

JVC

SCHEMATIC DIAGRAMS

COLOUR TELEVISION

**AV-28X4BU, AV-28X4SK,
AV-28X4SR, AV-28X4SU,
AV-32X4BU, AV-32X4SK,
AV-32X4SR, AV-32X4SU**

CD-ROM No.SML200403

BASIC CHASSIS
ML2

InterArt

Natural Vision

T-V LINK



AV-28X4BU, AV-28X4SK, AV-28X4SR, AV-28X4SU AV-32X4BU, AV-32X4SK, AV-32X4SR, AV-32X4SU 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 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 : Uninflamable 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 : [H]
- Others : As specified

(4)Power Supply

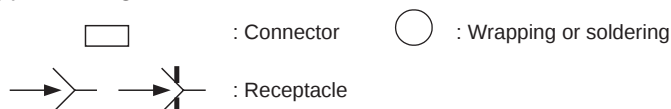


* Respective voltage values are indicated

(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

PWB ASS'Y name	AV-28X4BU	AV-28X4SK	AV-28X4SR	AV-28X4SU	AV-32X4BU	AV-32X4SK	AV-32X4SR	AV-32X4SU
MAIN P.W. BOARD	SML-1202A-U2	SML-1922A-U2	SML-1202A-U2	←	SML-1201A-U2	SML-1921A-U2	SML-1201A-U2	←
MICOM/100Hz P.W. BOARD	SML02201A-U2	←	←	←	←	←	←	←
POWER & DEF P.W. BOARD	SML-2202A-U2	←	←	←	SML-2201A-U2	←	←	←
CRT SOCKET P.W. BOARD	SML-3202A-U2	←	←	←	SML-3201A-U2	←	←	←
AV JACK P.W. BOARD	SML0J201A-U2	←	←	←	←	←	←	←
FRONT CONTROL P.W. BOARD	SML-8201A-U2	←	←	←	←	←	←	←
SIDE CONTROL P.W. BOARD	SML-8121A-U2	←	←	←	←	←	←	←

SEMICONDUCTOR SHAPES

TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR

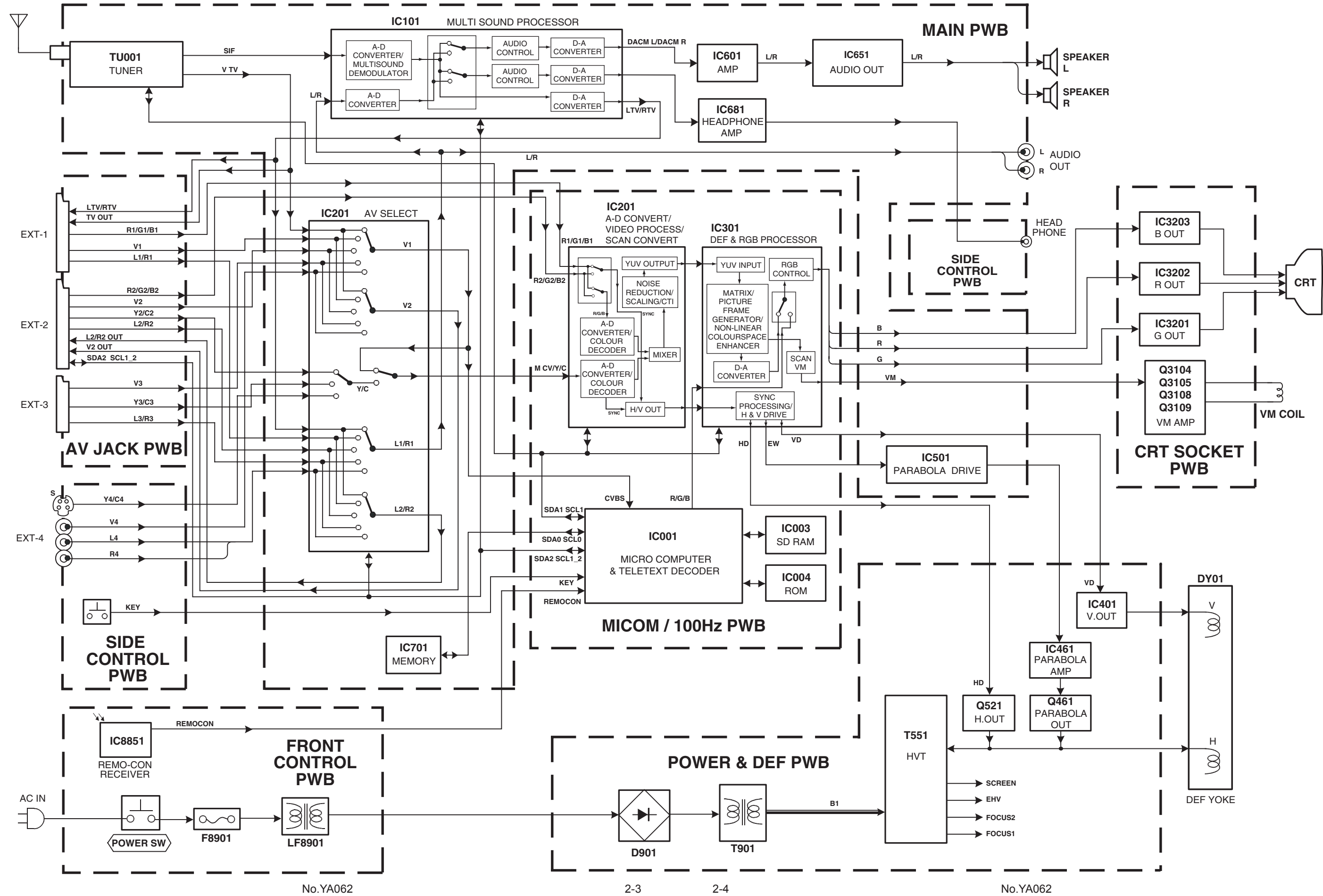
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW

CHIP IC

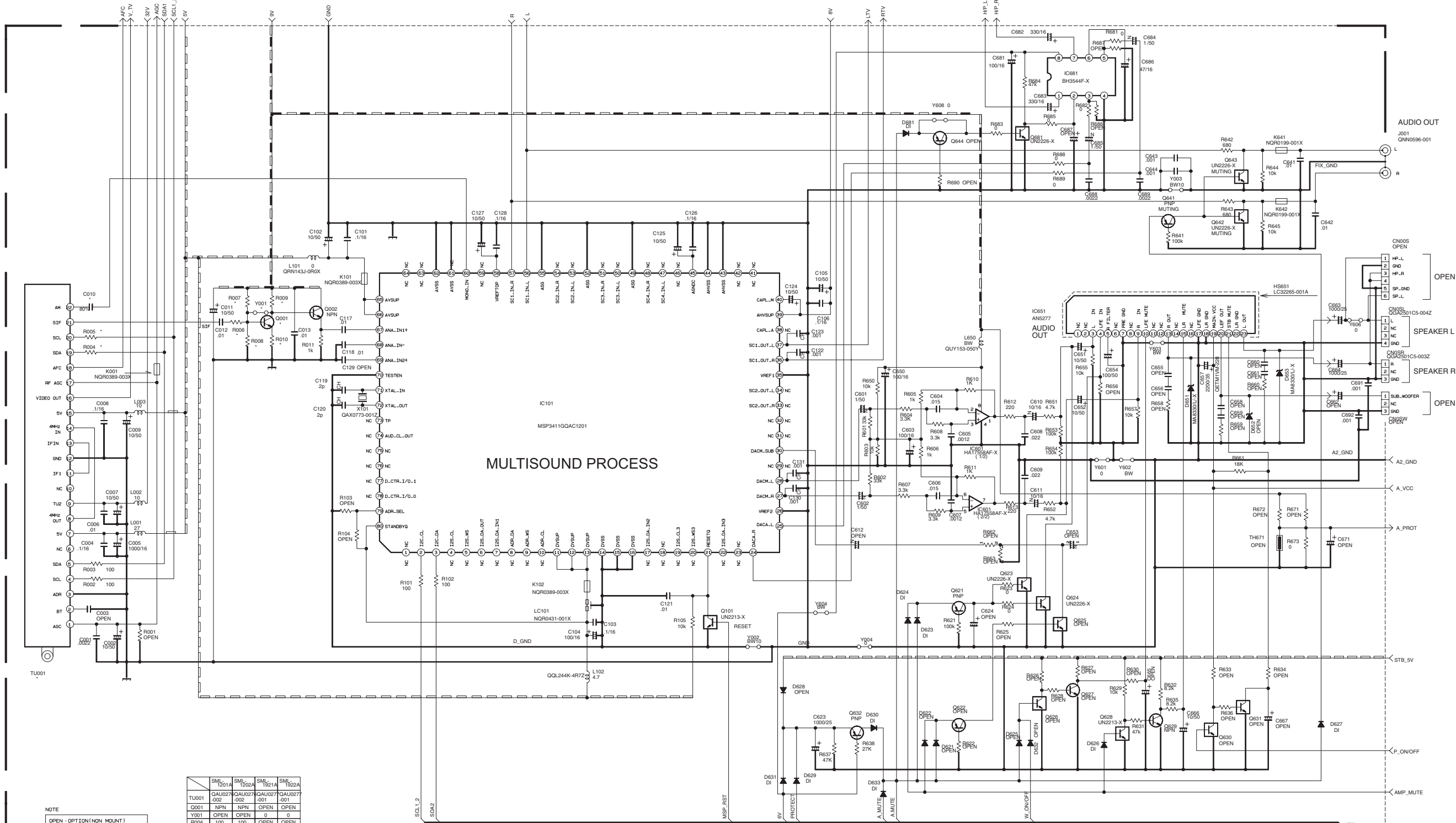
TOP VIEW		

BLOCK DIAGRAM



CIRCUIT DIAGRAMS
MAIN PWB CIRCUIT DIAGRAM (1/2)

MODE PIN NO.	DC (V)	MODE PIN NO.	DC (V)
IC101			
1	0	4	0
2	4.5	5	0
3	4.5	7	14.2
4	1.6	8	0.7
5	1.5	9	0
6	1.6	10	29.6
7	1.6	11	15.5
8	1.6	12	14.1
9	1.6	IC681	
10	1.6	1	2.4
11	4.9	2	4.6
12	4.9	3	2.4
13	4.9	4	0
14	0	5	0
15	0	6	2.4
16	0	7	2.4
17	0	8	5.8
18	0	TU001	
19	0	1	18
20	0	2	3.2
21	4.9	3	0
22	0	4	4.5
23	0	5	4.5
24	0.1	6	0
25	0.1	7	4.8
26	0	8	0
27	0	9	31.4
28	0	10	0
29	0	11	2.5
30	0	12	0
31	0	13	2.5
32	0	14	0
33	3.8	15	4.9
34	3.8	16	1.3
35	0	17	1.8
36	3.7	18	1.7
37	3.7	19	4.6
38	6.9	20	4.5
39	8	21	2
40	7	22	2.5
41	0	Q001	
42	0	E	2
43	0	C	4.6
44	0	B	2.7
45	3.7	Q002	
46	0	E	3.9
47	3.7	C	8.9
48	3.7	B	4.6
49	0	Q101	
50	3.7	E	0
51	3.7	C	4.9
52	0	B	0
53	3.7	Q621	
54	3.7	E	0.2
55	0	C	-1.6
56	4.4	B	0
57	4.4	Q623	
58	2.6	E	0
59	0	C	0
60	3.7	B	-1.6
61	0	Q624	
62	0	E	0
63	0	C	0
64	0	B	-1.5
65	4.9	Q628	
66	4.9	E	0
67	1.5	C	4.1
68	0	B	0
69	0	Q629	
70	0	E	0
71	2.2	C	0
72	2.1	B	0.6
73	0	Q632	
74	2.6	E	5.3
75	0	C	-1.8
76	0	B	5.8
77	0	Q641	
78	0	E	0.1
79	2.5	C	-1.5
80	4.9	B	0
IC601		Q642	
1	4.4	E	0
2	4.4	C	4.1
3	4.3	B	-1.5
4	0	Q643	
5	4.4	E	0
6	4.4	C	4.1
7	4.4	B	-1.5
8	8.9	Q643	
IC651		E	0
1	0	C	4.6
2	0	B	0.1
3	28		

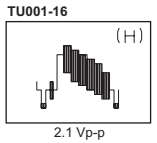


NOTE
OPEN : OPTION(NON MOUNT)
BW : 5mm BUSWIRE
BW10 : 10mm BUSWIRE
BW15 : 15mm BUSWIRE
O : NRSAB3J-OROX
NPN : 2SD601A/GR/-X
PNP : 2SB709A/GR/-X
DI : HA1111-X
DTC : DTC124EKA-X
DTA : DTA124EKA-X

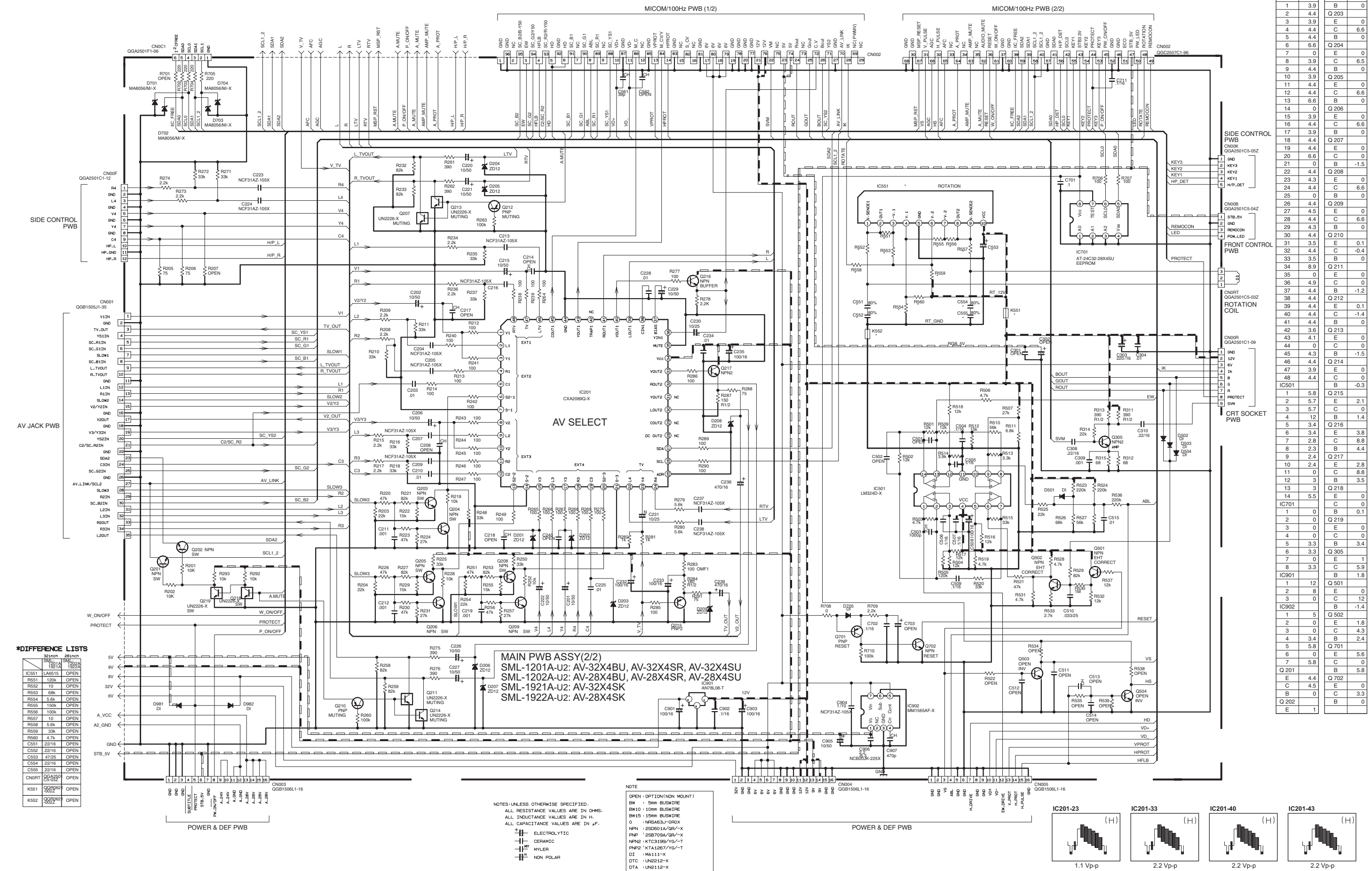
	SML-1201A	SML-1202A	SML-1921A	SML-1922A
TU001	QAU027-002	QAU027-002	QAU027-001	QAU027-001
Q001	NPN	NPN	OPEN	OPEN
Y001	OPEN	OPEN	0	0
R004	100	100	OPEN	OPEN
R005	100	100	OPEN	OPEN
R006	0	0	4.7k	4.7k
R007	2.2k	2.2k	10k	10k
R008	1k	1k	10k	10k
R009	680	680	OPEN	OPEN
R010	330	330	OPEN	OPEN
C010	1/10	1/10	OPEN	OPEN

MAIN PWB ASSY(1/2)
SML-1201A-U2: AV-32X4BU, AV-32X4SR, AV-32X4SU
SML-1202A-U2: AV-28X4BU, AV-28X4SR, AV-28X4SU
SML-1921A-U2: AV-32X4SK
SML-1922A-U2: AV-28X4SK

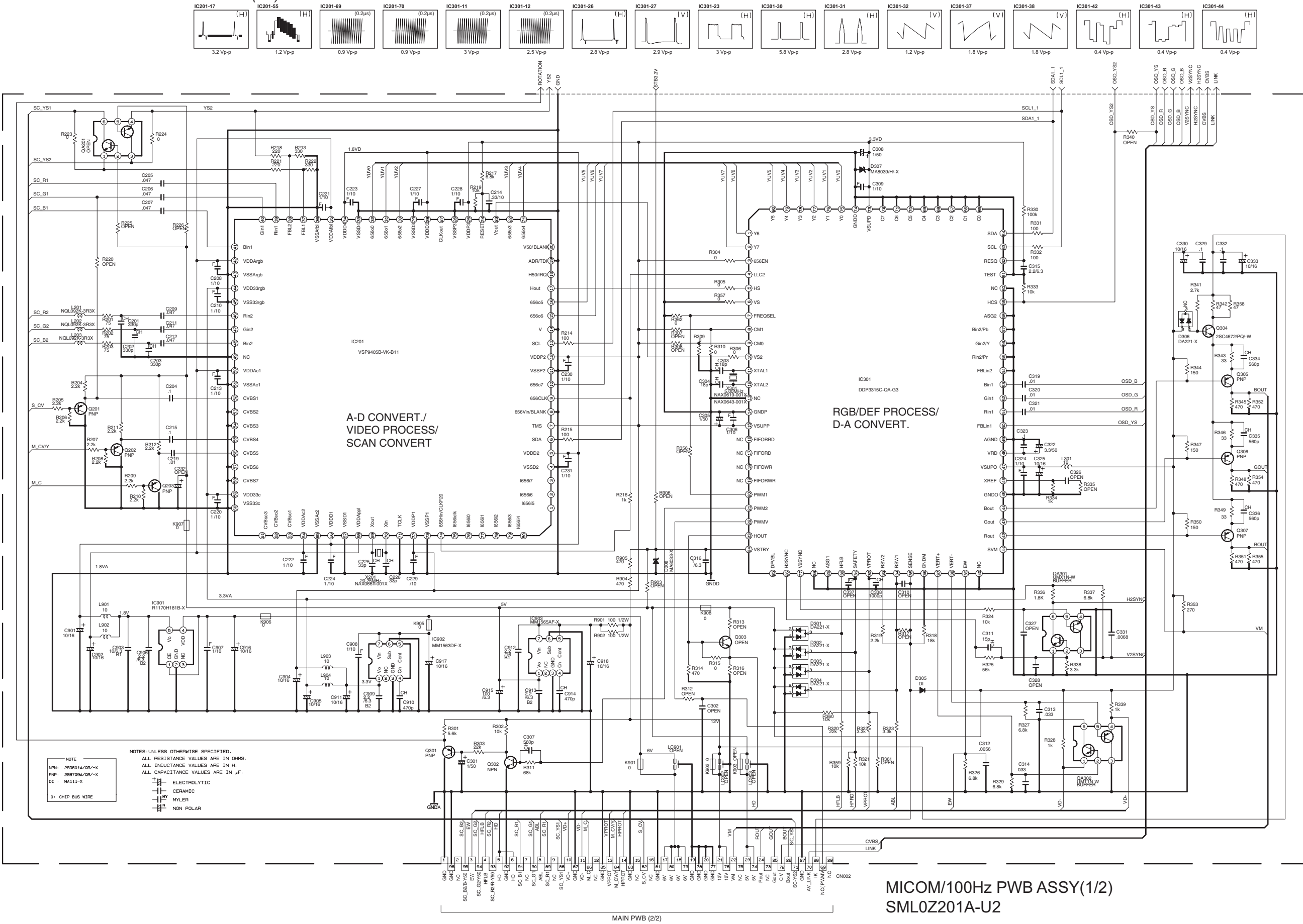
NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
CERAMIC
MYLAR
NON POLAR



MAIN PWB CIRCUIT DIAGRAM (2/2)



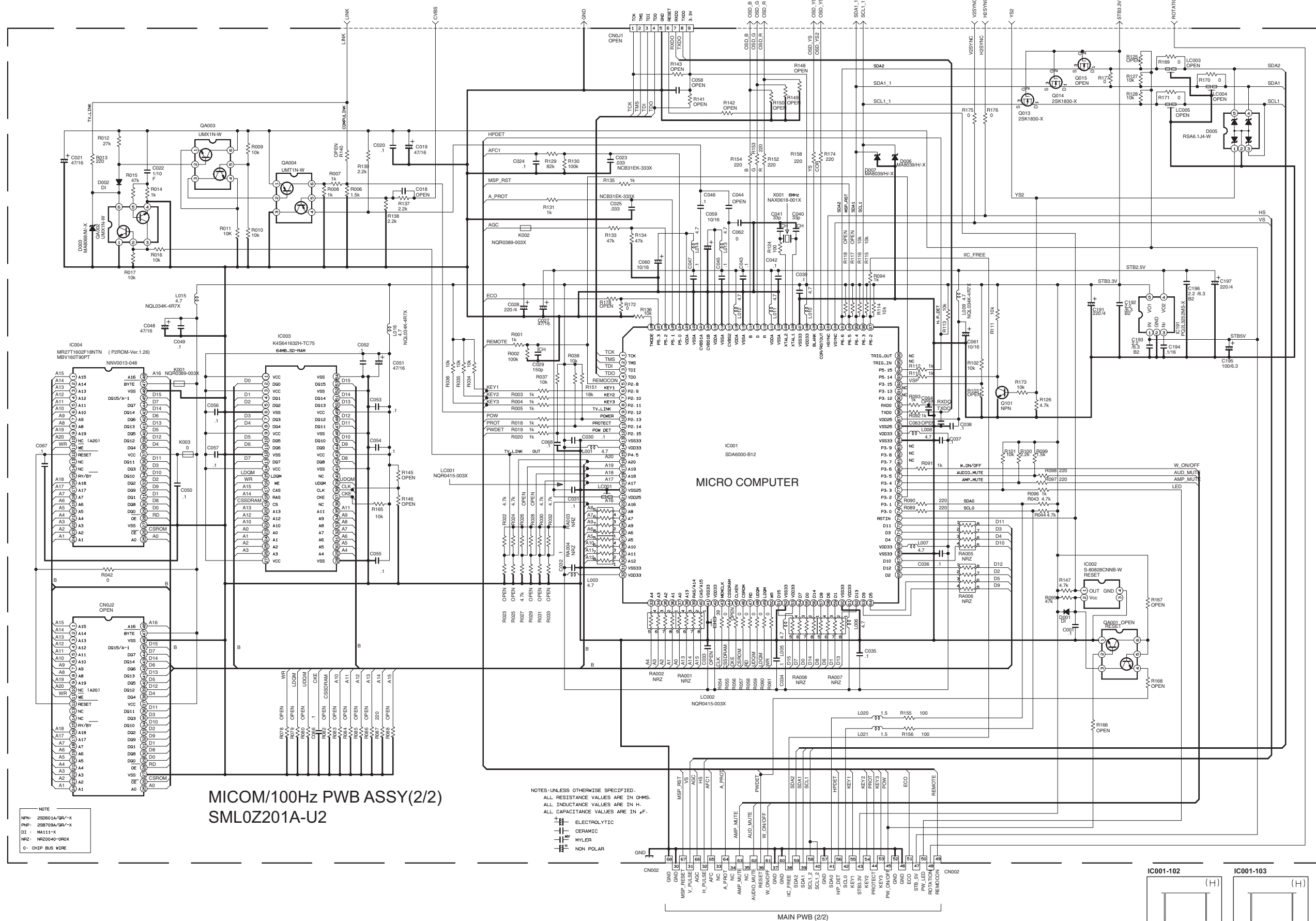
MICOM/100Hz PWB CIRCUIT DIAGRAM (1/2)



MODE PIN NO.	DC (V)	MODE PIN NO.	DC (V)	MODE PIN NO.	DC (V)
IC 201		17	0	CN002	
1	2.1	18	0	1	0
2	0.6	19	0	2	0
3	0.1	20	0	3	2.4
4	0	21	0	4	2.1
5	1.7	22	0	5	1.5
6	2.5	23	0	6	1.5
7	3.2	24	3.3	7	0
8	0	25	0	8	1.6
9	2	26	0.1	9	0
10	1.8	27	0	10	2.1
11	0	28	0	11	2
12	3.2	29	0	12	0
13	2.5	30	0.6	13	0
14	0	31	0.1	14	0.3
15	1.1	32	0	15	0
16	1.1	33	0	16	0
17	0.3	34	0	17	5.8
18	0.2	35	0	18	5.9
19	0	36	0	19	0
20	0	37	1.4	20	0
21	2.2	38	1.5	21	12
22	1.1	39	2.4	22	4.8
23	0	40	0	23	0
24	1.9	41	4.7	24	2.6
25	3.2	42	4.7	25	2.6
26	0	43	4.7	26	2.6
27	0	44	4.7	27	0
28	1.7	45	0	28	1.5
29	0	46	2.3	29	0
30	1.3	47	5	30	0
31	1.1	48	2.5	31	4.5
32	1.1	49	0	32	0
33	0	50	0	33	3.8
34	1.7	51	0.2	34	0
35	0	52	0	35	0
36	0	53	0.2	36	0
37	0	54	0	37	12
38	0	55	0	38	0
39	0.7	56	0	39	0
40	0.6	57	0	40	5.8
41	0.6	58	0	41	0
42	0	59	0	42	0
43	0	60	0	43	0
44	3.3	61	0	44	0
45	0	62	0	45	4.1
46	0	63	2.5	46	0
47	0	64	2.5	47	4.3
48	0	65	0	48	0
49	0	66	0	49	0
50	1.7	67	0	50	0
51	0	68	0	51	0
52	1	69	0	52	0
53	0	70	0	53	0
54	0	71	0	54	0
55	1	72	0	55	0
56	0.7	73	3.2	56	0
57	0	74	0	57	0
58	0	75	1.1	58	0
59	3.3	76	1.1	59	0
60	0	77	1.3	60	0
61	1.7	78	1.1	61	0
62	0.8	79	2.1	62	0
63	1.7	80	1.1	63	0
64	1.7	IC 901	0	64	0
65	0	1	0	65	0
66	1.7	2	0	66	0
67	0	3	0	67	0
68	1.7	4	5.9	68	0
69	0.3	5	1.8	69	0
70	0.5	IC 902	0	70	0
71	0	1	0	71	0
72	3.2	2	0	72	0
73	0	3	0	73	0
74	1.7	4	0	74	0
75	2.3	5	5.8	75	0
76	0.7	6	0	76	0
77	0.1	7	6.2	77	0
78	1.4	IC 903	0	78	0
79	0.3	1	0	79	0
80	0.1	2	0	80	0
IC 301		3	0	IC 301	
1	1.1	4	0	1	0
2	1.8	5	6.2	2	0
3	3.2	6	0	3	0
4	2	7	6.2	4	0
5	0.3	Q 201	0	5	0
6	0	E	0.6	6	0
7	0	C	0	7	0
8	0	B	0	8	0
9	0	Q 202	0	9	0
10	0	E	0	10	0
11	1.4	C	0	11	0
12	1.4	B	2.1	12	0
13	0	Q 203	0	13	0
14	0	E	2.7	14	0
15	3.2	C	0	15	0
16	0	B	2.1	16	0

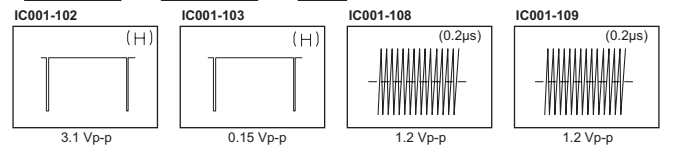
MICOM/100Hz PWB ASSY(1/2)
SML0Z201A-U2

MICOM/100Hz PWB CIRCUIT DIAGRAM (2/2)

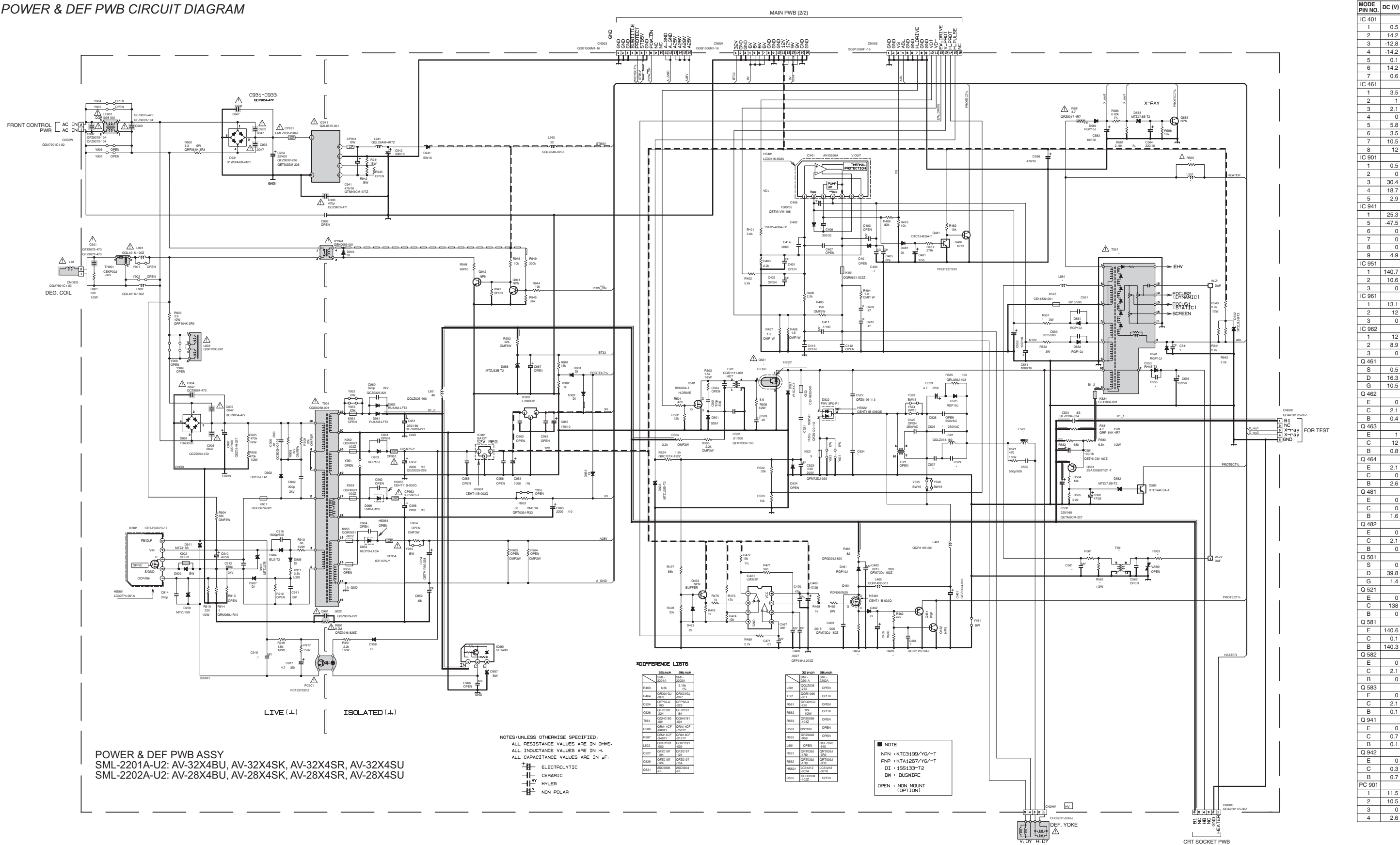


MODE PIN NO.	DC (V)	MODE PIN NO.	DC (V)	MODE PIN NO.	DC (V)
IC 001		98	2.5	D	0
1	0	99	2.5	G	3.3
2	1	100	0	Q 101	
3	0	101	0	E	0
4	1	102	3.2	C	3.2
5	2.4	103	3.3	B	0
6	3.1	104	0	CN002	
7	3.1	105	0	30	0
8	3.1	106	3.3	31	3.2
9	0	107	0	32	3.3
10	0	108	0	33	0
11	0	109	0.4	34	0
12	3.3	110	0	35	0
13	0	111	0	36	3.2
14	3.3	112	0	37	0
15	0	113	0	38	0
16	0	114	0	39	4.5
17	0	115	0	40	4.4
18	0	116	0	41	3.3
19	0	117	0	42	3.3
20	0	118	0	43	3.3
21	2.4	119	0	44	2.1
22	0	120	*	45	0
23	0	121	0	46	0
24	0	122	0	47	4.8
25	0	123	0	48	12
26	0	124	0	49	2.6
27	1.3	125	0	50	0
28	0.7	126	0	51	0
29	0	127	*	52	0
30	2.6	128	*	53	3.3
31	0	IC 003		54	3.3
32	3.3	1	3.2	55	3.3
33	1.3	2	0	56	3.3
34	1.3	3	3.2	57	0
35	1.3	4	0	58	4.4
36	0	5	0	59	4.4
37	0	6	0	60	0
38	2.6	7	0	61	0
39	3	8	0	62	0.1
40	3.1	9	3.3	63	0
41	0	10	0	64	0
42	3.3	11	0	65	1.6
43	6.4	12	0	66	1.8
44	3.1	13	0	67	0
45	3.3	14	3.3	68	0
46	3.3	15	0		
47	3.3	16	3.2		
48	0	17	3.1		
49	0	18	3		
50	0	19	3.1		
51	2.6	20	2.6		
52	0	21	2.6		
53	3.3	22	0.7		
54	0.3	23	0		
55	0.2	24	0		
56	2.6	25	1.3		
57	0.3	26	1.3		
58	0.2	27	3.3		
59	0.3	28	0		
60	0	29	1.3		
61	3.3	30	0		
62	0.3	31	1.3		
63	0.3	32	1.3		
64	0.3	33	0		
65	0	34	0		
66	0	35	0		
67	0	36	0		
68	0	37	3.3		
69	3.3	38	0		
70	0	39	0		
71	0	40	0		
72	0	41	0		
73	*	42	0		
74	3.1	43	0		
75	3.1	44	0		
76	1.7	45	0		
77	0	46	0		
78	0	47	0.1		
79	0.1	48	0		
80	0	49	3.2		
81	2.3	50	0		
82	0	51	3		
83	2.3	52	0		
84	0	53	3		
85	3.3	54	0		
86	0	IC 191			
87	2.4	1	4.8		
88	0	2	0		
89	2.23	3	1.2		
90	0	4	2.4		
91	0	5	3.3		
92	0	Q 013			
93	3	S	2.5		
94	3	D	4.4		
95	2.4	G	3.3		
96	3.3	Q 014			
97	0	S	2.5		

*: Can not measure

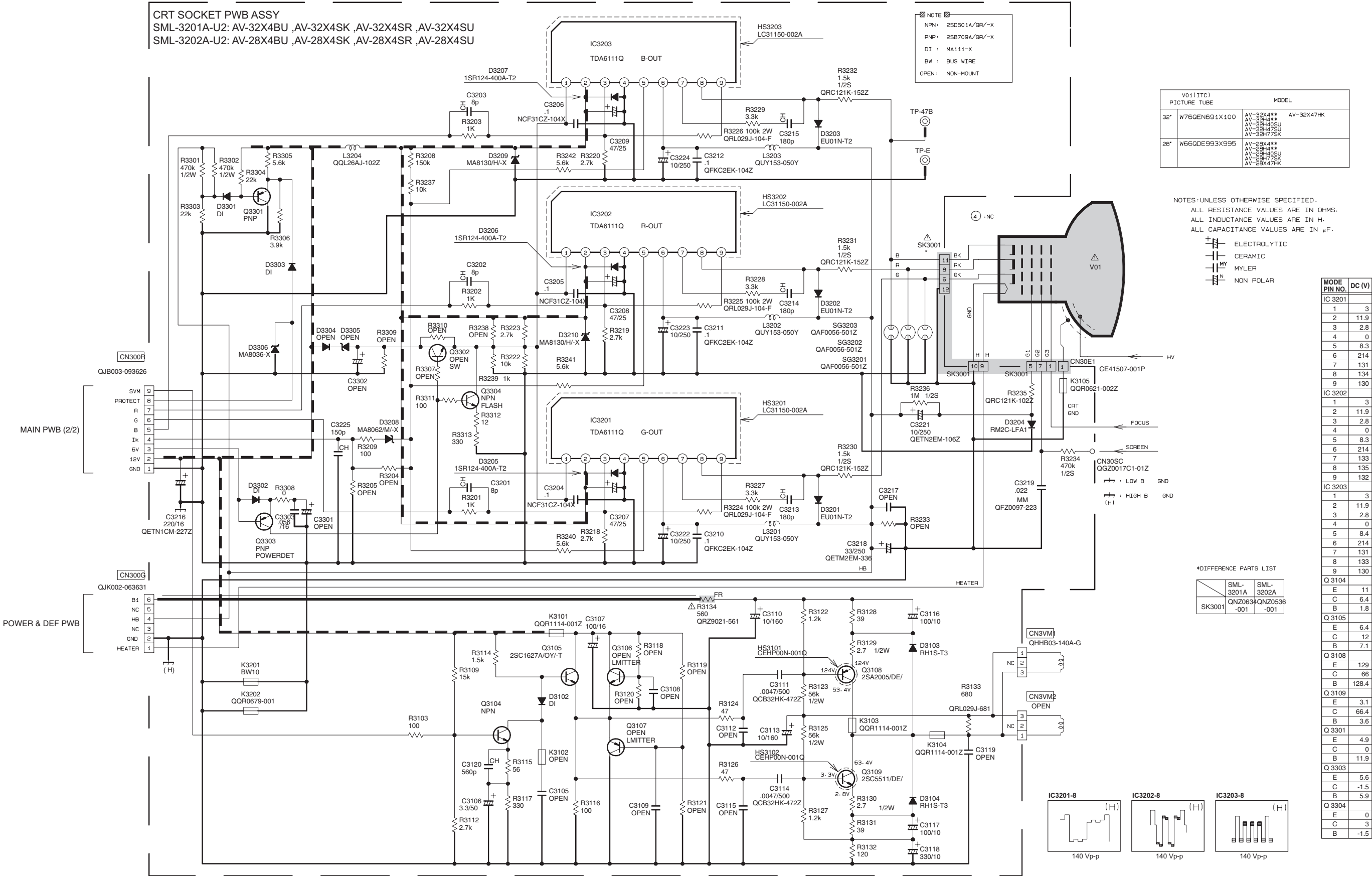


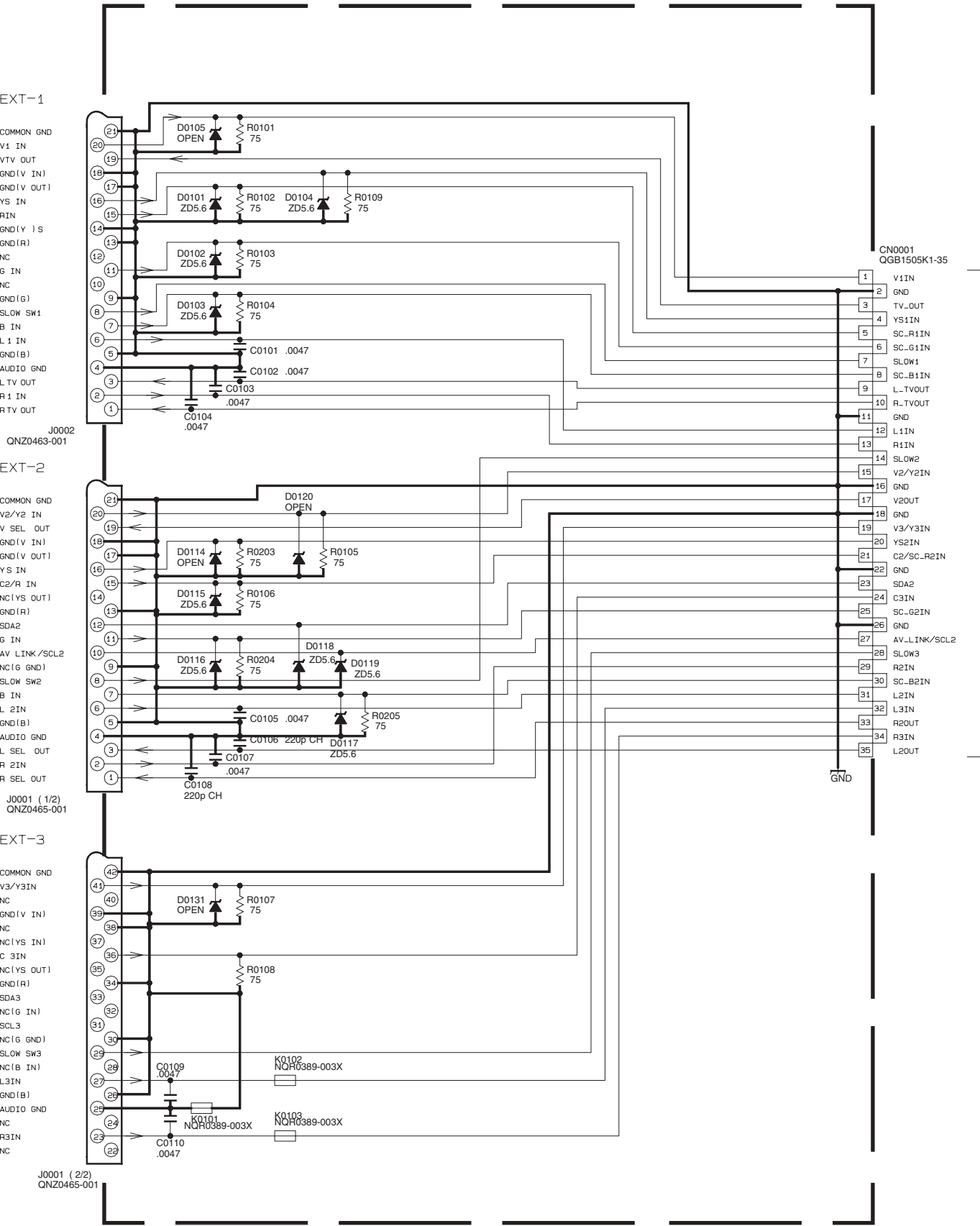
POWER & DEF PWB CIRCUIT DIAGRAM



MODE	PIN NO.	DC (V)
IC 401	1	0.5
	2	14.2
	3	-12.8
	4	-14.2
	5	0.1
	6	14.2
	7	0.6
IC 461	1	3.5
	2	1
	3	2.1
	4	0
	5	5.8
	6	3.5
	7	10.5
IC 901	8	12
	1	0.5
	2	0
	3	30.4
	4	18.7
	5	2.9
	6	0
IC 941	1	25.3
	5	-47.5
	6	0
	7	0
	8	0
	9	4.9
	10	0
IC 951	1	140.7
	2	10.6
	3	0
	4	13.1
	2	12
	3	0
	4	12
IC 961	1	12
	2	8.9
	3	0
	4	0.5
	5	16.3
	6	10.5
	7	0
Q 461	E	0
	C	2.1
	B	0.4
	E	1
	C	12
	B	0.8
	E	2.1
Q 462	C	0
	B	2.6
	E	0
	C	0
	B	1.6
	E	0
	C	2.1
Q 463	B	0
	E	0
	C	138
	B	0
	E	140.6
	C	0.1
	B	140.3
Q 521	E	0
	C	0.7
	B	0.1
	E	0
	C	0.3
	B	0.7
	PC 901	0
T551-2	1	11.5
	2	10.5
	3	0
	4	2.6
	5	0
	6	0
	7	0

CRT SOCKET PWB CIRCUIT DIAGRAM





AV JACK PWB ASSY
SML0J201A-U2

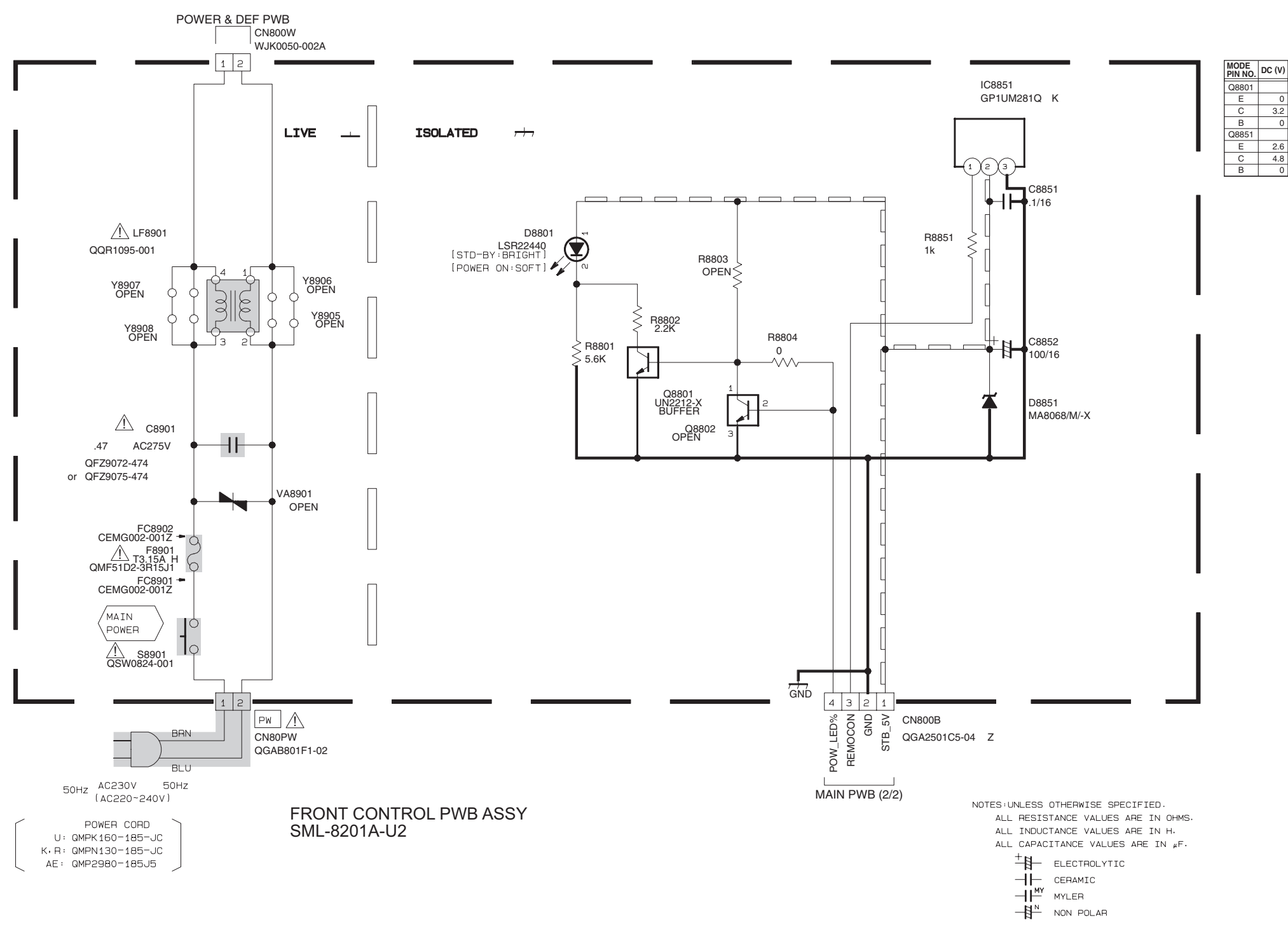
NOTE

OPEN :OPTION(NON MOUNT)
BW :5mm IM-BW(GUY153-050Y)
0 :NPSA63J-0R0X
ZD5.6 :MA3056/M/-X

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μ F.

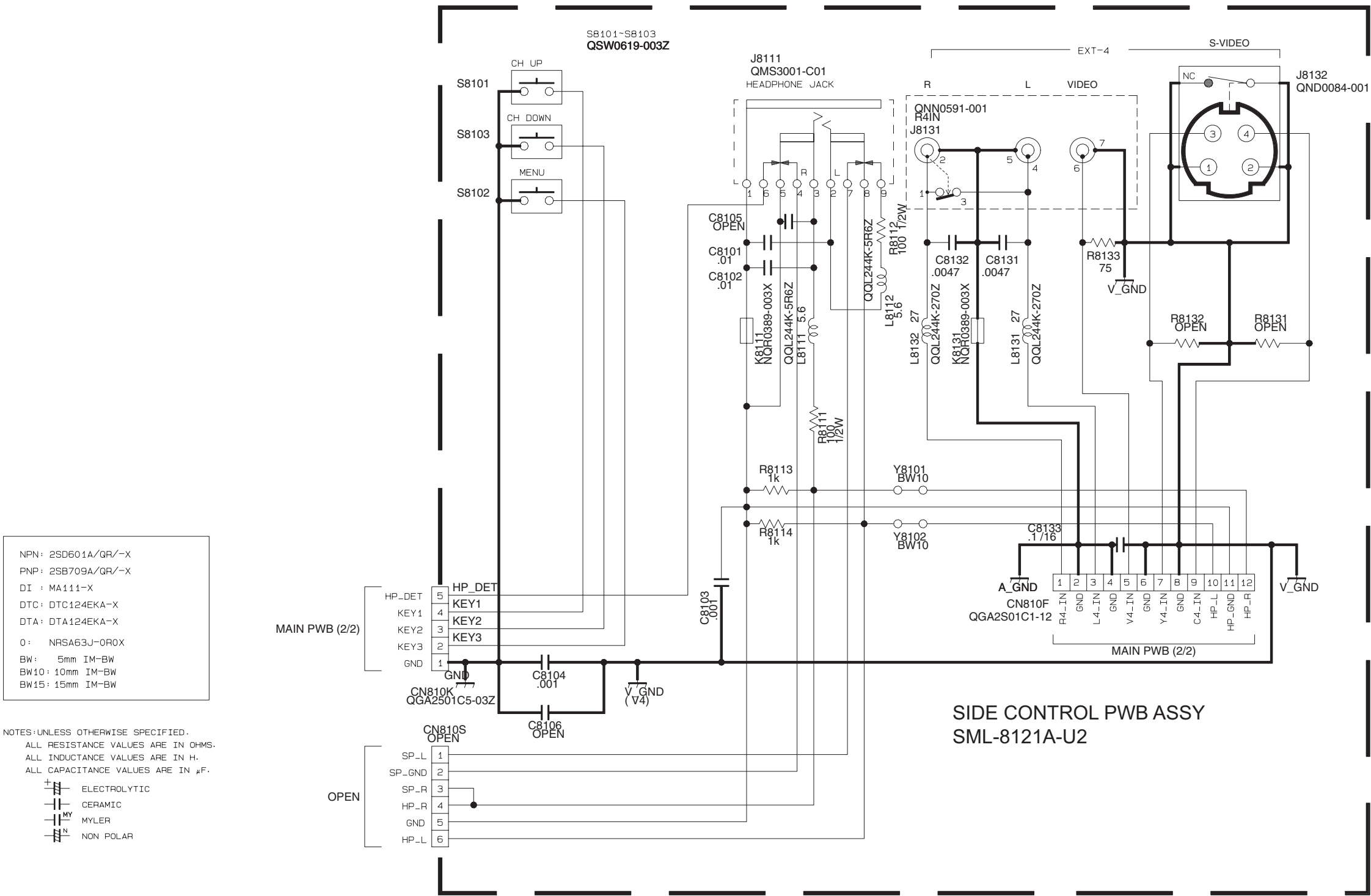
ELECTROLYTIC
 CERAMIC
 MYLER
 NON POLAR

FRONT CONTROL PWB CIRCUIT DIAGRAM



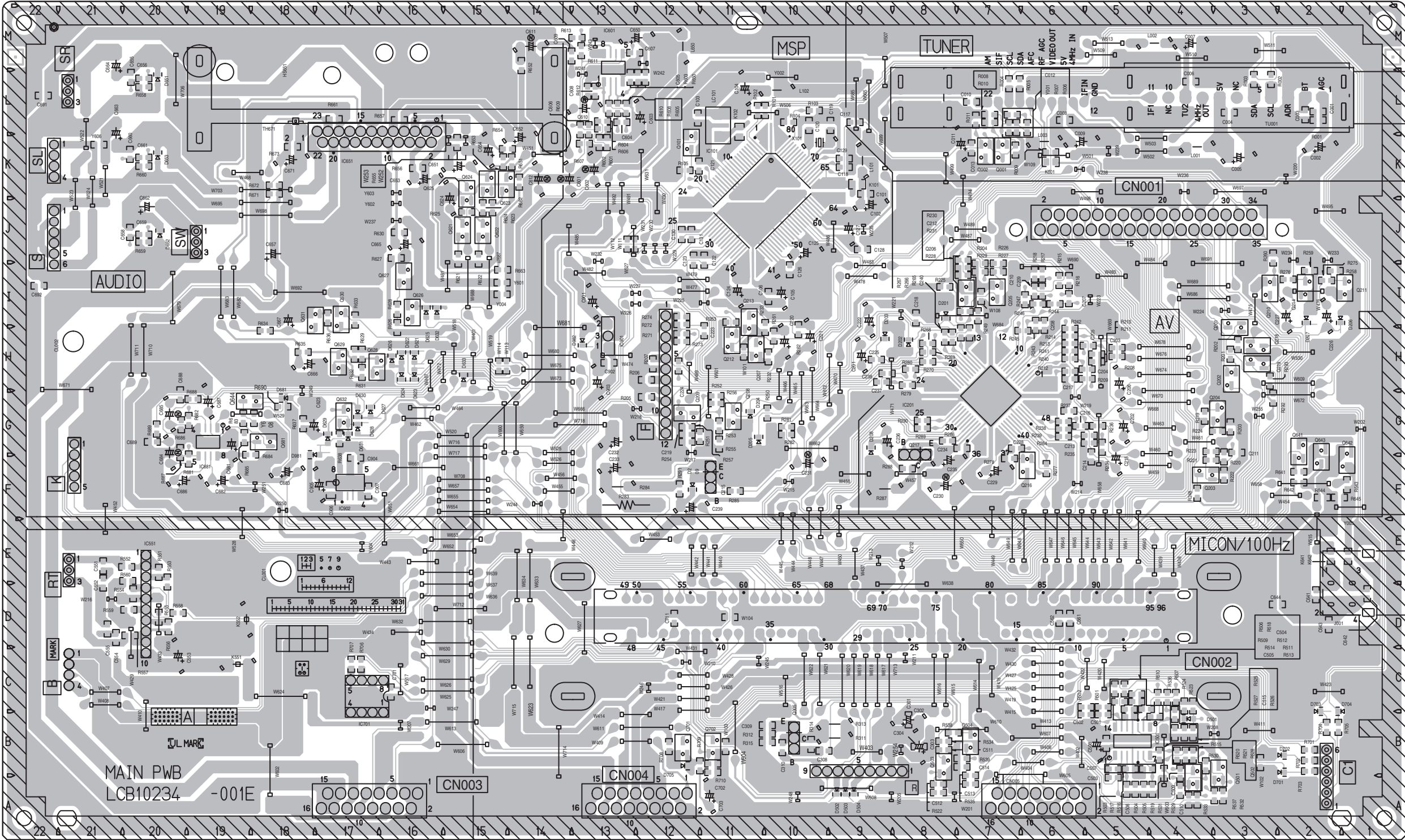
MODE	DC (V)
PIN NO.	
Q8801	
E	0
C	3.2
B	0
Q8851	
E	2.6
C	4.8
B	0

SIDE CONTROL PWB CIRCUIT DIAGRAM

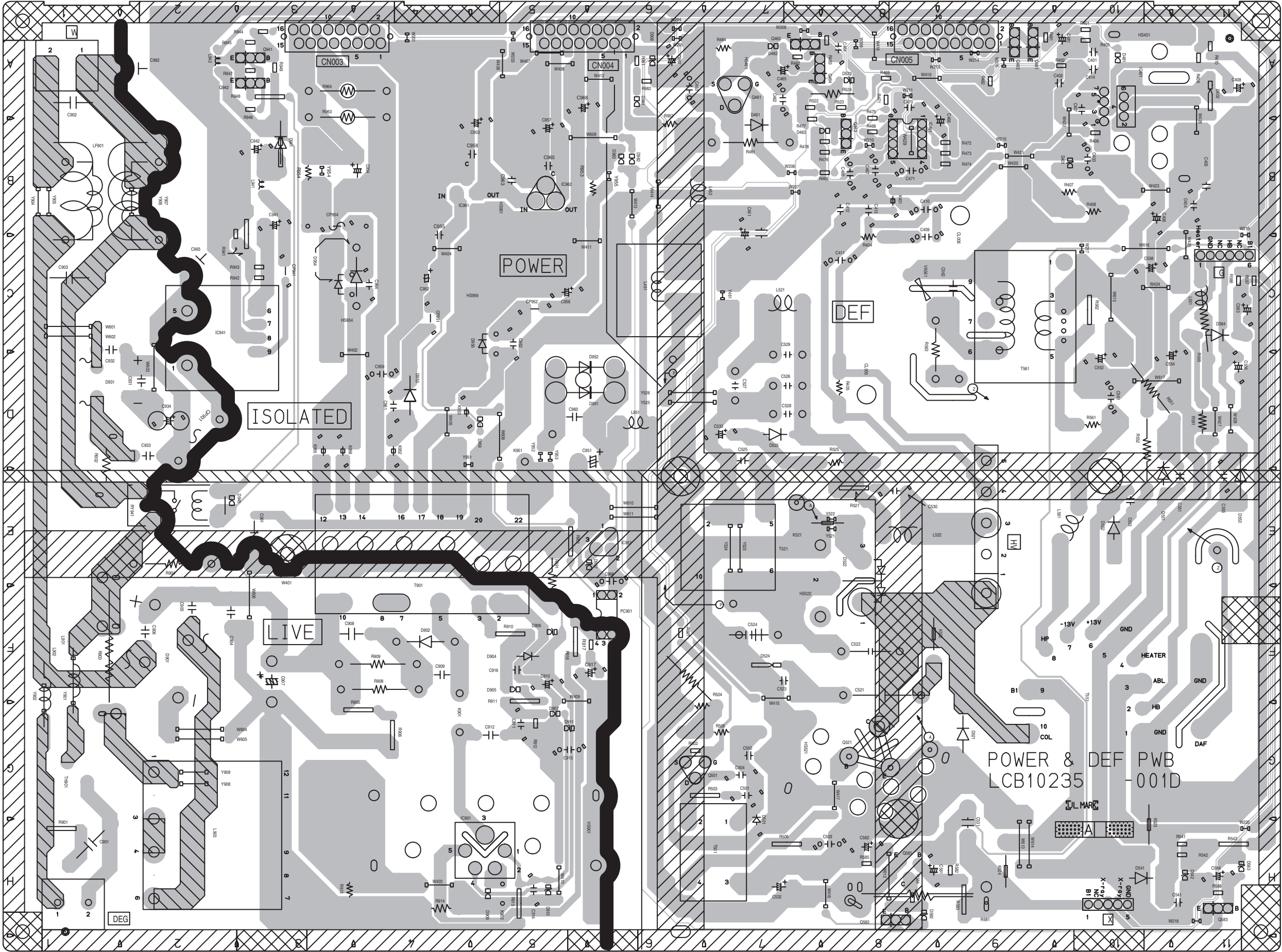


PATTERN DIAGRAMS
MAIN PWB PATTERN [SOLDER SIDE]

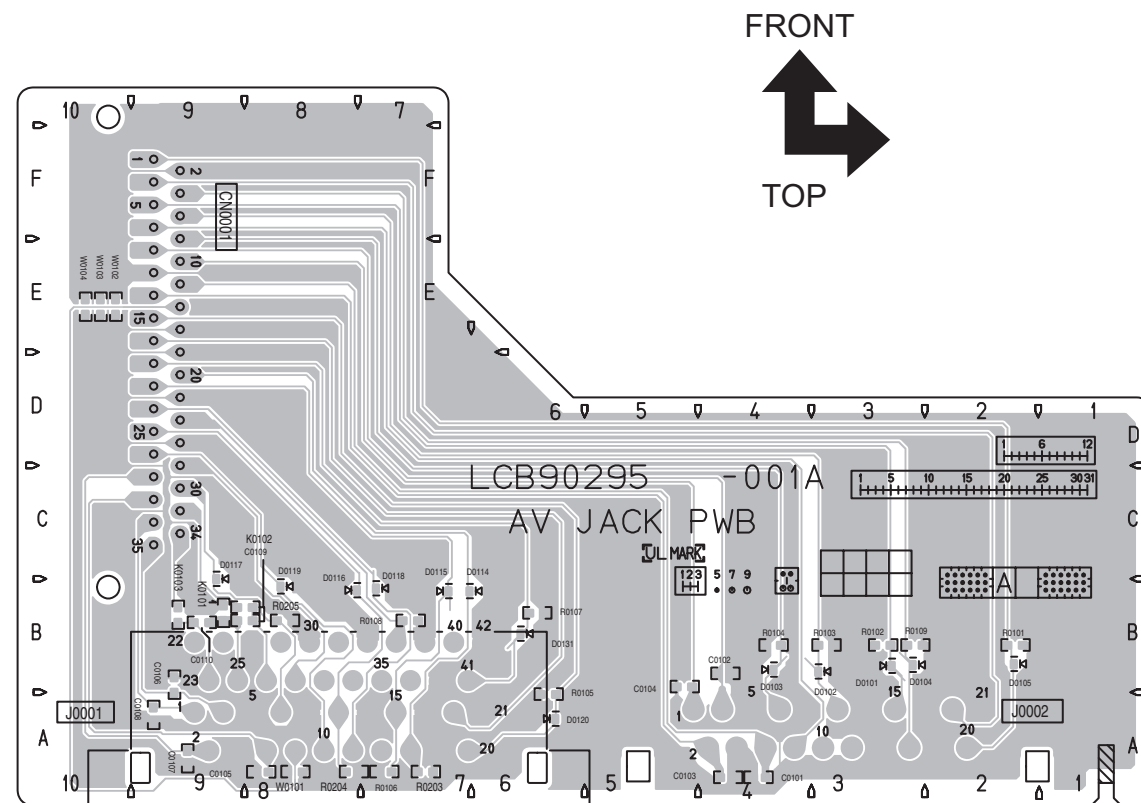
FRONT
←



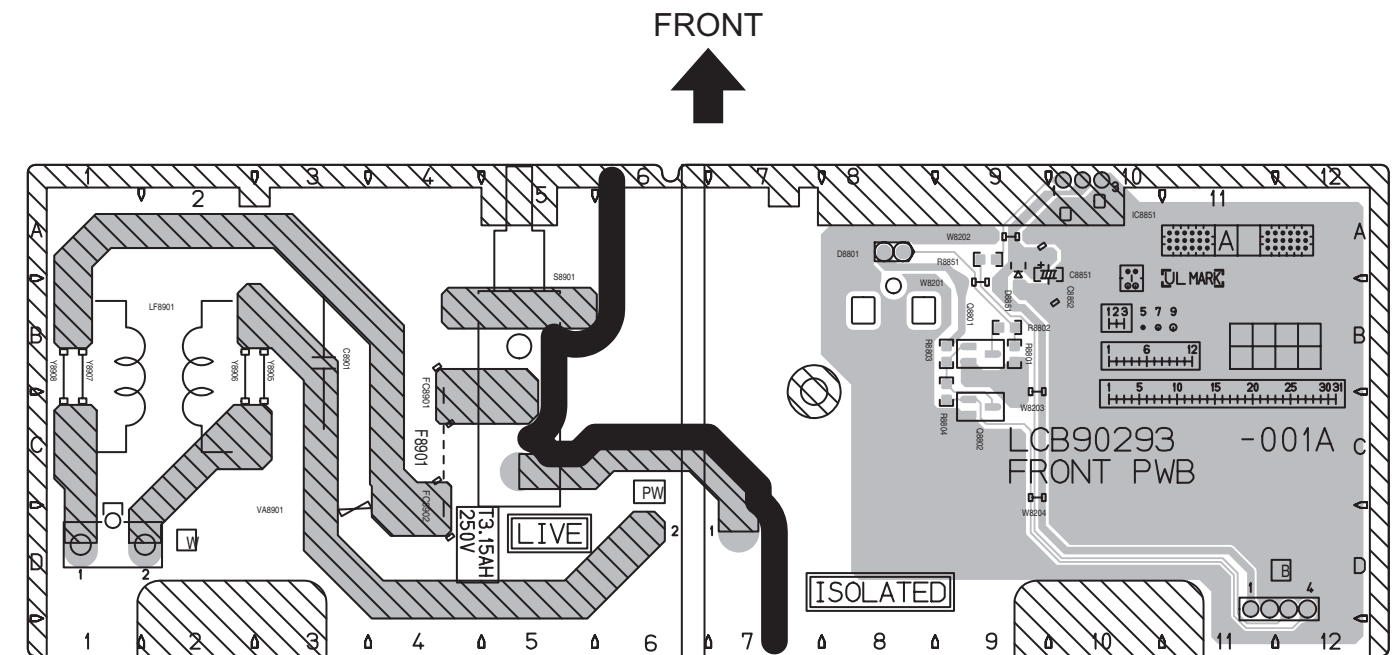
FRONT
←



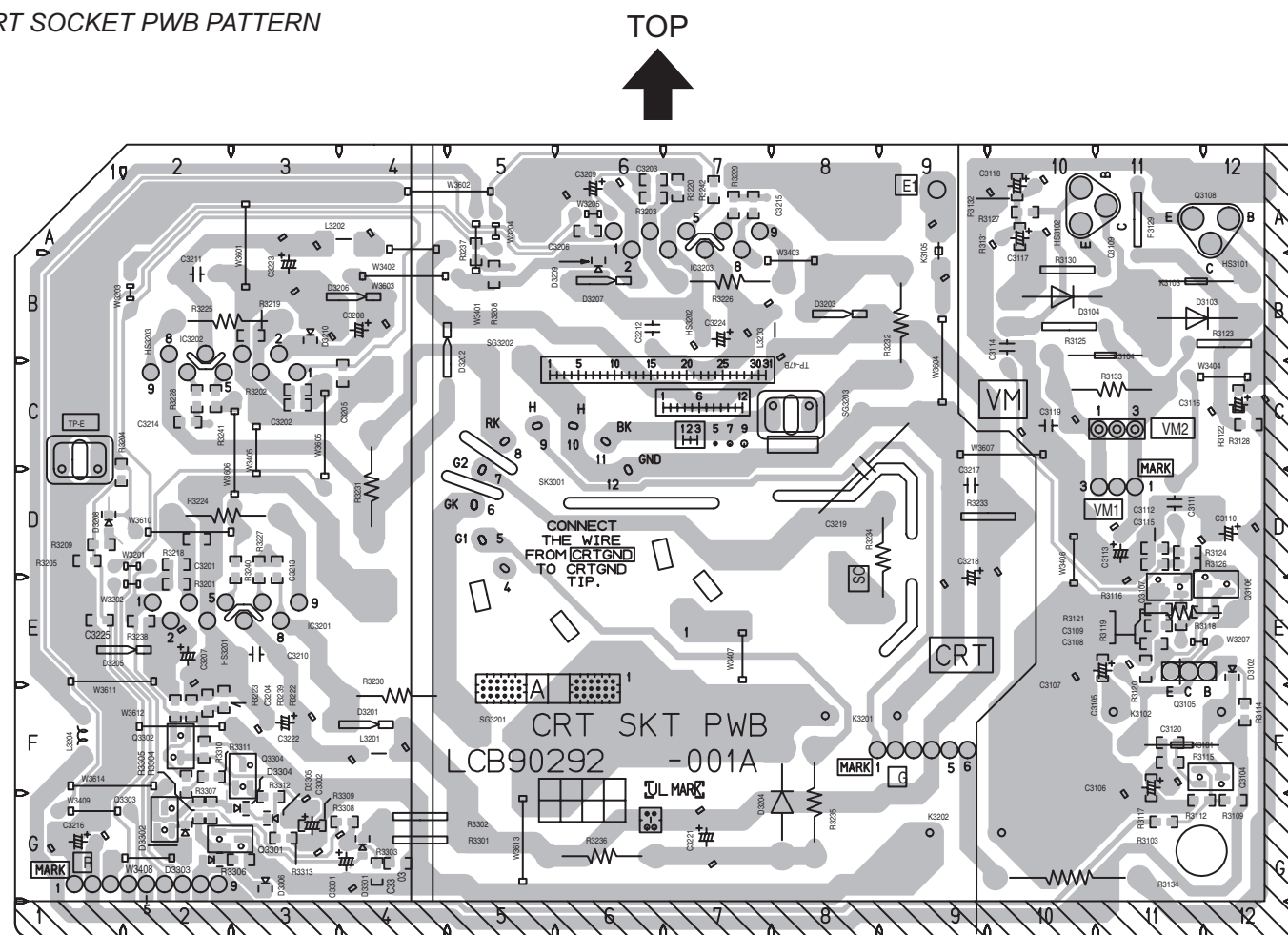
AV JACK PWB PATTERN



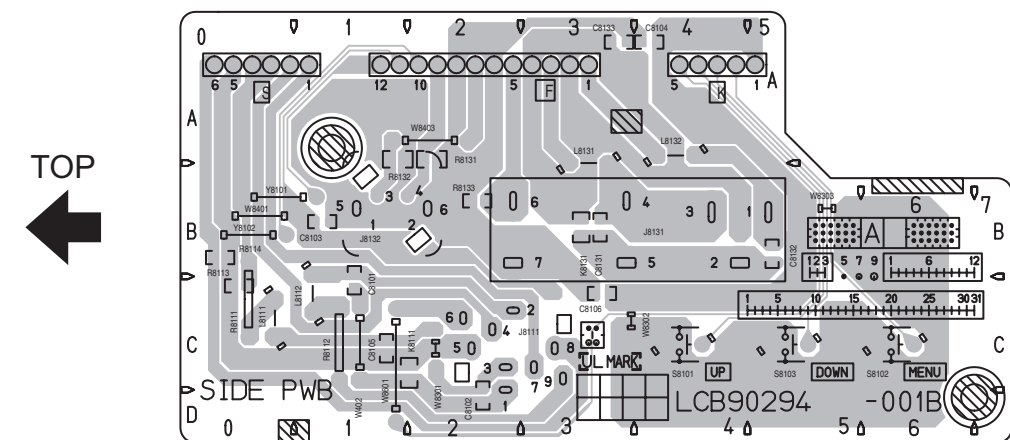
FRONT CONTROL PWB PATTERN

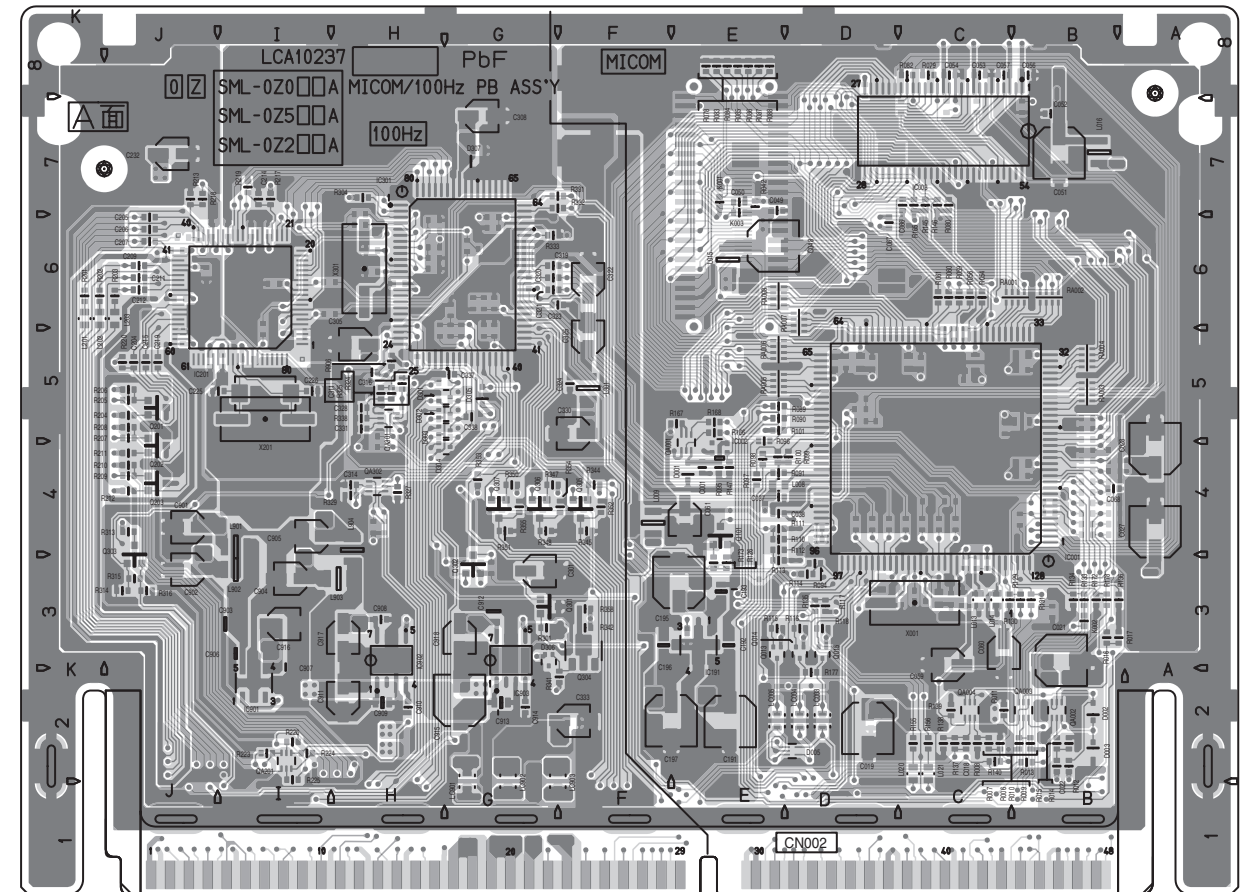
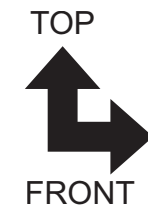
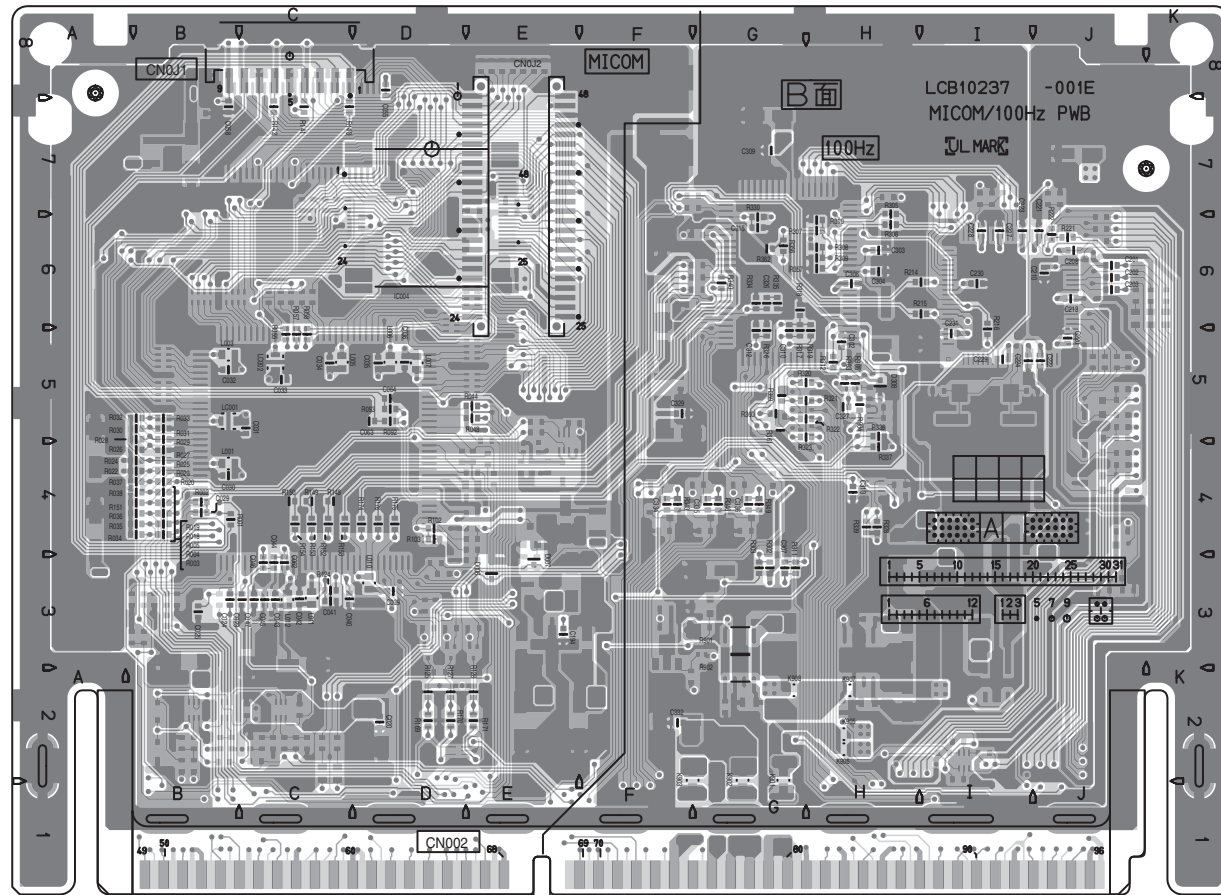


CRT SOCKET PWB PATTERN



SIDE CONTROL PWB PATTERN







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