# FTDI Chip
Display Solutions
BRIDGING TECHNOLOGIES

EVE, THE EMBEDDED VIDEO ENGINE

FTDI Chip has redefined the cost and quality paradigm for graphic user interface (GUI) development with the introduction of the FT8XX range of display products with Embedded Video Engine (EVE) technology. The EVE family combines display, audio and touch into a single chip, providing an optimized solution with high quality graphics that output to 1/16th pixel resolution for WVGA, VGA, SVGA (FT81x), WQVGA and QVGA (FT80x) TFT display panels. The first device in the series, the FT800, launched in 2013 and took the titles of British Engineering Excellence 'Electronic Product of the Year' and Elektra 'Digital Semiconductor of the year', within the same year, where the product was described as providing 'versatility and innovation' and 'the technological capabilities with efficiencies that differentiate it from its competitors'.

With its revolutionary EVE technology deploying an object-oriented approach, the series is capable of simplifying the implementation of intelligent displays – reducing bill of material costs, power budget, board space, and development time.

The wide range of products includes an extensive choice of development systems including the 'Basic' series of modules which feature an SPI interfaced subsystem, the 'Plus' series of modules providing an Arduino-compatible ecosystems and the 'ME' series of daughter boards for FTDI Chip's FT90x 32bit MCU series. In addition to this, an extensive library of technical documentation, application sample software and design tools provide a simple solution for engineers to further shorten design cycles and reduce BOM costs.
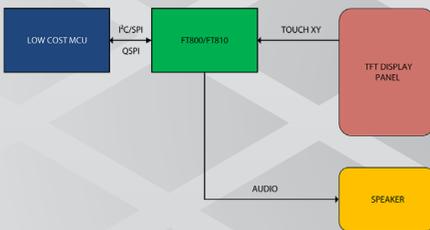
FT800/FT810/FT812 Application Block
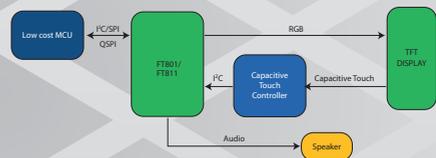
FT801/FT811/FT813 Application Block

INTRODUCING THE FT81X – EVE, THE NEXT GENERATION!

Building on the success of the first generation EVE device, the series has now been extended with a further four devices to offer a plethora of improvements and extended capabilities.

New Features

- Maximum screen resolution increase from 512×512 pixels to 800x600 pixels
- Bitmap size increased to 800x600 pixels
- Extra-large ROM fonts added
- Switching to portrait orientation with REG ROTATE and CMD SETROTATE
- Main memory increase from 256K to 1 MByte
- REG PCLK can be 1. In this case, the output PCLK is the same frequency as the master clock
- CMD PLAYVIDEO plays back motion-JPEG encoded AVI videos, and NOTEAR system gives smooth playback even at SVGA resolutions
- CMD LOADIMAGE now loads PNG images in grayscale, RGB, and paletted formats with transparency
- Multiple palettes supported with 16-bit and 32-bit colors with transparency
- Input pin for audio or light/temperature sensor
- L2 format supported for efficient DXT1-style bitmaps
- CMD MEDIAFIFO specifies an area of main memory to use as a FIFO for JPEG, AVI and PNG loading
- CMD SETBASE sets the numeric base used for CMD NUMBER: binary, octal, decimal and hex. CMD SETFONT2 gives a much simpler method for font loading
- QSPI interface option for faster transfer to/from MCU.

Performance improvements

- 500-1000 times faster JPEG loading
- Drawing ability increased from 4 pixels to 16 pixels per clock
- Fetch/cull primitives per clock increased from 1 to 2
- Firmware memory operations (copy, fill, CRC) are now 2-4 times faster due to tuned inner loops
- CMD SNAPSHOT speed increased considerably.
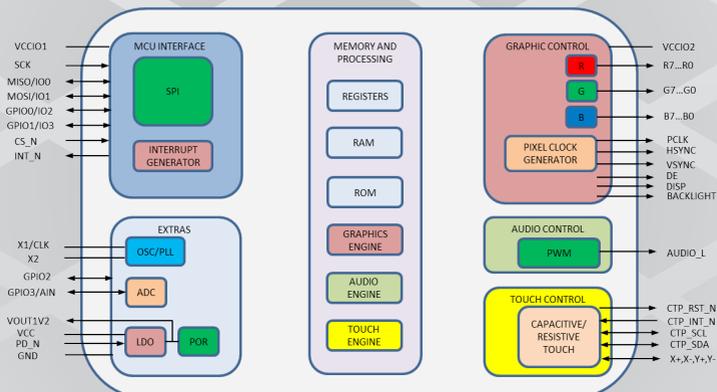
FT81X Block Diagram

EVE IC SOLUTIONS

FTDI offers a comprehensive range of ICs for EVE solutions:

Device	FT800	FT801	FT810	FT811	FT812	FT813
Target display Resolution	HVGA, WQVGA, QVGA	HVGA, WQVGA, QVGA	HVGA, VGA, WVGA, SVGA	HVGA, VGA, WVGA, SVGA	HVGA, VGA, WVGA, SVGA	HVGA, VGA, WVGA, SVGA
RGB interface	18 bits (RGB666)	18 bits (RGB666)	18 bits (RGB666)	18 bits (RGB666)	24 bits (RGB888)	24 bits (RGB888)
Touch function	Resistive touch	Interface to Capacitive touch controller over I2C	Resistive touch	Interface to Capacitive touch controller over I2C	Resistive touch	Interface to Capacitive touch controller over I2C
Control interface	SPI/I2C	SPI/I2C	SPI/QSPI	SPI/QSPI	SPI/QSPI	SPI/QSPI
Object Memory size	256KB	256KB	1MB	1MB	1MB	1MB
Audio Out	Mono channel	Mono channel	Mono channel	Mono channel	Mono channel	Mono channel
Analogue In	No	No	No	No	Mono channel	Mono channel
Backlight control	Yes	Yes	Yes	Yes	Yes	Yes
Image decoder	BMP, DXT1, software JPG	BMP, DXT1, software JPG	BMP, DXT1, hardware JPG	BMP, DXT1, hardware JPG	BMP, DXT1, hardware JPG	BMP, DXT1, hardware JPG
Supply Power	3.3V	3.3V	3.3V	3.3V	3,3V	3,3V
Host Interface IO voltage	1.8-3.3V	1.8-3.3V	1.8-3.3V	1.8-3.3V	1.8-3.3V	1.8-3.3V
Clock Oscillator	Internal/ External	Internal/ External	Internal/ External	Internal/ External	Internal/ External	Internal/ External
Operating Temp.	-40℃ to 85℃	-40℃ to 85℃	-40℃ to 85℃	-40℃ to 85℃	-40℃ to 85℃	-40℃ to 85℃
GPIOs	3	3	3	3	5	5
Package	QFN48	QFN48	QFN48	QFN48	QFN56	QFN56

FTDI FT90X MCU + EVE COMBINED SOLUTIONS

FTDI Chip's 32-bit MCU series, the FT90X, has been developed for hi-speed, interface bridging tasks. With a parallel camera input, 10/100 Base-TX Ethernet, CAN bus, I²S Audio interface, RTC, SD card, and USB2.0 Hi-Speed peripheral and host ports, this device offers excellent interconnect capabilities and fast data rates. The SPI/QSPI interface of the devices provide the ideal bridge to a Human Machine Interface (HMI) solution with the EVE series, thus extending and enhancing the system integration of EVE devices. In addition, FTDI Chip provide a wide range of example applications, hardware abstraction layer (HAL) libraries and graphic design tools for the combined solution, providing users the ability to implement the interface quickly and easily.
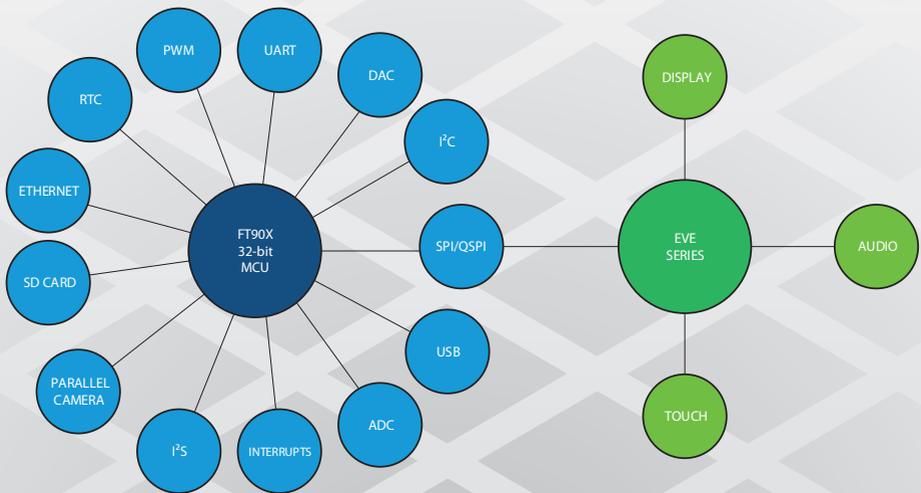
EVE DEVELOPMENT PLATFORMS

The EVE series includes a range of development modules in addition to a number of LCD and Bezel options. The modules are provided in a variety of form factors, and are designed specifically to assist with design and development.

VM800C – Credit Card Sized Module

The simple VM800C modules are credit card sized and use highly integrated EVE graphical controller ICs. They are offered with or without displays and can support 3.5", 4.3" or 5" TFT LCDs. A 4-wire resistive touch screen can be interfaced to the specified LCD, and the modules come equipped with an audio power amplifier and a microspeaker which enables mono audio output.

The boards can be powered at 3.3V or 5V and they provide an SPI master interface to connect to the system microcontroller.

VM800B/VM801B – FT800/FT801 Basic Modules with Bezel Enclosure

The VM800B and VM801 'Basic' modules expand on the VM800C product by offering the same functionality, and provide a high quality display system in an elegantly designed, form-fitted bezel. Offered in black or pearl colours, these display sub-systems provide the engineer with a low priced option which can shorten development time whilst enabling a production finished look and are designed to control 3.5", 4.3" or 5" TFT displays.

The VM800B offers these innovative features with a resistive touch display whilst the VM801B comes integrated with a capacitive multi-touch screen LCD panel.

VM800BU – FT800 Basic USB Modules with Bezel Enclosure

The VM800BU provides a USB controller development module for FTDI Chip's FT800, and can be used to develop and demonstrate the functionality of the FT800 with Embedded Video Engine EVE technology. This module interfaces with a system controller via a USB port, accessing the onboard FT232H bridge chip to connect to the FT800 SPI port.

Designed for use in industrial or commercial environments, the VM800BU series supports a range of sizing options: 3.5", 4.3" and 5", and comes equipped with a hard wearing, precision fit bezel in a choice of black (-BK) or pearl (-PL) colours

VM800P/VM801P – FT800/FT801 Plus Modules (Arduino compatible)

The VM800P and VM801P 'Plus' modules further extend system integration by providing a complete video subsystem with an embedded microcontroller in resistive touch and capacitive multitouch variants. In addition to the features supplied with the basic modules, this system provide an in-built MCU, the ATMEGA328P, which is supported by the Arduino libraries.

Further functionality is provided in the form of a Real Time Clock (RTC) with battery back up and an SD card connector plus preloaded 4GB SD Card, allowing for demonstration code to be easily sampled. Plug in daughter cards are available to expand the IO capability to include GPIO, RS232, RS422, RS485 and Ethernet, promoting improved connectivity and the ability to transmit over longer distances.

Device	VM800C	VM800B	VM801B	VM800BU	VM800P	VM801P
Main EVE Controller	FT800	FT800	FT801	FT800	FT800	FT801
Display Included	Optional	Y	Y	Y	Y	Y
Display Size	3.5", 4.3"and 5"	3.5", 4.3"and 5	4.3"and 5	3.5", 4.3"and 5	3.5", 4.3"and 5	4.3"and 5
Bezel Enclosure	N	Y	Y	Y	Y	Y
Bezel Color	N/A	Black/Pearl	Black/Pearl	Black/Pearl	Black/Pearl	Black/Pearl
Touch function	Resistive touch	Resistive touch	5 points Capacitive touch	Resistive touch	Resistive touch	5 points Capacitive touch
Audio Speaker	Y	Y	Y	Y	Y	Y
Backlight LCD driver	Y	Y	Y	Y	Y	Y
Embedded MCU	N	N	N	N	Embedded ATMEGA 328P MCU	Embedded ATMEGA 328P MCU
Host Interface	SPI	SPI	SPI/I2C	USB	N/A	N/A
Daughter Board Interface	N	N	N	N	Y	Y
Micro SD	N	N	N	N	Y (4GB)	Y (4GB)
Battery Backed RTC	N/A	N/A	N/A	N/A	Y	Y
Power Source	3.3V or 5V	3.3V or 5V	3.3V or 5V	5V	5V	5V
Module Series	VM800C35A-N, VM800C43A-N, VM800C35A-D, VM800C43A-D, VM800C50A-D	VM800B35A-BK, VM800B43A-BK, VM800B50A-BK, VM800B35A-PL, VM800B43A-PL, VM800B50A-PL	VM801B43A-BK, VM801B50A-BK, VM801B43A-PL, VM801B50A-PL	VM800BU35A-BK, VM800BU43A-BK, VM800BU50A-BK, VM800BU35A-PL, VM800BU43A-PL, VM800BU50A-PL	VM800P35A-BK, VM800P43A-BK, VM800P50A-BK, VM800P35A-PL, VM800P43A-PL, VM800P50A-PL	VM801P43A-BK, VM801P50A-BK, VM801P43A-PL, VM801P50A-PL

ACCESSORIES FOR VM800P/VM801P PLUS RANGE

An extensive range of expansion cards designed to support the VM800P and VM801P modules allow EVE to connect to a wider system and become the focal point of it's control and display interface. With a simple Arduino SPI interface accessed over the VM800P or VM801P Micro-MaTch connectors, access to Serial, Control and even Ethernet systems can be achieved.

Serial Adaptors:

VI800A-TTLU Full Duplex UART bridge, speed up to 5M Baud, 5V tolerant I/O, GPIO (4 input/4 output), Status LED

VI800A-232U Full Duplex RS232 bridge, speed up to 1M Baud, GPIO (4 input/4 output), Status LED

VI800A-N485U Full Duplex RS485 bridge, speed up to 500Kbps, GPIO (4 input/4 output), Status LED

Control Adaptor:

VI800A-RELAY 4 Changeover Relays and 4 Opto-Isolated Inputs bridge, Status LEDs

Network Adaptors:

VI800A-ETH Ethernet Bridge, 10/100M base-T, RJ45 connector with status LEDs

VI800A-POE Power over Ethernet Bridge, 10/100M base-T, RJ45 connector with Status LEDs

Other EVE Accessories

VA800A-PROG Arduino Boot Loader recovery module that offers an alternative access port to the ATMEGA328P of the VM800P/VM801P

VA800A-SPI High Speed Micro USB to SPI Adapter for VM800C/VM800B/VM801B Credit or Basic moards based on FT232H MPSSE design.

VA-FC-STYLUS1 Resistive Touch Screen Pen Stylus

VA-FC-1M-BKW Flat USB to Micro B Cable 1M – Black and White

VA-FC-1M-BLW Flat USB to Micro B Cable 1M – Blue and White

VA-PSU-UK1 UK Model 5V/1A USB Power Supply

VA-PSU-US1 US Model 5V/1A USB Power Supply

VA-PSU-EU1 EU Model 5V/1A USB Power Supply

FT900 + EVE DEVELOPMENT MODULES

FT900 Development Hardware

The MM900 development module provides the full featured hardware to support the FT900 processor in a variety of form factors. It also has a connector which has the ability to link to a 3.5 inch FT800 display module with resistive touch, via an SPI interface.

MM900EV

Key features:
- Built-in VGA Camera module with 640x480 pixel DPI resolution
- Ethernet 10/100M base-T interface, RJ45 connector with 2 LED status indication
- Independent USB hi-speed device and host port supported
- Built-in compact and ultralow noise microphone module
- 3.5mm audio jack for stereo audio output with a mono microphone input
- Debugger interface for FT900 flash programming and EFUSE configuration
- RGB LED with 24 bit colour
- Micro SD card socket supporting SD3.0 specification.
- SPI/QSPI interface exposed over an EVE IO connector to connect with daughter card such as the ME800A 3.5" resistive touch HVGA display board (ME800A-HV35R 3.5")
- 40 pins double row header for extending IOs and amplifying audio output
- 5V power jack source

3.5" HVGA Display adaptor

The ME810A-HV35R includes the FT810 with resistive touch and comes complete with a 3.5 inch 320x480 VGA display.

The module is fully equipped with an audio micro-speaker, LCD backlight control and an EVE IO connector to interface with the ME900EV over SPI.
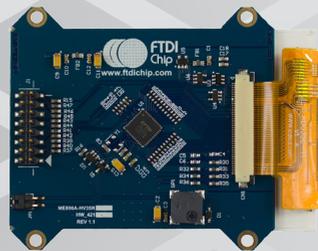
ME810A-HV35R

EVE DEVELOPMENT SUPPORT

FTDI Chip provides the ability to work on projects utilising a variety of tools and programming techniques. Samples are provided for a variety of different MCU families including ATMEL (Arduino) Freescale, PIC and ARM.

HAL – Hardware Abstraction Layer

The HAL takes all the low level HEX values for each function call and wraps them up to a high level function call to enable the user to focus on the display list contents without too much concern for how the SPI traffic is created and dispatched. The HAL supports MPSSE cables and Arduino PCBs and provides an excellent starter platform.

Arduino Library

This library has been created in a syntax which will be familiar to Arduino users, in order to enable rapid prototyping of FT800/FT801 applications with Arduino Pro and Uno form factors.

EVE Emulator Library

This is a PC based tool which allows simulation of display list commands. The simulator provides the user with the ability to rapidly experiment with changes to their display list, without the need for hardware. The user can then become familiar with the EVE display list and create attractive, high impact displays before porting code to the system processor.

Arduino Library (AN_318)

Application

FT800 Arduino Library APIs

Arduino Development Kits

HAL Structure (AN_246)

Sample Application

Application

HAL

SPI

FT800
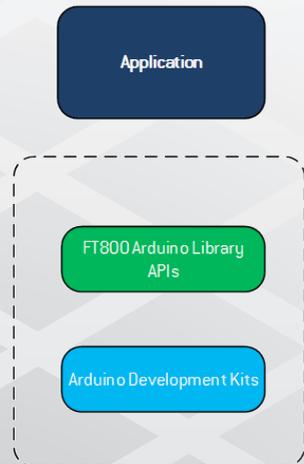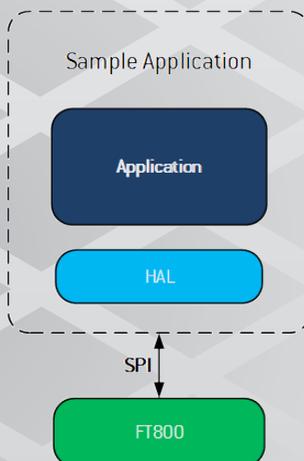
EVE APPLICATION EXAMPLES

As engineers come to understand EVE's programming language, the recommended starting point for design development is through the use of the Sample Application. These detailed software scripts provide easy-to-use code, where the designer can start to experiment with the EVE language and Basic series development kits. By loading the sample application into a C compiler (e.g. Visual Studio), connecting/enabling a USB to SPI cable accessory (e.g. VA800A-SPI) and connecting it to the VM80X basic kits, the user can create a PC to target environment where they can readily interface to the FT80X and render graphics onto the display (i.e. though the use of break-points and executes). When the designer is comfortable with EVE's instruction set, the complete display description is created via text entry, through the use of the Sample Application and FTDI Chip reference examples. This operation is most likely to be accomplished in the C compiler of the system host micro-controller.

A range of sample applications are available to demonstrate how to initialize the FT800/FT801 and develop display lists of primitive objects. These can be used as building blocks to create vibrant and dynamic images. Projects can be realised from a variety of tool and programming techniques, supporting anything from very basic EVE functions to sophisticated, animated and interactive demos.

Hardware

SELECT MCU
SPI OR I2C
GPIO FOR PD_n
INTERRUPT INPUT

SELECT DISPLAY, AUDIO AND TOUCH
SIZE = WQVGA, QVGA, UP TO 512 x 512
RESISTIVE TOUCH
AUDIO AMPLIFIER

Software

CONFIGURE MCU SPI INTERFACE
SET FOR MODE 0
MAX CLK 30MHz
LITTLE ENDIAN DATA

WAKE UP THE FT800
- USE A GPIO LINE OF THE MCU TO SET PD_n (FT800 pin 12) LOW
- WAIT 20ms
- SET PD_n PIN HIGH
- WRITE 0x00 0x00 0x00 TO WAKE
- WRITE 0x44 0x00 0x00 TO ENABLE OSC.
- WRITE 0x62 0x00 0x00 TO SET FOR 48MHz
- READ DEVICE_ID REGISTER – VALUE 0x7C MEANS READY TO START

CONFIGURE THE SCREEN
- SET VERTICAL TIMING REGISTERS:
  – VOFFSET, VSYNC0, VSYNC1, VSIZE
- SET HORIZONTAL TIMING REGISTERS:
  – HOFFSET, HSYNC0, HSYNC1, HSIZE
- SET THE TOUCH SENSITIVITY REGISTERS:
  – TOUCH RZ, TOUCH_RZTHRESH, TOUCH_TAG_XY, TOUCH_TAG
- LEAVE PCLK AT 0 UNTIL READY TO DISPLAY

CONFIGURE THE AUDIO
- SET THE VOL_SOUND REGISTER TO 0 UNTIL READY TO PLAY AUDIO (IF REQUIRED)

CREATE DUMMY DISPLAY LIST & ENABLE
- CLEAR THE SCREEN TO WHITE OR BLACK BEFORE ENABLING DISPLAY FOR CLEAN STARTUP
  – CLEAR_COLOUR_RGB(255, 255, 255);
  – CLEAR(1,1,1);
  – DISPLAY;
  – SWAP_LIST;
- ENABLE THE PCLK TO START DISPLAYING

CREATE APPICATION DISPLAY LISTS
- CLEAR_COLOUR_RGB(255, 255, 255);
- CLEAR(1,1,1);
- *APPLICATION DATA*
- DISPLAY;
- SWAP_LIST;

SWAP

CREATE APPICATION DISPLAY LISTS
NOTE EVERY ITEM ON THE LIST IS 32 BITS
NOTE A DISPLAY LIST ITEM MAY BE VISUAL OR AUDIO

EVE DEVELOPMENT UTILITIES
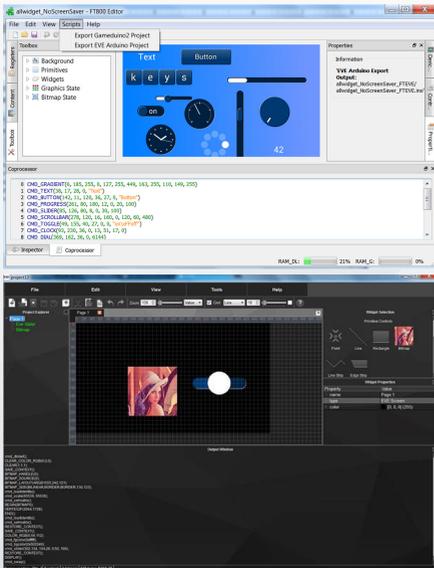
EVE Screen Editor

The EVE Screen Editor is a WYSIWYG GUI tool which enables engineers to study display commands interactively. It can also be utilised to access a number of various EVE development platforms (such as the EVE Basic and Credit Card Series Development modules) via an MPSSE cable, without the need for any supplementary code to be written.

EVE Screen Designer

The EVE Screen Designer has been created specifically for User Interface (UI) designers. With this tool, designers can construct a stunning UI easily using widgets and images to replace the traditional full range graph UI design without any programming required.

Feature	Screen Editor	Screen Designer
Widget concept	N	Y
Edit display list	Y	N
View display list	Y	Y
Zoom in/out widgets and screen	N	Y
Align widgets in screen	N	Y
Multi-Page(screen) design	N	Y
Grid assistance in screen	N	Y
Widgets multi-selection	N	Y
Widgets copy/cut/paste	N	Y
Screen copy/paste/move	N	Y
Undo/Redo	N	Y
Save Screen shot	N	Y
Rotate resize translate bitmap widget	N	Y

Feature	Screen Editor	Screen Designer
Group the widgets	N	Y
Z-order of widgets	N	Y
Lock/unlock widgets	N	Y
Area multi widgets selection	N	Y
Multi-Language for UI	N	Y
Designed for	Programmers	Designers
Emulator Based	Y	Y
Project history	N	Y
Project Autosave	N	Y
Debug /step by step display list	Y	N
Hardware platform sync	Y	N
Pixel trace	Y	N
Register/Memory viewer	Y	N
Export to platform project	Y	N

EVE THIRD PARTY SUPPORT

FTDI Chip is working in partnership with MikroElektronika (ME), specialists in the manufacture and sale of microcontroller development boards, accessory boards, compilers, additional software and books, to provide libraries to access the easy to use GUI based tool Visual TFT. This tool allows users to develop display images that can be compiled for numerous system microcontrollers.

The EVE library from MikroE consists of 12 components which support a wide range of EVE features and assist in GUI design, including an EVEClock, EVEGradient, EVEScrollbar and EVEProgressBar.

The tool allows engineers to create imagery for the processor by simply dragging and dropping objects into a palette, which is then converted automatically to code. This can then be compiled by the extensive list of compilers supported by MikroE and further edited if required.

MikroE has signed a formal agreement with FTDI Chip to create mikroC, mikroBasic and mikroPascal compilers for the FT90X 32-bit microcontroller offering. The FT90X uses its proprietary 32-bit RISC architecture to set performance benchmarks beyond 3.1 DMIPS/MHz, with true zero wait-states operation up to 100MHz frequency, capacious memory and an array of advanced connectivity resources.

This is the second successful partnership between FTDI Chip and MikroE, following from the previous collaboration to bring a graphic development software solution to market based on Visual TFT, which supported the FT800 embedded video engine (EVE) graphic controller. This in turn provided the capability to implement next generation Human Machine Interfaces HMIs) faster and more simply than ever before, by utilising EVE's innovative object-oriented approach and Visual TFT's simple drag-and-drop functionality.

4D Systems, a global leader in the research, development and manufacture of intelligent graphic solutions, has utilised the FT800 in a number of products in order to produce unique systems. The 4DLCD-FT843 connects to any system with an SPI interface and brings state-of-the-art display, audio and touch capabilities to the end product, thus enabling engineers to create high quality Human Machine Interfaces (HMIs) quickly and easily.

What's more, an Arduino shield aptly named 'ADAM' (Arduino Display Adapter Module) provides users with the capability to interface with the 4DLCD-FT843 intelligent SPI display.
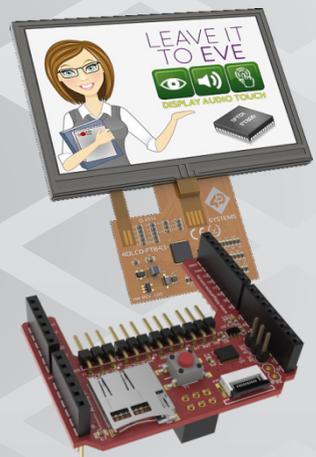
Leading distributor GLYN GmbH & Co. KG have compiled a quick start EVE kit, the EVB-EVE-FT800-V1, a simple kit which requires no previous knowledge or experience of display design and equips users with the ability to create attractive graphic solutions in minutes.

The full Glyn EVM-EVE-FT800-V1 kit contains:

- A development board with EVE graphics controller, voltage regulator and audio amplifier
- A direct connection for use with GLYN MCU boards and GLYN/EDT display families
- A GLYN software package, completely compatible with the FTDI Chip Programming Guide for the FT800.
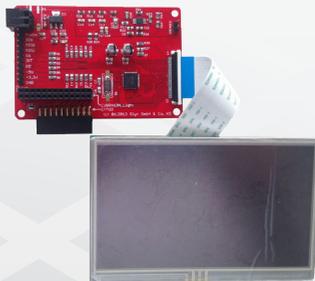
TFT module manufacturer RIVERDI utilises the FT800 and FT801 controllers in a number of their products – with 12 models currently available.

These displays are ideal for use in industrial applications, and include the following features:

- On-board FT800 or FT801 controller and LED converter
- No touch/resistive/projected capacitive touch model options
- One of the first displays in the world that fully utilises the FT801 potential with capacitive touch panels
- Mounting frames for easy home/office integration available
- 20pin all-in-one connector provides communication with the FT800/FT801, backlight inverter power
- Two popular screen sizes available: 3.5" (320x240 pixels) and 4.3" (480x272 pixels)

Following from the huge success of the original Gameduino, which brought vintage gaming to Arduino, a second edition of the shield has been released. The Gameduino 2 completely converts the Arduino into a comprehensive portable modern gaming system through the incorporation of the FT800 device with EVE technology.

Utilising the FT800, the Gameduino 2's graphic engine is more sophisticated and advanced, whilst still maintaining the ease of use found with the EVE series. This system allows simplified JPEG loading, can support alpha transparency and boasts a complete 32-bit colour portfolio. An SPI peripheral like its predecessor, developers can build onto the platform which provides a comprehensive feature set including touch control, a 3-axis accelerometer, microSD storage, headphone audio output and clear graphics on a sleek 4.3" display.

For more information please visit
http://excamera.com/sphinx/gameduino2

EVE APPLICATIONS

Easy to use graphics creating complex designs, combined with unparalleled value in embedded design technology, mean that the EVE series is a perfect solution for numerous applications including:

- Point of Sale terminals
- Multi-function printers
- Barcode scanners
- Digital tachographs
- Signature capture devices
- Credit card signature pads
- Universal remote controllers
- Smart home display panels
- Medical appliances
- Domestic appliances
- Industrial control panels
- Portable instrumentation
- Audio/Visual equipment
- Home security systems
- Alarm clocks

- Gas chromatography equipment
- Power metering displays
- Security alarm panels
- Door intercom systems
- GPS displays
- Taxi meter displays
- Automotive touch screens
- Office phones and switch boards
- Tourist info kiosks
- Thermostats
- Museum & tour guide displays
- Tele/Video conference systems
- Games consoles, toys

- Fitness equipment
- Public transport
- Cameras
- Mobile phones
- E-book readers
- Picture books
- Petrol pump displays
- Touch screen telephones (POTs) with DTMF tones included in FT800 audio library
- Vending machine selector panels
- Hi-tech supermarket shelving price display
- … and many more!

About FTDI Chip

FTDI Chip develops innovative silicon solutions that enhance interaction with the latest in global technology. The major objective from the company is to 'bridge technologies' in order to support engineeers with highly sophisticated, feature-rich, robust and simple-to-use product platforms. These platforms enable creation of electronic designs with high performance, few peripheral component requirements, low power budgets and minimal board real estate.

FTDI Chip's long-established, continuously expanding Universal Serial Bus (USB) product line boasts such universally recognized product brands as the ubiquitous R-Chip, X-Chip, Hi-Speed and SuperSpeed USB 3.0 series. In addition to both host and bridge chips, it includes highly-integrated system solutions with built-in microcontroller functionality. The company's Embedded Video Engine (EVE) graphic controllers each pack display, audio and touch functionality onto a single chip. The unique, streamlined approach utilised by these ICs allow dramatic reductions in the development time and bill-of-materials costs involved in next generation Human Machine Interface (HMI) implementation. FTDI Chip also provides families of highly-differentiated, speed-optimised microcontroller units (MCUs) with augmented connectivity features, specifically designed with compatibility to its USB and Display product lines in mind. These MCUs are targeted at key applications where they can add value with their superior processing performance and high levels of operational efficiency.

FTDI Chip is a fab-less semiconductor company, partnered with the world's leading foundries. The headquarter is located in Glasgow, UK and is supported with research and development facilities in Glasgow, Singapore and Taipei (Taiwan) plus regional sales and techical support sites in Glasgow, Taipei, Tigard (Oregon, USA) and Shanghai (China).

For more information go to: www.ftdichip.com

www.youtube.com/FTDIChip

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