

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

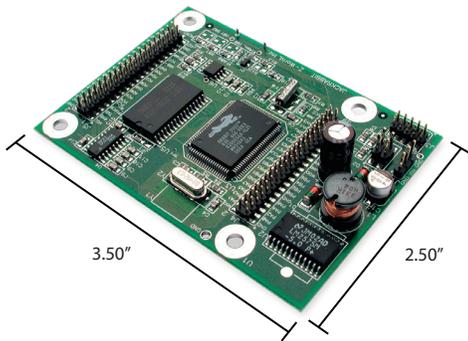
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features oriented toward real-time embedded systems programming. An extensive library of drivers and sample programs is provided, including a royalty-free TCP/IP stack for network and Internet communications as well as full source code for most library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

Development Kit

The BL1800 Development Kit contains software and hardware tools needed to begin design including a demo board, Dynamic C[®] 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"> • Two RS-232 or one RS-232 (with CTS/RTS) rated at 15 kV ESD • Onw RS-485 rated at 15 kV ESD (RS-485 driver not installed on BL1820) • One 5 V CMOS-compatible programming port <ul style="list-style-type: none"> • Two serial ports (A and B) can be clocked 		
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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