CYCLONE V GPU SCHEMATICS

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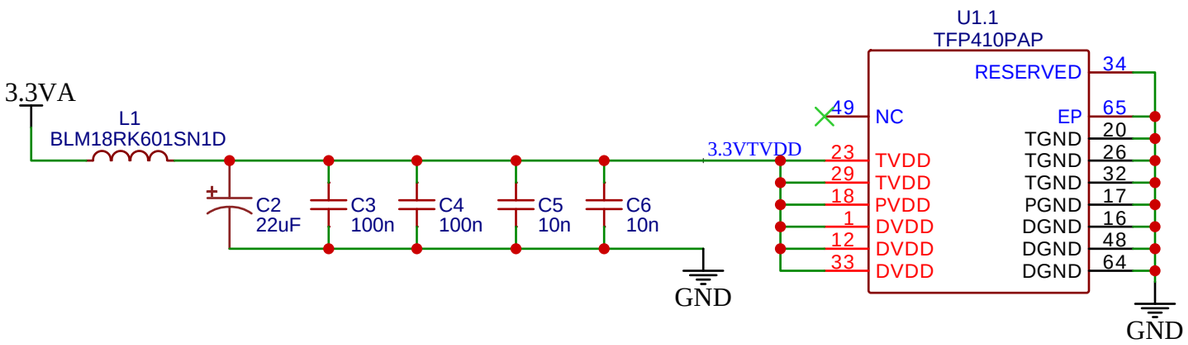
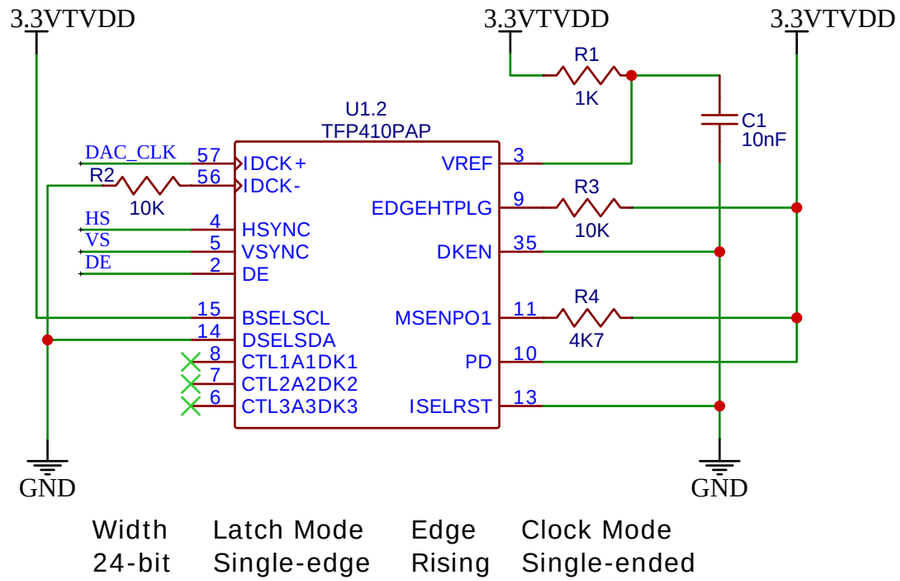
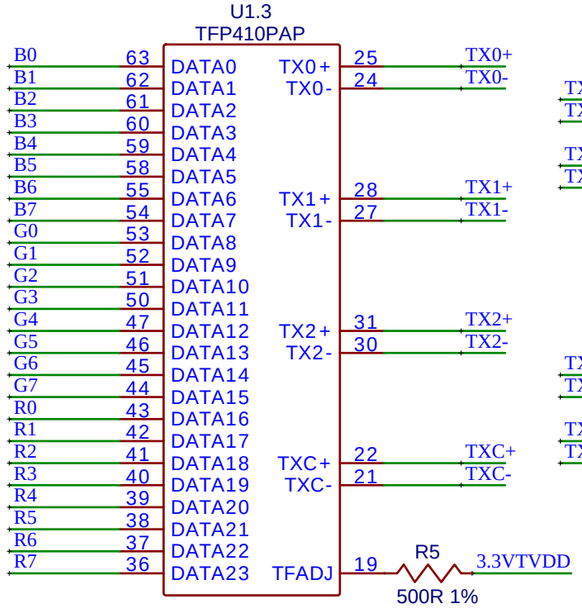
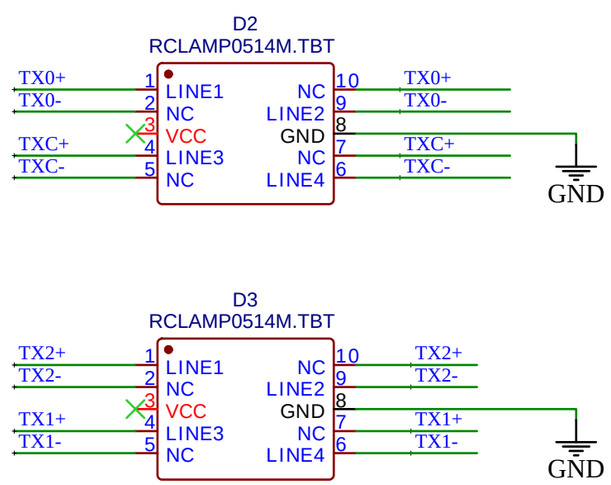
TITLE: Cyclone V GPU		REV: 1.0
EasyEDA	Company: 10103	Sheet: 1/1
	Date: 2020-10-20 Drawn By: nockieboy	

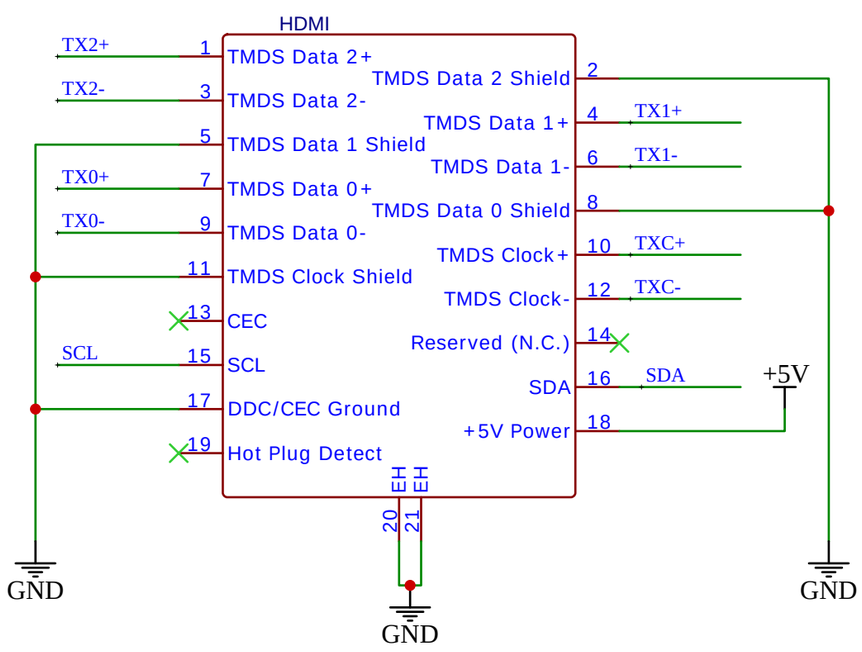
24-bit DVI VIDEO OUTPUT











TITLE: Cyclone V GPU			REV: 1.0
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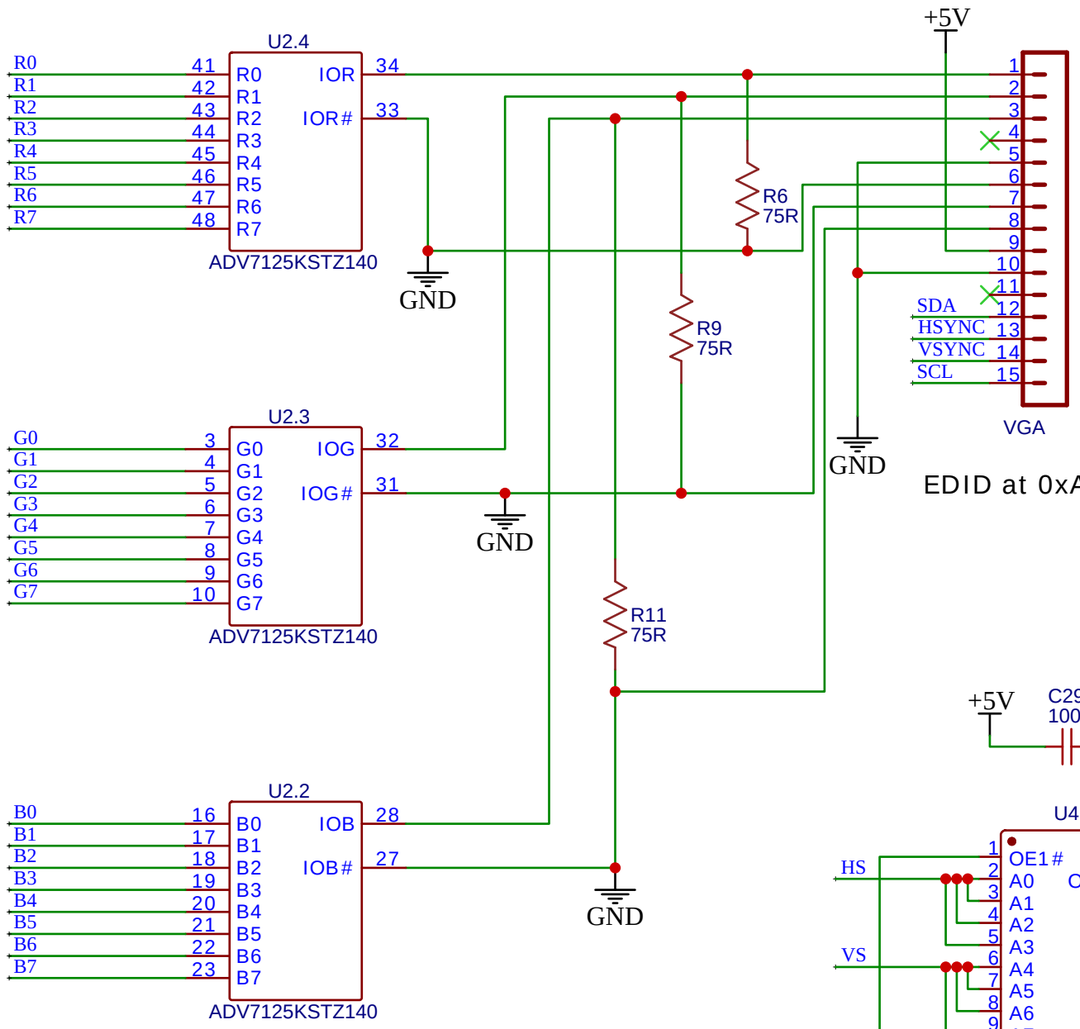
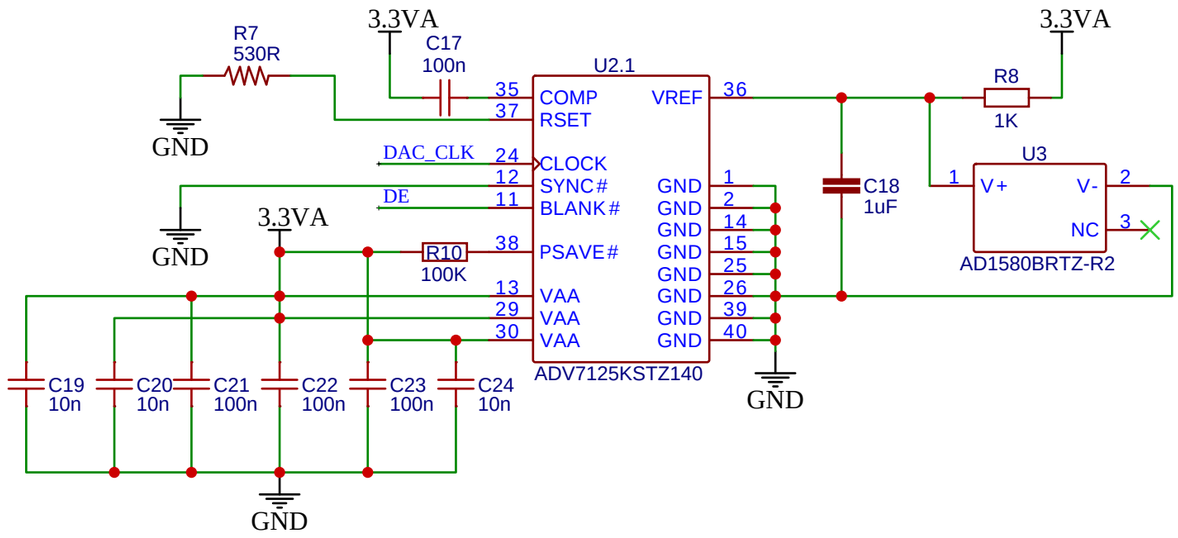
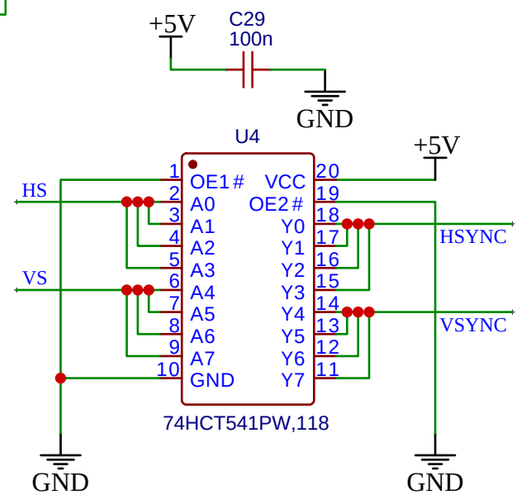
24-bit VGA VIDEO OUTPUT







HSYNC/VSYNC BOOST

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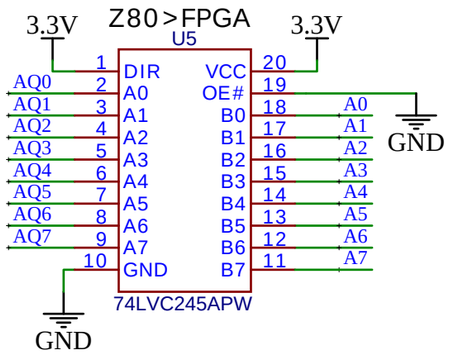
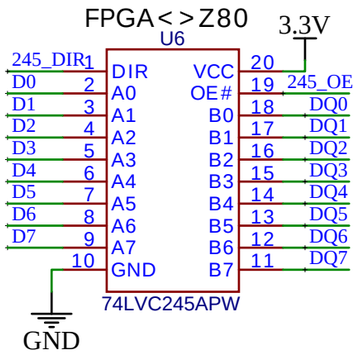
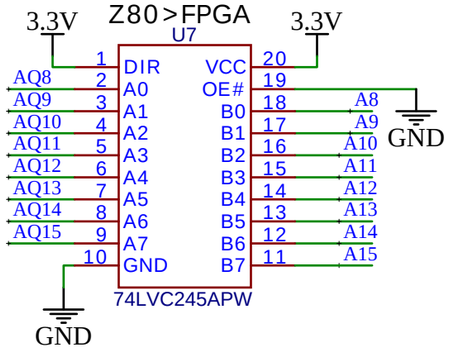
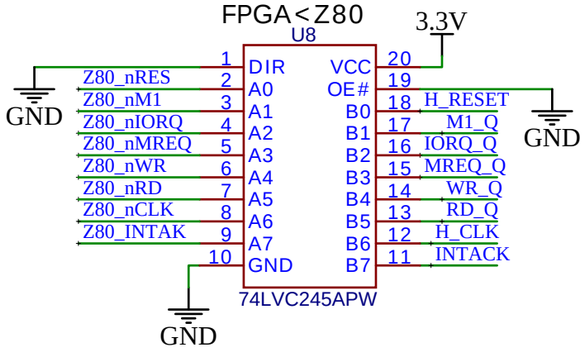
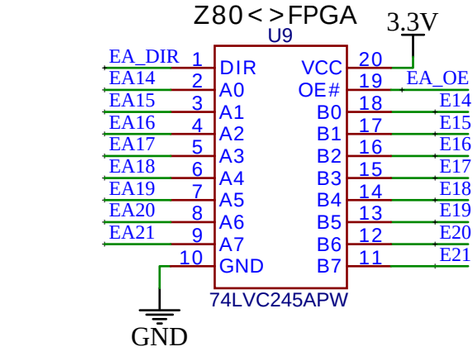
5V<->3.3V SYSTEM BUS CONVERTERS

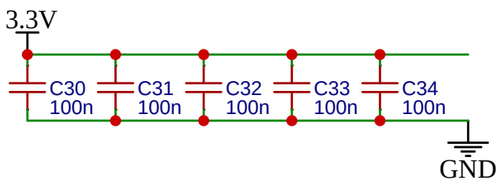


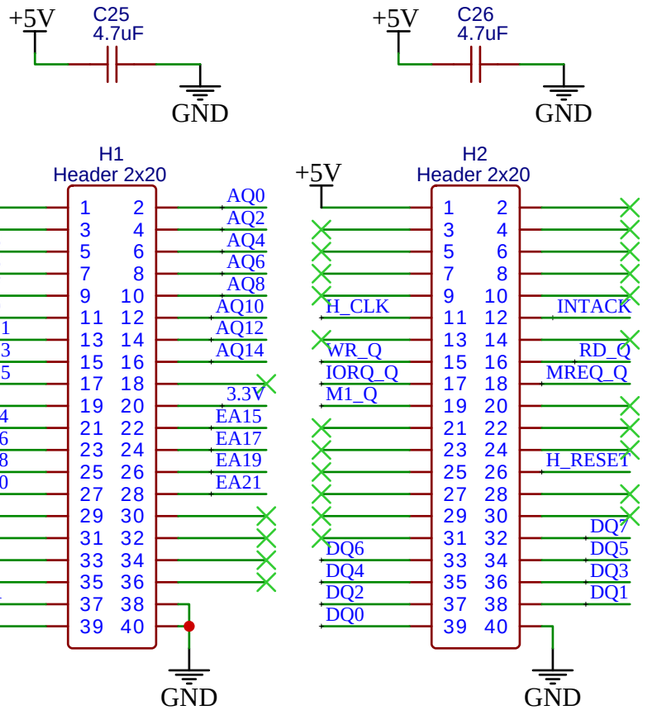








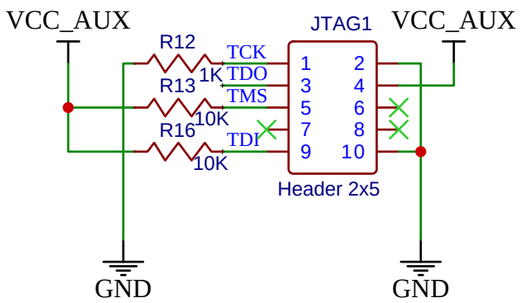




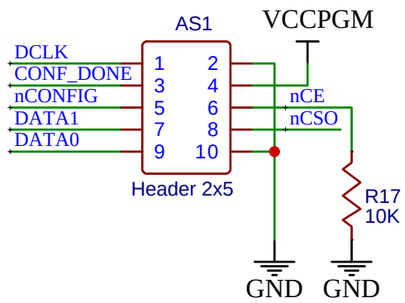
SYSTEM BUS HEADERS

TITLE: Cyclone V GPU		REV: 1.0
EasyEDA	Company: 10103	Sheet: 1/1
	Date: 2020-06-25 Drawn By: nockieboy	

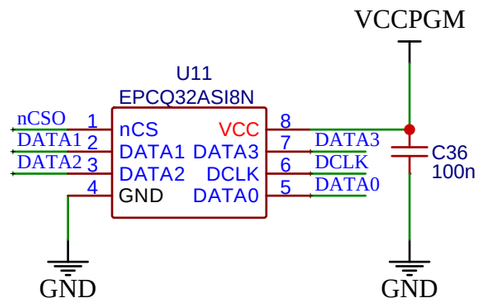
CLOCK & FPGA CONFIGURATION



JTAG HEADER

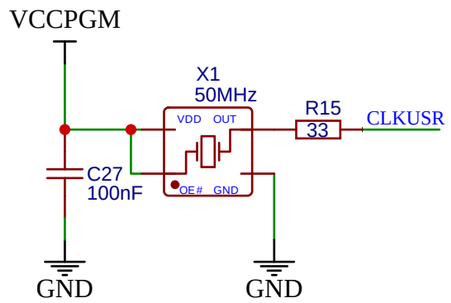


AS HEADER

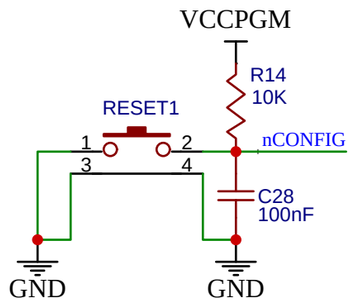


CONFIG EEPROM

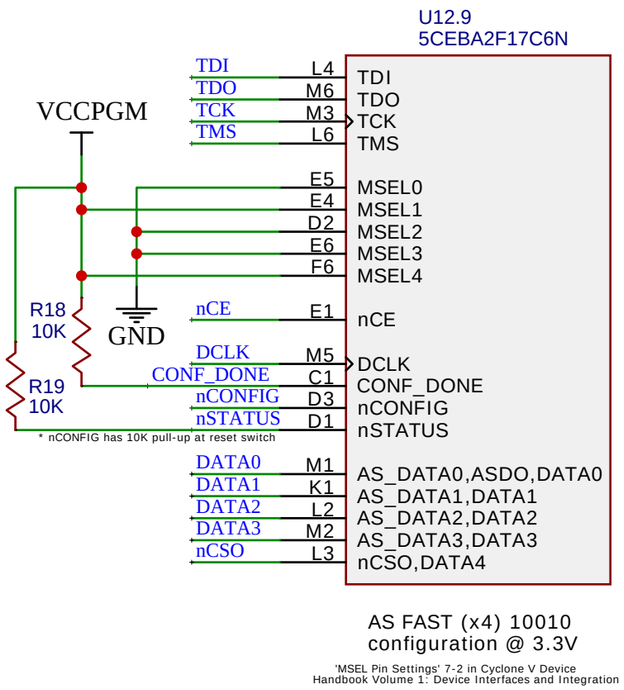
* Minimum 32Mbit EEPROM required for 21Mbit image



50 MHz CLOCK



FPGA RESET



AS FAST (x4) 10010 configuration @ 3.3V

'MSEL Pin Settings' 7-2 in Cyclone V Device Handbook Volume 1: Device Interfaces and Integration

TITLE: Cyclone V GPU		REV: 1.0
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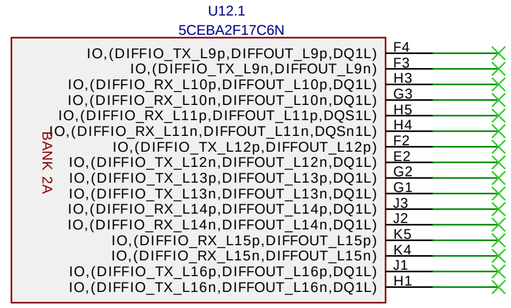
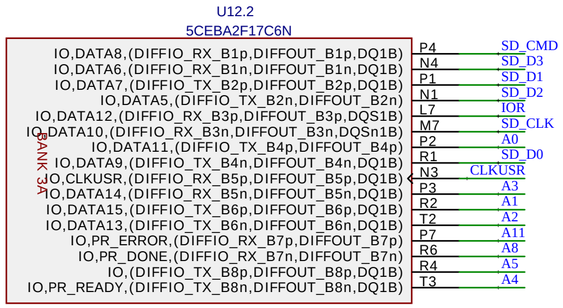
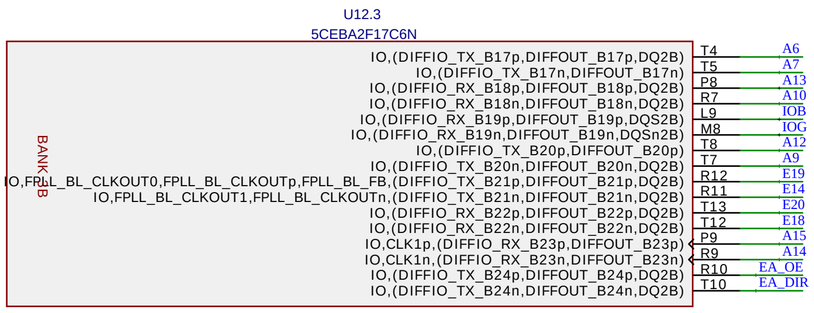
	Date: 2020-06-25 Drawn By: nockieboy	

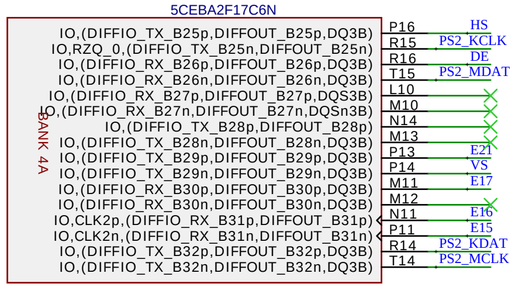
Cyclone V FPGA

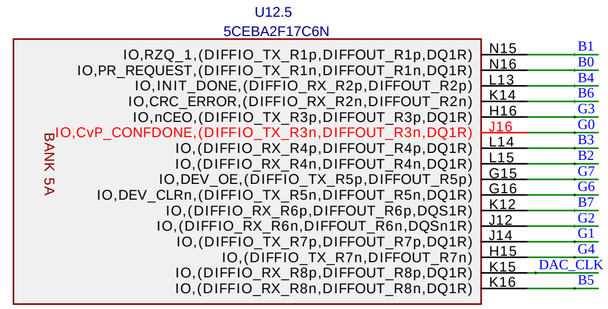
NOTE: Cyclone V A2 and A4 versions are pin-compatible and interchangeable on this PCB design.

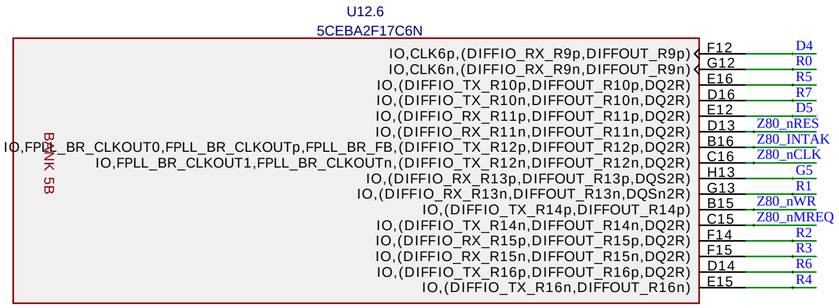


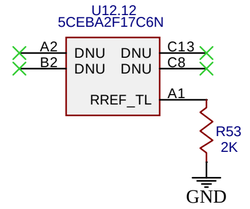


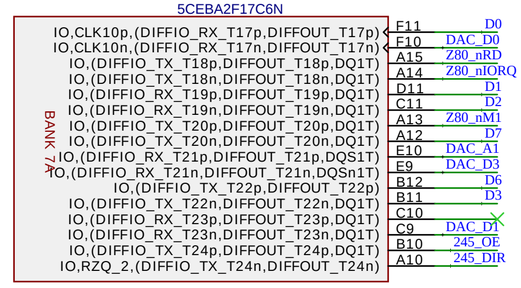


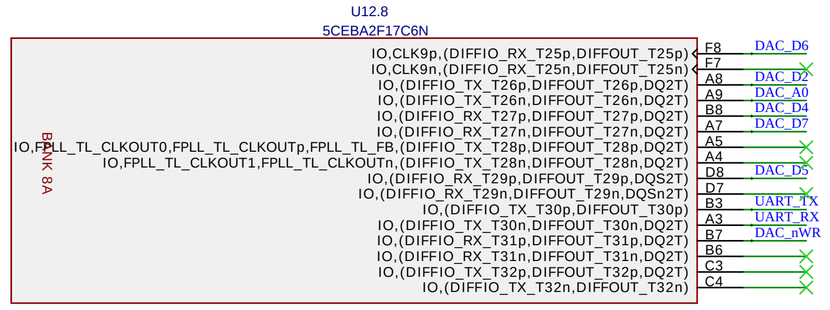












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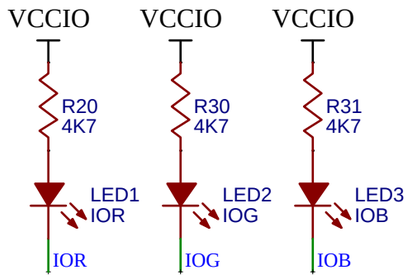
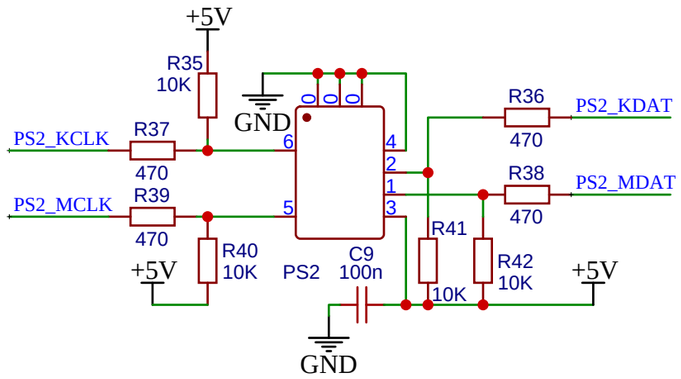
EasyEDA	Company: 10103	Sheet: 1/1
	Date: 2020-06-19	Drawn By: nockieboy

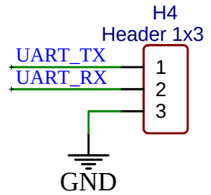
PERIPHERALS



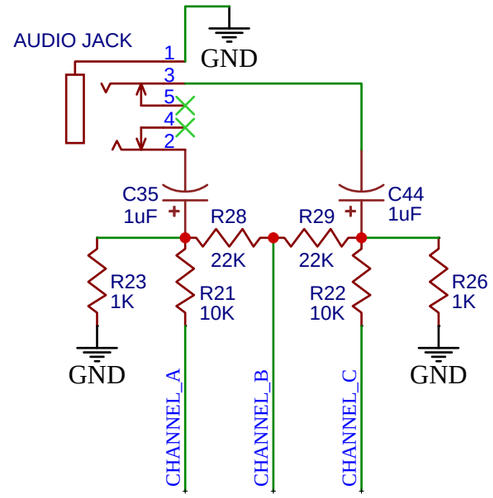
GPIO LEDS

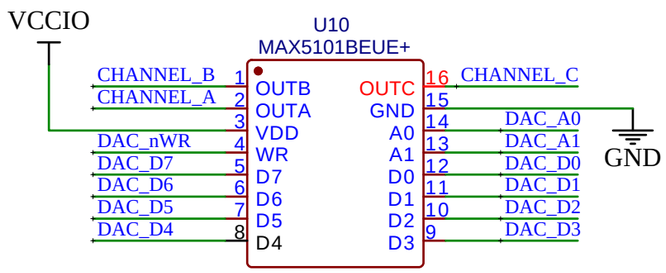


PS2 KEYBOARD/MOUSE



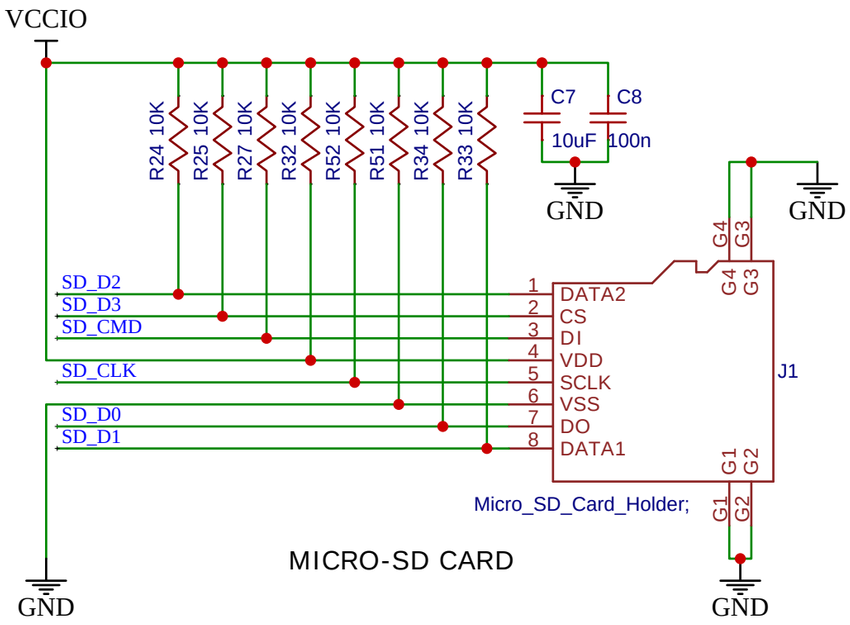
3.3V SERIAL DEBUG PORT





3-CHANNEL 8-BIT AUDIO OUT

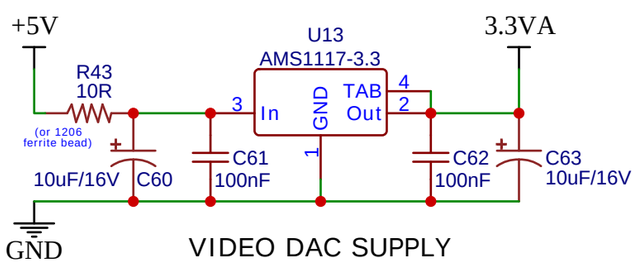
N.B.: Emulates the AY-3-8912 output as close as possible on the Amstrad CPC series of 8-bit computers.



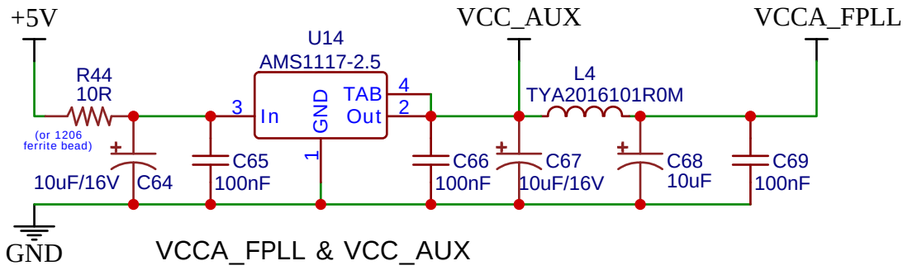
MICRO-SD CARD

TITLE: Cyclone V GPU		REV: 1.0
EasyEDA	Company: 10103	Sheet: 1/1
	Date: 2020-08-23 Drawn By: nockieboy	

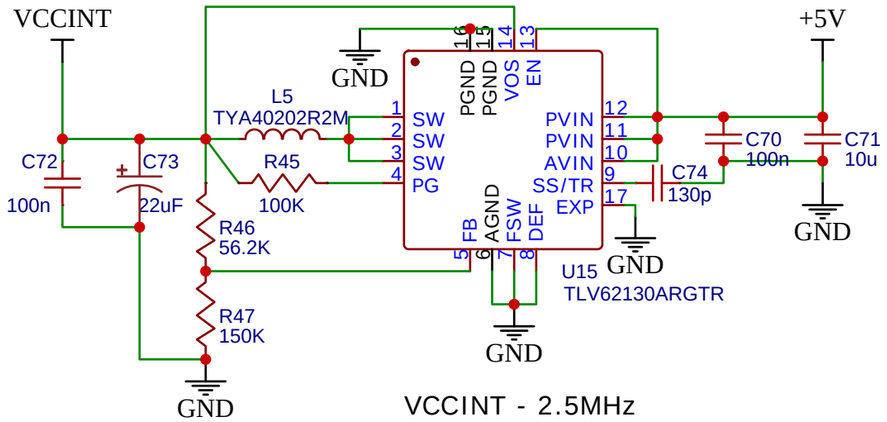
POWER SUPPLIES



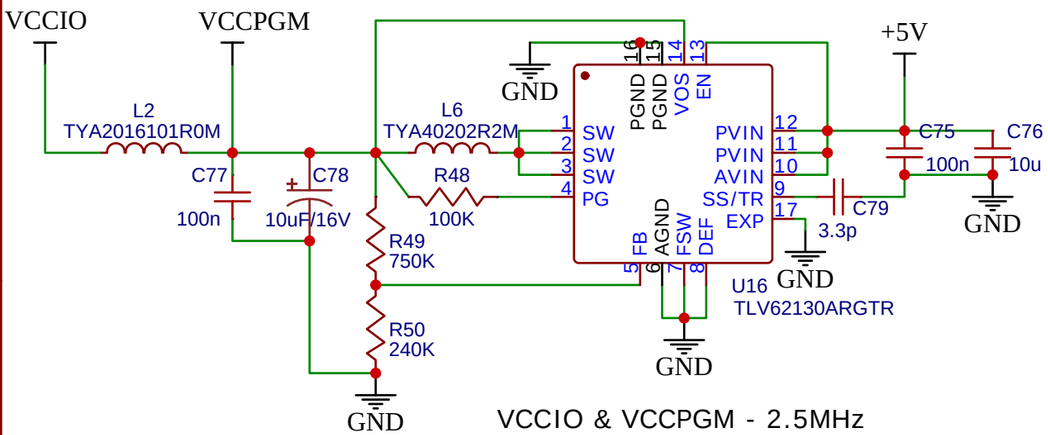
VIDEO DAC SUPPLY



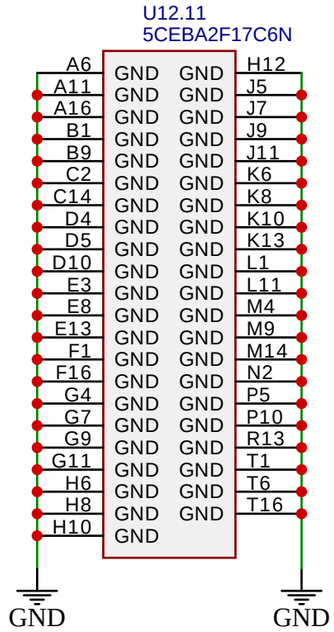
VCCA_FPLL & VCC_AUX

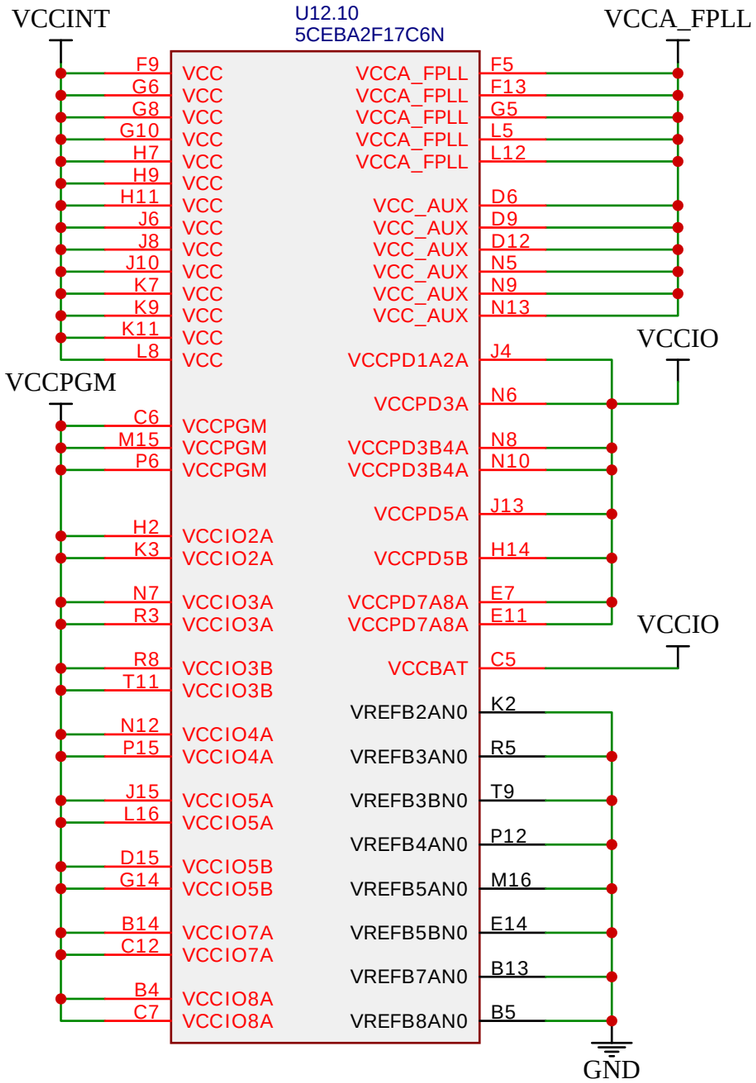


VCCINT - 2.5MHz



VCCIO & VCCPGM - 2.5MHz





Supplies: U13 - 3.3V supply (3.3VA)
U14 - 2.5V supply (VCCA_FPLL, VCC_AUX)
U15 - 1.1V supply (VCCINT)
U16 - 3.3V supply (VCCIO, VCCPGM)

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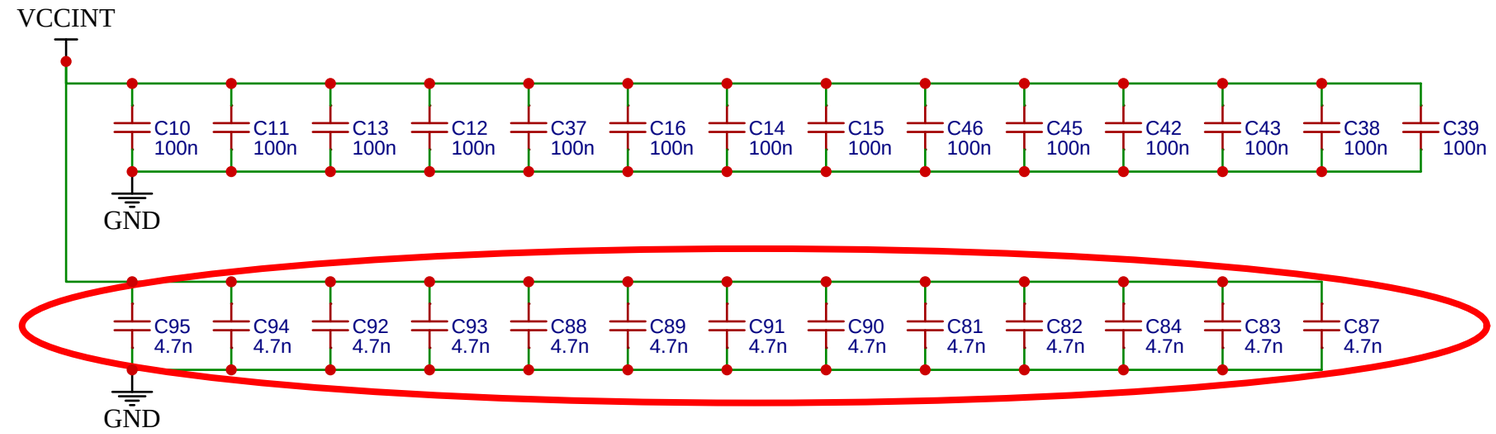
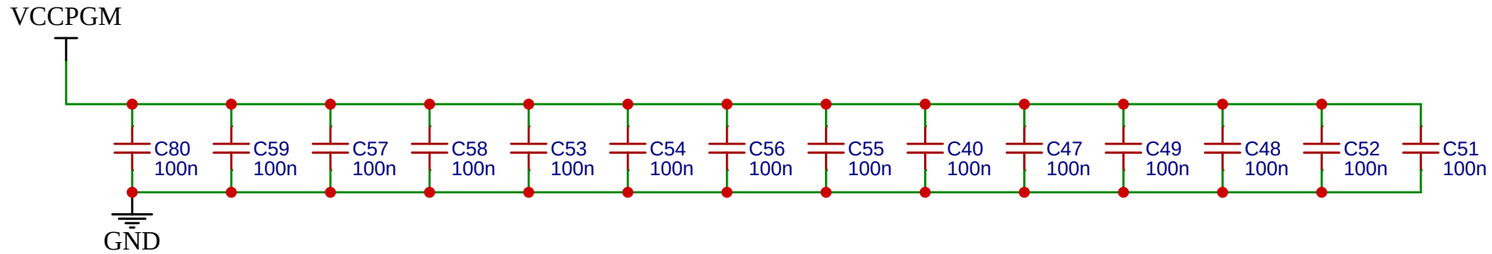
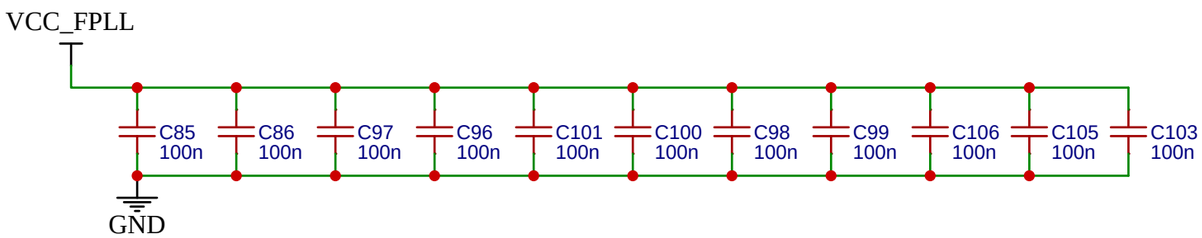
FPGA DECOUPLING

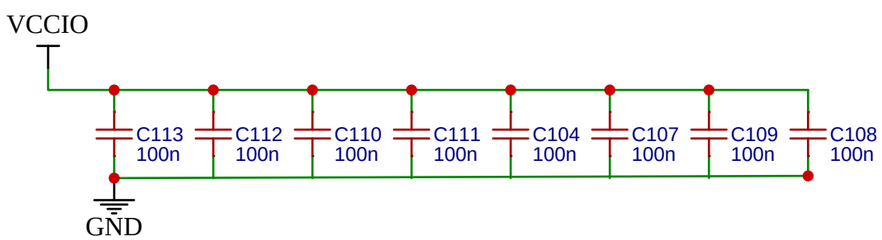
Note: Place capacitors near FPGA pins



Are these needed?







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	Date: 2020-10-20 Drawn By: nockieboy	