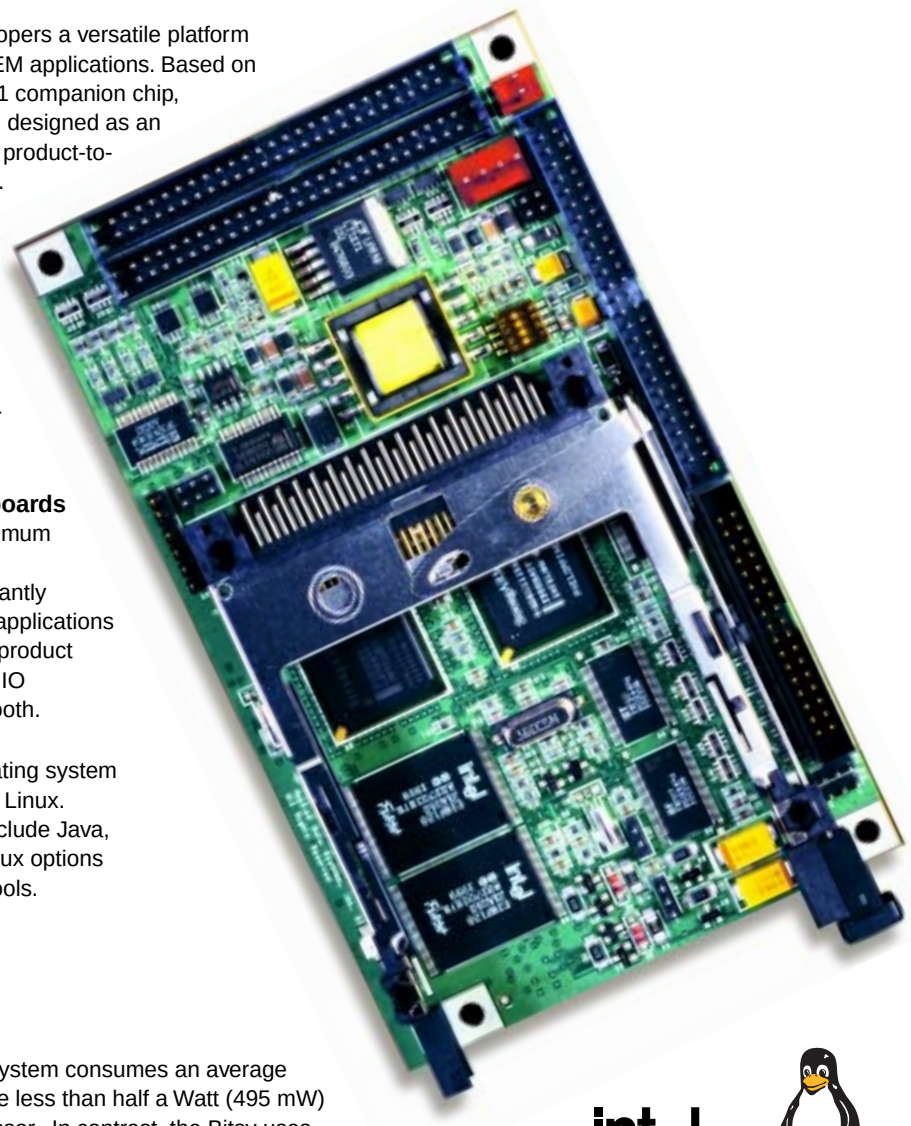
Applied Data Systems Bitsy™

Embedded Platform Ideal for Developing Handheld Applications

Versatility arrives in a small package
With the introduction of the Bitsy, ADS brings developers a versatile platform to create powerful handheld or small form-factor OEM applications. Based on an Intel StrongARM® SA-1110 core and the SA-1111 companion chip, the Bitsy has low-level drivers and stacks complete, designed as an application-ready platform to reduce your handheld product-to-market cycle from 12 months to a 2 - 3 month cycle.



The StrongARM SA-1110 core is known for having rich power capability combined with low power consumption, and low heat generation. The power management option for embedded Linux further extends the life of battery-driven applications. The SA-1111 companion chip rounds out the comprehensive IO offering with USB Master and slave, as well as full support of the PCMCIA.

Sociability through "personality" connector boards
The Bitsy core hardware is scalable, providing maximum flexibility and versatility with a range of "personality" connector boards makes the 3 x 5" platform significantly expandable. Developers can increase the range of applications through Bitsy connector board options, making the product fully scaleable with virtually an unlimited number of IO options including Ethernet, compact flash, or Bluetooth.

Versatility is further enhanced with a range of operating system options, which include WindowsCE, and embedded Linux. Robust Java Virtual Machine (JVM) suite options include Java, Blackdown, Hewlett Packard's Chai, or OTI. The Linux options are ported from Open Source with standard GNU tools.

Power management extends battery life
This capability is significant for power savings with battery-operated systems and handheld devices.

As a reference, ADS' Bitsy single board computer system consumes an average 2W (2,000mW) of power in full operation, with a little less than half a Watt (495 mW) consumed by the StrongARM SA-1110 microprocessor. In contrast, the Bitsy uses less than 10 milli-watt in sleep mode. With sleep mode, in comparison to idle mode, all peripherals are powered off. Only the SDRAMs and the StrongARM (IOs and Real Time Clock) remain active in a minimum power mode. This state is initiated by a call to a sleep function by the application or by an inactivity timeout. All the device drivers are notified of transition to this state by a call to their respective power management functions. With sleep mode, the kernel stays resident in RAM and can "wake up" in a timely fashion without having to reload and uncompress the kernel from non-volatile memory.

Significance for battery-operated systems
This capability extends the life of battery-operated systems to several weeks, without requiring recharging. As Linux becomes more widespread in truly embedded systems, having power management with sleep mode has been an increasingly significant market need.

Select the "personality" connector boards you need and meet your deadline
One of the most robust and powerful small platforms available for OEM designs, the Bitsy with the optional connector boards allow you to choose exactly the technical structure you need, with an application-ready format that helps you complete your designs quicker.

Please contact the factory or your local rep to arrange for a demonstration or evaluation system.

intel®
MICROWARE
Reptron
BELL MICROPRODUCTS
WindRiver
ARM POWERED
Microsoft®

Applieddata.net
Embedded Computer Systems
www.applieddata.net

Applied Data Systems Bitsy Embedded Platform for Handheld Applications

Bitsy Specifications

The ADS Bitsy, coupled with a customer selected flat panel, provides low cost options with Microsoft's Windows®CE, embedded Linux, Microware's OS-9 or WindRiver's VxWorks operating environments for industrial and embedded markets. The Bitsy is specially designed for high-Graphics applications with complete support requirements, full power management, and a validated industrial rating (-40°C to +85°C). *A typical ADS Bitsy single board computer configuration would provide:*

Processors

- 32-bit Digital StrongARM SA-1110 RISC processor:
  - 250 (Dhrystone 2.1) MIPS @ 206 MHz
  - <450 mW @ 2.0V/206 MHz
  - Power and memory management functionality
- SA-1111 StrongARM companion chip, providing USB host functionality with 4 port hub

Graphics

- Video interface up to XGA (1024 x 768) 8 bit color LCD controller (passive or active; 4,092 palette)
- VEE generator with PWM control by software
- Backlight connector with PWM + ON/OFF controlled by software

Memory

- Program/Frame Buffer 103MHz SDRAM 16/32 Mbytes
- Flash Memory 8/16/32 Mbytes

Operating Environments

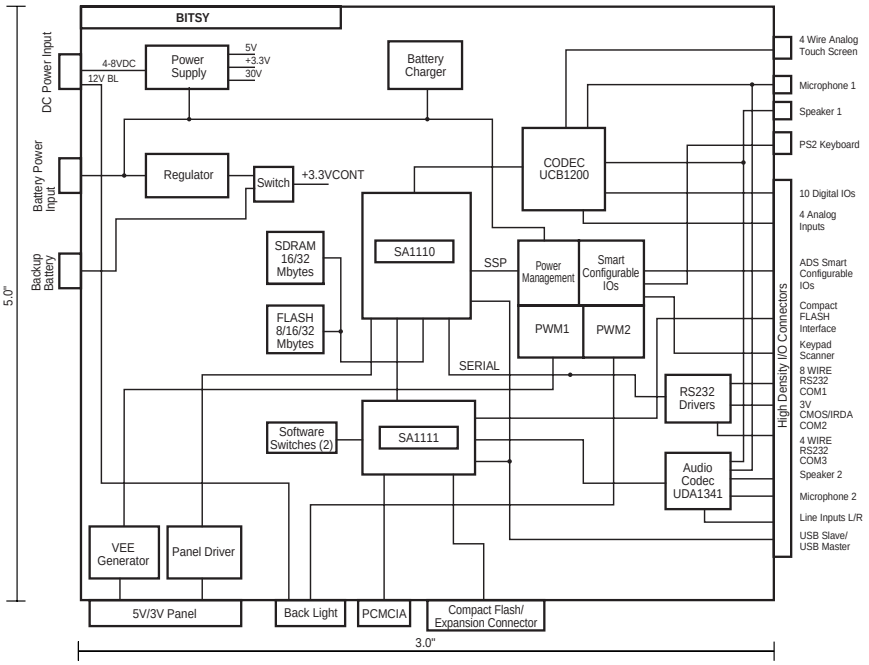
- WindowsCE, Linux, VxWorks, OS-9
- Power Management
- Supports Java with an RTOS, Blackdown, Chai and OTI

ADS: Embedded Computer Solutions

Applied Data Systems (ADS) is a leading manufacturer of single board computers used in industries such as process control, medical instrumentation, environmental monitoring, fleet management, kiosks, and industrial automation equipment requiring flat panel displays. With 15 years of graphics hardware and software development experience, ADS uniquely delivers customized display connectivity and network communications. Applied Data Systems is headquartered in Columbia, Maryland, USA.

Comprehensive Communications

- One PCMCIA Type II slot
- Three serial ports:
  - COM1: RS232 (8 Wire)
  - COM2: TTL or external IRDA, 485
  - COM3: RS232
- ADSmartIO,™ providing any of several user-selectable configurations, including:
  - 5 x 4 keypad/touchscreen + 4 digital I/Os, or
  - 4 Analog Inputs + 9 Digital I/Os, or 13 Digital I/Os
- On-board Codec:
  - 1 Speaker Output (100 mW)
  - 16 Bit Stereo Audio DAC, 1 W Stereo Amplifier, Stereo Microphone Inputs
- Inputs/Outputs:
  - 10 TTL Digital Software configurable Inputs/Outputs
  - 4 Analog Inputs (0 - 7.5 V)
- PS2 Keyboard, Real Time Clock, Touch Screen (Analog/digital - see configurable IO)
- On board switching power supply:
  - Operates from single 5 - 12V input
  - Physical dimension of 5.0 inches by 3.0 inches



To order the Applied Data Bitsy from Applied Data Systems call toll-free.
The Applieddata Internet home page is at
www.applieddata.net

Applieddata.net
Embedded Computer Systems

9140 Guilford Road, Columbia, MD 21046
Tel 1-301-490-4007
Fax 1-301-490-4582
1-800-541-2003