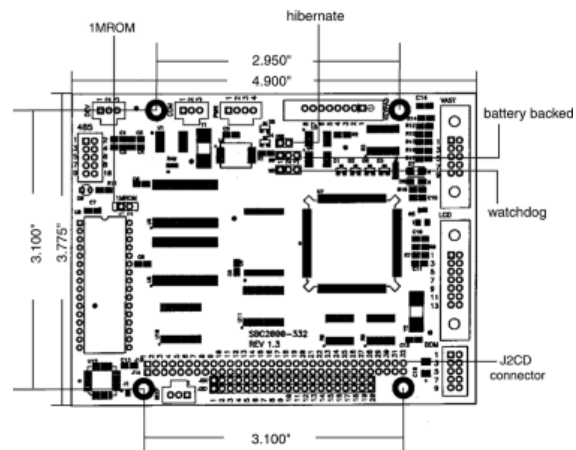


SBC2000-332

Features

- High performance, 32 bit microprocessor
- Integrated Time Processing Unit (TPU)
- Socketed, 0.6" wide EPROM
- 64k , 128k or 512k x 16 flash, 100,000 write cycles
- 64k , 128k or 512k x 16 no wait state BBSRAM
- 128k to 16k byte EEPROM, 1,000,000 write cycles
- Alphanumeric LCD / 4x4 Keypad port
- Battery backable Real Time Clock
- Background Debugger Mode (BDM) port
- Two RS-232 serial ports
- Dual Watchdog Timers
- Power Supply monitor
- 9 channels of TPU Input / Output
- Scalable system clock, low power modes
- VAST Network Expansion port
- BUS Expansion port



Description

The SBC2000-332 is a high performance, low power single board computer. Initial program execution begins in 8 bit wide boot ROM. Execution can be transferred to 16 bit wide flash memory for faster execution or 16 bit wide no wait state battery backable RAM for maximum performance.

Onboard IO

The integral TPU supports special time related functions such as PWM generation, quadrature decoding, asynchronous serial transfer, pulse generation, input time stamp capture and period measurement. Any TPU channel can generate an interrupt on positive or negative input transitions. Nine IO lines from the TPU are available. Four other general purpose programmable IO lines are available. In addition, any of the six bus interrupt lines may be programmed as a digital input or output for a total of 19 multipurpose IO lines.

The system clock rate can be changed under program control to minimize power consumption without interrupting operation. A low-power STOP mode is also available. Additionally, the MC2000-332 can turn itself off completely, reducing supply current to zero, and then reactivate itself at a preprogrammed time.

Development Environment

Vesta Basic and C development environments are fully supported.

Expansion

Bus, VAST network and one reconfigurable asynchronous serial channel support off board peripherals. The bus is 8 or 16 bits wide. Nine TPU channels, 6 interrupt inputs and 4 digital IO lines are available on the Bus connector. External bus accesses 4 Mbyte of 16 bit wide space, 1 Mbyte of 8 bit wide memory and 1 Mbyte of 8 bit wide I/O space.

SBC2000-332- page 2

Specs

uP	Motorola 68332G, 25 MHz
EPROM	128k, 256k, 512k or 1M x 8 (27Cxxx type) EPROM in 0.6" wide socket
Flash	64k to 512k x 16, word writeable, sector erase, sector size 8k, 16k, 32k, 64k bytes
Ram	64k to 512k x 16 SRAM, selectable for external battery backup.
E2PROM	128 bytes to 16k bytes, 1,000,000 write cycles
Interrupts	5 IRQ* on bus, 1 IRQ* VAST, 9 TPU channels on bus may interrupt on + or - edge
RTC	0.01 second resolution, battery backable with 240 bytes of very low power RAM
Serial Port	2 RS-232 ports. One port may be connected to an optional RS-485 adaptor
LCD Port	Alphanumeric, 80 max characters (2x40 or 4x20)
Watchdog	One internal (16 ms to 500 sec reset), and one external (1.5 sec reset), both defeatable
Power Monitor	Hold in reset state under 4.65 Volts for 200 mS minimum
Power	5 VDC +/-5%, 80 mA run, 15 mA nap, 8 mA sleep, 0 mA hibernate
Size	3.775" x 4.90"
Temp/RH	-40 to +85 C, 5% to 95% non-condensing

SBC2000 Connectors

The following connectors are supported on the SBC2000-332

<p>COM and DEV Connectors The COM and DEV connectors communicate at RS-232 levels to external peripherals. The DEV connector is used during software development.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">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>BEEP Connector The BEEP connector may be connected directly to a piezo annunciator for tone generation or used as a source of PWM signal for control at TTL level.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GND</td> </tr> <tr> <td>2</td> <td>+5V</td> </tr> <tr> <td>3</td> <td>BEEP</td> </tr> </tbody> </table>	Pin	Signal	1	GND	2	+5V	3	BEEP																																		
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Connectors Continued. . .

SBC2000 Connectors ...Continued

The Bus Connector J1AB

Pin	Signal	Pin	Signal
1A	IRQ7*	1B	GND
2A	D7	2B	N.C.
3A	D6	3B	+5V
4A	D5	4B	N.C.
5A	D4	5B	N.C.
6A	D3	6B	IRQ6*
7A	D2	7B	-6V
8A	D1	8B	RESET*
9A	D0	9B	+6V
10A	N.C	10B	GND
11A	GND	11B	M.W.
12A	A19	12B	MR*
13A	A18	13B	IOW*
14A	A17	14B	IOR*
15A	A16	15B	CS4*
16A	A15	16B	TP7
17A	A14	17B	CS5*
18A	A13	18B	TP8
19A	A12	19B	TP9
20A	A11	20B	BEEP
21A	A10	21B	TP10
22A	A9	22B	TP11
23A	A8	23B	TP12
24A	A7	24B	TP13
25A	A6	25B	TP14
26A	A5	26B	TP15
27A	A4	27B	N.C
28A	A3	28B	AS*
29A	A2	29B	+5V
30A	A1	30B	CLKOUT
31A	A0	31B	GND
32A	GND	32B	GND

The Bus Connector J2CD

The Bus connector is a buffered extension of the microprocessor data, address and control bus. In addition, unused direct control signals are available. Most common PC/104 signals are supported. The physical connector is a male dual row header on the solder side of the SBC. All PC/104 mounting dimensions and connector spacings are maintained.

Pin	Signal	Pin	Signal
1C	GND	1D	GND
2C	SIZ0	2D	DSAK0*
3C	SIZ1	3D	DSAK1*
4C	A22	4D	N.C.
5C	A21	5D	N.C.
6C	A20	6D	IRQ5*
7C	A19	7D	IRQ4*
8C	A18	8D	IRQ3*
9C	A17	9D	TP0
10C	MEMR*	10D	TP1
11C	MEMW*	11D	TP2
12C	D8	12D	TP3
13C	D9	13D	AS*
14C	D10	14D	DS*
15C	D11	15D	R/W*
16C	D12	16D	N.C.
17C	D13	17D	+5V
18C	D14	18D	T2CLK
19C	D15	19D	N.C.
20C	GND	20D	GND