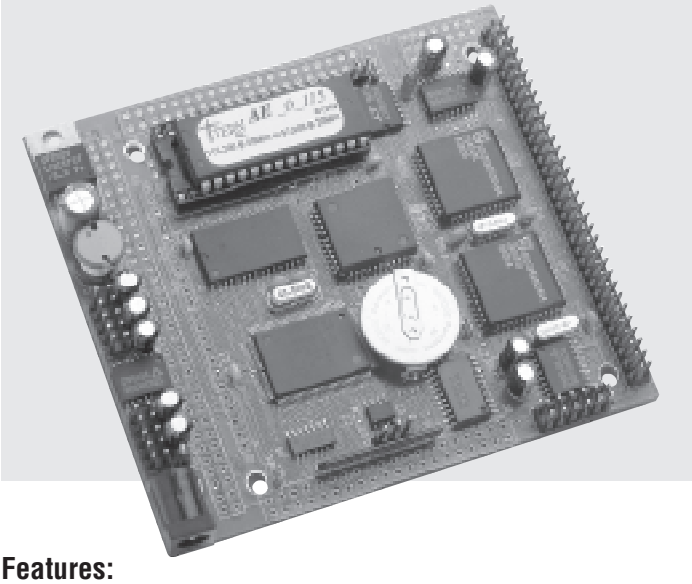
A104S™ 40MHz, 70+ I/Os, 7 UARTs, 11 ADC and 2 DAC



Features:

- 3.8x3.6x0.5 inches. -40°C to +80°C
- 16-bit CPU (188), 40 MHz, 70+ TTL I/Os
- 190 mA at 5V for 40 MHz, 30 mA power saving mode
- 512KB Flash/ROM, 512KB SRAM*, 512 bytes serial EE
- PWM, 3 16-bit timer/counters.
- Six RS-232 serial ports, one RS-485 serial port*
- 2 ch. 12-bit DAC(LTC1446)*
- 11 ch. 12-bit ADC(LTC2543)*
- Real time clock, Switching regulator*

*optional

Summary

The ***A104S™*** is designed for communication applications that require multiple serial-ports, versatility, compactness, and high reliability.

Measuring 3.8 by 3.6 by 0.5 inches, the ***A104S™*** offers a complete C/C++ programmable computer system with a high performance 16-bit CPU (188) operating at a 40 MHz system clock speed. It features up to 512KB ROM/Flash, 512KB battery-backed SRAM, 512 bytes serial EE, a real-time clock, three 16-bit timers/counters and a watchdog timer.

Serial Communications

A total of seven UARTs can be installed on-board: two CPU internal UARTs, a single UART (SCC2691), and two DUARTs (SCC2692 or SC26C92) providing 4 total UARTs. These UARTs provide full-duplex asynchronous receivers and transmitters. The receiver is quadruple buffered to minimize the potential of receiver overrun or to reduce interrupt overhead. All UARTs support reliable serial communication up to a programmable rate of 115,200 baud.

On-board six RS232 drivers support two CPU internal serial ports and the 4 DUART channels. One RS485 driver can be installed for the SCC2691, supporting either normal 8-bit or 9-bit multi-drop RS485/422 network with twisted-pair wiring.

Other Features

Three 16-bit timers can be used to count or time external events, up to 10 MHz, or to generate non-repetitive or variable-

duty-cycle waveforms as PWM outputs. The Pulse Width Demodulation (PWD) can be used to measure the width of a signal in both its high and low phases.

More than 70 TTL I/O lines are available for user use. 32 PIO pins from the 188 CPU are multifunctional and user programmable; around 20 I/O pins should be free for user use. An on-board PPI (82C55) provides 24 additional user programmable bi-directional I/Os. Each DUART has 14 TTL inputs and 16 TTL outputs.

The 12-bit ADC (TLC2543) has 11 channels of analog inputs with single ended 0-5V input range, sampled at 10 KHz sample rate. A DAC (LTC1446) can be installed to support two channels of 12-bit, 0-4.095V analog voltage outputs capable of sinking or sourcing 5 mA.

Optional switching regulator (LM2575) can be used to allow 8-30V unregulated DC power input and reduce heat. Using switching regulator, in the power off mode, the controller consumes very low power.

A 64 pin 8-bit PC/104 compatible connector can be installed. Signals routed to the PC/104 connector are directly from CPU with no buffer. The data bus, address bus, control signals, the VCC and GND are routed to the connector and try to match the PC/104 specifications. The A104S is not fully PC/104 compatible.

Order Information

A104S™ **$199/$159/$119/$89** **Qty 1/100/500/1K+**

Includes: 188 CPU, 40 MHz, 128KB SRAM, 6 RS-232 ports, 3 timers, 70+ TTL I/Os, watchdog timer, 512 byte EE, and 5V regulator.

NOT including options. OEM option discounts are available.

Add-on Options:

1) SRAM: 512KB	$40
2) DEBUG ROM	$30
3) Real time clock (RTC) and battery	$20
4) UART (SCC2691) + RS485	$30
5) ACTF_AE Flash a)128KB b)512KB	$20/$40
6) 11 ch. 12-bit ADC (TLC2543)	$30
7) 2 ch. 12-bit DAC (LTC1446)	$40
10) PC104 64-pin connector	$10
12) Switching regulator (SR)	$30

Order Example:

A104S, 512KB RAM, ACTF flash 128KB.
A104S + 1 + 5(a) = $199 + $40 + $20 = $259

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