

# Dial and Button Box Installation Guide

Document Number 007-9008-060

## CONTRIBUTORS

Written by Charmaine Moyer

Illustrated by Dany Galgani

Production by Michael Dixon

Engineering contributions by Jose Reinoso, Joe Green, and Mark Miller

St. Peter's Basilica image courtesy of ENEL SpA and InfoByte SpA. Disk Thrower  
image courtesy of Xavier Berenguer, Animatica

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See Appendix A for regulatory and compliance information.

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## Introduction

This guide explains how to install the dial box and button box options. It also provides technical information about this product.

The dial and button box combination works on most existing Silicon Graphics products.

**Note:** An existing dial box, button box, power supply, or cables do not work if connected to a new dial and/or button box part. You cannot mix old and new parts.

Read this guide once all the way through before you start to work. You will become familiar with the dial and button boxes and the parts with which you will be working.

If you need additional information about your workstation, refer to your owner's guide. Also check in the Toolchest under Help > Online Books > SGI End User. Your owner's guide can also be found on the Web in the Technical Publications Library at:

<http://techpubs.sgi.com/library/>

## Product Support

Silicon Graphics, Inc., provides a comprehensive product support and maintenance program for its products. If you are in North America and would like support for your Silicon Graphics supported products, contact the Technical Assistance Center at 1-800-800-4SGI or your authorized service provider. If you are outside North America, contact the Silicon Graphics subsidiary or authorized distributor in your country.



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## Installing and Removing the Dial and Button Boxes

This chapter covers installing the driver and installing, removing, and configuring the dial box, button box, or both on your system. Instructions are provided for each of these options.

### About the Driver

Install the driver before installing the hardware.

On systems running IRIX 5.3 and earlier, the dial and button box driver is installed by default. On systems running IRIX 6.2 and later, the driver must be manually installed.

The dial box driver is never installed by default.

On an IRIX 6.2 or later systems, to check whether the dial and button driver has been installed, follow these instructions:

From the Toolchest > Desktop, open a UNIX shell.

At the prompt, type `showprods eoe.sw.optinput`.

If the driver is installed, you see lines similar to these:

| <b>Name</b>     | <b>Date</b>  | <b>Description</b>   |
|-----------------|--------------|----------------------|
| eoe.sw.optinput | xxx.xx, xxxx | Output Input Devices |

If a driver is not installed, follow the appropriate procedure below to install it.

## Installing the Dial and Button Box Driver

1. Read any release notes and the instructions on the CD booklet about installing software.
2. Install the Dial and Button driver using Software Manager or `inst`.
3. For instructions on using either installation process, from the Toolchest > Help > Online books > SGI\_EndUser, choose *Personal System Administration Guide*, and select Chapter 2, "Installing and Removing Software."
4. The driver is located in the subsystem `oe.sw.optinput`.
5. Reboot your system to enable the driver.
6. When configuring the serial device, choose Dial and Button Box.

## Installing the Dial Box Driver

If you are installing only the dial box, use the dial box driver found in the following patches:

| <b>IRIX Version</b> | <b>Patch No.</b> |
|---------------------|------------------|
| 5.3                 | 1749             |
| 5.3 IMPACT          | 1575             |
| 6.2                 | 1576             |
| 6.3                 | 1750             |

Call your authorized service provider or, in North America, the Technical Assistance Center at 1-800-800-4SGI if you need assistance in locating these patches.

Follow the instructions in the CD booklet for installing the patches. IRIX 6.4 and later contains the dial box driver, subsystem `oe.sw.optinput`, found on the IRIX Foundation CD.

After installing the driver, reboot your system. Then configure the dial box serial device.

When configuring the serial device, choose Dial Box, not Dial and Button Box.

## Preparing the Workstation

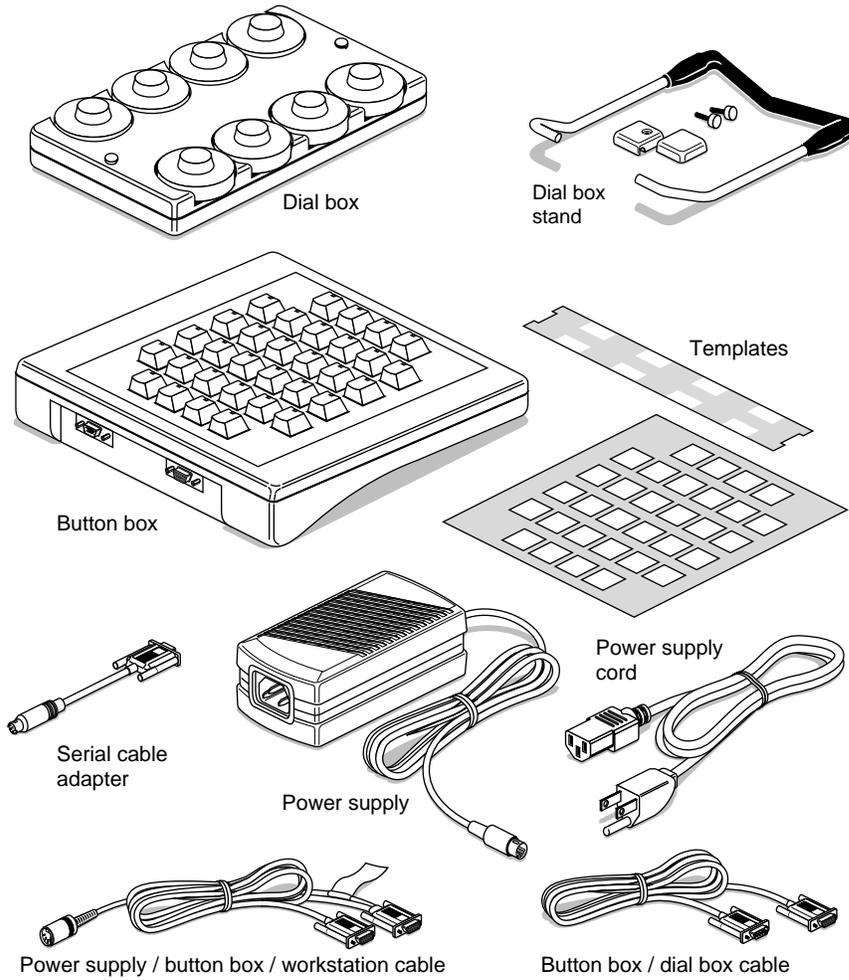
See your owner's manual for instructions on powering off and powering on your workstation or system, and for help in locating the serial ports.

Power off and unplug your workstation or system before you begin installing the dial box and/or the button box option. Some systems have power switches on the front and on the back, and both need to be turned off.

## Unpacking the Dial and Button Option Box

Included in this shipment are

- a dial box (with stand and overlays) and/or
- a button box (with overlays)
- a power supply
- two cables
- a serial adapter cable
- a U.S. power cord



**Figure 2-1** Dial and Button Boxes Package Contents

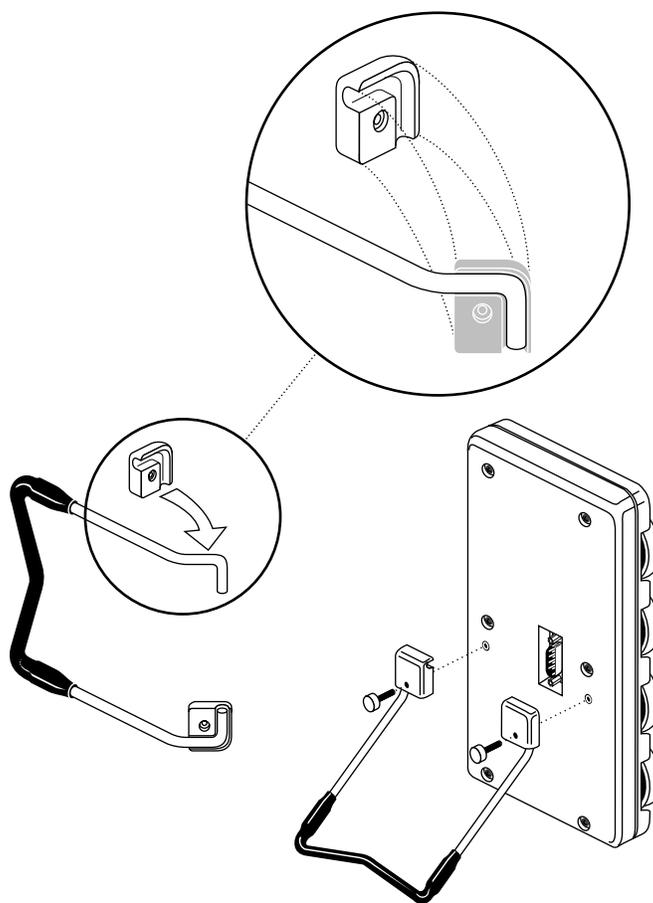
Unpack the dial and button box shipment on a clean work space near your system.

Figure 2-1 shows both the dial box and the button box package contents.

## Installing the Stand on the Dial Box

Before you connect any cabling, install the stand on the dial box.

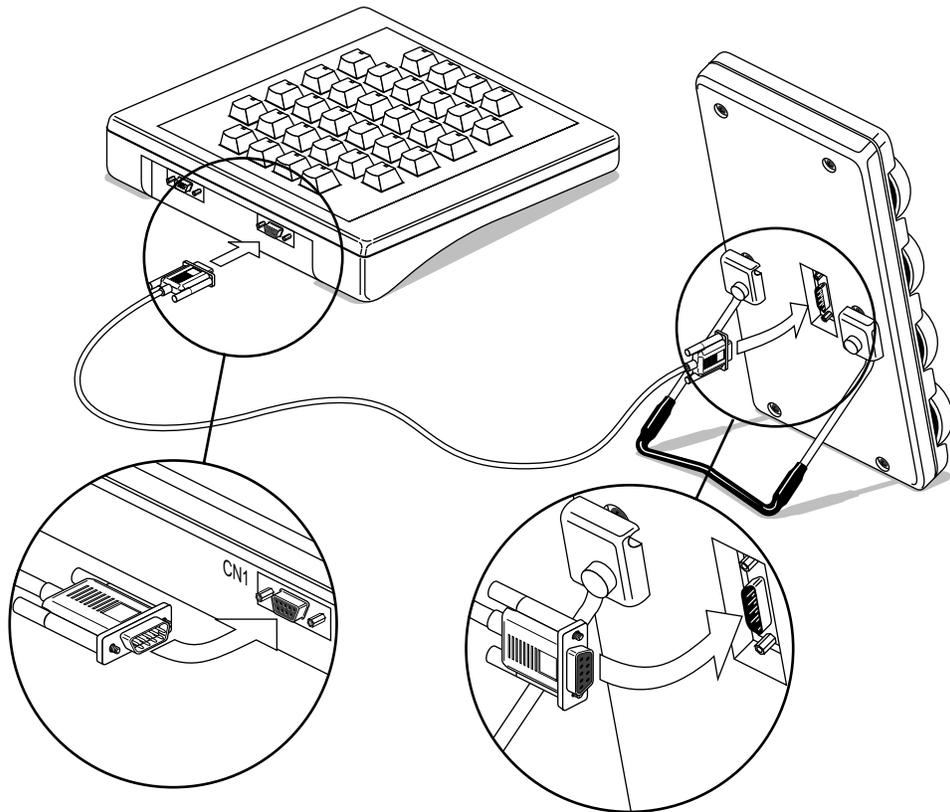
1. Place the dial box in the vertical position.
  - Place the plastic buttons on the ends of the metal stand. See Figure 2-2.
  - Attach the metal stand to the dial box with screws.



**Figure 2-2** Installing the Stand on the Dial Box

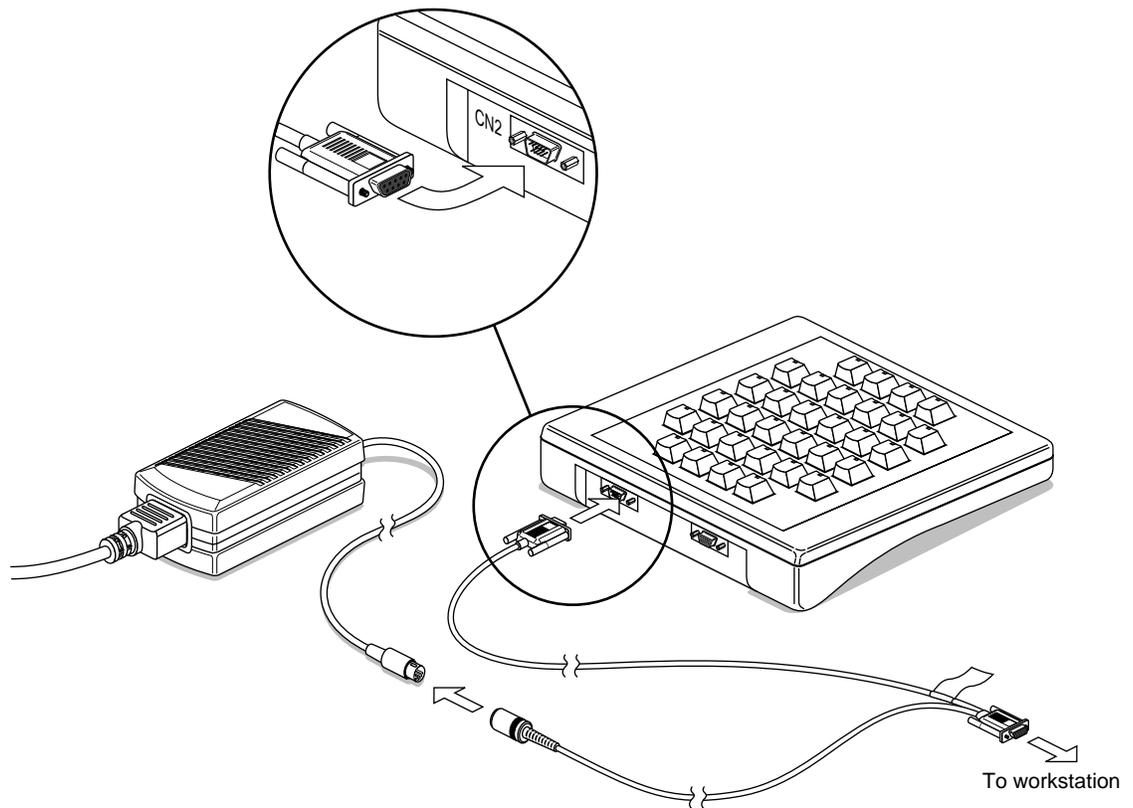
## Installing the Dial Box and Button Box

To install the dial and button boxes, connect the cabling between the boxes and power supply before attaching them to the workstation.



**Figure 2-3** Connecting the Dial Box and Button Box

1. Connect one end of the 6-foot cable to the dial box.
2. Connect the other end of the 6-foot cable to the CN1 port of the button box.



**Figure 2-4** Connecting the Button Box, Power Supply, and Workstation

3. Connect the round, single connector of the split cable to the round connector on the power supply.
4. Connect the other single split-cable connector to the CN2 connector on the button box.
5. Connect the (flagged) connector of the split cable to any serial port on the workstation. See the workstation or system owner's manual for the location of the serial ports.

If necessary, connect the serial adapter cable to the flagged end of the split cable, then attach the other end of the adapter cable to the workstation.

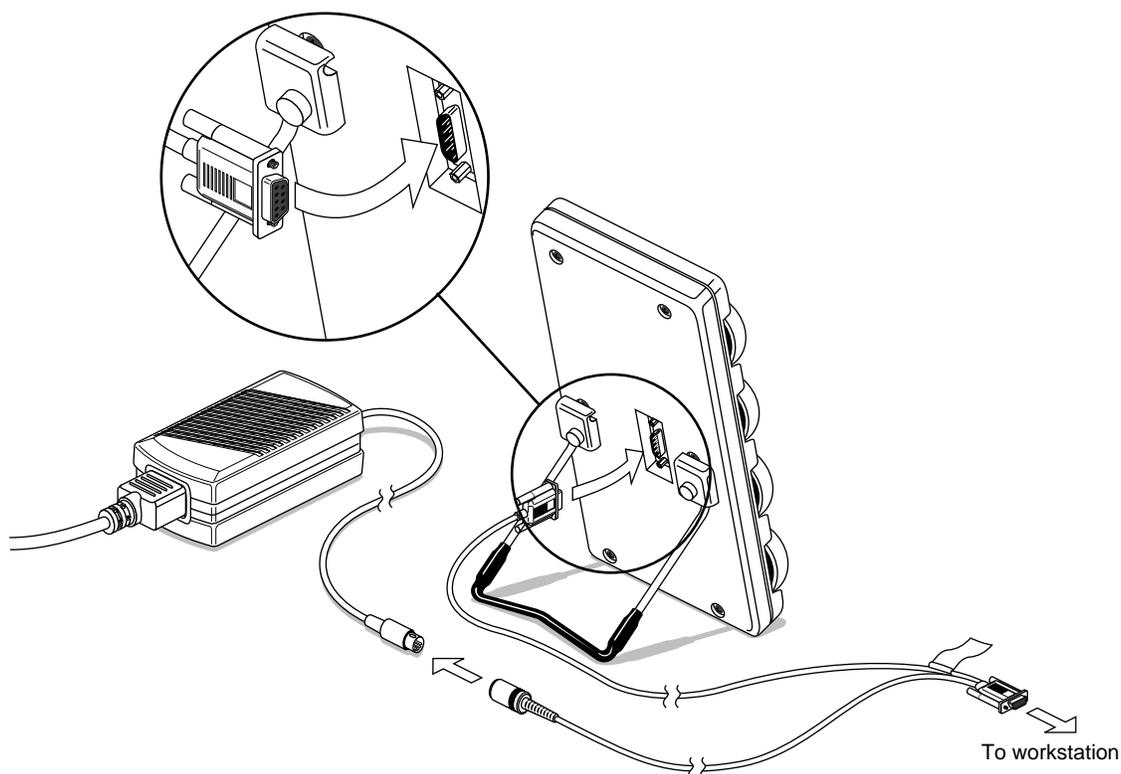
**Note:** If the flagged connector and non-flagged connector are reversed, the dial and button boxes do not work. No damage occurs. Simply attach the cable connectors to the correct port.

6. Connect one end of the power supply cord to the power supply.
7. Plug the other end of the power supply cord into an electrical outlet.
8. Power on your workstation. See your owner's guide for instructions on powering on your workstation or system.

Go to page 14 for configuration instructions.

## Installing a Dial Box

To install the dial box, connect the cabling between it and the power supply before attaching the cable to the workstation.



**Figure 2-5** Connecting the Dial Box, Power Supply, and Workstation

1. Connect the round connector of the split cable to the round connector on the power supply cable.
2. Connect the non-flagged connector of the split cable to the dial box.
3. Connect the flagged connector on the split cable to any system serial port. See the workstation or system owner's manual for the location of the serial ports.

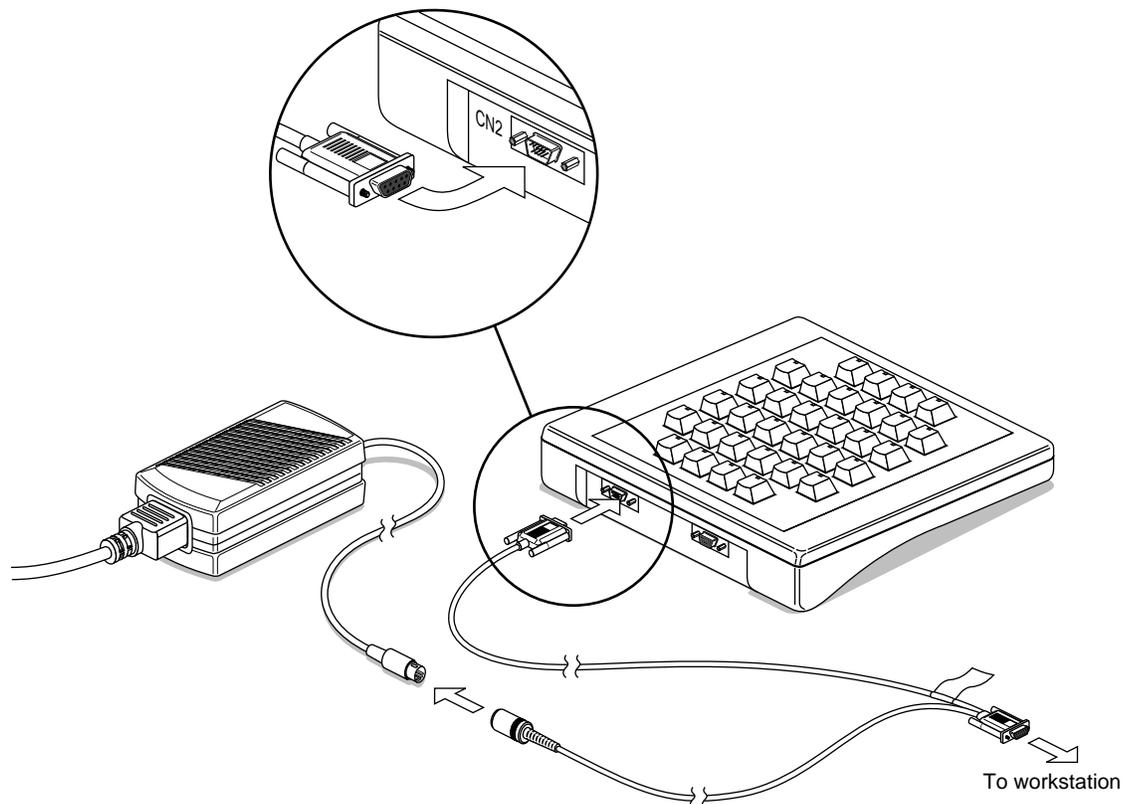
If necessary, connect the serial adapter cable to the flagged end of the split cable, then attach the other end of the adapter cable to the workstation.

4. Connect one end of the power supply cord to the power supply.
5. Plug the other end of the power supply cord into an electrical outlet.
6. Power on your workstation. See your owner's guide for instructions on powering on your workstation or system.

**Note:** If the flagged connector and non-flagged connector are reversed, the dial and button boxes do not work. No damage occurs. Simply attach the cable connectors to the correct port.

Go to page 14 for configuration instructions.

## Installing a Button Box



**Figure 2-6** Connecting the Button Box, Power Supply, and Workstation

To install the button box, connect the cabling between it and the power supply before attaching the cable to the workstation.

1. Connect the round, single connector of the split-cable to the power supply.
2. Connect the other single connector of the split-cable to the button box.
3. Connect the remaining (flagged) connector to any system serial port. See the workstation or system owner's manual for locations of the serial ports.

If necessary, connect the serial adapter cable to the flagged end of the split cable, then attach the other end of the adapter cable to the workstation.

4. Connect one end of the power supply cord to the power supply.
5. Plug the other end of the power supply cord into an electrical outlet.
6. Power on your workstation. See your owner's guide for instructions on powering on your workstation or system.

**Note:** If the flagged connector and non-flagged connector are reversed, the dial and button boxes do not work. No damage occurs. Simply attach the cable connectors to the correct port.

See below for configuration instructions.

### Configuring the Dial and Button Boxes IRIX 6.2 and Earlier Operating System

After you have logged in to your workstation or system, go to the Toolchest > System > System Manager > Tools menu and choose System Admin Tools. The Admin Tools window opens at the bottom of the System Manager window. Open the Port Setup Icon by double-clicking it. The Port Setup window gives you information about which serial port is available.

You need to know the number of the serial port to which you connected the dial and/or button box.

Select an available port by clicking on the icon. Then click the *Connect* button.

### Configuring the Dial and Button Boxes IRIX 6.3 and Later Operating System

After you have logged in to your workstation or system, go to the Toolchest > System > System Manager > Hardware and Devices > Serial Devices. Choose Adding a Serial Device.

You need to know the number of the serial port to which you connected the dial and/or button box.

Follow the directions in the dialog box to configure your serial device.

## Troubleshooting

If your system does not recognize the dial and button box, follow these steps to check your installation:

1. Follow the installation instructions again to see if the cables are connected to the correct connector.
2. Check the cable connections to be sure the cables connectors are completely inserted in each port.
3. Use the serial adapter cable if needed.
4. Call your authorized service provider if you cannot configure the dial and button boxes after following the above steps.

## Removing the Dial and Button Boxes

Follow these instructions to remove a dial and button box.

1. Power off your workstation. See your owner's manual for instructions.
2. Unplug the power cord from the workstation to the electrical outlet.
3. Unplug the power cord from the power supply to an electrical outlet.
4. Disconnect the cable from the system to the dial box or button box.
5. Disconnect the cable between the dial box and button box.
6. Disconnect the cable from the dial box or button box to the power supply.
7. Connect the power cord from the workstation or system to the electrical outlet.
8. See your owner's manual for instructions on powering on the workstation or system.

You are finished removing the dial and button boxes.

## **Service and Support Information**

Silicon Graphics provides a comprehensive product support and maintenance program for its products. If you are in North America and would like support for your Silicon Graphics supported products, contact the Technical Assistance Center at 1-800-800-4SGI or your authorized service provider. If you are outside North America, contact the Silicon Graphics subsidiary or authorized distributor in your country.

## **Returning Parts**

To return any part, use the packaging materials and box that came with your replacement part.

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## Regulatory Information

This chapter provides regulatory information about your workstation.

This chapter contains information on the following topics:

- “Manufacturer’s Regulatory Declarations for the Dial Box” on page 17
  - “Electromagnetic Emissions” on page 18
  - “Radio and Television Interference” on page 19
  - “Shielded Cables” on page 19
  - “Electrostatic Discharge” on page 20
- “Manufacturer’s Regulatory Declarations for the Button Box” on page 20
  - “Manufacturer’s Declaration of Conformity” on page 21
  - “FCC Declaration of Conformance” on page 21
  - “Regulatory Label” on page 22
  - “Electromagnetic Emissions” on page 22
  - “Radio and Television Interference” on page 23
  - “Shielded Cables” on page 24
  - “Electrostatic Discharge” on page 24

### Manufacturer’s Regulatory Declarations for the Dial Box

**Note:** Your dial box has several governmental and third-party approvals, licenses, and permits. Do not modify this product in any way that is not expressly approved by Silicon Graphics. If you do, you may lose these approvals and your governmental agency authority to operate this device.

The dial box conforms to several national and international specifications and European Directives listed on the “Manufacturer’s Declaration of Conformity.” The CE mark insignia displayed on each device is an indication of conformity to the European requirements.

### **Electromagnetic Emissions**

This device complies with the Class B limits of 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.

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

Cet appareil numérique n’émet pas de perturbations radioélectriques dépassant les normes applicables aux appareils numériques de Classe A prescrites dans le Règlement sur les interférences radioélectriques établi par le Ministère des Communications du Canada.

This device complies with Class B electromagnetic emissions limits of C.I.S.P.R. Publication 22, Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment, Germany’s BZT Class B limits for Information Technology Equipment, and with Japan’s VCCI Class 2 limits.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス B 情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

## Radio and Television Interference

The equipment described in this guide generates and uses radio frequency energy. If it is not installed and used in accordance with the instructions in this guide, it can cause radio and television interference.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in an industrial or office installation. However, there is no guarantee that the interference will not occur in a particular installation. This system is not certified for home use.

You can determine whether your system is causing interference by turning it off. If the interference stops, it was probably caused by the workstation or one of the peripherals. To tell if the interference is caused by one of the peripherals, try disconnecting one peripheral at a time to see if the interference stops. If it does, that peripheral is the cause of the interference.

If your dial box causes interference to radio or television reception, try to correct the interference by using one or more of the following suggestions:

- Turn the television or radio antenna until the interference stops.
- Move the dial box to one side or the other of the radio or television.
- Move the dial box farther away from the radio or television.
- Plug the dial box into an outlet that is on a different circuit from the radio or television. (That is, make certain the dial box and the radio or television are on circuits controlled by different circuit breakers or fuses.)

## Shielded Cables

The dial box is FCC-compliant under test conditions that include the use of shielded cables between the dial box and its workstation. Your workstation or system and dial box from Silicon Graphics have shielded cables. Shielded cables reduce the possibility of interference with radio, television, and other devices. If you use any cables that are not from Silicon Graphics, make sure they are shielded. Telephone cables do not need to be shielded.

The monitor cable supplied with your system uses additional filtering molded into the cable jacket to reduce radio frequency interference. Always use the cable supplied with your system. If your monitor cable becomes damaged, a replacement cable should be obtained from Silicon Graphics.

### **Electrostatic Discharge**

Silicon Graphics designs and tests its products to be immune to effects of electrostatic discharge (ESD). ESD is a source of electromagnetic interference and can cause problems ranging from data errors and lockups to permanent component damage.

It is important that while you are operating your dial box you keep all the covers and doors, including the plastics, in place. The shielded cables that came with the workstation and its peripherals should be installed correctly, with all thumbscrews fastened securely.

An ESD wrist strap is included with some products, such as memory and graphics upgrades. The wrist strap is used when installing these upgrades to prevent the flow of static electricity, and it should protect your system from ESD damage.

### **Manufacturer's Regulatory Declarations for the Button Box**

**Note:** Your button box has several governmental and third-party approvals, licenses, and permits. Do not modify this product in any way that is not expressly approved by Silicon Graphics. If you do, you may lose these approvals and your governmental agency authority to operate this device.

The button box conforms to several national and international specifications and European Directives listed on the "Manufacturer's Declaration of Conformity." The CE mark insignia displayed on each device is an indication of conformity to the European requirements.

## Manufacturer's Declaration of Conformity

A "Manufacturer's Declaration of Conformity" is available on the World Wide Web. Look on the FCC Declaration of Conformance on page 21 to determine your CMN (model) number, which you will need to identify your Declaration of Conformity.

To locate the information on the World Wide Web, enter the following in your Web browser location window:

<http://www.sgi.com/Products/compliance/index.html>

Locate and print or save your Declaration of Conformity. For future reference, make a note of your CMN number and the date on the Declaration of Conformity here:

## FCC Declaration of Conformance

|                     |                        |
|---------------------|------------------------|
| Trade Name          | Silicon Graphics Inc.  |
| Product             | Peripheral, Button Box |
| Model Number        | CMNB018B8              |
| Date of Conformance | 2/97                   |

|                   |  |
|-------------------|--|
| Responsible Party | Silicon Graphics Inc.  |
| Address           | 2011 North Shoreline Boulevard, Mountain View, California 94043-1389 |
| Telephone         | (415) 933-1071   |

This equipment 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.

**Note:** 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. This equipment generates, uses and can radiate radio frequency energy and, if not installed

and used in accordance with the instructions, may cause harmful interference to radio communications. 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 the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Caution:** Caution: The user is cautioned that changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **Regulatory Label**

If you received a regulatory label with your Button Box, place the label below the logos and over the lower portion of the regulatory label on the rear of your workstation.

### **Electromagnetic Emissions**

This device complies with the Class B limits of 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.

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

Cet appareil numérique n'émet pas de perturbations radioélectriques dépassant les normes applicables aux appareils numériques de Classe A prescrites dans le Règlement sur les interférences radioélectriques établi par le Ministère des Communications du Canada.

This device complies with Class B electromagnetic emissions limits of C.I.S.P.R. Publication 22, Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment, Germany's BZT Class B limits for Information Technology Equipment, and with Japan's VCCI Class 2 limits.

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This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in an industrial or office installation. However, there is no guarantee that the interference will not occur in a particular installation. This system is not certified for home use.

You can determine whether your system is causing interference by turning it off. If the interference stops, it was probably caused by the workstation or one of the peripherals. To tell if the interference is caused by one of the peripherals, try disconnecting one peripheral at a time to see if the interference stops. If it does, that peripheral is the cause of the interference.

If your button box causes interference to radio or television reception, try to correct the interference by using one or more of the following suggestions:

- Turn the television or radio antenna until the interference stops.
- Move the button Box to one side or the other of the radio or television.
- Move the button Box farther away from the radio or television.
- Plug the button box into an outlet that is on a different circuit from the radio or television. (That is, make certain the Button Box and the radio or television are on circuits controlled by different circuit breakers or fuses.)

### **Shielded Cables**

The button box is FCC-compliant under test conditions that include the use of shielded cables between the Button Box and its workstation. Your workstation or system and the Button Box from Silicon Graphics have shielded cables. Shielded cables reduce the possibility of interference with radio, television, and other devices. If you use any cables that are not from Silicon Graphics, make sure they are shielded. Telephone cables do not need to be shielded.

The monitor cable supplied with your system uses additional filtering molded into the cable jacket to reduce radio frequency interference. Always use the cable supplied with your system. If your monitor cable becomes damaged, a replacement cable should be obtained from Silicon Graphics.

### **Electrostatic Discharge**

Silicon Graphics designs and tests its products to be immune to effects of electrostatic discharge (ESD). ESD is a source of electromagnetic interference and can cause problems ranging from data errors and lockups to permanent component damage.

It is important that while you are operating your Button Box you keep all the covers and doors, including the plastics, in place. The shielded cables that came with the workstation and its peripherals should be installed correctly, with all thumbscrews fastened securely.

An ESD wrist strap is included with some products, such as memory and graphics upgrades. The wrist strap is used when installing these upgrades to prevent the flow of static electricity, and it should protect your system from ESD damage.



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## Tell Us About This Manual

As a user of Silicon Graphics products, you can help us to better understand your needs and to improve the quality of our documentation.

Any information that you provide will be useful. Here is a list of suggested topics:

- General impression of the document
- Omission of material that you expected to find
- Technical errors
- Relevance of the material to the job you had to do
- Quality of the printing and binding

Please send the title and part number of the document with your comments. The part number for this document is 007-9008-060.

Thank you!

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  - For UUCP mail (through any backbone site): *[your\_site]!sgi!techpubs*
- To **fax** your comments (or annotated copies of manual pages), use this fax number: 650-932-0801
- To send your comments by **traditional mail**, use this address:

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