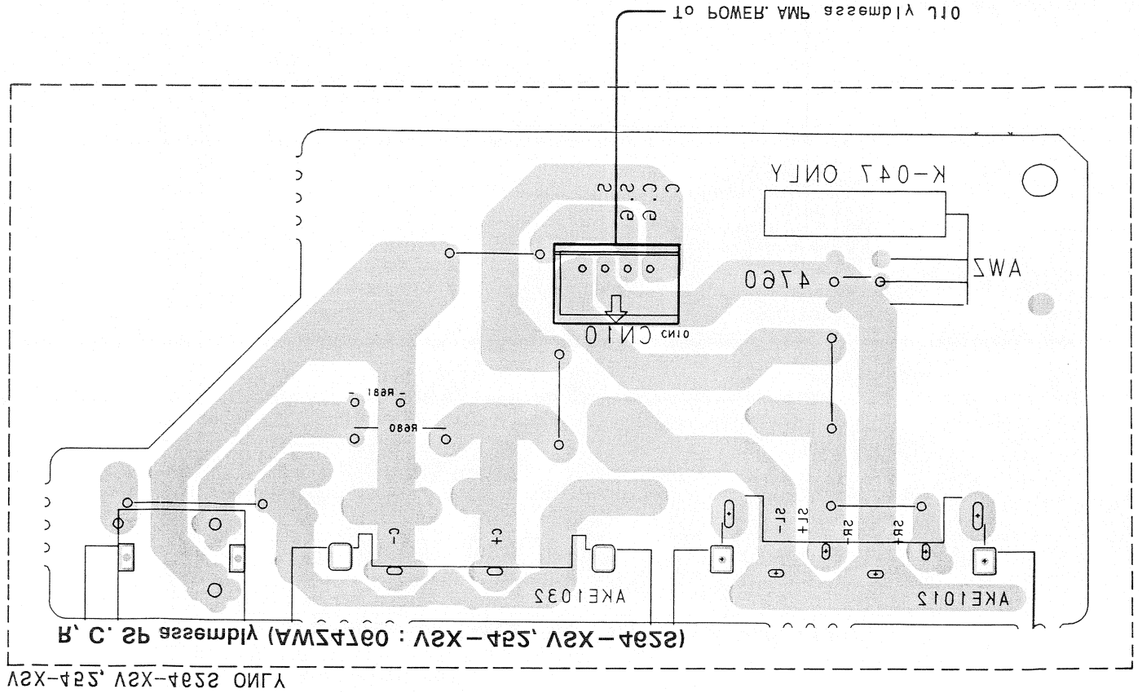
VSX-AS2S, VSX-AS0S, VSX-AS2SS

3.10 R. C. SP ASSEMBLY, H. PHNE. SP. SW ASSEMBLY AND TRANS ASSEMBLY

This PCB connection diagram is viewed from the foil side.

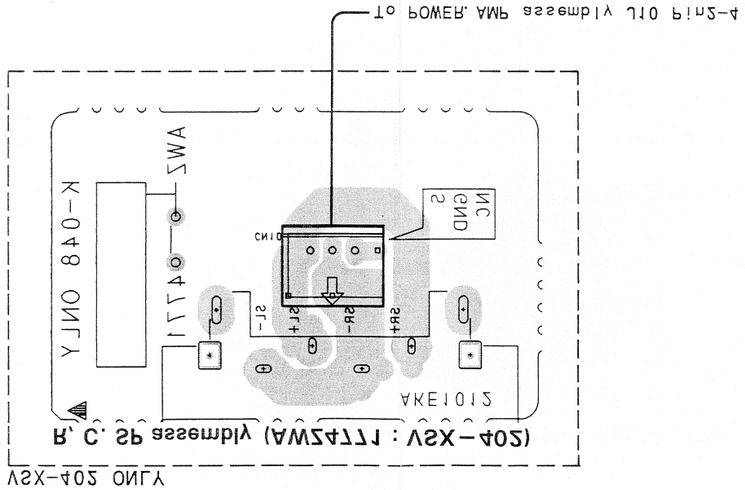
R. C. SP assemply (AWZ4769 : VSX-AS2S, VSX-AS2SS)

VSX-AS2S, VSX-AS2SS ONLY

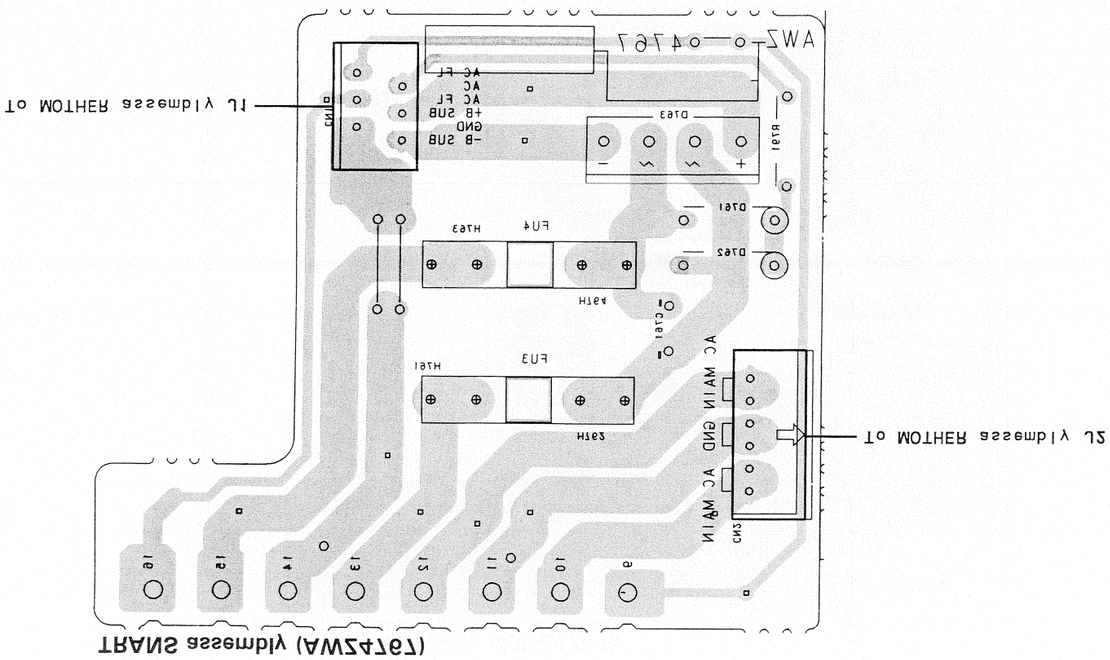


R. C. SP assemply (AWZ4777 : VSX-AS0S)

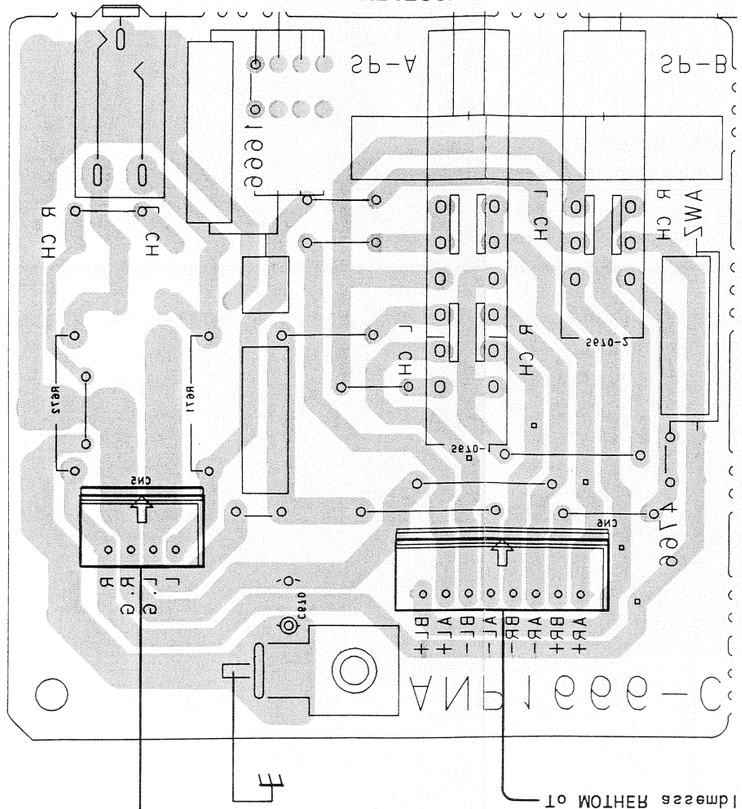
VSX-AS0S ONLY



TRANS assemply (AWZ4767)

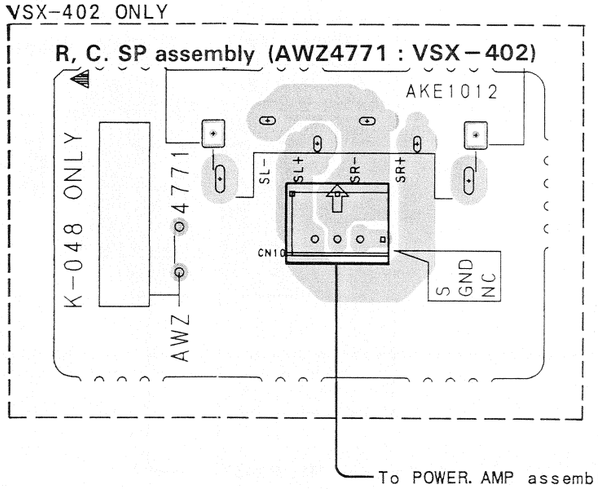


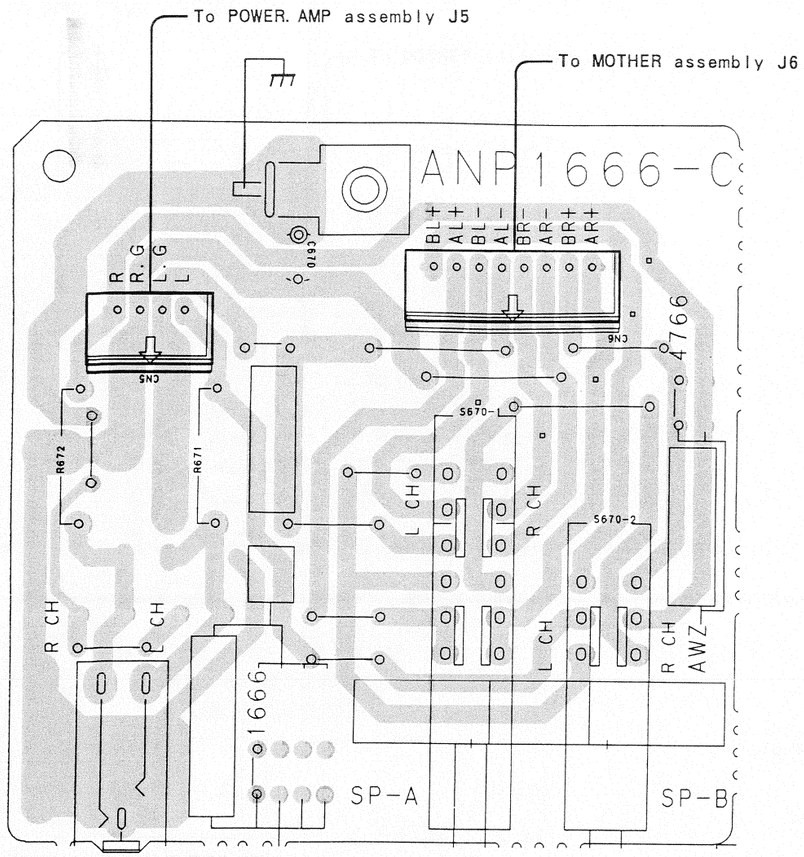
H. PHNE. SP. SW assemply (AWZ4768)



3.10 R, C. SP ASSEMBLY, H. PHNE, SP. SW ASSEMBLY AND TRANS ASSEMBLY

VSX-402 ONLY

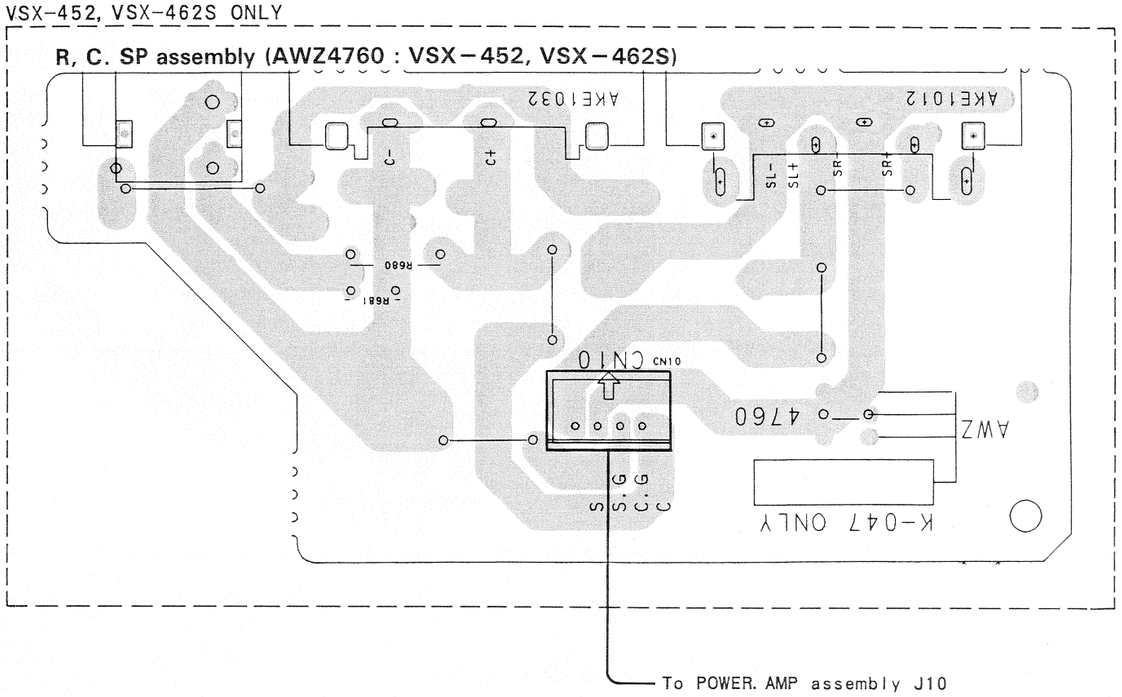




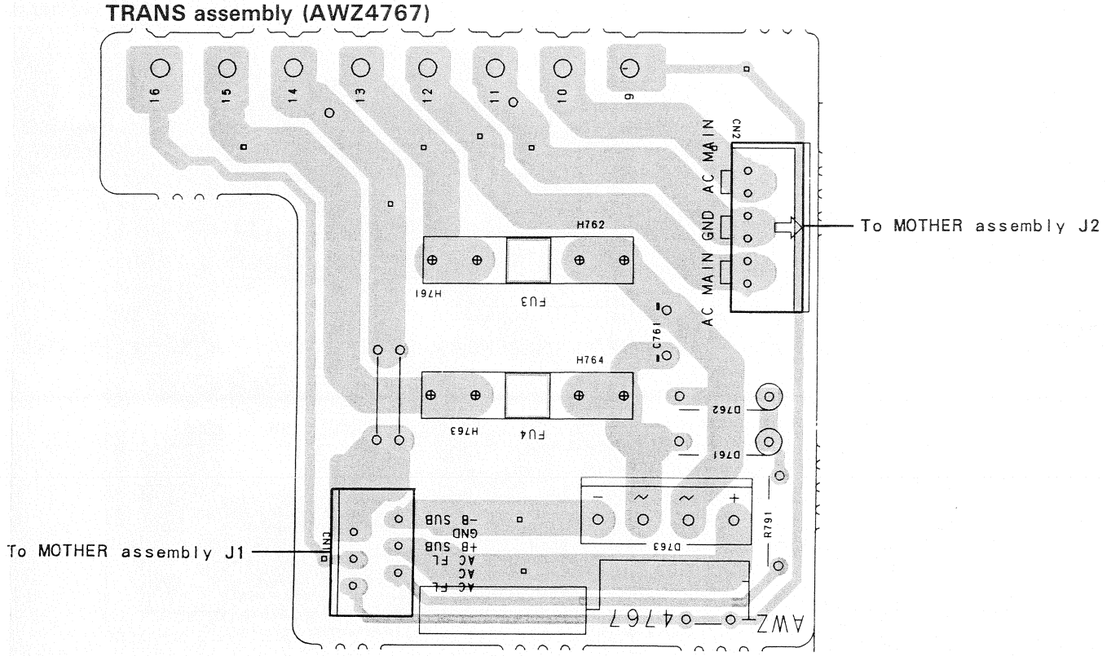
H. PHNE, SP. SW assembly (AWZ4766)

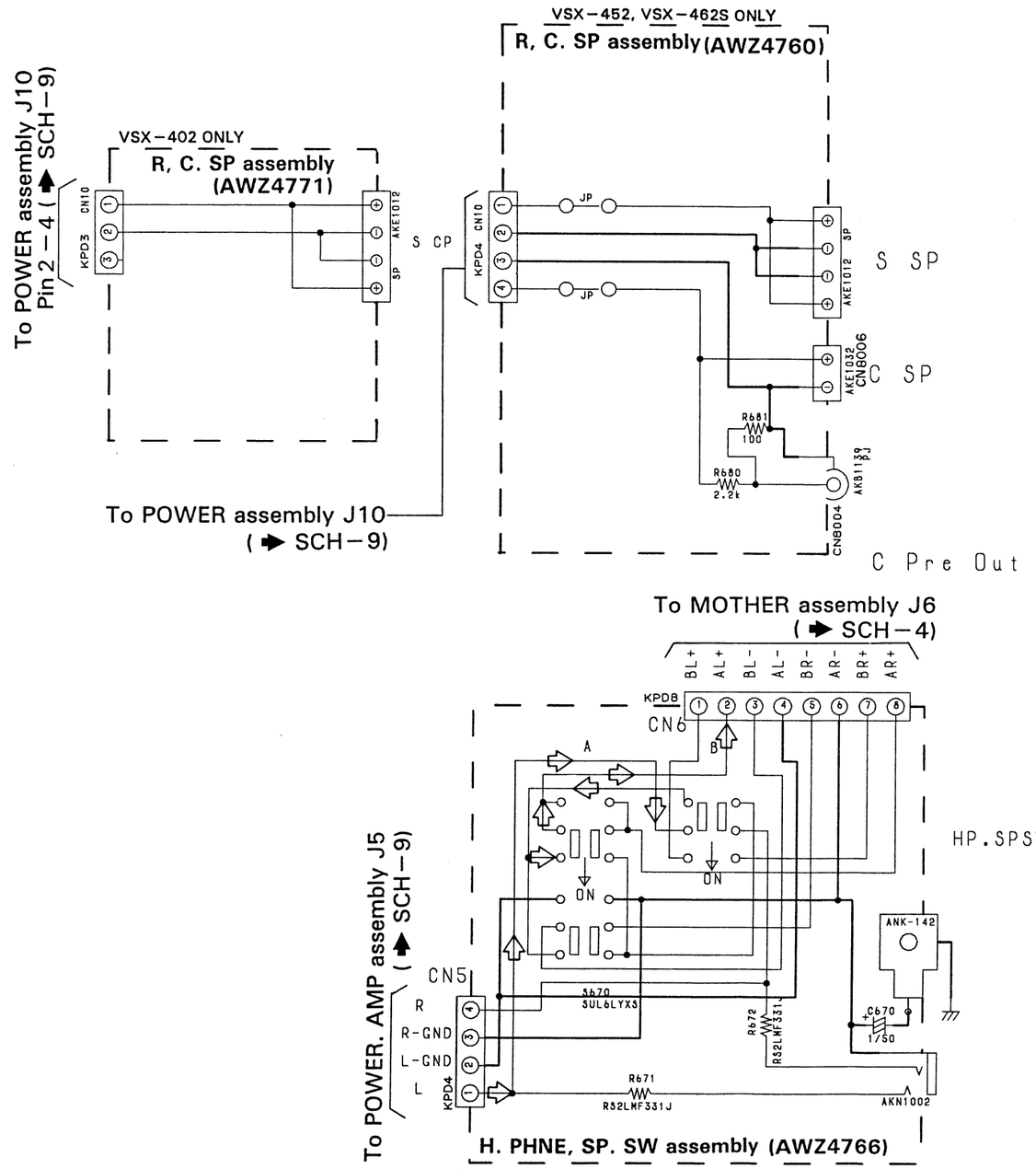
This PCB connection diagram is viewd from the parts mounted side.

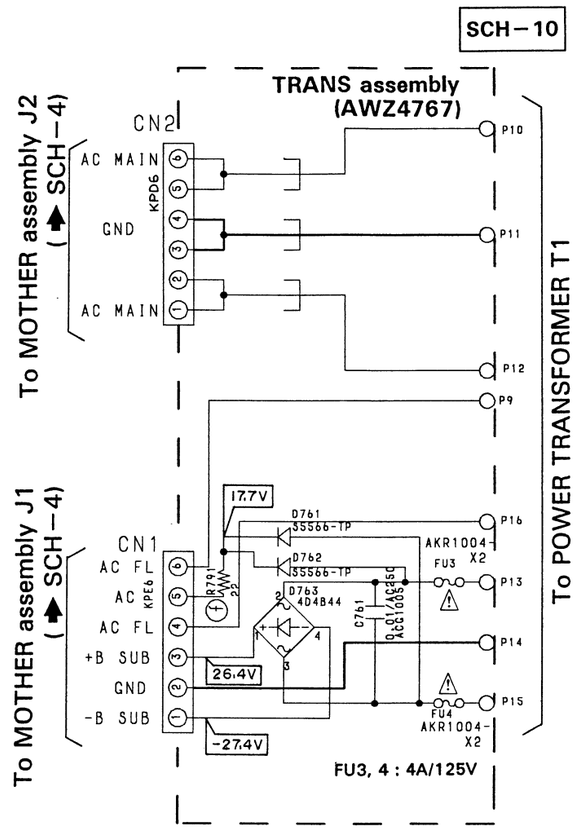
VSX-452, VSX-462S ONLY



TRANS assembly (AWZ4767)







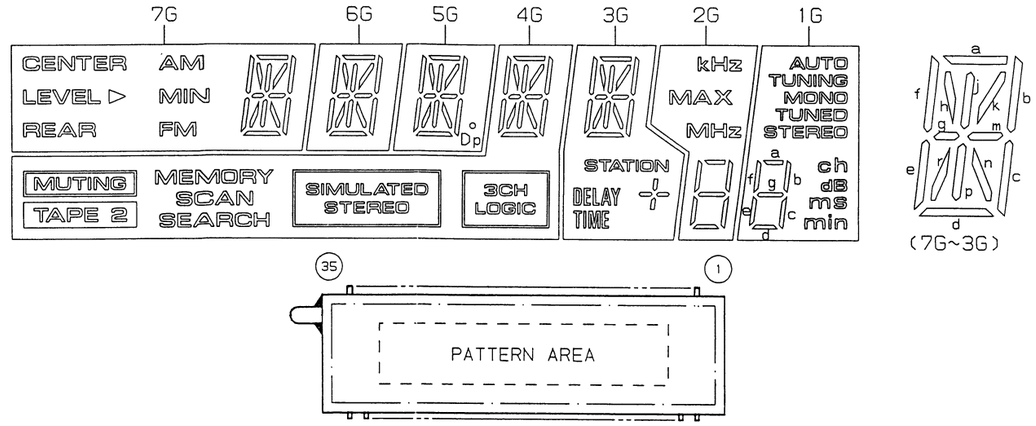
SIGNAL ROUTE:

⇨: AUDIO SIGNAL

■ AAV1174 (V801 : FRONT. FL ASSEMBLY)

● FL Tube

● Grid Assignment



● Pin Connection

PIN NO.	35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
CONNECTION	F F N P P P P P P P P P P P P P P P P P P P P P P P P P N C G G G G G G G N F F
	2 2 P 1 0 9 8 7 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 C 6 5 4 3 2 1 P 1 1

NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) 1G~7G --- Grid
5) DL ------ Datum Line

● Anode Connection

	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a
P2	j	j	j	j	j	b	b
P3	h	h	h	h	h	f	f
P4	k	k	k	k	k	g	g
P5	b	b	b	b	b	c	c
P6	f	f	f	f	f	e	e
P7	m	m	m	m	m	d	d
P8	g	g	g	g	g	kHz	AUTO TUNING
P9	c	c	c	c	c	MAX	MONO
P10	e	e	e	e	e	MHz	TUNED
P11	r	r	r	r	r	–	STEREO
P12	n	n	n	n	n	–	ch
P13	p	p	p	p	p	–	dB
P14	d	d	d	d	d	–	ms
P15	CENTER	–	Dp	3CH LOGIC	STATION	–	min
P16	LEVEL ▷	–	–	SIMULATED STEREO	DELAY TIME	–	–
P17	REAR	–	–	MEMORY	○○	–	–
P18	AM	–	–	SCAN	0 0	–	–
P19	MIN	–	–	SEARCH	–	–	–
P20	FM	–	–	MUTING	–	–	–
P21	–	–	_	TAPE 2	–	–	–

4. PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *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%).

560Ω → 56 × 10¹ → 561 ..... RD1/8PM 5 6 1 J
47kΩ → 47 × 10³ → 473 ..... RD1/4PS 4 7 3 J
0.5Ω → 0R5 ..... RN2H 0 R 5 K
1Ω → 010 ..... RS1P 0 1 0 K

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

5.62kΩ → 562 × 10¹ → 5621 ..... RM1/4PC 5 6 2 1 F

Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES			
NSP		MAIN ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWK1664
NSP		MAIN ASSEMBLY (For VSX−452/SDXJ)	AWK1698
NSP		MAIN ASSEMBLY (For VSX−402)	AWK1667
		├ MOTHER ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWZ4757
◉		├ MOTHER ASSEMBLY (For VSX−452/SDXJ)	AWZ4776
		├ MOTHER ASSEMBLY (For VSX−402)	AWZ4768
◉		├ FRONT. FL ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWZ4758
◉		├ FRONT. FL ASSEMBLY (For VSX−452/SDXJ)	AWZ4777
◉		├ FRONT. FL ASSEMBLY (For VSX−402)	AWZ4769
		└ REG. ASSEMBLY	AWZ5039
NSP		AMP/FUNC ASSEMBLY (For VSX−452 and VSX−462S)	AWK1665
NSP		AMP/FUNC ASSEMBLY (For VSX−402)	AWK1668
		├ A. FUNC ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4759
		├ A. FUNC ASSEMBLY (For VSX−402)	AWZ4770
		├ POWER. AMP ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4761
		├ POWER. AMP ASSEMBLY (For VSX−402)	AWZ4772
		├ VIDEO. AMP ASSEMBLY	AWZ4763
		├ M. VOL ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4764
		├ M. VOL ASSEMBLY (For VSX−402)	AWZ4773
		├ TONE. CON ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4765
◉		├ TONE. CON ASSEMBLY (For VSX−402)	AWZ4774
		└ DOLBY. SURR ASSEMBLY (VSX−402 only)	AWZ4775
NSP		SP/TUNER ASSEMBLY (For VSX−452 and VSX−462S)	AWK1666
NSP		SP/TUNER ASSEMBLY (For VSX−402)	AWK1669
◉		├ R, C. SP ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4760
◉		├ R, C. SP ASSEMBLY (For VSX−402)	AWZ4771
◉		├ TUNER ASSEMBLY	AWZ4762
◉		├ H. PHNE, SP. SW ASSEMBLY	AWZ4766
◉		└ TRANS ASSEMBLY	AWZ4767
		DOL. PRO. MOD. ASSEMBLY (For VSX−452 and VSX−462S)	AXQ1009

MOTHER ASSEMBLY

SEMICONDUCTORS

IC705	MC14066BCP
IC704	NJM4558DXP
Q709	2SA1048
Q705	2SC2458
Q703, Q706, Q708	XDA143ES
Q710	XDC124ES
Q704, Q707, Q751	XDC143ES
D712	D5SB20F
D701−D704, D706, D714, D754, D757	HSS104−○2
D705, D707 (VSX−452, VSX−462S only)	HSS104−○2
D715 (VSX−402 only)	HSS104−○2
D753, D756	HZS6A2L
D708, D709	HZS6B2L
D758 (VSX−402 only)	HZS6B2L
D711	RD22ESB3
D710	RD4.3ES13
D752, D755	S5566

SWITCH & RELAY

RY751	ASR1027
S701 (VSX−452/SDXJ only)	ASH1015

Mark	No.	Description	Parts No.
TRANSFORMERS			
	T751 (Except VSX−452/SDXJ)		ATT1223
	T751 (For VSX−452/SDXJ)		ATT1224
CAPACITORS			
	C754	(0.01/400)	ACG1002
	C755	(0.01/400) (Except VSX−452/SDXJ)	ACG1002
	C755	(0.02) (For VSX−452/SDXJ)	ACG1030
	C717	(0.01/150)	ACG1005
	C713, C714	(8200/63) (Except VSX−402)	ACH1044
	C713, C714	(8200/71) (For VSX−402)	ACH1204
	C715, C716	(3300/42)	ACH1123
	C704		ACH1135
	C771 (VSX−452, VSX−462S only)		CEAS010M50
	C753		CEAS470M10
	C705, C706		CEAS470M16
	C756 (VSX−402 only)		CEAS470M16
	C752		CEAS471M25
	C701−C703		CEAS4R7M50
	C772 (VSX−452, VSX−462S only)		CKCYB821K50
	C751		CKCYX104M25
	C781 (VSX−452, VSX−462S only)		CKCYF103Z50
RESISTORS			
	R756	(2.2M, 1/2W) (Except VSX−452/SDXJ)	ACN−208
	R752		RD1/2PM470J
	R728		RD1/4PM331J
	R732		RD1/4PMF4R7J
	R700		RFA1/4PS4R7J
	R729		RS1LMF101J
	R758 (VSX−402 only)		RS1LMF101J
	R735		RS1LMF150J
	R759 (VSX−452, VSX−462S only)		RS1LMF331J
	R751		RS2LMF221J
	R733, R734		RS2LMF330J
	R731 (Except VSX−402)		RS2LMF332J
	R730 (Except VSX−402)		RS2LMF392J
	R730, R731 (For VSX−402)		RS2LMF472J
	Other Resistors		RD1/8PM□□□J
OTHERS			
		SPEAKER TERMINAL 8−P	AKE−111
	CN8005	MINI JACK 2P	AKN1006
		MINI JACK (VSX−452, VSX−462S only)	AKN1020
	CN8008	1P AC INLET WITH OUTLET (Except VSX−452/SDXJ)	AKP1124
	CN8008	1P AC INLET WITH OUTLET (For VSX−452/SDXJ)	AKP1123
	CN4	JUMPER CONNECTOR (13P)	KPE13
	CN3	JUMPER CONNECTOR (15P)	KPE15
	CN12	JUMPER CONNECTOR (3P) (VSX−402 only)	KPE3

FRONT. FL ASSEMBLY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC801		PDG095B
	Q803, Q804		2SC2458
	Q801, Q819		XDA124ES
	Q802, Q805−Q807, Q811−Q818		XDC124ES
	Q808−Q810 (VSX−452, VSX−462S only)		XDC124ES
	D808−D810 (VSX−452, VSX−462S only)		AEL1065
	D805−D807, D818		AEL1065
	D802		AEL1151
	D801, D803, D811−D817		HSS104−02
	D804		RD2.7ESB
SWITCHES			
	S801−S822, S826−S831, S833		ASG1029
	S832 (VSX−452, VSX−462S only)		ASG1029
COIL			
	L801		LAU100K
CAPACITORS			
	C801		CEAS0R1M50
	C802−C804, C806		CEAS100M50
	C805		CEAS470M35
	C800		CKPUYF473Z16
RESISTORS			
	VR801 (VSX−402 only)		ACS1093
	R809, R815		RD1/2PM222J
	R812 (VSX−452, VSX−462S only)		RD1/2PM222J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	X801	(4.19MHz)	ASS1022
	V801	FL TUBE	AAV1174
		REMOTE RECEIVER UNIT	AXU1023

A. FUNC ASSEMBLY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC202		MC4052BCP
	IC201, IC204, IC205		NJM4558DXP
	IC203		TC9163N

Mark	No.	Description	Parts No.
	Q201, Q202		2SC2878
	Q203		XDA143ES
	D203−D206		HSS104−02
	D201, D202		HZS6A2L
CAPACITORS			
	C229, C230		CCCSL220J50
	C205, C206		CCCSL221J50
	C202		CEAS010M50
	C203, C204, C215, C216		CEAS100M50
	C207, C208		CEAS101M16
	C213, C214, C223, C224		CEAS2R2M50
	C219, C220, C225−C228, C231, C232		CEAS4R7M50
	C217, C218		CKCYB102K50
	C233−C235		CKCYB471K50
	C201, C221, C222		CKCYF103Z50
	C211, C212		CQMA242J50
	C209, C210		CQMA822J50
RESISTORS			
	R237, R238		RD1/4PM122J
	R237, R238 (For VSX−402)		RD1/2PM122J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN8004	PIN JACK (6P)	AKB1209
	CN8005	PIN JACK (8P)	AKB1210

R. C. SP ASSEMBLY

Mark	No.	Description	Parts No.
RESISTORS			
	All Resistors		RD1/8PM□□□J
OTHERS			
	CN8004	PIN JACK (1P) (VSX−452, VSX−462S only)	AKB1139
		SPEAKER TERMINAL 4−P	AKE1012
	CN8006	SPEAKER TERMINAL 2−P (VSX−452, VSX−462S only)	AKE1032

POWER. AMP ASSEMBLY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC501		UPC1270H
	Q604		2SA1048
	Q505, Q506		2SA1145
	Q522 (VSX−452, VSX−462S only)		2SA1145
	Q513, Q514		2SA1306
	Q526 (VSX−452, VSX−462S only)		2SA1306
	Q501−Q504		2SA992
	Q520, Q521 (VSX−452, VSX−462S only)		2SA992
	Q531, Q532		2SC2240
	Q533 (VSX−452, VSX−462S only)		2SC2240
	Q509, Q510, Q530, Q534, Q602, Q603, Q607, Q608		2SC2458
	Q524 (VSX−452, VSX−462S only)		2SC2458
	Q507, Q508		2SC2705
	Q523 (VSX−452, VSX−462S only)		2SC2705
	Q511, Q512		2SC3298
	Q525 (VSX−452, VSX−462S only)		2SC3298
	Q535, Q536 (VSX−452, VSX−462S only)		2SC3327
	Q537 (VSX−452, VSX−462S only)		XDA143□□
	Q601, Q605, Q606		XDC124□□
	D501−D504, D507−D512, D516−D520, D525, D526, D531, D532, D601−D603		HSS104−02
	D505, D506, D513−D515, D527, D528, D533, D543, D544 (VSX−452, VSX−462S only)		HSS104−02
	D606		HZS12AL
	D521−D524 (Except VSX−402)		HZS33−2L
	D529, D530 (VSX−452, VSX−462S only)		HZS33−2L
	D521−D524 (For VSX−402)		HZS5BLL
	D545−D548 (VSX−452, VSX−462S only)		RD20ESB
RELAIES			
	RY501 (Except VSX−402)		ASR−112
	RY501 (For VSX−402)		ASR1D35
	RY502		ASR1D35
COILS			
	L501, L502		ATH1O04
	L503 (VSX−452, VSX−462S only)		ATH1O04
	L504		ATH1O11
CAPACITORS			
	C511, C512		CCCSL050C500
	C526 (VSX−452, VSX−462S only)		CCCSL050C500
	C513−C516		CCCSL101K500
	C527, C528 (VSX−452, VSX−462S only)		CCCSL101K500
	C509, C510		CCCSL220K500
	C525 (VSX−452, VSX−462S only)		CCCSL220K500
	C534		CCCSL270J50
	C517, C603		CEASL01M16
	C529 (VSX−452, VSX−462S only)		CEASL01M16
	C507, C508		CEASZ20M16
	C524 (VSX−452, VSX−462S only)		CEASZ20M16
	C544		CEASZR2M50
	C601		CEASL71M16
	C501, C502		CEASLR7M50
	C521 (VSX−452, VSX−462S only)		CEASLR7M50

Mark	No.	Description	Parts No.
	C541, C542		CEASR47M50
	C593 (VSX−452, VSX−462S only)		CEASR47M50
	C538		CEHAQ100M2A
	C533		CEHAQ101M10
	C531		CEHAQ2R2M50
	C604		CEHAQ470M50
	C545, C546, C548		CFTYA473J50
	C547 (VSX−452, VSX−462S only)		CFTYA473J50
	C503, C504, C532		CKCYB102K50
	C522 (VSX−452, VSX−462S only)		CKCYB102K50
	C536, C537		CKCYF103Z50
	C602		CKCYX103M25
	C505, C506		CKDYB681K50
	C523 (VSX−452, VSX−462S only)		CKDYB681K50
	C535		CQMA333J50
RESISTORS			
	R569 (0.22, 2W)		ACN−131
	R533, R534 (0.33, 5W)		ACN1087
	R557 (0.33, 5W) (VSX−452, VSX−462S only)		ACN1087
	R515, R516		RD1/4PM104J
	R548 (VSX−452, VSX−462S only)		RD1/4PM104J
	R511, R512 (Except VSX−402)		RD1/4PM202J
	R546 (VSX−452, VSX−462S only)		RD1/4PM202J
	R511, R512 (For VSX−402)		RD1/4PM182J
	R513, R514		RD1/4PM473J
	R547 (VSX−452, VSX−462S only)		RD1/4PM473J
	R590−R593, R596, R597		RD1/4PMF100J
	R594, R595 (VSX−452, VSX−462S only)		RD1/4PMF100J
	R529−R532, R606, R608		RD1/4PMF101J
	R555, R556 (VSX−452, VSX−462S only)		RD1/4PMF101J
	R614−R616		RD1/4PMF4R7J
	R623, R624 (VSX−452, VSX−462S only)		RD1/4PMF4R7J
	R517, R518		RD1/4PMF680J
	R549 (VSX−452, VSX−462S only)		RD1/4PMF680J
	R519, R520, R525−R528		RFA1/4PS101J
	R550, R553, R554 (VSX−452, VSX−462S only)		RFA1/4PS101J
	R611, R612, R617, R618, R625, R626		RFA1/4PS4R7J
	R621, R622 (VSX−452, VSX−462S only)		RFA1/4PS4R7J
	R613 (Except VSX−402)		RFA1/4PS4R7J
	R613 (For VSX−402)		RD1/4PMF4R7J
	Other Resistors		RD1/8PM□□□J

TUNER ASSEMBLY

SEMICONDUCTORS

IC101		LA1851N
IC102		LM7001

Mark	No.	Description	Parts No.
	Q110		2SC1740S
	Q108		2SC1740SLN
	Q101		2SC2668
	Q109		2SK246
	Q102		XDA124ES
	Q104		XDA143ES
	Q103		XDC124ES
COILS			
	L101		ATE1012
	F101, F102		ATF−126
	F103		ATF−208
	L106		LAU2R2K
CAPACITORS			
	C107, C146, C147		CCPUCH150J50
	C122		CCPUSL470J50
	C123, C130, C131		CEAS010M50
	C109, C126		CEAS100M50
	C150		CEAS330M16
	C117		CEAS3R3M50
	C119, C142		CEAS470M16
	C125, C136, C137		CEAS4R7M50
	C132		CEASR33M50
	C149		CFTYA103J50
	C148		CFTYA224J50
	C134, C135		CKCYB103K50
	C100		CKDYX103M25
	C115		CKDYX473M25
	C116		CKPUYB102K50
	C145		CKPUYB221K50
	C106, C108, C151		CKPUYF223Z25
	C105		CKPUYF473Z16
	C120		CKPUYX562M16
	C101, C103, C110, C112, C113, C118, C121, C128, C129, C152		CKPUYY103N16
	C111		CCDSL101J50
RESISTORS			
	All Resistors		RD1/8PM□□□J
OTHERS			
	X102 (7.200MHz)		A-SS1005
	X101 (456KHz)		A-SS1066
	AM RF TUNING BLOCK		A-XX1025
	ANTENNA TERMINAL 4−P		A-KA1009
	2 SERIAL F. E. MODULE ASSEMBLY		A-XQ1002

NOTE:
The 2 serial F. E. module assembly (AXQ1002) will be replaced upon periodical servicing. Therefore, individual parts in the assembly are not specified for service.

Mark	No.	Description	Parts No.
VIDEO. AMP ASSEMBLY			
SEMICONDUCTORS			
	IC401		LA7952
	Q401, Q403		2SC2458
	Q402		2SC2878
	D401		HSS104−02
CAPACITORS			
	C405, C408, C411		CEAS101M16
	C410		CEAS470M16
	C403, C404		CEAS471M6
	C401, C402		CEAS4R7M50
	C406, C409, C412		CKCYF473Z50
RESISTORS			
	R412, R413		RD1/2PM271J
	R407, R411		RD1/4PM151J
	Other Resistors		RD1/8PM□□□J
OTHER			
	PIN JACK 2P		AKB1118
M. VOL ASSEMBLY			
SEMICONDUCTORS			
	IC303, IC304, IC382		NJM4558DXP
	IC381		TA8409S
	IC305		TC9154AP
	Q381, Q382		2SC2458
	D351, D352		HZS6A2L
COILS			
	L381, L382		LAU220K
CAPACITORS			
	C353, C357 (VSX−452, VSX−462S only)		CCCSL680J50
	C354, C358		CCCSL680J50
	C365		CCPUSL470J50
	C385, C386		CEAS2R2M50
	C361, C362, C381		CEAS470M16
	C351, C355, C359, C363 (VSX−452, VSX−462S only)		CEAS4R7M50
	C352, C356, C360, C364		CEAS4R7M50
	C387, C388		CFTYA153J50
	C389, C390		CFTYA823J50
	C382, C383		CKDYF473Z50
RESISTORS			
	VR381 (100k−A5*4) (Except VSX−402)		ACX1078
	VR381 (100k−A5*3) (For VSX−402)		ACX1079
	R351, R352		RD1/4PM271J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN9 JUMPER CONNECTOR (15P)		KPE15
	CN8 JUMPER CONNECTOR (4P)		KPE4
TONE. CON ASSEMBLY			
SEMICONDUCTORS			
	IC301, IC302		NJM4558LD
	Q304		2SA1048
	Q301, Q302		2SC2878
CAPACITORS			
	C323, C324		CCCSL120J50
	C307, C308		CCCSL220J50
	C309, C310, C327, C328		CEAS2R2M50
	C301, C302, C325, C326		CEAS4R7M50
	C311, C312		CFTYA153J50
	C317, C318		CFTYA183J50
	C313, C314		CFTYA823J50
	C303, C304		CKCYB331K50
	C305, C306, C321, C322		CKCYB391K50
	C319, C320		CKPUYB331K50
	C315, C316		CQMA332J50
RESISTORS			
	VR301 (500k−B5)		ACS1091
	VR302, VR303 (100k−20A×2)		ACS1092
	Other Resistors		RD1/8PM□□□J
OTHERS			
	SEALED CASE (MTL)		ANK1250
H. PHNE, SP. SW ASSEMBLY			
SWITCH			
	S670		SUL6LYXS
CAPACITOR			
	C670		CEAS10M50
RESISTORS			
	R671, R672		RS2LMF331J
OTHER			
	HEADPHONE JACK		AKN1002

Mark	No.	Description	Parts No.
TRANS ASSEMBLY			
SEMICONDUCTORS			
	D763		4D4B44
	D761, D762		S5566
CAPACITOR			
	C761	(0.01/150)	ACG1005
RESISTOR			
	R791		RFA1/4PS220J
OTHER			
	CN1	JUMPER CONNECTOR (6P)	KPE6
REG. ASSEMBLY			
SEMICONDUCTORS			
	IC701, IC703		NJM78M12FAS
	IC702		NJM79M12FA
CAPACITORS			
	C707, C709		CEAS101M25
	C708		CEHAQ101M25
	C710–C712		CKCYF103Z50
DOLBY. SURR. ASSEMBLY			
SEMICONDUCTORS			
	IC1102		LA2730
	IC1101		M50198P
	Q1101		XDC124ES
	D1101–D1104		HSS104–02
CAPACITORS			
	C1109		CEANP100M50
	C1125		CEAS010M50
	C1112, C1119, C1121		CEAS100M50
	C1130		CEAS101M16
	C1116		CEAS102M6
	C1129		CEAS220M16
	C1117		CEAS221M10
	C1105, C1122		CEAS470M16
	C1101, C1118		CEAS4R7M50
	C1104, C1108, C1124		CFTYA104J50
	C1128		CFTYA273J50
	C1126		CFTYA333J50
	C1123		CFTYA334J50
	C1106, C1107		CFTYA474J50
	C1114, C1115		CKCYX473M16
	C1113		CQMA123J50
	C1127		CQMA472J50
	C1103, C1111		CQMA561J50
	C1102, C1110		CQMA562J50
	C1120		CQMA822J50
RESISTOR			
	R1111		RD1/4PM100J
	Other Resistors		RD1/8PM□□□J
OTHER			
	X1101	(3.27MHz)	ASS1016
DOL. PRO. MOD. ASSEMBLY			
SEMICONDUCTORS			
	IC1901		LA2780
	IC1903		LM3364K–15
	IC1902		LV1001M–A
	IC1906		M66320FP
	IC1904, IC1905		NJM4558M–D
	Q1903		2SD438
	Q1901		DTA143EK
	Q1902		DTC143EK
	D1901–D1905		1SS226
CAPACITORS			
	C1938, C1964		CCSCH102J50
	C1971–C1973		CCSQCH101J50
	C1940, C1962		CCSQCH151J50
	C1953		CCSQCH471J50
	C1906, C1922, C1934, C1959		CCSQCH681J50
	C1909, C1910, C1917, C1918		CEANL2R2M50
	C1950		CEANP100M35
	C1956		CEANPR33M50
	C1951		CEAS010M50
	C1903, C1904, C1926, C1927, C1952, C1957, C1958, C1960		CEAS100M50
	C1902		CEAS101M10
	C1928, C1929		CEAS220M16
	C1968		CEAS221M10
	C1941–C1943		CEAS221M16
	C1930, C1931		CEAS2R2M50
	C1901		CEAS470M25
	C1936		CEAS471M16
	C1937, C1965		CEAS4R7M50
	C1911, C1916		CEASR15M50
	C1945		CEASR22M50
	C1912, C1915		CEYA3R3M50
	C1905, C1925		CEYAR33M50
	C1933		CMXA103J50

Mark	No.	Description	Parts No.
	C1907, C1908, C1920, C1923, C1924, C1935		CFTXA104J50
	C1932		CFTXA153J50
	C1913, C1914, C1961		CFTXA154J50
	C1939, C1963		CFTXA223J50
	C1949		CFTXA333J50
	C1921		CFTXA334J50
	C1919		CFTXA473J50
	C1946		CFTXA683J50
	C1967		CKSQYB103K50
	C1970		CKSQYB562K50
	C1944, C1966		CKSQYF104Z50
	C1947		CQMA392J50
	C1948		CQMA472J50
	C1954		CQMA562J50
	C1955		CQMA682J50
RESISTOR			
	VR1901 (47K)		ACP1045
	R1962, R1964		RS1/10S100J
	R1917, R1918, R1921, R1922		RS1/10S101J
	R1929, R1930, R1935−1938, R1943, R1959−R1961, R1963		RS1/10S102J
	R1914, R1940		RS1/10S103J
	R1939		RS1/10S105J
	R1915		RS1/10S152J
	R1906, R1910, 1945		RS1/10S153J
	R1905, R1912		RS1/10S202J
	R1950		RS1/10S222J
	R1933, R1934		RS1/10S223J
	R1931, R1932, R1944, R1951−R1953		RS1/10S224J
	R1942		RS1/10S332J
	R1949		RS1/10S393J
	R1903, R1904, R1916, R1925, R1926		RS1/10S472J
	R1907, R1909, 1923, R1924, R1941, R1957		RS1/10S473J
	R1913		RS1/10S474J
	R1958		RS1/10S513J
	R1908, R1911		RS1/10S752J
	R1946−R1948		RS1/10S822J
	R1901, R1902, R1927, R1928		RS1/10S911J
OTHER			
	X1901 (8.00MHz)		ASS1015

5. ADJUSTMENTS

5.1 TUNER SECTION

1. Wiring ····· Connect the wires as shown in Fig. 5−1 (FM ANT. terminal : 75Ω).

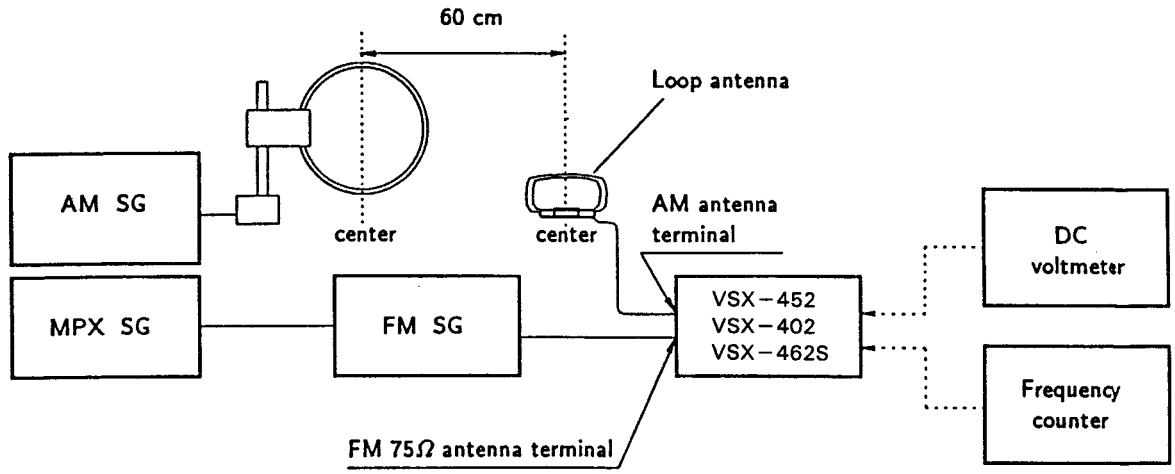


Fig. 5−1 Connection Diagram

Note : Stereo modulation Main 1kHz, L+R, ±68.25kHz dev.
Pilot 19kHz, ±6.75kHz dev.

FM Section

Order	Item	SSG (1kHz, ±75kHz dev.)			Receiving frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment location	Description
1	Center adjustment	98MHz	—	60dBμV	98MHz	L101	Set the voltage at both sides of R111 to 0V±50mV.
2	Checking front end sensitivity	98MHz	—	20−30dBμV	98MHz	—	Check that the sensitivity is 10dBμV or less.
3	Checking stereo distortion	98MHz	STEREO	60dBμV	98MHz	—	Check that the stereo distortion is 2.0% or less. If the stereo distortion is more than 2.0%, turn the IF transformer T101 located in the front end by a maximum angle of 90 degrees. Confirm that the stereo distortion is in the specified range.
4	Checking separation	98MHz	STEREO	60dBμV	98MHz	—	Check that the separation of CN101−Lch or Rch is 23 dB or more. If the separation is under 23 dB, cut R121 and confirm that it is in the specified range.
5	Checking lights up level of TUNED IND.	98MHz	—	—	98MHz	—	Check that the TUNED IND. lights up at an input level between 7 and 33 dBμV. If TUNED IND. does not light up within the specified range, cut R113 and confirm that the indicator lights up within the specified range.

AM Section

Order	Item	SSG (400Hz, 30% MOD.)			Receiving frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment location	Description
1	Checking front end sensitivity	1000kHz	—	20 – 30dBμV	1000kHz	—	Check that the maximum sensitivity is 60 dBμV/m or less.
2	Checking lights up level of TUNED IND.	1000kHz	—	—	1000kHz	—	Check that the TUNED IND. lights up at 70 dBμV/m or less (within 5 minutes after switching the power ON). If the TUNED IND. does not light up within the specified range, cut R117 and confirm that the indicator lights up within the specified range.

TUNER assembly

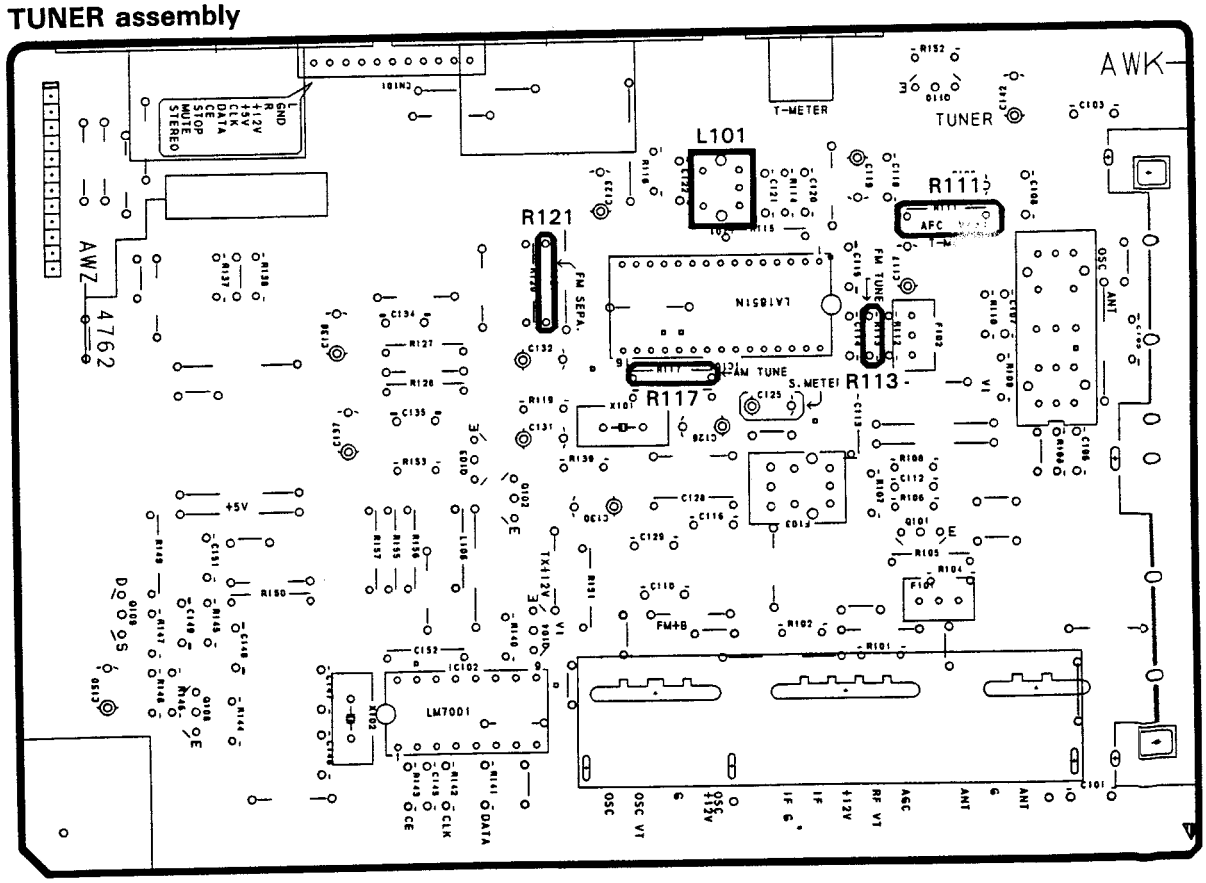


Fig. 5 – 2 Adjustment points

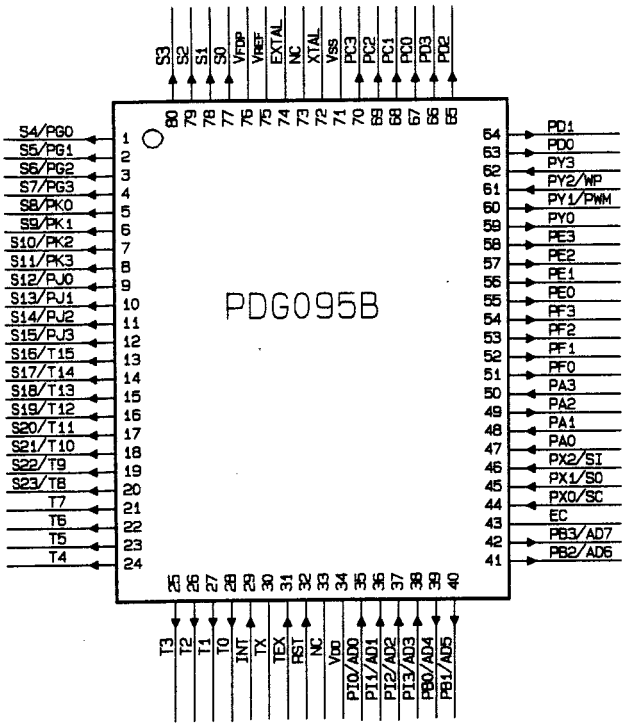
6. IC INFORMATION

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

■ PDG095B (IC801 : FRONT. FL ASSEMBLY)

● Micro – computer

● Pin Assignment (Top View)



● Pin Function

No.	Name	I/O	Description	ACT.
1	S4 / PG0	O	Segment Output	H
2	S5 / PG1			
3	S6 / PG2			
4	S7 / PG3			
5	S8 / PK0			
6	S9 / PK1			
7	S10 / PK2			
8	S11 / PK3			
9	S12 / PJ0			
10	S13 / PJ1			
11	S14 / PJ2			
12	S15 / PJ3			
13	S16 / PT15			
14	S17 / PT14			
15	S18 / PT13			
16	S19 / PT12			
17	S20 / PT11			
18	S21 / PT10	O	KEY SCAN Output	H
19	S22 / PT9			
20	S23 / PT8			
21	T7			
22	T6	O	Grid Output & KEY SCAN Output	H
23	T5			
24	T4			
25	T3			
26	T2			
27	T1			
28	T0			
29	INT	I	Switching VSX-452, 462S/VSX-402 (H : VSX-452, 462S, L : VSX-402)	H
30	TX	–	———	–
31	TEX	I	———	–
32	RST	I	RESET Input	H
33	NC	–	———	–
34	VDD	–	+5V Power supply	–
35	PI0 / AD0	I	KEY SCAN Input	H
36	PI1 / AD1			
37	PI2 / AD2			
38	PI3 / AD3	I	Not Used	–

No.	Name	I/O	Description	ACT.
39	PB0 / AD4	O	DOLBY NR ON / OFF	H
40	PB1 / AD5	O	SIMULATED SURROUND ON / OFF	H
41	PB2 / AD6	O	STUDIO ON / OFF	H
42	PB3 / AD7	O	TC9154 (VOLUME) STROB	H
43	$\overline{EC}$	I	Not Used (Connected to GND)	–
44	PX0 / $\overline{SC}$	I	Not Used	–
45	PX1 / SO			
46	PX2 / SI			
47	PA0	I	Switching 9k / 10k (H : 9k, L : 10k)	–
48	PA1	I	TUNER $\overline{STEREO}$ ON / OFF Input	L
49	PA2	O	TUNER MUTE ON / OFF	H
50	PA3	I	TUNER $\overline{STOP}$	L
51	PF0	O	TUNER LM7001 (PLL IC) CE	H
52	PF1	O	S–BASS ON / OFF	H
53	PF2	O	DATA	–
54	PF3	O	CLK	–
55	PE0	O	TC9164 (FUNCTION IC) STROB	H
56	PE1	O	M66320 / M50198 (VSX–452, 462S / VSX–402) STROB (Switching SURROUND MODE)	H
57	PE2	O	TC4052 (FUNCTION CONTROL IC)	–
58	PE3			
59	PY0	O	DOWN / UP — MOTOR VOLUME CONTROL	H
60	PY1 / PWM			
61	PY2 / WP	I	WP	–
62	PY3REM	I	REMOTE CONTROL Input	L
63	PD0	O	AC Relay	H
64	PD1	O	MUTE	H
65	PD2	O	VIDEO CONTROL	–
66	PD3			
67	PC0	O	CENTER / REAR SP. Relay ON / OFF	H

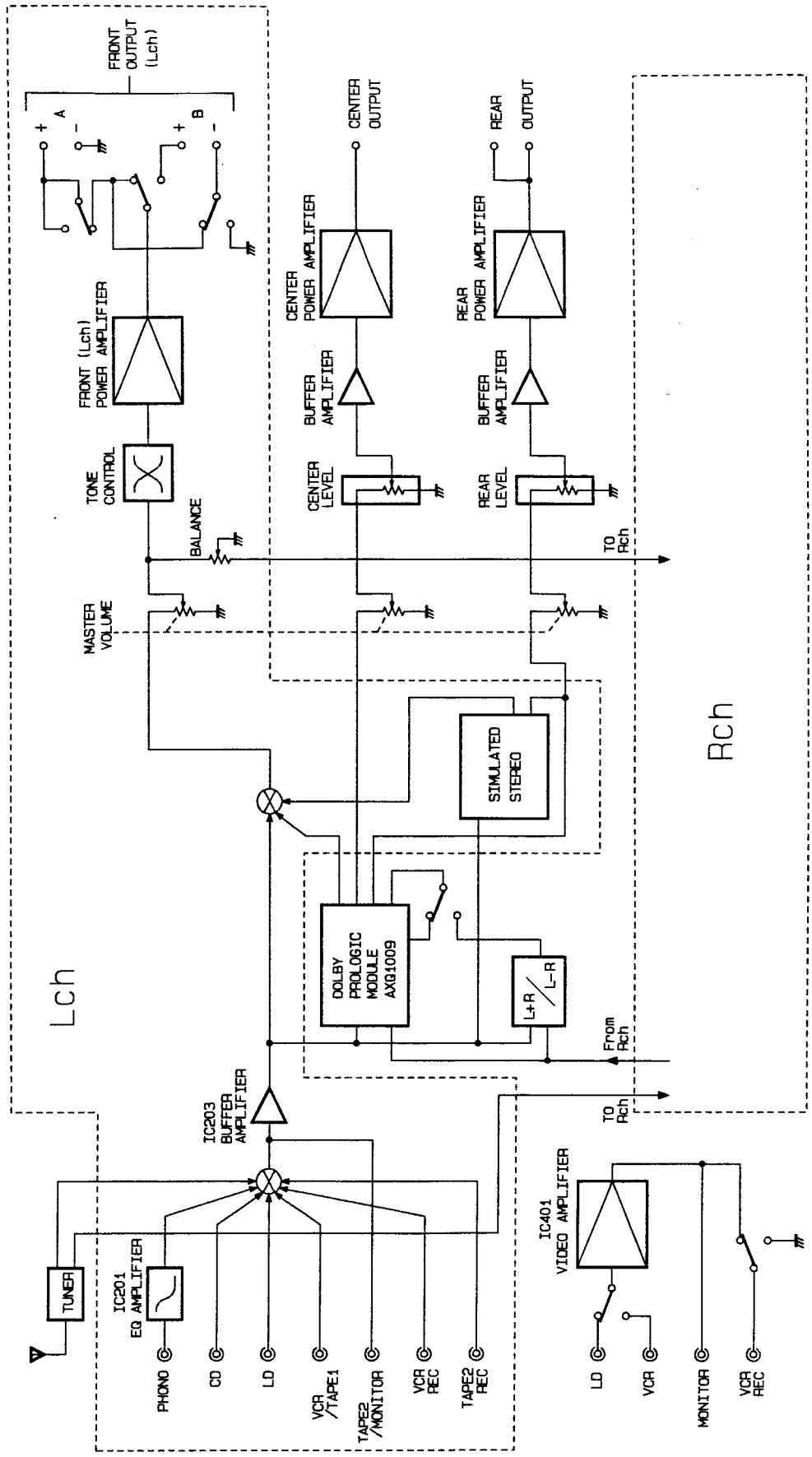
No.	Name	I/O	Description	ACT.
68	PC1	O	CENTER MODE Display	H
69	PC2			
70	PC3			
71	VSS	–	GND	–
72	XTAL	O	MAIN CLK Output / Connected to ceramic resonator (4.19MHz).	–
73	NC	–	——	–
74	EXTAL	I	MAIN CLK Input / Connected to ceramic resonator (4.19MHz).	–
75	VREF	–	Reference voltage Input / Connected to VDD.	–
76	VFDP	–	Power supply for FL.	–
77	S0	O	Segment Output	H
78	S1			
79	S2			
80	S3			

● Key Matrix

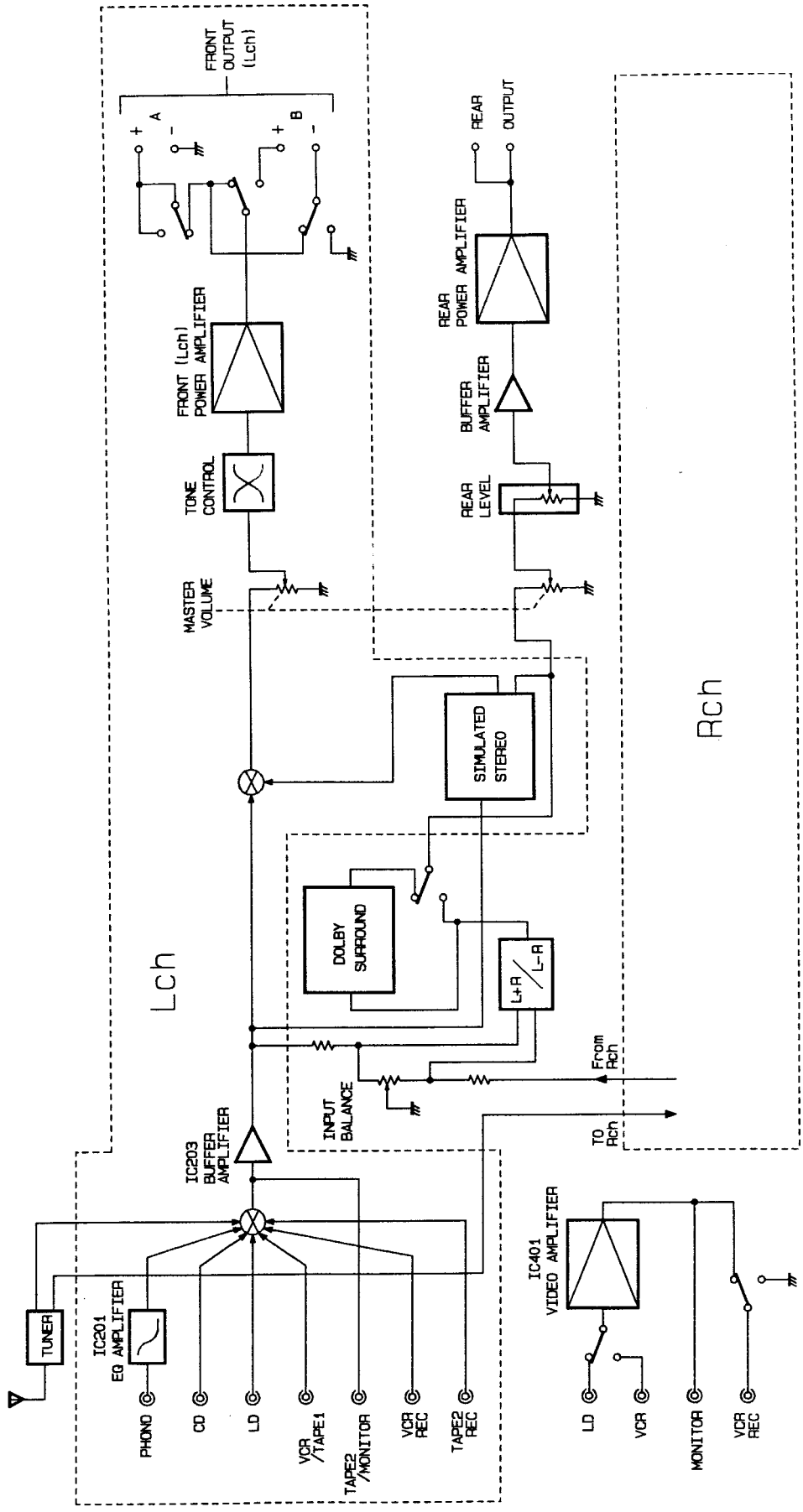
Out \ In	PI0	PI1	PI2
T0	POWER	ST–1	——
T1	FM/AM	ST–2	——
T2	MPX	ST–3	——
T3	MEMORY	ST–4	TAPE2
T4	TUNING –	ST–5	VCR1
T5	TUNING +	ST–6	LD
T6	S–STEREO	ST–7	CD
T7	3CH	ST–8	TUNER
T8	DOLBY	ST–9	PHONO
T9	SIMULATE	ST–0	S–BASS
T10	STUDIO	DIR–ACCESS	RETURN

7. BLOCK DIAGRAM

7.1 FOR VSX-452 AND VSX-462S



7.2 FOR VSX-402



8. REMOTE CONTROL UNIT [CU-VSX065 (AXD1342)]

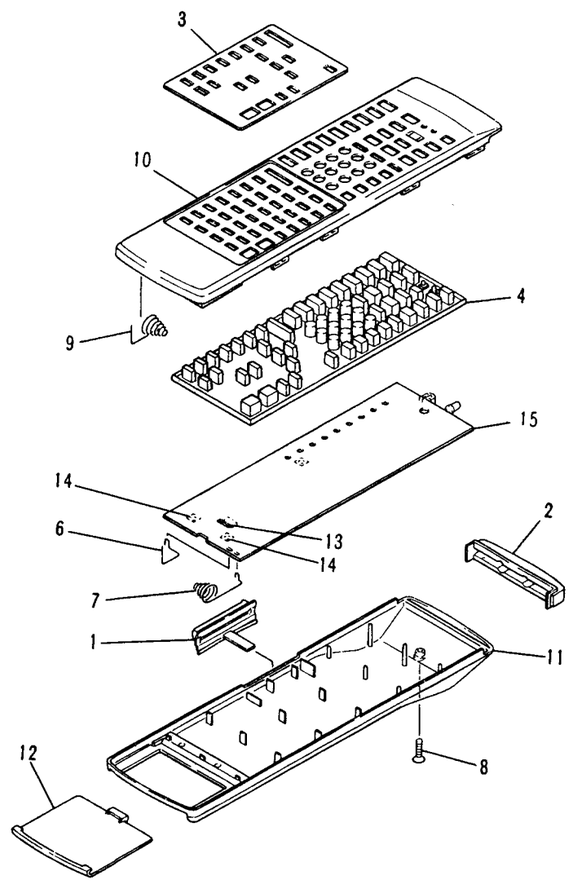
8.1 EXPLODED VIEW AND PARTS LIST

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.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts list of Exterior

Mark	No.	Description	Parts No.
	1	MODE CHECK KEY	AZA1335
	2	FILTER	AZA1336
	3	PLATE	AZA1478
	4	RUBBER SHEET	AZA1479
	5	.....	
	6	TERMINAL (+)	AZB1327
	7	TERMINAL (−)	AZB1328
	8	SCREW	AZB1329
	9	TERMINAL (C)	AZB1330
	10	CASE (A)	AZN2089
	11	CASE (B)	AZN2090
	12	BATTERY COVER	AZN2091
	13	SLIDE SW (SW1)	AZS1117
	14	TACT SW	AZS1118
NSP	15	P. C. BOARD	AZW1130



8.2 PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *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%).

560Ω → 56 × 10^1 → 561 ..... RD1/8PM 5 6 1 J
47kΩ → 47 × 10^3 → 473 ..... RD1/4PS 4 7 3 J
0.5Ω → 0R5 ..... RN2H 0 R 5 K
1Ω → 010 ..... RS1P 0 1 0 K

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

5.62kΩ → 562 × 10^1 → 5621 ..... RM1/4PC 5 6 2 1 F

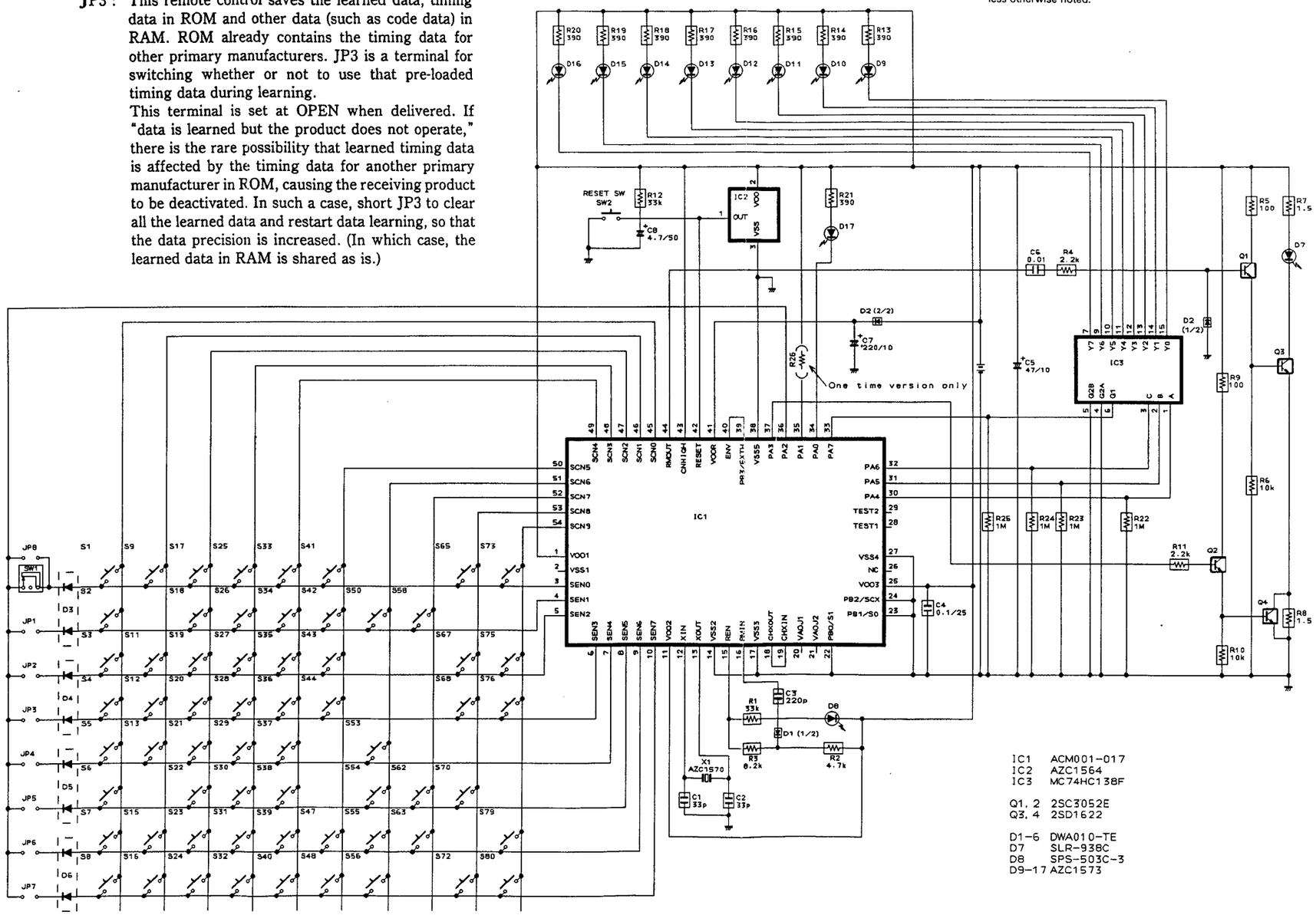
Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC1	μ−COM	ACM001−017
	IC2	IC	AZC1564
	IC3	LOGIC IC	MC74HC138F
	Q1, 2	CHIP TRANSISTOR	2SC3052E
	Q3, 4	TRANSISTOR	2SD1622
	D1−6	DIODE	DWA010−TE
	D9−17	LED	AZC1573
	D7	LED	SLR−938C
	D8	DIODE	SPS−503C−3
CAPACITORS			
	C1, 2	CERAMIC CAPACITOR	CCDSL330J50
	C3	CERAMIC CAPACITOR	CCDSL221J50
	C4	CERAMIC CAPACITOR	CKDYX104M25
	C5	ELECT. CAPACITOR	CEAS470M10
	C6	CERAMIC CAPACITOR	CKDYB103K50
	C7	ELECT. CAPACITOR	CEAS221M10
	C8	ELECT. CAPACITOR	CEAS4R7M50
RESISTORS			
	R7, 8	CARBON FILM RESISTOR	RD1/4PMFL1R5J
		Other resistors	RD1/8PM□□□J
OTHERS			
	X1	RESONATOR	AZC1570

8.3 SCHEMATIC DIAGRAM

NOTE)

JP2 : The terminal for switching Fc (carrier frequency of the fixed code). This terminal is set at OPEN (Fc = 40kHz) when delivered. If a product of another manufacturer accidentally receives the PIONEER code, short the terminal so that Fc will be 36.7kHz. (In which case, the learned code and preset code do not change.)

JP3 : This remote control saves the learned data, timing data in ROM and other data (such as code data) in RAM. ROM already contains the timing data for other primary manufacturers. JP3 is a terminal for switching whether or not to use that pre-loaded timing data during learning.
This terminal is set at OPEN when delivered. If "data is learned but the product does not operate," there is the rare possibility that learned timing data is affected by the timing data for another primary manufacturer in ROM, causing the receiving product to be deactivated. In such a case, short JP3 to clear all the learned data and restart data learning, so that the data precision is increased. (In which case, the learned data in RAM is shared as is.)



Note: (Type 2)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   : DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ← mA : DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ (Red) : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

SW1 : CENT. · BAL. / REAR · REAR BAL.
SW2 : RESET
S1 : VCR1
S2 : VCR2
S3 : LD
S4 : TV
S5 : CD
S6 : TUNER
S7 : DECK I
S8 : DECK II
S9 : DAT
S10 : MODE CHECK
S11 : LEARN
S12 : EDIT
S13 : MULTI COMMAND
S14 : M.CLEAR
S15 : POWER
S16 : ⏮
S17 : REC
S18 : ⏭
S19 : ⏪
S20 : ◀ (SEARCH)
S21 : ▶▶
S22 : ⏸
S23 : ■
S24 : ▶
S25 : TV/VCR (+10)
S26 : SELECT (DISP)
S27 : TV FUNC (BAND)
S28 : 1
S29 : 2
S30 : 3
S31 : 4
S32 : 5
S33 : 6
S34 : 7
S35 : 8
S36 : 9
S37 : 10/0
S38 : 11/PGM
S39 : 12/CLEAR
S40 : CUSTOM (TV VOL+)
S41 : SCAN (TV VOL−)
S42 : FREQ/CH (∧)
S43 : FREQ/CH (∨)
S44 : RECEIVER POWER
S47 : SLEEP
S48 : VCR/TAPE1
S50 : LD
S53 : TAPE2 MONITOR
S54 : CD
S55 : TUNER
S56 : PHONO
S58 : SIMULATED STEREO
S62 : RETURN
S63 : SURROUND MODE
S65 : CENTER MODE
S67 : MUTING
S68 : TEST TONE
S70 : DELAY TIME
S72 : REAR LEVEL +
S73 : CENTER LEVEL +
S75 : REAR LEVEL −
S76 : CENTER LEVEL −
S79 : MASTER VOLUME +
S80 : MASTER VOLUME −

IC1 ACM001-017
IC2 AZC1564
IC3 MC74HC138F

Q1, 2 2SC3052E
Q3, 4 2SD1622

D1-6 DWA010-TE
D7 SLR-938C
D8 SPS-503C-3
D9-17 AZC1573

SCH-11

SCH-11

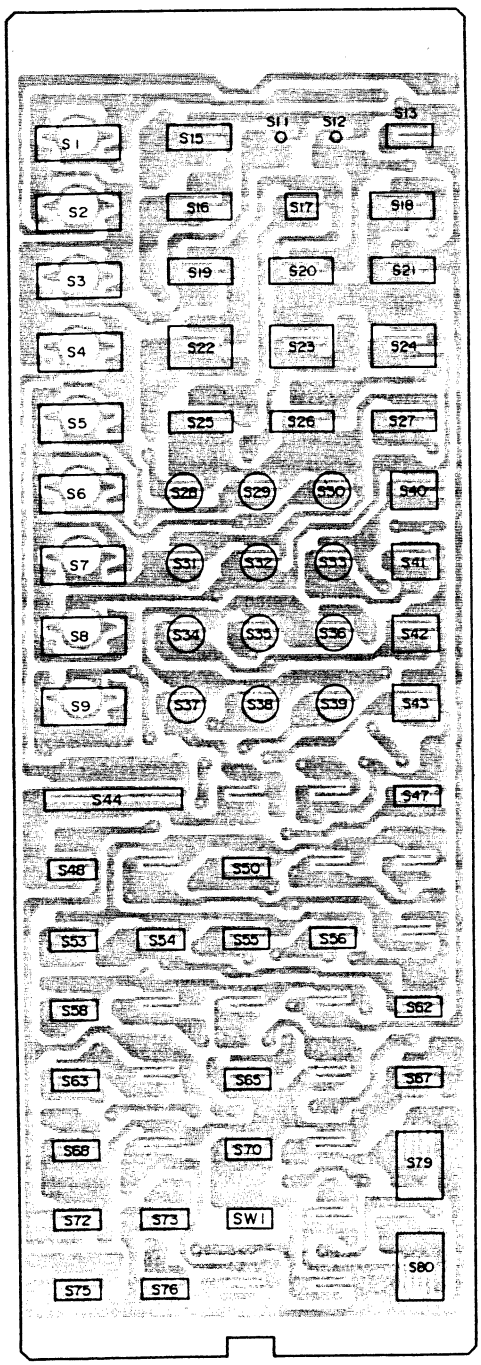
8.4 PCB PATTERN

: Indicates a chip resistor.

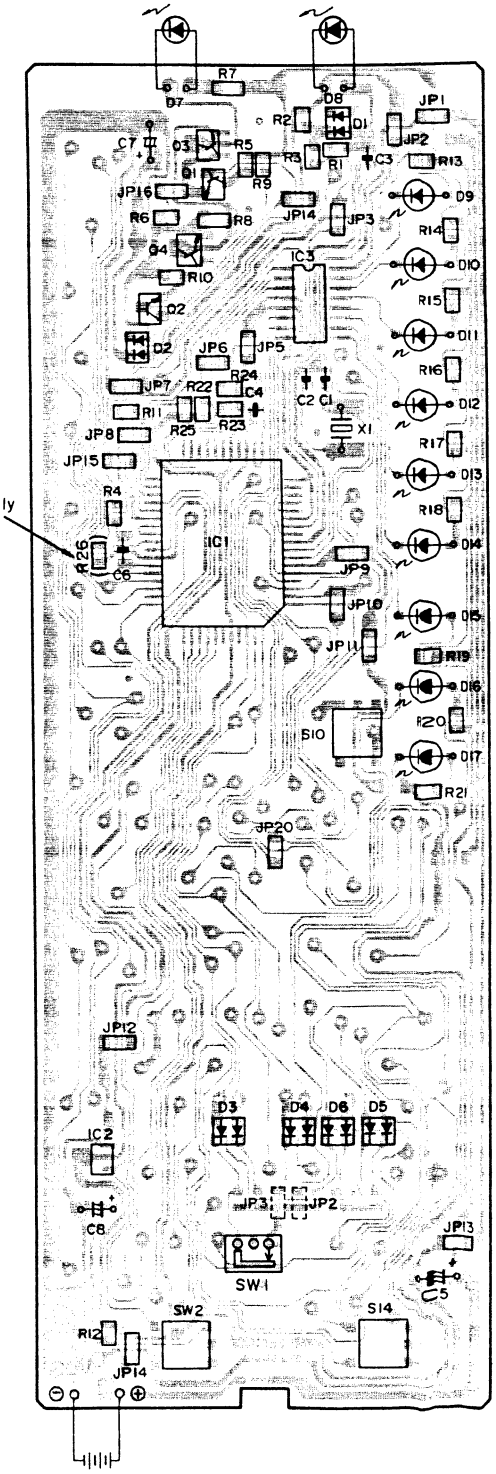
: Indicates a chip capacitor.

: Indicates a chip transistor.

: Indicates a chip diode.

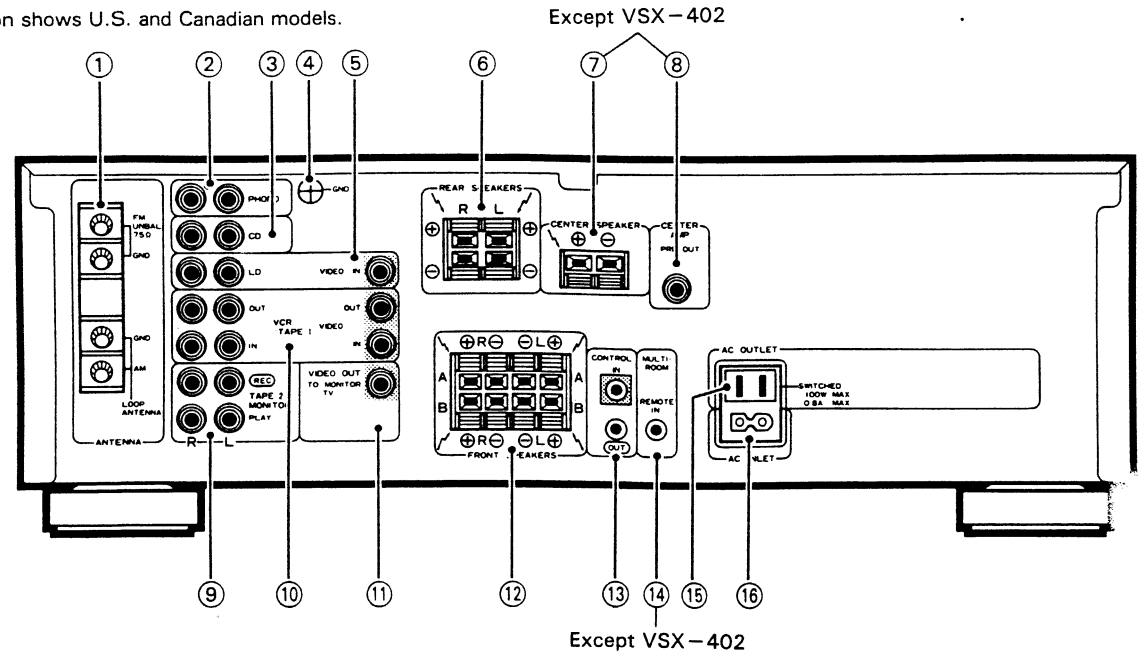


One time version only



9. PANEL FACILITIES

* Illustration shows U.S. and Canadian models.



① FM/AM ANTENNA terminals

Connect to FM and AM antennas.

② PHONO input jacks

Connect to the output cables from a turntable.

③ CD input jacks

Connect to the output jacks of a compact disc player.

④ GND terminal

Connect the turntable ground lead to this terminal.
Loosen the screw, connect the ground lead, and then tighten the screw.

⑤ LD input jacks

Connect to an LD player's output jacks (audio, video).

⑥ REAR SPEAKERS terminals

Connect the rear speakers to these terminals.
Use rear speakers of impedance 8 Ω−16 Ω.

⑦ CENTER SPEAKER terminals (Except VSX−402)

Connect the center speaker to these terminals.
Use center speakers of impedance 8 Ω−16 Ω.

⑧ CENTER AMP PRE OUT jack (Except VSX−402)

When a separate power amplifier is used to drive the surround center speaker, connect the power amplifier to this jack.

⑨ TAPE 2 MONITOR jacks

Connect to audio components such as a second cassette deck or graphic equalizer.

⑩ VCR/TAPE 1 jacks

Connect to the first cassette deck or a VCR. With a VCR, also connect the video jacks.

⑪ VIDEO OUT (TO MONITOR TV) jack

Connect to a monitor TV.

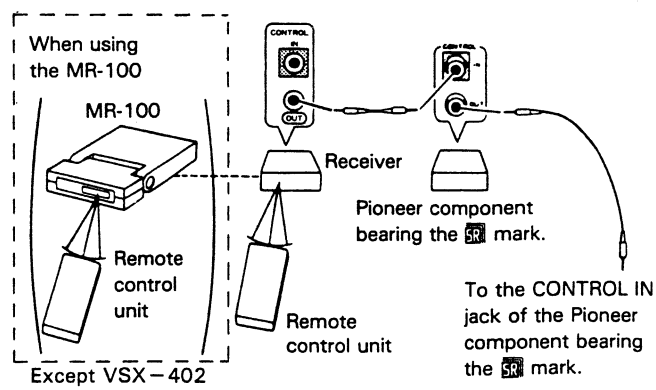
⑫ FRONT SPEAKERS terminals

A: Connect to the first set of speakers.
B: Connect to the second set of speakers.
Use speakers of impedance 8 Ω−16 Ω.

⑬ CONTROL IN/OUT jacks

IN: Connect this jack to other Pioneer components (main unit or remote control unit) when using those components to control this unit.
OUT: Connect this jack to other Pioneer components when using the remote control of this unit to control the other components.

NOTE:
The receiver's remote sensor does not function when a plug is inserted in IN jack. To operate, point the remote control unit at the remote sensor on the component to which the receiver's IN jack is connected.



⑭ MULTI-ROOM REMOTE IN jack (Except VSX−402)

Connect to the separately sold MR-100 Multi-Room remote control unit.

⑮ AC OUTLET

[SWITCHED TOTAL 100 W (0.8 A) MAX]

Power supplied through these outlets is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W (0.8 A).

NOTE:

- *This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.*
- *Do not connect appliances with high power consumption such as heaters, irons, or television sets to these AC OUTLET in order to avoid overheating and fire risk.*
  This can cause the receiver to malfunction.

CAUTION:
DO NOT CONNECT MONITOR OR TV SET.

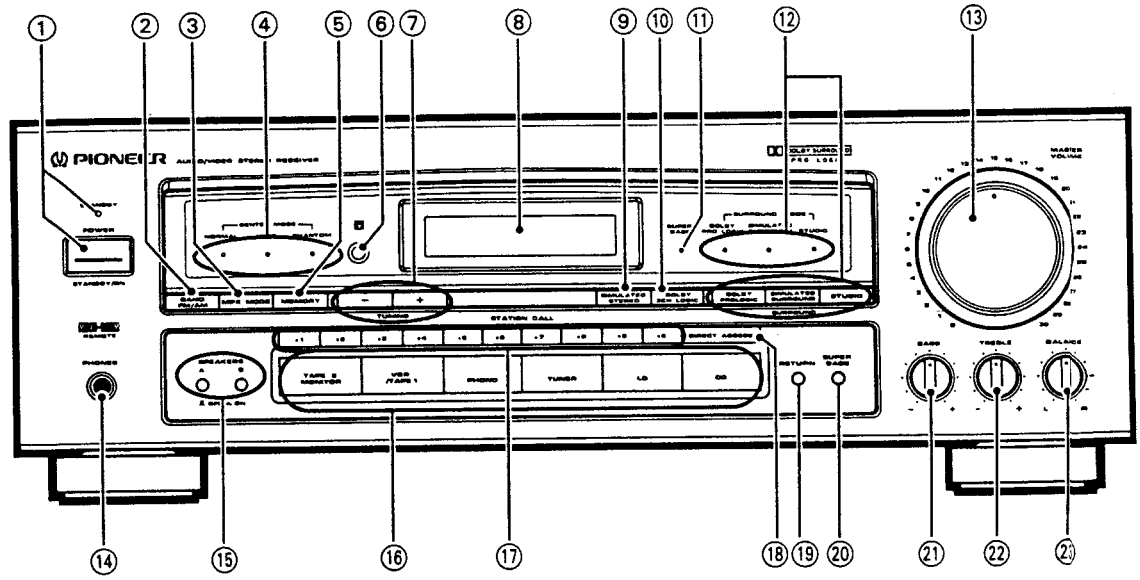
⑯ AC INLET

Connect the supplied power cord.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

For VSX−452 and VSX−462S



① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is STANDBY, and goes out during ON.

[Timer ON/OFF possible]

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 6 seconds.

② BAND FM/AM button

Use this to switch between FM and AM frequency band reception.

③ MPX MODE button

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator in the display section is lit.

Auto stereo mode:
Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.

Monaural mode:
Use if the signal is weak and there is a lot of noise when receiving an FM stereo broadcast. Reception becomes monaural, but noise is reduced.

NOTE:
This button has no effect on reception of AM broadcasts.

④ CENTER MODE indicators

⑤ MEMORY button

Pressing this button will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

⑥ Remote sensor window

⑦ TUNING buttons

+: Performs tuning from the currently displayed station frequency in ascending frequency order.
–: Performs tuning in order of descending frequencies.

⑧ Display section

⑨ SIMULATED STEREO button

Press to produce a simulated stereo effect when listening to monaural sources (for example, AM or TV broadcasts).
"SIMULATED STEREO" appears on the display section.

NOTE:
This effect is not produced through the rear speakers.

⑩ DOLBY 3CH LOGIC button

This switches on and off the DOLBY 3CH LOGIC.

⑪ SUPER BASS indicator

Lights when SUPER BASS is ON.

⑫ SURROUND MODE selector buttons/indicators

⑬ MASTER VOLUME control

Use it to simultaneously adjust the sound volume from the front, center and rear speakers.

⑭ PHONES jack

Connect the plug on your headphones to this jack. Set all SPEAKERS A and B switches to OFF if you want to cut the sound from speakers and listen to it only through the headphones.

⑮ SPEAKERS buttons (A, B) ▲ OFF ▬ ON

ON/OFF switches for the A and B speaker systems.

NOTE:
No sound will be heard thorough the speakers when both A and B buttons are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

⑯ Input selector buttons

TAPE 2 MONITOR: Press when performing playback on a second cassette deck and when monitoring recording.
VCR/TAPE 1: Press when performing playback on a VCR unit or cassette deck.
PHONO: Press when playing records on turntable.
TUNER: Press when listening to radio broadcasts.
LD: Press when performing playback on an LD player.
CD: Press when playing compact discs on a CD player.

⑰ STATION CALL buttons

Up to 30 FM or AM stations can be preset at random.
These buttons are used to preset and recall desired broadcasting stations, FM AUTO/MONO mode.

⑱ DIRECT ACCESS tuning button

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

⑲ RETURN button

Press this button to return the receiver into the initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

- TAPE 2 MONITOR ..... OFF
- FUNCTION ..... TUNER
- SURROUND MODE ..... OFF
- MUTING ..... OFF

Returns you to the last FM station you were receiving. When reception is not possible, auto tuning (UP) starts from that frequency.

NOTE:
If no sound is output after the RETURN button is pressed, make sure that SPEAKERS buttons are turned on.

⑳ SUPER BASS button

Switch ON when you want to boost bass. The SUPER BASS indicator lights.

㉑ BASS control buttons

Use to adjust the low-frequency level.
Turn clockwise to boost bass, and counterclockwise to attenuate bass.

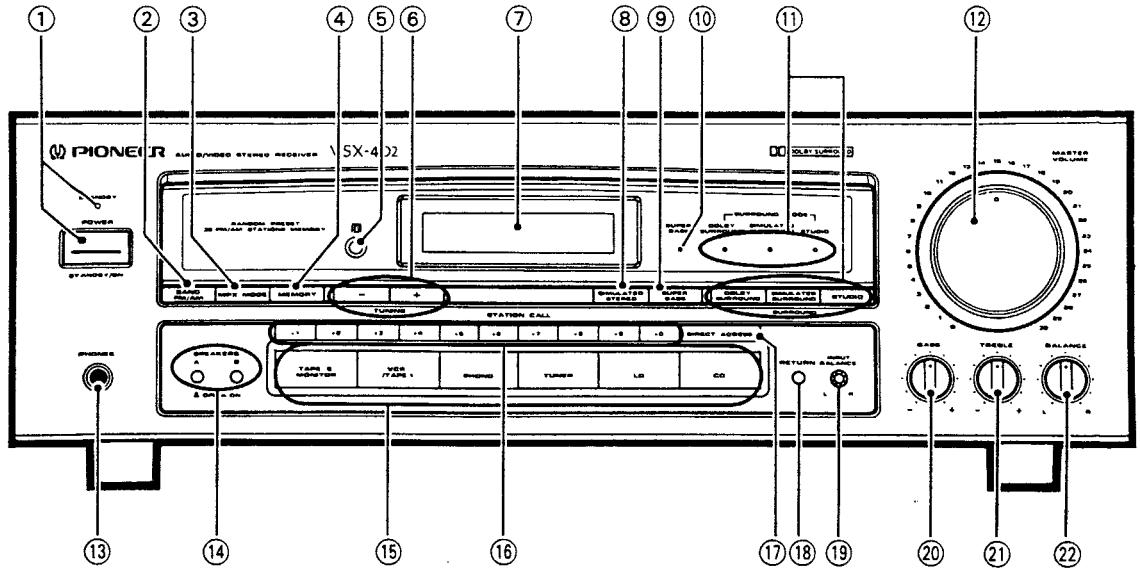
㉒ TREBLE control

Use to adjust the high-frequency level.
Turn clockwise to boost treble, and counterclockwise to attenuate treble.

㉓ BALANCE control

Use to adjust the sound volume balance between left and right speakers.
L: Decrease the sound on the right side.
R: Decrease the sound on the left side.
Usually, left and right volume levels should be the same.

For VSX-402



① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is STANDBY, and goes out during ON.

[Timer ON/OFF possible]

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 6 seconds.

② BAND FM/AM button

Use this to switch between FM and AM frequency band reception.

③ MPX MODE button

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator in the display section is lit.

Auto stereo mode:

Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.

Monaural mode:

Use if the signal is weak and there is a lot of noise when receiving an FM stereo broadcast. Reception becomes monaural, but noise is reduced.

NOTE:

This button has no effect on reception of AM broadcasts.

④ MEMORY button

Pressing this button will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

⑤ Remote sensor window

⑥ TUNING buttons

+: Performs tuning from the currently displayed station frequency in ascending frequency order.

–: Performs tuning in order of descending frequencies.

⑦ Display section

⑧ SIMULATED STEREO button

Press to produce a simulated stereo effect when listening to monaural sources (for example, AM or TV broadcasts).

"SIMULATED STEREO" appears on the display section.

NOTE:

- *This effect is not produced through the rear speakers.*
- *Use with the SURROUND MODE in the OFF.*

⑨ SUPER BASS button
Switch ON when you want to boost bass. The SUPER BASS indicator lights.

⑩ SUPER BASS indicator
Lights when SUPER BASS is ON.

⑪ SURROUND MODE selector buttons/indicators

⑫ MASTER VOLUME control
Use it to simultaneously adjust the sound volume from the front, center and rear speakers.

⑬ PHONES jack
Connect the plug on your headphones to this jack. Set all SPEAKERS A and B switches to OFF if you want to cut the sound from speakers and listen to it only through the headphones.

⑭ SPEAKERS buttons (A, B) ▲ OFF ▬ ON
ON/OFF switches for the A and B speaker systems.

NOTE:
No sound will be heard thorough the speakers when both A and B buttons are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

⑮ Input selector buttons
TAPE 2 MONITOR: Press when performing playback on a second cassette deck and when monitoring recording.
VCR/TAPE 1: Press when performing playback on a VCR unit or cassette deck.
PHONO: Press when playing records on turntable.
TUNER: Press when listening to radio broadcasts.
LD: Press when performing playback on an LD player.
CD: Press when playing compact discs on a CD player.

⑯ STATION CALL buttons
Up to 30 FM or AM stations can be preset at random.
These buttons are used to preset and recall desired broadcasting stations, FM AUTO/MONO mode.

⑰ DIRECT ACCESS tuning button
When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

⑱ RETURN button
Press this button to return the receiver into the initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.
- TAPE 2 MONITOR ..... OFF
- FUNCTION ..... TUNER
- SURROUND MODE ..... OFF
- MUTING ..... OFF

Returns you to the last FM station you were receiving. When reception is not possible, auto tuning (UP) starts from that frequency.

NOTE:
If no sound is output after the RETURN button is pressed, make sure that SPEAKERS buttons are turned on.

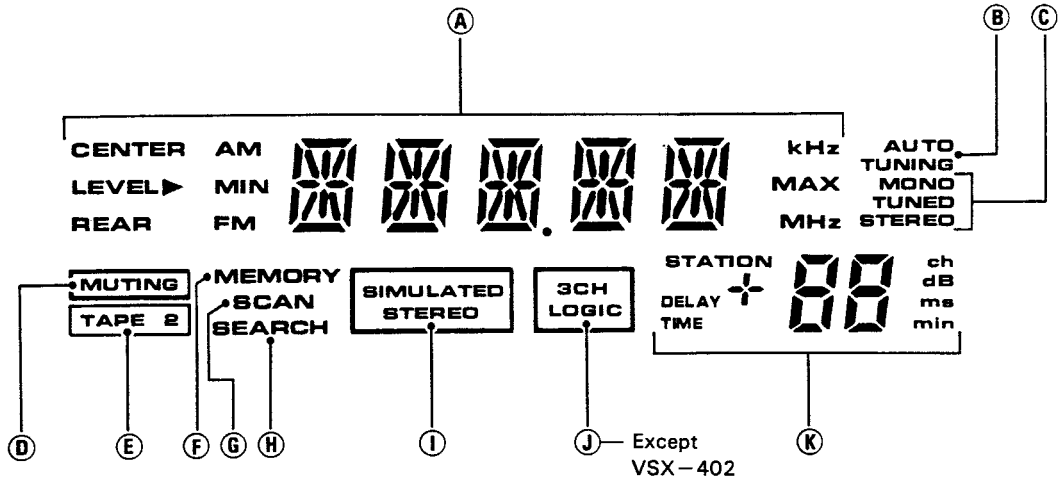
⑲ INPUT BALANCE control
This knob is for adjusting the balance of the DOLBY SURROUND input signal.To adjust, apply a monaural sound signal and rotate until the SURROUND (rear) sound becomes minimal.

⑳ BASS control
Use to adjust the low-frequency level.
Turn clockwise to boost bass, and counterclockwise to attenuate bass.

㉑ TREBLE control
Use to adjust the high-frequency level.
Turn clockwise to boost treble, and counterclockwise to attenuate treble.

㉒ BALANCE control
Use to adjust the sound volume balance between left and right speakers.
L: Decrease the sound on the right side.
R: Decrease the sound on the left side.
Usually, left and right volume levels should be the same.

DISPLAY SECTION



Ⓐ CHARACTER/LEVEL display

- Displays function, frequency and "SLEEP"
- It also displays the level settings during adjustment. During level display, MIN and MAX light.

Ⓑ AUTO TUNING indicator

Lights up when in the auto tuning mode.

Ⓒ Tuning indicator

TUNED: Lights up when a station is tuned in during TUNER operation.
MONO: Lights up when the FM MONO mode is selected with the MPX MODE button.
STEREO: Lights up when a stereo FM broadcast is being received.

Ⓓ MUTING indicator

Flashes when MUTING in ON.

Ⓔ TAPE 2 indicator

Lights up when the input selector is set to TAPE 2 MONITOR ON.

Ⓕ MEMORY indicator

When presetting stations, this lights when the MEMORY button is pressed.

Ⓖ SCAN indicator

Lights up during memory scan operation.

Ⓗ SEARCH indicator

Lights during Return mode operation.

Ⓘ SIMULATED STEREO indicator

Ⓙ DOLBY 3CH LOGIC indicator (Except VSX−402)

Ⓚ STATION/DELAY TIME/LEVEL/SLEEP TIME display

- Indicates the channel (ch) selected with the STATION CALL buttons.
- Indicates delay time (ms) when using SIMULATED SURROUND or DOLBY PRO LOGIC SURROUND.
- Indicates rear level and center level (dB).
- Indicates sleep timer settings (min).

10. SPECIFICATIONS

Amplifier section

Continuous average power output of 80 watts* per channel, min., at 8 Ohms, from 20 Hz to 20,000 Hz with no more than 0.09 % total harmonic distortion (front).**

Continuous power output (When using SURROUND MODE)
- Rear only driven ..... 20 W + 20 W (1 kHz, 0.8 %, 8 Ω)
- Front and Center driven (Except VSX−402)
  - Front ..... 60 W + 60 W (1 kHz, 0.8 %, 8 Ω)
  - Center (Only with DOLBY PRO LOGIC SURROUND) ..... 60 W (1 kHz, 0.8 %, 8 Ω)

Input (Sensitivity/Impedance)
- PHONO MM ..... 2.8 mV/47 kΩ
- CD, VCR/TAPE 1, TAPE 2, LD ..... 200 mV/47 kΩ

Phono Overload Level (T.H.D. 0.1 %, 1 kHz)**
- PHONO MM ..... 100 mV

Frequency Response
- PHONO MM ..... 20 Hz to 20,000 Hz ±0.5 dB
- CD, VCR/TAPE 1, TAPE 2, LD ..... 10 Hz to 70,000 Hz $^{+0.5}_{-3.0}$ dB

Output (Level/Impedance)
- VCR/TAPE 1 REC, TAPE 2 REC ..... 200 mV/2.2 kΩ

Tone Control
- BASS ..... ±8 dB (100 Hz)
- TREBLE ..... ±8 dB (10 kHz)

Signal-to-Noise Ratio (IHF, short circuited, A network)
- PHONO MM ..... 72 dB
- CD, VCR/TAPE 1, TAPE 2, LD ..... 96 dB

Signal-to-Noise Ratio [EIAJ, at 1 W (1 kHz)]
- PHONO MM ..... 75 dB
- CD, VCR/TAPE 1, TAPE 2, LD ..... 79 dB

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

*** Measured by Audio Spectrum Analyzer.*

VIDEO Section

Input (Sensitivity/Impedance)
- VCR/TAPE 1, LD ..... 1 Vp-p/75 Ω

Output (Level/Impedance)
- VCR/TAPE 1, MONITOR ..... 1 Vp-p/75 Ω

Frequency Response
- VCR/TAPE 1, LD → MONITOR ..... 5 Hz — 10 MHz $^{+0}_{-3}$ dB

Signal to Noise Ratio ..... 55 dB

Cross Talk ..... 55 dB

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very 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 cleaners.
- Never use thinners, benzene, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz

Usable Sensitivity ..... Mono; 12.3 dBf, IHF (1.1 µV/75 Ω)

50 dB Quieting Sensitivity ..... Mono; 16.8 dBf
Stereo; 38.6 dBf

Signal-to-Noise Ratio ..... Mono; 73 dB (at 85 dBf)
Stereo; 70 dB (at 85 dBf)

Distortion ..... Stereo; 0.3 % (1 kHz)

Alternate Channel Selectivity ..... 50 dB (400 kHz)

Stereo Separation ..... 35 dB (1 kHz)

Frequency Response ..... 30 Hz to 15 kHz ±1 dB

Antenna Input ..... 75 Ω unbalanced

AM Tuner Section

Frequency range
- With 9 kHz step ..... 531 kHz — 1,602 kHz
- With 10 kHz step ..... 530 kHz — 1,700 kHz

Sensitivity (IHF, Loop antenna) ..... 350 µV/m

Selectivity ..... 20 dB

Signal-to-Noise Ratio ..... 50 dB

Antenna ..... Loop antenna

Miscellaneous

Power requirements
- U.S. and Canadian models ..... AC 120 V, 60 Hz
- Multi-voltage model ..... AC 110 V/120—127 V/220 V/240 V (switchable), 50/60 Hz

Power consumption (Except VSX−402)
- U.S. and Canadian models ..... 240 W, 340 VA
- Multi-voltage model ..... 620 W

Power consumption ..... 230 W, 330 VA
(For VSX−402)

AC Outlet: SWITCHED x 1
- U.S. and Canadian models ..... 100 W (0.8 A) MAX
- Multi-voltage model ..... 100 W MAX

Dimensions ..... 420 (W) x 140.5 (H) x 349 (D) mm
(Except VSX−402) 16-9/16 (W) x 5-9/16 (H) x 13-3/4 (D) in

Dimensions ..... 420 (W) x 140 (H) x 349 (D) mm
(For VSX−402) 16-9/16 (W) x 5-1/2 (H) x 13-3/4 (D) in

Weight (without package) ..... 8.3 kg (18 lb 5 oz)

Furnished Parts

Power cord 1

FM antenna 1

AM Loop antenna 1

Dry cell batteries
- size "AAA" (IEC R03/UM-4) (Except VSX−462S) 2
- Size "AA" Alkaline batteries (IEC LR6/AM-3)(For VSX−462S) 2

Remote control unit 1

Operating Instructions 1

NOTE:

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