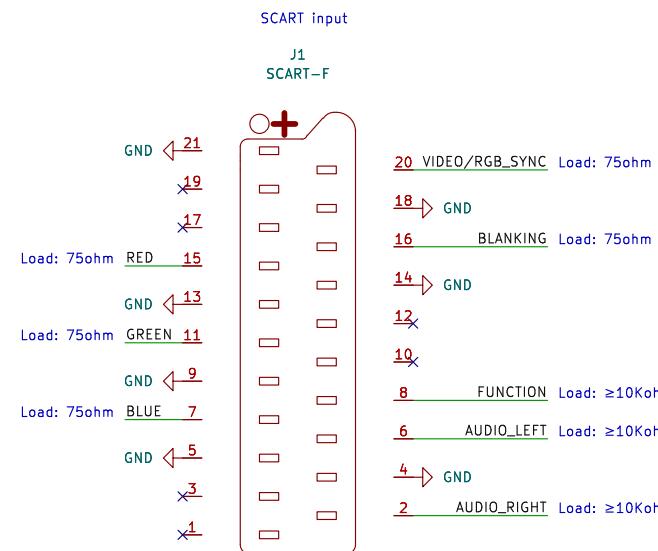
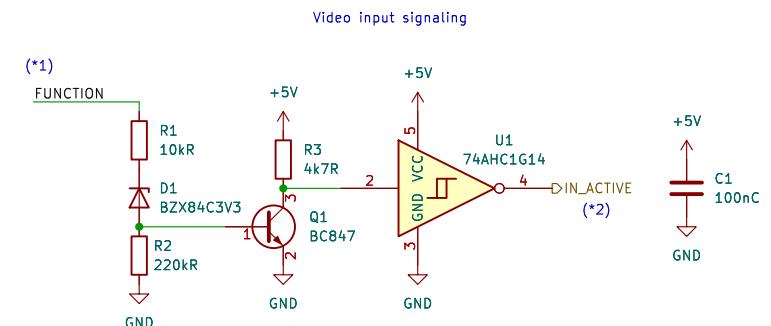


1 2 3 4 5 6

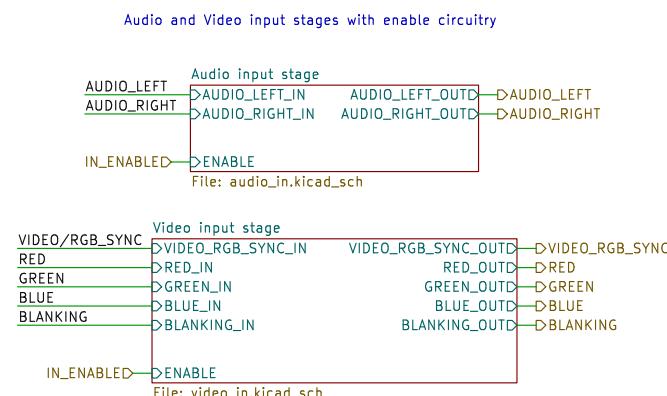
A



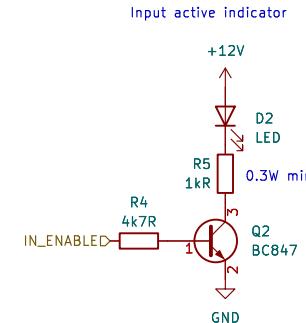
B



C



D



(*)1 FUNCTION pin has the following signaling:
Level 0: 0 V to +2 V (SCART off)
Level 1A: +4.5 V to +7 V (SCART on, 16:9)
Level 1B: +9.5 V to +12 V (SCART on)
The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.
(*)2 The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
Sheet: /SCART input 1/
File: SCART_input.kicad_sch
Size: A4 **Date:**
KiCad E.D.A. kicad 7.0.9 **Rev:**
Id: 2/47

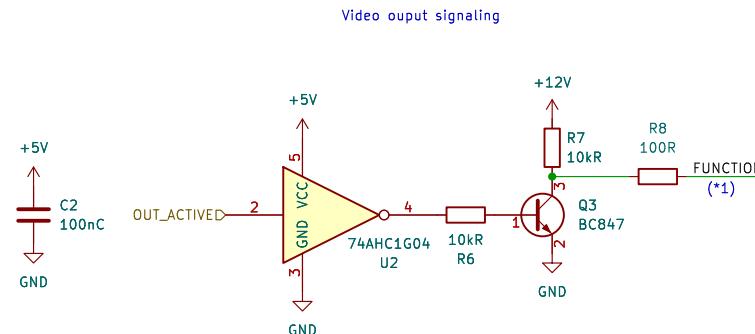
1 2 3 4 5 6

1 2 3 4 5 6

RCA output

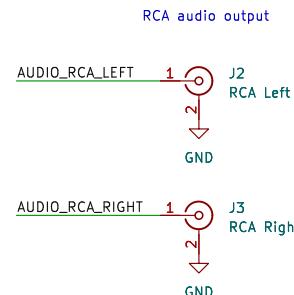
A

A



B

B



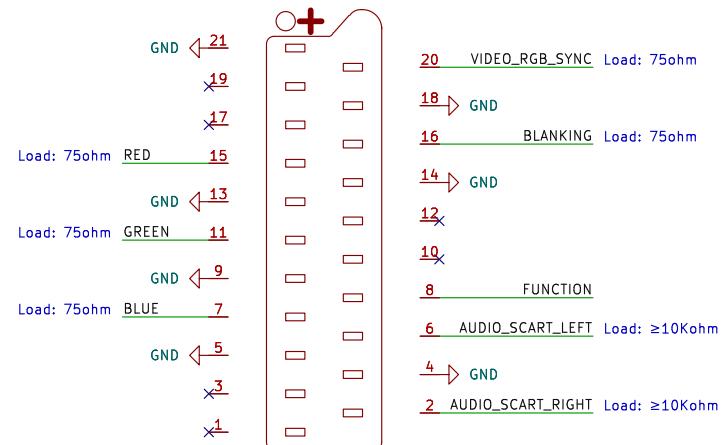
C

C

Audio and Video output stages



SCART output



D

D

(*1) FUNCTION pin has the following signaling:
Level 0: 0 V to +2 V (SCART off)
Level 1A: +4.5 V to +7 V (SCART on, 16:9)
Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format (12V) when the video output is active and if needed manually adjust the TV to 16:9.

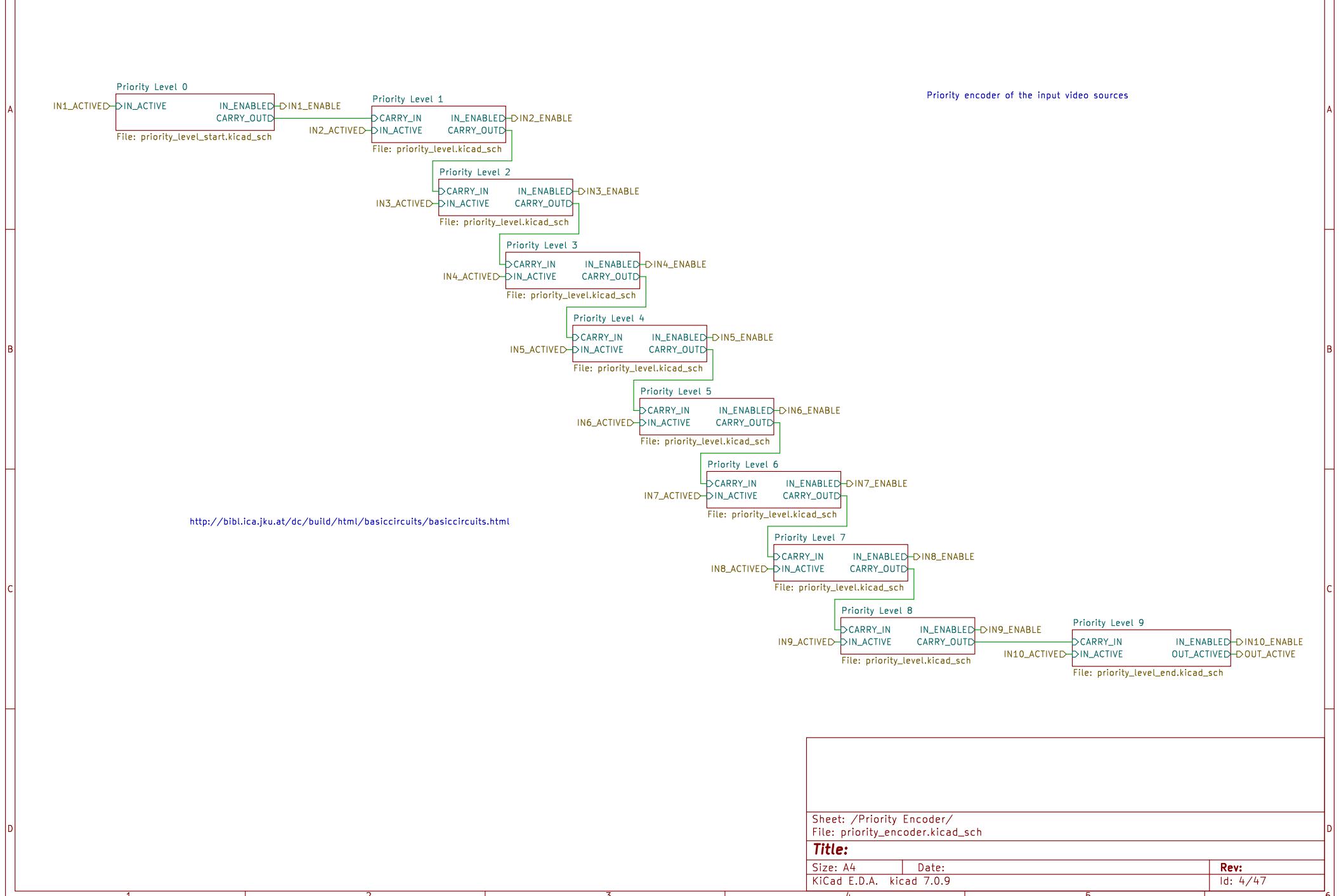
Sheet: /SCART output/
File: SCART_output.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. kicad 7.0.9

Rev:
Id: 3/47

1 2 3 4 5 6



A

B

C

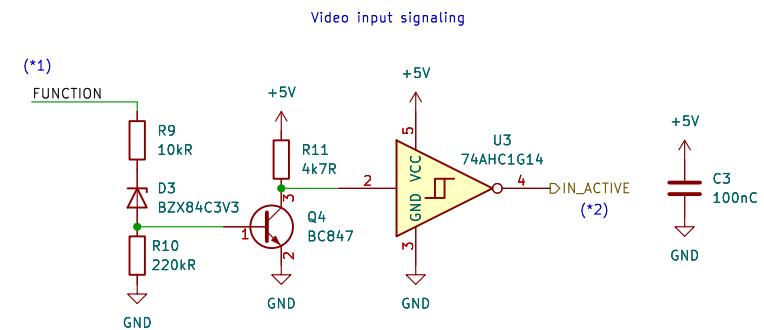
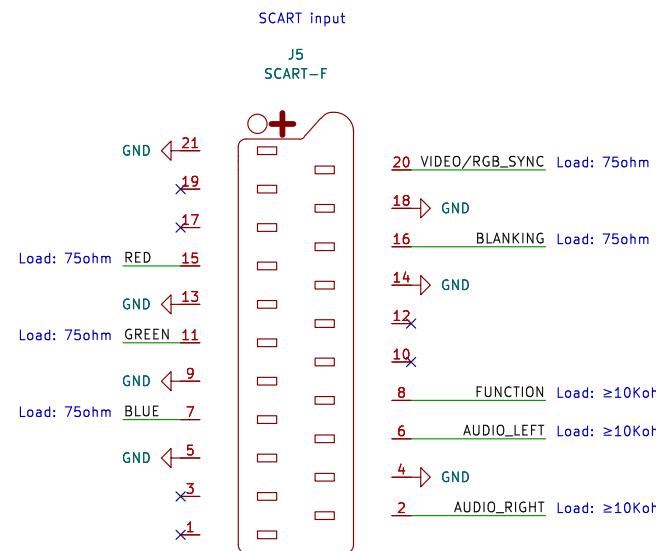
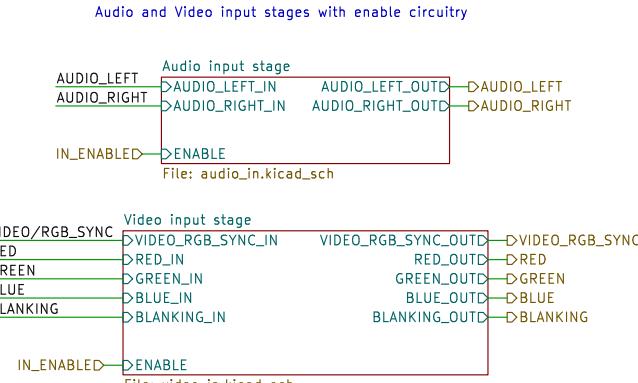
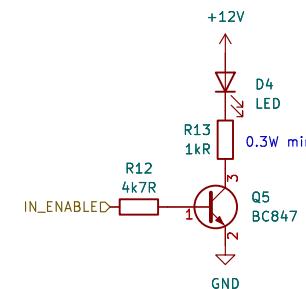
D

A

B

C

D

**Input active indicator**

(*)1) FUNCTION pin has the following signaling:
 Level 0: 0 V to +2 V (SCART off)
 Level 1A: +4.5 V to +7 V (SCART on, 16:9)
 Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

(*)2) The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
 Size: A4 Date:
 KiCad E.D.A. kicad 7.0.9 Rev:
 Id: 5/47

A

B

C

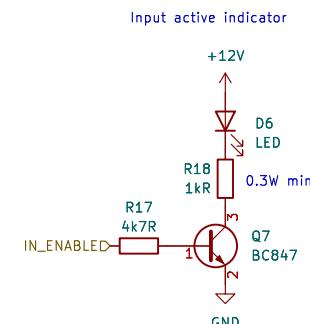
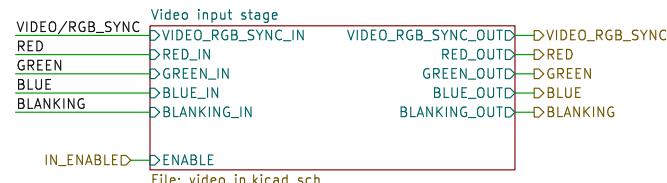
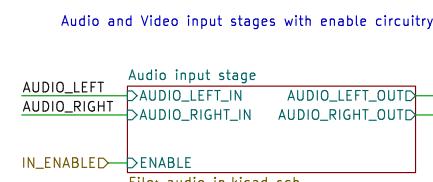
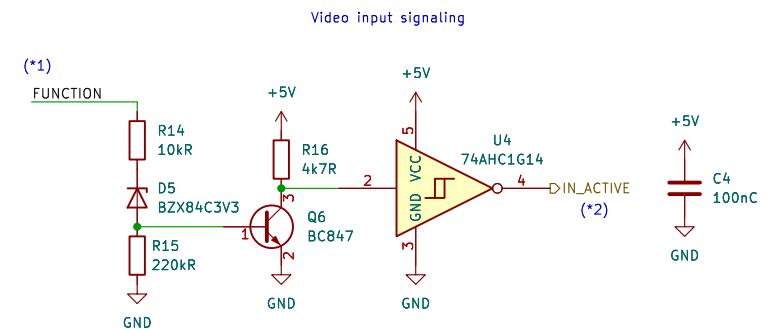
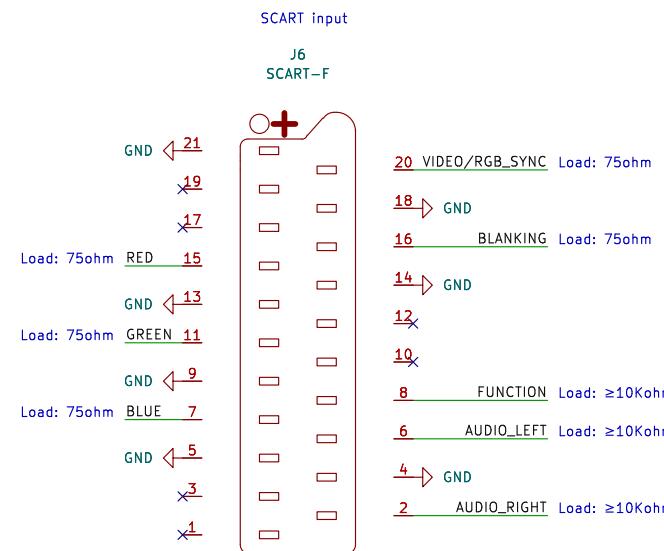
D

A

B

C

D



(*)1 FUNCTION pin has the following signaling:
 Level 0: 0 V to +2 V (SCART off)
 Level 1A: +4.5 V to +7 V (SCART on, 16:9)
 Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

(*)2 The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
 Sheet: /SCART input 3/
 File: SCART_input.kicad_sch

Size: A4 Date:
 KiCad E.D.A. kicad 7.0.9 Rev:
 Id: 6/47

A

B

C

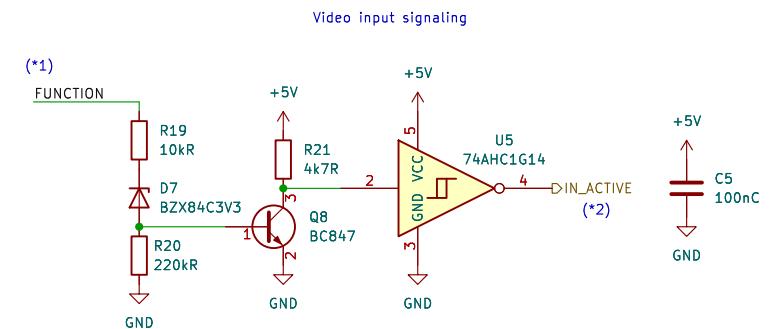
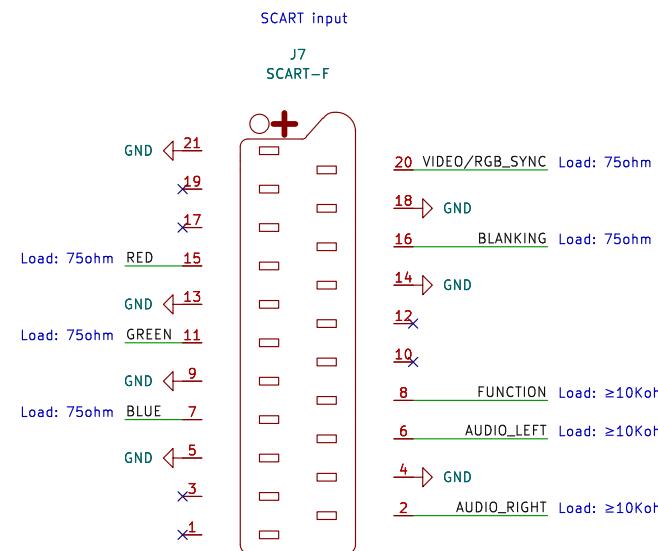
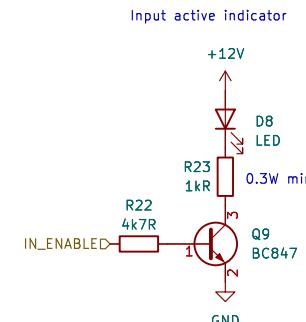
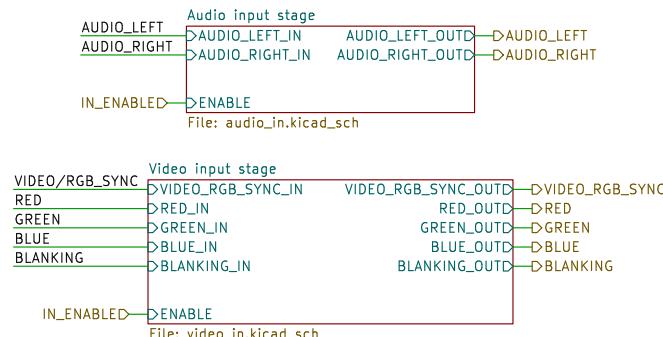
D

A

B

C

D

**Audio and Video input stages with enable circuitry**

(*)1) FUNCTION pin has the following signaling:
Level 0: 0 V to +2 V (SCART off)
Level 1A: +4.5 V to +7 V (SCART on, 16:9)
Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

(*)2) The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
Size: A4 Date:
KiCad E.D.A. kicad 7.0.9 Rev:
Id: 7/47

A

B

C

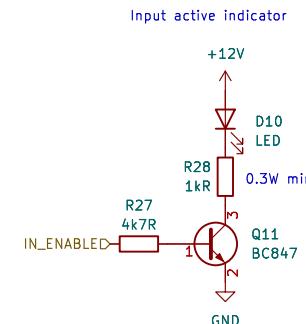
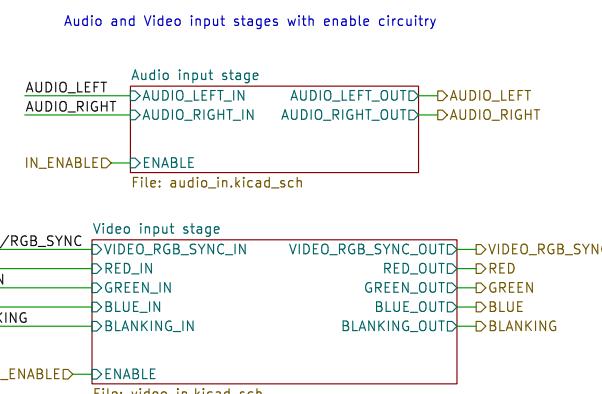
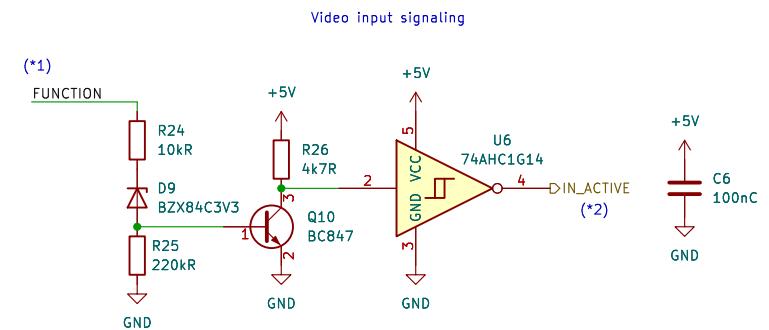
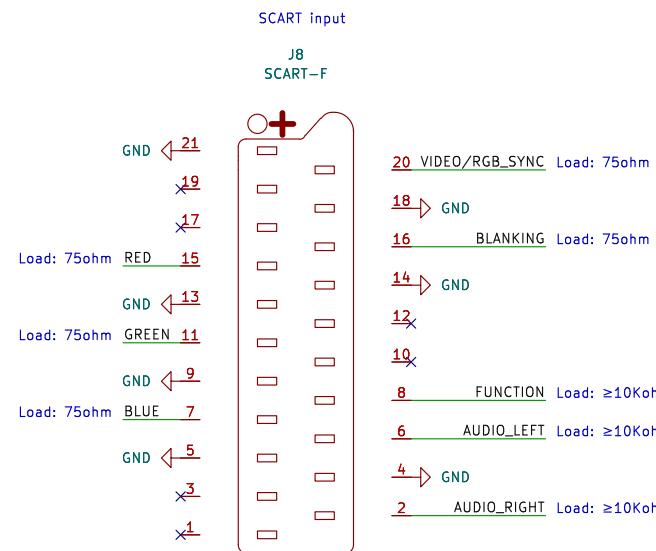
D

A

B

C

D



(*1) FUNCTION pin has the following signaling:
 Level 0: 0 V to +2 V (SCART off)
 Level 1A: +4.5 V to +7 V (SCART on, 16:9)
 Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

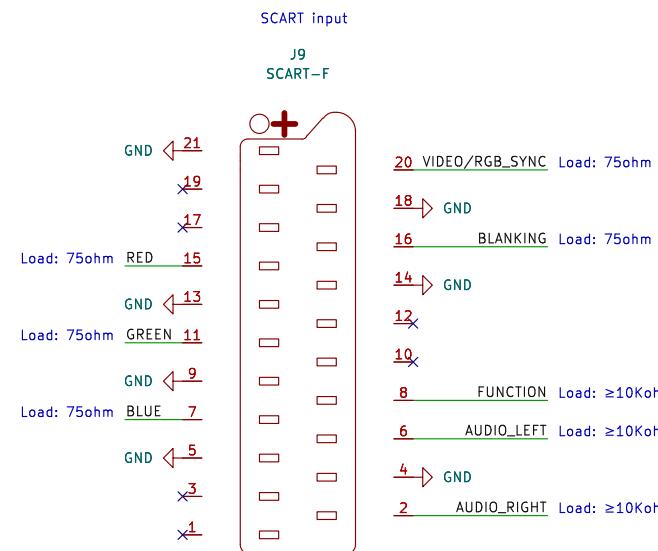
(*2) The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
 Sheet: /SCART input 5/
 File: SCART_input.kicad_sch

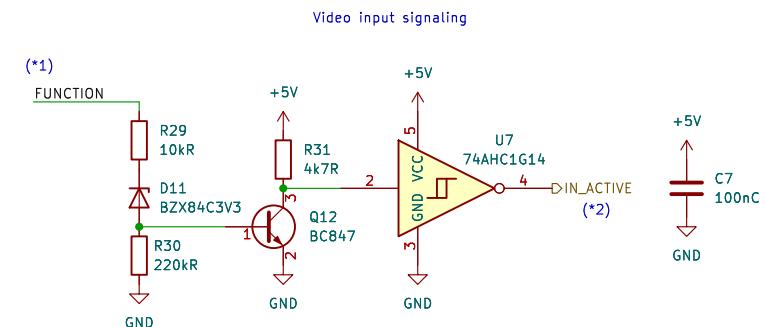
Rev:
 Id: 8/47

1 2 3 4 5 6

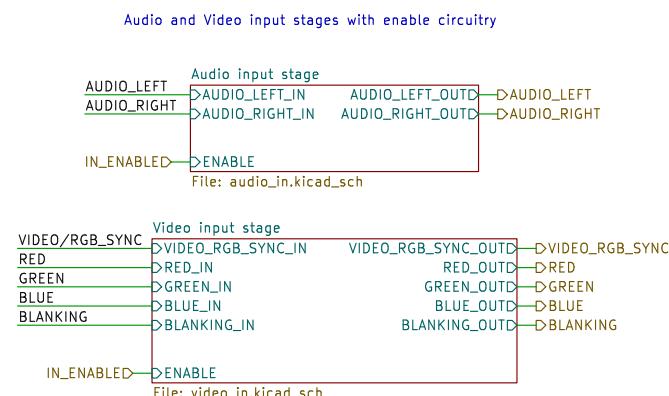
A



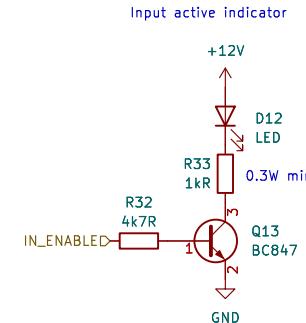
B



C



D



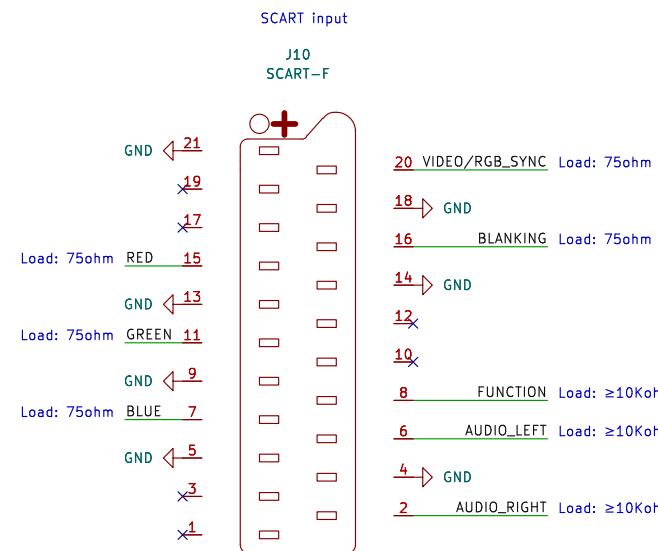
(*)
FUNCTION pin has the following signaling:
Level 0: 0 V to +2 V (SCART off)
Level 1A: +4.5 V to +7 V (SCART on, 16:9)
Level 1B: +9.5 V to +12 V (SCART on)
The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.
(*) The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
Sheet: /SCART input 6/
File: SCART_input.kicad_sch
Size: A4 **Date:**
KiCad E.D.A. kicad 7.0.9 **Rev:**
Id: 9/47

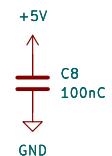
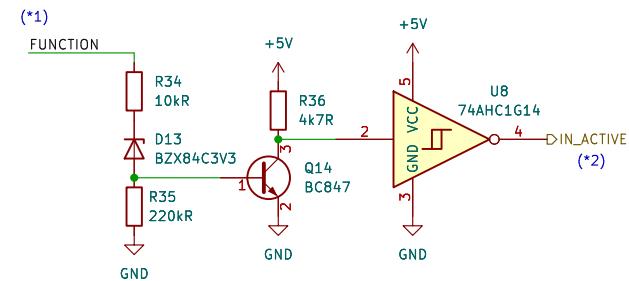
1 2 3 4 5 6

1 2 3 4 5 6

A

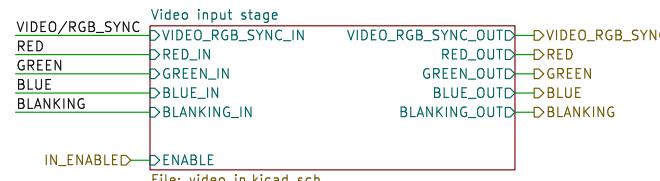
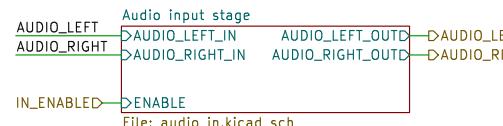


Video input signaling

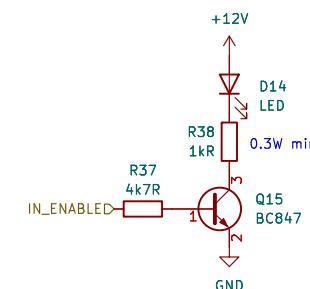


B

Audio and Video input stages with enable circuitry



Input active indicator



C

D

(*1) FUNCTION pin has the following signaling:
Level 0: 0 V to +2 V (SCART off)
Level 1A: +4.5 V to +7 V (SCART on, 16:9)
Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

(*2) The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Sheet: /SCART input 7/
File: SCART_input.kicad_sch

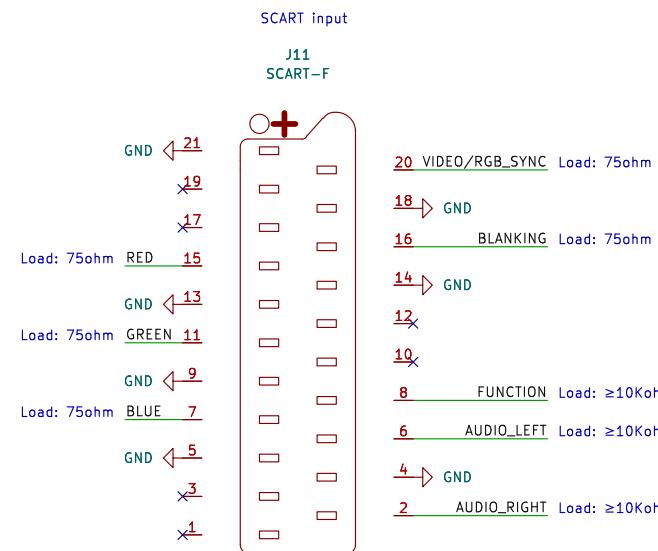
Title:

Size: A4	Date:
KiCad E.D.A. kicad 7.0.9	Rev: Id: 10/47

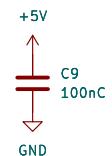
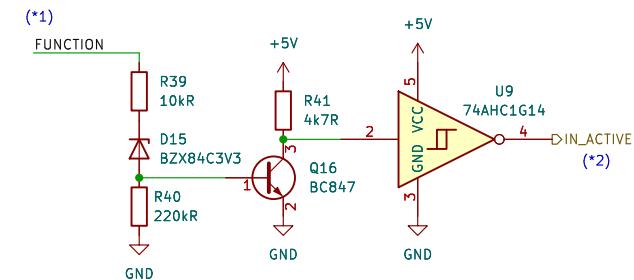
1 2 3 4 5 6

1 2 3 4 5 6

A

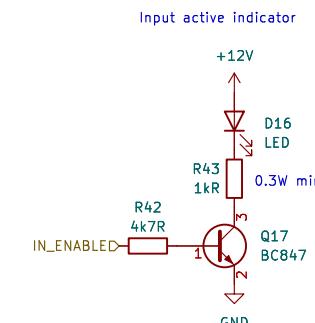
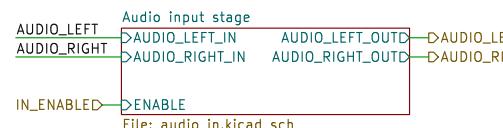


Video input signaling

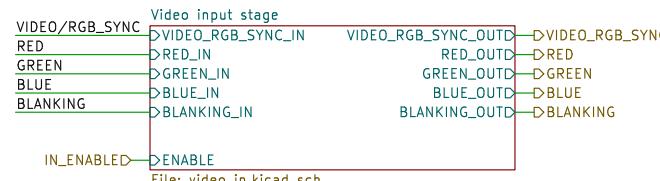


B

Audio and Video input stages with enable circuitry



B



(*)¹) FUNCTION pin has the following signaling:
 Level 0: 0 V to +2 V (SCART off)
 Level 1A: +4.5 V to +7 V (SCART on, 16:9)
 Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

(*)²) The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
 Sheet: /SCART input 8/
 File: SCART_input.kicad_sch

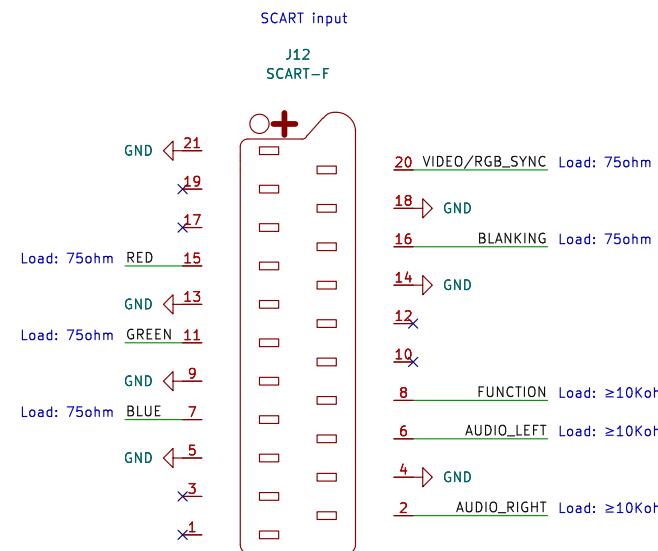
Rev:
 Id: 11/47

D

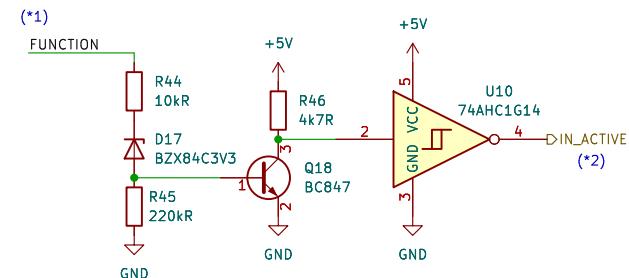
1 2 3 4 5 6

1 2 3 4 5 6

A

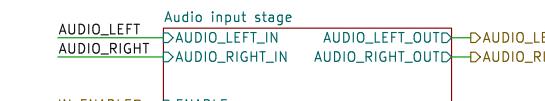


Video input signaling

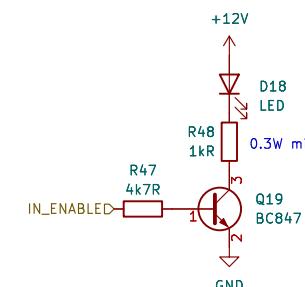


B

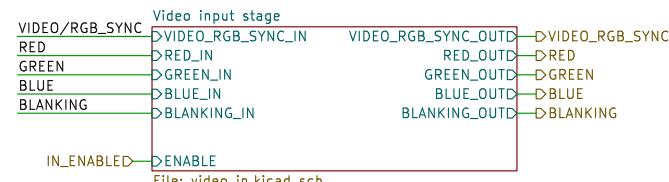
Audio and Video input stages with enable circuitry



Input active indicator



C



(*)¹) FUNCTION pin has the following signaling:

Level 0: 0 V to +2 V (SCART off)

Level 1A: +4.5 V to +7 V (SCART on, 16:9)

Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

(*)²) The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Sheet: /SCART input 9/

File: SCART_input.kicad_sch

Title:

Size: A4 Date:

KiCad E.D.A. kicad 7.0.9

Rev:

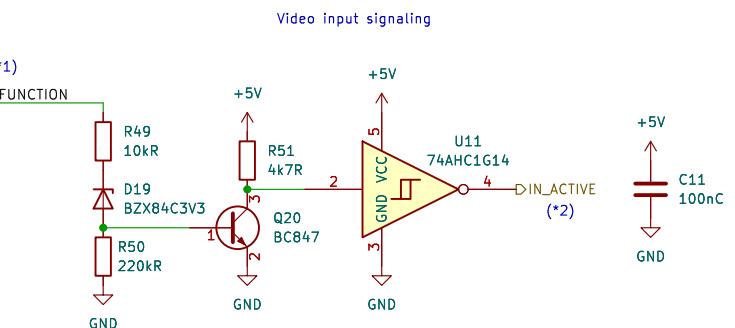
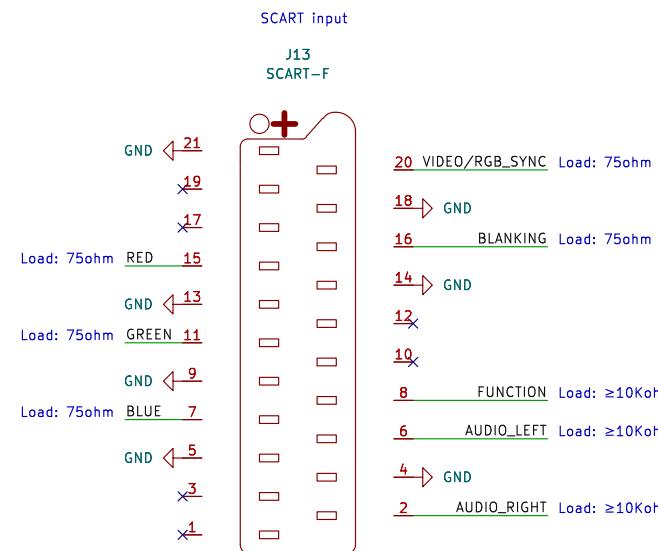
Id: 12/47

D

1 2 3 4 5 6

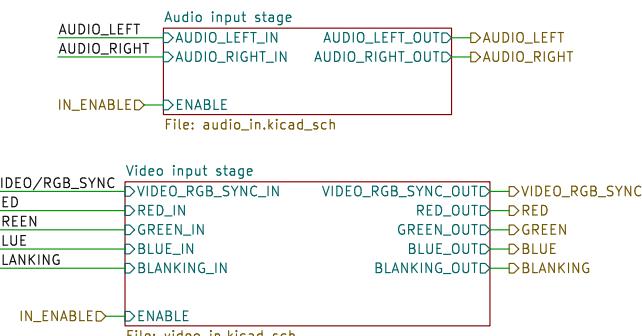
1 2 3 4 5 6

A



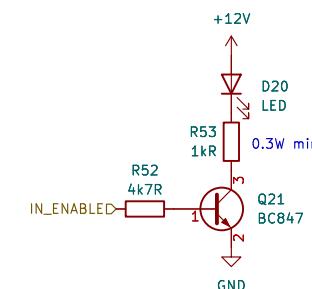
B

Audio and Video input stages with enable circuitry



B

Input active indicator



C

C

(*)1 FUNCTION pin has the following signaling:
Level 0: 0 V to +2 V (SCART off)
Level 1A: +4.5 V to +7 V (SCART on, 16:9)
Level 1B: +9.5 V to +12 V (SCART on)

The circuit doesn't distinguish between levels 1A and 1B as these are frequently not respected in consumer products. This way it is simpler to default to 4:3 format and if needed manually adjust the TV to 16:9.

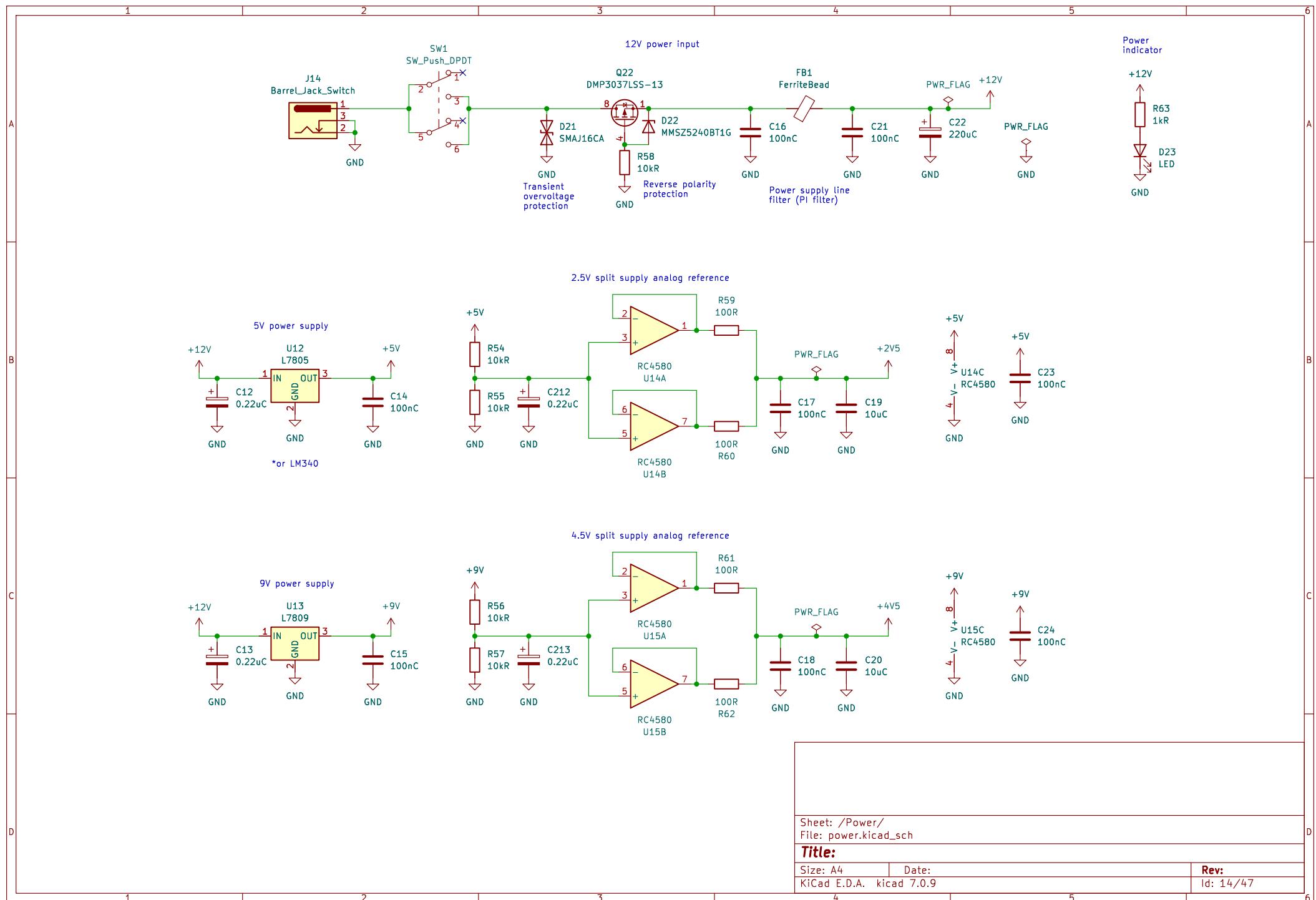
(*)2 The IN_ACTIVE signal flags the existence of an active video source (FUNCTION voltage levels 1A and 1B).

Title:
Sheet: /SCART input 10/
File: SCART_input.kicad_sch

D

Rev:
Id: 13/47

1 2 3 4 5 6



1 2 3 4 5 6

A

A

B

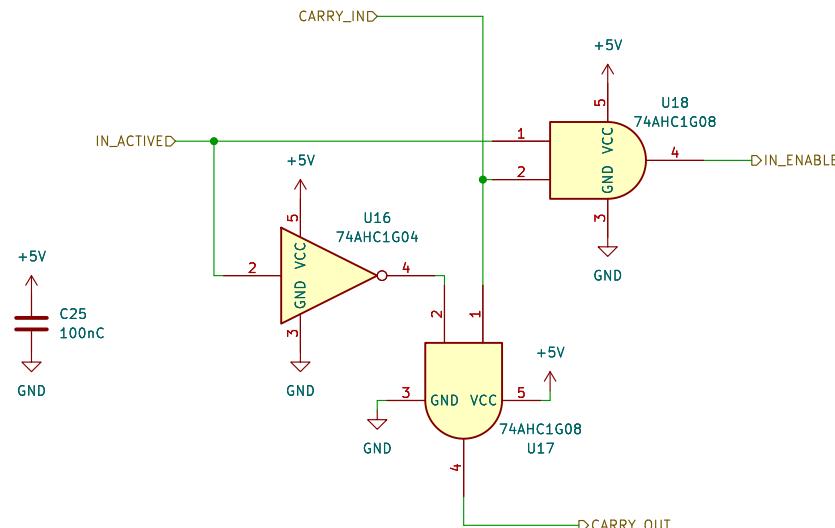
B

C

C

D

D



Sheet: /Priority Encoder/Priority Level 1/
File: priority_level.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. kicad 7.0.9

Rev:
Id: 15/47

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

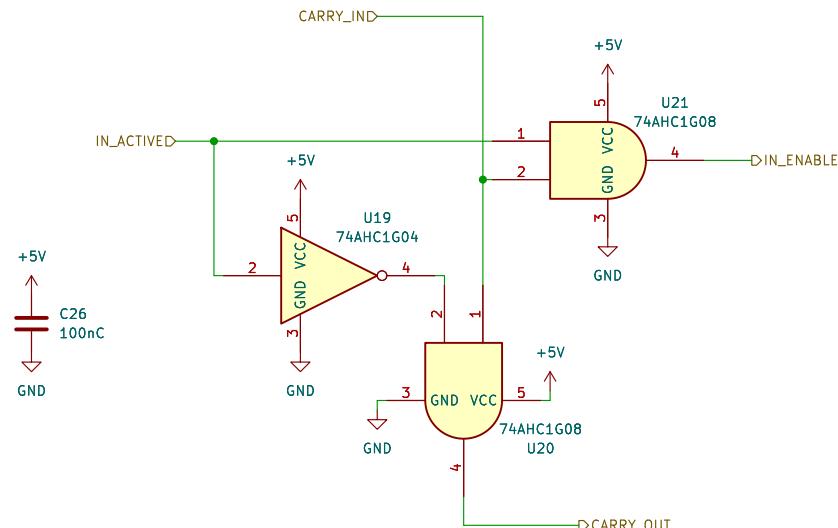
B

C

C

D

D



Sheet: /Priority Encoder/Priority Level 2/
File: priority_level.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. kicad 7.0.9

Rev:
Id: 16/47

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

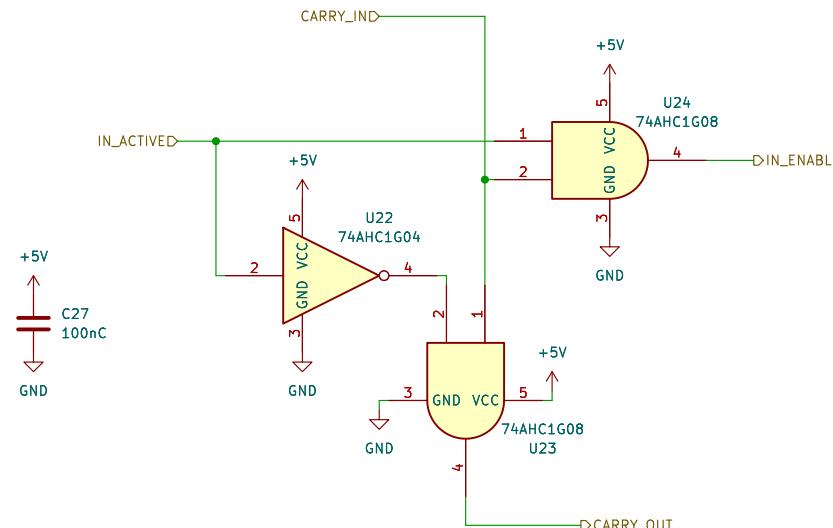
B

C

C

D

D



Sheet: /Priority Encoder/Priority Level 3/
File: priority_level.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. kicad 7.0.9

Rev:
Id: 17/47

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

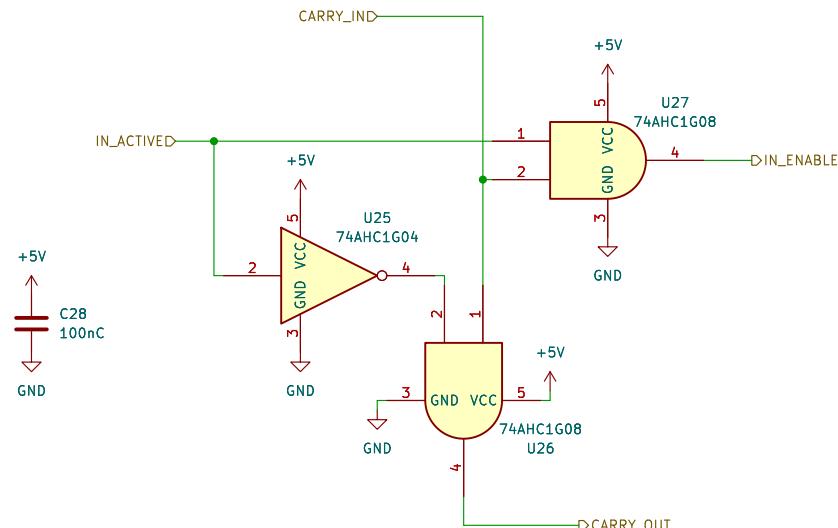
B

C

C

D

D



Sheet: /Priority Encoder/Priority Level 4/
File: priority_level.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. kicad 7.0.9

Rev:
Id: 18/47

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

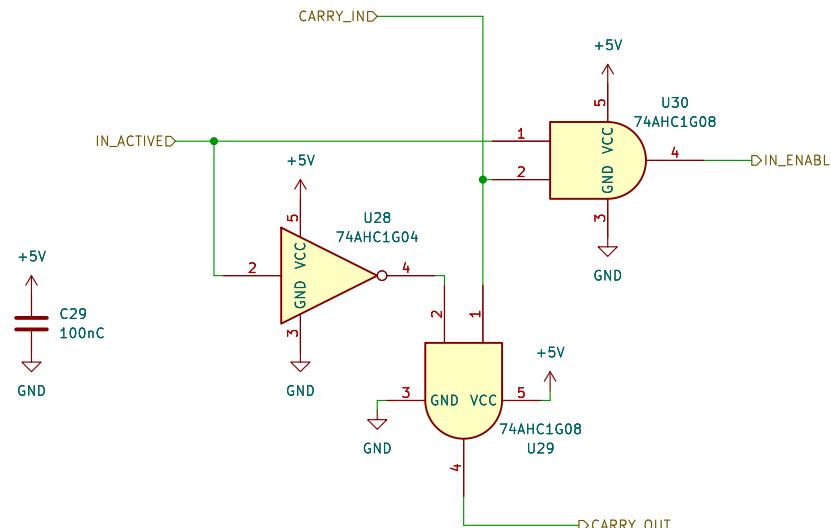
B

C

C

D

D



Sheet: /Priority Encoder/Priority Level 5/
File: priority_level.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. kicad 7.0.9

Rev:
Id: 19/47

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

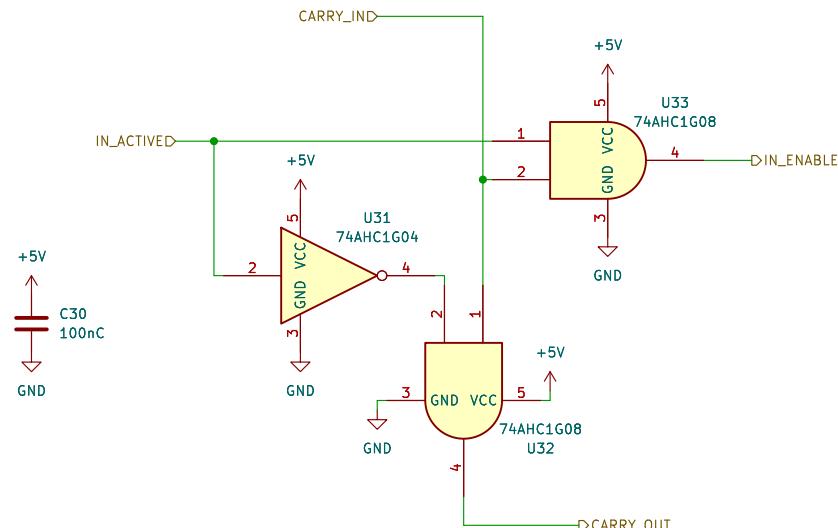
B

C

C

D

D



Sheet: /Priority Encoder/Priority Level 6/
File: priority_level.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. kicad 7.0.9

Rev:
Id: 20/47

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

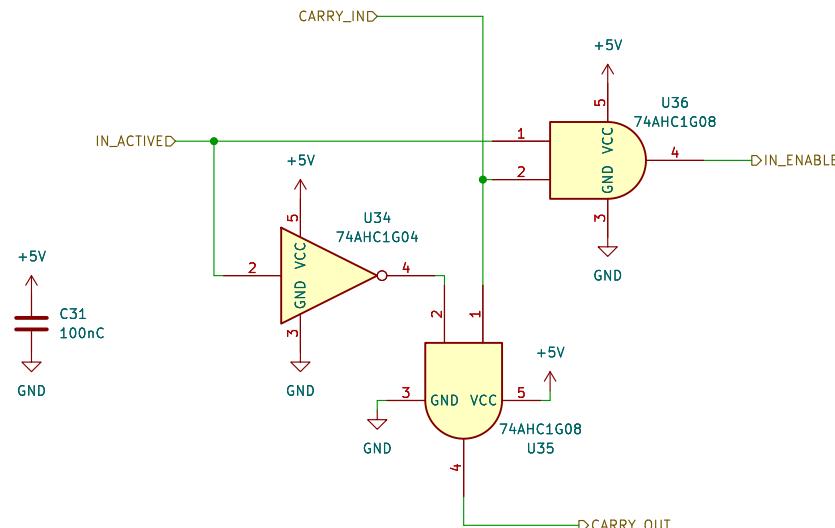
B

C

C

D

D



Sheet: /Priority Encoder/Priority Level 7/
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Title:

Size: A4 | Date:
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Rev:
Id: 21/47

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

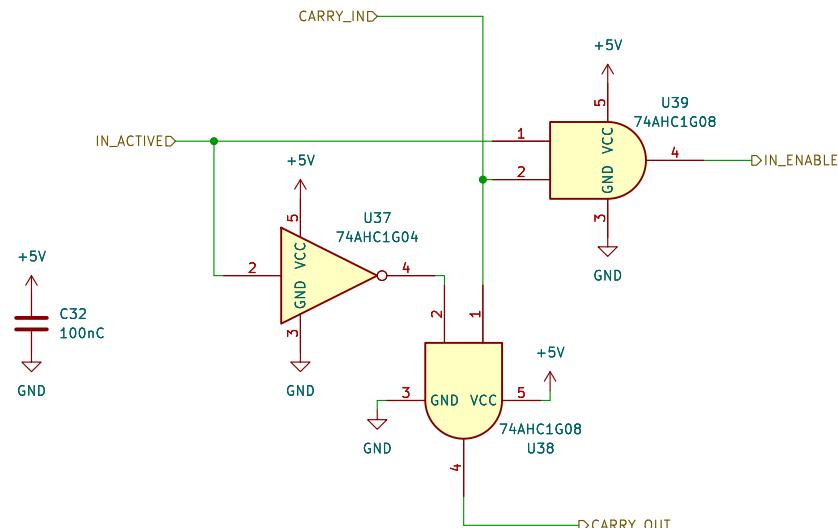
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C

C

D

D



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Rev:
Id: 22/47

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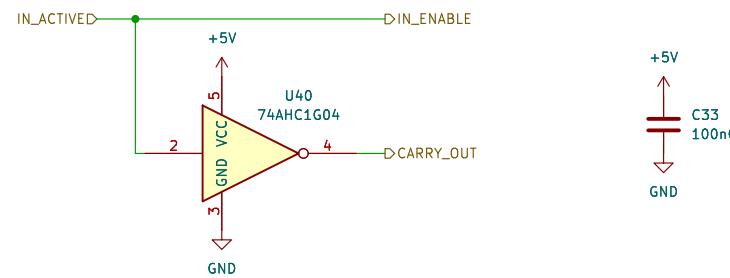
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A

B

C

D



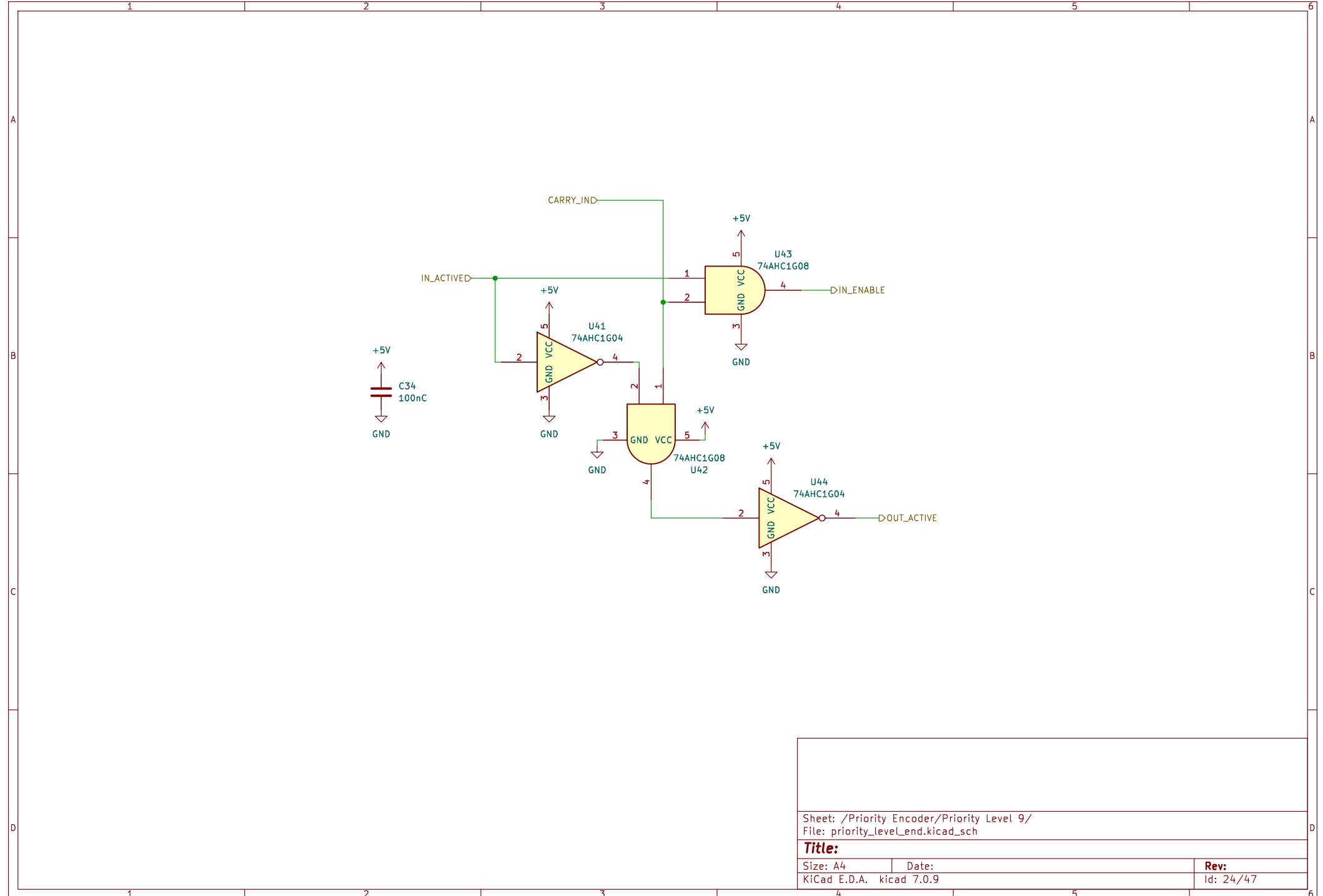
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Rev:
Id: 23/47

1 2 3 4 5 6

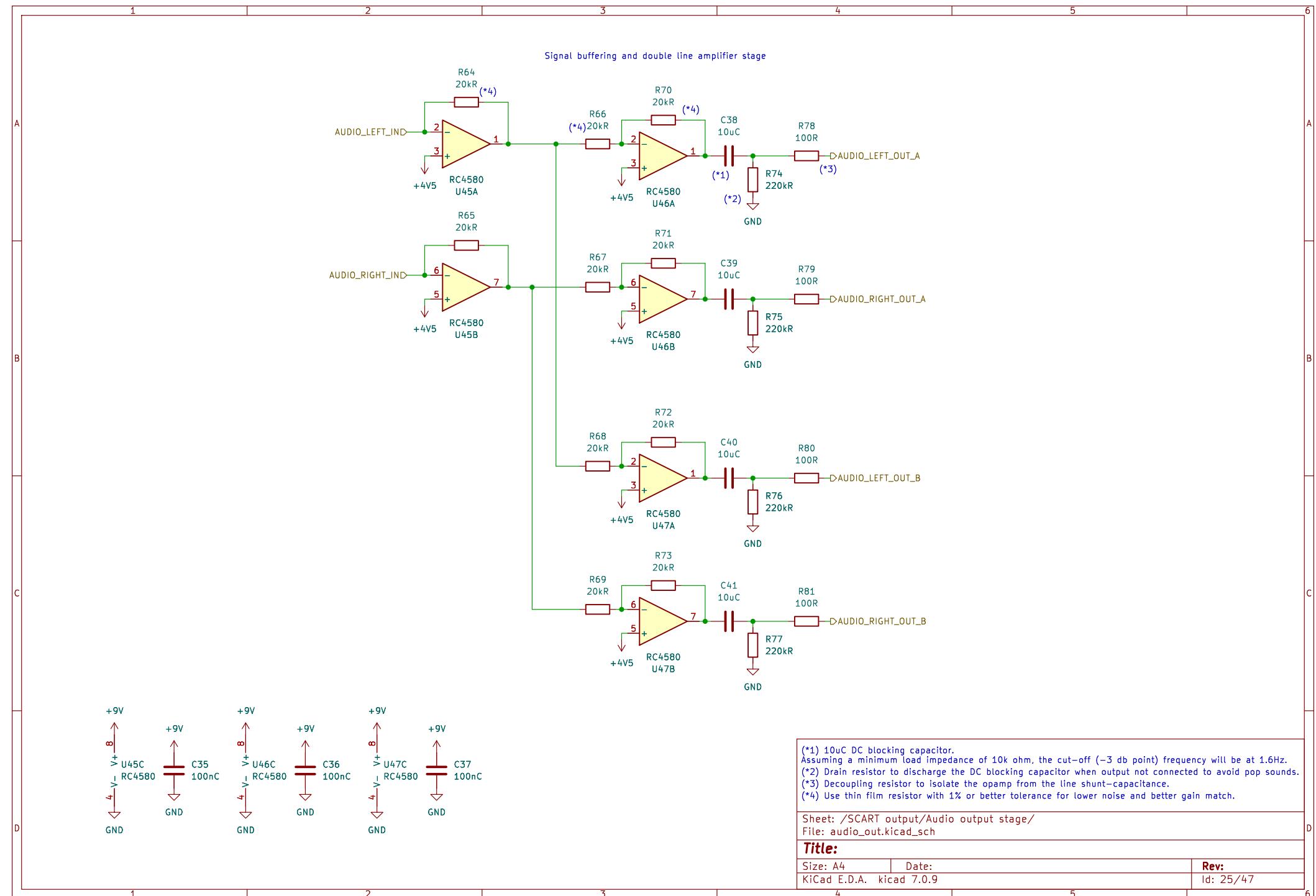


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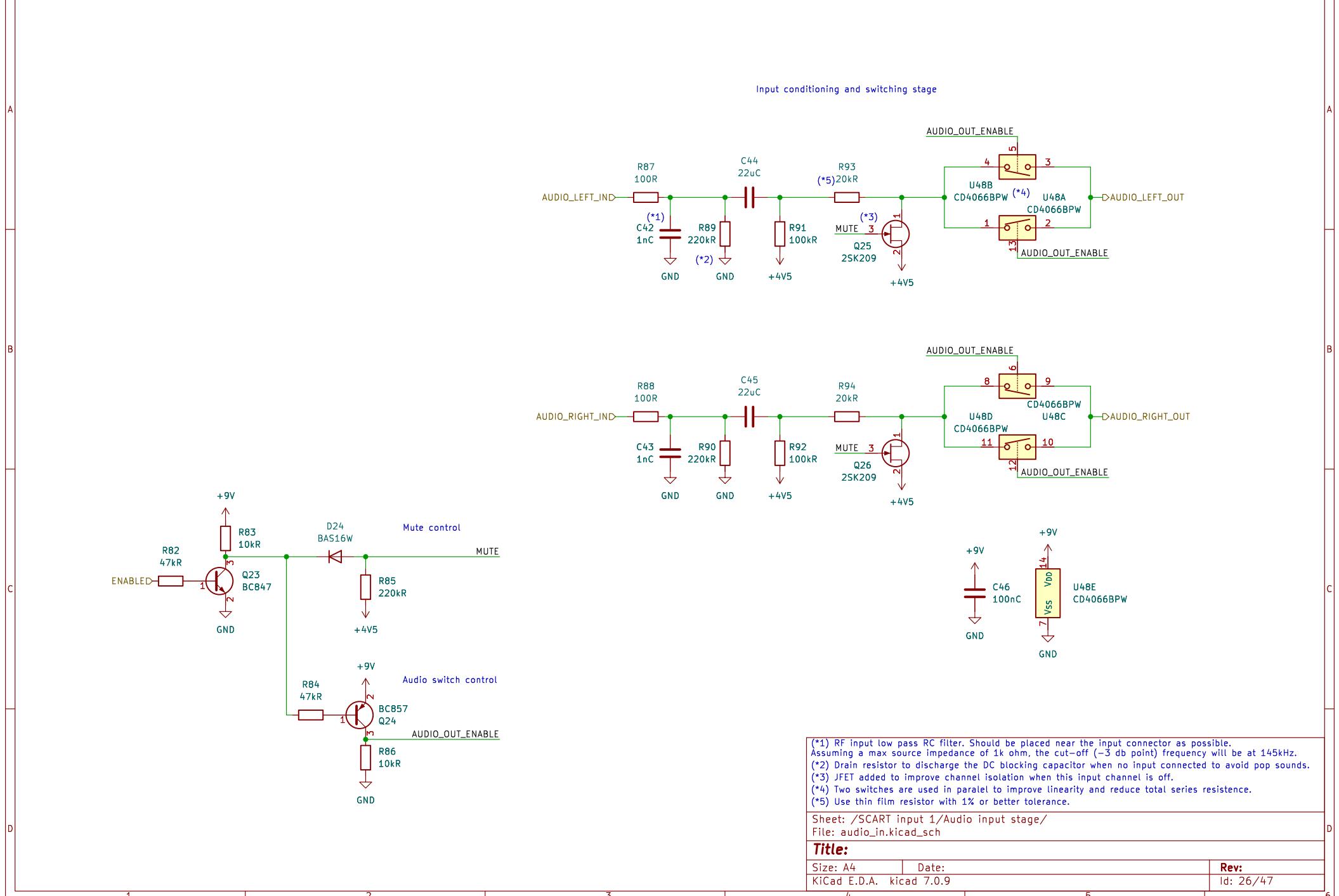
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Rev:
Id: 24/47

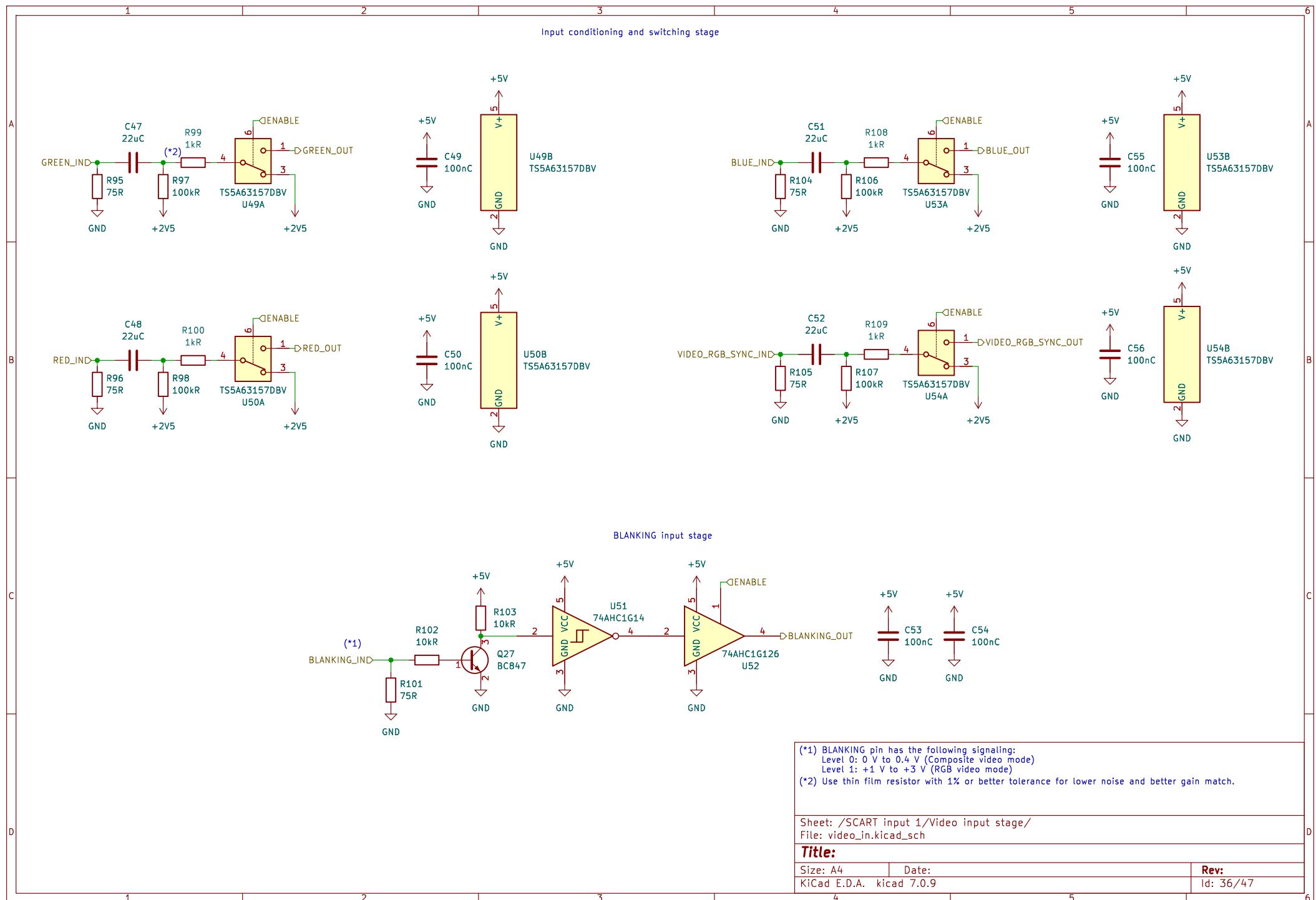


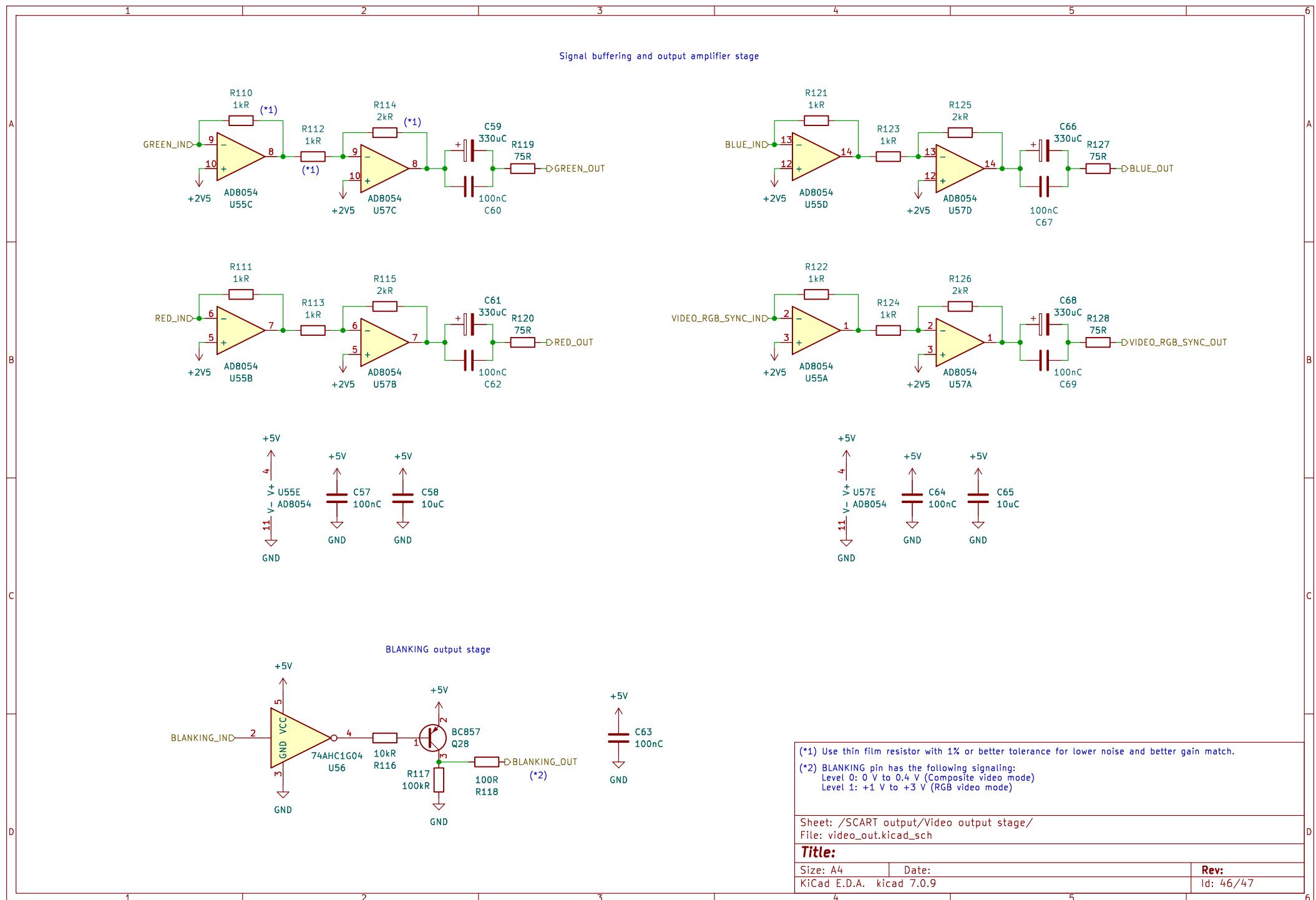
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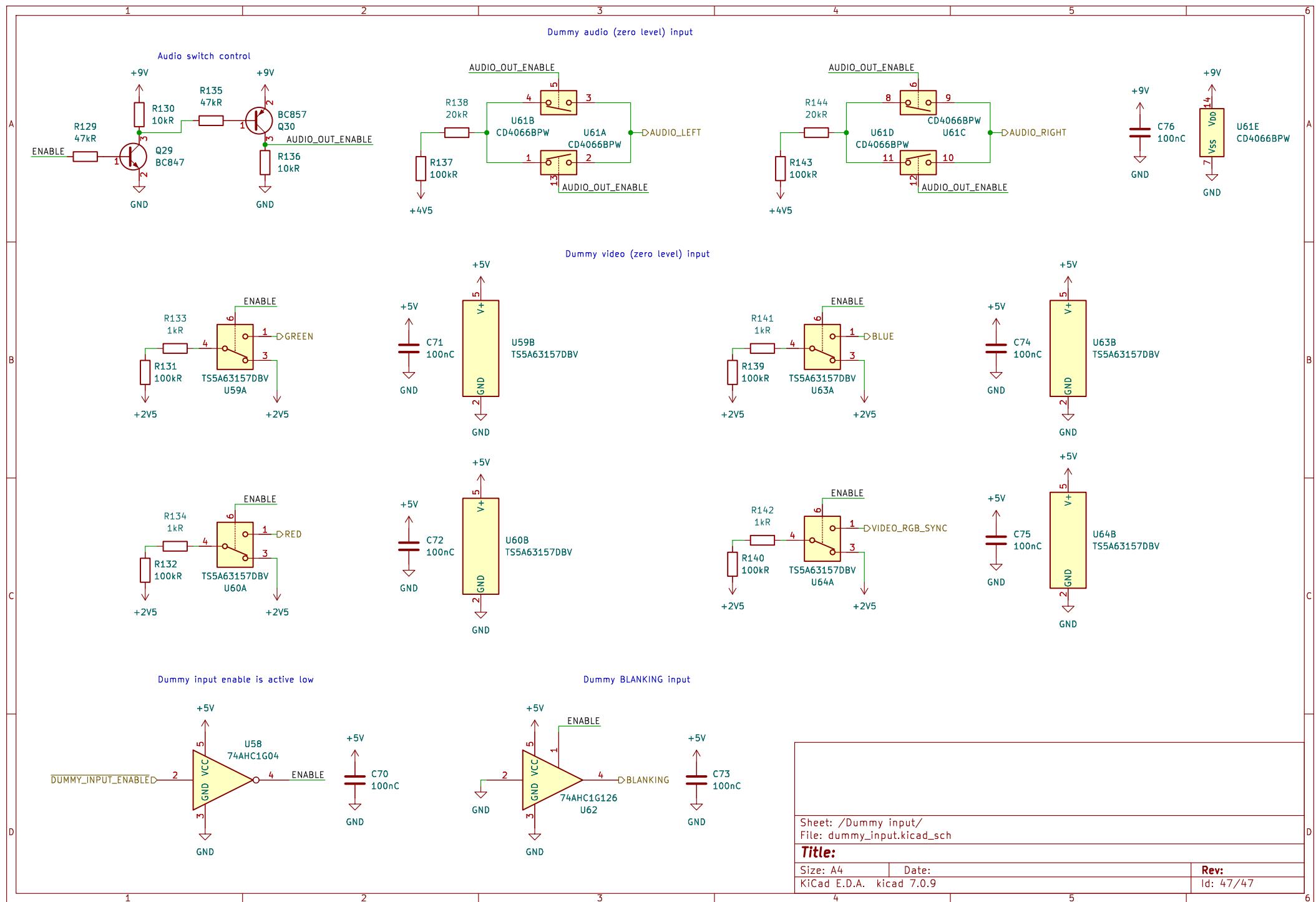


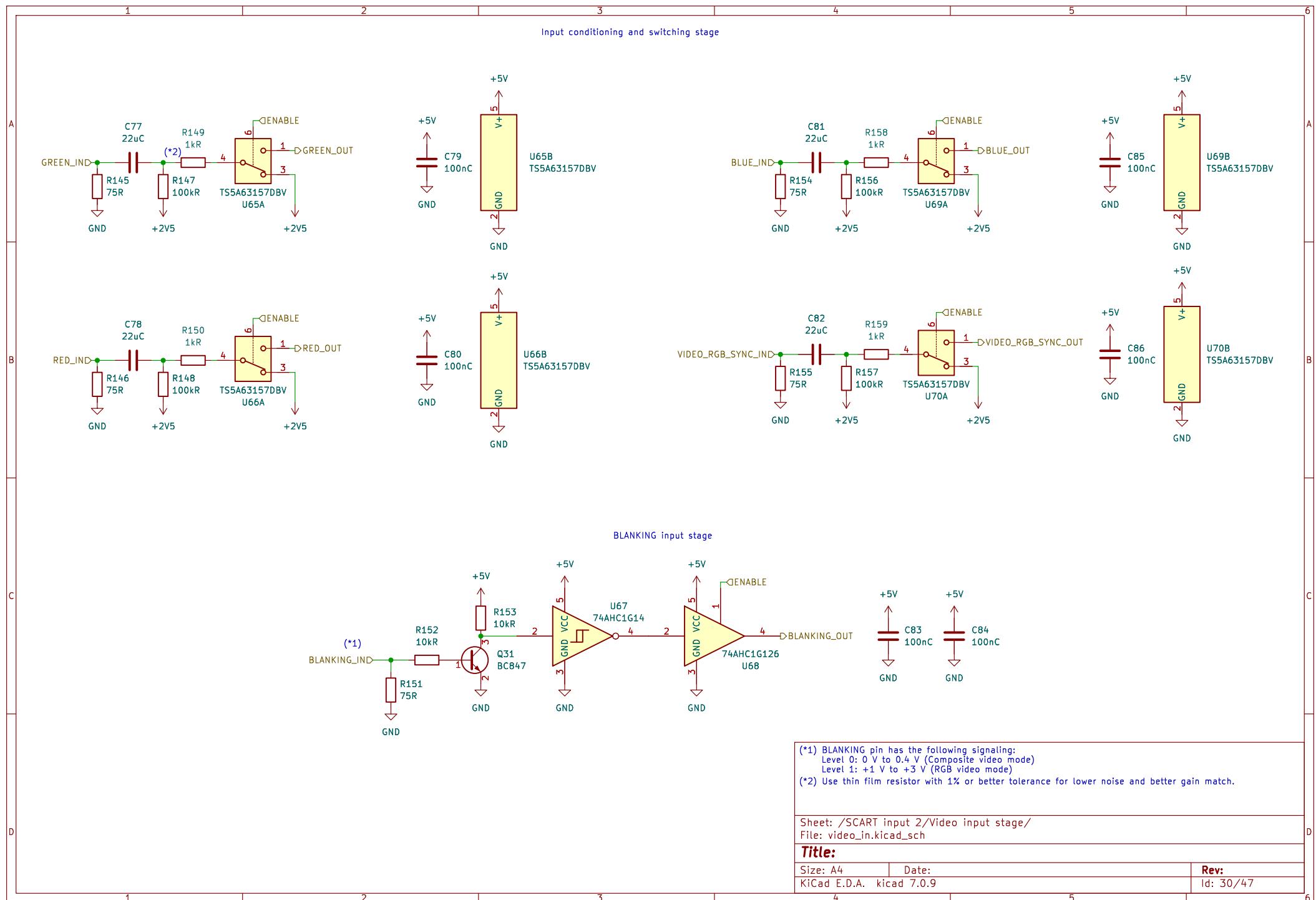
- (*)1) RF input low pass RC filter. Should be placed near the input connector as possible.
- (*)2) Drain resistor to discharge the DC blocking capacitor when no input connected to avoid pop sounds.
- (*)3) JFET added to improve channel isolation when this input channel is off.
- (*)4) Two switches are used in parallel to improve linearity and reduce total series resistance.
- (*)5) Use thin film resistor with 1% or better tolerance.

1 2 3 4 5 6

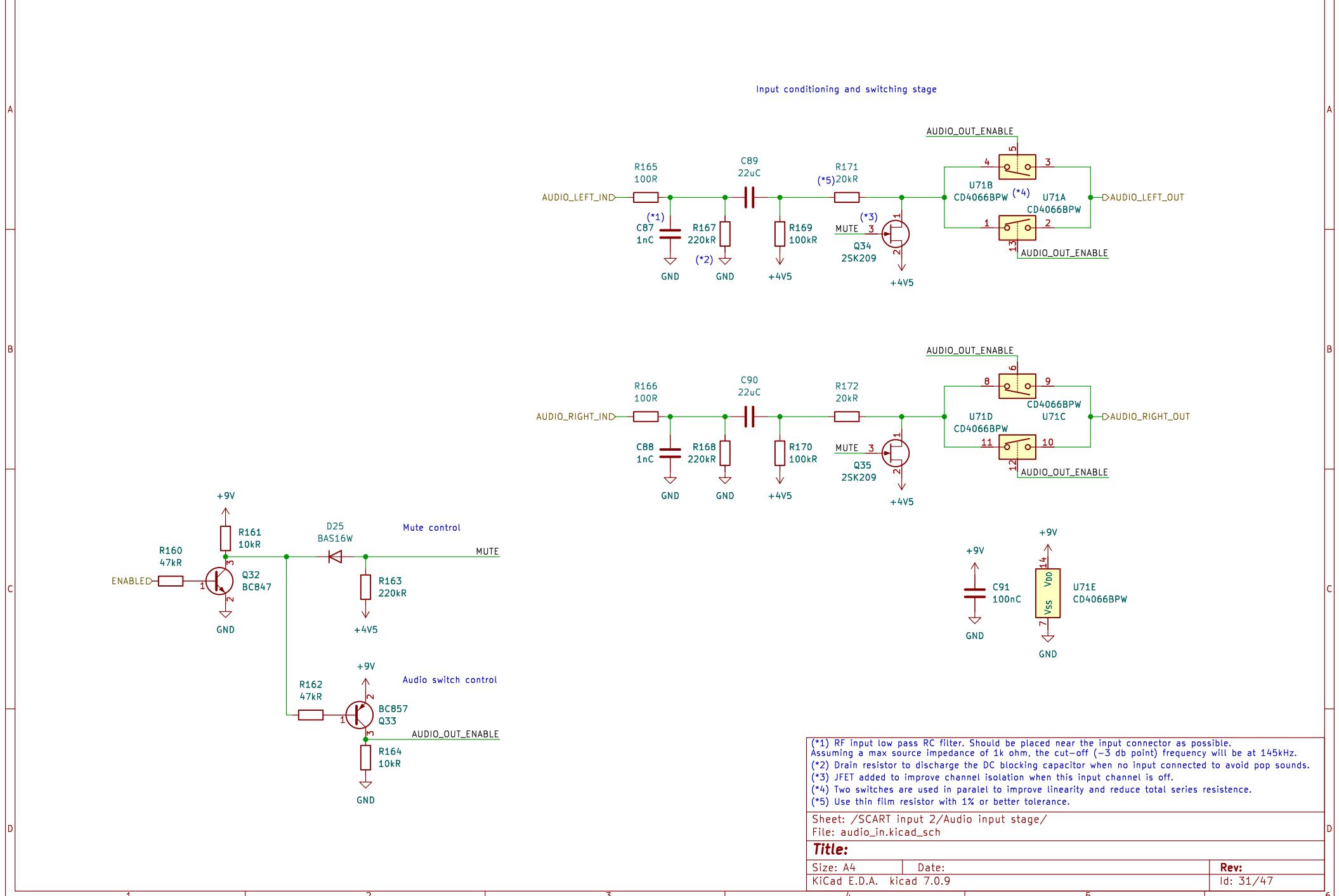


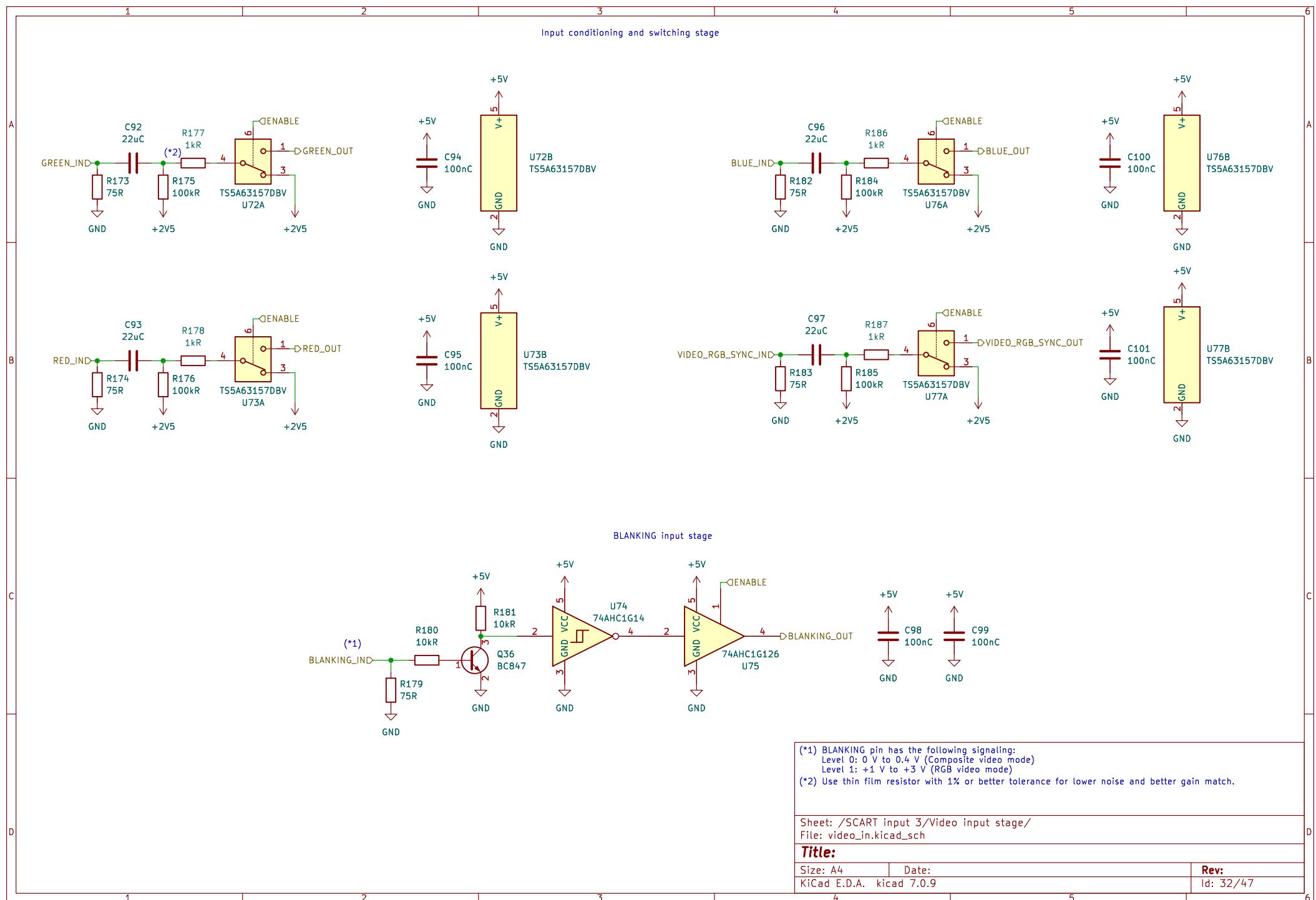




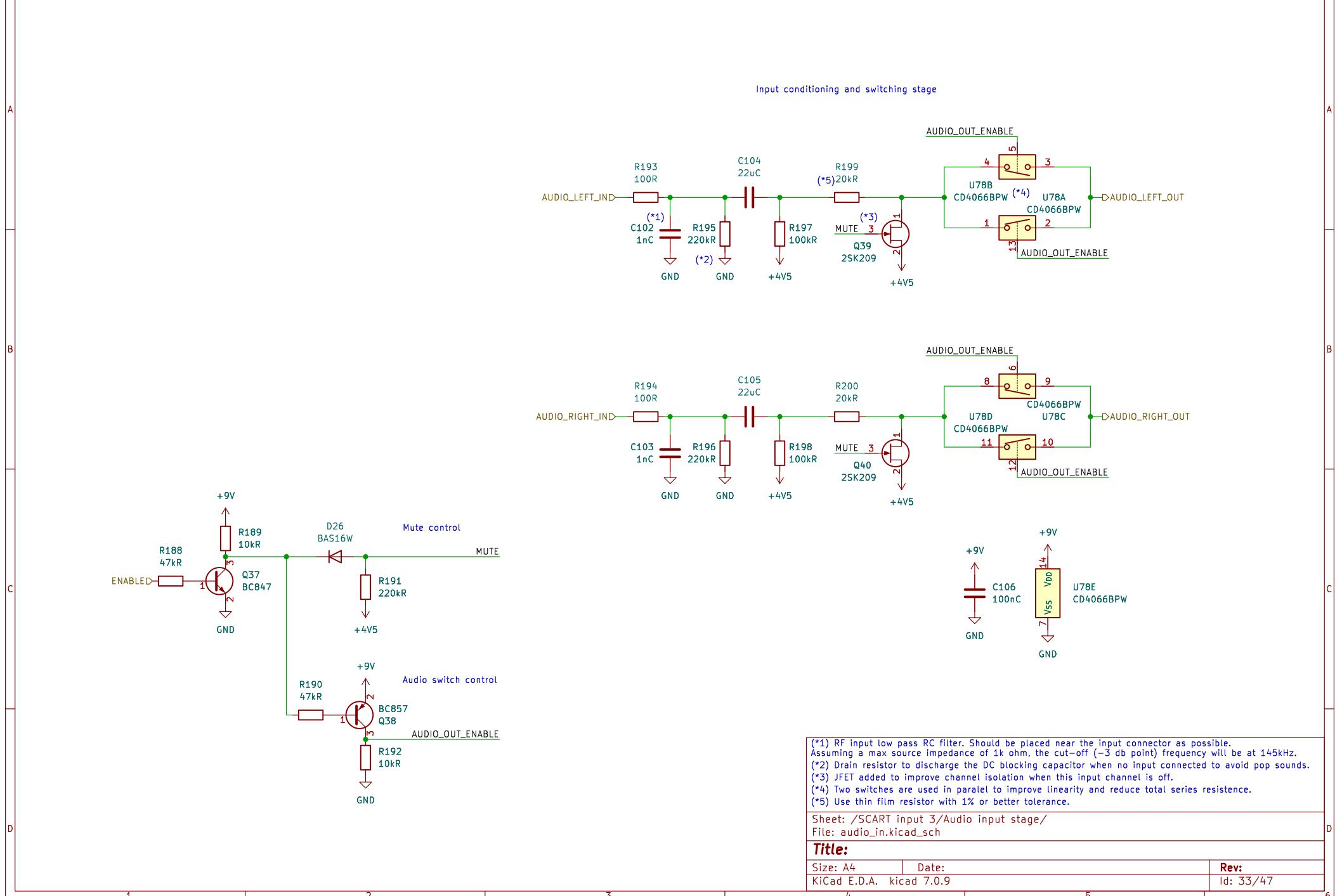


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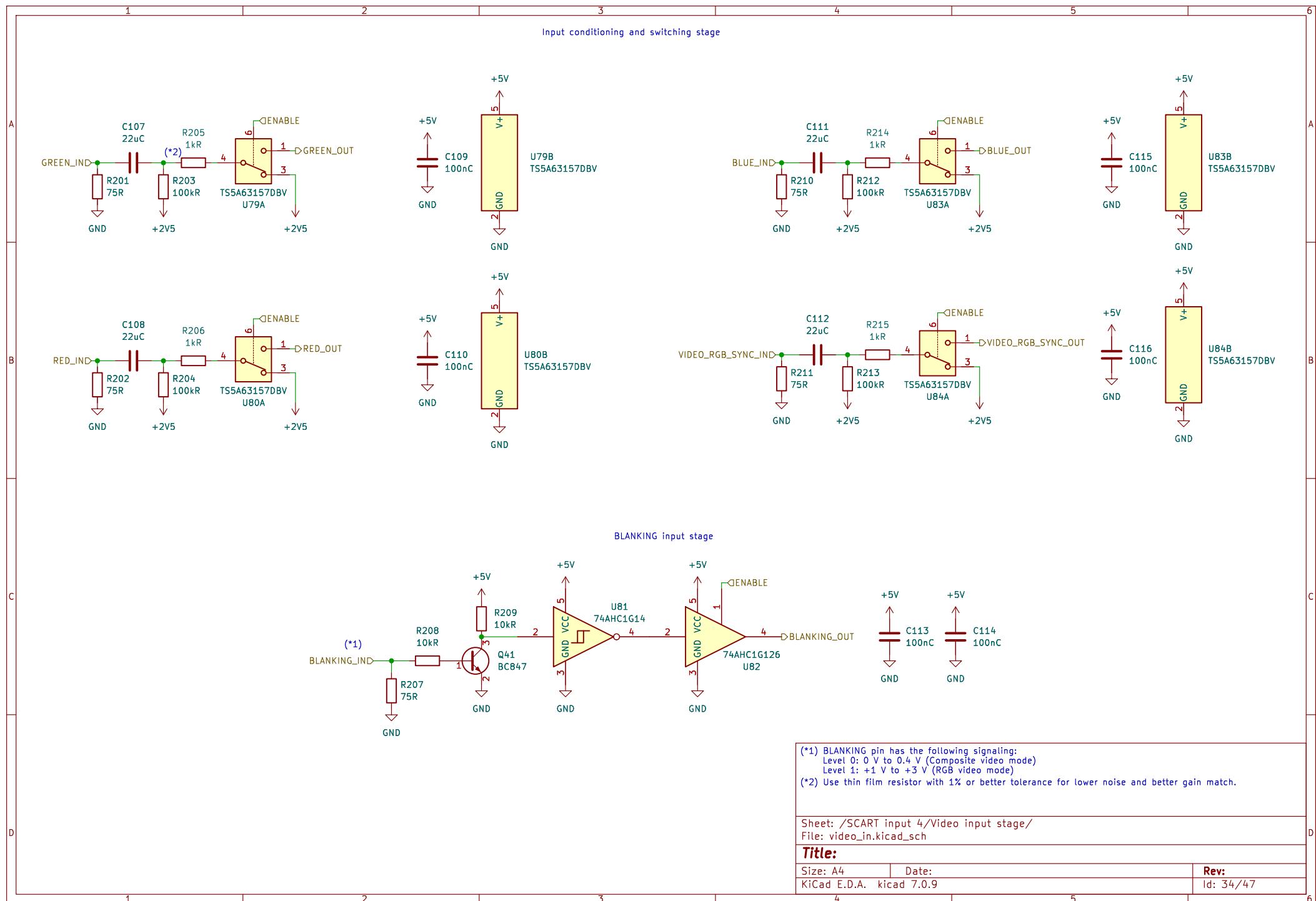




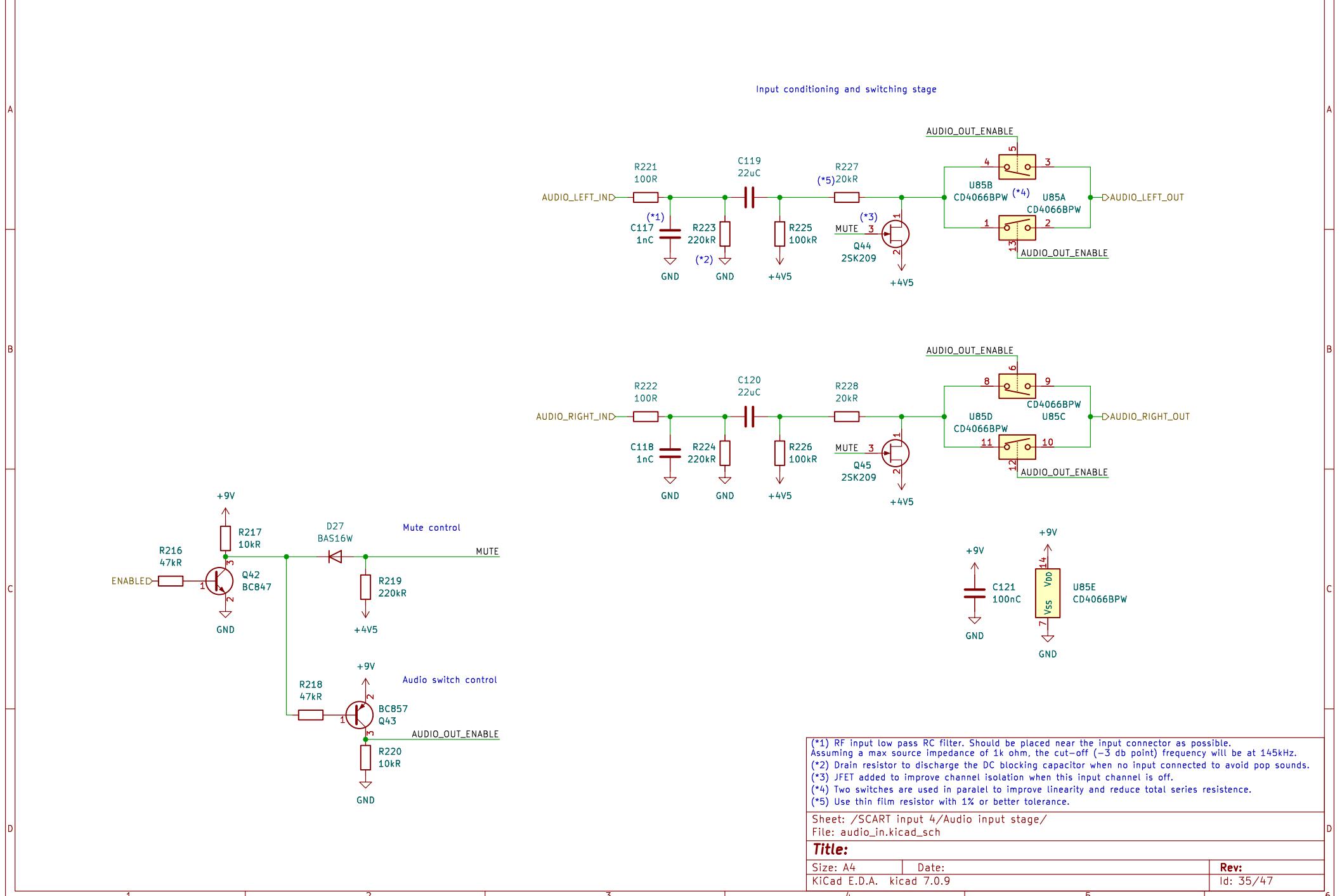
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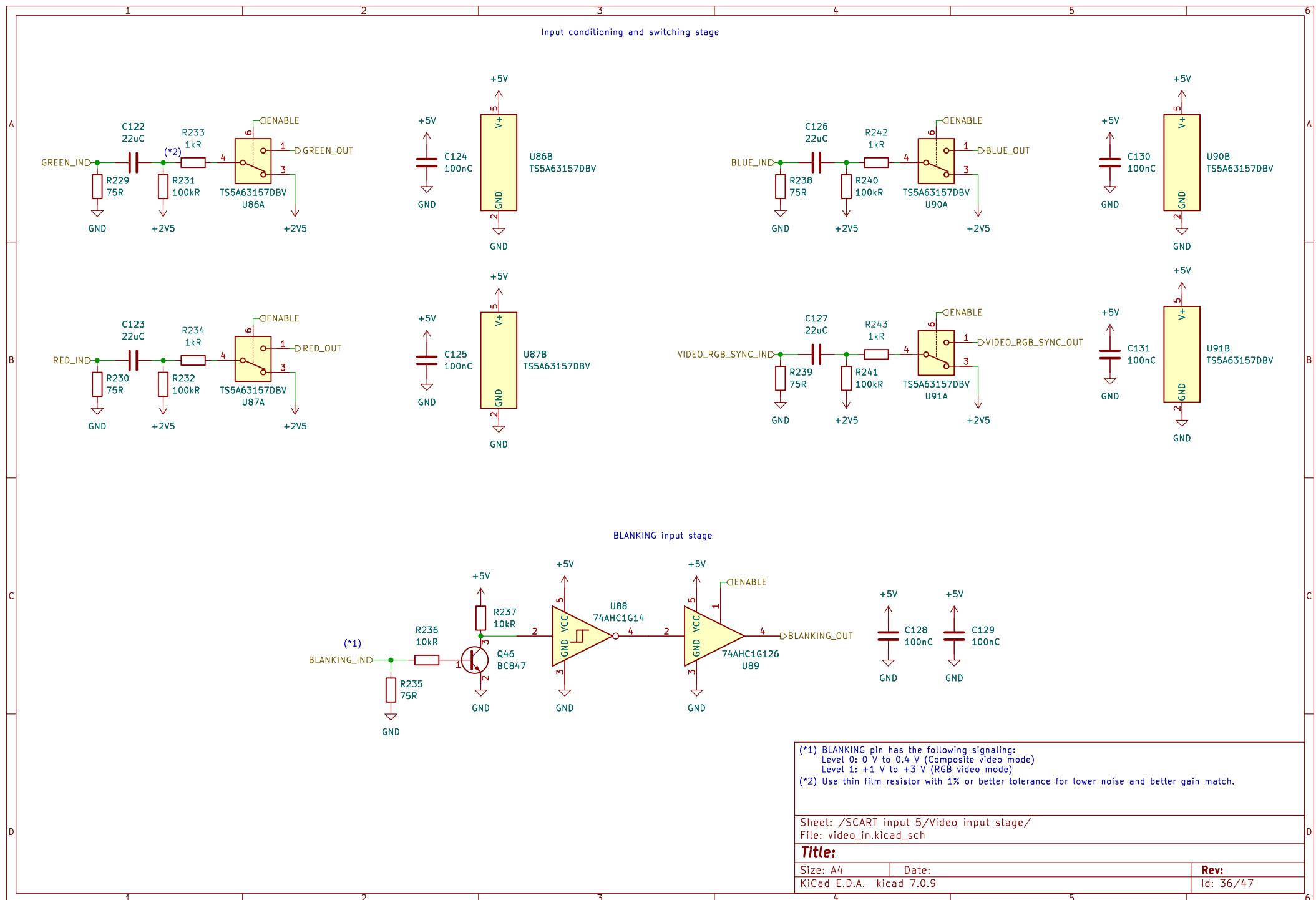
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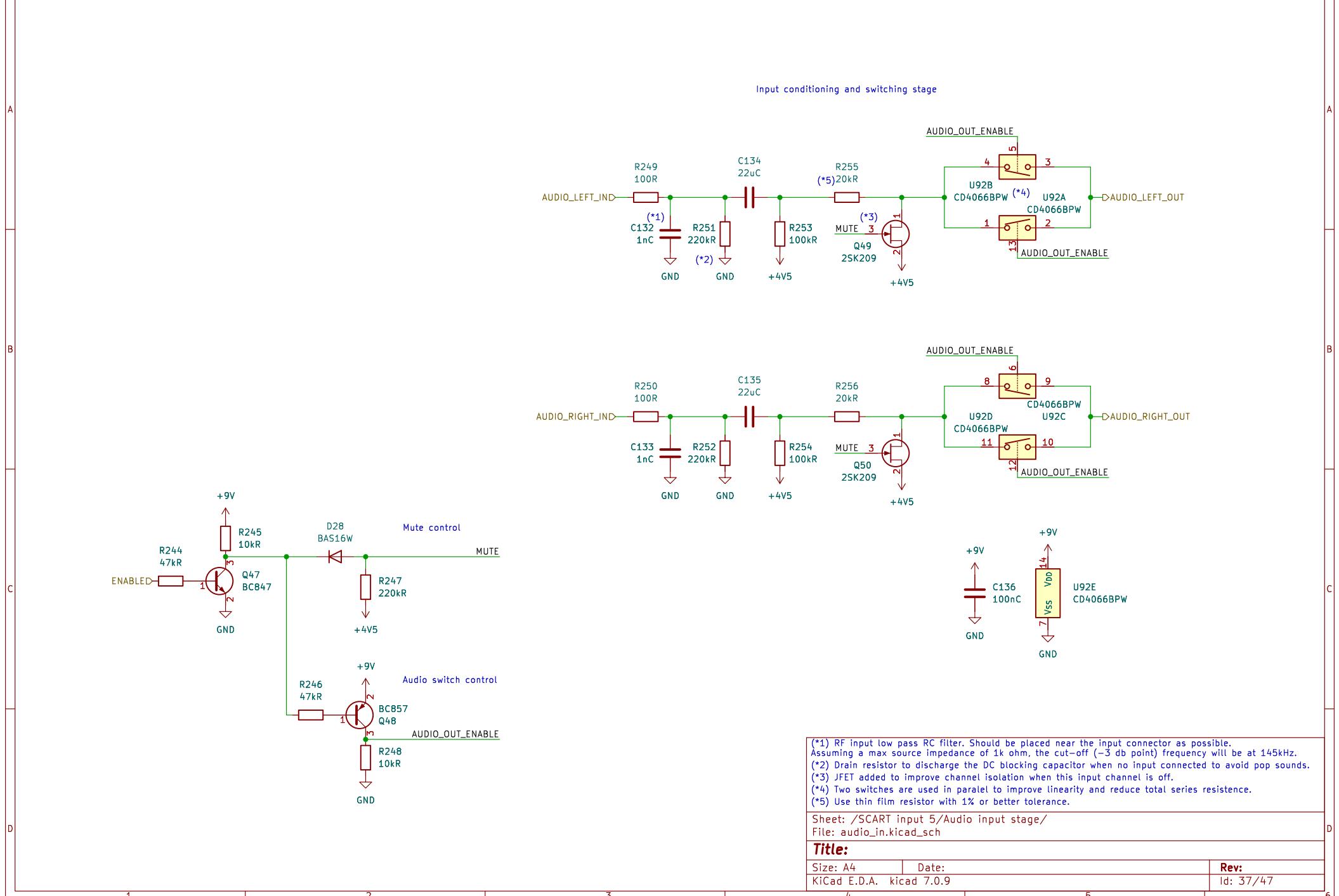
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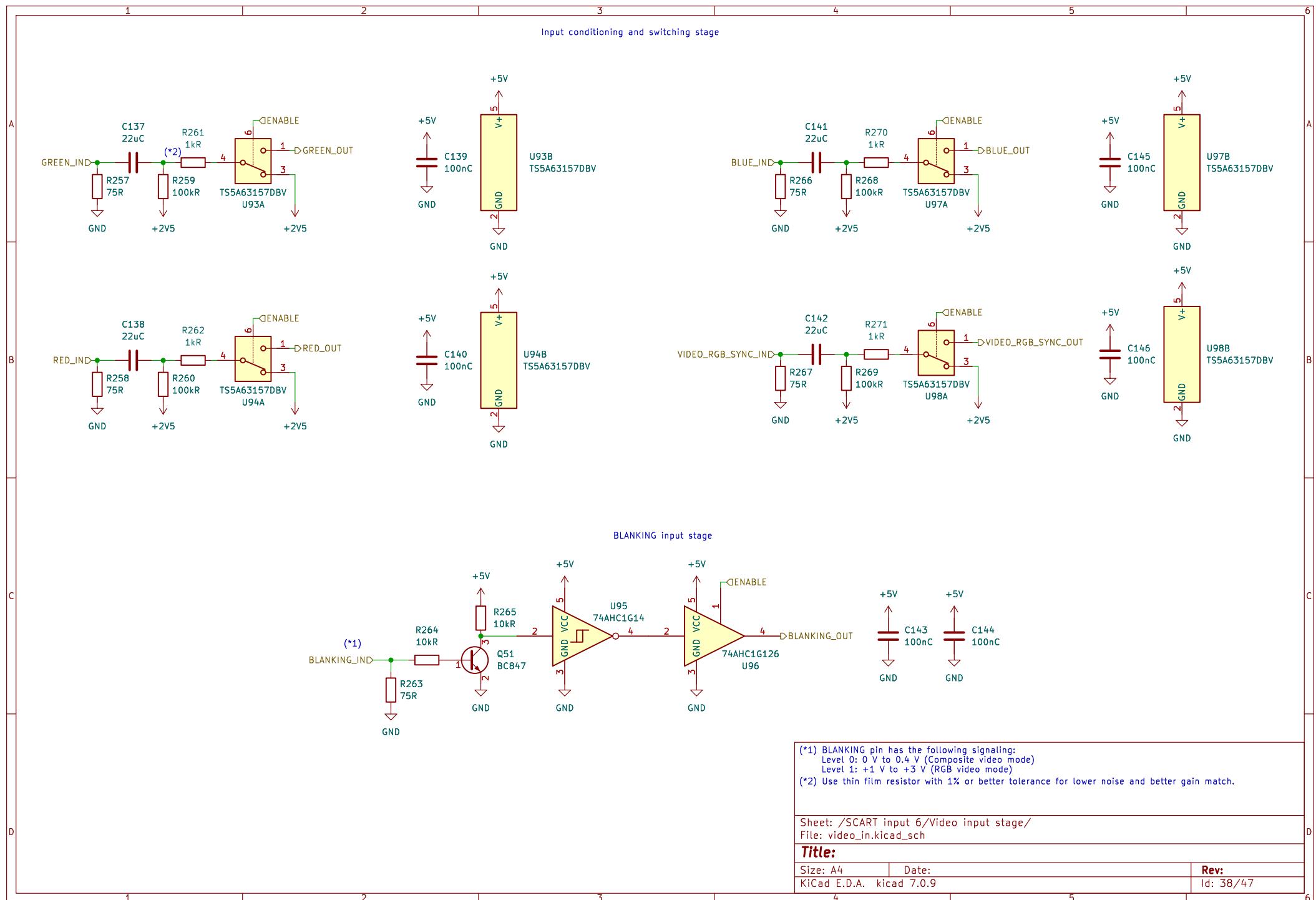
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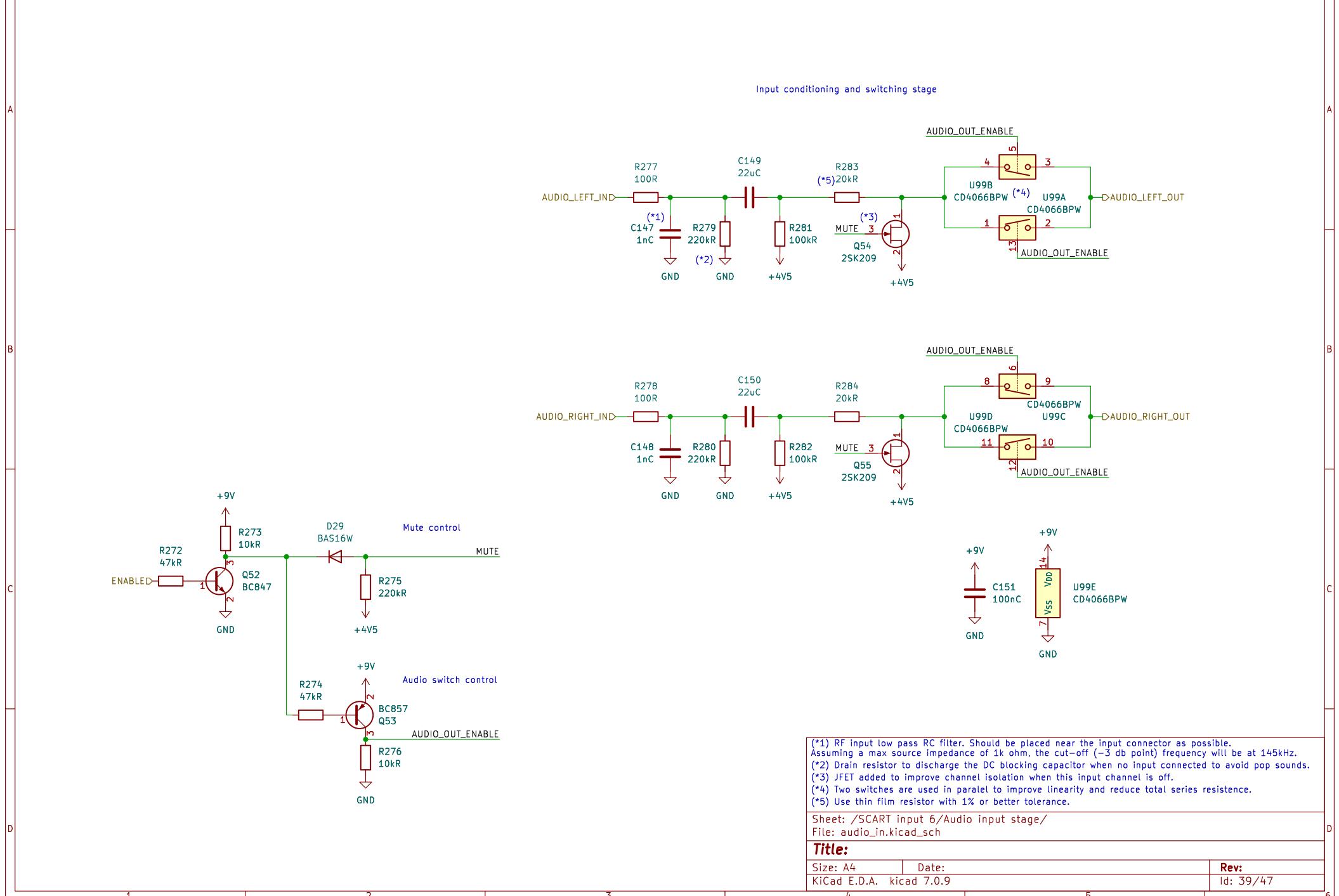
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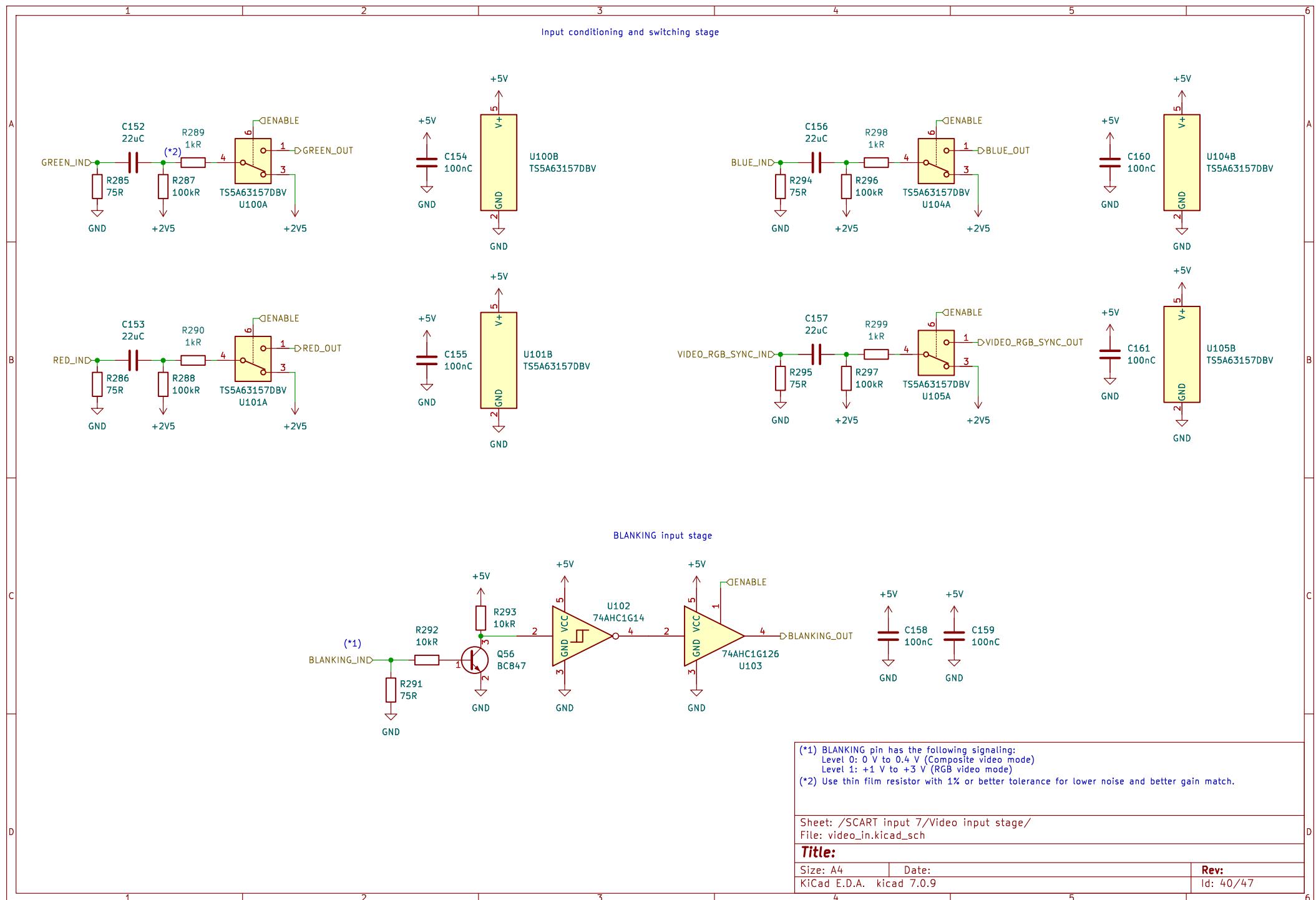
1 2 3 4 5 6



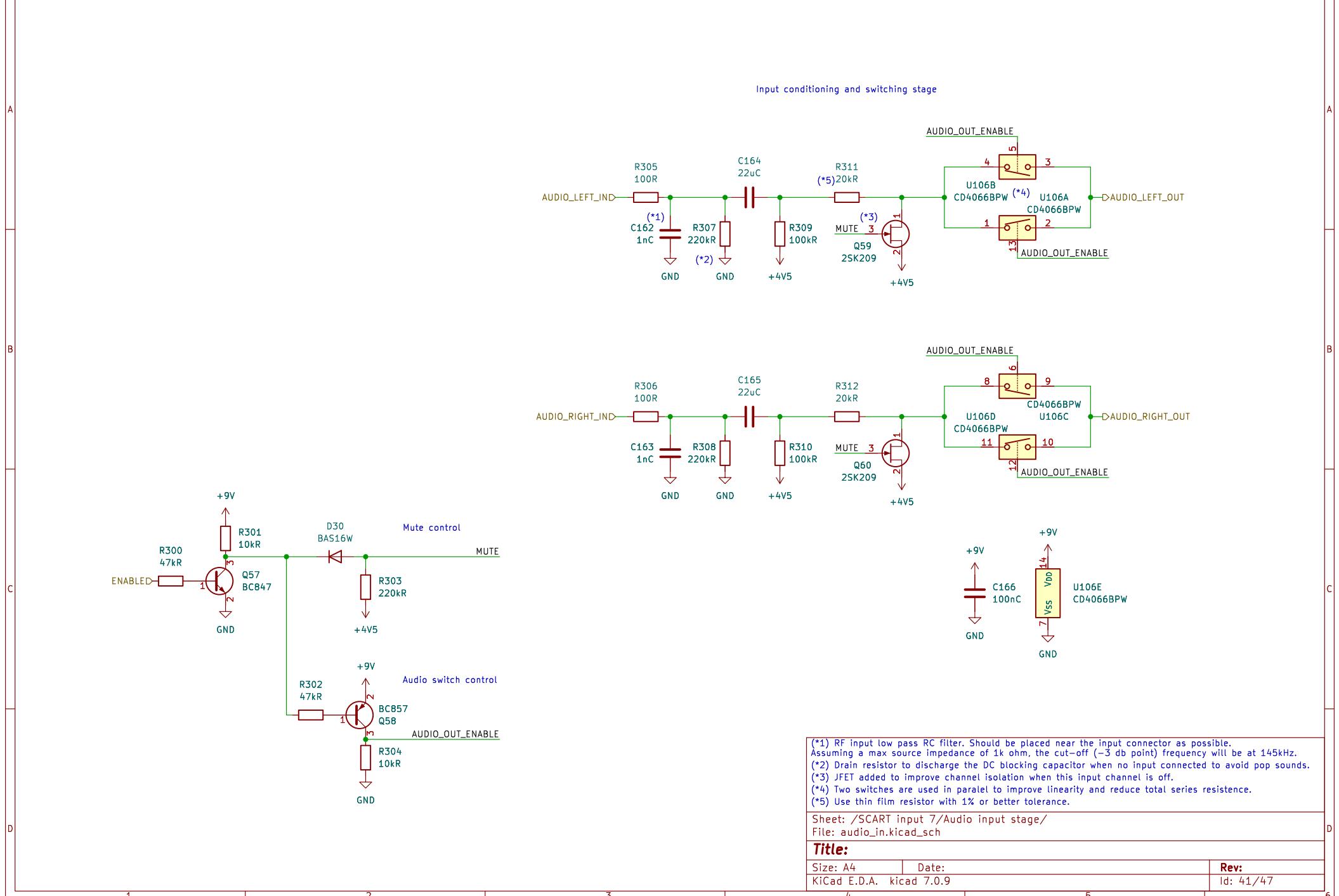
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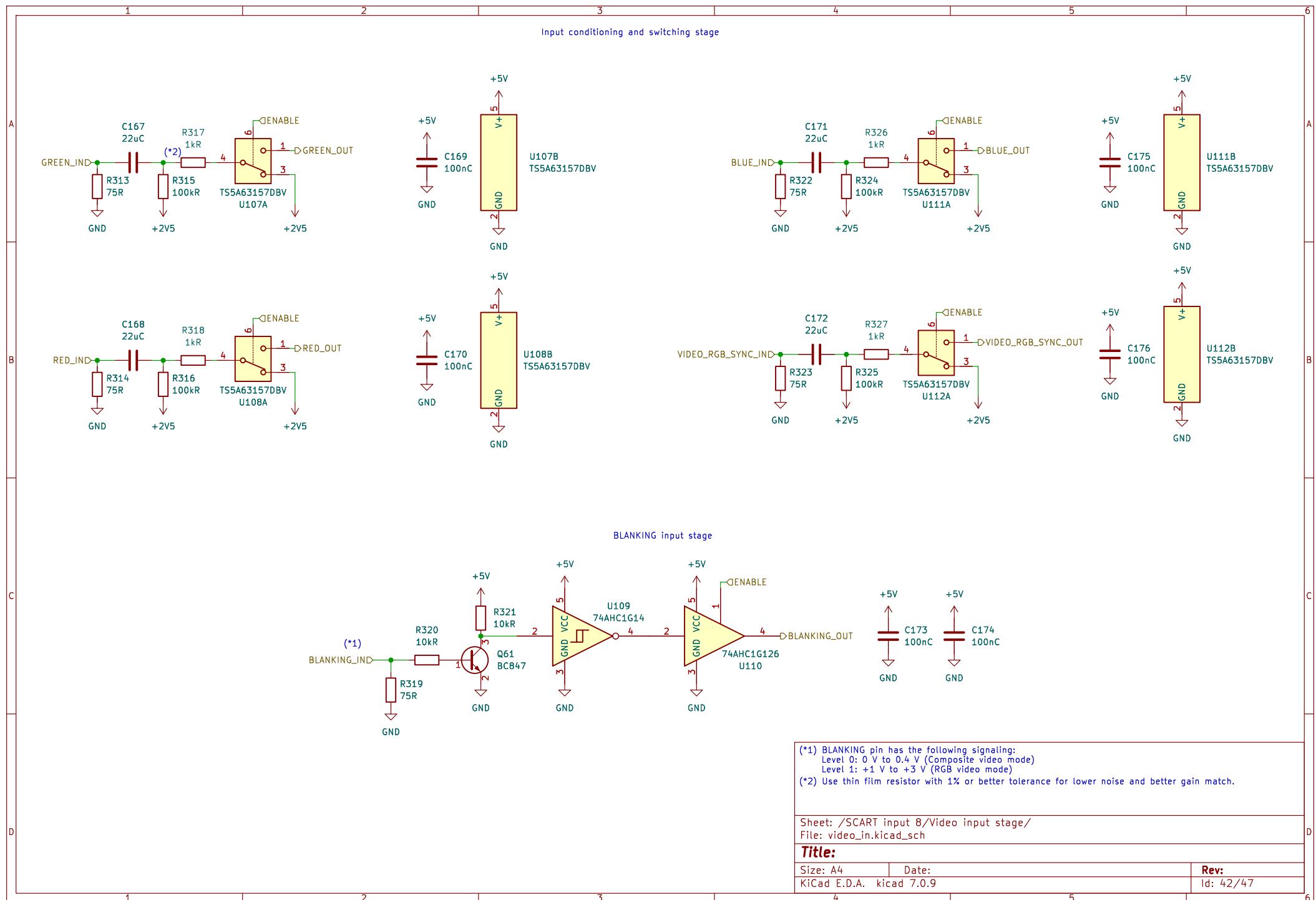
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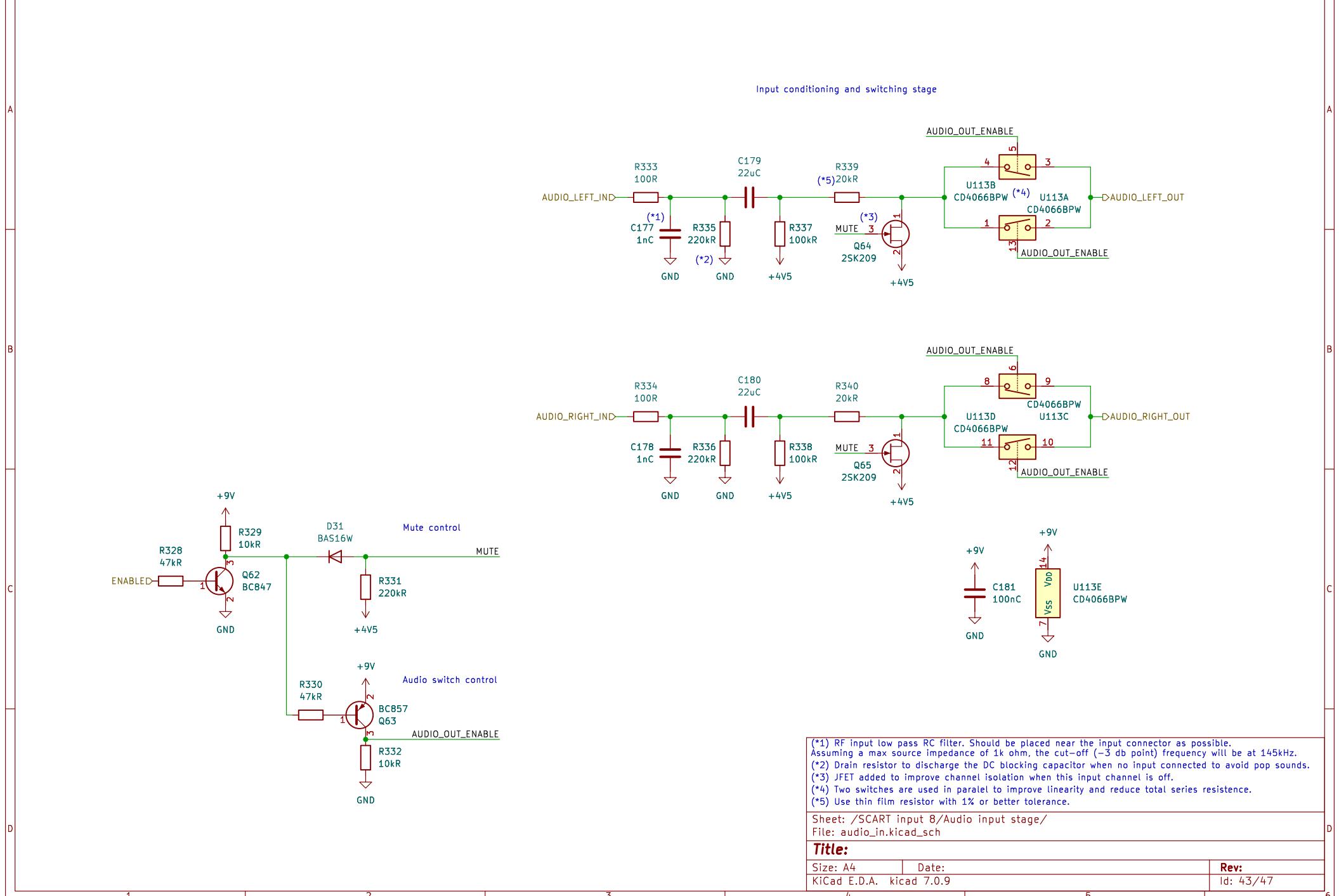
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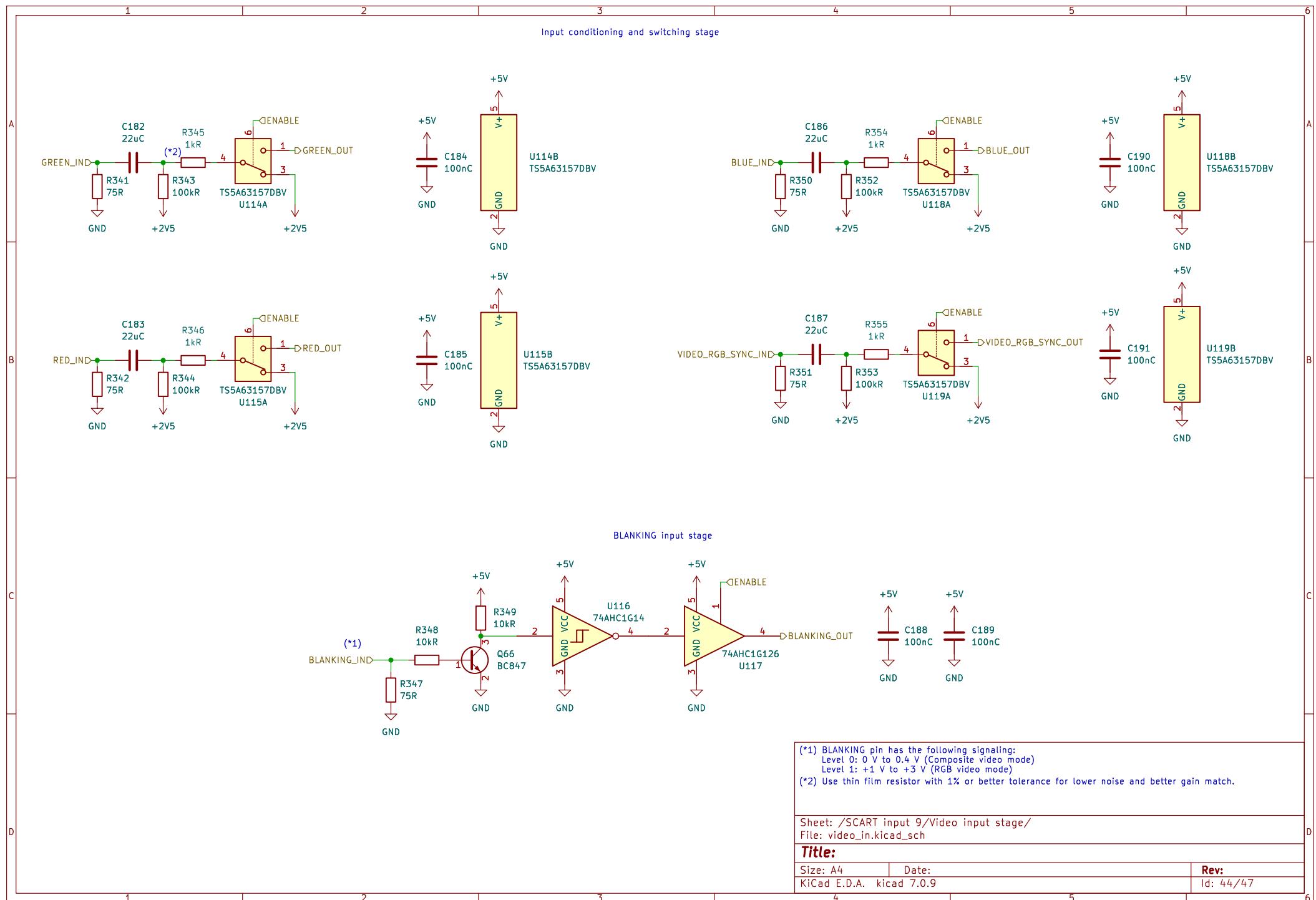
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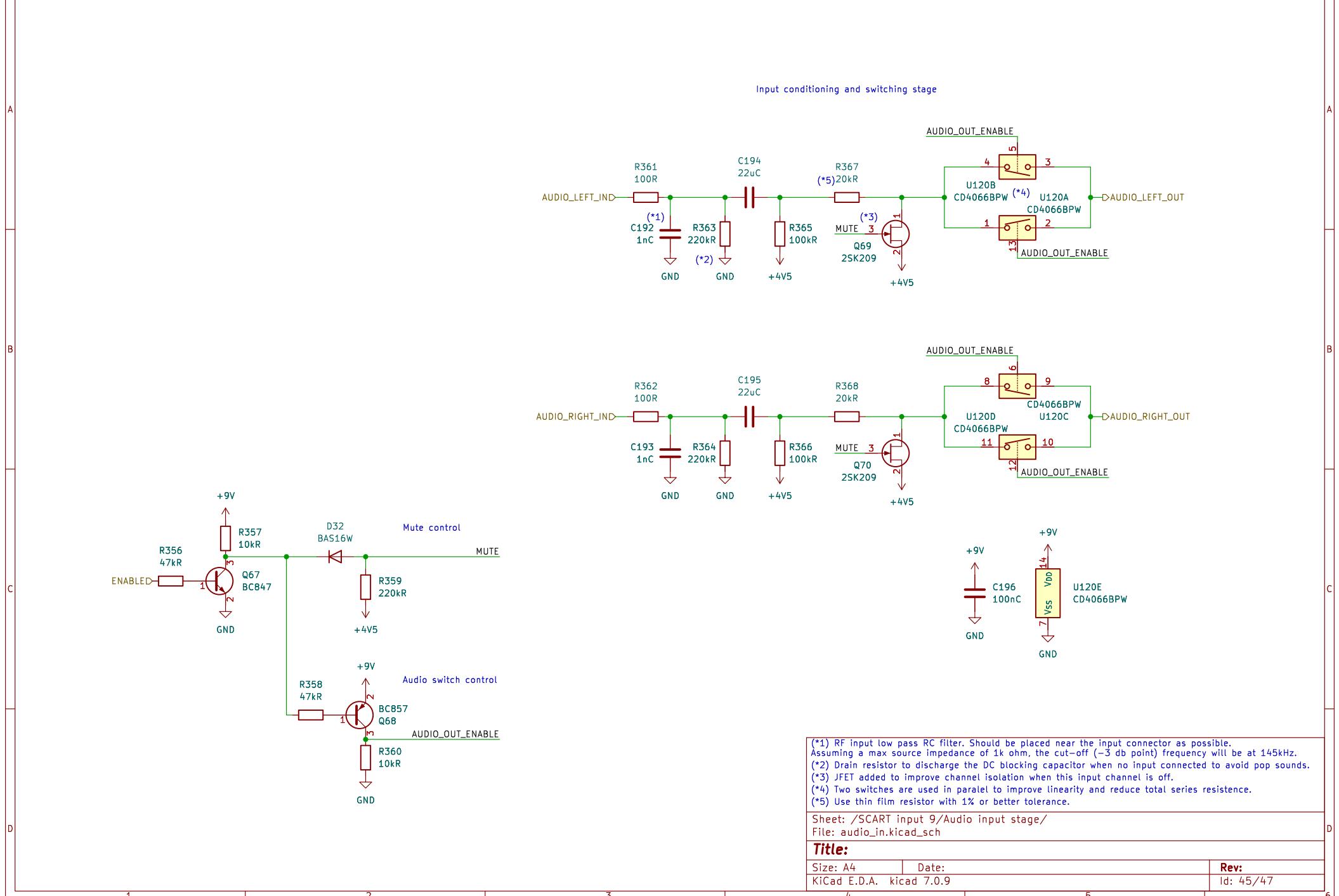
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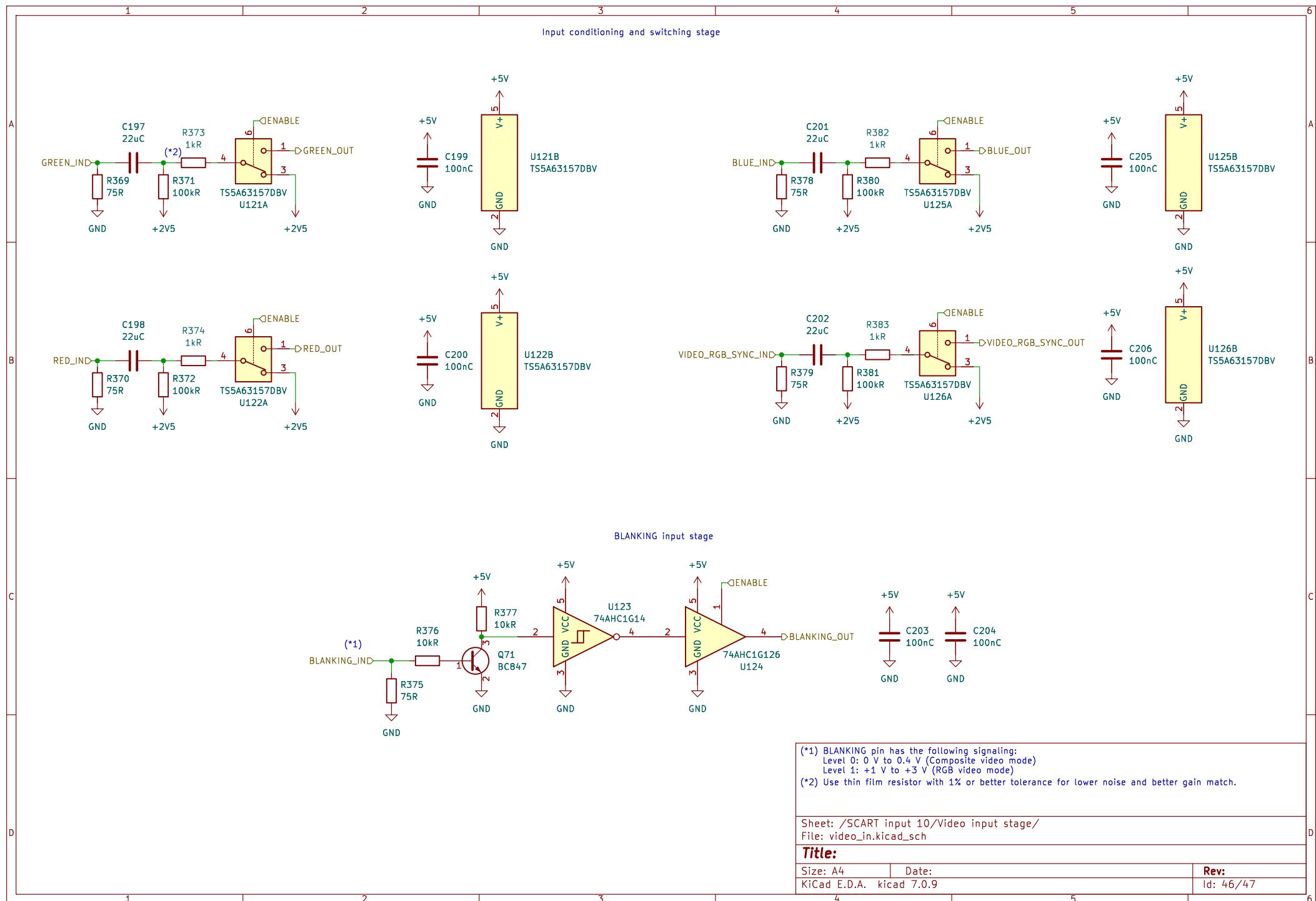
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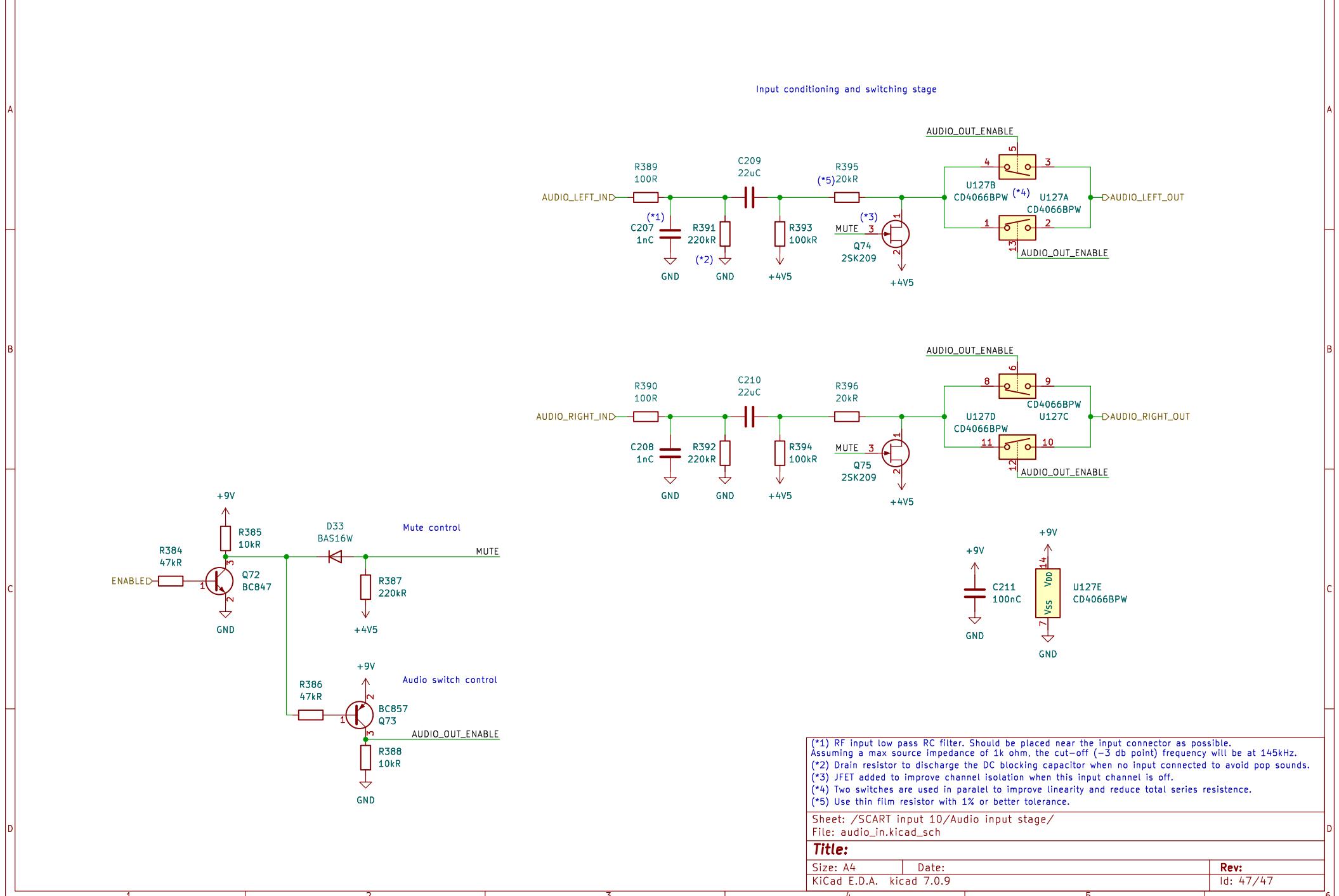
1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6



1 2 3 4 5 6