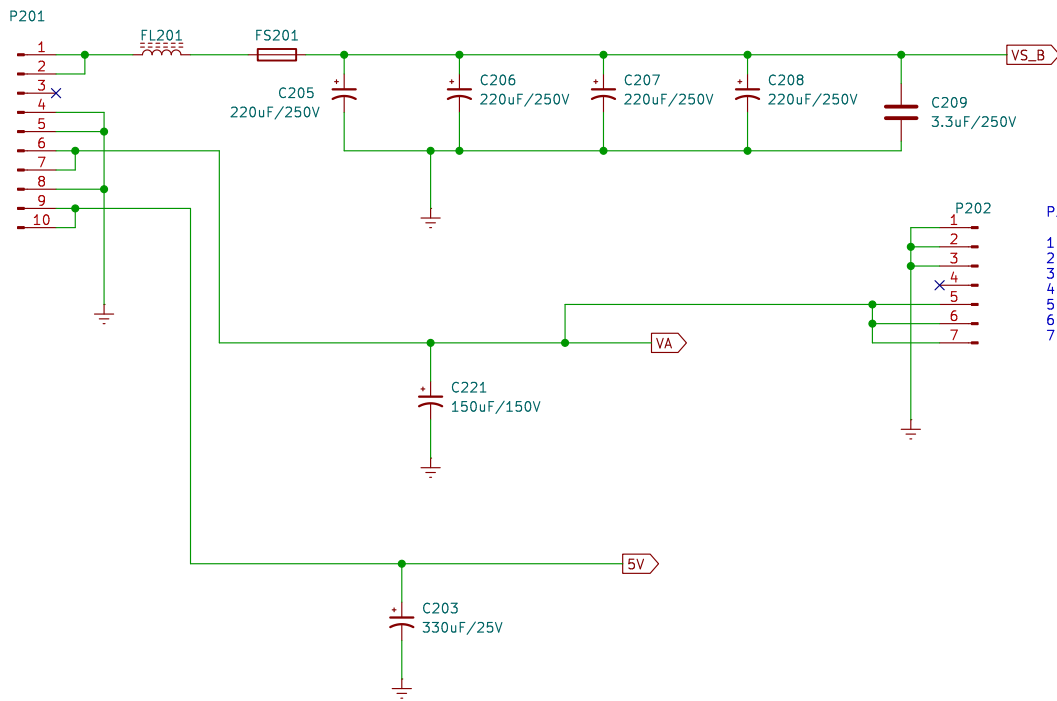


# VOLTAGES SUPPLY

P201 (Input Power Supply)

- 1- +VS
- 2- +VS
- 3- NC
- 4- GND
- 5- GND
- 6- +VA
- 7- +VA
- 8- GND
- 9- +5V
- 10- +5V



P202 (Output VA Supply)

- 1- GND
- 2- GND
- 3- GND
- 4- NC
- 5- +VA
- 6- +VA
- 7- +VA

VS Voltage supply  
Author: Fábio Pereira da Silva

Sheet: /  
File: y\_board.kicad\_sch

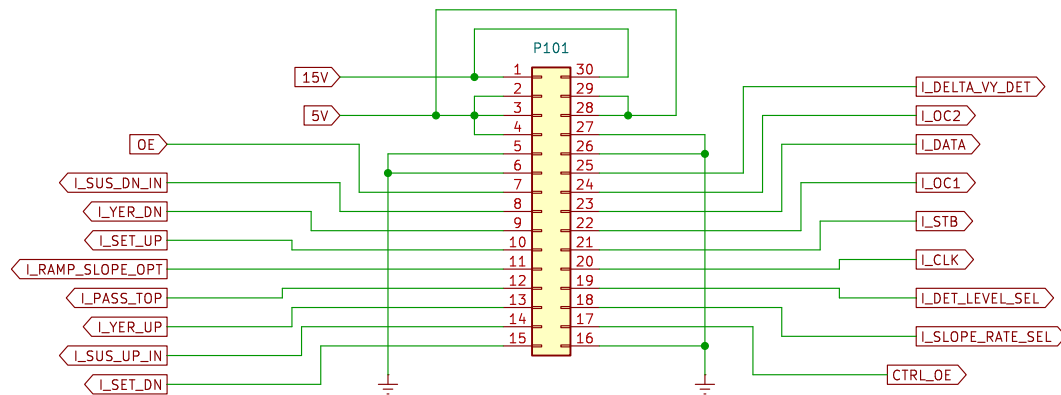
**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 1/23

# Input Control (Part 1 of 3)

P101

1- 15V	30- 15V
2- 5V	29- 5V
3- 5V	28- 5V
4- 5V	27- GND
5- GND	26- GND
6- GND	25- (1- L_DELTA_VY_DET)
7- (2- OE)	24- (3- L_OC2)
8- (4- L_SUS_DN_IN)	23- (5- L_DATA)
9- (6- L_YER_DN)	22- (7- L_OC1)
10- (8- L_SET_UP)	21- (9- L_STB)
11- (10- L_RAMP_SLOPE_OPT)	20- (11- L_CLK)
12- (12- L_PASS_TOP)	19- (13- L_DET_LEVEL_SEL)
13- (14- L_YER_UP)	18- (15- L_SLOPE_RATE_SEL)
14- (16- L_SUS_UP_IN)	17- (17- L_CTRL_OE)
15- (18- L_SET_DN)	16- GND



Input Control (Part 1 of 3)  
Author: Fábio Pereira da Silva

Sheet: /Input control (Part 1 of 3)/  
File: input\_control.kicad\_sch

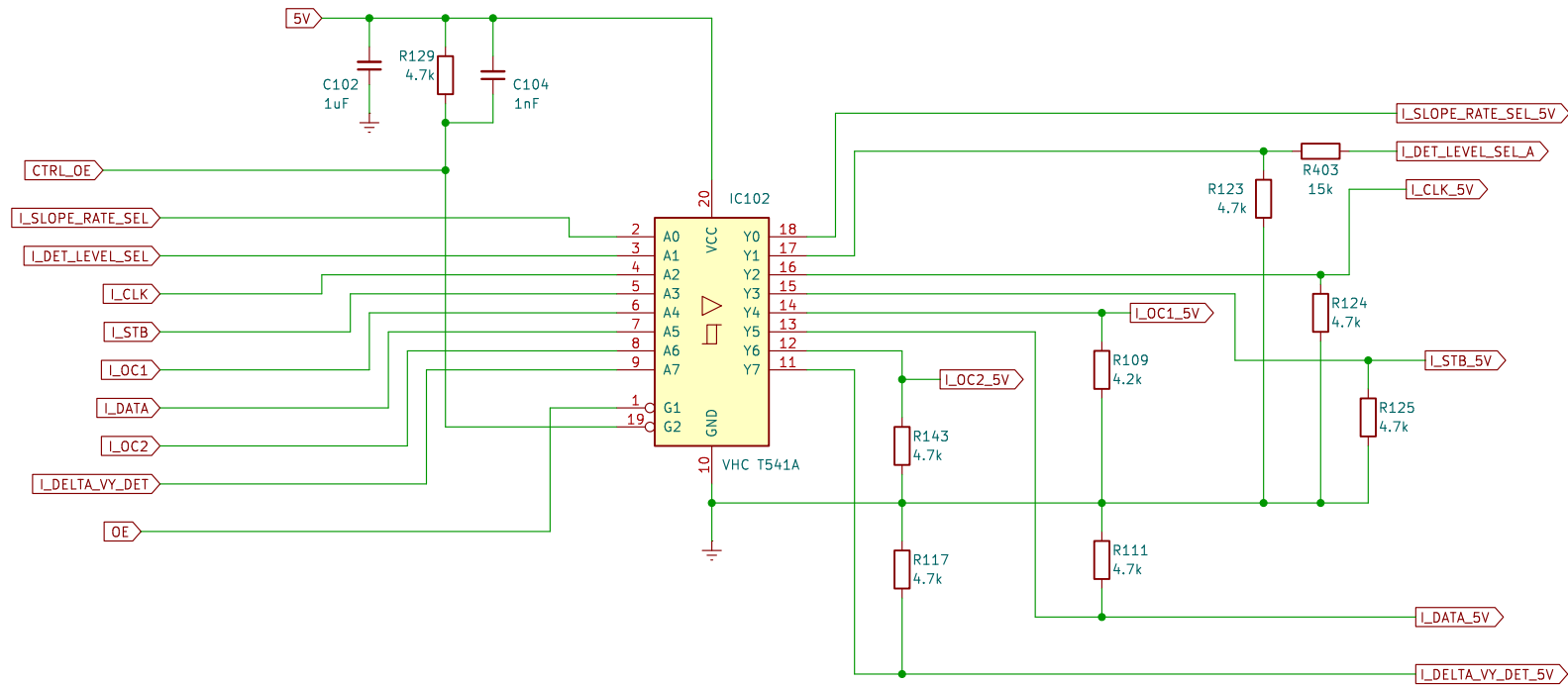
**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4  
KiCad E.D.A. 8.0.9

Date: 2025-03-24

Rev: 1.0  
Id: 2/23

## Input Control (Part 2 of 3)



Input Control (Part 2 of 3)  
Author: Fábio Pereira da Silva

Sheet: /Input control (Part 2 of 3)/  
File: input\_control2.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4

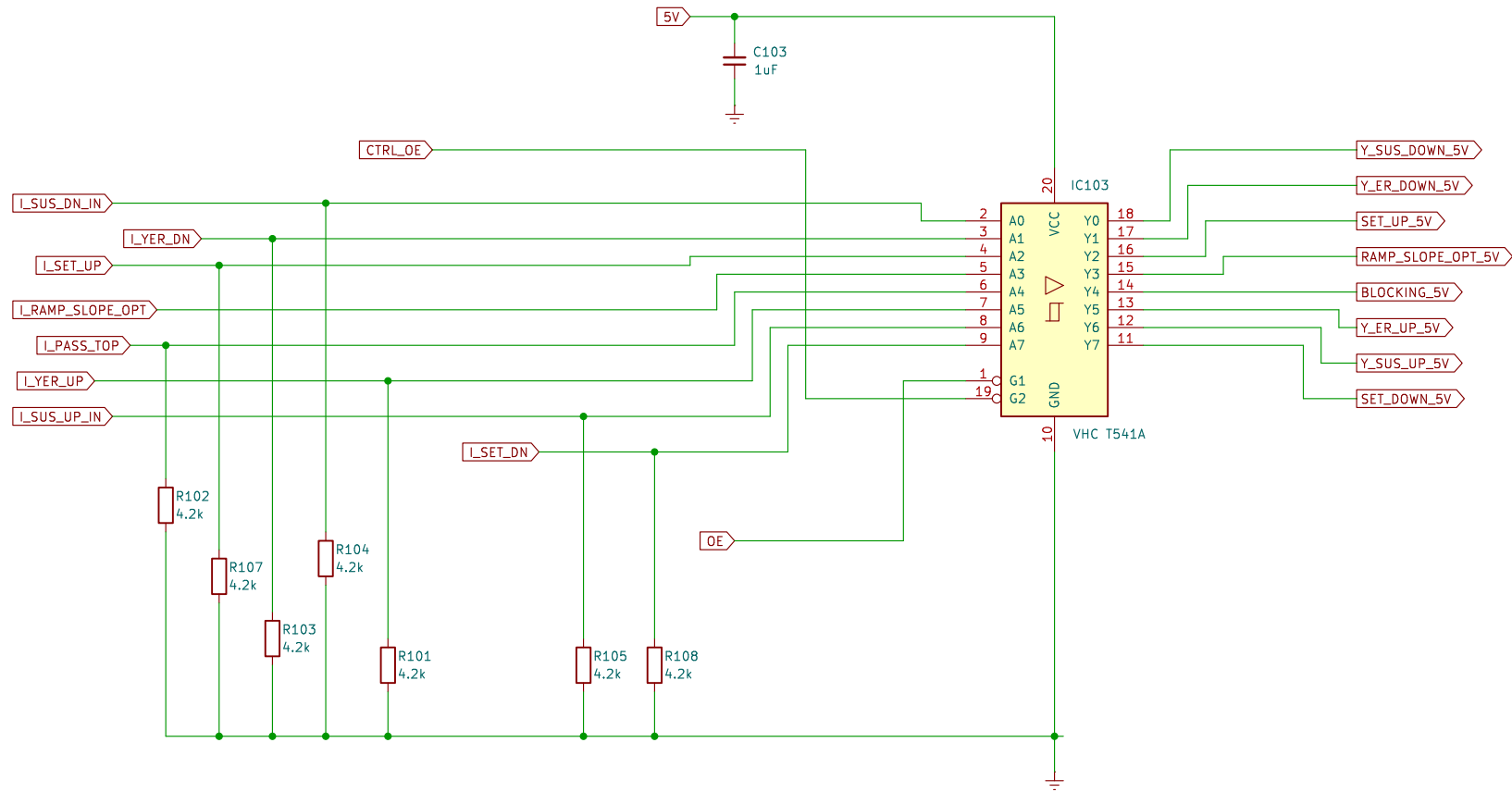
Date: 2025-03-24

Rev: 1.0

KiCad E.D.A. 8.0.9

Id: 3/23

# Input Control (Part 3 of 3)



Input Control (Part 3 of 3)  
Author: Fábio Pereira da Silva

Sheet: /Input control (Part 3 of 3)/  
File: input\_control3.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4

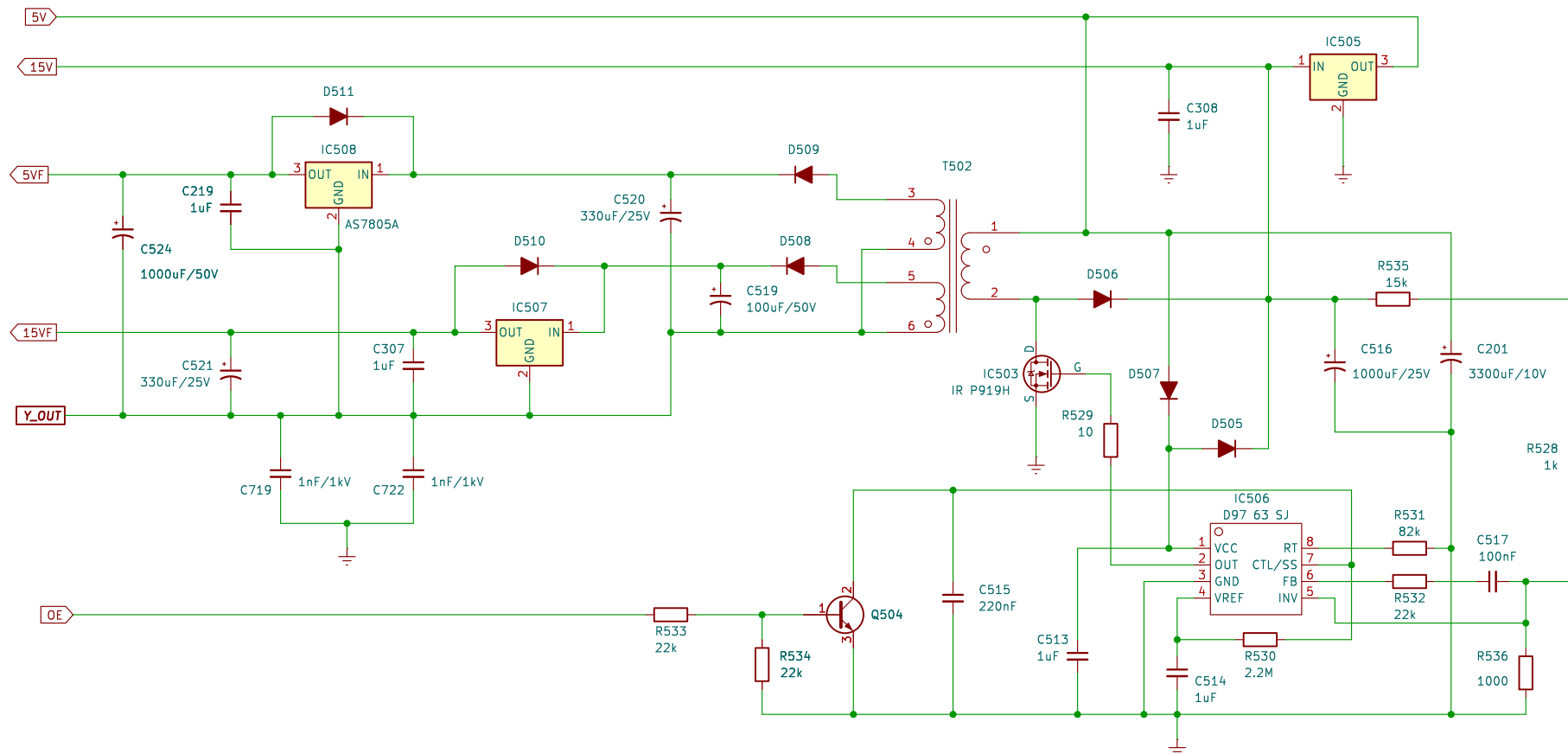
Date: 2025-03-24

Rev: 1.0

KiCad E.D.A. 8.0.9

Id: 4/23

# 5VF, 15VF and 15V Supply



5VF, 15VF and 15V Supply  
Author: Fábio Pereira da Silva

Sheet: /5VF, 15VF 15v/  
File: 5VF\_15VF\_15V.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4 Date: 2025-03-24

KiCad E.D.A. 8.0.9

**Rev: 1.0**

Id: 5/23

# VSC and VY (Part 1 of 3)

VSC and VY (Part 1 of 3)

Author: Fábio Pereira da Silva

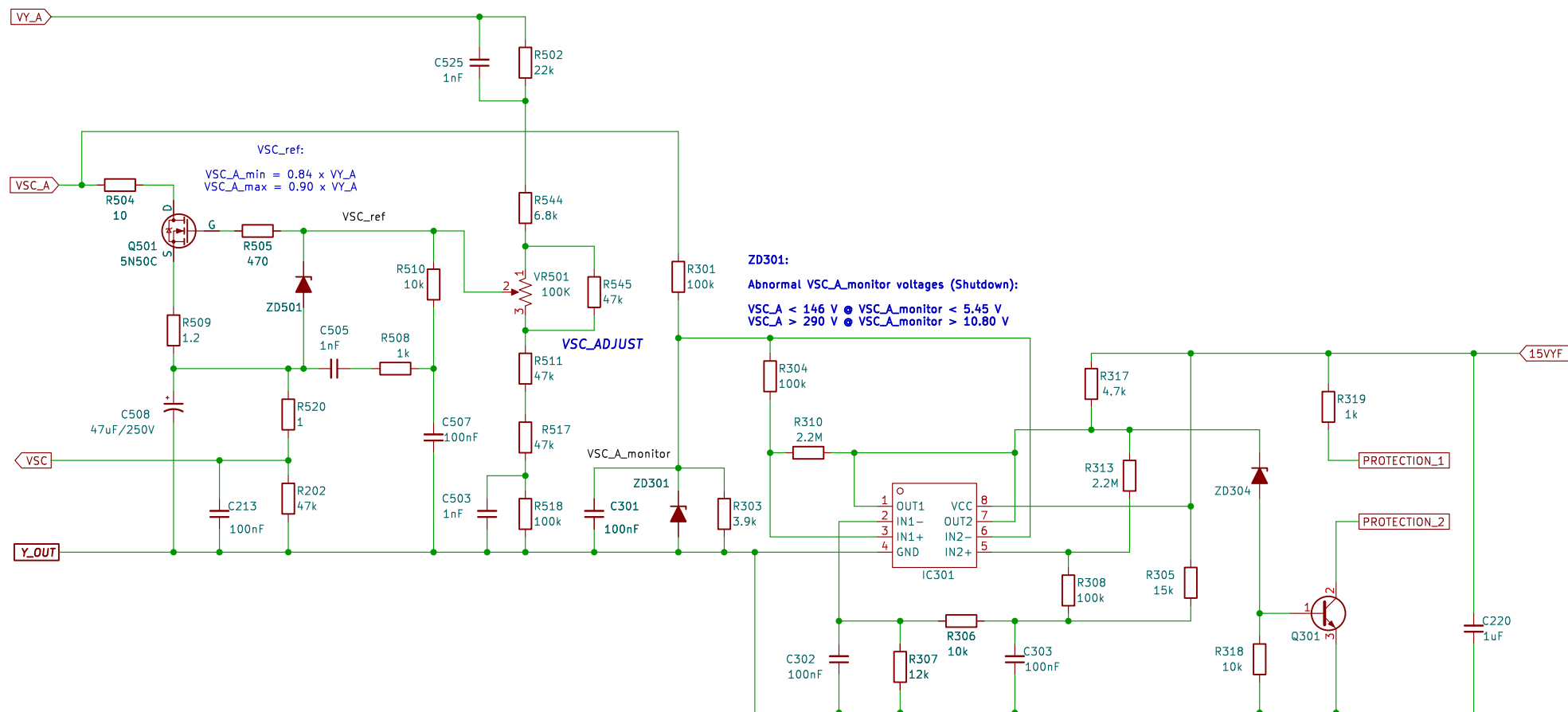
Sheet: /VSC AND VY (Part 1 of 3)/  
File: vsc\_and\_vy.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 6/23

Rev: 1.0  
Id: 6/23

# VSC and VY (Part 2 of 3)



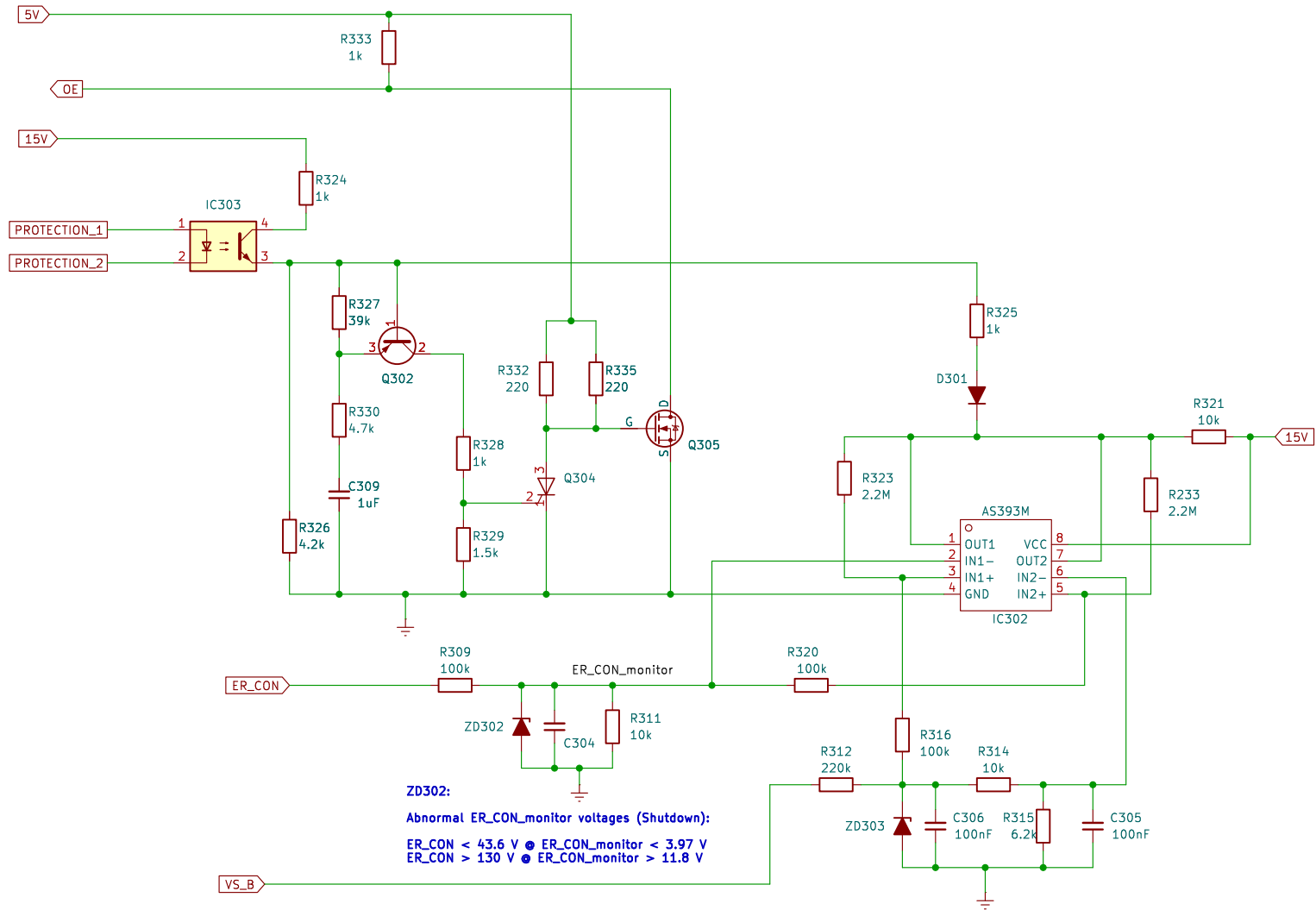
VSC and VY (Part 2 of 3)  
 Author: Fábio Pereira da Silva

Sheet: /VSC and VY (Part 2 of 3)/  
 File: vcs\_and\_vy\_part2\_of\_3.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 7/23

# VSC and VY (Part 3 of 3)



Author: Fábio Pereira da Silva

Sheet: /VSC and VY (Part 3 of 3)/  
 File: vsc\_and\_vy\_part3\_of\_3.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4 Date: 2025-03-24

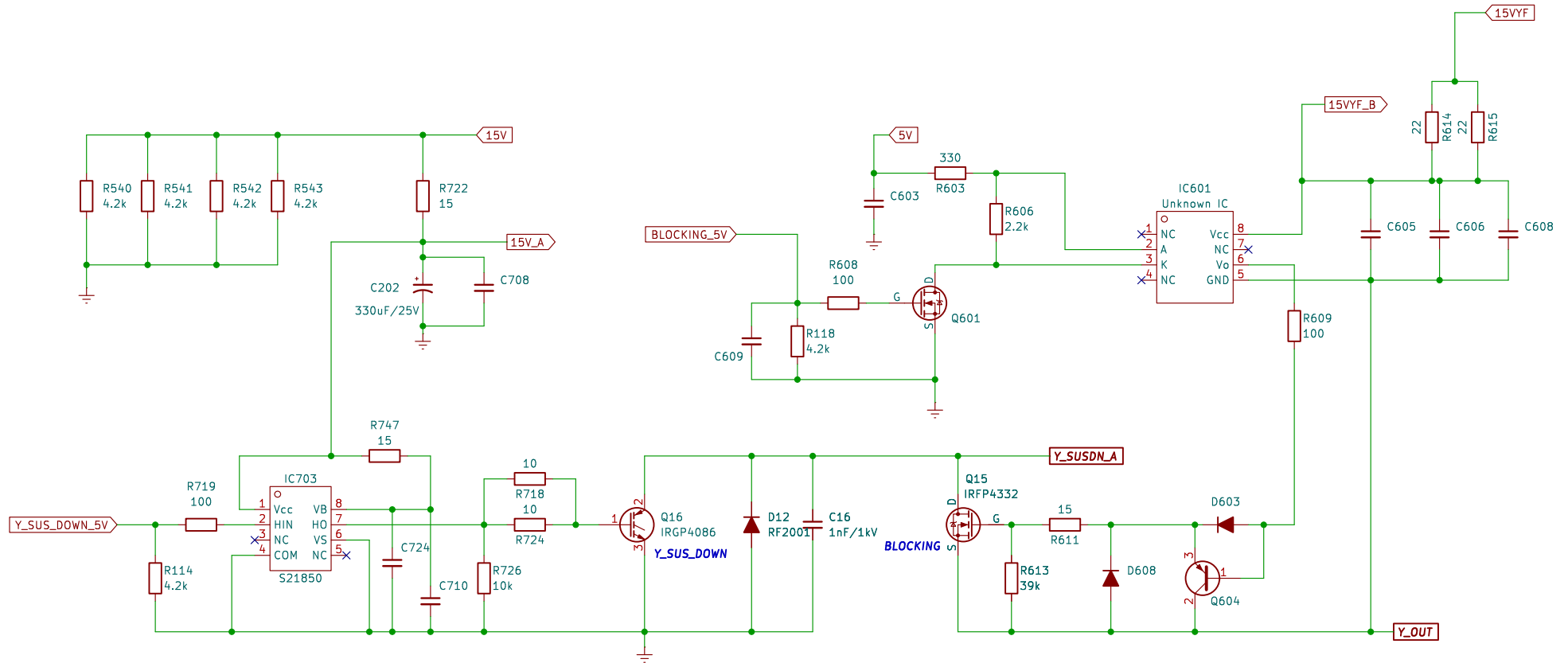
KiCad E.D.A. 8.0.9

Rev: 1.0

Id: 8/23



# Y BLOCKING AND Y SUS DOWN



Y\_BLOCKING | Y\_SUS\_DOWN  
 Author: Fábio Pereira da Silva

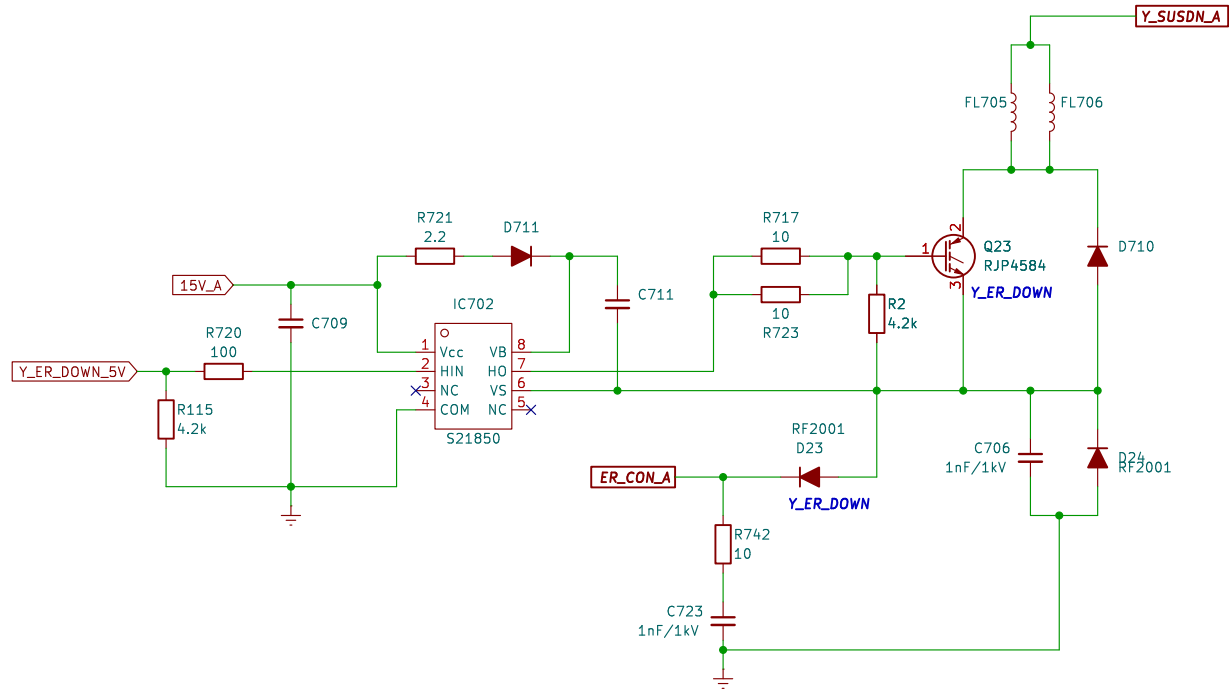
Sheet: /Y\_SUS\_DOWN\_AND\_Y\_BLOCKING/  
 File: y\_sus\_dn\_and\_blocking.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4 Date: 2025-03-24  
 KiCad E.D.A. 8.0.9

Rev: 1.0  
 Id: 9/23

# Y ENERGY RECOVERY DOWN



Y ER DOWN  
Author: Fábio Pereira da Silva

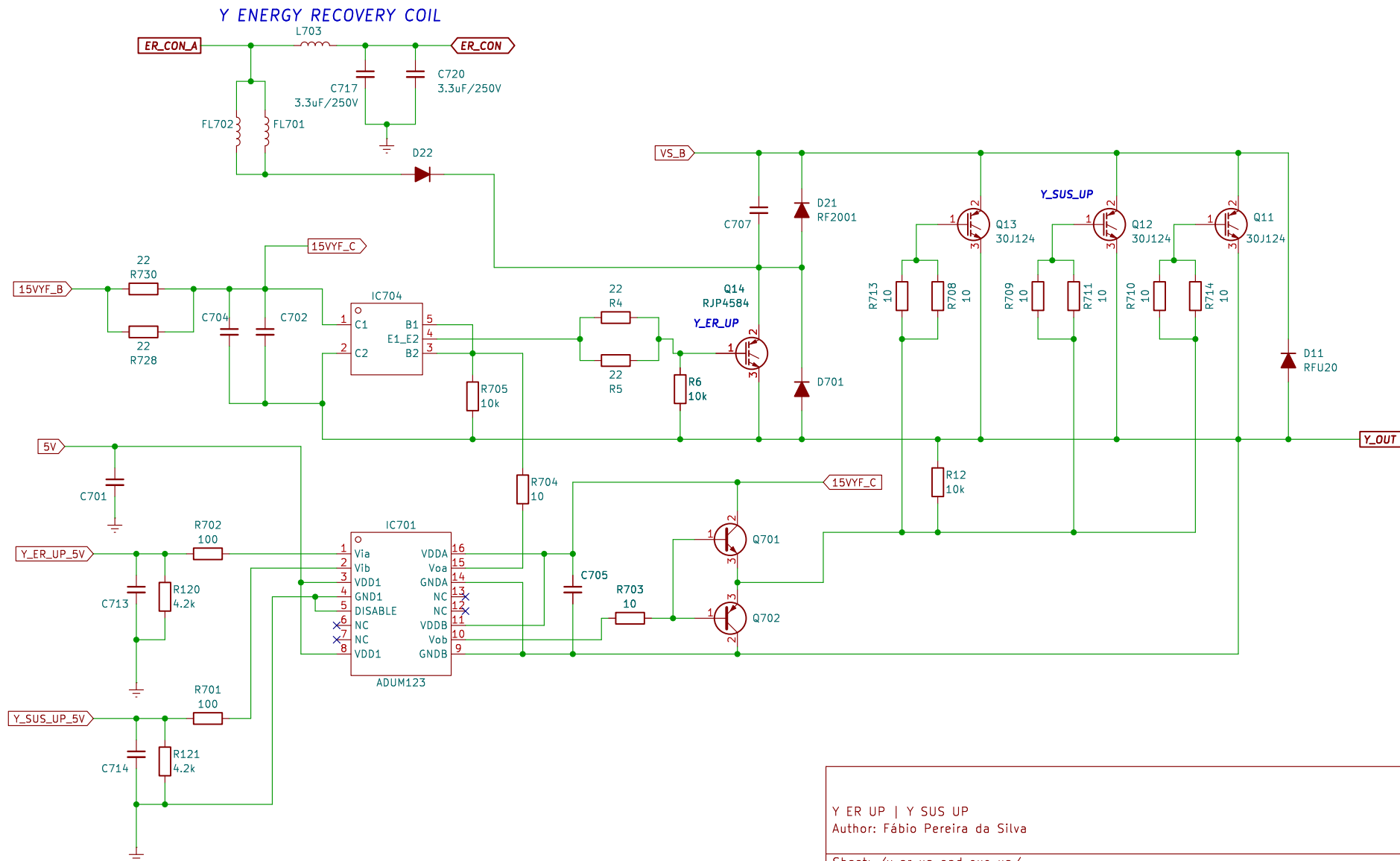
Sheet: /y\_er\_down/  
File: y\_er\_down.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4 Date: 2025-03-24  
KiCad E.D.A. 8.0.9

**Rev: 1.0**  
Id: 10/23

# Y ENERGY RECOVERY UP AND Y SUS UP



Y ER UP | Y SUS UP  
Author: Fábio Pereira da Silva

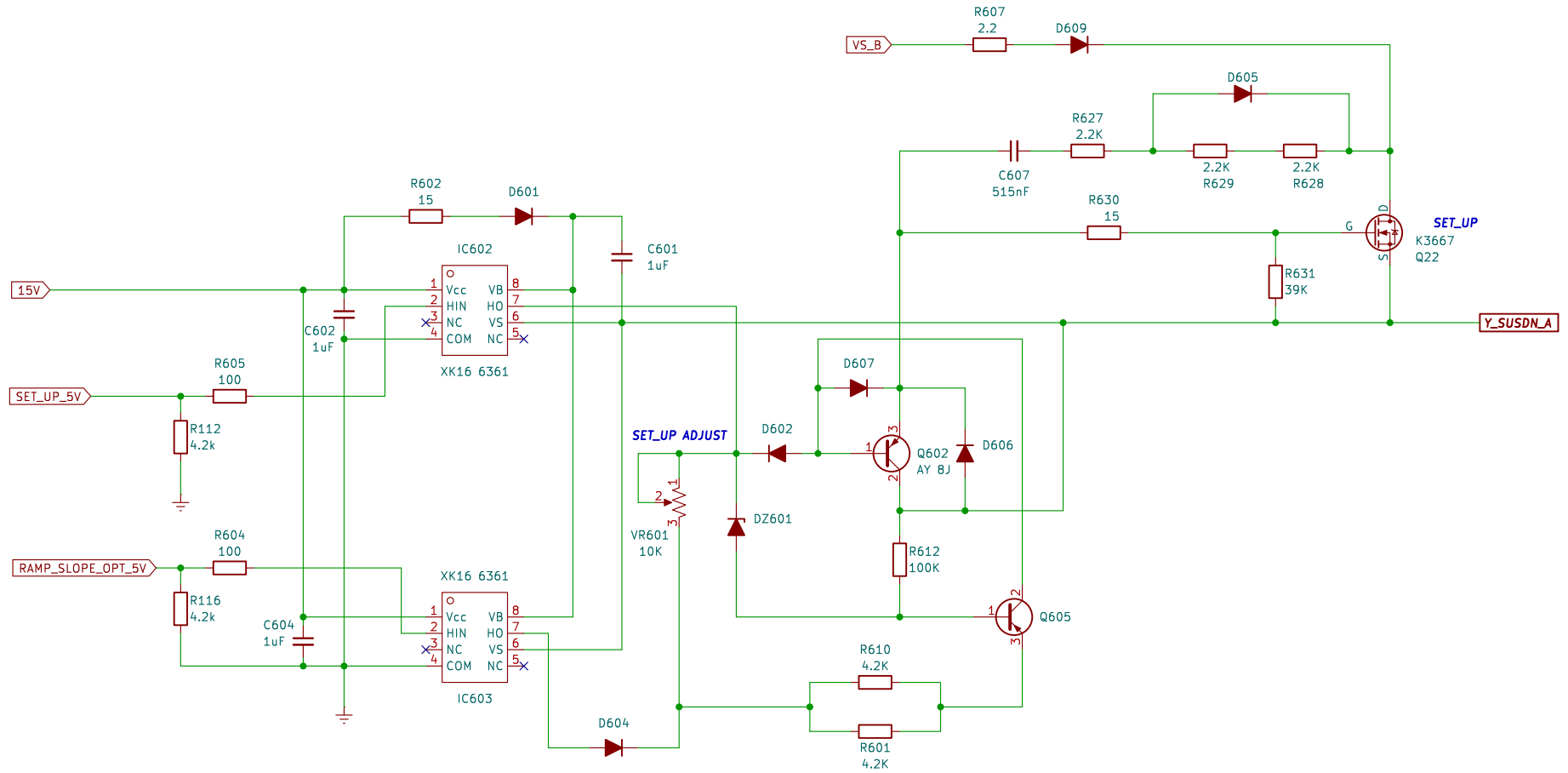
Sheet: /y\_er\_up\_and\_sus\_up/  
File: y\_er\_up\_and\_sus\_up.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4 Date: 2025-03-24  
KiCad E.D.A. 8.0.9

Rev: 1.0  
Id: 11/23

# SET UP



Set Up  
Author: Fábio Pereira da Silva

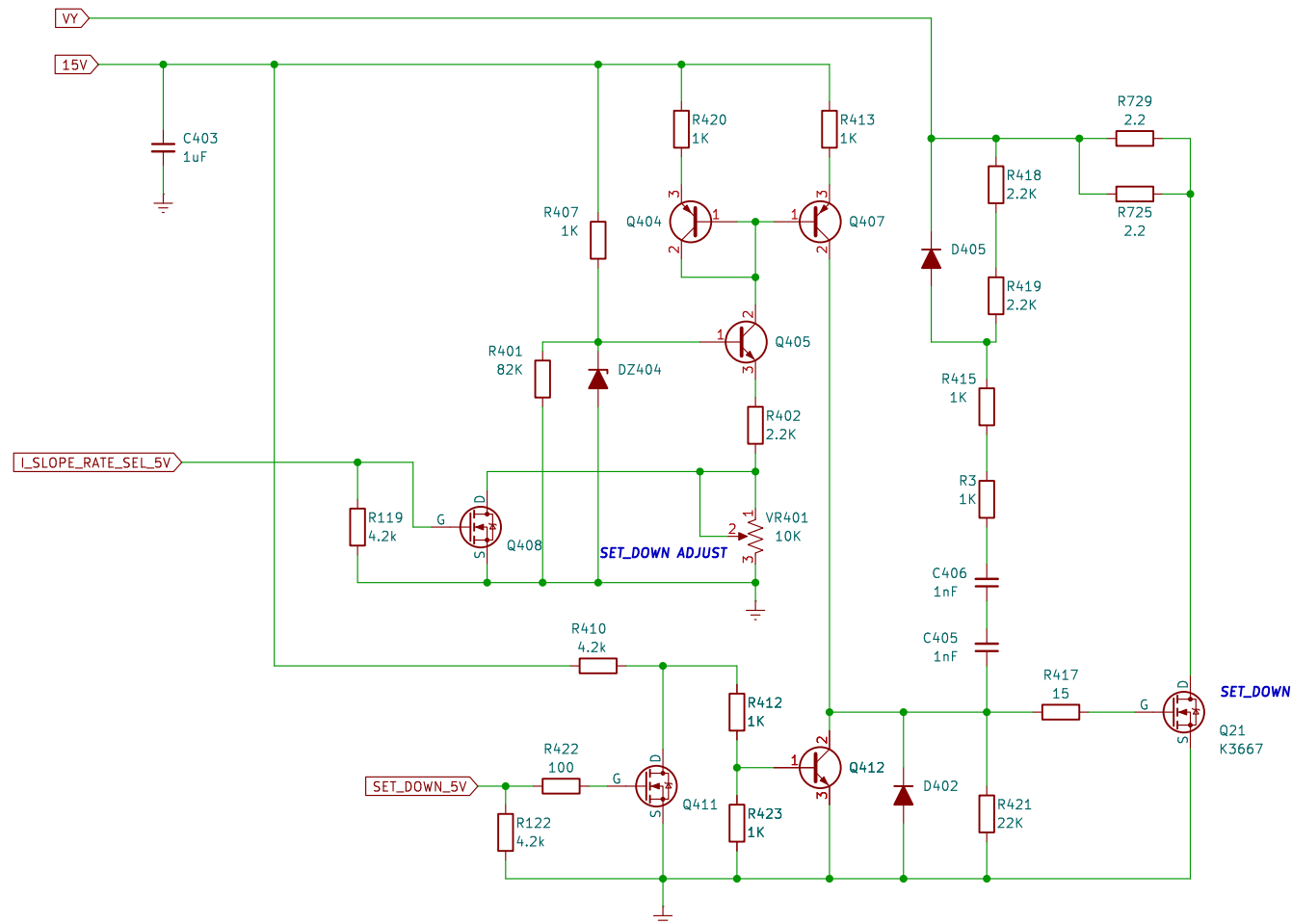
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File: set\_up.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4 Date: 2025-03-24  
KiCad E.D.A. 8.0.9

Rev: 1.0  
Id: 12/23

SET DOWN



Author: Fábio Pereira da Silva

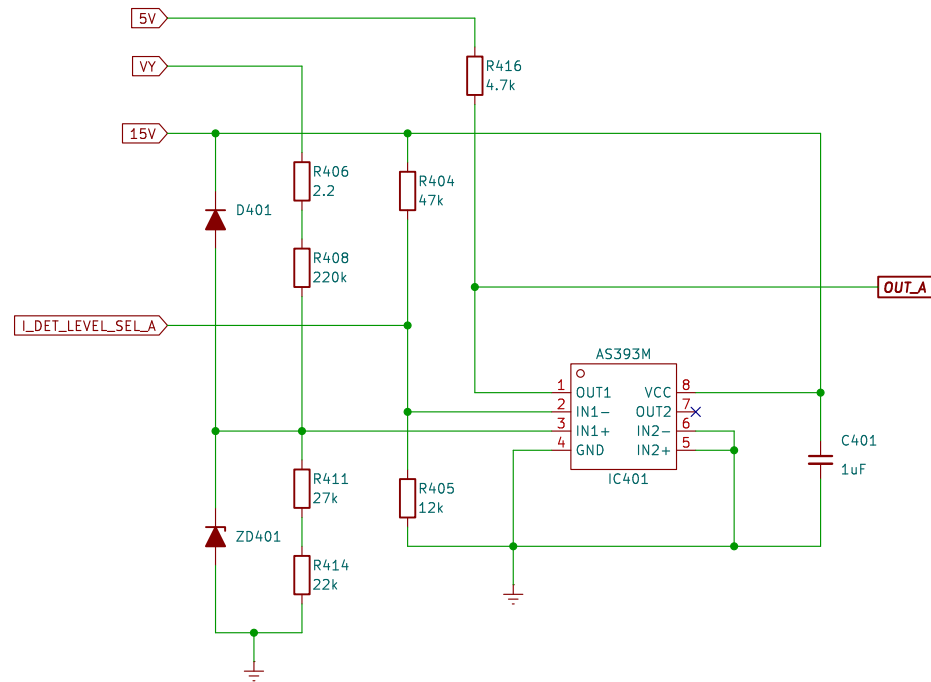
Sheet: /SetDown/  
File: set\_down.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24
KiCad E.D.A. 8.0.9	

Rev: 1.0  
Id: 13/23

# OUTPUT CONTROL (Part 1 of 4)



Output Control (Part 1 of 4)  
Author: Fábio Pereira da Silva

Sheet: /Output Control (Part 1 of 4)/  
File: output\_control.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 14/23

# OUTPUT CONTROL (Part 2 of 4)

The schematic diagram illustrates the output control circuitry for a plasma TV panel. It features an ADUM1510 digital isolator (IC201) as the central component. The input side of the isolator is connected to a 5V supply and several input signals: I\_CLK\_5V, I\_STB\_5V, I\_OC1\_5V, I\_DATA\_5V, I\_OC2\_5V, and I\_DELTA\_VY\_DET\_5V. These inputs are buffered by resistors R204, R207, R205, R203, R208, and R209, respectively. The output side of the isolator is connected to the panel's output signals: I\_CLK\_A, I\_STB\_A, I\_OC1\_A, I\_DATA\_A, OUT\_B, and Y\_OUT. The circuit also includes a 5V supply, a 1uF capacitor (C523), and a 1k resistor (R211). A 4.2k resistor (R206) is connected to the OUT\_A signal. The circuit is powered by a 5V supply and includes several capacitors (C218, C217, C211, C212, C215, C216) for timing and decoupling. The output signals are connected to the panel's output pins (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16).

Output control (Part 2 of 4)  
Author: Fábio Pereira da Silva

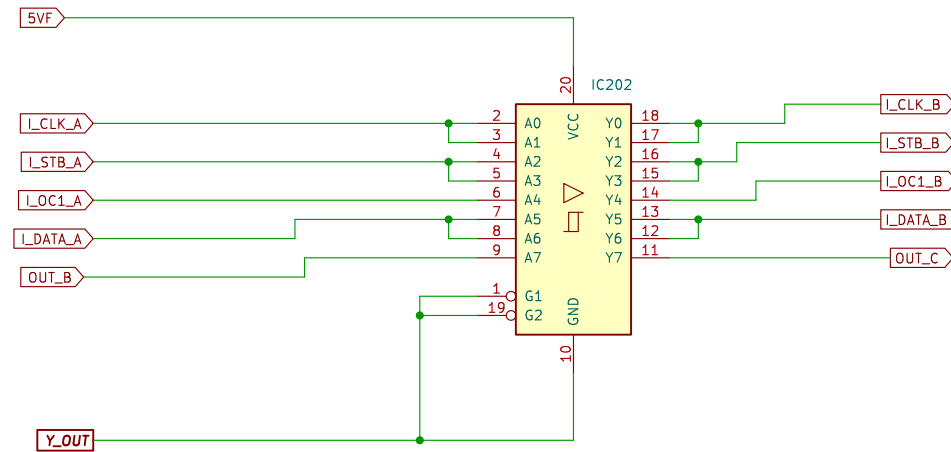
Sheet: /Output Control (Part 2 of 4)/  
File: output\_control2.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 15/23

Rev: 1.0  
Id: 15/23

## OUTPUT CONTROL (Part 3 of 4)



Output control (Part 3 of 4)  
Author: Fábio Pereira da Silva

Sheet: /Output Control (Part 3 of 4)/  
File: output\_control3.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4

Date: 2025-03-24

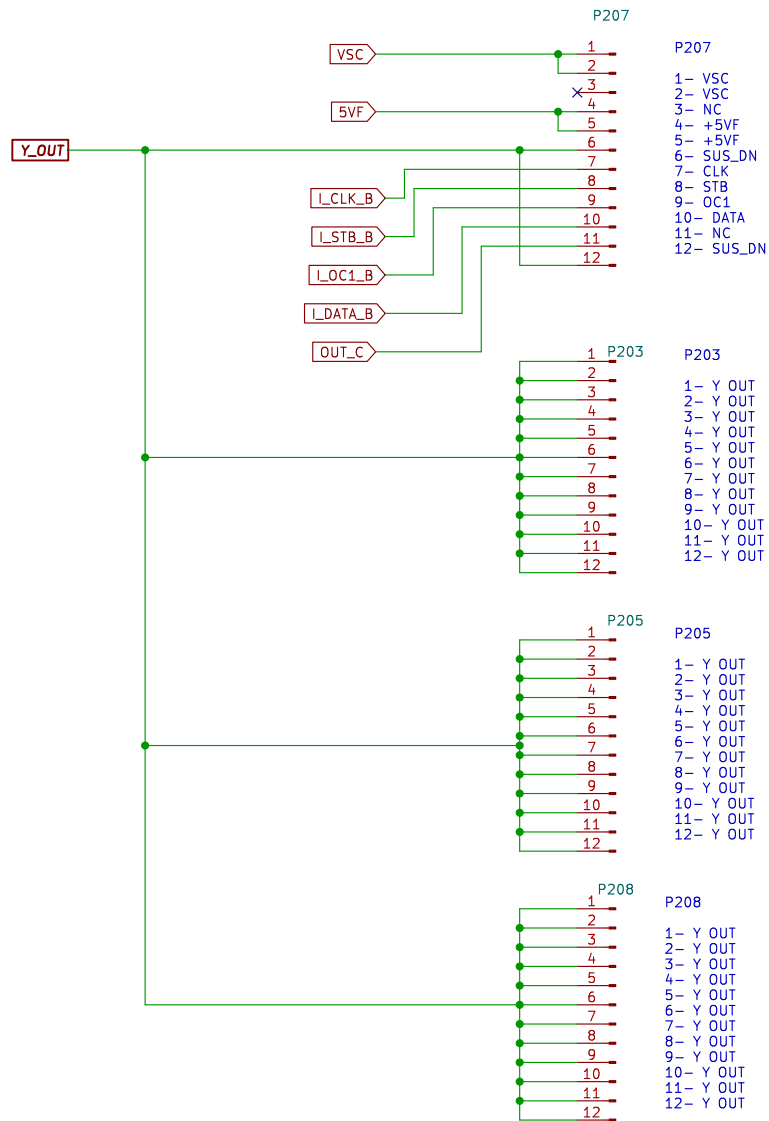
Rev: 1.0

KiCad E.D.A. 8.0.9

Id: 16/23



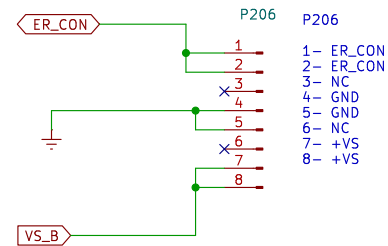
# 



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=====

- Serigraphy notation in P207 (Y Out) is called SUS\_DN
- Pin 11 in P207 in Serigraphy is NC but is connected to output pin 11 in IC 202



Output Control (Part 4 of 4)  
Author: Fábio Pereira da Silva

Sheet: /Output Control (Part 4 of 4)/  
File: output\_control4.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4

Date: 2025-03-24

Rev: 1.0

KiCad E.D.A. 8.0.9

Id: 17/23

# Measurements (P201)

P201

Res (OHMS)	Reverse bias (V)	Foward bias (V)
1 >200k	1- 0.551	1- OL
2 >200k	2- 0.551	2- OL
3- -	3- -	3- -
4- 0	4- 0	4- 0
5- 0	5- 0	5- 0
6- >1M	6- OL	6- OL
7- >1M	7- OL	7- OL
8- 0	8- 0	8- 0
9- 2.2k	9- 0.504	9- 1.1
10- 2.2k	10- 0.504	10- 1.1

MEASUREMENTS (P201)  
Author: Fábio Pereira da Silva

Sheet: /Measurements P201/  
File: measurements.kicad\_sch

Title: Y BOARD LG PLASMA TV PANEL

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 18/23

# Measurements (P206)

P206

Res (OHMS)

1- 110k  
2- 110k  
3- OL  
4- 0  
5- 0  
6- OL  
7- OL  
8- OL

Reverse bias (V)

1- 0.769  
2- 0.769  
3- OL  
4- 0  
5- 0  
6- OL  
7- 0.550  
8- 0.550

Foward bias (V)

1- OL  
2- OL  
3- OL  
4- 0  
5- 0  
6- OL  
7- OL  
8- OL

Measurements P206  
Author: Fábio Pereira da Silva

Sheet: /Measurements P206/  
File: measurements\_p206.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 19/23

Measurements (P101)

P101

Res (OHMS)	Reverse bias (V)	Foward bias (V)
1- 917	1- 0.495	1- 0.945
2- 918	2- 0.495	2- 0.944
3- 2.264k	3- 0.503	3- 1.089
4- 2.240k	4- 0.503	4- 1.090
5- 2.220k	5- 0.502	5- 1.089
6- 2.240k	6- 0.503	6- 1.089
7- 2.242k	7- 0.503	7- 1.089
8- 0	8- 0	8- 0
9- 0	9- 0	9- 0
10- 0	10- 0	10- 0
11- 0	11- 0	11- 0
12- 0L	12- 0.658	12- 0L
13- 3.2k	13- 0.614	13- 1.804
14- 0L	14- 0.659	14- 0L
15- 4.699k	15- 0.650	15- 2.723
16- 0L	16- 0.659	16- 0L
17- 4.695k	17- 0.650	17- 2.722
18- 0L	18- 0.660	18- 0L
19- 4.708k	19- 0.651	19- 2.724
20- 0L	20- 0.660	20- 0L
21- 0L	21- 0.657	21- 0L
22- 0L	22- 0.660	22- 0L
23- 4.689k	23- 0.650	23- 2.720
24- 0L	24- 0.660	24- 0L
25- 4.676k	25- 0.650	25- 2.718
26- 0L	26- 0.660	26- 0L
27- 4.699k	27- 0.650	27- 2.723
28- 7.7k	28- 0.617	28- 2.926
29- 4.685k	29- 0.649	29- 2.720
30- 0	30- 0	30- 0

Measurements (P101)  
Author: Fábio Pereira da Silva

Sheet: /Measurements P101/  
File: measurements\_p101.kicad\_sch

Title: Y BOARD LG PLASMA TV PANEL

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 20/23

# Measurements (P202)

P202

Res (OHMS)

1 0  
2 0  
3- 0  
4- 0L  
5- >50M  
6- >50M  
7- >50M

Reverse bias (V)

1- 0  
2- 0  
3- 0  
4- 0L  
5- 0L  
6- 0L  
7- 0L

Foward bias (V)

1- 0  
2- 0  
3- 0  
4- 0L  
5- 0L  
6- 0L  
7- 0L

Measurements (P202)  
Author: Fábio Pereira da Silva

Sheet: /Measurements P202/  
File: measurements\_p202.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4	Date: 2025-03-24	Rev: 1.0
KiCad E.D.A. 8.0.9		Id: 21/23

# Measurements (P207)

NOTES:

=====

Measure is related to floating ground (Y OUT)

P207

Res (OHMS)

1- 29.2k

2- 29.2k

3- 0L

4- 5.97k

5- 5.97k

6- 0

7- 744k

8- 742k

9- 795k

10- 740k

11- 790k

12- 0

Reverse bias (V)

1- 3.209

2- 3.209

3- 0L

4- 0.590

5- 0.590

6- 0

7- 0.609

8- 0.600

9- 0.641

10- 0.601

11- 0.659

12- 0

Foward bias (V)

1- 0L

2- 0L

3- 0L

4- 1.916

5- 1.916

6- 0

7- 1.464

8- 1.466

9- 1.576

10- 1.490

11- 1.561

12- 0

Author: Fábio Pereira da Silva

Sheet: /Measurements P207/

File: measurements\_p207.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4

Date: 2025-03-24

Rev: 1.0

KiCad E.D.A. 8.0.9

Id: 22/23

# Measurements (P203, P208 and P205)

## NOTES:

=====

– All pins are Y Out connection (Floating ground)

1-> Y OUT related to Ground

=====

Res (OHMS)	Reverse bias (V)	Foward bias (V)
210k	OL	OL

2-> Y OUT related to +VS

=====

Res (OHMS)

–

Reverse bias (Black point in VS and Red point in Y Out) (V)  
0.402

Foward bias (Red point in VS and Black point in Y Out) (V)  
OL

Measurements (P203, P208 and P205)  
Author: Fábio Pereira da Silva

Sheet: /Measurements P203, P208 and P205/  
File: measurements\_p203\_p208\_p205.kicad\_sch

**Title: Y BOARD LG PLASMA TV PANEL**

Size: A4

Date: 2025-03-24

Rev: 1.0

KiCad E.D.A. 8.0.9

Id: 23/23