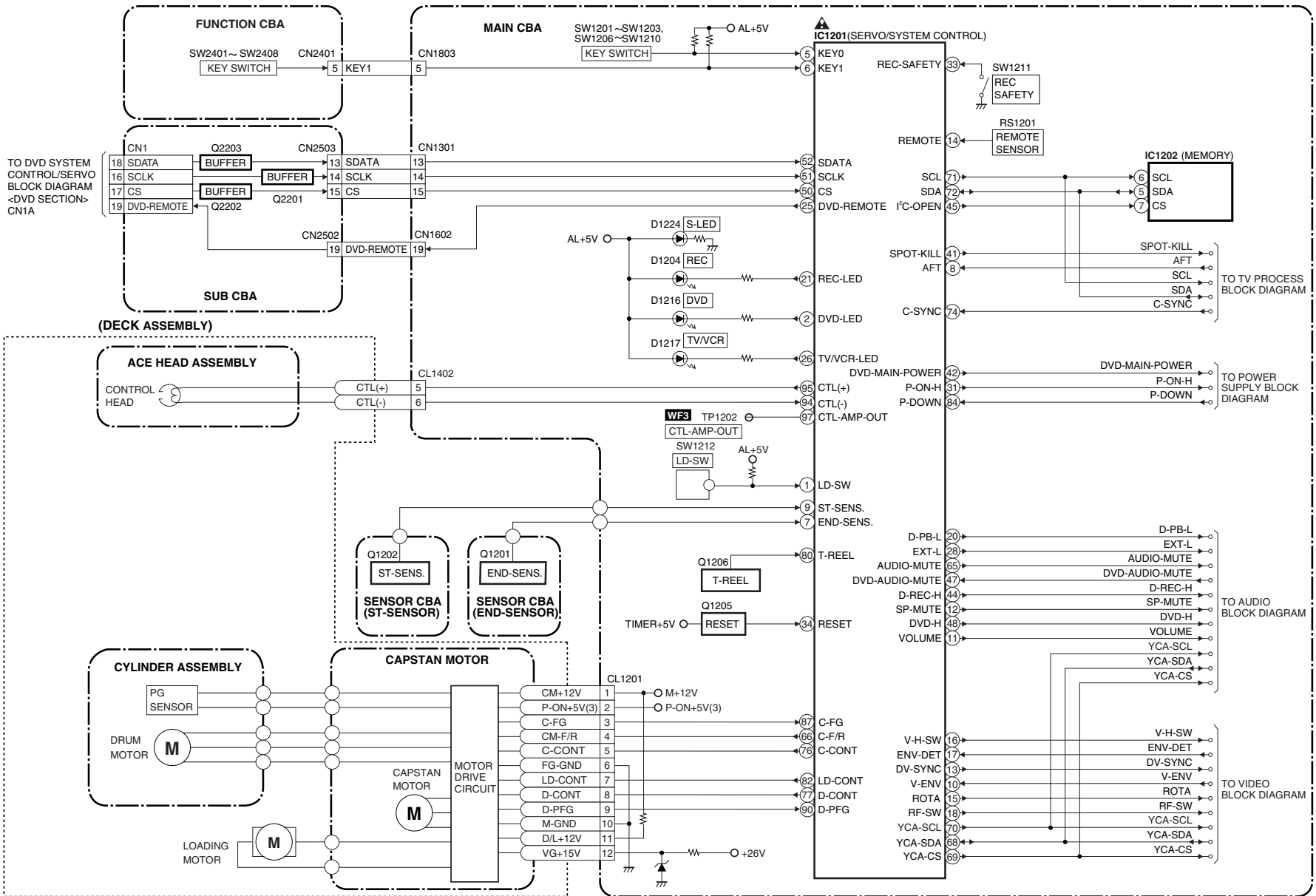


# BLOCK DIAGRAMS < TV/VCR Section > System Control / Servo Block Diagram

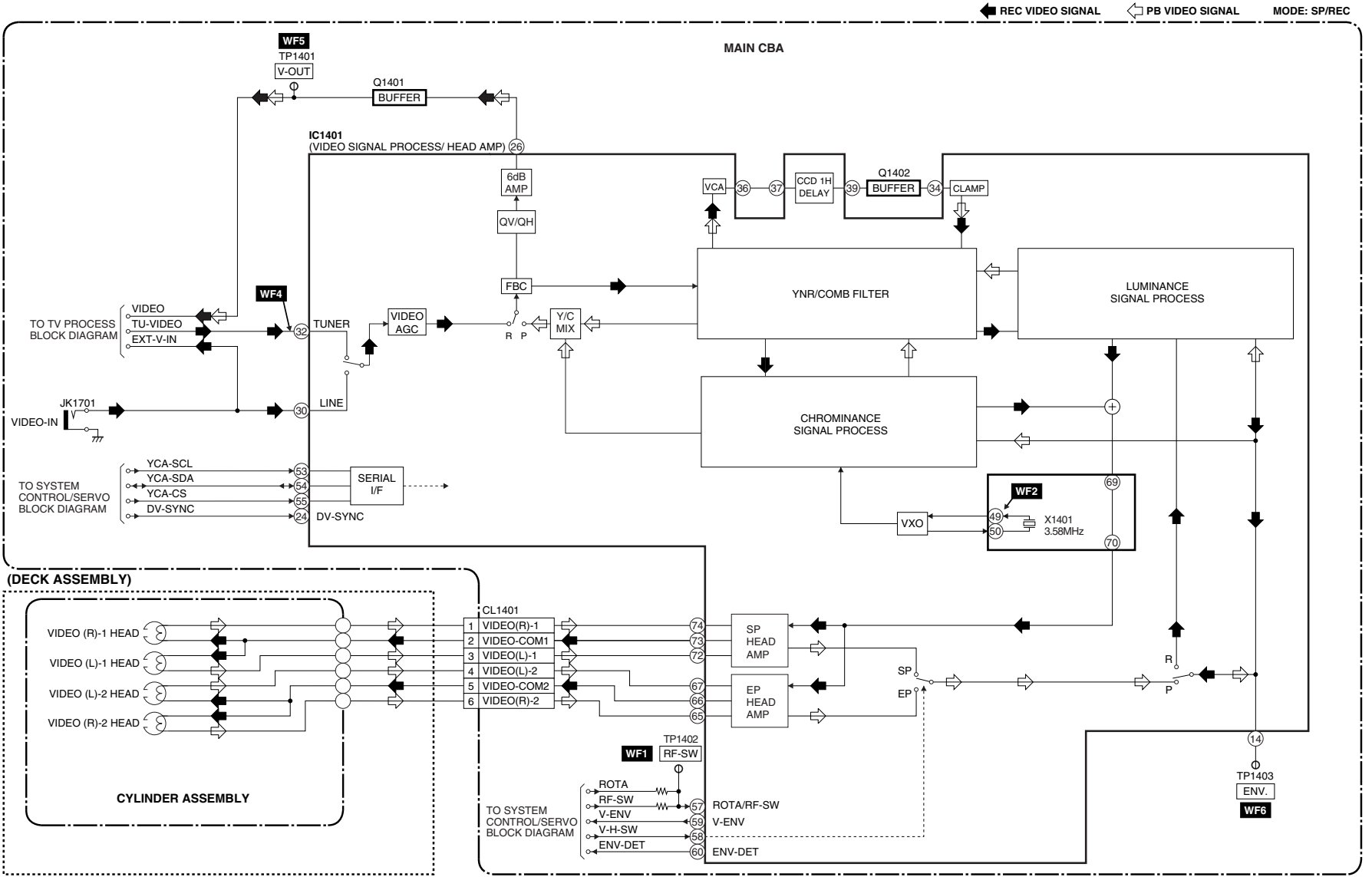


TO DVD SYSTEM  
CONTROL/SERVO  
BLOCK DIAGRAM  
<DVD SECTION>  
CN1A

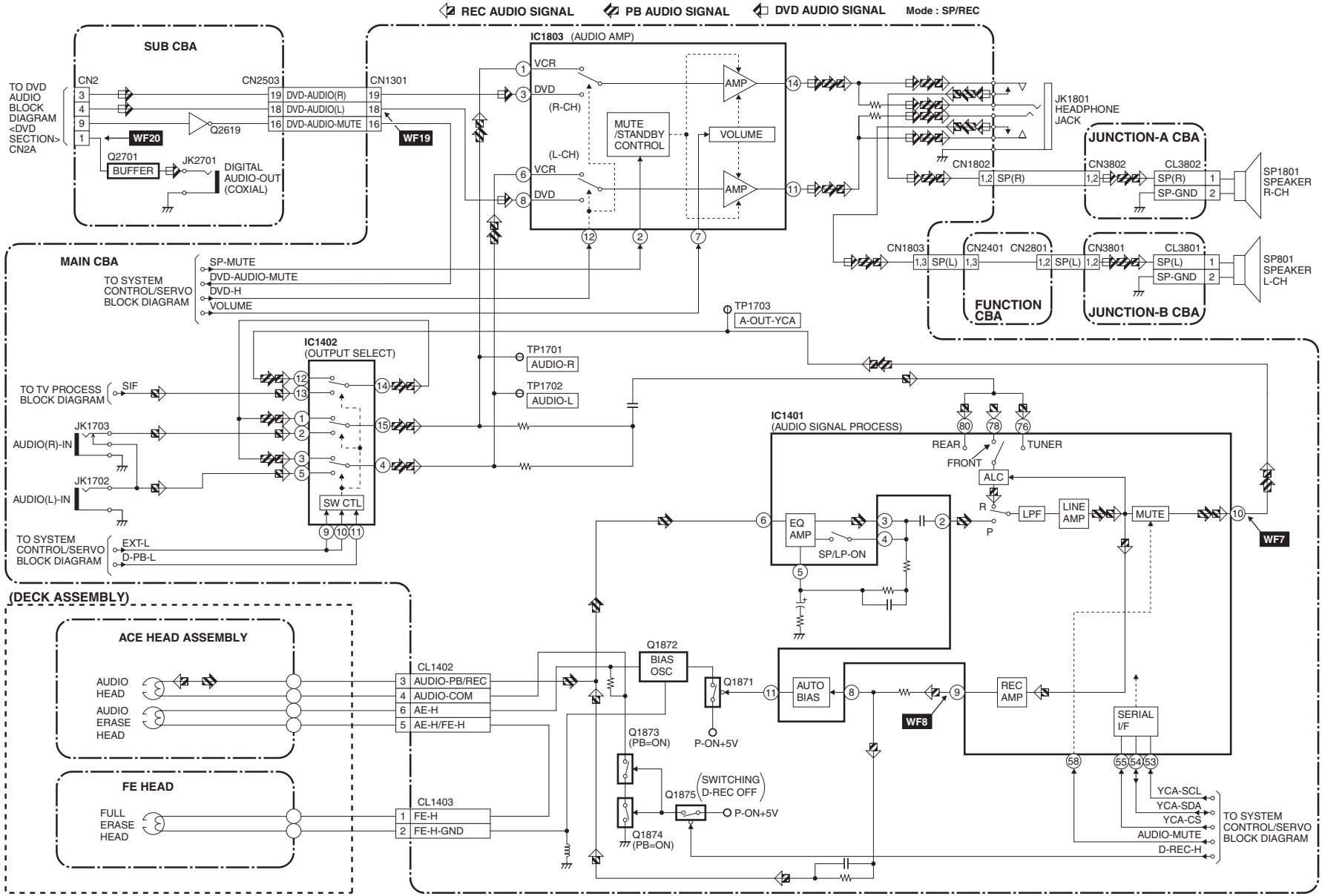
1-10-1

T0204BLS

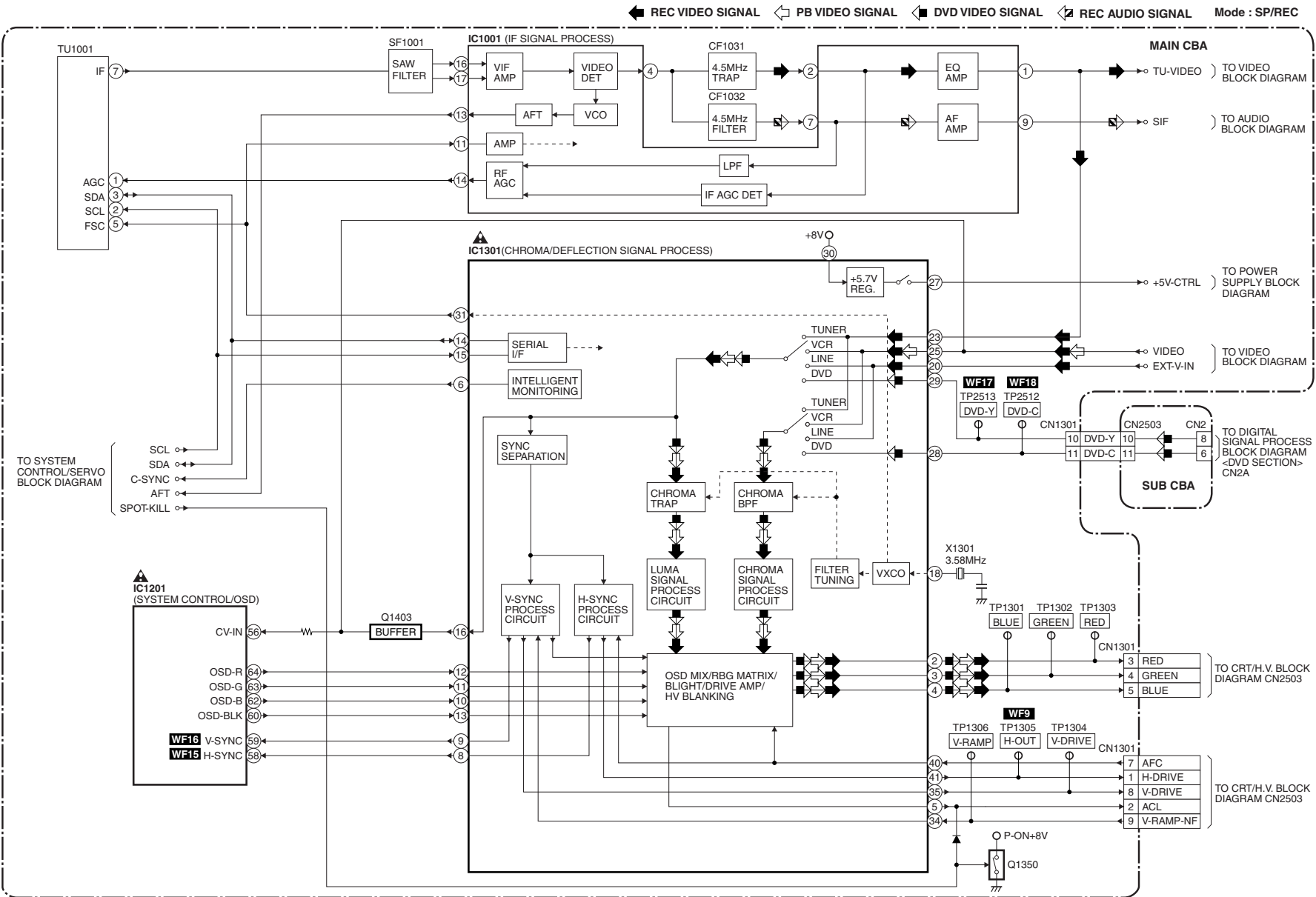
# Video Block Diagram



# Audio Block Diagram

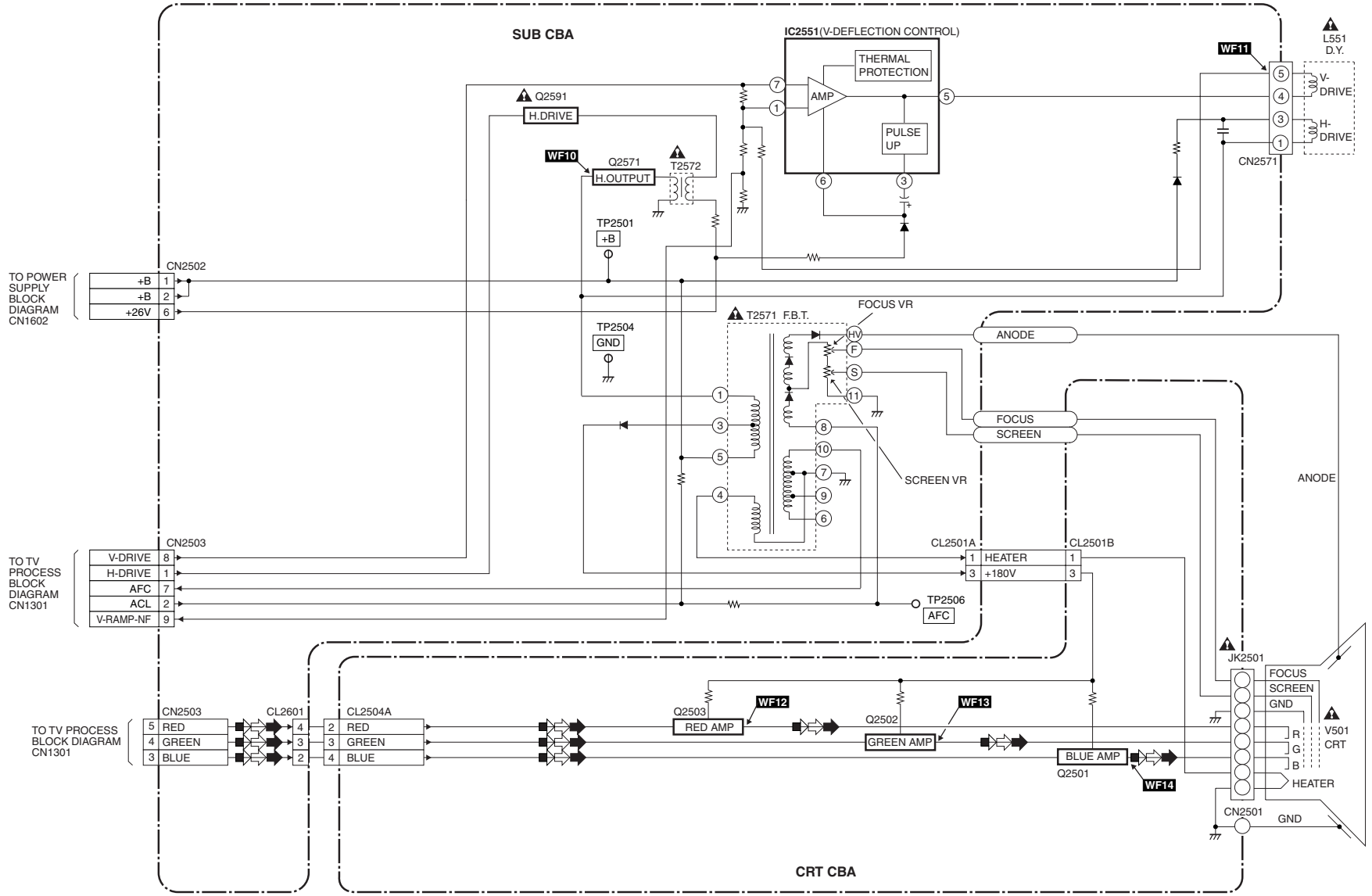


# TV Process Block Diagram



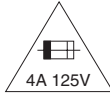
# CRT/H.V. Block Diagram

REC VIDEO SIGNAL    PB VIDEO SIGNAL    DVD VIDEO SIGNAL    Mode : SP/REC



**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
 If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
 Otherwise it may cause some components in the power supply circuit to fail.

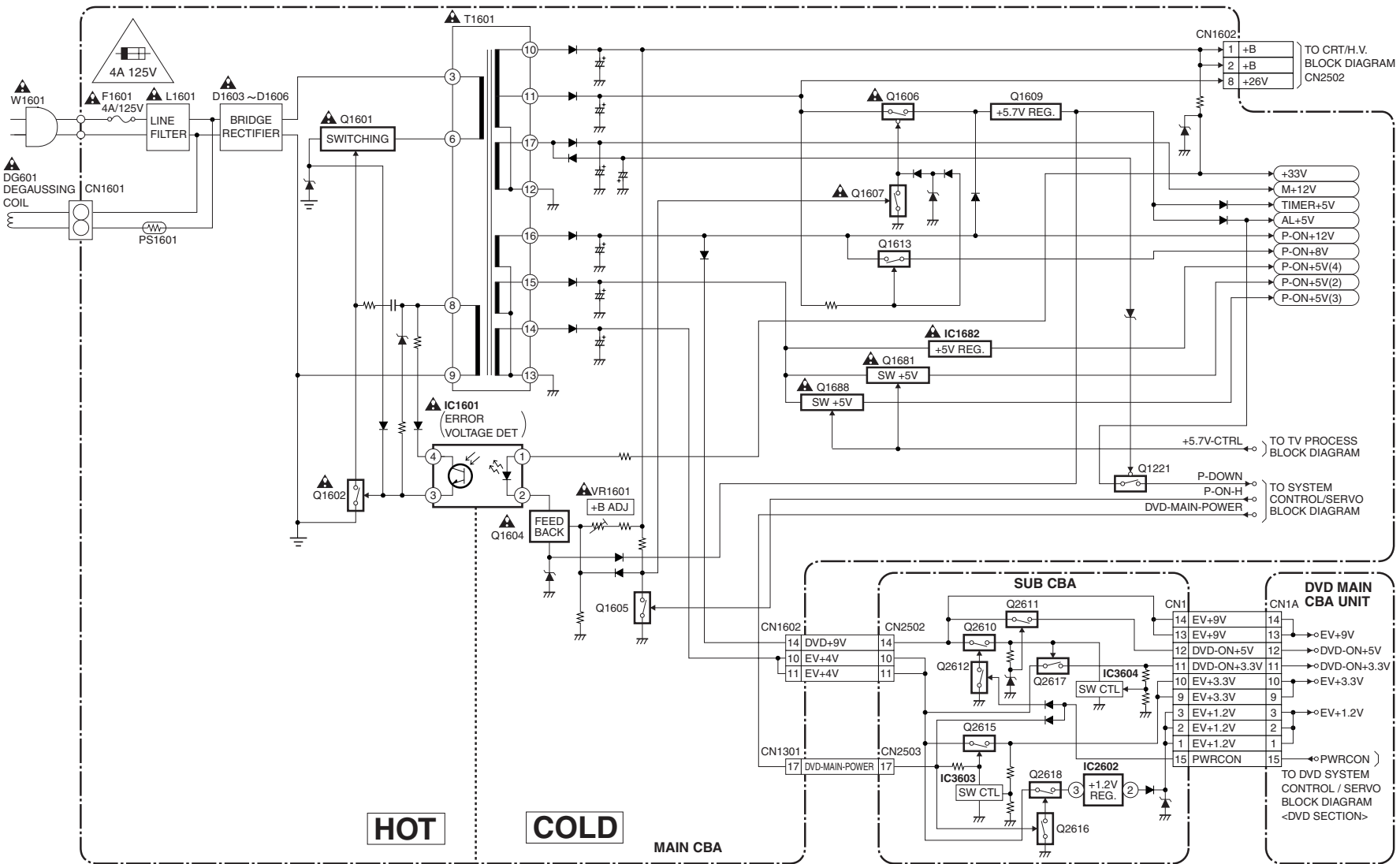


**CAUTION ! :** For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

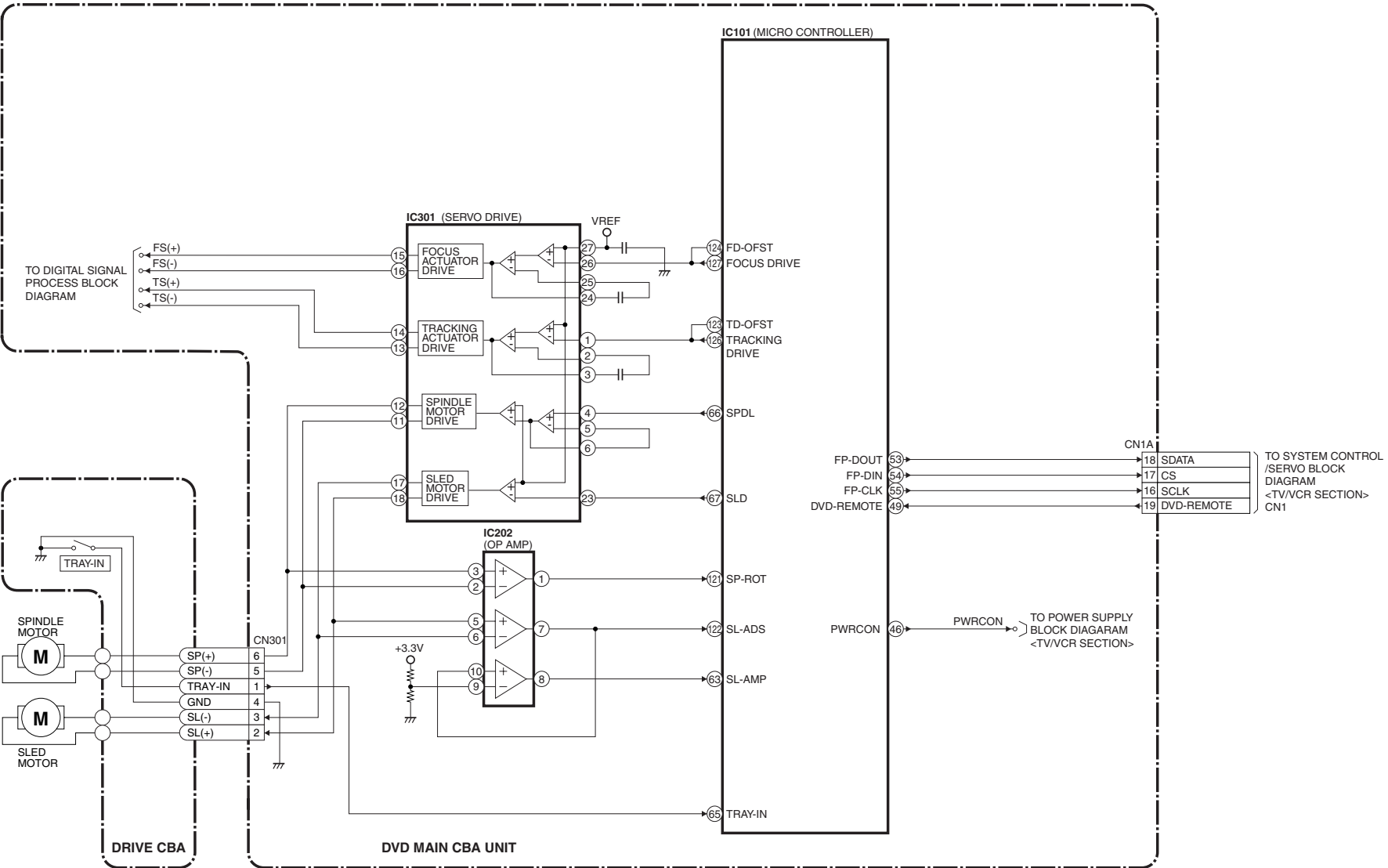
**NOTE:**

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

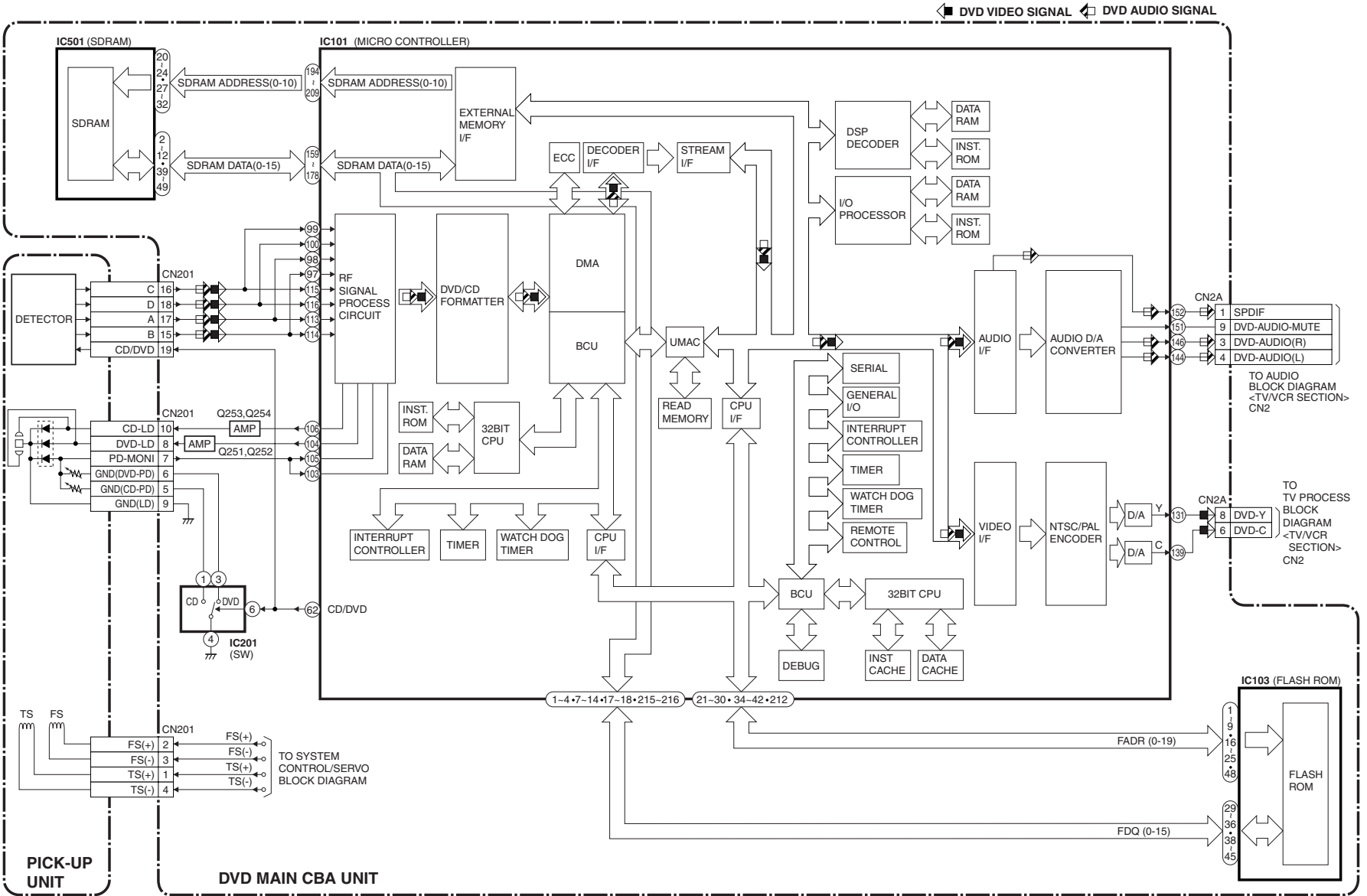


# BLOCK DIAGRAMS < DVD Section >

## DVD System Control / Servo Block Diagram



# Digital Signal Process Block Diagram





# SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

## Standard Notes

### WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "▲" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

### Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms (K =  $10^3$ , M =  $10^6$ ).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in  $\mu\text{F}$  (P =  $10^{-6}$   $\mu\text{F}$ ).
5. All voltages are DC voltages unless otherwise specified.

**LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:**

**1. CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE\_A,\_V FUSE.

**ATTENTION:** UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE\_A,\_V.

**2. CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

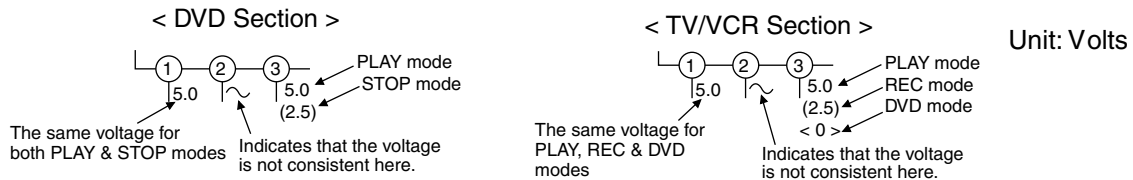
If Main Fuse (F1601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

**3. Note:**

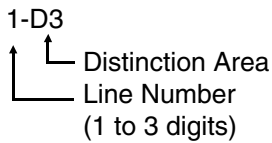
- Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
- To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

**4. Mode: SP/REC**

**5. Voltage indications for PLAY and REC modes on the schematics are as shown below:**

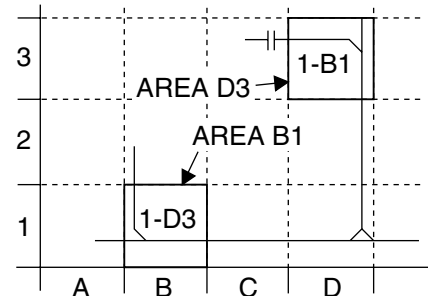


**6. How to read converged lines**



Examples:

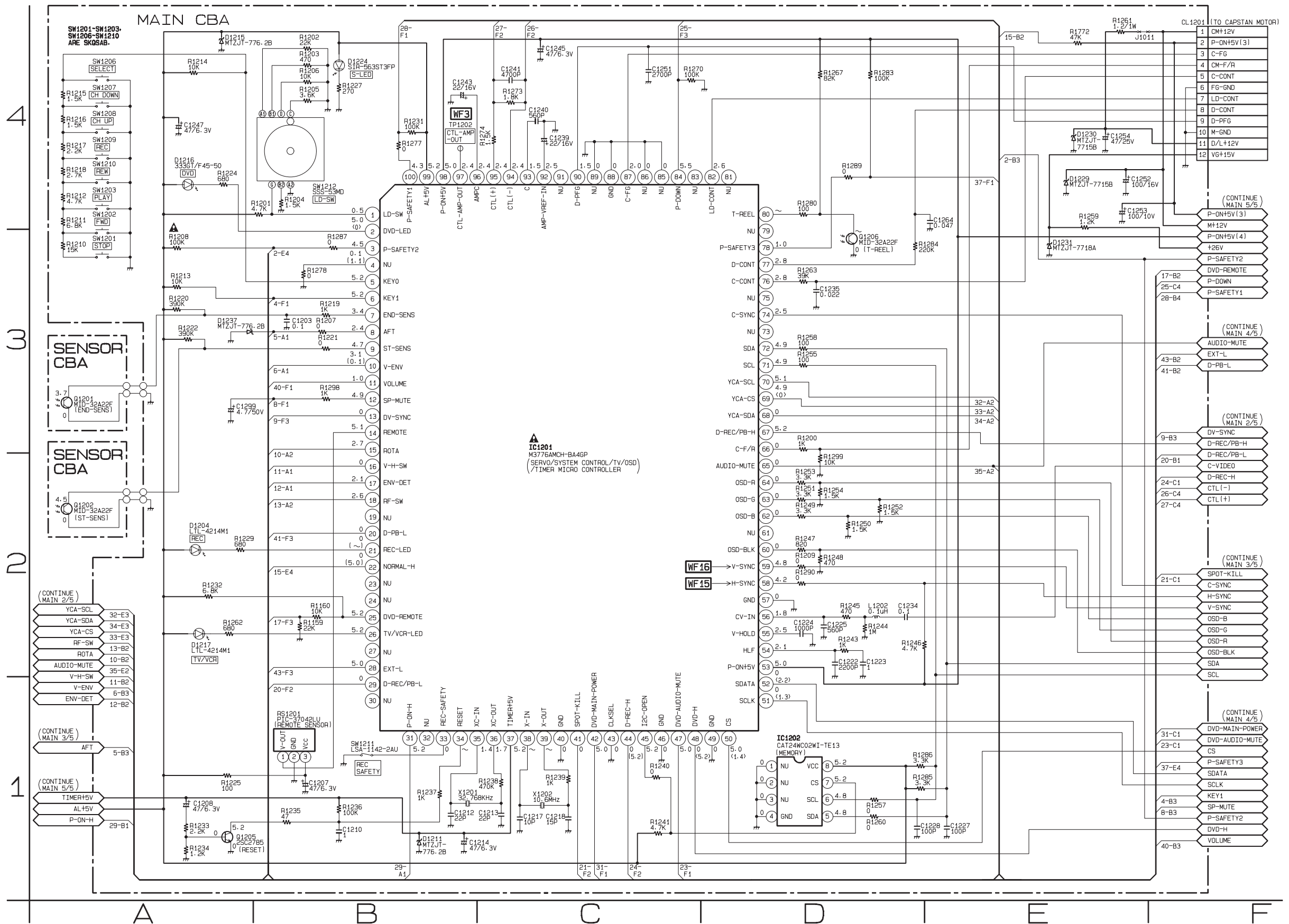
- "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
- "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



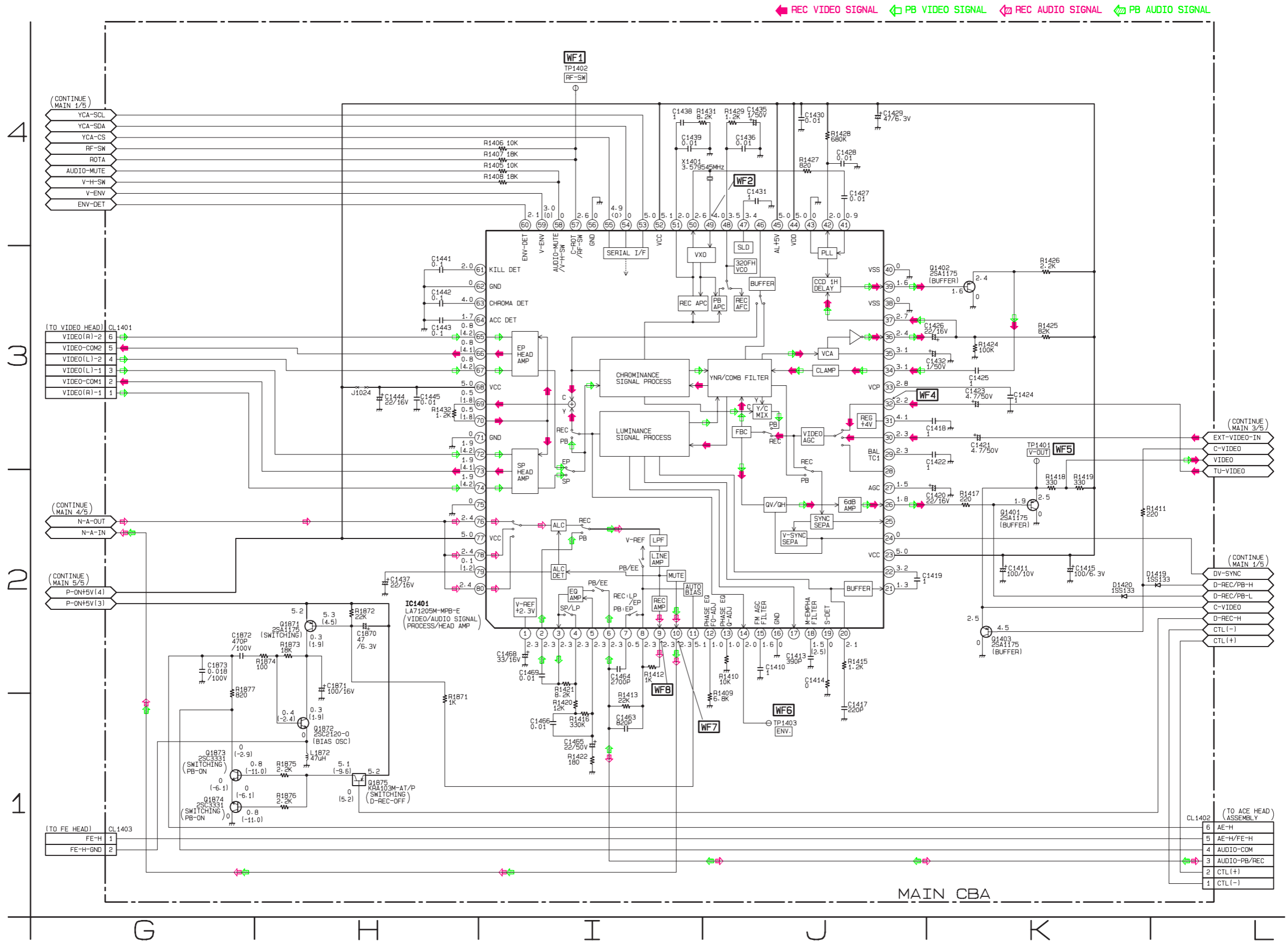
**7. Test Point Information**

- ⊕ : Indicates a test point with a jumper wire across a hole in the PCB.
- : Used to indicate a test point with a component lead on foil side.
- ⊗ : Used to indicate a test point with no test pin.
- : Used to indicate a test point with a test pin.

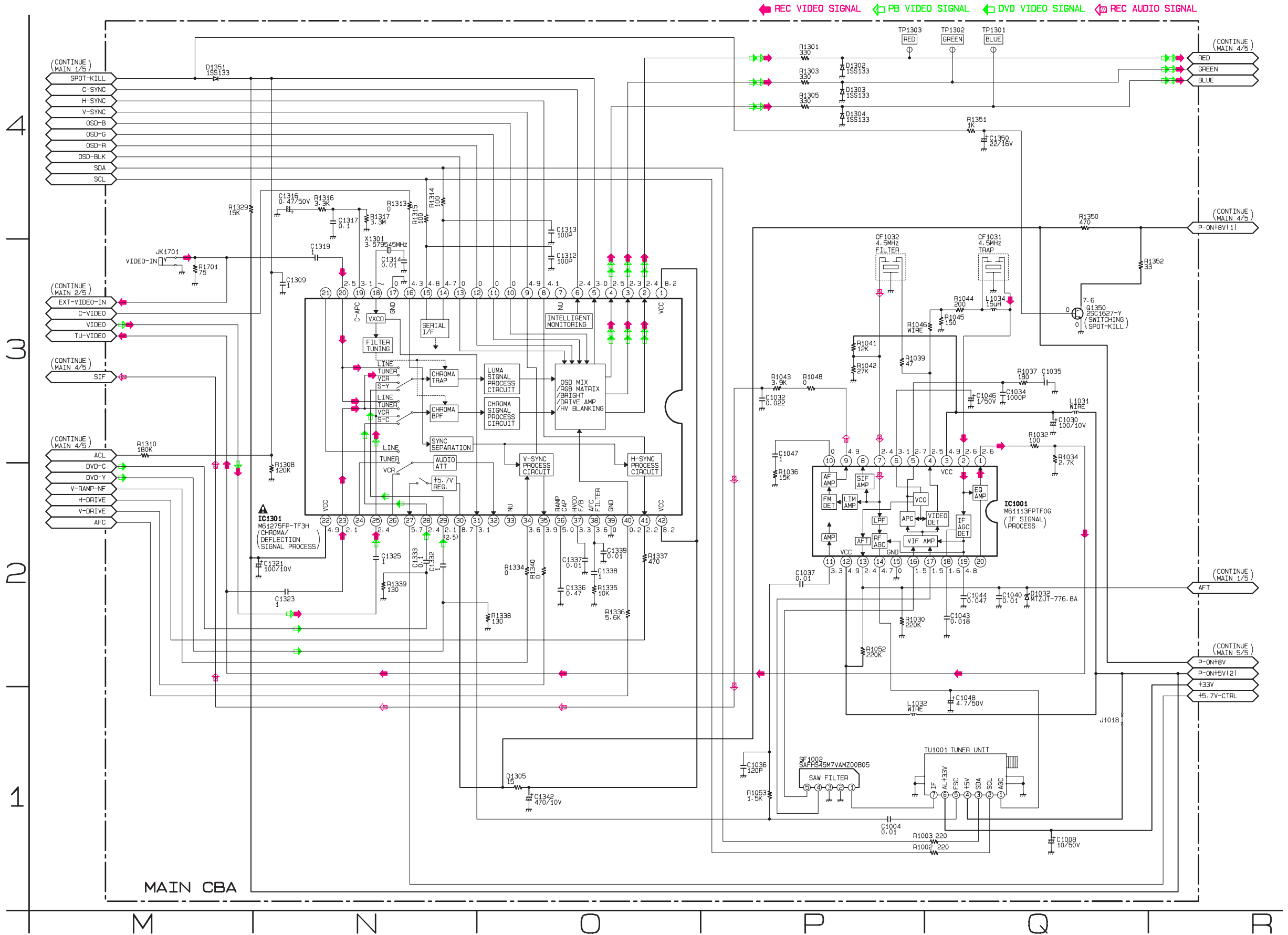
# Main 1/5 & Sensor Schematic Diagram < TV/VCR Section >



# Main 2/5 Schematic Diagram < TV/VCR Section >

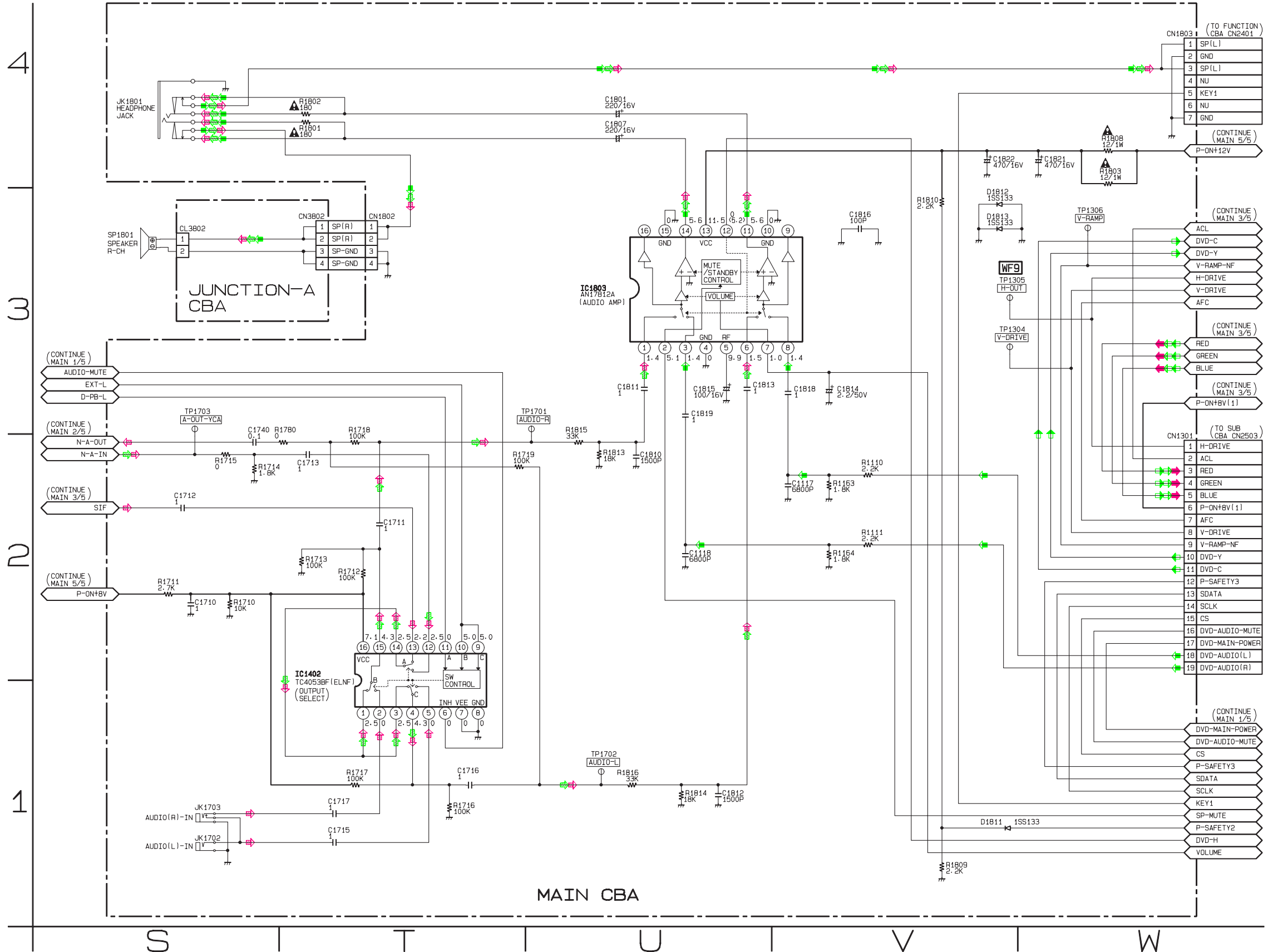


# Main 3/5 Schematic Diagram < TV/VCR Section >



# Main 4/5 & Junction-A Schematic Diagram < TV/VCR Section >

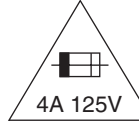
← REC VIDEO SIGNAL   
 ← DVD VIDEO SIGNAL   
 ← REC AUDIO SIGNAL   
 ← PB AUDIO SIGNAL   
 ← DVD AUDIO SIGNAL



# Main 5/5 Schematic Diagram < TV/VCR Section >

## CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

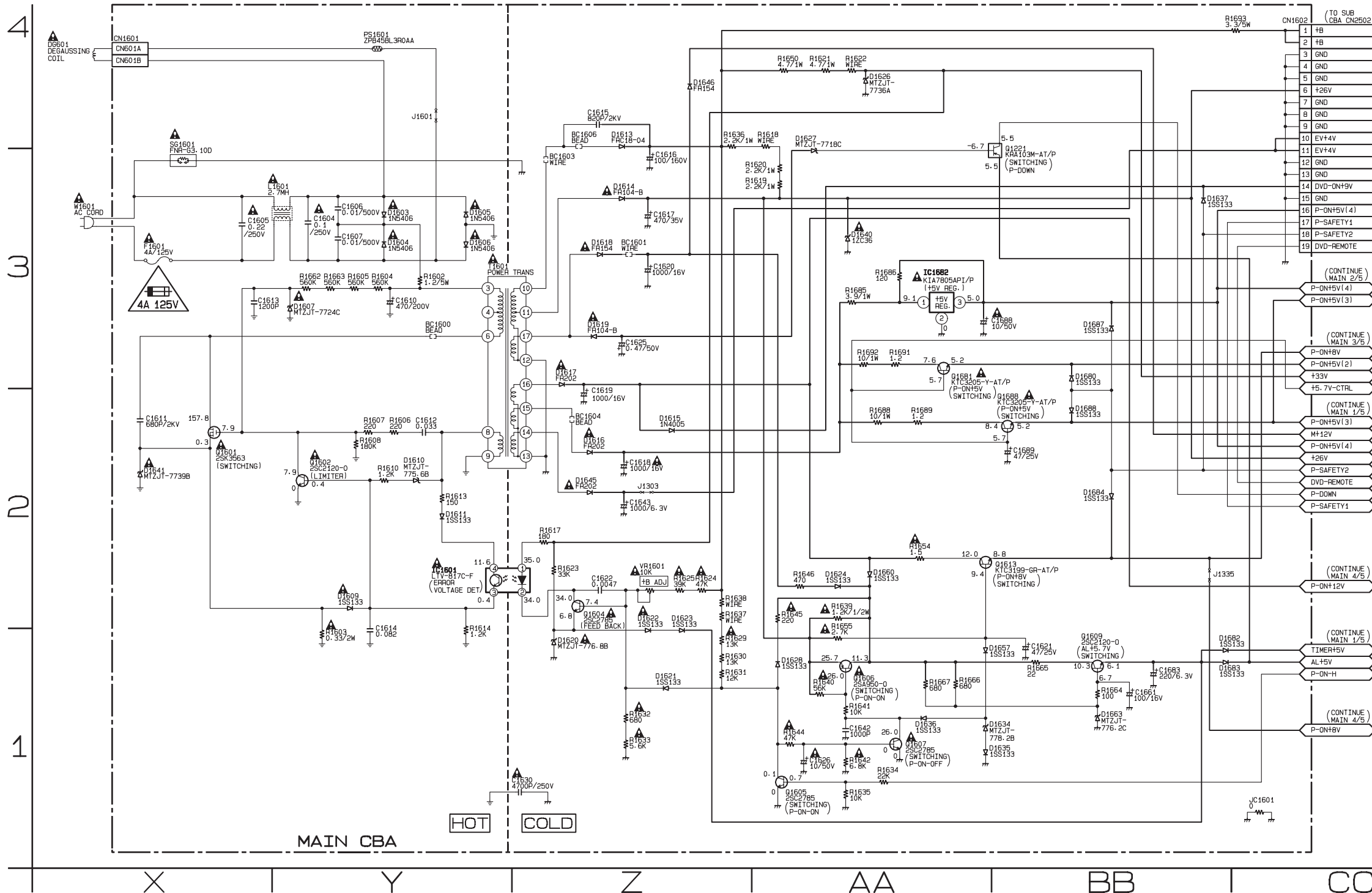
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

## NOTE:

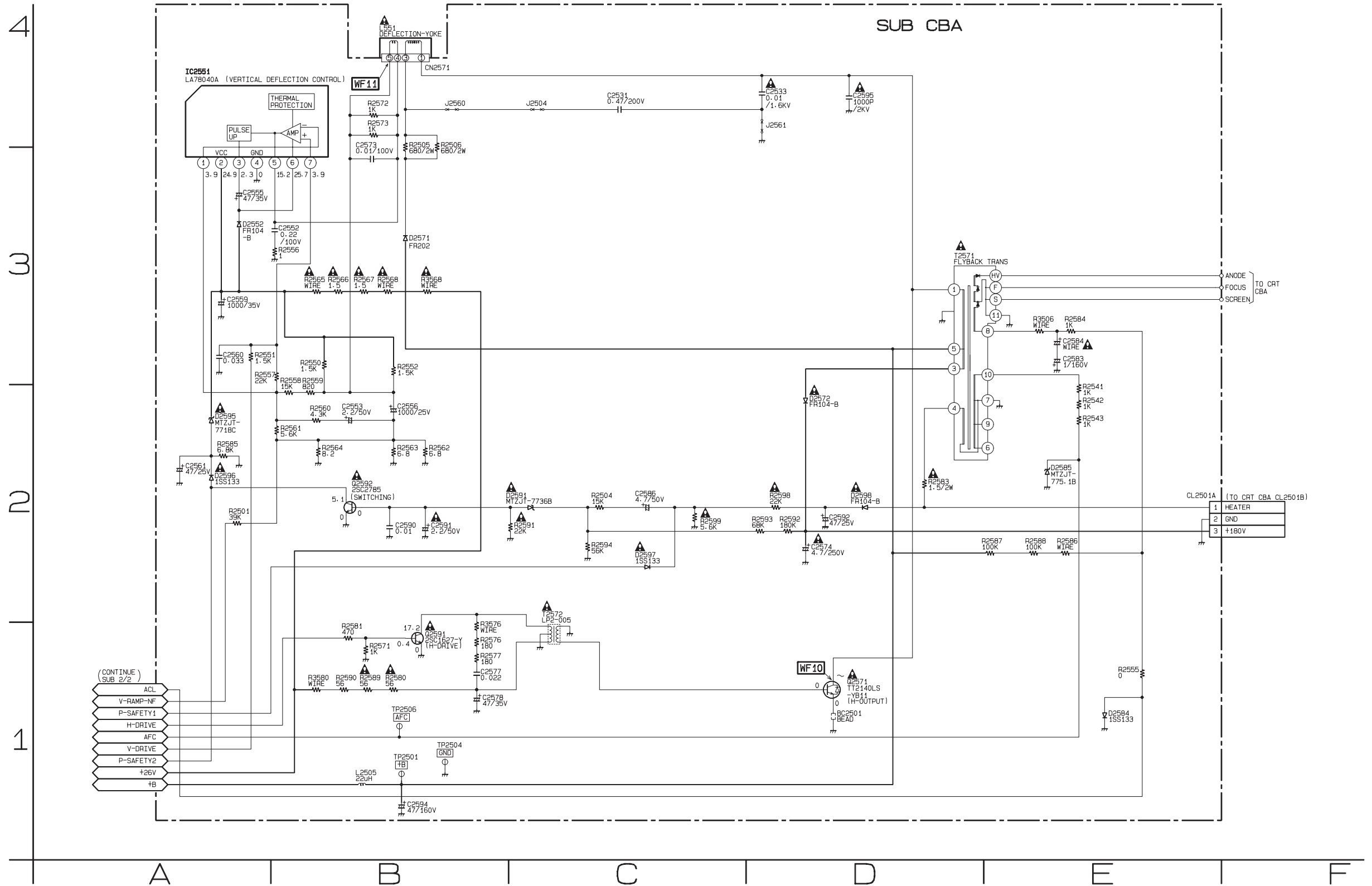
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

## VOLTAGE CHART (Power off mode)

Ref. No.	1	2	3	4
IC1601	25.7	24.7	0.3	1.2
Ref. No.	1	2	3	
IC1682	3.2	0	1.7	
Ref. No.	S	D	G	
Q1601	0	162.8	1.9	
Ref. No.	E	C	B	
Q1221	5.2	5.1	4.6	
Q1602	0	1.9	0.3	
Q1604	6.7	24.7	7.3	
Q1605	0	7.9	0	
Q1606	8.5	8.5	7.8	
Q1607	0	7.7	6.6	
Q1609	5.9	8.2	6.5	
Q1613	0.8	4.2	1.4	
Q1681	0	3.3	0	
Q1688	0	3.3	0	

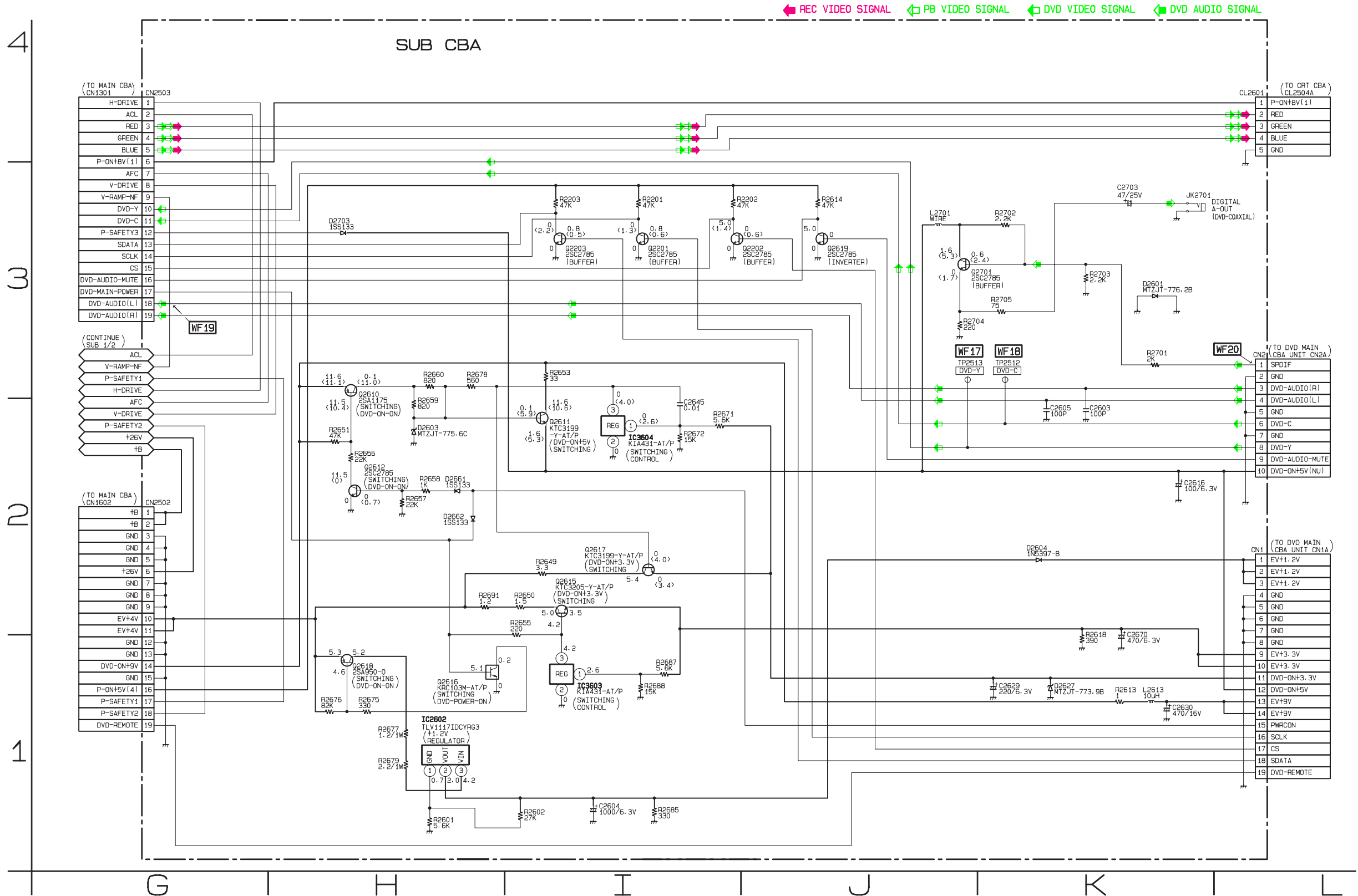


# Sub 1/2 Schematic Diagram < TV/VCR Section >

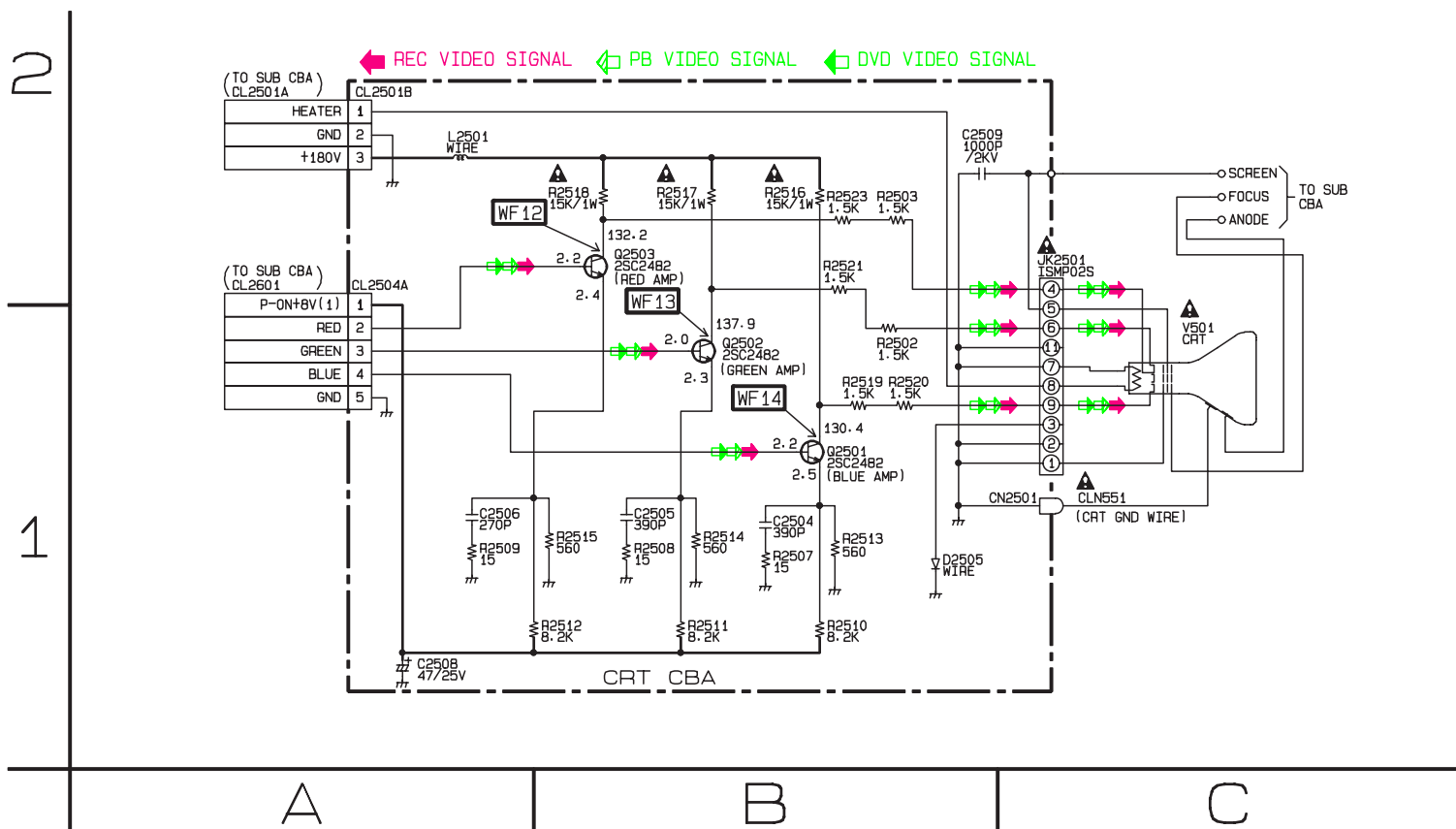




# Sub 2/2 Schematic Diagram < TV/VCR Section >

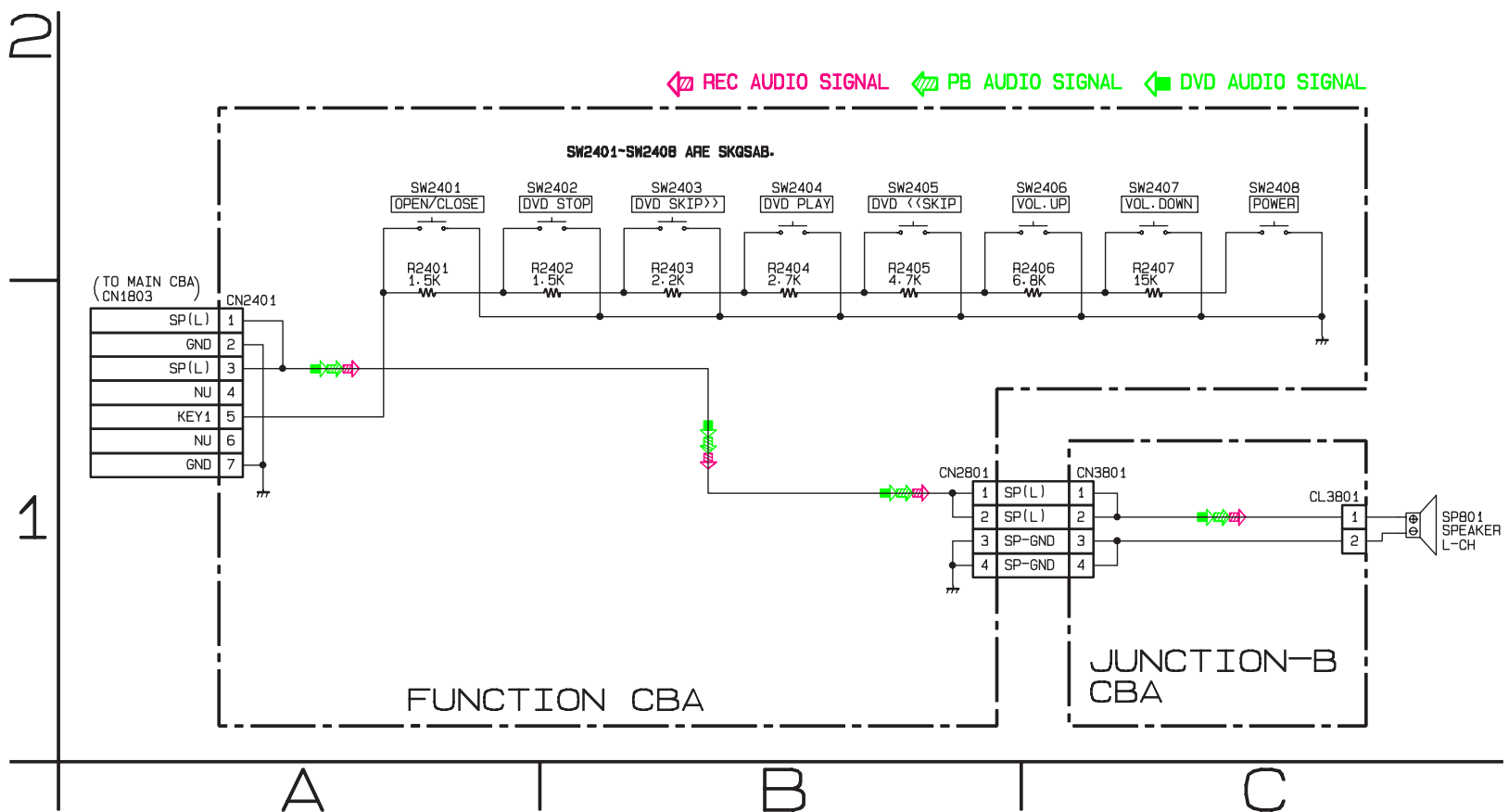


# CRT Schematic Diagram < TV/VCR Section >



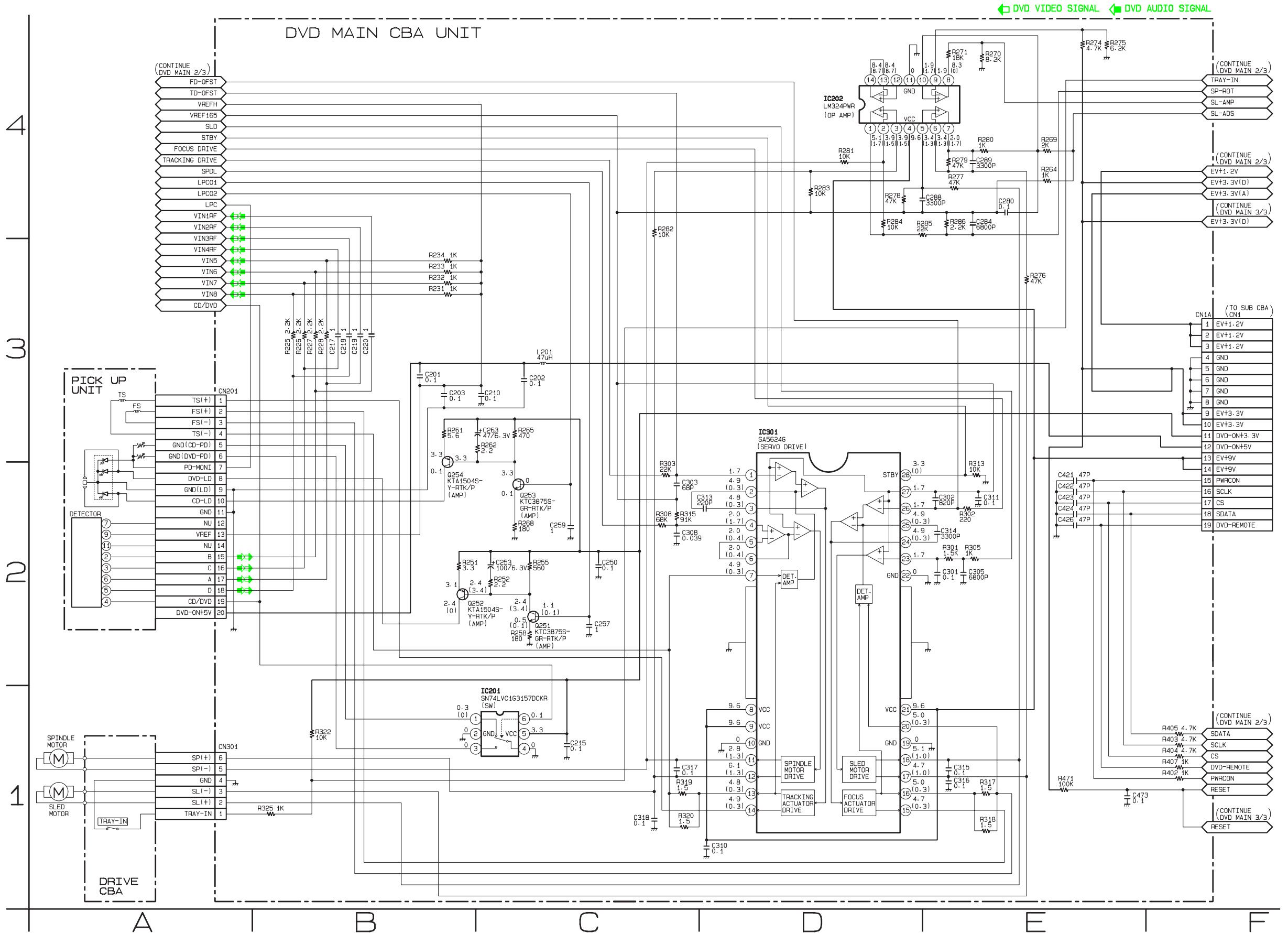
T0204SCCRT

# Function & Junction-B Schematic Diagram < TV/VCR Section >



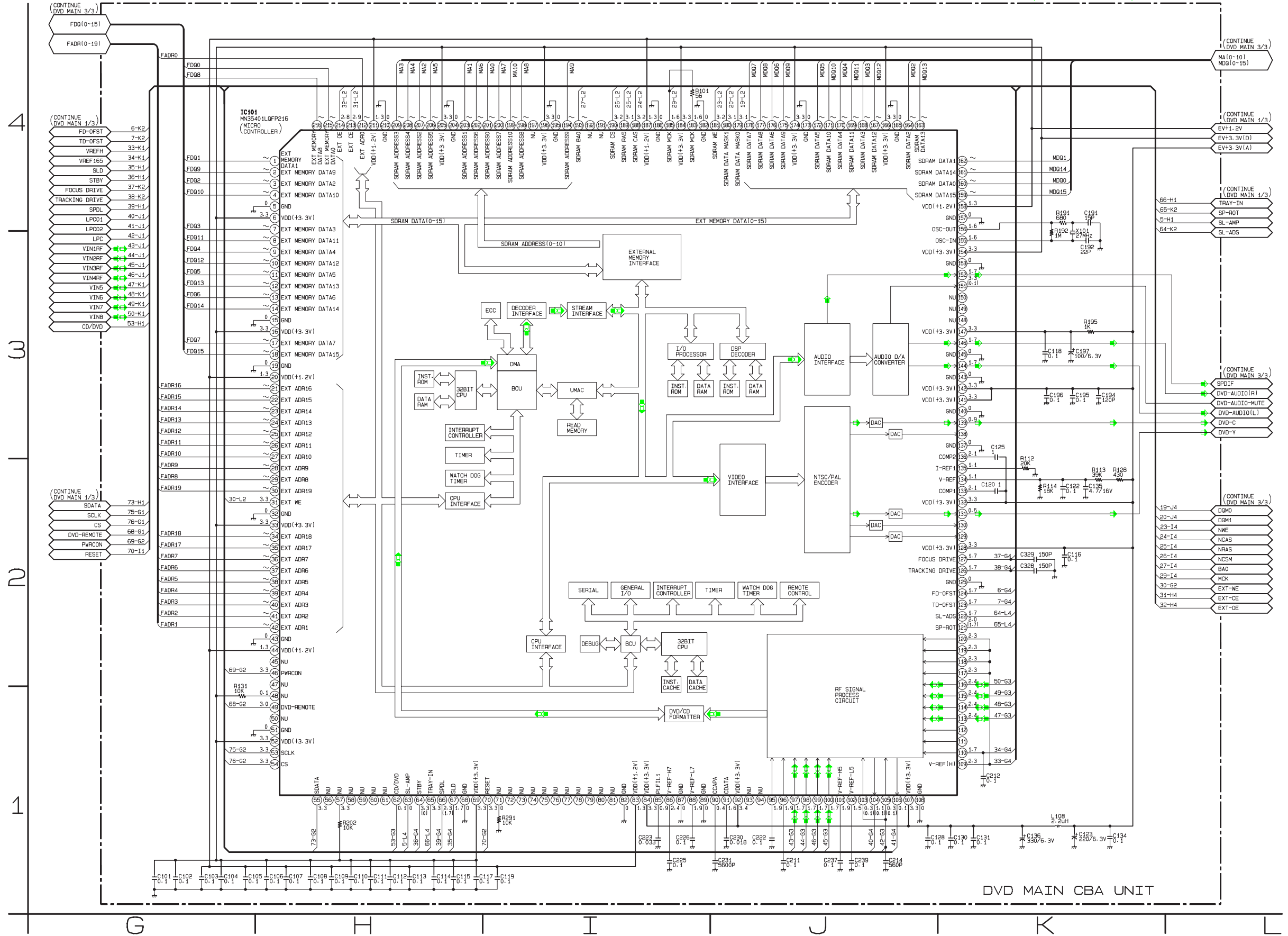
T0204SCF

# DVD Main 1/3 Schematic Diagram < DVD Section >



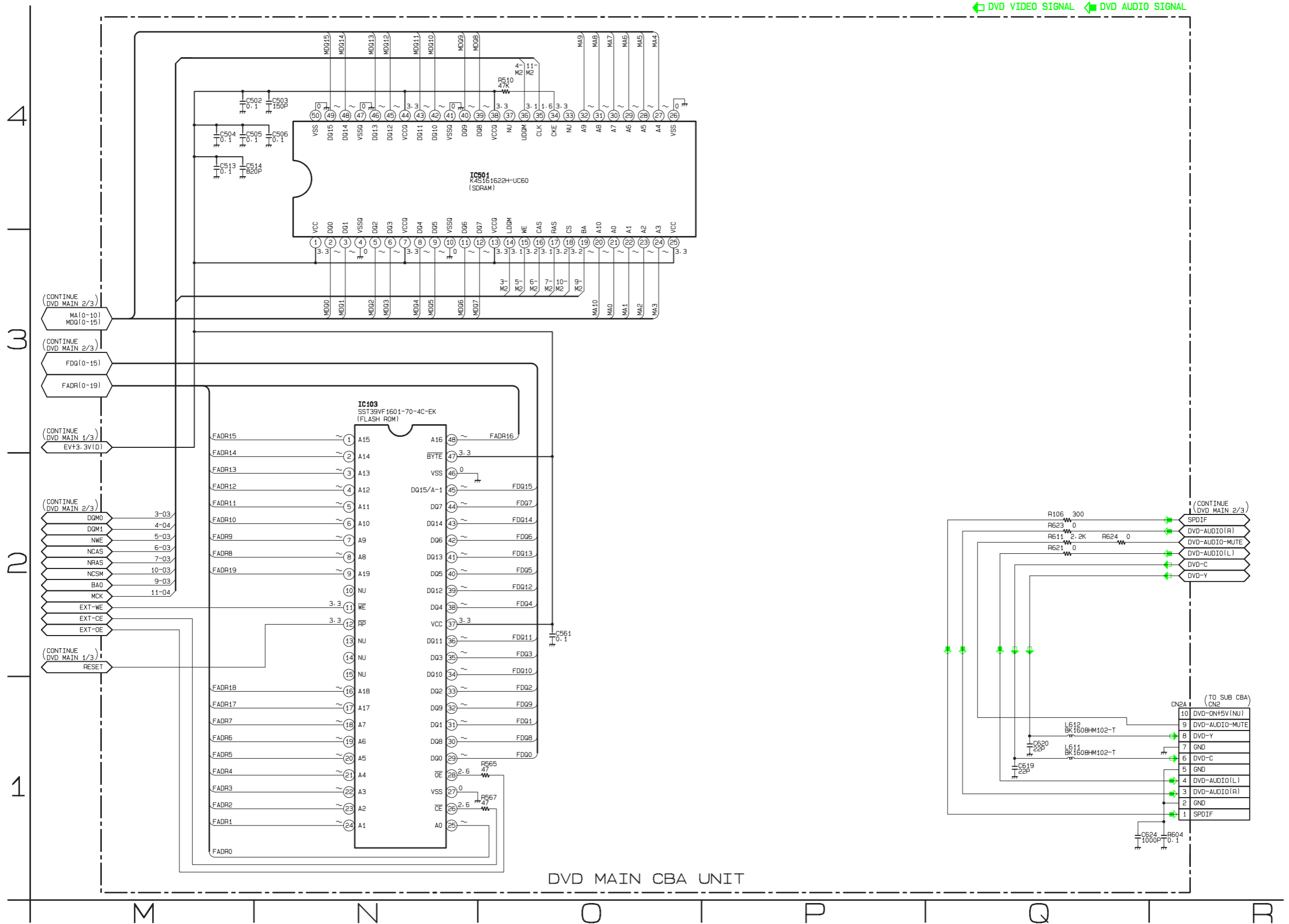
# DVD Main 2/3 Schematic Diagram < DVD Section >

← DVD VIDEO SIGNAL ← DVD AUDIO SIGNAL



DVD MAIN CBA UNIT

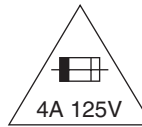
# DVD Main 3/3 Schematic Diagram < DVD Section >



DVD MAIN CBA UNIT

# Main CBA Top View < TV/VCR Section >

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



**CAUTION ! :** For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

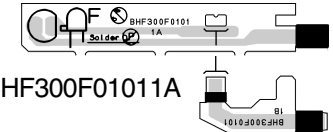
**NOTE:**

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION !**

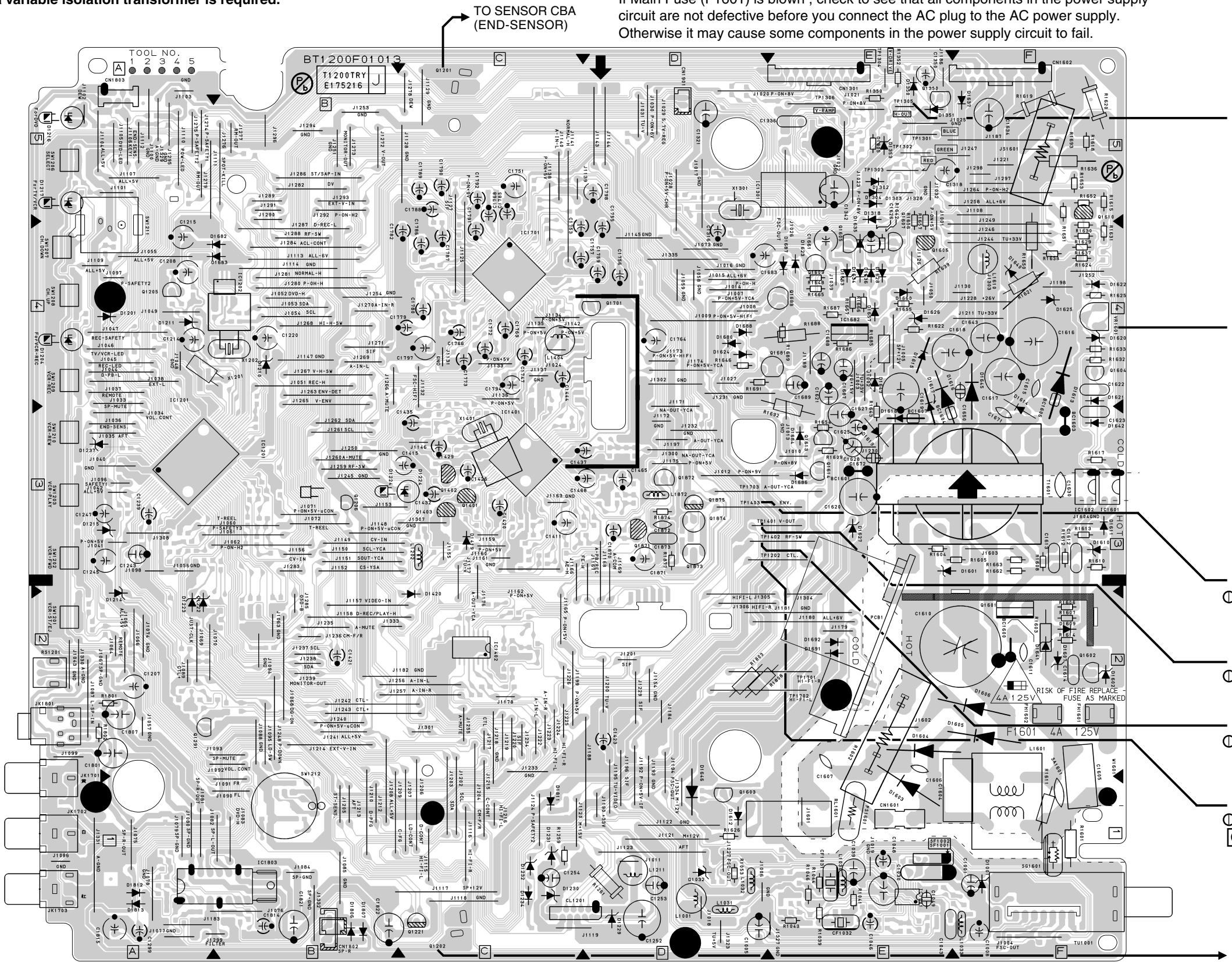
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

## Sensor CBA Top View



BHF300F0101A

BHF300F0101B



WF9  
TP1305  
H-OUT

VR1601  
+B ADJ

WF6  
TP1403  
ENV.

WF5  
TP1401  
V-OUT

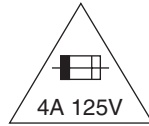
WF1  
TP1402  
RF-SW

WF3  
TP1202  
CTL-AMP-OUT

TO SENSOR CBA  
(START-SENSOR)

# Main CBA Bottom View < TV/VCR Section >

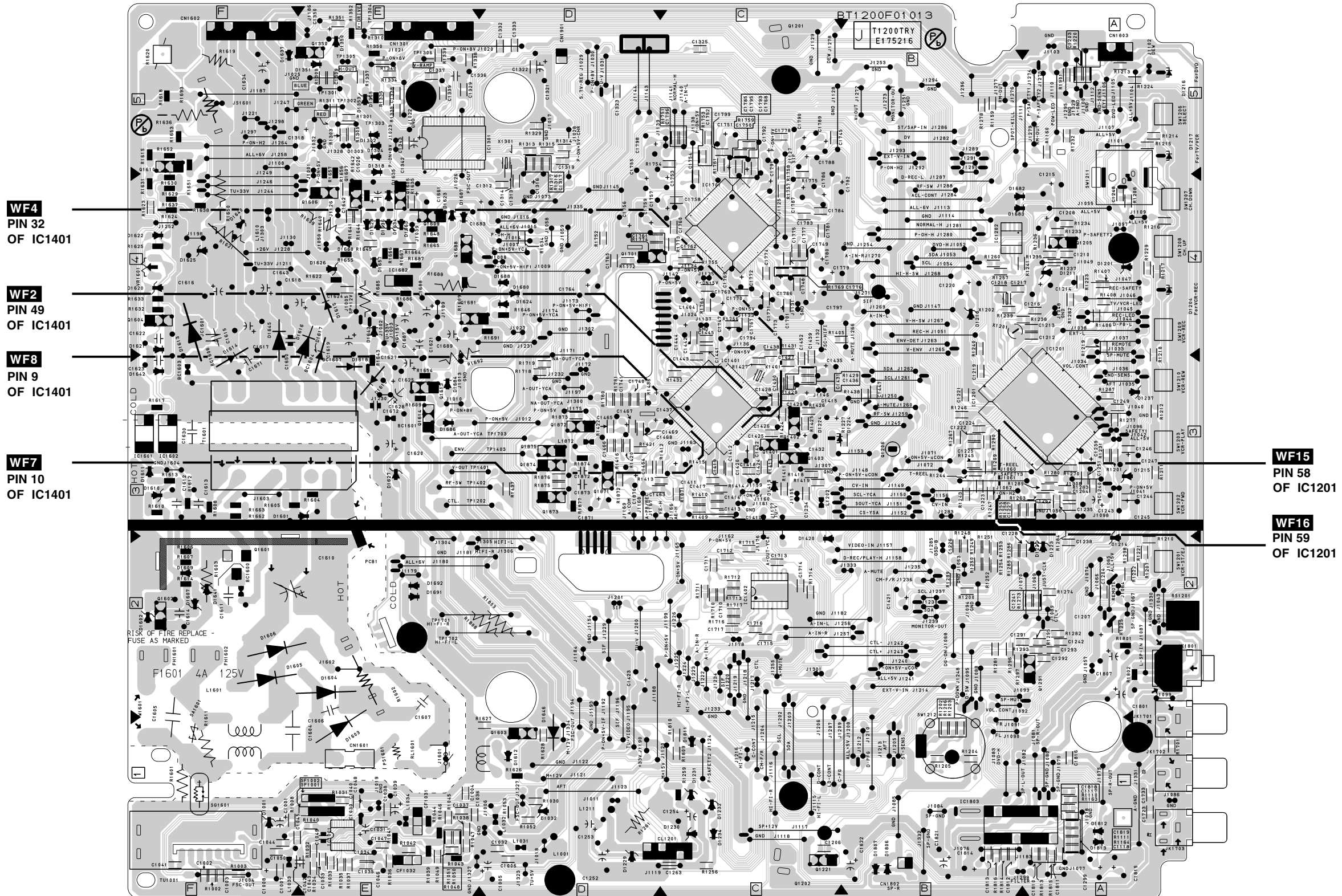
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



**CAUTION ! :** For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 125V.

**NOTE:** The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION !**  
 Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



**WF4**  
PIN 32  
OF IC1401

**WF2**  
PIN 49  
OF IC1401

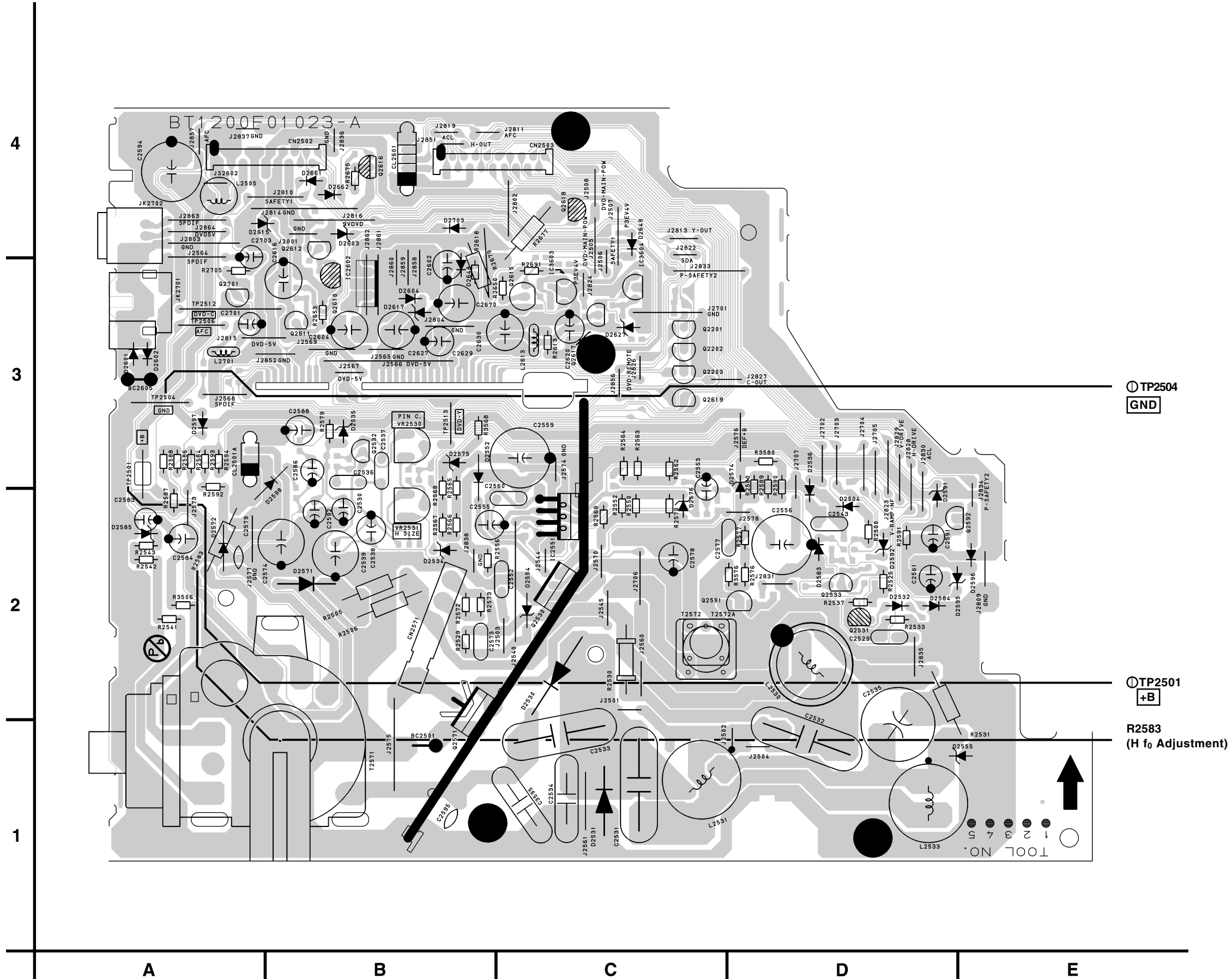
**WF8**  
PIN 9  
OF IC1401

**WF7**  
PIN 10  
OF IC1401

**WF15**  
PIN 58  
OF IC1201

**WF16**  
PIN 59  
OF IC1201

Sub CBA Top View < TV/VCR Section >

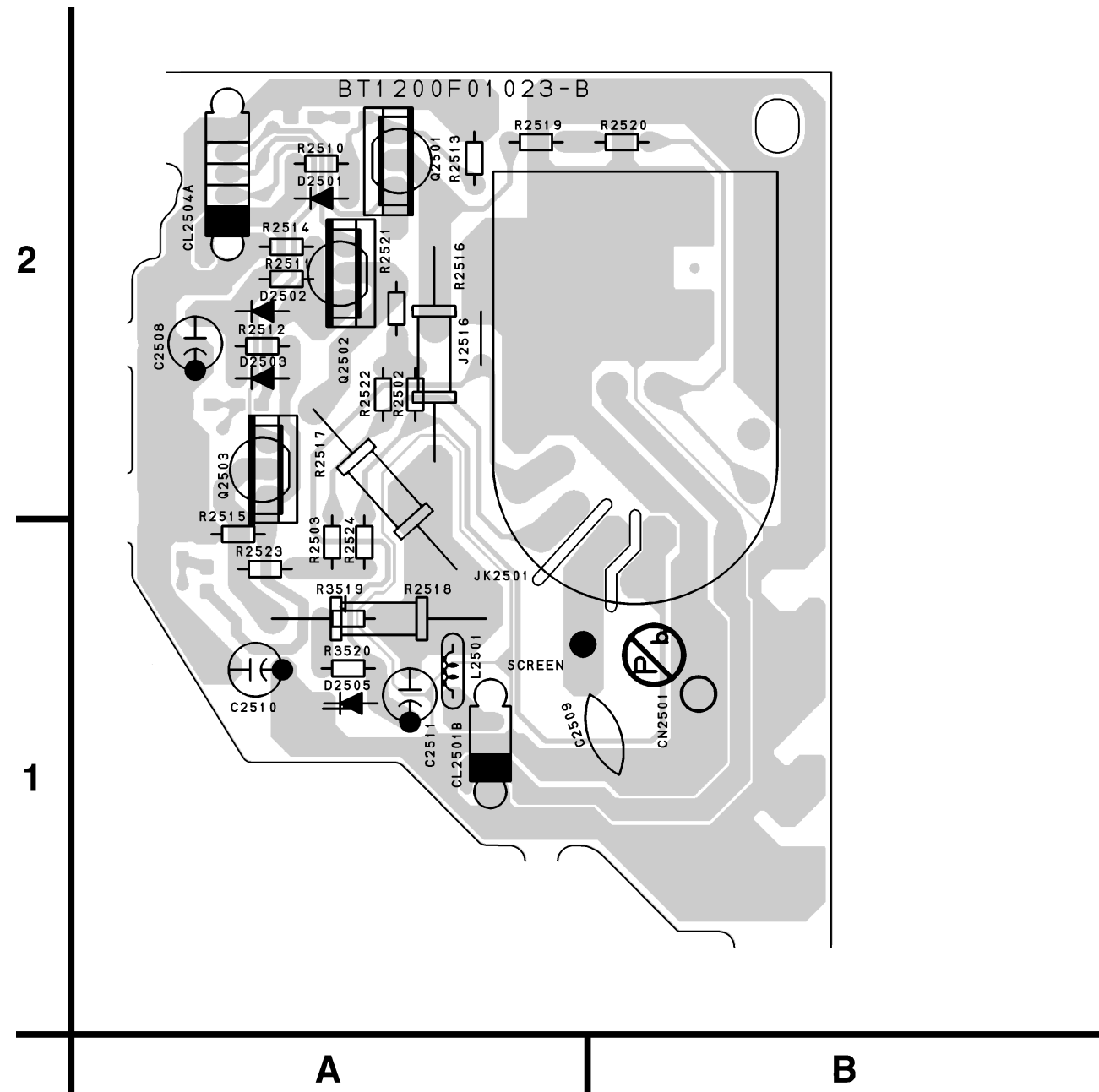




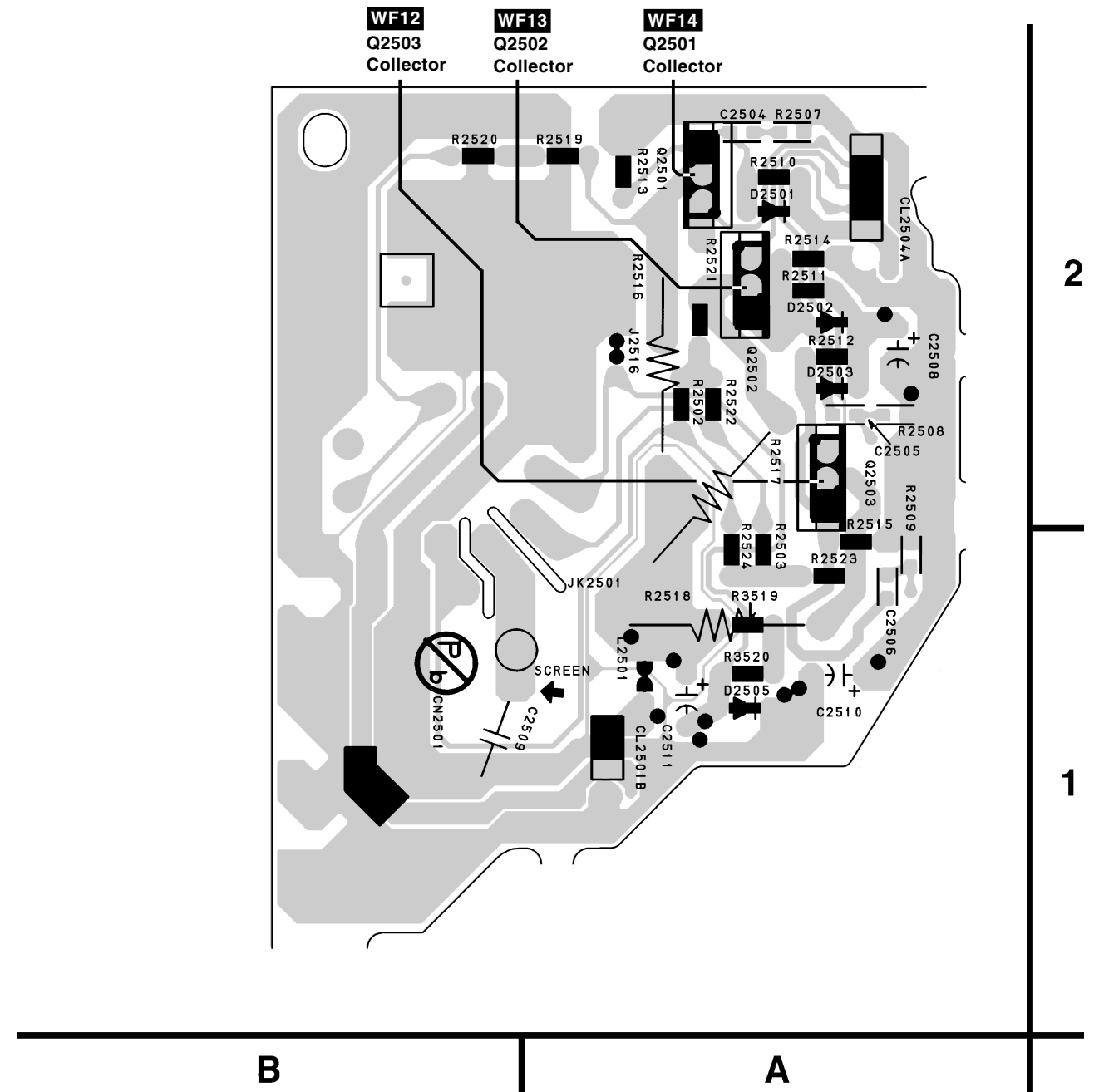
Sub CBA Bottom View < TV/VCR Section >



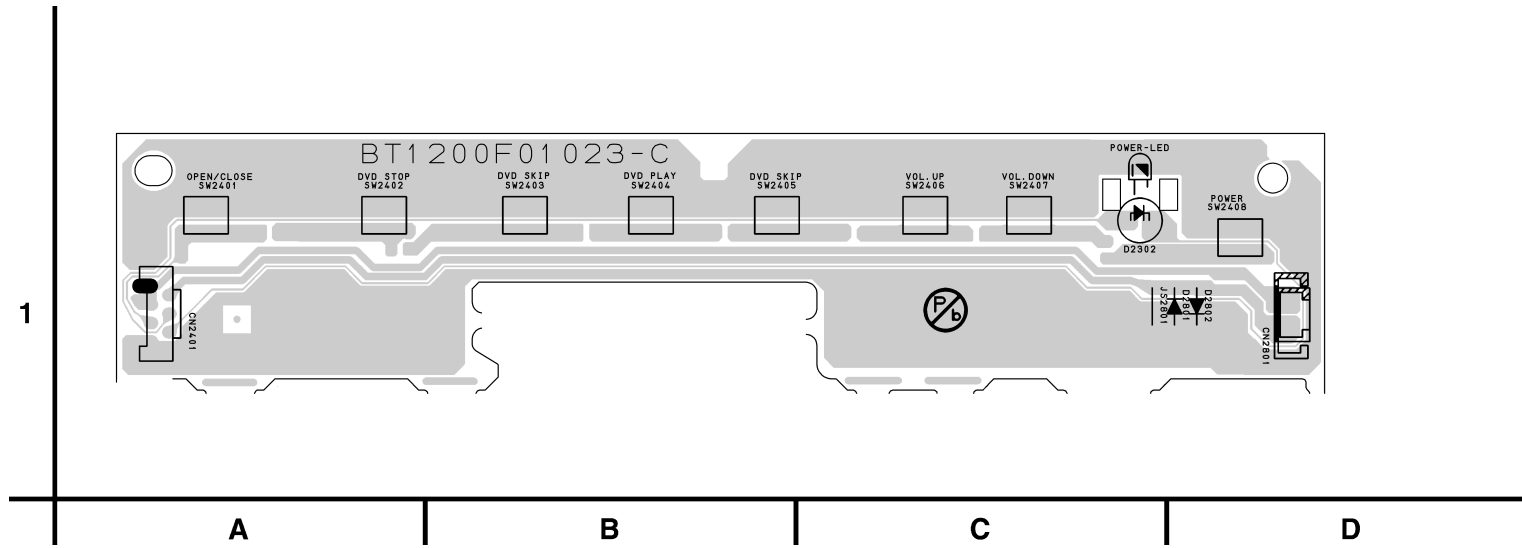
CRT CBA Top View < TV/VCR Section >



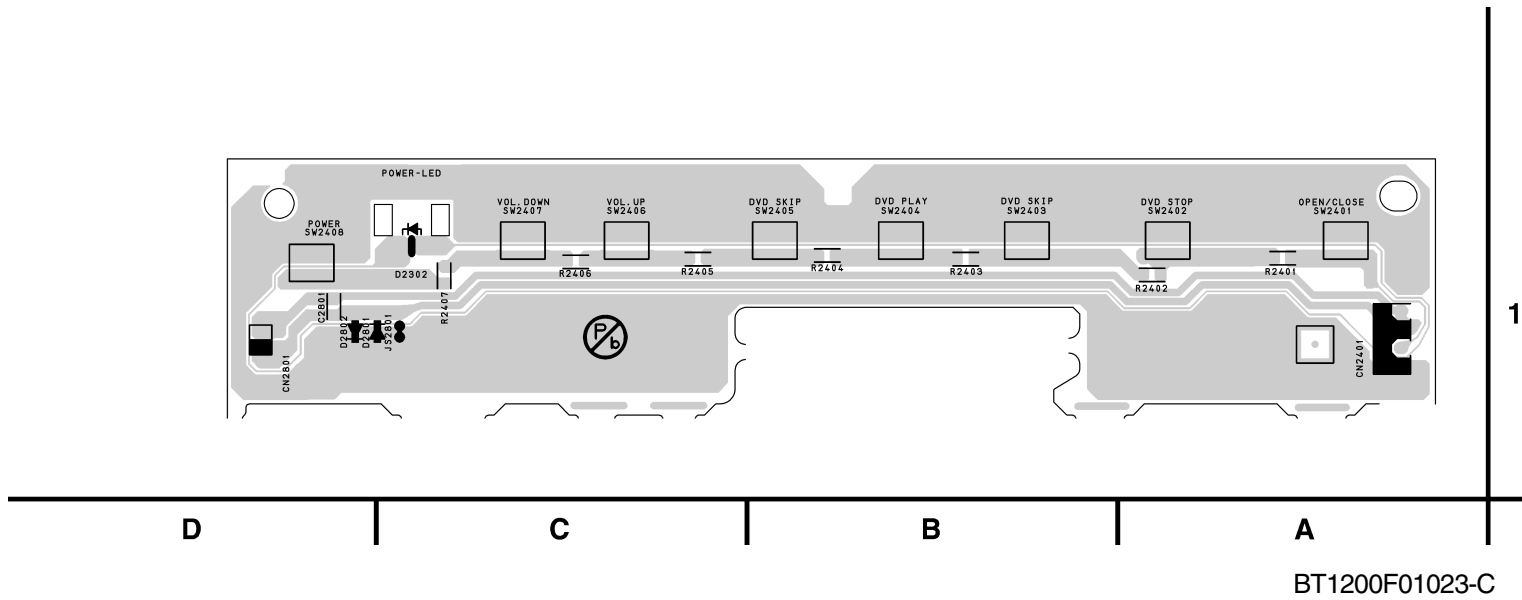
CRT CBA Bottom View < TV/VCR Section >



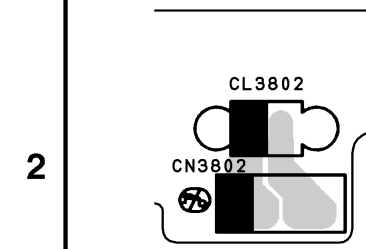
**Function CBA Top View < TV/VCR Section >**



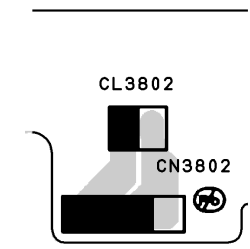
**Function CBA Bottom View < TV/VCR Section >**



**Junction-A CBA  
Top View  
< TV/VCR Section >**

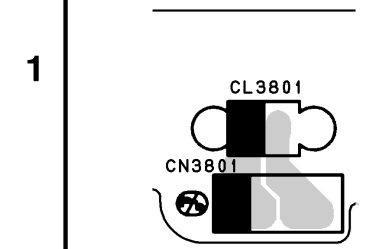


**Junction-A CBA  
Bottom View  
< TV/VCR Section >**

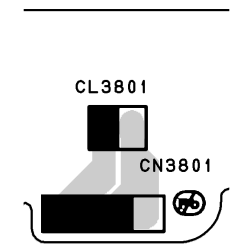


BT1200F01023-D

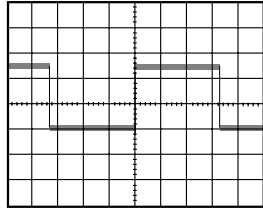
**Junction-B CBA  
Top View  
< TV/VCR Section >**



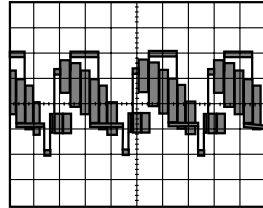
**Junction-B CBA  
Bottom View  
< TV/VCR Section >**



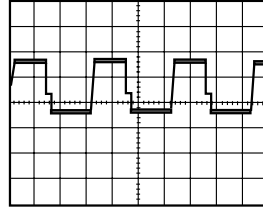
BT1200F01023-E



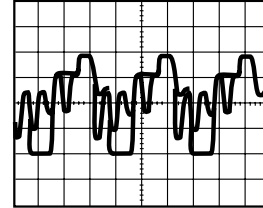
**WF1** 1DIV: 2V 5ms  
TP1402 RF-SW



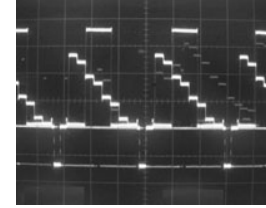
**WF5** 1DIV: 0.5V 20µs  
TP1401 V-OUT



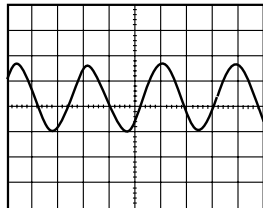
**WF9** 1DIV: 2V 20µs  
TP1305 H-OUT



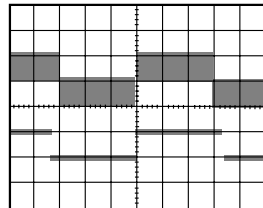
**WF13** 1DIV: 20V 20µs  
Q2502 COLLECTOR



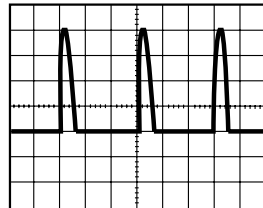
**WF17** 1DIV: 0.2V 20µs  
TP2513 DVD-Y



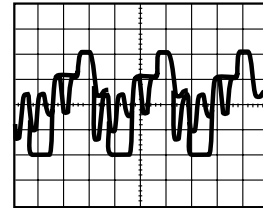
**WF2** 1DIV: 0.2V 0.1µs  
IC1401 Pin 49



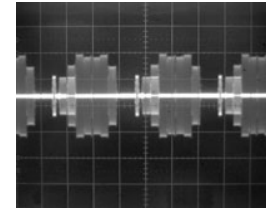
Upper: **WF6** Lower: **WF1**  
1DIV: 0.2V 2DIV: 5V 5ms  
TP1403 ENV.



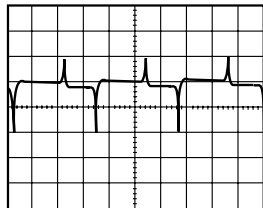
**WF10** 1DIV: 200V 20µs  
Q2571 COLLECTOR



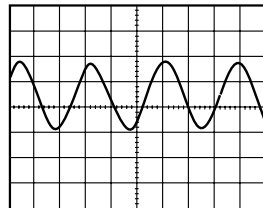
**WF14** 1DIV: 20V 20µs  
Q2501 COLLECTOR



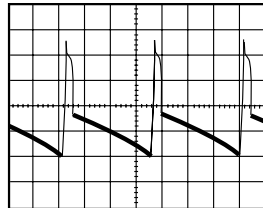
**WF18** 1DIV: 0.2V 20µs  
TP2512 DVD-C



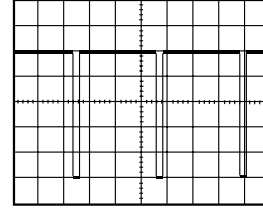
**WF3** 1DIV: 1V 10ms  
TP1202 CTL-AMP-OUT



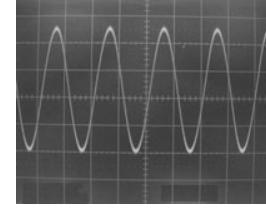
**WF7** 1DIV: 0.5V 0.5ms  
IC1401 PIN10



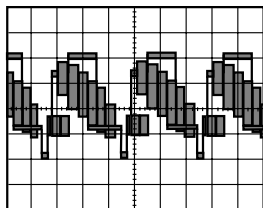
**WF11** 1DIV: 10V 5ms  
CN2571 PIN 5



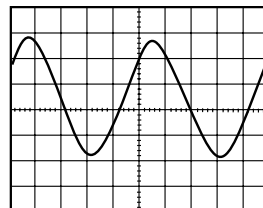
**WF15** 1DIV: 1V 20µs  
IC1201 PIN 58



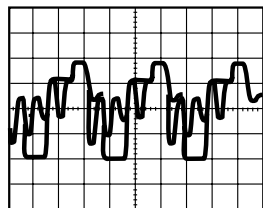
**WF19** 1DIV: 0.5V 0.5ms  
CN2503 PIN 18



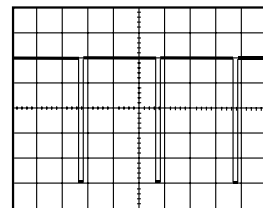
**WF4** 1DIV: 0.25V 20µs  
IC1401 Pin 32



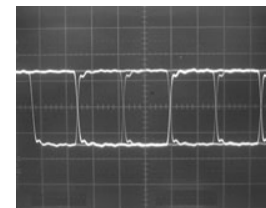
**WF8** 1DIV: 0.5V 0.5ms  
IC1401 PIN9



**WF12** 1DIV: 20V 20µs  
Q2503 COLLECTOR



**WF16** 1DIV: 1V 5ms  
IC1201 PIN 59



**WF20** 1DIV: 1V 0.1µs  
CN2 PIN 1

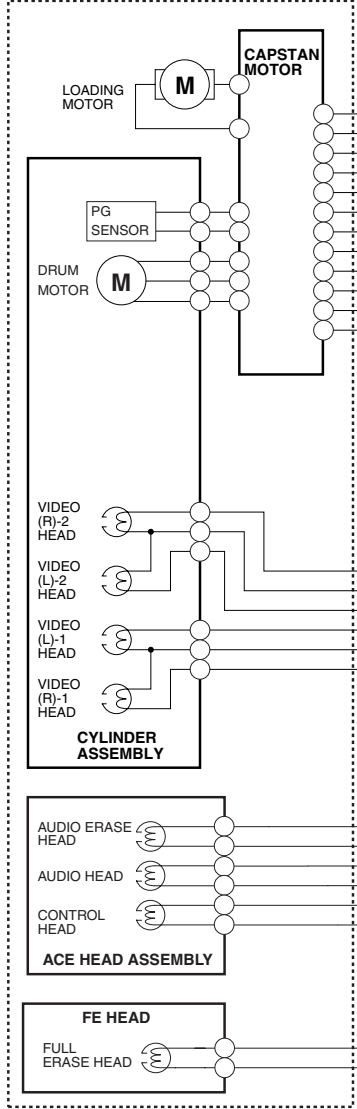
**Input:** NTSC Color Bar Signal (with 1kHz Audio Signal) --- WF1-WF16  
DVD Video (Power on (Stop) MODE) --- WF17, WF18  
CD (1KHz Play) --- WF19, WF20

**INITIAL POSITION:** Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.

(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)

**WAVEFORMS**

**WIRING DIAGRAM FOR  
DECK MECHANISM SECTION**

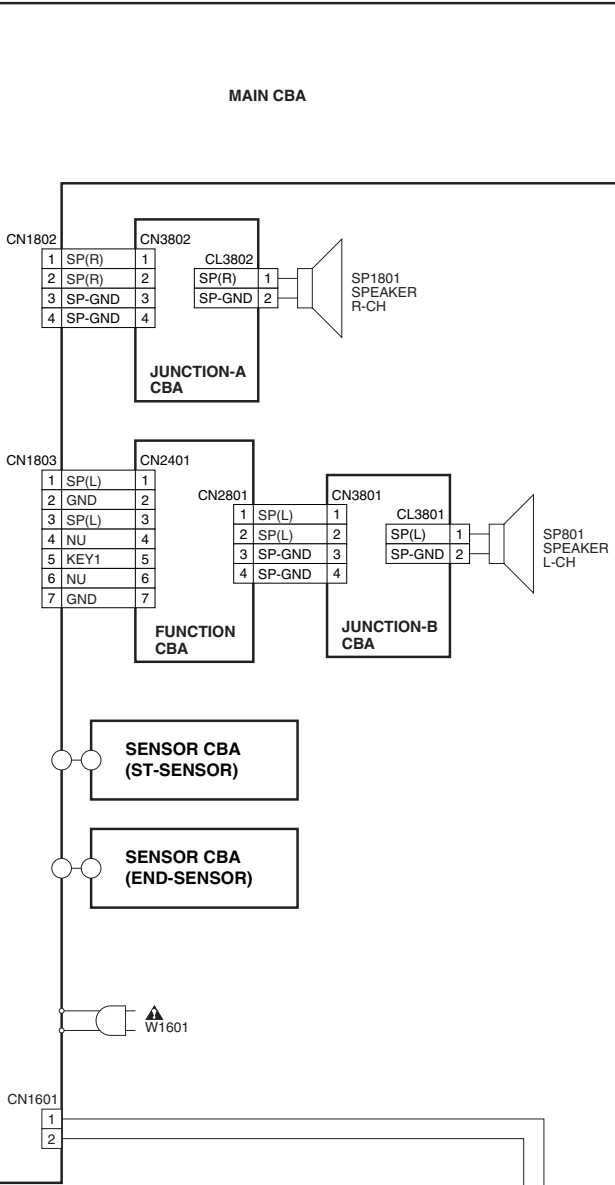


CL1201	
1	CM+12V
2	P-ON+5V(3)
3	C-FG
4	CM-F/R
5	C-CONT
6	FG-GND
7	LD-CONT
8	D-CONT
9	D-PFG
10	M-GND
11	D/L+12V
12	VG+15V

CL1401	
6	VIDEO(R)-2
5	VIDEO-COM2
4	VIDEO(L)-2
3	VIDEO(L)-1
2	VIDEO-COM1
1	VIDEO(R)-1

CL1402	
6	AE-H
5	AE-H/FE-H
4	AUDIO-COM
3	AUDIO-PB/REC
2	CTL(+)
1	CTL(-)

CL1403	
1	FE-H
2	FE-H-GND



CN1802		CN3802	
1	SP(R)	1	SP(R)
2	SP(R)	2	SP(R)
3	SP-GND	3	SP-GND
4	SP-GND	4	SP-GND

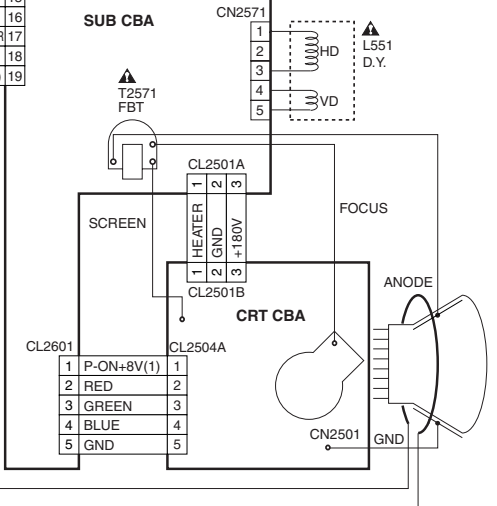
CN1803		CN2401		CN2801		CN3801	
1	SP(L)	1	SP(L)	1	SP(L)	1	SP(L)
2	GND	2	GND	2	SP(L)	2	SP(L)
3	SP(L)	3	SP(L)	3	SP-GND	3	SP-GND
4	NU	4	NU	4	SP-GND	4	SP-GND
5	KEY1	5	KEY1	5	SP-GND	5	SP-GND
6	NU	6	NU	6	SP-GND	6	SP-GND
7	GND	7	GND	7	SP-GND	7	SP-GND

CN1602		CN2502	
1	+B	1	+B
2	+B	2	+B
3	GND	3	GND
4	GND	4	GND
5	GND	5	GND
6	+26V	6	+26V
7	GND	7	GND
8	GND	8	GND
9	GND	9	GND
10	EV+4V	10	EV+4V
11	EV+4V	11	EV+4V
12	GND	12	GND
13	GND	13	GND
14	DVD-ON+9V	14	DVD-ON+9V
15	GND	15	GND
16	P-ON+5V(4)	16	P-ON+5V(4)
17	P-SAFETY1	17	P-SAFETY1
18	P-SAFETY2	18	P-SAFETY2
19	DVD-REMOTE	19	DVD-REMOTE

CN1301		CN2503	
1	H-DRIVE	1	H-DRIVE
2	ACL	2	ACL
3	RED	3	RED
4	GREEN	4	GREEN
5	BLUE	5	BLUE
6	P-ON+8V(1)	6	P-ON+8V(1)
7	AFC	7	AFC
8	V-DRIVE	8	V-DRIVE
9	V-RAMP-NF	9	V-RAMP-NF
10	DVD-Y	10	DVD-Y
11	DVD-C	11	DVD-C
12	P-SAFETY3	12	P-SAFETY3
13	SDATA	13	SDATA
14	SCLK	14	SCLK
15	CS	15	CS
16	DVD-AUDIO-MUTE	16	DVD-AUDIO-MUTE
17	DVD-MAIN-POWER	17	DVD-MAIN-POWER
18	DVD-AUDIO(L)	18	DVD-AUDIO(L)
19	DVD-AUDIO(R)	19	DVD-AUDIO(R)

CN2	
1	SPDIF
2	GND
3	DVD-AUDIO(R)
4	DVD-AUDIO(L)
5	GND
6	DVD-C
7	GND
8	DVD-Y
9	DVD-AUDIO-MUTE
10	DVD-ON+5V(NU)

CN1	
1	EV+1.2V
2	EV+1.2V
3	EV+1.2V
4	GND
5	GND
6	GND
7	GND
8	GND
9	EV+3.3V
10	EV+3.3V
11	DVD-ON+3.3V
12	DVD-ON+5V
13	EV+9V
14	EV+9V
15	PWRCON
16	SCLK
17	CS
18	SDATA
19	DVD-REMOTE



CL2601	
1	P-ON+8V(1)
2	RED
3	GREEN
4	BLUE
5	GND

CN2571	
1	HD
2	HD
3	VD
4	VD
5	VD

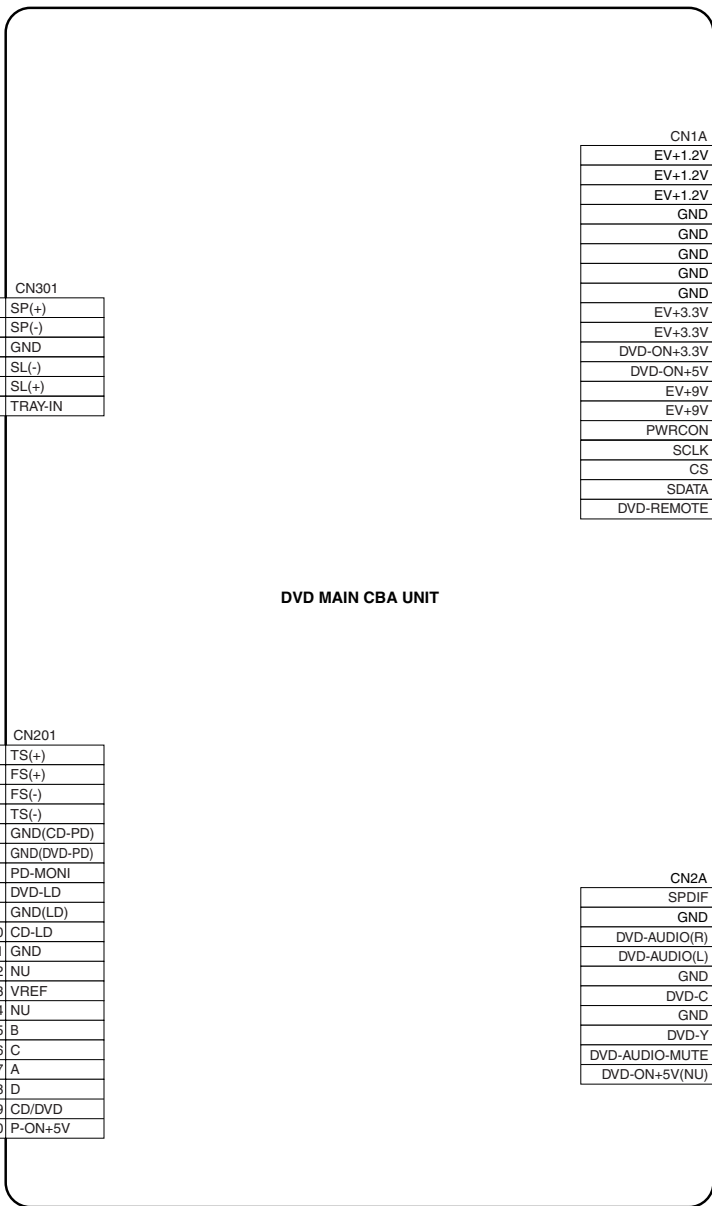
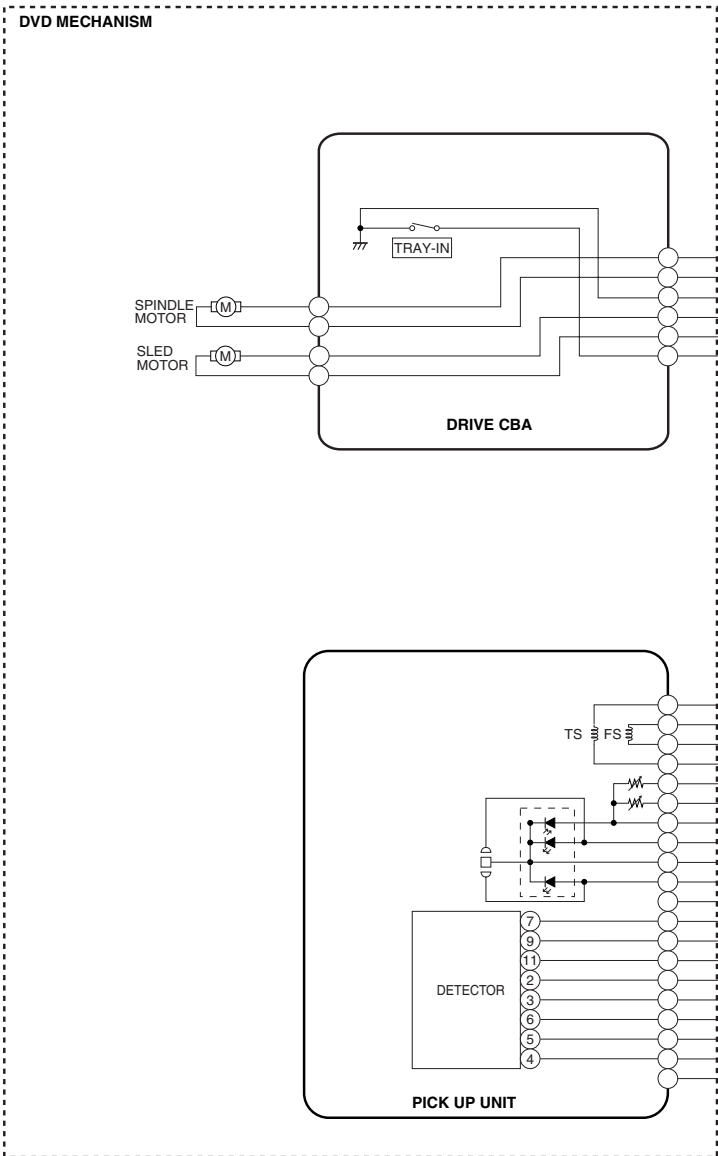
TO CN2A

TO CN1A

CONTINUE  
WIRING DIAGRAM  
<DVD SECTION>

**WIRING DIAGRAM < TV/VCR Section >**

# WIRING DIAGRAM < DVD Section >



TO CN1

TO CN2

CONTINUE WIRING DIAGRAM <TV/VCR SECTION>