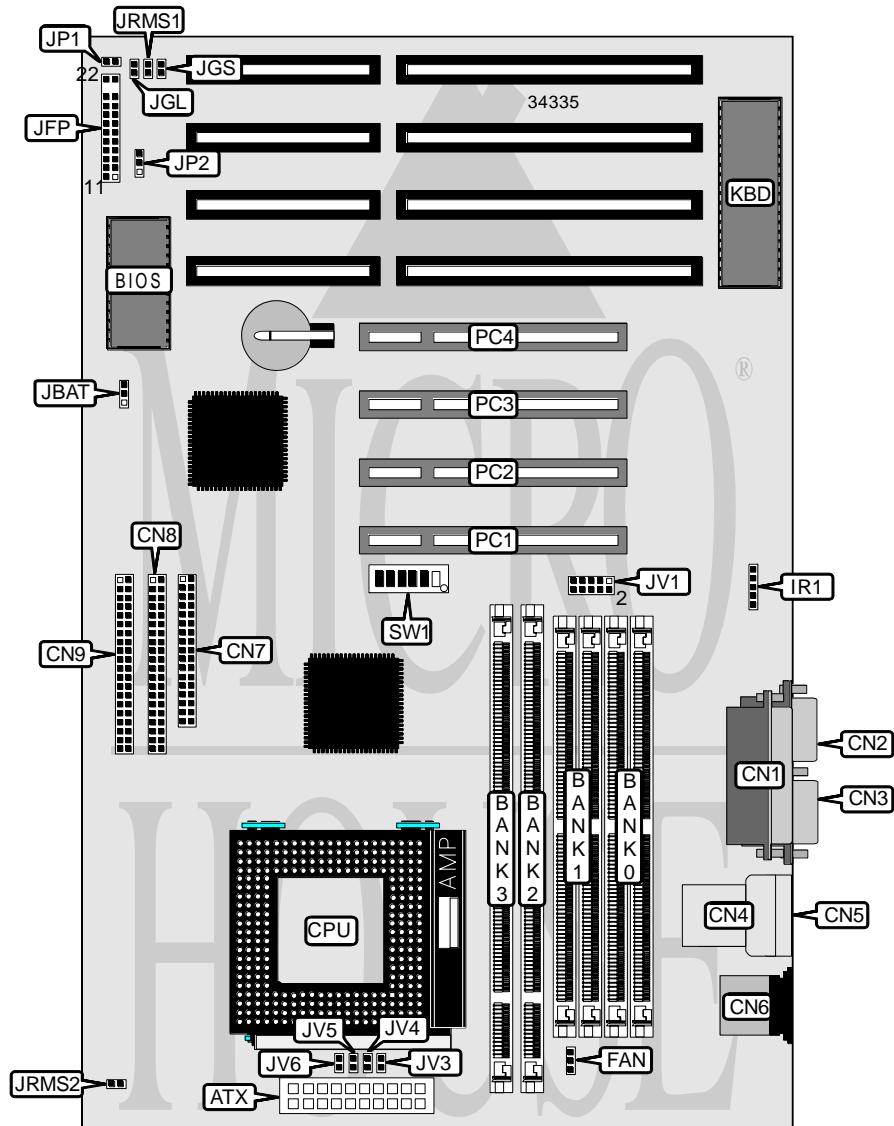


MICRO-STAR INTERNATIONAL CO., LTD.
MS-5148

Processor	CX M1/CX M2/AM K5/AM K6/Pentium
Processor Speed	90/100/120/133/150/166/180/200/225/233MHz
Chip Set	Intel
Video Chip Set	None
Maximum Onboard Memory	256MB (EDO supported)
Maximum Video Memory	None
Cache	256/512KB
BIOS	Award
Dimensions	300mm x 186mm
I/O Options	32-bit PCI slots (4), floppy drive interface, green PC connector, IDE interfaces (2), parallel port, PS/2 mouse port, serial ports (2), IR connector, USB connectors (2), ATX power connector
NPU Options	None



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CONNECTIONS			
Purpose	Location	Purpose	Location
ATX power connector	ATX	IR connector	IR1
Parallel port	CN1	Power LED & keylock	JFP/pins 1 - 5
Serial port 1	CN2	Speaker	JFP/pins 7 - 10
Serial port 2	CN3	Turbo LED	JFP/pins 12 & 13
USB connector	CN4	Reset switch	JFP/pins 19 & 20
USB connector	CN5	IDE interface LED	JFP/pins 21 & 22
PS/2 mouse port	CN6	Green PC LED	JGL
Floppy drive interface	CN7	Green PC connector	JGS
IDE interface 1	CN8	Soft off power supply	JRMS1
IDE interface 2	CN9	Soft off power supply	JRMS2
Chassis fan power	FAN	32-bit PCI slots	PC1 – PC4

USER CONFIGURABLE SETTINGS		
Function	Label	Position
í CMOS memory normal operation	JBAT	Pins 1 & 2 closed
CMOS memory clear	JBAT	Pins 2 & 3 closed
í Factory configured - do not alter	JP1	Unidentified
í Flash BIOS voltage select 5v	JP2	Pins 1 & 2 closed
Flash BIOS voltage select 12v	JP2	Pins 2 & 3 closed

DIMM/DRAM CONFIGURATION				
Size	Bank 0	Bank 1	Bank 2	Bank 3
8MB	(2) 1M x 36	None	None	None
8MB	None	None	(1) 1M x 64	None
16MB	(2) 2M x 36	None	None	None
16MB	None	None	(1) 2M x 64	None
16MB	(2) 1M x 36	(2) 1M x 36	None	None
16MB	(2) 1M x 36	None	None	(1) 1M x 64
16MB	None	None	(1) 1M x 64	(1) 1M x 64
24MB	None	(2) 2M x 36	(1) 1M x 64	None
32MB	(2) 4M x 36	None	None	None
32MB	None	None	(1) 4M x 64	None
32MB	(2) 2M x 36	None	None	(1) 2M x 64
40MB	(2) 4M x 36	(2) 1M x 36	None	None
40MB	(2) 4M x 36	None	None	(1) 1M x 64
48MB	(2) 2M x 36	None	None	(1) 4M x 64
48MB	(2) 4M x 36	(2) 2M x 36	None	None
64MB	(2) 8M x 36	None	None	None
64MB	None	None	None	(1) 8M x 64
64MB	(2) 4M x 36	(2) 4M x 36	None	None
64MB	(2) 4M x 36	None	None	(1) 4M x 64

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DIMM/DRAM CONFIGURATION (CON'T)				
Size	Bank 0	Bank 1	Bank 2	Bank 3
64MB	None	None	(1) 4M x 64	(1) 4M x 64
72MB	(2) 8M x 36	(2) 1M x 36	None	None
72MB	(2) 8M x 36	None	None	(1) 1M x 64
80MB	None	(2) 2M x 36	(1) 8M x 64	None
80MB	(2) 8M x 36	None	None	(1) 2M x 64
80MB	(2) 8M x 36	(2) 2M x 36	None	None
96MB	(2) 4M x 36	None	None	(1) 8M x 64
96MB	(2) 8M x 36	(2) 4M x 36	None	None
96MB	(2) 8M x 36	None	None	(1) 4M x 64
128MB	(2) 8M x 36	None	None	(1) 8M x 64
128MB	None	None	(1) 8M x 64	(1) 8M x 64
128MB	(2) 8M x 36	(2) 8M x 36	None	None
128MB	(2) 16M x 36	None	None	None
128MB	None	None	None	(1) 16M x 64
136MB	(2) 16M x 36	(2) 1M x 36	None	None
136MB	(2) 16M x 36	None	None	(1) 1M x 64
144MB	(2) 16M x 36	(2) 2M x 36	None	None
160MB	(2) 16M x 36	(2) 4M x 36	None	None
192MB	(2) 16M x 36	(2) 8M x 36	None	None
192MB	(2) 16M x 36	None	None	(1) 8M x 64
256MB	(2) 16M x 36	(2) 16M x 36	None	None
256MB	(2) 32M x 36	None	None	None
256MB	None	None	(1) 16M x 64	(1) 16M x 64
256MB	None	None	(1) 32M x 64	None

Note: Board accepts EDO memory.

DIMM VOLTAGE CONFIGURATION	
Voltage	JV1
3.3v	Pins 7 & 8, 9 & 10 closed
5v	Pins 1 & 2, 3 & 4 closed

CACHE CONFIGURATION
Note: The location of the 256KB/512KB cache is unidentified.

CPU SPEED SELECTION (CYRIX M1)								
CPU speed	Clock speed	Multiplier	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6
133MHz	55MHz	2x	On	Off	Off	On	On	Off
150MHz	60MHz	2x	On	Off	Off	On	Off	Off
166MHz	66MHz	2x	On	Off	Off	Off	Off	Off
200MHz	75MHz	2x	On	Off	Off	Off	On	Off

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CPU SPEED SELECTION (CYRIX M2)								
CPU speed	Clock speed	Multiplier	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6
166MHz	66MHz	2.5x	On	On	Off	Off	Off	Off
180MHz	60MHz	3x	Off	On	Off	On	Off	Off
200MHz	66MHz	3x	Off	On	Off	Off	Off	Off
225MHz	75MHz	3x	Off	On	Off	Off	On	Off

CPU SPEED SELECTION (AMD)								
CPU speed	Clock speed	Multiplier	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6
90MHz	60MHz	1.5x	Off	Off	Off	On	Off	Off
100MHz	66MHz	1.5x	Off	Off	Off	Off	Off	Off
120MHz	60MHz	2x	On	Off	Off	On	Off	Off
133MHz	66MHz	2x	On	Off	Off	Off	Off	Off
150MHz	60MHz	2.5x	On	On	Off	On	Off	Off
166MHz	66MHz	2.5x	On	On	Off	Off	Off	Off
200MHz	66MHz	3x	Off	On	Off	Off	Off	Off
233MHz	66MHz	3.5x	Off	Off	Off	Off	Off	Off

CPU SPEED SELECTION (INTEL)								
CPU speed	Clock speed	Multiplier	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6
90MHz	60MHz	1.5x	Off	Off	Off	On	Off	Off
100MHz	66MHz	1.5x	Off	Off	Off	Off	Off	Off
120MHz	60MHz	2x	On	Off	Off	On	Off	Off
133MHz	66MHz	2x	On	Off	Off	Off	Off	Off
150MHz	60MHz	2.5x	On	On	Off	On	Off	Off
166MHz	66MHz	2.5x	On	On	Off	Off	Off	Off
200MHz	66MHz	3x	Off	On	Off	Off	Off	Off
233MHz	66MHz	3.5x	Off	Off	Off	Off	Off	Off

CPU VOLTAGE SELECTION (SINGLE)				
Voltage	JV3	JV4	JV5	JV6
3.38v	Open	Closed	Open	Open
3.52v	Closed	Open	Open	Open

CPU VOLTAGE SELECTION (DUAL)					
Voltage	V core	JV3	JV4	JV5	JV6
3.3v	2.8v	Closed	Open	Open	Open
3.3v	2.9v	Open	Open	Open	Closed
3.3v	3.2v	Open	Open	Closed	Open