

Service Manual



VSX-C100-S

ORDER NO.
RRV2605

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-C100-S

VSX-C100-K

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

Model	Type	Power Requirement	Remarks
VSX-C100-S	MYXU	AC220-230V	
VSX-C100-K	MYXU	AC220-230V	
VSX-C100-S	NVXU	AC240V	



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

SAFTY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

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

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

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

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

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

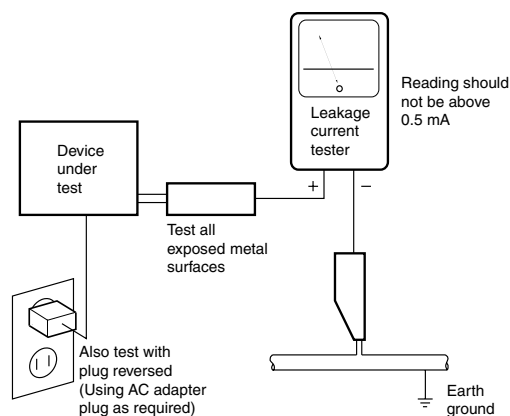
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

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

2. PRODUCT SAFETY NOTICE

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

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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

[Important symbols for good services]

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

1. Product safety



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

2. Adjustments



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

3. Cleaning



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

4. Shipping mode and shipping screws



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

5. Lubricants, glues, and replacement parts



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

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1. SPECIFICATIONS

Amplifier Section

Continuous Power Output (STEREO MODE)	
FRONT.....	25 W + 25 W (DIN 1 kHz, THD 1 %, 8 Ω)
Continuous Power Output (SURROUND MODE)	
Contin FRONT.....	30 W/ch (1 kHz, THD 1 %, 8 Ω)
CENTER.....	30 W (1 kHz, THD 1 %, 8 Ω)
SURROUND.....	30 W/ch (1 kHz, THD 1 %, 8 Ω)
Continuous Power Output (STEREO MODE)	
FRONT.....	25 W + 25 W (DIN 1 kHz, THD 1 %, 8 Ω)
RMS Power Output	
FRONT.....	41 W/ch (1 kHz, THD 10 %, 6Ω)
CENTER.....	41 W (1 kHz, THD 10 %, 6 Ω)
SURROUND.....	41 W/ch (1 kHz, THD 10 %, 6 Ω)

•Above specifications are applicable when the power supply is 230V.

Input (Sensitivity/Impedance)	
DVD, TV/SAT, DVR/VCR, FRONT.....	200 mV/47 kΩ
Frequency Response	
DVD, TV/SAT, DVR/VCR, FRONT.....	5 Hz to 100,000 Hz ± 0.5 dB
Output (Level/Impedance)	
VCR OUT	200 mV/2.2 kΩ

Signal-to-Noise Ratio	
[DIN (Continuous rated power output/50 mW)]	
DVD, TV/SAT, DVR/VCR, FRONT.....	88 dB/64 dB

VIDEO Section	
Input (Sensitivity/Impedance)	
DVD, TV/SAT, DVR/VCR, FRONT.....	1 Vp-p/75 Ω
Output (Level/Impedance)	
DVR/VCR, MONITOR.....	1 Vp-p/75 Ω
Frequency Response	
DVD, TV/SAT, DVR/VCR, FRONT → MONITOR	5 Hz to 7 MHz ± 0.5 dB
Signal-to-Noise Ratio.....	55 dB

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"DTS", "ES" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.

FM Tuner Section

Frequency Range.....	87.5 MHz to 108 MHz
Usable Sensitivity.....	Mono: 15.2 dBf, IHF (1.6 μV/ 75 Ω)
50 dB Quieting Sensitivity.....	Mono: 20.2 dBf
.....	Stereo: 41.2 dBf
Signal-to-Noise Ratio.....	Mono: 76 dB (at 85 dBf)
.....	Stereo: 72 dB (at 85 dBf)
Distortion	Stereo: 0.6 % (1 kHz)
Alternate Channel Selectivity.....	60 dB (400 kHz)
Stereo Separation.....	40 dB (1 kHz)
Frequency Response.....	30 Hz to 15 kHz (±1dB)
Antenna Input	75 Ω unbalanced

AM Tuner Section

Frequency Range.....	531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna).....	350 μV/m
Selectivity.....	30 dB
Signal-to-Noise Ratio.....	50 dB
Antenna.....	Loop antenna

Miscellaneous

Power Requirements	
UK model	AC 220 - 230 V, 50/60 Hz
European model.....	AC 220 - 230 V, 50/60 Hz
Power Consumption.....	
In Standby.....	0.75 W
Dimensions.....	420 (W) x 65 (H) x 319 (D) mm
Weight (without package).....	4.8 kg

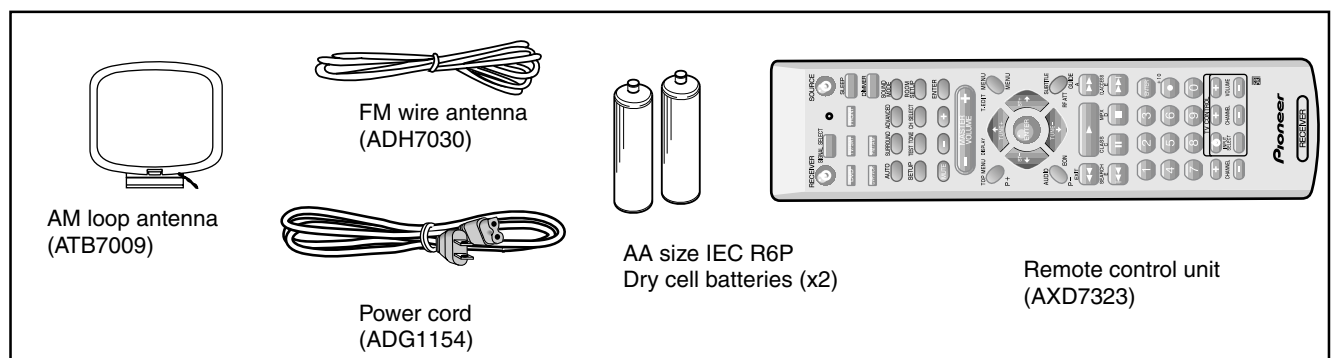
Furnished Parts

AM loop antenna.....	1
FM wire antenna.....	1
Dry cell batteries (AA size IEC R6P).....	2
Remote control unit	1
Power cord.....	1
Speaker cable labels	1
Operating instructions.....	1



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

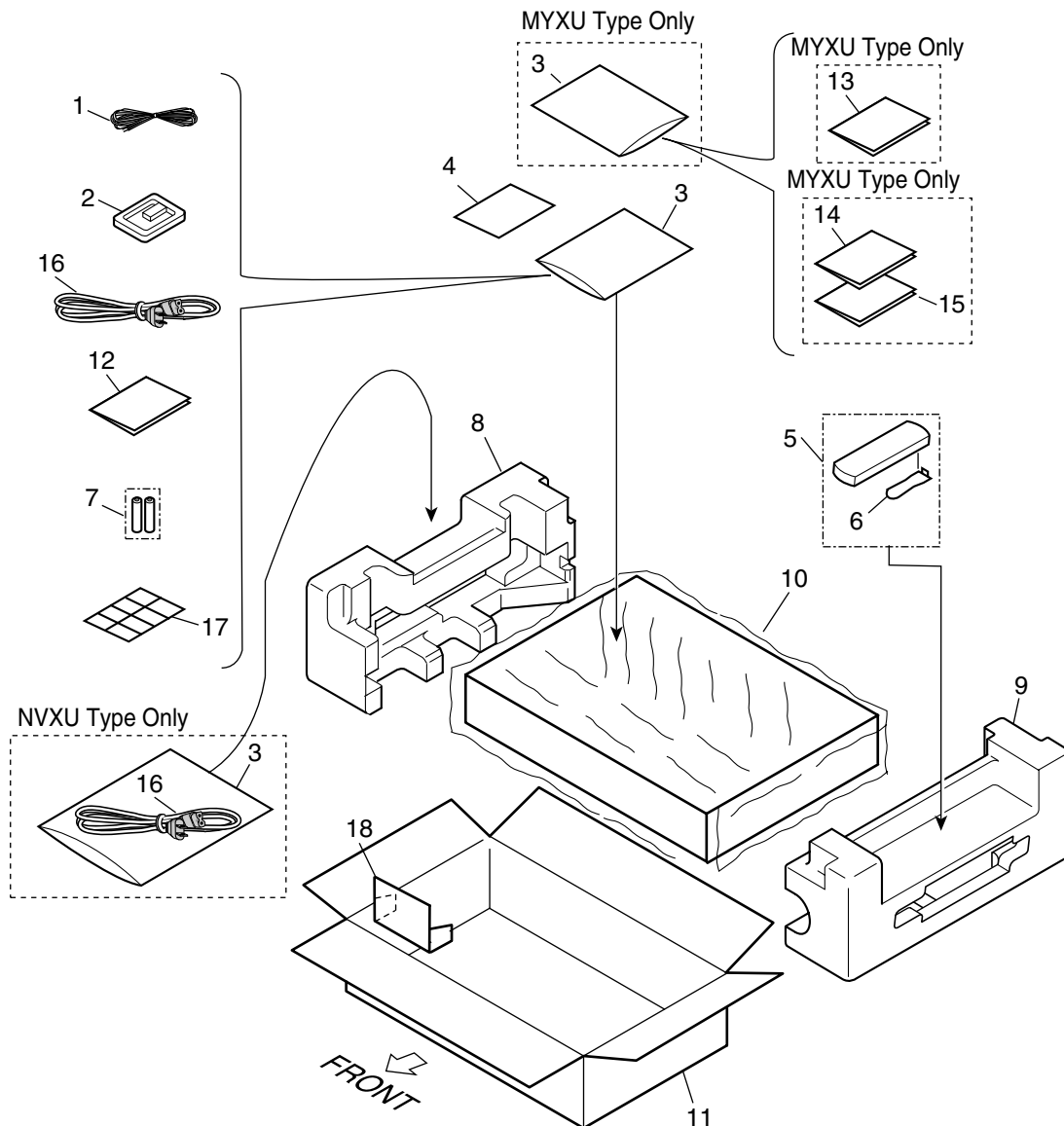
Accessories



2. EXPLODED VIEWS AND PARTS LIST

- NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Screws adjacent to  mark on product are used for disassembly.
 - For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

2.1 PACKING



(1)PACKING parts List

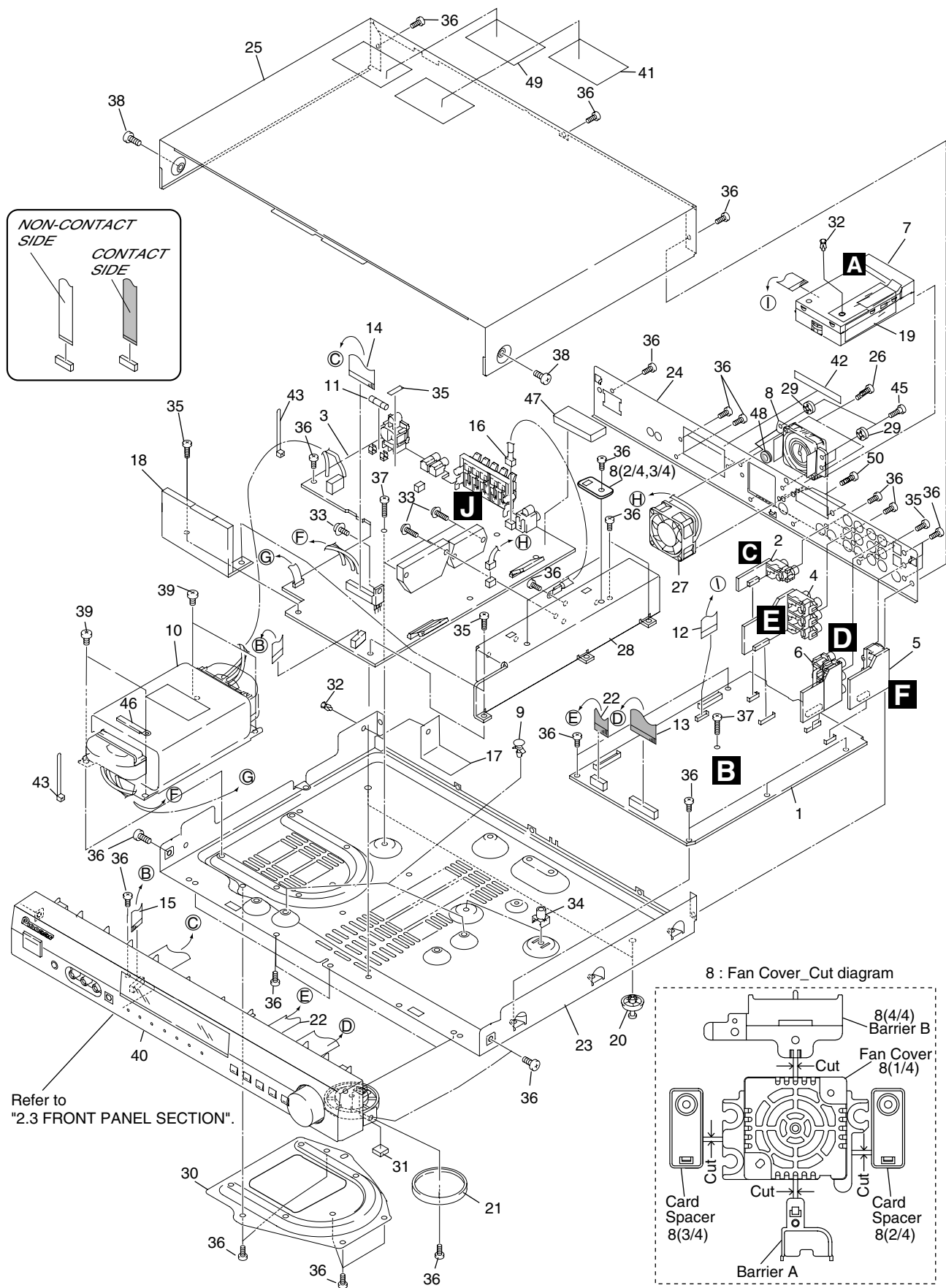
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FM Wire Antenna	ADH7030	11	Packing Case	See Contrast table(2)
2	AM Loop Antenna	ATB7009	12	Operating Instructions(English)	ARB7260
NSP 3	Polyethylene Bag	See Contrast table(2)	13	Operating Instructions (German)	See Contrast table(2)
NSP 4	Warranty Card	ARY7022	14	Operating Instructions (French, Italian)	See Contrast table(2)
5	Remote Control Unit	AXD7323	15	Operating Instructions (Dutch, Spanish)	See Contrast table(2)
6	Battery Cover	AZA7424	16	AC Power Cord	See Contrast table(2)
NSP 7	Dry Cell Battery (R6P, AA)	VEM1010	17	Speaker Cable Label	ARW7163
8	Left Pad C100	AHA7381	18	Spacer	AHC7026
9	Right Pad C100	AHA7382			
10	Packing Sheet	AHG7015			

(2) CONTRAST TABLE

VSX-C100-S/MYXU, /NVXU and VSX-C100-K/MYXU are constructed the same except for the following :

Mark	NO	Symbol and Description	VSX-C100-S/ MYXU	VSX-C100-S/ NVXU	VSX-C100-K/ MYXU
NSP 	3	Polyethylene Bag	AHG7097	Z21-038	AHG7097
	11	Packing Case	AHD8065	AHD8066	AHD8068
	13	Operating Instructions(German)	ARC7382	Not used	ARC7382
	14	Operating Instructions(French, Italian)	ARC7384	Not used	ARC3384
	15	Operating Instructions(Dutch, Spanish)	ARC7385	Not used	ARC3385
	16	AC Power Cord	ADG1154	ADG1156	ADG1154

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DSP ASSY	AWX8049	NSP 23	Under Base	ANA7139
2	2P_JACK ASSY	AWX8048	24	Rear Panel	See Contrast table(2)
3	POWER(H) ASSY	AWX8042	25	Bonnet Case (Box)	See Contrast table(2)
4	VIDEO ASSY	AWX8047	26	Screw	PPT30P100FZK
5	DIGITAL-IN ASSY	AWX8046	27	DC Fan Motor	AXM7021
6	6PA-JACK ASSY	AWX8043	NSP 28	Heat Sink AL	ANH7153
7	FM/AM TUNER MODULE	AXQ7232	29	Rubber Damper	VEB1112
8	FAN Cover(1/4)	AMR7389	30	Trans Stabilizer	ANG7415
9	Card Spacer	VEC1708	31	Rubber Cushion	VEB1325
⚠ 10	Power Transformer (AC230V)	ATS7336	32	Plastic Rivet	DEC1704
⚠ 11	Fuse (FU1: T1.25A)	REK1023	33	Screw With Washier	ABA7080
12	FFC (J005 :13P/90BD 60V) (DSP CN803 to TUNER CN201)	ADD7376	34	PCB Mold	AMR2534
13	FFC (J002 : 31P/100BD 60V) (DSP CN1702 to FRONT CN4202)	ADD7341	35	Screw	BBT30P080FCC
14	FFC (J001 : 27P/120BD 60V) (POWER CN301 to FRONT CN4201)	ADD7342	36	Screw	BBZ30P080FZK
15	FFC (J004 :13P/90BD 60V) (POWER CN301 to FRONT INPUT CN4201)	ADD7376	37	Screw	BBZ30P140FMC
16	Thermistor (POWER CN306 to TH9014)	AEX7004	38	Screw	See Contrast table(2)
17	AC Barrier	AEC7411	39	Screw	BBZ40P060FCC
18	Shield Plate	ANG7441	40	Front Panel Assy	See Contrast table(2)
19	Tuner Barrier	AEC7410	41	Dolby DTS. Label	ARW7169
20	Leg Assy	REC-434	42	Speaker Label E	ARW7161
21	Ring	VNK4840	43	Binder	ZCA-BK1
22	FFC (J003 : 7P/100BD 60V) (DSP CN804 to FRONT CN203)	ADD7344	44	Screw (3x11.5)	ABA7071
			45	Steper Screw	PBA1014
			46	Cord Clamper	RNH1005
			47	Damper Coshion	AED7055
			48	Coshion Circle 4.5	AED7056
			49	Label C100SMY	ARW7171

(2) CONTRAST TABLE

VSX-C100-S/MYXU, /NVXU and VSX-C100-K/MYXU are constructed the same except for the following :

Mark	NO	Symbol and Description	VSX-C100-S/ MYXU	VSX-C100-S/ NVXU	VSX-C100-K/ MYXU
	24	Rear Panel	ANC8077	ANC8078	ANC8080
	25	Bonnet Case (Box)	AZN7900	AZN7900	AZN7901
	38	Screw	BBZ40P080FNI	BBZ40P080FNI	BBZ40P080FZK
	40	Front Panel Assy	AXG7157	AXG7157	AXG7158

2.3 FRONT SECTION

A

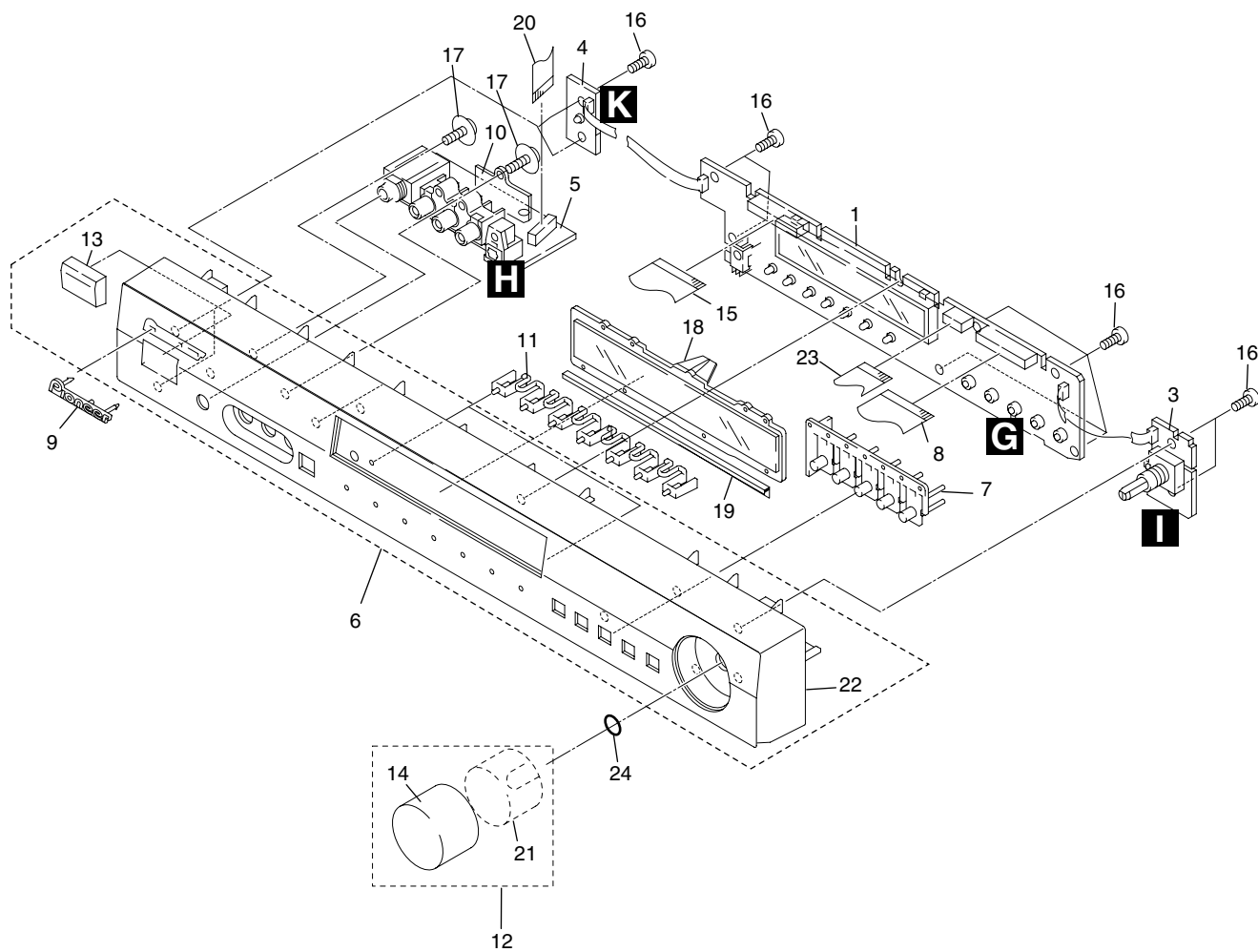
B

C

D

E

F



(1) FRONT SECTION parts Lis

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FRONT ASSY	AWX8050	NSP 14	Volume Cap	See Contrast table(2)
2	POWER SW ASSY	AWX8051	15	FFC (J001 : 27P/60V) (Front CN4201 to Power CN301)	ADD7342
3	ENCODER ASSY	AWX8052	16	Screw	PPZ30P080FMC
4	• • • •		17	Screw (FE)	ABA7009
5	FRONT INPUT ASSY	AWX8053	NSP 18	Display Panel	AAK7960
6	Front Panel Assy	See Contrast table(2)	NSP 19	Hologram	AAK7964
NSP 7	Function Button	See Contrast table(2)	20	FFC (J004 : 13P/60V) (Front input CN4101 to Power CN304)	ADD7376
8	FFC (J002 : 31P/60V) (Front CN4202 to DSP CN1702)	ADD7341	NSP 21	Volume Mold	AAC7033
9	Name Plate	See Contrast table(2)	NSP 22	Front Panel	See Contrast table(2)
10	Barrier B (4/4)	AMR7389	23	FFC (J003 : 7P/60v) (Front CN4203 to DSP CN804)	ADD7344
11	LED Lens	AAK7961	24	VOL Ring	ABH7220
12	Volume Knob Assy	See Contrast table(2)			
NSP 13	Power Button	See Contrast table(2)			

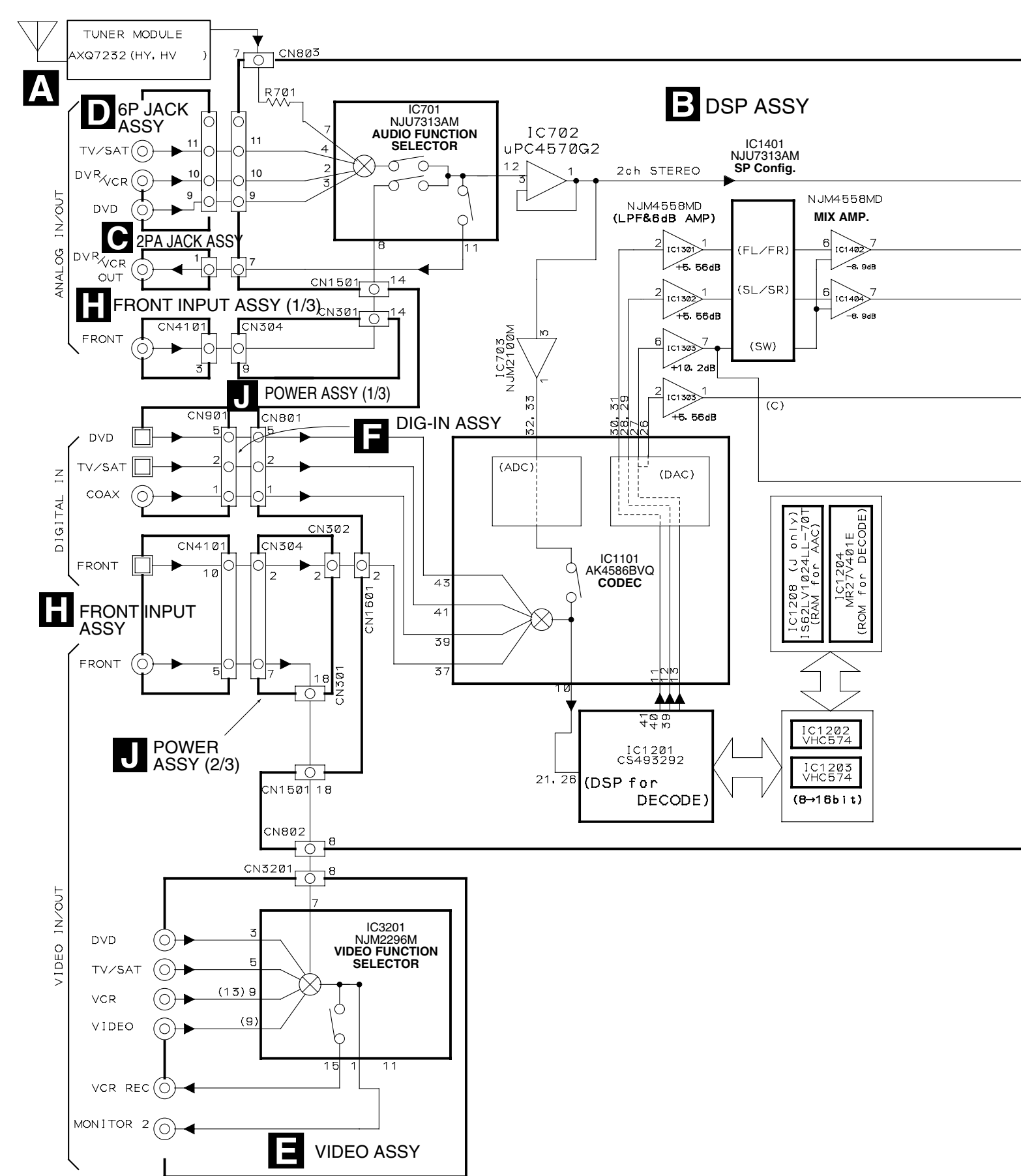
(2) CONTRAST TABLE

VSX-C100-S/MYXU, /NVXU and VSX-C100-K/MYXU are constructed the same except for the following :

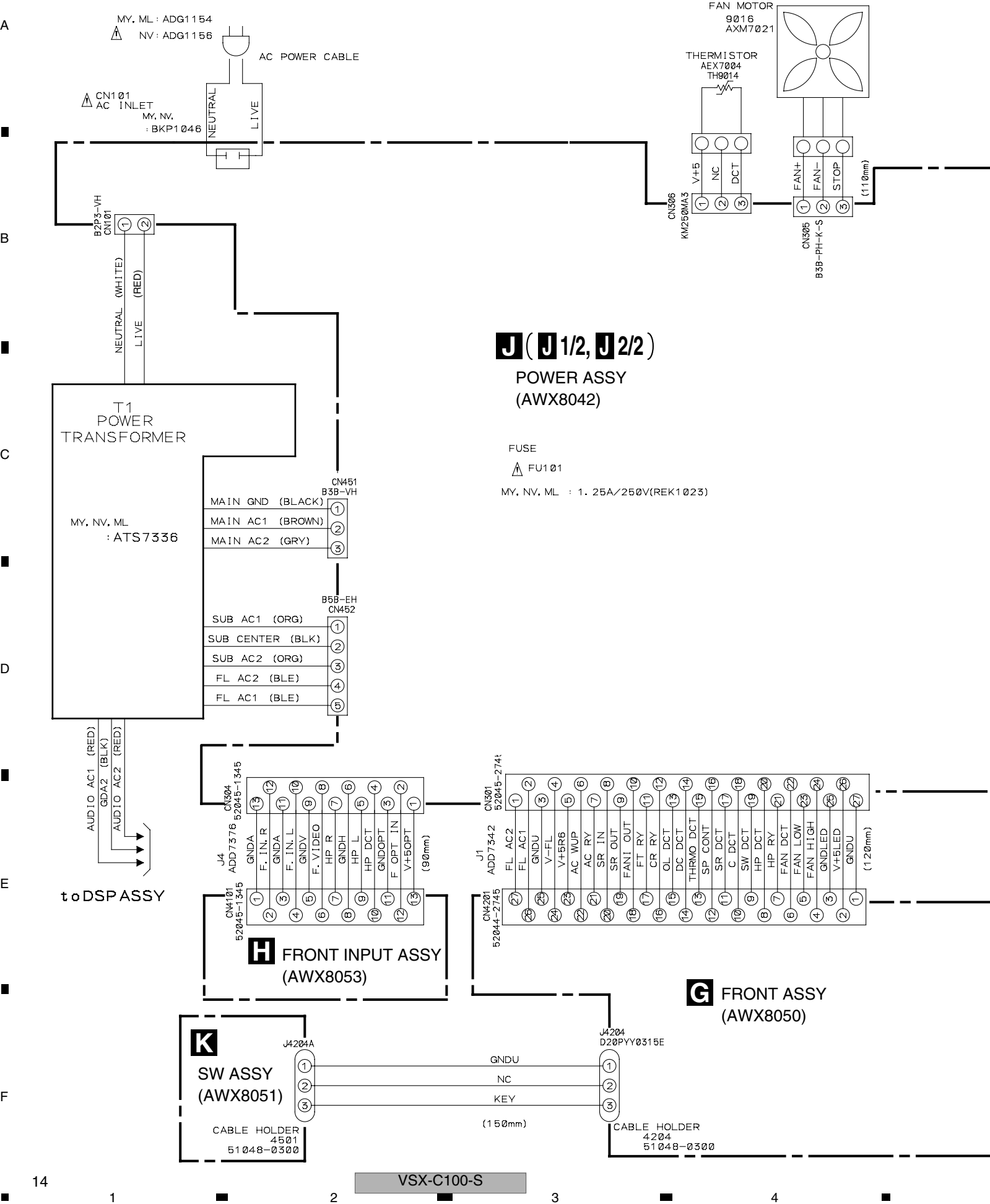
Mark	NO	Symbol and Description	VSX-C100-S/ MYXU	VSX-C100-S/ NVXU	VSX-C100-K/ MYXU
NSP	6	Front Panel Assy	AXG7157	AXG7157	AXG7158
	7	Function Button	AAD7652	AAD7652	AAD7653
	9	Name Plate	VAM1129	VAM1129	VAM1130
NSP	12	Volume Knob Assy	AAB7246	AAB7246	AAB7247
	13	Power Button	AAD7654	AAD7654	AAD7655
NSP	14	Volume Cap	AAC7041	AAC7041	AAC7042
NSP	22	Front Panel	AMB7812	AMB7812	AMB7813

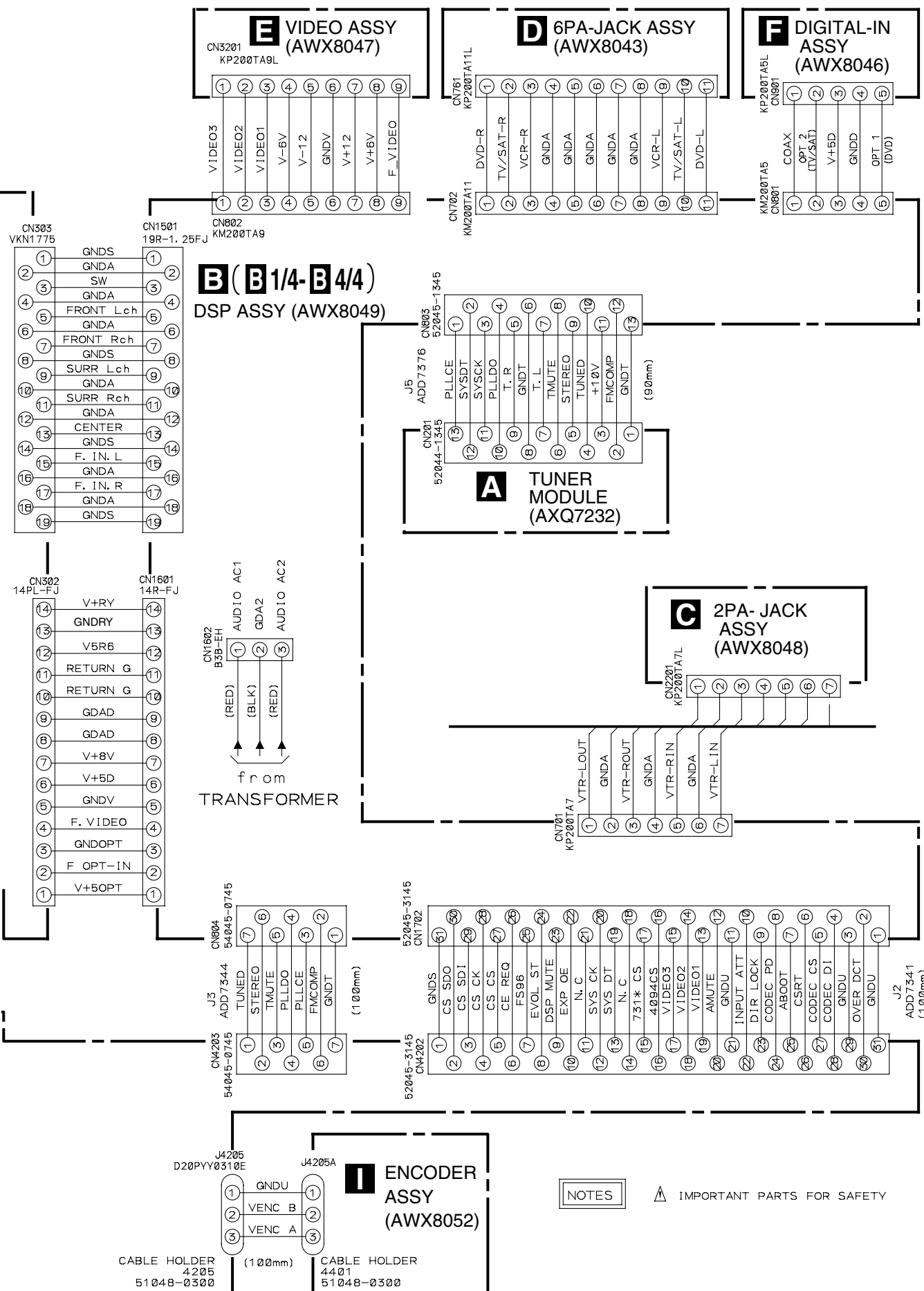
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM



3.2 OVERALL WIRING DIAGRAM





Notes

1. RESISTORS

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

2. CAPACITORS

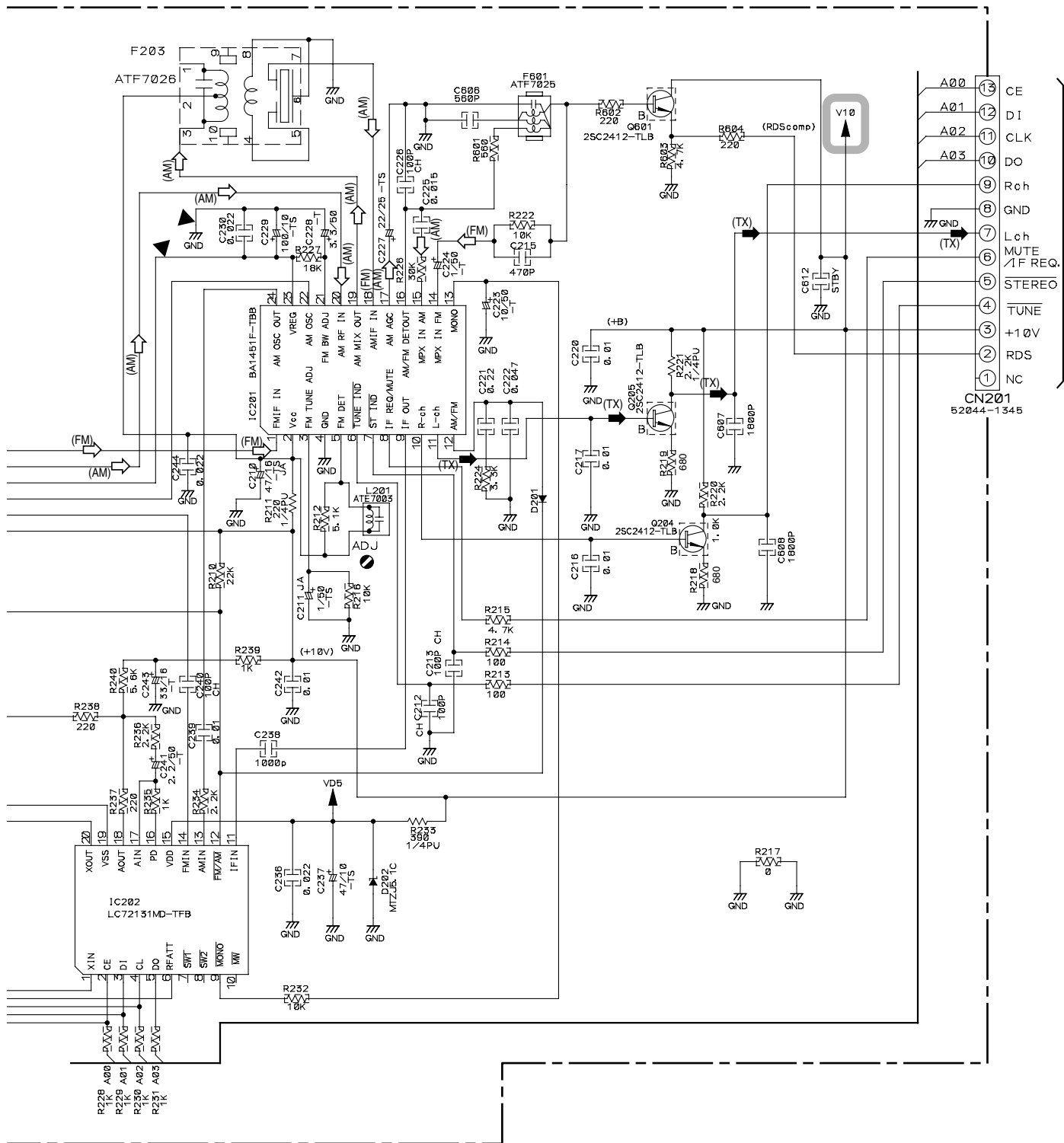
Indicated in Capacity (μF)/VOLTAGE (V) unless otherwise noted P:PF.

3. DIODES

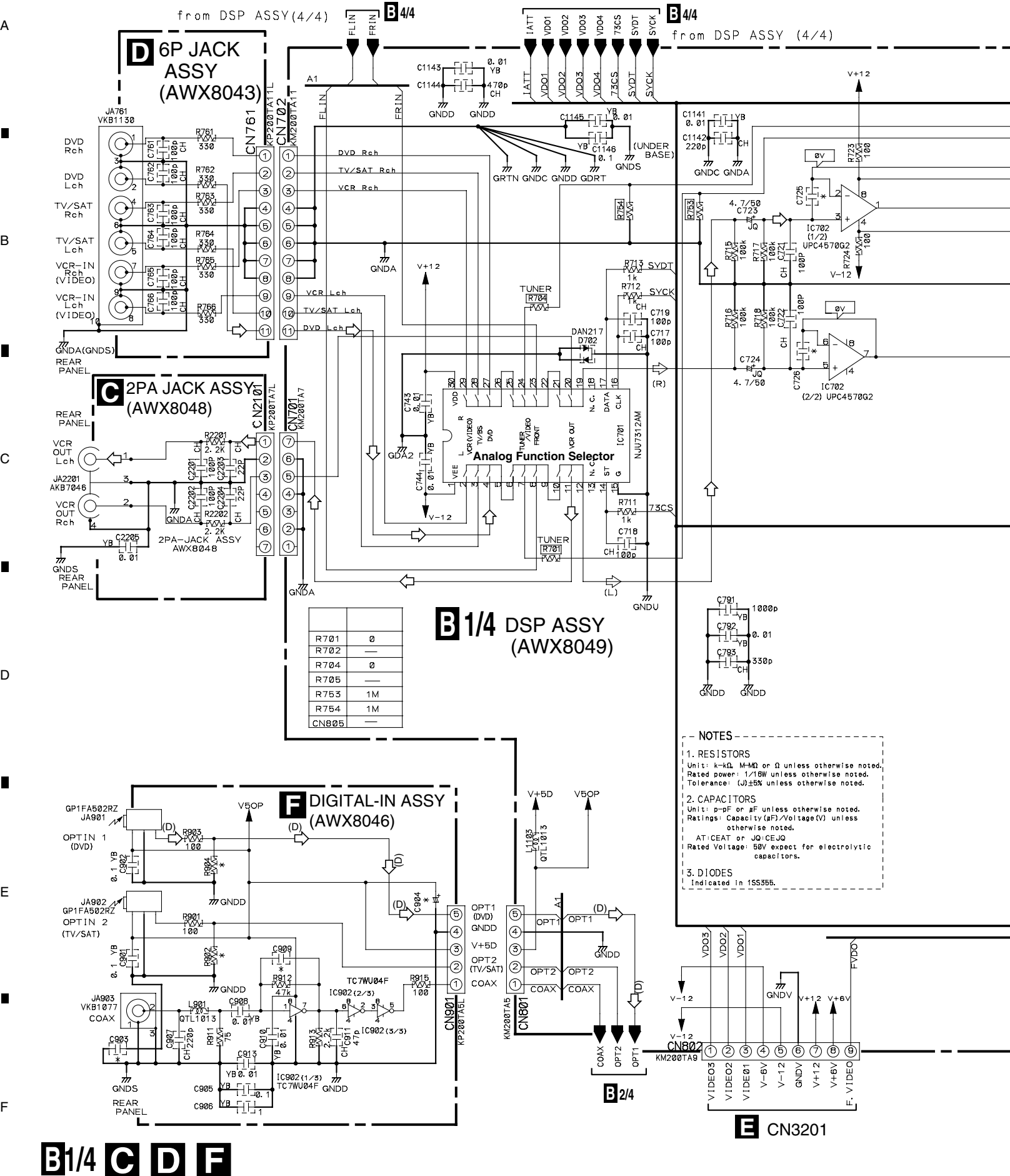
No mark diode is 1SS133.

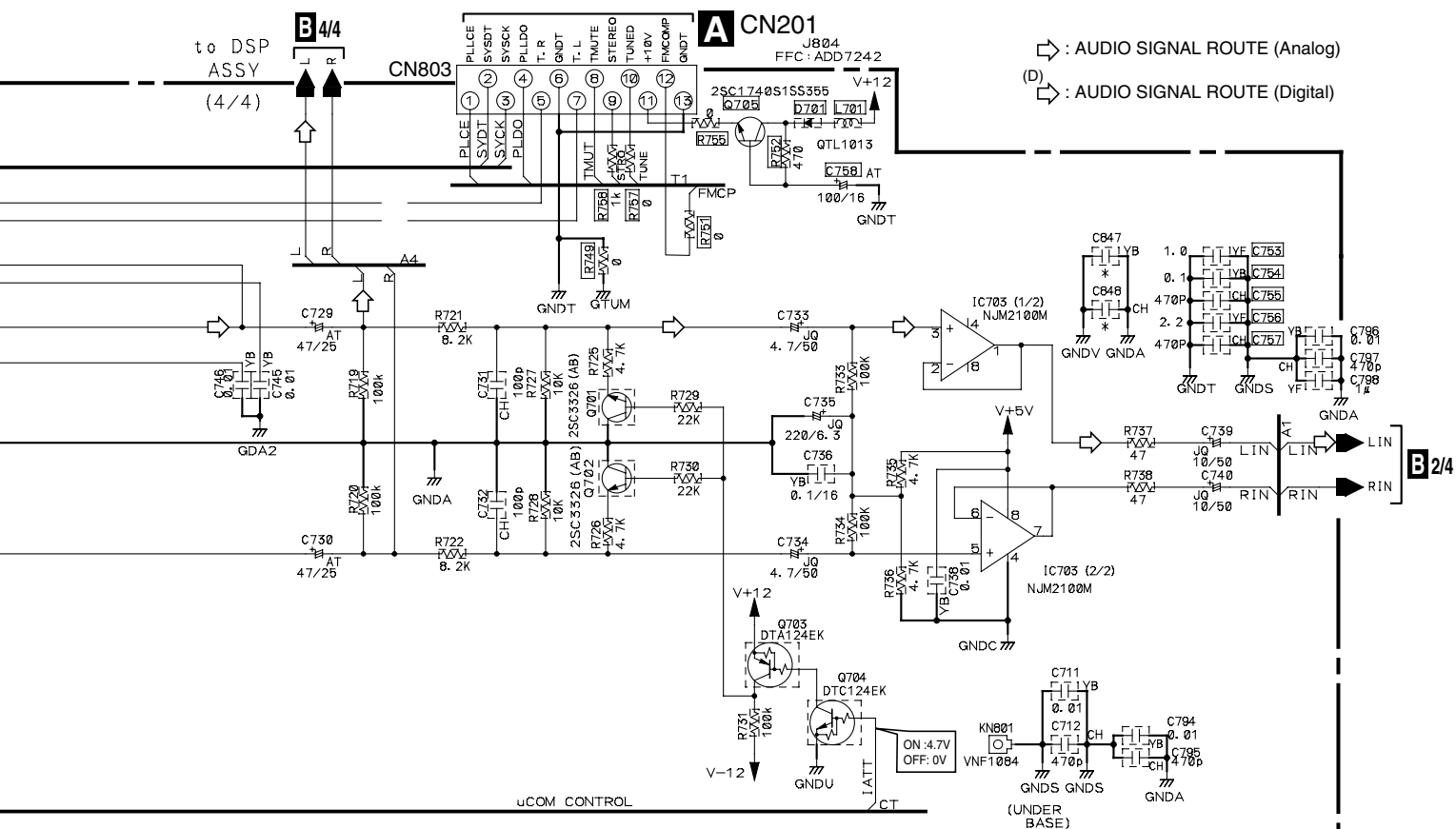
 : The power supply is shown with the marked box.

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

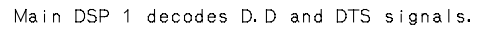


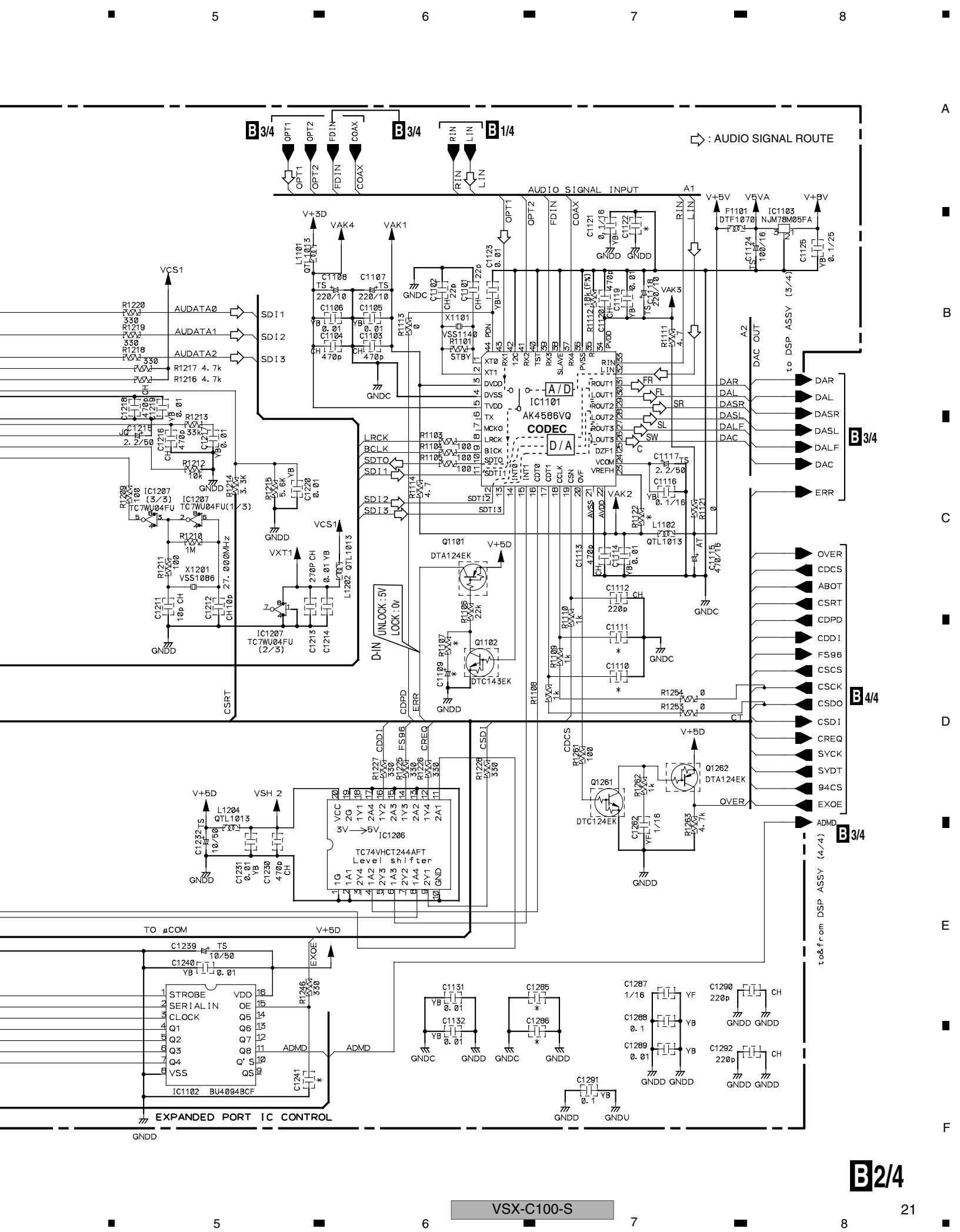
3.4 DSP(1/4), 2P-JACK, 6P-JACK, DIGITAL-IN and FRONT INPUT ASSYS





VSX-C100-S



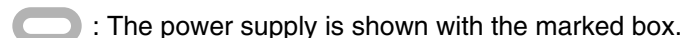


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4

**B 3/4**

4

B**B**

PRE AMP

IC1502 (1/2)
UPC4570G2

FL

6.2K

C1527 220p

CH

V+12

C1528 220p

R1525 6.2K

FR

IC1503 (1/2)
UPC4570G2

SL

6.2K

C1533 220p

CH

V+12

C1534 220p

R1535 6.2K

SR

IC1505
UPC4570G2

(2/2)

C1541 220p

CH

V+12

C1542 270p

R1543 100K

CH

V+12

C1544 270p

R1545 100K

CH

V+12

C1546 270p

R1547 100K

CH

V+12

C1548 270p

R1549 100K

CH

V+12

C1550 270p

R1551 100K

CH

V+12

C1552 270p

R1553 100K

CH

V+12

C1554 270p

R1555 100K

CH

V+12

C1556 270p

R1557 100K

CH

V+12

(FL)

C1563 JQ

4.7/50

R1572 100K

C1564 JQ

4.7/50

R1573 100K

C1565 JQ

4.7/50

R1574 100K

C1566 JQ

4.7/50

R1575 100K

C1567 JQ

4.7/50

R1576 100K

C1568 JQ

4.7/50

R1577 100K

C1569 JQ

4.7/50

R1578 100K

C1570 JQ

4.7/50

R1579 100K

C1571 JQ

4.7/50

R1572 100K

C1573 JQ

4.7/50

R1574 100K

C1575 JQ

4.7/50

R1576 100K

C1577 JQ

4.7/50

R1578 100K

C1579 JQ

4.7/50

R1580 100K

C1581 JQ

4.7/50

R1582 100K

C1583 JQ

4.7/50

R1584 100K

C1585 JQ

4.7/50

R1586 100K

C1587 JQ

4.7/50

R1588 100K

C1589 JQ

4.7/50

R1590 100K

(FL)

C1591 JQ

4.7/50

R1592 100K

C1593 JQ

4.7/50

R1594 100K

C1595 JQ

4.7/50

R1596 100K

C1597 JQ

4.7/50

R1598 100K

C1599 JQ

4.7/50

R1600 100K

C1601 JQ

4.7/50

R1602 100K

C1603 JQ

4.7/50

R1604 100K

C1605 JQ

4.7/50

R1606 100K

C1607 JQ

4.7/50

R1608 100K

C1609 JQ

4.7/50

R1610 100K

C1611 JQ

4.7/50

R1612 100K

C1613 JQ

4.7/50

R1614 100K

C1615 JQ

4.7/50

R1616 100K

C1617 JQ

4.7/50

R1618 100K

C1619 JQ

4.7/50

R1620 100K

C1621 JQ

4.7/50

R1622 100K

C1623 JQ

4.7/50

R1624 100K

C1625 JQ

4.7/50

R1626 100K

(FL)

C1627 JQ

4.7/50

R1628 100K

C1629 JQ

4.7/50

R1630 100K

C1631 JQ

4.7/50

R1632 100K

C1633 JQ

4.7/50

R1634 100K

C1635 JQ

4.7/50

R1636 100K

C1637 JQ

4.7/50

R1638 100K

C1639 JQ

4.7/50

R1640 100K

C1641 JQ

4.7/50

R1642 100K

C1643 JQ

4.7/50

R1644 100K

C1645 JQ

4.7/50

R1646 100K

C1647 JQ

4.7/50

R1648 100K

C1649 JQ

4.7/50

R1650 100K

C1651 JQ

4.7/50

R1652 100K

C1653 JQ

4.7/50

R1654 100K

C1655 JQ

4.7/50

R1656 100K

C1657 JQ

4.7/50

R1658 100K

C1659 JQ

4.7/50

R1660 100K

C1661 JQ

4.7/50

R1662 100K

(FL)

C1663 JQ

4.7/50

R1664 100K

C1665 JQ

4.7/50

R1666 100K

C1667 JQ

4.7/50

R1668 100K

C1669 JQ

4.7/50

R1670 100K

C1671 JQ

4.7/50

R1672 100K

C1673 JQ

4.7/50

R1674 100K

C1675 JQ

4.7/50

R1676 100K

C1677 JQ

4.7/50

R1678 100K

C1679 JQ

4.7/50

R1680 100K

C1681 JQ

4.7/50

R1682 100K

C1683 JQ

4.7/50

R1684 100K

C1685 JQ

4.7/50

R1686 100K

C1687 JQ

4.7/50

R1688 100K

C1689 JQ

4.7/50

R1690 100K

C1691 JQ

4.7/50

R1692 100K

C1693 JQ

4.7/50

R1694 100K

C1695 JQ

4.7/50

R1696 100K

C1697 JQ

4.7/50

R1698 100K

(FL)

C1699 JQ

4.7/50

R1700 100K

C1701 JQ

4.7/50

R1702 100K

C1703 JQ

4.7/50

R1704 100K

C1705 JQ

4.7/50

R1706 100K

C1707 JQ

4.7/50

R1708 100K

C1709 JQ

4.7/50

R1710 100K

C1711 JQ

4.7/50

R1712 100K

C1713 JQ

4.7/50

R1714 100K

C1715 JQ

4.7/50

R1716 100K

C1717 JQ

4.7/50

R1718 100K

C1719 JQ

4.7/50

R1720 100K

C1721 JQ

4.7/50

R1722 100K

C1723 JQ

4.7/50

R1724 100K

C1725 JQ

4.7/50

R1726 100K

C1727 JQ

4.7/50

R1728 100K

C1729 JQ

4.7/50

R1730 100K

C1731 JQ

4.7/50

R1732 100K

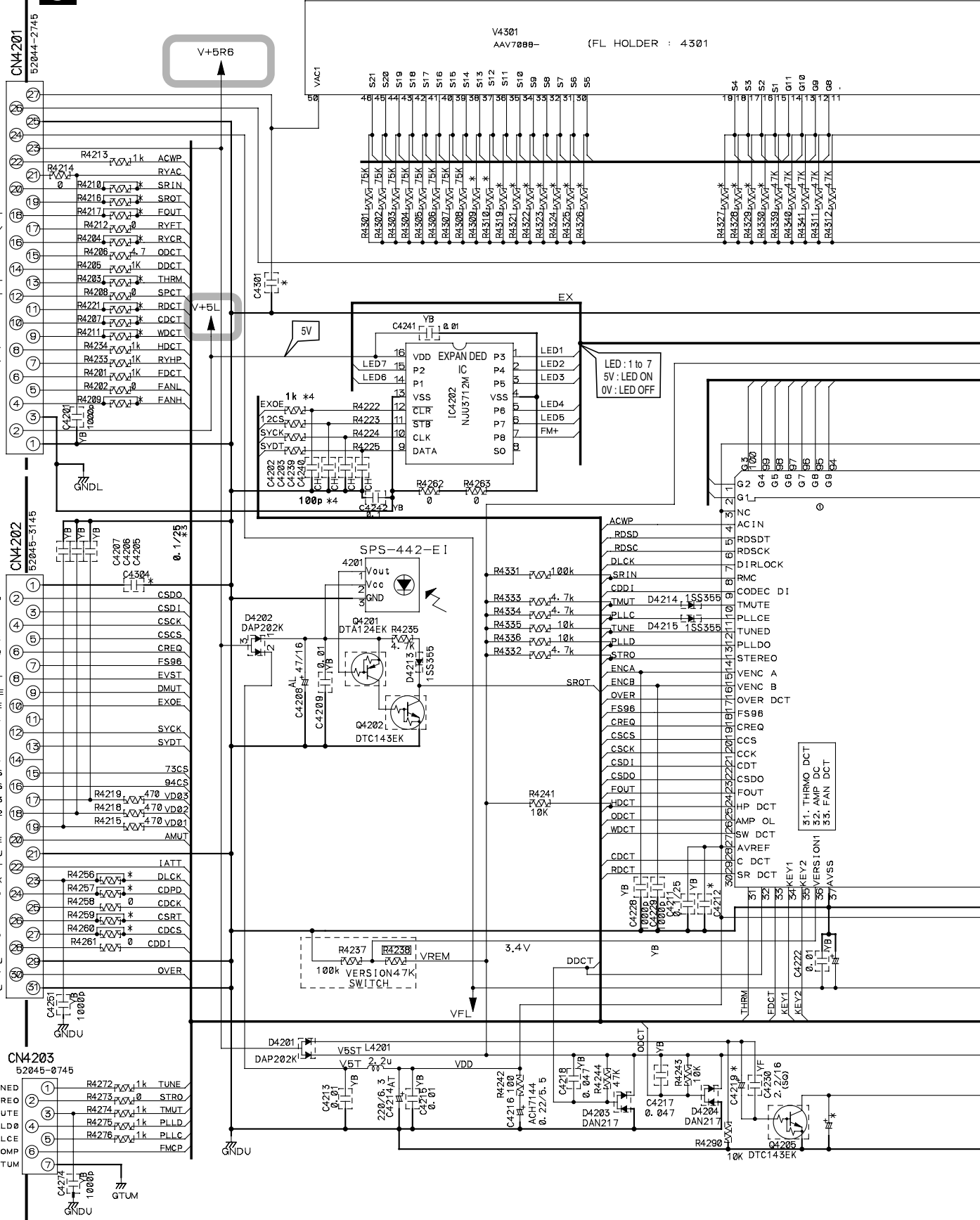
3.8 FRONT, ENCODER and SW ASSYS

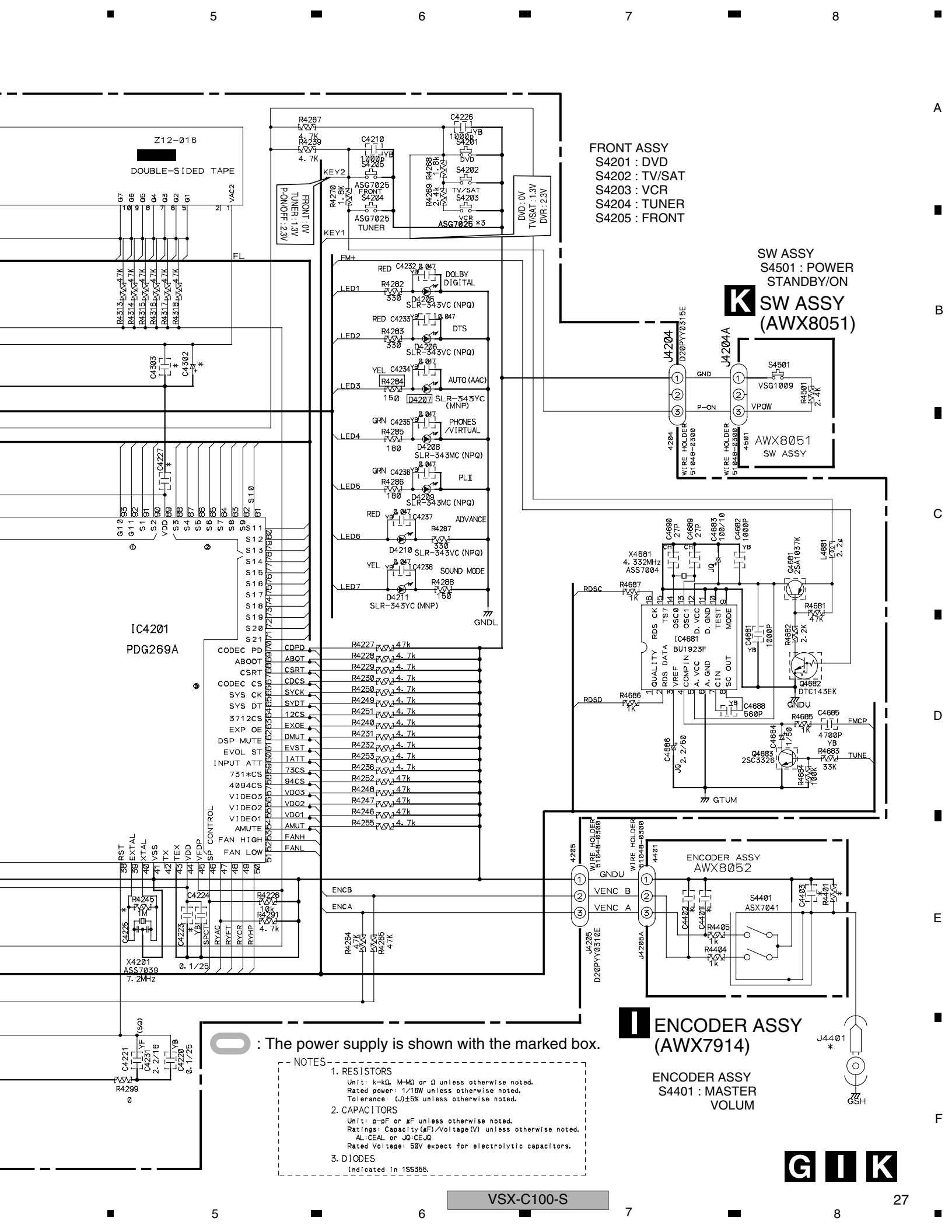
FRONT ASSY (AWX8050)

to POWER ASSY (CN303) J1/2 CN303

to DSP ASSY CN1702 B4/4 CN1702

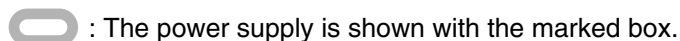
to DSP ASSY (1/4) (CN804) B1/4 CN804





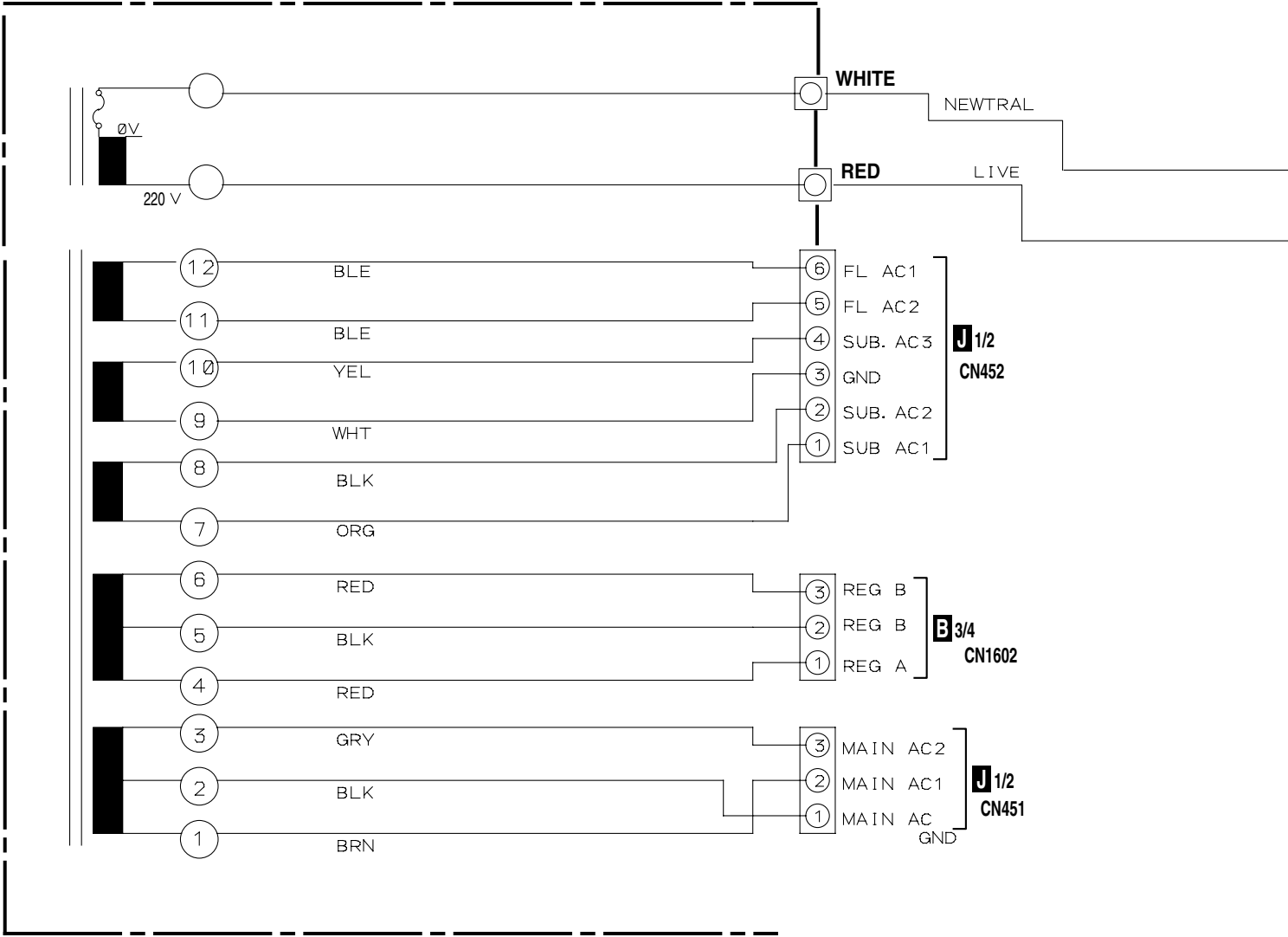
4





3.10 POWER(2/2) and TORANS ASSYS

POWER TRANSFORMER
Secon Dary



NOTE

1. RESISTORS

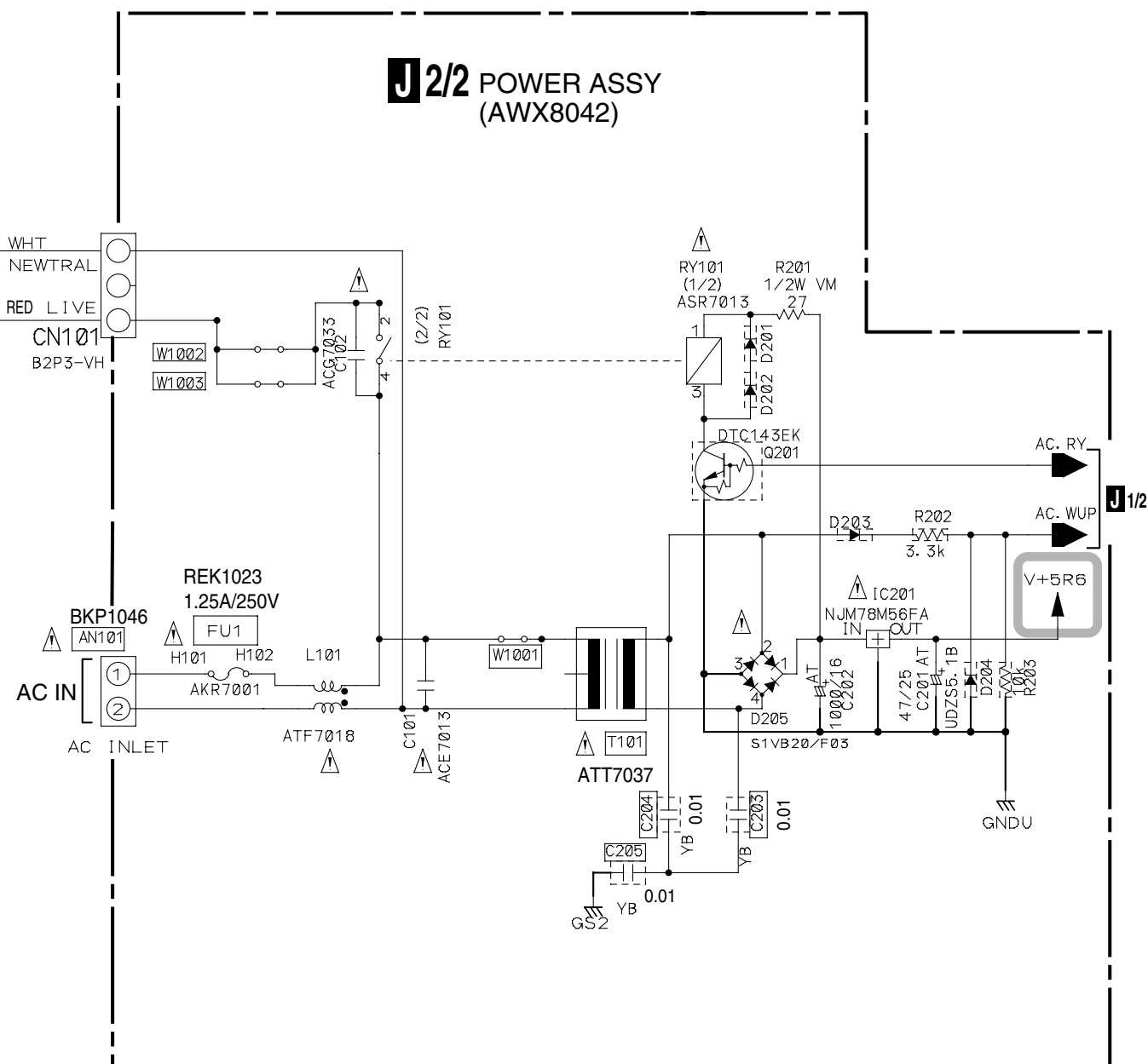
Unit: k- Ω , M- Ω or Ω unless otherwise noted.
 Rated power: 1/10W unless otherwise noted.
 Tolerance: (J) $\pm 5\%$ unless otherwise noted.

2. CAPACITORS

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

3. DIODES

Indicated in 1SS355-TR8.



NOTE FOR FUSE REPLACEMENT

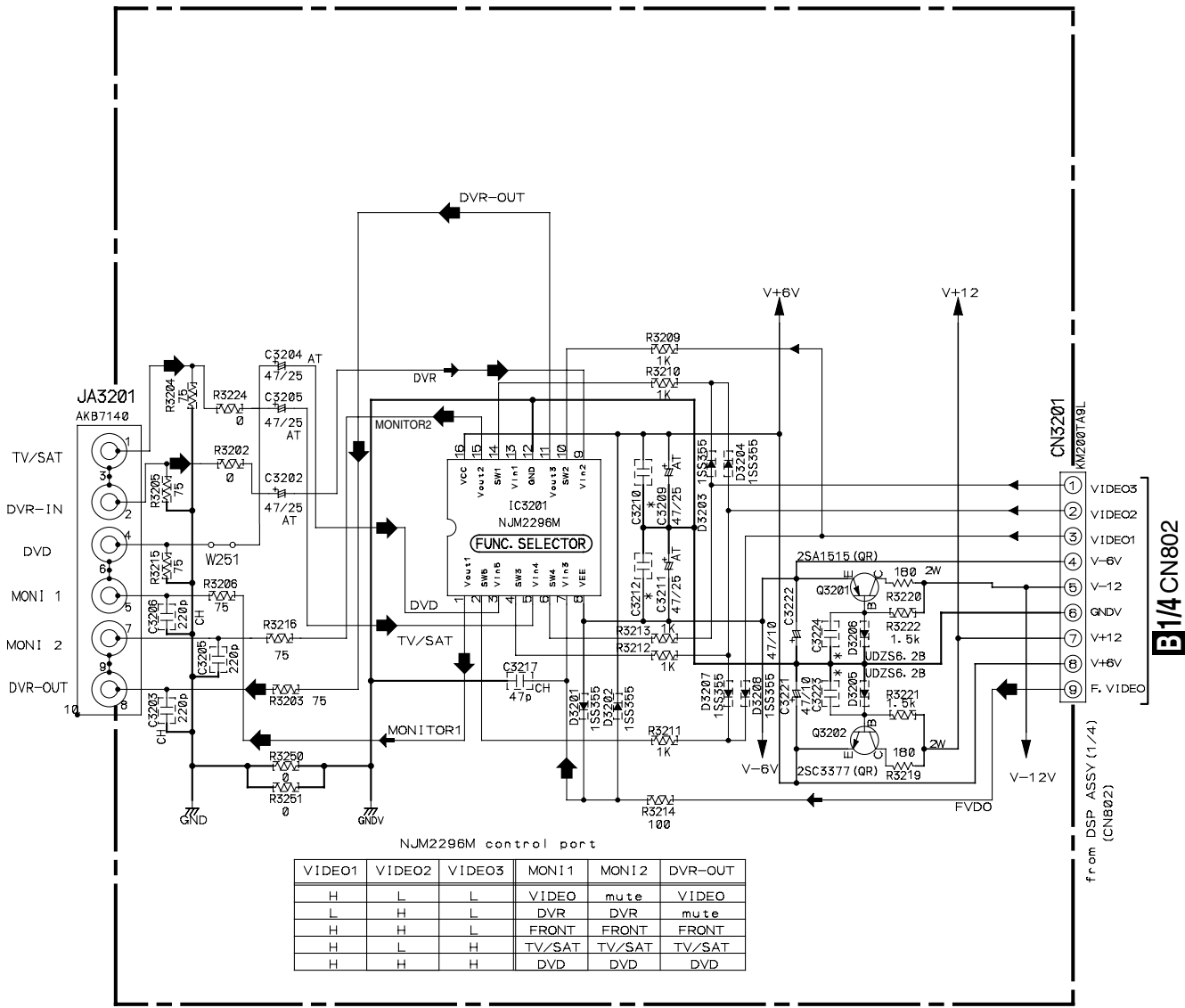
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
 REPLACE WITH SAME TYPE AND RATINGS ONLY.

 : The power supply is shown with the marked box.

3.11 VIDEO ASSY

VIDEO ASSY (AWX8047)

➡ : VIDEO SIGNAL ROUTE



- NOTE
- RESISTORS
Unit: k- Ω , M- Ω or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) $\pm$ 5% unless otherwise noted.
 - CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT or AL:CEAL
 - DIODES
Indicated in 1SS355-TRB



5



6



7



8



A

B

C

D

E

F



5



6



7



8

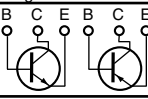
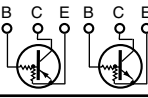
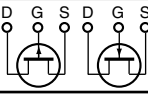
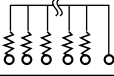


VSX-C100-S

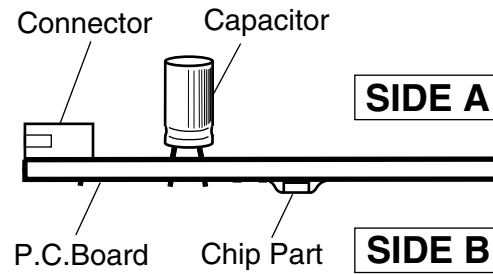
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

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

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

3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4

A

B

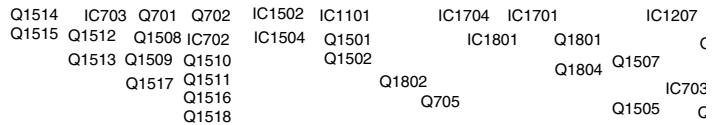
C

D

E

F

36



4

SIDE B

A

B

C

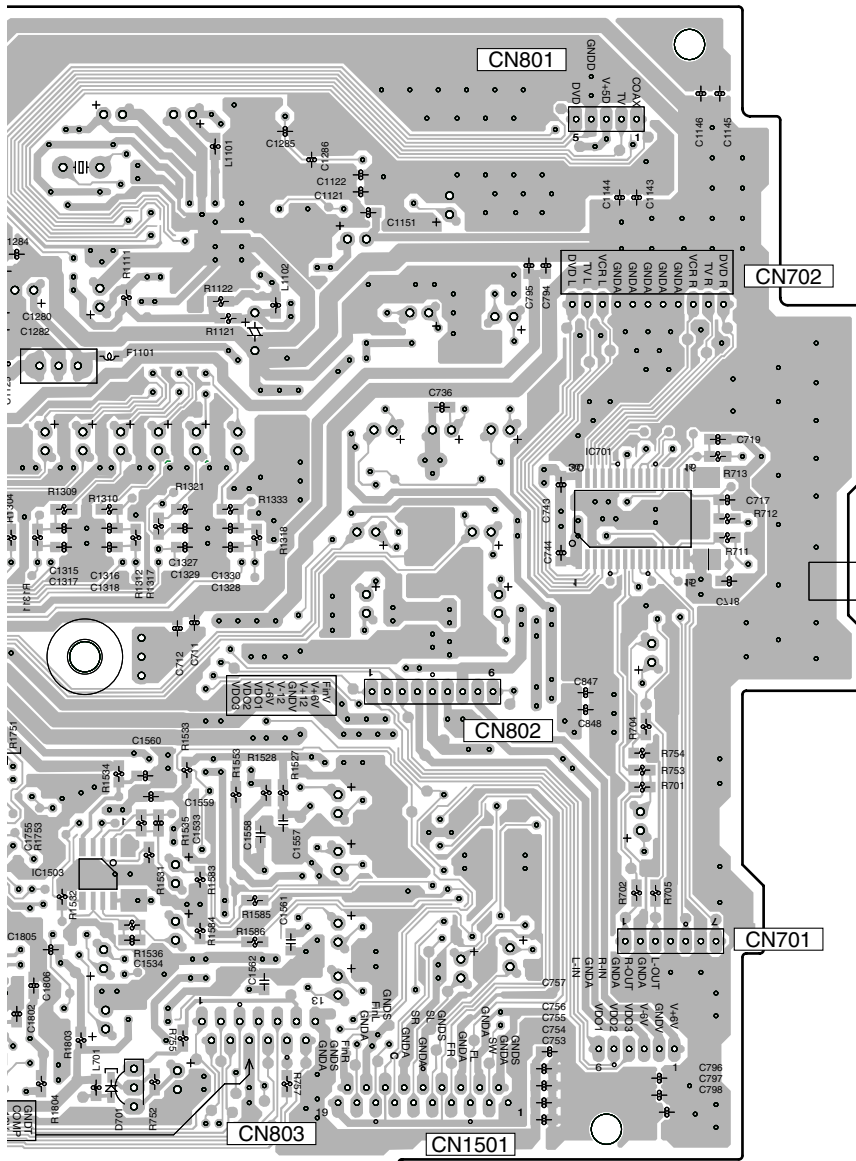
D

E

F

B

39



C 2PA-JACK
ASSY

Diagram of the ANP7422-B component showing its pin configuration and labels. The component is a small, rectangular integrated circuit with a central square area containing a grid of pins. The pins are labeled as follows:

- Top-left: CN201
- Top-right: CN202
- Bottom-left: CN203
- Bottom-right: CN204
- Left side: CN201
- Right side: CN202
- Bottom: CN203, CN204

The component is labeled (ANP7422-B) at the bottom.

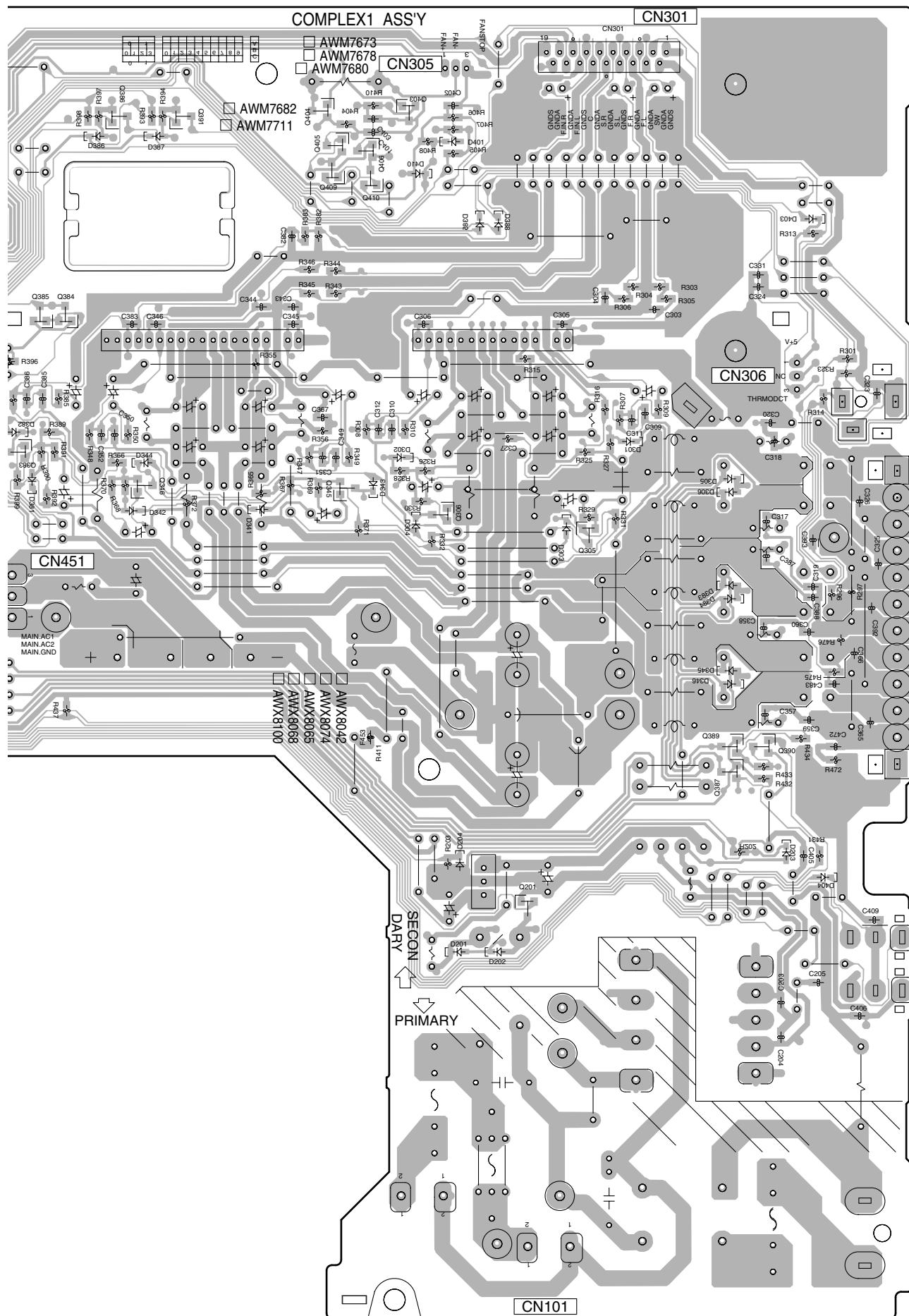
(ANP7423-B)

IC1503

IC701

VSX-C100-S

SIDE B



A

B

C

D

E

F

J

SIDE B

A

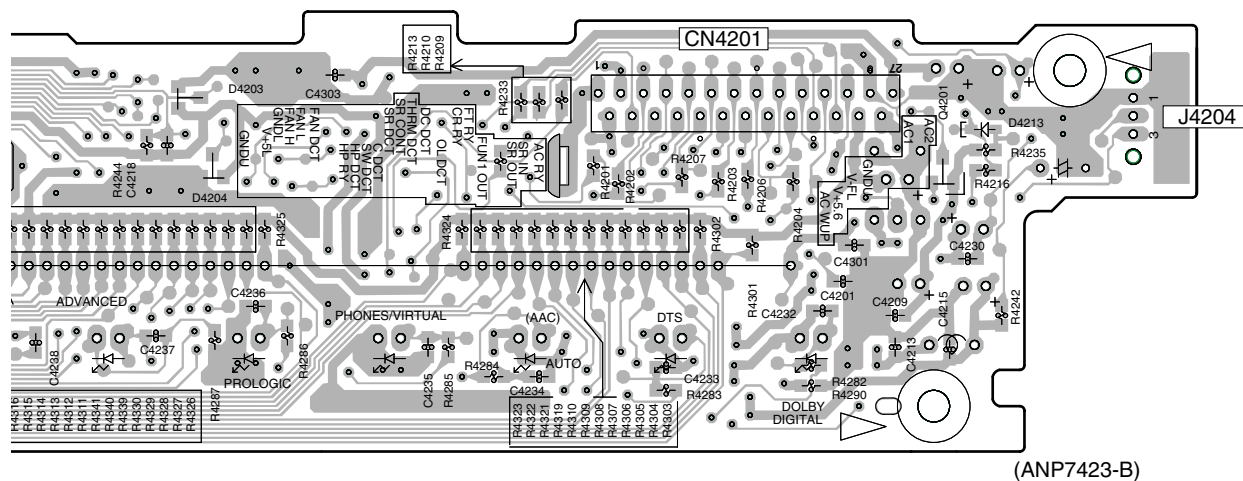
B

C

D

E

F



5. PCB PARTS LIST

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

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

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

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

560 Ω $\rightarrow$ 56 x 10^1 $\rightarrow$ 561 RD1/4PU  J

47k Ω $\rightarrow$ 47 x 10^3 $\rightarrow$ 473 RD1/4PU  J

0.5 Ω $\rightarrow$ R50 RN2H  K

1 Ω $\rightarrow$ 1R0 RS1P  K

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

5.62k Ω $\rightarrow$ 562 x 10^1 $\rightarrow$ 5621 RN1/4PC  F

Mark No. Description Part No.

LIST OF ASSEMBLIES

1..FM/AM TUNER MODULE

AXQ7232

NSP 1..COMPLEX 1 Assy
2..POWER Assy
2..6PA-JACK Assy
2..DIGITAL IN Assy
2..VIDEO Assy
2..2PA-JACK Assy

AWM7673
AWX8042
AWX8043
AWX8046
AWX8047
AWX8048

Mark No. Description Part No.

D346, D381
D382, D383
D384, D385
D386, D387
D388, D401

1SS355
1SS355
1SS355
1SS355
1SS355

D403, D404
D405, D406

1SS355
1SS355

 D452
 D451
 D205

D3SBA20(B)
D5SBA20(B)
S1VB20/F03

NSP 1..COMPLEX 2 Assy
2..DSP Assy
2..FRONT Assy
2..SW Assy
2..ENCODER Assy
2..FRONT INPUT

AWM7674
AWX8049
AWX8050
AWX8051
AWX8052
AWX8053

 D453
D455
D204, D410
D454

S5566G(TPB2)
UDZ20B
UDZS5.1B
UDZS6.8B

Mark No. Description Part No.

COILS AND FILTERS

 L101
L301, L302, L341
L342, L381
F451, F452
F453

ATF7018
ATH-133
ATH-133
DTF1070
DTF1070

J POWER ASSY

SEMICONDUCTORS

 IC454
 IC302
 IC453
 IC455
 IC452

AEK7006
AEK7009
AEK7016
AEK7022
BA12T

 IC451
 IC201
IC301
IC341
Q386, Q391

NJM7805FA
NJM78M56FA
STK402-040
STK402-240
2SA1037K

Q384, Q385
Q305, Q306, Q345
Q346, Q383
Q387, Q389, Q401
Q403, Q404

2SC2412K
2SC2712
2SC2712
2SC2712
2SC2712

Q390, Q405
Q406
Q409, Q410
Q201
D201, D202, D203

DTA124EK
DTA124EK
DTC124EK
DTC143EK
1SS355

D301, D302
D303, D304
D305, D306,
D341, D342, D343
D344, D345

1SS355
1SS355
1SS355
1SS355
1SS355

SWITCHES AND RELAYS

RY301, RY341, RY381
RY401
 RY101

ASR7008
ASR7008
ASR7013

CAPACITORS

 C101
 C102
C459, C460
C451, C452
C401, C403

ACE7013
ACG7033
ACH1237
ACH7161
CCSRCH101J50

C305, C306, C331
C345, C346
C383, C409
C323
C303, C304, C343

CCSRCH221J50
CCSRCH221J50
CCSRCH221J50
CCSRCH331J50
CCSRCH471J50

C344, C382
C309, C310
C311, C312, C349
C350, C351
C352, C385

CCSRCH471J50
CCSRCH6R0D50
CCSRCH6R0D50
CCSRCH6R0D50
CCSRCH6R0D50

C386
C202, C456
C313, C314
C353, C354
C457

CCSRCH6R0D50
CEAT102M16
CEAT220M50
CEAT220M50
CEAT221M25

Mark No.	Description	Part No.
C321, C322, C361 C362, C389 C454, C465 C453 C201	CEAT2R2M50 CEAT2R2M50 CEAT331M50 CEAT332M16 CEAT470M25	
C458 C301, C302 C381 C315, C316, C355 C356	CEAT471M35 CEHAT100M50 CEHAT100M50 CEHAT101M35 CEHAT101M35	
C391 C307, C308, C347 C348, C384 C464 C393, C483	CEHAT221M10 CEHAT470M25 CEHAT470M25 CKSQYB473K50 CKSRYB102K50	
C203, C204, C205 C402, C406 C317, C318 C319, C320, C324 C357, C358, C359	CKSRYB103K50 CKSRYB103K50 CKSRYB104K25 CKSRYB104K25 CKSRYB104K25	
C360, C360 C387, C388, C405 C455, C462, C463 C472 C325, C326, C365	CKSRYB104K25 CKSRYB104K25 CKSRYB104K25 CKSRYB104K25 CKSRYB472K50	
C366, C392 ⚠ C461	CKSRYB472K50 CQMA473J50	
RESISTORS		
⚠ R321, R322, R361 ⚠ R362, R388 ⚠ R319, R320 ⚠ R359, R360, R387 ⚠ R201	RD1/2LMF100J RD1/2LMF100J RD1/2MMF4R7J RD1/2MMF4R7J RD1/2VM270J	
⚠ R311, R312, R351 ⚠ R352 ⚠ R453, R454 ⚠ R409 ⚠ R452	RD1/4MUF101J RD1/4MUF101J RD1/4MUF4R7J RS1LMF101J RS1LMF102J	
⚠ R401, R402 ⚠ R317, R318 ⚠ R357, R358, R386 Other Resistors	RS1LMF331J XCN3001 XCN3001 RS1/16S###J	
OTHERS		
CN302 FJ CONNECTOR 14P CN304 13P FFC CONNECTOR CN303 27P FFC CONNECTOR JA301 1P PIN JACK 301 6P SPEAKER TERMINAL	14PL-FJ 52045-1345 52045-2745 AKB7080 AKE7081	
H101, H102 FUSE CLIP ⚠ T101 SUB TRANSFORMER ⚠ CN101 2P CONNECTOR	AKR7001 ATT7037 B2P3-VH	
CN305 3P CONNECTOR CN451 3P CONNECTOR CN452 6P TOP POST AN101 AC INLET CN306 3P PLUG	B3B-PH-K B3P-VH B6B-EH BKP1046 KM250MA3	
JA401, JA402 REMOTE JACK 491 PCB BINDER CN301 19P FJ CONNECTOR	RKN1004 VEF1040 VKN1775	

Mark No.	Description	Part No.
D 6PA-JACK ASSY		
CAPACITORS		
C761, C762, C763 C764, C765, C766		CCSRCH101J50 CCSRCH101J50
RESISTORS		
Other Resistors		RS1/16S###J
OTHERS		
CN761 11P SOCKET JA761 6P PIN JACK		KP200TA11L VKB1130
F DIGITAL-IN ASSY		
SEMICONDUCTORS		
IC902		TC7WU04F
COILS AND FILTERS		
L901		QTL1013
CAPACITORS		
C907 C911 C908, C910, C913 C901, C902, C905 C906		CCSRCH221J50 CCSRCH470J50 CKSRYB103K50 CKSRYB104K25 CKSRYB105K10
RESISTORS		
Other Resistors		RS1/16S###J
OTHERS		
JA901, JA902 OPTICAL RECEIVE CN901 5P SOCKET JA903		GP1FA502RZ KP200TA5L VKB1077
E VIDEO ASSY		
SEMICONDUCTORS		
IC3201 Q3201 Q3202 D3201, D3202, D3203 D3204, D3207, D3208		NJM2296M 2SA1515 2SC3377 1SS355 1SS355
D3205, D3205, D3206, D3206		UDZS6.2B
CAPACITORS		
C3203, C3206, C3215 C3217 C3221, C3222 C3202, C3204, C3205 C3205, C3209, C3211		CCSRCH221J50 CCSRCH470J50 CEAT470M10 CEAT470M25 CEAT470M25
RESISTORS		
⚠ R3219, R3220 Other Resistors		RS2LMF181J RS1/16S###J
OTHERS		
JA3201 6P PIN JACK CN3201 9P SOCKET		AKB7140 KP200TA9L
C 2P JACK ASSY		

Mark No.	Description	Part No.
CAPACITORS		
A	C2201, C2202	CCSRCH101J50
	C2203, C2204	CCSRCH220J50
	C2205	CKSRYB103K50

RESISTORS

Other Resistors	RS1/16S###J
-----------------	-------------

OTHERS

JA2201 2P PIN JACK	AKB7046
CN2201 7P SOCKET	KP200TA7L

A FM/AM TUNER MODULE

SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201, Q204, Q205, Q601	2SC2412K
Q202	DTA124ES
Q203, Q602	DTC124EK

D201	1SS133
D601	HVU187
D202	MTZJ5.1C
D101	UDZS6.8B

COILS AND FILTERS

L201	ATE7003
F202	ATF-107
F201	ATF-119
F601	ATF7025
F203	ATF7026
L602	LAU2R2J
L601	LCTA270J2520

CAPACITORS

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

C223	CEAT100M50
C229	CEAT101M10
C224	CEAT1R0M50
C227	CEAT220M25
C241	CEAT2R2M50

C243	CEAT330M16
C228	CEAT3R3M50
C237	CEAT470M10
C211	CEJQ1R0M50
C210	CEJQ470M16

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

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

C202, C222	CKSRYB473K16
C606	CKSRYB561K50

Mark No.	Description	Part No.
RESISTORS		
R211		RD1/4PU221J
R221		RD1/4PU222J
R233		RD1/4PU391J
R103, R104		RS1/10S221J
Other Resistors		RS1/16S###J

OTHERS

CN201 13P SOCKET	52044-1345
BN201 2P ANTENNA TERM.	AKA7002
SHIELD CASE T	ANK7072
SHIELD CASE B	ANK7073
X201 CRYSTAR RES. 7.2MHz	ASS1093

FM FRONT END	AXF7005
AM RF TUNING BLOCK	AXX7072

B DSP ASSY

SEMICONDUCTORS

⚠ IC1603, IC1604	AEK7012
IC1101	AK4586VQ
IC1601	BA12T
IC1102	BU4094BCF
IC1201	CS493292

IC1409	M62446FP
IC703	NJM2100M
IC1252	NJM2391DL1-25
IC1251	NJM2391DL1-33
IC1301, IC1302, IC1303, IC1402	NJM4558MD

IC1403, IC1701, IC1702, IC1703	NJM4558MD
IC1801	NJM4558MD
IC1103	NJM78M05FA
IC1602	NJM7912FA
IC1704	NJU7311AM

IC701	NJU7312AM
IC1401	NJU7313AM
IC1204	PD8099A
IC1205	TC74LVX244FT
IC1202, IC1203	TC74VHC574F

IC1206	TC74VHCT244AFT
IC1207	TC7WU04FU
IC1502, IC1503, IC1504, IC702	UPC4570G2
Q705	2SC1740S
Q1401, Q1402, Q1403, Q1404	2SC3326

Q1409, Q1410, Q1501, Q1502	2SC3326
Q1508, Q1509, Q1510, Q1511	2SC3326
Q1512, Q1513, Q1514, Q1515	2SC3326
Q1516, Q1517, Q1518, Q1701	2SC3326
Q1801, Q701, Q702	2SC3326

Q1101, Q1262, Q1405, Q1406	DTA124EK
Q1408, Q1408, Q1503, Q1504	DTA124EK
Q1505, Q1507, Q703	DTA124EK
Q1261, Q1407, Q704	DTC124EK
Q1102	DTC143EK

D1601, D1602, D1603, D1604	1SR154-400
D1481, D1483, D1501, D1502, D701	1SS355
D702	DAN217
D1401, D1402	DAP202K
D1605, D1606	RB501V-40

D1485	UDZS5.1B
-------	----------

Mark No.	Description	Part No.
----------	-------------	----------

D1503		UDZS5.6B
D1482, D1484		UDZS6.8B

COILS AND FILTERS

L1201, L1251, L1252	ATL7002
F1101, F1601, F1602, F1603, F1604	DTF1070
L1101, L1102, L1103, L1202, L1203	QTL1013
L1204, L1205	QTL1013
L701, L701	QTL1013

CAPACITORS

C1609	ACH1237
C1211, C1212, C1703, C1704, C1717	CCSRCH100D50
C1718, C1724	CCSRCH100D50
C1437, C1438, C1439, C1753, C1754	CCSRCH101J50
C1755, C717, C718, C719	CCSRCH101J50

C721, C722, C731, C732	CCSRCH101J50
C1317, C1318	CCSRCH102J50
C1101, C1102	CCSRCH220J50
C1112, C1142, C1290, C1292, C1527	CCSRCH221J50
C1528, C1533, C1534, C1541	CCSRCH221J50

C1213, C1542	CCSRCH271J50
C1329, C1331, C793	CCSRCH331J50
C1730	CCSRCH470J50
C1103, C1104, C1113, C1120, C1144	CCSRCH471J50
C1201, C1206, C1208, C1216, C1218	CCSRCH471J50

C1222, C1224, C1225, C1227, C1230	CCSRCH471J50
C1233, C1280, C1281, C1327, C1405	CCSRCH471J50
C1405, C1406, C1407, C1410, C1411	CCSRCH471J50
C1412, C1413, C712, C755, C757	CCSRCH471J50
C795, C797	CCSRCH471J50

C1307, C1308, C1319, C1320	CCSRCH820J50
C1326	CEANP100M16
C1229, C1232, C1239, C1423, C1424	CEAT100M50
C1442, C1443, C1444, C1445, C1446	CEAT100M50
C1447	CEAT100M50

C1124, C1203, C1235, C1252, C1256	CEAT101M16
C1336, C1604, C758	CEAT101M16
C1107, C1108, C1118	CEAT221M10
C1607, C1608	CEAT222M25
C1117	CEAT2R2M50

C1421, C1429	CEAT331M10
C729, C730	CEAT470M25
C1115	CEAT471M16
C1251, C1255, C1416, C1417, C1418	CEAT4R7M50
C1419	CEAT4R7M50

C1601	CEHAT221M25
C1572, C1573, C713, C714	CEJQ100M50
C739, C740	CEJQ100M50
C735	CEJQ221M6R3
C1215	CEJQ2R2M50

C1301, C1302, C1311, C1312, C1313	CEJQ330M10
C1314, C1323, C1324, C1325	CEJQ330M10
C1335	CEJQ330M10
C1435, C1436, C1546, C1563	CEJQ3R3M50
C1564, C1568, C1569, C1570, C1571	CEJQ4R7M50

C1705, C1706, C723, C724, C733	CEJQ4R7M50
C734	CEJQ4R7M50
C1803	CEJQR47M50
C1262, C1287, C753, C798	CKSQYF105Z16
C1343, C1344, C1345, C1346, C1347	CKSQYF225Z16

Mark No.	Description	Part No.
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C1348, C1408, C1409, C1414	CKSQYF225Z16
C1414, C1415, C1557, C1558, C1559	CKSQYF225Z16
C1559, C1560, C1561, C1562, C756	CKSQYF225Z16
C1305, C1306, C751, C791	CKSRYB102K50
C1105, C1106, C1114, C1119, C1123	CKSRYB103K50

C1131, C1132, C1141, C1143, C1143	CKSRYB103K50
C1145, C1202, C1207, C1209, C1214	CKSRYB103K50
C1214, C1217, C1219, C1220, C1221	CKSRYB103K50
C1223, C1226, C1228, C1231	CKSRYB103K50
C1234, C1240, C1282, C1284, C1289	CKSRYB103K50

C1349, C1402, C1404, C1441, C1711	CKSRYB103K50
C1712, C1719, C1720, C1727, C1731	CKSRYB103K50
C1751, C1752, C711	CKSRYB103K50
C738, C743, C744, C745, C746	CKSRYB103K50
C792, C794, C796	CKSRYB103K50

C1116, C1121, C1146, C1283, C1288	CKSRYB104K16
C1291, C736	CKSRYB104K16
C1125, C1330, C1426	CKSRYB104K25
C1432, C1440, C1440	CKSRYB104K25
C1540, CC1545, C1709, C1710, C1721	CKSRYB104K25

C1722, C1726	CKSRYB104K25
C754	CKSRYB104K25
C1427, C1433	CKSRYB153K50
C1303, C1304, C1315, C1316	CKSRYB222K50
C1792	CKSRYB223K50

C1425, C1431	CKSRYB224K16
C1328, C1328	CKSRYB333K16
C1707, C1708, C1715, C1716, C1725	CKSRYB333K25
C1852	CKSRYB333K25
C1420, C1804	CKSRYB472K50

C1422, C1430, C1605, C1606, C1801	CKSRYB473K50
C1805, C1806	CKSRYB473K50
C1701, C1702, C1713	CKSRYB562K50
C1713, C1714, C1723	CKSRYB562K50
C1791, C1851	CKSRYB683K16

C1332	CKSRYB821K50
C1428, C1434CKSRYB822K50	
C1581, C1582	CKSRYF224Z25

RESISTORS

⚠ R1601	RD1/4MUF4R7J
R1112	RS1/16S1802F
⚠ R1445, R1452	RS1LMF101J
Other Resistors	RS1/16S###J

OTHERS

CN1601 FJ CONNECTOR 14P	14R-FJ
CN1501 1.25FJ CONNECTOR	19R-1.25FJ
CN804 7P FFC CONNECTOR	52045-0745
CN803 13P FFC CONNECTOR	52045-1345
CN1702 31P FFC CONNECTOR	52045-3145

1601 HEAT SINK	ANH7160
1602 HEAT SINK	ANH-575
CN1602 3P PLUG	B3B-EH
CN702 11P PLUG	KM200TA11
CN801 5P PLUG	KM200TA5

CN701 7P PLUG	KM200TA7
CN802 9P PLUG	KM200TA9
KN801 EARTH METAL FITTING	VNF1084
X1201 CRYSTAL RESO.(27MHz)	VSS1086
X1101 CERAMIC RESO.(15.7MHz)	VSS1140

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

G FRONT ASSY

SEMICONDUCTORS

IC4681	BU1923F
IC4202	NJU3712M
IC4201	PDG269A
Q4681	2SA1037K
Q4683	2SC3326

Q4201	DTA124EK
Q4202, Q4205, Q4682	DTC143EK
D4213, D4214, D4215	1SS355
D4203, D4204	DAN217
D4201, D4202	DAP202K

D4208, D4209	SLR-343MC(NPQ)
D4205, D4206, D4210	SLR-343VC(NPQ)
D4207, D4211	SLR-343YC(MNP)

COILS AND FILTERS

L4201, L4681	LFEA2R2J
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SWITCHES AND RELAYS

S4201, S4202, S4203	ASG7025
S4204, S4205	ASG7025

CAPACITORS

C4216 (0.22/5.5)	ACH7144
C4202, C4203, C4239, C4240	CCSRCH101J50
C4689, C4690	CCSRCH270J50
C4208	CEAL470M16
C4684	CEAT1R0M50

C4214	CEAT221M6R3
C4683	CEJQ101M10
C4686	CEJQ2R2M50
C4230, C4231	CKSQYF225Z16
C4201, C4210, C4226, C4228, C4229	CKSRYB102K50

C4251, C4274, C4681, C4682	CKSRYB102K50
C4209, C4213, C4215, C4222, C4241	CKSRYB103K50
C4205, C4206, C4207, C4211, C4220	CKSRYB104K25
C4224, C4242	CKSRYB104K25
C4685	CKSRYB472K50

C4217, C4218, C4232	CKSRYB473K50
C4233, C4234, C4235, C4236	CKSRYB473K50
C4236, C4237, C4238	CKSRYB473K50
C4688	CKSRYB561K50

RESISTORS

Other Resistors	RS1/16S###J
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OTHERS

4204, 4205 3P CABLE HOLDER	51048-0300
CN4201 27P FFC CONNECTOR	52044-2745
CN4203 7P FFC CONNECTOR	52045-0745
CN4202 31P FFC CONNECTOR	52045-3145
V4301 FL TUBE	AAV7088

X4681 CERAMIC RESO.(4.3MHz)	ASS7004
X4201 CERAMIC RESO.(7.2MHz)	ASS7039
J4205 3P JUMPER WIRE	D20PYY0310E
J4204 3P JUMPER WIRE UNIT	D20PYY0315E
4201 REMOTE RECEIVER UNIT	SPS-442-E1

4301 FL HOLDER	VNF1122
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Mark No. **Description** **Part No.**

K SW ASSY

SWITCHES AND RELAYS

S4501	VSG1009
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RESISTORS

Other Resistors	RS1/16S###J
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OTHERS

4501 3P CABLE HOLDER	51048-0300
----------------------	------------

I ENCODER ASSY

SWITCHES AND RELAYS

S4401	ASX7041
-------	---------

RESISTORS

Other Resistors	RS1/16S###J
-----------------	-------------

OTHERS

4401 3P CABLE HOLDER	51048-0300
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H FRONT INPUT ASSY

CAPACITORS

C4103, C4104	CCSRCH101J50
C4107, C4111	CCSRCH471J50
C4108	CEAL470M25
C4120	CKSQYF105Z16
C4105, C4109, C4117	CKSRYB103K50

C4102, C4106, C4110	CKSRYB104K25
C4112, C4113	CKSRYB223K50

RESISTORS

Other Resistors	RS1/16S###J
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OTHERS

CN4101 13P FFC CONNECTOR	52045-1345
JA4101 3P PIN JACK	AKB7098
JA4102 OPTICAL RECEIVE MOD.	GP1FA502RZ
JA4103 H.P. JACK	RKN1006
KN4101 EARTH METAL FITTING	VNF1084

6. ADJUSTMENT



Notice) Even if it removes TUNER, other functions operate.

■ AM Tuner Section

- There is no adjustment in the AM tuner.

■ FM Tuner Section

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

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dB μ V)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point V _{tm}) gets within 0 $\pm$ 50mV.

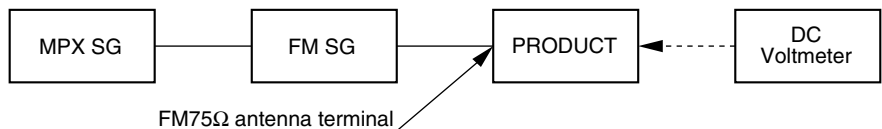


Fig.1 Adjustment Wiring Diagram

U FM/AM TUNER MODULE

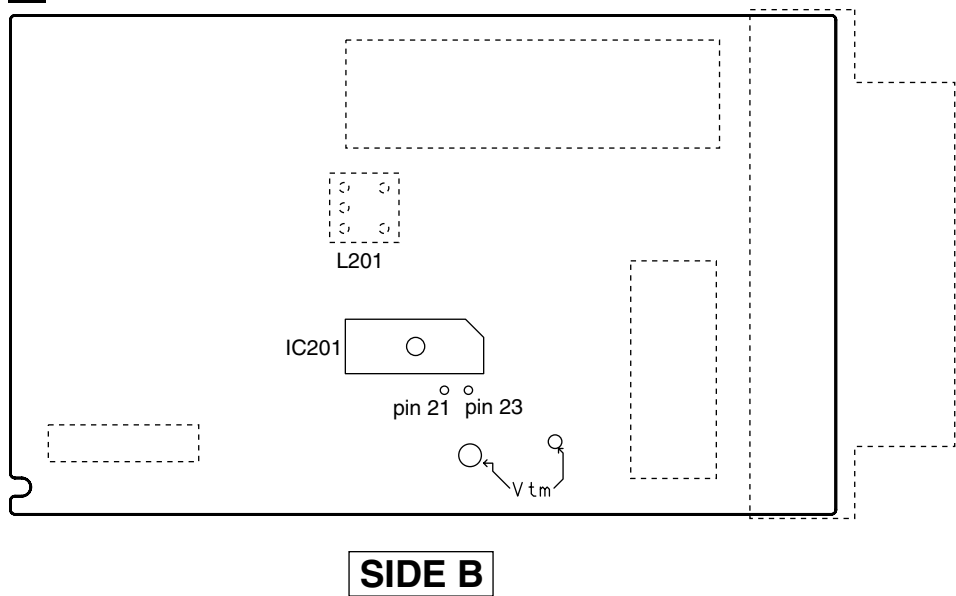


Fig.2 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 Test Mode

• How to Enter the Test Mode

With the attached Remote Control Unit

1. Call the preset code of test mode with the remote control unit

- Preset code setting: Enter [FRONT] + [ENTER] keys
Remote control unit LED lights.
- Input a preset code ID: Enter [1], [5] and [0] keys.
Remote control unit LED goes out.

2. Test mode ON

"◀◀" key

- "TEST" is displayed for 5 seconds when Test mode is entered.
 - Function: TV/SAT
 - Speaker setting: All Large, SW ON
 - No automatic speaker detection.
 - PROLOGIC2 EMU mode
 - Perform the tuner preset for Test mode.
- Other settings will be returned to the factory-preset values.

3. Test mode OFF

"▶" key

Clear the test mode when receives a remote control code, and become initial state.

4. FL & LED light-emission check

"|◀◀" key

Each time the remote-control code is received, the displays of the FL and LED change cyclically as follows:
Normal display → All lights for the FL and LED on → All lights for the FL and LED off → FL: "ABCDEFGH" displayed; and LED: Every other letter of the alphabets is displayed → FL: "IJKLMNOP" displayed; and LED: Every other letter of the alphabets is displayed highlighted → Normal display → ...

5. Rear-and-center relay switch

"||" key

Each time the remote control code is received, the rear-and center relay is toggled on or off.

6. DOLBY Pro Logic mode

"■" key

- Distance setting for the front and center speakers: 3 m
 - Distance setting for the rear speaker: 1.5 m
 - PROLOGIC2 EMU mode
 - Speaker setting: All Large, SW ON
- All settings other than the above will be returned to the factory-preset values.

7. FAN ON/OFF switch

"▶▶|" key

The fan is turned on or off and rotates as follows:
FAN ON LO SPEED → FAN ON HI SPEED → FAN OFF → ...

8. Master volume switch

"1" key

The master volume is switched as follows and each time is 0dB.
Minus infinity → 0 dB → ...
When the remote control code is received for the first time, the master volume is set to minus infinity.

9. 9k/10k switch

"2" key

For the models HL, SB and SP only, when the \$A55F+\$A505 code is received, this switches between 9k and 10k.

10. Thermistor check

"3" key

When the remote control code is received, start the thermistor check.

When the remote control code is received after 90 seconds, display the result of thermistor check.

- At check OK, "THRM OK" flashes for five seconds.
- At check NG, "THRM NG" flashes for five seconds.
- During check, "CHECKING" flashes for five seconds.

11. Speaker auto-detection check

"(CH) ENTER" key

When the remote control code is received, automatic detection of the speaker starts, and the result will be displayed for 5 seconds, as "C_S_W_", where O, indicates connected, and × indicates that no speaker is connected.

12. Analog inputs check

"4" key

When the remote control code is received, forced analog inputs and 2-channel stereo mode are set for all functions.

- Speaker setting: All high volume, SW ON
- When this mode is entered, "SIG:ANA" will be displayed for 5 seconds.

13. SRAM check & dts check

"▶▶" key

- Function: TV
- VOL value: 0 dB
- Distance setting for the front: 3 m
- Other distance settings: 2.1 m
- PROLOGIC2 EMU mode
- Speaker setting: All Large, SW ON

All settings other than the above will be returned to the factory-preset values.

14. Audio mute check

"5" key

When the remote control code is received, switch the ON/OFF of AMUTE pin (pin 53) cyclically.
VOL value: 0 dB

15. DSP mute check

"6" key

When the remote control code is received, switch the ON/OFF of DSPMUTE pin (pin 61) cyclically.
VOL value: 0 dB

16. Digital input forced mode

"●" key

Check of DIR ERR

When the remote control code is received, turn the function to the forced digital input mode.

- Speaker setting: All high volume, SW ON
- When this mode is entered, "SIG:DIG" will be displayed for 5 seconds.
- VOL value: 0 dB

17. Input ATT check

"7" key

- Function: VCR
- When the remote control code is received, switch the ON/OFF of INPUT ATT cyclically.

7.1.2 Protection of the Amplifier Line

18. SW BOOST pin check

"8" key

When the remote control code is received, switch the ON/OFF cyclically.

VOL value: 0 dB

19. FM+ pin check

"9" key

When the remote control code is received, switch the ON/OFF cyclically.

20. PREGAIN pin check

"0" key

When the remote control code is received, switch the ON/OFF cyclically.

VOL value: 0 dB

21. MVRATT pin check

"(CH) +" key

Each time the remote-control code is received, switch H and L cyclically.

VOL value: 0 dB

22. NJU7311 switching check

"(CH) -" key

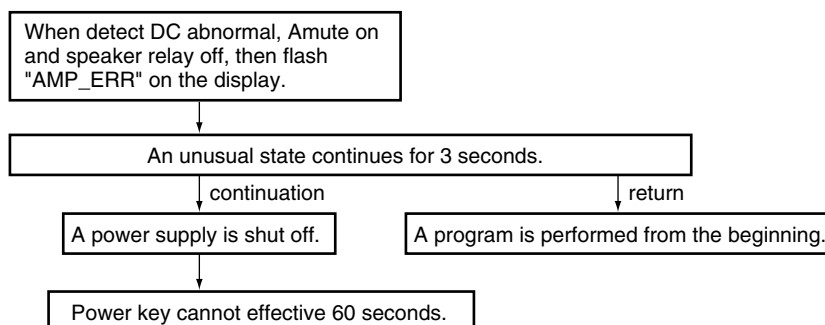
Each time the remote-control code is received, switch the function cyclically as follows:

OFF → NATURAL → BRIGHT → OFF → ...

7.1.2

1. DC Abnormality Detection

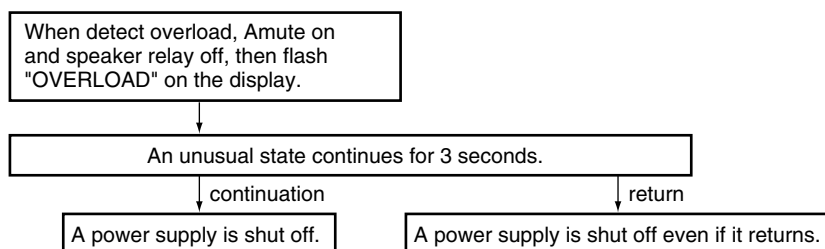
This detection has priority over the overload detection and abnormality detection for the fan and thermistor.



If AC plug is pulled off within 60 sec, then AC plug in again, receiver will reset for

2. Overload Detection

This detection has priority over the abnormality detection of the fan and thermistor.



While the unit is recovering from the abnormality, the "OVERLOAD" display continues flashing.

3. Specifications of DSP Overload Detection

1. Detect overload detection signal of DSP in the port and light a "OVER" segment if detected for 30 seconds. Light it for 1 second if lighted once.
2. Do not detect in the following case.
 - During power OFF
 - During initialization
 - During mute
 - During Test tone
 - When analog direct path is selected
→ SOUND mode is OFF in the STEREO mode. Front speaker is large and SW except PLUS, or during Headphones.

7.1.4 Specifications of Speaker Detection

1. Purposes

Whether the speakers are connected or not is automatically detected, and settings appropriate for the detected speakers are made to allow you to easily play surround-sound without making cumbersome speaker settings.

2. Method of detecting speakers

Whether a center speaker, surround speaker and/or subwoofer is connected or not is detected 600 ms after the power is turned on.

< Detection of the center and surround speakers >

The microcomputer sends a detection signal and after 10 ms will read the logic of the responding signal to judge whether the speaker is connected or not. The response signal will be read at A/D. A voltage of 3.5 V or more is judged as no speaker connected.

The response signals at A/D are read every 2 ms, and if the same results (less or more than 3.5 V) are obtained, the detection result is considered correct. If a different result is obtained for the second detection, a third detection is carried out, and the two results that agree will outvote the other. If detection fails three times, then it is judged that no center speaker is connected.

< Detection of the subwoofer >

The logic of the signal from the phono jack with a switch is read by the microcomputer to judge whether the speaker is connected or not. The signals are read every 1 ms, and if the same results are obtained, the detection result is considered correct.

If a different result is obtained for the second detection, a third detection is carried out, and the two results that agree will outvote the other. If detection fails three times, then it is judged that no subwoofer is connected.

3. Speaker settings

According to the results of the detection, speaker settings are made as follows:

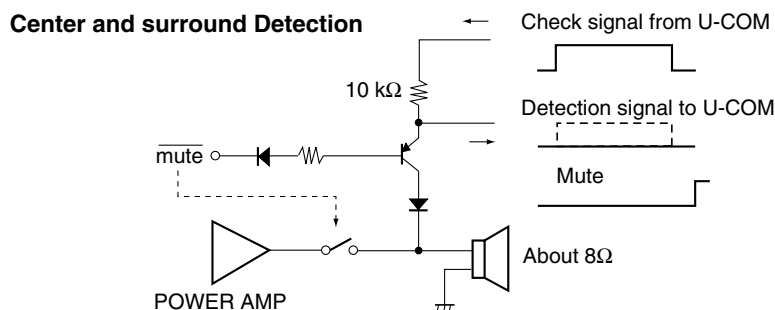
Results of the Detections			Speaker Setting			
Center SP	Surround SP	Sub-woofer	Front SP	Center SP	Surround SP	Sub-woofer
Connected	Connected	Connected	Small	Small	Small	Connected (200Hz)
Connected	Connected	Not connected	Large	Small	Small	Not connected
Connected	Not connected	Connected	Small	Small	Not connected	Connected (200Hz)
Connected	Not connected	Not connected	Large	Small	Not connected	Not connected
Not connected	Connected	Connected	Small	Not connected	Small	Connected (200Hz)
Not connected	Connected	Not connected	Large	Not connected	Small	Not connected
Not connected	Not connected	Connected	Small	Not connected	Not connected	Connected (200Hz)
Not connected	Not connected	Not connected	Large	Not connected	Not connected	Not connected

4. User's settings

In Setup mode, more detailed speaker settings are available. Once the user's settings are made, those settings have priority.

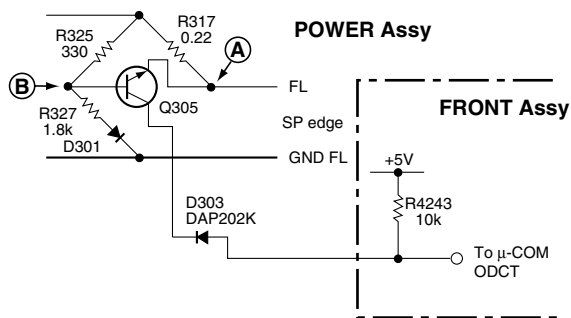
However, if the configuration of connected speakers has changed, then the detection results become valid and have priority over the user's settings until new user's settings are made.

5. Detection circuit for the center and surround speakers

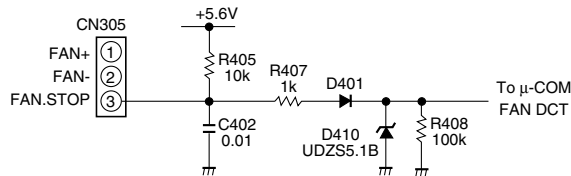


7.1.5 Circuit Description

1 Protection circuit when the edge of speaker is overload



3 FAN detection circuit



When FAN is not connected between FAN+ and FAN-, or an alien substance is clogged up in the FAN at the FAN LOCK status, FAN STOP becomes the same electric potential as the FAN- (Low).

→ μ-COM detects it, and turn the power OFF.

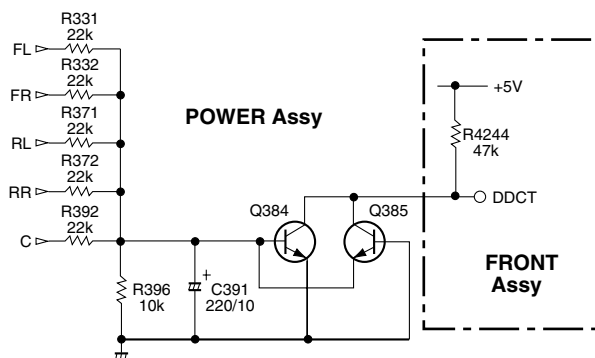
A speaker (6Ω) is connected between FL and GND FL normally. Q305 (306) (345) (346) (383) does not work because the voltage of A point is higher than B point.

If a resistance value between FL and GND FL becomes less than 1.2Ω, Q305 (306) (345) (346) (383) turns ON.

And ODCT becomes with negative component of output level.

→ μ-COM detects it, and turn the power OFF.

2 DC detection circuit of SP terminal



• Q384 and Q385 are turning OFF together normally.

(1) When the DC voltage of the plus (+) side was generated on the SP edge

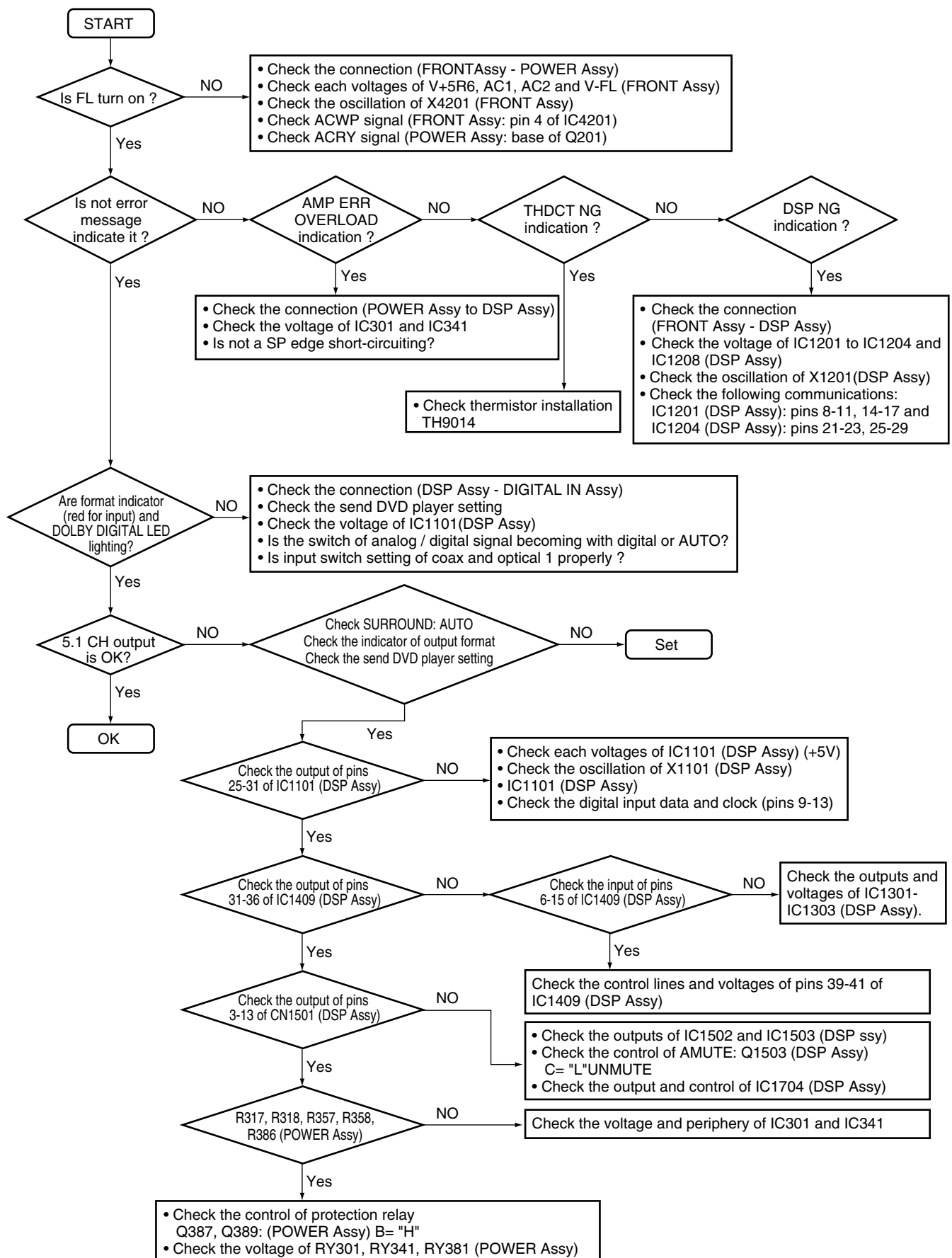
When the DC voltage of the plus (+) side was generated in L ch or R ch, Q384 turns ON and DDCT becomes Low level if VB of Q384 becomes higher than operating point.

→ μ-COM detects it, and turn the power OFF.

(2) When the DC voltage of the minus (-) side was generated on the SP edge

Q385 turns ON with + side in reverse, and DDCT works.

7.1.6 Trouble Shooting



7.1.7 Error Code

FL display	Time (sec)	Probable cause	
OVERLOAD	Flashes for five seconds	Display in the overload detecting circuit operation. Turn the power OFF after detection. Refer to the "Circuit description".	Error message about abnormal condition
AMP ERR	Flashes for five seconds	Display in the DC detecting circuit operation. Turn the power OFF after detection. Power ON is impossible for less than 1 minute. ON is afterward possible. Refer to the "Circuit description". SP edge short circuits, etc.	
DSP NG	Flashes for five seconds	Communication line abnormality of CRYSTAL DSP (IC1201/DSP Assy) and P2ROM (IC1204/DSP Assy). Refer to the "Trouble shooting".	
OVERHEAT	Flashes	When detection temperature of thermistor (TH9014) grows than 110 degrees, flash and display it. → Be using a product in high temperature environment. Refer to the "Circuit description".	
HEAT UP	Flashes for five seconds every 20 seconds	When detection temperature of thermistor (TH9014) grows than 90 degrees, flash and display it. → Be using a product in high temperature environment. Refer to the "Circuit description".	
FAN STOP	Flashes for five seconds	Display in the FAN abnormality operation detection after the FAN rotate. → POWER OFF Refer to the "Circuit description". FAN is not connected to CN305 (POWER Assy). FAN parts defectiveness	
THDCT NG	Flashes for five seconds	Display in the thermistor abnormality. → POWER OFF Refer to the "Circuit description". Thermistor is not connected to CN306 (POWER Assy). Thermistor parts defectiveness.	
VIRTUAL	Flashes for five seconds	In the playback with the VIRTUAL mode, display it when it was pressed the operation button which does not accept in the VIRTUAL mode.	Error display about specification (refer to each page of an operating instructions)
96.STEREO	Flashes for five seconds	When the fs=96kHz signal is input, display it when the operation button which does not accept was pressed in fs=96kHz signal.	
PHONES.IN	Flashes for five seconds	When the headphone is used, display it when it was pressed the operation button which does not accept.	

7.1.8 Fan 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

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.

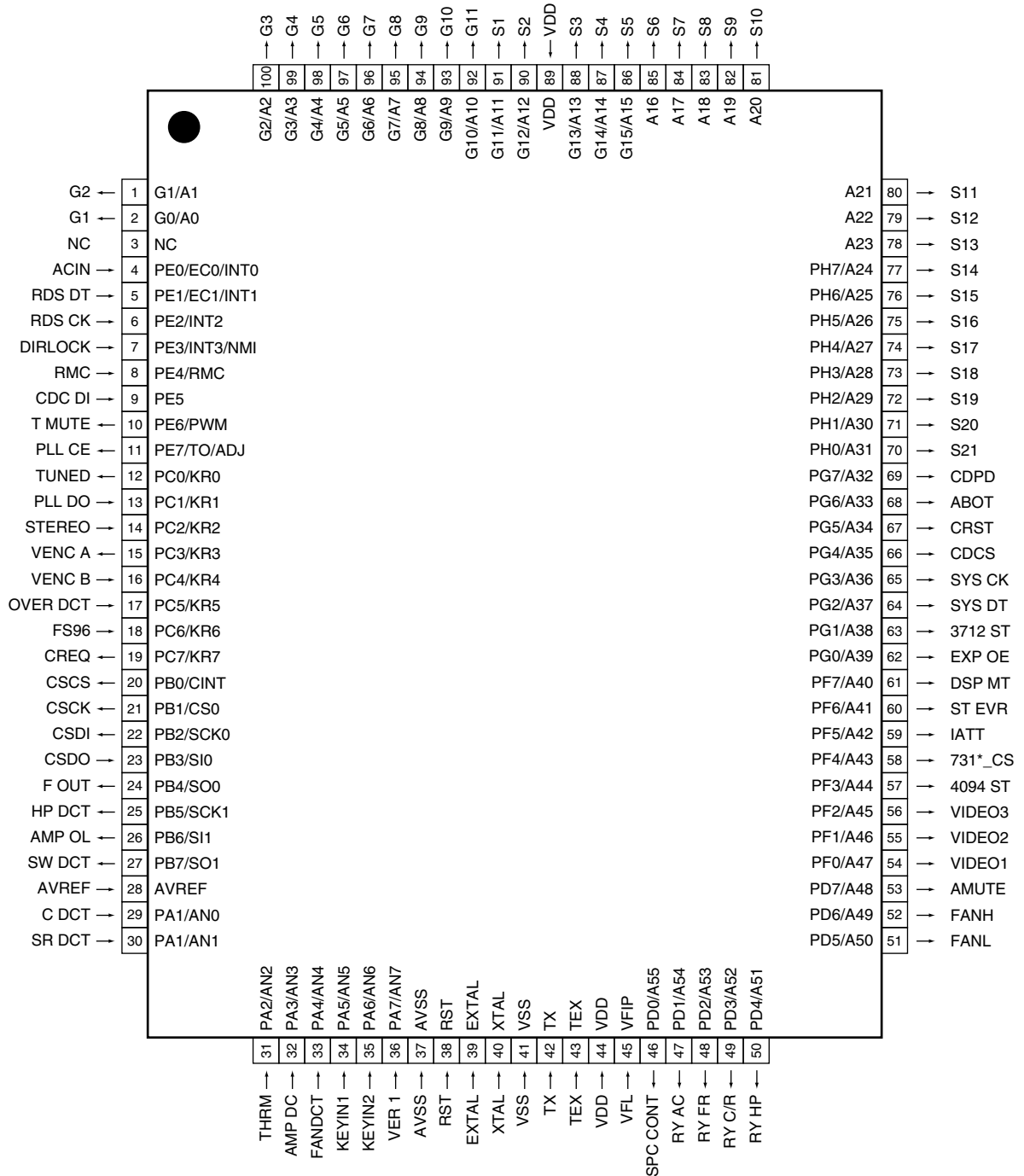
● List of IC

PDG269A, CS493292, BU4094BCF, NJU3712M, M62446

■ PDG269A (FRONT ASSY: IC4201)

● Mode Control IC

● Pin Assignment (Top view)



● Pin Function

No.	Pin Name	I/O	Function	Active
1	G2	O	Grid output 2	H
2	G1		Grid output 1	H
3	NC	–	Connect to Vdd	
4	ACIN	I	AC pulse input	
5	RDS DT	I	Serial control data signal for RDS communication	
6	RDS CK	I	Serial control clock signal for RDS communication (Use for external interrupt)	
7	DLCK	I	ERR/OVER signal input from CODEC	
8	RMC	I	Remote control signal input (non carrier signal)	
9	CDC DI	I	DIR data input	
10	T MUTE	O	Tuner mute	H
11	PLL CE	O	Chip select signal for communicate with LC7213 (tuner)	
12	TUNED	I	TUNED information	
13	PLL DO	I	Data input signal for communicate with LC7213 (tuner)	
14	STEREO	I	Discrimination signal of Stereo/Mono signal	
15	VENC A	I	EVOL rotary encoder signal input A	
16	VENC B	I	EVOL rotary encoder signal input B	
17	OVER DCT	I	Overflow detection	
18	FS96	I	96k	
19	CREQ	I	REQ for crystal DSP	L
20	CSCS	O	CS for crystal DSP	L
21	CSCK	O	CLK for crystal DSP and CODEC	L
22	CSDI	I	DATAIN for crystal DSP	H
23	CSDO	O	DATAOUT for crystal DSP and CODEC	
24	F OUT	O	Output for furniture	H
25	HP DCT	I	HP detection	H
26	AMP OL	I	Overload detection of the protection circuit (L: Abnormal detection)	H
27	SW DCT	I	Subwoofer detection signal input	
28	AVref	–	Connect to Vdd	
29	CDCT	I	Center speaker detection signal input	
30	SRDCT	I	Surroundr speaker detection signal input	
31	THRM	I	Thermistor detection signal input	
32	AMP DC	I	DC abnormal detection of the protection circuit (L: Abnormal detection)	
33	FAN DCT	I	FAN abnormal detection signal input	
34	KEYIN1	I	A/D conversion port 1 of key input	
35	KEYIN2	I	A/D conversion port 2 of key input	L
36	VER 1	I	Destination switch 1 (A/D take-in)	L
37	AVSS	–	Connect to Vss	
38	RST	–	Reset	
39	EXTAL	–	Connect an oscillator 7.2MHz	
40	XTAL	–		
41	VSS	–	Connect to Vss	
42	TX	–	(Connect an oscillator 32kHz)	
43	TEX	–		
44	VDD	–	+5V	
45	VFDP	–	-30V	
46	SPCONT	O	Output for speaker detection	H
47	RY AC	O	AC relay ON/OFF	H
48	RY FR	O	Front speaker relay ON/OFF	H
49	RY C/R	O	Rear/center relay ON/OFF	H
50	RY HP	O	Headphone relay ON/OFF	H

No.	Pin Name	I/O	Function	Active
51	FANL	O	FAN L rotation	H
52	FANH	O	FAN H rotation	H
53	AMUTE	O	Audio mute	H
54	VIDEO1	O	Video input function select	H
55	VIDEO2	O		H
56	VIDEO3	O		H
57	4094 ST	O	Strobe of expansion IC (for 4094)	H
58	731* CS	O	Chip select of NJU7311 - 7313	H
59	IATT	O	Input ATT switch	H
60	EVOL ST	O	Strobe signal for communication with the electronic volume	H
61	DSP MT	O	DSP mute (Assy mute)	H
62	EXP OE	O	OE of expansion IC	H
63	3712 ST	O	Strobe of expansion IC (for 3712)	H
64	SYS DT	O	Common bus data	H
65	SYS CK	O	Common bus clock	H
66	CODEC CS	O	Chip select for CODEC communication	H
67	CRST	O	Reset for crystal DSP	H
68	ABOT	O	ABDOT for crystal DSP	H
69	CODEC PD	O	Reset for CODEC communication	H
70	S21	O	Segment output 3 to 21	H
71	S20			H
72	S19			H
73	S18			H
74	S17			H
75	S16			H
76	S15			H
77	S14			H
78	S13			H
79	S12			H
80	S11			H
81	S10			H
82	S9			H
83	S8			H
84	S7			H
85	S6			H
86	S5			H
87	S4			H
88	S3			H
89	VDD	–	5V	
90	S2	O	Segment output 1 and 2	H
91	S1			H
92	G11	O	Grid output 3 to 10	H
93	G10			H
94	G9			H
95	G8			H
96	G7			H
97	G6			H
98	G5			H
99	G4			H
100	G3			H

■ CS493292 (DSP ASSY: IC1201)

• Mai DSP Microcomputer

● Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	VD1	–	Digital power supply (+2.5V)	23	VD3	–	Digital power supply (+2.5V)
2	DGND1	–	Digital GND	24	DGND3	–	Digital GND
3	AUDATA3	–	Not used	25	SCLKN1	I	Bit clock input
4	EMWR	O	External memory WR	26	LRCLKN1	I	LR clock input
5	EMOE	O	External memory OE	27	SDATAN2	I	Audio data input
6	SCDIN	I	Microcomputer communication data input	28	SCLKN2	I	Bit clock input
7	SCCLK	I	Microcomputer communication clock input	29	LRCLKN2	I	LR clock input
8	EMAD7	I/O	External SRAM and P2ROM communication data	30	CLKIN	I	Master clock input (27MHz)
9	EMAD6			31	CLKSEL	I	Master clock control (L)
10	EMAD5			32	FILT2	I	PLL circuit connection pins
11	EMAD4			33	FILT1		
12	VD2	–	Digital power supply (+2.5V)	34	VA	–	Analog power supply (+2.5V)
13	DGND2	–	Digital GND	35	AGND	–	Analog GND
14	EMAD3	I/O	External SRAM and P2ROM communication data	36	RESET	I	Reset pin (L: Reset)
15	EMAD2			37	DD	–	Not used
16	EMAD1			38	DC	–	Not used
17	EMAD0			39	AUDATA2	O	Audio data output (LFE/C)
18	CS	I	Chip select of microcomputer communication	40	AUDATA1	O	Audio data output (SL/SR)
19	SCDOUT	O	Data output of microcomputer communication	41	AUDATA0	O	Audio data output (FL/FR)
20	INTREQ	O	Microcomputer communication request	42	LRCLK	I	LR clock of audio output data
21	EXTMEM	O	Output enable of external memory	43	SCLK	I	Bit clock of audio output data
22	SDATAN1	I	Audio data input	44	MCLK	I	Audio master clock (Not used)

■ BU4094BCF (DSP ASSY: IC1102)

• Expansion IC

● Pin Function

No.	Pin Name	I/O	Function
4	CA15	O	For crystal DSP
5	CA16	O	For crystal DSP
6	CA17	O	For crystal DSP
7	CA18	O	For crystal DSP
11	ADMD	O	To DSP mute circuit
12	Q7	O	N.C.
13	Q6	O	N.C.
14	Q5	O	N.C.

■ NJU3712M (FRONT ASSY: IC4202)

• Expansion IC

● Pin Function

No.	Pin Name	I/O	Function
1	LED1	O	LED display DOLBYDIGITAL
2	LED2	O	LED display DTS
3	LED3	O	LED display MPEG AAC/AUTO
5	LED4	O	LED display PHONES/VIRTUL
6	LED5	O	LED display PRO-LOGIC2
7	FM+	O	To RDS circuit
14	LED6	O	LED display ADVANCED
15	LED7	O	LED display SOUNDMODE

■ M62446 (DSP ASSY: IC1409)

• Out

● Pin Function

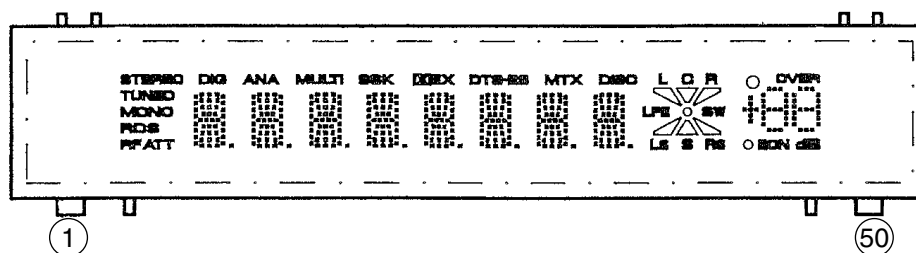
No.	Pin Name	Function
1	MVRATT	-15dB or less: L
2	GAINSEL	Pre-gain switch
3	SWBOOST	Subwoofer boost
4	N.C.	N.C.

7.2.2 DISPLAY

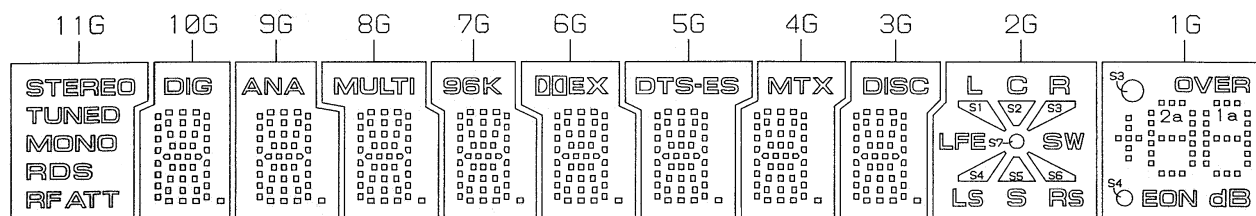
■ AAV7088 (FRONT ASSY : V4301)

• FL DISPLAY

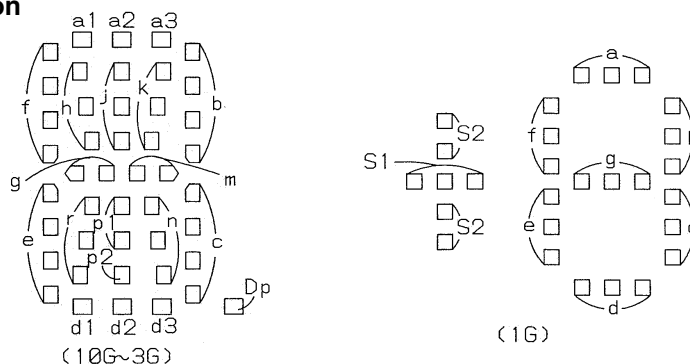
• Pin Assignment



• Grid Assignment

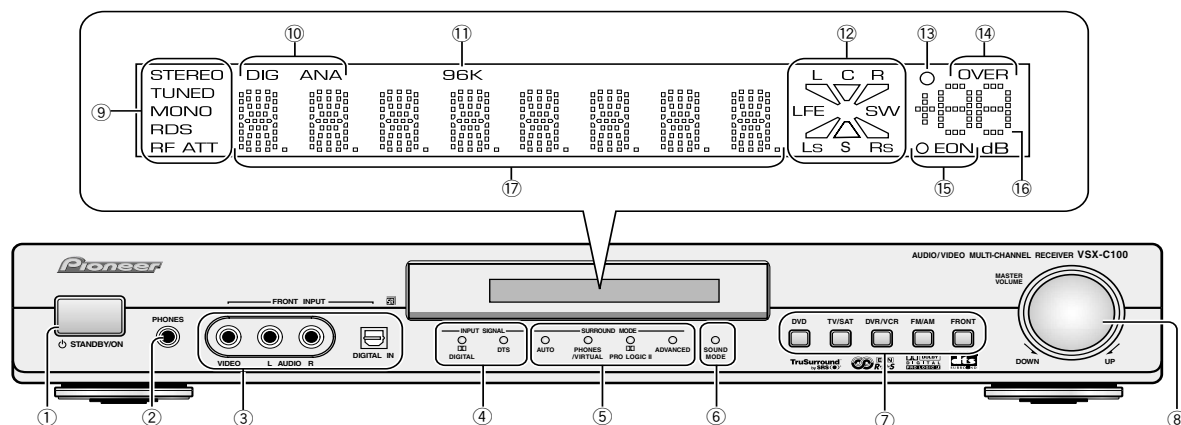


• Segment Designation



8. PANEL FACILITIES

Front panel



① STANDBY/ON (Main power) button

Pressing this button switches the receiver ON from STANDBY mode. RECEIVER button on the remote control also toggles between ON and STANDBY mode.

The receiver uses a small amount of electricity (less than 1W) in STANDBY mode.

② PHONES jack

Use to connect headphones (this switches the speakers off).

③ FRONT INPUT

You can connect a portable DVD player, video camera, video game system, or whatever equipment you would like to have handy, to the FRONT INPUT.

④ INPUT SIGNAL indicators

Indicates the kind of input signal.

DIGITAL:

When a DIGITAL source is input this indicator will light.

DTS:

When a DTS source is input this indicator will light.

⑤ SURROUND MODE indicators

Indicates the SURROUND mode of input signal.

AUTO:

Lights when the AUTO mode is selected. This mode automatically selects which kind of signal is being input and plays back in the appropriate mode.

PHONES/VIRTUAL:

Lights when the VIRTUAL or PHONES SURROUND mode is selected. The VIRTUAL mode simulates surround sound for two speakers (when headphones are not plugged in, see). The PHONES SURROUND mode simulates surround sound for headphones, when they are plugged in.

PRO LOGIC II:

Lights when the PRO LOGIC II mode is selected.

This mode automatically plays back in PRO LOGIC II.

ADVANCED:

Lights when an ADVANCED mode is selected.

These modes playback emphasizing certain characteristics of the sound.

⑥ SOUND MODE

Lights when you have chosen one of the sound modes to be applied to playback.

⑦ Input buttons

Use to select the playback source: the possibilities are DVD, TV/SAT, DVR/VCR, FM/AM and FRONT.

⑧ MASTER VOLUME

Use to set the overall listening volume.

DISPLAY

⑨ TUNER indicators

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

TUNED: Lights when a broadcast is being received.

MONO: Lights when the mono mode is set using mpx (on the remote control).

RDS: Lights when an RDS broadcast is received.

RF ATT: Lights when the RF ATT is on.

⑩ Digital (DIG) & Analog (ANA) indicators

Light according to the kind of signal, digital or analog, received.

⑪ 96kHz playback indicator

Lights when a 96 kHz source is being played.

⑫ Format indicator

Shows which speakers are currently in use based on the listening mode chosen, the source material and the type of decoding being used.

⑬ SLEEP indicator

Lights when the SLEEP function is set or active.

⑭ OVER indicator

Lights when the analog signal is too powerful, causing possible distortion.

⑮ EON indicators

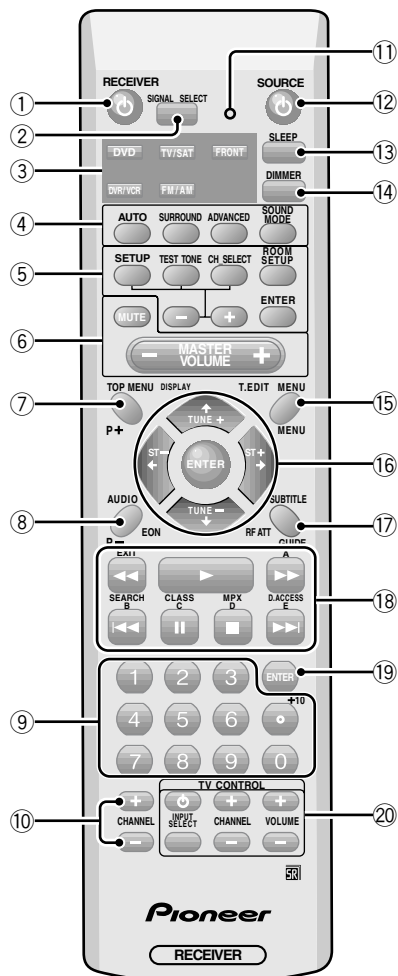
EON lights when it has been set. The dot indicator next to it lights when the station you are currently tuned to carries the EON data service.

⑯ Volume level indicator

⑰ Character display

Shows the current input (DVD, TV/SAT, etc.), listening mode, radio frequency, etc.

Remote control



① **RECEIVER (Power) button:**

This switches between STANDBY mode and power ON for this receiver.

② **SIGNAL SELECT button :**

Press SIGNAL SELECT repeatedly to select one of the following:

ANALOG: To select an analog signal.

DIGITAL: To select a digital signal.

AUTO: This is the default. If there are analog and digital signals input, the receiver automatically selects digital. If only analog is input the receiver will select analog.

③ **Input/Control Mode Select buttons:**

Use to put the receiver/remote control in the input mode stated on the button. The FM/AM button puts the receiver in tuner mode if it was in another mode and switches between the FM and the AM band if the receiver was already in tuner mode.

④ **Listening Mode buttons:**

Auto button:

Use this button for direct decoding of the input signal with no added sound effects. The receiver will automatically detect what kind of signal (stereo, multichannel, etc.) is being input and play accordingly.

Surround button :

Use this button to choose one of the surround listening modes this receiver is equipped with.

Advanced button :

Use this button to choose one of the advanced listening modes this receiver is equipped with.

Sound mode button :

Use this button to choose one of the sound modes this receiver is equipped with.

⑤ **System setup buttons:**

SETUP button :

Use this button to start the receiver setup process which adjusts the settings to your particular system.

TEST TONE button :

Use to sound the TEST TONE when setting the volume level of each channel.

CH SELECT button :

Use to select a speaker when setting the volume level of each channel.

ROOM SETUP button :

Use to set the distance from your speakers to your normal listening position.

+/- buttons :

Use these buttons when making adjustments to the SETUP, TEST TONE, or CH.SELECT features.

ENTER button:

Use this button to enter Room Setup commands. You can also use this button to exit a SETUP mode.

⑥ **Volume buttons:**

MASTER VOLUME +/- buttons:

Use to set the overall listening volume.

MUTE button :

Use to mute the sound or restore the sound if it has been muted.

⑦ **TOP MENU button:**

Use to return to the most basic menu on a DVD player or disc. Also used for some tuner commands.

⑧ **AUDIO button:**

Use to switch the audio tracks of a DVD when in DVD mode or to access the EON function when in tuner mode.

⑨ **Number buttons:**

Use to enter track number on discs or radio frequencies.

⑩ **CHANNEL +/- buttons:**

Use to select channels on other components such as a DVR or satellite tuner.

⑪ **LED indicator:**

This indicator flashes when a command is sent from the remote control to the receiver. It also flashes at when teaching the receiver preset codes.

⑫ **SOURCE (Power) button:**

Use this button to turn on and off the power of other components.

⑬ **SLEEP button :**

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

⑭ **DIMMER button :**

Press to change the display brightness. The dimmer button allows you to cycle through the four different brightness strengths for the display.

Remote 2

⑮ MENU button:

Use to return to the most basic menu on a DVD player or disc.
Also used for some tuner commands.

⑯ ⇐ ⇒ ↑ ↓ & ENTER buttons

Use these arrow buttons when adjusting the tuner or navigating TV or DVD menus. See these respective sections for more information.

⑰ SUBTITLE button:

Use to switch the subtitles on a DVD player or disc.
Also used to turn on RF ATT when in tuner mode.

⑱ Component/Tuner/Satellite Tuner/CATV control buttons:

The main function of these buttons (3, 7, etc.) is to control a component (CD, for example) after you have selected it using the Input/Control Mode Select buttons.

The tuner/satellite tuner controls above these buttons can be accessed after you have selected the corresponding Input/Control Mode Select buttons (TUNER or SAT, etc.).

In this case the buttons marked with letters (A, etc.) or EXIT will access preset channels or functions, depending on your particular satellite/cable TV system.

SEARCH button:

Use when searching for stations in RDS mode.

CLASS button :

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

MPX button :

Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality. Also acts as a stop button for CDs, tapes, or DVDs.

D. ACCESS button :

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

⑲ ENTER button :

It can be used to enter commands for TV, CATV and TUNER.

⑳ TV CONTROL buttons:

These controls are for your TV. They are dedicated TV controls and will work no matter what mode the remote control is in. They can, however, be set for different TVs.

By default they will control the TV. Thus if you only have one TV, assign it to the TV/SAT button .