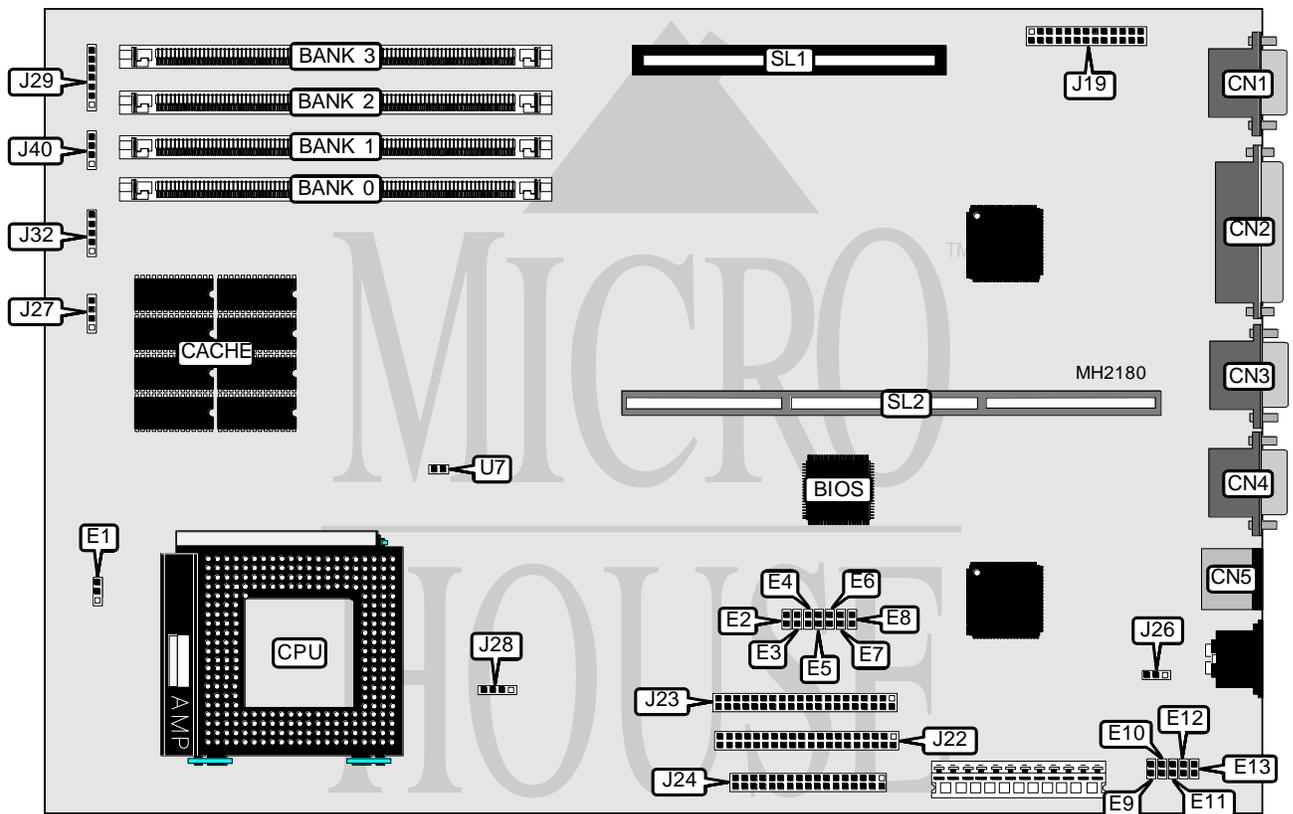


# AST RESEARCH, INC. BRAVO MS, MS-T, MS-L PENTIUM (RATTLER) (202653-XXX)

<b>Processor</b>	Pentium
<b>Processor Speed</b>	60/66/90/100MHz
<b>Chip Set</b>	AST
<b>Max. Onboard DRAM</b>	128MB
<b>Cache</b>	512KB
<b>BIOS</b>	AMI
<b>Dimensions</b>	330mm x 218mm
<b>I/O Options</b>	Floppy drive interface, IDE interfaces (2), parallel port, serial ports (2), PS/2 mouse port, VGA feature connector, VGA port
<b>NPU Options</b>	None



CONNECTIONS			
Purpose	Location	Purpose	Location
VGA port	CN1	Floppy drive interface	J24
Parallel port	CN2	Speaker	J27
Serial port 2	CN3	Chassis fan power	J28
Serial port 1	CN4	Front panel connector	J29
PS/2 mouse port	CN5	Power LED & keylock	J32
VGA feature connector	J19	IDE interface LED	J40
IDE interface 2	J22	Video memory upgrade slot	SL1
IDE interface 1	J23	Riser Card	SL2

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USER CONFIGURABLE SETTINGS		
Function	Jumper	Position
í Factory configured - do not alter	E4	Open
í Factory configured - do not alter	E5	Open
í Factory configured - do not alter	E6	Open
í Factory configured - do not alter	E8	Open
í Monitor type select color	E9	Closed
Monitor type select monochrome	E9	Open
í System setup enabled	E10	Closed
System setup disabled	E10	Open
í On board video enabled	E11	Closed
On board video disabled	E11	Open
í Password enabled	E12	Closed
Password disabled	E12	Open
í Flash BIOS write protect enabled	E13	Closed
Flash BIOS write protect disabled	E13	Open
í CMOS memory normal operation	J26	Closed
CMOS memory clear	J26	Open

DRAM CONFIGURATION				
Size	Bank 0	Bank 1	Bank 2	Bank 3
4MB	(1) 1M x 36	NONE	NONE	NONE
8MB	(1) 1M x 36	(1) 1M x 36	NONE	NONE
8MB	(1) 2M x 36	NONE	NONE	NONE
9MB	(1) 1M x 36	(1) 1M x 36	(1) 256K x 36	NONE
10MB	(1) 1M x 36	(1) 1M x 36	(1) 256K x 36	(1) 256K x 36
12MB	(1) 1M x 36	(1) 1M x 36	(1) 1M x 36	NONE
16MB	(1) 1M x 36	(1) 1M x 36	(1) 1M x 36	(1) 1M x 36
16MB	(1) 4M x 36	NONE	NONE	NONE
17MB	(1) 4M x 36	(1) 1M x 36	NONE	NONE
18MB	(1) 2M x 36	(1) 2M x 36	(1) 256K x 36	(1) 256K x 36
20MB	(1) 2M x 36	(1) 2M x 36	(1) 1M x 36	NONE
24MB	(1) 2M x 36	(1) 2M x 36	(1) 1M x 36	(1) 1M x 36
24MB	(1) 2M x 36	(1) 2M x 36	(1) 2M x 36	NONE
32MB	(1) 2M x 36	(1) 2M x 36	(1) 2M x 36	(1) 2M x 36
32MB	(1) 4M x 36	(1) 4M x 36	NONE	NONE
32MB	(1) 8M x 36	NONE	NONE	NONE
33MB	(1) 4M x 36	(1) 4M x 36	(1) 256K x 36	NONE
34MB	(1) 4M x 36	(1) 4M x 36	(1) 256K x 36	(1) 256K x 36
36MB	(1) 4M x 36	(1) 4M x 36	(1) 1M x 36	NONE
40MB	(1) 4M x 36	(1) 4M x 36	(1) 1M x 36	(1) 1M x 36
40MB	(1) 4M x 36	(1) 4M x 36	(1) 2M x 36	NONE
48MB	(1) 4M x 36	(1) 4M x 36	(1) 2M x 36	(1) 2M x 36
48MB	(1) 4M x 36	(1) 4M x 36	(1) 4M x 36	NONE
64MB	(1) 4M x 36	(1) 4M x 36	(1) 4M x 36	(1) 4M x 36
64MB	(1) 8M x 36	(1) 8M x 36	NONE	NONE

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DRAM CONFIGURATION (CON'T)				
Size	Bank 0	Bank 1	Bank 2	Bank 3
66MB	(1) 8M x 36	(1) 8M x 36	(1) 256K x 36	(1) 256K x 36
68MB	(1) 8M x 36	(1) 8M x 36	(1) 1M x 36	NONE
72MB	(1) 8M x 36	(1) 8M x 36	(1) 1M x 36	(1) 1M x 36
72MB	(1) 8M x 36	(1) 8M x 36	(1) 2M x 36	NONE
80MB	(1) 8M x 36	(1) 8M x 36	(1) 2M x 36	(1) 2M x 36
80MB	(1) 8M x 36	(1) 8M x 36	(1) 4M x 36	NONE
96MB	(1) 8M x 36	(1) 8M x 36	(1) 4M x 36	(1) 4M x 36
96MB	(1) 8M x 36	(1) 8M x 36	(1) 8M x 36	NONE
128MB	(1) 8M x 36	(1) 8M x 36	(1) 8M x 36	(1) 8M x 36

CACHE CONFIGURATION	
Size	Bank 0
512KB	(8) 64K x 8
Note: Cache is factory installed and is not configurable.	

CPU SPEED CONFIGURATION				
Speed	E1	E2	E3	E7
60MHz	pins 1 & 2 closed	Open	Closed	Open
66MHz	pins 1 & 2 closed	Closed	Closed	Open
90MHz	pins 2 & 3 closed	Open	Closed	Open
100MHz	pins 2 & 3 closed	Open	Closed	Closed
Note: Use these settings with IMI415 installed at U7.				

CPU SPEED CONFIGURATION				
Speed	E1	E2	E3	E7
60MHz	pins 1 & 2 closed	Open	Closed	Closed
66MHz	pins 1 & 2 closed	Closed	Closed	Closed
90MHz	pins 2 & 3 closed	Open	Closed	Closed
100MHz	pins 2 & 3 closed	Open	Closed	Open
Note: Use these settings with IMI470 installed at U7.				