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Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of Embedded - Microcontroller,

Details	
Product Status	Obsolete
Module/Board Type	MPU Core
Core Processor	Rabbit 2000
Co-Processor	-
Speed	22.1MHz
Flash Size	512KB
RAM Size	512KB
Connector Type	2 IDC Headers 2x13
Size / Dimension	1.6" x 2.3" (41mm x 58mm)
Operating Temperature	0°C ~ 70°C
Purchase URL	https://www.e-xfl.com/product-detail/digi-international/20-101-0955

RCM2200 RabbitCore®

Models RCM2200, RCM2210, RCM2250, RCM2260

RCM2200 Description

RCM2200 Specifications

Large View | 360° View

Description

Our award-winning Ethernet-enabled RCM2200 RabbitCore microprocessor core module is a compact yet powerful embedded control solution for application developers working with a small design footprint. Only half the size of a credit card, the RCM2200 features the powerful Rabbit® 2000 microprocessor, 256K of Flash memory, 128K of SRAM, 4 serial ports, 26 I/O, real-time clock, and integrated Ethernet. (To permit parallel development and cost-effective implementation of both Ethernet-enabled and non-Ethernet systems, our pin-compatible RCM2300 model is also available.)

Features

- Compact size (2.3" x 1.6" x 0.86")
- 10Base-T Ethernet
- Up to 512K Flash
- Up to 512K SRAM
- 26 general-purpose I/O

Designing with RabbitCores

The RabbitCore family of microprocessor core modules is designed to facilitate rapid development and implementation of embedded systems. RabbitCores are powered by high-performance 8-bit Rabbit microprocessors with extensive integrated features and a C-friendly instruction set designed for use with the Dynamic C® development system. The RabbitCore mounts on a user-designed motherboard and acts as the controlling microprocessor for the user's system. Small in size but packed with powerful features, these core modules give designers a complete package for control and communication.

The integrated Ethernet port frees designers from the limitations of serial-port communications and control and also permits instant local or worldwide connectivity using low-cost networking hardware. Embedded systems using the Ethernet RabbitCore module can be controlled and monitored (as well as programmed and debugged when using appropriate accessory hardware) across any network or the Internet.

RCM2200 CoreModule Specifications

Features	RCM2200	RCM2210	RCM2250	RCM2260
Microprocessor	Rabbit 2000T at 22.1 MHz			
Ethernet Port	10Base-T, RJ-45, 2 LEDs	10Base-T (raw signals only)	10Base-T, RJ-45, 2 LEDs	10Base-T, (raw signals only)
Flash	256K		512K	
SRAM	128K		512K	
Backup Battery	Connection for user-supplied battery (to support RTC and SRAM)			
General Purpose I/O	26 parallel I/O include: • 16 configurable I/O • 7 fixed inputs • 3 fixed outputs			
Additional Inputs	2 Startup Mode, Reset			
Additional Outputs	Status, Reset			
Memory I/O	4 address, 8 data, plus I/O Read-Write			
Serial Ports	Four 5 V CMOS-compatible, 2 configurable as clocked ports (1 clocked line available only on programming header)			
Serial Rate	Max. burst rate = CLK/32 Max. sustained rate = burst/2			
Connectors	Two 2 x 13, 2 mm IDC headers			
Slave Interface	Slave port permits use as master or as intelligent peripheral with other master controller			
Real-Time Clock	Yes			
Timers	Five 8-bit timers (four cascadable from the first) and one 10-bit timer with 2 match registers			
Watchdog/Supervisor	Yes			
Power	4.75-5.25 V DC, 134 mA			
Operating Temp.	-40°C to +70°C			
Humidity	5-95%, non-condensing			
Board Size	2.3" x 1.6" x 0.86" (59 mm x 41 mm x 22 mm)			
Part Number	20-101-0454	20-101-0488	20-101-0494	20-101-0955
Development Kit	U.S. 101-0475, Int'l 101-0476			