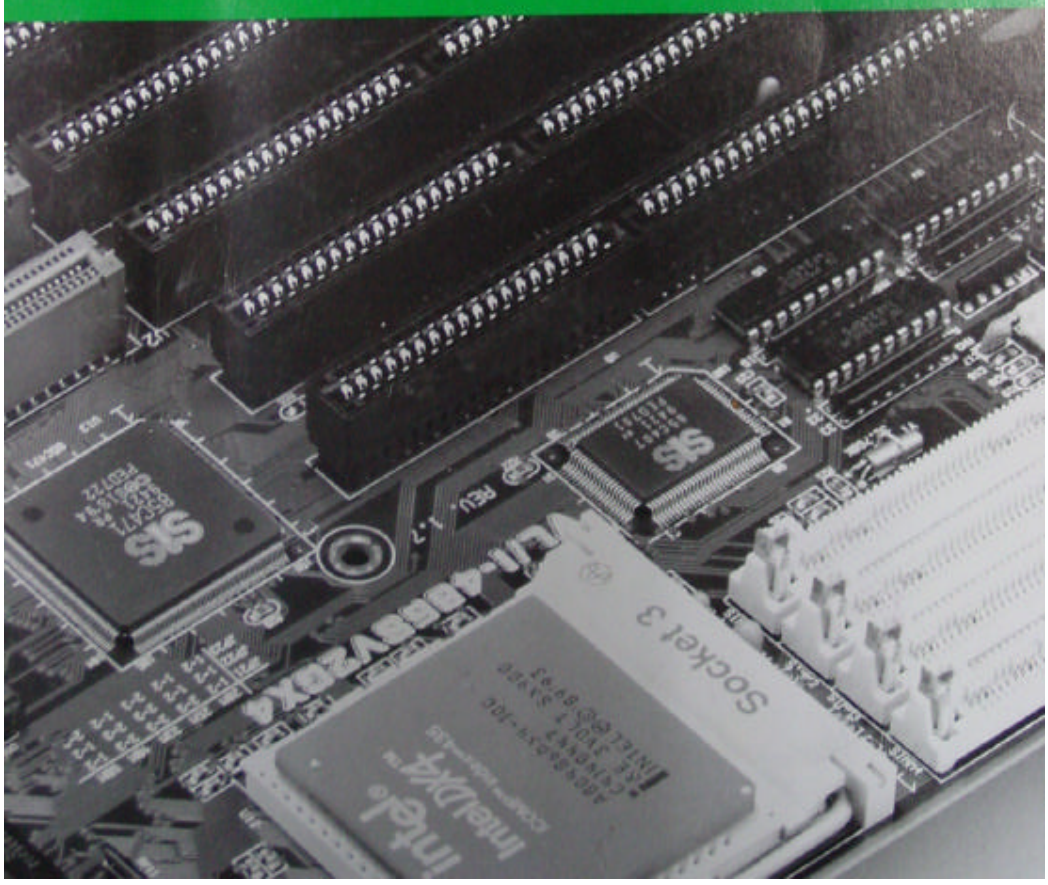
VL/I-486SV2G, VL/I-486SV2GX4

VL & ISA Bus, 486 Green PC Mainboard



Technical Summary

This section summarizes the mainboard's specifications. The first part is a summary of the jumper settings, followed by cache, connector and other general specifications.

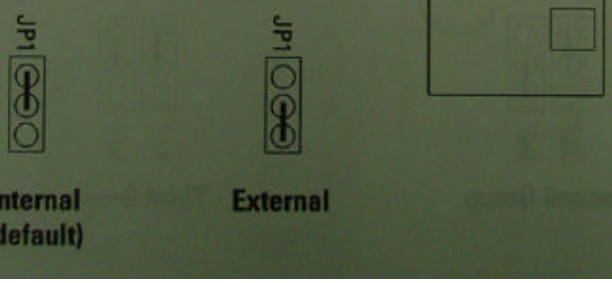
Jumper Setting Summary

This section lists all the jumper settings on the mainboard. They are mainly listed in numerical order for convenience. There are no jumpers for numbers missing from the sequence. Where jumpers are associated with each other they are listed together. The small diagrams of the mainboard indicate the positions of jumpers on the board. The number pairs listed in the settings indicate which pins of the jumper to short to establish the setting.

Battery Source Selection: JP1

This jumper selects between Internal (On-board) and External (not on-board) battery support for the Setup Utility configuration record stored in CMOS memory on the board. The default setting is for the on-board Lithium battery. If you want to connect a battery to the External Battery connector, use the other setting.

	JP1
Internal (default)	1&2
External	2&3



Internal (default) **External**

SMI Out Connector: JP2-4

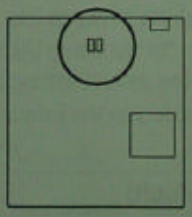
These are a connector, not jumpers. They connect to a special lead from a "green" power supply. There are no caps for them because they are not jumper switches.

Hardware Trap Settings: JP5 & 6

These two jumpers set together indicate to the chipset the type of CPU installed.

CPU	*JP5*	*JP6*
486SX, DX, DX2	1&2	2&3
SL 486SX, DX, DX2, DX4		
Cyrix S(2), DX(2), DX2-V	2&3	1&2
AMD486D (S) XL/L2		
P24D, P24T, P24CT	1&2	1&2
AMD486D (S) X PLUS		

First Group



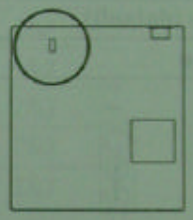
Second Group

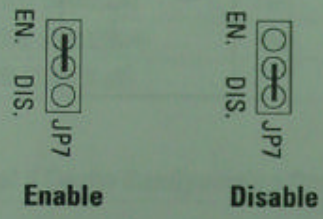
Third Group

On-board PS/2 Mouse Selection: JP7

This jumper Enables/Disables the PS/2 mouse connector on the board for a lead to a case-mounted mouse port.

	JP7
Enable (default)	1&2
Disable	2&3





Enable **Disable**

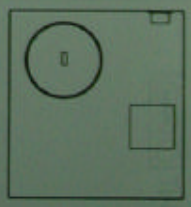
DMA Selection: JP8

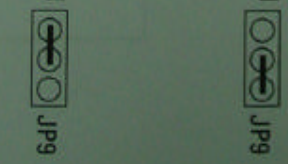
This jumper is factory set, don't change it.

Video Display Type: JP9

The default setting is for all display systems (monitor & video card) except CGA.

	JP9
Mono/VGA (default)	1&2
CGA	2&3



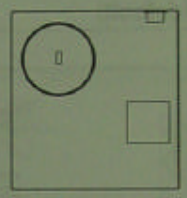


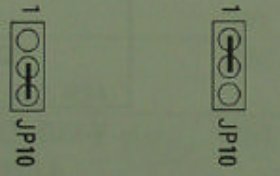
Mono/VGA **CGA**

SMI Switch Control: JP10

This jumper Enables/Disables the JP30 SMI Suspend Switch connector on the board for a lead to a case-mounted Suspend switch.

	JP10
Enable (default)	2&3
Disable	1&2



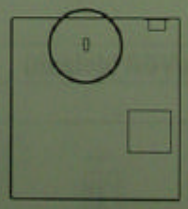


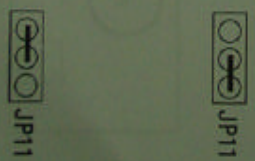
Enable **Disable**

Cyrix/Intel CPU Selection: JP11

This jumper selects beteween Intel and Cyrix CPUs. It should be set for the manufacturer of the CPU installed on the board. If the CPU is from a third manufacturer, this setting doesn't matter.

	JP11
Cyrix	1&2
Intel	2&3





Cyrix **Intel**

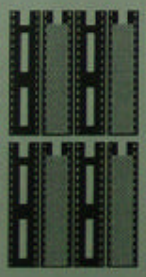
Level 2 Cache Size: JP13, JP14 & JP27

Set these based on the size of the installed cache and chip configuration used.

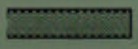
Cache Size (Chip Config)	*JP13*	*JP14*	JP27
128KB (32K8x4)	Open	2&3	1&2
256KB (32K8x8)	Open	1&2	1&2
256KB (64K8x4)	1&2	2&3	1&2
512KB (64K8x8)	4&5	1&2	2&3
512KB (128K8x4)	1&2	2&3	2&3
1MB (128K8x8)	2&3	1&2	2&3

Level 2 Cache Configuration Options

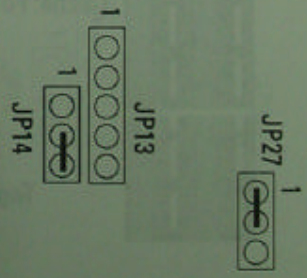
128KB Cache



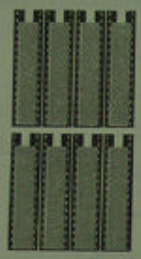
Cache: Four 32K8, 20ns



Tag: One 8K8, 20ns

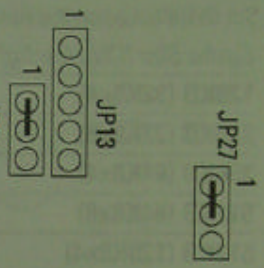


256KB Cache

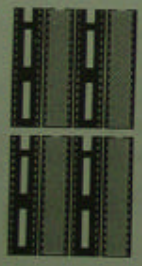


Cache: Eight 32K8, 20ns

Tag: One 32K8, 20ns

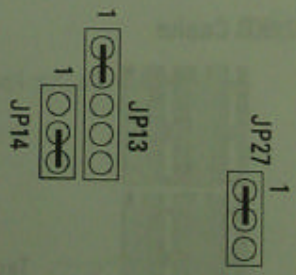


256KB Cache



Cache: Four 64K8, 20ns

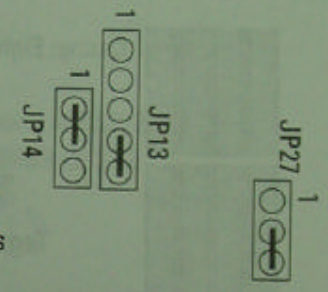
Tag: One 32K8, 20ns



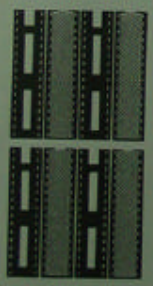
512KB Cache

Cache: Eight 64K8, 20ns

Tag: One 32K8, 20ns

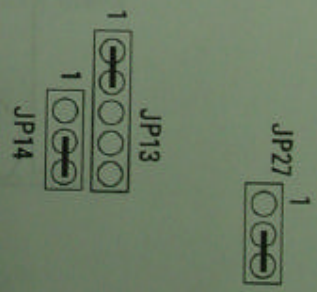


512KB Cache

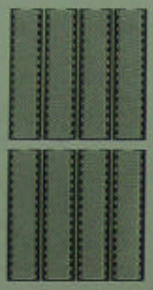


Cache: Four 128K8, 20ns

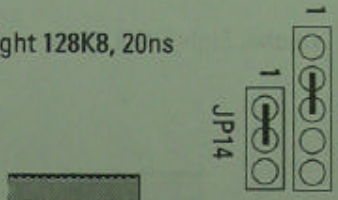
Tag: One 32K8, 20ns

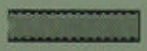


1MB Cache

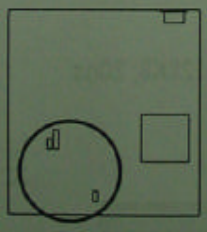


Cache: Eight 128K8, 20ns





Tag: One 64K8, 20ns
or
One 128K8, 20ns



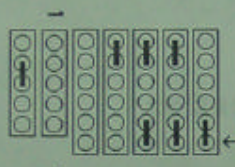
→ Try to set JP16 to 5th

JP16: 4&5 for L1 WB

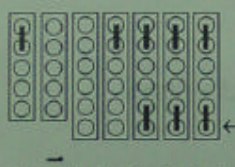
JP21 = 2&3 for L1 WT

CPU Type Selection: JP16-22

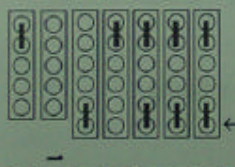
These jumpers set the CPU type.



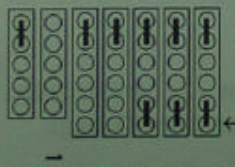
SL Enhanced 486SX & SX2;
Non-SL 486SX & SX2



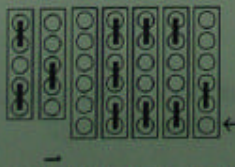
SL Enhanced (Non-SL) 486DX, DX2,
487SX & ODP; 486DX4 - 3 x Clock



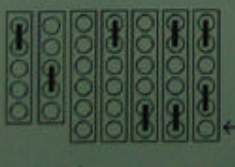
486DX4 - 2.5 x Clock



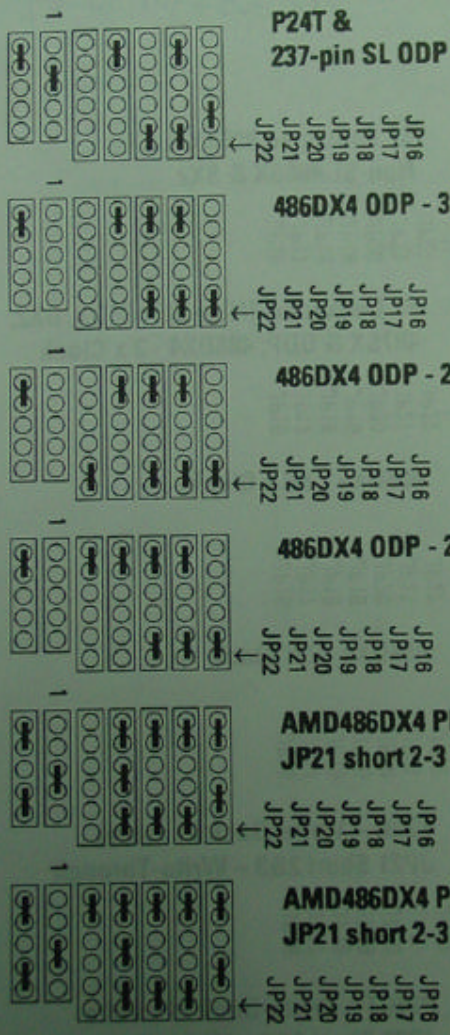
486DX4 - 2 x Clock

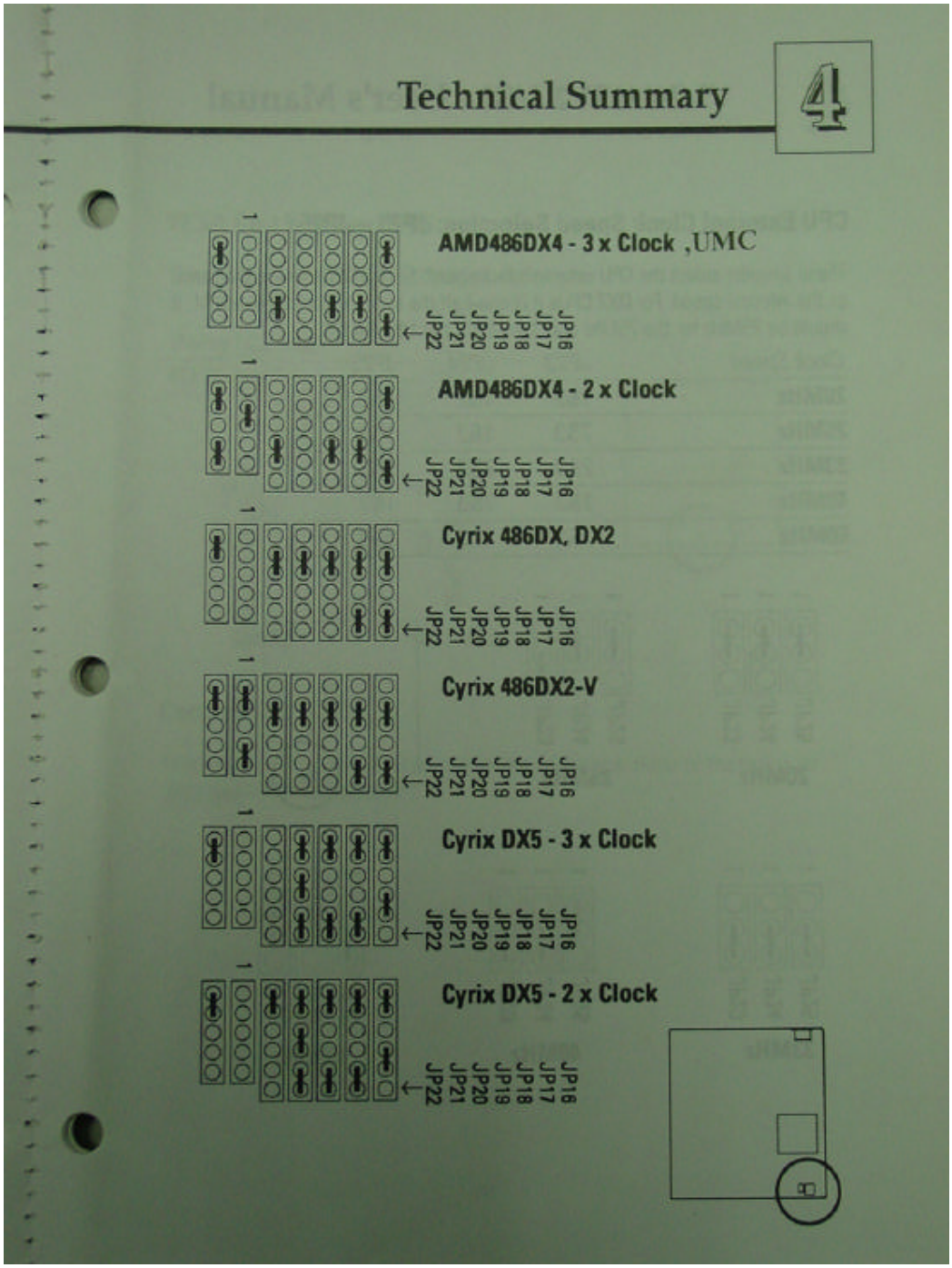


P24D – Write-Back L1 cache
JP21 Short 2&3 – Write-Through



P24CT – Write-Back L1 cache
JP21 Short 2&3 – Write-Through



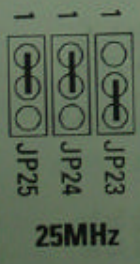


CPU External Clock Speed Selection: JP23 – JP25

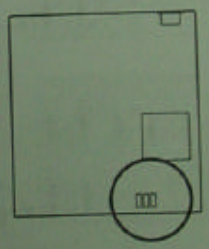
These jumpers select the CPU external clock speed. For DX CPUs this is the same as the internal speed. For DX2 CPUs it is one-half the internal speed. For a DX4, it should be 25MHz for the 75Mhz and 33MHz for the 100Mhz CPU.

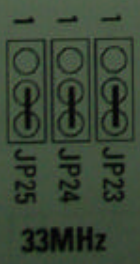
Clock Speed	*JP23*	*JP24*	JP25
20MHz	1&2	1&2	1&2
25MHz	2&3	1&2	1&2
33MHz	2&3	2&3	2&3
40MHz	2&3	2&3	1&2
50MHz	1&2	1&2	2&3

20MHz



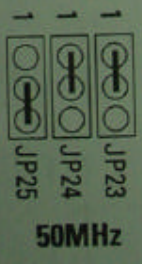
25MHz





33MHz

40MHz

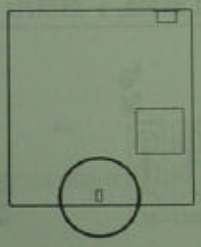


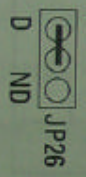
50MHz

VESA Clock Delay: JP26

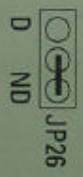
The default setting sets the VESA clock to Delay.

	JP26
Delay (default)	1&2
No Delay	2&3





Delay



No Delay

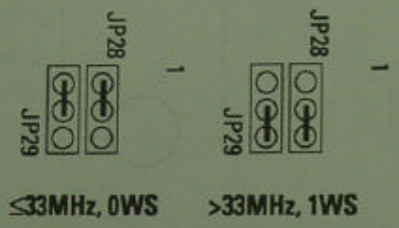
Cache Size: JP27

This jumper, along with JP13 and 14 set the cache size. Refer to the listing for JP13 and 14 for the settings.

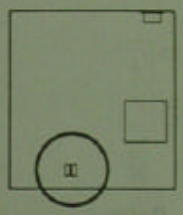
VL-Bus Clock & Wait State Selection: JP28 – JP29

These jumpers set the VL-Bus clock and wait state.

Wait State/VL-Bus Clock	*JP28*	*JP29*
0 Wait State, ≤ 33MHz	1&2	1&2
1 Wait State, > 33MHz	2&3	2&3



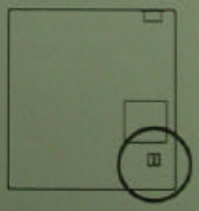
≤33MHz, 0WS **>33MHz, 1WS**

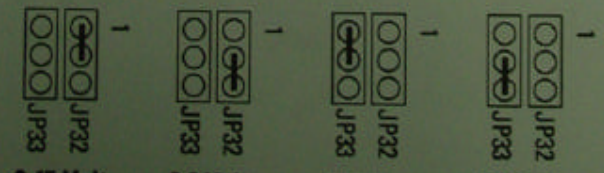


CPU Voltage Selection: JP32 & JP33

These jumpers select the CPU voltage. You must make sure that these jumpers are set correctly for the installed CPU.

Voltage	*JP32*	*JP33*
3.45–Volt	1&2	Open
3.6–Volt	2&3	Open
4–Volt	Open	1&2
3.3–Volt	Open	2&3





Technical Summary

4

Memory Subsystem

DRAM Specifications:

See pages 2-5

Memory Configurations

See pages 2-6 and 2-7 for chart.

Level 2 Cache Options

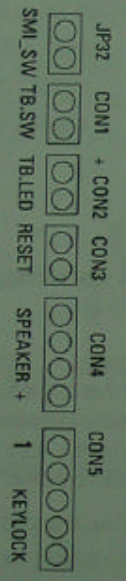
See jumper section for settings,chip speeds & size configurations..

Connectors

There are several connectors on the board for switches and indicator lights from the system case. The connectors are made of the same components as the jumper switches. There is also a double connector for the leads from a system power supply and the connector for the on-board IDE controller:

SMI Switch	Connector for the lead from a Case-mounted Suspend switch.
Turbo Switch	Shorted for maximum speed operation (default), or connector for the lead from a case-mounted Turbo Switch.
Turbo LED	Connector for the lead from a case-mounted Turbo Switch status indicator LED.
Reset Switch	Connector for the lead from a Reset switch mounted on the system case.
Speaker	Connector for the lead from a speaker mounted inside the system case.
KeyLock	Connector for both a case-mounted keyboard lock and a Power-On LED. Pin 1 is live, pins 3 & 5 are grounds.
PS/2 Mouse	Connector for a lead from a case-mounted PS/2 mouse port.
Ext.Batt	Connector for the lead from an external battery.
SMI Out	Connector for the extra lead from a green power supply.

System Case Connectors & IDE/HD LED Connectors



Suspend switch

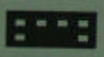
Turbo switch

Turbo LED

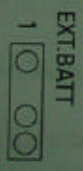
Reset switch

Speaker connector

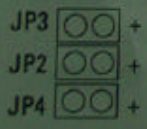
Keylock connector



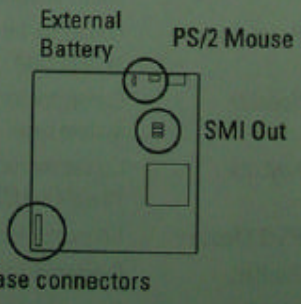
PS/2 Mouse lead connector



External Battery connector



JP2-4 SMI Out connector



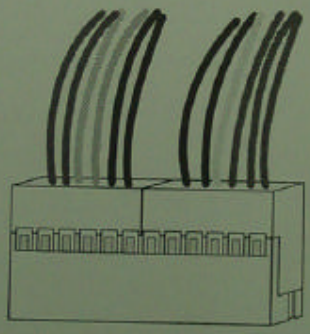
Technical Summary

4

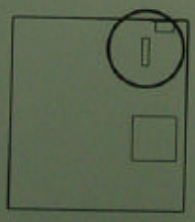
Connecting A Power Supply

To connect the leads from the power supply, first make sure the it is unplugged. Most power supplies have two leads. Each lead has six wires, two of which are black. Orient the connectors so the black wires are in the middle.

Power supply connectors



The black wires should be in the middle.



Power connector