bus

File: bus.kicad_sch

VDP

File: VDP.kicad_sch

GAL

File: GAL.kicad_sch

IO

File: IO.kicad_sch

Amplifier

File: Amplifier.kicad_sch

power

File: power.kicad_sch

PSG

File: PSG.kicad_sch

buffers

File: buffers.kicad_sch

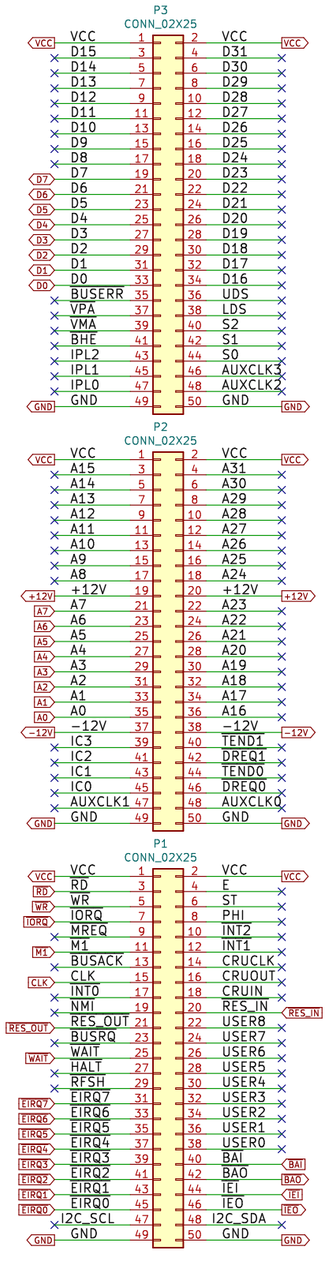
ACR

File: ACR.kicad_sch

Sheet: /
File: input-output.Media.kicad_sch

Title:

Size: B	Date:	**Rev:**
KiCad E.D.A. kicad (6.0.11)		Id: 1/10



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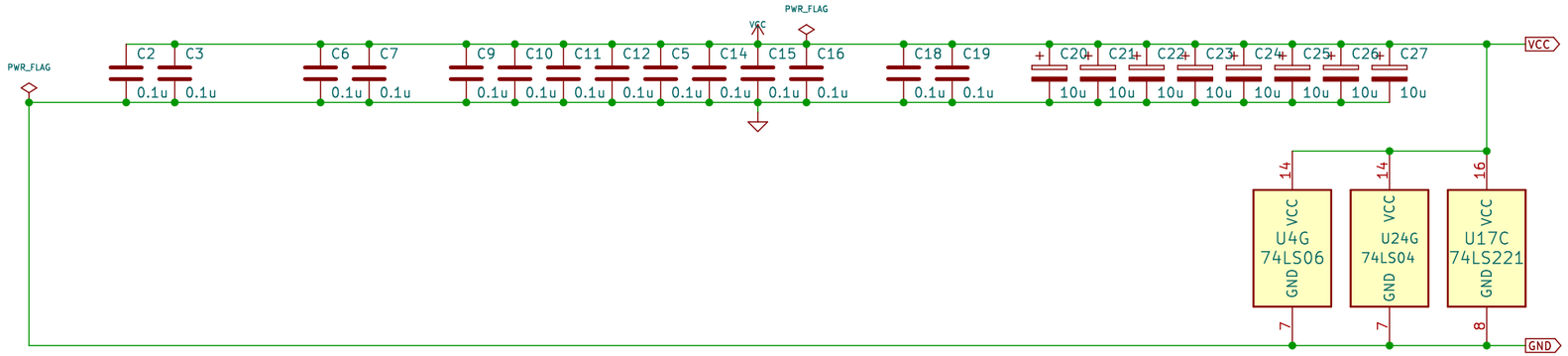
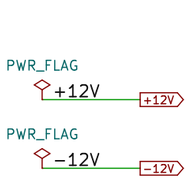
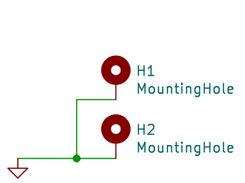
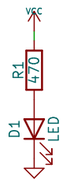
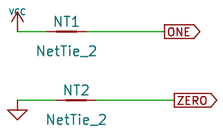
Title:		
Size: B	Date:	**Rev:**
KiCad E.D.A. kicad (6.0.11)		Id: 2/10











Spare Components

Sheet: /power/		
File: power.kicad_sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (6.0.11)		Id: 3/10

NOTE: $\overline{\text{WAIT}}$ SIGNAL ONLY
WORKS ON V9938 NOT V9938

NOTE: $\overline{\text{WAIT}}$ RELIES ON 4700 OHM
PULL UP RESISTOR ON PROCESSOR

NOTE: INTERRUPTS RELY ON 4700
OHM PULL UP RESISTOR ON PROCESSOR

**WARNING: DO NOT SET JP3 PINS 1–2
FOR V9938 OR WILL DAMAGE/DESTROY
V9938. JP3 PINS 1–2 FOR V9958 ONLY**

Vertical and Horizontal Sync Circuit

SYNC POLARITY SELECTORS

TO VGA CONNECTOR (PLUS GROUNDS)

Composite Sync Circuit

NOTE: SYNCIN IS
$\overline{\text{CSYNC}}$ TTL LEVEL
V9938 OR V9958

**V9938: JP3: NONE; JP1: 1–2;
V9958: JP3: 1–2; JP1: 2–3;
(Use a wire link)**

Install Q1 only
for V9938

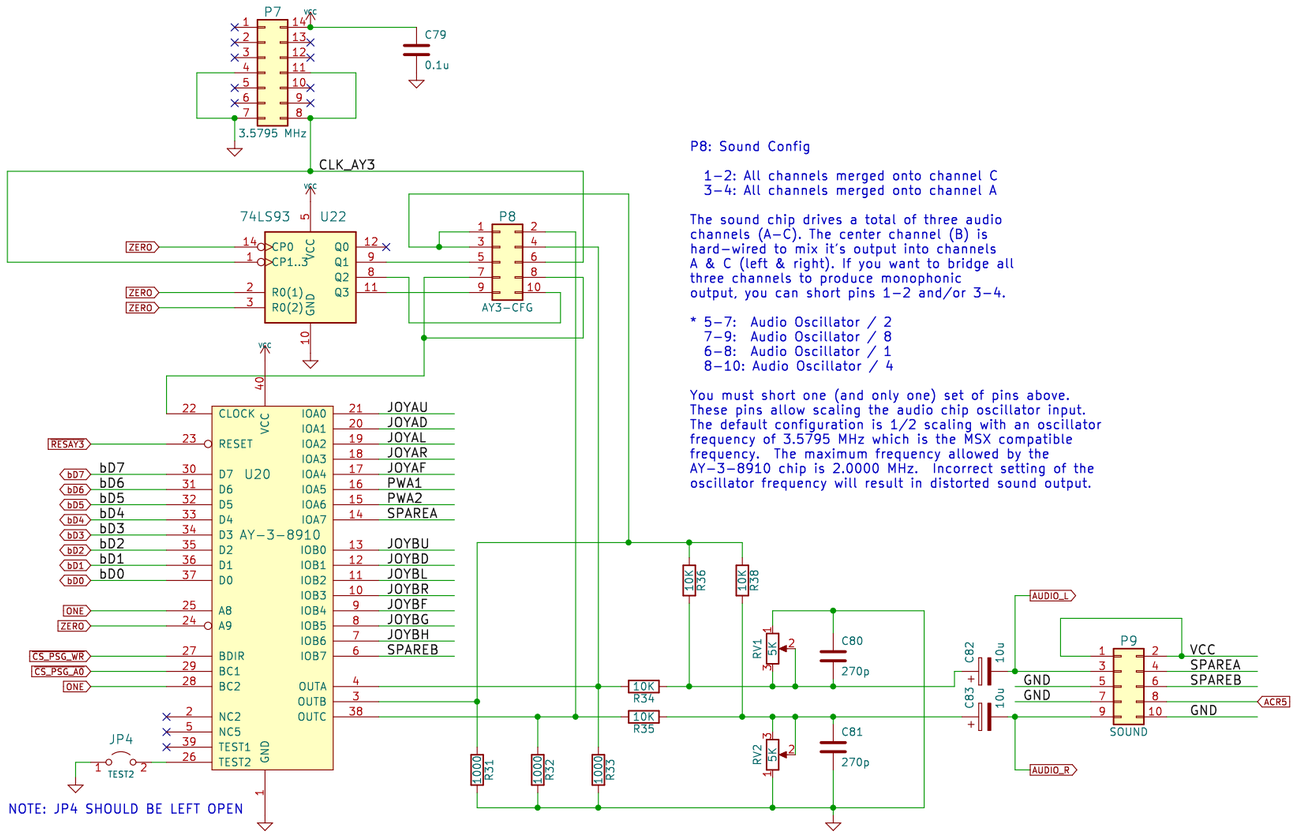
PCB Layout Notes:
Keep trace length between CXA1645
and 75 ohm resistors to minimum

NOTE: P6 FOR RAMDAC
EXPANSION OPTION

NOTE: P5 FOR VGA
HD15F OPTION

Sheet: /VDP/	
File: VDP.kicad_sch	
Title:	
Size: B	Date:
KiCad E.D.A. kicad (6.0.11)	Rev: Id: 4/10

NOTE: AY-3-8910 CLOCK IS MSX
COMPATIBLE 3.5795 MHz / 2
MAXIMUM CLOCK IS 2.0000 MHz



RV1 and RV2
Potentiometer
Bourns 3386P
5K ohm

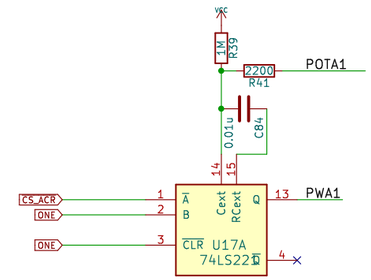
P8: Sound Config

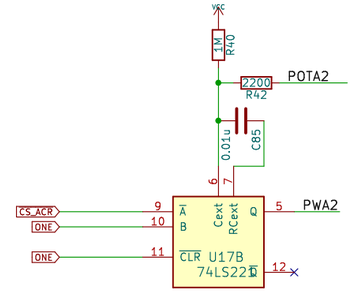
1-2: All channels merged onto channel C
3-4: All channels merged onto channel A

The sound chip drives a total of three audio channels (A-C). The center channel (B) is hard-wired to mix it's output into channels A & C (left & right). If you want to bridge all three channels to produce monophonic output, you can short pins 1-2 and/or 3-4.

* 5-7: Audio Oscillator / 2
7-9: Audio Oscillator / 8
6-8: Audio Oscillator / 1
8-10: Audio Oscillator / 4

You must short one (and only one) set of pins above. These pins allow scaling the audio chip oscillator input. The default configuration is 1/2 scaling with an oscillator frequency of 3.5795 MHz which is the MSX compatible frequency. The maximum frequency allowed by the AY-3-8910 chip is 2.0000 MHz. Incorrect setting of the oscillator frequency will result in distorted sound output.



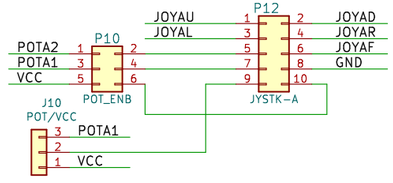


ATARI joystick	MSX joystick
1:U	1:U
2:D	2:D
3:L	3:L
4:R	4:R
5:N/C	5:N/C
6:B1	6:B1
7:N/C	7:B2
8:GND	8:GND
9:B2	9:VCC

JOYSTICK PORTS

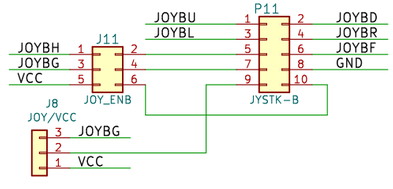
DEFINITIONS JOY A

U=JOYAU
D=JOYAD
L=JOYAL
R=JOYAR
B1=JOYAF
B2=POTA1
B3=POTA2



DEFINITIONS JOY B

U=JOYBU
D=JOYBD
L=JOYBL
R=JOYBR
B1=JOYBF
B2=JOYBG
B3=JOYBH



Sheet: /PSG/	
File: PSG.kicad_sch	
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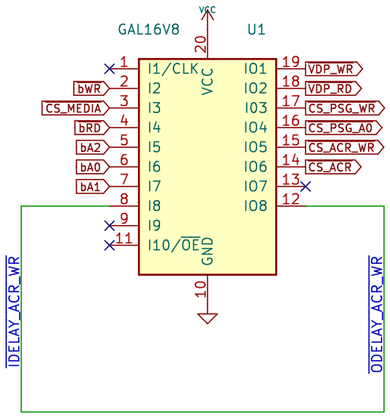
Size: B	Date:
KiCad E.D.A. kicad (6.0.11)	Id: 5/10

MEDIA CS V2 GAL16V8



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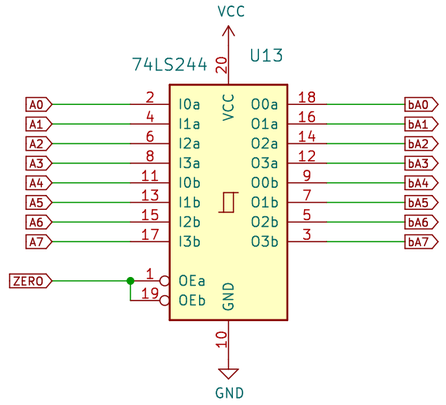
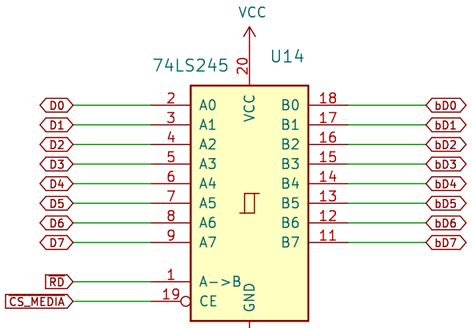
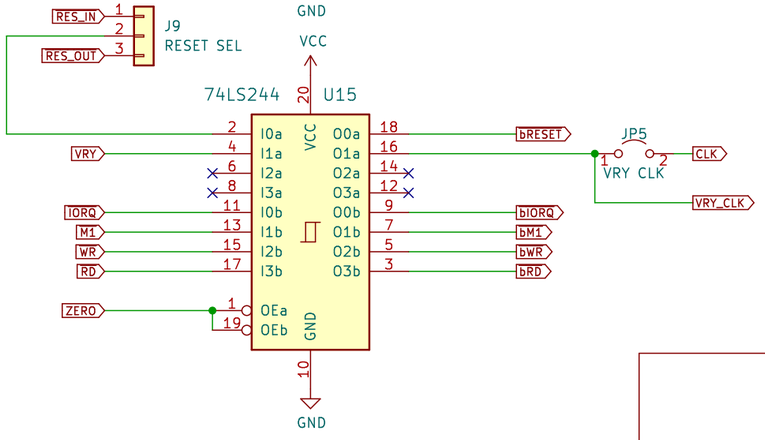
KiCad E.D.A. kicad (6.0.11)		Id: 6/10

Z80 BUS INTERFACE







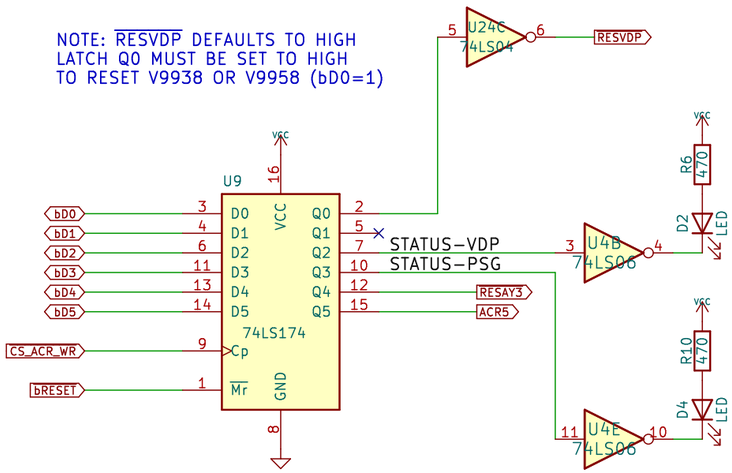
Note: Buffers and Transceivers
respond to IO and MEM cycles

Sheet: /buffers/
File: buffers.kicad_sch

Title:

Size: A | Date: | **Rev:**

KiCad E.D.A. kicad (6.0.11) | Id: 7/10



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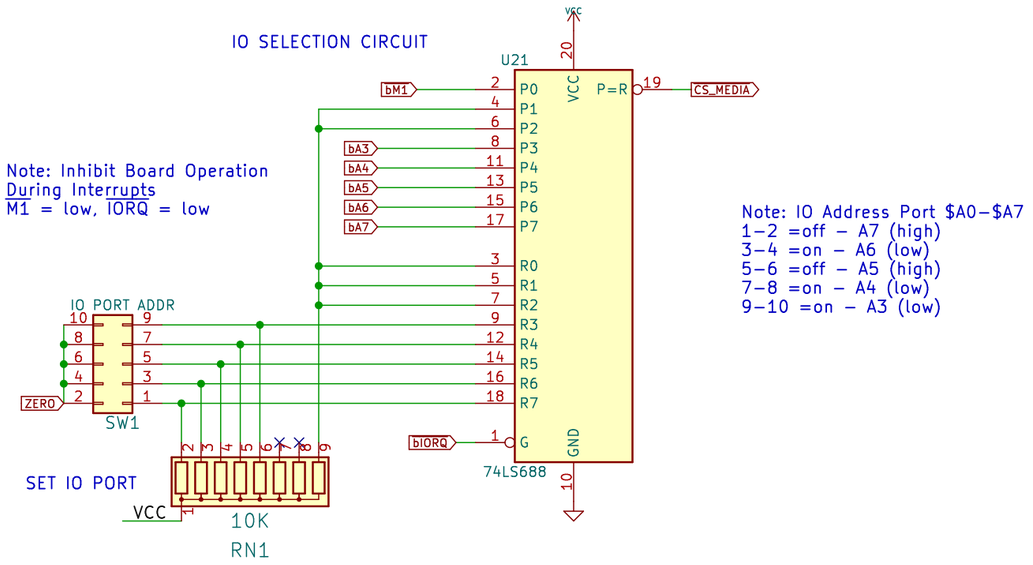
KiCad E.D.A. kicad (6.0.11)		Id: 8/10



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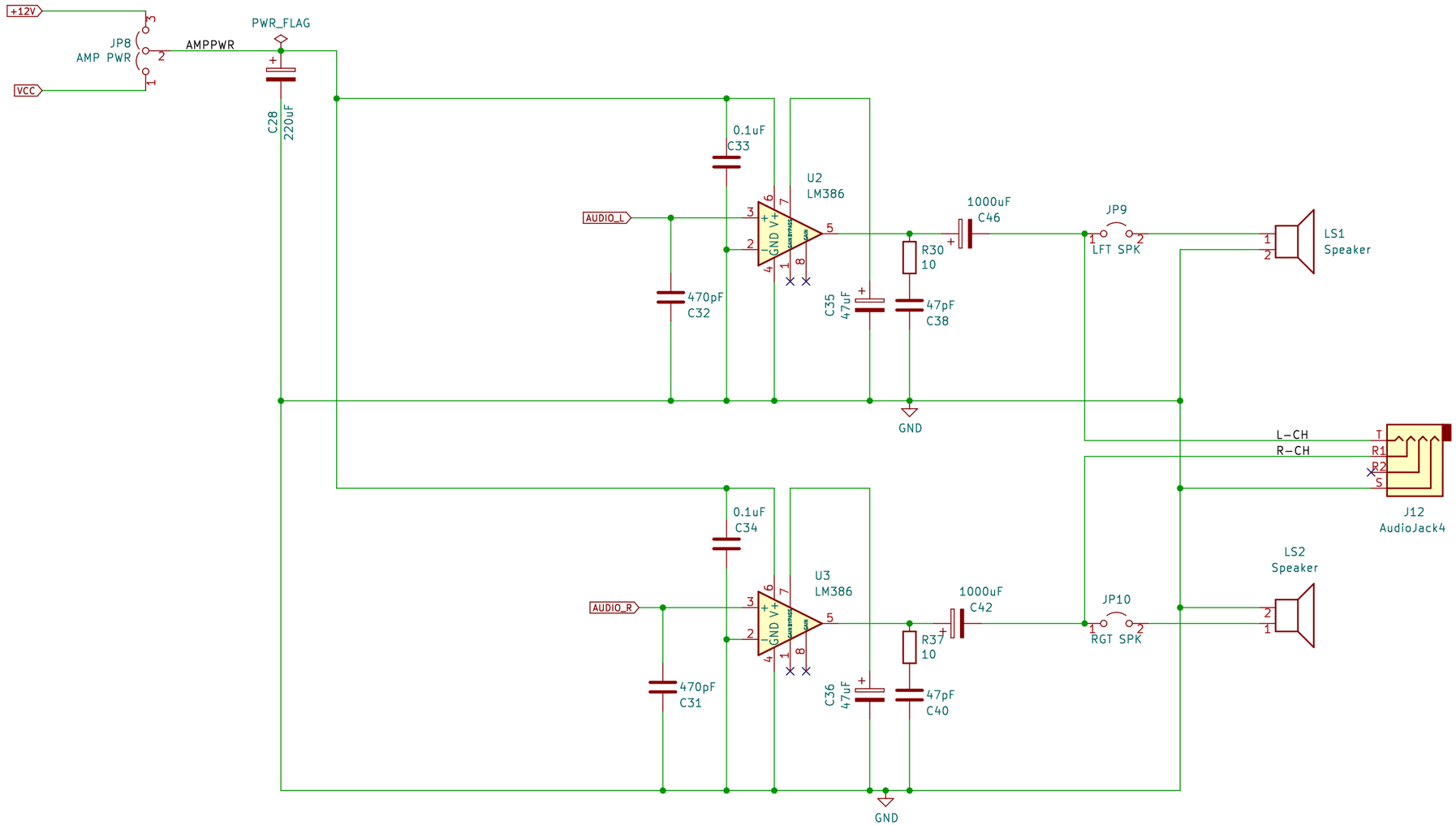
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (6.0.11)		Id: 9/10



Sheet: /Amplifier/
File: Amplifier.kicad_sch

Title:

Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (6.0.11)		Id: 10/10