

JVC

SCHEMATIC DIAGRAMS

FLAT COLOUR TELEVISION

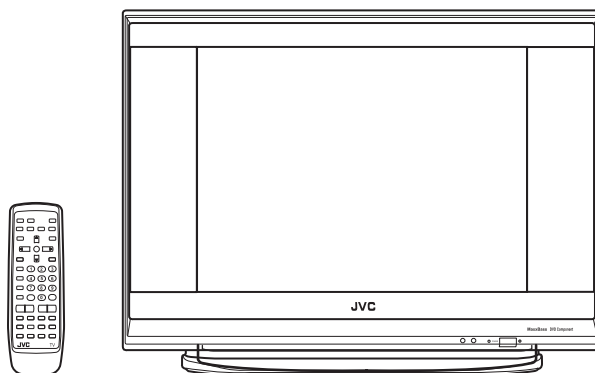
**AV-2180SE,
AV-21SS27,
AV-21SX57_{/S},
AV-21SX77_{/G}**

CD-ROM No.SML200705

BASIC CHASSIS

CW4

InterArt
MaxxBass®



AV-2180SE, AV-21SS27, AV-21SX57/s, AV-21SX77/G

STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the \triangle symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1)Input signal : Colour bar signal
- (2)Setting positions of each knob/button and variable resistor : Original setting position when shipped
- (3)Internal resistance of tester : DC 20k Ω /V
- (4)Oscilloscope sweeping time : H \Rightarrow 20 μ s / div
: V \Rightarrow 5ms / div
: Others \Rightarrow Sweeping time is specified
- (5)Voltage values : All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209 \rightarrow R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

● Resistance value

- No unit : [Ω]
- K : [k Ω]
- M : [M Ω]

● Rated allowable power

- No indication : 1/16 [W]
- Others : As specified

● Type

- No indication : Carbon resistor
- OMR : Oxide metal film resistor
- MFR : Metal film resistor
- MPR : Metal plate resistor
- UNFR : Uninflammable resistor
- FR : Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

● Capacitance value

- 1 or higher : [pF]
- less than 1 : [μ F]

● Withstand voltage

- No indication : DC50[V]
- Others : DC withstand voltage [V]
- AC indicated : AC withstand voltage [V]

* Electrolytic Capacitors

47/50[Example]: Capacitance value [μ F]/withstand voltage[V]

● Type

- No indication : Ceramic capacitor
- MM : Metalized mylar capacitor
- PP : Polypropylene capacitor
- MPP : Metalized polypropylene capacitor
- MF : Metalized film capacitor
- TF : Thin film capacitor
- BP : Bipolar electrolytic capacitor
- TAN : Tantalum capacitor

(3)Coils

- No unit : [μ H]
- Others : As specified

(4)Power Supply




-  : B1
-  : B2 (12V)
-  : 9V
-  : 5V

* Respective voltage values are indicated





(5)Test point

-  : Test point
-  : Only test point display



(6)Connecting method

-  : Connector
-  : Wrapping or soldering
-  : Receptacle

(7)Ground symbol

-  : LIVE side ground
-  : ISOLATED(NEUTRAL) side ground
-  : EARTH ground
-  : DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED(NEUTRAL) : () side GND. Therefore, care must be taken for the following points.

- (1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. if the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◆ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

NOTE

◆ Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.

When ordering parts, please use the numbers that appear in the Parts List.

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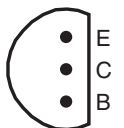
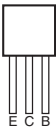
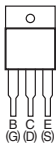
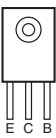

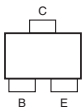
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USING P.W. BOARD


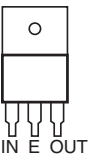
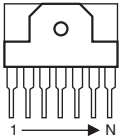
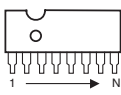
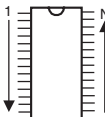
P.W.B ASS'Y name	AV-2180SE	AV-21SS27	AV-21SX57/S	AV-21SX77/G
MAIN P.W. BOARD	SCW-1501A-H2	SCW-1502A-H2	SCW-1511A-H2	SCW-1510A-H2
BASS P.W. BOARD	SCW-6005A-H2	←	←	←

SEMICONDUCTOR SHAPES

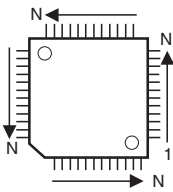
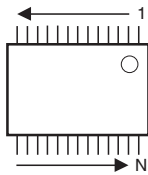
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

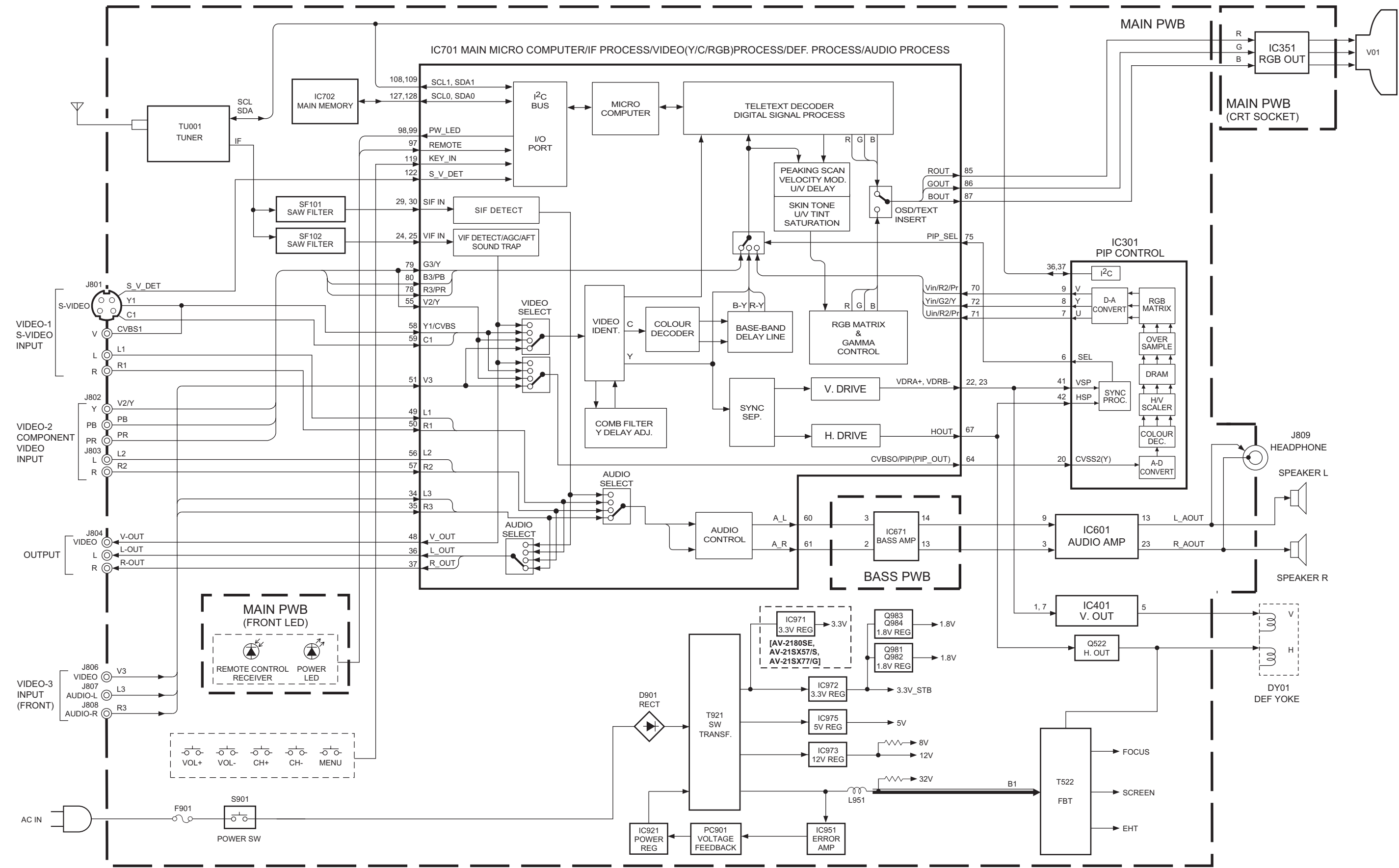
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

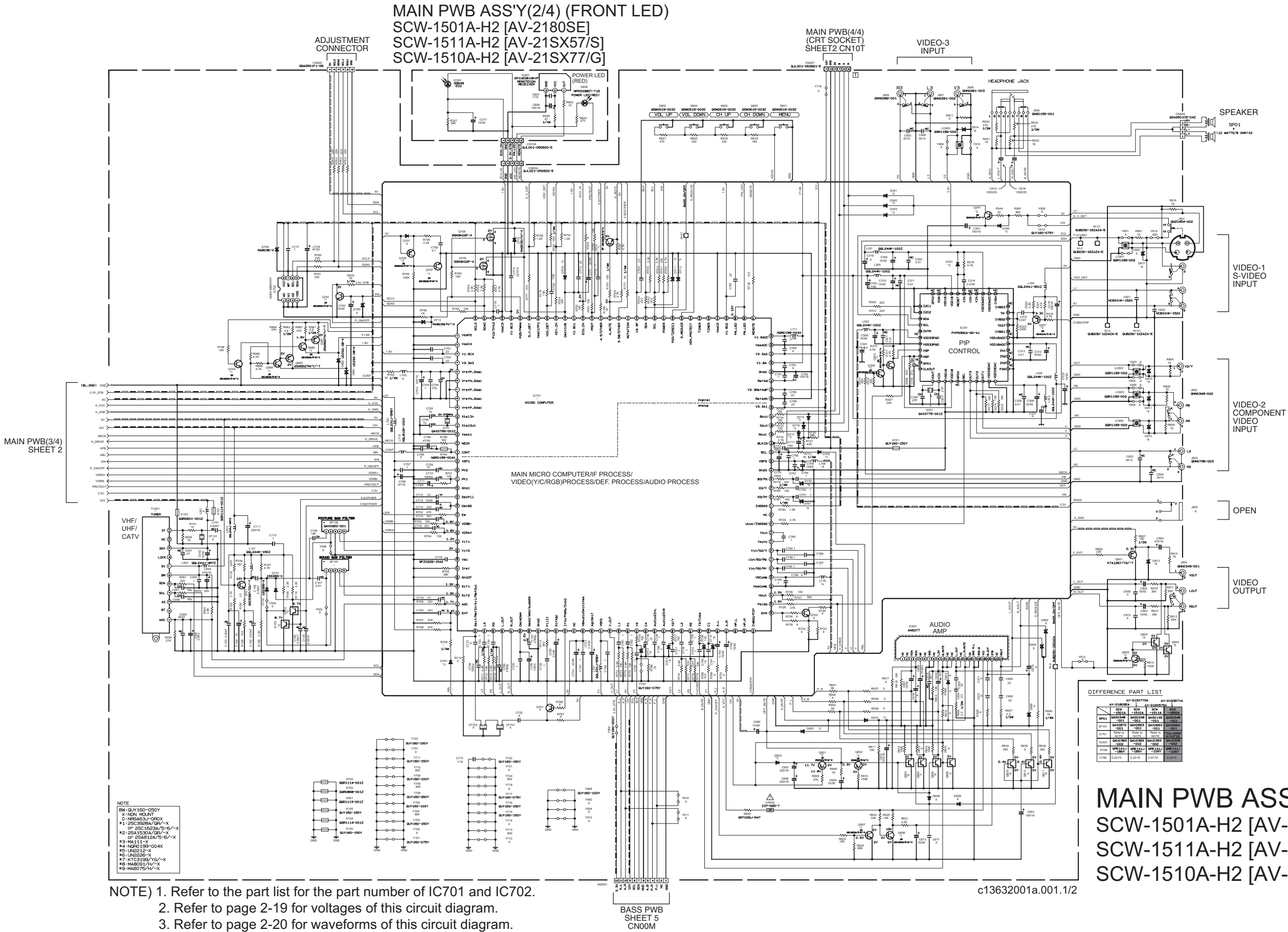
TOP VIEW		
		

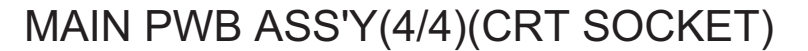
BLOCK DIAGRAM



CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM [AV-2180SE, AV-21SX57/S, AV-21SX77/G](1/4) (2/4) SHEET 1





SCW-1501A-H2 [AV-2180SE]
SCW-1511A-H2 [AV-21SX57/S]
SCW-1510A-H2 [AV-21SX77/G]

NOTE

BW: GUY160-100Y
X: OPTION (OPEN)
0: NRS463J-QR0X
*1: 2SC3928A/QR/-X or 2SC1623A/5-6/-X
*2: 2SA1530A/QR/-X or 2SA812A/5-6/-X
*3: MA111-X
*4: MA3100/M/-X
*5: UN2212-X
*6: RGP10J-5025-T3
*7: GGR1113-001Z
*8: MAB091/H/-X
*9: FR105GT-T3

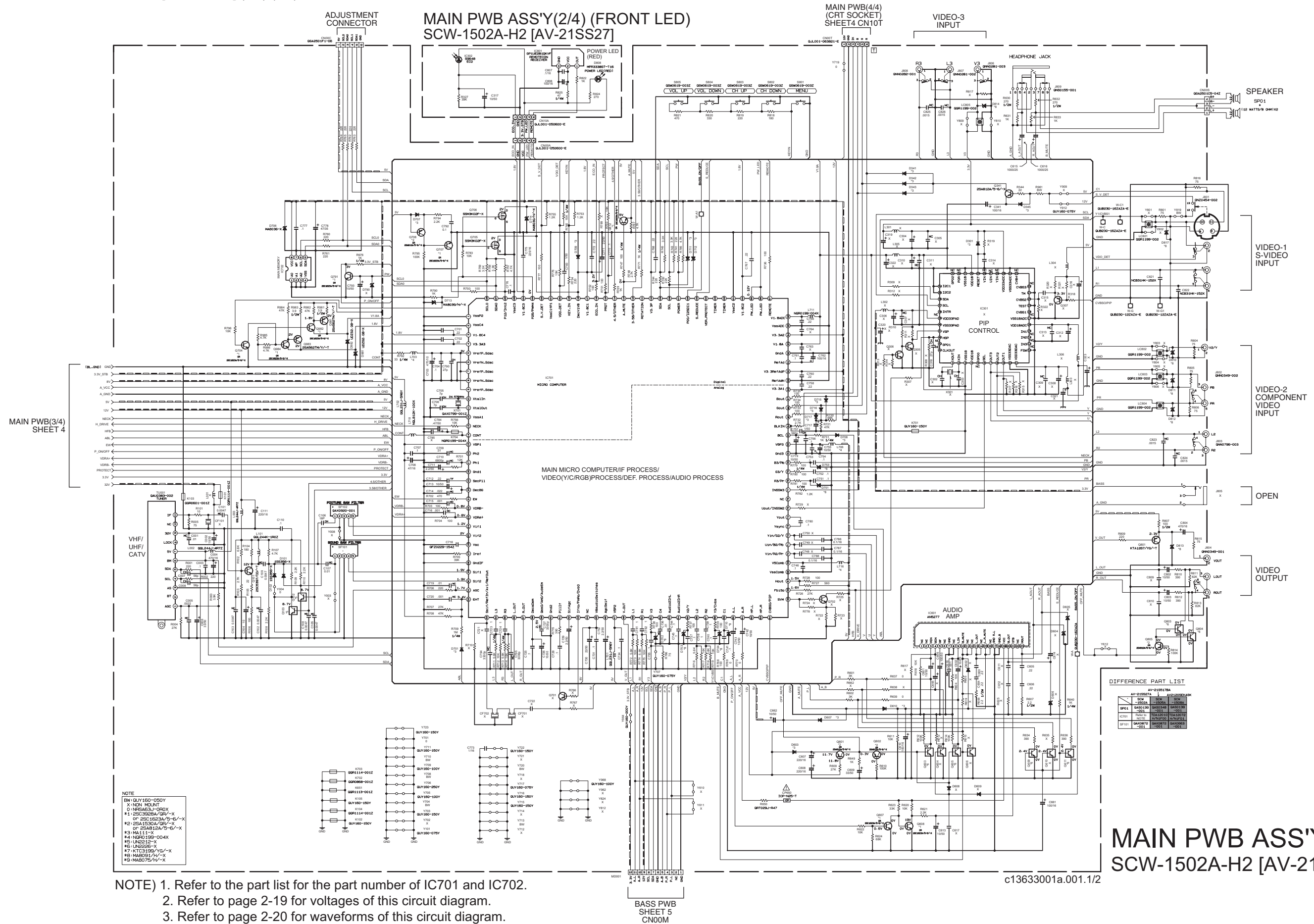
SCW-1501A-H2 [AV-2180SE]

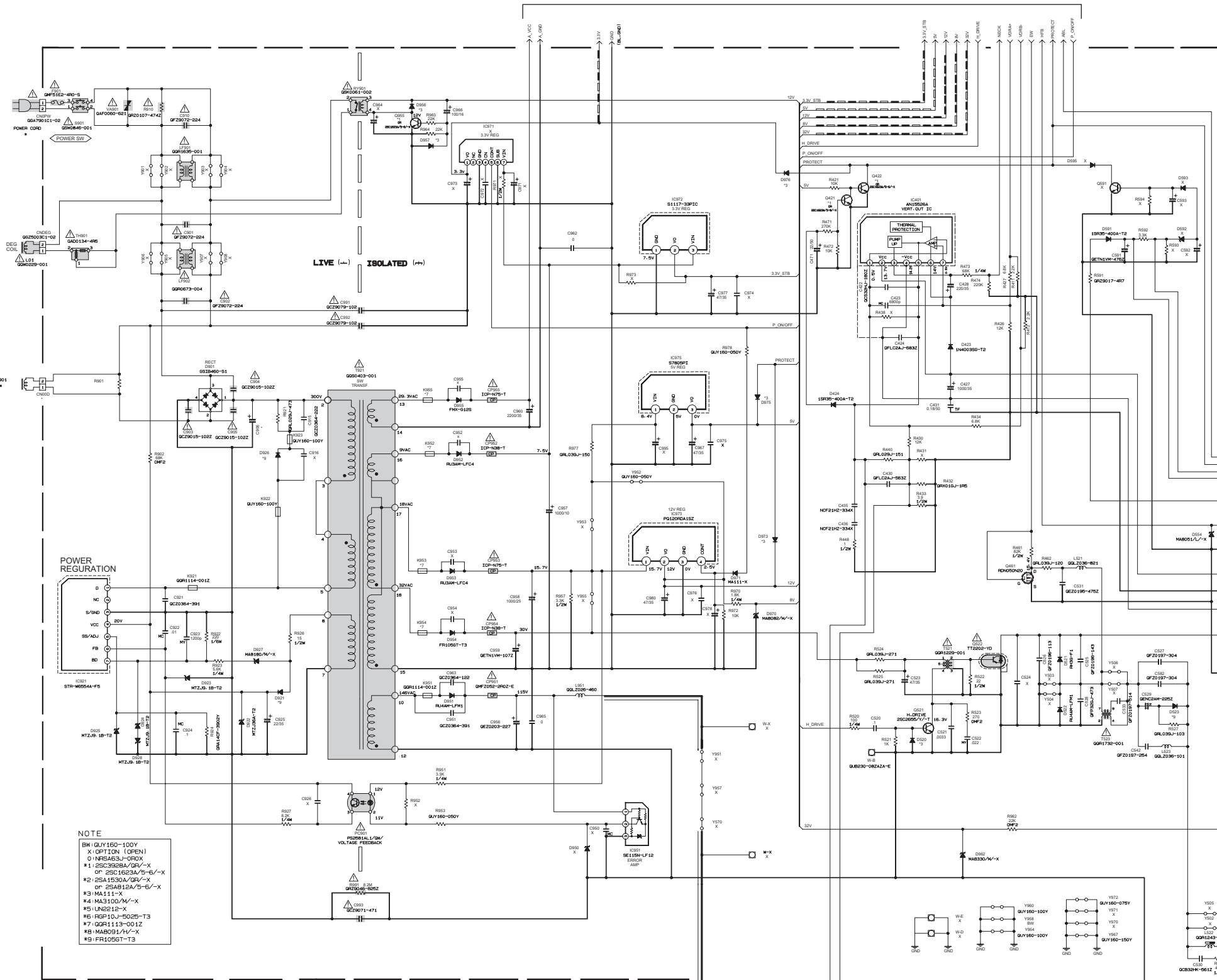
SCW-1511A-H2 [AV-21SX57/S]

SCW-1510A-H2 [AV-21SX77/G]

	AV-215K75A		AV-215K75A		AV-215K75A	
	AV-215B08A	SCN	SCN	SCN	SCN	SCN
POWER CORD	GP10C20-155-C	GP10C20-155-C	GP10C20-155-C	GP10C20-155-C	GP10C20-155-C	GP10C20-155-C
CHNO3	QGA7901 1-100	X	X	X	X	X
	QGT1801 +001	X	X	X	X	X
R001 X		QAC01-43 -951	QAC01-43 -951	QAC01-43 -951	QAC01-43 -951	QAC01-43 -951
R431	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108
R432	GR12H1A -148	GR12H1A -148	GR12H1A -148	GR12H1A -148	GR12H1A -148	GR12H1A -148
R433	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108	GRE12L1 -108
C427	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108
C428	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108	GETM1H1 -108
C608	GEZ0033 -0072	GEZ0476 -0072	GEZ0476 -0072	GEZ0476 -0072	GEZ0476 -0072	GEZ0476 -0072
C626	GEZ0033 -0072	GEZ0476 -0072	GEZ0476 -0072	GEZ0476 -0072	GEZ0476 -0072	GEZ0476 -0072

NOTE) 1. Refer to page 2-19 for voltages of this circuit diagram.
2. Refer to page 2-20 for waveforms of this circuit diagram.





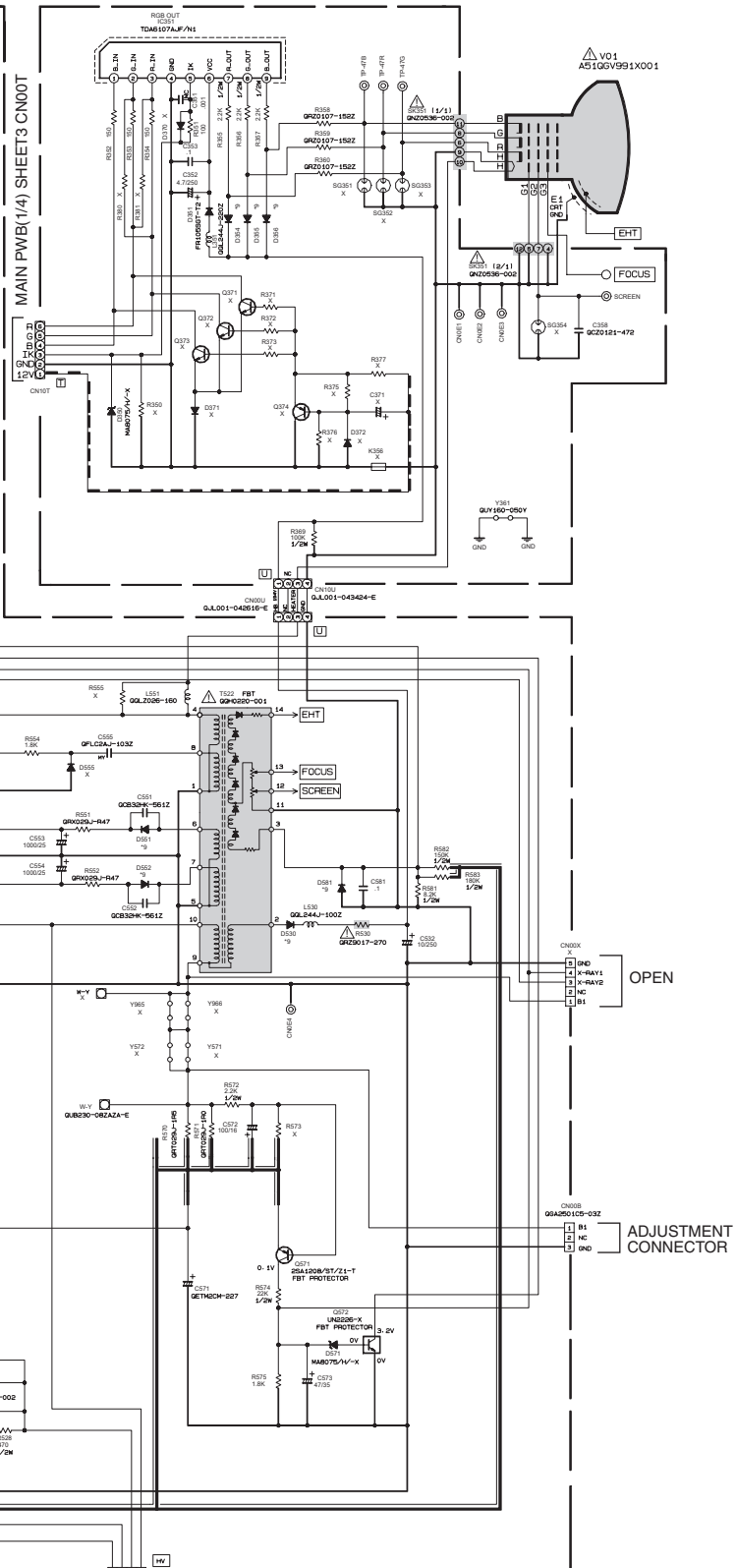
MAIN PWB ASS'Y(3/4)
SCW-1502A-H2 [AV-21SS27]

DIFFERENCE PART LIST

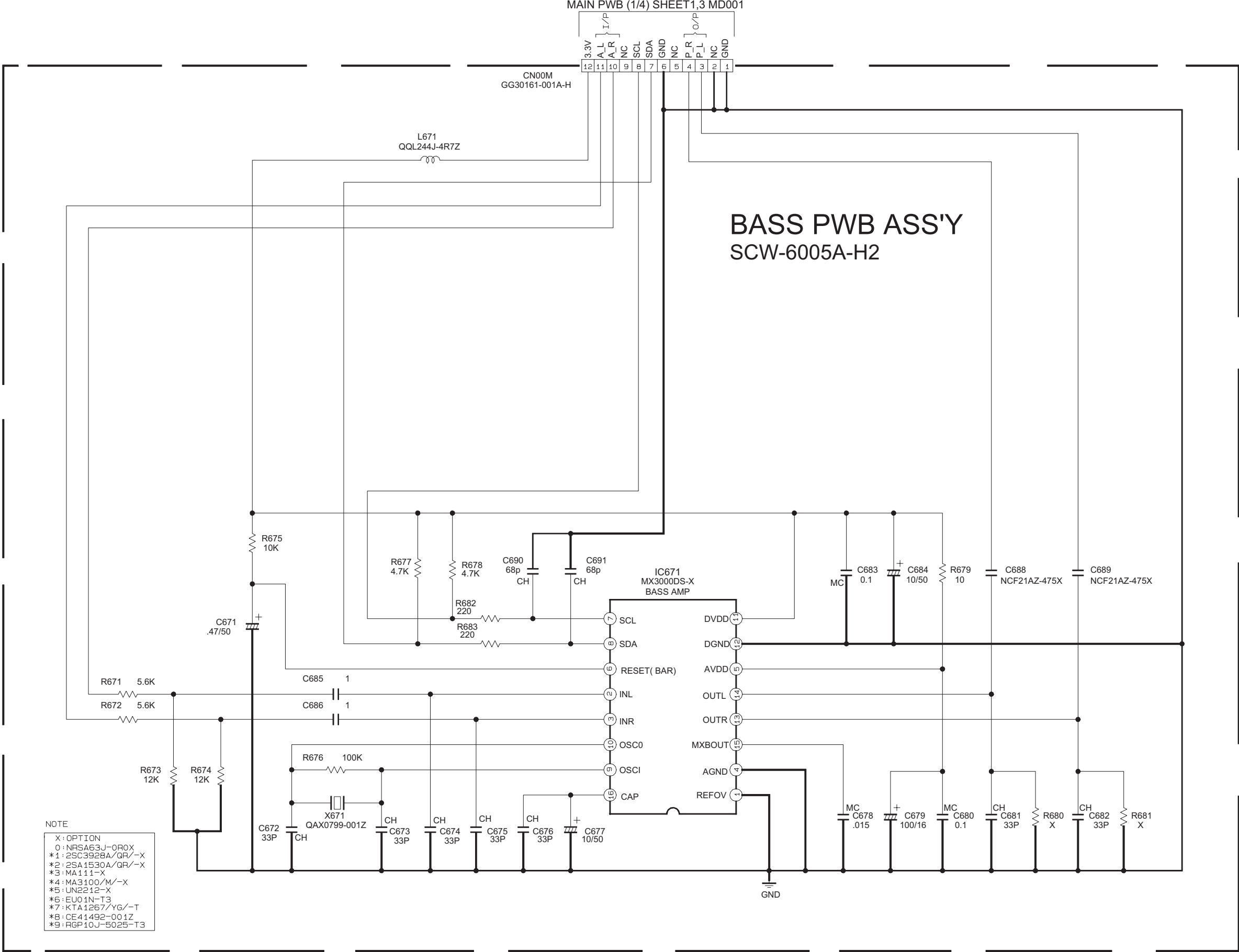
AV-21SS27A	AV-21SS27B	AV-21SS27C
POWER	QPR1113-001Z	QPR1113-001Z
CAP	QPR1113-001Z	QPR1113-001Z
L901	X	X
CN001	X	X
CN002	X	X
CN003	X	X
CN004	X	X
CN005	X	X
CN006	X	X
CN007	X	X
CN008	X	X
CN009	X	X
CN010	X	X
CN011	X	X
CN012	X	X
CN013	X	X
CN014	X	X
CN015	X	X
CN016	X	X
CN017	X	X
CN018	X	X
CN019	X	X
CN020	X	X
CN021	X	X
CN022	X	X
CN023	X	X
CN024	X	X
CN025	X	X
CN026	X	X
CN027	X	X
CN028	X	X
CN029	X	X
CN030	X	X
CN031	X	X
CN032	X	X
CN033	X	X
CN034	X	X
CN035	X	X
CN036	X	X
CN037	X	X
CN038	X	X
CN039	X	X
CN040	X	X
CN041	X	X
CN042	X	X
CN043	X	X
CN044	X	X
CN045	X	X
CN046	X	X
CN047	X	X
CN048	X	X
CN049	X	X
CN050	X	X
CN051	X	X
CN052	X	X
CN053	X	X
CN054	X	X
CN055	X	X
CN056	X	X
CN057	X	X
CN058	X	X
CN059	X	X
CN060	X	X
CN061	X	X
CN062	X	X
CN063	X	X
CN064	X	X
CN065	X	X
CN066	X	X
CN067	X	X
CN068	X	X
CN069	X	X
CN070	X	X
CN071	X	X
CN072	X	X
CN073	X	X
CN074	X	X
CN075	X	X
CN076	X	X
CN077	X	X
CN078	X	X
CN079	X	X
CN080	X	X
CN081	X	X
CN082	X	X
CN083	X	X
CN084	X	X
CN085	X	X
CN086	X	X
CN087	X	X
CN088	X	X
CN089	X	X
CN090	X	X
CN091	X	X
CN092	X	X
CN093	X	X
CN094	X	X
CN095	X	X
CN096	X	X
CN097	X	X
CN098	X	X
CN099	X	X
CN100	X	X

NOTE) 1. Refer to page 2-19 for voltages of this circuit diagram.
2. Refer to page 2-20 for waveforms of this circuit diagram.

MAIN PWB ASS'Y(4/4)(CRT SOCKET)
SCW-1502A-H2 [AV-21SS27]

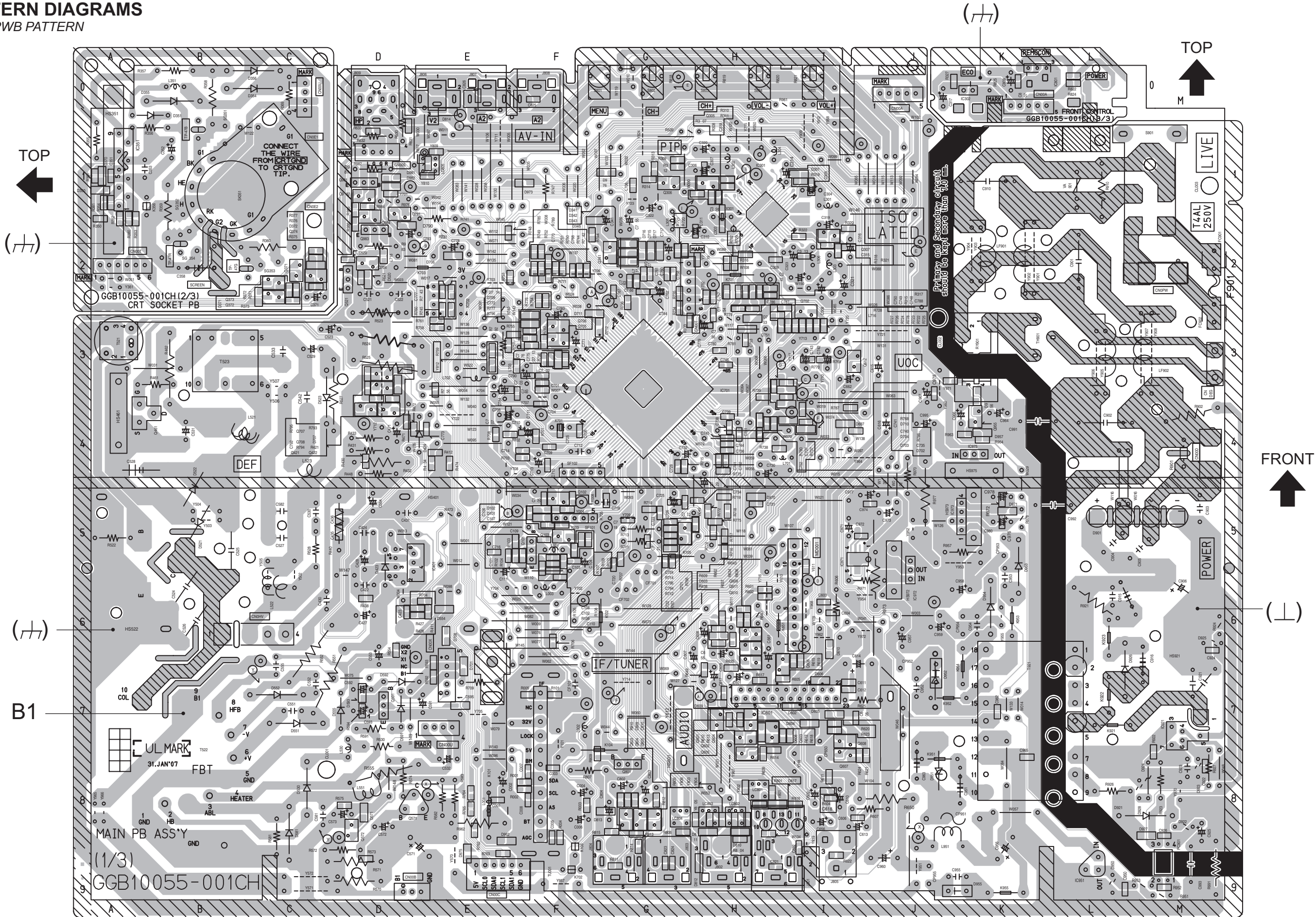


c13633001a.001.2/2



Note: 1. Refer to page 2-19 for voltages of this circuit diagram.

PATTERN DIAGRAMS
MAIN PWB PATTERN



VOLTAGE CHARTS

<MAIN PWB>

MODE PIN NO.	DC (V)
IC301	
1	0.5
2	0.9
3	0
4	1.8
5	1.4
6	0.3
7	0.7
8	0.4
9	0.7
10	0
11	3.2
12	0
13	1.4
14	1.3
15	1.3
16	1.7
17	0
18	1.1
19	1.7
20	0.5
21	0
22	1.1
23	1.1
24	0
25	3.3
26	1.1
27	1.1
28	1.1
29	0
30	0
31	0
32	3.3
33	1.4
34	0
35	0
36	2.0
37	2.2
38	0
39	3.3
40	0
41	0
42	0.2
43	1.3
44	1.2
IC401	
1	0.5
2	13.7
3	-11.7
4	-13.8
5	0.2
6	13.9
7	0.4
IC601	
1	0
2	NC
3	0
4	NC
5	25.9
6	NC
7	0
8	NC
9	0
10	NC
11	0.5
12	NC
13	12.9
14	NC
15	0.7
16	NC
17	0
18	NC
19	27.2
20	NC
21	16.7
22	NC
23	12.8
IC701	
1	0
2	0
3	1.9
4	3.3
5	3.1
6	0
7	3.2
8	0
9	3.2
10	1.5
11	1.3
12	0
13	0.1
14	2.5
15	4.9
16	1.9
17	2.3
18	0
19	2.3

MODE PIN NO.	DC (V)
20	2.3
21	0
22	0.8
23	0.9
24	1.9
25	1.9
26	2.3
27	1.9
28	0.2
29	1.9
30	1.0
31	4.3
32	3.1
33	2.2
34	2.1
35	2.2
36	3.5
37	3.4
38	2.2
39	2.5
40	0
41	3.0
42	1.4
43	2.7
44	2.2
45	8.3
46	2.0
47	5.0
48	1.3
49	2.2
50	2.0
51	1.5
52	1.4
53	2.2
54	2.1
55	1.3
56	2.2
57	1.3
58	1.8
59	1.4
60	1.3
61	3.7
62	1.3
63	3.5
64	0.5
65	1.9
66	1.4
67	1.5
68	0.2
69	4.9
70	1.3
71	1.4
72	1.3
73	2.0
74	1.7
75	0.4
76	0
77	3.3
78	1.3
79	1.3
80	1.3
81	0
82	4.9
83	2.1
84	3.4
85	2.1
86	2.1
87	2.1
88	3.3
89	0
90	3.3
91	1.6
92	0
93	1.9
94	3.3
95	0
96	1.9
97	3.0
98	0.1
99	0.1
100	2.1
101	0
102	2.4
103	2.5
104	0
105	0.2
106	2.6
107	0
108	2.2
109	1.1
110	3.3
111	0
112	3.3
113	0
114	3.3
115	1.1
116	2.6

MODE PIN NO.	DC (V)
117	1.9
118	1.8
119	3.3
120	3.1
121	0
122	3.3
123	0.1
124	1.9
125	0
126	3.3
127	3.2
128	3.2
IC702	
1	0
2	0
3	0
4	0
5	3.2
6	3.2
7	0
8	3.3
IC921	
1	125.4
2	NC
3	0
4	19.7
5	4.0
6	1.7
7	0.3
IC951	
1	135.5
2	9.4
3	0
IC971	
1	3.2
2	0
3	0
4	1.8
5	2.8
6	0
7	6.8
IC972	
1	6.4
2	3.3
3	0
4	6.4
IC973	
1	15.4
2	11.8
3	0
4	2.5
IC975	
1	8.2
2	4.8
3	0.2
4	2.5
Q101	
E	2.4
C	11.8
B	3.1
Q102	
E	0
C	0.2
B	3.1
Q103	
E	0
C	0.1
B	3.1
Q305	
E	0
C	0.1
B	0.6
Q306	
E	0
C	0.6
B	-0.2
Q307	
E	3.3
C	0
B	2.7
Q341	
E	11.8
C	1.0
B	11.8
Q421	
E	0
C	0
B	0.6
Q422	
E	1.1
C	1.3
B	0
Q461	
S	0
D	19.5
G	3.0
Q521	

MODE PIN NO.	DC (V)
E	0
C	10.9
B	0
Q522	
E	0
C	122.0
B	-0.1
Q571	
E	135.4
C	0
B	135.1
Q572	
E	0
C	3.2
B	-0.7
Q601	
E	11.8
C	0.4
B	11.8
Q602	
E	0.2
C	-0.2
B	0
Q603	
E	0
C	0
B	-0.3
Q605	
E	0
C	0
B	-0.2
Q607	
E	0.1
C	0
B	0.6
Q608	
E	0
C	18.5
B	0
Q609	
E	0
C	0
B	0
Q611	
E	0
C	0
B	0
Q612	
E	0
C	5.0
B	0
Q704	
E	0
C	2.5
B	0
Q705	
S	0
D	0.2
G	1.9
Q706	
S	0
D	0
G	1.9
Q707	
E	0
C	1.2
B	0
Q708	
E	1.2
C	1.3
B	4.9
Q791	
E	0
C	2.9
B	0
Q801	
E	2.2
C	0
B	1.5
Q803	
E	0.5
C	0
B	0
Q804	
E	0
C	0
B	0.2
Q805	
E	0.2
C	0
B	0
Q955	
E	0
C	11.8
B	0
Q981	
E	2.9

MODE PIN NO.	DC (V)
C	1.9
B	2.2
Q982	
E	1.9
C	2.2
B	2.5
Q983	
E	2.9
C	1.8
B	2.2
Q984	
E	1.9
C	2.2
B	2.5
TU001	
1	4.3
2	0.5
3	0
4	2.2
5	2.2
6	4.9
7	4.9
8	0.7
9	35.1
11	0

<MAIN PWB (FRONT LED)>

MODE PIN NO.	DC (V)
IC302	
1	2.6
2	3.3
IC801	
1	3.0
2	3.3
3	0

<MAIN PWB (CRT SOCKET)>

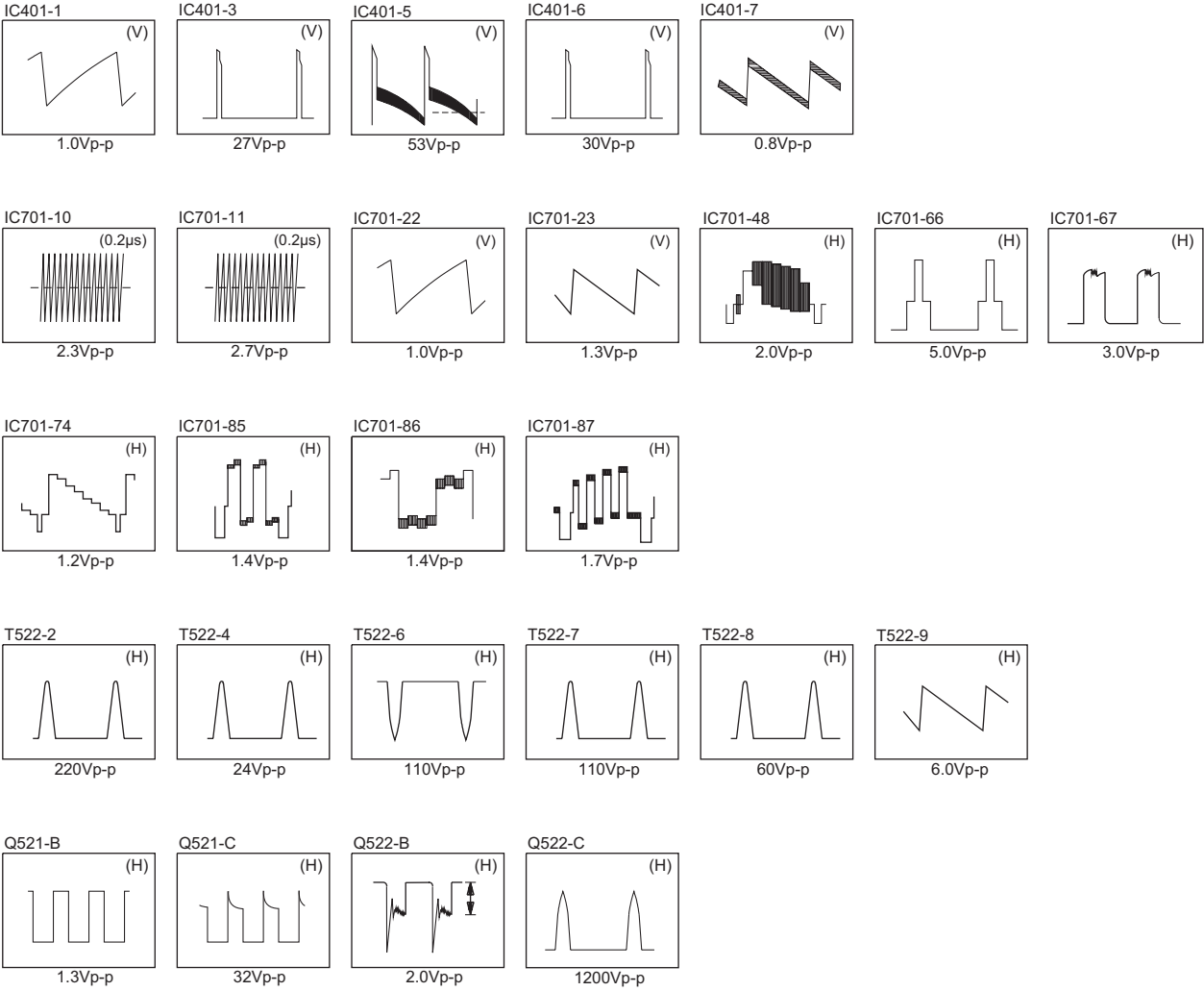
MODE PIN NO.	DC (V)
IC351	
1	2.2
2	2.1
3	2.1
4	0
5	4.6
6	194.7
7	118.3
8	118.3
9	115.8

<BASS PWB>

MODE PIN NO.	DC (V)
IC671	
1	0
2	1.2
3	1.2
4	0
5	3.2
6	3.3
7	2.3
8	2.1
9	1.4
10	1.5
11	3.3
12	0
13	1.6
14	1.6
15	0.1
16	1.2

WAVEFORMS

-MAIN PWB-



IC701-10

IC701-11

IC701-22

IC701-23

IC701-48

IC701-66

IC701-67

IC701-74

IC701-85

IC701-86

IC701-87

T522-2

T522-4

T522-6

T522-7

T522-8

T522-9

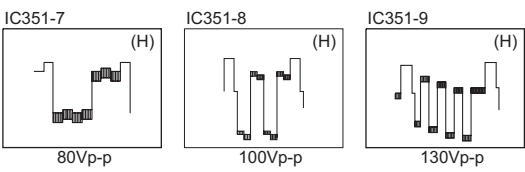
Q521-B

Q521-C

Q522-B

Q522-C

-CRT SOCKET PWB-





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(No.YA518)



Printed in Japan
VPT