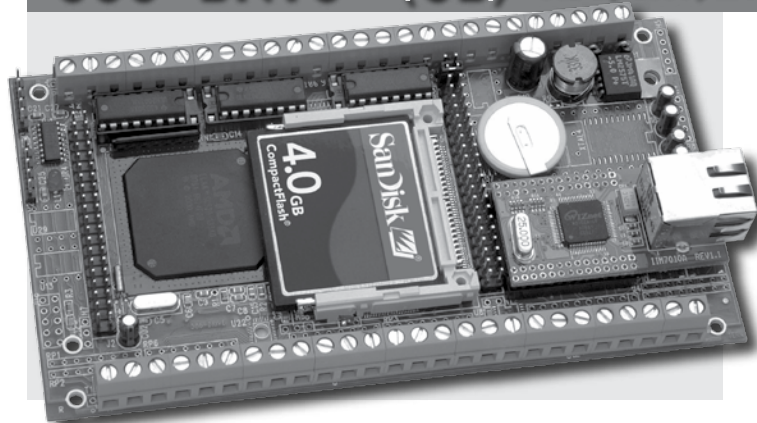


586-Drive™ (5D) 586-based 100M Ethernet Web Controller with 24-bit ADC, DAC, HV I/O, and CompactFlash Interface

NEW!



Features:

- 151x82 mm. DIN rail mounting, 110 mA at 24V DC power
- 133 MHz, AMD SC520, program in C/C++
- High performance hardware floating point coprocessor
- Non volatile SRAM, Flash, RTC, timers, interrupts
- 4 RS232/485 Async serial ports and 1 Sync serial port
- CompactFlash and FAT16 file system support
- 4 ch 16-bit ADC (AD7655) and 8 16-bit DAC (LT2600)
- Hardware TCP/IP stack for 100M Base-T Ethernet
- 16 analog or digital inputs (30V) with 24-bit ADC (LT2448)
- 20+ Solenoid Drivers, 4 Opto-couplers, 10+ digital I/Os.

Introduction

The **586-Drive™ (5D)** is a C/C++ programmable controller based on the 32-bit 133 MHz AMD Elan SC520. It combines this high performance 586 generation processor with an extensive set of industrial I/O features on a single-board, ideal for OEM product.

The SC520 integrates an Am586 CPU and a high performance ANSI/IEEE 754 compliant hardware floating point unit (FPU). The SC520 has a total of seven timers including PIT timers and GP timers, plus a software timer. A real-time clock (RTC) provides a time-of-day calendar and 114 bytes of battery backed RAM. 13 user programmable multifunctional I/O lines are available. One synchronous serial interface (SSI) supports full-duplex, high speed bi-directional communication.

By default, 256KW low power 55 ns SRAM is installed to allow longer battery backup lifetime; this requires slower 2 wait state access to memory. Optionally, if battery backup is not required, a high speed 20 ns SRAM can be installed to allow higher performance zero wait state operation.

In addition to the on-board surface mount Flash, a 32-pin DIP IC socket allows using traditional user application plug-in ROM/Flash. A 50-pin CompactFlash interface supports low cost, removable, up to 2 GB mass storage CompactFlash cards with Windows compatible FAT file system support. A 512/2K bytes EEPROM can be installed. The **5D** can be powered by a single unregulated DC power from 8V to 30V range with the on-board high-efficiency 5V switching regulator.

Networking/Connectivity

An Fast Ethernet Module can be installed to provide 100M BaseT network connectivity. The hardware LSI TCP/IP stack implements TCP/IP, UDP, ICMP and ARP in hardware. With 16KB internal transmit and receiving buffer, the Ethernet module releases internet connectivity and protocol processing from the host processor.

The system can easily handle TCP/IP traffic of up to 200 Kbyte/s. Samples for HTTP, Telnet, FTP applications are available.

Up to 4 RS232 serial ports (2 from SC520, and 2 SCC2691) are available. Two ports can be factory-configured as RS485.

Industrial I/O

By default, 7 high voltage inputs (30V), and 14 high voltage sinking drivers (ULN2003A) are installed in DIP sockets. Each driver is capable of sinking 350 mA at 50V per line. They can directly drive solenoids, relays, or lights. Optionally, 12 DAC channels can be installed in their place.

Four high isolation voltage photo couplers (PS2701, NEC) can be installed to provide optically isolated inputs. 16 additional input channels are provided with a 24-bit ADC (LT2448), connected via hardware configurable buffer resistors and screw terminal blocks. Variable resistor dividers can be installed to allow variable (up to 30V) input range (as default, 0-5V). They can be processed as analog or digital signals. With a peak sample rate of 5 KHz, this ADC works well directly with analog signals from strain gages, current shunts, RTDs, resistive sensors, and also work well directly with thermocouples in the differential mode. A precision reference (LT1019/REF02) with an internal temperature sensor providing local temperature for thermocouple applications.

In addition, an additional 4 ch. 16-bit parallel ADC (AD7655, 0-5V) supports ultra high-speed (1 MHz conversion rate) analog signal acquisition. The AD7655 contains two low noise, high bandwidth track-and-hold amplifiers that allow simultaneous sampling on two channels. Eight 16-bit digital to analog converters (TLC2600) can be installed to provide analog voltage (0-5V) outputs.

With the 388 pin BGA package of the SC520, repair support is not available. The 5D works with TERN expansion boards including the UR8, C24, P100, and P300.

A 192 x 128 pixel graphic LCD can be installed replacing 14 high voltage drivers.

Ordering Information

586-Drive (5D) \$229/\$199/\$169 Qty 1/100/1K+
Includes SC520 with FPU, 256KW Flash, 256KW 55 ns SRAM, 2 RS232s, RTC, high voltage I/Os, and Switching Regulator.
NOT including add-on options. OEM option discounts available.

Add-on Options:

- | | |
|---|-----------|
| 1) High speed SRAM 64KW/256KW | \$20/\$40 |
| 2) CompactFlash Interface | \$20 |
| 3) 4 ch. 16-bit ADC (AD7655) | \$40 |
| 4) 8 ch. 16-bit DAC (LT2600) | \$40 |
| 5) 100M BaseT Ethernet | \$30 |
| 6) SCC2691 (a)232, (b)485 up to 2 sets | \$30x2 |
| 7) 24-bit ADC (LT2448) with buffer resistors | \$50 |
| 8) OPTO couplers (PS2701), up to 4 | \$10x4 |
| 9) 2 ch. 12-bit DAC in HV socket, up to 3 chips | \$20x3 |
| 10) 192 x 128 graphic LCD | \$50 |

Typical Order Example: 586-Drive, Ethernet, 16 24-bit ADC
5D +5+7 = \$229 + \$30 + \$50 = \$309



TERN INC.

1724 Picasso Avenue, Davis, CA 95618 USA
Tel: 530-758-0180 • Fax: 530-758-0181

CE FC

sales@tern.com

http://www.tern.com