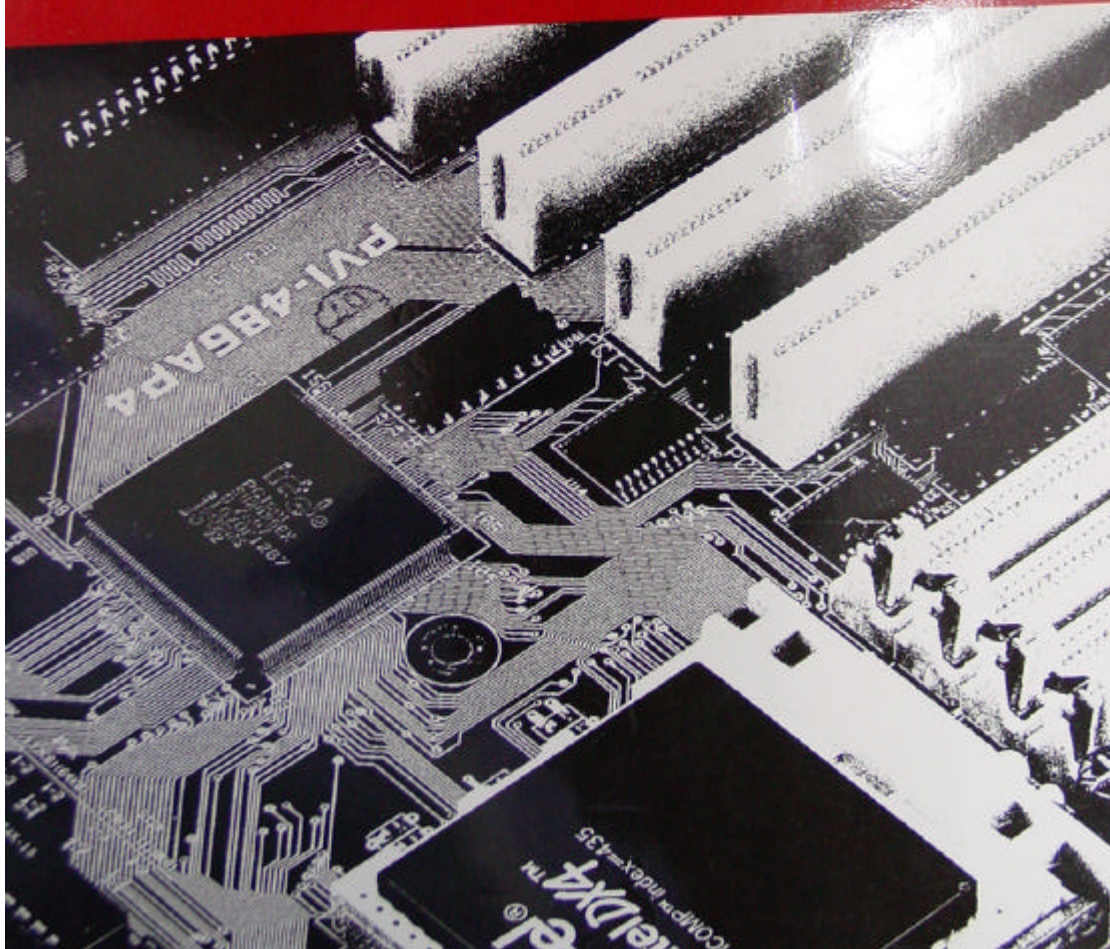


PVI-486AP4

*PCI Bus and VL Bus Mainboard
With PCI IDE Controller*



Technical Summary

The first part of this section summarizes the mainboard's specifications. The second part explains how to set up the optional PCI-SC200 SCSI Interface card.

Jumper Setting Summary

This section lists all the jumper settings on the mainboard. They are listed in numerical order for convenience. Where jumpers are associated with each other they are listed together. The small schematic diagrams of the mainboard indicate the positions of of jumpers on the board.

Video Display Type: JP1

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

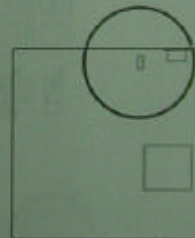
	JP1
Mono/VGA (default)	1&2
CGA	2&3



**Mono/VGA
(default)**



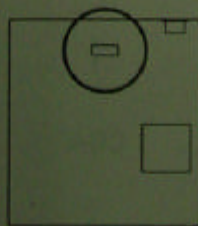
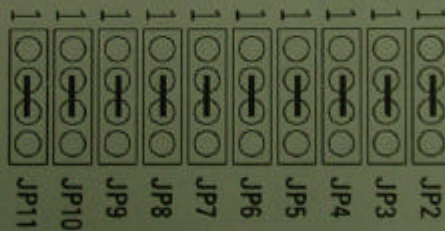
CGA



ISA/PCI IRQ Assignments: JP2 – JP11

These assign IRQs to either the ISA slots (default) or to PCI slots with edge-triggered cards installed. Don't use these for level-triggered cards. Use the PCI Slot Configuration section in the BIOS Setup program for level-triggered cards.

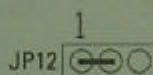
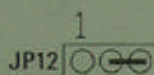
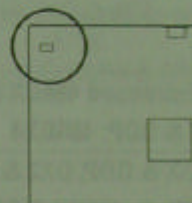
	<i>PCI1</i>	<i>PCI2</i>	<i>PCI3</i>	<i>PCI4</i>
IRQ5	JP2, 1&2	JP2, 3&4	JP11, 1&2	JP11, 3&4
IRQ9	JP3, 1&2	JP3, 3&4	JP10, 1&2	JP10, 3&4
IRQ11	JP4, 1&2	JP4, 3&4	JP9, 1&2	JP9, 3&4
IRQ14	JP5, 1&2	JP5, 3&4	JP8, 1&2	JP8, 3&4
IRQ15	JP6, 1&2	JP6, 3&4	JP7, 1&2	JP7, 3&4



Flash Memory Voltage & Write Protection: JP12

This is factory-set to the 5V setting. See the FMW section in Chapter 3 for more information on this.

	<i>JP12</i>
5V (default)	2&3
12V	1&2



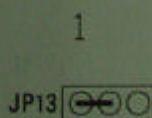
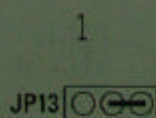
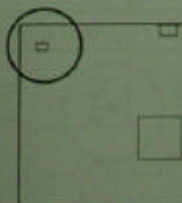
**5 Volt flash programming
& 12 Volt write-protection
(default setting)**

**12 Volt flash
programming**

BIOS Flash Memory Write Protection: JP13

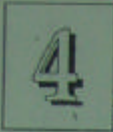
JP13 controls write-protection for the Flash ROM.

	<i>JP13</i>
Write Protect (default)	2&3
Write Enable	1&2



**Write Protect
(default)**

WriteEnable



PVI-486AP4 User's Manual

Rev 1.3 CPU Type Selection: JP17 & 18-19

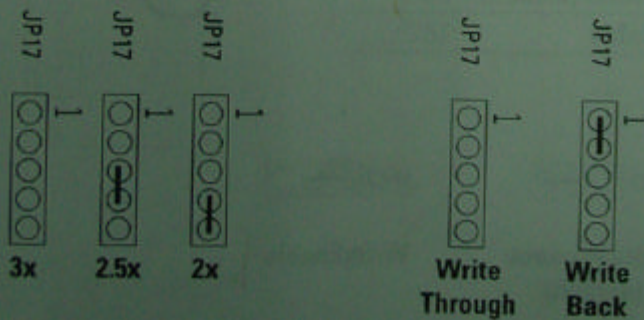
These three jumpers set the CPU type. JP18 & 19 set the type and JP17 specifies additional information for the 486DX4 and P24 series Pentium OverDrive chips.

CPU	JP18	JP19
SL Enhanced 486DX & ODP, DX2 & ODP; 486DX4	2&3, 4&5	1&2
486DX & ODP, DX2 & ODP, 487SX; Cx486DX & DX2	1&2, 4&5	1&2
SL Enhanced 486SX & SX2, Cx486s	2&3, 4&5	2&3
486SX & SX2	1&2, 4&5	2&3
Pentium OverDrive, P24T, P24CT, P24D	2&3, 5&6	1&2

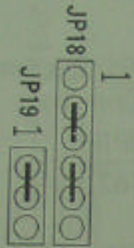
Note: ODP = OverDrive Processor

DX4 Int. Clk.	JP17	P24DL1 Cache Type	JP17
Ext. Clk. x 2	4&5	Write-through	Open
Ext. Clk. x 2.5	3&4	Write-back	1&2
Ext. Clk. x 3	Open		

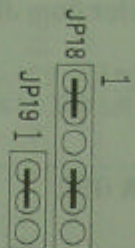
Note: JP17's effect depends on which CPU is installed



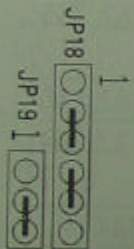
Technical Summary



SL Enhanced
486DX & ODP
DX2 & ODP
486DX4



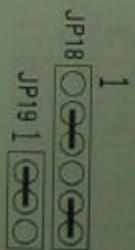
486DX & ODP
DX2 & ODP
487SX
Cx486DX & DX2



SL Enhanced
486SX & SX2
Cx486s



486SX & SX2



Pentium
OverDrive
P24T, P24CT,
P24D



Rev 1.6 CPU Type Selection: JP17 & 18-19

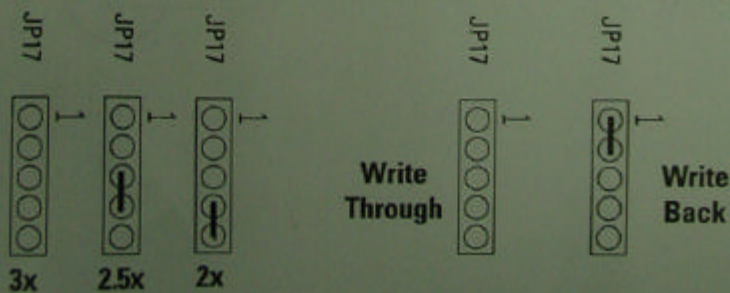
These three jumpers set the CPU type. JP18 & 19 set the type and JP17 specifies additional information for the 486DX4 and P24 series Pentium OverDrive chips.

CPU	JP18	JP19
SL Enhanced 486DX & ODP, DX2 & ODP; 486DX4	2&3, 4&5	1&2, 3&4
486DX & ODP, DX2 & ODP, 487SX; Cx486DX, DX2 & DX2-V	1&2, 4&5	1&2, 3&4
SL Enhanced 486SX & SX2, Cx486s	2&3, 4&5	1&2, 4&5
486SX & SX2	1&2, 4&5	1&2, 4&5
Pentium OverDrive, P24T, P24CT, P24D	2&3, 5&6	1&2, 3&4
AMD486DX & DX2	1&2, 4&5	3&4
AMD486SX & SX2	1&2, 4&5	4&5

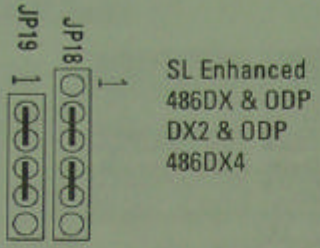
Note: ODP = OverDrive Processor

DX4 Int. Clk.	JP17	P24DL1 Cache Type	JP17
Ext. Clk. x 2	4&5	Write-through	Open
Ext. Clk. x 2.5	3&4	Write-back	1&2
Ext. Clk. x 3	Open		

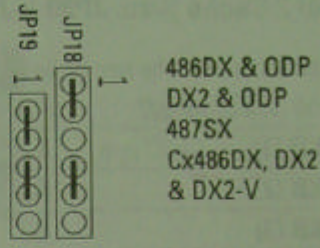
Note: JP17's effect depends on which CPU is installed



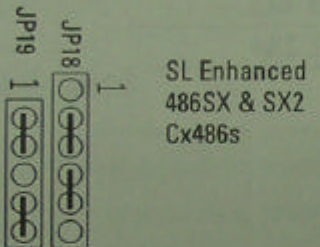
Technical Summary



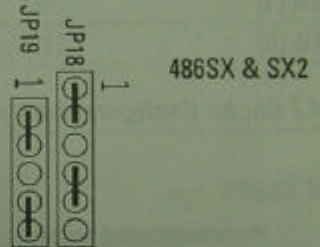
SL Enhanced
486DX & ODP
DX2 & ODP
486DX4



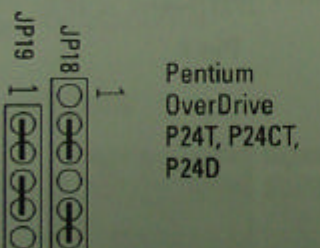
486DX & ODP
DX2 & ODP
487SX
Cx486DX, DX2
& DX2-V



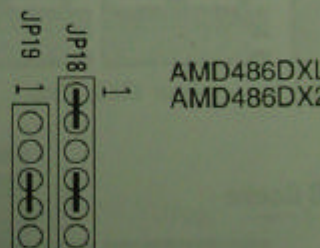
SL Enhanced
486SX & SX2
Cx486s



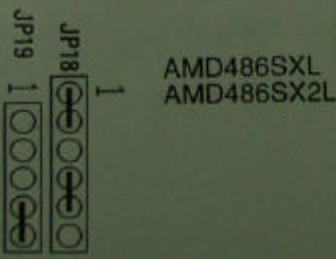
486SX & SX2



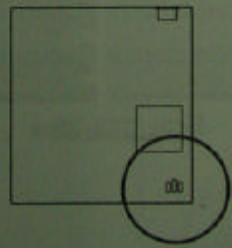
Pentium
OverDrive
P24T, P24CT,
P24D



AMD486DXL
AMD486DX2L



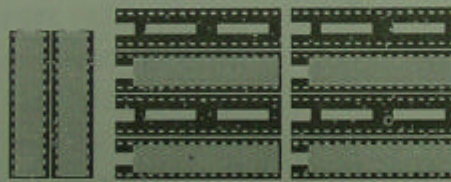
AMD486SXL
AMD486SX2L



Level 2 Cache Size: JP20 – JP21

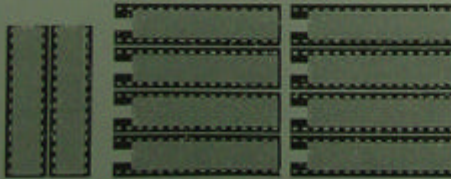
Set these based on the size of the installed cache and chip configuration used.

Cache Size (Config#)	JP20	JP21
128KB (1)	1&2	1&2
256KB (2)	1&2	2&3
256KB (3)	1&2	1&2, 3&4
512KB (4)	2&3	2&3, 4&5
512KB (5)	2&3	1&2, 3&4

Level 2 Cache Configuration Options**128KB Cache**

Two 8K8,
20ns

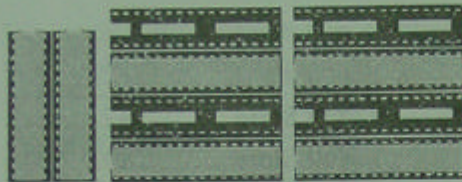
Four 32K8, 20ns

256KB Cache

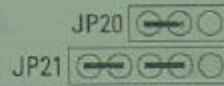
Two 32K8,
15ns

Eight 32K8, 20ns

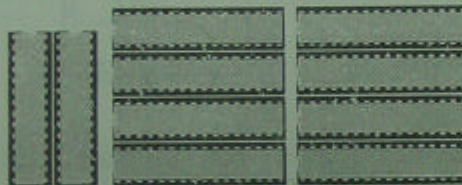
256KB Cache



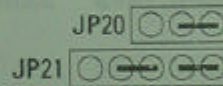
Two 32K8, 15ns Four 64K8, 20ns



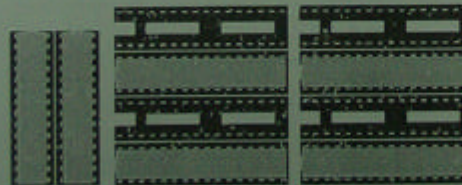
512KB Cache



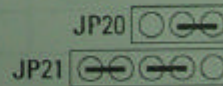
Two 32K8, 15ns Eight 64K8, 20ns



512KB Cache



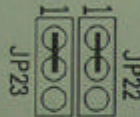
Two 32K8, 15ns Four 128K8, 20ns



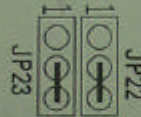
VL-Bus Clock & Wait State Selection: JP22 – JP23

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

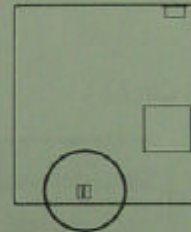
<i>VL-Bus Clock</i>	<i>JP22</i>	<i>Wait State</i>	<i>JP23</i>
≤ 33MHz	1&2	0 Wait State	1&2
> 33MHz	2&3	1 Wait State	2&3



≤33MHz, 0WS



>33MHz, 1WS

**CPU External Clock Speed Selection: JP25 – JP26**

This pair of jumpers selects 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.

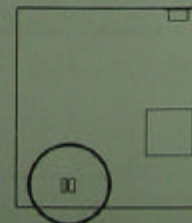
<i>Clock Speed</i>	<i>JP25</i>	<i>JP26</i>
25MHz	2&3	1&2
33MHz	1&2	2&3



25MHz



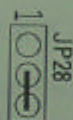
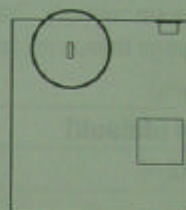
33MHz



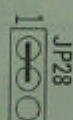
On-board PS/2 Mouse Lead Connector: JP28

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

	<i>JP28</i>
Enable (default)	2&3
Disable	1&2



Enable

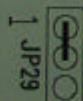
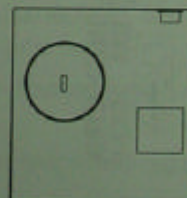


Disable

IDE Controller IRQ Selection: JP29

This jumper selects the IRQ used by the on-board IDE controller.

	<i>JP29</i>
IRQ14 (default)	1&2
IRQ15	2&3



**IRQ 14
Primary**

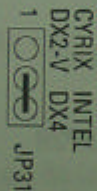
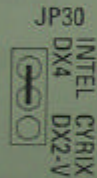


**IRQ 15
Secondary**

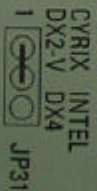
Rev 1.6 Intel DX4/Cyrix DX2-V Voltage Selection: JP30 – JP31

This pair of jumpers selects the CPU voltage for these two CPUs. The Intel CPU uses 3.3 volts and the Cyrix CPU uses 3.6 volts, so you must make sure that these jumpers are set correctly. The default setting is for the Intel CPU, so you do not need to change these settings if you do not install a Cyrix DX2-V.

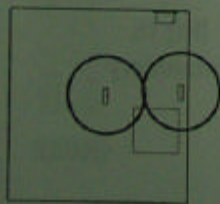
<i>Clock Speed</i>	<i>JP30</i>	<i>JP31</i>
Intel DX4 (default)	1&2	2&3
Cyrix DX2-V	2&3	1&2



Intel DX4 3.3 volt



Cyrix DX2-V 3.6 volt



Memory Subsystem

DRAM Specifications:

See pages 2-9

Memory Configurations

See pages 2-10 and 2-11 for chart.

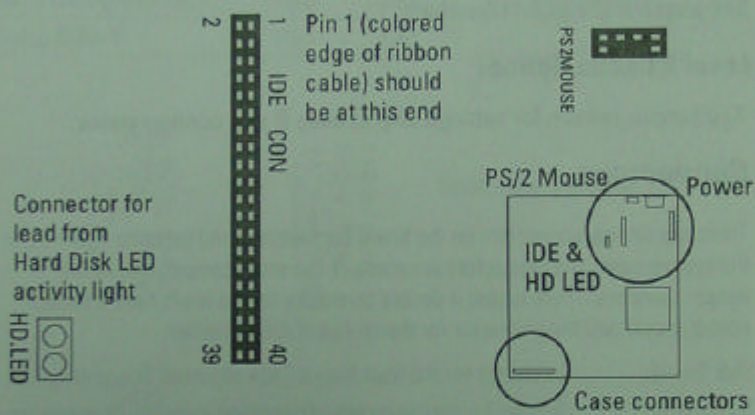
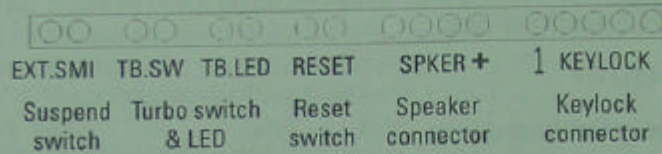
Level 2 Cache Options

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

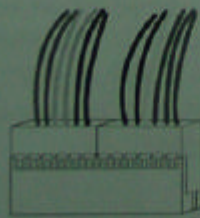
Connectors

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.
IDE	Connector for a standard 40-pin IDE ribbon cable to connect two internal IDE hard disk drives.

System Case Connectors & IDE/HD LED Connectors**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.

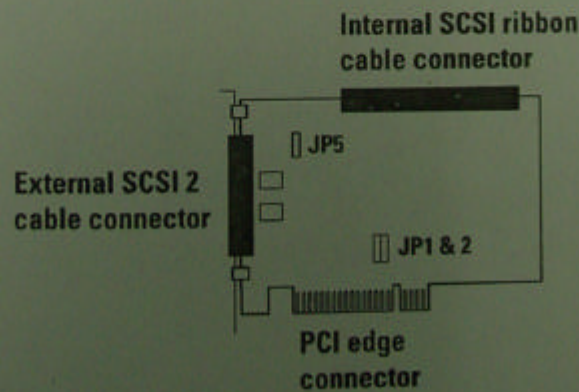
The PCI-SC200 SCSI Interface Card

Your mainboard may have come with an optional SCSI (Small Computer System Interface) controller card, the PCI-SC200. This card works with the SCSI BIOS on the mainboard. Together, they provide a complete PCI Fast SCSI-2 interface. With the card installed in your system you can connect SCSI devices installed in your system case to the internal connector on the card. You also have the additional option of connecting external SCSI devices to the external SCSI-2 connector on the card.

To use the PCI-SC200 you must enable the SCSI BIOS option in the Award BIOS Setup Utility program. If the card was installed in your system when you got it then the BIOS setting should already be correct. Refer to the section on Chipset Setup in Chapter 3 if you need to know more about this.

If you get the PCI-SC200 later on as an option, you will need to install it yourself. The setup procedure is explained here. The basic card installation procedure is explained at the end of Chapter 2.

The PCI-SC200 SCSI Interface Card



Setting Up the PCI-SC200

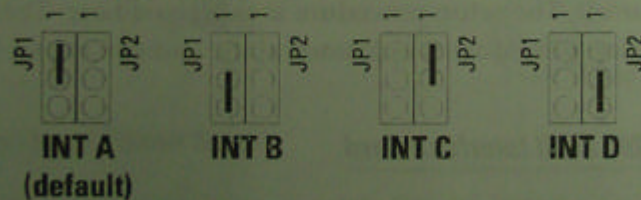
There are two jumper settings you may need to make on the card to set it up. One setting assigns the PCI INT interrupt, the other sets the card's termination.

Setting the INT Assignment

As explained in Chapter 2, any PCI card you install must use PCI INT A. On the PCI-SC200, you assign the INT by setting jumper JP1 or JP2. The default setting for the card already is INT A, so you do not need to change the setting to use the SC-200 with this mainboard.

The INT assignment jumper settings are illustrated below. The settings are printed on the card for your convenience.

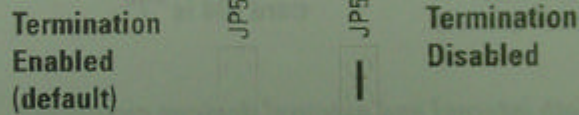
JP1 & 2: Interrupt settings



Terminator Settings

SCSI devices are connected together in a "chain" by cables. Internal devices connect to the PCI-SC200 with a fifty-pin flat ribbon cable. External devices connect to the external port with a SCSI-2 cable. If there is more than one internal or external device, additional devices are connected with cables to form a "daisy chain". The SCSI chain must be "terminated" at both ends, or the devices in the chain will not work properly.

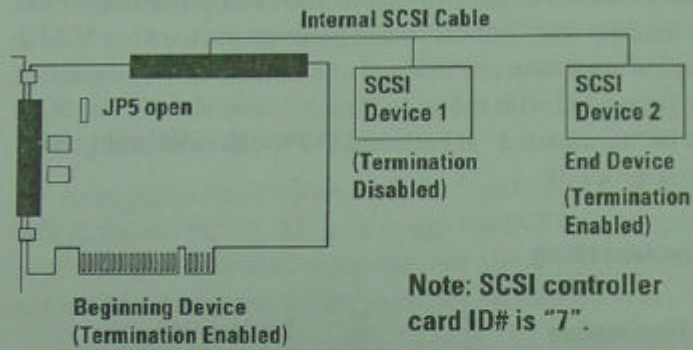
JP5: Terminator setting



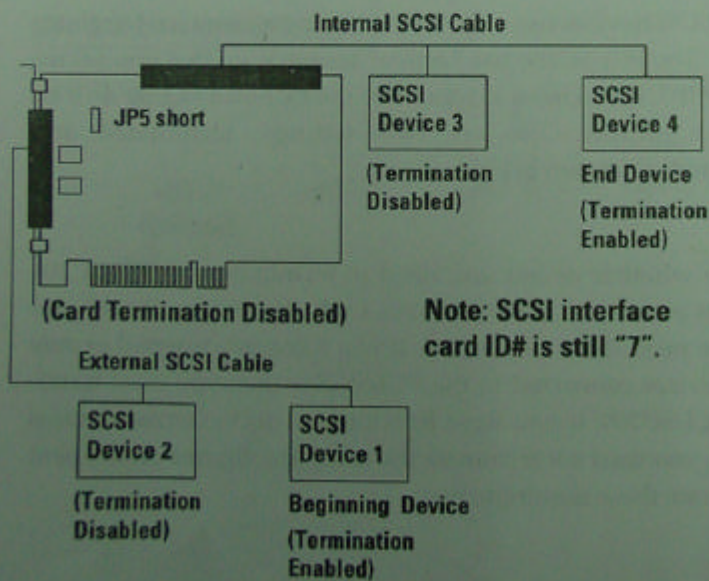
Many SCSI devices use a set of terminating resistors to terminate the device. The PCI-SC200 has "active" termination that you set using jumper JP5. If you need to terminate the PCI-SC200, you do it by setting the jumper. There are two settings, terminated and unterminated, as shown below.

Decide whether or not you need to terminate the PCI-SC200 based on its position in the SCSI chain. Only the devices at each end of the chain need to be terminated. If you have *only* internal or *only* external devices connected to the PCI-SC200, then you *must* terminate the PCI-SC200. If you have *both* internal and external devices connected, you *must not* terminate the card. The figures on the next page illustrate these requirements.

Example 1: Only internal or only external devices connected



Example 2: Both internal and external devices connected



SCSI ID Numbers

All SCSI devices, including the PCI-SC200 interface card must have a SCSI identification number that is not in use by any other SCSI device. There are eight possible ID numbers, 0 through 7. The PCI-SC200 has a fixed SCSI ID of 7.

You can connect up to seven SCSI devices to the interface card. You must set a SCSI ID number for each device. SCSI devices vary in how they set the ID number. Some use jumpers, others have some kind of selector switch. Refer to the manual for any device you install for details on how to set its ID number.