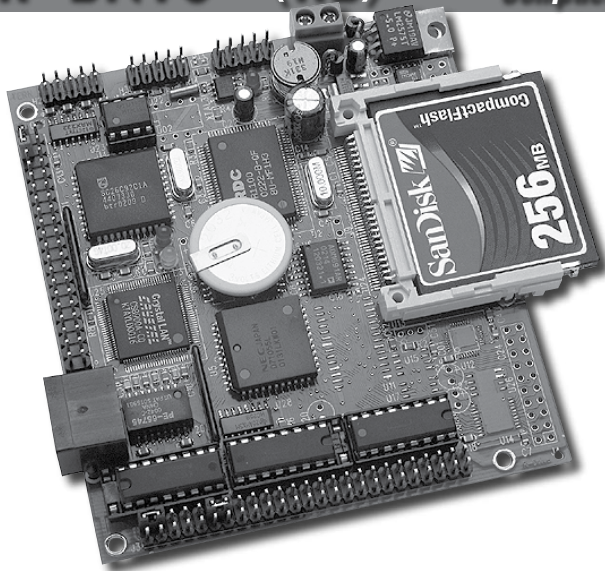


R-Drive™ (RD)

RECOMMENDED APPLICATION:
Ethernet, high-voltage drivers, ADC/DAC,
CompactFlash storage

**80MHz
CPU!**



Features:

- 3.9 x 3.6"
- 50 μ A standby, 160/20 mA normal/power-save
- Complete C/C++ programmable environment
- CS8900 10 Base-T Ethernet Controller.
- 8 16-bit and 8 12-bit ADC analog inputs, 0-5V
- 8 high-speed 12-bit analog outputs
- Up to 2GB CompactFlash with File system support
- 80 MHz R1100 or 40 MHz Am186ER
- 256 KW 16-bit Flash, 256 KW 16-bit SRAM
- 40+ TTLs, Solenoid drivers, Real-time clock, 512 bytes EE
- 3 RS-232 serial ports, one can be RS232/485/422
- Solenoid drivers and protected high voltage inputs.

Measuring within 3.9x3.6 inches, the **R-Drive™ (RD)** is an industrial embedded controller integrated with Ethernet, RS232/485/422 connectivity, CompactFlash for mass local data storage, analog I/Os and solenoid drivers. It can be used for precision data acquisition, industrial process control, or remote communication logger.

The **RD** is based on a high performance C/C++ programmable 80 MHz 186 CPU with a 16-bit external bus supporting fast execution times through 16-bit Flash and 16-bit battery-backed SRAM.

A total of up to 16 analog inputs are supported. One high-speed 12-bit parallel ADC chip (AD7852) provides 8 channels analog inputs (0-5V), with up to 300K samples per second. A 16-bit ADC (ADS8344, TI) provides 8 single-ended or 4 differential analog inputs (0-5V, or 0-REF) with 65536 counts of resolution at up to 10 KHz sample rate.

A parallel DAC (DA7625, 5 μ s, 4 ch, 12-bit, 0-2.5V) and 2 serial DACs (DAC7612, 2 ch, 12-bit, 0-4.095V) can be installed to support a total of up to 8 analog outputs.

A 50-pin CompactFlash interface can be installed to allow access to mass storage CompactFlash cards. Users can easily add mass data storage to their embedded application. C/C++ programmable software packages with file system libraries are available.

An Ethernet LAN controller (CS8900) can be installed to provide network connectivity. A RJ45 8-pin connector is used to connect to a 10-baseT Ethernet network. A software library is available for Ethernet connectivity.

Three CPU internal timer/counters can be used to count or time external events, or to generate non-repetitive or variable-duty-cycle waveforms as PWM outputs.

A serial real time clock (DS1337, Dallas) is a low power clock/calendar with two time-of-day alarms.

Three RS232 serial ports are available: A Dual UART (SC26C92) and a single CPU internal UART (default as DEBUG port). All UARTs have deep FIFOs to minimize the potential of receiver overrun or to reduce interrupt overhead. One UART can be buffered by RS232 (as default), RS485, or RS422.

40+ TTL I/O lines are free to use, including 24 bi-directional I/Os from the PPI (82C55), 32 multifunctional CPU internal PIOs, and TTL I/Os from the DUART.

Three DIP sockets with 21 high voltage sink drivers (ULN2003A) are installed as default. Each driver is capable of sinking 350 mA at 50V per line. They can directly drive solenoids, relays, or lights. Optional 16 sourcing drivers (USD2982), 7 protected high voltage (up 35V DC) inputs, or TTL signals with resistor pack can be installed.

Optional high efficiency Switching Regulator (LM2575) provides an external control pin to shutdown 5V and enter μ A standby mode and wake-up by active-low signal. The **RD** requires 8.5V to 12V DC power supply with default linear regulator, or up to 30V DC power input with switching regulator without generating excessive heat.

Ordering Information

RD	\$169/\$149/\$109/\$99	Qty 1/50/100/1K+
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Includes: 80MHz CPU, I/Os, 3 UARTs, 3 timers, 82C55, watchdog timer, EE, 256KW Flash, 64KW SRAM, solenoid drivers.

NOT including add-on options. OEM option discounts available.

Add-on Options:

- | | |
|---|---------|
| 1) SRAM 256KW..... | \$20 |
| 2) Real-time clock (RTC1337) and battery..... | \$20 |
| 3) CompactFlash Interface..... | \$20 |
| 4) 4 ch. 12-bit DAC, 200 KHz (DA7625)..... | \$40 |
| 5) 2 ch. 12-bit DAC (DAC7612) 2 chips..... | \$20x2 |
| 6) 8 ch. 12-bit ADC (ADS7852) 300 KHz..... | \$20 |
| 7) 8 ch. 16-bit ADC (ADS8344)..... | \$30 |
| 8) Switching regulator (SR)..... | \$20 |
| 9) RS485/422..... | \$10/20 |
| 10) Ethernet Interface (CS8900)..... | \$30 |

Typical Order Example:

80 MHz R-Drive™, 256KW SRAM
RD80 + 1 = \$169 + \$20 = \$189



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