

Medallion Hardware Technology

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1. zPoint Products' Hardware Technology Platform

zPoint Products is a division of Techsol, a North American (NAFTA) corporation specializing in **low-cost embedded technology design and board fabrication**. We offer a variety of products and programs that will **save you money installing Building Automation Systems** using our **proven ZigBee-powered platform to mitigate risks**. In addition, our solutions provide both **energy cost savings** and **increased comfort and convenience** for your customers.

1.1. Medallion Hardware Technology

zPoint Products's products are based on processors running low-power RISC cores designed by Advanced Risc Machines (ARM) of England.

They are very advanced CPU modules, packing more features into a smaller space than other 32-bit processor families.

The older designs are based on ARM-720T core processors.

The newer ones are based on ARM-920T core processors.

Every Medallion Computer Module contains:

- NOR-FLASH for booting
- NAND-FLASH for bulk storage
- SDRAM
- additional power circuitry
- Audio input and output
- USB hosts and device
- LCD controllers
- key-pad scan HW (up to 8x11 matrix)
- touch screen controller
- GPIO pins
- reset controller
- battery voltage monitoring (primary and secondary)
- SD or MMC card interface
- SPI 3-wire synchronous interface
- I2C 2-wire synchronous interface
- UARTs (one with modem control lines)
- IrDA interface with power-management control lines
- test-input and dedicated debug-LED output

Plus the one thing that any other Computer-On-Module this small doesn't have: a 32-bit bus with 64 mega-bytes of address-space on each of multiple chip-select lines. Plus 4 "byte-lane" WRITE lines, READ line, Expansion Clock and Ready signals, and

multiple interrupt inputs.

How can we offer all of this?

Simple: we have **240 pins** connecting our modules to your I/O board.

And they are split across 2 connectors on opposite edges of the board, for **maximum mechanical stability**.

Plus there are a couple dozen Ground pins for **maximum electrical stability** too!

And our **low-noise PCB layouts** have passed FCC and CE emissions tests in many products.

1.2. Peripheral Hardware Technology

Since zPoint Products packs more features onto our computer modules, you'd also expect more support for peripherals on the I/O board too.

Well, you won't be disappointed!

Here's a **partial list of technologies that we have proven designs for:**

Technology	Proven Designs
Ethernet	10-BaseT: Low-cost, Low-power in Commercial and Industrial Temp. with Power Management. (Cirrus 8900a); 100-BaseT: Low-cost Commercial Temp. (SMSC 9118)
Wireless	IrDA with Power Management (PM); Bluetooth ; 802.11 ; Cellular with PM: GSM, GPRS, CDMA-1x
USB Host	USB 1.1: Hosts, Hubs ; USB 2.0: Hi-speed Host (Philips)
USB Device	USB Storage: Thumb-drives, Hard-drives; Input devices: Key-boards, Mice, Key-board controllers ; Wireless devices: Bluetooth, 802.11;
Audio	CODECs: line-in, line-out; i-CODECs with PM: Mono, Stereo, Single-ended, Differential, Head-phone Amps, Speaker Amps
Displays	Character: LCD; Graphic: STN, CSTN, TFT, LTPS, OLED; Custom LCDs
Inputs	Buttons: Direct to CPU, Matrix-scanned; Keyboards: Lap-top direct-matrix keyboards (Fujitsu, Zippy); USB Keyboards
Sensors	Analog: direct reading, 4-20 mA; Digital:

	1-wire, 2-wire (I2C), 3-wire (SPI), 4-wire (USB including Lab-Jack support)
Power	AC-DC: custom supplies; DC-DC: high-efficiency SMPS converters; Li-Ion Batteries: Power Supplies, Chargers, Gas-Gauges

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