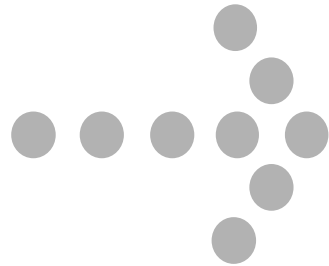




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The innovative FireStorm – concept

Advanced GUI Controller Board



FireStorm – Standalone GUI Solution

Overview



The FireStorm is an innovative solution for a low-tech system that requires a new high-tech, touch screen, TFT graphical user interface.



A FireStorm solution is ideal for any system utilizing simple microcontrollers to control input/output. The FireStorm handles all graphics and GUI processing, Capable of only transmitting necessary information to the host system using an Object-Oriented GUI design.



Low cost & Low power solution. Eliminates the need for a traditional SBC and custom software development.



The FireStorm is capable of supporting TFT, STN, and CSTN LCD modules up to SVGA (800x600) resolution and 18 bit color (262,144 colors).

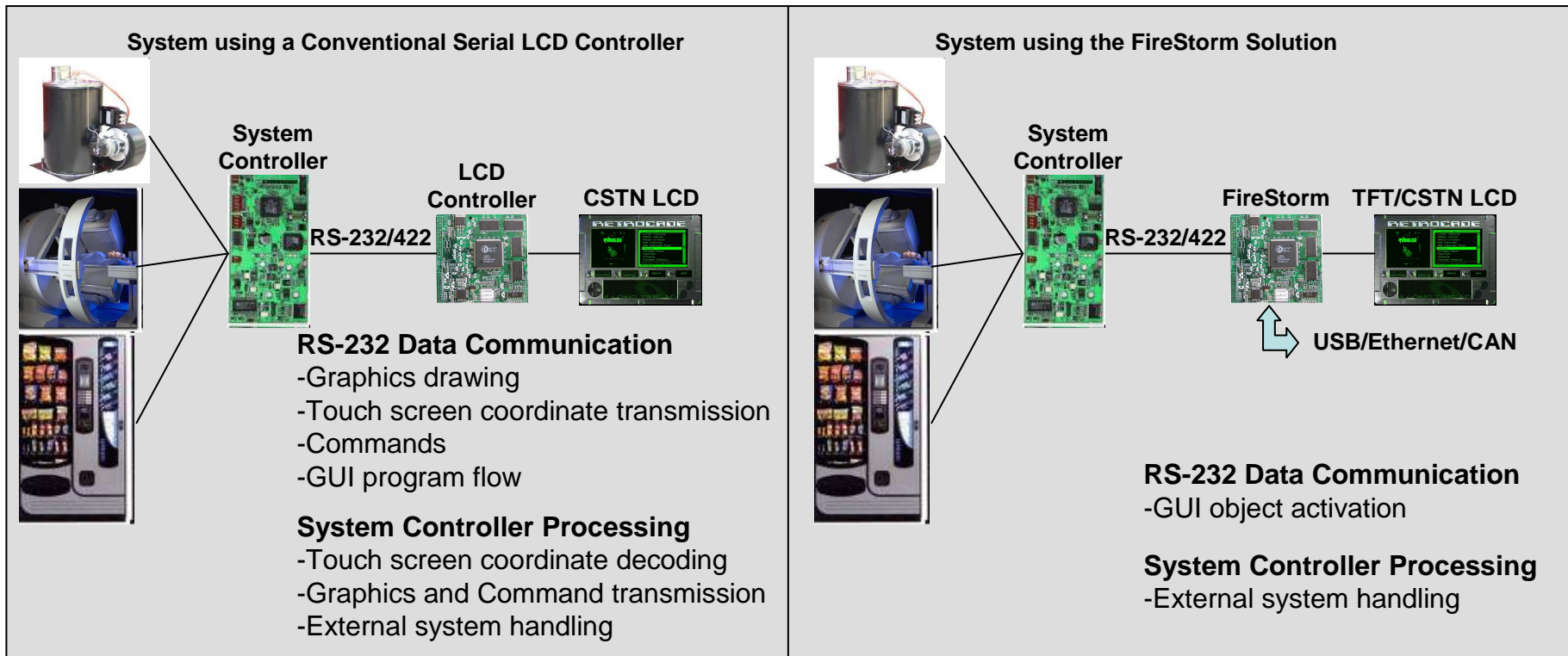


FireStorm enables a reduction engineering time and time to market by providing designers with an intuitive interface to achieve an attractive GUI using today's standard of LCD touch screen technology.



FireStorm – System solutions

Comparison with conventional solutions





FireStorm – System solutions

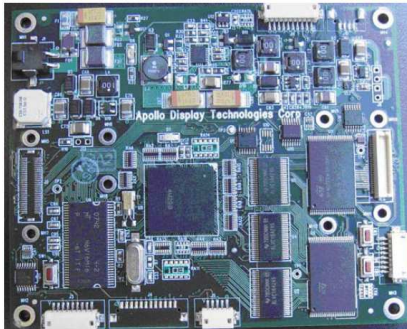
Comparison with SBC solutions

SBC Solution	FireStorm Solution
<ul style="list-style-type: none">• Requires SBC, memory, processor, storage, operating system.• > 45 watts power consumption for just the SBC.• Significant software development effort for customized functionality on a main-stream OS.• Long operating system boot-up time	<ul style="list-style-type: none">• System on a chip. On-board processor, memory, storage, and firmware.• ~5 watts power consumption including LCD and LED backlight.• Intuitive GUI development, allows simple customizable outputs to the host system controller.• Very fast system initialization ~1 second



FireStorm – System solutions

FireStorm



Application example 1

Medical / Industrial
Equipment Control



Eliminate engineering
time devoted to developing
an in-house LCD controller and GUI solution.

Use a host microcontroller to handle your “system”
and a FireStorm solution to handle the graphics
and GUI functions.

Application example 2

Small-Scale Advertising

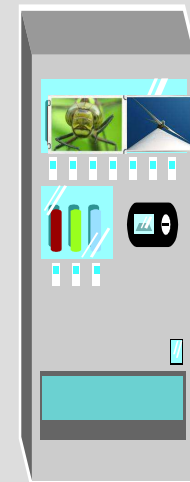


Use the stand-alone GUI.
Create custom advertising, interactive menus,
And browse today’s specials right at the table!

Application example 3

Integration of displays in
vending machines
with Firestorm.

e.g. handling and
advertising via
touch screens





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FireStorm – System solutions

Hardware Features and Capabilities

- 32 MB DDR SDRAM, expandable to 64MB
- Touch Screen Controller (4-wire resistive)
- 2 MB NOR Flash, expandable to 4MB
- On-Board white LED Backlight Driver & Beeper
- Compact Package, 4.1" x 3.4" x 0.4"
- LCD Controller
 - Up to 18 bit color depth (262,143 colors)
 - Up to SVGA Resolution (800x600)
 - Supports both TFT's and STN/CSTN Modules
 - TTL and optional LVDS interfaces
 - Programmable LCD and Bias voltages
- Dual UART Channels
 - RS-232
 - RS-485, RS-422 (option)



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FireStorm – System solutions

Hardware Configuration Options

- I²C Bus
 - Endless possibilities of external peripherals.
- FlexCAN
 - provides an embedded network architecture to allow communication directly with microcontrollers.
- Fast Ethernet Controller
 - Remote update possibilities
- USB Host/On-The-Go Interfaces
 - Provide external storage, update via flash drive
 - Camera connection
 - Very flexible interface
- GPIO
 - Allows multiple programmable external push button switches
- I2S and AC97 audio codec
 - Audio capabilities
- 16 – 64MB NAND Flash
 - Expandable on-board storage possibilities

FireStorm – System solutions

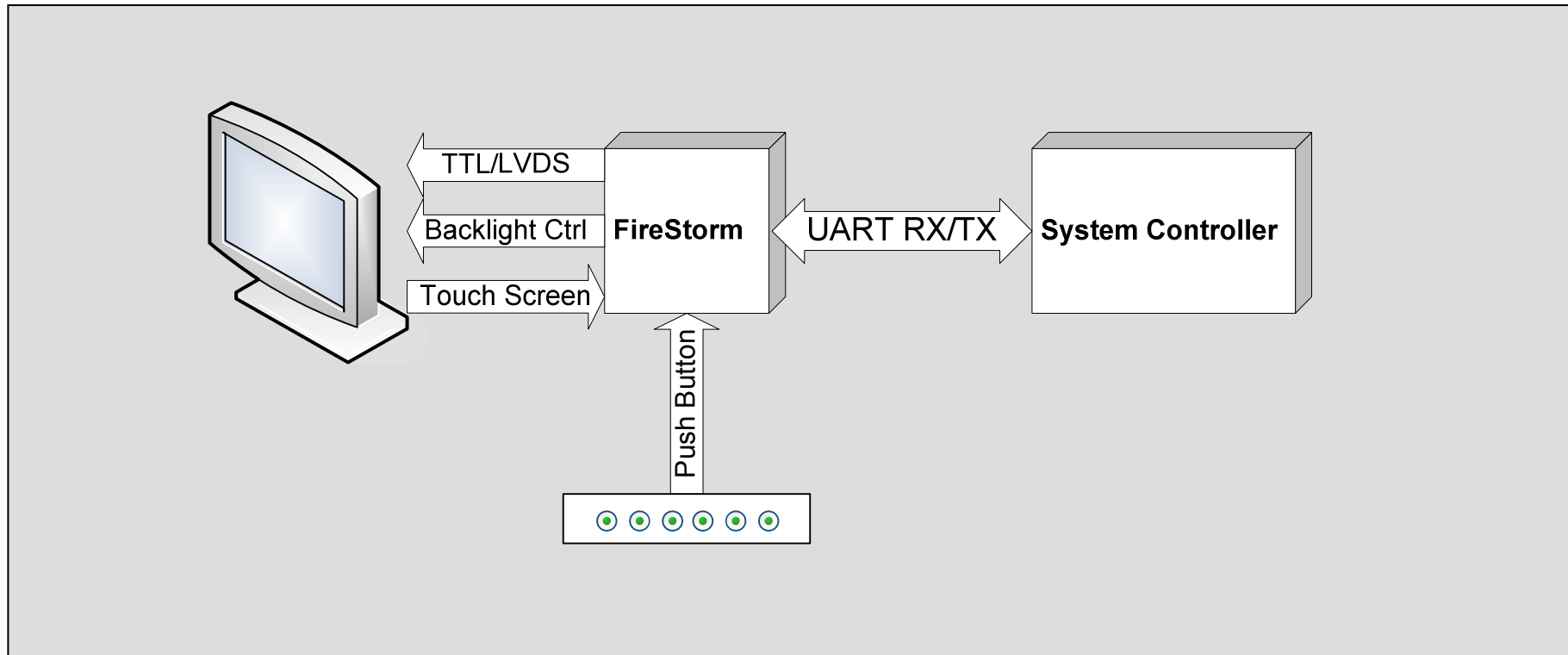
Software Features

- Serial Command Interface
 - Extensive command interface to manage multiple frame buffers and GUI processing
- Basic Graphics Library
 - basic polygon rendering support
- Built-In Fonts, Customizable
 - Load custom character sets, fonts, styles
- BMP Image support
 - Windows conversion utility available
- Image Compression
 - On-board image compression, RLE
- Multiple Frame Buffers
 - Instant frame buffer manipulation, useful for full screen animations
- Graphics and GUI Processing
 - Customized firmware handles all GUI functions off-loading processing power from the external system
- Touch Screen coordinate decoding
 - Only touch enabled objects instruct external system of a required action
- Programmable GUI, Standalone Mode
 - Object Oriented GUI design
- Temperature and Backlight Monitoring
 - Simple commands report the backlight power usage and the ambient temperature
- Absolute Brightness and Contrast Control
 - Provides precision control of both the backlight brightness and LCD contrast
- Very Fast System Initialization
 - All hardware is setup and ready for use within a single second
- Customizable Firmware
 - With an extensive array of on-board hardware the FireStorm is capable of infinite customizations to fit your GUI needs.



FireStorm – System solutions

Standard Configuration



FireStorm – System Solutions

Customizable with numerous technologies

