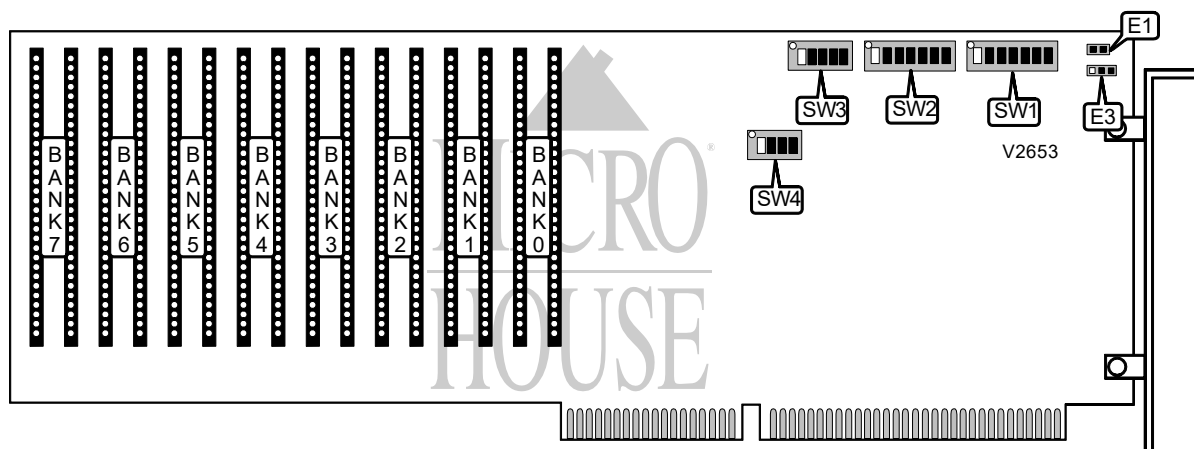


MONOLITHIC SYSTEMS, INC. (COLORADO MSI)

JUSTRAM/AT16

Card Type Memory
Maximum Onboard Memory 16MB DRAM
Data Bus 16-bit ISA



USER CONFIGURABLE SETTINGS		
Setting	Label	Position
Normal address timing	E3	Pins 2 & 3 closed
20ns delay for non-compatible machines	E3	Pins 1 & 2 closed
All memory on board used for extended or expanded memory	SW3/4	Off
First 128KB on board used for conventional memory above 512KB	SW3/4	On
Zero wait states enabled	SW3/5	On
Zero wait states disabled	SW3/5	Off

DRAM				
Size	Bank 0	Bank 1	Bank 2	Bank 3
512KB	(2) 256K x 9	None	None	None
1MB	(2) 256K x 9	(2) 256K x 9	None	None
1.5MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	None
2MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9
2MB	(2) 1M x 9	None	None	None
2.5MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9
3MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9
3.5MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9
4MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9
4MB	(2) 1M x 9	(2) 1M x 9	None	None
6MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	None
8MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9
10MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9
12MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9
14MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9
16MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9

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DRAM (CON'T)				
Size	Bank 4	Bank 5	Bank 6	Bank 7
512KB	None	None	None	None
1MB	None	None	None	None
1.5MB	None	None	None	None
2MB	None	None	None	None
2MB	None	None	None	None
2.5MB	(2) 256K x 9	None	None	None
3MB	(2) 256K x 9	(2) 256K x 9	None	None
3.5MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	None
4MB	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9	(2) 256K x 9
4MB	None	None	None	None
6MB	None	None	None	None
8MB	None	None	None	None
10MB	(2) 1M x 9	None	None	None
12MB	(2) 1M x 9	(2) 1M x 9	None	None
14MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	None
16MB	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9	(2) 1M x 9

DRAM JUMPERS	
Setting	E1
256K x 9 SIPs used	Open
1M x 9 SIPs used	Closed

EXPANDED MEMORY BASE I/O ADDRESSES			
Setting	SW4/1	SW4/2	SW4/3
208h	On	On	Off
248h	On	Off	Off
288h	Off	On	Off
2C8h	Off	Off	Off
Disabled	N/A	N/A	On

EXTENDED MEMORY SIZE				
256KB SIP Size	1MB SIP Size	SW3/1	SW3/2	SW3/3
512KB	2MB	On	On	On
1MB	4MB	On	On	Off
1.5MB	6MB	On	Off	On
2MB	8MB	On	Off	Off
2.5MB	10MB	Off	On	On
3MB	12MB	Off	On	Off
3.5MB	14MB	Off	Off	On
4MB	16MB	Off	Off	Off

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EXTENDED MEMORY STARTING ADDRESS							
Setting	SW2/1	SW2/2	SW2/3	SW2/4	SW2/5	SW2/6	SW2/7
1024KB	On	On	On	Off	On	On	On
1152KB	On	On	On	Off	On	On	Off
1280KB	On	On	On	Off	On	Off	On
1408KB	On	On	On	Off	On	Off	Off
1536KB	On	On	On	Off	Off	On	On
15744KB	Off	Off	Off	Off	On	Off	Off
15872KB	Off	Off	Off	Off	Off	On	On
16000KB	Off	Off	Off	Off	Off	On	Off
16128KB	Off	Off	Off	Off	Off	Off	On
16256KB	Off	Off	Off	Off	Off	Off	Off
Disabled	Off	Off	Off	Off	Off	Off	Off

Note: A total of 112 memory address settings are available. The switches are a binary representation of the decimal memory addresses. SW2/1 is the Most Significant Bit and switch SW2/7 is the Least Significant Bit. The switches have the following decimal values: SW2/1=8192, SW2/2=4096, SW2/3=2048, SW2/4=1024, SW2/5=512, SW2/6=256, SW2/7=128. Turn off the switches and add the values of the switches that are off obtain the correct starting memory address. (Off=1, On=0) If SW2 is set to Disabled, SW1 should also be set to Disabled.

EXTENDED MEMORY ENDING ADDRESS							
Setting	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6	SW1/7
1152KB	On	On	On	Off	On	On	On
1280KB	On	On	On	Off	On	On	Off
1408KB	On	On	On	Off	On	Off	On
1536KB	On	On	On	Off	On	Off	Off
1664KB	On	On	On	Off	Off	On	On
15872KB	Off	Off	Off	Off	On	Off	Off
16000KB	Off	Off	Off	Off	Off	On	On
16128KB	Off	Off	Off	Off	Off	On	Off
16256KB	Off	Off	Off	Off	Off	Off	On
16384KB	Off	Off	Off	Off	Off	Off	Off
Disabled	On	On	On	On	On	On	On

Note: A total of 112 memory address settings are available. The switches are a binary representation of the decimal memory addresses. SW1/1 is the Most Significant Bit and switch SW1/7 is the Least Significant Bit. The switches have the following decimal values: SW1/1=8192, SW1/2=4096, SW1/3=2048, SW1/4=1024, SW1/5=512, SW1/6=256, SW1/7=128. Turn off the switches and add the values of the switches that are off to 128KB obtain the correct starting memory address. (Off=1, On=0) If SW1 is set to Disabled, SW2 should also be set to Disabled.

MISCELLANEOUS TECHNICAL NOTE
<p>The board may be configured for any combination of conventional, expanded, and extended memory. When conventional memory is enabled, be sure to subtract 128KB from the remaining memory. When configured for both extended and expanded memory, be sure that the amount of extended memory is a multiple of 4MB.</p>