DELL®

Dell® 800F Series, 828FI Color Monitor User's Guide

www.dell.com

Warnings, Cautions, and Notes

Throughout this document, there may be blocks of text printed in bold type or in italic type. These blocks are warnings, cautions, and notes, and they are used as follows:

WARNING: A WARNING indicates the potential for bodily harm and tells you how to avoid the problem.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

NOTE: A NOTE indicates important information that helps you make better use of your computer system.

July 1998   P/N: 22793, 22794, 22795, 22878

Safety Instructions

Please read and follow these instructions when connecting and using your computer monitor:

- To help avoid damaging your computer, be sure the voltage selection switch on the power supply is set to match the alternating current (AC) power available at your location:

    — 115 volts (V)/60 hertz (Hz) in most of North and South America and some Far Eastern countries such as Japan, South Korea, and Taiwan

    — 230 V/50 Hz in most of Europe, the Middle East, and the Far East

    Also be sure your monitor is electrically rated to operate with the AC power available in your location.

- Never insert anything metallic into the monitor openings. Doing so may create the danger of electric shock.

- To avoid electric shock, never touch the inside of the monitor. Only a qualified technician should open the monitor's case.

- Never use your monitor if the power cord has been damaged. Do not allow anything to rest on the power cord, and keep the cord away from where people could trip over it.

- Be sure to hold the plug, not the cord, when disconnecting the monitor from an electric socket.

- Openings in the monitor cabinet are provided for ventilation. To prevent overheating, these openings should not be blocked or covered. Also, avoid using the monitor on a bed, sofa, rug, or other soft surface. Doing so may block the ventilation openings in the bottom of the cabinet. If you put the monitor in a bookcase or some other enclosed space, be sure to provide adequate ventilation.

- Put your monitor in a location with low humidity and a minimum of dust. Avoid places like damp basements or dusty hallways.

- Do not expose the monitor to rain or use it near water (in kitchens, next to swimming pools, etc.). If the monitor accidentally gets wet, unplug it and contact an authorized dealer immediately. You can clean the monitor with a damp cloth when necessary, but be sure to unplug the monitor first.

- Place the monitor on a solid surface and treat it carefully. The screen is made of glass and can be damaged if dropped or sharply hit.

- Locate your monitor near an easily accessible AC outlet.

- If your monitor does not operate normally – in particular, if there are any unusual sounds or smells coming from it – unplug it immediately and contact an authorized dealer or service center.

- High temperatures can cause problems. Don't use your monitor in direct sunlight, and keep it away from heaters, stoves, fireplaces, and other sources of heat.

- Unplug the monitor when it is going to be left unused for an extended period of time.

- Unplug your monitor from the AC outlet before any service.

Polish Center for Testing and Certification Notice

The equipment should draw power from a socket with an attached protection circuit (a three-prong socket). All equipment that works together (computer, monitor, printer, and so on) should have the same power supply source.

The phasing conductor of the room's electrical installation should have a reserve short-circuit protection device in the form of a fuse with a nominal value no larger than 16 amperes (A).

To completely switch off the equipment, the power supply cable must be removed from the power supply socket, which should be located near the equipment and easily accessible.

A protection mark "B" confirms that the equipment is in compliance with the protection usage requirements of standards PN-93/T-42107 and PN-89/E-06251.

Contents

Tables

Dell® 800F Series, 828FI Monitor User's Guide

Overview of Your Monitor
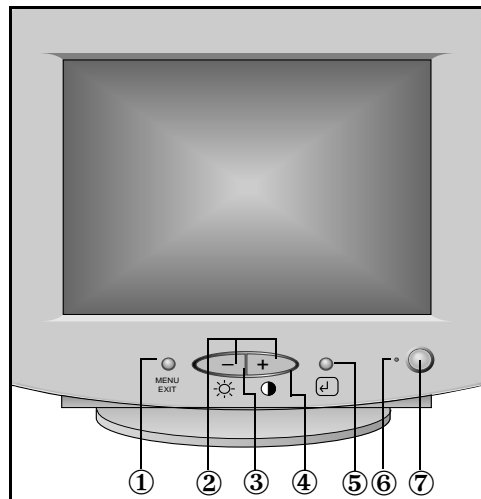
Front Panel

1. MENU / EXIT
Use this button to open the on-screen display (OSD) or to exit out of an on-screen display.

2. – / +
Use these buttons to adjust items in the on-screen display.

3. Brightness
Use this button to access the brightness controls.

4. Contrast
Use this button to access the contrast controls.

5. ↵
Use this button to choose an item in the on-screen display.

6. Power indicator

This light glows green during normal operation.

7. Power button

Use this button to turn the monitor on and off.
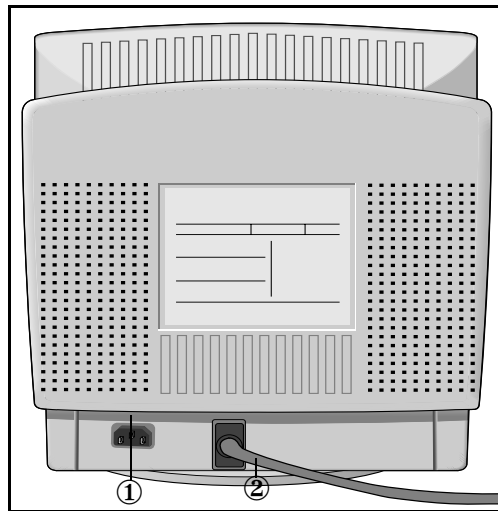
Back Panel

1. Power port

Connect the power cable here.

2. Signal cable

Connect this cable to the video connector on your computer.

Installation

Connecting Your Monitor to a Computer
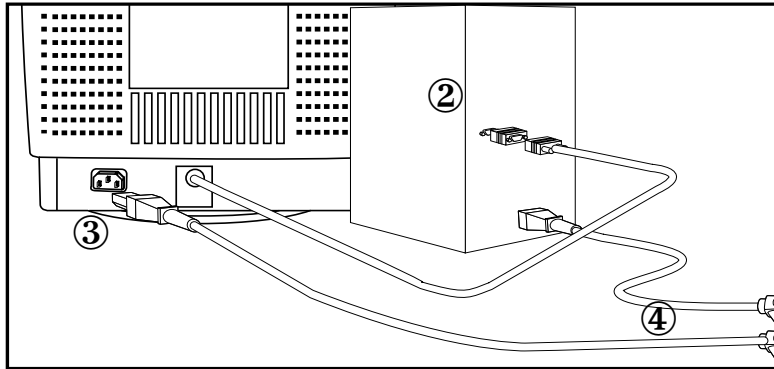
1. **Turn off your computer and unplug its power cord.**

2. **Connect the blue signal cable to the blue video port on the back of your computer.**

3. **Connect the power cord for your monitor to the power port on the back of the monitor.**

4. **Plug the power cords of your computer and your monitor into a nearby outlet.**

5. **Turn on your computer and monitor. If your monitor displays an image, installation is complete.**

Plug and Play

Our adoption of the new VESA® plug and Play solution eliminates complicated and time consuming setup. It allows you to install your monitor in a Plug and Play compatible system without the usual hassles and confusion. Your PC system can easily identify and configure itself for use with your monitor. This monitor automatically tells the PC system its Extended Display Identification (EDID) data using Display Data Channel (DDC) protocols so the PC system can automatically configure itself and optimize the monitor settings. If desired, the user can select different settings, but in most cases, monitor installation is automatic.

Maintenance of Your Monitor

WARNING: To avoid risk of electric shock, do not disassemble the monitor cabinet. The unit is not user-serviceable. User maintenance is restricted to cleaning as explained below:

Unplug the monitor from the power outlet before cleaning.

- To clean your antistatic screen, lightly dampen a soft, clean cloth with water or mild detergent. If possible, use a special screen cleaning tissue or solution suitable for the antistatic coating.

- To clean the monitor cabinet, use a cloth lightly dampened with a mild detergent.

- Wipe off stubborn stains from the cabinet or screen with a cloth lightly dampened in alcohol (methyl, ethyl or isopropyl). Do not use benzine, thinner, ammonia, abrasive cleaners, or compressed air.

Monitor Self Test

Your monitor provides a self test feature which allows you to check if your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark and the power indicator is blinking, use the following steps to perform the monitor self test:

1. Turn off both your computer and the monitor.

2. Unplug the video cable from the computer or video card.

3. Turn on the monitor.

   If the monitor is functioning properly, you will see a white box with a red border and black text inside stating:

   > NO CONNECTION!
   > CHECK SIGNAL CABLE

   This box will also appear during normal operation of your system if the video cable becomes disconnected or damaged.

4. Turn off your monitor and reconnect the video cable; then turn on both your computer and monitor.

If your monitor screen remains blank after using the above procedure, check your video controller and computer system; your monitor is functioning properly.

Adjusting Your Monitor

Your computer monitor allows you to easily adjust the characteristics of the image being displayed. All of these adjustments are made using the control buttons on the front of the monitor. While you use these buttons to adjust the controls, an on-screen menu shows you their numeric values as they change.
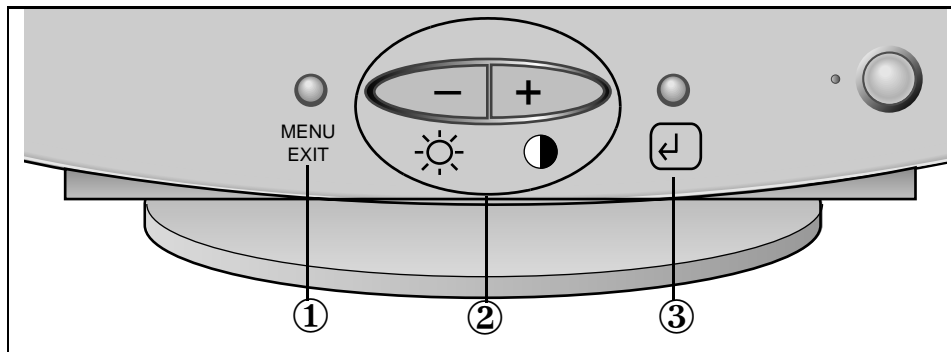
1. **The MENU / EXIT button opens and closes the on-screen menu.**

2. **The –/+ buttons allow you to select and adjust items in the menu. When the menu is not displayed, these buttons directly adjust the brightness and contrast.**

3. **The ↵ button activates the function highlighted on the on-screen menu.**

WARNING: Holding in this button for longer than 5 seconds erases all data in the User Settings memory.

Automatic Save

Whenever you open the on-screen menu and allow an adjustment window to remain on-screen for about three seconds without pressing another button, this monitor automatically saves any adjustments you have made. These changes are saved into a user area in the monitor. User areas are reserved according to the signal frequency from your computer. This monitor can save adjustments for up to eight user modes. It has eight factory preset or preload modes, one for each signal frequency as listed in the "Preset Timing Modes" on page 13.

If you have made no adjustments the on-screen menu disappears and the monitor does not save anything.

To exit without saving the changes you have made, press the MENU / EXIT button before the three seconds elapse.

Direct-Access Features

The features described on this page can be accessed quickly, at the touch of one button.

Once you are finished making adjustments to a feature, push the MENU / EXIT button to return to the Menu, then push MENU / EXIT again to turn off the menu.

Brightness
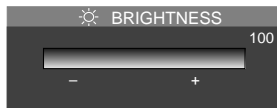
Follow these instructions to adjust the brightness of the monitor's display.

1. With the menu off, push the "–" button. The brightness display will appear.

2. Push the "+" button to increase the brightness; push the "–" button to decrease the brightness.

Contrast
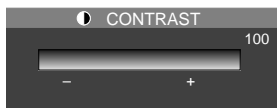
Follow these instructions to adjust the contrast between darkness and lightness on the monitor's display.

1. With the menu off, push the "+" button. The contrast display will appear.

2. Push the "+" button to increase the contrast; push the "–" button to decrease the contrast.

Menu System

On-Screen Menu

Title bar

Features icons

Features name

MENU

H. POSITION
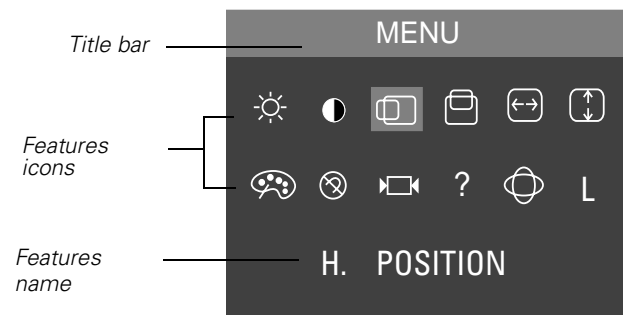
Accessing the Menu System

1. With the menu off, push the MENU/EXIT button to open the menu system and display the main features menu.

2. **Push the + button to move to the next icon or push the – button to move back to the previous icon. As you move from one icon to another, the feature name changes to reflect the feature or group of features represented by that icon. See the table below to view a complete list of all the features offered by this monitor.**

3. **Push the** ↵ **button once to select the adjustment function, then use the + and – buttons to make your changes.**

4. **Push the MENU/EXIT button once to return to the main menu to select another function or push MENU/EXIT button 2 or 3 times to exit from the OSD.**

Table 1-1. Menu Adjustments

Icon		Settings
	☼	Brightness: Selecting this icon opens the same brightness display screen as when using the direct access button (–).
	◑	Contrast: Selecting this icon opens the same contrast display screen as when using the direct access button (+).
H. POSITION 52 – +	▯	Horizontal position: Select this icon to horizontally move the viewing area on the monitor screen.
V. POSITION 52 – +	▯	Vertical position: Select this icon to vertically move the viewing area on the monitor screen.
WIDTH 52 – +	↔	Width: Select this icon to make the horizontal size of the viewing area larger or smaller on the monitor.
HEIGHT 52 – +	↕	Height: Select this icon to make the vertical size of the viewing area larger or smaller on the monitor.
COLOR 9300K 6500K	🎨	Color is a measure of the "warmth" of the image colors. Select this icon to choose between 9300K (more blue) and 6500K (more red).

Table 1-1. Menu Adjustments *(continued)*
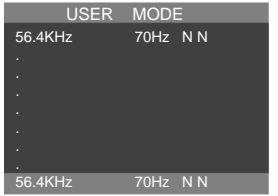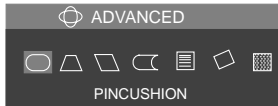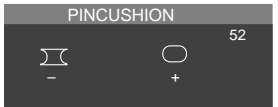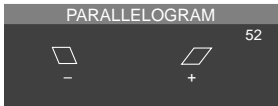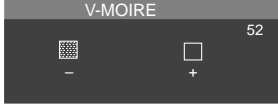
Icon		Settings
DEGAUSS YES NO	⊗	Degauss: Select this icon if you notice a problem with inconsistent colors. This feature removes unwanted magnetic fields that may build up on your monitor and distort the colors. Do not use this feature more than once within a 30-minute period. *Note: The monitor may buzz momentarily, the image colors may change and the image will jiggle for a few seconds. These effects are normal.*
RECALL YES NO	▶☐◀	Recall: Select this icon to reset the horizontal and vertical position and size and the geometric distortion features to their original settings.
USER MODE 56.4KHz 70Hz N N . . . . . . 56.4KHz 70Hz N N	?	Information: Select this icon to view the current user mode and any other user modes that are available. This screen only displays information; you cannot select a new setting.
⬡ ADVANCED ◯ △ ▱ ⊏ 📄 ◇ ▦ PINCUSHION	⬖	Advanced: Select this icon to access a group of features that affect the shape of the viewing area (geometric distortion, G/D). Select the icon for the feature you want to adjust and push ↵ button again.
PINCUSHION 52 ⊐⊏ ◯ – +	◯	Pincushion: Select this icon when the sides of the viewing area are bowed in or bowed out.
TRAPEZOID 52 ▽ △ – +	△	Trapezoid: Select this icon when the viewing area is too large or too small.
PARALLELOGRAM 52 ▱ ▱ – +	▱	Parallelogram: Select this icon when the viewing area is leaning left or right.

Table 1-1. Menu Adjustments *(continued)*

Icon		Settings
PIN-BALANCE 52	⊂	Pinbalance: Select this icon when the sides of the viewing area are bowed towards the left or right.
V-LINEARITY 52	▤	Vertical linearity: Select this icon when the contents of the viewing area look "compressed" at the top or the bottom of the screen.
ROTATION 52	▱	Rotation: Select this icon when the entire viewing area is tilted left or right.
V-MOIRE 52	▦	Vertical moire: A "moiré" pattern can appear on your screen, looking like a series of concentric circles or arcs. Select this icon to set the moiré correction feature "on" (+) or "off" (**–**).
LANGUAGE ENGLISH DEUTSCH ESPAÑOL FRANÇAIS ITALIANO	L	Language: Changes to display the OSD data in any of the five languages listed. Use the **–** or + button to select between English, Deutsch, Español, Français, and Italiano.

PowerSaver

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain amount of time. The available modes are "On", "Standby", "Suspend", and "Off".

This system operates with a VESA DPMS compliant video card installed in your computer. You use a software utility installed on your computer to set up this feature. See Table 1-2 below for details.

Table 1-2. Power-Saving Modes

State	Normal Operation	Power-Saving Function mode (EPA/NUTEK)		
		Standby mode	Suspend mode Position A1	Power-off Mode Position A2
Horizontal Sync	Active	Inactive	Active	Inactive
Vertical Sync	Active	Active	Inactive	Inactive
Video	Active	Blanked	Blanked	Blanked
Power Indicator	Green	Green Blinking (0.5 sec interval)	Green Blinking (1 sec interval)	Green Blinking (2 sec interval)
Power Consumption	85W (max.) 75W (nominal)	55W (nominal)	Less than 15W	Less than 8W

NOTE: This monitor automatically returns to normal operation when horizontal and vertical sync return. This occurs when you move the computer's mouse or press a key on the keyboard.

This monitor is EPA ENERGY STAR® compliant and NUTEK compliant when used with a computer equipped with VESA DPMS functionality.

For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods.

Troubleshooting

Before calling for service, check the information in this section to see if you can remedy any problems yourself.

Table 1-3. Troubleshooting Problems

Symptom	Corrective Actions
No Picture	• Check to see that both the monitor and the computer are plugged in and turned on.
"NO CONNECTION! Check Signal Cable" appears	• Check the signal cable connection between the computer and the monitor • Use the monitor self test described on page 5.
Picture is scrambled	• Check the signal cable connection between the computer and monitor
Picture bounces or has wavy oscillations.	• Check the signal cable connection between the computer and monitor
Picture appears to be ghosting	• Check the signal cable connection between the computer and monitor.

Table 1-3. Troubleshooting Problems *(continued)*

Symptom	Corrective Actions
Color is not uniform	• Activate the Degauss feature using the OSD DEGAUSS menu • Adjust the color settings using the OSD COLOR menu.
White does not look white	• Activate the Degauss feature using the OSD DEGAUSS menu. • Adjust the color settings using the OSD COLOR menu.
The colors are distorted with dark or shadowed areas	• Activate the Degauss feature using the OSD DEGAUSS menu • Adjust the color settings using the OSD COLOR menu.
Screen image is not centered or sized properly	• Adjust the Horizontal and Vertical position settings And / or the Height and Width settings using the OSD.
Edges of the image are curved	• Adjust the shape of the display using the OSD ADVANCED menu.
Wavy or elliptical (moiré) pattern is visible	• Clear the moiré pattern using the OSD V-MOIRE menu
The power indicator is blinking green	• IThe monitor is using its power management system. Check the power management utility on your computer.
The image is too light or too dark	• Adjust the Brightness and Contrast settings using the OSD menu.
Cannot adjust monitor with the buttons on the front panel	• Please contact Dell customer service.
White lines show red or blue shades at the edges	• Check surroundings for magnetic fields. • Perform monitor reset.
Picture is fuzzy	• Perform monitor reset. • Eliminate accessories (i.e., Video extension cables).

Specifications

Table 1-4. Specifications

Picture Tube.	38 cm (15") full square type [35 cm (13.8") viewable] Flat face 90× deflection 0.28 Dot pitch Anti-reflection coating with Anti-electrostatic Medium short persistence phosphor
Synchronization	Horizontal: 30 kHz to 70 kHz (automatic) Vertical: 50 Hz to 120 Hz (automatic)
Maximum Resolution	Horizontal: 1280 dots @ 64 kHz Vertical: 1024 lines @ 60 Hz
Active Display	Horizontal: 267 ± 3 mm (10.5" ± 0.12") Vertical: 200 ± 3 mm (7.87" ± 0.12") (Active display size is dependent upon signal timing)
Input Signal, Terminated	Analog video 0.714 Vpp positive at 75 Ω Separate sync: TTL level, positive or negative
Maximum Pixel Clock	110 MHz
Power Supply.	AC 100-240 Volt ± 10%, 60 Hz/50 Hz ± 3 Hz
Power Consumption	85 W (maximum), 75 W (nominal)
BTUs	Heat Release per Hour : 255.91 BTU/Hr

Dimensions/Weight.	Unit: 370 x 395 x 377 mm; 12.5 kg
	            14.6 x 15.6 x14.8 in (W x D x H);
	            27.6 lb
	Carton: 454 x 497 x 433 mm; 14.3 kg
	            17.9 x 19.6 x 17.0 in (W x D x H);
	            31.5 lb
	            (All measurements approximate.)

Environmental Considerations.	Operating Temperature: 32°F to 104°F
	            (0°C to 40°C)
	Humidity: 10% to 80%
	Storage Temperature: -4°F to 149°F
	            (-20°C to 65°C)
	Humidity: 5% to 95%

NOTE: Design and specifications are subject to change without prior notice.

Pin Assignments

Sync Type: Separate Pin No.	15-Pin Side of the Signal Cable
1	Red
2	Green
3	Blue
4	GND
5	DDC Return
6	GND-R
7	GND-G
8	GND-B
9	Reserved
10	GND-Sync/Self-Raster
11	GND
12	DDC Data
13	H-Sync
14	V-Sync
15	DDC Clock

Display Resolution

For optimal monitor performance while using Microsoft® Windows® 95 or Windows NT®, set the display resolution to 800 x 600 as follows :

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

2. **Double-click the Display icon in the Control Panel window, and then click the Settings tab.**

3. **In the Desktop area, move the slidebar to 800 by 600 pixels, then click OK.**

Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM®, VGA2, 720 x 400	31.469	70.087	28.322	-/+
IBM®, VGA3, 640 x 480	31.469	59.940	25.175	-/-
VESA®, 640 x 480	37.500	75.000	31.500	-/-
VESA®, 640 x 480	43.269	85.008	36.000	-/-
VESA®, 800 x 600	46.875	75.000	49.500	+/+
VESA®, 800 x 600	53.674	85.061	56.250	+/+
VESA®, 1024 x 768	60.023	75.029	78.750	+/+
VESA®, 1024 x 768	68.677	84.997	94.500	+/+

Regulatory Notices and Warranties

Electric and Magnetic Fields

Energy Efficiency

The proper operation of the function requires a computer with VESA DPMS power management capabilities. When used with a computer equipped with VESA DPMS, the monitor is ENERGY STAR

compliant.

Federal Communications Commission (FCC) Notice (U.S. Only)

Class B Notice

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of these measures:

- Reorient or relocate receiving antenna.
- Relocate the equipment with respect to the receiver.
- Move the equipment away from the receiver.
- Plug the equipment into a different outlet so that the equipment and receiver are on different branch circuits.

If necessary, consult a representative of Dell Computer Corporation or an experienced radio/television technician for additional suggestions. You may find the following booklet helpful: FCC Interference Handbook, 1986, available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00450-7.

Note that FCC regulations provide that changes or modifications not expressly approved by Dell Computer Corporation could void your authority to operate this equipment.

A Notice About Shielded Cables: Use only shielded cables for connecting peripherals to any Dell device to reduce the possibility of interference with radio and television reception. Using shielded cables ensures that you maintain FCC Class B certification of this product. For parallel printers, a cable is available from Dell Computer Corporation.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity for Products Marked With FCC Logo

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The party responsible for product compliance:

SAMSUNG ELECTRONICS CO., LTD

QA Lab of Samsung America
85 West Tasman Drive
San Jose, CA 95134 USA

(Tel) 408-544-5124

(Fax) 408-544-5191

Canadian Regulatory Information (Canada Only)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Note that Canadian Department of Communications (DOC) regulations provide, that changes or modifications not expressly approved by Dell Computer Corporation could void your authority to operate this equipment.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

CE Notice

Products with the CE marking comply with both the EMC Directive (89/336/EEC), (92/31/EEC), (93/68/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN55022 (CISPR 22) - Radio Frequency Interference

- EN50082-1 : 1992 - Electromagnetic Immunity
- EN60555-2 (IEC555-2) - Power Line Harmonics
- EN60555-3 (IEC555-3) - Voltage Fluctuations
- EN60950 (IEC950) - Product Safety

EN 55022 Compliance (Czech Republic Only)

This device belongs to category B devices as described in EN 55022, unless it is specifically stated that it is a category A device on the specification label. The following applies to devices in category A of EN 55022 (radius of protection up to 30 meters). The user of the device is obliged to take all steps necessary to remove sources of interference of telecommunication or other devices.

Pokud není na typovém štitku počítače uvedeno, že spadá do třídy A podle EN 55022, spadá automaticky do třídy B podle EN 55022. Pro zařízení zařazená do třídy A (ochranné pásmo 30m) podle EN 55022 platí následující. Dojde-li k rušení telekomunikačních nebo jinych zařízení, je uživatel povinen provést taková opatření, aby rušení odstranil.

VCCI Class 2 Notice (Japan Only)

This equipment complies with the limits for a Class 2 digital device (devices used in or adjacent to a residential environment) and conforms to the standards for information technology equipment that are set by the Voluntary Control Council for Interference for preventing radio frequency interference in residential areas.

However, this equipment does generate, use, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio and television reception. Therefore, it is important to adhere to the manufacturer's instructions for installing and using this equipment.

Warranties and Return Policy

Limited One-Year Warranty (U.S. Only)

Dell Computer Corporation ("Dell") manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices. Dell warrants that the hardware products it sells will be free from defects in materials and workmanship. The warranty term is one year beginning on the date of delivery.

Damage due to shipping the products to you is covered under this warranty. Otherwise, this warranty does not cover damage due to external causes, including accident, abuse, misuse, problems with electrical power, servicing not authorized by Dell, usage not in accordance with product instructions, and failure to perform required preventive maintenance.

Dell will repair or replace products returned to Dell's facility. To request warranty service, you must call Dell customer service within the warranty period. If warranty service is

required, Dell will issue a Return Material Authorization Number. You must ship the prod-ucts back to Dell in their original packaging or equivalent, prepay shipping charges, and you must insure the shipment or accept the risk of loss or damage during shipment. Dell will ship the repaired or replacement products to you freight prepaid if you use an address in the United States (excluding Puerto Rico and U.S. possessions). Shipments to other loca-tions will be made freight collect.

Dell owns all parts removed from repaired products. Dell uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Dell repairs a product, its warranty term is not extended; if Dell replaces a product, the replacement is warranted for the remainder of the original term or 60 days, whichever is longer.

Dell MAKES NO EXPRESS WARRANTIES BEYOND THOSE STATED HERE. DELL DIS-CLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PAR-TICULAR PURPOSE. SOME STATES DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, SO THIS LIMITATION MAY NOT APPLY TO YOU.

Dell's RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIM-ITED TO REPAIR AND REPLACEMENT AS SET FORTH ABOVE. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Dell DOES NOT ACCEPT LIABILITY BEYOND THE REMEDIES SET FORTH IN THIS WAR-RANTY STATEMENT OR LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LIABILITY FOR PRODUCTS NOT BEING AVAIL-ABLE FOR USE OR FOR LOST DATA OR SOFTWARE.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU.

These provisions apply to Dell's return-to-factory warranty only. For provisions of any on-site service contract covering your system, refer to the separate on-site service contract that you will receive.

"Total Satisfaction" Return Policy (U.S. and Canada)

If you bought products directly from a Dell company, you may return them to Dell up to 30 days from the day they are delivered for a complete refund of the purchase price. If your company bought the products under a Corporate Performance Agreement with a Dell com-pany, there are limits on when products may be returned to Dell under this policy. Please consult the person in your company that is the liaison with Dell for more information. To return products, you must call Dell customer service to receive a Credit Return Authoriza-tion Number. You must ship the products to Dell in their original packaging, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. Returned products must be in as-new condition, and all of the manuals, diskettes, power cables, and other items included with a product must be returned with it.

One Year Dell Manufacturer End-User Guarantee European Union, Norway and Switzerland

Guarantee

DELL Products, Raheen Industrial Estate, Limerick, Ireland (DELL) warrants to the end-user in accordance with the following provisions that its branded hardware products, purchased by the end-user from a DELL company or an authorized DELL distributor, in the European Union, Norway or Switzerland, will be free from defects in materials, workmanship and design affecting normal use, for a period of one year as of the original purchase date. Products for which proper claims are made will, at DELL's option, be repaired or replaced at DELL's expense.

Exclusions

This Guarantee does not apply to defects resulting from: improper or inadequate installation, use or maintenance; actions or modifications by unauthorized third parties or the end-user; accidental or wilful damage or normal wear and tear.

Making a claim

Claims must be made in the European Union, Norway or Switzerland, by contacting the point of sale or any DELL office within the guarantee period. The end-user must always supply proof of purchase, indicating name and address of the seller, date of purchase, model and serial number, name and address of the customer and details of symptoms and configuration at time of malfunction, including peripherals and software used. Otherwise, DELL may refuse the guarantee claim. Upon diagnosis of a warranted defect, DELL will make arrangements, and pay for ground freight and insurance to and from DELL repair/replacement centre. End-user must ensure defective product is available for collection properly packed in original or equally protective packaging together with details listed above and the return number provided to the end-user by DELL.

Limitation and Statutory Rights

DELL makes no other warranty, guarantee or like statement other than as explicitly stated above and this Guarantee is given in place of all other guarantees whatsoever, to the fullest extent permitted by law. In the absence of applicable legislation, this Guarantee will be the end-user's sole and exclusive remedy against DELL or any of its affiliates, and neither DELL nor any of its affiliates shall be liable for loss of profit or contracts, or any other indirect or consequential loss arising from negligence, breach of contract, or howsoever.

This Guarantee does not impair or affect mandatory statutory rights of the end-user against and/or any rights resulting from other contracts concluded by the end-user with DELL and/or any other seller.

Dell Computer Corporation's Environmental Program

Growing concern over protecting the environment has led many organizations to focus on the potential impact of their product design and manufacturing practices. Environmentally smart product development requires commitment to a long-term, systematic, continually improvable program. Dell's corporate initiative in this area calls for increasing its focus on

environmental concerns, as well as accommodating the guidelines expected in future environmental legislation in a variety of geographical locations.

Good environmental design affects many aspects of the design and manufacturing process, down to the level of which chemicals, coatings, and additives are allowed. However, this document addresses the aspects of Dell's environmental program that should most interest you as a customer. This document applies to all Dell-branded equipment-primarily system units, monitors, and keyboards.

First, systems that comply with Dell's environmental program incorporate the following features:

- A modular, highly upgradable design that extends the useful life of the basic unit
- Mechanical design that facilitates recycling and material disposal
- A consistent and documented multilevel power consumption scheme that meets the need to significantly reduce energy consumption

Dell peripherals meet the requirements of Dell's environmental program by offering the following features:

- Mechanical design that facilitates speedy disassembly for recycling
- Reduced variations in plastics, and plastics marked to internationally recognized standards for correct identification and the appropriate recycling process.

Other areas of interest include the following programs:

- The Green Away program, which provides for the disposition of obsolete or otherwise unwanted equipment
- An approved disposal policy for used system batteries
- A spare-parts provision in the Dell service agreement

These aspects of Dell's environmental program are described in detail in the following sections.

Design for Longevity

Your Dell computer's modular design allows you to keep the system up-to-date by adding or upgrading many system components. Instructions for installing the following components are included in your computer system's user documentation:

- The system microprocessor, system memory, and storage devices (hard-disk drives, diskette drives, tape drives, and CD-ROM drives) can be easily replaced or upgraded. (The microprocessor and the memory can be upgraded without using tools.)
- Depending on your system's chassis design and the options installed at initial shipment, a number of expansion slots are available to accommodate additional controller cards.
- Also depending on your system, you may be able to upgrade your external cache and/ or video memory.

In addition to many of the components being replaceable by hand (that is, without tools), the chassis itself snaps together using primarily hooks and latches, with very few screws;

the computer cover can be removed and replaced by hand. This snap-together capability both simplifies upgrade procedures and facilitates disposal or reuse of the unit and/or its components (see "Dell's Green Away Program" found later in this document).

NOTE: Because monitors and keyboards have a potentially long life and are interchangeable for many systems, customers do not upgrade or replace these components as often as they replace their computers. Therefore, disposal of these components it not an issue as often.

Design for Recyclability

Your Dell equipment complies with the following principles of recyclable design:

- Avoidance of nonseparable connections, such as gluing and welding, between different materials

- Avoidance of coatings and composite structure materials

- Use of as few different materials as possible

- Designed for ease of disassembly:

  — Subassemblies, cables, and components easily detachable by one person working alone

  — Minimal use of screws

  — Most disassembly can be done by hand or with the aid of a standard 6-millimeter (1/4-inch) nut driver only

Design for Reduced Power Consumption

Both your system and your monitor are equipped with an energy-saving sleep mode that can be set to activate automatically after a certain period of system or monitor inactivity. In sleep mode, the system and monitor use the minimum amount of power that will maintain operational data and parameters. Refer to "Power Consumption" found later in this document for details of your equipment power consumption.

NOTE: Zero power consumption can be attained only when the system and monitor are completely disconnected from the alternating current (AC) power source.

Dell's Blue Angel Disposal Program

Rapid technological advances lead to a high turnover in computer products, as customers upgrade or replace their systems at an ever-increasing rate. To address the mounting problem regarding the indiscriminate disposal of unwanted products, and in anticipation of future legislation, Dell has instituted a disposal program, called Green Away, for the collection and disposal of these products.

Dell's Green Away Program

Dell's Green Away program is a free material return and disposal service for Dell custom-ers, covering computer products sold by Dell under the Blue Angel plan. The returned products are reused, recycled or disposed of as appropriate, in accordance with local envi-ronmental guidelines.

NOTE: The Green Away program is designed to dispose of unwanted or unusable products under the Blue Angel plan.

For returned material discounts on recent purchases, or for recycling of equipment neither sold by Dell nor covered by the Blue Angel plan, contact your local Dell Asset Management specialist.

In carrying out this program, Dell's general responsibilities include the following:

- Organizing the reuse/recycling/disposal of the equipment
- Ensuring that all disposal/recycling practices meet local environmental regulations
- Monitoring the process to ensure compliance and facilitate process improvement

How the Green Away Program Works

When you have one or more items of equipment that you would like to dispose of, contact your local Dell customer service department to request instructions. The returns coordina-tor processes the request and advises you on the return of your material. Refer to "Green Away Collection Points" found later in this document for the telephone number and collec-tion point in your area.

NOTE: "Shells" (equipment from which integral components, such as chips and power supplies have been removed) are not accepted as part of this free program. If a shell is dis-covered in your shipment, you will be asked to either collect the system or pay for its disposal.

The equipment is transported to Dellºs Green Away partner, where it is assessed and disposed of as follows:

• If judged resalable, the Dell label is removed and the equipment is tested, repaired, and resold.

• If judged beyond repair, the equipment is dismantled, and usable parts are offered for sale.

Unusable parts are disposed of as follows:

• Metal cases are sold to metals recyclers.

• Printed circuit boards and cases are sent to refiners.

• Plastic parts are sent to plastic recyclers.

• Unusable packaging is sent to paper recyclers.

Monitors are sent to recycling companies to be disposed as follows:

• The tubes are washed and the luminescent powder is recovered, some elements are extracted for reuse, and the remainder is disposed of via controlled incineration.

• Glass is sorted and sent to the lead smelter or recylced for glass works.

• The planar mask and the iron are sent for reuse to metals recyclers.

• Items that are not reusable are mainly incinerated.
However, if certain residues on the items are not allowed in hazardous waste incinerators, the Dell Green Away partner transports items to a secured (bundled) hazardous waste landfill.

Regulatory Note

No Dell systems use batteries containing heavy metal. However, the following note is included to comply with German regulatory standards.

NOTE: Heavy-metal-containing batteries and accumulators should not be disposed of together with the general household waste. To make sure that they are forwarded to recycling or proper disposal, they may be returned free of charge to the manufacturer, dealer, or their agent.

Spare Parts Policy

Dell commits to retaining stocks of spare parts (or reasonable alternatives) for a period of five years from the termination of production of the Dell system component-for example, the base system, the keyboard, or the monitor.
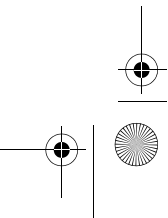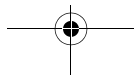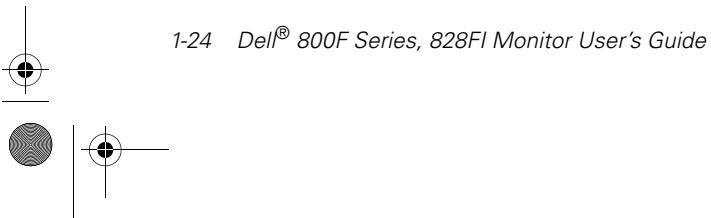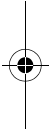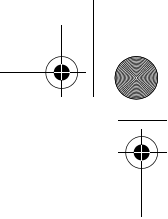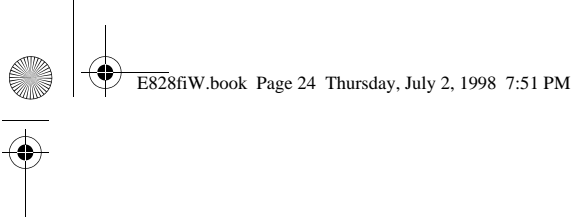
Green Away Collection Points

Table 1 lists the country specific customer service telephone number along with the Green Away collection point. For Germany, the Green Away collection point telephone number is listed rather than the customer service number.

NOTE: Locations marked with an asterisk (*) are approved facilities for battery disposal. As Dell expands the network of Green Away centers, additional addresses will be available across Europe. Contact your local Dell customer service department for information about the availability of Green Away services in your location.

Table 1-5. Green Away Collection Points

Country	Telephone	Address (model)
Belgium	02 481 91 00	R Frazier Ltd. Plantijnweg 15 4104 BC Culemborg, Netherlands
Denmark	+46-8-5900 5151	WMI Sellbergs AB Box 1294 S-171 25 Solna, Sweden
Finland	+46-8-5900 5181	WMI Selbergs AB Box 1294 S-171 25 Solna, Sweden
Northern Germany	0130-86-12 51	*Bockmann/Ohlig Tersteegenstrasse 21a 42653
Southern Germany	0130-86-12 51	*Knab Carl Benz Strasse 8-10 35440 Linden
Netherlands	02 481 91 00	R Frazier Europe Plantijnweg 15 4104 BC Culemborg, Netherlands
Norway	+46-8-5900 5179	WMI Sellbergs AB Box 1294 S-171 25 Solna, Sweden
Sweden	+46-8-5900 5169	WMI Sellbergs AB Box 1294 S-171 25 Solna, Sweden
United Kingdom		*R Frazier Ltd. Irongray Business Park Lochside Industrial Estate Dumfries DG2 0NR

Index

Symbols

– / +, 1-1

A

Automatic Save, 1-5

B

Brightness, 1-1, 1-6, 1-7

C

Color, 1-7
Connecting, 1-3
Contrast, 1-1, 1-6, 1-7

D

Dell Computer Corporation's
  Environmental Program, 1-18

Direct-Access Features, 1-6

Display Resolution, 1-13

F

Front Panel, 1-1

G

Green Away Collection Points, 1-23

H

Height, 1-7
Horizontal position, 1-7

I

incushion, 1-8
Information, 1-8

M

Maintenance, 1-4
MENU / EXIT, 1-1
Monitor Self Test, 1-4

N

NO CONNECTION! Check Signal Cable,
  1-4, 1-10

P

Parallelogram, 1-8
Plug and Play, 1-3
Power button, 1-2