

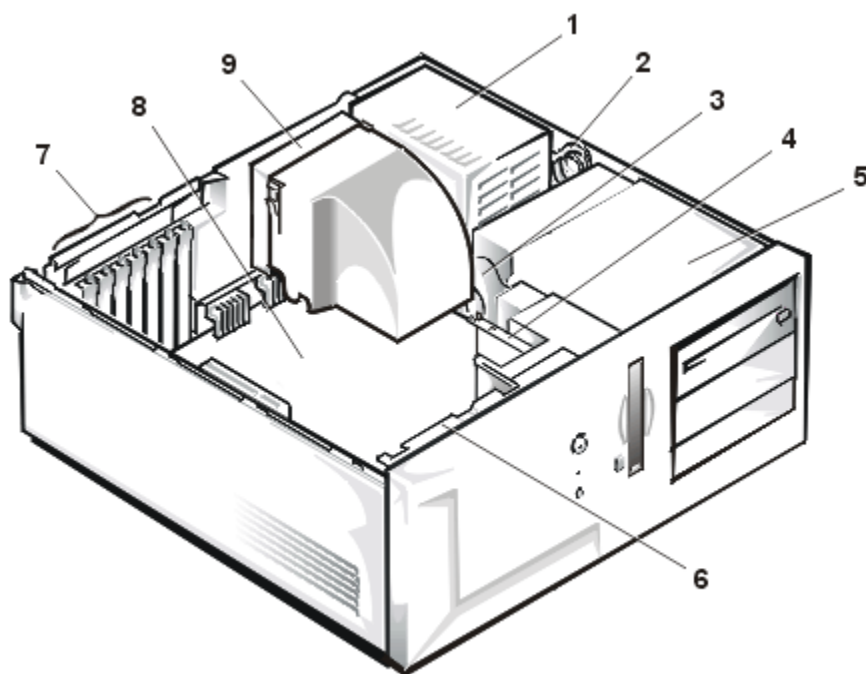
[Back to Contents Page](#)

## Technical Overview: Dell™ Dimension™ 4100 System Reference

- [Internal View of Desktop](#)
- [Internal View of Mini Tower](#)
- [Back-Panel Features](#)
- [System Board Connectors and Sockets](#)
- [System Board Configuration Jumper](#)
- [Socketed Microprocessor](#)
- [EIDE Interface Cable Connections for Dell-Installed Drives](#)
- [Power Supply](#)
- [DC Power Cables](#)
- [DC Power Connector Pin Assignments](#)

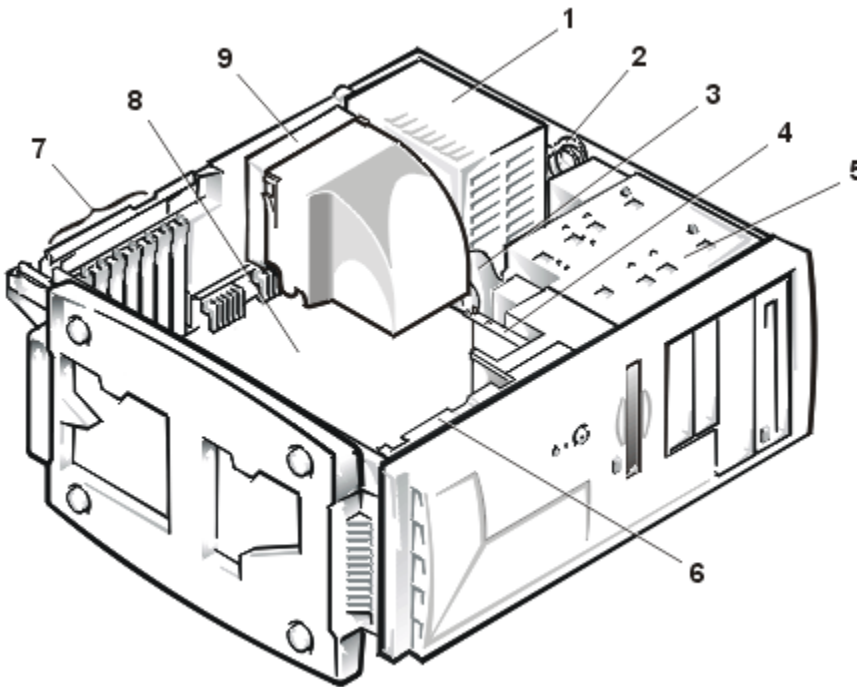
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### Internal View of Desktop



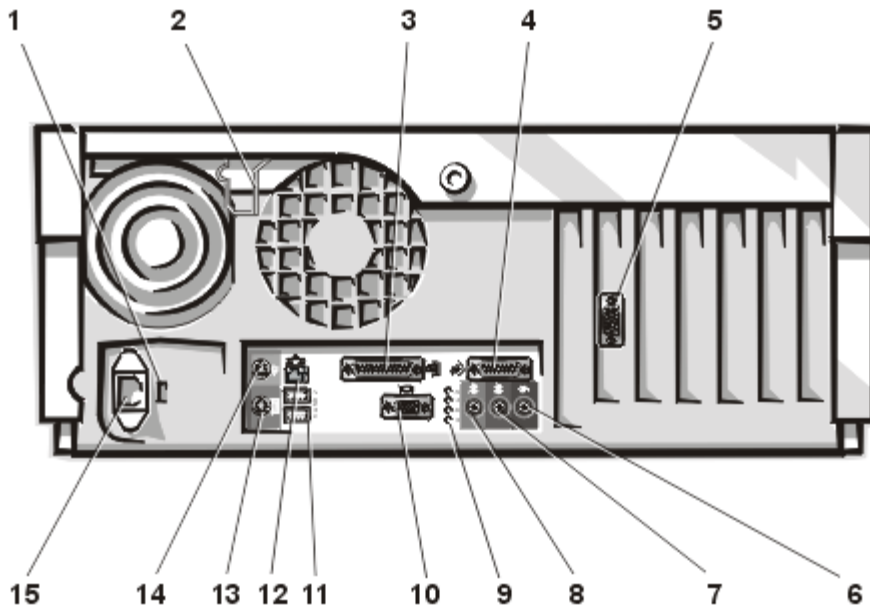
- 1 Power supply
- 2 DC power cables
- 3 Floppy-drive interface cable
- 4 Secondary hard-drive bracket
- 5 Drive cage
- 6 Card-guide assembly (contains primary hard drive)
- 7 Filler brackets
- 8 System board
- 9 Fan assembly

## Internal View of Mini Tower



- |                                |   |
|--------------------------------|---|
| 1 Power supply                 | 6 Card-guide assembly (contains primary hard drive) |
| 2 DC power cables              | 7 Filler brackets                                   |
| 3 Floppy-drive interface cable | 8 System board                                      |
| 4 Secondary hard-drive bracket | 9 Fan assembly                                      |
| 5 Drive cage                   |   |

## Back-Panel Features



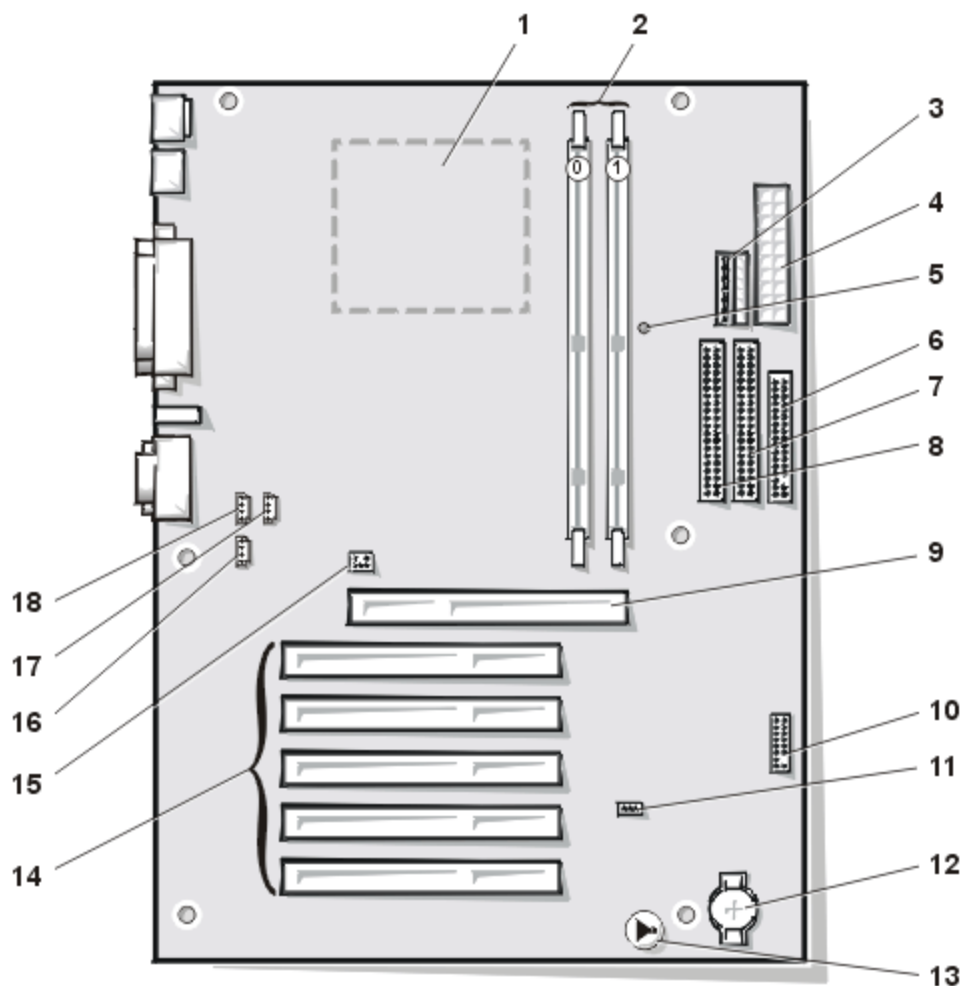
- |   |                               |
|---|-------------------------------|
| 1 Voltage selection switch              | 9 Diagnostic code lights (4)  |
| 2 Security cable ring                   | 10 Serial port connector      |
| 3 Parallel port connector               | 11 USB connectors (2)         |
| 4 MIDI/game port connector <sup>1</sup> | 12 NIC connector <sup>2</sup> |
| 5 Video connector                       | 13 Keyboard connector         |
| 6 Microphone jack <sup>1</sup>          | 14 Mouse connector            |
| 7 Line-in jack <sup>1</sup>             | 15 AC power receptacle        |
| 8 Line-out jack <sup>1</sup>            |                               |

<sup>1</sup>For computers with built-in sound

<sup>2</sup>For computers with built-in network interface controller (NIC)

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## System Board Connectors and Sockets





- |  |   |
|--|---|
| 1 Microprocessor connector (CPU)             | 10 Control panel connector (J8C3)                         |
| 2 Memory sockets (DIMM <i>n</i> )            | 11 <a href="#">Configuration jumper</a> (BIOS CONF)       |
| 3 Auxiliary power connector (AUX POWER)      | 12 Battery socket (BATTERY)                               |
| 4 Main power input connector (POWER)         | 13 Speaker  |
| 5 Power light (STB LED)                      | 14 PCI card connectors (PCI1, PCI2, PCI3, PCI4, and PCI5) |
| 6 Floppy-drive interface connector (FLOPPY)  | 15 Fan connector (FAN 2)                                  |
| 7 Primary EIDE channel connector (PRI IDE)   | 16 CD drive sound connector (CD IN)*                      |
| 8 Secondary EIDE channel connector (SEC IDE) | 17 Speaker phone connector (TELEPHONY)*                   |
| 9 AGP video connector (AGP)                  | 18 Auxiliary sound-in connector (AUX IN)*                 |

*\* For computers with built-in sound*

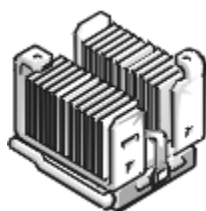
## System Board Configuration Jumper

**Table 1. Configuration Jumper Settings**

Jumper Setting	Jumper	Description
Pins 1-2 jumpered (Normal mode)		In Normal mode, system setup settings and installed passwords are retained when the computer starts up. In this mode, an automatic recovery is attempted if the BIOS detects that any of its main blocks are corrupted.
Pins 2-3 jumpered (Maintenance mode)		<p>Starting the computer with the jumper set in Maintenance mode automatically starts the system setup program, adds the <b>Maintenance</b> option to the menu bar, and displays the <b>Maintenance</b> screen. This screen provides the following option.</p> <p><b>NOTICE: Entering Maintenance mode returns all settings in the system setup program to their defaults. Dell strongly recommends that you record or print all current settings before entering this mode so you can correct them when the computer is reset to Normal mode.</b></p> <p><b>Clear All Passwords</b> — Disables a forgotten password so that you can access the computer and/or assign new passwords. For the complete password procedure, see "Clearing Forgotten Passwords" in the appendix of the <i>Solutions Guide</i>.</p>

*NOTE: The [Glossary](#) defines abbreviations and acronyms.*

## Socketed Microprocessor



The socketed microprocessor, shown above with the heat sink attached, contains a 370-pin microprocessor card. The microprocessor includes the following features:

- Intel® Pentium® III microprocessor with integrated 32-kilobyte (KB) primary (L1) cache

- Secondary (L2) cache of 256-KB Advanced Transfer Cache that resides in the processor's core and runs at the processor's internal clock speed
- Associated circuitry

The socketed microprocessor inserts into the zero-insertion force (ZIF) connector mounted on the [system board](#). A clip secures the heat sink to the connector.


## EIDE Interface Cable Connections for Dell-Installed Drives

**Table 2. EIDE Interface Cable Connections for Dell-Installed Drives**

EIDE Channel	EIDE Connector Location	Dell-Installed Drive
Primary EIDE master	End connector on <a href="#">PRI IDE connector</a> cable	Hard drive
Primary EIDE slave	Middle connector on <a href="#">PRI IDE connector</a> cable	Zip drive or LS-120 drive
Secondary EIDE master	End connector on <a href="#">SEC IDE connector</a> cable	CD drive or DVD drive
Secondary EIDE slave	Middle connector on <a href="#">SEC IDE connector</a> cable	CD-RW drive
<i>NOTE: The <a href="#">Glossary</a> defines abbreviations and acronyms.</i>		

## Power Supply

The 200-Watt (W) power supply can operate from an AC power source of 115 volts AC (VAC) at 60 hertz (Hz) or 230 VAC at 50 Hz. The power supply provides the DC operating voltages and currents listed in the following table.

 *NOTE: The power supply produces DC voltages only under its loaded condition. The DC power cable connectors must be connected to their corresponding power input connectors on the system board or drives in order to measure these voltages.*

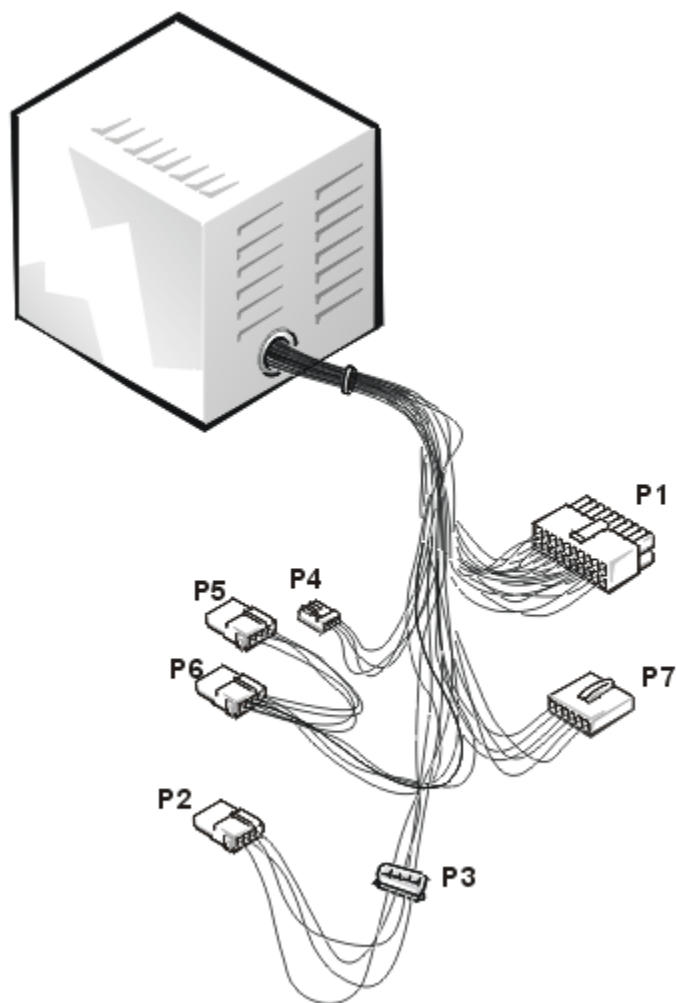
**Table 3. DC Voltage Ranges**

Voltage	Range	Maximum Output Current	Notes
+3.3 VDC	+3.14 to +3.47 VDC	14.00 A	The combined load on the +3.3-VDC and +5-VDC outputs cannot exceed 140 W.
+5 VDC	+4.90 to +5.25 VDC	22.00 A	The combined load on the +3.3-VDC and +5-VDC outputs cannot exceed 140 W.

-5 VDC	-4.50 to -5.50 VDC	0.300 A	
+12 VDC	+11.40 to +12.60 VDC	6.00 A	The +12-VDC output can withstand surges of up to 11.0 A to support disk start-up operations.
-12 VDC	-10.80 to -13.20 VDC	0.300 A	
+5 VSB	+4.75 to +5.25 VDC	1.2 A	The +5 volts standby (VSB) is sometimes called volts flea power (VFP).

*NOTE: The [Glossary](#) defines abbreviations and acronyms.*

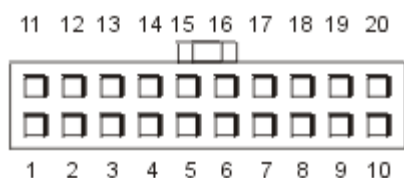
## DC Power Cables



## DC Power Connector Pin Assignments

The power-supply output voltages can be measured at the back (wire side) of the DC power connectors without disconnecting them. Figures 1 through 4 show the wire side of the connectors.

**Figure 1. DC Power Connector P1**

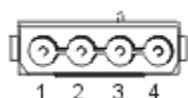


- |  |                                      |
|--|--------------------------------------|
| <b>1</b> +5 VDC (red)                  | <b>11</b> PSON# <sup>2</sup> (brown) |
| <b>2</b> Common (black)                | <b>12</b> Common (black)             |
| <b>3</b> +5 VDC (red)                  | <b>13</b> Common (black)             |
| <b>4</b> Common (black)                | <b>14</b> Common (black)             |
| <b>5</b> PWRGOOD <sup>1</sup> (orange) | <b>15</b> -5 VDC (white)             |
| <b>6</b> +5 VFP (purple)               | <b>16</b> +5 VDC (red)               |
| <b>7</b> +12 VDC (yellow)              | <b>17</b> +5 VDC (red)               |
| <b>8</b> -12 VDC (blue)                | <b>18</b> +5 VDC (red)               |
| <b>9</b> Common (black)                | <b>19</b> Not connected              |
| <b>10</b> Common (black)               | <b>20</b> +5 VDC (red)               |

<sup>1</sup> Pin 5 — PWRGOOD is a status signal generated by the power supply to notify the computer that the DC operating voltages are within the ranges required for proper computer operation.

<sup>2</sup> Pin 11 — PSON# is activated by pressing and releasing the power button while the power supply is in standby state. Activating PSON# connects the power supply's PSON# input to ground, thereby switching the power supply to full-on condition.

**Figure 2. DC Power Connector P2, P3, P5, and P6**



- 1** +12 VDC (yellow)
- 2** Common (black)
- 3** Common (black)
- 4** +5 VDC (red)

**Figure 3. DC Power Connector P4**

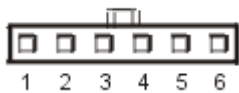


- 1** +12 VDC (yellow)
- 2** Common (black)
- 3** Common (black)



**4 +5 VDC (red)**

**Figure 4. DC Power Connector P7**



**1 Common (black)**

**2 Common (black)**

**3 Common (black)**

**4 +3.3 VDC (orange)**

**5 +3.3 VDC (orange)**

**6 +3.3 VDC (orange)**

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[Back to Contents Page](#)