

# BL1800 Jackrabbit™

MODELS | LP3500 | LP3510 |

*Low-cost Single-board Computer*

## Key Features

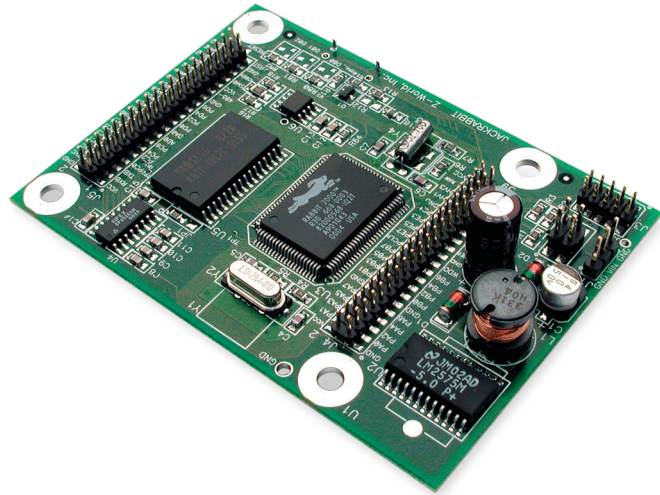
- Up to 29.5 MHz clock speed
- Compact 3.5" x 2.5" size
- 4 serial ports
- Multifunctional I/O
- Analog input and outputs

## Design Advantages:

- Easy development using Rabbit's Dynamic C® programming language
- Extensive library of drivers and sample programs are available
- Proven hardware

## Applications

- Tank monitoring
- Automatic meter reading
- Remote monitoring and communications
- Remote energy management
- Security and surveillance



The BL1800 Jackrabbit is a small, easy-to-use, single-board computer that offers reliable hardware for embedded applications.

The BL1800 delivers a Rabbit® 2000 micro-processor operating at up to 29.5 MHz and 24 CMOS-compatible I/O, 3 analog channels, and 4 high-power outputs, all on a 3.5" X 2.5: (89 x 64mm) PC board. Three of the high-power outputs can sink up to one amp each and are protected for direct driving of inductive loads.

There are two RS-232 ports and one RS-485 port support serial communication rated at 15 kV for ESD protection. The fourth serial port is a 5 V CMOS-compatible programming port that can also be used in the user's application after programming is completed.

Five 8-bit timers and one 10-bit timer with two match registers are onboard. Four of the 8-bit timers can be cascaded

from the first timer. A real-time clock (RTC) provides time/date data, and a watchdog supervisor is standard.

The BL1800 features a switching regulator that provides a wide range of input voltages (8–40 V DC), reducing power consumption while minimizing heat. (A linear regulator is featured on the BL1810 and BL1820 versions.)

## Programming the BL1800

Programs are developed and debugged with Rabbit's industry-proven Dynamic C® software. The programming device is connected via a serial cable, a USB cable. Comprehensive debugging support includes break points, watch expressions and many other extensive

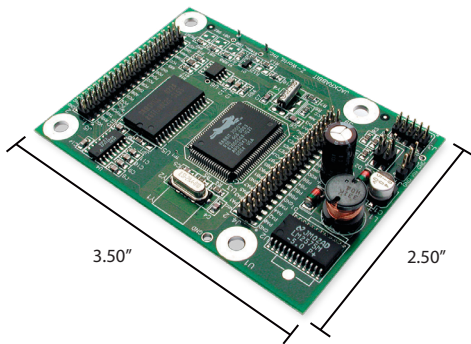
**RABBIT** 

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features oriented toward real-time embedded systems programming. An extensive library of drivers and sample programs is provided, including a royalty-free TCP/IP stack for network and Internet communications as well as full source code for most library routines.

## Development Kit

The BL1800 Development Kit contains software and hardware tools needed to begin design including a demo board, Dynamic C<sup>®</sup> software and documentation on CD-ROM, User's Manual with schematics, serial cable for programming and debugging, AC adapter (US/Canada only), wiring assembly and friction-lock crimp pins and housings (standard crimping tool sold separately).



BL1800 Jackrabbit™ Specifications			
Feature	BL1800	BL1810	BL1820
Microprocessor	Rabbit® 2000 @ 29.5 MHz	Rabbit® 2000 @ 14.7 MHz	
Flash EPROM	256K (supports 128K–512K)	128K (supports 128K–512K)	
SRAM	128K (supports 32K–512K)		
Backup Battery	3 V lithium coin type, 950 mA-h, supports real-time clock and SRAM		None
Digital Inputs	6, CMOS-level		7, CMOS-level
Digital Outputs	4 CMOS-level plus 4 high-power outputs — 3 sink up to 1 A and 30 V each, 1 sources up to 500 mA	4 CMOS-level plus 4 high-power outputs — 3 sink up to 200 mA and 30 V each, 1 sources up to 100 mA	5 CMOS-level plus 4 high-power outputs — 3 sink up to 200 mA and 30 V each, 1 sources up to 100 mA
Configurable I/O	14 CMOS-level: 8 are bitwise, 6 are by bit		15 CMOS-level: 8 are bitwise, 7 are by bit
Analog Inputs	One low-grade A/D input—input range 0.1 V to 2.8 V, 9-bit resolution, 8-bit accuracy, 10 samples/s		
Analog Outputs	Two 9-bit filtered and buffered PWM outputs, one 0.1–2.8 V DC, one 0.7–3.5 V DC, update rate 50 Hz		
Serial Ports	Up to four serial ports: <ul style="list-style-type: none"> <li>• Two RS-232 or one RS-232 (with CTS/RTS) rated at 15 kV ESD</li> <li>• Onw RS-485 rated at 15 kV ESD (RS-485 driver not installed on BL1820)</li> <li>• One 5 V CMOS-compatible programming port               <ul style="list-style-type: none"> <li>• Two serial ports (A and B) can be clocked</li> </ul> </li> </ul>		
Serial Rate	Max. burst rate = CLK/32 (async) Max. sustained rate = CLK/64		
Connectors	Two 2 × 20, 2 mm IDC headers		
Real-Time Clock	Yes		
Timers	Five 8-bit timers (four cascadable from the first) and one 10-bit timer with two match registers		
Watchdog/Supervisor	Yes		
Power	8–40 V DC, 1.2 W max., switching regulator	7.5–25 V DC, 100 mA, linear regulator	
Operating Temperature	–40° C to +70° C		
Humidity	5% to 95%, non-condensing		
Board Size	2.50" × 3.50" × 0.76" (64 mm × 89 mm × 19 mm)	2.50" × 3.50" × 0.94" (64 mm × 89 mm × 24 mm)	2.50" × 3.50" × 0.63" (64 mm × 89 mm × 16 mm)
Pricing			
Price (qty. 1/25)	\$99/\$87	\$69/\$61	\$49/\$43
Part Number	20-101-0356	20-101-0357	20-101-0358
Development Kit Part Number	\$139 U.S. 101-0363		Int'l 101-0364



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