

# FTDI UART Chips and Vinculum Host Controllers



Embedded Modules

FTDI Chip

## 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 VNC1L devices with more memory and a faster processor. The VNC2 features a powerful 16-bit 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.

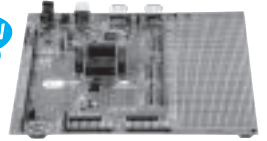


RoHS Compliant

RoHS Compliant 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.



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**Vinculum** For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	FTDI Chip 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

**Vinculum II** For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	FTDI Chip Part No.	Description	Price Each			
			1	25	100	500
895-VNC2-32L1A-REEL	VNC2-32L1A-REEL	32 Pin LQFN	4.00	3.48	3.31	3.08
895-VNC2-32Q1A-REEL	VNC2-32Q1A-REEL	32 Pin QFN	4.00	3.48	3.31	3.08
895-VNC2-48L1A-REEL	VNC2-48L1A-REEL	48 Pin LQFP	4.39	3.82	3.64	3.38
895-VNC2-48Q1A-REEL	VNC2-48Q1A-REEL	48 Pin QFN	4.39	3.82	3.64	3.38
895-VNC2-64L1A-REEL	VNC2-64L1A-REEL	64 Pin LQFP	4.94	4.29	4.09	3.80
895-VNC2-64Q1A-REEL	VNC2-64Q1A-REEL	64 Pin QFN	4.94	4.29	4.09	3.80

**Vinculum** For quantities greater than listed, call for quote.

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

**Vinculum II** For quantities greater than listed, call for quote.

MOUSER STOCK NO.	FTDI Chip 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	12.46	11.33	10.30	10.00
895-V2-EVAL-EXT48	V2-EVAL-EXT48	48-pin	13.71	12.46	11.33	11.00
895-V2-EVAL-EXT64	V2-EVAL-EXT64	64-pin	14.96	13.60	12.36	12.00

## FTDI VINCULUM AND VINCULUM II MODULES



For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	FTDI Chip Part No.	Fig.	Description	Price Each			
				1	10	50	100
<b>Vinculum Modules and Accessories</b>							
895-VDIP1	VDIP1	A	Vinculum MCU to USB Host Controller Module	24.50	22.05	20.30	18.50
895-VDIP2	VDIP2	B	Vinculum MCU to 2 USB Host Controller Module	29.50	27.05	25.30	23.50
895-VF2F2	VF2F2	C	Vinculum Digital Media Backup to USB Flash Drive	37.50	33.75	31.05	28.25
895-VDRIVE2	VDRIVE2	D	Vinculum Flash Drive Interface Module	24.50	22.05	20.30	18.50
895-VMUSIC2	VMUSIC2	E	Vinculum Flash Drive Interface w/MP3 Module	37.50	33.75	31.05	28.25
895-VPROG-1	VPROG-1	F	Vinculum Host Controller Programmer	55.00	--	--	--
895-VPROG-1-S-LQFP48	VPROG-1-S-LQFP48	--	LQFP48 Socket for programming VNC1L-1A ICs	140.00	--	--	--
895-VPROG-1-S-ZIF40	VPROG-1-S-ZIF40	--	ZIF40 Socket for programming VDIP1 & VDIP2 modules	50.00	--	--	--
<b>Vinculum II Modules</b>							
895-V2DIP1-32	V2DIP1-32	A	VNC2-32Q Dev Module, 1 USB Port	18.69	17.00	15.45	15.00
895-V2DIP1-48	V2DIP1-48	A	VNC2-48Q Dev Module, 1 USB Port	21.50	19.54	17.77	17.25
895-V2DIP1-64	V2DIP1-64	A	VNC2-64Q Dev Module, 1 USB Port	24.30	22.09	20.09	19.50
895-V2DIP2-32	V2DIP2-32	B	VNC2-32Q Dev Module, 2 USB Ports	22.43	20.39	18.54	18.00
895-V2DIP2-48	V2DIP2-48	B	VNC2-48Q Dev Module, 2 USB Ports	25.24	22.94	20.86	20.25
895-V2DIP2-64	V2DIP2-64	B	VNC2-64Q Dev Module, 2 USB Ports	28.04	25.49	23.18	22.50
895-VNC2DEBUGMODULE	VNC2 DEBUG MODULE	G	VNC2 Debug Module	16.83	15.30	13.91	13.50

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

### FTDI USB To Serial UART IC Devices:

The FT232BL includes a 3.3V regulator, USB Transceiver that provides USB 1.1 / USB 2.0 full speed physical interface and a 6MHz Oscillator. The FT232RL/RQ has all the features of the BL but includes onboard EEPROM, as well as a 12MHz Oscillator and the FTDIChip-ID™ security dongle feature. The FT232R features a wide range of royaltyfree FTDI developed drivers for 32 and 64 bit operating systems including Windows, CE, XP, Vista, Linux and Mac OS.



Hi-Speed USB ICs

### FTDI FT245R 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. The FT245R adds a new function compared with its predecessors, effectively making it a "2-in-1" chip for some application areas.

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### FTDI FT2232 Dual UART/FIFO IC Devices:

The FT2232 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 FT2232 offers a variety of additional new modes of operation including a Multi-Protocol Synchronous Serial Engine (MPSSE) 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 (MPSSEs) to allow communication using JTAG, I2C and SPI protocols.

For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	FTDI Chip 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	Dual USB UART/FIFO I.C. 48 Pin LQFP	6.99	6.28	5.59	5.17
895-FT2232HL	FT2232HL	Hi-Speed Dual USB UART/FIFO IC, 64 Pin LQFP	6.71	6.20	5.77	5.40
895-FT2232HQ	FT2232HQ	Hi-Speed Dual USB UART/FIFO IC, 64 Pin QFN	6.71	6.20	5.77	5.40
895-FT4232HL	FT4232HL	Hi-Speed Quad USB UART IC, 64 Pin LQFP	9.59	8.66	8.10	6.84
895-FT4232HQ	FT4232HQ	Hi-Speed Quad USB UART IC, 64 Pin QFN	9.59	8.66	8.10	6.84