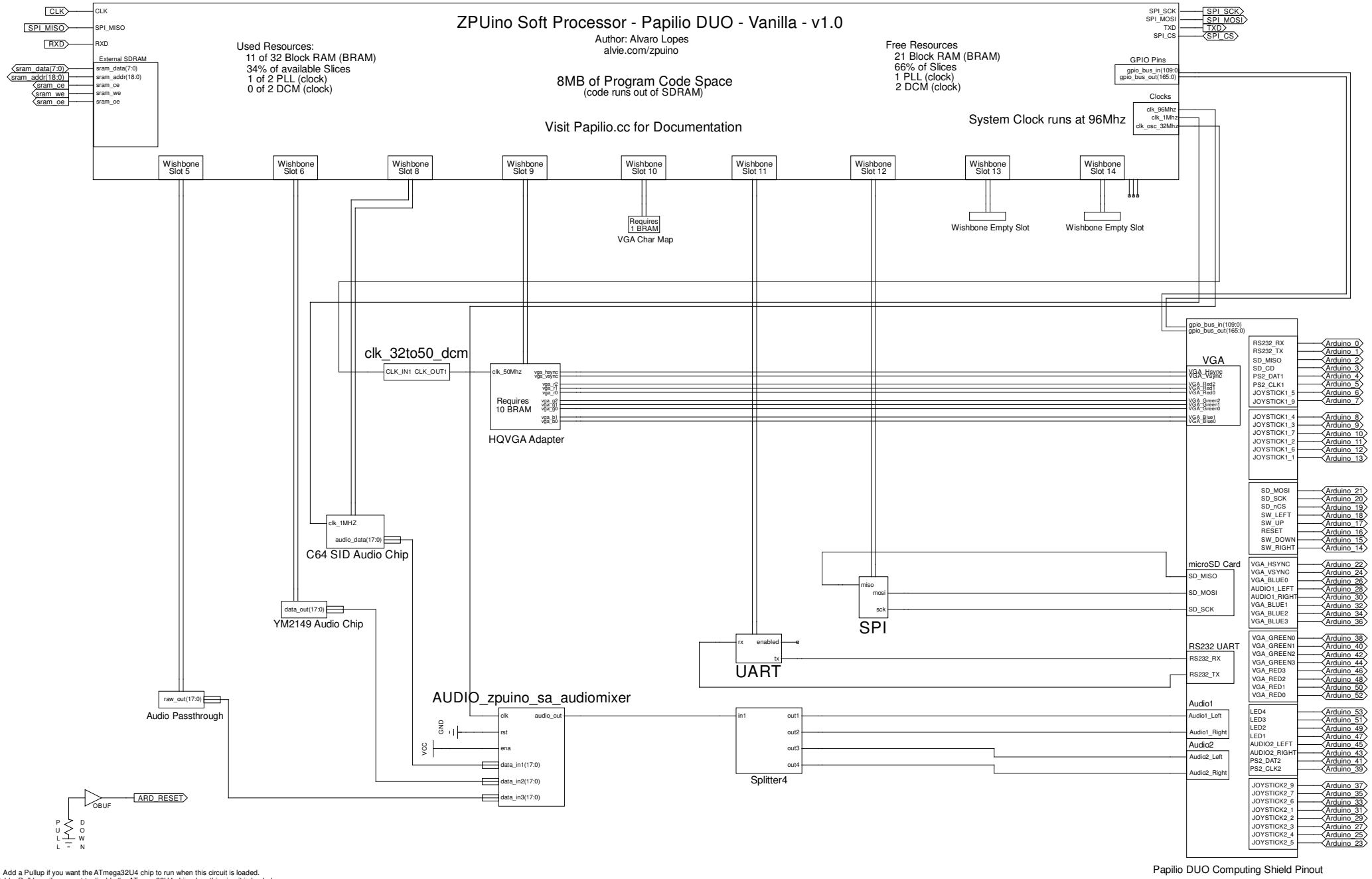
ZPUino Soft Processor - Papilio DUO - Vanilla - v1.0
Author: Alvaro Lopes
alvie.com/zpuino
Used Resources:
11 of 32 Block RAM (BRAM)
34% of available Slices
1 of 2 PLL (clock)
0 of 2 DCM (clock)
8MB of Program Code Space
(code runs out of SDRAM)
Visit Papilio.cc for Documentation
Free Resources
21 Block RAM (BRAM)
66% of Slices
1 PLL (clock)
2 DCM (clock)
System Clock runs at 96Mhz
CLK
SPI_MISO
RXD
External SDRAM
sram_data(7:0)
sram_addr(18:0)
sram_ce
sram_we
sram_oe
SPI_SCK
SPI_MOSI
TXD
SPI_CS
GPIO Pins
gpio_bus_in(109:0)
gpio_bus_out(165:0)
Clocks
clk_96Mhz
clk_1Mhz
clk_osc_32Mhz
Wishbone Slot 5
Wishbone Slot 6
Wishbone Slot 8
Wishbone Slot 9
Wishbone Slot 10
Wishbone Slot 11
Wishbone Slot 12
Wishbone Slot 13
Wishbone Slot 14
Requires 1 BRAM
VGA Char Map
Wishbone Empty Slot
Wishbone Empty Slot
clk_32to50_dcm
CLK_IN1 CLK_OUT1
clk_50Mhz
Requires 10 BRAM
HQVGA Adapter
vga_hsync
vga_vsync
vga_r2
vga_r1
vga_r0
vga_g2
vga_g1
vga_g0
vga_b1
vga_b0
clk_1MHZ
audio_data(17:0)
C64 SID Audio Chip
data_out(17:0)
YM2149 Audio Chip
raw_out(17:0)
Audio Passthrough
AUDIO_zpuino_sa_audiomixer
clk
rst
ena
audio_out
data_in1(17:0)
data_in2(17:0)
data_in3(17:0)
GND
VCC
in1
out1
out2
out3
out4
Splitter4
rx
enabled
tx
UART
miso
mosi
sck
SPI
OBUF
ARD_RESET
PULL DOWN
gpio_bus_in(109:0)
gpio_bus_out(165:0)
VGA
VGA_Hsync
VGA_Vsync
VGA_Red2
VGA_Red1
VGA_Red0
VGA_Green2
VGA_Green1
VGA_Green0
VGA_Blue1
VGA_Blue0
microSD Card
SD_MISO
SD_MOSI
SD_SCK
RS232 UART
RS232_RX
RS232_TX
Audio1
Audio1_Left
Audio1_Right
Audio2
Audio2_Left
Audio2_Right
RS232_RX
RS232_TX
SD_MISO
SD_CD
PS2_DAT1
PS2_CLK1
JOYSTICK1_5
JOYSTICK1_9
JOYSTICK1_4
JOYSTICK1_3
JOYSTICK1_7
JOYSTICK1_2
JOYSTICK1_6
JOYSTICK1_1
SD_MOSI
SD_SCK
SD_nCS
SW_LEFT
SW_UP
RESET
SW_DOWN
SW_RIGHT
VGA_HSYNC
VGA_VSYNC
VGA_BLUE0
AUDIO1_LEFT
AUDIO1_RIGHT
VGA_BLUE1
VGA_BLUE2
VGA_BLUE3
VGA_GREEN0
VGA_GREEN1
VGA_GREEN2
VGA_GREEN3
VGA_RED3
VGA_RED2
VGA_RED1
VGA_RED0
LED4
LED3
LED2
LED1
AUDIO2_LEFT
AUDIO2_RIGHT
PS2_DAT2
PS2_CLK2
JOYSTICK2_9
JOYSTICK2_7
JOYSTICK2_6
JOYSTICK2_1
JOYSTICK2_2
JOYSTICK2_3
JOYSTICK2_4
JOYSTICK2_5
Arduino_0
Arduino_1
Arduino_2
Arduino_3
Arduino_4
Arduino_5
Arduino_6
Arduino_7
Arduino_8
Arduino_9
Arduino_10
Arduino_11
Arduino_12
Arduino_13
Arduino_21
Arduino_20
Arduino_19
Arduino_18
Arduino_17
Arduino_16
Arduino_15
Arduino_14
Arduino_22
Arduino_24
Arduino_26
Arduino_28
Arduino_30
Arduino_32
Arduino_34
Arduino_36
Arduino_38
Arduino_40
Arduino_42
Arduino_44
Arduino_46
Arduino_48
Arduino_50
Arduino_52
Arduino_53
Arduino_51
Arduino_49
Arduino_47
Arduino_45
Arduino_43
Arduino_41
Arduino_39
Arduino_37
Arduino_35
Arduino_33
Arduino_31
Arduino_29
Arduino_27
Arduino_25
Arduino_23
Papilio DUO Computing Shield Pinout
Add a Pullup if you want the ATmega32U4 chip to run when this circuit is loaded.
Add a Pulldown if you want to disable the ATmega32U4 chip when this circuit is loaded.