JVC

SCHEMATIC DIAGRAMS

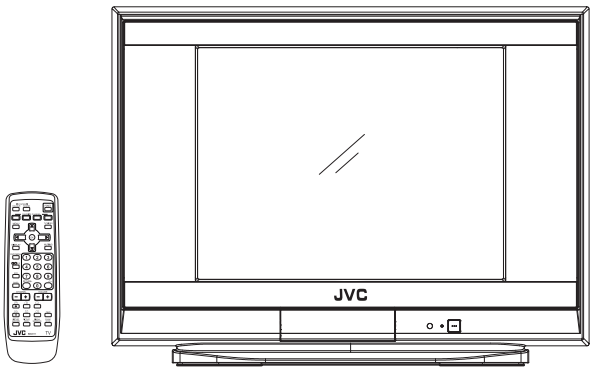
FLAT COLOUR TELEVISION

AV-2140QE, AV-21QS17B/H, AV-21QS27, AV-21QX17/G, AV-21QX17B/L, AV-21QX17/S, AV-21QX17B/G

CD-ROM No.SML200707

BASIC CHASSIS
CW4

InteríArt



No.YA536
2007/7

AV-2140QE, AV-21QS17B/H, AV-21QS27, AV-21QX17/G, AV-21QX17B/L, AV-21QX17/S, AV-21QX17B/G

STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety ciritical 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 20kΩ/V
(4)Oscilloscope sweeping time	: H ⇒ 20μs / div
	: V ⇒ 5ms / div
	: Othters ⇒ 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 → R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

● Resistance value

No unit	: [Ω]
K	: [kΩ]
M	: [MΩ]

● 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	: [μF]

● Withstand voltage

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

∗ Electrolytic Capacitors

47/50[Example]: Capacitance value [μF]/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

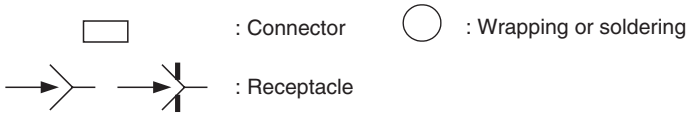
No unit	: [μH]
Others	: As specified

(4)Power Supply

∗ Respective voltage values are indicated

(5)Test point

(6)Connecting method



(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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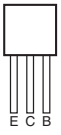
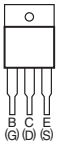
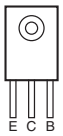
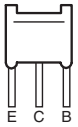
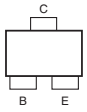
USING P.W. BOARD

P.W.B ASS'Y name	AV-2140QE	AV-21QS17B/H	AV-21QS27	AV-21QX17/G
MAIN P.W. BOARD	SCW-1512A-H2	SCW-1514A-H2	SCW-1513A-H2	SCW-1519A-H2

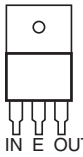
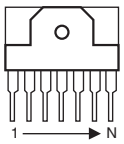
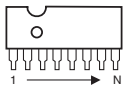
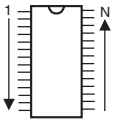
P.W.B ASS'Y name	AV-21QX17/S	AV-21QX17B/G	AV-21QX17B/L
MAIN P.W. BOARD	SCW-1521A-H2	SCW-1519A-H2	SCW-1520A-H2

SEMICONDUCTOR SHAPES

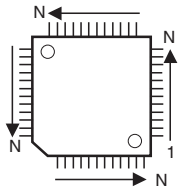
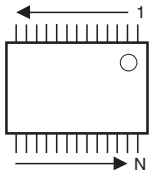
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

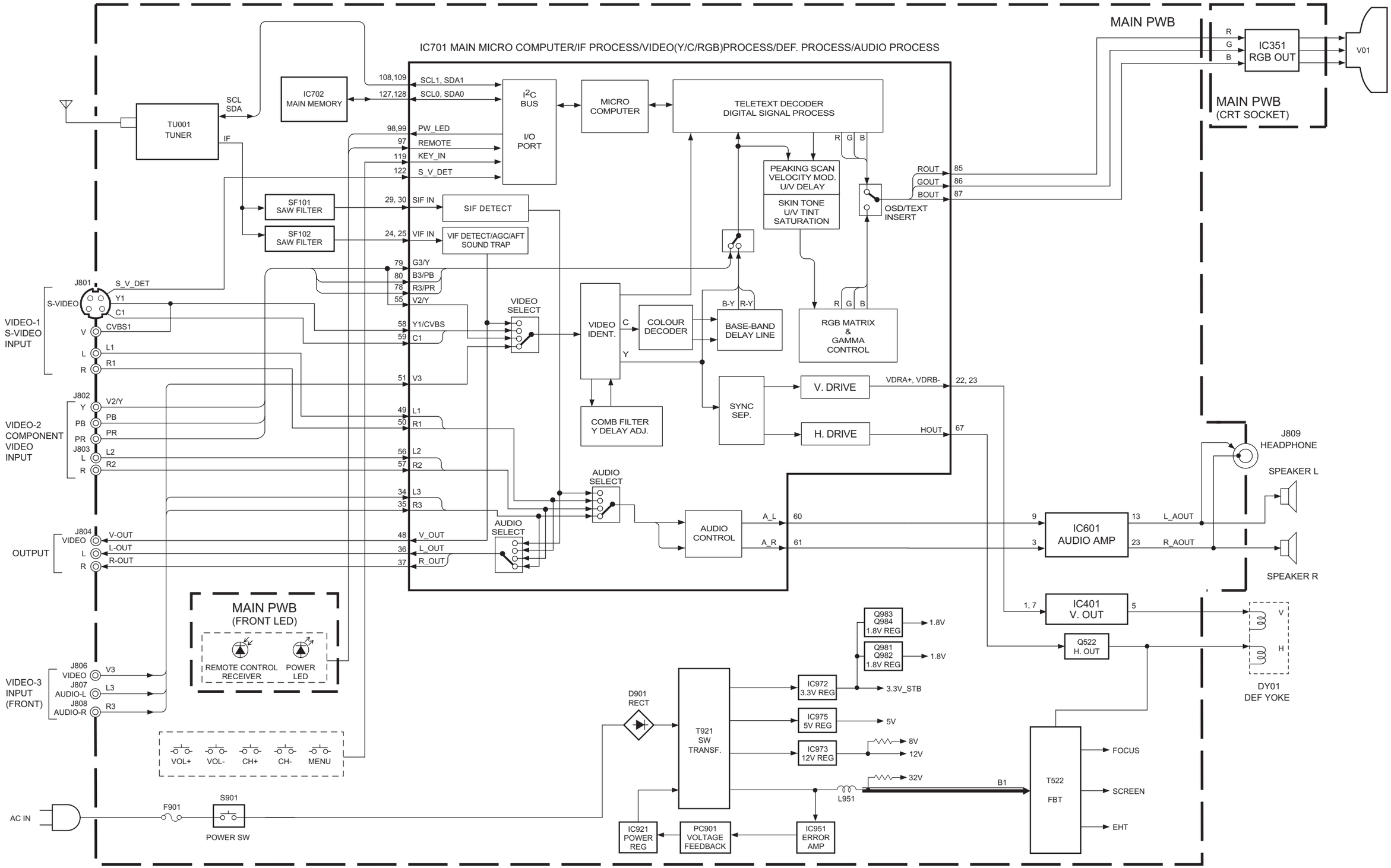
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

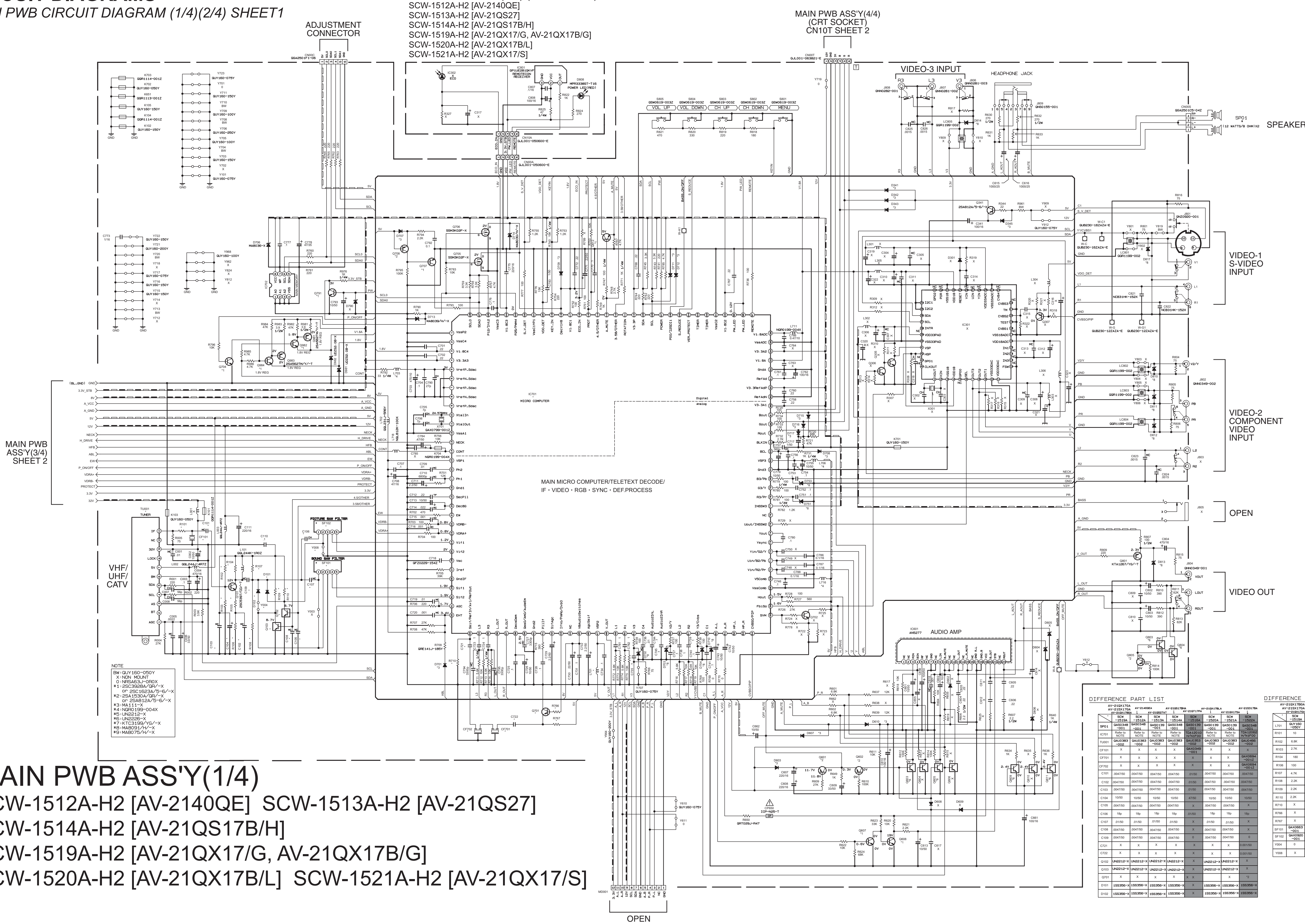
TOP VIEW		
		

BLOCK DIAGRAM



CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM (1/4)(2/4) SHEET1



MAIN PWB ASS'Y(1/4)

SCW-1512A-H2 [AV-2140QE] SCW-1513A-H2 [AV-21QS27]
SCW-1514A-H2 [AV-21QS17B/H]
SCW-1519A-H2 [AV-21QX17/G, AV-21QX17B/G]
SCW-1520A-H2 [AV-21QX17B/L] SCW-1521A-H2 [AV-21QX17/S]

DIFFERENCE PART LIST

*	AV-21QX17GA AV-21SX17GA AV-21QX17BGA	AV-2140QEA	AV-21QS27AT	AV-21QS17BHA	AV-21QT17PA	AV-21QX17BLA	AV-21QX17SA	AV-21S317BA
	SCW -1519A	SCW -1512A	SCW -1513A	SCW -1514A	SCW -1516A	SCW -1520A	SCW -1521A	SCW -1522A
SP01	QAS0348 -001	QAS0348 -001	QAS0139 -001	QAS0348 -001	QAS0139 -001	QAS0139 -001	QAS0139 -001	QAS0348 -001
IC701	Refer to NOTE	Refer to NOTE	Refer to NOTE	Refer to NOTE	TDA12010 H/N1F00	Refer to NOTE	Refer to NOTE	TDA12062 H/N1F00
TU001	QAU0383 -002	QAU0383 -002	QAU0383 -002	QAU0383 -002	QAU0353 -002	QAU0383 -002	QAU0383 -002	QAU0466 -002
CF101	X	X	X	X	QAX0349 -001	X	X	X
CF701	X	X	X	X	X	X	X	QAX0694 -001Z
CF702	X	X	X	X	X	X	X	QAX0694 -001Z
C101	.0047/50	.0047/50	.0047/50	.0047/50	.01/50	.0047/50	.0047/50	.0047/50
C102	.0047/50	.0047/50	.0047/50	.0047/50	.01/50	.0047/50	.0047/50	.0047/50
C103	.0047/50	.0047/50	.0047/50	.0047/50	.01/50	.0047/50	.0047/50	.0047/50
C104	10/50	10/50	10/50	10/50	47/50	10/50	10/50	10/50
C105	.0047/50	.0047/50	.0047/50	.0047/50	X	.0047/50	.0047/50	X
C106	18p	18p	18p	18p	.01/50	18p	18p	18p
C107	.01/50	.01/50	.01/50	.01/50	X	.01/50	.01/50	X
C108	.0047/50	.0047/50	.0047/50	.0047/50	X	.0047/50	.0047/50	X
C109	.0047/50	.0047/50	.0047/50	.0047/50	0	.0047/50	.0047/50	0
C721	X	X	X	X	X	X	X	0.001/50
C722	X	X	X	X	X	X	X	0.001/50
Q102	UN2212-X	UN2212-X	UN2212-X	UN2212-X	X	UN2212-X	UN2212-X	X
Q103	UN2212-X	UN2212-X	UN2212-X	UN2212-X	X	UN2212-X	UN2212-X	X
Q701	X	X	X	X	X X		X	*2
D101	1SS356-X	1SS356-X	1SS356-X	1SS356-X	X	1SS356-X	1SS356-X	1SS356-X
D102	1SS356-X	1SS356-X	1SS356-X	1SS356-X	X	1SS356-X	1SS356-X	1SS356-X

DIFFERENCE PART LIST

*	AV-21QX17BGA AV-21SX17GA AV-21QX17GA	AV-2140QEA	AV-21QS27AT	AV-21QS17BHA	AV-21QT17PA	AV-21QX17BL	AV-21QX17SA	AV-21S317BA
	SCW -1519A	SCW -1512A	SCW -1513A	SCW -1514A	SCW -1516A	SCW -1520A	SCW -1521A	SCW -1522A
L701	QUY160 -050Y	QUY160 -050Y	QUY160 -050Y	QUY160 -050Y	QUY160 -050Y	QUY160 -050Y	QUY160 -050Y	QQL231J -5R6Y
R101	10	10	10	10	68	10	10	10
R102	6.8K	6.8K	6.8K	6.8K	8.2K	6.8K	6.8K	6.8K
R103	2.7K	2.7K	2.7K	2.7K	1.8K	2.7K	2.7K	2.7K
R104	180	180	180	180	22	180	180	180
R106	100	100	100	100	27	100	100	100
R107	4.7K	4.7K	4.7K	4.7K	X	4.7K	4.7K	X
R108	2.2K	2.2K	2.2K	2.2K	X	2.2K	2.2K	X
R109	2.2K	2.2K	2.2K	2.2K	X	2.2K	2.2K	X
R110	2.2K	2.2K	2.2K	2.2K	X	2.2K	2.2K	X
R710	X	X	X	X	X	X	X	470
R766	X	X	X	X	X	X	X	0
R767	X	X	X	X	X	X	X	1K
SF101	QAX0663 -001	QAX0872 -001	QAX0872 -001	QAX0872 -001	X	QAX0663 -001	QAX0663 -001	X
SF102	QAX0920 -001	QAX0920 -001	QAX0920 -001	QAX0920 -001	QAX0723 -001	QAX0920 -001	QAX0920 -001	QAX0864 -001
Y004	0	0	0	0	X	0	0	X
Y008	X	X	X	X	0	X	X	0

NOTE) 1. Refer to the part list for the part number of IC701 and IC702.
2. Refer to page 2-11 for voltages of this circuit diagram.
3. Refer to page 2-12 for waveforms of this circuit diagram.

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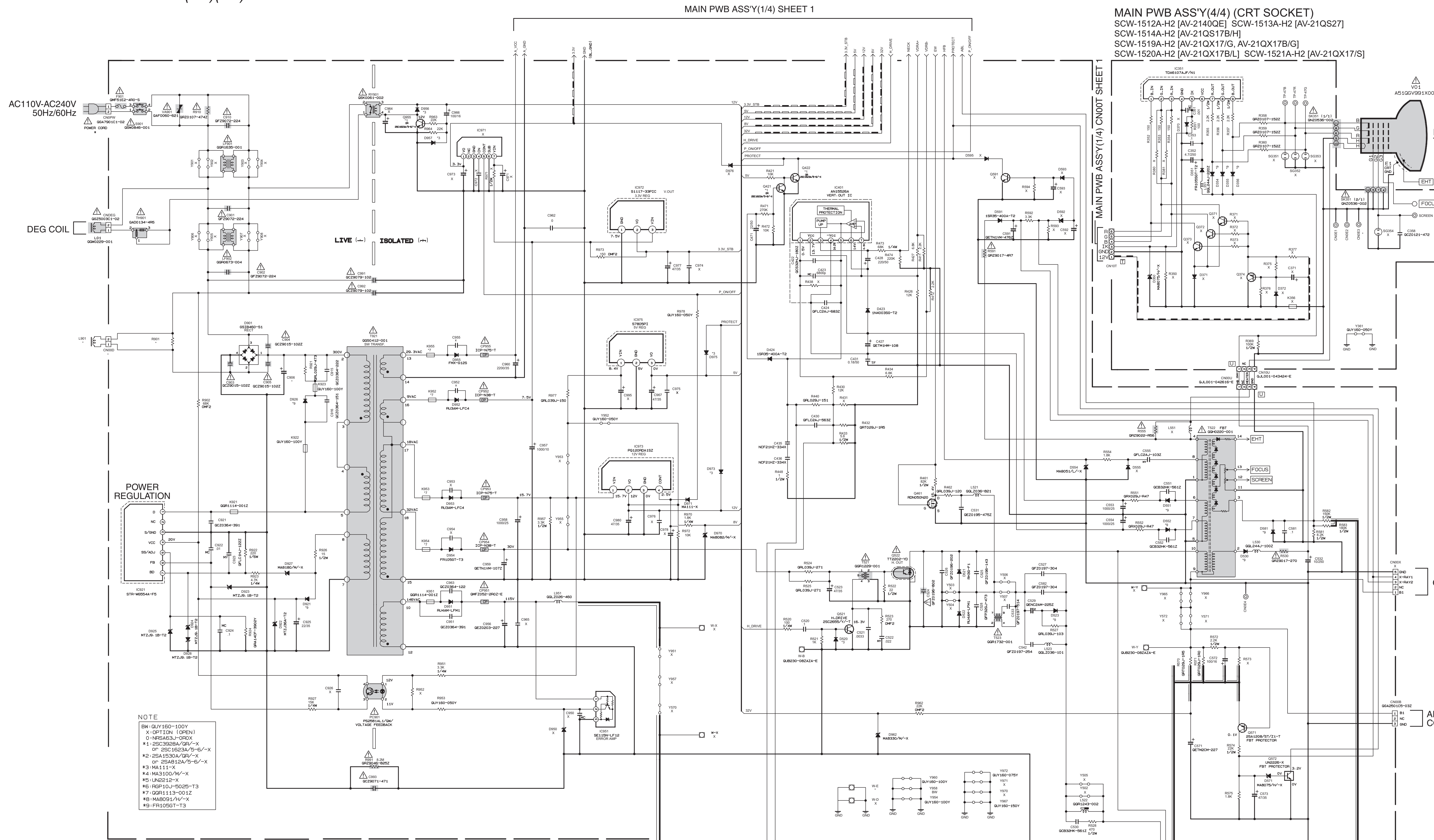
MAIN PWB CIRCUIT DIAGRAM (3/4)(4/4) SHEET2



MAIN PWB ASS'Y(3/4)

SCW-1512A-H2 [AV-2140QE] SCW-1513A-H2 [AV-21QS27]
SCW-1514A-H2 [AV-21QS17B/H]
SCW-1519A-H2 [AV-21QX17/G, AV-21QX17B/G]
SCW-1520A-H2 [AV-21QX17B/L] SCW-1521A-H2 [AV-21QX17/S]

DEF YOKE

DIFFERENCE PART LIST

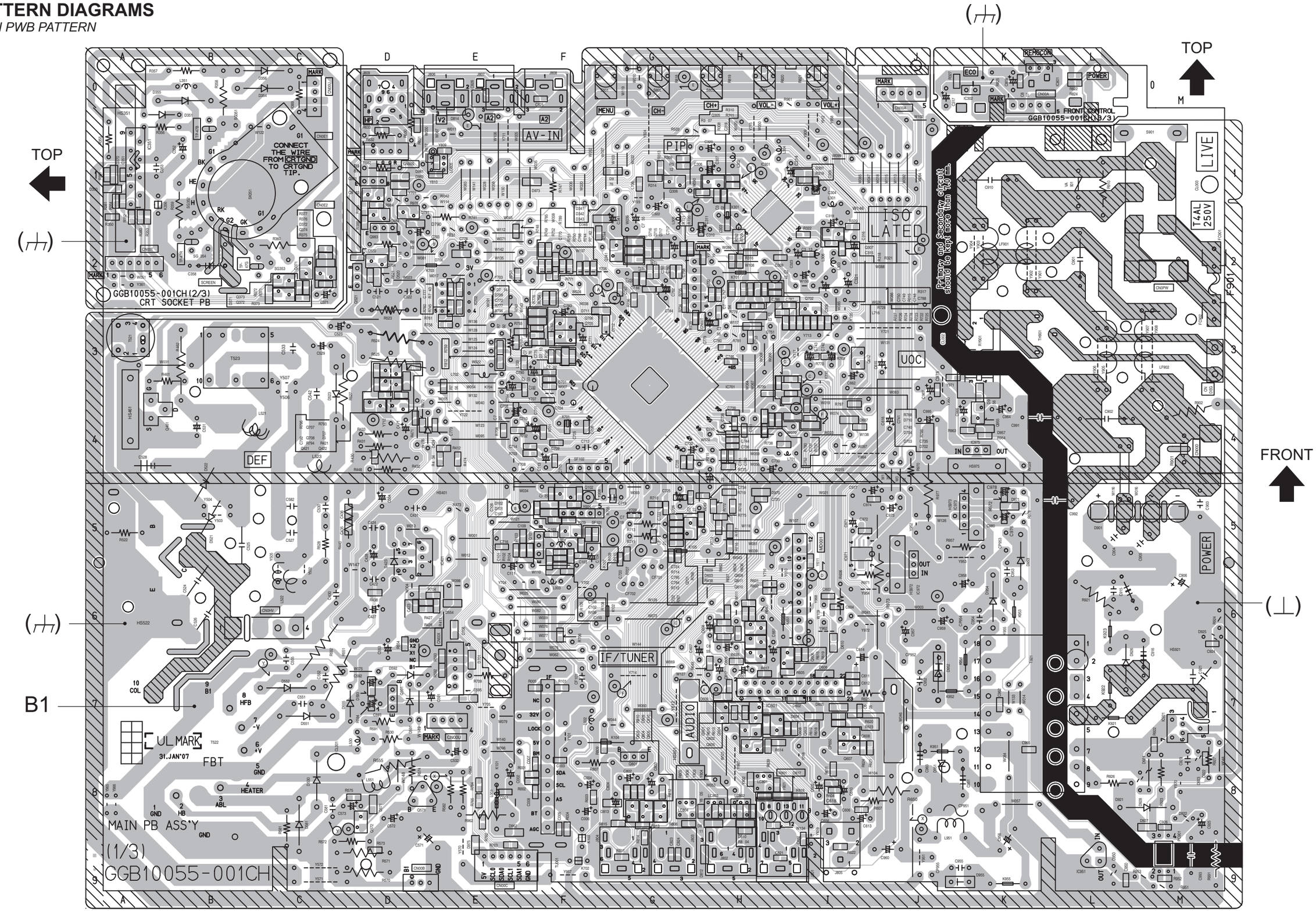
*	SCW -1519A (AV-21SX17GA, AV-21QX17BGA, AV-21QX17GA)	SCW -1512A (AV-2140QEA)	SCW -1513A (AV-21QS27AT)	SCW -1514A (AV-21QS17BHA)	SCW -1516A (AV-21QT17PA)	SCW -1520A (AV-21QX17BL)	SCW -1521A (AV-21QX17SA)	SCW -1522A (AV-21S317BA)
POWER CORD	QMPR820 -165-JC	QMPR820 -165-JC	QMPR820 -165-JC	QMPR650 -165-JC	QMPRA10 -165-JC	QMPR820 -165-JC	QMPR650 -165-JC	QMPRA80 -165-Q1
CN00D	X	QGA7901 C1-02	X	X	X	X	X	X
R901	QAD0143 -5R1	X	QAD0143 -5R1	QAD0143 -5R1	QAD0143 -5R1	QAD0143 -5R1	QAD0143 -5R1	QAD0143 -5R1
C906	QEZ0476 -337	QEZ0633 -227	QEZ0633 -337	QEZ0476 -337	QEZ0476 -337	QEZ0476 -337	QEZ0476 -337	QEZ0476 -337
W-E	X	X	X	X	X	X	X	QUB230- 16ZAZA-E
CN0E3	X	QUB130-3 0A6AS-E	QUB130-3 0A6AS-E	X	X	X	X	X
L901	X	QQR1801 -001	X	X	X	X	X	X

NOTE) 1. Refer to page 2-11 for voltages of this circuit diagram.
2. Refer to page 2-12 for waveforms of this circuit diagram.

cs13636_0604_2/2_0.0

PATTERN DIAGRAMS

MAIN PWB PATTERN



VOLTAGE CHARTS

<MAIN PWB>

MODE PIN NO.	DC (V)
IC301	-
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
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

MODE PIN NO.	DC (V)
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
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	-
IC972	
1	6.4
2	3.3
3	0
4	6.4
IC973	
1	15.4
2	11.8
3	0
4	2.5

MODE PIN NO.	DC (V)
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	-
Q306	-
Q307	-
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	
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

MODE PIN NO.	DC (V)
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
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

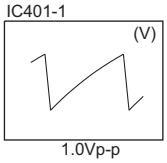
<MAIN PWB (CRT SOCKET)>

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

WAVEFORMS

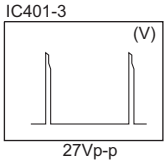
-MAIN PWB-

IC401-1



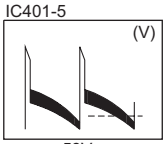
1.0Vp-p

IC401-3



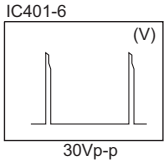
27Vp-p

IC401-5



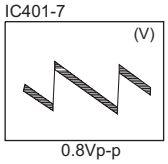
53Vp-p

IC401-6



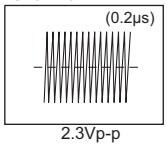
30Vp-p

IC401-7



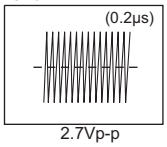
0.8Vp-p

IC701-10



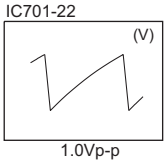
2.3Vp-p

IC701-11



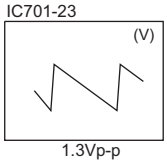
2.7Vp-p

IC701-22



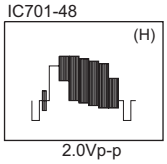
1.0Vp-p

IC701-23



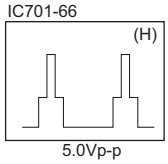
1.3Vp-p

IC701-48



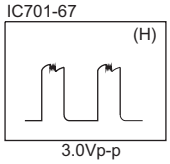
2.0Vp-p

IC701-66



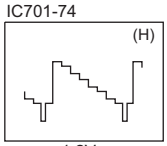
5.0Vp-p

IC701-67



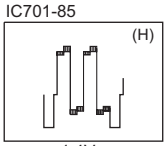
3.0Vp-p

IC701-74



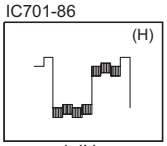
1.2Vp-p

IC701-85



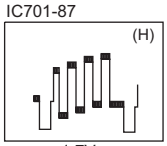
1.4Vp-p

IC701-86



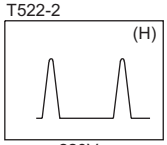
1.4Vp-p

IC701-87



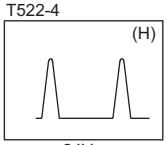
1.7Vp-p

T522-2



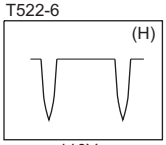
220Vp-p

T522-4



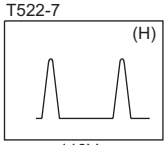
24Vp-p

T522-6



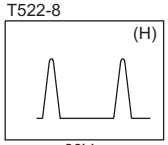
110Vp-p

T522-7



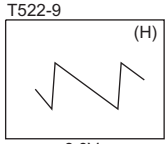
110Vp-p

T522-8



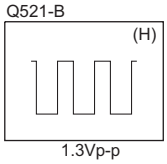
60Vp-p

T522-9



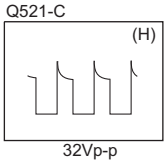
6.0Vp-p

Q521-B



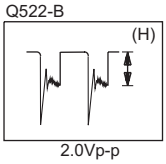
1.3Vp-p

Q521-C



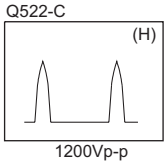
32Vp-p

Q522-B



2.0Vp-p

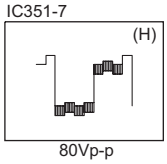
Q522-C



1200Vp-p

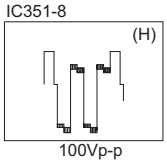
-CRT SOCKET PWB-

IC351-7



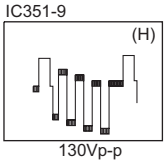
80Vp-p

IC351-8



100Vp-p

IC351-9



130Vp-p

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