

# JVC

# SCHEMATIC DIAGRAMS

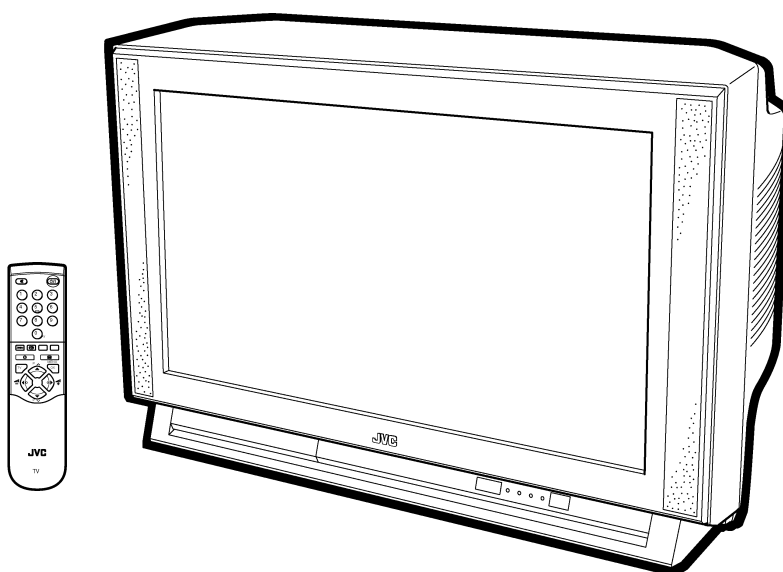
## COLOUR TELEVISION

### AV28Z10EUS

CD-ROM No.SML200109

BASIC CHASSIS

MF



## CONTENTS

■ NOTE ON USING CIRCUIT DIAGRAMS .....	2-1
■ SEMICONDUCTOR SHAPES .....	2-2
■ BLOCK DIAGRAM .....	2-3
■ CIRCUIT DIAGRAMS .....	2-5
■ PATTERN DIAGRAMS .....	2-25

# CONTENTS

**SEMICONDUCTOR SHAPES** ..... 2-2

**BLOCK DIAGRAM** ..... 2-3

## CIRCUIT DIAGRAMS

**MAIN PWB CIRCUIT DIAGRAM** ..... 2-5

**POWER & DEF PWB CIRCUIT DIAGRAM** ..... 2-9

**100Hz PWB CIRCUIT DIAGRAM** ..... 2-11

**MICON PWB CIRCUIT DIAGRAM** ..... 2-13

**FRONT CONTROL PWB CIRCUIT DIAGRAM** ..... 2-15

**CRT SOCKET PWB CIRCUIT DIAGRAM** ..... 2-17

**DOLBY PWB CIRCUIT DIAGRAM** ..... 2-19

**AV SW PWB CIRCUIT DIAGRAM** ..... 2-23

## PATTERN DIAGRAMS

**MAIN PWB PATTERN** ..... 2-25

**POWER & DEF PWB PATTERN** ..... 2-27

**100Hz PWB PATTERN** ..... 2-29

**MICON PWB PATTERN** ..... 2-31

**FRONT CONTROL PWB PATTERN** ..... 2-33

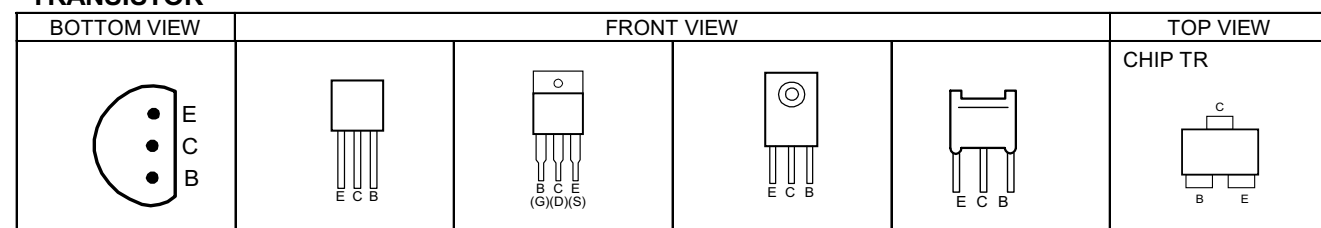
**DOLBY PWB PATTERN** ..... 2-35

**CRT SOCKET PWB PATTERN** ..... 2-37

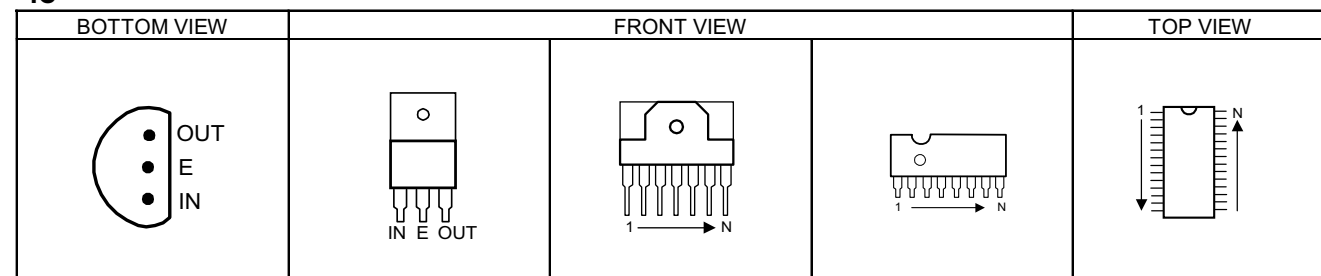
**AV SW PWB PATTERN** ..... 2-38

## SEMICONDUCTOR SHAPES

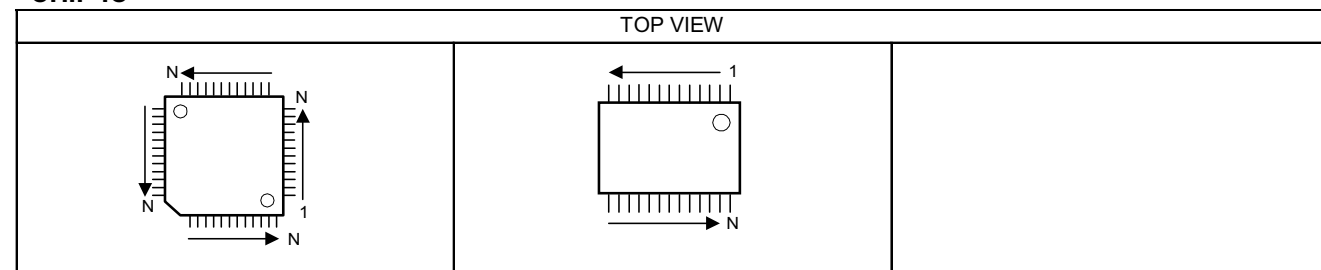
### TRANSISTOR



### IC



### CHIP IC



# STANDARD CIRCUIT DIAGRAM

## NOTE ON USING CIRCUIT DIAGRAMS

### 1.SAFETY

The components identified by the  $\Delta$  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 : Color 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 :R1209 $\rightarrow$ 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 :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 :[ $\mu$ 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
- MY :Mylar 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

- :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 : ( $\perp$ ) side GND and the ISOLATED(NEUTRAL) : ( $\neq$ ) 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 ( 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.

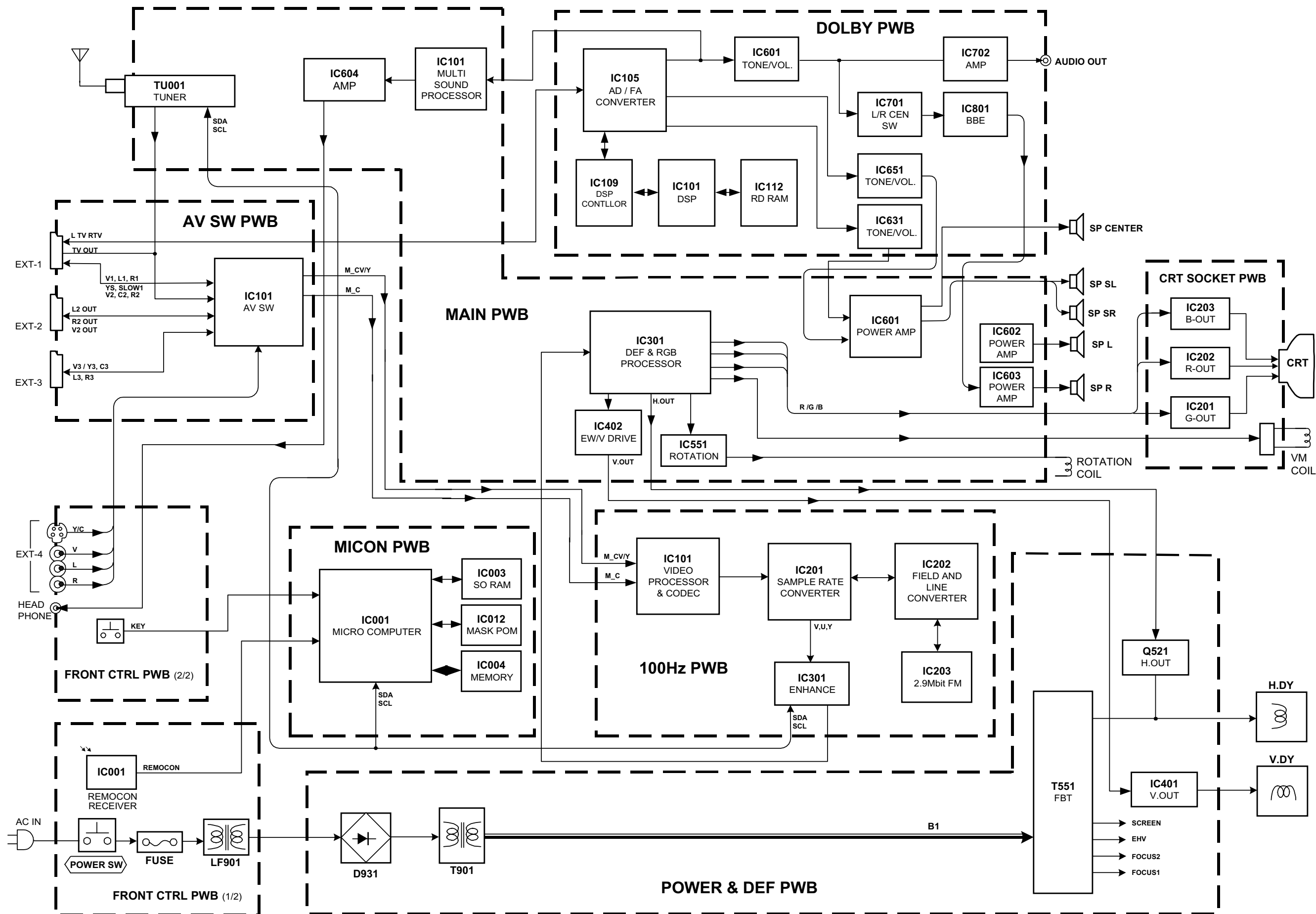
◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

##### ◇ NOTE

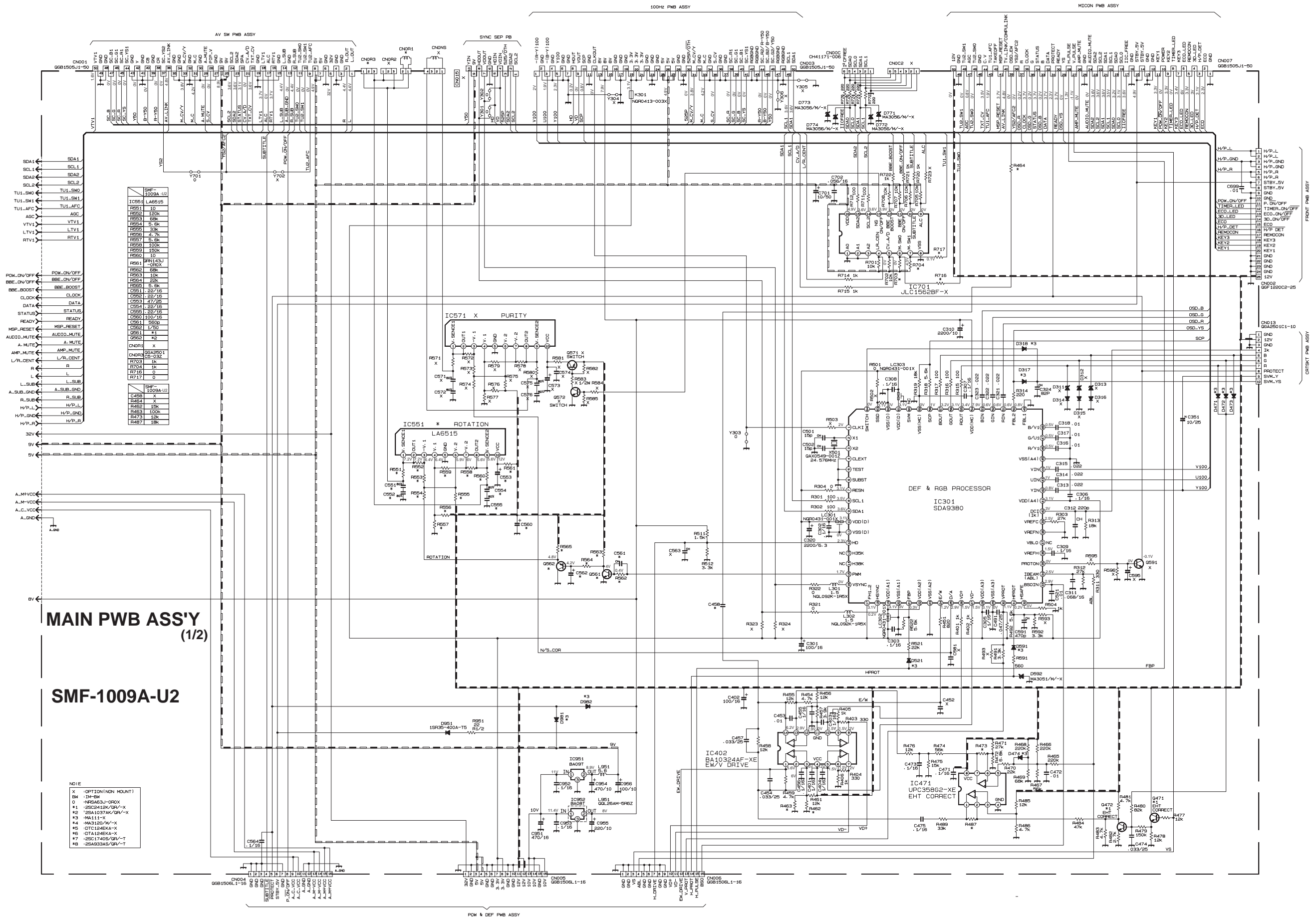
Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.

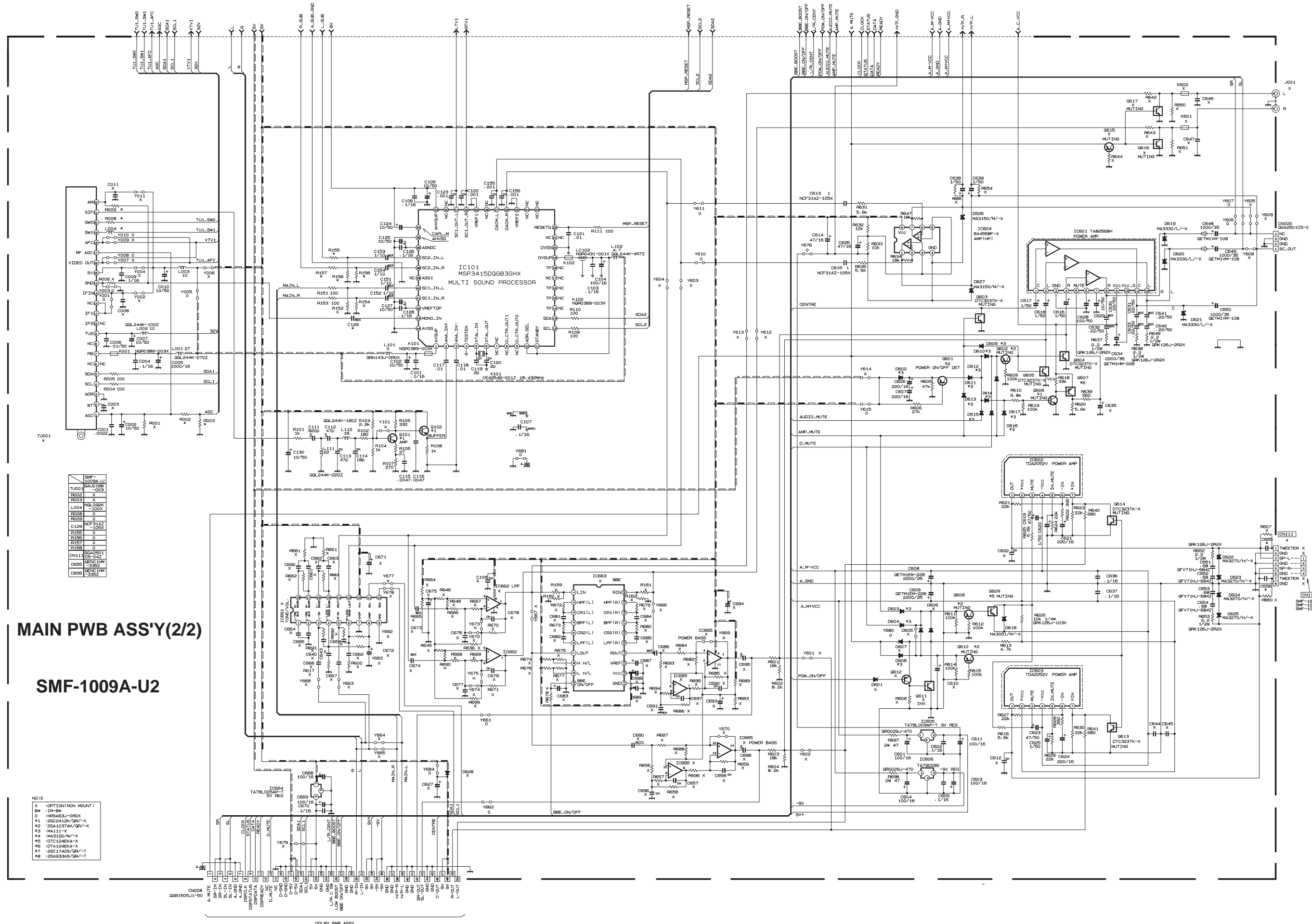
When ordering parts, please use the numbers that appear in the Parts List.

# BLOCK DIAGRAM



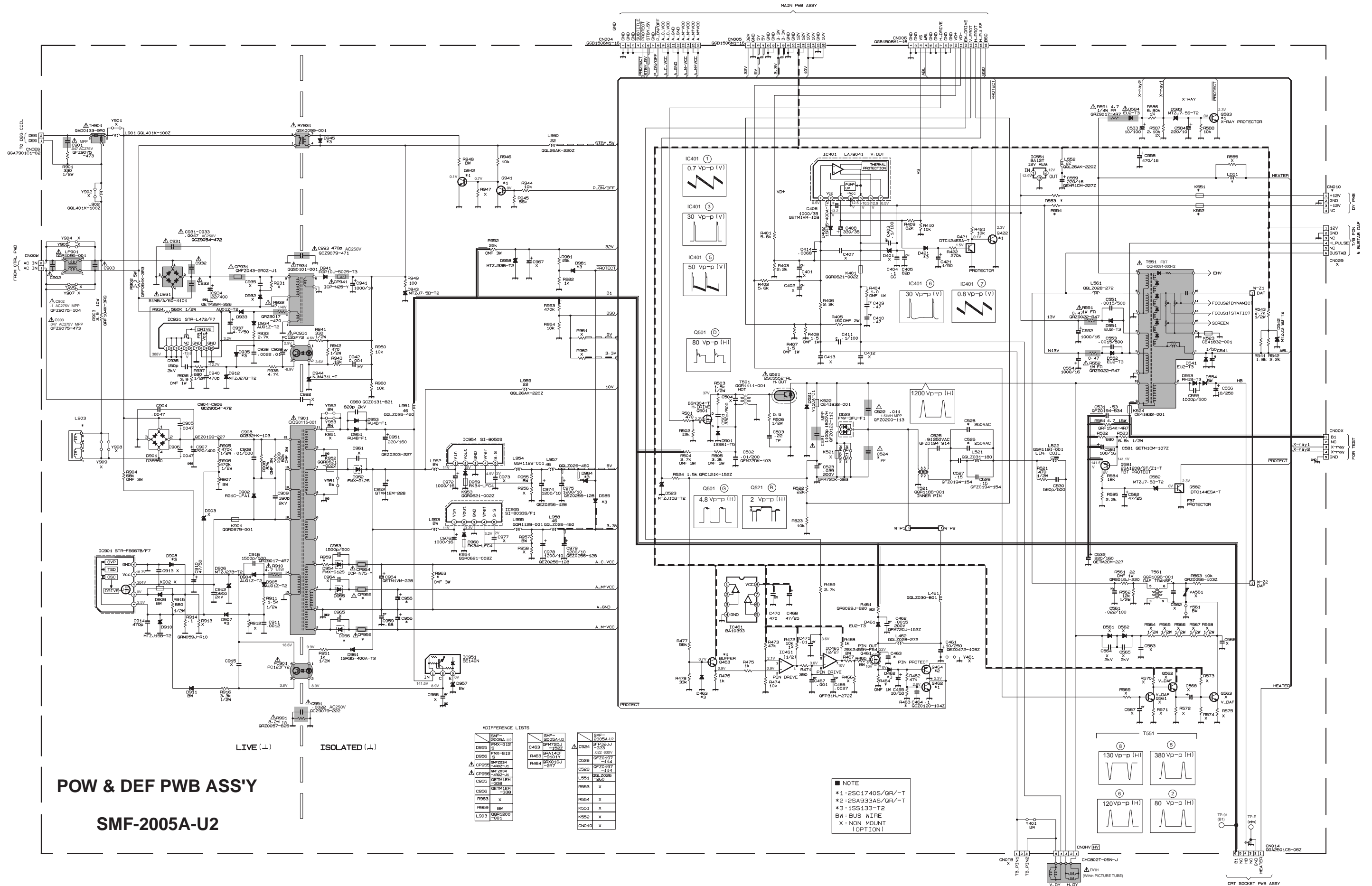
CIRCUIT DIAGRAMS MAIN PWB CIRCUIT DIAGRAM







POWER & DEF PWB CIRCUIT DIAGRAM

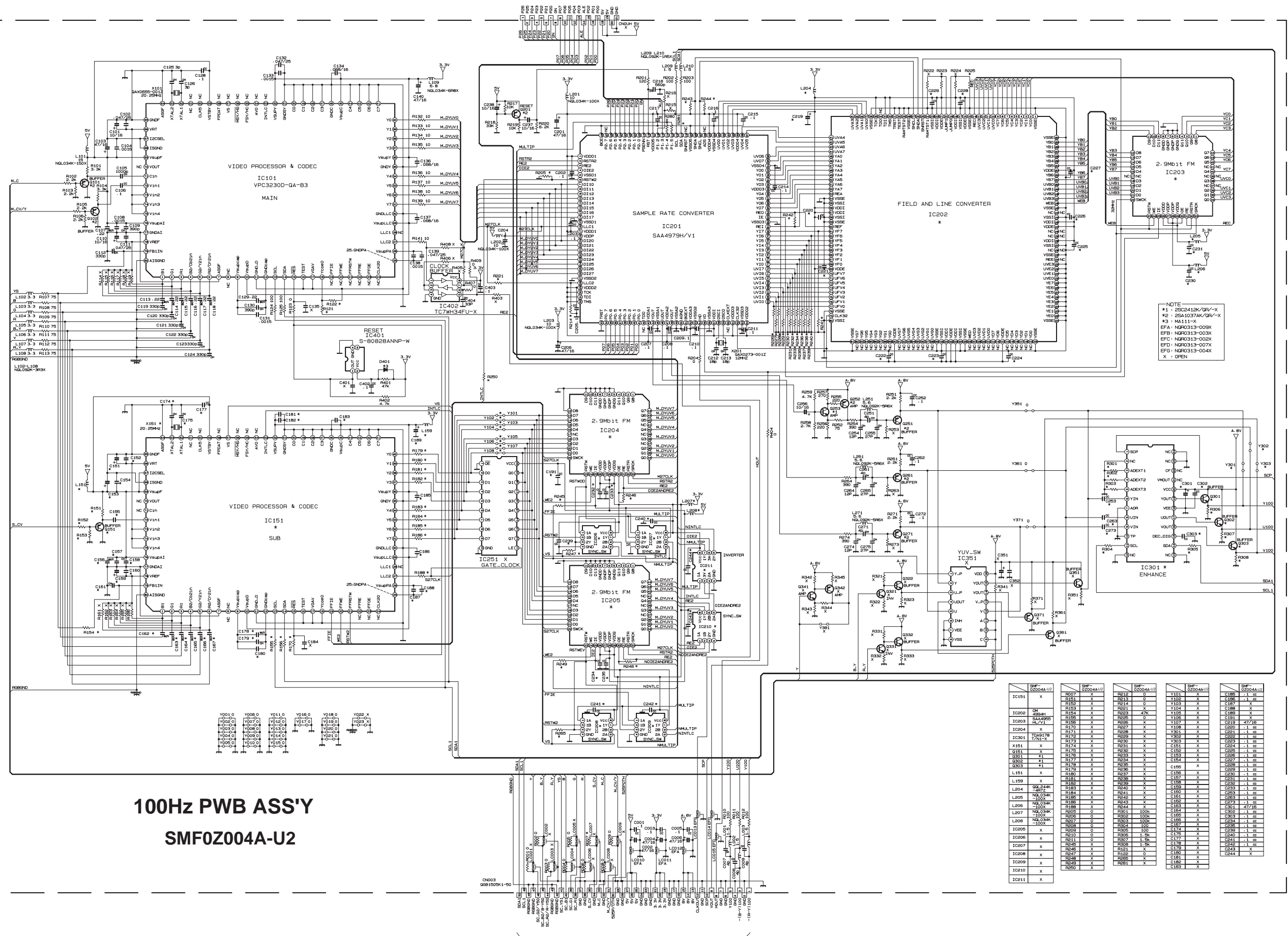


**POW & DEF PWB ASS'Y**  
**SMF-2005A-U2**

#DIFFERENCE LISTS

SMF-2005A-U2	SMF-2005A-U2	SMF-2005A-U2
D995	C463	C528
D996	R463	C529
CP995	R464	C530
CP996		C531
CP997		C532
CP998		C533
CP999		C534
CP1000		C535
CP1001		C536
CP1002		C537
CP1003		C538
CP1004		C539
CP1005		C540
CP1006		C541
CP1007		C542
CP1008		C543
CP1009		C544
CP1010		C545
CP1011		C546
CP1012		C547
CP1013		C548
CP1014		C549
CP1015		C550
CP1016		C551
CP1017		C552
CP1018		C553
CP1019		C554
CP1020		C555
CP1021		C556
CP1022		C557
CP1023		C558
CP1024		C559
CP1025		C560
CP1026		C561
CP1027		C562
CP1028		C563
CP1029		C564
CP1030		C565
CP1031		C566
CP1032		C567
CP1033		C568
CP1034		C569
CP1035		C570
CP1036		C571
CP1037		C572
CP1038		C573
CP1039		C574
CP1040		C575
CP1041		C576
CP1042		C577
CP1043		C578
CP1044		C579
CP1045		C580
CP1046		C581
CP1047		C582
CP1048		C583
CP1049		C584
CP1050		C585
CP1051		C586
CP1052		C587
CP1053		C588
CP1054		C589
CP1055		C590
CP1056		C591
CP1057		C592
CP1058		C593
CP1059		C594
CP1060		C595
CP1061		C596
CP1062		C597
CP1063		C598
CP1064		C599
CP1065		C600
CP1066		C601
CP1067		C602
CP1068		C603
CP1069		C604
CP1070		C605
CP1071		C606
CP1072		C607
CP1073		C608
CP1074		C609
CP1075		C610
CP1076		C611
CP1077		C612
CP1078		C613
CP1079		C614
CP1080		C615
CP1081		C616
CP1082		C617
CP1083		C618
CP1084		C619
CP1085		C620
CP1086		C621
CP1087		C622
CP1088		C623
CP1089		C624
CP1090		C625
CP1091		C626
CP1092		C627
CP1093		C628
CP1094		C629
CP1095		C630
CP1096		C631
CP1097		C632
CP1098		C633
CP1099		C634
CP1100		C635
CP1101		C636
CP1102		C637
CP1103		C638
CP1104		C639
CP1105		C640
CP1106		C641
CP1107		C642
CP1108		C643
CP1109		C644
CP1110		C645
CP1111		C646
CP1112		C647
CP1113		C648
CP1114		C649
CP1115		C650
CP1116		C651
CP1117		C652
CP1118		C653
CP1119		C654
CP1120		C655
CP1121		C656
CP1122		C657
CP1123		C658
CP1124		C659
CP1125		C660
CP1126		C661
CP1127		C662
CP1128		C663
CP1129		C664
CP1130		C665
CP1131		C666
CP1132		C667
CP1133		C668
CP1134		C669
CP1135		C670
CP1136		C671
CP1137		C672
CP1138		C673
CP1139		C674
CP1140		C675
CP1141		C676
CP1142		C677
CP1143		C678
CP1144		C679
CP1145		C680
CP1146		C681
CP1147		C682
CP1148		C683
CP1149		C684
CP1150		C685
CP1151		C686
CP1152		C687
CP1153		C688
CP1154		C689
CP1155		C690
CP1156		C691
CP1157		C692
CP1158		C693
CP1159		C694
CP1160		C695
CP1161		C696
CP1162		C697
CP1163		C698
CP1164		C699
CP1165		C700
CP1166		C701
CP1167		C702
CP1168		C703
CP1169		C704
CP1170		C705
CP1171		C706
CP1172		C707
CP1173		C708
CP1174		C709
CP1175		C710
CP1176		C711
CP1177		C712
CP1178		C713
CP1179		C714
CP1180		C715
CP1181		C716
CP1182		C717
CP1183		C718
CP1184		C719
CP1185		C720
CP1186		C721
CP1187		C722
CP1188		C723
CP1189		C724
CP1190		C725
CP1191		C726
CP1192		C727
CP1193		C728
CP1194		C729
CP1195		C730
CP1196		C731
CP1197		C732
CP1198		C733
CP1199		C734
CP1200		C735
CP1201		C736
CP1202		C737
CP1203		C738
CP1204		C739
CP1205		C740
CP1206		C741
CP1207		C742
CP1208		C743
CP1209		C744
CP1210		C745
CP1211		C746
CP1212		C747
CP1213		C748
CP1214		C749
CP1215		C750
CP1216		C751
CP1217		C752
CP1218		C753
CP1219		C754
CP1220		C755
CP1221		C756
CP1222		C757
CP1223		C758
CP1224		C759
CP1225		C760
CP1226		C761
CP1227		C762
CP1228		C763
CP1229		C764
CP1230		C765
CP1231		C766
CP1232		C767
CP1233		C768
CP1234		C769
CP1235		C770
CP1236		C771
CP1237		C772
CP1238		C773
CP1239		C774
CP1240		C775
CP1241		C776
CP1242		C777
CP1243		C778
CP1244		C779
CP1245		C780
CP1246		C781
CP1247		C782
CP1248		C783
CP1249		C784
CP1250		C785
CP1251		C786
CP1252		C787
CP1253		C788
CP1254		C789
CP1255		C790
CP1256		C791
CP1257		C792
CP1258		C793
CP1259		C794
CP1260		C795
CP1261		C796
CP1262		C797
CP1263		C798
CP1264		C799
CP1265		C800
CP1266		C801
CP1267		C802
CP1268		C803
CP1269		C804
CP1270		C805
CP1271		C806
CP1272		C807
CP1273		C808
CP1274		C809
CP1275		C810
CP1276		C811
CP1277		C812
CP1278		C813
CP1279		C814
CP1280		C815
CP1281		C816
CP1282		C817
CP1283		C818
CP1284		C819
CP1285		C820
CP1286		C821
CP1287		C822
CP1288		C823
CP1289		C824
CP1290		C825
CP1291		C826
CP1292		C827
CP1293		C828
CP1294		C829
CP1295		C830
CP1296		C831
CP1297		C832
CP1298		C833
CP1299		C834
CP1300		C835
CP1301		C836
CP1302		C837
CP1303		C838
CP1304		C839
CP1305		C840
CP1306		C841
CP1307		C842
CP1308		C843
CP1309		C844
CP1310		C845
CP1311		C846
CP1312		C847
CP1313		C848
CP1314		C849
CP1315		C850
CP1316		C851
CP1317		C852
CP1318		C853
CP1319		C854
CP1320		C855
CP1321		C856
CP1322		C857
CP1323		C858
CP1324		C859
CP1325		C860
CP1326		C861
CP1327		C862
CP1328		C863
CP1329		C864
CP1330		C865
CP1331		C866
CP1332		C867
CP1333		C868
CP1334		C869
CP1335		C870
CP1336		C871
CP1337		C872
CP1338		C873
CP1339		C874
CP1340		C875
CP1341		C876
CP1342		C877
CP1343		C878
CP1344		C879
CP1345		C880
CP1346		C881
CP1347		C882
CP1348		C883
CP1349		C884
CP1350		C885
CP1351		C886
CP1352		C887
CP1353		C888
CP1354		C889
CP1355		C890
CP1356		C891
CP1357		C892
CP1358		C893
CP1359		C894
CP1360		C895
CP1361		C896
CP1		

100Hz PWB CIRCUIT DIAGRAM



NOTE  
 #1 25C2412K/GV-X  
 #2 25A1037AK/GV-X  
 #3 MA111-X  
 EFA NQF0313-009K  
 EFB NQF0313-003K  
 EFC NQF0313-002K  
 EFD NQF0313-007K  
 EFG NQF0313-004K  
 X - OPEN

100Hz PWB ASS'Y  
 SMF0Z004A-U2

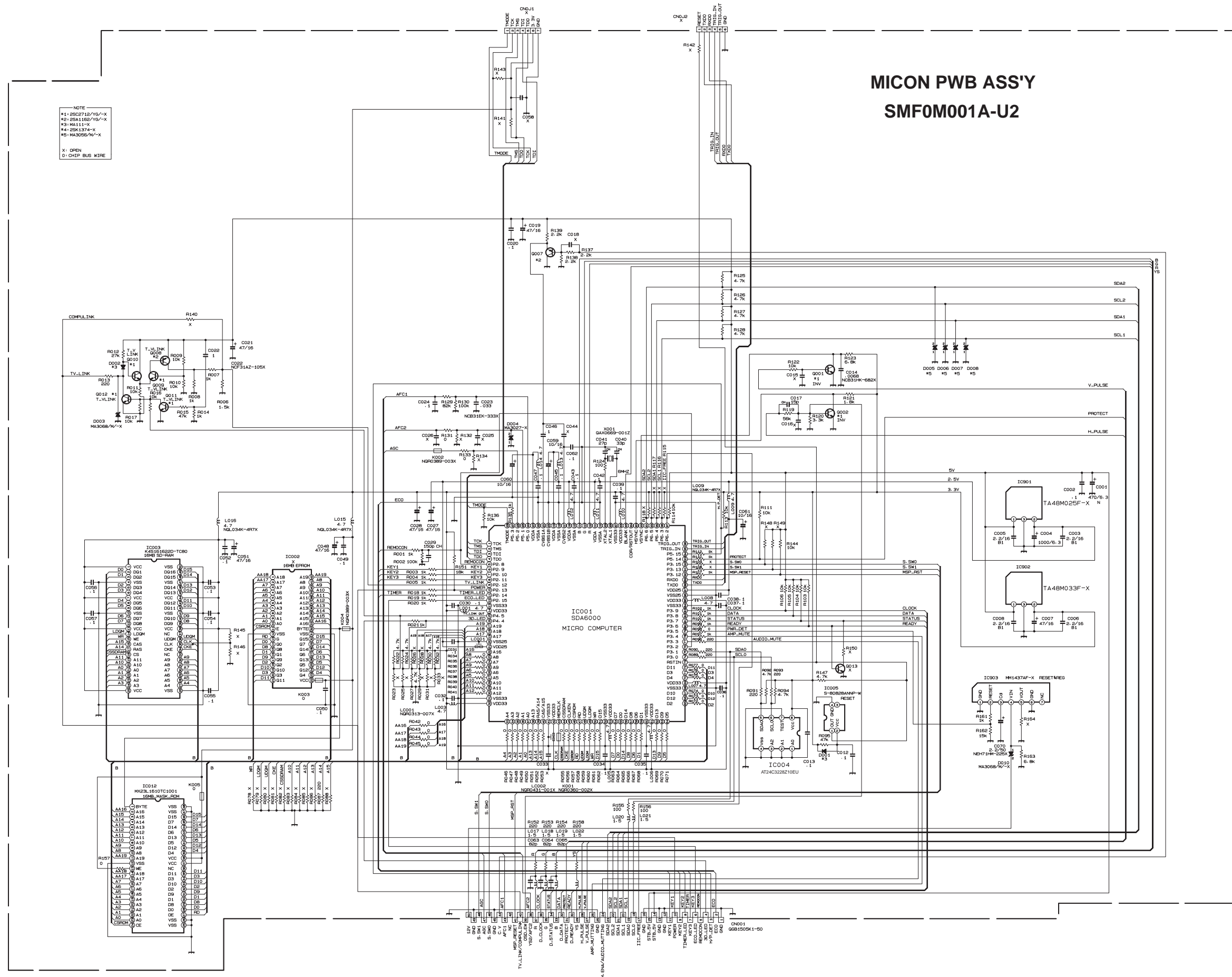
REF	QTY	DESCRIPTION	REF	QTY	DESCRIPTION	REF	QTY	DESCRIPTION	REF	QTY	DESCRIPTION
IC151	X	VIDEO PROCESSOR & CODEC SUB	R207	X	10K	V104	X	1N4148	C186	X	100K
IC202	X	FIELD AND LINE CONVERTER	R208	X	10K	V105	X	1N4148	C187	X	100K
IC204	X	2.9Mbit FM	R209	X	10K	V106	X	1N4148	C188	X	100K
IC205	X	2.9Mbit FM	R210	X	10K	V107	X	1N4148	C189	X	100K
IC251	X	GATE CLOCK	R211	X	10K	V108	X	1N4148	C190	X	100K
IC301	X	ENHANCE	R212	X	10K	V109	X	1N4148	C191	X	100K
X151	X	CONNECTOR	R213	X	10K	V110	X	1N4148	C192	X	100K
L151	X	INDUCTOR	R214	X	10K	V111	X	1N4148	C193	X	100K
L159	X	INDUCTOR	R215	X	10K	V112	X	1N4148	C194	X	100K
L204	X	INDUCTOR	R216	X	10K	V113	X	1N4148	C195	X	100K
L205	X	INDUCTOR	R217	X	10K	V114	X	1N4148	C196	X	100K
L206	X	INDUCTOR	R218	X	10K	V115	X	1N4148	C197	X	100K
L207	X	INDUCTOR	R219	X	10K	V116	X	1N4148	C198	X	100K
L208	X	INDUCTOR	R220	X	10K	V117	X	1N4148	C199	X	100K
IC209	X	VIDEO PROCESSOR & CODEC MAIN	R221	X	10K	V118	X	1N4148	C200	X	100K
IC210	X	VIDEO PROCESSOR & CODEC MAIN	R222	X	10K	V119	X	1N4148	C201	X	100K
IC211	X	VIDEO PROCESSOR & CODEC MAIN	R223	X	10K	V120	X	1N4148	C202	X	100K

MICON PWB CIRCUIT DIAGRAM

MICON PWB ASS'Y  
SMF0M001A-U2

NOTE  
 #1-25C2712/YG/-X  
 #2-25A1182/YG/-X  
 #3-MA1111/-X  
 #4-25K1374/-X  
 #5-MA3066/M/-X

X: OPEN  
 O: CHIP BUS WIRE

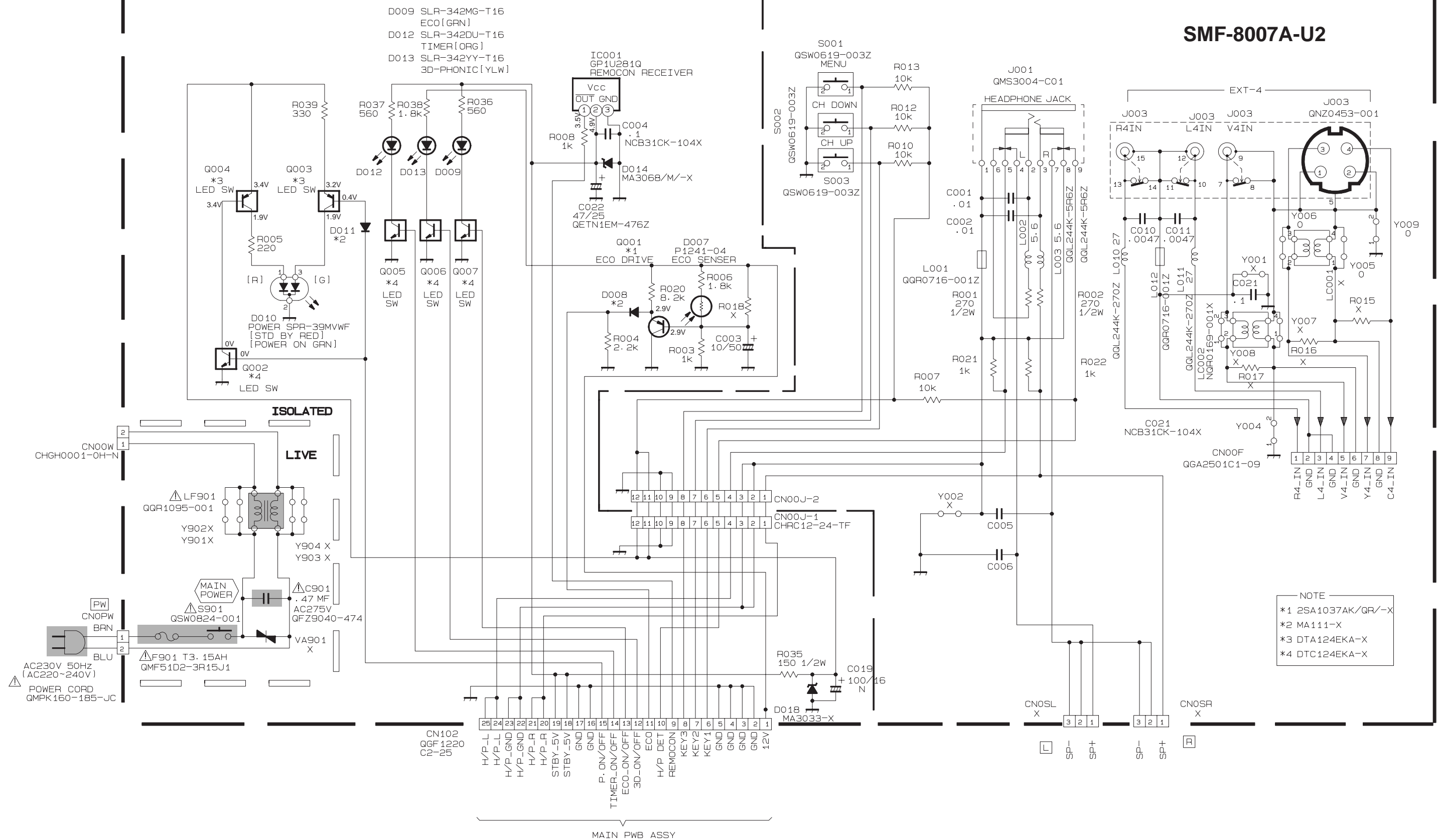




FRONT CONTROL CIRCUIT DIAGRAM

FRONT CONTRL PWB ASS'Y

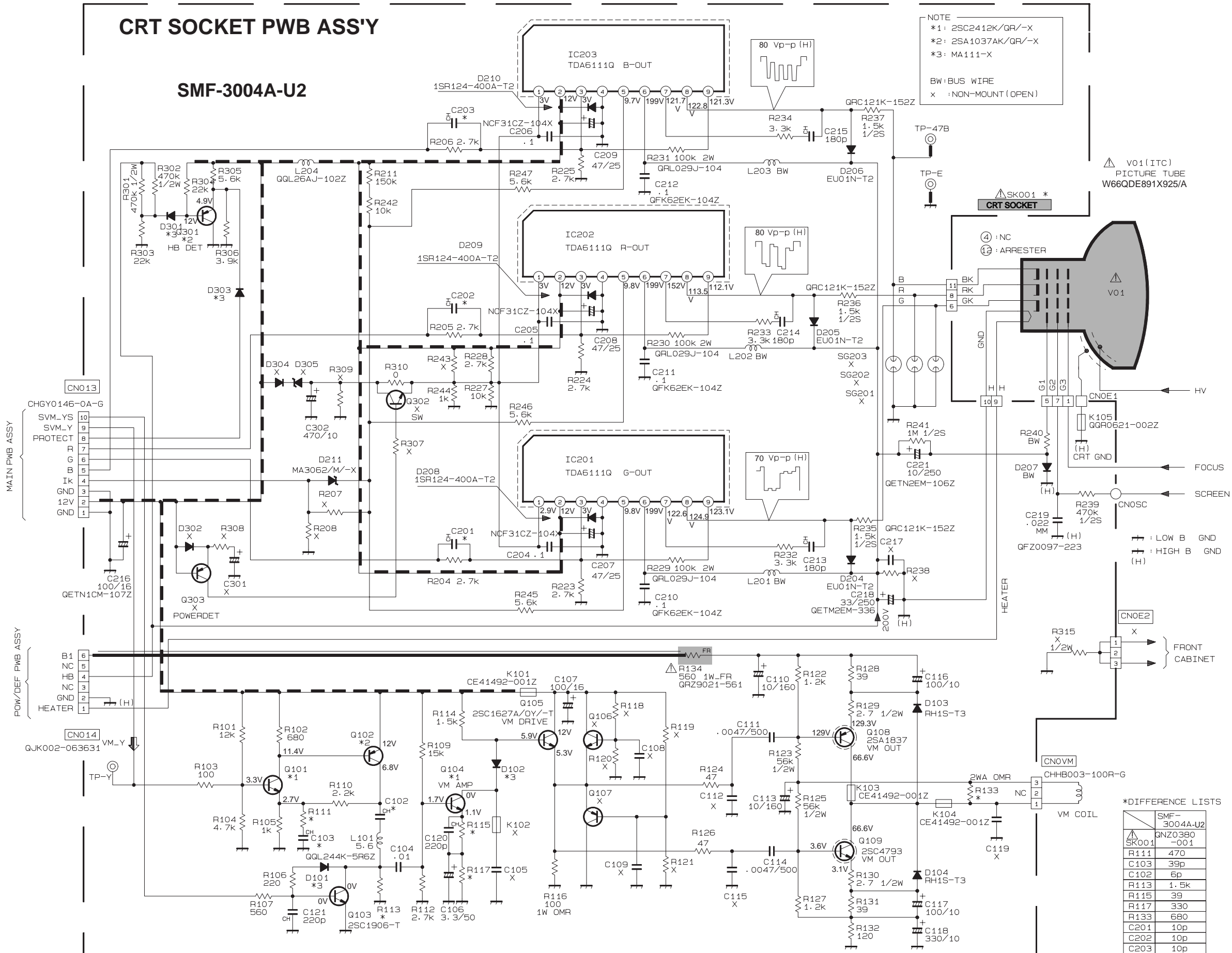
SMF-8007A-U2



NOTE

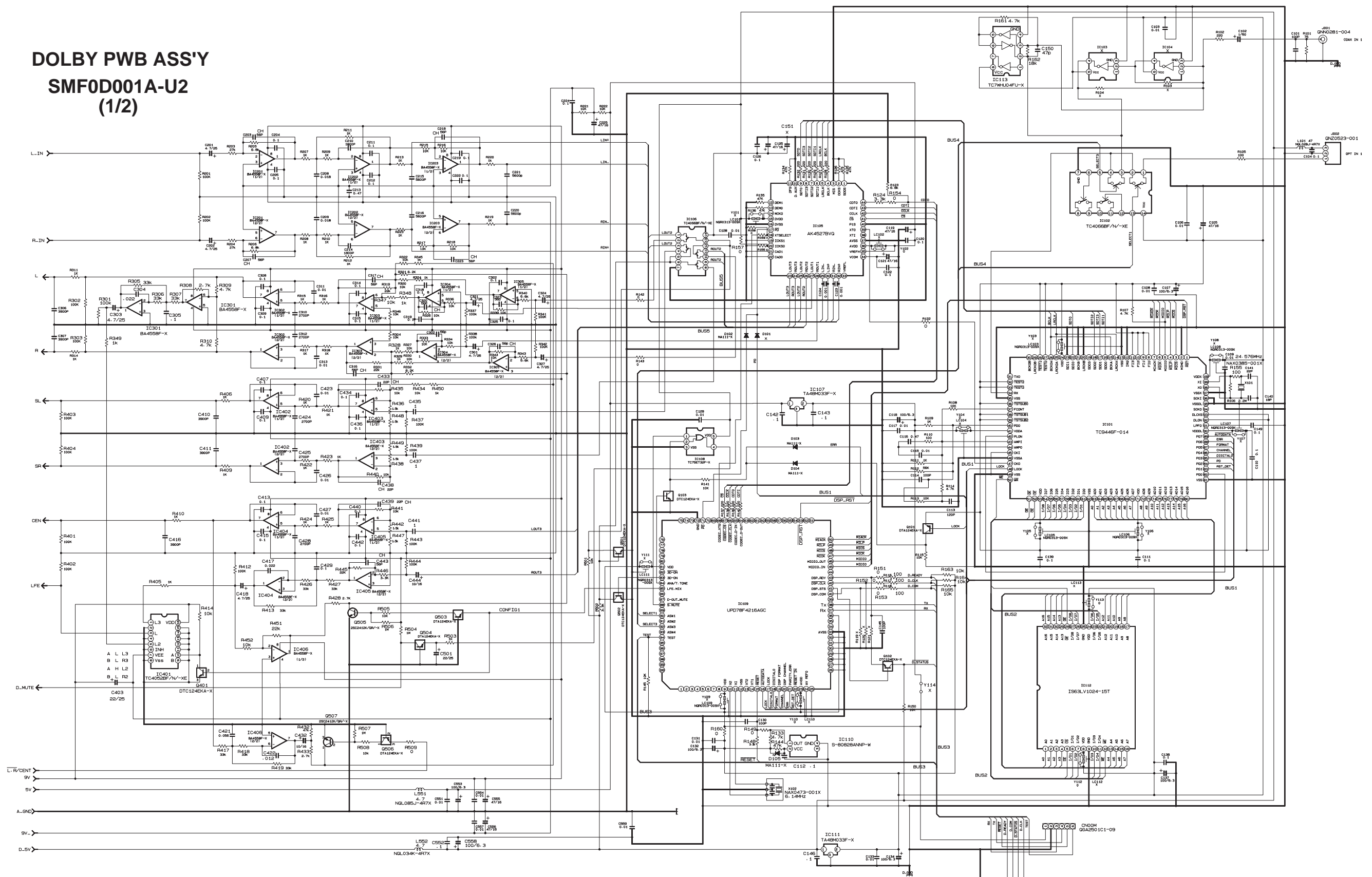
- \*1 2SA1037AK/QR/-X
- \*2 MA111-X
- \*3 DTA124EKA-X
- \*4 DTC124EKA-X

CRT SOCKET PWB CIRCUIT DIAGRAM

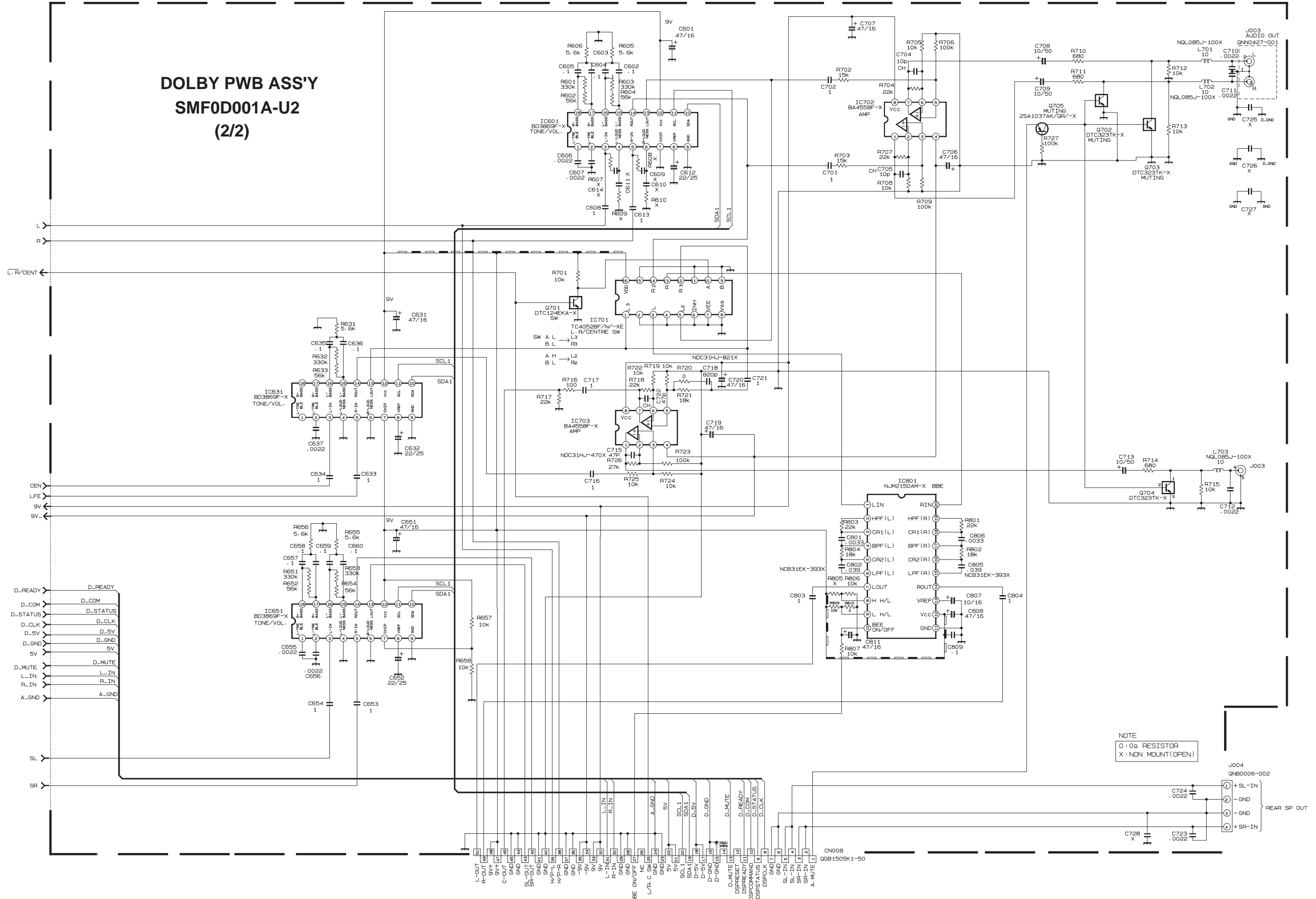


DOLBY CIRCUIT DIAGRAM

DOLBY PWB ASS'Y  
SMF0D001A-U2  
(1/2)



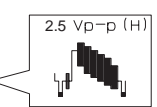
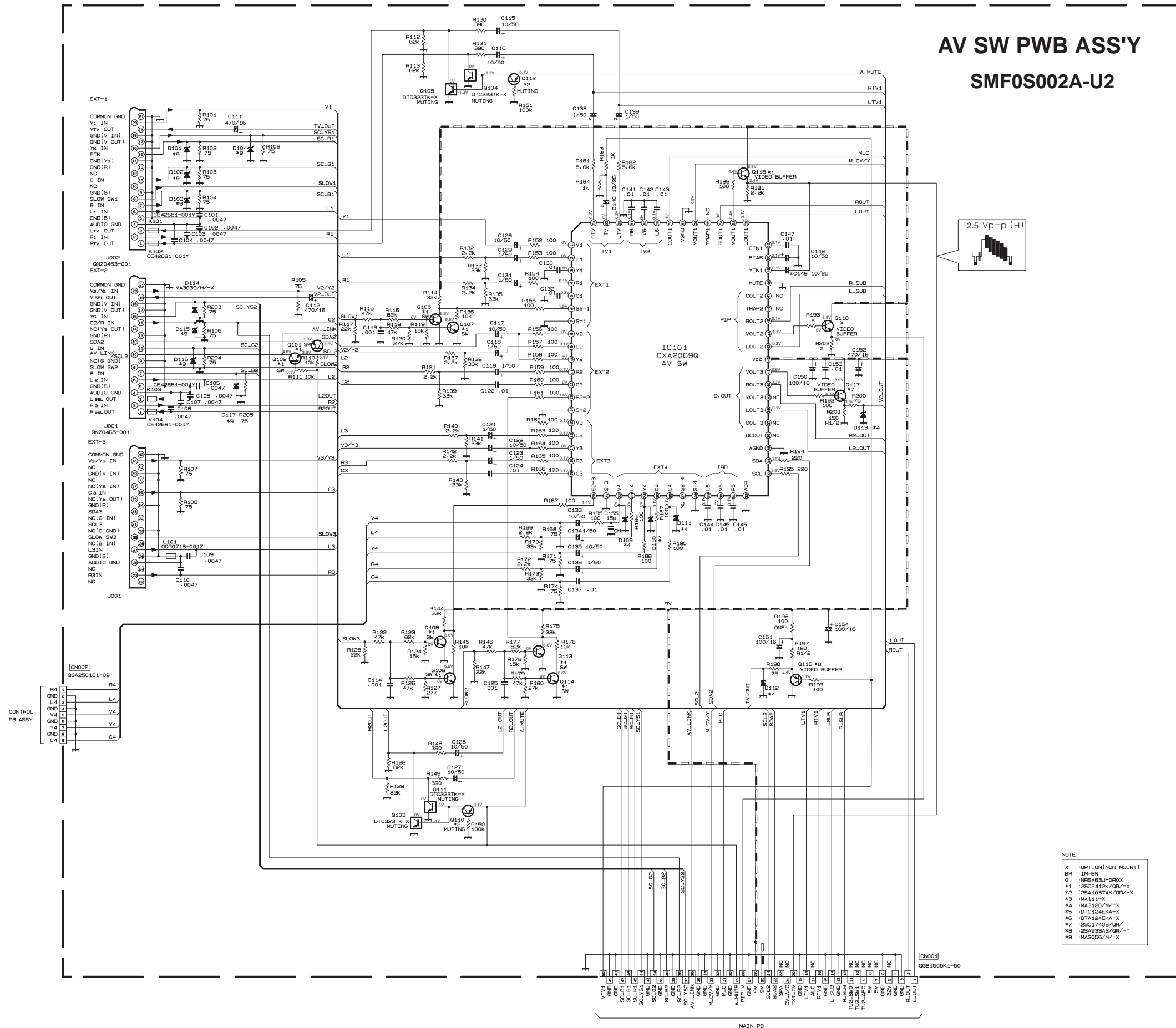
**DOLBY PWB ASS'Y**  
**SMF0D001A-U2**  
**(2/2)**





AV SW PWB CIRCUIT DIAGRAM

AV SW PWB ASS'Y  
SMF0S002A-U2



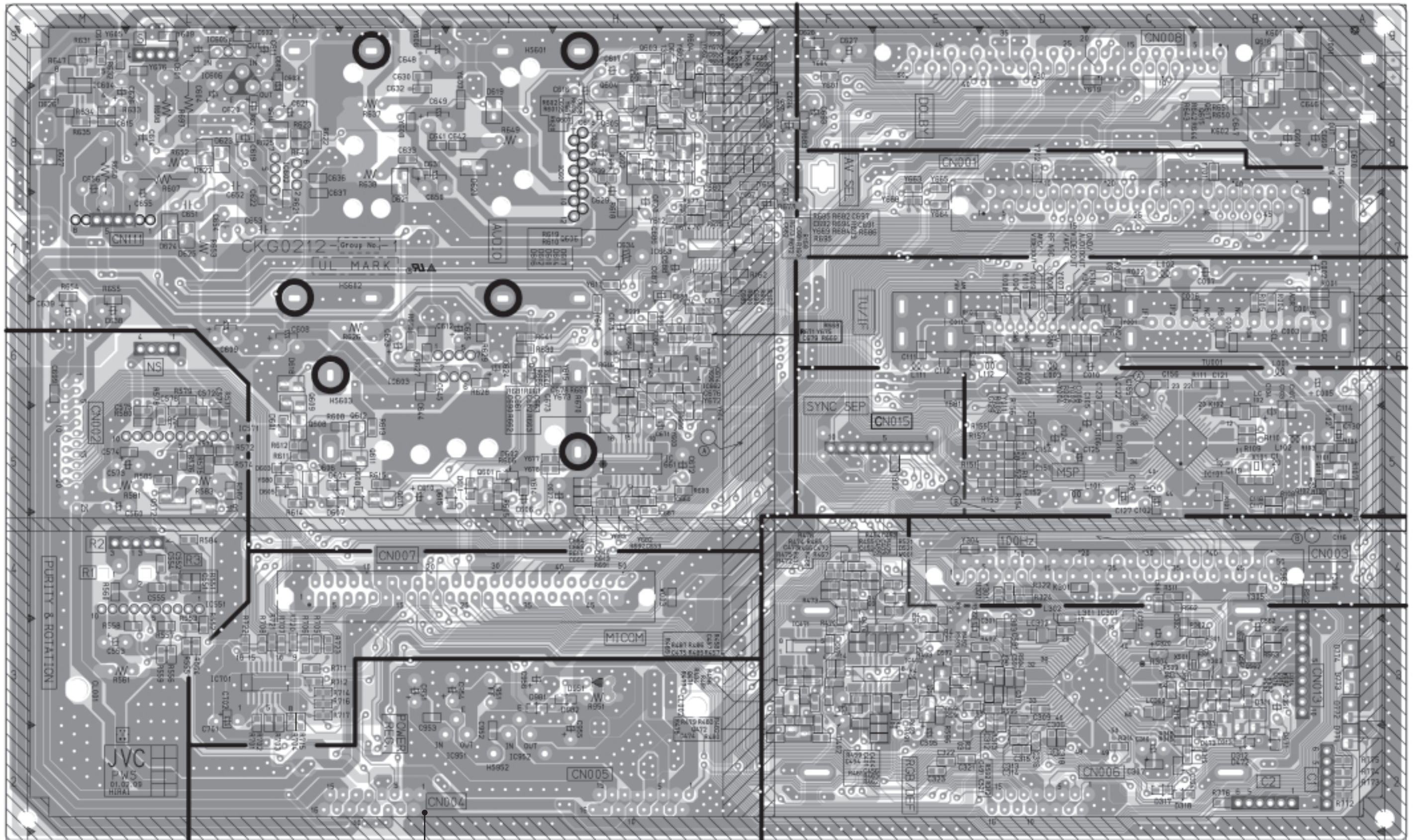
NOTE

- X (OPTION(NON MOUNT))
- BW (IM-BW)
- 0 (NPSA33J-00X)
- #1 (2SC2412K/GR/-X)
- #2 (2SA1037AK/GR/-X)
- #3 (MA111-X)
- #4 (MA3150/M/-X)
- #5 (DTC124EKA-X)
- #6 (DTA124EKA-X)
- #7 (2SC1740S/GR/-T)
- #8 (2SA933AS/GR/-T)
- #9 (MA3056/M/-X)



PATTERN DIAGRAM MAIN PWB PATTERN

← FRONT



(11)

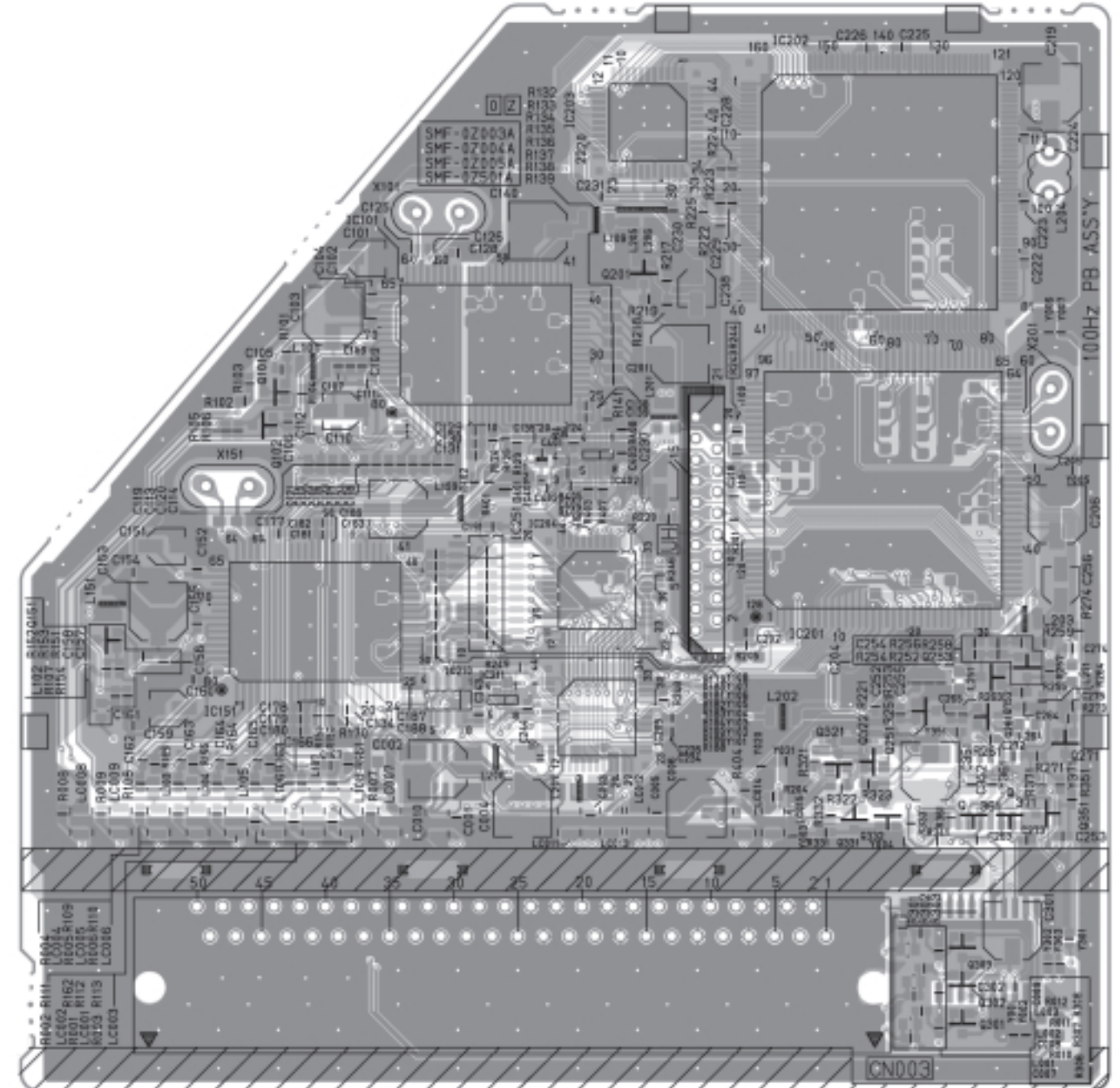
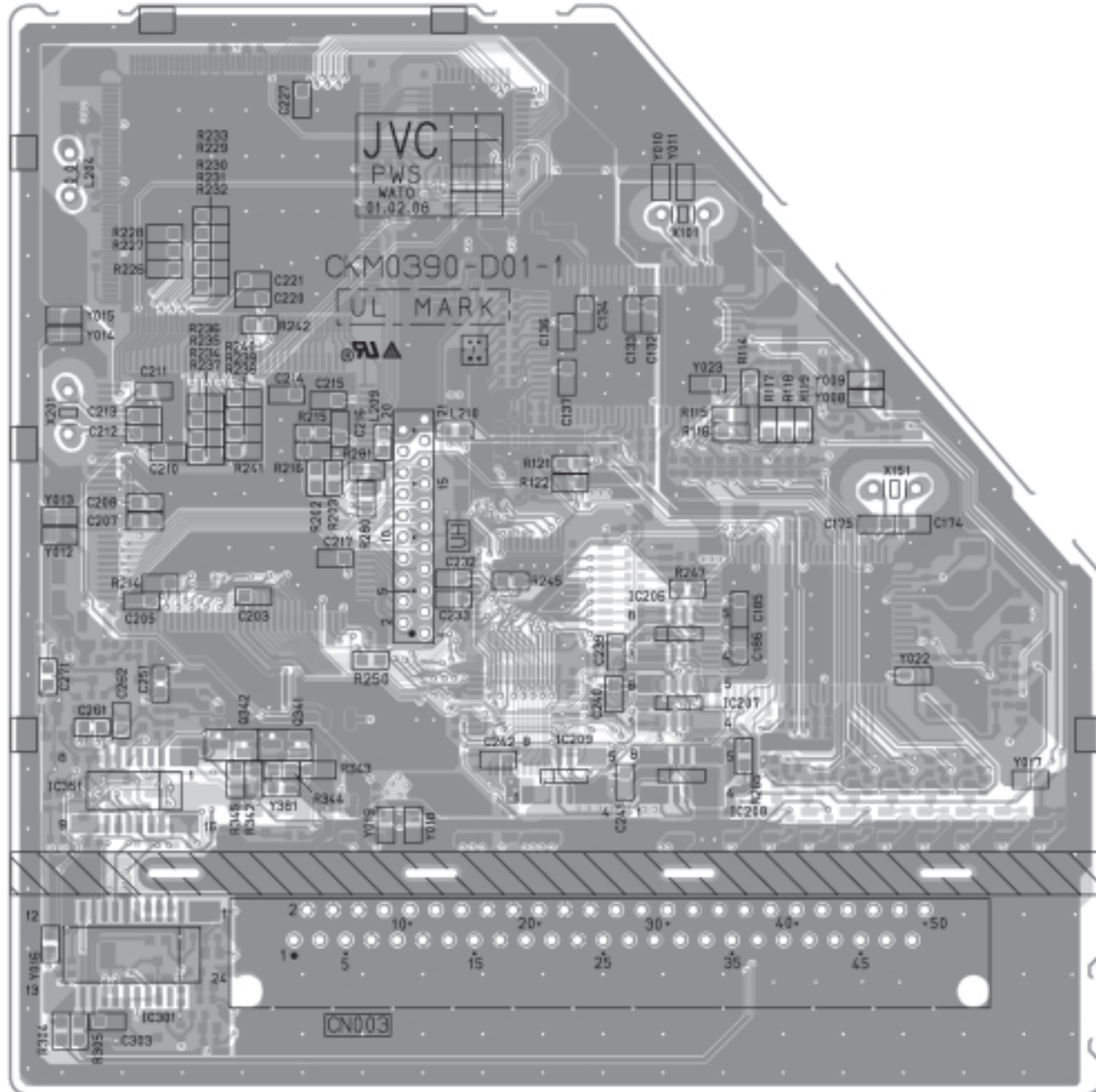






100Hz PWB PATTERN (SOLDER SIDE)

100Hz PWB PATTERN (PARTS SIDE)



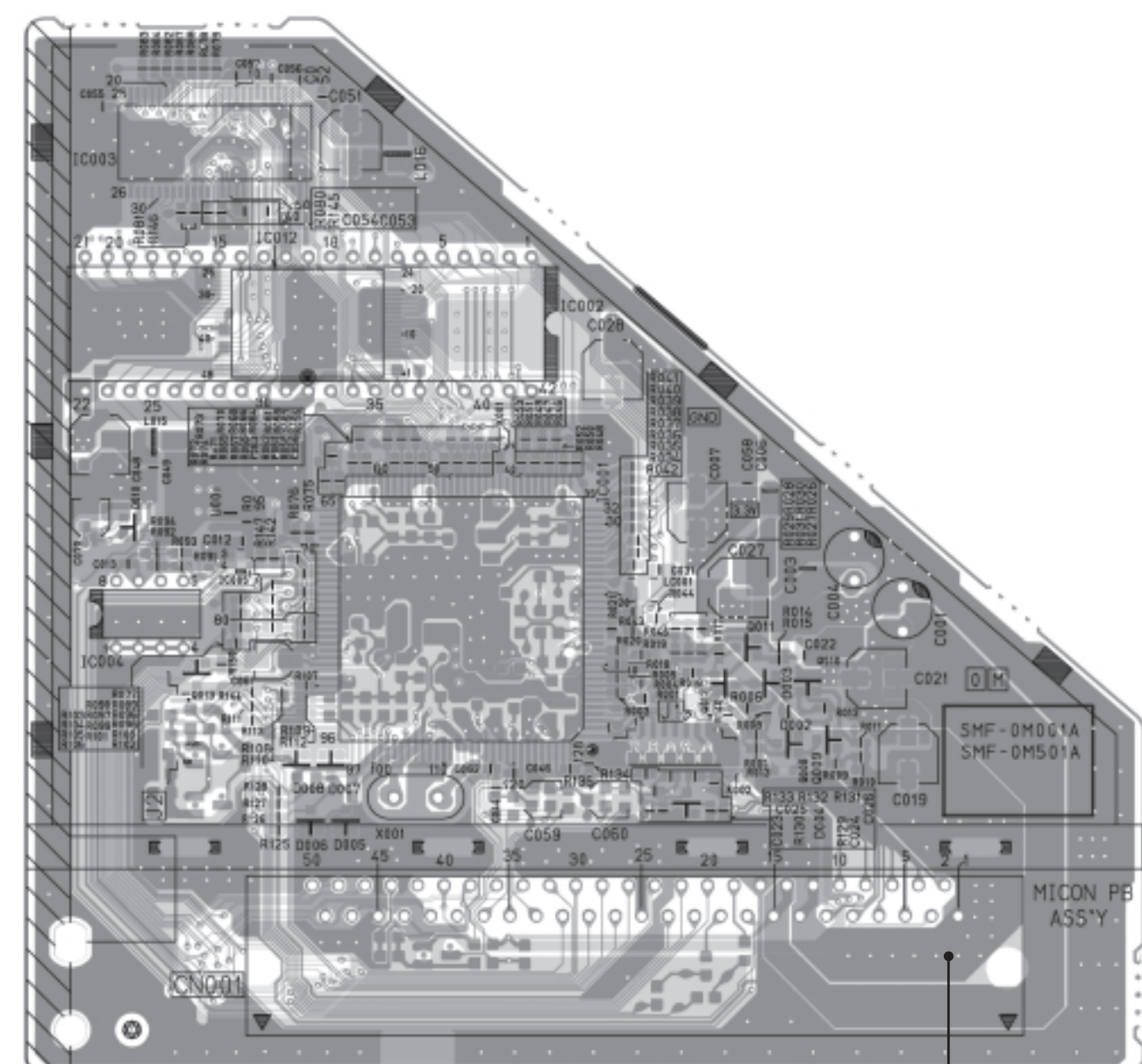
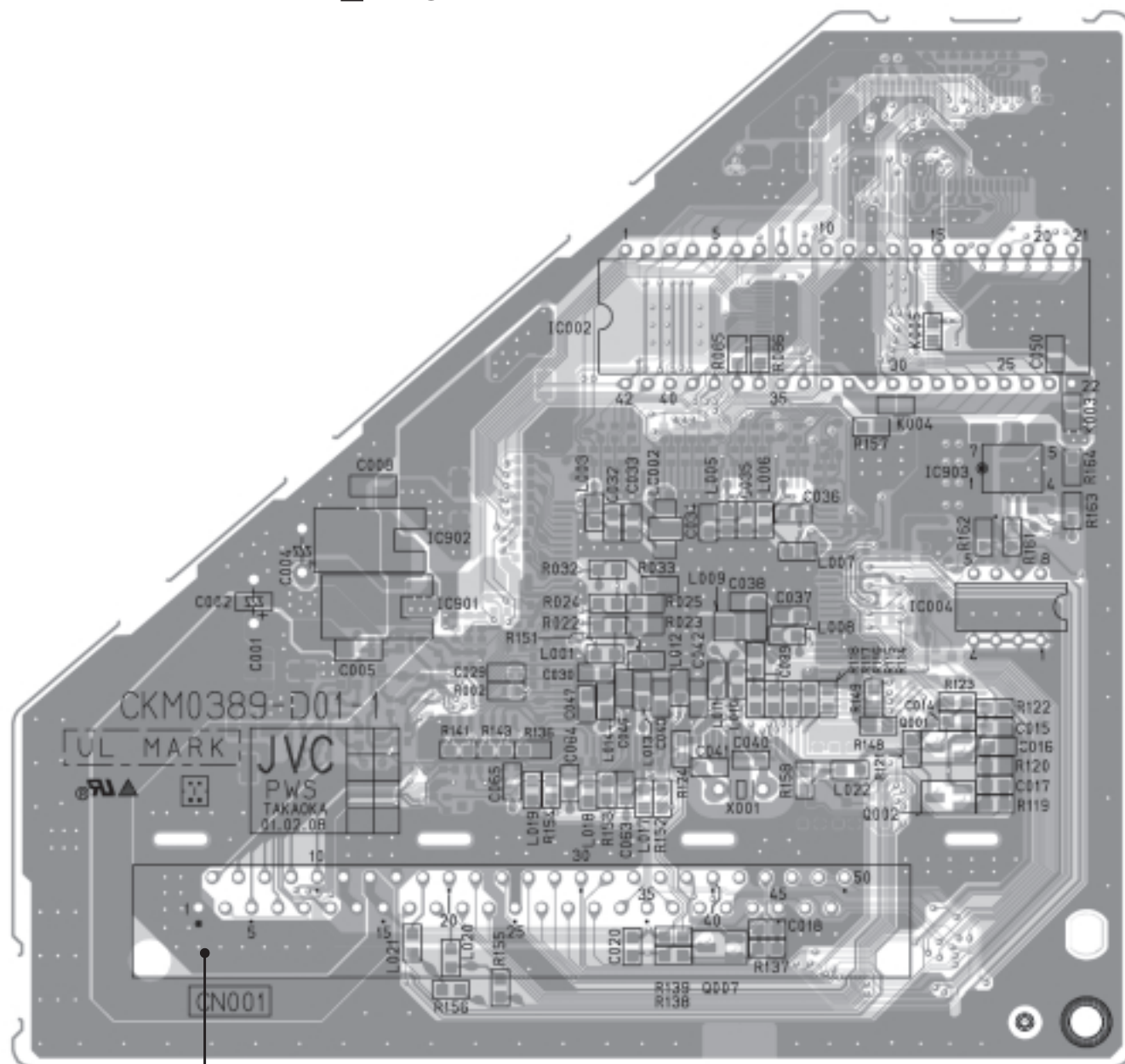


MICON PWB PATTERN (SOLDER SIDE)

MICON PWB PATTERN (PARTS SIDE)

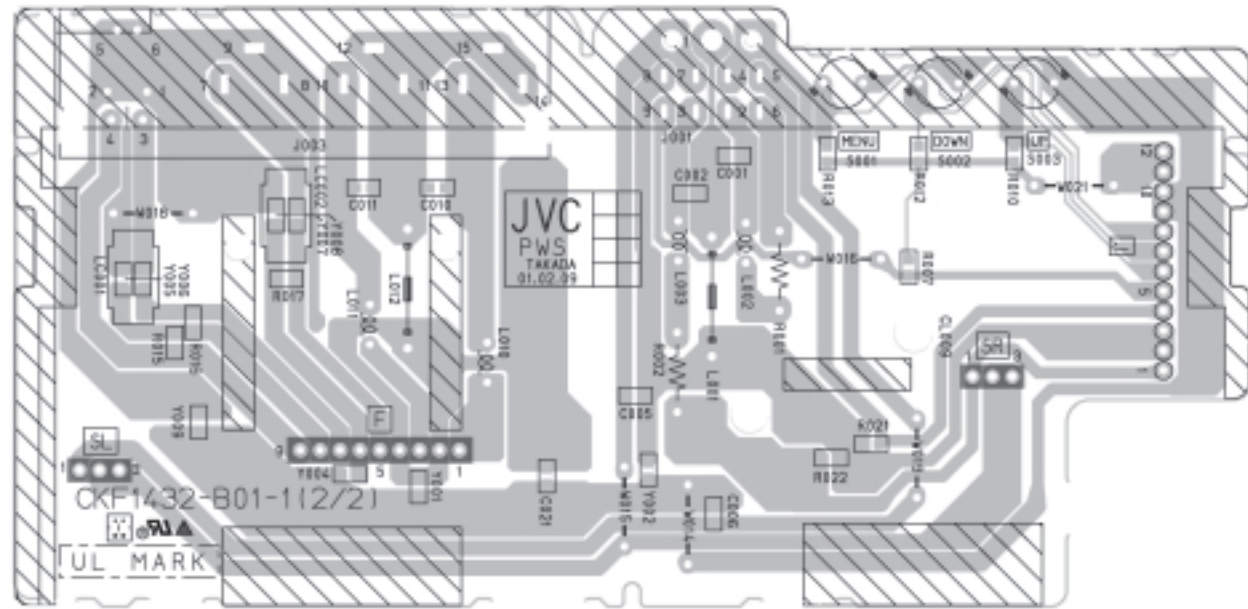
↑ TOP

↑ TOP

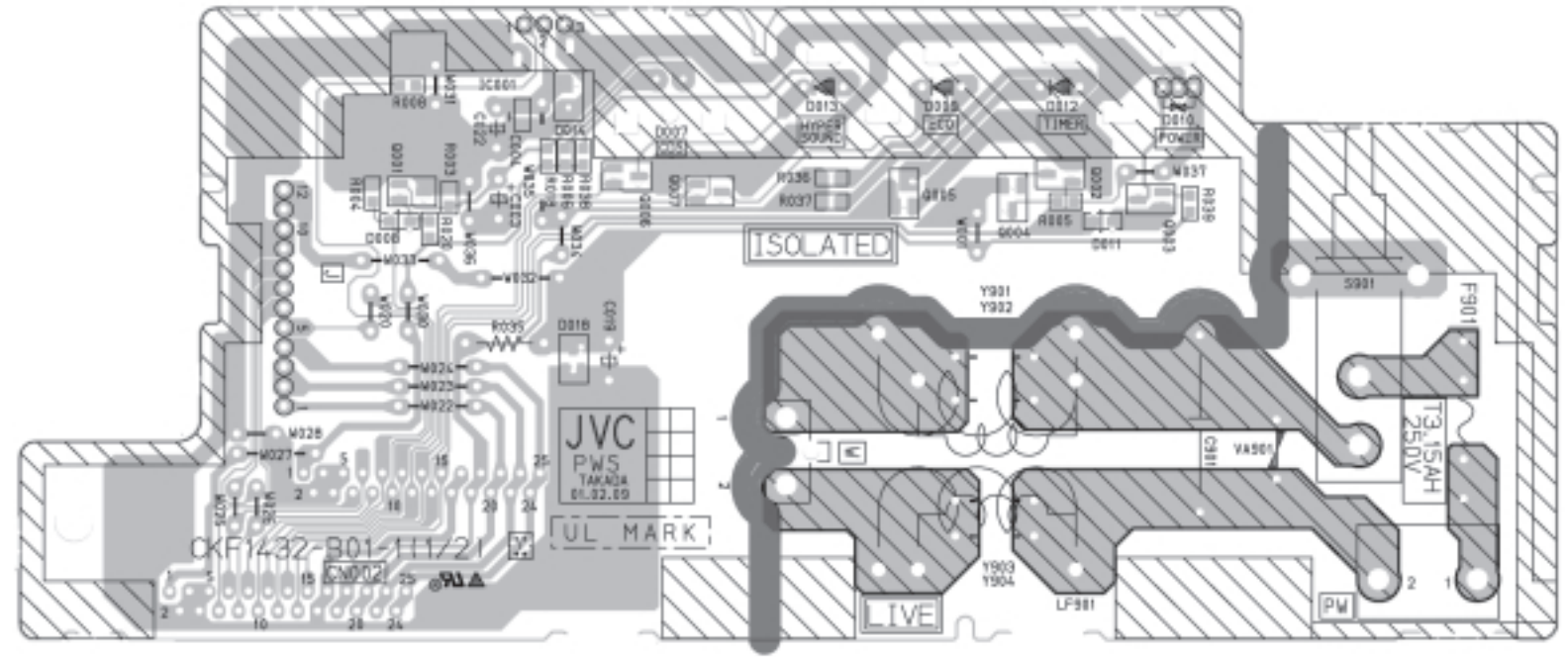


FRONT CONTROL PWB PATTERN

↑ FRONT



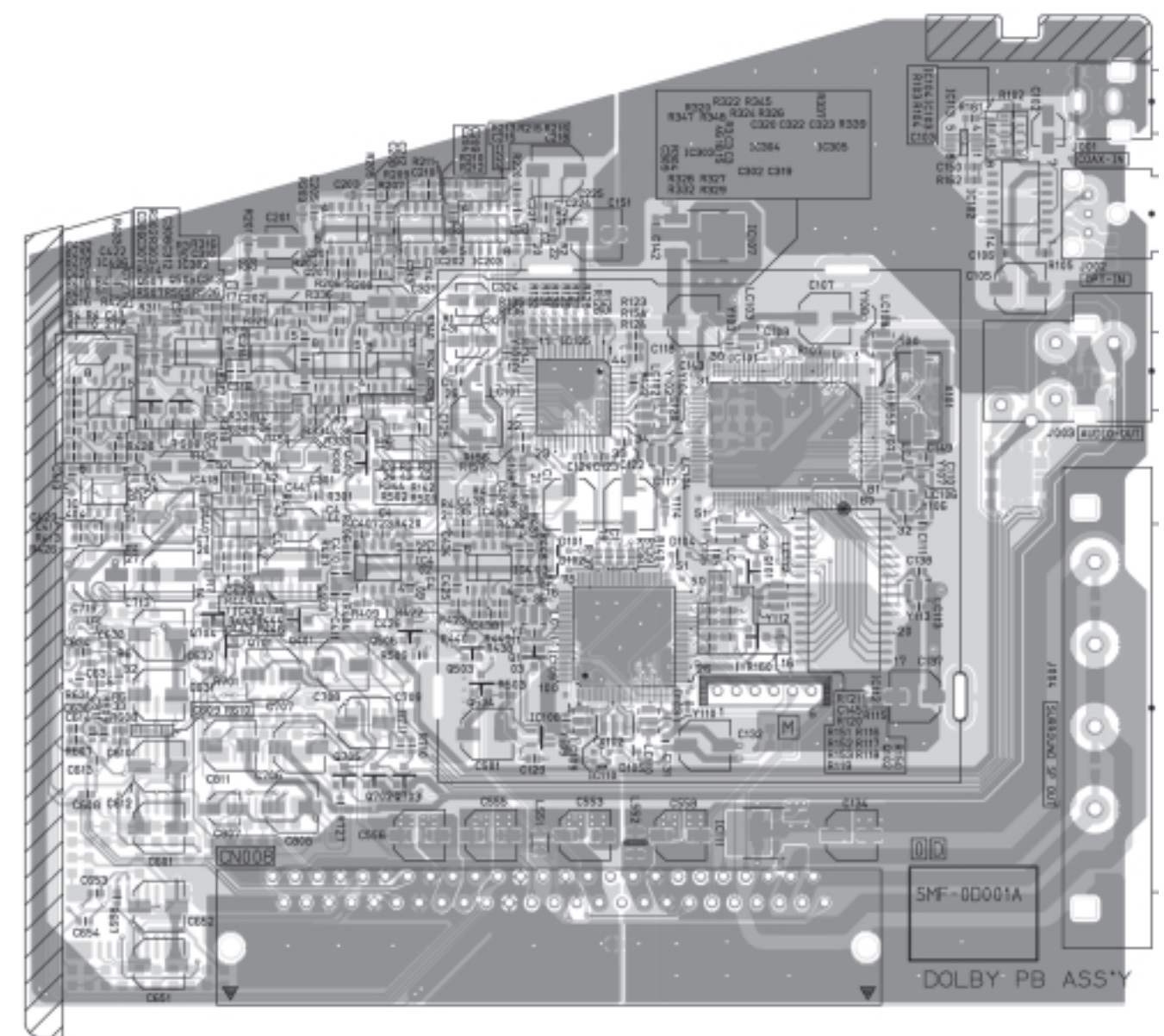
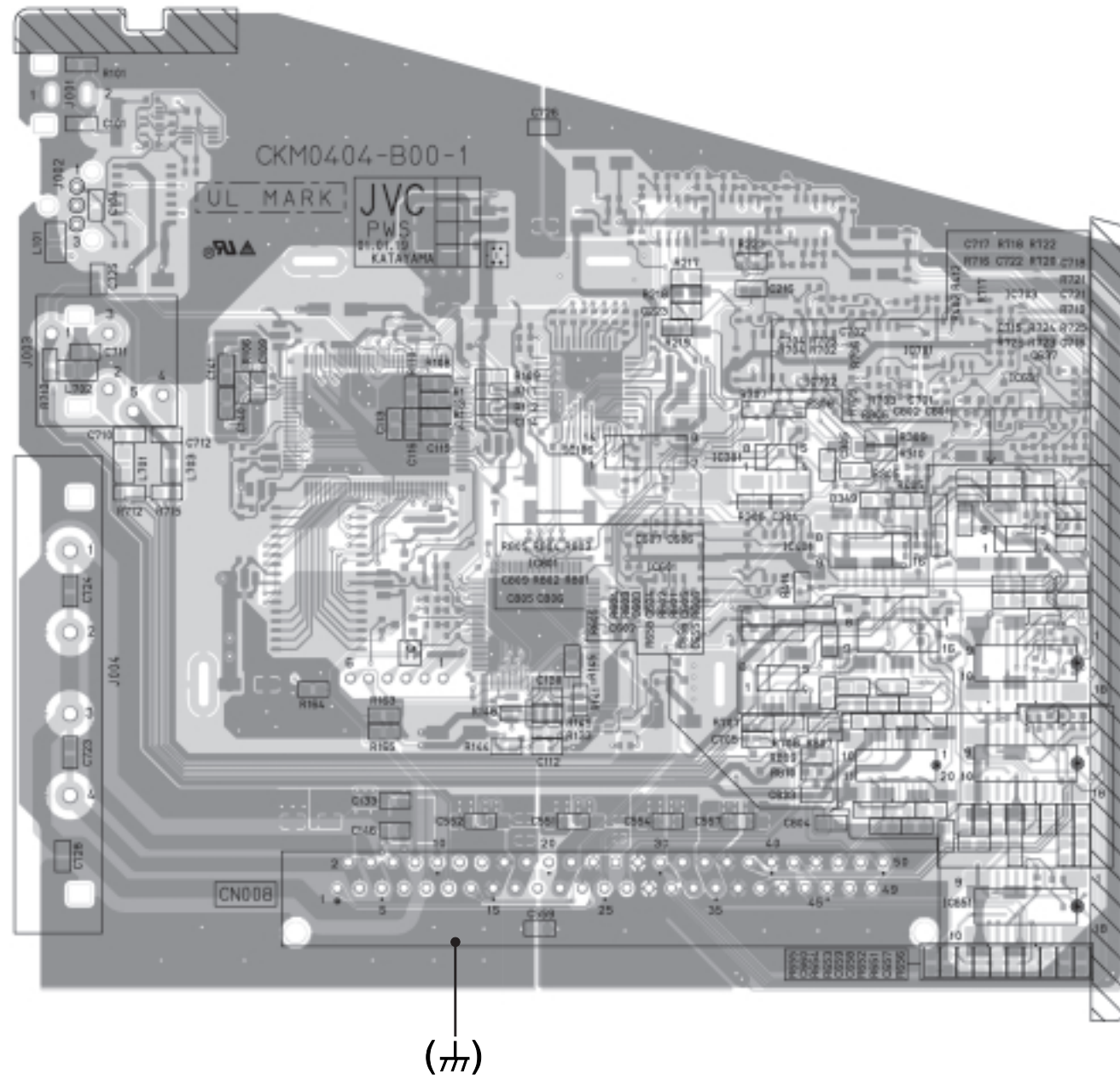
↑ FRONT





DOLBY PWB PATTERN (SOLDER SIDE)

DOLBY PWB PATTERN (PARTS SIDE)





CRT SOCKET PWB PATTERN

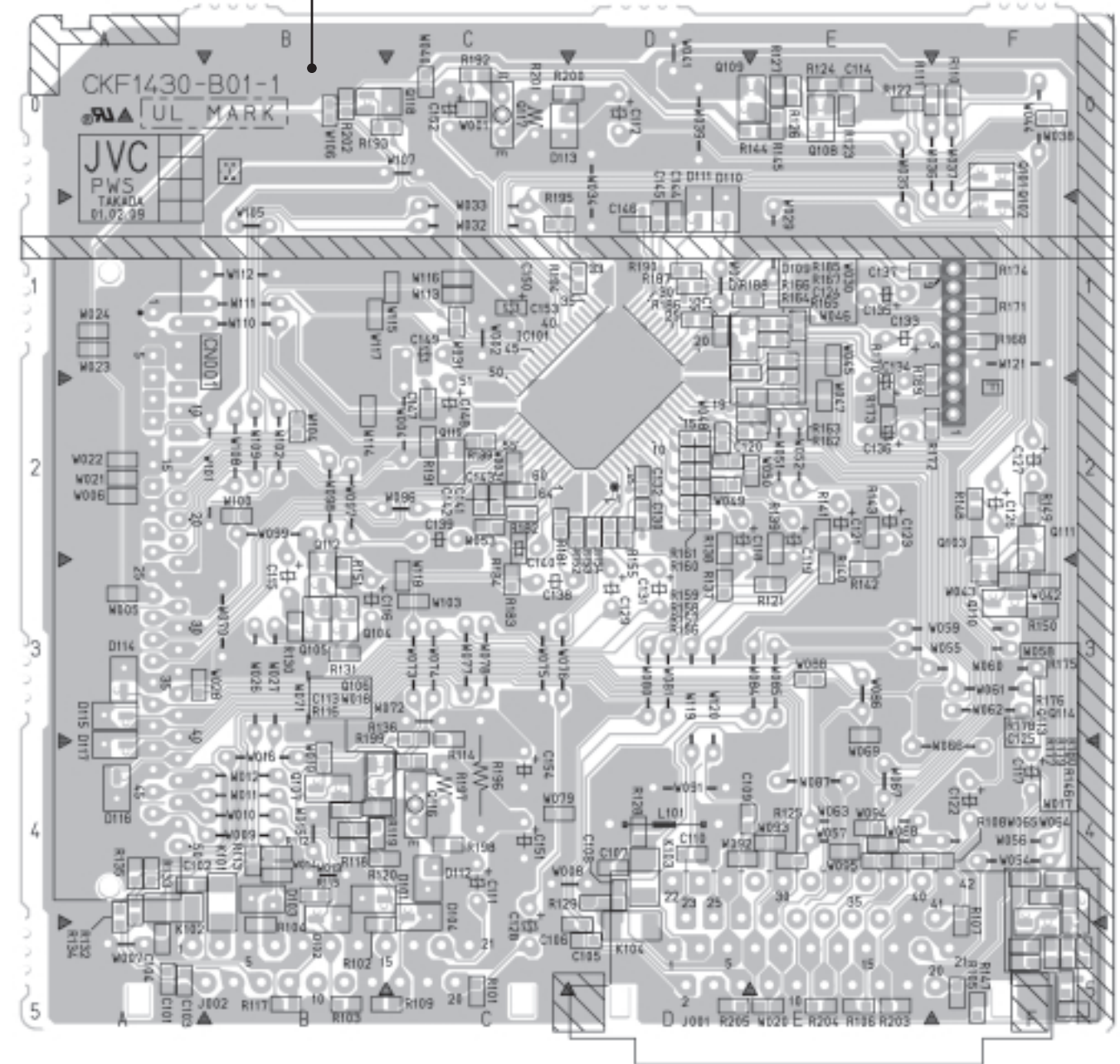
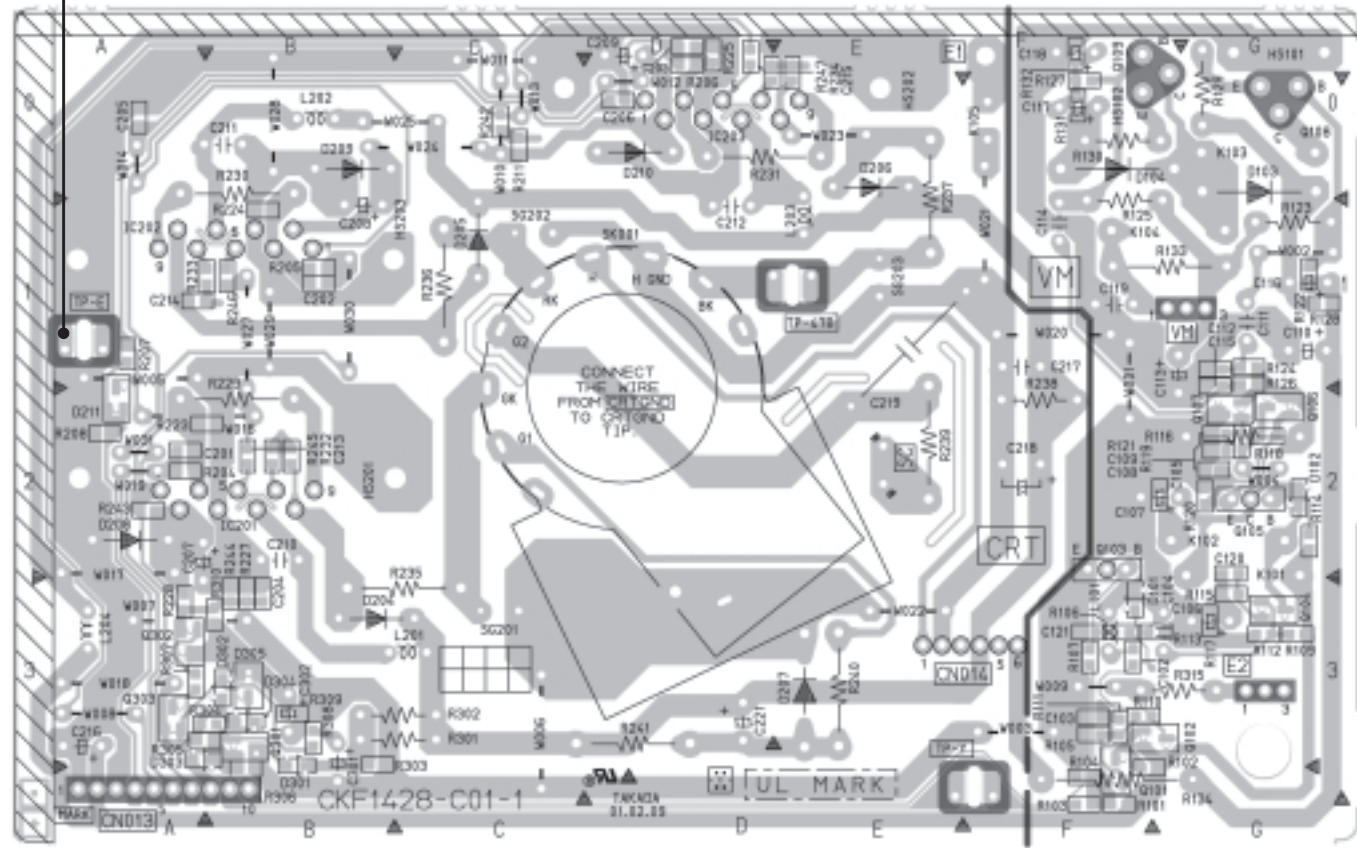
AV SW PWB PATTERN

↑ TOP

TOP →

(H)

(H)





**JVC**

VICTOR COMPANY OF JAPAN, LIMITED

HOME AV NETWORK BUSINESS UNIT 12, 3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa-prefecture, 221-8528, Japan

AV28Z10EUS-U #3



Printed in Japan  
VP 0109  
DP6051