



### ENCORE! 32™ ADVANTAGE

- HIGH PERFORMANCE:
  - ARM922T 200 MHZ CORE & 64 KB SRAM
- RICH PERIPHERAL SET
- COMMUNICATION INTERFACES

### TARGET APPLICATIONS

- ACCESS CONTROL
- CELLULAR PHONE
- GPS
- UNIVERSAL REMOTE
- INDUSTRIAL CONTROL
- CONSUMER ELECTRONICS
- HIGH END READERS

## Encore! 32™ Series Microcontroller High-Performance 32-bit Solution for Embedded Applications

### Overview

With more than 30 years of experience as the vendor of choice for embedded microcontrollers, Zilog® continues this tradition of excellence with latest Encore! 32 Series Microcontroller. Based on the ARM® Architecture, the Encore! 32 Series Microcontroller is a high-performance 32-bit Reduced Instruction Set Computing (RISC) System-on-Chip (SoCs), designed specifically for the embedded market place.

### A High-Performance Embedded Solution

The Encore! 32 Series Microcontroller is suitable for a wide range of embedded applications including access control, time and attendance tracker/reader, home and office monitoring and control, multi-media control, cell phones, GPS, platform OS based devices, digital still cameras, and universal remote controls.

Key device attributes that form the foundation of the product family include the following:

- A high performance 32-bit ARM® core
- A rich peripheral set including GPIOs, SPIs, and UARTs
- An 8-bit LCD interface
- Flexible communication interfaces including USB 2.0-complaint full speed On-the-Go (OTG) dual role (host/device) controller

Due to the highly integrated peripheral set, many cost and time benefits can be realized at the end user level by way of minimized component count, lower power consumption and lower bill of material costs—all of which equate to faster development time and reduced manufacturing costs and faster time-to-market for our customers.

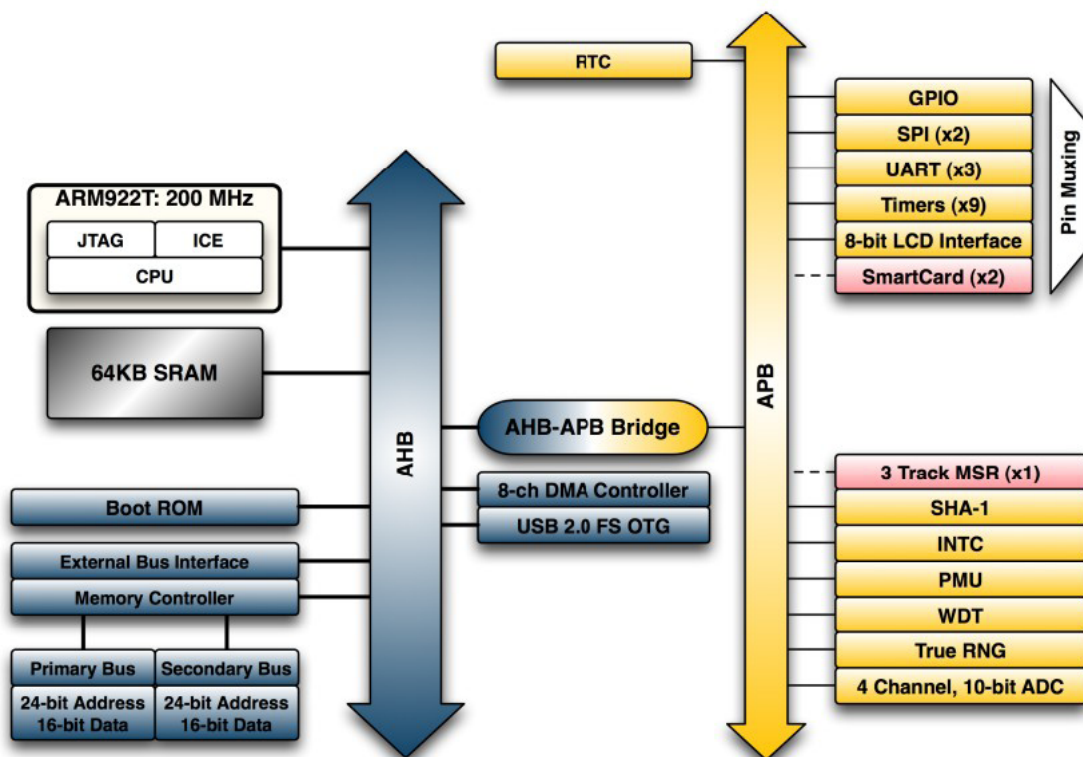
### Encore! 32™ Series - Key Feature Summary

- ARM922T™ core
- 64 KB embedded SRAM
- LCD Interface
- USB full speed controller On-the-Go (OTG)
- Up to 76 General-Purpose Input/Output (GPIO)
- Highly configurable memory controller for SRAM, ROM, Flash and standard PC100/133 SDRAM

## KEY FEATURES

- BROAD RANGE OF COMMUNICATIONS

## Encore! 32™ Series Microcontroller Block Diagram



## Feature Details of the Encore! 32™ Microcontroller

### BROAD RANGE OF COMMUNICATION INTERFACES

Communication interfaces available on the Encore! 32 Series Microcontroller include:

- External Bus Interface to standard asynchronous memories including SRAM, ROM, Flash and standard PC100/133 SDRAM
- Up to 76 GPIO pins (16 dedicated)
  - All configurable as edge interrupts or level interrupts
  - Full input/output or tri-state control
- Three UARTs
  - 1 x 8-wire interface
  - 2 x 4-wire interface (UART2 shared with IrDA encoder/decoder)
- Two dedicated SPI interfaces
- USB
  - USB 2.0-complaint
  - Full Speed; On-the-Go (OTG)
- Smartcard Reader (optional)
- Magnetic Card Reader (optional)

## KEY FEATURES

- COMMUNICATION PERIPHERAL SET
- ARM922T CORE

## Feature Details of the Encore! 32™ Microcontroller (contd...)

### COMPREHENSIVE PERIPHERAL SET

The Encore! 32 Series Microcontroller integrates a comprehensive set of peripherals that are applicable to a broad set of embedded applications:

- Integrated LCD interface, directly compatible with popular LCD displays, text or graphic modes. The LCD display supports interfacing to 4-bit or 8-bit data and 3-control.
- Integrated 4-channel 10-bit SAR ADC
  - 10-bit resolution, 45 kHz, successive-approximation ADC
  - Multiplexing to support 4 channel inputs
  - 4 sample FIFO
- DMA Controller
  - 8 channels
  - Memory-to-memory, memory-to-peripheral, peripheral-to-memory
  - Full 32-bit source and destination addresses with 24-bit (16 MB) address increment capability
  - Up to 16 MB for each DMA buffer

### ARM922T Core

The ARM922T core is a high-performance 32-bit RISC integer processor which features:

- 32/16-bit RISC architecture (ARMv4T)
- 32-bit ARM instruction set for maximum performance and flexibility
- 16-bit Thumb instruction set for increased code density
- MMU which supports operating systems including Symbian OS, Windows CE, Linux & Palm OS
- Instruction and data caches: 8 K / 8 K

For more information on ARM922T core, please visit <http://www.arm.com/>

## Encore! 32™ Series Platform Software Support

### Platform Software Support

The Encore! 32 Series Microcontroller software supports the greatest flexibility and stability on any OS environment (proprietary, Linux, Win CE, etc.) to meet our customers' needs in their development environment. In order to support our customers with their software development, the Encore! 32 Series Platform software package includes:

- Board Support Package (BSP)
  - Custom scheduler supporting co-operative multitasking, memory management and interrupt processing
  - FAT16 file system over CF, SD and USB
  - Tool chain supported by GNU ARM GCC compiler version 4.1.0
  - Sample device drivers

## Encore! 32™ Series Development Tools Support

### Development Tool Support

The Encore! 32 Series Microcontroller Development Kit includes the hardware platform, software environment and comprehensive set of development tools, specifically:

#### Hardware

- Encore! 32 Series ARM Microcontroller development platform with processor module
- USB Cable
- Power Supply
- Signum JTAGjet-ARM in-circuit debugger kit (optional)
- RS-232 Cable

#### Software

- Encore! 32 GNU ArmTools development environment, including Eclipse IDE, GNU gcc, and utilities
- Platform SW support package including device drivers, root file system and sample code
- Encore! 32 Series Microcontroller software

#### Documentation

Please visit Zilog website ([www.zilog.com](http://www.zilog.com)) to download all relevant documents associated with this product.

## Hardware Tools Ordering Information

The following hardware tools are available for the Encore! 32 Series Microcontroller family:

- Encore! 32™ Series Microcontroller Development Kit  
(part #: Z32AN000100ZABG)
- Encore! 32™ Series Microcontroller Development Kit with Signum Emulator (part #: Z32AN000100ZEMG)

## Silicon Ordering Information

Order the Encore! 32 Series microcontroller and tools from your local Zilog sales representative by using the part numbers below. For more information, or to download product collateral and/or software, please visit us at <http://www.zilog.com/>.

Part Number	RAM (KB)	Smartcard Reader	Magnetic Card Reader	USB	I/O	ADC Inputs	SPI	UARTs	Timers	RTC	256 BGA Package	-40° C to + 85° C Temp Range
Z32AN00NW200SG	64	0	0	1	76	4	2	3	9	Yes	X	X
Z32AN01NW200SG	64	0	1	1	76	4	2	3	9	Yes	X	X
Z32AN10NW200SG	64	2	0	1	76	4	2	3	9	Yes	X	X

## Documentation

For a complete listing of all available application notes, data sheet, user manuals, and sample libraries, please visit us at <http://www.zilog.com/>.