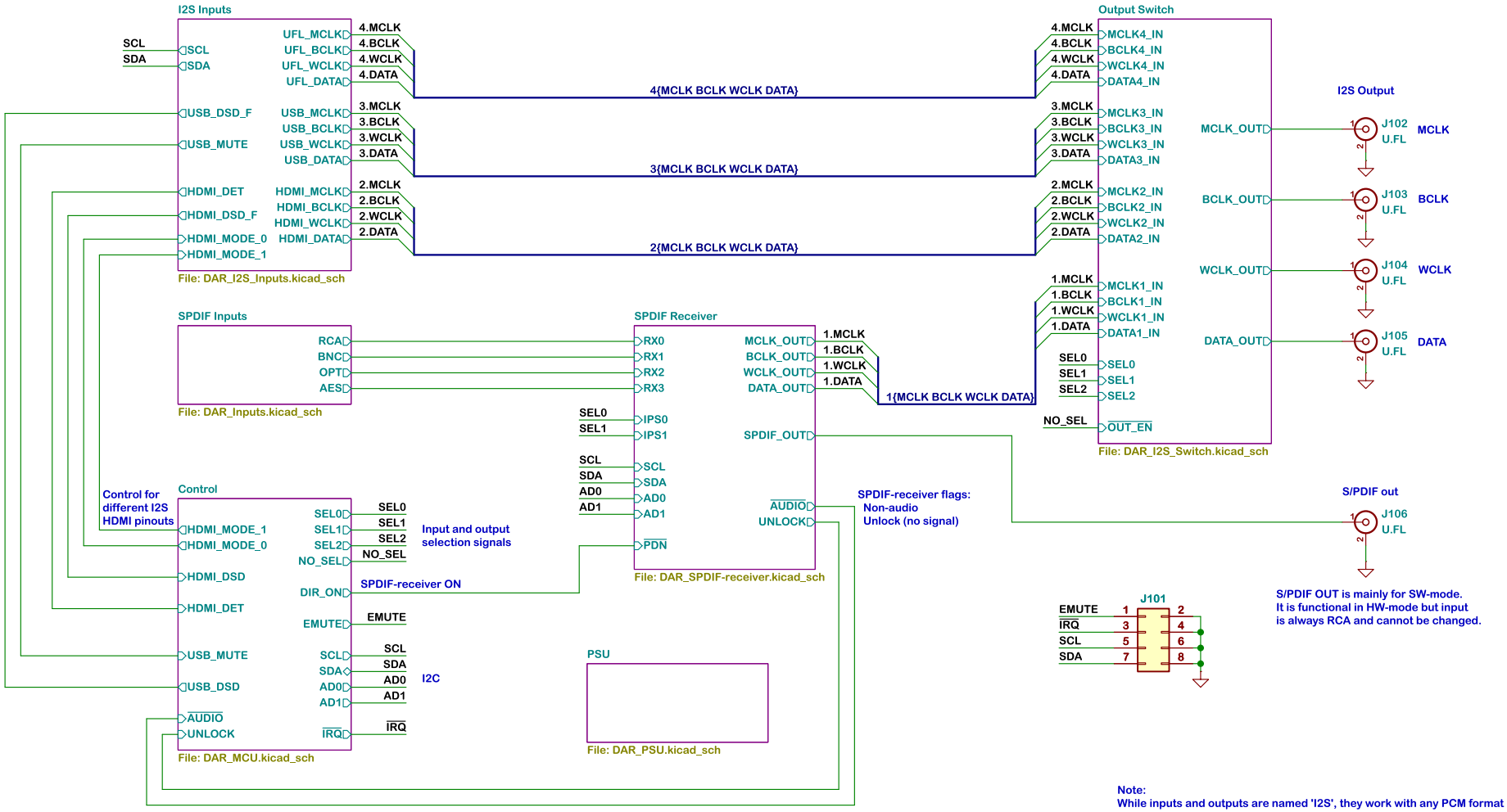
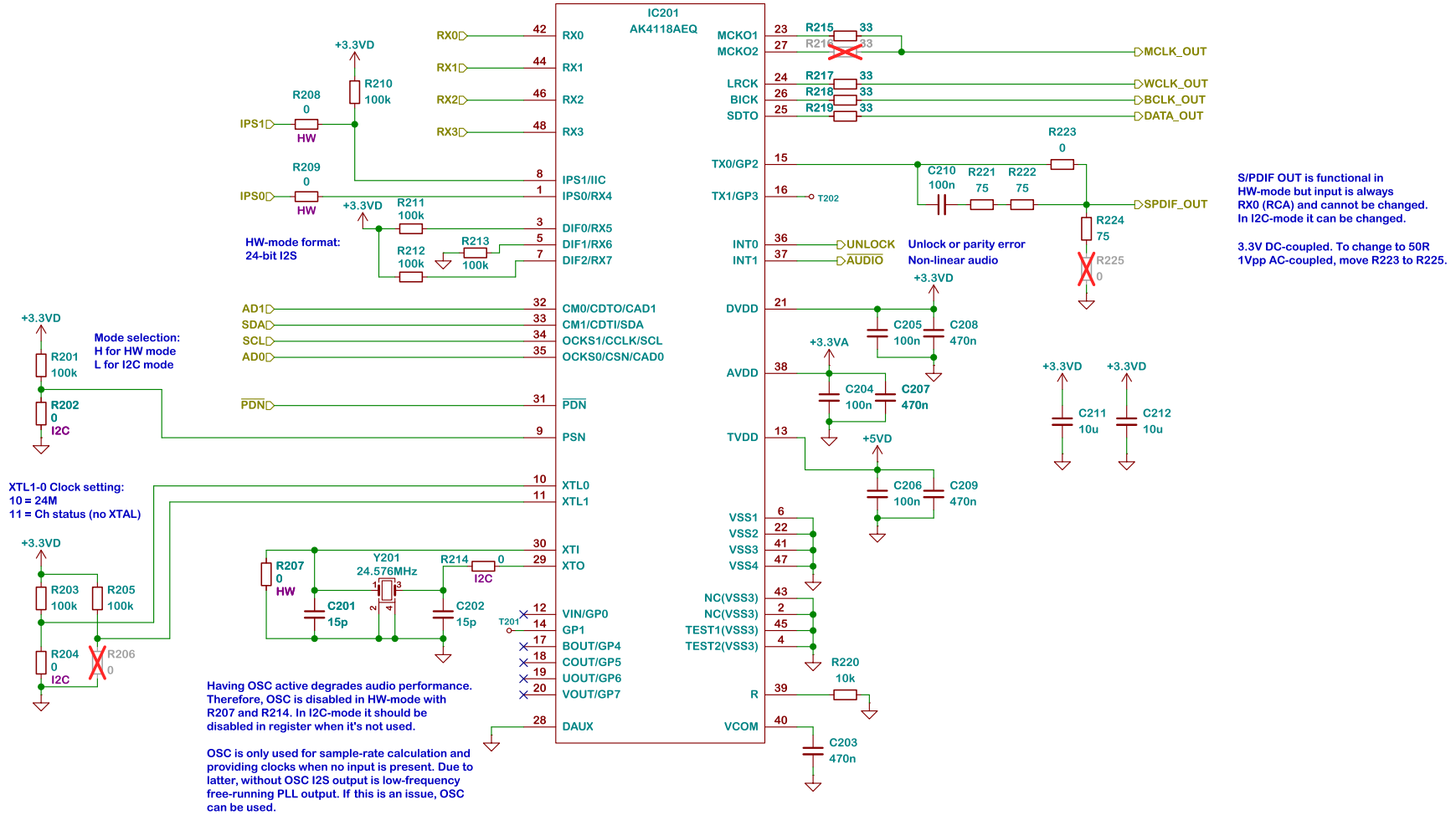
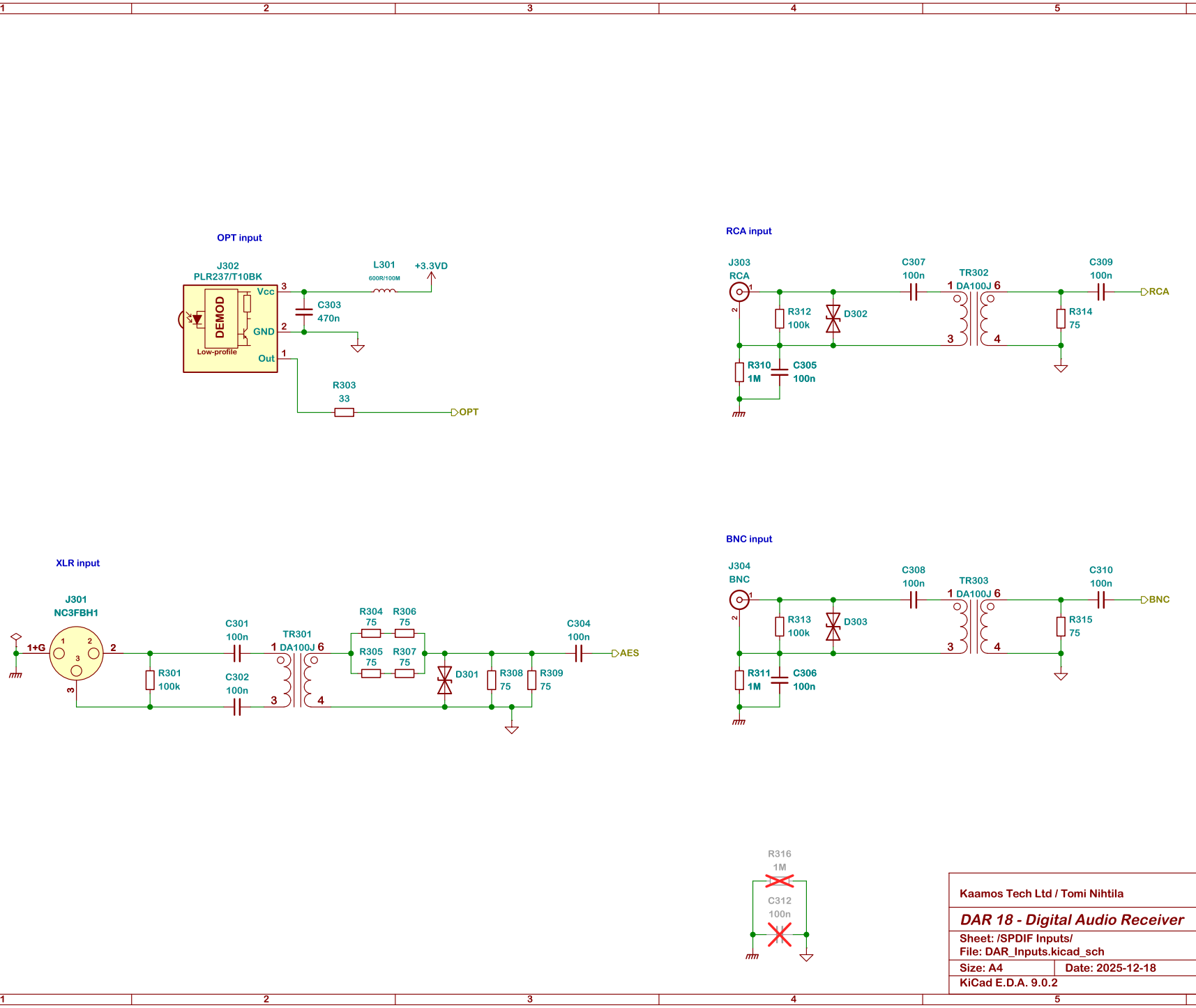
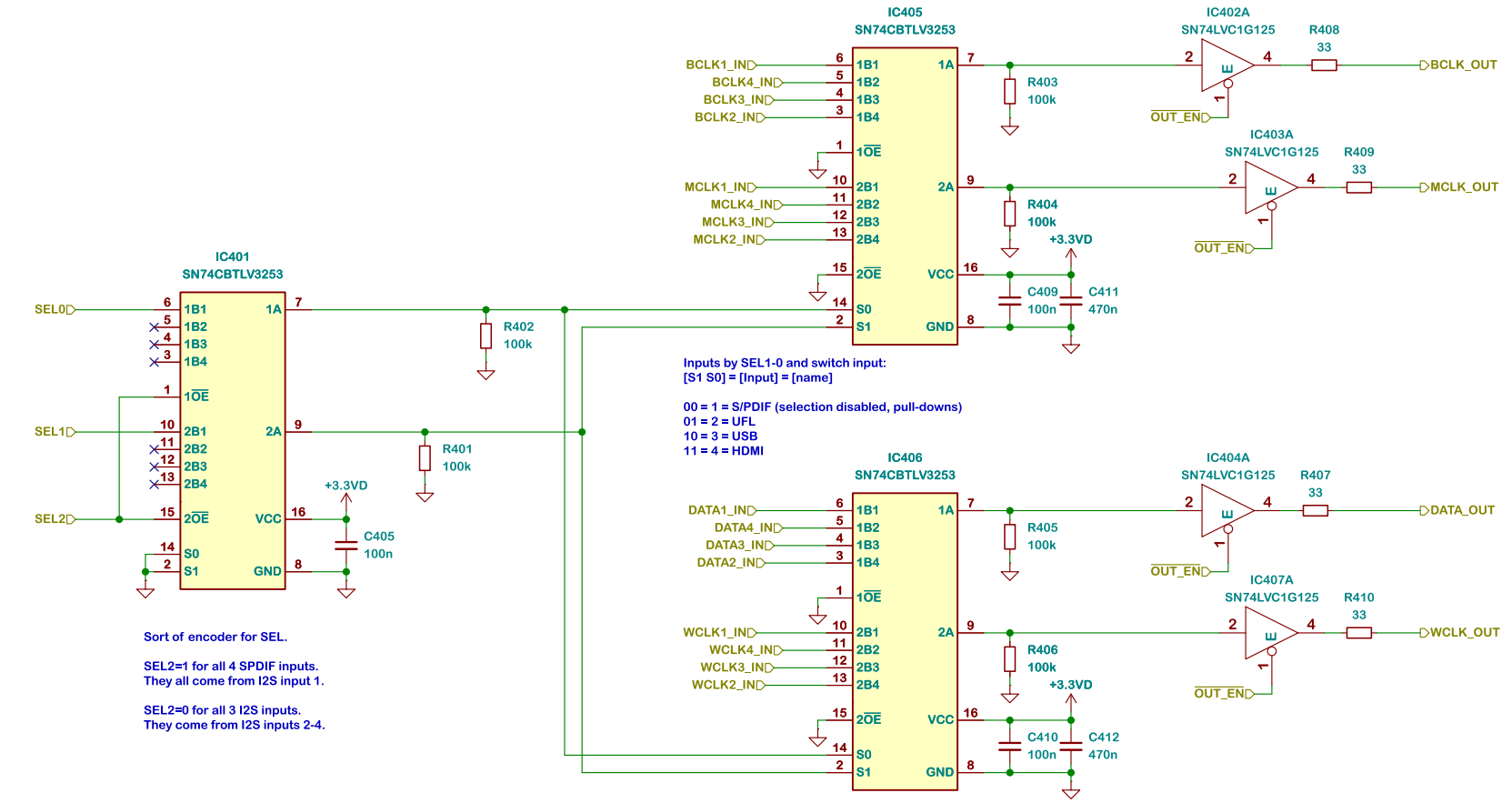


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DAR 18 - Digital Audio Receiver		
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Size: A4	Date: 2025-12-18	Rev: v2.2
KiCad E.D.A. 9.0.2		Id: 1/7

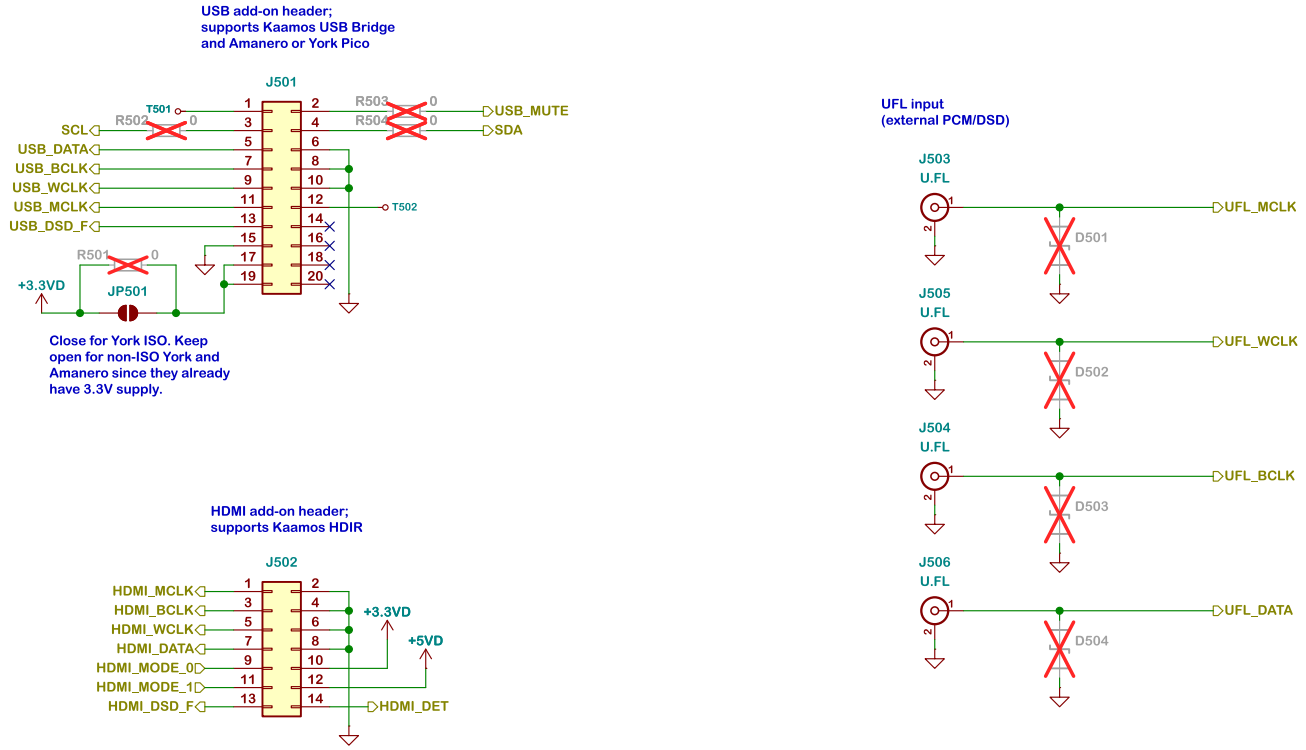


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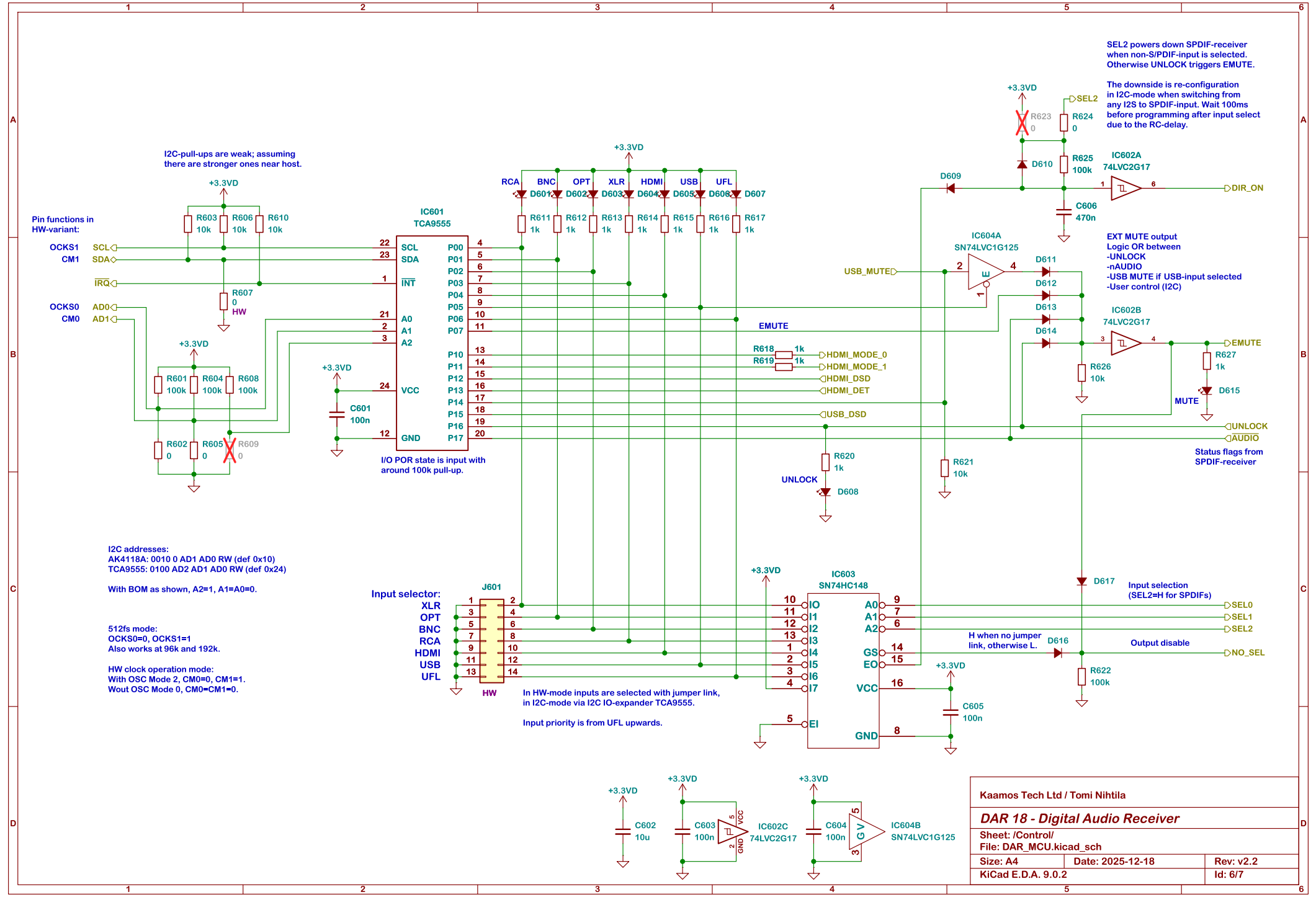

OPT input
J302
PLR237/T10BK
DEMOD
Low-profile
Vcc
GND
Out
3
2
1
L301
600R/100M
+3.3VD
C303
470n
R303
33
OPT
RCA input
J303
RCA
C307
100n
TR302
DA100J
R312
100k
D302
R310
1M
C305
100n
C309
100n
R314
75
RCA
XLR input
J301
NC3FBH1
1+G
2
3
R301
100k
C301
100n
C302
100n
TR301
DA100J
R304
75
R306
75
R305
75
R307
75
D301
R308
75
R309
75
C304
100n
AES
BNC input
J304
BNC
C308
100n
TR303
DA100J
R313
100k
D303
R311
1M
C306
100n
C310
100n
R315
75
BNC
R316
1M
C312
100n
Kaamos Tech Ltd / Tomi Nihtila
DAR 18 - Digital Audio Receiver
Sheet: /SPDIF Inputs/
File: DAR_Inputs.kicad_sch
Size: A4
Date: 2025-12-18
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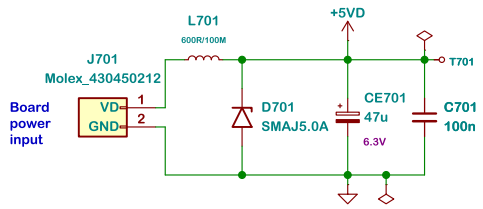
Kaamos Tech Ltd / Tomi Nihtila		
DAR 18 - Digital Audio Receiver		
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Size: A4	Date: 2025-12-18	Rev: v2.2
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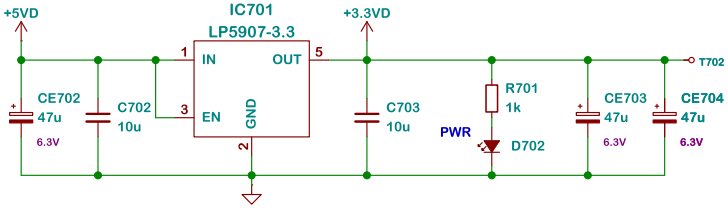
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DAR 18 - Digital Audio Receiver		
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Size: A4	Date: 2025-12-18	Rev: v2.2
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I2C-pull-ups are weak; assuming there are stronger ones near host.
Pin functions in HW-variant:
OCKS1
CM1
OCKS0
CM0
SCL
SDA
IRQ
AD0
AD1
+3.3VD
R603 10k
R606 10k
R610 10k
R607 0 HW
R601 100k
R604 100k
R608 100k
R602 0
R605 0
R609 0
IC601
TCA9555
SCL
SDA
INT
A0
A1
A2
VCC
GND
P00
P01
P02
P03
P04
P05
P06
P07
P10
P11
P12
P13
P14
P15
P16
P17
C601 100n
I/O POR state is input with around 100k pull-up.
RCA
BNC
OPT
XLR
HDMI
USB
UFL
D601
D602
D603
D604
D605
D606
D607
R611 1k
R612 1k
R613 1k
R614 1k
R615 1k
R616 1k
R617 1k
EMUTE
R618 1k
R619 1k
HDMI_MODE_0
HDMI_MODE_1
HDMI_DSD
HDMI_DET
USB_DSD
R620 1k
UNLOCK
D608
R621 10k
SEL2 powers down SPDIF-receiver when non-S/PDIF-input is selected. Otherwise UNLOCK triggers EMUTE.
The downside is re-configuration in I2C-mode when switching from any I2S to SPDIF-input. Wait 100ms before programming after input select due to the RC-delay.
R623 0
R624 0
D610
R625 100k
IC602A
74LVC2G17
D609
DIR_ON
C606 470n
IC604A
SN74LVC1G125
USB_MUTE
D611
D612
D613
D614
EXT MUTE output
Logic OR between
-UNLOCK
-nAUDIO
-USB MUTE if USB-input selected
-User control (I2C)
IC602B
74LVC2G17
EMUTE
R627 1k
D615
MUTE
R626 10k
UNLOCK
AUDIO
Status flags from SPDIF-receiver
I2C addresses:
AK4118A: 0010 0 AD1 AD0 RW (def 0x10)
TCA9555: 0100 AD2 AD1 AD0 RW (def 0x24)
With BOM as shown, A2=1, A1=A0=0.
512fs mode:
OCKS0=0, OCKS1=1
Also works at 96k and 192k.
HW clock operation mode:
With OSC Mode 2, CM0=0, CM1=1.
Wout OSC Mode 0, CM0=CM1=0.
Input selector:
XLR
OPT
BNC
RCA
HDMI
USB
UFL
J601
HW
In HW-mode inputs are selected with jumper link, in I2C-mode via I2C IO-expander TCA9555.
Input priority is from UFL upwards.
IC603
SN74HC148
I0
I1
I2
I3
I4
I5
I6
I7
EI
A0
A1
A2
GS
EO
VCC
GND
C605 100n
D617
Input selection (SEL2=H for SPDIFs)
SEL0
SEL1
SEL2
H when no jumper link, otherwise L.
D616
Output disable
NO_SEL
R622 100k
C602 10u
C603 100n
IC602C
74LVC2G17
C604 100n
IC604B
SN74LVC1G125
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DAR 18 - Digital Audio Receiver
Sheet: /Control/
File: DAR_MCU.kicad_sch
Size: A4
Date: 2025-12-18
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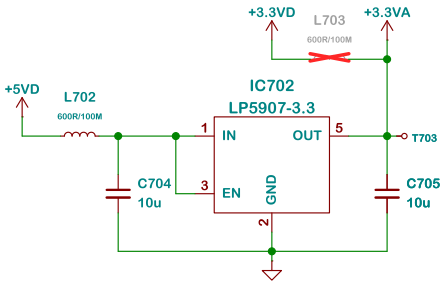
S/PDIF-receiver
input buffer uses 5V



Digital
supply



S/PDIF-receiver
analog supply



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DAR 18 - Digital Audio Receiver		
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