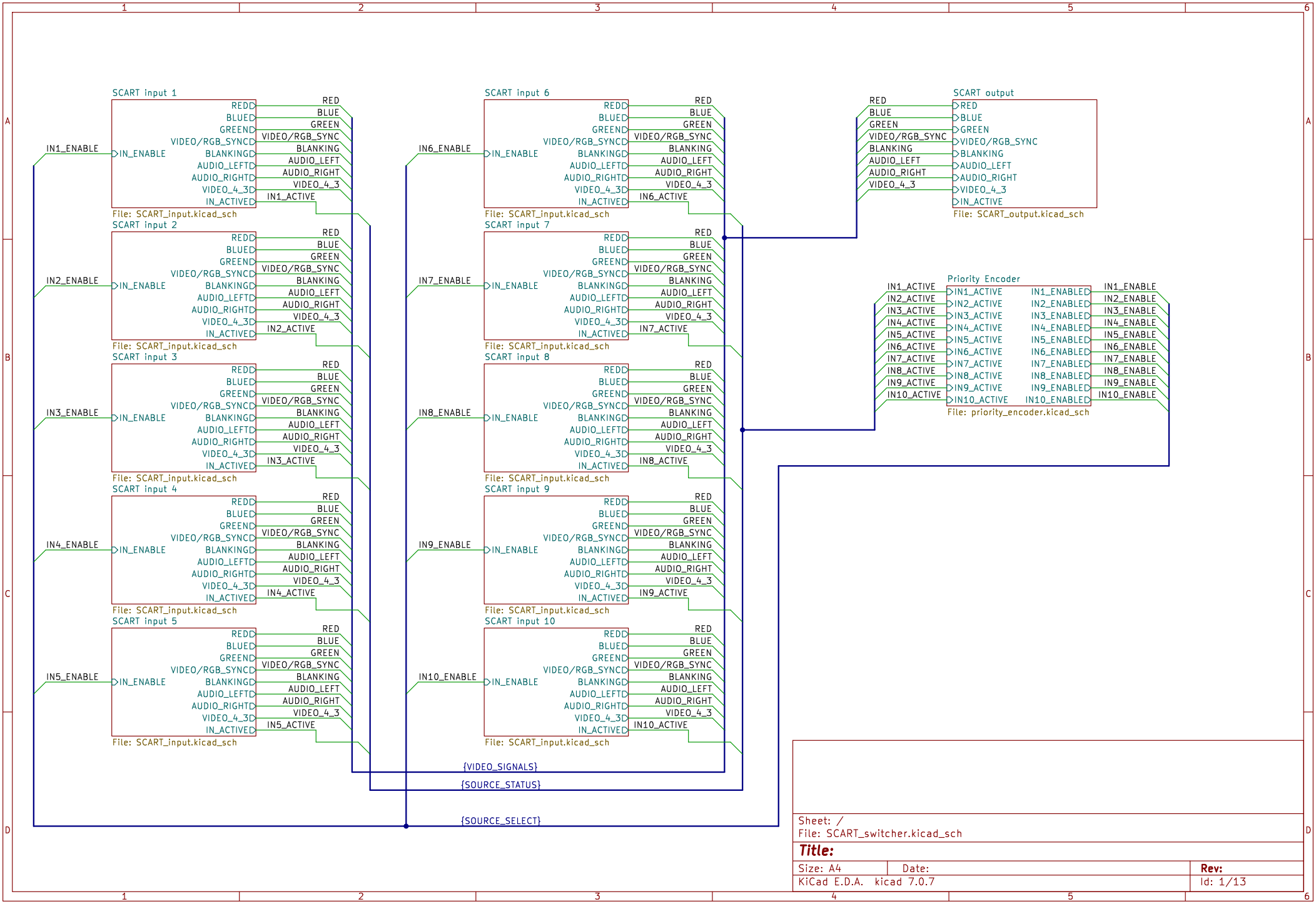
SCART input 1
SCART input 2
SCART input 3
SCART input 4
SCART input 5
SCART input 6
SCART input 7
SCART input 8
SCART input 9
SCART input 10
IN1_ENABLE
IN2_ENABLE
IN3_ENABLE
IN4_ENABLE
IN5_ENABLE
IN6_ENABLE
IN7_ENABLE
IN8_ENABLE
IN9_ENABLE
IN10_ENABLE
IN_ENABLE
REDD
BLUED
GREEND
VIDEO/RGB_SYNCD
BLANKINGD
AUDIO_LEFTD
AUDIO_RIGHTD
VIDEO_4_3D
IN_ACTIVED
RED
BLUE
GREEN
VIDEO/RGB_SYNC
BLANKING
AUDIO_LEFT
AUDIO_RIGHT
VIDEO_4_3
IN1_ACTIVE
IN2_ACTIVE
IN3_ACTIVE
IN4_ACTIVE
IN5_ACTIVE
IN6_ACTIVE
IN7_ACTIVE
IN8_ACTIVE
IN9_ACTIVE
IN10_ACTIVE
File: SCART_input.kicad_sch
SCART output
File: SCART_output.kicad_sch
Priority Encoder
IN1_ENABLED
IN2_ENABLED
IN3_ENABLED
IN4_ENABLED
IN5_ENABLED
IN6_ENABLED
IN7_ENABLED
IN8_ENABLED
IN9_ENABLED
IN10_ENABLED
File: priority_encoder.kicad_sch
{VIDEO_SIGNALS}
{SOURCE_STATUS}
{SOURCE_SELECT}
Sheet: /
File: SCART_switcher.kicad_sch
Title:
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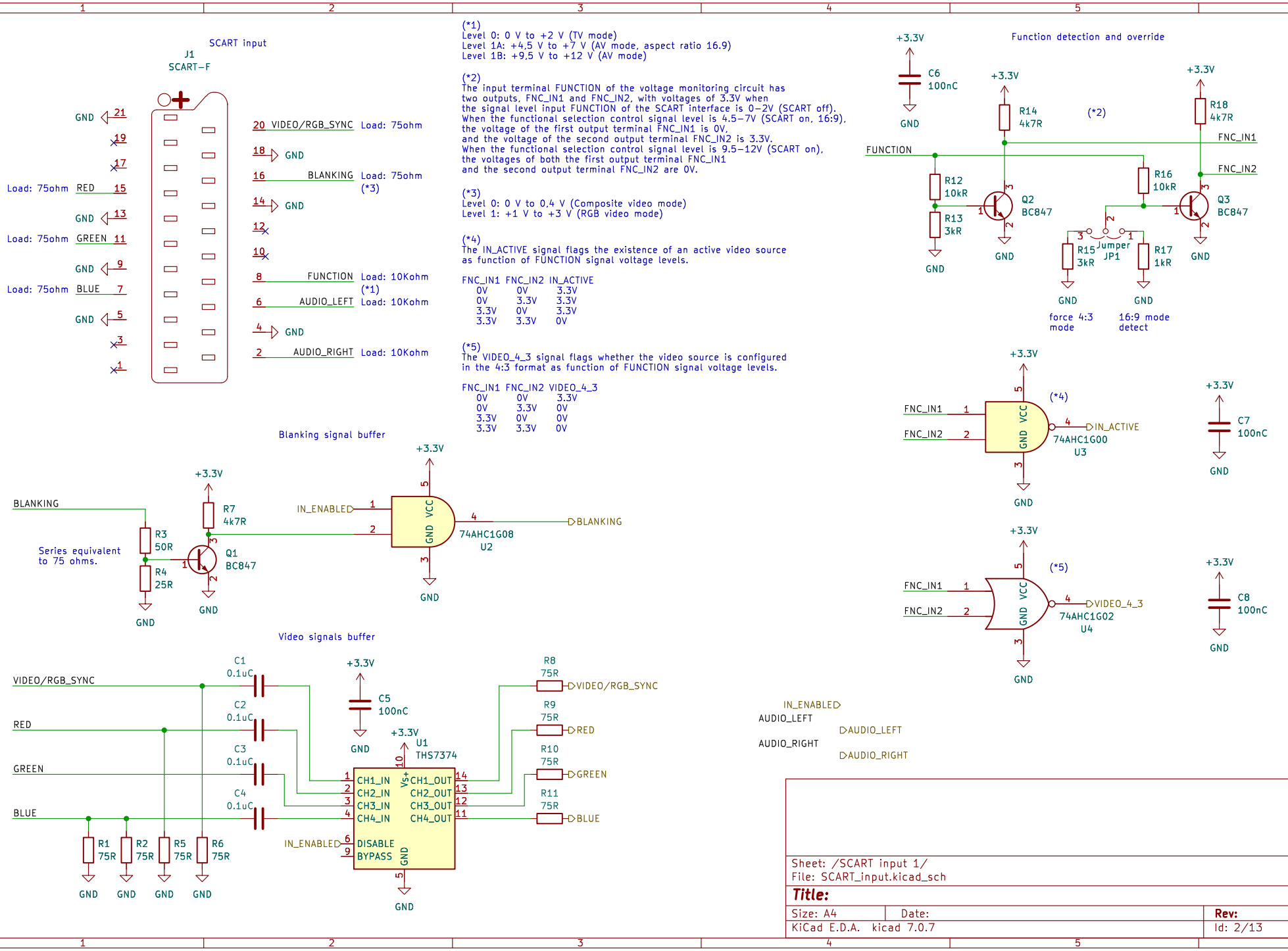
SCART input
J1
SCART-F
GND 21
19
17
Load: 75ohm RED 15
GND 13
Load: 75ohm GREEN 11
GND 9
Load: 75ohm BLUE 7
GND 5
3
1
20 VIDEO/RGB_SYNC Load: 75ohm
18 GND
16 BLANKING Load: 75ohm (*3)
14 GND
12
10
8 FUNCTION Load: 10Kohm (*1)
6 AUDIO_LEFT Load: 10Kohm
4 GND
2 AUDIO_RIGHT Load: 10Kohm
(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)
(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0-2V (SCART off). When the functional selection control signal level is 4.5-7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5-12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.
(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 IN_ACTIVE
0V 0V 3.3V
0V 3.3V 3.3V
3.3V 0V 3.3V
3.3V 3.3V 0V
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 VIDEO_4_3
0V 0V 3.3V
0V 3.3V 0V
3.3V 0V 0V
3.3V 3.3V 0V
Function detection and override
+3.3V
C6 100nC
GND
+3.3V
R14 4k7R
(*2)
+3.3V
R18 4k7R
FNC_IN1
FUNCTION
R12 10kR
R13 3kR
Q2 BC847
R16 10kR
FNC_IN2
Q3 BC847
R15 3kR
Jumper JP1
R17 1kR
GND
force 4:3 mode
16:9 mode detect
Blanking signal buffer
BLANKING
Series equivalent to 75 ohms.
R3 50R
R4 25R
R7 4k7R
Q1 BC847
IN_ENABLED
74AHC1G08 U2
BLANKING
Video signals buffer
VIDEO/RGB_SYNC
RED
GREEN
BLUE
C1 0.1uC
C2 0.1uC
C3 0.1uC
C4 0.1uC
C5 100nC
U1 THS7374
CH1_IN
CH2_IN
CH3_IN
CH4_IN
DISABLE
BYPASS
Vs+
CH1_OUT
CH2_OUT
CH3_OUT
CH4_OUT
R1 75R
R2 75R
R5 75R
R6 75R
R8 75R
R9 75R
R10 75R
R11 75R
VIDEO/RGB_SYNC
RED
GREEN
BLUE
(*4)
74AHC1G00 U3
IN_ACTIVE
C7 100nC
(*5)
74AHC1G02 U4
VIDEO_4_3
C8 100nC
IN_ENABLED
AUDIO_LEFT
AUDIO_RIGHT
Sheet: /SCART input 1/
File: SCART_input.kicad_sch
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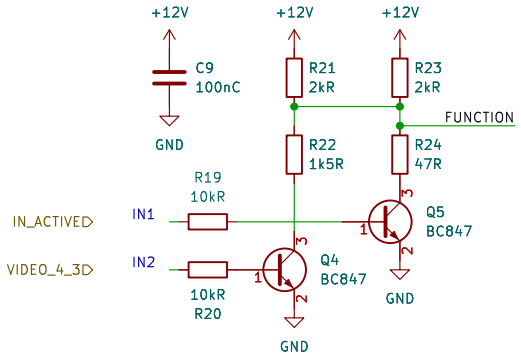
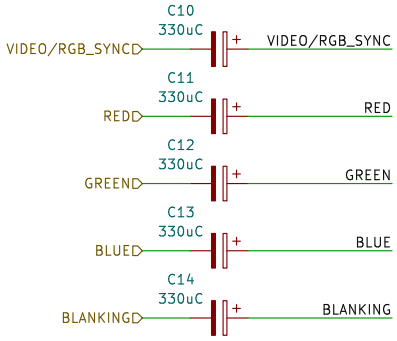
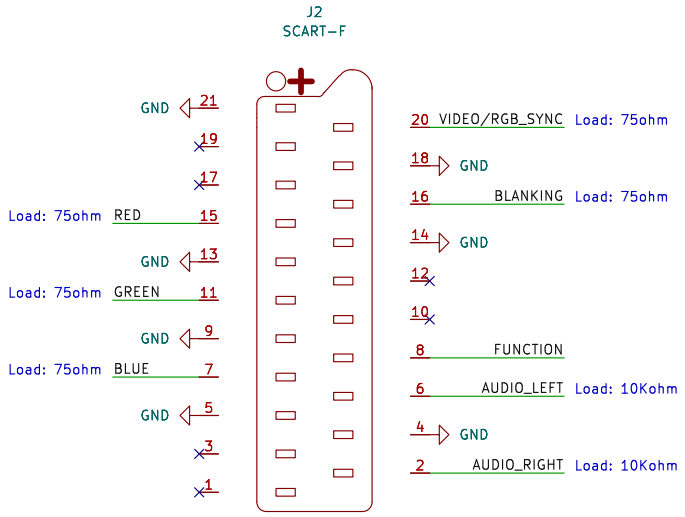
The signals FNC_IN1 and FNC_IN2 are input to the level conversion circuit of the SCART function selection control to generate the appropriate signal levels.
When the voltage levels of both the first input terminal FNC_IN1 and the second input terminal FNC_IN2 are 3.3V, the output voltage of the output terminal FUNCTION is 0V.
When the voltage level of the first input terminal FNC_IN1 is 0V and the voltage level of the second input terminal FNC_IN2 is 3.3V, the output voltage of the output terminal FUNCTION is 7.0V.
When the voltage levels of both the first input terminal FNC_IN1 and the second input terminal FNC_IN2 are 0V, the output voltage of the output terminal FUNCTION is 12V.







Sheet: /SCART output/
File: SCART_output.kicad_sch

Title:

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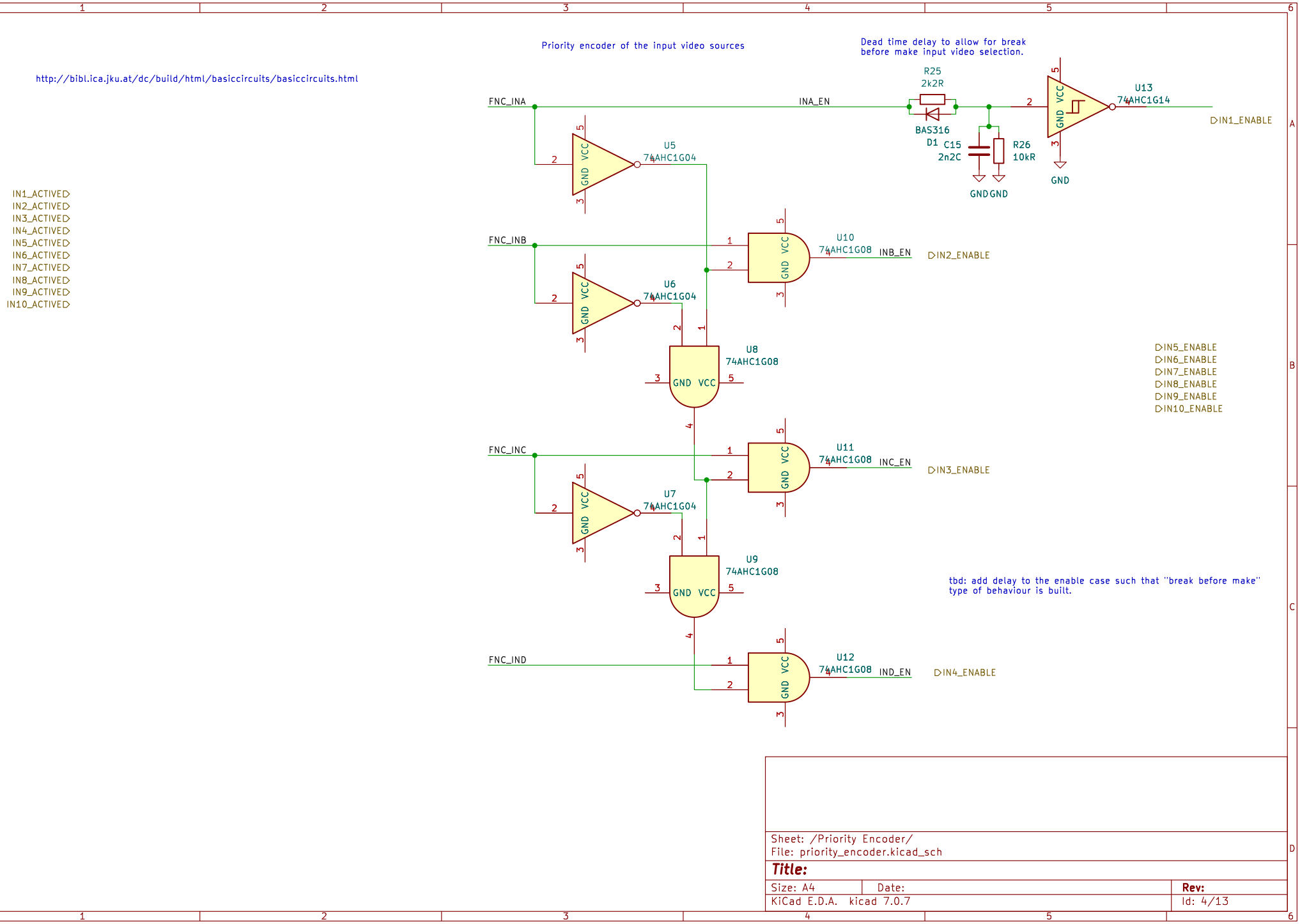

Sheet: /Priority Encoder/
File: priority_encoder.kicad_sch

Title:

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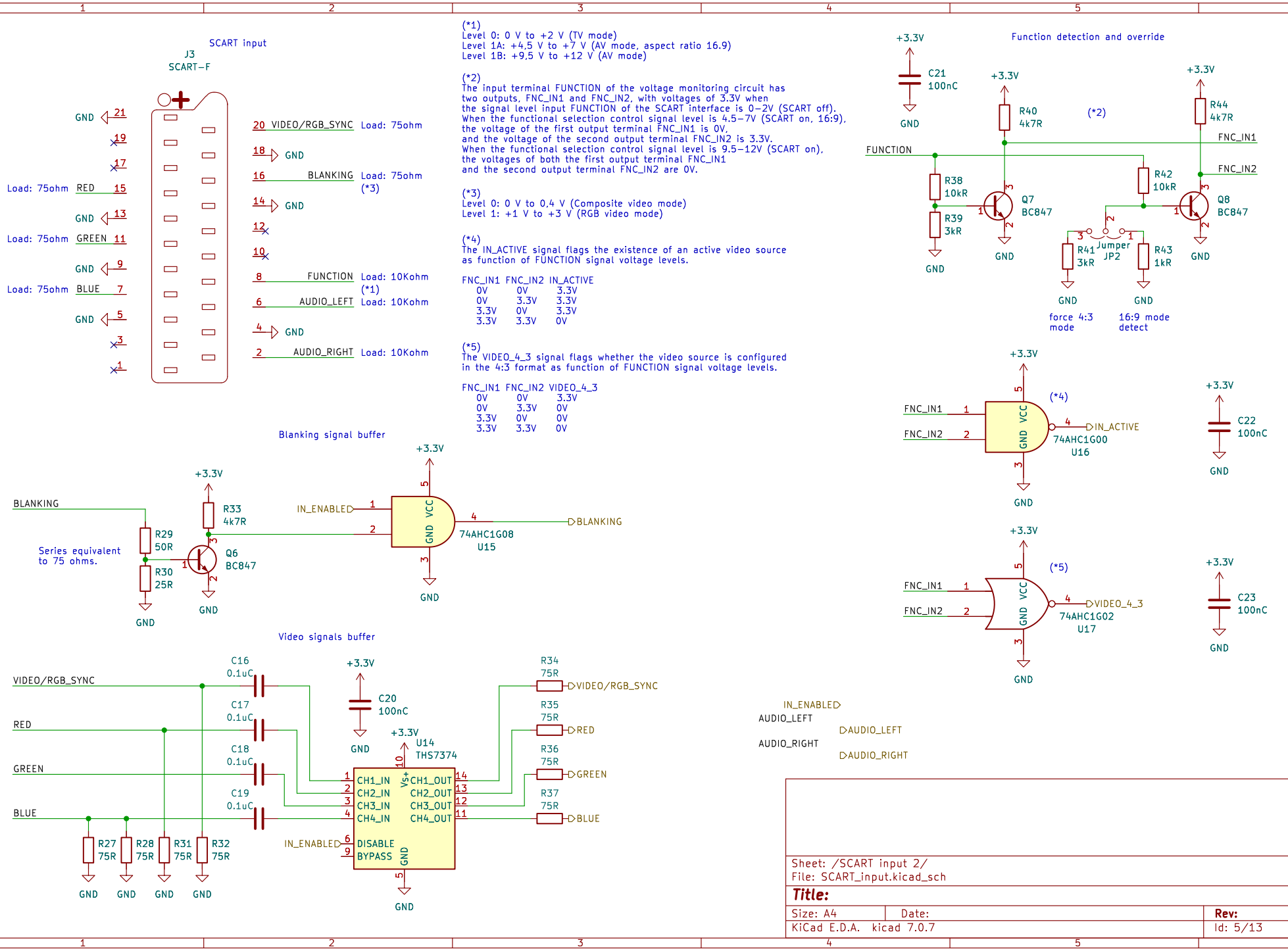
SCART input
J3
SCART-F
GND 21
19
17
Load: 75ohm RED 15
GND 13
Load: 75ohm GREEN 11
GND 9
Load: 75ohm BLUE 7
GND 5
3
1
20 VIDEO/RGB_SYNC Load: 75ohm
18 GND
16 BLANKING Load: 75ohm (*3)
14 GND
12
10
8 FUNCTION Load: 10Kohm (*1)
6 AUDIO_LEFT Load: 10Kohm
4 GND
2 AUDIO_RIGHT Load: 10Kohm
(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)
(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0-2V (SCART off). When the functional selection control signal level is 4.5-7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5-12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.
(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 IN_ACTIVE
0V 0V 3.3V
0V 3.3V 3.3V
3.3V 0V 3.3V
3.3V 3.3V 0V
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 VIDEO_4_3
0V 0V 3.3V
0V 3.3V 0V
3.3V 0V 0V
3.3V 3.3V 0V
Function detection and override
+3.3V
C21 100nC
GND
+3.3V
R40 4k7R
(*2)
+3.3V
R44 4k7R
FNC_IN1
FUNCTION
R38 10kR
R39 3kR
Q7 BC847
GND
R42 10kR
FNC_IN2
Q8 BC847
GND
R41 3kR
Jumper JP2
R43 1kR
GND
GND
force 4:3 mode
16:9 mode detect
Blanking signal buffer
+3.3V
BLANKING
R33 4k7R
R29 50R
Series equivalent to 75 ohms.
R30 25R
Q6 BC847
GND
GND
IN_ENABLED
74AHC1G08 U15
BLANKING
GND
+3.3V
FNC_IN1
FNC_IN2
(*4)
74AHC1G00 U16
IN_ACTIVE
GND
+3.3V
C22 100nC
GND
+3.3V
(*5)
74AHC1G02 U17
VIDEO_4_3
GND
+3.3V
C23 100nC
GND
Video signals buffer
VIDEO/RGB_SYNC
RED
GREEN
BLUE
C16 0.1uC
C17 0.1uC
C18 0.1uC
C19 0.1uC
+3.3V
C20 100nC
GND
+3.3V
U14 THS7374
CH1_IN
CH2_IN
CH3_IN
CH4_IN
DISABLE
BYPASS
Vs+
GND
CH1_OUT
CH2_OUT
CH3_OUT
CH4_OUT
R34 75R
R35 75R
R36 75R
R37 75R
VIDEO/RGB_SYNC
RED
GREEN
BLUE
R27 75R
R28 75R
R31 75R
R32 75R
GND GND GND GND
IN_ENABLED
AUDIO_LEFT
AUDIO_RIGHT
IN_ENABLED
AUDIO_LEFT
AUDIO_RIGHT
Sheet: /SCART input 2/
File: SCART_input.kicad_sch
Title:
Size: A4
Date:
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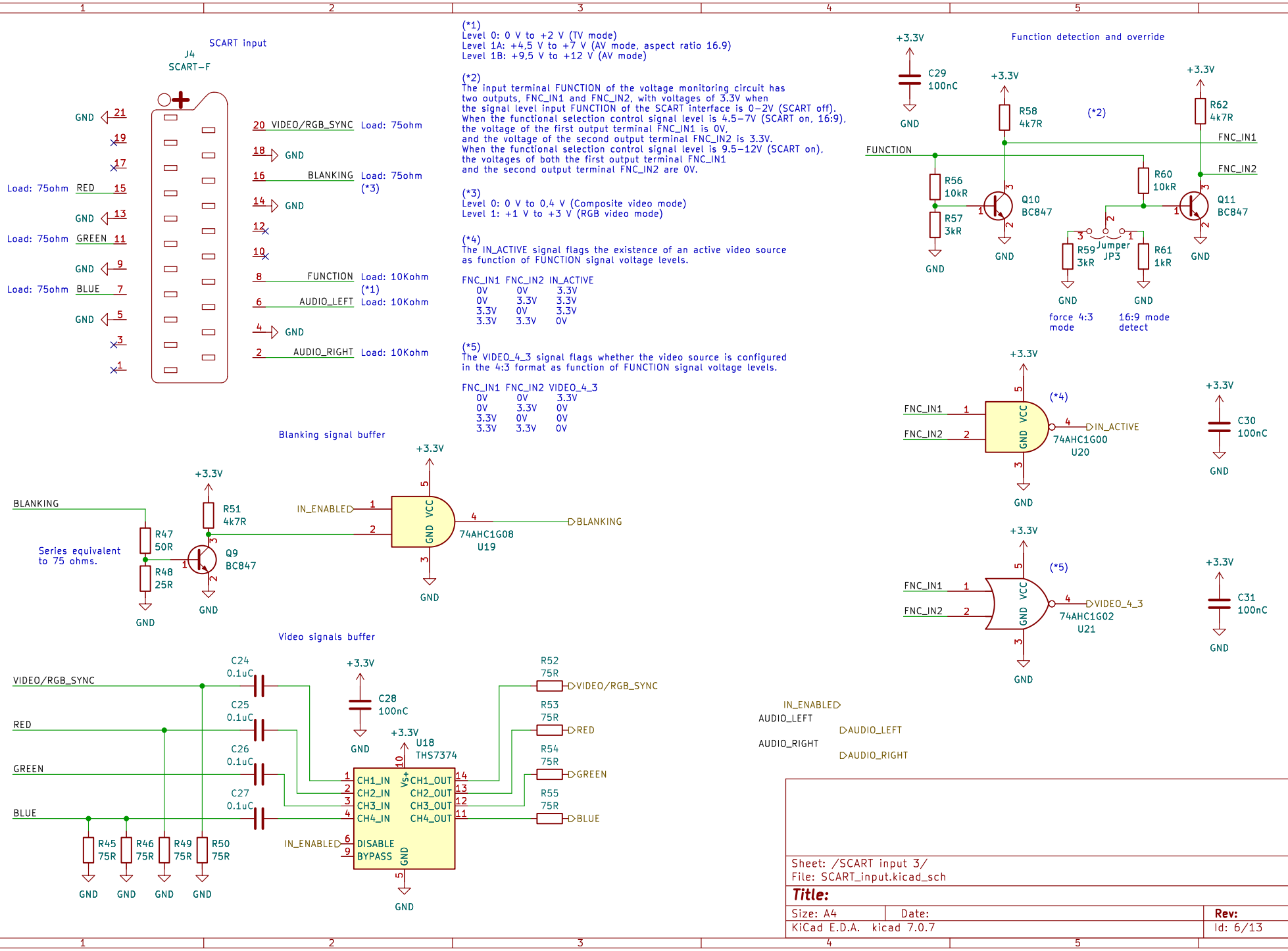

Sheet: /SCART input 3/
File: SCART_input.kicad_sch

Title:

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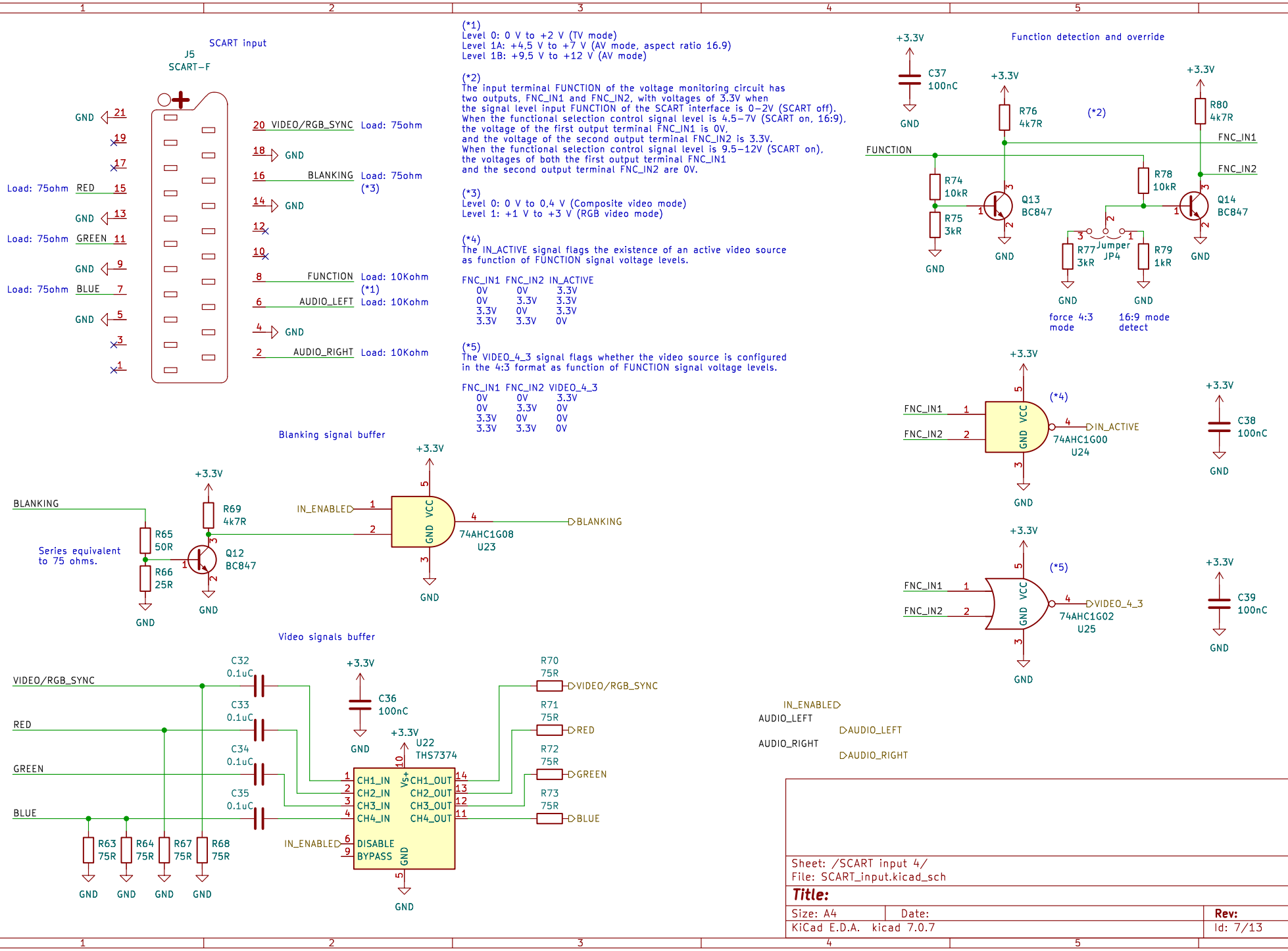
SCART input
J5
SCART-F
GND 21
19
17
Load: 75ohm RED 15
GND 13
Load: 75ohm GREEN 11
GND 9
Load: 75ohm BLUE 7
GND 5
3
1
20 VIDEO/RGB_SYNC Load: 75ohm
18 GND
16 BLANKING Load: 75ohm (*3)
14 GND
12
10
8 FUNCTION Load: 10Kohm (*1)
6 AUDIO_LEFT Load: 10Kohm
4 GND
2 AUDIO_RIGHT Load: 10Kohm
(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)
(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0-2V (SCART off). When the functional selection control signal level is 4.5-7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5-12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.
(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 IN_ACTIVE
0V 0V 3.3V
0V 3.3V 3.3V
3.3V 0V 3.3V
3.3V 3.3V 0V
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 VIDEO_4_3
0V 0V 3.3V
0V 3.3V 0V
3.3V 0V 0V
3.3V 3.3V 0V
Function detection and override
+3.3V
C37 100nC
GND
+3.3V
R76 4k7R
(*2)
+3.3V
R80 4k7R
FNC_IN1
FUNCTION
R74 10kR
R75 3kR
Q13 BC847
R78 10kR
FNC_IN2
Q14 BC847
R77 3kR
Jumper JP4
R79 1kR
GND
GND
GND
GND
force 4:3 mode
16:9 mode detect
Blanking signal buffer
+3.3V
BLANKING
R65 50R
Series equivalent to 75 ohms.
R66 25R
+3.3V
R69 4k7R
Q12 BC847
GND
GND
IN_ENABLED
74AHC1G08 U23
BLANKING
GND
Video signals buffer
VIDEO/RGB_SYNC
RED
GREEN
BLUE
C32 0.1uC
C33 0.1uC
C34 0.1uC
C35 0.1uC
+3.3V
C36 100nC
GND
+3.3V
U22 THS7374
CH1_IN
CH2_IN
CH3_IN
CH4_IN
DISABLE
BYPASS
Vs+
GND
CH1_OUT
CH2_OUT
CH3_OUT
CH4_OUT
IN_ENABLED
R63 75R
R64 75R
R67 75R
R68 75R
GND
GND
GND
GND
R70 75R
VIDEO/RGB_SYNC
R71 75R
RED
R72 75R
GREEN
R73 75R
BLUE
+3.3V
FNC_IN1
FNC_IN2
GND VCC
(*4)
IN_ACTIVE
74AHC1G00 U24
GND
+3.3V
C38 100nC
GND
+3.3V
FNC_IN1
FNC_IN2
GND VCC
(*5)
VIDEO_4_3
74AHC1G02 U25
GND
+3.3V
C39 100nC
GND
IN_ENABLED
AUDIO_LEFT
AUDIO_LEFT
AUDIO_RIGHT
AUDIO_RIGHT
Sheet: /SCART input 4/
File: SCART_input.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.7
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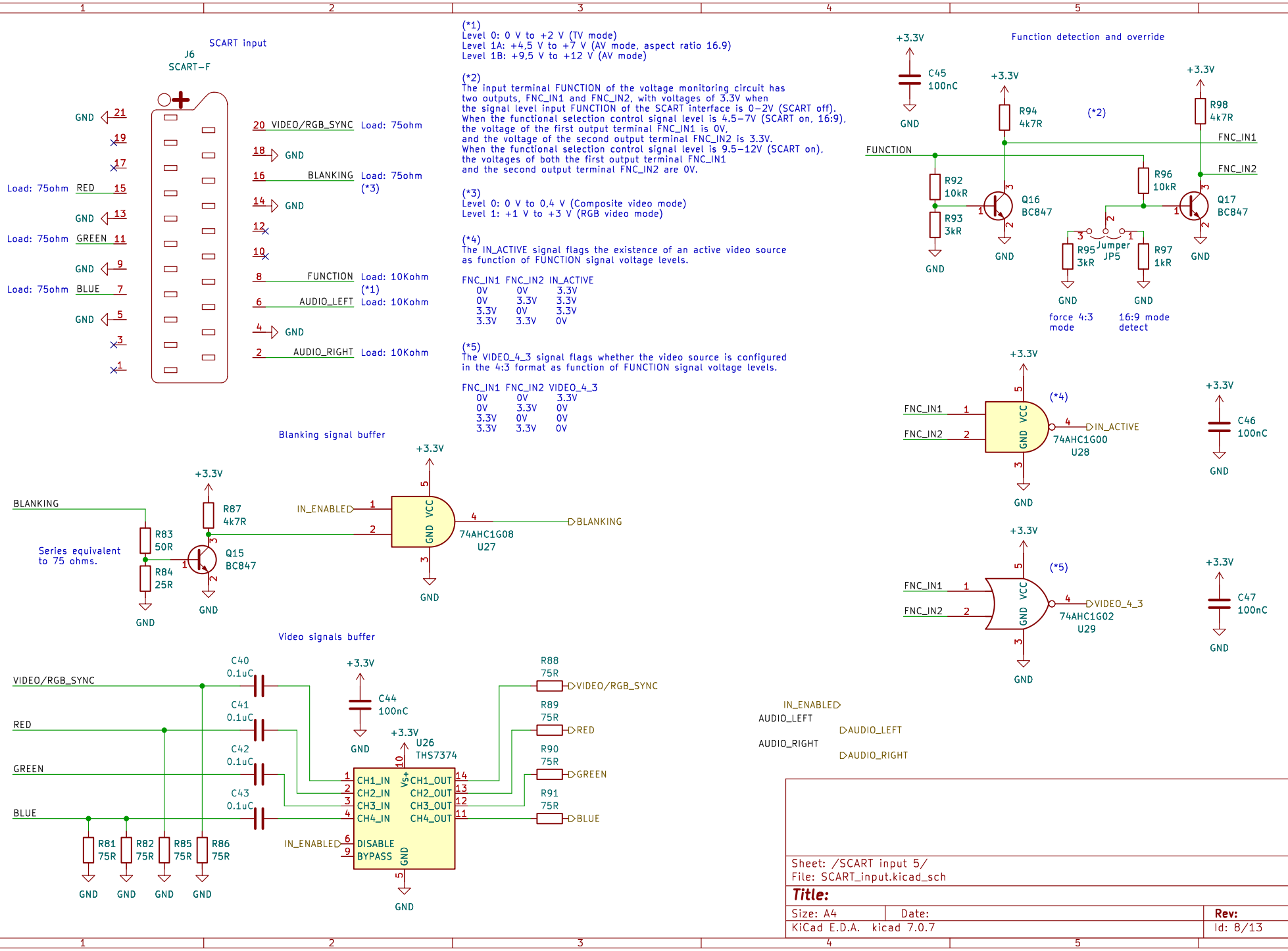

Sheet: /SCART input 5/		
File: SCART_input.kicad_sch		
Title:		
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SCART input

J7
SCART-F

GND	21	20	VIDEO/RGB_SYNC	Load: 75ohm
	19	18	GND	
	17	16	BLANKING	Load: 75ohm (*3)
Load: 75ohm RED	15	14	GND	
GND	13	12		
Load: 75ohm GREEN	11	10		
GND	9	8	FUNCTION	Load: 10Kohm (*1)
Load: 75ohm BLUE	7	6	AUDIO_LEFT	Load: 10Kohm
GND	5	4	GND	
	3	2	AUDIO_RIGHT	Load: 10Kohm
	1			

(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)

(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0-2V (SCART off). When the functional selection control signal level is 4.5-7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5-12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.

(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)

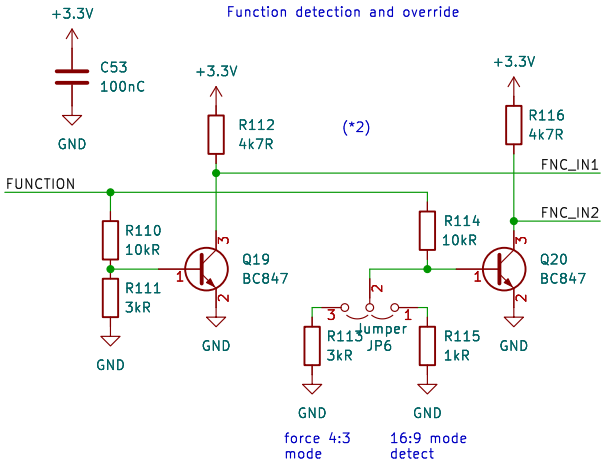
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.

FNC_IN1	FNC_IN2	IN_ACTIVE
0V	0V	3.3V
0V	3.3V	3.3V
3.3V	0V	3.3V
3.3V	3.3V	0V

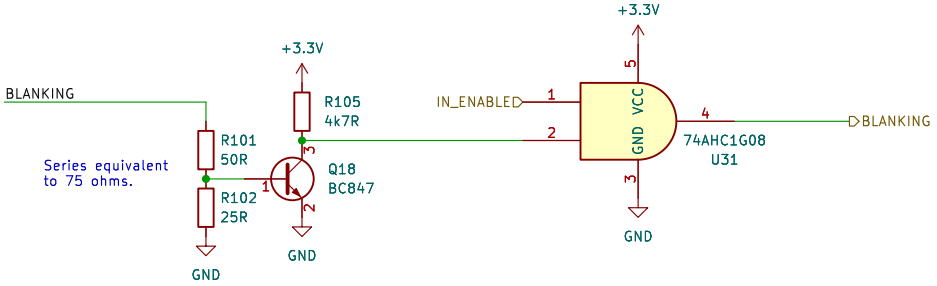
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.

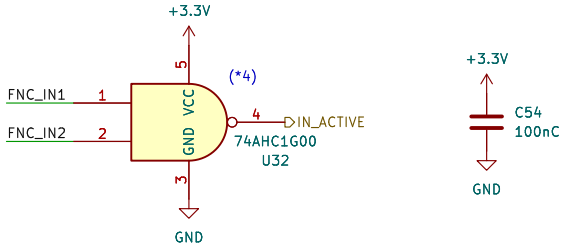
FNC_IN1	FNC_IN2	VIDEO_4_3
0V	0V	3.3V
0V	3.3V	0V
3.3V	0V	0V
3.3V	3.3V	0V

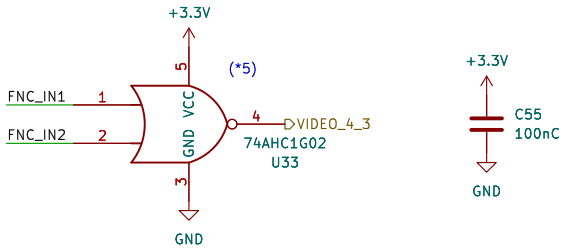
Function detection and override



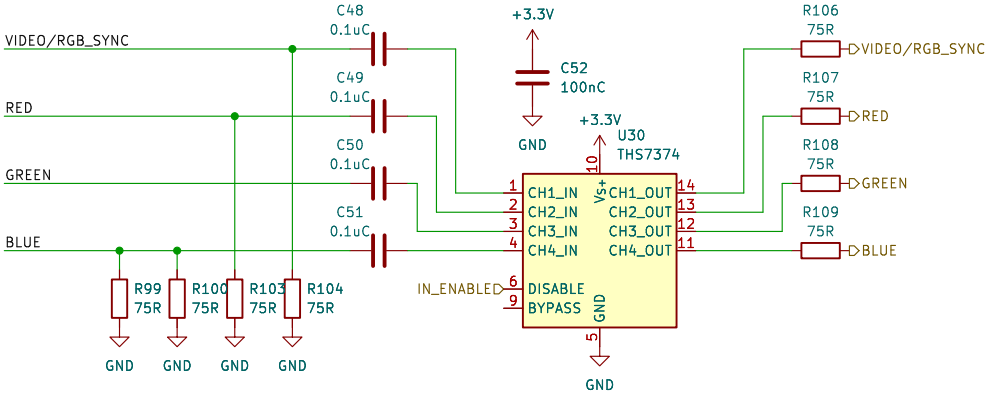
Blanking signal buffer







Video signals buffer



IN_ENABLED
AUDIO_LEFT
AUDIO_LEFT
AUDIO_RIGHT
AUDIO_RIGHT

Sheet: /SCART input 6/
File: SCART_input.kicad_sch

Title:

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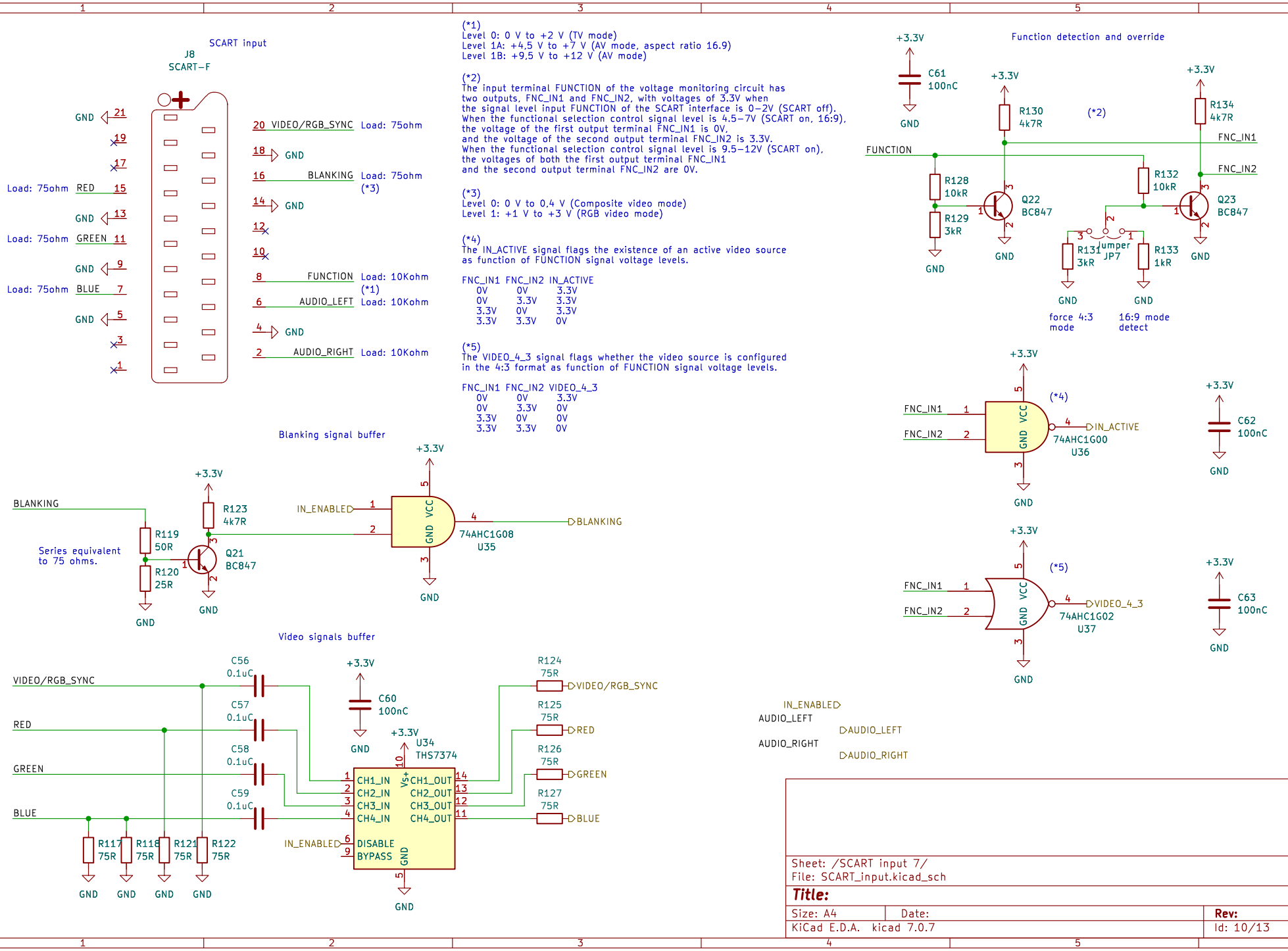
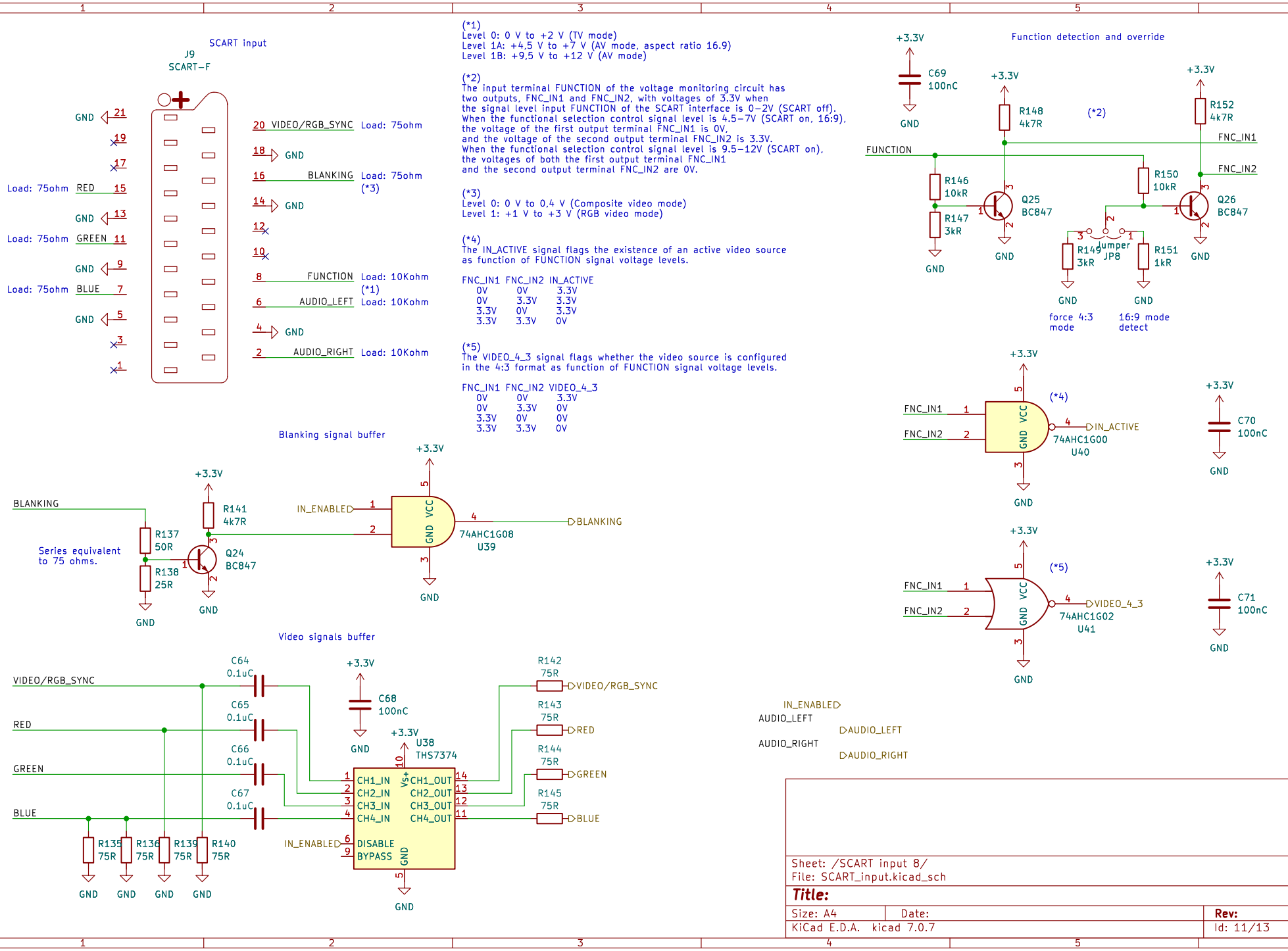
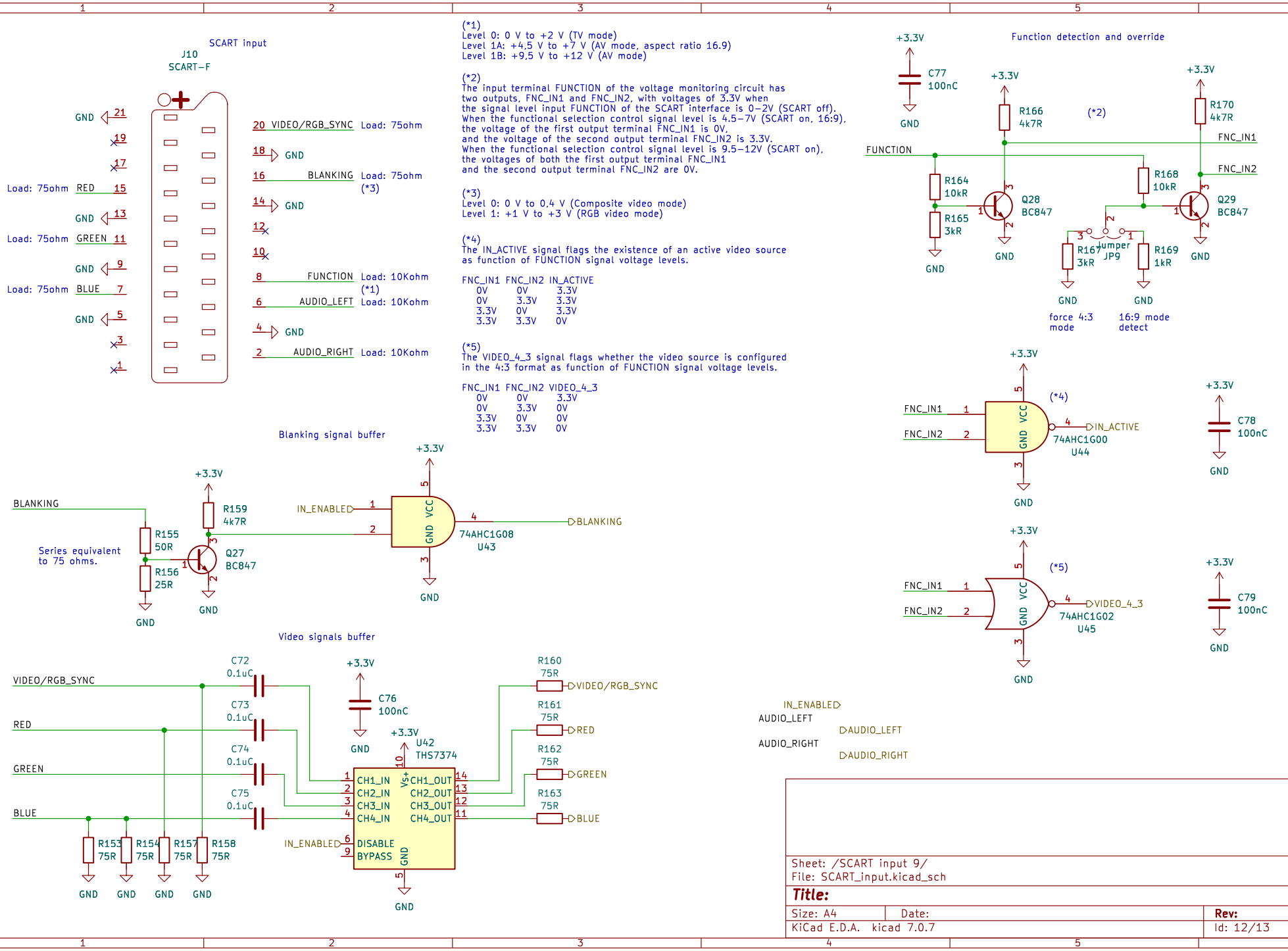

SCART input
J8
SCART-F
GND 21
19
17
Load: 75ohm RED 15
GND 13
Load: 75ohm GREEN 11
GND 9
Load: 75ohm BLUE 7
GND 5
3
1
20 VIDEO/RGB_SYNC Load: 75ohm
18 GND
16 BLANKING Load: 75ohm (*3)
14 GND
12
10
8 FUNCTION Load: 10Kohm (*1)
6 AUDIO_LEFT Load: 10Kohm
4 GND
2 AUDIO_RIGHT Load: 10Kohm
(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)
(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0-2V (SCART off). When the functional selection control signal level is 4.5-7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5-12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.
(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 IN_ACTIVE
0V 0V 3.3V
0V 3.3V 3.3V
3.3V 0V 3.3V
3.3V 3.3V 0V
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 VIDEO_4_3
0V 0V 3.3V
0V 3.3V 0V
3.3V 0V 0V
3.3V 3.3V 0V
Function detection and override
+3.3V
C61 100nC
GND
+3.3V
R130 4k7R
(*2)
+3.3V
R134 4k7R
FNC_IN1
FUNCTION
R128 10kR
R129 3kR
Q22 BC847
GND
R132 10kR
FNC_IN2
Q23 BC847
GND
R131 3kR
jumper JP7
R133 1kR
GND
GND
force 4:3 mode
16:9 mode detect
Blanking signal buffer
+3.3V
BLANKING
R123 4k7R
R119 50R
Series equivalent to 75 ohms.
R120 25R
Q21 BC847
GND
GND
+3.3V
IN_ENABLED
74AHC1G08 U35
BLANKING
GND
Video signals buffer
VIDEO/RGB_SYNC
RED
GREEN
BLUE
C56 0.1uC
C57 0.1uC
C58 0.1uC
C59 0.1uC
C60 100nC
+3.3V
GND
+3.3V
U34 THS7374
CH1_IN
CH2_IN
CH3_IN
CH4_IN
DISABLE
BYPASS
Vs+
GND
CH1_OUT
CH2_OUT
CH3_OUT
CH4_OUT
IN_ENABLED
R124 75R
R125 75R
R126 75R
R127 75R
VIDEO/RGB_SYNC
RED
GREEN
BLUE
R117 75R
R118 75R
R121 75R
R122 75R
GND GND GND GND
+3.3V
(*4)
FNC_IN1
FNC_IN2
74AHC1G00 U36
IN_ACTIVE
GND
+3.3V
C62 100nC
GND
+3.3V
(*5)
FNC_IN1
FNC_IN2
74AHC1G02 U37
VIDEO_4_3
GND
+3.3V
C63 100nC
GND
IN_ENABLED
AUDIO_LEFT
AUDIO_LEFT
AUDIO_RIGHT
AUDIO_RIGHT
Sheet: /SCART input 7/
File: SCART_input.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.7
Id: 10/13


SCART input
J9
SCART-F
GND 21
19
17
Load: 75ohm RED 15
GND 13
Load: 75ohm GREEN 11
GND 9
Load: 75ohm BLUE 7
GND 5
3
1
20 VIDEO/RGB_SYNC Load: 75ohm
18 GND
16 BLANKING Load: 75ohm (*3)
14 GND
12
10
8 FUNCTION Load: 10Kohm (*1)
6 AUDIO_LEFT Load: 10Kohm
4 GND
2 AUDIO_RIGHT Load: 10Kohm
(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)
(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0-2V (SCART off). When the functional selection control signal level is 4.5-7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5-12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.
(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 IN_ACTIVE
0V 0V 3.3V
0V 3.3V 3.3V
3.3V 0V 3.3V
3.3V 3.3V 0V
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 VIDEO_4_3
0V 0V 3.3V
0V 3.3V 0V
3.3V 0V 0V
3.3V 3.3V 0V
Function detection and override
+3.3V
C69 100nC
GND
+3.3V
R148 4k7R
(*2)
+3.3V
R152 4k7R
FNC_IN1
FUNCTION
R146 10kR
R147 3kR
Q25 BC847
R150 10kR
FNC_IN2
Q26 BC847
R149 3kR
jumper JP8
R151 1kR
GND
GND
GND
force 4:3 mode
16:9 mode detect
Blanking signal buffer
+3.3V
BLANKING
R141 4k7R
R137 50R
Series equivalent to 75 ohms.
R138 25R
Q24 BC847
IN_ENABLED
74AHC1G08 U39
BLANKING
GND
Video signals buffer
VIDEO/RGB_SYNC
RED
GREEN
BLUE
C64 0.1uC
C65 0.1uC
C66 0.1uC
C67 0.1uC
C68 100nC
U38 THS7374
CH1_IN
CH2_IN
CH3_IN
CH4_IN
DISABLE
BYPASS
Vs+
GND
CH1_OUT
CH2_OUT
CH3_OUT
CH4_OUT
R142 75R
R143 75R
R144 75R
R145 75R
R135 75R
R136 75R
R139 75R
R140 75R
IN_ENABLED
AUDIO_LEFT
AUDIO_RIGHT
+3.3V
FNC_IN1
FNC_IN2
(*4)
74AHC1G00 U40
IN_ACTIVE
C70 100nC
(*5)
74AHC1G02 U41
VIDEO_4_3
C71 100nC
Sheet: /SCART input 8/
File: SCART_input.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.7
Id: 11/13


SCART input
J10
SCART-F
GND 21
19
17
Load: 75ohm RED 15
GND 13
Load: 75ohm GREEN 11
GND 9
Load: 75ohm BLUE 7
GND 5
3
1
20 VIDEO/RGB_SYNC Load: 75ohm
18 GND
16 BLANKING Load: 75ohm (*3)
14 GND
12
10
8 FUNCTION Load: 10Kohm (*1)
6 AUDIO_LEFT Load: 10Kohm
4 GND
2 AUDIO_RIGHT Load: 10Kohm
(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)
(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0–2V (SCART off). When the functional selection control signal level is 4.5–7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5–12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.
(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 IN_ACTIVE
0V 0V 3.3V
0V 3.3V 3.3V
3.3V 0V 3.3V
3.3V 3.3V 0V
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 VIDEO_4_3
0V 0V 3.3V
0V 3.3V 0V
3.3V 0V 0V
3.3V 3.3V 0V
Function detection and override
+3.3V
C77 100nC
GND
+3.3V
R166 4k7R
(*2)
+3.3V
R170 4k7R
FNC_IN1
FUNCTION
R164 10kR
R165 3kR
Q28 BC847
GND
R168 10kR
FNC_IN2
Q29 BC847
GND
R167 3kR
jumper JP9
R169 1kR
GND
GND
force 4:3 mode
16:9 mode detect
Blanking signal buffer
+3.3V
BLANKING
R159 4k7R
R155 50R
Series equivalent to 75 ohms.
R156 25R
Q27 BC847
GND
GND
IN_ENABLED
74AHC1G08 U43
BLANKING
+3.3V
GND
Video signals buffer
VIDEO/RGB_SYNC
RED
GREEN
BLUE
C72 0.1uC
C73 0.1uC
C74 0.1uC
C75 0.1uC
C76 100nC
+3.3V
GND
+3.3V
U42 THS7374
CH1_IN
CH2_IN
CH3_IN
CH4_IN
DISABLE
BYPASS
Vs+
GND
CH1_OUT
CH2_OUT
CH3_OUT
CH4_OUT
R160 75R
R161 75R
R162 75R
R163 75R
VIDEO/RGB_SYNC
RED
GREEN
BLUE
IN_ENABLED
R153 75R
R154 75R
R157 75R
R158 75R
GND GND GND GND
+3.3V
(*4)
FNC_IN1
FNC_IN2
GND VCC
74AHC1G00 U44
IN_ACTIVE
+3.3V
C78 100nC
GND
GND
+3.3V
(*5)
FNC_IN1
FNC_IN2
GND VCC
74AHC1G02 U45
VIDEO_4_3
+3.3V
C79 100nC
GND
GND
IN_ENABLED
AUDIO_LEFT
AUDIO_RIGHT
AUDIO_LEFT
AUDIO_RIGHT
Sheet: /SCART input 9/
File: SCART_input.kicad_sch
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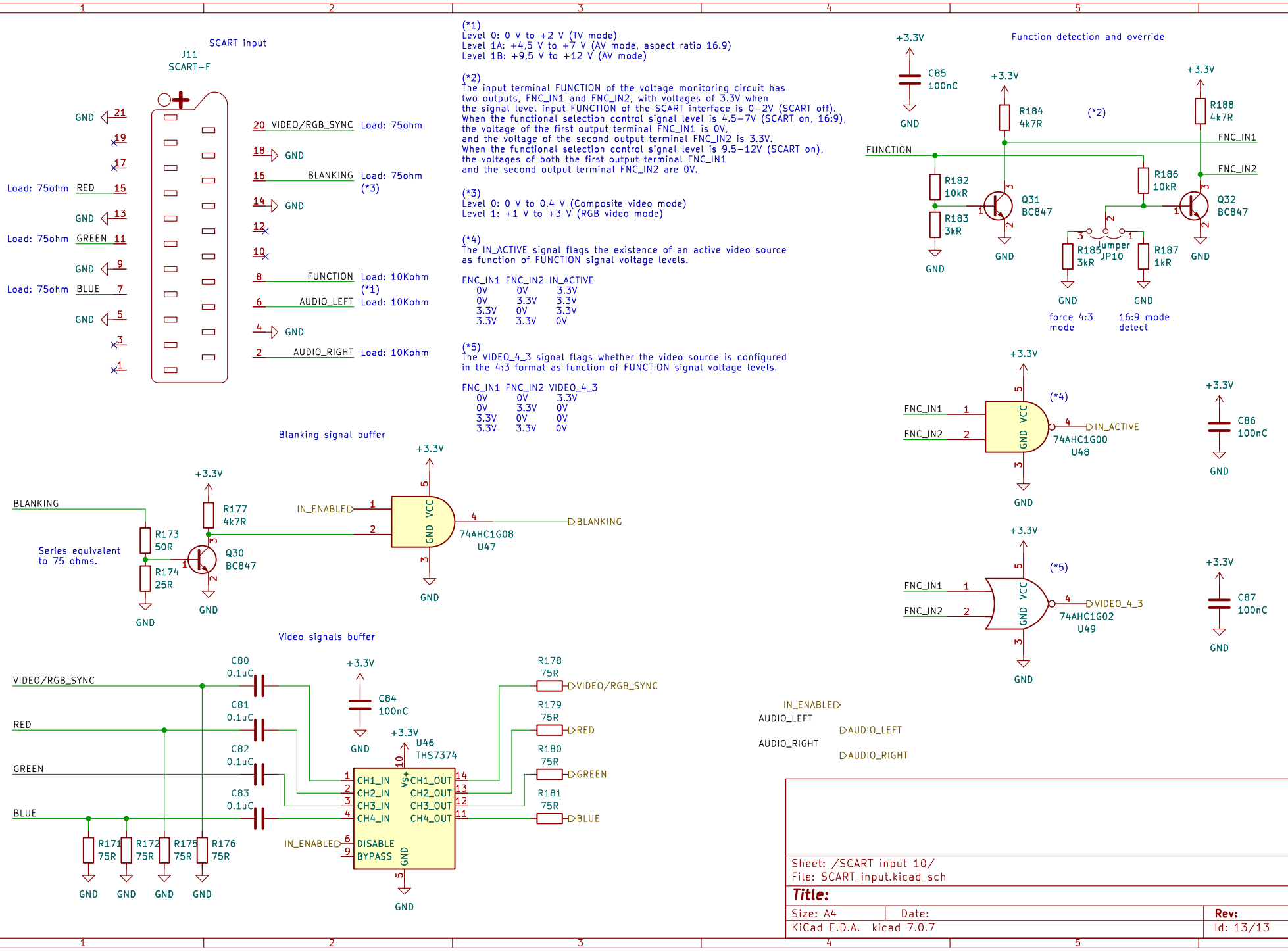
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.7
Id: 12/13


SCART input
J11
SCART-F
GND 21
19
17
Load: 75ohm RED 15
GND 13
Load: 75ohm GREEN 11
GND 9
Load: 75ohm BLUE 7
GND 5
3
1
20 VIDEO/RGB_SYNC Load: 75ohm
18 GND
16 BLANKING Load: 75ohm (*3)
14 GND
12
10
8 FUNCTION Load: 10Kohm (*1)
6 AUDIO_LEFT Load: 10Kohm
4 GND
2 AUDIO_RIGHT Load: 10Kohm
(*1)
Level 0: 0 V to +2 V (TV mode)
Level 1A: +4,5 V to +7 V (AV mode, aspect ratio 16.9)
Level 1B: +9,5 V to +12 V (AV mode)
(*2)
The input terminal FUNCTION of the voltage monitoring circuit has two outputs, FNC_IN1 and FNC_IN2, with voltages of 3.3V when the signal level input FUNCTION of the SCART interface is 0–2V (SCART off). When the functional selection control signal level is 4.5–7V (SCART on, 16:9), the voltage of the first output terminal FNC_IN1 is 0V, and the voltage of the second output terminal FNC_IN2 is 3.3V. When the functional selection control signal level is 9.5–12V (SCART on), the voltages of both the first output terminal FNC_IN1 and the second output terminal FNC_IN2 are 0V.
(*3)
Level 0: 0 V to 0,4 V (Composite video mode)
Level 1: +1 V to +3 V (RGB video mode)
(*4)
The IN_ACTIVE signal flags the existence of an active video source as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 IN_ACTIVE
0V 0V 3.3V
0V 3.3V 3.3V
3.3V 0V 3.3V
3.3V 3.3V 0V
(*5)
The VIDEO_4_3 signal flags whether the video source is configured in the 4:3 format as function of FUNCTION signal voltage levels.
FNC_IN1 FNC_IN2 VIDEO_4_3
0V 0V 3.3V
0V 3.3V 0V
3.3V 0V 0V
3.3V 3.3V 0V
Function detection and override
+3.3V
C85 100nC
GND
+3.3V
R184 4k7R
(*2)
+3.3V
R188 4k7R
FNC_IN1
FUNCTION
R182 10kR
R183 3kR
Q31 BC847
R186 10kR
FNC_IN2
Q32 BC847
R185 3kR
Jumper JP10
R187 1kR
GND
GND
GND
GND
force 4:3 mode
16:9 mode detect
Blanking signal buffer
+3.3V
BLANKING
R177 4k7R
R173 50R
Series equivalent to 75 ohms.
R174 25R
Q30 BC847
IN_ENABLED
74AHC1G08 U47
BLANKING
GND
GND
GND
+3.3V
FNC_IN1
FNC_IN2
(*4)
74AHC1G00 U48
IN_ACTIVE
GND
+3.3V
C86 100nC
GND
+3.3V
(*5)
FNC_IN1
FNC_IN2
74AHC1G02 U49
VIDEO_4_3
GND
+3.3V
C87 100nC
GND
Video signals buffer
VIDEO/RGB_SYNC
RED
GREEN
BLUE
C80 0.1uC
C81 0.1uC
C82 0.1uC
C83 0.1uC
+3.3V
C84 100nC
GND
+3.3V
U46 THS7374
CH1_IN
CH2_IN
CH3_IN
CH4_IN
DISABLE
BYPASS
Vs+
GND
CH1_OUT
CH2_OUT
CH3_OUT
CH4_OUT
R178 75R
R179 75R
R180 75R
R181 75R
VIDEO/RGB_SYNC
RED
GREEN
BLUE
IN_ENABLED
R171 75R
R172 75R
R175 75R
R176 75R
GND
GND
GND
GND
GND
IN_ENABLED
AUDIO_LEFT
AUDIO_RIGHT
AUDIO_LEFT
AUDIO_RIGHT
Sheet: /SCART input 10/
File: SCART_input.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.7
Id: 13/13