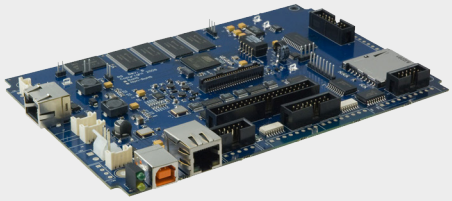

SBC-R9 ARM9 RISC Single Board Computer

Part: R91001-SBC | **Model:** SBC-R9 ARM9 Embedded RISC Computer

The SBC-R9 delivers RISC computing power with a wealth of I/O features and uses the latest embedded software environment.

The SBC-R9 is an application-ready platform for your next product design. The system is based on the 200MIPS Atmel AT91SAM9263 microcontroller boasting a 32-bit ARM instruction set for maximum performance. With up to 256MB RAM and 256MB Flash memory, the unmatched I/O features of the SBC-R9 extend the possible uses beyond traditional ARM applications. The SBC-R9 is the perfect platform for embedded applications requiring small size, wide operating temperature range, and flexible I/O connectivity.

Standard I/O includes Ethernet, serial, USB, CAN bus, digital and analog interface. System designers can directly drive TFT/STN LCDs from the onboard video controller, and the board also includes a resistive touchscreen controller, making it perfect for human-machine interface applications.

To provide the fastest time to market, the Windows CE 6.0 BSP binary and low-level drivers for system I/O are included. Additionally, the SBC-R9 software package is equipped with the Sealevel Talos I/O framework, which offers a high-level, object-oriented .NET Compact Framework (CF) device interface. This interface provides an I/O point abstraction layer with built-in support for the specific needs of analog and digital I/O such as gain control and debouncing.

For embedded Linux systems, Sealevel provides fully configurable components – cross-compilation toolchain, bootloader, kernel, and root filesystem – using a customized BuildRoot with Sealevel patches, additional features, and source code samples.

Measuring just under 7.5 x 5.0 in size, the SBC-R9 is small enough to fit in most embedded applications and is rated for a full -40°C to 85°C operating temperature range. The SBC-R9 is powered from your 7-30VDC source, or select from a variety of Sealevel power supply options.

A QuickStart development kit is available, which includes the most common accessories. For applications with specialized hardware requirements, developers can use the SBC-R9 as a platform for application development while Sealevel designs a customized target system specific to the user's application requirements. Click to download the SBC-R9 datasheet.

Features & Specifications
SBC-R9 ARM9 RISC Single Board Computer

Part: R91001-SBC | **Model:** SBC-R9 ARM9 Embedded RISC Computer

SBC-R9 Features

- Atmel AT91SAM9263 ARM Thumb Processor
- Supports up to 256MB SDRAM and 256MB Flash memory
- Dual SD/MMC expansion card slots
- Integrated LCD and Backlight controller
- Resistive touchscreen controller
- (1) 10/100 BaseT Ethernet interface
- (1) USB 2.0 device port (Type B)
- (2) USB 2.0 host ports (Type A)
- (1) CAN 2.0b Bus interface
- (4) Software configurable RS-232, RS-422, RS-485 serial ports via 40-pin header connector
- (1) Dedicated RS-485 serial port via RJ45 and Molex connector
- (8) Optically isolated inputs (5-30V)
- (8) Open-collector digital outputs
- (8) 12-bit differential or single-ended analog inputs
- (2) 32-bit Quadrature counters
- Supports 7-30VDC input power via 2-pin connector

What's In the Box?

- SBC-R9 ARM9 Embedded RISC Single Board Computer
- SD Card with CE runtime image, Talos .NET Framework, application samples, and documentation
- Microsoft Windows CE 6.0 Core license

Specifications

Analog I/O	(8) 12-Bit Analog Inputs
CAN Bus	(1) CAN 2.0b Interface
Counters	(2) 32-Bit Quadrature Counters
CPU Type	Atmel ARM9
Digital I/O	(8) Optically Isolated Inputs(8) Open-Collector Outputs (2 w/ PWM)
Dimensions	7.3 (L) x 4.9 (W) x 0.75 (H)
Display Support	24-Bit TFT LCD Controller16-Bit Color (TFT, STN Modes)
Approximate Weight	~1 lbs
Flash Memory	256MB
Humidity Range	10 – 90% Relative Humidity, Non-Condensing
Max Video	Max. 2048 x 2048
Networking	(1) 10/100 BaseT Ethernet
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Power Requirement	7-30 VDC @ 10W Max.(2.5W Nominal)
SDRAM	64MB (256MB Max)
Serial Ports	(4) RS-232/422/485(1) Dedicated RS-485
Storage Temperature	-60°C to 150°C (-76°F to 302°F)
Touchscreen Support	5-Wire Resistive Interface
USB 2.0 Ports	(1) USB Device (Type B)(2) USB Host (Type A)Max. 12M bps