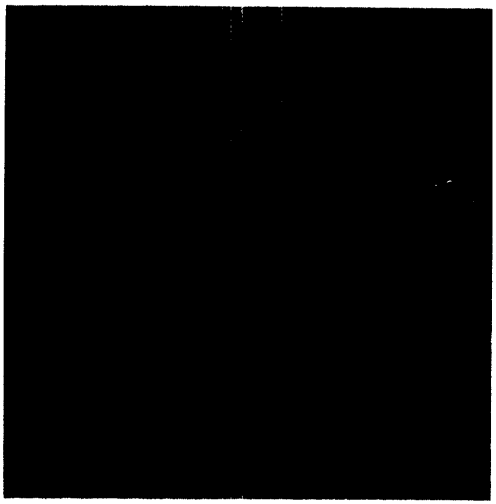


DESKTOP
GENERATION™

Warning

Model 10 and 10/SP

Model 10 and 10/SP systems have undergone rigorous testing and have been found to comply with FCC Rules for computing devices as described in the following paragraphs.

The statement below applies to systems configured with a maximum of the following components, or less: system computer unit (including 15-megabyte Winchester disk, dual floppy diskettes, cartridge tape subsystem, CPU logic, memory and I/O cards); Model 10 and 10/SP system console (including a keyboard and either one monochrome or one color monitor); a model 4434 multifunction dot matrix printer; and a model 4435 color graphics plotter.

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna
- relocate the computer with respect to the receiver
- move the computer away from the receiver
- plug the computer into a different outlet so that the computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems."

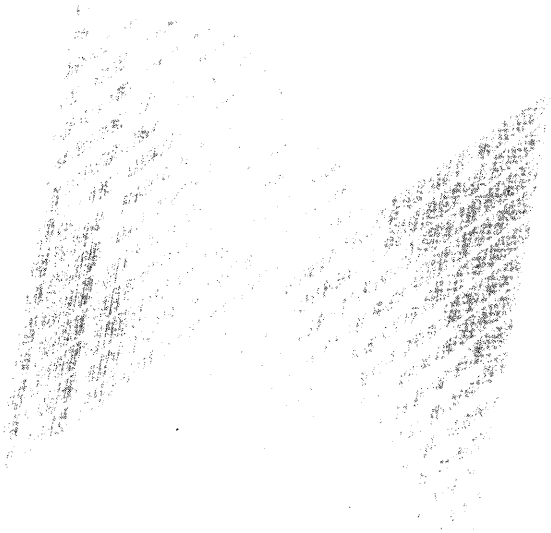
This booklet is available from the US Government Printing Office, Washington, DC 20402, Stock No. 004-000-000345-4.

If you expand the above-described system configuration to include other peripherals, such as the second Winchester disk unit or additional terminals, the statement below applies.

All Other Models

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

DESKTOP GENERATION
Systems



DESKTOP GENERATION™

Operator's Guide

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DESKTOP GENERATION® Systems
Operator's Guide
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A vertical bar in the margin of a page indicates substantive change from the previous revision.

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About This Manual

This operator's guide is intended for both new and experienced users of DESKTOP GENERATION® computers. You should read this guide after using the installation documentation to set up your system. If you wish to order additional books, you will find descriptions and information under "Related Documentation" in the back of the book.

The first pages of this guide tell you how to power up your system and load software. If you are not familiar with a procedure, you can read ahead to sections on using the system console, handling a diskette or cartridge tape, or testing your system. If you need assistance, you will find the Data General Service Operations Centers listed in the back of the book.

For information on using a peripheral, refer to either the DESKTOP GENERATION *Peripherals Operator's Guide* or to the user's guide for your peripheral.

You can keep this guide handy on your desk until you are familiar with your system or store it in the binder with your DESKTOP GENERATION *Peripherals Operator's Guide* --- the next book in the series.

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4 Testing Your System

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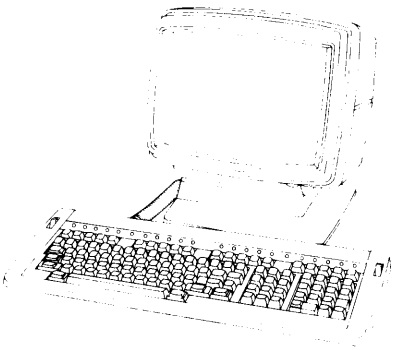
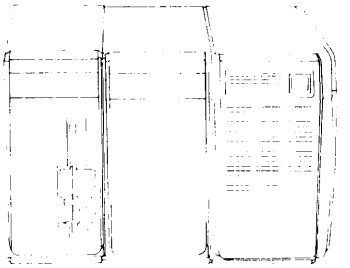
1

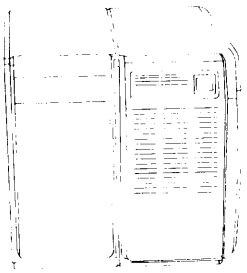
Using Your System

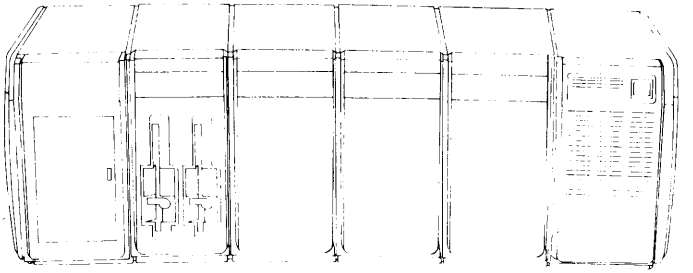




Diskette (1 drive) CPU logic Power supply

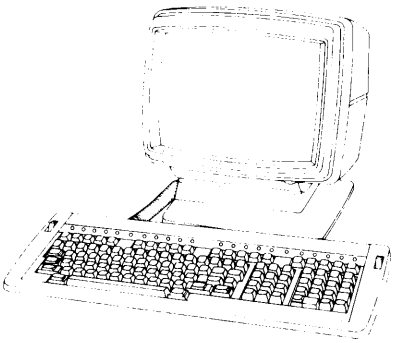
Basic system





Expansion disk (optional 2nd drive)

Cartridge tape (optional) Diskette (2 drives) Disk (optional) Logic expansion (optional) CPU logic Power supply



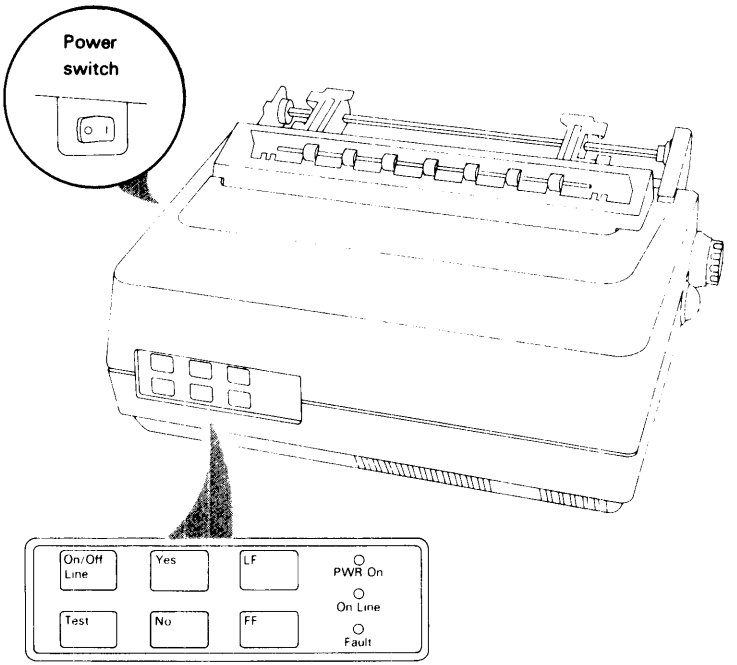
Expanded system

DG-26921

Powering Up the System

If you are powering up your computer unit for the first time, make sure your Customer Diagnostics diskettes are handy before you begin. Then, complete the following steps in the sequence shown.

1. Turn on the power to all other peripherals in your system (except your system console) using their power switches. If you have a printer, place it on line.

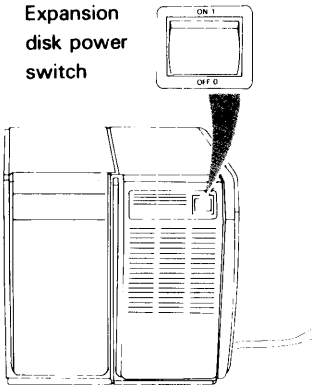


DG-25594

When power is turned on, some devices automatically perform certain operations such as turning on a light to show that the device is actually on. For information on the power switches for these devices and the operations they perform, refer to the user's or operator's manual for the device.

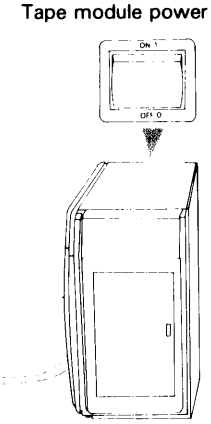
CAUTION *You must turn on all the other devices in the system BEFORE you turn on the main power switch or the system may not operate properly.*

2. Turn on the power to the expansion Winchester disk unit (if present) using the unit's power switch.



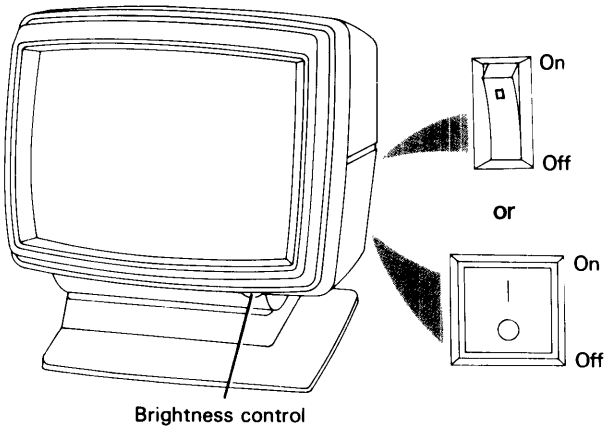
DG-26922

3. Turn on the power to the cartridge tape module (if present) using the module's power switch. This must be done *whether you intend to use a cartridge tape or not.*



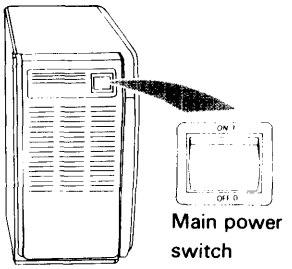
DG-26923

4. Turn on the power to the system console using the console's power switch, and use the brightness control knob to adjust screen intensity. (In multi- terminal Model 10 and 10/SP systems, the system console's display unit is the one that has its power cable plugged into the rear of the power supply module. In other multi-terminal systems, the system console's terminal is the one that has its device cable connected to slot 1 of CPU logic module.)



DG-25950

5. Turn on the power to the computer unit using the main power switch. The computer responds by going through a power-up test. (Chapter 4 details the power-up sequence.)



DG-26925

When the test is successfully completed, each system displays its own message, as follows:

System	Message
10 and 10/SP	TESTING... ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789 BLINK DIM REVERSE UNDERLINE ALL NORMAL TEST PASSED. !
20 and 30*	DXXX Self Test OK !
Other systems (77 is the SPU)	TESTING... DEVICE-77-ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789-PASSED DEVICE-XX-ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789-PASSED TESTING DONE.

**For the 20 and 30 systems, DXXX Self Test OK appears after the terminal self test has passed. XXX is the model number of the terminal.*

6. *If you are initially installing your system or running a periodic system test, load Customer Diagnostics* as described in the last section in Chapter 4. If you are loading data from a cartridge tape, insert the tape into the tape drive. (See "Inserting Tapes" in Chapter 3.) Otherwise, load your operating system as described in the following sections.

NOTE *If the computer is performing an Automatic Program Load from the diskette, you must insert the diskette in drive 0 and turn up the drive latch before the power-up test is completed.*

DG-27011

Loading Operating System Software, 10 and 10/SP Systems

After passing the power-up test, the computer is ready to load the operating system.

The computer checks to see if the system has a working Winchester disk drive. If a working Winchester disk drive is found, the computer displays the following message on your screen:

```
SELECT LOAD DEVICE: 20H (FOR diskette) OR 26H (FOR Winchester disk)
!
```

If your system does not have a Winchester disk drive or the drive is not working, the computer displays the following message on your screen:

```
LOADING FROM diskette
```

It then attempts to load from the diskette in diskette drive 0.

NOTE *If your system includes a Winchester disk drive, this message indicates that something may be wrong with the disk drive.*

To finish loading software complete the following two steps.

1. If you are loading from a diskette, insert the diskette in drive 0 and turn up the drive latch.

2. After the prompt (!), type the command for the device from which you want to load.

Command	Action
20H	Loads from diskette drive unit 0
22H	Loads from cartridge tape
26H	Loads from Winchester disk drive unit 0

The computer begins loading the RDOS, AOS, or MP/AOS-SU operating system into memory. When loading is complete, the operating system log-on message appears. For information on your operating system refer to *Using DG/RDOS on* DESKTOP GENERATION *Systems, Using AOS on* DESKTOP GENERATION *Systems*, or the documentation for MP/AOS-SU.

Loading Problems

If something is wrong with the device you want to load from, the computer displays the following message:

```
CANNOT LOAD
!
```

If you are attempting to load from a Winchester disk, fill out a Problem Report form and contact the nearest Service Operations Center.

Complete the following steps if you are attempting to load from a diskette.

1. Check drive 0. If the latch on the drive is down, turn it up.

2. Type 20H next to the prompt (!).

3. If the loading operation fails again, remove diskette from diskette drive. Reinsert diskette.

4. Type 20H next to the prompt (!).

5. If the loading operation fails again, remove diskette from diskette drive. Power down the system and wait five seconds. Power up the system. Type 20H next to the prompt (!). When the heads' loading light illuminates, reinsert diskette and turn up the latch.

6. If the loading operation fails again, remove diskette from diskette drive. Insert another Customer Diagnostics diskette and turn up the latch.

7. Type 20H next to the prompt (!).

8. If the loading operation fails again, fill out a Problem Report form and contact the nearest Data General Service Operations Center.

Loading Operating System Software, 20 and 30 Systems

After passing the power-up test, the computer is ready to load the operating system.

To finish loading software complete the following two steps.

1. If you are loading from a diskette, insert the diskette in drive 0 and turn up the drive latch.

2. After the prompt (!), type the command for the device from which you want to load.

Command	Action
20H	Loads from diskette drive unit 0
22H	Loads from the cartridge tape
26H	Loads from the Winchester disk drive unit 0

The computer begins loading the RDOS or AOS operating system programs into memory. When it is done, the operating system log-on message appears. For information on your operating system, refer to *Using DG/RDOS on* DESKTOP GENERATION *Systems* or *Using AOS on* DESKTOP GENERATION *Systems.*

Loading Problems

If something is wrong with the device you want to load from, the computer displays the following prompt:

!

If you are attempting to load from a Winchester disk, fill out a Problem Report form and contact the nearest Service Operations Center.

Complete the following steps if you are attempting to load from a diskette.

Check drive 0. If the latch on the drive is down, turn it up.

Type 20H next to the prompt (!).

3. If the loading operation fails again, remove diskette from diskette drive. Reinsert diskette.

4. Type 20H next to the prompt (!).

5. If the loading operation fails again, remove diskette from diskette drive. Power down the system and wait five seconds. Power up the system. Type 20H next to the prompt (!). When the heads' loading light illuminates, reinsert diskette and turn up the latch.

6. If the loading operation fails again, remove diskette from diskette drive. Insert another Customer Diagnostics diskette and turn up the latch.

7. Type 20H next to the prompt (!).

8. If the loading operation fails again, fill out a Problem Report form and contact the nearest Data General Service Operations Center.

Loading Operating System Software, Other Systems

After passing the power-up test, the computer is ready to load the operating system. One of the following three messages will appear on your screen.

SELECT LOAD DEVICE: 20H (FOR DISKETTE) OR 26H (FOR DISK)

This message is printed unless you have enabled Automatic Program Load on the SPU card. (For information on enabling this feature see DESKTOP GENERATION *Systems Installation Guide.*) If you are loading from a diskette, insert the diskette in drive 0 and turn up the drive latch before typing the command for the device from which you want to load.

LOADING FROM DEVICE XX

This message is printed if you have configured the SPU card to load automatically from the disk or diskette (26 for the disk and 20 for the diskette). For information on configuring the SPU card, see the DESKTOP GENERATION *Systems Installation Guide.*

NOTE *If the computer is performing an Automatic Program Load from the diskette, you must insert the diskette in drive 0 and turn up the drive latch before the power-up test is completed.*

CANNOT LOAD

This message is printed if the loading device does not respond in 30 seconds.

The computer begins loading the DESKTOP/UX operating system program into memory. When it is done, the operating system log-on message appears. For further information, refer to the documentation shipped with the operating system.

Loading Problems

If something is wrong with the device you want to load from, the computer displays the following prompt:

!

If you are attempting to load from a Winchester disk, fill out a Problem Report form and contact the nearest Service Operations Center.

Complete the following steps if you are attempting to load from a diskette.

1. Check drive 0. If the latch on the drive is down, turn it up.

2. Type 20H next to the prompt (!).

3. If the loading operation fails again, remove diskette from diskette drive. Reinsert diskette.

4. Type 20H next to the prompt (!).

5. If the loading operation fails again, remove diskette from diskette drive. Power down the system and wait five seconds. Power up the system. Type 20H next to the prompt (!). When the heads' loading light illuminates, reinsert diskette and turn up the latch.

6. If the loading operation fails again, remove diskette from diskette drive. Insert another Customer Diagnostics diskette and turn up the latch.

7. Type 20H next to the prompt (!).

8. If the loading operation fails again, fill out a Problem Report form and contact the nearest Data General Service Operations Center.

Powering Down the System

Power down the system if you do not expect to use it for an extended period of time. Perform the following steps in the sequence shown.

1. Exit the program currently running on your system.

2. Shut down the operating system software as described in the documentation for your operating system.

3. Remove all diskettes from the diskette drives, return them to their envelopes, and store them in their storage boxes.

4. Turn off the power to printers and user terminals.

5. Remove the cartridge tape from the cartridge tape module (if present) and turn off the power to the cartridge tape module. Return the cartridge tape to its case.

6. Turn off the power to the expansion Winchester disk unit (if present).

7. Turn off the power to the system console.

8. Turn off the power to the computer unit.

2

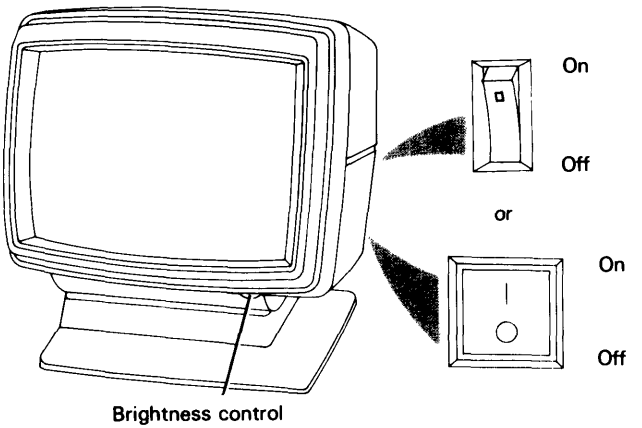
Using Your System Console

This chapter tells you how to operate your system console, which consists of a display unit and a keyboard. It describes the controls and lights on the system console, explains the functions of the keys, and tells you how to adjust the height of the keyboard.

Console Controls

To ready your console for use, follow the steps below.

1. Turn on the display unit power using the switch located on the rear of the display unit.

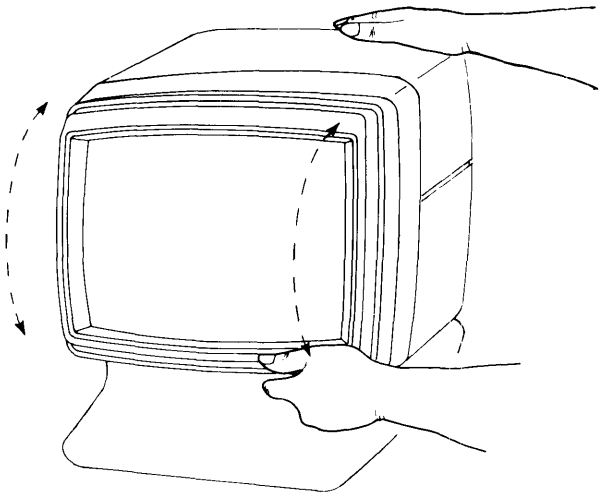


DG-26924

2. Adjust the intensity, or contrast, of the characters displayed on the screen by turning the brightness control knob to the left to increase brightness and to the right to decrease brightness.

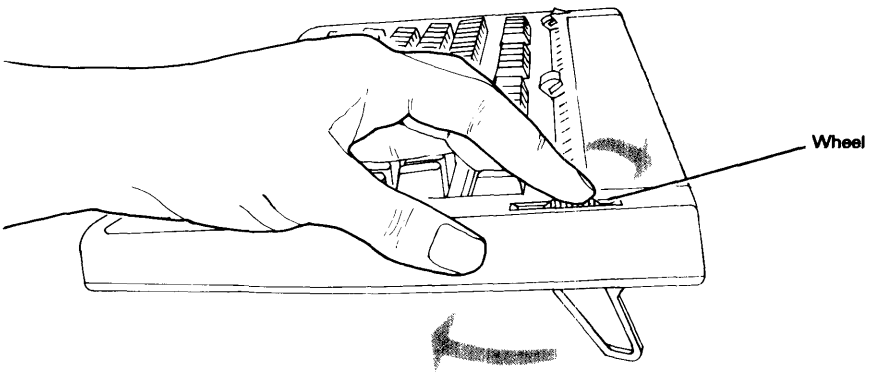
NOTE *On some terminals (D460) the brightness control is a slide and not a knob. On these terminals, moving the slide to the left decreases the intensity.*

3. Adjust the screen position by using two hands to tilt the monitor up or down until you have a comfortable line of sight to the screen.



DG-25743

4. Adjust the keyboard angle by moving the two wheels on either side of the keyboard. If the keyboard is flat, roll the wheels toward the back of the keyboard to increase the angle. If the first setting is not high enough, continue to roll the wheels until you reach the second and final setting.

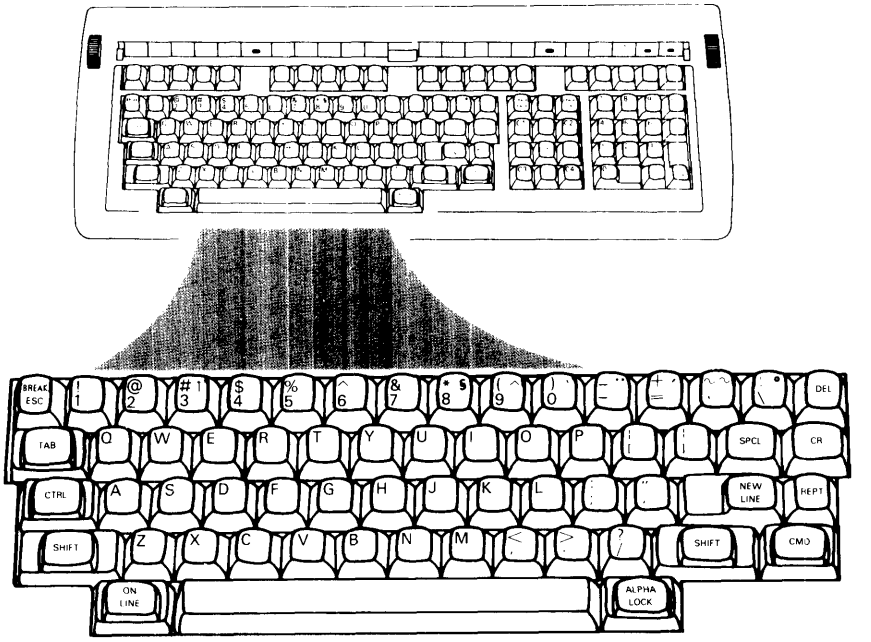


DG-25742

Using the Keyboard

Read the following subsections to become familiar with the keyboard and the functions of its keys.

Main Keypad



DG-26179

The darker colored keys on the main keypad form a standard typewriter-style keyboard. Pressing the keys produces the characters shown on the keys. Spacing or typing over a character erases it. If you want to repeat a character, hold the key down until the number of characters you want appear on the screen.

When you first power up your system, the screen displays uppercase characters only. On the 10 and 10/SP, lowercase characters will not appear until after you load software.

The following definitions describe the functions performed by the lighter colored keys on your keyboard *in most situations.* The software operating your system actually determines the keys' functions.

BREAK ESC Key

Pressing the key by itself, produces the BREAK ESC function, which varies with the software. You can also halt the the operation of your system by pressing this key while holding down the CMD key. (To take advantage of this feature on the 20, 30, and other systems, you will have to configure the SPU card.) After halting your system, you will have to reload the software.

TAB Key

By pressing the TAB key you can move the cursor to each of the *tab stops*, defined by your software.

CTRL Key

You can generate control information, which often affects screen characteristics such as blinking and underlining, by holding down the control key while pressing another key.

SHIFT Key

You can get the shift function of a key by pressing the desired key and the shift key at the same time.

When the ALPHA LOCK mode is on, pressing the SHIFT key has no effect on the alphabetic keys.

ON LINE Key and Light

For the 10 and 10/SP, the ON LINE light is always on when the computer unit is powered up.

For all systems except the 10 and 10/SP, pressing the ON LINE key and the CMD key at the same time allows you to test your keyboard and reset your terminal. When you turn the terminal on, it automatically attempts to go on line. The ON LINE light glows if the computer is on line, blinks when the terminal is waiting for a connection to the computer, and turns off when the computer is off line. Consequently, the ON LINE light either glows steadily or blinks when the power is first turned on.

ALPHA LOCK Key and Light

Pressing the ALPHA LOCK key turns the uppercase mode on and off. When the ALPHA LOCK light is on, the console is in uppercase mode.

CMD Key

For the 10 and 10/SP, using the CMD key in conjunction with other keys enables you to get a new function. For example, by holding down the CMD key and pressing the ERASE PAGE key, you can reset the console and enter alphanumeric mode.

For all systems except the 10 and 10/SP, holding down the CMD key while pressing another key generates the *command code* for the second key.

REPT KEY

To get a key or key combination to repeat rapidly, you can press the REPT key while holding down the desired key.

NEW LINE Key

Most software allows you to press the NEW LINE key to move the cursor to the beginning of the next line.

SPCL Key

Pressing the SPCL key and then certain two-key sequences generates a character from the international character set, except on a D210 where the SPCL key has no effect.

For more information on these key sequences refer to the *Model 10 and 10/SP System Console Programmer's Reference* or the user's manual for the terminal.

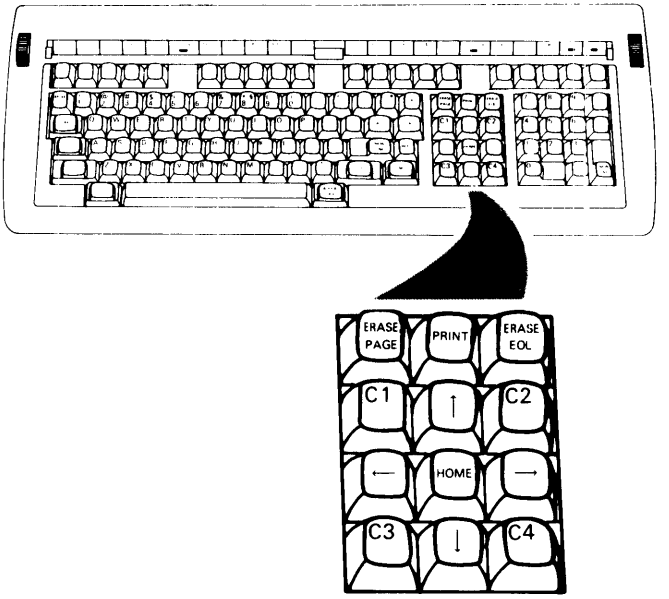
CR Key

Most software allows you to press the Carriage Return (CR) key to move the cursor to the beginning of the next line.

DEL Key

In most systems, you can press the DEL key to delete the character to the left of the cursor.

Screen Management Keypad



DG-26180

The keys on the screen management keypad usually allow you to erase all or part of the screen and move the cursor. The four keys labeled C1, C2, C3, and C4 are user function keys and are discussed in the next section.

ERASE PAGE Key

Pressing the ERASE PAGE Key clears the screen.

For the 10 and 10/SP, holding this key down while pressing the CMD key always resets the display unit, causing it to leave graphics mode, clear the screen, and enter alphanumeric mode. For more information, refer to the *Model 10 and 10/SP System Console Programmer's Reference.*

For the D210 and D211, pressing the ERASE PAGE key clears the screen and moves the cursor to the first column of the top row, the *home* position.

PRINT Key

Pressing the PRINT key while holding down the CMD key enables you to produce control information. Your software determines the effect of this control information.

ERASE EOL Key

Pressing the ERASE EOL usually erases all characters to the right of the cursor.

Cursor Up Key

Most software allows you to press the Cursor Up key (top arrow) to move the cursor up one row in the same column.

Cursor Down Key

Most software allows you to press the Cursor Down key (down arrow) to move the cursor down one row in the same column.

Cursor Left Key

Most software allows you to press the Cursor Left key (left arrow) to move the cursor one column position to the left on the current row.

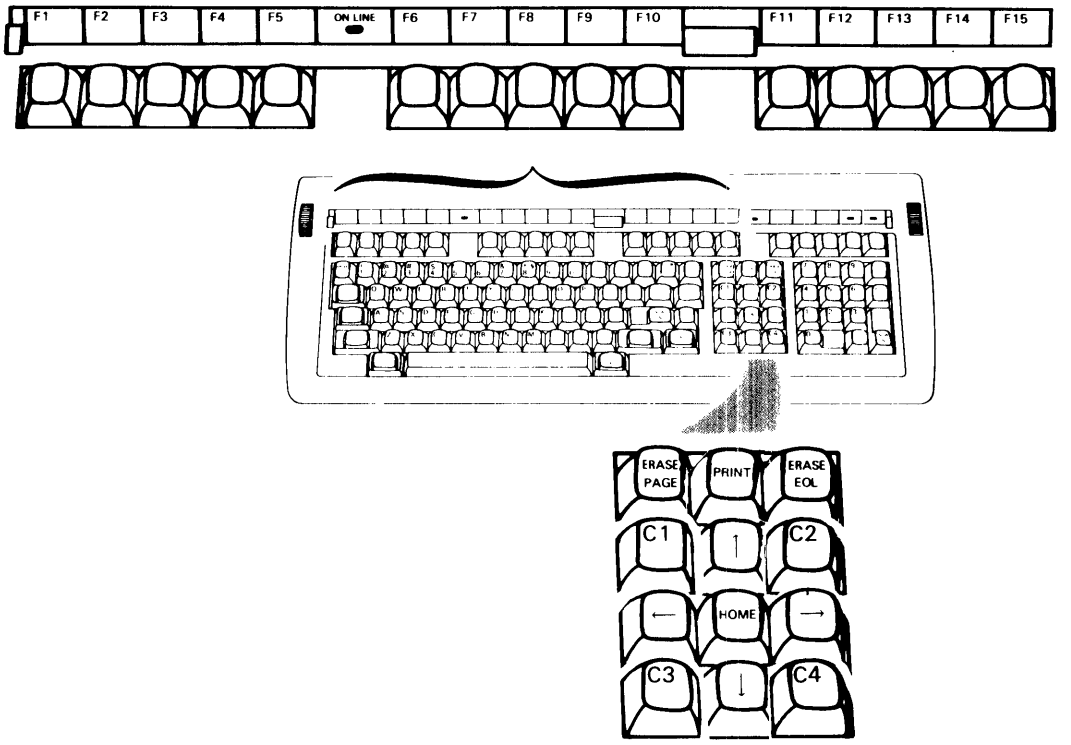
Cursor Right Key

Most software allows you to press the Cursor Right key (right arrow) to move the cursor one column position to the right on the current row.

HOME Key

Many software programs enable you to press the HOME key to move the cursor to the first column of the first row.

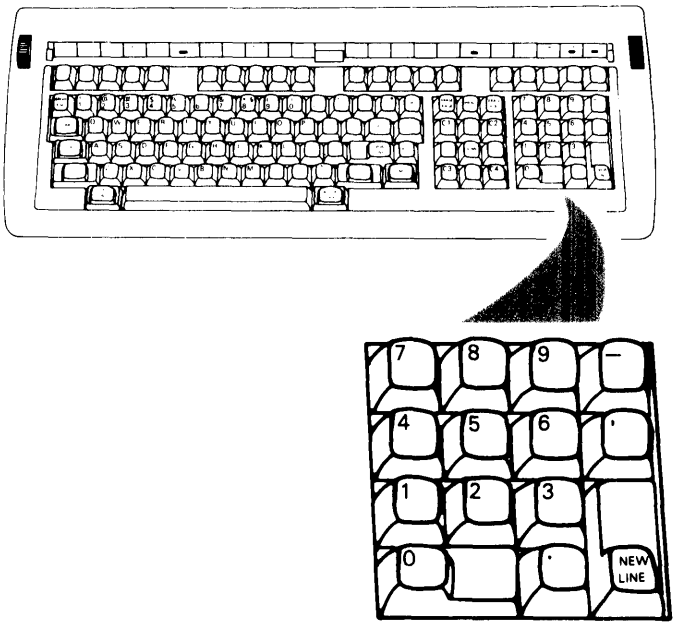
User Function Keys



The software defines special control functions for the user function keys. These keys usually include F1 through F15 and C1 through C4, although the software can define any key as a function key.

NOTE *The last group of five keys on the top row of the keyboard is reserved for future use.*

Numeric Keypad



DG-26181

Most software allows you to press a numbered key to get the number you want. All the keys on the numeric keypad also appear on the main keypad; their arrangement on the numeric keypad makes the entry of numerical data more convenient.

Local Print Key (D2II only)

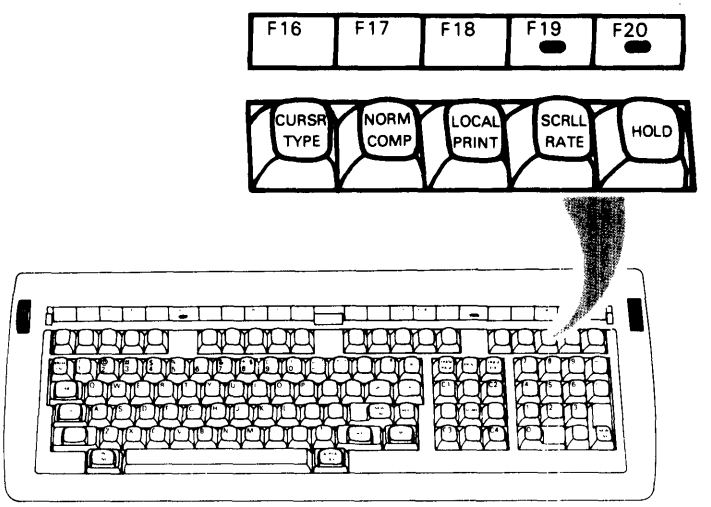
You can use the Local Print key when a printer is connected to the terminal whether the terminal is on or off line.

You can use the Local Print key to perform the following two functions:

- *Sending the contents of the current screen, beginning with the row containing the cursor, to the printer.* You can press the Local Print key for this function. You can not enter data during printing. Pressing Local Print a second time or pressing the CMD and CR keys simultaneously, enables you to stop printing before the entire screen has printed.

- *Sending only characters appearing at full intensity on the screen, to the printer.* Dimmed text is transmitted as blank space, and reverse-video characters are printed as regular characters. Pressing the Local Print key while holding down the shift key generates this function. You cannot enter data during printing. Pressing Local Print a second time or pressing the CMD and CR keys simultaneously enables you to stop printing before the entire screen has printed.

Local Function Keys (D410 and D460 only)



DG-26184

You can use the Local Function keys whether the terminal is on or off line.

CURSR TYPE Key

Pressing the CURSR TYPE key allows you to change the appearance of the cursor. When you turn on the terminal the cursor is displayed as a reverse-video block. When you place the cursor over a character, the character appears in reverse.

Pressing the CURSR TYPE key once displays the cursor as a blinking underscore. If you press the CURSR TYPE key three times, the cursor will first disappear, then appear as a blinking reverse-video block, and finally return to its original form as a non-blinking reverse-video block.

NORM/COMP Key

Pressing the NORM/COMP key allows you to switch between normal and compressed character spacing. See your user's manual for more information.

LOCAL PRINT Key

You can use the LOCAL PRINT key to perform the following four functions:

- *Sending the contents of the current screen, beginning with the row containing the cursor, to the printer.* You can press the LOCAL PRINT key for this function. You can not enter data during printing. Pressing LOCAL PRINT a second time or pressing the CMD and CR keys simultaneously, enables you to stop printing before the entire screen has printed.
- *Sending only characters appearing at full intensity on the screen, to the printer.* Dimmed text is transmitted as blank space, and reverse-video characters are printed as regular characters. Pressing the LOCAL PRINT key while holding down the shift key generates this function. You cannot enter data during printing. Pressing LOCAL PRINT a second time or pressing the CMD and CR keys simultaneously enables you to stop printing before the entire screen has printed.
- *Sending all characters except underlines exactly as they appear on the screen, to the printer.* Underlines are ignored, and blinking characters are printed as regular text. Holding down the CMD and shift keys and then pressing the LOCAL PRINT key enables you to perform this function.
- *Sending all characters except reverse-order spaces exactly as they appear on the screen, to the printer.* Reverse-video spaces are printed as blocks of dots. Pressing the CMD and LOCAL PRINT keys simultaneously enables you to perform this function.

SCRLL RATE Key

Pressing the SCRLL RATE key allows you to change the scroll rate to one of three settings. When you turn on the terminal, scrolling is performed in single-row increments (jump scrolling). Pressing the SCRLL RATE key once starts smooth scrolling at the rate of five characters per second. Pressing the key a second time increases the rate to ten characters per second. Pressing the key a third time returns the terminal to jump scrolling.

HOLD Key and Light

When you turn on the terminal, the HOLD light is off and the screen image can change. Pressing the HOLD key *freezes* the screen image and prevents it from changing. You can continue to use the keyboard while the freeze is in effect, but the characters you type will not be displayed. Depressing the HOLD key again *unfreezes* the screen, turns off the light, and displays any characters you entered during the hold period.

3

Care and Handling

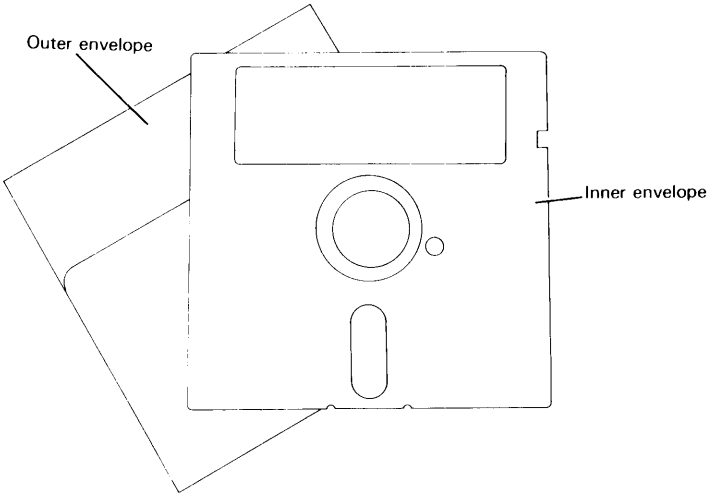
This chapter explains care and handling of your diskette, tape, computer unit and system console.

Diskette

This section describes storing, handling, write-protecting, inserting, formatting, and copying your diskette as well as cleaning the diskette drive.

Storing and Handling

Each diskette is packaged in a removable outer paper envelope that protects it from damage during shipping and storage. A second inner plastic envelope becomes visible when you take the diskette out of its outer envelope. The inner envelope is permanent and should never be removed.



DG-26061

Do not touch the parts of the diskette that are exposed by the openings in the inner envelope. The oil on your fingers makes the data inaccessible to the computer. Dust and dirt on diskette media surface may damage diskette drive.

Never fold or bend a diskette.

The label that accompanies each diskette lets you identify its contents. Write on the label *before* you attach it to the diskette. If you must write on the label after it has been attached to the diskette, use a felt-tip pen and do not bear down on the label. Make sure the label does not cover the notch on the side of the diskette.

When the diskette is not in use, return it to its envelope and store it in its storage box. The box should be kept in a clean, dry place.

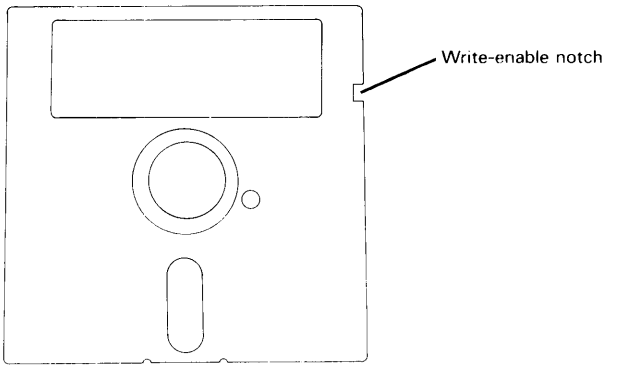
CAUTION *Avoid placing the storage box near magnets or equipment that produce magnetic fields such as a power supply, printer, or terminal. Do not expose the storage box or the diskette itself to temperatures above 37 degrees C (98.6 degrees F).*

Write-Protecting

Once you insert a diskette into a diskette drive, the computer can use a diskette in one of two ways. It can transfer information from the diskette to memory by a *reading* process, and it can transfer information from memory to the diskette by a *writing* process.

When the computer reads information from a diskette, the information remains intact. When the computer writes information onto a diskette, the original contents of the diskette are erased.

To protect the information on a diskette from accidental erasure, cover the square notch (called the *write-enable notch*) in the diskette with the plastic tab supplied with the diskette. (This tab is called the *write-disable* tab.) When the notch is covered, the diskette is said to be *write-protected*; when the notch is uncovered, the diskette is said to be *write-enabled.*



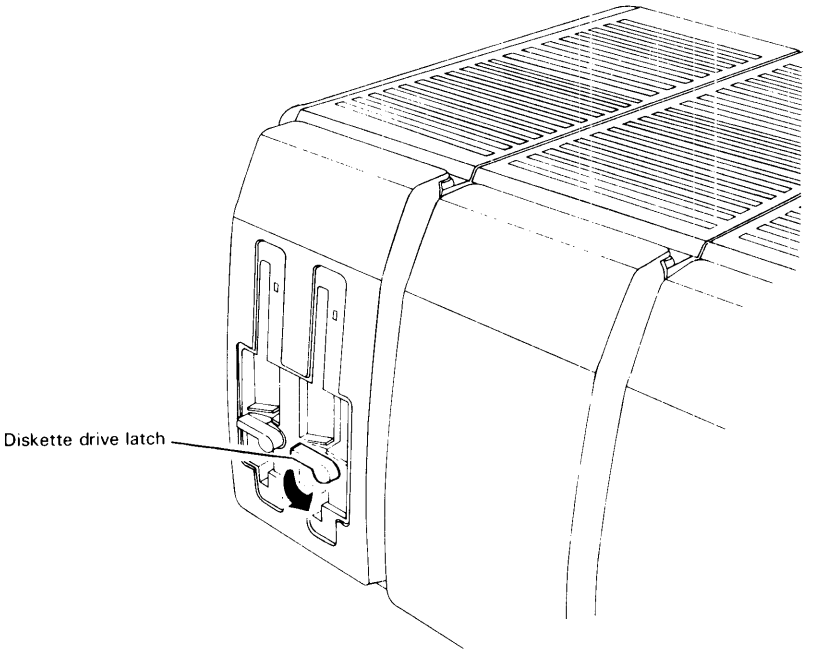
DG-26062

Inserting

1. Remove the diskette from its envelope. If you want to protect the contents of the diskette, follow the procedure described in the previous section, "Write-Protecting."

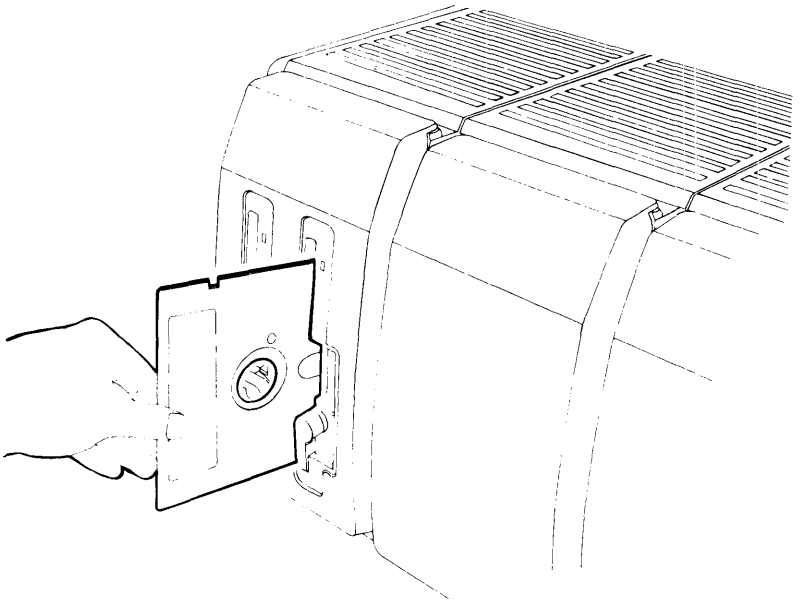
NOTE *Do not write-protect the Customer Diagnostics diskettes. The programs on them will not run if you do.*

2. Turn the latch down on the diskette drive you are going to use. If you are loading software from a diskette, use drive 0 (the right drive) unless told to do otherwise.



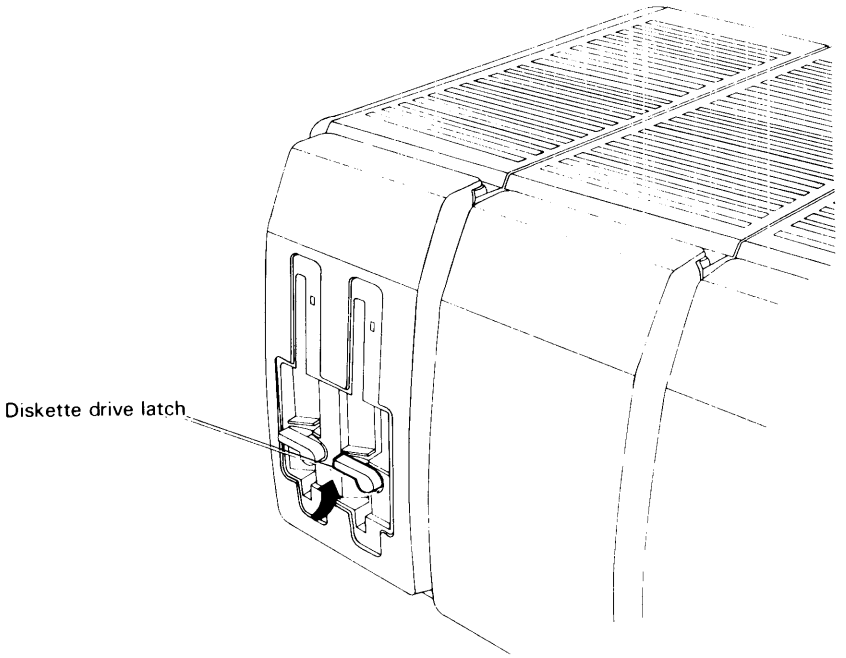
DG-26063

3. Hold the diskette vertically, with the write-enable notch on top and slide the diskette into the slot in the drive. To avoid damaging the diskette, make sure it is pushed all the way into the drive.



DG-26064

4. Turn the latch up to engage the diskette. If you leave the latch down, the drive will not be able to transfer data.



DG-26063

Formatting

Before you can use a new diskette in your system, you must prepare the diskette to accept data. The process of preparing diskettes is called *formatting.*

There are two types of formatting: *hardware formatting* and *software formatting.* Hardware formatting divides the space on the diskette into separate areas for the storage of data. These areas are called sectors, tracks, and surfaces. Software formatting further structures the space on the diskette in a way that makes it accessible to your particular operating system software.

All diskettes require both hardware and software formatting. The diskettes supplied by Data General have already been hardware formatted for you; you need only to software format. For more information on software formatting, refer to *Using DG/RDOS on* DESKTOP GENERATION *Systems, Using AOS on* DESKTOP GENERATION *Systems,* or the documentation for MP/AOS-SU or DESKTOP/UX™. Refer to Customer Diagnostics for the steps necessary to hardware format an unformatted diskette.

Copying

Customer diagnostics includes a program for a user with two diskette drives to copy information from one diskette to another. The program does not check the new diskette for faulty areas (called *bad blocks*) before copying data to it. Therefore, if the new diskette contains a bad block, the data written to that block is lost. For this reason, we recommend that you use the facilities of your operating system software to copy diskettes, except when copying Customer Diagnostics. For information on these facilities, refer to *Using DG/RDOS on* DESKTOP GENERATION *Systems, Using AOS on* DESKTOP GENERATION *Systems, Data General/UX System Admininstrator Guide* or the documentation for MP/AOS-SU.

Cleaning Drive Heads

The *drive head* reads and writes information from and to the diskettes. Dirt and dust can collect on the drive head interfering with the transfer of information or actually destroying the information. For this reason, you should clean the drive head once a month.

The cleaning process requires a *cleaning diskette*, DG part number 118-002087. To order cleaning diskettes, call the Data General Supplies and Accessories Group, toll-free, at 1-800-343-8842 outside Massachusetts or 1-800-451-1014 within Massachusetts. Customer Diagnostics includes a program for cleaning the drive heads.

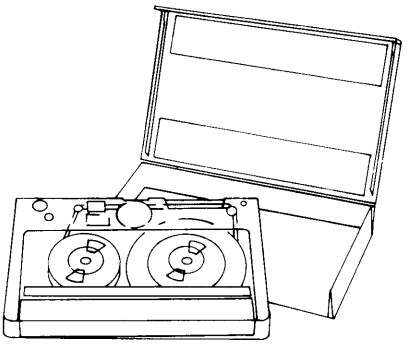
CAUTION *Excessive head cleaning can cause head wear and premature failure. Do not exceed 30 seconds for each use.*

Cartridge Tape

This section explains storing, handling, write-protecting, and inserting the tape as well as cleaning the tape head.

Storing and Handling

Each tape cartridge is packaged in a plastic case. When the tape cartridge is not in use, return it to its case.



DG-25748

Do not touch the parts of the tape that are exposed in the openings of the cartridge. The oil on your fingers makes the data inaccessible to the computer. Dust and dirt may damage tape and tape drive.

Tape cartridges should be kept in a clean, dry place. Avoid placing them near magnets or equipment that produce magnetic fields such as a power supply, printer, or display monitor.

Do not expose the tape cartridge to temperatures above 37 degrees C (98.6 degrees F).

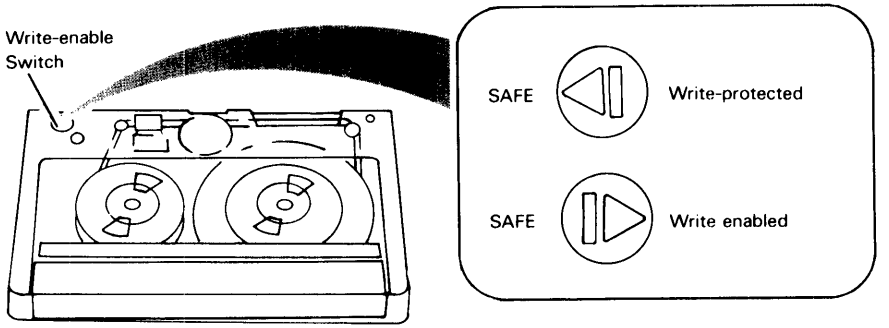
Write-Protecting

Once you insert a tape cartridge into a tape drive, the computer can use the tape in one of two ways. It can transfer information from the tape to memory or to another device by a *reading* process, and it can transfer information from memory or from another device to the tape by a *writing* process.

When the computer reads information from a tape cartridge, the information remains intact. When the computer writes information onto a tape, the original contents of the tape are erased.

Insert a paper clip into the groove in the *write-enable switch* and turn the switch until the arrow points to the word "SAFE" to protect the information on a tape from accidental erasure.

The switch makes a clicking noise when you turn it to this position. When the arrow points toward SAFE, the tape is said to be *write-protected*; when the arrow points away from SAFE, the tape is said to be *write-enabled.*

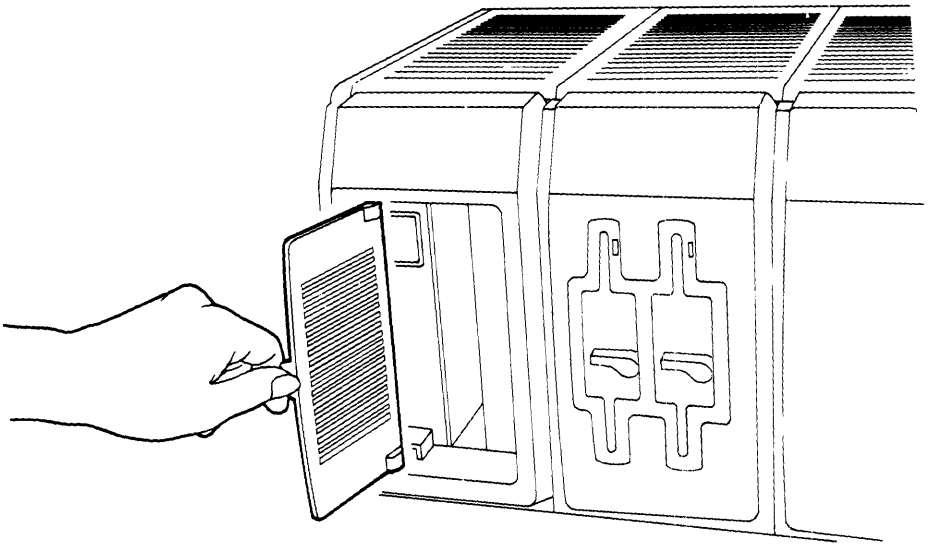


DG-26066

Inserting

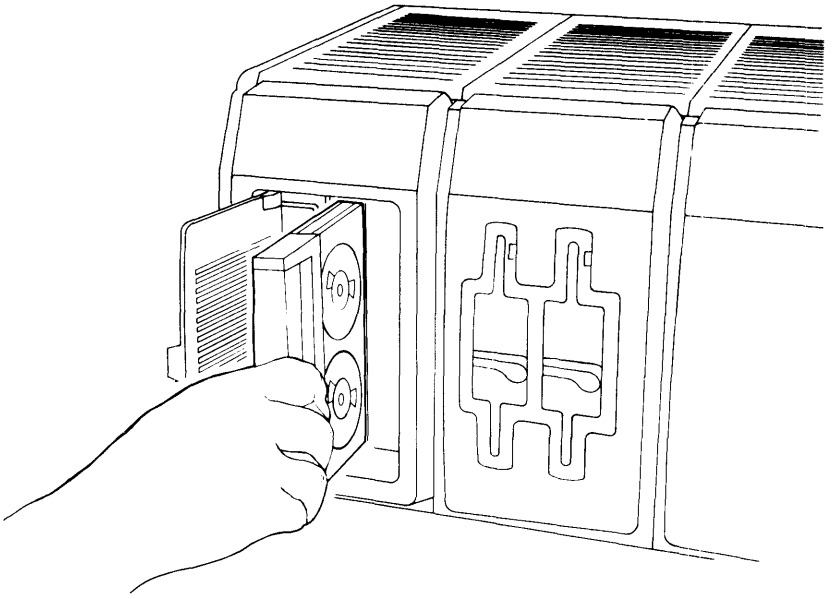
1. Remove the tape cartridge from its plastic case. If you want to protect the contents of the tape, follow the procedure described in the previous section, "Write-Protecting."

2. Open the door of the cartridge tape module.



DG-25746

3. Holding the tape cartridge upright with the metal plate on the left, insert the tape cartridge into the drive. Push firmly to overcome the slight resistance caused by the rollers inside the drive.



DG-25747

4. Close the door of the cartridge tape module.

CAUTION *The door should be kept shut to eliminate the effects of static electricity.*

If the drive is powered up, you will hear a whirring noise when you insert the tape cartridge, and you will see the RDY light go on. If the RDY light does not turn on after you insert the tape cartridge, make sure the power is turned on and the cartridge is inserted all the way into the drive. If the RDY light is still off about a minute later, remove the tape cartridge from the drive and call the nearest Data General Service Operations Center.

Cleaning the Tape Head

The drive head reads and writes information from and to the tape. Dirt and dust can collect on the drive head, interfering with the transfer of information or actually destroying the information. For this reason, you should clean the drive head after every eight hours of use.

The cleaning process requires the *QIC drive cleaning kit, DG part number 1182445.* To order cleaning kits, call the Data General Supplies and Accessories Group, toll-free, at 1-800-343-8842 outside Massachusetts or 1-800-451-1014 within Massachusetts.

System Care and Cleaning

Although your computer system does not require any special care, you should keep the surrounding area clean and free of dust.

If dirt or dust accumulates on the computer system, wipe it off with a clean, dry cloth.

WARNING *High voltages exist inside the computer system. Never insert anything through the cooling vents.*

Also do not:

- Drop objects such as paper clips through the vents, because they can cause electrical problems or fire. If something falls into the computer unit or display unit turn off the main power switch, unplug the power cord from the ac outlet, and contact the nearest Data General Service Operations Center.
- Spill liquids on the computer system. If you spill something over the equipment, immediately turn off the main power switch, unplug the power cord from the ac outlet, and contact the nearest Service Operations Center.
- Damage a power cord. Always unplug a power cord by pulling on the plug, not grasping the cord.

- Block the vents on top of the computer unit or display unit. Overheating will cause a system failure.
- Place the computer system in direct sunlight or near anything generating excessive heat. Heat can damage the cabinet and display unit.
- Bang or drop the keyboard.
- Place the display unit next to the power supply or near other equipment using ac power. This equipment can produce magnetic fields that cause screen distortion.

If you detect any unusual sounds, odors, or smoke coming from the computer system, immediately turn off the power switch, unplug the power cord from the ac outlet, and contact the nearest Service Operations Center.

If you want to verify that your computer system is in good working order or you want to find the source of a problem, run Customer Diagnostics.

4

Testing Your System

You can quickly find out if your system is functioning correctly by using the following problem solving aids: the system power-up test, customer diagnostics, and off-line tests.

The system power-up test, described later in this chapter, runs each time you turn on your system. If the test is successful, your system can properly perform basic operations, and will prompt you for input.

Customer diagnostics include easy-to-use programs for testing and maintaining your entire system.

Off-line tests, described in DESKTOP GENERATION *Peripherals Operator's Guide* or in the user guides shipped with the devices, allow you to run diagnostic and problem solving tests on most of your terminals and printers when they are off-line--that is, not communicating with the computer.

The following chart tells you when and how to verify or test the operation of your system.

NOTE *Call for assistance if the problem solving aids do not answer your questions.*

When	How
After installing or replacing equipment	1. Power-up test 2. Customer diagnostics 3. System console and device tests
Daily verification	1. Power-up test 2. Customer diagnostics
System console problem for the 10 and 10/SP	1. Customer diagnostics
System console problem for the other DESKTOP GENERATION systems	1. Customer diagnostics 2. Off-line terminal tests
Other device problem	1. Customer diagnostics 2. Off-line device tests
System problem	1. Power-up test 2. Customer diagnostics

Power-Up Test, 10 and 10/SP Systems

This section describes the power-up test for the 10 and 10/SP systems. It also explains how to diagnose and fix any problems revealed by the tests.

Testing Sequence

The power-up test informs you that testing is in progress by displaying the following message on your console screen.

TESTING...

As each test is passed, one or more letters of the alphabet or a number from 0 to 9 appear on your screen. If all the tests pass, you will see the entire alphabet and all the numbers from 0 to 9 on your console display screen:

ABCEDFGHIJKLMNOPQRSTUVWXYZ0123456789

NOTE *A printer or user terminal connected to the printer port must be powered-up and on-line for the power-up test to run successfully.*

Color Test

If your system console has a color monitor, you will see the characters of the alphanumeric sequence displayed in green on alternating backgrounds of blue and red. Thus, the letter A appears in a blue block and B in a red block; C in a blue block and D in a red block; and so on.

The characters are shown in this way to test the red, blue, and green color "guns" (devices in your monitor that produce colors). Thus, if characters appear dark instead of green, the green gun is probably faulty. Or, if characters appear in a dark block instead of a red or blue one, the red or blue gun is probably faulty. You can use this part of the power-up test to check the color guns if you think colors do not look as they should. If one of the colors in the alphanumeric sequence is missing, contact your nearest Data General Service Operations Center.

Attributes Test

After the alphanumeric sequence, your console screen shows the words BLINK DIM REVERSE UNDERLINE ALL NORMAL, each displaying the attribute it describes. Thus, the word BLINK is blinking; the word DIM is dim; and so on. The word ALL has all possible attributes: it is blinking, dim, reverse-video, and underlined. (Since ALL is in reverse-video, the underline appears as a dark line.) The word NORMAL has none of the previous attributes: its letters are green on a dark background.

Conclusion

To tell you that testing is finished, the power-up test displays the message TEST PASSED. At this point your screen contains the complete power-up message, as shown below.

```
TESTING...

   ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
   BLINK DIM REVERSE UNDERLINE ALL NORMAL

TEST PASSED.
```

When the complete message appears on the screen, your computer has passed the power-up test and you can continue testing with Customer Diagnostics, as described later.

If the complete message does not appear, turn the system power switch off and then on. If the computer still does not pass the power-up test, your screen will contain one of the following:

Nothing (it is blank)

Only the T of TESTING

Meaningless characters

Incomplete alphanumeric sequence

Word(s) with wrong attributes

Flickering alphanumeric sequence

Problem Solving

If the power-up test fails, read the section that describes the status of your screen. Answer the questions in that section. If your answer to a question is no, go to the next question. If your answer is yes, follow each procedure listed under the question, in sequence. If the problem remains, contact the nearest Service Operations Center. If the prompt or self test appears on the display screen after you perform a procedure, you can move on to customer diagnostics. If a single letter appears after you perform a procedure, the "Incomplete Alphanumeric Sequence" section ahead tells you how to proceed.

Blank Screen

Does the fan in the power supply module fail to circulate air?

- Make sure front cover to power supply module is on securely in order to disable the ac disconnect wire at lower left hand corner on the inside of the cover. Check screen for prompt or self test.
- Turn off the system power switch. Using a lamp or similar appliance, make sure the ac outlet for the computer unit is supplying power. Turn on the main power switch. Check screen for prompt or self test.
- Turn off the system and display unit power switches. Make sure the ac power cords for your computer and display units are plugged in securely. Turn on the display unit power switch and then the system power switch. Check screen for prompt or self test.
- Look through rear cover of power supply module to check the red or green lights for each power supply. If the lights are shining or blinking, call your nearest Service Operations Center. Check screen or prompt or self test.

  If a light does not shine or blink, turn off the system power switch and unplug the ac power cord behind the power supply module.

  Remove the fuse from the back of the power supply module. Make sure its voltage and amp ratings match those listed for F1 on the label attached to the module's back cover. If the fuse is blown, replace the fuse. Plug in the ac power cord and turn on the system power switch. If fuse continues to fail, call for service.

Are the red or green lights (visible through rear cover of power supply module) off?

- Remove the plastic cover on the rear of the power supply module. Gently shake the unit. If a light blinks, internal dc cables may be loose.

  WARNING *Beause high voltages exist within the power supply, always wait five minutes after turning off the power before removing the metal grid inside.*

  Make sure the CPU module's ac and dc connectors are plugged securely into the power supply's connectors in the front and rear respectively. Replace the metal grid and plastic cover. Then, turn on the system power switch. If the light continues to blink and the screen remains blank after you perform this procedure, the power supply module is probably faulty. Fill out a Problem Report form and call your nearest Service Operation Center.

Is your system console turned off?

- Turn on the console's power switch. Turn the system power switch off and then on. Check screen for prompt or self test.
- Turn up the intensity with the brightness control knob on the front of the console. Turn the system power switch off and then on. Check screen for prompt or self test.
- Turn off console and system power. Make sure the console power cable and the console device cable are plugged in securely and tighten any loose cable screws. Turn on the power to the console and to the system. Check screen for prompt or self test.

Do the boards have loose contacts?

- First turn off the system power switch and remove the front plastic and metal covers from the CPU logic module.

  Press gently but firmly against the edge of each printed circuit card and any cable connected to the front or back of the card to ensure its proper connection.

  Replace the front metal and plastic covers of the CPU logic module.

  Turn on the system power switch. Check the screen for prompt or self test.

If your screen remains blank, you may have a failing display unit, SPU card set, or color controller card (if you have a color display unit). Of these parts, the display unit is the most likely and the SPU card set the least likely to fail. Fill out a Problem Report form and contact the nearest Service Operations Center.

T of TESTING

Does only the T of TESTING appear?

- Make sure the device on the printer port is on line and operating normally. Turn the main power switch off and then on. If there is no change disconnect device. Power up system. If power-up test passes, the device is faulty. Contact the nearest Service Operations Center.

Meaningless Characters

Does your screen contain meaningless characters?

- Turn the main power switch off, pause 5 seconds and turn on. Check screen for prompt or self test.
- See that all connecting cables are fastened securely. Check screen for prompt or self test.
- Make sure the system console cable is plugged in and tighten any loose cable screws. Check screen for prompt or self test.

If meaningless characters still appear, you may have a failing display unit, SPU card set, or color controller card (if you have a color display unit). Of the three parts, the display unit is the most likely and the SPU card set the least likely failing unit. Fill out a Problem Report form and contact your nearest Service Operations Center.

Incomplete Alphanumeric Sequence

As the power-up test runs, does the display screen stop displaying the sequence of letters and numbers? Check screen for prompt or self test.

- Turn the main power switch off, pause 5 seconds and turn on. Check screen for prompt or self test.
- See that all connecting cables are fastened securely. Check screen for prompt or self test.

- Make sure the system console cable is plugged in and tighten any loose cable screws. Check screen for prompt or self test.
- Turn off the system power switch and remove the front plastic and metal covers from the CPU logic module.

  Press gently but firmly against the edge of each printed circuit card and any cable connected to the front or back of the card to ensure its proper connection.

  Replace the front metal and plastic covers of the CPU logic module.

  Turn on the system power switch. Check the screen for prompt or self test.

If self test continues to fail, the characters in the incomplete alphanumeric sequence can help you identify the failing unit. Each letter and number* in the sequence represents a test. If, for example, the power-up message stops at the letter F, the test represented by the letter G was unsuccessful. The following table lists each character, the area being tested when the test failed, and the part that most likely caused the failure. After you determine the part that most likely caused the failure, fill out a Problem Report form and call the nearest Service Operations Center.

**Currently, the numbers are reserved for future tests. Thus, when the Y appears, the power-up tests associated with the alphanumeric sequence are finished and all the numbers will appear.*

Last Character Displayed	Area Tested	Probable Failing Part
A	Printer port	SPU card set
B, C, D, E, F, or G	Memory	Memory card or SPU card set
H or I	Keyboard input	Keyboard; make sure the keyboard cable is securely plugged into the display unit and the cable screws are tightened
J	Keyboard lights and bell	Keyboard; make sure the keyboard cable is securely plugged into the display unit and the cable screws are tightened.
K, L, M, or N	Real-time clock (RTC)	SPU card set
O	Programmable interval times (PIT)	SPU card set
P	Printer port	SPU card set
Q, R, S, T, U, V, W, or X	Various areas	SPU card set
Y	Memory	SPU card set or expansion memory card

Wrong Attributes

Are any of the attribute words - BLINK, DIM, REVERSE, UNDERLINE, ALL, NORMAL - displayed with the wrong attributes?

- You probably have a faulty display unit, color controller card (if you have a color display unit), or SPU card set. Of the three parts, the display unit is most likely and the SPU card set, the least likely to fail. Fill out a Problem Report form and contact the nearest Service Operations Center.

Flickering Alphanumeric Sequence

Does your screen flicker as it displays the alphanumeric sequence of the power-up test?

- Check jumper P3 on the SPU1 card. It should be out for 60Hz and in for 50Hz. Check screen for prompt or self test.

Power-up Test, 20 and 30 Systems

This section describes the power-up test for the 20 and 30 systems. It also explains how to diagnose and fix any problems revealed by the tests.

Testing Sequence

When you turn on the power switch at the front of your computer unit, the computer begins a short sequence of power-up tests to verify that it can perform basic operations. If this sequence of tests passes, a system prompt (!) appears on the display screen of your system console and you can continue testing with customer diagnostics, as described at the end of this chapter.

If anything other than a system prompt (!) appears on the screen, turn your computer off and then on. If the computer still does not pass the power-up test, your display screen contains one of the following:

Nothing (it is blank)

Meaningless characters

A single letter - I, H, or M.

Problem Solving

If the power-up test fails, read the section that describes the status of your screen. Answer the questions in that section. If your answer to a question is no, see the next question. If your answer is yes, follow each procedure listed under the question in sequence. If the problem remains, contact the nearest Service Operations Center. If the prompt or self test appears on the display screen after you perform a procedure, you can move on to customer diagnostics. If a single letter appears after you perform a procedure, the "Incomplete Alphanumeric Sequence" section ahead tells you how to proceed.

Blank Screen

Does the fan in the power supply module fail to circulate air?

- Make sure front cover to power supply module is on securely in order to disable the ac disconnect wire at lower left hand corner on the inside of the cover. Check screen for prompt or self test.
- Turn off the system power switch. Using a lamp or similar appliance, make sure the ac outlet for the computer unit is supplying power. Turn on the main power switch. Check screen for prompt or self test.
- Turn off the system and display unit power switches. Make sure the ac power cords for your computer and display units are plugged in securely. Turn on the display unit power switch and then the system power switch. Check screen for prompt or self test.
- Look through rear cover of power supply module to check the red or green lights for each power supply. If the lights are shining or blinking call your nearest Service Operations Center. Check screen or prompt or self test.

  If a light does not shine or blink, turn off the system power switch and unplug the ac power cord behind the power supply module.

  Remove the fuse from the back of the power supply module. Make sure its voltage and amp ratings match those listed for F1 on the label attached to the module's back cover. If the fuse is blown, replace the fuse. Plug in the ac power cord and turn on the system power switch. If fuse continues to fail, call for service.

Are the red or green lights (visible through rear cover of power supply module) off?

- Remove the plastic cover on the rear of the power supply module. Gently shake the unit. If a light blinks, internal dc cables may be loose.

  WARNING *Because high voltages exist within the power supply, always wait five minutes after turning off the power before removing the metal grid inside.*

- Make sure the CPU module's ac and dc connectors are plugged securely into the power supply's connectors in the front and rear respectively. Replace the metal grid and plastic cover. Then turn on the system power switch. If the light continues to blink and the screen remains blank after you perform this procedure, the power supply module is probably faulty. Fill out a Problem Report form and call your nearest Service Operation Center.

Is your system console turned off?

- Turn on the console's power switch. Turn the system power switch off and then on. Check screen for prompt or self test.
- Turn up the intensity with the brightness control knob on the front of the console. Turn the system power switch off and then on. Check screen for prompt or self test.
- Turn off console and system power. Make sure the console power cable and the console device cable are plugged in securely and tighten any loose cable screws. Turn on the power to the console and to the system. Check screen for prompt or self test.

Do the boards have loose contacts?

- First turn off the system power switch and remove the front plastic and metal covers from the CPU logic module.

  Press gently but firmly against the edge of each printed circuit card and any cable connected to the front or back of the card to ensure its proper connection.

  Replace the front metal and plastic covers of the CPU logic module.

  Turn on the system power switch. Check the screen for prompt or self test.

If your screen remains blank, you may have a failing display unit, SPU card set, or color controller card (if you have a color display unit). Of these parts, the display unit is the most likely and the SPU card set the least likely to fail. Fill out a Problem Report form and contact the nearest Service Operations Center.

Meaningless Characters

Does your screen contain meaningless characters?

- Turn the main power switch off, pause 5 seconds turn on. Check screen for prompt or self test.
- See that all connecting cables are securely fastened. Check screen for prompt or self test.
- Make sure the system console cable is plugged in securely and tighten any loose cable screws. Check screen for prompt or self test.
- Power down your system and check to see if configuration switches/jumpers on SPU card match the switch settings on the display unit. Refer to the DESKTOP GENERATION *Systems Installation Guide* for more information. Reinstall SPU card and power up system. Check screen for prompt or self test.

If meaningless characters still appear, you may have a failing display unit or SPU card. Of these two, the display unit is the most likely to fail and the SPU card, the least likely. Fill out a Problem Report form and contact your nearest Service Operations Center.

Single Letter

As the power-up test runs, does the display screen show a single letter - I, H or M?

- Try to run the system test. First press and hold down the CMD key and press the BREAK key. A system prompt (!) should appear, signaling that the system is waiting for your input. Then, insert the Customer Diagnostics diskette into drive 0 (the right drive) and close the latch.

  Type 20H to load customer diagnostics. Try running the system test as described in the customer diagnostics section.

If you cannot run the system test or are unable to solve the problem after running it, the letter displayed on the screen can help you determine the problem. The table ahead lists each letter and the part most likely to fail. After you determine this part, fill out a Problem Report form and contact your nearest Service Operations Center.

Letter	Area Tested	Probable Failing Part
I	Input/output	SPU card
H	Virtual console memory	SPU card
M	First 64 Kbytes or user memory	First memory card

Power-Up Test, Other Systems

This section describes the power-up test for the other systems. It also explains how to diagnose and fix any problems revealed by the tests.

Testing Sequence

NOTE *A printer or user terminal must be powered-up and on-line for the power-up test to run successfully.*

The power-up test informs you that testing is in progress by displaying the following message on your console screen:

TESTING...

After the SPU (DEVICE-77) test has passed, you will see the following message on your console display screen:

DEVICE-77-ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789-PASSED

After each device (XX is the code for the device) has been successfully tested, you will see the following message appear on your display screen for each board:

DEVICE-XX-ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789-PASSED

After the last device has been successfully tested, the following message appears on your display screen:

TESTING DONE.

After TESTING DONE appears on your screen, one of the following three messages will be printed:

SELECT LOAD DEVICE: 20H (FOR DISKETTE) OR 26H (FOR DISK)

This message is printed if the Automatic Program Load switch is disabled:

LOADING FROM DEVICE XX

This message is printed if you have enabled the Automatic Program Load option (XX is the device code.) Refer to the DESKTOP GENERATION *Systems Installation Guide* for more information on this option.

CANNOT LOAD

This message is printed if the loading device does not respond in 30 seconds.

Now you can continue testing with Customer Diagnostics as described at the end of this chapter.

If anything other than TESTING DONE appears on the screen, turn your computer off and then on. If the computer still does not pass the power-up test, your display screen will contain one of the following:

Nothing (it is blank)

Meaningless characters

Incomplete alphanumeric sequence

Problem Solving

If the power up test fails, read the section that describes the status of your screen. Answer the questions in that section. If your answer to a question is no, see the next question. If your answer is yes, follow each procedure listed under the question in sequence. If the problem remains, contact the nearest Service Operations Center. If the prompt or self test appears on the display screen after you perform a procedure, you can move on to customer diagnostics. If a single letter appears after you perform a procedure, the "Incomplete Alphanumeric Sequence" section ahead tells you how to proceed.

Blank Screen

Does the fan in the power supply module fail to circulate air?

- Make sure front cover to power supply module is on securely in order to disable the ac disconnect wire at lower left hand corner on the inside of the cover. Check screen for prompt or self test.
- Turn off the system power switch. Using a lamp or similar appliance, make sure the ac outlet for the computer unit is supplying power. Turn on the main power switch. Check screen for prompt or self test.
- Turn off the system and display unit power switches. Make sure the ac power cords for your computer and display units are plugged in securely. Turn on the display unit power switch and then the system power switch. Check screen for prompt or self test.
- Look through rear cover of power supply module to check the red or green lights for each power supply. If the lights are shining or blinking call your nearest Service Operations Center. Check screen or prompt or self test.

  If a light does not shine or blink, turn off the system power switch and unplug the ac power cord behind the power supply module.

  Remove the fuse from the back of the power supply module. Make sure its voltage and amp ratings match those listed for F1 on the label attached to the module's back cover. If the fuse is blown, replace the fuse. Plug in the ac power cord and turn on the system power switch. If fuse continues to fail, call for service.

Are the red or green lights (visible through rear cover of power supply module) off?

- Remove the plastic cover on the rear of the power supply module. Gently shake the unit. If a light blinks, internal dc cables may be loose.

  WARNING *Because high voltages exist within the power supply, always wait five minutes after turning off the power before removing the metal grid inside.*

Make sure the CPU module's ac and dc connectors are plugged securely into the power supply's connectors in the front and rear respectively. Replace the metal grid and plastic cover. Then turn on the system power switch. If the light continues to blink and the screen remains blank after you perform this procedure, the power supply module is probably faulty. Fill out a Problem Report Form and call your nearest Service Operation Center.

Is your system console turned off?

- Turn on the console's power switch. Turn the system power switch off and then on. Check screen for prompt or self test.
- Turn up the intensity with the brightness control knob on the front of the console. Turn the system power switch off and then on. Check screen for prompt or self test.
- Turn off console and system power. Make sure the console power cable and the console device cable are plugged in securely and tighten any loose cable screws. Turn on the power to the console and to the system. Check screen for prompt or self test.

Do the boards have loose contacts?

- First turn off the system power switch and remove the front plastic and metal covers from the CPU logic module.

  Press gently but firmly against the edge of each printed circuit card and any cable connected to the front or back of the card to ensure its proper connection.

  Replace the front metal and plastic covers of the CPU logic module.

  Turn on the system power switch. Check the screen for prompt or self test.

If your screen remains blank, you may have a failing display unit or SPU card. Of these parts, the display unit is the most likely and the SPU card the least likely to fail. Fill out a Problem Report form and contact the nearest Service Operations Center.

Meaningless Characters

Does your screen contain meaningless characters?

- Turn the main power switch off, pause 5 seconds and turn on. Check screen for prompt or self test.
- See that all connecting cables are securely fastened. Check screen for prompt or self test.
- Make sure the system console cable is plugged in securely and tighten any loose cable screws. Check screen for prompt or self test.
- Power down your system and check to see if configuration switches/jumpers on SPU card match the switch settings on the display unit. Refer to the DESKTOP GENERATION *Systems Installation Guide* for more information. Reinstall SPU card and power up system. Check screen for prompt or self test.

If meaningless characters still appear, you may have a failing display unit or SPU card. Of these two, the display unit is the most likely to fail and the SPU card, the least likely. Fill out a Problem Report form and contact your nearest Service Operations Center.

Incomplete Alphanumeric Sequence

If the computer does not pass the power-up test, one of the following three types of messages will be printed on your screen.

```
DEVICE-77-ABCDEFGHIJK-FAILED-XXXX
```

This is an example of an incomplete message with an error code (XXXX). You need the error code when calling for customer service.

```
DEVICE-77-ABCDEFGHIJKLMNOP
```

This is an example of an incomplete message without an error code. The message tells you that P was the last test successfully completed. You need to know the last character when calling for customer service.

```
TESTING...

DEVICE-77-ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789-PASSED

DEVICE-XX-ABCDEFGHIJKLM-FAILED-XXXX
```

This is an example of a message that tells you that a self test failed. XX is a device other than the SPU card that failed.

The error code, XXXX, indicates a problem with your system. The table below shows you the most likely failing part. Before calling the Service Operations Center or replacing the card, follow these procedures:

1. Turn off the main power switch and turn it on again. If the error code reappears, go to the next step.

2. Remove the plastic and metal covers from the front of the logic module(s). Using the information in the DESKTOP GENERATION *Systems Installation Guide*, you can check the switch settings on the SPU card, the priority switch settings inside the logic module(s) at the back, the jumpers or switches on the memory card, and the jumpers on the ATP card. Replace the covers. If you correct a setting, turn the main power switch on and off again. If the error code reappears, go to the next step.

3. Fill out a Problem Report and call your nearest Service Operations Center.

Error Code	Probable Failing Part
1xxx	SPU card
2000 2001	Memory Card (with brightest LED light)
2002	Device memory bus interface
3xxx	ATP card
4xxx	Disk subsystem

NOTE *No message is printed if the disk controller passed its self test.*

Customer Diagnostics

Customer Diagnostics diskettes include programs that allow you to test your system. Both diskettes provide you with a list of fault codes that identify a failure in your system; the probable cause of failure and instructions for correcting the problem are given with each code.

Use Customer Diagnostics Diskette 1 to run the basic system test. Use Customer Diagnostics Diskette 2 to run the extended system test when you have an intermittent problem that you cannot diagnose using the basic system test. You can also use Diskette 2 to run the device tests for a terminal, printer, plotter, mouse, or tablet and to run the diskette utility programs for formatting, copying, and cleaning.

NOTE *Use either Customer Diagnostics Diskette 1 or 2 to prepare the Model 6271 (15MB) for moving. Refer to "Moving 15MB Disk" below.*

You should use customer diagnostics at the following times:

Immediately after installing your system for the first time or when adding or removing components in a previously installed system

Daily, to verify correct operation of the system

Whenever you suspect a problem with the system.

Loading

Insert either Customer Diagnostics Diskette 1 or 2 into diskette drive 0 (the right drive) and power up the system. (See Chapter 2 for information on handling diskettes.)

CAUTION *The system test destroys data on the second diskette and cartridge tape (if present). Insert a formatted scratch diskette into drive 1 (the left drive) and a scratch tape into the cartridge tape drive (if present).*

If your computer asks what device to load from, enter 20H as you normally would to load software.

If 20H does not appear on your display screen as you enter it, make sure the keyboard and system console cables are plugged in securely, and tighten any loose cable screws . If the display screen still fails to reflect your entry, the keyboard or SPU card set is probably faulty. Fill out a Problem Report form and contact your nearest Service Operations Center.

After you load the diagnostics system, it determines how many KBYTES of memory your system has and displays the amount on the system console's screen.

If you are using Customer Diagnostics diskettes for the first time, a series of questions appear below the amount of memory, asking you to describe your system. These questions and your answers allow the diagnostic software to create an equipment list for your system. Make sure that you have your shipping invoice handy.

If the questions do not appear in about five minutes, use a second copy of the Customer Diagnostics diskette in drive 0 (the right drive) or try the other Customer Diagnostics diskette. If the message still does not appear, then the SPU card set (the 10, 10/SP, and 30 models have two cards) is probably faulty. Fill out a Problem Report form and contact the nearest Service Operations Center.

If you have already used Customer Diagnostics to create an inventory of your equipment, the system displays the amount of memory and the inventory list on your screen when you load the diagnostics system. The memory size in the inventory list must be the same as the size given in the first line of the message SIZED MEMORY.

Moving the 15MB Disk

The mechanism that allows the computer unit to write or read information to or from a disk is called the *drive head.* If the drive head is not on a *landing zone* when you lift the disk drive to move it from one spot to another, the drive head may destroy data on the disk.

For the 15MB disk, you must load the Customer Diagnostics program and then select LEAVE DIAGNOSTIC SYSTEM to move the drive heads to the landing zone. The drive heads must be in a landing zone no matter how far you intend to move your unit.

Leaving Customer Diagnostics

To leave customer diagnostics, select LEAVE DIAGNOSTIC SYSTEM from the main menus. The program displays this message:

```
STARTING SYSTEM SHUTDOWN

SYSTEM SHUTDOWN

XXXXXX
!
```

The number represented by XXXXXX has significance only to the shutdown program. When the ! appears, you can load software from diskette or disk by typing 20H (diskette) or 26H (disk) as described in Chapter 1.

Related Documentation

A comprehensive documentation set supports all the hardware and software products available for the DESKTOP GENERATION computer system. The documentation listed below is meant to be read in sequence by anyone who owns a DESKTOP GENERATION system.

DESKTOP GENERATION *Peripherals Operator's Guide*

Provides operator with information on care and usage of DESKTOP GENERATION supported terminals, printers, plotters, data tablet, and mouse. DGC ordering no. 014-001133.

DESKTOP GENERATION *Systems Installation Guide*

Provides the user with system specifications, configuration charts, and instructions on adding and removing modules and cards. DGC ordering no. 014-001118.

How to Install a DESKTOP GENERATION *Computer*

Is a multi-sheet, installation guide, containing an illustrated description of the steps needed to install the basic DESKTOP GENERATION computer modules, the cartridge tape module, and the expansion disk module. DGC ordering no. 014-001132.

How to Connect Peripherals to a DESKTOP GENERATION *Computer*

Is a single-sheet, illustrated summary of the steps needed to connect peripherals to the system. It includes information on connector and adapter cables. DCG ordering no. 014-001131.

DESKTOP GENERATION *Peripherals Installation Guide*

Contains information on the installation of DESKTOP GENERATION supported terminals, printers, plotters, data tablet, and mouse. DGC ordering no. 014-001130.

Using DG/RDOS on DESKTOP GENERATION *Systems*

Follows the installation and operating guides with instructions for loading and using the DG/RDOS operating system and other software. Exercises and examples get you started with DG/RDOS. DGC ordering no. 069-000056.

Using AOS on DESKTOP GENERATION *Systems*

Follows the installation and operating guides with instructions for loading and using the AOS operating system and other software. Exercises and examples lay the groundwork for working with AOS and with several programming languages. DGC ordering no. 069-000058.

/UX Family Operator Guide

Follows the installation and operating guides with instructions for loading and using the DESKTOP/UX operating system on DESKTOP GENERATION Model 45 systems. DGC ordering no. 093-701015.

Your source for other DESKTOP GENERATION and Data General publications is TIPS: the Technical Information and Publications Service. To order the TIPS catalog of publication, obtain order forms or information, write or call:

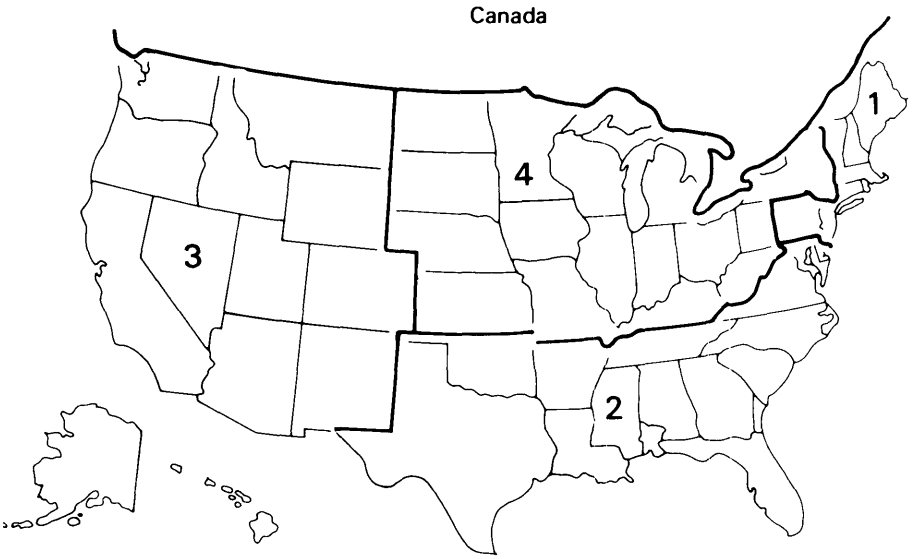
Data General Corporation
Attn: TIPS Administrator F019
4400 Computer Drive
Westboro, MA 01580
Tel. (617) 366-2900

Telephone Assistance

If you are unable to solve a problem with your system with the information in this manual, call the Data General Customer Support Center (CSC) at the following number: 1-800-DGHELPS (1-800-344-3577). The CSC will put you in touch with one of Data General's telephone assistance staff to answer such questions as, "If one of my terminals isn't working, can I try connecting it to another USAM line?"

Free telephone assistance is available with your warranty and with most Data General service options. Lines are open from 8:30 a.m. to 8:30 p.m., Eastern Standard Time, Monday through Friday.

A call to Data General's general information hot-line, 1-800-DATAGEN, can also help you solve problems with your order and give you additional telephone assistance.



DG-25956

For telephone assistance in areas outside the continental United States, ask your Data General salesperson for the nearest phone number.

For your information, the address and TWX number of each Data General area operation center is listed below.

Area 1

50 Maple Street
Milford, Massachusetts 01757

TWX # K088

Area 2

6420 Atlantic Boulevard
Suite 200
Norcross, Georgia 30071

TWX # K337

Area 3

1500 Rosencrans Avenue
Manhattan Beach, California 90266

TWX # K352

Area 4

1501 Woodfield Road
Schaumburg, Illinois 60195

TWX # K279

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Problem Report

Name _____ Date _____

Address _____ Phone _____

Problem Equipment Serial Number

_____ _____

_____ _____

_____ _____

_____ _____

Problem

Program running when problem occured: _____

_____

Error message displayed when program failed: _____

_____

Description of problem: _____

_____

_____

_____

System Power-Up Test

Completed successfully? Yes _____ No _____

If no, last message displayed on system console: _____

_____

Customer Diagnostics

System test passed? Yes _____ No _____

If no, fault code displayed: _____

Extended system test passed? Yes _____ No _____

If no, fault code displayed: _____

Keyboard test passed ? Yes _____ No _____

Problem keys: _____

Printer test passed? Yes _____ No _____

Type of printer: _____

Printer problem: _____

Plotter test passed? Yes _____ No _____

Plotter problem: _____

Problem Report (cont'd)

Customer Diagnostics (cont'd)

Terminal test passed? Yes _____ No _____

Type of terminal: _____

Terminal problem: _____

Tablet test passed? Yes _____ No _____

Tablet problem: _____

Mouse test passed? Yes _____ No _____

Mouse problem: _____

Off-Line Testing

Device tested: _____

Tests passed? Yes _____ No _____

If no, describe problem: _____

_____

_____

State of any status lights when problem occurred: _____

_____

Other observations: _____

_____

_____

_____

Device tested: _____

Test passed? Yes _____ No _____

If no, describe problem: _____

_____

_____

State of any status lights when problem occured: _____

_____

Other observations: _____

_____

_____

_____

_____