

# SNAP - Simple Network Application Platform



## Applications

- Alarm Control Units
- Intelligent Power Distribution
- Remote Control Units
- Robotics & Sensors
- Vending Machine Controllers
- Physical Access Control Units
- Medical Diagnostics
- Weather Stations
- Track and Trace Controllers (GPRS and GPS)

**SNAP** is an Internet-ready, Java™ powered plug & play reference platform. It is ideal for stand-alone remote control, data processing and managing everything from small sensors to advanced surveillance factory equipment. The Java ME-CLDC runtime-environment speeds up and simplify your software development. The stand-alone platform is perfect for prototyping and production when time to market is critical. The board comes with all software needed to get a web server up and running within minutes with TCP/IP stack and all. The extensive flash program memory and DRAM stores and executes your Java programs at your command and controlling the Imsys Veripherals™ on the board.

## Features

### □ **Standard form factor**

The 72-pin SIMM form factor is a commercially proven interface supported by many available host board manufacturers.

### □ **Multiple interfaces**

SNAP includes 10/100 Mbit/s full duplex Ethernet, three RS-232 serial ports, two 1-Wire ® interfaces, GPIO-ports, high-speed I<sup>2</sup>C, SPI and CAN.

### □ **Standard development tools**

The use of free standard development tools enables a quick and easy start.

### □ **Plug & play**

Shell features provide easy development over Ethernet using Telnet and FTP.

### □ **High performance**

SNAP offers native Java execution speed and power-efficient I/O, with DMA for maximum networking throughput.

### □ **Standard Java**

SNAP provides simple access to the underlying hardware through well defined Java API's including TCP/IP networking.

### □ **Public design**

The open and free reference design provides easy integration of SNAP functionality into customized and cost optimized systems.

### □ **Optional IDE**

Imsys Developer is a professional optional tool for those designers requiring closer and faster access to the SNAP hardware.



## Hardware

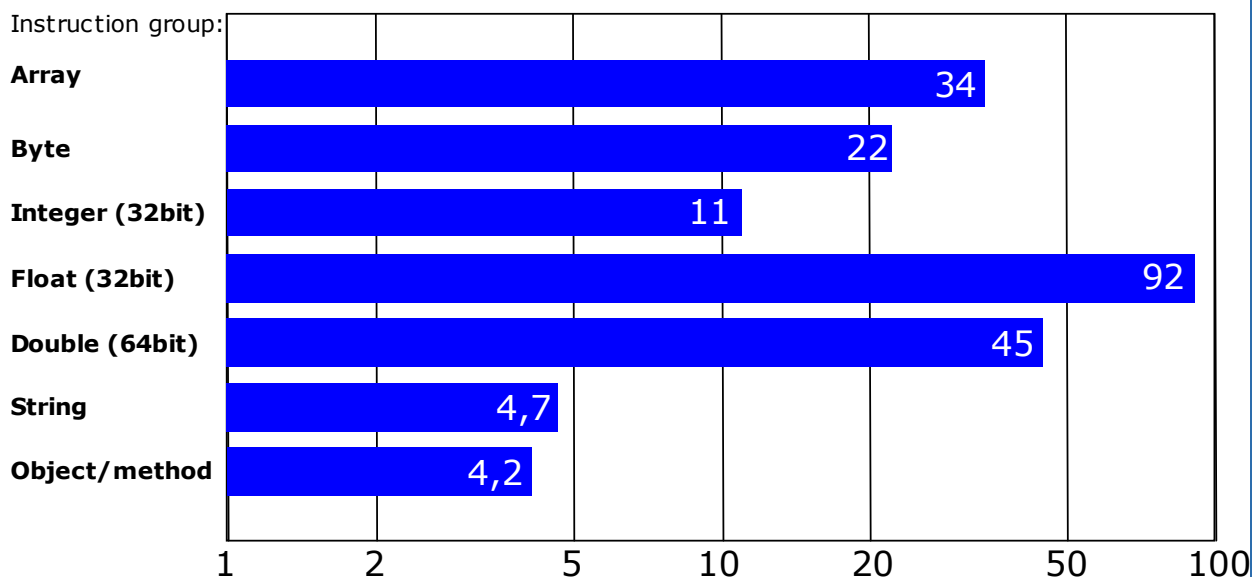
- Plugs into most TINI390 SIMM72 sockets
- Standard power supply 5V
- Low power 3.3V design, onboard 3.3V regulator
- Board size 31.8 x 102.9 mm
- Connector for optional debug interface (Imsys Trace Adapter)
- Ethernet 10/100 BaseT
- 3x UARTs
  - 1x RS-232, 115.2 kbit/s
  - 2x TTL, 115.2/460.8 kbit/s
- 2x 1-Wire<sup>®</sup> interface
- CAN-controller
- I<sup>2</sup>C, high-speed 3.4 Mbit/s
- General-purpose digital I/O
- Parallel bus interface for system expansion
- 2 Mbyte flash memory
- 8 Mbyte DRAM
- Real Time Clock and calendar.

## Software

- SNAP runtime environment
- Java ME CLDC, certified by Sun Microsystems
- java.net
- javax.comm
- Subset of com.dalsemi
- Works with free standard Java development tools e.g SUN Java JDK
- Unlimited # of threads (to max heap size)
- High performance TCP/IP-stack
- Embedded web-server
- Optional IDE available for:
  - Java, C and Assembler debugger
  - KNI K Native Interface
  - Program Execution Simulation.

## Benchmark

### Speed factor, SNAP vs. TINI<sup>®</sup>



The diagram is based on data measured and made available on the web:

([http://www.practicalembeddedjava.com/benchmark/11a/benchmark\\_11a.html](http://www.practicalembeddedjava.com/benchmark/11a/benchmark_11a.html)). The factors within each group of operations above have been averaged using the geometric medium, which is generally preferable when averaging benchmark numbers of widely different sizes.

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