

# FTDI Vinculum-II Host Controllers and USB UART ICs



Embedded Modules

FTDI

## FTDI VINCULUM AND VINCULUM II USB HOST CONTROLLER DEVICES

### FTDI VNC2 USB Host Controller IC

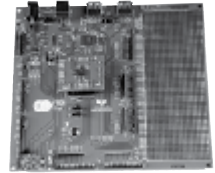
Vinculum-II (VNC2) is the second generation of FTDI's Vinculum family of dual USB Host Controllers. VNC2 expands on the abilities of the Vinculum1L devices with more memory and a faster processor. The VNC2 features a powerful 16/32-bit width (instruction/data) MCU core, with embedded 256KB Flash and 16KB RAM memory. The device supports a range of flexible interfaces including UART, SPI, FIFO and PWM. The complete USB protocol data processing is handled entirely by hardware resources within the device freeing up processing resources for user developed applications.



This product is RoHS compliant.

### FTDI V2-EVAL Evaluation and Development Kit for VNC2

The V2-EVAL is a hardware platform designed to support easy evaluation of FTDI's Vinculum-II (VNC2) series of embedded USB host controller devices. The VNC2 is accessed via an onboard daughterboard module enabling support for 32, 48 and 64-pin QFN package types. Daughterboard modules are sold separately.



### Vinculum II

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	FTDI Part No.	Description	Price Each			
			1	10	50	100
895-VNC2-32L1B-REEL	VNC2-32L1B-REEL	32 Pin LQFP	4.00	3.48	3.31	3.08
895-VNC2-32Q1B-REEL	VNC2-32Q1B-REEL	32 Pin QFN	4.00	3.48	3.31	3.08
895-VNC2-48L1B-REEL	VNC2-48L1B-REEL	48 Pin LQFP	4.39	3.82	3.64	3.38
895-VNC2-48Q1B-REEL	VNC2-48Q1B-REEL	48 Pin QFN	4.39	3.82	3.64	3.38
895-VNC2-64L1B-REEL	VNC2-64L1B-REEL	64 Pin LQFP	4.94	4.29	4.09	3.80
895-VNC2-64Q1B-REEL	VNC2-64Q1B-REEL	64 Pin QFN	4.94	4.29	4.09	3.80

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	FTDI Part No.	Description	Price Each			
			1	10	50	100
<b>VNC2 Evaluation Kit</b>						
895-V2-EVAL-US	V2-EVAL-US	US Power Supply	79.00	72.00	--	--
895-V2-EVAL-EU	V2-EVAL-EU	EU Power Supply	79.00	72.00	--	--
895-V2-EVAL-UK	V2-EVAL-UK	UK Power Supply	79.00	72.00	--	--
895-V2-EVAL-JP	V2-EVAL-JP	JP Power Supply	79.00	72.00	--	--
<b>Daughterboard Module</b>						
895-V2-EVAL-EXT32	V2-EVAL-EXT32	32-pin Daughterboard	12.46	11.33	10.30	10.00
895-V2-EVAL-EXT48	V2-EVAL-EXT48	48-pin Daughterboard	13.71	12.46	11.33	11.00
895-V2-EVAL-EXT64	V2-EVAL-EXT64	64-pin Daughterboard	14.96	13.60	12.36	12.00

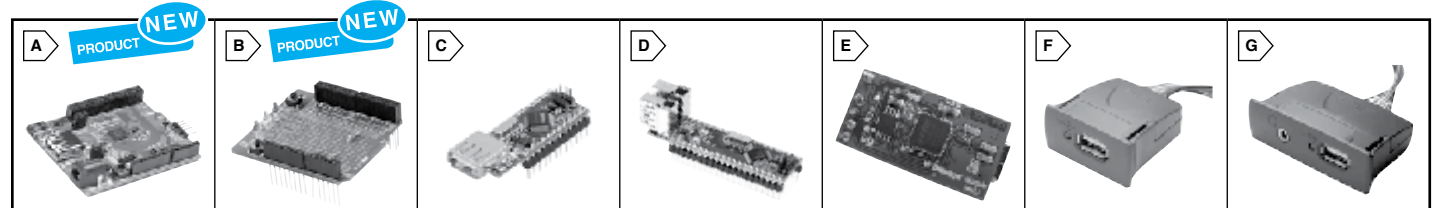
For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	FTDI Part No.	Description	Price Each			
			1	10	50	100
895-VNC1L-1A	VNC1L-1A	48 Pin LQFP	10.90	10.40	9.95	9.50

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	FTDI Part No.	Description	Price Each			
			1	10	50	100
<b>Development Board</b>						
895-V-EVAL-1	V-EVAL-1	Dev. Board	69.95	--	--	--

## FTDI VINCULUM AND VINCULUM II MODULES



MOUSER STOCK NO.	FTDI Part No.	Fig.	Description	Price Each			
				1	10	50	100
<b>Vinculum II Modules and Accessories</b>							
895-VNCLO-MB1A	VNCLO-MB1A	A	Vinco VNC2 Development Board Based on Arduino, Req VNC2 DEBUG MODULE	29.95	27.00	26.00	25.61
895-VNCLO-SHLD-1A	VNCLO-SHLD-1A	B	Vinco Shield Prototyping Daughterboard for the VNCLO-MB1A	9.75	8.80	8.40	8.00
895-V2DIP1-32	V2DIP1-32	C	Vinculum II VNC2-32Q Dev Module, 1 USB Port, Req VNC2 DEBUG MODULE	18.69	17.00	15.45	15.00
895-V2DIP1-48	V2DIP1-48	C	Vinculum II VNC2-48Q Dev Module, 1 USB Port, Req VNC2 DEBUG MODULE	21.50	19.54	17.77	17.25
895-V2DIP1-64	V2DIP1-64	C	Vinculum II VNC2-64Q Dev Module, 1 USB Port, Req VNC2 DEBUG MODULE	24.30	22.09	20.09	19.50
895-V2DIP2-32	V2DIP2-32	D	Vinculum II VNC2-32Q Dev Module, 2 USB Port, Req VNC2 DEBUG MODULE	22.43	20.39	18.54	18.00
895-V2DIP2-48	V2DIP2-48	D	Vinculum II VNC2-48Q Dev Module, 2 USB Port, Req VNC2 DEBUG MODULE	25.24	22.94	20.86	20.25
895-V2DIP2-64	V2DIP2-64	D	Vinculum II VNC2-64Q Dev Module, 2 USB Port, Req VNC2 DEBUG MODULE	28.04	25.49	23.18	22.50
895-VNC2DEBUGMODULE	VNC2 Debug Module	E	Vinculum II VNC2 Debug/Programmer Module	16.83	15.30	13.91	13.50
<b>Vinculum Modules and Accessories</b>							
895-VNCLO-PSU-UK	VNCLO-PSU-UK	-	Vinco +9V/1A UK Power Supply	9.95	9.00	8.60	8.20
895-VNCLO-PSU-USA	VNCLO-PSU-USA	-	Vinco +9V/1A USA Power Supply	9.95	9.00	8.60	8.20
895-VNCLO-PSU-EU	VNCLO-PSU-EU	-	Vinco +9V/1A EU Power Supply	9.95	9.00	8.60	8.20
895-VDIP1	VDIP1	C	Vinculum MCU to USB Host Controller Module	24.50	22.05	20.30	18.50
895-VDIP2	VDIP2	D	Vinculum USB MCU to 2 USB Host Controller Module	29.50	27.05	25.30	23.50
895-VDRIVE2	VDRIVE2	F	Vinculum USB Flash Drive Interface Module	24.50	22.05	20.30	18.50
895-VMUSIC2	VMUSIC2	G	Vinculum USB Dash Drive Audio Interface Module w/MP3/WMA Codec	37.50	33.75	31.05	28.25

## FTDI USB-UART AND USB INTERFACE IC'S

### FTDI FT232 - Full Speed USB to Serial UART IC Devices:

The FT232BL USB to UART device includes an internal 3V3 regulator and USB Transceiver that provides USB 1.1/2.0 full speed physical interface. The UART will operate from 300Baud to 3MBaud. The FT232RL/RQ has all the features of the 'BL' but includes an internal EEPROM and clock circuitry plus a new FTDIChip-ID security mode. The devices are offered with a range of Royalty free FTDI developed drivers for 32 and 64 bit OS including Windows (2000, XP, VISTA, 7), Linux, Mac OS and WinCE.



Hi-Speed USB ICs

### FTDI FT245 - Full Speed USB to Parallel FIFO IC Devices:

The FT245R is a USB to parallel FIFO interface, with the new FTDIChip-ID™ security dongle feature. In addition, asynchronous and synchronous bit bang interface modes are available. USB to parallel designs using the FT245R have been further simplified by fully integrating the external EEPROM, clock circuit and USB resistors onto the device. Previous generation FT245B also available.



RoHS Compliant

### FTDI FT2232D - Full Speed Dual UART/FIFO IC Devices:

The FT2232D device features two multi-purpose UART/FIFO controllers which can be configured individually in several different modes. As well as a UART interface, a FIFO interface and the Bit-Bang IO mode of the FT232B and FT245B devices, the FT2232D offers a variety of additional new modes of operation including a Multi-Protocol Synchronous Serial Engine (MPSSSE) interface which is designed specifically for synchronous serial protocols such as I2C, JTAG and SPI bus. The FT2232D has an extended temperature range (-40°C to +85°C) and adds CPU FIFO mode.

### FTDI Hi-Speed Dual/Quad USB IC Devices:

FTDI's new FT2232H and FT4232H are USB 2.0 Hi-Speed devices operating at 480Mbps. In addition to the standard UART and FIFO modes, each of these devices supports FTDI's bit-bang modes and contains two multi-protocol synchronous serial engines (MPSSSEs) to allow communication using JTAG, I2C and SPI protocols.

MOUSER STOCK NO.	FTDI Part No.	Description	Price Each			
			1	10	50	100
895-FT232RL	FT232RL	USB to Serial UART IC, 28 Pin SSOP	4.50	4.05	3.85	3.65
895-FT232RQ	FT232RQ	USB to Serial UART IC, 32 Pin QFN	4.50	4.05	3.85	3.65
895-FT232BL	FT232BL	USB to Serial UART IC, 32 Pin LQFP	5.75	4.95	4.60	4.25
895-FT232BQ	FT232BQ	USB to Serial UART IC, 32 Pin QFN	5.75	4.95	4.60	4.25
895-FT245RL	FT245RL	USB to Parallel FIFO IC, 28 Pin SSOP	4.50	4.05	3.85	3.65
895-FT245RQ	FT245RQ	USB to Parallel FIFO IC, 32 Pin QFN	4.50	4.05	3.85	3.65
895-FT245BL	FT245BL	USB to Parallel FIFO IC, 32 Pin LQFP	5.75	4.95	4.60	4.25
895-FT2232D	FT2232D	USB to Dual UART/FIFO IC, 48 Pin LQFP	6.99	6.28	5.59	5.17
895-FT2232HL	FT2232HL	USB Hi-Speed to Dual UART/FIFO IC, 64 Pin LQFP	6.71	6.20	5.77	5.40
895-FT2232HQ	FT2232HQ	USB Hi-Speed to Dual UART/FIFO IC, 64 Pin QFN	6.71	6.20	5.77	5.40
895-FT4232HL	FT4232HL	USB Hi-Speed to Quad UART/MPSSSE IC, 64 Pin LQFP	9.59	8.66	8.10	6.84
895-FT4232HQ	FT4232HQ	USB Hi-Speed to Quad UART/MPSSSE IC, 64 Pin QFN	9.59	8.66	8.10	6.84
895-FT232HL-REEL	FT232HL-REEL	Sngl Chn. Hi-Spd USB-UART/FIFO IC, LQFP	4.25	3.55	3.20	3.10
895-FT232HQ-REEL	FT232HQ-REEL	Sngl Chn. Hi-Spd USB-UART/FIFO IC, QFP	4.25	3.55	3.20	3.10