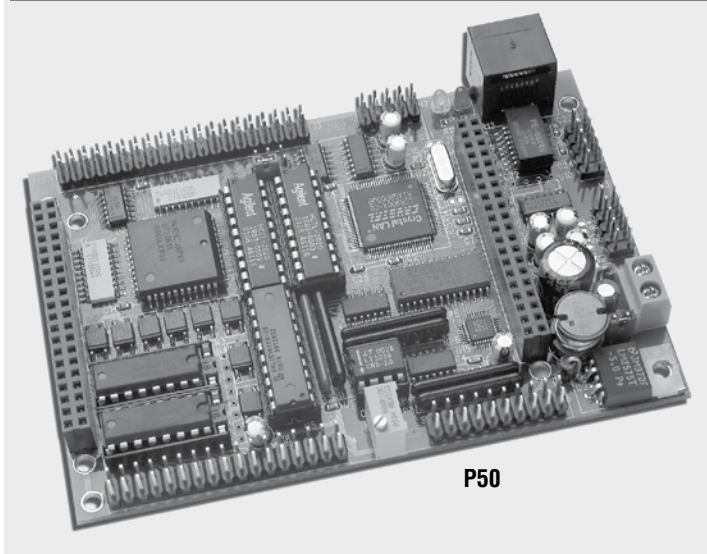


P50™ and P52™

P50™ and P52™ I/O expansion with ADC, DAC, Precision Reference, Temperature sensor, PPI I/Os, Sourcing or Sinking High Voltage Drivers, Opto-couplers, Ethernet, Quadrature Decoders, RS232/485 and Switching Regulator



P50

Features and Options:

- 4.4x3.1x0.5 inches.
- Driven by 586-Engine™, i386-Engine™, A-Engine86™.
- Power consumption: < 200 mA @ 9V-12V
- 24 PPIs, 14 high voltage sourcing or sinking drivers
- 10M Ethernet(P50) or 100M Ethernet(P52).
- 12-bit ADS7852 on P50 or 16-bit AD7655x2 on P52.
- 12-bit DAC7625 on P50 or 16-bit DAC8544 on P52.
- 8 opto-isolators and 2 quadrature decoders
- 5V switching regulator, RS-232 or RS-485 drivers.

Measuring 4.4 x 3.1 inches, the **P50/P52™** is an I/O expansion board designed for and driven by a TERN Engine controller. 16-bit external data bus is required to run the parallel ADC and DAC.

Many embedded applications demand for high speed ADC and DAC with buffered operational amplifiers supporting variable gains or offset for analog signals. The parallel 16/12-bit ADC/DAC can be access via high speed 16-bit data bus with a few host CPU I/O operations. The **P50** supports four 12-bit, parallel DAC (DAC7625, 0-2.5V). The **P52** supports four 16-bit, parallel DAC (DAC7655, 0-5V). The DAC outputs are buffered by 4 ops with hardware configurable gain and offset. The **P50** supports eight 12-bit 300KHz parallel ADC (ADS7852, 0-5V) while the **P52** can have 8 16-bit parallel ADC(AD7655, 0-5V). A precision voltage reference (LT1019) with build-in temperature sensor can be installed. A resistor pot is used to adjust the DAC analog output offset.

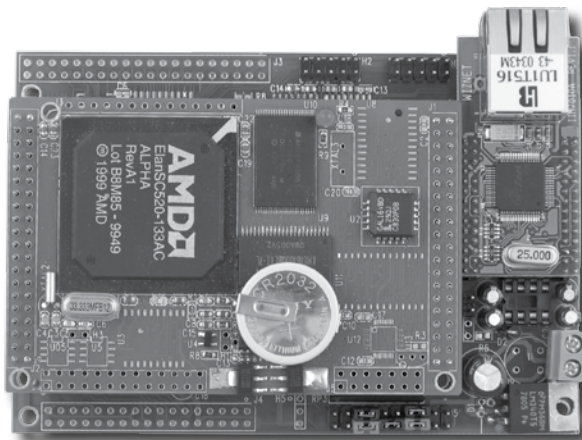
The **P50/P52** can buffer J2 PIOs with 16 sourcing drivers (UDN2982), or 14 sinking drivers (ULN2003). These drivers can source or sink 350 mA at 50V per line to directly drive solenoids, relays, or lights. Seven high voltage drivers can be re-configured as high voltage inputs. Eight high isolation voltage photocouplers (PS2701, NEC) can be installed to provide optically isolators to PIOs.

Optional two quadrature decoders, (HCTL2020) can be installed.

P50/P52 includes 24 bi-directional TTL PPI(82C55) I/Os.

An Fast Ethernet Module can be installed on the **P52** to provide 100M Base-T network connectivity. This Ethernet module has a hardware LSI TCP/IP stack. It implements TCP/IP, UDP, ICMP and ARP in hardware. The hardware Ethernet releases internet connectivity and protocol processing from the host processor, which represents a huge improvement over software-based TCP/IP stacks. An RJ45 8-pin connector is on-board for connecting to 10/100 Base-T Ethernet network. Software libraries and demo project are available for Ethernet connectivity. The **P50** is using Ethernet LAN controller (CS8900) to provide network connectivity.

Two channels of RS-232 drivers and a 5V linear regulator are on-board. An optional RS232 or RS485 driver can be installed for the 3rd UART. The P50/P52 requires 8.5V to 12V DC power supply with linear regulator, or up to 30V DC power input with an optional switching regulator without generating excessive heat.



P52 is driven by a 586-Engine

Ordering Information

P50 or P52 \$99/\$69/\$39 Qty 1/100/1000

Includes: 2 RS-232 ports, 24 PPI I/Os, solenoid drivers, linear regulator. Driven by a 586-Engine, or AE86, i386E with limited HV I/O. NOT including add-on options.

Add-on Options:

- 1) ADS7852(P50) or AD7655 x 2 (P52)\$30 or \$40x2
- 2) DA7625(P50) or DAC8544(P52).....\$40 or \$60
- 3) Opto-couplers (PS2701).....\$20
- 4) Quadrature decoders(HCTL2020), upto 2.....\$30 each
- 5) Switching power regulators(SR).....\$20
- 6) 3rd UART driver a)RS232 or b) RS485.....\$10
- 7) Ethernet (CS8900 P50 or WIZ P52).....\$30

Order Example

P52 with 100M Ethernet

P52+7 = \$99+\$30



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