Relio R9-KT ARM9 Embedded RISC Computer QuickStart Kit

Part: R91001-KT | **Model:** Relio R9 QuickStart Kit

The Relio R9 delivers RISC computing power with unmatched I/O features and uses the latest embedded software environment. The QuickStart Kit includes the necessary items to help get your idea to market fast.

The Relio 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 Relio R9 extend the possible uses beyond traditional ARM applications. The Relio 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 internal video controller and the onboard 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 Relio 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.

The Relio R9 is housed in a rugged, small enclosure suitable for mounting almost anywhere and is rated for a full -40°C to 85°C operating temperature range.

Features & Specifications

Relio R9-KT ARM9 Embedded RISC Computer QuickStart Kit

Part: R91001-KT | **Model:** Relio R9 QuickStart Kit

Relio 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
- (1) Dedicated RS-485 serial port via RJ45 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 removable terminal block

What's In the Box?

- Relio R9 – ARM9 Embedded RISC Computer
- SD Card with CE runtime image, Talos.NET Framework, application samples, and documentation
- Microsoft Windows CE 6.0 Core License
- TR123 – 100-240VAC to 12VDC @ 2.5A, wall mount power supply
- CA356 – USB Type A to SeaLATCH USB Type B, device cable
- CA429 – R9 serial debug cable
- CA246 – CAT5 patch cable, 6' length

Specifications

Analog I/O	(8) 12-Bit Analog Inputs
Humidity Range	10 – 90% Relative Humidity, Non-Condensing
CAN Bus	(1) CAN 2.0b Interface
Counters	(2) 32-Bit Quadrature Counters
Digital I/O	(8) Optically Isolated Inputs(8) Open-Collector Outputs (2 w/ PWM)
Dimensions	7.6 (L) x 5.1 (W) x 1.7 (H)
Display Support	24-Bit TFT LCD Controller16-Bit Color (TFT, STN Modes)
Approximate Weight	~2 lbs
Flash Memory	256MB
Family	Relio
Networking	(1) 10/100 BaseT Ethernet
Max Video	Max. 2048 x 2048
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