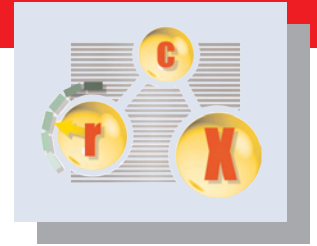


# rcX – High Performance Real-Time Operating System



- Pre-emptive Multitasking Kernel
- Well-crafted Services for Semaphore, Mutex, Event, Message, Queue, Memory, Timer-Objects
- Dynamic creation of unlimited number of Objects
- Centralized configuration in one parameter-file
- Optimized Hardware Abstraction Layer for ARM processors
- Integrated in Hitop Tool suite
- On-Chip-integrated in netX-ROM
- No license cost

## Hard-Real-Time Architecture

The Architecture of rcX is organized to provide an excellent Hard-Real-Time performance for embedded netX applications of small to medium sizes. The internal Kernel arrangements covering the Object Data Structures, Intertask Communication Paths and the Time Management are highly optimized in their sizes and their access speed. As a consequence, rcX offers a very low interrupt latency and fast task switching as main characteristics.

## Pre-emptive Kernel

The rcX Kernel is a Pre-emptive full featured multitasking Operating System that can operate with a scaleable number of Task-Processes.

Background Interrupts are managed by rcX wrapper functions and lead the user to its encapsulated Interrupt Service Routines which permit for instance to make Kernel calls also at Interrupt Level.

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## Small Footprint

Although rcX has above 150 well-crafted Application Functions to be used, the Kernel has a very small memory footprint of about 24KByte code and 6KByte data memory. This fits in the ROM and the Tightly coupled memory of the netX. So the code-memory bandwidth of rcX need not be taken into account any longer for code-sizes calculations and the whole internal netX RAM may be used for the own applications.

## Modularity

rcX is a modular RTOS that has been designed to meet the needs of all possible embedded netX applications. Along with the Kernel there are coming Drivers for all the different kind of netX Peripherals. All modules are working fully independent of each other and thus it permits leaving out those that are not needed in order to save memory space if necessary.

## Dynamic Objects

All rcX Objects such as Tasks, Interrupts, Timers, and Intertask Communication Paths are fully dynamic. They can be created and deleted at any time during runtime. On the other hand these Objects can be statically configured due to a "font-end" configuration file. This allows an easy, centralized configuration of your project and maintains the overview of the configured resources.

## Rich API Functions

rcX is rich on API functions for the following Intertask Communication Paths:

- Messages
- Queues
- Mutexes
- Semaphores
- Barries
- Timers
- Eventgroups
- Signals
- Multiples

## Tool Support

rcX is tightly integrated into one leading tool suite called HiTop delivered by the company Hitex aimed to make your debugging job easier. Internal Task states as well as states of the different kind of rcX-Objects can be watched in their inner details.

For netX, rcX supports compilers from GNU and ARM© and the debuggers from Hitex with

Tant  
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