

Pong

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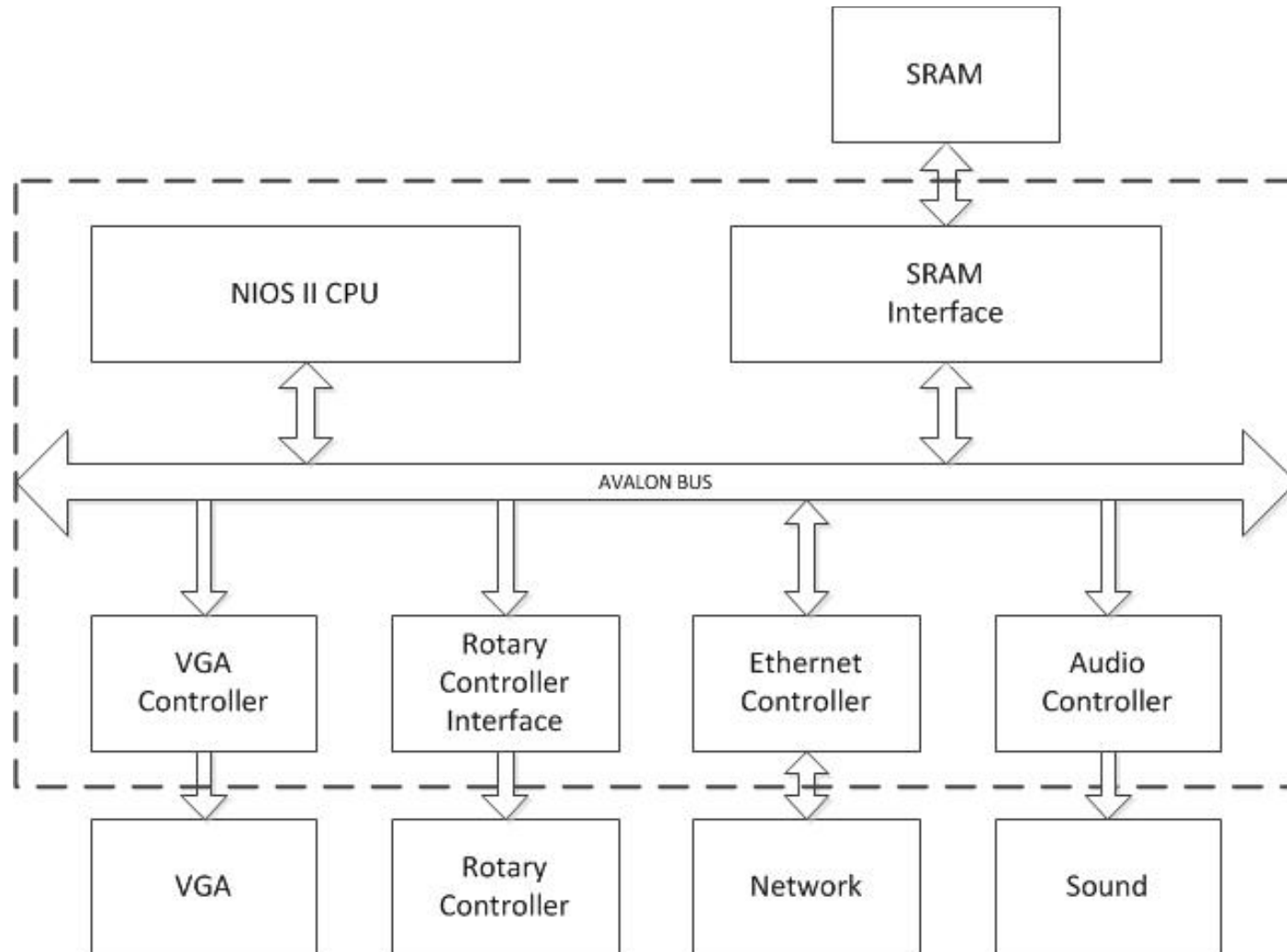
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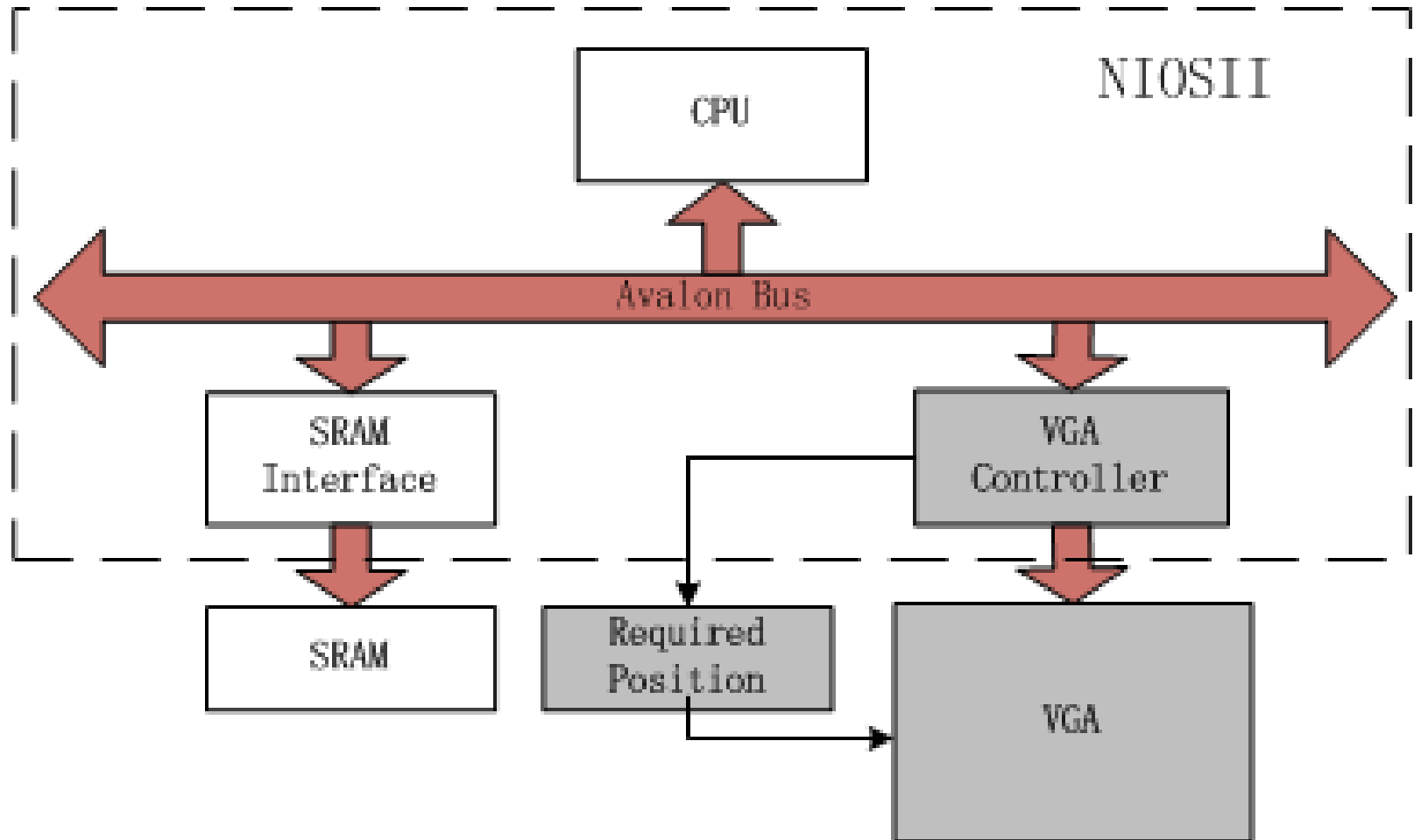
Features

- Paddle can be controlled by Rotary Controller
- Paddle can be controlled by Laptop through Ethernet
- Players can play with AI or with other people
- Using hearts to record the score
- Game has sound effect
- Game has 3 levels of different speed
- Hitting different positions of the paddle produces different angles

Block Diagram



Video



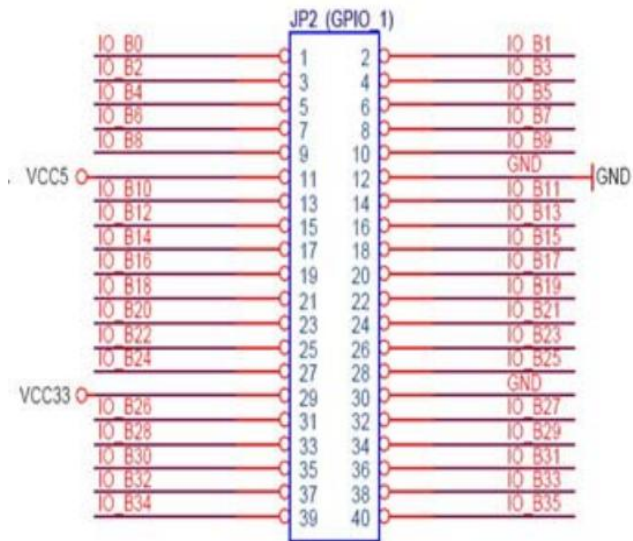
Video

Figure	Description	Size	Base offset
	Ball1	16*16	X: 0x00 Y: 0x01
	Ball2	16*16	X: 0x0c Y: 0x0d
	Ball3	16*16	X: 0x0e Y: 0x0f
	Background (Tile1)	32*32	
	Heart (Tile2)	32*32	0x06-0x0b
	Paddle	21*120	Left: X: 0x02 Y: 0x03 Right: X: 0x04 Y: 0x05

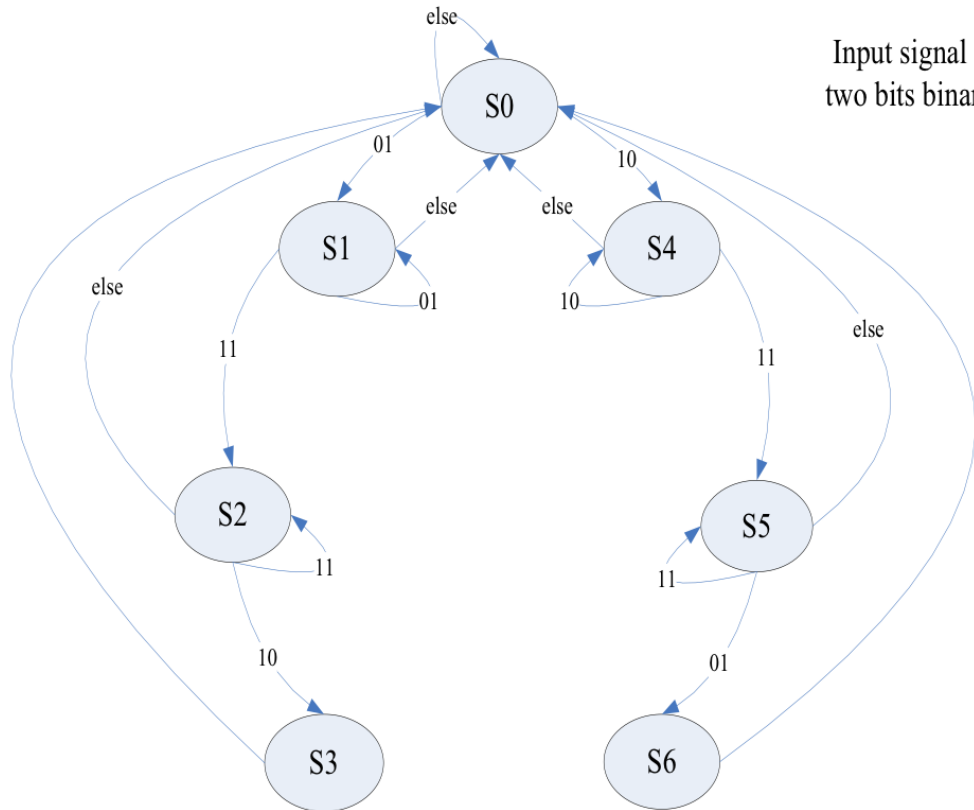
Rotary Controller

Signal Name	FPGA Pin Number	Description
GPIO_1[24]	PIN_U23	GPIO Connection [24]
GPIO_1[25]	PIN_U24	GPIO Connection [25]

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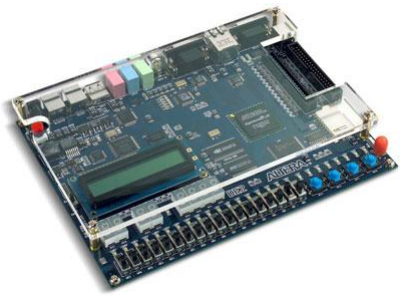


Connector



Input signal (AB):
two bits binary code

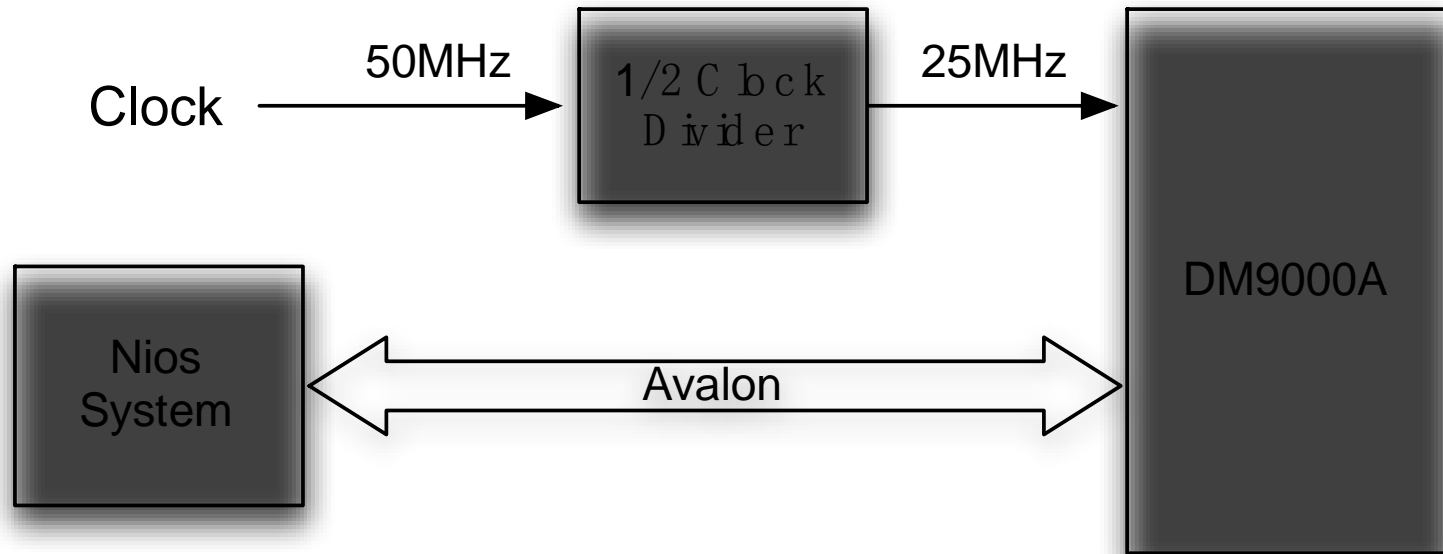
Ethernet



Sending UDP Package



Ethernet



Audio

