

# 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 :PAL 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 :R1209→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]
- AC indicated :AC withstand voltage [V]
- Others :DC 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
- :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

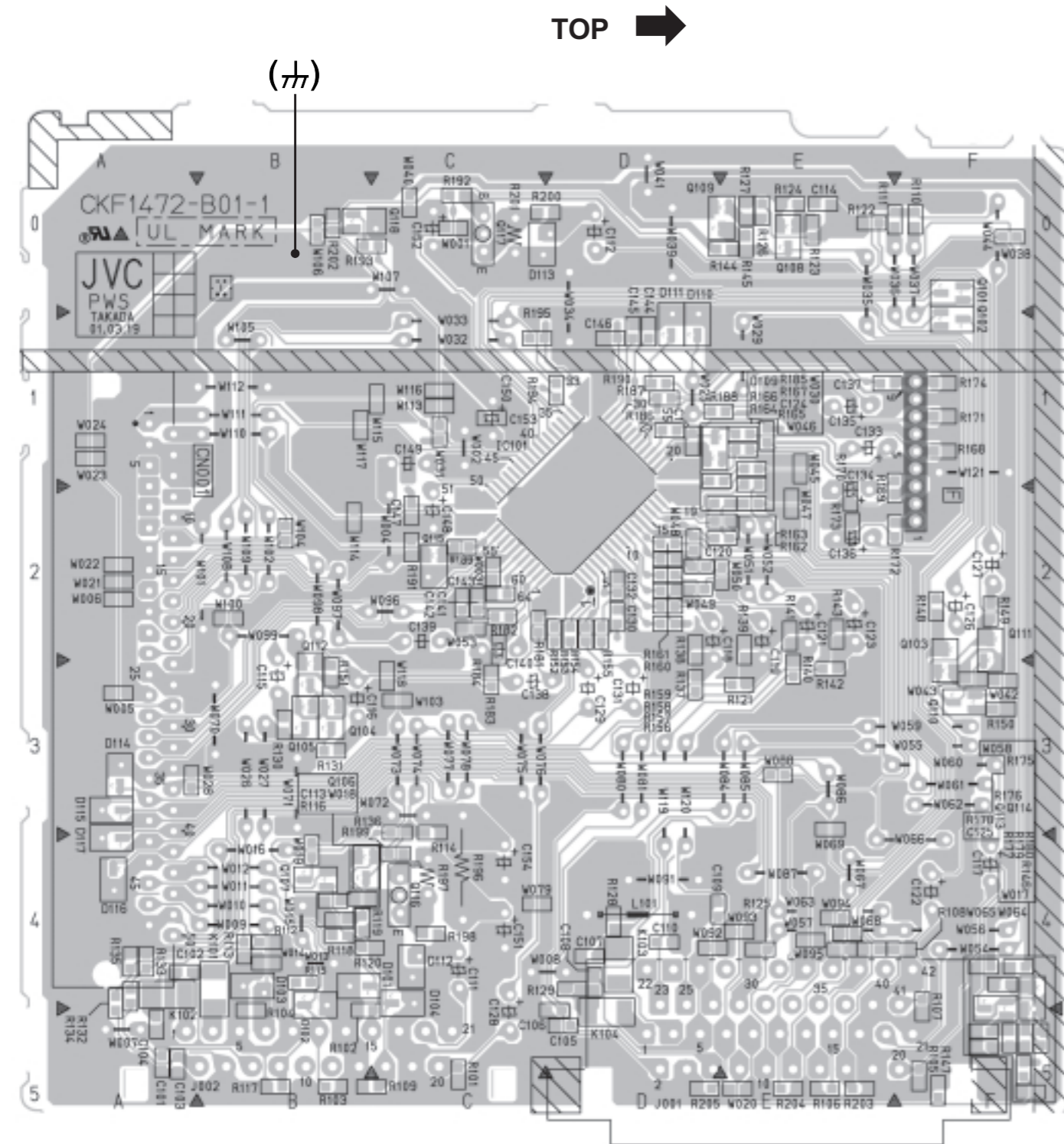
- :LIVE side ground
- :ISOLATED(NEUTRAL) side ground
- :EARTH ground
- :DIGITAL ground

## 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 ( 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.



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## SEMICONDUCTOR SHAPES

### TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

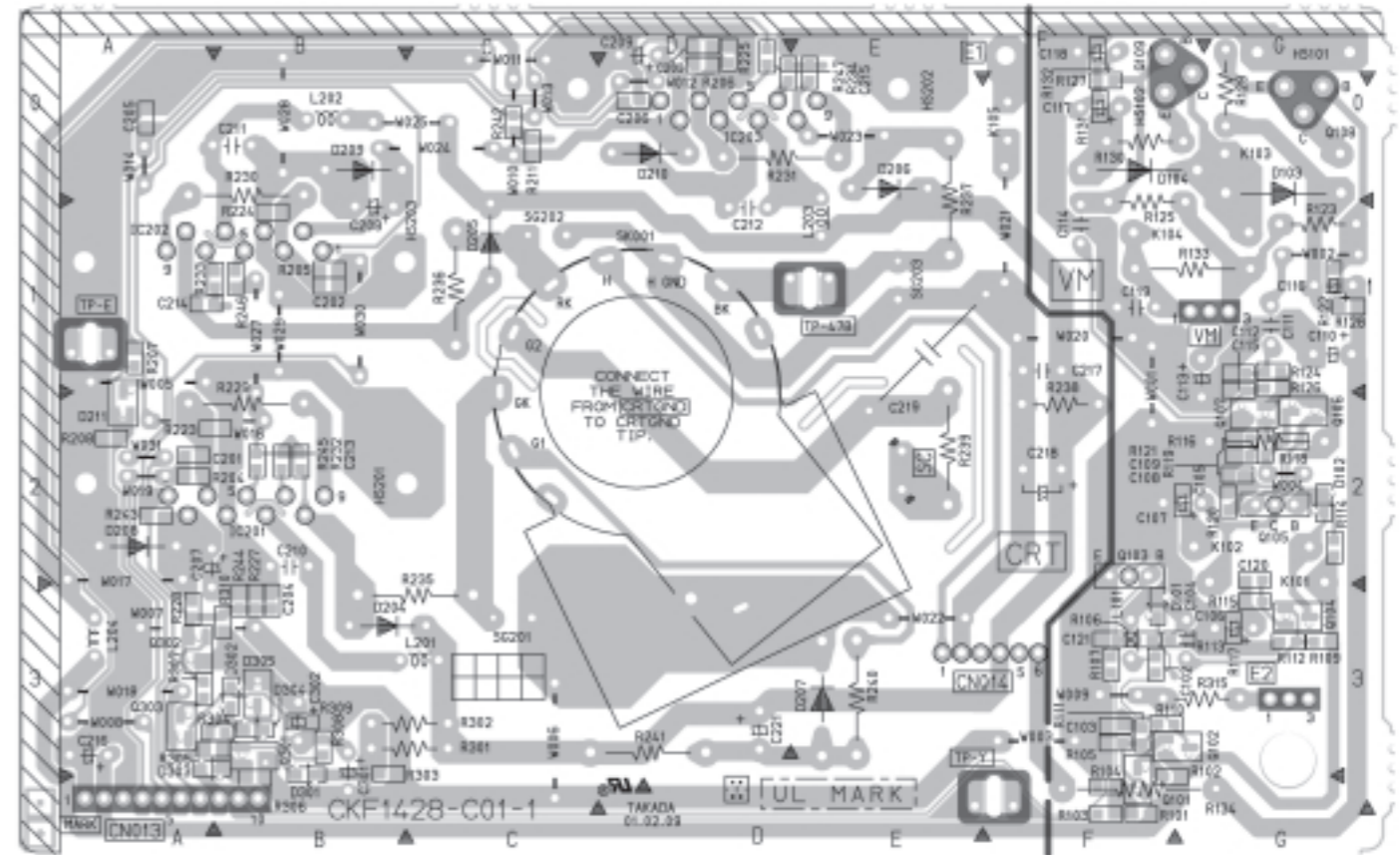
### IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW

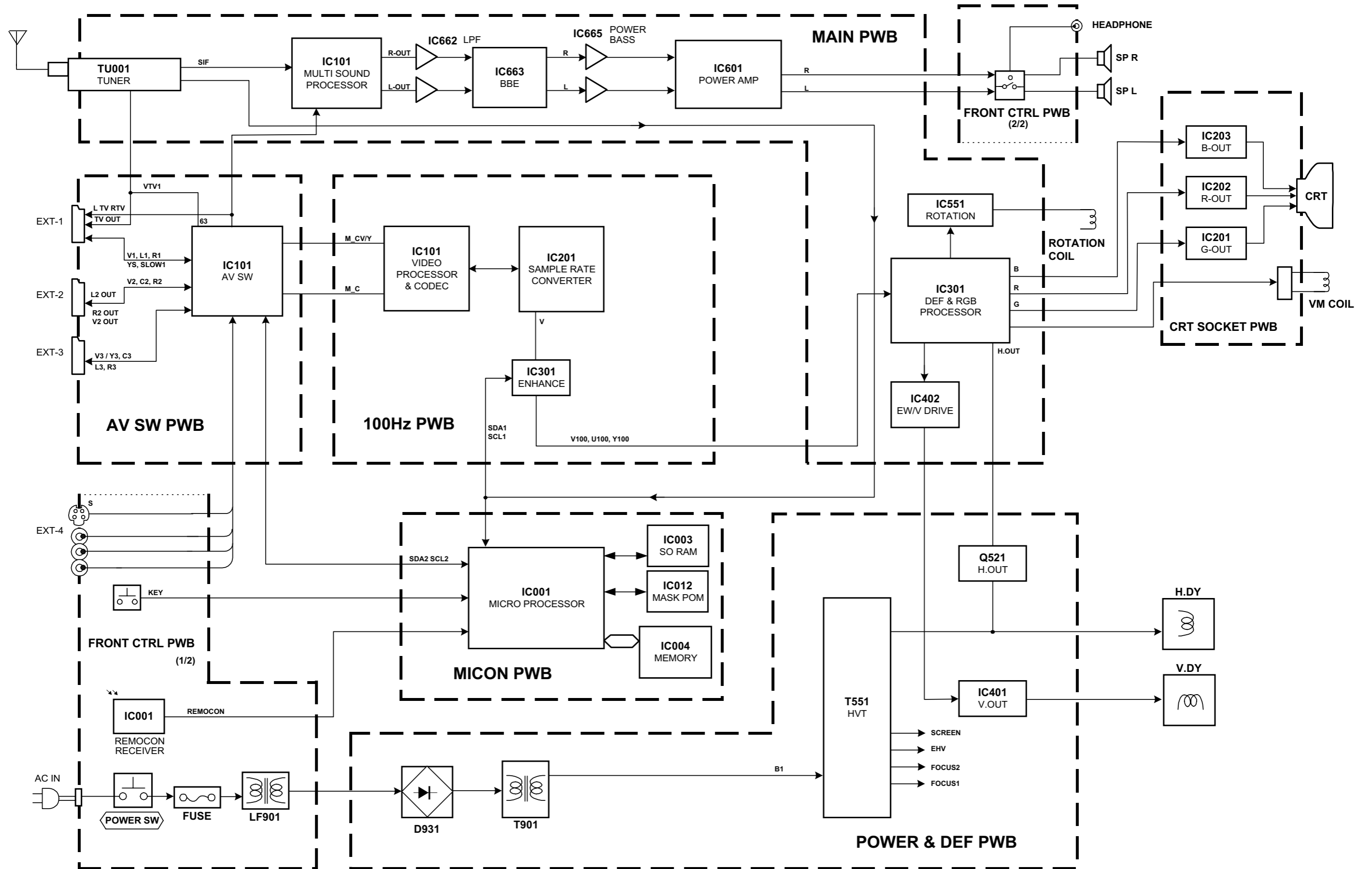
### CHIP IC

TOP VIEW	

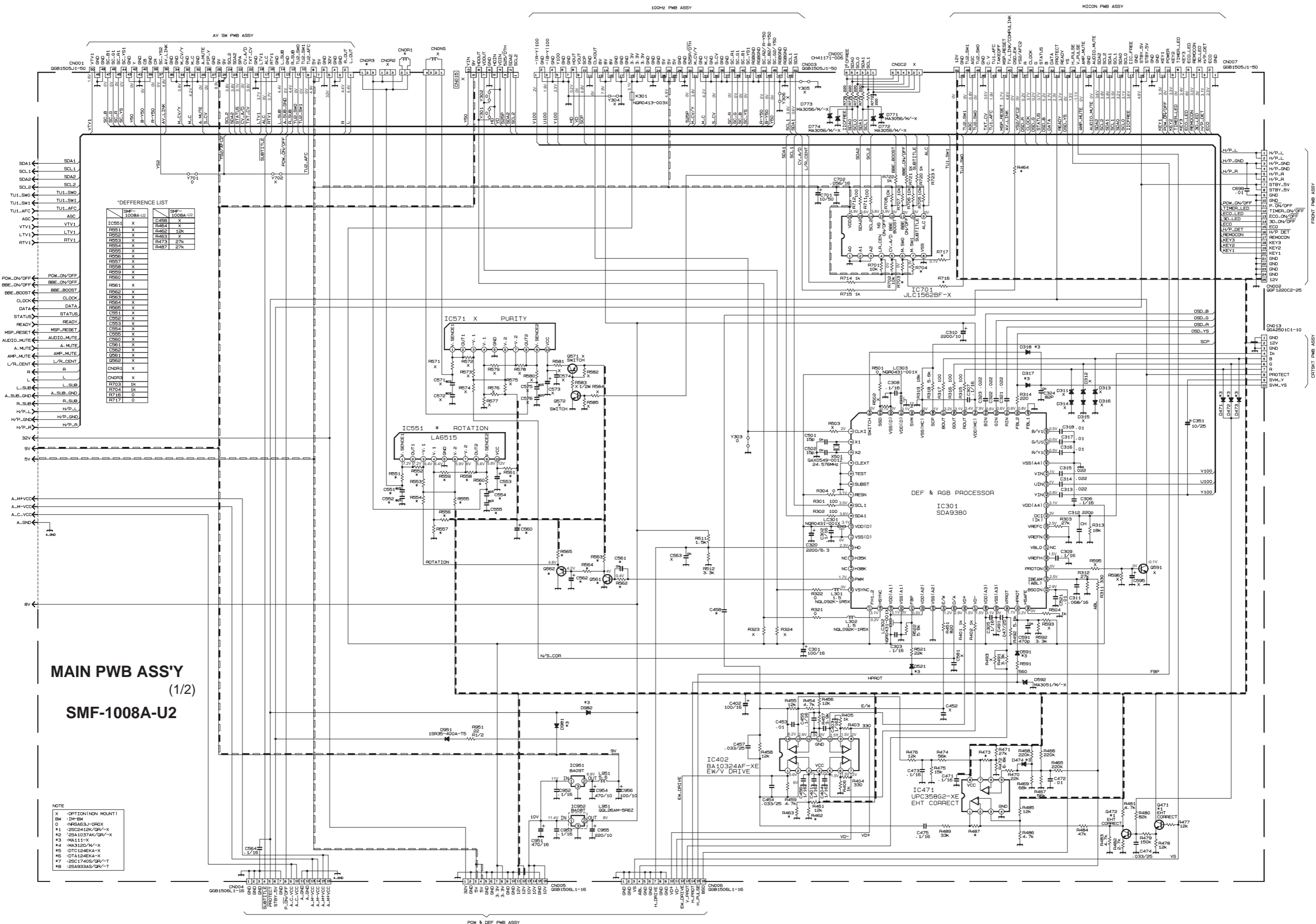
## CRT SOCKET PWB PATTERN

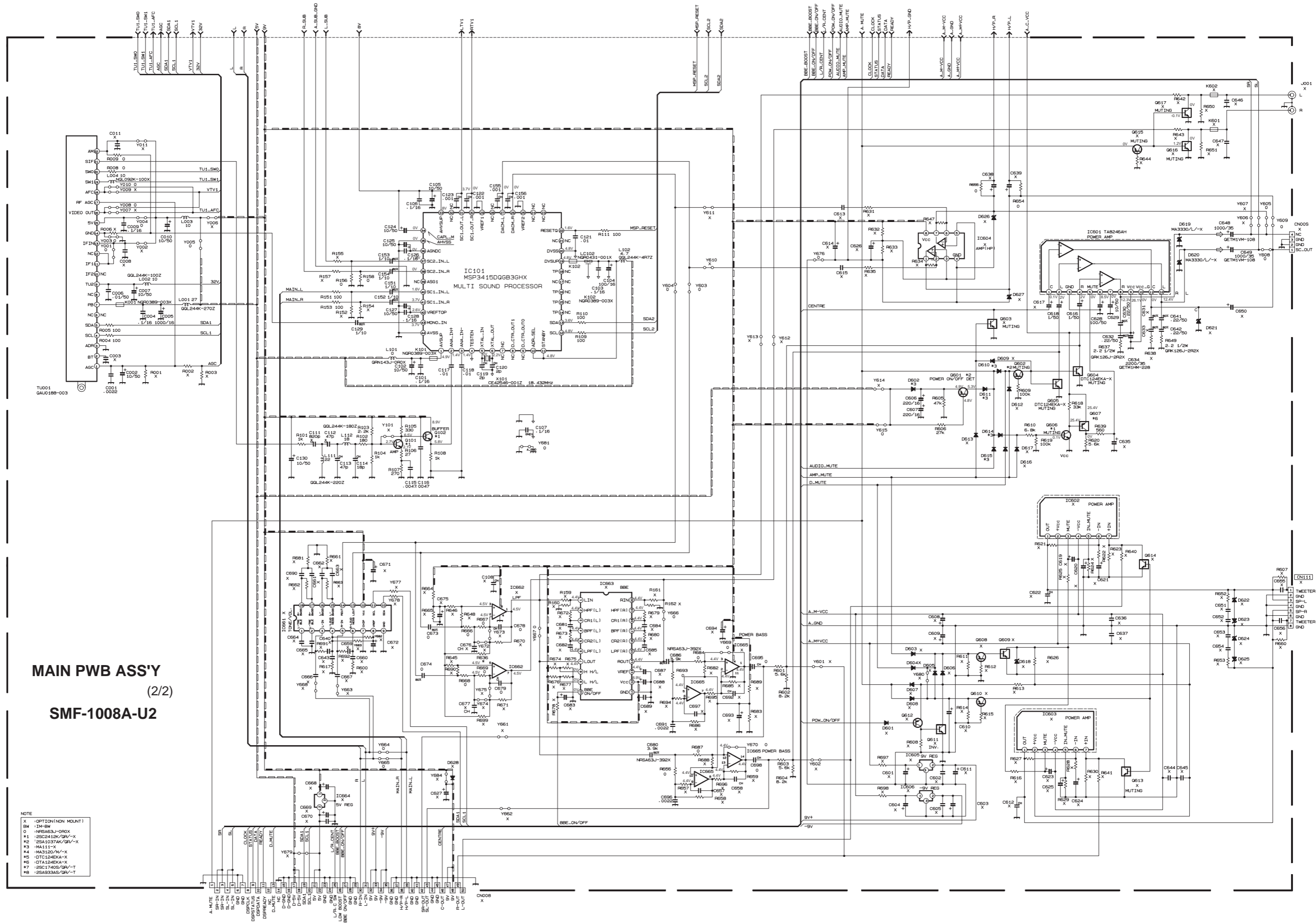


# BLOCK DIAGRAM



CIRCUIT DIAGRAMS MAIN PWB CIRCUIT DIAGRAM

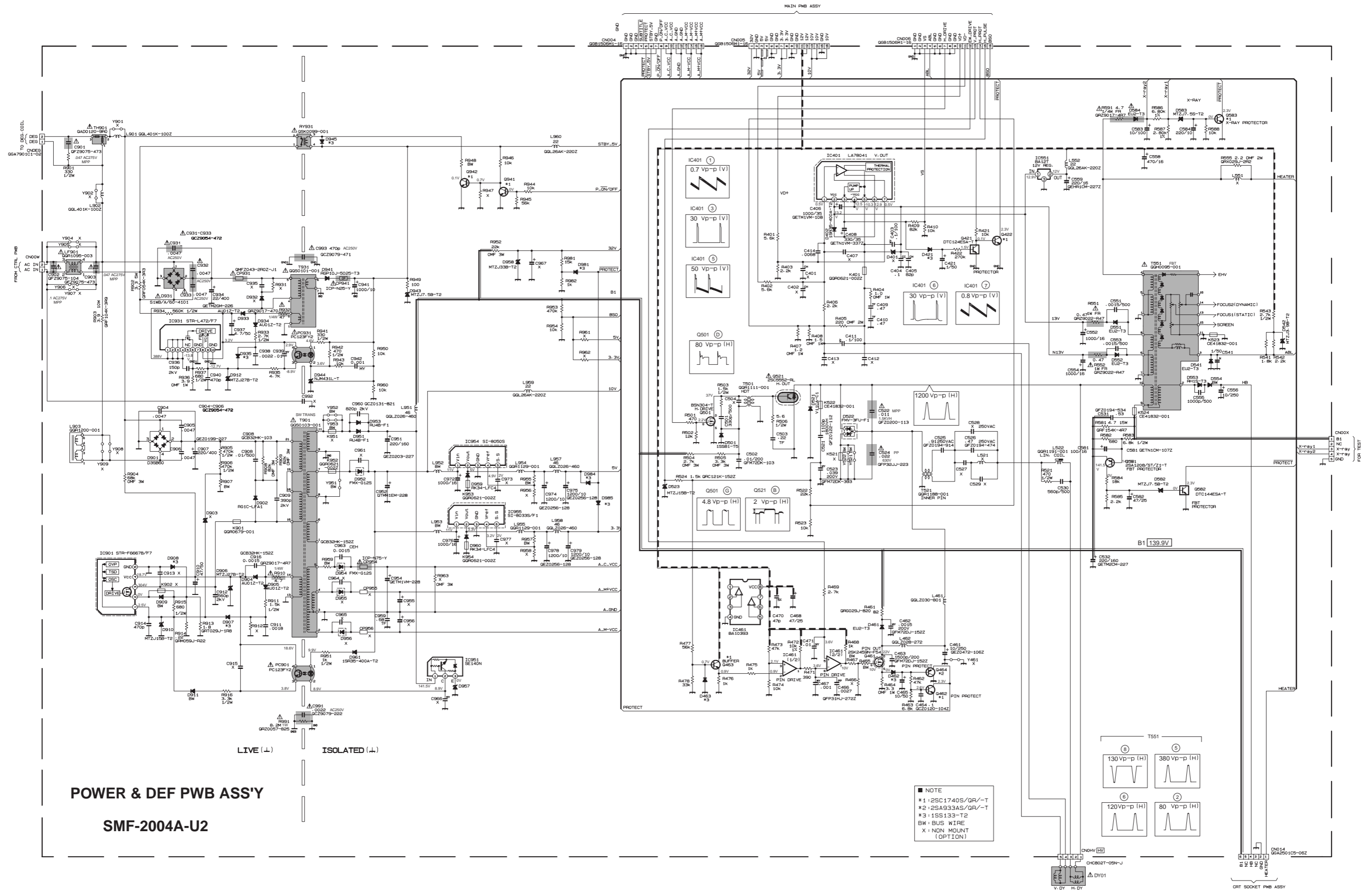




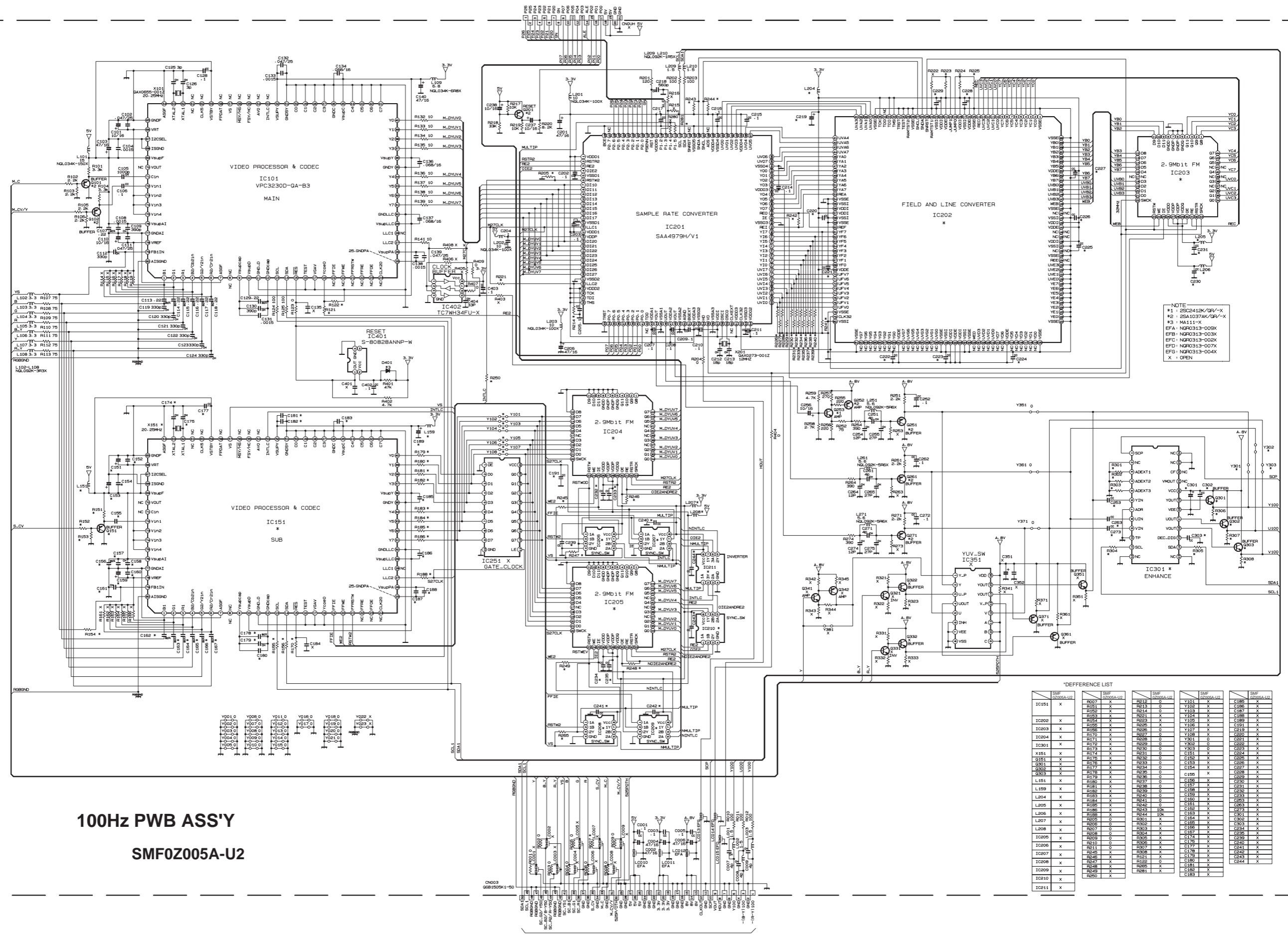
MAIN PWB ASS'Y  
(2/2)  
SMF-1008A-U2

- NOTE
- X - (OPTION) (NON MOUNT)
  - BM - 1M-BM
  - 0 - NRS463J-000X
  - #1 - 2SC2412W/GRV-X
  - #2 - 2SA1037AK/GRV-X
  - #3 - MA111-X
  - #4 - MA3120/M-X
  - #5 - DTC124EKA-X
  - #6 - DTA124EKA-X
  - #7 - 2SC1746S/GRV-T
  - #8 - 2SA933AS/GRV-T

POWER & DEF PWB CIRCUIT DIAGRAM



100Hz PWB CIRCUIT DIAGRAM



100Hz PWB ASS'Y  
SMF0Z005A-U2

NOTE  
 #1 : 25C2412K/GR-V-X  
 #2 : 25A1037AK/GR-V-X  
 #3 : HA111-K  
 EFA : NGR0313-005K  
 EFB : NGR0313-003K  
 EFC : NGR0313-002K  
 EFD : NGR0313-007K  
 EFG : NGR0313-004K  
 X : OPEN

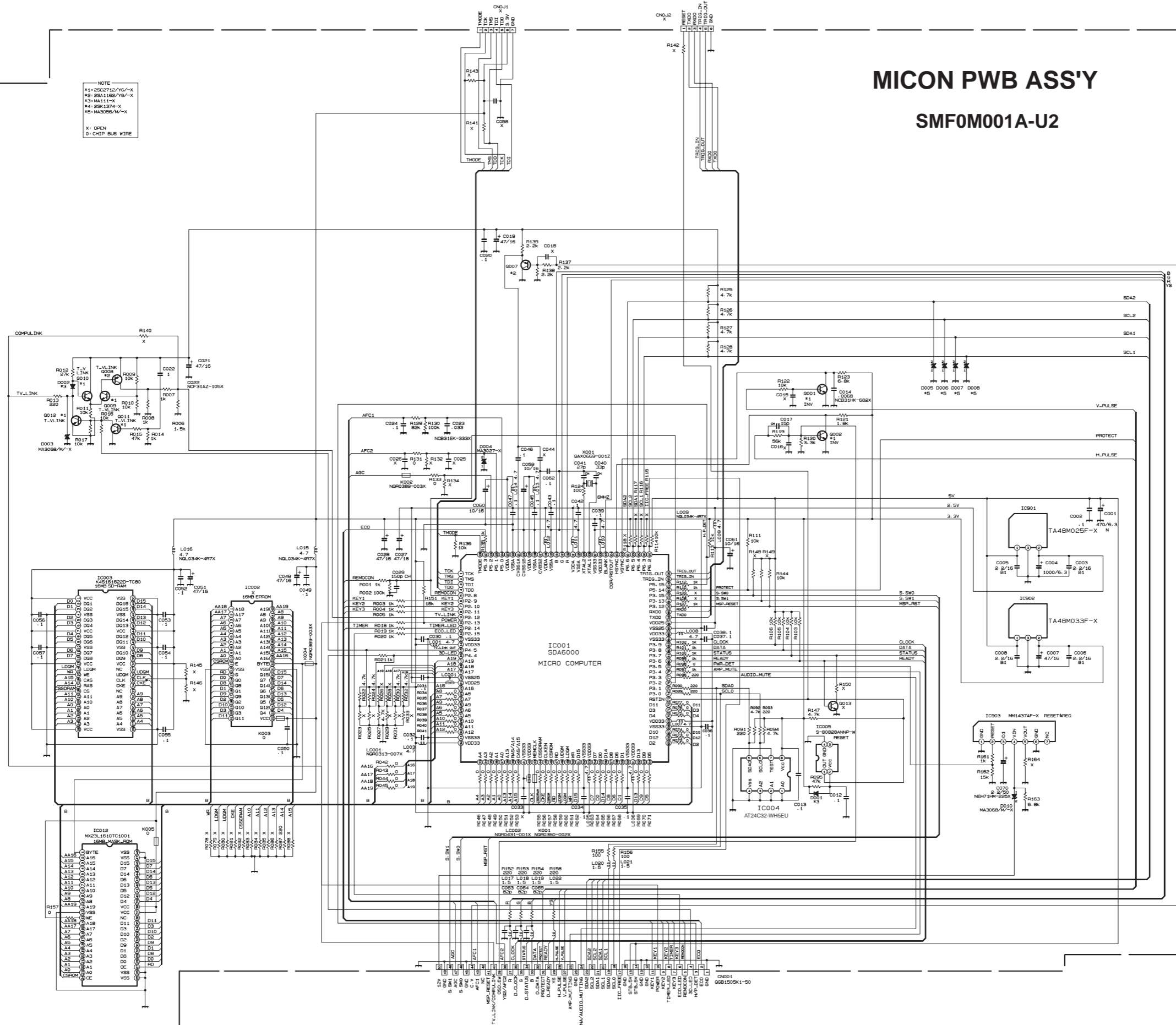
\*DIFFERENCE LIST

SMF 02005A-U2	SMF 02005A-U2	SMF 02005A-U2	SMF 02005A-U2	SMF 02005A-U2	
IC151	X	R007	X	R101	X
IC200	X	R101	X	R102	X
IC203	X	R102	X	R103	X
IC204	X	R103	X	R104	X
IC205	X	R104	X	R105	X
IC301	X	R105	X	R106	X
IC401	X	R106	X	R107	X
L151	X	R107	X	R108	X
L159	X	R108	X	R109	X
L204	X	R109	X	R110	X
L206	X	R110	X	R111	X
L207	X	R111	X	R112	X
L208	X	R112	X	R113	X
IC205	X	R113	X	R114	X
IC206	X	R114	X	R115	X
IC207	X	R115	X	R116	X
IC208	X	R116	X	R117	X
IC209	X	R117	X	R118	X
IC210	X	R118	X	R119	X
IC211	X	R119	X	R120	X

# MICON PWB ASS'Y

## SMF0M001A-U2

NOTE  
 #1: 25C2715/YG/-X  
 #2: 25A1185/YG/-X  
 #3: MA111-X  
 #4: 25K137-X  
 #5: MA3056/W/-X  
 X: OPEN  
 O: CHIP BUS WIRE

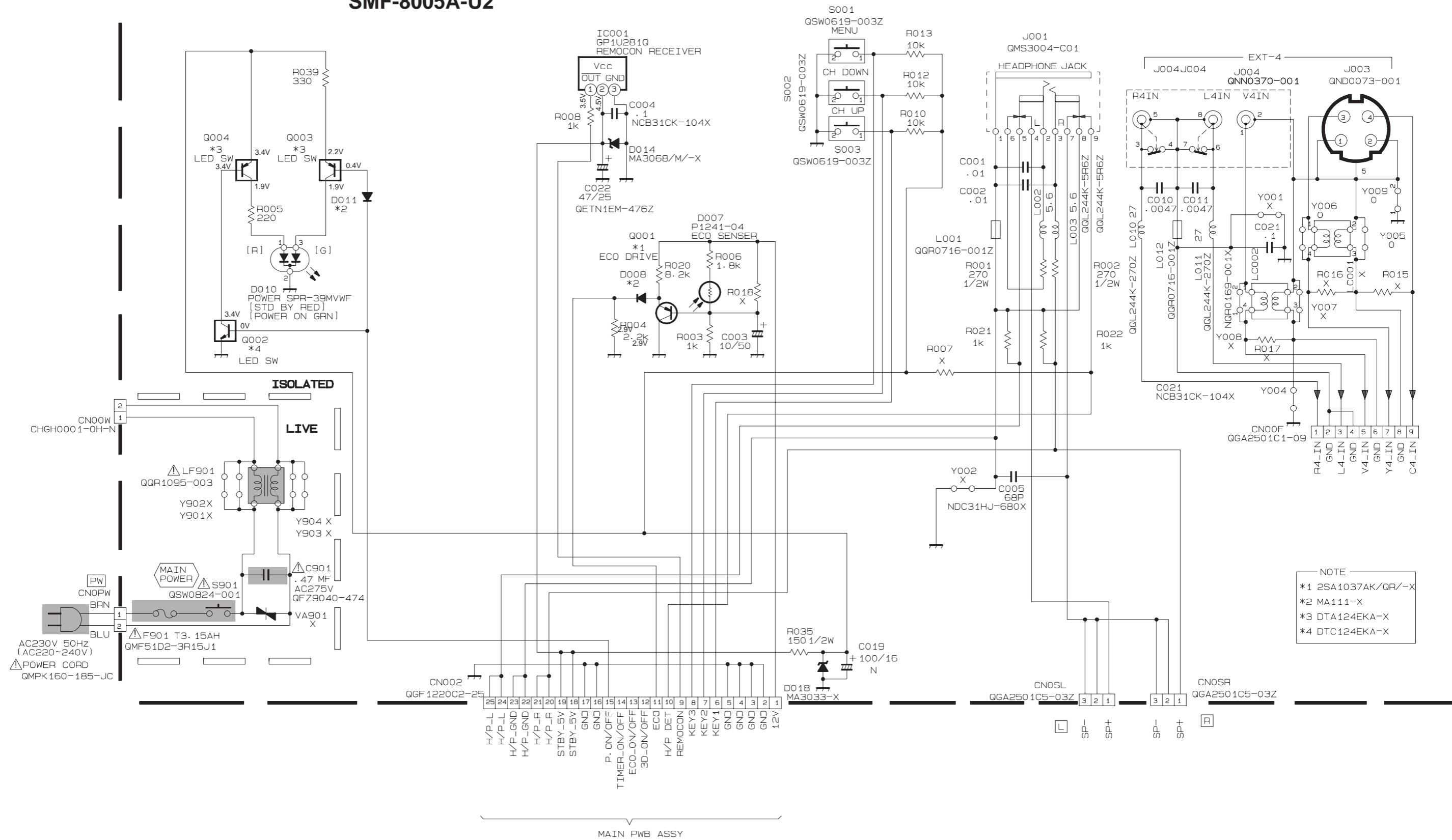




FRONT CONTROL PWB CIRCUIT DIAGRAM

# FRONT CONTROL PWB ASS'Y

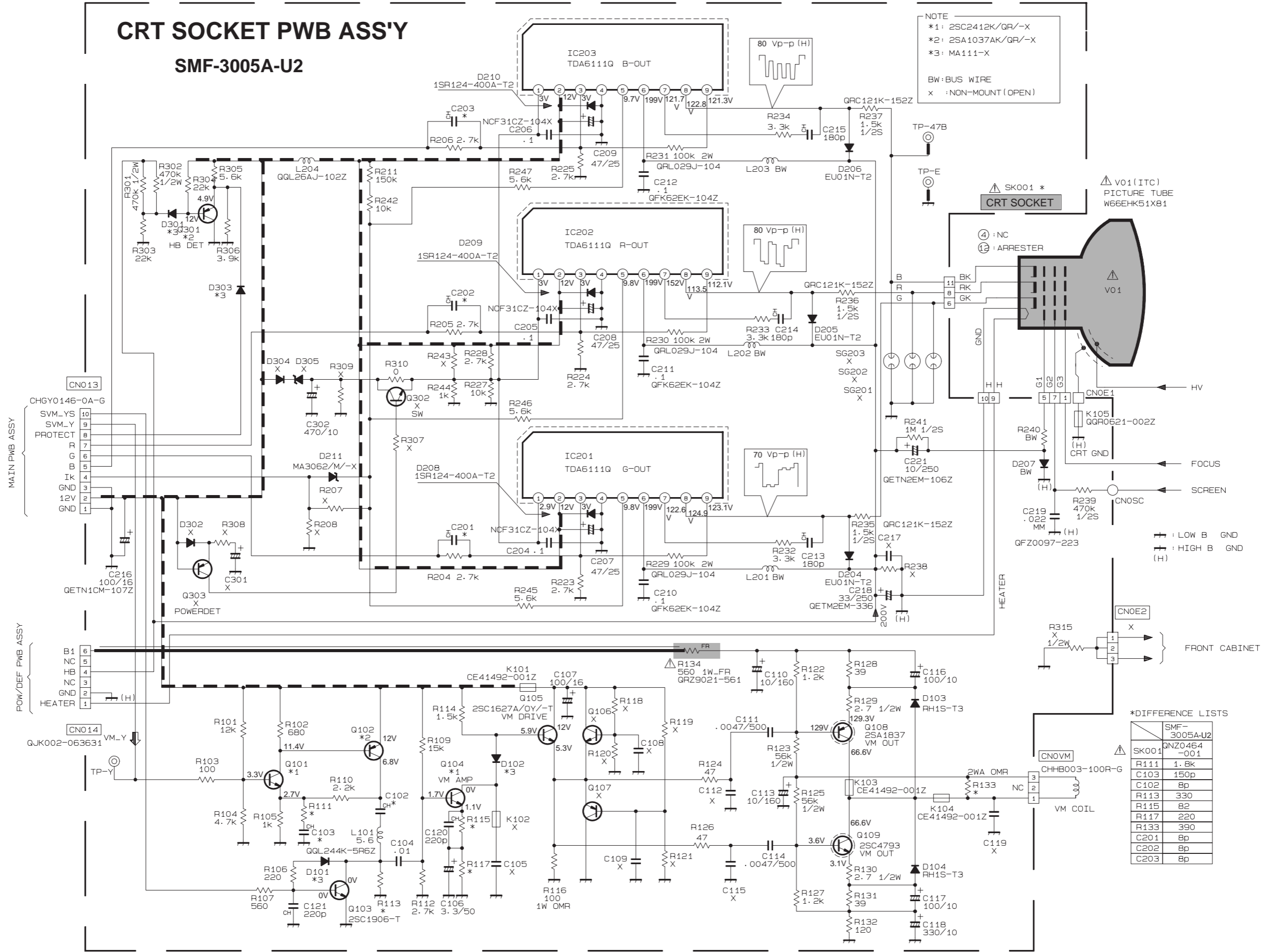
## SMF-8005A-U2



CRT SOCKET PWB CIRCUIT DIAGRAM

CRT SOCKET PWB ASS'Y  
SMF-3005A-U2

NOTE  
\*1: 2SC2412K/QR/-X  
\*2: 2SA1037AK/QR/-X  
\*3: MA111-X  
BW: BUS WIRE  
X: NON-MOUNT (OPEN)

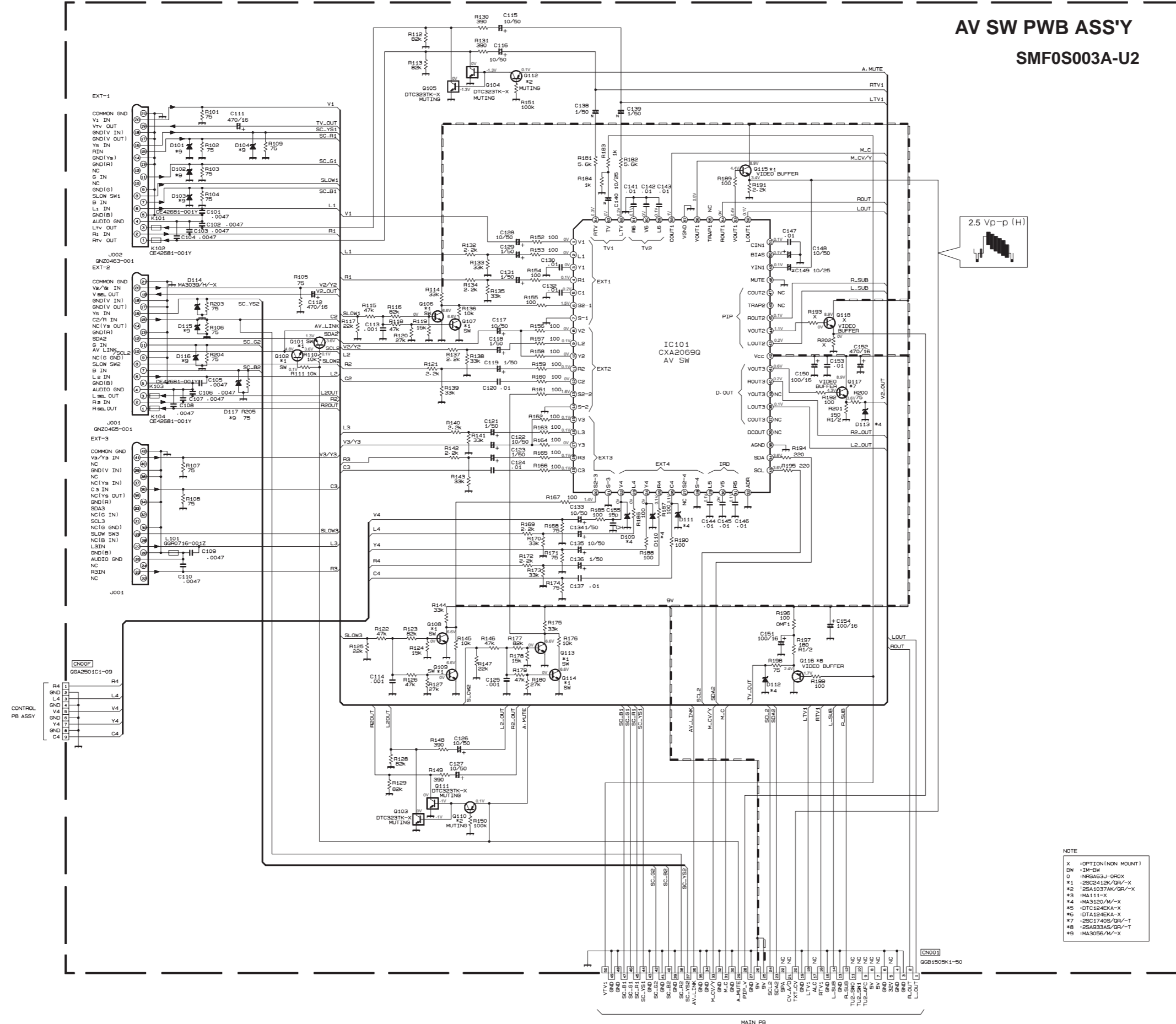


\*DIFFERENCE LISTS

SMF-3005A-U2	SMF-3005A-U2
SK001	BNZ0464-001
R111	1.8k
C103	150p
C102	8p
R113	330
R115	82
R117	220
R133	390
C201	8p
C202	8p
C203	8p

AV SW PWB CIRCUIT DIAGRAM

AV SW PWB ASS'Y  
SMF0S003A-U2



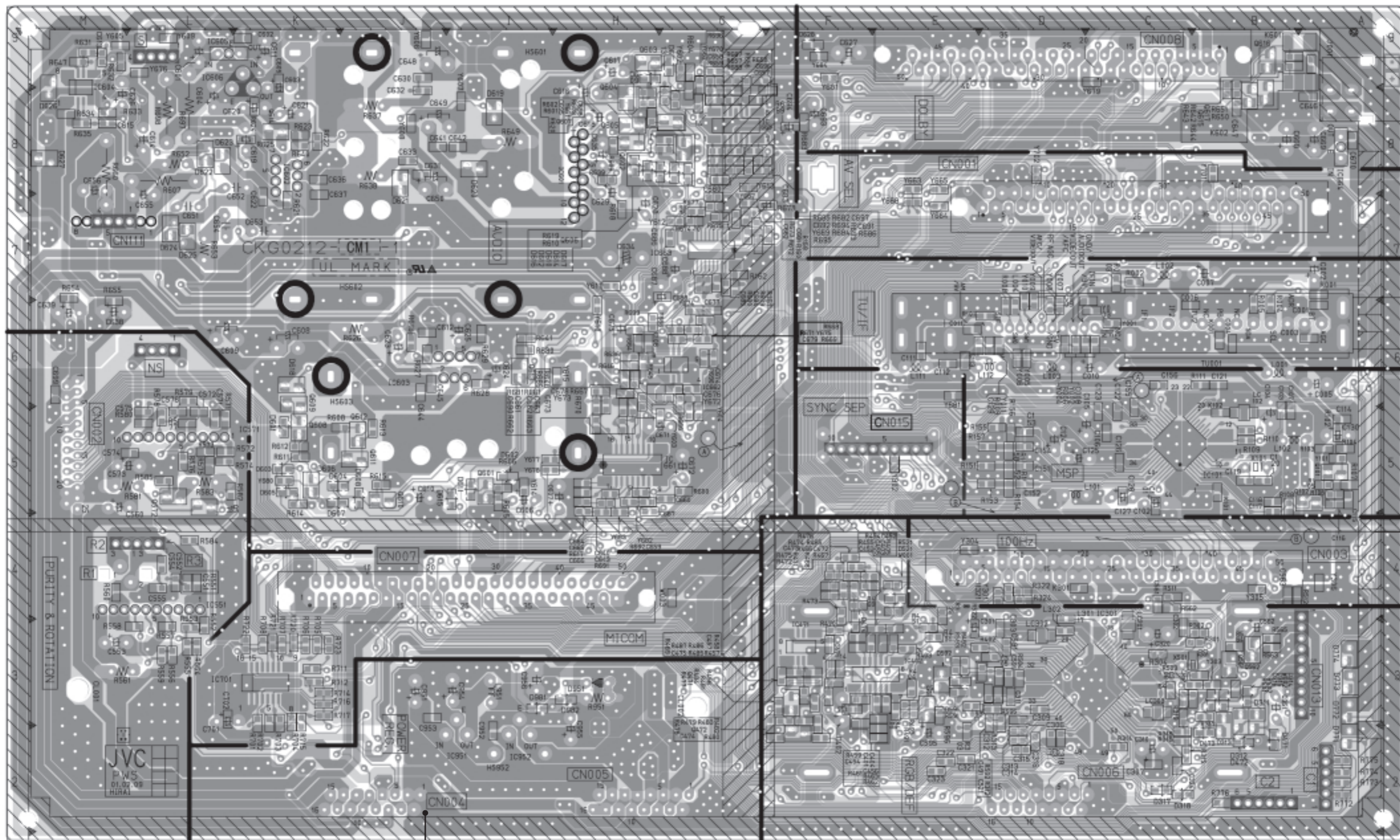
2.5 Vp-p (H)

NOTE

- X - OPTION (NON MOUNT)
- BW - 1BH-BW
- D - NFSAE3J-GR-X
- \*1 - 2SC2412K/GR/-X
- \*2 - 2SA1037AK/GR/-X
- \*3 - MA111-X
- \*4 - MA3120/M-X
- \*5 - DTC124EKA-X
- \*6 - DT4124EKA-X
- \*7 - 2SC1740S/GR/-T
- \*8 - 2SA933AS/GR/-T
- \*9 - MA3056/M-X

PATTERN DIAGRAMS MAIN PWB PATTERN

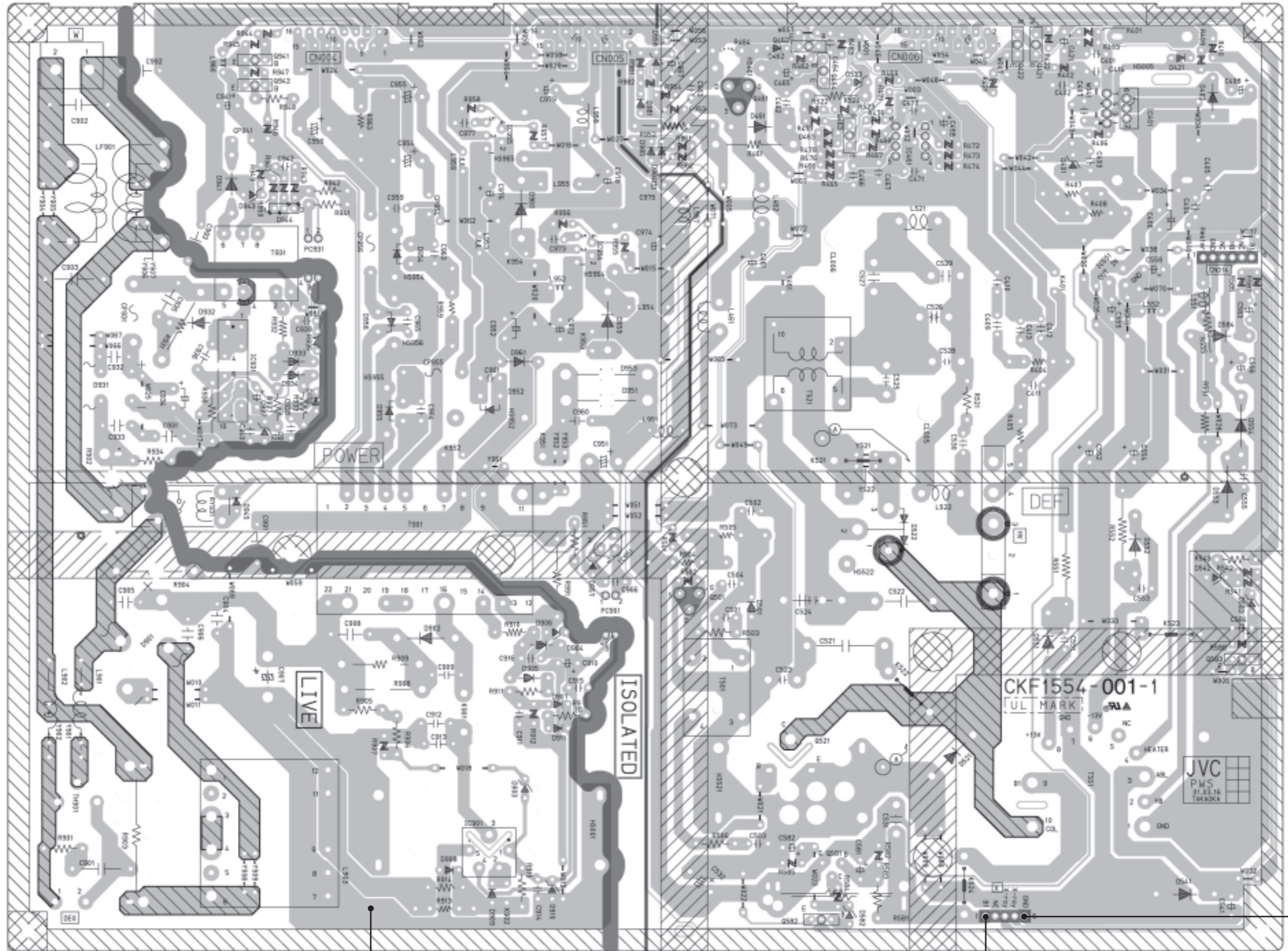
← FRONT



(77)

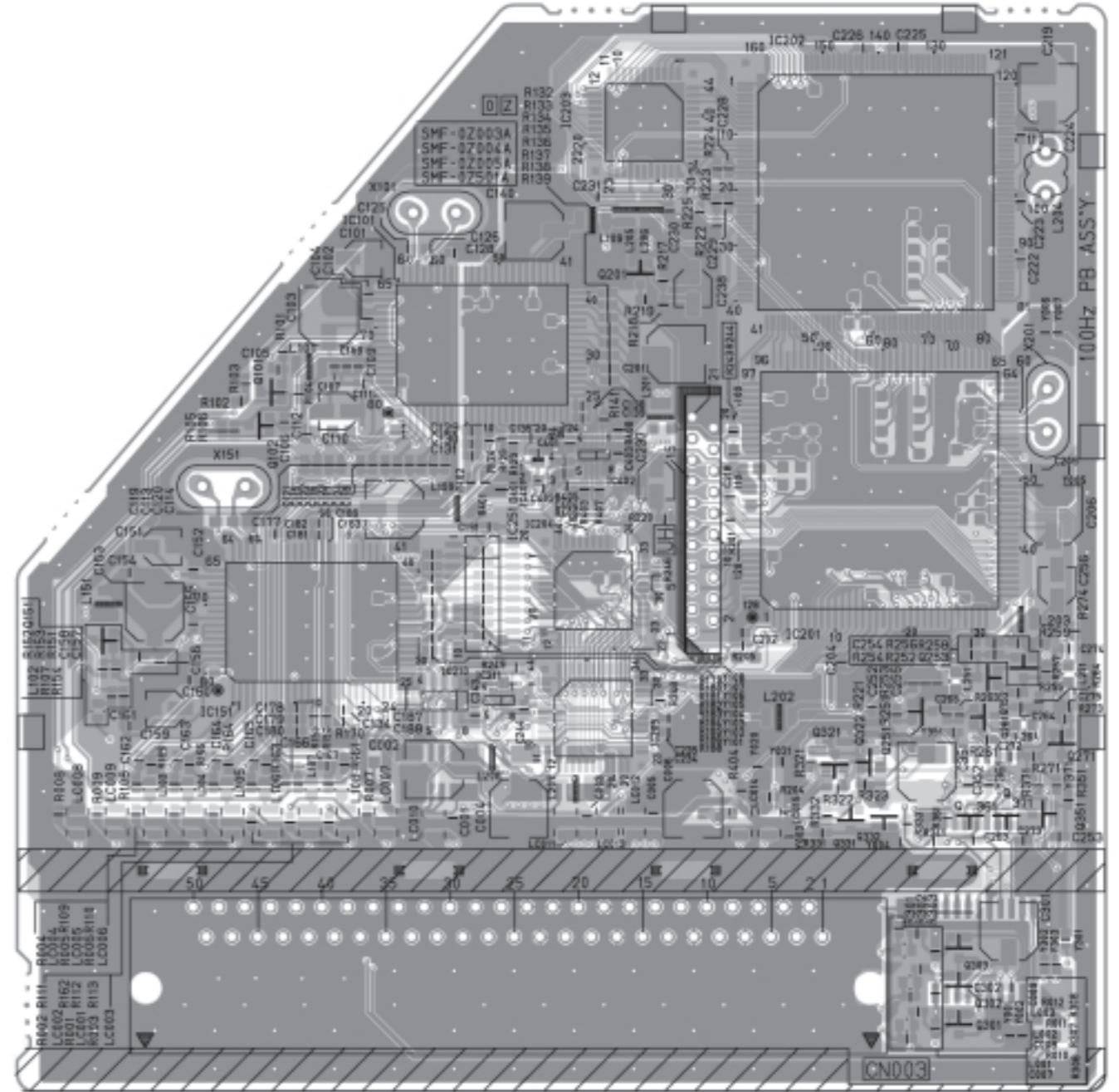
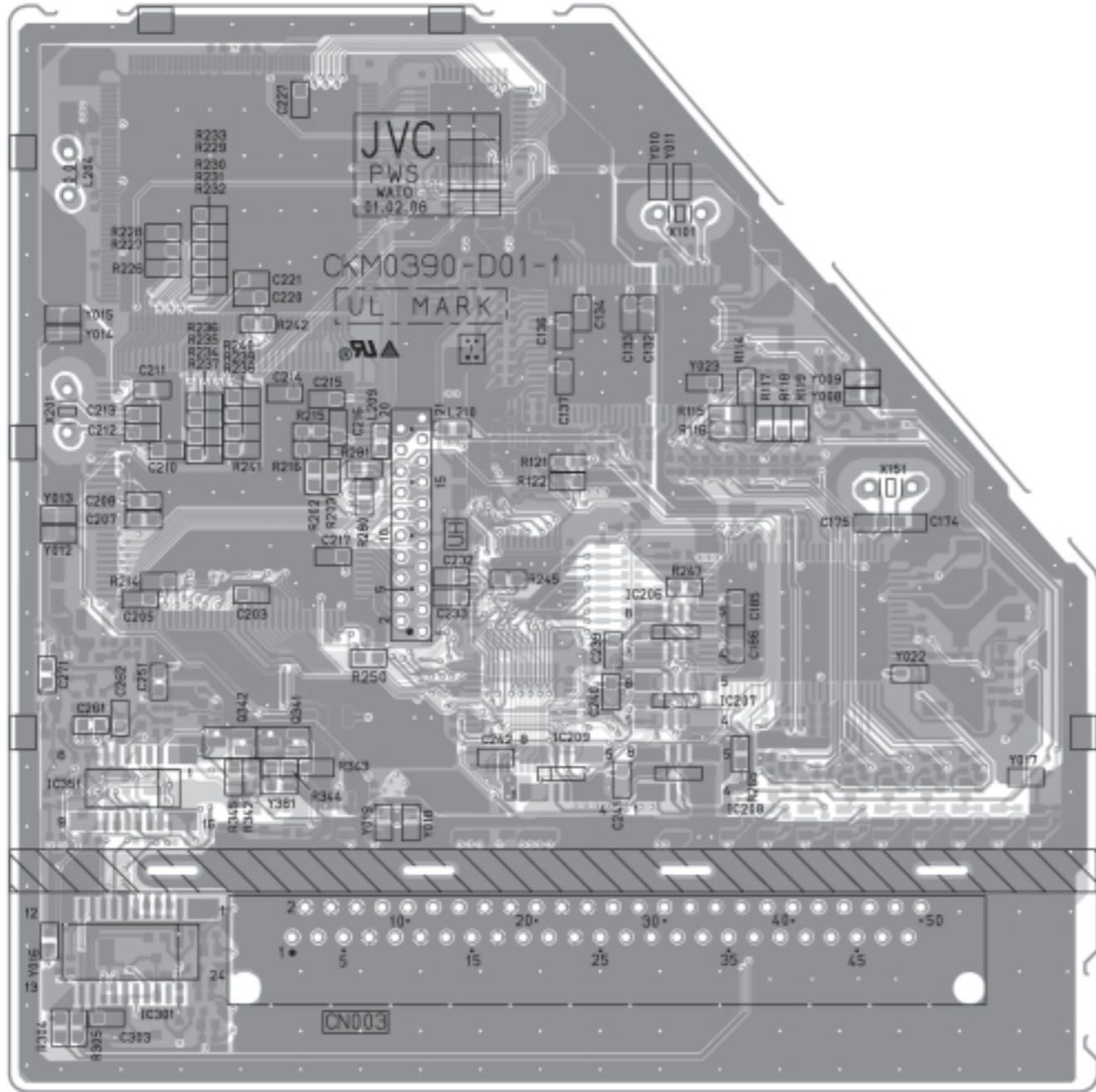
POWER & DEF PWB PATTERN

FRONT



100Hz PWB PATTERN (SOLDER SIDE)

100Hz PWB PATTERN (PARTS SIDE)

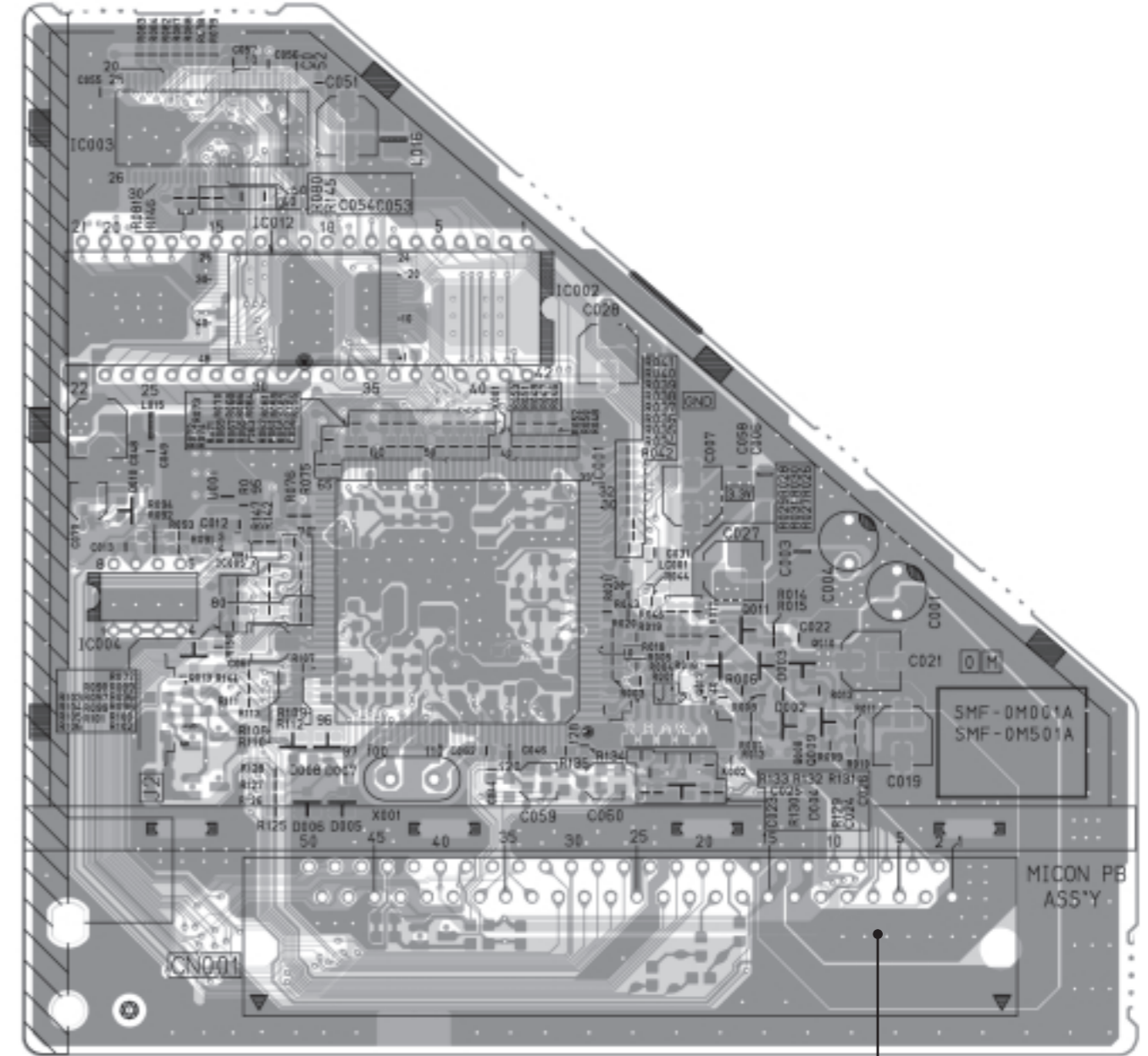
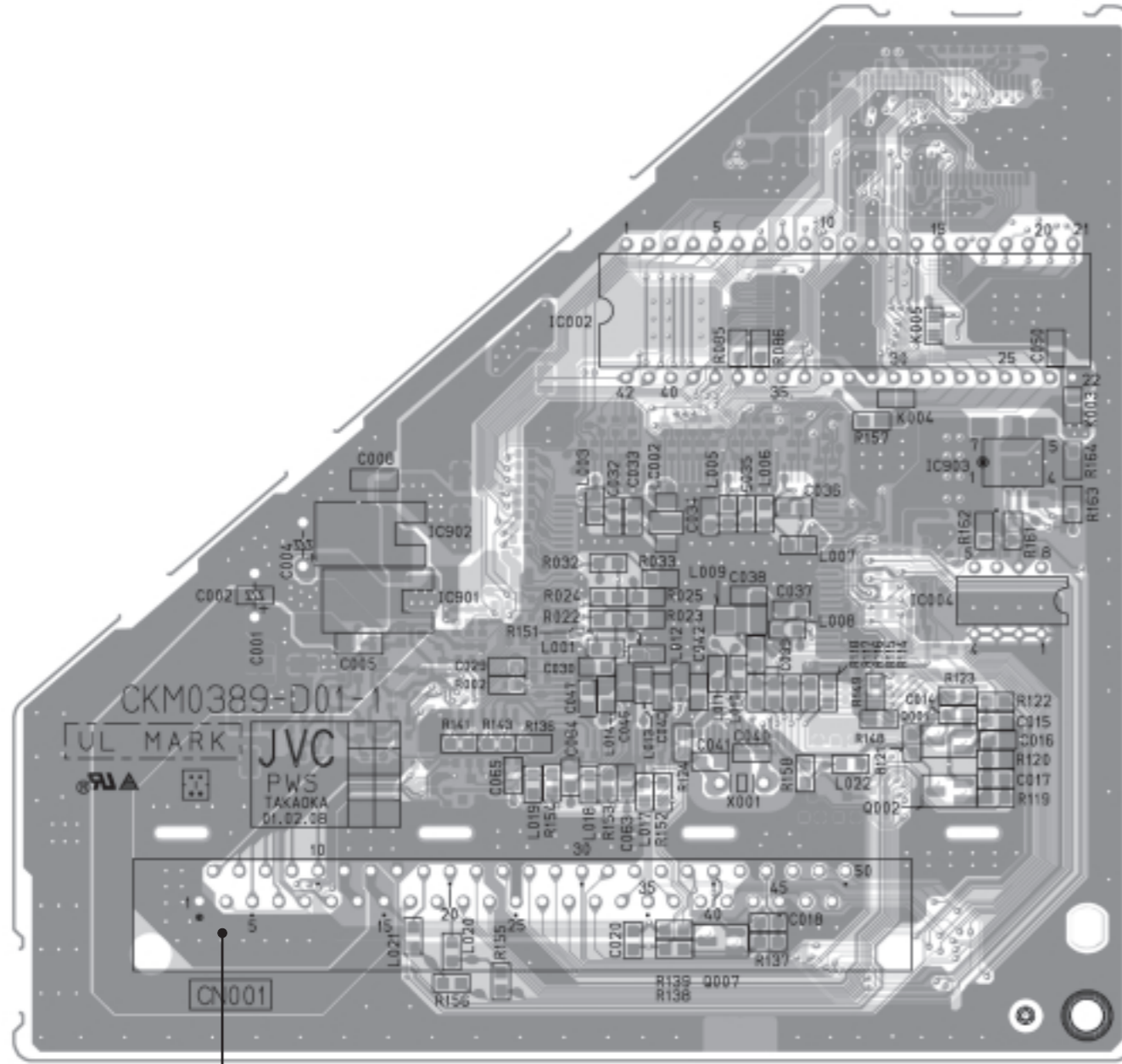


MICON PWB PATTERN (SOLDER SIDE)

MICON PWB PATTERN (PARTS SIDE)

↑ TOP

↑ TOP



(mm)

(mm)

FRONT CONTROL PWB PATTERN

