

# KADAK AMX™ RTOS Support for i.MX

## Overview

Freescale's comprehensive hardware and system solutions are engineered to help reduce overall system cost and speed time to market. The i.MX family of applications processor with Smart Speed technology addresses the applications processor needs for the entire range of smartphone feature sets at price points to meet the requirements of every market segment.

Freescale Semiconductor's advanced i.MX family of applications processors helps you quickly harness the power of wireless, broadband, multimedia and the Internet. Designed for use in smartphones, wireless PDAs, mobile gaming, GPS systems and many other mobile wireless applications, Freescale's i.MX applications processors are a leading solution in today's smartphone environment.



**KADAK**  
Products Ltd.

## i.MX Applications Processors

Based on ARM® core technology, the i.MX family of applications processors is designed to offer low power consumption with real-world power performance and a high degree of integration to reduce your design time significantly.

The i.MX Family supports a broad range of industry-leading platforms such as those based on the Microsoft® Window® CE operating systems, Palm® OS, Linux® OS, and Symbian™ operating systems.

Evolved from the best-selling DragonBall™ family of applications processors, the i.MX Family consists of the cutting-edge i.MX21, i.MX1 and i.MXL, tiered offerings for different types of handhelds and smart devices. The i.MX portfolio is a central feature of Freescale's i.Smart smartphone reference design, providing power performance to our Innovative Convergence™ platforms.

## i.MX21 Processor

The i.MX21 is your key to robust multimedia applications, with higher levels of video and graphics capabilities, plug and play connectivity, and added security features. The i.MX21 features the advanced and power-efficient ARM926EJ-S core operating at speeds starting at 266 MHz.

## i.MXL Processor

The i.MXL applications processor is designed for real-time applications enabled by the ARM920T™ microprocessor core and equipped with a rich set of highly integrated peripherals and features.

## i.MX1 Processor

Based on the ARM920T core, the i.MX1 targets next-generation handheld computers, including those with integrated 2.5G and 3G wireless connectivity, as well as smartphones, advanced information appliances, Web browsers and other connected portable devices.

## Freescale and KADAK

Embedded developers rushing to deliver their products to market can benefit from KADAK's AMX real-time operating system (RTOS). AMX is a compact RTOS for ARM architectures that supports Freescale's i.MX1 and i.MXL applications processors. It is a simple software development tool which meets the stringent requirements of all real-time applications. KADAK's RTOS meets the critical needs of the most challenging real-time applications. Yet it remains simple, easy to use and understand, and flawless in its operation.

**Learn More:** For more information about Freescale products, please visit [www.freescale.com](http://www.freescale.com).

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# KADAK provides integrated RTOS and GUI solutions for embedded developers

KADAK Products Ltd.  
**AMX™**

## AMX RTOS:

AMX is a simple, readily understandable real-time operating system which meets the stringent requirements of all real-time applications. First released in 1980, the AMX family of kernels has been used worldwide at more than 2,600 embedded systems development sites.

AMX has been tested on the Freescale i.MX21 ADS.

### Some of its features are:

- Compact, ROMable real-time operating system
- Rapid task context switching
- Fast interrupt response
- Nested interrupts with priority ordering
- Pre-emptive, priority-based task scheduler
- Priority inheritance semaphores to avoid priority inversion
- Windows®-based Configuration Builder utility eases system construction
- KwikNet® TCP/IP stack provides a full suite of protocols
- KwikPeg™ GUI allows you to create a graphical user interface on your embedded system
- KwikLook™ exploits the Metrowerks CodeWarrior™ task aware debugger to provide quick access to the state of your AMX application

### Managers are provided for:

- Semaphore signaling and resource allocation
- Event synchronization
- Mailboxes and message exchanges
- Fast, fixed size memory buffer allocation
- Dynamic memory allocation similar to malloc()
- Linked lists and circular lists

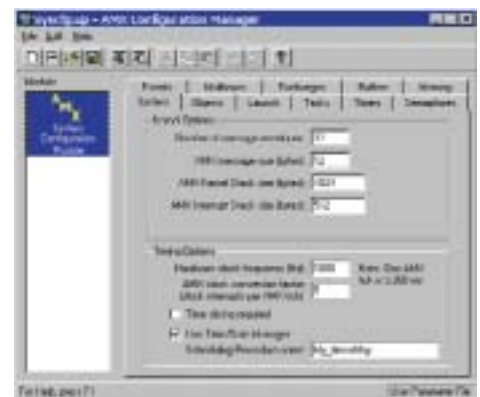
KADAK's KwikNet® TCP/IP Stack was the first to bring point-and-click setup to the real-time embedded marketplace, simplifying the porting of network services to your choice of OS and target processor. KwikNet options include IPv6, IPSec, IKE and SSL.

The KwikLook debugger interface adds task-awareness to many of the popular debuggers used to test AMX applications.

The KwikPeg Graphical User Interface lets you use the industry standard PEG™ (Portable Embedded GUI) to add interactive graphics to your embedded device. KwikPeg is fully integrated with the AMX RTOS.

### Partnering with Freescale

KADAK provides software developers with the very best foundation for their embedded system products. Using Freescale's i.MX family of applications processors will give developers the perfect blend of performance, features, and low power consumption to suit the entire range of wireless products.



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