Alpha Micro introduces FTDI easy-to-use Graphic Controller for wide-ranging display applications

EVE, Embedded Video Engine, dramatically reduces overall system cost while enabling high quality GUI systems that incorporate display, audio, and touch functionality.

Addressing the need for ever more advanced forms of human-machine interaction, Alpha Micro Components, the M2M specialist, has announced the release of the FTDI FT800 Embedded Video Engine (EVE) family. EVE dramatically reduces overall solution cost while enabling high quality GUI systems that incorporate display, audio and touch functionality.

Targeted at cost-effective, intelligent QVGA and WQVGA TFT display panels, the FT800's object oriented approach renders images in a line by line fashion with 1/16th of a pixel resolution, eliminating the expense of traditional frame buffer memory. Supporting 4-wire resistive touch sensing with built-in intelligent touch detection and an embedded audio processor allowing midi-like sounds combined with pulse code modulation (PCM) for audio playback, the controller's functionality sets new industry benchmarks. The combination of display, audio, and touch on a single-chip solution enables engineers to produce graphical user interfaces (GUIs) that deliver compelling user experiences.

The object orientated approach means objects such as images, fonts and audio elements can be easily implemented and manipulated via a low pin count SPI or I2C interface. In order for the desired GUI to be realised, the engineer initialises the object memory (up to 256 kBytes) and then controls the specified objects and their attributes through construction and interaction of a small display list buffer. As a result of this, even low end (8-bit) microcontrollers can be used as the host processor if desired. Up to 2000 objects can be controlled within an 8k byte display list. Eliminating frame buffer memory and the need for a high end MCU, together with integrating touch and audio in a 48LD space-saving package, provides substantial system cost savings.

The FT800Q is capable of providing 24-bit (true colour) support on an 18-bit interface. It comes preloaded with a useful set of fonts and sounds on its ROM to further facilitate completion of the development process as quickly and easily as possible. Anti-aliasing mechanisms enhance the appearance of the display's output when rendering lines and complex shapes or when implementing signatures on resistive touch screens. Built-in widgets mean that even complex objects (such as analogue clocks) can be implemented without difficulty, while ensuring a high quality image.

Supporting low power operation, the FT800 draws only 35 mA (typical) in active mode and 25 µA in sleep mode. It has a -40 °C to 85 °C operational temperature range and is packaged in a compact 7 mm x 7 mm x 0.9 mm 48-lead VQFN package.

"With the FTDI EVE chip, FTDI is redefining the cost/quality paradigm for GUI development and offering intelligent display solutions with far more competitive price points. The breadth of applications is extremely wide, allowing engineers to cut the cost of current displays for point of sale equipment and printers, while enabling colour touch screen functionality to be added to thermostats, power meters, toys and common home appliances," said Fred Dart, CEO and founder of FTDI Chip.

Concluding Christos Papakyriacou, Managing Director, Alpha Micro Components, said, "Human-machine interaction is a growth area. We are delighted to extend our portfolio with the introduction of the FT800."

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