

# Digital PC

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# Systems Solutions

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### **The FCC wants you to know...**

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.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

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

The user may find the following booklet prepared by the Federal Communications Commission helpful: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402. Stock No. 004-00398-5.

All external cables connecting to this basic unit need to be shielded. For cables connecting to option boards, see the option manual or installation instructions.

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

This equipment is in the 2nd Class category (information equipment to be used in a residential area or an adjacent area thereto) and conforms to the standards set by the Voluntary Control Council For Interference by Data Processing Equipment and Electronic Office Machines aimed at preventing radio interference in such residential area.

When used near a radio or TV receiver, it may become the cause of radio interference.

Read the instructions for correct handling.

This equipment meets or exceeds requirements for safety in the U.S. (UL 1950), Canada (CSA C22.2 No. 950), and Europe (EN 60950/IEC 950) with Nordic requirements.

This equipment meets or exceeds the ergonomic requirements of ZH1/618 and is certified to bear the GS mark by TUV Rheinland of Germany.



**WARNING:** There is a danger of battery explosion if a lithium battery is incorrectly replaced. To prevent damage to your computer, be sure the + side faces up when installing a new battery. Also, be sure you replace the battery with either a Digital (P/N 12-41474-05), Toshiba (P/N CR20302), or equivalent 3 V dc lithium battery.

Depending on your locality, your computer's battery might be considered hazardous waste. Make sure you follow any state or local statute to properly dispose of the old battery.

**ADVARSEL!** Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskifning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

**WARNING:** Explosionsfara vid ifelaktigt batterbyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikatens instruktion.

**VAROITUS:** Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

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# 1

## About This Guide

### Introduction

This guide provides detailed troubleshooting information to help get your computer up and running should you have problems initially setting it up or after installing application software and/or optional devices.

### Organization

This guide contains the following:

Chapter 1: *About This Guide* — Describes the purpose and organization of this troubleshooting guide.

Chapter 2: *Basic Troubleshooting Tips* — Lists several basic troubleshooting tips that if followed, can quickly solve most computer, operating system, or application software problems.

## About This Guide

Chapter 3: *Identifying and Solving Problems* — Helps identify and solve the most common problems that might occur while setting up and using your computer.

Chapter 4: *Diagnostics* — Provides information on how to access and use the supplied diagnostics program.

Chapter 5: *ClientWORKS and DMI* — Lists the benefits of using ClientWORKS and DMI to access information about your computer's hardware configuration.

Chapter 6: *Advanced Problem Solving* — Provides advanced problem solving solutions for your computer, disk drives, monitor, and CD-ROM.

Chapter 7: *Error Messages* — Describes the power-on self test (POST) and run-time error messages that might appear while operating your computer, including recommended corrective actions.



## Related Documentation

*Quick Setup Guide* — Provides step-by-step instructions on how to connect and initially power up your computer.

*User's Guide* — Describes how to operate, upgrade, and configure your computer. Note that this User's Guide might not be available in some languages.

You can find an on-line printable version of your computer's User's Guide in you Factory Installed Software. Please note this version is in English. The User's Guide for your computer is also available through Digital's Bulletin Board Service (BBS) by calling:

**(508) 496-8800**

You can also access the User's Guide for your computer using the Internet at:

- <http://www.pc.digital.com>
- <http://www.pc.digital.com/~ftp>

*"Getting Started" Program* — Provides a place to launch special programs such as Diagnostics. The Diagnostics program can be used as a supplement to the information contained in this Troubleshooting Guide. Note that this program might not be available in some languages or countries.

## Conventions

| <b>Convention Example</b>   | <b>Description</b>   |
|-----------------------------|--|
| <i>kp</i>                   | Italics are typically used for titles, comments, and references to other sections of this document or other documents.       |
| <code>c:\windows&gt;</code> | Monospaced text indicates information that your server or software displays. For example, a directory path or error message. |
| <code>SCU.BAT</code>        | Monospaced text can also indicate a command that you need to enter to run an application or utility.                         |
| [Enter]                     | Square brackets surrounding text represents a keyboard key.  |
| [Ctrl]+[Alt]+[Del]          | A plus sign indicates that the keys shown should be pressed at the same time.  |
| 1 234 567                   | Spaces are used in large numbers instead of commas.  |

# 2

## Basic Troubleshooting Tips

### Introduction

This chapter lists several basic troubleshooting tips that if followed, can quickly solve most computer, operating system, or application software problems.

### Troubleshooting Tips

Use these troubleshooting tips should your computer ever fail to operate correctly.

- Keep it simple, only troubleshoot one problem at a time. Also, only make one change at a time. For example, if your IDE hard disk drive fails to boot, do not try all the suggested actions at once. Instead, start with one suggestion such as checking the cables. After securing the cables, try booting your computer. If it does not work, try another suggestion.

## Basic Troubleshooting Tips

- Look for abnormal computer, keyboard, and monitor LED indications. For example, make sure the power on LED lights when you turn on your computer and the drive access indicators light when using either the diskette drive or hard disk drive.
- If there are POST error(s), run the BIOS Setup utility and fix the problem(s) identified by the POST error(s).
- If you installed external devices, make sure all cables are correctly connected to the appropriate devices.
- If you installed devices inside the computer, make sure nothing was bumped or jarred loose, and that all cable connections are securely in place.
- Make sure all device drivers are installed correctly.
- If your computer hangs, soft boot your computer. If your computer fails to boot, turn it off, wait until all disk drives completely spin down, and then turn it back on.

## Basic Troubleshooting Tips

- Pay close attention to any error message that appears on your screen.

If the error message is computer related, refer to Chapter 7, “Error Messages,” for recommended actions.

If the error message is Windows related, refer to any on-line help and the appropriate Windows documentation supplied with your computer.

- Listen carefully for computer errors in the form of beeps. Record the number of beeps and their pattern then check the “Beep Code” descriptions in Chapter 7 for recommended actions.
- After your computer completes the POST, press [F8] to check each line of the AUTOEXEC.BAT and CONFIG.SYS files. Answer Yes to allow each line to execute. If an error message appears, record it and then refer to Chapter 7, “Error Messages,” for recommended actions.



**NOTE:** Windows 95 does not require an AUTOEXEC.BAT and CONFIG.SYS file. If these files are missing, it does not mean that the missing files are the cause of a problem.

## Basic Troubleshooting Tips

- README files come with your computer's factory installed software or as printed material. This README information can help you setup, configure, and operate your computer.
- Run the diagnostics software. Refer to Chapter 4, "Diagnostics," for information on accessing and running the supplied diagnostics program.
- If your computer will not boot into Windows, use the DOS emergency diskette (Windows for Workgroups) or the startup diskette (Windows 95) to gain access to your computer's hard disk drive. Afterwards, troubleshoot your computer using the information in this guide and correct any problems.



**NOTE:** If Digital support tells you to return a failed component, pack it in its original container and then return it to Digital as instructed.

- Make a backup copy of your factory installed software if your computer did not come with one or more CD-ROM disks for your selected operating system and accompanying factory installed software. Refer to the "Getting Started" program for detailed instructions on backing up your computer's factory installed software.

# 3

## Identifying and Solving Problems

### Introduction

Most computer failures are generally a result of an incorrect installation, improper configuration, or incompatible application software and/or hardware. This chapter can help identify and solve some of these problems while setting up and using your computer.

### Problems at Initial Startup

Problems occurring at initial startup are usually caused by components being jarred loose during shipping, loose cables, cables connected to the wrong devices, or external device failure (such as a printer, modem, etc.). Review the following sections to determine what the problem might be and how to resolve it.

## My Computer Does Not Boot

Review the following steps, in order, to help resolve why your computer does not boot.

1. Make sure you have properly connected power to the computer and monitor. Refer to the *Quick Setup Guide*.
2. Check for loose cables inside your computer. Refer to the *User's Guide* for instructions on removing the outside cover and cable locations.
3. Make sure no components have been jarred loose during shipping. Components to look for are the CPU, SIMMs, and external cache. Refer to the *User's Guide* for instructions on removing the outside cover and for component locations.
4. If your computer fails to boot, contact your service provider. Also, refer to your Warranty information for the telephone numbers for customer support.

## My Printer Does Not Work

Review the following steps, in order, to help resolve why your printer does not work.

1. Make sure you properly connected your printer following the instructions that came with your printer and *User's Guide*.
2. For Windows for Workgroups users, make sure you properly installed the correct printer device driver using the *Printers* options from the *Control Panel* menu.
3. For Windows 95 users, make sure you properly installed the correct printer device driver using the Printer Setup wizard.
4. Refer to the troubleshooting instructions that came with your printer's documentation.
5. If your printer still does not work, contact your printer reseller or manufacturer for further instructions.



## My Modem Does Not Work

Review the following steps, in order, to help resolve why your modem does not work.

1. Make sure you properly connected your modem following the instructions that came with your modem and *User's Guide*.
2. For Windows for Workgroups users, make sure your modem software is configured for the correct COM port and IRQ.
3. For Windows 95 users, make sure you properly installed the modem using the "Install New Modem" selection from the "Control Panel."
4. Refer to the troubleshooting instructions that came with your modem's documentation.
5. If your modem still does not work, contact your modem reseller or manufacturer for further instructions.

## Problems Loading Application Software

Problems occurring while loading application software are usually software related. Faulty equipment is much less likely, especially if other software programs are operating correctly. Follow these instructions to solve any problems you might have while loading application software.

1. Make sure you properly installed the application software following the instructions that came with your software and your computer's User Guide.
2. Check your application documentation. Does your computer meet the memory requirement and video requirements? You can use ClientWORKS to check the memory on your computer (refer to Chapter 5 for more information on ClientWORKS).

If not, follow the instructions in your User's Guide to upgrade your computer to meet the required memory and video requirements for the application software.

## Identifying and Solving Problems

3. Does your computer have the necessary hard disk space to load the application? You can identify what hard disk space you have by accessing “File Manager” (Windows for Workgroups) or “Windows Explorer” (Windows 95).

If not, free up the necessary space on your hard disk drive and then load the application.

4. Make sure you installed an authorized copy of the application software.
5. Make sure all required device drivers are installed.

If you are missing device drivers that should have been supplied, check the Digital BBS or the Internet (Refer to the *Related Documentation* section at the front of this guide for the BBS phone number and Internet addresses.).

Follow the instructions in the supplied Windows documentation to properly install the required device drivers.

6. If your application software still does not load properly, contact your software reseller or manufacturer.



**NOTE:** For Windows NT users, refer to the supplied *Windows NT Server Installation Guide* for specific troubleshooting and problem solving information.

## Problems After Computer and Software are Operating Correctly

Problems occurring after your computer and application software are operating correctly often indicate an equipment failure. Additional problems might include a missing or corrupted device driver file or some other associated file. Follow these instructions to solve any problems you might have.

## Identifying and Solving Problems

Your computer hanging each time you attempt to run a specific software application could indicate:

- A corrupted file
- An incorrect installation
- Hard disk drive failure

Reboot your computer and then reinstall the program following the instructions that came with the software. If the problem continues, your hard disk drive or some other component might have failed.

*Refer to Chapter 6, "Advanced Problem Solving," for more information on solving these problems.*

Intermittent problems such as your computer hangs while running certain software programs, unable to access your hard disk drive, or your monitor blanks out could indicate:

- A corrupted file
- Too many active windows open
- Memory failure
- Hard disk drive failure
- A loose cable
- Main logic board failure

Reboot your computer. If the problem continues, your hard disk drive or some other component might have failed.

*Refer to Chapter 6, "Advanced Problem Solving," for more information on solving these problems.*

## Problems After Installing Optional Devices

Problems occurring after installing optional devices often indicate an improper installation, incompatible hardware, or equipment failure. Follow these instructions to solve any problems you might have.

Problems that occur after installing a mass storage device (such as a hard disk drive, CD-ROM, or SCSI hard disk drive) could indicate:

- An incorrect installation
- Incorrect device drivers installed
- Incorrect jumper or terminator settings

*Refer to Chapter 6, "Advanced Problem Solving," for more information on solving these problems.*

Problems that occur after installing memory options (such as SIMMs or secondary cache) could indicate:

- An incorrect installation
- An incompatible device
- A BIOS Setup problem

*Refer to Chapter 6, "Advanced Problem Solving," for more information on solving these problems.*

# 4

## Diagnostics

### Introduction

If you are a Windows 95 user, your factory installed software includes a Services tab in “Getting Started.” This tab includes an icon for launching the Diagnostic software. You can use this software to troubleshoot your computer.

You might also have received a set of Diagnostic diskettes. These diskettes can be used to troubleshoot your computer if you are unable to access the diagnostic software from Windows 95. If you did not receive any diagnostic diskettes, you can create them when you make diskettes of your factory installed software. Refer to Chapter 3 of your *User’s Guide* for more information.

If you are a Windows for Workgroups user, Diagnostic software is available as an image file. When you use the appropriate facility within “Getting Started” to make your backup software, Diagnostics is two of the diskettes you create. The first diagnostic diskette called “For Emergency Use Diskette” can be used to install the diagnostic program on your hard disk drive. Also, should your hard disk drive fail, you can boot directly from this diskette. The second diskette called “Vendor Ext. Tests” contains diagnostics for your specific computer (such as onboard network and onboard audio).

## Using the Diagnostics Software

The supplied diagnostic software can be used to examine your computer's current configuration, locate faulty main logic board components, and run diagnostic tests on your keyboard, mouse, and disk drives.

To access the diagnostic software using Windows 95, simply click on the Diagnostics icon from the Windows 95 desktop and then follow the instructions on your monitor screen to begin using the diagnostic program.

To access the diagnostic software, insert the Diagnostic diskette you created or received into your diskette drive. Then type:

```
A:\AMIDIAG
```

If you are unable to boot from the hard disk drive, you can instead boot directly from the "For Emergency Use Diskette."

Once the program begins, follow the instructions displayed on your monitor screen.

## Self Monitoring Analysis Technology (S.M.A.R.T.)

If your computer's hard disk drive is S.M.A.R.T. aware and your running Windows 95, the taskbar lights will keep you apprised as to how your hard disk drive is operating (refer to the following table).

| Light Color | Description                             | Action   |
|-------------|---|--|
| Yellow      | Hard disk drive is not S.M.A.R.T. aware | No action  |
| Green       | Hard disk drive is operating correctly  | No action  |
| Red         | Hard disk drive is failing              | You have one to five days to either repair or replace your hard disk drive |

# 5

## ClientWORKS and DMI

### Introduction

ClientWORKS (for Windows 95 users) and DMI (for Windows for Workgroups users) can be used to help you, your system manager, or system administrator to identify your computer's current hardware configuration. This feature is useful, for example, if you need to see if you have sufficient memory or a large enough hard disk drive for the applications you want to run. System managers or system administrators can access ClientWORKS data through Simple Network Management Protocol (SNMP) consoles. This feature means your company can protect its current investment in SNMP software and network monitors. Other features include:

- If there is a known computer component that needs to be replaced, your system manager or administrator can access ClientWORKS and get the Field Replaceable Unit (FRU) part number. This part number can then be relayed to the service provider to expedite ordering.
- Serial numbers can easily be identified to obtain warranty service.
- The amount and type of computer memory you have installed can easily be identified using ClientWORKS. This is especially useful if you need to know your computer's capabilities prior to loading software.
- If your computer's hard disk drive is S.M.A.R.T. aware, ClientWORKS can query the hard disk drive's state. The query can thereby tell you if your hard disk drive is healthy or about to fail.

## ClientWORKS and DMI

- A system manager or administrator can use ClientWORKS to remotely access computer configurations that are attached to a network. This feature enables a system manager or administrator to easily maintain an accurate equipment log.

*Refer to the supplied ClientWORKS and DMI on-line help for detailed information on using either program.*



# 6

## Advanced Problem Solving

### Introduction

This chapter provides advanced problem solving information. The sections that follow list specific problems, probable causes, and recommended actions to take if your computer fails after you configure it or after you install optional hardware or software.

- Computer Troubleshooting
- Disk Drive Troubleshooting
- Monitor Troubleshooting
- Audio Troubleshooting
- Network Troubleshooting
- CD-ROM Troubleshooting

*Refer to Chapter 7, "Error Messages," for a list of error messages that might appear during normal operation. Refer to the documentation supplied with additional options if you are experiencing problems with specific options that you have installed.*

## Computer Troubleshooting

| <b>Problem</b>                               | <b>Possible Cause</b>                                   | <b>Action</b>  |
|--|---|--|
| No response when the computer is turned on.  | Computer is not plugged in.                             | Turn off the computer, plug it in, and then turn it back on again.   |
|  | No power at the wall outlet.                            | Use another wall outlet.   |
|  | Main logic board failure.                               | Contact your Service provider.   |
|  | Main logic board jumpers incorrectly set.               | Set all appropriate jumpers (Refer to the label attached to the inside of your computer.).   |
|  | CPU has failed.   | Contact your Service provider.   |
|  | Power supply has failed.                                | Contact your Service provider.   |
|  | Voltage select switch is set incorrectly.               | Make sure the setting on the back of your computer matches your country's voltage requirements. Refer to the supplied <i>Quick Setup Guide</i> for more information. |
| Power is on, but there is no screen display. | Brightness and contrast controls are not correctly set. | Adjust the brightness and contrast controls.   |
|  | The monitor-off timer has shut the monitor off.         | Press [Shift] to reactivate monitor.   |
|  | Monitor is off.   | Turn on the monitor.   |
|  | Monitor cable is incorrectly installed.                 | Check all monitor connections.   |
|  | Incorrect video drivers installed.                      | Install the correct video drivers.   |
|  | Video controller has failed.                            | Contact your Service provider.   |
|  | Monitor has failed.                                     | Try another monitor. If the new monitor fails to operate, contact your Service provider.   |

*continued*

## Advanced Problem Solving

| Problem   | Possible Cause  | Action  |
|---|---|---|
| Computer operates incorrectly after installing an optional expansion board. | Expansion board installed incorrectly.  | Reinstall following expansion board installation instructions.  |
|   | Did not run the ISA Configuration Utility (ICU) to configure a non-Plug and Play expansion board before installation. | Run the ICU to properly configure expansion board and then reboot your computer. Refer to any supplied ICU and Windows 95 documentation.  |
|   | <b>Note:</b> Plug and Play expansion boards are automatically configured.   |   |
|   | Expansion board has failed.   | Remove expansion board and reboot. If computer boots without errors, replace expansion board.   |
| Computer operates incorrectly after installing optional SIMMs.              | SIMMs installed incorrectly.  | Remove SIMMs and reinstall.   |
|   | SIMMs have failed.  | Remove SIMMs and reinstall.<br><br>Make sure two banks are filled at a time with the correct SIMM size, speed, and type. Refer to the supplied User's Guide for more information. |
|   |   | Replace SIMMs.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>  | <b>Possible Cause</b>  | <b>Action</b>   |
|---|--|---|
| Computer fails to retain setup information.   | Computer battery has failed.<br><br>Discharge CMOS jumper (J3) set to "Discharge." | Replace computer battery.<br><br>Set discharge CMOS jumper to "Normal." Refer to the jumper label attached to the inside of your computer.      |
| Computer displays HIMEM.SYS errors.   | Unstable memory at the specified address.  | Replace faulty SIMM(s).   |
| Computer displays General Fault Protection (GPF) errors (Windows for Workgroups installed). | Insufficient computer resources for a given operation.                             | Close all unnecessary applications.<br><br>Close and restart Windows for Workgroups.<br><br>Reboot computer and restart Windows for Workgroups. |
| Computer displays an illegal action message (Windows 95).                                   | Insufficient computer resources for a given operation.                             | Close all unnecessary applications.<br><br>Close and restart Windows 95.<br><br>Reboot computer.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>                                      | <b>Possible Cause</b>               | <b>Action</b>   |
|---|-------------------------------------|---|
| Computer does not boot from an IDE hard disk drive. | IDE drive type incorrect.           | Run the BIOS Setup utility to identify the correct drive type.<br><br>See drive type label on drive or consult drive documentation.   |
|   | Loose cables.                       | Secure all cable connections.   |
|   | Onboard IDE interface disabled.     | Run the BIOS Setup utility and set the Local Bus IDE Adapter to "Both."   |
|   | Hard disk boot sector is missing.   | Repartition and reformat your hard disk drive.<br><br><b>Caution:</b> This procedure erases what is currently on your hard disk drive.<br><br>You might want to try repairing the hard disk drive using a disk drive repair utility. Disk drive repair utilities can be purchased from your local software supplier.<br><br>If you do repartition and reformat your hard disk drive, proceed as follows for DOS-based operating systems such as Windows for Workgroups and Windows 95.<br><br>Boot from a DOS diskette then enter the following commands:<br><br>c :<br>cd \dos<br>fdisk<br><br>Follow the instructions on your monitor screen to create a new hard disk boot sector. |
|   | There might be a boot sector virus. | Run anti-virus software.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>                                      | <b>Possible Cause</b>   | <b>Action</b>   |
|---|---|---|
| Computer does not boot from an IDE hard disk drive. | IDE hard disk is connected to the wrong IDE connector.                                    | Connect the boot disk to the inner IDE connector on the main logic board.   |
|   | Operating system software is not installed on the IDE hard disk drive.                    | Install the appropriate operating system.   |
|   | IDE hard disk drive is not correctly formatted or the requested partition does not exist. | Format the IDE hard disk drive or partition the IDE hard disk drive using the supplied operating system software. |
|   | There is no software on the requested partition.  | Install software on the requested partition.  |
|   | IDE hard disk drive jumpers incorrectly set.  | Refer to the supplied IDE hard disk drive kit installation instructions.  |
|   | IDE hard disk drive has failed.   | Contact your Service provider.  |
|   | IDE hard disk drive ribbon cable has failed.  | Contact your Service provider.  |
|   | IDE controller has failed.  | Contact your Service provider.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>   | <b>Possible Cause</b>                                   | <b>Action</b>  |
|--|---|--|
| Computer does not recognize an internal or external SCSI device. | SCSI device jumpers incorrectly set.                    | Refer to the supplied SCSI device kit installation instructions.                     |
|  | SCSI ID conflicts.                                      | Refer to the supplied SCSI device kit installation instructions on setting SCSI Ids. |
|  | Terminating resistors not removed from the SCSI device. | Remove terminating resistors. Refer to the supplied kit installation instructions.   |
|  | SCSI option not enabled in BIOS Setup utility.          | Run the BIOS Setup utility and enable SCSI option.                                   |
|  | SCSI cable not terminated.                              | Terminate each end of the SCSI cable.  |
|  | SCSI device not plugged in.                             | Check power and SCSI cables.   |

*continued*

## Advanced Problem Solving

| Problem | Possible Cause                      | Action   |
|---------|-------------------------------------|--|
|         | Hard disk boot sector is missing.   | <p>Repartition and reformat your hard disk drive.</p> <p><b>Caution:</b> This procedure erases what is currently on your hard disk drive.</p> <p>You might want to try repairing the hard disk drive using a disk drive repair utility. Disk drive repair utilities can be purchased from your local software supplier.</p> <p>If you do repartition and reformat your hard disk drive, proceed as follows for DOS-based operating systems such as Windows for Workgroups and Windows 95.</p> <p>Boot from a DOS diskette then enter the following commands:</p> <pre>c: cd\dos fdisk</pre> <p>Follow the instructions on your monitor screen to create a new hard disk boot sector.</p> |
|         | There might be a boot sector virus. | Run anti-virus software.   |
|         | SCSI adapter has failed.            | Contact your Service provider.   |
|         | SCSI ribbon cable has failed.       | Contact your Service provider.   |
|         | SCSI device has failed.             | Contact your Service provider.   |

*continued*



## Advanced Problem Solving

| <b>Problem</b>  | <b>Possible Cause</b>   | <b>Action</b>   |
|---|---|---|
| Computer does not boot from an internal SCSI hard disk drive. | Computer not configured for SCSI hard disk drive operation.             | Run the BIOS Setup utility and set the IDE controller option to "Disabled." This disables the onboard IDE interface.<br><b>Note:</b> If you have both IDE and SCSI hard disk drives installed, your computer uses the IDE hard disk drive as the boot device. |
|   | Operating system software is not installed on the SCSI hard disk drive. | Install the appropriate operating system.   |
|   | Requested partition does not exist.                                     | Partition the SCSI hard disk drive and then reload the operating software.  |
|   | SCSI adapter has failed.  | Contact your Service provider.  |
|   | SCSI ribbon cable has failed.   | Contact your Service provider.  |
|   | SCSI hard disk drive has failed.  | Contact your Service provider.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>                                       | <b>Possible Cause</b>                           | <b>Action</b>   |
|--|---|---|
| Computer does not boot from a target diskette drive. | Onboard diskette controller disabled.           | Run the BIOS Setup utility and set the diskette controller option to "Enabled."                               |
|  | Diskette drive not enabled.                     | Run the BIOS Setup utility to enable the diskette drive   |
|  | BIOS Setup diskette write option enabled.       | Enter your user password. If a supervisor password is required, see your system supervisor or system manager. |
|  | Incorrect diskette drive type.                  | Run the BIOS Setup utility and select the correct drive type.   |
|  | Diskette boot option disabled.                  | Run the BIOS Setup utility and set the proper boot sequence.  |
|  | Diskette might not be bootable.                 | Use a bootable diskette.  |
|  | Diskette does not contain start-up files.       | Insert a diskette with the correct start-up files.  |
|  | Diskette drive is empty.                        | Insert a diskette that contains an operating system.  |
|  | Diskette is worn or damaged.                    | Try another diskette.   |
|  | Loose cables.                                   | Secure all cable connections.   |
|  | Diskette access requires a supervisor password. | See your supervisor or system manager.  |
|  | Diskette access requires a user password.       | Enter your user password.   |

*continued*

## Advanced Problem Solving

| <b>Problem</b>                    | <b>Possible Cause</b>                    | <b>Action</b>   |
|-----------------------------------|--|---|
| No response to keyboard commands. | Keyboard is password protected.          | Enter the keyboard password.  |
|                                   | Keyboard is not connected.               | Power down the computer and connect the keyboard.   |
|                                   | Keyboard is connected to the mouse port. | Power down the computer and connect the keyboard to the keyboard port.                        |
|                                   | Computer operation halted.               | Reboot computer.  |
|                                   | Keyboard has failed.                     | If available, try another keyboard. If the new keyboard fails, contact your Service provider. |
|                                   | Keyboard controller has failed.          | Contact your Service provider.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>                  | <b>Possible Cause</b>                    | <b>Action</b>  |
|---------------------------------|--|--|
| Keyboard keys type incorrectly. | Incorrect language selected.             | Select the correct language.   |
|                                 | Keyboard has failed.                     | If available, try another keyboard. If the new keyboard fails, contact your Service provider.    |
| No response to mouse activity.  | Mouse is not connected.                  | Power down the computer and connect the mouse.   |
|                                 | Mouse is connected to the keyboard port. | Power down the computer and connect the mouse to the mouse port.                                 |
|                                 | Computer operation halted.               | Reboot computer.   |
|                                 | Mouse driver not installed.              | Install the appropriate mouse driver. Refer to your supplied application software documentation. |
|                                 | Onboard mouse controller disabled.       | Run the BIOS Setup utility and set the mouse port option to "Enable."                            |
|                                 | Mouse has failed.                        | If available, try another mouse. If the new mouse fails, contact your Service provider.          |
| Mouse sticks.                   | Keyboard controller has failed.          | Contact your Service provider.   |
|                                 | Dirty mouse ball.                        | Remove mouse ball and clean it.  |

*continued*

## Disk Drive Troubleshooting

| <b>Problem</b>   | <b>Possible Cause</b>   | <b>Action</b>   |
|--|---|---|
| IDE/SCSI hard disk drive cannot read or write information. | Incorrect disk drive jumper settings.                               | Refer to the supplied kit installation instructions.                    |
|  | Loose or incorrectly installed cables.                              | Make sure all cables are correctly installed.                           |
|  | IDE/SCSI hard disk drive is not correctly formatted or partitioned. | Format and partition as required using the supplied operating system.   |
|  | IDE drive type incorrect.   | Run the BIOS Setup utility to identify the correct drive type.          |
|  | Onboard IDE interface disabled.                                     | Run the BIOS Setup utility and set the Local Bus IDE Adapter to "Both." |
|  | IDE/SCSI hard disk drive has failed.                                | Contact your Service provider.  |
|  | IDE/SCSI controller has failed.                                     | Contact your Service provider.  |
|  | IDE/SCSI ribbon cable has failed.                                   | Contact your Service provider.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>  | <b>Possible Cause</b>                         | <b>Action</b>   |
|---|---|---|
| Target diskette drive cannot read or write information. | Diskette is not formatted.                    | Format the diskette.  |
|   | Diskette is worn or damaged.                  | Try another diskette.   |
|   | Diskette is write-protected.                  | Slide the write-protect switch so the hole is not visible (3½-inch diskette) or uncover the write-protect notch (5¼-inch diskette). |
|   | Diskette drive is empty.                      | Insert a diskette.  |
|   | Onboard diskette controller disabled.         | Run the BIOS Setup utility and set the diskette controller option to "Enabled".   |
|   | Diskette write protection is enabled.         | Run the BIOS Setup utility and set the diskette write protection to "Disabled."   |
|   | Diskette drive has failed.                    | Contact your Service provider.  |
|   | Diskette drive controller has failed.         | Contact your Service provider.  |
|   | Diskette drive ribbon cable has failed.       | Contact your Service provider.  |
| Target diskette does not format diskettes.              | Diskette access requires supervisor password. | Reboot computer and enter supervisor password. Afterwards, run BIOS Setup utility and set "Diskette Access" option to "User."       |
|   | Diskette drive has failed.                    | Contact your Service provider.  |

## Monitor Troubleshooting

| <b>Problem</b>  | <b>Possible Cause</b>   | <b>Action</b>   |
|---|---|---|
| Monitor power indicator is not on.                      | Monitor is turned off.  | Turn on the monitor.  |
|   | Power cord is not connected.                                  | Connect the power cord to the computer.   |
|   | No power at wall outlet.                                      | Use another outlet.   |
|   | The monitor-off timer shut off the monitor.                   | Press [Shift] to reactivate monitor.  |
|   | Monitor has failed.   | If available, try another monitor. If the new monitor fails, contact your Service provider. |
|   | Video controller has failed.                                  | Contact your Service provider.  |
|   | Power indicator is defective.                                 | Contact your Service provider.  |
| No screen display.                                      | Configuration error.  | Run the BIOS Setup utility to configure the computer for correct video operation.           |
|   | Monitor brightness and contrast controls are incorrectly set. | Adjust the monitor brightness and contrast controls.  |
|   | The monitor-off timer shut off the monitor.                   | Press [Shift] to reactivate monitor.  |
| No monitor display while loading Windows video drivers. | Monitor type incorrectly set.                                 | Set the correct monitor type using the appropriate utility.                                 |
|   | Wrong Windows driver loaded.                                  | Load the correct video driver.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>   | <b>Possible Cause</b>   | <b>Action</b>   |
|--|---|---|
| Distorted, rolling, or flickering screen display, or wrong/uneven color. | Monitor incorrectly adjusted.   | Adjust accordingly.   |
|  | Monitor signal cable incorrectly installed.   | Straighten any bent connector pins and then reconnect.  |
| Color monitor displaying monochrome.                                     | Computer was turned on before the monitor was turned on.                              | Turn off the computer, turn on the monitor, then turn the computer back on.   |
|  | Video jumper incorrectly set.   | Set the jumper for video operation. Refer to the label attached to the inside of your computer.                         |
|  | Monitor type incorrectly set.   | Run the BIOS Setup utility and set the monitor type to "Color."   |
| Monitor fails to switch to high-resolution mode.                         | Appropriate high-resolution video drivers are not installed or incorrectly installed. | Correctly install all appropriate high-resolution video drivers. Refer to the documentation supplied with your monitor. |
| Monitor display not centered while loading Windows video drivers.        | Monitor type incorrectly set.   | Set the correct monitor type.   |
| Monitor display disappears.  | Screen display sized incorrectly.   | Correctly size screen display.  |



## Audio Troubleshooting

| <b>Problem</b>       | <b>Possible Cause</b>   | <b>Action</b>   |
|----------------------|---|---|
| Audio does not work. | Sound, MIDI, mixer drivers not installed.   | Check the error messages for the necessary drivers. In Windows Control Panel, select "Drivers", then "Add" and install the necessary driver(s). |
|                      | Address contention. Two or more devices might be trying to access the same address. | Check IRQ, I/O address, and DMA settings in Windows 95 or BIOS Setup. Change settings as required.  |
|                      | Cables loose or not properly connected.   | Make sure speaker and mic plugs are in correct jacks. Reconnect cables. Refer to the "Using Your Computer" on-line help for jack locations.     |
|                      | Onboard audio controller disabled.  | Run the BIOS Setup utility and set the Integrated Audio to "Enabled."   |
|                      | Bad audio chip or sound card.   | Call your Service provider or sound card provider.  |
|                      | Main logic board has failed.  | Contact your Service provider.  |

*continued*

## Advanced Problem Solving

| <b>Problem</b>                 | <b>Possible Cause</b>                              | <b>Action</b>   |
|--------------------------------|--|---|
| External speakers do not work. | Speakers not connected or improperly connected.    | Properly connect the speakers. Refer to Chapter 4 of your User's Guide for more information.      |
|                                | Check speaker batteries or ac adapter have failed. | Replace speaker batteries or ac adapter. Refer to the documentation that came with your speakers. |
|                                | Speakers have failed.                              | Replace speakers.   |
| Microphone does not work.      | Microphone not connected or improperly connected.  | Properly connect the microphone. Refer to Chapter 4 of your User's Guide for more information.    |
|                                | Microphone has failed.                             | Replace microphone.   |
| Headphones do not work.        | Headphones not connected or improperly connected.  | Properly connect the headphones. Refer to Chapter 4 of your User's Guide for more information.    |

## Network Interface Troubleshooting

| <b>Problem</b>   | <b>Possible Cause</b>   | <b>Action</b>  |
|--|---|--|
| Power is on, LAN address is installed on computer; system hangs. | Incorrect software installed or software installed incorrectly.     | Contact system administrator or network coordinator.                                     |
| Computer is on, no keyboard response.                            | Incorrect IRQ.  | Check BIOS setup and Windows 95 settings.  |
| Network doesn't start.   | Network cable not connected or is loose.                            | Connect cable. Also, make sure no more than one ethernet cable is connected at one time. |
|  | Conflict exists with another device adapter; incorrect IRQ setting. | Check BIOS setup and Windows 95 settings.  |
|  | Network cable has failed.   | Contact your system administrator or network coordinator.                                |
|  | Onboard network controller disabled.                                | Run the BIOS Setup utility and set Integrated Ethernet to "Enabled."                     |
|  | Onboard network controller has failed.                              | Contact your Service provider.   |

## CD-ROM Troubleshooting

| <b>Problem</b>   | <b>Possible Cause</b>                          | <b>Action</b>   |
|--|--|---|
| Cannot access the CD-ROM drive. Error message reading drive x. | Device drivers not installed.                  | Install correct device drivers.   |
|  | No disk in the CD-ROM drive.                   | Insert a disk.  |
|  | CD-ROM drive tray is open.                     | Close the tray.   |
|  | Onboard IDE interface disabled (if IDE CD-ROM) | Run the BIOS Setup utility and set the Local Bus IDE Adapter to "Both." |
|  | CD-ROM has failed.                             | Contact your Service provider.  |
|  | Cables have failed.                            | Contact your Service provider.  |
| Power is on but CD-ROM drive indicator shows no activity.      | No CD-ROM disk or CD-ROM drive tray is open.   | Insert a disk and close the tray.                                       |
|  | Check cable connections.                       | Make sure cables are correctly connected.                               |
|  | CD-ROM has failed.                             | Contact your Service provider.  |
|  | Cables have failed.                            | Contact your Service provider.  |
| CD-ROM disk is spinning but CD-ROM drive is idle.              | Application software not running.              | Run application software.   |

# 7

## Error Messages

### Introduction

This chapter lists computer messages you might see or hear when you turn on power. The computer messages are grouped as follows:

- POST and boot computer messages
- Beep codes

### POST Messages

The POST displays messages to alert you to errors in hardware, software, and firmware or to provide operating information about your computer.

Each time the POST displays a message on your screen, the computer's speaker beeps twice. If an error occurs before the monitor is initialized, specific beep codes sound to alert you to a problem. The following table lists a general grouping of system messages. In addition, each message is accompanied by text describing the message and in most cases, a recommended solution to the problem.



**NOTE:** Italics indicate variable parts of a message such as memory addresses, hexadecimal values, and so on. These messages can differ at each occurrence.

## POST and Boot Messages

| Message  | Description/Solution   |
|--|--|
| Asynchronous Synchronous Burst Synchronous Pipeline Burst Passed | Where <i>nnnn</i> is the amount of computer cache (in kilobytes) that tested successfully.   |
| Diskette drive A error   | Run the BIOS Setup utility. Check all connections. If the problem persists, contact your Service provider.   |
| Diskette drive B error   |  |
| Entering SETUP   | BIOS Setup utility runs.   |
| Extended RAM Failed at offset: <i>nnnn</i>                       | Extended memory failed or configured incorrectly.<br>Make sure SIMMs are installed correctly (see Chapter 6). If the problem persists, contact your Service provider.<br>Run the BIOS Setup utility and restore all settings to original values. |
| Extended RAM Passed  | Where <i>nnnn</i> is the amount of extended memory (in kilobytes) that tested successfully.  |
| Failing Bits: <i>nnnn</i>  | <i>nnnn</i> is a map of the bits at the RAM address which failed the memory test.<br>Run the BIOS Setup utility and restore all to original values.<br>If the problem persists, contact your Service provider.                                   |
| Fixed Disk 0 Failure<br>Fixed Disk 1 Failure                     | Run the BIOS Setup utility. Check all connections. If the problem persists, contact your Service provider.<br>Fixed disk controller failure  |

*continued*

## Error Messages

| <b>Message</b>                               | <b>Description/Solution</b>   |
|--|---|
| Incorrect Drive A type - run SETUP           | Diskette drive A and/or B not correctly identified in the BIOS Setup utility.   |
| Incorrect Drive B type - run SETUP           | Run the BIOS Setup utility and properly identify diskette drive A and/or B.   |
| Invalid NVRAM media type                     | NVRAM access failed.<br>Run the BIOS Setup utility and restore all settings to original values.<br>If the problem persists, contact your Service provider.  |
| Keyboard controller error                    | Check the keyboard connection. If the connection is secure, the keyboard or keyboard controller might have failed. If the problem persists, contact your Service provider.  |
| Keyboard error                               |   |
| Keyboard locked - Unlock key switch          |   |
| Monitor type does not match CMOS - Run SETUP | Run the BIOS Setup utility and set the correct monitor type.  |
| Operating system not found                   | The operating system cannot be found on drive A or drive C.<br>Run the BIOS Setup utility and correctly identify drive A or drive C.<br>Correctly install the operating system. Refer to the supplied operating system documentation. |
| Press <F1> to resume, <F2> to Setup          | This message appears after any recoverable error message.<br>Press [F1] to reboot or [F2] to enter the BIOS Setup utility to make any necessary changes.  |
| Real time clock error                        | Real-time clock failed BIOS test.<br>Replace Real-time clock and then run the BIOS Setup utility to restore previous configuration information.   |

*continued*

## Error Messages

| <b>Message</b>                              | <b>Description/Solution</b>   |
|---|---|
| Shadow RAM Failed at<br>offset: <i>nnnn</i> | Shadow RAM failed.<br><br>Run the BIOS Setup utility and disable failed shadow<br>memory region.  |
| <i>nnnn</i> Shadow RAM<br>passed            | Where <i>nnnn</i> is the amount of shadow RAM (in kilobytes)<br>that tested successfully.   |
| RTC is dead - Replace<br>and run SETUP      | Replace the RTC and then run the BIOS Setup utility to<br>restore previous configuration information.   |
| System BIOS shadowed                        | This indicates that your computer's BIOS was successfully<br>copied to shadow RAM.  |
| System cache error -<br>Cache disabled      | RAM cache failed.<br><br>Run the BIOS Setup utility and restore all settings to<br>original values.<br><br>If the problem persists, contact your Service provider.                  |
| System CMOS checksum<br>bad - run SETUP     | Correct the address conflict using the BIOS Setup utility. If<br>the problem persists, contact your Service provider.   |
| System RAM failed at<br>offset: <i>nnnn</i> | System RAM failed.<br><br>Run the BIOS Setup utility and restore all settings to<br>original values.<br><br>If the problem persists, contact your Service provider.                 |
| <i>nnnn</i> System RAM<br>passed            | Where <i>nnnn</i> is the amount of system RAM (in kilobytes)<br>that tested successfully.   |
| System timer error                          | Your computer's timer test failed.<br><br>Run the BIOS Setup utility and restore all settings to<br>original values.<br><br>If the problem persists, contact your Service provider. |

*continued*



| Message                               | Description/Solution  |
|---------------------------------------|---|
| UMB upper limit segment address: nnnn | Displays the address of the upper limit of UMB. This indicates the released segments of the BIOS that can be reclaimed by a virtual memory manager. |
| Video BIOS shadowed                   | This indicates that your computer's video BIOS was successfully copied to shadow RAM.   |

## Beep Codes

When POST finds an error and cannot display a message, the computer's speaker emits a series of beeps to indicate the error and places a value in I/O port 80h. During POST, if the video configuration fails or if an external ROM module fails a checksum test, then your computer beeps three times (one long beep, and two short beeps).

The following table lists other fatal errors and their associated beep codes. Each code represents the number of short beeps that are grouped together. Fatal errors (errors that lock up your computer) are generally the result of a failed main logic board or some other add-on component (SIMM, BIOS, computer battery, etc.). If you cannot resolve problems using the troubleshooting procedures in Chapter 6, contact your Service provider.

## Error Messages

| <b>Beep Code</b> | <b>Error</b>                   |
|------------------|--------------------------------|
| 1-2-2-3          | BIOS ROM checksum              |
| 1-3-1-1          | Test DRAM refresh              |
| 1-3-1-3          | Test keyboard controller       |
| 1-3-4-1          | Test 512K base address lines   |
| 1-3-4-3          | Test 512K base memory          |
| 2-1-2-3          | Check ROM copyright notice     |
| 2-2-3-1          | Test for unexpected interrupts |