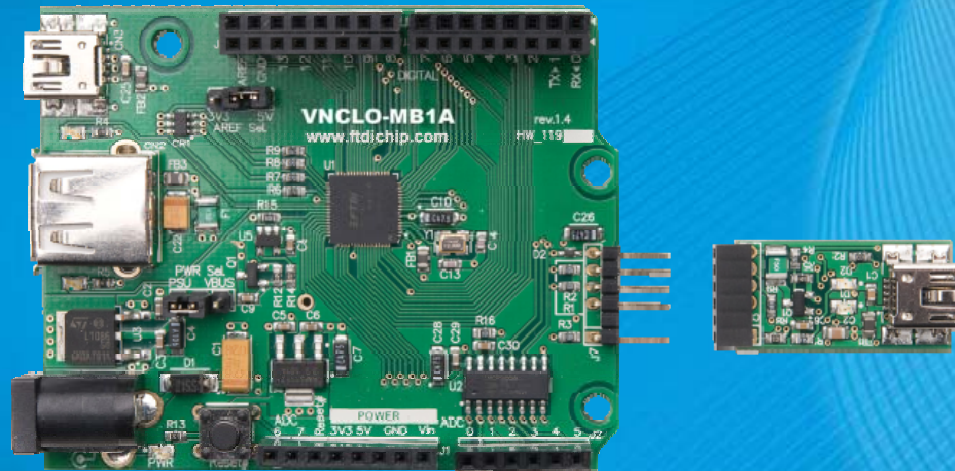


**FTDI
Chip**

Vinco Development Platform Product Information



USB MADE EASY

Vinco - Vinculum-II Development Platform

What is Vinco?

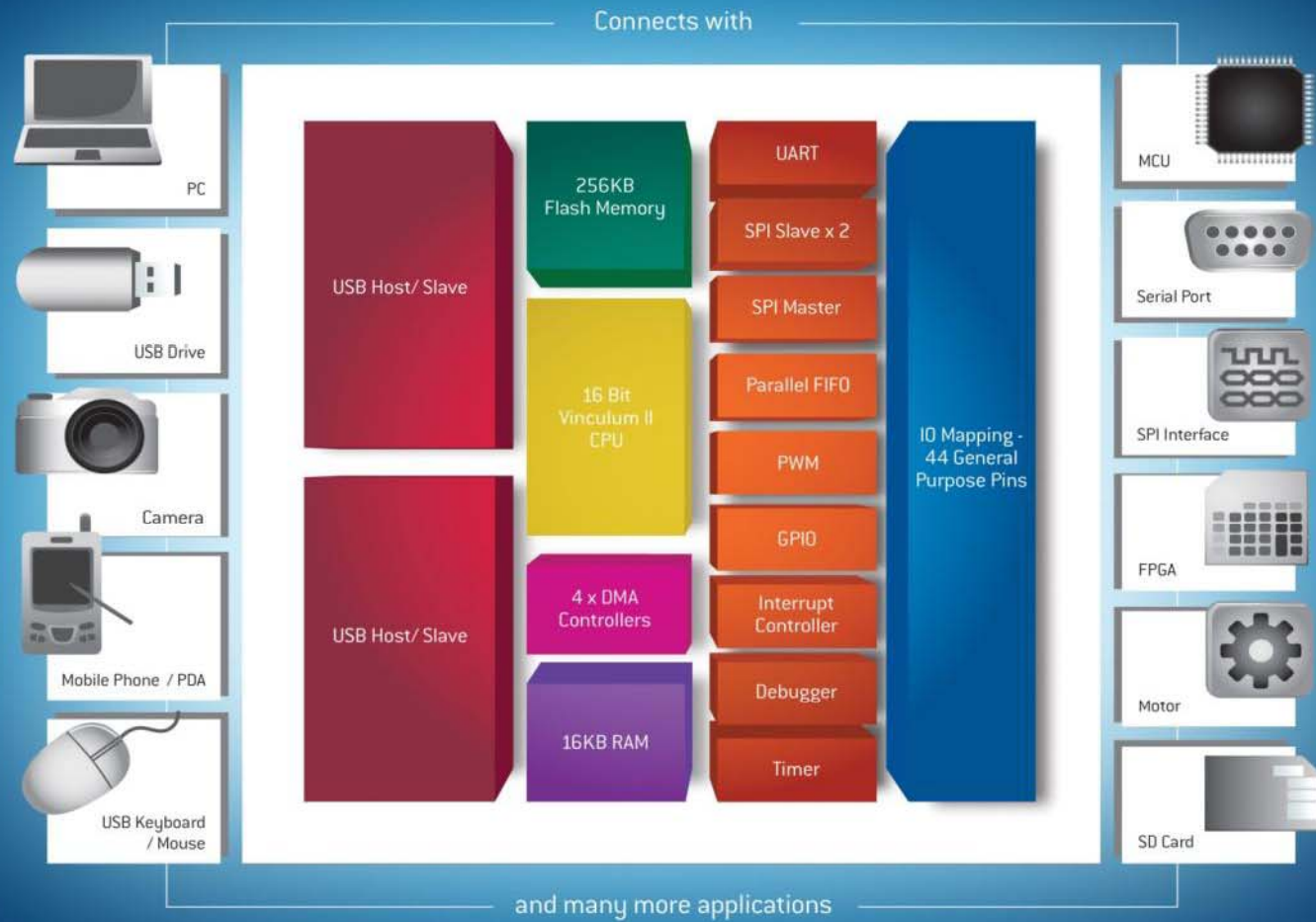
Vinco is a development board using the industry-standard Arduino form factor, with the FTDI Vinculum-II USB controller chip.

The following training presentation has been developed to highlight technical features and selling points of the FTDI Vinculo Vinculum-II Development Board and Accessories.

Vinco and Vinculum-II Features

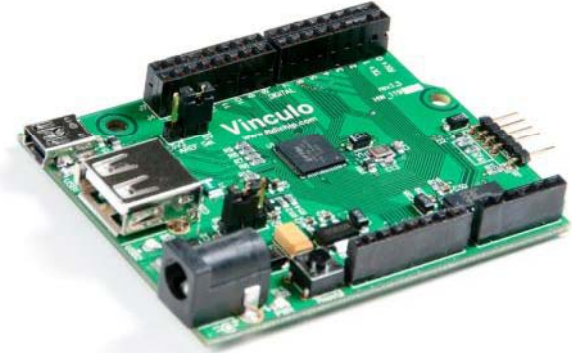
- **Powerful development platform offers enhanced processing and USB interfacing capability**
 - Vinculum-II Controller has a Harvard architecture 48MHz CPU core, 16/32-bit width (dual instruction/data paths) coupled with 256KB Flash and 16KB SRAM moves massive amounts of data very quickly
 - Vinco USB Host capability allows it to connect to a wide variety of standard USB peripherals (for example keyboard, joystick, or mouse)
 - Vinco USB Device capability allows it to communicate directly with Windows/Mac/Linux PC environment (HID/CDC/Virtual COM port class)

Vinculum-II Block Diagram



Vinco Vinculum-II Development Platform

Vinculum-II (VNC2) Dual USB Host/Device Development Platform



- VNC2-64 (dual USB Host/Device Controller) with a powerful 16/32-bit width (instruction/data) 48MHz MCU core, with 256KB Flash, 16KB SRAM, supporting UART, FIFO, SPI (master and device), DMA, Timers, PWM and GPIO interfaces
- Vinco uses a subset of standard ANSI 'C' (in place of the "Sketch" Arduino software environment)
- FTDI supported, free-of-charge software development tools, libraries and reference designs

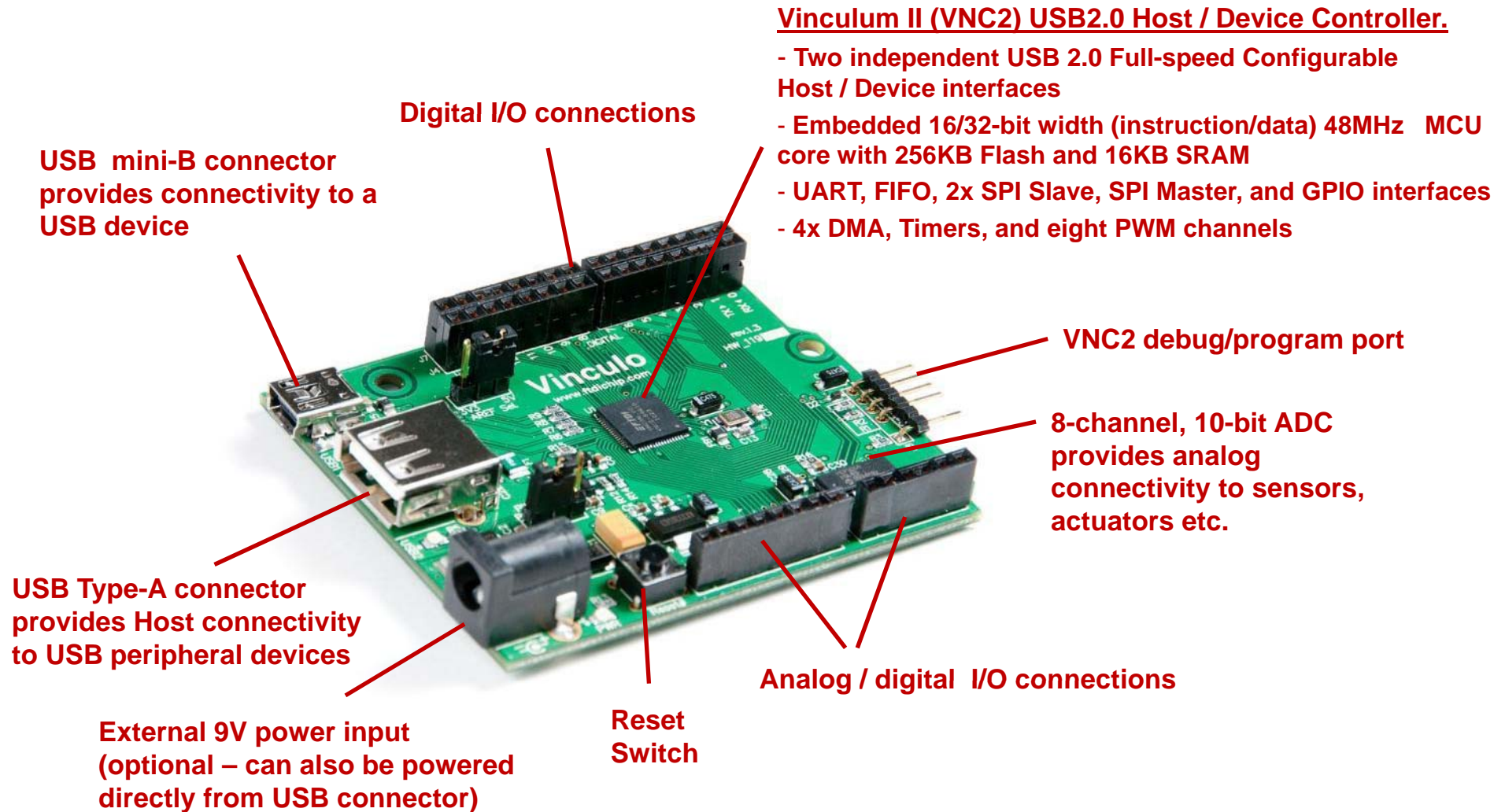
Vinco Vinculum-II Development Platform

Designed to support rapid prototyping and development of USB based applications with open-source hardware.



- Development platform inspired by the Arduino open-source development concept. The Vinco I/O bus (shield) is a superset of the Arduino form factor with 2 additional rows of headers providing extra I/O pins
- The Vinco board features USB Type-A & mini-B connectors (configurable as either Host or Device), as well as an 8-channel / 10-bit ADC and 38 general purpose I/Os
- Vinco supports connectivity to a wide range of application shield boards developed by the Arduino open-source community. These include Ethernet, motor control, LCD and many others
- Power can be jumper configured to supply voltage from either an external 9V source or USB connector(s)

Vinco Main Board Hardware Features

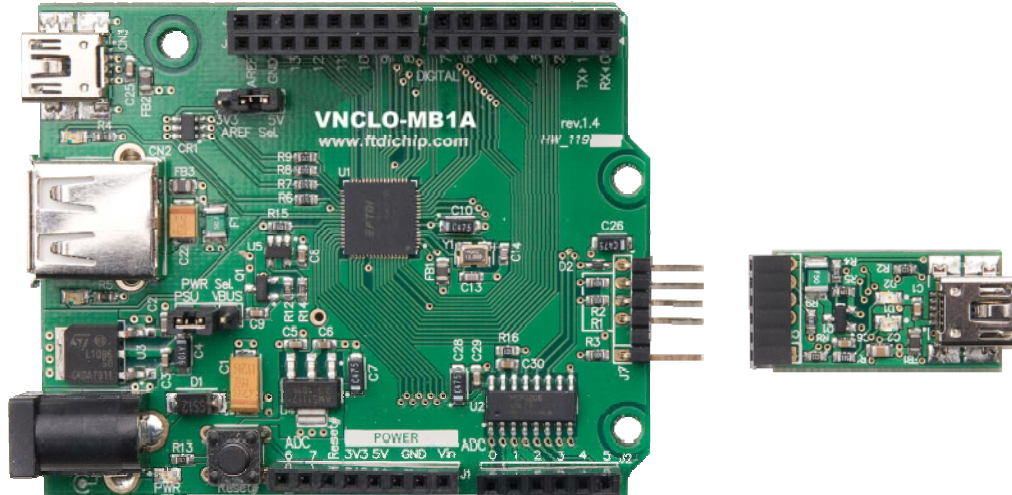


Vinco Starter Pack - VNCLO-START1

Starter Pack contents:

VNCLO-MB1A

VNC2 DEBUG MODULE



In order to program the Vinco board, the Vinculum-II Debugger / Programmer is **required** to transfer user programs from the IDE software to the Vinculum-II controller's flash memory

Note: one VNC2 DEBUG MODULE can be used to program many VNCLO-MB1A development boards

Vinco & Vinculum-II S/W Development

- **IDE – Integrated Development Environment**
 - Free S/W tool chain, libraries, and example programs are available to the Vinculum-II development community
 - No restrictions on code size or time limits on tool chain
 - Code developed from IDE & libraries are royalty-free
 - Royalty-free PC USB Drivers available for exchanging information with Windows/Mac/Linux operating environment (Virtual COM port & D2XX)

Vinco & Vinculum-II S/W Development

- **IDE – Integrated Development Environment**
- **Free software development IDE tools for Vinculum-II Platform**

Advanced S/W IDE consists of:

- C Compiler
 - Assembler & Linker
 - H/W assisted Debugger
 - Set breakpoints & watch windows
 - Step through code & subroutines
 - VOS (FTDI's Real Time Operating System)
 - VOS Thread Manager helps troubleshoot complex timing issues
- **All integrated within an IDE framework**
 - Easy to learn, easy to use
 - Interactive on-line help guide

Vinco & Vinculum-II: Software Support

USB Device Classes supported on Vinculum-II

- Bulk Only Mass Storage (BOMS) - also known as USB Mass Storage (i.e., thumb drive)
- HID – Human Interface Device (i.e., keyboard, mouse, joystick)
- HUB – USB Hub, one upstream and multiple downstream ports
- CDC – Communication Device Class (COM Port)
- Image – Image Capture/Transfer

Vinco and Vinculum-II Features

- **Accelerated Application Development:**
 - Vinco library available to help port existing Arduino code to Vinco environment
 - Pre-compiled & tested USB Device Class libraries accelerate development whilst reducing development effort, cost and time to market
 - Royalty free WHQL Microsoft certified FTDI drivers: Virtual COM port & D2XX for API
 - Configuration wizard for Vinculum tool-chain, to jump-start Vinco Application Development
 - Thread manager to provide real-time information about RTOS debugging

Vinco Features - Accessories

- **VINCO-PROTO**

- Vinco shield prototyping board & components – can be purchased separately as an accessory pack to Vinco.
- Supports breadboard style prototyping. Accessory pack contains board, connectors, LEDs, switches and other useful prototyping components
- Fits to Vinco via standard Arduino style shield connectors.

