Getting Help

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Technical Assistance

If you need help with a technical problem, Dell is ready to assist you.

> ⚠️ **CAUTION: If you need to remove the computer covers, first disconnect the computer power and modem cables from all electrical outlets.**

1. Complete the procedures in "[Solving Problems](#)."

2. Run the [Dell Diagnostics](#).

3. Make a copy of the [Diagnostics Checklist](#) and fill it out.

4. Use Dell's extensive suite of online services available at Dell Support (**support.dell.com**) for help with installation and troubleshooting procedures.

5. If the preceding steps have not resolved the problem, contact Dell.

NOTE: Call technical support from a telephone near or at the computer so that technical support can assist you with any necessary procedures.

NOTE: Dell's Express Service Code system may not be available in all countries.

When prompted by Dell's automated telephone system, enter your Express Service Code to route the call directly to the proper support personnel. If you do not have an Express Service Code, open the **Dell Accessories** folder, double-click the **Express Service Code** icon, and follow the directions.

For instructions on using the technical support service, see "[Technical Support Service](#)."

NOTE: Some of the following services are not always available in all locations outside the continental U.S. Call your local Dell representative for information on availability.

Online Services

You can access Dell Support at **support.dell.com**. Select your region on the **WELCOME TO DELL SUPPORT** page, and fill in the requested details to access help tools and information.

You can contact Dell electronically using the following addresses:

- World Wide Web

  www.dell.com/

  www.dell.com/ap/ (Asian/Pacific countries only)

  www.euro.dell.com (Europe only)

www.dell.com/la/ (Latin American countries)

www.dell.ca (Canada only)

- Anonymous file transfer protocol (FTP)

ftp.dell.com/

Log in as user: `anonymous`, and use your e-mail address as your password.

- Electronic Support Service

mobile_support@us.dell.com

support@us.dell.com

apsupport@dell.com (Asian/Pacific countries only)

support.euro.dell.com (Europe only)

- Electronic Quote Service

sales@dell.com

apmarketing@dell.com (Asian/Pacific countries only)

sales_canada@dell.com (Canada only)

- Electronic Information Service

info@dell.com

AutoTech Service

Dell's automated technical support service—AutoTech—provides recorded answers to the questions most frequently asked by Dell customers about their portable and desktop computers.

When you call AutoTech, use your touch-tone telephone to select the subjects that correspond to your questions.

The AutoTech service is available 24 hours a day, 7 days a week. You can also access this service through the technical support service. For the telephone number to call, see the contact numbers for your region.

Automated Order-Status Service

To check on the status of any Dell™ products that you have ordered, you can go to **support.dell.com**, or you can call the automated order-status service. A recording prompts you for the information needed to locate and report on your order. For the telephone number to call, see the contact numbers for your region.

Technical Support Service

Dell's technical support service is available 24 hours a day, 7 days a week, to answer your questions about Dell hardware. Our technical support staff uses computer-based diagnostics to provide fast, accurate answers.

To contact Dell's technical support service, see "Technical Assistance" and then call the number for your country as listed in "Contacting Dell."

Problems With Your Order

If you have a problem with your order, such as missing parts, wrong parts, or incorrect billing, contact Dell for customer assistance. Have your invoice or packing slip handy when you call. For the telephone number to call, see the contact numbers for your region.

Product Information

If you need information about additional products available from Dell, or if you would like to place an order, visit the Dell website at **www.dell.com**. For the telephone number to call to speak to a sales specialist, see the contact numbers for your region.

Returning Items for Warranty Repair or Credit

Prepare all items being returned, whether for repair or credit, as follows:

1. Call Dell to obtain a Return Material Authorization Number, and write it clearly and prominently on the outside of the box.

   For the telephone number to call, see the contact numbers for your region.

2. Include a copy of the invoice and a letter describing the reason for the return.

3. Include a copy of the Diagnostics Checklist indicating the tests you have run and any error messages reported by the Dell Diagnostics.

4. Include any accessories that belong with the item(s) being returned (power cables, software floppy disks, guides, and so on) if the return is for credit.

5. Pack the equipment to be returned in the original (or equivalent) packing materials.

You are responsible for paying shipping expenses. You are also responsible for insuring any product returned, and you assume the risk of loss during shipment to Dell. Collect On Delivery (C.O.D.) packages are not accepted.

Returns that are missing any of the preceding requirements will be refused at Dell's receiving dock and returned to you.

Before You Call

NOTE: Have your Express Service Code ready when you call. The code helps Dell's automated-support telephone system direct your call more efficiently.

Remember to fill out the Diagnostics Checklist. If possible, turn on your computer before you call Dell for technical assistance and call from a telephone at or near the computer. You may be asked to type some commands at the keyboard, relay detailed information during operations, or try other troubleshooting steps possible only at the computer itself. Ensure that the computer documentation is available.

⚠️ **CAUTION: Before working inside your computer, read the safety instructions in your *System Information Guide*.**

Diagnostics Checklist
Name:

Date:	
Address:	
Phone number:	
Service Tag (bar code on the back of the computer):	
Express Service Code:	
Return Material Authorization Number (if provided by Dell support technician):	
Operating system and version:	
Devices:	
Expansion cards:	
Are you connected to a network? Yes No	
Network, version, and network adapter:	
Programs and versions:	
See your operating system documentation to determine the contents of the system's start-up files. If the computer is connected to a printer, print each file. Otherwise, record the contents of each file before calling Dell.	
Error message, beep code, or diagnostic code:	
Description of problem and troubleshooting procedures you performed:	

Contacting Dell

To contact Dell electronically, you can access the following websites:

- **www.dell.com**

- **support.dell.com** (technical support)

- **premiersupport.dell.com** (technical support for educational, government, healthcare, and medium/large business customers, including Premier, Platinum, and Gold customers)

For specific web addresses for your country, find the appropriate country section in the table below.

NOTE: Toll-free numbers are for use within the country for which they are listed.

When you need to contact Dell, use the electronic addresses, telephone numbers, and codes provided in the following table. If you need assistance in determining which codes to use, contact a local or an international operator.

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Anguilla	General Support	toll-free: 800-335-0031
Antigua and Barbuda	General Support	1-800-805-5924
Argentina (Buenos Aires) International Access Code: **00** Country Code: **54** City Code: **11**	Website: **www.dell.com.ar**	
	Tech Support and Customer Care	toll-free: 0-800-444-0733
	Sales	0-810-444-3355
	Tech Support Fax	11 4515 7139
	Customer Care Fax	11 4515 7138

Aruba	General Support	toll-free: 800-1578
Australia (Sydney)	E-mail (Australia): au_tech_support@dell.com	
International Access Code: **0011**	E-mail (New Zealand): nz_tech_support@dell.com	
	Home and Small Business	1-300-65-55-33
Country Code: **61**	Government and Business	toll-free: 1-800-633-559
City Code: **2**	Preferred Accounts Division (PAD)	toll-free: 1-800-060-889
	Customer Care	toll-free: 1-800-819-339
	Corporate Sales	toll-free: 1-800-808-385
	Transaction Sales	toll-free: 1-800-808-312
	Fax	toll-free: 1-800-818-341
Austria (Vienna)	Website: **support.euro.dell.com**	
International Access Code: **900**	E-mail: tech_support_central_europe@dell.com	
	Home/Small Business Sales	0820 240 530 00
Country Code: **43**	Home/Small Business Fax	0820 240 530 49
City Code: **1**	Home/Small Business Customer Care	0820 240 530 14
	Preferred Accounts/Corporate Customer Care	0820 240 530 16
	Home/Small Business Technical Support	0820 240 530 14
	Preferred Accounts/Corporate Technical Support	0660 8779
	Switchboard	0820 240 530 00
Bahamas	General Support	toll-free: 1-866-278-6818
Barbados	General Support	1-800-534-3066
Belgium (Brussels)	Website: **support.euro.dell.com**	
International Access Code: **00**	E-mail: tech_be@dell.com	
Country Code: **32**	E-mail for French Speaking Customers: **support.euro.dell.com/be/fr/emaildell/**	
City Code: **2**	Technical Support	02 481 92 88
	Customer Care	02 481 91 19
	Corporate Sales	02 481 91 00
	Fax	02 481 92 99
	Switchboard	02 481 91 00
Bermuda	General Support	1-800-342-0671
Bolivia	General Support	toll-free: 800-10-0238
Brazil	Website: **www.dell.com/br**	
International Access Code: **00**	Customer Support, Technical Support	0800 90 3355
	Tech Support Fax	51 481 5470
Country Code: **55**	Customer Care Fax	51 481 5480
City Code: **51**	Sales	0800 90 3390
British Virgin Islands	General Support	toll-free: 1-866-278-6820
Brunei	Customer Technical Support (Penang, Malaysia)	604 633 4966
Country Code: **673**	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales (Penang, Malaysia)	604 633 4955

Canada (North York, Ontario)	Online Order Status: **www.dell.ca/ostatus**	
	AutoTech (automated technical support)	toll-free: 1-800-247-9362
International Access Code: **011**	TechFax	toll-free: 1-800-950-1329
	Customer Care (Home Sales/Small Business)	toll-free: 1-800-847-4096
	Customer Care (med./large business, government)	toll-free: 1-800-326-9463
	Technical Support (Home Sales/Small Business)	toll-free: 1-800-847-4096
	Technical Support (med./large bus., government)	toll-free: 1-800-387-5757
	Sales (Home Sales/Small Business)	toll-free: 1-800-387-5752
	Sales (med./large bus., government)	toll-free: 1-800-387-5755
	Spare Parts Sales & Extended Service Sales	1 866 440 3355
Cayman Islands	General Support	1-800-805-7541
Chile (Santiago) Country Code: **56** City Code: **2**	Sales, Customer Support, and Technical Support	toll-free: 1230-020-4823
China (Xiamen)	Tech Support website: **support.ap.dell.com/china**	
Country Code: **86**	Tech Support E-mail: cn_support@dell.com	
City Code: **592**	Tech Support Fax	818 1350
	Home and Small Business Technical Support	toll-free: 800 858 2437
	Corporate Accounts Technical Support	toll-free: 800 858 2333
	Customer Experience	toll-free: 800 858 2060
	Home and Small Business	toll-free: 800 858 2222
	Preferred Accounts Division	toll-free: 800 858 2062
	Large Corporate Accounts GCP	toll-free: 800 858 2055
	Large Corporate Accounts Key Accounts	toll-free: 800 858 2628
	Large Corporate Accounts North	toll-free: 800 858 2999
	Large Corporate Accounts North Government and Education	toll-free: 800 858 2955
	Large Corporate Accounts East	toll-free: 800 858 2020
	Large Corporate Accounts East Government and Education	toll-free: 800 858 2669
	Large Corporate Accounts Queue Team	toll-free: 800 858 2572
	Large Corporate Accounts South	toll-free: 800 858 2355
	Large Corporate Accounts West	toll-free: 800 858 2811
	Large Corporate Accounts Spare Parts	toll-free: 800 858 2621
Colombia	General Support	980-9-15-3978
Costa Rica	General Support	0800-012-0435
Czech Republic (Prague)	Website: **support.euro.dell.com**	
	E-mail: czech_dell@dell.com	
International Access Code: **00**	Technical Support	02 2186 27 27
	Customer Care	02 2186 27 11
Country Code: **420**	Fax	02 2186 27 14
City Code: **2**	TechFax	02 2186 27 28

	Switchboard	02 2186 27 11
Denmark (Copenhagen) International Access Code: **00** Country Code: **45**	Website: **support.euro.dell.com**	
	E-mail Support (portable computers): den_nbk_support@dell.com	
	E-mail Support (desktop computers): den_support@dell.com	
	E-mail Support (servers): Nordic_server_support@dell.com	
	Technical Support	7023 0182
	Customer Care (Relational)	7023 0184
	Home/Small Business Customer Care	3287 5505
	Switchboard (Relational)	3287 1200
	Fax Switchboard (Relational)	3287 1201
	Switchboard (Home/Small Business)	3287 5000
	Fax Switchboard (Home/Small Business)	3287 5001
Dominica	General Support	toll-free: 1-866-278-6821
Dominican Republic	General Support	1-800-148-0530
Ecuador	General Support	toll-free: 999-119
El Salvador	General Support	01-899-753-0777
Finland (Helsinki) International Access Code: **990** Country Code: **358** City Code: **9**	Website: **support.euro.dell.com**	
	E-mail: fin_support@dell.com	
	E-mail Support (servers): Nordic_support@dell.com	
	Technical Support	09 253 313 60
	Technical Support Fax	09 253 313 81
	Relational Customer Care	09 253 313 38
	Home/Small Business Customer Care	09 693 791 94
	Fax	09 253 313 99
	Switchboard	09 253 313 00
France (Paris) (Montpellier) International Access Code: **00** Country Code: **33** City Codes: **(1) (4)**	Website: **support.euro.dell.com**	
	E-mail: **support.euro.dell.com/fr/fr/emaildell/**	
	Home and Small Business	
	Technical Support	0825 387 270
	Customer Care	0825 823 833
	Switchboard	0825 004 700
	Switchboard (calls from outside of France)	04 99 75 40 00
	Sales	0825 004 700
	Fax	0825 004 701
	Fax (calls from outside of France)	04 99 75 40 01
	Corporate	
	Technical Support	0825 004 719
	Customer Care	0825 338 339
	Switchboard	01 55 94 71 00

	Sales	01 55 94 71 00
	Fax	01 55 94 71 01
Germany (Langen) International Access Code: **00** Country Code: **49** City Code: **6103**	Website: **support.euro.dell.com**	
	E-mail: tech_support_central_europe@dell.com	
	Technical Support	06103 766-7200
	Home/Small Business Customer Care	0180-5-224400
	Global Segment Customer Care	06103 766-9570
	Preferred Accounts Customer Care	06103 766-9420
	Large Accounts Customer Care	06103 766-9560
	Public Accounts Customer Care	06103 766-9555
	Switchboard	06103 766-7000
Greece International Access Code: 00 Country Code: 30	Website: **support.euro.dell.com**	
	E-mail: support.euro.dell.com/gr/en/emaildell/	
	Technical Support	080044149518
	Gold Technical Support	08844140083
	Switchboard	2108129800
	Sales	2108129800
	Fax	2108129812
Grenada	General Support	toll-free: 1-866-540-3355
Guatemala	General Support	1-800-999-0136
Guyana	General Support	toll-free: 1-877-270-4609
Hong Kong International Access Code: **001** Country Code: **852**	Website: **support.ap.dell.com**	
	E-mail: ap_support@dell.com	
	Technical Support (Dimension™ and Inspiron™)	296 93188
	Technical Support (OptiPlex™, Latitude™, and Dell Precision™)	296 93191
	Customer Service (non-technical, post-sales issues)	800 93 8291
	Transaction Sales	toll-free: 800 96 4109
	Large Corporate Accounts HK	toll-free: 800 96 4108
	Large Corporate Accounts GCP HK	toll-free: 800 90 3708
India	Technical Support	1600 33 8045
	Sales	1600 33 8044
Ireland (Cherrywood) International Access Code: **16** Country Code: **353** City Code: **1**	Website: **support.euro.dell.com**	
	E-mail: dell_direct_support@dell.com	
	Ireland Technical Support	1850 543 543
	U.K. Technical Support (dial within U.K. only)	0870 908 0800
	Home User Customer Care	01 204 4014
	Small Business Customer Care	01 204 4014
	U.K. Customer Care (dial within U.K. only)	0870 906 0010
	Corporate Customer Care	1850 200 982
	Corporate Customer Care (dial within U.K. only)	0870 907 4499

	Ireland Sales	01 204 4444
	U.K. Sales (dial within U.K. only)	0870 907 4000
	Fax/SalesFax	01 204 0103
	Switchboard	01 204 4444
Italy (Milan) International Access Code: **00** Country Code: **39** City Code: **02**	Website: **support.euro.dell.com**	
	E-mail: **support.euro.dell.com/it/it/emaildell/**	
	Home and Small Business	
	Technical Support	02 577 826 90
	Customer Care	02 696 821 14
	Fax	02 696 821 13
	Switchboard	02 696 821 12
	Corporate	
	Technical Support	02 577 826 90
	Customer Care	02 577 825 55
	Fax	02 575 035 30
	Switchboard	02 577 821
Jamaica	General Support (dial from within Jamaica only)	1-800-682-3639
Japan (Kawasaki) International Access Code: **001** Country Code: **81** City Code: **44**	Website: **support.jp.dell.com**	
	Technical Support (servers)	toll-free: 0120-198-498
	Technical Support outside of Japan (servers)	81-44-556-4162
	Technical Support (Dimension™ and Inspiron™)	toll-free: 0120-198-226
	Technical Support outside of Japan (Dimension and Inspiron)	81-44-520-1435
	Technical Support (Dell Precision™, OptiPlex™, and Latitude™)	toll-free:0120-198-433
	Technical Support outside of Japan (Dell Precision, OptiPlex, and Latitude)	81-44-556-3894
	Faxbox Service	044-556-3490
	24-Hour Automated Order Service	044-556-3801
	Customer Care	044-556-4240
	Business Sales Division (up to 400 employees)	044-556-1465
	Preferred Accounts Division Sales (over 400 employees)	044-556-3433
	Large Corporate Accounts Sales (over 3500 employees)	044-556-3430
	Public Sales (government agencies, educational institutions, and medical institutions)	044-556-1469
	Global Segment Japan	044-556-3469
	Individual User	044-556-1760
	Switchboard	044-556-4300
Korea (Seoul) International Access Code: **001** Country Code: **82**	Technical Support	toll-free: 080-200-3800
	Sales	toll-free: 080-200-3600
	Customer Service (Seoul, Korea)	toll-free: 080-200-3800
	Customer Service (Penang, Malaysia)	604 633 4949

City Code: **2**	Fax	2194-6202
	Switchboard	2194-6000
Latin America	Customer Technical Support (Austin, Texas, U.S.A.)	512 728-4093
	Customer Service (Austin, Texas, U.S.A.)	512 728-3619
	Fax (Technical Support and Customer Service) (Austin, Texas, U.S.A.)	512 728-3883
	Sales (Austin, Texas, U.S.A.)	512 728-4397
	SalesFax (Austin, Texas, U.S.A.)	512 728-4600
		or 512 728-3772
Luxembourg	Website: **support.euro.dell.com**	
International Access Code: **00**	E-mail: tech_be@dell.com	
	Technical Support (Brussels, Belgium)	3420808075
Country Code: **352**	Home/Small Business Sales (Brussels, Belgium)	toll-free: 080016884
	Corporate Sales (Brussels, Belgium)	02 481 91 00
	Customer Care (Brussels, Belgium)	02 481 91 19
	Fax (Brussels, Belgium)	02 481 92 99
	Switchboard (Brussels, Belgium)	02 481 91 00
Macao	Technical Support	toll-free: 0800 582
Country Code: **853**	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales	toll-free: 0800 581
Malaysia (Penang)	Technical Support	toll-free: 1 800 888 298
International Access Code: **00**	Customer Service	04 633 4949
	Transaction Sales	toll-free: 1 800 888 202
Country Code: **60**	Corporate Sales	toll-free: 1 800 888 213
City Code: **4**		
Mexico	Customer Technical Support	001-877-384-8979
International Access Code: **00**		or 001-877-269-3383
	Sales	50-81-8800
Country Code: **52**		or 01-800-888-3355
	Customer Service	001-877-384-8979
		or 001-877-269-3383
	Main	50-81-8800
		or 01-800-888-3355
Montserrat	General Support	toll-free: 1-866-278-6822
Netherlands Antilles	General Support	001-800-882-1519
Netherlands (Amsterdam)	Website: **support.euro.dell.com**	
	E-mail (Technical Support):	
International Access Code: **00**	(Enterprise): nl_server_support@dell.com	
Country Code: **31**	(Latitude): nl_latitude_support@dell.com	
City Code: **20**	(Inspiron): nl_inspiron_support@dell.com	

	(Dimension): nl_dimension_support@dell.com	
	(OptiPlex): nl_optiplex_support@dell.com	
	(Dell Precision): nl_workstation_support@dell.com	
	Technical Support	020 674 45 00
	Technical Support Fax	020 674 47 66
	Home/Small Business Customer Care	020 674 42 00
	Relational Customer Care	020 674 4325
	Home/Small Business Sales	020 674 55 00
	Relational Sales	020 674 50 00
	Home/Small Business Sales Fax	020 674 47 75
	Relational Sales Fax	020 674 47 50
	Switchboard	020 674 50 00
	Switchboard Fax	020 674 47 50
New Zealand International Access Code: **00** Country Code: **64**	E-mail (New Zealand): nz_tech_support@dell.com	
	E-mail (Australia): au_tech_support@dell.com	
	Home and Small Business	0800 446 255
	Government and Business	0800 444 617
	Sales	0800 441 567
	Fax	0800 441 566
Nicaragua	General Support	001-800-220-1006
Norway (Lysaker) International Access Code: **00** Country Code: **47**	Website: **support.euro.dell.com**	
	E-mail Support (portable computers): nor_nbk_support@dell.com	
	E-mail Support (desktop computers): nor_support@dell.com	
	E-mail Support (servers): nordic_server_support@dell.com	
	Technical Support	671 16882
	Relational Customer Care	671 17514
	Home/Small Business Customer Care	23162298
	Switchboard	671 16800
	Fax Switchboard	671 16865
Panama	General Support	001-800-507-0962
Peru	General Support	0800-50-669
Poland (Warsaw) International Access Code: **011** Country Code: **48** City Code: **22**	Website: **support.euro.dell.com**	
	E-mail: pl_support@dell.com	
	Customer Service Phone	57 95 700
	Customer Care	57 95 999
	Sales	57 95 999
	Customer Service Fax	57 95 806

	Reception Desk Fax	57 95 998
	Switchboard	57 95 999
Portugal International Access Code: **00** Country Code: **351**	Website: **support.euro.dell.com**	
	E-mail: **support.euro.dell.com/pt/en/emaildell/**	
	Technical Support	707200149
	Customer Care	800 300 413
	Sales	800 300 410 or 800 300 411 or 800 300 412 or 21 422 07 10
	Fax	21 424 01 12
Puerto Rico	General Support	1-800-805-7545
St. Kitts and Nevis	General Support	toll-free: 1-877-441-4731
St. Lucia	General Support	1-800-882-1521
St. Vincent and the Grenadines	General Support	toll-free: 1-877-270-4609
Singapore (Singapore) International Access Code: **005** Country Code: **65**	Technical Support	toll-free: 800 6011 051
	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales	toll-free: 800 6011 054
	Corporate Sales	toll-free: 800 6011 053
South Africa (Johannesburg) International Access Code: **09/091** Country Code: **27** City Code: **11**	Website: **support.euro.dell.com**	
	E-mail: dell_za_support@dell.com	
	Technical Support	011 709 7710
	Customer Care	011 709 7707
	Sales	011 709 7700
	Fax	011 706 0495
	Switchboard	011 709 7700
Southeast Asian and Pacific Countries	Customer Technical Support, Customer Service, and Sales (Penang, Malaysia)	604 633 4810
Spain (Madrid) International Access Code: **00** Country Code: **34** City Code: **91**	Website: **support.euro.dell.com**	
	E-mail: **support.euro.dell.com/es/es/emaildell/**	
	Home and Small Business	
	Technical Support	902 100 130
	Customer Care	902 118 540
	Sales	902 118 541
	Switchboard	902 118 541
	Fax	902 118 539
	Corporate	
	Technical Support	902 100 130
	Customer Care	902 118 546
	Switchboard	91 722 92 00
	Fax	91 722 95 83
Sweden (Upplands Vasby)	Website: **support.euro.dell.com**	
	E-mail: swe_support@dell.com	

International Access Code: **00** Country Code: **46** City Code: **8**	E-mail Support for Latitude and Inspiron: Swe-nbk_kats@dell.com	
	E-mail Support for OptiPlex: Swe_kats@dell.com	
	E-mail Support for Servers: Nordic_server_support@dell.com	
	Technical Support	08 590 05 199
	Relational Customer Care	08 590 05 642
	Home/Small Business Customer Care	08 587 70 527
	Employee Purchase Program (EPP) Support	20 140 14 44
	Fax Technical Support	08 590 05 594
	Sales	08 590 05 185
Switzerland (Geneva) International Access Code: **00** Country Code: **41** City Code: **22**	Website: **support.euro.dell.com**	
	E-mail: swisstech@dell.com	
	E-mail for French-speaking HSB and Corporate Customers: **support.euro.dell.com/ch/fr/emaildell/**	
	Technical Support (Home and Small Business)	0844 811 411
	Technical Support (Corporate)	0844 822 844
	Customer Care (Home and Small Business)	0848 802 202
	Customer Care (Corporate)	0848 821 721
	Fax	022 799 01 90
	Switchboard	022 799 01 01
Taiwan International Access Code: **002** Country Code: **886**	Technical Support (portable and desktop computers)	toll-free: 00801 86 1011
	Technical Support (servers)	toll-free: 0080 60 1256
	Transaction Sales	toll-free: 0080 651 228 or 0800 33 556
	Corporate Sales	toll-free: 0080 651 227 or 0800 33 555
Thailand International Access Code: **001** Country Code: **66**	Technical Support	toll-free: 0880 060 07
	Customer Service (Penang, Malaysia)	604 633 4949
	Sales	toll-free: 0880 060 09
Trinidad/Tobago	General Support	1-800-805-8035
Turks and Caicos Islands	General Support	toll-free: 1-866-540-3355
U.K. (Bracknell) International Access Code: **00** Country Code: **44** City Code: **1344**	Website: **support.euro.dell.com**	
	Customer Care website: **support.euro.dell.com/uk/en/ECare/Form/Home.asp**	
	E-mail: dell_direct_support@dell.com	
	Technical Support (Corporate/Preferred Accounts/PAD [1000+ employees])	0870 908 0500
	Technical Support (direct/PAD and general)	0870 908 0800
	Global Accounts Customer Care	01344 373 186

	Home and Small Business Customer Care	0870 906 0010
	Corporate Customer Care	01344 373 185
	Preferred Accounts (500–5000 employees) Customer Care	0870 906 0010
	Central Government Customer Care	01344 373 193
	Local Government & Education Customer Care	01344 373 199
	Health Customer Care	01344 373 194
	Home and Small Business Sales	0870 907 4000
	Corporate/Public Sector Sales	01344 860 456
Uruguay	General Support	toll-free: 000-413-598-2521
U.S.A. (Austin, Texas) International Access Code: **011** Country Code: **1**	Automated Order-Status Service	toll-free: 1-800-433-9014
	AutoTech (portable and desktop computers)	toll-free: 1-800-247-9362
	Consumer (Home and Home Office)	
	Technical Support	toll-free: 1-800-624-9896
	Customer Service	toll-free: 1-800-624-9897
	DellNet™ Service and Support	toll-free: 1-877-Dellnet (1-877-335-5638)
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Financial Services website: **www.dellfinancialservices.com**	
	Financial Services (lease/loans)	toll-free: 1-877-577-3355
	Financial Services (Dell Preferred Accounts [DPA])	toll-free: 1-800-283-2210
	Business	
	Customer Service and Technical Support	toll-free: 1-800-822-8965
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Projectors Technical Support	toll-free: 1-877-459-7298
	Public (government, education, and healthcare)	
	Customer Service and Technical Support	toll-free: 1-800-456-3355
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-234-1490
	Dell Sales	toll-free: 1-800-289-3355 or toll-free: 1-800-879-3355
	Dell Outlet Store (Dell refurbished computers)	toll-free: 1-888-798-7561
	Software and Peripherals Sales	toll-free: 1-800-671-3355
	Spare Parts Sales	toll-free: 1-800-357-3355
	Extended Service and Warranty Sales	toll-free: 1-800-247-4618
	Fax	toll-free: 1-800-727-8320
	Dell Services for the Deaf, Hard-of-Hearing, or Speech-Impaired	toll-free: 1-877-DELLTTY (1-877-335-5889)
U.S. Virgin Islands	General Support	1-877-673-3355
Venezuela	General Support	8001-3605

Solving Problems

- Power Problems
- Error Messages
- Video and Display Problems
- Sound and Speaker Problems
- Printer Problems
- Modem and Internet Connection Problems
- Touch Pad or Mouse Problems
- External Keyboard Problems
- Unexpected Characters

- Drive Problems
- PC Card Problems
- Smart Card Problems
- Network Problems
- General Program Problems
- If Your Dell™ Computer Gets Wet
- If You Drop or Damage Your Computer
- Resolving Other Technical Problems

Power Problems

Fill out the Diagnostics Checklist as you complete these checks.

Check the power light — When the power light is lit or blinking, the computer has power. If the power light is blinking, the computer is in standby mode—press the power button to exit standby mode. If the light is off, press the power button to turn on the computer or to exit hibernate mode.

Charge the battery — The battery charge may be depleted.

1. Reinstall the battery.
2. Use the AC adapter to connect the computer to an electrical outlet.
3. Turn on the computer.

Check the battery status light — If the battery status light flashes orange or is a steady orange the battery charge is low or depleted. Connect the computer to an electrical outlet.

If the battery status light flashes green and orange, the battery is too warm to charge. Shut down the computer, disconnect the computer from the electrical outlet, and then let the battery and computer cool to room temperature.

If the battery status light rapidly flashes orange, the battery may be defective. Contact Dell.

Test the electrical outlet — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Check the AC adapter — Check the AC adapter cable connections. If the AC adapter has a light, ensure that the light is on.

Connect the computer directly to an electrical outlet — Bypass power protection devices, power strips, and the extension cable to verify that the computer turns on.

Eliminate possible interference — Turn off nearby fans, fluorescent lights, halogen lamps, or other appliances.

Adjust the power properties — See "Power Management."

Reseat the memory modules — If the computer power light turns on but the display remains blank, reseat the memory modules.

Error Messages

If the message is not listed, see the documentation for the operating system or the program that was running at the time the message appeared.

Auxiliary device failure — The touch pad, track stick, or external mouse may be faulty. For an external mouse, check the cable connection. Enable the **Pointing Device** option in the system setup program. If the problem persists, contact Dell.

Bad command or file name — Ensure that you have spelled the command correctly, put spaces in the proper place, and used the correct pathname.

Cache disabled due to failure — The primary cache internal to the microprocessor has failed. Contact Dell.

CD drive controller failure — The CD drive does not respond to commands from the computer. See "Drive Problems."

Data error — The floppy or hard drive cannot read the data. See "Drive Problems."

Decreasing available memory — One or more memory modules may be faulty or improperly seated. Reseat the memory modules and, if necessary, replace them.

Disk C: failed initialization — The hard drive failed initialization. Run the Hard-Disk Drive tests as described in "Using the Dell Diagnostics."

Floppy drive 0 seek failure — The system configuration information may not match the hardware configuration. Run the Diskette tests as described in "Using the Dell Diagnostics."

Diskette read failure — The floppy disk may be defective. If the drive access light turns on, try a different disk. See "Drive Problems."

Diskette subsystem reset failed — The floppy drive controller may be faulty. Run the Diskette tests as described in "Using the Dell Diagnostics."

Diskette write-protected — Because the floppy disk is write-protected, the operation cannot be completed. Slide the write-protect notch.

Drive not ready — The operation requires a floppy disk in the drive or a hard drive in the bay before it can continue. Insert a floppy disk, or push the floppy disk all the way into the drive until the eject button pops out. Or, install a hard drive in the hard drive bay.

Error reading PCMCIA card — The computer cannot identify the PC Card. Reinsert the card or try another PC Card.

Extended memory size has changed — The amount of memory recorded in NVRAM does not match the memory installed in the computer. Restart the computer. If the error appears again, contact Dell.

Gate A20 failure — A memory module may be loose. Reinstall the memory modules and, if necessary, replace them.

General failure — The operating system is unable to carry out the command. The message is usually followed by specific information—for example, `Printer out of paper`. Take the appropriate action.

Hard-disk drive configuration error — The computer cannot identify the drive type. Turn off the computer,

remove the hard drive, and boot the computer from a bootable floppy disk or CD. Then turn off the computer, reinstall the hard drive, and restart the computer. Run the Hard-Disk Drive tests as described in "Using the Dell Diagnostics."

Hard-disk drive controller failure 0 — The hard drive does not respond to commands from the computer. Turn off the computer, remove the hard drive, and boot the computer from a bootable floppy disk or CD. Then turn off the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the Hard-Disk Drive tests as described in "Using the Dell Diagnostics."

Hard-disk drive failure — The hard drive does not respond to commands from the computer. Turn off the computer, remove the hard drive, and boot the computer from a bootable floppy disk or CD. Then turn off the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the Hard-Disk Drive tests as described in "Using the Dell Diagnostics."

Hard-disk drive read failure — The hard drive may be defective. Turn off the computer, remove the hard drive, and boot the computer from a bootable floppy disk or CD. Then turn off the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the Hard-Disk Drive tests as described in "Using the Dell Diagnostics."

Insert bootable media — The operating system is trying to boot to a nonbootable floppy disk or CD. Insert a bootable floppy disk or CD.

Invalid configuration information-please run System Setup Program — The system configuration information does not match the hardware configuration. The message is most likely to occur after a memory module is installed. Correct the appropriate options in the system setup program. See "Using the System Setup Program."

Keyboard clock line failure — For external keyboards, check the cable connection. Run the Keyboard Controller test as described in "Using the Dell Diagnostics."

Keyboard controller failure — For external keyboards, check the cable connection. Restart the computer, and avoid touching the keyboard or the mouse during the boot routine. Run the Keyboard Controller test as described in "Using the Dell Diagnostics."

Keyboard data line failure — For external keyboards, check the cable connection. Run the Keyboard Controller test as described in "Using the Dell Diagnostics."

Keyboard stuck key failure — For external keyboards or keypads, check the cable connection. Restart the computer, and avoid touching the keyboard or keys during the boot routine. Run the Stuck Key test as described in "Using the Dell Diagnostics."

Memory address line failure at address, read value expecting value — A memory module may be faulty or improperly seated. Reinstall the memory modules and, if necessary, replace them.

Memory allocation error — The software you are attempting to run is conflicting with the operating system, another program, or a utility. Turn off the computer, wait 30 seconds, and then restart it. Try to run the program again. If the error message still appears, see the software documentation.

Memory data line failure at address, read value expecting value — A memory module may be faulty or improperly seated. Reinstall the memory modules and, if necessary, replace them.

Memory double word logic failure at address, read value expecting value — A memory module may be faulty or improperly seated. Reinstall the memory modules and, if necessary, replace them.

Memory odd/even logic failure at address, read value expecting value — A memory module may be faulty or improperly seated. Reinstall the memory modules and, if necessary, replace them.

Memory write/read failure at address, read value expecting value — A memory module may be faulty or improperly seated. Reinstall the memory modules and, if necessary, replace them.

No boot device available — The computer cannot find the floppy disk or hard drive. If the floppy drive is your boot device, ensure that a bootable floppy disk is in the drive. If the hard drive is your boot device, ensure that the drive is installed, properly seated, and partitioned as a boot device.

No boot sector on hard drive — The operating system may be corrupted. Contact Dell.

No timer tick interrupt — A chip on the system board may be malfunctioning. Run the System Set tests as described in "Using the Dell Diagnostics."

Non-system disk or disk error — A floppy disk is in the floppy drive. Remove the floppy disk and restart the computer.

Not a boot diskette — The operating system is trying to boot to a nonbootable floppy disk. Insert a bootable floppy disk.

Operating system not found — Contact Dell.

Optional ROM bad checksum — The optional ROM apparently failed. Contact Dell.

A required .DLL file was not found — The program that you are trying to open is missing an essential file. Remove and then reinstall the program.

Microsoft® Windows® XP

1. Click the **Start** button and click **Control Panel**.
2. Click **Add or Remove Programs**.
3. Select the program you want to remove.
4. Click **Remove** or **Change/Remove** and follow the prompts on the screen.
5. See the program documentation for installation instructions.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click the **Add/Remove Programs** icon.
3. Select the program that you want to remove.
4. Click **Change or Remove Programs**.
5. See the program documentation for installation instructions.

Sector not found — The operating system cannot locate a sector on the floppy or hard drive. You may have a defective sector or corrupted FAT on the floppy disk or hard drive. Run the Windows error-checking utility to check the file structure on the floppy disk or hard drive. See the Windows Help and Support Center (*Help* in Windows 2000) for instructions. If a large number of sectors are defective, back up the data (if possible), and then reformat the floppy disk or hard drive.

Seek error — The operating system cannot find a specific track on the floppy disk or hard drive. If the error is on the floppy disk, try another floppy disk.

Shutdown failure — A chip on the system board may be malfunctioning. Run the System Set tests as described in "Using the Dell Diagnostics."

Time-of-day clock lost power — System configuration settings are corrupted. Connect your computer to an electrical outlet to charge the battery. If the problem persists, try to restore the data by entering the system setup program. Then immediately exit the program. See "Using the System Setup Program." If the message reappears, contact Dell.

Time-of-day clock stopped — The reserve battery that supports the system configuration settings may require recharging. Connect your computer to an electrical outlet to charge the battery. If the problem persists, contact Dell.

Time-of-day not set-please run the System Setup program — The time or date stored in the system setup program does not match the system clock. Correct the settings for the **Date** and **Time** options. See

"Using the System Setup Program."

Timer chip counter 2 failed — A chip on the system board may be malfunctioning. Run the System Set tests as described in "Using the Dell Diagnostics."
Unexpected interrupt in protected mode — The keyboard controller may be malfunctioning, or a memory module may be loose. Run the System Memory tests and the Keyboard Controller test as described in "Using the Dell Diagnostics."
x:\ is not accessible. The device is not ready — Insert a disk into the drive and try again.
Warning: Battery is critically low — The battery is running out of charge. Replace the battery, or connect the computer to an electrical outlet. Otherwise, activate hibernate mode or turn off the computer.

Video and Display Problems

Fill out the Diagnostics Checklist as you complete these checks.

If the display is blank

NOTE: If you are using a program that requires a higher resolution than your computer supports, it is recommended that you attach an external monitor to your computer.

Check the battery — If you are using a battery to power your computer, the battery charge may be depleted. Connect the computer to an electrical outlet using the AC adapter, and turn on the computer.
Test the electrical outlet — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.
Check the AC adapter — Check the AC adapter cable connections. If the AC adapter has a light, ensure that the light is on.
Connect the computer directly to an electrical outlet — Bypass power protection devices, power strips, and the extension cable to verify that the computer turns on.
Adjust the power properties — Search for the keyword *standby* in Windows *Help* or the Windows Help and Support Center.
Switch the video image — If your computer is attached to an external monitor, press ⌨Fn ⌨F8 CRT/LCD to switch the video image to the display.

If the display is difficult to read

Adjust the brightness — See "Adjusting Brightness" for instructions on adjusting the brightness.
Move the subwoofer away from the computer or monitor — If your external speaker system includes a subwoofer, ensure that the subwoofer is at least 60 cm (2 ft) away from the computer or external monitor.
Eliminate possible interference — Turn off nearby fans, fluorescent lights, halogen lamps, or other appliances.

Rotate the computer to face a different direction — Eliminate sunlight glare, which can cause poor picture quality.

Adjust the Windows display settings —

Windows XP

1. Click the **Start** button and then click **Control Panel**.
2. Click **Appearance and Themes**.
3. Click the area you want to change or click the **Display** icon.
4. Try different settings for **Color quality** and **Screen resolution**.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click the **Display** icon and click the **Settings** tab.
3. Try different settings for **Colors**, **Screen area**, and **Advanced Settings**.

Run the Video diagnostics tests — If no error message appears and you still have a display problem, but the display is not completely blank, run the **Video** device group in the Dell Diagnostics. Then contact Dell.

See "Error Messages" — If an error message appears, see "Error Messages."

If only part of the display is readable

Connect an external monitor —

1. Shut down your computer and connect an external monitor to the computer.
2. Turn on the computer and the monitor and adjust the monitor brightness and contrast controls.

If the external monitor works, the computer display or video controller may be defective. Contact Dell.

Sound and Speaker Problems

Fill out the Diagnostics Checklist as you complete these checks.

If you have a problem with the integrated speaker

Adjust the Windows volume control — Double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted. Adjust the volume, bass, or treble controls to eliminate distortion.

Adjust the volume using keyboard shortcuts — See "Using the Keyboard and Touch Pad." Press ![Fn] ![End MK] to disable (mute) or reenable the integrated speaker.

Reinstall the sound (audio) driver — See "Reinstalling Drivers and Utilities."

For Windows 2000 only, ensure that digital audio for the CD drive is enabled —

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.

2. Double-click the **System** icon.
3. Click the **Hardware** tab.
4. Click **Device Manager**.
5. Double-click **DVD/CD-ROM drives**.
6. Double-click the name of the drive.
7. On the drive **Properties** screen, click the **Properties** tab.
8. Click the box near the bottom of the screen to enable digital audio for your CD or DVD drive.

If you have a problem with external speakers

NOTE: The volume control in some MP3 players overrides the Windows volume setting. If you have been listening to MP3 songs, make sure that you did not turn the player volume down or off.

Check the speaker cable connections — See the setup diagram supplied with the speakers.

Test the electrical outlet — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Ensure that the speakers are turned on — See the setup diagram supplied with the speakers.

Adjust the Windows volume control — Double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted. Adjust the volume, bass, or treble controls to eliminate distortion.

Test the speakers — Plug the speaker audio cable into the 🎧 connector on the computer. Ensure that the headphone volume control is turned up. Play a music CD.

Run the speaker self-test — Some speaker systems have a self-test button on the subwoofer. See the speaker documentation for self-test instructions.

Eliminate possible interference — Turn off nearby fans, fluorescent lights, or halogen lamps to check for interference.

Reinstall the sound (audio) driver — See "Reinstalling Drivers and Utilities."

Run the Misc. PCI Devices diagnostic test — See "Using the Dell Diagnostics." If the tests complete successfully, the controller is functioning properly.

If the problem persists, or if the tests do not complete successfully, contact Dell.

For Windows 2000 only, ensure that digital audio for the CD drive is enabled —

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click the **System** icon.
3. Click the **Hardware** tab.
4. Click **Device Manager**.
5. Double-click **DVD/CD-ROM drives**.
6. Double-click the name of the drive.
7. On the drive **Properties** screen, click the **Properties** tab.
8. Click the box near the bottom of the screen to enable digital audio for your CD or DVD drive.

Printer Problems

Fill out the Diagnostics Checklist as you perform the various checks.

Check the printer cable connections — Ensure that the printer cable is properly connected to the computer.

Check the printer cable —

1. Shut down the computer and turn off the printer.
2. Swap the printer cable with a cable that you know is working.
3. Turn on the printer and computer, and try again to print.
4. If you print successfully, contact Dell for assistance in obtaining a new printer cable.

Test the electrical outlet — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Ensure that the printer is turned on — See the documentation supplied with the printer.

Verify that Windows recognizes the printer —

Windows XP

1. Click the **Start** button and click **Control Panel**.
2. Click **Printers and Other Hardware**.
3. Click **View installed printers or fax printers**. If the printer model is listed, right-click the printer icon.
4. Click **Properties** and click the **Ports** tab. Ensure that the **Print to the following port(s):** setting is **LPT1 (Printer Port)**.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Printers**.

   If the printer model is listed, right-click the printer icon.

2. Click **Properties** and click the **Ports** tab.
3. Ensure that the **Print to the following port:** option is set to **USB.**

Reinstall the printer driver — See "Reinstalling Drivers and Utilities."

Check the printer — Run the printer self-test. If the test does not complete successfully, the printer is probably defective. Contact the printer manufacturer.

Modem and Internet Connection Problems

NOTICE: Connect the modem to an analog telephone wall jack only. Connecting the modem to a digital telephone network may damage the modem.

NOTICE: Modem and network connectors look similar. Do not plug a telephone line into the network connector.

Fill out the Diagnostics Checklist as you complete these checks.

NOTE: If you can connect to your Internet service provider (ISP), your modem is functioning properly. If you are sure that your modem is working properly and you still experience problems, contact your ISP.

Check the telephone wall jack — Disconnect the telephone line from the modem and connect it to a telephone. Listen for a dial tone. Ensure that you have touchtone telephone service. Try connecting the modem to a different telephone wall jack.

Slow connection speeds can be caused by telephone noise as well as by telephone line or network conditions. Contact your telephone company or network administrator for more information.

Connect the modem directly to the telephone wall jack — If you have other telephone devices sharing the line, such as an answering machine, fax machine, surge protector, or line splitter, then bypass them and use the telephone line to connect the modem directly to the telephone wall jack.

Check the connection — Verify that the telephone line is connected to the modem.

Check the telephone line — Try using a different telephone line. If you are using a line that is 3 m (10 ft) or more in length, try a shorter one.

Irregular dial tone — If you have voice mail service, you might hear an irregular dial tone when you have messages. Contact your telephone company for instructions on restoring a dial tone.

Turn off call waiting (catch-phone) — See your telephone directory for instructions on deactivating this feature. Then adjust the dial-up networking connection properties.

Windows XP

1. Click the **Start** button and click **Control Panel**.
2. Click **Printers and Other Hardware**, click **Phone and Modem Options**, click the **Dialing Rules** tab, and then click **Edit...**.
3. In the **Edit Location** window, ensure that **To disable call waiting, dial:** is checked, and then select the proper code as listed in your telephone directory.
4. Click **Apply** and click **OK**.
5. Close the **Phone and Modems Options** window.
6. Close the **Control Panel** window.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Click **Phone and Modem Options**.
3. Click the **Dialing Rules** tab and click **Edit**.
4. Ensure that **To disable call waiting, dial:** is checked, and then select the proper code as listed in your telephone directory.
5. Click **Apply** and click **OK**.
6. Close the **Phone and Modem Options** window.

Verify that the modem is communicating with Windows —

Windows XP

1. Click the **Start** button and click **Control Panel**.
2. Click **Printers and Other Hardware** and click **Phone and Modem Options**.
3. Click the **Modems** tab.
4. Click the COM port for your modem.
5. Click **Properties**, click the **Diagnostics** tab, and then click **Query Modem** to verify that the modem is communicating with Windows.

If all commands receive responses, the modem is operating properly.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click **Phone and Modem Options**.

   If multiple entries for the same modem or modems are listed but not installed, delete the entries, restart the computer, and repeat steps 1 and 2.

3. Click the **Modems** tab.
4. Click the COM port for your modem.
5. Click **Properties**, click the **Diagnostics** tab, and then click **Query Modem** to verify that the modem is communicating with Windows.

If all commands receive responses, the modem is operating properly.

Touch Pad or Mouse Problems

Fill out the Diagnostics Checklist as you perform the various checks.

Check the touch pad settings —

Windows XP

1. Click the **Start** button, click **Control Panel**, and then click **Printers and Other Hardware**.
2. Click **Mouse**.
3. Try adjusting the settings.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel.**
2. Double-click the **Mouse** icon.
3. Try adjusting the settings.

Check the mouse cable — Shut down the computer. Disconnect the mouse cable, check it for damage, and firmly reconnect the cable.

If you are using a mouse extension cable, disconnect it and connect the mouse directly to the computer.

To verify that the problem is with the mouse, check the touch pad —

1. Shut down the computer.
2. Disconnect the mouse.
3. Turn on the computer.
4. At the Windows desktop, use the touch pad to move the cursor around, select an icon, and open it.

If the touch pad operates correctly, the mouse may be defective.

Check the system setup program settings — Verify that the system setup program lists the correct device for the pointing device option. (The computer automatically recognizes a USB mouse without making any setting adjustments.)

Test the mouse controller — To test the mouse controller (which affects pointer movement) and the operation of the touch pad or mouse buttons, run the Mouse test in the **Pointing Devices** test group in the Dell Diagnostics.

Reinstall the touch pad driver — See "Reinstalling Drivers and Utilities."

External Keyboard Problems

Fill out the Diagnostics Checklist as you perform the various checks.

NOTE: Use the integrated keyboard when working in MS-DOS® mode or when running the Dell Diagnostics or the system setup program. When you attach an external keyboard, the integrated keyboard remains fully functional.

Check the keyboard cable — Shut down the computer. Disconnect the keyboard cable and check it for damage, and firmly reconnect the cable.

If you are using a keyboard extension cable, disconnect it and connect the keyboard directly to the computer.

Check the external keyboard —

1. Shut down the computer, wait 1 minute, and turn it on again.
2. Verify that the numbers, capitals, and scroll lock lights on the keyboard blink during the boot routine.
3. From the Windows desktop, click the **Start** button, point to **Programs**, point to **Accessories**, and click **Notepad**.
4. Type some characters on the external keyboard and verify that they appear on the display.

If you cannot verify these steps, you may have a defective external keyboard.

To verify that the problem is with the external keyboard, check the integrated keyboard —

1. Shut down the computer.
2. Disconnect the external keyboard.
3. Turn on the computer.
4. From the Windows desktop, click the **Start** button, point to **Programs**, point to **Accessories**, and click **Notepad**.
5. Type some characters on the external keyboard and verify that they appear on the display.

If the characters appear now but did not with the external keyboard, you may have a defective external keyboard.

Run the keyboard diagnostics tests — Run the PC-AT Compatible Keyboards tests in the Dell Diagnostics. If the tests indicate a defective external keyboard, contact Dell.

Unexpected Characters

Disable the numeric keypad — Press ⌨Fn ⌨F4 to disable the numeric keypad if numbers are displayed instead of letters. Verify that the numbers lock light is not lit.

Drive Problems

Fill out the Diagnostics Checklist as you complete these checks.

If you cannot save a file to a floppy drive

Ensure that an external floppy drive is connected to the computer — Install the floppy drive in the Dell D/Bay or use the optional USB cable to connect the floppy drive to the computer.

Ensure that Windows recognizes the drive — *In Windows XP,* click the **Start** button and click **My Computer**. *In other operating systems*, double-click **My Computer**. If the drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive. Insert a bootable disk and restart the computer.

Ensure that the disk is not write-protected — You cannot save data to a write-protected disk.

Try another floppy disk — Insert another disk to eliminate the possibility that the original disk is defective.

Reinstall the drive —

1. Save and close any open files, exit any open programs, and shut down the computer.
2. Remove the drive from the Dell D/Bay.
3. Reinstall the drive.
4. Turn on the computer.

Check the D/Bay cable — Shut down the computer. Disconnect the D/Bay cable from the computer, and firmly reconnect the cable.

Clean the drive — See "Cleaning Your Computer" for instructions.

Check the drive for errors — • If a drive error message appears, see "Error Messages" for an explanation. • Run the Diskette tests as described in "Using the Dell Diagnostics."

If you cannot play a CD, CD-RW, DVD, or DVD+RW

📝 **NOTE:** Because of different worldwide file types, not all DVD titles work in all DVD drives.

High-speed CD drive vibration is normal and may cause noise. The noise does not indicate a defect with the drive or the CD.

Ensure that Windows recognizes the drive — *In Windows XP,* click the **Start** button and click **My Computer**. *In other operating systems*, double-click **My Computer**. If the drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive. Insert a bootable disk and restart the computer.

Try another disc — Insert another disc to eliminate the possibility that the original disc is defective.

Adjust the Windows volume control — Double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

Reinstall the drive 1. Save and close any open files, exit any open programs, and shut down the computer. 2. Remove the drive. See "Using the Dell™ D/Bay" for instructions. 3. Reinstall the drive. 4. Turn on the computer.

Clean the drive or disc — See "Cleaning Your Computer" for instructions.

Check the drive for errors If a drive error message appears, see "Error Messages" for an explanation. Run the IDE Drives tests as described in the Dell Diagnostics.

If you cannot eject the CD, CD-RW, DVD, or DVD+RW drive tray

1. Ensure that the computer is shut down. 2. Straighten a paper clip and insert one end into the eject hole at the front of the drive; push firmly until the tray is partially ejected. 3. Gently pull out the tray until it stops.

If you hear an unfamiliar scraping or grinding sound

- Ensure that the sound is not caused by the program that is running.
- Ensure that the disk or disc is inserted properly.

If the CD-RW or DVD+RW drive stops writing

Disable standby or hibernate mode in Windows before writing to a CD-RW — Search for the keyword *standby* or *hibernate* in Windows *Help* or the Windows Help and Support Center.

Change the write speed to a slower rate — See the help files for your CD or DVD creation software.

Exit all other open programs — Exiting all other open programs before writing to the CD-RW or DVD+RW may alleviate the problem.

If you have problems with a hard drive

Allow the computer to cool before turning it on — A warm hard drive may prevent the operating system from starting. Try allowing the computer to return to room temperature before turning it on.

Check the drive for errors —

- Run the Windows error-checking tool:

1. *In Windows XP,* click the **Start** button and click **My Computer**. *In Windows 2000,* double-click **My Computer**.
2. Right-click the drive letter (local disk) that you want to scan for errors, and then click **Properties**.
3. Click the **Tools** tab.
4. Under **Error-checking**, click **Check Now**.
5. Click **Start.**

- Run the IDE Drives tests as described in the Dell Diagnostics.

PC Card Problems

Check the PC Card — Ensure that the PC Card is properly inserted into the connector.

Ensure that the card is recognized by Windows — Double-click the **Safely Remove Hardware** (**Unplug or Eject Hardware** in Windows 2000) icon in the Windows taskbar. Ensure that the card is listed.

Run the PC Card diagnostics test — See the documentation that came with the PC Card for instructions if a diagnostics test was provided with the card.

If you have problems with a Dell-provided PC Card — Contact Dell.

If you have problems with a PC Card not provided by Dell — Contact the PC Card manufacturer.

Smart Card Problems

Check the smart card — Ensure that the smart card is properly inserted into the smart card slot.

Ensure that the smart card is recognized by Windows — Double-click the **Unplug or Eject Hardware** icon in the Windows taskbar. Ensure that the smart card is listed.

If you have problems with a Dell-provided smart card — Contact Dell.

If you have problems with a smart card not provided by Dell — Contact the smart card manufacturer.

Network Problems

Fill out the Diagnostics Checklist as you complete these checks.

Check the network cable connector — Ensure that the network cable connector is firmly connected to the connector on the computer and the network wall jack.

Check the network lights on the network connector — Green indicates that the network connection is active. If the status light is not green, try replacing the network cable. Amber indicates that the network adapter driver is loaded and the adapter is detecting activity.

Restart the computer — Try to log on to the network again.

Contact your network administrator — Verify that your network settings are correct and that the network is functioning.

General Program Problems

Fill out the Diagnostics Checklist as you complete these checks.

A program crashes

📝 **NOTE:** Software usually includes installation instructions in its documentation or on a floppy disk or CD.

See the software documentation — Many software manufacturers maintain websites with information that may help you solve the problem. Ensure that you properly installed and configured the program. Reinstall the program if necessary.

A program stops responding

End the program   1. Simultaneously press [Ctrl] [⇧ Shift] [Esc Suspend] . 2. Click the **Applications** tab, and then select the program that is no longer responding. 3. Click **End Task.**

A solid blue screen appears

Turn the computer off — If the computer does not respond to a keystroke or a proper shutdown, press the power button until the computer turns off. Press the power button again to restart the computer.

Windows XP

The computer restarts.

Windows 2000

The solid blue screen appears because you were not able to perform a proper Windows shutdown. ScanDisk automatically runs during the start-up process. Follow the instructions on the screen.

Error messages appear

Review "Error Messages" — Look up the message and take the appropriate action. See the software documentation.

Confirm that the problem is software-related — Run the System Board Devices tests in the Dell Diagnostics. If all tests in the device group run successfully, the problem may be software-related. See the software documentation.

If Your Dell™ Computer Gets Wet

⚠️ **CAUTION: Perform this procedure only after you are certain that it is safe to do so. If the computer is connected to an electrical outlet, Dell recommends that you turn off AC power at the circuit breaker before attempting to remove the power cables from the electrical outlet. Use the utmost caution when removing wet cables from a live power source.**

1. Shut down the computer, disconnect the AC adapter from the computer, and then disconnect the AC adapter from the electrical outlet.

2. Turn off any attached external devices, and disconnect them from their power sources and then from the computer.

3. Ground yourself by touching one of the metal connectors on the back of the computer.

4. Remove any installed PC Cards and put them in a safe place to dry.

5. Remove the battery.

6. Wipe off the battery and put it in a safe place to dry.

7. Remove the hard drive.

8. Remove the memory modules.

9. Open the display and place the computer right-side up across two books or similar props to let air circulate all around it. Let the computer dry for at least 24 hours in a dry area at room temperature.

🚫 **NOTICE:** Do not use artificial means, such as a hair dryer or a fan, to speed the drying process.

⚠️ **CAUTION: To help prevent electrical shock, verify that the computer is thoroughly dry before continuing with the rest of this procedure.**

10. Ground yourself by touching one of the metal connectors on the back of the computer.

11. Replace the memory modules, the memory module cover, and the screws.

12. Replace the hard drive.

13. Connect the external module bay, and replace any PC Cards you removed.

14. Replace the battery.

15. Turn on the computer and verify that it is working properly.

NOTE: See your *System Information Guide* for information on your warranty coverage.

If the computer does not start, or if you cannot identify the damaged components, contact Dell.

If You Drop or Damage Your Computer

1. Save and close any open files, exit any open programs, and shut down the computer.

2. Disconnect the AC adapter from the computer and from the electrical outlet.

3. Turn off any attached external devices, and disconnect them from their power sources and then from the computer.

4. Remove and reinstall the battery.

5. Turn on the computer.

NOTE: See your *System Information Guide* for information on your warranty coverage.

If the computer does not start, or if you cannot identify the damaged components, contact Dell.

Resolving Other Technical Problems

Go to the Dell Support website — Go to **support.dell.com** for help with general usage, installation, and troubleshooting questions. See "Getting Help" for a description of the hardware and software support provided by Dell.
E-mail Dell — Go to **support.dell.com** and then click **E-Mail Dell** in the **Communicate** list. Send an e-mail message to Dell about your problem; you can expect to receive an e-mail message from Dell within hours. See "Getting Help" for a description of the hardware and software support provided by Dell.
Contact Dell — If you cannot solve your problem using the Dell Support website (**support.dell.com**) or e-mail service, call Dell for technical assistance. See "Getting Help" for a description of the hardware and software support provided by Dell.

Using the Dell Diagnostics

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When to Use the Dell Diagnostics

Whenever a major component or device in your computer does not function properly, you may have a component failure. If you are experiencing a problem with your Dell™ computer, perform the checks in "Solving Problems" and run the Dell Diagnostics *before* you call Dell for technical assistance. Running the Dell Diagnostics may help you to resolve the problem yourself quickly without having to contact Dell for assistance.

If you are experienced with computers and know what component(s) you need to test, select the appropriate diagnostic test group(s) or subtest(s). If you are unsure about how to begin diagnosing a problem, see "Starting the Dell Diagnostics."

Features of the Dell Diagnostics

The Dell Diagnostics helps you to check your computer hardware without any additional equipment and without destroying any data. By using the diagnostics, you can have confidence in the operation of your computer. If you find a problem that you cannot solve by yourself, the diagnostic tests can provide you with important information you need when talking to Dell's service and support personnel.

NOTICE: Use the Dell Diagnostics to test only your Dell computer. Using this program with other computers may cause incorrect computer responses or result in error messages.

The diagnostic test groups or subtests also have the following features:

- Options that let you perform express, extended, or custom tests on one or all devices

- An option that allows you to select tests based on a symptom of the problem you are having

- An option that allows you to choose the number of times a test group or subtest is repeated

- The ability to display test results

- Options to temporarily suspend testing if an error is detected, or to terminate testing

- Extensive online Help that describes the tests and devices

- Status messages that inform you whether test groups or subtests were completed successfully

- Error messages that appear if any problems are detected

Starting the Dell Diagnostics
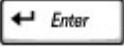
The Dell Diagnostics is located on a hidden Diagnostic utility partition on your hard drive.

NOTE: If your computer cannot display a screen image, contact Dell.

1. Shut down the computer.

2. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your

docking device for instructions.

3. Connect the computer to an electrical outlet.

NOTE: If you do not see anything on your display, hold down the mute button and press the power button (instead of ▭ F12) to begin the Dell Diagnostics. You do not need to highlight **Diagnostics** and press ▭ Enter . The computer automatically runs the Pre-boot System Assessment.

4. Turn on the computer. When the DELL™ logo appears, press ▭ F12 immediately. If you wait too long and the Microsoft® Windows® logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.

5. When the boot device list appears, highlight **Diagnostics** and press ▭ Enter .

The computer begins to run the Pre-boot System Assessment, a series of embedded diagnostics that perform initial testing on your system board, keyboard, hard drive, and display.

- During the assessment, answer any questions that appear.

- If a component failure is detected, the computer stops and beeps. To stop the assessment and reboot to the operating system, press ▭ N ; to continue to the next test, press ▭ Y ; to retest the component that failed, press ▭ R .

- If failures are detected during the Pre-boot System Assessment, write down the error code(s) and contact Dell before continuing on to the Dell Diagnostics.

- If you receive a message stating that no Diagnostics utility partition has been found, follow the instructions on the screen to run the Dell Diagnostics from your *Drivers and Utilities* CD.

If the Pre-boot System Assessment completes successfully, you receive the message `Booting Dell Diagnostic Utility Partition. Press any key to continue.`

6. Press any key to start the Dell Diagnostics from the Diagnostics utility partition on your hard drive.

7. After the Dell Diagnostics loads and the **Main Menu** screen appears, click the button for the option you want.

NOTE: The Service Tag for your computer is located in the title bar of each screen.

Option	Function
Express Test	Performs a quick test of devices. The test typically takes 10 to 20 minutes and requires no interaction on your part. Run Express Test first to increase the possibility of tracing the problem quickly.
Extended Test	Performs a thorough check of devices. The test typically takes 1 hour or more and requires you to answer questions periodically.
Custom Test	Tests a specific device. You can customize the tests to be run.
Symptom Tree	Allows you to select tests based on a symptom of the problem you are experiencing. The option lists the most common symptoms.

8. If a problem is encountered during a test, a message appears, displaying the error code and a description of the problem. Write down the error code and problem description and follow the instructions on the screen. If you cannot resolve the error condition, contact Dell.

9. If you run a test from the **Custom Test** or **Symptom Tree** option, click the applicable tab described in the following table for more information.

Tab	Function
Results	Displays the results of the test and any error conditions encountered.
Errors	Displays error conditions encountered, error codes, and problem description.
Help	Describes the test and may indicate requirements for running the test.
Configuration	Displays your hardware configuration for the selected device. The Dell Diagnostics obtains your configuration information for all devices from the system setup program, memory, and various internal tests and displays the information in the device list in the left pane of the screen. The device list may not display the names of all the components installed on your computer or all devices attached to your computer.
Parameters	Allows you to customize the test by changing the test settings.

10. When you have finished running a test, close the screen to return to the **Main Menu** screen. To exit the Dell Diagnostics and reboot the computer, close the **Main Menu** screen.

Power Management

- [Power Management Tips](#)
- [Power Management Wizard](#)
- [Power Management Modes](#)
- [Power Options Properties](#)

Power Management Tips

📝 **NOTE:** See "[Using a Battery](#)" for more information on conserving battery power.

- Connect the computer to an electrical outlet when possible because battery life is largely determined by the number of times the battery is charged.

- Place the computer in [standby mode](#) or [hibernate mode](#) when you leave the computer unattended for long periods of time.

- To exit a power management mode, press the power button.

📝 **NOTE:** The power management options described in this section are for Microsoft® Windows® operating systems. Power management options may vary, depending on which operating system is installed.

Power Management Wizard

📝 **NOTE:** The Power Management Wizard is not available if you have restricted access rights.

If Dell™ QuickSet is installed, click or double-click the 🗂 icon to open the Power Management Wizard.

The first two screens of the wizard—**Welcome** and **What is Power Management?**—describe and define various power management options.

📝 **NOTE:** On the **What is Power Management?** screen, you can select **Do not show this page again.** When you select this option, the **Welcome** screen also does not appear again.

Use the following screens of the Power Management Wizard to set various power management options, including sleep modes, power schemes, and low battery-charge alarms.

Setting Sleep Modes

The screen defines standby and hibernate modes. From the screen you can:

- Set standby-mode password options.

- Enable or disable hibernate mode.

- Select how the computer will respond when you close the display:

  - Choose no action.

  - Enter standby mode.

  - Enter hibernate mode.

- Select how the computer will respond when you press the power button:

  - Choose no action.

  - Enter standby mode.

  - Enter hibernate mode.

  - Shut down the operating system and turn off the computer.

  - Prompt a user for an action (**Ask me what to do**).

- Select how the computer will respond when you press `Fn` `Esc Suspend` :

  - Choose no action.

  - Enter standby mode.

  - Enter hibernate mode.

  - Shut down the operating system and turn off the computer.

  - Prompt a user for an action (**Ask me what to do**).

Selecting a Power Scheme

NOTE: When your computer is running on battery power, the **Network Disabled** power scheme disables your internal network and wireless activity. When your computer is connected to an electrical outlet or docking device, the **Network Disabled** power scheme disables only your wireless activity. You must set the power scheme through QuickSet (not Microsoft® Windows®) for **Network Disabled** to work.

The screen allows you to select, create, and edit power scheme settings. In addition, you can delete power schemes that you create, but you cannot delete Dell™ QuickSet predefined power schemes (**Maximum Battery**, **Maximum Performance**, **Presentation**, and **Network Disabled**).

NOTE: QuickSet automatically adds the word (**QuickSet**) after the names of power schemes created using QuickSet.

All QuickSet power schemes are displayed in a drop-down menu near the center of the screen. The power settings for each scheme in the menu are listed below the menu. The power settings are listed separately for when the computer is running on battery or connected to an electrical outlet.

The **Power Management Wizard** also allows you to associate the display brightness level with a power scheme. You must enable brightness-level power schemes through QuickSet in order to set the brightness level.

The display brightness, internal network-card activity, and wireless activity features are not available through the Microsoft® Windows® **Control Panel** power schemes. In order to make use of these value-added features, you must set them through QuickSet power schemes.

NOTE: Brightness shortcut keys only affect the display on your portable computer, not monitors that you attach to your portable computer or docking device. If your computer is connected to an external monitor and you try to change the brightness level, the Brightness Meter appears, but the brightness level on the monitor does not change.

Setting Battery Alarms and Actions

The screen allows you to enable the low-battery and critical-battery alarms and to change settings for the alarms. For example, you can set the low-battery alarm to 20% to remind you to save work and switch to AC power, and you can set the critical-battery alarm to 10% to enter hibernate mode. From the screen, you can:

- Select whether the alarm will notify you by sound or text.

- Adjust the power level at which you want the alarm to notify you.

- Select how the computer will respond when the alarm notifies you:

    - Choose no action.

    - Enter standby mode.

    - Enter hibernate mode.

    - Shut down Windows and turn off the computer.

Completing the Power Management Wizard

The screen summarizes the QuickSet power scheme, sleep mode, and battery alarm settings for your computer. Review the settings you have selected and click **Finish**.

For more information about QuickSet, right-click the icon in the taskbar and click **Help**.

Power Management Modes

Standby Mode

Standby mode conserves power by turning off the display and the hard drive after a predetermined period of inactivity (a time-out). When the computer exits standby mode, it returns to the same operating state it was in before entering standby mode.

NOTICE: If your computer loses AC and battery power while in standby mode, it may lose data.

To enter standby mode:

- *In the Microsoft Windows XP operating system*, click the **Start** button, click **Turn off computer**, and then click **Stand by**.

    In Windows 2000, click the **Start** button, click **Shutdown**, click **Standby**, and then click **OK**.

    or

- Depending on how you set the power management options on the **Advanced** tab in the **Power Options Properties** window, use one of the following methods:

    - Press the power button.

    - Close the display.

    - Press $\boxed{Fn}$ $\boxed{\substack{Esc \\ Suspend}}$.

To exit standby mode, press the power button or open the display depending on how you set the options on the **Advanced tab**. You cannot make the computer exit standby mode by pressing a key or touching the touch pad or track stick.

Hibernate Mode

Hibernate mode conserves power by copying system data to a reserved area on the hard drive and then completely turning off the computer. When the computer exits hibernate mode, it returns to the same operating state it was in before entering hibernate mode.

⊘ **NOTICE:** You cannot remove devices or undock your computer while your computer is in hibernate mode.

Your computer enters hibernate mode if the battery charge level becomes critically low.

To manually enter hibernate mode:

- *In Windows XP*, click the **Start** button, click **Turn off computer**, press and hold ⇧ Shift , and then click **Hibernate**.

  In Windows 2000, if hibernate support is enabled, click the **Start** button, click **Shutdown**, click **Hibernate**, and then click **OK**.

  or

- Depending on how you set the power management options on the **Advanced** tab in the **Power Options Properties** window, use one of the following methods to enter hibernate mode:

  ○ Press the power button.

  ○ Close the display.

  ○ Press Fn Esc Suspend .

✎ **NOTE:** Some PC Cards may not operate correctly after the computer exits hibernate mode. Remove and reinsert the card, or simply restart (reboot) your computer.

To exit hibernate mode, press the power button. The computer may take a short time to exit hibernate mode. You cannot make the computer exit hibernate mode by pressing a key or touching the touch pad or track stick. For more information on hibernate mode, see the documentation that came with your operating system.

Power Options Properties

The **Power Options Properties** window helps you to manage power consumption and monitor battery charge status. To access the Microsoft® Windows® **Power Options Properties** window:

- *In Windows XP*, *c*lick the **Start** button⊗ **Control Panel**⊗ **Performance and Maintenance**⊗ **Power Options**.

- *In Windows 2000*, open the Control Panel, and then double-click the **Power Options** icon.

Power Schemes Tab

The **Power schemes** drop-down menu displays the selected preset power scheme. Keep the default **Portable/Laptop** power scheme to maximize battery power.

Windows XP controls the performance level of the processor depending on the power scheme you select. You do not need to make any further adjustments to set the performance level. For information on setting processor performance for other operating systems, see "Intel SpeedStep® Technology Tab."

Each preset power scheme has different time-out settings for entering standby mode, turning off the display, and turning off the hard drive. For more information on power management options, see the Help and Support Center (Windows *Help* in

Windows 2000*)*.

Alarms Tab

The **Low battery alarm** and **Critical battery alarm** settings alert you with a message when the battery charge falls below a certain percentage. When you receive your computer, the **Low battery alarm** and **Critical battery alarm** check boxes are selected. It is recommended that you continue to use these settings. See "Using a Battery" for more information on low-battery warnings.

Power Meter Tab

The **Power Meter** tab displays the current power source and amount of battery charge remaining.

Advanced Tab

The **Advanced** tab allows you to:

- Set power icon and standby mode password options.

- Program the following functions (depending on your operating system):

    ○ Prompt a user for an action (**Ask me what to do**).

    ○ Enter standby mode.

    ○ Enter hibernate mode.

    ○ Shut down Windows and turn off the computer.

    ○ Choose no action (**None** or **Do nothing**).

To program these functions, click an option from the corresponding drop-down menu and then click **OK**.

Hibernate Tab

The **Hibernate** tab lets you enable hibernate mode by clicking the **Enable hibernate support** check box.

Intel SpeedStep® Technology Tab

Depending on your operating system and microprocessor, the **Power Options Properties** window includes the **Intel SpeedStep® technology** tab. The Intel SpeedStep technology allows you to set the performance level of the processor according to whether the computer is running on battery or AC power. Depending on your operating system, typical options are:

- **Automatic** — The processor runs at its highest possible speed (Maximum Performance mode) when the computer is running on AC power. When the computer is running on battery power, the processor runs in Battery Optimized mode.

- **Maximum Performance** — The processor is capable of running at its highest possible speed even if the computer is running on battery power.

- **Battery Optimized Performance** — Processor speed is optimized for battery power even if the computer is connected to an electrical outlet.

To change additional Intel SpeedStep options:

1. Click **Advanced** and then click one of the following options:

   - **Disable Intel SpeedStep technology control**

   - **Remove flag icon** (from the notification area)

   - **Disable audio notification when performance changes**

2. Click **OK** to accept any changes, and then click **OK** to close the **Intel SpeedStep® technology** window.

You can also change the Intel SpeedStep settings by right-clicking the flag icon in the notification area.

Adding and Replacing Parts

Adding Memory

You can increase your computer memory by installing memory modules on the system board. See "Specifications" for information on the memory supported by your computer. Install only memory modules that are intended for your computer.

NOTE: Memory modules purchased from Dell are covered under your computer warranty.

CAUTION: Before working inside your computer, read the safety instructions in your *System Information Guide*.

1. Ensure that the work surface is flat and clean to prevent scratching the computer cover.

2. Save and close any open files, exit any open programs, and then shut down the computer.

3. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

4. Disconnect the computer from the electrical outlet.

5. Wait 10 to 20 seconds, and then disconnect any attached devices.

6. Remove any installed PC Cards and the battery.

NOTICE: Handle components and cards by their edges, and avoid touching pins and contacts. Ground yourself by touching a metal connector on the back of the computer. Continue to ground yourself periodically during this procedure.

7. Continue to the appropriate section:

   - "Installing a Memory Module Under the Memory Module/Modem Cover"

   - "Installing a Memory Module Under the Keyboard"

Installing a Memory Module Under the Memory Module/Modem Cover

1. Turn the computer over, loosen the captive screws on the memory module/modem cover, and then remove the cover.

NOTICE: To prevent damage to the memory module connector, do not use tools to spread the memory-module securing clips.

2. If you are replacing a memory module, remove the existing module:

   a. Use your fingertips to carefully spread apart the securing clips on each end of the memory module connector until the module pops up.

   b. Remove the module from the connector.
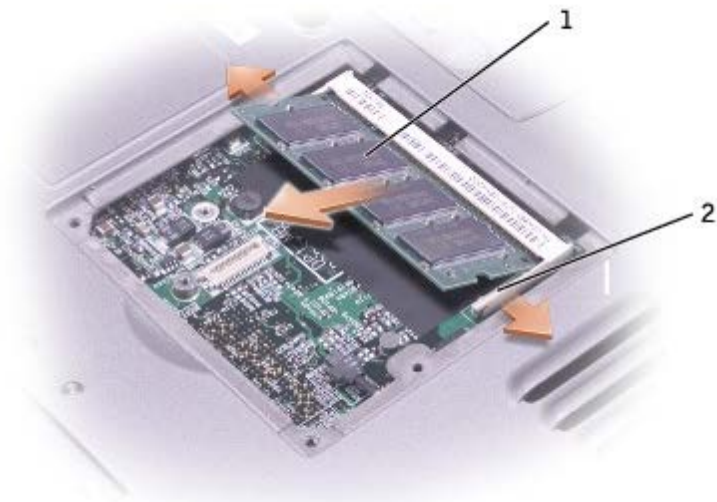
1	memory module
2	securing clips (2)

3. Ground yourself and install the new memory module:

   a. Align the notch in the module edge connector with the tab in the connector slot.

   b. Slide the module firmly into the slot at a 45-degree angle, and rotate the module down until it clicks into place. If you do not feel the click, remove the module and reinstall it.

NOTE: If the memory module is not installed properly, the computer may not boot properly. No error message indicates this failure.

4. Replace the cover.

NOTICE: If the cover is difficult to close, remove the module and reinstall it. Forcing the cover to close may damage your computer.

5. Insert the battery into the battery bay, or connect the AC adapter to your computer and an electrical outlet.

6. Turn on the computer.

As the computer boots, it detects the additional memory and automatically updates the system configuration information.

To confirm the amount of memory installed in the computer:

- *In the Microsoft® Windows® XP operating system,* click the **Start** button, click **Help and Support**, and then click **Computer Information**.

- *In Windows 2000*, right-click the **My Computer** icon on your desktop, and then click the **General** tab.

Installing a Memory Module Under the Keyboard

1. Remove the keyboard.

2. Loosen the two captive screws in the cover labeled "DIMM1."
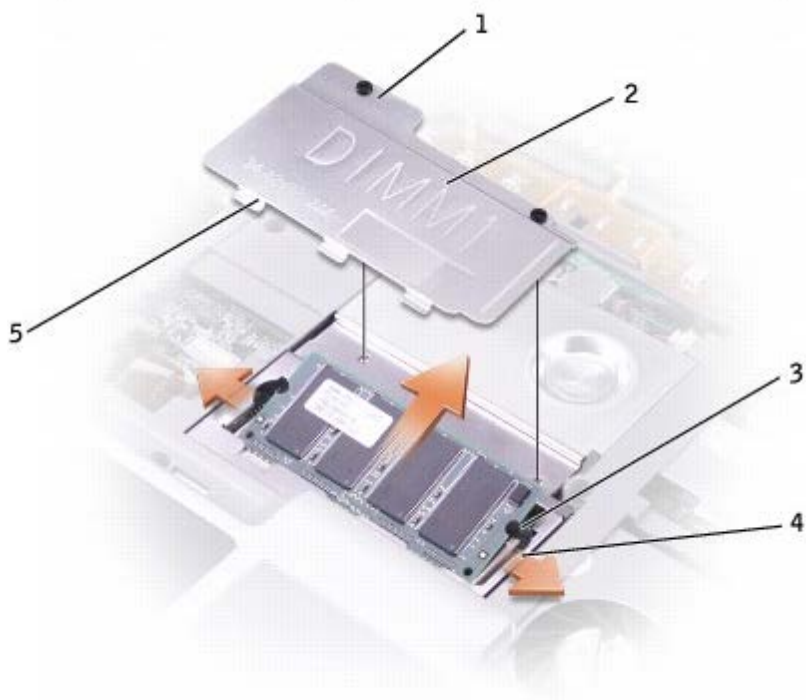
1	captive screws (2)
2	DIMM1 cover
3	memory module
4	securing clips (2)
5	securing tabs (3)

> **NOTICE:** To prevent damage to the memory module connector, do not use tools to spread the memory-module securing clips.

3. If you are replacing a memory module, remove the existing module:

   a. Use your fingertips to carefully spread apart the securing clips on each end of the memory module connector until the module pops up.

   b. Remove the module from the connector.

4. Ground yourself and install the new memory module:

   a. Align the notch in the module edge connector with the tab in the connector slot.

   b. Slide the module firmly into the slot at a 45-degree angle, and rotate the module down until it clicks into place. If you do not feel the click, remove the module and reinstall it.

> **NOTE:** If the memory module is not installed properly, the computer may not boot properly. No error message indicates this failure.

5. Insert the 3 securing tabs on the DIMM1 cover into the notches above the memory module connector and tighten the captive screws.

> **NOTICE:** If the DIMM1 cover is difficult to replace, remove the module and reinstall it. Forcing the cover to close may damage your computer.

6. [Replace the keyboard](#).

7. Insert the battery into the battery bay, or connect the AC adapter to your computer and an electrical outlet.

8. Turn on the computer.

As the computer boots, it detects the additional memory and automatically updates the system configuration information.

To confirm the amount of memory installed in the computer:

- *In Windows XP,* click the **Start** button, click **Help and Support**, and then click **Computer Information**.

- *In Windows 2000*, right-click the **My Computer** icon on your desktop, and then click the **General** tab.

Adding a Modem

If you ordered the optional modem at the same time that you ordered your computer, Dell installed the modem for you.

⚠ **CAUTION: Before working inside your computer, read the safety information in your *System Information Guide*.**

⊘ **NOTICE:** Handle components and cards by their edges, and avoid touching pins and contacts.

1. Ensure that the work surface is flat and clean to prevent scratching the computer cover.

2. Save and close any open files, exit any open programs, and then shut down the computer.

3. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

4. Disconnect the computer from the electrical outlet.

5. Wait 10 to 20 seconds, and then disconnect any attached devices.

6. Remove any installed PC Cards and the battery.

⊘ **NOTICE:** Handle components and cards by their edges, and avoid touching pins and contacts. Ground yourself by touching a metal connector on the back of the computer. Continue to ground yourself periodically during this procedure.

7. Turn the computer over, loosen the captive screws on the memory module/modem cover, and then remove the cover.

8. If a modem is not already installed, go to step 9. If you are replacing a modem, remove the existing modem:

   a. Remove the screw securing the modem to the system board, and set it aside.

   b. Pull straight up on the attached pull-tab to lift the modem out of its connector on the system board, and disconnect the modem cable.

9. Connect the modem cable to the modem.

⊘ **NOTICE:** The cable connectors are keyed for correct insertion; do not force the connections.

10. Align the modem with the screw hole, and press the modem into the connector on the system board.

11. Install the screw to secure the modem to the system board.

12. Replace the modem cover.

Replacing the Keyboard

⚠ **CAUTION: Before working inside your computer, read the safety instructions in your *System Information Guide*.**

1. Ensure that the work surface is flat and clean to prevent scratching the computer cover.

2. Save and close any open files, exit any open programs, and then shut down the computer.

3. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

4. Disconnect the computer from the electrical outlet.

5. Wait 10 to 20 seconds, and then disconnect any attached devices.

6. Remove any installed PC Cards and the battery.

⊘ **NOTICE:** Handle components and cards by their edges, and avoid touching pins and contacts. Ground yourself by touching a metal connector on the back of the computer. Continue to ground yourself periodically during this procedure.

7. Open the display approximately 180 degrees.

8. Use a small flat-blade screwdriver or plastic scribe to lift the notched right edge of the center control cover, and pry the cover loose from the bottom case.

9. Remove the two screws from the top of the keyboard.

10. Use the pull-tab to pull the keyboard up and out (toward the display) of the bottom case.
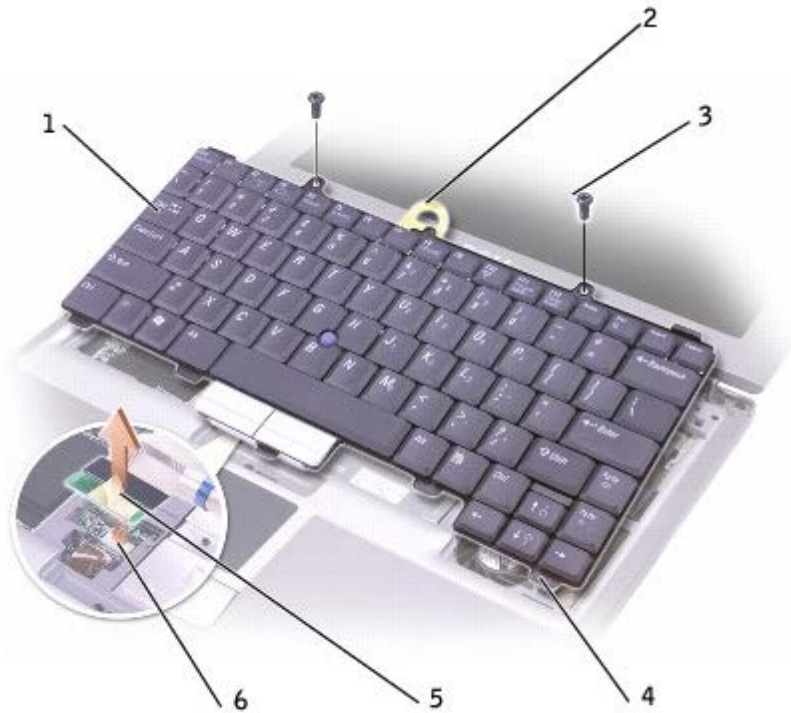
1	keyboard
2	keyboard pull-tab
3	screws (2)
4	securing tabs (5)
5	keyboard connector pull-tab
6	interface connector (system board)

11. Rest the keyboard face down on the palm rest.

12. Pull straight up on the pull-tab that is attached to the keyboard connector to disconnect the connector from the interface connector on the system board.

To replace the keyboard:

1. Connect the keyboard connector to the interface connector on the system board.

2. Insert the five securing tabs on the keyboard into their respective slots in the palm rest.

3. Replace the two screws at the top of the keyboard.

4. Replace the center control cover and snap it down so that it is flush with the palm rest.

Adding a Mini PCI Card

If you ordered a Mini PCI card with your computer, the card is already installed.

⚠️ **CAUTION: FCC rules strictly prohibit users from installing 5 GHz (802.11a, 802.11a/b, 802.11a/b/g) Wireless LAN Mini PCI cards. Under no circumstances should the user install such a device. Only trained Dell service personnel are authorized to install a 5 GHz Wireless LAN Mini PCI card.**

If you are removing and/or installing a 2.4 GHz (802.11b, 802.11b/g) Mini PCI Card, please follow the instructions noted below. Only products approved for use in your portable computer may be installed. Approved Mini PCI Cards may be purchased only from Dell.

📝 **NOTE:** 2.4 GHz Wireless LAN PC Cards may be removed and installed by the user.

⚠️ **CAUTION: Before working inside your computer, read the safety instructions in your *System Information Guide*.**

1. Ensure that the work surface is flat and clean to prevent scratching the computer cover.

2. Save and close any open files, exit any open programs, and then shut down the computer.

3. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

4. Disconnect the computer from the electrical outlet.

5. Wait 10 to 20 seconds, and then disconnect any attached devices.

6. Remove any installed PC Cards and the battery.

🔴 **NOTICE:** Handle components and cards by their edges, and avoid touching pins and contacts. Ground yourself by touching a metal connector on the back of the computer. Continue to ground yourself periodically during this procedure.

7. Remove the keyboard.

8. If a Mini PCI card is not already installed, go to step 9. If you are replacing a Mini PCI card, remove the existing card:

   a. Disconnect the Mini PCI card from the attached cables.
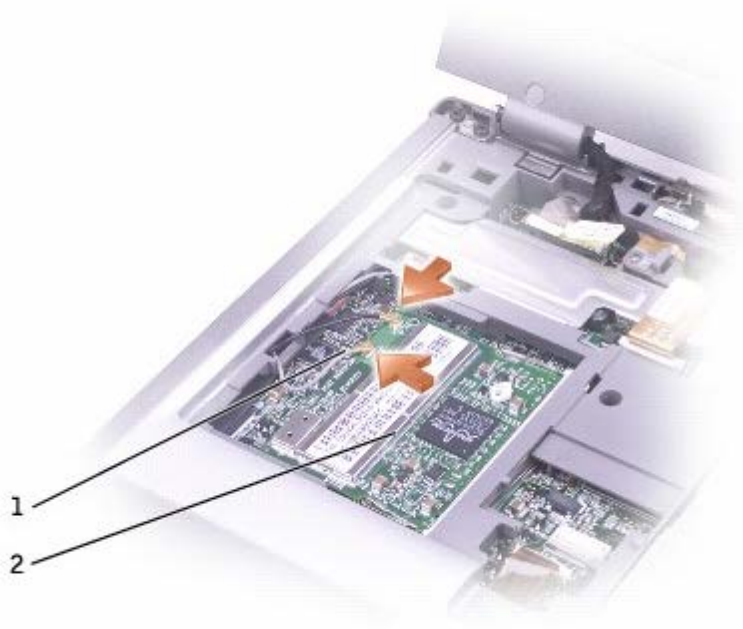
| 1 | antenna cables (2) |
| 2 | Mini PCI card |

        b. Release the Mini PCI card by spreading the metal securing tabs until the card pops up slightly.

        c. Lift the Mini PCI card out of its connector.

| 1 | securing tabs(2) |
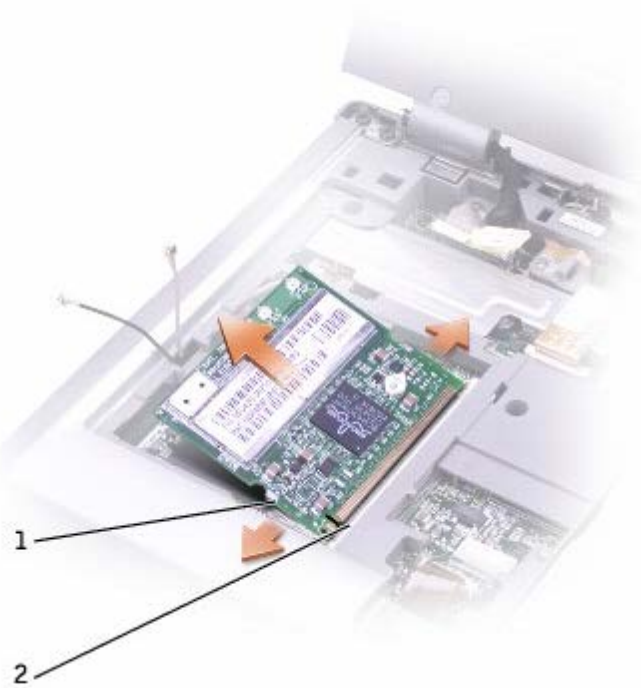
2	Mini PCI card connector

○ **NOTICE:** To avoid damaging the Mini PCI card, never place cables on top of or under the card.

○ **NOTICE:** The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors and realign the card.

▨ **NOTE:** If a Mini PCI card was not already installed, remove the foam that secures the antenna cables before you install the card.

9. Align the Mini PCI card with the connector at a 45-degree angle, and press the Mini PCI card into the connector until you feel a click.

10. Connect the antenna cables to the Mini PCI card.

11. Replace the keyboard.

Replacing the Hard Drive

⚠ **CAUTION: If you remove the hard drive from the computer when the drive is warm,** *do not touch* **the metal housing of the hard drive.**

⚠ **CAUTION: Before working inside your computer, read the safety instructions in your** *System Information Guide.*

○ **NOTICE:** To prevent data loss, turn off your computer before removing the hard drive. Do not remove the hard drive while the computer is on, in standby mode, or in hibernate mode.

○ **NOTICE:** Hard drives are extremely fragile; even a slight bump can damage the drive.

▨ **NOTE:** Dell does not guarantee compatibility or provide support for hard drives from sources other than Dell.

To replace the hard drive in the hard drive bay:

1. Ensure that the work surface is flat and clean to prevent scratching the computer cover.

2. Save and close any open files, exit any open programs, and then shut down the computer.

3. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

4. Disconnect the computer from the electrical outlet.

5. Wait 10 to 20 seconds, and then disconnect any attached devices.

6. Remove any installed PC Cards and the battery.

○ **NOTICE:** Handle components and cards by their edges, and avoid touching pins and contacts. Ground yourself by touching a metal connector on the back of the computer. Continue to ground yourself periodically during this procedure.

7. Turn the computer over, and remove the hard drive screws.

○ **NOTICE:** When the hard drive is not in the computer, store it in protective antistatic packaging. See "Protecting Against Electrostatic Discharge" in your *System Information Guide*.
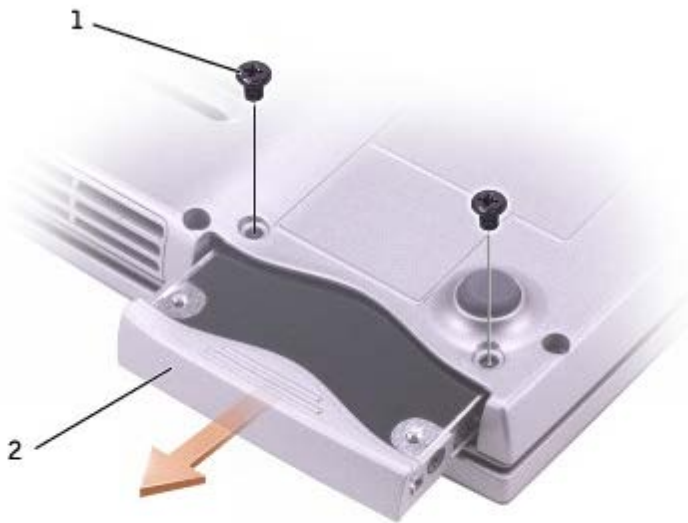
8. Slide the hard drive out of the computer.

9. Remove the new drive from its packaging.

   Save the original packaging for storing or shipping the hard drive.

> **NOTICE:** Use firm and even pressure to slide the drive into place. If you use excessive force, you may damage the connector.

10. Slide the hard drive into the bay until it is fully seated.

11. Replace and tighten the screws.

12. Use the *Operating System* CD to install the operating system for your computer.

13. Use the *Drivers and Utilities* CD to install the drivers and utilities for your computer.

Replacing a Bluetooth™ Module

⚠ **CAUTION: Before working inside your computer, read the safety instructions in your *System Information Guide*.**

1. Ensure that the work surface is flat and clean to prevent scratching the computer cover.

2. Save and close any open files, exit any open programs, and then shut down the computer.

3. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

4. Disconnect the computer from the electrical outlet.

5. Wait 10 to 20 seconds, and then disconnect any attached devices.

6. Remove any installed PC Cards and the battery.

> **NOTICE:** Handle components and cards by their edges, and avoid touching pins and contacts. Ground yourself by touching a metal connector on the back of the computer. Continue to ground yourself periodically during this procedure.

7. Turn the computer over, loosen the captive screw in the Bluetooth module cover, and remove the cover.
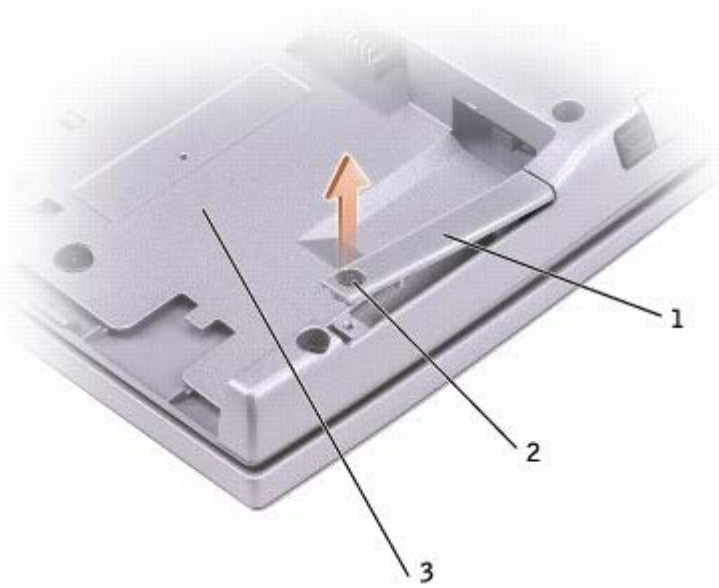
1	Bluetooth module cover
2	captive screw
3	battery bay

8. Remove the existing module:

   a. Pull the Bluetooth module out of the slot.

   b. Disconnect the cable from the module.
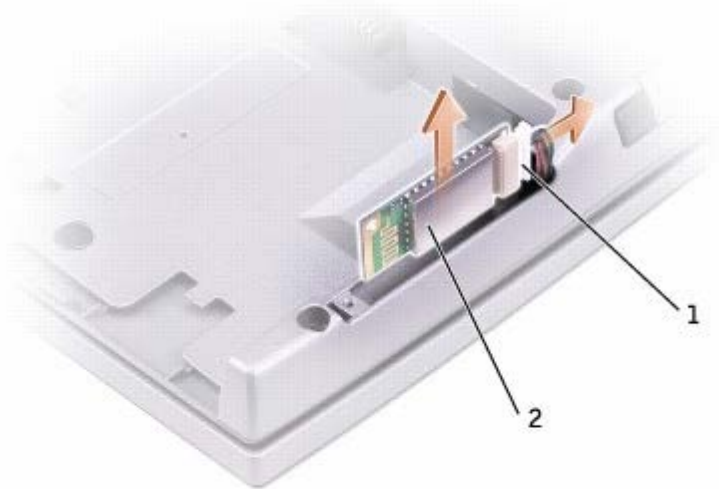
1	Bluetooth cable

2	Bluetooth module (front)

9. Ensure that the front of the Bluetooth module (silver) is facing outward, and connect the cable to the module.

10. Insert the module into the slot.

11. Replace the cover and tighten the captive screw.

Using PC Cards

PC Card Types

See "Specifications" for information on supported PC Cards.

NOTE: A PC Card is not a bootable device.

The PC Card slot has one connector that supports a single Type I or Type II card. The PC Card slot supports CardBus technology and extended PC Cards. "Type" of card refers to its thickness, not its functionality.

PC Card Blanks

Your computer shipped with a plastic blank installed in the PC Card slot. Blanks protect unused slots from dust and other particles. Save the blank for use when no PC Card is installed in the slot; blanks from other computers may not fit your computer.

To remove the blank, see "Removing a PC Card or Blank."

Extended PC Cards

An extended PC Card (for example, a wireless network adapter) is longer than a standard PC Card and extends outside the computer. Follow these precautions when using extended PC Cards:

- Protect the exposed end of an installed card. Striking the end of the card can damage the system board.

- Always remove an extended PC Card before you pack the computer in its carrying case.

Installing a PC Card

CAUTION: Before working inside your computer, read the safety information in your *System Information Guide*.

You can install a PC Card in the computer while the computer is running. The computer automatically detects the card.

PC Cards are generally marked with a symbol (such as a triangle or an arrow) to indicate which end to insert into the slot. The cards are keyed to prevent incorrect insertion. If card orientation is not clear, see the documentation that came with the card.

To install a PC Card:

1. Hold the card with its orientation symbol pointing into the slot and the top side of the card facing up. The latch may need to be in the "in" position before you insert the card.

2. Slide the card into the slot until the card is completely seated in its connector.

   If you encounter too much resistance, do not force the card. Check the card orientation and try again.

The computer recognizes most PC Cards and automatically loads the appropriate device driver. If the configuration program tells you to load the manufacturer's drivers, use the floppy disk or CD that came with the PC Card.

Removing a PC Card or Blank

⚠ **CAUTION: Before working inside your computer, read the safety information in your *System Information Guide*.**

⊖ **NOTICE:** Use the PC Card configuration utility ⊞ on the taskbar to select a card and stop it from functioning before you remove it from the computer. If you do not stop the card in the configuration utility, you could lose data. Do not attempt to eject a card by pulling its cable, if one is attached.

1. Press the eject button.

2. Press the eject button a second time.

3. Gently remove the card.

Save a blank to use when no PC Card is installed in a slot. Blanks protect unused slots from dust and other particles.

Using the System Setup Program

Overview

> **NOTE:** Your operating system may automatically configure most of the options available in the system setup program, thus overriding options that you set through the system setup program. (An exception is the **External Hot Key** option, which you can disable or enable only through the system setup program.) For more information on configuring features for your operating system, see your Microsoft® Windows® *Help* (Windows 2000) or the Windows Help and Support Center (Windows XP).

You can use the system setup program as follows:

- To set or change user-selectable features—for example, your computer password

- To verify information about the computer's current configuration, such as the amount of system memory

After you set up the computer, run the system setup program to familiarize yourself with your system configuration information and optional settings. You may want to write down the information for future reference.

The system setup screens display the current setup information and settings for your computer, such as:

- System configuration

- Boot order

- Boot (start-up) configuration and docking-device configuration settings

- Basic device configuration settings

- System security and hard-drive password settings

> **NOTICE:** Unless you are an expert computer user or are directed to do so by Dell technical support, do not change the settings for the system setup program. Certain changes might make your computer work incorrectly.

Viewing the System Setup Screens

1. Turn on (or restart) your computer.

2. When the DELL™ logo appears, press [F2] immediately. If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.

System Setup Screens

On each screen, the system setup options are listed at the left. To the right of each option is the setting or value for that option. You can change settings that appear as white type on the screen. Options or values that you cannot change (because

they are determined by the computer) appear as blue text.

The upper-right corner of the screen displays help information for the currently highlighted option; the lower-right corner displays information about the computer. System setup key functions are listed across the bottom of the screen.

Commonly Used Options

Certain options require that you reboot the computer for new settings to take effect.

Changing the Boot Sequence

The *boot sequence,* or *boot order,* tells the computer where to look to find the software needed to start the operating system. You can control the boot sequence and enable/disable devices using the **Boot Order** page of the system setup program.

NOTE: To change the boot sequence on a one-time-only basis, see "Performing a One-Time Boot."

The **Boot Order** page displays a general list of the bootable devices that may be installed in your computer, including but not limited to the following:

- **Diskette Drive**

- **Internal HDD**

- **CD/DVD/CD-RW drive**

During the boot routine, the computer starts at the top of the list and scans each enabled device for the operating system start-up files. When the computer finds the files, it stops searching and starts the operating system.

To control the boot devices, select (highlight) a device by pressing the [↑] or [↓] key, and then enable or disable the device or change its order in the list.

- To enable or disable a device, highlight the item and press [Space bar] . Enabled items appear as white and display a small triangle to the left; disabled items appear blue or dimmed without a triangle.

- To reorder a device in the list, highlight the device and then press [U] or [D] (not case-sensitive) to move the highlighted device up or down.
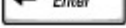
Boot sequence changes take effect as soon as you save the changes and exit the system setup program.

Performing a One-Time Boot

You can set a one-time-only boot sequence without entering the system setup program. (You can also use this procedure to boot the Dell Diagnostics on the diagnostics utility partition on your hard drive.)

1. Turn off the computer.

2. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

3. Connect the computer to an electrical outlet.

4. Turn on the computer. When the DELL logo appears, press [F12] immediately. If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.

5. When the boot device list appears, highlight the device from which you want to boot and press [← Enter] .

   The computer boots to the selected device.

The next time you reboot the computer, the previous boot order is restored.

Changing COM Ports

Serial Port allows you to map the serial port COM address or disable the serial port and its address, freeing computer resources for another device to use.

Enabling the Infrared Sensor

1. Enter the system setup program:

   a. Turn on your computer.

   b. Press [F2] when the DELL™ logo appears.

2. Press [Alt] [P –] until you locate **Infrared Data Port** under **Basic Device Configuration**.

> **NOTE:** Ensure that the COM port that you select is different from the COM port assigned to the serial connector.

3. Press the down-arrow key to select the **Infrared Data Port** setting, and press the right-arrow key to change the setting to a COM port.

4. Press [Esc Suspend] , select **Save changes and reboot**, and press [← Enter] to save the changes and exit the system setup program. If you are prompted to restart your computer, click **Yes**.

5. Follow the instructions on the screen.

6. After the infrared sensor has been enabled, click **Yes** to restart the computer.

After you enable the infrared sensor, you can use it to establish a link to an infrared device. To set up and use an infrared device, see the infrared device documentation and the Windows Help and Support Center (Windows *Help* in Windows 2000).

Using Microsoft® Windows® XP

- [Help and Support Center](#)
- [Switching to Classic View](#)
- [Desktop Cleanup Wizard](#)
- [Transferring Information to a New Computer](#)
- [User Accounts and Fast User Switching](#)
- [Setting Up a Home and Office Network](#)
- [Internet Connection Firewall](#)

NOTE: Windows XP Home Edition and Windows XP Professional offer different features and appearances. Also, options available in Windows XP Professional vary depending on whether your computer is connected to a domain.

Help and Support Center

The Help and Support Center provides help with the Microsoft® Windows® XP operating system and also offers other support and educational tools. To access the Help and Support Center, click the **Start** button and click **Help and Support**.

Switching to Classic View

You can change the appearance of the Control Panel, the **Start** menu, and the Microsoft® Windows® desktop to the *classic view* of previous Windows operating systems.

Control Panel

The Control Panel presents information as task-oriented categories. If you are accustomed to performing a particular task with the icon-oriented classic Control Panel, you can switch to the classic icon view.

1. Click the **Start** button and click **Control Panel**.

2. Click **Switch to Classic View** or **Switch to Category View** in the upper-left area of the **Control Panel** window.

Start Menu

1. Right-click the empty area on the taskbar.

2. Click **Properties** and click the **Start Menu** tab.

3. Click **Classic Start Menu** and click **OK**.

Window and Button Appearance

1. Right-click anywhere on the main desktop screen and click **Properties**.

2. Click the **Appearance** tab.

3. From the **Windows and buttons** drop-down menu, click **Windows Classic style**.

4. To customize color, font, and other classic desktop options, click **Advanced**.

5. When you have completed your appearance selections, click **OK**.

Desktop Cleanup Wizard

By default, the Desktop Cleanup Wizard moves desktop icons that are not frequently used from your desktop to a designated folder 7 days after you first start your computer and every 60 days after that. The appearance of the **Start** menu changes as desktop icons are moved.

To turn off the Desktop Cleanup Wizard:

1. Right-click an empty spot on the desktop and click **Properties**.

2. Click the **Desktop** tab and click **Customize Desktop**.

3. Click **Run Desktop Cleanup Wizard every 60 days** to remove the check mark.

4. Click **OK**.

To run the Desktop Cleanup Wizard at any time:

1. Right-click an empty spot on the desktop and click **Properties**.

2. Click the **Desktop** tab and click **Customize Desktop**.

3. Click **Clean Desktop Now**.

4. When the **Desktop Cleanup Wizard** screen appears, click **Next**.

5. To leave an icon on the desktop, click the icon name to remove the check mark, and then click **Next**.

6. Click **Finish** to remove the shortcuts and close the wizard.

Transferring Information to a New Computer

The Microsoft® Windows® XP operating system provides a Files and Settings Transfer wizard to move data from the source computer to the new computer. You can move data such as:

- E-mails

- Toolbar settings

- Window sizes

- Internet bookmarks

You can transfer the data to the new computer over a network or serial connection, or you can store it on a removable medium, such as a writable CD or floppy disk.

To prepare the new computer for the file transfer:

1. Click the **Start** button, point to **All Programs**⊗ **Accessories**⊗ **System Tools**, and then click **Files and Settings Transfer Wizard**.

2. When the **Files and Settings Transfer Wizard** welcome screen appears, click **Next**.

3. On the **Which computer is this?** screen, click **New Computer** and click **Next**.

4. On the **Do you have a Windows XP CD?** screen, click **I will use the wizard from the Windows XP CD** and click **Next**.

5. When the **Now go to your old computer** screen appears, go to your old or source computer. *Do not* click **Next** at this time.

To copy data from the old computer:

1. On the old computer, insert the Windows XP *Operating System* CD.

2. On the **Welcome to Microsoft Windows XP** screen, click **Perform additional tasks**.

3. Under **What do you want to do?**, click **Transfer files and settings**.

4. On the **Files and Settings Transfer Wizard** welcome screen, click **Next**.

5. On the **Which computer is this?** screen, click **Old Computer** and click **Next**.

6. On the **Select a transfer method** screen, click the transfer method you prefer.

7. On the **What do you want to transfer?** screen, select the items you want to transfer and click **Next**.

    After the information has been copied, the **Completing the Collection Phase** screen appears.

8. Click **Finish**.

To transfer data to the new computer:

1. On the **Now go to your old computer** screen on the new computer, click **Next**.

2. On the **Where are the files and settings?** screen, select the method you chose for transferring your settings and files and click **Next**.

    The wizard reads the collected files and settings and applies them to your new computer.

    When all of the settings and files have been applied, the **Finished** screen appears.

3. Click **Finished** and restart the new computer.

User Accounts and Fast User Switching

Adding User Accounts

After the Microsoft® Windows® XP operating system is installed, the administrator or a user with administrator rights can create additional user accounts.

1. Click the **Start** button and click **Control Panel**.

2. In the **Control Panel** window, click **User Accounts**.

3. Under **Pick a task**, click **Create a new account**.

4. Under **Name the new account**, type the name of the new user and click **Next**.

5. Under **Pick an account type**, click one of the following options:

- **Computer administrator** — You can change all computer settings.

- **Limited** — You can change only your own personal settings, such as your password. You cannot install programs or use the Internet.

6. Click **Create Account**.

Fast User Switching

✎ **NOTE:** Fast User Switching is unavailable if your computer is running Windows XP Professional and is a member of a computer domain, or if your computer has less than 128 MB of memory.

Fast User Switching allows multiple users to access one computer without requiring the previous user to log off.

1. Click the **Start** button and click **Log Off**.

2. In the **Log Off Windows** window, click **Switch User**.

When you use Fast User Switching, programs that previous users were using remain running in the background, so your computer might run slower. Also, multimedia programs, such as games and DVD software, might not work with Fast User Switching. For more information, see the [Windows Help and Support Center](#).

Setting Up a Home and Office Network

Connecting to a Network Adapter

Before you connect your computer to a network, the computer must have a network adapter installed and a functional network cable connected to it.

To connect a network cable:

✎ **NOTE:** Insert the cable until it clicks into place, and then gently pull it to ensure that it is secure.

1. Connect the network cable to the network adapter connector on the back of your computer.

✎ **NOTE:** Do not use a network cable with a telephone wall jack.

2. Connect the other end of the functional network cable to a network connection device, such as a network wall jack.

Network Setup Wizard

The Microsoft® Windows® XP operating system provides a Network Setup Wizard to guide you through the process of sharing files, printers, or an Internet connection between computers in a home or small office.

1. Click the **Start** button, point to **All Programs**⊕ **Accessories**⊕ **Communications**, and then click **Network Setup Wizard**.

2. On the welcome screen, click **Next**.

3. Click **Checklist for creating a network**.

4. Complete the checklist and required preparations.

5. Return to the Network Setup Wizard and follow the instructions on the screen.

Internet Connection Firewall

The Internet Connection Firewall provides basic protection from unauthorized access to the computer while the computer is connected to the Internet. The firewall is automatically enabled when you run the Network Setup Wizard. When the firewall is enabled for a network connection, the firewall icon appears with a red background in the **Network Connections** portion of the Control Panel.

Note that enabling the Internet Connection Firewall does not reduce the need for virus-checking software.

For more information, see the Help and Support Center.

Using a Battery

Battery Performance

NOTE: Batteries for portable computers are covered only during the initial one-year period of the limited warranty for your computer. For more information about the Dell warranty for your computer, see the *System Information Guide* or other documents that came with your computer.

For optimal computer performance and to help preserve BIOS settings, operate your Dell™ portable computer with the main battery installed at all times. Use the battery to run the computer when it is not connected to an electrical outlet. One battery is supplied as standard equipment in the battery bay.

Battery operating time varies depending on operating conditions. Operating time is significantly reduced when you perform operations including, but not limited to, the following:

NOTE: It is recommended that you connect your computer to an electrical outlet when writing to a CD.

- Using optical drives, especially DVD and CD-RW drives

- Using wireless communications devices, PC Cards, or USB devices

- Using high-brightness display settings, 3D screen savers, or other power-intensive programs such as 3D games

- Running the computer in maximum performance mode

You can check the battery charge before you insert the battery into the computer. You can also set power management options to alert you when the battery charge is low.

⚠️ **CAUTION: Using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with a compatible battery purchased from Dell. The lithium-ion battery is designed to work with your Dell™ computer. Do not use batteries from other computers with your computer.**

⚠️ **CAUTION: Do not dispose of batteries with household waste. When your battery no longer holds a charge, call your local waste disposal or environmental agency for advice on disposing of a lithium-ion battery. See the battery disposal instructions in your *System Information Guide*.**

⚠️ **CAUTION: Misuse of the battery may increase the risk of fire or chemical burn. Do not puncture, incinerate, disassemble, or expose the battery to temperatures above 65°C (149°F). Keep the battery away from children. Handle damaged or leaking batteries with extreme care. Damaged batteries may leak and cause personal injury or equipment damage.**

Checking the Battery Charge

The Microsoft® Windows® power meter window and ▓ icon, the battery charge gauge and health gauge, and the low-battery warning provide information on the battery charge.

Dell QuickSet Battery Meter

If Dell QuickSet is installed, press [Fn] [F3] to display the QuickSet Battery Meter.

The **Battery Meter** screen displays status, charge level, and charge completion time for the battery in your computer.

> **NOTE:** You can use your docking device to charge a computer battery. However, a battery in a docking device does not power the docking device or computer.

In addition, when your computer is connected to a docking device (docked), the **Battery Meter** screen includes a **Dock Battery** tab, which displays the charge level and current status of the docking device battery.

The following icons appear in the **Battery Meter** screen:

	• The computer or docking device is running on battery power. • The battery is discharging or idle.
	• The computer or docking device is connected to an electrical outlet and running on AC power. • The battery is charging.
	• The computer or docking device is connected to an electrical outlet and running on AC power. • The battery is discharging, idle, or charging.

For more information about QuickSet, right-click the icon in the taskbar, and click **Help**.

Microsoft Windows Power Meter

The Windows power meter indicates the remaining battery charge. To check the power meter, double-click the icon on the taskbar. For more information on the **Power Meter** tab, see "Power Management."

If the computer is connected to an electrical outlet, a icon appears.

Charge Gauge

Press the status button on the battery charge gauge to illuminate the charge-level lights. Each light represents approximately 20 percent of the total battery charge. For example, if the battery has 80 percent of its charge remaining, four of the lights are on. If no lights appear, the battery has no charge.

Health Gauge

The battery operating time is largely determined by the number of times it is charged. After hundreds of charge and discharge cycles, batteries lose some charge capacity, or battery health. To check the battery health, press and hold the status button on the battery charge gauge for at least 3 seconds. If no lights appear, the battery is in good condition, and more than 80 percent of its original charge capacity remains. Each light represents incremental degradation. If five lights appear, less than 60 percent of the charge capacity remains, and you should consider replacing the battery. See "Specifications" for more information about the battery operating time.

Low-Battery Warning

NOTICE: To avoid losing or corrupting data, save your work immediately after a low-battery warning. Then connect the computer to an electrical outlet, or install a second battery in the module bay. If the battery runs completely out of power, standby mode begins automatically.

A pop-up window warns you when the battery charge is approximately 90 percent depleted. For more information on low-battery alarms, see "Power Management."

Charging the Battery

NOTE: Charge time is longer with the computer turned on. You can leave the battery in the computer as long as you like. The battery internal circuitry prevents the battery from overcharging.

When you connect the computer to an electrical outlet or install a battery while the computer is connected to an electrical outlet, the computer checks the battery charge and temperature. If necessary, the AC adapter then charges the battery and maintains the battery charge.

If the battery is warm from being used in your computer or being in a warm environment, the battery may not charge when you connect the computer to an electrical outlet.

The battery is too warm to start charging if the ⚡ light flashes alternately green and orange. Disconnect the computer from the electrical outlet and allow the computer and the battery to cool to room temperature. Then connect the computer to an electrical outlet to continue charging the battery.

For more information on resolving problems with a battery, see "Power Problems."

Removing a Battery

⚠️ **CAUTION: Before working inside your computer, read the safety information in your *System Information Guide*.**

⚠️ **CAUTION: Before performing these procedures, disconnect the modem from the telephone wall jack.**

🚫 **NOTICE:** If you choose to replace the battery with the computer in standby mode, you have up to 90 seconds to complete the battery replacement before the computer shuts down and loses any unsaved data.

1. Ensure that the computer is turned off, suspended in a power management mode, or connected to an electrical outlet.

2. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

3. Slide and hold the battery-bay latch release on the bottom of the computer, and then remove the battery from the bay.

Installing a Battery

⚠️ **CAUTION: Before working inside your computer, read the safety information in your *System Information Guide*.**

Slide the battery into the bay until the latch release clicks.

Storing a Battery

Remove the battery when you store your computer for an extended period of time. A battery discharges during prolonged storage. After a long storage period, recharge the battery fully before you use it.

Using the Display

- [Adjusting Brightness](#)
- [Switching the Video Image](#)
- [Setting Display Resolution](#)

Adjusting Brightness

When the Dell™ computer is running on battery power, you can conserve power by setting the brightness to the lowest comfortable setting using the appropriate [keyboard shortcuts](#) for the display.

If [Dell QuickSet](#) is installed, the QuickSet Brightness Meter shows the current brightness setting for the display. Right-click the icon in the taskbar to enable or disable the Brightness Meter on the screen.
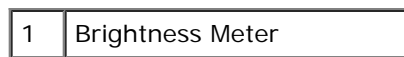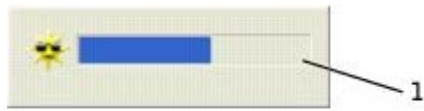
1	Brightness Meter

NOTE: By default, the Brightness Meter appears in the lower-right corner of the display. You can click and drag the meter to a new location, and the meter subsequently always appears at the new location.

NOTE: Brightness keyboard shortcuts only affect the display on your portable computer, not monitors that you attach to your portable computer or docking device. If your computer is connected to an external monitor and you try to change the brightness level, the Brightness Meter appears, but the brightness level on the monitor does not change.

You can enable or disable the Brightness Meter from the QuickSet taskbar menu. When the meter is enabled, press the following keys to adjust brightness:

- Press [Fn] [↑☼] to increase brightness on the integrated display only (not on an external monitor).

- Press [Fn] [↓☼] to decrease brightness on the integrated display only (not on an external monitor).

For more information about QuickSet, right-click the icon in the taskbar and click **Help**.

Switching the Video Image

When you start the computer with an external device (such as an external monitor or projector) attached and turned on, the image may appear on either the display or the external device.

Press [Fn] [F8 CRT/LCD] to switch the video image to the display only, the external device only, or the display and the external device simultaneously.

Setting Display Resolution

To display a program at a specific resolution, both the video controller and the display must support the program, and the necessary video drivers must be installed.

Before you change any of the default display settings, make a note of the default settings for future reference.

> **NOTE:** Use only the Dell-installed video drivers, which are designed to offer the best performance with your Dell-installed operating system.

If you choose a resolution or color palette that is higher than the display supports, the settings adjust automatically to the closest possible setting.

Microsoft® Windows® XP

1. Click the **Start** button and click **Control Panel**.

2. Under **Pick a category**, click **Appearance and Themes**.

3. Under **Pick a task...**, click the area you want to change, or under **or pick a Control Panel icon**, click **Display**.

4. Try different settings for **Color quality** and **Screen resolution**.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.

2. Double-click the **Display** icon and click the **Settings** tab.

3. Try different settings for **Colors** and **Screen area**.

> **NOTE:** As the resolution increases, icons and text appear smaller on the screen.

If the video resolution setting is higher than that supported by the display, the computer enters *pan mode*. In pan mode, the screen cannot be completely displayed. For example, the taskbar that usually appears at the bottom of the desktop may no longer be visible. To view the rest of the screen, use the touch pad or track stick to pan up, down, left, and right.

> **NOTICE:** You can damage an external monitor by using an unsupported refresh rate. Before adjusting the refresh rate on an external monitor, see the monitor user's guide.

Using the Keyboard and Touch Pad

- Numeric Keypad
- Keyboard Shortcuts
- Touch Pad
- Changing the Track Stick Cap

Numeric Keypad

The numeric keypad functions like the numeric keypad on an external keyboard. Each key on the keypad has multiple functions. The keypad numbers and symbols are marked in blue on the right of the keypad keys. To type a number or symbol, hold down [Fn] and press the desired key.

- To enable the keypad, press [Fn] [F4 Num Lk]. The light indicates that the keypad is active.

- To disable the keypad, press [Fn] [F4 Num Lk] again.

Keyboard Shortcuts

System Functions

[Ctrl] [⇧ Shift] [Esc Suspend]	Opens the **Task Manager** window
[Fn] [F4 Num Lk]	Enables and disables the numeric keypad

Fn F5 Scroll Lk	Enables and disables the scroll lock

Battery

Fn F3	Displays the Dell™ QuickSet Battery Meter (if QuickSet is installed)

CD or DVD Tray

Fn F10	Ejects the tray out of the drive (if Dell QuickSet is installed)

Display Functions

Fn F8 CRT/LCD	Switches the video image to the next display option. The options include the integrated display, an external monitor, and both displays simultaneously.
Fn ↑☼	Increases brightness on the integrated display only (not on an external monitor).
Fn ↓☼	Decreases brightness on the integrated display only (not on an external monitor).

Radios (Including Wireless Networking and Bluetooth™)

| Fn F2	Enables and disables radios, including wireless networking and Bluetooth (both optional)

Power Management

Fn Esc Suspend	Activates a power management mode. You can reprogram this keyboard shortcut to activate a different power management mode using the **Advanced** tab in the **Power Options Properties** window.

Speaker Functions

Fn Page Up	Increases the volume of the integrated speaker and external speakers, if attached
Fn Page Dn	Decreases the volume of the integrated speaker and external speakers, if attached
	Enables and disables the integrated speaker and external speakers, if attached

Fn	End

Microsoft® Windows® Logo Key Functions

⊞ M₀	Minimizes all open windows
⊞ ⇧ Shift M₀	Maximizes all windows
⊞ E	Runs Windows Explorer
⊞ R	Opens the **Run** dialog box
⊞ F	Opens the **Search Results** dialog box
⊞ Ctrl F	Opens the **Search Results-Computer** dialog box (if the computer is connected to a network)
⊞ F12 Pause Break	Opens the **System Properties** dialog box

To adjust keyboard operation, such as the character repeat rate:

- *In Windows XP*, open the Control Panel, click **Printers and Other Hardware**, and click **Keyboard**.

- *In Windows 2000*, open the Control Panel and double-click the **Keyboard** icon.

Touch Pad

The touch pad detects the pressure and movement of your finger to allow you to move the cursor on the display. Use the touch pad and touch pad buttons as you would use a mouse.
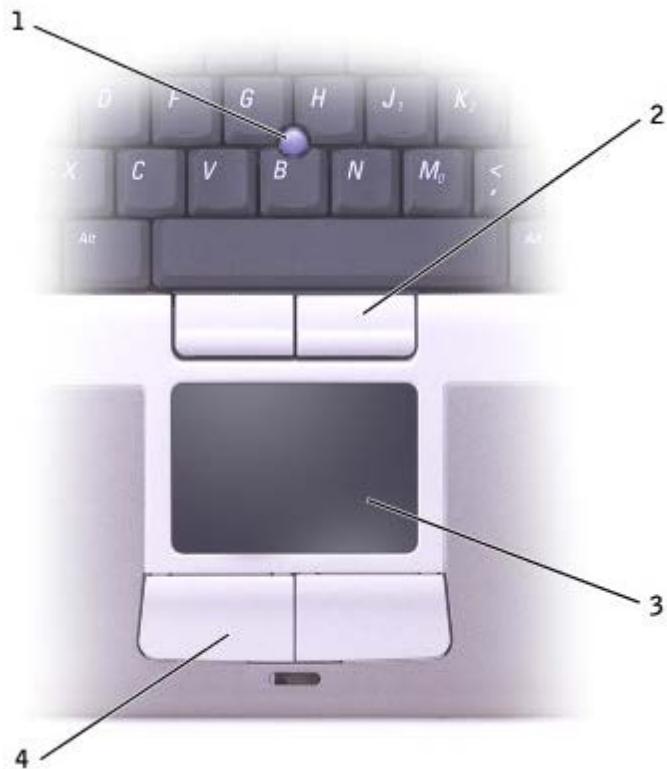
1	track stick
2	track stick buttons
3	touch pad
4	touch pad buttons

- To move the cursor, lightly slide your finger over the touch pad.

- To select an object, lightly tap once on the surface of the touch pad or use your thumb to press the left touch-pad button.

- To select and move (or drag) an object, position the cursor on the object and tap down-up-down on the touch pad. On the second down motion, leave your finger on the touch pad and move the selected object by sliding your finger over the surface.

- To double-click an object, position the cursor on the object and tap twice on the touch pad or use your thumb to press the left touch-pad button twice.

You can also use the track stick to move the cursor. Press the track stick left, right, up, or down to change the direction of the cursor on the display. Use the track stick and track stick buttons as you would use a mouse.

Customizing the Touch Pad and Track Stick

You can use the **Mouse Properties** window to disable the touch pad and track stick or adjust their settings.

1. *In Windows XP*, open the Control Panel, click **Printers and Other Hardware**, and click **Mouse**.

   In Windows 2000, open the Control Panel and double-click the **Mouse** icon.

2. In the **Mouse Properties** window:

   - Click the **Device Select** tab to disable the touch pad and track stick.

- Click the **Pointer** tab to adjust touch pad and track stick settings.

3. Click **OK** to save the settings and close the window.

Changing the Track Stick Cap

You can replace your track stick cap if it wears down from prolonged use or if you prefer a different color. You can purchase additional caps by visiting the Dell website at **www.dell.com**.

1. Pull the cap off the track stick.

2. Align the new cap over the square track-stick post and gently press the cap down onto the post.

NOTICE: The track stick can damage the display if it is not properly seated on the post.

3. Test the track stick to ensure that the cap is seated properly.

Reinstalling Software

Reinstalling Drivers and Utilities

Dell ships your computer to you with required drivers and utilities already installed—no further installation or configuration is needed.

NOTICE: The *Drivers and Utilities* CD may contain drivers for operating systems that are not on your computer. Ensure that you are installing software appropriate for your operating system.

To reinstall drivers for optional devices such as wireless communications and DVD drives, you may need the CD and documentation that came with those devices.

NOTICE: The Dell Support website, **support.dell.com**, and the *Drivers and Utilities* CD provide approved drivers for Dell™ computers. If you install drivers from other sources, your computer might not work correctly.

To reinstall a driver or utility from your *Drivers and Utilities* CD:

1. Save and close any open files, and exit any open programs.

2. Insert the *Drivers and Utilities* CD.

   In most cases, the CD starts running automatically. If it does not, start Microsoft® Windows® Explorer, click your CD drive directory to display the CD contents, and then double-click the **autorcd.exe** file. The first time that you run the CD, it might prompt you to install setup files. Click **OK**, and follow the instructions on the screen to continue.

3. From the **Language** drop-down menu in the toolbar, select your preferred language for the driver or utility (if available).

   A welcome screen appears.

4. Click **Next**. The CD automatically scans your hardware to detect drivers and utilities used by your computer.

   After the CD completes the hardware scan, you can also detect other drivers and utilities. Under **Search Criteria**, select the appropriate categories from the **System Model**, **Operating System**, and **Topic** drop-down menus.

   A link or links appear(s) for the specific drivers and utilities used by your computer.

5. Click the link of a specific driver or utility to display information about the driver or utility that you want to install.

6. Click the **Install** button (if present) to begin installing the driver or utility. At the welcome screen, follow the screen prompts to complete the installation.

   If no **Install** button is present, automatic installation is not an option. For installation instructions, either see the appropriate instructions in the following subsections, or click **Extract**, follow the extracting instructions, and read the readme file.

   If instructed to navigate to the driver files, click the CD directory on the driver information window to display the files associated with that driver.

Manually Reinstalling Drivers for Windows XP

1. After extracting the driver files to your hard drive as described previously, click the **Start** button, point to **Settings**, and then click **Control Panel**.

2. Click the **Start** button and right-click **My Computer**.

3. Click **Properties**.

4. Click the **Hardware** tab and click **Device Manager**.

5. Double-click the type of device for which you are installing the driver (for example, **Modems** or **Infrared devices**).

6. Double-click the name of the device for which you are installing the driver.

7. Click the **Driver** tab and click **Update Driver**.

8. Select **Install from a list or specific location (Advanced)** and click **Next**.

9. Click **Browse**, and browse to the location to which you previously extracted the driver files.

10. When the name of the appropriate driver appears, click **Next**.

11. Click **Finish** and restart your computer.

Using the Windows XP Device Driver Rollback

If you install a new device driver that causes system instability, you can use the Windows XP Device Driver Rollback to replace the new device driver with the previously installed version of the device driver. If you cannot reinstall your previous driver by using the Device Driver Rollback process, then use System Restore to return your operating system to its previous operating state before you installed the new device driver. To use Device Driver Rollback:

1. Click the **Start** button and right-click **My Computer**.

2. Click **Properties**.

3. Click the **Hardware** tab and click **Device Manager**.

4. In the **Device Manager** window, right-click the device for which the new driver was installed and then click **Properties**.

5. Click the **Drivers** tab.

6. Click **Roll Back Driver**.

Manually Reinstalling Drivers for Windows 2000

1. After extracting the driver files to your hard drive as described previously, click the **Start** button, point to **Settings**, and then click **Control Panel**.

2. Double-click the **System** icon.

3. Click the **Hardware** tab.

4. Click **Device Manager**.

5. Double-click the type of device for which you are installing the driver (for example, **Modems** or **Infrared devices**).

6. Double-click the name of the device.

7. Click the **Driver** tab and click **Update Driver**.

8. Click **Next**.

9. Ensure that **Search for a suitable driver for my device (recommended)** is selected, and then click **Next**.

10. Ensure that the **Specify a location** check box is checked and that all other check boxes are unchecked, and click **Next**.

11. Click **Browse** to browse to the location to which you previously extracted the driver files.

12. When the name of the appropriate driver appears, click **Next**.

13. Click **Finish** and restart your computer.

Resolving Software and Hardware Incompatibilities

In the Microsoft® Windows® XP and Windows 2000 operating systems, IRQ conflicts occur if a device either is not detected during the operating system setup or is detected but incorrectly configured. See the following subsection that corresponds to your operating system to check for IRQ conflicts on your computer.

Windows XP

1. Click the **Start** button and click **Control Panel**.

2. Click **Performance and Maintenance** and click **System**.

3. Click the **Hardware** tab and click **Device Manager**.

4. In the **Device Manager** list, check for conflicts with the other devices.

   Conflicts are indicated by a yellow exclamation point (!) beside the conflicting device or a red X if the device has been disabled.

5. Double-click any conflicting device listed to bring up the **Properties** window so that you can determine what needs to be reconfigured or removed from the Device Manager.

6. Resolve these conflicts before checking specific devices.

7. Double-click the malfunctioning device type in the **Device Manager** list.

8. Double-click the icon for the specific device in the expanded list.

   The **Properties** window appears.

   If an IRQ conflict exists, the **Device status** area in the **Properties** window reports what other devices are sharing the device's IRQ.

9. Resolve any IRQ conflicts.

You can also use the Windows XP Hardware Troubleshooter. To use the troubleshooter, click the **Start** button and click **Help and Support**. Type `hardware troubleshooter` in the **Search** field, and then click the arrow to start the search. Click **Hardware Troubleshooter** in the **Search Results** list. In the **Hardware Troubleshooter** list, click **I need to resolve a hardware conflict on my computer** and click **Next**.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.

2. Double-click the **System** icon.

3. Click the **Hardware** tab.

4. Click **Device Manager**.

5. Click **View** and click **Resources by connection**.

6. Double-click **Interrupt request (IRQ)** to view the IRQ assignments.

   Conflicts are indicated by a yellow exclamation point (!) beside the conflicting device or a red X if the device has been disabled.

7. Double-click any conflicting device listed to bring up the **Properties** window so that you can determine what needs to be reconfigured or removed from the Device Manager. Resolve these conflicts before checking specific devices.

8. Double-click the malfunctioning device type in the **Device Manager** list.

9. Double-click the icon for the specific device in the expanded list.

   The **Properties** window appears.

   If an IRQ conflict exists, the **Device status** area in the **Properties** window reports what other devices are sharing the device's IRQ.

10. Resolve any IRQ conflicts.

You can also use the Windows 2000 Hardware Troubleshooter. To use the troubleshooter, click the **Start** button and click **Help**. Click **Troubleshooting and Maintenance** on the **Contents** tab, click **Windows 2000 troubleshooters**, and then click **Hardware**. In the **Hardware Troubleshooter** list, click **I need to resolve a hardware conflict on my computer**, and then click **Next**.

Using Microsoft® Windows® System Restore

The Microsoft Windows XP operating system provides a System Restore feature that allows you to return your computer to an earlier operating state if changes to the computer's hardware, software (including new hardware or program installations), or system settings have left the computer in an undesirable operating state. You can also undo the last *system restore*.

System Restore automatically creates system checkpoints. You can also manually create your own checkpoints by creating *restore points*. To limit the amount of hard disk space used, older restore points will be automatically purged.

To resolve an operating system problem, you can use System Restore from Safe Mode or Normal Mode to return your computer to an earlier operating state.

System Restore does not cause you to lose personal files stored in the **My Documents** folder, data files, or e-mail messages after restoring the computer to an earlier time. If you restore the computer to an operating state that existed before you installed a program, the program's data files are not lost, but you must reinstall the actual program again.

⊘ **NOTICE:** It is important to make regular backups of your data files. System Restore does not monitor changes to or recover your data files. If the original data on the hard disk is accidentally erased or overwritten, or if it becomes inaccessible because of a hard disk malfunction, use your backup files to recover the lost or damaged data.

System Restore is enabled on your new computer. However, if you reinstall Windows XP with less than 200 MB of free hard-disk space available, System Restore is automatically disabled. Before you use System Restore, confirm that it is enabled:

1. Click the **Start** button and click **Control Panel**.

2. Click the **Performance and Maintenance**.

3. Click **System**.

4. Click the **System Restore** tab.

5. Ensure that **Turn off System Restore** is not checked.

Creating a Restore Point

You can either use the System Restore Wizard or manually create a restore point.

Using the System Restore Wizard

To use the System Restore Wizard, click the **Start** button, click **Help and Support**, click **System Restore,** and then follow the instructions in the **System Restore Wizard** window. You can also create and name a restore point if you are logged on as the computer administrator or a user with administrator rights.

Manually Creating a Restore Point

1. Click the **Start** button, point to **All Programs**® **Accessories**® **System Tools**, and then click **System Restore**.

2. Click **Create a restore point**.

3. Click **Next**.

4. Type a name for the new restore point in the **Restore point description** field.

   The present date and time are automatically added to the description of the new restore point.

5. Click **Create**.

6. Click **OK.**

Restoring the Computer to an Earlier Operating State

If problems occur after installing a device driver, first try using [Device Driver Rollback](). If Device Driver Rollback does not resolve the problem, then use System Restore.

⬤ **NOTICE:** Before restoring the computer to an earlier operating state, save and close all open files and exit all open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

1. Click the **Start** button, point to **All Programs**®
   Accessories® **System Tools**, and then click **System Restore**.

2. Ensure that **Restore my computer to an earlier time** is selected and click **Next**.

3. Click a calendar date to which you want to restore your computer.

   The **Select a Restore Point** screen provides a calendar that allows you to see and select restore points. All calendar dates with available restore points appear in bold.

4. Select a restore point and click **Next**.

   If a calendar date has only one restore point, then that restore point is automatically selected. If two or more restore

points are available, click the restore point that you want to use.

🚫 **NOTICE:** Save and close all open files and exit all open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

5. Click **Next**.

   The **Restoration Complete** screen appears after System Restore finishes collecting data, and then the computer automatically restarts.

6. After the computer restarts, click **OK**.

   To change the restore point, you can either repeat the steps using a different restore point, or you can undo the restoration.

Undoing the Last System Restore

🚫 **NOTICE:** Save and close all open files and exit all open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

1. Click the **Start** button, point to **All Programs**®
   Accessories® **System Tools**, and then click **System Restore**.

2. Select **Undo my last restoration** and click **Next**.

🚫 **NOTICE:** Save and close all open files and exit all open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

3. Click **Next**.

   The **System Restore** screen appears, and then the computer automatically restarts.

4. After the computer restarts, click **OK**.

Reinstalling Microsoft® Windows® XP

Before You Reinstall

If you are considering reinstalling the Windows XP operating system to correct a problem with a newly installed driver, first try using Windows XP Device Driver Rollback. If Device Driver Rollback does not resolve the problem, then use System Restore to return your operating system to the operating state it was in before you installed the new device driver.

Reinstalling Windows XP

To reinstall Windows XP, perform all the steps in the following sections in the order in which they are listed.

The reinstallation process can take 1 to 2 hours to complete. After you reinstall the operating system, you must also reinstall the device drivers, virus protection program, and other software.

🚫 **NOTICE:** The *Operating System* CD provides options for reinstalling Windows XP. The options can overwrite files and possibly affect programs installed on your hard drive. Therefore, do not reinstall Windows XP unless instructed to do so by a Dell technical support representative.

NOTICE: To prevent conflicts with Windows XP, disable any virus protection software installed on your computer before you reinstall Windows XP. See the documentation that came with the software for instructions.

Booting From the Operating System CD

1. Save and close any open files and exit any open programs.

2. Insert the *Operating System* CD. If any program starts automatically, exit the program before proceeding.

3. Shut down the computer through the **Start** menu and restart the computer.

4. Press immediately after the DELL™ logo appears.

   If the operating system logo appears, wait until you see the Windows desktop, and then shut down the computer and try again.

5. Press the arrow keys to select **CD-ROM**, and then press .

6. When the `Press any key to boot from CD` message appears, press any key.

Windows XP Setup

1. When the **Windows XP Setup** screen appears, press to select **To set up Windows now**.

2. Read the information on the **Microsoft Windows Licensing Agreement** screen, and press to accept the license agreement.

3. If your computer already has Windows XP installed and you want to recover your current Windows XP data, type `r` to select the repair option, and then remove the CD from the drive.

4. If you want to install a new copy of Windows XP, press to select that option.

5. Press to select the highlighted partition

   (recommended), and then follow the instructions on the screen.

   The **Windows XP Setup** screen appears, and the operating system begins to copy files and install the devices. The computer automatically restarts multiple times.

NOTE: The time required to complete the setup depends on the size of the hard drive and the speed of your computer.

NOTICE: Do not press any key when the following message appears: `Press any key to boot from the CD`.

6. When the **Regional and Language Options** screen appears, select the settings for your location, and then click **Next**.

7. Enter your name and organization (optional) in the **Personalize Your Software** screen and click **Next**.

8. *If you are reinstalling Windows XP Home Edition*, at the **What's your computer's name** window, enter a name for your computer (or accept the name provided) and click **Next**.

   If you are reinstalling Windows XP Professional, at the **Computer Name and Administrator Password** window, enter a name for your computer (or accept the one provided) and a password, and then click **Next**.

9. If the **Modem Dialing Information** screen appears, enter the requested information and click **Next**.

10. Enter the date, time, and time zone in the **Date and Time Settings** window and click **Next**.

11. If the **Networking Settings** screen appears, click **Typical** and click **Next**.

12. If you are reinstalling Windows XP Professional and you are prompted to provide further information regarding your network configuration, enter your selections. If you are unsure of your settings, accept the default selections.

    Windows XP installs the operating system components and configures the computer. The computer automatically restarts.

⊖ **NOTICE:** Do not press any key when the following message appears: `Press any key to boot from the CD`.

13. When the **Welcome to Microsoft** screen appears, click **Next**.

14. When the `How will this computer connect to the Internet?` message appears, click **Skip**.

15. When the **Ready to register with Microsoft?** screen appears, select **No, not at this time** and click **Next**.

16. When the **Who will use this computer?** screen appears, you can enter up to five users. Click **Next**.

17. Click **Finish** to complete the setup, and remove the CD from the drive.

Reinstalling Drivers and Software

1. Reinstall the appropriate drivers.

2. Reinstall your virus protection software. See the documentation that came with the software for instructions.

3. Reinstall your other software programs. See the documentation that came with the software for instructions.
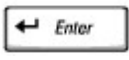

Reinstalling Windows 2000

⊖ **NOTICE:** The *Operating System* CD provides options for reinstalling the Windows 2000 operating system. The options can potentially overwrite files installed by Dell and possibly affect programs installed on your hard drive. Therefore, do not reinstall your operating system unless instructed to do so by a Dell technical support representative.
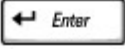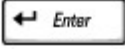
Booting From the Operating System CD

1. Save and close any open files and exit any open programs.

2. Insert the *Operating System* CD. If any program starts automatically, exit the program before proceeding.

3. Shut down the computer through the **Start** menu and restart the computer.

4. Press [F12] immediately after the DELL™ logo appears.

    If the operating system logo appears, wait until you see the Windows desktop, and then shut down the computer and try again.

5. Press the arrow keys to select **CD-ROM**, and then press [← Enter].

6. When the `Press any key to boot from CD` message appears, press any key.

Windows 2000 Setup

1. When the **Windows 2000 Setup** window appears, ensure that **To setup Win2000 now, press ENTER** is highlighted. Then press [← Enter] .

2. Read the information in the **License Agreement** window and press [F8 CRT/LCD] to continue.

3. When the **Windows 2000 Professional Setup** window appears, press the arrow keys to select the Windows 2000 partition option that you want. Then press the key for the partition option you chose.

4. When the **Windows 2000 Professional Setup** window reappears, press the arrow keys to select the type of file system that you want Windows 2000 to use, and then press [← Enter] .

5. Press [← Enter] again to restart your computer.

6. Click **Next** when the **Welcome to the Windows 2000 Setup Wizard** window appears.

7. When the **Regional Settings** window appears, select your region, and then click **Next**.

8. Enter your name and organization in the **Personalize Your Software** window and click **Next**.

9. Enter the Windows product key, which is printed on the Microsoft label on your computer. Then click **Next**.

10. When the **Computer Name and Administrator Password** window appears, enter a name for your computer and a password, if desired. Then click **Next**.

11. Enter the date and time in the **Date and Time Settings** window and click **Next**.

    Windows 2000 installs components and configures the computer.

12. When the **Completing the Windows 2000 Setup Wizard** window appears, remove the CD from the drive and click **Finish**.

    The computer automatically restarts.

Enabling Hibernate Mode

1. Click the **Start** button, point to **Settings** and click **Control Panel**.

2. Double-click the **Power Management** icon.

3. Click the **Hibernate** tab.

4. Ensure that **Enable hibernate support** is selected and click **Apply**.

5. Click **OK** to close the Control Panel.

Using the Dell™ D/Bay

About the Dell D/Bay

You can install Dell Latitude™ D-Family devices such as a floppy drive or an optical drive.

Removing and Installing Devices When the Computer is Turned Off

⚠ **CAUTION: Before working inside your computer, read the safety information in your *System Information Guide*.**

⊖ **NOTICE:** To prevent damage to devices, place them in a safe, dry place when they are not installed in the computer. Avoid pressing down on them or placing heavy objects on top of them.

1. Press the device latch release so that the latch release pops out.

2. Pull the device by the latch release to remove the device from the D/Bay.

3. Insert the new device into the bay, push the device until you feel a click, and push the device latch release in so that it is flush with the computer.

4. Connect the D/Bay cable to the Dell D/Bay connector on the computer.

Removing and Installing Devices While the Computer Is Running

⚠️ **CAUTION: Before working inside your computer, read the safety information in your *System Information Guide*.**

Microsoft® Windows® XP

1. Double-click the **Safely Remove Hardware** icon on the taskbar.

2. Click the device you want to eject.

🚫 **NOTICE:** To prevent damage to devices, place them in a safe, dry place when they are not installed in the computer. Avoid pressing down on them or placing heavy objects on top of them.

3. Press the device latch release so that the latch release pops out.

4. Pull the device by the latch release to remove the device from the D/Bay.

5. Insert the new device into the bay, push the device until you feel a click, and push the device latch release in so that it is flush with the computer.

   Windows XP automatically recognizes the new device.

6. If necessary, enter your password to unlock your drive.

Windows 2000

1. Click the **Unplug or Eject Hardware** icon on the taskbar.

2. Click the device you want to eject and click **Stop**.

3. Press the device latch release so that the latch release pops out.

4. Pull the device by the latch release to remove the device from the D/Bay.

5. Insert the new device into the bay, push the device until you feel a click, and push the device latch release in so that it is flush with the computer.

6. When the operating system recognizes the new device, click **Close**.

Using the CD or DVD Tray

⊘ **NOTICE:** Do not press down on the drive tray when opening or closing it. Keep the tray closed when you are not using the drive.

⊘ **NOTICE:** Do not move the computer while playing CDs or DVDs.

1. Press the eject button on the front of the drive.

2. Pull the tray out.

3. Place the disc, label side up, in the center of the tray.

4. Snap the disc onto the spindle.

| 1 | eject button |

5. Push the tray back into the drive.

NOTE: If you use a module bay that shipped with another Latitude D-Family computer, you need to install the drivers and software necessary to play DVDs or write data. For more information, see the *Drivers and Utilities* CD.

You can play a DVD on your computer if the computer shipped with a DVD drive or a CD-RW/DVD combo drive. You can write data to a blank CD on your computer if the computer shipped with a CD-RW or CD-RW/DVD combo drive.

For more information on playing CDs or watching movies, click **Help** on the CD player or DVD player (if available).

Adjusting the Volume

NOTE: If the speaker is muted, you do not hear the CD or DVD playing.

1. Click the **Start** button, point to **All Programs**® **Accessories**® **Entertainment** (or **Multimedia**), and then click **Volume Control**.

2. In the **Volume Control** window, click and drag the bar in the **Volume Control** column and slide the bar up or down to increase or decrease the volume.

For more information on volume control options, click **Help** in the **Volume Control** window.

The Volume Meter displays the current volume level, including mute, on your computer. Either right-click the icon in the taskbar or press the volume control buttons to enable or disable the Volume Meter on the screen (if Dell QuickSet is installed).
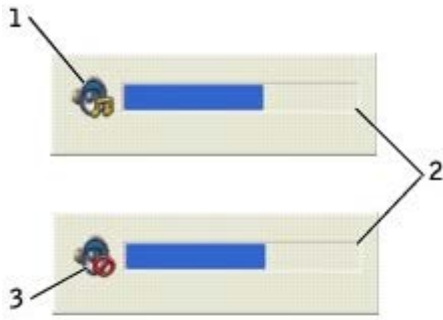
1	volume icon
2	Volume Meter
3	mute icon

📝 **NOTE:** By default, the Volume Meter appears in the lower-right corner of the display. You can click and drag the meter to a new location, and the meter subsequently always appears at the new location.

When the meter is enabled, adjust the volume using the volume control buttons or by pressing the following keys:

- Press [Fn] [Page Up] to increase volume.

- Press [Fn] [Page Dn] to decrease volume.

- Press [Fn] [End] to mute volume.

For more information about QuickSet, right-click the [QS] icon in the taskbar and click **Help**.

Adjusting the Picture

If an error message notifies you that the current resolution and color depth are using too much memory and preventing DVD playback, adjust the display properties.

Windows XP

1. Click the **Start** button and click **Control Panel**.

2. Under **Pick a category**, click **Appearance and Themes**.

3. Under **Pick a task...**, click **Change the screen resolution**.

4. In the **Display Properties** window, click and drag the bar in **Screen resolution** to change the setting to **1024 by 768 pixels**.

5. Under **Color quality**, click the drop-down menu and click **Medium (16 bit)**.

6. Click **OK**.

Windows 2000

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.

2. Double-click the **Display** icon and click the **Settings** tab.

3. Click and drag the bar in **Screen area** to change the setting to **1024 by 768 pixels**.

4. Under **Color quality**, click the drop-down menu and click **High Color (16 bit)**.

5. Click **Apply**.

6. Click **OK** to save the settings and close the window.

Cleaning Your Computer

- [Computer, Keyboard, and Display](#)
- [Touch Pad](#)
- [Floppy Drive](#)
- [Optical Media](#)

⚠️ **CAUTION: Before you begin any of the procedures in this section, read the safety instructions in the *System Information Guide*.**

Computer, Keyboard, and Display

⚠️ **CAUTION: Before you clean your computer, disconnect the computer from the electrical outlet and remove any installed batteries. Clean your computer with a soft cloth dampened with water. Do not use liquid or aerosol cleaners, which may contain flammable substances.**

- Gently use a vacuum cleaner with a brush attachment to remove dust from the slots and holes on your computer and between the keys on the keyboard.

⊘ **NOTICE:** To avoid damaging the computer or display, do not spray cleaning solution directly onto the display. Only use products specifically designed for cleaning LCDs, and follow the instructions that are included with the product.

- Moisten a soft, lint-free cloth with water or an LCD cleaner, and wipe the display until it is clean.

- Moisten a soft, lint-free cloth with water or an LCD cleaner, and wipe the computer and keyboard. Do not allow water from the cloth to seep between the touch pad and the surrounding palm rest.

Touch Pad

1. Shut down and turn off your computer, disconnect any attached devices, and disconnect them from their electrical outlets.

2. [Remove the battery](#).

3. Moisten a soft, lint-free cloth with water, and stroke it gently across the surface of the touch pad. Do not allow water from the cloth to seep between the touch pad and the surrounding palm rest.

Floppy Drive

⊘ **NOTICE:** Do not attempt to clean drive heads with a swab. You might accidentally misalign the heads, which prevents the drive from operating.

Clean your floppy drive using a commercially available cleaning kit. These kits contain pretreated floppy disks to remove contaminants that accumulate during normal operation.

Optical Media

⊘ **NOTICE:** Always use compressed air to clean the lens in the drive, and follow the instructions that are included with the compressed air. Never touch the lens in the drive.

If you notice problems, such as skipping, with the playback quality of your CDs or DVDs, try cleaning the discs.

1. Hold the disc by its outer edge. You can also touch the inside edge of the center hole.

⊘ **NOTICE:** To prevent damaging the surface, do not wipe in a circular motion around the disc.

2. With a soft, lint-free cloth, gently wipe the bottom of the disc (the unlabeled side) in a straight line from the center to the outer edge of the disc.
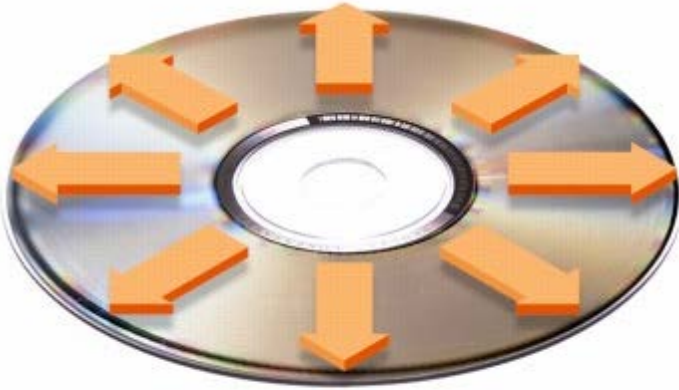
You can also purchase commercial products that clean discs and provide some protection from dust, fingerprints, and scratches. Cleaning products for CDs are safe to use on DVDs.

3. Connect your computer and devices to electrical outlets, and turn them on.

Specifications

Microprocessor	
Microprocessor type	Intel® Centrino™ Mobile Technology or Intel Pentium® M
L1 cache	32-KB instruction and 32-KB write-back data cache
L2 cache	1 MB
External bus frequency	400 MHz, source synchronous processor system bus

System Information	
System chip set	Intel 855GM
Flash EPROM	1 MB
Data bus width	64 bits
Microprocessor address bus width	32 bits
PCI bus	32 bits

PC Card	
CardBus controller	TI PCI7510 Cardbus controller
PC Card connector	supports one Type I or Type II card
Cards supported	3.3 V and 5 V
PC Card connector size	68 pins
Data width (maximum)	PCMCIA 16 bits CardBus 32 bits

Smart Card	
Read/write capabilities	reads and writes to all ISO 7816 1/2/3/4 microprocessor cards (T=0, T=1)
Cards supported	3V and 5V
Program technology supported	Java cards
Interface speed	9600–115,200 BPS
EMV level	level 1 certified

WHQL certification	PC/SC
Compatibility	compatible within a PKI environment
Insert/eject cycles	certified for up to 100,000 cycles

Memory	
Memory module connector	two user-accessible DDR SDRAM sockets
Memory module capacities	128, 256, 512, and 1024 MB
Memory type	2.5 V 266 MHz DDR SDRAM
Standard memory	128 MB
Maximum memory	2048 MB

Ports and Connectors	
Serial	9-pin connector; 16550C-compatible, 16-byte buffer connector
Video	15-hole connector
Audio	microphone connector, stereo headphone/speakers connector
USB	two 4-pin USB 2.0-compliant connectors (including the Dell™ D/Bay connector)
Dell™ D/Bay connector	4-pin power supply and 4-pin USB 2.0-compliant connector
Infrared	sensor compatible with IrDA Standard 1.1 (Fast IR) and IrDA Standard 1.0 (Slow IR)
Mini PCI	Type IIIA Mini PCI card slot
Modem	RJ-11 port
Network adapter	RJ-45 port
IEEE 1394	4-pin serial connector

Communications	
Modem:	
Type	v.92 56K MDC
Controller	softmodem
Interface	internal AC'97 bus
Network adapter	10/100/1000 Ethernet LAN on system board
Wireless	Internal Mini PCI Wi-Fi and Bluetooth™ wireless support (optional)

Video	
Video type	Intel UMA integrated
Video controller	855GM chip set
Video memory	1 MB with Intel DVMT up to 32 MB (with 128 MB of system memory) or 64 MB (with 256 MB or more of system memory)

LCD interface	LVDS

Audio

Audio controller	AC'97 (Soft Audio)
Stereo conversion	18-bit (analog-to-digital and digital-to-analog)
Interfaces:	
Internal	AC'97
External	microphone-in connector, stereo headphones/speakers connector
Speaker	one 8-ohm speaker
Internal speaker amplifier	1.2-W channel into 8 ohms
Volume controls	keyboard shortcuts, program menus

Display

Type (active-matrix TFT)	XGA
Dimensions:	
Height	184.3 mm (7.3 inches)
Width	245.8 mm (9.7 inches)
Diagonal	307.2 mm (12.1 inches)
Maximum resolutions	1024 x 768 at 256 K (or 262,144) colors
Response time (typical)	20-ms rise (maximum), 30-ms fall (maximum)
Refresh rate	60 Hz
Operating angle	0° (closed) to 180°
Viewing angles:	
Horizontal	±40°
Vertical	+10°/−30°
Pixel pitch	0.28 x 0.28 mm
Power Consumption:	
Panel with backlight (typical)	6.5 W
Controls	brightness can be controlled through keyboard shortcuts

Keyboard

Number of keys	84 (U.S. and Canada); 85 (Europe); 86 (Brazil); 88 (Japan)
Layout	QWERTY/AZERTY/Kanji

Touch Pad

X/Y position resolution (graphics table mode)	240 cpi
Size:	

Width	64.88 mm (2.55-inch) sensor-active area
Height	48.88-mm (1.92-inch) rectangle

Track Stick	
X/Y position resolution (graphics table mode)	250 count/sec @ 100 gf
Size	protrudes higher than surrounding keycaps

Battery	
Type	6-cell "smart" lithium ion (42 WHr) 4-cell "smart" lithium ion (28 WHr)
Dimensions:	
Depth	88.5 mm (3.48 inches)
Height	21.5 mm (0.83 inch)
Width	139.0 mm (5.47 inches)
Weight	0.32 kg (0.7 lb) (6 cell) 0.26 kg (0.57 lb) (4 cell)
Voltage	11.1 VDC (6 cell) 14.8 VDC (4 cell)
Charge time (approximate):	
Computer on	2.5 hours
Computer off	1 hour
Operating time	varies depending on operating conditions; can be significantly reduced under certain power-intensive conditions See "Using a Battery" for more information on battery life.
Life span (approximate)	300 full discharge/charge cycles
Temperature range:	
Operating	0° to 35°C (32° to 95°F)
Storage	−40° to 65°C (−40° to 149°F)

AC Adapter	
Input voltage	90–264 VAC
Input current (maximum)	1.7 A
Input frequency	47–63 Hz
Output current	5.5 A (maximum at 4-second pulse); 4.5 A (continuous)
Output power	90 W or 65 W
Rated output voltage	19.5 VDC
Dimensions:	
Height	26.6–31.9 mm (1.05–1.26 inches)

Width	58.42 mm (2.3 inches)
Depth	133.85 mm (5.25 inches)
Weight (with cables)	0.4 kg (0.9 lb)
Temperature range:	
Operating	0° to 35°C (32° to 95°F)
Storage	−40° to 65°C (−40° to 149°F)

Physical	
Height	25.4 mm (1 inch)
Width	294 mm (11.57 inches)
Depth	245 mm (9.65 inches)
Weight:	
Computer with 4-cell battery	1.7 kg (3.7 lb)
Dell D/Bay (alone)	256 g (0.56 lb)
CD drive (alone)	215 g (0.47 lb)

Environmental	
Temperature range:	
Operating	0° to 35°C (32° to 95°F)
Storage	−40° to 65°C (−40° to 149°F)
Relative humidity (maximum):	
Operating	10% to 90% (noncondensing)
Storage	5% to 95% (noncondensing)
Maximum vibration (using a random-vibration spectrum that simulates user environment):	
Operating	0.9 GRMS
Storage	1.3 GRMS
Maximum shock (measured with hard drive in head-parked position and a 2-ms half-sine pulse):	
Operating	122 G
Storage	163 G
Altitude (maximum):	
Operating	−15.2 to 3048 m (−50 to 10,000 ft)
Storage	−15.2 to 10,668 m (−50 to 35,000 ft)

Dell™ QuickSet Features

Dell QuickSet provides you with easy access to configuration settings for power management schemes, battery resources, icon and font size, display brightness, volume, and network activity. If QuickSet is installed on your computer, it runs from the icon located in the taskbar. If QuickSet is not installed, you can download the program from **support.dell.com**. QuickSet functions differently when you click, double-click, or right-click the icon.

Clicking the QuickSet Icon

Click the icon to perform the following tasks:

- Adjust power management settings using the [Power Management Wizard](#).

- Adjust the size of icons and toolbars.

- Select a power scheme that you set in the [Power Management Wizard](#).

- Turn presentation mode on or off.

Double-Clicking the QuickSet Icon

Double-click the icon to adjust power management settings using the [Power Management Wizard](#).

Right-Clicking the QuickSet Icon

Right-click the icon to perform the following tasks:

- Enable or disable the [Brightness Meter](#) on the screen.

- Enable or disable the [Volume Meter](#) on the screen.

- Turn [wireless activity](#) on or off.

- View *Dell QuickSet Help*.

- View the version and copyright date of the QuickSet program installed on your computer.

For more information about QuickSet, right-click the icon in the taskbar and click **Help**.