

µPac HC16



CPU: CMOS 68HC16Z1 with 16.78 MHz clock speed

MEMORY: Up to 1 MB of Battery Backed RAM and up to 1 MB EPROM/Flash. 64K of RAM included, standard. Also provided are 512 bytes of SEEPROM.

DIGITAL I/O: 16 TTL level, programmable I/O lines, and 8 additional high drive (500 ma. sink, not to exceed package dissipation of 2.25 Watts) outputs. The 24 I/O lines terminate to a standard 50 pin I/O rack header connector.

ANALOG INPUTS: Fast 8 channel, 10 bit analog to digital converter with an 9 microsecond conversion rate.

ANALOG OUTPUTS: The optional D/A has 8 channels with 8 bit resolution.

COUNTER/TIMER/PWM: 2, 16 bit prescaled counters featuring 4, 16 bit output compare registers, 3, 16 bit input capture registers, a bi-directional input/output register, and 2 PWM outputs. An 8 bit counter/timer, a Watchdog timer, and a Real Time Clock/Calendar is also provided.

COMMUNICATION: Up to 2 RS-232 serial ports, one of which is standard. Conversion of the standard serial port from RS-232 to RS-422/485 is optionally available.

INTERFACES: A Backlit LCD interface is provided standard with an optional 20 key, keypad interface available. Also included is a 50 pin bus expansion header and a standard 10 pin BDM interface connector.

The MicroPac series of single board computers feature micro size with micro power consumption at a micro price. The MicroPac HC16 has dimensions of 5.35" by 3.66" with a power requirement of 200 mA. typical. The MicroPac HC16 is ideally suited for controller applications requiring an on-board Liquid Crystal Display (LCD) and/or keypad interface circuitry. The MicroPac HC16 single board computer utilizes the Freescale 68HC16Z1 16 bit microprocessor which is code compatible with 68HC11 controllers. This high integration processor features

integer DSP capability, programmable I/O ports, interrupt controller, watchdog timer, A/D converter, pulse width modulation (PWM) capability, and timer/counters.EMAC integrated this powerful processor onto a board that contains 24 digital I/O lines, 2 serial RS-232/485 ports, Battery Backed Real Time Clock/Calendar, LCD interface, Keypad interface, 8 channels of A/D and 8 channels of D/A. This is a do-it-all single board computer.The MicroPac 68HC16 comes equipped with a Background Debug Mode (BDM) port. Through this port programs can be downloaded and debugged. The BDM when used with the battery backed RAM and development software provides a full featured development system with features comparable to those of an In Circuit Emulator.DSP capability, fast Analog conversions, and low interrupt latency time make this board ideal for demanding real time applications.

Specifications

Single Board Computer Microcontroller Processor.

CMOS 68HC16Z1

Clock Speed:

16.78 MHz

Real Time Clock:

Memory
Primary Flash:

512K of EPROM

Primary I/O
GPIO.

8x prog. I/O 4x in/4x out

Disk Interface:

A Backlit LCD interface is provided standard with an optional 20 key

keypad interface available. Also included is a 50 pin bus expansion header and a standard 10 pin BDM interface connector.

Serial Ports:

1x RS-232

Watchdog:

Secondary I/O
Timers/ Counters/ PWM:

16 channels of PWN

LPT Port:

Keypad:

PS/2:

Analog on
A/D.

A/D Channels:

8 Chan. 10 bit

D/A:

D/A Channels:

8 Chan. 8 bit

Dimensions
DIMENSIONS.

5.35 × 3.66 in

Form Factor:

uPac

Power Requirements
Voltage.

5 V

Typical Current:

200 mA

Max Boot Current:

250 mA

Environmental

Low Operating Temperature:
0 C
High Operating Temperature:
70 C
Upper Operating Humidity:
90%

Pricing

E401-01
MICROPAC HC16 COMPUTER, DISK AND MANUAL (EOL)
\$250.00

Keypads:
E401-03
1 SERIAL RS-232 PORT, K-PAD INTERFACE, 16 BIT COUNTER
\$34.00

E020-25
12 KEY MEM TELEPHONE STYLE KEYPAD
\$25.00
E020-21
16 KEY MEMBRANE HEX STYLE KEYPAD
\$30.00

Cables & Adapters:
E400-00
BACKDOOR DEBUG CABLE (CONNECTS TO PC PRINTER PORT)
\$109.00

Memory:
E401-09
256 K (2, 128 K BY 8) RAM UPGRADE (FACTORY INSTALLED)
\$36.00
E401-14
1 MB (2, 512 K BY 8) RAM UPGRADE (FACTORY INSTALLED)
\$64.00

Displays:
E020-30
20 CHAR. X 2 Line LCD Display
\$49.00
E020-31
20 CHAR. X 2 Line LCD backlit display
\$65.00
E020-32
20 char. X 4 line LCD
\$74.00
E020-33
20 Char. X 4 line backlit LCD (EOL, LIMITED AVAILABILITY)
\$0.00