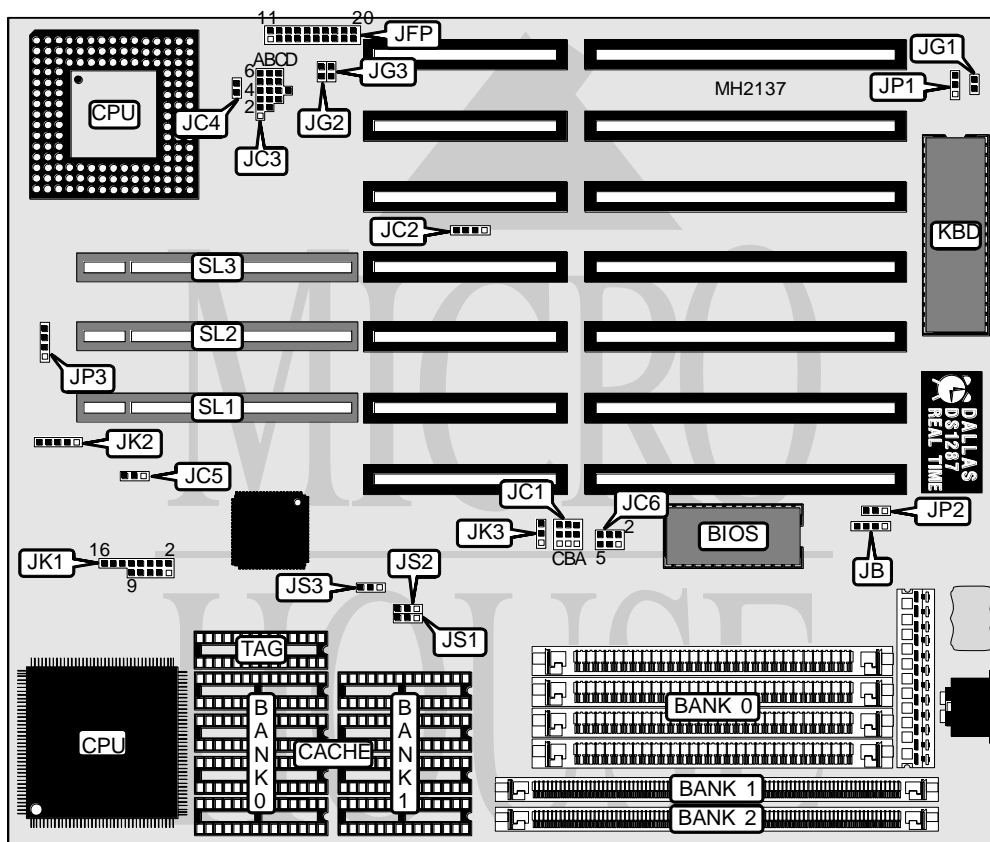


# MICRO-STAR INTERNATIONAL CO., LTD.

## MS-4131G (VLB 486 AL2G)

<b>Processor</b>	80486SX/80487SX/CX486M7/AMD486DX/AMD486DXL/80486DX/80486DX2/ Pentium Overdrive
<b>Processor Speed</b>	20/25/33/40/50(internal)/50/66(internal)66MHz
<b>Chip Set</b>	ALI
<b>Max. Onboard DRAM</b>	64MB
<b>Cache</b>	128/256/512KB
<b>BIOS</b>	AMI/Award/Phoenix
<b>Dimensions</b>	260mm x 220mm
<b>I/O Options</b>	32-bit VESA local bus slots (3), green PC connector
<b>NPU Options</b>	None



CONNECTIONS			
Purpose	Location	Purpose	Location
External battery	JB	Reset switch	JFP pins 19 - 20
Power LED & keylock	JFP pins 1 - 5	Green PC connector (monitor)	JG1
Speaker	JFP pins 7 - 10	Green PC LED connector	JG2
Turbo LED	JFP pins 12 - 13	Green PC connector (sleep mode)	JG3
Turbo switch	JFP pins 15 - 17	32-bit VESA Local bus slots	SL1 - SL3

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USER CONFIGURABLE SETTINGS		
Function	Jumper	Position
í On board battery installed	JB	pins 2 & 3 closed
External battery installed	JB	pins 1 & 2, 3 & 4 closed
í PQFP CPU disabled	JC4	Closed
PQFP CPU enabled	JC4	Open
í Factory configured - do not alter	JC6	N/A
í Monitor type select monochrome	JP1	pins 1 & 2 closed
Monitor type select color	JP1	pins 2 & 3 closed

DRAM CONFIGURATION			
Size	Bank 0	Bank 1	Bank 2
1MB	(4) 256K x 9	NONE	NONE
1MB	NONE	(1) 256K x 36	NONE
1MB	NONE	NONE	(1) 256K x 36
2MB	NONE	NONE	(1) 512K x 36
2MB	NONE	(1) 512K x 36	NONE
2MB	NONE	(1) 256K x 36	(1) 256K x 36
2MB	(4) 256K x 9	(1) 256K x 36	NONE
3MB	(4) 256K x 9	(1) 256K x 36	(1) 256K x 36
3MB	NONE	(1) 256K x 36	(1) 512K x 36
4MB	(4) 256K x 9	(1) 256K x 36	(1) 512K x 36
4MB	(4) 1M x 9	NONE	NONE
4MB	NONE	(1) 512K x 36	(1) 512K x 36
4MB	NONE	(1) 1M x 36	NONE
4MB	NONE	NONE	(1) 1M x 36
5MB	NONE	(1) 256K x 36	(1) 1M x 36
5MB	(4) 256K x 9	(1) 1M x 36	NONE
5MB	(4) 1M x 9	(1) 256K x 36	NONE
6MB	(4) 256K x 9	(1) 1M x 36	(1) 256K x 36
6MB	(4) 256K x 9	(1) 256K x 36	(1) 1M x 36
6MB	(4) 1M x 9	(1) 256K x 36	(1) 256K x 36
6MB	NONE	(1) 512K x 36	(1) 1M x 36
7MB	(4) 256K x 9	(1) 1M x 36	(1) 512K x 36
7MB	(4) 1M x 9	(1) 256K x 36	(1) 512K x 36
8MB	NONE	NONE	(1) 2M x 36
8MB	NONE	(1) 2M x 36	NONE
8MB	NONE	(1) 1M x 36	(1) 1M x 36
8MB	(4) 1M x 9	(1) 1M x 36	NONE
9MB	(4) 256K x 9	(1) 1M x 36	(1) 1M x 36
9MB	(4) 1M x 9	(1) 256K x 36	(1) 1M x 36
9MB	(4) 1M x 9	(1) 1M x 36	(1) 256K x 36
9MB	NONE	(1) 256K x 36	(1) 2M x 36
10MB	(4) 1M x 9	(1) 1M x 36	(1) 512K x 36
10MB	(4) 256K x 9	(1) 256K x 36	(1) 2M x 36

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DRAM CONFIGURATION (CON'T)			
Size	Bank 0	Bank 1	Bank 2
10MB	NONE	(1) 512K x 36	(1) 2M x 36
12MB	(4) 1M x 9	(1) 1M x 36	(1) 1M x 36
12MB	NONE	(1) 1M x 36	(1) 2M x 36
13MB	(4) 1M x 9	(1) 256K x 36	(1) 2M x 36
13MB	(4) 256K x 9	(1) 1M x 36	(1) 2M x 36
16MB	NONE	NONE	(1) 4M x 36
16MB	NONE	(1) 4M x 36	NONE
16MB	NONE	(1) 2M x 36	(1) 2M x 36
16MB	(4) 1M x 9	(1) 1M x 36	(1) 2M x 36
17MB	(4) 256K x 9	(1) 4M x 36	NONE
17MB	NONE	(1) 256K x 36	(1) 4M x 36
18MB	NONE	(1) 512K x 36	(1) 4M x 36
18MB	(4) 256K x 9	(1) 256K x 36	(1) 4M x 36
18MB	(4) 256K x 9	(1) 4M x 36	(1) 256K x 36
19MB	(4) 256K x 9	(1) 4M x 36	(1) 512K x 36
20MB	(4) 1M x 9	(1) 4M x 36	NONE
20MB	NONE	(1) 1M x 36	(1) 4M x 36
21MB	(4) 256K x 9	(1) 1M x 36	(1) 4M x 36
21MB	(4) 1M x 9	(1) 256K x 36	(1) 4M x 36
21MB	(4) 256K x 9	(1) 4M x 36	(1) 1M x 36
21MB	(4) 1M x 9	(1) 4M x 36	(1) 256K x 36
21MB	(4) 4M x 9	(1) 256K x 36	(1) 1M x 36
21MB	(4) 1M x 9	(1) 256K x 36	(1) 8M x 36
22MB	(4) 1M x 9	(1) 4M x 36	(1) 512K x 36
24MB	(4) 4M x 9	(1) 1M x 36	(1) 1M x 36
24MB	(4) 1M x 9	(1) 4M x 36	(1) 1M x 36
24MB	(4) 1M x 9	(1) 1M x 36	(1) 4M x 36
24MB	NONE	(1) 2M x 36	(1) 4M x 36
25MB	(4) 256K x 9	(1) 4M x 36	(1) 2M x 36
25MB	(4) 4M x 9	(1) 256K x 36	(1) 2M x 36
28MB	(4) 1M x 9	(1) 4M x 36	(1) 2M x 36
28MB	(4) 4M x 9	(1) 1M x 36	(1) 2M x 36
32MB	(4) 4M x 9	NONE	(1) 4M x 36
32MB	NONE	(1) 4M x 36	(1) 4M x 36
32MB	NONE	(1) 8M x 36	NONE
32MB	NONE	NONE	(1) 8M x 36
32MB	(4) 4M x 9	(1) 4M x 36	NONE
33MB	(4) 4M x 9	(1) 4M x 36	(1) 256K x 36
33MB	(4) 4M x 9	(1) 256K x 36	(1) 4M x 36
33MB	(4) 256K x 9	(1) 4M x 36	(1) 4M x 36
33MB	NONE	(1) 256K x 36	(1) 8M x 36
33MB	(4) 4M x 9	(1) 256K x 36	(1) 4M x 36
34MB	(4) 4M x 9	(1) 256K x 36	(1) 256K x 36
34MB	(4) 4M x 9	(1) 4M x 36	(1) 512K x 36

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DRAM CONFIGURATION (CON'T)			
Size	Bank 0	Bank 1	Bank 2
34MB	(4) 256K x 9	(1) 256K x 36	(1) 8M x 36
34MB	NONE	(1) 512K x 36	(1) 8M x 36
36MB	(4) 1M x 9	(1) 4M x 36	(1) 4M x 36
36MB	(4) 4M x 9	(1) 1M x 36	(1) 4M x 36
36MB	(4) 4M x 9	(1) 4M x 36	(1) 1M x 36
36MB	NONE	(1) 1M x 36	(1) 8M x 36
37MB	(4) 256K x 9	(1) 1M x 36	(1) 8M x 36
37MB	(4) 256K x 9	(1) 1M x 36	(1) 8M x 36
37MB	(4) 4M x 9	(1) 1M x 36	(1) 256K x 36
40MB	(4) 1M x 9	(1) 1M x 36	(1) 8M x 36
40MB	(4) 4M x 9	(1) 4M x 36	(1) 2M x 36
40MB	NONE	(1) 2M x 36	(1) 8M x 36
48MB	(4) 4M x 9	(1) 4M x 36	(1) 4M x 36
48MB	NONE	(1) 4M x 36	(1) 8M x 36
49MB	(4) 256K x 9	(1) 4M x 36	(1) 8M x 36
49MB	(4) 4M x 9	(1) 256K x 36	(1) 8M x 36
52MB	(4) 1M x 9	(1) 4M x 36	(1) 8M x 36
64MB	NONE	(1) 8M x 36	(1) 8M x 36
64MB	(4) 4M x 9	(1) 4M x 36	(1) 8M x 36

CACHE CONFIGURATION			
Size	Bank 0	Bank 1	TAG
128KB	(4) 32K x 8	NONE	(1) 8K x 8 or (1) 16K x 8 or (1) 32K x 8
256KB	(4) 32K x 8	(4) 32K x 8	(1) 16K x 8 or (1) 32K x 8
256KB	(4) 64K x 8	NONE	(1) 16K x 8 or (1) 32K x 8
512KB	(4) 128K x 8	NONE	(1) 32K x 8

CACHE JUMPER CONFIGURATION			
Size	JS1	JS2	JS3
128KB	pins 2 & 3 closed	pins 2 & 3 closed	pins 2 & 3 closed
256KB	pins 1 & 2 closed	pins 1 & 2 closed	pins 2 & 3 closed
256KB	pins 2 & 3 closed	pins 1 & 2 closed	pins 2 & 3 closed
512KB	pins 2 & 3 closed	pins 1 & 2 closed	pins 1 & 2 closed

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CPU TYPE CONFIGURATION		
Type	JC1	JC2
CX486 M7	2A & 3A, 1B & 2B, 1C & 2C	1 & 2, 3 & 4
80486SX	1A & 2A, 1B & 2B, 1C & 2C	2 & 3
SL 80486SX	1A & 2A, 1B & 2B, 1C & 2C	2 & 3
80487SX	1A & 2A, 1B & 2B, 1C & 2C	1 & 2, 3 & 4
AMD486DX/DXL	1A & 2A, 1B & 2B, 1C & 2C	1 & 2, 3 & 4
80486DX/DX2	1A & 2A, 1B & 2B, 1C & 2C	1 & 2, 3 & 4
SL 80486DX/DX2	1A & 2A, 1B & 2B, 1C & 2C	1 & 2, 3 & 4
Pentium Overdrive	1A & 2A, 2B & 3B, 1C & 2C	1 & 2, 3 & 4

Note: Pins designated should be in the closed position.

CPU TYPE CONFIGURATION		
Type	JC3	JC5
CX486 M7	2A & 3A, 4A & 5A, 3B & 4B, 5B & 6B, 3C & 4C, 5C & 6C	1 & 2
80486SX	4C & 5C	1 & 2
SL 80486SX	1A & 2A, 5A & 6A, 4C & 4D, 5C & 6C	1 & 2
80487SX	2B & 3B, 4C & 5C	1 & 2
AMD486DX/DXL	2A & 2B, 3B & 4B, 5A & 5B, 4C & 5C	1 & 2
80486DX/DX2	3B & 4B, 4C & 5C	1 & 2
SL 80486DX/DX2	1A & 2A, 3B & 4B, 4C & 4D, 5A & 6A, 5C & 6C	1 & 2
Pentium Overdrive	1A & 2A, 5A & 6A, 2B & 3B, 5C & 6C	2 & 3

Note: Pins designated should be in the closed position.

CPU SPEED CONFIGURATION			
Speed	JK1	JK2	JK3
25MHz	1 & 2, 7 & 9, 8 & 10, 14 & 16	2 & 3	1 & 2
33MHz	1 & 2, 3 & 4, 5 & 6, 7 & 9, 8 & 10, 14 & 16	2 & 3	1 & 2
40MHz	3 & 4, 10 & 12, 14 & 16	1 & 2	2 & 3
AMD40MHz	3 & 4, 10 & 12, 14 & 16	4 & 5	2 & 3
50iMHz	1 & 2, 7 & 9, 8 & 10, 14 & 16	2 & 3	1 & 2
50MHz	1 & 2, 7 & 9, 10 & 12	1 & 2	2 & 3
66iMHz	1 & 2, 3 & 4, 5 & 6, 7 & 9, 8 & 10, 14 & 16	2 & 3	1 & 2

Note: Pins designated should be in the closed position.

BUS SPEED CONFIGURATION	
CPU speed	JP2
<=33MHz	pins 1 & 2 closed
>33MHz	pins 2 & 3 closed

VESA WAIT STATE CONFIGURATION	
Wait states	JP3
0 wait states	pins 1 & 2 open
1 wait state	pins 1 & 2 closed