BRisbane Silicon

DPTx 1.4 Example

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The following document details running the DPTx 1.4 example on the Numato Mimas A7 board.

Hardware Requirements

1. Numato Mimas A7 board
2. Power Supply (12V – **not** USB)
3. JTAG Programmer
4. Mini DP to DP cable
5. DP monitor
6. 2x USB Type B to USB Type A cables

Software Requirements

1. Vivado or Vivado Lab 2021.2
2. UART Terminal Emulator

Setup

1. Connect Power Supply to Numato Mimas A7 board, ensure P2 is set to ‘EXT’.
2. Connect JTAG Programmer to Numato Mimas A7 board and PC.
3. Connect USB Type-C to Numato Mimas A7 board (J3) and PC.
4. Connect DP cable from Numato Mimas A7 board (DP_OUT - P11) and DP Monitor.
5. Power on the Numato Mimas A7
6. <linux only> Ensure you have the USB FTDI driver installed, and perform the following:
    a. In a terminal run the following commands:
    b. $ sudo modprobe ftdi_sio
    c. $ sudo sh -c "echo 2a19 1009 > /sys/bus/usb-serial/drivers/ftdi_sio/new_id"
    d. $ sudo dmesg

    (you should see “FTDI USB Serial Device converter now attached to ttyUSB0”)
7. Run a UART Terminal Emulator and connect to terminal 0 at baud 115200.

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Bringup

1. Contact BrisbaneSilicon (see ‘Links’ section below), requesting a Numato MimasA7 target bitstream, with a desired **CEA-861** defined video format.
2. Run Vivado / Vivado Lab and click ‘Hardware Manager’.
3. Click ‘Open target’ – ‘Autoconnect’ – ‘Program device’
4. Navigate to the bitstream file and click ‘Program’.
5. Once the bringup is complete, use the DIP switches to modify the test pattern:

DIP Switch	Function
1	Display 8x8 test pattern (default is colour-bars).
2	Add noise to the test pattern.
3	Display a top-left – bottom-right sync pattern.
4	Make the sync pattern static colour (grey).

Links

1. BrisbaneSilicon contact form.