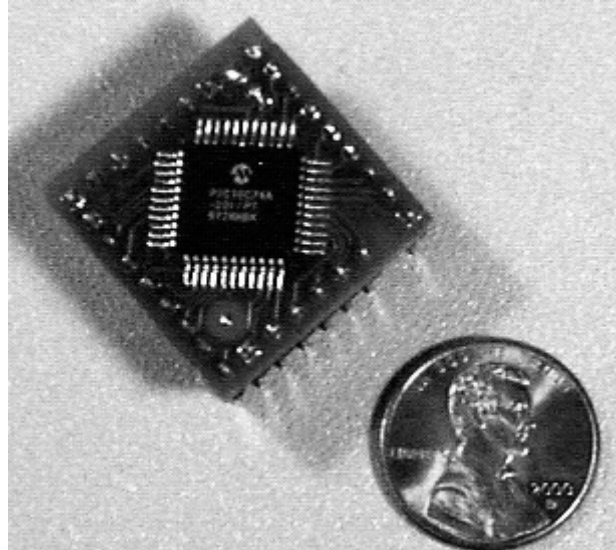


## MC2000-074

### Text

- Microchip Technology PIC16C74 microprocessor
- .95" x .95" size
- Low power sleep modes
- 2 RS-232 port support
- EEPROM for program and parameter storage
- LCD and Keypad port
- 5 channel 8 bit A/D (optional)
- 6 DIO pins including 1 PWM
- VAST expansion port support
- Onboard low dropout voltage regulator
- Development in Single-tasking Vesta Basic
- Floating-point arithmetic.95" x .95" size
- Low power sleep modes
- 2 RS-232 port support
- EEPROM for program and parameter storage
- LCD and Keypad port support
- Real Time Clock
- 5 channel 8 bit A/D (optional)
- 6 DIO pins including 1 PWM
- VAST expansion port support
- Onboard low dropout voltage regulator
- Development in Single-tasking Vesta Basic
- Floating-point arithmetic



### Description

The MC2000-074 is intended for low power, modest sized applications. This tiny engine will run on only 9 mA and requires only 2 mA of current while in sleep mode. The Real Time Clock is implemented using one of the internal timers. If the MC2000-074 is in the SLEEP mode, the unit awakens for a brief period to service the interrupt then returns to the sleep mode.

### External Expansion

VAST network, 5 digital IO lines, PWM (PWM may be used for audio) and five 8 bit analog inputs. If the VAST expansion port, LCD port and keypad are not used, a total of 23 IO lines available. The analog option allows 5 pins to be configured as 5 channels of A/D, 3 channels of A/D and 2 DIO or 5 DIO. The four keypad inputs may be used as interrupt inputs if the keypad is not used.

### Development Environment

Single Tasking Vesta Basic is built into the board. The development kit for this board contains a Development Platform board that provides the output connectors for development purposes, and a socket that the MC2000-074 fits into.

# MC2000-074

## Specs

uP	Microchip Technology PIC16C74, 20 MHz
EEPROM	4k to 8k bytes, 1,000,000 write cycles
Serial Ports	Two RS-232 ports, 19.2k Baud max
Keypad Port	4 x 4 matrix, 100 Ohm resistance max
LCD Port	Alphanumeric, 80 max characters (2x40, 4x20 max) LCD
RTC	Maintains seconds, minutes and hours count
A/D	8 bit, 5 channel, 1 mS conversion rate, 0-5 volt input
Power	5 VDC +/-5%, 9 mA run, 2.5 mA sleep or battery 5.2 volts to 2.4 volts
Size	1.3 inches by 2.8 inches
Temp / RH	-40 to +85 C, 5% to 95% non-condensing

## SBC2000 Connectors

The MC2000-074 supports the following functions (the MC2000-074 Development Platform interconnection board provides the connector sockets):

<p><b>COM and DEV Connectors</b> The COM and DEV connectors supplies signals at RS-232 during development and communication.</p> <table border="1"><thead><tr><th>Pin</th><th>Signal</th></tr></thead><tbody><tr><td>1</td><td>TxD</td></tr><tr><td>2</td><td>GND</td></tr><tr><td>3</td><td>RxD</td></tr></tbody></table>	Pin	Signal	1	TxD	2	GND	3	RxD	<p><b>AIN Connector</b> Analog inputs between 0 and +5 are measured ratiometrically with respect to the positive supply.</p> <table border="1"><thead><tr><th>Pin</th><th>Function</th><th>Port</th><th>Bit</th></tr></thead><tbody><tr><td>1</td><td>AIN0</td><td>A</td><td>0</td></tr><tr><td>2</td><td>AIN1</td><td>A</td><td>1</td></tr><tr><td>3</td><td>AIN2</td><td>A</td><td>2</td></tr><tr><td>4</td><td>AIN3</td><td>A</td><td>3</td></tr><tr><td>5</td><td>AIN4</td><td>A</td><td>5</td></tr></tbody></table>	Pin	Function	Port	Bit	1	AIN0	A	0	2	AIN1	A	1	3	AIN2	A	2	4	AIN3	A	3	5	AIN4	A	5
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Connectors Continued...

# MC2000-074

## SBC2000 Connectors ...Continued

### DIO Connector

The Digital Input-Output connector provides access to 5 general purpose DIO bits and the PWM signal.

Pin	Function	Port	Bit
1	DIO bit 0	D	4
2	DIO bit 1	D	5
3	DIO bit 2	D	6
4	DIO bit 3	D	7
5	DIO bit 4	A	4
6	PWM	C	2

### VAST Connector

Up to 20 VAST peripherals may be connected to the VAST connector. VAST peripherals may be located up to 10 feet away.

Pin	Signal	Pin	Signal
1	GND	2	+5 VDC
3	VCLK	4	VA0
5	VOUT	6	VA1
7	VIN	8	VA2
9	N.C.	10	VA3

### KEYPAD Connector

The KEYPAD is a 4 x 4 matrix type with printed wire style connector. An optional locking single row header may be installed.

Pin	Signal
1	KR0
2	KR1
3	KR2
4	KR3
5	KC0
6	KC1
7	KC2
8	KC3

### LCD Connector

The LCD port will control 80 characters or less alphanumeric liquid crystal displays.

Pin	Signal	Pin	Signal
1	GND	2	+5
3	Contrast	4	RS
5	GND	6	EN
7	N.C.	8	N.C.
9	N.C.	10	N.C.
11	D4	12	D5
13	D6	14	D7

### TTL Connector

Serial data at TTL levels going to from the "COM" port can be intercepted at the TTL connector.

Pin	Function
1	RESET
2	RXD
3	TXD

### PWR Connector

The PWR connector supplies primary power at +5VDC to the SBC.

Pin	Signal
1	GND
2	+5VDC +/- 5%
3	N.C.
4	+Battery Power