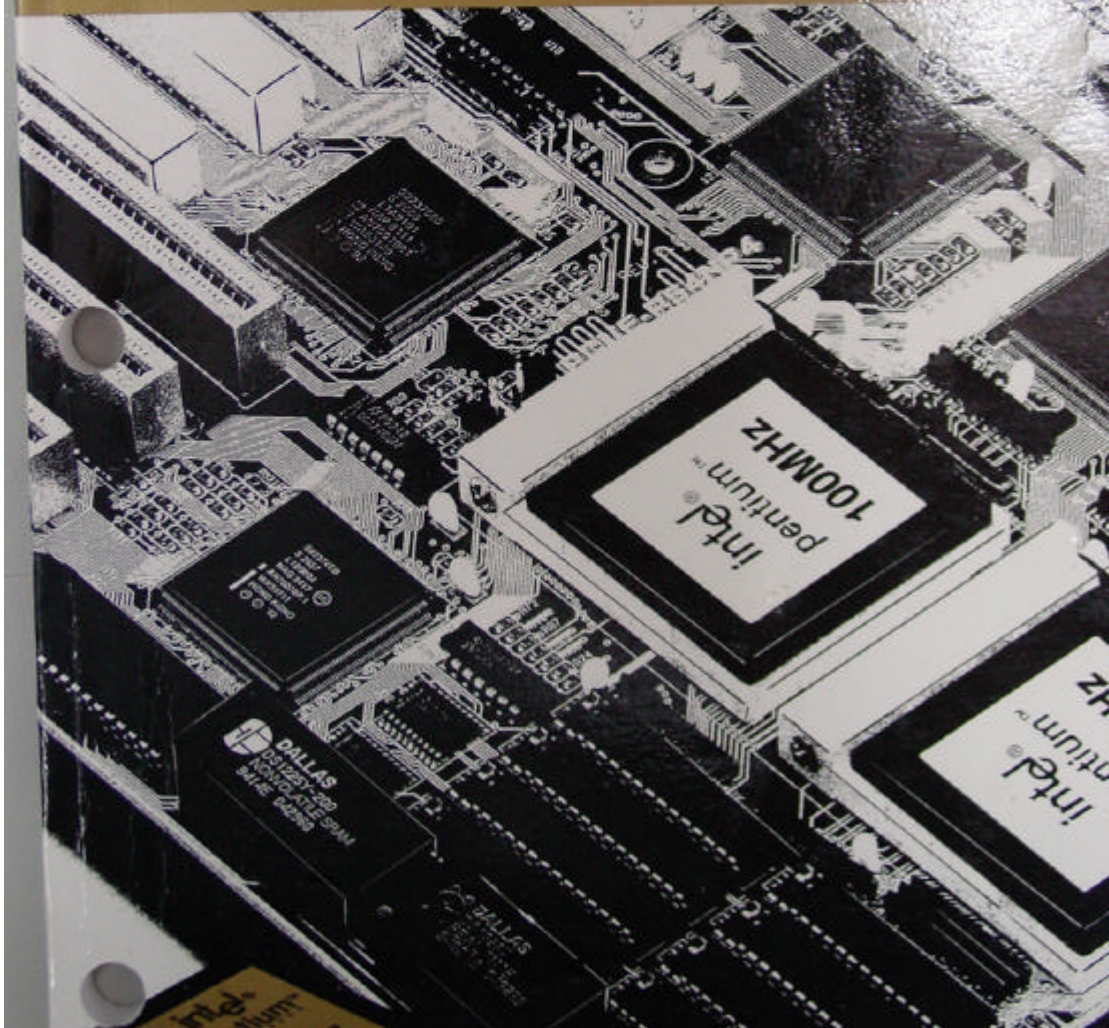


PCI/E-P54NP4

Dual Pentium™ Processor, PCI/EISA Bus Mainboard



Technical Summary

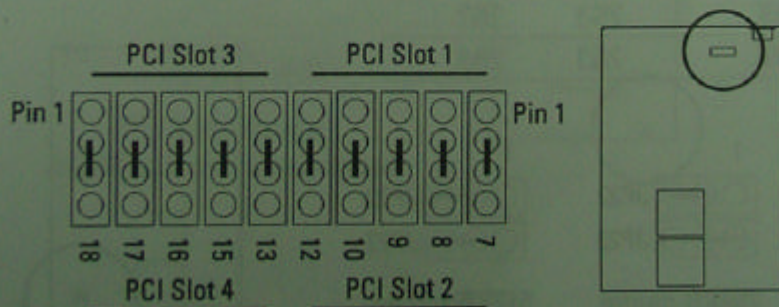
The first part of this section summarizes the mainboard's specifications and explains L2 external cache. The second part explains how to set up the optional PCI-SC200 SCSI Interface card.

Jumper Setting Summary

EISA/PCI IRQ Assignments: JP7 – 10, 12, 13, 15 – 18

These assign IRQs to either the EISA 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>PCI Slot 1</i>	<i>PCI Slot 2</i>	<i>PCI Slot 3</i>	<i>PCI Slot 4</i>
IRQ5	JP7, 1&2	JP7, 3&4	JP18, 1&2	JP18, 3&4
IRQ9	JP8, 1&2	JP8, 3&4	JP17, 1&2	JP17, 3&4
IRQ11	JP9, 1&2	JP9, 3&4	JP16, 1&2	JP16, 3&4
IRQ14	JP10, 1&2	JP10, 3&4	JP15, 1&2	JP15, 3&4
IRQ15	JP12, 1&2	JP12, 3&4	JP13, 1&2	JP13, 3&4



The default settings, all jumpers in the block Pins 2&3 shorted, leave the IRQs listed available for level-triggered or EISA bus expansion cards.

BIOS Flash Memory Voltage Selector: JP21

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

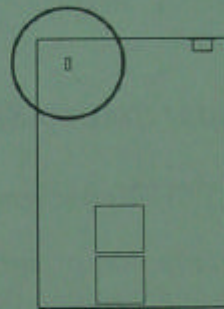
	<i>JP21</i>
12V	2-3
5V	1-2



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



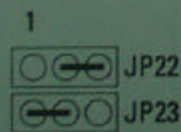
12 Volt flash programming



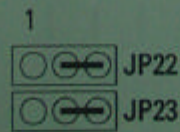
Level 2 Cache Size: JP22 – JP23

Set these based on the size of the installed cache.

	<i>JP22</i>	<i>JP23</i>
256K	2&3	1&2
512K	2&3	2&3



256KB cache



512KB cache



CPU Internal Core Clock Multiple Selector: JP11

This is factory-set to the 1.5 setting. Select the setting according to the rated speed of the CPU – 1.5 and 2.0.

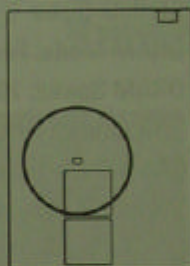
	JP11
1.5	Open
2.0	Short



1.5 multiple



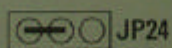
2.0 multiple



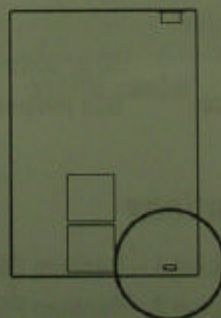
PCI Bus Clock Speed: JP24

The setting, .5 of the CPU external clock, is required for this mainboard.

	JP24
.5 CPU Ext. Clock	1&2



PCI Bus Clock =
.5 CPU external clock speed



Memory Subsystem

DRAM Specifications:

Module Type: 72 pin SIMM module, parity or non-parity

Module Sizes: 1, 2, 4, 8, 16, 32MB

DRAM Mode: Fast Page Mode

DRAM Speed: 70ns[†]

RAS access time [Trac]: 60ns - 70ns

CAS access time [Tcac]: 10ns - 25ns

[†]All modules must be the same speed.

Memory Configurations

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

Level 2 Cache Options

SRAM speed: 66MHz external clock – 12ns
50 or 60MHz external clock – 15ns

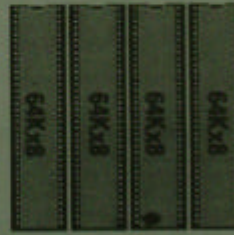
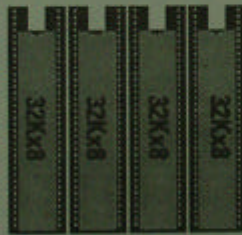
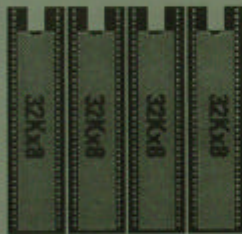
Cache Size: See jumper section for settings.

CPU Options

Types: Socket 1 – Pentium P54C	Clock Speeds: 90MHz or
Socket 2 – Pentium P54CM or CT	100MHz

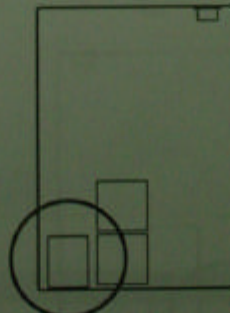
Level 2 Cache Configurations

SRAM Cache Size	Number & Size	Pin Configuration
256KB	Eight 32Kx8	28 pins/chip
512KB	Eight 64Kx8	32 pins/chip



256KB cache

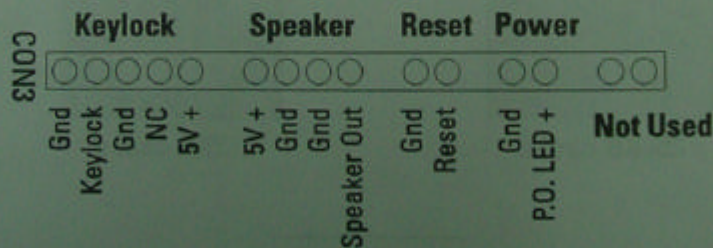
512KB cache



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 are also two sets of double connectors for the leads from a 5-volt or 3.3-volt system power supply.

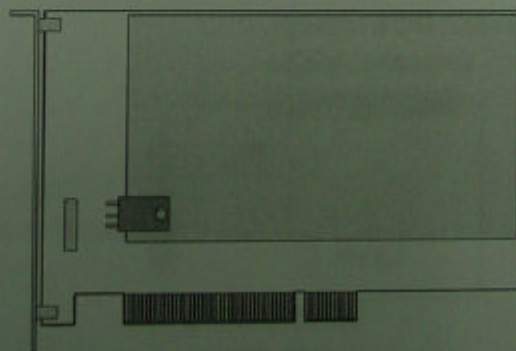
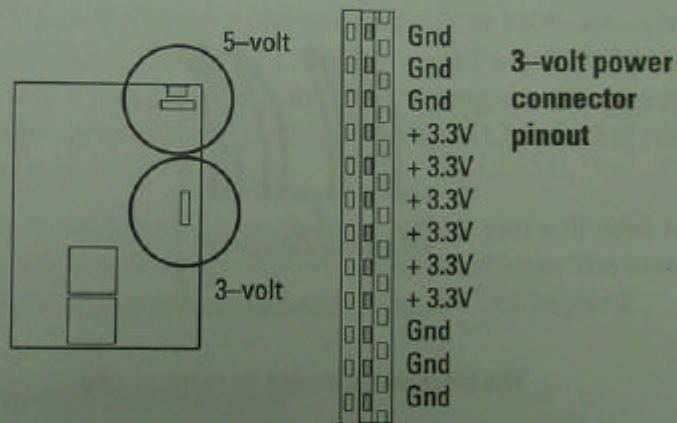
KeyLock	Connector for both a case-mounted keyboard lock. Pin 1 is live, pins 3 & 5 are grounds.
Speaker	Connector for the lead from a speaker mounted inside the system case.
Reset Switch	Connector for the lead from a Reset switch mounted on the system case.
Power LED	Connector for the lead from a case-mounted Power-On LED indicator light.



Connecting The Power Supply

There are two system power supply connectors on the mainboard. One is for a 5-volt power supply, the other for a 3.3-volt power supply. If the power supply is a 3.3-volt mode, you can connect the leads to the 3.3-volt connector. If the supply provides 5 volts, you must connect the leads to the 5-volt connector AND install the supplied Power Converter card in any available PCI slot. The card installs like any other expansion card and does not require any setup.

Power supply connectors

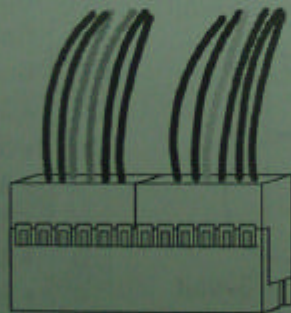


PCI slot 5V to 3.3V Power Converter card

To connect the leads from either voltage power supply, you should first make sure the the power supply 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.

Align the plastic guide pins on lead to their receptacles on the connector. You may need to hold the lead at an angle to line it up. Once you have the guide pins aligned, press the lead onto the connector so that the plastic clips on the lead snap into place and secure the lead to the connector.

Connecting Power Supply Leads



The black wires should be in the middle.

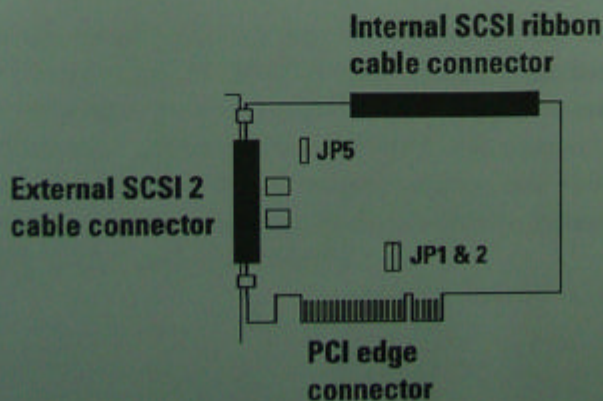
The PCI-SC200 SCSI Interface Card

Your mainboard may have come with an optional SCSI (Small Computer System Interface) controller card, the PCI-SC200. The card is also available separately. 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

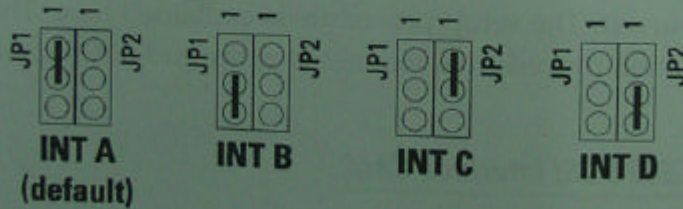
There are two jumper settings you may need to make on the card to set it up. One setting assigns the PCI INT interrupt, the other sets the card's termination.

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



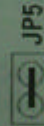
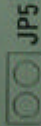
Terminator Settings

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.

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.

JP5: Terminator setting

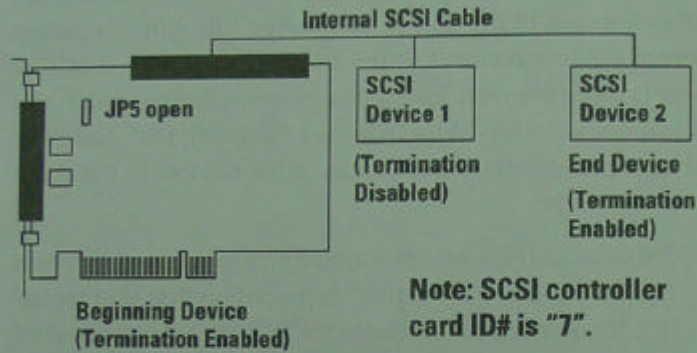
**Termination
Enabled
(default)**



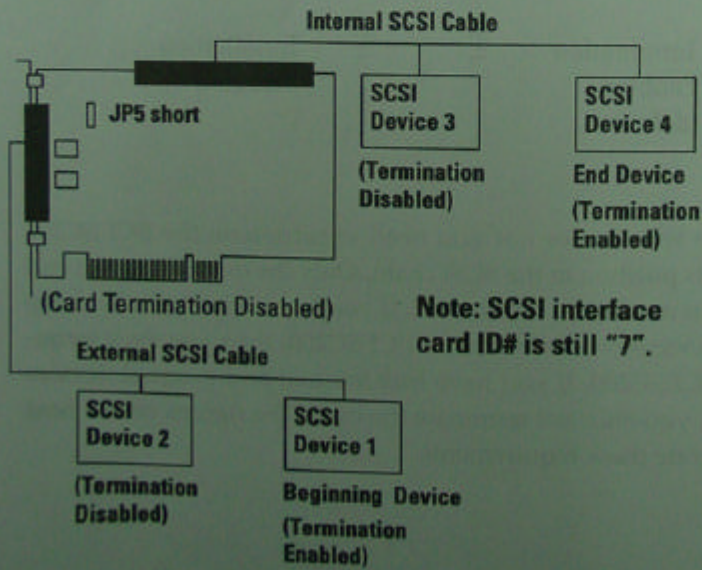
**Termination
Disabled**

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.