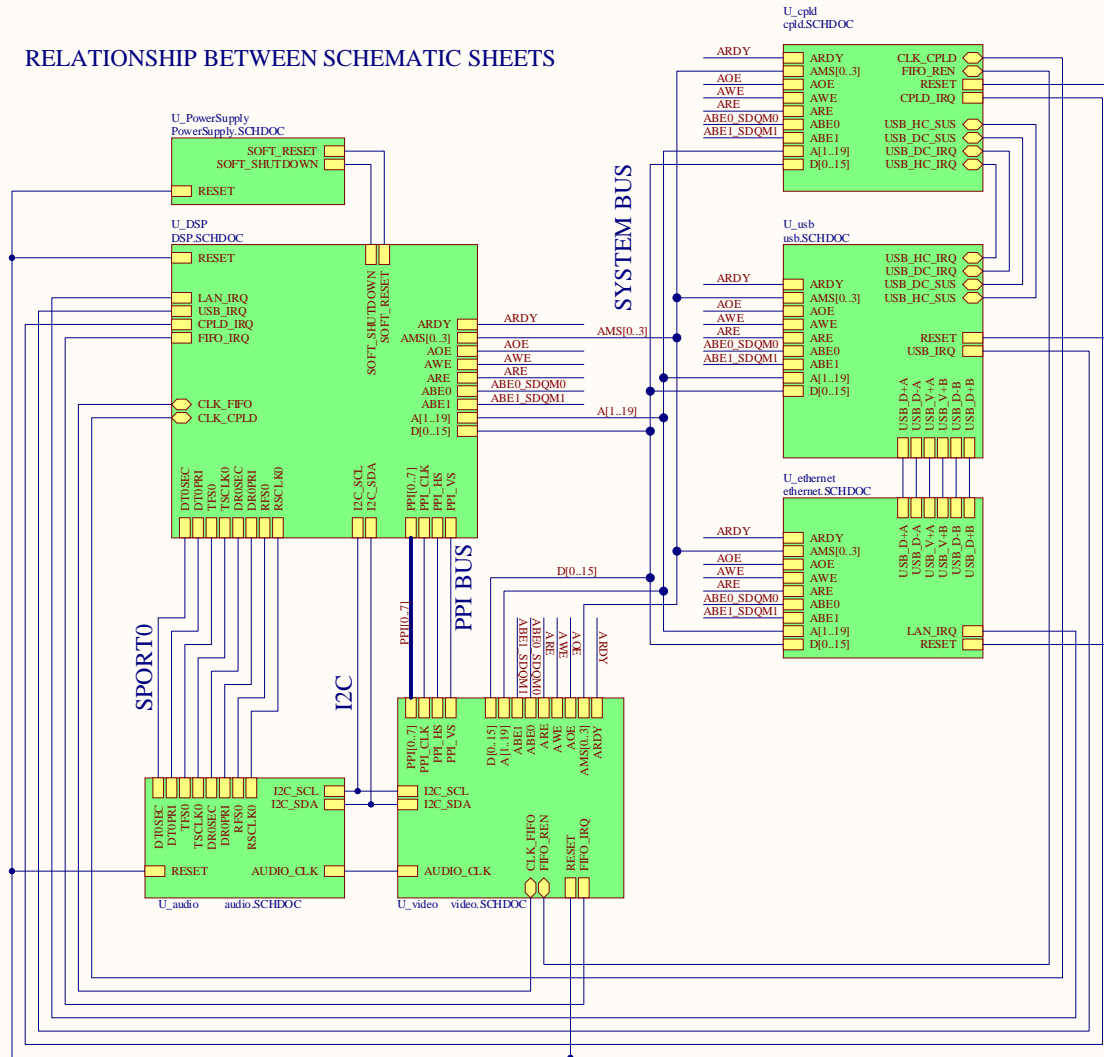
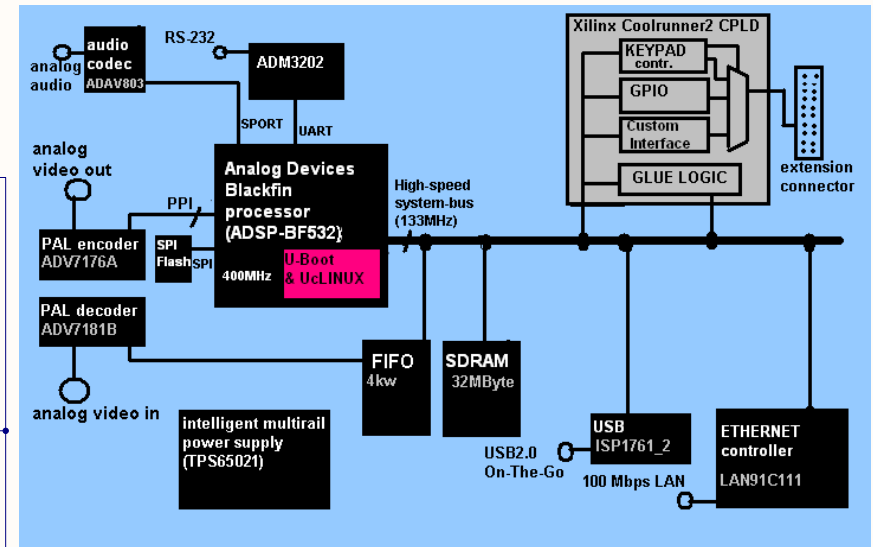


# Buenos Blackfin Board

## RELATIONSHIP BETWEEN SCHEMATIC SHEETS



## MORE UNDERSTANDABLE BLOCK DIAGRAM



Digital video and embedded linux development board.

It can be used for real-time, simultaneous video processing.

I have designed this board, because I wanted to exercise hardware and software design (together) and to make a one-board solution.

I kept a little compatibility with the Stamp board and uCLinux.

Differences:

- no parallel flash
- no remapping of ETHERNET CS-signal
- no expansion connector
- almost all necessary peripherals on board, for video processing.
- software RESET and software shutdown

The same:

- Blackfin processor (BF532), LAN91C11 ETHERNET chip at the same address and IRQ.
- SPI-FLASH for the existing driver: STmicroelectronics M25P64

When video processing, we need sometimes:

- video file access on a storage device (here: USB mass storage, these: flash drive, HDD in mobile rack), ETHERNET video-streaming.
- video input
- video output
- simultaneous input and output processing. (on other boards, usually there is a switch between them)

PBC: there are two files for the PCB manufacturer: LAYER ORDER (RETEGSORREND).txt and pcb-english.GIF.

Signal Integrity: The SDRAM timing analysis succeed with 133MHz and DSP out delay=5ns, or 100MHz with 6ns.

Signal overshoots of a maximum of 200mV with 3.3V CMOS levels.

License:

The same as the STAMP board, GPL.

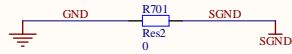
Web:

my page: [www.buenos.cjb.hu](http://www.buenos.cjb.hu) University dep.: [www.hit.bme.hu](http://www.hit.bme.hu) Blackfin uCLinux project: [www.blackfin.uclinux.org](http://www.blackfin.uclinux.org)

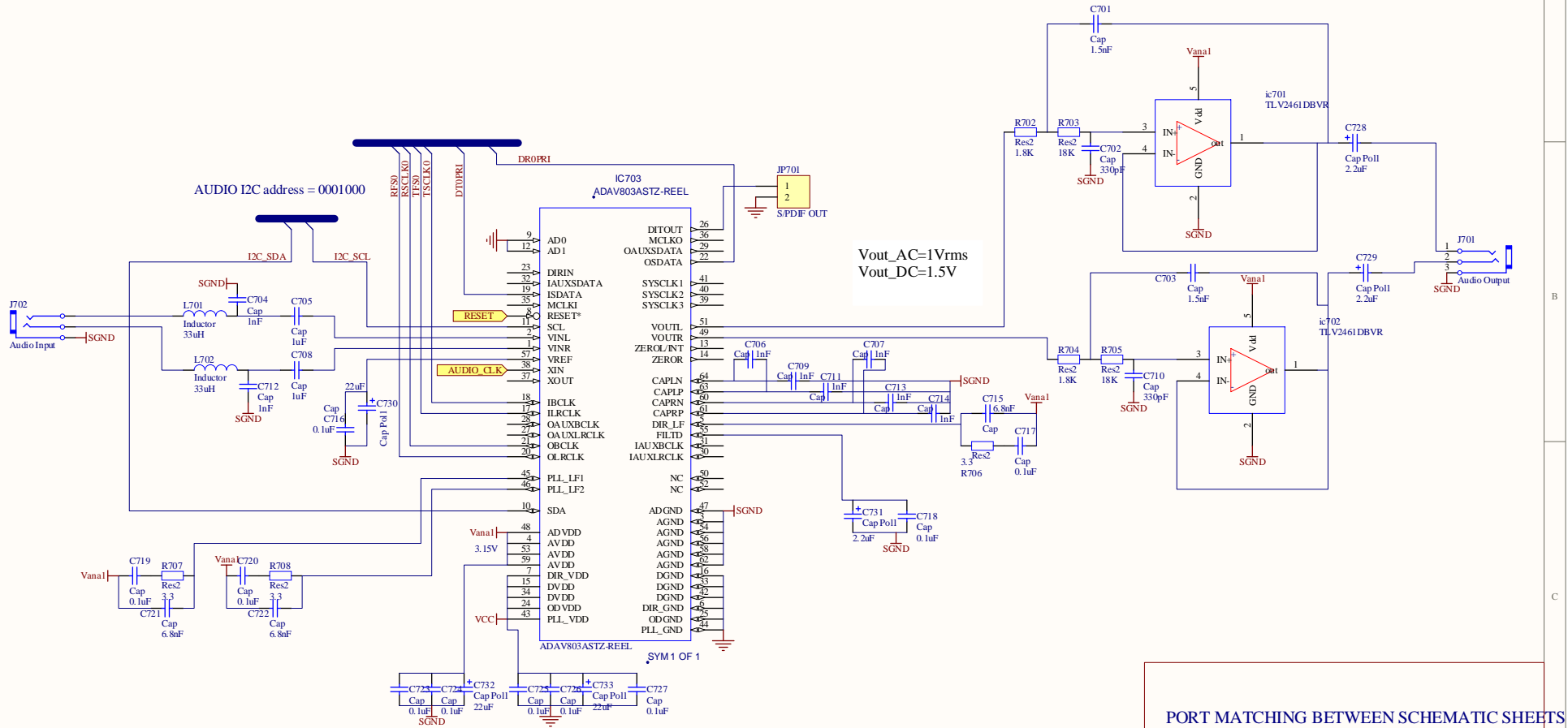
Istvan Nagy 2006 buenos@freemail.hu

Title		
Main		
Size	Number	Revision
A3	1	
Date:	2006.04.22.	Sheet of Buenos Blackfin Board
File:	F:\projects\..._1_main.SCHDOC	Drawn By: Istvan Nagy
	7	8

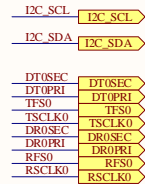
# GROUNDING



AUDIO I2C address = 0001000

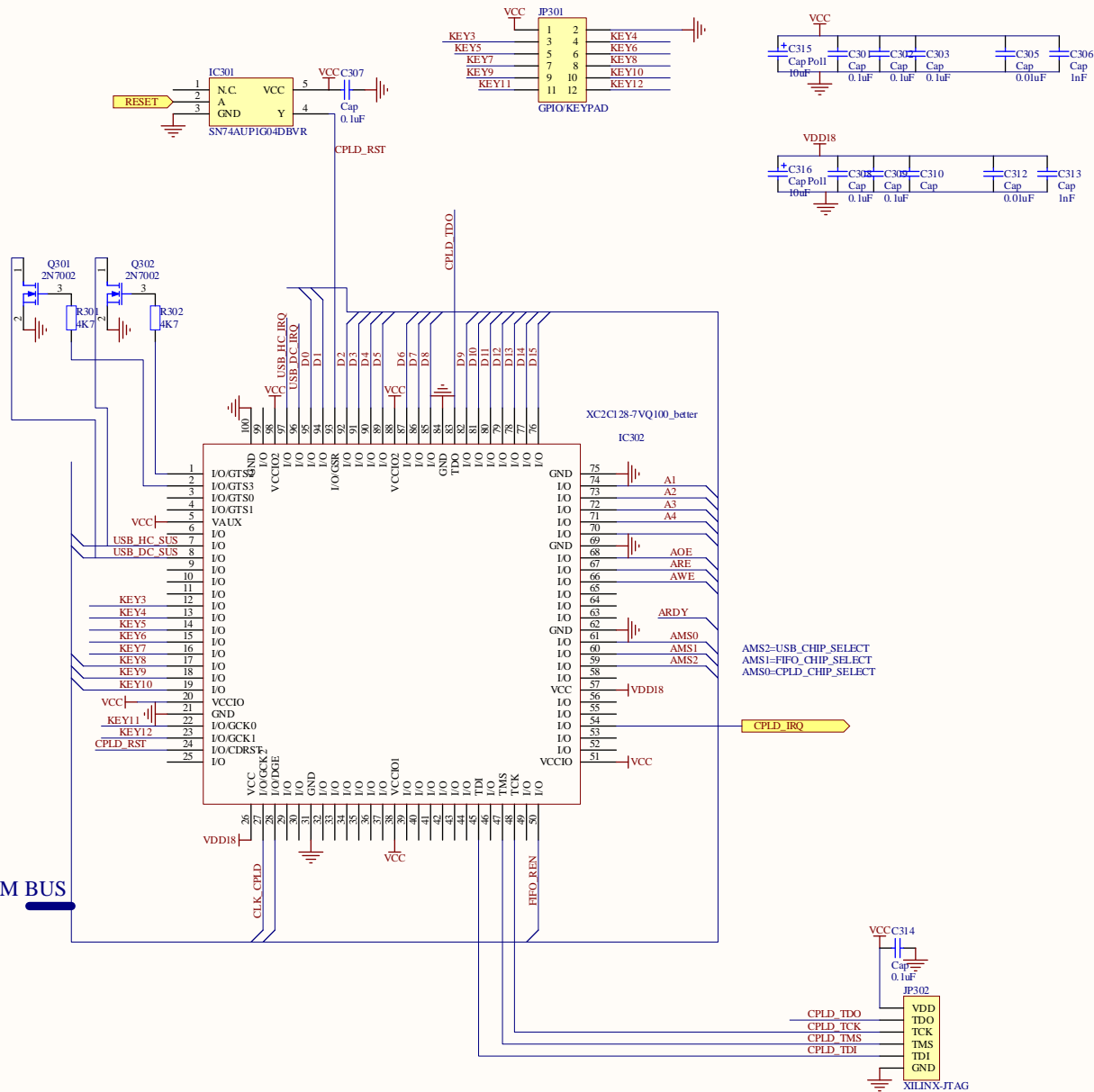


## PORT MATCHING BETWEEN SCHEMATIC SHEETS

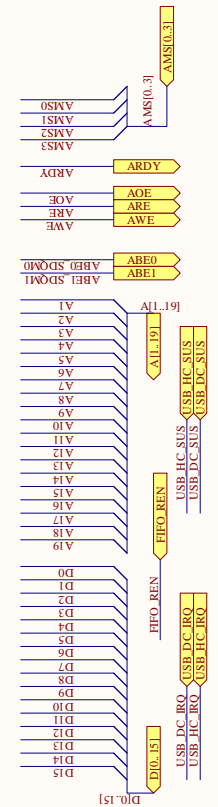


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Audio			
Size	Number	Revision	
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Date:	2006.04.22	Sheet of	Buenos Blackfin Board
File:	F:\projects\...\audio\SCHDOC	Drawn By:	Istvan Nagy

SYSTEM BUS



PORT MATCHING BETWEEN SCHEMATIC SHEETS



Title		
CPLD		
Size	Number	Revision
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Date:	2006.04.22	Sheet of Buenos Blackfin Board
File:	F:\projects\...\cpld.SCHDOC	Drawn By: Istvan Nagy

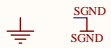
# ADSP-BF532 LQ176

## PORT MATCHING BETWEEN SCHEMATIC SHEETS

Title		
DSP+Memories		
Size	Number	Revision
A2	1	
Date	2006.04.22	Sheet of
File	F:\projects_2006\BF532\DOC	Drawn By: Jovan Noguera



For POWER NET's: GND    For ANALOG NET's: SGND



A circuit diagram showing a blue LED symbol connected to a ground symbol. The LED is labeled "LED201" and "LED3".

Inductor: 47 uH 12.7x12.7 15% 0.08SR SRR1208-470YL (BOU) Imms=2.2A NOPB  
CAPACITORS: 33uF 16V 10% (AVX) TAJ C336K016R

[illegible][illegible]

Title				<h1 style="text-align: center;">Power Supply</h1>	
Size	Number	Revision			
A3	1				
Date:	2006.04.22	Sheet of	Buenos Blackfin Board		
File:	F:\projects\...\PowerSupply.SCHDOC	Drawn By:	Istvan Nagy		

[illegible]

**PORT MATCHING BETWEEN SCHEMATIC SHEETS**

D[0..15] ... A[0..15] ... AMS[0..3]

USB MINI\_AB\_RECEP

IC501 ISB1761

PHILIPS USB2.0 OnTheGo Controller

SYSTEM BUS

Title  
Size A3  
Number 1  
Revision  
Date: 2006.04.22  
File: F:\projects\usb.SCHDOC  
Sheet of Buenos Blackfin Board  
Drawn By: Ivan Nagy

[illegible]

**PORT MATCHING BETWEEN SCHEMATIC SHEETS**

USB Pin	Signal	Internal Signal
D15	USB D+ B	AMS0[0..3]
D14	USB D- B	AMS1[0..3]
D13	USB D+ A	AMS2[0..3]
D12	USB D- A	AMS3[0..3]
D11	USB D+ B	AMS4[0..3]
D10	USB D- B	AMS5[0..3]
D9	USB D+ A	AMS6[0..3]
D8	USB D- A	AMS7[0..3]
D7	USB D+ B	AMS8[0..3]
D6	USB D- B	AMS9[0..3]
D5	USB D+ A	AMS10[0..3]
D4	USB D- A	AMS11[0..3]
D3	USB D+ B	AMS12[0..3]
D2	USB D- B	AMS13[0..3]
D1	USB D+ A	AMS14[0..3]
D0	USB D- A	AMS15[0..3]
A10	USB V+ B	AMS16[0..3]
A9	USB V- B	AMS17[0..3]
A8	USB D+ A	AMS18[0..3]
A7	USB D- A	AMS19[0..3]
A6	USB D+ B	AMS20[0..3]
A5	USB D- B	AMS21[0..3]
A4	USB D+ A	AMS22[0..3]
A3	USB D- A	AMS23[0..3]
A2	USB D+ B	AMS24[0..3]
A1	USB D- B	AMS25[0..3]
A18	USB V+ A	AMS26[0..3]
A17	USB V- A	AMS27[0..3]
A16	USB D+ B	AMS28[0..3]
A15	USB D- B	AMS29[0..3]
A14	USB D+ A	AMS30[0..3]
A13	USB D- A	AMS31[0..3]
A12	USB D+ B	AMS32[0..3]
A11	USB D- B	AMS33[0..3]
A10	USB D+ A	AMS34[0..3]
A9	USB D- A	AMS35[0..3]
A8	USB D+ B	AMS36[0..3]
A7	USB D- B	AMS37[0..3]
A6	USB D+ A	AMS38[0..3]
A5	USB D- A	AMS39[0..3]
A4	USB D+ B	AMS40[0..3]
A3	USB D- B	AMS41[0..3]
A2	USB D+ A	AMS42[0..3]
A1	USB D- A	AMS43[0..3]

**Internal 50mA charge-pump is used for Vbus, on the OTG port**

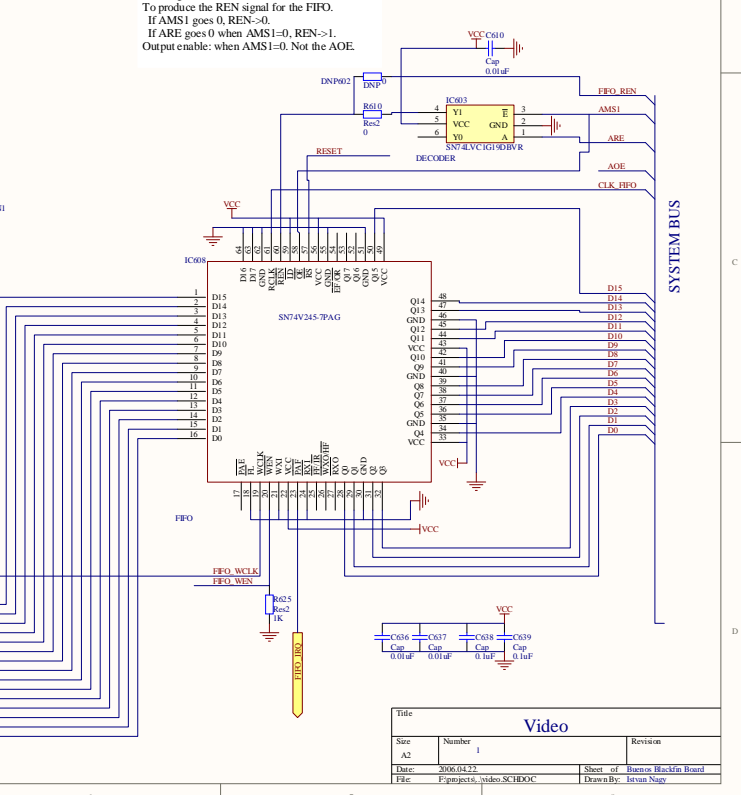
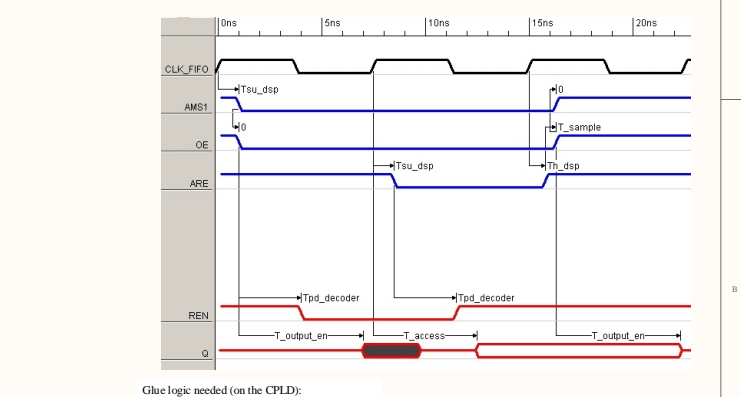
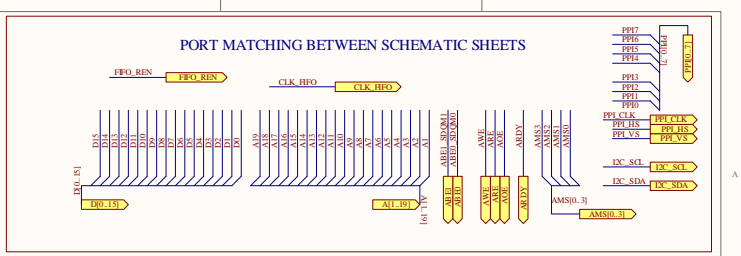
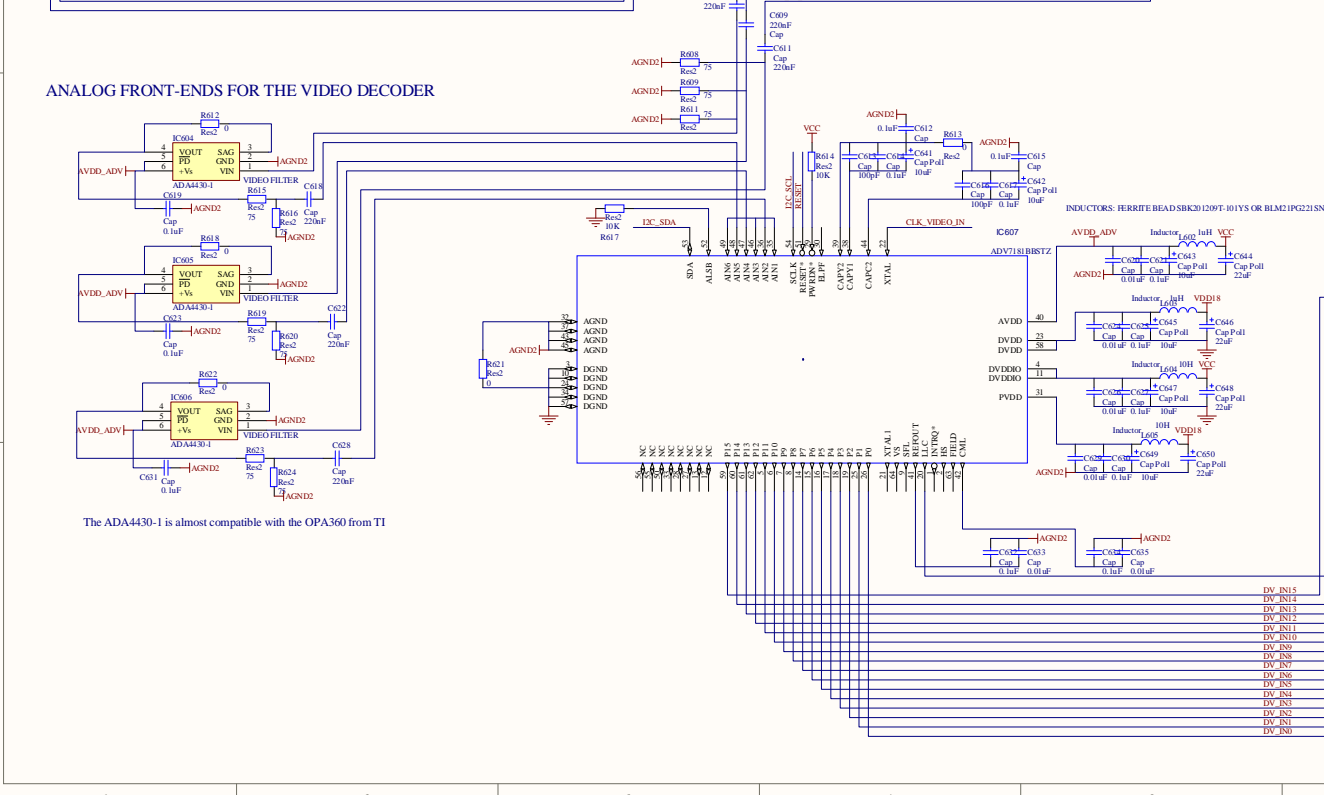
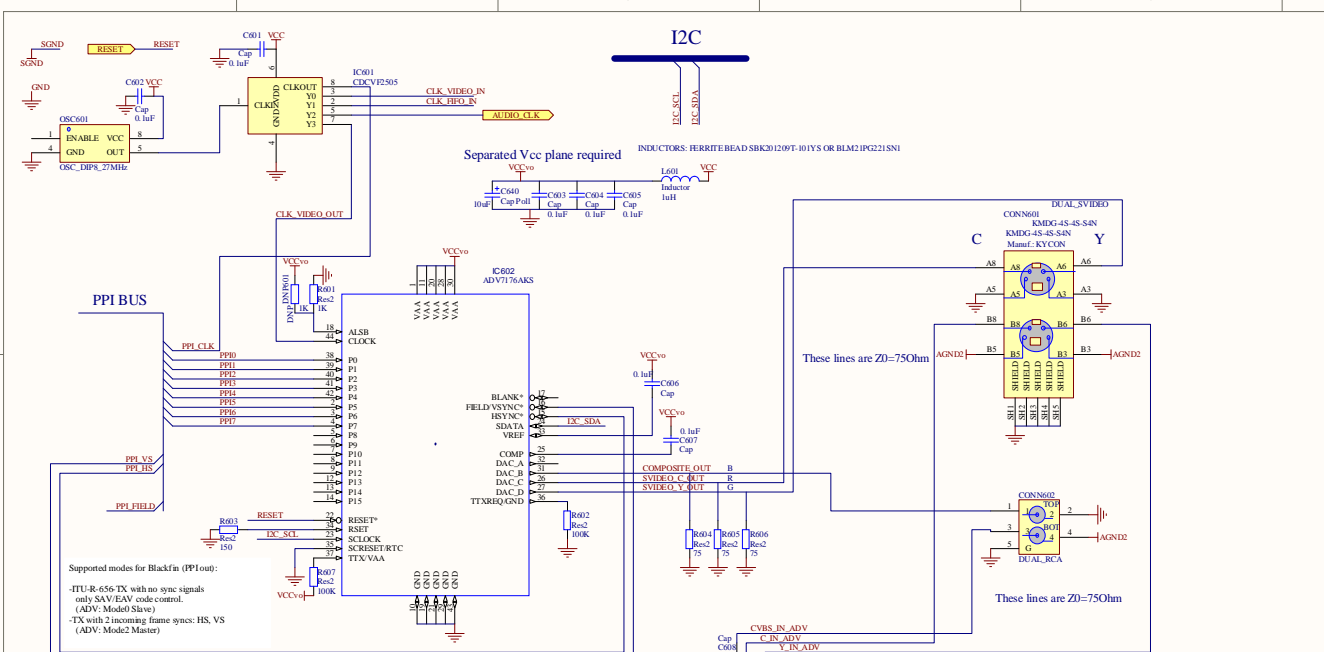
**ISP1761 PHILIPS USB2.0 OnTheGo Controller**

**SYSTEM BUS**

**TITLE**

USB	
Size	A3
Number	1
Revision	
Date:	2006.04.22
File:	F:\projects\usb.SCHDOC
Sheet of	Buenos Blackfin Board
Drawn By:	Istvan Nagy

[illegible]



Title		
Video		
Size	Number	Revision
A2	1	
Date	2006.04.22	Sheet of Buenos Aires Board
File	F:\projects_video\SCHEMATIC	Drawn By: Ivan Nagy