The Dorm Room Genie

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The Dorm Room Genie provides:

- Keyless entry
- Security alarm
  - Includes video capture & playback
- Automatic lighting controls
- Wake-to-light alarm clock

Dorm Room Genie

Reset (Global)

Clk (Global)

"Audio" Module

Serial links to/from AC97 chip

Light Bulb

AC97

Photo-sensor Data

Ready

Light Value Data

Photo-sensor

Magnetic Switch

Debouncer

Door Sensor

8

8

Keyboard

PS2 interface

Controller Module

Buzzer

Speaker

XVGA

Display Signals

25

Controller Signals

6

ADV7125 Signals

6

Burglary

Video Signals

6

ADV7195

65Mhz

Video Camera

RCA Phono Jack Interface

Video Module

Switch_sync

Monitor

Synchronizer

Note: Display Signals includes vclock, hcount, vcount, hsync, vsync, blank

Switch0

Lock Module

Reset (Global)

Clock (Global)

char data /8

lock ctrl /3

door sensor

burglary

FSM

lock state /3

unlock

correct pw

addr in /5 | data in /8 | wr enable | data out /8 | addr in /5 | data in /8 | wr enable | data out /8

16 x 8 BRAM (password storage)

16 x 8 BRAM (password entered)