

# JVC

## SCHEMATIC DIAGRAMS

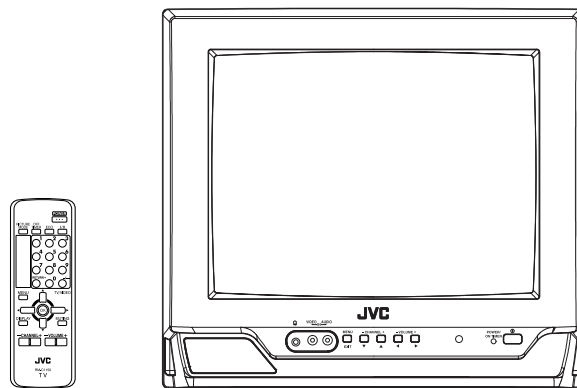
COLOUR TELEVISION

**AV-1400AE, AV-14A17,  
AV-14A17<sub>/A</sub>, AV-14A17<sub>/H</sub>,  
AV-14A17<sub>/L</sub>, AV-14AMG7<sub>/G</sub>**

BASIC CHASSIS
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CQ
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CD-ROM No.SML200706



# AV-1400AE, AV-14A17, AV-14A17/A, AV-14A17/H, AV-14A17/L, AV-14AMG7/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 $\Omega$ /V
- (4)Oscilloscope sweeping time : H  $\Rightarrow$  20 $\mu$ 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 : R209  $\rightarrow$  R209

#### 4.INDICATIONS ON THE CIRCUIT DIAGRAM

##### (1)Resistors

###### ● Resistance value

- No unit : [ $\Omega$ ]
- K : [k $\Omega$ ]
- M : [M $\Omega$ ]

###### ● 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 : [ $\mu$ 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 [ $\mu$ 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 : [ $\mu$ H]
- Others : As specified

##### (4)Power Supply

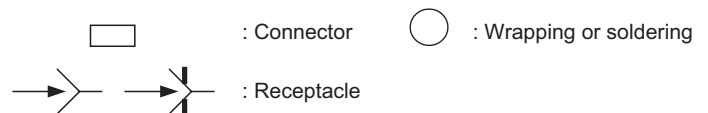


\* Respective voltage values are indicated

##### (5)Test point



##### (6)Connecting method



##### (7)Ground symbol

- $\perp$  : LIVE side ground
- $\downarrow$  : ISOLATED(NEUTRAL) side ground
- $\equiv$  : EARTH ground
- $\nabla$  : 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 ( $\perp$ ) side GND and the ISOLATED(NEUTRAL) ( $\downarrow$ ) 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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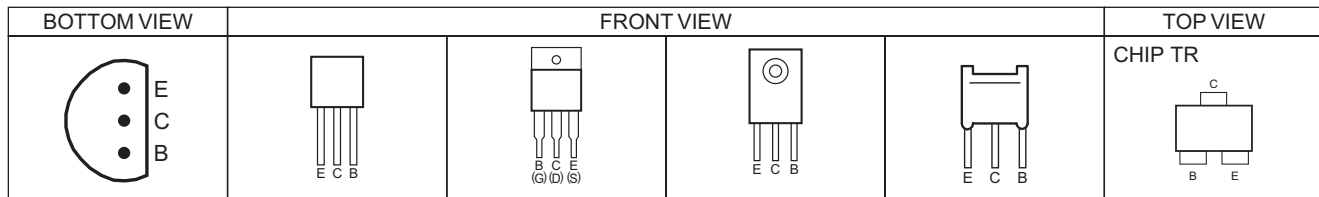
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**USING P.W. BOARD**

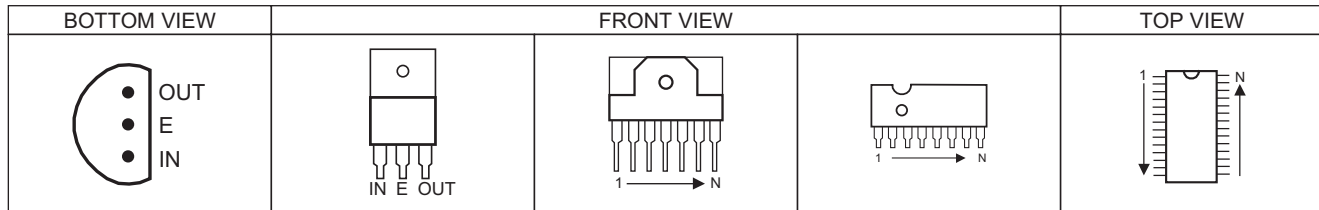
P.W.B ASS'Y name	AV-1400AE	AV-14A17	AV-14A17/A	AV-14A17/H	AV-14A17/L	AV-14AMG7/G
MAIN P.W. BOARD	SCQ-1024A-H2	SCQ-1020A-H2	SCQ-1022A-H2	SCQ-1021A-H2	SCQ-1023A-H2	SCQ-1018A-H2

## SEMICONDUCTOR SHAPES

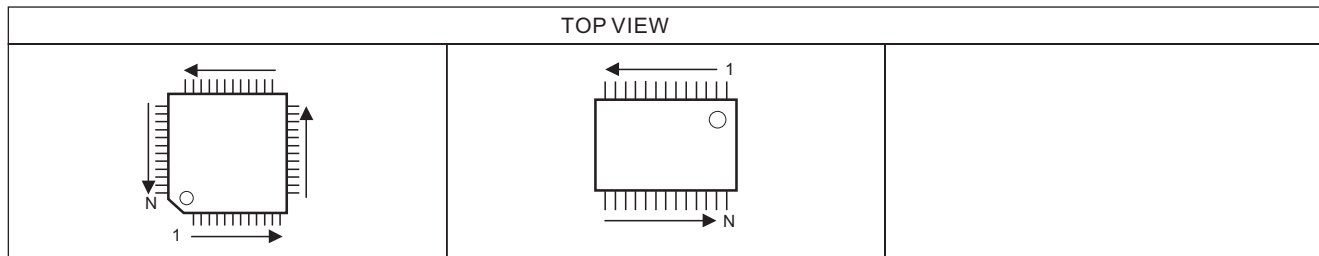
### TRANSISTOR



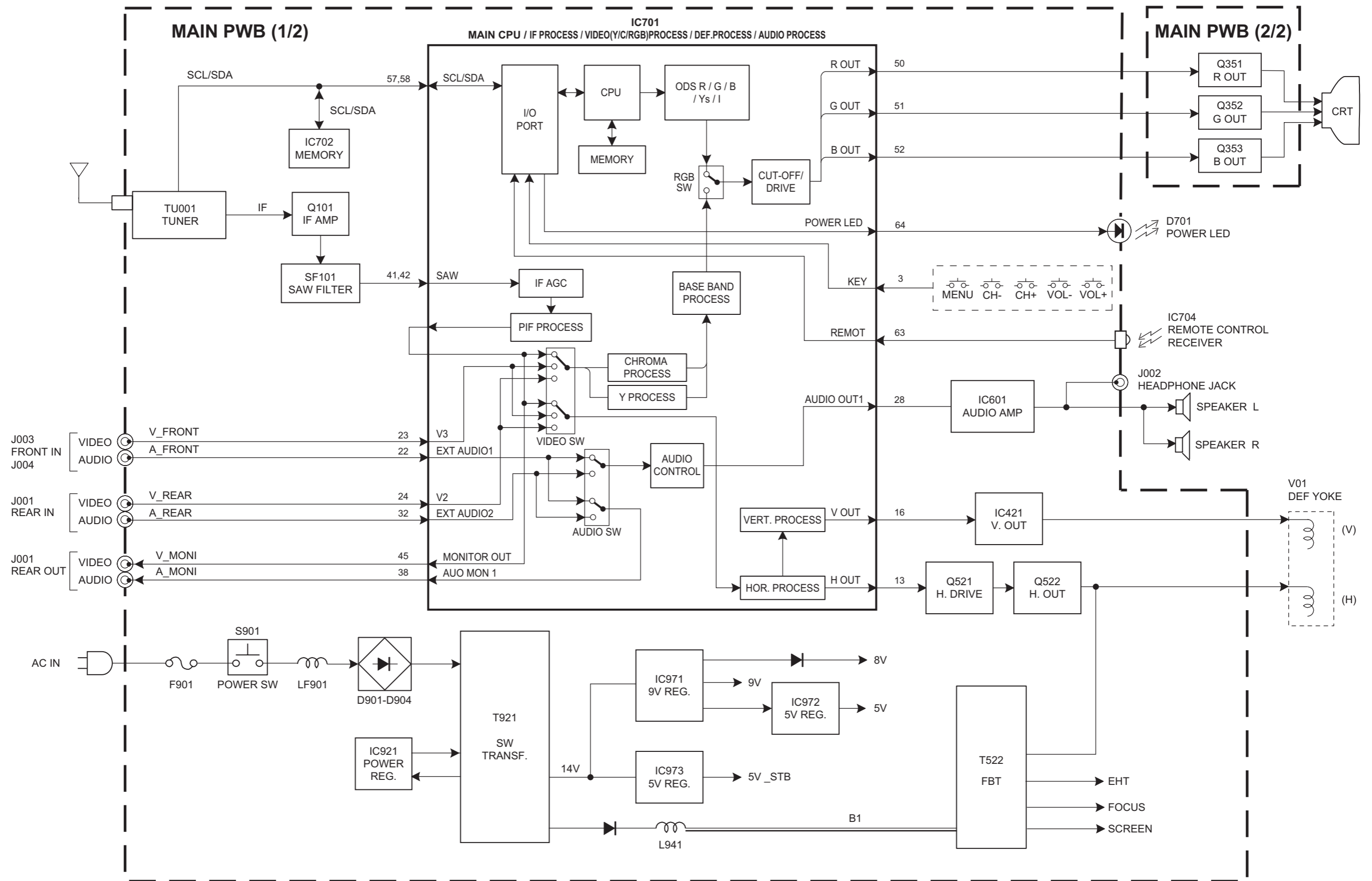
### IC



### CHIP IC



# BLOCK DIAGRAM

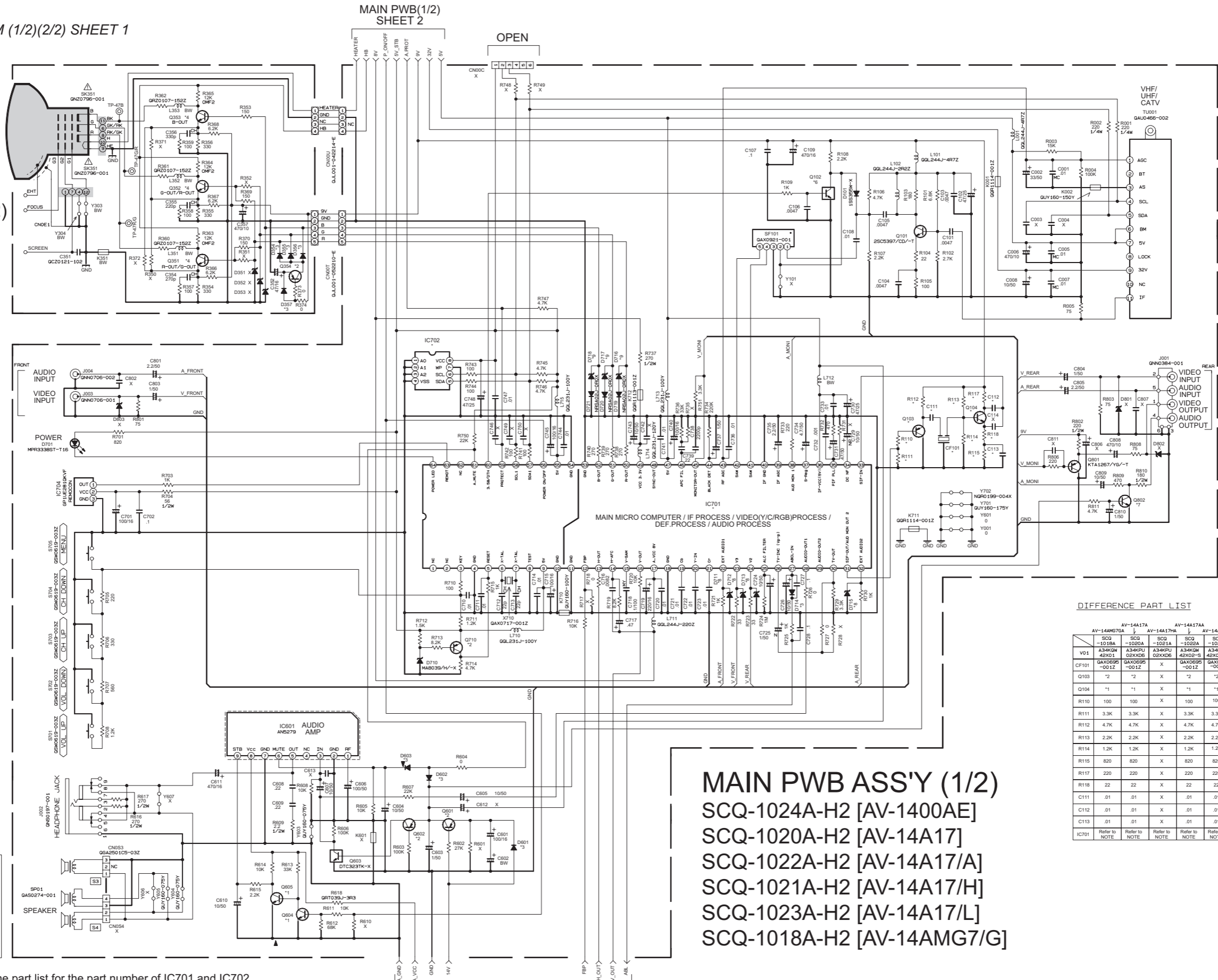


# CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM (1/2)(2/2) SHEET 1

## MAIN PWB ASS'Y (2/2)

- SCQ-1024A-H2 [AV-1400AE]
- SCQ-1020A-H2 [AV-14A17]
- SCQ-1022A-H2 [AV-14A17/A]
- SCQ-1021A-H2 [AV-14A17/H]
- SCQ-1023A-H2 [AV-14A17/L]
- SCQ-1018A-H2 [AV-14AMG7/G]



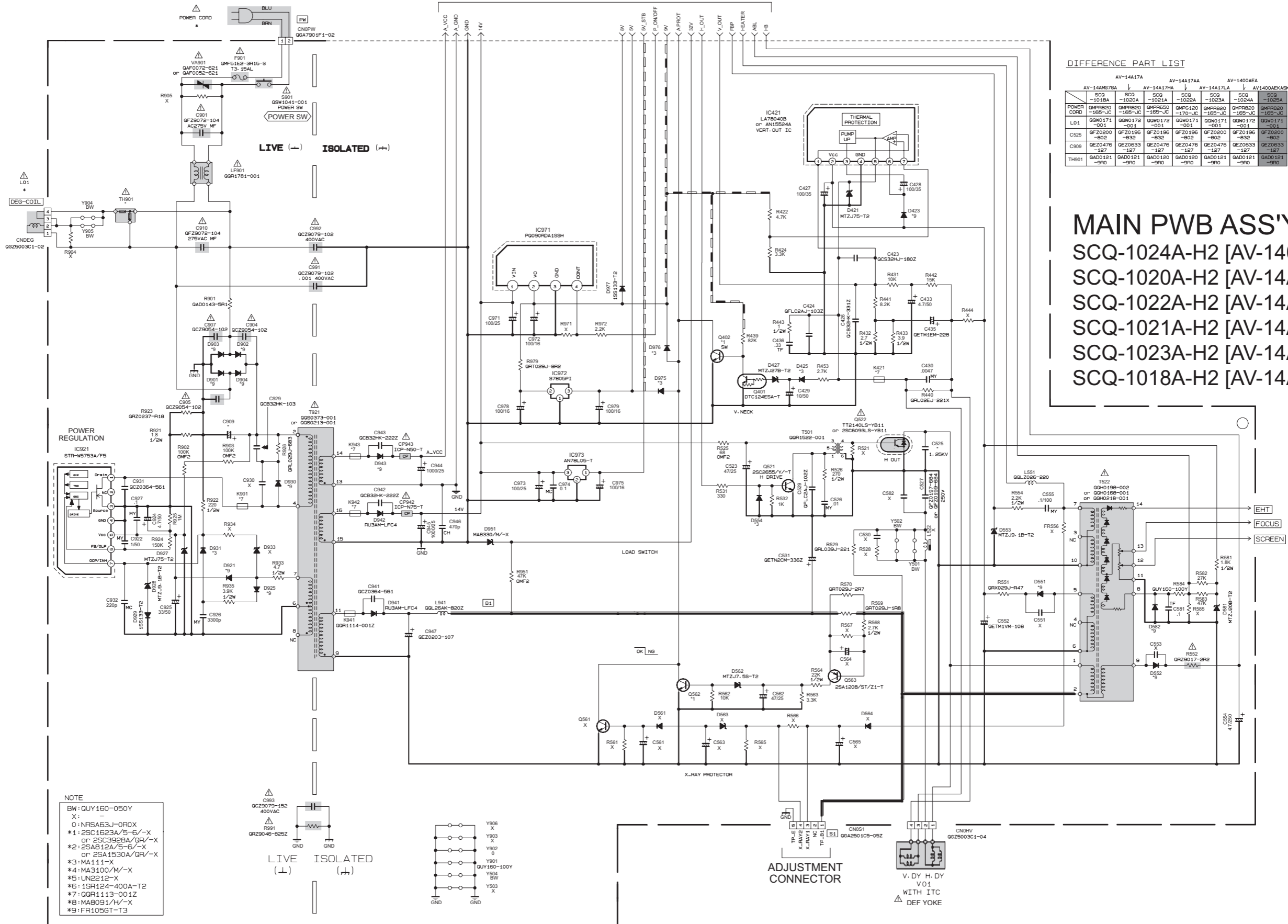
### DIFFERENCE PART LIST

	AV-14A17A		AV-14A17A		AV-1400AE	
	SCQ-1024A	SCQ-1020A	SCQ-1022A	SCQ-1021A	SCQ-1023A	SCQ-1018A
V01	A34KQ1	A34KPU	A34KPU	A34KQW	A34KPU	A34KQW
CF101	GAX0695-001Z	GAX0695-001Z	X	GAX0695-001Z	GAX0695-001Z	X
Q103	"2	"2	X	"2	"2	X
Q104	"1	"1	X	"1	"1	X
R110	100	100	X	100	100	X
R111	3.3K	3.3K	X	3.3K	3.3K	X
R112	4.7K	4.7K	X	4.7K	4.7K	X
R113	2.2K	2.2K	X	2.2K	2.2K	X
R114	1.2K	1.2K	X	1.2K	1.2K	X
R115	820	820	X	820	820	X
R117	220	220	X	220	220	X
R118	22	22	X	22	22	X
C111	.01	.01	X	.01	.01	X
C112	.01	.01	X	.01	.01	X
C113	.01	.01	X	.01	.01	X
IC701	Refer to NOTE	Refer to NOTE	Refer to NOTE	Refer to NOTE	Refer to NOTE	AB991CP-8ND-6P02

- NOTE
- BW: GUY160-050Y
  - X: 0: NRS A63J-OR0X
  - \*1: 2SC1623A/5-6/-X or 2SC3928A/QR/-X
  - \*2: 2SA812A/5-6/-X or 2SA1530A/QR/-X
  - \*3: MA111-X
  - \*4: 2SC4015/N/-T
  - \*5: 2SC4212/Z1/-
  - \*6: UN2212-X
  - \*7: UN2226-X
  - \*8: MAB091/H/-X
  - \*9: MAB051/M/-X

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.

MAIN PWB(1/2) SHEET 2



DIFFERENCE PART LIST

	AV-14A17A		AV-14A17A		AV-14A17A		AV-1400AEA	
	SCQ-1018A	SCQ-1020A	SCQ-1021A	SCQ-1022A	SCQ-1023A	SCQ-1024A	SCQ-1025A	SCQ-1026A
POWER CORD	QAF0072-021	QAF0072-021	QAF0072-021	QAF0072-021	QAF0072-021	QAF0072-021	QAF0072-021	QAF0072-021
L01	QGW0171-001	QGW0172-001	QGW0171-001	QGW0172-001	QGW0171-001	QGW0172-001	QGW0171-001	QGW0172-001
C525	QFZ0196-802	QFZ0196-832	QFZ0196-802	QFZ0196-832	QFZ0196-802	QFZ0196-832	QFZ0196-802	QFZ0196-832
C909	GEZ0476-127	GEZ0633-127	GEZ0476-127	GEZ0633-127	GEZ0476-127	GEZ0633-127	GEZ0476-127	GEZ0633-127
TH901	QAD0121-9R0	QAD0121-9R0	QAD0121-9R0	QAD0121-9R0	QAD0121-9R0	QAD0121-9R0	QAD0121-9R0	QAD0121-9R0

**MAIN PWB ASS'Y (1/2)**  
 SCQ-1024A-H2 [AV-1400AE]  
 SCQ-1020A-H2 [AV-14A17]  
 SCQ-1022A-H2 [AV-14A17/A]  
 SCQ-1021A-H2 [AV-14A17/H]  
 SCQ-1023A-H2 [AV-14A17/L]  
 SCQ-1018A-H2 [AV-14AMG7/G]

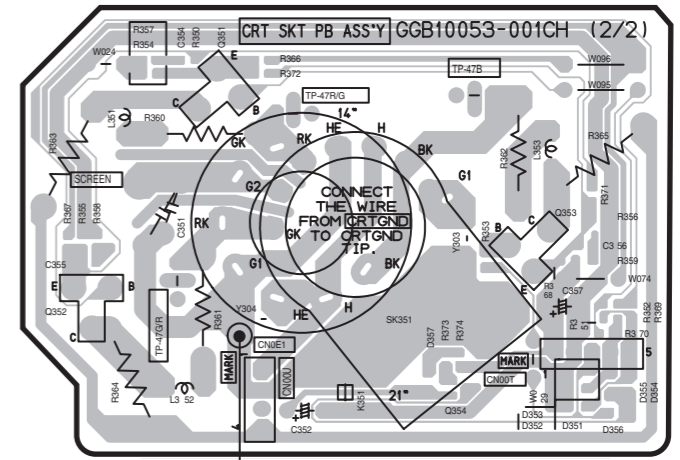
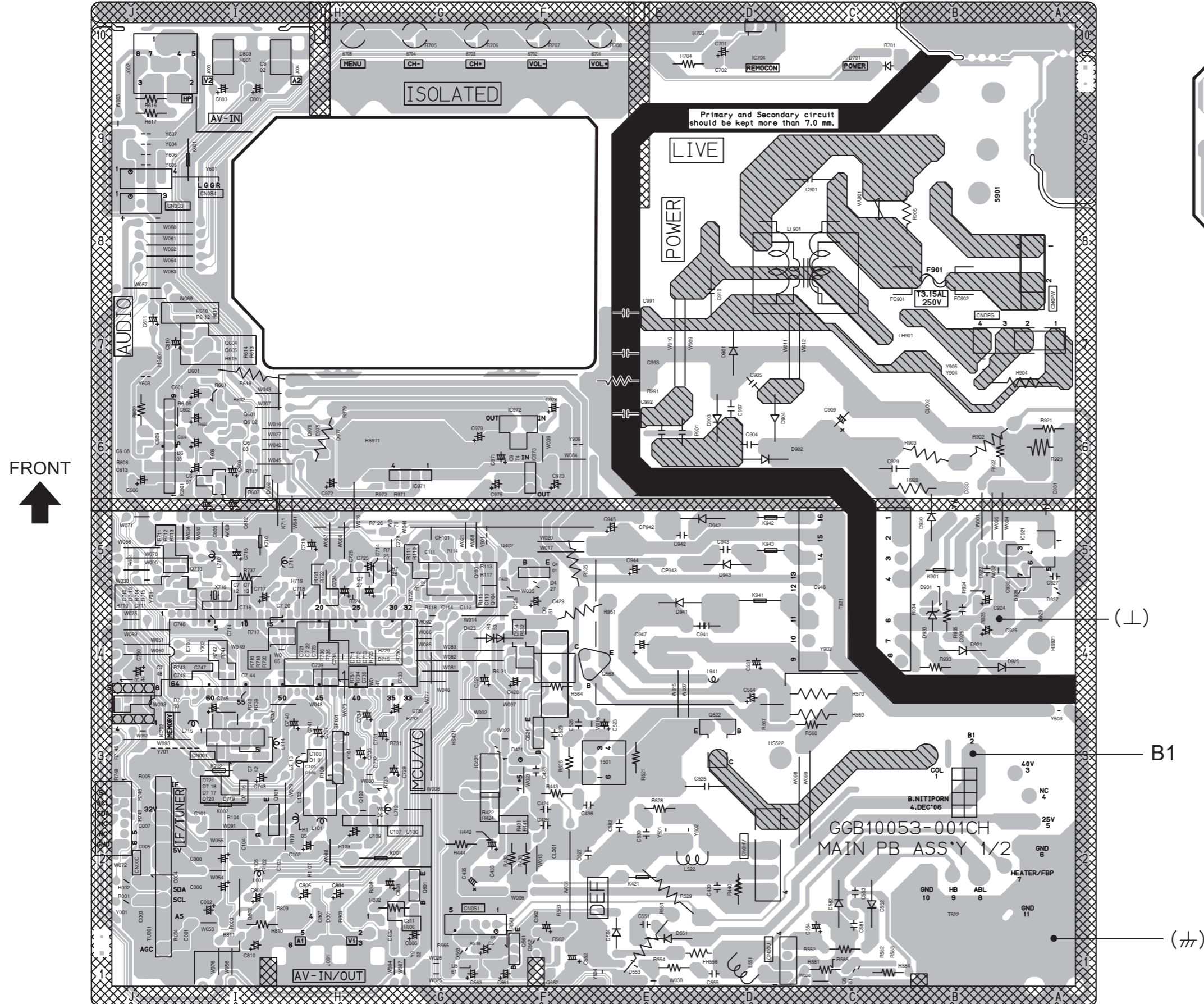
**NOTE**  
 BW: QUY160-050Y  
 X:  
 0: NRS463J-0R0X  
 \*1: 2SC1623A/5-6/-X  
 or 2SC3928A/QR/-X  
 \*2: 2SA812A/5-6/-X  
 or 2SA1530A/QR/-X  
 \*3: MA111-X  
 \*4: MA3100/M/-X  
 \*5: UN2212-X  
 \*6: 1SR124-400A-T2  
 \*7: QGR1113-001Z  
 \*8: MAB091/H/-X  
 \*9: FR105GT-T3

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.

# PATTERN DIAGRAMS

## MAIN PWB PATTERN

## (CRT SOCKET PWB PATTERN)



# VOLTAGE CHARTS

<MAIN PWB>

MODE PIN NO.	DC (V)
IC421	
1	3.7
2	25.9
3	1.6
4	0
5	0
6	25.9
7	3.7
IC601	
1	19.0
2	0
3	0
4	0
5	9.7
6	0.8
7	0
8	20.1
9	13.3
IC701	
1	NC
2	NC
3	5.1
4	0
5	5.1
6	2.2
7	2.0
8	0
9	5.1
10	0
11	0
12	1.0
13	2.0
14	5.5
15	4.0
16	4.7
17	7.9
18	0
19	2.5
20	2.4
21	2.5
22	3.8
23	2.4
24	2.5
25	0
26	0
27	4.5
28	0
29	3.2
30	0
31	3.2
32	3.9
33	0
34	0
35	0
36	0
37	2.1
38	0
39	0.3
40	0
41	1.9
42	2.0
43	0
44	2.3
45	2.6
46	2.3
47	4.8
48	2.0
49	3.3
50	0
51	2.0
52	2.1
53	0
54	0
55	5.1
56	5.0
57	5.1
58	5.1
59	5.1
60	5.1
61	0
62	NC
63	5.1
64	0
IC702	
1	0
2	0
3	0
4	0
5	5.1
6	5.1
7	0
8	5.1
IC704	
1	4.9
2	5.1
3	0

MODE PIN NO.	DC (V)
IC921	
1	307.5
2	NC
3	0
4	0
5	31.9
6	3.6
7	0.8
IC971	
1	15.5
2	8.9
3	0
4	4.7
IC972	
1	0
2	7.3
3	5.0
IC973	
1	5.1
2	0
3	15.5
Q101	1.5
E	8.9
C	2.2
B	
Q102	
E	0
C	0
B	4.9
Q401	
E	0
C	0
B	4.5
Q402	
E	0
C	4.9
B	0
Q521	
E	0
C	9.9
B	0.3
Q522	
E	0
C	115.3
B	0
Q562	
E	0
C	5.1
B	0
Q563	
E	115.7
C	45.9
B	115.6
Q601	
E	15.3
C	0
B	15.4
Q602	
E	0
C	0
B	0
Q603	
E	0
C	0
B	0
Q604	
E	0
C	0
B	0
Q605	
E	0
C	14.5
B	0
Q710	
E	5.1
C	5.1
B	4.5
Q801	
E	3.3
C	0
B	2.6
Q802	
E	0
C	0.4
B	0
TU001	
1	4.3
2	NC
3	0
4	5.1
5	5.1
6	4.9
7	4.9
8	NC
9	34.1
10	NC
11	0

<CRT SOCKET PWB>

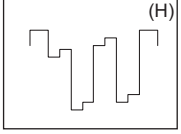
MODE PIN NO.	DC (V)
Q351	
E	1.5
C	136.9
B	2.0
Q352	
E	1.4
C	142.5
B	1.9
Q353	
E	1.6
C	134.6
B	2.1
Q354	
E	8.7
C	0
B	8.9



# WAVEFORMS

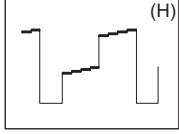
## -MAIN PWB- (SHEET1)

IC701-50



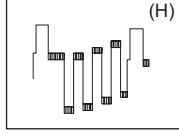
3.0 Vp-p

IC701-51



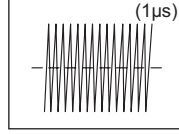
3.0 Vp-p

IC701-52



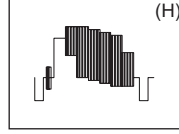
3.2 Vp-p

IC701-6



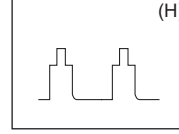
4.0 Vp-p

IC701-45



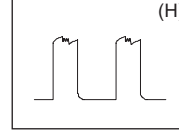
3.0 Vp-p

IC701-12



3.0 Vp-p

IC701-13



5.0 Vp-p

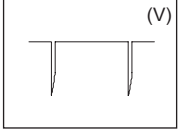
IC701-16



2.0 Vp-p

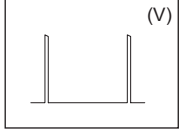
## (SHEET2)

IC421-1



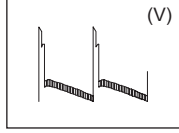
0.5 Vp-p

IC421-3



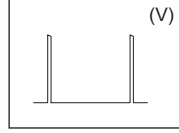
25 Vp-p

IC421-5



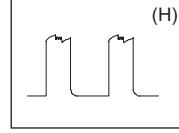
60 Vp-p

IC421-6



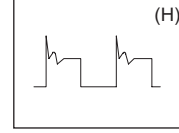
30 Vp-p

Q521-B



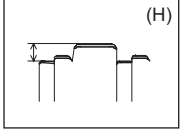
1.0 Vp-p

Q521-C



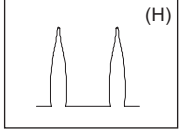
38 Vp-p

Q522-B



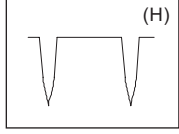
2.0 Vp-p

Q522-C



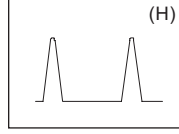
1000Vp-p

T522-5



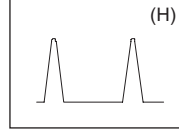
220 Vp-p

T522-7



25 Vp-p

T522-9

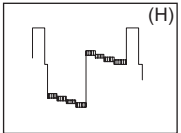


220Vp-p

## -CRT SOCKET PWB-

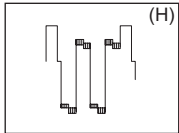
(SHEET1)

Q351-C



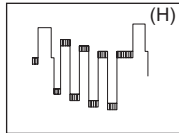
90 Vp-p

Q352-C



90 Vp-p

Q353-C



100 Vp-p



**JVC**

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(No.YA528)