ACX-KIT-HD1000-100G
Development Kit QuickStart Guide

achronix SEMICONDUCTOR CORPORATION

UG045 – January 3, 2015 Rev 1.3

Installing the Achronix CAD Environment (ACE)

1. Install the latest release of ACE on your system. Follow instructions to install all related drivers.

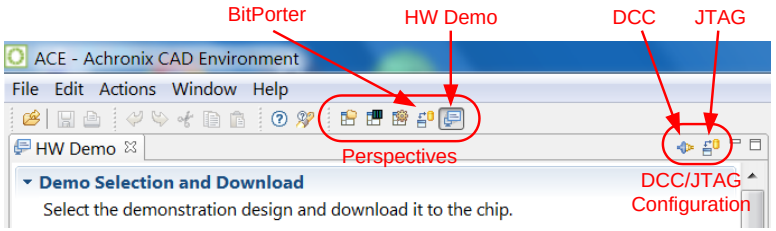
Setting up the board

IMPORTANT: Bitporter Pod communication can be done via Ethernet or USB. When communicating via USB, DO NOT provide power to the Pod through the +5V DC input. Power is provided to the Pod via the USB cable.

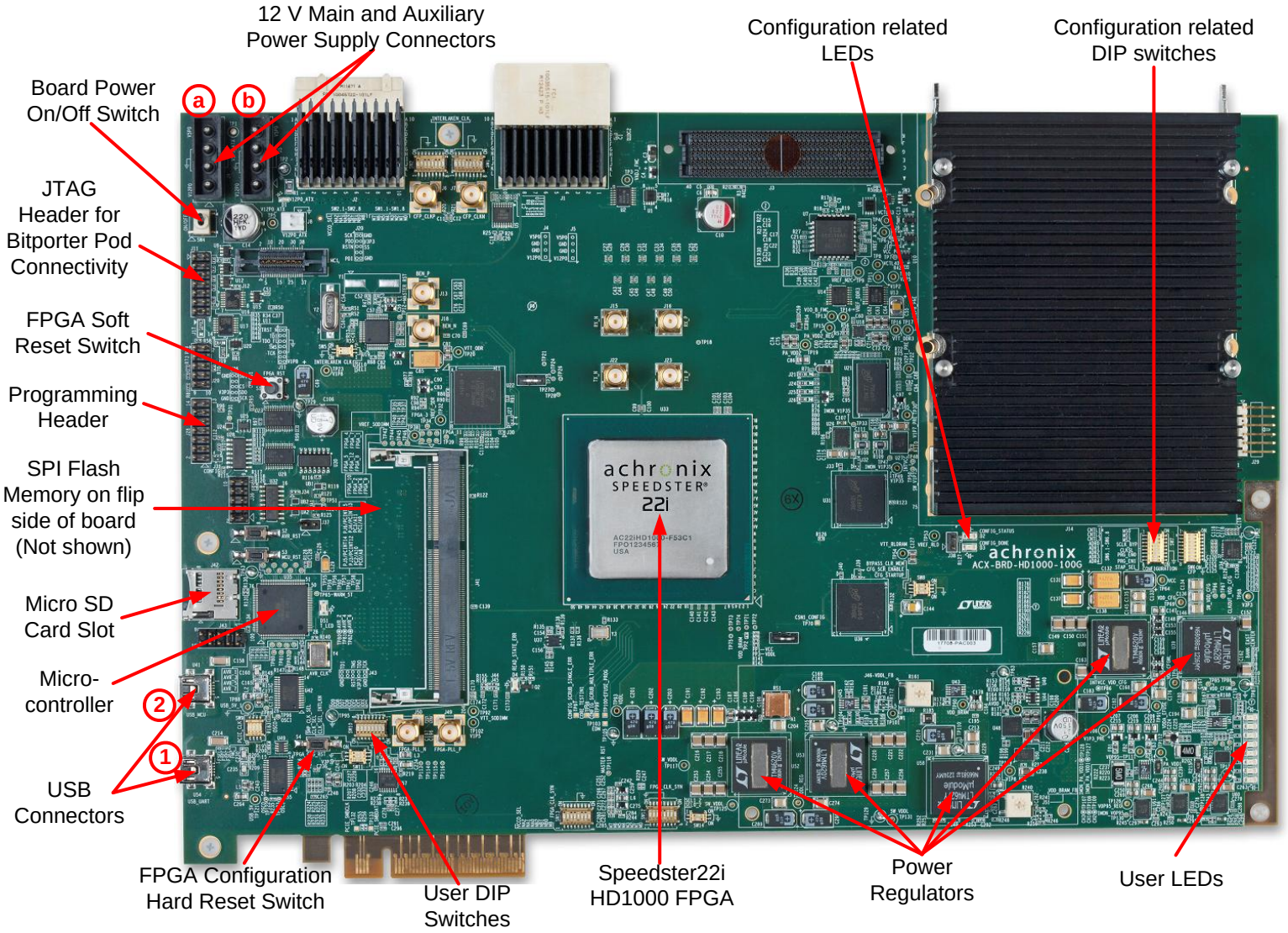
IMPORTANT: Bitporter Pod should always be powered up before and powered down after the development board to prevent damage and undesired behavior.

1. Connect Bitporter ribbon cable to the JTAG header on the development board.
2. Connect USB mini end of Bitporter Pod to your system's USB port. Ensure the Bitporter Pod is recognized and powered up (as indicated by red LED on Bitporter Pod). Connect DCC interface's USB mini connection (shown as (1) in the development board figure below) to your system's USB port.
3. Plug Achronix power supply into a power source and connect other end to the 12V main power supply connector (shown as (a) in the development board figure below).
4. Ensure that configuration DIP switches are set up correctly:
    a. STAP_SEL should be set to ON.
    b. CONFIG_MODESEL [2:0] should be set to the correct programming mode (JTAG programming is always active independent of these settings).
5. Turn on the power.

Board Operation through ACE



1. In the Bitporter and HW Demo perspectives, configure the JTAG interface such that the Bitporter Connection is set to "Auto-Detect Pod".
2. In the HW Demo perspective, configure the DCC interface port name to COM3, and ensure that this matches the COM number for the USB port in the Device Manager settings of your system under the Control Panel. If not, change the COM number for the USB port to COM3.
3. Push the 'FPGA Configuration Hard Reset Switch' on the development board and release after a second. Wait for the CONFIG_STATUS LED to be lit.
4. Download the Startup Check bitstream from the Achronix Download site (https://secure.achronix.com) located at /public/Achronix/demos/startup.zip. Unzip this file and program the bitstream into the FPGA. The programming will take about a minute.
5. When the configuration is complete, the CONFIG_DONE LED should be lit. Ensure that User LEDs 0 and 1 are blinking in a 2-bit counter sequence.
6. Your board is set-up and operational. Perform another 'Configuration Hard Reset' and you are ready to start using your development board. Please file a request to support@achronix.com for any inquiries or unexpected board behavior.


12 V Main and Auxiliary Power Supply Connectors
Configuration related LEDs
Configuration related DIP switches
Board Power On/Off Switch
a
b
JTAG Header for Bitporter Pod Connectivity
FPGA Soft Reset Switch
Programming Header
SPI Flash Memory on flip side of board (Not shown)
Micro SD Card Slot
Micro-controller
2
1
USB Connectors
FPGA Configuration Hard Reset Switch
User DIP Switches
Speedster22i HD1000 FPGA
Power Regulators
User LEDs
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SPEEDSTER®
22i
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ACX-BRD-HD1000-100G