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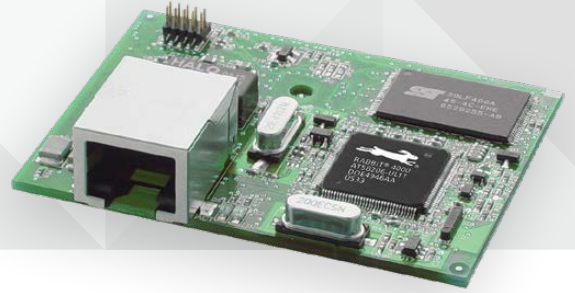
DIGI RABBITCORE RCM4000 SERIES

A powerful embedded Ethernet control device with the intelligence and Internet connectivity needed for remote monitoring and control of your devices

The RCM4000 series is designed to mount directly to a user-supplied motherboard and acts as the microprocessor of the embedded system. The microprocessor features 28 GPIO lines shared with up to five serial ports and four levels of alternate pin functions that include variable phase PWM, quadrature decoder and input capture.

The RCM4000 series, with its robust feature set, ample memory, 10Base-T Ethernet and analog, is ready for network connectivity and I/O control for true device Internet communication and control. Evaluation of the RCM4000 is easy with the RCM4000 development kit.

BENEFITS

– Rabbit 4000 running at 59 MHz
– Up to 1 MB (16-bit) Program Flash, 1 MB (16-bit) SRAM, 32 MB of Flash memory
– 10Base-T Ethernet (RJ-45 connector), up to 28 GPIO, up to 5 serial ports
– 8 channels 12-bit A/D converter
– Web server capability and remote device control
– Low-cost and easily deployable platform for non-critical embedded security
– Security-key feature with "tamper detect" and encryption capabilities

APPLICATION EXAMPLE

COMPUTER TERMINAL — Ethernet — JUNCTION BOX WHERE RCM400 RESIDES

BUILDING SECURITY

RABBITCORE® RCM4000

RS-232

Door Sensor   Camera   Door Sensor

RELATED PRODUCTS

RabbitCore® RCM4100 Series

RabbitCore® RCM4200 Series

Rabbit® SBC BL4S200 Series

RabbitCore® RCM4300 Series

Dynamic C®

SPECIFICATIONS	RCM4000		RCM4010
FEATURES			
MICROPROCESSOR	Rabbit® 4000 at 59 MHz		
EMI REDUCTION	Spectrum spreader for reduced EMI (radiated emissions)		
ETHERNET PORT	10Base-T, RJ-45, 2 LEDs		
SRAM (16-BIT)	512K		
FLASH MEMORY (16-BIT) (PROGRAM)	512K		
SERIAL MEMORY (DATA) (NAND FLASH)	32 MB (NAND flash)		—
BACKUP BATTERY	Connection for user-supplied backup battery (to support RTC and data SRAM)		
GENERAL PURPOSE I/O	22 parallel digital I/O lines: Configurable with 4 layers of alternate functions		28 parallel digital I/O lines: Configurable with 4 layers of alternate functions
ADDITIONAL INPUTS	2 startup mode, reset in, CONVERT		2 startup mode, reset in
ADDITIONAL OUTPUTS	Status, reset out, analog VREF		Status, reset out
ANALOG INPUTS	8 channels single-ended or 4 channels differential programmable gain 1, 2, 4, 5, 8, 10, 16 and 20 V/V		—
A/D CONVERTER RESOLUTION	12 bits (11 bits single-ended)		—
A/D CONVERSION TIME (INCLUDING 120 MS RAW COUNTED AND DYNAMIC C®)	180 µs		—
AUXILIARY I/O BUS	8 data lines and 6 address lines (shared with parallel I/O lines), plus I/O read/write		
SERIAL PORTS	4 shared high-speed, CMOS-compatible ports: All 4 configurable as asynchronous (with IrDA) or as clocked serial (SPI) 1 asynchronous clocked serial port shared with programming port 1 clocked serial port shared with A/D converter		5 shared high-speed, CMOS-compatible ports: All 5 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 1 as SDLC/HDLC 1 asynchronous clocked serial port shared with programming port
SERIAL RATE	Maximum asynchronous baud rate = CLK/8		
SLAVE INTERFACE	Slave port allows the RCM4000 to be used as an intelligent peripheral device slaved to a master processor		
REAL TIME CLOCK	Yes		
TIMERS	Ten 8-bit timers (6 cascadable from the first), one 10-bit timer with 2 match registers, and one 16-bit timer with 4 outputs and 8 set/reset registers		
WATCHDOG/SUPERVISOR	Yes		
PULSE-WIDTH MODULATORS	—		2 channels: Synchronized PWM with 10-bit counter Variable-phase synchronized PWM with 16-bit counter
QUADRATURE DECODER	—		2-channel quadrature decoder accepts inputs from external incremental encoder modules
POWER	3.0– 3.6 VDC, 90 mA @ 3.3V (preliminary, pins unloaded)		
OPERATING TEMPERATURE	0° C to +70° C		
HUMIDITY	5% to 95%, non-condensing		
CONNECTORS	Programming header		
BOARD SIZE	1.84" × 2.42" × 0.77" (47 mm × 61 mm × 20 mm)		
PRODUCT WARRANTY	1 year		

PART NUMBERS	DESCRIPTION
20-101-1094	RCM4000
20-101-1112	RCM4010

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