

# AT-901

## ARM9 system on module

The AT- 901 is an industrial embedded System-On-Module using the latest ARM and Linux technology.

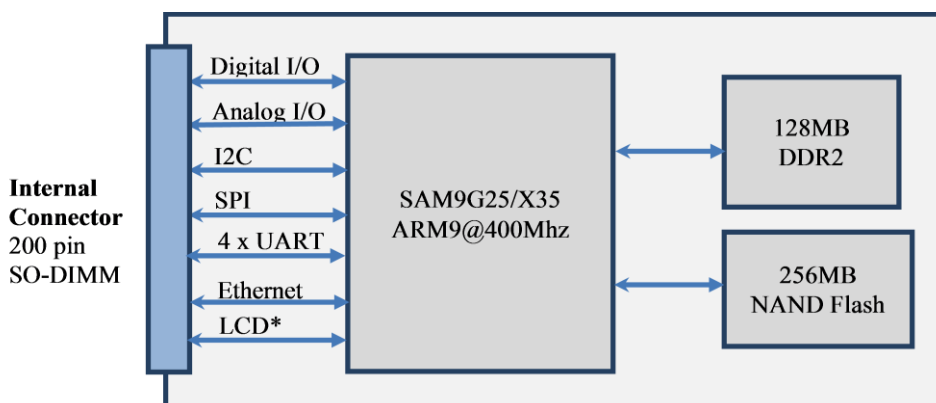
It is designed to serve as the controller and processing building block for embedded devices in applications such as medical devices, communications and industrial automation.

The module can be provided with several levels of software integration starting from an 'out of the box' Debian Linux and up to a full software solution.

### Key features:

- High performance at affordable cost  
Using Atmel's ARM9 processors running at 400Mhz combined with DDR2 memory, the AT-901 offers a unique combination of enhanced performance yet low cost
- Extensive connectivity  
A large variety of internal interfaces over a 200 pin SO-DIMM.
- High-performance Data Speedway  
Two DMA controllers for ensuring uninterrupted data transfer with minimal processor overhead
- Low power consumption  
Lower than 2W at 400MHz operation and lower than 50mW at standby mode
- Fast software start up  
Ready for use Debian Linux, database middleware and software packages

### Block Diagram



# AT-901 – ARM9 system on module

## Hardware

### System

Processor SAM9G25 or SAM9X35 @ 400MHZ  
RAM - 128 MB DDR2\*  
Flash - 256 MB NAND Flash\*  
Two dual port 8-channel DMA Controllers

*\* Can be enlarged to 256MB RAM, 512MB Flash*

## Interfaces

A 200 pin SO-DIMM Connector including

- Up to 2x 10/100 interfaces\*
- 4 UART ports (Rx, TX, CTS, RTS)
- 3xUSB interfaces (2 x Host, 1 x Host/Device)
- I2C interface
- 2 x SPI interface (2 x CS)
- 40 GPI/O 3.3V
- 6 ADC
- 2 HS SD/SDIO/MMC interfaces
- Up to 2 CAN interfaces
- LCD and touch screen interface

*\* Contact ShiraTech*

## Display

LCD controller

RGB and TFT with up to 24 bits per Pixel  
Scaling up to 800x600 pixels  
Touch screen 4 or 5 wire resistive

## Other

TOD support with optional battery backup ~1Hr.

## Power

Power consumption <2.0 Watt  
Standby <50 mWatt  
Input power 3.3V

## Environmental and Mechanical

Two temperature ranges

- Commercial: 0° to 50° C
- Industrial: -45° to 85° C

Dimensions: 68 x 40mm (2.7 x 1.75 inch)

## Software

### General

Debian Linux distribution along with device drivers for all build-in interfaces.

- Boot Loader - U-Boot
- OS: Linux Kernel ver.- 2.6.3
- Debian version – Debian-6.0.4

### Packages

The solution can be enhanced with various software packages for shorten time to market:

- Enhanced DB middleware supporting multiple configuration interfaces along with configuration import/export support
- SQLite database
- SNMP client
- Web server, optional SSL support.
- TCP/IP stack
- TFTP

### Starter kit

The AT-901 is supported by a full-featured starter kit that includes a carrier board and accessories required to enable quick development start

### Customization

Full customization services up to a full SW solution

### Ordering information

AT-901-G25/ #:

AT-901-X35/#: For LCD, touch screen and dual CAN interfaces

# - I: For industrial grade on all options

STC-200: For AT-901 Starter Kit

For Additional Ethernet port or Wi-Fi interface ordering option contact [sales@shiratech.com](mailto:sales@shiratech.com)