

# AV-61S902 (US / CA) 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



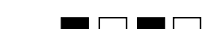
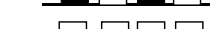
#### (1)Resistors

●Resistance value

- 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



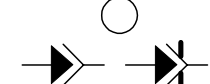
-  : B1
-  : B2 (12V)
-  : 9V
-  : 5V

\*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

# CONTENTS

**SEMICONDUCTOR SHAPES** ..... 2-3  
**BLOCK DIAGRAM** ..... 2-5  
**CIRCUIT DIAGRAMS & PATTERN DIAGRAMS**

PWB's name	PWB ASS'Y No.	Circuit	Pattern
MAIN PWB ASS'Y	SPD-1002A	2-17~2-24	2-37~2-40
RECEIVER PWB ASS'Y	SPD-0R002A	2-7~2-10	2-43,2-44
AV SELECTOR PWB ASS'Y	SPD-0R101A	2-11~2-14	2-45,2-46
COMPONENT INPUT ASS'Y	SPD-0J002A	2-15,2-16	2-53
REAR JACK PWB ASS'Y	SPD-0J101A	2-11	2-53
I-P CONVERT. PWB ASS'Y	SPD-0D001A	NO PRINT	NO PRINT
3D YC SEP. MODULE	SHI-0Y021A	NO PRINT	NO PRINT
SUB COLOR DEMOD. MODULE	SHI-0V131A	NO PRINT	NO PRINT
DIGITAL INPUT MODULE	SPD-7801A	NO PRINT	NO PRINT
RGB PROCESS MODULE	SPD-0V002A	NO PRINT	NO PRINT
SURROUND MODULE	SPD-0A001A	NO PRINT	NO PRINT
MAIN DRIVE PWB ASS'Y	SPD-1101A	NO PRINT	NO PRINT
SUB DRIVE MODULE	SPD-3001A	NO PRINT	NO PRINT
POWER PWB ASS'Y	SPD-9001A	2-29~2-32	2-41,2-42
LINE FILTER PWB ASS'Y	SPD-9102A	2-27~2-28	2-47,2-48
IGNITER PWB ASS'Y	SXP-9201A	2-35~2-36	2-49
LED PWB ASS'Y	SPD-7001A	2-33~2-34	2-50
FRONT JACK PWB ASS'Y	SPD-7101A	2-26	2-52
SYNC SEP PWB ASS'Y	SPD-7202A	2-25,2-26	2-51
REMO-CON SENSOR PWB ASS'Y	SPD-7301A	2-25,2-26	2-52
LAMP TIMER PWB ASS'Y	SXP-7401A	NO PRINT	NO PRINT
LAMP CONNECT. PWB ASS'Y	SXP-7501A	NO PRINT	NO PRINT

**CHANNEL CHART (US)** ..... 2-54

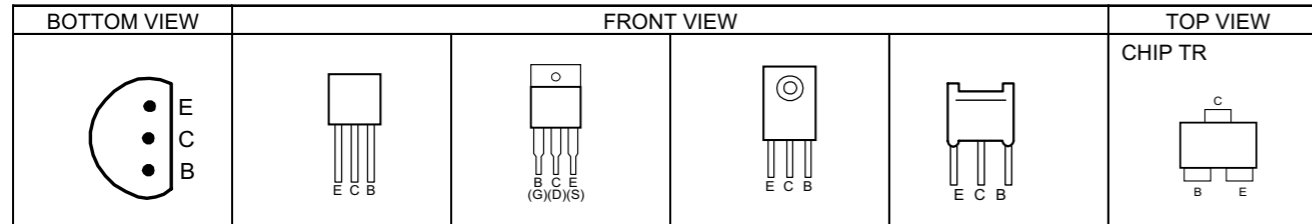
## CHANNEL CHART (CA)

MODE		BAND	CHANNEL		TUNER BAND				
TV	CATV		REAL	DISP.					
○	○	VL		02	I				
				03					
				04					
				05					
				06					
				07					
		x	○	VH		08	II		
						09			
						10			
						11			
						12			
						13			
				x	○	MID	A	14	II
B	15								
C	16								
D	17								
E	18								
F	19								
G	20								
H	21								
I	22								
x	○	SUPER	J				23	III	
			K				24		
			L				25		
			M			26			
			N			27			
			O			28			
			P			29			
			Q			30			
			R			31			
			S			32			
			T			33			
			U			34			
		V	35						
		W	36						
		x	○			HYPER	W+1	37	III
							W+2	38	
							W+3	39	
							W+4	40	
							W+5	41	
							W+6	42	
							W+7	43	
							W+8	44	
							W+9	45	
							W+10	46	
W+11	47								
W+12	48								
W+13	49								
W+14	50								
x	○	ULTRA	W+15	51	IV				
			W+16	52					
			W+17	53					
			W+18	54					
			W+19	55					
			W+20	56					
			W+21	57					
			W+22	58					
			W+23	59					
			W+24	60					
W+25	61								
W+26	62								
W+27	63								
W+28	64								
W+29	65								
W+30	66								
W+31	67								
W+32	68								
W+33	69								
W+34	70								

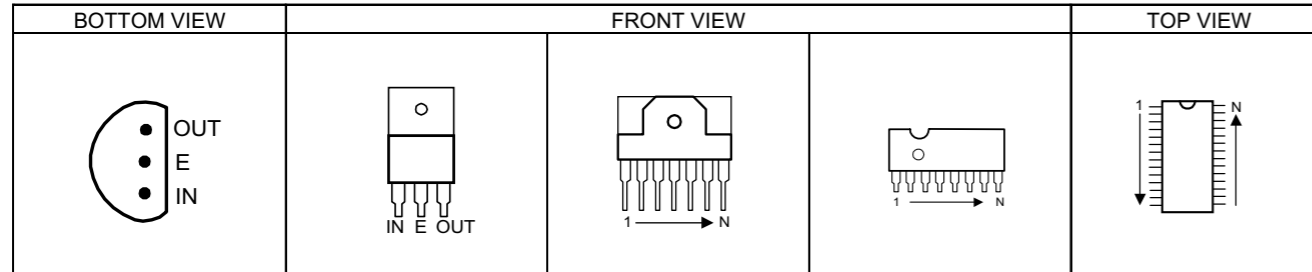
MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
x	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
W+71	112				
W+72	113				
W+73	114				
W+74	115				
W+75	116				
W+76	117				
W+77	118				
W+78	119				
W+79	120				
W+80	121				
W+81	122				
W+82	123				
W+83	124				
W+84	125				
○	x	SUB MID	A-8	01	II
			A-4	96	
			A-3	97	
			A-2	98	
			A-1	99	
○	x	UHF	14	69	IV
TOTAL 180CH VHF 124CH UHF 56CH					
NOTE: TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES, SPECIAL ADAPTERS MAY BE REQUIRED.					

# SEMICONDUCTOR SHAPES

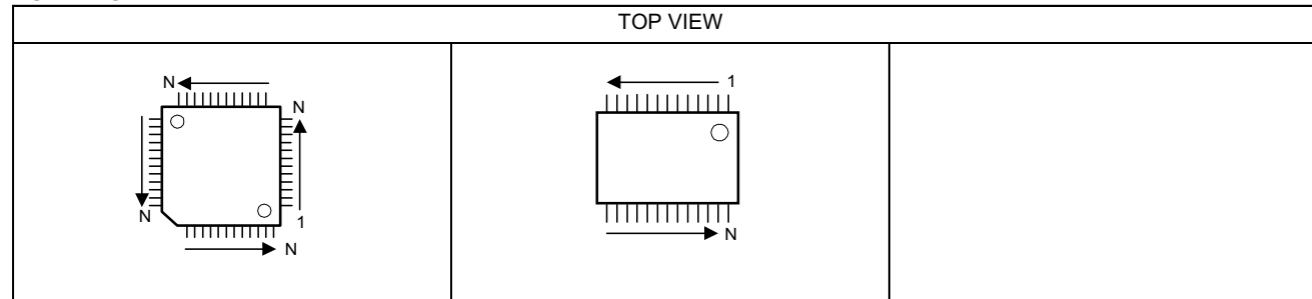
## TRANSISTOR



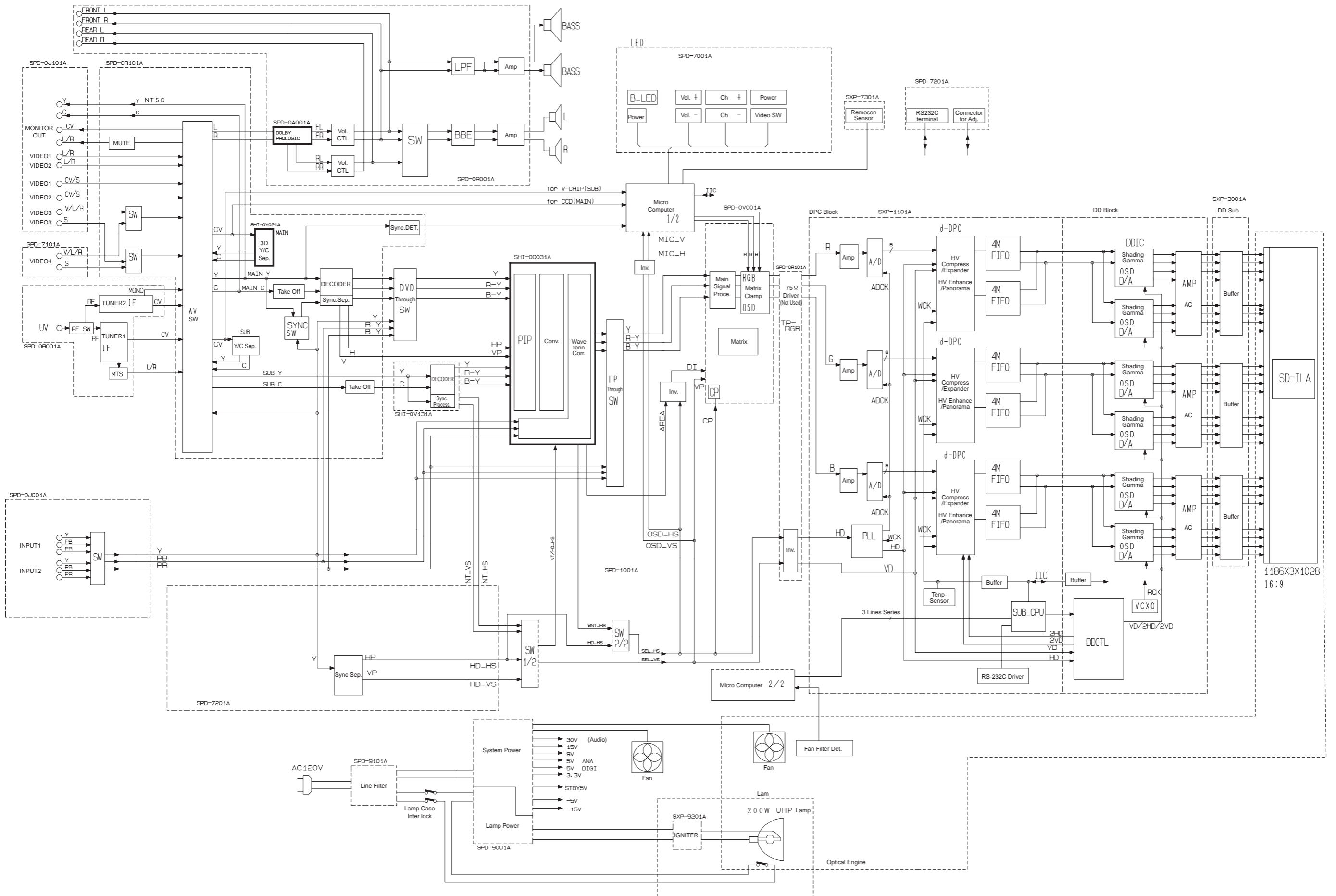
## IC



## CHIP IC

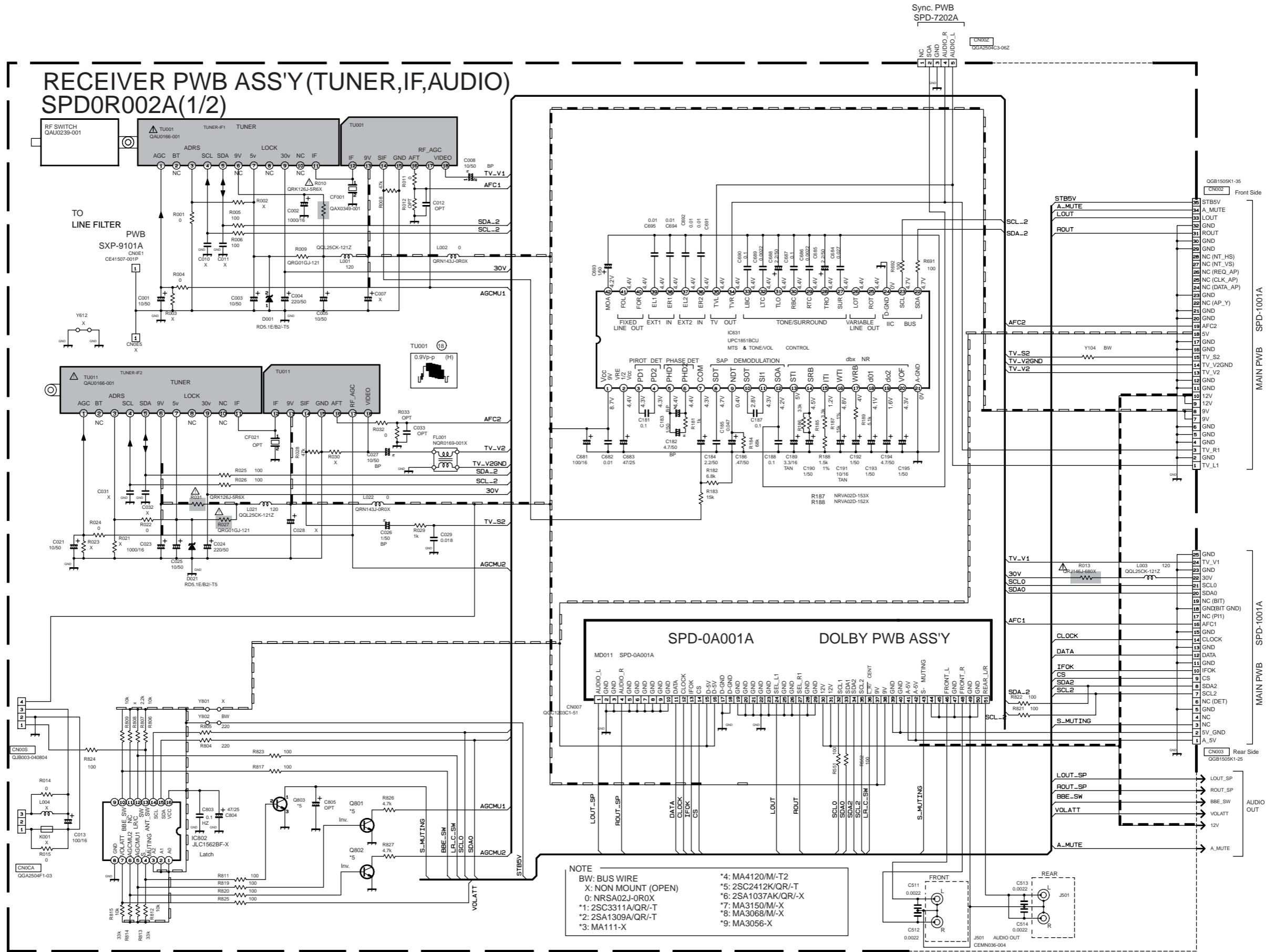


# BLOCK DIAGRAM



CIRCUIT DIAGRAM

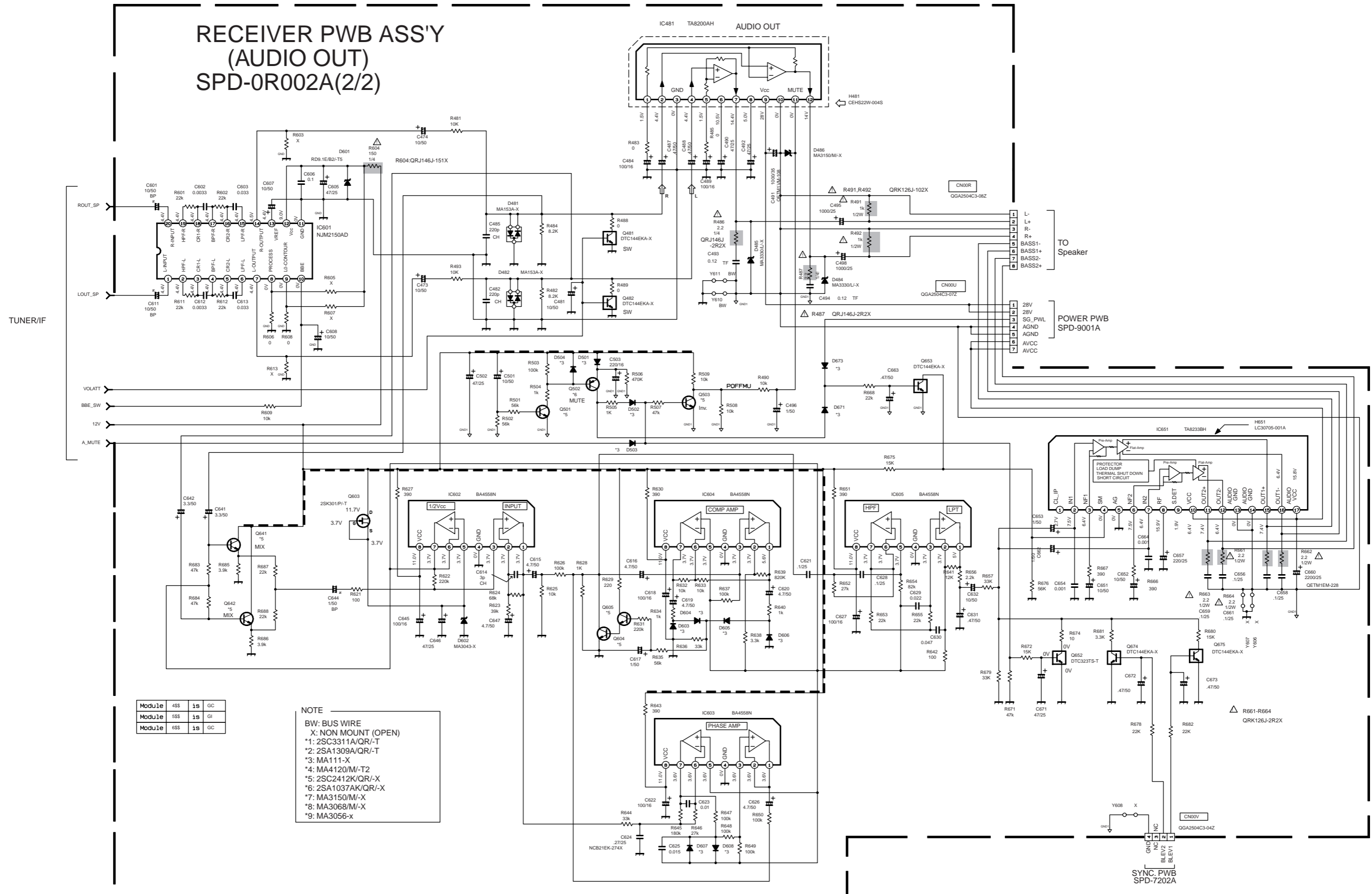
RECEIVER PWB CIRCUIT DIAGRAM(TUNER / IF)



NOTE  
 BW: BUS WIRE  
 X: NON MOUNT (OPEN)  
 0: NRSA02J-0R0X  
 \*1: 2SC3311A/QR/-T  
 \*2: 2SA1309A/QR/-T  
 \*3: MA1111-X  
 \*4: MA4120/M/-T  
 \*5: 2SC2412K/QR/-T  
 \*6: 2SA1037AK/QR/-X  
 \*7: MA3150/M/-X  
 \*8: MA3068/M/-X  
 \*9: MA3056-X

【 RECEIVER PWB CIRCUIT DIAGRAM(AUDIO OUT) 】

RECEIVER PWB ASS'Y  
(AUDIO OUT)  
SPD-0R002A(2/2)

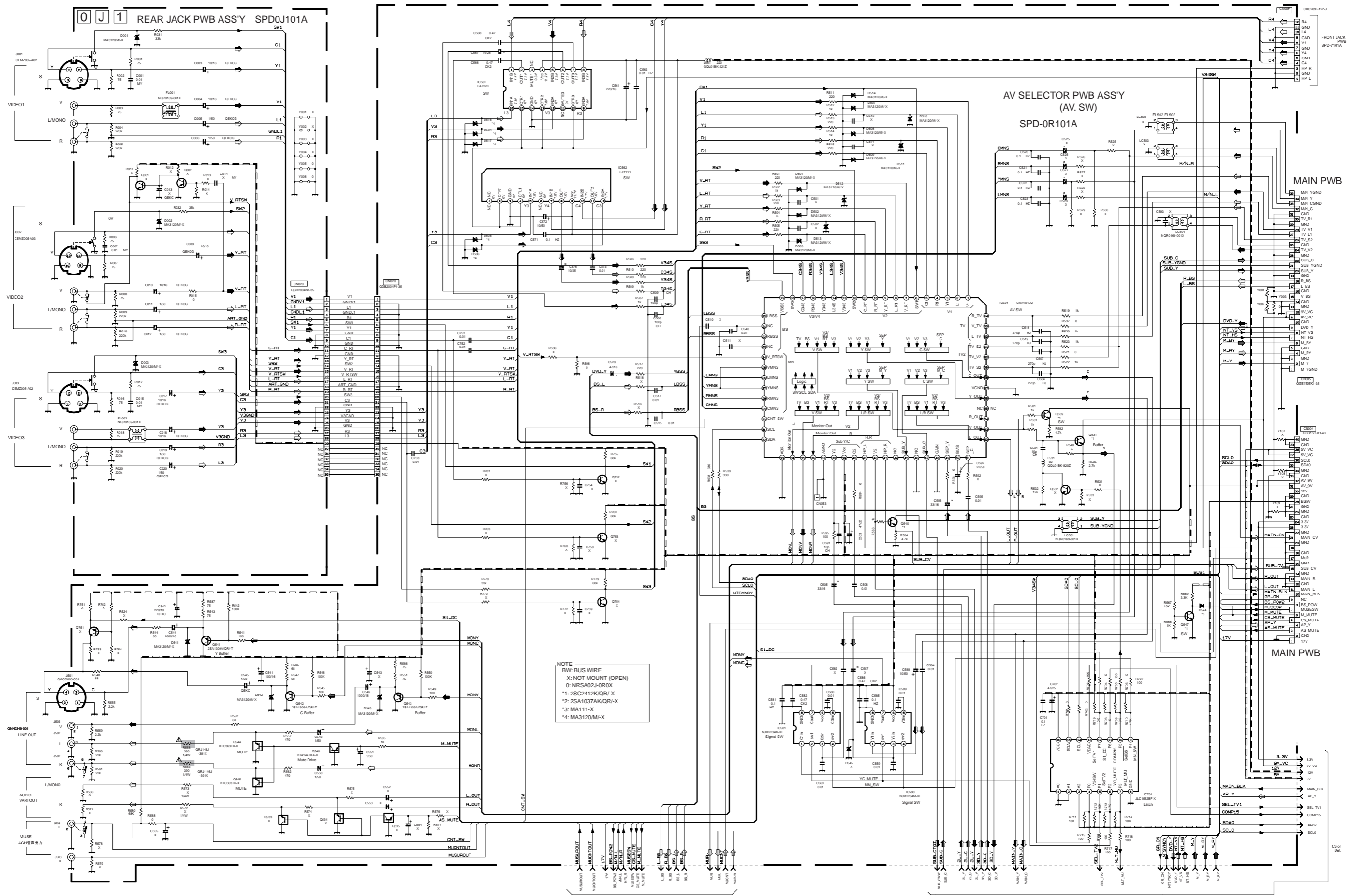


Module	4SS	1S	GC
Module	5SS	1S	GI
Module	6SS	1S	GC

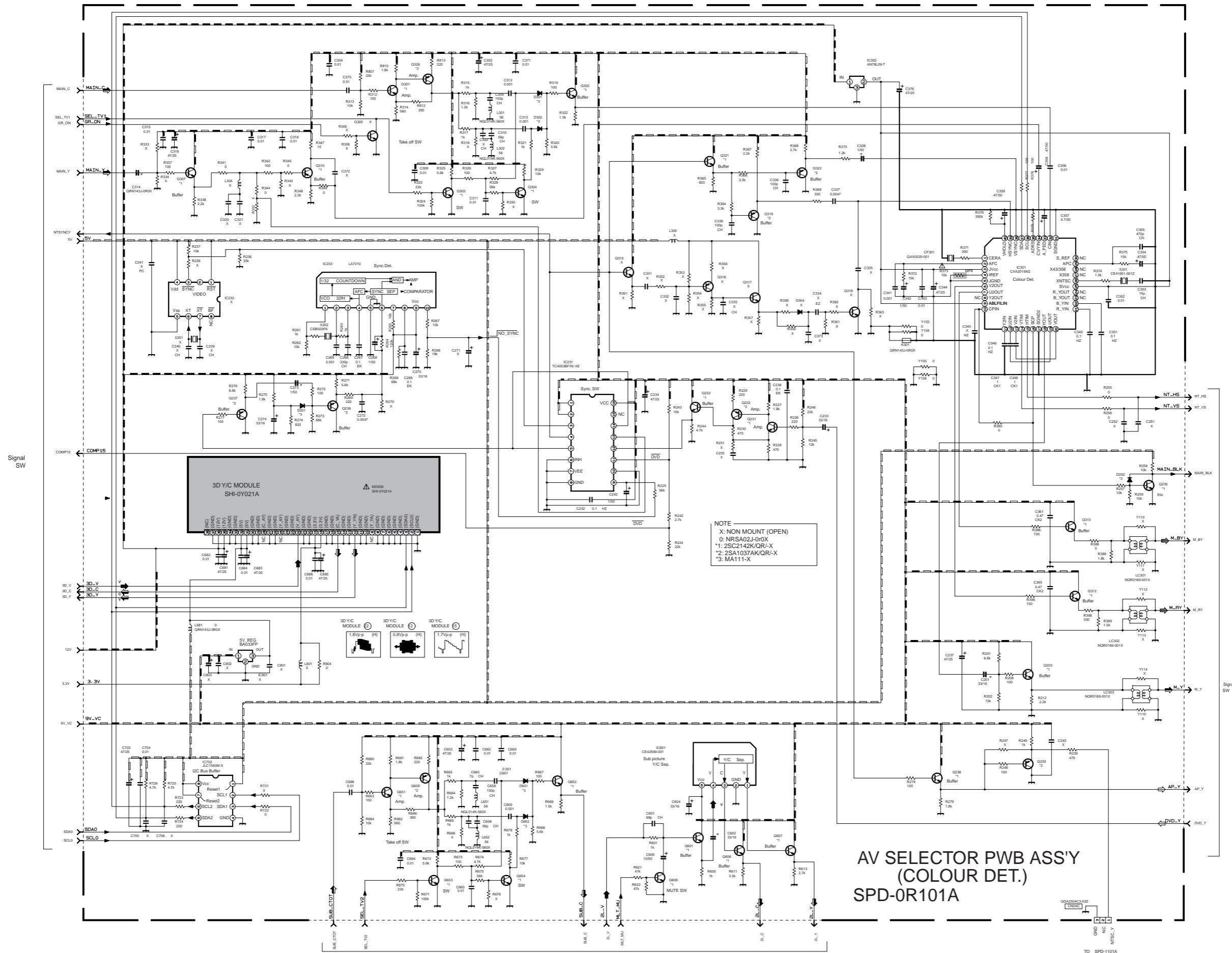
NOTE  
 BW: BUS WIRE  
 X: NON MOUNT (OPEN)  
 \*1: 2SC3311A/QR-T  
 \*2: 2SA1309A/QR-T  
 \*3: MA111-X  
 \*4: MA4120/M-T2  
 \*5: 2SC2412K/QR-X  
 \*6: 2SA1037AK/QR-X  
 \*7: MA3150/M-X  
 \*8: MA3068/M-X  
 \*9: MA3056-X



【 AV SELECTOR PWB CIRCUIT DIAGRAM(AV SW) 】



AV SELECTOR PWB CIRCUIT DIAGRAM(COLOUR DET)



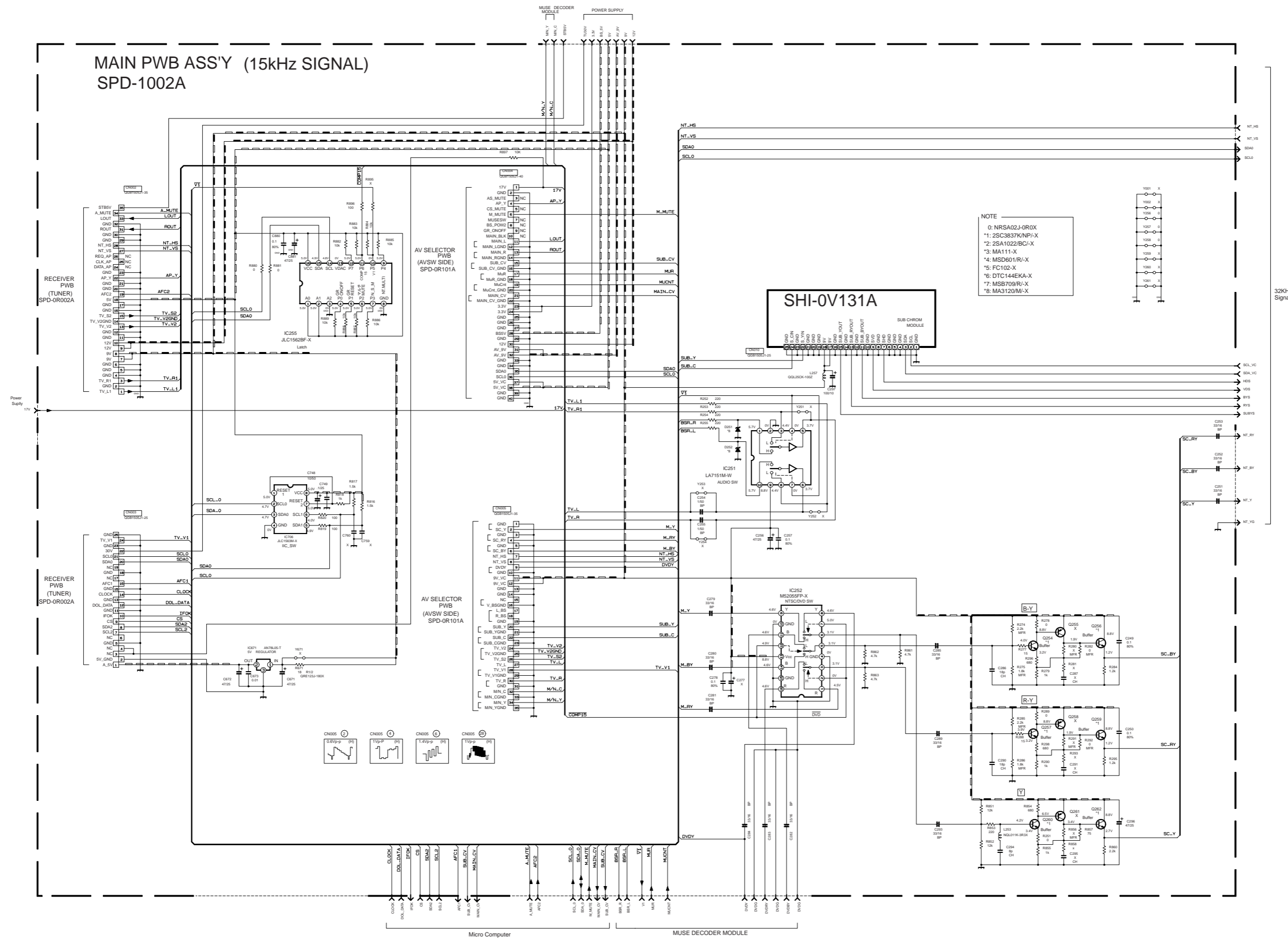
AV SELECTOR PWB ASS'Y  
(COLOUR DET.)  
SPD-0R101A

TO SPD-1101A



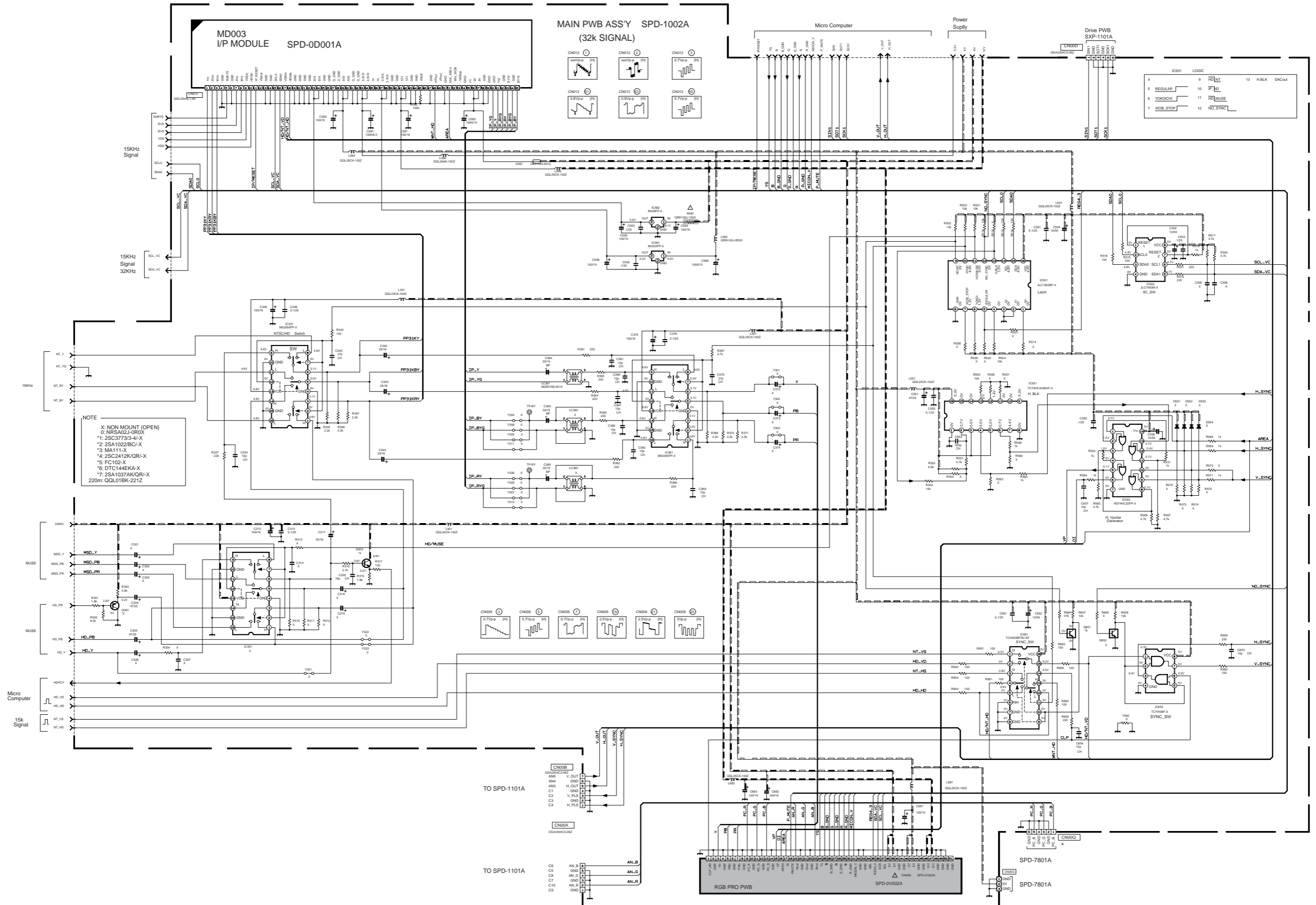


【 MAIN PWB CIRCUIT DIAGRAM(15kHz Signal) 】



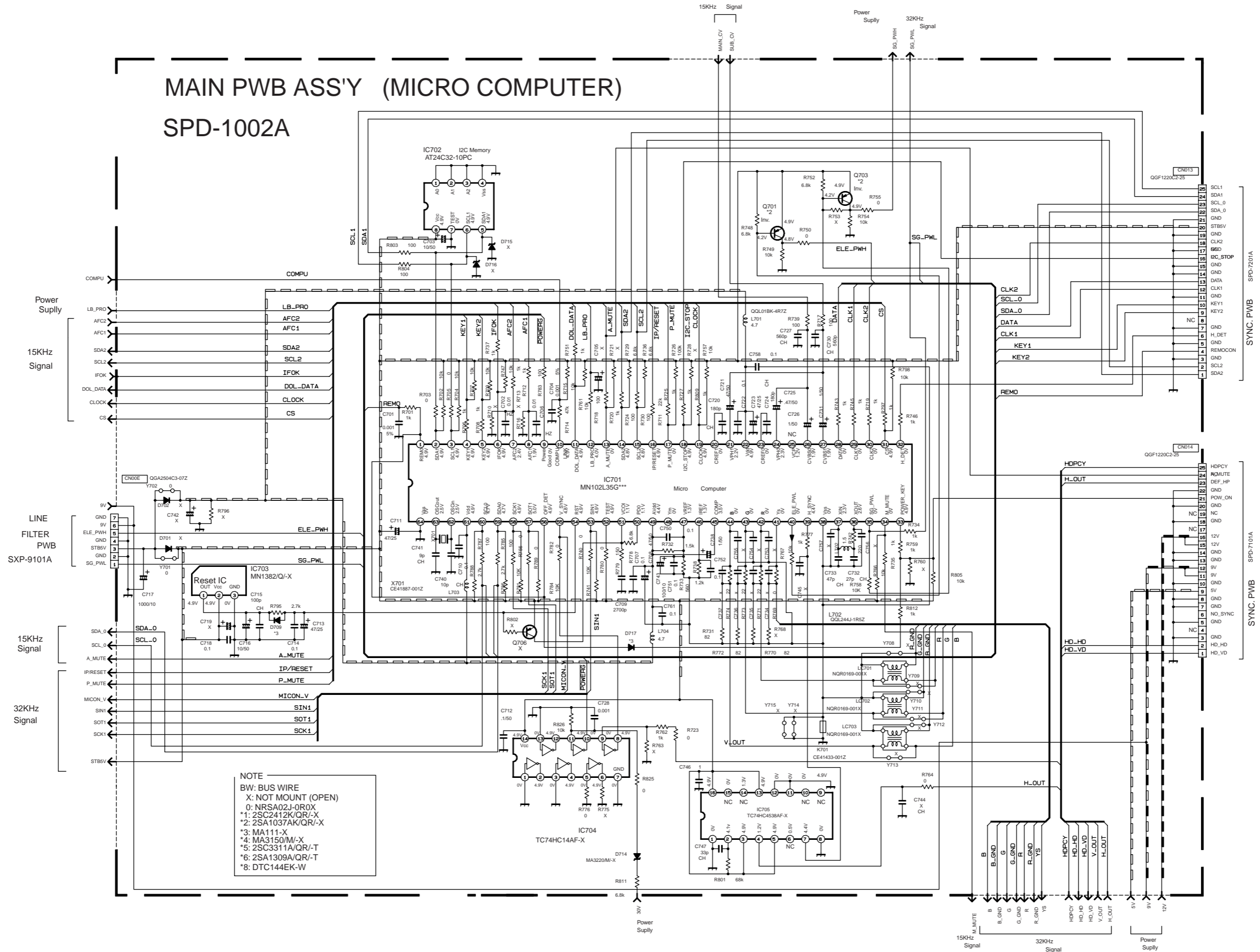
NOTE  
 0: NRSA02J-0R0X  
 1: 2SC3837K/NP/-X  
 2: 2SA1022/BC/-X  
 3: MA111-X  
 4: MSD601/R/-X  
 5: FC102-X  
 6: DTC144EKA-X  
 7: MSB709/R/-X  
 8: MA3120/M/-X

【 MAIN PWB CIRCUIT DIAGRAM(32KHz Signal) 】

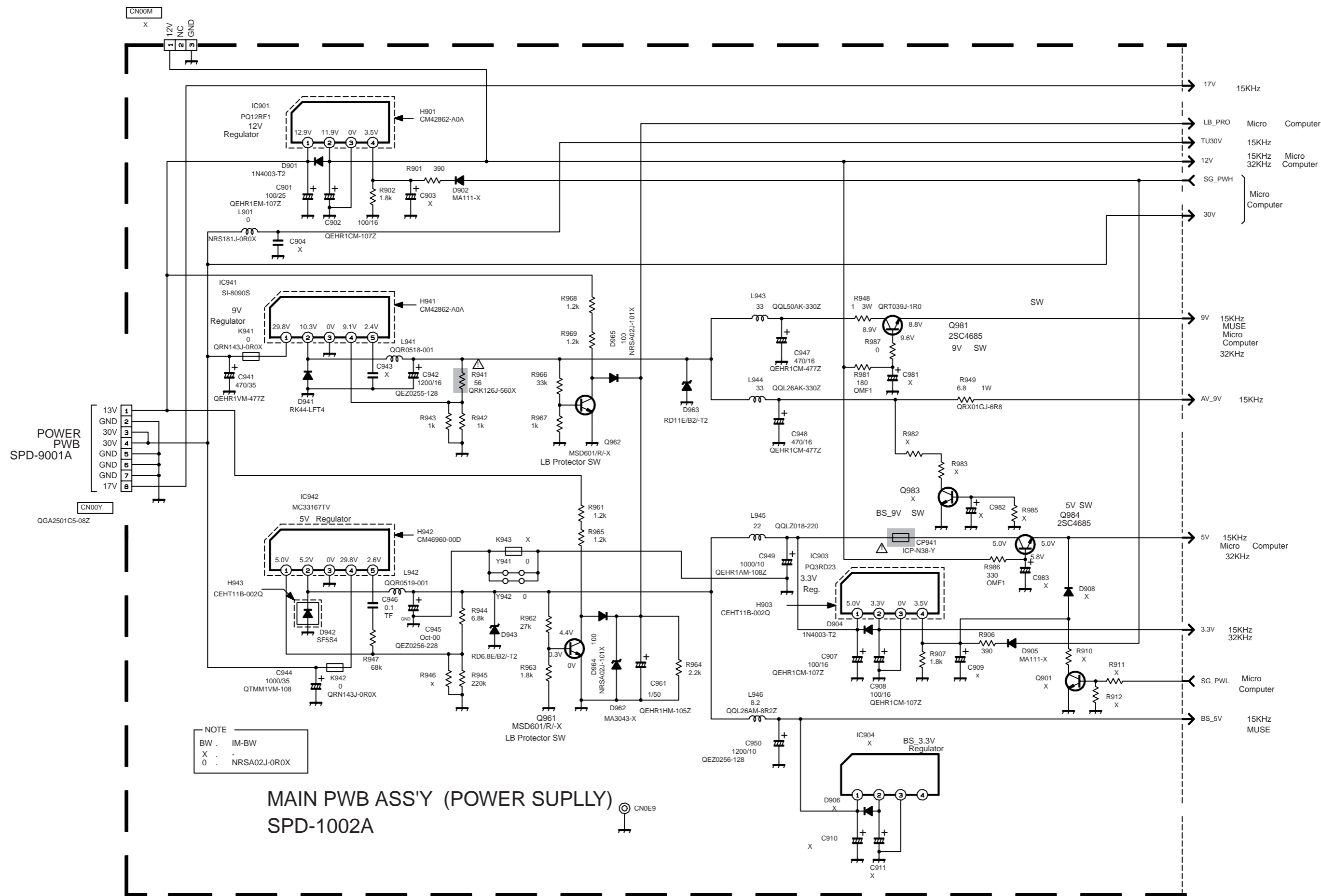


【 MAIN PWB CIRCUIT DIAGRAM(Micro Computer) 】

MAIN PWB ASS'Y (MICRO COMPUTER)  
SPD-1002A



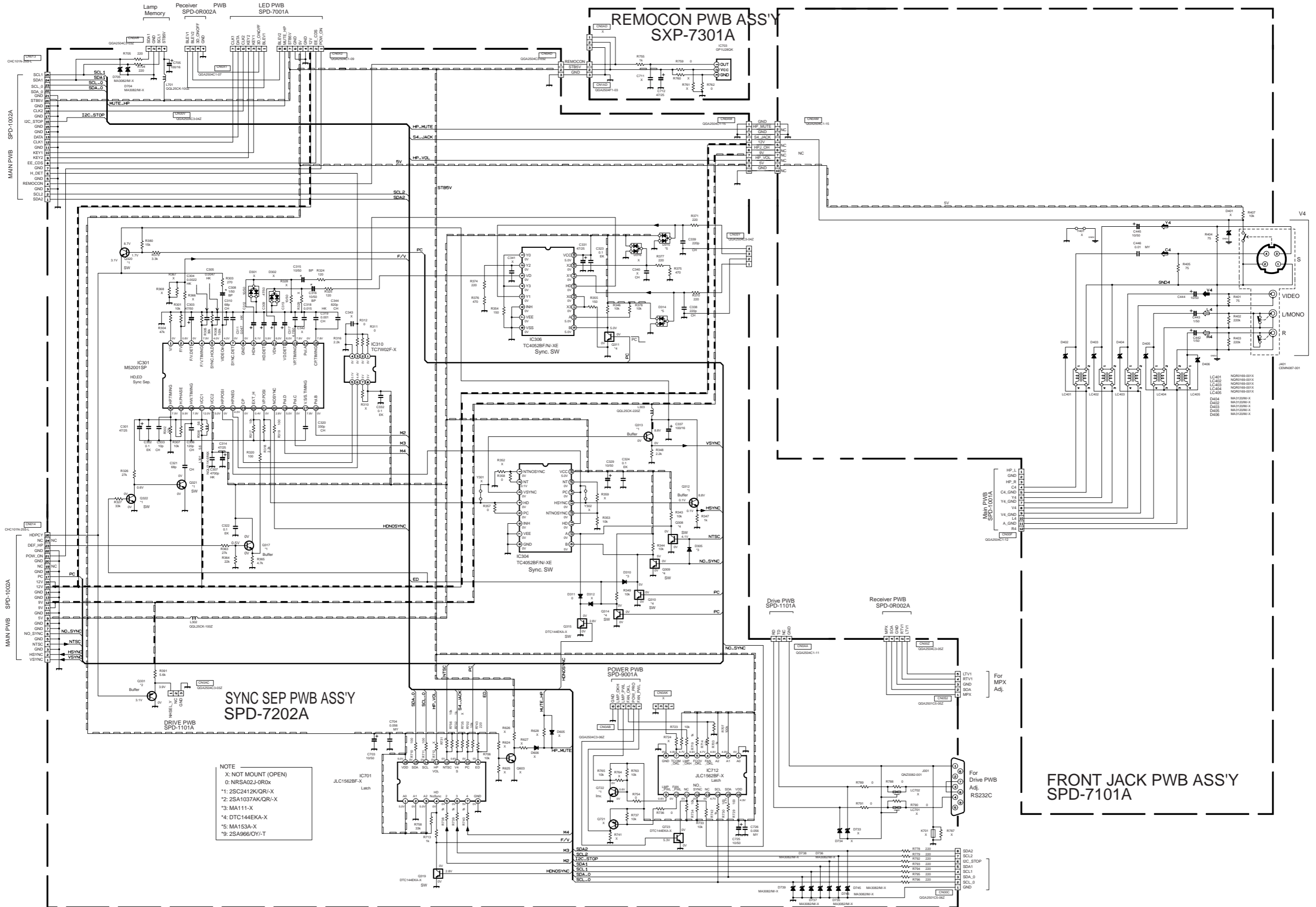
【 MAIN PWB CIRCUIT DIAGRAM(POWER SUPPLY) 】



MAIN PWB ASS'Y (POWER SUPPLY) SPD-1002A



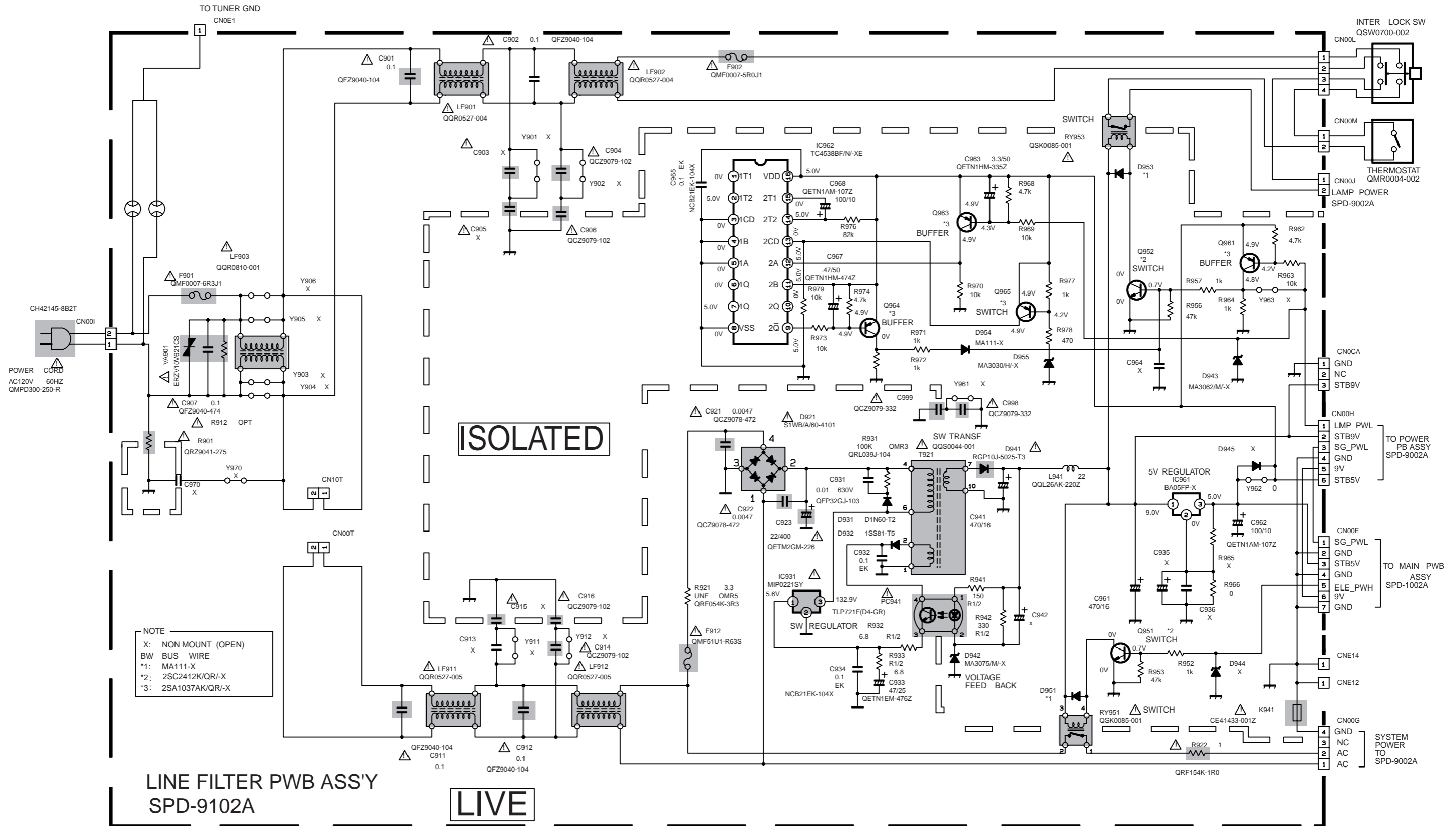
【 SYNC SEP PWB CIRCUIT DIAGRAM 】



NOTE  
 X: NOT MOUNT (OPEN)  
 0: NRS A02J-OR0x  
 1: 2SC2412K/OR-X  
 2: 2SA1037AK/OR-X  
 3: MA111-X  
 4: DTC144EKA-X  
 5: MA153A-X  
 9: 2SA966/OV-T

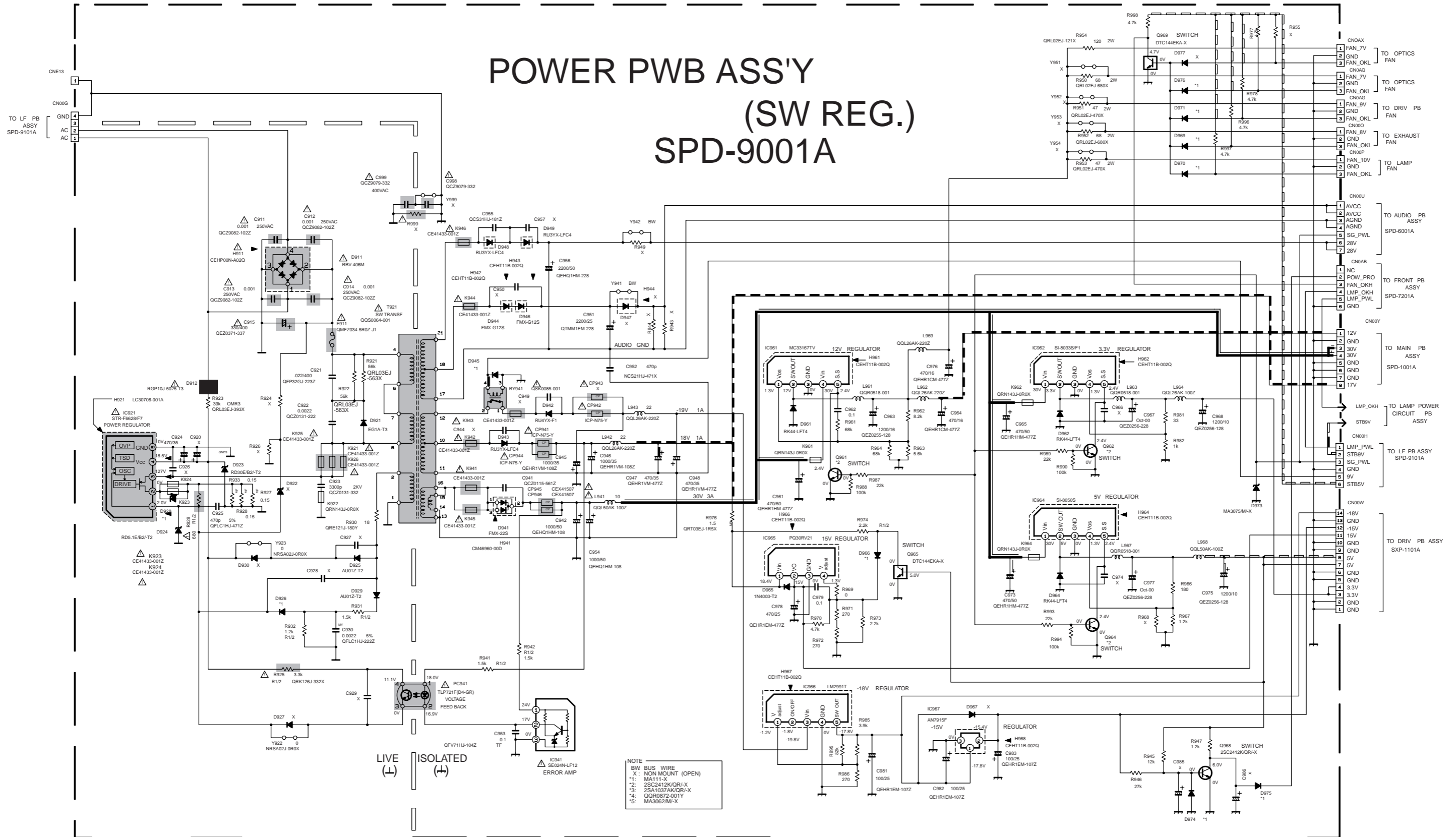


【 LINE FILTER PWB CIRCUIT DIAGRAM 】

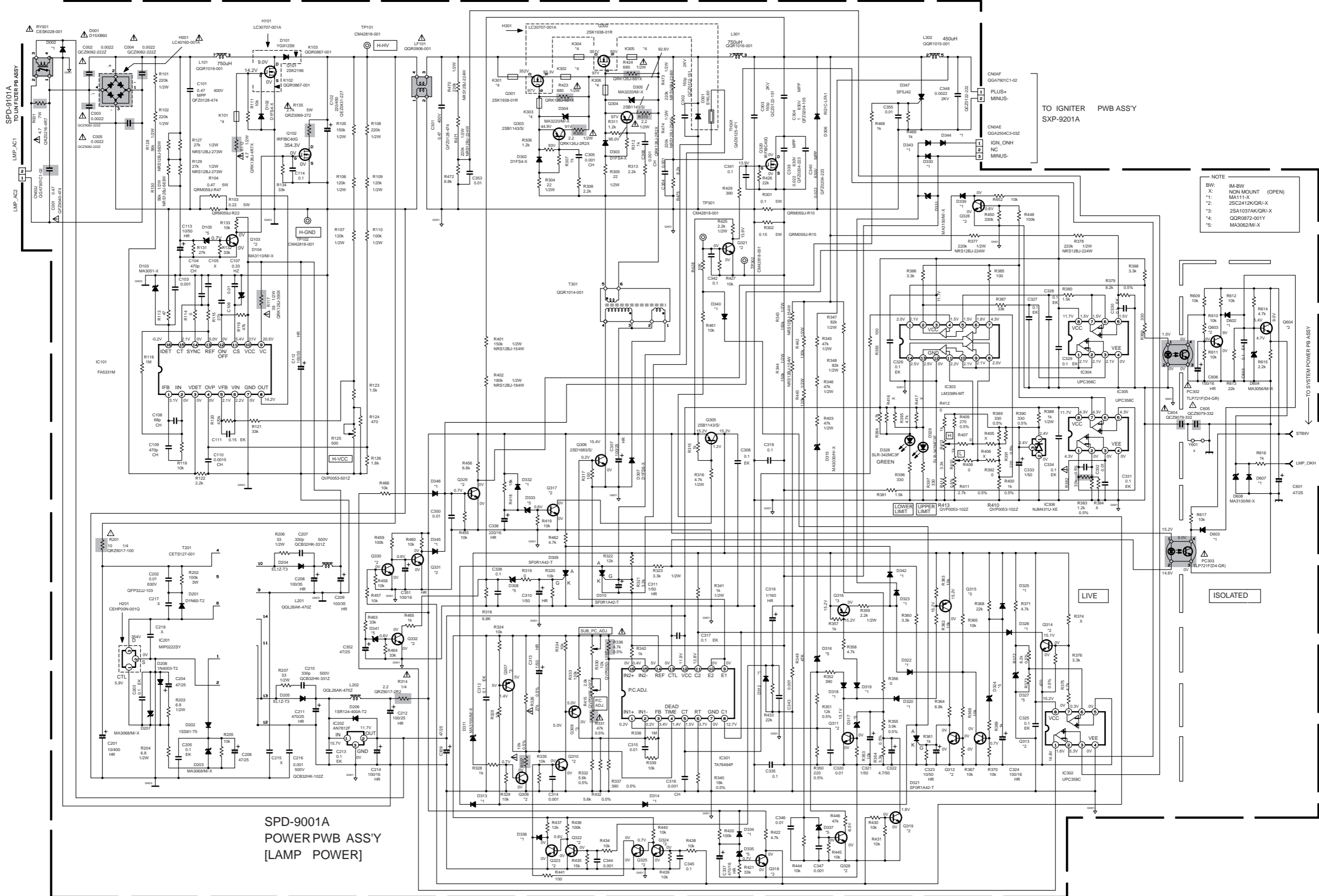


【 POWER PWB CIRCUIT DIAGRAM(SW REG) 】

# POWER PWB ASS'Y (SW REG.) SPD-9001A



【 POWER PWB CIRCUIT DIAGRAM(LAMP POWER) 】



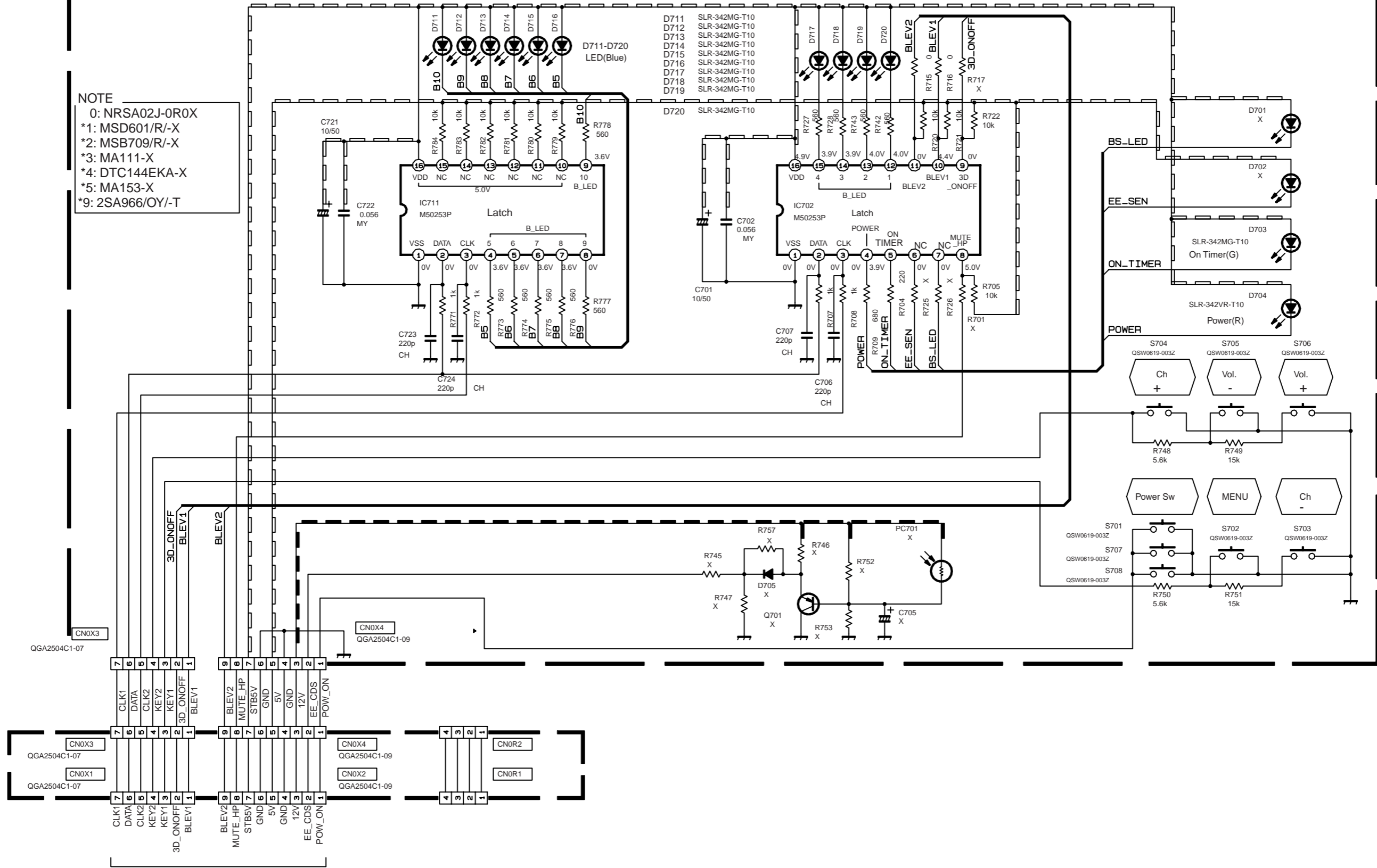
SPD-901A  
POWER PWB ASS'Y  
[LAMP POWER]

【 LED PWB CIRCUIT DIAGRAM 】

# LED PWB ASS'Y SPD-7001A

**NOTE**

- 0: NRSA02J-0R0X
- \*1: MSD601/R/-X
- \*2: MSB709/R/-X
- \*3: MA111-X
- \*4: DTC144EKA-X
- \*5: MA153-X
- \*9: 2SA966/OY/-T



D711	SLR-342MG-T10
D712	SLR-342MG-T10
D713	SLR-342MG-T10
D714	SLR-342MG-T10
D715	SLR-342MG-T10
D716	SLR-342MG-T10
D717	SLR-342MG-T10
D718	SLR-342MG-T10
D719	SLR-342MG-T10

Sync PWB SPD-7201A

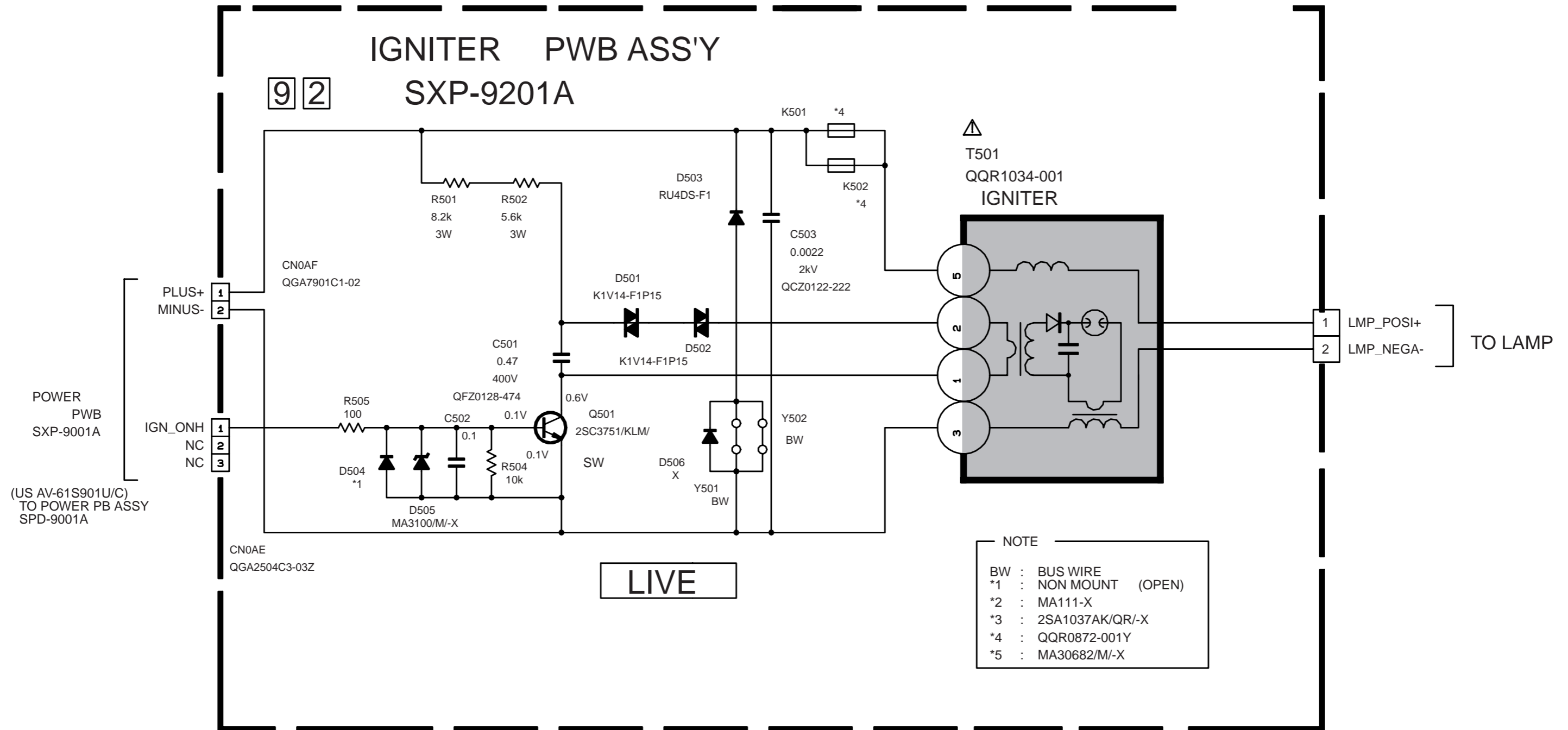
No.51775B

2-33

2-34

No.51775B

【 IGNITER PWB CIRCUIT DIAGRAM 】

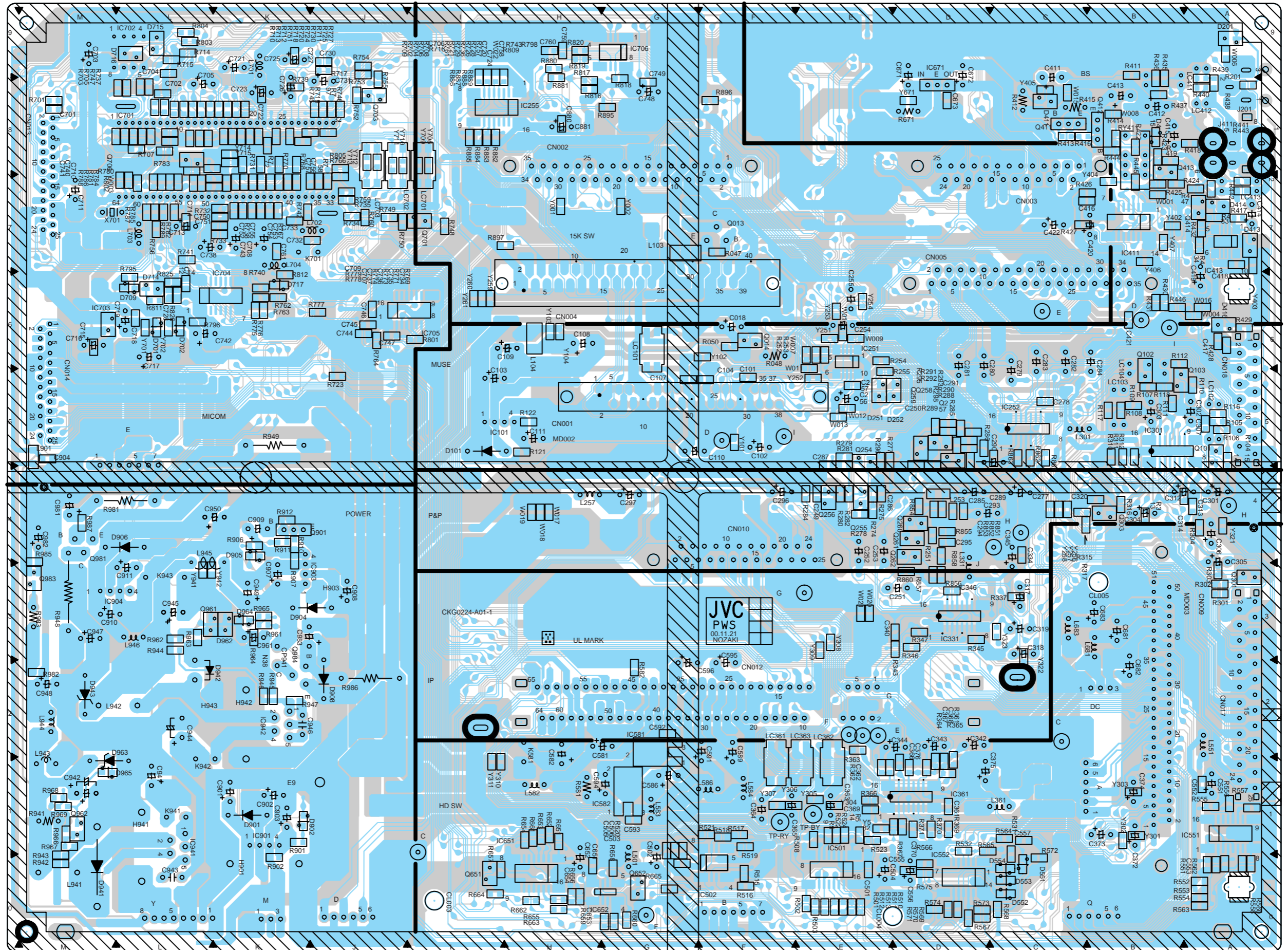








【 MAIN PWB PATTERN(SOLDER SIDE) 】

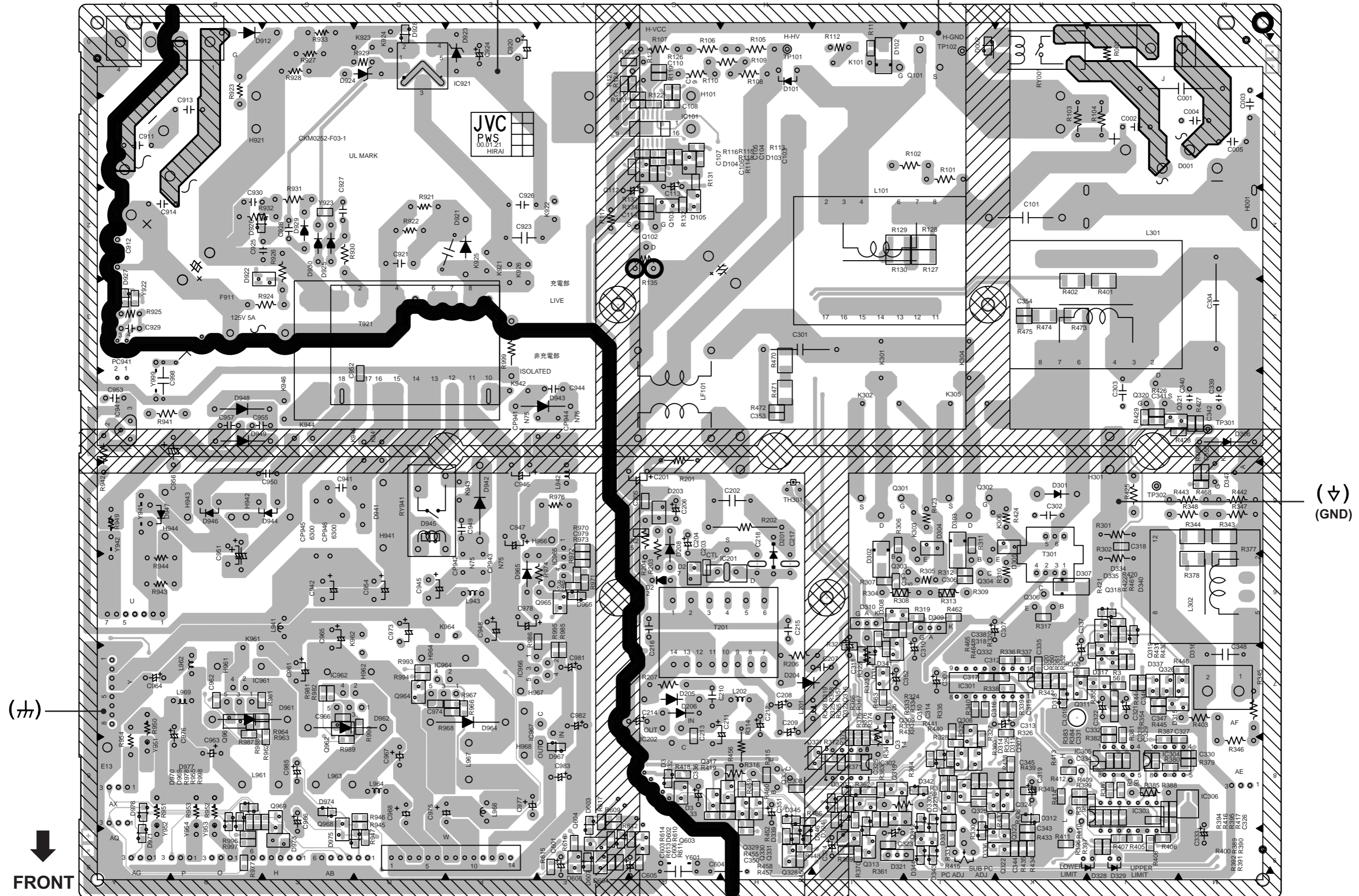




【 POWER PWB PATTERN 】

(⊥)

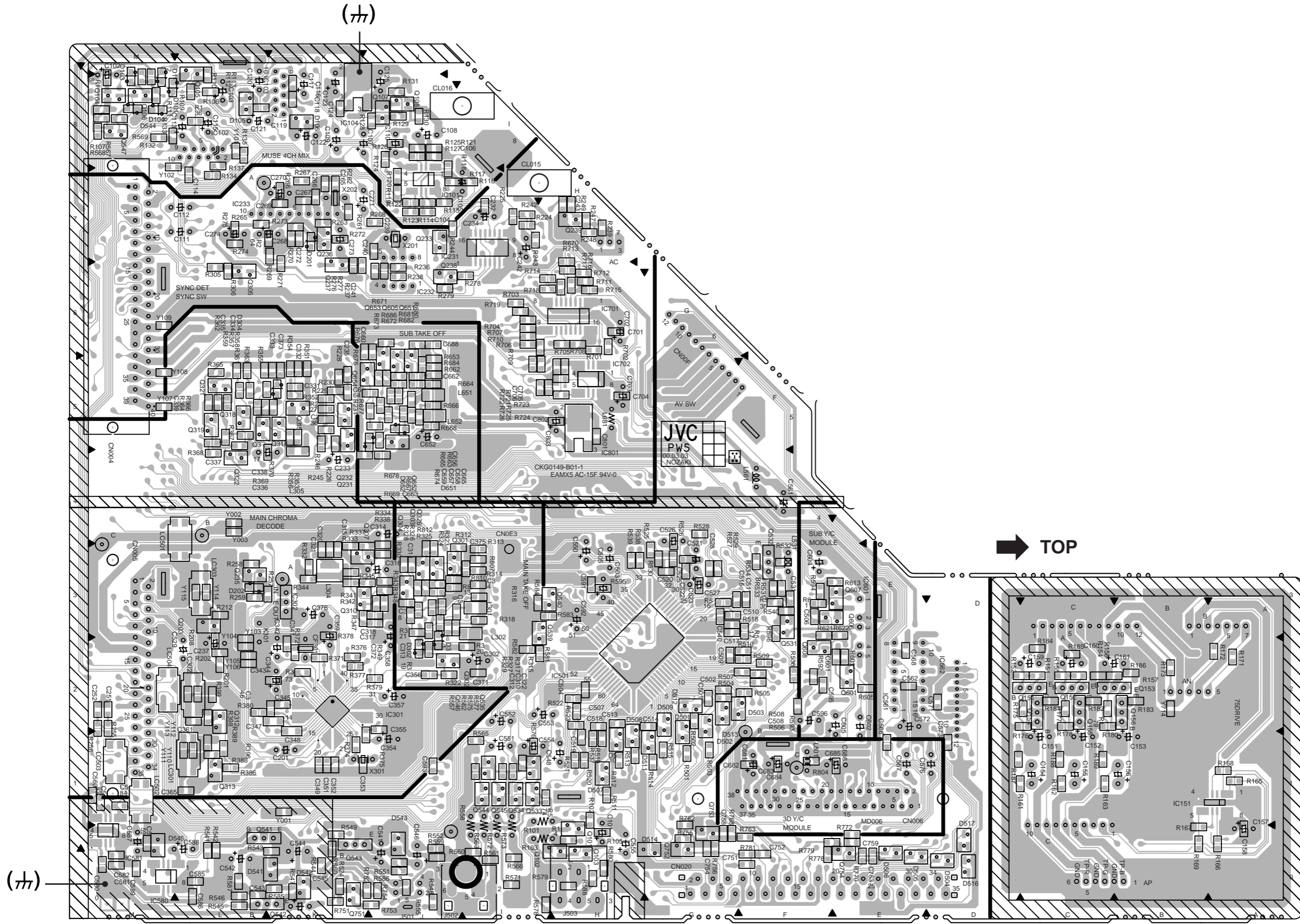
(⊥)



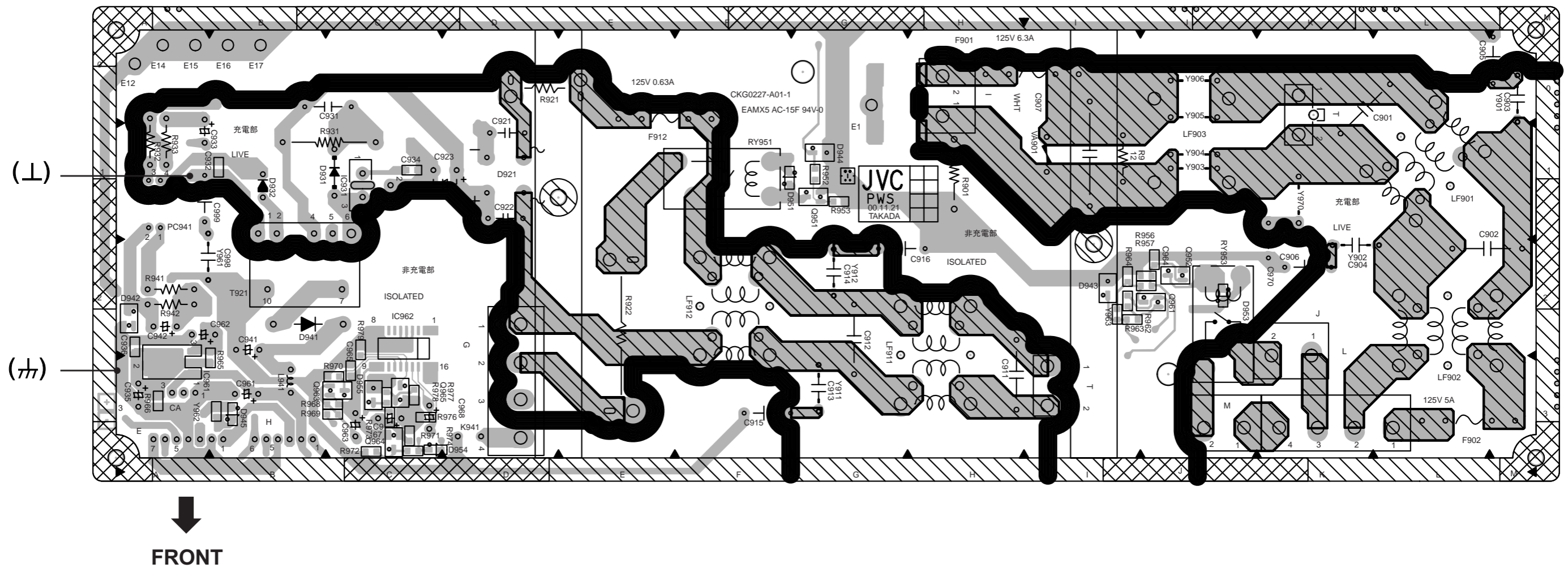




【 AV SELECTOR PWB PATTERN 】



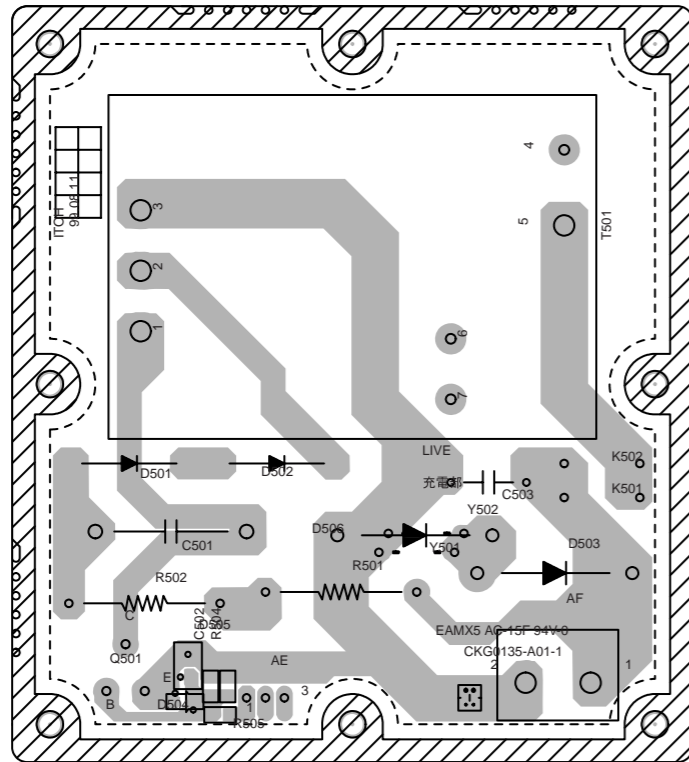
【 LINE FILTER PWB PATTERN 】



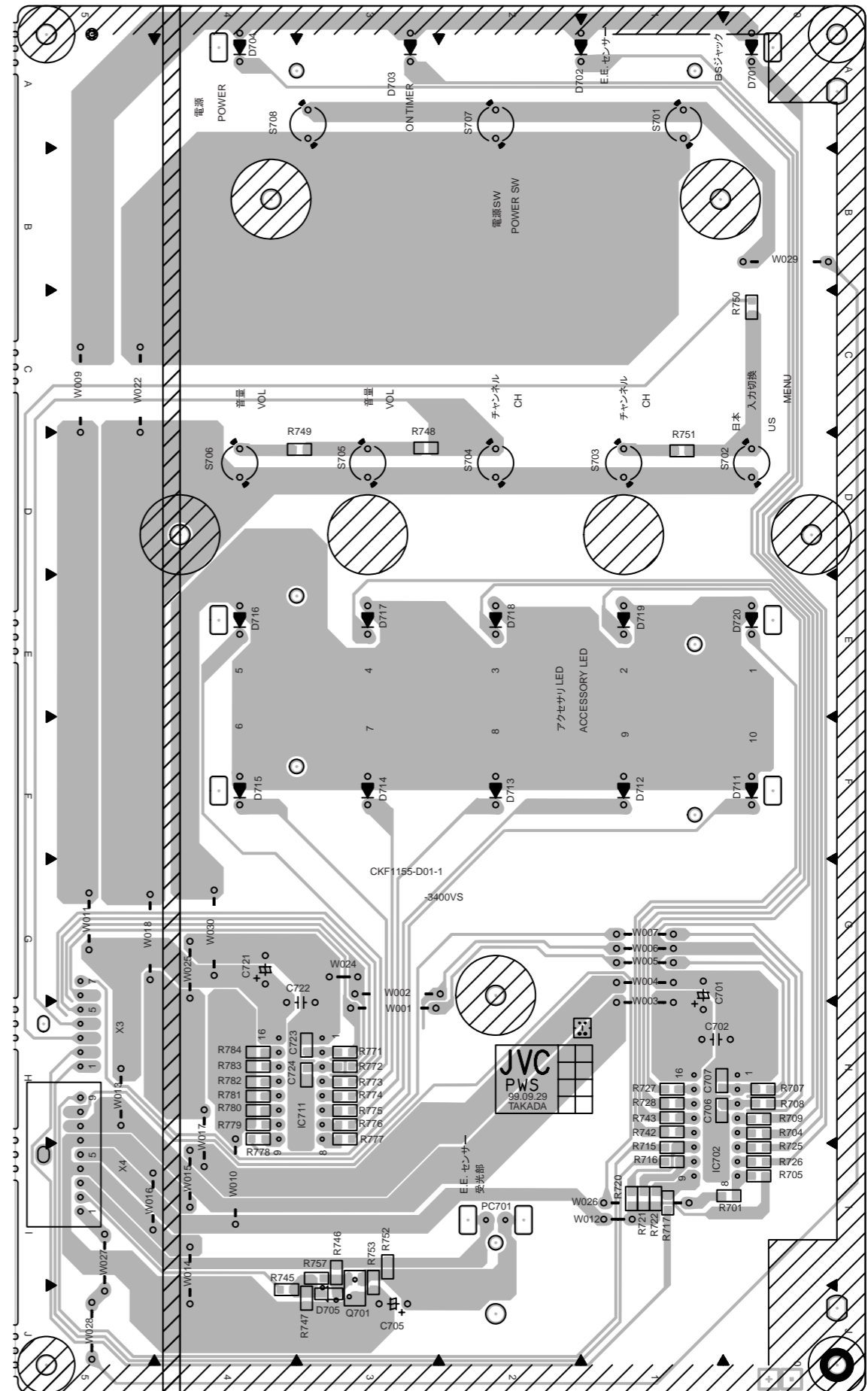
【 IGNITER PWB PATTERN 】

【 LED PWB PATTERN 】

TOP



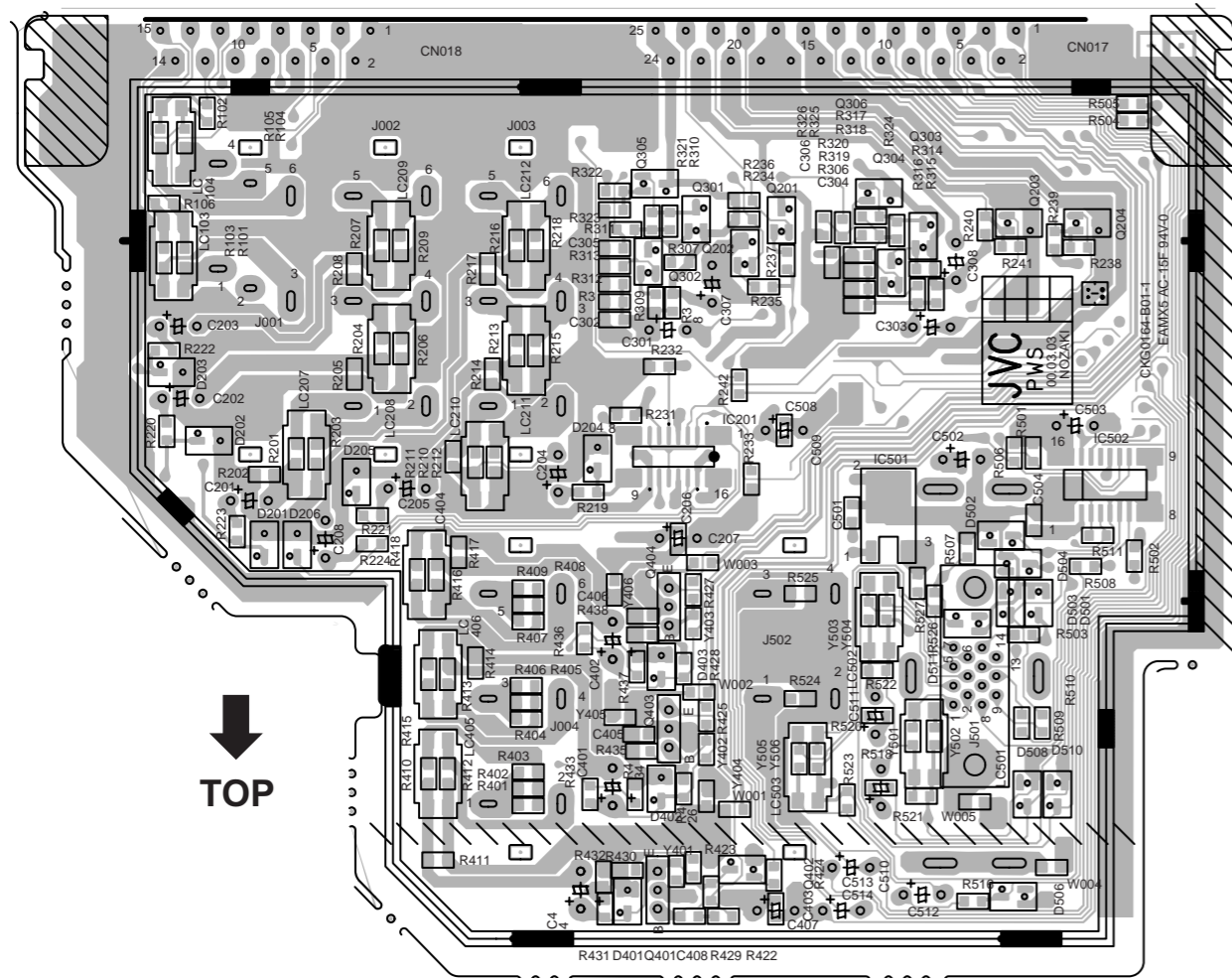
TOP



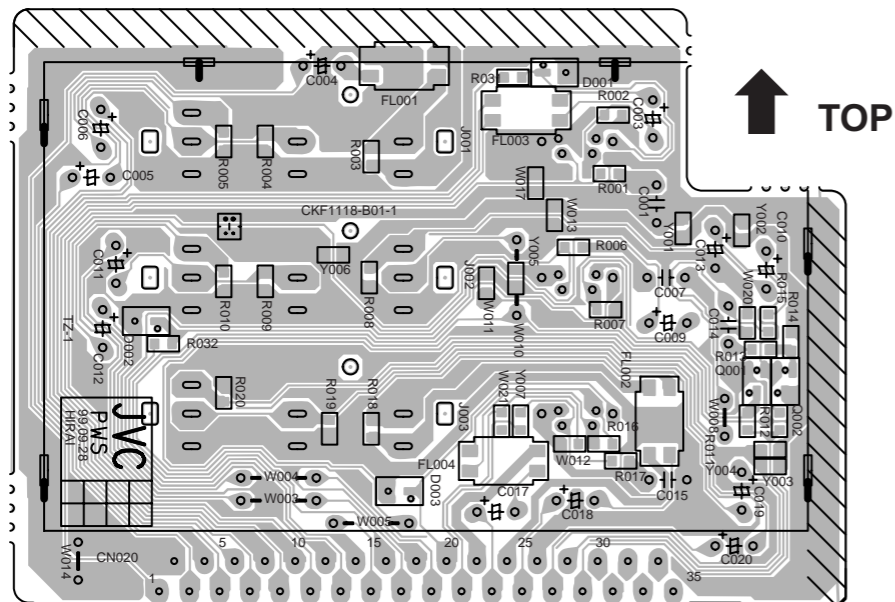




【 MAIN PWB PATTERN 】



【 COMPONENT INPUT PWB PATTERN 】



■CHANNEL CHART (US)

MODE		BAND	CHANNEL		TUNER BAND			
TV	CATV		REAL	DISP.				
○	○	VL	02	I				
			03					
			04					
			05					
			06					
			07					
		VH	08	II				
			09					
			10					
			11					
			12					
			13					
			x		○	MID	A	14
B	15							
C	16							
D	17							
E	18							
F	19							
G	20							
H	21							
I	22							
SUPER	J	23						
	K	24						
	L	25						
	M	26						
	■	27						
	O	28						
	P	29						
	Q	30						
	R	31						
	S	32						
	T	33						
	U	34						
V	35							
W	36							
x	○	HYPER		W+1		37	IV	
				W+2		38		
				W+3		39		
				W+4		40		
				W+5		41		
				W+6		42		
				W+7		43		
				W+8		44		
				W+9		45		
				W+10		46		
				W+11		47		
				x		○		ULTRA
W+13	49							
W+14	50							
W+15	51							
W+16	52							
W+17	53							
W+18	54							
W+19	55							
W+20	56							
W+21	57							
W+22	58							
W+23	59							
W+24	60							
W+25	61							
W+26	62							
W+27	63							
W+28	64							
x	○	ULTRA	W+29	65	IV			
			W+30	66				
			W+31	67				
			W+32	68				
			W+33	69				
			W+34	70				

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
x	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
W+49	85				
W+50	86				
W+51	87				
W+52	88				
W+53	89				
W+54	90				
W+55	91				
W+56	92				
W+57	93				
W+58	94				
W+59	100				
W+60	101				
W+61	102				
W+62	103				
W+63	104				
W+64	105				
W+65	106				
W+66	107				
W+67	108				
W+68	109				
W+69	110				
W+70	111				
W+71	112				
W+72	113				
W+73	114				
W+74	115				
W+75	116				
W+76	117				
W+77	118				
W+78	119				
W+79	120				
W+80	121				
W+81	122				
W+82	123				
W+83	124				
W+84	125				
○	x	SUB MID	A-8	01	I
			A-4	96	
			A-3	97	
			A-2	98	
○	x	UHF	14	IV	
			69		
TOTAL 180CH VHF 124CH UHF 56CH					
<p>■NOTE: TO RECEIVE THE SUBSCRIPTION ■ OR PREMIUM PROGRAMMING FROM CERTAIN ■ CABLE COMPANIES. SPECIAL ADAPTERS MAY BE REQUIRED.</p>					