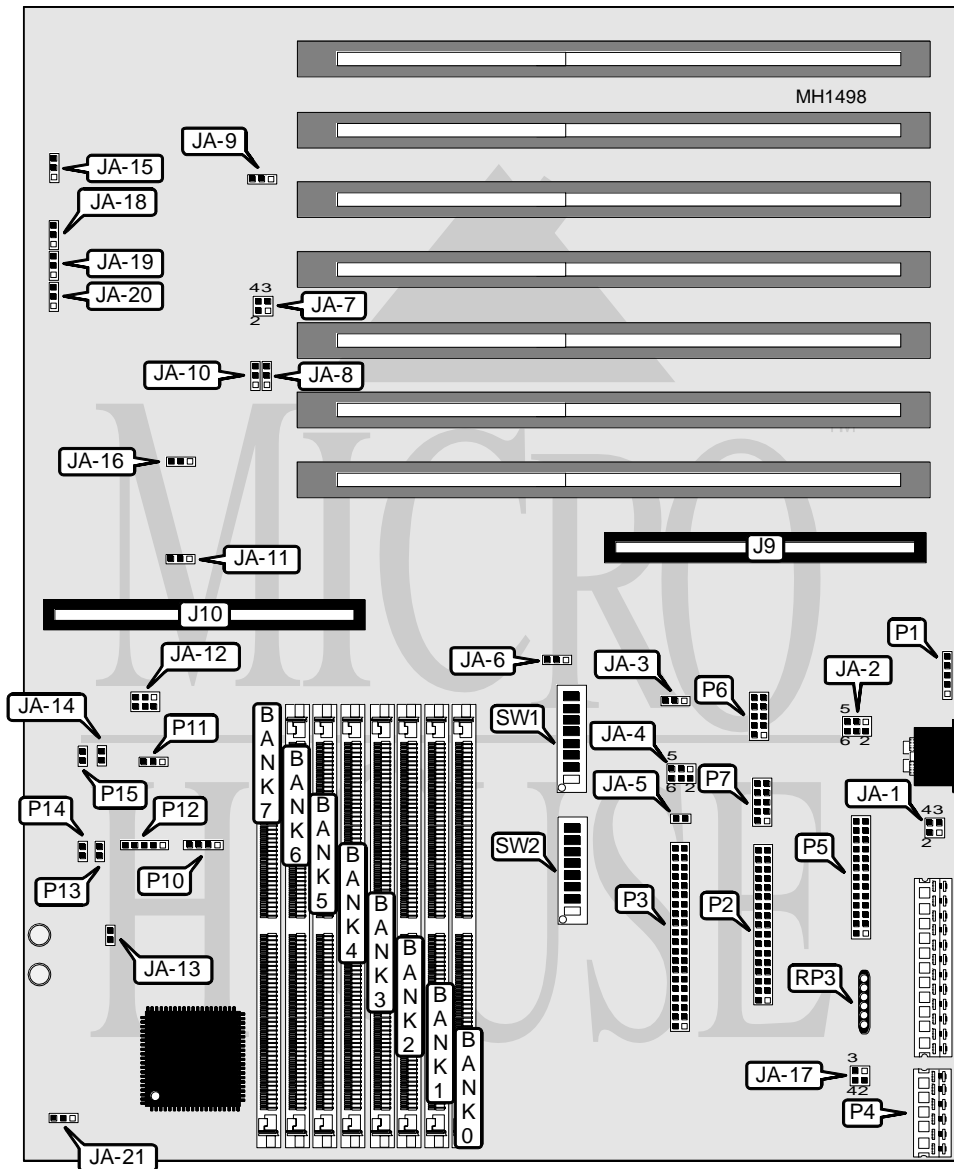


GMX, INC. E S A - M B

Processor	80486SX/80487SX/80486DX/ODP486SX/80486DX2
Processor Speed	33/66(internal)MHz
Chip Set	National/INTEL
Max. Onboard DRAM	256MB
SRAM Cache	64/128 (optional on CPU card only)
BIOS	AMI (located on CPU card)
Dimensions	307.34mm x 330.20mm
I/O Options	Floppy drive interface, IDE interface, parallel port, proprietary CPU card, serial port (2)
NPU Options	None



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CONNECTIONS			
Purpose	Location	Purpose	Location
8-bit ISA slot	J9	Serial port (COM2)	P7
Proprietary CPU card	J10	Speaker	P10
Keyboard interface	P1	Turbo Switch	P11
Floppy drive interface	P2	Power LED & keylock	P12
IDE interface	P3	IDE interface LED	P13
Auxiliary power connector	P4	Reset switch	P14
Parallel port	P5	Lockable reset switch	P15
Serial port (COM1)	P6		

USER CONFIGURABLE SETTINGS			
Function	Jumper	Position	
í IDE interface select IORDY at pin 21	JA-2	pins 2 & 4 closed	
IDE interface select IORDY at pin 27	JA-2	pins 4 & 6 closed	
í Watchdog strobe select 1.8MHz clock	JA-4	pins 5 & 6 closed	
Watchdog strobe select host address strobe	JA-4	pins 3 & 4 closed	
Watchdog strobe select signal watchdog	JA-4	pins 1 & 2 closed	
í IDE interface address latch enabled at IDE pin 28	JA-5	Closed	
IDE interface address select spindle sync at IDE pin 28	JA-5	Open	
í ISA bus select 0 wait state	JA-7	pins 1 & 3 open	
ISA bus select 1 wait state	JA-7	pins 1 & 3 closed	
í Posted memory write cycles enabled	JA-7	pins 2 & 4 closed	
Posted memory write cycles disabled	JA-7	pins 2 & 4 open	
í Factory configured - do not alter	JA-8 & JA-9	N/A	
í Keyboard buffer full interrupts from keyboard controller	JA-10	pins 2 & 3 closed	
Keyboard buffer full interrupts from 82351 at IRQ1	JA-10	pins 1 & 2 closed	
í Address enable active on slot 0 & slot 8 (J9)	JA-11	pins 1 & 2 closed	
Address enable active on slot 8 (J9) only	JA-11	pins 1 & 2 open	
í Factory configured - do not alter	JA-12	N/A	
í Factory configured - do not alter	JA-13	N/A	
í Memory speed select speed 1	JA-14	pins 1 & 3 closed	
Memory speed select speed 0	JA-14	pins 2 & 4 closed	
í CMOS memory normal operation	JA-15	pins 2 & 3 closed	
CMOS memory clear	JA-15	pins 1 & 2 closed	
Floppy drive select 2 drives	JA-17	Open	
Floppy drive select 3 drives	JA-17	pins 1 & 2, 3 & 4 closed	
í UART type 16550	JA18	pins 1 & 2 closed	
UART type 16540	JA18	pins 2 & 3 closed	
í IDE interface select National chipset	JA-19	pins 1 & 2 closed	
IDE interface Intel chipset	JA-19	pins 2 & 3 closed	
í Floppy drive select National chipsey	JA--20	pins 1 & 2 closed	
Floppy drive select Intel chipset	JA-20	pins 2 & 3 closed	
í Keylock disabled	JA-21	pins 2 & 3 closed	
Keylock enabled	JA-21	pins 1 & 2 closed	
Note: SW1 & SW2 are software dependent.			

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DRAM CONFIGURATION								
Size	Bank0	Bank1	Bank2	Bank3	Bank4	Bank5	Bank6	Bank7
1MB	256K	NONE	NONE	NONE	NONE	NONE	NONE	NONE
2MB	256K	256K	NONE	NONE	NONE	NONE	NONE	NONE
2MB	512K	NONE	NONE	NONE	NONE	NONE	NONE	NONE
3MB	256K	256K	256K	NONE	NONE	NONE	NONE	NONE
4MB	256K	256K	256K	256K	NONE	NONE	NONE	NONE
4MB	512K	512K	NONE	NONE	NONE	NONE	NONE	NONE
4MB	1M	NONE	NONE	NONE	NONE	NONE	NONE	NONE
5MB	256K	256K	256K	256K	256K	NONE	NONE	NONE
6MB	256K	256K	256K	256K	256K	256K	NONE	NONE
6MB	256K	256K	256K	256K	512K	NONE	NONE	NONE
6MB	512K	512K	512K	NONE	NONE	NONE	NONE	NONE
7MB	256K	256K	256K	256K	256K	256K	256K	NONE
8MB	256K	256K	256K	256K	256K	256K	256K	256K
8MB	256K	256K	256K	256K	512K	512K	NONE	NONE
8MB	256K	256K	256K	256K	1M	NONE	NONE	NONE
8MB	512K	512K	512K	512K	NONE	NONE	NONE	NONE
8MB	1M	1M	NONE	NONE	NONE	NONE	NONE	NONE
8MB	2M	NONE	NONE	NONE	NONE	NONE	NONE	NONE
9MB	512K	512K	512K	512K	256K	NONE	NONE	NONE
10MB	512K	512K	512K	512K	256K	256K	NONE	NONE
10MB	512K	512K	512K	512K	512K	NONE	NONE	NONE
11MB	512K	512K	512K	512K	256K	256K	256K	NONE
12MB	512K	512K	512K	512K	256K	256K	256K	256K
12MB	512K	512K	512K	512K	512K	512K	NONE	NONE
12MB	512K	512K	512K	512K	1M	NONE	NONE	NONE
12MB	1M	1M	1M	NONE	NONE	NONE	NONE	NONE
14MB	512K	512K	512K	512K	512K	512K	512K	NONE
16MB	512K	512K	512K	512K	512K	512K	512K	512K
16MB	512K	512K	512K	512K	1M	1M	NONE	NONE
16MB	512K	512K	512K	512K	2M	NONE	NONE	NONE
16MB	1M	1M	1M	1M	NONE	NONE	NONE	NONE
16MB	2M	2M	NONE	NONE	NONE	NONE	NONE	NONE
16MB	4M	NONE	NONE	NONE	NONE	NONE	NONE	NONE
17MB	1M	1M	1M	1M	256K	NONE	NONE	NONE
18MB	1M	1M	1M	1M	256K	256K	NONE	NONE
18MB	1M	1M	1M	1M	512K	NONE	NONE	NONE
19MB	1M	1M	1M	1M	256K	256K	256K	NONE
20MB	1M	1M	1M	1M	256K	256K	256K	256K
20MB	1M	1M	1M	1M	512K	512K	NONE	NONE
20MB	1M	1M	1M	1M	1M	NONE	NONE	NONE
22MB	1M	1M	1M	1M	512K	512K	512K	NONE
24MB	1M	1M	1M	1M	512K	512K	512K	512K
24MB	1M	1M	1M	1M	1M	1M	NONE	NONE

Note: Configurations continued on next page.
The 512K x 36, 2M x 36, and 8M x 36 SIMMs are double-sided SIMMs.

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DRAM CONFIGURATION (CONTINUED)								
Size	Bank0	Bank1	Bank2	Bank3	Bank4	Bank5	Bank6	Bank7
24MB	1M	1M	1M	1M	2M	NONE	NONE	NONE
24MB	2M	2M	2M	NONE	NONE	NONE	NONE	NONE
28MB	1M	1M	1M	1M	1M	1M	1M	NONE
32MB	1M	1M	1M	1M	1M	1M	1M	1M
32MB	1M	1M	1M	1M	2M	2M	NONE	NONE
32MB	1M	1M	1M	1M	4M	NONE	NONE	NONE
32MB	4M	4M	NONE	NONE	NONE	NONE	NONE	NONE
32MB	8M	NONE	NONE	NONE	NONE	NONE	NONE	NONE
32MB	2M	2M	2M	2M	NONE	NONE	NONE	NONE
33MB	2M	2M	2M	2M	256K	NONE	NONE	NONE
34MB	2M	2M	2M	2M	256K	256K	NONE	NONE
34MB	2M	2M	2M	2M	512K	NONE	NONE	NONE
35MB	2M	2M	2M	2M	256K	256K	256K	NONE
36MB	2M	2M	2M	2M	256K	256K	256K	256K
36MB	2M	2M	2M	2M	512K	512K	NONE	NONE
36MB	2M	2M	2M	2M	1M	NONE	NONE	NONE
38MB	2M	2M	2M	2M	512K	512K	512K	NONE
40MB	2M	2M	2M	2M	512K	512K	512K	512K
40MB	2M	2M	2M	2M	1M	1M	NONE	NONE
40MB	2M	2M	2M	2M	2M	NONE	NONE	NONE
44MB	2M	2M	2M	2M	1M	1M	1M	NONE
48MB	2M	2M	2M	2M	1M	1M	1M	1M
48MB	2M	2M	2M	2M	2M	2M	NONE	NONE
48MB	2M	2M	2M	2M	4M	NONE	NONE	NONE
48MB	4M	4M	4M	NONE	NONE	NONE	NONE	NONE
56MB	2M	2M	2M	2M	2M	2M	2M	NONE
64MB	2M	2M	2M	2M	2M	2M	2M	2M
64MB	2M	2M	2M	2M	4M	4M	NONE	NONE
64MB	2M	2M	2M	2M	8M	NONE	NONE	NONE
64MB	4M	4M	4M	4M	NONE	NONE	NONE	NONE
64MB	8M	8M	NONE	NONE	NONE	NONE	NONE	NONE
65MB	4M	4M	4M	4M	256K	NONE	NONE	NONE
66MB	4M	4M	4M	4M	256K	256K	NONE	NONE
66MB	4M	4M	4M	4M	512K	NONE	NONE	NONE
67MB	4M	4M	4M	4M	256K	256K	256K	NONE
68MB	4M	4M	4M	4M	256K	256K	256K	256K
68MB	4M	4M	4M	4M	512K	512K	NONE	NONE
68MB	4M	4M	4M	4M	1M	NONE	NONE	NONE
70MB	4M	4M	4M	4M	512K	512K	512K	NONE
72MB	4M	4M	4M	4M	512K	512K	512K	512K
72MB	4M	4M	4M	4M	1M	1M	NONE	NONE
72MB	4M	4M	4M	4M	2M	NONE	NONE	NONE

Note: Configurations continued on next page.
The 512K x 36, 2M x 36, and 8M x 36 SIMMs are double-sided SIMMs.

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DRAM CONFIGURATION (CONTINUED)								
Size	Bank0	Bank1	Bank2	Bank3	Bank4	Bank5	Bank6	Bank7
80MB	4M	4M	4M	4M	2M	2M	NONE	NONE
80MB	4M	4M	4M	4M	4M	NONE	NONE	NONE
88MB	4M	4M	4M	4M	2M	2M	2M	NONE
96MB	4M	4M	4M	4M	4M	4M	NONE	NONE
96MB	4M	4M	4M	4M	8M	NONE	NONE	NONE
96MB	4M	4M	4M	4M	2M	2M	2M	2M
96MB	8M	8M	8M	NONE	NONE	NONE	NONE	NONE
128MB	8M	8M	8M	8M	NONE	NONE	NONE	NONE
128MB	4M	4M	4M	4M	8M	8M	NONE	NONE
129MB	8M	8M	8M	8M	256K	NONE	NONE	NONE
130MB	8M	8M	8M	8M	256K	256K	NONE	NONE
130MB	8M	8M	8M	8M	512K	NONE	NONE	NONE
131MB	8M	8M	8M	8M	256K	256K	256K	NONE
132MB	8M	8M	8M	8M	256K	256K	256K	256K
132MB	8M	8M	8M	8M	512K	512K	NONE	NONE
132MB	8M	8M	8M	8M	1M	NONE	NONE	NONE
134MB	8M	8M	8M	8M	512K	512K	512K	NONE
136MB	8M	8M	8M	8M	512K	512K	512K	512K
136MB	8M	8M	8M	8M	1M	1M	NONE	NONE
136MB	8M	8M	8M	8M	2M	NONE	NONE	NONE
140MB	8M	8M	8M	8M	1M	1M	1M	NONE
144MB	8M	8M	8M	8M	1M	1M	1M	1M
144MB	8M	8M	8M	8M	2M	2M	NONE	NONE
144MB	8M	8M	8M	8M	4M	NONE	NONE	NONE
152MB	8M	8M	8M	8M	2M	2M	2M	NONE
160MB	8M	8M	8M	8M	2M	2M	2M	2M
160MB	8M	8M	8M	8M	4M	4M	NONE	NONE
160MB	8M	8M	8M	8M	8M	NONE	NONE	NONE
176MB	8M	8M	8M	8M	4M	4M	4M	NONE
192MB	8M	8M	8M	8M	4M	4M	4M	4M
192MB	8M	8M	8M	8M	8M	8M	NONE	NONE
224MB	8M	8M	8M	8M	8M	8M	8M	NONE
256MB	8M	8M	8M	8M	8M	8M	8M	8M

Note: The 512K x 36, 2M x 36, and 8M x 36 SIMMs are double-sided SIMMs.

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FLOPPY DRIVE 0 CONFIGURATION	
A:	JA-1/pins 2 & 4
3.5"	Closed
5.25"	Open

FLOPPY DRIVE 1 CONFIGURATION	
B:	JA-1/pins 1 & 3
3.5"	Closed
5.25"	Open

FLOPPY DRIVE POWER CONFIGURATION	
Drive Type	RP3
Normal 3.5"	150Ω terminating resistor installed
Low power 3.5"	1KΩ terminating resistor installed

IDE INTERFACE I/O READY SIGNAL CONFIGURATION	
IORDY	JA-2/pins 2, 4, & 6
At pin 21 of IDE interface	pins 2 & 4 closed
At pin 27 of IDE interface	pins 4 & 6 closed
Note: If the hard drive has the IORDY signal at at both pins then either configuration will work.	

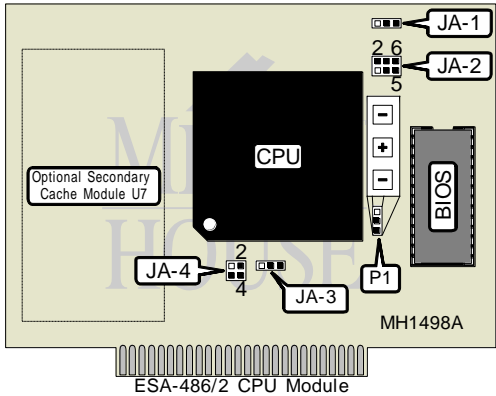
IDE INTERFACE DMA CONFIGURATION			
DMA	JA-2/pins 1 & 2	JA-2/pins 3 & 5	JA-6 & JA-16
DMA6	Closed	Closed	pins 1 & 2 closed
Disabled	Open	Open	pins 2 & 3 closed
Note: If the drive supports DMA then the IORDY signal must be at pin 27 of the IDE interface.			

WATCHDOG TIMER CONFIGURATION			
Timeout Minimum	Timeout Typical	Timeout Maximum	JA-3
50ms	150ms	250ms	pins 1 & 2 closed
250ms	600ms	1000ms	Open
400ms	1200ms	2000ms	pins 2 & 3 closed

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CONNECTIONS	
Purpose	Location
CPU cooling fan power +12VDC	P1
Optional secondary cache module (64K or 128K)	U7
Note: All DRAM banks must be populated on the motherboard before any cache modules can be installed.	

USER CONFIGURABLE SETTINGS		
Function	Jumper	Position
Flash memory normal operation at address A16	JA-1	pins 2 & 3 closed
Flash memory inverted operation at address A16	JA-1	pins 1 & 2 open
Flash BIOS write protect enabled	JA-2	pins 1 & 3, 2 & 4 closed
Flash BIOS write protect disabled	JA-2	pins 1 & 3, 2 & 4 open

CPU TYPE CONFIGURATION			
Type	Speed	JA-3	JA-4
80486SX	33MHz	pins 1 & 2 closed	pins 2 & 4 closed
80486DX/DX2	33/66i MHz	pins 1 & 2 closed	pins 1 & 2, 3 & 4 closed
ODPR486DX	33MHz	pins 1 & 2 closed	pins 1 & 2, 3 & 4 closed
ODP486DX	33MHz	pins 2 & 3 closed	pins 1 & 2, 3 & 4 closed
Note: ODPR486DX is pin compatible with the 80486DX/80486DX2 processors.			