

## System Board Specifications

### CPU:

Supports one of the following CPUs:

- Intel 486 SX/DX/DX2 - 25/33/50/66
- Intel 487 SX
- AMD DX/DX2 - 40/50/66
- S-series Intel 486 SX/DX-33/DX2-66

### Cache memory:

- Supports 128K, 256K, or 512K cache memory

### Main memory:

- Four 30-pin SIMM sockets support 1 bank of memory with 256K, 1M, 4M and 16M SIMM module DRAM.
- Two 72-pin SIMM sockets support 4 banks of memory with 1M, 2M, 4M, 8M, 16M, and 32M DRAM.

### Slots:

- Two 32-bit VESA Local Bus Master slots and one 32-bit VESA Local Bus Slave slot.
- Seven 16-bit AT bus slots

### Battery:

- 3.6V/480mA or 3.6V/60mA on-board rechargeable battery

### Dimensions:

- 26cm x 22.1cm x 4 layers

### Mounting:

- 6 mounting holes

## System Board Layout

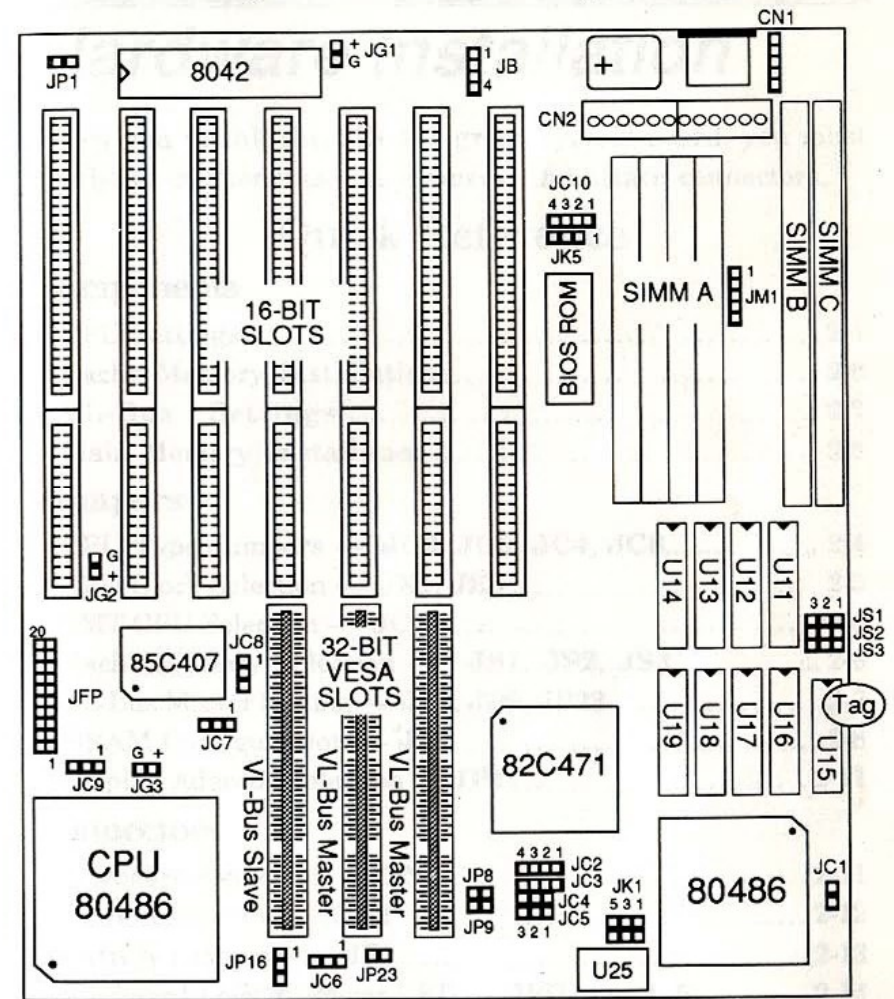


Figure 1-1. System board Layout


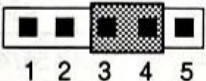
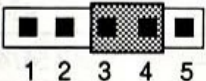
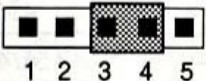
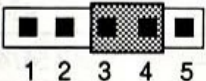
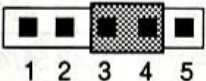
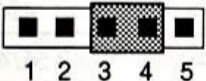
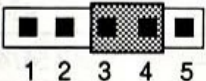
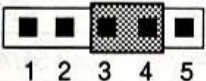
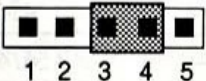


SIMM A	SIMM B	SIMM C	Total	JM1
256Kx4 pcs	1M	—	2M	
1Mx4 pcs	1M	—	5M	
1Mx4 pcs	1M/1M	—	6M	<b>or</b> 
1Mx4 pcs	4M	—	8M	
4Mx4 pcs	1M	—	17M	
4Mx4 pcs	1M/1M	—	18M	
4Mx4 pcs	4M	—	20M	
4Mx4 pcs	16M	—	32M	
16Mx4 pcs	1M	—	65M	
16Mx4 pcs	4M	—	68M	
16Mx4 pcs	16M	—	80M	
1Mx4 pcs	1M	1M	6M	
1Mx4 pcs	1M/1M	1M/1M	8M	
1Mx4 pcs	4M	4M	12M	
4Mx4 pcs	1M	1M	18M	
4Mx4 pcs	1M/1M	1M/1M	20M	
4Mx4 pcs	4M	4M	24M	
4Mx4 pcs	4M	16M	36M	
4Mx4 pcs	16M	16M	48M	
16Mx4 pcs	4M	4M	72M	
16Mx4 pcs	16M	16M	96M	

Table 2-1 (continued). Memory Configurations

## Display Adaptor Selection: JP1

If you are using a monochrome or color (CGA) display adaptor you must set the jumper JP1. If you are using an EGA or VGA adaptor, the JP1 setting is irrelevant. See Figure 1-1 for jumper location.

### Display Adaptor Jumper: JP1

Display type	JP1
Color Graphics Adaptor	
Monochrome Adaptor (default)	

## Keyboard Connectors: CN1

You can plug a keyboard cable directly into the standard five-pin female DIN connector. See Figure 1-1 for the connector's location.

## Power Supply Connector: CN2

The power supply connector is a twelve-pin male connector. Dual connectors from the power supply can fit in only one direction. Make sure to attach the connectors with the two black wires at the center, as show in the diagram below. See Figure 1-1 for the connector's location.

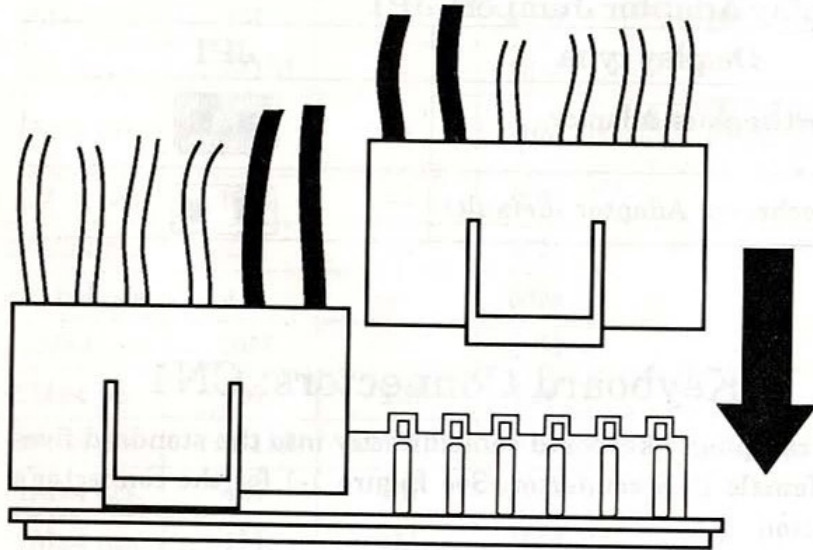


Figure 2-1. Attaching Power Supply Connectors

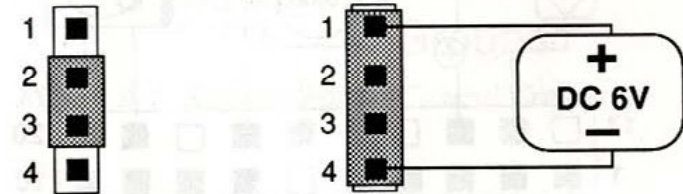
### Connector Pin Description

Pin	Description	Pin	Description
1	Power Good	1	Ground
2	+5V DC	2	Ground
3	+12V DC	3	-5V DC
4	-12V DC	4	+5V DC
5	Ground	5	+5V DC
6	Ground	6	+5V DC

## External Battery Connector: JB

A battery must be used to retain the system board configuration in CMOS RAM. You can use either the on-board rechargeable battery or an external battery. If you use the on-board rechargeable battery you must short pins 2-3 of JB. For an external battery, the battery's cable connector attaches to pins 1 and 4 of JB. See Figure 1-1 for the connector's location.

### JB: External Battery Connector



Jumper Setting  
for using  
on-board Battery

External Battery  
Connection

Figure 2-2. Setting the External Battery Connector - JB

### Case Connector Block: JFP

The Turbo LED, Turbo switch, Hardware Reset, Keylock, Power LED, Power Saving LED, Sleep switch, and Speaker are all connected to the JFP Connector Block as shown below. See Figure 1-1 for the connector block's location.

#### JFP: Case Connector Block

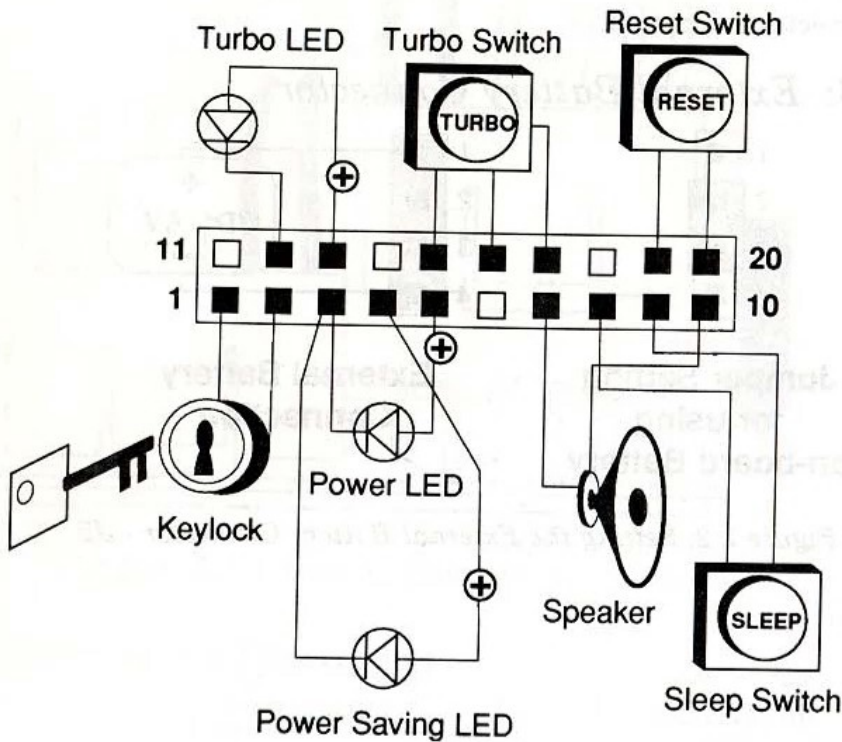


Figure 2-3. Case Connector Block - JFP

### Monitor Power Control Connector: JG1

Connect the monitor's power control connector from the power supply to connector JG1. If the system does not detect any activity, the system goes into sleep mode and powers-off the monitor.

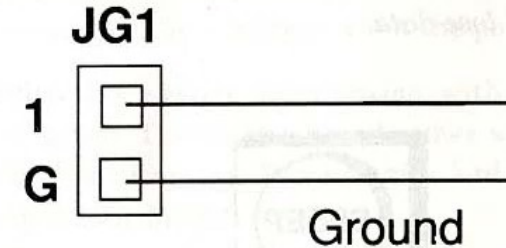


Figure 2-4. Monitor Power Control Connector

### Power Saving LED Connector: JG2

Attach an LED to this connector. When the system is not in power saving mode, this LED is off. When the system goes into power saving mode, this LED is on.

*Note: In low-turbo mode, this LED remains on.*

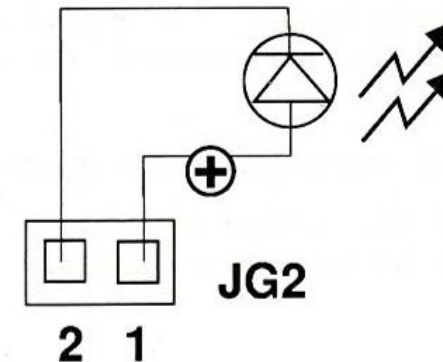



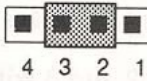
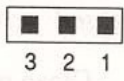
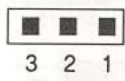
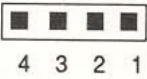
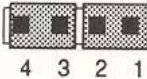
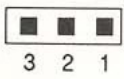
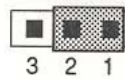
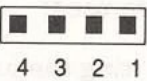
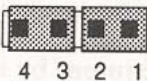
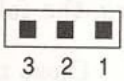
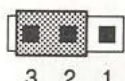
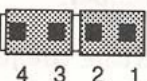
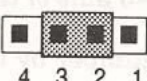
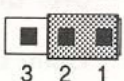
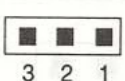
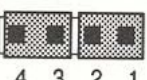
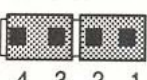
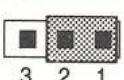

Figure 2-5. Power Saving LED Connector

## CPU Type Jumpers: JC2, JC3, JC4, JC8

The SIS 486 system board can support several types of CPU. Note that some models of the system board may have an optional Zero Insertion Force (ZIF) Socket for CPUs.

To configure the system board to recognize which type of CPU is installed, you must set jumpers JC2, JC3, JC4, and JC8 as below. See Figure 1-1 for jumper locations.

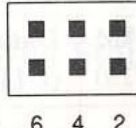

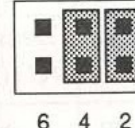

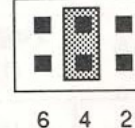

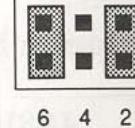
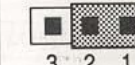
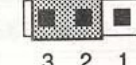

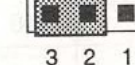
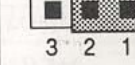
### CPU Type Settings: JC2, JC3, JC4, JC8

CPU	JC2	JC3	JC4	JC8
486SX	 4 3 2 1	 4 3 2 1	 3 2 1	 3 2 1
487SX	 4 3 2 1	 4 3 2 1	 3 2 1	 3 2 1
486DX	 4 3 2 1	 4 3 2 1	 3 2 1	 3 2 1
486SX-SL	 4 3 2 1	 4 3 2 1	 3 2 1	 3 2 1
486DX-SL	 4 3 2 1	 4 3 2 1	 3 2 1	 3 2 1

## CPU Clock Selection: JK1, JK5

Jumpers JK1 and JK5 select the frequency of the clock generator chip (G clock). See Figure 1-1 for the location of the jumpers.

### JK1, JK5 Settings

Jumper	25 MHz	33 MHz	40 MHz	50 MHz
JK1	 5 3 1  6 4 2	 5 3 1  6 4 2	 5 3 1  6 4 2	 5 3 1  6 4 2
JK5	 3 2 1	 3 2 1	 3 2 1	 3 2 1



### Reserve Jumper: JP16

If any VESA, VGA, or I/O cards cause the system to lock up at 50 MHz, set jumper JP16 to 1-2. The default setting is 2-3.

## SMT CPU Selection: JC1

Enable jumper JC1 if a surface mounted CPU is on the board. Disable JC1 if a hand-inserted CPU is installed. See Figure 1-1 for the location of the jumper.

### JC1 Settings

SMT CPU	Setting
Enabled	
Disabled	

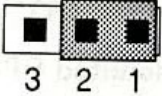
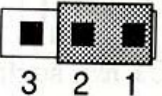
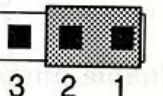
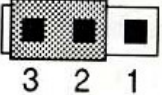
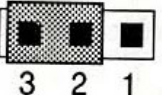
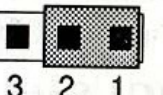
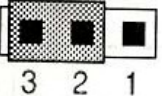
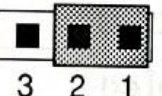
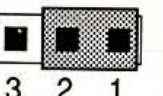
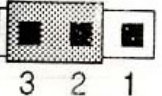
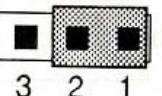
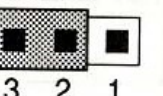
## Cache Memory Selection: JS1, JS2, JS3

The system board supports 128K/256K/512K of cache memory. You configure cache memory by installing SRAM chips in Data RAM sockets U11~U14 and U16~U19, and in Tag RAM socket U15, and then setting the cache jumpers JS1, JS2, and JS3. Note that the speed required for SRAM chips is 20ns.

### Cache Size and Memory Locations

Cache Size	Tag RAM (U15)	Data RAM (U16~U19)	Data RAM (U11~U14)
128K	8, 16, 32K8	32K8	None
256K	16, 32K8	32K8	32K8
256K	16, 32K8	64K8	None
512K	32K8	128K8	None



### Cache Size Selection: JS1, JS2, JS3

Cache Size	JS1	JS2	JS3
128K 32K x 4			
256K 32K x 8			
256K 64K x 4			
512K 128K x 4			



## VL-Bus Master Setting: JP8, JP9

Set JP8 and JP9 to configure the VL-Bus for use with zero wait state or one wait state, and CPU speed.

### JP8 Settings

High Speed Write	JP8
Zero Wait State	
One Wait State (Default)	



### JP9 Settings

CPU Speed	JP9
< = 33 MHz	
> 33 MHz	

## Special VL-Bus Setting: JP23

Short JP23 as below and then add a 150P capacitor on signal /BS16 when using the Genoa or other special V-L Bus VGA Card. The default setting is open.

### JP23 Settings

Description	JP23
Setting for Special V-L Bus Cards	
Normal (Default)	

## DRAM Configuration: JM1

The SIS 486 green system board supports four memory banks on-board: SIMM A, SIMM B, and SIMM C. Jumper JM1 sets the banks to accept specific memory configurations. See Table 2-1 below.

SIMM A consists of four 30-pin Single In-line Memory Module (SIMM) sockets. Each socket accepts a 256K SIMM, a 1M SIMM, a 4M SIMM, or a 16M SIMM module.

SIMM B / SIMM C consists of two 72-pin Single In-line Memory Module (SIMM) sockets. Each socket accepts one of the following modules.

- 1MB (256Kb x 36) single-sided SIMM
- 2MB (256Kb x 36 x 2) double-sided SIMM
- 4MB (1024Kb x 36) single-sided SIMM
- 8MB (1024Kb x 36 x 2) double-sided SIMM
- 16MB (4096Kb x 36) single-sided SIMM
- 32MB (4096Kb x 36 x 2) double-sided SIMM

Although the system board accepts combinations of different capacity memory modules, it does not allow you to combine different module capacities within a memory bank. All of the modules within a bank must be of the same type.

Minimum memory configuration for the system is 1MB. The maximum memory configuration is 96MB. See Table 2-1 below for possible configurations.

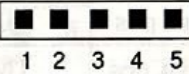
SIMM A	SIMM B	SIMM C	Total	JM1
—	1M	—	1M	
—	1M	1M	2M	
—	1M/1M	—	2M	
—	1M/1M	1M/1M	4M	
—	4M	—	4M	
—	1M	4M	5M	
—	1M/1M	4M	6M	
—	4M	4M	8M	
—	4M/4M	—	8M	
—	4M/4M	4M/4M	16M	
—	16M	—	16M	
—	1M	16M	17M	
—	1M/1M	16M	18M	
—	4M	16M	20M	
—	16M	16M	32M	
—	16M/16M	—	32M	
—	4M	16M/16M	36M	
—	16M	16M/16M	48M	
—	16M/16M	16M/16M	64M	
256Kx4 pcs	—	—	1M	
1Mx4 pcs	—	—	4M	
4Mx4 pcs	—	—	16M	
1Mx4 pcs	—	16M/16M	36M	
4Mx4 pcs	—	16M/16M	48M	
16Mx4 pcs	—	—	64M	

Table 2-1. Memory Configurations