Laser Pointer Mouse

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Introduction

Objective: To control a mouse on a projected screen with a laser pointer

- Buffer Video Input
- Initialize Image Processor
- Locate Laser Pointer
- Send mouse events through PS/2 to computer
Process and Store Camera Data

Diagram:

- Camera Input
- ADV7185
- YCrCb to RGB
- Address
- Dual BRAM (256k x 12)
- CLKB
- CLKA
- WEA
- DINA
- ADDR A
- ADDR B
- DOUT B
- RGB out

- 27 MHz clock signals
- YCrCb input
- 10 x 8 y
- Address
- 18 addr 12

Logic:

- Camera input
- ADV7185 clocked at 27 MHz
- YCrCb converted to RGB
- Address
- Dual BRAM
- CLKB, CLKA
- WEA, DINA
- ADDR A, ADDR B, DOUT B
- RGB output
PS/2 Mouse Interface

Control FSM

Packaging (muxes)

Serialization (shift reg)

De-serialization

dx  dy  buttons

Clock bus

~10 KHz

Clock Manager

27 MHz

Data bus

27 MHz