

CHAPTER 2 Hardware Installation

When you install the 486 GREEN VLB main board, you must configure components, set jumpers, and attach connectors.

Jumpers and Connectors

Refer to Figure 1-1 jumper and connector locations.

Jumpers

Jumpers on the system board provide information to your operating system about installed options and system settings. You need to configure jumpers when you install a CPU, select cache size, add an external battery, or clear CMOS memory.

Connectors

Connectors attach control panel switches and indicators, as well as the speaker, external battery, keyboard and power supply.

Setting Jumpers

Configure system board options by setting jumper switches. Use your fingers to position a jumper cap over the desired pin setting and gently press down.

Note: When you open a jumper, leave the plastic jumper cap attached to one of the pins so you don't lose it.

CPU Type & CPU Clock selector:

CPU Type selector: JP1, JP10, JP12, JP13, JP26, JP27, JP28, JP31, JP32, JP33

CPU clock selector: JP9, JP21, JP22, JP23, JP24
(for SC 486 CLOCK GENERATOR)

CPU	CPU TYPE SELECTOR										CPU VOLTS SELECTOR	CPU CLOCK SELECTOR for SC468			
	JP1	JP10	JP12	JP13	JP26	JP27	JP28	JP31	JP32	JP33		JP9	JP21	JP22	JP23
486SX-25	OP	OP	OP	OP	OP	2-3	1-2	OP	OP	OP	1-3,2-4	OP	OP	OP	OP
486SX-33	OP	OP	OP	OP	OP	2-3	1-2	OP	OP	OP	1-3,2-4	OP	OP	CL	CL
486SX-33SL	CL	OP	OP	OP	OP	2-3	1-2	1-2	CL	CL	1-3,2-4	OP	OP	OP	OP
486SX-33SL	CL	OP	OP	OP	OP	2-3	1-2	1-2	CL	CL	1-3,2-4	OP	OP	CL	CL
486DX-33	OP	OP	OP	OP	1-2	1-2,3-4	1-2	OP	OP	OP	1-3,2-4	OP	OP	CL	CL
486DX-40	OP	OP	OP	OP	1-2	1-2,3-4	1-2	OP	OP	OP	1-3,2-4	OP	OP	OP	CL
486DX2-50	OP	OP	OP	OP	1-2	1-2,3-4	1-2	OP	OP	OP	1-3,2-4	OP	OP	OP	OP
486DX2-66	OP	OP	OP	OP	1-2	1-2,3-4	1-2	OP	OP	OP	1-3,2-4	OP	OP	CL	CL
486DX-33SL	CL	OP	OP	OP	1-2	1-2,3-4	1-2	1-2	CL	CL	1-3,2-4	OP	OP	CL	CL
486DX2-50SL	CL	OP	OP	OP	1-2	1-2,3-4	1-2	1-2	CL	CL	1-3,2-4	OP	OP	OP	OP
486DX2-66SL	CL	OP	OP	OP	1-2	1-2,3-4	1-2	1-2	CL	CL	1-3,2-4	OP	OP	CL	CL
486DX4-100	CL	OP	OP	1-2	1-2	1-2,3-4	1-2	1-2	CL	CL	1-3,4-6	OP	OP	CL	CL
M7-33	OP	1-2	OP	2-3	1-2	1-2,3-4	2-3	2-3	OP	OP	1-3,2-4	OP	OP	CL	CL
M7-40	OP	1-2	OP	2-3	1-2	1-2,3-4	2-3	2-3	OP	OP	1-3,2-4	OP	OP	OP	CL
M72-50	OP	1-2	OP	2-3	1-2	1-2,3-4	2-3	2-3	OP	OP	1-3,2-4	OP	OP	OP	OP
M72-66	OP	1-2	OP	2-3	1-2	1-2,3-4	2-3	2-3	OP	OP	1-3,2-4	OP	OP	CL	CL

CPU CLOCK SELECTOR:JP9, JP21, JP22, JP23, JP24
(for AV-9107-03)

CPU CLOCK	JP9	JP21	JP22	JP23	JP24
25 MHz	1-2	OP	CL	OP	CL
33 MHz	1-2	OP	CL	CL	OP
40 MHz	1-2	OP	OP	OP	CL

VL-BUS I/O CLOCK SELECTOR:JP7, JP8

CPU CLOCK	JP7	JP8
≤33M	OP	×
>33M	CL	×
0 wait	×	OP
1 wait	×	CL

Cache Size:JP35, JP36, JP38

The 486 GREEN VLB supports 64K, 128K or 256K of cache memory, you configure cache memory by installing 8K8, 32K8 SRAM chip in Data RAM sockets U25, U28, U30, U32, U24, U27, U29, U31 and in Tag RAM socket U20, and then setting the cache jumper JP34, JP35, JP36, JP38. Note that the speed required for SRAM chip is 20ns.

Cache Size Selection and Memory Locations

Cache Size	JUMPER SETTING JP34, JP35, JP36, JP38	TAG RAM (U20)	DATA RAM (U25,U28,U30,U32)	DATA RAM (U24,U27,U29,U31)
64K	1-2 OP OP 2-3	8K × 8	8K × 8	8K × 8
128K	1-2 CL OP 1-2	8K × 8	32K × 8	×
256K(A)	1-2 CL CL 2-3	32K × 8	32K × 8	32K × 8
256K(B)	2-3 CL CL 2-3	16K × 8	32K × 8	32K × 8

DRAM MODULE CONFIGURATION

The 486 GREEN VLB system board support four memory banks as following:

30 pin socket (SIM 1, SIM 2, SIM 3, SIM 4):consists of four

30 pin DRAM MODULE sockets, each socket accepts a 256K, 1M, 4 M or 16MB DRAM MODULE, and always be BANK 0.

72 pin socket (SIM 5, SIM 6, SIM 7):consists of three

72 pin DRAM SOCKETS. These socket can be BANK 0, 1, 2, 3. as the table show below

	DOUBLE SIDE RAM MODULE	SINGLE SIDE RAM MODULE	JP18 setting
SIM 7		BANK 3	×
SIM 6	BANK 2 & BANK 3	BANK 2	×
SIM 5	BANK 0 & BANK 1	BANK 0	2-3
SIM 5		BANK 1	1-2

DRAM MODULE CONFIGURATION TABLE:

RAM SIZE	SIM1, SIM2, SIM3, SIM4 30 pin	SIM 5 72 pin	SIM 6 72 pin	SIM 7 72 pin	JP 18
2M	256K × 4pcs	1M × 1pcs	×	×	1-2
2M	×	2M × 1pcs	×	×	2-3
4M	1M × 4pcs	×	×	×	1-2
4M	×	4M × 1pcs	×	×	2-3
4M	256K × 4pcs	1M × 1pcs	1M × 1pcs	1M × 1pcs	1-2
4M	×	2M × 1pcs	2M × 1pcs	×	2-3
5M	256K × 4pcs	4M × 1pcs	×	×	1-2
6M	256K × 4pcs	1M × 1pcs	4M × 1pcs	×	1-2
6M	×	2M × 1pcs	4M × 1pcs	×	2-3
8M	1M × 4pcs	4M × 1pcs	×	×	1-2
8M	×	8M × 1pcs	×	×	2-3
8M	×	4M × 1pcs	4M × 1pcs	×	2-3
10M	256K × 4pcs	1M × 1pcs	8M × 1pcs	×	1-2
10M	256K × 4pcs	1M × 1pcs	4M × 1pcs	4M × 1pcs	1-2
10M	×	2M × 1pcs	8M × 1pcs	×	2-3
10M	×	2M × 1pcs	4M × 1pcs	4M × 1pcs	2-3
12M	1M × 4pcs	×	8M × 1pcs	×	1-2
12M	×	4M × 1pcs	4M × 1pcs	4M × 1pcs	2-3
12M	1M × 4pcs	×	4M × 1pcs	4M × 1pcs	1-2
16M	4M × 4pcs	×	×	×	1-2
16M	×	16M × 1pcs	×	×	2-3
16M	1M × 4pcs	4M × 1pcs	4M × 1pcs	4M × 1pcs	1-2
16M	×	8M × 1pcs	8M × 1pcs	×	2-3
17M	256K × 4pcs	16M × 1pcs	×	×	1-2
20M	1M × 4pcs	16M × 1pcs	×	×	1-2
20M	1M × 4pcs	×	16M × 1pcs	×	1-2
20M	×	4M × 1pcs	16M × 1pcs	×	2-3
32M	4M × 4pcs	16M × 1pcs	×	×	1-2
32M	×	32M × 1pcs	×	×	2-3
32M	4M × 4pcs	×	16M × 1pcs	×	1-2
32M	×	16M × 1pcs	16M × 1pcs	×	2-3
64M	16M × 4pcs	×	×	×	1-2
64M	×	64M × 1pcs	×	×	2-3
64M	4M × 4pcs	16M × 1pcs	16M × 1pcs	16M × 1pcs	1-3
64M	×	32M × 1pcs	32M × 1pcs	×	2-3
128M	16M × 4pcs	64M × 1pcs	×	×	1-2
128M	×	128M × 1pcs	×	×	2-3
128M	16M × 4pcs	×	64M × 1pcs	×	1-2
128M	×	64M × 1pcs	64M × 1pcs	×	2-3

GREEN PC Hot key connector: JP18

Attach a power saving switch (hot key) to this connector. When the hot key is pressed, the system goes immediately into power saving mode. Press the hot key again and the system wakes up, returning to normal.

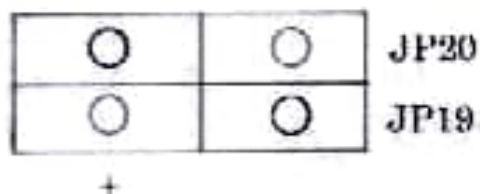
Note: If the system's Power Saving Mode is set to Disabled, the hot key does not function.

GREEN Monitor Power Control Connector: JP19

The 486 GREEN VLB provides Green Monitor Power ON/OFF Control functions. Shutting the monitor power off as the system goes into power saving mode greatly reduces the amount of power consumed.

To use the Green Monitor Power functions:

1. Your system's SMPS (switching Mode Power Supply) must support the Active Low signal, during which the SMPS shuts off the monitor power.
2. Your monitor's power cord must be plugged into the SMPS.



Green PC LED Connector: JP20

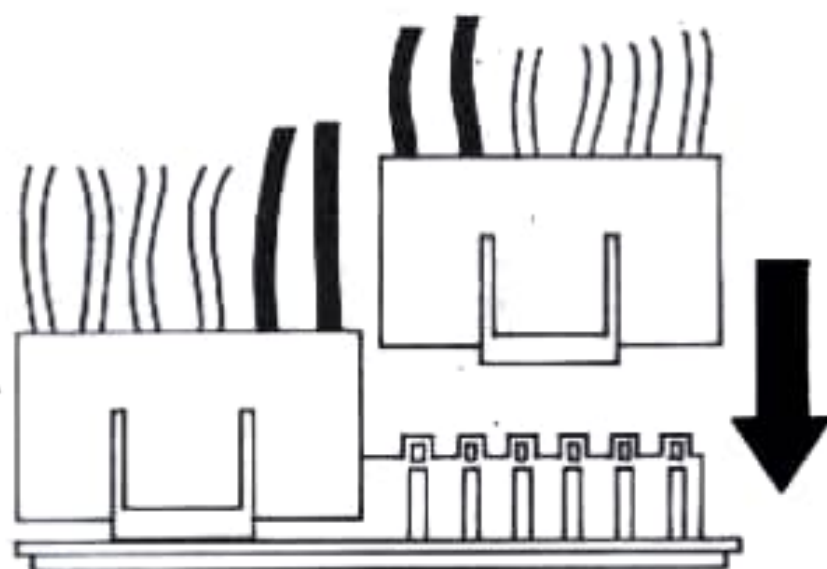
You can attach an LED — such as on the front panel of a system case — to this connector, to let you know when the system is in power saving mode.

When the system's power saving mode is Enabled, the LED connected to JP20 flashes when the system enters power saving mode, and it shuts off when the system exits power saving mode.

When the system's power saving mode is Disabled, the LED connected to JP20 is always off when the system is running in Turbo mode, and it is always on when the system is running in non-Turbo mode.

Power Supply Connector:

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 shown in the diagram below, for the connector's location.



Attaching Power Supply Connectors

Connector Pin Description

Pin	Description	Pin	Description
1	Power Good (orange)	1	Ground (black)
2	-5V DC (red)	2	Ground (black)
3	+12V DC (yellow)	3	-5V DC (white)
4	-12V DC (blue)	4	-5V DC (red)
5	Ground (black)	5	-5V DC (red)
6	Ground (black)	6	+5V DC (red)

Case Connector Block:

The turbo LED, Turbo switch, Hardware Reset, keylock & Power LED and Speaker, These connector for case are show below.

J2:Hardward reset switch

J3:Speader connector

J1:Turbo switch

J5:Turbo LED connector

J4:Keyboard Lock & power on connector

CMOS RAM Discharge Jumper:JP15

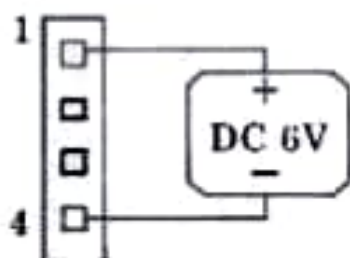
the factory setting shorts pin 2 and pin 3 for on board battery charge mode.

JP15	Battery
1-2	Discharge
2-3	charge (default)

External Battery Connector:J6

J6 on the 486 VLB main board is the connector used for the external battery pack, the battery pack should range from $-4.5V$ to $+6V$ DC and should never be less than $+3.5V$ for proper operation.

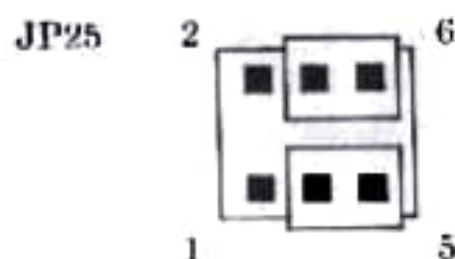
The battery pack's cable should connected to J6 show below.



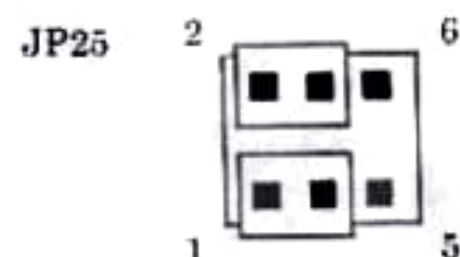
3.3 Volts CPU INSTALLED (A)

The 486 GREEN VLB main board it has a optional featurere for used the 3.3 Volts CPU (INTEL 486DX4) please ! check the board, it should have a component (voltage regulator) and JP25 it should have two yellow jumper. otherwise the board work only in 5.0 volts CPU.

3.3 volts CUP installed:



5.0 volts CUP installed:



- ⓘ caution:When you install the CPU, please check the jumper setting in right position OR it may damage the CPU & board.

3.3 Volts CPU INSTALLED (B)

The 486 GREEN VLB main board it has a improved version for used 3.3 Volts & 5 Volts CPU! check the board U21 (NS voltage regulator) and Q3 (FET). JP25 it have two Black jumpers. the JP25 setted 4-6, 3-5 close, the board can autoswitching the volts from 5.0 V to 3.3 V. JP 25 setted 1-3, 2-4 close it set on 5.0 V only.

CHAPTER 3 AWARD BIOS setup

Award's BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press immediately will allow you to enter Setup. The other way to enter Setup is to power on the computer, when the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT PRESS CTRL-ALT-ESC OR DEL KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the 'RESET' button on the system case. You may also restart by simultaneously press <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

PRESS F1 TO CONTINUE, CTRL-ALT-ESC OR DEL TO ENTER SETUP